ROHDE&SCHWARZ

Geschäftsbereich
Meßtechnik

Servicehandbuch

Vektor-Signalgenerator

SMIQ02/02W/03/03A/03W

1084.8004.02/02W/03/03A/03W

SMIQ02E/03E

1106.1506.02E/03E

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Test and Measurement
Division

Service Manual

VECTOR SIGNAL GENERATOR

SMIQ02/02W/03/03A/03W

1084.8004.02/02W/03/03A/03W

SMIQ02E/03E

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SERVICEUNTERLAGEN

Digitale Synthese

1038.7344.01

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7. Prüfen und Instandsetzen der Baugruppe

7.1 Funktionsbeschreibung

Die Baugruppe DIGITALE SYNTHESE (kurz DSYN) generiert mit Hilfe des DDS-Bausteines DDS-GA (DDS-Gate-Array) auf rein digitale Weise ein Sinussignal im Frequenzbereich 14.1...15.6MHz (SMP: 10.3...15.6MHz) mit der Auflösung von 50MHz/2^48=0.178uHz. Die erzeugte Frequenz ist so genau wie die Taktfrequenz vom DDS-GA (50MHz). Das Taktsignal kommt von der Baugruppe REFSS an die Eingangsbuchse REF50 (X81). Das Ausgangssignal an der Ausgangsbuchse FDDS (X89) wird zur Baugruppe SUMMIERSCHLEIFE geleitet und dient dort als Referenzsignal einer Phasenregelschleife.

Auf der Baugruppe befindet sich auch eine Phasenregelschleife, die sogenannte PUFFERSCHLEIFE (kurz PS), über die das DDS-Signal wahlweise geführt werden kann, damit nichtharmonische Störsignale weggefiltert werden.

In die Baugruppe DSYN kann die Tochterbaugruppe Option DATENCODER (kurz DCOD) eingebaut werden, die ein digitales Modulationssignal (FM) an das DDS-Gate-Array über ein Parallelport liefert.

Über das MOTHERBOARD können der Option DCOD Daten- und Taktsignale und dem DDS-Gate-Array ein FSK-Signal und ein serielles Modulationssignal (SYNTHESE-FM) zugeführt werden.

Als Schnittstelle zur Rechnerbaugruppe sind auf DSYN zwei SERBUS-DECODER. SERBUS-D1 ist ausschließlich für DSYN zuständig und SERBUS-D2 ausschließlich für die Tochterbaugruppe Option DATENCODER.

7.1.1 DIREKTE DIGITALE SYNTHESE

Nach der Eingangsbuchse REF50 wird das sinusförmige 50MHz-Referenzsignal mit einer Sternschaltung in drei Pfade geführt, dem Pfad für den DDS-GA-Takt, dem Pfad für den DCOD-Takt und dem für den DA-Wandler (DAC).
Vom CLOCK-AMPLIFIER wird das Sinussignal in ein HCMOS-Signal für das DDS_GA umgewandelt.
Die DELAY-LINE verzögert das Taktsignal zum DAC derart, daß die Daten vom DDS-GA zum optimalen Zeitpunkt in den DAC eingelesen werden.
Vom ALIASING-FILTER wird das Sample-And-Hold-Signal vom DAC in ein nahezu sinusförmiges Signal umgewandelt.
Die parallelen Modulationsdaten von DCOD kommen über die Leitungen FMDAT(0)...FMDAT(13) zum DDS-GA und werden mit der steigenden Flanke vom LOADM-Signal eingelesen.
Die seriellen Modulationsdaten vom MOTHERBOARD kommen über die Leitung DATA zum DDS-GA und werden mit der fallenden Flanke vom DATACLK-Signal eingelesen. Ein serielles Datenwort ist 16 Bit lang. Das MSB, welches zuerst übertragen wird, wird durch ein HIGH-Signal auf der Leitung BURST markiert.
Die Leitungen BURST, DATA und DATACLK führen alle zu Gerätebuchsen.

Für die FSK-Modulation ohne Basisbandfilterung (harte Umtastung), wird das Datensignal ebenfalls über die Leitung DATA dem DDS-GA zugeführt. Vom FSK-INVERTER kann dieses Signal invertiert werden.

7.1.2 PUFFERSCHLEIFE

Wird die PUFFERSCHLEIFE (kurz PS), mit PS_ON=1 eingeschaltet, so ist der PIN-Dioden-Schalter V600 und V603 geschlossen.

Zwischen OSCILLATOR, dem VCO und dem PHASE-DETECTOR befindet sich kein frequenzumsetzendes Modul, sodaß die Ausgangsfrequenz (VCO-Frequenz) mit der Eingangsfrequenz identisch ist.

Mit dem MOS-Schalter N700 kann die Schleifenbandbreite zwischen 1kHz und 100kHz umgeschaltet werden. Es gibt drei verschiedene Modi, diese Umschaltung zu Nutzen:

MODUS1: Wird vom Rechner BAND=1 gesetzt, so ist die Bandbreite fest auf 100kHz.

MODUS2: Wird vom Rechner BAND=0 und AUTO=1 gesetzt, so ist die Bandbreite fest auf 1kHz.

MODUS3: Wird vom Rechner BAND=0 und AUTO=0 gesetzt, so ist die Bandbreite auf 1kHz, wird jedoch bei jedem Frequenzwechsel vom MONOFLOP für 250us auf 100kHz geschaltet, damit die Einschwingzeit geringer wird.

Der MODUS3 wird bei CW-Betrieb verwendet, wenn der Frequenzsprung größer als 3kHz ist. Bei Frequenzsprüngen unter 3kHz, wird auf MODUS2 geschaltet, da die Schleife im Fangbereich bleibt.
Mit der schmalbandigen Regelschleife werden bei CW-Betrieb nichtharmonische Störsignale weggefiltert.

Der MODUS1 wird dazu verwendet, nichtharmonische Störsignale wie z.B. Aliasingprodukte unter 100kHz neben dem Träger, bei digitaler FM-Modulation wegzufiltern.
Wenn die PUFFERSCHLEIFE eingeschaltet ist (PS_ON=1), jedoch nicht synchronisiert (VCO-Abstimmspannung an X37 oder Diagnosespannung 305 am unteren oder oberen Anschlag; <0V oder >21.5V), so löst der INTERRUPT-DETECTOR beim SERBUS-D1 Interrupt aus und es erscheint am Gerätedisplay eine Fehlermeldung.

7.2 Meßgeräte und Hilfsmittel

- Servicekit 1039.3520
- Zweikanaloszilloskop (0...250 MHz)
- Spektrumanalysator (1...100 MHz)
- Rechteckgenerator (100Hz...1MHz) (z.B. ADS)
- Prüfmustergenerator (z.B. ADS)
- Frequenzzähler (10...20MHz) (im FSA enthalten)
- Modulationsanalysator (z.B. FMB)

7.3 Fehlersuche

Fehlerhafte Datenübertragung (siehe 7.4.2).	Prüfe SERBUS-D1 (D110), SERBUS-BUFFER (D50) und die Schieberegister D150 und D155.
Taktsignal an P32/P33 außer Toleranz (siehe 7.4.4).	Prüfe den CLOCK-AMPLIFIER (V220, Diagnosepunkt 303).
Taktsignal und Datensignal zum DAC (D300) an P4/P14 und P5/P15 außer Toleranz (siehe 7.4.5).	Prüfe die DELAY-LINE und den Taktverstärker V210 (Die Setup- und die Hold-Zeit kann mit R215 bzw. R212 durch Verändern der DELAY-LINE-Laufzeit korrigiert werden.)
Ausgangssignal bei CW-Betrieb außer Toleranz (DIG. MOD OFF) (siehe 7.4.8).	Prüfe, ob die Spannung an P6 -9.5+-1V ist. Prüfe die Pindiode V603 und den OSCILLATOR.
Ausgangssignal bei abgeschalteter PS außer Toleranz (FSK-MOD. ON) (siehe 7.4.8).	Prüfe, ob die Spannung an P6 11.6+-1V ist. Prüfe das DDS-Gatearray D20, die Pindiode V601, den DAC (D300), das ALIASING-FILTER (L405) und den DDS-AMPLIFIER (N400).
Phasenregelschleife (Pufferschleife) synchronisiert nicht (siehe 7.4.7.1).	Prüfe, ob die Steckbrücke X36/X37 gesteckt ist. Prüfe OSCILLATOR (V512), Taktverstärker V610 und V612, CONTROL-AMPLIFIER (N700, N702, D700, V702, V704). Prüfe, ob die Spannung an P6 -9.5V+-1V ist, und prüfe die Pindioden V603, V600 und V601. Prüfe ob die Spannung an P9/P8 24V/0V+-1V oder 0V/24V+-1V ist.
Es erscheint die Fehlermeldung "Digital synthesis buffer VCO unlocked" (siehe 7.4.10).	Prüfe, ob die Phasenregelschleife synchronisiert (Spng. an P7 1V...21V, Diagnosepunkt 305). Wenn nicht, siehe vorhergehenden Absatz. Prüfe den INTERRUPT-DETEKTOR (N120, V150).

7.4 Prüfen und Abgleich

Vorbemerkung:

Zum Servicebetrieb wird der obere Deckel abgeschraubt, anstelle der Baugruppe wird der Serviceadapter in den Steckplatz eingesetzt und anschließend die Baugruppe auf den Adapter gesteckt. Nachdem die HF-Verbindungen hergestellt worden sind, ist die Baugruppe wieder betriebsbereit.

7.4.1 Prüfung der Stromaufnahme

Die Stromaufnahme der Baugruppe kann geprüft werden, indem anstelle der Spulen L80, L82, L76, L78 und des Widerstandes R48 jeweils ein Ampermeter eingeschleift wird. Die Sollwerte zu den jeweiligen Versorgungsspannungen finden sich in Kap. 7.6.

7.4.2 Prüfen der Datenübertragung

- Den lötseitigen Deckel abschrauben und an D150 nach folgender Tabelle die Spannungen prüfen.

Einstellung	D150 Pin 4	5	6	7	14	13	12	11	
PRESET	0	0	0	0	x	0	0	1	
DIG.MOD-FSK-SOURCE-PRBS	x	x	x	x	x	0	1	1	
DIG.MOD-GFSK-SOURCE-PRBS	x	x	x	x	x	0	0	0	
DIG.MOD-FSK-SOURCE-PRBS -POLARITY-INV	x	x	x	x	x	1	1	1	

- Den lötseitigen Deckel wieder verschrauben.

7.4.3 Prüfung der Spannungsregler

- Die Baugruppe Option DM-CODER wenn vorhanden ausbauen, damit die Prüfpunkte P20 und P21 zugänglich sind.

▶ Die Spannung am Prüfpunkt P20 muß +5V±0.15V betragen.

▶ Die Spannung am Prüfpunkt P21 muß -5V±0.15V betragen.

7.4.4 Prüfen des Taktsignales zum DDS-GA D20

- Oszilloskop an P32/P33 (Signal/Masse) anschließen (50Ω).

▶ Es muß eine periodische Wechselspannung mit der Frequenz 50MHz, der Maximalspannung über 0.19V und der Minimalspannung unter 0.048V zu messen sein (Zwischen Signal und Prüfpunkt befindet sich ein 1kΩ-Vorwiderstand).

7.4.5 Prüfen der digitalen Signale am DA-Wandler (DAC, D300)

- Einstellung: **FREQUENCY 1350.8MHz**

- Oszilloskop, Kanal1 an P4/P14 (Taktsignal) und Kanal2 an P5/P15 (Datensignal) anschließen und die Triggerschwelle für das Taktsignal auf -40mV einstellen (Triggerung bei negativer Flanke, Impedanz 50Ω).

▶ Das Datensignal sollte als Augenmuster erscheinen. Der HIGH-Pegel sollte zum Triggerzeitpunkt -40mV±7mV betragen.

▶ Der LOW-Pegel sollte zum Triggerzeitpunkt -83mV±7mV betragen.

▶ Die obere Spitzenspannung des Taktsignales sollte >-10mV sein und die untere Spitzenspannung <-110mV sein.

▶ Die SETUP-Zeit und die HOLD-Zeit des Datensignales bezüglich des Triggerzeitpunktes (Datenübernahme), sollte <5ns betragen.

7.4.6 OSCILLATOR-Abgleich

Auf Bauelementeseite ein Spezialdeckel verschrauben, der die Kammer A und F frei läßt, damit verschiedene Prüfpunkte zugänglich sind, und der zum Abgleich von L507 und L506 zwei Löcher hat. Dieser Deckel soll im weiteren mit OSCILLATOR-Deckel bezeichnet werden.

- Einstellung: **FREQUENCY 1000MHz**
- Steckbrücke X36/X37 ziehen und Gleichspannung an X37 einspeisen.
- Spektrumanalysator an X89 (FDDS) anschließen.

▶ Den Oszillator nach folgender Tabelle wechselweise abgleichen. Die anzustrebenden Frequenzwerte sind 10.3 bzw. 15.6 MHz. Falls diese Werte nicht erreicht werden können, so ist der angegebene Toleranzbereich einzuhalten, wobei hierbei an beiden Abgleichpunkten ein möglichst gleicher Frequenzfehler anzustreben ist.
Beim Abgleichpunkt OSZ3 kann wahlweise L506 oder L507 oder beide Spulen abgeglichen werden.

Spannung X37	Abgleichpunkt	Sollfrequenz an X89
18V	OSZ3(L506/L507)	15.6 ... 15.9 MHz
1.6V	OSZ4 (R433)	10 ... 10.3 MHz

- Die Steckbrücke X36/X37 wieder stecken.

7.4.7 Prüfung der PUFFERSCHLEIFE

7.4.7.1 Statisches Verhalten

- Der OSCILLATOR-Deckel muß verschraubt sein.
- Einstellung: **FREQUENCY 1350.2/1351.4MHz**

▶ Die Spannung an P7 muß 14.6/18.0+-1V sein.

7.4.7.2 Einschwingverhalten

- Die Baugruppe Option DATENCODER ausbauen, damit der Prüfpunkt P28 zugänglich ist.
- Der OSCILLATOR-Deckel muß verschraubt sein.
- An P35 (PD-Signal) ein Oszilloskop anschließen, das mit dem FRS-Signal an P28 getriggert wird (negative Flanke, Triggerschwelle 3V).
- Einstellung: **FREQUENCY laut Tabelle**
  (schmalbandige PS)

▶ Die Spannung an P35 muß bei einem Frequenzsprung von 1350.2 auf 1351.4MHz und umgekehrt 3ms nach der Triggerung den Wert von 0.1V unterschritten haben.

- Prüfung bei Ausrüstung mit DATENCODER.
- Einstellung: **FREQUENCY laut Tabelle**
  DIGITAL MOD - 4FSK - SOURCE EXT
  (breitbandige PS)

▶ Die Spannung an P35 muß bei einem Frequenzsprung von 1350.2 auf 1351.4MHz und umgekehrt 70us nach der Triggerung den Wert von 0.1V unterschritten haben.

7.4.7.3 Übertragungsverhalten

- Die Option DATENCODER muß eingebaut sein.
- Der OSCILLATOR-Deckel muß verschraubt sein.
- An X89 (FDDS) einen Modulationsanalysator (z.B. FMB) anschließen und einen Tiefpaß mit 23kHz einschalten.
- Einstellung: **FREQUENCY 835MHz**
  DIGITAL MOD - 4FSK - SOURCE DATA (breitb. PS)
  -FILL-LIST DATA "1000"

▶ Das FM-demodulierte Signal muß einen Spitzenhub von 4.6875kHz+-1% und eine Modulationsfrequenz von 1.5625kHz+-1% haben. Es dürfen keine Überschwinger zu sehen sein.

7.4.8 Prüfung des Ausgangssignales bei CW-Betrieb

- Der OSCILLATOR-Deckel muß verschraubt sein.
- An den Ausgang X89 (FDDS) einen Spektrumanalysator anschließen.
- Einstellung: **FREQUENCY laut Tabelle**
  DIGITAL MOD - FSK - SOURCE EXT/OFF
  - DEVIATION 0Hz

▶ Nach folgender Tabelle verschiedene Frequenzen einstellen und am Ausgang die Frequenz für SOURCE EXT und SOURCE OFF prüfen.

FREQUENCY/MHz	1350.2	1351.4
Sollfrequ./MHz+-1kHz	14.351	15.551

▶ Der Pegel soll 2+-1.5dBm und der Oberwellenabstand <-40dBc betragen.

▶ Nach folgender Tabelle verschiedene Nebenwellen prüfen:

FREQU. in MHz	EXT / OFF	Träger-Frequenz in MHz	Offset-Frequenz in MHz	Nebenw.-Abstand in dBc
1350.69275	EXT	14.84375+-0.1	+-1.5625	<-66
1350.69275	OFF	14.84375+-0.0001	+-1.5625	<-80
1351.27869	EXT	15.4296875+-0.1	+-1.5625	<-66
1351.27869	OFF	15.4296875+-0.0001	+-1.5625	<-80
835.1	EXT	15.1+-0.1	+-0.2	<-66
835.1	OFF	15.1+-0.0001	+-0.2	<-80

7.4.9 Prüfung der Interrupt-Funktion

- Einstellung: **FREQUENCY 1000MHz**

▶ Steckbrücke X36/X37 ziehen. Es muß die Fehlermeldung "Digital synthesis buffer VCO unlocked" erscheinen.

7.4.10 Prüfung der Diagnose

- Einstellung: **FREQUENCY 1000MHz**
  UTILITIES - DIAG - TPOINT...

TPOINT	Meßpunkt	Faktor	Sollspannung
300	+15V-Versorgung	4	14...16V
301	DCOD, OSZ.-Abst.sp.	5	-100...100mV
302	DCOD, OSZ.-Pegel	1	-20...20mV
303	DDS-GA-Taktpegel	1	0.5...1.5V
304	Pegel am Ausg. FDDS	1	50...200mV
305	OSZ.-Abstimmsp.	5	12...20V
306	-15V-Versorgung	4	-14...16V
307	+7.5V-Versorgung	2	14...16V

7.4.11 Prüfung der CODAM-Leitung

- An X3.19/20 (SIG/GND) einen Signalgenerator (50Ohm) anschließen und 10MHz/10dBm einspeisen.
- An X80.9/11 (SIG/GND) einen Spektrumanalysator anschließen und CENTER 10MHz einstellen.

▶ Der zu messende Pegel bei 10MHz muß 4dBm+-2 dB betragen.

Nach dem Öffnen des Gerätes, entriegeln der Baugruppen und dem Lösen der HF-Verbindungen an X81 und X89 kann die Baugruppe aus ihrem Steckplatz genommen werden. Die Schirmdeckel der Baugruppe sind auf herkömmliche Art verschraubt.

7.5 Zerlegung und Zusammenbau

Nach dem Öffnen des Gerätes, Entriegeln der Baugruppe und dem Lösen der HF-Verbindungen an X81 und X89 kann die Baugruppe aus ihrem Steckplatz genommen werden. Die Schirmdeckel der Baugruppe sind auf herkömmliche Art verschraubt.

7.6 Externe Schnittstellen

Pin	Name	Ein/Ausgang	Herkunft/Ziel	Wertebereich	Signalbeschreibung
X80.A12	SERBUS-CLK	Eingang	A3, FRO X50.40	HCMOS-Pegel	Serbus-Clock
X80.A14 X80.A15	SERBUS-DAT	bidir.	A3, FRO X50.39	HCMOS-Pegel	Serbus-Daten
X80.A17	SERBUS-INT	Ausgang	A3, FRO X50.38	HCMOS-Pegel	Serbus-Interrupt
X80.A18	RES-P	Eingang	A3, FRO X50.28	HCMOS-Pegel	Serbus-Reset
X80.A19	DIAG-5V	Ausgang	A3, FRO X50.44	-5V...5V	Diagnose
X80.A24	VA15-P	Eingang	A2, POWS1	14.80V...15.75V 44...66mA	Versorgungsspannung analog
X80.A26	VA7.5-P	Eingang	A2, POWS1	7.45V...7.95V 328...500mA	Versorgungsspannung analog
X80.A28	VD-5P	Eingang	A2, POWS1	5.10V...5.25V 0...10mA	Versorgungsspannung digital
X80.A30	VA15-N	Eingang	A2, POWS1	-15.75V...-14.85V 208...310mA	Versorgungsspannung analog
X80.A1	DATACLK	bidir.	A3, FRO	HCMOS-Pegel	Datentakt des DATENCODER
X80.A2	DATA	bidir	A3, FRO	HCMOS-Pegel	Datensignal des DATENCODER
X80.A3	BURST	bidir.	Rückwand	HCMOS-Pegel	BURST-Signal des DATENCODER
X80.A9	CODAM	Ausgang	A10, OPU1	-1V...+1V	AM-Signal vom DATENCODER
X80.A32	LSWI	Ausgang	A10, OPU1	HCMOS-Pegel	LEVEL-SWITCH-Signal zum OPU
X81	REF50	Eingang	A5, MGEN X99	9dBm+-2dB	HF-Eingang, Referenzsignal
X89	FDDS	Ausgang	A9, SUM, X51	2dBm+-2dB	HF-Ausgang, DDS-Signal



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SERVICE INSTRUCTIONS

Digital Synthesis

1038.7344.01

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7. Checking and Repair of the Module

7.1 Functional Description

Using the DDS component DDS-GA (DDS gate array), the DIGITAL SYNTHESIS module (DSYN for short) digitally generates a sinewave signal in the frequency range 14.1 to 15.6 MHz (SMP: 10.3 to 15.6 MHz) with a resolution of 50 MHz/2^48=0.178 uHz. The generated frequency is as accurate as the clock frequency of the DDS-GA (50 MHz). The clock signal is taken from the REFSS module to the input socket REF50 (X81). The output signal at the output socket FDDS (X89) is routed to the SUMMING LOOP module, where it serves as reference signal for a phase-locked loop.

The module also contains a phase-locked loop, the so-called buffer loop (PS for short (German: PufferSchleife)). The DDS signal can be routed via this loop for suppression of non-harmonic spurious signals.

The DATA CODER option (DCOD) can be fitted in the DSYN module. It provides a digital modulation signal (FM) to the DDS gate array via a parallel port.

Data and clock signals can be applied to the DCOD option and an FSK signal and a serial modulation signal (SYNTHESE-FM) to the DDS gate array via the motherboard.

DSYN contains two SERBUS DECODERs as interfaces to the controller module. SERBUS-D1 is exclusively used for DSYN and SERBUS-D2 for the DATA CODER option.

7.1.1 DIRECT DIGITAL SYNTHESIS

Following the input socket REF50, the sinewave 50-MHz reference signal is divided into three paths by means of a Y-connection: the path for the DDS-GA clock, the path for the DCOD clock and that for the D/A converter (DAC).
The CLOCK AMPLIFIER converts the sinewave signal into a HCMOS signal for the DDS_GA.
The DELAY LINE delays the clock signal for the DAC such that the data from the DDS-GA are read into the DAC at the optimal point in time.
The ALIASING FILTER converts the sample-and-hold signal from the DAC into an sinewave signal.
The parallel modulation data from DCOD are applied via the lines FMDAT(0)...FMDAT(13) to the DDS-GA and are read in with the rising edge of the LOADM signal.
The serial modulation data from the MOTHERBOARD are applied via the DATA line to the DDS-GA and read in with the falling edge of the DATACLK signal. A serial data word is 16 bits long. The MSB, which is transferred first, is marked by a HIGH signal on the BURST line.
The lines BURST, DATA and DATACLK all lead to instrument sockets.

For the FSK modulation without baseband filtering (hard frequency-shift keying), the data signal is also applied via the DATA line to the DDS-GA. This signal can be inverted by the FSK-INVERTER.

7.1.2 BUFFER LOOP

When the buffer loop (PS for short) is activated with PS_ON=1, the PIN diode switches V600 and V603 are closed.

There is no frequency-converting module between the OSCILLATOR (VCO) and the PHASE DETECTOR so that the output frequency (VCO frequency) and the input frequency are identical.

MOS switch N700 permits to switch the loop bandwidth between 1 kHz and 100 kHz. There are three modes of switching:

MODE 1: If BAND=1 is set by the controller, the bandwidth is set to 100 kHz.

MODE 2: If BAND=0 and AUTO=1 are set by the controller, the bandwidth is set to 1 kHz.

MODE 3: If BAND=0 and AUTO=0 are set by the controller, the bandwidth is set to 1 kHz, however, each time the frequency is changed, it is set to 100 kHz for 250 us by the MONOFLOP in order to reduce the settling time.

MODE 3 is used in CW mode if the frequency change is greater than 3 kHz. In the case of a frequency change below 3 kHz, MODE 2 is selected, since the loop remains in the lock-in range.
The narrowband control loop is used to suppress non-harmonic spurious signals in CW mode.

MODE 1 is used to suppress non-harmonic spurious signals, e.g. aliasing products above 100 kHz off the carrier in the case of digital FM modulation.
If the buffer loop is activated (PS_ON=1) but does not synchronize (VCO tuning voltage at X37 or diagnostic voltage 305 at lower or upper stop; <0 V or >21.5 V), the INTERRUPT DETECTOR causes an interrupt at the SERBUS-D1, and an error message is indicated on the instrument display.

7.2 Measuring Instruments and Accessories

- Service kit 1039.3520
- Dual-channel oscilloscope (0 to 250 MHz)
- Spectrum analyzer (1 to 100 MHz)
- Squarewave generator (100 Hz to 1 MHz) (e.g. ADS)
- Test pattern generator (e.g. ADS)
- Frequency counter (10 to 20 MHz) (included in FSA)
- Modulation analyzer (e.g. FMB)

7.3 Troubleshooting

Faulty data transmission (see 7.4.2).	Check SERBUS-D1 (D110), SERBUS BUFFER (D50) and the shift registers D150 and D155.
Clock signal at P32/P33 out of tolerance (see 7.4.4).	Check CLOCK AMPLIFIER (V220, diagnostic point 303).
Clock signal and data signal to DAC (D300) at P4/P14 and P5/P15 out of tolerance (see 7.4.5).	Check the DELAY LINE and the clock amplifier V210 (The setup and hold time can be corrected using R215 or R212 by varying the DELAY LINE delay.)
Output signal out of tolerance in CW mode (DIG. MOD OFF) (see 7.4.8).	Check whether the voltage at P6 corresponds to -9.5+-1 V. Check pin diode V603 and the OSCILLATOR.
Output signal out of tolerance with PS deactivated (FSK-MOD. ON) (see 7.4.8).	Check whether the voltage at P6 corresponds to 11.6+-1 V. Check the DDS gate array D20, pin diode V601, the DAC (D300), the ALIASING FILTER (L405) and the DDS AMPLIFIER (N400).
Phase-locked loop (buffer loop) does not synchronize (see 7.4.7.1).	Check whether jumper X36/X37 is inserted. Check OSCILLATOR (V512), clock amplifier V610 and V612, CONTROL AMPLIFIER (N700, N702, D700, V702, V704). Check whether the voltage at P6 is -9.5 V+-1 V, check pin diodes V603, V600 and V601. Check whether the voltage at P9/P8 is 24 V/0 V+-1 V or 0 V/24 V+-1 V.
The error message "Digital synthesis buffer VCO unlocked" is indicated (see 7.4.10).	Check whether is phase-locked loop synchronizes (voltage at P7 1 V to 21 V, diagnostic point 305). If not, see the above paragraph. Check the INTERRUPT DETECTOR (N120, V150).

7.4 Checking and Adjustment

Preliminary remark:

For service operation, unscrew the upper cover, insert the service adapter into the location instead of the module and plug the module onto the adapter. After the RF connections have been restored, the module is ready for use again.

7.4.1 Testing the Current Consumption

The current consumption of the module can be checked by replacing coils L80, L82, L76, L78 and resistor R48 by an ammeter each. The nominal values for the respective supply voltages are to be obtained from section 7.6.

7.4.2 Testing the Data Transmission

- Unscrew the cover on the solder side and check the voltages according to the following table.

Setting	D150 Pin 4	5	6	7	14	13	12	11	
PRESET	0	0	0	0	x	0	0	1	
DIG.MOD-FSK-SOURCE-PRBS	x	x	x	x	x	0	1	1	
DIG.MOD-GFSK-SOURCE-PRBS	x	x	x	x	x	0	0	0	
DIG.MOD-FSK-SOURCE-PRBS -POLARITY-INV	x	x	x	x	x	1	1	1	

- Fasten the cover on the solder side again.

7.4.3 Testing the Voltage Regulators

- Remove the DM-CODER option, if fitted, so that test points P20 and P21 are accessible.

▶ The voltage at test point P20 must be +5 V ±0.15 V.

▶ The voltage at test point P21 must be -5 V ±0.15 V.

7.4.4 Testing the Clock Signal to the DDS-GA D20

- Connect oscilloscope to P32/P33 (signal/ground) (50 Ω).

▶ A periodic AC voltage with the frequency 50 MHz, the maximum voltage above 0.19 V and the minimum voltage below 0.048 V must be measured (There is a 1-kΩ series resistor between signal and test point).

7.4.5 Testing the Digital Signals at the D/A-Converter (DAC, D300)

- Setting: **FREQUENCY 1350.8MHz**

- Connect the oscilloscope with channel1 to P4/P14 (clock signal) and channel2 to P5/P15 (data signal) and set the trigger threshold for the clock signal to -40 mV (negative-edge triggering, impedance 50 Ω).

▶ The data signal should appear as an eye pattern. The HIGH level should be -40 mV ±7 mV at the trigger point.

▶ The LOW level should be -83 mV± 7 mV at the trigger point.

▶ The upper peak voltage of the clock signal should be >-10 mV and the lower peak voltage <-110 mV.

▶ The SETUP time and the HOLD time of the data signal referred to the trigger point (data acquisition) should be <5 ns.

7.4.6 Adjustment of OSCILLATOR

Fasten a special cover with screws on the component side so that chamber A and F and thus various test points remain freely accessible. For adjustment of L507 and L506, this cover features two holes. It will be referred to as OSCILLATOR cover in the following.

- Setting: **FREQUENCY 1000MHz**
- Remove jumper X36/X37 and apply DC voltage to X37.
- Connect spectrum analyzer to X89 (FDDS).

▶ Alternately adjust the oscillator according to the following table. The intended frequency values are 10.3 and 15.6 MHz. If these values cannot be obtained, the specified tolerance range is to be observed, and, if possible, the same frequency error should be obtained at both trimmers.
In the case of trimmer OSZ3, either L506 or L507 or both coils can be adjusted.

Voltage X37	Trimmer	Nom. frequency at X89
18 V	OSZ3(L506/L507)	15.6 ... 15.9 MHz
1.6 V	OSZ4 (R433)	10 ... 10.3 MHz

- Replace jumper X36/X37.

7.4.7 Testing the BUFFER LOOP

7.4.7.1 Static Response

- The OSCILLATOR cover must be fastened with screws.
- Setting: **FREQUENCY 1350.2/1351.4 MHz**

▶ The voltage at P7 must be 14.6/18.0 +-1 V.

7.4.7.2 Transient Response

- Remove the DATA CODER option so that test point P28 becomes accessible.
- The OSCILLATOR cover must be fastened with screws.
- Connect an oscilloscope to P35 (PD signal), which is triggered with the FRS signal at P28 (negative edge, trigger threshold 3 V).
- Setting: **FREQUENCY acc. to table**
  (narrowband PS)

▶ When the frequency changes from 1350.2 to 1351.4 MHz and vice versa, the voltage at P35 must be below 0.1 V 3 ms after triggering.

- Testing with a DATA CODER fitted.
- Setting: **FREQUENCY acc. to table**
  DIGITAL MOD - 4FSK - SOURCE EXT
  (broadband PS)

▶ When the frequency changes from 1350.2 to 1351.4 MHz and vice versa, the voltage must be below 0.1 V 70 us after triggering.

7.4.7.3 Transmission Response

- The DATA CODER option must be fitted.
- The OSCILLATOR cover must be fastened with screws.
- Connect a modulation analyzer to X89 (FDDS) (e.g. FMB) and cut in a 23-kHz lowpass.
- Setting: **FREQUENCY 835MHz**
  DIGITAL MOD - 4FSK - SOURCE DATA (broadb. PS)
  -FILL-LIST DATA "1000"

▶ The FM-demodulated signal must feature a peak deviation of 4.6875 kHz +-1% and a modulation frequency of 1.5625 kHz +-1%. There must not be any overshoots.

7.4.8 Testing the Output Signal in CW Mode

- The OSCILLATOR cover must be fastened with screws.

- Connect a spectrum analyzer to output X89 (FDDS).
- Setting: **FREQUENCY acc. to table**
  DIGITAL MOD - FSK - SOURCE EXT/OFF
  - DEVIATION 0Hz

▶ Set various frequencies according to the following table and check the frequency for SOURCE EXT and SOURCE OFF at the output.

FREQUENCY/MHz	1350.2	1351.4
Nom. freq./MHz+-1kHz	14.351	15.551

▶ The level must be 2 +-1.5 dBm and the harmonics suppression <-40 dBc.

▶ Check nonharmonic spuria according to the following table:

FREQU. in MHz	EXT / OFF	Carrier frequency in MHz	Offset frequency in MHz	Nonharm. spuria in dBc
1350.69275	EXT	14.84375+-0.1	+-1.5625	<-66
1350.69275	OFF	14.84375+-0.0001	+-1.5625	<-80
1351.27869	EXT	15.4296875+-0.1	+-1.5625	<-66
1351.27869	OFF	15.4296875+-0.0001	+-1.5625	<-80
835.1	EXT	15.1+-0.1	+-0.2	<-66
835.1	OFF	15.1+-0.0001	+-0.2	<-80

7.4.9 Testing the Interrupt Function

- Setting: **FREQUENCY 1000MHz**

▶ Remove jumper X36/X37. The error message "Digital synthesis buffer VCO unlocked" must be displayed.

7.4.10 Testing the Diagnosis

- Setting: **FREQUENCY 1000MHz**
  UTILITIES - DIAG - TPOINT...

TPOINT	Test point	Factor	Nom. voltage
300	+15V supply	4	14...16 V
301	DCOD, OSC.tun. volt.	5	-100...100 mV
302	DCOD, OSC. level	1	-20...20 mV
303	DDS-GA clock level	1	0.5...1.5 V
304	Level at outp. FDDS	1	50...200 mV
305	OSC. tuning voltage	5	12...20 V
306	-15-V supply	4	-14...16 V
307	+7.5-V supply	2	14...16 V

7.4.11 Testing the CODAM Line

- Connect a signal generator (50 Ω) to X3.19/20 (SIG/GND) and apply 10 MHz/10 dBm.
- Connect a spectrum analyzer to X80.9/11 (SIG/GND) and set CENTER 10 MHz.

▶ The level to be measured at 10 MHz must be 4 dBm +-2 dB.

The module can be removed from its location after opening the instrument, unlocking the modules and loosening the RF connections at X81 and X89. The screening covers of the module are conventionally fastened with screws.

7.5 Removal and Assembly

The module can be removed from its location after opening the instrument, unlocking the module and loosening the RF connections at X81 and X89. The screening covers of the module are conventionally fastened with screws.

7.6 Interface Description

Pin	Name	Inp./Output	Origin/Destination	Value range	Signal description
X80.A12	SERBUS-CLK	Input	A3, FRO X50.40	HCMOS level	Serbus clock
X80.A14 X80.A15	SERBUS-DAT	bidir.	A3, FRO X50.39	HCMOS level	Serbus data
X80.A17	SERBUS-INT	Output	A3, FRO X50.38	HCMOS level	Serbus interrupt
X80.A18	RES-P	Input	A3, FRO X50.28	HCMOS level	Serbus reset
X80.A19	DIAG-5V	Output	A3, FRO X50.44	-5V...5V	Diagnosis
X80.A24	VA15-P	Input	A2, POWS1	14.80V...15.75V 44...66mA	Supply voltage analog
X80.A26	VA7.5-P	Input	A2, POWS1	7.45V...7.95V 328...500mA	Supply voltage analog
X80.A28	VD-5P	Input	A2, POWS1	5.10V...5.25V 0...10mA	Supply voltage digital
X80.A30	VA15-N	Input	A2, POWS1	-15.75V...-14.85V 208...310mA	Supply voltage analog
X80.A1	DATACLK	bidir.	A3, FRO	HCMOS level	Data clock of DATA CODER
X80.A2	DATA	bidir	A3, FRO	HCMOS level	Data signal of DATA CODER
X80.A3	BURST	bidir.	Rear panel	HCMOS level	BURST signal of DATA CODER
X80.A9	CODAM	Output	A10, OPU1	-1V...+1V	AM signal from DATA CODER
X80.A32	LSWI	Output	A10, OPU1	HCMOS level	LEVEL-SWITCH signal to OPU
X81	REF50	Input	A5, MGEN X99	9dBm+-2dB	RF input, reference signal
X89	FDDS	Output	A9, SUM, X51	2dBm+-2dB	RF output, DDS signal

ROHDE&SCHWARZ

Schaltteillisten
numerisch geordnet

Part lists
in numerical order

Listes des pièces détachées
par numéros de référence

095.1000 Bl. 3

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C50	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C77	CE 47UF+-20%50V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7479.00	PANASONIC	ECA-1HFG470I	
C79	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C81	CE 220UF+-20%10V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7927.00	PANASONIC	ECA 1 AFG 221 I	
C83	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C100	CE 100UF+-20%6,3V AL-CHIP SMD-ELECTROLYTIC CAPACIT.	CE 0008.1841.00	VALVO	TYP 2222 139 63101	
C102	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C110	CE 100UF+-20%6,3V AL-CHIP SMD-ELECTROLYTIC CAPACIT.	CE 0008.1841.00	VALVO	TYP 2222 139 63101	
C111	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C112	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C114 ..120	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C129	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C130	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C131	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C132	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C133	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C134	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C135	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C150	CE 10UF+-20%50V ALU-CHIP SMD-ELECTROLYTIC CAPACIT.	CE 0008.1812.00	VALVO	TYP 2222 139 61109	
C162	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C168	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C180	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C182	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C186	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C200	CE 220UF+-20%10V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7927.00	PANASONIC	ECA 1 AFG 221 I	
C202	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C203	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C204	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C205	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C210	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C212	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C214	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C216	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C218	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C219	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C220	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C222	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C230	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C231	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C232	CC 2,2PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8171.00	MURATA	GRM42-6C0G 2R2 C50PT	
C233	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C300	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C302	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C304	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C306	CE 220UF+-20%10V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7927.00	PANASONIC	ECA 1 AFG 221 I	
C308	CE 220UF+-20%10V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7927.00	PANASONIC	ECA 1 AFG 221 I	
C310	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C312	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C402	CC 180PF+-1%50V NPO 1206 CHIP CAPACITOR	CC 0099.8844.00	MURATA	GRM42-6C0G 181F50ZPT	
C403	CC 27PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8409.00	MURATA	GRM42-6C0G 270F50ZPT	
C404	CC 180PF+-1%50V NPO 1206 CHIP CAPACITOR	CC 0099.8844.00	MURATA	GRM42-6C0G 181F50ZPT	
C405	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C406	CC 180PF+-1%50V NPO 1206 CHIP CAPACITOR	CC 0099.8844.00	MURATA	GRM42-6C0G 181F50ZPT	
C407	CC 68PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8815.00	MURATA	GRM42-6C0G 680F50ZPT	
C408	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C409	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C410	CC 390PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8880.00	AVX	1206 5 A 391 F 3	
C411	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C412	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C414	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C420	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C500	CC 270PF+-5% 200V PELL CAPACITOR TRIMMWERT/SELECTED"	CC 0556.8730.00	TEKELEC	201 CHB 271J WL	
C502	CC 56PF+-5% 500V PELL CAPACITOR	CC 0556.8660.00	TEKELEC	501 CHB 560 J(W/V)LE	
C505	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C506	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C508	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C510	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C512	CC 39PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8796.00	MURATA	GRM42-6C0G 390F50ZPT	
C514	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C516	CC 150PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8509.00	MURATA	GRM42-6C0G 151F 50PT	
C518	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C519	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C600	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C602	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C604	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C620	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C621	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C622	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C623	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C624	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C625	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C626	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C627	CC 220PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8850.00	MURATA	GRM42-6C0G 221F 50PT	
C628	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C629	CC 220PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8850.00	MURATA	GRM42-6C0G 221F 50PT	
C630	CC 2,2PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8171.00	MURATA	GRM42-6C0G 2R2 C50PT	
C631	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C640	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C641	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C642	CC 470PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C646	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C647	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C648	CC 470PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C662	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C663	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C700	CE 47UF+-20%50V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7479.00	PANASONIC	ECA-1HFG470I	
C701	CE 220UF+-20%10V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7927.00	PANASONIC	ECA 1 AFG 221 I	
C702	CK 22NF +-1% 63V RM5 KP POLYPROPYLENE CAPACITOR	CK 0007.7675.00	ROEDERSTEI	KP1830-322 06 1 3 W	
C703	CK 1UF+-5%50V7,5X5,5X10,5 POLYESTER CAPACITOR	CK 0099.2998.00	SIEMENS	B32529-C5105-J189	
C705	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C706	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C710	CC 68PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8815.00	MURATA	GRM42-6C0G 680F50ZPT	
D20	BG TH3132 DDS GAZ ASIC IC GATEARRAY	BG 1039.1527.00	THESYS	TH3132	
D50	BL PC74HCT125T 4XBUFF. 3S QUAD LINE DRIVER	BL 0007.5395.00	PHILIPS_SE	(PC)74HCT125(D/T)	
D110	BG TH3032.1C SERBUSD ASIC IC GATE ARRAY	BG 0008.6143.00	THESYS	TH3032.1C	
D112	BG TH3032.1C SERBUSD ASIC IC GATE ARRAY	BG 0008.6143.00	THESYS	TH3032.1C	
D120	BL PC74HCT132T 4X2IN SCHM NAND SCHMITT TRIGGER	BL 0007.6340.00	PHILIPS	(PC)74HCT132(D/T)	
D125	BL PC74HCT132T 4X2IN SCHM NAND SCHMITT TRIGGER	BL 0007.6340.00	PHILIPS	(PC)74HCT132(D/T)	
D130	BL PC74HCT4051T 8CH.A.MUX ANALOG MULTIPLEXER	0007.6827.00	PHILIPS	(PC)74HCT4051(T)	
D135	BL 74ACT86SC 4X 2IN-EXOR QUAD 2-INPUT EXOR GATE	BL 2005.4307.00	HARRIS	(CD74)ACT86(M)	
D150	BL PC74HCT4094T 8ST.SHREG 8-STAGE SHIFT&STORE REG.	0007.6885.00	PHILIPS	(PC)74HCT4094(D)	
D155	BL PC74HCT4094T 8ST.SHREG 8-STAGE SHIFT&STORE REG.	0007.6885.00	PHILIPS	(PC)74HCT4094(D)	
D175	BL PC74HC4538T 2X MULTIV DUAL MULTIVIBRATOR	6014.4382.00	PHILIPS_SE	(PC)74HC4538(T)	
D300	BJ CX20201A-1 MPY 10B-DAC DIGITAL/ANALOG CONVERTER	1039.1340.00	HARRIS	HI20201JCB	
D600	BL 74AC74SC 2XD-FLIPFL DUAL D-TYPE FLIPF	BL 0820.3602.00	FAIRCHILD	74AC74SC	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
D700	BS SD5400CY 4X ANALOGSCH QUAD ANALOG SWITCH	0351.0000.00	SILICONIX	SD5400CY	
L76	LD 150UH BEI 0,17A 6,20HM CHOKE	LD 0026.4055.00	DALE	IM 6	
L78	LD 150UH BEI 0,17A 6,20HM CHOKE	LD 0026.4055.00	DALE	IM 6	
L80	LD 3,3UH BEI 1,63A0,160HM CHOKE	LD 0026.4061.00	DALE	IM 6	
L82	LD 15UH 10% 1R2 0,46A CHOKE	LD 0026.4149.00	DALE	IM 6	
L110	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L135	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L150	LD 100UH 10% 0,06A 1210 RF CHOKE	LD 0007.9261.00	SIEMENS	B82422-A1104-J(K)100	
L200	LD 0,22UH10%0,140HM1,045A CHOKE	LD 0067.2786.00	DALE	IM2	
L201	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L202	LD 0,47UH10%0,350HM0,660A CHOKE	LD 0067.2828.00	DALE	IM2	
L204	LD 0,47UH10%0,350HM0,660A CHOKE	LD 0067.2828.00	DALE	IM2	
L206	LD 0,47UH10%0,350HM0,660A CHOKE	LD 0067.2828.00	DALE	IM2	
L208	LD 0,22UH10%0,140HM1,045A CHOKE	LD 0067.2786.00	DALE	IM2	
L210	LD 4,70UH10%1,200HM0,239A CHOKE	LD 0067.2940.00	DALE	IM2	
L212	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L214	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L216	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L300	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L302	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L304	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L306	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L403	LD 0,39UH10%0,300HM0,710A CHOKE	LD 0067.2811.00	DALE	IM2	
L405	LD 0,22UH10%0,140HM1,045A CHOKE	LD 0067.2786.00	DALE	IM2	
L406	LD 0,22UH10%0,140HM1,045A CHOKE	LD 0067.2786.00	DALE	IM2	
L408	LD 10 UH 10% 3R3 144 MA CHOKE	LD 0026.4184.00	DALE	IM2	
L500	LD 56,0UH10%5,700HM0,100A CHOKE	LD 0067.3076.00	DALE	IM2	
L502	LD 56,0UH10%5,700HM0,100A CHOKE	LD 0067.3076.00	DALE	IM2	
L504	LD 22,0UH10%3,300HM0,114A CHOKE	LD 0067.3024.00	DALE	IM2	
L506	LD 530NH 9,5W CM19P FE-K COIL	0817.0058.00	TOKO	E526 HN-100109	
L507	LD 530NH 9,5W CM19P FE-K COIL	0817.0058.00	TOKO	E526 HN-100109	
L508	LD 56,0UH10%5,700HM0,100A CHOKE	LD 0067.3076.00	DALE	IM2	
L514	LD 2,70UH10%0,550HM0,355A CHOKE	LD 0067.2911.00	DALE	IM2	
L516	LD 1,50UH10%0,220HM0,560A CHOKE	LD 0067.2886.00	DALE	IM2	
L600	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L602	LD 560NH 5% 0R5 0,495A CHOKE	0300.9752.00	DALE	IM 2	
L603	LD 560NH 5% 0R5 0,495A CHOKE	0300.9752.00	DALE	IM 2	
L700	LD 100UH 10% 0,06A 1210 RF CHOKE	LD 0007.9261.00	SIEMENS	B82422-A1104-J(K)100	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L701	LD 100UH 10% 0,06A 1210 RF CHOKE	LD 0007.9261.00	SIEMENS	B82422-A1104-J(K)100	
L705	LD 56,0UH10%5,700HMO,100A CHOKE	LD 0067.3076.00	DALE	IM2	
N100	BO LM2940CT LOWDROP+VREGL VOLTAGE REGULATOR	BO 0350.5809.00	NSC	LM2940CT-5.0	
N110	BO UA7905UC -5V1AO VREGL VOLTAGE REGULATOR	BO 0282.5449.00	NSC	LM7905 CT	
N120	BO LM2903D 2XLP COMPAR DUAL	0520.7734.00	SIGNETICS	LM2903(D)	
N130	BO LM2903D 2XLP COMPAR DUAL	0520.7734.00	SIGNETICS	LM2903(D)	
N400	BM MAR8 MMIC BROADBAND AMPLIFIER	0656.4720.00	MINI-CIRCU	MAR8	
N600	BO MC1458D 2X OPAMP OPERATION AMPLIFIER	0007.3763.00	SIGNETICS	MC1458(D)	
N700	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	
N702	BO AD829JR 1XLOLN OPAMP IC OPAMP	1036.4254.00	ANALOG_DEV	AD829JR	
P1	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P2	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P3	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P4	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P5	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P6	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P7	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P8	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P9	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P10	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P11	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P12	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P13	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P14	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P15	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P16	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P17	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P18	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P20	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P21	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P22	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P23	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P24	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P27	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P28	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P29	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P30	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P32	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
P33	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P34	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P35	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P39	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P40	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P41	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P42	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P43	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
P44	VL STECKLOETOESE 7,5X1,1 PLUG-IN SOLDERING LUG	VL 0078.2747.00	-	R&S-ZCHNG.078.2747	
R48	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R49	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R50	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R51	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R52 ..61	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R64	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R65	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R66	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R67	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R68	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R69	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R70	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R71	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R72	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R73	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R74	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R75	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R93	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R94	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R96	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R101	RG 909 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.7265.00	PHILIPS_CO	RC02	
R102	RG 909 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.7265.00	PHILIPS_CO	RC02	
R103	RG 909 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.7265.00	PHILIPS_CO	RC02	
R104	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R106	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R108	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R110	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R112	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R114	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R117	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R118	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R119	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R121	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R124	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R128	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R129	RG 47,5KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5950.00	PHILIPS_CO	RC02	
R130	RG 2,7MOHM+-5%TK200 1206 CHIP RESISTOR	0007.9984.00	ROEDERSTEI	D 25	
R131	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5895.00	PHILIPS_CO	RC02	
R132	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5895.00	PHILIPS_CO	RC02	
R133	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5895.00	PHILIPS_CO	RC02	
R134	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5895.00	PHILIPS_CO	RC02	
R135	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5895.00	PHILIPS_CO	RC02	
R136	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R137	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R140	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R142	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R143	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R144	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R145	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R146	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R148	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R149	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R150	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5895.00	PHILIPS_CO	RC02	
R151	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R152	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R153	RG 130,0KOH+-1%TK100 1206 RESISTOR CHIP	RG 0007.5966.00	PHILIPS_CO	RC02	
R154	RG 0-OHM WIDERSTAND 1206 RESISTOR CHIP 0-OHM	RG 0007.5108.00	DRALORIC	CR 1206	
R155	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R156	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R157	RG 33,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5914.00	PHILIPS_CO	RC02	
R158	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R159	RG 90,9KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.1931.00	PHILIPS_CO	RC02	
R160	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R161	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R162	RG 33,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5914.00	PHILIPS_CO	RC02	
R163	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R164	RG 33,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5914.00	PHILIPS_CO	RC02	
R165	RG 562 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.6091.00	PHILIPS_CO	RC02	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R166	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R167	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R168	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R169	RG 33,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5914.00	PHILIPS_CO	RC02	
R170	RG 562 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.6091.00	PHILIPS_CO	RC02	
R171	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R172	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R174	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R175	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R176	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R177	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R178	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R179	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R180	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R181	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R182	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R183	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R184	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R185	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R186	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R187	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R188	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R189	RG 2,7MOHM+-5%TK200 1206 CHIP RESISTOR	0007.9984.00	ROEDERSTEI	D 25	
R190	RG 2,7MOHM+-5%TK200 1206 CHIP RESISTOR	0007.9984.00	ROEDERSTEI	D 25	
R191	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R192	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R193	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R194	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R195	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R196	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R197	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R198	RG 33,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5914.00	PHILIPS_CO	RC02	
R200	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R201	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R202	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R203	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R204	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R205	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R206	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R207	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R210	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R211	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R212	RG 22,1KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5872.00	PHILIPS_CO	RC02	
R215	RG 15,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5843.00	PHILIPS_CO	RC02	
R216	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R218	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R220	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R222	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R224	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R226	RG 6,81KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0758.00	PHILIPS_CO	RC02	
R228	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R240	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R241	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R242	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R243	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R244	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R245	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R246	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R247	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R248	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R249	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R250	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R252	RN 9X330 OHM+-2%SIL10 H5 RESISTOR NETWORK	0379.8306.00	BI_TECHNOL	L 10 1 S 331 M*	
R253	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R256	RN 9X330 OHM+-2%SIL10 H5 RESISTOR NETWORK	0379.8306.00	BI_TECHNOL	L 10 1 S 331 M*	
R257	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R260	RG 0-OHM WIDERSTAND 1206 RESISTOR CHIP 0-OHM	RG 0007.5108.00	DRALORIC	CR 1206	
R261	RG 121 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8903.00	PHILIPS_CO	RC02	
R262	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R263	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R264	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R265	RG 6,81KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0758.00	PHILIPS_CO	RC02	
R266	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R267	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R268	RG 47,5KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5950.00	PHILIPS_CO	RC02	
R269	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R270	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R271	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R272	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R273	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R274	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R277	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R300	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R302	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R304	RG 2,74KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5766.00	DRALORIC	CR 1206	
R306	RG 2,74KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5766.00	DRALORIC	CR 1206	
R310	RG 8,25KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0770.00	PHILIPS_CO	RC02	
R312	RG 1,21KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9968.00	PHILIPS_CO	RC02	
R314	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R400	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R401	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R402	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R403	RG 18,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5466.00	PHILIPS_CO	RC02	
R404	RG 1,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9951.00	PHILIPS_CO	RC02	
R405	RG 27,4 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5508.00	PHILIPS_CO	RC02	
R406	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R407	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R408	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R409	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R420	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R424	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5895.00	PHILIPS_CO	RC02	
R433	RS 0,5W5OKOHM+-10%10X10X5 CERMET POTENTIOMETER T	RS 0087.7677.00	BI_TECHNOL	72X-R	
R502	RG 681 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9080.00	PHILIPS_CO	RC02	
R503	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R504	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R505	RG 18,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5466.00	PHILIPS_CO	RC02	
R506	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R510	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R512	RG 1,5 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5714.00	PHILIPS_CO	RC02	
R514	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R516	RG 3,32KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5789.00	PHILIPS_CO	RC02	
R518	RG 82,5 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8861.00	PHILIPS_CO	RC02	
R519	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R520	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R521	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R600	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R601	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R602	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R603	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R604	RG 68,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.1902.00	PHILIPS_CO	RC02	
R605	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R606	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R607	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R610	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R611	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R612	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R614	RG 47,5KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5950.00	PHILIPS_CO	RC02	
R618	RG 18,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5466.00	PHILIPS_CO	RC02	
R619	RG 18,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5466.00	PHILIPS_CO	RC02	
R620	RG 18,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5466.00	PHILIPS_CO	RC02	
R630	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R631	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R632	RG 3,32KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5789.00	PHILIPS_CO	RC02	
R633	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R634	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R635	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R636	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R637	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R640	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R641	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R642	RG 3,32KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5789.00	PHILIPS_CO	RC02	
R643	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R646	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R647	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R650	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	
R652	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R653	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R702	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R704	RG 392 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5672.00	DRALORIC	CR 1206	
R705	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R706	RG 24,3KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5889.00	DRALORIC	CR 1206	
R707	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R708	RG 0-OHM WIDERSTAND 1206 RESISTOR CHIP 0-OHM	RG 0007.5108.00	DRALORIC	CR 1206	
R709	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R710	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R712	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R713	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R715	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R716	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R717	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
T200	LU HF-UEBERTR. 0,2-350MHZ WIDE-BAND TRANSFORMER	0276.3619.00	MINI-CIRCU	T 4-1 W38	
V100	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V102	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V104	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V150	AM BSS123 N-E 100V MOSF FET	0815.7961.00	SIEMENS	BSS 123 (-S512)	
V152	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V153	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V154	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V200	AE BB620 45/03PF CDI TUNING DIODE	0848.5251.00	SIEMENS	BB620	
V202	AE BB620 45/03PF CDI TUNING DIODE	0848.5251.00	SIEMENS	BB620	
V204	AE BB620 45/03PF CDI TUNING DIODE	0848.5251.00	SIEMENS	BB620	
V206	AE BB620 45/03PF CDI TUNING DIODE	0848.5251.00	SIEMENS	BB620	
V210	AK BFS17 N 15V 25MA 1 GHZ WIDEBAND TRANSISTOR	AK 0010.6460.00	VALVO	BFS17	
V220	AK BFS17 N 15V 25MA 1 GHZ WIDEBAND TRANSISTOR	AK 0010.6460.00	VALVO	BFS17	
V222	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V500	AE BB130PAAR 300/22PF CDI TUNING DIODE (PAIR)	0372.2231.00	PHILIPS	BB130/PAAR	
V501	AE BB130PAAR 300/22PF CDI TUNING DIODE (PAIR)	0372.2231.00	PHILIPS	BB130/PAAR	
V502	AE BB130PAAR 300/22PF CDI TUNING DIODE (PAIR)	0372.2231.00	PHILIPS	BB130/PAAR	
V503	AE BB130PAAR 300/22PF CDI TUNING DIODE (PAIR)	0372.2231.00	PHILIPS	BB130/PAAR	
V504	AE BB130PAAR 300/22PF CDI TUNING DIODE (PAIR)	0372.2231.00	PHILIPS	BB130/PAAR	
V505	AE BB130PAAR 300/22PF CDI TUNING DIODE (PAIR)	0372.2231.00	PHILIPS	BB130/PAAR	
V507	AE BB212 2X500/22PF CDI TUNNING DIODE	0373.6901.00	PHILIPS_SE	BB212	
V510	AK BFQ81 N 16V 30MA TRANSISTOR	0920.1717.00	SIEMENS	BFQ81 (-F1049)	
V512	AK BFQ81 N 16V 30MA TRANSISTOR	0920.1717.00	SIEMENS	BFQ81 (-F1049)	
V514	AK BFQ81 N 16V 30MA TRANSISTOR	0920.1717.00	SIEMENS	BFQ81 (-F1049)	
V516	AK BCX71J P 45V 200MA TRANSISTOR	AK 0007.2096.00	VALVO	BCX71J GEGURTET	
V518	AK BCX71J P 45V 200MA TRANSISTOR	AK 0007.2096.00	VALVO	BCX71J GEGURTET	
V600	AE BAR14-1 DUAL 100V PIN PIN DIODE	0820.3283.00	SIEMENS	BAR14-1 (-A772)	
V601	AE BAR14-1 DUAL 100V PIN PIN DIODE	0820.3283.00	SIEMENS	BAR14-1 (-A772)	
V603	AE BAR14-1 DUAL 100V PIN PIN DIODE	0820.3283.00	SIEMENS	BAR14-1 (-A772)	
V605	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V610	AK BFS17 N 15V 25MA 1 GHZ WIDEBAND TRANSISTOR	AK 0010.6460.00	VALVO	BFS17	
V612	AK BFS17 N 15V 25MA 1 GHZ WIDEBAND TRANSISTOR	AK 0010.6460.00	VALVO	BFS17	
V614	AD BAS16 75V UDI HIGH-SPEED DIODE	AD 0007.4924.00	VALVO	BAS16 (A6P)	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V615	AD BAS16 75V UDI HIGH-SPEED DIODE	AD 0007.4924.00	VALVO	BAS16 (A6P)	
V702	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V704	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V708	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
X1	FP STIFTLEISTE 20P.2REIH. CONNECTOR 20P.	FP 0520.6521.00	BINDER	11-0209-00-20	
X2	FP STIFTLEISTE 20P.2REIH. CONNECTOR 20P.	FP 0520.6521.00	BINDER	11-0209-00-20	
X3	FP STIFTLEISTE 20P.2REIH. CONNECTOR 20P.	FP 0520.6521.00	BINDER	11-0209-00-20	
X36	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X37	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X38	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X80	FP STECKERLEISTE 32POL. CONNECTOR 32P.	FP 0008.5718.00	DEUT_ELCO	16 8457 064 002 027	
X81	FJ EINBAUSTECKER F.GS SMB ANGLE CONNECTOR	FJ 0602.8804.00	ROSENBERGE	59S-206-400-D3	
X89	FJ EINBAUSTECKER F.GS SMB ANGLE CONNECTOR	FJ 0602.8804.00	ROSENBERGE	59S-206-400-D3	
Z52	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z54	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z56	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z58	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z60	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z64	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z66	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z68	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z70	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z72	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z74	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z76	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z78	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z80	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z82	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	

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ROHDE&SCHWARZ

XY-Liste

XY List

Erklärung der Spaltenbezeichnungen:

el. Kennz.	**Bauelement-Kennzeichen**
Seite	**Leiterplatten-Seite, auf der sich das Bauelement befindet**
X/Y	**Koordinaten (in Millimeter) des Bauelementes auf der Leiterplatte bezogen auf den Nullpunkt**
Planq., Bl.	**Planquadrat und Seite des Schaltbildes für das jeweilige Bauelement**

Explanation of column designations:

Part	**Identification of instrument part**
Side	**Side of the PC board on which instrument part is positioned**
X/Y	**Coordinates (in units of millimeters) of the component on the PC board in reference to zero point**
Sqr, Pg	**Square and page of the diagram for the respective instrument part**

Service-Relevante Bauteile / Service-Relevant Components

Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
L506	B	240	63	10C	4	P15	B	231	106	4B	3	P35	B	177	67	6E	4
L507	B	226	45	10C	4	P16	B	252	94	5B	3	P39	B	273	48	10E	4
P1	B	134	72	5D	2	P17	B	90	72	7C	2	R214	B	227	139	3B	3
P2	B	121	72	5D	2	P18	B	76	72	7B	2	R433	B	291	139	9E	4
P3	B	196	137	5E	3	P20	B	69	44	4E	5	X1	B	164	136	3F	3
P4	B	258	94	5B	3	P21	B	46	44	4D	5	X2	B	164	104	6F	2
P5	B	231	109	4B	3	P22	B	107	117	6B	2	X3	B	164	71	4F	2
P6	B	278	21	3C	4	P23	B	88	107	6B	2	X36	B	200	70	7D	4
P7	B	205	76	8C	4	P24	B	137	101	6D	2	X37	B	200	73	8D	4
P8	B	112	65	12E	2	P27	B	88	99	7B	2	X38	B	200	76	8D	4
P9	B	94	65	12E	2	P28	B	148	120	9E	2	X80A	B	189	11	1D	2
P10	B	293	58	8D	3	P29	B	116	119	10E	2	X80D	B	189	11		
P11	B	250	60	11C	4	P30	B	109	128	10C	2	X81	B	17	15	4F	3
P12	B	264	63	11C	4	P32	B	215	138	5D	3	X89	B	296	15	5B	4
P13	B	255	94	5B	3	P33	B	217	138	5D	3						
P14	B	261	94	5B	3	P34	B	274	116	6C	3						

Nicht-Service-Relevante Bauteile / Non-Service-Relevant Components

Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
1	B	283	122	6D	3	C200	B	217	133	3E	3	C408	B	295	89	8C	3
C50	B	139	18	2D	5	C202	A	197	127	3D	3	C409	A	290	81	7D	3
C77	B	177	30	2C	5	C203	A	187	120	3E	3	C410	B	293	86	7D	3
C79	B	182	30	2B	5	C204	A	197	114	2D	3	C411	B	293	70	7D	3
C81	B	106	18	2E	5	C205	A	200	120	3D	3	C412	A	295	53	7E	3
C83	B	106	26	2D	5	C210	B	182	98	3D	3	C414	A	290	48	7E	3
C100	B	69	36	4E	5	C212	A	215	98	2B	3	C420	A	290	125	9E	4
C102	A	113	49	3C	2	C214	A	227	133	2C	3	C500	B	232	68	8B	4
C110	B	57	36	4D	5	C216	B	222	89	2A	3	C502	B	240	68	10C	4
C111	A	81	86	5E	5	C218	B	231	88	3A	3	C505	B	240	74	8C	4
C112	A	124	78	5E	5	C219	B	226	98	4A	3	C506	B	250	68	10C	4
C114	B	102	114	6E	5	C220	A	221	102	3B	3	C508	B	252	63	10C	4
C115	B	102	100	7E	5	C222	A	237	106	4B	3	C510	B	263	70	11D	4
C116	B	146	126	8E	5	C230	B	185	137	4D	3	C512	B	275	70	10D	4
C117	B	142	133	8E	5	C231	A	200	132	5E	3	C514	A	257	74	11D	4
C118	B	145	111	5D	5	C232	A	194	133	5E	3	C516	B	269	51	11E	4
C119	B	124	111	5D	5	C233	A	189	126	6D	3	C518	B	255	57	10C	4
C120	B	150	97	7E	5	C300	A	270	130	6C	3	C519	A	244	48	11B	4
C129	A	96	119	5C	2	C302	A	265	122	6C	3	C600	A	224	24	5B	5
C130	A	95	107	5B	2	C304	A	265	108	6C	3	C602	A	266	24	6B	5
C131	A	156	123	5B	2	C306	B	275	125	6C	3	C604	A	250	28	6B	5
C132	A	151	123	5B	2	C308	B	275	112	6C	3	C620	A	244	32	2C	4
C133	A	151	133	5A	2	C310	A	272	103	6B	3	C621	A	252	36	2B	4
C134	A	140	124	5A	2	C312	A	261	103	5B	3	C622	A	281	22	3B	4
C135	A	140	130	5A	2	C401	B	290	116	7C	3	C623	B	278	30	4C	4
C150	B	110	53	7E	5	C402	B	299	117	7C	3	C624	B	280	37	3B	4
C162	A	114	121	9E	2	C403	B	297	111	7C	3	C625	B	295	33	4B	4
C168	A	103	62	10E	2	C404	B	299	99	7C	3	C626	B	289	30	4B	4
C180	B	103	128	6D	5	C405	B	296	104	8C	3	C627	B	295	30	4B	4
C182	B	105	69	7D	5	C406	B	297	99	8C	3	C628	B	292	25	4B	4
C186	B	124	126	6D	5	C407	B	290	96	8C	3	C629	B	287	15	5B	4

ROHDE & SCHWARZ	-I	Datum Date	XY-Liste für XY-list for	Sach-Nummer Stock-Nr	Blatt Page
	04	22.11.94	EE DIGITALE_SYNTHESE DIGITAL_SYNTHESIS	1038.7344.01 XY	1+

Part	Side	X	Y	Sqr	Pg
C630	B	281	15	5B	4
C631	A	267	17	5B	4
C640	B	250	30	2D	4
C641	B	241	36	3E	4
C642	B	217	34	4D	4
C646	B	250	18	2E	4
C647	B	241	12	3F	4
C648	B	217	11	4E	4
C662	A	296	28	4B	4
C663	A	290	22	4B	4
C700	B	185	49	5C	5
C701	B	191	49	5C	5
C702	B	192	69	7E	4
C703	B	192	62	7E	4
C705	A	192	73	7E	4
C706	B	205	72	7C	4
C708	B	185	60	6E	4
C710	A	188	60	6C	4
C712	B	195	54	6C	4
D20A	B	196	131	3E	3
D50-A	A	137	17	2C	2
D50-B				2C	2
D50-C				2B	2
D50-D				2B	2
D50-E				2D	5
D110-A	B	128	77	5D	2
D110-B				5E	5
D112-A	B	83	77	7C	2
D112-B				6E	5
D120-A	A	98	112	4B	2
D120-B				5B	2
D120-C				5B	2
D120-D				4A	2
D120-E				7E	5
D125-A	A	98	98	4B	2
D125-B				5B	2
D125-C				5B	2
D125-D				3B	2
D125-E				7E	5
D130-A	A	142	124	4B	2
D130-B				8E	5
D135-A	A	147	95	7E	2
D135-B				11D	2
D135-C				11D	2
D135-D				11C	2
D135-E				8E	5
D150-A	A	142	109	7E	2
D150-B				5E	5
D155-A	A	121	109	7D	2
D155-B				6E	5
D175-A	A	121	124	9E	2
D175-B				11C	2
D175-C				6E	5
D300	B	257	125	5C	3
D600-A	B	226	27	4D	4

Part	Side	X	Y	Sqr	Pg
D600-B				4E	4
D600-C				5B	5
D700-A	A	178	69	6E	4
D700-B				6E	4
D700-C				7E	4
D700-D				7E	4
L76	B	182	18	2C	5
L78	B	182	23	2B	5
L80	B	111	18	2E	5
L82	B	111	23	2D	5
L110	A	109	78	5F	5
L135	A	141	94	7F	5
L150	A	119	55	6E	5
L200	B	182	96	3D	3
L201	A	217	128	3D	3
L202	B	195	91	2C	3
L204	B	200	96	2C	3
L206	B	215	91	2B	3
L208	B	218	96	2B	3
L210	B	215	96	2B	3
L212	A	221	105	3B	3
L214	A	237	103	4B	3
L216	A	203	128	5E	3
L300	A	277	119	6C	3
L302	A	275	103	6B	3
L304	A	268	100	6B	3
L306	A	264	100	5B	3
L403	B	299	104	7C	3
L405	B	289	102	8C	3
L406	B	293	89	8C	3
L408	B	298	72	7D	3
L500	B	217	71	8B	4
L502	B	214	72	8C	4
L504	B	233	77	8C	4
L508	B	247	51	11C	4
L514	B	269	60	11E	4
L516	B	279	57	11E	4
L600	A	230	30	5B	5
L602	B	289	28	4B	4
L603	B	290	15	5B	4
L700	A	189	46	5C	5
L701	A	193	52	5C	5
L705	B	203	76	8C	4
N100	B	74	31	3E	5
N110	B	51	31	3D	5
N120-A	A	98	126	9C	2
N120-B				9C	2
N120-C				7E	5
N130-A	A	100	67	11E	2
N130-B				11E	2
N130-C				7E	5
N400	B	293	78	7D	3
N600-A	A	257	24	2C	4
N600-B				6B	4
N600-C				6B	5

Part	Side	X	Y	Sqr	Pg
N700-A	A	179	58	5E	4
N700-B				5C	5
N702-A	A	182	51	6D	4
N702-B				6C	5
P40	B	140	29	2F	2
P41	B	135	29	2E	2
P42	B	150	29	2E	2
P43	B	156	29	2D	2
P44	B	145	29	2D	2
R48	A	121	18	2D	5
R49	A	134	21	2C	2
R50	A	146	22	2B	2
R51	A	149	19	2B	2
R52	B	143	29	3F	2
R53	B	141	45	3F	2
R54	A	138	29	3E	2
R55	A	136	45	3E	2
R56	A	153	29	3E	2
R57	A	151	45	3E	2
R58	A	158	29	3D	2
R59	A	156	45	3D	2
R60	A	148	29	3D	2
R61	A	146	45	3D	2
R64	A	112	29	3C	2
R65	A	110	45	3C	2
R66	A	123	29	3C	2
R67	A	121	45	3C	2
R68	A	128	29	3B	2
R69	A	126	45	3B	2
R70	A	133	29	3B	2
R71	A	131	45	3B	2
R72	A	117	29	3B	2
R73	A	116	45	3B	2
R74	A	107	29	3A	2
R75	A	105	45	3A	2
R92	B	100	78	6B	2
R93	B	100	81	6B	2
R94	B	100	83	6B	2
R95	B	100	86	6B	2
R96	B	100	88	6B	2
R97	B	100	91	6B	2
R98	B	100	93	6B	2
R101	A	154	55	4E	2
R102	A	159	55	4E	2
R103	A	149	55	4E	2
R104	A	151	55	5E	2
R106	A	156	55	5E	2
R108	A	146	55	5E	2
R110	B	145	75	5D	2
R111	B	145	77	5D	2
R112	B	145	80	5D	2
R113	B	145	83	5D	2
R114	B	145	90	5D	2
R115	B	145	93	5D	2
R116	B	145	95	5D	2

ROHDE & SCHWARZ	-I	Datum / Date	XY-Liste für / XY-list for	Sach-Nummer / Stock-Nr	Blatt / Page
	04	22.11.94	EE DIGITALE_SYNTHESE DIGITAL_SYNTHESIS	1038.7344.01 XY	2+

Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
R117	A	124	76	5D	2	R177	A	142	135	8E	5	R252-D				4C	3
R118	A	112	76	5C	2	R178	A	155	109	5E	5	R252-E				4C	3
R119	A	115	79	5C	2	R179	A	84	77	6B	2	R252-F				4C	3
R120	B	131	101	6D	2	R180	A	72	90	6A	2	R252-G				4C	3
R121	A	135	99	6D	2	R181	A	138	107	6D	2	R252-H				4C	3
R122	A	132	99	6D	2	R182	A	118	107	6C	2	R252-I				4C	3
R123	A	130	99	6D	2	R183	A	75	82	7A	2	R253	A	243	105	4C	3
R124	A	127	99	6D	2	R184	A	132	135	11C	2	R256-A	B	241	111	4C	3
R125	A	124	99	6D	2	R185	A	130	135	11C	2	R256-B				4C	3
R126	A	122	99	6C	2	R186	A	132	120	11C	2	R256-C				4C	3
R127	A	119	99	6C	2	R187	A	130	120	11B	2	R256-D				4C	3
R128	A	104	109	4C	2	R188	A	156	98	10C	2	R256-E				4C	3
R129	A	95	117	5B	2	R189	A	167	74	3B	5	R256-F				4C	3
R130	A	95	104	5B	2	R190	A	49	34	3D	5	R256-G				4C	3
R131	A	159	123	6B	2	R191	A	97	82	7A	2	R256-H				4C	3
R132	A	154	123	6B	2	R192	A	77	89	7A	2	R256-I				4C	3
R133	A	151	131	6A	2	R193	A	80	98	7A	2	R257	A	241	108	4C	3
R134	A	136	121	6A	2	R194	A	97	84	7A	2	R260	B	144	136	4E	3
R135	A	140	133	6A	2	R195	A	97	87	7A	2	R261	B	154	136	4E	3
R136	A	92	97	4C	2	R196	A	100	79	8A	2	R262	B	150	138	4E	3
R137	A	149	93	7E	2	R197	A	49	37	3D	5	R263	B	176	137	4D	3
R140	A	155	111	6E	2	R198	A	55	34	3C	5	R264	B	179	137	4D	3
R142	A	134	111	6D	2	R200	A	187	115	2E	3	R265	B	190	140	4D	3
R143	A	140	99	6C	2	R201	A	189	115	2E	3	R266	B	201	140	5E	3
R144	A	117	99	6C	2	R202	A	192	115	2E	3	R267	B	199	136	5E	3
R145	A	114	99	6C	2	R203	A	199	115	2D	3	R268	A	191	126	6E	3
R146	B	141	85	6C	2	R204	A	202	115	2D	3	R269	A	205	136	5E	3
R148	B	141	88	6C	2	R205	A	204	115	2D	3	R270	A	189	98	2E	3
R149	A	142	103	6C	2	R206	A	178	112	2D	3	R271	A	192	98	2E	3
R150	A	116	133	9C	2	R207	A	178	115	2D	3	R272	A	178	105	2E	3
R151	A	118	136	9C	2	R210	B	154	133	4E	3	R273	A	178	107	2E	3
R152	A	96	126	9C	2	R211	B	147	138	4E	3	R274	A	178	110	2E	3
R153	A	100	132	9C	2	R212	A	235	139	3B	3	R277	A	194	98	2D	3
R154	A	103	135	9C	2	R215	A	228	137	3B	3	R300	A	261	105	5C	3
R155	A	134	109	5E	5	R216	A	224	135	3C	3	R302	A	261	113	5C	3
R156	A	167	76	3B	5	R218	A	224	128	3C	3	R304	A	257	108	5C	3
R157	A	156	74	3B	5	R220	B	222	96	2A	3	R306	A	257	110	5C	3
R158	A	92	122	10D	2	R222	B	225	88	3A	3	R310	A	275	128	6C	3
R159	A	74	34	3E	5	R224	B	228	86	2A	3	R312	A	268	133	6C	3
R160	A	114	126	9E	2	R226	B	228	92	3A	3	R314	A	253	97	5B	3
R161	A	114	129	9E	2	R228	B	220	98	3B	3	R400	B	288	117	6C	3
R162	A	114	124	9E	2	R240	B	234	134	4C	3	R401	B	290	118	7C	3
R163	A	80	34	3E	5	R241	B	234	131	4C	3	R402	B	297	117	7C	3
R164	A	95	71	10E	2	R242	B	234	129	4C	3	R403	B	290	89	7D	3
R165	A	98	71	11E	2	R243	B	234	126	4C	3	R404	A	290	75	7D	3
R166	A	98	61	11E	2	R244	B	234	124	4C	3	R405	B	293	64	7D	3
R167	A	105	59	10E	2	R245	B	234	121	4C	3	R406	B	295	91	8C	3
R168	A	100	62	11E	2	R246	B	234	119	4C	3	R407	A	298	55	7E	3
R169	A	102	65	11E	2	R247	B	234	116	4C	3	R408	A	289	53	7E	3
R170	A	109	71	11E	2	R248	B	234	114	4C	3	R409	A	289	59	7E	3
R171	A	109	61	11E	2	R249	B	234	111	4C	3	R420	A	294	133	9F	4
R172	A	93	67	10D	2	R250	B	237	109	4C	3	R424	A	287	137	8E	4
R174	A	108	106	6F	5	R252-A	B	243	111	4C	3	R502	B	260	73	11D	4
R175	A	108	102	7F	5	R252-B				4C	3	R503	A	261	70	11D	4
R176	B	140	121	8E	5	R252-C				4C	3	R504	B	272	51	11E	4

ROHDE & SCHWARZ	-I	Datum Date	XY-Liste für XY-list for	Sach-Nummer Stock-Nr	Blatt Page
	04	22.11.94	EE DIGITALE_SYNTHESE DIGITAL_SYNTHESIS	1038.7344.01 XY	3+

Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
R505	B	269	48	11E	4	R643	B	238	12	3F	4	V502	B	222	68	8B	4
R506	B	272	44	11E	4	R646	B	217	18	4E	4	V503	B	224	55	7B	4
R510	B	244	55	11C	4	R647	B	215	14	5E	4	V504	B	227	68	8B	4
R512	B	250	51	11C	4	R650	B	212	24	4E	4	V505	B	229	55	7B	4
R514	B	255	54	10C	4	R652	A	261	30	6B	4	V507	B	236	74	8C	4
R516	B	255	59	10C	4	R653	A	269	28	6B	4	V510	B	257	65	10D	4
R518	B	261	63	11C	4	R702	A	177	64	6E	4	V512	B	252	65	10C	4
R519	A	257	42	11B	4	R704	A	179	67	6E	4	V514	B	257	63	10C	4
R520	B	258	48	10B	4	R705	A	186	67	6E	4	V516	B	258	52	10B	4
R521	B	247	45	9B	4	R706	A	179	64	6E	4	V518	B	250	47	10B	4
R600	A	247	34	2C	4	R707	A	186	64	6E	4	V600	B	289	35	3B	4
R601	A	247	27	2C	4	R708	A	187	69	7E	4	V601	B	294	35	3B	4
R602	A	252	42	2C	4	R709	A	179	54	5D	4	V603	B	283	32	4B	4
R603	A	252	33	2B	4	R710	A	203	73	8D	4	V605	A	276	14	5B	4
R604	A	255	22	3C	4	R712	A	196	75	7E	4	V610	B	237	16	3E	4
R605	A	266	22	3B	4	R713	A	190	77	8E	4	V612	B	237	34	3D	4
R606	A	281	25	3B	4	R715	A	197	56	7D	4	V614	B	216	22	4E	4
R607	B	278	24	3B	4	R716	A	194	60	6D	4	V615	B	216	28	4E	4
R610	B	286	37	3B	4	R717	A	199	56	6D	4	V702	A	196	64	7D	4
R611	B	293	33	3B	4	T200	B	235	92	4B	3	V704	A	200	64	7C	4
R612	B	286	30	4B	4	V100	A	154	51	4E	2	V708	B	179	56	6D	4
R614	A	274	17	5B	4	V102	A	159	51	4E	2	Z52	B	141	35	3F	2
R618	B	272	30	4C	4	V104	A	149	51	4E	2	Z54	B	136	35	3E	2
R619	B	268	33	4C	4	V150	A	103	122	9C	2	Z56	B	151	35	3E	2
R620	B	265	30	4C	4	V152	A	103	73	10E	2	Z58	B	156	35	3D	2
R630	B	250	33	2D	4	V153	A	105	75	10E	2	Z60	B	146	35	3D	2
R631	B	244	30	2D	4	V154	A	125	120	9E	2	Z64	B	110	35	3C	2
R632	B	237	30	3D	4	V200	B	185	88	2C	3	Z66	B	121	35	3C	2
R633	B	238	36	3E	4	V202	B	195	88	2C	3	Z68	B	126	35	3B	2
R634	A	225	34	3F	4	V204	B	205	88	2B	3	Z70	B	131	35	3B	2
R635	A	222	34	4F	4	V206	B	215	88	2B	3	Z72	B	116	35	3B	2
R636	B	220	31	4D	4	V210	B	228	96	3A	3	Z74	B	105	35	3A	2
R637	B	220	37	5D	4	V220	B	191	136	5D	3	Z76	B	177	35	3C	5
R640	B	250	16	2E	4	V222	A	189	134	6E	3	Z78	B	182	35	3B	5
R641	B	244	18	2E	4	V500	B	217	68	8B	4	Z80	B	96	23	3E	5
R642	B	237	18	3E	4	V501	B	218	55	7B	4	Z82	B	96	28	3D	5

ROHDE&SCHWARZ

Stromläufe
Bestückungspläne

Circuit diagrams
Component plans

Schémas de circuit
Plans des composants

095.1000 Bl. 4

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

X81
REF50
9DBM +-2DB
50MHZ

OPION DATENCODER

DCOD50
SERBUS-D2
IRQ
P23
IR1
INTER-
RUPT
DELAY
FMDAT
LOADM
DIAG1
301
DIAG2
302
BURST
DATA
DATACLK
LSWI
CODAM

CLOCK
AMPL.
303
V222
P32
DDS-GA
FSK-
INVERTER
INVMDATA

CODAM LSWI DATACLK DATA BURST

DELAY
LINE
V20
P4
CMOS
ECL
R240...R257
P5
D
A
DAC
P34
ALIASING-
FILTER
DDS-
AMPLIFIER
P10
P28
AUTO
PSON
V600
V601
V603
V610
V612
C602

300
+24V
306
-15V
307
+7.5V

FDDS
X89
2DBM +-2DB
10.3...15.6MHZ

02/02	48754	
/	48731	
AEND. IND.	AENDERUNG MITTEILUN	

50
0DBM +-2DB
50MHZ

P28
AUTO
MONOFLOP
P29
BAND
SWITCH CONTROL
N700
305
PHASE-DETECTOR
INTERRUPT DETECTOR
P35
CONTROL AMPLIFIER
X36
DELAY LINE
V20
303
V222
V610
V612
INTERRUPT -DELAY
P22
SERBUS-D1
IRO
P4
P34
P10
PSON
V600
V601
CMOS
ECL
R240...R257
D
A
DAC
ALIASING-FILTER
DDS-AMPLIFIER
P5
-GA
C705
P7
R505
OSCILLATOR
OSZ3
OSZ4
INVMDATA
V603
PSON
C602
V605
304
300
306
307
+24V
-15V
+7.5V
FDDS
X89
2DBM +-2DB
10.3...15.6MHZ

02/02	48754 50	22.11.94	HO	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HO	DIGITALE SYNTHESE
				GEPR.			DIGITAL SYNTHESIS
				NORM			
				PLOTT	22.11.94		
/	48731	23.11.92	JN	ROHDE&SCHWARZ			ZEICHN.-NR. 1038.7344.01S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SME			BLATT-NR. 1+
				REG.I.V. 1038.6002			ERSTE Z.

FUER DIESE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR

ZEICHN.-NR. 1038.7344.01 S

SERBUS-BUFFER

D50-A 74HCT125T-L

X80A 18 RESET-P — R64 47R5 L — R65 47R5 L — RESET2
C102 1N L
Z64 10DB B

X80A 12 SERBUS-CLK — R49 1K L — R66 47R5 L — R67 47R5 L — SERCLK2
Z66 10DB B

X80A 15 SERBUS-IN
X80A 14 SERBUS-OUT
D50-B, D50-C, D50-D
R51 1K L
+5VA
R50 475R L

X80A 15 — R68 47R5 L — R69 47R5 L — DATA2
Z68 10DB B

X80A 14 — R70 47R5 L — R71 47R5 L — DATAEN2
Z70 10DB B

D125-D: DATAEN1, DATAEN2

X80A 17 SERBUS-INT — R72 475R L — R73 47R5 L — INT2
Z72 10DB B

X80A 19 DIAG-5V — R74 475R L — R75 47R5 L
Z74 10DB B

SERBUS-DECODER 1

D110-A SERBUS-D

P1 P2 — +5V
RESET2 — R110, * R111, R112, * R113, R114, * R115, * R116 — 7 X 1K L — R117 1K L
* NOT FITTED
NICHT BESTUECKT

TRISTATE, NANDTREE, RESET-P, A1 A2 A3 A4 A5 A6 A7

SERCLK2, DATAEN1, DATA2
SYNC, SERCLK, DATAEN, DATAIN, DATAOUT
PARDATO

INT2 — R118 1K L — R119 1K L
INTEN, INT, IRQUIT, MASK, IRO, IR1, IR2, IR3

SEROUT, CLK1, RD1, WR1, SERIN1, CLK2, RD2, WR2, SERIN2

R120-R127 8 X 1K L *NOT FITTED
P24 — +5V
R143-R148 6X 47R5 L
R149 10K L

INTERRUPT-DELAY

+5V — R128 1K L, R136 1K L — IRO
D120-A 74HCT132T-L
R129 47K5 L — C129 10N L
D120-B, D120-C
P22 — RESET2
* NOT FITTED
NICHT BESTUECKT

IR1
D125-A 74HCT132T-L
C130 100N L
R130 2M7 L
D125-B, D125-C
P23

DIAGNOSTIC MULTIPLEXER

D130-A 74HCT4051T-L
MUXDX
DMUX0 DMUX1 DMUX2
DIAGENA — D120-D 74HCT132T-L
SHEET 5 DO D6 D7 SHEET 5

R131 27K4 L — C131 10N L — DIAG1
R132 27K4 L — C132 10N L — DIAG2
R133 27K4 L — C133 10N L — DIAG3 SHEET 3
R134 27K4 L — C134 10N L — DIAG4 SHEET 4
R135 27K4 L — C135 10N L — DIAG5

SERBUS-DECODER 2

D112-A SERBUS-D

P17 P18 — +5V
TRISTATE, NANDTREE, RESET-P, A1 A2 A3 A4 A5 A6 A7
* R92, R93, R94, * R95, R96, * R97, * R98 — 7 X 1K L — R179 1K L

SERCLK2, DATAEN2, DATA2
SYNC, SERCLK, DATAEN, DATAIN, DATAOUT
PARDATO

INT2 — +5V — R180 1K L — R183 1K L
INTEN, INT, IRQUIT, MASK, IRO, IR1, IR2, IR3

SEROUT, CLK1, RD1, WR1, SERIN1, CLK2, RD2, WR2, SERIN2

P27
PDO PD1 PD2 PD3 PD4 PD5 PD6 PD7
SEROUT, CLOCK1, SCHREIB1, CLOCK2, SCHREIB2
R191-R195 5 X 1K L
R196 10K L

FSK-INVERTER

D135-A 74ACT86M-L
R137 47R5 L
MDATA
MCLK, SCLK, STROBE, SDATIN, CIN — SHEET 3

PORT-SWITCH

P40 P41 P42 P43 P44
P1 P2
P22-P24
P17 P18
P27
P28

X3 20 19 4 3 8 7 6 5 2 1 14 13 10 9 12 11 15 16 17 18
CODAM, LSW1, DATA, DATACLK, BURST, +24V, +15V, +5V, -15V

X2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
DIAG1, DIAG2, SCHREIB1, IR1, PD0, PD1, PD2, PD3, PD4, PD5, PD6, PD7, CLOCK1, SCHREIB2, CLOCK2, SEROUT

X80A 9 CODAM — R52 47R5 B — R53 47R5 B — Z52 10DB B
X80A 32 LSW1 — R54 47R5 L — R55 47R5 L — Z54 10DB B
X80A 2 DATA — R56 47R5 L — R57 47R5 L — Z56 10DB B
X80A 1 DATACLK — R58 47R5 L — R59 47R5 L — Z58 10DB B
X80A 3 BURST — R60 47R5 L — R61 47R5 L — Z60 10DB B

+5V +5V +5V — V100 V102 V104 — 3X BAV99-L
R101 909R L, R103 909R L, R102 909R L

R104 47R5 L
R106 47R5 L
R108 47R5 L

A

BAND
AUTO — V104 BAV99 — R160 1K L — R162 33K0 L
P28
FRS — SHEET 3
+5V

IRO
PS-ON — SHEET 4
RVA — SHEET 4 — R160 27K4 L
DIAG5
STEUERSPANNUNG CONTROL VOLTAGE DSYN-VCO — 305 — R151 12K1 L

INTERRU

STROMLAUF
CIRCUIT DIAGR

02/02	48754 50	
/	48731	
REND. IND.	RENDERUNGS-MITTEILUNG	

4 5 6 7 8 9 10 11 12

P1 P2 · P22-P24 · P17 P18 · P27 · P28 · P29 P30 · P8 P9

X3 20 19 4 3 8 7 6 5 2 1 14 13 10 9 12 11 15 16 17 18

X2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

DRAM LSW1 · DATA · DATACLK · BURST · +24V · +15V · +5V · -15V

DIAG1 DIAG2 SCHREIB1 IR1 PD0 PD1 PD2 PD3 PD4 PD5 PD6 PD7 CLOCK1 SCHREIB2 CLOCK2 SEROUT

PORT-SWITCH

FSK-INVERTER

D135-A 74ACT86M-L

R104 47R5 L · R106 47R5 L · R108 47R5 L · R137 47R5 L

MDATA · MCLK · SCLK · STROBE · SDATIN · CIN · SHEET 3

V104 D2 AV99-L · R101 909R L · R102 909R L · R103 909R L

SERBUS-DECODER 1

D110-A SERBUS-D

TRISTATE NANDTREE RESET-P A1 A2 A3 A4 A5 A6 A7

SYNC SERCLK DATAEN DATAIN DATAOUT · PARDATA

INTEN INT IRQUIT MASK IRO IR1 IR2 IR3 · SEROUT CLK1 RD1 WR1 SERIN1 CLK2 RD2 WR2 SERIN2

RESET2 · P1 P2 · +5V

R110 R111* R112 R113* R114 R115* R116* 7 X 1K L

R117 1K L · R118 1K L · R119 1K L

SERCLK2 DATAEN1 DATA2 INT2

R120-R127 8 X 1K L *NOT FITTED

R143-R148 6X 47R5 L · R149 10K L

P24

* NOT FITTED
NICHT BESTUECKT

SHIFT-REGISTER

D150-A 74HCT4094T-L

D155-A 74HCT4094T-L

C2 EN3 SRG C1/→ 2D 3▽

R140 1K L · R181 47R5 L · R142 1K L · R182 47R5 L

DMUX0 DMUX1 DMUX2 DIAGENA · INVADATA · BAND PS-ON SHEET 4 · AUTO

INTERRUPT-DELAY

R128 1K L · R136 1K L · IRO · IR1

D120-A 74HCT132T-L · D120-B · D120-C · D120-D 74HCT132T-L · D125-A 74HCT132T-L · D125-B · D125-C

R129 47K5 · C129 10N L · C130 100N L · R130 2N7 L

P22 · RESET2 · * NOT FITTED NICHT BESTUECKT · P23

DIAGNOSTIC MULTIPLEXER

D130-A 74HCT4051T-L

MUXDX

DMUX0 DMUX1 DMUX2 · INA

SHEET 5 D0 · D6 D7 SHEET 5

R131 27K4 L · R132 27K4 L · R133 27K4 L · R134 27K4 L · R135 27K4 L

C131 10N L · C132 10N L · C133 10N L · C134 10N L · C135 10N L

DIAG1 · DIAG2 · DIAG3 SHEET 3 · DIAG4 SHEET 4 · DIAG5

D112-A SERBUS-D

TRISTATE NANDTREE RESET-P A1 A2 A3 A4 A5 A6 A7

SYNC SERCLK DATAEN2 DATAIN DATAOUT · PARDATA

INTEN INT IRQUIT MASK IRO IR1 IR2 IR3 · SEROUT CLK1 RD1 WR1 SERIN1 CLK2 RD2 WR2 SERIN2

P17 P18 · +5V

* R92 R93 R94 * R95 R96 * R97 * R98 7 X 1K L

R179 1K L · R180 1K L · R183 1K L · R191-R195 5 X 1K L · R196 10K L

SERCLK2 DATAEN2 DATA2 INT2

PD0 PD1 PD2 PD3 PD4 PD5 PD6 PD7 · SEROUT CLOCK1 SCHREIB1 CLOCK2 SCHREIB2

SERBUS-DECODER 2

P27

A

MONOFLOP

BAND · AUTO · FRS SHEET 3 · P28 · P29

V153 BAV99-L · V154 BAV99-L · V152 BAV99-L

R161 1K L · R160 1K L · R162 33K2 L · C162 10N L

D175-A 74HC4538T-L

S J R CX RX/CX

SWITCH-CONTROL

R154 33K2 L · R167 2K21 L · C168 100N L · R168 2K21 L · R169 33K2 L · R172 10K L

24VPS · R165 562K L · R166 10K L · P9 · S2 SHEET 4

24VPS · R170 562K L · R171 10K L · P8 · S1 SHEET 4

N130-A LM2903D-L · N130-B LM2903D-L

INTERRUPT-DETECTOR

IRO · PS-ON SHEET 4 · RVA SHEET 4 · DIAG5 · STEUERSPANNUNG CONTROL VOLTAGE DSYN-VCO

R158 10K L · V150 BSS123-L

24VPS · R152 100K L · R150 27K4 L · R153 130K L · R151 12K1 L · R154 0R L

N120-A LM2903D-L · N120-B LM2903D-L · P30

D135-B D135-C D135-D =1 · R188 1K L

D175-B · R184 1K L · R185 1K L · R186 1K L · R187 1K L

STROMLAUF GILT FUER VAR.02

CIRCUIT DIAGRAM IS VALID FOR MOD.02

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

02/02	48754 50	22.11.94	HO	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HO	DIGITALE SYNTHESE
				GEPR.			DIGITAL SYNTHESIS
				NORM			
				PLOTT	22.11.94		
/	48731	23.11.92	JN	R&S ROHDE&SCHWARZ			ZEICHN.-NR. 1038.7344.01S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERRET	SME		REG.I.V. 1038.6002

BLATT-NR. 2+ V. BL. · ERSTE Z.

FUER DIESE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR

R214 · P5 P15 · P13 P16 · P3 P32 P33 · P4 P14 · P34 · P10

REF50 9DBM +- 1DB
X81 1 50MHZ

CLOCK AMPLIFIER

B

FDATA0 FDATA1 FDATA2 FDATA3 FDATA4 FDATA5 FDATA6 FDATA7 FDATA8 FDATA9 FDATA10 FDATA11 FDATA12 FDATA13 LOADA DCDDS0

R202 1K L · R201 1K L · R200 1K L
R270-R276 7X 47R5 L
C203 100N L · UDDS

MDATA
MCLK
SCLK
STROBE
SDATIN
SHEET 2

D20
DDS GA

UDDS · C204 100N L · R203 1K L
CIN SHEET 2 · R277 47R5 L
R204 1K L · R205 1K L
FRS SHEET 2 · R206 475R L · R207 4K75 L
C205 100N L · UDDS

CLK · UDDS · C200 220U 10V.BC. · C202 100N L · L201 1UH L · +5V

R260 0R B · R261 121R B · R211 562R B
R210 68R1 B · R262 47R5 B
L216 1UH L · +5V · C231 100N L · R266 221R B · P3
R264 68R1 B · R265 6K81 B · C230 10N B · R263 100R B
V220 BFS17-B
R267 100R B · C232 2P2 L · R268 47K5 L · DIAG3 SHEET 2
R269 1K L · P32 · P33
V222 HSMS2800-L
C233 1N L
TAKT CLOCK DDS GA 303

DDS-GATEARRAY

L200 220NH · C210 10N B

V200 BB620-B · V202 BB620-B · V204 BB620-B · V206 BB620-B
L202 470NH · L204 470NH · L206 470NH · L208 220NH

* NOT FITTED
NICHT BESTUECKT

+24V · R218 1K L · C214 10U 25V TA L · R216 1K L · R214 50K STE · R215 15K L · C212 100N L · R212 22K1 L
PHASE

R252 330R-9XC · R253 332R L
R240-R249 10X 562R B
R250 1K B · R256 330R-9XC · R257 332R L
P5 · P15
-5V · L214 1UH L · C222 100N L

C

AGND · R302 1K L · R300 1K L
D300 CX20201A-8
C300 10U 25V TA L · R310 8K25 L · R312 1K21 L
C306 220U · C302 100N L · L300 1UH L · P34
C308 220U · C304 100N L · C310 100N L
R304 2K74 L · R306 2K74 L
L306 1UH L · L302 1UH L · L304 1UH L
-5V · C312 100N L
P13 · P16 · P4 · P14
R314 1K L

DAC

D

+15V
R409 68R1 L · C414 10U 25V TA L · R408 68R1 L · C412 100N L · R407 68R1 L · L408 10UH

DDS AMPLIFIER

C409 100N L · R404 1K1 L · C411 100N B · R405 27R4 B · P10 · AFOUT SHEET 4
N400 MAR-8
C410 390P B · R403 18R2 B

ALIASING FILTER

* NOT FITTED
NICHT BESTUECKT

* C401 82P B · L403 390NH · L405 220NH · L406 220NH
R401 56R2 B · C403 27P B · C405 100P B · C407 68P B · C408 330P B · R406 100R B
R400 1K B · R402 56R2 B · C402 8180P B · C404 180P B · C406 180P B

STROMLAUF GILT FUER VAR.02

CIRCUIT DIAGRAM IS VALID FOR MOD.02

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DELAY LINE

V200 BB620-B · V202 BB620-B · V204 BB620-B · V206 BB620-B
L202 470NH · L204 470NH · L206 470NH · L208 220NH

R220 56R2 B · C216 10N B · R222 68R1 B · C218 10N B · R226 6K81 B
R224 100R B
C220 100N L · L212 1UH L · +5V · R228 221R B · C219 1N B
4 : 1 T200
V210 BFS17-B

02/02	48754 50	22.11.94	HO	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HO	DIGITALE SYNTHESE
				GEPR.			DIGITAL SYNTHESIS
				NORM			
				PLOTT	22.11.94		
/	48731	23.11.92	JN	ROHDE&SCHWARZ			ZEICHN.-NR. 1038.7344.01S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET	SME		BLATT-NR. 3+
				REG.I.V.	1038.6002	ERSTE Z.	V. BL.

ZEICHN.-NR 1038.7344.01 S

ZEICHN.-NR. 4098 2344 01 S
DIESE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR

PHASE DETECTOR

SUPS
C647 100N B
R643 221R B
R634 1K L
R635 1K L
D600-B 74AC74M-B
R646 1K B
R647 1K B
R642 3K32 B
C646 1N B
R641 68R1 B
V610 BFS17-B
R640 100R B
C648 470P B
V614 BAS16-B
R650 150R B
SUPS
C641 100N B
V615 BAS16-B
R632 3K32 B
R633 221R B
R636 1K B
R637 1K B
C640 1N B
R631 68R1 B
V612 BFS17-B
R630 100R B
C642 470P B
D600-A 74AC74M-B

CONTROL AMPLIFIER

N700-A NE5534D-L
P35
R702 1K L
R704 392R L
R705 332R L
C702 22N 63V 1% FKP
R713 10K L
RVA
SHEET 2
R706 24K3 L
R707 332R L
C703 1U 50V MKT
R712 10K L
C705 1N L
R708 0R L
* C708
S2
S1
D700-A SD5400
D700-B
D700-C
D700-D
R709 1K L
V708 HSMS2800-B
+24VA
V702 BC850B-L
R716 1K L
R715 100R L
N702-A AD829-L
R717 1K L
V704 BC860B-L
* C712
C710 68P L
X36 X37 X38
R710 332R L
L705 56UH
C706 100P B
P7
L502 56UH
V504 BB130
V505 BB130
V503 BB130
V502 BB130
V501 BB130
V500 BB130
L500 56UH
C500 270PP B
TRIMMVERT/SEL
270P BIS 330P
C505 100N B
L504 22UH
V507 BB21
STROML
CIRCUIT D

* NOT FITTED
NICHT BESTUECKT

PATH SWITCH

PS-ON
SHEET 2
R600 1K L
C620 100N L
R601 10K L
R604 68K1 L
+5V
R602 10K L
C621 100N L
R603 10K L
N600-A MC1458D-L
P6
R605 100R L
R607 1K B
R606 1K L
C622 1N L
R620 18R2 B
OUT
R619 18R2 B
R618 18R2 B
C623 100N B
V603 BAR14-B
R612 475R B
C626 100N B
AFOUT
SHEET 3
C624 100N B
V600 BAR14-B
V601 BAR14-B
C625 1N B
R610 475R B
R611 475R B
C662 10P L
C663 10P L
L602 560NH +-5%
L603 560NH +-5%
C627 220P B
C628 330P B
C629 220P B
SHEET 2
DIAG4
304
PEGEL AUSGANG
LEVEL OUTPUT
FDDS
C631 1N L
R614 47K5 L
V605 HSMS2800-L
C630 2P2 B
X89 1
FDDS
2DBM +- 1DB
10.3...15.6MHZ
R652 1K L
N600-B
R653 1K L

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02/04
AEND.
IND.

5 6 7 8 9 10 11 12

P35 X36 X37 X38 P7 R433 L506 L507 P39 P11 P12

DETECTOR

CONTROL AMPLIFIER

N700-A
NE5534D-L

P35

R646 1K B
R647 1K B
C648 470P B
V614 BAS16-B
R650 150R B
V615 BAS16-B
R636 1K B
R637 1K B
C642 470P B
R709 1K L
* C708
R702 1K L
R704 392R L
R705 332R L
C702 22N 63V 1% FKP
R706 24K3 L
R707 332R L
C703 1U 50V MKT
R708 0R L
R712 10K L
C705 1N L
R713 10K L
RVA
SHEET 2

S2 S1

D700-A SD5400 D700-B D700-C D700-D

V708 HSMS2800-B
+24VA
V702 BC850B-L
R716 1K L
R715 100R L
R717 1K L
V704 BC860B-L
R710 332R L
L705 56UH
C706 100P B
P7
C710 68P L
* C712

N702-A AD829-L

* NOT FITTED
NICHT BESTUECKT

F

D

OSZ4

R424 27K4 L
R433 50K STE
+24V
R420 100K L
C420 10U 25V TA L

C505 100N B
L504 22UH
V507 BB212
C500 270PP B
TRIMMWERT/SELECTED
270P BIS 330P
PS-ON
SHEET 2

V504 BB130
V505 BB130
V503 BB130
V501 BB130
V502 BB130
V500 BB130
L502 56UH
L500 56UH

E

R652 1K L
N600-B
R653 1K L

SHEET 2
DIAG4
304
PEGEL AUSGANG
LEVEL OUTPUT
FDDS

C631 1N L
R614 47K5 L
V605 HSMS2800-L
C630 2P2 B
C662 10P L
C663 10P L
L602 560NH +-5%
L603 560NH +-5%
C628 330P B
C629 220P B
XB9 1
FDDS
2DBM +- 1DB
10.3...15.6MHZ

OSCILLATOR

OUT
R506 274R B
R505 18R2 B
R504 274R B
P39
C516 150P B
L516 1USH
L514 207H
C512 39P B
+15V
C510 100N B
R502 681R B
R503 100R L
V510 BFQ81-B
C514 10U 25V TA L

C502 56PP B
V512 BFQ81-B
L506 530NH TOKO
L507 530NH TOKO
OSZ3
C506 470P B
C508 470P B
P11
L508 56UH
R510 1K B
R514 10K B
V514 BFQ81-B
P12
R516 3K32 B
R518 82R5 B
C518 100N B
+5V
R521 10K B
V518 BCX71J-B
V516 BCX71J-B
R520 10K B
R512 1K5 B
C519 10U 25V TA L
R519 100R L
-15V

STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

ACHTUNG: EGB!
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02/04		03.07.96	HO	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HO	DIGITALE SYNTHESE
				GEPR.			DIGITAL SYNTHESIS
				NORM			
				PLOTT	09.07.96		
/							ZEICHN.-NR. 1038.7344.01S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			BLATT-NR. 4+
				ZU GERAET	SME		V. BL.
				REG.I.V.	1038.6002	ERSTE Z.	

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

ZEICHN.-NR 1038.7344.01 S

P20
P21

X80A 26 VA7.5-P — L80 3U3H 1.63A — C81 220U 10V.BC. — Z80 40DB B — +7.5V — N100 LM2940CT — C100 100U 6.3V AL B — +5V
R159 90K9 L — R163 100K L — D7 SHEET 2
307 VERSORGUNG POWER SUPPLY +7,5V

X80A 28 VD5-P — R48 100R L — C50 4U7 10V TA B — +5VA — D50-E

X80A 30 VA15-N — L82 15UH — C83 100U 25V.BC — Z82 40DB B — -15V — N110 UA7905UC — C110 100U 6.3V AL B — -5V
R197 100K L — R190 2M7 L — R198 33K2 L — D6 SHEET 2
306 VERSORGUNG POWER SUPPLY -15V

X80A 22 VA24-P — L76 150UH — C77 47U 50V.BC. — Z76 40DB B — +24V

X80A 24 VA15-P — L78 150UH — C79 100U 25V.BC. — Z78 40DB B — +15V
R156 100K L — R189 2M7 L — R157 33K2 L — D0 SHEET 2
300 VERSORGUNG POWER SUPPLY +15V

X80A 11
X80A 13
X80A 21
X80A 23
X80A 25
X80A 27
X80A 29
X80A 31

A

+5V — L110 1UH L — D110-B — C112 100N L; D112-B — C111 100N L
R174 100R L — D120-E — C114 100N B
R175 100R L — D125-E — C115 100N B
L135 1UH L — D135-E — C120 100N B

+5V — R178 100R L — D150-B — C118 100N B
+5V — R155 100R L — D155-B — C119 100N B
+5V — D175-C — C186 100N B
+24V — L150 100UH L — N120-C — C180 100N B
24VPS — C150 10U 50V AL B — N130-C — C182 100N B
+5V — R176 100R B — C116 100N B — D130-B
-5V — R177 100R L — C117 100N B

F

C700 47U 50V.BC. — +24V — L700 100UH L — N700-B
+24VA — N702-B
-5V — L701 100UH L — C701 220U 10V.BC.
-5V

B

+24V
+5V
-5V
C
+24V
D

E

5VPS — L600 10UH L — D600-C — C600 100N L
+15V — C602 100N L — N600-C — C604 100N L — -15V
+5V -15V
+15V

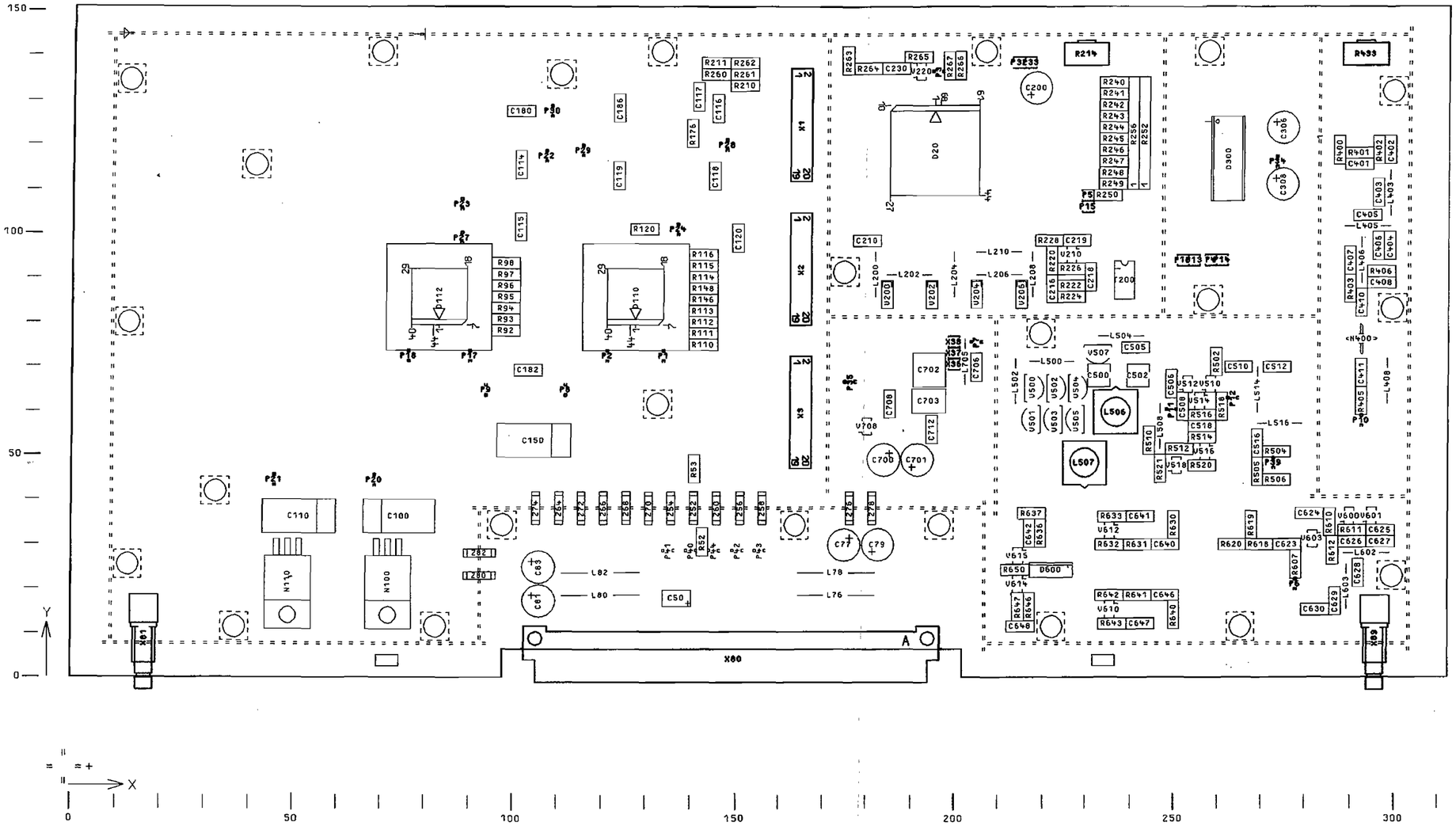
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STROMLAUF GILT FUER VAR.02

CIRCUIT DIAGRAM IS VALID FOR MOD.02

02/02	48754 50	22.11.94	HO	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HO	DIGITALE SYNTHESE
				GEPR.			DIGITAL SYNTHESIS
				NORM			
				PLOTT	22.11.94		
/	48731	23.11.92	JN	ROHDE&SCHWARZ			ZEICHN.-NR. 1038.7344.01S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET	SME		BLATT-NR. 5
				REG.I.V.	1038.6002	ERSTE Z.	V. BL.

DIESE ZEICHNUNG IST EIN RECHNERAUSDRUCK, ABWEICHUNGEN VON DIESER DARSTELLUNG WERDEN NUR DURCH ÄNDERUNG DES DATENSATZES ERFOLGEN



DARSTELLUNG SEITE B
VIEW ON SIDE B

ACHTUNG: EGB!
ELEKTROSTATISCH GEFÄHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
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BINDENDE ANGABEN ÜBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTUECKTE BAUTEILE SIEHE SR.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST.

02/02	48754 50	22.11.94	HD	1GPK	TAG	NAME
				BEARB.		HD
				GEPR.		
				NORM		
				PLOTT	22.11.94	
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ		
				ZU GEMEKT	SME	

BENENNUNG: DIGITALE SYNTHESE / DIGITAL SYNTHESIS — Z

ZEICHN.-NR. 1038.7344.01 EE — BLATT-ZU. 1+

PCS.-Nr. 1038.6002 — EINSTE Z.

DIESE ZEICHNUNG IST EIN RECHNERAUSDRUCK. RENDERUNGEN DÜRFEN NUR DURCH RENDERN DES DATENSATZES ERFOLGEN

DARSTELLUNG SEITE A
VIEW ON SIDE A

ACHTUNG: EGB!
ELEKTROSTATISCH GEFÄHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

BINDende ANGABEN ÜBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTÜCKTE BAUTEILE SIEHE SR.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST.

REND. IND.	RENDERUNGS-MITTEILUNG	DATUM	NAME
02/02	48754 50	22.11.94	HO

	TAG	NAME
1GPK		HO
BEARB.		
GEPR.		
NORM		
PLOT1	22.11.94	

ROHDE&SCHWARZ
ZU GEHÖRT SME

BENENNUNG
DIGITALE SYNTHESE
DIGITAL SYNTHESIS

Z

ZEICHN.-NR. 1038.7344.01 EE
BLATT-NR. 2
V. BL.

REG.-I.-D. 1038.6002 ERSTE Z.

ROHDE&SCHWARZ

SERVICEUNTERLAGEN

Summierschleife

1038.7196.02

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Schaltteilliste
Koordinatenliste
Stromlauf
Bestückungsplan

7. Prüfen und Instandsetzen der Baugruppe

7.1 Funktionsbeschreibung

In der Summierschleife wird aus dem Signal der Baugruppen Stepsynthese und Digitale Synthese die Grundoktave von 750 bis 1520 MHz erzeugt. Dazu wird das Stepsignal benutzt um die Oszillatorfrequenz mit einem Samplemischer auf eine Zwischenfrequenz zu mischen. Diese ZF wird auf die Ausgangsfrequenz der Digitalen Synthese mit einer Phasenregelschleife synchronisiert. Nachschaltbare Teiler erweitern den Frequenzbereich auf 93.75 bis 1520 MHz.

7.1.1 Oszillatoren

Die beiden Oszillatoren werden mit Hilfe der beiden Schaltbits 'OSZ1' und 'OSZ2' eingeschaltet. 'OSZ1' bedient den VCO von 750 bis 1100 MHz, 'OSZ2' den VCO von 1100 bis 1520 MHz. Eine Stromeinprägeschaltung stabilisiert den Arbeitspunkt des Schwingtransistors. Der VCO für das obere Frequenzband liefert seine kleinste Frequenz bei der größten Abstimmspannung.

7.1.2 Ausgangsstufe

Der Ausgangsfrequenzbereich wird durch einen Teiler durch 2 und einen Teiler durch 4 erweitert. Der Teilungsfaktor 8 entsteht durch Serienschaltung der beiden Teiler. Das Bit 'T2-ENA' schaltet den Teiler durch 2, 'T4-ENA' den durch 4. Die Schaltdioden werden mit den Bits 'SW1' bis 'SW6' angesteuert.

7.1.3 Samplemischer

Das Ausgangssignal der HF-Oszillatoren wird über den 3-stufigen PLL-Treiber mit dem Pegelstellglied V440 dem Sampler zugeführt. Das Ausgangssignal der Stepsynthese wird vom Pulstreiber verstärkt und der Step-Recovery-Diode zugeführt. Über R405 wird der Vorstrom und damit der Arbeitspunkt der SRD festgelegt. Sie erzeugt 350 ps Pulse mit denen über den Symmetrierübertrager T405 der Sampler gespeist wird. Der Sampler mischt das RF-Signal der Oszillatoren mit dem Kammspektrum aus dem SRD-Vervielfacher. Benutzt wird die 7. bis einschließlich 14. Oberwelle des Signals aus der Referenzstepsynthese. Es entsteht eine ZF von ca. 15 MHz (14.2 bis 15.6 MHz).

7.1.4 ZF-Stufe

Die Ausgangsspannung des Samplers wird über den Spannungsfolger V450 und das Pegelstellglied V453 dem ZF-Treiber V455 zugeführt. Eine Pegelregelung sorgt für einen konstanten ZF-Pegel am Phasendetektor und damit für ein konstantes Kϕ der Regelschleife. Ein Tiefpaß unterdrückt hochfrequentere Mischprodukte des Samplers.

7.1.5 Phasenregelung

Die LO-Treiberstufe V1 verstärkt das Ausgangssignal der Digitalen Synthese und stellt es dem LO-Eingang des Phasendetektors D1 zur Verfügung.
Ein Tiefpaßfilter am Ausgang von D1 unterdrückt das Spiegelband, ein zusätzlicher Pol die Zwischenfrequenz.
Der Current-Feedback Operationsverstärker N30 ist als nichtinvertierender Integrator geschaltet. Mit Hilfe des Analogmultiplexers D20 kann seine Verstärkung in 8 Stufen eingestellt und damit die VCO-Steilheit kompensiert werden. Ein kleiner durch V95 eingespeister Offsetstrom verhindert ein parasitäres Synchronisieren der PLL während des Kalibriervorgangs.
Mit Hilfe der Fet-Schalter V51 und V50 kann zwischen 2 Regelbandbreiten gewählt werden. Die kleine Bandbreite (ca. 270 kHz) ergibt bessere spektrale Reinheit, die große (ca. 2MHZ) erlaubt breitbandige Modulationen.

7.1.6 Voreinstellung, Ablaufsteuerung und Interrupt

Da die Regelschleife keinen frequenzsensitiven Phasendetektor enthält, müssen die Oszillatoren innerhalb des Fangbereichs der PLL voreingestellt werden. Dazu dient eine Tabelle mit DA-Wandler-Stützwerten zwischen denen linear interpoliert wird. Der Abstand der Stützwerte beträgt 10 MHz. Der DA-Wandler D10-A stellt die dem Datenwort 'TUNE' entsprechende Voreinstellspannung ein. Diese wird mittels N15-A um den Faktor 1.73 verstärkt und gelangt über eine Ladeschaltung an den Kompensationseingang des Schleifenintegrators N30. Da zwischen Kompensationseingang und Integratorausgang nur eine Verstärkerstufe mit der Spannungsverstärkung 1 liegt, entspricht die vom DA-Wandler erzeugte Voreinstellspannung der VCO-Abstimmspannung.
Bei Frequenzwechsel wird zunächst die Regelbandbreite auf schmal geschaltet, solange die Voreinstellspannung angeklemmt bleibt. Während des Fangvorgangs ist die Bandbreite groß. Anschließend bestimmt das Bit PLL-BW die Bandbreite. Die Umschaltzeitkonstanten werden durch die Monoflops D560 festgelegt und durch den Baugruppenstrobe getriggert.
Als Asynchronerkennung dient die vom Operationsverstärker N17 gebildete Differenz zwischen Voreinstellspannung und VCO-Abstimmspannung. Der Fensterkomperator N550 legt die Entscheidungsschwellen fest und reicht den Interrupt an den Serbusdekoder weiter.

7.1.7 Kalibrierung

Zum Anlegen der Kalibriertabelle mit Tunewerten wird vom unteren Ende des Abstimmbereiches her die Voreinstellspannung gesucht, bei der die VCO-Abstimmspannung gleich der Voreinstellspannung ist. Die Baugruppen Digitale Synthese und Stepsynthese müssen dazu die entsprechenden Frequenzen liefern.
Um ein parasitäres Synchronisieren zu vermeiden, muß das Bit 'CAL-OFF' low sein. Ein kleiner Offsetstrom am Integratoreingang sorgt dann dafür, daß die Schleife auf Nebenwellen nicht mehr rasten kann.

7.2 Meßgeräte und Hilfsmittel

- HF-Spektrumanalysator (FSA)
- Gleichspannungsquelle
- Signalgenerator (SMGU, SMHU, SME, SMT)
- DC-Voltmeter (UDS5)
- 2-Kanal Speicheroszilloskop (>100 MHz)
- Servicekit (Sachnr. 1039.3520-)

7.3 Fehlersuche

Die Sollwerte der Diagnosepunkte, die während der Fehlersuche überprüft werden, sind unter 7.4.10 'Tabellen und Schnittstellen' zu finden.

7.3.1 Synchronisierfehler

PLL rastet nicht	VCO-Voreinstellung prüfen SRD-Kammgenerator abgleichen Samplemischer prüfen ZF-Stufe abgleichen
PLL rastet auf falscher Frequenz	Ablaufsteuerung prüfen ZF-Stufe abgleichen Kalibrierung prüfen

7.3.2 Verzerrungen bei breitbandiger Modulation

Nutzübertragungsfunktion fehlerhaft	VCO's abgleichen Kalibrierung prüfen Kϕ abgleichen

7.3.3 Spektrale Reinheit

Nebenwellen nahe dem Träger	SRD-Kammgenerator prüfen Kϕ abgleichen Arbeitspunkt Sampler prüfen
Nebenwellen ca. 15MHz vom Träger	Pegel an RF- und LO-Port des PD prüfen

7.3.4 Kalibrierung

Kalibrierroutine konvergiert nicht	VCO's abgleichen Offsetspeisung am Integrator prüfen

7.4 Prüfen und Abgleich

Alle Meßwerte ohne Toleranzangaben sind als Richtwerte zu verstehen. Spannungsangaben ohne weitere Bezeichnung bedeuten DC-Spannungen.
Im Servicekit ist ein Adapter enthalten, mit dem die Baugruppe zugänglich gemacht werden kann. Der Adapter wird statt der Baugruppe in das Chassis gesteckt und die HF-Verbindungen an den entsprechenden Buchsen auf der Unterseite wieder hergestellt. Die Baugruppe kann jetzt auf den Adapter gesteckt werden.
Wird die Baugruppe mit geöffnetem Deckel auf der Bauteilseite betrieben, so müssen die beiden Oszillatorkammern mit einem Prüfdeckel geschlossen werden.

7.4.1 Prüfen der Datenübertragung und Stromversorgung

Gemäß Gerätestandard wird die Baugruppe über eine serielle Schnittstelle unter Verwendung des Bausteins SERBUS-D angesteuert. Die Einstellungen und die zugehörigen Daten sind im Kapitel 'Digitale Schnittstellen' zu finden.
Die Stromaufnahme kann überprüft werden, indem anstelle der Spulen L580 bis L584 ein Amperemeter eingeschleift wird. Die Sollwerte der jeweiligen Versorgungsspannungen sind im Kapitel 'Externe Schnittstellen' zu finden.
Die auf der Baugruppe intern erzeugten Versorgungsspannungen sind der Tabelle im Kapitel 'Tabellen und Schnittstellen' zu entnehmen.

7.4.2 Prüfen der VCO-Voreinstellung

7.4.2.1 Prüfen des DA-Wandlers

- Steckbrücke X15 abziehen
- Einstellungen: **FREQUENCY 1100 MHz**
  UTILITIES DIAG TPOINT 607

▶ Die Tunespannung am Voltmeter muß bei korrekt abgeglichenem VCO2 19V betragen. Erhöht man die Ausgangsfrequenz in 10MHz-Schritten bis 1520MHz, so muß die Voreinstellspannung kontinuierlich in Stufen von 330 bis 660mV bis ca. 2V sinken. Die Voreinstellspannung wird aus der momentan gültigen Kalibriertabelle abgeleitet und unterliegt den Exemplarschwankungen der Oszillatoren, so daß nur eine qualitative Aussage über die Funktion des DA-Wandlers möglich ist.

- Steckbrücke X15 aufstecken

7.4.2.2 Prüfen der VCO-Abstimmspannung

- Steckbrücke X50 abziehen
- Widerstand R48 kurzschließen (ab Änd.-zustand 5 Brücke X16 stecken)

- Einstellungen: **FREQUENCY 1100 MHz**
  UTILITIES DIAG TPOINT 606

▶ Die Prüfung erfolgt analog 7.4.2.1.

- Steckbrücke X50 aufstecken
- Kurzschluß an R48 entfernen

7.4.2.3 Prüfen der Ablaufsteuerung

Mit Hilfe des Speicherozilloskops sind die Spannungsverläufe der Meßpunkte MP57 und MP58 aufzuzeichnen. Getriggert wird auf den Baugruppenstrobe an Meßpunkt MP40. Die Zeitkonstanten sind der Abbildung 1 zu entnehmen.

- Speicheroszilloskop Kanal 1 an MP40
  Kanal 2 an MP57 bzw. MP58

- Einstellungen: **Frequenzwechsel 800 auf 900 MHz**

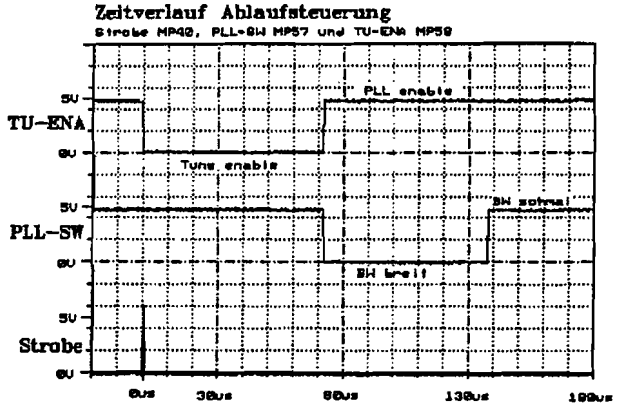


Abb.1

7.4.3 Oszillatoren prüfen und abgleichen

7.4.3.1 Abgleich der VCO's

- Steckbrücke X50 abziehen, Gleichspannungsquelle an X50B anschließen und 2V einstellen
- Spektrumanalysator an X91 (FSUM) anschließen

- Einstellungen: **FREQUENCY 800 MHz**
  UTILITIES DIAG TPOINT 605

▶ Die Frequenz des Ausgangssignals FSUM an X91 ist mit Hilfe des Trimmers C100 auf 750 ±0.5 MHz abzugleichen.

- Gleichspannungsquelle an X50B auf 19V einstellen

- Einstellungen: **FREQUENCY 1200 MHz**
  UTILITIES DIAG TPOINT 605

▶ Die Frequenz des Ausgangssignals FSUM an X91 ist mit Hilfe des Trimmers C120 auf 1100 ±0.5 MHz abzugleichen.

▶ Die Diagnosespannung 'Oszillatorpegel' muß bei beiden VCO's zwischen 30 - 100mV liegen.

• Steckbrücke X50 aufstecken

7.4.3.2 Kennline der VCO's ausmessen

• Steckbrücke X50 abziehen und Gleichspannungsquelle an X50B anschließen und 2 V einstellen
• Spektrumanalysator an X91 (FSUM) anschließen

•Einstellungen: **FREQUENCY 800 MHz**
UTILITIES DIAG TPOINT 604

▶ Bei 2V Abstimmspannung muß die Frequenz von FSUM bei 750 MHz stehen. Beim Erhöhen der Abstimmspannung muß die Ausgangsfrequenz kontinuierlich ansteigen bis bei 18 bis 20.5 V (Soll: 19 V) 1100 MHz erreicht werden. Der Ausgangspegel von FSUM muß zwischen 7 und 11dBm betragen.

• Gleichspannungsquelle an X50B auf 19 V einstellen

• Einstellungen: **FREQUENCY 1200 MHz**
UTILITIES DIAG TPOINT 605

▶ Bei 19V Abstimmspannung muß die Frequenz von FSUM bei 1100 MHz stehen. Beim Erniedrigen der Abstimmspannung muß die Ausgangsfrequenz kontinuierlich sinken bis bei .5 bis 3V (Soll: 2V) 1520 MHz erreicht werden. Der Ausgangspegel von FSUM muß zwischen 7 und 11dBm betragen.

▶ Die Diagnosespannung 'Ausgangssignal FSUM' muß jeweils zwischen 150 - 350mV liegen.

• Steckbrücke X50 aufstecken

7.4.4 Abgleich/Test des SRD-Kammgenerators

• Einstellungen: **FREQUENCY 839 MHz**
UTILITIES DIAG TPOINT 603

▶ Bei Baugruppen mit Änderungszustand kleiner 5 ist die Diagnosespannung 'Pulsamplitude' mit dem Poti 405 auf das Maximum abzugleichen. Mit Änd.-zustand 5 entfällt der Abgleich. Die Diagnosespannung muß in beiden Fällen zwischen 1.1 und 3.5V (typ. 1.8V) liegen.

7.4.5 Samplemischer prüfen

7.4.5.1 Arbeitspunkt Sampler

• Einstellungen: **FREQUENCY 839 MHz**

▶ Die DC-Spannung an R421 bzw. R429 muß (gemessen mit 100kOhm Vorwiderstand) größer +1V bzw. kleiner -1V sein.

7.4.5.2 Frequenzgang Sampler

- Steckbrücke X47 abziehen
- Widerstand R48 kurzschließen (ab Änd.-zustand 5 Brücke X16 stecken)
- Tastkopf des Oszilloskops an Meßpunkt MP67 anklemmen

- Einstellungen: **UTILITIES DIAG TPOINT 602**
  FREQUENCY 757 MHz
  863 MHz
  969 MHz
  1075 MHz
  1181 MHz
  1287 MHz
  1393 MHz
  1499 MHz

▶ Für die angegebenen Frequenzen ist zunächst die Diagnosespannung mit dem Potentiometer R440 auf 50mV abzugleichen. Die ZF an Meßpunkt MP67 muß dann 450 ±100mVss betragen. Der maximale Pegelfrequenzgang darf nicht größer als ±50mVss sein.

- Kurzschluß an R48 entfernen
- Steckbrücke X47 aufstecken

Nach dem Messen des Samplerfrequenzganges ist unbedingt der Abgleich der ZF-Stufe erforderlich (7.4.6).

7.4.6 Abgleich ZF-Stufe

7.4.6.1 Kϕ-Abgleich

- Tastkopf des Oszilloskops an Meßpunkt MP30 anschließen
- Steckbrücke X20 auf Masse umstecken
- Widerstand R48 kurzschließen (ab Änd.-zustand 5 Brücke X16 stecken)

- Einstellungen: **FREQUENCY 1000 MHz**
  UTILITIES DIAG TPOINT 601

▶ Mit Hilfe des Potentiometers R476 ist die Spannung an Meßpunkt MP30 auf 540 mVss abzugleichen.

▶ Die Kurvenform des Signals ist näherungsweise ein Dreieck. Die Diagnosespannung 'ZF-Pegel' beträgt nach dem Abgleich 190 ±90mV.

- Kurzschluß an R48 entfernen
- Steckbrücke X20 in Normalzustand zurückstecken

7.4.6.2 RF-Pegel am Sampler abgleichen

- Tastkopf des Oszilloskops an Meßpunkt MP67 anschließen
- Voltmeter an Meßpunkt MP69 anschließen
- Steckbrücke X47 abziehen
- Steckbrücke X20 auf Masse umstecken
- Widerstand R48 kurzschließen (ab Änd.-zustand 5 Brücke X16 stecken)

- Einstellungen: **FREQUENCY 1298 MHz**
  UTILITIES DIAG TPOINT 602

▶ Mit Hilfe des Potentiometers R440 ist der ZF-Signal am Oszilloskop auf 350 mVss abzugleichen

▶ Die Diagnosespannung muß dabei etwa 35 mV betragen. Die Kurvenform an MP67 muß ein unverzerrter Sinus sein.

- Steckbrücke X47 aufstecken

- Einstellungen: **FREQUENCY 1100 MHz**

▶ Die ZF-Regelspannung an MP69 muß kleiner 3.5 V sein

- Kurzschluß an R48 entfernen
- Steckbrücke X20 in Normalzustand zurückstecken

7.4.6.3 RF- und LO-Pegel des Phasendetektors prüfen

- Tastkopf des Oszilloskops an Meßpunkt MP68 bzw. MP9 anschließen

- Einstellungen: **FREQUENCY 1000 MHz**

▶ An Meßpunkt MP68 (RF-Port des Phasendetektors) muß eine Spitzenspannung von ca. 0.9Vss und am Meßpunkt MP9 (LO-Port des Phasendetektors) eine Spitzenspannung von 1.8Vss anliegen. Die Kurvenform muß einem Sinussignal entsprechen.

7.4.7 Kalibrierung prüfen

Vor der eigentlichen Prüfung der Voreinstelltabelle ist diese neu anzulegen

- Einstellungen: **UTILITIES CALIB SUM** (Kalibrierung durchführen)

- Steckbrücke X20B auf Masse umstecken
- Widerstand R48 kurzschließen (ab Änd.-zustand 5 Brücke X16 stecken)
- Spektrumanalysator an X91 (FSUM) anschließen

- Einstellungen: **FREQUENCY 750.01 bis 1520 MHz in 10 MHz-Schritten**
  UTILITIES DIAG TPOINT 600

▶ Unmittelbar nach der Baugruppenkalibrierung darf die mit dem Analysator gemessene Frequenz maximal um 500kHz von der eingestellten Frequenz abweichen. Die am Diagnosetestpunkt 'PLL-Differenzspannung' anliegende Spannung sollte im Mittel bei -80 mV liegen und darf -200 mV nicht überschreiten.

- Steckbrücke X20 in Normalzustand zurückstecken
- Kurzschluß an R48 entfernen

7.4.8 Einschwingverhalten prüfen

- Tastkopf des Oszilloskops an Meßpunkt MP30 anschließen

- Einstellungen: **FREQUENCY** **751 MHz <-> 1101 MHz**
  1100 MHz <-> 1520 MHz

▶ Die Spannungsänderung am Ausgang des Phasendetektors darf sich 300 bis 400 us nach Baugruppenstrobe nur noch um maximal 10mV ändern. Es ergibt sich ein Spannungsverlauf wie in Abbildung 2.

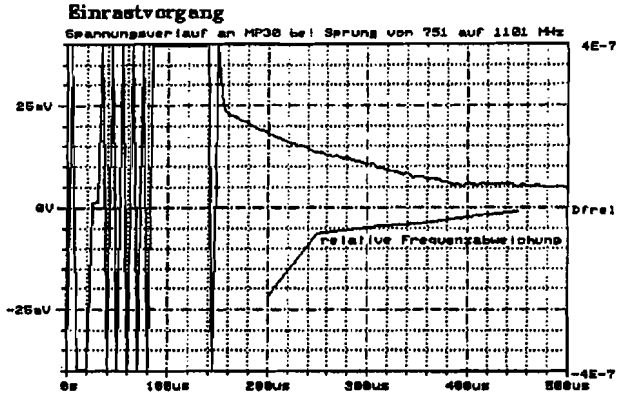


Abb.2

7.4.9 Tabellen und Schnittstellen

7.4.9.1 Digitale Schnittstelle

Subadresse 0(Serout, CLK1, WR1):

Latch	Bezeichnung	Funktion			
D533 11	KOSET-2	Kompensation VCO-Steilheit	MSB		
	12	KOSET-1			
	13	KOSET-0	LSB		
	14	CAL-OFF	Offset für Kalibriervorgang	0=ein	1=a
us					
	7	TRIG-ENA	Ablaufsteuerung triggern	0=aus	1=ein
	6	frei			
	5	TUNE-9	Voreinstellung für VCO's	MSB	
	4	TUNE-8			
D532 11	TUNE-7				
	12	TUNE-6			
	13	TUNE-5			
	14	TUNE-4			
	7	TUNE-3			
	6	TUNE-2			
	5	TUNE-1			
	4	TUNE-0	LSB		

Latch		Bezeichnung	Funktion		
D531	11	SW6	Pin-Schalter 6 geschaltet bei :8	0=aus	1=ein
	12	SW5	Pin-Schalter 5 geschaltet bei :4	0=aus	1=ein
	13	SW4	Pin-Schalter 4 geschaltet bei :2	0=aus	1=ein
	14	SW3	Pin-Schalter 3 geschaltet bei :4	0=aus	1=ein
	7	SW2	Pin-Schalter 2 geschaltet bei :2	0=aus	1=ein
	6	SW1	Pin-Schalter 1 geschaltet bei :1	0=aus	1=ein
	5	ENA-T4	Teiler :4 enable	0=aus	1=ein
	4	ENA-T2	Teiler :2 enable	0=aus	1=ein
D530	11	PLL-ENA	PLL einschalten	0=aus	1=ein
	12	PLL-BW	Regelbandbreite wählen	0=breit	1=schmal
	13	OSZ2	VCO2 (1100 - 1520 MHz) einschalten	0=aus	1=ein
	14	OSZ1	VCO1 (750 - 1100 MHz) einschalten	0=aus	1=ein
	7	DIAG-ENA	Diagnose einschalten	0=aus	1=ein
	6	DMUX-2	Adresse der Diagnosepunkte		MSB
	5	DMUX-1			
	4	DMUX-0			LSB

7.4.9.2 Arbeitspunkte und Pegel der HF-Verstärker

Verstärker		Arbeitspunkt	HF-Pegel, Frequenz	Bemerkung
V1	Pin2	1.2 V	2 dBm 15 MHz	Pegel von Fdsyn
	Pin3	5.2 V	7 dBm "	LO-Pegel für Phasendetektor D1
V400	Pin1,3	8.5 V		
	Pin2	9.3 V	5 dBm 110 MHz	Pegel von Fstep
	Pin4	13.2 V	20 dBm "	Pegel für Ansteuerung Step-Recovery Diode
V450	Pin1	9.6 V	.35 Vss 15 MHz	Sollwert gilt für X45 entfernt
	Pin2	1.4 V	"	
V455	Pin2	.9 V	15 MHz	RF-Pegel für Phasendetektor D1
	Pin4	5.1 V	"	

Die integrierten HF-Verstärker vom Typ MSA0386 und MSA0486 haben in ihrem Arbeitspunkt eine Kollektorspannung von 4.5 bzw. 4.9V. Sämtliche HF-Pegel sind mit einem Tastkopf >500 Ohm zu messen.

7.4.9.3 Arbeitspunkt von HF-Teiler, VCO's und Pin-Schaltern

Bauteil	Prüfstelle	Funktion	Meßwert	Bemerkung
V105	Strom durch R109	Oszillator 1	30 mA	Arbeitspunkt
V129	Strom durch R129	Oszillator 2	30 mA	der VCO's
V259	Pin1	Pin-Schalter	.9 V	bei :1,:2,:4,:8
V260	"	"	"	Teilungsfaktor
V270	"	"	"	
V276	"	"	"	
V277	"	"	"	
V278	Pin3	"	"	
V280	Pin2	"	-1.1V	bei :1,:2,:4
			+1.5V	bei :8
V401	MP 37	SRD-Vorstrom	2.9V	Pulsamplitude abgeglichen
V440	MP 41	Pegelstellglied	1.5V	RF-Pegel am Sampler
V453	MP 69	Pegelstellglied	1 - 4V	ZF-Amplitudenregelung

7.4.9.4 Diagnosepunkte

Diagnosepunkt	Sollwert	Wertebereich	Bemerkung
600		-170 - 30 mV	PLL-Differenzspannung /*
		-600 - 600 mV	/**
601	220 mV	180 - 250 mV	ZF-Pegel
602	35 mV	20 - 50 mV	RF-Pegel am Sampler
603	1.5 V	1.1 - 2.5 V	Pulsamplitude
604	200 mV	80 - 300 mV	Ausgangspegel FSUM
605	70 mV	30 - 150 mV	Oszillatorpegel
606		.5 - 20.5 V	VCO-Abstimmspannung
607		.5 - 20.5 V	Voreinstellspannung

/* gilt nur unmittelbar nach Kalibrierung Summierschleife
/** Toleranzfenster für Interrupt

7.4.9.5 Versorgungsspannugen

Liste der auf der Baugruppe erzeugten Versorgungsspannungen:

Spannung	Meßpunkt	Sollwert	Toleranzfenster
-5 V	MP 70	-5.0 V	-4.5 ... -5.5 V
21 V	MP 80	21.3 V	20.2 ... 22.4 V
5 V	MP 21	5.5 V	5.2 ... 6.0

7.5 Zerlegung und Zusammenbau

Nach dem Öffnen des Gerätes, Entriegeln der Baugruppen und dem Lösen der HF-Verbindungen an X91, X97 und X99 kann die Baugruppe aus ihrem Steckplatz entnommen werden.
Die Schirmdeckel sind auf herkömmlich Weise verschraubt. Beim Betrieb mit geöffnetem Schirmdeckel ist darauf zu achten, daß die beiden Resonatorkammern J und K bauteileseitig mit einem geeigneten Prüfdeckel verschlossen werden.

7.6 Externe Schnittstellen

Pin	Name	Ein/Ausgang	Herkunft/Ziel	Wertebereich	Signalbeschreibung
X9.A12	SERBUS-CLK	Eingang	A3, FRO X50.40	HCMOS-Pegel	Serbus-Clock
X9.A14 X9.A15	SERBUS-DAT	bidir.	A3, FRO X50.39	HCMOS-Pegel	Serbus-Daten
X9.A16	SERBUS-SYNC	Eingang	A3, FRO X50.37	HCMOS-Pegel	Serbus-Synchronisation
X9.A17	SERBUS-INT	Ausgang	A3, FRO X50.38	HCMOS-Pegel	Serbus-Interrupt
X9.A18	RES-P	Eingang	A3, FRO X50.28	HCMOS-Pegel	Serbus-Reset
X9.A19	DIAG-5V	Ausgang	A3, FRO X50.44	-5V...5V	Diagnose
X9.A26	VA24-P	Eingang	A2, POWS1	23.400V...24.60 30... 80mA	Versorgungsspannung analog

Pin	Name	Ein/Ausgang	Herkunft/Ziel	Wertebereich	Signalbeschreibung
X9.A24	VA15-P	Eingang	A2, POWS1	14.80V...15.75V 150...290mA	Versorgungsspannung analog
X9.A26	VA7.5-P	Eingang	A2, POWS1	7.45V...7.95V 300...550mA	Versorgungsspannung analog
X9.A28	VD-5P	Eingang	A2, POWS1	5.10V...5.25V 5... 20mA	Versorgungsspannung digital
X9.A30	VA15-N	Eingang	A2, POWS1	-15.75V...-14.85V 50...200mA	Versorgungsspannung analog
X91	FSUM	Ausgang	A10, OPU1 X101	6...11dBm 93.75 - 1520MHz	Ausgangsfrequenz
X97	FSTEP	Eingang	A7, REFSS X75	5 ±1dBm 103...117 MHz	Referenz-Step
X99	FDSYN	Eingang	A8, DSYN X89	2 ±2dBm 14.3...15.6 MHz	Dig.Synthese

ROHDE&SCHWARZ

SERVICE INSTRUCTIONS

Summing loop

1038.7196.02

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Part list
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Circuit diagram
Layout diagram

7. Checking and Repair of the Module

7.1 Functional Description

In the summing loop, the octave from 750 to 1520 MHz is generated from the signals of the modules Step Synthesis and Digital Synthesis. Therefore the step signal is used to convert the RF-frequency to an intermediate frequency by a sampling mixer. This IF is synchronized in a phase-locked loop with the output frequency of the Digital Synthesis. Switch-selected dividers permit to extend the frequency range to 93.75 to 1520 MHz.

7.1.1 Oscillators

The two oscillators are controlled using the two switching bits 'OSZ1' and 'OSZ2'. 'OSZ1' switches the VCO from 750 to 1100 MHz, 'OSZ2' the VCO from 1100 to 1520 MHz. A load-independent current feed circuit stabilizes the operating point of the oscillating transistor. The VCO for the upper frequency band provides its smallest frequency with the greatest tuning voltage.

7.1.2 Output Stage

The output frequency range is extended by a divider by 2 and a divider by 4. The division factor 8 results from series connection of the two dividers. The bit 'T2-ENA' switches the divider by 2, 'T4-ENA' the divider by 4. The switching diodes are driven by the bits 'SW1' to 'SW6'.

7.1.3 Sampling Mixer

The output signal of the RF oscillators is applied to the sampler via the 3-stage PLL driver with level controller V440. The output signal of the Step Synthesis is amplified by the pulse driver and taken to the step recovery diode. Via R405, the bias current and thus the operating point of the SRD is determined. It generates 350-ps pulses, which are applied to the sampler via balun T405. The sampler mixes the RF signal of the oscillators with the comb spectrum from the SRD multiplier, using the 7th to the 14th harmonic of the signal from the reference step synthesis. An IF of approx. 15 MHz (14.2 to 15.6 MHz) is produced.

7.1.4 IF Stage

The output voltage of the sampler is applied to the IF driver V455 via the buffer V450 and the level controller V453. A level control ensures a constant IF level at the phase detector and thus a constant Kϕ of the phase-locked loop. A lowpass filter suppresses high-frequency mixture products of the sampler.

7.1.5 Phase Control

The LO driver V1 amplifies the output signal of the Digital Synthesis and applies it to the LO input of phase detector D1.
A lowpass filter at the output of D1 suppresses the reflection band, an additional filter pole the intermediate frequency.
The current feedback operational amplifier N30 is connected up as non-inverting integrator. Using the analog multiplexer D20, its gain can be set in 8 steps, which permits to compensate for the slope of the VCO. A small offset current applied by V95 prevents parasitic synchronization of the PLL during calibration.
FET switches V51 and V50 permit to select between 2 control bandwidths. The small bandwidth (approx. 270 kHz) produces a better spectral purity, the large one (approx. 2 MHz) allows for broadband modulations.

7.1.6 Preset, Sequence Control and Interrupt

Since the control loop does not contain any frequency-sensitive phase detector, the oscillators must be preset inside the lock-in range of the PLL. Therefore a table with D/A converter tuning values is used, and linear interpolation is performed. The calibration frequecies are 10 MHz apart from each other. The D/A converter D10-A sets the preset voltage corresponding to the data word 'TUNE'. This voltage is amplified by a factor of 1.73 by means of N15-A and applied via a charging circuit to the compensation input of loop integrator N30. Since there is only one amplifier stage with the voltage gain 1 between the compensation input and the integrator output, the preset voltage generated by the D/A converter corresponds to the VCO tuning voltage.
When the frequency is changed, the control bandwidth is first switched to narrowband as long as the preset voltage remains applied. During lock-in, the bandwidth is large. Subsequently, the bandwidth is determined by the bit PLL-BW. The switching time constants are determined by monoflops D560 and triggered by the module strobe.
For identification of asynchronous mode, the difference between preset voltage and VCO tuning voltage formed by the operational amplifier N17 is used. Window comparator N550 determines the thresholds and applies the interrupt to the serbus decoder.

7.1.6 Calibration

For generating the calibration table with tuning values, the preset voltage is searched for starting at the lower end of the tuning range, where the VCO tuning voltage is the same as the preset voltage. The modules Digital Synthesis and Step Synthesis must provide the appropriate frequencies to this end.
In order to prevent parasitic synchronization, the bit 'CAL OFF' must be low. A small offset current at the integrator input makes sure that the loop can no longer lock on spurious signals.

7.2 Measuring Equipment and Accessories

- RF spectrum analyzer (FSA)
- DC voltage source
- Signal generator (SMHU, SMGU , SME, SMT)
- DC voltmeter (UDS5)
- Dual-channel storage oscilloscope (>100 MHz)
- Service kit (order number 1039.3520)

7.3 Troubleshooting

The nominal values of the diagnostic points which are checked during troubleshooting are to be found below 7.4.10 'Tables and Interfaces'.

7.3.1 Sync Error

PLL does not lock	Check VCO preset Adjust SRD comb generator Check sampling mixer Adjust IF stage
PLL locks to the wrong frequency	Check sequence control Adjust IF stage Check calibration

7.3.2 Distortions with Broadband Modulation

Useful transmission function faulty	Adjust VCOs Check calibration Adjust Kϕ

7.3.3 Spectral Purity

Spuriae in the vicinity of the carrier	Check SRD comb generator Adjust Kϕ Check operating point of sampler
Spuriae approx. 15MHz from the carrier	Check level at RF and LO port of PD

7.3.4 Calibration

Calibration routine does not converge	Adjust VCOs Check offset supply at integrator

7.4 Testing and Adjustment

All measured values without tolerance specifications are meant to be understood as approximate values. Voltage specifications without further designation are DC voltages.
The service kit includes an adapter which permits to make the module accessible. The adapter is plugged into the chassis instead of the module and the RF connections are restored at the appropriate sockets on the bottom side. The module can then be inserted on the adapter.
If the module is operated with the cover on the component side opened up, the two oscillator chambers must be closed using a test cover.

7.4.1 Testing the Data Transmission and Current Supply

In accordance with the instrument standard, the module is driven via a serial interface using the SERBUS-D component. The settings and the associated data are to be obtained from the section 'Digital Interfaces'.
The current consumption can be checked by replacing coils L580 to L584 by an ammeter each. The nominal values of the respective supply voltages are to be found in the section 'External Interfaces'.
The supply voltages internally generated on the module are to be obtained from the table in the section 'Tables and Interfaces'.

7.4.2 Testing the VCO Preset

7.4.2.1 Testing the D/A Converter

- Remove jumper X15

- Settings: **FREQUENCY 1100 MHz**
  UTILITIES DIAG TPOINT 607

▶ The tuning voltage at the voltmeter must be 19 V with the VCO correctly adjusted. When increasing the output frequency in 10-MHz steps up to 1520 MHz, the preset voltage must continuously decrease in steps of 330 to 660 mV to approx. 2 V. The preset voltage is derived from the currently valid calibration table and is subject to manufacturing tolerances of the oscillators so that only a qualitative statement on the function of the D/A converter is possible.

- Replace jumper X15.

7.4.2.2 Testing the VCO Tuning Voltage

- Remove jumper X50.
- Short-circuit resistor R48 (revision 5 and higher insert jumper X16)

- Settings: **FREQUENCY 1100 MHz**
  UTILITIES DIAG TPOINT 606

▶ The test is performed as in section 7.4.2.1.

- Replace jumper X50
- Remove short-circuit at R48

7.4.2.3 Testing the Sequence Control

Use the storage oscilloscope to record the voltage curves of test points MP57 and MP58. The trigger is released on the module strobe at test point MP40. The time constants are to be obtained from Fig. 1.

- Storage oscilloscope channel 1 at MP40
  channel 2 at MP57 or MP58

- Settings: **Frequency change from 800 to 900 MHz**

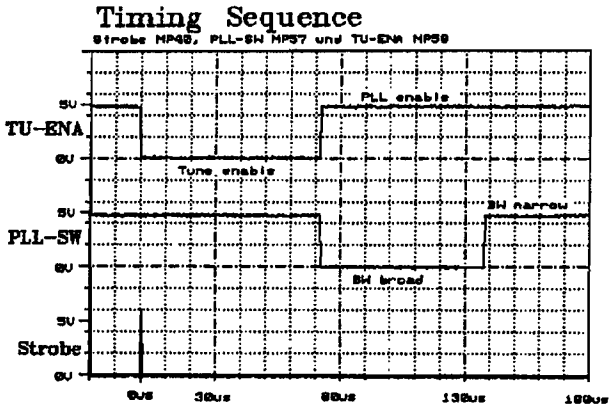


Fig.1

7.4.3 Testing and Adjustment of Oscillators

7.4.3.1 Adjusting the VCOs

- Remove jumper X50 , connect DC voltage source to X50B and set 2V
- Connect spectrum analyzer to X91 (FSUM)

- Settings: **FREQUENCY 800 MHz**
  UTILITIES DIAG TPOINT 605

▶ Adjust the frequency of the output signal FSUM at X91 to 750 ±0.5 MHz using trimmer C100.

- Set the DC voltage source at X50B to 19 V

- Settings: **FREQUENCY 1200 MHz**
  UTILITIES DIAG TPOINT 605

▶ Adjust the frequency of the output signal FSUM at X91 to 1100 ±0.5 MHz using trimmer C120.

▶ The diagnostic voltage 'oscillator level' must be between 30 and 100 mV for both VCOs.

• Insert jumper X50

7.4.3.2 Measuring the Characteristic of the VCOs

• Remove jumper X50, connect DC voltage source to X50B and set 2 V.
• Connect spectrum analyzer to X91 (FSUM)

• Settings: **FREQUENCY 800 MHz**
UTILITIES DIAG TPOINT 604

▶ With a tuning voltage of 2 V, the frequency of FSUM must be 750 MHz. When increasing the tuning voltage, the output frequency must increase continuously until 1100 MHz are achieved at 18 to 20.5 V (nominal value: 19 V). The output level of FSUM must lie between 7 and 11 dBm.

• Set DC voltage source at X50B to 19 V

• Settings: **FREQUENCY 1200 MHz**
UTILITIES DIAG TPOINT 605

▶ With a tuning voltage of 19 V, the frequency of FSUM must be 1100 MHz. When reducing the tuning voltage, the output frequency must decrease continuously until 1520 MHz are reached at 0.5 to 3 V (nominal value: 2 V). The output level of FSUM must lie between 7 and 11 dBm.

▶ The diagnostic voltage 'output signal FSUM' must lie between 150 and 350 mV.

• Insert jumper X50

7.4.4 Adjusting/testing the SRD Comb Generator

• Settings: **FREQUENCY 839 MHz**
UTILITIES DIAG TPOINT 603

▶ Up to revision 4 adjust the diagnostic voltage 'Pulse amplitude' to maximum using potentiometer R405. Revision 5 and higher doesn't need any adjustment.The diagnostic voltage must lie between 1.1 and 3.5 V (typ. 1.8 V) for both cases.

7.4.5 Testing the Sampling Mixer

7.4.5.1 Operating Point of Sampler

• Settings: **FREQUENCY 839 MHz**

▶ The DC voltage at R421 or R429 must be greater than +1 V or smaller than -1 V (measured with 100-kohm series resistor).

7.4.5.2 Frequency Response of Sampler

- Remove jumper X47
- Short-circuit resistor R48 (revision 5 and higher insert jumper X16)
- Connect probe of oscilloscope to test point MP67

- Settings: **UTILITIES DIAG TPOINT 602**
  FREQUENCY 757 MHz
  863 MHz
  969 MHz
  1075 MHz
  1181 MHz
  1287 MHz
  1393 MHz
  1499 MHz

▶ First adjust the diagnostic voltage to 50 mV using potentiometer R440 at the given frequencies. The IF at test point MP67 must be 450 ±100 mVpp. The maximum level frequency response must not be greater than ±50 mVpp.

- Remove short-circuit at R48
- Insert jumper X47

After measuring the frequency response of the sampler, it is absolutely necessary to adjust the IF stage (7.4.6).

7.4.6 Adjusting the IF Stage

7.4.6.1 Kϕ Adjustment

- Connect probe of oscilloscope to test point MP30
- Reconnect jumper X20 to ground
- Short-circuit resistor R48 (revision 5 and higher insert jumper X16)

- Settings: **FREQUENCY 1000 MHz**
  UTILITIES DIAG TPOINT 601

▶ Adjust the voltage at test point MP30 to 540 mVpp using potentiometer R476.

▶ The waveform of the signal approximates a triangle. The diagnostic voltage 'IF level' is 190 ±90 mV after the adjustment.

- Remove short-circuit at R48
- Reconnect jumper X20 to its normal position

7.4.6.2 Adjusting the RF Level at the Sampler

- Connect probe of oscilloscope to test point MP67
- Connect voltmeter to test point MP69
- Remove jumper X47
- Reconnect jumper X20 to ground
- Short-circuit resistor R48 (jumper X43)

- Settings: **FREQUENCY 1298 MHz**
  UTILITIES DIAG TPOINT 602

▶ Adjust the IF signal at the oscilloscop to 350 mVpp using potentiometer R440

▶ The diagnostic voltage must be about 35 mV. The waveform at MP67 must be sinewave without distortions.

- Insert jumper X47.

- Settings: **FREQUENCY 1100 MHz**

▶ The IF control voltage at MP69 must be smaller than 3.5 V

- Remove short-circuit at R48
- Reconnect jumper X20 to normal position

7.4.6.3 Testing the RF and LO Level of the Phase Detector

- Connect probe of oscilloscope to test point MP68 or MP9

- Settings: **FREQUENCY 1000 MHz**

▶ A peak voltage of approx. 0.9 Vpp must be applied to test point MP68 (RF port of phase detector) and a peak voltage of 1.8 Vpp at test point MP9 (LO port of phase detector). The waveform must correspond to a sinewave signal.

7.4.7 Testing the Calibration

Before testing the preset table, it must be newly set up.

- Settings: : **UTILITIES CALIB SUM** (Perform calibration)

- Reconnect jumper X20B to ground
- Short-circuit resistor R48 (revision 5 and higher insert jumper X16)
- Connect spectrum analyzer to X91 (FSUM)

- Settings: **FREQUENCY 750.01 to 1520 MHz in 10-MHz steps**
  UTILITIES DIAG TPOINT 600

▶ Immediately after calibration of the module, the frequency measured using the analyzer may deviate from the set frequency by max. 500 kHz. The voltage applied to diagnostic point 'PLL differential voltage' should have an average value of -80 mV and must not exceed -200 mV.

- Reconnect jumper X15 to normal position
- Remove short-circuit at R48

7.4.8 Testing the Transient Response

- Connect probe of oscilloscope to test point MP30
- Settings: **FREQUENCY** **751 MHz <-> 1101 MHz**
  1100 MHz <-> 1520 MHz

▶ 300 to 400 us after the module strobe the voltage change at the output of the phase detector must not exceed 10 mV. A voltage curve as shown in Fig. 2 is obtained.

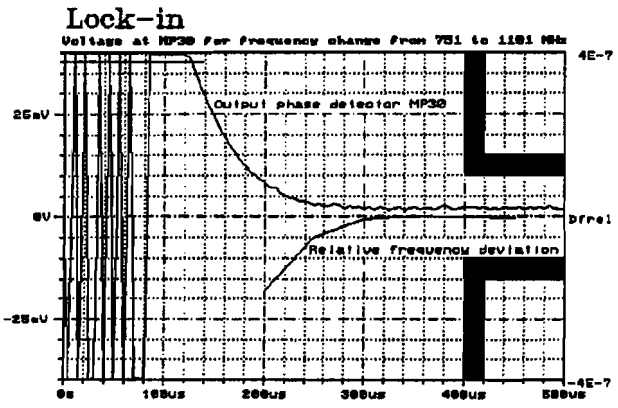


Fig.2

7.4.9 Tables and Interfaces

7.4.9.1 Digital Interface

Subaddress 0 (Serout, CLK1, WR1):

Latch		Designation	Function		
D533	11	KOSET-2	Compensation VCO slope		MSB
	12	KOSET-1			
	13	KOSET-0			LSB
	14	CAL-OFF	Offset for calibration	0=on	1=off
	7	TRIG-ENA	Trigger sequence control	0=off	1=on
	6	free			
	5	TUNE-9	Preset for VCOs		MSB
	4	TUNE-8			
D532	11	TUNE-7			
	12	TUNE-6			
	13	TUNE-5			
	14	TUNE-4			
	7	TUNE-3			
	6	TUNE-2			
	5	TUNE-1			
	4	TUNE-0			LSB

Latch		Designation	Function		
D531	11	SW6	Pin switch 6 switched with :8	0=off	1=on
	12	SW5	Pin switch 5 switched with :4	0=off	1=on
	13	SW4	Pin switch 4 switched with :2	0=off	1=on
	14	SW3	Pin switch 3 switched with :4	0=off	1=on
	7	SW2	Pin switch 2 switched with :2	0=off	1=on
	6	SW1	Pin switch 1 switched with :1	0=off	1=on
	5	ENA-T4	Divider :4 enable	0=off	1=on
	4	ENA-T2	Divider :2 enable	0=off	1=on
D530	11	PLL-ENA	Activate PLL	0=off	1=on
	12	PLL-BW	Select control bandwidth	0=broad	1=narrow
	13	OSZ2	Activate VCO2 (1100 - 1520 MHz)	0=off	1=on
	14	OSZ1	Activate VCO1 (750 - 1100 MHz)	0=off	1=on
	7	DIAG-ENA	Activate diagnosis	0=off	1=on
	6	DMUX-2	Address of diagnostic points		MSB
	5	DMUX-1			
	4	DMUX-0			LSB

7.4.9.2 Operating Points and Levels of RF amplifiers

Amplifier		Operating point	RF level, Frequency	Remark
V1	Pin2	1.2 V	2 dBm 15 MHz	Level of Fdsyn
	Pin3	5.2 V	7 dBm "	LO level for phase detector D1
V400	Pin1,3	8.5 V		
	Pin2	9.3 V	5 dBm 110 MHz	Level of Fstep
	Pin4	13.2 V	20 dBm "	Level for control of step recovery diode
V450	Pin1	9.6 V	.35 Vpp 15 MHz	Nominal value applies to V45 removed
	Pin2	1.4 V	"	
V455	Pin2	.9 V	15 MHz	RF level for phase detector D1
	Pin4	5.1 V	"	

The integrated RF amplifiers of the type MSA0386 and MSA0486 feature a collector voltage of 4.5 and 4.9 V, respectively, in their operating point. All RF levels are to be measured using a probe >500 ohms.

7.4.9.3 Operating Points of Dividers, VCOs and Pin Switches

Component	Test point	Function	Meas. value	Remark
V105	Current across R109	Oscillator 1	30 mA	Operating point
V129	Current across R129	Oscillator 2	30 mA	of VCOs
V259	Pin1	Pin switch	.9 V	with :1,:2,:4,:8
V260	"	"	"	division factor
V270	"	"	"	
V276	"	"	"	
V277	"	"	"	
V278	Pin3	"	"	
V280	Pin2	"	-1.1V	with :1,:2,:4
			+1.5V	with :8
V401	MP 37	SRD bias current	2.9V	Pulse amplitude adjusted
V440	MP 41	Level controller	1.5V	RF level at sampler
V453	MP 69	Level controller	1 - 4V	IF amplitude control

7.4.9.4 Diagnostic Points

Diagnostic point	Nom.value	Value range	Remark
600		-170 - 30 mV	PLL differential voltage /*
		-600 - 600 mV	/**
601	220 mV	180 - 250 mV	IF level
602	35 mV	20 - 50 mV	RF level at sampler
603	1.5 V	1.1 - 2.5 V	Pulse amplitude
604	200 mV	80 - 300 mV	Output level FSUM
605	70 mV	30 - 150 mV	Oscillator level
606		.5 - 20.5 V	VCO tuning voltage
607		.5 - 20.5 V	Preset voltage

/* applies only immediately after calibration of summing loop
/** tolerance window for interrupt

7.4.9.5 Supply Voltages

List of supply voltages generated on the module:

Voltage	Test point	Nom. value	Tolerance window
-5 V	MP 70	-5.0 V	-4.5 ... -5.5 V
21 V	MP 80	21.3 V	20.2 ... 22.4 V
5 V	MP 21	5.5 V	5.2 ... 6.0

7.5 Removal and Assembly

After opening the instrument, unlocking the modules and disconnecting the RF connections at X91, X97 and X99, the module can be removed from its location.
The screening covers are conventionally fastened with screws.
During operation with open screening cover, make sure that the two chambers J and K are closed by an appropriate test cover on the component side.

7.6 Interface Description

Pin	Name	Inp./Output	Origin/Destination	Value range	Signal description
X9.A12	SERBUS-CLK	Input	A3, FRO X50.40	HCMOS level	Serbus clock
X9.A14 X9.A15	SERBUS-DAT	bidir.	A3, FRO X50.39	HCMOS level	Serbus data
X9.A16	SERBUS-SYNC	Input	A3, FRO X50.37	HCMOS level	Serbus synchronization
X9.A17	SERBUS-INT	Output	A3, FRO X50.38	HCMOS level	Serbus interrupt
X9.A18	RES-P	Input	A3, FRO X50.28	HCMOS level	Serbus reset
X9.A19	DIAG-5V	Output	A3, FRO X50.44	-5V...5V	Diagnosis
X9.A26	VA24-P	Input	A2, POWS1	23.400V...24.60 30... 80mA	Supply voltage analog

Pin	Name	Inp./Output	Origin/Destination	Value range	Signal description
X9.A24	VA15-P	Input	A2, POWS1	14.80V...15.75V 150...290mA	Supply voltage analog
X9.A26	VA7.5-P	Input	A2, POWS1	7.45V...7.95V 300...550mA	Supply voltage analog
X9.A28	VD-5P	Input	A2, POWS1	5.10V...5.25V 5... 20mA	Supply voltage digital
X9.A30	VA15-N	Input	A2, POWS1	-15.75V...-14.85V 50...200mA	Supply voltage analog
X91	FSUM	Output	A10, OPU1 X101	6...11dBm 93.75 - 1520MHz	Output frequency
X97	FSTEP	Input	A7, REFSS X75	5 ±1dBm 103...117 MHz	Reference step
X99	FDSYN	Input	A8, DSYN X89	2 ±2dBm 14.3...15.6 MHz	Dig. synthesis

ROHDE&SCHWARZ

Schaltteillisten
numerisch geordnet

Part lists
in numerical order

Listes des pièces détachées
par numéros de référence

095.1000 Bl. 3

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C1	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C3	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C4	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C5	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C6	CC 180PF+-1%50V NPO 1206 CHIP CAPACITOR	CC 0099.8844.00	MURATA	GRM42-6C0G 181F50ZPT	
C8	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C10	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C11	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C12	CC 15PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8750.00	MURATA	GRM42-6C0G 150F50ZPT	
C15	CC 47PF+-1%50V C0G 1206 CERAMIC CHIP CAPACITOR	CC 0099.8496.00	MURATA	GRM42-6C0G 470F50XPT	
C18	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C19	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C20	CC 39PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8796.00	MURATA	GRM42-6C0G 390F50ZPT	
C21	CC 5,6PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8220.00	MURATA	GRM42-6C0G 5R6 C50PT	
C22	CC 82PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8821.00	MURATA	GRM42-6C0G 820F50ZPT	
C23	CC 33PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8780.00	MURATA	GRM42-6C0G 330F50ZPT	
C24	CC 12PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8744.00	MURATA	GRM42-6C0G 120F50ZPT	
C25	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C26	CC 82PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8821.00	MURATA	GRM42-6C0G 820F50ZPT	
C27	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C28	CC 5,6PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8220.00	MURATA	GRM42-6C0G 5R6 C50PT	
C30	CK 150NF+-5%63VRD3,5H9MKT POLYESTER CAPACITOR	CK 0099.2946.00	SIEMENS	B 32 529-A154-J	
C31	CC 18PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8767.00	MURATA	GRM42-6C0G 180F50ZPT	
C34	CC 47PF+-1%50V C0G 1206 CERAMIC CHIP CAPACITOR	CC 0099.8496.00	MURATA	GRM42-6C0G 470F50XPT	
C38	CE 10UF+-20%50V ALU-CHIP SMD-ELECTROLYTIC CAPACIT.	CE 0008.1812.00	VALVO	TYP 2222 139 61109	
C39	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C50	CK 2,2NF +-1% 100V RM5 KP POLYPROPYLENE CAPACITOR	CK 0007.7617.00	ROEDERSTEI	KP1830-222 01 1 3 W	
C51	CK 33NF +-1% 63V RM5 KP POLYPROPYLENE CAPACITOR	CK 0007.7681.00	ROEDERSTEI	KP1830-333 06 1(3)W	
C52	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C70	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C71	CE 47UF +-10% 10V 7343 TANTALUM CHIP CAPACITOR	CE 0007.7300.00	SPRAGUE	293D X9 010 D2W	
C72	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C73	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C80	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C90	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C91	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C100	CT 9PF TAUCHTR.7RDX13 AIR-TYPE TRIMMER	0048.6109.00	TRONSER	60-0722-15010-906	
C101	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C104	CC 3,6PF0,25PF NP0 0805 CAPACITOR	CC 0093.5614.00	MURATA	GRM40C0G3R6C50	

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1GPK 853 3PLU	Ä1	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt-Nr. Page
ROHDE&SCHWARZ	46	10.08.99	ED SUMMIERSCHLEIFE SUMMING-LOOPS	**1038.7196.01 SA**	1+

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C105	CC 3,9PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4509.00	MURATA	GRM39C0G***B50ZPT	
C106	CC 100PF+-10% NPO 0805 CAPACITOR	CC 0082.2948.00	MURATA	GRM40 C0G 101 K50ZPT	
C107	CC 4,3PFO,25PF NPO 0805 CAPACITOR	CC 0093.5643.00	MURATA	GRM40C0G4R3C50PT	
C108	CE 22UF+-20%35V RUND SMD SMD ELECTROLYTIC CAPACIT.	CE 0009.6253.00	PANASONIC	EEV HB 1V 220P	
C119	CC 220PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8850.00	MURATA	GRM42-6C0G 221F 50PT	
C120	CT 9PF TAUCHTR.7RDX13 AIR-TYPE TRIMMER	0048.6109.00	TRONSER	60-0722-15010-906	
C121	CC 10PF+-0,25 50VNPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C122	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C123	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C124	CC 2,7PFO,25PF NPO 0805 CAPACITOR	CC 0093.5572.00	PHILIPS_CO	2222 861 15278	
C125	CC 3,3PF+-0,1PF50VC0G0603 SMD-CERAMIC CAPACITOR	CC 0008.2125.00	AVX	0603 5J 3R3 BAW	
C126	CC 100PF+-10% NPO 0805 CAPACITOR	CC 0082.2948.00	MURATA	GRM40 C0G 101 K50ZPT	
C127	CC 2,2PFO,25PF NPO 0805 CAPACITOR	CC 0093.5566.00	MURATA	GRM40 C0G 2R2C 50PT	
C128	CC 220PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8850.00	MURATA	GRM42-6C0G 221F 50PT	
C140	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C141	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C142	CC 1PF+-0,25 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8667.00	MURATA	GRM42-6C0G 1R0 C50PT	
C143	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C144	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C210	CE 47UF +-10% 10V 7343 TANTALUM CHIP CAPACITOR	CE 0007.7300.00	SPRAGUE	293D X9 010 D2W	
C236	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C250	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C251	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C255	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C257	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C259	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C260	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C261	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C263	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C264	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C265	CC 2,2NF+-10%50VX7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8444.00	AVX	1206 5 C 222 KA 3	
C266	CC 2,2NF+-10%50VX7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8444.00	AVX	1206 5 C 222 KA 3	
C268	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C269	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C271	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C272	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C273	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C274	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C275	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C276	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C277	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C279	CC 2,2NF+-10%50VX7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8444.00	AVX	1206 5 C 222 KA 3	
C280	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C281	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C282	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C283	CC 1PF+-0,25 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8667.00	MURATA	GRM42-6COG 1R0 C50PT	
C284	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C285	CC 4,7PF+-0,25 50VNPO1206 CERAMIC CHIP CAPACITOR	CC 0007.8213.00	MURATA	GRM42-6COG 4R7C 50PT	
C286	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C287	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C288	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C289	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C290	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C291	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C292	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C294	CC 2,2NF+-10%50VX7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8444.00	AVX	1206 5 C 222 KA 3	
C295	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C400	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C401	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C402	CE 22UF+-20%35V RUND SMD SMD ELECTROLYTIC CAPACIT.	CE 0009.6253.00	PANASONIC	EEV HB 1V 220P	
C403	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C404	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C405	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C406	CE 22UF+-20%35V RUND SMD SMD ELECTROLYTIC CAPACIT.	CE 0009.6253.00	PANASONIC	EEV HB 1V 220P	
C407	CC 0,47PF+-0,25PF50V 0805 CERAMIC CHIP CAPACITOR	CC 1002.4951.00	VALVO	2222 8611 5477	
C408	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C409	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6COG 101F50ZPT	
C420	CC 33PF+-10% NPO 0805 CAPACITOR	CC 0082.7340.00	MURATA	GRM40C0G330K50ZPT	
C421	CC 33PF+-10% NPO 0805 CAPACITOR	CC 0082.7340.00	MURATA	GRM40C0G330K50ZPT	
C422	CC 4,7PF+-0,25 50VNPO1206 CERAMIC CHIP CAPACITOR	CC 0007.8213.00	MURATA	GRM42-6COG 4R7C 50PT	
C429 ..431	CC 220PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8850.00	MURATA	GRM42-6COG 221F 50PT	
C432	CC 1,5PF+-0,25 50VNPO1206 CERAMIC CHIP CAPACITOR	CC 0007.8159.00	MURATA	GRM42-6COG 1R5 C50PT	
C433	CC 1,5PF+-0,25 50VNPO1206 CERAMIC CHIP CAPACITOR	CC 0007.8159.00	MURATA	GRM42-6COG 1R5 C50PT	
C434 ..437	CC 220PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8850.00	MURATA	GRM42-6COG 221F 50PT	
C438	CC 1PF+-0,25 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8667.00	MURATA	GRM42-6COG 1R0 C50PT	
C439	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C440 ..443	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C445	CC 47PF+-1%50V COG 1206 CERAMIC CHIP CAPACITOR	CC 0099.8496.00	MURATA	GRM42-6COG 470F50XPT	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C448	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C449	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C450	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C451	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C453	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C454	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C455	CC 82PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8821.00	MURATA	GRM42-6C0G 820F50ZPT	
C456	CC 8,2PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8242.00	MURATA	GRM42-6C0G 8R2 C50PT	
C457	CC 22PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8396.00	MURATA	GRM42-6C0G 220F50ZPT	
C458	CC 120PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8838.00	MURATA	GRM42-6C0G 121F50ZPT	
C459	CC 68PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8815.00	MURATA	GRM42-6C0G 680F50ZPT	
C460	CC 10PF+-0,25 50VNPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C461	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C462	CC 10PF+-0,25 50VNPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C463	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C465	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C466	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C468	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C470	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C471	CC 220PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8850.00	MURATA	GRM42-6C0G 221F 50PT	
C472	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C478	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C479	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C485	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C495	CC 2,2PF+-0,25 50VNPO1206 CERAMIC CHIP CAPACITOR	CC 0007.8171.00	MURATA	GRM42-6C0G 2R2 C50PT	
C498	CC 120PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8838.00	MURATA	GRM42-6C0G 121F50ZPT	
C499	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C545	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C551	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C554	CC 47NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5195.00	AVX	1206 5 C 473 KA 3	
C561	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C562	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C565	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C567	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C570	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C571	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C573	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C579	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C580	CE 220UF+-20%35V RM5 ELECTROLYTIC CAPACITOR	CE 0008.7904.00	PANASONIC	ECA 1 VFG 221 B	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C581	CE 100UF+-20%35V RM5 ELECTROLYTIC CAPACITOR	0008.7510.00	PHILIPS_CO	2222 116 90042	
C582	CE 220UF+-20%35V RM5 ELECTROLYTIC CAPACITOR	CE 0008.7904.00	PANASONIC	ECA 1 VFG 221 B	
C583	CE 220UF+-20%35V RM5 ELECTROLYTIC CAPACITOR	CE 0008.7904.00	PANASONIC	ECA 1 VFG 221 B	
C584	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C589	CE 100UF+-20%16V RUND SMD SMD-ELECTOLYTIC CAPACIT.	CE 0009.6553.00	SANYO	16CV100F(G)S	
D1	BM SRA1 MIXER 0.5GHZ MIXER	BM 0207.3465.00	MINI-CIRCU	SRA1	
D10	BJ PM7533GS 1X10B-DAC D/A-CONVERTER	2033.1473.00	ANALOG_DEV	AD7533KR	
D20	BL PC74HC4051T 8CH.AN.MUX 8CHANNEL ANAL.MULTIPLEXER	0007.3592.00	PHILIPS_SE	(PC)74HC4051(D/T)	
D260	BL UPB581C 2:1 PRESC IC PRESCALERDIVIDER	BL 0840.6113.00	NEC	(UP)B581C	
D270	BL UPB582C 4:1 PRESC IC PRESCALER	BL 0820.3390.00	NEC	(UP)B582C	
D500	BG TH3032.1C SERBUSD ASIC IC GATE ARRAY	BG 0008.6143.00	THESYS	TH3032.1C	
D530 ..533	BL PC74HCT4094T 8ST.SHREG 8-STAGE SHIFT&STORE REG.	0007.6885.00	PHILIPS	(PC)74HCT4094(D)	
D540	BL PC74HCT4051T 8CH.A.MUX ANALOG MULTIPLEXER	0007.6827.00	PHILIPS	(PC)74HCT4051(T)	
D545	BL PC74HCT132T 4X2IN SCHM NAND SCHMITT TRIGGER	BL 0007.6340.00	PHILIPS	(PC)74HCT132(D/T)	
D560	BL PC74HCT123T 2XMONOFLOP DUAL MULTIVIBRATOR	BL 0007.6333.00	PHILIPS_SE	(PC)74HCT123(D/T)	
D570	BL PC74HCT132T 4X2IN SCHM NAND SCHMITT TRIGGER	BL 0007.6340.00	PHILIPS	(PC)74HCT132(D/T)	
L6	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L18	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L20	LD 820NH 5% OR85 0,42A HIGH FREQUENCY CHOKE	0355.9890.00	DELEVAN	1025-18	
L21	LD 1,00UH10%1,000HMO,390A CHOKE	LD 0067.2863.00	DALE	IM2	
L22	LD 1,5UH 5% OR2 0,56A CHOKE	0067.3247.00	DELEVAN	1025-24	
L26	LD 2,70UH10%0,550HMO,355A CHOKE	LD 0067.2911.00	DALE	IM2	
L90	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L91	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L100	LD 100NH 10% 0,080HM 1,4A CHOKE	LD 0067.2740.00	DALE	IM2	
L102	LD 100NH10%OR21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L103	LD 100NH10%OR21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L105	LD 100NH10%OR21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L109	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L120	LD 100NH 10% 0,080HM 1,4A CHOKE	LD 0067.2740.00	DALE	IM2	
L122	LD 100NH10%OR21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L123	LD 100NH10%OR21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L125	LD 100NH10%OR21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L140	LD 100NH 10% 0,44A 1210 RF CHOKE	LD 0007.9249.00	SIEMENS	B82422-A3101-J(K)100	
L160	LL LUFTSPULE	1038.7338.00			
L161	LL LUFTSPULE	1038.7338.00			
L179	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L250	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L251	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L256	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L260	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L261	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L262	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L263	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L264	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L268	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L269	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L271	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L272	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L277	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L280	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L285	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L286	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L293	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L401	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L403	LD 32 NH SMD-ABGL.Q5,1H5 SMD-VHF-COIL	0008.9436.00	COMPONEX	E 558 CN-10 0020	
L404	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L405	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L430	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L431	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L432	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L433	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L434	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L435	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L450	LD 22UH 10% 0,14A 1210 RF CHOKE	LD 0520.7886.00	SIEMENS	B82422-A1223-J(K)100	
L451	LD 22UH 10% 0,14A 1210 RF CHOKE	LD 0520.7886.00	SIEMENS	B82422-A1223-J(K)100	
L452	LD 0,18UH10%0,120HM1,120A CHOKE	LD 0067.2770.00	DALE	IM2	
L453	LD 0,15UH10%0,100HM1,230A CHOKE	LD 0067.2763.00	DALE	IM2	
L454	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L456	LD 12,0UH10%2,700HM0,160A CHOKE	LD 0067.2992.00	DALE	IM2	
L570	LD 22UH 10% 0,14A 1210 RF CHOKE	LD 0520.7886.00	SIEMENS	B82422-A1223-J(K)100	
L580	LD 8,2UH BEI 0,94A0,490HM CHOKE	LD 0026.4110.00	DALE	IM 6	
L581	LD 15UH 10% 1R2 0,46A CHOKE	LD 0026.4149.00	DALE	IM 6	
L582	LD 15UH 10% 1R2 0,46A CHOKE	LD 0026.4149.00	DALE	IM 6	
L583	LD 8,2UH BEI 0,94A0,490HM CHOKE	LD 0026.4110.00	DALE	IM 6	
L584	LD 8,2UH BEI 0,94A0,490HM CHOKE	LD 0026.4110.00	DALE	IM 6	
L589	LD 4,7UH 10% 0,15A 1210 RF CHOKE	LD 0008.1687.00	SIEMENS	B82422-A1472-J(K)100	

Weitergabe sowie Vervielfältigung dieser Unterlage, Verwertung und Mitteilung ihres Inhalts nicht gestattet, soweit nicht ausdrücklich zugestanden. Zuwiderhandlungen verpflichten zu Schadenersatz. Alle Rechte vorbehalten.

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
MP9	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
MP21	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
MP30	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
MP32 ...37	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
MP40	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
MP41	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
MP55	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
MP56 ...58	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
MP67 ...70	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
MP80	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
N10	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	
N15	BO NE5532D 2XLN OPAMP 2 OPERATIONAL AMPLIFIER	0007.7798.00	SIGNETICS	NE5532D	
N17	BO OP97FS LP PREC OPAMP OPAMP	1036.4390.00	PMI	OP97F(S)	
N30	BO AD846BN CF OPAMP CURRENT-FEEDBACK OPAMP	0007.9855.00	ANALOG_DEV	AD846BN	
N140	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N250	BM MSA0486 DC-3.2G MMIC BROADBAND AMPLIFIER	0846.4293.00	AVANTEK	MSA-0486	
N260	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N270	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N280	BM MSA0486 DC-3.2G MMIC BROADBAND AMPLIFIER	0846.4293.00	AVANTEK	MSA-0486	
N290	BM MSA0486 DC-3.2G MMIC BROADBAND AMPLIFIER	0846.4293.00	AVANTEK	MSA-0486	
N430	BM MSA0486 DC-3.2G MMIC BROADBAND AMPLIFIER	0846.4293.00	AVANTEK	MSA-0486	
N435	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N438	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N470	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	
N550	BO LM2903D 2XLP COMPAR DUAL	0520.7734.00	SIGNETICS	LM2903(D)	
P9	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P30	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P32	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P33	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P40	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P55 ..58	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P70	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P80	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
R1	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R3	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R4	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R5	RG 825 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.7259.00	ROEDERSTEI	D25	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R7	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R8	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R9	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R10	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R11	RG 392 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5672.00	DRALORIC	CR 1206	
R12	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R13	RG 2,74KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5766.00	DRALORIC	CR 1206	
R14	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R15	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R16	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R17	RG 20,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5866.00	PHILIPS_CO	RC02	
R18	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R19	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R20	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R21	RG 392 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5672.00	DRALORIC	CR 1206	
R22	RG 681 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9080.00	PHILIPS_CO	RC02	
R23	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R25	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R27	RG 82,5KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.1925.00	ROEDERSTEI	D25	
R28	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R29	RG 750 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9097.00	PHILIPS_CO	RC02	
R30	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R31	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R32	RG 20,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5866.00	PHILIPS_CO	RC02	
R33	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R34	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R35	RG 1,0 OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8265.00	PHILIPS_CO	RC 02	
R36	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R38	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R39	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R40	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R41	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R42	RG 56,2KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.1883.00	PHILIPS_CO	RC02	
R43	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R44	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R45	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R46	RG 56,2KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.1883.00	PHILIPS_CO	RC02	
R47	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R48	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R49	RG 150 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5972.00	PHILIPS_CO	RC02	
R50	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R51	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R52	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R53	RG 33,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5914.00	PHILIPS_CO	RC02	
R54	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R55	RG 16,2KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0870.00	PHILIPS_CO	RC02	
R56	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R57	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R58	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R59	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R60	RG 5,62KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0735.00	PHILIPS_CO	RC02	
R61	RG 3,32KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5789.00	PHILIPS_CO	RC02	
R62	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R63	RG 909 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.7265.00	PHILIPS_CO	RC02	
R64	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R65	RG 432 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5689.00	PHILIPS_CO	RC02	
R66	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R67	RG 182 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5595.00	PHILIPS_CO	RC02	
R68	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R70	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R71	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R72	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R73	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R75	RG 825 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.7259.00	ROEDERSTEI	D25	
R76	RG 121 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8903.00	PHILIPS_CO	RC02	
R77	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R78	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R79	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R80	RG 8,25KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0770.00	PHILIPS_CO	RC02	
R81	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R82	RG 3,32KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5789.00	PHILIPS_CO	RC02	
R83	RG 8,25KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0770.00	PHILIPS_CO	RC02	
R84	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R86	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R89	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	
R90	RG 18,2KOH+-0,1%TK25 1206 SMD-RESISTOR	0009.7637.00	PHILIPS_CO	MPC 01	
R91	RG 10,0KOH+-0,1%TK25 1206 SMD-RESISTOR	0009.7666.00	PHILIPS_CO	MPC 01	
R92	RG 10,0KOH+-0,1%TK25 1206 SMD-RESISTOR	0009.7666.00	PHILIPS_CO	MPC 01	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R93	RG 18,2KOH+-0,1%TK25 1206 SMD-RESISTOR	0009.7637.00	PHILIPS_CO	MPC 01	
R94	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R95	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R96	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R97	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R98	RG 33,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5914.00	PHILIPS_CO	RC02	
R99	RG 8,25OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8488.00	PHILIPS	RC 02	
R101	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R103	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R105	RG 0,05W 82R +-1% 0805 RESISTOR	RG 0007.8994.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
R106	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R107	RG 6,81KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0758.00	PHILIPS_CO	RC02	
R108	RG 2,74KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5766.00	DRALORIC	CR 1206	
R109	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R110	RG 3,92KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5808.00	ROEDERSTEI	D25	
R111	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R112	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R113	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R114	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R115	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R116	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R120	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R121	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R122	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R123	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R125	RG 0,05W 82R +-1% 0805 RESISTOR	RG 0007.8994.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
R126	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R127	RG 6,81KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0758.00	PHILIPS_CO	RC02	
R128	RG 2,74KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5766.00	DRALORIC	CR 1206	
R129	RG 100 OHM+-1%TK100. 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R130	RG 3,92KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5808.00	ROEDERSTEI	D25	
R131	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R132	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R133	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R134	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R135	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R136	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R141	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R142	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	

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1GPK 853 3PLU	Äi	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt-Nr. Page
ROHDE&SCHWARZ	46	10.08.99	ED SUMMIERSCHLEIFE SUMMING-LOOPS	1038.7196.01 SA	10+

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R143	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R144	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R160	RG 0,05W 51R1 +-1% 0805 RESISTOR	0007.9132.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
R179	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R210	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R211	RG 4,75OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8420.00	PHILIPS	RC 02	
R212	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R236	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R237	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R238	RG 8,25OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8488.00	PHILIPS	RC 02	
R239	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R245	RG 16,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8690.00	PHILIPS_CO	RC02	
R247	RG 16,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8690.00	PHILIPS_CO	RC02	
R248	RG 16,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8690.00	PHILIPS_CO	RC02	
R250	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R251	RG 33,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5520.00	ROEDERSTEI	D25	
R252	RG 162 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8932.00	PHILIPS_CO	RC02	
R253	RG 162 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8932.00	PHILIPS_CO	RC02	
R256	RG 121 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8903.00	PHILIPS_CO	RC02	
R260	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R268	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R269	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R271	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R275	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R276	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R277	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R278 ..280	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R281	RG 301 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5643.00	PHILIPS_CO	RC02	
R282	RG 15,0 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5450.00	PHILIPS_CO	RC02	
R283	RG 301 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5643.00	PHILIPS_CO	RC02	
R284	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R285	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R286	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R287	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R288	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R289	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R290	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R291	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	
R292	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R293	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R294	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R296	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R297	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	
R298	RG 33,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5520.00	ROEDERSTEI	D25	
R299	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	
R400	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R402	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R403	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R404	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R405	RS 0,25W5OKOHM +-20% SMD POTENTIOMETER NICHT BESTUECKT NOT FITTED	RS 0007.9661.00	BI_TECHNOL	23 B R... TR	
R406	RG 47,5KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5950.00	PHILIPS_CO	RC02	
R407	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R408	RG 182 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5989.00	PHILIPS_CO	RC02	
R409	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	
R410	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R411	RG 5,62KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0735.00	PHILIPS_CO	RC02	
R412	RG 1,21KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9968.00	PHILIPS_CO	RC02	
R413	RG 18,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5466.00	PHILIPS_CO	RC02	
R415	RG 243 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5620.00	PHILIPS_CO	RC02	
R419	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R420	RG 0,05W 100R +-1% 0805 RESISTOR	RG 0007.9003.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
R421	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R422	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R424	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R425	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R426	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R428	RG 0,05W 47R +-1% 0805 RESISTOR	RG 0007.8965.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
R429	RG 0,05W 47R +-1% 0805 RESISTOR	RG 0007.8965.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
R430	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R431	RG 39,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5543.00	PHILIPS_CO	RC02	
R432	RG 39,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5543.00	PHILIPS_CO	RC02	
R433	RG 15,0 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5450.00	PHILIPS_CO	RC02	
R434	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R435	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R436	RG 8,25OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8488.00	PHILIPS	RC 02	
R437	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R438	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	

Ohne Genehmigung des Herausgebers nicht an Dritte weitergeben

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R439	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	
R440	RS 0,25W5OKOHM +-20% SMD POTENTIOMETER	RS 0007.9661.00	BI_TECHNOL	23 B R... TR	
R441	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R442	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R443	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R444	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R448	RG 100,OKOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R451	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R453	RG 392 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5672.00	DRALORIC	CR 1206	
R454	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R455	RG 3,92KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5808.00	ROEDERSTEI	D25	
R456	RG 475 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.6079.00	PHILIPS_CO	RC02	
R457	RG 1,OMOHM+-1%TK100 1206 CHIP RESISTOR	RG 0815.7532.00	PHILIPS_CO	RC 02	
R458	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R459	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R460	RG 2,74OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8365.00	PHILIPS	RC 02	
R465	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R467	RG 392 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5672.00	DRALORIC	CR 1206	
R468	RG 10,O OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R469	RG 10,O OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R471	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R472	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R473	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R474	RG 8,25KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0770.00	PHILIPS_CO	RC02	
R475	RG 182 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5595.00	PHILIPS_CO	RC02	
R476	RS 0,25W2OKOHM +-20% SMD POTENTIOMETER	RS 0007.9655.00	BI_TECHNOL	23 B R... TR	
R477 ..479	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R480	RG 825 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.7259.00	ROEDERSTEI	D25	
R481	RG 681 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9080.00	PHILIPS_CO	RC02	
R482	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R483	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R485	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R486	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R499	RG 2,74KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5766.00	DRALORIC	CR 1206	
R500	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R501	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R502	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
	NICHT BESTUECKT/NOT FITTED				
R503	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R504	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R505	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR NICHT BESTUECKT/NOT FITTED	RG 0007.0793.00	DRALORIC	CR 1206	
R506	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR NICHT BESTUECKT/NOT FITTED	RG 0007.0793.00	DRALORIC	CR 1206	
R508	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R509	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R510	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R511	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR NICHT BESTUECKT/NOT FITTED	RG 0007.0793.00	DRALORIC	CR 1206	
R512	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R513	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR NICHT BESTUECKT/NOT FITTED	RG 0007.0793.00	DRALORIC	CR 1206	
R514	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R515	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR NICHT BESTUECKT/NOT FITTED	RG 0007.0793.00	DRALORIC	CR 1206	
R516	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR NICHT BESTUECKT/NOT FITTED	RG 0007.0793.00	DRALORIC	CR 1206	
R517	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR NICHT BESTUECKT/NOT FITTED	RG 0007.0793.00	DRALORIC	CR 1206	
R518	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R520 ..524	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R525 ..529	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R530	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R531	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R533	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R534	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R545	RG 15,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5843.00	PHILIPS_CO	RC02	
R546	RG 39,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5937.00	PHILIPS_CO	RC02	
R547	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R550	RG 121,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1960.00	PHILIPS_CO	RC02	
R551	RG 8,25KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0770.00	PHILIPS_CO	RC02	
R552	RG 8,25KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0770.00	PHILIPS_CO	RC02	
R553	RG 2,74KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5766.00	DRALORIC	CR 1206	
R554	RG 56,2KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.1883.00	PHILIPS_CO	RC02	
R555	RG 121,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1960.00	PHILIPS_CO	RC02	
R556	RG 8,25KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0770.00	PHILIPS_CO	RC02	
R560	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R561	RG 33,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5914.00	PHILIPS_CO	RC02	
R562	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R563	RG 18,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5850.00	PHILIPS_CO	RC02	
R564	RG 1,5 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5714.00	PHILIPS_CO	RC02	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R565	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R567	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R568	RG 15,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5843.00	PHILIPS_CO	RC02	
R569	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R571	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R572	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R579	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
V1	AK BFS17 N 15V 25MA 1 GHZ WIDEBAND TRANSISTOR	AK 0010.6460.00	VALVO	BFS17	
V40	AK BCX19 N 45V 500MA TRANSISTOR	6014.2567.00	PHILIPS_SE	BCX19	
V41	AM BSR56 N-D 40V JFET N-CHANNEL JUNCTION-FET	AM 0007.3111.00	VALVO	BSR56	
V42	AK BCX19 N 45V 500MA TRANSISTOR	6014.2567.00	PHILIPS_SE	BCX19	
V43	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V44	AM BSR56 N-D 40V JFET N-CHANNEL JUNCTION-FET	AM 0007.3111.00	VALVO	BSR56	
V47	AM BSR56 N-D 40V JFET N-CHANNEL JUNCTION-FET	AM 0007.3111.00	VALVO	BSR56	
V50	AM SST108 N-D 25V JFET JUNCTION FET	6007.3949.00	SILICONIX	SST108	
V51	AM SST108 N-D 25V JFET JUNCTION FET	6007.3949.00	SILICONIX	SST108	
V52	AD BAS16 75V UDI HIGH-SPEED DIODE	AD 0007.4924.00	VALVO	BAS16 (A6P)	
V53	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V54	AK BCX19 N 45V 500MA TRANSISTOR	6014.2567.00	PHILIPS_SE	BCX19	
V55	AD BAS16 75V UDI HIGH-SPEED DIODE	AD 0007.4924.00	VALVO	BAS16 (A6P)	
V56	AK BCX19 N 45V 500MA TRANSISTOR	6014.2567.00	PHILIPS_SE	BCX19	
V57	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V70	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V75	AE BZV55/C5V6 0.5W ZDI ZENER DIODE	AE 0006.9845.00	PHILIPS	BZV55B5V6	
V78	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V79	AE BZX79/B27 0,5W ZDI ZENER DIODE	AE 0615.9085.00	PHILIPS_SE	BZX79B27	
V85	AE 1N827 6,2V REFDI ZENER REFERENCE DIODE	AE 0418.0029.00	COMPENSATE	1N827(A)	
V95	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V100	AE BB405B 11/ 2PF CDI TUNING DIODE	0596.6839.00	PHILIPS	BB405B	
V101	AE BBY31 11/02PF UHF-CDI UHF TUNING DIODE	AE 0007.3128.00	VALVO	BBY31	
V105	AK NE85639 N 12V 100MA TRANSISTOR	1027.4161.00	NEC	NE85639E	
V106	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V107	AK BCX19 N 45V 500MA TRANSISTOR	6014.2567.00	PHILIPS_SE	BCX19	
V108	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V120	AE BB405B 11/ 2PF CDI TUNING DIODE	0596.6839.00	PHILIPS	BB405B	
V122	AE BBY31 11/02PF UHF-CDI UHF TUNING DIODE	AE 0007.3128.00	VALVO	BBY31	
V125	AK NE85639 N 12V 100MA TRANSISTOR	1027.4161.00	NEC	NE85639E	
V126	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V127	AK BCX19 N 45V 500MA TRANSISTOR	6014.2567.00	PHILIPS_SE	BCX19	
V128	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V140	AE HSMS2810 SCHOTTKY SCHOTTKY DIODE	0520.7340.00	HEWLETT_PA	HSMS-2810	
V210	AK BCP68-16 N 20V TRANS MEDIUM POWER TRANSISTOR	0008.2019.00	PHILIPS	BCP68-25	
V211	AE BZV55/C6V2 0,5W ZDI ZENER DIODE	AE 0006.9851.00	PHILIPS	BZV55B6V2	
V259	AE BAR14-1 DUAL 100V PIN PIN DIODE	0820.3283.00	SIEMENS	BAR14-1 (-A772)	
V260	AE BAR14-1 DUAL 100V PIN PIN DIODE	0820.3283.00	SIEMENS	BAR14-1 (-A772)	
V270	AE BAR14-1 DUAL 100V PIN PIN DIODE	0820.3283.00	SIEMENS	BAR14-1 (-A772)	
V275	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V276 ..280	AE BAR14-1 DUAL 100V PIN PIN DIODE	0820.3283.00	SIEMENS	BAR14-1 (-A772)	
V285	AE HSMS2810 SCHOTTKY SCHOTTKY DIODE	0520.7340.00	HEWLETT_PA	HSMS-2810	
V287	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V400	AK BFG97 NPN 15V 100MA 5 GHZ WIDEBAND TRANSISTOR	0008.1741.00	PHILIPS	BFG97	
V401	AE 5082-0833 25V STEPRDI DIODE	AE 0343.0086.10	HEWLETT_PA	HP5082-0833	
V402	AK BCP68-16 N 20V TRANS MEDIUM POWER TRANSISTOR	0008.2019.00	PHILIPS	BCP68-25	
V403	AE HSMS2810 SCHOTTKY SCHOTTKY DIODE	0520.7340.00	HEWLETT_PA	HSMS-2810	
V405	AD BAS16 75V UDI HIGH-SPEED DIODE	AD 0007.4924.00	VALVO	BAS16 (A6P)	
V406	AD BAS16 75V UDI HIGH-SPEED DIODE	AD 0007.4924.00	VALVO	BAS16 (A6P)	
V407	AK BFG97 NPN 15V 100MA 5 GHZ WIDEBAND TRANSISTOR	0008.1741.00	PHILIPS	BFG97	
V408	AK BFG31 PNP 100MA 5 GHZ WIDEBAND TRANSISTOR	0009.7672.00	PHILIPS	BFG31	
V420	AE HSMS2812 2SER SCHOTTKY SCHOTTKY DIODE	0520.7528.00	HEWLETT_PA	HSMS2812 L31	
V421	AE HSMS2812 2SER SCHOTTKY SCHOTTKY DIODE	0520.7528.00	HEWLETT_PA	HSMS2812 L31	
V440	AE BAR14-1 DUAL 100V PIN PIN DIODE	0820.3283.00	SIEMENS	BAR14-1 (-A772)	
V445	AE HSMS2810 SCHOTTKY SCHOTTKY DIODE	0520.7340.00	HEWLETT_PA	HSMS-2810	
V450	AM SST310 N-D 25V JFET JUNCTION FET	1036.4577.00	SILICONIX	SST310-T1	
V453	AE BAR14-1 DUAL 100V PIN PIN DIODE	0820.3283.00	SIEMENS	BAR14-1 (-A772)	
V455	AK BFG97 NPN 15V 100MA 5 GHZ WIDEBAND TRANSISTOR	0008.1741.00	PHILIPS	BFG97	
V456	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V457	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V554	AD BAS16 75V UDI HIGH-SPEED DIODE	AD 0007.4924.00	VALVO	BAS16 (A6P)	
V565	AE BZV55/C5V6 0.5W ZDI ZENER DIODE	AE 0006.9845.00	PHILIPS	BZV55B5V6	
W1	DW HF-KABEL W1	1038.7309.00			1038.7215.00
W2	DW HF-KABEL W2	1038.7315.00			1038.7215.00
X90	FP STECKERLEISTE 32POL. CONNECTOR 32P.	FP 0008.5718.00	DEUT_ELCO	16 8457 064 002 027	
X91	FJ EINBAUWINKELST. SMC ANGLE CONNECTOR	FJ 0249.9684.00	IMS	82.1524.201	
X97	FJ EINBAUSTECKER F.GS SMB ANGLE CONNECTOR	FJ 0602.8804.00	ROSENBERGE	59S-206-400-D3	
X99	FJ EINBAUSTECKER F.GS SMB ANGLE CONNECTOR	FJ 0602.8804.00	ROSENBERGE	59S-206-400-D3	
X15A	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X15B	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	

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1GPK 853 3PLU	Äl	Datum Date	Schalttelliste für Parts list for	Sachnummer Stock No.	Blatt-Nr. Page
ROHDE&SCHWARZ	46	10.08.99	ED SUMMIERSCHLEIFE SUMMING-LOOPS	1038.7196.01 SA	16+

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
X15C	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X16A	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X16B	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X20A	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X20B	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X20C	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X20D	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X30A	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X30B	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X47A	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X47B	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X47C	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X47D	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X50A	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X50B	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X50C	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
X50D	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
Z90	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z405	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z520 ..524	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z580 ..584	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	

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ROHDE&SCHWARZ

XY-Liste

XY List

Erklärung der Spaltenbezeichnungen:

el. Kennz.	**Bauelement-Kennzeichen**
Seite	**Leiterplatten-Seite, auf der sich das Bauelement befindet**
X/Y	**Koordinaten (in Millimeter) des Bauelementes auf der Leiterplatte bezogen auf den Nullpunkt**
Planq., Bl.	**Planquadrat und Seite des Schaltbildes für das jeweilige Bauelement**

Explanation of column designations:

Part	**Identification of instrument part**
Side	**Side of the PC board on which instrument part is positioned**
X/Y	**Coordinates (in units of millimeters) of the component on the PC board in reference to zero point**
Sqr, Pg	**Square and page of the diagram for the respective instrument part**

14m

Service-Relevante Bauteile / Service-Relevant Components

Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
L403	B	218	32	4E	5	R440	B	179	109	5C	5	X50D	B	77	128	11C	2
MP9	B	297	50	4C	2	R476	B	248	111	10C	5	X90A	B	189	11	1C	6
MP30	B	240	127	7C	2	T405	B	218	49	4E	5	X90C	B	189	11	1D	6
MP32	B	146	126	11C	2	X15A	B	166	135	9E	2	X91	B	17	15	12D	4
MP33	B	157	124	9F	2	X15B	B	163	135	9E	2	X97	B	271	15	1E	5
MP35	B	15	97	8C	3	X15C	B	166	137	9E	2	X99	B	296	15	2B	2
MP36	B	86	102	8E	3	X20A	B	240	122	7B	2	Z90	B	277	46	2C	2
MP37	B	232	29	3E	5	X20B	B	237	122	7B	2	Z405	B	204	25	2D	5
MP40	B	150	70	9B	6	X20C	B	237	124	7B	2	Z520	B	197	37	4D	6
MP41	B	166	109	5C	5	X20D	B	240	124	7B	2	Z521	B	146	37	4D	6
MP55	B	138	51	5A	6	X30A	B	108	138	8B	2	Z522	B	192	37	4C	6
MP56	B	150	53	9E	6	X30B	B	108	141	8B	2	Z523	B	141	37	4C	6
MP57	B	138	81	11F	6	X47A	B	242	94	12C	5	Z524	B	136	37	4B	6
MP58	B	143	81	10D	6	X47B	B	242	91	12C	5	Z580	B	202	37	4F	6
MP68	B	266	113	10E	5	X47C	B	239	91	12C	5	Z581	B	131	37	4F	6
MP70	B	192	138	3F	2	X47D	B	239	94	12C	5	Z582	B	126	37	4E	6
MP80	B	178	139	12D	2	X50A	B	80	125	11C	2	Z583	B	93	33	4E	6
P30	B	237	127	7C	2	X50B	B	77	125	11C	2	Z584	B	93	28	4A	6
R405	B	234	32	4E	5	X50C	B	80	128	11C	2						

Nicht-Service-Relevante Bauteile / Non-Service-Relevant Components

Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
C1	B	291	26	2B	2	C140	B	37	113	10D	3	C420	B	217	69	5E	5
C3	B	285	41	3B	2	C141	B	48	96	10D	3	C421	B	221	69	5E	5
C4	B	300	48	4C	2	C142	B	38	92	10C	3	C422	A	220	83	6E	5
C5	B	292	46	3B	2	C143	B	57	82	11D	3	C429	B	127	96	3B	5
C6	B	296	60	4B	2	C144	B	27	96	11C	3	C430	B	76	82	2B	5
C8	A	193	129	8E	2	C210	B	74	74	2A	4	C431	B	106	96	3B	5
C10	A	204	135	3D	2	C236	A	33	14	11D	4	C432	B	113	96	3B	5
C11	B	213	137	7E	2	C250	A	61	82	3E	4	C433	B	120	96	3B	5
C12	A	190	136	7E	2	C251	B	51	72	3D	4	C434	B	146	96	4B	5
C15	A	166	124	9E	2	C255	B	69	72	2D	4	C435	B	164	96	5B	5
C18	A	168	135	10E	2	C257	A	28	82	4E	4	C436	B	179	96	6B	5
C19	A	181	127	11E	2	C259	B	34	47	7D	4	C437	B	197	96	6B	5
C20	B	243	139	7B	2	C260	B	29	64	4D	4	C438	B	204	96	7B	5
C21	B	241	139	7B	2	C261	B	23	51	6D	4	C439	B	203	109	6A	5
C22	B	279	126	6B	2	C263	B	45	47	8D	4	C440	A	187	102	6C	5
C23	B	273	124	6C	2	C264	A	31	30	7D	4	C441	A	104	107	2C	5
C24	B	258	124	6C	2	C265	B	23	64	5D	4	C442	A	137	107	4C	5
C25	B	264	126	6B	2	C266	A	24	64	6D	4	C443	B	170	106	5B	5
C26	B	248	126	7B	2	C268	A	39	48	8D	4	C445	A	247	93	11D	5
C27	A	137	129	2D	2	C269	A	15	70	4E	4	C448	B	244	70	8E	5
C28	B	273	127	6C	2	C271	A	32	65	4B	4	C449	B	238	72	7D	5
C30	B	108	135	8B	2	C272	B	41	69	4C	4	C450	A	241	75	7E	5
C31	B	100	129	9C	2	C273	B	54	61	5C	4	C451	B	247	67	8E	5
C34	A	123	123	8B	2	C274	B	67	55	6C	4	C453	B	241	80	7E	5
C38	B	108	124	8C	2	C275	B	84	52	7C	4	C454	B	271	67	9E	5
C39	B	129	140	7B	2	C276	A	77	62	7B	4	C455	B	275	74	9E	5
C50	B	82	131	11B	2	C277	A	62	40	8B	4	C456	B	269	80	9E	5
C51	B	90	131	10B	2	C279	A	54	51	5B	4	C457	B	274	95	10E	5
C52	B	90	125	10C	2	C280	B	63	35	9D	4	C458	B	275	89	10E	5
C70	B	283	136	3E	2	C281	A	41	26	10D	4	C459	B	267	104	10E	5
C71	B	247	137	2E	2	C282	B	50	13	10D	4	C460	B	252	78	10D	5
C72	B	265	138	3F	2	C283	B	20	22	11C	4	C461	B	252	81	10D	5
C73	B	236	133	1E	2	C284	B	24	32	11C	4	C462	B	265	77	9E	5
C80	B	175	140	12D	2	C285	B	65	30	9D	4	C463	B	257	94	10D	5
C90	A	218	129	11D	2	C286	B	67	44	8C	4	C465	A	228	85	7E	5
C91	A	231	129	11C	2	C287	B	68	13	9D	4	C466	B	238	85	7E	5
C100	B	57	135	2E	3	C288	B	26	51	6D	4	C468	B	268	60	9E	5
C101	B	68	119	3D	3	C289	B	67	57	6C	4	C470	B	251	92	8B	5
C104	B	56	111	4E	3	C290	B	24	21	11D	4	C471	B	242	100	11D	5
C105	B	56	110	4E	3	C291	B	41	22	10D	4	C472	B	237	103	10C	5
C106	B	53	103	4E	3	C292	A	43	65	5B	4	C478	B	252	100	11C	5
C107	B	55	102	5D	3	C294	A	57	63	6C	4	C479	B	263	102	11C	5
C108	B	73	107	7B	3	C295	A	50	60	5A	4	C485	B	262	83	9C	5
C119	B	68	93	7F	3	C400	B	271	23	1E	5	C495	B	276	95	10E	5
C120	B	27	130	2B	3	C401	B	239	42	2F	5	C498	B	224	20	4D	5
C121	B	16	125	3B	3	C402	B	252	48	1F	5	C499	B	232	17	3E	5
C122	B	12	127	2B	3	C403	A	236	48	2F	5	C545	A	114	72	8D	6
C123	B	16	110	4B	3	C404	B	251	22	2E	5	C551	A	168	66	11E	6
C124	B	26	116	4B	3	C405	B	232	22	3E	5	C554	A	171	72	8C	6
C125	B	25	115	4B	3	C406	B	252	41	1F	5	C561	A	146	57	9E	6
C126	B	23	108	4B	3	C407	B	218	39	4E	5	C562	A	152	63	9E	6
C127	B	25	107	5B	3	C408	B	218	45	4E	5	C565	B	128	72	11C	6
C128	B	39	95	7C	3	C409	B	214	30	4F	5	C567	A	157	66	11D	6

ROHDE & SCHWARZ	-I	Datum Date	XY-Liste für XY-list for	Sach-Nummer Stock-Nr	Blatt Page
	07	07.04.94	EE SUMMIERSCHLEIFE SUMMING-LOOPS	1038.7196.01 XY	2+

Part	Side	X	Y	Sqr	Pg
C570	B	187	61	9D	6
C571	B	134	68	9C	6
C573	B	93	66	11D	6
C579	A	150	76	9B	6
C580	B	191	29	4F	6
C581	B	134	34	4F	6
C582	B	119	32	4E	6
C583	B	119	21	4E	6
C584	B	98	25	4A	6
C589	B	134	19	3E	6
D1	B	289	107	5B	2
D10-A	B	197	137	6E	2
D10-B				3D	2
D20-A	B	131	135	4F	2
D20-B				2D	2
D260	B	28	61	5D	4
D270	B	57	60	5C	4
D500-A	B	160	26	2D	6
D500-B				2C	6
D530-A	B	106	70	6E	6
D530-B				10D	6
D531-A	B	106	57	6D	6
D531-B				11D	6
D532-A	B	187	67	6C	6
D532-B				10D	6
D533-A	B	196	76	6B	6
D533-B				9D	6
D540-A	B	124	70	7E	6
D540-B				11C	6
D545-A	B	126	57	7F	6
D545-B				8C	6
D545-C				11B	6
D545-D				11B	6
D545-E				9C	6
D560-A	B	149	57	9F	6
D560-B				9E	6
D560-C				10C	6
D570-A	B	147	70	9B	6
D570-B				10F	6
D570-C				11F	6
D570-D				10B	6
D570-E				10C	6
L6	B	292	63	4B	2
L18	B	162	128	11F	2
L20	B	281	122	5B	2
L21	B	266	122	6B	2
L22	B	251	122	7B	2
L26	B	243	122	7B	2
L90	B	274	46	2C	2
L91	B	288	51	3C	2
L100	B	59	136	2E	3
L102	B	60	116	3E	3
L103	B	54	109	4E	3
L105	B	63	106	5E	3
L109	A	76	97	7B	3

Part	Side	X	Y	Sqr	Pg
L120	B	25	131	2B	3
L122	B	24	124	3B	3
L123	B	23	114	4B	3
L125	B	32	111	5B	3
L140	B	45	97	10D	3
L160	B	55	125	2C	3
L161	B	29	130	2D	3
L179	B	57	31	8B	4
L250	B	55	76	3D	4
L251	A	70	79	3E	4
L256	B	19	79	4E	4
L260	B	34	41	7D	4
L261	A	37	30	7E	4
L262	A	45	30	7E	4
L263	B	46	53	8C	4
L264	B	86	41	7B	4
L268	B	41	41	8D	4
L269	B	26	67	4D	4
L271	B	38	65	4B	4
L272	B	48	65	5B	4
L277	B	60	41	8B	4
L280	B	57	16	10D	4
L285	B	27	15	11D	4
L286	A	36	11	10E	4
L293	B	81	58	7B	4
L401	B	226	13	3E	5
L404	B	203	29	2D	5
L405	B	213	18	2D	5
L430	B	102	99	3C	5
L431	A	112	111	3C	5
L432	A	132	107	3C	5
L433	B	142	99	4C	5
L434	B	194	99	6C	5
L435	A	180	102	6C	5
L450	A	247	72	7E	5
L451	A	257	77	7F	5
L452	B	271	86	10E	5
L453	B	271	102	10E	5
L454	B	244	83	8E	5
L456	B	236	78	7E	5
L570	B	181	58	9D	6
L580	B	199	33	4F	6
L581	B	141	32	4F	6
L582	B	110	32	4E	6
L583	B	127	32	4E	6
L584	B	105	32	4A	6
L589	B	132	15	4E	6
MP21	B	75	61	3A	4
MP34	B	93	122	9C	2
MP67	B	247	80	8E	5
MP69	B	237	94	12C	5
N10	B	185	135	7E	2
N15-A	B	181	127	8E	2
N15-B				11D	2
N15-C				11F	2

Part	Side	X	Y	Sqr	Pg
N17	B	227	129	10C	2
N30	B	121	127	7C	2
N140	B	41	105	10D	3
N250	B	63	72	2D	4
N260	B	26	44	6D	4
N270	B	73	55	6C	4
N280	B	65	13	9D	4
N290	B	38	22	10D	4
N430	B	94	96	2B	5
N435	B	134	96	4B	5
N438	B	186	96	6B	5
N470	B	248	102	11C	5
N550-A	B	157	66	7C	6
N550-B				7C	6
N550-C				11E	6
KP1	B	17	20	11D	4
KP2	B	17	22	11D	4
KP3	B	20	27	11C	4
KP4	B	42	88	10D	3
KP5	B	209	96	7B	5
P9	B	297	47	4C	2
P32	B	144	126	11C	2
P33	B	155	124	9F	2
P40	B	150	73	9B	6
P55	B	138	54	5A	6
P56	B	153	53	9E	6
P57	B	135	81	11F	6
P58	B	140	81	10D	6
P70	B	192	141	3F	2
P80	B	181	139	12D	2
R1	B	292	21	2B	2
R3	B	291	33	2B	2
R4	B	285	38	3B	2
R5	B	292	41	3C	2
R7	B	299	36	3B	2
R8	B	199	126	8F	2
R9	B	292	52	4B	2
R10	B	207	126	3E	2
R11	A	211	140	7F	2
R12	A	201	140	7F	2
R13	A	190	133	8E	2
R14	A	178	123	8E	2
R15	A	162	130	9E	2
R16	A	163	124	9F	2
R17	A	166	132	9E	2
R18	A	166	127	9E	2
R19	A	186	138	11E	2
R20	A	195	140	6F	2
R21	B	127	132	6D	2
R22	B	123	130	7C	2
R23	A	135	125	2D	2
R25	B	246	126	7C	2
R27	A	119	137	7B	2
R28	B	127	121	7B	2
R29	B	295	114	5B	2

ROHDE & SCHWARZ	-I	Datum / Date	XY-Liste für / XY-list for	Sach-Nummer / Stock-Nr	Blatt / Page
	07	07.04.94	EE SUMMIERSCHLEIFE SUMMING-LOOPS	1038.7196.01 XY	3+

Part	Side	X	Y	Sqr	Pg
R30	B	112	138	8B	2
R31	B	100	131	9C	2
R32	A	116	123	8B	2
R33	A	123	126	9B	2
R34	A	123	121	8B	2
R35	A	113	138	8B	2
R36	A	123	130	8B	2
R38	A	113	122	7C	2
R39	A	129	140	7B	2
R40	A	149	140	9D	2
R41	A	149	137	9D	2
R42	A	149	135	9D	2
R43	A	123	133	9E	2
R44	A	140	134	9C	2
R45	A	141	138	9C	2
R46	A	146	134	9D	2
R47	A	149	130	8D	2
R48	A	152	132	8D	2
R49	B	100	135	9B	2
R50	B	87	125	11C	2
R51	B	93	125	9C	2
R52	B	91	140	10B	2
R53	A	102	140	10B	2
R54	A	104	124	9B	2
R55	A	105	135	10B	2
R56	A	102	138	10B	2
R57	A	106	124	9B	2
R58	A	149	127	11C	2
R59	A	160	124	9F	2
R60	B	140	131	5E	2
R61	B	140	133	5E	2
R62	B	140	136	5E	2
R63	B	140	128	5E	2
R64	B	127	135	5E	2
R65	B	127	124	5E	2
R66	B	133	137	5E	2
R67	B	127	127	5E	2
R68	A	132	123	4E	2
R70	A	269	137	2E	2
R71	A	261	132	3E	2
R72	A	263	137	2E	2
R73	A	255	137	2F	2
R75	B	292	43	3C	2
R76	B	163	137	9E	2
R77	B	162	132	9E	2
R78	B	235	138	1F	2
R79	B	235	135	1E	2
R80	A	175	126	10E	2
R81	A	175	128	11D	2
R82	A	175	136	11E	2
R83	A	178	133	11E	2
R84	A	173	131	11D	2
R86	B	103	130	9B	2
R89	B	288	81	5B	2
R90	B	222	126	11D	2
R91	B	214	133	10C	2
R92	B	115	141	10C	2
R93	B	238	139	10C	2
R94	A	216	125	11D	2
R95	A	234	129	11C	2
R96	B	140	138	7D	2
R97	B	145	141	7D	2
R98	A	132	137	7D	2
R99	B	292	73	4B	2
R101	B	65	115	3D	3
R103	B	48	108	4E	3
R105	B	55	106	4E	3
R106	B	51	102	4F	3
R107	B	47	99	4F	3
R108	B	49	104	4F	3
R109	B	68	95	6E	3
R110	B	65	95	5E	3
R111	B	63	99	5E	3
R112	A	65	90	6E	3
R113	A	64	97	7E	3
R114	A	70	106	7E	3
R115	A	73	102	8E	3
R116	A	83	102	8E	3
R120	A	15	125	2B	3
R121	B	18	121	3B	3
R122	B	18	113	4B	3
R123	A	17	113	4B	3
R125	B	24	111	4B	3
R126	B	20	108	4C	3
R127	B	17	100	4C	3
R128	B	16	105	4C	3
R129	B	36	96	6C	3
R130	B	34	96	5C	3
R131	B	31	100	5B	3
R132	A	25	93	6B	3
R133	A	28	90	7B	3
R134	A	15	91	7C	3
R135	A	17	95	8C	3
R136	A	17	97	8C	3
R141	A	55	97	10D	3
R142	B	27	93	10C	3
R143	B	30	91	10C	3
R144	A	23	99	11C	3
R160	B	52	116	3C	3
R179	B	57	25	8B	4
R210	B	83	64	1B	4
R211	B	86	61	3B	4
R212	B	82	75	1B	4
R236	A	30	11	11E	4
R237	B	44	13	10D	4
R238	B	48	15	10D	4
R239	B	51	22	10D	4
R245	B	64	82	2D	4
R247	B	69	79	2D	4
R248	B	74	82	2D	4
R250	A	55	79	3D	4
R251	B	42	72	3D	4
R252	B	45	73	3D	4
R253	B	36	72	3D	4
R256	A	23	82	4E	4
R260	A	34	33	7E	4
R268	A	41	44	8E	4
R269	A	18	67	4E	4
R271	A	35	65	4B	4
R275	A	25	74	5E	4
R276	A	18	70	5E	4
R277	A	66	37	8B	4
R278	B	31	53	6D	4
R279	B	67	64	6B	4
R280	A	49	26	10E	4
R281	B	72	35	9D	4
R282	B	68	30	9D	4
R283	B	72	22	9D	4
R284	B	20	28	11C	4
R285	B	27	26	11C	4
R286	A	25	35	11C	4
R287	B	34	57	7D	4
R288	B	37	53	7D	4
R289	B	43	57	7D	4
R290	A	43	67	5B	4
R291	A	50	62	5B	4
R292	A	46	70	5B	4
R293	A	69	67	5C	4
R294	A	69	64	5C	4
R296	A	81	66	7B	4
R297	B	78	41	7B	4
R298	B	75	44	7C	4
R299	B	69	41	7B	4
R400	B	243	29	3D	5
R402	B	257	27	2E	5
R403	B	254	27	2E	5
R404	B	226	26	4E	5
R406	B	213	33	4F	5
R407	A	217	24	4F	5
R408	A	217	21	5F	5
R409	B	271	20	1D	5
R410	B	230	29	3E	5
R411	B	264	21	2E	5
R412	B	251	19	2E	5
R413	B	268	25	2E	5
R415	A	245	46	1F	5
R419	B	243	16	3E	5
R420	B	220	66	5E	5
R421	B	227	72	6F	5
R422	B	215	72	6E	5
R424	A	220	85	6E	5
R425	B	220	89	6E	5
R426	B	218	89	6E	5
R428	B	221	74	6E	5
R429	B	217	74	6E	5

ROHDE & SCHWARZ	-I	Datum / Date	XY-Liste für / XY-list for	Sach-Nummer / Stock-Nr	Blatt / Page
	07	07.04.94	EE SUMMIERSCHLEIFE SUMMING-LOOPS	1038.7196.01 XY	4+

Part	Side	X	Y	Sqr	Pg
R430	A	102	107	3C	5
R431	B	113	93	3B	5
R432	B	120	93	3B	5
R433	B	118	103	3B	5
R434	A	142	107	4C	5
R435	B	152	92	4B	5
R436	B	154	96	4B	5
R437	B	161	92	5B	5
R438	B	170	100	5B	5
R439	B	177	96	6B	5
R441	A	183	104	6C	5
R442	B	201	109	6B	5
R443	B	203	102	7B	5
R444	A	178	112	7A	5
R448	B	166	106	5C	5
R451	A	241	83	7E	5
R453	B	265	63	9E	5
R454	B	262	67	9E	5
R455	B	250	63	8E	5
R456	B	262	81	9D	5
R457	B	253	87	10D	5
R458	A	251	90	10D	5
R459	A	257	93	10D	5
R460	B	253	72	8E	5
R465	B	262	78	9D	5
R467	B	267	63	9E	5
R468	B	266	110	10E	5
R469	B	245	89	8D	5
R471	B	245	73	8C	5
R472	B	248	91	8B	5
R473	B	242	107	11D	5
R474	B	248	107	10C	5
R475	B	241	110	10C	5
R477	B	238	106	10C	5
R478	A	260	98	11D	5
R479	A	258	106	11C	5
R480	B	238	78	7E	5
R481	A	240	70	7D	5
R482	B	269	110	11E	5
R483	B	271	107	11E	5
R485	B	262	87	9C	5
R486	B	277	110	11E	5
R499	B	229	38	4F	5
R500	B	150	15	2D	6
R501	B	150	17	2D	6
R502	B	150	20	2D	6
R503	B	150	22	2D	6
R504	B	150	25	2D	6
R505	B	150	27	2D	6
R506	B	150	30	2D	6
R508	B	150	32	2C	6
R509	B	150	35	2C	6
R510	A	184	17	3D	6
R511	A	184	19	3D	6
R512	A	184	22	3D	6
R513	A	183	24	3D	6
R514	A	184	27	3D	6
R515	A	182	29	3D	6
R516	A	184	32	3D	6
R517	A	184	34	3D	6
R518	A	176	18	3C	6
R520	A	184	14	4D	6
R521	B	154	37	4D	6
R522	A	184	37	4C	6
R523	B	145	29	4C	6
R524	B	145	21	4B	6
R525	B	197	47	5D	6
R526	B	146	47	5D	6
R527	B	192	47	5C	6
R528	B	141	47	5C	6
R529	B	136	47	5B	6
R530	B	96	66	6F	6
R531	A	178	62	5C	6
R533	A	96	63	6D	6
R534	A	200	69	5B	6
R545	A	114	70	8D	6
R546	A	118	67	8D	6
R547	A	118	75	8E	6
R550	A	161	72	7D	6
R551	A	161	66	7C	6
R552	A	165	60	7B	6
R553	A	166	72	8D	6
R554	A	169	69	8C	6
R555	A	171	60	7B	6
R556	A	164	69	8C	6
R560	A	156	58	9F	6
R561	A	156	56	9E	6
R562	A	145	70	9E	6
R563	A	147	70	9D	6
R564	A	147	79	9D	6
R565	A	129	81	12C	6
R567	B	174	53	11E	6
R568	A	122	77	12B	6
R569	A	139	77	9D	6
R571	A	130	64	12D	6
R572	A	154	66	11E	6
R579	A	152	82	9B	6
V1	B	293	36	3B	2
V40	A	155	141	9D	2
V41	A	116	128	10E	2
V42	A	144	139	9C	2
V43	A	145	128	8D	2
V44	B	98	135	9B	2
V47	A	123	138	10D	2
V50	B	85	139	11B	2
V51	B	93	139	10B	2
V52	B	82	128	11C	2
V53	A	103	130	9B	2
V54	A	96	138	10B	2
V55	B	104	142	9B	2
V56	B	160	137	9E	2
V57	B	159	135	9E	2
V70	A	258	135	3F	2
V75	A	255	140	2E	2
V78	B	229	137	2E	2
V79	B	236	140	2E	2
V85	B	182	124	10D	2
V95	B	138	141	7D	2
V100	B	57	117	2E	3
V101	B	58	114	3E	3
V105	B	57	103	4E	3
V106	B	66	104	6E	3
V107	A	65	94	6E	3
V108	A	70	101	7E	3
V120	B	27	131	2B	3
V122	B	24	121	3B	3
V125	B	27	108	4B	3
V126	B	34	106	6B	3
V127	A	32	94	6C	3
V128	A	17	92	7C	3
V140	B	33	90	10C	3
V210	B	79	72	2B	4
V211	B	77	64	1B	4
V259	B	24	72	4F	4
V260	B	29	71	4D	4
V270	B	34	71	4C	4
V275	A	25	68	5E	4
V276	B	50	36	8C	4
V277	B	45	36	8D	4
V278	B	40	34	8F	4
V279	B	47	50	7D	4
V280	B	51	67	4D	4
V285	B	25	28	11C	4
V287	A	59	65	5C	4
V400	B	261	19	2E	5
V401	B	218	36	4E	5
V402	A	247	43	2F	5
V403	B	211	41	4F	5
V405	B	245	19	3E	5
V406	B	248	26	3D	5
V407	B	240	19	3E	5
V408	B	235	23	3D	5
V420	B	220	79	6E	5
V421	B	220	84	6E	5
V440	B	174	96	5B	5
V445	B	198	101	6B	5
V450	B	238	82	7E	5
V453	B	244	78	8E	5
V455	B	252	69	8E	5
V456	B	265	75	9D	5
V457	B	253	83	10D	5
V554	B	176	71	8C	6
V565	B	119	81	12B	6
X16A	B	149	124	8D	2
X16B	B	151	124	8D	2

ROHDE & SCHWARZ	-I	Datum / Date	XY-Liste für / XY-list for	Sach-Nummer / Stock-Nr	Blatt / Page
	07	07.04.94	EE SUMMIERSCHLEIFE SUMMING-LOOPS	1038.7196.01 XY	5-

14m

ROHDE&SCHWARZ

Stromläufe
Bestückungspläne

Circuit diagrams
Component plans

Schémas de circuit
Plans des composants

095.1000 Bl. 4

TUDE

DIAGNOSE
RF-PEGEL

602

AMPLEMISCHER
SAMPLE MIXER

PLL-TREIBER
PLL BOOSTER

AUSGANGSSTUFE
OUTPUT STAGE

DIAGNOSE
FSUM

604

X91
FSUM
750-1500MHZ

SHEET5

SHEET5

:2,4,8

TEILER
DIVIDER

ZF-STUFE
IF-STAGE

VOREINSTELLUNG
TUNE

605

DIAGNOSE
OSZILLATORPEGEL

601

DIAGNOSE
ZF-PEGEL

D
A

OSZILLATOREN
OSCILLATOR

DIAGNOSE

607

VOREINSTSTELL-
SPANNUNG

SHEET3

MP68

SHEET5

606

DIAGNOSE
VCO-ABSTIMMSPANNUNG

Δφ

F(S)

PLL BW

MP30

REGELVERSTAERKER
ALC AMPLIFIER

KO-KOMP

SHEET2

SHEET4

BINDENDE ANGABEN UEBER VARIANTEN,
TRIMMWERTE, BAUTEILWERTE UND
NICHT BESTUECKTE BAUTEILE SIEHE SA.

FOR BINDING INFORMATION ON MODELS,
TRIMMING AND COMPONENTS VALUES AND
NONFITTED COMPONENTS SEE PARTS LIST.

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE
BAUELEMENTE ERFORDERN EINE
BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES
REQUIRE A SPECIAL HANDLING

AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
05/10		29.05.98	EI
05/09		27.04.98	EI

	TAG	NAME
MENP		
BEARB.		EI
GEPR.		
NORM		
PLOTT	29.05.98	

ROHDE&SCHWARZ
ZU GERAET SME

BENENNUNG
SUMMIERSCHLEIFE
SUMMING LOOP

ZEICHN.-NR. 1038.7196.01S

BLATT-NR. 1+
V. 6 BL.

REG.I.V. 1038.6002 ERSTE Z. 1038.6002

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

DIAGNOSE
PULSAMPLITUDE

603

SRD TREIBER
SRD BOOSTER

SAMPLEMISCHER
SAMPLE MIXER

DIAGNOSE
RF-PEGEL

602

PLL-TREIBER
PLL BOOSTER

X97
FSTEP
103-117MHZ

SHEET5

SHEET5

SHEET5

ZF-STUFE
IF-STAGE

601
DIAGNOSE
ZF-PEGEL

VOREINSTELLUNG
TUNE

D
A

605
DIAGNOSE
OSZILLATORPEGEL

OSZILL
OSCIL

DIAGNOSE
607
VOREINSTSTELL-
SPANNUNG

MP68

SHEET5

606
DIAGNOSE
VCO-ABSTIMMSPANN

LO TREIBER
LO BOOSTER

X99
FDSYN
14,1-15,4MHZ

$\Delta\varphi$

F(S)

PLL BW

MP9

SHEET2

MP30

KO-KOMP

REGELVERSTAERKER
ALC AMPLIFIER

BINDENDE ANGABEN UEBER VARIANTEN,
TRIMMWERTE, BAUTEILWERTE UND
NICHT BESTUECKTE BAUTEILE SIEHE SA.

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ACHTUNG: EGB!
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BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES
REQUIRE A SPECIAL HANDLING

05/10
05/09
AEND.
IND.

ZEICHN.-NR.

MP9 MP30 MP80

KO-SET

D20-A
74HC4051T-B

KOSET-0
KOSET-1
KOSET-2

R58 1K L

R60 5K62 B
R61 3K32 B
R62 1K82 B
R63 909R B
R64 562R B
R65 432R B
R66 274R B
R67 182R B

10-B
M7533GS B

PRETUNE

PRETUNE

+21VA1

R20 332R L
R12 332R L
R11 392R L
C11 10U 25V TA B

D10-A
PM7533GS B

TUNE-0
TUNE-1
TUNE-2
TUNE-3
TUNE-4
TUNE-5
TUNE-6
TUNE-7
TUNE-8
TUNE-9

C12 15P L

+15V
R8 22R1 B
+15V5A
C8 100N L
R13 2K74 L
N10
NE5534D-8
-15V5A

R14 4K75 L
VS6/1 R17 20K L
R15 10K
R18 10K L
C15 47P L
+24V

V56 BCX19-B
R77 10R B
X15A X15B
X15C
R76 121R B
R43 100K L
V57 BCX17-B
-5V
N15/13
BL2(10/D)
N15-A
NE5532D-8

V41 BSR56-L
N30/5
BL2(8/B)
V47 BSR56-L
N30/6
BL2(8/B)

DIA-TUNE BL6(8/E) MP33
607
R59 100K L
MP33
P33
R16 4K75 L

+24V5
L18 10UH B
C18 100N L
N15-C
NE5532D-8
C19 100N L
R19 100R L
-5V

+24V
R82 3K32 L
R80 8K25 L
R83 8K25 L
MP80
P80
R81 1K L
N15-B
NE5532D-8
R84 1K L
+21V
V85 1N827
+21VA1 C80 10U 25V TA B

+15V R90 18K2 B .1%
R94 100R L
C90 100N L
N17
OP97FS-B
R91 10K B .1%
R92 10K B .1%
R93 18K2 B .1%
R95 100R L
C91 100N L
-15V
BL2(9/E)
V56/1
R92/1
BL6(7/D)
DIFF
R58 100K L
600
MP32
P32
X50A X50B
X50C X50D
VABST

+5V
R96 1K B
R97 2K21 B
CAL-OFF
BL6(7/A)
V95 BCX17-B
R98 33K2 L

TU-ENA
BL6(10/E)
R47 2K21 L
R48 1K L
X16A X16B
V43 BCX17-L
NICHT BESTUECKT
NOT FITTED
V40 BCX19-L
R42 56K2 L
R41 10K L
R40 1K L
R46 56K2 L
V42 BCX19-L
R44 10K L
R45 1K L
-15V5A

R21 392R B

+24V5
R38 100R L
C38 10U 50V AL B
MP30
P30
R25 1K B
R22 681R B
-C28 N.F.
C23 33P B
C24 12P B
L20 820NH 5%
L21 1000NH 10%
L22 1500NH 5%
X20A X20B
R28 100R B
X20C X20D
L26 2700NH
C21 5P6 B
C20 39P B
C22 82P B
C25 100P B
C26 82P B
R27 82K5 L
C39 10U 10V TA B
R30 221R B
C30 150N
R35 1R L
BL2(10/E)
N30/S
X30A X30B
R39 100R L
-5V
N30
AD8468N

R92/1
R31 475R B
C31 18P B
R32 20K L
R36 10K L
R34 4K75 L
C34 47P L
R33 10K L
606
DIA-URGL BL6(8/E)

MP34
R51 68R1 B
V44 BSR56-B
R49 150K B
R86 100R B
PLL-SW
BL6(11/F)
R54 2K21 L
R57 1K L
V53 BCX17-L
V55 BAS16-B
R55 16K2 L
V54 BCX19-L
R56 1K L
-15V5A
V51 SST108-B
V50 SST108-B
R53 33K2 L
C52 1N B
C51 33N 63V 1% FKP
R52 1K B
C50 2N2 100V 1% FKP
R50 562R B
V52 BAS16-B

BL5(11/E) D1
FSAM SRA1
P9 MP9
R9 100R B
L6 470NH B
R99 8R25 B
R89 150R B
C6 180P B
R29 750R B

PHASENDETEKTOR

SCHLEIFENINTEGRATOR

SCHLEIFENFILTER

BINDENDE ANGABEN UEBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTUECKTE BAUTEILE SIEHE SA.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST.

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
05/10		29.05.98	EI
05.11		07.98	EI
05/09		27.04.98	EI

	NAME	TAG	NAME
MENP			
BEARB.	EI	07.98	
GEPR.			
NORM			
PLOTT			

ROHDE&SCHWARZ
ZU GERAET SME

BENENNUNG
SUMMIERSCHLEIFE
SUMMING LOOP

ZEICHN.-NR. 1038.7196.01S
BLATT-NR. 2+
V. 6 BL.
REG.I.V. 1038.6002
ERSTE Z. 1038.6002

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

MP70 MP9 MP30

KO-SET

D20-A 74HC4051T-B

KOSET-0 KOSET-1 KOSET-2

R68 1K L

R60 5K62 B
R61 3K32 B
R62 1K82 B
R63 909R B
R64 562R B
R65 432R B
R66 274R B
R67 182R B

PRETUNE

PRETUNE

D10-A PM7533GS B

TUNE-0 TUNE-1 TUNE-2 TUNE-3 TUNE-4 TUNE-5 TUNE-6 TUNE-7 TUNE-8 TUNE-9

R20 332R L R12 332R L R11 392R L C11 10U 25V TA B

N10 NE5534D-B

R8 22R1 B C8 100N L C12 15P L R13 2K74 L R14 4K75 L

N15-A NE5532D-B

607

+5V -5V -15V +15V5A -15V5A +21VA1 +15V

R78 10K B R79 1K B V78 BCX17-B V79 BZX79/B27 C73 10N B

R73 100R L V70 BCX17-L V75 5V6 L R72 10K L C71 47U 10V TA B R71 100R L C72 10U 10V TA B MP70 P70 R70 22R1 L C70 10U 25V TA B

D

R23 22R1 L C27 100N L D20-B 74HC4051T-B

R10 22R1 B C10 100N L D10-B PM7533GS B

TU-ENA BL6(10/E) R47 2K21 L R48 1K L X16A X16B

NICHT BESTUECKT
NOT FITTED

R96 1K B R97 2K21 B CAL-OFF BL6(7/A) V95 BCX17-B R98 33K2 L

R21 392R B

V42 BCX19-L

+24V5

R38 100R L C38 10U 50V AL B

N30 AD8468N

R92/1

N30/6 BL.2(10/E)

R30 221R B C30 150N R35 1R L

BL2(10/E) N30/5

X30A X30B

R32 20K L R36 10K L R34 4K75 L C34 47P L

606

D1A-URGL BL6(8/E)

R39 100R L C39 10U 10V TA B

R22 681R B R25 1K B MP30 P30 C28 N.F. C23 33P B L21 1000NH 10% C24 12P B L22 1500NH 5% X20A X20B X20C X20D L26 2700NH C21 5P6 B C20 39P B R28 100R B R27 82K5 L C22 82P B C25 100P B C26 82P B

R20 R12 R11 C11 C8 C12 R13 R14 R8 R10 R47 R48 R96 R97 R98 R21 R38 C38 R92/1 R30 C30 R35 R32 R36 R34 C34 R39 C39 R22 R25 C28 C23 C24 L21 L22 X20A X20B X20C X20D L26 C21 C20 R28 R27 C22 C25 C26

PHASENDETEKTOR

BL5(11/E) FSAM D1 SRA1

P9 MP9 R9 100R B L6 470NH B R99 8R25 B R89 150R B R29 750R B L20 820NH 5% C6 180P B

LO-TREIBER

X99 1 X99 2 X99 3 X99 4 X99 5 FDDS C1 1N B R1 100R B R3 332R B C3 10N B R4 12K1 B C5 10N B V1 BFS17-B R7 22R1 B

Z90 3N3 FIL B L90 1UH B L91 10UH B +15V3 +15V2 HVC-VAND

R5 825R B R75 825R B C4 100N B +15V2

SCHLEIFENINTEGRATOR

BINDENDE ANGABEN UEBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTUECKTE BAUTEILE SIEHE SA.

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ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

05/10	
05.11	
05/09	
REND. IND.	

ZEICHN.-NR.

MP35 MP36

VCO1

L

R108 2K74 B
R107 6K81 B
R106 1K82 B
C105 3P9 MIN B
C104 3P6 MIN B
R105 82R B GHZ
C106 100P MIN B
C107 4P3 MIN B
V105 NE85639-B
L105 100NH ST B
R110 3K92 B
V106 BC850B-B
R111 12K1 B
R109 100R B
C119 220P B
V107 BCX19-L
R112 10K L
-15V9
-15V9
R113 4K75 L
V108 BCX17-L
R115 2K21 L
R114 1K L
R116 100K L
MP36
OSZ1
BL6(7/E)

+7.5V
R141 68R1 L
L140 100NH B
C141 100N B
C140 100P B
KP4
C143 100P B
HF1
BL4(2/C)
N140 MSA0386 B
C142 1P B
R142 1K B
R144 4K75 L
DIA-OSZ1
BL6(8/E)
V140 HSMS2810 B
R143 100R B
C144 1N B
605

VCO2

R128 2K74 B
R127 6K81 B
R126 1K82 B
C125 3P3 MIN B
C124 2P6 MIN B
R125 82R B GHZ
C126 100P MIN B
C127 2P3 MIN B
V125 NE85639-B
L125 100NH ST B
R130 3K92 B
V126 BC850B-B
R131 12K1 B
R129 100R B
C128 220P B
V127 BCX19-L
R132 10K L
-15V9
L109 2U2H L
C108 22U 35V AL B
-15V
R133 4K75 L
V128 BCX17-L
R135 2K21 L
R134 1K L
R136 100K L
MP35
OSZ2
BL6(7/E)

BINDENDE ANGABEN UEBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTUECKTE BAUTEILE SIEHE SA.

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ATTENTION ESD!
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05/10		29.05.98	E I	MENP	TAG	NAME	BENENNUNG
				BEARB.		E I	SUMMIERSCHLEIFE
				GEPR.			SUMMING LOOP
				NORM			
				PLOTT	29.05.98		
05/09		27.04.98	E I	ROHDE&SCHWARZ			ZEICHN.-NR. 1038.7196.01S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SME			BLATT-NR. 3+
				REG.I.V. 1038.6002		ERSTE Z. 1038.6002	V. 6 BL.

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

MP35 MP36

VCO1

J

C100 0.8-10P
L101
ANSCLUSSDRAHT VON V100
V100 BB405B
V101 BBY31 B
L100 100NH
L102 100NH ST B
R101 56R2 B
C101 10P B
UABST
L103 100NH ST B
R103 56R2 B
C105 3P9 MIN B
C104 3P6 MIN B
R108 2K74 B
R107 6K81 B
R106 1K82 B
R105 82R B GHZ
C106 100P MIN B
C107 4P3 MIN B
V105 NE85639-B
L105 100NH ST B
R110 3K92 B
R111 12K1 B
V106 BC850B-B
R109 100R B
C119 220P B
V107 BCX19-L
R112 10K L
R113 4K75 L
-15V9
-15V9
V108 BCX17-L
R115 2K21 L
R114 1K L
R116 100K L
MP36
OSZ1 BL6(7/E)

E

D

L161 BUEGEL B

VCO2

K

L160 BUEGEL B
R160 51R1 B GHZ

C

C120 0.8-10P
L121
(=ANSCHLUSSDRAHT VON V120)
V120 BB405B
V122 BBY31 B
L120 100NH
C122 100N B
R120 475R L
+21V
L122 100NH ST B
R121 56R2 B
C121 10P B
UABST
L123 100NH ST B
R122 56R2 B
C123 100N B
R123 475R L
+21V
C125 3P3 MIN B
C124 2P6 MIN B
R128 2K74 B
R127 6K81 B
R126 1K82 B
R125 82R B GHZ
C126 100P MIN B
C127 2P3 MIN B
V125 NE85639-B
L125 100NH ST B
R130 3K92 B
R131 12K1 B
V126 BC850B-B
R129 100R B
C128 220P B
V127 BCX19-L
R132 10K L
R133 4K75 L
-15V9
L109 2U2H L
C108 22U 35V AL B
-15V
V128 BCX17-L
R135 2K21 L
R134 1K L
R136 100K L
MP35
OSZ2 BL6(7/E)

B

A

Z N.-NR.

BINDE
TRIMM
NICHT

05/10
05/09
AEND
IND.

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

M

59
R14-B

V278 BAR14-B

L256 1UH B
R256 121R L
C257 100N L
L269 1UH B
R269 221R L
BL6(7/D) SW2
SW1 BL6(7/D)
T2 BL6(10/B)
R275 1K L
R276 562R L
+5V10
V275 BCX17-L
C266 2N2 L
C260 100P B
D260 UPB581
C265 2N2 B
C261 470P B
C288 470P B
R278 47R5 B
N260 MSA0386 B
+7.5V10
L262 2U2H L
L261 2U2H L
R260 68R1 L
C264 100N L
L260 1UH B
C259 470P B
R288 22R1 B
R287 221R B
R289 221R B
BL6(7/D) SW4
R268 221R L
C268 100N L
L268 1UH B
C263 470P B
V277 BAR14-B
L286 2U2H L
C285 4P7 B
C280 470P B
R281 301R B
L292 GEDRUCKT PRINTED
R282 15R B
C287 470P B
R283 301R B
L294 GEDRUCKT PRINTED
N280 MSA0486 B
R280 47R5 L
C281 100N L
L280 1UH B
C282 470P B
R238 8R25 B
R237 562R B
N290 MSA0486 B
C291 470P B
R239 562R B
R236 47R5 L
C236 100N L
L285 1UH B
C290 470P B
FSUM
X91 1
X91 2
X91 3
X91 4
X91 5
C283 1P B
R284 1K B
V285 HSMS2810 B
R285 100R B
C284 1N B
R286 4K75 L
DIA-FSUM BL6(8/E)
604

V280 BAR14-B
V279 BAR14-B
L263 1UH B
R294 562R L
+5V10
R293 1K L
T4 BL6(10/B)
V287 BCX17-L
C294 2N2 L
C272 100P B
D270 UPB582
C273 470P B
C279 2N2 L
C274 1N B
R279 47R5 B
N270 MSA0386 B
C275 1N B
R298 33R2 B
C286 1N B
V276 BAR14-B
R297 150R B
R299 150R B
L277 1UH B
L179 10UH B
R179 100R B
L293 1UH B
R296 68R1 L
+7.5V10
C276 100N L
L264 2U2H B
+7.5V
R277 221R L
C277 100N L
SW5 BL6(7/D)
L271 1UH B
R271 221R L
SW3 BL6(7/D)
L272 1UH B
R290 1K82 L
C292 100N L
R292 221R L
R291 150R L
C295 100N L
SW6 BL6(7/D)
-15V

BINDENDE ANGABEN UEBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTUECKTE BAUTEILE SIEHE SA.

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AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
05/10		29.05.98	E I
05/09		27.04.98	E I

	TAG	NAME
MENP		E I
BEARB.		
GEPR.		
NORM		
PLOTT	29.05.98	

BENENNUNG
SUMMIERSCHLEIFE
SUMMING LOOP

ROHDE&SCHWARZ
ZU GERAET SME

ZEICHN.-NR. 1038.7196.01S
BLATT-NR. 4+
V. BL.
REG.I.V. 1038.6002 ERSTE Z. 1038.6002

AUSGANGSSTUFE

MP21

V259 BAR14-B

L256 1UH B

R256 121R L

C257 100N L

SW1

BL6(7/D)

BL6(7/D) SW2

C269 100N L

R269 221R L

L269 1UH B

+7.5V

L251 2U2H L

R250 47R5 L

C250 100N L

L250 1UH B

N250 MSA0486 B

HF1 BL3(11/D)

R245 16R2 B

R247 16R2 B

C255 100P B

R248 16R2 B

RF-PLL BL5(2/B)

C251 100P B

R251 33R2 B

R252 162R B

R253 162R B

V260 BAR14-B

C260 100P B

+5V10

R276 562R L

R275 1K L

T2 BL6(10/B)

V275 BCX17-L

C266 2N2 L

D260 UPB581

C265 2N2 B

C261 470P B

C288 470P B

R278 47R5 B

V280 BAR14-B

R294 562R L

+5V10

R293 1K L

T4 BL6(10/8)

V287 BCX17-L

C294 2N2 L

V270 BAR14-B

C272 100P B

D270 UPB582

C273 470P B

C279 2N2 L

C289 1N B

R279 47R5 B

C274 1N B

N270 MSA0386 B

L271 1UH B

R271 221R L

C271 100N L

SW3 BL6(7/D)

L272 1UH B

R290 1K82 L

C292 100N L

R292 221R L

R291 150R L

C295 100N L

SW6 BL6(7/D)

-15V

+7.5V10

L262 2U2H L

L261 2U2H L

R260 68R1 L

C264 100N L

L260 1UH B

C259 470P B

R288 22R1 B

R287 221R B

R289 221R B

V279 BAR14-B

L263 1UH B

V278 BAR14-B

BL6(7/D) SW4

R268 221R L

C268 100N L

L268 1UH B

C263 470P B

V277 BAR14-B

C275 1N B

R298 33R2 B

C286 1N B

V276 BAR14-B

L179 1UH B

R179 100R B

R297 150R B

R299 150R B

L277 1UH B

R277 221R L

C277 100N L

SW5 BL6(7/D)

L293 1UH B

R296 68R1 L

C276 100N L

L264 2U2H B

+7.5V

+7.5V10

+7.5V

R210 221R B

R211 4R75 B

R212 100R B

V210 BCP68-16-B

V211 6V2 B

C210 47U 10V TA B

+5V10

MP21

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

BINDENDE TRIMMUE... NICHT B...

05/10

05/09

AEND. IND.

FUER DIESE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR

ZEICHN.-NR.

4 5 6 7 8 9 10 11 12

R440 MP67 R476 MP68 MP69

SAMPLER F

E ZF-VERSTAERKER

G

DIA-SRD BL6(8/E)

603

R406 47K5 B
R407 100K L
C409 100P B
R408 182K L
V403 HSMS2810 B
C407 0P5 MIN B
C408 470P B
V401 5082-0833
T405
R421 1K B
C422 4P7 L
C421 33P MIN B
R428 47R B GHZ
R420 100R MIN B
R429 47R B GHZ
C420 33P MIN B
R422 1K B
V420 HSMS2812 B
V421 HSMS2812 B
R424 475R L
C465 1N L
R425 100R B
R426 100R B

+15V

L451 22UH L
L450 22UH L
V450 SST310-B
C450 100N L
R451 475R L
C453 1N B
R480 825R B
C466 100N B
L456 12UH
C449 100N B
R481 681R L
-15V
V453 BAR14-B
MP67
L454 10UH B
R469 10R B
C448 1N B

R467 392R B
R453 392R B
C468 100N B
C451 10N B
R455 3K92 B
R454 2K21 B
V455 BF697-B
R460 2R74 B
C454 10N B

C495 2P2 B
C457 22P B
MP68
R468 10R B
C456 8P2 B
L452 180NH
L453 150NH
R483 22R1 B
FSAM BL2(5/C)
C462 10P B
C455 82P B
C458 120P B
C459 68P B
R482 221R B
R486 221R B

C461 100N B
601
R465 1K B
R458 4K75 L
DIA-ZF BL6(8/E)
V457 HSMS2800-B
V456 HSMS2800-B
C445 47P L
R456 475K B
C460 10P B
R457 1M B
+15V
R478 100R L
R473 100R B
C471 220P B
C463 100N B
+15V11
R485 1K B
C485 100N B
R459 1K L
C478 10V 25V TA B
R474 8K25 B
X47A X47B
-15V11
+15V11
N470 NE5534D-B
X47C X47D
MP69
R475 182R B
-15V11
R479 100R L
IF-LEVEL
R476 RTR 20K B
R477 100R B
C472 10V 10V TA B
C479 10V 25V TA B
-15V
+15V
R471 475R B
C470 1N B
R472 274R B

R440 RTR 50K B
RF-LEVEL
MP41
C442 100N L
R434 68R1 L
R448 100K B
C440 100N L
R441 68R1 L
L435 2U2H L
L433 10UH B
R438 150R B
C443 100N B
N438 MSA0386 B
L434 10UH B
C434 220P B
R436 8R25 B
C435 220P B
V440 BAR14-B
C436 220P B
C437 220P B
R435 562R B
R437 562R B
R439 150R B
KP5
C438 1P B
V445 HSMS2810 B
R442 100R B
R443 1K B
C439 1N B
R444 4K75 L
602
DIA-RF

BINDENDE ANGABEN UEBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTUECKTE BAUTEILE SIEHE SA.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST.

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

05/10		29.05.98	E I	MENP	TAG	NAME	BENENNUNG
				BEARB.		E I	SUMMIERSCHLEIFE
				GEPR.			SUMMING LOOP
				NORM			
				PLOTT	29.05.98		
05/09		27.04.98	E I	ROHDE&SCHWARZ			ZEICHN.-NR. 1038.7196.01S
AEND. IND.	RENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SME			BLATT-NR. 5+
				REG.I.V. 1038.6002		ERSTE Z. 1038.6002	V. 6 BL.

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

ÆICHN.-NR.

SAMPELTREIBER

SAMPLER

RF-TREIBER

PULSE LEVEL

RF-LEVEL

R405 RTR 20K B NOT FITTED

R440 RTR 50K B

+15V3A

+15V3

+15V0

+7.5V

+15V

-15V

MP37

MP41

MP67

R405

R440

DIA-SRD BL6(B/E)

503

602

DIA-RF

V402 BCP68-16-L

C406 22U 35V AL B

C402 22U 35V AL B

C401 10U 25V TA B

C403 100N L

R402 475R B

R403 475R B

L401 10UH B

R415 243R L

R499 2K74 B

R410 100K B

R404 332R B

C499 100N B

R419 1K B

V407 BFG97-B

V405 BAS16-B

V406 BAS16-B

V408 BFG31-B

C405 470P B

C498 120P B

C404 470P B

C400 470P B

R413 18R2 B

R411 5K62 B

R412 1K21 B

V400 BFG97-B

X97 1

X97 2

X97 3

X97 4

X97 5

R409 150R B

R400 1K B

L403 13NH-T

C407 0P5 MIN B

C408 470P B

V401 5082-0833

T405

R406 47K5 B

R407 100K L

C409 100P B

R408 182K L

V403 HSMS2810 B

C421 33P MIN B

C420 33P MIN B

R421 1K B

R428 47R B GHZ

R420 100R MIN B

R429 47R B GHZ

R422 1K B

C422 4P7 L

V420 HSMS2812 B

R424 475R L

C465 1N L

V421 HSMS2812 B

R425 100R B

R426 100R B

V450 SST310-B

L451 22UH L

L450 22UH L

C450 100N L

R451 475R L

C453 1N B

C466 100N B

L454 10UH B

R469 10R B

L456 12UH

R480 825R B

C449 100N B

R481 681R L

V453 BAR14-B

C451 10N B

R455 3K92 B

R454 2K21

C448 1N B

R460 2R74

V455 BFG9

L404 1UH B

L405 1UH B

HVC-WAND

Z405 3N3 FIL B

L431 2U2H L

L432 2U2H L

L435 2U2H L

C441 100N L

R430 47R5 L

L430 1UH B

C442 100N L

R434 68R1 L

L433 1UH B

C440 100N L

R441 68R1 L

L434 1UH B

R448 100K B

C443 100N B

R438 150R B

V440 BAR14-B

R439 150R B

R435 562R B

R437 562R B

C430 220P B

C431 220P B

C432 1P5 B

C433 1P5 B

R431 39R2 B

R432 39R2 B

C429 220P B

C434 220P B

C435 220P B

C436 220P B

C437 220P B

N430 MSA0486 B

N435 MSA0386 B

N438 MSA0386 B

RF-PLL

L439 GEDRUCKT PRINTED

R433 15R B

KP5

C438 1P B

V445 HSMS2810 B

R442 100R B

R443 1K B

C439 1N B

R444 4K75 L

R471 475R B

C470 1N B

R472 274R B

05/10

05/09

AEND. IND.

MP55 MP56 MP40 MP58 MP57

ABLAUFSTEUERUNG

DIAGNOSE

INTERRUPT

+15V0 Z580 3N3 FIL B +15V
C580 220U 25V.BC. HVC-WAND
Z581 3N3 FIL B +24V
C581 100U 35V.BC. HVC-WAND
Z583 3N3 FIL B +7.5V
C583 220U 25V.BC. HVC-WAND
Z582 3N3 FIL B +5V
C582 220U 25V.BC. HVC-WAND

Z520 100P FIL B
R520 47R5 L R525 475R B
Z521 100P FIL B
R521 47R5 B R526 475R B
BL6(9/B) STROBE
Z522 100P FIL B
R522 47R5 L R527 475R B
Z523 100P FIL B
R523 47R5 B R528 475R B
HT BESTUECKT TED
Z524 100P FIL B
R524 47R5 B R529 475R B D540-3
Z584 3N3 FIL B -15V
C584 100U 25V.BC.
MP55 P55

+5V1A R530 10K B
D530-A 74HCT4094T-B
C2 EN3 SRG C1/→ 1D 2D 3▽
DMUX-0 DMUX-1 DMUX-2 DIA-ENA OSZ1 OSZ2 PLL-BW PLL-ENA
BL3(8/F) BL3(8/C) BL6(10/E) BL6(9/E)

+5V10 R533 10K L
D531-A 74HCT4094T-B
T2-ENA T4-ENA SW1 SW2 SW3 SW4 SW5 SW6
BL6(10/B) BL6(10/B) BL4(5/E) BL4(4/E) BL4(4/B) BL4(9/E) BL4(9/B) BL4(6/A)

D532-A 74HCT4094T-B
R531 +5V1A 10K L
TUNE-0 TUNE-1 TUNE-2 TUNE-3 TUNE-4 TUNE-5 TUNE-6 TUNE-7

D533-A 74HCT4094T-B
R534 10K L +5V1A
TUNE-8 TUNE-9 TRIG-ENA CAL-OFF KOSET-0 KOSET-1 KOSET-2
BL6(9/B) BL2(5/D)

D545-A 74HCT132T-B
DIA-ENA

D540-A 74HCT4051T-B
DMUX-0 DMUX-1 DMUX-2 D540-3
DIA-DIFF DIA-ZF DIA-RF DIA-SRD DIA-FSUM DIA-OSZI DIA-URGL DIA-TUNE
BL5(11/D) BL5(7/A) BL5(5/F) BL4(12/D) BL3(11/C) BL2(8/B) BL2(9/F)

R547 4K75 L
R546 39K2 L
DIFF BL2(12/C)
R545 15K L C545 1N L

-15V1 +5V
R550 121K L R553 2K74 L
R551 8K25 L
N550-A LM2903D-B
R556 8K25 L R554 56K2 L D545-B 74HCT132T-B
V554 BAS16-B C554 47N L
R555 121K L +15V1
N550-B LM2903D-B
R552 8K25 L

BL6(11/B) TRIG
D560-A 74HCT123T-B
R560 1K L R561 33K2 L C561 10N L +5V1B
D570-B 74HCT132T-B
PLL-BW BL6(7/E)
D570-C 74HCT132T-B
MP57 P57 PLL-SW BL2(9/B)

MP56 P56 D560-B 74HCT123T-B
TRIG BL6(11/B) +5V1B
R562 1K L C562 10N L
R569 562R L R563 18K2 L R564 1K5 L
PLL-ENA BL6(7/E)
BL2(8/D) TU-ENA
MP58 P58

+15V1 R567 100R B
N550-C LM2903D-B
C551 100N L -15V1
R572 100R L -15V
C567 100N L

+5V +5V1A +5V10 +5V
L570 22UH B
C570 100N B D533-B 74HCT4094T-B
D532-B 74HCT4094T-B D530-B 74HCT4094T-B
C573 100N B D531-B 74HCT4094T-B R571 10R L

+5V1B C565 10U 10V TA B
C571 10U 10V TA B D545-E 74HCT132T-B
D560-C 74HCT123T-B D570-E 74HCT132T-B
D540-B 74HCT4051T-B
R565 100R L V565 5V6 B R568 15K L

MP40 P40
BL6(5/D) STROBE R579 475R L C579 330P L
TRIG-ENA BL6(7/A)
D570-A 74HCT132T-B D570-D 74HCT132T-B TRIG BL6(9/F)
D545-C 74HCT132T-B
BL6(7/D) T2-ENA BL4(5/E) T2 -15V
T4-ENA BL6(7/D) T4 BL4(6/C)
D545-D 74HCT132T-B

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IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
05/10		29.05.98	EI
05/09		27.04.98	EI

	TAG	NAME
MENP		
BEARB.		EI
GEPR.		
NORM		
PLOTT	29.05.98	

ROHDE&SCHWARZ
ZU GERAET SME

BENENNUNG
SUMMIERSCHLEIFE
SUMMING LOOP

ZEICHN.-NR. 1038.7196.01S
BLATT-NR. 6-7
V. 0 BL.
REG.I.V. 1038.6002 ERSTE Z. 1038.6002

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

1 2 3 4 5 6 7 8

A

H

X90A 24 — L580 8U2H DHT — +15V0 — C580 220U 25V.BC. — Z580 3N3 FIL B — +15V
X90A 22 — L581 15UH DHT — C581 100U 35V.BC. — Z581 3N3 FIL B — +24V
X90A 26 — L583 8U2H DHT — C583 220U 25V.BC. — Z583 3N3 FIL B — +7.5V
X90A 28 — L582 15UH DHT — C582 220U 25V.BC. — Z582 3N3 FIL B — +5V
L589 4U7H B — C589 100U 16V AL B

MP55

* NICHT BESTUECKT
NOT FITTED

D500-A
SERBUS-D

X90A 18
PT1 6, PT2 40, 5, 7
TRISTATE
NANDTREE
RESET-P
A1 8, A2 9, A3 10, A4 16, A5 17, A6 18, A7
R500 10K B
R501 10K B
* R502 10K B
R503 10K B
R504 10K B
* R505 10K B
* R506 10K B

X90A 16 — 43
X90A 12 — 44
PT3 — 3, 4
X90A 15 — 2
X90A 14
SYNC
SERCLK
DATREN
DATAIN
DATAOUT
PARDATO 1 20, 2 21, 3 22, 4 24, 5 25, 6 26, 7 27, 8 28
R510 10K L
R511 10K L*
R512 10K L
R513 10K L*
R514 10K L
R515 10K L*
R516 10K L*
R517 10K L*

X90A 17 — PT4 42, 41
PT5 32, 35, 39, 38, 37, 36
R508 10K B
R509 1K B
INTEN
INT
IRQUIT
MASK
IR0
IR1
IR2
IR3
SEROUT 19, 33
CLK1 31 — PT6
RD1 30
WR1 29 — PT7
SERIN1 11 — PT8
CLK2 13 — PT9
RD2 14 — PT10
WR2 15 — PT11
SERIN2
R518 4K75 L

X90A 11
X90A 13
X90A 21
X90A 23
X90A 25
X90A 27
X90A 29
X90A 31
D500-B
SERBUS-D
23, 34, 1, 12

X90A 19 — D540-3
X90A 30 — L584 8U2H DHT — C584 100U 25V.BC. — Z584 3N3 FIL B — -15V

R520 47R5 L — R525 475R B — Z520 100P FIL B
R521 47R5 B — R526 475R B — Z521 100P FIL B
R522 47R5 L — R527 475R B — Z522 100P FIL B
R523 47R5 B — R528 475R B — Z523 100P FIL B
R524 47R5 B — R529 475R B — Z524 100P FIL B
HVC-WAND

* - NICHT BESTUECKT
NOT FITTED

+5V1A
R530 10K B
D530-A
74HCT4094T-B
C2 EN3, SRG C1/→, 1D, 2D 3▽
4 DMUX-0
5 DMUX-1
6 DMUX-2
7 DIA-ENA
14 OSZ1 — BL3(8/F)
13 OSZ2 — BL3(8/C)
12 PLL-BW — BL6(10/E)
11 PLL-ENA — BL6(9/E)
9, 10

+5V1A
R533 10K L
D531-A
74HCT4094T-B
4 T2-ENA — BL6(10/B)
5 T4-ENA — BL6(10/B)
6 SW1 — BL4(5/E)
7 SW2 — BL4(4/E)
14 SW3 — BL4(4/B)
13 SW4 — BL4(9/E)
12 SW5 — BL4(9/B)
11 SW6 — BL4(6/A)

BL6(9/B)
STROBE

R531 10K L — +5V1A
D532-A
74HCT4094T-B
4 TUNE-0
5 TUNE-1
6 TUNE-2
7 TUNE-3
14 TUNE-4
13 TUNE-5
12 TUNE-6
11 TUNE-7

R534 10K L — +5V1A
D533-A
74HCT4094T-B
4 TUNE-8
5 TUNE-9
6
7 TRIG-ENA
14 CAL-OFF
13 KOSET-0
12 KOSET-1
11 KOSET-2
BL6(9/B)
BL2(5/D)

MP55
P55

D545-A
74HCT132T-B
DIA-ENA — 1, 2, 3 — &

D540-A
74HCT4051T-B
MUXDX
DMUX-0 11
DMUX-1 10
DMUX-2 9
6
68
0 1 2 3 8M
D540-3 — 3

DIAGNOSE

13 DIA-DIFF
14 DIA-ZF B
15 DIA-RF B
12 DIA-SRD B
1 DIA-FSUH B
5 DIA-DSZI B
2 DIA-URGL B
4 DIA-TUNE
BL2(9/F)

R547 4K75 L
R546 39K2 L
DIFF — BL2(12/C)
R545 15K L
C545 1N L
PLL-EN — BL6(7/E

-15V1
R550 121K L
R551 8K25 L
+5V
R553 2K74 L
R556 8K25 L
R554 56K2 L
D545 74HC
N550-A
LM2903D-B
V554 BAS16-B
C554 47N L

INTERRUPT

+15V1
R555 121K L
N550-B
LM2903D-B
R552 8K25 L

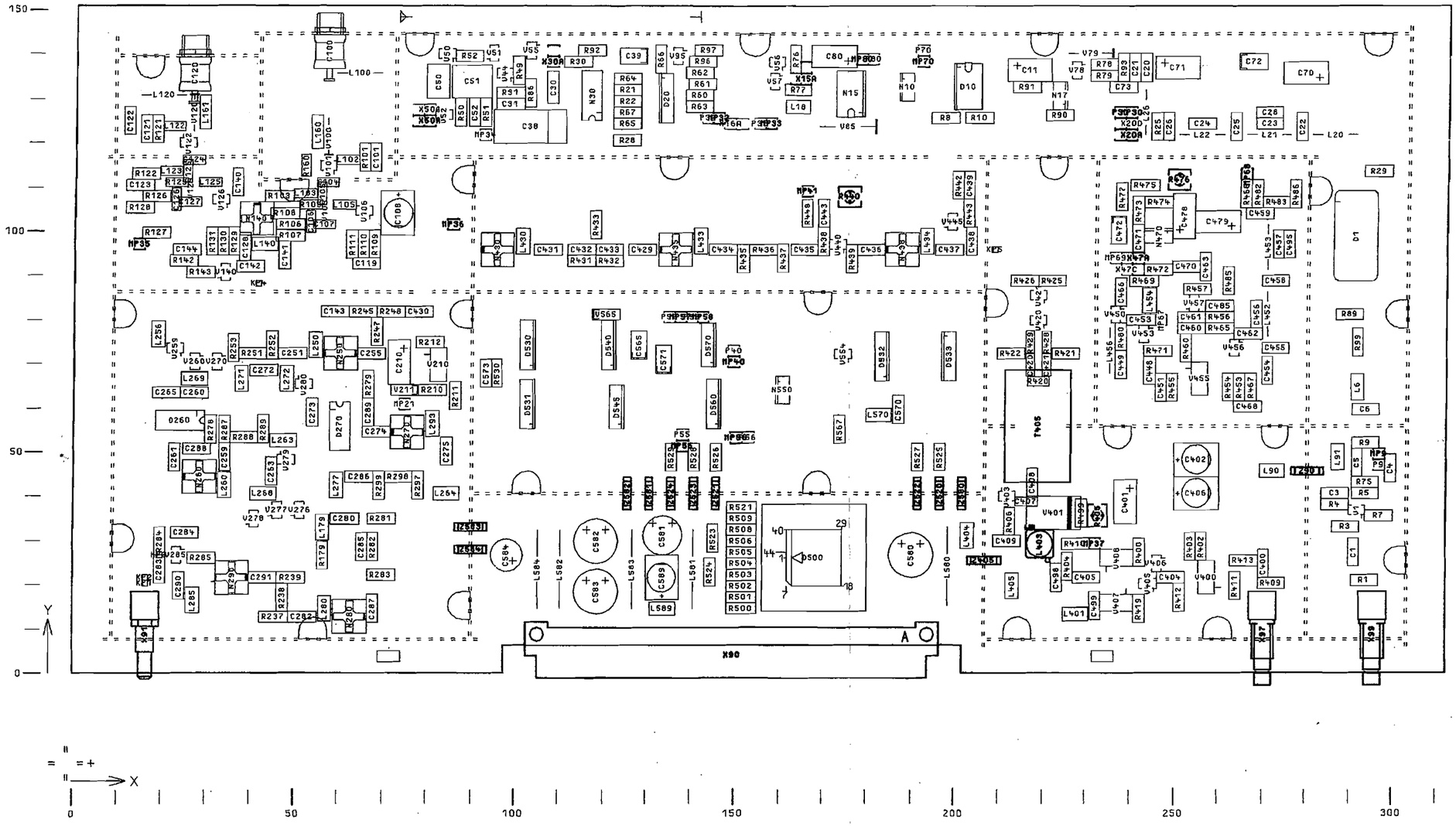
BINDENDE ANGABEN UEBER VARIANTEN,
TRIMMWERTE, BAUTEILWERTE UND
NICHT BESTUECKTE BAUTEILE SIEHE SA.

FOR BINDING INFORMATION ON MODELS,
TRIMMING AND COMPONENTS VALUES AND
NONFITTED COMPONENTS SEE PARTS LIST.

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE
BAUELEMENTE ERFORDERN EINE
BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES
REQUIRE A SPECIAL HANDLING

05/10
05/09
REND. IND.

ZEICHN.-NR



DARSTELLUNG SEITE B
VIEW ON SIDE B

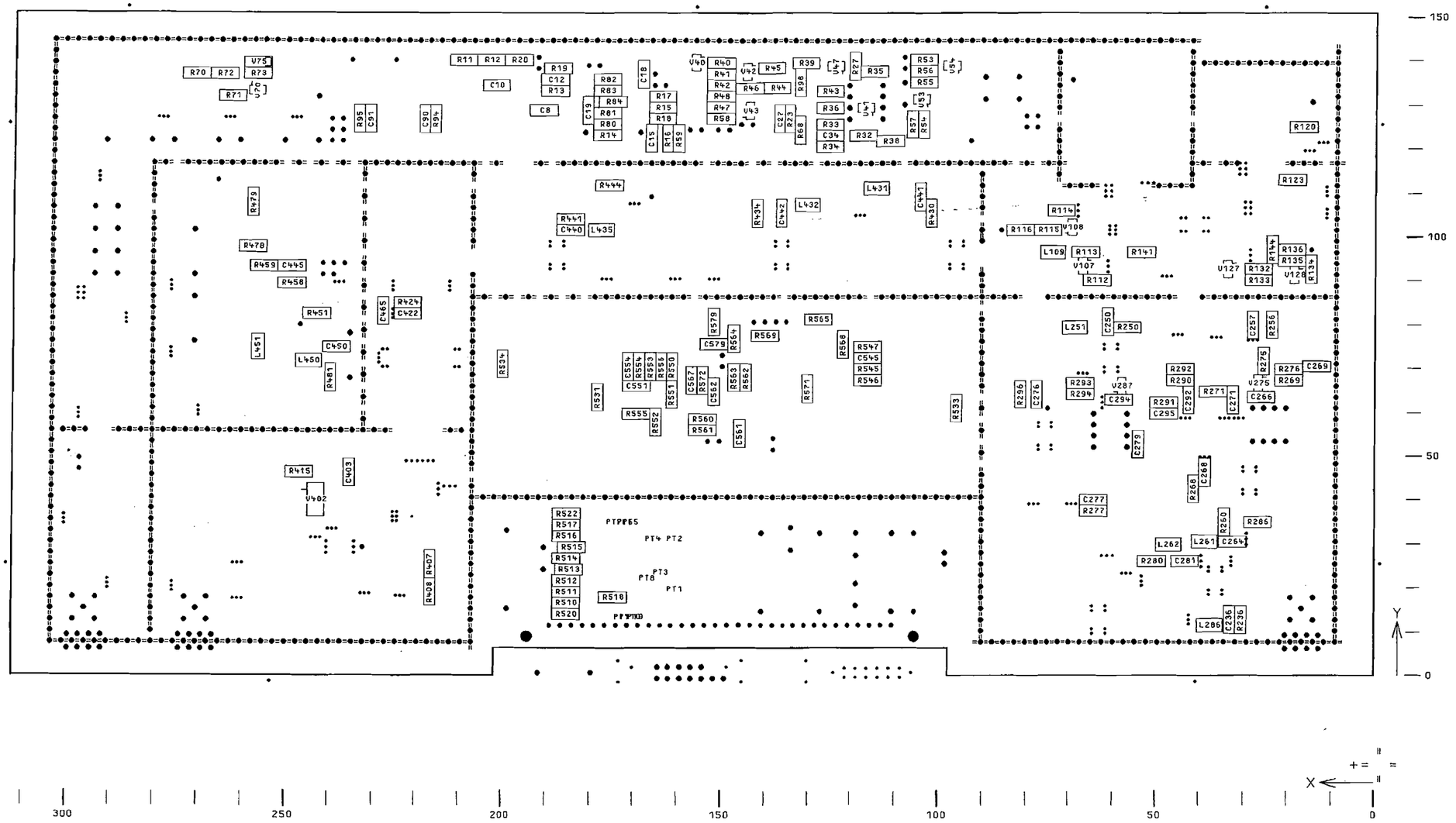
ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

BINDENDE ANGABEN UEBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTUECKTE BAUTEILE SIEHE SA.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST.

09/ 12	48754	11.02.94	HO	1GPK	TAG	NAME	BENENNUNG
		12.96	Ho	BEARB.		HO	SUMMIERSCHLEIFE
				GEPR.		HO	SUMMING-LOOPS
				NORM			Z
				PLOTT	07.04.94		
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.-NR. 1038.7196.01 EE
				ZD GERAET	SME		BLATT-NR. 1+
							REG.I.P. 1038.6002

DIESE ZEICHNUNG IST EIN RECHTLICH GESCHUETZTES WERK. JEDE NICHT AUSDRUECKLICH VOM URHEBERRECHTSINHABER GENEHMIGTE VERWENDUNG, VERVIELFAELTIGUNG, VERBREITUNG UND MITTEILUNG DES WERKES ODER SEINES INHALTES IST UNZULAESSIG. ZUWIDERHANDLUNGEN VERPFLICHTEN ZU SCHADENERSATZ. ALLE RECHTE FUER DEN FALL DER ERTEILUNG EINES PATENTES ODER GEBRAUCHSMUSTERSCHUTZES VORBEHALTEN. VERWERTUNG NUR DURCH RENOERUNG DES DATENSATZES ERFOLGEM



DARSTELLUNG SEITE A
VIEW ON SIDE A

ACHTUNG: ESD!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

BINDENDE ANGABEN UEBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTUECKTE BAUTEILE SIEHE SA.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST.

09/	48754	11.02.94	HO	TGPK	TAG	NAME	BENENNUNG: SUMMIERSCHLEIFE / SUMMING-LOOPS — Z
				BEARB.		HO	
				GEPR.		HO	
				NORM			
				PLOTT	07.04.94		
/				R&S ROHDE&SCHWARZ			ZEICHN.-NR. 1038.7196.01 EE — BLATT-AB. 2+
REND. IND.	RENDERUNGS-MITTEILUNG	DATUM	NAME	28 GEPRUEFT	SME		BEG.I.V. 1038.6002 — ERSTE Z. — V. BL.

DIESE ZEICHNUNG IST EIN RECHNERAUSDRUCK, RENDERUNGEN UND DARAUS ABGELEITETE ARBEITEN NUR DURCH RENDERN DES DATENSATZES ERFOLGEN
UEBER DIESE ZEICHNUNG BEHALTEN WIR UNS ALLE RECHTE VOR.

ROHDE&SCHWARZ

SERVICEUNTERLAGEN

Baugruppe Synthesizer

1039.2330.02

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Schaltteilliste
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Stromlauf
Bestückungsplan

7. Prüfen und Instandsetzen der Baugruppe

7.1 Funktionsbeschreibung

Die Baugruppe TSYN enthält einen FM/PHiM modulierbaren Synthesizer von 67.5...1500MHz, die Modulationseichleitung für FM/PHiM sowie die Referenzfrequenzerzeugung bestehend aus einen 10 MHz TCXO sowie einen 600MHz Oszillator als LO für den Mischerbereich der Ausgangsstufe.

7.1.1 Standardreferenz 10 MHz

Als Standardreferenz wird ein 10 MHz TCXO (N200) verwendet. Ein Emitterfolger mit Pegelwandler (V205, 210) verstärkt das Ausgangssignal auf TTL-Pegel. Gleichzeitig wird hier das Signal der Optionsreferenz eingespeist, in dieser Betriebsart wird dann der Standardoszilator ausgeschaltet (V200). Die Teilerstufe mit D205 erzeugt die 2MHz-Referenzfrequenz für die PLL der Ausgangs-oszillatoren und den Sigma-Delta-Wandler sowie die 1MHz Vergleichsfrequenz für den Phasendetektor der Referenz-PLL.

7.1.2 Referenz int./ext. und optionale Referenz

In der Betriebsart int. Referenz steht die Standardreferenz mit 10 MHz zur Verfügung (Ausgang X78, EXTREF), die Abstimmspannung zur genauen Frequenzeinstellung des TCXO wird dabei von einem 12 Bit D/A-Wandler erzeugt (D220, N220). Außerdem kann dann mit einer externen Spannung über den EXTTUNE-Eingang die Referenz-frequenz fein verstimmt werdem (±1ppm für ±10V).
Bei ext. Referenz können 5- oder 10 MHz mit einer Toleranz von ± 3 ppm eingespeist werden. Eine Diodenschaltung (V214) erzeugt dazu ein Oberwellenspektrum, ein Resonanzverstärker filtert das 10MHz Signal aus und verstärkt es auf TTL-Pegel. Nach Teilung durch 10 wird es im Phasendetektor D210 mit der heruntergeteilten Frequenz des TCXO's verglichen. Der Standardreferenzoszillator wird in der PLL mit einer Bandbreite von 2 Hz auf die externe Referenz synchronisiert. Ist ein optionaler Referenzoszillator (SM-B1) vorhanden, so ersetzt er in der Betriebsart int. Referenz den Standardoszillator, die Abstimmspannung wird dabei auf den Wert für den Optionsquarz eingestellt. Bei ext. Referenz oder bei eingeschalteter EXTTUNE-Funktion bleibt der Standardoszillator eingeschaltet.

7.1.3 600 MHz Oszillator mit PLL

Der 600 MHz Oszillator ist mit einem keramischen Resonator (X300) aufgebaut, der mit einer Kapazitätsdiode fein abgestimmt wird (V300). Die Transistorstufe V305 entdämpft mit ihrer negativen Impedanz den Schwingkreis. Über einen Trennverstärker (N300) wird das Oszillatorsignal am Emitter ausgekoppelt, ein ohmscher Leistungsteiler verteilt es auf den Ausgangsverstärker sowie die Teilerkette für die PLL.
Der Ausgangsverstärker mit einem "Dual Gate MESFET" (V325) verstärkt das Oszillatorsignal auf 9dBm (X76, REF600). Über Steuerung am Gate2 (V320, 321) läßt sich der Ausgangspegel um > 40dB absenken wenn der Mischerzweig im Ausgangsteil nicht aktiv ist.

Die Teiler im Rückwärtszweig des PLL teilen die Oszillatorfrequenz in zwei Stufen auf die Vergleichsfrequenz der PLL von 10MHz. Ein erster Teiler durch 12, bestehend aus Teilern durch 4 (D350) mit Pegelwandler von ECL auf TTL und einem Teiler durch 3 (D355), liefert ebenfalls die 50 MHz Referenzfrequenz (X72, REF50) für die Optionsbaugruppen (D360). Nach weiterer Teilung durch 5 (D370) wird es in dem Phasendetektor D255 mit der 10 MHz Referenzfrequenz verglichen. Das Ausgangsspannung des PI-Reglers mit N250 stimmt den Oszillator ab, die Bandbreite der PLL beträgt 300 Hz.
Die Pegel des Oszillators, des 600- und 50 MHz Ausganges werden von Diagnosegleichrichtern gemessen. Die Regelspannung der PLL wird von einem Fensterkomparator (N105) überwacht.

7.1.4 Synthesizer 67.5...1500 MHz

7.1.4.1 Oszillatoren 750...1500 MHz

3 Oszillatoren mit einem Abstimmbereich von jeweils 250 MHz erzeugen die Frequenz der Grundoktave. Ein Transistor mit einer negativen Impedanz an der Basis (V404, 4343, 464) entdämpft den Serienschwingkreis, der aus einem Trimmer, einer Leiterplatten-induktivität und zwei Kapazitätsdioden besteht. Eine Stromquelle stabilisiert den Arbeitspunkt über den Abstimmbereich, mit einer Schaltstufe wird die Versorgungsspannung und damit der Oszillator geschaltet. Über einen PIN-Schalter wird das Ausgangssignal zu der Trennstufe geführt. Ein Diagnosegleichrichter überwacht den Oszillatorpegel am Ausgang der Trennstufe. Ein ohmscher Leistungs-teiler verzweigt das Oszillatorsignal auf die Ausgangsteiler sowie den FRAC-N-Teiler der PLL.

7.1.4.2 Ausgangsteiler

Es werden ein Teiler durch 2 (D510) und zwei Teiler durch 4 (D520, 540) verwendet. Durch Kettenschaltung entstehen die Teilerfaktoren 2, 4, 8 und 16. Dazu werden über PIN-Schalter (S1...S8) die Ein- und Ausgänge der Teiler entsprechend verbunden. Die Teiler selber werden über die Versorgungsspannung (V510, 520, 540) geschaltet. Der Ausgangsverstärker N560 erhöht den Pegel auf 9dBm. Ein Diagnosegleichrichter überwacht den Ausgangspegel.

7.1.4.3 FRAC-N Teiler mit PLL

Die Ausgangsoszillatoren werden in einer PLL mit einem Fractional-Divider auf die Referenzfrequenz von 2 MHz geregelt. Dieser Schaltungsteil ist im Gatearray FRACSYN integriert.
Die beiden MMIC-Verstärker N600, 610 entkoppeln die Teiler-schaltung von den Oszillatoren. Das ECL-Gatearray DIVREF arbeitet als programmierbarer Teiler (N=375...750). Das von einer Pegel-wandlerstufe auf TTL-Pegel verstärkte Ausgangssignal des DIVREF wird dem FRACSYN als Takt sowie dem Phasendetektor zugeführt. Der Baustein FRACSYN berechnet für jede Referenzperiode aus dem programmierten Teilungsfaktor sowie dem eingestellten Hub den Teilungsfaktor des DIVREF (DIVPROG0...10). Zur Programmierung verfügt der Baustein über eine integrierte SERBUS-Schnittstelle.
Die UP/DOWN-Ausgangsignale des Phasendetektors D700 werden in dem Differenzverstärker N710 addiert. Die Verstärkung des folgenden

PI-Reglers (N720) läßt sich zur Kompensation der Verstärkungsänderungen in der PLL (Teilerfaktor, VCO-Steilheit) mit einem Analogmultiplexer (D720) in 8 Stufen einstellen. Zur Reglerspannung wird in N750 eine Voreinstellspannung aus einem 8-Bit D/A addiert. Eine Transistorendstufe (V755, 760) mit Diodenumschaltung der PLL-Bandbreite (V765...768) beschleunigt den Einschwingvorgang der Regelschleife.
Die Ausgangsspannung des PI-Reglers wird von einem Fensterkomparator überwacht. Die Abstimmspannung sowie die Reglerspannung können über Diagnosestellen gemessen werden.

7.1.4.4 FM/PHiM Modulation

7.1.4.4.1 Funktionsprinzip

Durch die Verwendung eines Bruchteilers mit einem digitalen Modulationseingang läßt sich eine relativ einfache und dennoch präzise FM und PHiM AC/DC-Schaltung realisieren.
Dabei wird die Modulation über zwei Pfade mit unterschiedlichen Frequenzgängen übertragen. In dem ersten Pfad wird bei FM nach A/D-Wandlung mit einem Sigma-Delta-Wandler direkt der Teilungsfaktor und damit die momentane Mittenfrequenz moduliert. Dieser Teil hat die Tiefpaßfunktion für die Nutzübertragung einer PLL, gleichzeitig ist hier die PLL ein Tiefpaß für das Quantisierungsgeräusch des A/D-Wandlers. In dem zweiten Pfad wird direkt der Oszillator moduliert, dieser Teil hat die Hochpaßfunktion für die Störübertragung einer PLL. Bei gleicher Empfindlichkeit und Laufzeit in beiden Zweigen ergibt sich ein ebener Frequenzgang mit konstanter Gruppenlaufzeit.
Bei PHiM wird im ersten Pfad die Phasenmodulation hinter dem Phasendetektor in die PLL eingespeist. Im zweiten Zweig wird nach Differenzierung der Modulationsspannung wieder direkt der Oszillator moduliert. Die Übertragungsfunktionen sind die gleichen wie bei FM.

7.1.4.4.2 Modulationseichleitung

Zur Einspeisung der Modulationssignale stehen die vier Eingänge INT1, INT2, EXT1 und EXT2 zur Verfügung. Die externen Modulationseingänge verfügen über einen hochohmigen Eingangsverstärker (N800, 810) mit umschaltbarer AC/DC-Kopplung (D820, 825).
Über die Schalter D800, 810 wird je ein Modulationssignal auf die beiden Kanäle FM1 und FM2 verteilt. Dabei ist eine Einton- sowie Zweitonmodulation möglich. Die Verstärker N840, 850 verstärken das Eingangssignal von $1V_s$ auf $6V_s$. Im FM1-Kanal wird zur Feineinstellung des Hubes ein multiplizierender 12 Bit D/A-Wandler verwendet. Im breitbandigen FM2-Kanal wird ein analoger Multiplizierer (D865), der mit einer Stellspannung aus einem D/A-Wandler (D840, N840) und dem Modulationssignal angesteuert wird, als Stellglied eingesetzt. Der integrierte OP summiert außerdem die Signale FM1 und FM2.
Zur Grobeinstellung des Hubes am Oszillator wird eine Eichleitung in Kettenleiterstruktur mit 12dB-Schritten verwendet (dividiert 1...4096). Die Abgriffe werden von dem Videomultiplexer D960 geschaltet. Die Hubwertigkeit für die Modulation des Teilungsfaktors über den Sigma-Delta-Wandler wird grob intern im FRACSYN und fein über die ADWE-Eingänge eingestellt.

Für PHiM ist dem Grobteiler eine Differenzierschaltung mit umschaltbarer Zeitkonstante (K911) vorgeschaltet, die die PHiM in FM zur direkten Modulation des Oszillators umwandelt. In dem Regelungszweig kompensiert ein D/A-Wandler (D920) den Einfluß des Teilungsfaktors auf die Modulationsempfindlichkeit nach dem Phasendetektor. Ein Teiler mit 4 Stufen in 12dB-Schritten (D930) dient zur Grobeinstellung des PHiM-Hubes in diesem Zweig. Eine Laufzeitentzerrung (D910) sorgt für gleiche Gruppenlaufzeit in beiden Modulationszweigen.
Der Pegel am EXT2-Eingang wird von der Fensterkomparatorschaltung mit N860, 861 und D870, 875 überwacht. Bei Abweichung vom Sollpegel von 1...3% wird der Interrupt INT1 ausgelöst. Die Interrupts EXT2-HIGH und EXT2-LOW zeigen die jeweilige Richtung an.

7.1.4.4.3 Sigma-Delta-Wandler und FM-DC Regelung

Zur Wandlung des analogen Modulationssignals in ein digitales zur Modulation des Teilungsfaktors wird ein Sigma-Delta-Wandler 3.ter Ordnung (N950, 955, D950, 965) eingesetzt. Der gleitende Mittelwert des 1 Bit Ausgangssignals entspricht dabei der analogen Eingangsgröße. Das dabei entstehende Quantisierungsgeräusch wird durch die Tiefpaßfunktion der PLL gefiltert. Ein Laufzeitentzerrerschaltung am Eingang des Wandlers sorgt für gleiche Gruppenlaufzeit in beiden Modulationswegen.
Da alle Offsetspannungen auch bei AC-Betrieb zu einer Verschiebung der Mittenfrequenz führen, werden diese durch eine Mittelwertregelung kompensiert. Bei FM-DC wird die Regelung geklemmt. Dieser Schaltungsteil befindet sich im Gatearray FRACSYN.

7.1.5 Kalibrierung

Zum Anlegen der Kalibriertabelle für die Voreinstellspannung wird vom unteren Ende des Abstimmbereiches her die Voreinstellspannung gesucht, bei der die PI-Reglerspannung Null ist. Die Abstimmspannung ist dann gleich der Voreinstellspannung.
Für die Kalibriertabelle der Hubsteilheit mißt ein Diagnosedetektor den Differenzhub in der Regelschleife. In einer Abgleichroutine werden die Stellglieder der Modulationseichleitung so lange verändert, das der Differenzhub minimal wird. Aus den Einstellwerten wird die Modulationssteilheit des Oszillators bei der Frequenz berechnet. Weiterhin wird der Maßstab der PHiM-Modulation bei 100kHz-Bandbreite ermittelt.
Beide Kalibrierungen habe ein Fequenzraster von 10MHz.

7.2 Meßgeräte und Hilfsmittel

- HF-Spektrumanalysator (>1.5GHz), FSA
- HF-Signalgenerator (SMGU, SME)
- NF-Generator (f=1kHz, k<0.1%), APN
- Funktionsgenerator (f>=8MHz), AFGU
- Oszilloskop, BOL
- AC/DC-Voltmeter, URE3
- Modulationsanalysator, FMB
- Servicekit (1039.3520)

7.3 Fehlersuche

7.3.1 Synchronisierfehler

Fehlermeldung "SYNTHESIZER LOOP UNLOCKED"

Diese Fehlermeldung ist eine Veroderung der Fehlerüberwachungen der PLL für den TCXO, den 600MHz Oszillators sowie der PLL der Ausgangsoszillatoren. Mit der Diagnose feststellen, welche PLL außer Toleranz ist.

1. 10 MHz TCXO
Prüfen ob in der Betriebsart ext. Referenz die richtige Frequenz mit ausreichendem Pegel anliegt
Prüfen der Referenzfrequenz

2. 600MHz Oszillator
Oszillator mit Teiler prüfen
Referenzfrequenz und PLL prüfen

3. Ausgangsoszillatoren
Kalibrierung VCO SYN durchführen
Oszillatoren prüfen
FRAC-N Teiler und Referenzfrequenz prüfen
PLL und Voreinstellspannung prüfen

7.3.2 Synthesizerfehler

Kein Ausgangspegel an X70

Oszillatoren prüfen
Ausgangsteiler und Verstärker prüfen

Störhub zu groß
Nebenwellen mit df<10kHz

Voreinstellspannung prüfen
PLL prüfen
Phasendetektor prüfen
Arbeitspunkte der Oszillatoren prüfen

7.3.3 Fehler bei FM-/PHiM-Modulation

Hubfehler bei FM oder PM **Stereoübersprechen außer Toleranz** **Starke Modulationsverzerrungen bei Maximalhub**	FM-Kalibrierung durchführen Modulationeichleitung prüfen
Keine oder falsche FM-Modulation bei NF<< 1kHz	Sigma-Delta-Wandler prüfen
Keine oder falsche FM-Modulation bei NF>> 1kHz	Grobteiler prüfen
Keine oder falsche PHiM-Modulation bei NF<< 1kHz	PHiM-Modulation über PLL prüfen
Keine oder falsche FM-Modulation bei NF>> 1kHz	PHiM-Differenzierer prüfen

7.3.4 Kalibrierungen

Kalibrierung VCO SYN fehlerhaft	Die Kalibrierroutine gibt die VCO-Frequenz zurück, bei der sich die Kalibrierung nicht durchführen ließ, sowie die Fehlerursache zurück. Folgende Kriterien führen zu einem Abbruch:
VSYN-ERR 1	Voreinstellspannung <1V oder >23V Oszillatoren prüfen Voreinstellspannung prüfen
VSYN-ERR 2	Mehr als 3 Iterationsschritte FRAC-N Teiler und Referenzfrequenz prüfen PLL und Voreinstellspannung prüfen
VSYN-ERR 3	Oszillatorabgleich außer Toleranz Oszillatoren prüfen PLL und Voreinstellspannung prüfen
Kalibrierung FM fehlerhaft	Die Kalibrierroutine gibt die VCO-Frequenz zurück, bei der sich die Kalibrierung nicht durchführen ließ, sowie die Fehlerursache zurück. Folgende Kriterien führen zu einem Abbruch:
FM-ERR 1	Offset Diagnosedetektor 410 >20mV Diagnosedetektor 410 prüfen

FM-ERR 2	FM über Regelungszweig außer Toleranz Sigma-Delta-Wandler prüfen
FM-ERR 3	FM über Steuerungszweig außer Toleranz Grobteiler FM prüfen
FM-ERR 4	Mehr als 6 Iterationsschritte beim FM-Abgleich PLL prüfen Laufzeitentzerrung am Eingang Sigma-Delta-Wandler prüfen
FM-ERR 5	Hubsteilheit <10MHz/V oder >25MHz/V Oszillatorabgleich prüfen
FM-ERR 6	PHiM über Regelungszweig außer Toleranz Grobteiler PHiM prüfen
FM-ERR 7	PHiM über Steuerungszweig außer Toleranz PHiM-Differenzierer prüfen
FM-ERR 8	Mehr als 4 Iterationsschritte beim PHiM-Abgleich

Der Servicekit SM-Z2 bietet zahlreiche weitere Diagnosemöglichkeiten, wenn Kalibrierungen nicht möglich sind.

7.4 Prüfen und Abgleich

Alle Meßwerte ohne Toleranzangaben sind als Richtwerte zu verstehen. Spannungsangaben ohne weitere Bezeichnung bedeuten DC-Spannungen.
Im Servicekit ist ein Adapter enthalten, mit dem die Baugruppe zugänglich gemacht werden kann. Der Adapter wird statt der Baugruppe in das Chassis gesteckt und die HF-Verbindungen an den entsprechenden Buchsen auf der Unterseite wieder hergestellt. Die Baugruppe kann jetzt auf den Adapter gesteckt werden.
Wird die Baugruppe mit geöffnetem Deckel betrieben, so müssen die drei Oszillatorkammern mit Prüfdeckeln auf der Bauteil- und Lötseite geschlossen werden.
*Vor allen Prüfungen ist mit **PRESET** der SMT in einen definierten Anfangszustand zu bringen.*

7.4.1 Datenübertragung und Stromversorgung

Gemäß Gerätestandard wird die Baugruppe über eine serielle Schnittstelle unter Verwendung des Bausteins SERBUS-D angesteuert. Ein weiterer SERBUS-D befindet sich im Gatearray FRACSYN. Die Einstellungen und die zugehörigen Daten sind im Kapitel 'Digitale Schnittstellen' zu finden.
Die Stromaufnahme kann überprüft werden, indem anstelle der Spulen L1 bis L5 ein Amperemeter eingeschleift wird. Die Sollwerte sind im Kapitel 'Externe Schnittstellen' zu finden.
Die DC-Spannung an den Meßpunkten P20, P25 und P22 (bei den Leiterplatten mit dem Änderungszustand "A" ist P22 noch nicht vorhanden, ersatzweise an N20.8) ist zu messen.

Meßpunkt	Spannung [V]
P20	+9.9...+10.1
P25	+5.1 ... +5.3
P22	-10.3... -9.7

7.4.2 Referenzfrequenz

7.4.2.1 D/A-Wandler

Stromlauf Blatt 2

Es wird die Abstimmspannung für die Referenz mit der Diagnose gemessen.

- Einstellungen: **UTILITIES DIAG TPOINT 401**
  UTILITIES REF OSC ADJUSTMENT STATE ON

▶ Den Parameter FREQUENCY ADJUSTMENT nach Tabelle einstellen und die Diagnosespannung überprüfen

FREQUENCY ADJUSTMENT	Diagnosespannung TPOINT 401
0	±10mV
4095	4.9...5.1V
2048	2.45...2.55V

7.4.2.2 TCXO, Referenz-PLL und Ein-/Ausgänge

Stromlauf Blatt 2

Es wird die Funktion des TCXO, des Pegelwandlers auf HCMOS sowie der Eingang für die optionale Referenz und der Referenzausgang geprüft.
- Oszilloskop mit Tastkopf an P201 anschließen.

▶ Signal an P201 prüfen: 10 MHz, HCMOS-Pegel.

Diese Prüfung ist nur möglich, wenn die Option SM-B1 im Gerät eingebaut ist.
- Kabel W174 an Baugruppe Synthesizer abziehen.

▶ Signal an P201 prüfen: +2,5±1.5V DC, <10mV AC.
- Kabel W174 an Baugruppe Synthesizer wieder aufstecken.

- Spektrumanalysator mit Einstellung CF50MHz, SPAN 100MHz, REF 10dBm an X78 anschließen.

▶ Signal am Ausgang X78 prüfen: 10MHz, Oberwellenabstand >20dB, 8±2dBm.

Es wird der Eingang für die externe Referenz, die PLL und der Ziehbereich des TCXO geprüft.
- Einstellungen: **UTILITIES DIAG TPOINT 402**
- Signalgenerator 5MHz an X78 anschließen.
- Oszilloskop mit Tastkopf an P204 anschließen.

▶ Signal an P204 prüfen: 10MHz, HCMOS-Pegel für -13...13dBm am Eingang X78.

▶ Diagnosespannung prüfen: 2±0.5V bei 0dBm an REF.

- Einstellungen: **UTILITIES DIAG TPOINT 402**
- Frequenz des Signalgenerators nach Tabelle, Pegel 7dBm.

▶ Diagnosespannung nach Tabelle prüfen.

Frequenz an REF	Diagnosespannung TPOINT 402
10MHz	2.5±0.5V**
9.999970MHz	>0.5V
10.000030MHz	<4.5V

** Bei Änderungszustand -D- der Leiterplatte: mit C-Trimmer an TCXO auf 1.7V abgleichen, Spannung dann 1.4...2.4V.

7.4.2.3 Ein-/Ausgänge EXTTUNE und OPTTUNE

Stromlauf Blatt 2

Die Abstimmspannung für die Optionsreferenz sowie der Eingang für die externe Verstimmung der Referenzfrequenz wird geprüft.

- Voltmeter an X7A10 anschließen.

▶ Spannung am Baugruppenstecker X7A10 prüfen: 5V±100mV.

- Einstellungen: **UTILITIES DIAG TPOINT 401**
- Netzgerät (0...10V) an X7A1 (EXTTUNE) anschließen.

▶ Differenz der Diagnosespannung für eine EXTTUNE-Spannung von 0V und 10V: 250±30mV**.

** Bei Änderungszustand -D- der Leiterplatte: 400±100mV.

7.4.3 600MHz Signal

7.4.3.1 600MHz Oszillator

Stromlauf Blatt 2 und 3

Es wird die Funktion sowie der Abstimmbereich des Oszillators geprüft.

- Einstellungen: **FREQUENCY 50MHZ**
  UTILITIES DIAG TPOINT 404
- Brücke X20 ziehen und Netzgerät (0...25V) an X20.2 und X20.3 (Masse) anschließen.
- Spektrumanalysator mit Einstellung CF600MHz, SPAN 50MHZ und REF 10dBm an X76 anschließen.

▶ Abstimmspannung von 0...20V variieren, der Oszillator muß im gesamten Abstimmbereich bei 600±20MHz ohne Aussetzer, Nebenlinien oder Rauschüberhöhungen schwingen.
▶ Abstimmspannung zwischen 2 und 18V umschalten, die Frequenzänderung des Oszillators muß > 15MHz und < 20MHz sein.
▶ Die Abstimmspannung für 600MHz muß > 4V und < 16V sein.
▶ Diagnosespannung an TPOINT 404 bei 10V Abstimmspannung: 50...250mV.
- Netzgerät wieder entfernen und Brücke X20 auf 1-2 stecken.

7.4.3.2 50MHz Ausgang und 600MHz-Oszillator PLL

Stromlauf Blatt 2 und 3

Der 50MHz Ausgang REF50 wird geprüft.

- Einstellungen: **UTILITIES DIAG TPOINT 406**
- Spektrumanalysator mit Einstellung CF 100MHz, SPAN 200MHz, REF 10dBm an X72 anschließen.

▶ Signal am Ausgang X72 prüfen: 50MHz, 9±2dBm, Oberwellenabstand > 23dB.
▶ Diagnosespannungam TPOINT 406: 0.4...1V.

Mit der Diagnose wird geprüft, ob die PLL sychronisiert.

- Einstellungen: **UTILITIES DIAG TPOINT 404**
▶ Diagnosespannung am TPOINT 404: 10±6V.

7.4.3.3 600MHz Ausgangsverstärker

Stromlauf Blatt 3

Der Ausgangskreis wird abgeglichen sowie der Ausgangspegel bei ein- und ausgeschaltetem Signal geprüft.

- Einstellungen: **FREQUENCY 50MHz**
  UTILITIES DIAG TPOINT 405
- Spektrumanalysator mit Einstellung CF 600MHz, SPAN 50MHz, REF 20dBm an X76 anschließen.

▶ Mit L316 auf maximalen Pegel an X76 abgleichen, Pegel: 9±2dBm.
▶ Diagnosespannung am TPOINT 405: 100...300mV.

Die Frequenz des SMT wird so eingestellt, daß der LO abgeschaltet wird.

- Einstellungen: **FREQUENCY 10MHz**

▶ Signal am Ausgang X76 prüfen: < -30dBm.

7.4.4 Ausgangsoszillatoren

7.4.4.1 Oszillatoren

Stromlauf Blatt 4

Es müssen unbedingt Löt- und Bauteilseitige Trimmdeckel auf die Oszillatorkammern geschraubt sein.
Es wird die Funktion der Oszillatoren geprüft, die untere Abstimmgrenze abgeglichen und der Abstimmbereich überprüft.

- Spekrumanalysator mit Einstellung CF 1GHZ, SPAN 2GHz, REF 20dBm an X70 anschließen.
- Brücke X75 entfernen und Netzgerät an X75.2 und X75.3 (Masse) anschließen.

▶ Mit dem C-Trimmer die untere Frequenzgrenze bei 2V abgleichen und die obere Frequenzgrenze bei 19V Abstimmspannung überprüfen, Frequenz und C-Trimmer nach Tabelle.

FREQUENCY	Oszillator	C-Trimmer	Fmin (2V)	Fmax (19V)
900MHz	1	C402	740±1MHz**	990...1025MHz
1200MHz	2	C432	990±1MHz	1240...1275MHz
1400MHz	3	C462	1240±1MHz	1490...1525MHz

** Bei Änderungszustand -D- der Leiterplatte: 747±1MHz.

▶ Abstimmspannung von 0...22V variieren, der Oszillator muß im gesamten Abstimmbereich ohne Aussetzer, Nebenlinien und Rauschüberhöhungen schwingen. Der Ausgangspegel an X70 muß zwischen 7 und 12dBm liegen. Diesen Vorgang für alle drei Oszillatoren wiederholen.

- Einstellungen: **FREQUENCY 1200MHZ**
  UTILITIES DIAG TPOINT 407

▶ Diagnosespannung am TPOINT 407 bei 10V Abstimmspannung: 20...100mV.

- Einstellungen: **UTILITIES DIAG TPOINT 408**

▶ Diagnosespannung am TPOINT 408 bei 10V Abstimmspannung : 50...250mV.

- Netzgerät entfernen und Brücke X75 wieder auf 1-2 stecken.

7.4.4.2 Ausgangsstufe mit Teilern

Stromlauf Blatt 5

Es werden die Ausgangsteiler durch 2...16 geprüft.

- Abstimmspannung 10V mit Netzgerät nach 7.4.4.1 einspeisen.

▶ Prüfung nach Tabelle.

FREQUENCY	Teiler	Frequenz an X70	Pegel an X70
1120MHz	1	F_{soll} (≈1120MHZ)	7...12dBm
560MHz	2	$F_{soll}/2$	7...12dBm
280MHz	4	$F_{soll}/4$	7...12dBm
140MHz	8	$F_{soll}/8$	7...12dBm
70MHz	16	$F_{soll}/16$	7...12dBm

- Netzgerät entfernen und Brücke X75 wieder auf 1-2 stecken.

7.4.5 PLL der Ausgangsoszillatoren

7.4.5.1 Voreinstellspannung

Stromlauf Blatt 7

Es wird der 8-Bit D/A für die Voreinstellspannung in der PLL geprüft.

- Einstellungen: **FREQUENCY 750.001 MHz**
  UTILITIES DIAG TPOINT 411
- Steckbrücke X750 auf 2-3 stecken.

▶ Die Voreinstellspanung am Diagnosevoltmeter muß bei abgeglichenem OSZ1 2.7V betragen. Erhöht man die Ausgangsfrequenz in 10MHz-Schritten bis 1000MHz, so muß die Voreinstellspannung kontinuierlich in Stufen von 450 bis 770mV auf ca. 19V steigen. Die Voreinstellspannung wird aus der momentan gültigen Kalibriertabelle abgeleitet und unterliegt den Exemplarschwankungen der Oszillatoren, so daß nur eine qualitative Aussage über die Funktion des DA-Wandlers möglich ist.

- Steckbrücke X750 wieder auf 1-2 stecken.

7.4.5.2 Teiler und PLL

Stromlauf Blatt 6 und 7

Es wird die Teilerkette im Rückwärtszweig der PLL geprüft. Dazu wird der Oszillator mit der Voreinstellspannung auf 1500MHz (Teilungsfaktor 750) eingestellt.

- Einstellungen: **FREQUENCY 1500MHz**
- Steckbrücke X750 auf 2-3 stecken.
- Oszilloskop mit Tastkopf an P600 anschließen.

▶ Signal an P600 prüfen: 2±.1MHz, HCMOS-Pegel.
Die PLL wird geschlossen.

- Einstellungen: **UTILITIES DIAG TPOINT 408**
- Brücke X750 auf 1-2 stecken.
- Spektrumanalysator mit Einstellung CF=**FREQUENCY**, SPAN 100kHz, REF 10dBM, an X70 anschließen.

▶ Ausgangssignal bei den verschiedenen Einstellungen überprüfen. Es dürfen keine Seitenlinien oder Rauschüberhöhungen sichtbar sein.

FREQUENCY	Diagnosespannung TPOINT 408
750.0000001MHz	0±1V
1125MHz	0±2V
1500MHz	0±2V

7.4.6 Modulationseichleitung

7.4.6.1 Modulationsmatrix

Stromlauf Blatt 8

Es wird die Modulationsmatrix für beide Kanäle sowie die AC/DC-Umschaltung für die externen Eingänge geprüft.

- Modulationssignale an die Eingänge nach Tabelle einspeisen, mit AC/DC-Voltmeter an Meßpunkten nach Tabelle messen. Die Prüfung des LFGEN2-Einganges ist nur mit Option SM-B6 oder SM-B2 als LFGEN2 möglich.

Einstellung	Einspeisen	Signal	Meßpunkt	Signal am Meßpunkt
FM1 SOURCE OFF	-	-	P840	AC: < 10mVeff DC: < ±20mV
FM1 SOURCE LFGEN1	-	-	P840	AC: 707±10mVeff DC: < ±20mV
FM1 SOURCE EXT1	EXT1	AC: 1Vs, 1kHz, DC: 1V	P840	AC: 707±10mVeff DC: < ±10mV
"	"	AC: - , DC: 1V	P840	AC: - DC: 1V±10mV
FM1 SOURCE EXT2	EXT2	AC: 1Vs, 1kHz, DC: 1V	P840	AC: 707±10mVeff DC: < ±10mV
"	"	AC: - , DC: 1V	P840	AC: - DC: 1V±10mV
FM2 SOURCE LFGEN2	-	-	P835	AC: 707±10mVeff DC: < ±20mV
FM2 SOURCE LFGEN2	EXT2	AC: 1Vs, 1kHz, DC: -	P835	AC: 707±10mVeff DC: < ±20mV

7.4.6.2 EXT2-Überwachung

Stromlauf Blatt 8 und 10

- NF-Generator, 1kHz, Pegel nach Tabelle, an EXT2 anschließen.

▶ Die Funktion der Pegelüberwachung nach Tabelle prüfen.

Eingangsspannung an EXT2	Fehlermeldung
1±0.005V	-
1.03±0.005V	EXT2-HIGH
0.97±0.005V	EXT2-LOW

7.4.6.3 FM-Hubeinstellung

Stromlauf Seite 8 und 9

Es wird die Funktion der Feinteiler in den beiden FM-Kanälen getestet.

- Einstellung: **FREQUENCY 1GHz**
  MODULATION FM FM1 SOURCE LFGEN1
- NF-Voltmeter an P880 anschließen.

▶ Den FM-Hub mit FM1 DEVIATION von 100Hz bis 2.5kHz in 100Hz Stufen variieren. Die NF-Spannung an P880 muß von ca. $0.2V_{eff}$ bis $5V_{eff}$ in 0.2V Schritten ansteigen.

Einstellung: **FREQUENCY 1GHz**
MODULATION FM FM1 SOURCE EXT2 (LFGEN2)

- Am Eingang EXT2 1Vs, 1kHz anlegen. Ist der SMT mit einem optionalen LF-Generator ausgerüstet, kann auch die Quelle LFGEN2 gewählt werden.

- NF-Voltmeter an P880 anschließen.

▶ Den FM-Hub mit FM1 DEVIATION von 100Hz bis 2.5kHz in 100Hz Stufen variieren. Die NF-Spannung an P880 muß von ca. $0.2V_{eff}$ bis $5V_{eff}$ in 0.2V Schritten ansteigen.

Es wird die Funktion des Grobteilers für die Modulation des Oszillators getestet.

- Einstellung: **FREQUENCY 1GHz**
  MODULATION FM FM1 SOURCE LFGEN1
- NF-Voltmeter an den Meßpunkt P930 anschließen.

▶ Die Funktion des Grobteilers nach Tabelle prüfen.

FM1 DEVIATION	Signal am P930
. 8.192MHz	U_{FM} (ca. $470mV_{eff}$)
. 2.048MHz	$U_{FM}/4$ (ca. $118mV_{eff}$)
.. 512kHz	$U_{FM}/16$ (ca. $29.4mV_{eff}$)
.. 128kHz	$U_{FM}/64$ (ca. $7.34mV_{eff}$)
... 32kHz	$U_{FM}/256$ (ca. $1.83mV_{eff}$)
... 8kHz	$U_{FM}/1024$ (ca. $460\mu V_{eff}$)
... 2kHz	$U_{FM}/4096$ (ca. $115\mu V_{eff}$)
.... 0Hz	<50µV

7.4.6.4 PHiM-Hubeinstellung

Stromlauf Seite 9

Es wird der Grobteiler für die PHiM über den Regelungszweig sowie die beiden PHiM-Differenzierer geprüft.

- Einstellung: **FREQUENCY 1GHz**
  MODULATION PM PM1 SOURCE LFGEN1
  LFGEN1 FREQ 1kHz
- Nf-Voltmeter an Meßpunkt nach Tabelle anschließen.

▶ Die Funktion nach den Einstellungen der Tabelle prüfen (Bei den Leiterplatten mit Änderungszustand "A" ist der Meßpunkt P940 noch nicht vorhanden, ersatzweise an D930.3 messen).

PM1 DEVIATION	PM BANDWIDTH	Meßpunkt	Signal/$_{eff}$
5rad	2M	P1	ca. 5.7mV
100rad	100k	P1	ca. 285µV
80rad	100k	P940	U_{PM} (ca. 900mV)
20rad	100k	P940	$U_{PM}/4$ (ca. 225mV)
5rad	100k	P940	$U_{PM}/16$ (ca. 56mV)
1.25rad	100k	P940	$U_{PM}/64$ (ca. 14mV)
0rad	100k	P940	< 50µV

7.4.7 Sigma-Deltawandler mit FM-DC-Regelung

Stromlauf Seite 9

Es wird die Funktion des Sigma-Delta-Wandlers sowie der FM-DC-Regelung in den Betriebsarten FM-AC und FM-DC geprüft, indem mit der Diagnose die Ausgangsspannung der Offsetregelung gemessen wird.

- Einstellung: **FREQUENCY 1GHz**
  MODULATION FM FM1 SOURCE EXT1
  UTILITIES DIAG TPOINT 415
- DC-Spannungquelle (0...1V) an den Modulationseingang EXT1 anschließen.

▶ Die Diagnosespannung nach Tabelle prüfen.

EXT1 COUPLING	DC-NULLING	Spannung EXT1	Diagnosesp. TPOINT 415
AC	-	0V	U_{soll}(ca. 2,5V)
DC	-	0V	U_{soll}±50mV
DC	X	1V	ca. 4,4±0,2V

7.4.8 Hubabgleiche

7.4.8.1 FM-Hub Abgleich

Stromlauf Seite 9

Es wird der Maßstab des FM-Hubes über den Regelungszweig abgeglichen.

- Einstellung: **FREQUENCY 1GHz**
  MODULATION FM FM1 SOURCE EXT1
  FM1 DEVIATION 250kHz
- NF-Generator, $1V_S$ ±5mV, 50Hz, an den Eingang EXT1 anschließen.
- Modulationsanlysator mit Einstellung HP 10Hz, TP 3kHz, Detektor RMS*√2, an X70 anschließen.

▶ Mit R946 auf 250±0,5kHz Hub abgleichen. Danach die Kalibrierung mit **UTILITIES CALIB FM** durchführen.

7.4.8.2 PHiM-Hub Abgleich

Stromlauf Seite 9

Es wird der Maßstab des PHiM-Hubes über den Regelungszweig abgeglichen.

- Einstellung: **FREQUENCY 1GHz**
  MODULATION PM PM1 SOURCE EXT1
  PM1 DEVIATION 100rad
  PM BANDWIDTH 100k
- NF-Generator, $1V_S$ ±5mV, 50Hz, an den Eingang EXT1 anschließen.
- Modulationsanlysator mit Einstellung HP 10Hz, TP 3kHz, Detektor RMS*√2, an X70 anschließen.

▶ Mit R918 auf 5±0,01kHz Hub abgleichen. Danach die Kalibrierung mit **UTILITIES CALIB FM** durchführen.

7.4.8.3 PM2MHz Abgleich

Stromlauf Seite 9

Es wird der Maßstab der PM mit 2MHz Bandbreite über den Steuerungszweig abgeglichen.

- Einstellung: **FREQUENCY 1GHz**
  UTILITIES CALIB FM EXECUTE
  MODULATION PM PM1 SOURCE EXT1
  - NF-Generator, $1V_S$ ±5mV, 10kHz, an den Eingang EXT1 anschließen.
- Modulationsanalysator mit Einstellung HP 20Hz, TP 100kHz, Detektor RMS*√2 an X70 anschließen.

▶ Mit C910 auf 50±0.5kHz Hub abgleichen.

7.4.9 Prüfen der Kalibrierungen

7.4.9.1 Kalibrierung VCO SYN

Die PI-Reglerspannung ist die Differenz zwischen Voreinstell- und Abstimmspannung. Mit der Diagnose wird die Spannung in der Grundoktave in 3MHz-Schritten gemessen.

- Einstellung: **FREQUENCY 750.0000001M**
  FREQUENCY KNOB STEP USER 3MHZ
  KNOB STEP USER
  UTILITIES DIAG TPOINT 409

▶ Die Frequenz von 750.0000001MHz bis 1497.0000001MHz erhöhen. Die Diagnosespannung am TPOINT 409 muß bei jeder Frequenz im Bereich 0±150mV sein.

7.4.9.2 Kalibrierung FM

Mit einem Diagnosedetektor wird der Differenzhub bei FM-Modulation in der PLL in der Grundoktave in 3MHz-Schritten gemessen.

- Einstellung: **FREQUENCY 750.0000001M**
  FREQUENCY KNOB STEP USER 3MHZ
  KNOB STEP USER
  UTILITIES DIAG TPOINT 410
  MODULATION FM SOURCE LFGEN1
  FM1 DEVIATION 500kHz

▶ Die Frequenz von 750.0000001MHz bis 1497.0000001MHz erhöhen. Die Diagnosespannung am TPOINT 410 muß bei jeder Frequenz im Bereich 0±50mV sein.

7.4.10 Einschwingverhalten des Synthesizer

Es wird das Einschwingverhalten der PI-Reglerspannung bei einem Frequenzsprung zwischen 760- und 1490MHz gemessen.

- Einstellung: **SWEEP FREQ START FREQ 760MHz**
  STOP FREQ 1490MHz
  STEP LIN 730MHz
  MODE AUTO
- Oszilloskop mit Tastkopf an dem Meßpunkt P720 anschließen.

▶ Die Spannungsänderung am Ausgang des Phasendetektors darf sich bis 500 us nach Baugruppenstrobe nur noch um maximal 2V ändern. Nach 4mS muß die Änderung < 0.5V sein. Es ergibt sich ein Spannungsverlauf wie in Abbildung 1.

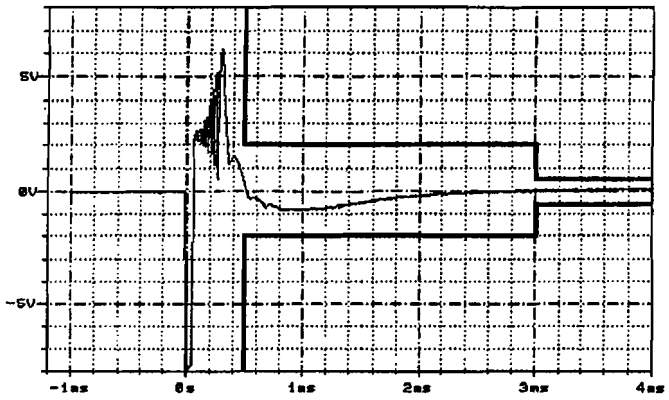


Abbildung 1

7.4.11 Störhub Synthesizer

- Modulationsanalysator an X70 anschließen. Störhub mit Bewertungsfilter 20Hz...23kHz und CCITT bei folgenden Frequenzen (in MHz) prüfen:
  750.0000001, 800, 850, 900, 950, 1000, 1000.0000001, 1050, 1100, 1150, 1200, 1250, 1250.0000001, 1300, 1350, 1400, 1450, 1500.

▶ Störhub < $20Hz_{eff}$ (20Hz...23kHz),
Störhub < $8Hz_{eff}$ (CCITT).

7.4.12 Nebenwellen Synthesizer

- Spektrumanalysator mit Einstellunmg CF=FREQUENCY, SPAN 50kHz, RBW 100Hz, VBW 30Hz, REF 10dBm, an X70 anschließen. Den Nebenwellenabstand bei den folgenden Frequenzen (in MHz) messen:
  875.02, 1124.02, 1374.02, 1200.00333, 1200.005, 1200.01, 600.005.

▶ Der Nebenwellenabstand ±10kHz neben dem Träger muß >= 80dB sein.

7.4.13 FM-DC Nulling

- Einstellung: **FREQUENCY 1GHz**
  MODULATION FM FM1 DEVIATION 10MHz
  FM1 SOURCE EXT1
  EXT1 COUPLING DC
- Netzgerät (±1V) an EXT1 anschließen.
- Modulationsanalysator mit Frequenzzähler an X70 anschließen.

▶ Spannung am Netzgerät auf 0±50mV einstellen, **FM-DC Nulling** durchführen. Der Frequenzfehler muß < 5kHz sein. Die Spannung von -1...+1V variieren und dabei den Störhub messen, er muß < $1kHz_{eff}$ (Bewertungsbandbreite 300Hz...23kHz) sein (die Ansteuerspannung muß hinreichen rausch- und brummfrei sein!).

7.4.14 Tabellen und Schnittstellen

7.4.14.1 Digitale Schnittstelle

SERBUS-Adresse: 26H
Subadresse 0 (SERBUS-Kanal 1)

Latch		Bezeichnung	Funktion		
D885	11	EXT1-AC/DC	AC/DC-Kopplung für EXT1	0=AC	1=DC
	12	FM2-OFF	Auswahl der Quelle für Kanal 2	0=Aus	1=Ein
	13	FM2-INT2			
	14	FM2-EXT2			
	7	FM1-OFF	Auswahl der Quelle für Kanal 1	0=Aus	1=Ein
	6	FM1-INT			
	5	FM1-EXT2			
	4	FM1-EXT1			
D854	6	PM-HIGH/PM-LOW	Umschaltung PHiM-Bandbreite	0=100kHz	1=2MHz
	5	PM/FM	Umschaltung FM/ PHiM	0=FM	
	4	EXT2-AC/DC	AC/DC-Kopplung EXT2	0=AC	1=DC
D220	3	REFTUNE	Abstimmspannung Standard- und Optionsreferenz, serieller 12Bit D/A		
D110	12	INT/EXT	Umschaltung Referenz	0=ext.	1=int.
	13	OPTREF	Umschaltung Standard/Option	0=Std.	1=Opt.
	14	END1	Diagnosemux. 2	0=Aus	1=Ein
	7	END0	Diagnosemux. 1	0=Aus	1=Ein
	6	DA	Diagnosemultiplexer	MSB	
	5	DA	Adresse 0...7		
	4	DA		LSB	

SERBUS-Adresse: 26H
Subadresse 1 (SERBUS-Kanal 2)

Latch		Bezeichnung	Funktion	
D900	11	FMCOARSE	Grobteiler FM	MSB
	:		7 Stufen und aus	
	14			LSB
	6	PMCOARSE	Grobteiler PHiM	MSB
	:		4 Stufen und aus	
	4			LSB
D920	4,5,7	PMKOMP	Teilerfaktor- und Hubsteilheitkomp. Serieller 12Bit D/A	
D795	11	PLLTUNE	Voreinstellspannung PLL FSYN	MSB
	4		8 Bit	LSB
D850	4,5,7	DEVSET2	Feineinstellung Hub FM2 Serieller 12Bit D/A	
D840	4,5,7	DEVSET1	Feineinstellung Hub FM1 Serieller 12Bit D/A	

SERBUS-Adresse: 26H

Subadresse 1 (SERBUS-Kanal 2)

Latch		Bezeichnung	Funktion		
D790	14	S-DSIG	Sigma-Delta-Wandler	0=Aus	1=Ein
	6	PLLGAIN	PLL-Schleifenverstärkung	MSB	
	:				
	5			LSB	
D665	11	ADWE15	Hubwertigkeit am A/D-Eingang	MSB	
	:		des FRACSYN, MSByte		
	4			LSB	
D660	11	ADWE7	LSByte	MSB	
	:				
	4			LSB	
D585	11	S8	Pfad Ausgang Teiler 3	0=Aus	1=Ein
	12	S7	Pfad Ausg. Teil. 2/Eing. Teil.3		
	13	S6	Pfad Ausgang Teiler 2		
	14	S5	Pfad Eingang Teiler 2		
	7	S4	Pfad Ausg. Teil. 1/Eing. Teil.3		
	6	S3	Pfad Ausgang Teiler 1		
	5	S2	Pfad Eingang Teiler 1		
	4	S1	Pfad kein Teiler		
D580	12	S-REF600	Ausgang REF600	0=Aus	1=Ein
	13	I3	Teiler 3 (:4)	0=Ein	1=Aus
	14	I2	Teiler 2 (:4)		
	7	I1	Teiler 1 (:2)		
	6	OSZ3	Oszillator 1250...1500MHz	0=Aus	1=Ein
	5	OSZ2	Oszillator 1000...1250MHz		
	4	OSZ1	Oszillator 750...1000MHz		

Der Baustein FRACSYN verfügt ebenfalls über eine Schnittstelle nach SERBUS-Standard mit einer Subadresse. Da die übertragenen Daten von außen nicht zugänglich sind, sind sie hier auch nicht angegeben.

7.4.14.2 Liste der Diagnosemeßpunkte

Siehe Kapitel 6.3.2.1.

7.5 Zerlegung und Zusammenbau

Nach dem Öffnen des Gerätes, Entriegeln der Baugruppen und dem Lösen der HF-Verbindungen an X70, X72, X74, X76 und X78 kann die Baugruppe aus ihrem Steckplatz entnommen werden.
Die Schirmdeckel sind auf herkömmlich Weise verschraubt. Beim Betrieb mit geöffnetem Schirmdeckel ist darauf zu achten, daß die Resonatorkammern I, J, H auf beiden Seiten mit geeigneten Prüfdeckeln verschlossen werden.

7.6 Externe Schnittstellen

Pin	Name	Ein/Ausgang	Herkunft/Ziel	Wertebereich	Signalbeschreibung
X7.A1	EXTTUNE	Eingang	Rückwand	-10V...+10V	EXTTUNE für Referenz
X7.A4	EXT1	Eingang	A3, FRO	$1V_s$	Modulationsspannung
X7.A5	EXT2	Eingang	A3, FRO	$1V_s$	Modulationsspannung
X7.A6	INT1	Eingang	A10, OPU1 X10.86 A50,LFGEN X1.A7 A5, MGEN X50.7	$1V_s$	Modulationsspannung
X7.A7	INT2	Eingang	A50,LFGEN X1.A7 A5,MGEN X50.7	$1V_s$	Modulationsspannung
X7.A9	OPTUNE	Ausgang	A71,ROSC X22.16	0...10V	Abstimmspannung für optionale Referenz (SM-B1)
X7.A12	SERBUS-CLK	Eingang	A3, FRO X50.40	HCMOS-Pegel	Serbus-Clock
X7.A14 X7.A15	SERBUS-DAT	bidir.	A3, FRO X50.39	HCMOS-Pegel	Serbus-Daten
X7.A16	SERBUS-SYNC	Eingang	A3, FRO X50.37	HCMOS-Pegel	Serbus-Synchronisation
X7.A17	SERBUS-INT	Ausgang	A3, FRO X50.38	HCMOS-Pegel	Serbus-Interrupt
X7.A18	RES-P	Eingang	A3, FRO X50.28	HCMOS-Pegel	Serbus-Reset
X7.A19	DIAG-5V	Ausgang	A3, FRO X50.44	-5V...5V	Diagnose
X7.A22	VA24-P	Eingang	A2, POWS1	23.4V...24.6V 20...90mA	Versorgungsspannung analog
X7.A24	VA15-P	Eingang	A2, POWS1	14.80V...15.75V 100...200mA	Versorgungsspannung analog
X7.A26	VA7.5-P	Eingang	A2, POWS1	7.45V...7.95V 1100...1400mA	Versorgungsspannung analog
X7.A28	VD-5P	Eingang	A2, POWS1	5.10V...5.25V 5...20mA	Versorgungsspannung digital
X7.A30	VA15-N	Eingang	A2, POWS1	-15.75V...-14.85V 200...300mA	Versorgungsspannung analog
X74	OPT10	Eingang	A71, ROSC X711	5...9dBm	
X78	EXTREF	bidir.	Rückwand	5/10MHz ±3ppm -13...13dBm 10MHz, 6...10dBm	Eingang Ausgang
X70	FSYN	Ausgang	A10, OPU1 X101	6...13dBm	Syn. Frequenz 67.5...1500MHz
X76	REF600	Ausgang	A10, OPU1 X105	7...11dBm	Referenz 600 MHz

Pin	Name	Ein/Ausgang	Herkunft/Ziel	Wertebereich	Signalbeschreibung
X72	REF50	Ausgang	A5, MGEN X53 A4,PUM1/3 X41	7...11dBm	Referenz 50 MHz, zu den

ROHDE&SCHWARZ

SERVICE DOCUMENTS

Synthesizer Board

1039.2330.02

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7. Testing and Repair of the Board

7.1 Function Description

The TSYN board contains a synthesizer of 67.5 to 1500 MHz with FM/PHiM modulation capabilities, the modulation attenuator for FM/PHiM as well as the reference frequency generation consisting of a 10-MHz TCXO and a 600-MHz oscillator as LO for the mixer path of the output stage.

7.1.1 Standard Reference 10 MHz

A 10-MHz TCXO (N200) serves as standard reference. An emitter follower with level converter (V205, 210) amplifies the output signal to TTL level. At the same time, the signal of the optional reference is fed in here. In this operating mode, the standard oscillator is switched off (V200). The divider stage with D205 generates the 2-MHz reference frequency for the PLL of the output oscillators and the sigma-delta converter as well as the 1-MHz reference frequency for the phase detector of the reference PLL.

7.1.2 Int./Ext. Reference and Optional Reference

In int. reference mode, the standard 10-MHz reference is available (output X78, EXTREF), the tuning voltage for accurate frequency setting of the TCXO being generated by a 12-bit D/A converter (D220, N220). Besides, the reference frequency can be fine-tuned via the EXTTUNE input by means of an external voltage (±1ppm for ±10V).
In ext. reference mode, 5 or 10 MHz can be fed in with a tolerance of ±3 ppm. A diode circuit (V214) is used to generate a harmonic spectrum, a resonance amplifier filters the 10-MHz signal and amplifies it to TTL level. After division by 10, it is compared with the divided frequency of the TCXO in phase detector D210. The standard reference oscillator is synchronized with the external reference in the PLL with a bandwidth of 2 Hz. If provided, the optional reference oscillator (SM-B1) replaces the standard oscillator in the int. reference mode, the tuning voltage being set to the value for the optional crystal. In the case of ext. reference or with the EXTTUNE function activated, the standard oscillator remains switched on.

7.1.3 600-MHz Oszillator with PLL

The 600-MHz oscillator is designed with a ceramic resonator (X300) which is fine-tuned by means of a tuning diode (V300). With its negative impedance, the transistor stage V305 compensates attenuation of the resonator circuit. The oscillator signal is coupled out at the emitter via a buffer amplifier (N300), an ohmic power divider splits it up between the output amplifier and the divider chain for the PLL.
The output amplifier with a dual-gate MESFET (V325) amplifies the oscillator signal to 9 dBm (X76, REF600). Via control at gate2 (V320, 321), the output level can be reduced by > 40 dB when the mixer path in the output section is not active.

The dividers in the reverse path of the PLL divide the oscillator frequency in two steps to the 10-MHz reference frequency of the PLL. A first divider by 12 consisting of dividers by 4 (D350) with level conversion from ECL to TTL and a divider by 3 (D355) also furnishes the 50-MHz reference frequency (X72, REF50) for the optional boards (D360). After further division by 5 (D370), it is compared with the 10-MHz reference frequency in phase detector D255. The output voltage of the PI-controller with N250 tunes the oscillator, the bandwidth of the PLL is 300 Hz.
The levels of the oscillator, the 600-MHz and 50-MHz output are measured by diagnostic rectifiers. The control voltage of the PLL is monitored by a window comparator (N105).

7.1.4 Synthesizer 67.5...1500 MHz

7.1.4.1 Oscillators 750...1500 MHz

3 oscillators with a tuning range of 250 MHz each generate the frequency of the fundamental octave. A transistor with a negative impedance at the base (V404, 4343, 464) comtensates attenuation of the series resonant circuit consisting of a trimmer, a pcb-inductance and two tuning diodes. A current source stabilizes the operating point throughout the tuning range, a switching stage is used to switch the supply voltage and thus the oscillator. The output signal is taken via a PIN switch to the buffer stage. A diagnostic rectifier monitors the oscillator level at the output of the buffer stage. An ohmic power divider splits up the oscillator signal between the output dividers and the FRAC-N divider of the PLL.

7.1.4.2 Output Dividers

A divider by 2 (D510) and two dividers by 4 (D520, 540) are used. By series connection of the dividers, the division factors 2, 4, 8 and 16 are produced. To this end, the inputs and outputs of the dividers are connected appropriately via PIN switches (S1 to S8). The dividers themselves are switched via the supply voltage (V510, 520, 540). The output amplifier N560 increases the level to 9 dBm. A diagnostic rectifier monitors the output level.

7.1.4.3 FRAC-N Divider with PLL

The output oscillators are set to the reference frequency of 2 MHz in a PLL using a fractional divider. This circuit part is integrated in gate array FRACSYN. The two MMIC amplifiers N600, 610 decouple the divider circuit from the oscillators. The ECL gate array DIVREF functions as a programmable divider (N=375...750). The output signal of the DIVREF, amplified to TTL level by a level conversion stage, is applied as a clock signal to the FRACSYN and also to the phase detector. The FRACSYN device uses the programmed division factor and the set deviation to calculate the division factor of the DIVREF (DIVPROG0...10) for each reference period. For programming, the device is equipped with an integrated SERBUS interface.
The UP/DOWN output signals of phase detector D700 are added in differential amplifier N710. For compensation of the gain

variations in the PLL (division factor, VCO slope), the gain of the following PI-controller (N720) can be set in 8 steps using an analog multiplexer (D720). A presetting voltage from an 8-bit D/A is added to the controller voltage in N750. A transistor output stage (V755, 760) with diode switching of the PLL bandwidth (V765...768) accelerates the transient response of the control loop. The output voltage of the PI-controller is monitored by a window comparator. The tuning voltage and the controller voltage can be measured via diagnostic points.

7.1.4.4 FM/PHiM Modulation

7.1.4.4.1 Functioning

The use of a fractional divider with a digital modulation input permits implementation of a relatively simple and nevertheless accurate FM and PHiM AC/DC circuit.
The modulation is transferred via two paths with different frequency responses. In the first path, the division factor and thus the instantaneous center frequency is directly modulated after A/D conversion by means of sigma-delta converter in the case of FM. This section functions as a lowpass filter for useful transmission of a PLL; at the same time, the PLL is a lowpass for the quantization noise of the A/D converter. In the second path, the oscillator is directly modulated, this section operating as a highpass for the spurious transmission of the PLL. With the same sensitivity and group delay in both paths, a flat frequency response with constant group delay is obtained.
In the case of PHiM, the phase modulation is fed into the PLL after the phase detector in the first path. In the second path, the oscillator is again directly modulated after differentiation of the modulation voltage. The transmission functions are the same as with FM.

7.1.4.4.2 Modulation Attenuator

The four inputs INT1, INT2, EXT1 and EXT2 are provided for feeding in the modulation signals. The external modulation inputs are equipped with a high-impedance input amplifier (N800, 810) with selectable AC/DC coupling (D820, 825).
Switches D800, 810 permit to apply a modulation signal to each of the two channels FM1 and FM2. Both single-tone and two-tone modulation is possible. The amplifiers N840, 850 amplify the input signal from 1 V_p to 6 V_p. In the FM1 channel, a multiplying 12-bit D/A converter is used for fine-adjustment of the deviation. In the broadband FM2 channel, an analog multiplier (D865), which is driven by a control voltage from a D/A converter (D840, N840) and the modulation signal, is used as control element. Besides, the integrated opamp sums up the signals FM1 and FM2.
For coarse adjustment of the deviation on the oscillator, a ladder attenuator with 12-dB steps is used (divides 1...4096). The taps are switched by video multiplexer D960. The deviation value for the modulation of the division factor via the sigma-delta converter is internally coarse-adjusted in the FRACSYN and fine-adjusted via the ADWE inputs.
For PHiM, a differentiating circuit with switch-selectable time constant (K911) precedes the coarse divider, converting the PHiM

into FM for direct modulation of the oscillator. In the control path, a D/A converter (D920) compensates for the influence of the division factor on the modulation sensitivity after the phase detector. A divider with 4 stages in 12-dB steps (D930) is used for coarse adjustment of the PHiM deviation in this path. A correcting circuit (D910) ensures the same group delay in both modulation paths.
The level at the EXT2 input is monitored by the window comparator circuit with N860, 861 and D870, 875. If the level deviates from the nominal level by 1 to 3%, the interrupt INT1 is triggered. The interrupts EXT2-HIGH and EXT2-LOW indicate the respective direction.

7.1.4.4.3 Sigma-Delta Converter and FM-DC Control

For conversion of the analog modulation signal into a digital signal for modulation of the division factor, a 3rd-order sigma-delta converter (N950, 955, D950, 965) is used. The moving mean value of the 1-bit output signal corresponds to the analog input quantity. The resulting quantization noise is filtered by the lowpass function of the PLL. The correcting circuit at the input of the converter ensures the same group delay in both modulation paths.
Since all offset voltages cause the center frequency to be shifted even during AC operation, this is compensated for by adjustment of the center value. In FM-DC mode, the adjustment is clamped. This circuit section is located in gate array FRACSYN.

7.1.5 Calibration

For setting up the calibration table for the presetting voltage, the presetting voltage at which the PI-controller voltage is equal to zero is searched for starting at the lower end of the tuning range. The tuning voltage is then equal to the presetting voltage. For the calibration table of the deviation slope, a diagnostic detector measures the differential deviation in the control loop. In an adjustment routine, the control elements of the modulation attenuator are varied until the differential deviation is reduced to minimum. The modulation slope of the oscillator at the frequency is calculated from the setting values. Besides, the scale of PHiM modulation with 100-kHz bandwidth is determined. Both calibrations feature frequency steps of 10 MHz.

7.2 Measuring Equipment and Auxiliary Means

- RF spectrum analyzer (>1.5 GHz), FSA
- RF signal generator (SMGU, SME)
- AF generator (f=1 kHz, k<0.1%), APN
- Function generator (f>=8 MHz), AFGU
- Oscilloscope, BOL
- AC/DC voltmeter, URE3
- Modulation analyzer, FMB
- Service kit (1039.3520)

7.3 Troubleshooting

7.3.1 Sync Error

Error message "SYNTHESIZER LOOP UNLOCKED"

This error message results from an OR function of error monitoring of the PLL for the TCXO, the 600-MHz oscillator and of the PLL of the output oscillators. Determine which PLL is out of tolerance by means of the diagnosis.

1. 10 MHz TCXO
Check whether the correct frequency is applied with adequate level in the ext. reference mode.

Check the reference frequency

2. 600-MHz oscillator
Check oscillator with divider
Check reference frequency and PLL

3. Output oscillators
Perform calibration of VCO SYN
Check oscillators
Check FRAC-N divider and reference frequency
Check PLL and presetting voltage

7.3.2 Synthesizer Error

No output level at X70

Check oscillators
Check output divider and amplifier

Undue residual FM
Spurious with df<10 kHz

Check presetting voltage
Check PLL
Check phase detector
Check operating points of oscillators

7.3.3 Error with FM/PHiM Modulation

Deviation error with FM or PM **Stereo crosstalk out of tolerance** **Heavy modulation distortions with maximum deviation**	Perform FM calibration Check modulation attenuator
No or faulty FM modulation at AF<< 1kHz	Check sigma-delta converter
No or faulty FM modulation at AF>> 1kHz	Check coarse divider
No or faulty PHiM modulation at AF<< 1kHz	Check PHiM modulation via PLL
No or faulty FM modulation at AF>> 1kHz	Check PHiM differentiating circuit

7.3.4 Calibrations

Calibration VCO SYN faulty	The calibration routine returns the VCO frequency at which the calibration could not be performed as well as the error cause. The following criteria cause the calibration to be aborted:
VSYN-ERR 1	Presetting voltage <1 V or >23 V Check oscillators Check presetting voltage
VSYN-ERR 2	More than 3 iteration steps Check FRAC-N divider and reference frequency Check PLL and presetting voltage
VSYN-ERR 3	Oscillator adjustment out of tolerance Check oscillators Check PLL and preadjustment voltage
Calibration FM faulty	The calibration routine returns the VCO frequency at which the calibration could not be performed as well as the error cause. The following criteria cause the calibration to be aborted:
FM-ERR 1	Offset diagnostic detector 410 >20 mV Check diagnostic detector 410

FM-ERR 2	FM out of tolerance via closed-loop control path Check sigma-delta converter
FM-ERR 3	FM out of tolerance via control path Check coarse divider FM
FM-ERR 4	More than 6 iteration steps with FM adjustment Check PLL Check correcting circuit at input of sigma-delta converter
FM-ERR 5	Deviation slope <10 MHz/V or >25 MHz/V Check oscillator adjustment
FM-ERR 6	PHiM out of tolerance via closed-loop control path Check coarse divider PHiM
FM-ERR 7	PHiM out of tolerance via control path Check PHiM differentiating circuit
FM-ERR 8	More than 4 iteration steps for PHiM adjustment

The Service Kit SM-Z2 offers various further diagnostic facilities if calibrations are not possible.

7.4 Testing and Adjustment

All measured values without tolerance specifications are meant to be understood as rough values. Voltages without further specifications are DC voltages.
The service kit includes an adapter which permits to make the board accessible. The adapter is inserted into the chassis instead of the board, and the RF connections are restored at the appropriate female connectors at the bottom. The board can then be plugged onto the adapter.
If the board is operated with opened cover, the three oscillator chambers must be closed by test covers on the component and solder side.
*Before carrying out any tests, the **SMT** is to be set to a defined initial status by means of **PRESET**.*

7.4.1 Data Transmission and Current Supply

In line with instrument standard, the board is controlled via a serial interface using the SERBUS-D device. A further SERBUS-D is located in gate array FRACSYN. The settings and the associated data are to be found in section 'Digital Interfaces'.
The current consumption can be checked by switching in an amperemeter instead of coils L1 to L5. The nominal values are to be found in section 'External Interfaces'.
Measure the DC voltage at test points P20, P25 and P22 (in the case of the pcbs with amendment "A", P22 is not provided yet, use N20.8 instead).

Test point	Voltage [V]
P20	+9.9... +10.1
P25	+5.1 ... +5.3
P22	-10.3... -9.7

7.4.2 Reference Frequency

7.4.2.1 D/A Converter

Circuit diagram sheet 2

The tuning voltage for the reference is measured by means of the diagnosis.

- Settings: **UTILITIES DIAG TPOINT 401**
  UTILITIES REF OSC ADJUSTMENT STATE ON

▶ Set the parameter FREQUENCY ADJUSTMENT according to the table and check the diagnostic voltage

FREQUENCY ADJUSTMENT	Diagnostic voltage TPOINT 401
0	±10mV
4095	4.9...5.1V
2048	2.45...2.55V

7.4.2.2 TCXO, Reference PLL and Inputs/Outputs

Circuit diagram sheet 2

Functioning of the TCXO, of the level converter on HCMOS and the input for the optional reference and the reference output are checked.

- Connect oscilloscope with probe to P201.

▶ Check signal at P201: 10 MHz, HCMOS level.

This test is only possible with the Option SM-B1 installed in the instrument.

- Disconnect cable W174 from the Synthesizer board.
- ▶ Check signal at P201: +2.5±1.5 V DC, <10 mV AC.
- Reconnect cable W174 to Synthesizer board.

- Connect spectrum analyzer with the setting CF50MHz, SPAN 100MHz, REF 10dBm to X78.
- ▶ Check signal at output X78: 10 MHz, harmonics suppression >20dB, 8±2dBm.

The input for the external reference, the PLL and the pulling range of the TCXO are checked.

- Settings: **UTILITIES DIAG TPOINT 402**
- Connect signal generator 5MHz to X78.
- Connect oscilloscope with probe to P204.

- ▶ Check signal at P204: 10 MHz, HCMOS level at input X78 for -13 to 13 dBm.
- ▶ Check diagnostic voltage: 2±0.5 V with 0 dBm at REF.

- Settings: **UTILITIES DIAG TPOINT 402**
- Frequency of the signal generator according to the table, level 7 dBm.

▶ Check diagnostic voltage according to the table.

Frequency at REF	Diagnostic voltage TPOINT 402
10MHz	2.5±0.5V**
9.999970MHz	>0.5V
10.000030MHz	<4.5V

** In the case of the pcbs with amendment -D-: Use the capacitive trimmer of the TCXO to adjust to 1.7V, diagnostic voltage then 1.4....2.4V.

7.4.2.3 Inputs/Outputs EXTTUNE and OPTTUNE

Circuit diagram sheet 2

The tuning voltage for the optional reference and the input for external detuning of the reference frequency are checked.

- Connect voltmeter to X7A10.
- ▶ Check voltage at board connector X7A10: 5 V±100 mV.

- Settings: **UTILITIES DIAG TPOINT 401**
- Connect power supply (0...10 V) to X7A1 (EXTTUNE).

▶ Difference of the diagnostic voltage for an EXTTUNE voltage of 0 V and 10 V: 250 ±30 mV**.

** In the case of the pcbs with amendment -D-: 400±100mV.

7.4.3 600-MHz Signal

7.4.3.1 600-MHz Oscillator

Circuit diagram sheets 2 and 3

Functioning as well as the tuning range of the oscillator are checked.

- Settings: **FREQUENCY 50MHZ**
  UTILITIES DIAG TPOINT 404
- Disconnect jumper X20 and connect power supply (0...25V) to X20.2 and X20.3 (ground).
- Connect spectrum analyzer with the setting CF600MHz, SPAN 50MHz and REF 10dBm to X76.

▶ Vary tuning voltage from 0 to 20 V, the oscillator must oscillate throughout the entire tuning range at 600 ±20 MHz without failure of oscillations, spurious or excessive noise.
▶ Switch tuning voltage between 2 and 18 V, the frequency variation of the oscillator must be > 15 MHz and < 20 MHz.
▶ The tuning voltage for 600MHz must be > 4V and < 16V.
▶ Diagnostic voltage at TPOINT 404 with 10V tuning voltage: 50...250mV.
- Remove power supply and insert jumper X20 onto 1-2.

7.4.3.2 50-MHz Output and 600-MHz Oscillator PLL

Circuit diagram sheets 2 and 3

The 50-MHz output REF50 is checked.

- Settings: **UTILITIES DIAG TPOINT 406**
- Connect spectrum analyzer with the setting CF 100MHz, SPAN 200MHz, REF 10dBm to X72.

▶ Check signal at output X72: 50 MHz, 9±2 dBm, harmonics suppression > 23 dB.
▶ Diagnostic voltages at TPOINT 406: 0.4...1 V.

The diagnosis is used to check whether the PLL locks.

- Settings: **UTILITIES DIAG TPOINT 404**

▶ Diagnostic voltage at TPOINT 404: 10±6 V.

7.4.3.3 600-MHz Output Amplifier

Circuit Diagram Sheet 3

The output circuit is adjusted and the output level checked with the signal cut in and off.

- Settings: **FREQUENCY 50MHz**
  UTILITIES DIAG TPOINT 405
- Connect spectrum analyzer with the setting CF 600MHz, SPAN 50MHz, REF 20dBm to X76.

▶ Use L316 to adjust for maximum level at X76, level: 9±2 dBm.
▶ Diagnostic voltage at TPOINT 405: 100...300 mV.

The frequency of the SMT is set such that the LO is deactivated.

- Settings: **FREQUENCY 10MHz**

▶ Check signal at output X76: < -30 dBm.

7.4.4 Output Oscillators

7.4.4.1 Oscillators

Circuit diagram sheet 4

It is absolutely necessary to screw the covers onto the oscillator chambers on the component and solder side.
Functioning of the oscillators is tested, the lower tuning limit is adjusted and the tuning range checked.

- Connect spectrum analyzer with the setting CF 1GHZ, SPAN 2GHz, REF 20dBm to X70.
- Remove jumper X75 and connect power supply to X75.2 and X75.3 (ground).

▶ Use the capacitive trimmer to adjust the lower frequency limit at 2 V and check the upper frequency limit with 19V tuning voltage, frequency and capacitive trimmer according to the table.

FREQUENCY	Oscillator	C-trimmer	Fmin (2V)	Fmax (19V)
900MHz	1	C402	740±1MHz**	990...1025MHz
1200MHz	2	C432	990±1MHz	1240...1275MHz
1400MHz	3	C462	1240±1MHz	1490...1525MHz

** In the case of the pcbs with amendment -D-: 747±1MHz.

▶ Vary the tuning voltage from 0 to 22V, the oscillator must oscillate throughout the entire tuning range without failure of oscillations, spurious and excessive noise. The output level at X70 must lie between 7 and 12 dBm. Repeat this procedure for the three oscillators.

- Settings: **FREQUENCY 1200MHZ**
  UTILITIES DIAG TPOINT 407

▶ Diagnostic voltage at TPOINT 407 with 10V tuning voltage: 10...100mV.

- Settings: **UTILITIES DIAG TPOINT 408**

▶ Diagnostic voltage at TPOINT 408 with 10V tuning voltage: 50...250mV.

- Remove power supply and reconnect jumper X75 to 1-2.

7.4.4.2 Output Stage with Dividers

Circuit diagram sheet 5

The output dividers by 2...16 are checked.

- Apply tuning voltage 10V using power supply according to 7.4.4.1.

▶ Test according to the table.

FREQUENCY	Divider	Frequency at X70	Level at X70
1120MHz	1	$F_{nom.}$ (≈1120MHZ)	7...12dBm
560MHz	2	$F_{nom.}/2$	7...12dBm
280MHz	4	$F_{nom.}/4$	7...12dBm
140MHz	8	$F_{nom.}/8$	7...12dBm
70MHz	16	$F_{nom.}/16$	7...12dBm

- Remove power supply and reconnect jumper X75 to 1-2.

7.4.5 PLL of Output Oscillators

7.4.5.1 Presettingt Voltage

Circuit diagram sheet 7

The 8-bit D/A for the presetting voltage in the PLL is checked.

- Settings: **FREQUENCY 750.001 MHz**
  UTILITIES DIAG TPOINT 411
- Insert jumper X750 onto 2-3.

▶ The presetting voltage at the diagnostic voltmeter must be 2.7 V with OSC1 adjusted. When increasing the output frequency in 10-MHz steps to 1000 MHz, the presetting voltage must increase continuously in steps of 450 to 770 mV to approx. 19 V. The presetting voltage is derived from the currently valid calibration table and is subject to the manufacturing tolerances of the oscillators, allowing only for a qualitative statement on functioning of the D/A converter.

- Reconnect jumper X750 to 1-2.

7.4.5.2 Dividers and PLL

Circuit diagram sheets 6 and 7

The divider chain in the reverse path of the PLL is checked. To this end, the oscillator is set to 1500 MHz (division factor 750) using the presetting voltage.

- Settings: **FREQUENCY 1500MHz**
- Insert jumper X750 onto 2-3.
- Connect oscilloscope with probe to P600.

▶ Check signal at P600: 2±.1MHz, HCMOS level.
The PLL is closed.

- Settings: **UTILITIES DIAG TPOINT 408**
- Insert jumper X750 onto 1-2.
- Connect spectrum analyzer with the setting CF=**FREQUENCY**, SPAN 100kHz, REF 10dBM to X70.

▶Check output signal with the various settings. There must not be any visible spurious response or excessive noise.

FREQUENCY	Diagnostic voltage TPOINT 408
750.0000001MHz	0±1V
1125MHz	0±2V
1500MHz	0±2V

7.4.6 Modulation Attenuator

7.4.6.1 Modulation Matrix

Circuit diagram sheet 8

The modulation matrix for both channels and the AC/DC switchover for the external inputs are checked.

- Apply modulation signals to the inputs according to the table, use AC/DC voltmeter for measurement at the test points according to the table. The LFGEN2 input can only be checked using the option SM-B6 or SM-B2 LFGEN2.

Setting	Apply at	Signal	Test point	Signal at test point
FM1 SOURCE OFF	-	-	P840	AC: < 10mVrms DC: < ±20mV
FM1 SOURCE LFGEN1	-	-	P840	AC: 707±10mVrms DC: < ±20mV
FM1 SOURCE EXT1	EXT1	AC: 1Vp, 1kHz, DC: 1V	P840	AC: 707±10mVrms DC: < ±10mV
"	"	AC: - , DC: 1V	P840	AC: - DC: 1V±10mV
FM1 SOURCE EXT2	EXT2	AC: 1Vp, 1kHz, DC: 1V	P840	AC: 707±10mVrms DC: < ±10mV
"	"	AC: - , DC: 1V	P840	AC: - DC: 1V±10mV
FM2 SOURCE LFGEN2	-	-	P835	AC: 707±10mVrms DC: < ±20mV
FM2 SOURCE LFGEN2	EXT2	AC: 1Vp, 1kHz, DC: -	P835	AC: 707±10mVrms DC: < ±20mV

7.4.6.2 EXT2 Monitoring

Circuit Diagram Sheets 8 and 10

- Connect AF generator with 1kHz, level according to table to EXT2.

▶ Check functioning of level monitoring according to the table.

Input voltage at EXT2	Error message
1±0.005V	-
1.03±0.005V	EXT2-HIGH
0.97±0.005V	EXT2-LOW

7.4.6.3 FM Deviation Setting

Circuit diagram sheets 8 and 9

Functioning of the fine dividers is tested in both FM channels.

- Setting: **FREQUENCY 1GHz**
  MODULATION FM FM1 SOURCE LFGEN1
- Connect AF voltmeter to P880.

▶ Vary the FM deviation with FM1 DEVIATION from 100 Hz to 2.5 kHz in 100-Hz steps. The AF voltage at P880 must rise from approx. 0.2 V_{rms} to 5 V_{rms} in 0.2-V steps.

Setting: **FREQUENCY 1GHz**
MODULATION FM FM1 SOURCE EXT2 (LFGEN2)

- Apply 1Vp, 1kHz to input EXT2. If the SMT is equipped with an optional LF generator, the source LFGEN2 can also be selected.

- Connect AF voltmeter to P880.

▶ Vary the FM deviation with FM1 DEVIATION from 100 Hz to 2.5 kHz in 100-Hz steps. The AF voltage at P880 must rise from approx. 0.2 V_{rms} to 5 V_{rms} in 0.2-V steps.

Functioning of the coarse divider for modulation of the oscillator is checked.

- Setting: **FREQUENCY 1GHz**
  MODULATION FM FM1 SOURCE LFGEN1
- Connect AF voltmeter to test point P930.

▶ Check functioning of the coarse divider according to the table.

FM1 DEVIATION	Signal at P930
. 8.192MHz	V_{FM} (approx. 470mV_{rms})
. 2.048MHz	$V_{FM}/4$ (approx. 118mV_{rms})
.. 512kHz	$V_{FM}/16$ (approx. 29.4mV_{rms})
.. 128kHz	$V_{FM}/64$ (approx. 7.34mV_{rms})
... 32kHz	$V_{FM}/256$ (approx. 1.83mV_{rms})
... 8kHz	$V_{FM}/1024$ (approx. 460μV_{rms})
... 2kHz	$V_{FM}/4096$ (approx. 115μV_{rms})
.... 0Hz	<50µV

7.4.6.4 PHiM Deviation Setting

Circuit diagram sheet 9

The coarse divider for the PHiM is checked via the control path as well as the two PhiM differentiating circuits.

- Setting: **FREQUENCY 1GHz**
  MODULATION PM PM1 SOURCE LFGEN1
  LFGEN1 FREQ 1kHz
- Connect AF voltmeter to test point according to the table.

▶ Check functioning according to the settings in the table (in the case of the pcbs with the amendment "A", test point P940 is not provided yet, measure at D930.3 instead).

PM1 DEVIATION	PM BANDWIDTH	Test point	Signal/$_{rms}$
5rad	2M	P1	approx. 5.7mV
100rad	100k	P1	approx. 285µV
80rad	100k	P940	V_{PM} (approx. 900mV)
20rad	100k	P940	$V_{PM}/4$ (approx. 225mV)
5rad	100k	P940	$V_{PM}/16$ (approx. 56mV)
1.25rad	100k	P940	$V_{PM}/64$ (approx. 14mV)
0rad	100k	P940	< 50µV

7.4.7 Sigma-Delta Converter with FM-DC Control

Circuit diagram sheet 9

Functioning of the sigma-delta converter and of the FM-DC control is checked in the operating modes FM-AC and FM-DC by measuring the output voltage of the offset control using the diagnosis.

- Setting: **FREQUENCY 1GHz**
  MODULATION FM FM1 SOURCE EXT1
  UTILITIES DIAG TPOINT 415
- Connect DC voltage source (0...1V) to the modulation input EXT1.

▶ Check the diagnostic voltage according to the table.

EXT1 COUPLING	DC-NULLING	Voltage EXT1	Diagn. volt. TPOINT 415
AC	-	0V	$V_{nom.}$ (approx. 2.5V)
DC	-	0V	$V_{nom.}$ ±50mV
DC	X	1V	approx. 4.4±0.2V

7.4.8 Deviation Adjustments

7.4.8.1 FM Deviation Adjustment

Circuit diagram sheet 9

The scale of the FM deviation is adjusted via the closed-loop control path.

- Setting: **FREQUENCY 1GHz**
  MODULATION FM FM1 SOURCE EXT1
  FM1 DEVIATION 250kHz
- Connect AF generator, $1V_p$±5mV, 50Hz, to the input EXT1.
- Connect modulation analyzer with the setting HP 10Hz, LP 3kHz, detector RMS*√2, to X70.

▶ Use R946 to adjust to a deviation of 250±0.5kHz. Then perform the calibration by means of **UTILITIES CALIB FM**.

7.4.8.2 PHiM Deviation Adjustment

Circuit diagram sheet 9

The scale of the PHiM deviation is adjusted via the closed-loop control path.

- Setting: **FREQUENCY 1GHz**
  MODULATION PM PM1 SOURCE EXT1
  PM1 DEVIATION 100rad
  PM BANDWIDTH 100k
- Connect AF generator, 1 V_p ±5 mV, 50 Hz, to the input EXT1.
- Connect modulation analyzer with the setting HP 10Hz, LP 3kHz, detector RMS*√2, to X70.

▶ Use R918 to adjust to a deviation of 5 ±0.01 kHz. Then perform the calibration by means of **UTILITIES CALIB FM**.

7.4.8.3 PM2MHz Adjustment

Circuit diagram sheet 9

The scale of the PM with a bandwidth of 2 MHz is adjusted via the control path.

- Setting: **FREQUENCY 1GHz**
  UTILITIES CALIB FM EXECUTE
  MODULATION PM PM1 SOURCE EXT1
  - Connect AF generator, 1 V_p ±5 mV, 10 kHz, to the input EXT1.
- Connect modulation analyzer with the setting HP 20Hz, LP 100kHz, detector RMS*√2 to X70.

▶ Use C910 to adjust to a deviation of 50 ±.5 kHz.

7.4.9 Testing the Calibrations

7.4.9.1 Calibration VCO SYN

The PI-controller voltage is the difference between the presetting and the tuning voltage. Using the diagnosis, the voltage in the fundamental octave is measured in 3-MHz steps.

- Setting: **FREQUENCY 750.0000001M**
  FREQUENCY KNOB STEP USER 3MHZ
  KNOB STEP USER
  UTILITIES DIAG TPOINT 409

▶ Increase the frequency from 750.0000001 MHz to 1497.0000001 MHz. The diagnostic voltage at TPOINT 409 must lie in the range 0±150mV at every frequency.

7.4.9.2 Calibration FM

Using a diagnostic detector, the difference deviation is measured in 3-MHz steps with FM modulation in the PLL in the fundamental octave.

- Setting: **FREQUENCY 750.0000001M**
  FREQUENCY KNOB STEP USER 3MHZ
  KNOB STEP USER
  UTILITIES DIAG TPOINT 410
  MODULATION FM SOURCE LFGEN1
  FM1 DEVIATION 500kHz

▶ Increase the frequency from 750.0000001 MHz to 1497.0000001 MHz. The diagnostic voltage at TPOINT 410 must lie in the range 0 ±50mV at every frequency.

7.4.10 Transient Response of Synthesizer

The transient response of the PI-controller voltage is measured with a frequency sweep between 760 and 1490 MHz.

- Setting: **SWEEP FREQ START FREQ 760MHz**
  STOP FREQ 1490MHz
  STEP LIN 730MHz
  MODE AUTO
- Connect oscilloscope with probe to test point P720.

▶ The voltage variation at the output of the phase detector may only vary by max. 2 V up to 500 us after the module strobe. After 5 ms, the variation must be < 0.5 V. Thus a voltage curve as shown in illustration 1 is obtained.

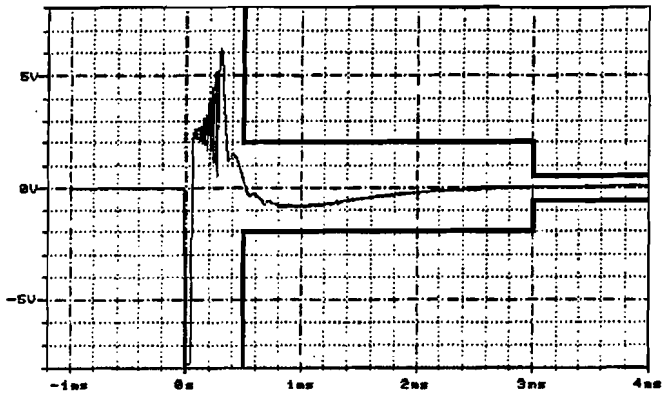


Illustration 1

7.4.11 Spurious FM Synthesizer

- Connect modulation analyzer to X70. Check the spurious FM using weighting filter 20 Hz...23 kHz and CCITT at the following frequencies (MHz):
  750.0000001, 800, 850, 900, 950, 1000, 1000.0000001, 1050, 1100, 1150, 1200, 1250, 1250.0000001, 1300, 1350, 1400, 1450, 1500.

▶ Spurious FM < 20 Hz_{rms} (20 Hz...23 kHz),
Spurious FM < 8 Hz_{rms} (CCITT).

7.4.12 Spurious Responses Synthesizer

- Connect spectrum analyzer to X70 with the setting CF=FREQUENCY, SPAN 50kHz, RBW 100Hz, VBW 30Hz, REF 10dBm. Measure the spurious suppression at the following frequencies (in MHz): 875.02, 1124.02, 1374.02, 1200.00333, 1200.005, 1200.01, 600.005.

▶ The spurious suppression ±10kHz from the carrier must be >= 80 dB.

7.4.13 FM-DC Nulling

- Setting: **FREQUENCY 1GHz**
  MODULATION FM FM1 DEVIATION 10MHz
  FM1 SOURCE EXT1
  EXT1 COUPLING DC
- Connect power supply (±1V) to EXT1.
- Connect modulation analyzer with frequency counter to X70.

▶ Set the voltage on the power supply to 0 ±50 mV, perform **FM-DC Nulling**. The frequency error must be < 10 kHz. Vary the voltage from -1 to +1 V and measure the spurious FM, it must be < 1 kHz_{rms} (weighting bandwidth 300 Hz to 23 kHz) (the control voltage must be free from noise and hum!).

7.4.14 Tables and Interfaces

7.4.14.1 Digital Interface

SERBUS address: 26H
Subaddress 0 (SERBUS channel 1)

Latch		Designation	Function		
D885	11	EXT1-AC/DC	AC/DC coupling for EXT1	0=AC	1=DC
	12	FM2-OFF	Selection of source for channel 2	0=off	1=on
	13	FM2-INT2			
	14	FM2-EXT2			
	7	FM1-OFF	Selection of source for channel 1	0=off	1=on
	6	FM1-INT			
	5	FM1-EXT2			
	4	FM1-EXT1			
D854	6	PM-HIGH/PM-LOW	Switchover PHiM bandwidth	0=100kHz	1=2MHz
	5	PM/FM	Switchover FM/ PHiM	0=FM	
	4	EXT2-AC/DC	AC/DC coupling EXT2	0=AC	1=DC
D220	3	REFTUNE	Tuning voltage standard and optional reference, serial 12-bit D/A		
D110	12	INT/EXT	Switchover reference	0=ext.	1=int.
	13	OPTREF	Switchover standard/option	0=Std.	1=Opt.
	14	END1	Diagnostic multiplexer 2	0=off	1=on
	7	END0	Diagnostic multiplexer 1	0=off	1=on
	6	DA	Diagnostic multiplexer	MSB	
	5	DA	Address 0...7		
	4	DA		LSB	

SERBUS address: 26H
Subaddress 1 (SERBUS channel 2)

Latch		Designation	Function	
D900	11	FMCOARSE	Coarse divider FM	MSB
	:		7 steps and off	
	14			LSB
	6	PMCOARSE	Coarse divider PHiM	MSB
	:		4 steps and off	
	4			LSB
D920	4,5,7	PMKOMP	Divider factor and dev. slope comp. Serial 12-bit D/A	
D795	11	PLLTUNE	Presetting voltage PLL FSYN	MSB
	4		8 bits	LSB
D850	4,5,7	DEVSET2	Fine adjustment deviation FM2 Serial 12-bit D/A	
D840	4,5,7	DEVSET1	Fine adjustment deviation FM1 Serial 12-bit D/A	

SERBUS address: 26H

Subaddress 1 (SERBUS channel 2)

Latch		Designation	Function		
D790	14	S-DSIG	Sigma-delta converter	0=off	1=on
	6	PLLGAIN	PLL gain	MSB	
	:				
	5			LSB	
D665	11	ADWE15	Deviation value at A/D input	MSB	
	:		of FRACSYN, MSByte		
	4			LSB	
D660	11	ADWE7	LSByte	MSB	
	:				
	4			LSB	
D585	11	S8	Path output divider 3	0=off	1=on
	12	S7	Path outp. sect. 2/inp. sect.3		
	13	S6	Path output divider 2		
	14	S5	Path input divider 2		
	7	S4	Path outp. sect. 1/inp. sect.3		
	6	S3	Path output divider 1		
	5	S2	Path input divider 1		
	4	S1	Path no divider		
D580	12	S-REF600	Output REF600	0=off	1=on
	13	I3	Divider 3 (%4)	0=on	1=off
	14	I2	Divider 2 (%4)		
	7	I1	Divider 1 (%2)		
	6	OSZ3	Oscillator 1250...1500MHz	0=off	1=on
	5	OSZ2	Oscillator 1000...1250MHz		
	4	OSZ1	Oscillator 750...1000MHz		

The FRACSYN device is also provided with an interface according to SERBUS standard with a subaddress. Since the transmitted data are not accessible from outside, they are not specified in this case.

7.4.14.2 List of Diagnostic Test Points

See section 6.3.2.1.

7.5 Disassembly and Assembly

After opening the instrument, unlocking the boards and loosening the RF connections at X70, X72, X74, X76 and X78, the board can be removed from its location.
The screening covers are fastened with screws. During operation with open cover, make sure that the resonator chambers I, J, H are closed with appropriate test covers on both sides.

7.6 External Interfaces

Pin	Name	Input/Output	Origin/Destination	Value range	Signal description
X7.A1	EXTTUNE	Input	Rear panel	-10V...+10V	EXTTUNE for reference
X7.A4	EXT1	Input	A3, FRO	$1V_p$	Modulation voltage
X7.A5	EXT2	Input	A3, FRO	$1V_p$	Modulation voltage
X7.A6	INT1	Input	A10, OPU1 X10.86 A50,LFGEN X1.A7 A5, MGEN X50.7	$1V_p$	Modulation voltage
X7.A7	INT2	Input	A50,LFGEN X1.A7 A5,MGEN X50.7	$1V_p$	Modulation voltage
X7.A9	OPTUNE	Output	A71,ROSC X22.16	0...10V	Tuning voltage for optional reference (SM-B1)
X7.A12	SERBUS-CLK	Input	A3, FRO X50.40	HCMOS level	Serbus clock
X7.A14 X7.A15	SERBUS-DAT	bidir.	A3, FRO X50.39	HCMOS level	Serbus data
X7.A16	SERBUS-SYNC	Input	A3, FRO X50.37	HCMOS level	Serbus synchronization
X7.A17	SERBUS-INT	Output	A3, FRO X50.38	HCMOS level	Serbus interrupt
X7.A18	RES-P	Input	A3, FRO X50.28	HCMOS level	Serbus reset
X7.A19	DIAG-5V	Output	A3, FRO X50.44	-5V...5V	Diagnosis
X7.A22	VA24-P	Input	A2, POWS1	23.4V...24.6V 20...90mA	Supply voltage analog
X7.A24	VA15-P	Input	A2, POWS1	14.80V...15.75V 100...200mA	Supply voltage analog
X7.A26	VA7.5-P	Input	A2, POWS1	7.45V...7.95V 1100...1400mA	Supply voltage analog
X7.A28	VD-5P	Input	A2, POWS1	5.10V...5.25V 5...20mA	Supply voltage digital
X7.A30	VA15-N	Input	A2, POWS1	-15.75V...-14.85V 200...300mA	Supply voltage analog
X74	OPT10	Input	A71, ROSC X711	5...9dBm	
X78	EXTREF	bidir.	Rear panel	5/10MHz ±3ppm -13...13dBm 10MHz, 6...10dBm	Input Output
X70	FSYN	Output	A10, OPU1 X101	6...13dBm	Syn. Frequency 7.5...1500MHz
X76	REF600	Output	A10, OPU1 X105	7...11dBm	reference 600 MHz

Pin	Name	Input/Output	Origin/Destination	Value range	Signal description
X72	REF50	Output	A5, MGEN X53 A4,PUM1/3 X41	7...11dBm	Reference 50 MHz, to the

ROHDE&SCHWARZ

Schaltteillisten
numerisch geordnet

Part lists
in numerical order

Listes des pièces détachées
par numéros de référence

095.1000 Bl. 3

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C2	CE 47UF+-20%50V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7479.00	PANASONIC	ECA-1HFG470I	
C3	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C4	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C5	CE 220UF+-20%10V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7927.00	PANASONIC	ECA 1 AFG 221 I	
C14	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C20	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C21	CE 1UF +-10% 25V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7217.00	SPRAGUE	293D 105 X9 025 B2T	
C24	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C25	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C26	CE 2,2UF +-10% 25V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7223.00	SPRAGUE	293D 225 X9 025 C2W	
C27	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C28	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C29	CE 220UF+-20%10V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7927.00	PANASONIC	ECA 1 AFG 221 I	
C30	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C100	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C101	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C110	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C120	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C200	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C202	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C204	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C205	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C206	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C208	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C209	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C210	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C214	CC 82PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8821.00	MURATA	GRM42-6C0G 820F50ZPT	
C217	CC 390PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8880.00	AVX	1206 5 A 391 F 3	
C218	CC 680PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0007.7375.00	MURATA	GRM42-6C0G 681F 50PT	
C219	CC 470PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8515.00	AVX	1206 5 A 471 F 3	
C220	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C221	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C224	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C226	CC 680PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0007.7375.00	MURATA	GRM42-6C0G 681F 50PT	
C228	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C230	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C232	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C234	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C236	CC 15PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8750.00	MURATA	GRM42-6C0G 150F50ZPT	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C240	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C241	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C242	CC 220PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8850.00	MURATA	GRM42-6C0G 221F 50PT	
C243	CC 1,2NF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0007.7400.00	AVX	1206 5A 122FAT00J	
C244	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C250	CC 22PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8396.00	MURATA	GRM42-6C0G 220F50ZPT	
C251	CC 33PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8780.00	MURATA	GRM42-6C0G 330F50ZPT	
C252	CC 5,6NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.3240.00	PHILIPS_CO	2238 581 16624	
C254	CC 5,6NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.3240.00	PHILIPS_CO	2238 581 16624	
C255	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C256	CK 470NF+-5%63V RD5H10MKT POLYESTER CAPACITOR	CK 0099.2975.00	SIEMENS	B 32 529-A474-J	
C258	CC 68NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5214.00	AVX	1206 5 C 683 KA 3	
C260	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C261	CE 1UF +-10% 10V 1206 TANTALUM CHIP CAPACITOR	CE 0007.7252.00	SPRAGUE	293D 105 X9 010 D2T	
C286	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C289	CC 470NF+-10%50V X7R 1812 CERAMIC CHIP CAPACITOR	CC 0007.7498.00	AVX	1812 5C 474KA T00F	
C298	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C300	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C302	CC 3,3PF0,25PF NPO 0805 CERAMIC CHIP CAPACITOR	CC 0099.8273.00	PHILIPS_CO	2222 861 12338	
C304	CC 1,8PF0,25PF NPO 0805 CHIP CAPACITOR	CC 0099.6806.00	MURATA	GRM40 C0G 1R8 C50PT	
C306	CC 6,8PF0,5PF NPO 0805 CAPACITOR	CC 0093.2167.00	MURATA	GRM40C0G6R8C50PT	
C308	CC 8,3PF0,25PF NPO 0805 CERAMIC CHIP CAPACITOR	CC 0099.8309.00	VITRAMON	VJ0805A8R3CXA	
C310	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C312	CE 2,2UF +-10% 25V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7223.00	SPRAGUE	293D 225 X9 025 C2W	
C314	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C316	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C317	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C318	CC 1PF+-0,25 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8667.00	MURATA	GRM42-6C0G 1R0 C50PT	
C320	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C322	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C324	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C326	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C332	CC 220PF+-10%50V X7R 0805 SMD-CERAMIC-CAPACITOR	0008.4905.00	VITRAMON	VJ0805Y221KFA	
C333	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C337	CC 1,2PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8142.00	MURATA	GRM42-6C0G 1R2 C50PT	
C338	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C340	CC 1PF+-0,25 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8667.00	MURATA	GRM42-6C0G 1R0 C50PT	
C342	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C343	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C344	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C345	CC 100PF+-10% NP0 0805 CAPACITOR	CC 0082.2948.00	MURATA	GRM40 C0G 101 K50ZPT	
C346	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C347	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C348	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C350	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C351	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C352	CC 6,8PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8236.00	MURATA	GRM42-6C0G 6R8 C50PT	
C355	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C356	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C358	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C360	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C361	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C362	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C363	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C364	CC 39PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8796.00	MURATA	GRM42-6C0G 390F50ZPT	
C366	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C368	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C369	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C370	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C400	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C402	CT 9,2PF TAUCHTR.RD 7X12 AIR-TYPE TRIMMER	CT 0025.7367.00	TEKELEC	TL 248	
C404	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C406	CC 2,7PF0,25PF NP0 0805 CAPACITOR	CC 0093.5572.00	PHILIPS_CO	2222 861 15278	
C408	CC 4,3PF0,25PF NP0 0805 CAPACITOR	CC 0093.5643.00	MURATA	GRM40C0G4R3C50PT	
C410	CC 10PF 0,25PF NP0 0805 CERAMIC CHIP CAPACITOR	CC 0099.8321.00	MURATA	GRM40 C0G100C 50ZPT	
C412	CC 6PF+-0,25PF NP0 0805 CERAMIC CHIP CAPACITOR	CC 0099.8280.00	MURATA	GRM40 C0G 6R0 C50PT	
C414	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C416	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C418	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C430	CC 6,8PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8236.00	MURATA	GRM42-6C0G 6R8 C50PT	
C432	CT 9,2PF TAUCHTR.RD 7X12 AIR-TYPE TRIMMER	CT 0025.7367.00	TEKELEC	TL 248	
C434	CC 6,8PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8236.00	MURATA	GRM42-6C0G 6R8 C50PT	
C436	CC 3,9PF0,25PF NP0 0805 CAPACITOR	CC 0093.5620.00	MURATA	GRM40C0G 3R9 C50PT	
C438	CC 2,9PF0,25PF NP0 0805 CAPACITOR	CC 0093.5589.00	VITRAMON	VJ0805A...CXAT	
C440	CC 5,2PF0,25PF NP0 0805 CAPACITOR	CC 0093.5650.00	MURATA	GRM40C0G5R2C50PT	
C442	CC 3,3PF0,25PF NP0 0805 CERAMIC CHIP CAPACITOR	CC 0099.8273.00	PHILIPS_CO	2222 861 12338	
C444	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C446	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C448	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C460	CC 4,7PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8213.00	MURATA	GRM42-6C0G 4R7C 50PT	
C462	CT 9,2PF TAUCHTR.RD 7X12 AIR-TYPE TRIMMER	CT 0025.7367.00	TEKELEC	TL 248	
C464	CC 4,7PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8213.00	MURATA	GRM42-6C0G 4R7C 50PT	
C466	CC 3,9PF0,25PF NP0 0805 CAPACITOR	CC 0093.5620.00	MURATA	GRM40C0G 3R9 C50PT	
C468	CC 2,2PF0,25PF NP0 0805 CAPACITOR	CC 0093.5566.00	MURATA	GRM40 C0G 2R2C 50PT	
C470	CC 5,2PF0,25PF NP0 0805 CAPACITOR	CC 0093.5650.00	MURATA	GRM40C0G5R2C50PT	
C472	CC 2,2PF0,25PF NP0 0805 CAPACITOR	CC 0093.5566.00	MURATA	GRM40 C0G 2R2C 50PT	
C474	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C476	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C478	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C481	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C490	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3 :	
C491	CE 4,7UF +-10% 25V 7343 TANTALUM CHIP CAPACITOR	CE 0007.7230.00	SPRAGUE	293D475X9035D2W	
C492	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C493	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C494	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C495	CC 1,5PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8159.00	MURATA	GRM42-6C0G 1R5 C50PT	
C496	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C497	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C500	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C501	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C502	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C504	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C505 ..507	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C510	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C511 ..514	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C515	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C516	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C517	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C520	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C521 ..524	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C525	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C526	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C527	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C530	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C532	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C533	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C535	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C537	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C540 ..543	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C544	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C546	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C547	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C548	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C550	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C551	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	
C552	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C553	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C555	CC 1PF+-0,25 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8667.00	MURATA	GRM42-6C0G 1R0 C50PT	
C556	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C557	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C570	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C571	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C580	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C600	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C601	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C602	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C605	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C610	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C611	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C615	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C616	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C617	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C639	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C640	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C641	CC 22PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8396.00	MURATA	GRM42-6C0G 220F50ZPT	
C645	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C647	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C649	CE 1UF +-10% 10V 1206 TANTALUM CHIP CAPACITOR	CE 0007.7252.00	SPRAGUE	293D 105 X9 010 D2T	
C654 ..657	CE 1UF +-10% 25V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7217.00	SPRAGUE	293D 105 X9 025 B2T	
C660	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C690	CE 1UF +-10% 10V 1206 TANTALUM CHIP CAPACITOR	CE 0007.7252.00	SPRAGUE	293D 105 X9 010 D2T	
C701	CC 2,2NF+-10%50VX7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8444.00	AVX	1206 5 C 222 KA 3	
C702	CC 2,2NF+-10%50VX7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8444.00	AVX	1206 5 C 222 KA 3	
C707	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C708	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C709	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C710	CC 22PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8396.00	MURATA	GRM42-6C0G 220F50ZPT	
C720	CC 1NF+-1% 50V NPO 1206 SMD CERAMIC CAPACITOR	CC 0007.7398.00	AVX	1206 5A 102 FAT00J	
C721	CK 150NF+-5%63VRD3,5H9MKT POLYESTER CAPACITOR	CK 0099.2946.00	SIEMENS	B 32 529-A154-J	
C722	CC 22PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8396.00	MURATA	GRM42-6C0G 220F50ZPT	
C731	CC 680NF+-10%50V X7R 2220 CERAMIC CHIP CAPACITOR	CC 0007.7517.00	AVX	2220 5C 684KAT00F	
C732	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C740	CE 2,2UF +-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7269.00	SPRAGUE	293D 225 X9 020 B2T	
C741	CC 22PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8396.00	MURATA	GRM42-6C0G 220F50ZPT	
C750	CC 22PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8396.00	MURATA	GRM42-6C0G 220F50ZPT	
C755	CE 47UF+-20%50V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7479.00	PANASONIC	ECA-1HFG470I	
C756	CC 33NF+-10% 50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5172.00	AVX	1206 5 C 333 KA 3	
C760	CC 18NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.3270.00	AVX	1206 5 C 183 KA 3	
C765 ..767	CK 1,5UF+-5% 50V RD5,5H12 POLYESTER CAPACITOR	CK 0008.1141.00	SIEMENS	B32529-C5155-J	
C778	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C779	CK 150NF+-5%63VRD3,5H9MKT POLYESTER CAPACITOR	CK 0099.2946.00	SIEMENS	B 32 529-A154-J	
C780	CC 1,8NF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0007.7423.00	AVX	1206 5A 182 F 3	
C781	CC 1,8NF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0007.7423.00	AVX	1206 5A 182 F 3	
C782	CE 4,7UF +-10% 25V 7343 TANTALUM CHIP CAPACITOR	CE 0007.7230.00	SPRAGUE	293D475X9035D2W	
C784	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C787	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C788	CE 1UF +-10% 10V 1206 TANTALUM CHIP CAPACITOR	CE 0007.7252.00	SPRAGUE	293D 105 X9 010 D2T	
C790	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C791	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C792	CE 22UF+-20%50V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7533.00	PHILIPS_CO	2222 116 11229	
C793	CE 22UF+-20%50V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7533.00	PHILIPS_CO	2222 116 11229	
C794	CE 1UF +-10% 10V 1206 TANTALUM CHIP CAPACITOR	CE 0007.7252.00	SPRAGUE	293D 105 X9 010 D2T	
C795	CC 22PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8396.00	MURATA	GRM42-6C0G 220F50ZPT	
C796	CE 1UF +-10% 25V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7217.00	SPRAGUE	293D 105 X9 025 B2T	
C797	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C819	CC 33PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8780.00	MURATA	GRM42-6C0G 330F50ZPT	
C830	CK 100NF+-5%63VRD2,5H7MKT POLYESTER CAPACITOR	CK 0099.2930.00	SIEMENS	B 32 529-C104-J	
C831	CK 100NF+-5%63VRD2,5H7MKT POLYESTER CAPACITOR	CK 0099.2930.00	SIEMENS	B 32 529-C104-J	
C840	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C850	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C851	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C852	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C860	CE 220UF+-20%10V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7927.00	PANASONIC	ECA 1 AFG 221 I	
C861	CE 220UF+-20%10V RM2,5 ELECTROLYTIC CAPACITOR	CE 0008.7927.00	PANASONIC	ECA 1 AFG 221 I	
C862	CC 330PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8873.00	AVX	1206 5A 331 F 3	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C865	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C866	CE 2,2UF +-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7269.00	SPRAGUE	293D 225 X9 020 B2T	
C870	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 0520.6873.00	AVX	2220 5C 105 KAT**A(F	
C871	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 0520.6873.00	AVX	2220 5C 105 KAT**A(F	
C875	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C876	CC 10NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0099.8521.00	MURATA	GRM42-6X7R103K 50PT	
C877	CE 1UF +-10% 10V 1206 TANTALUM CHIP CAPACITOR	CE 0007.7252.00	SPRAGUE	293D 105 X9 010 D2T	
C878	CE 1UF +-10% 10V 1206 TANTALUM CHIP CAPACITOR	CE 0007.7252.00	SPRAGUE	293D 105 X9 010 D2T	
C885 ..887	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C888	CC 100PF+-1%50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C890	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C891	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C894	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C895	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C900	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C901	CC 47PF+-1%50V C0G 1206 CERAMIC CHIP CAPACITOR	CC 0099.8496.00	MURATA	GRM42-6C0G 470F50XPT	
C906	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C910	CC 5,6PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8220.00	MURATA	GRM42-6C0G 5R6 C50PT	
C911	CC 120PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8838.00	MURATA	GRM42-6C0G 121F50ZPT	
C912	CC 390PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8880.00	AVX	1206 5 A 391 F 3	
C913	CK 2,4NF+-1%63V,3QUX11KP CAPACITOR	CK 0334.5637.00	SIEMENS	B33531-A5242-F	
C914	CC 150PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8509.00	MURATA	GRM42-6C0G 151F 50PT	
C920	CC 10PF+-0,25 50VNP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8480.00	MURATA	GRM42-6C0G 100 C50PT	
C948	CE 470UF+-20% 16V RM5 ELECTROLYTIC CAPACITOR	CE 0008.1993.00	NAT_PANASO	ECA 1CFG 471 B	
C949	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C950	CC 680PF+-1% 50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0007.7375.00	MURATA	GRM42-6C0G 681F 50PT	
C951	CC 820PF+-1% 50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0007.7381.00	MURATA	GRM42-6C0G 821F50ZPT	
C952	CC 68PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8815.00	MURATA	GRM42-6C0G 680F50ZPT	
C953	CC 22PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8396.00	MURATA	GRM42-6C0G 220F50ZPT	
C955	CC 270PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8867.00	AVX	1206 5A 271 F 3	
C956	CC 100PF+-1%50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0099.8415.00	MURATA	GRM42-6C0G 101F50ZPT	
C957	CE 100UF+-20%25V RM2.5 ELECTROLYTIC CAPACITOR	CE 0008.7891.00	PANASONIC	ECA-1EFG101I	
C958	CC 820PF+-1% 50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0007.7381.00	MURATA	GRM42-6C0G 821F50ZPT	
C959	CC 5,6PF+-0,25 50VNP01206 CERAMIC CHIP CAPACITOR	CC 0007.8220.00	MURATA	GRM42-6C0G 5R6 C50PT	
C960	CC 47PF+-1%50V C0G 1206 CERAMIC CHIP CAPACITOR	CC 0099.8496.00	MURATA	GRM42-6C0G 470F50XPT	
C961	CE 1UF +-10% 25V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7217.00	SPRAGUE	293D 105 X9 025 B2T	
C962	CE 1UF +-10% 10V 1206 TANTALUM CHIP CAPACITOR	CE 0007.7252.00	SPRAGUE	293D 105 X9 010 D2T	
C963	CC 820PF+-1% 50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0007.7381.00	MURATA	GRM42-6C0G 821F50ZPT	
C977	CE 1UF +-10% 25V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7217.00	SPRAGUE	293D 105 X9 025 B2T	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C979	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C989	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C990	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
D20	BO REF01CS 10V 20MA VREF VOLTAGE REFERENCE	1002.5129.00	PMI	REF01C(S)	
D60	BG SH100E3008 DIVREF ASIC IC GATEARRAY	BG 1039.1240.00	SIEMENS	SH100E3008	
D65	BG TH3087.1I FRACSYN2ASIC IC GATEARRAY	BG 1066.1960.00	THESYS	TH3087.1I	
D100	BL PC74HCT125T 4XBUFF. 3S QUAD LINE DRIVER	BL 0007.5395.00	PHILIPS_SE	(PC)74HCT125(D/T)	
D105	BG TH3032.1C SERBUSD ASIC IC GATE ARRAY	BG 0008.6143.00	THESYS	TH3032.1C	
D110	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D115	BL PC74HC4051T 8CH.AN.MUX 8CHANNEL ANAL.MULTIPLEXER	0007.3592.00	PHILIPS_SE	(PC)74HC4051(D/T)	
D120	BL PC74HC4051T 8CH.AN.MUX 8CHANNEL ANAL.MULTIPLEXER	0007.3592.00	PHILIPS_SE	(PC)74HC4051(D/T)	
D125	BL PC74HCT02T 4X2IN NORG QUAD 2INPUT NORGATE	BL 0007.5366.00	PHILIPS_SE	(PC)74HCT02(D/T)	
D200	BL PC74HC00T 4X2IN.NAND QUAD 2INPUT NAND GATE	BL 0007.3463.00	PHILIPS_SE	(PC)74HC00D(T)	
D205	BL PC74HC390T 2XDEC.CNT DUAL DECADE COUNTER	BL 0007.5043.00	PHILIPS_SE	(PC)74HC390(D/T)	
D210	BL PC74HC74T 2XD-FF DUAL D-TYPE FLIPFLOP	0007.3505.00	PHILIPS_SE	(PC)74HC74D(T)	
D215	BS DG419DY 1XUM ANALOGSCH ANALOG SWITCH	0746.0322.00	SILICONIX	DG419DY	
D220	BJ DAC8143FS 1X12B-DAC 12B SERIAL D/A-CONVERTER	1012.9510.00	PMI	DAC8143FS	
D255	BL PC74HCT74T 2XD-FLIPFL DUAL D-TYPE FLIP FLOP	BL 0007.6262.00	PHILIPS_SE	(PC)74HCT74D(T)	
D350	BL UPB585G 2.5G 4:1 PRESC IC PRESCALER 2.5GHZ	BL 1002.5029.10	NEC	(UPB)585(G)-(E1)	
D355	BL MC10H131FN 2XD-FF IC ECL DUAL FLIPFLOP	BL 1039.3094.00	MOTOROLA	MC10H131FN	
D360	BL 74F00D 4X2IN NAND GATE QUAD 2INPUT NAND GATE	BL 0007.3628.00	PHILIPS_SE	(N)74F00(D)	
D370	BL 74ACT161SC 4B BINCTR IC COUNTER	BL 0008.0697.00	HARRIS	CD74ACT161M	
D510	BL UPB581C 2:1 PRESC IC PRESCALERDIVIDER	BL 0840.6113.00	NEC	(UP)B581C	
D520	BL UPB582C 4:1 PRESC IC PRESCALER	BL 0820.3390.00	NEC	(UP)B582C	
D540	BL UPB582C 4:1 PRESC IC PRESCALER	BL 0820.3390.00	NEC	(UP)B582C	
D580	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D585	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D640	BL 74AC00SC 4X2IN NAND QUAD NAND GATE	BL 0820.3477.00	FAIRCHILD	74AC00SC	
D660	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D665	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D700	BL 74AC74SC 2XD-FLIPFL DUAL D-TYPE FLIPF	BL 0820.3602.00	FAIRCHILD	74AC74SC	
D720	BL PC74HC4051T 8CH.AN.MUX 8CHANNEL ANAL.MULTIPLEXER	0007.3592.00	PHILIPS_SE	(PC)74HC4051(D/T)	
D740	BJ DAC08CS 1X8-DAC D/A-CONVERTER	6024.3137.00	PMI	DAC08C(S)	
D790	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D795	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D800	BS DG412DY 4X ANALOGSCH ANALOG SWITCH	0520.7728.00	SILICONIX	DG412DY	
D810	BS DG540DN 4X VIDEOSCH QUAD VIDEO-T-SWITCH	0853.5585.00	SILICONIX	DG540DN	
D820	BS DG419DY 1XUM ANALOGSCH ANALOG SWITCH	0746.0322.00	SILICONIX	DG419DY	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
D825	BS DG419DY 1XUM ANALOGSCH ANALOG SWITCH	0746.0322.00	SILICONIX	DG419DY	
D840	BJ DAC8143FS 1X12B-DAC 12B SERIAL D/A-CONVERTER	1012.9510.00	PMI	DAC8143FS	
D850	BJ DAC8143FS 1X12B-DAC 12B SERIAL D/A-CONVERTER	1012.9510.00	PMI	DAC8143FS	
D854	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D855	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D865	BD AD734BQ 4QMULTIPLIER IC MULTIPLIER	1039.3071.00	ANALOG_DEV	AD734BQ	
D870	BL PC74HCT123T 2XMONOFLOP DUAL MULTIVIBRATOR	BL 0007.6333.00	PHILIPS_SE	(PC)74HCT123(D/T)	
D875	BL PC74HC86T 4X2IN EXOR QUAD 2INPUT EXOOR GATE	BL 0007.3511.00	PHILIPS_SE	(PC)74HC86(D/T)	
D900	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D910	BS DG419DY 1XUM ANALOGSCH ANALOG SWITCH	0746.0322.00	SILICONIX	DG419DY	
D920	BJ DAC8143FS 1X12B-DAC 12B SERIAL D/A-CONVERTER	1012.9510.00	PMI	DAC8143FS	
D930	BL PC74HC4051T 8CH.AN.MUX 8CHANNEL ANAL.MULTIPLEXER	0007.3592.00	PHILIPS_SE	(PC)74HC4051(D/T)	
D950	BL 74F74D 2XD-FF DUAL D-TYPE FLIPFLOP	BL 0007.3686.00	PHILIPS_SE	(N)74F74(D) :	
D960	BS DG538ADN 2X4CHVIDEOMUX IC MULTIPLEXER	1039.3088.00	SILICONIX	DG538DN	
D965	BS SD5400CY 4X ANALOGSCH QUAD ANALOG SWITCH	0351.0000.00	SILICONIX	SD5400CY	
K240	SR 5V 500 OHM 1X1 SIL RELAY 5V SIL	1012.9604.00	HAMLIN	HE3621A0500	
K910	SR 5V 500 OHM 1X1 SIL RELAY 5V SIL	1012.9604.00	HAMLIN	HE3621A0500	
K911	SR 5V 500 OHM 1X1 SIL RELAY 5V SIL	1012.9604.00	HAMLIN	HE3621A0500	
L1	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L2	LD 10 UH 10% 3R3 144 MA CHOKE	LD 0026.4184.00	DALE	IM2	
L3	LD 10UH BEI 0,81A 0,660HM CHOKE	LD 0026.4126.00	DALE	IM 6	
L4	LD 10UH BEI 0,81A 0,660HM CHOKE	LD 0026.4126.00	DALE	IM 6	
L5	LD 3UH 2A 0,077 OHM CHOKE	LD 0026.4532.00	FASTRON_GE	MISC-3ROM-01 (00)	
L8	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L9	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L11	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L13	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L14	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L23	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L24	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L25	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L26	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L27	LD 10 UH 10% 3R3 144 MA CHOKE	LD 0026.4184.00	DALE	IM2	
L28	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L29	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L50 ..53	LD 220NH 10% 0,28A 1210 RF CHOKE	LD 0520.7911.00	SIEMENS	B82422-A3221-J(K)100	
L101	LD 47ONH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L200	LD 56ONH 10% 0,15A 1210 RF CHOKE	4032.4388.00	SIEMENS	B82422-A3561-J(K)100	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L202	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L204	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L240	LD 1,5UH 5% 0R2 0,56A CHOKE	0067.3247.00	DELEVAN	1025-24	
L300	LD 47NH 10%0R08 1,3A 1010 CHIP-COIL	0920.0033.00	STETTNER	5501 4702200	
L301	LD 100NH 10% 0,44A 1210 RF CHOKE	LD 0007.9249.00	SIEMENS	B82422-A3101-J(K)100	
L302	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L306	LD 220NH 10% 0,28A 1210 RF CHOKE	LD 0520.7911.00	SIEMENS	B82422-A3221-J(K)100	
L316	LD 38 NH SMD-ABGL.Q5,1H5 SMD-VHF-COIL	0008.9442.00	COMPONEX	E 558 AN-10 0041	
L318	LD 220NH 10% 0,28A 1210 RF CHOKE	LD 0520.7911.00	SIEMENS	B82422-A3221-J(K)100	
L347	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L350	LD 100NH 10% 0,44A 1210 RF CHOKE	LD 0007.9249.00	SIEMENS	B82422-A3101-J(K)100	
L352	LD 0,39UH10%0,300HM0,710A CHOKE	LD 0067.2811.00	DALE	IM2	
L354	LD 0,33UH10%0,220HM0,830A CHOKE	LD 0067.2805.00	DALE	IM2	
L400	LD 220NH10%0,4A0R5 1206 SMD-COIL 1206	1062.6515.00	STETTNER	5503 2212200	
L401	LD 470NH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L402	LD 220NH10%0,4A0R5 1206 SMD-COIL 1206	1062.6515.00	STETTNER	5503 2212200	
L403	LD 470NH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L404	LD 220NH10%0,4A0R5 1206 SMD-COIL 1206	1062.6515.00	STETTNER	5503 2212200	
L406	LD 220NH10%0,4A0R5 1206 SMD-COIL 1206	1062.6515.00	STETTNER	5503 2212200	
L408	LD 470NH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L430	LD 100NH10%0R21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L431	LD 470NH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L432	LD 100NH10%0R21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L433	LD 470NH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L434	LD 100NH10%0R21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L436	LD 100NH10%0R21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L438	LD 470NH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L460	LD 47NH 10%0R08 1,3A 1010 CHIP-COIL	0920.0033.00	STETTNER	5501 4702200	
L461	LD 470NH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L462	LD 100NH10%0R21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L463	LD 470NH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L464	LD 100NH10%0R21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L466	LD 100NH10%0R21 660MA1206 CERAMIC CHIP COIL	0691.0733.00	STETTNER	5503 1012200	
L468	LD 470NH10%0R5 0,1A1206 SMD-MULTILAYER INDUCTOR	0007.9226.00	TOKO	MLF 3216 D R47 KL	
L492	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L494	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L500	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L502	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L505 ..507	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L515	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L525	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L530	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L535	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L540	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L545	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L550	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L551	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L570	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L571	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L600	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L610	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L620	LD 100NH 10% 0,44A 1210 RF CHOKE	LD 0007.9249.00	SIEMENS	B82422-A3101-J(K)100	
L640	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L910	LD 39,0UH10%3,600HMO,125A CHOKE	LD 0067.3053.00	DALE	IM2	
L911	LD 470 UH10%42,00HMO,036A CHOKE	LD 0067.3182.00	DALE	IM2	
L950	LD 22UH 10% 0,14A 1210 RF CHOKE	LD 0520.7886.00	SIEMENS	B82422-A1223-J(K)100	
N20	BO LM224D 4XLP OPAMP OPERATIONAL AMPLIFIER	0007.7852.00	SIGNETICS	LM224D	
N100	BO LM2903D 2XLP COMPAR DUAL	0520.7734.00	SIGNETICS	LM2903(D)	
N105	BO LM2903D 2XLP COMPAR DUAL	0520.7734.00	SIGNETICS	LM2903(D)	
N110	BO LM2903D 2XLP COMPAR DUAL	0520.7734.00	SIGNETICS	LM2903(D)	
N200	EO 10MHZ-QU.OSZ VTCXO 5V OSCILLATOR VTCXO	1039.3113.00	MILLIREN	453-0210	
N220	BO TL074ACD 4XFET OPAMP OPERATIONAL AMPLIFIER	0007.7823.00	TEXAS	TL074A(CD)	
N250	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	
N300	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N305	BM MAR6-SM DC-2.0G MMIC MICROWAVE MONOLITHIC CIRC	6024.3666.00	MINI-CIRCU	MAR-6-SM	
N490	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N500	BM MSA0286 DC-2.5G MMIC BROADBAND AMPLIFIER	0849.2079.00	AVANTEK	MSA0286	
N510	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N520	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N540	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N560	BM MSA0486 DC-3.2G MMIC BROADBAND AMPLIFIER	0846.4293.00	AVANTEK	MSA-0486	
N600	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N610	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N640	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	
N700	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	
N710	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	
N720	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
N750	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	
N780	BO OPA2604AU 2XFET OPAMP IC DUAL OPAMP	2045.4943.00	BURR_BROWN	OPA2604AU	
N800	BO LT1056S8 FET OPAMP OPERATIONAL AMPLIFIER	0007.7800.00	LINEAR_TEC	LT1056(S8)	
N810	BO AD843KN FET OPAMP IC OPAMP	1039.1285.00	ANALOG_DEV	AD843KN	
N840	BO OPA2604AU 2XFET OPAMP IC DUAL OPAMP	2045.4943.00	BURR_BROWN	OPA2604AU	
N850	BO CLC430AJE CF OPAMP IC CURRENT FEEDBACK OPAMP	2032.2524.00	COMLINEAR	CL(C)430AJE	
N860	BO LT1016CN FAST COMPAR COMPARATOR	0380.0986.00	LINEAR_TEC	LT1016CN8	
N861	BO LT1016CN FAST COMPAR COMPARATOR	0380.0986.00	LINEAR_TEC	LT1016CN8	
N880	BO LT1056S8 FET OPAMP OPERATIONAL AMPLIFIER	0007.7800.00	LINEAR_TEC	LT1056(S8)	
N905	BO OPA2604AU 2XFET OPAMP IC DUAL OPAMP	2045.4943.00	BURR_BROWN	OPA2604AU	
N950	BO TL074ACD 4XFET OPAMP OPERATIONAL AMPLIFIER	0007.7823.00	TEXAS	TL074A(CD)	
N955	BO AD744KR FET OPAMP BIFET OPAMP	0854.1754.00	ANALOG_DEV	(AD)744KR	
N965	BO LM211D COMPAR COMPARATOR	0007.7869.00	SIGNETICS	LM211(D)	
P20	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P22	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P25	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P201 ..205	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P350	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P352	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P354	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P600	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P700	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P720	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P755	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P835	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P840	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P845	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P880	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P920	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P930	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P940	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
P950	FP STIFTLEISTE 1P.R2,54 PIN CONNECTOR	FP 0009.5886.00			
R5	RD 2.4 W 1,8 OHM +-1% WIRE WOUND RESISTOR	RD 0067.9280.00	TEPRO	TS-2B	
R6	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R7	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R20	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R21	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R23	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R24	RG 20,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5866.00	PHILIPS_CO	RCO2	
R25	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R26	RG 9,09KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8904.00	PHILIPS_CO	MPC 01	
R27	RG 10,0KOH+-0,1%TK25 1206 SMD-RESISTOR	0009.7666.00	PHILIPS_CO	MPC 01	
R28	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R29	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R30	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R31	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R100	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RCO2	
R102	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RCO2	
R104	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RCO2	
R106	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RCO2	
R107	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RCO2	
R108	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RCO2	
R109	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RCO2	
R110	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RCO2	
R111	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R112	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RCO2	
R113	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RCO2	
R114	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R115	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RCO2	
R116	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RCO2	
R117	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RCO2	
R118	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RCO2	
R119	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RCO2	
R120	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R121	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R122	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RCO2	
R123	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RCO2	
R124	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RCO2	
R125	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RCO2	
R126	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RCO2	
R127	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RCO2	
R128	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RCO2	
R131	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R133	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RC02	
R134	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R135	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RC02	
R136	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RC02	
R137	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R138	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RC02	
R139	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RC02	
R140	RG 4K75 +-1% TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5820.00	PHILIPS_CO	RC02	
R142	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R143	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R144	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R145	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R146	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R150	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R152	RG 1,3 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5708.00	PHILIPS_CO	RC02	
R154	RG 0-OHM WIDERSTAND 1206 RESISTOR CHIP 0-OHM	RG 0007.5108.00	DRALORIC	CR 1206	
R156	RG 11,0KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0806.00	PHILIPS_CO	RC02	
R158	RG 3,57KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5795.00	PHILIPS_CO	RC02	
R160	RG 392 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5672.00	DRALORIC	CR 1206	
R162	RG 301 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.6027.00	PHILIPS_CO	RC02	
R164	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R166	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R170	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R172	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R174	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R178	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R200	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R201	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R202	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R203	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R204	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R205	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R206	RG 3,92KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5808.00	ROEDERSTEI	D25	

Weitergabe sowie Vervielfältigung dieser Unterlage, Verwertung und Mitteilung ihres Inhalts nicht gestattet, soweit nicht ausdrücklich zugestanden. Zuwiderhandlungen verpflichten zu Schadenersatz. Alle Rechte vorbehalten.

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R207	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R208	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R209	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R210	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R212	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R213	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R214	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R216	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R221	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R223	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R224	RG 33,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5520.00	ROEDERSTEI	D25	
R225	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	RG 0007.5650.00	PHILIPS_CO	RC02	
R226	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R227	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R230	RG 20,OKOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5866.00	PHILIPS_CO	RC02	
R232	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R234	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R239	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R240	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	
R241	RG 18,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5850.00	PHILIPS_CO	RC02	
R242	RG 100,OKOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R243	RG 22,1KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5872.00	PHILIPS_CO	RC02	
R244	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R246	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R247	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R248	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R249	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R251	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R253	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R255	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R256	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R257	RG 10,OKOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R258	RG 6,80KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8891.00	PHILIPS_CO	MPC 01	
R260	RG 3,57KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5795.00	PHILIPS_CO	RC02	
R261	RG 150 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5972.00	PHILIPS_CO	RC02	
R262	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R263	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R264	RG 6,80KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8891.00	PHILIPS_CO	MPC 01	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R266	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R267	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R269	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R270	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R276	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R277	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R278	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R280	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R281	RG 2,43KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5750.00	PHILIPS_CO	RC02	
R282	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R283	RG 2,43KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5750.00	PHILIPS_CO	RC02	
R284	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R285	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R286	RG 7,5KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0764.00	PHILIPS_CO	RC02	
R287	RG 30,1KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5908.00	PHILIPS_CO	RC02	
R288	RG 121,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1960.00	PHILIPS_CO	RC02	
R289	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R290	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R291	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R292	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R293	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R294	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R296	RG 392 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.6056.00	PHILIPS_CO	RC02	
R297	RG 3,3MOHM+-5%TK200 1206 CHIP RESISTOR	0007.9990.00	ROEDERSTEI	D 25	
R298	RG 221 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.6004.00	PHILIPS_CO	RC02	
R299	RG 121,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1960.00	PHILIPS_CO	RC02	
R302	RG 0,05W 39R +-1% 0805 RESISTOR	RG 0007.8959.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
R304	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R306	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R308	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R310	RG 200 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5608.00	PHILIPS_CO	RC02	
R312	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R314	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R316	RG 27,4 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5508.00	PHILIPS_CO	RC02	
R317	RG 1,5 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5714.00	PHILIPS_CO	RC02	
R318	RG 5,11KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0729.00	PHILIPS_CO	RC02	
R320	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R321	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R322	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R323	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R324	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R325	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R326	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R327	RG 182 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5595.00	PHILIPS_CO	RC02	
R328	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R329	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R330	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R331	RG 47,5KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5950.00	PHILIPS_CO	RC02	
R332	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R334	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R335	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R336	RG 3,92KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5808.00	ROEDERSTEI	D25	
R337	RG 39,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5543.00	PHILIPS_CO	RC02	
R338	RG 10R +-1% TK50 0805 RESISTOR	RG 0007.8888.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
R340	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R344	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R346	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R347	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R348	RG 182 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5595.00	PHILIPS_CO	RC02	
R350	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R354	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R355	RG 2,21OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8342.00	PHILIPS	RC 02	
R356	RG 825 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.7259.00	ROEDERSTEI	D25	
R358	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R360	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R361	RG 4,75OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8420.00	PHILIPS	RC 02	
R362	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R364	RG 182 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5595.00	PHILIPS_CO	RC02	
R366	RG 182 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5595.00	PHILIPS_CO	RC02	
R368	RG 4,75OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8420.00	PHILIPS	RC 02	
R369	RG 27,4 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5508.00	PHILIPS_CO	RC02	
R370	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R376	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R378	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R380	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R382	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R384	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R386	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R387	RG 4K75 +-1% TK100 1206	RG 0007.5820.00	PHILIPS_CO	RC02	
..392	RESISTOR CHIP				
R396	RG 221 OHM+-1%TK100 1206	RG 0007.5614.00	DRALORIC	CR 1206	
	RESISTOR CHIP				
R404	RG 4,750HM+-1%TK100 1206	RG 0007.8420.00	PHILIPS	RC 02	
	CHIP-RESISTOR				
R406	RG 4,750HM+-1%TK100 1206	RG 0007.8420.00	PHILIPS	RC 02	
	CHIP-RESISTOR				
R410	RG 0,05W 82R +-1% 0805	RG 0007.8994.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
	RESISTOR				
R412	RG 1,82KOHM+-1%TK100 1206	RG 0007.5720.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R414	RG 332 OHM+-1%TK100 1206	RG 0007.5650.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R416	RG 1,5 KOHM+-1%TK100 1206	RG 0007.5714.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R418	RG 511 OHM+-1%TK100 1206	RG 0006.9051.00	PHILIPS_CO	RC02	
	CHIP RESISTOR				
R420	RG 68,1 OHM+-1%TK100 1206	RG 0006.8849.00	ROEDERSTEI	D25	
	CHIP RESISTOR				
R422	RG 221 OHM+-1%TK100 1206	RG 0007.5614.00	DRALORIC	CR 1206	
	RESISTOR CHIP				
R424	RG 1,21KOHM+-1%TK100 1206	RG 0006.9968.00	PHILIPS_CO	RC02	
	CHIP RESISTOR				
R425	RG 1,5 KOHM+-1%TK100 1206	RG 0007.5714.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R426	RG 4K75 +-1% TK100 1206	RG 0007.5820.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R427	RG 10,0KOHM+-1%TK100 1206	RG 0007.0793.00	DRALORIC	CR 1206	
	RG CHIP RESISTOR				
R434	RG 4,750HM+-1%TK100 1206	RG 0007.8420.00	PHILIPS	RC 02	
	CHIP-RESISTOR				
R436	RG 4,750HM+-1%TK100 1206	RG 0007.8420.00	PHILIPS	RC 02	
	CHIP-RESISTOR				
R440	RG 0,05W 82R +-1% 0805	RG 0007.8994.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
	RESISTOR				
R442	RG 1,82KOHM+-1%TK100 1206	RG 0007.5720.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R444	RG 332 OHM+-1%TK100 1206	RG 0007.5650.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R446	RG 1,5 KOHM+-1%TK100 1206	RG 0007.5714.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R448	RG 511 OHM+-1%TK100 1206	RG 0006.9051.00	PHILIPS_CO	RC02	
	CHIP RESISTOR				
R450	RG 68,1 OHM+-1%TK100 1206	RG 0006.8849.00	ROEDERSTEI	D25	
	CHIP RESISTOR				
R452	RG 221 OHM+-1%TK100 1206	RG 0007.5614.00	DRALORIC	CR 1206	
	RESISTOR CHIP				
R454	RG 1,21KOHM+-1%TK100 1206	RG 0006.9968.00	PHILIPS_CO	RC02	
	CHIP RESISTOR				
R455	RG 1,5 KOHM+-1%TK100 1206	RG 0007.5714.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R456	RG 4K75 +-1% TK100 1206	RG 0007.5820.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R457	RG 10,0KOHM+-1%TK100 1206	RG 0007.0793.00	DRALORIC	CR 1206	
	RG CHIP RESISTOR				
R464	RG 4,750HM+-1%TK100 1206	RG 0007.8420.00	PHILIPS	RC 02	
	CHIP-RESISTOR				
R466	RG 4,750HM+-1%TK100 1206	RG 0007.8420.00	PHILIPS	RC 02	
	CHIP-RESISTOR				
R470	RG 0,05W 68R +-1% 0805	RG 0007.8988.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
	RESISTOR				
R472	RG 221 OHM+-1%TK100 1206	RG 0007.5614.00	DRALORIC	CR 1206	
	RESISTOR CHIP				
R474	RG 332 OHM+-1%TK100 1206	RG 0007.5650.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R476	RG 1,5 KOHM+-1%TK100 1206	RG 0007.5714.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R478	RG 511 OHM+-1%TK100 1206	RG 0006.9051.00	PHILIPS_CO	RC02	
	CHIP RESISTOR				
R480	RG 68,1 OHM+-1%TK100 1206	RG 0006.8849.00	ROEDERSTEI	D25	
	CHIP RESISTOR				
R481	RG 1,5 KOHM+-1%TK100 1206	RG 0007.5714.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R482	RG 4K75 +-1% TK100 1206	RG 0007.5820.00	PHILIPS_CO	RC02	
	RESISTOR CHIP				
R484	RG 1,21KOHM+-1%TK100 1206	RG 0006.9968.00	PHILIPS_CO	RC02	
	CHIP RESISTOR				

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R485	RG 1,5 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5714.00	PHILIPS_CO	RC02	
R486	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R487	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R488	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R490	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R491	RG 27,4 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5508.00	PHILIPS_CO	RC02	
R492	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R493	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R494	RG 0,05W 100R +-1% 0805 RESISTOR	RG 0007.9003.00	HONEST_JAP	RN 73 C(E)2X..F (1%)	
R495	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R496	RG 68,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8849.00	ROEDERSTEI	D25	
R497	RG 82,5 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8861.00	PHILIPS_CO	RC02	
R499	RG 82,5 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8861.00	PHILIPS_CO	RC02	
R500	RG 150 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5589.00	PHILIPS_CO	RC02	
R502	RG 39,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5543.00	PHILIPS_CO	RC02	
R503	RG 1,5 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5714.00	PHILIPS_CO	RC02	
R504	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R505	RG 182 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5595.00	PHILIPS_CO	RC02	
R506	RG 392 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5672.00	DRALORIC	CR 1206	
R507	RG 392 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5672.00	DRALORIC	CR 1206	
R510	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R511	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R515	RG 75,0 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8855.00	PHILIPS_CO	RC02	
R516	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R517	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R518	RG 18,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5466.00	PHILIPS_CO	RC02	
R520	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R521	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R525	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R526	RG 18,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5466.00	PHILIPS_CO	RC02	
R527	RG 274 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5637.00	PHILIPS_CO	RC02	
R528	RG 75,0 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8855.00	PHILIPS_CO	RC02	
R530	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R531	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5895.00	PHILIPS_CO	RC02	
R534	RG 2,74KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5766.00	DRALORIC	CR 1206	
R535	RG 332 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5650.00	PHILIPS_CO	RC02	
R537	RG 82,5 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8861.00	PHILIPS_CO	RC02	
R540	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R541	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R545	RG 274 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5637.00	PHILIPS_CO	RC02	
R546	RG 22,1 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5489.00	PHILIPS_CO	RC02	
R547	RG 274 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5637.00	PHILIPS_CO	RC02	
R548	RG 392 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5672.00	DRALORIC	CR 1206	
R549	RG 75,0 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8855.00	PHILIPS_CO	RC02	
R550	RG 150 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5589.00	PHILIPS_CO	RC02	
R552	RG 39,2 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5543.00	PHILIPS_CO	RC02	
R555	RG 100 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8884.00	ROEDERSTEI	D25	
R556	RG 100,0KOH+-1%TK100 CHIP RESISTOR	1206	RG 0007.1948.00	PHILIPS_CO	RC02	
R557	RG 10,0KOHM+-1%TK100 RG CHIP RESISTOR	1206	RG 0007.0793.00	DRALORIC	CR 1206	
R570	RG 392 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5672.00	DRALORIC	CR 1206	
R571	RG 392 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5672.00	DRALORIC	CR 1206	
R580	RG 4K75 +-1% TK100 RESISTOR CHIP	1206	RG 0007.5820.00	PHILIPS_CO	RC02	
R581	RG 4K75 +-1% TK100 RESISTOR CHIP	1206	RG 0007.5820.00	PHILIPS_CO	RC02	
R582	RG 1KO +-1% TK100 CHIP RESISTOR	1206	RG 0006.7271.00	DRALORIC	CR 1206	
R603	RG 68,1 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8849.00	ROEDERSTEI	D25	
R605	RG 121 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8903.00	PHILIPS_CO	RC02	
R606	RG 121 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8903.00	PHILIPS_CO	RC02	
R607	RG 47,5 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5566.00	PHILIPS_CO	RC02	
R610	RG 68,1 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8849.00	ROEDERSTEI	D25	
R615	RG 121 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8903.00	PHILIPS_CO	RC02	
R616	RG 47,5 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5566.00	PHILIPS_CO	RC02	
R617	RG 121 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8903.00	PHILIPS_CO	RC02	
R618	RG 56,2 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8826.00	PHILIPS_CO	RC02	
R619	RG 1KO +-1% TK100 CHIP RESISTOR	1206	RG 0006.7271.00	DRALORIC	CR 1206	
R620 ..628	RG 4K75 +-1% TK100 RESISTOR CHIP	1206	RG 0007.5820.00	PHILIPS_CO	RC02	
R639	RG 221 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5614.00	DRALORIC	CR 1206	
R640	RG 511 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.9051.00	PHILIPS_CO	RC02	
R641	RG 511 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.9051.00	PHILIPS_CO	RC02	
R642	RG 150 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5589.00	PHILIPS_CO	RC02	
R643	RG 150 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5589.00	PHILIPS_CO	RC02	
R644	RG 33,2 OHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5520.00	ROEDERSTEI	D25	
R645	RG 100 OHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.8884.00	ROEDERSTEI	D25	
R647	RG 4K75 +-1% TK100 RESISTOR CHIP	1206	RG 0007.5820.00	PHILIPS_CO	RC02	
R648	RG 9,09KOH+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.8904.00	PHILIPS_CO	MPC 01	
R649	RG 10,0KOH+-0,1%TK25 SMD-RESISTOR	1206	0009.7666.00	PHILIPS_CO	MPC 01	
R650	RG 4K75 +-1% TK100 RESISTOR CHIP NICHT BESTUECKT NOT FITTED	1206	RG 0007.5820.00	PHILIPS_CO	RC02	
R651	RG 4K75 +-1% TK100 RESISTOR CHIP	1206	RG 0007.5820.00	PHILIPS_CO	RC02	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
	NICHT BESTUECKT NOT FITTED				
R652	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R653	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R654 ..657	RG 1,0 OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8265.00	PHILIPS_CO	RC 02	
R660	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R661	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R662	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R663 ..666	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R667	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R668	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R669	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R670	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R671	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R672	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R673	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R674	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R675	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R676	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R677	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R678	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R679	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R680	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
	NICHT BESTUECKT NOT FITTED				
R682	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R685	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	

Für diese Unterlage behalten wir uns alle Rechte vor.

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R686	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R687	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R690	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R700	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R701	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R702	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R703	RG 1,0 KO +-0,1%TK25 1206 SMD-RESISTOR	0009.7595.00	PHILIPS_CO	MPC 01	
R704	RG 1,0 KO +-0,1%TK25 1206 SMD-RESISTOR	0009.7595.00	PHILIPS_CO	MPC 01	
R705	RG 2,0KOHM+-0,1%TK25 1206 SMD-RESISTOR	0009.7608.00	PHILIPS_CO	MPC 01	
R706	RG 2,0KOHM+-0,1%TK25 1206 SMD-RESISTOR	0009.7608.00	PHILIPS_CO	MPC 01	
R707	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R708	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R709	RG 182 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5595.00	PHILIPS_CO	RC02	
R710	RG 2,0 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5737.00	ROEDERSTEI	D25	
R711	RG 27,4KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5895.00	PHILIPS_CO	RC02	
R720	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R721	RG 20,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5866.00	PHILIPS_CO	RC02	
R722	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R723	RG 8,25KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0770.00	PHILIPS_CO	RC02	
R724	RG 5,62KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0735.00	PHILIPS_CO	RC02	
R725	RG 4,32KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5814.00	PHILIPS_CO	RC02	
R726	RG 3,32KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5789.00	PHILIPS_CO	RC02	
R727	RG 2,43KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5750.00	PHILIPS_CO	RC02	
R728	RG 2,0 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5737.00	ROEDERSTEI	D25	
R729	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R730	RG 3,57KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5795.00	PHILIPS_CO	RC02	
R731	RG 20,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5866.00	PHILIPS_CO	RC02	
R732	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R733	RG 100,0KOH+-1%TK100 1206 CHIP RESISTOR	RG 0007.1948.00	PHILIPS_CO	RC02	
R740	RG 1,21KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.7789.00	PHILIPS_CO	MPC 01	
R741	RG 1,21KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9968.00	PHILIPS_CO	RC02	
R742	RG 2,43KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5750.00	PHILIPS_CO	RC02	
R750	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R755	RG 6,19KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8885.00	PHILIPS_CO	MPC 01	
R760	RG 33,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5520.00	ROEDERSTEI	D25	
R761	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R762	RG 1,3 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5708.00	PHILIPS_CO	RC02	
R763	RG 1,3 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5708.00	PHILIPS_CO	RC02	
R769	RG 200 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5608.00	PHILIPS_CO	RC02	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R777	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R778	RG 30,1KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5908.00	PHILIPS_CO	RC02	
R779	RG 7,5KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0764.00	PHILIPS_CO	RC02	
R780	RG 43,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5943.00	PHILIPS_CO	RC02	
R781	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R782	RG 825 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.6133.00	PHILIPS_CO	RC02	
R783	RG 20,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5866.00	PHILIPS_CO	RC02	
R784	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R785	RG 9,09KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0787.00	PHILIPS_CO	RC02	
R786	RG 221 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5614.00	DRALORIC	CR 1206	
R787	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R788	RG 33,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5520.00	ROEDERSTEI	D25	
R789	RG 33,2 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5520.00	ROEDERSTEI	D25	
R790	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R791	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R792	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R793	RG 22,1KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5872.00	PHILIPS_CO	RC02	
R800	RG 100 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8884.00	ROEDERSTEI	D25	
R801	RG 1,0MOHM+-1%TK100 1206 CHIP RESISTOR	RG 0815.7532.00	PHILIPS_CO	RC 02	
R811	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R812	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R813	RG 1,0MOHM+-1%TK100 1206 CHIP RESISTOR	RG 0815.7532.00	PHILIPS_CO	RC 02	
R815	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R816	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R817	RG 562 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9068.00	ROEDERSTEI	D25	
R819	RG 200 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5608.00	PHILIPS_CO	RC02	
R820	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R840	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R841	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R842	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R843	RG 5,05KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8879.00	PHILIPS_CO	MPC 01	
R845	RG 1KO1 +-0,1% TK25 1206 SMD-RESISTOR EIA1206	0009.8833.00	PHILIPS_CO	MPC 01	
R850 ..852	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R854	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R856	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R857	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R859	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R860	RG 56,2 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8826.00	PHILIPS_CO	RC02	
R861	RG 4,75KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8856.00	PHILIPS_CO	MPC 01	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R862	RG 22,1 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5489.00	PHILIPS_CO	RC02	
R863	RG 511 OHM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8810.00	PHILIPS_CO	MPC 01	
R864	RG 2,74KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5766.00	DRALORIC	CR 1206	
R865	RG 6,81OHM+-1%TK100 1206 CHIP-RESISTOR	RG 0007.8465.00	PHILIPS	RC 02	
R866	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R870	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R871	RG 274 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.4460.00	PHILIPS_CO	RC02	
R872	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R873	RG 274 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.4460.00	PHILIPS_CO	RC02	
R875	RG 3,32KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5789.00	PHILIPS_CO	RC02	
R876	RG 3,32KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5789.00	PHILIPS_CO	RC02	
R877	RG 681 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9080.00	PHILIPS_CO	RC02	
R878	RG 681 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9080.00	PHILIPS_CO	RC02	
R880	RG 505 OHM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8804.00	PHILIPS_CO	MPC 01	
R881	RG 1010HM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8740.00	PHILIPS_CO	MPC 01	
R884	RG 0-OHM WIDERSTAND 1206 RESISTOR CHIP 0-OHM	RG 0007.5108.00	DRALORIC	CR 1206	
R886	RG 20,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5866.00	PHILIPS_CO	RC02	
R887	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R888	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R889	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R894	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R895	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R896	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R900	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R901	RG 5,11KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0729.00	PHILIPS_CO	RC02	
R911	RG 5,62KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0735.00	PHILIPS_CO	RC02	
R915	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R916	RG 10,0KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0793.00	DRALORIC	CR 1206	
R917	RG 9,09KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0787.00	PHILIPS_CO	RC02	
R918	RS 0,25W 2KOHM +-20% SMD POTENTIOMETER	RS 0007.9626.00	BI_TECHNOL	23 B R... TR	
R920 ..922	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R923	RG 4,99KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8862.00	PHILIPS_CO	MPC 01	
R924	RG 1,26KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8840.00	PHILIPS_CO	MPC 01	
R925	RG 312 OHM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8785.00	PHILIPS_CO	MPC 01	
R926	RG 150 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5972.00	PHILIPS_CO	RC02	
R928	RG 1040HM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8910.00	PHILIPS_CO	MPC 01	
R930	RG 1,21KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9968.00	PHILIPS_CO	RC02	
R931	RG 825 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.7259.00	ROEDERSTEI	D25	
R932	RG 1,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9951.00	PHILIPS_CO	RC02	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R944	RG 9,09KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0787.00	PHILIPS_CO	RC02	
R945	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R946	RS 0,25W 1KOHM +-20% SMD RG POTENTIOMETER	RS 0007.9610.00	BI_TECHNOL	23 B R... TR	
R947	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R948	RG 475 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5695.00	PHILIPS_CO	RC02	
R950	RG 5,62KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0735.00	PHILIPS_CO	RC02	
R951	RG 2,0 KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5737.00	ROEDERSTEI	D25	
R952	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R953	RG 7,5KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0764.00	PHILIPS_CO	RC02	
R954	RG 1,62KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9997.00	PHILIPS_CO	RC02	
R955	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R956	RG 9,09KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0787.00	PHILIPS_CO	RC02	
R957	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R958	RG 12,1KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0841.00	PHILIPS_CO	RC02	
R959	RG 1,62KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9997.00	PHILIPS_CO	RC02	
R960	RG 549 OHM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8827.00	PHILIPS_CO	MPC 01	
R961	RG 149 OHM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8762.00	PHILIPS_CO	MPC 01	
R962	RG 13,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5837.00	PHILIPS_CO	RC02	
R963 ..968	RG 348 OHM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8791.00	PHILIPS_CO	MPC 01	
R969 ..973	RG 156 OHM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8779.00	PHILIPS_CO	MPC 01	
R974	RG 117OHM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8756.00	PHILIPS_CO	MPC 01	
R975	RG 13,0KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5837.00	PHILIPS_CO	RC02	
R976	RG 7,5KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0764.00	PHILIPS_CO	RC02	
R977	RG 681 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9080.00	PHILIPS_CO	RC02	
R978	RG 56,2KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.1883.00	PHILIPS_CO	RC02	
R979	RG 47,5 OHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5566.00	PHILIPS_CO	RC02	
R980	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R981	RG 2,21KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5743.00	PHILIPS_CO	RC02	
R982 ..986	RG 18,2KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5850.00	PHILIPS_CO	RC02	
R987	RG 7,5KOHM+-1%TK100 1206 RG CHIP RESISTOR	RG 0007.0764.00	PHILIPS_CO	RC02	
R988	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R989	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R990	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R991	RG 10,0 OHM+-1%TK100 1206 CHIP -RESISTOR	RG 0006.8649.00	DRALORIC	CR 1206	
R992	RG 4K75 +-1% TK100 1206 RESISTOR CHIP	RG 0007.5820.00	PHILIPS_CO	RC02	
R993	RG 1,21KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9968.00	PHILIPS_CO	RC02	
R995	RG 47,5KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5950.00	PHILIPS_CO	RC02	
V20	AK BCP68-16 N 20V TRANS MEDIUM POWER TRANSISTOR	0008.2019.00	PHILIPS	BCP68-25	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V100	AD BAS32 75V UDI DIODE	AD 0006.7288.00	PHILIPS	BAS32 (L)	
V105	AD BAS32 75V UDI DIODE	AD 0006.7288.00	PHILIPS	BAS32 (L)	
V119	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V120	AD BAV70 70V DUO UDI DUAL DIODE COMMON CATHODE	0007.9278.00	PHILIPS	BAV70	
V125	AD BAS32 75V UDI DIODE	AD 0006.7288.00	PHILIPS	BAS32 (L)	
V200	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V201	AE BAT18 35V 100MA BDSWI GENERAL PURPOSE PIN DIODE	0820.3260.00	VALVO	BAT18	
V205	AK BFS19 N 20V 30MA TRANSISTOR	0350.9985.00	PHILIPS	BFS19	
V210	AK BSV52 N 12V 100MA TRANSISTOR	AK 0007.3434.00	PHILIPS	BSV52	
V211	AE BZV55/C5V6 0.5W ZDI ZENER DIODE	AE 0006.9845.00	PHILIPS	BZV55B5V6	
V212	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V214	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V215	AK BFS19 N 20V 30MA TRANSISTOR	0350.9985.00	PHILIPS	BFS19	
V216	AK BSV52 N 12V 100MA TRANSISTOR	AK 0007.3434.00	PHILIPS	BSV52	
V221	AK BFS17 N 15V 25MA 1 GHZ WIDEBAND TRANSISTOR	AK 0010.6460.00	VALVO	BFS17	
V225	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V240	AD BAS32 75V UDI DIODE	AD 0006.7288.00	PHILIPS	BAS32 (L)	
V250	AD BAV70 70V DUO UDI DUAL DIODE COMMON CATHODE	0007.9278.00	PHILIPS	BAV70	
V260	AE BZV55/10V 0,5W ZDI ZENER DIODE	AE 0006.9880.00	PHILIPS_SE	BZV55C10	
V265	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V290	AD BAV70 70V DUO UDI DUAL DIODE COMMON CATHODE	0007.9278.00	PHILIPS	BAV70	
V300	AE BB535 18,7/2,1P CDI TUNING DIODE	1039.3107.00	SIEMENS	BB535/Q62702-B580	
V305	AK NE85639 N 12V 100MA TRANSISTOR	1027.4161.00	NEC	NE85639E	
V310	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V315	AE HSMS2810 SCHOTTKY SCHOTTKY DIODE	0520.7340.00	HEWLETT_PA	HSMS-2810	
V316	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V320	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V321	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V325	AM CF739 10V N-D DG MESF DUAL-GATE GAAS MESFET	4017.0604.00	SIEMENS	CF739 E-7845 (F1331)	
V330	AE HSMS2810 SCHOTTKY SCHOTTKY DIODE	0520.7340.00	HEWLETT_PA	HSMS-2810	
V350	AK BSR12 P 15V 100MA TRANSISTOR	AK 0007.2067.00	PHILIPS_SE	BSR12	
V355	AK BSR12 P 15V 100MA TRANSISTOR	AK 0007.2067.00	PHILIPS_SE	BSR12	
V360	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V400 ..403	AE BB535 18,7/2,1P CDI TUNING DIODE	1039.3107.00	SIEMENS	BB535/Q62702-B580	
V404	AK NE85639 N 12V 100MA TRANSISTOR	1027.4161.00	NEC	NE85639E	
V406	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V408	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V410	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V430	AE BB535 18,7/2,1P CDI TUNING DIODE	1039.3107.00	SIEMENS	BB535/Q62702-B580	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V432	AE BB535 18,7/2,1P CDI TUNING DIODE	1039.3107.00	SIEMENS	BB535/Q62702-B580	
V434	AK NE85639 N 12V 100MA TRANSISTOR	1027.4161.00	NEC	NE85639E	
V436	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V438	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V440	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V460	AE BB535 18,7/2,1P CDI TUNING DIODE	1039.3107.00	SIEMENS	BB535/Q62702-B580	
V462	AE BB535 18,7/2,1P CDI TUNING DIODE	1039.3107.00	SIEMENS	BB535/Q62702-B580	
V464	AK NE85639 N 12V 100MA TRANSISTOR	1027.4161.00	NEC	NE85639E	
V466	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V468	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V470	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V480	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V490	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V491	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V492	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V494	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V496	AE HSMS2810 SCHOTTKY SCHOTTKY DIODE	0520.7340.00	HEWLETT_PA	HSMS-2810	
V500 ..502	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V503	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V510	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V515	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V520	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V532	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V540	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V550	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V551	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V552	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V553	AE BAR64 1X PIN SILICON PIN DIODE	1039.3059.00	SIEMENS	BAR64 (Q62702A1041)	
V555	AE HSMS2810 SCHOTTKY SCHOTTKY DIODE	0520.7340.00	HEWLETT_PA	HSMS-2810	
V600	AK BSR12 P 15V 100MA TRANSISTOR	AK 0007.2067.00	PHILIPS_SE	BSR12	
V601	AK BSR12 P 15V 100MA TRANSISTOR	AK 0007.2067.00	PHILIPS_SE	BSR12	
V602	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V603	AE HSMS2800 SCHOTTKY SCHOTTKY DIODE	AE 0836.8421.00	HEWLETT_PA	HSMS-2800(#L31)	
V701	AD BAV70 70V DUO UDI DUAL DIODE COMMON CATHODE	0007.9278.00	PHILIPS	BAV70	
V750	AE BZV55/C4V7 0.5W ZDI ZENER DIODE	AE 0006.9822.00	PHILIPS	BZV55B4V7	
V755	AD BAS32 75V UDI DIODE	AD 0006.7288.00	PHILIPS	BAS32 (L)	
V760	AK BCX19 N 45V 500MA TRANSISTOR	6014.2567.00	PHILIPS_SE	BCX19	
V761	AK BCX17 P 45V 500MA TRANSISTOR	AK 0007.2080.00	PHILIPS	BCX17	
V765 ..768	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V780	AM BSS123 N-E 100V MOSF FET	0815.7961.00	SIEMENS	BSS 123 (-S512)	
V781	AD BAS32 75V UDI DIODE	AD 0006.7288.00	PHILIPS	BAS32 (L)	
V787	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V800	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V810	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V811	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V812	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V865	AE BZV55/10V 0,5W ZDI ZENER DIODE	AE 0006.9880.00	PHILIPS_SE	BZV55C10	
V877	AE BZV55/C8V2 0,5W ZDI ZENER DIODE	AE 0006.9874.00	PHILIPS	BZV55B8V2	
V878	AE BZV55/C8V2 0,5W ZDI ZENER DIODE	AE 0006.9874.00	PHILIPS	BZV55B8V2	
V902	AD BAS32 75V UDI DIODE	AD 0006.7288.00	PHILIPS	BAS32 (L)	
V903	AD BAS32 75V UDI DIODE	AD 0006.7288.00	PHILIPS	BAS32 (L)	
V951	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V952	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V958	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V960	AM SST108 N-D 25V JFET JUNCTION FET	6007.3949.00	SILICONIX	SST108	
V962	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V963	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V964	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V980	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
X7	FP STECKERLEISTE 32POL. CONNECTOR 32P.	FP 0008.5718.00	DEUT_ELCO	16 8457 064 002 027	
X20	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 3-POLIG	FP 0242.3600.00	MPE	STL1-1180-14GGT8-036	
X70	FJ EINBAUWINKELST. SMC ANGLE CONNECTOR	FJ 0249.9684.00	IMS	82.1524.201	
X72	FJ EINBAUSTECKER F.GS SMB ANGLE CONNECTOR	FJ 0602.8804.00	ROSENBERGE	59S-206-400-D3	
X74	FJ EINBAUSTECKER F.GS SMB ANGLE CONNECTOR	FJ 0602.8804.00	ROSENBERGE	59S-206-400-D3	
X75	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 3-POLIG	FP 0242.3600.00	MPE	STL1-1180-14GGT8-036	
X76	FJ EINBAUSTECKER F.GS SMB ANGLE CONNECTOR	FJ 0602.8804.00	ROSENBERGE	59S-206-400-D3	
X78	FJ EINBAUSTECKER F.GS SMB ANGLE CONNECTOR	FJ 0602.8804.00	ROSENBERGE	59S-206-400-D3	
X300	KERAMIK RESONATOR 650M. CERAMIC RESONATOR	1039.3065.00	SIEMENS	B69614-G0650-A621	
X750	FP STIFTLEISTE 36P.R2,54 PIN CONNECTOR 3-POLIG	FP 0242.3600.00	MPE	STL1-1180-14GGT8-036	
Z2 ..7	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z9	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z10	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z15 ..17	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z20	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	
Z21	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
Z30	LD T-FILTER 3,3NF	SMD	1039.1362.00	MURATA	NFM61R20T332T1	
..35	SMD-FILTER					
Z50	LD T-FILTER 100PF	SMD	1039.1356.00	MURATA	NFM61R00T101T1	
	SMD-FILTER					
Z51	LD T-FILTER 33PF	SMD	1062.6744.00	MURATA	NFM61R00T330	
	SMD-T-FILTER 33PF					
Z52	LD T-FILTER 100PF	SMD	1039.1356.00	MURATA	NFM61R00T101T1	
	SMD-FILTER					
Z53	LD T-FILTER 33PF	SMD	1062.6744.00	MURATA	NFM61R00T330	
	SMD-T-FILTER 33PF					
Z100	LD T-FILTER 100PF	SMD	1039.1356.00	MURATA	NFM61R00T101T1	
..102	SMD-FILTER					
Z104	LD T-FILTER 100PF	SMD	1039.1356.00	MURATA	NFM61R00T101T1	
	SMD-FILTER					
Z106	LD T-FILTER 100PF	SMD	1039.1356.00	MURATA	NFM61R00T101T1	
	SMD-FILTER					
Z108	LD T-FILTER 100PF	SMD	1039.1356.00	MURATA	NFM61R00T101T1	
	SMD-FILTER					
Z110	LD T-FILTER 100PF	SMD	1039.1356.00	MURATA	NFM61R00T101T1	
	SMD-FILTER					
Z200	LD T-FILTER 3,3NF	SMD	1039.1362.00	MURATA	NFM61R20T332T1	
	SMD-FILTER					
Z202	LD T-FILTER 3,3NF	SMD	1039.1362.00	MURATA	NFM61R20T332T1	
	SMD-FILTER					
Z301	LD T-FILTER 3,3NF	SMD	1039.1362.00	MURATA	NFM61R20T332T1	
	SMD-FILTER					
Z320	LD T-FILTER 3,3NF	SMD	1039.1362.00	MURATA	NFM61R20T332T1	
	SMD-FILTER					
Z331	LD T-FILTER 3,3NF	SMD	1039.1362.00	MURATA	NFM61R20T332T1	
	SMD-FILTER					
Z580	LD T-FILTER 3,3NF	SMD	1039.1362.00	MURATA	NFM61R20T332T1	
	SMD-FILTER					

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ROHDE&SCHWARZ

XY-Liste

XY List

Erklärung der Spaltenbezeichnungen:

el. Kennz.	**Bauelement-Kennzeichen**
Seite	**Leiterplatten-Seite, auf der sich das Bauelement befindet**
X/Y	**Koordinaten (in Millimeter) des Bauelementes auf der Leiterplatte bezogen auf den Nullpunkt**
Planq., Bl.	**Planquadrat und Seite des Schaltbildes für das jeweilige Bauelement**

Explanation of column designations:

Part	**Identification of instrument part**
Side	**Side of the PC board on which instrument part is positioned**
X/Y	**Coordinates (in units of millimeters) of the component on the PC board in reference to zero point**
Sqr, Pg	**Square and page of the diagram for the respective instrument part**

Service-Relevante Bauteile / Service-Relevant Components

Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
C402	B	138	137	1E	4	P352	B	262	31	9B	3	P950	B	259	98	12F	9
C432	B	110	137	5E	4	P354	B	263	67	12E	3	R918	B	296	140	4D	9
C462	B	83	137	8E	4	P600	B	215	104	6D	6	R946	B	283	110	7D	9
L316	B	235	22	9E	3	P700	B	265	136	4C	7	X7A	B	189	11	11D	11
P20	B	149	53	5C	11	P720	B	235	131	6D	7	X7D	B	189	11		
P22	B	163	46	7B	11	P755	B	182	142	7E	7	X20	B	239	76	12D	2
P25	B	167	39	7C	11	P835	B	42	63	6D	8	X70	B	55	15	12C	5
P201	B	281	44	4E	2	P840	B	58	83	5F	8	X72	B	258	15	12C	3
P202	B	281	60	7E	2	P845	B	46	90	7F	8	X74	B	296	15	1D	2
P203	B	284	65	11E	2	P880	B	13	106	11D	8	X75	B	162	140	9D	7
P204	B	295	56	8D	2	P920	B	26	126	4F	9	X76	B	245	15	9F	3
P205	B	263	65	9D	2	P930	B	60	130	8C	9	X78	B	283	15	1D	2
P350	B	247	43	7C	3	P940	B	290	135	4D	9	X750	B	201	127	6D	7

Nicht-Service-Relevante Bauteile / Non-Service-Relevant Components

Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
C2	B	159	22	2D	11	C228	A	299	57	8C	2	C322	A	218	43	5D	3
C3	B	164	22	2D	11	C230	A	241	81	11F	2	C324	B	226	35	5D	3
C4	B	149	22	2C	11	C232	A	277	16	2D	2	C326	B	219	23	7D	3
C5	B	171	22	2B	11	C234	A	290	13	2D	2	C332	B	219	14	9D	3
C14	A	64	85	5E	11	C236	A	296	73	3C	2	C333	A	213	23	8E	3
C20	A	141	50	4C	11	C240	A	274	26	5C	2	C337	B	231	16	9E	3
C21	A	151	41	5C	11	C241	A	296	48	7C	2	C338	B	238	22	9E	3
C24	A	64	89	8E	11	C242	A	290	48	7C	2	C340	B	237	16	9E	3
C25	A	156	44	6C	11	C243	A	292	51	7D	2	C342	A	225	12	10D	3
C26	A	168	43	7C	11	C244	A	284	46	7C	2	C343	A	217	12	10D	3
C27	B	158	39	7C	11	C250	B	237	69	11C	2	C344	B	236	35	5D	3
C28	B	137	69	11F	11	C251	A	225	77	1B	2	C345	B	223	20	8E	3
C29	B	34	67	11F	11	C252	A	248	80	10D	2	C346	A	245	29	6C	3
C30	A	60	62	11F	11	C254	A	250	63	10C	2	C347	A	248	35	6C	3
C100	A	180	52	6E	10	C255	B	258	69	10B	2	C348	B	246	35	6C	3
C101	A	193	25	2B	10	C256	B	246	62	11D	2	C350	B	236	48	6C	3
C110	A	166	76	11B	10	C258	A	244	77	11D	2	C351	B	239	45	6B	3
C120	A	164	54	8C	10	C260	A	240	64	11B	2	C352	B	251	47	7C	3
C200	A	277	43	5A	2	C261	A	244	67	11B	2	C355	A	264	44	7A	3
C202	B	296	28	2E	2	C286	A	236	80	11C	2	C356	A	250	40	7C	3
C204	B	281	28	2E	2	C289	B	244	74	11C	2	C358	A	257	46	9C	3
C205	A	293	23	2D	2	C298	B	281	70	9E	2	C360	A	258	21	7A	3
C206	A	287	41	3E	2	C300	A	210	56	2E	3	C362	A	255	26	10C	3
C208	B	293	25	3E	2	C302	B	216	53	3E	3	C364	A	253	22	11C	3
C209	A	290	25	2D	2	C304	B	215	56	3E	3	C366	A	261	15	11C	3
C210	A	272	58	6A	2	C306	B	224	51	3D	3	C368	A	268	20	11B	3
C214	A	283	53	6E	2	C308	B	225	56	3D	3	C369	B	265	16	11B	3
C217	A	277	34	5D	2	C310	A	226	56	3D	3	C370	B	250	57	11D	3
C218	A	286	21	6D	2	C312	A	213	62	3C	3	C400	A	126	137	1E	4
C219	A	280	24	6D	2	C314	A	213	58	3C	3	C404	A	133	114	2E	4
C220	A	273	70	7A	2	C316	B	226	52	4D	3	C406	B	138	114	2E	4
C221	B	282	76	7A	2	C317	A	232	20	4E	3	C408	B	139	116	2E	4
C224	A	293	60	8D	2	C318	B	223	35	4D	3	C410	B	133	107	3D	4
C226	B	299	45	8C	2	C320	A	222	39	4E	3	C412	B	138	105	3D	4

ROHDE & SCHWARZ	-I	Datum / Date	XY-Liste für / XY-list for	Sach-Nummer / Stock-Nr	Blatt / Page
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Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
C414	B	130	103	3D	4	C533	B	96	39	5B	5	C750	A	189	135	7D	7
C416	A	121	100	3C	4	C535	A	116	41	6B	5	C755	B	183	132	7D	7
C418	A	126	126	2D	4	C537	A	88	35	5B	5	C756	A	186	138	7E	7
C430	A	98	137	5E	4	C540	A	81	28	6B	5	C760	A	177	133	9D	7
C434	A	105	114	6E	4	C541	A	88	38	6B	5	C765	B	174	132	9C	7
C436	B	111	110	6E	4	C542	A	71	37	7B	5	C766	B	174	138	9C	7
C438	B	111	112	6E	4	C543	B	81	30	7B	5	C767	B	166	132	10C	7
C440	B	106	103	6D	4	C544	A	73	23	7B	5	C778	A	158	134	8D	7
C442	B	110	101	7D	4	C546	B	69	29	8B	5	C779	B	161	137	9D	7
C444	B	103	99	7D	4	C547	B	69	42	8B	5	C780	A	233	136	7C	7
C446	A	97	105	7C	4	C548	A	63	36	9B	5	C781	A	226	138	7C	7
C448	A	98	124	5D	4	C550	B	55	44	9C	5	C782	A	223	139	9C	7
C460	A	71	137	8E	4	C551	B	51	25	10C	5	C784	A	227	128	9B	7
C464	A	79	119	9E	4	C552	A	50	29	10D	5	C787	A	271	119	4B	7
C466	B	83	115	9E	4	C553	A	50	22	10D	5	C788	B	295	88	1B	7
C468	B	83	117	9E	4	C555	B	58	20	10C	5	C790	A	208	130	6A	7
C470	B	78	108	10D	4	C556	A	58	32	10C	5	C791	A	206	140	6B	7
C472	B	82	106	10D	4	C557	A	144	63	11C	5	C792	B	269	138	7B	7
C474	B	83	102	10D	4	C570	A	74	46	8D	5	C793	B	276	138	8A	7
C476	A	90	109	10C	4	C571	A	82	10	6D	5	C794	A	294	102	2A	7
C478	A	71	128	9D	4	C580	A	133	65	10B	5	C795	B	293	110	3B	7
C481	A	72	107	8C	4	C600	B	158	91	2E	6	C796	A	193	135	6A	7
C490	A	75	73	5B	4	C601	B	165	105	2E	6	C797	A	250	131	9B	7
C491	A	85	79	4B	4	C602	A	170	96	2E	6	C819	A	37	29	3D	8
C492	B	82	98	8B	4	C605	B	161	114	3E	6	C830	B	60	72	2F	8
C493	B	82	87	9B	4	C610	A	169	116	3E	6	C831	B	38	22	2D	8
C494	A	79	89	9B	4	C611	A	170	107	4F	6	C840	A	33	89	6E	8
C495	B	88	87	9B	4	C615	B	172	121	4E	6	C850	A	15	79	9E	8
C496	A	88	77	9B	4	C616	B	189	120	4E	6	C851	A	38	60	9B	8
C497	A	147	65	9B	4	C617	A	189	121	4E	6	C852	A	35	60	9B	8
C500	B	95	77	1D	5	C639	A	241	102	3A	6	C860	B	28	28	4C	8
C501	B	83	69	2D	5	C640	A	189	99	7F	6	C861	B	29	35	5C	8
C502	A	86	74	2D	5	C641	A	244	105	7C	6	C862	A	16	36	5C	8
C504	A	85	62	1E	5	C645	A	209	109	3A	6	C865	A	23	39	5D	8
C505	A	74	65	1F	5	C647	A	181	92	4B	6	C866	A	19	54	5B	8
C506	A	117	59	2E	5	C649	A	232	106	7C	6	C870	A	15	24	6C	8
C507	A	96	72	2B	5	C654	A	249	102	11F	6	C871	A	19	22	6B	8
C510	B	113	57	3E	5	C655	A	235	117	11F	6	C875	A	23	14	7C	8
C511	A	124	51	3E	5	C656	A	224	100	11F	6	C876	A	25	14	7B	8
C512	A	117	57	3E	5	C657	A	229	89	11F	6	C877	A	40	49	2C	8
C513	A	122	44	4E	5	C660	A	201	36	8E	6	C878	A	37	38	2B	8
C514	B	110	50	4E	5	C690	A	223	92	11B	6	C885	A	15	21	10B	8
C515	A	101	58	4E	5	C701	A	300	108	3D	7	C886	A	20	106	9B	8
C516	B	98	53	5E	5	C702	A	293	111	3C	7	C887	A	20	102	9B	8
C517	B	80	50	6E	5	C707	B	291	106	3B	7	C888	A	175	90	11C	8
C520	B	106	69	3C	5	C708	A	272	126	3C	7	C890	B	33	83	4A	8
C521	A	107	66	3C	5	C709	A	271	134	3D	7	C891	B	32	76	4A	8
C522	A	112	70	3C	5	C710	A	267	133	3C	7	C894	A	37	36	6A	8
C523	A	113	83	4C	5	C720	A	246	137	5D	7	C895	B	43	19	6A	8
C524	B	118	77	4C	5	C721	B	243	131	6D	7	C900	B	45	95	4A	9
C525	A	130	80	4D	5	C722	A	239	136	6D	7	C901	A	13	128	1F	9
C526	B	132	75	5C	5	C731	B	193	130	6C	7	C906	A	40	142	2B	9
C527	B	77	18	5C	5	C732	A	247	131	6D	7	C910	A	27	129	4C	9
C530	A	106	44	4B	5	C740	A	197	140	7E	7	C911	A	27	131	4B	9
C532	B	91	44	5B	5	C741	A	208	133	6E	7	C912	A	297	121	4D	9

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Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
C913	B	26	122	4B	9	D255-A	B	258	78	10D	2	D850	B	15	72	8F	8
C914	A	291	122	4D	9	D255-B				10C	2	D854-A	B	63	98	10F	8
C920	A	20	126	3E	9	D255-C				10B	2	D854-B				11B	8
C949	A	270	88	10C	9	D350	B	242	49	6C	3	D855-A	B	15	58	11F	8
C950	A	254	119	6E	9	D355-A	B	265	43	8C	3	D855-B				11B	8
C951	A	274	104	9E	9	D355-B				6A	3	D865-A	B	23	98	10D	8
C952	A	249	119	6F	9	D360-A	B	264	21	9B	3	D865-B				9B	8
C953	A	265	98	12E	9	D360-B				10D	3	D870-A	B	14	23	6C	8
C955	A	257	110	7E	9	D360-C				10C	3	D870-B				6B	8
C956	A	263	108	7E	9	D360-D				10B	3	D870-C				10B	8
C957	B	256	103	7E	9	D360-E				7A	3	D875-A	B	15	12	7B	8
C958	B	268	110	8F	9	D370-A	B	259	57	11E	3	D875-B				7C	8
C959	B	272	107	8E	9	D370-B				11D	3	D875-C				7B	8
C960	A	39	123	4C	9	D510	B	121	54	3E	5	D875-D				8C	8
C961	A	45	124	6A	9	D520	B	107	72	3C	5	D875-E				10B	8
C962	A	56	124	6A	9	D540	B	85	34	6B	5	D900-A	B	52	98	2D	9
C963	A	273	100	10F	9	D580-A	A	120	64	8F	5	D900-B				4A	9
C977	A	49	136	8B	9	D580-B				10B	5	D910-A	B	297	118	4D	9
C979	A	283	130	3A	9	D585-A	A	96	36	9F	5	D910-B				2A	9
C989	A	281	90	11B	9	D585-B				11B	5	D920	B	25	140	2E	9
C990	A	285	93	12B	9	D640-A	B	213	107	7D	6	D930-A	B	288	130	4D	9
D20	B	146	50	4C	11	D640-B				7D	6	D930-B				3A	9
D60A	B	190	89	6C	6	D640-C				8F	6	D950-A	A	260	88	11F	9
D65A	B	234	90	9E	6	D640-D				7D	6	D950-B				11F	9
D100-A	A	184	14	2E	10	D640-E				3A	6	D950-C				10C	9
D100-B				2D	10	D660-A	A	234	88	2D	6	D960-A	B	50	124	7B	9
D100-C				2D	10	D660-B				2A	6	D960-B				6A	9
D100-D				2C	10	D665-A	A	250	88	3D	6	D965-A	B	262	90	9E	9
D100-E				2B	10	D665-B				2A	6	D965-B				9D	9
D105	B	190	46	5E	10	D700-A	B	299	91	2D	7	D965-C				8D	9
D110-A	B	180	69	6B	10	D700-B				2C	7	D965-D				8E	9
D110-B				8B	10	D700-C				1B	7	K240-A	B	276	13	6D	2
D115-A	B	192	69	8E	10	D720-A	B	254	140	4E	7	K240-B				5B	2
D115-B				8B	10	D720-B				5B	7	K910-A	B	29	134	4C	9
D120-A	B	204	69	8D	10	D740-A	B	204	139	6E	7	K910-B				2B	9
D120-B				9B	10	D740-B				6B	7	K911-A	B	29	139	3B	9
D125-A	B	169	70	7E	10	D790-A	B	272	126	10E	7	K911-B				2B	9
D125-B				7D	10	D790-B				4B	7	L1	A	140	23	2E	11
D125-C				11C	10	D795-A	B	224	138	10C	7	L2	B	144	20	2E	11
D125-D				11C	10	D795-B				4B	7	L3	B	152	15	2D	11
D125-E				9B	10	D800-A	B	47	85	4D	8	L4	B	132	15	2C	11
D200-A	B	274	40	6D	2	D800-B				4E	8	L5	B	173	15	2C	11
D200-B				5E	2	D800-C				4E	8	L8	A	243	58	4E	11
D200-C				5D	2	D800-D				4F	8	L9	A	217	67	4E	11
D200-D				6E	2	D800-E				3A	8	L11	A	141	73	5E	11
D200-E				5A	2	D810-A	B	34	45	4D	8	L13	A	166	128	5E	11
D205-A	B	274	49	5E	2	D810-B				4C	8	L14	A	71	84	5E	11
D205-B				8D	2	D810-C				4C	8	L23	A	161	119	7E	11
D205-C				5A	2	D810-D				4D	8	L24	A	71	88	8E	11
D210-A	B	275	65	8E	2	D810-E				2C	8	L25	A	265	73	9F	11
D210-B				8E	2	D820-A	B	57	72	2F	8	L26	A	241	48	10F	11
D210-C				6A	2	D820-B				2A	8	L27	B	276	120	10F	11
D215-A	B	290	60	10E	2	D825-A	B	35	18	2D	8	L28	A	126	41	11F	11
D215-B				6A	2	D825-B				2A	8	L29	A	62	52	11F	11
D220	B	296	80	2C	2	D840	B	40	89	6F	8	L50	A	114	36	10D	11

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Part	Side	X	Y	Sqr	Pg
L51	A	84	12	10D	11
L52	A	126	37	10C	11
L53	A	141	39	10C	11
L101	A	187	80	4D	2
L200	A	275	46	6E	2
L202	A	284	28	6D	2
L204	A	283	24	6D	2
L240	B	286	53	7D	2
L300	B	213	51	3E	3
L301	A	225	64	2E	3
L302	B	220	61	3D	3
L306	B	222	38	4E	3
L318	B	247	29	6C	3
L347	A	251	29	6C	3
L350	B	250	38	7C	3
L352	B	255	22	11C	3
L354	B	253	15	11C	3
L400	B	132	137	1E	4
L401	A	126	135	1E	4
L402	B	132	114	2E	4
L403	A	129	107	2E	4
L404	B	136	124	2E	4
L406	B	142	110	3D	4
L408	A	129	123	2D	4
L430	B	104	137	5E	4
L431	A	98	135	5E	4
L432	B	104	110	6E	4
L433	A	101	107	6E	4
L434	B	108	120	5E	4
L436	B	115	106	6D	4
L438	A	101	127	5D	4
L460	B	78	137	8E	4
L461	A	71	135	8E	4
L462	B	76	115	9E	4
L463	A	75	113	9E	4
L464	B	80	125	9E	4
L466	B	87	111	10D	4
L468	A	74	131	9D	4
L492	B	86	96	8B	4
L494	B	76	88	9B	4
L500	B	83	62	2D	5
L502	B	83	75	2D	5
L505	B	77	55	2F	5
L506	B	112	65	2E	5
L507	B	102	69	2C	5
L515	B	99	59	4E	5
L525	B	132	81	4C	5
L530	B	94	43	5B	5
L535	B	103	39	5B	5
L540	B	70	23	8B	5
L545	B	65	42	9B	5
L550	B	51	45	9C	5
L551	B	54	29	10C	5
L570	B	73	49	8D	5
L571	B	69	14	7C	5
L600	B	169	102	2E	6
L610	B	172	115	3E	6
L620	A	208	102	4C	6
L640	A	189	96	7F	6
L910	B	33	130	4B	9
L911	B	28	112	4B	9
L950	A	274	92	10C	9
N20-A	B	151	51	5C	11
N20-B				6C	11
N20-C				6B	11
N20-D				6A	11
N20-E				5A	11
N100-A	B	169	64	10E	10
N100-B				10E	10
N100-C				8C	10
N105-A	B	169	57	10D	10
N105-B				10C	10
N105-C				8C	10
N110-A	B	169	50	10B	10
N110-B				10B	10
N110-C				9C	10
N200	B	284	40	2E	2
N220-A	B	276	77	3C	2
N220-B				4C	2
N220-C				10F	2
N220-D				8E	2
N220-E				7A	2
N250-A	B	246	66	11D	2
N250-B				11B	2
N300	B	226	46	4D	3
N305	B	239	32	5C	3
N490	B	79	96	8B	4
N500	B	91	72	1D	5
N510	B	107	55	4E	5
N520	B	124	77	4C	5
N540	B	78	26	7B	5
N560	B	55	38	9C	5
N600	B	165	94	2E	6
N610	B	164	117	3E	6
N640-A	A	236	105	7C	6
N640-B				3A	6
N700-A	B	293	101	2B	7
N700-B				3B	7
N710-A	B	274	130	3D	7
N710-B				7B	7
N720-A	B	246	136	5D	7
N720-B				7B	7
N750-A	B	199	136	7D	7
N750-B				6B	7
N780-A	B	232	133	7C	7
N780-B				8C	7
N780-C				7B	7
N800-A	A	41	70	3F	8
N800-B				3A	8
N810-A	B	35	25	3D	8
N810-B				6A	8
N840-A	B	52	81	5F	8
N840-B				7E	8
N840-C				4A	8
N850-A	B	39	58	9D	8
N850-B				9B	8
N860	B	20	43	5C	8
N861	B	30	43	5C	8
N880-A	A	16	88	9E	8
N880-B				4A	8
N905-A	B	16	125	2F	9
N905-B				3E	9
N905-C				5A	9
N950-A	B	277	105	9E	9
N950-B				9E	9
N950-C				7D	9
N950-D				7D	9
N950-E				11B	9
N955-A	B	263	107	8E	9
N955-B				11B	9
N965-A	B	283	88	10F	9
N965-B				10B	9
R5	B	179	17	2B	11
R6	A	239	67	5F	11
R7	A	174	127	5F	11
R20	A	170	38	7C	11
R21	A	151	50	4C	11
R23	A	144	44	5C	11
R24	A	158	52	6C	11
R25	A	162	55	6C	11
R26	B	143	41	6C	11
R27	B	143	39	6C	11
R28	A	153	46	7C	11
R29	A	160	44	7C	11
R30	A	161	39	6B	11
R31	A	164	41	6B	11
R100	A	196	13	2D	10
R102	A	190	25	2C	10
R104	A	194	20	3C	10
R106	A	146	18	3E	10
R107	B	145	36	4E	10
R108	B	201	21	3E	10
R109	B	198	36	4E	10
R110	B	197	21	3E	10
R111	B	194	36	3E	10
R112	B	193	21	3D	10
R113	B	192	36	3D	10
R114	B	187	21	3D	10
R115	B	187	36	3D	10
R116	B	182	21	3C	10
R117	B	183	36	3C	10
R118	B	178	21	3C	10
R119	B	179	36	3C	10
R120	A	187	38	4D	10
R121	A	162	62	8C	10

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Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
R122	A	191	48	5E	10	R230	A	278	74	11F	2	R310	B	223	65	3D	3
R123	A	191	51	5E	10	R232	A	281	74	11E	2	R312	A	215	57	3C	3
R124	A	203	49	5E	10	R234	A	292	29	3D	2	R314	B	229	55	4D	3
R125	A	203	52	5E	10	R239	A	285	56	7D	2	R316	A	229	20	4F	3
R126	A	204	57	5E	10	R240	A	293	43	6C	2	R317	A	233	16	4F	3
R127	A	204	60	5E	10	R241	A	296	46	6C	2	R318	A	236	13	4E	3
R128	A	204	62	5E	10	R242	A	299	50	8C	2	R320	B	219	38	4D	3
R131	A	185	51	5D	10	R243	A	290	46	7C	2	R321	A	224	30	8E	3
R133	A	196	58	6D	10	R244	A	185	77	9E	10	R322	B	216	40	5D	3
R134	A	194	58	6D	10	R246	B	290	47	7D	2	R323	A	210	25	7E	3
R135	A	191	58	6D	10	R247	B	287	44	7C	2	R324	B	230	29	5E	3
R136	A	189	58	6D	10	R248	B	293	45	8D	2	R325	B	202	43	5F	3
R137	A	186	58	6D	10	R249	B	296	51	8D	2	R326	B	223	30	5D	3
R138	A	184	58	6D	10	R251	A	286	73	2C	2	R327	B	217	15	8D	3
R139	A	186	63	6D	10	R253	A	292	76	2C	2	R328	B	201	40	6F	3
R140	A	181	58	6D	10	R255	A	288	76	2B	2	R329	B	215	20	8E	3
R142	A	178	68	5B	10	R256	A	293	70	2B	2	R330	A	221	31	7F	3
R143	B	160	58	11E	10	R257	A	290	66	1B	2	R331	B	211	33	7E	3
R144	A	193	79	8B	10	R258	B	279	80	3C	2	R332	A	218	34	7E	3
R145	A	180	76	7E	10	R260	B	266	71	3B	2	R334	A	219	23	7E	3
R146	A	191	72	9E	10	R261	B	236	59	4B	2	R335	A	217	20	7E	3
R150	A	168	68	10E	10	R262	A	193	15	4B	2	R336	A	225	23	7E	3
R152	A	171	65	10E	10	R263	B	191	21	4A	2	R337	B	217	30	7D	3
R154	A	164	67	10E	10	R264	B	272	80	4C	2	R338	B	228	16	9E	3
R156	A	173	63	10D	10	R266	A	271	74	5C	2	R340	B	227	13	10D	3
R158	A	169	58	10D	10	R267	A	273	77	5C	2	R344	A	219	12	10D	3
R160	A	172	57	10C	10	R269	B	239	63	5B	2	R346	B	229	32	5D	3
R162	B	175	53	9C	10	R270	A	201	22	5B	2	R347	B	236	38	5D	3
R164	A	175	51	10C	10	R276	A	263	78	10D	2	R348	A	248	32	6C	3
R166	A	169	50	10B	10	R277	B	265	77	10D	2	R350	B	244	38	6C	3
R170	A	166	70	11C	10	R278	A	257	74	9C	2	R354	A	244	37	7C	3
R172	B	175	51	10C	10	R280	A	254	80	10D	2	R355	A	264	46	6B	3
R174	A	166	73	10C	10	R281	A	249	77	10D	2	R356	A	248	40	7C	3
R178	A	160	77	10B	10	R282	A	252	69	10C	2	R358	A	267	50	8C	3
R200	A	296	21	2D	2	R283	A	250	66	10C	2	R360	A	260	50	8C	3
R201	A	286	36	5B	2	R284	A	247	68	11D	2	R361	A	260	28	7B	3
R202	B	281	22	3E	2	R285	A	241	71	11D	2	R362	A	264	40	8B	3
R203	A	293	26	2D	2	R286	A	236	60	11C	2	R364	A	258	34	9B	3
R204	A	295	32	2E	2	R287	A	236	66	11C	2	R366	A	260	34	9B	3
R205	B	278	43	6D	2	R288	B	240	57	11D	2	R368	A	257	48	9C	3
R206	B	285	28	3E	2	R289	A	246	74	11C	2	R369	A	253	43	9C	3
R207	B	288	21	3E	2	R290	A	255	69	10B	2	R370	A	261	21	9C	3
R208	A	287	43	3E	2	R291	B	248	70	11B	2	R376	A	268	26	10C	3
R209	A	279	57	6B	2	R292	A	276	59	7F	2	R378	A	258	28	10C	3
R210	B	291	21	3D	2	R293	A	266	57	8F	2	R380	A	267	13	11C	3
R212	B	293	28	3E	2	R294	A	279	63	7D	2	R382	B	267	18	11B	3
R213	A	290	32	4E	2	R295	A	270	65	8E	2	R384	A	247	57	11D	3
R214	A	290	38	4E	2	R296	A	266	63	8E	2	R386	A	253	57	11E	3
R216	A	277	41	4F	2	R297	A	280	65	8F	2	R387	A	262	57	11E	3
R221	A	280	54	5E	2	R298	B	277	67	8E	2	R388	B	250	61	11E	3
R223	B	279	46	5E	2	R299	A	270	67	8E	2	R389	A	253	60	11E	3
R224	A	280	35	5D	2	R302	B	221	53	3E	3	R390	A	252	62	11E	3
R225	A	274	31	5D	2	R304	B	222	48	3D	3	R391	A	259	58	11E	3
R226	A	274	54	6E	2	R306	A	218	52	3D	3	R392	A	255	65	11E	3
R227	A	280	38	7E	2	R308	A	220	48	3D	3	R396	B	263	74	11D	3

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Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
R404	B	127	111	2E	4	R506	B	119	65	2E	5	R639	A	232	100	3A	6
R406	B	131	124	2D	4	R507	B	98	73	2C	5	R640	A	202	105	6E	6
R410	B	136	109	3E	4	R510	A	111	50	3E	5	R641	A	202	109	7E	6
R412	B	131	108	3D	4	R511	A	124	45	4E	5	R642	A	188	106	7E	6
R414	A	134	109	3D	4	R515	A	95	61	4F	5	R643	A	188	109	7E	6
R416	A	131	111	2D	4	R516	B	90	53	5E	5	R644	A	192	98	7F	6
R418	A	137	107	3D	4	R517	B	82	46	5E	5	R645	A	211	115	7D	6
R420	A	145	112	3D	4	R518	B	88	50	5E	5	R647	A	208	115	7D	6
R422	B	136	103	3D	4	R520	A	119	76	3D	5	R648	A	241	111	7C	6
R424	B	120	95	3D	4	R521	A	116	83	4C	5	R649	A	232	104	7C	6
R425	A	133	98	3C	4	R525	B	89	18	5C	5	R650	A	221	95	9F	6
R426	A	144	97	3C	4	R526	B	83	18	5C	5	R651	A	206	96	9F	6
R427	A	144	99	4C	4	R527	B	80	18	5C	5	R652	A	222	97	9F	6
R434	B	102	114	6E	4	R528	A	124	84	4D	5	R653	A	206	98	9F	6
R436	B	103	120	5D	4	R530	B	104	46	4B	5	R654	A	225	88	11F	6
R440	B	108	105	6E	4	R531	B	104	43	4B	5	R655	A	225	97	11F	6
R442	B	103	104	6D	4	R534	B	110	41	6B	5	R656	A	232	118	11F	6
R444	A	106	109	6D	4	R535	B	107	38	6B	5	R657	A	249	105	11F	6
R446	A	104	111	6D	4	R537	A	88	29	5B	5	R660	A	238	100	8E	6
R448	A	111	105	6D	4	R540	A	81	44	6C	5	R661	A	244	96	8E	6
R450	A	117	110	6D	4	R541	A	72	34	7B	5	R662	A	223	106	8E	6
R452	B	109	99	7D	4	R545	B	75	33	8B	5	R663	A	244	114	8E	6
R454	B	97	99	7D	4	R546	B	69	36	8B	5	R664	A	241	121	8E	6
R455	A	110	92	6C	4	R547	B	75	39	8B	5	R665	A	243	121	8D	6
R456	A	124	90	7C	4	R548	B	65	39	9B	5	R666	A	246	121	8D	6
R457	A	118	97	7C	4	R549	A	63	23	8C	5	R667	A	226	104	8D	6
R464	B	74	119	9E	4	R550	B	51	51	9C	5	R668	A	223	109	8D	6
R466	B	74	125	9D	4	R552	A	56	26	10D	5	R669	A	232	112	8D	6
R470	B	80	110	10E	4	R555	B	60	12	10B	5	R670	A	208	122	8D	6
R472	B	79	105	10D	4	R556	B	58	27	10C	5	R671	A	232	114	8D	6
R474	A	80	111	10D	4	R557	A	61	29	10C	5	R672	A	210	122	8D	6
R476	A	77	116	9D	4	R570	B	75	43	8D	5	R673	A	238	114	8D	6
R478	A	83	110	10D	4	R571	B	73	15	7C	5	R674	A	213	122	8C	6
R480	A	90	115	10D	4	R580	A	130	65	7F	5	R675	A	221	121	8C	6
R481	A	71	103	8C	4	R581	A	105	49	9F	5	R676	A	223	111	8C	6
R482	A	78	103	8C	4	R582	A	131	71	8E	5	R677	A	224	121	8C	6
R484	B	89	104	10D	4	R603	A	164	100	2F	6	R678	A	225	111	8C	6
R485	A	107	92	10C	4	R605	B	168	108	2E	6	R679	A	227	111	8C	6
R486	A	96	95	10C	4	R606	B	168	112	3E	6	R680	A	229	121	8C	6
R487	A	92	102	11C	4	R607	B	161	108	3E	6	R682	A	238	121	8E	6
R488	B	75	107	10D	4	R610	A	168	104	3F	6	R685	A	210	105	3B	6
R490	A	75	76	5B	4	R615	B	178	122	4E	6	R686	A	247	90	2D	6
R491	A	72	100	9C	4	R616	B	185	118	4E	6	R687	B	256	88	3D	6
R492	B	88	81	9B	4	R617	B	185	121	4E	6	R690	A	220	88	11B	6
R493	A	88	79	9B	4	R618	B	192	117	4E	6	R700	A	297	89	1D	7
R494	B	81	84	9B	4	R619	A	192	117	5E	6	R701	A	291	90	2D	7
R495	B	104	83	10B	4	R620	A	177	103	5D	6	R702	A	297	93	2D	7
R496	B	95	83	10B	4	R621	A	177	108	5D	6	R703	B	300	104	2D	7
R497	B	97	87	10B	4	R622	A	177	105	5D	6	R704	B	280	123	3D	7
R499	B	98	81	10B	4	R623	A	177	110	5D	6	R705	B	277	127	3D	7
R500	B	79	66	2D	5	R624	B	211	88	5D	6	R706	B	278	130	3D	7
R502	A	81	68	2E	5	R625	A	200	92	6D	6	R707	A	291	101	2C	7
R503	A	81	71	1E	5	R626	A	197	92	6D	6	R708	A	284	121	3C	7
R504	A	88	67	1E	5	R627	A	195	92	6D	6	R709	A	298	106	3B	7
R505	B	74	65	2F	5	R628	A	185	116	6B	6	R710	A	269	126	3C	7

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Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
R711	A	269	130	3D	7	R843	B	55	78	5F	8	R950	A	251	119	6E	9
R720	A	256	131	4E	7	R845	B	61	78	5F	8	R951	A	254	113	7E	9
R721	A	262	137	5E	7	R850	A	23	79	8F	8	R952	A	257	108	7E	9
R722	A	262	139	5E	7	R851	A	18	76	8E	8	R953	A	267	100	8E	9
R723	A	262	142	5D	7	R852	A	20	76	8E	8	R954	A	253	105	7E	9
R724	A	262	134	5D	7	R854	A	35	62	9B	8	R955	B	274	107	8F	9
R725	A	252	142	5D	7	R856	A	59	105	9F	8	R956	A	281	96	7E	9
R726	A	252	134	5D	7	R857	A	21	62	10F	8	R957	A	281	99	9F	9
R727	A	252	139	5D	7	R859	A	41	67	9B	8	R958	A	267	103	8E	9
R728	A	252	137	5D	7	R860	A	18	36	5C	8	R959	A	263	105	7E	9
R729	A	243	141	4D	7	R861	B	15	36	5C	8	R960	A	39	117	4B	9
R730	A	243	137	5D	7	R862	B	18	39	5C	8	R961	A	39	128	4B	9
R731	A	241	128	6D	7	R863	B	15	34	5B	8	R962	A	39	125	5B	9
R732	A	248	133	6D	7	R864	A	26	46	5B	8	R963	B	39	128	5B	9
R733	A	234	128	6D	7	R865	A	16	47	5D	8	R964	B	39	121	5B	9
R740	A	204	137	6E	7	R866	A	26	50	5B	8	R965	B	37	119	5B	9
R741	A	200	140	7E	7	R870	A	20	30	6C	8	R966	A	48	116	6B	9
R742	A	208	135	6E	7	R871	A	19	33	6C	8	R967	B	61	126	6B	9
R750	A	200	135	7B	7	R872	A	23	30	6B	8	R968	B	61	119	6B	9
R755	B	188	141	7E	7	R873	A	25	30	6B	8	R969	B	37	128	5B	9
R760	A	183	130	7D	7	R875	A	17	15	7C	8	R970	A	34	122	5B	9
R761	A	179	133	7D	7	R876	A	20	17	7B	8	R971	A	44	109	6B	9
R762	A	177	140	8D	7	R877	A	44	44	2C	8	R972	A	54	131	6B	9
R763	A	174	130	9D	7	R878	A	32	42	2B	8	R973	A	63	123	6B	9
R769	A	169	135	9D	7	R880	B	36	55	9D	8	R974	A	63	117	7B	9
R777	A	166	141	9D	7	R881	B	42	55	8D	8	R975	A	63	114	7B	9
R778	A	156	138	8D	7	R884	A	30	106	10D	8	R976	B	279	95	8D	9
R779	A	155	131	8D	7	R886	A	31	123	11D	8	R977	A	57	135	9C	9
R780	A	236	138	6C	7	R887	A	29	119	11C	8	R978	A	39	120	4C	9
R781	A	230	141	7C	7	R888	A	30	103	9B	8	R979	A	286	126	3B	9
R782	A	233	133	7C	7	R889	A	20	113	9B	8	R980	A	297	135	3B	9
R783	A	225	132	9C	7	R894	A	44	36	6A	8	R981	A	54	140	8B	9
R784	B	227	130	9B	7	R895	A	39	19	6A	8	R982	B	34	124	5B	9
R785	A	292	109	2B	7	R896	A	19	12	7B	8	R983	A	36	118	5B	9
R786	A	227	131	8C	7	R900	A	46	95	2D	9	R984	A	41	113	6B	9
R787	A	259	129	5B	7	R901	A	13	122	2F	9	R985	A	51	128	6B	9
R788	A	211	138	6B	7	R911	A	34	115	4B	9	R986	A	60	121	6B	9
R789	A	211	128	6A	7	R915	A	286	139	4D	9	R987	A	60	138	9B	9
R790	A	275	123	10E	7	R916	A	281	142	4D	9	R988	A	277	92	11B	9
R791	A	217	134	10C	7	R917	A	290	139	4D	9	R989	A	285	88	11C	9
R792	A	294	100	2A	7	R920	A	18	133	2E	9	R990	A	52	109	8B	9
R793	A	259	131	9B	7	R921	A	21	136	2E	9	R991	A	49	119	7A	9
R800	A	63	65	1F	8	R922	A	16	136	2E	9	R992	A	53	114	8B	9
R801	A	50	69	2E	8	R923	B	295	124	5E	9	R993	A	56	119	6A	9
R811	A	37	53	2C	8	R924	B	292	127	5E	9	V20	B	168	46	7C	11
R812	A	41	81	2E	8	R925	B	295	130	6E	9	V100	A	196	39	4D	10
R813	A	43	20	3D	8	R926	A	292	127	5E	9	V105	A	194	37	4D	10
R815	A	29	21	1D	8	R928	B	292	132	6E	9	V119	A	204	78	9B	10
R816	A	35	11	1D	8	R930	A	295	124	5E	9	V120	B	160	77	11C	10
R817	A	44	22	3D	8	R931	A	295	130	5E	9	V125	A	163	74	11B	10
R819	A	35	22	3E	8	R932	A	281	139	6E	9	V200	A	297	37	2E	2
R820	A	31	28	3D	8	R944	A	283	102	7D	9	V201	A	289	20	2D	2
R840	A	33	95	6F	8	R945	A	282	109	6D	9	V205	B	290	26	3E	2
R841	A	27	100	6E	8	R947	B	272	95	10F	9	V210	A	292	35	4E	2
R842	A	30	100	6E	8	R948	B	273	88	10F	9	V211	B	286	63	9E	2

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Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg	Part	Side	X	Y	Sqr	Pg
V212	A	274	49	6E	2	V491	A	75	98	8C	4	V958	A	64	137	9B	9
V214	A	301	48	6C	2	V492	B	89	92	7C	4	V960	A	62	130	9B	9
V215	A	288	51	7C	2	V494	B	92	100	8C	4	V962	A	57	121	6A	9
V216	B	297	44	8C	2	V496	B	83	82	9B	4	V963	A	275	98	9F	9
V221	A	284	71	2B	2	V500	B	83	54	2E	5	V964	A	269	98	10F	9
V225	B	298	53	8C	2	V501	B	88	59	2E	5	V980	B	298	135	4A	9
V240	A	277	21	5B	2	V502	B	88	63	2D	5	X300	B	213	64	3E	3
V250	A	251	76	10D	2	V503	A	84	66	1E	5	Z2	B	156	27	2E	11
V260	B	248	76	11B	2	V510	A	117	51	3E	5	Z3	B	161	27	2D	11
V265	A	236	74	11D	2	V515	B	94	47	5E	5	Z4	B	151	27	2C	11
V290	A	269	63	8E	2	V520	A	110	75	3D	5	Z5	B	166	27	2C	11
V300	B	214	48	3E	3	V532	B	91	36	5C	5	Z6	B	171	27	2B	11
V305	B	223	59	3E	3	V540	A	82	37	6B	5	Z7	B	229	79	9E	11
V310	A	221	58	3C	3	V550	B	60	44	8C	5	Z9	B	215	81	10E	11
V315	B	215	35	4D	3	V551	B	60	52	8C	5	Z10	B	137	43	11E	11
V316	A	230	14	4E	3	V552	B	60	48	8C	5	Z15	B	220	77	7E	11
V320	A	217	38	7E	3	V553	B	60	56	9C	5	Z16	B	144	55	7E	11
V321	A	219	29	7F	3	V555	B	62	18	10C	5	Z17	B	169	81	8E	11
V325	B	221	15	8D	3	V600	A	191	108	7E	6	Z20	B	225	77	4D	11
V330	B	235	10	9D	3	V601	A	194	104	6E	6	Z21	B	154	71	5D	11
V350	A	257	39	8C	3	V602	A	195	101	6E	6	Z30	B	260	81	5E	11
V355	A	261	39	9C	3	V603	A	198	110	7E	6	Z31	B	265	87	7D	11
V360	A	263	13	11C	3	V701	A	296	97	2D	7	Z32	B	164	81	7D	11
V400	B	138	125	2E	4	V750	A	204	132	7B	7	Z33	B	137	48	8D	11
V401	B	139	125	2E	4	V755	A	196	131	7D	7	Z34	B	237	57	9E	11
V402	B	138	122	2E	4	V760	A	185	134	7D	7	Z35	B	159	81	5E	11
V403	B	139	122	2E	4	V761	A	190	131	7D	7	Z50	B	116	34	10D	11
V404	B	141	107	3E	4	V765	B	177	136	9D	7	Z51	B	89	10	10D	11
V406	A	140	111	3D	4	V766	B	177	140	9E	7	Z52	B	131	34	10C	11
V408	A	146	102	4C	4	V767	B	177	132	9D	7	Z53	B	141	34	10C	11
V410	A	139	97	3C	4	V768	B	177	129	9C	7	Z100	B	202	27	3E	10
V430	B	110	122	5E	4	V780	A	221	129	8B	7	Z101	B	146	27	3E	10
V432	B	110	118	6E	4	V781	A	225	135	8C	7	Z102	B	197	27	3E	10
V434	B	113	103	6E	4	V787	B	259	129	5B	7	Z104	B	192	27	3D	10
V436	A	112	110	6D	4	V800	A	53	66	2F	8	Z106	B	187	27	3D	10
V438	A	117	99	7C	4	V810	A	32	16	2D	8	Z108	B	182	27	3C	10
V440	A	116	91	7C	4	V811	B	31	15	2D	8	Z110	B	177	27	3C	10
V460	B	83	126	9E	4	V812	B	29	11	2D	8	Z200	B	204	15	4B	2
V462	B	83	123	9E	4	V865	A	27	56	5B	8	Z202	B	204	20	5B	2
V464	B	85	108	10E	4	V877	A	40	46	2C	8	Z301	B	236	66	2E	3
V466	A	84	115	10D	4	V878	A	35	38	2B	8	Z320	B	210	41	5F	3
V468	A	92	104	11C	4	V902	A	37	137	2B	9	Z331	B	210	38	6F	3
V470	A	101	94	10C	4	V903	A	37	142	2B	9	Z580	B	138	62	11E	5
V480	A	74	81	4B	4	V951	A	276	105	9F	9	Z750	B	154	142	10D	7
V490	B	91	96	8C	4	V952	A	270	104	9F	9						

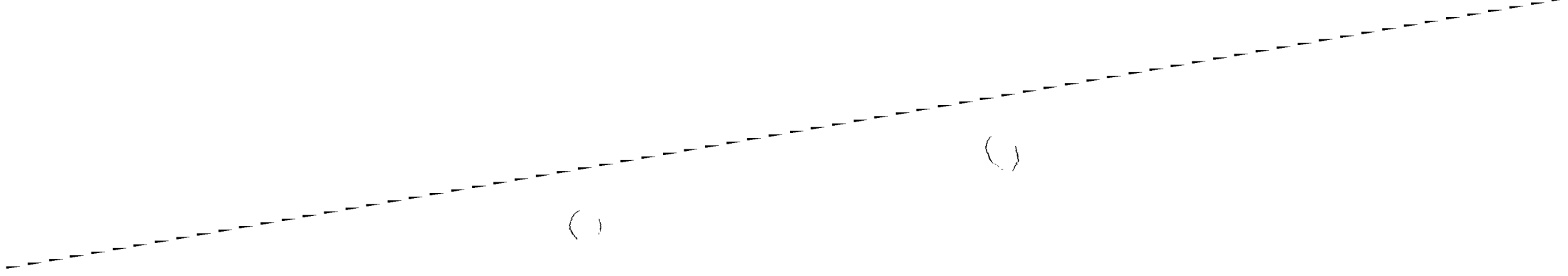
ROHDE&SCHWARZ

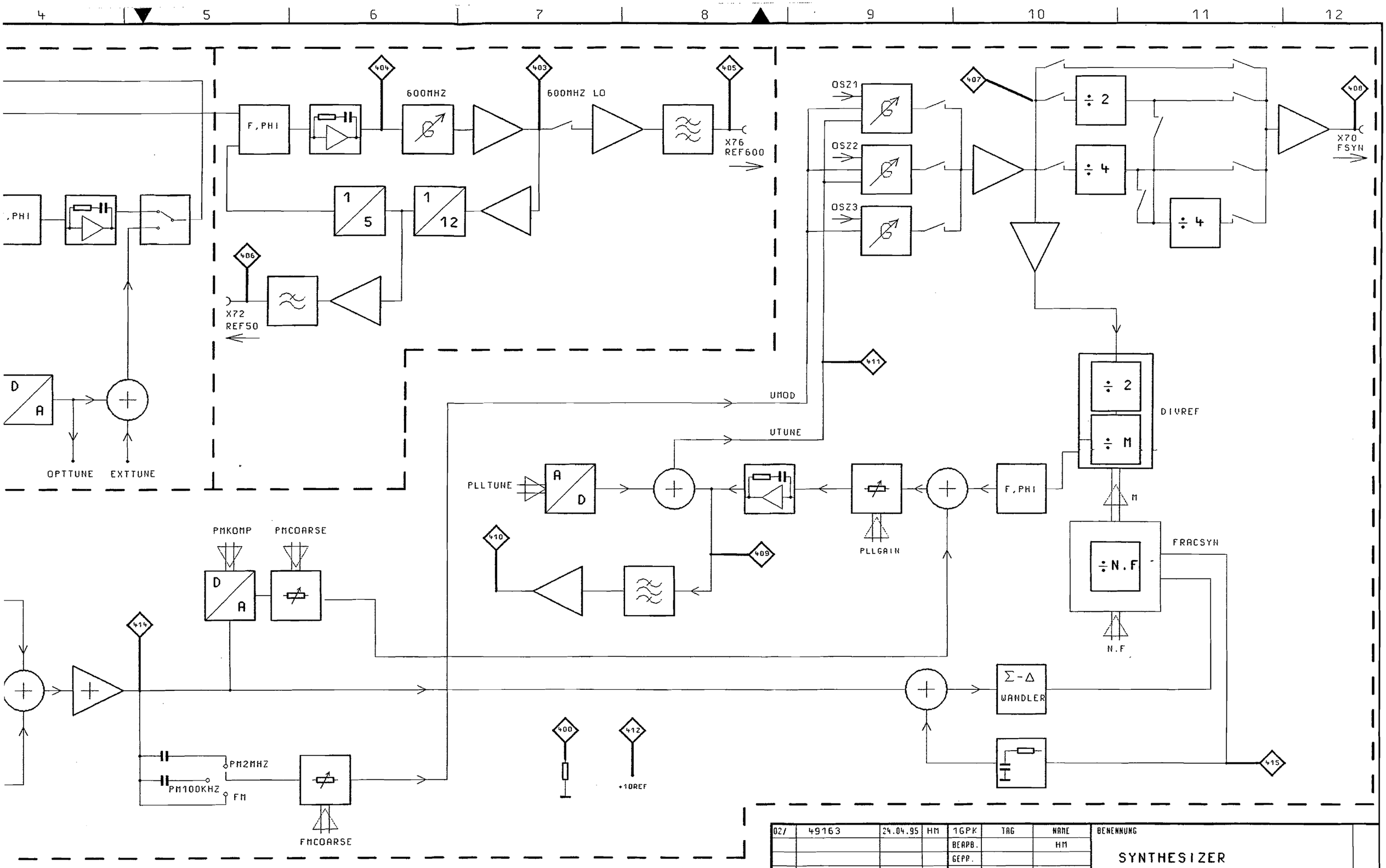
Stromläufe
Bestückungspläne

Circuit diagrams
Component plans

Schémas de circuit
Plans des composants

095.1000 Bl. 4





STROMLAUF GILT FUER VAR.02

CIRCUIT DIAGRAM IS VALID FOR MOD.02

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

02/	49163	24.04.95	HM	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HM	SYNTHESIZER
				GEPR.			SYNTHESIZER
				NORM			
				PLOTT	24.04.95		
/							
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.-NR. 1039.2330.01S
				ZU GEORET	SMT		BLATT-NR. 1+
				PES-LW	1039.2000		

10MHZ REFERENZ

401

10MHZ

2MHZ

VTCXO

5 / 1

2 / 1

F,PHI

X74
OPT10

X78
EXTREF

10 / 1

402

REFTUNE

D / A

OPTTUNE

EXTTUNE

F,PHI

404

600MHZ

403

600MHZ LO

405

X76
REF600

1 / 5

1 / 12

406

X72
REF50

UMOD

UTUNE

PLLTUNE

A / D

410

409

DEVSET1

PMKOMP

PMCOARSE

EXT1

AC/DC

INT1

EXT2

AC/DC

INT2

414

PM2MHZ

PM100KHZ

FM

FMCOARSE

400

412

+10REF

DEVSET2

STROMLAUF GILT FUER VAR.02

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ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

02/ 49

REND.
IND.

P201 P202 P204 P205 P203 X20

+5VA-B1 R216 4K75 L D200-B 74HC00T-B 10REF SHEET2 C9

R214 274R L P201 R213 10K L V210 BSV52-L

D205-A 74HC390T-B R221 4K75 L V212 HSMS2800-L R226 274R L P202

T-DSIG SHEET9 E10 R223 221R B C214 82P L L200 56ONH L D200-D 74HC00T-B R227 100R L

R205 221R B T-DSIG SHEET9 E11 2REF SHEET7 D1 D200-A 74HC00T-B

+5VA-B2 +5VA-B2 R292 4K75 L R293 4K75 L D210-A 74HC74T-B

-10REF R297 3M3 L R298 221K B C298 100N B R295 47K5 L R296 392K L R299 121K L N220-D TL074ACD-B V211 5V6 B

V290 BAV70-L D210-B 74HC74T-B R294 221R L

+5VA-B R239 10R L C224 100N L R249 274R B P204 R246 274R B R248 10K B

C243 1N2 L L240 105H 5% C242 220P L R241 18K2 L R243 22K1 L R247 100R B C244 100P L V216 BSV52-B V225 HSMS2800-B C226 680P B R242 100K L C228 1N L

R240 150R L C241 100P L V214 HSMS2800-L V215 BFS19-L D-EXTREF SHEET10 F9 402

INT/EXT SHEET10 B7 L101 470NH L D200-C 74HC00T-B R224 33R2 L R225 332R L * L202 1UH L C217 390P L L204 1UH L C218 680P L C219 470P L K240-A DSS4

D205-B 74HC390T-B INT/EXT SHEET10 A7 P205

U-PLL-VTCXO SHEET2 E10 N220-C TL074ACD-B R230 20K L C230 100P L 401 D-PLL-VTCXO SHEET2 E1 R232 10K L

D215-A DG419DY-B UINT SHEET2 C5 INT/EXT SHEET10 B7 P203

+5VA-B4 -10REF R277 4K75 B R276 4K75 L D255-A 74HCT74T-B 10CLK SHEET3 D11 R280 2K21 L R281 2K43 L C252 5N6 L R288 121K B R284 562R L C256 470N 63V MKT V265 HSMS2800-L

N250-A NE5534D-B V250 BAV70-L R285 562R L C258 68N L C250 22P B R286 7K5 L R287 30K1 L C286 100P L 404 D-PLL-600 SHEET10 E9 U-PLL-600 SHEET3 E1

10REF SHEET2 E5 R282 2K21 L R283 2K43 L C254 5N6 L R289 562R L C289 470N B D255-B 74HCT74T-B R278 221R L

R264 6K8 B 0.1% N220-B TL074ACD-B R267 1K L R266 1K L R269 1K B R270 1K L UINT SHEET2 E11 INT/EXT SHEET10 B7 C240 1N L V240 BAS32-L K240-B DSS4 Z202 40DB B OPTTUNE SHEET11 C9

+24V-B C260 100N L +5VA-B R290 10R L C255 100N B +5VA-B4 D255-C 74HCT74T-B N250-B NE5534D-B C261 1U 10V TA L R291 22R1 B V260 10V0 B -15V-B

+5VA-B R201 10R L C200 100N L D200-E 74HC00T-B +5VA-B2 R209 10R L C210 100N L D205-C 74HC390T-B D210-C 74HC74T-B +15V-B +5VA-B D215-B DG419DY-B +15V-B C221 100N B C220 100N L -15V-B N220-E TL074ACD-B

02/05		97-10-01	E1	MENP	TAG	NAME	BENENNUNG
02108		23.11.98	Hc	BEARB.		E1	SYNTHESIZER
				GEPR.			SYNTHESIZER
				NORM			
				PLOTT	01.10.97		
02/04		18.11.96	BU	ROHDE&SCHWARZ			ZEICHN.-NR. 1039.2330.01S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SMT			BLATT-NR. 2+ V. 11 BL.
				REG.I.V. 1039.2000		ERSTE Z. 1039.2000	

FUER DIESE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR

ZEICHN.-NR. 1039.2330.01 S

B

V200 BC860B-L

+5VA-B

C202 100N B

U-PLL-VTCXO SHEET2 E10

N200 TCO

C204 330P B

R202 100R B

R204 4K75 L

C205 1N L

R200 4K75 L

OPTREF SHEET10 A7

V201 BAT18 L

C234 330P L

C209 330P L

R234 475R L

R203 56R2 L

X74 1 OPT10

X78 1 EXTREF

C232 1N L

R208 10R L

C205 100N L

R206 3K92 B

R207 4K75 B

V205 BFS19-B

C208 330P B

R212 475R B

R210 221R B

R214 274R L

R213 10K L

V210 BSV52-L

P201

+5VA-B1

R216 4K75 L

D200-B 74HC00T-B

10REF SHEET2 C9

D205-A 74HC390T-B

R221 4K75 L

C214 82P L

L200 560NH L

T-DSIG SHEET9 E10

R223 221R B

D200-A 74HC00T-B

R205 221R B

T-DSIG SHEET9 E11

D200-D 74HC00T-B

R227 100R L

2REF SHEET7 D1

V212 HSMS2800-L

R226 274R L

P202

+5VA-B2

R292 4K75 L

R293 4K75 L

D210-A 74HC74T-B

R295 47K5 L

R297 3M3 L

-10REF

R296 392K L

R299 121K L

V290 BAV70-L

D210-B 74HC74T-B

INT/EXT SHEET10 A7

R294 221R L

L101 470NH L

INT/EXT SHEET10 B7

D200-C 74HC00T-B

R224 33R2 L

L202 1UH L

L204 1UH L

R225 332R L *

C217 390P L

C218 680P L

C219 470P L

K240-A DSS4

R239 10R L

C224 100N L

C243 1N2 L

L240 1U5H 5%

C242 220P L

R246 274R B

R249 274R B

P204

R241 18K2 L

R243 22K1 L

R247 100R B

R248 10K B

C244 100P L

V225 HSMS2800-B

C226 680P B

R240 150R L

C241 100P L

V214 HSMS2800-L

V215 BFS19-L

V216 BSV52-B

C228 1N L

R242 100K L

D-EXTREF SHEET10 F9

+5VA-B

D220 DAC8143-B

R251 4K75 L

R253 4K75 L

R255 4K75 L

+10REF SHEET11 C5

C236 15P L

CLK1 SHEET10 C7

SDATA1-1 SHEET10 B7

R256 1K L

WR1 SHEET10 C7

C251 33P L

R257 10K L

V221 BFS17-L

SDATA1-2 SHEET8 E9

N220-A TL074ACD-B

R258 6K8 B 0.1%

R264 6K8 B 0.1%

R260 3K57 B

N220-B TL074ACD-B

R261 150K B

Z200 400B B

Z202 400B B

R262 1K L

R263 12K1 B

EXTTUNE SHEET11 D9

R267 1K L

R266 1K L

R269 1K B

R270 1K L

OPTTUNE SHEET11 C9

UINT SHEET2 E11

INT/EXT SHEET10 B7

C240 1N L

V240 BAS32-L

K240-B DSS4

BINDENDE ANGABEN UEBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTUECKTE BAUTEILE SIEHE SA.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST.

* NICHT BESTUECKT
NOT FITTED

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

+5VA-B

R201 10R L

C200 100N L

D200-E 74HC00T-B

+5VA-B2

D205-C 74HC390T-B

+5VA-B

R209 10R L

C210 100N L

D210-C 74HC74T-B

+15V-B

-15V-B

D215-B DG419DY-B

+15V-B

C221 100N B

C220 100N L

-15V-B

N220-E TL074ACD-B

02/05
02/08
02/04
AEND. IND.

D-OSZ-600 SHEET10 E9
R325 4K75 B
403
Z320 4008 B
S-REF600 SHEET5 E11
R328 4K75 B
Z331 4008 B
P350
L316 P352
X76 1 REF600
P354
C363 10N
+7.5V-E
C317 10U 10V TA L
R317 1K5 L
R316 27R4 L
V316 BC860B-L
R318 5K11 L
C320 100N L
L305 220NH B
R330 100K L
V321 BC860B-L
R334 2K21 L
R335 12K1 L
-15V-C
R332 10K L
R331 47K5 B
V320 BC850B-L
R336 3K92 L
R321 12K1 L
R323 2K21 L
C333 100P L
R329 2K21 B
C345 100P MIN B
C338 1N B
L316 AN41-B
R338 10R B SMD
C337 1P2 B
C340 1P B
R340 100K B
R344 10K L
405
D-REF600 SHEET10 E9
C342 1N L
C343 100P L
V330 HSMS2810 B
C326 100P B
R337 39R2 B
V325 CF739-B
C332 220P MIN B
R327 182R B
N300 MSA0386-B
R314 221R B
C316 100P B
C324 100P B
R324 100R B
R326 56R2 B
L302 10N B
C318 1P B
R320 100K B
R322 4K75 B
V315 HSMS2810 B
C322 100P L
R346 1K B
R310 200R B
R347 56R2 B
C344 100P B
539-B
IB-L

B

R386-R392 7X 4K75 L
D370-A 74ACT161M-B
+5VA-B3
R386
R387
R388
CTP4
M1
G3
G4
C2/1,3,4+
R389
R390
R391
R392
7,20
4CT=15
P354
R395 221R B
10CLK SHEET2 D9
+5VA-B
R384 10R L
C370 100N B
+5VA-B3
D370-B 74ACT161M-B

E

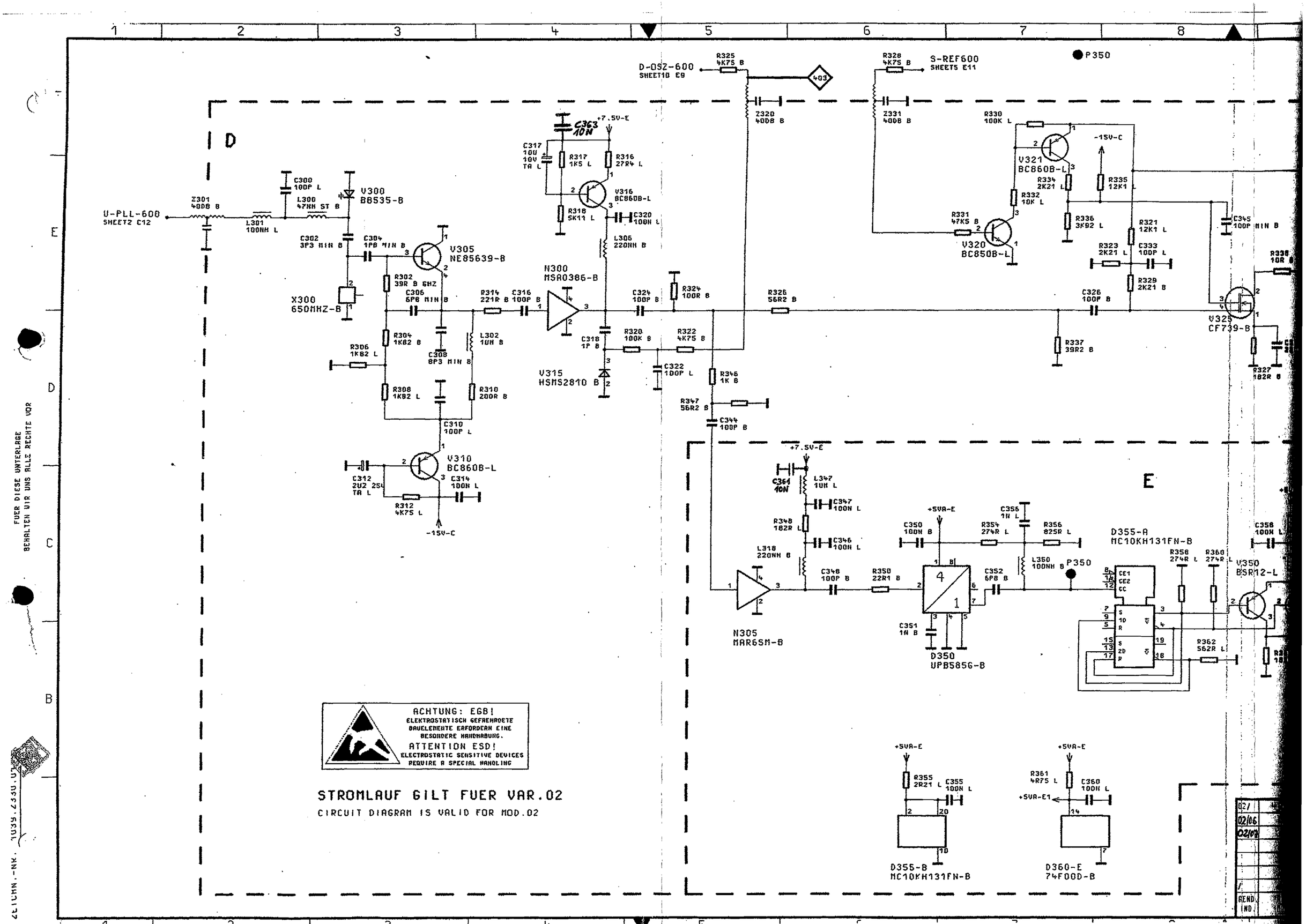
+7.5V-E
C364 10N
L347 10U L
C347 100N L
R348 182R L
C346 100N L
L318 220NH B
C348 100P B
R350 22R1 B
N305 MAR6SM-B
+5VA-E
C350 100N B
R354 274R L
C356 1N L
R356 825R L
L350 100NH B
P350
C352 6P8 B
C351 1N B
D350 UPB585G-B
D355-B MC10KH131FN-B
R358 274R L
R360 274R L
R362 562R L
V350 BSR12-L
V355 BSR12-L
C358 100N L
R368 4R75 L
R369 27R4 L
R364 182R L
R366 182R L
P352
+5VA-E1
R370 4K75 L
D360-A 74F00D-B
D360-B 74F00D-B
D360-C 74F00D-B
D360-D 74F00D-B
R376 221R L
R378 47R5 L
C362 330P L
L352 390NH
L354 330NH
C364 39P L
C366 100P L
V360 HSMS2800-L
R380 100K L
C368 1N L
R382 10K B
C369 100P B
406
X72 1 REF50
D-REF50 SHEET10 E9
R355 2R21 L
C355 100N L
D355-B MC10KH131FN-B
R361 4R75 L
C360 100N L
D360-E 74F00D-B

GB!
EFAHRDETE
IDERN EINE
MAßNAHMEN.
ESD!
ITIVE DEVICES
HANDLING

JER VAR.02
FOR MOD.02

021	49163	24.04.95	HM	1GPK	TAG	NAME	BENENNUNG
02/06		98-03-02	HM	BEARB.		HM	SYNTHESIZER
02/07		98-03-12	HM	GEPR.			SYNTHESIZER
				NORM			
				PLOTT	24.04.95		
							ZEICHN.-NR.
				ROHDE&SCHWARZ			1039.2330.01S
				ZU GEHÖRT	SMT		PES.I.V. 1039.2000
ÄEND. IND.	ÄENDERUNGS-MITTEILUNG	DATUM	NAME				ERSTE Z.

BLATT-NR. 3+ v. 11 Bl.


U-PLL-600
SHEET2 C12
Z301 400B B
L301 100NH L
C300 100P L
L300 47NH ST B
C302 3P3 MIN B
C304 1P8 MIN B
V300 BB535-B
V305 NE85639-B
X300 650MHZ-B
R302 39R B GHZ
C306 6P8 MIN B
R304 1K82 B
R306 1K82 L
C308 8P3 MIN B
L302 10H B
R308 1K82 L
R310 200R B
C310 100P L
V310 BC860B-L
C312 2U2 25V TA L
C314 100N L
R312 4K75 L
-15V-C
R314 221R B
C316 100P B
N300 MSA0386-B
C317 10U 10V TA L
R317 1K5 L
R316 27R4 L
V316 BC860B-L
R318 5K11 L
C320 100N L
L305 220NH B
C318 1P B
V315 HSMS2810 B
C324 100P B
R324 100R B
R320 100K B
R322 4K75 B
C322 100P L
R345 1K B
R347 56R2 B
C344 100P B
R326 56R2 B
D-OSZ-600
SHEET10 E9
R325 4K75 B
403
Z320 400B B
R328 4K75 B
S-REF600
SHEET5 E11
Z331 400B B
P350
R330 100K L
V321 BC860B-L
R334 2K21 L
R332 10K L
R335 12K1 L
-15V-C
R331 47K5 B
V320 BC850B-L
R336 3K92 L
R321 12K1 L
C345 100P MIN B
R323 2K21 L
C333 100P L
R329 2K21 B
R338 10R B
C326 100P B
R337 39R2 B
V325 CF739-B
R327 182R B
E
+7.5V-E
C361 10N
L347 10H L
C347 100N L
R348 182R L
C346 100N L
L318 220NH B
C348 100P B
N305 MAR6SM-B
+5VA-E
C350 100N B
R350 22R1 B
C351 1N B
D350 UPB585G-B
R354 274R L
C356 1N L
R356 825R L
L350 100NH B
C352 6P8 B
D355-A MC10KH131FN-B
R358 274R L
R360 274R L
V350 BSR12-L
C358 100N L
R362 562R L
R355 2R21 L
C355 100N L
D355-B MC10KH131FN-B
R361 4R75 L
C360 100N L
+5VA-E1
D360-E 74F00D-B
ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
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CIRCUIT DIAGRAM IS VALID FOR MOD.02
FUER DIESE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR
ETIKHN.-NR. 1039.2330.02
Q2/
02/06
Q2/02
BEND
END

C432 C462

I G J

L431 470NH L FERRIT
C430 6P8 L
L430 100NH ST B
V430 BB535-B
C432 0.8-10P B
L433 470NH L FERRIT
C434 6P8 L
R434 4R75 B
V432 BB535-B
L432 100NH ST B
C436 3P8 MIN B
C438 2P9 MIN B
V434 NE85639-B
R440 82R B GHZ
C442 3P2 MIN B
C440 5P2 MIN B
R442 1K82 B
R452 221R B
C444 100P B
R446 1K5 L
L436 100NH ST B
R444 332R L
V436 BC850B-L
R454 1K21 B
R448 511R L
R450 68R1 L
V438 BC850B-L
C446 100P L
R455 1K5 L
OSZ2 SHEET5 E10
R456 4K75 L
R457 10K L
V440 BC860B-L

L434 100NH ST B
R436 4R75 B
U-PLL-FSYN SHEET7 D10
L438 470NH L FERRIT
C448 100P L

L461 470NH L FERRIT
C460 4P7 L
L460 47NH ST B
V460 BB535-B
C462 0.8-10P B
L463 470NH L FERRIT
C464 4P7 L
R464 4R75 B
V462 BB535-B
L462 100NH ST B
C466 3P8 MIN B
C468 2P3 MIN B
V464 NE85639-B
R470 68R B GHZ
C472 2P3 MIN B
C470 5P2 MIN B
R468 1K82 B
R472 221R B
C474 100P B
R476 1K5 L
L466 100NH ST B
R474 332R L
V466 BC850B-L
R484 1K21 B
R478 511R L
R480 68R1 L
V468 BC850B-L
C476 100P L
R485 1K5 L
OSZ3 SHEET5 E10
R486 4K75 L
R487 10K L
V470 BC860B-L

L464 100NH ST B
R466 4R75 B
U-PLL-FSYN SHEET7 D10
L468 470NH L FERRIT
C478 100P L

UMOD SHEET9 C9

+7.5V-G
C481 10U 10V TA L
R481 1K5 L
R491 27R4 L
V491 BC860B-L
R482 4K75 L
V490 BAR64-B

V492 BAR64-B
V494 BAR64-B

C494 100N L
N490 MSA0386-B
L494 1UH B
C492 100P B
C493 100P B
L492 1UH B
C495 1P5 B
R492 100K B
R493 10K L
C496 1N L
C497 100P L
V496 HSMS2810 B
R494 100R B GHZ
407
D-OSZ-FSYN SHEET10 E9

R499 82R5 B
R496 68R1 B
HF-T SHEET5 E1
R497 82R5 B
HF-PLL SHEET6 E1
R495 68R1 B

-15V-G
V480 BC860B-L
R490 2K21 L
C490 100N L
C491 4U7 25V TA L

R27 10K L

STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

02/	49163	24.04.95	HM	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HM	SYNTHESIZER
				GEPR.			SYNTHESIZER
				NORM			
				PLOTT	24.04.95		
/							ZEICHN.-NR.
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			1039.2330.01S
				ZU GERAET	SMT		BLATT-NR. 4+
				REG.I.V.	1039.2000		EPSTE 2.

BEHALTEN WIR UNS ALLE RECHTE VOR

1 2 3 4 5 6 7 8

C402 C432 C462

H G J

L401 470NH L FERRIT
C400 10P L
L400 220NH ST B
V401 BB535-B
V403 BB535-B
L403 470NH L FERRIT
C404 10P L
R404 4R75 B
L402 220NH ST B
C406 2P6 MIN B
V404 NE85639-B
V400 BB535-B
V402 BB535-B
C402 0.8-10P B
C408 4P3 MIN B
R410 82R B GHZ
C412 6P MIN B
L404 220NH ST B
R406 4R75 B
C410 10P MIN B
R412 1K82 B
R422 221R B
C414 100P B
U-PLL-FSYN SHEET7 D10
L408 470NH L FERRIT
R416 1K5 L
L406 220NH ST B
C418 100P L
R414 332R L
V406 BC850B-L
R424 1K21 B
R418 511R L
R420 68R1 L
V408 BC850B-L
C416 100P L
R427 10K L
OSZ1 SHEET5 E10
R425 1K5 L
R426 4K75 L
V410 BC860B-L

L431 470NH L FERRIT
C430 6P8 L
L430 100NH ST B
V430 BB535-B
C432 0.8-10P B
L434 100NH ST B
R436 4R75 B
U-PLL-FSYN SHEET7 D10
L438 470NH L FERRIT
C448 100P L

L433 470NH L FERRIT
C434 6P8 L
R434 4R75 B
V432 BB535-B
L432 100NH ST B
C436 3P8 MIN B
V434 NE85639-B
C438 2P9 MIN B
R440 82R B GHZ
C442 3P2 MIN B
C440 5P2 MIN B
R442 1K82 B
R452 221R B
C444 100P B
R446 1K5 L
L436 100NH ST B
R444 332R L
V436 BC850B-L
R454 1K21 B
R448 511R L
R450 68R1 L
V438 BC850B-L
C446 100P L
R457 10K L
OSZ2 SHEET5 E10
R455 1K5 L
R456 4K75 L
V440 BC860B-L

L461 470NH L FERRIT
C460 4P7 L
L460 47NH ST B
V460 BB53
C462 0.8-10P B
U-PLL-FSYN SHEET7 D10
C481 10U 10V TA L
R481 1K5 L
R482 4K75 L
V490 BAR64-B

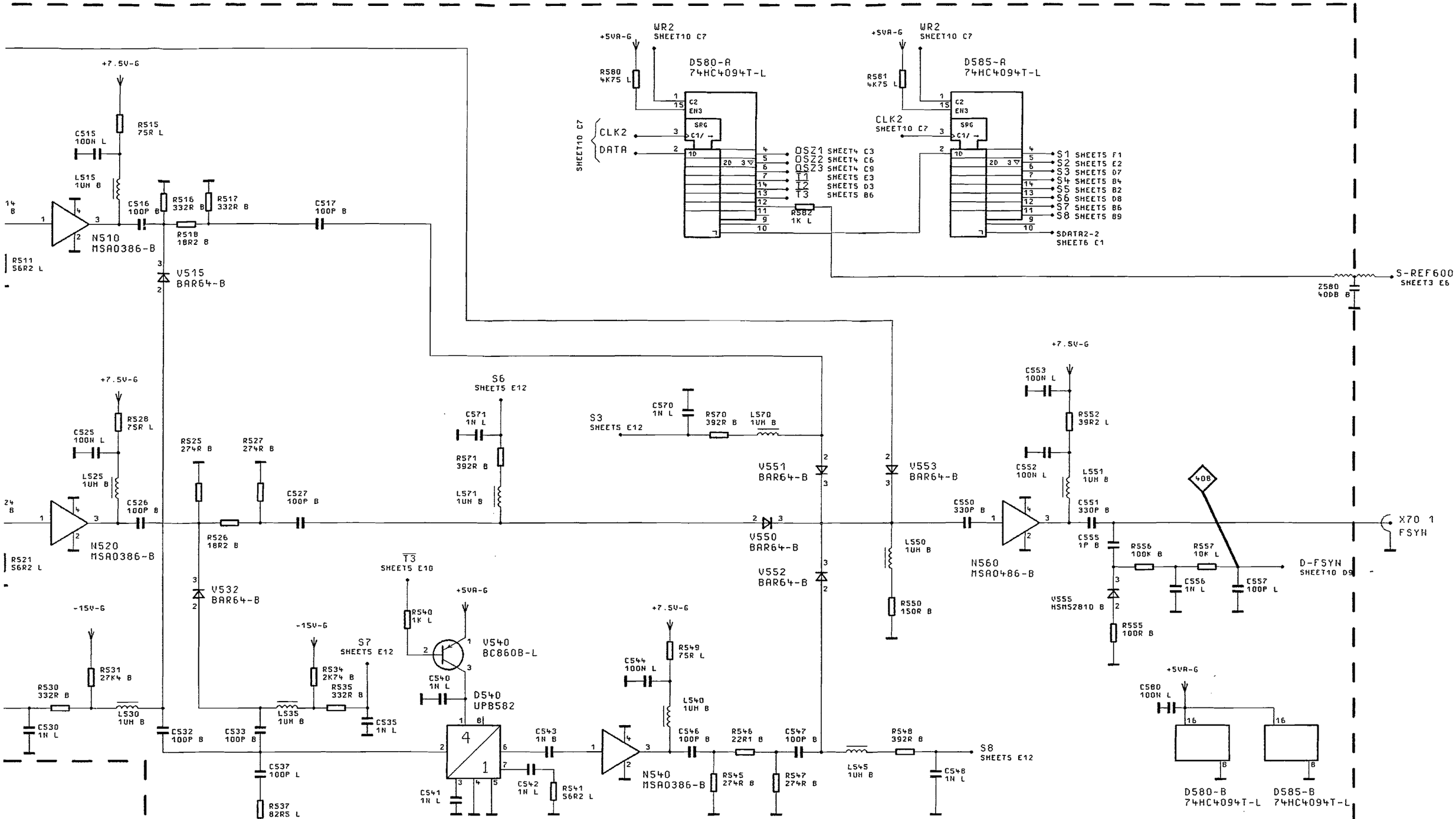
V492 BAR64-B
V494 BAR64-B
N490 MSA0386-B
C492 100P B
L492 10UH B
V496 HSMS2

-15V-G
V480 BC860B-L
R490 2K21 L
C490 100N L
C491 4U7 25V TA L

STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

02/ 49
/
AEND. IND.



STROMLAUF GILT FUER VAR.02

CIRCUIT DIAGRAM IS VALID FOR MOD.02

02/	49163	24.04.95	HM	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HM	SYNTHESIZER
				GEPR.			SYNTHESIZER
				NORM			
				PLOTT	24.04.95		
/							ZEICHN.-NR.
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			1039.2330.01S
				ZU GERAET	SMT		BLATT-NR. 5+
				PEG.I.V.	1039.2000	ERSTE Z.	V. Art BL.

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

S1
SHEETS E12
C505 1N L
R505 182R B
L505 10UH B
C504 10U 10V TA L
R503 1K5 L
R502 39R2 L
V503 BC860B-L
R504 4K75 L
+7.5V-G
V500 BAR64-B
C502 100N L
L502 10UH B
HF-T SHEET4 811
C500 10P B
N500 MSA0286-B
C501 100P B
L500 10UH B
R500 150R B
S5
SHEETS E12
R507 392R B
C507 1N L
L507 10UH B
V502 BAR64-B
S2
SHEETS E12
C506 1N L
R506 392R B
L506 10UH B
V501 BAR64-B
T1
SHEETS E10
R510 1K L
V510 BC860B-L
C511 1N L
+5VA-G
C510 100P B
D510 UPB581
C512 1N L
C513 1N L
R511 56R2 L
C514 1N B
N510 MSA0386-B
C515 100N L
R515 75R L
L515 10UH B
C516 100P B
R516 332R B
R517 332R B
R518 18R2 B
V515 BAR64-B
C517 100P B
T2
SHEETS E10
R520 1K L
C521 1N L
V520 BC860B-L
D520 UPB582
C522 1N L
C523 1N L
R521 56R2 L
C524 1N B
C520 100P B
N520 MSA0386-B
C525 100N L
R528 75R L
L525 10UH B
C526 100P B
R525 274R B
R527 274R B
R526 18R2 B
C527 100P B
V532 BAR64-B
S4
SHEETS E12
R530 332R B
R531 27K4 B
L530 10UH B
C530 1N L
-15V-G
C532 100P B
C533 100P B
C537 100P L
R537 82R5 L
S7
SHEETS E12
R534 2K74 B
R535 332R B
L535 10UH B
C535 1N L
T3
SHEETS E10
R540 1K L
V540 BC860B-L
C540 1N L
D540 UPB582
C541 1N L
C542 1N L
R541 56R2 L
C543 1N B
N540 MSA0386-B
C544 100N L
R549 75R L
L540 10UH B
C546 100P B
R546 22R1 B
R545 274R B
C547 100P B
R547 274R B
V550 BAR64-B
V551 BAR64-B
V552 BAR64-B
S6
SHEETS E12
C571 1N L
R571 392R B
L571 10UH B
S3
SHEETS E12
C570 1N L
R570 392R B
L570 10UH B
WR2
SHEET10 C7
+5VA-G
R580 4K75 L
D580-A 74HC4094T-L
C2
EN3
SRG
C1/→
CLK2
DATA
SHEET10 C7
OSZ1 SHEET4
OSZ2 SHEET4
OSZ3 SHEET4
T1 SHEET5
T2 SHEET5
T3 SHEET5
R582 1K L

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
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STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

02/
/
AEND. IND.

ZEICHN.-NR. 1039.2330.01 S
X

P600

+7.5V-L

11 ON L

D60 DIVREF

R619 1K L
C617 1N L
R616 47R5 B
C616 10P B
R618 56R2 B
R617 121R B
R620 4K75 L
R621 4K75 L
R622 4K75 L
R623 4K75 L
R624 4K75 L

D60A 33 VREF1
D60A 35 IN1N
D60A 34 IN1P
D60A 30 VREF2
D60A 32 IN2N
D60A 31 IN2P
D60A 37 SELI
D60A 39 RESET
D60A 38 TESTIN
D60A 40 CIN
D60A 8 ENTTL

D60A 44 D60A 45 D60A 46 D60A 48 D60A 51 D60A 53 D60A 55 D60A 56

+5VA-L1

L620 100NH L
+5VA-L
C647 100N L
+8VA-L1

D60A 9 D60A 27 D60A 43 D60A 61 ECL+
D60A 20 D60A 23 D60A 54
D60A 13 D60A 18 D60A 47 D60A 52 D60A 57 D60A 16 ECL-
D60A 50

TTL-

D60A 21 DIVOUTEN
D60A 22 DIVOUTEP
D60A 17 DIVOUTT N.C.
D60A 25 CLOCKOUTVN N.C.
D60A 24 CLOCKOUTVP N.C.
D60A 60 QADO<2>
D60A 59 QADO<1>
D60A 58 QADO<0>
D60A 7 F<2>
D60A 6 F<1>
D60A 5 F<0>
D60A 4 P8 P<8>
D60A 3 P7 P<7>
D60A 2 P6 P<6>
D60A 1 P5 P<5>
D60A 68 P4 P<4>
D60A 67 P3 P<3>
D60A 66 P2 P<2>
D60A 65 P1 P<1>
D60A 64 P0 P<0>
D60A 62 A1 A<1>
D60A 63 A0 A<0>
D60A 41 SELOUT
R628 4K75 L
D60A 49

D60A 10 D60A 11 D60A 12 D60A 14 D60A 15 D60A 19 D60A 26 D60A 28 D60A 29 D60A 36 D60A 42

+5VA-L
L640 10UH L
C640 100N L
R644 33R2 L

V601 BSR12-L
V600 BSR12-L
V602 HSMS2800-L
V603 HSMS2800-L

R640 511R L
R641 511R L
R642 150R L
R643 150R L

D640-A 74ACOOM-B
D640-B 74ACOOM-B
D640-C 74ACOOM-B
D640-D 74ACOOM-B

P600
R645 100R L
R647 4K75 L
T-PD SHEET7 C1
+5VA-L3
R625 4K75 L
R626 4K75 L
R627 4K75 L

N640-A NE5534D-L
+10REF
R648 9K09 L 0.1%
R649 10K L 0.1%
C649 1U 10V TA L
C641 22P L

+5VA-FRAC

RESET-FRAC SHEET10 E4

C660 100P L
R662 475R L

R650 4K75 L
R651 4K75 L
R652 4K75 L
R653 4K75 L
R654 1R L
R655 1R L
R656 1R L
R657 1R L
C657 1U 25V TA L
C654 1U 25V TA L
C656 1U 25V TA L
C655 1U 25V TA L

D65A 71 D65A 70 D65A 69 D65A 68 D65A 2 D65A 64 D65A 42 D65A 22 D65A 84 D65A 65 D65A 43 D65A 21

D65 FRACSYN

D65A 1 CKI
R660 4K75 L D65A 20 SCLOCK
R682 4K75 L D65A 40 TRISTATE
R661 4K75 L D65A 19 CLEAR
D65A 62 RESET
R663 4K75 L D65A 39 WRITEB
R664 4K75 L D65A 38 CENB
R665 4K75 L D65A 37 ASCE
R666 4K75 L D65A 36 PARSER
R667 4K75 L D65A 61 PARDAT(15)
R668 4K75 L D65A 60 (14)
R669 4K75 L D65A 59 (13)
R670 4K75 L D65A 58 (12)
R671 4K75 L D65A 57 (11)
R672 4K75 L D65A 56 (10)
R673 4K75 L D65A 55 (9)/FRACADDR(7)
R674 4K75 L D65A 54 (8)/ (6)
R675 4K75 L D65A 53 (7)/ (5)
R676 4K75 L D65A 52 (6)/ (4)
R677 4K75 L D65A 51 (5)/ (3)
R678 4K75 L D65A 50 (4)/ (2)
R679 4K75 L D65A 49 (3)/ (1)
R680 4K75 L D65A 48 (2)/ (0)
D65A 47 (1)/SYNC
D65A 46 (0)/DATAIN
D65A 45 DATAOUT
D65A 44 DATAEN
D65A 41 CLK
KOMPONT (11) (10) (9) (8) (7) (6) (5) (4) (3) (2) (1) (0)
D65A 35 D65A 34 D65A 33 D65A 32 D65A 31 D65A 30 D65A 29 D65A 28 D65A 27 D65A 26 D65A 25 D65A 24

ADR(3) (2) (1) (0)

D65A 63 CKO
D65A 66 MCO
ADWE(15) D65A 18 AD15
(14) D65A 17 AD14
(13) D65A 16 AD13
(12) D65A 15 AD12
(11) D65A 14 AD11
(10) D65A 13 AD10
(9) D65A 12 AD9
(8) D65A 11 AD8
(7) D65A 10 AD7
(6) D65A 9 AD6
(5) D65A 8 AD5
(4) D65A 7 AD4
(3) D65A 6 AD3
(2) D65A 5 AD2
(1) D65A 4 AD1
(0) D65A 3 AD0

DIVPROG(10) D65A 72 P8
(9) D65A 73 P7
(8) D65A 74 P6
(7) D65A 76 P5
(6) D65A 77 P4
(5) D65A 78 P3
(4) D65A 79 P2
(3) D65A 80 P1
(2) D65A 81 P0
(1) D65A 82 A1
(0) D65A 83 A0

AUFAB D65A 23 DSIGOUT SHEET9 E12
DSIGOUT D65A 67
DELTAOUT D65A 75 DELTAOUT SHEET9 E6

R690 10K L
D-DELTAOUT SHEET10 D9
+15
C690 1U 10V TA L

SYNC-FRAC SHEET10 D4
DATA-FRAC SHEET10 D4
DATAEN-FRAC SHEET10 D4
CLK-FRAC SHEET10 E4

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

* NICHT BESTUECKT
NOT FITTED

STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

02/02	49163	13.11.95	HM	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HM	SYNTHESIZER
				GEPR.			SYNTHESIZER
				NORM			
				PLOTT	13.11.95		
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.-NR. 1039.2330.01S
				ZU GERAET SMT			REG.I.V. 1039.2000

BLATT-NR. 6+ V. BL. ERSTE Z.

FUER DIESE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR

P600

L

+7.5V-L

R603 68R1 L
C602 100N L
L600 1UH B
N600 MSA0386-B
C600 10P B
HF-PLL SHEET4 B11
C601 10P B
R607 47R5 B
R605 121R B
R606 121R B
C605 10P B
R610 68R1 L
C610 100N L
L610 1UH B
N610 MSA0386-B
C611 100N L
C615 10P B
R615 121R B
R616 47R5 B
R617 121R B
C616 10P B
C617 1N L
R618 56R2 B
R619 1K L

D60A 44 D60A 45 D60A 46 D60A 48 D60A 51 D60A 53 D60A 55 D60A 56

D60A 33 UREF1
D60A 35 IN1N
D60A 34 IN1P
D60A 30 UREF2
D60A 32 IN2N
D60A 31 IN2P
D60A 37 SELI
D60A 39 RESET
D60A 38 TESTIN
D60A 40 CIN
D60A 8 ENTTL

D60 DIVREF

D60A 21 DIVOUTEN
D60A 22 DIVOUTEP
D60A 17 DIVOUTT N.C.
D60A 25 CLOCKOUTVN N.C.
D60A 24 CLOCKOUTVP N.C.
D60A 60 QRDO<2>
D60A 59 QRDO<1>
D60A 58 QRDO<0>
D60A 7 F<2>
D60A 6 F<1>
D60A 5 F<0>
D60A 4 P8 P<8>
D60A 3 P7 P<7>
D60A 2 P6 P<6>
D60A 1 P5 P<5>
D60A 68 P4 P<4>
D60A 67 P3 P<3>
D60A 66 P2 P<2>
D60A 65 P1 P<1>
D60A 64 P0 P<0>
D60A 62 A1 A<1>
D60A 63 A0 A<0>
D60A 41 SELOUT
D60A 49

R620 4K75 L
+5VA-L1
R621 4K75 L
R622 4K75 L
R623 4K75 L
R624 4K75 L

L620 100NH L
+5VA-L
C647 100N L
+5VA-L1

D60A 9
D60A 27
D60A 43
D60A 61 ECL+
D60A 20
D60A 23
D60A 54
D60A 13
D60A 18
D60A 47 TTL-
D60A 52
D60A 57
D60A 16 ECL-
D60A 50

D60A 10 D60A 11 D60A 12 D60A 14 D60A 15 D60A 26 D60A 28 D60A 29 D60A 35 D60A 42

+5VA-L
L640 1UH L
C640 100N L
R644 33R2 L
V601 BSR12-L
V600 BSR12-L
V602 HSMS2800-L
V603 HSMS2800-L
R640 511R L
R641 511R L
R642 150R L
R643 150R L

RESET-FRAC SHEET10 E4
C660 100P L
R660 4K75 L
R662 475R
R661 * 4K75 L
R663 4K75 L
R664 4K75 L
R665 4K75 L
R666 4K75 L
R667 * 4K75 L
R668 * 4K75 L
R669 * 4K75 L
R670 * 4K75 L
R671 * 4K75 L
R672 * 4K75 L
R673 * 4K75 L
R674 * 4K75 L
R675 4K75 L
R676 * 4K75 L
R677 4K75 L
R678 * 4K75 L
R679 * 4K75 L
R680 * 4K75 L

D640-A 74ACOOM-B
D640-B 74ACOOM-B
D640-C 74ACOOM-B
D640-D 74ACOOM-B
P600
R645 100R L
R625 4K75 L
R626 4K75 L
R627 4K75 L
R647 4K75 L
T-PD SHEET7 C1
+5VA-L3

N640-A NE5534D-L
+10REF
R648 9K09 0.1%
R649 10K L 0.1%
C649 1U 10V TA L
C641 22P L
+5VA-FRAC

SYNC-FRAC SHEET10 D4
DATA-FRAC SHEET10 D4
DATAEN-FRAC SHEET10 D4
CLK-FRAC SHEET10 E4

WR2 SHEET10 C7
+5VA-L
R686 4K75 L
D660-A 74HC4094T-L
CLK2 SHEET10 C7
SDATA2-2 SHEET5 E11
AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7

WR2 SHEET10 C7
+5VA-L
R687 4K75 L
D665-A 74HC4094T-L
CLK2 SHEET10 C7
AD0 AD8 AD9 AD10 AD11 AD12 AD13 AD14 AD15
SDATA2-4 SHEET7 D10

+5VA-L
R685 10R L
C645 100N L
+5VA-L3
C639 100N L
+15V-N
R639 221R L

D660-B 74HC4094T-L
D665-B 74HC4094T-L
D640-E 74ACOOM-B
N640-B NE5534D-L

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

* NICHT BESTUECKT
NOT FITTED

STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

02/02

/

AEND. IND.

4 5 6 7 8 9 10 11 12

P720 X750 P755 X75

D720-A
74HC4051T-B
MUXDK
8M
G8
R720 4K75 L
R728 2K L
R721 20K L
R722 12K1 L
R723 8K25 L
R724 5K62 L
R725 4K32 L
R726 3K32 L
R727 2K43 L
R729 10K L

D740-A
DAC08CS-B
LSB
MSB
REF +
REF -
VLC
IOUT
IOUT
COMP
PLL-TUNE7
PLL-TUNE6
PLL-TUNE5
PLL-TUNE4
PLL-TUNE3
PLL-TUNE2
PLL-TUNE1
PLL-TUNE0
C740 2U2 10V TA L
R740 1K21 L 0,1%
R741 1K21 L
+10REF
SHEET11 C5
R742 2K43 L
C741 22P L
SP1
SHEET7 B5
P755
C756 33N L
R755 6K19 B 0.1%
+24V-N
C755 47U 50V.BC.

A-PI-FSYN
SHEET10 B9
C720 1N L
C721 150N
R730 3K57 L
R733 100K L
P720
N720-A
NE5534D-B
C722 22P L
R731 20K L
409
D-PI-FSYN
SHEET9 D4
R732 10K L
C732 100P L
X750 1 X750 2 X750 3
C731 680N B

N750-A
NE5534D-B
C750 22P L
V760
BCX19-L
R760 33R2 L
R761 22R1 L
V761
BCX17-L
V755
BAS32-L
R778 30K1 L
411
D-PLL-FSYN
SHEET10 D9
R779 7K5 L
C778 100P L

V766
BAV99-B
V765
BAV99-B
V767
BAV99-B
V768
BAV99-B
R762 1K3 L
R763 1K3 L
C760 18N L
R769 200R L
C779 150N
R777 10R L
X75 1 X75 2 X75 3
Z750 100B B
U-PLL-FSYN
SHEET4 C2
C765 1U5 50V MKT
C766 1U5 50V MKT
C767 1U5 50V MKT

+5VA-N
WR2
SHEET10 C7
R790 4K75 L
D790-A
74HC4094T-B
C2
EN3
SRG
C1/→
CLK2
SHEET10 C7
SDATA2-4
SHEET6 D10
PLL-GAIN0
PLL-GAIN1
PLL-GAIN2
S-DSIG
SHEET9 E11
SDATA2-5
SHEET8 E5

+5VA-N
WR2
SHEET10 C7
R791 4K75 L
D795-A
74HC4094T-B
CLK2
SHEET10 C7
SDATA2-7
SHEET8 D9
PLL-TUNE0
PLL-TUNE1
PLL-TUNE2
PLL-TUNE3
PLL-TUNE4
PLL-TUNE5
PLL-TUNE6
PLL-TUNE7
SDATA2-8
SHEET9 E2

C782 4U7 25V TA L
C781 1N8 L
C780 1N8 L
R782 825K L
R780 43K2 L
R781 12K1 L
N780-A
OPA2604AU
N780-B
OPA2604AU
V781
BAS32-L
R786 221R L
V780
BSS123-L
410
D-FMKAL
SHEET10 D9
R783 20K L
R784 10K B
C784 100P L
R793 22K1 L
C797 10N L

P700

+5VA-N
-15V-N
C787 100N L
R787 2K21 L
V787 5V1 B
D790-B
74HC4094T-B
D795-B
74HC4094T-B
D720-B
74HC4051T-B

+15V-N
R788 33R2 L
C791 100N L
SP1
SHEET7 E7
C790 100N L
R789 33R2 L
D740-B -15V-N
DAC08CS-B

+24V-N
+15V-N
C792 22U 50V
C796 1U 25V TA L
R750 10R LV750 4V7 L
-15V-N
C793 22U 50V
N750-B NE5534D-B
N720-B NE5534D-B
N710-B NE5534D-B
N780-C OPA2604AU

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

02/	49163	24.04.95	HM	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HM	SYNTHESIZER
				GEPR.			SYNTHESIZER
				NORM			
				PLOTT	24.04.95		
/							ZEICHN.-NR.
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			1039.2330.01S
				ZU GERAET	SMT		BLATT-NR. 7+
				REG.I.V.	1039.2000		ERSTE Z.

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

P700 P720 X750 P755

M N

D700-A
74AC745C-B

+5VA-M
R700 4K75 L
R701 4K75 L
2REF
SHEET2 D7
R703 1K B 0.1%
C701 2N2 L
R702 221R L
V701 BAV70-L

D700-B
74AC74SC-B
T-PD
SHEET6 D7
R707 1K L
C702 2N2 L
R708 1K L
R710 2K L
C708 1N L

-10REF
UPHI
SHEET9 D4
R705 2K B 0.1%
R711 27K4 L
R704 1K B 0.1%
R706 2K B 0.1%
C709 1N L

N710-A
NE5534D-B
C710 22P L

D720-A
74HC4051T-B
PLL-GAIN0 11
PLL-GAIN1 10
PLL-GAIN2 9
R720 4K75 L
R728 2K L
R729 10K L

R721 20K L
R722 12K1 L
R723 8K25 L
R724 5K62 L
R725 4K32 L
R726 3K32 L
R727 2K43 L

D740-A
DAC08CS-B
PLL-TUNE7 9
PLL-TUNE6 10
PLL-TUNE5 11
PLL-TUNE4 12
PLL-TUNE3 13
PLL-TUNE2 14
PLL-TUNE1 15
PLL-TUNE0 16
LSB MSB
REF + REF - VLC IOUT IOUT COMP
C740 2U2 10V TA L
R740 1K21 L 0.1%
R741 1K21 L
+10REF
SHEET11 C5
R742 2K43 L
C741 22P L
SP1
SHEET7 B5
P755
C756 33N L
+24V-N
R755 6K19 B 0.1%
C755 47U 50V.BC.

A-PI-FSYN
SHEET10 B9
C720 1N L
C721 150N
R730 3K57 L
R733 100K L
P720
N720-A
NE5534D-B
R731 20K L
C722 22P L
409
D-PI-FSYN
SHEET9 D4
R732 10K L
C732 100P L
C731 680N B

N750-A
NE5534D-B
C750 22P L
V760
BCX19-L
R760 33R2 L
R761 22R1 L
V761
BCX17-L
V755
BAS32-L
X750 1 2 3
R778 30K1 L
R779 7K5 L
411
D-PLL-FSYN
SHEET10 D9
C778 100P L

N780-A
OPA2604AU
C781 1N8 L
C780 1N8 L
R782 825K L
R780 43K2 L
R781 12K1 L
N780-B
OPA2604AU
V781
BAS32-L
R786 221R L
V780
BSS123-L
C797 10N L

+5VA-M
C788 1U 10V TA B
D700-C
74AC74SC-B

+10REF
SHEET11 C5
N700-A
NE5534D-B
R785 9K09 L
R792 10K L
C794 1U 10V TA L
C795 22P B
+5VA-M

+15V-N
R709 182R L
C707 100N B
N700-B

+5VA-N
C787 100N L
D790-B
74HC4094T-B
D795-B
74HC4094T-B

-15V-N
R787 2K21 L
V787 5V1 B
D720-B
74HC4051T-B

+15V-N
R788 33R2 L
C791 100N L
SP1
SHEET7 E7
C790 100N L
R789 33R2 L
D740-B -15V-N
DAC08CS-B

+24V-N
C792 22U 50V
R750 10R LV750 4V7 L
C796 1U 25V TA L
C793 22U 50V
-15V-N

N750-B NE5534D-B
N720-B NE5534D-B
N710-B NE5534D-B
N780-C OPA2604AU

STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

02/
AEND. IND.

ZEICHN.-NR. 1039.2330.01 S

P840 P835 P845 P880

R845 1K01 B 0.1% R843 5K05 B 0.1%

N840-A OPA2604AU

R840 4K75 L R841 4K75 L R842 4K75 L

CLK2 SHEET10 C7 WR2 SHEET9 B7 SDATA2-5 SHEET7 D11

D840 DAC8143-B

C840 10P L

N840-B OPA2604AU

+10REF SHEET11 F9

R850 4K75 L R851 4K75 L R852 4K75 L

CLK2 SHEET10 C7 WR2 SHEET9 E2

D850 DAC8143-B

C850 10P L

N880-A LT1056S8-L

SDATA2-7 SHEET7 C10

WR1 SHEET10 C7

R856 4K75 L R857 4K75 L

D854-A 74HC4094T-B D855-A 74HC4094T-B

CLK1 SHEET10 C7 SDATA1-2 SHEET2 B3

PM-100K/2M SHEET9 B2 FM/PM SHEET9 B2 EXT2-AC/DC SHEET8 D2

EXT1-AC/DC SHEET8 F2 FM2-OFF SHEET8 C4 FM2-INT2 SHEET8 B4 FM2-EXT2 SHEET8 C4 FM1-OFF SHEET8 E4 FM1-INT1 SHEET8 E4 FM1-EXT2 SHEET8 D4 FM1-EXT1 SHEET8 F4

FM1-EXT1 SHEET8 E12 FM1-INT1 SHEET8 E12 FM1-OFF SHEET8 E12

R881 101R B 0.1% R880 505R B 0.1%

N850-A CLC430-B

R884 0R L

D865-A AD734

FM1+2 SHEET9 D1 D-FM1+2 SHEET10 D9

R886 20K L C888 100P R887 10K L

P835

R865 6R81 L C865 10U 10V TA L C862 330P L C860 220U 10V.BC. C861 220U 10V.BC.

R860 56R2 L R861 4K75 B 0.1% R862 22R1 B

N860 LT1016CN N861 LT1016CN

R863 511R B 0.1% R864 2K74 L C866 2U2 10V TA L R866 10R L V865 10VD L

D870-A 74HCT123T-B D870-B 74HCT123T-B

R870 4K75 L C870 1U L R871 274K L R872 4K75 L C871 1U L R873 274K L

I-EXT2-HIGH SHEET10 D4 I-EXT2-LOW SHEET10 D4

D875-B 74HC86T-B D875-C 74HC86T-B D875-D 74HC86T-B D875-A 74HC86T-B

R875 3K32 L C875 10N L R876 3K32 L C876 10N L R896 4K75 L

I-EXT2 SHEET10 D4

WR2 SHEET10 C7 +5VA-O

$\overline{WR2}$ SHEET9 E2

+15V-O -15V-O +5VA-O

R854 10R L C852 100N L R888 10R L C887 100N L C885 100N L

R859 10R L C851 100N L R889 10R L C886 100N L

N850-B CLC430-B D865-B AD734

D870-C 74HCT123T-B D875-E 74HC86T-B D854-B 74HC4094T-B D855-B 74HC4094T-B

R894 10R L C894 100N L R895 10R L C895 100N B

N810-B AD843BN

N840-C OPA2604AU

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

02/03	51104 01	11.03.96	BU	1GPK	TAG	NAME
				BEARB.		BU
				GEPR.		
				NORM		
				PLOTT	11.03.96	
02/02	49163	13.11.95	HM			
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME			

ROHDE&SCHWARZ
ZU GERAET SMT

BENENNUNG
SYNTHESIZER
SYNTHESIZER

ZEICHN.-NR. 1039.2330.01S
BLATT-NR. 8+
V. BL.
REG.I.V. 1039.2000 ERSTE Z.

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

P840 P835 P845

EXT1-$\overline{AC}$/DC
SHEET8 E12

+5L
C830 100N 163V MKT
R800 100R L
EXT1
SHEET11 D9
V800 BAV99-L
-5L
D820-A DG419DY-B
N800-A LT1056S8-L
R801 1M L

D800-D DG412DY-B
D800-C DG412DY-B
D800-B DG412DY-B
D800-A DG412DY-B
FM1-EXT1 SHEET8 E12
FM1-INT1 SHEET8 E12
FM1-OFF SHEET8 E12

INT1
SHEET11 D9
R812 10K L

EXT2-$\overline{AC}$/DC
SHEET8 E11
R819 200R L
C819 33P L
V811 SV1 B
R815 10K L
+15V-O
+5L
EXT2
SHEET11 D9
V810 BAV99-L
C831 100N 63V MKT
R816 10K L
-15V-O
-5L
V812 SV1 B
D825-A DG419DY-B
R817 562R L
R813 1M L
N810-A AD843BN
R820 10R L

D810-A DG540DN-B
FM1-EXT2 SHEET8 E12
D810-D DG540DN-B
FM2-EXT2 SHEET8 E12
D810-B DG540DN-B
FM2-OFF SHEET8 E12
D810-C DG540DN-B
FM2-INT2 SHEET8 E12

INT2
SHEET11 D9
R811 10K L
+15V-O
R877 681R L
V877 BV2 L
C877 1U 10V TA L
D810-E DG540DN-B
C878 1U 10V TA L
V878 BV2 L
R878 681R L
-15V-O

+10REF
SHEET11 C5
R861 4K75 B 0.1%
R862 22R1 B
R863 511R B 0.1%
R864 2K74 L
C866 2U2 10V TA L
R866 10R L
V855 10VD L

C860 220U 10V.BC.
C861 220U 10V.BC.
C862 330P L
R860 56R2 L
N860 LT1016CN
N861 LT1016CN

R865 6R81 L
C865 10U 10V TA L
+5VA-O

R845 1K01 B 0.1%
R843 5K05 B 0.1%
N840-A OPA2604AU
N840-B OPA2604AU
R840 4K75 L
R841 4K75 L
R842 4K75 L
CLK2
SHEET10 C7
$\overline{WR2}$
SHEET9 B7
SDATA2-5
SHEET7 D11
C840 10P L
D840 DAC8143-B

R850 4K75 L
R851 4K75 L
R852 4K75 L
CLK2
SHEET10 C7
$\overline{WR2}$
SHEET9 E2
D850 DAC8143-B
SDATA
SHEET7

R881 101R B 0.1%

D870-A 74HCT123T-B
D870-B 74HCT123T-B
R870 4K75 L
R871 274K L
R872 4K75 L
R873 274K L
C870 1U L
C871 1U L
I-EXT2-HIGH
SHEET10 D4
I-EXT2-LOW
SHEET10 D4
D875-A 74HC86T-B
D875-B 74HC86T-B
D875-C 74HC86T-B
D875-D 74HC86T-B
R875 3K32 L
R876 3K32 L
C875 10N L
C876 10N L
I-EXT2
SHEET10 D4

WR2
SHEET10 C7
+5VA-O
R896 4K75 L
$\overline{WR2}$
SHEET9 E2

R854 10R L

+5VA-O
C890 100U 25V.BC.
C891 100U 25V.BC.
D825-B DG419DY-B
D820-B DG419DY-B
D800-E DG412DY-B
N800-B LT1056S8-L
N880-B LT1056S8-L
N840-C OPA2604AU

R894 10R L
C894 100N L
N810-B AD843BN
C895 100N B
R895 10R L

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

STROMLAUF GILT FUER VAR.02
CIRCUIT DIAGRAM IS VALID FOR MOD.02

02/03	
02/02	
AEND. IND.	

N

L

R955 4K75 B
V952 BAV99-L
V951 BAV99-L
C951 820P L
R957 4K75 L
V963 BAV99-L
V964 BAV99-L
C963 820P L
R947 4K75 B
+5VA-L4
R948 475R B
D950-A 74F74D-L
D950-B 74F74D-L
P950
DSIGOUT SHEET6 B11
C953 22P L
C952 68P L
C950 680P L
R950 5K62 L
R951 2K L
R952 2K21 L
C958 820P B
C959 5P6 B
C955 270P L
C956 100P L
N955-A AD744KR-B
N950-A TL074ACD-B
N950-B TL074ACD-B
N965-A LM211D-B
D965-A SD5400-B
T-DSIG SHEET2 E5
S-DSIG SHEET7 D11
T-DSIG SHEET2 D6
DELTAOUT SHEET6 B11
R954 1K62 L
R959 1K62 L
C957 100U 25V.BC.
R958 12K1 L
D965-D SD5400-B
D965-C SD5400-B
D965-B SD5400-B
+10REF SHEET11 C5
R946 RTR 1K B
R944 9K09 L
R956 9K09 L
R953 7K5 L
R945 475R L
N950-C TL074ACD-B
R976 7K5 B
N950-D TL074ACD-B
R923 4K99 B 0.1%
R924 1K26 B 0.1%
R925 312R B 0.1%
R928 104R B 0.1%
R926 150K L
D930-A 74HC4051T-B
R930 1K21 L
R931 825R L
R932 1K1 L
MUXDX
RA16 4K75 L
RA17 4K09 L
RA10 RTR 2K B
P940
PM-100K/2M SHEET8 E11
D910-A DG419DY-B
R970 56K2 L
C960 47P L
R960 549R L 0.1%
R961 149R L 0.1%
R962 13K L
R963 348R B 0.1%
R964 348R B 0.1%
R965 348R B 0.1%
R966 348R L 0.1%
R967 348R B 0.1%
R968 348R B 0.1%
R969 156R B 0.1%
R982 18K2 B
R970 156R L 0.1%
R983 18K2 L
R971 156R L 0.1%
R984 18K2 L
R972 156R L 0.1%
R985 18K2 L
R973 156R L 0.1%
R986 18K2 L
R974 147R L 0.1%
R975 13K L
D960-A DG538-B
P930
UMOD SHEET4 F9
-15V-D
R977 681R L
C977 1U 25V TA L
R987 7K5 L
V960 SST108-L
V958 BC860B-L
R992 4K75 L
R990 4K75 L
+5VA-D
R981 2K21 L
FMCOARSE3
FMCOARSE2
FMCOARSE1
FMCOARSE0
+5VA-L
L950 22UH L
C948 470U 10V.BC.
C949 10U 10V TA L
+5VA-L4
D950-C 74F74D-L
+15V-N
R989 10R L
C989 100N L
N965-B LM211D-B
N955-B
N950-E TL074ACD-B
R988 10R L
C990 100N L
-15V-N

STROMLAUF GILT FUER VAR.02

CIRCUIT DIAGRAM IS VALID FOR MOD.02

+5VA-D
C900 100N B
D900-B
+15V-D
N905-C OPA2604AU
-15V-D
+5VA-D
R991 10R L
+15V-D
D960-B DG538-B
C961 1U 25V TA L
V962 5V1 L
-15V-D
R993 1K21 L
C962 1U 10V TA L

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

02/04		18.11.96	BU	1GPK	TAG	NAME
				BEARB.		HM
				GEPR.		
				NORM		
				PLOTT	18.11.96	
02/03	51104 01	11.03.96	BU			
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME			

BENENNUNG
SYNTHESIZER
SYNTHESIZER

ROHDE&SCHWARZ
ZU GERAET SMT

ZEICHN.-NR. 1039.2330.01S
REG.I.V. 1039.2000 ERSTE Z.

BLATT-NR. 9+ V. BL.

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

ZEICHN.-NR 1039.2330.01 S

P920 R918 P940 R946 P930

O N L

N905-A OPA2604AU
C901 47P L
R901 5K11 L
R920 4K75 L
R921 4K75 L
R922 4K75 L
+5VA-D
CLK2 SHEET10 C7
WR2 SHEET8 E5
SDATA2-8 SHEET7 B11
D920 DAC8143-B
FM1+2 SHEET8 D11
C920 10P L
N905-B OPA2604AU
P920

R923 4K99 B 0.1%
R924 1K26 B 0.1%
R925 312R B 0.1%
R928 104R B 0.1%
R926 150K L
D930-A 74HC4051T-B
R930 1K21 L
R931 825R L
R932 1K1 L
PMCOARSE0
PMCOARSE1
PMCOARSE2
R915 4K75 L
P940
R916 10K L
R917 9K09 L
R918 RTR 2K B
UPH! SHEET7 E3
C912 390P L
C914 150P L
D910-A DG419DY-B
PM-100K/2M SHEET8 E11

C952 68P L
C950 680P L
R950 5K62 L
R951 2K L
R952 2K21 L
C955 270P L
C956 100P L
C958 820P B
C959 5P6 B
N955-A AD744KR-B
R955 4K75 B
DELTAOUT SHEET6 B11
R954 1K62 L
R959 1K62 L
C957 100U 25V.BC.
R958 12K1 L
R956 9K09 L
R953 7K5 L
D965-D SD540
D965-C SD540
+10REF SHEET11 C5
R946 RTR 1K B
R944 9K09 L
R945 475R L
N950-C TL074ACD-B
R976 7K5 B
N950-D TL074ACD-B

WR2 SHEET10 C7
R900 4K75 L
CLK2 SHEET10 C7
D900-A 74HC4094T-B
FMCOARSE0
FMCOARSE1
FMCOARSE2
FMCOARSE3

K910-A DSS4
K911-A DSS4
R978 56K2 L
C910 5P6 L
L910 39UH
C911 120P L
C960 47P L
R960 549R L 0.1%
C913 2N4 FKP 1%
L911 470UH
R911 5K62 L
R961 149R L 0.1%
R962 13K L
R963 348R B 0.1%
R964 348R B 0.1%
R965 348R B 0.1%
R966 348R L 0.1%
R967 348R B 0.1%
R968 348R B 0.1%
R974 117R L 0.1%
R975 13K L
R969 150R B 0.1%
R982 18K2 B
R970 150R L 0.1%
R983 18K2 L
R971 150R L 0.1%
R984 18K2 L
R972 150R L 0.1%
R985 18K2 L
R973 150R L 0.1%
R986 18K2 L

D960-A DG538-B
SA1 SA2 SA3 SA4 SB1 SB2 SB3 SB4
DA DB
A2 A1 A0 WR EN I/O
FMCOARSE2 FMCOARSE1 FMCOARSE0
R992 4K75 L
R990 4K75 L
+5VA-D
C977 1U 25V TA L
FMCOARSE3
R981 2K21 L

K910-B DSS4
K911-B DSS4
C906 100N L
V902 BAS32-L
V903 BAS32-L
FM/PM SHEET8 E11
PM-100K/2M SHEET8 E11

+15V-N +5VA-N
D910-B
-15V-N

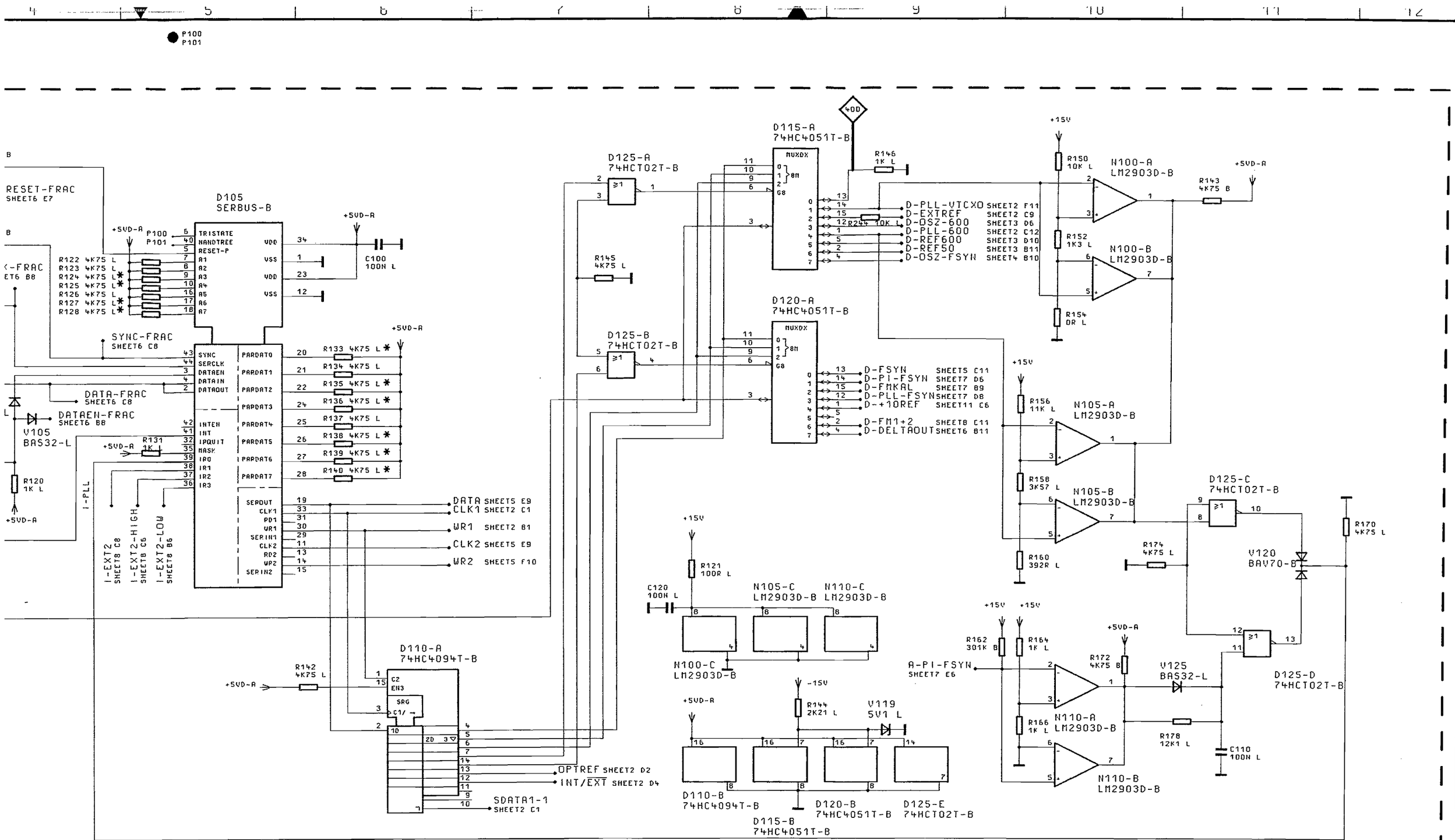
+5VA-N -15V-N
R979 47R5
R980 2K21 L
C979 4U7 10V TA L
V980 5V1 B
D930-B 74HC4051T-B

+5VA-D
C900 100N B
D900-B

+15V-D
N905-C OPA2604AU
-15V-D

+5VA-D
R991 10R L
+15V-D
D960-B DG538-B
C961 1U 25V TA L
V962 5V1 L
-15V-D
R993 1K21 L
C962 1U 10V TA L

ACHTUNG: EGB!
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING



GILT FUER VAR.02
IS VALID FOR MOD.02

* NICHT BESTUECKT
NOT FITTED

02/	49163	24.04.95	HM	1GPK	TAG	NAME
				BEARB.		HM
				GEPR.		
				NORM		
				PLOTT	24.04.95	
/						
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME			

ROHDE&SCHWARZ
ZU GERAET SMT

BENENNUNG
SYNTHESIZER
SYNTHESIZER

ZEICHN.-NR. 1039.2330.01S
BLATT-NR. 10+
V. BL.
REG.I.V. 1039.2000
EPSTE Z

FUER DIESE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR

ZEICHN.-NR. 1039.2330.01 S

P100
P101

RESET-P
SHEET11 C9

SERBUS-SYNC
SHEET11 C9

SERBUS-CLK
SHEET11 C9

SERBUS-DAT
SHEET11 C9

SERBUS-INT
SHEET11 C9

DIAG-5V
SHEET11 C9

R108 47R5 B
R109 475R B
Z100 100B B
RESET-FRAC SHEET6 E7

R106 47R5 L
R107 475R B
Z101 100B B
CLK-FRAC SHEET6 B8

R110 47R5 B
R111 100R B
Z102 100B B
R100 4K75 L
D100-A 74HCT125T-L

D100-B 74HCT125T-L

R112 47R5 B
R113 47R5 B
Z104 100B B
V100 BAS32-L
DATA-FRAC SHEET6 C8
V105 BAS32-L
DATAEN-FRAC SHEET6 B8

D100-C 74HCT125T-L

R114 100R B
R115 47R5 B
Z106 100B B
R120 1K L
+5VD-A

R102 4K75 L
+5V
D100-D 74HCT125T-L
R104 475R L

R116 475R B
R117 47R5 B
Z108 100B B

R118 475R B
R119 47R5 B
Z110 100B B

+5V
C101 100N L
D100-E 74HCT125T-L

D105 SERBUS-B

+5VD-A
P100
P101
R122 4K75 L
R123 4K75 L
R124 4K75 L*
R125 4K75 L*
R126 4K75 L
R127 4K75 L*
R128 4K75 L*

TRISTATE
HANDTREE
RESET-P
A1
A2
A3
A4
A5
A6
A7
VDD
VSS
VDD
VSS

+5VD-A
C100 100N L

SYNC-FRAC SHEET6 C8

SYNC
SERCLK
DATAEN
DATAIN
DATAOUT
INTEN
INT
IPOUT
MASK
IRQ
IR1
IR2
IR3
PARDAT0
PARDAT1
PARDAT2
PARDAT3
PARDAT4
PARDAT5
PARDAT6
PARDAT7

+5VD-A
R133 4K75 L*
R134 4K75 L
R135 4K75 L*
R136 4K75 L*
R137 4K75 L
R138 4K75 L*
R139 4K75 L*
R140 4K75 L*

+5VD-A
R131 1K L
I-PLL
I-EXT2 SHEET8 C8
I-EXT2-HIGH SHEET8 C6
I-EXT2-LOW SHEET8 B6

SERIN1
CLK2
RD2
WR2
SERIN2

DATA SHEET5 E9
CLK1 SHEET2 C1
WR1 SHEET2 B1
CLK2 SHEET5 E9
WR2 SHEET5 F10

D110-A 74HC4094T-B
R142 4K75 L
+5VD-A
C2
EN3
SRG
C1/
1D
2D 3D
OPTREF SHEET2 D2
INT/EXT SHEET2 D4
SDATA1-1 SHEET2 C1

D125-A 74HCT02T-B
R145 4K75 L
D125-B 74HCT02T-B

D115-A 74HC4051T-B
D120-A 74HC4051T-B
D110-B 74HC4094T-B
D120-B 74HC4
D115-B 74HC4051T-B

+15V
R121 100R L
C120 100N L
N105-C LM2903D-B
N100-C LM2903D-B
N110 LM29

-15V
R144 2K21 L

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CIRCUIT DIAGRAM IS VALID FOR MOD.02

* NICHT BESTUECKT
NOT FITTED

02/
/
AEND. IND.

P20

+24V-B +24V-N

R6 47R5 L
R7 10R L
Z30 40DB B
Z35 40DB B
+24V

-15V-B -15V-C -15V-G -15V-O -15V-N

L8 10UH L
L9 10UH L
L11 10UH L
C14 10N L
L14 10UH L
L13 10UH L
Z20 40DB B
Z21 40DB B

P25

+7.5V-E +7.5V-G +7.5V-L

Z15 40DB B
Z16 40DB B
Z17 40DB B
+7.5V

+15V-B +15V-N +15V-O

Z31 40DB B
L23 10UH L
C24 10N L
L24 10UH L
Z32 40DB B
Z33 40DB B
+15V

+5VA-B +5VA-E +5VA-L +5VA-N +5VA-G +5VA-O

L25 1UH L
L26 1UH L
L27 10UH
C28 100U 25V.BC.
C29 220U 10V.BC.
C30 10N L
L28 1UH L
L29 10UH L
Z34 40DB B
Z7 40DB B
Z9 40DB B
Z10 40DB B
+5VA

SHEET2 A4 EXTTUNE — X7A 1

SHEET8 F1 EXT1 — L50 220NH L — Z50 10DB B — X7A 4

SHEET8 D1 EXT2 — L51 220NH L — Z51 2.5DB B — X7A 5

SHEET8 E1 INT1 — L52 220NH L — Z52 10DB B — X7A 6

SHEET8 C1 INT2 — L53 220NH L — Z53 2.5DB B — X7A 7

SHEET2 A5 OPTTUNE — X7A 10

SHEET10 E1 SERBUS-CLK — X7A 12

SHEET10 D1 SERBUS-DAT — X7A 14, X7A 15

SHEET10 C1 SERBUS-INT — X7A 17

SHEET10 E1 RESET-P — X7A 18

SHEET10 C1 DIAG-5V — X7A 19

SHEET10 E1 SERBUS-SYNC — X7A 16

+10REF SHEET2 C3 — D-+10REF SHEET10 D9

+15V

P20

R21 22R1 L
C20 100N L
R23 10K L
R24 20K L
R25 10K L
R26 9K09 B 0.1%
R27 10K B 0.1%
C21 1U 25V TA L
N20-A LM224D-B
D20 REF01CS

N20-B LM224D-B
C25 330P L
R28 100R L
R29 1K L
+5.5V
C26 2U2 25V TA L
V20 BCP68-16-B
C27 100U 25V.BC.
+5VD-A
R20 10R L
P25
+5VA

R31 10K L
R30 10K L
P22
-10REF
N20-C LM224D-B

+15V
-15V
N20-E

N20-D LM224D-B

VAR.02
MOD.02

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02/01	49163	24.04.95	HM	1GPK	TAG	NAME	BENENNUNG
				BEARB.		HM	SYNTHESIZER
				GEPR.			SYNTHESIZER
				NORM			
				PLOTT	22.06.95		
/							ZEICHN.-NR.
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			1039.2330.01S
				ZU GERAET	SMT		BLATT-NR 11-
				REG.I.V.	1039.2000	ERSTE Z.	V. BL.

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

ZEICHN.-NR. 1039.2330.01 S

P20

P25

A

X7A 28 — L1 10UH L — +5V

X7A 22 — L2 10UH — +24V
C2 470U 50V.BC.
Z2 40DB B

X7A 24 — L3 10UH DHT — +15V
C3 100U 25V.BC.
Z3 40DB B

X7A 30 — L4 10UH DHT — -15V
C4 100U 25V.BC.
Z4 40DB B

X7A 26 — L5 3UH 20% — +7.5V
C5 220U 10V.BC.
Z5 40DB B
R5 1R8 2.4W RDR — +5.5V
Z6 40DB B

X7A 11
X7A 13
X7A 21
X7A 23
X7A 25
X7A 27
X7A 29
X7A 31

+24V-B — R6 47R5 L — Z30 40DB B — Z35 40DB B — +24V

+24V-N — R7 10R L

-15V-B — L8 10UH L — Z20 40DB B — -15V
-15V-C — L9 10UH L
-15V-G — L11 10UH L — Z21 40DB B
-15V-D — C14 10N L — L14 10UH L
-15V-N — L13 10UH L

+7.5V-E — Z15 40DB B — +7.5V
+7.5V-G — Z16 40DB B
+7.5V-L — Z17 40DB B

+15V-B — Z31 40DB B — +15V
+15V-N — L23 10UH L — Z32 40DB B
+15V-O — C24 10N L — L24 10UH L — Z33 40DB B

+15V — R21 22R1 L — C20 100N L — D20 REF01CS — R23 10K L

P20 — N20-A LM224D-B — C21 1U 25V TA L — R26 9K09 B 0.1% — R27 10K B 0.1%

+10REF SHEET2 C3 — R24 20K L — D-+10REF SHEET10 D9 — R25 10K L

N20-B LM224D-B — C25 330P L — R28 100R L — V20 BCP68-16-B — C26 2U2 25V TA L — C27 100U 25V.BC. — +5VD-A — R29 1K L — R20 10R L — P25 — +5VA — +5.5V

R31 10K L — R30 10K L — P22 — -10REF — N20-C LM224D-B

+15V — N20-E — -15V

N20-D LM224D-B

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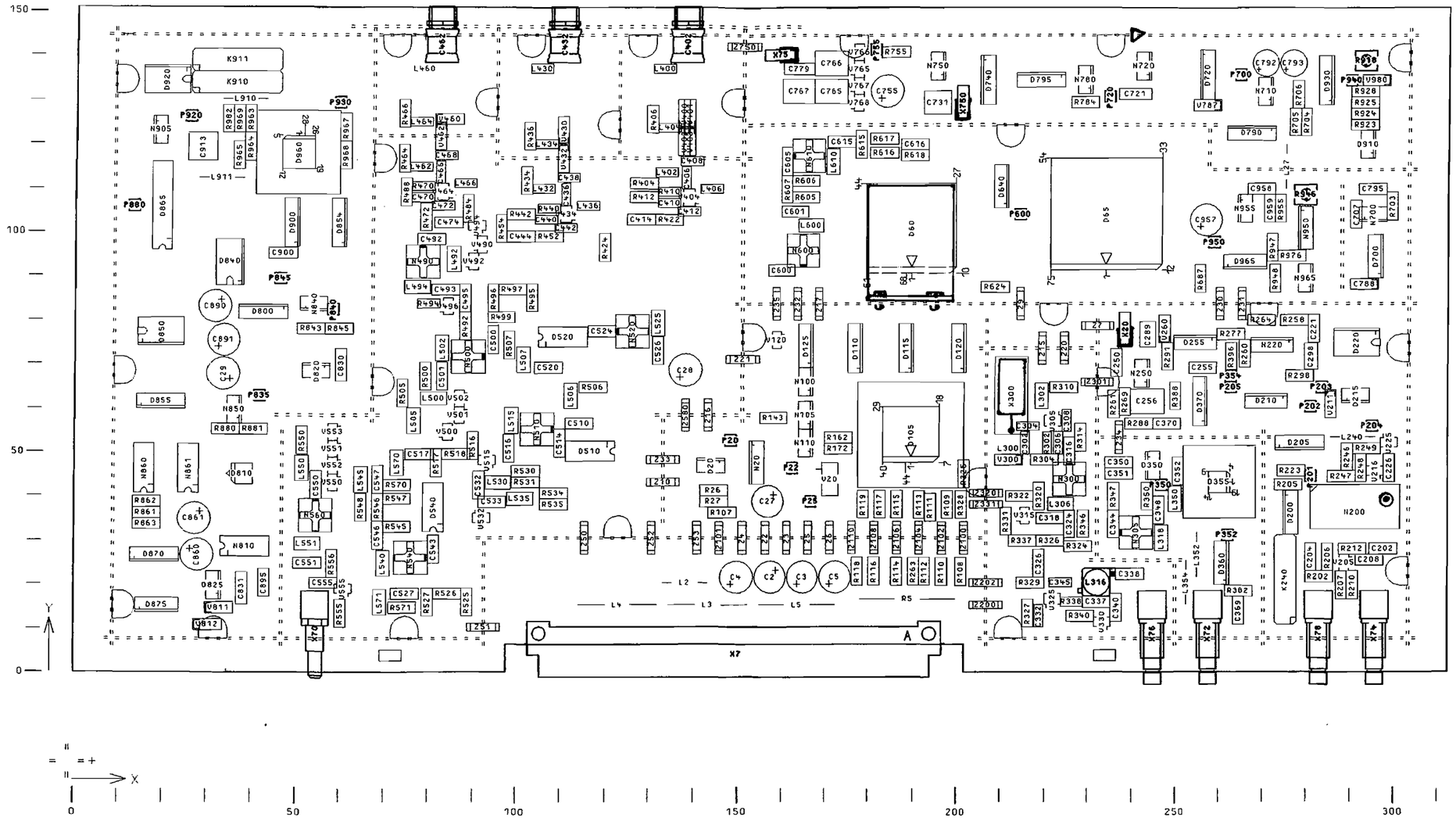
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02/01

/

AEND IND.



DARSTELLUNG SEITE B

VIEW ON SIDE B

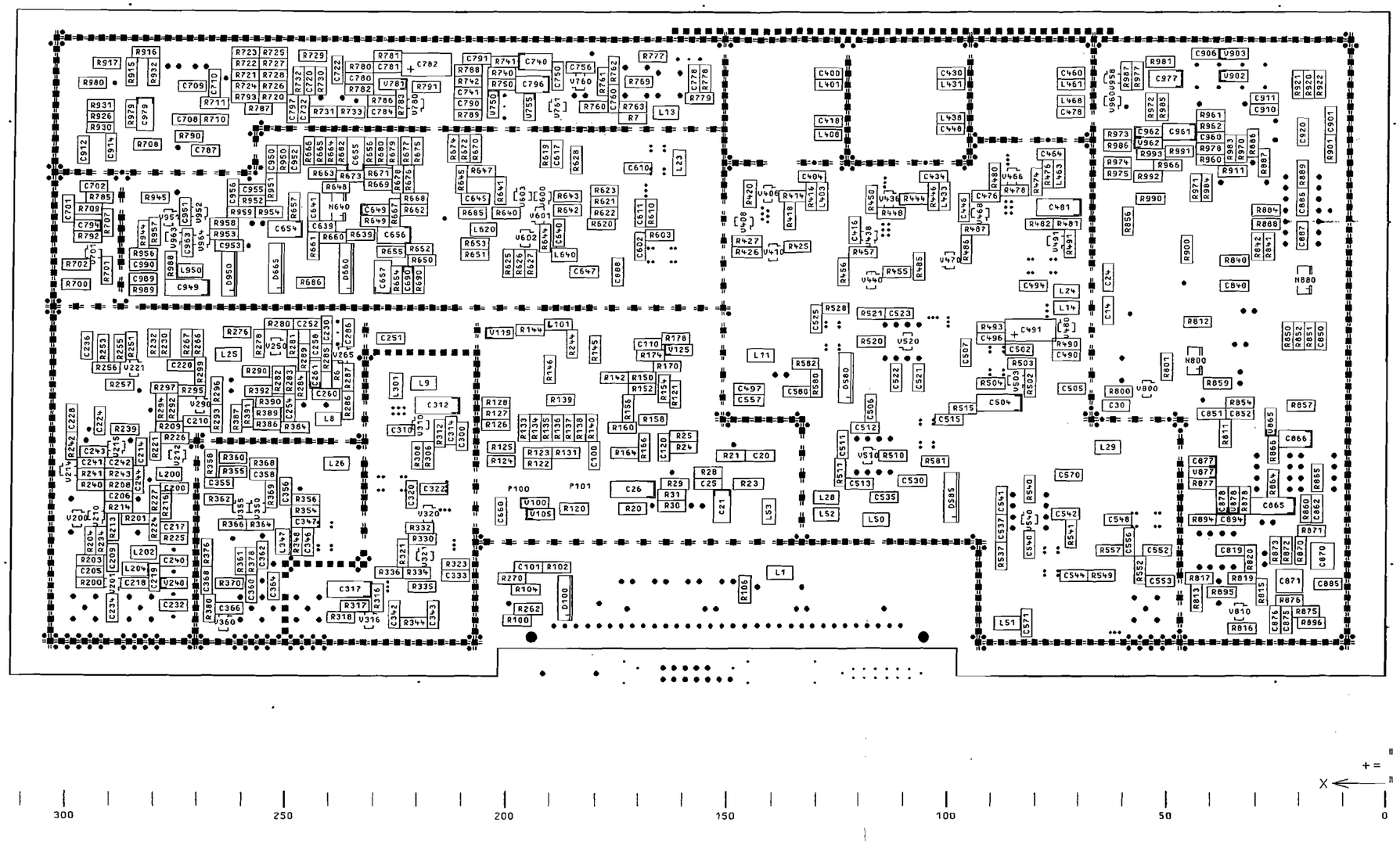
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BINDENDE ANGABEN ÜBER VARIANTEN, TRIMMWERTE, BAUTEILWERTE UND NICHT BESTÜCKTE BAUTEILE SIEHE SA

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST

03/	49163	.04.95	HM	TGPK	TAG	NAME	BENENNUNG
				BEARB.		HM	SYNTHESIZER
				GEPR.			SYNTHESIZER
				NORM			Z
				PLOTT	27.02.95		
ÄND. IND.	ÄNDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.-NR. 1039.2330.01 EE
				ZD SERNET	SMT		BLATT-NR. 1+
							REG.-I.D. 1039.2000 ERSTE Z.

DIESE ZEICHNUNG IST EIN RECHNERAUSDRUCK. ÄNDERUNGEN DÜRFEN NUR DURCH ÄNDERN DES DATENSATZES ERFOLGEN



DARSTELLUNG SEITE A

VIEW ON SIDE A

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FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST.

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03/	49163	.04.95	HM	TGPK	TAG	NAME	BENENNUNG	
				BEARB.		HM	SYNTHESIZER	Z
				GEPR.			SYNTHESIZER	
				NORM				
				PLOTT	27.02.95			
REND. IND.	RENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.-NR. 1039.2330.01	EE
				ZU GERÄT SMT			REG.-NR. 1039.2000	INDEX Z.

ROHDE&SCHWARZ

SERVICEUNTERLAGEN

Eichleitung

1008.7252.02

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Bestückungsplan

7. Prüfen und Instandsetzen der Baugruppe

7.1 Funktionsbeschreibung

7.1.1 Eichleitung mit Überspannungsschutz

Die Eichleitung ist zwischen Ausgangsteil und Geräteausgang geschaltet. Mit ihr kann das Signal in 5db-Stufen gedämpft werden. Sie enthält sechs Dämpfungsglieder mit den Werten 5,10,2*20 und 2*40dB, ein Überspannungsschutzsubstrat und einen 50Ohm Abschlußwiderstand. Die Dämpfungsglieder können durch jeweils eine Kontaktgruppe, die aus drei Einzelkontakten besteht, eingeschaltet oder überbrückt werden. Jede dieser Kontaktgruppen wird von einer Wippe betätigt, die von einer Magnetspule angetrieben und durch einen Permanentmagneten in der Endlage gehalten wird.
Hinter den Dämpfungsgliedern sitzt auf der Eichleitung in Richtung Geräteausgang das Überspannungsschutzsubstrat und anschließend der Ausgangsschalter. Dieser wird im Überspannungsfall sowie beim Geräteausschalten (Signal ACFAIL) sofort geöffnet.
Der Überspannungsschutz schützt die Dämpfungsglieder und den Ausgangsverstärker vor zu hohen HF- und DC-Spannungen, die an die RF-Buchse angelegt werden. Mit dem integrierten Detektor kann eine Diagnose der Dämpfungsglieder mit den zugehörigen Kontaktgruppen durchgeführt werden.

7.1.2 Ansteuerung der Dämpfungsglieder

Die Dämpfungseinstellung der Eichleitung erfolgt durch serielle Datenübertragung mittels des geräteeigenen "SERBUS"-Interfaces. Ein Zwischenspeicher hält die Spannung für einige ms Dauer, deren Polarität in den Magnetspulen die Kontaktwippen in die eine oder andere Richtung betätigt. (s. Bild 1). Danach wird für den stromlosen Zustand die gleiche Polarität an den anderen Relais-Kontakt gelegt.

7.1.3 Ansteuerung des Überspannungsschutzes

Eine an die Ausgangsbuchse angelegte Überspannung wird durch Spitzenwertgleichrichtung auf dem Überspannungsschutzsubstrat detektiert. Der Komparator N1 spricht an und betätigt über D4 direkt den Ausgangschalter Z9 an E7-A7. Während dessen Ansprechzeit schließen die PIN-Dioden auf dem Überspannungsschutzsubstrat die Überspannung kurz. Durch die beiden Monoflops V1 und V2 wird den PIN-Dioden dazu ein hoher Gleichstrom eingeprägt. Dem Rechner wird der Überspannungsfall über den SERBUS-INTerrupt mitgeteilt.

7.1.4 Diagnose

Die Dioden auf dem Überspannungsschutzsubtrat werden über D9 als Spitzenwertgleichrichter betrieben. Die gleichgerichtete Spannung steht dann auf der Diagnoseleitung DIAG-5V zur Verfügung. Damit können die Dämpfungsglieder mit den zugehörigen Kontaktgruppen überprüft werden.

7.2 Meßgeräte und Hilfsmittel

Zweikanal-Speicheroszilloskop 100MHz	z.B. BOS
Netzwerkanalysator bis 3GHz	z.B. hp8753
50Ohm SMA-Abschluß bis 3GHz, VSWR<1.1	
Leistungssignalgenerator 25dBm	z.B. SMGL,SMLU
Voltmeter	z.B. UDL33
Präzisionseichleitung 0..120dB, Aufl. 0,1dB	z.B. DPSP
Meßempfänger 100MHz, Empfindlichk. <0dBuV	z.B. ESV

7.3 Fehlersuche

Ausgangspegel läßt sich nicht einstellen	Ansteuerpuls der einzelnen Dämpfungsglieder nach 7.4.3 prüfen. Entsprechen die Ansteuerpulse dem Bild 1?
Beim Geräteausschalten öffnet der Ausgangsschalter nicht	Kontrolle des ACFAIL-Signales und der Ansteuerung des Ausgangsschalters gemäß 7.4.4

7.4 Prüfen und Abgleich

7.4.1 Abgleich der Dämpfungsglieder

- Netzwerkanalysator an X2 (=Tor1) und X1 (=Tor2) anschließen.
- Einstellungen: **LEVEL 13dBm**
  Messung des VSWR: Er darf bis 1,5GHz den Wert 1,35 und von 1,5GHz bis 3GHz den Wert 1,5 nicht überschreiten.
  Messung der Durchgangsdämpfung: Sie darf bei 1MHz max.0,4dB betragen. Der zulässige Maximalwert soll sich linear bis 3GHz auf 2,2dB erhöhen. Die gemessene Kurve abspeichern und als Bezugswert (0dB) verwenden. Die folgenden Schritte sind für jedes Dämpfungsglied Z1 bis Z6 (Einstellung über "DIRECT_MODE") einzeln durchzuführen: Dämpfungsverlauf prüfen und mit Madenschraube im Frequenzbereich 1 bis 3GHz abgleichen. Dabei ist anzustreben, daß
  a.) die Abweichung vom Sollwert im gesamten Frequenzbereich minimal ist und
  b.) die größte pos. und neg. Abweichung vom Sollwert betragsmäßig gleich groß sind (z.B. +-0,5dB).
  Die max. zulässige Abweichung vom Sollwert der Dämpfung ist +-0,2dB. Zuletzt erfolgt die Prüfung des 50Ohm-Abschlusses (Z9), indem die Eichleitung auf Durchgang 0dB, RF-OFF gestellt wird (mittels "DIRECT-MODE") und S11 gemessen wird. Der maximal zulässige Reflexionsfaktor ist 40% (VSWR=2,5).

7.4.2 Prüfen des Überspannungsschutzes

Vorspannung der Schutzdioden:
-Die Prüfung erfolgt ohne angelegte HF-Leistung
- Einstellungen: **LEVEL 13dBm**

  Messung der Gleichspannung an den Durchführungsfiltern Z10 und Z11 bzw. X20 A und X20 B. U an Z10: 2,9V+-0,2V; U an Z11: -2,9V+-0,2V.

- Einstellungen: **DIAG STATE ON**
  TPOINT 1100

Messung der Gleichspannung an den Durchführungsfiltern Z10 und Z11 bzw. X20A und X20B. U an Z10: -0,4V+-0,2V; U an Z11: -2,9V+-0,2V.

7.4.2.1 Prüfen der Ansprechschwelle

- Einstellungen: **LEVEL 13dBm**

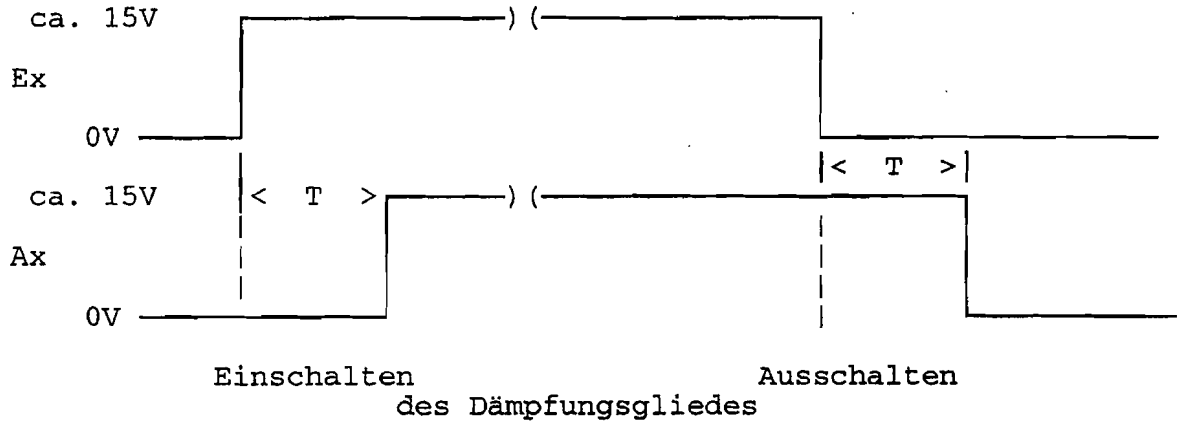
HF-Prüfung:
In den Ausgang X1 ein Signal von 25MHz, 20dBm einspeisen. Pegel erhöhen, bis der Überspannungsschutz gerade anspricht. Er muß zwischen 24,5 und 26,5dBm liegen.
Gleichspannungsprüfung:
An X1 über einen 50Ohm Widerstand +-6V anlegen. Der Ausgangsschalter Z9 muß bei positiver und negativer Spannung öffnen.

7.4.3 Prüfen der Ansteuerpulse

- Oszilloskop an die entsprechenden Ex- bzw. Ax-Ausgänge anschließen.
  Pegel nach Tabelle einstellen und prüfen des Ansteuerpulses gemäß Bild 1:

LEVEL [dBm]	Dämpfungs-glied
13	-
5	Z3
0	Z5
-10	Z4
-30	Z6
-70	Z1(+Z6)
-110	Z2(+Z1+Z6+Z4)

Bild 1 Ansteuerpuls der Dämpfungsglieder

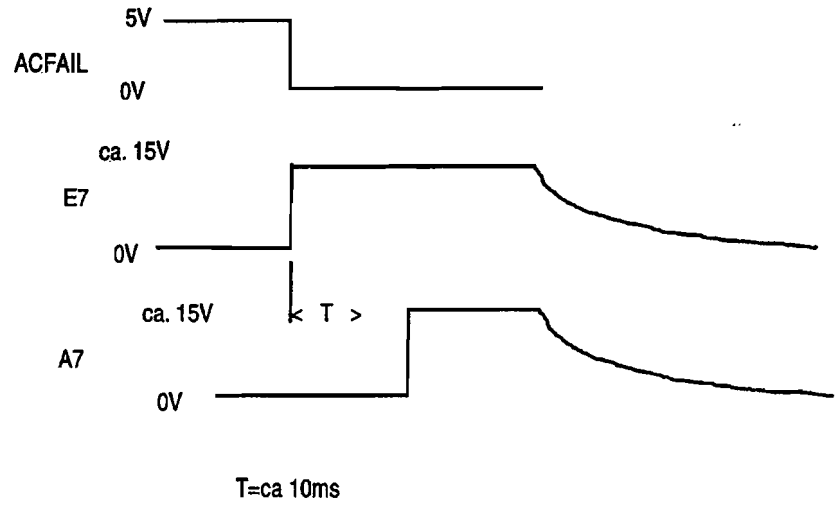


T ca. 10ms

7.4.4 Prüfen des Ausgangsschalters

- Oszilloskop an W150.2 (ACFAIL),E7 und A7 anschließen.
- Gerät ausschalten.
  Prüfen nach Bild 2.

Bild 2 Ansteuerpuls beim Geräteausschalten



7.5 Zerlegen und Zusammenbau

Zum Ausbau der Eichleitung ist die Gehäusebeplankung abzunehmen und das Frontmodul abzuschrauben. Das HF-Kabel an X2 und das Flachbandkabel an X15 lösen. Die gesamte Eichleitung mit Haltebügel kann nun nach Entfernen von 4 Schrauben an der seitlichen Gehäuseverstrebung sowie eine Schraube am Gehäuseboden herausgenommen werden. Kabel an X20 abziehen und die Ansteuerung nach Lösen von 4 Schrauben an der mechanischen Eichleitung vorsichtig abziehen. Beim Zusammenbau ist zu beachten, daß die Stifte auf der mechanischen Eichleitung beim Aufstecken der Ansteuerung nicht verbogen werden.
Hinweis: An den SMA-Anschlüssen X1 und X2 ist ein max. Drehmoment von 100Ncm nicht zu überschreiten!

7.6 Externe Schnittstellen

Pin	Name	Ein/Ausgang	Herkunft/Ziel	Wertebereich	Signalbeschreibung
W150.1	SERBUS-CLK	Eingang	A3, FRO X50.40	HCMOS-Pegel	Serbus-Clock
W150.3	SERBUS-DAT	bidir.	A3, FRO X50.39	HCMOS-Pegel	Serbus-Daten
W150.5	SERBUS-SYNC	Eingang	A3, FRO X50.37	HCMOS-Pegel	Serbus-Synchronisation
W150.8	SERBUS-INT	Ausgang	A3, FRO X50.38	HCMOS-Pegel	Serbus-Interrupt
W150.9	RES-P	Eingang	A3, FRO X50.28	HCMOS-Pegel	Serbus-Reset
W150.11	DIAG-5V	Ausgang	A3, FRO X50.44	-5V...5V	Diagnose
W150.13 Versorgungsspannung W150.14	VA15-P	Eingang analog	A2, POWS1	max. 1400mA	14.85V...15.75V
W150.16 Versorgungsspannung	VD-5P	Eingang digital	A2, POWS1	max. 60mA	5.10V...5.25V
W150.15 Versorgungsspannung	VA15-N	Eingang analog	A2, POWS1	max. 135mA	-15.75V...-14.85V
W150.2 Spannungsüberwachung	ACFAIL#	Eingang	A2, Pows1		HCMOS-Pegel
X1	RF-Ausgang	Ausgang	Ausgangsbuchse	..16dBm, ..3GHz	
X2	RF-Eingang	Eingang	Eingangsbuchse	..16dBm, ..3GHz	
W150.4/6/7/17/12					Masse

ROHDE&SCHWARZ

SERVICE INSTRUCTIONS

Attenuator

1008.7252.02

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Part list
Coordinates list
Circuit diagram
Layout diagram

7. Testing and Repair of the Module

7.1 Function Description

7.1.1 Attenuator with Overvoltage Protection

The attenuator is connected between the output module and the instrument output. It is used to attenuate the signal in steps of 5 db. It consists of six attenuator pads of 5,10,2*20 and 2*40 dB, an overvoltage-protection substrate and a 50-Ohm terminator. The attenuator pads can be switched on or bypassed by means of one contact group each, which conists of three individual contacts. Each of these contact groups is actuated by a rocker, which is driven by a magnetic coil and kept in end position by a permanent magnet.
The overvoltage-protection substrate and the output switch are situated on the attenuator subsequent to the attenuator pads. The output switch is opened immediately in case of overvoltage and with switching off the instrument (ACFAIL signal).
The overvoltage protection protects the attenuator pads and the output amplifier against exceeded RF and DC voltages, which may be applied to the RF socket. In conjunction with the integrated detector, a diagnosis of the attenuator pads with the associate contact groups can be carried out.

7.1.2 Control of the Attenuator Pads

The attenuation of the attenuator is set via serial data transmission by means of the instrument-specific "SERBUS" interface. The buffer memory keeps the voltage for a few ms; the polarity of the voltage in the magnetic coils actuates the contact rockers in either of the two directions. (cf. fig. 1). For the state where the voltage is zero the same polartity is applied to the other relay contacts.

7.1.3 Control of the Overvoltage Protection

An overvoltage applied to the output socket is detected by peak rectification on the overvoltage-protection substrate. The comparator N1 responds and directly actuates the output switch Z9 at E7-A7 via D4. The PIN diodes on the overvoltage-protection substrate short-circuit the overvoltage during the response time of the output switch Z9. For this purpose, a high DC current is impressed upon the PIN diodes via the two monoflops V1 and V2. The controller is informed on the overvoltage via the SERBUS INTerrupt.

7.1.4 Diagnosis

The diodes on the overvoltage-protection substrate are operated via D9 as peak rectifiers. The rectified voltage is then available on the diagnostic line DIAG-5V. The attenuator pads with the associate contact groups can thus be checked.

7.2 Test Instruments and Utilities

Dual-channel storage oscilloscope 100MHz	e.g., BOS
Network analyzer up to 3GHz	e.g., hp8753
50-Ohm SMA terminator up to 3GHz, VSWR<1.1	
Power-signal generator 25dBm	e.g., SMGL,SMLU
Voltmeter	e.g., UDL33
High-precision attenuator 0 to 120dB, res. 0.1dB	e.g., DPSP
Test receiver 100MHz, sensitivity <0dBuV	e.g., ESV

7.3 Troubleshooting

Output level cannot be set	Check the control code of the individual attenuator pads according to 7.4.3. Do the control pulses correspond to fig. 1
The output switch does not open with switching off the instrument	Check the ACFAIL signal and the control of the output switch acc. to 7.4.4

7.4 Testing and Adjustment

7.4.1 Adjustment of the Attenuator Pads

- Connect network analyzer to X2 (=gate1) and X1 (=gate2).
- Settings: **LEVEL 13dBm**

VSWR measurement: It must not exceed the value 1.35 up to 1.5 GHz and the value 1.5 from 1.5 GHz to 3 GHz
Measurement of the transmission loss: It must not exceed 0.4 dB with 1 MHz. The permitted maximum value shall linearly increase to 2.2 dB up to 3 GHz. Store the measured curve and use as reference value (0dB). Carry out the following steps for each of the attenuator pads Z1 to Z6 (setting via "DIRECT_MODE"): check the attenuation characteristic and adjust in the frequency range 1 to 3 GHz using a grub screw. Make sure that
a.) the deviation from the rated value is minimum across the entire frequency range and
b.) the maximum pos. and neg. deviations from the rated value have the same absolute value (e.g., +-0.5dB).
The max. permitted deviation from the rated value of attenuation is +-0.2dB. Finally, check the 50-Ohm terminator (Z9), by means of setting the attenuator to 0dB transmission, RF-OFF, (via "DIRECT-MODE") and measuring S11. The max. permitted reflection coefficient is 40% (VSWR=2.5).

7.4.2 Testing the Overvoltage Protection

Prevoltage of the protection diodes:
-The check is carried out without an RF power being applied
- Settings: **LEVEL 13dBm**

Measure the DC voltage at the loop-through filters Z10 and Z11 or X20 A and X20 B. V at Z10: 2.9V+-0.2V; V at Z11: -2.9V+-0.2V.

· Settings: **DIAG STATE ON**
TPOINT 1100

Measure the DC voltage at the loop-through filters Z10 and Z11 and X20 A and X20 B. V at Z10: -0.4V+-0.2V; V at Z11: -2.9V+-0.2V.

7.4.2.1 Testing the Response Threshold

· Settings: **LEVEL 13dBm**

RF check:
Apply a signal of 25MHz, 20dBm to the output X1. Increase level until the overvoltage protection just responds. It must be between 24.5 and 26.5dBm.

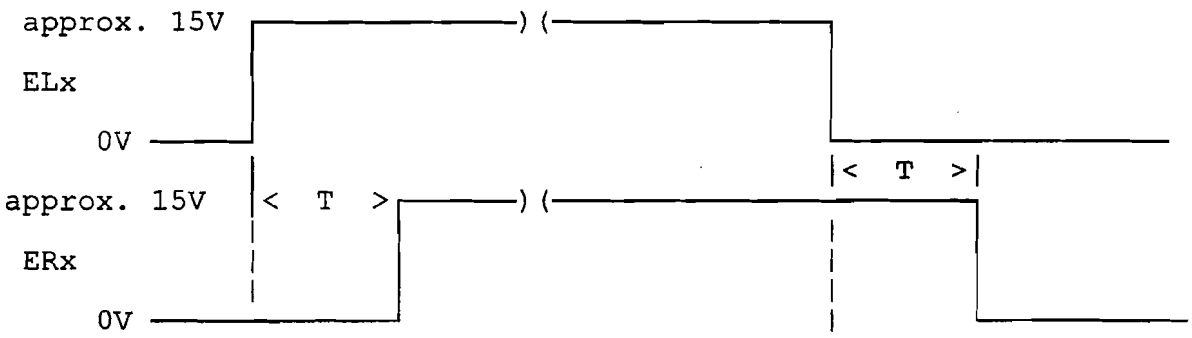
Checking the DC voltage:
Apply +-6V to X1 via a 50-Ohm resistor. The output switch Z9 must open with positive and negative voltages.

7.4.3 Testing the Control Pulses

· Connect an oscilloscope to the respective ELx or ERx-outputs. Set level according to the table below and check the control pulse acc. to fig. 1:

LEVEL[dBm]	Attenuator pad
13	-
8	Z3
3	Z5
-7	Z4
-27	Z6
-67	Z1(+Z6)
-107	Z2(+Z1+Z6+Z4)

Fig. 1 Control Pulse of the Attenuator Pads

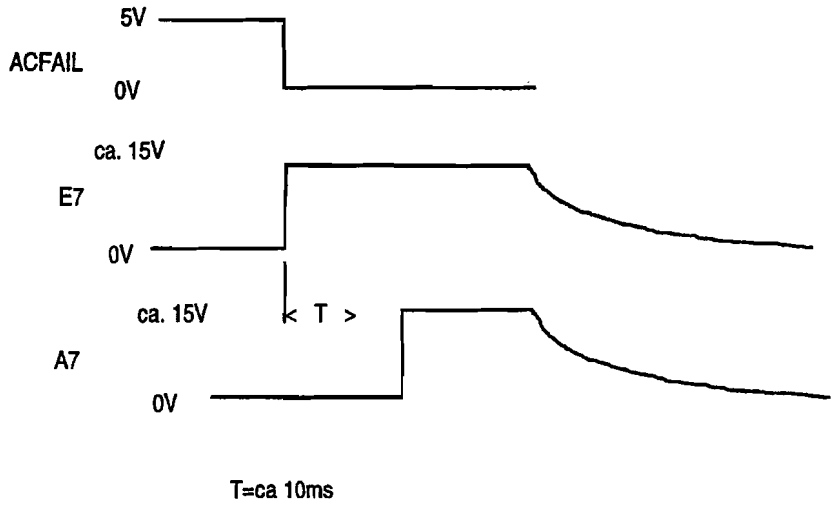


T approx. 10ms

7.4.4 Testing the Output Switch

- Connect an oscilloscope to W150.2 (ACFAIL),E7 and A7.
- Switch off the instrument.
  Check according to fig. 2.

Fig. 2 Control pulse with instrument switch-off



7.5 Removal and Assembly

To remove the attenuator, take off the panelling and unscrew the front module. Disconnect the RF cable from X2 and the ribbon cable at X15. The complete attenuator including the clips can be removed after undoing 4 screws on the side brace and one screw at the bottom. Disconnect the cable at X20 and carefully withdraw the control subsequent to undoing 4 screws on the mechanical attenuator. Make sure with assembly that the pins on the mechanical attenuator are not bent when plugging in the control unit.

Note: The max. torque at the SMA connectors X1 and X2 must not exceed 100 Ncm!

7.6 External Interfaces

Conn.	Name	Input/Output	Origin/Destination	Specified range	Signal description
W150.1	SERBUS-CLK	Input	A3, FRO X50.40	HCMOS level	Serbus clock
W150.3	SERBUS-DAT	bidir.	A3, FRO X50.39	HCMOS level	Serbus data
W150.5	SERBUS-SYNC	Input	A3, FRO X50.37	HCMOS level	Serbus synchronisation
W150.8	SERBUS-INT	Output	A3, FRO X50.38	HCMOS level	Serbus interrupt
W150.9	RES-P	Input	A3, FRO X50.28	HCMOS level	Serbus reset
W150.11	DIAG-5V	Output	A3, FRO X50.44	-5V to 5V	Diagnosis
W150.13 W150.14	VA15-P	Input	A2, POWS1	14.85V to 15.75V max. 1400mA	Supply voltage, analog
W150.16	VD-5P	Input	A2, POWS1	5.10V to 5.25V max. 60mA	Supply voltage, digital
W150.15	VA15-N	Input	A2, POWS1	-15.75V to -14.85V max. 135mA	Supply voltage, analog
W150.2	ACFAIL#	Input	A2, Pows1	HCMOS level	Voltage monitoring
X1	RF-Output	Output	Output socket	..16dBm, ..3GHz	
X2	RF-Input	Input	Input socket	..16dBm, ..3GHz	
W150.4/6/7/17/12					Ground

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Schaltteillisten
numerisch geordnet

Part lists
in numerical order

Listes des pièces détachées
par numéros de référence

095.1000 Bl. 3

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
A150	EE EICHLEITUNGSSTEUERUNG ATTENUATOR CONTROL UNIT	1038.6960.02			
K1 ..1 ..6	LD ELEKTROMAGNET (EICHL.) ELECTROMAGNET	1067.7978.00			1008.7269.00 F
K6	LD ELEKTROMAGNET (EICHL.) ELECTROMAGNET	1067.7978.00			1008.6610.00
K9	LD ELEKTROMAGNET (EICHL.) ELECTROMAGNET 7ST.AUS 294.8754"	1067.7978.00			1008.7269.00
K9	LD ELEKTROMAGNET (EICHL.) ELECTROMAGNET 7ST.AUS 294.8754"	1067.7978.00			1008.6610.00
W12	DX KABEL W12 CABLE W12	1008.7275.00			
W150	DY KABEL W150 CABLE W150	1085.0442.00			
X1	FJ EINBAUBUCHSE SYST.SMA SOCKET	FJ 0294.8154.00	SUHNER	22SMA-50-0-126/111NH	1008.6327.00
X2	FJ EINBAUBUCHSE SYST.SMA SOCKET	FJ 0294.8154.00	SUHNER	22SMA-50-0-126/111NH	1008.6327.00
Z1	DT DAEMPF.-GLIED(40DB) ATTENUATOR 40DB/50	0912.5269.00			1008.6327.00
Z2	DT DAEMPF.-GLIED(20DB) ATTENUATOR 20DB/50	0912.5252.00			1008.6327.00
Z3	DT DAEMPF.-GLIED(5DB) ATTENUATION 5DB/50	0912.5281.00			1008.6327.00
Z4	DT DAEMPF.-GLIED(20DB) ATTENUATOR 20DB/50	0912.5252.00			1008.6327.00
Z5	DT DAEMPF.-GLIED(10DB) ATTENUATOR 10DB/8,5	1054.3633.00			1008.6327.00
Z6	DT DAEMPF.-GLIED(40DB) ATTENUATOR 40DB/50	0912.5269.00			1008.6327.00
Z7	DT ANSCHLUSSLEITUNG CONNECTION LINE	0915.0800.00			1008.6327.00
Z8	BD UEBERSP.-SCHUTZ(SME)	1054.3685.00			1008.6327.00
Z9	LD PI-FILTER FILTER	1008.5850.00			1008.6327.00
Z10	LD PI-FILTER FILTER	1008.5850.00			1008.6327.00

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XY-Liste

XY List

Erklärung der Spaltenbezeichnungen:

el. Kennz.	**Bauelement-Kennzeichen**
Seite	**Leiterplatten-Seite, auf der sich das Bauelement befindet**
X/Y	**Koordinaten (in Millimeter) des Bauelementes auf der Leiterplatte bezogen auf den Nullpunkt**
Planq., Bl.	**Planquadrat und Seite des Schaltbildes für das jeweilige Bauelement**

Explanation of column designations:

Part	**Identification of instrument part**
Side	**Side of the PC board on which instrument part is positioned**
X/Y	**Coordinates (in units of millimeters) of the component on the PC board in reference to zero point**
Sqr, Pg	**Square and page of the diagram for the respective instrument part**

Nicht-Service-Relevante Bauteile / Non-Service-Relevant Components

el. Kennz. *Part*	Seite *Side*	X	Y	Planq. *Sqr*	Bl. *Pg*
C1	B	32	31	1E	2
C2	B	42	1	2E	2
C3	B	52	14	2F	2
C4	B	43	29	2E	2
C6	B	67	15	1F	2
C7	B	79	14	2F	2
C8	B	92	14	3F	2
C9	B	14	27	1C	2
C10	B	14	13	1B	2
C11	B	126	29	3A	1
C12	B	125	20	3A	1
C13	B	114	24	3C	1
C14	B	124	27	4E	1
C15	B	119	18	3D	1
C16	B	108	16	2C	1
C17	B	69	3	5E	2
C18	B	70	36	5E	2
C19	B	57	36	6E	2
C20	B	83	3	7E	2
C21	B	84	36	8E	2
C22	B	94	4	8E	2
C23	B	56	3	4E	2
C24	B	14	20	1C	2
C25	B	122	15	3A	1
C26	B	108	35	3D	1
C27	B	108	29	3D	1
C28	B	77	17	5D	2
C29	B	89	24	6D	2
C30	B	72	10	4E	2
C31	B	72	30	5E	2
C32	B	58	30	6E	2
C33	B	86	10	6E	2
C34	B	86	30	7E	2
C35	B	96	10	8E	2
C36	B	59	10	4E	2
D1	B	24	20	1E	2
D1	B	24	20	2A	2
D2	B	50	1	1E	2
D2	B	50	1	3C	2
D3	B	65	14	1F	2
D3	B	65	14	5C	2
D4	B	50	30	2E	2
D4	B	50	30	4D	2
D4	B	50	30	7D	2
D6	B	73	18	1F	2
D6	B	73	18	6B	2
D6	B	73	18	6B	2
D6	B	73	18	6C	2
D6	B	73	18	6C	2
D6	B	73	18	6C	2
D6	B	73	18	6D	2
D7	B	85	16	2F	2
D7	B	85	16	5D	2
D7	B	85	16	6D	2
D8	B	100	14	2D	2
D8	B	100	14	2D	2
D8	B	100	14	2F	2
D8	B	100	14	4E	2
D8	B	100	14	5E	2
D9	B	131	8	2A	1
D9	B	131	8	2A	1
D9	B	131	8	2B	1
D9	B	131	8	2B	1
D9	B	131	8	2D	1
D10	B	64	2	4B	2
D10	B	64	2	4E	2
D10	B	64	2	6B	2
D11	B	77	2	4B	2
D11	B	77	2	4E	2
D11	B	77	2	7B	2
D12	B	77	34	5B	2
D12	B	77	34	5E	2
D12	B	77	34	7B	2
D13	B	64	34	5B	2
D13	B	64	34	6E	2
D13	B	64	34	7B	2
D14	B	91	2	5B	2
D14	B	91	2	7B	2
D14	B	91	2	7E	2
D15	B	91	34	5B	2
D15	B	91	34	7B	2
D15	B	91	34	7E	2
D16	B	101	2	8C	2
D16	B	101	2	8D	2
D16	B	101	2	8E	2
D17	B	48	15	3E	2
D17	B	48	15	4B	2
N1	B	123	20	3A	1
N1	B	123	20	3B	1
N1	B	123	20	3D	1
R1	B	126	27	3B	1
R2	B	115	15	3B	1
R3	B	112	31	2D	1
R4	B	103	24	2D	1
R5	B	120	29	4C	1
R6	B	126	5	2B	1
R7	B	130	5	1B	1
R8	B	52	20	3B	2
R9	B	108	13	1B	1
R10	B	31	35	2B	2
R11	B	38	35	3B	2
R12	B	35	32	3B	2
R13	B	41	37	3B	2
R14	B	35	35	3B	2
R15	B	36	32	3B	2
R16	B	36	35	3B	2
R17	B	38	32	3B	2
R18	B	33	35	3D	2
R22	B	41	3	2C	2
R23	B	24	9	2A	2
R24	B	22	9	2A	2
R25	B	31	8	2A	2
R26	B	33	8	2A	2
R27	B	34	8	2A	2
R28	B	36	8	2A	2
R29	B	37	8	2A	2
R30	B	69	13	5B	2
R31	B	89	19	5D	2
R32	B	76	24	6D	2
R33	B	21	9	1A	2
R37	B	52	18	5C	2
R38	B	131	21	3B	1
R39	B	128	23	3A	1
R40	B	115	27	3C	1
R41	B	134	10	2B	1
R43	B	134	16	2A	1
R44	B	115	21	3C	1
R45	B	127	25	3A	1
R46	B	76	16	4D	2
R47	B	89	26	6D	2
R48	B	111	30	2C	1
R49	B	102	22	2D	1
R50	B	110	22	1C	1
R51	B	106	16	1D	1
R52	B	49	27	7D	2
R53	B	95	25	1D	2
V1	B	105	20	2D	1
V2	B	110	27	2D	1
V3	B	108	24	2D	1
V4	B	110	33	2C	1
V5	B	119	27	4C	1
V7	B	124	2	1B	1
V8	B	104	2	1C	1
V9	B	122	18	4A	1
V11	B	134	12	2A	1
V13	B	128	5	1B	1
V14	B	107	2	1C	1
X11	A	14	6	4A	2
X12	A	14	33	6A	2
X13	A	28	6	4A	2
X14	A	28	33	7A	2
X15	A	41	6	5A	2
X16	A	41	33	7A	2
X17	A	55	6	5A	2
X18	A	55	33	7A	2
X19	A	68	6	5A	2
X20A	B	109	10	1A	1
X20B	B	107	10	1A	1
X20C	B	104	10	1A	1
X50	B	53	29	3D	1
X60	B	102	15	3D	1
X80	B	95	31	2D	2
X110	A	68	33	7A	2
X111	A	82	6	5A	2
X112	A	82	33	7A	2
X113	A	122	6	8A	2
X114	A	122	33	8A	2
X150	B	8	11	1B	2

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ROHDE & SCHWARZ	Benennung: *Designation:* EE EICHLEITUNGSSTEUERUNG ATTENUATOR CONTROL	Sprache: *Lang.:* de	Blatt: *Sh.:* 1 –	Aei: *C.I.:* 03.01
Typ: *Type:* SME	Datum: *Date:* 99-02-18	Abteilung: *Dpt:* 1GPK	Name: *Name:* SR	Sachnr.: *Part No.:* **1038.6960.01 XY**

ROHDE&SCHWARZ

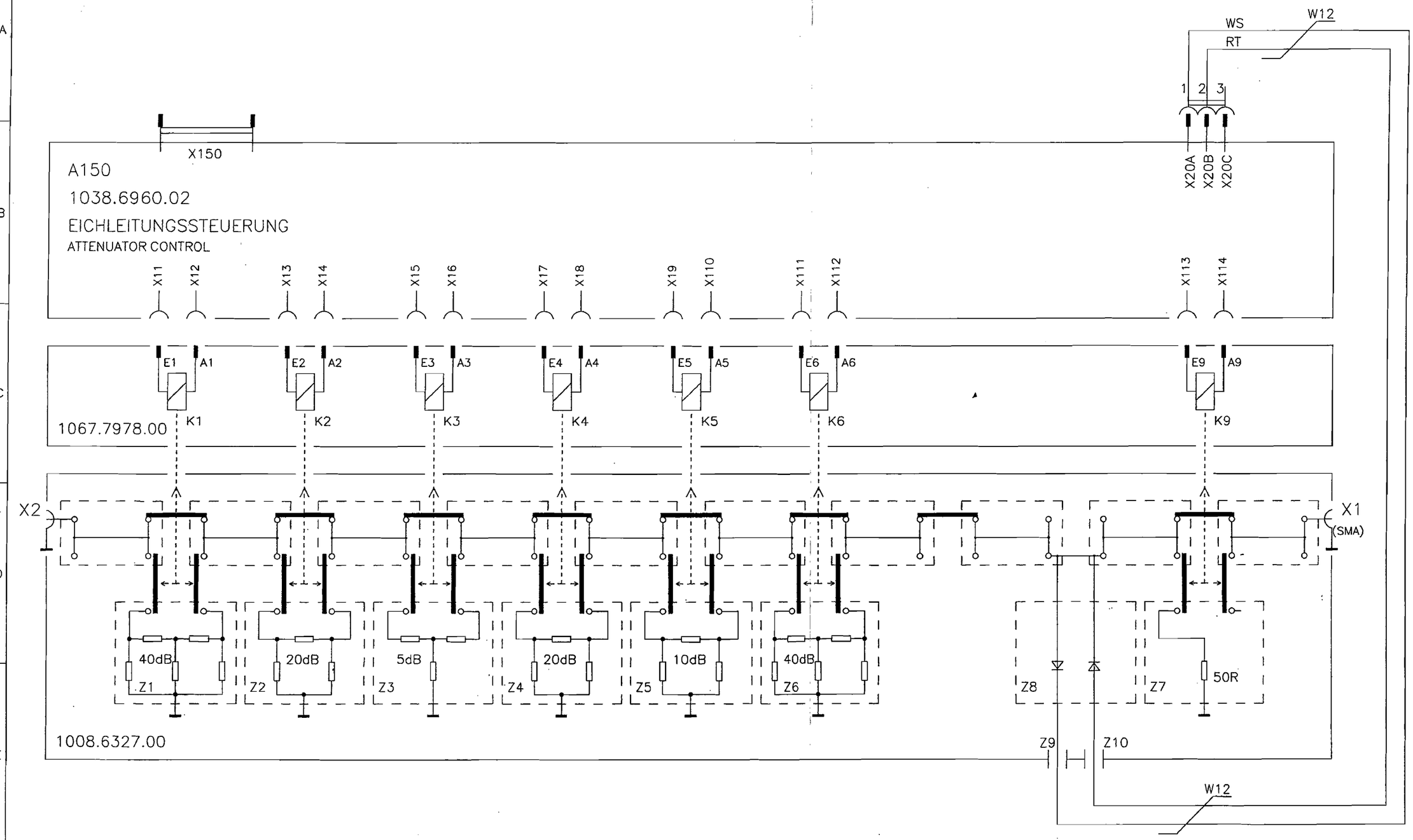
Stromläufe
Bestückungspläne

Circuit diagrams
Component plans

Schémas de circuit
Plans des composants

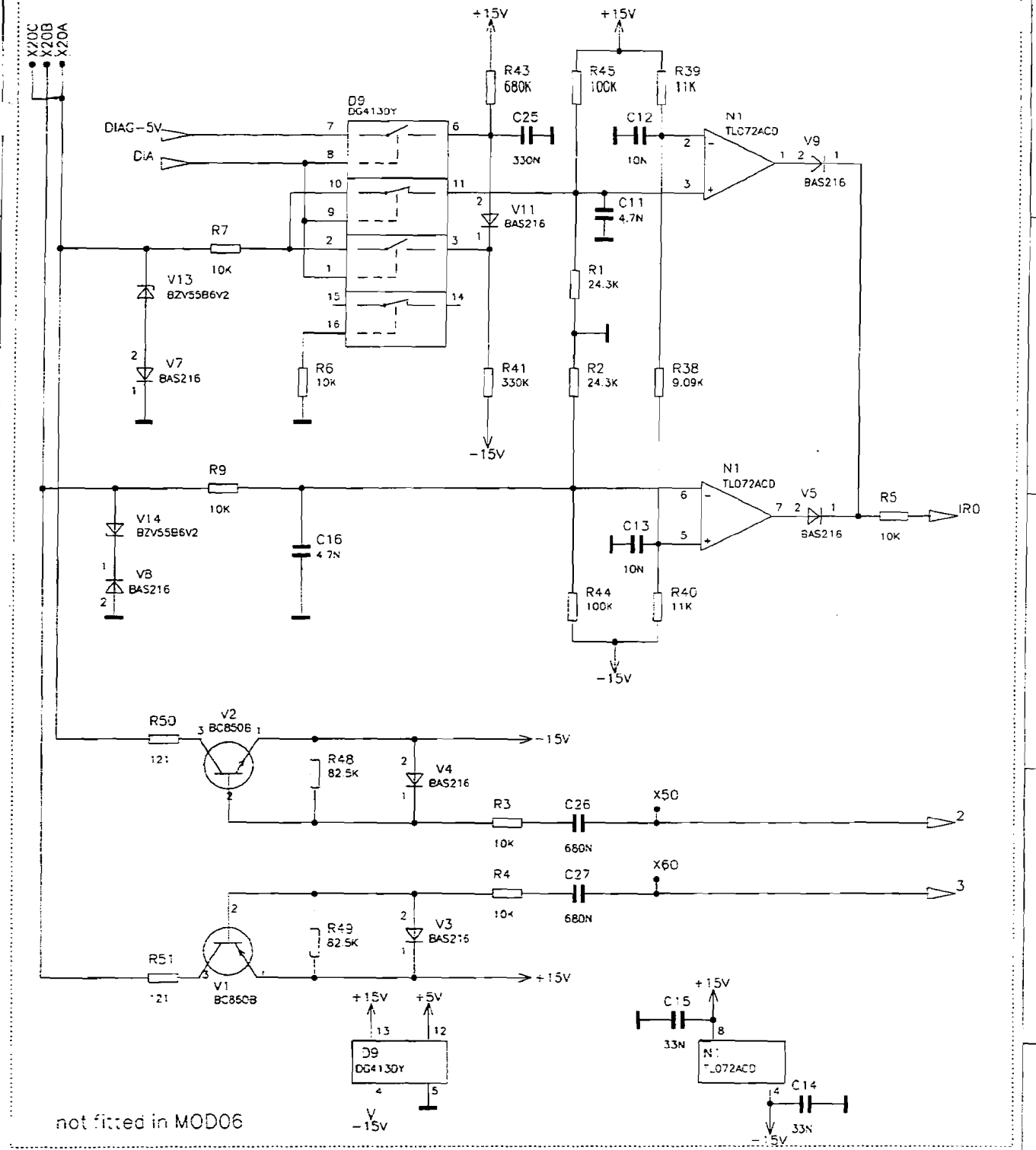
095.1000 Bl. 4

FUER DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR



STROMLAUF GILT FUER VAR02 = GRUNDAUSFUEHRUNG 3.3 GHz
CIRCUIT DIADRAM IS VALID FOR MOD02 = BASIC MODEL 3.3 GHz

ROHDE&SCHWARZ	01.00			SR					1GPK	Datum	Name	Benennung	ZE EICHLEITUNG SME/SMIQ ATTENUATOR SME/SMIQ
									Bearb.	98-02-10	SR	Zeichn.-Nr.	1008.7375.01 S
									Gepr.		SR	BLATT-NR.	1
	Aend. Zust.	Aenderunsmitteilung	Datum	Name	Aend. Zust.	Aenderunsmitteilung	Datum	Name	Norm				
	PLOTT: 98-02-20 SCHWAIGE		ZU GERAET		REG. i. V. 1008.5508 V		ERSTE Z.						



ACHTUNG EGB !
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD !
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

Bindende Angaben ueber Varianten, Trimmwerte, Bauteile und nicht bestueckte Bauteile siehe SA.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST

AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
03.01			

	DATUM	NAME
GPK		
BEARB.		SR
GEPR.		SR
NORM.		
PLOTT	99-02-18	SCHWAIGE

BENENNUNG

EICHLEITUNGSSTEUERUNG

ATTENUATOR CONTROL

TOP/TOP.1

ROHDE&SCHWARZ

ZEICHN.-NR. 1038.6960.01 S

BLATT-NR. 1 +

ZU GERAET SME | REGLV 1038.6002 | ERSTELZ 1038.6948.01

1 2 3 4

BEHALTEN WIR UNS ALLE RECHTE VOR

D1 LSA8856

TRISTATE, NANDTREE, RESET-P, A1, A2, A3, A4, A5, A6, A7

+5V

X150 9

R24 10K** 7
R23 10K 8
R25 10K** 9
R26 10K** 10
R27 10K 16
R28 10K** 17
R29 10K** 18

R33 10K

X150 2 ACF
X150 5 SERBUS-SYNC 43
X150 1 SERBUS-CLK 44
X150 3 SERBUS-DATA 4 2
X150 11 DIAG-5V
X150 7
X150 4
X150 6
X150 10
X150 12
X150 8 SERBUS-INT 42

SYNC, SERCLK, DATAEN, DATAIN, DATAOUT, PARDAT 0..7

R13 10K 20
R12 10K** 21
R14 10K** 22
R15 10K** 24
R16 10K** 25
R17 10K** 26
R11 10K** 27
28

INTEN 42, INT 41, IRQUIT 32, MASK 39, IRQ 38, IR1 37, IR2 36, IR3 35

SEROUT 19, CLK1 33, RD1 31, WR1 30, SERIN1 29, CLK2 11, RD2 13, WR2 14, SERIN2 15

WR1

+5V R10 10K 35

X150 13 +15V
X150 14
C10 33U

X150 15 -15V
C9 33U

X150 16 +5V
C24 47U

D2 74HCT4094T

+5V R22 10K

DIA

D8 74HCT132T

IR0
R53 4.7K
X80

+5V R18 10K

D4 74HCT74T

+5V R8 10K

D17 74HCT4094T

X11 X13 X15 X17 X19 X111 — E1 E2 E3 E4 E5 E6

D10 TSC1428
D11 TSC1428
D12 TSC1428
D13 TSC1428
D14 TSC1428
D15 TSC1428

+5V R30 10K

D3 74HCT273T

R37 10K

X12 X14 X16 X18 X110 X112 — A1 A2 A3 A4 A5 A6

D6 74HCT14T

X113 X114

A7/9 E7

D16 TSC1428

+5V R31 10K

D7 74HCT123T

WR1
R46 100K
C28 220N

+5V R32 10K

D7 74HCT123T

R47 100K
C29 150P

+5V R52 10K

D4 74HCT74T

D16 TSC1428

D8 74HCT132T

ACF

ACHTUNG: EGB !
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD !
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

+5V

D1 L5A8856 C1 33N
D2 74HCT4094T C2 33N
D4 74HCT74T C4 33N
D17 74HCT4094T

D6 74HCT14T C6 33N
D3 74HCT273T C3 33N
D7 74HCT123T C7 33N
D8 74HCT132T C8 33N

+15V

D10 TSC1428 C36 1U C23 33N
D11 TSC1428 C30 1U C17 33N
D12 TSC1428 C31 1U C18 33N
D13 TSC1428 C32 1U C19 33N
D14 TSC1428 C33 1U C20 33N
D15 TSC1428 C34 1U C21 33N
D16 TSC1428 C35 1U C22 33N

Bindende Angaben ueber Varianten, Trimmwerte, Bauteile und nicht bestueckte Bauteile siehe SA.

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AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
03.01			

	DATUM	NAME
1GPK		
BEARB.		SR
GEPR.		SR
NORM		
PLOTT	99-02-18	SCHWAIGE

ZU GERAET SME

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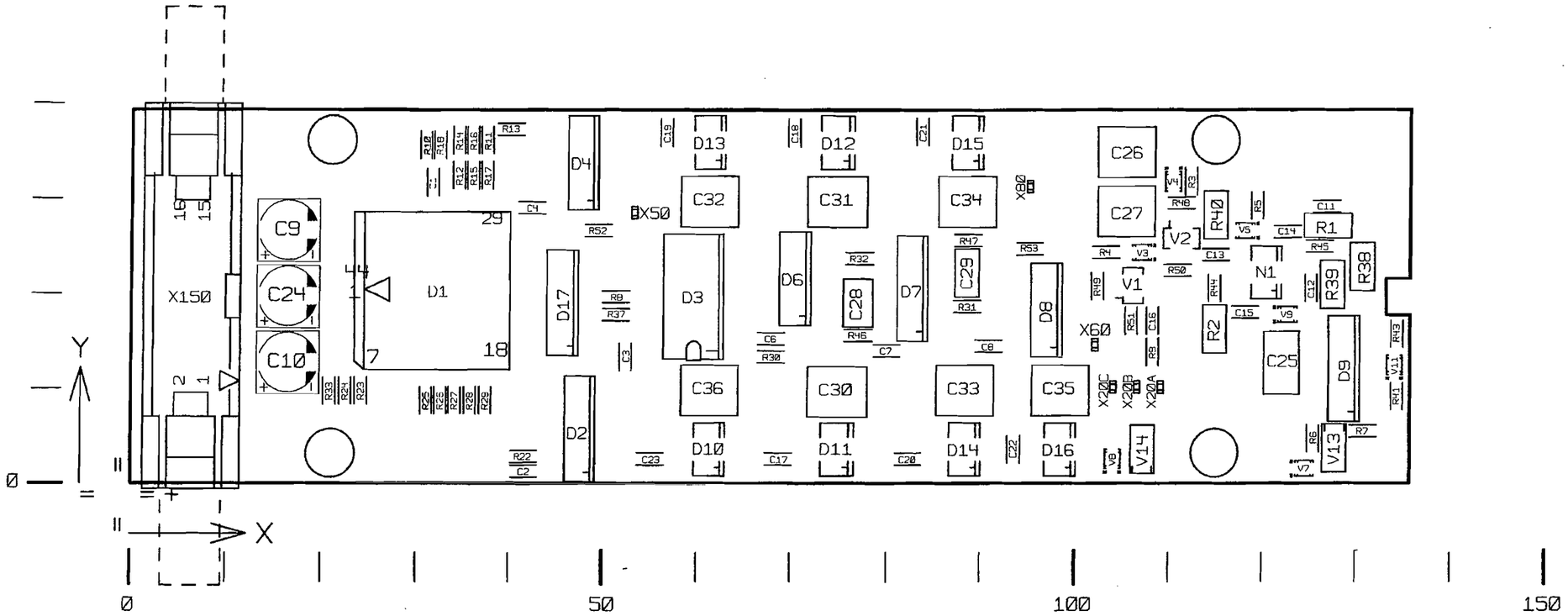
BENENNUNG
EICHLEITUNGSSTEUERUNG
ATTENUATOR CONTROL
TOP/TOP.2

ZEICHN.-NR. 1038.6960.01 S

BLATT-NR. 2 +

REG.I.V. 1038.6002

ERSTE Z. 1038.6948.01



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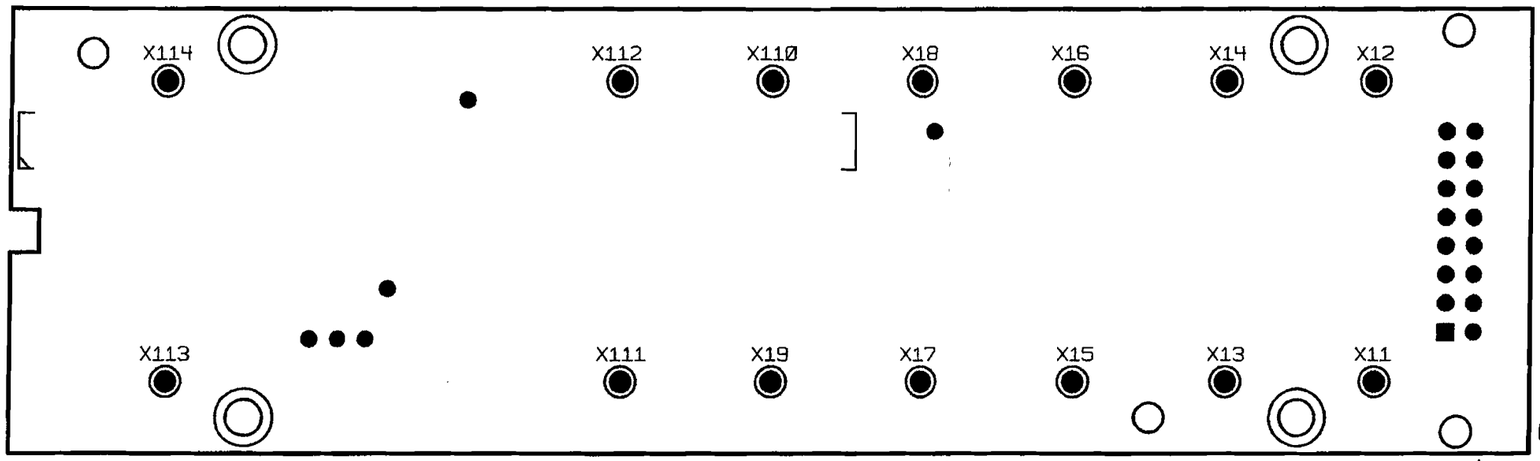
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NORM		
PLOTT	99-02-18	SCHWAIGE

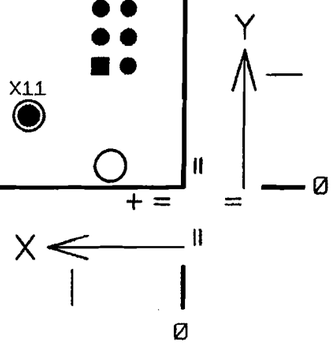
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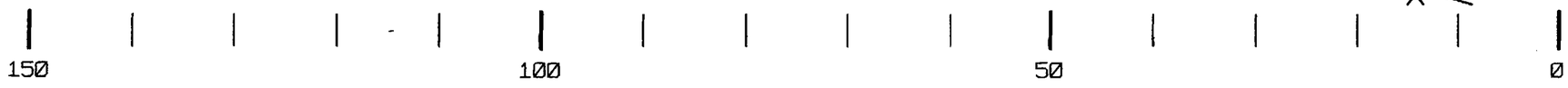
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SERVICEUNTERLAGEN

Baugruppe IQ-Modulator

1084.9800.02

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7. Prüfen und Instandsetzen der Baugruppe

7.1 Funktionsbeschreibung

Die Baugruppe IQ-Modulator gliedert sich in die drei Funktionseinheiten LF-Generator, Vektormodulator und Ausgangsteil.

Der LF-Generator dient als internes Modulationssignal für FM/φM- oder AM, steht aber auch an einem seperaten Ausgang 'LF out' zur Verfügung.

Der IQ-Modulator erzeugt ein vektormoduliertes Signal von 300MHz, das auf der Baugruppe IQ-Converter zur Synthese eines vektormodulierten HF-Trägers benötigt wird. Ein Power Ramping, wie für digitale Mobilfunknetze erforderlich, wird durch einen zusätzlichen Amplitudenmodulator hoher Bandbreite ermöglicht. Ein weiteres Pegelstellglied mit einem digitalen Steuersignal ermöglicht eine schnelle Pegelabsenkung von bis zu 70dB für alternative Pegeleinstellung in den Zeitschlitzen oder eine Pulsmodulation.

Das Ausgangsteil beinhaltet die gesamte Pegelaufbereitung und den AM-Modulator für den Ausgangsfrequenzbereich bis 3.3GHz. Der Frequenzbereich unter 450MHz im CW- bzw. 750MHz im IQ-Betrieb wird durch Abmischen mit einem 2.4GHz-Signal erzeugt. Im CW-Betrieb werden Ausgangssignale über 3GHz durch Hochmischen mit dem 300MHz-Signal des Vektormodulators gewonnen.

7.1.1 LF-Generator

Der LF-Generator liefert ein Sinussignal mit einer einstellbaren Frequenz von 0.1Hz bis 1MHz. Das Signal steht an der Leitung 'INT1', mit einer Amplitude von 1V Spitze zur Verfügung. Am Ausgang 'LFOUT' kann zusätzlich der Pegel von 1mV bis 4V Spitze gewählt werden.

Eine Direkte Digitale Synthese bildet die Grundlage des LF-Generators. Sie arbeitet mit einer Referenzfrequenz von 50MHz. Das Inkrement ist mit 32 Bit einstellbar. Der integrierte DA-Wandler hat eine Auflösung von 10 Bit. Ein Baustein-Reset belegt alle internen Register mit '0'. Im ausgeschalteten Zustand wird der Baustein im 'Sleep-Mode' betrieben, um die Stromaufnahme zu vermindern.

Der DDS-Baustein liefert einen Sinus mit einer konstanten Amplitude von 2V Spitze-Spitze und einem Gleichspannungsoffset von 1V. Der Summierer N11 addiert eine konstante Spannung zum Ausgangssignal, um den Offset zu kompensieren. Durch R124 wird ein Abgleich des Offsets möglich. Das Ausgangsignal von N11 dient als internes Modulationsignal auf 'INT1'.

Die Pegelaufbereitung für den LF-Ausgang 'LFOUT' erfolgt nachfolgend durch den 12Bit-DA-Wandler N41. Der Ausgangsverstärker N10 erweitert den einstellbaren Spannungsbereich auf 4V Spitze.

7.1.2 Ausgangsteil

7.1.2.1 Amplitudenmodulator und Preset

Das Ausgangssignal des IQ-Converters 'IQFIL' wird zunächst dem Preset Pegelstellglied V9 zugeführt. Dieses ermöglicht dem AM-Modulator, unabhängig vom eingestellten Pegel, den Betrieb in seinem idealen Arbeitspunkt. Die mit dem 8-Bit-Wandler U1 einstellbare Steuerspannung 'V_PRESET' wird durch die intern ablaufende Presetkalibrierung, abhängig von Ausgangsfrequenz und Ausgangspegel, ermittelt. Ein Differenzverstärker V38/V40 mit der Stromquelle V39 sorgt im IQ- und ALC-OFF-Betrieb für einen konstanten Strom durch die Pindioden und damit für einen temperaturstabilen Dämpfungswert.

Über den Breitbandverstärker V102 gelangt das HF-Signal zum AM-Modulator V3/V4/V8. Dieses wird, wie das Preset Stellglied, über einen Differenzverstärker V41/V56 mit der Stromquelle V42 angesteuert, um eine höhere Temperaturstabilität bei geklemmter Pegelregelung zu garantieren. Die Einfügedämpfung des Modulators wird durch den HF-Verstärker N4 kompensiert.

7.1.2.2 Ausgangsverstärker

Die GaAs-Schalter D55 und D56 leiten das HF-Signal entweder direkt auf den Ausgangsverstärker oder auf den RF-Eingang des Abwärtsmischers, um den Frequenzbereich unterhalb 450MHz zu erzeugen. Die Pindioden V108/V110/V170/V171 verbessern das Übersprechen im Down Converter-Betrieb auf besser 80dB. Sie werden durch den Operationsverstärker N6 angesteuert.

Der 3-stufige Ausgangsverstärker V144/V103/V104 hebt den Pegel auf bis zu 19dBm an. Der Arbeitspunkt der GaAs-Fets wird durch die Stromquelle V1/V2/V6 für den Drainstrom und eine Regelung für die Drainspannung durch N1/N2 stabilisiert.

Ein Oberwellenfilter nach dem Ausgangsverstärker V104 verbessert den Oberwellenabstand für Ausgangsfrequenzen über 1.8GHz.

Ein Widerstandsrichtkoppler, gebildet durch die Widerstände R511, R902 und R922, führt einen Teil der Ausgangsleistung dem Spitzengleichrichter V46 zu. Dieser ist entsprechend breitbandig, um den gesamten Frequenzbereich zu überdecken. Für Ausgangsfrequenzen kleiner 5MHz lässt sich ein zweiter Ladekondensator C549 zuschalten. Die Linearisierung der Detektorkennlinie erfolgt mit Hilfe der Logarithmierschaltung N39,N40 und N41.

Der Symmtrieübertrager T1 koppelt die Ausgangsleistung am erdfreien Tor des Übertragers aus.

7.1.2.3 Abmischbetrieb

Der Frequenzbereich unter 450MHz wird auf dem Ausgangsteil durch Abmischen mit einem LO-Signal von 2.4GHz gewonnen. Der GaAs-Schalter D56 leitet das modulierte HF-Signal dazu an das RF-Tor des Diodenmischers U9. Der ZF-Verstärker V148 verstärkt das ZF-Signal um ca 15dB. Ein nachfolgendes Filter unterdrückt unerwünschte Mischprodukte, wie 3*LO-2*RF, und die LO-Frequenz.

7.1.2.4 LO-Synthese

Das LO-Signal für den Mischbetrieb wird aus dem 600MHz-Signal der Stepsynthese in der 2.4GHz-Phasenregelschleife, bestehend aus dem VCO V130, L108, C452 und V111, dem Teiler :4 D44, dem Phasendetektor D33 und dem PI-Regler N14 erzeugt.

Ein Leistungsteiler R291/R294/R293 am Ausgang des VCOs koppelt einen Teil der Leistung aus und führt sie über die LO-Verstärkerstufen V154, V147 und V99 an das LO-Tor des Mischers U9. Mit dem Pindiodenstellglied V118 wird ein Abgleich des LO-Pegels auf etwa 17dBm am Mischer ermöglicht. Mit dem Mischbetrieb werden auch die Verstärkerstufen V154, V147 und V99 über ihre Versorgungspannung abgeschaltet.

7.1.2.5 Pegelaufbereitung

Der Führungswert der Pegelregelung wird durch den 12-Bit Wandler 'LEVEL' D43 vorgegeben. Der Regler der Pegelregelschleife N35 lässt die Wahl zweier Regelbandbreiten (Schalter D15) zu. Die kleine Regelbandbreite von ca. 5kHz wird im CW-Betrieb benutzt, die grosse von ca. 20kHz bei AM-Modulation. Bei Trägerfrequenzen kleiner 5MHz ist die Regelung stets langsam geschaltet.

Für das elektronische Austasten des Pegels dient der über R316 eingespeiste und durch das Signal 'Klemm_N' geschaltete Offsetstrom. Dies dient der Vermeidung zu hoher Pegel nach Austastlücken beim Frequenzwechsel.

Im IQ- bzw. ALC OFF-Betrieb wird mit Hilfe des Schalters D15 und dem Steuersignal 'ALC_ON' der Regler N35 zum NF-Verstärker umgeschaltet. Zusätzlich muss der Messwert des Pegeldetektors mit Hilfe des Schalters D8 abgeklemmt sein.

Eine AM ist mit einem extern eingespeisten Modulationssignal 'EXT1' oder intern mit dem Signal des LF-Generators 'INT1' möglich. Eine Zweitonmodulation wird durch gleichzeitige Modulation mit beiden Signalen möglich. Für das extern eingespeiste Modulationssignal kann eine AC (Koppelkondensator C607/C606) oder DC-Kopplung gewählt werden. Die Kopplungsart wird durch den Schalter D9 und D10 gewählt.

Ein Fensterkomparator N42 überwacht das Modulationssignal bei AM mit AC-Kopplung auf den Sollwert von 1V Spitze und liefert einen Interrupt für den Fall einer Abweichung grösser 3% vom Sollwert. Dieser sorgt für eine Warnmeldung in der Anzeige.

Die Modulationsgradeinstellung wird durch den 12-Bit DA-Wandler 'AMOD' D42 ermöglicht. Sein Ausgangssignal wird zu einer festen DC-Referenz 'AM-6V' addiert und dient als Referenz für den DA-Wandler 'LEVEL' D43 der Pegeleinstellung.

7.1.3 Vektormodulator

7.1.3.1 LO-Aufbereitung und Modulator

Der Vektormodulator arbeitet auf einer Festfrequenz von 300MHz. Das 300MHz Signal wird aus der 600MHz Referenz der Stepsynthese durch Teilung (Teiler :2 N28) erzeugt. Ein 3-stufiger LO-Treiber V82, V81 und V83 verstärkt das Signal des Teilerausgangs auf ca.25dBm und gibt dieses auf den 90°-Leistungsteiler B1. Dieser erzeugt zwei Träger von 300MHz mit einer Phasenbeziehung von 90°. Über je einen abstimmbaren Phasenschieber L49, V123/V125/V122/V124 im I- bzw. L50, V127/V126/V128/V129 im Q-Pfad kann die Phasenbeziehung innerhalb ±20° variiert werden.

Über die LO-Treiber V75 bzw. V77 werden die 300MHz-Signale auf ca. 17dBm verstärkt und dem LO-Eingang des I-Mischers U11 bzw. Q-Mischers U12 zugeführt. Am RF-Ausgang der Modulationsmischer wird das modulierte Signal zunächst durch die Verstärker V76 bzw. V78 verstärkt und anschliessend oberwellengefiltert. Die Summation der modulierten Signale von I- und Q-Zweig erfolgt durch den 0°-Leistungsaddierer U4.

7.1.3.2 Level Attenuation

Nach der Summation wird das modulierte Signal auf zwei durch einen Verstärker V136 getrennte GaAs-Dämpfungsglieder D50 und D51 gegeben. Diese ermöglichen Pegelabsenkungen von 0 bis 70dB.
Die maximale Dämpfung wird mit Poti R992 eingestellt. Sie sollte jedoch nicht grösser als 75 dB sein, da sich sonst das Einschwingverhalten der Stellglieder verschlechtert.

Ein DA-Wandler 'LEVATT' D46 ermöglicht die Einstellung einer variablen Abstimmspannung. Die beiden Schalter D12 und D13 geben, abhängig von dem einzustellenden Dämpfungswert, die festen und die variable Steuerspannungen an D50 und D51. Für die Einstellung bis 40dB Absenkung wird nur ein Dämpfungsglied benutzt, während das zweite auf minimale Durchgangsdämpfung schaltet, darüber sind beide im Dämpfungsbetrieb. Um die Wandlereinstellung für einen gewünschten Dämpfungswert zu ermitteln, dient der IQ-Detektor in Verbindung mit einer intern ablaufenden Kalibrierroutine.

Eine Pulsmodulation ist für maximale Dämpfung möglich.

7.1.3.3 Power Ramping

Im Anschluss wird das Signal dem Burst Modulator D27 zugeführt. Dieser ist ebenfalls mit Hilfe eines GaAs-Dämpfungsgliedes aufgebaut. Durch den Betrieb innerhalb einer Regelung wird die stark nichtlineare und temperatursensible Kennlinie linearisiert. Dazu wird eine bekannte DC-Referenzspannung aus N29 über das Einkoppelnetzwerk L90 zum HF-Signal auf den Eingang des Attenuators gegeben. Diese wird, wie die HF durch D27 gedämpft, am Ausgang durch L91 ausgekoppelt und gemessen.

Die Messung und Differenzbildung mit dem Führungswert am Ausgang von N24 (0V entspricht maximaler Absenkung, 1V dem maximalen Pegel) erfolgt durch den Operationverstärker N22. Der Regler des Burststellglieds N23 wirkt auf die Steuereingänge des Stellglieds D27. Der Schalter D5 ermöglicht das Abschalten des Burst Steuereingangs und ersetzt den Führungswert durch eine intern erzeugte Referenzspannung.

Um die Dynamik der Anordnung auf >80dB zu erhöhen wird bei ca. -35 bis -38dB der Schalter zum IQ-Detektor D28 betätigt. Ein Komparator N30 leitet das Steuersignal für den Schalter D28 vom Führungswert aus N24 ab.

Die Lineartität des Burstmodulators bis ca. 30 dB Absenkung wird mit Poti R807 abgeglichen.

Nach dem Schalter D28 wird des 300MHz-Signal über ein Oberwellenfilter und einen Leistungteiler auf die zwei Ausgänge 'IQAUX' X241 und 'IQ300' X242 gegeben. Das Signal 'IQAUX' stellt das Signal an der Rückwand des Geräts zur Verfügung, während 'IQ300' zur Baugruppe 'IQ-Converter' führt.

7.1.3.4 IQ-Detektor

Mit dem GaAs-Schalter D28 kann das Signal des IQ-Modulators auf den Pegeldetektor V106 geleitet werden. Die Linearisierungsschaltung besteht aus den Operationsverstärkern N25 und N32.

Der IQ-Detektor dient zur Kalibrierung des IQ-Modulators und zur Ermittlung der Level Attenuationeinstellung.

7.1.3.5 IQ-Modulationspfad

Das I- bzw. Q-Modulationssignal wird über die beiden GaAs-Schalter D37 und D54 dem 50Ω-Abschluss R370/R369 bzw. R372/R371 zugeführt. Die Schalter erlauben das Anlegen bekannter DC-Spannungen an die Modulationseingänge zu Kalibrierzwecken und für die Betriebsarten Breitband-AM, Pulsmodulation und bei Ausgangsfrequenzen über 3 GHz.

Als Spannungen stehen ±1V zur Kalibrierung der IQ-Ungleichheit, ±0.707V für den Quadraturoffset-, sowie 0V für die Trägerrestkalibrierung zur Verfügung. Zwei Analogmultiplexer D16 und D17 lassen die Wahl der gewünschten Kalibrierreferenz zu. Der Operationsverstärker N19 misst die Spannung an D17 bzw. D16 und liefert den erforderlichen Strom für den Lastwiderstand von 50Ω.

Der Videomultiplexer N40 ermöglicht das Vertauschen von I- und Q-Kanal. Dies ist erforderlich, da beim Hochmischen im IQ-Converter bzw. Abmischen im Ausgangsteil aus Nebenwellengründen beide entstehenden Seitenbänder verwendet werden. Zusätzlich besteht die Möglichkeit über die Firmware die Vertauschung vorzunehmen.

Je ein Analogmultiplizierer D1 im I- bzw. D2 im Q-Kanal dient einer getrennten Pegeleinstellung. Zwei 8-Bit DA-Wandler 'ILEV' U2 und 'QLEV' U3 stellen den Einstellbereich von ca. ±25% sicher. Ein gezieltes Variieren der IQ-Ungleichheit über die Firmware wird dadurch genauso möglich, wie der Abgleich während der IQ-Kalibrierung.

Die Umschaltung des AM-Führungswertes mit D11 auf die ILev bzw. QLev Eingänge der Multiplizierer ermöglicht eine AM während des IQ-Betriebes (IQAM).

Durch den am Z-Eingang der beiden Multiplizierer eingespeisten DC-Offset wird der Trägerrest kompensiert bzw. über Firmware eingestellt. Zwei 12-Bit DA-Wandler 'IOFFSET' D45 und 'QOFFSET' D48 stehen dafür zur Verfügung. Bei der Betriebsart Breitband-AM wird der Trägerrest am I-Kanal über den DA-Wandler 'IOFFSET' auf 50% eingestellt.

Die dritte Abgleichgrösse, die Quadratur, wird mit Hilfe des 12-Bit-Wandlers 'IQPHASE' D47 eingestellt und wirkt direkt auf die Phasenschieber im HF-Pfad des LO-Signals vor den Modulationsmischern für I und Q. Mit Hilfe des Operationsverstärkers N18 werden aus der Ausgangsspannung des Wandlers zwei gegenläufige Abstimmspannungen erzeugt, wovon eine auf den Phasenschieber im Q-Pfad, bestehend aus V126 bis V129, die andere auf den Phasenschieber im I-Pfad, bestehend aus V122 bis V125, gelangt.

7.2 Messgeräte und Hilfsmittel

- Spektrumanalysator FSE
- Pegelmesser NRV mit Z51
- DC/AC-Voltmeter UDS5
- Oszilloskop BOS
- Zwei DC-Spannungsquellen
- NF-Signalgenerator AFGU
- SMA Dämpfungsglieder 6dB und 10dB

7.3 Fehlersuche

Fehlerbeschreibung	Fehlerbehebung
LF-Generator Frequenzfehler	7.4.3.3 Frequenzeinstellung
LF-Generator Pegelfehler	7.4.2.1 Abgleich Referenz 10V 7.4.3.2 Offsetabgleich 7.4.3.4 Amplitudeneinstellung
PLL2.4GHz Out Of Synchronisation	7.4.4.7 PPL 2.4GHz
ALC Error CW <450MHz	7.4.4.1 Referenzspannungen 7.4.4.5 Preseteinstellung 7.4.4.6 Pegeleinstellung 7.4.4.7 PLL 2.4GHz 7.4.4.8 LO 2.4GHz 7.4.4.9 Pegelverlauf 7.4.4.10 Ausgangsdetektor
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ALC Error CW >3000MHz	7.4.4.1 Referenzspannungen 7.4.4.5 Preseteinstellung 7.4.4.6 Pegeleinstellung 7.4.4.9 Pegelverlauf 7.4.4.10 Ausgangsdetektor 7.4.5 IQ-Modulator
Pegellinearität Attenuator Fixed	7.4.4.10 Ausgangsdetektor

Fehlerbeschreibung	Fehlerbehebung
AM Fehler	7.4.4.2 Kanalschalter 7.4.4.3 Modulationsgradeinstellung 7.4.4.5 Preseteinstellung 7.4.4.10 Ausgangsdetektor 7.4.5.13 IQAM
Oberwellenabstand ungenügend	7.4.4.5 Preseteinstellung 7.4.8 Arbeitspunkte Verstärker
Abbruch Presetkalibrierung	7.4.4.5 Preseteinstellung 7.4.4.6 Pegeleinstellung 7.4.4.9 Pegelverlauf 7.4.4.10 Ausgangsdetektor
Vektorfehler zu hoch	7.4.4.9 Pegelverlauf 7.4.5.2 Quadratureinstellung 7.4.5.3 Imbalanceeinstellung 7.4.5.4 Leakageeinstellung 7.4.5.7 LO 300MHz
Abbruch IQ-Kalibrierung	7.4.5.1 Referenzspannungen 7.4.5.2 Quadratureinstellung 7.4.5.3 Imbalanceeinstellung 7.4.5.4 Leakageeinstellung 7.4.5.5 IQ-Change u. Kal.-schalter 7.4.5.7 LO 300MHz 7.4.5.11 Ausgangspegel IQ300 7.4.5.12 IQ-Detektor
Fehler beim Power Ramping	7.4.5.8 Regelung Power Ramping 7.4.5.9 Linearität Power Ramping
Fehler bei Level Attenuation/ Pulsmodulation	7.4.5.10 Ansteuerung Level Attenuation 7.4.5.11 Abgleich Level Attenuation

7.4 Prüfen und Abgleichen

Alle Messwerte ohne Toleranzangabe sind als Richtwerte zu verstehen. Spannungsangaben ohne weitere Bezeichnung sind Gleichspannungen.

Es wird zu Beginn jeden Kapitels davon ausgegangen, dass sich das Gerät bzw. die Baugruppe im Presetzustand befindet.

Im Servicekit ist ein Adapter enthalten , mit dem die Baugruppe zugänglich gemacht werden kann. Der Adapter wird statt der Baugruppe in das Chassis gesteckt und die HF-Verbindungen an der Unterseite wieder hergestellt. Die Baugruppe kann jetzt auf den Adapter gesteckt werden.

In den folgenden Kapiteln sind Prüf- und Messpunkte erwähnt, die bei Baugruppen der ersten Serie nicht vorhanden sind. In diesen Fällen ist die Beschreibung der Messstelle anhand der Bauelemente hilfreich.

7.4.1 Datenübertragung und Stromversorgung

Gemäss Gerätestandard wird die Baugruppe über eine serielle Schnittstelle unter Verwendung des Bausteins SERBUS-D angesteuert. Die Einstellungen und die zugehörigen Daten sind im Kapitel ´Digitale Schnittstellen´ zu finden.
Die Sollwerte der Stromaufnahme der jeweiligen Versorgungsspannungen sind dem Kapitel ´Externe Schnittstellen´ zu entnehmen.

7.4.2 Referenz- und Versorgungsspannungen

7.4.2.1 Abgleich Referenz 10V

- DC-Voltmeter an P29 anklemmen
- ➢ Abgleich mit dem Potentiometer P516 auf 10V ±0.1%
- Einstellung: UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2101
- ➢ Kontrolle der Diagnosespannung auf 10V ±2%

7.4.2.2 Prüfen der Versorgung ±5.5V

- DC-Voltmeter an P23 anklemmen
- ➢ Kontrolle der Versorgungsspannung auf +5.5V ±0.1V
- DC-Voltmeter an P24 anklemmen
- ➢ Kontrolle der Versorgungsspannung auf -5.5V ±0.1V

7.4.3 LF-Generator

7.4.3.1 Referenzspannungen

- DC-Voltmeter an P14 anklemmen
- ➢ Kontrolle der Versorgungsspannung auf 1.5V ±0.2%

7.4.3.2 Offsetabgleich

- DC-Voltmeter an P50 (INT1 oder LFINT) anschliessen
- Einstellung: LF_OUTPUT STATE ON
  LF_OUTPUT LFGEN_FREQ 1kHz
  LF_OUTPUT VOLTAGE 1V
- ➢ Abgleich der Offsetspannung mit Poti R124 auf ±.5mV

7.4.3.3 Frequenzeinstellung

- Oszilloskop an Referenzquarz G1 Pin3 anklemmen
- ➢ Kontrolle der Frequenz auf 50MHz (TTL-Pegel)

- Frequenzzähler an LF anschliessen
- Einstellung: LF_OUTPUT STATE ON
  LF_OUTPUT LFGEN_FREQ 1MHz
  LF_OUTPUT VOLTAGE 1V
- ➢ Kontrolle der LF-Frequenz auf 1MHz $\pm 10^{-5}$

7.4.3.4 Amplitudeneinstellung

- AC-Voltmeter an LF anschliessen
- Einstellung: LF_OUTPUT STATE ON
  LF_OUTPUT LFGEN_FREQ 1kHz
  LF_OUTPUT VOLTAGE 4mV, 40mV, 400mV, 4V

➢ Kontrolle der Spitzenamplitude auf 4mV, 40mV, 400mV, 4V ±(1%+1mV)

- AC-Voltmeter an P50 (INT1 oder LF-INT) anschliessen

➢ Kontrolle der Spitzenamplitude auf 1V ±1%

7.4.3.5 Frequenzgang

- AC-Voltmeter an LF anschliessen
- Einstellung: LF_OUTPUT STATE ON
  LF_OUTPUT LFGEN_FREQ 10Hz ... 1MHz
  LF_OUTPUT VOLTAGE 1V
- Referenzmessung bei 10Hz

➢ Kontrolle des Pegels auf 0.4dB Abweichung bis 100kHz, 3dB bis 1MHz

- AC-Voltmeter an P50 (INT1 oder LF-INT) anschliessen
- Einstellung: LF_OUTPUT LFGEN_FREQ 10Hz ... 1MHz
- Referenzmessung bei 10Hz

➢ Kontrolle des Pegels auf 0.4dB Abweichung bis 100kHz, 3dB bis 1MHz

7.4.4 Ausgangsteil

7.4.4.1 Referenz ±6V

- DC-Voltmeter an P26 anklemmen

➢ Kontrolle der Spannung auf +6V ±0.2%

- DC-Voltmeter an P25 anklemmen

➢ Kontrolle der Spannung auf -6V ±0.2%

7.4.4.2 Kanalschalter

- Einspeisung von 1V DC an 'EXT1'
- Einstellung: ANALOG_MOD AM AM_SOURCE_EXT EXT1
  ANALOG_MOD AM AM_EXT_COUPLING DC
- DC-Voltmeter an P11 anklemmen

➢ Kontrolle der Gleichspannung auf 6V ±2%

- Einstellung: ANALOG_MOD AM AM_SOURCE_EXT EXT1
  ANALOG_MOD AM AM_EXT_COUPLING AC

➢ Kontrolle der Gleichspannung auf 0V ± 10 mV

- Einspeisung von 1kHz/1V Spitze an 'EXT1'
- AC-Voltmeter an P11 anklemmen

➢ Kontrolle der Wechselspannung auf 6V Spitze ±2%

- Einspeisung an 'EXT1' entfernen
- Einstellung: ANALOG_MOD AM AM_SOURCE_INT INT
  ANALOG_MOD LFGEN_FREQ 2kHz

➢ Kontrolle der Wechselspannung auf 6V Spitze ±2%

7.4.4.3 Modulationgradeinstellung

- AC-Voltmeter an P10 anklemmen
- Einstellung: ANALOG_MOD AM AM_SOURCE_INT INT
  ANALOG_MOD AM LFGEN_FREQ 1kHz
  ANALOG_MOD AM_DEPTH 100%, 50%, 10%, 5%, 1%

➢ Kontrolle der AC-Spannung auf 6V, 3V, 600mV, 300mV, 60mV Spitze ±5%

7.4.4.4 Überwachung Extern AC

- LF über T-Stück mit 'EXT1' verbinden
- AC-Voltmeter an T-Stück anschliessen
- Einstellung: LF_OUTPUT STATE ON
  LF_OUTPUT LFGEN_FREQ 1kHz
  LF_OUTPUT VOLTAGE 1V
- Messung Spannung an AC-Voltmeter
- Pegel LF-Generator auf 1V Spitze einstellen
- DC-Voltmeter an P1 bzw. P3 anklemmen

➢ Kontrolle der Spannung an P1 und P3 auf 0V

- Pegel LF-Generator auf 1.03V Spitze einstellen

➢ Kontrolle der Spannung an P1 auf 5V

- Pegel LF-Generator auf 0.97V Spitze einstellen

➢ Kontrolle der Spannung an P3 auf 5V

7.4.4.5 Preseteinstellung

- Einstellung: FREQUENCY 1GHz
  LEVEL 13dBm
  UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2108

➢ Kontrolle der Diagnosespannung auf 2.3V...4.6V

- DC-Voltmeter P54 anklemmen (C214)

➢ Kontrolle der DC-Spannung auf 2.8...4.3V

7.4.4.6 Pegeleinstellung

- DC-Voltmeter an P13 anklemmen
- Einstellung: FREQUENCY 1GHz
  LEVEL 5dBm
  LEVEL LEVEL ATTENUATOR_MODE FIXED
  LEVEL 16dBm
  UTILITIES DIAG TPOINT STATE ON
  UTILTTIES DIAG TPOINT TEST POINT 2109

➢ Kontrolle der DC-Spannung auf -4.2V ±1.3V

- Gemessene Spannung merken unter Uref

- Einstellung: LEVEL 10, 3, -3, -9, -15

➢ Kontrolle der DC-Spannung an P13 auf Uref/2, /4, /8, /16, /32, je ±5%

7.4.4.7 PLL 2.4GHz

- Einstellung: UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2103

➢ Kontrolle der Diagnosespannung auf 50...250mV

- Einstellung: UTILITIES DIAG TPOINT TEST POINT 2105

➢ Kontrolle der Diagnosespannung auf 30...100mV

- Einstellung: UTILITIES DIAG TPOINT TEST POINT 2106

➢ Kontrolle der Diagnosespannung auf 80...180mV

- Kabel an X246 (REF600) abziehen
- Einstellung: UTILITIES DIAG TPOINT TEST POINT 2104

➢ Kontrolle der Diagnosespannung auf -.9...-.3V

- Kabel an X246 (REF600) anstecken
- Steckbrücke P30/31 abziehen

➢ Kontrolle der Diagnosespannung auf 21.5...23.5V

- Steckbrücke P30/31 aufstecken

➢ Kontrolle der Diagnosespannung auf 3...12V

7.4.4.8 LO 2.4GHz

- Einstellung: FREQUENCY 1000MHz

➢ Kontrolle der Diagnosespannung auf ±10mV

- Einstellung: UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2107
  FREQUENCY 100MHz

➢ Kontrolle der Diagnosespannung auf 180mV - 400mV

Der Abgleich des LO Pegels ist nur nach ausreichender Einlaufzeit im Mischerbetrieb (Frequenz < 450 MHz) und bei erreichter Betriebstemperatur durchzuführen. Der Abgleich muss bei geöffneter Baugruppe und mit ausgeschraubtem Kühlkörper (nur Kammer N) ausgeführt werden.

- Einstellung FREQUENCY 100 MHZ
- Pegelmesser an X3 anschliessen

➢ Abgleich des Pegels mit Poti R968 auf -4.5 dBm ± 1dB

7.4.4.9 Pegelverlauf

- Steckbrücke P47/46 abziehen
- Erste DC-Spannungsquelle an P46 anklemmen
- 4V DC einspeisen
- Steckbrücke P28/27 (X7) abziehen
- Zweite DC-Spannungsquelle an P27 anklemmen
- 6V DC einspeisen
- Einstellung: LEVEL 16dBm
  UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2113
  FREQUENCY 450, 500...3300MHz

➢ Kontrolle der Diagnosespannung auf >100mV

- Einstellung: UTILITIES DIAG TPOINT TEST POINT 2111
  VECTOR_MOD STATE ON
  FREQUENCY 49; 99...749MHz

➢ Kontrolle der Diagnosespannung auf >100mV(f≥200MHz), >40mV(f<200MHz)

- Leistungsmesser an X249 anschliessen
- Einstellung: FREQUENCY 50, 100...3300MHz
  VECTOR_MOD STATE OFF

➢ Kontrolle des Ausgangspegels auf >18dBm

- Signal FIQFIL an X247 über Dämpfungsglied 16dB einspeisen
- Einstellung: FREQUENCY 50, 100...3300MHz

➢ Kontrolle des Ausgangspegels auf >7dBm
und < 16 dBm für Frequenzen grösser 2 GHz

- An erster DC-Quelle (P46) 2.4V DC einspeisen
- Einstellung: FREQUENCY 50, 100...3300MHz

➢ Kontrolle des Ausgangspegels auf <3dBm

7.4.4.10 Ausgangsdetektor und Detektorabgleich

- DC-Voltmeter an P57 bzw. P58 anschliessen

➢ Kontrolle der DC-Spannung auf +15 bzw. -10V ±2%

Der im folgenden beschriebene Test der Detektorlinearität ist ausschliesslich bei geschlossenem Baugruppendeckel durchzuführen.

- Leistungsmesser an X249 anschliessen
- Einstellung: LEVEL 5.1dBm
  LEVEL LEVEL ATTENUATOR_MODE FIXED
  FREQUENCY 5, 500, 1000, 1500 ... 3000MHz
- Messung des Ausgangspegels an X249
- Leisungsmesser auf ΔdB schalten,jeweils 5.1dBm Pegel als Referenz
- Einstellung: LEVEL 10.1, 5.1, 0.1, -4.9....-14.9dBm

➢ Kontrolle auf Sollpegel ±.2dB für ≥0dBm, ±.4dB für -5dBm, ±.6dB für -10dBm, ±.8dB für -15dBm

- Einstellung: LEVEL 10dBm
  FREQUENCY 1500MHz
- Messung des Ausgangspegels an X249
- Leisungsmesser auf ΔdB schalten,jeweils 10dBm Pegel als Referenz
- Einstellung: FREQUENCY 5, 500, 1000, 1500 ... 3000, 3300MHz

➢ Kontrolle des Frequenzganges auf besser 4dB

Der im folgenden beschriebene Abgleich des Ausgangsdetektors ist ausschliesslich bei geschlossenem Baugruppendeckel nach einer ausreichenden Einlaufzeit und bei erreichter Betriebstemperatur durchzuführen. Das auf dem Deckel befindliche Klebeschild über dem Durchbruch für das Potentiometer R125 ist für den Abgleich zu entfernen. Im Anschluss an den Abgleich muss es wieder angebracht werden. Ausserdem ist nach dem Abgleich die Durchführung einer Presetkalibrierung und die Erneuerung der Pegelkorrekturtabelle notwendig.

- Leistungsmesser an X249 anschliessen
- Einstellung: LEVEL 5.1dBm
  LEVEL LEVEL ATTENUATOR_MODE FIXED
  LEVEL 5dBm
  FREQUENCY 1500MHz

- Messung des Ausgangspegels an X249
- Leisungsmesser auf ΔdB schalten, 5.1dBm Pegel als Referenz
- Einstellung: LEVEL -15dBm

➢ Abgleich mit Potentiometer R125 auf -20.0dB ±.1dB Absenkung

7.4.5 IQ-Modulator

7.4.5.1 Referenzspannungen

- DC-Voltmeter an P51 (V67 Pin1) bzw. P52 (V112 Pin1) anklemmen

➢ Kontrolle der DC-Spannung auf +10V bzw. -10V ±.3%

- DC-Voltmeter nacheinander an P37, P38, P39 und P40 anklemmen

➢ Kontrolle der DC-Spannung auf +1V, +.707V, -.707V, -1V ±.5%

- DC-Voltmeter an P20 anklemmen

➢ Kontrolle der DC-Spannung auf -7.5V ±3%

7.4.5.2 Quadratureinstellung

- DC-Voltmeter an P42 (R98) bzw. P63 (R97) anklemmen
- Einstellung: VECTOR_MOD STATE ON
  VECTOR_MOD IMPAIRMENT STATE ON
  VECTOR_MOD QUADRATUR_OFFSET 0°

➢ Kontrolle der DC-Spannungen auf 7.5V ±2.5V und unter ´Ref97´ bzw. ´Ref98´ speichern

- Einstellung: VECTOR_MOD QUADRATUR_OFFSET +10°

➢ Kontrolle der DC-Spannung an R97 auf ´Ref97´ +1.25V ±.15V

➢ Kontrolle der DC-Spannung an R98 auf ´Ref98´ -1.25V ±.15V

- Einstellung: VECTOR_MOD QUADRATUR OFFSET -10°

➢ Kontrolle der DC-Spannung an R97 auf ´Ref97´ -1.25V ±.15V

➢ Kontrolle der DC-Spannung an R98 auf ´Ref98´ +1.25V ±.15V

7.4.5.3 Imbalanceeinstellung

- DC-Voltmeter an P35 bzw. P36 anklemmen
- Einstellung: VECTOR_MOD STATE ON
  VECTOR_MOD IMPAIRMENT STATE ON
  VECTOR_MOD IMBALANCE 0%

➢ Kontrolle der DC-Spannungen auf -1.0V ±.1V und unter ´Ref35´ bzw. ´Ref36´ speichern

- Einstellung: VECTOR_MOD IMBALANCE +10%

➢ Kontrolle der DC-Spannung an P35 auf ´Ref35´ -0.1V ±25mV

➢ Kontrolle der DC-Spannung an P36 auf ´Ref36´ +0.1V ±25mV

- Einstellung: VECTOR_MOD IMBALANCE -10%

➢ Kontrolle der DC-Spannung an P35 auf ´Ref35´ +0.1V ±25mV

➢ Kontrolle der DC-Spannung an P36 auf ´Ref36´ -0.1V ±25mV

7.4.5.4 Leakageeinstellung

- DC-Voltmeter an P32 bzw. P41 anklemmen
- Einstellung: VECTOR_MOD STATE ON
  VECTOR_MOD IMPAIRMENT STATE ON
  VECTOR_MOD LEAKAGE 0%

➢ Kontrolle der DC-Spannungen auf 0V ±100mV und unter ´Ref32´ bzw. ´Ref41´ speichern

- Einstellung: VECTOR_MOD LEAKAGE 50%

➢ Kontrolle der DC-Spannung an P32 auf ´Ref32´ +250mV ±50mV

- Einstellung: VECTOR_MOD LEAKAGE 50%
  VEKTOR_MOD IQ_SWAP ON

➢ Kontrolle der DC-Spannung an P32 auf ´Ref32´ +250mV ±50mV

7.4.5.5 IQ-Change- und Kalibrierschalter

- DC-Voltmeter an P15 bzw. P16 anklemmen
- DC-Spannung von +0.5V an X244 ´I-MOD´ anlegen
- DC-Spannung von 0V an X245 ´Q-Mod´ anlegen
- Einstellung: VEKTOR_MOD STATE ON
  VECTOR_MOD IMPAIRMENT STATE ON

➢ Kontrolle der DC-Spannung an P15 -250mV ±50mV
➢ Kontrolle der DC-Spannung an P16 0mV ±50mV

- Einstellung: VEKTOR_MOD IQ_SWAP ON

➢ Kontrolle der DC-Spannung an P15 0mV ±50mV
➢ Kontrolle der DC-Spannung an P16 -250mV ±50mV

- DC-Spannung von +0V an X244 ´I-MOD´ anlegen
- DC-Spannung von +0.5V an X245 ´Q-MOD´ anlegen
- Einstellung: VEKTOR_MOD STATE OFF

➢ Kontrolle der DC-Spannung an P15 -250mV ±50mV
➢ Kontrolle der DC-Spannung an P16 0mV ±50mV

7.4.5.6 IQ-Modulationspfad

- Einstellung: VECTOR_MOD STATE ON
- DC-Voltmeter an P15 bzw. P16 anklemmen
- DC-Spannung +0.5V an X244 ´IMOD´ bzw. X245 ´QMOD´ einspeisen

➢ Kontrolle der Spannung an P15 bzw. P16 auf -250mV ±50mV

- DC-Spannung -0.5V an X244 ´IMOD´ bzw. X245 ´QMOD´ einspeisen

➢ Kontrolle der Spannung an P15 bzw. P16 auf +250mV ±50mV

- AC-Voltmeter an P15 bzw. P16 anklemmen
- Einspeisung von 1MHz/0.5V Spitze (Klemmenspannung) an X244 ´IMOD´ bzw. X245 ´QMOD´

➢ Spannung an P15 und P16 auf 180mV ±35mV effektiv prüfen und unter ´Ref15´ bzw. ´Ref16´ speichern.

- Einspeisung von 25MHz/0.5V Spitze (Klemmenspannung) an X244 ´IMOD´ bzw. X245 ´QMOD´

➢ Kontrolle der Spannung an P15 auf ´Ref15´ ±.5dB
➢ Kontrolle der Spannung an P16 auf ´Ref16´ ±.5dB

7.4.5.7 LO 300MHz

- Einstellung: UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2114

➢ Kontrolle der Diagnosespannung auf 800mV ± 100mV

- Pegelmesser an Buchse X4 bzw. X5 anschliessen

➢ Kontrolle des Pegel auf -9dBm ±3dB

- Einstellung: UTILITIES DIAG TPOINT TEST POINT 2118 bzw. 2119

➢ Kontrolle der Diagnosespannung auf 300mV ± 50mV

7.4.5.8 Regelung Power Ramping

- DC-Voltmeter an P18 anklemmen

➢ Kontrolle der Spannung auf 270mV ±20mV

- DC-Voltmeter an X1 anklemmen

➢ Kontrolle der Spannung auf -1V ±0.5V

- DC-Voltmeter an P19 anklemmen

➢ Kontrolle der Spannung auf 100mV ±20mV

- Einstellung: VEKTOR MOD STATE ON
  VEKTOR MOD POWER RAMP CONTROL EXT_ANALOG
- DC-Spannung von +0V an X243 ´BURST CONTROL_MOD´ anlegen
- DC-Voltmeter an P19 anklemmen

➢ Kontrolle der Spannung auf 2mV ±2mV

- DC-Voltmeter an X1 anklemmen

➢ Kontrolle der Spannung auf -3V ±1V

- DC-Voltmeter an P64 (N30 Pin 1) anklemmen

➢ Kontrolle der Spannung auf ca. 5V

- DC-Spannung von +1V an X243 ´BURST CONTROL_MOD´ anlegen

➢ Kontrolle der Spannung auf 0V

7.4.5.9 Linearität Power Ramping

- Einstellung: VEKTOR MOD STATE ON
  POWER RAMP CONTROL EXT_ANALOG

- DC Spannung +0.5V an X245 `QMOD´ einspeisen
- DC Spannung +1.000V ± 1mV an X243 `BURST CONTROL_MOD´ anlegen
- Spektrumanalysator an X242 `IQ300´ anschliessen

➢ Kontrolle des Pegels auf -5dBm ±0.5dB und unter `Ref´ speichern

- Kontrolle Linearität
- DC Spannung an X243 auf 500±5mV; 250±1mV; 100±1mV und 31.6±0.5mV stellen

➢ Pegel auf `Ref´ -6dB±0.5dB, -12dB±0.5dB, -20dB±0.5dB, -30dB±1dB prüfen

- Abgleich Linearität
- DC Spannung an X243 auf 31.6 mV ±0.5mV stellen

➢ Pegel an X242 `IQ300´ mit Poti R807 auf (`Ref´-30dB) ±0.1dB abgleichen

7.4.5.10 Ansteuerung Level Attenuation

- Einstellung: ANALOG MOD PULSE SOURCE EXT
  POLARITY NORM

- DC-Voltmeter an P61 (R101) bzw. P60 (R103) anklemmen
➢ Kontrolle der Spannung auf 50mV ±50mV
- DC-Voltmeter an P62 (R102) bzw. P59 (R104) anklemmen
➢ Kontrolle der Spannung auf -1.5V ±0.5V

- Einstellung: POLARITY INV
- DC-Voltmeter an P61 (R101) bzw. P60 (R103) anklemmen
➢ Kontrolle der Spannung auf -2.85V ±0.1V

- DC-Voltmeter an P62 (R102) anklemmen
➢ Kontrolle der Spannung auf 0V ±10mV

- DC-Voltmeter an P59 (R104) anklemmen
➢ Kontrolle der Spannung auf -1.5V ±0.5V

7.4.5.11 Ausgang IQ300 - Abgleich Level Attenuation und Pegel

- Einstellung: ANALOG MOD PULSE SOURCE EXT
  POLARITY NORM
- Spektrumanalysator an X242 ´IQ300´ anschliessen
➢ Kontrolle des Pegels auf -5dBm ±1dB
➢ Kontrolle des Oberwellenabstandes auf besser -60dBc

Der im folgenden beschriebene Abgleich ist nach einer ausreichenden Einlaufzeit und bei erreichter Betriebstemperatur durchzuführen. Die Kalibrierung des Vektormodulators muss unmittelbar vor dem Pegelabgleich ausgeführt werden.

- Einstellung: ANALOG MOD PULSE SOURCE EXT
  POLARITY INV
- Spektrumanalysator an X242 `IQ300 anschliessen
➢ Referenzpegel aufnehmen und unter `Ref´ speichern

- Einstellung: POLARITY NORM
➢ Abgleich der Dämpfung mit R992 auf (`Ref´-75dB)±0.5dB
- falls der Pegel um mehr als 3dB nachgestellt wurde, muss dieser Abgleich nochmal durchgeführt werden.

- Einstellung: POLARITY INV
  UTILITIES CALIB VEKTOR MOD
- Pegelmesser an X242 ´IQ300´ anschliessen
➢ Abgleich des Pegels mit Poti R683 auf -5dBm ±.1dB

7.4.5.12 IQ-Detektor und Detektorabgleich

- Einstellung: UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2121
➢ Kontrolle der Diagnosespannung auf kleiner 50mV

- R85 auslöten und +5V DC an D7 Pin1 anlegen
- Einstellung: ANALOG MOD PULSE SOURCE EXT
  POLARITY INV
➢ Kontrolle der Diagnosespannung auf 2.8...4.1V

Der im folgenden beschriebene Test und Abgleich der Pegellinearität des IQ-Detektors ist ausschliesslich bei geschlossenem oberen Baugruppendeckel, nach einer ausreichenden Einlaufzeit und bei erreichter Betriebstemperatur durchzuführen.

- Einstellung: ANALOG MOD PULSE SOURCE EXT
  POLARITY INV
- R85 wieder einlöten, R625 auslöten
- DC-Spannungsquelle an P43 anklemmen und 0V einspeisen
- Spektrumanalyser an X242 'IQ300' anschliessen

➢ Kontrolle des Pegels auf -5dBm ±.5dB und unter 'Ref' speichern

- Einstellung: POLARITY NORM
- Durch Variation der DC-Spannungsquelle 'Ref' -40dB suchen
- R85 auslöten
- Einstellung: POLARITY INV
  UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2121
- Diagnosespannung messen und unter 'Ref' speichern
- Einstellung: POLARITY NORM

➢ Abgleich der Diagnosespannung auf 'Ref' -40dB mit R930

7.4.5.13 IQAM

- Einstellung: VECTOR_MOD STATE ON
  ANALOG MOD AM AM DEPTH 80%
  ANALOG MOD AM AM SOURCE INT INT
  ANALOG MOD AM LFGEN FREQ 20.000 kHz
  FREQUENZY 1000 MHz
  LEVEL +10 dBm
- DC Spannung +0.5V an X244 `IMOD' einspeisen
- AC Voltmeter an P35 bzw. P36 anklemmen

➢ Spannung auf 275mV ±20mV (Effektivwert) prüfen

- Spektrumanalysator an RF Buchse SMIQ anschliessen

➢ Prüfen des Trägers auf 4dBm ±1dB und unter `Träger' speichern
➢ Prüfen der 1GHz ±20kHz Seitenbänder auf (`Träger'-8dB) ±1dB
➢ Prüfen der harmonischen Seitenbänder auf kleiner (`Träger'-40dB)

7.4.6 Baugruppeninterrupt

- Signal 'REF600' an Buchse X246 abziehen
- Betätigen der ERROR-Taste

➢ Fehlermeldung: Code 222, 2.4GHZ LO LOOP UNLOCKED

- Signal 'REF600' wieder anschliessen

➢ Fehlermeldung: keine

- Steckbrücke P30/P31 ziehen

➢ Fehlermeldung: Code 222, 2.4GHZ LO LOOP UNLOCKED

- Steckbrücke P30/P31 wieder aufstecken
- Signal 'FIQFIL' an X247 abziehen

➢ Fehlermeldung: Code 110, OUTPUT UNLEVELED

- Signal 'FIQFIL' wieder anschliessen
- Einstellung: ANALOG_MOD AM AM_SOURCE_EXT EXT1
  ANALOG_MOD AM AM_EXT_COUPLING DC
- 1kHz/1V Spitze an Buchse 'EXT1' einspeisen

- Betätigen der ERROR-Taste
➢ Fehlermeldung: keine

- 1kHz/1.04V Spitze an Buchse ´EXT1´ einspeisen
➢ Fehlermeldung: Code 152, INPUT VOLTAGE OUT OF RANGE;EXT1 TOO HIGH

- 1kHz/0.96V Spitze an Buchse ´EXT1´ einspeisen
➢ Fehlermeldung: Code 153, INPUT VOLTAGE OUT OF RANGE;EXT1 TOO LOW

7.4.7 Diagnose

Auf der Baugruppe sind insgesamt 24 HF- und DC-Messpunkte verteilt. Sie werden über das Menue ´UTILITIES DIAG TPOINT POINT 21??´ angewählt. Die ersten beiden Ziffern bezeichnen die Baugruppe ´IQMOD´ (21), mit zwei weiteren sind die Diagnosepunkte laufend durchnummeriert.

IR=Liefert Baugruppeninterrupt, TF=Teilerfaktor, War=Wartezeit
OF=Offsetmessung, MIN=Minimum, MAX=Maximum

Diagnosepunkt	Messpunkt	IR	MIN [V]	MAX [V]	TF	WAR ms	OF
2100 D_OFFSET	Referenz 1kΩ		-.01	+.01	1	1	
2101 D_REF10V	10V Referenzspannung		9.8	10.2	3	1	X
2102 D_LFGEN	Ausgangspegel LF-Generator		-1.02	+1.02	3	1	
2103 D_REF600	Pegel 600MHz-Referenz für 2.4GHz PLL		.05	.18	1		
2104 D_TUN2G4	Abstimmspannung 2.4GHz VCO	X	3	18	5	1	
2105 D_VCO2G4	Pegel 2G4 VCO		0.03	.10	1	1	
2106 D_PHIDET	Pegel 600MHz Vergleichssignal für 2.4GHz PLL		.05	.18	1	1	
2107 D_LO2G4	LO-Pegel Abwärts-mischer ein,(aus)		.2, (-.02)	.4, (+.02)	1	1	
2108 D_PRESET	Abstimmspannung Preset-Stellglied		2.3	4.5	3	1	
2109 D_AMOD	Abstimmspannung AM-Modulator	X	.02	6	3	3	
2110 D_REFAM	AM-Referenzsignal		0	6	3	1	
2111 D_CONVRT	Pegel IF-Zweig Ab-wärtsmischer ein,(aus)		.005, (-1mV)	.1, (+1mV)	1	1	
2112 D_SWITCH	Pegel nach AM-Modulator		.005	.4	1	1	
2113 D_DETOUT	Ausgangsdetektor Endverstärker		.05	6	3	1	
2114 D_REF300	Pegel 300MHz für IQ-Modulator		.6	1.0	1	1	

Diagnosepunkt	Messpunkt	I R	MIN [V]	MAX [V]	TF	WA R ms	O F
2115 D_IQOUT	Ausgangspegel IQ-Modulator		0	.3	1	1	
2116 D_IMOD	Pegel Modulationseingang I-Pfad		-.5	+.5	2	1	
2117 D_QMOD	Pegel Modulationseingang Q-Pfad		-.5	+.5	2	1	
2118 D_ILO	Pegel LO I-Pfad		.2	.6	1	1	
2119 D_QLO	Pegel LO Q-Pfad		.2	.6	1	1	
2120 D_PHI	Ansteuerspannung Phasenschieber		3.5	13	3	1	
2121 D_IQCAL	Kalibrierdetektor IQ-Modulator		0	12.5	3	5	X

7.4.8 Arbeitspunkte Verstärkerstufen

Die folgende Tabelle gibt für die HF-Verstärker der Baugruppe den jeweils gewählten Arbeitspunkt. Toleranzen von 10 bis 20% können auftreten und sind kein Fehlerindiz. Die Angaben beziehen sich stets auf den DC-Arbeitspunkt ohne anliegendes HF-Signal.

Verstärker	Arbeitspunkt	
Bezeichnung	Drain bzw. Kollektorstrom	Drain bzw. Kollektorspannung
V82	50mA	5.0V
V81	60mA	5.0V
V83	130mA	8.0V
V75	90mA	9.5V
V77	90mA	9.5V
V76	90mA	9.5V
V78	90mA	9.5V
V136	90mA	9.5V
V79	90mA	9.5V
V80	90mA	9.5V
V102	90mA	6.0V
N4	65mA	5.0V
V148	70mA	4.0V
V144	70mA	4.5V
V103	120mA	7.0V
V104	150mA	8.0V
V111	30mA	-5.5V
V145	60mA	4.5V
V146	60mA	4.5V
V154	60mA	5.5V
V147	60mA	5.5V
V99	150mA	6.5V

7.5 Zerlegung und Zusammenbau

Nach dem Öffnen des Gerätes, Entriegeln der Baugruppen und dem Lösen der HF-Verbindungen an X241 bis X249 kann die Baugruppe aus ihrem Steckplatz entnommen werden. Die Schirmdeckel sind auf herkömmliche Weise verschraubt. Beim Betrieb mit geöffnetem Schirmdeckel ist darauf zu achten, dass die Resonatorkammer M mit einem geeignetem Prüfdeckel verschlossen wird.

7.6 Externe Schnittstelle

Pin	Name	Ein/ Ausgang	Herkunft/ Ziel	Wertebereich	Signal-beschreibung
X240.A1	BLANK	Eingang	A3, FRO X31.34	HCT-Pegel	Pegelaustastung
X240.A2	UREFAM	Ausgang	A500, IQ6G X500.2	0...12V	AM¬Führungswert
X240.A3	LFOUT	Ausgang	A3, FRO LF	0...4V Spitze, .1Hz..1MHz	Ausgang NF Generator
X240.A4	EXT1	Eingang	A3, FRO EXT	0...1V Spitze	Externes Modulationssignal
X240.A5	EXT2				unbenutzt
X240.A6	INT1	Ausgang	Option FMOD	0...1V Spitze	Internes Modulationssignal
X240.A7	Masse				
X240.A8	PULSE	Eingang	Rückwand	HCT-Pegel	Pulsmodulation
X240.A9	CODAM	Eingang	DDS	0...1V Spitze	DSYN AM-Signal
X240.A10	LEV ATT MOD	Eingang	MCOD	HCT-Pegel	Pegelabsenkung
X240.A11	Masse				
X240.A12	SERBUS-CLK	Eingang	A3, FRO, X31.40	HCT-Pegel	Serbus Clock
X240.A13	Masse				
X240.A14	SERBUS-OUT	Ausgang	A3, FRO, X31.39	HCT-Pegel	Serbus Daten
X240.A15	SERBUS-IN	Eingang	A3, FRO, X31.39	HCT-Pegel	Serbus Daten
X240.A16	SERBUS-SYNC	Eingang	A3, FRO, X31.37	HCT-Pegel	Serbus Sync
X240.A17	SERBUS-INT	Ausgang	A3, FRO, X31.38	HCT-Pegel	Serbus Interrupt
X240.A18	Reset-P	Eingang	A3, FRO, X31.28	HCT-Pegel	Serbus Reset
X240.A19	DIAG-5V	Ausgang	A3, FRO, X31.44	-5V...+5V	Diagnose
X240.A20	VA15-P	Eingang	A2, POWS	14.85...15.75V 600mA	15V Stromversorgung
X240.A21	Masse				
X240.A22	VA24-P	Eingang	A2, POWS	23.75...25.25V 200mA	24V Stromversorgung
X240.A23	Masse				
X240.A24	VA15-P	Eingang	A2, POWS	14.85...15.75V 600mA	15V Stromversorgung
X240.A25	Masse				
X240.A26	VA7.5-P	Eingang	A2, POWS	7.45... 7.95V 450mA	7.5V Stromversorgung
X240.A27	Masse				
X240.A28	VD5-P	Eingang	A2, POWS	5.15...5.25V 140mA	5V Digitale Stromversorgung
X240.A29	Masse				
X240.A30	VA15-N	Eingang	A2, POWS	-15.75.-14.85V 300mA	-15V Stromversorgung
X240.A31	Masse				
X240.A32	VA7.5-P	Eingang	A2, POWS	7.45...7.95V 450mA	7.5V Stromversorgung

Pin	Name	Ein/ Ausgang	Herkunft/ Ziel	Wertebereich	Signal-beschreibung
X241	IQAUX	Ausgang	Rückwand	300MHz/-10dBm	Vektormodulierter Träger Rückwand
X242	IQ300	Ausgang	A220, IQCON X223	300MHz/-5dBm	Vektormodulierter Träger IQCON
X243	BURST CTRL_MOD	Eingang	Rückwand	0...1V	Steuersignal Power Ramping
X244	I_MOD	Eingang	A3, FRO I MOD	-0.5...+0.5V 0...30MHz	Modulationseingang I
X245	Q_MOD	Eingang	A3, FRO Q MOD	-0.5...+0.5V 0...30MHz	Modulationseingang Q
X246	REF600	Eingang	A7, REFSTEP X77	600MHz/13dBm	Referenz 600MHz
X247	FIQFIL	Eingang	A220, IQCON X227	450...3300MHz/ 4dBm	Vektormoduliertes Signal
X249	FIQOUT	Ausgang	A15, ATT X2	.3...3300MHz -20...19dBm	Ausgangsignal

ROHDE&SCHWARZ

SERVICE INSTRUCTIONS
for the
IQ-Modulator Module

1084.9800.02

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7. Testing and Repair of the Module

7.1 Function Description

The IQ Modulator module is divided into the three function units LF Generator, vector modulator and output unit.

The LF Generator is provided as internal modulation signal for FM/φM- or AM, but it is also provided at a separate output ´LF out´.

The IQ modulator generates a vector-modulated 300-MHz signal which is required on the IQ converter board for synthesis of a vector-modulated RF carrier. Power ramping, which is necessary for digital mobile radio networks is accomplished by means of an additional amplitude modulator of large bandwidth. Another level control element with a digital control signal allows for fast level attenuation of up to 70 dB for alternative level setting in the time slots or for pulse modulation.

The output unit comprises the complete level conditioning and the AM modulator for the output frequency range up to 3.3 GHz. The frequency range below 450 MHz in CW mode or 750 MHz in IQ mode is generated by down-conversion using a 2.4-GHz signal. In CW mode, output signals above 3 GHz are obtained by up-conversion with the 300-MHz signal of the vector modulator.

7.1.1 LF Generator

The LF Generator supplies a sinewave signal with a frequency which can be set between 0.1 Hz and 1 MHz. The signal is provided at the ´INT1´ line with an amplitude of 1 V. In addition, the level from 1 mV to 4V can be selected at the output ´LFOUT´.

A Direct Digital Synthesis is the nucleus of the LF generator. The reference frequency of the DDS is 50 MHz. The increment can be set by a 32-bit value.. The integrated DA converter provides a 10-bit resolution. All internal registers are assigned ´0´ by means of a reset component. With power off, the component operates in ´sleep mode´ in order to reduce power consumption.

The DDS component supplies a sinewave with a constant amplitude of 2V peak-to-peak and a dc offset of 1V. The summing module N11 adds a constant voltage to the output signal to compensate for the offset. Offset adjustment is performed via R124. The output signal N11 is used as internal modulation signal on ´INT1´.

Level conditioning for the LF output ´LFOUT´ follows using the 12-bit DA converter N41. The output amplifier N10 increases the voltage range to 4V.

7.1.2 Output Unit

7.1.2.1 Amplitude Modulator and Preset

The output signal 'IQFIL' of the IQ converter is first applied to the level preset element V9. Thus, the AM modulator can operate at its ideal working point independent of the level set. The control voltage 'V_PRESET' which is set via the 8-bit converter U1 is obtained by the internal preset calibration depending on the output frequency and the output level. A difference amplifier V38/V40 with the current source V39 provides for a constant current through the pin diodes in IQ-Off and ALC-OFF modes and thus for a temperature-stabilized attenuation value.

The RF signal passes to the AM modulator V3/V4/V8 via the broadband amplifier V102. Similar to the preset element, this signal is controlled via a difference amplifier V41/V56 with the current source V42 to ensure high temperature-stability with clamped level. The insertion loss of the modulator is compensated by the RF amplifier N4.

7.1.2.2 Output Amplifier

The GaAs-switches D55 and D56 route the RF signal either directly to the output amplifier or to the RF input of the down-converter to generate the frequency range below 450 MHz. The pin diodes V108/V110/V170/V171 improve crosstalk in the down-converter mode to better 80dB. They are controlled via the operational amplifier N6.

The 3-stage output amplifier V144/V103/V104 increases the level up to 19 dBm. The working point of the GaAs-Fets is stabilized by the current source V1/V2/V6 for the drain current and a control for the drain voltage through N1/N2.

A harmonic filter which follows the output amplifier V104 improves the harmonics suppression for output frequencies above 1.8 GHz.

A directional coupler consisting of the resistors R511, R902 and R922, applies part of the output power to the peak rectifier V46. The latter is accordingly broadband to cover the complete frequency range. A second charging capacitor C549 can be switched on in addition for output frequencies below 5 MHz. The detector characteristic is linearized using the log module N39, ,N40 and N41.

The balancing transformer T1 decouples the output power at the floating gate of the transfomer.

7.1.2.3 Down-conversion

The frequency range below 450 MHz is obtained on the output unit by down-conversion with a 2.4-GHz LO signal. The GaAs switch D56 passes the modulated RF signal to the RF gate of the diode mixer U9. The IF amplifier V148 amplifies the IF signal by approx. 15dB. A succeeding filter suppresses unwanted mixing products such as 3*LO-2*RF, and the LO frequency.

7.1.2.4 LO Synthesis

The LO signal for mixing is derived from the 600-MHz signal of the step synthesis in the 2.4-GHz PLL consisting of the VCO V130, L108, C452 and V111, the divider :4 D44, the phase detector and the PI control N14.

A power divider R291/R294/R293 at the VCO output decouples part of the power and applies it to the LO gate of the mixer U9 via the LO amplifier stages V154, V147 and V99. The control element for the pin diodes is used to adjust the LO level to approx. 17 dBm on the mixer. With mixer active, the amplifier stages V154, V147 and V99 are switched off via their supply voltage.

7.1.2.5 Level Conditioning

The command value of level control is given by the 12-bit converter 'LEVEL' D43. The controller of the level control loop N35 allows for selection between two control bandwidths (switch D15). The narrow bandwidth of approx. 5kHz is used in CW mode, the broad one of approx. 20 kHz with AM modulation. For carrier frequencies below 5 MHz the control is always switched slow.

Electronic level blanking is accomplished by the offset current applied via R316 and switched by the signal 'Klemm_N'. The level is thus prevented from increasing too much after level gaps occurring with change of frequency.

In IQ and ALC OFF modes, the switch D15 and the control signal 'ALC_ON' are used to switch over the controller N35 to the AF amplifier. In addition, the measured value of the level detector must be disconnected via the switch D8.

AM is performed using an externally applied modulation signal 'EXT1' or internally by means of the 'INT1' signal of the LF generator. Two-tone modulation is achieved by simultaneous modulation with both signals. Either ac coupling (coupling capacitor C606/C607)or dc coupling may be selected for the externally applied modulation signal. Selection is made via switches D9 and D10.

A window comparator N42 monitors the modulation signal with AM with ac coupling to the rated value of 1V peak and supplies an interrupt which is triggered if the deviation from the rated value exceeds 3%. The interrupt triggers a warning message in the display.

The modulation depth is set by the 12-bit DA converter 'AMOD' D42. Its output signal is added to a fixed dc reference 'AM-6V' and is used as reference for the DA converter 'LEVEL' D43 of level setting.

7.1.3 Vector Modulator

7.1.3.1 LO Conditioning and Modulator

The vector modulator operates at a fixed frequency of 300 MHz. The 300-MHz signal is obtained from the 600-MHz reference of step synthesis by means of division (:2 divider N28). A 3-stage LO driver V82, V81 and V83 amplifies the signal at the divider output to approx. 25 dBm and passes it to the 90° power divider B1.

The latter generates two 300-MHz carriers with a phase relation of 90°. The phase relation may be varied by ±20° via a tunable phase shifter V123/V125/V122/V124 in the I-path or L50, V127/V126/V128/V129 in the Q-path, each.

The 300-MHz signals are amplified to approx. 17 dBm via the LO drivers V75 and V77 and applied to the LO input of the I-mixer U11 or of the Q-mixer U12. The modulated signal is first amplified at the RF output of the modulation mixer by means of the amplifiers V76 and V78 and then subject to a harmonic filter. The addition of the modulated signals of the I and Q paths is carried out by the 0°-power summer U4.

7.1.3.2 Level Attenuation

After the addition, the modulated signal is applied to two GaAs attenuators D50 and D51 which are separated by an amplifier V136. The attenuators allow for attenuating the level by 0 to 70 dB. Maximum attenuation is set by means of Poti R992. However, it should not exceed 75 dB, otherwise the transient behavior of the attenuators deteriorates.

A DA converter 'LEVATT' D46 allows for setting a variable tuning voltage. The two switches D12 and D13 pass the fixed and the variable control voltages to D50 and D51, depending on the attenuation value to be set. Using only one attenuator is sufficient for attenuations up to 40 dB, the second one switches to minimum passband attenuation. For attenuations above 40 dB, both attenuators are fully attenuating. The IQ-detector in conjunction with an internal calibration routine is used to determine the converter setting for a desired attenuation value.

Pulse modulation may be performed for maximum attenation.

7.1.3.3 Power Ramping

Subsequently, the signal is applied to the burst modulator D27. The latter, too, is set up by means of a GaAs attenuator pad. Operation inside a control linearizes the non-linear and temperature-sensitive characteristic. For this purpose, a known dc reference voltage obtained from N29 is passed via the coupling network L90 to be added to the RF signal at the attenuator input. Like the RF, the dc reference voltage is attenuated by D27, it is then decoupled at the output via L91 and measured.

The opamp N22 is employed for measurement and subtraction with the command value at the output of N24 (0V corresponds to maximum attenuation, 1V to maximum level). The controller of the burst element N23 influences the control inputs of the control element D27. The switch D5 allows for switching off the burst control input and substitutes the command value by an internally generated reference voltage.

To increase the dynamic range of the assembly to >80dB, the switch to the IQ-detector D28 is actuated with approx. -35 to -38dB. A comparator N30 derives the control signal for the switch D28 from the command value of N24.

The linearity of the burst modulator up to an attenuation of approx. 30 dB is adjusted via Poti R807.

Following the switch D28, the 300-MHz signal is passed via a harmonic filter and a power divider to the two outputs 'IQAUX' X241 and 'IQ300' X242. The signal 'IQAUX' provides the signal at the rear panel of the instrument, while 'IQ300' passes the signal to the 'IQ-Converter' module.

7.1.3.4 IQ Detector

The GaAs switch D28 allows for routing the signal of the IQ modulator to the level detector V106. The linearization circuit consists of the opamps N25 and N32.
The IQ detector is used for calibrating the IQ modulator and for determination of the level-attenuation setting.

7.1.3.5 IQ-Modulation Path

The I and/or Q-modulation signals are applied to the 50-Ω termination R370/R369 and/or R372/R371 via the GaAs switches D37 and D54. The switches allow for applying known dc voltages to the modulation inputs for calibration purposes, for operating modes broadband-AM, pulse modulation, and for frequencies above 3 GHz.

The voltages available are ±1V for calibration of the IQ imbalance, ±0.707V for the quadrature offset and 0V for residual carrier calibration. Two analog multiplexers D16 and D17 allow for selection of the desired calibration reference. The opamp N19 measures the voltages at D17 and D16 and supplies the required current for the 50-Ω load.

The video multiplexer N40 allows for exchanging the I-channel and the Q-channel. This is necessary, since both sidebands occurring with up-conversion in the IQ converter or down-conversion in the output unit are used to avoid spuriae. The exchange may also be made via the firmware.

One analog multiplier D1 in the I-channel and one (D2) in the Q-channel are provided for individual level setting. Two 8-bit DA converters 'ILEV' U2 and 'QLEV' U3 ensure the setting range of approx. ±25%. Definite variation of the IQ imbalance via the firmware is thus possible as well as adjustment during IQ calibration.

Switching the AM-reference input to the ILev or QLev entries of the multipliers by means of D11 allows an AM during IQ-operation (IQAM).

The dc offset fed at the Z-input of the two multipliers compensates the residual carrier or it is set via the firmware. To this end, two 12-bit DA converters 'IOFFSET' D45 and 'QOFFSET' D48 ae available. With broadband AM, the residual carrier at the I-channel is set to 50% via the DA converter 'IOFFSET'.

The third adjustment quantity, the quadrature, is set using the 12-bit converter 'IQPHASE' D47 and influences directly the phase shifters in the RF path of the LO signal preceding the modulation mixers for I and Q. The opamp N18 is used to derive two negative-phase sequence tuning voltages from the converter output voltage, one of them being passed to the phase shifter in the Q-path, consisting of V126 to V129. The other one is passed to the phase shifter in the I-path which consists of V122 to V125.

7.2 Test Instruments and Utilities

- Spectrum analyzer FSE
- Level meter NRV with Z51
- DC/AC-Voltmeter UDS5
- Oscilloscope BOS
- Two DC voltage sources
- AF signal generator AFGU
- SMA attenuator pads 6 dB and 10 dB

7.3 Troubleshooting

Error Description	Remedy	
LF Generator Frequency Error	7.4.3.3	Frequency Setting
LF Generator Level Error	7.4.2.1	Adjusting 10-V Reference
	7.4.3.2	Offset Adjustment
	7.4.3.4	Amplitude Setting
PLL2.4GHz Out Of Synchronisation	7.4.4.7	2.4-GHz PLL
ALC Error CW <450MHz	7.4.4.1	Reference Voltage ±6V
	7.4.4.5	SettingPreset
	7.4.4.6	Level Setting
	7.4.4.7	2.4-GHz PLL
	7.4.4.8	2.4-GHz LO
	7.4.4.9	Level Characteristic
	7.4.4.10	Output Detector
ALC Error CW >450, <3000MHz	7.4.4.1	Reference Voltage ±6V
	7.4.4.5	Setting Preset
	7.4.4.6	Level Setting
	7.4.4.9	Level Characteristic
	7.4.4.10	Output Detector
ALC Error CW >3000MHz	7.4.4.1	Reference Voltage ±6V
	7.4.4.5	Setting Preset
	7.4.4.6	Level Setting
	7.4.4.9	Level Characteristic
	7.4.4.10	Output Detector
	7.4.5	IQ Modulator
Level Linearity Attenuator Fixed	7.4.4.10	Output Detector
AM Error	7.4.4.2	Channel Switch
	7.4.4.3	Setting Modulation Depth
	7.4.4.5	Setting Preset
	7.4.4.10	Output Detector
	7.4.4.13	IQAM
Insufficient Harmonic Suppression	7.4.4.5	Setting Preset
	7.4.8	Working Points of Amplifier Stages

Error Description	Remedy
Preset Calibration Aborted	7.4.4.5 Setting Preset 7.4.4.6 Level Setting 7.4.4.9 Level Characteristic 7.4.4.10 Output Detector
Vector Error Too High	7.4.4.9 Level Characteristic 7.4.5.2 Setting Quadrature 7.4.5.3 Setting Imbalance 7.4.5.4 Setting Leakage 7.4.5.7 300-MHz LO
IQ Calibration Aborted	7.4.5.1 Reference Voltages 7.4.5.2 Setting Quadrature 7.4.5.3 Setting Imbalance 7.4.5.4 Setting Leakage 7.4.5.5 IQ-Change and Cal. Switch 7.4.5.7 300-MHz LO 7.4.5.11 Output IQ300 and Level Adjustment 7.4.5.12 IQ Detector and Its Adjustment
Error with Power Ramping	7.4.5.8 Power Ramping Control 7.4.5.9 Power Ramping Linearity
Error with Level Attenuation/Pulse Modulation	7.4.5.10 Level Attenuation Control 7.4.5.11 Level Attenuation Tuning

7.4 Testing and Adjustment

All measured values given without tolerances are recommended values. Voltages given without further information mean dc voltages.

At the beginning of each section, the instrument or module is assumed to be in the PRESET state.

The service kit contains an adaptor to make the module accessible. The adaptor is plugged into the chassis instead of the module and the RF connections at the bottom are connected. Then, the module can be plugged into the adaptor.

In the following sections, test and measurement points are quoted which are not available for the modules of the first series. In these cases the description oft the test point according to the components is useful.

7.4.1 Data Transmission and Power Supply

According to the instrument standard, the module is controlled via a serial interface using the SERBUS-D component. Settings and associated data are given in the Section 'Digital Interfaces'.
The rated power consumptions of the respective supply voltages can be looked up in the Section 'External Interfaces'.

7.4.2 Reference and Supply Voltages

7.4.2.1 Adjusting 10-V Reference

- Connect dc voltmeter to P29
➢ Adjust to 10V ±0.1% using potentiometer P516
- Setting: UTILITIES DIAG TPOINT STATE ON
UTILITIES DIAG TPOINT TEST POINT 2101
➢ Check diagnosis voltage to 10V ±2%

7.4.2.2 Checking the ±5.5V Supply

- Connect dc voltmeter to P23
➢ Check the supply voltage to +5.5V ±0.1V
- Connect dc voltmeter to P24
➢ Check the supply voltage to -5.5V ±0.1V

7.4.3 LF Generator

7.4.3.1 Reference Voltages

- Connect dc voltmeter to P14
➢ Check the supply voltage to 1.5V ±0.2%

7.4.3.2 Offset Adjustment

- Connect dc voltmeter to P50 (INT1 and LFINT)
- Setting: LF_OUTPUT STATE ON
LF_OUTPUT LFGEN_FREQ 1kHz
LF_OUTPUT VOLTAGE 1V
➢ Adjust the offset voltage to ±.5mV using potentiometer R124

7.4.3.3 Frequency Setting

- Connect oscilloscope to reference crystal G1 Pin3
➢ Check frequency to 50MHz (TTL)

- Connect frequency counter to LF
- Setting: LF_OUTPUT STATE ON
LF_OUTPUT LFGEN_FREQ 1MHz
LF_OUTPUT VOLTAGE 1V
➢ Check the LF frequency to 1MHz $\pm 10^{-5}$

7.4.3.4 Amplitude Setting

- Connect ac voltmeter to LF
- Setting: LF_OUTPUT STATE ON
LF_OUTPUT LFGEN_FREQ 1kHz
LF_OUTPUT VOLTAGE 4mV, 40mV, 400mV, 4V
➢ Check peak amplitude to 4mV, 40mV, 400mV, 4V ±(1%+1mV)

- Connect ac voltmeter to P50 (INT1 or LF-INT)
➢ Check peak amplitude to 1V ±1%

7.4.3.5 Frequency Response

- Connect ac voltmeter to LF
- Setting: LF_OUTPUT STATE ON
  LF_OUTPUT LFGEN_FREQ 10Hz ... 1MHz
  LF_OUTPUT VOLTAGE 1V
- Reference measurement with 10Hz

➢ Check level to 0.4dB deviation up to 100kHz, 3dB to 1MHz

- Connect ac voltmeter to P50 (INT1 or LF-INT)
- Setting: LF_OUTPUT LFGEN_FREQ 10Hz ... 1MHz
- Reference measurement with 10Hz

➢ Check level to 0.4dB deviation up to 100kHz, 3dB to 1MHz

7.4.4 Output Unit

7.4.4.1 Reference ±6V

- Connect dc voltmeter to P26

➢ Check the voltage to +6V ±0.2%

- Connect dc voltmeter to P25

➢ Check the voltage to -6V ±0.2%

7.4.4.2 Channel Switch

- Apply 1V dc to 'EXT1'
- Setting: ANALOG_MOD AM AM_SOURCE_EXT EXT1
  ANALOG_MOD AM AM_EXT_COUPLING DC
- Connect dc voltmeter to P11

➢ Check dc voltage to 6V ±2%

- Setting: ANALOG_MOD AM AM_SOURCE_EXT EXT1
  ANALOG_MOD AM AM_EXT_COUPLING AC

➢ Check dc voltage to 0V ±10 mV

- Apply 1kHz/1V peak to 'EXT1'
- Connect ac voltmeter to P11

➢ Check ac voltage to 6V peak ±2%

- Disconnect voltage applied to 'EXT1'
- Setting: ANALOG_MOD AM AM_SOURCE_INT INT
  ANALOG_MOD LFGEN_FREQ 2kHz

➢ Check dc voltage to 6V peak ±2%

7.4.4.3 Setting Modulation Depth

- Connect ac voltmeter to P10
- Setting: ANALOG_MOD AM AM_SOURCE_INT INT
  ANALOG_MOD AM LFGEN_FREQ 1kHz
  ANALOG_MOD AM_DEPTH 100%, 50%, 10%, 5%, 1%

➢ Check ac voltage to 6V, 3V, 600mV, 300mV, 60mV peak ±5%

7.4.4.4 Monitoring External AC

- Connect LF to ´EXT1´ via T-junction
- Connect ac voltmeter to T-junction
- Setting: LF_OUTPUT STATE ON
  LF_OUTPUT LFGEN_FREQ 1kHz
  LF_OUTPUT VOLTAGE 1V
- Measure voltage at ac voltmeter
- Set LF-generator level to 1V peak
- Connect dc voltmeter to P1 or P3

➢ Check voltage at P1 and P3 to 0V

- Set LF-generator level to 1.03V peak

➢ Check voltage at P1 to 5V

- Set LF-generator level to 0.97V peak

➢ Check voltage at P3 to 5V

7.4.4.5 Setting Preset

- Setting: FREQUENCY 1GHz
  LEVEL 13dBm
  UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2108

➢ Check diagnosis voltage to 2.3V to 4.6V

- Connect dc voltmeter to P54 (C214)

➢ Check whether dc voltage is in the range 2.8...4.3V

7.4.4.6 Level Setting

- Connect dc voltmeter to P13
- Setting: FREQUENCY 1GHz
  LEVEL 5dBm
  LEVEL LEVEL ATTENUATOR_MODE FIXED
  LEVEL 16dBm
  UTILITIES DIAG TPOINT STATE ON
  UTILTTIES DIAG TPOINT TEST POINT 2109

➢ Check dc voltage to -4.2V ±1.3V

- Note measured voltage as Vref

- Setting: LEVEL 10, 3, -3, -9, -15

➢ Check dc voltage at P13 to Vref/2, /4, /8, /16, /32, ±5%

7.4.4.7 2.4-GHz PLL

- Setting: UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2103

➢ Check diagnosis voltage to 50 to 250mV

- Setting: UTILITIES DIAG TPOINT TEST POINT 2105

➢ Check diagnosis voltage to 30 to 100mV

- Setting: UTILITIES DIAG TPOINT TEST POINT 2106

➢ Check diagnosis voltage to 80...180mV

- Disconnect cable at X246 (REF600)
- Setting: UTILITIES DIAG TPOINT TEST POINT 2104

➢ Check diagnosis voltage to -.9 to -.3V

- Connect cable at X246 (REF600)
- Disconnect jumper P30/31

➢ Check diagnosis voltage to 21.5 to 23.5V

- Plug on jumper P30/31

➢ Check diagnosis voltage to 3 to 12V

7.4.4.8 2.4-GHz LO

- Setting: FREQUENCY 1000MHz

➢ Check diagnosis voltage to ±10mV

- Setting: UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2107
  FREQUENCY 100MHz

➢ Check diagnosis voltage to 180mV - 400mV

Adjustment of the LO-level must be carried out only after a sufficient settling time in the mixer mode (frequency < 450 MHz) has elapsed and after the operating temperature has been reached. The adjustment must be carried out with the module opened and the heat dissipator removed (section N only).

- Setting: FREQUENCY 100MHz
- Connect level meter to X3

➢ Adjust level to -4.5dB ±.1dB using poti R968

7.4.4.9 Level Characteristic

- Disconnect jumper P47/46
- Connect first dc-voltage source to P46
- Apply 4V dc
- Connect jumper P28/27 (X7)
- Connect second dc-voltage source to P27
- Apply 6V dc
- Setting: LEVEL 16dBm
  UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2113
  FREQUENCY 450, 500...3300MHz

➢ Check diagnosis voltage to >100mV

- Setting: UTILITIES DIAG TPOINT TEST POINT 2111
  VECTOR_MOD STATE ON
  FREQUENCY 49; 99...749MHz

➢ Check diagnosis voltage to >100mV(f≥200MHz), >40mV(f<200MHz)

- Connect power meter to X249
- Setting: FREQUENCY 50, 100...3300MHz
  VECTOR_MOD STATE OFF

➢ Check output level to >18dBm

- Apply signal FIQFIL to X247 via 16-dB attenuator
- Setting: FREQUENCY 50, 100...3300MHz

➢ Check output level to >7dBm (f < 2 GHz) or <16dBm (f > 2GHz)

- Apply 2.4V dc to first dc-source(P46)
- Setting: FREQUENCY 50, 100...3300MHz

➢ Check output level to <3dBm

7.4.4.10 Output Detector and Detector Adjustment

- Connect dc voltmeter to P57 or P58
➢ Check dc voltage to +15V or -10V ±2%

The text below describes how to test the detector linearity. This test must be performed exclusively with board cover screwed.

- Connect power meter to X249
- Setting: LEVEL 5.1dBm
  LEVEL LEVEL ATTENUATOR_MODE FIXED
  FREQUENCY 5, 500, 1000, 1500 ... 3000MHz
- Measure the output level at X249
- Switch power meter to ΔdB,5.1-dBm level being the reference, respectively
- Setting: LEVEL 10.1, 5.1, 0.1, -4.9....-14.9dBm
➢ Check rated level to ±.2dB for ≥0dBm, ±.4dB for -5dBm, ±.6dB for -10dBm, ±.8dB for -15dBm

- Setting: LEVEL 10dBm
  FREQUENCY 1500MHz
- Measure the output level at X249
- Switch power meter to ΔdB, 10-dBm level being the reference, respectively
- Setting: FREQUENCY 5, 500, 1000, 1500 ... 3000, 3300MHz
➢ Check frequency response to better 4dB

The adjustment of the output detector must not be performed with board uncovered and only after a sufficiently long warm-up time and at correct operating temperature. Remove the label on the cover above the cut-out for the poti R125 to perform the adjustment. Subsequent to adjustment, replace label, perform a preset calibration and update the level correction table.

- Connect power meter to X249
- Setting: LEVEL 5.1dBm
  LEVEL LEVEL ATTENUATOR_MODE FIXED
  LEVEL 5dBm
  FREQUENCY 1500MHz
- Measure output level at X249
- Switch power meter to ΔdB, 5.1-dBm level being reference
- Setting: LEVEL -15dBm
➢ Adjust to -20.0 dB ±.1dB attenuation using poti R125

7.4.5 IQ-Modulator

7.4.5.1 Reference Voltages

- Connect dc voltmeter to P51 (V67 Pin1) or P52 (V112 Pin1)
➢ Check dc voltage to +10V or -10V ±.3%

- Connect dc voltmeter to P37, P38, P39 and P40, successively
➢ Check dc voltage to 1V, +.707V, -.707V, -1V ±.5%

- Connect dc voltmeter to P20
➢ Check dc voltage to -7.5V ±3%

7.4.5.2 Setting Quadrature

- Connect dc voltmeter to P42 (R98) or P63 (R97)
- Setting: VECTOR_MOD STATE ON
  VECTOR_MOD IMPAIRMENT STATE ON
  VECTOR_MOD QUADRATUR_OFFSET 0°

➢ Check dc voltages to 7.5V ±2.5V and store under 'Ref97' and'Ref98'

- Setting: VECTOR_MOD QUADRATUR_OFFSET +10°

➢ Check whether dc voltage at R97 is 'Ref97' +1.25V ±.15V
➢ Check whether dc voltage at R98 is 'Ref98' -1.25V ±.15V

- Setting: VECTOR_MOD QUADRATUR OFFSET -10°

➢ Check dc voltage at R97 to 'Ref97' -1.25V ±.15V
➢ Check dc voltage at R98 to 'Ref98' +1.25V ±.15V

7.4.5.3 Setting Imbalance

- Connect dc voltmeter to P35 or P36
- Setting: VECTOR_MOD STATE ON
  VECTOR_MOD IMPAIRMENT STATE ON
  VECTOR_MOD IMBALANCE 0%

➢ Check whether the dc voltages are 1.0V ±.1V and store under 'Ref35' and 'Ref36'

- Setting: VECTOR_MOD IMBALANCE +10%

➢ Check dc voltage at P35 to 'Ref35' -0.1V ±25mV
➢ Check dc voltage at P36 to auf 'Ref36' +0.1V ±25mV

- Setting: VECTOR_MOD IMBALANCE -10%

➢ Check dc voltage at P35 to 'Ref35' +0.1V ±25mV
➢ Check dc voltage at P36 to 'Ref36' -0.1V ±25mV

7.4.5.4 Setting Leakage

- Connect dc voltmeter to P32 or. P41
- Setting: VECTOR_MOD STATE ON
  VECTOR_MOD IMPAIRMENT STATE ON
  VECTOR_MOD LEAKAGE 0%

➢ Check the dc voltages to 0V ±100mV and store under 'Ref32' or 'Ref41'

- Setting: VECTOR_MOD LEAKAGE 50%

➢ Check dc voltage at P32 to 'Ref32' +250mV ±50mV

- Setting: VECTOR_MOD LEAKAGE 50%
  VEKTOR_MOD IQ_SWAP ON

➢ Check dc voltage at P32 to'Ref32' +250mV ±50mV

7.4.5.5 IQ-Change and Calibration Switch

- Connect dc voltmeter to P15 or P16
- Apply +0.5V dc to X244 'I-MOD'
- Apply 0V dc to X245 'Q-Mod'
- Setting: VEKTOR_MOD STATE ON
  VECTOR_MOD IMPAIRMENT STATE ON

➢ Check dc voltage at P15 to -250mV ±50mV
➢ Check dc voltage at P16 to 0mV ±50mV

- Setting: VEKTOR_MOD IQ_SWAP ON
➢ Check dc voltage at P15 to 0mV ±50mV
➢ Check dc voltage at P16 to -250mV ±50mV

- Apply +0V dc to X244 'I-MOD'
- Apply +0.5V dc to X245 'Q-MOD'
- Setting: VEKTOR_MOD STATE OFF
➢ Check dc voltage at P15 to -250mV ±50mV
➢ Check dc voltage at P16 to 0mV ±50mV

7.4.5.6 IQ-Modulation Path

- Setting: VECTOR_MOD STATE ON
- Connect dc voltmeter to P15 or P16
- Apply +0.5V dc to X244 'IMOD' or X245 'QMOD'
➢ Check dc voltage at P15 or P16 to -250mV ±50mV

- Apply -0.5V dc to X244 'IMOD' or X245 'QMOD'
➢ Check dc voltages at P15 or P16 to -250mV ±50mV

- Connect ac voltmeter to P15 or P16
- Apply 1MHz/0.5V peak (terminal voltage) to X244 'IMOD' or X245 'QMOD'
➢ Check voltages at P15 or P16 to 180mV ±35mV rms and store under 'Ref15' or 'Ref16'

- Apply 25MHz/0.5V peak (terminal voltage) to X244 'IMOD' or X245 'QMOD'
➢ Check voltage at P15 to 'Ref15' ±.5dB
➢ Check voltage at P16 to 'Ref16' ±.5dB

7.4.5.7 300-MHz LO

- Setting: UTILITIES DIAG TPOINT STATE ON
UTILITIES DIAG TPOINT TEST POINT 2114
➢ Check diagnosis voltage to 800mV ±100mV

- Connect level meter to X4 and/or X5
➢ Check level to -9dBm ±3dB

- Setting: UTILITIES DIAG TPOINT TEST POINT 2118 bzw. 2119
➢ Check diagnosis voltage to 300mV ±50mV

7.4.5.8 Power Ramping Control

- Connect dc voltmeter to P18
➢ Check voltage to 270mV ±20mV

- Connect dc voltmeter to X1
➢ Check voltage to -1V ±0.5V

- Connect dc voltmeter to P19
➢ Check voltage to 100mV ±20mV

- Setting: VEKTOR MOD STATE ON
VEKTOR MOD POWER RAMP CONTROL EXT-ANALOG
- Apply +0V dc to X243 'BURST CONTROL_MOD'
- Connect dc voltmeter to P19
➢ Check voltage to 2mV ±2mV

- Connect dc voltmeter to X1
➢ Check voltage to -3V ±.1V

- Connect dc voltmeter to P64 (N30 Pin 1)
➢ Check voltage to approx. 5V

- Connect +1V dc to X243 'BURST CONTROL_MOD'
➢ Check voltage to 0V

7.4.5.9 Power Ramping Linearity

- Setting: VEKTOR MOD STATE ON
  POWER RAMP CONTROL EXT-ANALOG
- Connect +0.5V dc to X245 'QMOD'
- Connect +1.000V ±1mV dc to X243 'BURST CONTROL_MOD'
- Connect spectrum analyzer to X242 'IQ300'
➢ Check level to 5dBm ±0.5dB and store under 'Ref'

Linearity check:
- Set dc voltage at X243 to 500±5mV; 250±1mV; 100±1mV; 31.6±0.5mV
➢ Check level to 'Ref' -6dB±0.5dB; -12dB±0.5dB; -20dB±0.5dB; -30dB±1dB

Linearity adjustment:
- Set dc voltage at X243 to 31.6mV±0.5mV
➢ Adjust level at X242 'IQ300' to ('Ref' -30dB)±0.1dB using poti R807

7.4.5.10 Level Attenuation Control

- Setting: ANALOG MOD PULSE SOURCE EXT
  POLARITY NORM

- Connect dc voltmeter to P61 (R101) and P60 (R103)
➢ Check voltage to 50mV ±50mV

- Connect dc voltmeter to P62 (R102) and P59 (R104)
➢ Check voltage to -1.5V ±0.5V

- Setting: POLARITY INV
- Connect dc voltmeter to P61 (R101) and P60 (R103)
➢ Check voltage to -2.85V ±0.1V

- Connect dc voltmeter to P62 (R102)
➢ Check voltage to 0V ±10mV

- Connect dc voltmeter to P59 (R104)
➢ Check voltage to -1.5V ±0.5V

7.4.5.11 Output IQ300 - Level and Level Attenuation Adjustment

- Setting: ANALOG MOD PULSE SOURCE EXT
  POLARITY NORM
- Connect spectrum analyzer to X242 'IQ300'
➢ Check level to -5dBm ±1dB
➢ Check whether harmonic suppression is better -60dBc

The adjustment described below must be performed after a sufficiently long warm-up time and at correct operating temperature. Calibration of the vector modulator must be performed just before the level adjustment.

- Setting: ANALOG MOD PULSE SOURCE EXT
  POLARITY INV
- Connect spectrum analyzer to X242 'IQ300'
➢ Check reference level and store under 'Ref'

- Setting: POLARITY NORM
➢ Adjust attenuation to ('Ref' -75dB) ±0.5dB using poti 992
- The adjustment must be repeated if the level was corrected by more than 3 dB.

- Setting: POLARITY INV
  UTILITIES CALIB VECTOR MOD
- Connect level meter to X242 'IQ300'
➢ Adjust level to -5dBm ±.1dB using poti R683

7.4.5.12 IQ-Detector and Its Adjustment

- Setting: UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2121
➢ Check diagnosis voltage to below 50mV

- Solder out R85 and apply +5V dc at D7 Pin1
- Setting: ANALOG MOD PULSE SOURCE EXT
  POLARITY INV
➢ Check diagnosis voltage to 2.8...4.1V

Testing and adjusting the level linearity of the IQ detector as described below must not be performed with board uncovered and only after a sufficiently long warm-up time and at correct operating temperature.

- Setting: ANALOG MOD PULSE SOURCE EXT
  POLARITY INV
- Solder in R85 again, solder out R625
- Connect dc voltage source to P43 and apply 0V
- Connect spectrum analyzer to X242 'IQ300'
➢ Check level to -5dBm ±.5dB and store under 'Ref'

- Setting: POLARITY NORM
- Vary the dc voltage source to obtain 'Ref' -40 dB
- Solder out R85
- Setting: POLARITY INV
  UTILITIES DIAG TPOINT STATE ON
  UTILITIES DIAG TPOINT TEST POINT 2121
- Measure diagnosis voltage and store under 'Ref'
- Setting: POLARITY NORM
➢ Adjust diagnosis voltage to 'Ref' -40 dB using R930

7.4.5.13 IQAM

- Setting: VECTOR_MOD STATE ON
  ANALOG MOD AM AM DEPTH 80%
  ANALOG MOD AM AM SOURCE INT INT
  ANALOG MOD AM LFGEN FREQ 20.000 kHz
  FREQUENCY 1000 MHz
  LEVEL +10 dBm
- Connect dc voltage source to X244 'IMOD' and apply +0.5V
- Connect ac volt meter to P35 or P36
➢ Check voltage to 275mV ±20mV (rms value)

- Connect spectrum analyzer to RF input of SMIQ
- Check carrier to 4dBm ±1dB and store under ´carrier´
- Check 1GHz ±20kHz sidebands to ('carrier'-8dB) ±1dB
- Check harmonic sidebands to below('carrier'-40dB)

7.4.6 Board Interrupt

- Disconnect signal ´REF600´ from X246
- Press the ERROR key

➢ Error message: Code 222, 2.4GHZ LO LOOP UNLOCKED

- Reconnect signal ´REF600´

➢ Error message: none

- Unplug jumper P30/P31

➢ Error message: Code 222, 2.4GHZ LO LOOP UNLOCKED

- Plug in jumper P30/P31 again
- Disconnect signal ´FIQFIL´ from X247

➢ Error message: Code 110, OUTPUT UNLEVELED

- Reconnect signal ´FIQFIL´
- Setting: ANALOG_MOD AM AM_SOURCE_EXT EXT1
  ANALOG_MOD AM AM_EXT_COUPLING DC
- Apply 1kHz/1V peak to ´EXT1´ connector
- Press the ERROR key

➢ Error message: none

- Apply 1kHz/1.04V peak to ´EXT1´

➢ Error message: Code 152, INPUT VOLTAGE OUT OF RANGE;EXT1 TOO HIGH

- Apply 1kHz/0.96V peak to ´EXT1´

➢ Error message: Code 153, INPUT VOLTAGE OUT OF RANGE;EXT1 TOO LOW

7.4.7 Diagnosis

The board contains 24 RF and dc test points in all. They are selected via the ´UTILITIES DIAG TPOINT POINT 21??´ menu. The first two digits relate to the ´IQMOD´ (21) board, the subsequent two digits are provided to number the diagnostic points.

IR=Supplies board interrupt, DF=Divider Factor, Wai=Waiting time
OF=Offset measurement, MIN=Minimum, MAX=Maximum

Diagnostic point	Test point	IR	MIN [V]	MAX [V]	DF	WAI ms	OF
2100 D_OFFSET	Reference 1kΩ		-.01	+.01	1	1	
2101 D_REF10V	10-V reference voltage		9.8	10.2	3	1	X
2102 D_LFGEN	Output level LF-generator		-1.02	+1.02	3	1	
2103 D_REF600	Level 600-MHz reference for 2.4-GHz PLL		.05	.18	1		
2104 D_TUN2G4	Tuning voltage 2.4-GHz VCO	X	3	18	5	1	
2105 D_VCO2G4	Level 2G4 VCO		0.03	.10	1	1	
2106 D_PHIDET	Level 600-MHz reference signal for 2.4-GHz PLL		.05	.18	1	1	
2107 D_LO2G4	LO level down-converter on,(off)		.2, (-.02)	.4, (+.02)	1	1	
2108 D_PRESET	Tuning voltage Preset element		2.3	4.5	3	1	
2109 D_AMOD	Tuning voltage AM modulator	X	.02	6	3	3	
2110 D_REFAM	AM reference signal		0	6	3	1	

2111	D_CONVRT	Level IF-path down-converter on, (off)		.005, (-1mV)	.1, (+1mV)	1	1	
2112	D_SWITCH	Level subsequent to AM modulator		.005	.4	1	1	
2113	D_DETOUT	Output detector output amplifier		.05	6	3	1	
2114	D_REF300	Level 300 MHz for IQ modulator		.6	1.0	1	1	
2115	D_IQOUT	Output level IQ modulator		0	.3	1	1	
2116	D_IMOD	Level modulation input I-path		-.5	+.5	2	1	
2117	D_QMOD	Level modulation input Q-path		-.5	+.5	2	1	
2118	D_ILO	Level LO I-path		.2	.6	1	1	
2119	D_QLO	Level LO Q-path		.2	.6	1	1	
2120	D_PHI	Control voltage phase shifter		3.5	13	3	1	
2121	D_IQCAL	Calibration detector IQ modulator		0	12.5	3	5	X

7.4.8 Working Points of Amplifier Stages

The table below lists the working points for the RF amplifiers of the module, respectively. Tolerances from 10% to 20% may occur and do not indicate any error. The data given always relate to the dc working point without any RF signal being applied.

Amplifier	Working point	
Name	Drain / collector current	Drain / collector voltage
V82	50mA	5.0V
V81	60mA	5.0V
V83	130mA	8.0V
V75	90mA	9.5V
V77	90mA	9.5V
V76	90mA	9.5V
V78	90mA	9.5V
V136	90mA	9.5V
V79	90mA	9.5V
V80	90mA	9.5V
V102	90mA	6.0V
N4	65mA	5.0V
V148	70mA	4.0V
V144	70mA	4.5V
V103	120mA	7.0V
V104	150mA	8.0V
V111	30mA	-5.5V
V145	60mA	4.5V
V146	60mA	4.5V
V154	60mA	5.5V
V147	60mA	5.5V
V99	150mA	6.5V

7.5 Removal and Assembly

After opening the instrument, unlocking the board and disconnecting the RF connections at X241 to X249, the module can be removed from its slot. The screening covers of the board are screwed the conventional way. When operating the instrument with open screening cover, make sure to close the resonator chamber M using an appropriate test cover.

7.6 External Interfaces

Pin	Name	Input/ Output	Origin/ Destination	Specified range	Signal description
X240.A1	BLANK	Input	A3, FRO X31.34	HCT-Level	Level blanking
X240.A2	UREFAM	Output	A500, IQ6G X500.2	0 to 12V	AM command value
X240.A3	LFOUT	Output	A3, FRO LF	0 to 4V peak, .1Hz..1MHz	Output AF generator
X240.A4	EXT1	Input	A3, FRO EXT	0 to 1V Spitze	External modulation signal
X240.A5	EXT2				not used
X240.A6	INT1	Output	Option FMOD	0 to 1V Spitze	Internal modulation signal
X240.A7	Ground				
X240.A8	PULSE	Input	Rückwand	HCT level	Pulse modulation
X240.A9	CODAM	Input	DDS	0 to 1V peak	DSYN AM signal
X240.A10	LEV ATT_MOD	Input	MCOD	HCT level	Level attenuation
X240.A11	Ground				
X240.A12	SERBUS-CLK	Input	A3, FRO, X31.40	HCT level	Serbus Clock
X240.A13	Ground				
X240.A14	SERBUS-OUT	Output	A3, FRO, X31.39	HCT level	Serbus data
X240.A15	SERBUS-IN	Input	A3, FRO, X31.39	HCT level	Serbus data
X240.A16	SERBUS-SYNC	Input	A3, FRO, X31.37	HCT level	Serbus Sync
X240.A17	SERBUS-INT	Output	A3, FRO, X31.38	HCT level	Serbus Interrupt
X240.A18	Reset-P	Input	A3, FRO, X31.28	HCT level	Serbus Reset
X240.A19	DIAG-5V	Output	A3, FRO, X31.44	-5V to +5V	Diagnosis
X240.A20	VA15-P	Input	A2, POWS	14.85...15.75V 600mV	15V power supply
X240.A21	Ground				
X240.A22	VA24-P	Input	A2, POWS	23.75 to 25.25V 200mA	24V power supply
X240.A23	Ground				
X240.A24	VA15-P	Input	A2, POWS	14.85 to 15.75V 600mA	15V power supply
X240.A25	Ground				
X240.A26	VA7.5-P	Input	A2, POWS	7.45 to 7.95V 450mA	7.5V power supply
X240.A27	Ground				
X240.A28	VD5-P	Input	A2, POWS	5.15 to 5.25V 140mA	5V digital power supply
X240.A29	Ground				
X240.A30	VA15-N	Input	A2, POWS	-15.75.-14.85V 300mA	-15V power supply
X240.A31	Ground				
X240.A32	VA7.5-P	Input	A2, POWS	7.45...7.95V 450mA	7.5V power supply
X241	IQAUX	Output	Rear panel	300MHz/-10dBm	Vector-modulated carrier rear panel

Pin	Name	Input/ Output	Origin/ Destination	Specified Range	Signal Description
X242	IQ300	Output	A220, IQCON X223	300MHz/-5dBm	Vector-modulated carrier IQCON
X243	BURST CTRL_MOD	Input	Rear panel	0 to 1V	Control signal power ramping
X244	I_MOD	Input	A3, FRO I_MOD	-0.5 to +0.5V 0 to 30MHz	Modulation input I
X245	Q_MOD	Input	A3, FRO Q_MOD	-0.5 to +0.5V 0 to 30MHz	Modulation input Q
X246	REF600	Input	A7, REFSTEP X77	600MHz/13dBm	Reference 600MHz
X247	FIQFIL	Input	A220, IQCON X227	450 to 3300MHz/ 4dBm	Vector-modulated signal
X249	FIQOUT	Output	A15, ATT X2	.3 to 3300MHz -20 to 19dBm	Output signal

ROHDE&SCHWARZ

Schaltteillisten
numerisch geordnet

Part lists
in numerical order

Listes des pièces détachées
par numéros de référence

095.1000 Bl. 3

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
.	XX VARIANTENERKLAERUNG IDENTIFICATION OF MODELS				
B1	ER SCPQ-400 2WEG-L.TEILER 2WAY POWER DIVIDER	1085.1649.00	MINI-CIRCU	SCPQ-400	
C1	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C2	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C3	CC 3,3NF+-1% 50V NPO 1206 SMD-CERAMIC CAPACITOR	0010.2970.00	MURATA	GRM42-6C0G332F50PT	
C4	CC 3,3NF+-1% 50V NPO 1206 SMD-CERAMIC CAPACITOR	0010.2970.00	MURATA	GRM42-6C0G332F50PT	
C5	CC 5,6PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4521.00	MURATA	GRM39C0G***B50ZPT	
C6	CC 5,6PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4521.00	MURATA	GRM39C0G***B50ZPT	
C7	CC 1,5PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4450.00	MURATA	GRM39C0G***B50ZPT	
C8	CC 5,6PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4521.00	MURATA	GRM39C0G***B50ZPT	
C9	CC 1,5PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4450.00	MURATA	GRM39C0G***B50ZPT	
C10	CC 5,6PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4521.00	MURATA	GRM39C0G***B50ZPT	
C11	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C12 ..14	CC 5,6PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4521.00	MURATA	GRM39C0G***B50ZPT	
C15	CC 0,7PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7150.00	AVX	0603 5J *** AAW TR	
C16	CC 5,6PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4521.00	MURATA	GRM39C0G***B50ZPT	
C17	CC 5,6PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4521.00	MURATA	GRM39C0G***B50ZPT	
C18	CC 1,5PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4450.00	MURATA	GRM39C0G***B50ZPT	
C19	CC 5,6PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4521.00	MURATA	GRM39C0G***B50ZPT	
C20	CC 4,7PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C21	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C22	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C23	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C24	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C25 ..27	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C28	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C29	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C30 ..32	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C33	CC 1,0PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8304.00	MURATA	GRM39C0G***B50ZPT	
C34	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C35 ..37	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C38	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39C0G***F50ZPT	
C39	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C40	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C41 ..43	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C44 ..46	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C47	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C48	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	

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1GPK 853 3PLU	Äi	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt-Nr. Page
ROHDE&SCHWARZ	68	11.08.99	EE IQ-MODULATOR IQ-MODULATOR	1084.9800.01 SA	1+

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C49	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C50	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C51 ..56	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C57	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C58	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C59	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C60	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C61	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C62	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C63	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C64 ..66	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C67	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C68	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C69	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR NUR VAR/ONLY MOD: 02	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C69	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR NUR VAR/ONLY MOD: 04	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C69	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR NUR VAR/ONLY MOD: 06	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C69	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR NUR VAR/ONLY MOD: 08	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C70	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C71 ..82	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C83	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C84	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C85	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C86	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C87	CE 4,7UF +-10% 25V 7343 TANTALUM CHIP CAPACITOR	CE 0007.7230.00	SPRAGUE	293D475X9035D2W	
C88	CE 4,7UF +-10% 25V 7343 TANTALUM CHIP CAPACITOR	CE 0007.7230.00	SPRAGUE	293D475X9035D2W	
C89	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C90	CC 8,2PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4550.00	MURATA	GRM39C0G***B50ZPT	
C91 ..98	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C99	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C100 ..106	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C107	CC 0,3PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7114.00	AVX	0603 5J *** AAW TR	
C108	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C109	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C110	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C111 ..118	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C119	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C120 ..122	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C123	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C124	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C125	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C126	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C127	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C128	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C129	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C130	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C131	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C132	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C133	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C134	CC 270PF+-10% 50VHDK 0603 SMD CERAMIC CAPACITOR	CC 1097.6370.00	VITRAMON	VJ0603Y***KXAT	
C135	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C136	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C137	CC 4,7PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C138	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C139	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C140	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C141 ..145	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C146	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C147	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C148	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C149	CE 10UF +-10% 25V 7343 TANTALUM SMD-CAPACITOR	CE 0007.7246.00	SPRAGUE	293D 106 X9 025 D2W	
C150	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C151	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C152	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C153 ..156	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C157	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C158	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C159 ..161	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C162	CC 100NF+-10%16V HDK 0603 CERAMIC CHIP CAPACITOR	CC 1097.6292.00	PHILIPS_CO	2238 786 16649	
C163	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C164 ..167	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C168	CC 2,7PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8291.00	MURATA	GRM39C0G***B50ZPT	
C169	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C170 ..173	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C174	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C175	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C176	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C177	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C178	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C180	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C181	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 0520.6873.00	AVX	2220 5C 105 KAT**A(F	
C182	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39COG***F50ZPT	
C183	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39COG***F50ZPT	
C184	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 0520.6873.00	AVX	2220 5C 105 KAT**A(F	
C185	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C186	RG 0-OHM WIDERSTAND 0603 SMD RESISTOR EIA0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
C187	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C188	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C189	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39COG***F50ZPT	
C190	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39COG***F50ZPT	
C191	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C192	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C193	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C194 ..199	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C200	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C201	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C202	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C203	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C204	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C205	CC 100NF+-10%16V HDK 0603 CERAMIC CHIP CAPACITOR	CC 1097.6292.00	PHILIPS_CO	2238 786 16649	
C206	CC 100NF+-10%16V HDK 0603 CERAMIC CHIP CAPACITOR	CC 1097.6292.00	PHILIPS_CO	2238 786 16649	
C207	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C208	CC 27PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0010.9323.00	MURATA	GRM39COG***F50ZPT	
C209	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39COG***F50ZPT	
C210	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C211	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C212	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C213	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C214	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39COG***F50ZPT	
C215	CC 10PF+-1% 50V COG 0603 SMD-CERAMIC CAPACITOR	CC 0008.2183.00	AVX	0603 5J 100 FAW TR	
C216	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C217	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C218	CC 3,3NF+-1% 50V NPO 1206 SMD-CERAMIC CAPACITOR	0010.2970.00	MURATA	GRM42-6COG332F50PT	
C219	CC 3,3NF+-1% 50V NPO 1206 SMD-CERAMIC CAPACITOR	0010.2970.00	MURATA	GRM42-6COG332F50PT	
C220	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C221	CC 1,0PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8304.00	MURATA	GRM39COG***B50ZPT	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C222	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C223	CC 1,0PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8304.00	MURATA	GRM39COG***B50ZPT	
C224 ..228	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C229	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C230	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C231	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C232	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C233	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39COG***F50ZPT	
C234	CC 4,7PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39COG***B50ZPT	
C235	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C236	CC 0,5PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7137.00	AVX	0603 5J *** AAW TR	
C237	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C238	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C239	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C240	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C241	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C242 ..244	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C245	CC 0,5PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7137.00	AVX	0603 5J *** AAW TR	
C246	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C247	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C248	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C249	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C250	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C251	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C252	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C253	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C254	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C255	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C256	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C257	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C258	CC 2,2PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39COG***B50ZPT	
C259 ..262	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39COG***F50ZPT	
C263	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C264	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39COG***F50ZPT	
C265	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C266 ..269	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C270	CC 15PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8227.00	MURATA	GRM39COG***F50ZPT	
C271	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C272 ..280	CC 15PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8227.00	MURATA	GRM39COG***F50ZPT	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C281	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C282	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C283	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C284 ..288	CC 15PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8227.00	MURATA	GRM39C0G***F50ZPT	
C289	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39C0G***F50ZPT	
C290	CC 4,7PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C291	CC 2,2PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39C0G***B50ZPT	
C292	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C293	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C294	CE 100UF+-20%16V RUND SMD SMD-ELECTOLYTIC CAPACIT.	CE 0009.6553.00	SANYO	16CV100F(G)S	
C295 ..302	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C303	CC 100NF+-10%50V X7R 1206 CERAMIC CHIP CAPACITOR	CC 0007.5237.00	AVX	1206 5C 104 KA 3	
C304	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C305	CC 1,5PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4450.00	MURATA	GRM39C0G***B50ZPT	
C306	CC 4,7PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C307	CC 82PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 1097.6363.00	MURATA	GRM39C0G***F50ZPT	
C308 ..313	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C314	CC 470PF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4896.00	MURATA	GRM39X7R***K5C500PT*	
C315	RG 0-OHM WIDERSTAND 0603 SMD RESISTOR EIA0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
C316	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C317	CC 2,2NF+-1% 50V NPO 1206 SMD-CERAMIC CAPACITOR	0010.2964.00	MURATA	GRM42-6C0G222F50PT	
C318	CC 2,2NF+-1% 50V NPO 1206 SMD-CERAMIC CAPACITOR	0010.2964.00	MURATA	GRM42-6C0G222F50PT	
C319	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C320	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C321 ..325	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C326	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C327 ..329	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C330	CC 0,3PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7114.00	AVX	0603 5J *** AAW TR	
C331	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C332	CE 22UF+-20%35V RUND SMD SMD ELECTROLYTIC CAPACIT.	CE 0009.6253.00	PANASONIC	EEV HB 1V 220P	
C333	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C334	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C335 ..343	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C344	CC 3,3PF 0, 1PF50V NPO 06 SMD-CERAMIC-CAPACITOR	CC 0009.8285.00	MURATA	GRM39C0G***B50ZPT	
C345 ..348	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C349	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C350	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C351	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C352	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C353	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C354	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C355 ..357	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C358	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C359	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C360 ..362	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C363	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C364	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C365	CC 10PF+-1% 50V COG 0603 SMD-CERAMIC CAPACITOR	CC 0008.2183.00	AVX	0603 5J 100 FAW TR	
C366	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C367	CC 1,5PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4450.00	MURATA	GRM39COG***B50ZPT	
C368	CC 1,0PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8304.00	MURATA	GRM39COG***B50ZPT	
C369	CC 10PF+-1% 50V COG 0603 SMD-CERAMIC CAPACITOR	CC 0008.2183.00	AVX	0603 5J 100 FAW TR	
C370	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C371	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C372	CC 0,3PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7114.00	AVX	0603 5J *** AAW TR	
C373	CC 10PF+-1% 50V COG 0603 SMD-CERAMIC CAPACITOR	CC 0008.2183.00	AVX	0603 5J 100 FAW TR	
C374	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39COG***F50ZPT	
C375 ..378	CC 3,3PF 0, 1PF50V NPO 06 SMD-CERAMIC-CAPACITOR	CC 0009.8285.00	MURATA	GRM39COG***B50ZPT	
C379	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C380	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39COG***F50ZPT	
C381	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C382	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C383	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C384	CC 39PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.9730.00	MURATA	GRM39COG***F50ZPT	
C385	CC 39PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.9730.00	MURATA	GRM39COG***F50ZPT	
C386	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39COG***F50ZPT	
C387	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C388	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C389	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39COG***B50ZPT	
C390 ..392	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C393	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39COG***F50ZPT	
C394	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39COG***F50ZPT	
C395	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C396	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C397	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C398	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C399	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C400	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C401 ..403	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C404 ..407	CC 8,2PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4550.00	MURATA	GRM39C0G***B50ZPT	
C408	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C409	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C410	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C411	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C412	CC 82PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 1097.6363.00	MURATA	GRM39C0G***F50ZPT	
C413 ..415	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C416	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C417	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 0520.6873.00	AVX	2220 5C 105 KAT**A(F	
C418	CC 1UF+-10% 50V X7R 2220 CERAMIC CAPACITOR	CC 0520.6873.00	AVX	2220 5C 105 KAT**A(F	
C419	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C420	CC 0,8PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7166.00	AVX	0603 5J *** AAW TR	
C421	CC 1,2PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4444.00	MURATA	GRM39C0G***B50ZPT	
C422	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C423	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C424	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C425	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C426	CC 100NF+-10%16V HDK 0603 CERAMIC CHIP CAPACITOR	CC 1097.6292.00	PHILIPS_CO	2238 786 16649	
C427	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C428	CC 470PF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4896.00	MURATA	GRM39X7R***K5C500PT*	
C429 ..434	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C435	CC 10PF+-1% 50V C0G 0603 SMD-CERAMIC CAPACITOR	CC 0008.2183.00	AVX	0603 5J 100 FAW TR	
C436	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C437	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39C0G***F50ZPT	
C438 ..441	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C442	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C443	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C444	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C445	CC 0,4PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7120.00	AVX	0603 5J *** AAW TR	
C446	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C447	CC 15NF+-5% 25V HDK 0603 SMD CAPACITOR	CC 0048.4064.00	MURATA	GRM39X7R153J25PT	
C448 ..451	CC 2,2PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39C0G***B50ZPT	
C452	XX ENTHALTEN IN INCLUDED IN				
C453	CC 0,6PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7143.00	AVX	0603 5J *** AAW TR	
C454	CC 3,3PF 0, 1PF50V NPO 06 SMD-CERAMIC-CAPACITOR	CC 0009.8285.00	MURATA	GRM39C0G***B50ZPT	
C455	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C456	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C457	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C458	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C459	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C460 ..462	CC 470PF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4896.00	MURATA	GRM39X7R***K5C500PT*	
C463	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C464	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C465	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C466	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C467	CC 470PF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4896.00	MURATA	GRM39X7R***K5C500PT*	
C468	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C469	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C470 ..473	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C474	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C475	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C476	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C477	CC 10NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4844.00	MURATA	GRM39X7R***K5C500PT*	
C478	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C479	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C480	CE 100UF+-20%16V RUND SMD SMD-ELECTOLYTIC CAPACIT.	CE 0009.6553.00	SANYO	16CV100F(G)S	
C481	CC 3,3NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0048.5390.00	MURATA	GRM39X7R332K5C500PT	
C482	CC 0,6PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7143.00	AVX	0603 5J *** AAW TR	
C483	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39C0G***F50ZPT	
C484	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C485	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C486	CC 0,7PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7150.00	AVX	0603 5J *** AAW TR	
C487	CC 4,7PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C488	CC 100NF+-10%16V HDK 0603 CERAMIC CHIP CAPACITOR	CC 1097.6292.00	PHILIPS_CO	2238 786 16649	
C489	CC 4,7PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C490	CC 4,7PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C491	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C492	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C493	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C494	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C495	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C496	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C497	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C498 ..500	CC 0,3PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7114.00	AVX	0603 5J *** AAW TR	
C501	CC 0,2PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7108.00	AVX	0603 5J *** AAW TR	
C502	CC 0,1PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7095.00	AVX	0603 5J *** AAW TR	
C503	CC 0,3PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7114.00	AVX	0603 5J *** AAW TR	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C504	CC 0,2PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7108.00	AVX	0603 5J *** AAW TR	
C505	CC 0,6PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7143.00	AVX	0603 5J *** AAW TR	
C506	CC 0,4PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7120.00	AVX	0603 5J *** AAW TR	
C507	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C508	CE 22UF+-20%35V RUND SMD SMD ELECTROLYTIC CAPACIT.	CE 0009.6253.00	PANASONIC	EEV HB 1V 220P	
C509	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C510	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C511 ..513	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C514	CE 100UF+-20%16V RUND SMD SMD-ELECTOLYTIC CAPACIT.	CE 0009.6553.00	SANYO	16CV100F(G)S	
C515	CE 22UF+-20%35V RUND SMD SMD ELECTROLYTIC CAPACIT.	CE 0009.6253.00	PANASONIC	EEV HB 1V 220P	
C516	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C517	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C518	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C519	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C520	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C521	CE 4,7UF +-10% 25V 7343 TANTALUM CHIP CAPACITOR	CE 0007.7230.00	SPRAGUE	293D475X9035D2W	
C522	CE 4,7UF +-10% 25V 7343 TANTALUM CHIP CAPACITOR	CE 0007.7230.00	SPRAGUE	293D475X9035D2W	
C523	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C524	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C525	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C526	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C527	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C528	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C529	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C530 ..534	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C535 ..540	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C541	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C542	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C543	CC 0,3PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7114.00	AVX	0603 5J *** AAW TR	
C544 ..546	CC 1,0PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8304.00	MURATA	GRM39C0G***B50ZPT	
C547	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39C0G***F50ZPT	
C548	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C549	CC 4,7NF+-10% 50VHDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4809.00	MURATA	GRM39X7R***K5C500PT*	
C550	CC 2,2PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39C0G***B50ZPT	
C551	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C552	CC 3,3PF 0, 1PF50V NPO 06 SMD-CERAMIC-CAPACITOR	CC 0009.8285.00	MURATA	GRM39C0G***B50ZPT	
C553	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C554	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C555	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C556	CC 2,2PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39C0G***B50ZPT	
C557	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C558	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C559	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C560	CC 5,6PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4521.00	MURATA	GRM39C0G***B50ZPT	
C561	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C562	CC 3,3PF 0, 1PF50V NPO 06 SMD-CERAMIC-CAPACITOR	CC 0009.8285.00	MURATA	GRM39C0G***B50ZPT	
C563	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C564	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C565	CC 8,2PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4550.00	MURATA	GRM39C0G***B50ZPT	
C566	CC 470PF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4896.00	MURATA	GRM39X7R***K5C500PT*	
C567	CC 2,2PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39C0G***B50ZPT	
C568	CC 680PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0007.7375.00	MURATA	GRM42-6C0G 681F 50PT	
C569	CC 0,5PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7137.00	AVX	0603 5J *** AAW TR	
C570	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C571	CC 39PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.9730.00	MURATA	GRM39C0G***F50ZPT	
C572	CC 18PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0048.3622.00	MURATA	GRM39C0G***F50ZPT	
C573	CC 1,0PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8304.00	MURATA	GRM39C0G***B50ZPT	
C574	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C575	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C576	CE 10UF +-10% 10V 6032 TANTALUM CHIP CAPACITOR	CE 0007.7281.00	SPRAGUE	293D-106X9 016 C2W	
C577	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C578	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C579	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C580	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C581	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C582	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C583 ..588	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C589	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C590	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C591	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C592	CC 1,8PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4473.00	MURATA	GRM39C0G***B50ZPT	
C593	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C594	CC 6,8PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8262.00	MURATA	GRM39C0G***B50ZPT	
C595	CC 4,7PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C596	CC 4,7PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C597	CC 680PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0007.7375.00	MURATA	GRM42-6C0G 681F 50PT	
C598	CC 0,6PF+-0,05PF 0603 SMD-CERAMIC CAPACITOR	CC 0010.7143.00	AVX	0603 5J *** AAW TR	
C599	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	

Für diese Unterlage behalten wir uns alle Rechte vor.

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C600	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C601	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C602	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39C0G***F50ZPT	
C603	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C604	CC 39PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.9730.00	MURATA	GRM39C0G***F50ZPT	
C605	CC 220NF+-10%50V X7R 1210 CERAMIC CAPACITOR CHIP	CC 0520.6850.00	AVX	1210 5C 224KA 11A	
C606	CE 220UF 20% 10V SMD TANTALUM SMD CAPACITOR	1081.1873.00	SPRAGUE	595D227X0010R2T	
C607	CE 220UF 20% 10V SMD TANTALUM SMD CAPACITOR	1081.1873.00	SPRAGUE	595D227X0010R2T	
C608	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C609	CC 1,8PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4473.00	MURATA	GRM39C0G***B50ZPT	
C610	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C611	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C612	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C613	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C614	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C615	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C616	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C617 ..620	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C621	CC 1,0PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8304.00	MURATA	GRM39C0G***B50ZPT	
C622	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C623	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C624	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C625	CE 220UF 20% 10V SMD TANTALUM SMD CAPACITOR	1081.1873.00	SPRAGUE	595D227X0010R2T	
C626 ..629	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C630	CC 2,2PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39C0G***B50ZPT	
C631	CC 1,0PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.8304.00	MURATA	GRM39C0G***B50ZPT	
C632 ..634	CC 470PF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4896.00	MURATA	GRM39X7R***K5C500PT*	
C635 ..637	CC 100NF+-10%16V HDK 0603 CERAMIC CHIP CAPACITOR	CC 1097.6292.00	PHILIPS_CO	2238 786 16649	
C638	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C639	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C640 ..642	CC 100NF+-10%16V HDK 0603 CERAMIC CHIP CAPACITOR	CC 1097.6292.00	PHILIPS_CO	2238 786 16649	
C643	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C644	CC 1,0NF+-10%50V HDK 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4938.00	MURATA	GRM39X7R***K5C500PT*	
C645 ..652	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C653	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C654	CE 4,7UF+-10% 10V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7275.00	SPRAGUE	293D 475 X9 010 B2T	
C655	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C656	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C657	CC 680PF+-1% 50V NP0 1206 CERAMIC CHIP CAPACITOR	CC 0007.7375.00	MURATA	GRM42-6C0G 681F 50PT	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C658	CC 680PF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0007.7375.00	MURATA	GRM42-6C0G 681F 50PT	
C659 ..662	CC 33NF+-10% 25V HDK 0603 SMD CERAMIC CAPACITOR	CC 1051.4697.00	AVX	CM105X7R333K25VAT	
C663	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C664	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C665	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C666	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C667 ..669	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C670	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C671	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C672	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C673	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C674	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C675	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C676	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C677	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C678	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C679	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C680	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C681	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C682	CC 10P+-0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4567.00	MURATA	GRM39C0G***B50ZPT	
C683	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C684	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
C685	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C686	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C687	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C688	CC 22PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4609.00	MURATA	GRM39C0G***F50ZPT	
C689 ..692	CC 47PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4644.00	MURATA	GRM39C0G***F50ZPT	
C693 ..698	CC 1,2NF+-1% 50V NPO 1206 CERAMIC CHIP CAPACITOR	CC 0007.7400.00	AVX	1206 5A 122FAT00J	
C699	CC 3,3PF 0, 1PF50V NPO 06 SMD-CERAMIC-CAPACITOR	CC 0009.8285.00	MURATA	GRM39C0G***B50ZPT	
C700	CC 3,3PF 0, 1PF50V NPO 06 SMD-CERAMIC-CAPACITOR	CC 0009.8285.00	MURATA	GRM39C0G***B50ZPT	
C701	CC 4,7PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4538.00	MURATA	GRM39C0G***B50ZPT	
C702	CC 2,2PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39C0G***B50ZPT	
	NICHT BESTUECKT/NOT FITTED				
C703	CC 6,8NF+-1% 50V NPO 1210 SMD-CERAMIC CAPACITOR	0010.2993.00	MURATA	GRM42-2C0G682F50PT	
C704	CC 6,8NF+-1% 50V NPO 1210 SMD-CERAMIC CAPACITOR	0010.2993.00	MURATA	GRM42-2C0G682F50PT	
C705 ..707	CC 220PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4721.00	MURATA	GRM39C0G***F50ZPT	
C708	CC 100NF+-10%16V HDK 0603 CERAMIC CHIP CAPACITOR	CC 1097.6292.00	PHILIPS_CO	2238 786 16649	
C709	CC 2,2PF0,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39C0G***B50ZPT	
C710	CE 220UF 20% 10V SMD TANTALUM SMD CAPACITOR	1081.1873.00	SPRAGUE	595D227X0010R2T	

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1GPK 853 3PLU	Ai	Datum Date	Schaltteilliste für Parts list for	Sachnummer Stock No.	Blatt-Nr. Page
ROHDE&SCHWARZ	68	11.08.99	EE IQ-MODULATOR IQ-MODULATOR	**1084.9800.01 SA**	13+

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
C711	CC 2,2PFO,1PF50V NPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4467.00	MURATA	GRM39C0G***B50ZPT	
C712 ..715	CC 100PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.4680.00	MURATA	GRM39C0G***F50ZPT	
C800	CE 1UF +-10% 25V 3528 TANTALUM CHIP CAPACITOR	CE 0007.7217.00	SPRAGUE	293D 105 X9 025 B2T	
C850	CC 39PF+-1% 50VNPO 0603 SMD-CERAMIC-CAPACITOR	CC 0009.9730.00	MURATA	GRM39C0G***F50ZPT	
D1	BO AD835AR 250MHZ 4QMULTI 4-QUADRANT MULTIPLIER	1085.1632.00	ANALOG_DEV	AD835AR	
D2	BO AD835AR 250MHZ 4QMULTI 4-QUADRANT MULTIPLIER	1085.1632.00	ANALOG_DEV	AD835AR	
D3	BL AD7008 DDS MODULATOR IC MODULATOR	BL 1078.3410.00	ANALOG_DEV	AD7008JP50	
D4	BL PC74HCT125T 4XBUFF. 3S QUAD LINE DRIVER	BL 0007.5395.00	PHILIPS_SE	(PC)74HCT125(D/T)	
D5	BS DG419DY 1XUM ANALOGSCH ANALOG SWITCH	0746.0322.00	SILICONIX	DG419DY	
D6	BL PC74HC86T 4X2IN EXOR QUAD 2INPUT EXOOR GATE	BL 0007.3511.00	PHILIPS_SE	(PC)74HC86(D/T)	
D7	BL PC74HC86T 4X2IN EXOR QUAD 2INPUT EXOOR GATE	BL 0007.3511.00	PHILIPS_SE	(PC)74HC86(D/T)	
D8	BS DG419DY 1XUM ANALOGSCH ANALOG SWITCH	0746.0322.00	SILICONIX	DG419DY	
D9 ..15	BS DG413DY 2A2R ANALOGSCH QUAD ANALOG CMOS.SWITCH	1004.7058.00	SILICONIX	DG413DY	
D16	BS DG408DY 8CH.ANAL.MUX IC 8 CH ANALOG MULTIPLEX	1036.4460.00	SILICONIX	DG408DY	
D17	BS DG408DY 8CH.ANAL.MUX IC 8 CH ANALOG MULTIPLEX	1036.4460.00	SILICONIX	DG408DY	
D18	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D19	BL PC74HCT08T 4X2IN ANDG AND GATE	BL 0007.6179.00	PHILIPS_SE	(PC)74HCT08(D/T)	
D20 ..26	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D27	BM AT-339 GAAS VAR.DAEMPF IC DIGITAL ATTENUATOR NUR VAR/ONLY MOD: 02	1085.1555.00	MACOM	AT-339 PIN	
D27	BM AT-339 GAAS VAR.DAEMPF IC DIGITAL ATTENUATOR NUR VAR/ONLY MOD: 04	1085.1555.00	MACOM	AT-339 PIN	
D27	BM AT-339 GAAS VAR.DAEMPF IC DIGITAL ATTENUATOR NUR VAR/ONLY MOD: 06	1085.1555.00	MACOM	AT-339 PIN	
D27	BM AT-339 GAAS VAR.DAEMPF IC DIGITAL ATTENUATOR NUR VAR/ONLY MOD: 08	1085.1555.00	MACOM	AT-339 PIN	
D28	BM SW-339 GAAS SPDTSWITCH GAAS RF-SWITCH	1085.2074.00	MACOM	SW339 PIN	
D29 ..31	BL PC74HC4051T 8CH.AN.MUX 8CHANNEL ANAL.MULTIPLEXER	0007.3592.00	PHILIPS_SE	(PC)74HC4051(D/T)	
D32	BL PC74HC08T 4X2IN.ANDG QUAD 2INPUT AND GATE	BL 0007.3486.00	PHILIPS_SE	(PC)74HC08(D/T)	
D33	BL MCK12140D PLL-PHASEDET PHASE FREQUENZY DETECTOR	BL 1052.6235.00	MOTOROLA	(MC)K(M)140(D)	
D34	BL PC74HCT132T 4X2IN SCHM NAND SCHMITT TRIGGER	BL 0007.6340.00	PHILIPS	(PC)74HCT132(D/T)	
D35	BL PC74HCT132T 4X2IN SCHM NAND SCHMITT TRIGGER	BL 0007.6340.00	PHILIPS	(PC)74HCT132(D/T)	
D36	BL PC74HCT86T 4X2IN.EXOR EXOR GATE	0007.6291.00	PHILIPS_SE	(PC)74HCT86(D/T)	
D37	BM SW-339 GAAS SPDTSWITCH GAAS RF-SWITCH	1085.2074.00	MACOM	SW339 PIN	
D38	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D39	BL PC74HC123T 2XMULTIVIB DUAL MULTIVIBRATOR	BL 0007.3528.00	PHILIPS_SE	(PC)74HC123(D/T)	
D40	BS MPC102 2X2TO1 VIDEOMUX IC ANALOG MULTIPLEXER	1085.1626.00	BURR_BROWN	MPC102AU	
D41 ..43	BJ DAC8143FS 1X12B-DAC 12B SERIAL D/A-CONVERTER	1012.9510.00	PMI	DAC8143FS	
D44	BL UPB585G 2.5G 4:1 PRESC IC PRESCALER 2.5GHZ	BL 1002.5029.10	NEC	(UPB)585(G)-(E1)	
D45 ..48	BJ DAC8143FS 1X12B-DAC 12B SERIAL D/A-CONVERTER	1012.9510.00	PMI	DAC8143FS	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
D49	BL PC74HCT86T 4X2IN.EXOR EXOR GATE	0007.6291.00	PHILIPS_SE	(PC)74HCT86(D/T)	
D50	BM SW-339 GAAS SPDTSWITCH GAAS RF-SWITCH	1085.2074.00	MACOM	SW339 PIN	
D51	BM SW-339 GAAS SPDTSWITCH GAAS RF-SWITCH	1085.2074.00	MACOM	SW339 PIN	
D52	BG TH3032.1C SERBUSD ASIC IC GATE ARRAY	BG 0008.6143.00	THESYS	TH3032.1C	
D53	BS DG419DY 1XUM ANALOGSCH ANALOG SWITCH	0746.0322.00	SILICONIX	DG419DY	
D54	BM SW-339 GAAS SPDTSWITCH GAAS RF-SWITCH	1085.2074.00	MACOM	SW339 PIN	
D55	BC X24164S8I-2.7 IC MEMORY	BC 0048.4258.00	XICOR	X24164S G	
D56	BL PC74HCT125T 4XBUFF. 3S QUAD LINE DRIVER	BL 0007.5395.00	PHILIPS_SE	(PC)74HCT125(D/T)	
D57	BL PC74HC86T 4X2IN EXOR QUAD 2INPUT EXOOR GATE	BL 0007.3511.00	PHILIPS_SE	(PC)74HC86(D/T)	
D58	BL PC74HC4094T 8ST.BUSREG 8-STAGE SHIFT&STORE REG.	0804.0977.00	PHILIPS_SE	(PC)74HC4094(D/T)	
D59	BL PC74HC4051T 8CH.AN.MUX 8CHANNEL ANAL.MULTIPLEXER	0007.3592.00	PHILIPS_SE	(PC)74HC4051(D/T)	
D61	BJ LTC1446L 2X12-DAC 12B SERIAL D/A-CONVERTER	1085.2200.00	LINEAR_TEC	(LTC)1446LI(S8)	
G1	EO 50,000MHZ QUARZOSZ QUARTZ CRYSTAL OSCILLATOR	1029.2995.00	SEIKO	SG-615PH-C	
L1	LD SMD-DR.Z=55 OHM 300MHZ CHOKE	1085.1684.00	PHILIPS	BDS 3/3/4.6-4S2	
L2	LD 22NH 10% 0,60A 1210 RF CHOKE	1002.4897.00	SIEMENS	B82422-A3220-J(K)100	
L3	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L4	LD 47 NH+-10% 0,3A 0805 SMD-MULTILAYER INDUCTOR	LD 0009.6824.00	TOKO	LL2012-FH47NK(J)	
L5	LD 47 NH+-10% 0,3A 0805 SMD-MULTILAYER INDUCTOR	LD 0009.6824.00	TOKO	LL2012-FH47NK(J)	
L6	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L7	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L8	LD 3,3NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6630.00	TOKO	LL1608-FH...K(J)	
L9 ..11	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L12	LD 33 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6753.00	TOKO	LL1608-FH...K(J)	
L13	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L14	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L15	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L16	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L17	LD 15 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6718.00	TOKO	LL1608-FH...K(J)	
L18 ..28	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L29	LD 15 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6718.00	TOKO	LL1608-FH...K(J)	
L30	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L31	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L32	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L33	LD 39 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6760.00	TOKO	LL1608-FH...K(J)	
L34	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L35	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L36	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L37	LD 22 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6730.00	TOKO	LL1608-FH...K(J)	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L38	LD 39 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6760.00	TOKO	LL1608-FH...K(J)	
L39	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L40	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L41 ..47	LD 39 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6760.00	TOKO	LL1608-FH...K(J)	
L48	LD 220NH 10% 0,28A 1210 RF CHOKE	LD 0520.7911.00	SIEMENS	B82422-A3221-J(K)100	
L49 ..51	LD 22NH 10% 0,60A 1210 RF CHOKE	1002.4897.00	SIEMENS	B82422-A3220-J(K)100	
L52	LD 15 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6718.00	TOKO	LL1608-FH...K(J)	
L53	LD 22 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6730.00	TOKO	LL1608-FH...K(J)	
L54	LD 22 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6730.00	TOKO	LL1608-FH...K(J)	
L55	LD 8,2NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6682.00	TOKO	LL1608-FH...K(J)	
L56	LD 22UH 10% 0,14A 1210 RF CHOKE	LD 0520.7886.00	SIEMENS	B82422-A1223-J(K)100	
L57	LD 22UH 10% 0,14A 1210 RF CHOKE	LD 0520.7886.00	SIEMENS	B82422-A1223-J(K)100	
L58	LD 39 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6760.00	TOKO	LL1608-FH...K(J)	
L59	LD 39 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6760.00	TOKO	LL1608-FH...K(J)	
L60	LD 33 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6753.00	TOKO	LL1608-FH...K(J)	
L61	LD 22UH 10% 0,14A 1210 RF CHOKE	LD 0520.7886.00	SIEMENS	B82422-A1223-J(K)100	
L62	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L63	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L64	LD 47NH 10% 0,51A 1210 RF CHOKE	0008.5976.00	SIEMENS	B82422-A3470-J(K)100	
L65	LD 47NH 10% 0,51A 1210 RF CHOKE	0008.5976.00	SIEMENS	B82422-A3470-J(K)100	
L66 ..68	LD 22UH 10% 0,14A 1210 RF CHOKE	LD 0520.7886.00	SIEMENS	B82422-A1223-J(K)100	
L69 ..73	LD 33 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6753.00	TOKO	LL1608-FH...K(J)	
L74	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L75	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L76	LD 33 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6753.00	TOKO	LL1608-FH...K(J)	
L77	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L78	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L79	LD 15UH 10% 0,16A 1210 RF CHOKE	LD 0009.5192.00	SIEMENS	B82422-A1153-J(K)100	
L80	LD SP-DROSSEL 15UH 2,45A CHOKE	1081.0283.00	SUMIDA	CDR125-150	
L81	LD 150NH 1%OR31 0.7A 1206 CERAMIC CHIP COIL	0048.4635.00	COILCRAFT	1206CS-151XFBC	
L82	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L83	LD 47UH 10% 0,08A 1210 RF CHOKE	LD 0008.1693.00	SIEMENS	B82422-A1473-J(K)100	
L84	LD 47 NH+-10% 0,3A 0805 SMD-MULTILAYER INDUCTOR	LD 0009.6824.00	TOKO	LL2012-FH47NK(J)	
L85	LD 47 NH+-10% 0,3A 0805 SMD-MULTILAYER INDUCTOR	LD 0009.6824.00	TOKO	LL2012-FH47NK(J)	
L86 ..89	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L90	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L91	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L92 ..96	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L97	XX ENTHALTEN IN INCLUDED IN				

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L98	XX ENTHALTEN IN INCLUDED IN				
L99	LD 22 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6730.00	TOKO	LL1608-FH...K(J)	
L100	XX ENTHALTEN IN INCLUDED IN				
L101	XX ENTHALTEN IN INCLUDED IN				
L102	XX ENTHALTEN IN INCLUDED IN				
L103	XX ENTHALTEN IN INCLUDED IN				
L104	XX ENTHALTEN IN INCLUDED IN				
L105	XX ENTHALTEN IN INCLUDED IN				
L106	XX ENTHALTEN IN INCLUDED IN				
L107	XX ENTHALTEN IN INCLUDED IN				
L108	XX ENTHALTEN IN INCLUDED IN				
L109	XX ENTHALTEN IN INCLUDED IN				
L110	XX ENTHALTEN IN INCLUDED IN				
L111	RG 0-OHM WIDERSTAND 0603 SMD RESISTOR EIA0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
L112	LD 27 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6747.00	TOKO	LL1608-FH...K(J)	
L113	LD 33 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6753.00	TOKO	LL1608-FH...K(J)	
L114	XX ENTHALTEN IN INCLUDED IN				
L115	XX ENTHALTEN IN INCLUDED IN				
L116	XX ENTHALTEN IN INCLUDED IN				
L117	LD 27 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6747.00	TOKO	LL1608-FH...K(J)	
L118	LD 100NH 1%OR26 0.8A 1206 CERAMIC CHIP COIL	0048.4612.00	COILCRAFT	1206CS-101XFBC	
L119 ..122	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L123	LD 100UH 10% 0,06A 1210 RF CHOKE	LD 0007.9261.00	SIEMENS	B82422-A1104-J(K)100	
L124	LD 33 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6753.00	TOKO	LL1608-FH...K(J)	
L125	LD 33 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6753.00	TOKO	LL1608-FH...K(J)	
L126 ..133	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L134	LD SMD-DR.Z=850 OHM CHOKE	1085.1661.00	PHILIPS	WBS2.5-5/4.8/10-4B1	
L135	XX ENTHALTEN IN INCLUDED IN				
L136	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L137	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L138	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L139	LD 100NH 1%OR26 0.8A 1206 CERAMIC CHIP COIL	0048.4612.00	COILCRAFT	1206CS-101XFBC	
L140	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L141	LD 100NH 1%OR26 0.8A 1206 CERAMIC CHIP COIL	0048.4612.00	COILCRAFT	1206CS-101XFBC	
L142	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L143	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L144	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L145	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L146	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L147	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L148	XX ENTHALTEN IN INCLUDED IN				
L149	XX ENTHALTEN IN INCLUDED IN				
L150	XX ENTHALTEN IN INCLUDED IN				
L151	XX ENTHALTEN IN INCLUDED IN				
L152	XX ENTHALTEN IN INCLUDED IN				
L153	XX ENTHALTEN IN INCLUDED IN				
L154	XX ENTHALTEN IN INCLUDED IN				
L155	XX ENTHALTEN IN INCLUDED IN				
L156	LD 220NH 10% 0,28A 1210 RF CHOKE	LD 0520.7911.00	SIEMENS	B82422-A3221-J(K)100	
..161					
L162	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L163	LD 100UH 10% 0,06A 1210 RF CHOKE	LD 0007.9261.00	SIEMENS	B82422-A1104-J(K)100	
L164	LD 2,2UH 10% 0,27A 1210 RF CHOKE	LD 0520.7870.00	SIEMENS	B82422-A1222-J(K)100	
L165	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L166	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L167	LD 100UH 10% 0,06A 1210 RF CHOKE	LD 0007.9261.00	SIEMENS	B82422-A1104-J(K)100	
L168	XX ENTHALTEN IN INCLUDED IN				
L169	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L170	LD SP-DROSSEL 15UH 2,45A CHOKE	1081.0283.00	SUMIDA	CDR125-150	
L171	LD 10UH 10% 690MA 2220 RF CHOKE	1106.8252.00	SIEMENS	B82442A1103K	
L172	LD SP-DROSSEL 15UH 2,45A CHOKE	1081.0283.00	SUMIDA	CDR125-150	
L173	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L174	LD 220NH 10% 0,28A 1210 RF CHOKE	LD 0520.7911.00	SIEMENS	B82422-A3221-J(K)100	
L175	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L176	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L177	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L178	LD 100NH 1%OR26 0.8A 1206 CERAMIC CHIP COIL	0048.4612.00	COILCRAFT	1206CS-101XFBC	
L179	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
..182					
L183	LD 4,7UH 3% 0,31A 1812 SMD INDUCTOR	0048.6250.00	DALE	IMC-1812-4.7UH-3%	
L184	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L185	LD 4,7UH 3% 0,31A 1812 SMD INDUCTOR	0048.6250.00	DALE	IMC-1812-4.7UH-3%	
L186	LD 2,2UH 3% 0,38A 1812 SMD INDUCTOR	0048.6221.00	DALE	IMC-1812-2.2UH-3%	
L187	LD 2,2UH 3% 0,38A 1812 SMD INDUCTOR	0048.6221.00	DALE	IMC-1812-2.2UH-3%	
L188	LD 15UH 3% 0,06A 1812 SMD INDUCTOR	0048.6544.00	DALE	ISC-1812-15UH-3%	
L189	XX ENTHALTEN IN INCLUDED IN				
L190	XX ENTHALTEN IN INCLUDED IN				
L191	XX ENTHALTEN IN INCLUDED IN				
L192	XX ENTHALTEN IN INCLUDED IN				
L193	XX ENTHALTEN IN INCLUDED IN				

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
L194	XX ENTHALTEN IN INCLUDED IN				
L195	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L196	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
L197	LD 15UH 3% 0,06A 1812 SMD INDUCTOR	0048.6544.00	DALE	ISC-1812-15UH-3%	
L198	LD 4,7UH 3% 0,31A 1812 SMD INDUCTOR	0048.6250.00	DALE	IMC-1812-4.7UH-3%	
L199	LD 4,7UH 3% 0,31A 1812 SMD INDUCTOR	0048.6250.00	DALE	IMC-1812-4.7UH-3%	
L200	LD 2,2UH 3% 0,38A 1812 SMD INDUCTOR	0048.6221.00	DALE	IMC-1812-2.2UH-3%	
L201	LD 2,2UH 3% 0,38A 1812 SMD INDUCTOR	0048.6221.00	DALE	IMC-1812-2.2UH-3%	
L202	LD 18 NH+-10% 0,3A 0603 SMD-MULTILAYER INDUCTOR	LD 0009.6724.00	TOKO	LL1608-FH...K(J)	
L203	LD 15UH 3% 0,06A 1812 SMD INDUCTOR	0048.6544.00	DALE	ISC-1812-15UH-3%	
L204	LD 15UH 3% 0,06A 1812 SMD INDUCTOR	0048.6544.00	DALE	ISC-1812-15UH-3%	
L205	LD 1UH 10% 0,38A 1210 RF CHOKE	LD 6006.0130.00	SIEMENS	B82422-A1102-J(K)100	
L206	LD 470NH 10% 0,15A 1210 RF CHOKE	LD 0007.9926.00	SIEMENS	B82422-A3471-J(K)100	
L207	LD 10UH 10% 0,18A 1210 RF CHOKE	LD 0007.9255.00	SIEMENS	B82422-A1103-J(K)100	
N1	BO TL074ACD 4XFET OPAMP OPERATIONAL AMPLIFIER	0007.7823.00	TEXAS	TL074A(CD)	
N2	BO TL074ACD 4XFET OPAMP OPERATIONAL AMPLIFIER	0007.7823.00	TEXAS	TL074A(CD)	
N3	BO OP297GS 2X PREC OPAMP IC DUALOPAMP	6071.9467.00	ANALOG_DEV	OP297GS	
N4	BO TL074ACD 4XFET OPAMP OPERATIONAL AMPLIFIER	0007.7823.00	TEXAS	TL074A(CD)	
N5	BM MSA0386 DC-2.4G MMIC BROADBAND AMPLIFIER	0848.4461.00	AVANTEK	MSA0386	
N6	BO NE5534D OPAMP OPERATIONAL AMPLIFIER	0815.7555.00	SIGNETICS	NE5534(D)	
N7 ..11	BO OP275GS LN 2XFET OPAMP IC DUAL OPAMP	2043.0928.00	ANALOG_DEV	OP275GS	
N12	BO REF01CS 10V 20MA VREF VOLTAGE REFERENCE	1002.5129.00	PMI	REF01C(S)	
N13	BO AD822BR 2XFET OPAMP IC DUAL OPAMP	2043.0934.00	ANALOG_DEV	AD822BR	
N14	BO AD829JR 1XLOLN OPAMP IC OPAMP	1036.4254.00	ANALOG_DEV	AD829JR	
N15	BO AD829JR 1XLOLN OPAMP IC OPAMP	1036.4254.00	ANALOG_DEV	AD829JR	
N16	BO OP400GS 4XLP OPAMP QUAD LOW-OFFSET OPAMP	1002.5135.00	PMI	OP400G(S)	
N17	BO LT1058S 4XFET OPAMP QUAD OPAMP FET	2013.1484.00	LINEAR_TEC	LT1058SW	
N18	BO OP400GS 4XLP OPAMP QUAD LOW-OFFSET OPAMP	1002.5135.00	PMI	OP400G(S)	
N19	BO OP400GS 4XLP OPAMP QUAD LOW-OFFSET OPAMP	1002.5135.00	PMI	OP400G(S)	
N20	BO OP297GS 2X PREC OPAMP IC DUALOPAMP	6071.9467.00	ANALOG_DEV	OP297GS	
N21	BO OP297GS 2X PREC OPAMP IC DUALOPAMP	6071.9467.00	ANALOG_DEV	OP297GS	
N22 ..24	BO AD744KR FET OPAMP BIFET OPAMP	0854.1754.00	ANALOG_DEV	(AD)744KR	
N25 ..27	BO OP297GS 2X PREC OPAMP IC DUALOPAMP	6071.9467.00	ANALOG_DEV	OP297GS	
N28	BL UPB581C 2:1 PRESC IC PRESCALERDIVIDER	BL 0840.6113.00	NEC	(UP)B581C	
N29	BO AD811JR VIDEOCF OPAMP IC OPAMP	2025.2997.00	ANALOG_DEV	AD811JR	
N30	BO MAX942CSA R-TO-R 2XCOM COMPARATOR	1085.1710.00	MAXIM	MAX942CSA-T	
N31 ..33	BO OP07CS8 OPAMP OPERATIONAL AMPLIFIER	0007.7781.00	LINEAR_TEC	LT1001(CS8)	
N34	BO AD744KR FET OPAMP BIFET OPAMP	0854.1754.00	ANALOG_DEV	(AD)744KR	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
N35	BO AD744KR FET OPAMP BIFET OPAMP	0854.1754.00	ANALOG_DEV	(AD)744KR	
N37	BO OP275GS LN 2XFET OPAMP IC DUAL OPAMP	2043.0928.00	ANALOG_DEV	OP275GS	
N38	BM MGA82563 0.1-6G MMIC MICROWAVE MONOLITHIC AMPL	1085.2100.00	HEWLETT_PA	MGA-82563-TR1	
N39 ..41	BO AD744KR FET OPAMP BIFET OPAMP	0854.1754.00	ANALOG_DEV	(AD)744KR	
N42	BO MAX942CSA R-TO-R 2XCOM COMPARATOR	1085.1710.00	MAXIM	MAX942CSA-T	
N43	BO OP275GS LN 2XFET OPAMP IC DUAL OPAMP	2043.0928.00	ANALOG_DEV	OP275GS	
N44 ..47	BM AM1 0.25-3GHZ MMIC BROADBAND AMPLIFIER	1104.9980.00	WATKINS-JO	WJ-AM1	
N48	BO OP400GS 4XLP OPAMP QUAD LOW-OFFSET OPAMP	1002.5135.00	PMI	OP400G(S)	
N49	BM AM1 0.25-3GHZ MMIC BROADBAND AMPLIFIER	1104.9980.00	WATKINS-JO	WJ-AM1	
P1 ..12	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P13	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P14	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P17	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P18	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P19	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P20 ..26	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P29	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P32 ..45	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P50 ..69	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P72	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
P75	VL EINPRESSSTIFT 5,6 PIN	VL 0010.7250.00	AMP	1-928776-5	
R1	RG 9,09KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8904.00	PHILIPS_CO	MPC 01	
R2	RS 0,25W 2KOHM +-20% SMD POTENTIOMETER	RS 0007.9626.00	BI_TECHNOL	23 B R... TR	
R3 ..6	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R7	RG 39R 1% 1W 1218 SMD-RESISTOR	1104.2786.00	PHILIPS_CO	PRC201-39R 1% TK100	
R8	RG 39R 1% 1W 1218 SMD-RESISTOR	1104.2786.00	PHILIPS_CO	PRC201-39R 1% TK100	
R9	RG 220K +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7108.00	DRALORIC	CR 0603	
R10	RG 220K +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7108.00	DRALORIC	CR 0603	
R11	RG 121 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9498.00	DRALORIC	CR 0603	
R12	RG 1,3KOHM+-0,1%TK25 1206 RESISTOR	0010.1968.00	PHILIPS_CO	MPC 01	
R13 ..15	RG 20R 1% 1W 1218 SMD RESISTOR	1104.2734.00	PHILIPS_CO	PRC201-20R 1% TK100	
R16	RG 51,0 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9030.00	DRALORIC	CR 0603	
R17	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R18	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R19	RG 20K +-1% TK100 0603 SMD RESISTOR EIA0603	0010.9100.00	DRALORIC	CR 0603	
R20	RG 10R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R21	RG 10R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R22	RG 270R +-1% TK100 0603 SMD RESISTOR EIA0603	0010.9581.00	PHILIPS_CO	RC 22 H	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R23	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R24	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R25	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R26	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R27 ..30	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R31	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R32	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R33	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R34	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R35	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R36	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R37	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9130.00	DRALORIC	CR 0603	
R38	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R39	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R40	RG 270R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R41	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9130.00	DRALORIC	CR 0603	
R42	RG 270R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R43	RG 270R +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 02	0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R43	RG 270R +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 04	0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R43	RG 270R +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 06	0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R43	RG 270R +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 08	0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R44	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R45	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R46	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R47	RG 2K74 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8410.00	PHILIPS_CO	RC 22 H	
R48	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R49	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R50	RG 10,0KOH+-0,1%TK25 SMD-RESISTOR NUR VAR/ONLY MOD: 02	1206	0009.7666.00	PHILIPS_CO	MPC 01	
R50	RG 10,0KOH+-0,1%TK25 SMD-RESISTOR NUR VAR/ONLY MOD: 04	1206	0009.7666.00	PHILIPS_CO	MPC 01	
R50	RG 10,0KOH+-0,1%TK25 SMD-RESISTOR NUR VAR/ONLY MOD: 06	1206	0009.7666.00	PHILIPS_CO	MPC 01	
R50	RG 7,5KOHM+-1%TK100 RG CHIP RESISTOR NUR VAR/ONLY MOD: 08	1206	RG 0007.0764.00	PHILIPS_CO	RC02	
R51	RS 0,25W 5KOHM +-20% POTENTIOMETER	SMD	RS 0007.9632.00	BI_TECHNOL	23 B R... TR	
R52	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R53	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	
R54	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R55	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R56 ..62	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R63	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R64	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R65	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R66	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R67	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9130.00	DRALORIC	CR 0603	
R68 ..71	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R72	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R73	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R74 ..81	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R82	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R83	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R84 ..88	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R89	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R90	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	
R91	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	
R92	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R93	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R94	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R95	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R96	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R97	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R98	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R99	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R100 ..102	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R103	RG 2KO +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6328.00	DRALORIC	CR 0603	
R104	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R105	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R106	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R107	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R108	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R109	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R110	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R111	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R112	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R113	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9130.00	DRALORIC	CR 0603	
R114	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R115	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R116	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R117	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R118	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R119	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R120	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9130.00	DRALORIC	CR 0603	
R121	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R122	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R123	RG 27,4KOH+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.7743.00	PHILIPS_CO	MPC 01	
R124	RS 0,25W 1KOHM +-20% RG POTENTIOMETER	SMD	RS 0007.9610.00	BI_TECHNOL	23 B R... TR	
R125	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R126	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R127	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R128	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R129 ..133	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R134	RG 82,5 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9052.00	DRALORIC	CR 0603	
R135	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R136	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R137	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R138 ..140	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R141	RG 100R 1% 1W SMD RESISTOR	1218	1104.2740.00	PHILIPS_CO	PRC201-100R 1% TK100	
R142	RG 100R 1% 1W SMD RESISTOR	1218	1104.2740.00	PHILIPS_CO	PRC201-100R 1% TK100	
R143 ..145	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R146	RG 301R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R147	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R148	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R149	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R150	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R151	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R152	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R153	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R154	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R155	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R156	RG 7K5 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8440.00	PHILIPS_CO	RC 22 H	
R157	RG 12R1+-1%TK100 SMD RESISTOR EIA0603	0603	0010.9275.00	DRALORIC	CR 0603	
R158	RG 35,7 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9000.00	PHILIPS_CO	RC 22 H	
R159	RG 7K5 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8440.00	PHILIPS_CO	RC 22 H	
R160	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R161	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R162	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R163	RG 22R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.6901.00	DRALORIC	CR 0603	
R164	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R165	RG 30,1 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R166	RG 0-OHM WIDERSTAND 0603 SMD RESISTOR EIA0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R167	RG 10R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R168	RG 5K62 +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8433.00	DRALORIC	CR 0603	
R169	RG 5R62 +-1% TK250 0603 SMD RESISTOR EIA0603	0009.9100.00	DRALORIC	CR 0603	
R170	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R171	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R172	RG 301R +-1%TK100 0603 SMD RESISTOR EIA0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R173	RG 301R +-1%TK100 0603 SMD RESISTOR EIA0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R174	RG 12R1+-1%TK100 0603 SMD RESISTOR EIA0603	0010.9275.00	DRALORIC	CR 0603	
R175	RG 0-OHM WIDERSTAND 0603 SMD RESISTOR EIA0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R176	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R177	RG 7K5 +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8440.00	PHILIPS_CO	RC 22 H	
R178	RG 30,1 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R179	RG 30,1 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R180	RG 1K21 +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0010.9817.00	DRALORIC	CR 0603	
R181	RG 1K21 +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0010.9817.00	DRALORIC	CR 0603	
R182 ..184	RG 30,1 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R185	RG 56R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.9646.00	DRALORIC	CR 0603	
R186	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R187	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R188	RG 301R +-1%TK100 0603 SMD RESISTOR EIA0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R189	RG 56R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.9646.00	DRALORIC	CR 0603	
R190 ..192	RG 30,1 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R193	RG 301R +-1%TK100 0603 SMD RESISTOR EIA0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R194	RG 121 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9498.00	DRALORIC	CR 0603	
R195	RG 121 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9498.00	DRALORIC	CR 0603	
R196 ..199	RG 470R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.6976.00	DRALORIC	CR 0603	
R200 ..202	RG 22R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.6901.00	DRALORIC	CR 0603	
R203	RG 68R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.6930.00	DRALORIC	CR 0603	
R204	RG 825R +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R205	RG 825R +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R206 ..208	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R209	RG 68R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.6930.00	DRALORIC	CR 0603	
R210	RG 68R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.6930.00	DRALORIC	CR 0603	
R211 ..214	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R215	RG 182 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9130.00	DRALORIC	CR 0603	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R216	RG 220R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.6953.00	DRALORIC	CR 0603	
R217	RG 2K2 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7008.00	DRALORIC	CR 0603	
R218	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R219	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R220	RG 301R +-1%TK100 0603 SMD RESISTOR EIA0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R221	RG 3K92 +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R222	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R223	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R224	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R225	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R226	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R227	RG 82,5 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9052.00	DRALORIC	CR 0603	
R228	RG 18K2+-1% TK100 0603 SMD RESISTOR EIA0603	0010.9317.00	DRALORIC	CR 0603	
R229	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R230	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R231	RG 12,0KOH+-0,1%TK25 1206 SMD-RESISTOR	0009.7620.00	PHILIPS_CO	MPC 01	
R232 ..236	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R237	RG 100R +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R238	RG 1,0 KO +-0,1%TK25 1206 SMD-RESISTOR	0009.7595.00	PHILIPS_CO	MPC 01	
R239	RG 1,0 KO +-0,1%TK25 1206 SMD-RESISTOR	0009.7595.00	PHILIPS_CO	MPC 01	
R240 ..243	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R244	RG 2K2 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7008.00	DRALORIC	CR 0603	
R245	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R246	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R247	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R248	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R249	RG 2K2 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7008.00	DRALORIC	CR 0603	
R250	RG 1KO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R251	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R252	RG 1KO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R253	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R254	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R255	RG 10,0KOH+-0,1%TK25 1206 SMD-RESISTOR	0009.7666.00	PHILIPS_CO	MPC 01	
R256	RG 10,0KOH+-0,1%TK25 1206 SMD-RESISTOR	0009.7666.00	PHILIPS_CO	MPC 01	
R257	RG 1KO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R258	RG 20K +-1% TK100 0603 SMD RESISTOR EIA0603	0010.9100.00	DRALORIC	CR 0603	
R259	RG 5,11KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0729.00	PHILIPS_CO	RC02	
R260	RG 5,11KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0007.0729.00	PHILIPS_CO	RC02	
R261	RG 39,2KOH+-0,1%TK25 1206 SMD-RESISTOR	0009.8027.00	PHILIPS_CO	MPC 01	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R262	RG 39,2KOH+-0,1%TK25 SMD-RESISTOR	1206	0009.8027.00	PHILIPS_CO	MPC 01	
R263	RG 39K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9823.00	DRALORIC	CR 0603	
R264	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R265	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R266	RG 8K25 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8456.00	DRALORIC	CR 0603	
R267	RG 15K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7043.00	DRALORIC	CR 0603	
R268 ..270	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R271	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R272	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R273	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R274	RG 15K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7043.00	DRALORIC	CR 0603	
R275 ..277	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R278	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R279 ..283	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R284	RG 82,5 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9052.00	DRALORIC	CR 0603	
R285	RG 392R+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9300.00	DRALORIC	CR 0603	
R286	RG 392R+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9300.00	DRALORIC	CR 0603	
R287	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R288	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R289	RG 470R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6976.00	DRALORIC	CR 0603	
R290	RG 470R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6976.00	DRALORIC	CR 0603	
R291	RG 16,20HM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.8933.00	DRALORIC	CR 0603	
R292	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R293	RG 16,20HM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.8933.00	DRALORIC	CR 0603	
R294	RG 16,20HM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.8933.00	DRALORIC	CR 0603	
R295	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R296	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R297	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R298	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R299	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R300	RG 82,5 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9052.00	DRALORIC	CR 0603	
R301	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R302	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R303	RG 121 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9498.00	DRALORIC	CR 0603	
R304	RG 121 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9498.00	DRALORIC	CR 0603	
R305	RG 3,32KOH+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.7772.00	PHILIPS_CO	MPC 01	
R306 ..311	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R312	RG 680R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6982.00	PHILIPS_CO	RC 22 H	
R313	RG 680R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6982.00	PHILIPS_CO	RC 22 H	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R314	RG 3K3 +-1% TK100	0603	0009.7014.00	DRALORIC	CR 0603	
..317	SMD RESISTOR EIA0603					
R318	RG 1KO +-1% TK100	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R319	RG 100R +-1% TK100	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R320	RG 825R +-1% TK100	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R321	RG 470R +-1% TK100	0603	0009.6976.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R322	RG 470R +-1% TK100	0603	0009.6976.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R323	RG 1K5 +-1% TK100	0603	0009.6999.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R324	RG 3K3 +-1% TK100	0603	0009.7014.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R325	RG 5K62 +-1% TK100	0603	0010.8433.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R326	RG 51,0 OHM+-1%TK100	0603	0009.9030.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R327	RG 470R +-1% TK100	0603	0009.6976.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R328	RG 4K7 +-1% TK100	0603	0009.7020.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R329	RG 470R +-1% TK100	0603	0009.6976.00	DRALORIC	CR 0603	
..331	SMD RESISTOR EIA0603					
R332	RG 100R +-1% TK100	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R333	RG 10K +-1% TK100	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R334	RG 470R +-1% TK100	0603	0009.6976.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R335	RG 470R +-1% TK100	0603	0009.6976.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R336	RG 0-OHM WIDERSTAND	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
	SMD RESISTOR EIA0603					
R337	RG 220R +-1% TK100	0603	0009.6953.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R338	RG 220R +-1% TK100	0603	0009.6953.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R339	RG 150R +-1% TK100	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R340	RG 825R +-1% TK100	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R341	RG 470R +-1% TK100	0603	0009.6976.00	DRALORIC	CR 0603	
..343	SMD RESISTOR EIA0603					
R344	RG 20K +-1% TK100	0603	0010.9100.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R345	RG 10K +-1% TK100	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R346	RG 6K8 +-1% TK100	0603	0009.7037.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R347	RG 4K7 +-1% TK100	0603	0009.7020.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R348	RG 20,0KOH+-0,1%TK25	1206	0009.7643.00	PHILIPS_CO	MPC 01	
	SMD-RESISTOR					
R349	RG 100R +-1% TK100	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R350	RG 100R +-1% TK100	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R351	RG 30,1 OHM+-1%TK100	0603	0009.9081.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R352	RG 100R +-1% TK100	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R353	RG 30,1 OHM+-1%TK100	0603	0009.9081.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R354	RG 825R +-1% TK100	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R355	RG 150R +-1% TK100	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R356	RG 18,2KOH+-0,1%TK25	1206	0009.7637.00	PHILIPS_CO	MPC 01	
	SMD-RESISTOR					
R357	RG 110 OHM+-1%TK100	0603	0009.9481.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					
R358	RG 150R +-1% TK100	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
	SMD RESISTOR EIA0603					
R359	RG 182 OHM+-1%TK100	0603	0009.9130.00	DRALORIC	CR 0603	
	SMD RESISTOR EIA0603					

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R360	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R361	RG 392K+-1% TK100 RESISTOR	0603	1097.6528.00	DRALORIC	CR 0603	
R362	RG 330K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7114.00	PHILIPS_CO	RC 22 H	
R363	RG 33R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6918.00	DRALORIC	CR 0603	
R364	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R365	RG 68R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6930.00	DRALORIC	CR 0603	
R366	RG 82,5 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9052.00	DRALORIC	CR 0603	
R367	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R368	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R369 ..376	RG 100 OHM+-0,1%TK25 SMD-RESISTOR	1206	0009.8033.00	PHILIPS_CO	MPC 01	
R377	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R378	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R379	RG 33R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6918.00	DRALORIC	CR 0603	
R380	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R381	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R382	RG 33R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6918.00	DRALORIC	CR 0603	
R383	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R384	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R385	RG 1,0 KO +-0,1%TK25 SMD-RESISTOR	1206	0009.7595.00	PHILIPS_CO	MPC 01	
R386	RG 22R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6901.00	DRALORIC	CR 0603	
R387	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R388	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R389	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R390	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R391	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R392	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R393	RG 137 OHM+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.9252.00	PHILIPS_CO	MPC 01	
R394	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R395	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R396	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R397	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R398	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R399	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R400	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R401	RG 15R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6899.00	DRALORIC	CR 0603	
R402	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R403	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R404 ..406	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R407	RG 30,1 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9081.00	PHILIPS_CO	RC 22 H	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R408	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R409	RG 10,0KOH+-0,1%TK25 SMD-RESISTOR NUR VAR/ONLY MOD: 02	1206	0009.7666.00	PHILIPS_CO	MPC 01	
R409	RG 10,0KOH+-0,1%TK25 SMD-RESISTOR NUR VAR/ONLY MOD: 04	1206	0009.7666.00	PHILIPS_CO	MPC 01	
R409	RG 7,5KOHM+-1%TK100 RG CHIP RESISTOR NUR VAR/ONLY MOD: 08	1206	RG 0007.0764.00	PHILIPS_CO	RC02	
R410	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R411	RG 470K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7120.00	PHILIPS_CO	RC 22 H	
R412	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R413	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R414	RG 4R75 +-1% TK250 SMD RESISTOR EIA0603	0603	0010.8379.00	PHILIPS_CO	RC 22 H	
R415	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9130.00	DRALORIC	CR 0603	
R416	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R417	RG 15R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6899.00	DRALORIC	CR 0603	
R418	RG 30,1 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R419	RG 30,1 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R420	RG 1K82 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8404.00	PHILIPS_CO	RC 22 H	
R421	RG 1K82 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8404.00	PHILIPS_CO	RC 22 H	
R422	RG 1MO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5370.00	DRALORIC	CR 0603	
R423 ..429	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R430	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R431	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R432	RG 22R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6901.00	DRALORIC	CR 0603	
R433	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R434	RG 5K11 +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6334.00	PHILIPS_CO	RC 22 H	
R435	RG 1K82 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8404.00	PHILIPS_CO	RC 22 H	
R436	RG 2K74 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8410.00	PHILIPS_CO	RC 22 H	
R437	RG 301R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R438	RG 301R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R439	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R440	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R441	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R442	RG 270R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R443	RG 270R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R444	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9130.00	DRALORIC	CR 0603	
R445	RG 150K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7095.00	DRALORIC	CR 0603	
R446	RG 470K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7120.00	PHILIPS_CO	RC 22 H	
R447	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R448	RG 8R25 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9117.00	DRALORIC	CR 0603	
R449	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R450	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R451	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R452	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R453	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R454 ..456	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R457	RG 470R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6976.00	DRALORIC	CR 0603	
R458	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R459	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R460	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R461	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R462	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R463	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R464	RG 68R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6930.00	DRALORIC	CR 0603	
R465	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R466	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R467	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R468	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R469	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R470	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R471	RG 301R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R472	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R473	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R474	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R475	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R476	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R477	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R478	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R479	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R480	RG 30,1 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R481	RG 30,1 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R482	RG 4R75 +-1% TK250 SMD RESISTOR EIA0603	0603	0010.8379.00	PHILIPS_CO	RC 22 H	
R483	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R484	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R485	RG 18R2 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8385.00	DRALORIC	CR 0603	
R486	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R487	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R488	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R489	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R490	RG 1K82 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8404.00	PHILIPS_CO	RC 22 H	
R491	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R492	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R493	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R494	RG 392R+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9300.00	DRALORIC	CR 0603	
R495	RG 392R+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9300.00	DRALORIC	CR 0603	
R496	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R497	RG 5K62 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8433.00	DRALORIC	CR 0603	
R498	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R499	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R500	RG 6K8 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7037.00	DRALORIC	CR 0603	
R501	RG 100,0KO+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0010.0655.00	PHILIPS_CO	MPC 01	
R502	RG 100,0KO+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0010.0655.00	PHILIPS_CO	MPC 01	
R503	RG 4,75KOH+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.8856.00	PHILIPS_CO	MPC 01	
R504	RG 2,49KOH+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.8133.00	PHILIPS_CO	MPC 01	
R505	RG 22R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6901.00	DRALORIC	CR 0603	
R506	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R507	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R508	RG 432R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9098.00	DRALORIC	CR 0603	
R509	RG 432R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9098.00	DRALORIC	CR 0603	
R510	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R511	RG 162 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9500.00	DRALORIC	CR 0603	
R512	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R513	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R514	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R515	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R516	RS 0,25W 5KOHM +-20% POTENTIOMETER	SMD	RS 0007.9632.00	BI_TECHNOL	23 B R... TR	
R517	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R518	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R519	RG 330R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6960.00	DRALORIC	CR 0603	
R520	RG 15K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7043.00	DRALORIC	CR 0603	
R521	RG 15K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7043.00	DRALORIC	CR 0603	
R522	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R523	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R524 ..527	RG 121 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9498.00	DRALORIC	CR 0603	
R528	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R529	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R530	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R531	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R532	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R533	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R534	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R535	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R536 ..539	RG 560R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.9630.00	DRALORIC	CR 0603	
R540	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R541	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R542	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R543	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R544	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R545	RG 1,62KOHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.9997.00	PHILIPS_CO	RC02	
R546 ..548	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R549	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R550	RG 1,62KOHM+-1%TK100 CHIP RESISTOR	1206	RG 0006.9997.00	PHILIPS_CO	RC02	
R551	RG 8R25 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9117.00	DRALORIC	CR 0603	
R552	RG 8R25 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9117.00	DRALORIC	CR 0603	
R553	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R554	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R555	RG 12K1 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8462.00	DRALORIC	CR 0603	
R556 ..559	RG 432R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9098.00	DRALORIC	CR 0603	
R560	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R561 ..563	RG 20,0KOH+-0,1%TK25 SMD-RESISTOR	1206	0009.7643.00	PHILIPS_CO	MPC 01	
R564	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R565	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R566	RG 1,0 KO +-0,1%TK25 SMD-RESISTOR	1206	0009.7595.00	PHILIPS_CO	MPC 01	
R567 ..571	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R572	RG 3,16KOH+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.8204.00	PHILIPS_CO	MPC 01	
R573	RG 3,12KOH+-0,1%TK25 RESISTOR	1206	0010.2735.00	PHILIPS_CO	MPC 01	
R574 ..585	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R586	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R587	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R588	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R589	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	
R590	RG 20,0KOH+-0,1%TK25 SMD-RESISTOR	1206	0009.7643.00	PHILIPS_CO	MPC 01	
R591	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R592	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R593	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R594 ..596	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R597	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R598 ..607	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R608	RG O-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 O OHM	
R609	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R610 ..613	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R614	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R615	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R616	RG 470R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6976.00	DRALORIC	CR 0603	
R617	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R618	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R619	RG 30K1+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9281.00	DRALORIC	CR 0603	
R620	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R621	RG 470R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6976.00	DRALORIC	CR 0603	
R622	RG 30K1+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9281.00	DRALORIC	CR 0603	
R623	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R624	RG 30K1+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9281.00	DRALORIC	CR 0603	
R625	RG O-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 O OHM	
R626	RG O-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 O OHM	
R628	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R629	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R630 ..637	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R638	RG 1,1KOHM+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.8127.00	PHILIPS_CO	MPC 01	
R639	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R640	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R641	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R642	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R643	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R644	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R645	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R646	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R647	RG 5K62 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8433.00	DRALORIC	CR 0603	
R648 ..650	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R651	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R652 ..656	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R657	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R658	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R659	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R660 ..662	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R663	RG 5K62 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8433.00	DRALORIC	CR 0603	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R664	RG 330R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6960.00	DRALORIC	CR 0603	
R665	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R666	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R667	RG 27,4KOH+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.7743.00	PHILIPS_CO	MPC 01	
R668	RG 560R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.9630.00	DRALORIC	CR 0603	
R669	RG 470R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6976.00	DRALORIC	CR 0603	
R669	RG 330K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7114.00	PHILIPS_CO	RC 22 H	F
R670	RG 470R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6976.00	DRALORIC	CR 0603	
R671	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R672	RG 5K62 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8433.00	DRALORIC	CR 0603	
R674 ..676	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R677	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R678	RG 2KO +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6328.00	DRALORIC	CR 0603	
R679	RG 2KO +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6328.00	DRALORIC	CR 0603	
R680	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R681	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R682	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R683	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R684	RG 220K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7108.00	DRALORIC	CR 0603	
R685	RG 150K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7095.00	DRALORIC	CR 0603	
R686	RG 560R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.9630.00	DRALORIC	CR 0603	
R687	RG 1,82KOHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5720.00	PHILIPS_CO	RC02	
R688	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R689	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R690	RG 1,82KOHM+-1%TK100 RESISTOR CHIP	1206	RG 0007.5720.00	PHILIPS_CO	RC02	
R691	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R692	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R693	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R694	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R695 ..710	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R711	RG 560R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.9630.00	DRALORIC	CR 0603	
R712	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R713	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R714	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	
R715	RG 8K25 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8456.00	DRALORIC	CR 0603	
R716	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R717	RG 1MO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5370.00	DRALORIC	CR 0603	
R718	RG 33K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7066.00	PHILIPS_CO	RC 22 H	
R719	RG 4,02KOH+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.7814.00	PHILIPS_CO	MPC 01	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R720	RG 20K +-1% TK100 0603 SMD RESISTOR EIA0603	0010.9100.00	DRALORIC	CR 0603	
R721	RG 3,48KOH+-0,1%TK25 1206 RESISTOR	0010.2870.00	PHILIPS_CO	MPC 01	
R722 ..726	RG 2K2 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7008.00	DRALORIC	CR 0603	
R727	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R728	RG 392K+-1% TK100 0603 RESISTOR	1097.6528.00	DRALORIC	CR 0603	
R729	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R730	RG 5R62 +-1% TK250 0603 SMD RESISTOR EIA0603	0009.9100.00	DRALORIC	CR 0603	
R731	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R732	RG 0-OHM WIDERSTAND 0603 SMD RESISTOR EIA0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R733	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R734	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R735	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R736	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R737	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R738	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R739	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R740	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R741	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R742	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R743	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R744	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R745	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R746	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R747	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R748	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R749 ..757	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R758	RG 2K74 +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8410.00	PHILIPS_CO	RC 22 H	
R759	RG 2K74 +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8410.00	PHILIPS_CO	RC 22 H	
R760 ..763	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R764	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R765	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R766	RG 2,0KOHM+-0,1%TK25 1206 SMD-RESISTOR	0009.7608.00	PHILIPS_CO	MPC 01	
R767	RG 5,36KOH+-0,1%TK25 1206 RESISTOR	0010.2912.00	PHILIPS_CO	MPC 01	
R768 ..772	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R773	RG 470R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.6976.00	DRALORIC	CR 0603	
R774	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R775	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R776	RG 27,4KOH+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.7743.00	PHILIPS_CO	MPC 01	
R777	RG 35,7 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9000.00	PHILIPS_CO	RC 22 H	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R778	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R779	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R780	RG 35,7 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9000.00	PHILIPS_CO	RC 22 H	
R781	RG 35,7 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9000.00	PHILIPS_CO	RC 22 H	
R782	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R783	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R784	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R785	RG 432R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9098.00	DRALORIC	CR 0603	
R786	RG 432R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9098.00	DRALORIC	CR 0603	
R787	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R788	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R789	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R790	RG 100,0KO+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0010.0655.00	PHILIPS_CO	MPC 01	
R791 ..794	RG 20,0KOH+-0,1%TK25 SMD-RESISTOR	1206	0009.7643.00	PHILIPS_CO	MPC 01	
R795 ..803	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R804	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R805	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R806	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R807	RS 0,25W 2KOHM +-20% POTENTIOMETER	SMD	RS 0007.9626.00	BI_TECHNOL	23 B R... TR	
R808	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R809	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R810	RG 18R2 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8385.00	DRALORIC	CR 0603	
R811	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R812	RG 39,2KOH+-0,1%TK25 SMD-RESISTOR	1206	0009.8027.00	PHILIPS_CO	MPC 01	
R813	RG 39,2KOH+-0,1%TK25 SMD-RESISTOR	1206	0009.8027.00	PHILIPS_CO	MPC 01	
R814	RG 35,7 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9000.00	PHILIPS_CO	RC 22 H	
R815	RG 35,7 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9000.00	PHILIPS_CO	RC 22 H	
R816	RG 1,3KOHM+-0,1%TK25 RESISTOR	1206	0010.1968.00	PHILIPS_CO	MPC 01	
R817	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R818	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R819	RG 6K8 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7037.00	DRALORIC	CR 0603	
R820	RG 22R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6901.00	DRALORIC	CR 0603	
R821	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R822	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R823	RG 68R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6930.00	DRALORIC	CR 0603	
R824	RG 56R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.9646.00	DRALORIC	CR 0603	
R825 ..828	RG 35,7 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9000.00	PHILIPS_CO	RC 22 H	
R829	RG 3KO1+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9298.00	DRALORIC	CR 0603	
R830	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R831	RG 22R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6901.00	DRALORIC	CR 0603	
R832	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R833	RG 56K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9117.00	DRALORIC	CR 0603	
R834	RG 68,1KOH+-0,1%TK25 RESISTOR	1206	0010.2935.00	PHILIPS_CO	MPC 01	
R835	RG 4,02KOH+-0,1%TK25 SMD-RESISTOR EIA1206	1206	0009.7814.00	PHILIPS_CO	MPC 01	
R836	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R837	RG 33K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7066.00	PHILIPS_CO	RC 22 H	
R838	RG 33K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7066.00	PHILIPS_CO	RC 22 H	
R839	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R840 ..846	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R847	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R848	RG 121 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9498.00	DRALORIC	CR 0603	
R849	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R850	RG 121 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9498.00	DRALORIC	CR 0603	
R851	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9130.00	DRALORIC	CR 0603	
R852	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9130.00	DRALORIC	CR 0603	
R853 ..855	RG 121 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9498.00	DRALORIC	CR 0603	
R856	RG 22R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6901.00	DRALORIC	CR 0603	
R857	RG 121 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9498.00	DRALORIC	CR 0603	
R858	RG 22R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6901.00	DRALORIC	CR 0603	
R859	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R860	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R861	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R862	RG 432R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9098.00	DRALORIC	CR 0603	
R863	RG 33R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6918.00	DRALORIC	CR 0603	
R864	RG 33R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6918.00	DRALORIC	CR 0603	
R865	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R866	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R867	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R868	RG O-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 O OHM	
R870	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R871	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R872	RG 15K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7043.00	DRALORIC	CR 0603	
R873	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R874	RG O-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 O OHM	
R875	RG 33R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6918.00	DRALORIC	CR 0603	
R876	RG O-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 O OHM	
R877	RG 15R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6899.00	DRALORIC	CR 0603	
R878 ..883	RG O-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 O OHM	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R884	RG 15R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6899.00	DRALORIC	CR 0603	
R885	RG 15R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6899.00	DRALORIC	CR 0603	
R886	RG 6K8 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7037.00	DRALORIC	CR 0603	
R887	RG 1K21 +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0010.9817.00	DRALORIC	CR 0603	
R888	RG 15R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6899.00	DRALORIC	CR 0603	
R889	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R890	RG 15R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6899.00	DRALORIC	CR 0603	
R891 ..895	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R896	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R897	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R898	RG 330R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6960.00	DRALORIC	CR 0603	
R899	RG 330R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6960.00	DRALORIC	CR 0603	
R900	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R901	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R902	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	
R903	RG 1MO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5370.00	DRALORIC	CR 0603	
R904	RG 330R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6960.00	DRALORIC	CR 0603	
R905	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R906	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R907	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R908	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R909	RG 4R75 +-1% TK250 SMD RESISTOR EIA0603	0603	0010.8379.00	PHILIPS_CO	RC 22 H	
R910	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	
R911 ..913	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R914	RG 511R +-1%TK100 SMD RESISTOR EIA0603	0603	1097.6470.00	DRALORIC	CR 0603	
R915	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R916	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R917	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R918	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R919	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R920	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R921	RG 330R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6960.00	DRALORIC	CR 0603	
R922	RG 15R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6899.00	DRALORIC	CR 0603	
R923	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R924	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R925	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R926	RG 5R62 +-1% TK250 SMD RESISTOR EIA0603	0603	0009.9100.00	DRALORIC	CR 0603	
R927	RG 22R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6901.00	DRALORIC	CR 0603	
R928	RG 1MO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5370.00	DRALORIC	CR 0603	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R929	RS 0,25W10KOHM +-20% SMD POTENTIOMETER	RS 0007.9649.00	BI_TECHNOL	23 B R... TR	
R930	RS 0,25W50KOHM +-20% SMD POTENTIOMETER	RS 0007.9661.00	BI_TECHNOL	23 B R... TR	
R931	RG 182 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9130.00	DRALORIC	CR 0603	
R932	RG 130R +-1% TK100 0603 SMD RESISTOR EIA0603	1078.3110.00	DRALORIC	CR 0603	
R933	RG 560R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.9630.00	DRALORIC	CR 0603	
R934	RG 560R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.9630.00	DRALORIC	CR 0603	
R935	RG 150 OHM+-0,1%TK25 1206 SMD-RESISTOR EIA1206	0009.8091.00	PHILIPS_CO	MPC 01	
R936	RG 8R25 +-1% TK250 0603 SMD RESISTOR EIA0603	0009.9117.00	DRALORIC	CR 0603	
R937	RG 68K +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7089.00	PHILIPS_CO	RC 22 H	
R938	RG 1KO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R939	RG 1KO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R940	RG 470K +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7120.00	PHILIPS_CO	RC 22 H	
R941	RG 150K +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7095.00	DRALORIC	CR 0603	
R942	RG 56R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.9646.00	DRALORIC	CR 0603	
	NUR VAR/ONLY MOD: 02				
R942	RG 56R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.9646.00	DRALORIC	CR 0603	
	NUR VAR/ONLY MOD: 04				
R942	RG 56R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.9646.00	DRALORIC	CR 0603	
	NUR VAR/ONLY MOD: 06				
R942	RG 47R +-1% TK100 0603 SMD RESISTOR EIA0603	0009.6924.00	PHILIPS_CO	RC 22 H	
	NUR VAR/ONLY MOD: 08				
R943	RG 51,0 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9030.00	DRALORIC	CR 0603	
R944	RG 100K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5363.00	DRALORIC	CR 0603	
R945	RG 1KO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R946	RG 68K +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7089.00	PHILIPS_CO	RC 22 H	
R947 ..955	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R956 ..958	RG 0-OHM WIDERSTAND 0603 SMD RESISTOR EIA0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R959 ..962	RG 82,5 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9052.00	DRALORIC	CR 0603	
R963	RG 15K +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7043.00	DRALORIC	CR 0603	
R964	RG 33K +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7066.00	PHILIPS_CO	RC 22 H	
R965	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R966	RG 30,1 OHM+-1%TK100 0603 SMD RESISTOR EIA0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R967	RG 301R +-1%TK100 0603 SMD RESISTOR EIA0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R968	RS 0,25W500KOHM+-20% SMD POTENTIOMETER	RS 0007.9690.00	BI_TECHNOL	23 B R... TR	
R969	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R970	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R971	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R972	RG 1,82KOHM+-1%TK100 1206 RESISTOR CHIP	RG 0007.5720.00	PHILIPS_CO	RC02	
R973	RG 270R +-1% TK100 0603 SMD RESISTOR EIA0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R974	RG 270R +-1% TK100 0603 SMD RESISTOR EIA0603	0010.9581.00	PHILIPS_CO	RC 22 H	
R975	RG 12K1 +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8462.00	DRALORIC	CR 0603	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R976	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R977	RG 1K82 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8404.00	PHILIPS_CO	RC 22 H	
R978	RG 1K82 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8404.00	PHILIPS_CO	RC 22 H	
R979	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R980	RG 5K62 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8433.00	DRALORIC	CR 0603	
R981	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R982	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R983	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R984	RG 47R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R985	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R986	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R987	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R988	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R989	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R990	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R991	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R992	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R993	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R994	RG 27OR +-1% TK100	0603	0010.9581.00	PHILIPS_CO	RC 22 H	
..996	SMD RESISTOR EIA0603					
R997	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R998	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R999	RG 15OR +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 02	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R999	RG 15OR +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 04	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R999	RG 15OR +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 06	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R999	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 08	0603	0009.9130.00	DRALORIC	CR 0603	
R1000	RG 15OR +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 02	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R1000	RG 15OR +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 04	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R1000	RG 15OR +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 06	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R1000	RG 182 OHM+-1%TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 08	0603	0009.9130.00	DRALORIC	CR 0603	
R1001	RG 47R +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 02	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R1001	RG 47R +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 04	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R1001	RG 47R +-1% TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 06	0603	0009.6924.00	PHILIPS_CO	RC 22 H	
R1001	RG 30,1 OHM+-1%TK100 SMD RESISTOR EIA0603 NUR VAR/ONLY MOD: 08	0603	0009.9081.00	PHILIPS_CO	RC 22 H	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R1002	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1003	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1004	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1005 ..1010	RG 220R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6953.00	DRALORIC	CR 0603	
R1011	RG 30,1 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R1012	RG 432R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9098.00	DRALORIC	CR 0603	
R1013 ..1018	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R1019	RG 82,5 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9052.00	DRALORIC	CR 0603	
R1020	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R1021	RG 4R75 +-1% TK250 SMD RESISTOR EIA0603	0603	0010.8379.00	PHILIPS_CO	RC 22 H	
R1022	RG 56R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.9646.00	DRALORIC	CR 0603	
R1023	RG 1K21 +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0010.9817.00	DRALORIC	CR 0603	
R1024	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R1025	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R1026	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R1027	RG 3K3 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7014.00	DRALORIC	CR 0603	
R1028	RG 470R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6976.00	DRALORIC	CR 0603	
R1029	RG 825R +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8391.00	PHILIPS_CO	RC 22 H	
R1030	RS 0,25W 1KOHM +-20% RG POTENTIOMETER	SMD	RS 0007.9610.00	BI_TECHNOL	23 B R... TR	
R1031	RG 1K5 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6999.00	DRALORIC	CR 0603	
R1032	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1033	RG 47K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7072.00	DRALORIC	CR 0603	
R1034	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R1035	RG 8K25 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8456.00	DRALORIC	CR 0603	
R1036	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R1037	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R1038	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R1039	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R1040	RG 10R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5328.00	PHILIPS_CO	RC 22 H	
R1041	RG 39K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9823.00	DRALORIC	CR 0603	
R1042	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R1043 ..1050	RG 1MO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5370.00	DRALORIC	CR 0603	
R1051	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1052	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1053	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R1054	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1055	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1056	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1057	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	

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Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R1058	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1059	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R1060	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R1061	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R1062	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1063	RG 220K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7108.00	DRALORIC	CR 0603	
R1064	RG 220K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7108.00	DRALORIC	CR 0603	
R1065	RG 220K +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7108.00	DRALORIC	CR 0603	
R1066	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1067	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R1068	RG 18K2+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9317.00	DRALORIC	CR 0603	
R1069	RG 330R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6960.00	DRALORIC	CR 0603	
R1070	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1071	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1072	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1073	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R1074	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1075 ..1078	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R1079 ..1082	RG 5K62 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8433.00	DRALORIC	CR 0603	
R1083 ..1086	RG 100 OHM+-0,1%TK25 SMD-RESISTOR	1206	0009.8033.00	PHILIPS_CO	MPC 01	
R1087 ..1094	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R1095	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1096	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R1097 ..1100	RG 4K7 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7020.00	DRALORIC	CR 0603	
R1101	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R1102	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R1103 ..1106	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1107	RG 3KO1+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9298.00	DRALORIC	CR 0603	
R1108	RG 2KO +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6328.00	DRALORIC	CR 0603	
R1109	RG 2KO +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6328.00	DRALORIC	CR 0603	
R1110	RG 3KO1+-1% TK100 SMD RESISTOR EIA0603	0603	0010.9298.00	DRALORIC	CR 0603	
R1111	RS 0,25W5OKOHM +-20% SMD POTENTIOMETER	SMD	RS 0007.9661.00	BI_TECHNOL	23 B R... TR	
R1112	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	
R1113	RG 51,0 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9030.00	DRALORIC	CR 0603	
R1114	RG 200R +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6386.00	DRALORIC	CR 0603	
R1115	RG 200R +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6386.00	DRALORIC	CR 0603	
R1116	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R1117	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R1118	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	

Kennz. Comp. No.	Benennung Designation		Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R1119	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R1120	RG 30,1 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9081.00	PHILIPS_CO	RC 22 H	
R1121	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R1122	RG 20K +-1% TK100 SMD RESISTOR EIA0603	0603	0010.9100.00	DRALORIC	CR 0603	
R1123	RG 35,7 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9000.00	PHILIPS_CO	RC 22 H	
R1124	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1125	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1126 ..1128	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R1129	RK SMD-HEISSL.100K SMD-NTC-RESISTOR	1206	0008.9236.00	SIEMENS	B57621-C104-J	
R1130	RG 12K1 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8462.00	DRALORIC	CR 0603	
R1131	RG 12K1 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8462.00	DRALORIC	CR 0603	
R1132 ..1136	RG 121 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9498.00	DRALORIC	CR 0603	
R1137	RG 392K+-1% TK100 RESISTOR	0603	1097.6528.00	DRALORIC	CR 0603	
R1138	RG 39R 1% 1W SMD-RESISTOR	1218	1104.2786.00	PHILIPS_CO	PRC201-39R 1% TK100	
R1139	RG 39R 1% 1W SMD-RESISTOR	1218	1104.2786.00	PHILIPS_CO	PRC201-39R 1% TK100	
R1140 ..1143	RG 330R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6960.00	DRALORIC	CR 0603	
R1144	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R1145	RG 2K2 +-1% TK100 SMD RESISTOR EIA0603	0603	0009.7008.00	DRALORIC	CR 0603	
R1146 ..1149	RG 1KO +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1150	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R1151	RG 3K92 +-1% TK100 SMD RESISTOR EIA0603	0603	0010.8427.00	PHILIPS_CO	RC 22 H	
R1152	RG 301R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9123.00	PHILIPS_CO	RC 22 H	
R1153	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1154	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R1155	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R1156	RG 200R +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6386.00	DRALORIC	CR 0603	
R1157	RG 200R +-1% TK100 SMD RESISTOR EIA0603	0603	1097.6386.00	DRALORIC	CR 0603	
R1158	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R1159	RG 150R +-1% TK100 SMD RESISTOR EIA0603	0603	0009.6947.00	PHILIPS_CO	RC 22 H	
R1160	RG 35,7 OHM+-1%TK100 SMD RESISTOR EIA0603	0603	0009.9000.00	PHILIPS_CO	RC 22 H	
R1161	RG 432R +-1%TK100 SMD RESISTOR EIA0603	0603	0009.9098.00	DRALORIC	CR 0603	
R1162	RG 432R +-1%TK100 SMD RESISTOR EIA0603 NICHT BESTUECKT/NOT FITTED	0603	0009.9098.00	DRALORIC	CR 0603	
R1163	RG 0-OHM WIDERSTAND SMD RESISTOR EIA0603	0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R1164	RG 100K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5363.00	DRALORIC	CR 0603	
R1165	RG 100R +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5334.00	PHILIPS_CO	RC 22 H	
R1166 ..1183	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R1184	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R1185	RG 10K +-1% TK100 SMD RESISTOR EIA0603	0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
R1186	RG 13K +-1% TK100 0603 SMD RESISTOR EIA0603	1097.6428.00	PHILIPS_CO	RC 22 H	
R1187	RG 13K +-1% TK100 0603 SMD RESISTOR EIA0603	1097.6428.00	PHILIPS_CO	RC 22 H	
R1188	RG 13K +-1% TK100 0603 SMD RESISTOR EIA0603	1097.6428.00	PHILIPS_CO	RC 22 H	
R1189	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R1190	RG 10K +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5357.00	PHILIPS_CO	RC 22 H	
R1191 ..1194	RG 2K74 +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8410.00	PHILIPS_CO	RC 22 H	
R1195 ..1198	RG 6K8 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7037.00	DRALORIC	CR 0603	
R1199	RG 3R32 +-1% TK250 0603 SMD RESISTOR EIA0603	0010.8362.00	DRALORIC	CR 0603	
R1200	RG 3R32 +-1% TK250 0603 SMD RESISTOR EIA0603	0010.8362.00	DRALORIC	CR 0603	
R1201 ..1203	RG 1KO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5340.00	PHILIPS_CO	RC 22 H	
R1204 ..1206	RG 4K7 +-1% TK100 0603 SMD RESISTOR EIA0603	0009.7020.00	DRALORIC	CR 0603	
R1207	RK SMD-HEISSL.100K 1206 SMD-NTC-RESISTOR	0008.9236.00	SIEMENS	B57621-C104-J	
R1208 ..1212	RG 12K1 +-1% TK100 0603 SMD RESISTOR EIA0603	0010.8462.00	DRALORIC	CR 0603	
R1213	RG 18K2+-1% TK100 0603 SMD RESISTOR EIA0603	0010.9317.00	DRALORIC	CR 0603	
R1214	RG 0-OHM WIDERSTAND 0603 SMD RESISTOR EIA0603	0009.9369.00	PHILIPS_CO	RC21 0 OHM	
R1215	RG 100R 1% 1W 1218 SMD RESISTOR	1104.2740.00	PHILIPS_CO	PRC201-100R 1% TK100	
R1216	RG 100R 1% 1W 1218 SMD RESISTOR	1104.2740.00	PHILIPS_CO	PRC201-100R 1% TK100	
R1217	RG 200R +-1% TK100 0603 SMD RESISTOR EIA0603 NICHT BESTUECKT/NOT FITTED	1097.6386.00	DRALORIC	CR 0603	
R1218	RS 0,25W10KOHM +-20% SMD POTENTIOMETER NICHT BESTUECKT/NOT FITTED	RS 0007.9649.00	BI_TECHNOL	23 B R... TR	
R1219	RG 182K +-1% TK100 0603 RESISTOR	1093.6175.00	DRALORIC	CR 0603	
R1220	RG 1,21KOHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.9968.00	PHILIPS_CO	RC02	
R1221 ..1224	RG 1KO +-1% TK100 1206 CHIP RESISTOR	RG 0006.7271.00	DRALORIC	CR 1206	
R1225	RG 0-OHM WIDERSTAND 1206 RESISTOR CHIP 0-OHM	RG 0007.5108.00	DRALORIC	CR 1206	
R1226	RG 121 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8903.00	PHILIPS_CO	RC02	
R1250	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
R1251	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
R1252	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
R1253	RG 1MO +-1% TK100 0603 SMD RESISTOR EIA0603	RG 0009.5370.00	DRALORIC	CR 0603	
R1300	RG 51,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8810.00	PHILIPS_CO	RC02	
R1301	RG 51,1 OHM+-1%TK100 1206 CHIP RESISTOR	RG 0006.8810.00	PHILIPS_CO	RC02	
S1	BM SSW-124 SPDTSWITCH GAAS RF-SWITCH	1085.2222.00	STANFORD_M	SSW-124	
S2	BM SSW-124 SPDTSWITCH GAAS RF-SWITCH	1085.2222.00	STANFORD_M	SSW-124	
T1	DW SYMETRIEUEBERTRAGER	1084.9846.00			
U1 ..3	BJ DAC08CS 1X8-DAC D/A-CONVERTER	6024.3137.00	PMI	DAC08C(S)	
U4 ..6	ER JPS-2-1W 2WEG-L.TEILER 2WAY POWER DIVIDER	1085.1603.00	MINI-CIRCU	JPS-2-1W	
U7	BO LM2903D 2XLP COMPAR DUAL	0520.7734.00	SIGNETICS	LM2903(D)	
U8	BO LM2903D 2XLP COMPAR DUAL	0520.7734.00	SIGNETICS	LM2903(D)	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
U9	BM SM4T17-2 MIXER 3,4G MIXER	1085.2068.00	WATKINS-JO	WJ-SM4T17	
U11	BM JMS-2607 MIXER 350M MIXER MODULE	1085.1510.00	MINI-CIRCU	JMS-2607	
U12	BM JMS-2607 MIXER 350M MIXER MODULE	1085.1510.00	MINI-CIRCU	JMS-2607	
V1	AK BSP31 PNP 60V 1A TRAN MEDIUM POWER TRANSISTOR	1085.1755.00	PHILIPS_SE	BSP31	
V2	AK BSP31 PNP 60V 1A TRAN MEDIUM POWER TRANSISTOR	1085.1755.00	PHILIPS_SE	BSP31	
V3	AE BAR64-04 CA 2X PIN SILICON PIN DIODE	1039.1327.00	SIEMENS	BAR6404 (Q62702-A101	
V4	AE BAR64-04 CA 2X PIN SILICON PIN DIODE	1039.1327.00	SIEMENS	BAR6404 (Q62702-A101	
V5	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V6	AK BSP31 PNP 60V 1A TRAN MEDIUM POWER TRANSISTOR	1085.1755.00	PHILIPS_SE	BSP31	
V7	AE BZV55/C4V7 0.5W ZDI ZENER DIODE	AE 0006.9822.00	PHILIPS	BZV55B4V7	
V8	AE BAR64-04 CA 2X PIN SILICON PIN DIODE	1039.1327.00	SIEMENS	BAR6404 (Q62702-A101	
V9	AE BAR64-04 CA 2X PIN SILICON PIN DIODE	1039.1327.00	SIEMENS	BAR6404 (Q62702-A101	
V10	AE BZV55/C4V7 0.5W ZDI ZENER DIODE	AE 0006.9822.00	PHILIPS	BZV55B4V7	
V11	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V12	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V13	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V14	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V15	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V16	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V17	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V18	AE BZV55/C4V7 0.5W ZDI ZENER DIODE	AE 0006.9822.00	PHILIPS	BZV55B4V7	
V19 ..22	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V23	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V24	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V25	AE HSMS2825 1+1 SCHOTTKY SCHOTTKY DIODE PAIR	1010.6214.00	HEWLETT_PA	HSMS2825 L31	
V26	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V27	AE BZV55/C7V5 0,5W ZDI ZENER DIODE	AE 0007.3428.00	PHILIPS_SE	BZV55B7V5	
V28 ..32	AE BAT15-03W SCHOTTKY SCHOTTKY DIODE	1085.1526.00	SIEMENS	BAT15-03W (-A1104)	
V33	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V34 ..36	AE BAT15-03W SCHOTTKY SCHOTTKY DIODE	1085.1526.00	SIEMENS	BAT15-03W (-A1104)	
V37 ..43	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V44	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V45 ..48	AE BAT15-03W SCHOTTKY SCHOTTKY DIODE	1085.1526.00	SIEMENS	BAT15-03W (-A1104)	
V49	AE BZV55/C6V8 0,5W ZDI ZENER DIODE	AE 0006.9868.00	PHILIPS	BZV55/B6V8	
V50	AE BAR64-04 CA 2X PIN SILICON PIN DIODE	1039.1327.00	SIEMENS	BAR6404 (Q62702-A101	
V51	AE BZV55/C6V8 0,5W ZDI ZENER DIODE	AE 0006.9868.00	PHILIPS	BZV55/B6V8	
V52	AE BAR64-04 CA 2X PIN SILICON PIN DIODE	1039.1327.00	SIEMENS	BAR6404 (Q62702-A101	
V53	AE BAR64-04 CA 2X PIN SILICON PIN DIODE	1039.1327.00	SIEMENS	BAR6404 (Q62702-A101	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V54	AE BZV55/C6V8 0,5W ZDI ZENER DIODE	AE 0006.9868.00	PHILIPS	BZV55/B6V8	
V55	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V56	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V57	AE BZV55/C3V3 0,5W ZDI ZENER DIODE	AE 0006.9800.00	PHILIPS_SE	BZV55B3V3	
V58	AK BCP69-25 P 20V TRANS MEDIUM POWER TRANSISTOR	0008.2002.00	PHILIPS	BCP 69-16 (25)	
V59	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V60	AK BCP68-16 N 20V TRANS MEDIUM POWER TRANSISTOR	0008.2019.00	PHILIPS	BCP68-25	
V61	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V62	AE BZV55/C3V9 0,5W ZDI ZENER DIODE	AE 0006.9816.00	PHILIPS_SE	BZV55B3V9	
V63	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V64	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V65	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V66	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V67	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V68	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V69	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V70	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V71	AE BAR64-04 CA 2X PIN SILICON PIN DIODE	1039.1327.00	SIEMENS	BAR6404 (Q62702-A101	
V72	AE BZV55/C5V6 0.5W ZDI ZENER DIODE	AE 0006.9845.00	PHILIPS	BZV55B5V6	
V73	AD BAS16 75V UDI HIGH-SPEED DIODE	AD 0007.4924.00	VALVO	BAS16 (A6P)	
V74	AE BZV55/C5V6 0.5W ZDI ZENER DIODE	AE 0006.9845.00	PHILIPS	BZV55B5V6	
V75	AK BFG135 NPN 15V 150MA 7 GHZ WIDEBAND TRANSISTOR	2023.0639.00	PHILIPS	BFG135	
V76	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V77	AK BFG135 NPN 15V 150MA 7 GHZ WIDEBAND TRANSISTOR	2023.0639.00	PHILIPS	BFG135	
V78	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V79	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V80 ..83	AK BFG135 NPN 15V 150MA 7 GHZ WIDEBAND TRANSISTOR	2023.0639.00	PHILIPS	BFG135	
V84	AE BZV55/C4V7 0.5W ZDI ZENER DIODE	AE 0006.9822.00	PHILIPS	BZV55B4V7	
V85 ..87	AE BZV55/C5V6 0.5W ZDI ZENER DIODE	AE 0006.9845.00	PHILIPS	BZV55B5V6	
V88	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V89	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V90	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V91	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V92	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V93	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V94 ..97	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V98	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V99	AM SHF0186K 9V GAASF GAAS FET	1085.1655.00	STANFORD_M	SHF-0186K4230TR	
V100	AE BZV55/C2V7 0,5W ZDI ZENER DIODE	AE 0007.3411.00	PHILIPS_SE	BZV55B2V7	

wir uns alle machte vor.

DSD.0028-0893

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V101	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V102	AM SHF0186K 9V GAASF GAAS FET	1085.1655.00	STANFORD_M	SHF-0186K423OTR	
V103	AM SHF0186K 9V GAASF GAAS FET	1085.1655.00	STANFORD_M	SHF-0186K423OTR	
V104	AM SHF0189 12V GAASF GAAS FET	1085.2351.00	STANFORD_M	SHF-0189-TR1	
V105	AE HSMS2825 1+1 SCHOTTKY SCHOTTKY DIODE PAIR	1010.6214.00	HEWLETT_PA	HSMS2825 L31	
V106	AE BAT62-03W 1X SCHOTTKY DIODE	0856.7095.00	SIEMENS	BAT62-03W	
V107	AE BAT62-03W 1X SCHOTTKY DIODE	0856.7095.00	SIEMENS	BAT62-03W	
V108	AE BAR63-03W PIN PIN DIODE	1051.4851.00	SIEMENS	BAR63-03W (-A1025)	
V109	AE HSMS2825 1+1 SCHOTTKY SCHOTTKY DIODE PAIR	1010.6214.00	HEWLETT_PA	HSMS2825 L31	
V110	AE BAR63-03W PIN PIN DIODE	1051.4851.00	SIEMENS	BAR63-03W (-A1025)	
V111	AK BFG540/X NPN 15V 120MA 9 GHZ WIDEBAND TRANSISTOR	1062.6496.00	PHILIPS	BFG540/X	
V112	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V113	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V114	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V115 ..117	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V118	AE BAR64-04 CA 2X PIN SILICON PIN DIODE	1039.1327.00	SIEMENS	BAR6404 (Q62702-A101	
V119	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V120	AK BCP68-16 N 20V TRANS MEDIUM POWER TRANSISTOR	0008.2019.00	PHILIPS	BCP68-25	
V121	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V122 ..130	AE BB535 18,7/2,1P CDI TUNING DIODE	1039.3107.00	SIEMENS	BB535/Q62702-B580	
V131	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V132	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V133	AE BZV55/C7V5 0,5W ZDI ZENER DIODE	AE 0007.3428.00	PHILIPS_SE	BZV55B7V5	
V134	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V135	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V136 ..138	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V139	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V140	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V141	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V142	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V143	AE BZV55/C5V1 0.5W ZDI ZENER DIODE	AE 0006.9839.00	PHILIPS_SE	BZV55B5V1 (GEG)	
V144	AM SHF0186K 9V GAASF GAAS FET	1085.1655.00	STANFORD_M	SHF-0186K423OTR	
V145 ..148	AK BFP450 NPN 4,5V 100MA RF-TRANSISTOR NPN	4048.1483.00	SIEMENS	BFP450 (-F1590)	
V149	AK BC860B P 45V 200MA TRANSISTOR	AK 0007.7975.00	MOTOROLA	BC860B	
V150	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V151	AM SST108 N-D 25V JFET JUNCTION FET	6007.3949.00	SILICONIX	SST108	
V152	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V153	AE BZV55/C6V2 0,5W ZDI ZENER DIODE	AE 0006.9851.00	PHILIPS	BZV55B6V2	
V154	AK BFP450 NPN 4,5V 100MA RF-TRANSISTOR NPN	4048.1483.00	SIEMENS	BFP450 (-F1590)	

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Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
V155	AK BC850B N 45V 200MA TRANSISTOR	AK 0007.7969.00	VALVO	BC850B	
V156	AE BAT62-03W 1X SCHOTTKY DIODE	0856.7095.00	SIEMENS	BAT62-03W	
V157	AE BAT62-03W 1X SCHOTTKY DIODE	0856.7095.00	SIEMENS	BAT62-03W	
V158	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V159	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V160	AE HSMS2825 1+1 SCHOTTKY SCHOTTKY DIODE PAIR	1010.6214.00	HEWLETT_PA	HSMS2825 L31	
V161	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V162	AK BSR13 N 30V 800MA TRANSISTOR	AK 0007.2209.00	VALVO	BSR 13	
V163	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V164	AK BSR18A P 40V 200MA TRANSISTOR	AK 0007.2073.00	PHILIPS_SE	BSR18 (BSR18A)	
V165	AD BAV99 75V DUO UDI HIGH-SPEED DOUBLE DIODE	AD 0911.0092.00	VALVO	BAV99	
V166	AE BZX284-B3V3 0,4W ZDI ZENER DIODE	0048.3474.00	PHILIPS_SE	BZX284-B3V3	
V167	AK BCP68-16 N 20V TRANS MEDIUM POWER TRANSISTOR	0008.2019.00	PHILIPS	BCP68-25	
V168	AE HSMS2825 1+1 SCHOTTKY SCHOTTKY DIODE PAIR	1010.6214.00	HEWLETT_PA	HSMS2825 L31	
V169	AE HSMS2825 1+1 SCHOTTKY SCHOTTKY DIODE PAIR	1010.6214.00	HEWLETT_PA	HSMS2825 L31	
V170	AE BAR63-03W PIN PIN DIODE	1051.4851.00	SIEMENS	BAR63-03W (-A1025)	
V171	AE BAR63-03W PIN PIN DIODE	1051.4851.00	SIEMENS	BAR63-03W (-A1025)	
V172 ..177	AE HSMS2825 1+1 SCHOTTKY SCHOTTKY DIODE PAIR	1010.6214.00	HEWLETT_PA	HSMS2825 L31	
V178 ..181	AM SST108 N-D 25V JFET JUNCTION FET	6007.3949.00	SILICONIX	SST108	
V182	BM AF002C1-39 GAASSWITCH GAAS IC CONTROL FET	1085.2316.00	ALPHA_IND	AF002C1-39	
V183	BM AF002C1-39 GAASSWITCH GAAS IC CONTROL FET	1085.2316.00	ALPHA_IND	AF002C1-39	
V184 ..189	AM SST108 N-D 25V JFET JUNCTION FET	6007.3949.00	SILICONIX	SST108	
V190	BM AF002C1-39 GAASSWITCH GAAS IC CONTROL FET	1085.2316.00	ALPHA_IND	AF002C1-39	
V191	BM AF002C1-39 GAASSWITCH GAAS IC CONTROL FET	1085.2316.00	ALPHA_IND	AF002C1-39	
V192	AM SST108 N-D 25V JFET JUNCTION FET	6007.3949.00	SILICONIX	SST108	
V193	AM SST108 N-D 25V JFET JUNCTION FET	6007.3949.00	SILICONIX	SST108	
V194	AE BZV55/C3V3 0,5W ZDI ZENER DIODE	AE 0006.9800.00	PHILIPS_SE	BZV55B3V3	
V195	AE BZV55/C2V7 0,5W ZDI ZENER DIODE	AE 0007.3411.00	PHILIPS_SE	BZV55B2V7	
X1 ..5	FJ EINLOETBUCHSE MMCX SMD CONNECTOR	1075.4045.00	SUHNER	82MMCX-S50-0-51/1110	
X6	FP E-PRESS STIFTLEISTE 2P CONNECTOR	0048.4706.00			
X7	FP E-PRESS STIFTLEISTE 2P CONNECTOR	0048.4706.00			
X8 ..11	FP E-PRESS STIFTLEISTE 2P CONNECTOR	0048.4706.00			
X240	FP STECKERLEISTE 32POL. CONNECTOR 32P.	FP 0008.5718.00	DEUT_ELCO	16 8457 064 002 027	
X241 ..246	FJ EINLOETBUCHSE MMCX CONNECTOR	1085.1532.00	SUHNER	82MMCXS50-0-2/111KG	
X247	FJ EINLOETBUCHSE SMA CONNECTOR	1085.1726.00	SUHNER	82SMA-S-50-0-45/111N	
X248	FJ EINLOETBUCHSE MMCX CONNECTOR	1085.1532.00	SUHNER	82MMCXS50-0-2/111KG	
X249	FJ EINLOETBUCHSE SMA CONNECTOR	1085.1726.00	SUHNER	82SMA-S-50-0-45/111N	
Z1 ..3	LD T-FILTER 3,3NF SMD SMD-FILTER	1039.1362.00	MURATA	NFM61R20T332T1	

Kennz. Comp. No.	Benennung Designation	Sachnummer Stock No.	Hersteller Manufacturer	Bezeichnung Designation	enthalten in contained in
Z4	LD T-FILTER 33PF SMD SMD-T-FILTER 33PF	1062.6744.00	MURATA	NFM61R00T330	
Z5	LD T-FILTER 33PF SMD SMD-T-FILTER 33PF	1062.6744.00	MURATA	NFM61R00T330	
Z6 ..18	LD T-FILTER 100PF SMD SMD-FILTER	1039.1356.00	MURATA	NFM61R00T101T1	
Z19 ..23	LD PI-FILTER 2X1NF SMD SMD-CERAMIC-PI-FILTER	4024.7152.00	TUSONIX	4700-003	
Z24	LD T-FILTER 33PF SMD SMD-T-FILTER 33PF	1062.6744.00	MURATA	NFM61R00T330	

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ROHDE&SCHWARZ

XY-Liste

XY List

Erklärung der Spaltenbezeichnungen:

el. Kennz.	**Bauelement-Kennzeichen**
Seite	**Leiterplatten-Seite, auf der sich das Bauelement befindet**
X/Y	**Koordinaten (in Millimeter) des Bauelementes auf der Leiterplatte bezogen auf den Nullpunkt**
Planq., Bl.	**Planquadrat und Seite des Schaltbildes für das jeweilige Bauelement**

Explanation of column designations:

Part	**Identification of instrument part**
Side	**Side of the PC board on which instrument part is positioned**
X/Y	**Coordinates (in units of millimeters) of the component on the PC board in reference to zero point**
Sqr, Pg	**Square and page of the diagram for the respective instrument part**

Service-relevante Bauteile / Service-relevant components

el. Kennz. *Part*	Seite *Side*	X	Y	Planq. *Sqr*	Bl. *Pg*
P1	B	206	46	11D	3
P2	B	206	44	11D	3
P3	B	206	41	11E	3
P5	B	96	37	5D	3
P6	B	125	90	5D	3
P7	B	150	37	5D	3
P8	B	99	37	5D	3
P9	B	131	68	11A	3
P10	B	138	37	8C	21
P11	B	164	35	6B	21
P12	B	177	44	3B	21
P13	B	156	83	11C	21
P14	B	190	40	4A	6
P18	B	29	68	5C	15
P19	B	27	60	6C	15
P20	B	154	132	6C	10
P21	B	84	32	10B	9
P22	B	77	17	10D	9
P23	B	173	97	7C	5
P24	B	182	89	6D	5
P25	B	91	95	11C	22
P26	B	91	92	10A	22
P29	B	203	97	4B	5
P32	B	85	63	4B	10
P33	B	221	72	7D	12
P35	B	75	63	5A	9
P36	B	85	44	5C	9
P37	B	60	40	6A	9
P38	B	42	16	6B	9
P39	B	35	21	6C	9
P40	B	35	18	6C	9
P41	B	60	43	4C	10
P42	B	158	105	6D	10
P43	B	44	126	5A	10
P44	B	51	49	4F	16
P45	B	54	48	5E	16
R51	B	147	41	7C	21
R124	B	168	72	6B	6
R125	B	286	63	7C	19
R516	B	182	91	2C	5
R683	B	30	140	8B	14
R929	B	134	143	5C	10
R930	B	51	84	6A	16
R968	B	220	129	5C	20

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ROHDE & SCHWARZ	Benennung: *Designation:* EE IQ-MODULATOR / IQ-MODULATOR	Sprache: *Lang.:* de	Blatt: *Sh.:* 1 +	Aei: *C.I.:* 08.04	
Typ: *Type:* SMIQ	Datum: *Date:* 99-02-11	Abteilung: *Dpt:* 1GPK	Name: *Name:* HO	Sachnr.: *Part No.:* 1084.9800.01 XY	

Nicht-Service-relevante Bauteile / Non-service relevant components

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
B1	B	150	125	9B	12
C1	A	102	130	6A	5
C2	A	89	132	6B	5
C3	B	76	93	3C	8
C4	B	77	75	2C	8
C5	A	181	57	3B	21
C6	B	71	128	9B	13
C7	B	63	130	10B	13
C8	B	71	105	9E	13
C9	B	63	107	10D	13
C10	B	19	38	9C	15
C11	B	19	31	10B	15
C12	A	12	71	8A	11
C13	A	12	97	9A	11
C14	A	20	45	7B	11
C15	B	43	75	5B	16
C16	A	249	71	5E	22
C17	B	161	135	7B	12
C18	B	152	137	8A	12
C19	B	289	137	9E	18
C20	B	289	135	9D	18
C21	A	205	48	10D	3
C22	B	189	52	4A	6
C23	B	110	133	5B	13
C24	B	110	127	6A	13
C25	B	77	110	9D	13
C26	B	77	133	9B	13
C27	B	77	141	9A	13
C28	B	110	104	6D	13
C29	B	111	110	5D	13
C30	B	77	119	9D	13
C31	A	35	103	3E	15
C32	B	17	48	7B	15
C33	B	29	76	5C	15
C34	B	11	50	7B	15
C35	B	88	139	4B	8
C36	B	88	116	11C	8
C37	B	11	92	10A	11
C38	A	267	104	2B	18
C39	B	44	85	7B	16
C40	B	49	53	2B	16
C41	B	37	66	3A	16
C42	B	170	115	5B	12
C43	B	168	124	6B	12
C44	B	182	104	5A	12
C45	B	155	109	6A	12
C46	B	154	125	7A	12
C47	A	38	78	9D	16
C48	B	242	93	10B	17
C49	A	227	106	11E	12
C50	B	189	117	4B	12
C51	A	205	132	5A	20
C52	A	245	107	10B	17
C53	A	62	118	9E	10
C54	A	220	111	6D	20
C55	A	259	135	10A	20
C56	A	13	82	4E	11
C57	B	240	130	9B	20
C58	A	236	126	9C	20
C59	A	15	91	5E	11
C60	B	278	100	2A	19
C61	B	279	86	4C	19
C62	A	16	40	5E	11
C63	B	279	106	1B	19
C64	A	138	40	10B	3
C65	B	244	51	4D	17
C66	A	20	57	5E	11
C67	A	155	72	8E	21
C68	B	277	80	4A	19
C69	B	277	60	6A	19
C70	B	279	67	6C	19
C71	A	23	68	4E	11
C72	B	292	50	9B	19
C73	A	275	39	11D	19
C74	B	134	43	1F	3
C75	B	135	69	7E	4
C76	A	125	53	8E	4
C77	A	127	74	5E	4
C78	A	138	61	8C	21
C79	A	140	71	9B	21
C80	A	173	65	5E	21
C81	A	173	61	6E	21
C82	A	179	72	5F	21
C83	A	141	53	8E	21
C84	A	152	45	9E	21
C85	A	125	92	11E	21
C86	B	263	107	3D	18
C87	B	175	51	7E	6
C88	B	163	37	7F	6
C89	B	182	74	4C	6
C90	B	19	34	10C	15
C91	A	26	28	10D	15
C92	B	46	25	11D	7
C93	A	82	130	8E	10
C94	A	96	74	9E	10
C95	A	114	75	9E	10
C96	A	151	134	10E	10
C97	A	140	133	10E	10
C98	A	23	91	5E	11
C99	A	126	138	3E	10
C100	A	75	30	1E	11
C101	A	59	32	1E	11
C102	B	11	87	4D	11
C103	B	15	64	4F	11
C104	A	20	48	6E	11
C105	A	22	29	2E	11
C106	A	11	49	5E	11
C107	B	293	23	10B	19
C108	A	148	83	7B	21
C109	A	127	68	3E	9
C110	A	16	88	6E	15
C111	A	38	55	3A	16
C112	A	47	82	6E	16
C113	A	47	49	6E	16
C114	A	50	67	7E	16
C115	A	41	92	6E	16
C116	A	43	58	7E	16
C117	A	38	72	8E	16
C118	A	148	97	7B	21
C119	A	141	83	8F	21
C120	B	190	90	1E	5
C121	B	177	96	1E	5
C122	A	169	18	2F	3
C123	A	106	84	3A	9
C124	A	105	54	3C	9
C125	A	179	95	2E	5
C126	A	243	78	8D	22
C127	A	259	75	8D	22
C128	A	191	90	2E	5
C129	A	226	118	5D	20
C130	A	190	111	5A	12
C131	A	169	130	7A	12
C132	A	221	139	6A	20
C133	A	218	142	6A	20
C134	A	227	99	10E	12
C135	A	233	142	7A	20
C136	B	232	105	7D	20
C137	B	223	90	8D	20
C138	A	224	131	8A	20
C139	A	22	57	5E	11
C140	B	207	98	4C	5
C141	A	203	141	4A	20
C142	B	263	131	6D	18
C143	A	279	131	8C	18
C144	B	230	97	7E	20
C145	B	288	130	10D	18
C146	B	301	140	9C	18
C147	B	293	104	5C	18
C148	A	25	77	6F	15
C149	B	224	82	9E	20
C150	A	275	135	8C	18
C151	A	230	22	2B	17
C152	A	297	115	3C	19
C153	A	294	98	3F	19
C154	A	280	102	3E	19
C155	A	282	79	4E	19
C156	A	294	78	4F	19
C157	A	223	57	5E	3
C158	A	201	77	6F	3
C159	B	200	79	3E	6
C160	B	61	57	5B	7
C161	B	279	92	3B	19
C162	A	275	77	6E	19
C163	B	299	67	7D	19
C164	B	276	70	5B	19
C165	B	283	49	7A	19
C166	A	243	83	7A	17
C167	A	240	59	5B	17
C168	B	288	132	10E	18
C169	B	54	39	3E	7
C170	B	77	57	4E	7
C171	B	65	63	5E	7
C172	B	82	41	5F	7
C173	B	71	52	6F	7
C174	B	67	47	4E	7
C175	A	140	50	8C	21
C176	B	170	80	7B	6
C177	B	79	44	5C	7
C178	A	121	127	3E	5
C180	B	12	107	11B	14
C181	B	74	67	4C	7
C182	B	61	59	6B	7
C183	B	73	47	6C	7
C184	B	79	37	4D	7
C185	A	16	82	8A	11
C186	A	25	98	9A	11
C187	B	13	96	10B	11
C188	A	264	55	11D	22
C189	A	75	40	5C	9
C190	A	81	57	5B	9
C191	A	44	74	9A	16
C192	A	266	60	3A	22
C193	A	240	94	4C	22
C194	A	283	69	5F	19
C195	A	257	64	11E	22
C196	A	265	93	10D	22
C197	A	260	83	10E	22
C198	A	259	93	9D	22
C199	B	276	89	3B	19
C200	B	197	131	3C	20
C201	A	93	91	10B	22
C202	B	292	89	5C	19
C203	B	232	127	9B	20
C204	B	238	137	10B	20
C205	A	277	82	4D	19
C206	A	290	96	2D	19
C207	B	290	94	2C	19
C208	B	278	133	8E	18
C209	B	245	37	4E	17
C210	A	114	94	10B	22
C211	B	227	102	7E	20
C212	A	290	35	11E	19
C213	A	143	73	10C	21
C214	B	261	30	3C	17
C215	B	163	50	8B	6
C216	B	28	41	8C	15
C217	B	21	38	8C	15
C218	A	73	94	9C	8
C219	A	72	75	8C	8
C220	A	102	67	2C	10
C221	A	61	58	3B	10
C222	A	110	68	2D	10

ROHDE & SCHWARZ	Benennung: EE IQ-MODULATOR Designation: IQ-MODULATOR	Sprache: Lang.: de	Blatt: Sh.: 2 +	Aei: C.I.: 08.04
Typ: Type: SMIQ	Datum: Date: 99-02-11	Abteilung: Dpt: 1GPK	Name: Name: HO	Sachnr.: Part No.: 1084.9800.01 XY

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el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
C223	A	61	46	3C	10
C224	A	105	135	2E	10
C225	A	123	115	3A	10
C226	A	117	108	2A	10
C227	B	200	133	4B	20
C228	B	207	132	5B	20
C229	A	218	81	8D	12
C230	A	231	85	9D	12
C231	B	233	130	9C	20
C232	A	291	58	5E	19
C233	A	290	70	5E	19
C234	B	283	118	12E	18
C235	A	154	51	6F	21
C236	B	250	51	5C	17
C237	B	228	55	6F	12
C238	B	222	111	6E	20
C239	B	225	112	5E	20
C240	B	194	47	3A	6
C241	A	28	87	5D	15
C242	B	11	115	11B	14
C243	A	205	98	5C	5
C244	B	274	135	8D	18
C245	B	247	59	6C	17
C246	A	162	90	6D	5
C247	B	229	134	8B	20
C248	B	231	139	7B	20
C249	A	248	37	4E	17
C250	A	243	40	5E	17
C251	A	239	46	6E	17
C252	B	216	144	6B	20
C253	B	221	141	6B	20
C254	A	229	39	5E	12
C255	B	213	141	6B	20
C256	A	262	110	2A	18
C257	A	264	113	7B	18
C258	B	200	128	5C	20
C259	B	267	117	2F	18
C260	B	267	115	1F	18
C261	B	277	116	4D	18
C262	B	277	114	4D	18
C263	A	261	65	2B	22
C264	B	30	114	1C	15
C265	B	30	108	1C	15
C266	B	79	27	2A	11
C267	B	55	20	3B	11
C268	A	84	18	4C	11
C269	A	204	129	2D	20
C270	B	109	142	5B	13
C271	A	21	126	11E	14
C272	B	127	129	3C	13
C273	B	128	140	3B	13
C274	B	119	139	3C	13
C275	B	109	119	5E	13
C276	B	119	127	3B	13
C277	B	127	106	3E	13
C278	B	119	116	3E	13
C279	B	119	104	3D	13
C280	B	128	117	3D	13
C281	A	38	120	6E	14
C282	B	22	129	7B	14
C283	B	40	51	2B	16
C284	B	171	106	6B	12
C285	B	159	116	7B	12
C286	B	192	107	4B	12
C287	B	222	51	6D	12
C288	B	229	61	6D	12
C289	B	177	129	2C	20
C290	B	194	144	3B	20
C291	B	287	137	9D	18
C292	A	101	52	5F	4
C293	A	107	51	7F	4
C294	B	201	49	2C	6
C295	A	84	142	6A	13
C296	B	21	123	7B	14

el. Kennz Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
C297	A	23	131	1E	14
C298	A	82	119	6D	13
C299	A	14	126	1E	14
C300	A	14	33	8C	11
C301	A	25	39	8D	11
C302	A	37	90	7D	16
C303	A	35	53	5E	16
C304	A	217	94	9D	12
C305	B	221	120	6F	20
C306	B	222	139	6C	20
C307	A	129	68	3C	9
C308	B	115	138	4B	13
C309	B	137	133	2B	13
C310	B	115	115	4E	13
C311	B	119	111	4E	13
C312	B	140	110	2E	13
C313	B	119	134	4B	13
C314	B	21	48	8B	15
C315	B	20	63	6B	15
C316	A	52	117	4E	14
C317	A	81	82	9A	8
C318	B	86	84	3A	8
C319	B	36	48	1B	16
C320	A	190	143	3C	20
C321	B	44	62	3B	16
C322	B	175	110	5B	12
C323	B	209	110	3B	12
C324	B	163	115	6B	12
C325	B	222	41	3D	12
C326	A	192	131	4D	20
C327	B	195	113	4B	12
C328	B	228	92	8E	20
C329	A	54	88	8A	16
C330	B	205	132	5B	20
C331	B	230	79	9E	20
C332	B	108	24	10C	5
C333	B	258	120	3E	18
C334	A	108	88	10D	22
C335	B	261	37	3C	17
C336	B	240	66	7C	17
C337	B	258	32	3D	17
C338	B	252	69	7C	17
C339	B	241	72	8C	17
C340	B	252	75	8C	17
C341	B	240	78	8C	17
C342	B	248	82	9C	17
C343	B	249	108	11C	17
C344	B	230	76	9E	20
C345	B	250	34	3D	17
C346	B	251	37	4C	17
C347	B	248	50	5C	17
C348	B	248	60	6C	17
C349	B	252	60	7C	17
C350	A	107	62	2E	9
C351	A	197	66	9E	3
C352	A	221	68	8A	3
C353	A	222	51	8C	3
C354	A	189	62	10D	3
C355	A	256	111	3A	18
C356	A	113	38	4E	3
C357	A	190	75	8E	3
C358	A	173	53	3E	21
C359	A	176	47	3F	21
C360	A	55	22	5E	9
C361	A	43	29	4E	9
C362	B	195	95	4C	5
C363	B	168	93	1B	5
C364	A	255	130	11C	20
C365	B	63	128	10B	13
C366	B	63	105	10D	13
C367	B	20	31	10B	15
C368	B	17	28	10B	15
C369	B	152	135	8B	12
C370	B	262	86	9D	17

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
C371	A	281	65	5E	19
C372	B	99	110	6E	13
C373	B	172	45	9C	6
C374	B	277	94	3B	19
C375	B	68	128	10B	13
C376	B	68	105	10D	13
C377	B	19	35	9B	15
C378	B	157	135	7B	12
C379	B	210	136	5B	20
C380	A	140	77	10A	21
C381	A	143	95	10A	21
C382	A	241	19	2C	17
C383	A	253	49	6C	17
C384	B	278	74	5B	19
C385	B	278	54	7A	19
C386	B	179	79	5B	6
C387	A	47	58	3F	16
C388	B	254	63	7C	17
C389	A	170	55	5B	21
C390	B	42	40	7E	15
C391	B	191	49	5F	6
C392	A	114	79	1E	9
C393	A	51	71	10B	16
C394	B	262	81	9D	17
C395	A	105	97	11E	22
C396	A	243	70	6A	17
C397	B	223	101	7E	20
C398	B	185	97	3B	5
C399	A	219	75	3E	12
C400	A	219	26	3A	17
C401	A	223	96	4F	12
C402	A	228	78	3F	12
C403	A	191	43	10E	3
C404	A	170	38	6B	21
C405	B	66	128	10B	13
C406	B	66	105	10E	13
C407	B	155	135	8B	12
C408	A	278	91	6D	19
C409	A	300	71	4D	19
C410	A	150	40	8D	21
C411	A	300	98	1D	19
C412	A	124	67	3A	9
C413	A	47	64	3E	16
C414	A	48	97	3D	16
C415	B	205	104	3A	12
C416	B	215	135	5C	20
C417	A	200	68	10E	3
C418	A	196	58	10D	3
C419	A	254	105	1B	18
C420	B	185	132	2B	20
C421	B	194	133	3C	20
C422	B	220	70	7E	12
C423	B	224	70	7D	12
C424	A	285	52	10E	19
C425	A	138	81	11B	21
C426	B	172	73	7B	6
C427	B	100	127	6B	13
C428	B	90	126	7B	13
C429	B	100	104	6E	13
C430	B	14	29	10B	15
C431	A	114	117	4A	10
C432	B	44	82	6B	16
C433	B	147	135	9A	12
C434	B	227	42	5D	12
C435	A	226	75	8D	12
C436	A	224	86	8E	12
C437	A	219	92	9C	12
C438	B	208	114	3B	12
C439	B	195	109	3B	12
C440	B	224	75	10E	20
C441	B	236	142	11B	20
C442	A	289	142	9C	18
C443	A	235	138	10C	20
C444	B	284	128	11D	18

ROHDE & SCHWARZ

Benennung: EE IQ-MODULATOR
Designation: IQ-MODULATOR

Sprache: Lang.: de

Blatt: Sh.: 3 +

Aei: C.I.: 08.04

Typ: Type: SMIQ

Datum: Date: 99-02-11

Abteilung: Dpt: 1GPK

Name: Name: HO

Sachnr.: Part No.: 1084.9800.01 XY

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Nicht-Service-relevante Bauteile / Non-service-relevant parts

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
C445	B	281	103	2B	19
C446	B	15	84	6A	15
C447	A	242	88	6D	22
C448	B	61	128	10B	13
C449	B	61	105	10E	13
C450	B	19	29	10C	15
C451	B	150	137	8B	12
C452	B	181	141	1B	20
C453	B	284	54	8B	19
C454	B	284	137	9E	18
C455	A	133	75	11B	21
C456	B	189	41	3A	6
C457	B	44	143	8E	14
C458	B	100	135	6B	13
C459	B	134	130	2C	13
C460	B	74	128	9B	13
C461	B	74	105	9E	13
C462	B	90	103	7E	13
C463	B	100	112	6E	13
C464	B	138	107	2E	13
C465	A	42	120	4E	14
C466	A	28	137	2E	14
C467	B	19	41	8B	15
C468	B	29	62	6C	15
C469	A	36	141	2E	14
C470	A	135	116	5E	10
C471	A	135	131	5D	10
C472	A	156	122	6D	10
C473	A	156	127	5C	10
C474	A	59	26	2B	11
C475	A	66	36	3C	11
C476	A	77	34	9A	9
C477	A	71	20	9D	9
C478	A	179	93	5D	5
C479	B	190	94	3C	5
C480	B	195	21	10D	5
C481	A	250	81	5E	22
C482	B	290	57	8B	19
C483	A	191	95	6C	5
C484	B	162	133	7B	12
C485	B	192	130	3C	20
C486	B	297	54	9B	19
C487	B	226	134	8C	20
C488	B	284	25	9C	19
C489	B	203	138	5B	20
C490	B	217	114	6E	20
C491	B	246	41	4C	17
C492	B	224	144	7B	20
C493	A	232	133	8B	20
C494	A	227	86	4E	12
C495	A	84	30	10B	9
C496	A	75	21	10D	9
C497	B	221	126	5D	20
C498	B	99	133	6B	13
C499	B	149	130	9B	12
C500	B	224	44	5D	12
C501	B	183	131	2B	20
C502	B	240	142	10B	20
C503	B	229	75	10E	20
C504	B	288	129	10D	18
C505	B	276	65	6B	19
C506	B	276	85	4B	19
C507	A	154	76	11D	21
C508	B	157	18	10C	5
C509	B	235	136	10B	20
C510	B	218	131	5C	20
C511	A	69	44	11E	10
C512	A	79	51	11E	10
C513	A	138	85	9A	21
C514	B	172	23	10D	5
C515	B	99	24	10E	5
C516	A	256	85	3C	22
C517	A	255	57	2A	22
C518	A	262	80	7E	22
C519	A	257	75	6F	22
C520	B	183	44	6E	6
C521	B	196	81	6F	6
C522	B	163	82	7E	6
C523	A	154	55	6E	21
C524	A	154	53	7E	21
C525	A	162	51	9E	21
C526	A	171	43	10E	21
C527	A	128	108	11E	10
C528	A	117	112	11E	10
C529	A	292	45	10D	19
C530	A	147	93	8B	21
C531	A	110	91	2B	9
C532	A	110	61	2D	9
C533	B	259	117	2E	18
C534	B	259	115	1E	18
C535	A	278	48	1E	19
C536	A	287	41	2F	19
C537	A	288	30	2F	19
C538	A	275	33	1E	19
C539	A	281	26	3F	19
C540	A	295	22	2E	19
C541	A	125	38	2E	3
C542	A	273	19	9E	19
C543	B	247	106	11C	17
C544	B	297	49	10B	19
C545	A	287	26	10C	19
C546	A	277	32	11C	19
C547	B	286	30	8C	19
C548	B	242	106	11C	17
C549	B	286	29	9C	19
C550	B	70	64	5B	7
C551	A	246	114	9B	17
C552	B	300	133	10E	18
C553	B	87	139	4C	8
C554	B	87	116	11C	8
C555	B	281	113	4D	18
C556	B	84	48	5C	7
C557	B	281	115	4D	18
C558	B	257	112	2C	18
C559	B	282	110	4C	18
C560	B	19	112	2C	15
C561	B	19	104	2B	15
C562	B	19	109	2B	15
C563	A	44	140	3E	14
C564	A	53	129	3E	14
C565	B	19	107	2C	15
C566	B	20	60	6B	15
C567	B	17	104	2B	15
C568	B	60	89	3B	8
C569	B	281	49	7B	19
C570	B	15	97	3B	15
C571	B	265	104	3D	18
C572	B	30	136	8B	14
C573	B	23	74	5B	15
C574	B	183	76	4E	6
C575	A	22	116	10E	14
C576	A	39	113	5E	14
C577	B	26	83	3C	15
C578	B	166	66	9E	4
C579	B	43	69	4B	16
C580	A	253	53	3B	22
C581	A	54	77	8C	16
C582	B	197	73	3C	6
C583	B	287	97	2D	19
C584	B	296	94	5D	19
C585	B	297	59	7D	19
C586	A	295	105	6E	19
C587	A	263	23	11B	19
C588	A	257	33	12C	19
C589	B	35	29	7C	15
C590	B	247	103	11C	17
C591	B	294	107	5C	18
C592	B	226	117	5F	20
C593	B	248	94	10C	17
C594	B	177	110	5B	12
C595	B	231	58	6F	12
C596	B	234	139	10C	20
C597	B	63	76	2B	8
C598	B	290	134	9E	18
C599	A	255	28	8B	19
C600	A	266	31	10C	19
C601	A	281	112	8E	19
C602	A	286	111	7E	19
C603	A	275	113	8F	19
C604	B	286	66	7C	19
C605	A	188	76	6F	3
C606	A	178	79	4B	21
C607	A	164	79	4C	21
C608	A	180	134	3C	20
C609	B	231	129	8B	20
C610	B	24	134	9C	14
C611	B	26	88	3C	15
C612	B	23	112	2C	15
C613	B	28	112	2C	15
C614	B	15	138	9C	14
C615	B	47	30	11B	7
C616	B	25	81	4C	15
C617	B	55	31	2B	7
C618	B	56	26	2B	7
C619	B	65	24	2D	7
C620	B	68	33	2D	7
C621	A	277	50	10D	19
C622	B	46	112	4C	14
C623	B	266	131	7E	18
C624	B	43	110	4C	14
C625	A	178	128	3C	20
C626	B	36	124	5C	14
C627	B	38	108	5C	14
C628	B	12	127	10C	14
C629	B	22	131	10C	14
C630	B	19	103	3C	15
C631	B	27	134	8B	14
C632	B	21	81	5B	15
C633	B	17	118	1C	15
C634	B	28	131	7B	14
C635	B	73	43	5C	7
C636	B	63	47	5B	7
C637	B	288	25	9C	19
C638	A	12	120	9E	14
C639	A	34	117	5E	14
C640	A	23	134	2E	14
C641	A	40	141	3E	14
C642	A	53	131	3E	14
C643	A	16	127	9E	14
C644	A	29	123	5D	14
C645	A	78	64	5D	7
C646	A	70	67	5A	7
C647	B	25	143	9B	14
C648	B	35	120	5B	14
C649	B	49	118	4B	14
C650	A	27	129	10C	14
C651	A	40	126	5C	14
C652	B	15	128	10B	14
C653	B	29	82	4C	15
C654	A	229	52	5F	12
C655	A	23	17	9C	11
C656	A	16	37	8C	11
C657	A	60	90	9B	8
C658	A	62	70	8B	8
C659	A	110	133	3E	5
C660	A	83	106	3E	8
C661	A	103	110	5F	8
C662	A	89	112	4E	8
C663	B	66	98	4B	8
C664	B	64	69	1B	8
C665	B	72	96	4D	8
C666	B	79	71	1D	8

ROHDE & SCHWARZ	Benennung: EE IQ-MODULATOR Designation: IQ-MODULATOR		Sprache: Lang.: de	Blatt: Sh.: 4 +	Aei: C.I.: 08.04
Typ: Type: SMIQ	Datum: Date: 99-02-11	Abteilung: Dpt: 1GPK	Name: Name: HO	Sachnr.: Part No.: 1084.9800.01 XY	

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Nicht-Service-relevante Bauteile / Non-Service Relevant Components

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
C667	B	69	92	4E	8
C668	B	67	69	1E	8
C669	B	68	79	2B	8
C670	B	74	82	2C	8
C671	B	73	91	3C	8
C672	A	65	78	8B	8
C673	A	66	65	8C	8
C674	A	80	96	10B	8
C675	A	80	66	8B	8
C676	A	62	96	10C	8
C677	A	78	70	8D	8
C678	A	78	96	10D	8
C679	A	70	74	8E	8
C680	A	66	94	10E	8
C681	A	72	81	8C	8
C682	A	74	92	9C	8
C683	B	80	71	1A	8
C684	B	80	96	4A	8
C685	B	95	144	4C	8
C686	B	97	141	4C	8
C687	B	95	121	10C	8
C688	B	97	118	10C	8
C689	B	67	88	3B	8
C690	B	95	137	4C	8
C691	B	95	114	10C	8
C692	A	66	82	9B	8
C693	B	67	85	2B	8
C694	A	63	80	9B	8
C695	A	81	94	9A	8
C696	A	85	70	8A	8
C697	B	86	75	2A	8
C698	B	86	94	3A	8
C699	B	83	131	8B	13
C700	B	83	108	8E	13
C701	B	231	113	7D	20
C702	B	22	58	7C	15
C703	B	76	84	2C	8
C704	A	76	85	9C	8
C705	A	109	126	5A	5
C706	A	83	85	9A	8
C707	B	85	86	2A	8
C708	A	150	106	3F	4
C709	B	28	121	6C	14
C710	A	220	40	7C	5
C711	B	13	124	11C	14
C712	A	91	110	6B	8
C713	A	105	118	6D	8
C714	A	105	106	6E	8
C715	A	88	119	6C	8
C800	A	184	138	3C	20
D1	B	65	55	5B	7
D1	B	65	55	6E	7
D2	B	77	47	5C	7
D2	B	77	47	5E	7
D3	B	186	72	3B	6
D3	B	186	72	4E	6
D4	A	156	17	1B	3
D4	A	156	17	1C	3
D4	A	156	17	1D	3
D4	A	156	17	2C	3
D4	A	156	17	2E	3
D5	A	19	50	6E	11
D5	A	19	50	7D	11
D6	A	130	84	11E	21
D6	A	130	84	3C	21
D6	A	130	84	3D	21
D6	A	130	84	4E	21
D6	A	130	84	4E	21
D7	A	71	130	8A	10
D7	A	71	130	8E	10
D7	A	71	130	8F	10
D7	A	71	130	9A	10
D7	A	71	130	9C	10
D8	A	258	86	3C	22
D8	A	258	86	9D	22
D9	A	179	60	4A	21
D9	A	179	60	4B	21
D9	A	179	60	4B	21
D9	A	179	60	4B	21
D9	A	179	60	5E	21
D10	A	168	69	4C	21
D10	A	168	69	4C	21
D10	A	168	69	4D	21
D10	A	168	69	4D	21
D10	A	168	69	6E	21
D11	A	151	70	7E	21
D11	A	151	70	9B	21
D11	A	151	70	9C	21
D11	A	151	70	9C	21
D11	A	151	70	9C	21
D12	A	14	129	10D	14
D12	A	14	129	1E	14
D12	A	14	129	9D	14
D12	A	14	129	9D	14
D12	A	14	129	9D	14
D13	A	35	129	2E	14
D13	A	35	129	4D	14
D13	A	35	129	4D	14
D13	A	35	129	4D	14
D13	A	35	129	5D	14
D14	A	44	129	10B	10
D14	A	44	129	10B	10
D14	A	44	129	11C	14
D14	A	44	129	3E	14
D14	A	44	129	7C	14
D15	A	246	86	10D	22
D15	A	246	86	5C	22
D15	A	246	86	5C	22
D15	A	246	86	5D	22
D15	A	246	86	5D	22
D16	A	52	38	4E	9
D16	A	52	38	8B	9
D17	A	52	25	5E	9
D17	A	52	25	8D	9
D18	B	139	44	2A	4
D18	B	139	44	6E	4
D19	A	68	115	10C	10
D19	A	68	115	8B	10
D19	A	68	115	8C	10
D19	A	68	115	8E	10
D19	A	68	115	9E	10
D20	B	147	89	6E	4
D20	B	147	89	9A	4
D21	B	128	91	6E	4
D21	B	128	91	8A	4
D22	B	98	39	2C	4
D22	B	98	39	6E	4
D23	B	114	69	11C	4
D23	B	114	69	6E	4
D24	B	98	78	5C	4
D24	B	98	78	5E	4
D25	B	139	79	6A	4
D25	B	139	79	7E	4
D26	B	114	78	6E	4
D26	B	114	78	9C	4
D27	B	25	72	5B	15
D28	B	21	44	8B	15
D29	A	122	41	4E	3
D29	A	122	41	7A	3
D30	A	111	41	4E	3
D30	A	111	41	7C	3
D31	A	100	39	3E	3
D31	A	100	39	7D	3
D32	A	133	95	11E	21
D32	A	133	95	2C	21
D32	A	133	95	2D	21
D32	A	133	95	2D	21
D32	A	133	95	5E	21
D33	B	225	63	6D	12
D33	B	225	63	6F	12
D34	A	131	43	10A	3
D34	A	131	43	3E	3
D34	A	131	43	6A	3
D34	A	131	43	6C	3
D34	A	131	43	6D	3
D35	A	123	56	11E	4
D35	A	123	56	11E	4
D35	A	123	56	3B	4
D35	A	123	56	3D	4
D35	A	123	56	9E	4
D36	B	199	72	2D	6
D36	B	199	72	2D	6
D36	B	199	72	3D	6
D36	B	199	72	3D	6
D36	B	199	72	3E	6
D37	B	62	31	3A	7
D38	B	155	89	11A	4
D38	B	155	89	8E	4
D39	A	204	62	10D	3
D39	A	204	62	10E	3
D39	A	204	62	7E	3
D40	B	62	37	3C	7
D40	B	62	37	3E	7
D41	B	162	54	10E	4
D41	B	162	54	7A	4
D41	B	162	54	7B	6
D42	B	139	54	7C	21
D42	B	139	54	4A	4
D42	B	139	54	7E	4
D43	B	139	66	10C	21
D43	B	139	66	5A	4
D43	B	139	66	8E	4
D44	B	228	99	7E	20
D45	B	98	50	1C	10
D45	B	98	50	3C	4
D45	B	98	50	8E	4
D46	B	114	87	1A	10
D46	B	114	87	7E	4
D46	B	114	87	8C	4
D47	B	98	87	1E	10
D47	B	98	87	7C	4
D47	B	98	87	7E	4
D48	B	98	65	1D	10
D48	B	98	65	4C	4
D48	B	98	65	8E	4
D49	A	202	50	10D	3
D49	A	202	50	10E	3
D49	A	202	50	11D	3
D49	A	202	50	7E	3
D49	A	202	50	1F	4
D50	B	19	84	4B	15
D51	B	21	118	1C	15
D52	B	113	54	1E	3
D52	B	113	54	4B	3
D53	A	141	37	5D	21
D53	A	141	37	7E	21
D54	B	70	31	3C	7
D55	A	144	108	3F	4
D55	A	144	108	4E	4
D56	A	174	105	1D	4
D56	A	174	105	1E	4
D56	A	174	105	4E	4
D56	A	174	105	4E	4
D56	A	174	105	5E	4
D57	B	35	39	7C	15
D57	B	35	39	7E	15
D57	B	35	39	8C	15
D57	B	35	39	9A	7
D57	B	35	39	9C	7
D58	A	163	109	2E	4
D58	A	163	109	5E	4
D59	A	74	106	3E	8

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ROHDE & SCHWARZ	Benennung: EE IQ-MODULATOR Designation: IQ-MODULATOR	Sprache: Lang.: de	Blatt: Sh.: 5 +	Aei: C.I.: 08.04
Typ: Type: SMIQ	Datum: Date: 99-02-11	Abteilung: Dpt: 1GPK	Name: Name: HO	Sachnr.: Part No.: 1084.9800.01 XY

Nicht-Service-relevante Bauteile / Non service relevant comp.

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
D59	A	74	106	5D	8
D61	B	96	61	10D	4
D61	B	96	61	10E	4
G1	B	206	56	2C	6
L1	B	190	138	3B	20
L2	B	184	80	5B	6
L3	B	276	141	9D	18
L4	B	279	95	3B	19
L5	B	248	48	5C	17
L6	B	192	52	2C	6
L7	B	71	120	9C	13
L8	B	230	126	8C	20
L9	A	78	142	6A	13
L10	A	85	120	6C	13
L11	B	71	142	9A	13
L12	B	264	117	2E	18
L13	B	12	56	7A	15
L14	B	77	108	9D	13
L15	A	84	35	4A	11
L16	A	66	21	3A	11
L17	B	232	103	7D	20
L18	A	51	78	6D	16
L19	A	51	46	7D	16
L20	A	54	64	7D	16
L21	A	39	96	6E	16
L22	A	38	65	7E	16
L23	A	38	68	7E	16
L24	A	190	128	4A	20
L25	A	227	110	6D	20
L26	B	205	93	4B	5
L27	A	190	117	5A	12
L28	A	166	139	7A	12
L29	B	244	93	10B	17
L30	B	195	104	3A	12
L31	B	232	111	7D	20
L32	B	227	82	9E	20
L33	B	247	93	10C	17
L34	A	39	46	3A	16
L35	B	220	86	9D	20
L36	A	259	138	10A	20
L37	B	282	95	3B	19
L38	B	198	129	4B	20
L39	A	199	133	3D	20
L40	A	277	128	9B	18
L41	B	204	133	4B	20
L42	B	220	112	6E	20
L43	B	225	120	5E	20
L44	B	227	143	7B	20
L45	B	231	136	8B	20
L46	B	220	143	6B	20
L47	B	215	137	6B	20
L48	B	232	56	6F	12
L49	B	125	133	3B	13
L50	B	125	111	3E	13
L51	B	194	141	3B	20
L52	B	238	136	10B	20
L53	B	281	56	7B	19
L54	B	283	74	4B	19
L55	B	283	121	11D	18
L56	A	194	97	7B	5
L57	A	175	89	6E	5
L58	B	183	133	2B	20
L59	B	177	132	1B	20
L60	A	190	133	4C	20
L61	A	296	119	3C	19
L62	A	225	36	5E	12
L63	A	277	69	5E	19
L64	B	85	126	8B	13
L65	B	85	103	8E	13
L66	B	128	40	1E	3
L67	A	100	55	5E	4
L68	B	126	77	5E	4
L69	B	264	115	2E	18
L70	B	275	116	4D	18

el. Kennz Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
L71	B	223	117	5E	20
L72	B	235	137	10B	20
L73	B	275	114	4D	18
L74	B	77	131	9B	13
L75	B	18	50	7B	15
L76	B	263	105	3D	18
L77	A	277	106	7F	19
L78	B	285	92	3B	19
L79	B	135	17	10B	5
L80	B	143	20	10C	5
L81	B	40	72	5B	16
L82	B	12	138	9C	14
L83	B	298	139	9C	18
L84	B	279	54	7B	19
L85	B	279	74	4B	19
L86	B	104	127	5A	13
L87	B	12	117	11B	14
L88	B	47	110	4C	14
L89	B	105	104	6D	13
L90	B	21	77	5C	15
L91	B	22	64	6C	15
L92	B	25	129	7B	14
L93	B	37	61	3A	16
L94	B	180	104	4A	12
L95	B	155	112	6A	12
L96	B	157	125	7A	12
L97	B	24	107	2B	15
L98	B	14	104	2B	15
L99	B	244	48	5D	17
L100	B	68	127	10B	13
L101	B	61	134	10B	13
L102	B	68	105	10E	13
L103	B	66	108	10E	13
L104	B	13	36	9C	15
L105	B	27	31	10C	15
L106	B	160	143	7B	12
L107	B	153	143	8B	12
L108	B	181	142	1B	20
L109	B	291	134	9D	18
L110	B	286	130	9D	18
L111	B	23	59	7B	15
L112	B	29	120	6B	14
L113	B	261	32	3C	17
L114	B	298	135	10D	18
L115	B	299	127	11D	18
L116	B	298	135	10E	18
L117	B	15	125	10B	14
L118	B	93	137	4C	8
L119	B	132	72	7E	4
L120	A	94	60	6E	4
L121	A	131	61	8B	21
L122	A	138	68	9B	21
L123	B	175	64	4E	6
L124	B	207	104	3A	12
L125	B	178	112	5B	12
L126	A	92	70	9D	10
L127	A	115	73	10E	10
L128	A	151	137	10E	10
L129	A	134	136	10D	10
L130	A	85	22	1E	11
L131	A	55	31	1E	11
L132	B	12	81	4D	11
L133	B	12	62	4F	11
L134	B	290	142	9D	18
L135	B	276	49	7A	19
L136	A	84	51	11E	10
L137	A	25	88	6E	15
L138	A	54	92	2E	16
L139	B	95	142	4C	8
L140	A	54	60	2E	16
L141	B	93	114	10C	8
L142	A	54	97	2D	16
L143	A	53	110	1D	16
L144	A	240	109	10A	17

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
L145	B	283	59	7B	19
L146	A	300	114	3C	19
L147	A	299	80	5E	19
L148	B	240	61	7D	17
L149	B	254	66	7D	17
L150	B	238	74	8D	17
L151	B	255	72	8D	17
L152	B	242	83	8D	17
L153	B	253	81	9D	17
L154	B	260	39	4D	17
L155	B	256	56	7D	17
L156	A	183	36	2B	21
L157	A	177	39	2D	21
L158	A	191	37	2E	21
L159	B	170	38	2C	21
L160	A	187	37	2A	21
L161	A	118	39	11C	10
L162	A	289	116	8E	19
L163	A	65	62	4B	10
L164	B	287	74	4B	19
L165	A	16	77	6F	15
L166	A	112	115	12E	10
L167	B	73	36	4D	10
L168	B	254	26	3D	17
L169	A	72	40	11D	10
L170	B	181	20	10D	5
L171	B	176	17	10D	5
L172	B	123	21	10E	5
L173	B	39	135	7A	14
L174	B	95	47	11A	10
L175	A	264	47	11D	22
L176	A	254	64	11E	22
L177	A	263	42	3B	22
L178	B	95	119	10C	8
L179	B	76	139	9A	13
L180	B	76	116	9D	13
L181	B	20	126	7B	14
L182	B	12	109	11B	14
L183	B	84	77	2A	8
L184	A	120	105	11D	10
L185	B	84	88	3A	8
L186	B	65	78	2B	8
L187	B	64	89	3B	8
L188	B	76	79	2C	8
L189	B	284	49	8A	19
L190	B	288	55	8A	19
L191	B	293	54	8A	19
L192	B	297	52	9A	19
L193	B	291	55	8B	19
L194	B	296	55	9B	19
L195	A	221	128	7A	20
L196	A	239	53	6D	17
L197	B	73	88	3C	8
L198	A	80	74	8A	8
L199	A	84	87	9A	8
L200	A	63	82	9B	8
L201	A	66	74	8B	8
L202	B	274	132	8D	18
L203	A	71	88	9C	8
L204	A	76	77	8C	8
L205	A	89	135	6B	5
L206	B	11	47	7B	15
L207	A	292	137	7F	19
N1	A	285	79	4C	19
N1	A	285	79	4D	19
N1	A	285	79	4E	19
N1	A	285	79	6D	19
N1	A	285	79	6D	19
N2	A	283	98	1C	19
N2	A	283	98	1D	19
N2	A	283	98	3E	19
N2	A	283	98	4E	19
N2	A	283	98	6E	19
N3	A	102	90	10A	22

ROHDE & SCHWARZ	Benennung: EE IQ-MODULATOR *Designation:* IQ-MODULATOR	Sprache: *Lang.:* de	Blatt: *Sh.:* 6 +	Aei: *C.I.:* 08.04
Typ: *Type:* SMIQ	Datum: *Date:* 99-02-11	Abteilung: *Dpt:* 1GPK	Name: *Name:* HO	Sachnr.: *Part No.:* 1084.9800.01 XY

Nicht-Service-relevante Bauteile / Non-Service-relevant components

el. Kennz. *Part*	Seite *Side*	X	Y	Planq. *Sqr*	Bl. *Pg*
N3	A	102	90	10C	22
N3	A	102	90	11D	22
N4	A	94	108	4E	8
N4	A	94	108	6B	8
N4	A	94	108	6C	8
N4	A	94	108	6D	8
N4	A	94	108	6E	8
N5	B	229	90	8E	20
N6	A	257	103	2B	18
N6	A	257	103	3A	18
N7	A	151	52	8C	21
N7	A	151	52	8C	21
N7	A	151	52	9E	21
N8	A	143	76	10A	21
N8	A	143	76	10C	21
N8	A	143	76	8E	21
N9	A	169	48	10E	21
N9	A	169	48	5B	21
N9	A	169	48	6B	21
N10	B	165	51	7E	6
N10	B	165	51	8B	6
N10	B	165	51	9B	6
N11	B	177	78	6B	6
N11	B	177	78	6E	6
N11	B	177	78	7C	6
N12	B	171	92	2B	5
N13	A	118	69	3B	9
N13	A	118	69	3C	9
N13	A	118	69	4E	9
N14	A	226	81	3E	12
N14	A	226	81	8D	12
N15	A	221	89	4E	12
N15	A	221	89	9D	12
N16	A	101	70	2C	10
N16	A	101	70	2D	10
N16	A	101	70	9E	10
N16	A	101	70	5A	7
N16	A	101	70	5D	7
N17	A	66	47	11E	10
N17	A	66	47	3C	10
N17	A	66	47	3D	10
N17	A	66	47	5B	9
N17	A	66	47	5D	9
N18	A	141	121	10E	10
N18	A	141	121	5C	10
N18	A	141	121	5D	10
N18	A	141	121	5E	10
N18	A	141	121	6D	10
N19	A	73	33	1E	11
N19	A	73	33	2B	11
N19	A	73	33	3B	11
N19	A	73	33	9B	9
N19	A	73	33	9D	9
N20	A	257	26	10D	19
N20	A	257	26	11B	19
N20	A	257	26	8C	19
N21	A	257	57	11D	22
N21	A	257	57	2B	22
N21	A	257	57	3A	22
N22	A	21	72	4E	11
N22	A	21	72	8B	11
N23	A	20	97	4E	11
N23	A	20	97	9B	11
N24	A	12	42	5E	11
N24	A	12	42	7C	11
N25	A	41	85	6E	16
N25	A	41	85	8B	16
N25	A	41	85	8C	16
N26	A	41	51	4E	16
N26	A	41	51	4E	16
N26	A	41	51	7E	16
N27	A	181	92	2E	5
N27	A	181	92	5D	5
N27	A	181	92	6C	5

el. Kennz *Part*	Seite *Side*	X	Y	Planq. *Sqr*	Bl. *Pg*
N28	B	205	108	3B	12
N29	A	25	84	4D	15
N29	A	25	84	6E	15
N30	A	11	27	2E	11
N30	A	11	27	3E	11
N30	A	11	27	8C	11
N31	B	191	43	3A	6
N31	B	191	43	5E	6
N32	A	41	67	7E	16
N32	A	41	67	9B	16
N33	B	188	94	1E	5
N33	B	188	94	3B	5
N34	A	182	54	3B	21
N34	A	182	54	3E	21
N35	A	246	74	5E	22
N35	A	246	74	8D	22
N37	A	44	117	11D	14
N37	A	44	117	4E	14
N37	A	44	117	6C	14
N38	B	247	85	9C	17
N39	A	280	20	10C	19
N39	A	280	20	2E	19
N40	A	288	49	10D	19
N40	A	288	49	1E	19
N41	A	285	34	11C	19
N41	A	285	34	2E	19
N42	A	193	76	6E	3
N42	A	193	76	9D	3
N42	A	193	76	9E	3
N43	A	119	108	11E	10
N43	A	119	108	2B	10
N43	A	119	108	3B	10
N44	B	15	123	11B	14
N45	B	28	123	6B	14
N46	B	83	106	8E	13
N47	B	83	129	8B	13
N48	A	112	129	2E	10
N48	A	112	129	3E	10
N48	A	112	129	3E	5
N48	A	112	129	4E	5
N48	A	112	129	5A	5
N49	B	21	56	7B	15
P4	B	102	37	5D	3
P17	B	34	124	5C	14
P34	B	224	72	7D	12
P50	B	180	38	7C	6
P51	B	167	134	3B	11
P52	B	54	134	4C	11
P53	B	232	91	11D	12
P54	B	253	21	3C	17
P55	B	259	64	7C	17
P56	B	257	97	6E	22
P57	B	267	51	3A	22
P58	B	268	54	4A	22
P59	B	12	129	10C	14
P60	B	164	103	4E	4
P61	B	164	105	4F	4
P62	B	160	103	4E	4
P63	B	138	103	6E	10
P64	B	15	24	9C	11
P65	B	28	52	8D	11
P66	B	51	14	8B	9
P67	B	49	74	9A	16
P68	B	277	35	11C	19
P69	B	160	105	3E	4
P72	B	83	136	5C	8
P75	B	83	113	11C	8
R1	A	25	42	8D	11
R2	B	42	136	8E	14
R3	B	90	58	10E	4
R4	A	40	107	2E	15
R5	A	119	127	3E	5
R6	A	103	137	6B	5
R7	A	39	60	3A	16

el. Kennz. *Part*	Seite *Side*	X	Y	Planq. *Sqr*	Bl. *Pg*
R8	A	169	125	7A	12
R9	A	192	64	9D	3
R10	A	207	56	9E	3
R11	A	282	143	9C	18
R12	B	190	77	4C	6
R13	A	298	84	5C	19
R14	A	295	109	3C	19
R15	A	298	64	7D	19
R16	B	286	39	8C	19
R17	A	198	72	6E	3
R18	A	192	70	9D	3
R19	A	29	83	5D	15
R20	B	116	112	4E	13
R21	B	116	135	4B	13
R22	B	279	97	3A	19
R23	A	112	67	4B	9
R24	A	137	75	10A	21
R25	A	133	69	4D	9
R26	B	253	128	6E	18
R27	B	89	131	7B	13
R28	B	87	134	7C	13
R29	B	87	111	7E	13
R30	B	89	108	7E	13
R31	A	100	67	3C	10
R32	A	108	65	3D	10
R33	B	210	111	3B	12
R34	B	212	108	2B	12
R35	B	241	133	10B	20
R36	A	264	116	7B	18
R37	B	248	81	9C	17
R38	A	238	118	6B	18
R39	A	237	24	2B	17
R40	B	245	45	5C	17
R41	B	248	63	7C	17
R42	B	279	76	4A	19
R43	B	279	56	7A	19
R44	A	146	84	7A	21
R45	A	229	64	9B	3
R46	A	152	78	11D	21
R47	A	138	88	9A	21
R48	B	202	93	4C	5
R49	A	255	77	6E	22
R50	A	255	93	6C	22
R52	A	203	82	8D	3
R53	B	68	67	7B	7
R54	B	81	56	7C	7
R55	B	223	89	9D	20
R56	A	60	63	1E	16
R57	A	151	28	2C	3
R58	B	136	41	3C	3
R59	A	227	57	5E	3
R60	A	197	74	6E	3
R61	A	151	97	8B	21
R62	B	136	39	3B	3
R63	A	181	43	2B	21
R64	A	228	27	3A	17
R65	A	140	65	6C	21
R66	A	156	79	9D	21
R67	A	135	74	10A	21
R68	A	172	57	3E	21
R69	A	179	44	4F	21
R70	A	136	87	11D	21
R71	B	187	39	3A	6
R72	B	173	70	7A	6
R73	B	186	74	4B	6
R74	B	112	135	5B	13
R75	B	98	126	6C	13
R76	B	136	130	2C	13
R77	A	187	109	5A	12
R78	B	98	103	6E	13
R79	B	113	112	5D	13
R80	B	139	107	2E	13
R81	B	23	141	9B	14
R82	B	21	37	8C	15

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ROHDE & SCHWARZ	Benennung: *Designation:* EE IQ-MODULATOR / IQ-MODULATOR	Sprache: *Lang.:* de	Blatt: *Sh.:* 7 +	Aei: *C.I.:* 08.04
Typ: *Type:* SMIQ	Datum: *Date:* 99-02-11	Abteilung: *Dpt:* 1GPK	Name: *Name:* HO	Sachnr.: *Part No.:* 1084.9800.01 XY

el. Kennz. *Part*	Seite *Side*	X	Y	Planq. *Sqr*	Bl. *Pg*
R83	B	30	42	7C	15
R84	B	12	26	10A	15
R85	B	34	28	7C	15
R86	B	44	120	4B	14
R87	B	44	38	7E	15
R88	A	26	26	10D	15
R89	B	69	66	6B	7
R90	B	69	69	7B	7
R91	B	81	59	7C	7
R92	B	81	55	6C	7
R93	B	57	38	3E	7
R94	B	73	46	4F	7
R95	B	65	47	5B	7
R96	B	73	44	5C	7
R97	A	137	114	6E	10
R98	A	154	119	6D	10
R99	A	62	54	4C	10
R100	A	133	28	11C	10
R101	A	12	118	10E	14
R102	A	25	125	5E	14
R103	B	41	141	8D	14
R104	A	42	118	4E	14
R105	A	65	44	4D	10
R106	A	84	132	8D	10
R107	A	68	118	8E	10
R108	A	64	121	9D	10
R109	A	117	106	3B	10
R110	A	23	96	9A	11
R111	A	26	48	6D	11
R112	A	18	35	2E	11
R113	B	249	103	11C	17
R114	A	79	47	5D	9
R115	A	134	65	4E	9
R116	A	70	59	5B	9
R117	A	56	28	4E	9
R118	A	56	18	5E	9
R119	A	120	78	1E	9
R120	B	249	99	10C	17
R121	B	46	48	2B	16
R122	B	44	75	6B	16
R123	A	54	52	4E	16
R126	A	264	83	7E	22
R127	A	254	83	3C	22
R128	A	247	67	6A	17
R129	B	173	113	5B	12
R130	B	165	119	6B	12
R131	B	146	132	8A	12
R132	B	141	114	9B	12
R133	B	139	114	9B	12
R134	A	91	97	9A	22
R135	B	232	44	5C	12
R136	B	192	114	4B	12
R137	A	255	41	6B	17
R138	A	12	80	4D	11
R139	B	223	79	10D	20
R140	B	246	142	10A	20
R141	A	261	128	10C	20
R142	A	246	130	10C	20
R143	B	203	79	3E	6
R144	A	55	113	4E	14
R145	B	283	129	10D	18
R146	B	275	131	8D	18
R147	A	11	91	4D	11
R148	A	222	142	6A	20
R149	B	102	133	5B	13
R150	B	102	130	5B	13
R151	A	25	138	1E	14
R152	A	42	143	2E	14
R153	B	103	110	5D	13
R154	B	103	107	5D	13
R155	A	54	136	3E	14
R156	A	257	43	6B	17
R157	B	27	19	11C	15
R158	B	17	19	11B	15
R159	A	21	121	11E	14
R160	B	43	60	2B	16
R161	B	40	60	2A	16
R162	A	12	40	5D	11
R163	B	222	47	5D	12
R164	A	18	58	6D	11
R165	B	230	72	10E	20
R166	B	242	139	10B	20
R167	A	250	130	11C	20
R168	A	246	39	4E	17
R169	A	239	57	6D	17
R170	A	224	142	7A	20
R171	A	11	55	5E	11
R172	B	212	135	5C	20
R173	B	212	141	5C	20
R174	B	248	55	6C	17
R175	B	265	31	2C	17
R176	A	23	70	4E	11
R177	A	38	122	6E	14
R178	A	171	91	6E	5
R179	A	169	91	6E	5
R180	A	40	110	1D	15
R181	A	13	103	1E	15
R182	B	111	142	5B	13
R183	B	108	142	5B	13
R184	B	106	142	6B	13
R185	B	88	132	7B	13
R186	A	43	109	2D	15
R187	A	36	110	1D	15
R188	B	40	115	5B	14
R189	B	88	109	7E	13
R190	B	111	119	6E	13
R191	B	108	119	5E	13
R192	B	106	119	5E	13
R193	B	22	134	9B	14
R194	A	27	107	3D	15
R195	A	25	103	3E	15
R196	B	13	140	9C	14
R197	B	47	114	4C	14
R198	B	35	117	5B	14
R199	B	17	131	10B	14
R200	B	40	53	2B	16
R201	B	40	54	2B	16
R202	B	40	56	3B	16
R203	B	212	109	2B	12
R204	B	40	116	5B	14
R205	B	22	136	9B	14
R206	B	55	30	2B	7
R207	B	55	28	2B	7
R208	A	16	35	8C	11
R209	B	222	103	6F	20
R210	B	222	108	6F	20
R211	A	118	76	4E	9
R212	A	217	73	3E	12
R213	A	232	83	4E	12
R214	A	223	98	4E	12
R215	B	195	133	3C	20
R216	B	216	142	6B	20
R217	A	243	18	3C	17
R218	A	249	50	6C	17
R219	B	248	117	1E	18
R220	B	293	114	4C	18
R221	B	161	35	6B	21
R222	A	20	91	5E	11
R223	A	22	27	2E	11
R224	B	291	69	7D	19
R225	A	296	82	4D	19
R226	A	25	57	6E	11
R227	A	185	82	8D	3
R228	A	219	45	8B	3
R229	A	207	58	9D	3
R230	A	194	64	9E	3
R231	A	170	40	6B	21
R232	A	154	74	11D	21
R233	A	136	81	11B	21
R234	A	125	94	5F	21
R235	A	122	78	4F	21
R236	A	123	87	4F	21
R237	A	228	80	3E	12
R238	B	177	75	6B	6
R239	B	167	82	7C	6
R240	B	134	133	2B	13
R241	B	137	110	2E	13
R242	A	16	22	8C	15
R243	A	24	22	8E	15
R244	B	70	62	5B	7
R245	B	88	138	4B	8
R246	B	61	60	6B	7
R247	B	88	115	11C	8
R248	B	73	49	6C	7
R249	B	83	48	5C	7
R250	A	61	54	3B	10
R251	A	148	117	6E	10
R252	A	61	44	3D	10
R253	A	123	117	3A	10
R254	A	59	28	2B	11
R255	A	62	40	3B	11
R256	A	65	40	3C	11
R257	A	12	92	9B	11
R258	B	11	94	10A	11
R259	A	83	42	4D	9
R260	A	84	53	4B	9
R261	A	43	82	8B	16
R262	A	41	82	8D	16
R263	A	42	76	9B	16
R264	A	50	69	9B	16
R265	A	46	60	3E	16
R266	A	177	93	5D	5
R267	A	175	92	5C	5
R268	B	175	94	2B	5
R269	B	191	98	3C	5
R270	A	257	73	6F	22
R271	A	248	98	6D	22
R272	A	260	71	1B	22
R273	B	205	98	4C	5
R274	A	258	55	3A	22
R275	A	268	60	3A	22
R276	A	205	96	5C	5
R277	A	191	98	6C	5
R278	A	220	85	9D	12
R279	A	227	101	10E	12
R280	A	227	104	10E	12
R281	B	279	103	1B	19
R282	B	235	127	9B	20
R283	A	296	94	2D	19
R284	A	220	142	6A	20
R285	A	248	28	3B	17
R286	A	245	24	3B	17
R287	A	245	28	4B	17
R288	A	247	57	7B	17
R289	A	249	55	7B	17
R290	A	250	64	6B	17
R291	B	209	130	5B	20
R292	B	248	37	4C	17
R293	B	212	130	5C	20
R294	B	212	132	5B	20
R295	B	276	86	3B	19
R296	B	276	67	6B	19
R297	A	228	25	3B	17
R298	A	242	61	6B	17
R299	B	244	101	11C	17
R300	B	286	37	8C	19
R301	B	284	24	10C	19
R302	A	286	120	7E	19
R303	B	250	128	6E	18
R304	B	255	128	6E	18
R305	A	152	38	8C	21
R306	A	59	22	3A	11

ROHDE & SCHWARZ

Benennung: EE IQ-MODULATOR
Designation: IQ-MODULATOR

Sprache: *Lang.:* de

Blatt: *Sh.:* 8 +

Aei: *C.I.:* 08.04

Typ: *Type:* SMIQ

Datum: *Date:* 99-02-11

Abteilung: *Dpt:* 1GPK

Name: *Name:* HO

Sachnr.: *Part No.:* 1084.9800.01 XY

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Nicht-Service-Relevante Bauteile / Non-Service-Relevant Parts

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
R307	A	68	38	3B	11
R308	A	75	32	9B	9
R309	A	75	36	9B	9
R310	A	69	22	9D	9
R311	A	73	22	9D	9
R312	A	50	87	7A	16
R313	A	38	86	7C	16
R314	A	174	95	5D	5
R315	B	192	91	3B	5
R316	A	242	92	6C	22
R317	A	191	88	6C	5
R318	A	219	90	9D	12
R319	A	193	92	2E	5
R320	A	238	28	3A	17
R321	A	291	25	10B	19
R322	A	287	43	10D	19
R323	A	238	61	7B	17
R324	A	230	20	3B	17
R325	A	244	59	6B	17
R326	A	192	135	4C	20
R327	B	123	36	3B	3
R328	A	153	21	2C	3
R329	A	149	20	2D	3
R330	A	120	28	2D	3
R331	B	118	36	3A	3
R332	A	273	21	9E	19
R333	A	22	31	3E	11
R334	B	192	37	2C	21
R335	A	194	26	1C	21
R336	A	230	92	9D	12
R337	B	223	87	9D	20
R338	B	223	85	9D	20
R339	A	257	134	9A	20
R340	A	255	138	9A	20
R341	B	244	72	8C	17
R342	B	248	75	8C	17
R343	B	244	78	8C	17
R344	A	279	39	11C	19
R345	A	275	37	11D	19
R346	A	198	129	2C	20
R347	A	234	126	9B	20
R348	A	182	79	8C	3
R349	B	64	22	2D	7
R350	B	64	33	2D	7
R351	B	159	118	7B	12
R352	A	39	37	7A	9
R353	A	72	59	5E	7
R354	B	230	131	8C	20
R355	A	250	136	11C	20
R356	A	95	96	9A	22
R357	B	229	139	7B	20
R358	B	215	133	5C	20
R359	B	222	106	6E	20
R360	A	106	88	11D	22
R361	A	274	80	5D	19
R362	A	292	92	2D	19
R363	B	220	139	6C	20
R364	A	179	97	2E	5
R365	B	29	65	6C	15
R366	B	29	64	6C	15
R367	B	28	74	5C	15
R368	B	28	72	5C	15
R369	B	60	37	2A	7
R370	B	57	37	2A	7
R371	B	59	23	2B	7
R372	B	59	21	2B	7
R373	B	84	27	10B	9
R374	B	81	25	10B	9
R375	B	78	20	10D	9
R376	B	75	20	10D	9
R377	B	205	139	5B	20
R378	A	275	103	3E	19
R379	B	219	139	6C	20
R380	A	275	25	9D	19
R381	B	24	37	10C	15
R382	B	217	139	6C	20
R383	B	30	44	10E	15
R384	A	205	136	4A	20
R385	A	23	41	8C	11
R386	B	170	96	2B	5
R387	A	187	108	6A	12
R388	B	222	35	2D	12
R389	B	222	39	3D	12
R390	B	222	36	2D	12
R391	A	280	84	4E	19
R392	A	218	116	6D	20
R393	A	42	19	7C	9
R394	A	294	76	4F	19
R395	A	293	100	3F	19
R396	A	227	133	8A	20
R397	A	107	97	11E	22
R398	A	104	87	3A	9
R399	A	105	56	3C	9
R400	A	112	82	2F	9
R401	B	278	130	8E	18
R402	B	194	88	1E	5
R403	B	177	98	2E	5
R404	A	286	39	1F	19
R405	A	277	46	1E	19
R406	A	273	31	2E	19
R407	B	75	55	5F	7
R408	B	224	141	7B	20
R409	A	239	97	4C	22
R410	A	153	117	7D	10
R411	A	273	73	7E	19
R412	A	230	29	3A	17
R413	A	292	68	5E	19
R414	B	162	50	9B	6
R415	A	251	69	6A	17
R416	A	232	51	5E	12
R417	B	278	132	8E	18
R418	B	61	65	6E	7
R419	B	71	54	6F	7
R420	A	84	38	5C	9
R421	A	84	61	5A	9
R422	A	44	92	7B	16
R423	A	129	28	2B	3
R424	A	143	35	3C	3
R425	A	146	28	2C	3
R426	A	150	35	3D	3
R427	B	113	36	3D	3
R428	A	124	28	2A	3
R429	A	141	28	2B	3
R430	A	187	111	4A	12
R431	A	261	49	3B	22
R432	A	244	51	5D	17
R433	B	232	100	7D	20
R434	A	136	68	10B	21
R435	A	140	93	9A	21
R436	A	198	127	3C	20
R437	B	151	128	9B	12
R438	B	150	135	8B	12
R439	B	222	45	5E	12
R440	B	245	139	11B	20
R441	B	240	139	10B	20
R442	B	36	113	5B	14
R443	B	19	131	10B	14
R444	B	230	73	10E	20
R445	A	179	15	1A	21
R446	B	46	84	6B	16
R447	B	200	131	4B	20
R448	B	301	141	9C	18
R449	B	225	114	5E	20
R450	B	168	77	7C	6
R451	B	173	43	10B	6
R452	B	169	77	7B	6
R453	A	26	68	5C	15
R454	A	107	137	3E	10
R455	A	77	38	4A	11
R456	A	64	18	3A	11
R457	A	29	51	10D	11
R458	B	202	90	4B	5
R459	A	166	18	2E	3
R460	A	243	76	8D	22
R461	A	261	78	8D	22
R462	A	251	51	3A	22
R463	A	231	99	10D	12
R464	B	190	131	2B	20
R465	B	72	64	5B	7
R466	A	240	127	8B	20
R467	A	287	28	2F	19
R468	A	249	140	10A	20
R469	B	84	47	5C	7
R470	A	250	37	4E	17
R471	B	293	106	5C	18
R472	B	242	136	10B	20
R473	B	276	94	3A	19
R474	B	280	91	3B	19
R475	A	196	140	4A	20
R476	A	142	48	7C	21
R477	A	100	28	11A	10
R478	A	192	141	3C	20
R479	B	173	106	5B	12
R480	B	159	122	6B	12
R481	B	159	120	7B	12
R482	B	188	107	4B	12
R483	B	190	107	4B	12
R484	B	222	54	6E	12
R485	B	151	133	8B	12
R486	B	227	64	6D	12
R487	B	161	131	7B	12
R488	B	158	131	7B	12
R489	B	63	53	5B	7
R490	B	190	128	2C	20
R491	A	222	113	5D	20
R492	A	229	120	4D	20
R493	A	251	140	10C	20
R494	B	227	59	6E	12
R495	B	222	56	6E	12
R496	A	194	133	3C	20
R497	A	232	129	9C	20
R498	A	233	138	9C	20
R499	A	231	101	10D	12
R500	A	243	140	10C	20
R501	A	35	39	7A	9
R502	A	39	16	7C	9
R503	A	37	31	7B	9
R504	A	39	26	7B	9
R505	B	293	129	10D	18
R506	A	218	137	6A	20
R507	B	265	29	2C	17
R508	B	248	53	5C	17
R509	B	248	58	6C	17
R510	B	265	34	3C	17
R511	B	295	52	9B	19
R512	A	257	35	12B	19
R513	B	276	91	3B	19
R514	A	114	119	4A	10
R515	B	76	44	5C	7
R517	A	223	135	5A	20
R518	A	235	142	7A	20
R519	A	290	47	10D	19
R520	A	61	52	3C	10
R521	A	61	48	3D	10
R522	A	63	134	8F	10
R523	A	262	21	11B	19
R524	B	140	130	2B	13
R525	B	139	133	2B	13
R526	B	142	110	2E	13
R527	B	146	110	2E	13
R528	A	228	135	8A	20
R529	B	291	129	10E	18

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ROHDE & SCHWARZ	Benennung: EE IQ-MODULATOR *Designation:* IQ-MODULATOR	Sprache: *Lang.:* de	Blatt: *Sh.:* 9 +	Aei: *C.I.:* 08.04
Typ: *Type:* SMIQ	Datum: *Date:* 99-02-11	Abteilung: *Dpt:* 1GPK	Name: *Name:* HO	Sachnr.: *Part No.:* 1084.9800.01 XY

Nicht-Service-relevante Bauteile / Non-service relevant components

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
R530	B	296	129	10E	18
R531	A	248	143	9A	20
R532	A	197	143	3A	20
R533	B	258	37	3C	17
R534	B	253	37	4C	17
R535	A	194	66	9C	3
R536	A	81	32	10A	9
R537	A	76	24	10C	9
R538	A	76	14	10E	9
R539	A	66	18	10C	9
R540	B	12	91	10A	11
R541	B	45	25	11D	7
R542	B	45	32	11B	7
R543	A	245	99	6C	22
R544	A	28	47	10D	11
R545	A	81	59	5B	9
R546	A	226	73	8D	12
R547	A	276	143	8C	18
R548	A	246	52	5D	17
R549	A	277	135	7C	18
R550	A	79	44	5C	9
R551	B	180	110	4B	12
R552	B	161	114	6B	12
R553	B	276	74	5A	19
R554	B	276	54	7A	19
R555	A	207	91	5C	5
R556	B	116	115	4E	13
R557	B	116	111	4E	13
R558	B	116	134	4B	13
R559	B	116	138	4B	13
R560	A	187	105	6A	12
R561	A	148	58	8C	21
R562	A	145	56	9C	21
R563	A	132	54	8C	21
R564	A	279	37	11C	19
R565	A	273	23	8D	19
R566	B	167	45	9B	6
R567	A	177	57	5E	21
R568	A	129	36	7A	3
R569	A	129	39	3E	3
R570	A	172	72	5E	21
R571	A	177	72	5F	21
R572	A	35	36	7A	9
R573	A	38	21	7C	9
R574	B	150	72	4A	4
R575	B	136	75	5A	4
R576	B	150	65	5B	4
R577	B	150	70	5B	4
R578	B	150	60	3B	4
R579	B	150	54	3B	4
R580	B	134	62	3A	4
R581	B	150	63	3A	4
R582	B	175	58	7A	4
R583	B	174	58	7A	4
R584	B	173	55	7B	4
R585	B	173	61	7B	4
R586	A	154	83	11C	21
R587	B	196	60	2C	6
R588	A	282	71	5F	19
R589	B	196	47	2A	6
R590	B	201	39	2A	6
R591	B	199	66	3C	6
R592	B	199	68	3C	6
R593	B	172	75	7B	6
R594	B	205	79	3D	6
R595	B	112	132	5B	13
R596	B	100	130	6B	13
R597	A	110	136	3E	5
R598	B	126	129	3C	13
R599	B	127	140	3B	13
R600	B	120	139	4C	13
R601	B	100	107	6E	13
R602	B	121	127	4B	13
R603	B	113	109	5D	13
R604	B	126	106	3E	13
R605	B	120	116	4E	13
R606	B	121	104	4D	13
R607	B	127	117	3D	13
R608	A	85	104	3E	8
R609	B	15	92	3B	15
R610	B	72	66	4B	7
R611	B	84	41	4C	7
R612	B	78	42	5D	7
R613	B	61	55	5B	7
R614	B	14	28	10B	15
R615	A	200	96	7B	5
R616	A	61	139	10A	10
R617	B	74	40	4B	7
R618	B	73	41	4D	7
R619	A	63	60	3B	10
R620	A	114	115	4A	10
R621	A	64	105	10C	10
R622	A	255	38	8C	19
R623	A	62	136	10A	10
R624	A	61	50	3C	10
R625	A	120	115	4B	10
R626	A	26	93	10B	11
R627	A	294	92	5C	19
R628	A	12	33	8C	11
R629	A	14	37	8C	11
R630	A	56	39	8A	9
R631	A	41	39	8A	9
R632	A	41	37	7A	9
R633	A	57	37	7A	9
R634	A	56	26	8D	9
R635	A	42	26	8D	9
R636	A	42	24	7D	9
R637	A	56	24	7D	9
R638	A	40	34	6B	9
R639	A	205	94	7B	5
R640	A	144	83	10B	21
R641	B	50	52	2A	16
R642	A	50	89	7B	16
R643	A	36	86	7C	16
R644	B	40	69	4B	16
R645	A	266	56	4B	22
R646	A	252	83	4C	22
R647	A	294	74	4D	19
R648	B	173	117	5A	12
R649	B	169	122	6A	12
R650	B	147	132	9A	12
R651	A	255	46	6C	17
R652	B	225	44	5D	12
R653	B	221	67	7D	12
R654	B	224	67	7D	12
R655	A	224	73	7D	12
R656	A	221	73	7D	12
R657	A	224	84	8D	12
R658	B	190	118	4A	12
R659	B	262	82	9D	17
R660	B	227	75	10E	20
R661	A	276	88	3C	19
R662	B	239	142	10B	20
R663	A	294	96	2D	19
R664	A	299	108	3C	19
R665	B	287	128	11D	18
R666	A	280	109	1C	19
R667	A	98	93	9B	22
R668	A	145	95	9A	21
R669	B	260	34	3C	17
R670	B	252	63	6C	17
R671	A	280	61	6C	19
R672	A	281	90	6D	19
R673	A	301	65	7D	19
R674	B	30	112	1C	15
R675	A	154	59	7E	21
R676	A	156	59	7E	21
R677	A	248	109	6A	18
R678	A	259	117	7A	18
R679	A	261	119	7B	18
R680	A	247	117	6A	18
R681	A	154	49	7F	21
R682	B	244	106	11C	17
R684	A	276	84	4D	19
R685	A	290	94	2D	19
R686	A	145	86	9A	21
R687	A	105	82	3A	9
R688	A	120	65	3B	9
R689	A	127	72	3C	9
R690	A	107	53	3C	9
R691	B	197	127	4B	20
R692	B	228	120	5E	20
R693	B	231	143	7B	20
R694	A	217	134	6B	20
R695	B	108	62	3C	4
R696	B	100	62	3C	4
R697	B	107	47	3D	4
R698	B	105	62	3D	4
R699	B	110	69	4D	4
R700	B	110	67	4D	4
R701	B	111	71	4C	4
R702	B	111	73	4C	4
R703	B	111	93	6C	4
R704	B	111	96	7C	4
R705	B	110	88	7D	4
R706	B	110	91	6D	4
R707	B	111	90	7D	4
R708	B	125	86	8D	4
R709	B	110	97	8C	4
R710	B	125	92	7C	4
R711	A	286	68	5E	19
R712	B	18	92	3C	15
R713	A	231	55	5E	12
R714	B	195	110	3B	12
R715	A	136	35	10A	3
R716	A	223	68	9A	3
R717	A	118	119	3A	10
R718	B	178	88	2B	5
R719	A	202	80	8E	3
R720	A	126	140	3E	10
R721	B	196	41	2B	6
R722	A	20	33	9C	15
R723	A	26	32	9C	15
R724	A	28	23	9E	15
R725	A	28	27	9D	15
R726	B	274	127	8C	18
R727	A	294	84	4C	19
R728	A	275	75	6E	19
R729	A	294	71	4C	19
R730	B	207	106	3A	12
R731	B	13	78	5A	15
R732	A	241	86	6D	22
R733	A	286	109	2C	19
R734	B	114	39	3B	3
R735	B	116	39	3B	3
R736	B	118	39	3B	3
R737	B	120	39	3B	3
R738	B	122	39	3B	3
R739	B	124	39	3B	3
R740	B	126	39	3B	3
R741	B	136	44	5C	3
R742	B	136	46	5C	3
R743	B	136	48	5C	3
R744	B	136	50	5C	3
R745	B	136	52	5C	3
R746	B	136	54	5C	3
R747	B	136	56	5C	3
R748	B	136	58	5C	3
R749	A	153	17	1B	3
R750	A	167	20	1D	3
R751	B	139	51	2A	4
R752	B	125	97	8A	4

ROHDE & SCHWARZ

Benennung: EE IQ-MODULATOR
Designation: IQ-MODULATOR

Sprache: Lang.: de

Blatt: Sh.: 10 +

Aei: C.I.: 08.04

Typ: Type: SMIQ

Datum: Date: 99-02-11

Abteilung: Dpt: 1GPK

Name: Name: HO

Sachnr.: Part No.: 1084.9800.01 XY

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Nicht-Service-Relevante Bauteile / Non-Service Relevant Components

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
R753	B	139	96	9A	4
R754	A	134	85	3C	21
R755	A	138	79	11B	21
R756	B	171	71	8B	6
R757	B	14	31	10B	15
R758	A	24	30	10D	15
R759	A	28	25	10D	15
R760	B	90	142	4B	8
R761	B	90	119	11B	8
R762	A	112	119	4A	10
R763	B	12	88	10A	11
R764	A	256	87	4C	22
R765	B	228	41	5D	12
R766	A	34	29	7B	9
R767	A	36	23	7C	9
R768	A	229	106	11D	12
R769	A	280	104	1C	19
R770	B	223	77	10E	20
R771	B	236	141	11B	20
R772	B	282	126	11D	18
R773	B	175	70	6B	6
R774	A	287	77	6C	19
R775	A	282	87	6D	19
R776	A	96	90	10B	22
R777	A	205	134	5A	20
R778	A	14	64	7A	11
R779	A	246	47	5E	17
R780	A	220	116	6D	20
R781	A	226	131	8A	20
R782	A	20	24	9C	11
R783	A	206	50	10D	3
R784	A	194	45	10E	3
R785	B	27	20	11C	15
R786	B	27	16	11C	15
R787	B	16	20	11B	15
R788	B	16	16	11B	15
R789	B	49	84	6A	16
R790	A	54	54	3E	16
R791	A	169	52	5B	21
R792	A	185	53	4A	21
R793	A	176	68	4B	21
R794	A	171	64	4C	21
R795	A	128	133	3E	10
R796	A	135	123	5E	10
R797	A	135	118	5E	10
R798	A	135	121	5E	10
R799	A	135	129	5D	10
R800	A	135	126	5D	10
R801	A	160	121	5D	10
R802	A	158	119	6D	10
R803	A	160	124	6C	10
R804	A	161	129	5B	10
R805	A	126	135	3E	10
R806	A	255	53	2B	22
R807	B	26	92	7A	11
R808	A	14	84	8A	11
R809	A	18	62	8B	11
R810	B	293	110	5C	18
R811	A	290	27	11C	19
R812	A	45	48	4E	16
R813	A	38	53	5E	16
R814	B	205	128	4C	20
R815	B	202	128	4C	20
R816	B	190	75	4B	6
R817	B	140	131	2B	13
R818	B	145	110	2E	13
R819	A	220	48	8C	3
R820	A	192	68	10C	3
R821	B	43	86	7B	16
R822	B	288	27	9C	19
R823	B	222	50	6E	12
R824	B	230	69	10E	20
R825	B	203	128	4C	20
R826	B	221	119	6F	20

el. Kennz Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
R827	B	221	117	5F	20
R828	B	221	116	5F	20
R829	A	283	37	11B	19
R830	A	281	39	11E	19
R831	A	244	49	5D	17
R832	A	273	29	9D	19
R833	A	136	39	10A	3
R834	A	163	41	6B	21
R835	B	173	47	9C	6
R836	A	151	119	6D	10
R837	A	75	42	5C	9
R838	A	79	57	5B	9
R839	A	54	69	10B	16
R840	B	110	75	11C	4
R841	B	110	82	8C	4
R842	B	111	80	5C	4
R843	B	102	47	2C	4
R844	B	102	127	7B	13
R845	B	102	104	7E	13
R846	B	145	135	9A	12
R847	A	102	35	4E	3
R848	B	104	133	5B	13
R849	B	18	97	3C	15
R850	B	104	110	5D	13
R851	B	26	140	8B	14
R852	B	26	136	8B	14
R853	B	49	58	2B	16
R854	B	165	115	5B	12
R855	B	168	128	7B	12
R856	B	262	88	9D	17
R857	B	182	116	4B	12
R858	B	279	91	3B	19
R859	B	36	121	5B	14
R860	B	15	130	10B	14
R861	A	17	106	2E	15
R862	A	27	83	4D	15
R863	B	226	138	7C	20
R864	B	226	137	7C	20
R865	A	277	19	8D	19
R866	A	264	95	10D	22
R867	A	67	105	10C	10
R868	A	83	57	5A	9
R869	A	35	92	7D	16
R870	A	219	70	9A	3
R871	A	229	61	9A	3
R872	A	158	127	5C	10
R873	B	25	86	4C	15
R874	A	81	38	5C	9
R875	B	226	135	8C	20
R876	A	139	73	10C	21
R877	B	203	136	4B	20
R878	B	162	52	8B	6
R879	A	98	65	2C	10
R880	A	158	131	5B	10
R881	A	106	67	2D	10
R882	A	107	133	2E	10
R883	A	114	106	2A	10
R884	B	217	112	6E	20
R885	B	233	133	8B	20
R886	A	246	35	4E	17
R887	A	239	22	2C	17
R888	B	223	144	6B	20
R889	B	237	127	9B	20
R890	B	278	135	8E	18
R891	B	277	102	2B	19
R892	A	291	23	2E	19
R893	B	248	38	4C	17
R894	B	276	83	4B	19
R895	B	276	63	6B	19
R896	A	258	95	9D	22
R897	A	64	38	2A	11
R898	B	244	66	7C	17
R899	B	248	69	7C	17
R900	A	283	26	3F	19

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
R901	A	260	81	10E	22
R902	B	294	50	9B	19
R903	A	287	54	10E	19
R904	B	253	34	3C	17
R905	A	18	75	6E	15
R906	B	241	105	11B	17
R907	A	275	35	11D	19
R908	A	19	89	6E	15
R909	B	175	106	5B	12
R910	A	37	88	7D	16
R911	B	142	86	5A	4
R912	A	154	80	11D	21
R913	B	201	88	4C	5
R914	A	247	81	5E	22
R915	A	27	96	9A	11
R916	A	197	35	2E	21
R917	A	218	43	8B	3
R918	A	231	65	8A	3
R919	A	136	77	11B	21
R920	A	257	71	6F	22
R921	A	288	39	10B	19
R922	B	297	48	10B	19
R923	B	142	128	10B	12
R924	B	149	112	10B	12
R925	A	252	130	11C	20
R926	B	282	133	8E	18
R927	A	293	52	9E	19
R928	A	29	79	5D	15
R931	A	243	81	8A	17
R932	A	289	52	10E	19
R933	B	224	65	7D	12
R934	B	220	65	7E	12
R935	B	179	78	6B	6
R936	A	38	74	9D	16
R937	B	198	70	3C	6
R938	A	29	77	4D	15
R939	B	207	135	5B	20
R940	A	288	33	11E	19
R941	A	290	37	11E	19
R942	B	195	77	4C	6
R943	A	194	131	4D	20
R944	A	38	76	9D	16
R945	B	282	37	9D	19
R946	B	283	37	9D	19
R947	A	147	89	9A	21
R948	A	147	91	9A	21
R949	A	112	84	2B	9
R950	A	112	86	2B	9
R951	A	111	56	2C	9
R952	A	111	58	2C	9
R953	A	54	71	10B	16
R954	B	208	138	5B	20
R955	A	243	67	6A	17
R956	A	122	119	3A	10
R957	A	67	59	5B	9
R958	A	81	49	5D	9
R959	A	245	105	10B	17
R960	A	245	103	10B	17
R961	A	243	109	10A	17
R962	A	243	111	10A	17
R963	A	288	70	5E	19
R964	A	42	74	9D	16
R965	A	295	102	6E	19
R966	B	248	102	11C	17
R967	B	265	111	3C	18
R969	B	88	141	5B	8
R970	B	88	118	11C	8
R971	A	118	66	3B	9
R972	A	129	71	3C	9
R973	A	24	106	3E	15
R974	A	21	112	3D	15
R975	A	251	101	1B	18
R976	A	23	110	2D	15
R977	B	21	141	9B	14

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ROHDE & SCHWARZ	Benennung: EE IQ-MODULATOR Designation: IQ-MODULATOR		Sprache: Lang.: de	Blatt: Sh.: 11 +	Aei: C.I.: 08.04
Typ: Type: SMIQ	Datum: Date: 99-02-11	Abteilung: Dpt: 1GPK	Name: Name: HO	Sachnr.: Part No.: 1084.9800.01 XY	

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
R978	B	46	120	4B	14
R979	A	76	64	5D	7
R980	A	252	109	1B	18
R981	A	72	67	5A	7
R982	B	36	126	5C	14
R983	B	87	136	4C	8
R984	B	87	113	11C	8
R985	B	125	69	3C	3
R986	B	35	128	5C	14
R987	A	35	128	10C	14
R988	A	259	101	2B	18
R989	A	27	127	10C	14
R990	A	14	122	10E	14
R991	A	254	107	2B	18
R992	A	42	124	5C	14
R993	A	40	122	6C	14
R994	B	285	57	6B	19
R995	B	289	77	5B	19
R996	B	287	90	2C	19
R997	A	27	123	5E	14
R998	B	167	68	9E	4
R999	B	45	69	4B	16
R1000	B	45	65	3B	16
R1001	B	44	66	4B	16
R1002	A	265	110	3A	18
R1003	A	254	111	3B	18
R1004	A	15	58	9D	11
R1005	B	182	43	5E	6
R1006	B	166	75	6E	6
R1007	B	179	48	7E	6
R1008	B	166	42	7E	6
R1009	B	189	77	6E	6
R1010	B	189	49	6E	6
R1011	A	173	92	6E	5
R1012	A	188	79	8D	3
R1013	A	138	55	9D	21
R1014	A	155	42	9E	21
R1015	A	154	66	8E	21
R1016	A	140	81	8F	21
R1017	A	166	56	10D	21
R1018	A	172	46	10E	21
R1019	A	190	81	8D	3
R1020	A	200	98	7B	5
R1021	B	177	127	1C	20
R1022	B	187	79	5B	6
R1023	B	164	66	6A	6
R1024	A	253	57	2A	22
R1025	B	16	81	6A	15
R1026	A	26	45	9B	11
R1027	B	180	89	2C	5
R1028	A	291	105	6E	19
R1029	B	15	79	6B	15
R1030	B	274	20	10C	19
R1031	B	16	82	6A	15
R1032	B	24	112	2C	15
R1033	A	262	37	10D	19
R1034	A	37	35	6B	9
R1035	A	184	73	6F	3
R1036	A	207	74	10D	3
R1037	A	186	73	7F	3
R1038	A	207	78	10D	3
R1039	B	247	99	10C	17
R1040	B	294	112	4C	18
R1041	A	18	64	8A	11
R1042	A	27	66	9B	11
R1043	A	255	30	9C	19
R1044	A	253	26	8B	19
R1045	A	253	36	8C	19
R1046	A	253	32	8B	19
R1047	A	262	32	10D	19
R1048	A	266	35	10D	19
R1049	A	266	29	10C	19
R1050	A	268	33	10C	19
R1051	A	140	63	10B	21
R1052	B	267	134	7E	18
R1053	A	20	64	8B	11
R1054	B	11	72	5B	15
R1055	A	16	64	8A	11
R1056	A	41	96	7C	16
R1057	A	46	93	7A	16
R1058	A	290	50	10D	19
R1059	B	11	79	5A	15
R1060	A	286	113	7E	19
R1061	A	251	55	1A	22
R1062	A	25	129	1E	14
R1063	A	285	17	10C	19
R1064	A	255	24	9C	19
R1065	A	266	27	10D	19
R1066	B	26	82	4C	15
R1067	A	255	34	8C	19
R1068	A	263	35	10D	19
R1069	B	15	85	6A	15
R1070	A	13	53	8C	11
R1071	A	15	124	1F	14
R1072	A	34	143	2E	14
R1073	B	150	87	11A	4
R1074	A	27	139	2F	14
R1075	B	43	35	9E	7
R1076	B	42	21	9C	7
R1077	B	48	38	9B	7
R1078	B	37	28	9A	7
R1079	B	56	23	11C	7
R1080	B	35	24	11E	7
R1081	B	53	28	11A	7
R1082	B	53	30	11C	7
R1083	B	73	33	2C	7
R1084	B	67	23	2C	7
R1085	B	67	21	2C	7
R1086	B	73	25	2C	7
R1087	B	49	20	10C	7
R1088	B	49	25	10C	7
R1089	B	42	25	10D	7
R1090	B	41	21	10E	7
R1091	B	43	27	10A	7
R1092	B	46	28	10A	7
R1093	B	48	32	10B	7
R1094	B	46	33	10B	7
R1095	A	13	51	8C	11
R1096	A	252	115	6A	18
R1097	B	48	23	11D	7
R1098	B	43	25	11D	7
R1099	B	45	27	11A	7
R1100	B	48	30	11B	7
R1101	B	62	33	3A	7
R1102	B	70	33	3C	7
R1103	A	54	127	3E	14
R1104	A	46	140	3F	14
R1105	B	12	131	10C	14
R1106	B	12	132	10C	14
R1107	A	19	141	9D	14
R1108	A	21	123	10E	14
R1109	A	38	124	6E	14
R1110	A	27	135	4D	14
R1111	B	125	115	3B	10
R1112	B	28	115	2C	15
R1113	B	22	92	4C	15
R1114	A	17	103	3F	15
R1115	A	12	113	3D	15
R1116	A	54	141	12C	14
R1117	A	54	125	7C	14
R1118	A	78	68	4D	7
R1119	A	74	68	4A	7
R1120	B	27	137	8B	14
R1121	A	125	115	2A	10
R1122	A	127	119	3A	10
R1123	B	17	95	3B	15
R1124	A	88	114	4E	8
R1125	A	103	112	4F	8
R1126	A	167	107	4E	4
R1127	A	142	110	4F	4
R1128	A	154	110	3F	4
R1129	A	128	116	3A	10
R1130	A	76	68	4D	7
R1131	A	68	65	4A	7
R1132	A	280	143	8C	18
R1133	A	284	143	9C	18
R1134	A	287	143	9C	18
R1135	B	18	141	9B	14
R1136	B	46	117	4B	14
R1137	A	105	121	2A	10
R1138	B	114	128	6A	13
R1139	B	114	105	6D	13
R1140	B	23	137	9B	14
R1141	B	38	112	5B	14
R1142	B	43	113	4B	14
R1143	B	21	133	10B	14
R1144	A	252	120	6B	18
R1145	A	247	119	6B	18
R1146	B	261	117	2E	18
R1147	B	261	115	2E	18
R1148	B	280	115	4D	18
R1149	B	280	114	4D	18
R1150	A	259	121	7B	18
R1151	A	259	115	7A	18
R1152	B	265	108	3C	18
R1153	A	37	105	2E	15
R1154	B	18	64	6C	15
R1155	B	18	60	6C	15
R1156	A	13	111	3D	15
R1157	A	21	104	3F	15
R1158	A	27	103	3E	15
R1159	A	29	105	3D	15
R1160	B	19	63	6B	15
R1161	B	285	126	11E	18
R1162	B	290	126	11E	18
R1163	B	288	126	11D	18
R1164	A	64	131	10B	10
R1165	A	148	104	3E	4
R1166	A	107	131	5B	5
R1167	A	115	127	3E	5
R1168	A	126	131	4E	5
R1169	A	126	129	4E	5
R1170	B	61	95	3B	8
R1171	B	61	75	2B	8
R1172	B	78	93	3D	8
R1173	B	79	74	2D	8
R1174	B	68	88	3E	8
R1175	B	67	72	2E	8
R1176	A	72	77	8E	8
R1177	A	81	90	9B	8
R1178	A	79	82	8B	8
R1179	A	66	67	8C	8
R1180	A	67	90	9C	8
R1181	A	80	78	8D	8
R1182	A	78	90	9D	8
R1183	A	69	90	9E	8
R1184	A	76	117	5E	8
R1185	A	91	106	6B	8
R1186	A	105	116	6D	8
R1187	A	105	108	6E	8
R1188	A	88	117	6C	8
R1189	B	80	74	2A	8
R1190	B	80	93	3A	8
R1191	A	87	108	6C	8
R1192	A	99	119	6E	8
R1193	A	96	104	6F	8
R1194	A	95	119	6D	8
R1195	A	87	106	6B	8
R1196	A	101	120	6D	8
R1197	A	109	106	6E	8
R1198	A	90	121	6C	8
R1199	B	70	84	2D	8

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ROHDE & SCHWARZ	Benennung: EE IQ-MODULATOR Designation: IQ-MODULATOR	Sprache: de	Blatt: 12 +
Typ: SMIQ	Datum: 99-02-11	Abteilung: 1GPK	Name: HO
Aei: 08.04			
Sachnr.: 1084.9800.01 XY			

Nicht-Service-relevante Bauteile / Non-service relevant components

el. Kennz. Part	Seite Side	X	Y	Planq. Sqr	Bl. Pg
R1200	A	69	82	9D	8
R1201	A	47	108	1E	16
R1202	A	107	126	5A	5
R1203	A	78	119	5E	8
R1204	A	159	109	2E	4
R1205	A	171	107	2D	4
R1206	A	171	109	2D	4
R1207	B	53	139	8E	14
R1208	A	105	129	5B	5
R1209	A	89	110	6C	8
R1210	A	97	121	6E	8
R1211	A	98	106	6F	8
R1212	A	93	121	6D	8
R1213	B	52	137	8D	14
R1214	A	169	105	1D	4
R1215	A	295	127	7F	19
R1216	A	289	127	7F	19
R1217	B	275	33	6E	19
R1218	B	276	25	6E	19
R1219				8B	11
R1220				5D	19
R1221				5D	19
R1222				7D	19
R1223				7D	19
R1224				7E	19
R1225				3E	8
S1	B	291	113	4C	18
S2	B	250	118	2E	18
T1	B	296	50	10A	19
U1	A	149	85	7B	21
U1	A	149	85	9A	21
U2	A	114	81	1E	9
U2	A	114	81	2B	9
U3	A	114	53	2C	9
U3	A	114	53	2E	9
U4	B	49	120	11C	13
U5	B	19	25	11C	15
U6	B	223	21	2B	12
U7	A	220	61	5E	3
U7	A	220	61	9A	3
U7	A	220	61	9A	3
U8	A	223	43	6E	3
U8	A	223	43	9B	3
U8	A	223	43	9C	3
U9	B	260	140	6E	18
U11	B	91	133	7B	13
U12	B	91	110	7E	13
V1	B	295	62	7D	19
V2	B	297	85	5D	19
V3	B	248	73	8C	17
V4	B	248	79	8C	17
V5	A	229	95	10D	12
V6	B	293	101	2D	19
V7	B	282	84	4C	19
V8	B	248	67	7C	17
V9	B	254	37	3C	17
V10	B	283	65	6C	19
V11	A	238	65	7B	17
V12	A	22	38	9D	15
V13	A	27	17	9E	15
V14	A	80	24	10B	9
V15	A	74	17	10D	9
V16	A	238	69	7A	17
V17	A	238	72	7A	17
V18	B	273	105	1B	19
V19	A	222	117	5D	20
V20	A	207	142	4A	20
V21	A	224	140	6A	20
V22	A	229	141	8A	20
V23	A	250	48	5E	17
V24	A	133	40	10A	3
V25	B	201	68	2B	6
V25	B	201	68	2B	6
V26	A	242	136	10C	20
V27	B	15	74	5B	15
V28	B	99	130	6B	13
V29	B	99	107	6E	13
V30	B	16	26	10A	15
V31	B	148	130	9A	12
V32	B	227	44	5D	12
V33	A	254	142	9A	20
V34	B	227	77	10D	20
V35	B	242	142	10A	20
V36	B	287	129	10D	18
V37	A	283	134	8C	18
V38	A	247	22	3C	17
V39	A	232	24	3B	17
V40	A	243	26	4B	17
V41	A	252	62	6C	17
V42	A	247	61	6B	17
V43	A	277	22	8D	19
V44	A	17	53	9D	11
V45	B	244	105	11C	17
V46	B	286	34	8C	19
V47	B	286	24	9C	19
V48	B	205	135	5B	20
V49	B	107	131	5B	13
V50	B	42	118	4B	14
V51	B	107	108	5D	13
V52	B	37	118	5B	14
V53	B	16	133	10B	14
V54	B	51	58	2A	16
V55	B	170	128	7A	12
V56	A	244	55	7B	17
V57	B	265	139	9C	20
V58	A	169	97	6D	5
V59	A	185	48	3B	21
V60	A	282	120	7E	19
V61	B	168	117	5A	12
V62	B	268	136	9C	20
V63	B	185	119	4A	12
V64	A	246	142	9B	20
V65	B	51	22	10C	7
V66	B	39	25	10E	7
V67	A	59	18	3A	11
V68	B	196	89	4B	5
V69	A	230	59	5E	12
V70	A	193	137	3C	20
V71	B	17	137	9B	14
V72	B	232	118	5D	20
V73	B	260	92	5E	22
V74	B	207	143	5A	20
V75	B	110	135	5B	13
V76	A	17	121	10E	14
V77	B	110	112	5E	13
V78	A	26	121	5D	14
V79	A	19	117	10E	14
V80	B	42	51	2B	16
V81	B	171	108	5B	12
V82	B	189	109	4B	12
V83	B	161	122	6B	12
V84	B	29	87	9A	11
V85	B	238	36	5E	17
V86	B	244	127	7A	20
V87	B	197	142	3A	20
V88	A	201	139	4A	20
V89	B	15	76	5A	15
V90	A	24	34	9C	15
V91	A	28	31	9E	15
V92	A	80	28	10A	9
V93	A	71	17	10D	9
V94	A	227	113	5D	20
V95	A	212	138	6A	20
V96	A	230	137	8A	20
V97	A	277	140	8C	18
V98	B	102	35	5F	3
V99	B	238	129	9B	20
V100	B	297	75	7E	19
V101	A	235	26	3A	17
V102	B	248	41	4C	17
V103	B	276	80	4B	19
V104	B	276	60	6B	19
V105	A	292	43	10B	19
V105	A	292	43	10D	19
V106	B	44	79	6B	16
V107	B	43	84	7B	16
V108	B	259	109	2C	18
V109	A	51	82	8A	16
V109	A	51	82	8C	16
V110	B	274	109	3C	18
V111	B	192	135	3B	20
V112	A	71	38	4B	11
V113	A	226	25	3A	17
V114	A	61	142	10A	10
V115	A	236	136	10C	20
V116	A	247	136	10C	20
V117	A	248	43	5E	17
V118	B	213	137	5B	20
V119	A	36	115	6E	14
V120	A	196	89	7C	5
V121	A	289	63	5E	19
V122	B	128	133	3B	13
V123	B	128	134	3B	13
V124	B	119	135	3B	13
V125	B	119	132	3B	13
V126	B	128	110	3E	13
V127	B	128	112	3E	13
V128	B	119	109	3E	13
V129	B	119	113	3E	13
V130	B	179	132	2B	20
V131	B	300	72	7E	19
V132	A	243	65	6A	17
V133	B	297	69	7D	19
V134	A	22	106	3E	15
V135	B	297	92	5D	19
V136	A	19	110	3D	15
V137	B	48	27	10A	7
V138	B	51	32	10B	7
V139	B	38	18	10E	7
V140	A	242	35	3E	17
V141	B	44	19	10C	7
V142	A	276	28	9D	19
V143	B	287	99	3D	19
V144	B	276	101	2B	19
V145	B	201	130	4C	20
V146	B	223	115	5E	20
V147	B	228	138	7B	20
V148	B	277	132	8D	18
V149	A	255	133	9A	20
V150	B	50	39	10B	7
V151	B	283	30	9C	19
V152	B	39	27	10A	7
V153	B	289	91	5D	19
V154	B	217	140	6B	20
V155	A	259	53	2B	22
V156	B	25	35	8C	15
V157	B	28	44	7C	15
V158	A	28	110	2D	15
V159	A	12	107	2F	15
V160	A	204	74	9D	3
V160	A	204	74	9E	3
V161	A	255	117	6A	18
V162	A	255	121	6B	18
V163	A	240	121	6B	18
V164	A	243	115	6A	18
V165	A	230	126	9B	20
V166	A	241	107	10B	17
V167	A	99	134	6A	5
V168	B	62	85	2B	8
V168	B	62	85	3B	8
V169	B	80	78	2D	8
V169	B	80	78	3D	8

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ROHDE & SCHWARZ	Benennung: EE IQ-MODULATOR Designation: IQ-MODULATOR	Sprache: Lang.: de	Blatt: Sh.: 13 +	Aei: C.I.: 08.04
Typ: Type: SMIQ	Datum: Date: 99-02-11	Abteilung: Dpt: 1GPK	Name: Name: HO	Sachnr.: Part No.: 1084.9800.01 XY

Nicht-Service-relevante Bauteile / Non-service-relevant components

el. Kennz. *Part*	Seite *Side*	X	Y	Planq. *Sqr*	Bl. *Pg*
V170	B	267	109	3C	18
V171	B	280	108	3C	18
V172	B	71	74	2E	8
V172	B	71	74	3E	8
V173	A	78	86	8B	8
V173	A	78	86	9B	8
V174	A	69	80	8C	8
V174	A	69	80	9C	8
V175	A	84	77	9D	8
V175	A	84	77	9D	8
V176	A	66	87	8E	8
V176	A	66	87	9E	8
V177	B	78	84	2A	8
V177	B	78	84	3A	8
V178	B	63	73	2B	8
V179	B	65	95	3B	8
V180	B	74	71	2C	8
V181	B	74	96	3C	8
V182	B	69	70	2D	8
V183	B	70	94	3D	8
V184	A	85	66	8A	8
V185	A	85	96	10A	8
V186	A	63	92	10B	8
V187	A	64	66	8B	8
V188	A	76	96	10D	8
V189	A	76	70	8D	8
V190	A	70	97	10E	8
V191	A	71	70	8E	8
V192	B	83	70	2A	8
V193	B	83	96	3A	8
V194				7D	19
V195				5C	19
X1	B	81	141	5B	8
X2	B	83	117	11B	8
X3	B	243	133	10B	20
X4	B	142	140	10A	12
X5	B	149	106	10B	12
X6	B	133	79	11A	21
X7	B	29	95	11B	11
X8	B	232	97	10D	12
X9	B	259	97	6E	22
X10	B	85	136	5C	8
X11	B	85	110	11C	8
X240	B	189	13	1C	21
X241	B	17	13	11B	15
X242	B	27	13	11C	15
X243	B	36	13	10D	11
X244	B	44	13	1A	7
X245	B	62	13	1C	7
X246	B	245	15	1B	12
X247	B	259	20	2C	17
X248	B	276	15	1E	21
X249	B	293	20	11A	19
Z1	B	47	104	2E	16
Z2	B	60	62	2E	16
Z3	B	52	104	2D	16
Z4	B	131	35	11C	10
Z5	B	54	72	10B	16
Z6	B	126	29	2B	3
Z7	B	146	29	2C	3
Z8	B	141	29	2C	3
Z9	B	151	29	2D	3
Z10	B	116	29	2D	3
Z11	B	121	29	2A	3
Z12	B	136	29	2B	3
Z13	B	184	29	2A	21
Z14	B	179	29	2B	21
Z15	B	194	29	2C	21
Z16	B	174	29	2D	21
Z17	B	169	29	2C	21
Z18	B	189	29	2E	21
Z19	B	110	29	11B	5
Z20	B	105	29	11C	5
Z21	B	199	29	11D	5
Z22	B	91	24	11D	5
Z23	B	91	17	11E	5
Z24	B	95	35	11A	10

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ROHDE & SCHWARZ	Benennung: *Designation:* EE IQ-MODULATOR / IQ-MODULATOR	Sprache: *Lang.:* de	Blatt: *Sh.:* 14 –	Aei: *C.I.:* 08.04	
Typ: *Type:* SMIQ	Datum: *Date:* 99-02-11	Abteilung: *Dpt:* 1GPK	Name: *Name:* HO	Sachnr.: *Part No.:* 1084.9800.01 XY	

ROHDE&SCHWARZ

Stromläufe
Bestückungspläne

Circuit diagrams
Component plans

Schémas de circuit
Plans des composants

095.1000 Bl. 4

4 5 6 7 8 9 10 11 12

A B C D E F

VREFINT
X240 A6

2103

2113

2112

450–3300M

X249
FIQOUT

0.3–3300M

2111

0.3–750M

2104

2.4G

2105

2107

DOWN–CONVERTER

PULSE
X240
A8

2106

f
nf

n=4

LEVATT

D
A

U_fix

X240 A10
LevAtt_Mod

2118

Modulator I

Mod I

2121

2123

X241
IQAUX

2115

X242
IQ300

to IQ–Converter

–Modulator

0°

LEVEL_ATTENUATION

Switch

BURST_SWITCH
sheet 2

Mod Q

2119

Modulator Q

08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ–MODULATOR
				GEPR.		HO	IQ–MODULATOR
				NORM			TOP/TOP.19
				PLOTT	99–06–29	HOFBERGE	
AEND. IND.	AENDERUNGS–MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.–NR. 1084.9800.01 S
				ZU GERAET SMIQ			REG.I.V. 1084.8004 ERSTE Z. 1084.8004.01

BLATT–NR. 1 +

BEHALTEN WIR UNS ALLE RECHTE VOR

X247
FIQFIL
from IQ Converter

Level
Preset

450–3300M

A
D

2108

ALC

2103

2112

450–3300M

DOWN–CONVERTER

2104

F(s)

2.4G

2105

2107

X246
REF600
from Ref/Step

2103

2106

f
nf

n=4

Local_Loop 2.4GHz

LEVATT

D
A

U_fix

2f
f

2118

Modulator I

Mod I

2114

90°

IQ–Modulator

2123

0°

LEVEL_ATTENUATION

2120

Mod Q

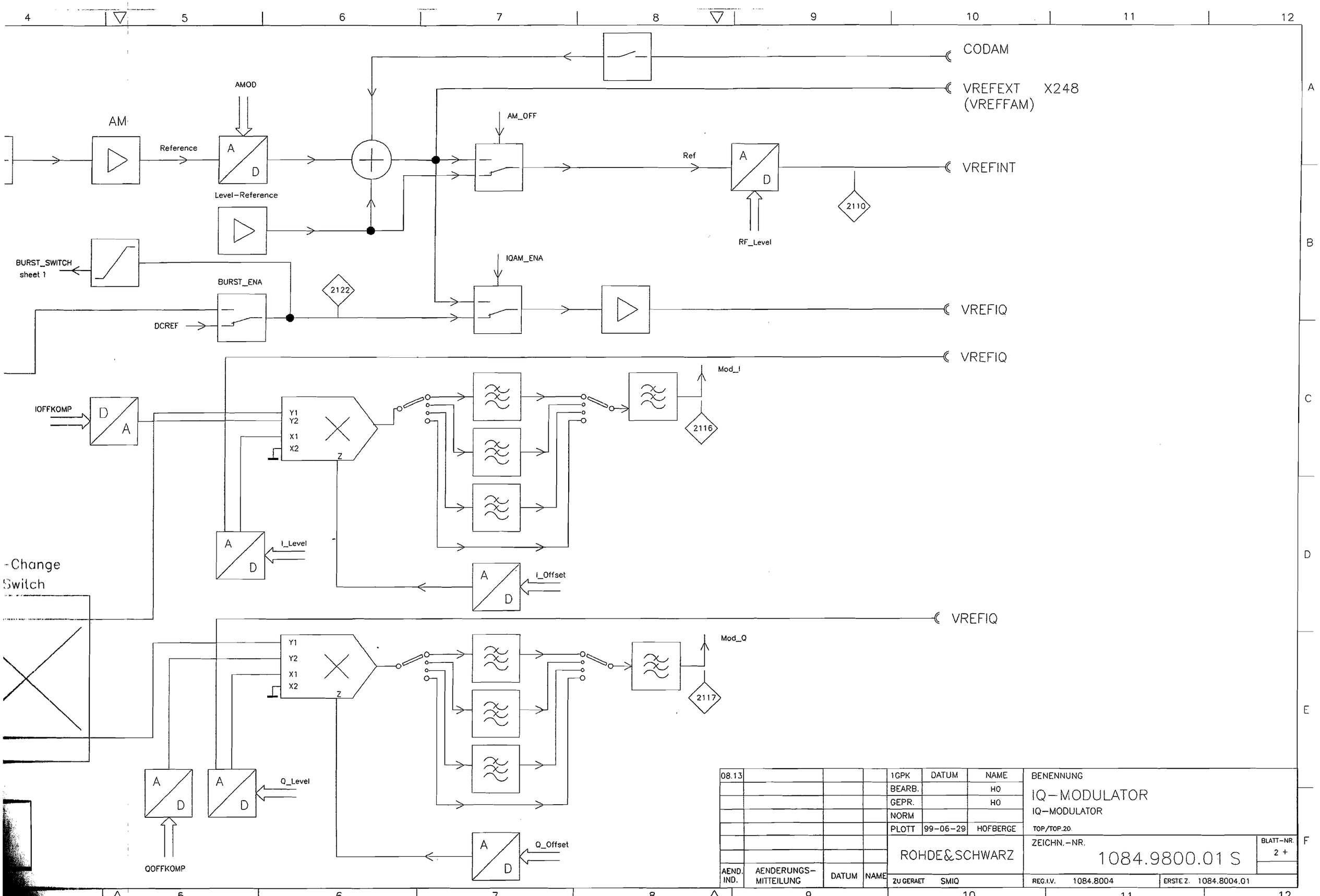
2119

Modulator Q

ACHTUNG: EGB !
ELEKTROSTATISCH GEFAEHRDETE
BAUELEMENTE ERFORDERN EINE
BESONDERE HANDHABUNG.
ATTENTION ESD !
ELECTROSTATIC SENSITIVE DEVICES
REQUIRE A SPECIAL HANDLING

08.13

AEND.
IND.



08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.		HO	IQ-MODULATOR
				NORM			TOP/TOP.20
				PLOTT	99-06-29	HOFBERGE	
				ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SMIQ			REG.I.V. 1084.8004

BLATT-NR. 2 +

ERSTE Z. 1084.8004.01

FÜR DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

EXT1

CONTROL_CIRCUIT

INT1

LF_OUT

A D

Ref

LF-Level

LF-Freq

LF-Gen.

2102

BURST_SWITCH
sheet 1

AM

AMOD

Reference

A D

Level-Reference

AM_OFF

Ref

A D

RF_Leve

IQAM_ENA

BURST_ENA

2122

DCREF

BURST CONTROL MOD

IOFFKOMP

D A

Y1
Y2
X1
X2
Z

Mod_I

2116

A D

I_Level

A D

I_Offset

IQ-Change
Switch

X244 IMOD

Calibration
Voltages

X245 QMOD

Y1
Y2
X1
X2
Z

Mod_Q

2117

A D

Q_Level

A D

A D

Q_Offset

QOFFKOMP

ACHTUNG: EGB !
ELEKTROSTATISCH GEFAEHRDETE
BAUELEMENTE ERFORDERN EINE
BESONDERE HANDHABUNG.
ATTENTION ESD !
ELECTROSTATIC SENSITIVE DEVICES
REQUIRE A SPECIAL HANDLING

08.13

AEND. IND.

AEN MIT

*Aenderungszustand /Revision

	R741	R742	R743	R744
01		N.F.	N.F.	N.F.
02	N.F.		N.F.	N.F.
03			N.F.	N.F.
04	N.F.	N.F.		N.F.
05		N.F.		N.F.
06	N.F.			N.F.

)52
5A8856

TRISTATE
NANDTREE
RESET-P
A1
A2
A3
A4
A5
A6
A7

SYNC
SERCLK
DATAEN
DATAIN
DATAOUT

+5D1A

PARDAT 0 … 7 — R741 4.7K * … R748 4.7K **

SEROUT (4/1C)
CLK1 (4/1A,6/3C)
WR1 (4/1A,6/2B)
CLK2
RD2 (4/3E)
WR2 (4/1C,4/1E)
SERIN2 (4/3E)

SEROUT, CLK1, RD1, WR1, SERIN1, CLK2, RD2, WR2, SERIN2 → P5
P4
P6
P7
P8

ionte/Model

46	R747	R748
	N.F.	N.F.
	N.F.	N.F.
	N.F.	N.F.
		N.F.

D29 74HC4051T MUXOX
D34 74HCT132T

DMUXO_ON (4/3B)
DMUXAD0 (4/3B)
DMUXAD1 (4/3B)
DMUXAD2 (4/3B)
DIA_OUT (3/3D)

R568 1K

D_REF10V (5/4B)
D_LFGEN (6/8B)
D_REF600 (12/6D)
D_TUN2G4 (3/8A,12/11E)
D_VCO2G4 (20/5B)
D_PHIDET (20/11E)
D_LO2G4 (20/12B)

D30 74HC4051T MUXDX
D34 74HCT132T

DMUX1_ON (4/3B)

D_PRESET (21/12B)
D_AMOD (3/8B,22/7F)
D_REFAM (21/12D)
D_CONVRT (18/12D)
D_SWITCH (17/12B)
D_DETOUT (19/12D)
D_REF300 (12/10A)
D_IQOUT (15/10A)

D31 74HC4051T MUXDX
D34 74HCT132T

DMUX2_ON (4/3B)

D_IMOD (8/5B)
D_QMOD (8/11B)
D_ILO (13/7C)
D_QLO (13/7E)
D_PHI (10/7E)
D_IQCAL (16/11B)
D_BURST (11/11A)
D_LEVATT (10/5A)

+15VA
R870 10K
D_TUN2G4 (3/7B,12/11E) — R918 1K
U7 LM2903D
C352 33N
R716 3.92K
R45 10
REFERENCE 600

+15VA
R228 18.2K
D_AMOD (3/7C,22/7F) — R917 1K
U8 LM2903D
C353 33N
R819 6.8K

R871 1K

+5V0D
R715 8.25K
R833 56.2K
D34 74HCT132T
P9
INT_BGU (3/4C)
V24 BAV99
C64 33N

B
SERBUS

C
LF-GENERATOR

AM+6V
R348 20K 0.1%
R1012 432
R1019 82.5
R227 82.5
R719 4.02K 0.1%
C357 33N

AC_MONI (21/5D) — R52 0

N42 MAX942CSA

+5VCOMP
R535 10
R18 100
C354 220N
R1038 10K
R1036 10K
R10 220K
C351 220N
C417 1U

+5V0D
R820 22

V160 HSMS2825PAAR

D39 74HC123T
R229 10K
R9 220K
C418 1U
R230 10K
C403 33N

D49 74HCT86T
R783 3.3K
C21 10N
R784 3.3K

P1 INT_HI (3/4C)
P2 INT_EX1 (3/4C)
P3 INT_LO (3/4C)

+15VA
R847 2.2K
D29 74HC4051T
C356 33N
V98 BZV55B5V1

+24VA
R59 100
C157 220N
U7 LM2903D
U8 LM2903D

+5V0D
R60 100
R17 100
C158 220N
N42 MAX942CSA
C605 220N
R1035 8.25K
R1037 2.2K
-15VA

+5VCOMP
D49 74HCT86T

+5V0D
D39 74HC123T

08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.			IQ-MODULATOR
				NORM			TOP/TOP.1
				PLOTT	99-06-29	HBOFBERGE	
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S
				ZU GERAET SMIQ			REG.I.V. 1084.8004
							ERSTE Z. 1084.8004.01

BLATT-NR 3 +

BEHALTEN WIR UNS ALLE RECHTE VOR

SERBUS

*Aenderungszustand /Revision

	R741	R742	R743	R744
01		N.F.	N.F.	N.F.
02	N.F.		N.F.	N.F.
03			N.F.	N.F.
04	N.F.	N.F.		N.F.
05		N.F.		N.F.
06	N.F.			N.F.

**Variante/Model

	R745	R746	R747	R748
02		N.F.	N.F.	N.F.
04	N.F.		N.F.	N.F.
06			N.F.	N.F.
08	N.F.	N.F.		N.F.

X240 A18 RESET-P — R428 47 — Z11 7.50B — R331 470 — Z6
X240 A16 SERBUS-SYNC — R423 47 — Z12 7.50B — R327 470
X240 A12 SERBUS-CLK — D4 74HCT125T — R429 47 — Z8 7.50B — R62 100 — R749 4.7K
SERBUS-OUT X240 A14
SERBUS-IN X240 A15 — R57 100 — Z7 7.50B — R58 100
D4 74HCT125T — R425 47 — Z9 7.50B — R424 47
+5V1 — R750 4.7K — D4 74HCT125T — R328 4.7K
X240 A17 SERBUS-INT — R329 470 — Z10 7.50B — R426 47
DIAG-5V X240 A19 — R330 470 — Z7 7.50B — R427 47 — DIA_OUT (3/6B)

D52 L5A8856
+5D1A — R734 4.7K N.F., R735 4.7K N.F., R736 4.7K N.F., R737 4.7K N.F., R738 4.7K N.F., R739 4.7K, R740 4.7K N.F.
6 TRISTATE, 40 NANDTREE, 5 RESET-P, 7 A1, 8 A2, 9 A3, 10 A4, 16 A5, 17 A6, 18 A7
43 SYNC, 44 SERCLK, 3 DATAEN, 4 DATAIN, 2 DATAOUT
PARDAT0 20 21 22 24 25 26 27 28
+5D1A — R741 4.7K *, R742 4.7K *, R743 4.7K *, R744 4.7K *, R745 4.7K **, R746 4.7K **, R747 4.7K **, R748 4.7K **
42 INTEN, 41 INT, 32 IROUIT, 35 MASK, 39 IR0, 38 IR1, 37 IR2, 36 IR3
R985 4.7K
(3/11A) INT_BGU
(3/12E) INT_EX1
(3/12D) INT_HI
(3/12E) INT_LO
SEROUT 19, CLK1 33, RD1 31, WR1 30, SERIN1 29, CLK2 11, RD2 13, WR2 14, SERIN2 15
SEROUT (4/1C)
CLK1 (4/1A,6/3C)
WR1 (4/1A,6/2B)
CLK2
RD2 (4/3E)
WR2 (4/1C,4/1E)
SERIN2 (4/3E)
P5 P4 P6 P7 P8

D29 74HC4051T — D34 74HCT132T — DMUX0_ON (4/3B) — DMUXAD0 (4/3B) — DMUXAD1 (4/3B) — DMUXAD2 (4/3B) — DIA_OUT (3/3D)
R568 1K
D_REF10V (5/4B)
D_LFGEN (6/8B)
D_REF600 (12/6D)
D_TUN2G4 (3/8A,12/11E)
D_VCO2G4 (20/5B)
D_PHIDET (20/11E)
D_LO2G4 (20/12B)

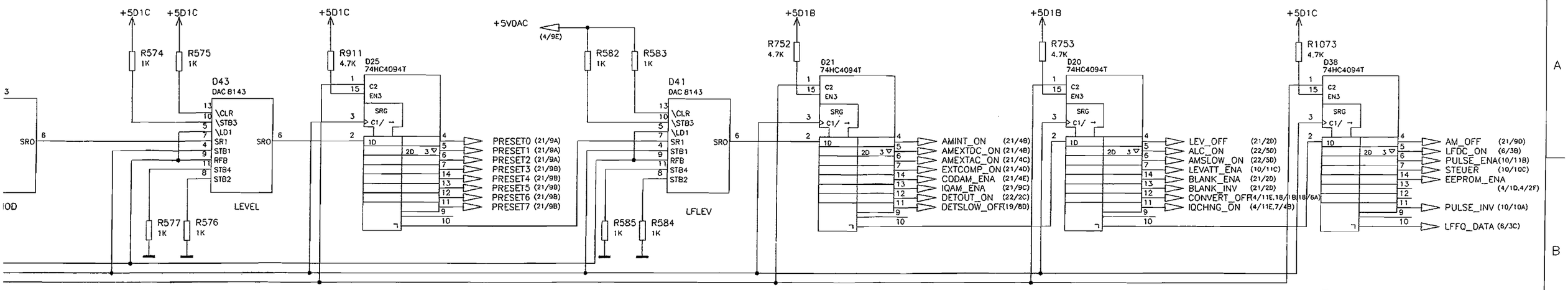
D30 74HC4051T — D34 74HCT132T — DMUX1_ON (4/3B)
D_PRESET (21/12B)
D_AMOD (3/8B,22/7F)
D_REFAM (21/12D)
D_CONVRT (18/12D)
D_SWITCH (17/12B)
D_DETOUT (19/12D)
D_REF300 (12/10A)
D_IQOUT (15/10A)

D31 74HC4051T — D34 74HCT132T — DMUX2_ON (4/3B)
D_IMOD (8/5B)
D_QMOD (8/11B)
D_ILO (13/7C)
D_QLO (13/7E)
D_PHI (10/7E)
D_IQCAL (16/11B)
D_BURST (11/11A)
D_LEVATT (10/5A)

K
REFERENCE 600
D_TUN2G4 (3/7B,12/11E) — R918 1K — C352 33N
+15V
D_AMOD (3/7C,22/7F) — R917 1K — C353 33N
AM+6V — R348 20K — R101 432
AC_MONI (21/5D) — R52 0 — R101 82.5 — R227 82.5 — C357 33N — R719 4.02K 0.1%

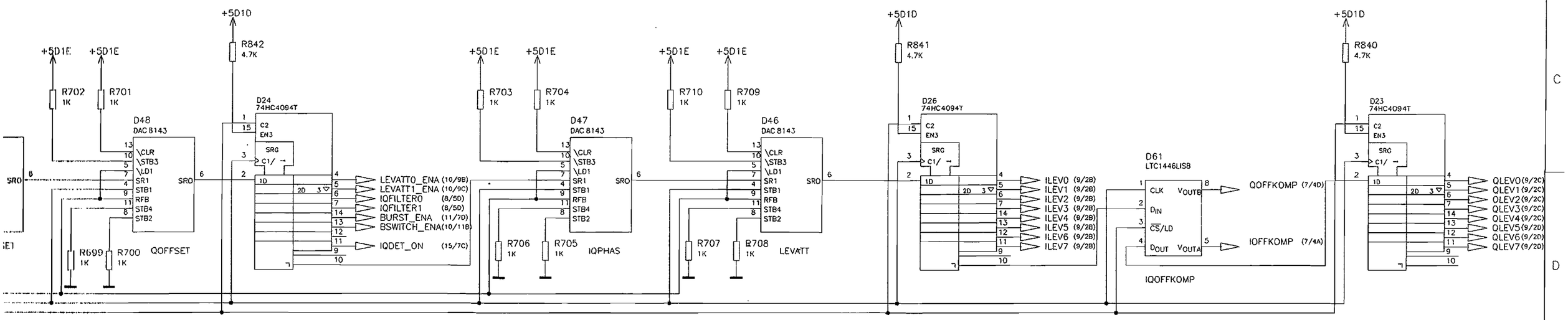
+5D1A +5V0D — L66 22U — C74 33N — D52 L5A8856
+5V1 — R459 10 — C122 33N — D4 74HCT125T
+5V0D — R569 1K — C541 220N — D34 74HCT132T — D31 74HC4051T — D30 74HC4051T — D29 74HC4051T — C356 33N — V98 BZV55B5V1
−15VA — R847 2.2K
+24VA — R59 100 — C157 220N — U7 LM2903D — U8 LM2903D
+5V0D — R60 100 — R17 100 — C158 220N — N42 MAX942CSA
+5VCOMP — D49 74HCT86T
+5VCOMP — D39 74HC123T
C605 220N — R1035 8.25K — R1037 2.2K — −15VA

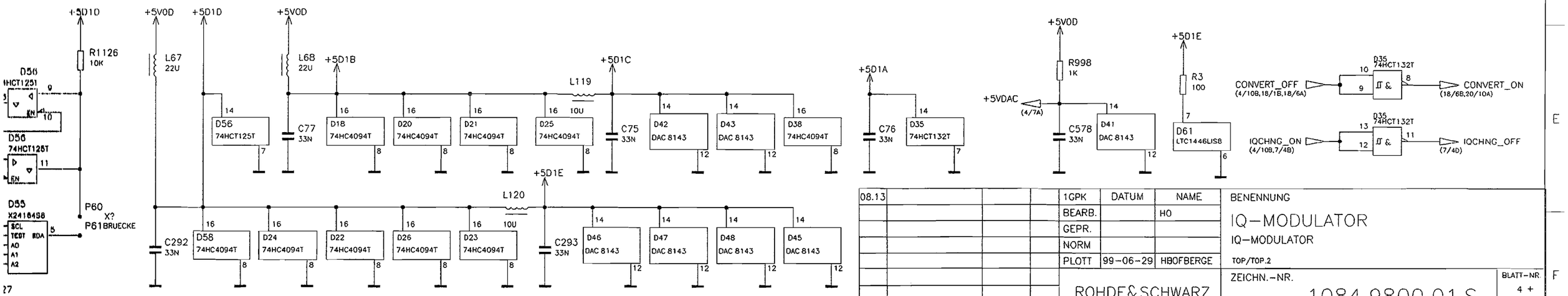
08.13
AEND. IND.



B

SERBUS





08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.			IQ-MODULATOR
				NORM			TOP/TOP.2
				PLOTT	99-06-29	HBOFBERGE	ZEICHN.-NR. 1084.9800.01 S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			BLATT-NR. 4 +
				ZU GERAET SMIQ			REG.I.V. 1084.8004 ERSTE Z. 1084.8004.01

FUER UNSERE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR

1 2 3 4 5 6 7 8

B

+5D1B
R751 4.7K
WR1 (3/5C,6/2B)
CLK1 (3/5C,6/3C)
D18 74HC4094T
C2 EN3 SRG C1/→ 1D 2D 3▽
DMUXAD0 (3/6B)
DMUXAD1 (3/6B)
DMUXAD2 (3/6B)
DMUX0_ON (3/6A)
DMUX1_ON (3/6C)
DMUX2_ON (3/6D)
LFGEN_ON (6/2D)
LFGENRST_N (6/2D)

+5D1C
R581 1K
R580 1K
D42 DAC 8143
\CLR \STB3 \LD1 SR1 STB1 RFB STB4 STB2 SRO
AMOD
R578 1K
R579 1K

+5D1C
R574 1K
R575 1K
D43 DAC 8143
LEVEL
R577 1K
R576 1K

+5D1C
R911 4.7K
D25 74HC4094T
PRESET0 (21/9A)
PRESET1 (21/9A)
PRESET2 (21/9A)
PRESET3 (21/9B)
PRESET4 (21/9B)
PRESET5 (21/9B)
PRESET6 (21/9B)
PRESET7 (21/9B)

+5VDAC (4/9E)
R582 1K
R583 1K
D41 DAC 8143
LFLEV
R585 1K
R584 1K

+5D1B
R752 4.7K
D21 74HC4094T

D35 74HCT132T

C

+5D1D
R843 4.7K
D22 74HC4094T
CLK2
SEROUT (3/5C)
ICAL0 (9/8A)
ICAL1 (9/8A)
ICAL2 (9/8A)
QCAL0 (9/8C)
QCAL1 (9/8C)
QCAL2 (9/8C)
ICAL_ON (7/9A)
QCAL_ON (7/9E)

+5D1E
R695 1K
R696 1K
D45 DAC 8143
IOFFSET
R698 1K
R697 1K

+5D1E
R702 1K
R701 1K
D48 DAC 8143
QOFFSET
R699 1K
R700 1K

+5D1D
R842 4.7K
D24 74HC4094T
LEVATTO_ENA (10/9B)
LEVATT1_ENA (10/9C)
IQFILTER0 (8/5D)
IQFILTER1 (8/5D)
BURST_ENA (11/7D)
BSWITCH_ENA (10/11B)
IQDET_ON (15/7C)

+5D1E
R703 1K
R704 1K
D47 DAC 8143
IQPHAS
R706 1K
R705 1K

+5D1E
R710 1K
R709 1K
D46 DAC 8143
LEVATT
R707 1K
R708 1K

D

D56 74HCT125T
EEPROM_ENA (4/2F,4/11B)
WR2 (3/5C,4/1C)
R1214 0 N.F.
R1205 4.7K
R1204 4.7K

+5D1D
R1206 4.7K
D58 74HC4094T
EEDATA (4/3E)
EECLK (4/3F)

D35 74HCT132T

+5VCOMP
D49 74HCT86T
EEPROM_ENA (4/10,4/11B)

+5D1D
R1165 100
C708 100N
D55 X24164S8

SERIN2 (3/5C)
RD2 (3/5C)
EEDATA (4/3E)
EECLK (4/3E)
D56 74HCT125T
D55 X24164S8
SCL TEST SDA A0 A1 A2
X? BRUECKE P69 P62
X? P61 BRUECKE P60
R1126 10K
R1128 10K
R1127 10K

+5V0D
L67 22U
C292 33N

+5D1D
L68 22U
C77 33N

+5D1B
+5D1C
L119 10U
C75 33N
+5D1A
C76 33N

+5D1E
L120 10U
C293 33N

D56 74HCT125T
D18 74HC4094T
D20 74HC4094T
D21 74HC4094T
D25 74HC4094T
D42 DAC 8143
D43 DAC 8143
D38 74HC4094T
D58 74HC4094T
D24 74HC4094T
D22 74HC4094T
D26 74HC4094T
D23 74HC4094T
D46 DAC 8143
D47 DAC 8143
D48 DAC 8143
D45 DAC 8143

08.13
AEND. IND.

RENCE
AGES

REF10V

+4V5A

R1202
1K

C705
220P

C1
4.7U

N48
OP400GP

R6
100

R1208
12.1K

BCP68-16
V167

R1166
10K

L205
1U

C2
4.7U

+5V0D

+7V5A

L56
22U

D_REF10V

P29
(3/78)

R1020
10

R615
10

R639
10

V120
BCP68-16

N27
OP297

R276
10K

R317
3.3K

+5V5A

R48
20.0K

R913
4.7K

R555
12.1K

C243
33N

C483
220P

R273
10K

C140
10N

R267
15K

R277
10K

P23

C710
220U

R266
8.25K

P24

C246
4.7U

C478
1N

N27
OP297

R314
3.3K

-5V5A

V58
BCP69-25

R1011
30.1

R178
30.1

R179
30.1

L57
22U

-15VA

9
16

R1169
10K

X240 A11
X240 A7
X240 A21
X240 A23
X240 A25
X240 A27
X240 A29
X240 A31

A

SERBUS

B

X240 A22
VA24-P

L79
15U

C332
22U

Z19
50DB
Schirm-wand

+24VA

X240 A20
X240 A24
VA15-P

L80
15U

C508
22U

Z20
50DB
Schirm-wand

+15VA

X240 A32
X240 A26
VA7.5-P

L170
15U

C480
100U

Z21
50DB
Schirm-wand

+7V5A

C

LF-GENERATOR

+5V1

X240 A28
VD5-P

L171
10U

C514
100U

Z22
50DB
Schirm-wand

+5V0D

X240 A30
VA15-N

L172
15U

C515
22U

Z23
50DB
Schirm-wand

-15VA

I

IQ-CONTROL

08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.		HO	IQ-MODULATOR
				NORM			TOP/TOP.12
				PLOTT	99-06-29	HOFBERGE	
				ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SMIQ			REG.I.V. 1084.8004 ERSTE Z. 1084.8004.01

BLATT-NR. 5 +

5 6 7 8 9 10 11 12

A B C D E F

D REFERENCE VOLTAGES

REF10V

+15VA
R386 22
N12
REF01CS
C363 220N
R718 33K
R516 5K
R1027 3.3K
REFERENCE +10V
R268 10K
C398 33N
N33
OP07CS8
C479 1N
R269 10K
R315 3.3K
V68 BSR13
L26 1U
R458 100
C362 33N
D_REF10V
(3/78)
P29
R48 20.0K
R273 10K
R913 4.7K
C140 10N
R267 15K
R276 10K
R555 12.1K
C243 33N
N27
OP297
C483 220P
R277 10K
R317 3.3K
V120
BCP68-16
R1020 10
R615 10
R639 10
+7V5A
L56 22U
+5V5A
P23
C710 220U

+4V5A
R1202 1K
C705 220P
C1 4.7U
N48
OP400GP
R1208 12.1K
R1166 10K
R6 100
V167
BCP68-16
L205 1U
C2 4.7U
+5VOD

R266 8.25K
C478 1N
N27
OP297
R314 3.3K
P24
C246 4.7U
-5V5A
V58
BCP69-25
R1011 30.1
R178 30.1
R179 30.1
L57 22U
-15VA

+15VA
R402 100
C120 33N
N33
OP07CS8
C121 33N
R403 100
-15VA

+15VA
R319 100
C128 33N
N27
OP297
C125 33N
R364 100
-15VA

+15VA
R597 100
C659 33N
N48
OP400GP
C178 33N
R5 100
-15VA

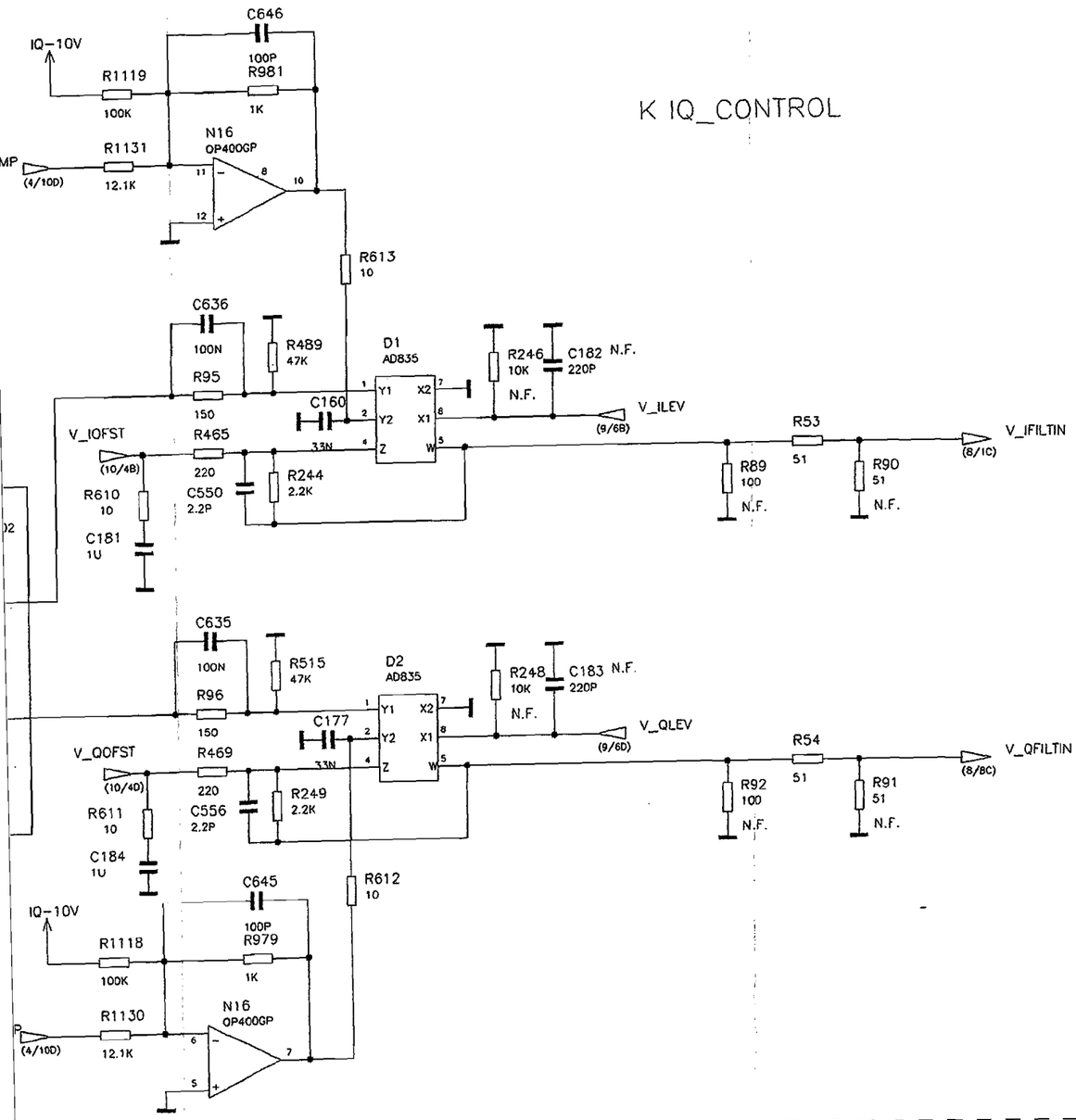
N48
OP400GP
R1167 10K
R1168 10K
R1169 10K

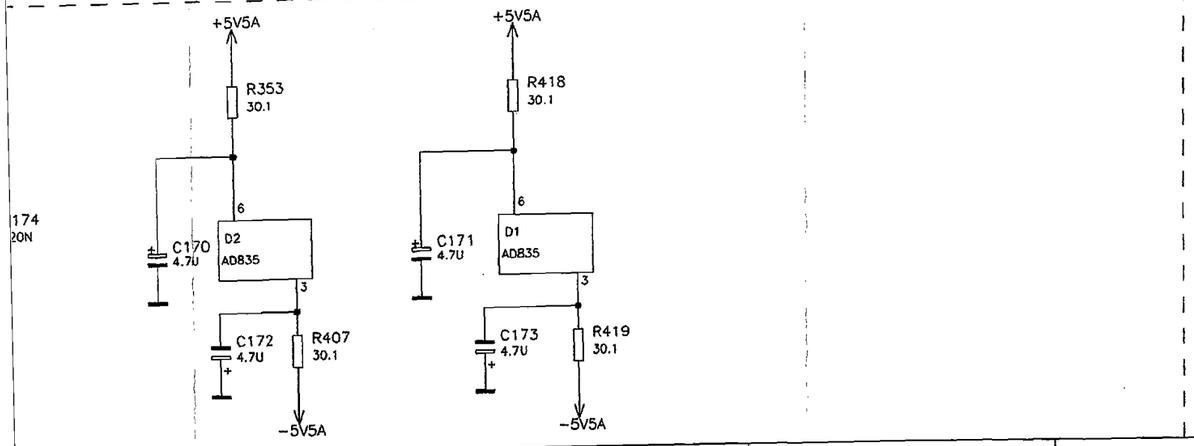
08.13

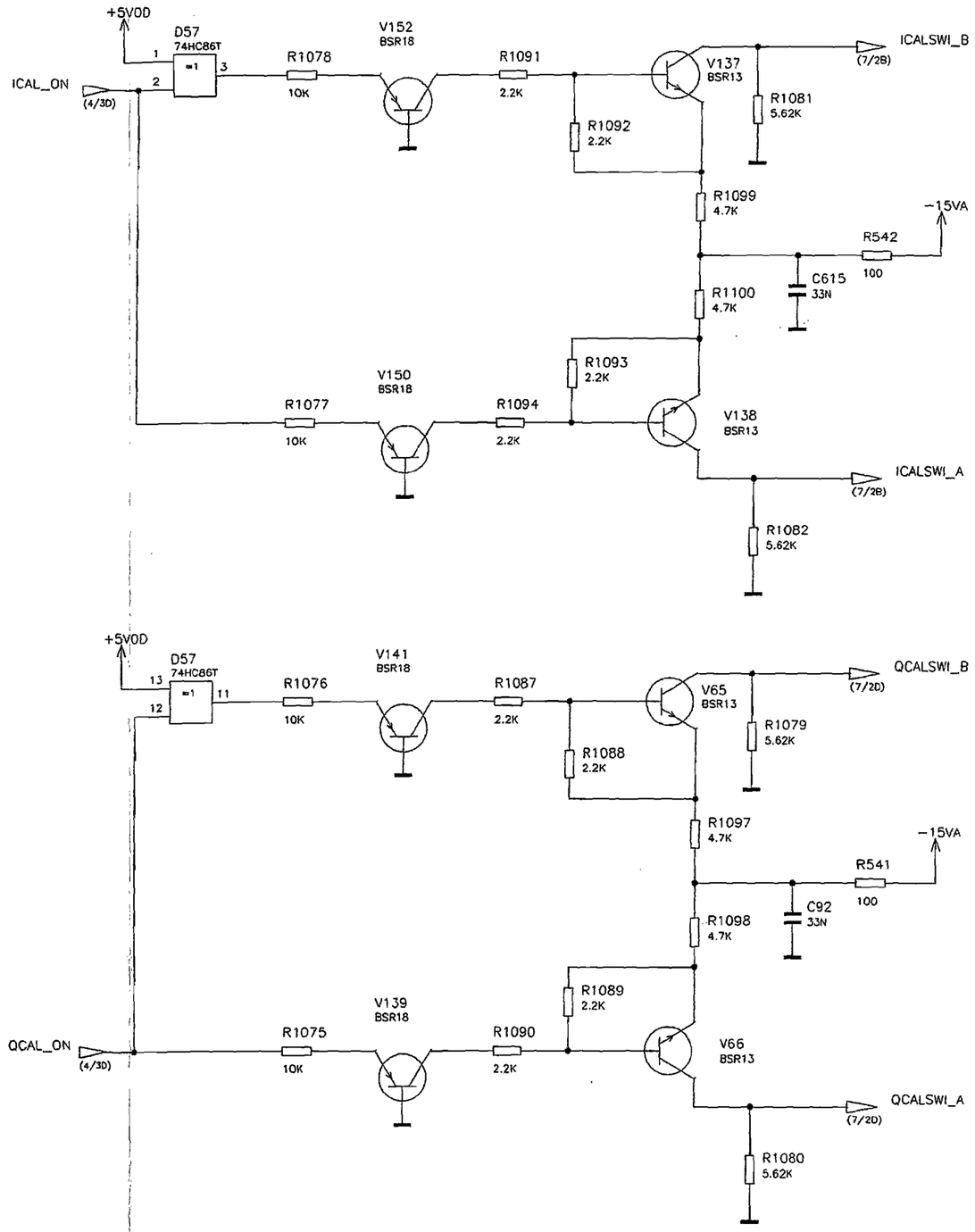
AEND. IND.	AENDE MITTEIL

BEHALTEN WIR UNS ALLE RECHTE VOR

K IQ_CONTROL







08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.			IQ-MODULATOR
				NORM			TOP/TOP.7
				PLOTT	99-06-29	HBOFBERGE	ZEICHN.-NR. 1084.9800.01 S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			BLATT-NR. 7 +
				ZU GERAET SMIQ			REG.I.V. 1084.8004 ERSTE Z. 1084.8004.01

K IQ_CONTROL

X244 MMCX-BU I-MOD
V_CALI (9/11B)
R370 100 0.1%
R369 100 0.1%
R372 100 0.1%
R371 100 0.1%
D37 SW339 J2 J3 J1 CRTL 1 CRTL 2 GND GND GND
R1101 0
C617 22P
C618 22P
R206 100
R207 100
ICALSWI_A (7/11C)
ICALSWI_B (7/11A)

X245 MMCX-BU Q-MOD
V_CALQ (9/11D)
R1086 100 0.1%
R1083 100 0.1%
R1085 100 0.1%
R1084 100 0.1%
D54 SW339 J2 J3 J1 CRTL 1 CRTL 2 GND GND GND
R1102 0
C620 22P
C619 22P
R350 100
R349 100
QCALSWI_A (7/11E)
QCALSWI_B (7/11C)

IQ-10V
R1119 100K
C646 100P
R981 1K
IOFFKOMP (4/10D)
R1131 12.1K
N16 OP400GP
R613 10

IQCHNG_ON (4/10B,4/11E)
R617 1K
D40 MPC102 S1 S3 S2 S4 IN1 IN2 IN3 IN4 VOUT1 VOUT2
R618 1K
(4/12E) IQCHNG_OFF

C636 100N
R95 150
R489 47K
D1 AD835 Y1 Y2 Z X1 X2 W
C160 33N
R246 10K N.F.
C182 220P N.F.
V_ILEV (9/6B)
V_IOFST (10/4B)
R465 220
R244 2.2K
R610 10
C550 2.2P
C181 1U
R89 100 N.F.
R53 51
R90 51 N.F.
V_IFILTIN (8/1C)

C635 100N
R96 150
R515 47K
D2 AD835
R248 10K N.F.
C183 220P N.F.
V_QLEV (9/6D)
V_QOFST (10/4D)
R469 220
R249 2.2K
R611 10
C556 2.2P
C184 1U
C177 33N
R92 100 N.F.
R54 51
R91 51 N.F.
V_QFILTIN (8/8C)
R612 10

IQ-10V
R1118 100K
C645 100P
R979 1K
QOFFKOMP (4/10D)
R1130 12.1K
N16 OP400GP

+5V0D
ICAL_ON (4/3D)
QCAL_ON (4/3D)

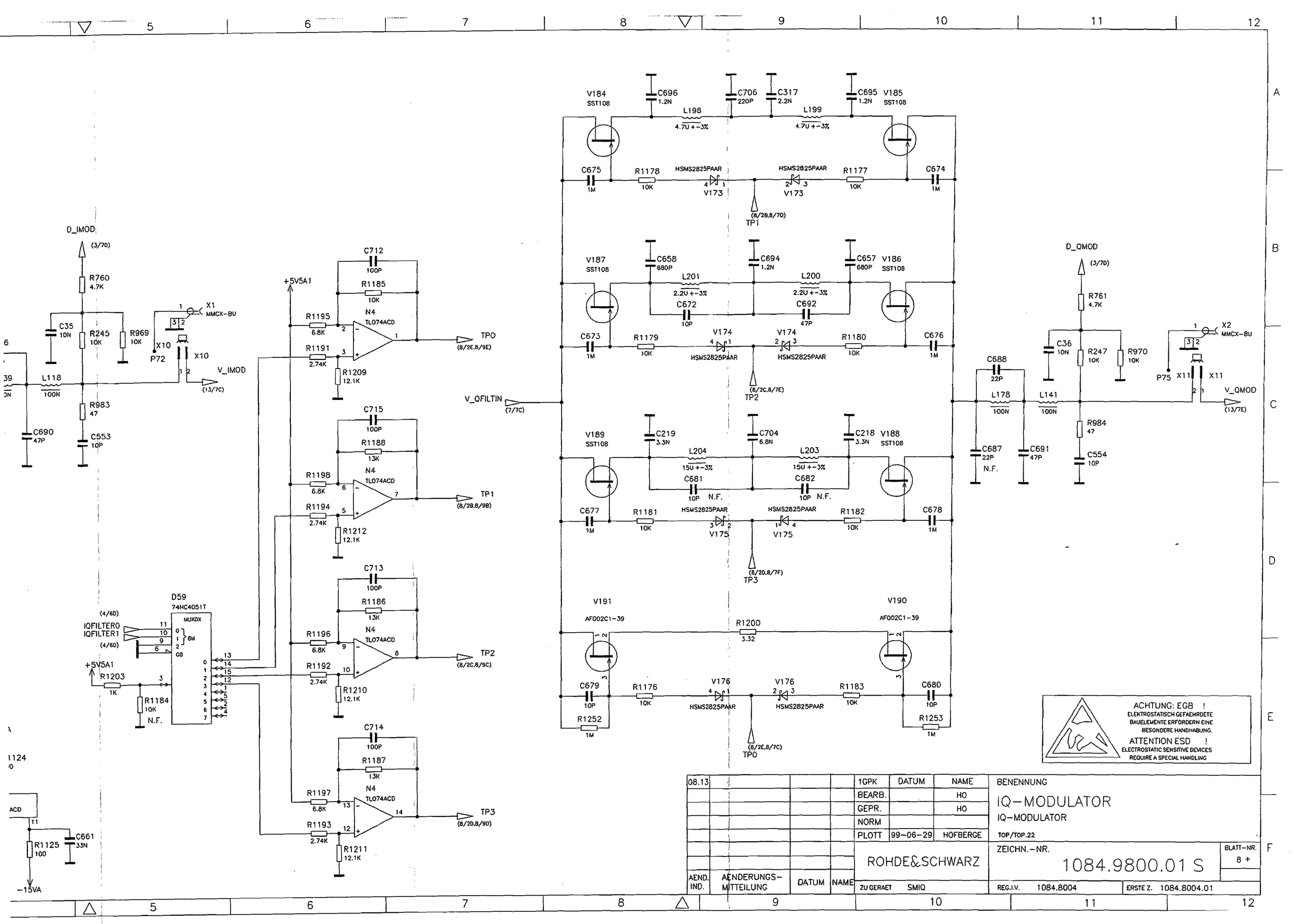
+5V5A
R93 100
C169 220N
D40 MPC102 +VCC -VCC
C174 220N
R94 100
-5V5A

+5V5A
R353 30.1
C170 4.7U
D2 AD835
C172 4.7U
R407 30.1
-5V5A

+5V5A
R418 30.1
C171 4.7U
D1 AD835
C173 4.7U
R419 30.1
-5V5A

AEND. IND.	AENDER MITTEILU
08.13	

BEHALTEN WIR UNS ALLE RECHTE VOR


5
6
7
8
9
10
11
12
A
B
C
D
E
F
D_IMOD
(3/7D)
R760
4.7K
C35
10N
R245
10K
R969
10K
X1
MMCX-BU
X10
P72
X10
V_IMOD
(13/7C)
L118
100N
R983
47
C690
47P
C553
10P
+5V5A1
C712
100P
R1185
10K
R1195
6.8K
N4
TL074ACD
TPO
(8/2E,8/9E)
R1191
2.74K
R1209
12.1K
C715
100P
R1188
13K
R1198
6.8K
N4
TL074ACD
TP1
(8/2B,8/9B)
R1194
2.74K
R1212
12.1K
C713
100P
R1186
13K
R1196
6.8K
N4
TL074ACD
TP2
(8/2C,8/9C)
R1192
2.74K
R1210
12.1K
C714
100P
R1187
13K
R1197
6.8K
N4
TL074ACD
TP3
(8/2D,8/9D)
R1193
2.74K
R1211
12.1K
D59
74HC4051T
MUXDX
(4/6D)
IQFILTER0
IQFILTER1
(4/6D)
6M
G8
+5V5A1
R1203
1K
R1184
10K
N.F.
V_QFILTIN
(7/7C)
V184
SST108
C696
1.2N
L198
4.7U +-3%
C706
220P
C317
2.2N
L199
4.7U +-3%
C695
1.2N
V185
SST108
C675
1M
R1178
10K
HSMS2825PAAR
V173
HSMS2825PAAR
V173
R1177
10K
C674
1M
TP1
(8/2B,8/7D)
V187
SST108
C658
680P
L201
2.2U +-3%
C694
1.2N
L200
2.2U +-3%
C657
680P
V186
SST108
C672
10P
C692
47P
C673
1M
R1179
10K
V174
HSMS2825PAAR
V174
HSMS2825PAAR
R1180
10K
C676
1M
TP2
(8/2C,8/7E)
V189
SST108
C219
3.3N
L204
150U +-3%
C704
6.8N
L203
150U +-3%
C218
3.3N
V188
SST108
C681
10P N.F.
C682
10P N.F.
C677
1M
R1181
10K
HSMS2825PAAR
V175
HSMS2825PAAR
V175
R1182
10K
C678
1M
TP3
(8/2D,8/7F)
V191
AF002C1-39
R1200
3.32
V190
AF002C1-39
C679
10P
R1176
10K
V176
HSMS2825PAAR
V176
HSMS2825PAAR
R1183
10K
C680
10P
R1252
1M
R1253
1M
TPO
(8/2E,8/7C)
D_QMOD
(3/7D)
R761
4.7K
C36
10N
R247
10K
R970
10K
X2
MMCX-BU
P75
X11
X11
V_QMOD
(13/7E)
C688
22P
L178
100N
L141
100N
R984
47
C687
22P
N.F.
C691
47P
C554
10P
ACHTUNG: EGB !
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD !
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING
1124
ACD
11
R1125
100
C661
33N
-15VA
08.13
1GPK
DATUM
NAME
BEARB.
HO
GEPR.
HO
NORM
PLOTT
99-06-29
HOFBERGE
BENENNUNG
IQ-MODULATOR
IQ-MODULATOR
TOP/TOP.22
ROHDE&SCHWARZ
ZEICHN.-NR.
1084.9800.01 S
BLATT-NR.
8 +
AEND. IND.
AENDERUNGS-MITTEILUNG
DATUM
NAME
ZU GERAET SMIQ
REG.I.V. 1084.8004
ERSTE Z. 1084.8004.01

BEHALTEN WIR UNS ALLE RECHTE VOR

V192 SST108
C697 1.2N
C707 220P
C318 2.2N
C698 1.2N
V193 SST108
L183 4.7U +-3%
L185 4.7U +-3%
C683 1M
R1189 10K
V177 HSMS2825PAAR
V177 HSMS2825PAAR
R1190 10K
C684 1M
TP1 (8/7D,8/9B)

V178 SST108
C597 680P
C693 1.2N
C568 680P
V179 SST108
L186 2.2U +-3%
L187 2.2U +-3%
C669 10P
C689 47P
C664 1M
R1171 10K
V168 HSMS2825PAAR
V168 HSMS2825PAAR
R1170 10K
C663 1M
TP2 (8/7E,8/9C)

V_IFILTIN (7/7B)

V180 SST108
C4 3.3N
C703 6.8N
C3 3.3N
V181 SST108
L188 15U +-3%
L197 15U +-3%
C670 10P N.F.
C671 10P N.F.
C666 1M
R1173 10K
V169 HSMS2825PAAR
V169 HSMS2825PAAR
R1172 10K
C665 1M
TP3 (8/7F,8/9D)

V182 AF002C1-39
R1199 3.32
V183 AF002C1-39
C668 10P
R1175 10K
V172 HSMS2825PAAR
V172 HSMS2825PAAR
R1174 10K
C667 10P
R1251 1M
R1250 1M
TP0 (8/7C,8/9E)

D_IMOD (3/7D)
R760 4.7K
C35 10N
R245 10K
R969 10K
X1 MMCX-BU
X10 P72
X10
V_IMOD (13/7C)
C686 22P
L139 100N
L118 100N
R983 47
C685 22P N.F.
C690 47P
C553 10P

+5V5A1
C712 100P
R1185 10K
R1195 6.8K
N4 TL074ACD
R1191 2.74K
R1209 12.1K
TP0 (8/2E,8/9E)

V_QFILTIN (7/7C)

C715 100P
R1188 13K
R1198 6.8K
N4 TL074ACD
R1194 2.74K
R1212 12.1K
TP1 (8/2B,8/9B)

C713 100P
R1186 13K
R1196 6.8K
N4 TL074ACD
R1192 2.74K
R1210 12.1K
TP2 (8/2C,8/9C)

C714 100P
R1187 13K
R1197 6.8K
N4 TL074ACD
R1193 2.74K
R1211 12.1K
TP3 (8/2D,8/9D)

D59 74HC4051T
(4/6D) IQFILTER0
IQFILTER1 (4/6D)
+5V5A1
R1203 1K
R1184 10K N.F.
MUXDX
8M
GB

+5V5A1
R608 0
+5V5VA
R1225 0
C660 33N
D59 74HC4051T

+15VA
R1124 10D
C662 33N
N4 TL074ACD
R1125 10D
C661 33N
-15VA

V184 SST108
C696 1.2N
L198 4.7U +-3%
C675 1M
R1178 10K
HSMS2825PAAR
V173

V187 SST108
C658 680P
L201 2.2U +-3%
C672 10P
C673 1M
R1179 10K
V174 HSMS2825PAAR

V189 SST108
C219 3.3N
L204 15U +-3%
C681 10P N.F.
C677 1M
R1181 10K
HSMS2825PAAR
V175

V191 AF002C1-39
C679 10P
R1176 10K
V176 HSMS2825PAAR
R1252 1M

08.13		
AEND. IND.	AENDE MITTEIL	

B LF_GENERATOR

P14
REF1V5
(6/7A)
REF1V5
(6/5A)
R1023
1.21K
R72
10K
R756
4.7K
D_LFGEN
(3/7B)
C426
100N
LF_GEN
OFFSET
R124
1K
R773
470
R593
20K
N11
OP275GS
D41
DAC8143
LFLEV
R878
0
N10
OP275GS
R1022
56
L2
22N
C386
100P
R238
1K 0.1%
C176
47P
R452
0
VREF
RFB
IOUT1
IOUT2
AGND
C215
10P
R414
4.75
R566
1K
0.1%
R451
10
LF_GEN
(21/2C)
R835
4.02K 0.1%
C373
10P
R73 150
R816
1.30K 0.1%
R12
1.30K 0.1%
R942
47
Trimmwert/Selected
(51R/56R)
R935
150
0.1%
R239
1K 0.1%
N11
OP275GS
P50
EPRESS-L6.8
R450
10
LF_INT
(21/2A)
C89
33N

+5V5A
L123
100U
+5V_LF
C574
4.7U
D3
AD7008
3 17 28 39
29 18 43 7 44

+15VA
R1005
220
N31
OP07CS8
C520
33N
C391
33N
R1010
220
-15VA

+15VA
R1006
220
N11
OP275GS
C522
4.7U
C521
4.7U
R1009
220
-15VA

+15VA
R1007
220
N10
OP275GS
C87
4.7U
C88
4.7U
R1008
220
-15VA

08.13					1GPK	DATUM	NAME	BENENNUNG	
					BEARB.		HO	IQ-MODULATOR	
					GEPR.			IQ-MODULATOR	
					NORM			TOP/TOP.4	
					PLOTT	99-06-29	HBOFBERGE	ROHDE&SCHWARZ	ZEICHN.-NR. 1084.9800.01 S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME		ZU GERAET	SMIQ		REG.I.V. 1084.8004	ERSTE Z. 1084.8004.01

BLATT-NR. 6 +

B LF_GENERATOR

REF10V
R590 20K 0.1%
R589 51
R721 3.48K 0.1%
C240 220N
N31 OP07CS8
C456 10N
R71 100
C22 4.7U
P14
REF1V5 (6/7A)

D3 AD7008
VREF COMP IOUT \IOUT FSADJ TEST
D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15
\WR \CS
TC0 TC1 TC2 TC3 LOAD SCLK SDATA FSELECT CLK RESET SLEEP

R1022 56
L2 22N
C386 100P
R73 150
R816 1.30K 0.1%
R12 1.30K 0.1%
R942 47 Trimmwert/Selected (51R/56R)
C89 33N

LF_GEN OFFSET
R124 1K
N11 OP275GS
R935 150 0.1%
R238 1K 0.1%
C176 47P
R1023 1.21K
R773 470
REF1V5 (5/5A)
R72 10K
R593 20K
R452 0
R239 1K 0.1%
N11 OP275GS
R450 10
P50 EPRESS-L6.8
R756 4.7K
D_LFGEN (3/7B)
C426 100N
D41 DAC8143 LFLEV
VREF RFB IOUT1 IOUT2 AGND
R878 0
C215 10P
N10 OP275GS

WR1
V25 HSMS2825PAAR (3/5C,4/1A)
V25 HSMS2825PAAR
LFDC_ON (4/11A)
+5V_LF
+5V_LF
+5VOD
L6 1U
C582 22P
R937 68K
R592 1K
R591 1K
C294 100U
G1 50MHZ VDD OE OUT GND
R587 100
CLK1 (3/5C,4/1A)
LFFQ_DATA (4/11B)

LFGENRST_N (4/3B)
LFGEN_ON (4/3B)
D36 74HCT86T
R594 1K

+5VOD
R143 100
C159 33N
D36 74HCT86T

+5V5A
L123 100U
+5V_LF
C574 4.7U
D3 AD7008

+15VA
R1005 220
N31 OP07CS8
C520 33N
C391 33N
R1010 220
-15VA

+15VA
R1006 220
N11 OP275GS
C522 4.7U
C521 4.7U
R1009 220
-15VA

+15VA
R1007 220
N10 OP275GS
C87 4.7U
C88 4.7U
R1008 220
-15VA

AEND. IND.	AENDER MITTEIL
08.13	

ALLE RECHTE VOR

K IQ-CONTROL

V_REFIQ (9/3A,9/3C,9/5C,21/10B)
R421 1.82K
R868 0
C190 100P
R838 33K
R545 1.62K
R260 5.11K
N17 LT1058
R116 10
R957 0
V_ILEV (7/6B)

V_REFIQ (9/3A,9/3C,9/5A,21/10B)
R420 1.82K
R874 0
C189 100P
R837 33K
R550 1.62K
R259 5.11K
N17 LT1058
R114 10
R958 0
V_QLEV (7/6C)

+15VA −15VA
R117 100
R118 100
C361 33N
C360 33N
D16 DG408DY
D17 DG408DY

IQ+10V
P37
R501 100K 0.1%
R352 100
P38
R572 3.16K 0.1%
R766 2K 0.1%
R503 4.75K 0.1%
R1034 10
R638 1.1K 0.1%
P39
R504 2.49K 0.1%
R767 5.36K 0.1%
R573 3.12K 0.1%
P40
R393 137 0.1%
R502 100K 0.1%
IQ-10V

+5VOD
ICAL2 (4/3D)
ICAL1 (4/3D)
ICAL0 (4/3C)
R633 1K
R632 1K
R631 1K
R630 1K
D16 DG408DY MUXDX 8M
P66

+5VOD
QCAL2 (4/3D)
QCAL1 (4/3D)
QCAL0 (4/3D)
R637 1K
R636 1K
R635 1K
R634 1K
D17 DG408DY MUXDX 8M

C476 10N
R308 3.3K
N19 OP400GP
R309 3.3K
+15VA
R536 560
BC850B
V92
P21
R373 100 0.1%
R374 100 0.1%
C495 220N
V_CALI (7/2A)
V14 BC860B
R537 560
−15VA
+15VA
R539 560
BC850B
V93
P22
R376 100 0.1%
R375 100 0.1%
C496 220N
V_CALQ (7/2C)
V15 BC860B
R538 560
−15VA

C477 10N
R311 3.3K
N19 OP400GP
R310 3.3K

08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.			IQ-MODULATOR
				NORM			TOP/TOP.10
				PLOTT	99-06-29	HBOFBERGE	
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S
				ZU GERAET SMIQ			REG.I.V. 1084.8004 ERSTE Z. 1084.8004.01

BLATT-NR. 9 +

B SERBUS

K IQ-C

BEHALTEN WIR UNS ALLE RECHTE VOR

U2 DAC-08CS
U3 DAC-08CS
N13 AD822
N17 LT1058
D16 DG408DY
D17 DG408DY

AEND. IND.	AENDER MITTEILU
08.13	

I IQ-CONTROL

R762 4.7K → D_LEVATT (3/7E)
C431 1N
R620 20.0K
P43 → V_LEVATT (14/6D,14/11D)

F I-SIGNAL

V_IOFST (7/5B)
IQ+10V
R804 20K
R880 0
R872 15K
R929 10K
N.F.
C473 100P
QUADRATUR
N18 OP400GP
P20 → BIAS_PHI (10/5E)
V_QOFST (7/5C)
R803 10K
C472 100P
P42
R802 10K
C471 100P
R799 10K
N18 OP400GP
R98 100 → V_IPHI (13/2C)
R800 10K
R801 10K
R836 20K
R410 4.7K → D_PHI (3/7D)
R251 10K
C470 100P
P63
BIAS_PHI (10/7C)
R798 10K
R797 10K
R796 10K
N18 OP400GP
R97 100 → V_QPHI (13/2E)

+5V0D
V114 BAV99
-5V5A
R623 47K
R616 470
L174 220N
Z24 2.5DB
R477 100
X240 PULSE
A

D7 74HC86T
PULSE_B (15/1E)
PULSE_A (15/1D)
PULSE_INV (4/11B)
D14 DG413DY
PULSE_ENA (4/11B)
BURST_PULSE (11/9D)
BSWITCH_ENA (4/6D)
R1164 100K

D19 74HCT08T
LA0_CNT (14/4D,14/7C)
LEVATTO_ENA (4/6D)
LA1_CNT (14/9D,14/12C)
STEUER (4/11B)
LEVATT_ENA (4/10B)
LEVATT1_ENA (4/6D)

LEVATT_MOD
Z4
R621 470
R867 47K
L161 220N
2.5DB
R100 100
X240
B SERBUS

+5V0D
R106 100
C93 33N
D7 74HC86T
D19 74HCT08T
R107 10K
D7 74HC86T
R522 10K

+5V0D
R108 100
C53 33N
D19 74HCT08T

+15VA
L126 10U
C94 33N
N16 OP400GP
C95 33N
L127 10U
-15VA

+15VA
L129 10U
C97 33N
N18 OP400GP
C96 33N
L128 10U
-15VA

+15VA
L169 10U
C511 33N
N17 LT1058
C512 33N
L136 10U
-15VA

+15VA
L184 10U
C527 33N
N43 OP275GS
C528 33N
L166 10U
-15VA

08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.			IQ-MODULATOR
				NORM			TOP/TOP.B
				PLOTT	99-06-29	HBOFBERGE	
				ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SMIQ			REG.I.V. 1084.8004 ERSTE Z. 1084.8004.01

BLATT-NR. 10 +

I IQ-CONTROL

B SERBUS

F I-SIGNAL

REF10V

IQ+10V

IQ-10V

D46 DAC 8143 — LEVATT

D45 DAC 8143 — IOFFSET

D48 DAC 8143 — QOFFSET

D47 DAC 8143 — IQPHAS

R717 1M
R956 0
R762 4.7K
R514 10K
C431 1N
R620 20.0K
R883 0
C226 22P
R1137 392K
R1121 100K
R1122 20K
R1129 100K
LEVATT
C225 22P
R253 10K
OP275GS
R109 47K
R1111 50K
R625 0
N43 OP275GS
P43
D_LEVATT (3/7E)
V_LEVATT (14/6D,14/11D)

R619 30.1K
C221 1P
R250 1K
P32
V_IOFST (7/5B)
L163 100U
R879 0
C220 22P
N16 OP400GP
R31 47
R520 15K
N17 LT1058
R99 0

R624 30.1K
C223 1P
R252 1K
P41
V_QOFST (7/5C)
L167 100U
R881 0
C222N16 22P OP400GP
R32 47
R521 15K
N17 LT1058
R105 0

R720 20K
C99 22P
R805 10K
R882 0
C224 22P
N48 OP400GP
R454 10
R795 10K
N48 OP400GP

R804 20K
R880 0
R872 15K
R929 10K
N.F.
QUADRATUR
C473 100P
N18 OP400GP
P20
BIAS_PHI (10/5E)
R803 10K
C472 100P
P42
R802 10K
C471 100P
R799 10K
N18 OP400GP
R98 100
V_IPHI (13/2C)
R836 20K
R410 4.7K
D_PHI (3/7D)
R251 10K
R800 10K
R801 10K
C470 100P
P63
BIAS_PHI (10/7C)
R798 10K
R797 10K
R796 10K
N18 OP400GP
R97 100
V_QPHI (13/2E)

PULSE_B (15/1E)
PULSE_A (15/1D)
D7 74HC86T
+5VOD
LA0_CNT (14/4D,14/7C)
LA1_CNT (14/9D,14/12C)
D19 74HCT08T
R106 100
C93 33N
R107 10K
R522 10K

08.13
AEND. IND.
AENDER MITTEIL

BEHALTEN WIR UNS ALLE RECHTE VOR

K IQ-CONTROL

IQ-10V

P52

H BURST_CONTROL

IQ-10V
R778 10K
R1041 39.2K
R807 2K
R1055 1K N.F.
BURST LINEARITY
C185 10P N.F.
R808 1K
V84 BZV55B4V7 N.F.
R915 10 N.F.
R110 1K
C186 0
C12 5.6P
C13 5.6P
R809 1K
R1053 0
BURST_REF (15/6D)
N22 AD744KR
R257 1K
N23 AD744KR
R626 0
C37 10N
R258 20K
R540 10K
R763 4.7K
D_BURST (3/70)
X7
BURST_CNT (15/58)
LEVEL_IQ
C187 10P N.F.
R1042 100K
+5V5B
R1219 182K
R1026 3.3K N.F.
C655 33N
C14 5.6P
N24 AD744KR
R1070 100
R208 100
N30 MAX942CSA
R782 10K N.F.
BURST_SWI (15/7C)
P64
C656 33N N.F.
R1095 100 N.F.
R628 1K
C300 33N
R629 5.62
R385 1K 0.1%
P65
D5 DG419DY
BURST_ENA (4/6D)
R1 9.09K 0.1%
C301 33N
IQ+10V
BURST_PULSE (10/11B)
+15VA
N.F. R1004 1K
BAV99 V44
R457 470
R544 10K
X243 MMCX-BU
BURST CONTROL_MOD
-15VA

5VA

L132 10U

+5V0D

R138 N.F. 100
R147 N.F. 100
R162 100
R164 100
R111 100
C56 33N N.F.
C59 33N N.F.
C62 33N
C66 33N
C104 33N
N23 N.F. AD744KR
N24 AD744KR
D5 DG419DY
R176 100 N.F.
C71 33N N.F.
R222 100 N.F.
C98 33N N.F.
R171 100
C106 33N
C139 33N
R226 100
L133 10U
-15VA

08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.			IQ-MODULATOR
				NORM			TOP/TOP.9
				PLOTT	99-06-29	HBOFBERGE	
				ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SMIQ			REG.I.V. 1084.8004 ERSTE Z. 1084.8004.01

BLATT-NR. 11 +

BEHALTEN WIR UNS ALLE RECHTE VOR

K IQ-CONTROL

+15VA
L16 1U
R456 10
REF10V
R897 100K
C266 220N
OP400GP N19
R306 3.3K
V67 BC850B
IQ+10V
P51
C474 1N
R254 10K
C267 220N
-15VA
L15 1U
R455 10
IQ-10V
R255 10K 0.1%
R307 3.3K
V112 BC860B
P52
C475 1N
R256 10K 0.1%
C268 220N

H BURST_CONTROL

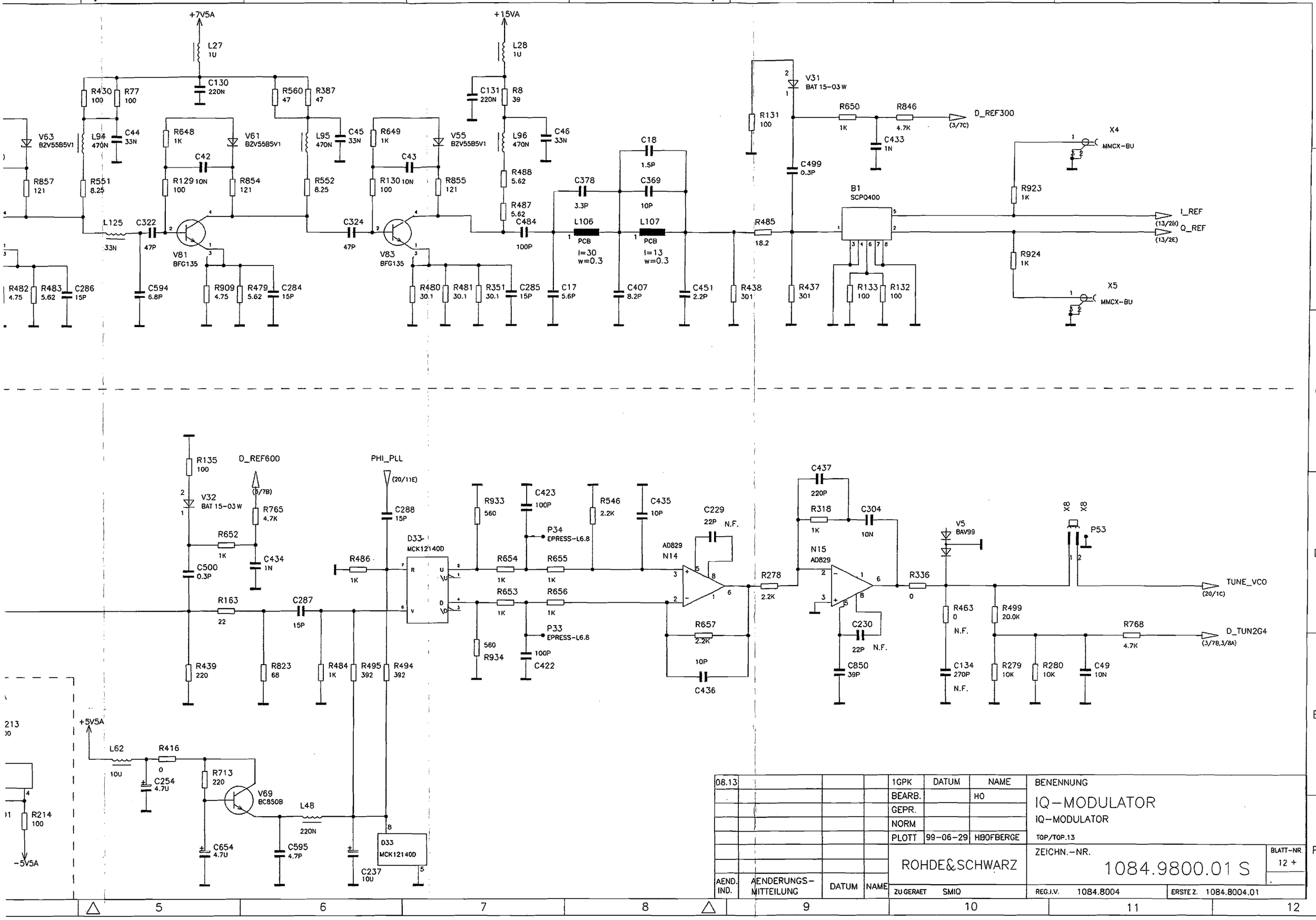
IQ-10V
R778 10K
R807 2K
R1055 1K N.F.
R1041 39.2K
R808 1K
C185 10P N.F.
BURST LINEARITY
C12 5.6P
R809 1K
R1053 0
BURST_REF (15/6D)
N22 AD744KR
R1219 182K
+5V5B
C14 5.6P
N24 AD744KR
R1070 100
R208 100
N30 MAX942CSA
C656 33N N.F.
R1095 100 N.F.
R628 1K
C300 33N
R629 5.62
R385 1K 0.1%
P65
D5 DG419DY
BURST_ENA (4/6D)
R1 9.09K 0.1%
C301 33N
IQ+10V

+15VA
L130 10U
C100 33N
N19 OP400GP
C101 33N
L131 10U
-15VA

+5V5A
R112 100
R333 10K
N30 MAX942CSA
C105 33N
R223 100
+5V5B

+15VA
L132 10U
C102 33N
R138 100 N.F.
R147 100 N.F.
R162 100
R164 100
+5V0D
R111 100
C56 33N N.F.
C59 33N N.F.
C62 33N
C66 33N
C104 33N
N22 AD744KR N.F.
N23 AD744KR N.F.
N24 AD744KR
D5 DG419DY
R176 100 N.F.
C71 33N N.F.
R222 100 N.F.
C98 33N N.F.
R171 100
C106 33N
C139 33N
R226 100
C103 33N
L133 10U
-15VA

08.13	
AEND. IND.	AENDER MITTEIL



08.13				1GPK	DATUM	NAME	BENENNUNG	
				BEARB.		HO	IQ-MODULATOR	
				GEPR.			IQ-MODULATOR	
				NORM			TOP/TOP.13	
				PLOTT	99-06-29	HBOFBERGE		
				ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S	BLATT-NR. 12 +
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SMIQ			REG.I.V. 1084.8004	ERSTE Z. 1084.8004.01

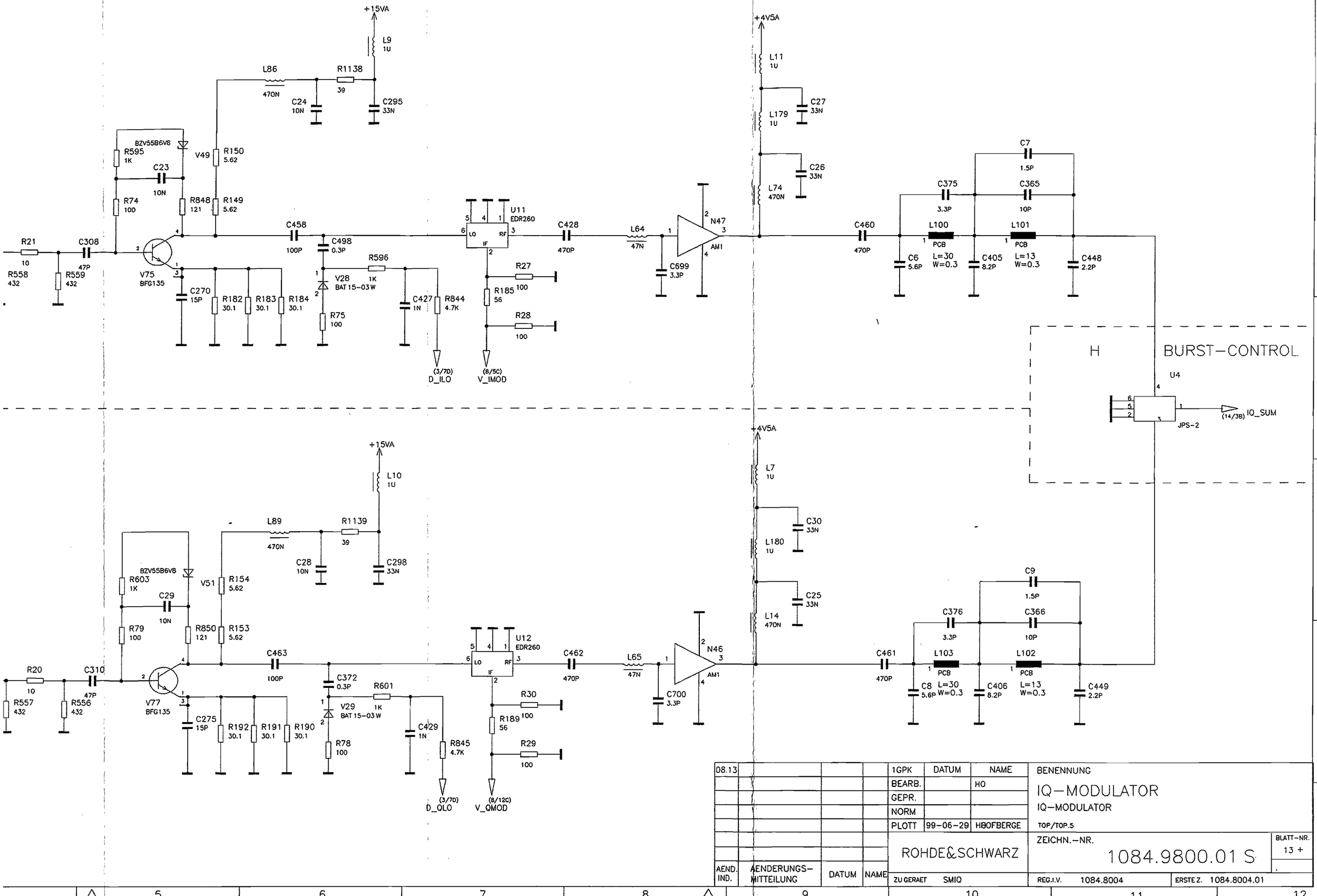
BEHALTEN WIR UNS ALLE RECHTE VOR

E REFERENCE 300

L REFERENCE 600

+5V5A
L30 10U
C415 220N
L124 33N
R730 5.62
N28 UPB581C
X246 MMCX-BU REF600
U6 JPS-2
R203 68
C323 47P
R34 100
R33 100
C438 1N
C439 1N
R714 51
C327 47P
R658 1K
C50
R136 10N 100
R857 121
V63 BZV55B5V1
V82 BFG135
R482 4.75
R483 5.62
C286 15P
+7V5A
L27 1U
C130 220N
R430 100
R77 100
L94 470N
C44 33N
R551 8.25
L125 33N
C322 47P
C594 6.8P
R648 1K
C42
R129 10N 100
R854 121
V61 BZV55B5V1
V81 BFG135
R909 4.75
R479 5.62
C284 15P
R560 47
R387 47
L95 470N
C45 33N
R552 8.25
C324 47P
+15VA
L28 1U
C131 220N
R8 39
L95 470N
C46 33N
R488 5.62
R487 5.62
C484 100P
R649 1K
C43
R130 10N 100
R855 121
V55 BZV55B5V1
V83 BFG135
R480 30.1
R481 30.1
R351 30.1
C285 15P
C17 5.6P
C378 3.3P
L106 PCB l=30 w=0.3
C18 1.5P
C369 10P
L107 PCB l=13 w=0.3
C407 8.2P
C451 2.2P
R485 18.2
R438 301
R131 100
R135 100
V32 BAT 15-03W
D_REF600 (5/7B)
R765 4.7K
R652 1K
C434 1N
C500 0.3P
PHI_PLL (20/11E)
C288 15P
R486 1K
D33 MCK12140D
R933 560
C423 100P
P34 EPRESS-L6.8
R546 2.2K
C435 10P
R654 1K
R655 1K
R653 1K
R656 1K
R934 560
C422 100P
P33 EPRESS-L6.8
AD829 N14
C229 22P N.F.
R657 2.2K
C436 10P
R278 2.2K
R390 5.62
C325 47P
R388 825
R389 825
R163 22
C287 15P
R439 220
R823 68
R484 1K
R495 392
R494 392
C237 10U
+15VA
R212 100
C399 33N
N14 AD829
C402 33N
R237 100
-15VA
+24VA
R213 100
C494 33N
N15 AD829
C401 33N
R214 100
-5V5A
+5V5A
L62 10U
R416 0
C254 4.7U
R713 220
V69 BC850B
C654 4.7U
C595 4.7P
L48 220N

08.13	
AEND. IND.	AENDE MITTEIL



AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
08.13			

	DATUM	NAME
1GPK		
BEARB.		HO
GEPR.		
NORM		
PLOTT	99-06-29	HBOFBERGE

BENENNUNG

IQ-MODULATOR

IQ-MODULATOR

TOP/TOP.5

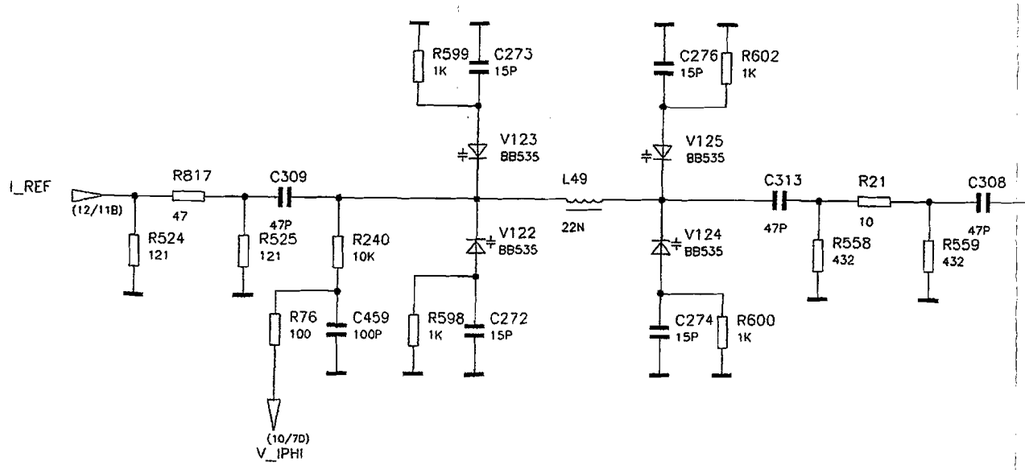
ROHDE&SCHWARZ

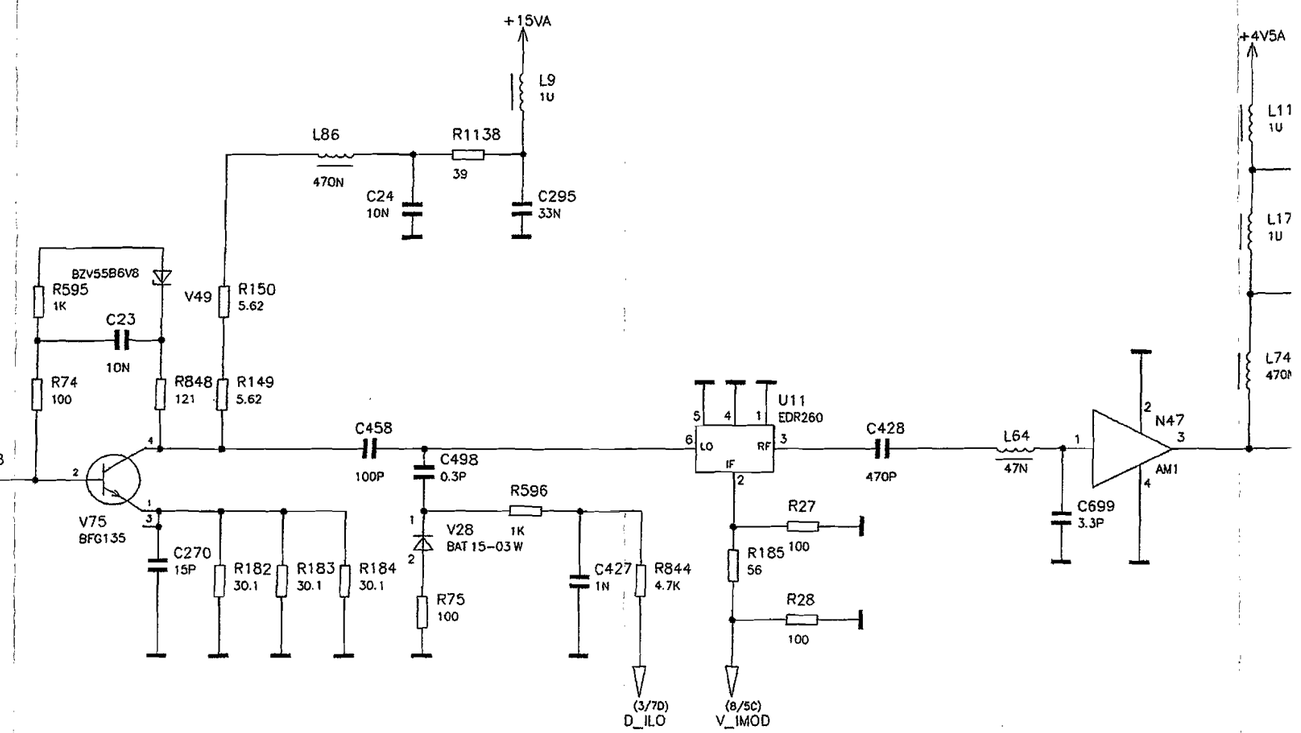
ZEICHN.-NR. 1084.9800.01 S

BLATT-NR. 13 +

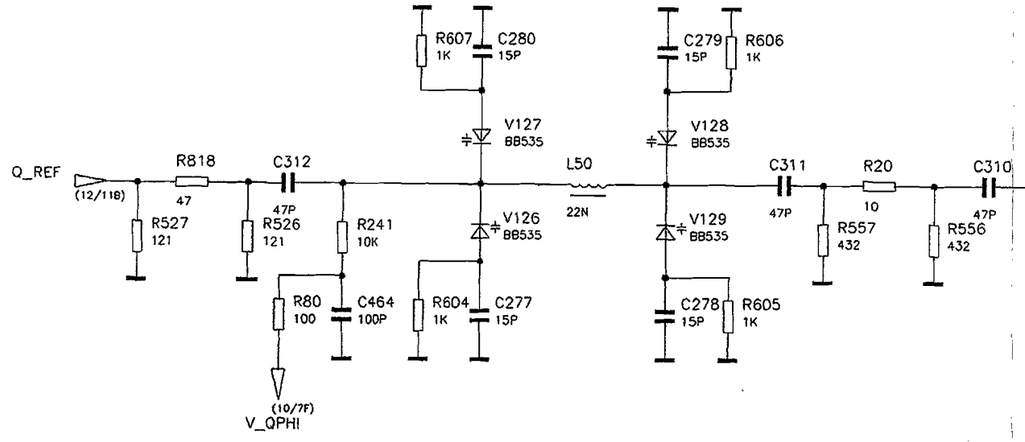
ZU GERAET SMIQ | REG.I.V. 1084.8004 | ERSTE Z. 1084.8004.01

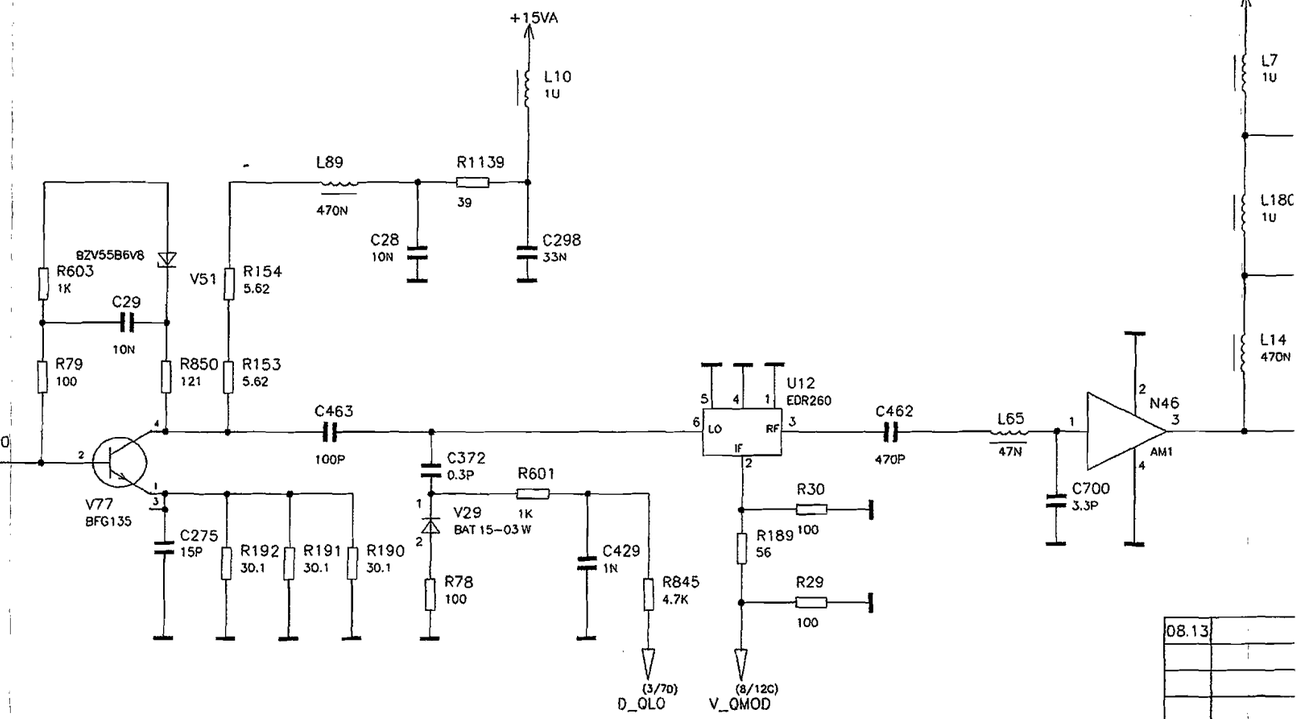
F I-SIGNAL





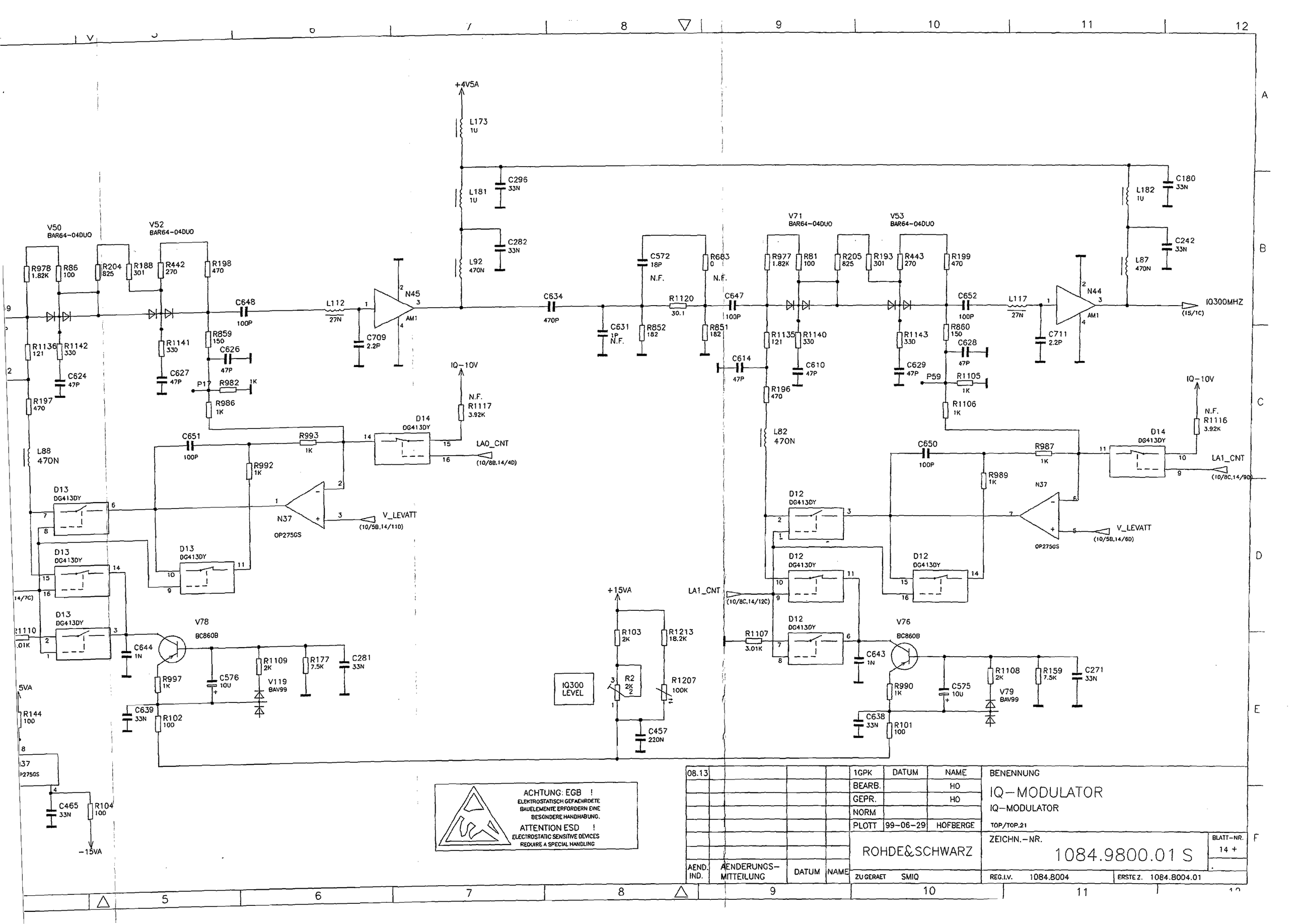
G Q-SIGNAL





AEND. IND.	AENDER MITTEILU
08.13	

BEHALTEN WIR UNS ALLE RECHTE VOR



08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.		HO	IQ-MODULATOR
				NORM			TOP/TOP.21
				PLOTT	99-06-29	HOFBERGE	
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S
				ZUGERAET SMIQ			REG.I.V. 1084.8004 ERSTE Z. 1084.8004.01

BLATT-NR. 14 +

BEHALTEN WIR UNS ALLE RECHTE VOR

IQ_SUM (13/12C)

C649 100P

V50 BAR64-04DUO

R978 1.82K

R86 100

R1136 121

R1142 330

C622 47P

C624 47P

R197 470

L88 470N

V52 BAR64-04DUO

R204 825

R188 301

R442 270

R198 470

R1141 330

C627 47P

C648 100P

R859 150

C626 47P

P17

R982 1K

R986 1K

L112 27N

N45

AM1

C709 2.2P

+4V5A

L173 1U

L181 1U

L92 470N

C296 33N

C282 33N

C634 470P

C572 18P N.F.

C631 1P N.F.

R852 182

R1120 30.1

R683 0 N.F.

R851 182

C647 100P

C61 47P

IQ-10V

N.F. R1117 3.92K

D14 DG413DY

C651 100P

R993 1K

R992 1K

LA0_CNT (10/8B,14/4D)

N37 OP275GS

V_LEVATT (10/5B,14/11D)

D13 DG413DY

LA0_CNT (10/8B,14/7C)

R1110 3.01K

C644 1N

V78 BC860B

R997 1K

C576 10U

R1109 2K

V119 BAV99

R177 7.5K

C281 33N

C639 33N

R102 100

+15VA +5VOD

R1062 1K

R151 100

C297 33N

D12 DG413DY

C640 100N

C299 33N

R1071 1K

-15VA

R1072 1K

R152 100

C469 33N

D13 DG413DY

C641 100N

C466 33N

R1074 1K

R1103 1K

R155 100

C564 33N

D14 DG413DY

C642 100N

C563 33N

R1104 1K

R144 100

C316 33N

N37 OP275GS

C465 33N

R104 100

+15VA

LA1_CNT (10/8C.

R103 2K

R1213 18.2K

IQ300 LEVEL

R2 2K

R1207 100K

C457 220N

ACHTUNG: EGB !
ELEKTROSTATISCH GEFAEHRDETE BAUELEMENTE ERFORDERN EINE BESONDERE HANDHABUNG.
ATTENTION ESD !
ELECTROSTATIC SENSITIVE DEVICES REQUIRE A SPECIAL HANDLING

08.13

AEND. IND.

AENDER MITTEIL

H BURST_CONTROL

N.F. R1059 20K
V89 N.F. BSR18
N.F. R1031 1.5K
R1025 3.3K N.F.
C446 33N N.F.
R1069 330 N.F.
R731 10K N.F. BURST_CNT
(11/11B)
R1029 825 N.F.
-5V5A
N.F. R1054 1K
V27 N.F. BZV55B7V5
C573 1P N.F.
D27 N.F. AT339
R1113 51
C632 470P
C616 10P
R1066 1K
C653 N.F. 22P
(15/2C,15/4D) SIG1
R938 1K N.F.
R928 1M N.F.
N29 N.F. AD811JR
IQ+10V
R19 N.F. 20K
R862 432 N.F.
C241 N.F. 220N
L90 470N N.F.
R368 100 N.F.
R367 100 N.F.
R453 0 N.F.
P18 N.F.
R365 68
R366 N.F. 82.5
C468 N.F. 100P
P19 N.F.
(11/7B) BURST_REF
L91 470N N.F.
C315 18.2
R1160 35.7
R1154 150
C566 470P
R1155 150
L111 0R
C702 2.2P N.F.
+4V5A
L13 1U
L206 470N
C34 33N
C32 33N
L75 470N
N49 AM1
CALSWI_B
R83 47K (15/10E)
V157 BAT62-03W
C314 470P
C216 10P
D28 SW339
CRTL 2 CRTL 1
R82 47K (15/10C)
V156 BAT62-03W
C217 10P
C467 470P
3 RF1
6 RF2
CAL_300 (16/1B)
CALSWI_A (15/10C)
C377 3.3P
L104 PCB L=30 W=0.3
C10 5.6P
C11 10P
L105 PCB L=13 W=0.3
C90 8.2P
C450 2.2P
U5 JPS-2
D_IQOUT (5/7C)
100 R84
4.7K R757
V30 BAT 15-03W
R614 1K
C430 1N
C368 1P
C367 1.5P
R787 150
R788 150
R158 35.7
X241 MMCX-BU IQAUX
R157 12.1
X242 MMCX-BU IQ300
R785 432
R786 432
BURST_SWI (11/9C)
IQDET_ON (4/6D)
R85 100
D57 74HC86T
C589 10P N.F.
R242 10K
V12 BSR18
R722 2.2K
V90 BSR13
CALSWI_A (15/9C)
R381 3.92K
R723 2.2K
R758 2.74K
-15VA
R88 100
C91 33N
R759 2.74K
R725 2.2K
BSR13
V13 BSR18
R243 10K
R724 2.2K
CALSWI_B (15/7C)
R383 3.92K
V91
+5V5A
L137 10U
R908 10
C110 4.7U
N29 AD811JR
C148 4.7U
R905 10
L165 10U
-5V5A
+5V0D
R87 100
C390 33N
D57 74HC86T

AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
08.13			

	DATUM	NAME
1GPK		
BEARB.		HO
GEPR.		
NORM		
PLOTT	99-06-29	HBOFBERGE

BENENNUNG
IQ-MODULATOR
IQ-MODULATOR
TOP/TOP.6

ROHDE&SCHWARZ

ZEICHN.-NR. 1084.9800.01 S
BLATT-NR. 15 +

ZU GERAET SMIQ | REG.I.V. 1084.8004 | ERSTE Z. 1084.8004.01

BEHALTEN WIR UNS ALLE RECHTE VOR

H BURST_CONTROL

IQ300MHZ (14/12B) C633 470P
D51 SW339
C264 22P N.F.
C265 10P
R674 1K
(15/3F,15/4C) SIG2
C612 22P N.F.
R1032 1K
C613 10P
(15/4C,15/4D) SIG1
R1112 51
C562 3.3P
C567 2.2P
C561 10P
L97 PCB L=30 W=0.3
L98 PCB L=13 W=0.3
C560 5.6P
C565 8.2P
C630 2.2P
N.F. C570 10P
R1123 35.7
R849 150
R609 10 N.F.
R712 150
D50 SW339
C611 10P
R873 1K
C577 22P N.F.
(15/1C,15/3F) SIG2
R1113 51
C616 10P
R1066 1K
C653 22P N.F.
(15/2C,15/4D) SIG1
C632 470P
C573 1P N.F.
L90 470N N.F.
R368 100 N.F.
R367 100 N.F.
P18 N.F.
C33 1P N.F.
R453 0 N.F.
R938 1K N.F.
R928 1M N.F.
N29 N.F. AD811JR
R19 N.F. 20K
IQ+10V
R862 432 N.F.
C241 220N N.F.
V89 N.F. BSR18
N.F. R1059 20K
R731 10K N.F. BURST_CNT
(11/11B)
R1029 825 N.F.
N.F. R1054 1K
V27 N.F. BZV55B7V5
D27 N.F.
RF1 AT339 RF2
N.F. R1031 1.5K
R1025 3.3K N.F.
C446 33N N.F.
R1069 330 N.F.
-5V5A
C315 18.2
L91 470N N.F.
R365 68
R366 82.5 N.F.
P19 N.F.
C468 100P N.F.
(11/7B) BURST_REF
R1160 35.7
R1154 150
R1155 150
C566 470P
L111 0R
+4V5A
L13 1U
L206 470N
C34 33N
C32 33N
L75 470N
N49 AM1
C702 2.2P N.F.
CALSWI_B
(15/10E)
R83 47K
V157 BAT62-03W
C314 470P
C216 10P
D28 SW339
C217 10P
C467 470P
RF1
RF2
R82 47K
V156 BAT62-03W
BURST_SWI (11/9C)
IQDET_ON (4/6D)
R85 100
C589 10P N.F.
D57 74HC86T
R242 10K
V12 BSR18
V13 BSR18
R243 10K
+5V5A
L137 10U
R908 10
C110 4.7U
N29 AD811JR
C148 4.7U
R905 10
L165 10U
-5V5A
+5VOD
R87 100
C390 33N
D57 74HC86T

PULSE_A (10/8B) R180 1.21K
V158 BSR18
R976 220
V136 BSR13
SIG1 (15/2C,15/4C)
R1156 200
R1115 200
R974 270
R194 121
R187 10K N.F.
R186 10K N.F.
-15VA
R4 100
R1153 100
C31 33N
R1159 150
R1158 150
R195 121
R973 270
V134 BSR13
PULSE_B (10/8A) R181 1.21K
V159 BSR18
R861 220
SIG2 (15/1C,15/4C)
R1157 200
R1114 200

AEND. IND.	AENDE MITTEI
08.13	

I IQ_DETECTOR

K
IQ-CONTROL

IQ_DETEKTOR LINEARITY

CAL+12V
R930 50K
R789 20K
R446 470K
C432 1N
C579 47P
R644 3.3K
L81 150N
C15 0.7P
R122 0
V106 BAT62-03W
C39 10N
V107 BAT62-03W
R821 3.3K
R422 1M
CAL-12V
C329 47P
R1057 1K N.F.
R642 2.2K
R312 680
V109 HSMS2825PAAR
N25 OP297
R261 39.2K 0.1%
C191 10P
R263 39.2K
P67
N32 OP07CS8
R264 20K
C393 100P
R839 10K
R953 4.7K
Z5 2.5DB
D_IQCAL (3/7D)

C581 33N
R1056 1K N.F.
R313 680
V109 HSMS2825PAAR
R643 2.2K
N25 OP297
CAL+12V
R869 330K
C302 33N
R910 51
R262 39.2K 0.1%
R964 33K
R936 8.25
R944 100K
C47 10N
CAL-12V

+15V_CAL
L18 1U
L19 1U
L20 1U
C112 33N
N25 OP297
C113 33N
N26 OP297
C114 33N
N32 OP07CS8
L21 1U
C115 33N
L22 1U
C116 33N
L23 1U
C117 33N
-15V_CAL

+12V
C303 100N
R813 39.2K 0.1%
N26 OP297
R812 39.2K 0.1%
P45
P44
CAL-12V

08.13				1GPK	DATUM	NAME	BENENNUNG	
				BEARB.		HO	IQ-MODULATOR	
				GEPR.			IQ-MODULATOR	
				NORM				
				PLOTT	99-06-29	HBOFBERGE	TOP/TOP.11	
				ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S	BLATT-NR. 16 +
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET SMIQ			REG.I.V. 1084.8004	ERSTE Z. 1084.8004.01

BEHALTEN WIR UNS ALLE RECHTE VOR

I IQ_DETECTOR

CAL_300 (15/9C)
C319 47P
R641 1K
C40 33N
R121 100
V54 BZV55B6V8
R853 121
V80 BFG135
C283 10P
R200 22
R201 22
R202 22
R161 5.62
R160 5.62
L93 470N
R7 39
C41 10N
+15V_CAL
L34 1U
C111 33N
C321 47P
R1001 30.1
R1000 182
R999 182
C579 47P
R644 3.3K
L81 150N
C15 0.7P
R122 0
V106 BAT62-03W
CAL+12V
IQ_DETEKTOR LINEARITY
R930 50K
R789 20K
R446 470K
C432 1N
C39 10N
V107 BAT62-03W
R821 3.3K
R422 1M
CAL-12V
C329 47P
R1057 1K N.F.
R312 680
V109 HSMS2825PAAR
R642 2.2K
N25 OP297
R261 39.2K 0.1%
C581 33N
R1056 1K N.F.
R313 680
V109 HSMS2825PAAR
R643 2.2K
N25 OP297
CAL+12V
R869 330K
C302 33N
R910 51
R262 39.2K 0.1%

K IQ_CONTROL

Z3
+15VA
L143 1U
40DB
L142 1U
+15V_CAL
C414 220N

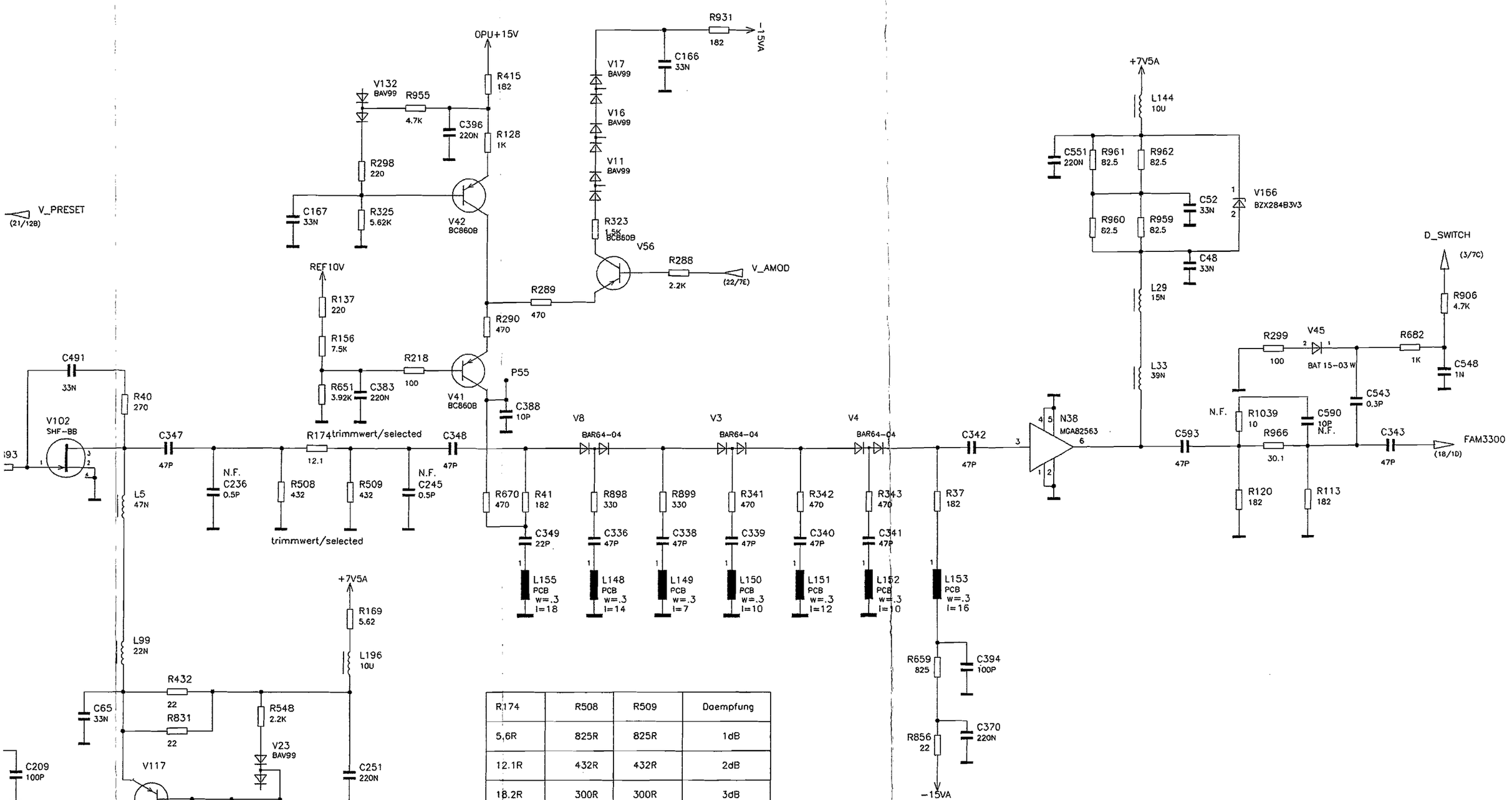
Z2
-15VA
R56 100
40DB
L140 1U
-15V_CAL
C413 220N

Z1
REF10V
R1201 1K
40DB
L138 1U
R265 10K
C387 33N
R790 100K 0.1%
R123 27.4K 0.1%
N26 OP297
C303 100N
R813 39.2K 0.1%
R812 39.2K 0.1%
N26 OP297
CAL+12V
P44
P45
CAL-12V

+15V_CAL
L18 1U
L19 1U
L20 1U
C112 33N
N25 OP297
C113 33N
N26 OP297
C114 33N
N32 OP07CS8
L21 1U
C115 33N
L22 1U
C116 33N
L23 1U
C117 33N
-15V_CAL

08.13

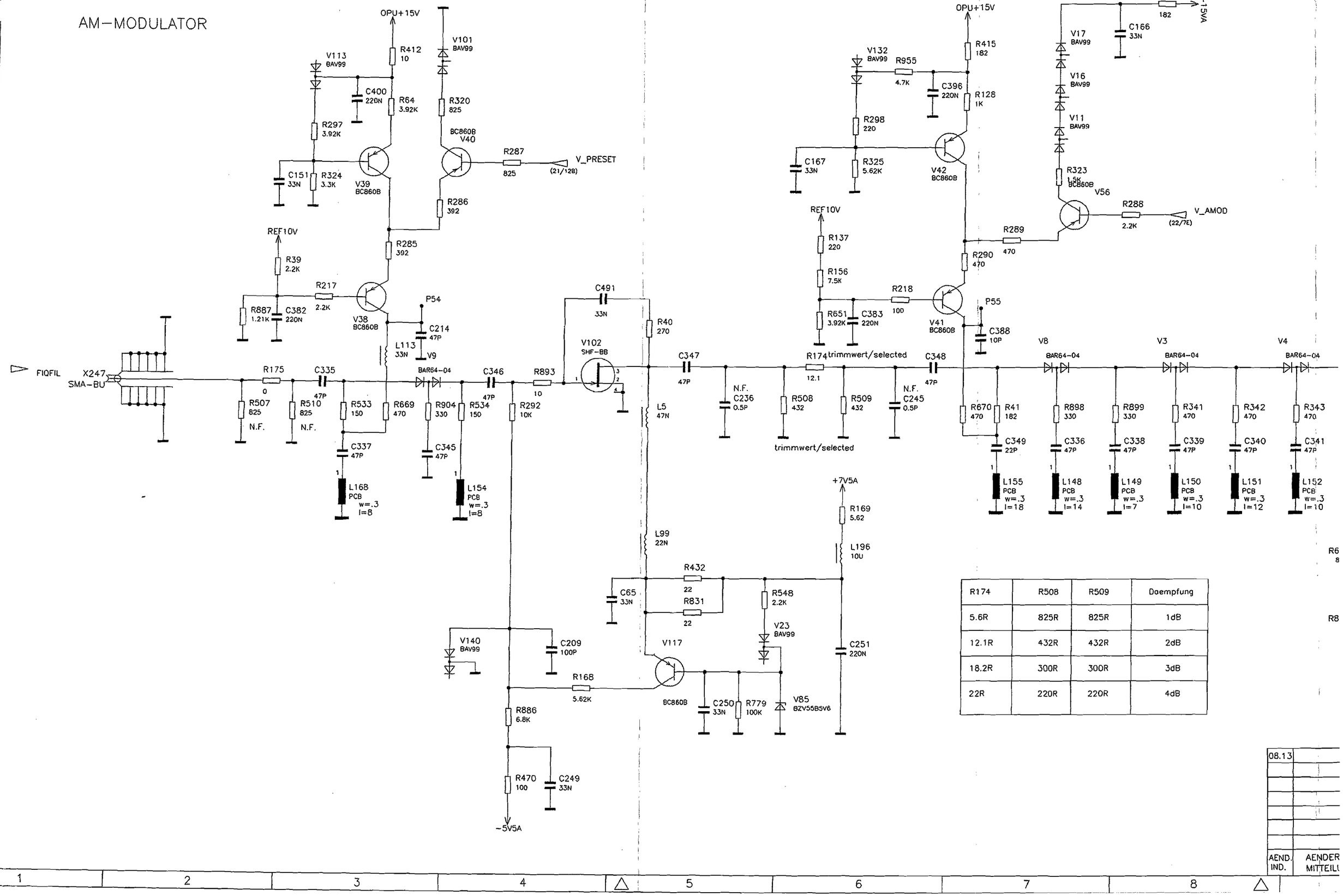
AEND. IND. | AENDER MITTEIL



R174	R508	R509	Daempfung
5,6R	825R	825R	1dB
12.1R	432R	432R	2dB
18.2R	300R	300R	3dB
22R	220R	220R	4dB

08.13					1GPK	DATUM	NAME	BENENNUNG	
					BEARB.		HO	IQ−MODULATOR	
					GEPR.			IQ−MODULATOR	
					NORM			TOP/TOP.16	
					PLOTT	99−06−29	HOFBERGE		
					ROHDE&SCHWARZ			ZEICHN.−NR. 1084.9800.01 S	BLATT−NR. 17 +
AEND. IND.	ÄNDERUNGS−MITTEILUNG		DATUM	NAME	ZU GERAET SMIQ			REG.I.V. 1084.8004	ERSTE Z. 1084.8004.01

AM-MODULATOR



R174	R508	R509	Daempfung
5.6R	825R	825R	1dB
12.1R	432R	432R	2dB
18.2R	300R	300R	3dB
22R	220R	220R	4dB

08.13

AEND. IND. AENDER MITTEIL

BEHALTEN WIR UNS ALLE RECHTE VOR

PUT-STAGE

W124

N.F. R1040 10

N.F. C591 10P

R810 18.2

C147 33N

S3300 (19/18)

J1 2

9

GND GND V2 V1

5 4 7 6

R220 301

R471 301

C557 100P

R1149 1K

R1148 1K

C261 220P

L73 33N

L70 33N

H_B (/2F,18/7B)

SWITCH_A (18/2F,16/7A)

LO-DRIVER

LO_2G4 (20/12B)

SM4TH

U9

LO IF RF

1 2 3 4 5 6

R26 47

C142 33N

R304 121

R303 121

C623 10P N.F.

R1052 100 N.F.

L202 18N

C244 33N

R146 301

V148 BFP450

R890 15

R417 15

R401 15

C208 27P

R926 5.62

V164 BSR18

CONVERT_OFF (4/10B,4/11E,18/1B)

R677 10K

R680 2.2K

V161 BSR13

SWITCH_A (18/2F,18/4D)

R1151 3.92K

R1096 2.2K

R678 2K

-15VA

R36 100

C257 33N

R679 2K

R1144 2.2K

V162 BSR13

V163 BSR18

CONVERT_ON (4/12E,20/10A)

R38 10K

R1145 2.2K

SWITCH_B (18/2F,18/4D)

R1150 3.92K

IF-STAGE

+7V5A

L40 1U

V97 BAV99

R547 2.2K

R549 4.7K

C150 33N

V37 BC860

C143 33N

R726 2.2K

R1132 121

R11 121

R1133 121

R1134 121

C442 220N

R448 8.25

C146 220N

L83 47U

L134 3UH SMD 4B1

L3 1U

R665 1K

R772 4.7K

D_CONVRT (3/7C)

V36 BAT15-03W

R145 100

C444 33N

C504 0.2P

l=20 w=0.3

l=12 w=0.3

L110 PCB

L109 PCB

l=15 w=0.3

l=15 w=0.3

C291 2.2P

C20 4.7P

C145 33N

R505 22

L114 PCB

L115 PCB

R1163 0

L55 8.2N

MIX_IF (18/4C)

C598 0.6P

L116 PCB l=3 w=0.3

C454 3.3P

C19 5.6P

C168 2.7P

R529 220

R530 220

C552 3.3P

R1162 432 N.F.

R1161 432 N.F.

C234 4.7P

08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.			IQ-MODULATOR
				NORM			TOP/TOP.15
				PLOTT	99-06-29	HOFBERGE	
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S
				ZU GERAET SMIQ			REG.I.V. 1084.8004 ERSTE Z. 1084.8004.01

BLATT-NR. 18 +

FÜR DIESE UNTERLAGE
BEHALTEN WIR UNS ALLE RECHTE VOR

AM-MODULATOR

+15VA
R1002 100
C256 33N
N6 NE5534D
C355 33N
R1003 100
-15VA
+7V5A
R988 47K
R980 5.62K
CONVERT_OFF
R975 12.1K
(4/10B,4/11E,18/6A)
PINA_P
(18/3D)
C419 33N
R991 2.2K
C38 220P

V170 BAR63
V171 BAR63
C558 47P
C559 47P
V108 BAR63
V110 BAR63
R967 301
R1152 301
C86 10P
L76 33N
C571 39P
PINA_P
(18/3B)

S1 SSW124
(18/12D) MIX_IF
C555 100P
C557 100P
R1149 1K
R1148 1K
C262 220P
C261 220P
L73 33N
L70 33N
SWITCH_B (18/2F,18/7B)
SWITCH_A (18/2F,18/7A)

N.F. R1040 10
N.F. C591 10P
R810 18.2
C147 33N
S3300 (19/1B)
R220 301
R471 301

S2 SSW124
FAM3300 (17/12C)
R219 10K
C534 100P
C533 100P
R1147 1K
R1146 1K
L69 33N
L12 33N
C260 220P
C259 220P
SWITCH_B (18/4D,18/7B)
SWITCH_A (18/4D,18/7A)

C333 47P

OUTPUT-STAGE

CONVERT_OFF
(4/10B,4/11E,18/1B)
R677 10K
V164 BSR18
R680 2.2K
V161 BSR13
SWITCH_A (18/2F,18/4D)
R1151 3.92K
R1096 2.2K
R678 2K
-15VA
R36 100
C257 33N
R679 2K
R1144 2.2K
V162 BSR13
V163 BSR18
CONVERT_ON
(4/12E,2D/10A)
R38 10K
R1145 2.2K
SWITCH_B (18/2F,18/4D)
R1150 3.92K

IF-STAGE

V97 BAV99
R547 2.2K
R549 4.7K
C150 33N
V37 BC860
C143 33N
R726 2.2K
L202 18N
C244 33N
R146 301
V148 BFP450
C623 10P N.F.
R1052 100 N.F.
R890 15
R417 15
R401 15
C208 27P
R926 5.62

LO_2G4
(20/12B)
SM4TH
U9
LO
IF
RF
R26 47
C142 33N
R304 121
R303 121

LO-DRIVER

08.13	
AEND. IND.	AEND MITTE

OUTPUT STAGE

1085.0020

C69 33N
R43 270
C68 33N
R42 270
R553 5.62
V103 SHF-BB
C384 39P
C164 33N
L85 47N
L54 22N
L164 2.2U
R995 270
C61 10N
R895 10
V104 SHF-189
R554 5.62
C385 39P
L135 w=.3 l=7 PCB
C165 33N
C569 0.5P
L189 w=.3 l=3.6 PCB
C453 0.6P
L190 w=.3 l=5.7 PCB
L191 w=.3 l=5.3 PCB
L193 w=.3 l=2.8 PCB
C482 0.6P
L194 w=.3 l=1.25 PCB
L192 w=.3 l=1.1 PCB
C486 0.7P
T1 SYMUEBTRG.
FERRIT
X249 FIQOUT SMA-BU
C107 0.3P N.F.
R511 162
R902 51
C72 33N
R922 15
C544 1P
DETECTOR LINEARITY
+15VA
R523 100
C587 33N
N20 OP297
R512 100
C588 33N
-15VA
R296 10K
C505 0.6P
L84 47N
L53 22N
R994 270
L145 2.2U
R125 100
C604 39P
only this combination

	R1226	R411
I	N.F.	390k
II	121R	470K
III	51R	680k

R1226 trimmwert/selected
V194 BZV55B3V3
R15 20
V10 BZV55B4V7
C70 10N
R671 1K
R774 4.7K
TL074ACD N1
R775 4.7K
V1 BSP31
C163 10U
R673 680
C585 33N
R1222 1K
R1223 1K
R1224 1K
V133 N.F. BZV55B7V5
V131 N.F. BZV55B5V1 0.5W
V100 N.F. BZV55B2V7 0.5W
C408 220N
R672 5.62K
R224 10K
trimmwert/selected
R411 470K
C162 100N
R728 392K
L162 10U
R1217 N.F. 200
R1218 N.F. 10K
R1060 20K
R965 10K
R1028 470
C586 33N
N2 TL074ACD
C602 220P
R302 100
V60 BCP68-16
C601 220N
R1216 100 N.F.
R1215 100 N.F.
L77 10U
C603 220N
L207 10U N.F.
+15VA
+24VA
OPU-10V
R1300 51.1
R13 20
V195 BZV55B2V7
V2 BSP31
C202 10U
R627 560
C584 33N
R1221 1K
R1220 1.21K
V135 BZV55B5V1 N.F.
V153 BZV55B6V2 N.F.
R225 10K
R361 392K
OPU+15V
C205 100N
R684 220K
+15VA
L63 10U
C371 220N
L147 10U
N2 TL074ACD
R413 100
V121 BSR13
C233 220P
R963 15K
C232 220N
R711 560
C194 33N
R588 10K
OPU-10V
C156 33N
C599 10P
R1046 1M
R1044 1M
N20 OP297
OPU+15V
R1067 20K
R622 30.1K
R1045 1M
R1043 1M
R1064 220K
R822 0
R300 82.5
V46 BAT 15-03 W
R16 51
C547 220P
C637 100N
V47 BAT 15-03 W
R301 0
C488
C549 100N 4.7N
V151 SST108
R946 68K
R945 1K
V43
DETSLOW_OFF
R565 2.2K (4/9B)
R865 1K
BC850B
V142 BC850B
R380 10K
R832 1K
C542 33N
R332 100
-15VA
R921 330
V105 HSMS2825PAAR
R321
R1063 N.F. 220K
C545 1P
R1030 1K
N39 AD744KR
R811 1K
R829 3.01K
C546 1P
N41 AD744KR
R564 1K
V_DETOUT (22/2C)
P68 N.F.
R344 20K
R907 4.7K
D_DETOUT (3/7C)
C73 33N
R345 10K
C600 10P
R1050 1M
R1049 1M
N20 OP297
R1068 18.2K
R1047 1M
R1033 47K
R1065 220K
R1048 1M
OPU-10V
C529 33N
R1058 N.F. 1K
V105 HSMS2825PAAR
R322 470
C621 1P
R519 330
N40 AD744KR
R830 1K
R940 470K
R941 150K
C212 33N
OPU-10V
C424 33N
R927 22
R932 130
R903 1M
OPU+15V

AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
08.13			

	DATUM	NAME
1GPK		
BEARB.		HO
GEPR.		
NORM		
PLOTT	99-06-29	HBOFBERGE

BENENNUNG
IQ-MODULATOR
IQ-MODULATOR
TOP/TOP.17

ROHDE&SCHWARZ

ZEICHN.-NR. 1084.9800.01 S

BLATT-NR. 19 +

ZU GERAET SMIQ | REG.I.V. 1084.8004 | ERSTE Z. 1084.8004.01

OUTPUT STAGE

1085.0020

S3300 (18/SC)

R891 10 | C445 0.4P | R281 10K | V18 BZV55B4V7 | C63 10N | R666 1K

V144 SHF-BB | C60 33N | R22 270 | R473 5.62 | C374 100P | C161 33N | R858 22 | C199 33N | R894 10

L4 47N | L37 22N | L78 2.2U | R996 270

V103 SHF-BB | C68 33N | R42 270 | R553 5.62 | C384 39P | C164 33N

L85 47N | L54 22N | L164 2.2U | R995 270

R474 220 | R513 220 | C506 0.4P | R295 10K | R661 1K | V7 BZV55B4V7 | C61 10N

R895 10 | R296 10K | C505 0.6P | V104 SHF-189

R554 5.62 | C385 39P | L135 w=.3 l=7 PCB | C165 33N | L189 w=.3 l=3.6 PCB | L190 w=.3 l=5.7 PCB | L191 w=.3 l=5.3 PCB

C569 0.5P | C453 0.6P | L193 w=.3 l=2.8 PCB | C482 0.6P

L84 47N | L53 22N | L145 2.2U | R994 270 | R125 100 | C604 39P

C69 33N | R43 270

only this combination

	R1226	R411
I	N.F.	390k
II	121R	470K
III	51R	680k

R1226 121 trimwert/selected | V194 BZV55B3V3 | R15 20

V1 | C163 10U | R673 680 | C585 33N | BSP31

R1222 1K | R1223 1K | R1224 1K

V133 N.F. BZV55B7V5 | V131 N.F. BZV55B5V1 0.5W | V100 N.F. BZV55B2V7 0.5W

L162 10U

C599 | R1046 1M | R1044 1M | N20 OP297 | OPU+15V | R1067 20K | R622 30.1K | R1045 1M

R300 82.5 | V46 BAT 15-03 W | R16 51 | C547 220P

DETSLOW_OFF | R565 2.2K (4/98) | V43 BC860B | R865 1K

R1300 51.1 | R13 20 | V195 BZV55B2V7 | V2 BSP31 | C202 10U | R627 560 | C584 33N | R1221 1K | R1220 1.21K

V135 BZV55B5V1 N.F. | V153 BZV55B6V2 N.F.

C409 220N | R647 5.62K | R225 10K | TL074ACD N1 | R361 392K | OPU+15V | C205 100N | R684 220K

R727 4.7K | N1 TL074ACD | R729 4.7K

R1301 51.1 | R14 20 | V6 BSP31 | C207 10U | R664 330 | C583 33N | V143 | C411 220N | R663 5.62K | R283 10K | TL074ACD | OPU+15V BZV55B5V1 0.5W | R362 330K | C206 100N | R685 150K

R769 4.7K | TL074ACD | R733 4.7K

+7V5A | L61 22U | L146 10U | C152 220N

V10 BZV55B4V7 | C70 10N | R671 1K | R774 4.7K | TL074ACD N1 | R775 4.7K

C408 220N | R672 5.62K | R224 10K | TL074ACD N1 | trimwert/selected R411 470K | OPU+15V | C162 100N | R728 392K

+15VA | L63 10U | C371 220N | N2 TL074ACD | R413 100 | V121 BSR13 | C233 220P | R963 15K | R711 560 | R588 10K | C194 33N | OPU-10V

L147 10U | C232 220N

N.F. R1217 200 | N.F. R1218 10K | R1060 20K | R965 10K | R1028 470 | N2 TL074ACD | C602 220P | R302 100 | V60 BCP68-16 | C601 220N | C586 33N | OPU-10V

R1216 100 N.F. | R1215 100 N.F. | L77 10U | C603 220N | +15VA | L207 10U N.F. | +24VA

+15VA | R405 10 | C535 33N | N40 AD744KR | R404 10 | C536 33N | -15VA

+15VA | R406 10 | C538 33N | N41 AD744KR | R467 10 | C537 33N | -15VA

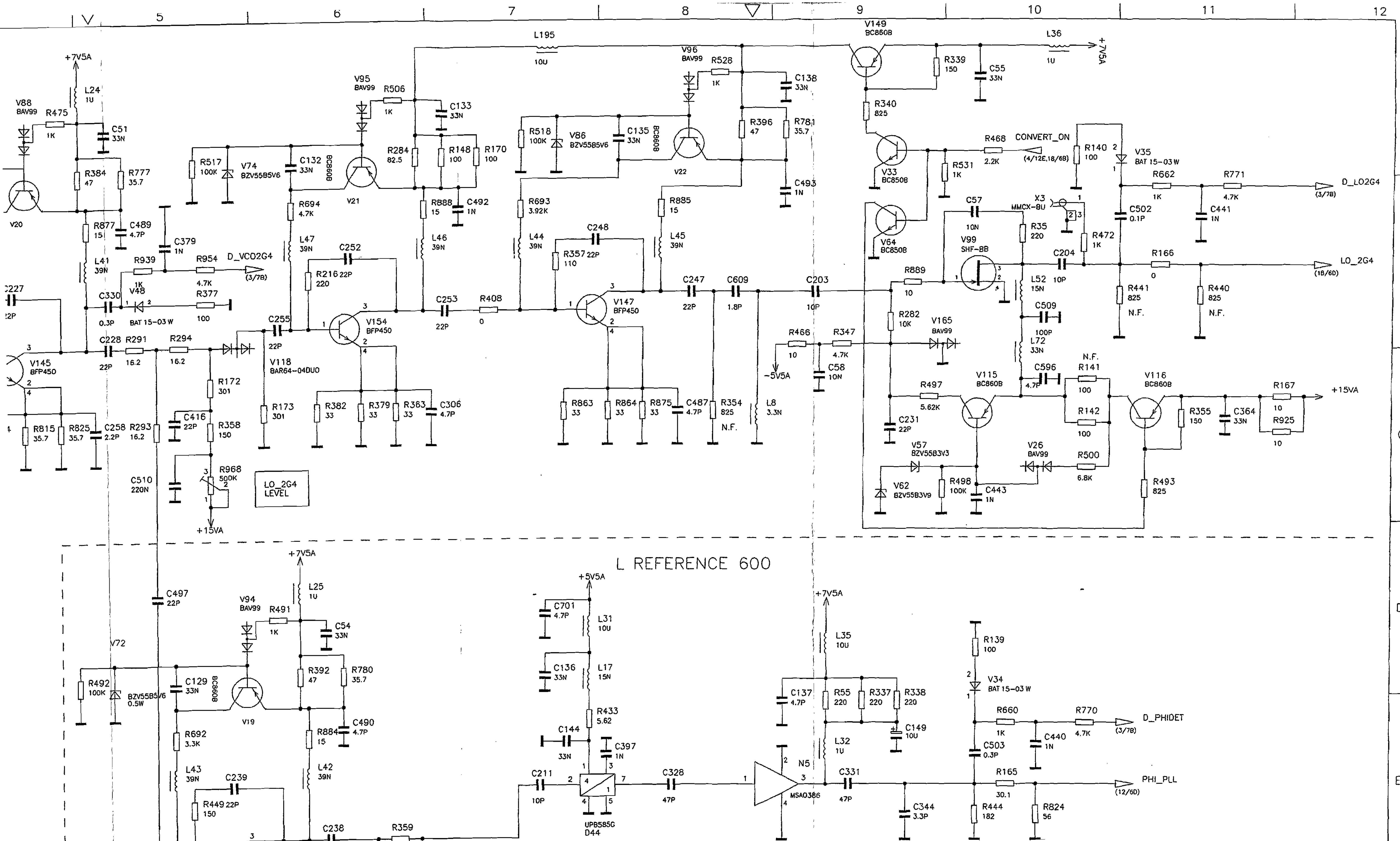
+15VA | R892 10 | C540 33N | N39 AD744KR | R900 10 | C539 33N | -15VA

+24VA | R378 100 | C154 33N | N2 TL074ACD | R395 100 | C153 33N | -5V5A

+15VA | R391 100 | C155 33N | N1 TL074ACD | R394 100 | C156 33N | -15VA

AEND. IND.	AENDE MITTEI
08.13	

FOLK DIESE UNTERLAGE BEHALTEN WIR UNS ALLE RECHTE VOR



08.13				1GPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.			IQ-MODULATOR
				NORM			
				PLOTT	99-06-29	HBOFBERGE	TOP/TOP.14
				ROHDE&SCHWARZ			ZEICHN.-NR. 1084.9800.01 S — BLATT-NR. 20 +
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET	SMIQ		REG.I.V. 1084.8004 — ERSTE Z. 1084.8004.01

VCO-2G4

LO DRIVER

L REFERENCE 600

TUNE_VCO (12/110)

LO_2G4 LEVEL

D_VCO2G4 (3/78)

+7V5A

+15VA

-15VA

-5V5A

L108 PCB l=15 w=0,3

C452 PCB l=2.0 =0.3 =90

V130 BB535

L59 39N

L58 39N

C501 0.2P

C420 0.8P

R1021 4.75

C289 220P

V111 BFG540X

L1 55R(Z)

L51 22N

C290 4.7P

R464 68

C485 100P

C421 1.2P

R215 182

C200 10P

R490 1.82K

R436 2.74K

C625 220U

C800 1U

C320 22P

R478 10K

V70 BC850B

C608 4.7U

R326 51

L60 33N

R496 3.92K

R943 51

C326 22P

R346 6.8K

C269 220N

L39 1U

V88 BAV99

R475 1K

L24 1U

C51 33N

R532 100K

V87 BZV55B5V6

C141 33N

BC860B

V20

R384 47

R777 35.7

R691 3.92K

R877 15

C489 4.7P

L41 39N

L38 39N

C379 1N

R939 1K

R954 4.7K

V48 BAT 15-03 W

C330 0.3P

R377 100

C227

R447 22P 150

C228 22P

R291 16.2

R294 16.2

V145 BFP450

R814 35.7

R815 35.7

R825 35.7

C258 2.2P

R293 16.2

C416 22P

R358 150

R172 301

R968 500K

C510 220N

V95 BAV99

R506 1K

C133 33N

R517 100K

V74 BZV55B5V6

C132 33N

BC860B

V21

R284 82.5

R148 100

R170 100

R694 4.7K

R888 15

C492 1N

L47 39N

L46 39N

C252

R216 22P 220

C255 22P

V118 BAR64-04DUO

V154 BFP450

C253 22P

R408 0

L195 10U

V96 BAV99

R528 1K

C138 33N

R781 35.7

R396 47

C493 1N

R518 100K

V86 BZV55B5V6

C135 33N

BC860B

V22

R693 3.92K

R885 15

C248

R357 22P 110

L44 39N

L45 39N

V147 BFP450

C247 22P

C609 1.8P

C203 10P

R466 10

R382 33

R379 33

R363 33

C306 4.7P

R173 301

R863 33

R864 33

R875 33

C487 4.7P

R354 825 N.F.

L8 3.3N

V72

R492 100K BZV55B5V6 0.5W

C497 22P

V94 BAV99

R491 1K

L25 1U

C54 33N

C129 33N

BC860B

V19

R392 47

R780 35.7

C490 4.7P

R884 15

R692 3.3K

L43 39N

L42 39N

C239

R449 22P 150

V146 BFP450

C238 22P

R359 182

L71 33N

C592 1.8P

R828 35.7

R827 35.7

R826 35.7

C305 1.5P

R210 68

R209 68

C701 4.7P

L31 10U

C136 33N

L17 15N

R433 5.62

C144 33N

C397 1N

C211 10P

C328 47P

UPB585G D44

MSA0386

N5

C137 4.7P

08.13

AEND. IND.

AENDERU MITTEILU

DETAILLIERTE WIR UNS ALLE RECHTE VOR

C LF_GENERATOR

B SERBUS

R792 20K 0.1%
R793 20K 0.1%
R794 20K 0.1%
D9 DG413DY
D10 DG413DY
_ON (4/9A)
EXTDC_ON (4/9A)
EXTAC_ON (4/9B)
C389 10P
R791 20K 0.1%
N9 OP275GS
C404 8.2P
R834 68.1K 0.1%
R221 3.92K
R231 12K 0.1%
P11
R65 10
AC_MONI (3/8D)
D53 DG419DY
(4/9B)
NA

+15VA
R44 100
C108 33N
U1 DAC-08CS
C118 33N
R61 100
-15VA
C530 100P
(4/6A) PRESET0
(4/6A) PRESET1
(4/6B) PRESET2
(4/6B) PRESET3
(4/6B) PRESET4
(4/6B) PRESET5
(4/6B) PRESET6
(4/6B) PRESET7
U1 DAC-08CS
LSB MSB REF+ REF- VLC IOUT IOUT COMP
AM+6V
R47 2.74K
R435 1.82K
C513 33N
R686 560
R668 560
C381 33N
R947 4.7K
R948 4.7K
C380 100P
R24 1K
OP275GS
N8
R640 3.3K
R67 182
C455 100P
R919 20.0K
R755 4.7K
R233 10K
C425 1N
X6
V_PRESET (17/4B)
D_PRESET (3/7C)

AM_DEPTH
P10
N.F.
R51 5K
R476 0
D42 DAC 8143
VREF RFB IOUT1 IOUT2 AGND
C175 22P
OP275GS N7
AMOD
AM-6V
L121 10U
C78 33N
R563 20K 0.1%
R561 20K 0.1%
R305 3.32K 0.1%
C410 47P
R562 20K 0.1%
(21/2E) V_REFEXT
R66 100
(4/11A) AM_OFF

AM+6V
L122 10U
C79 33N
LEVEL_IQ
D11 DG413DY
V_REFIQ (9/3A,9/3C,9/5A,9/5C)
R1051 100
R434 5.11K
IQAM_ENA (4/9B)
D43 LEVEL DAC 8143
R876 0
C213 22P
OP275GS
R586 10
V_REFINT (22/2C)
R46 20.0K
C507 1N
R912 4.7K
R232 10K
D_REFAM (3/7C)

+15VA
R1013 150
C83 220N
N7 OP275GS
C84 220N
R1014 150
-15VA
R1017 150
C525 220N
N9 OP275GS
C526 220N
R1018 150
-15VA
+5V1D
+5V0D
R70 100
C85 33N
D32 74HC08T
D6 74HC86T

D6 74HC86T
R235 10K
D32 74HC08T
R234 10K
+15VA +5V0D
R570 1K
R567 1K
C80 33N
D9 DG413DY
C81 33N
D10 DG413DY
C82 33N
R571 1K
-15VA
+15VA +5V0D
R675 1K
R676 1K
C523 33N
D11 DG413DY
C524 33N
D53 DG419DY
C235 33N
R681 1K
-15VA
+15VA
R1015 150
C67 220N
N8 OP275GS
C119 220N
R1016 150
-15VA

AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME
08.13			

1GPK	DATUM	NAME	BENENNUNG
BEARB.		HO	IQ-MODULATOR
GEPR.			IQ-MODULATOR
NORM			TOP/TOP.3
PLOTT	99-06-29	HBOFBERGE	

ROHDE&SCHWARZ

ZEICHN.-NR. 1084.9800.01 S

BLATT-NR. 21 +

ZUGERAET SMIQ | REG.I.V. 1084.8004 | ERSTE Z. 1084.8004.01

C LF_GENERATOR

B SERBUS

X240 A5 EXT2 — R445 150K

X240 A6 INT1 — Z13 7.5DB — L160 220N — LF_INT (6/10C)

X240 A4 EXT1 — Z14 7.5DB — L156 220N — R63 3.92K — V59 BAV99 — +5V5A / -5V5A

X240 A3 LFOUT — Z17 7.5DB — L159 220N — LF_GEN (6/10B)

X240 A1 BLANK — R335 470 — Z15 7.5DB — R334 470 — D32 74HC08T

BLANK_ENA (4/10B) — D32 74HC08T — D6 74HC86T — D6 74HC86T — +5V1D — R754 4.7K

BLANK_INV (4/10B)

LEV_OFF (4/10A) — D32 74HC08T — KLEMM_N (22/5C)

X240 A9 CODAM — Z16 7.5DB — L157 220N

X240 A2 UREFAM — Z18 7.5DB — L158 220N — V_REFEXT (21/9D)

R916 10

UREFAM — X248 MMCX-BU

P12 — N34 AD744KR — C5 5.6P

R792 20K 0.1% — D9 DG413DY — AMINT_ON (4/9A)

R793 20K 0.1% — D9 DG413DY — AMEXTDC_ON (4/9A)

C606 220U — C607 220U

R794 20K 0.1% — D10 DG413DY — AMEXTAC_ON (4/9B)

D10 DG413DY — AC_MONI (3/8D)

D10 DG413DY — EXTCOMP_ON (4/9B)

D53 DG419DY — CODAM_ENA (4/9B)

C389 10P — R791 20K 0.1% — N9 OP275GS — C404 8.2P — R834 68.1K 0.1% — R221 3.92K — R231 12K 0.1% — N9 OP275GS — P11

+15VA — R44 100 — C108 33N — U1 DAC-08CS — C118 33N — R61 100 — -15VA

(4/6A) PRESET0
(4/6A) PRESET1
(4/6B) PRESET2
(4/6B) PRESET3
(4/6B) PRESET4
(4/6B) PRESET5
(4/6B) PRESET6
(4/6B) PRESET7

C530 100P

AM_DEPTH — R51 5K — N.F. — R476 0 — P10

AM-6V — L121 10U — IQAM_ENA (4/9B)

P11 — R65 10 — D42 DAC 8143 (VREF, RFB, IOUT1, IOUT2, AGND) — AMOD

C78 33N — R563 20K 0.1% — C175 22P — OP275GS N7 — R561 20K 0.1% — R305 3.32K 0.1% — C410 47P — (21/2E) V_REFEXT

+15VA — R68 100 — C358 220N — N34 AD744KR — C359 220N — R69 100 — -15VA

D6 74HC86T — R236 10K — D6 74HC86T — R235 10K — D32 74HC08T — R234 10K

+15VA +5V0D — R570 1K — R567 1K — C80 33N — D9 DG413DY — C81 33N — D10 DG413DY — C82 33N — R571 1K — -15VA

+15VA +5V0D — R675 1K — R676 1K — C523 33N — D11 DG413DY — C524 33N — D53 DG419DY — C235 33N — R681 1K — -15VA

+15VA — R1015 150 — C67 220N — N8 OP275GS — C119 220N — R1016 150 — -15VA

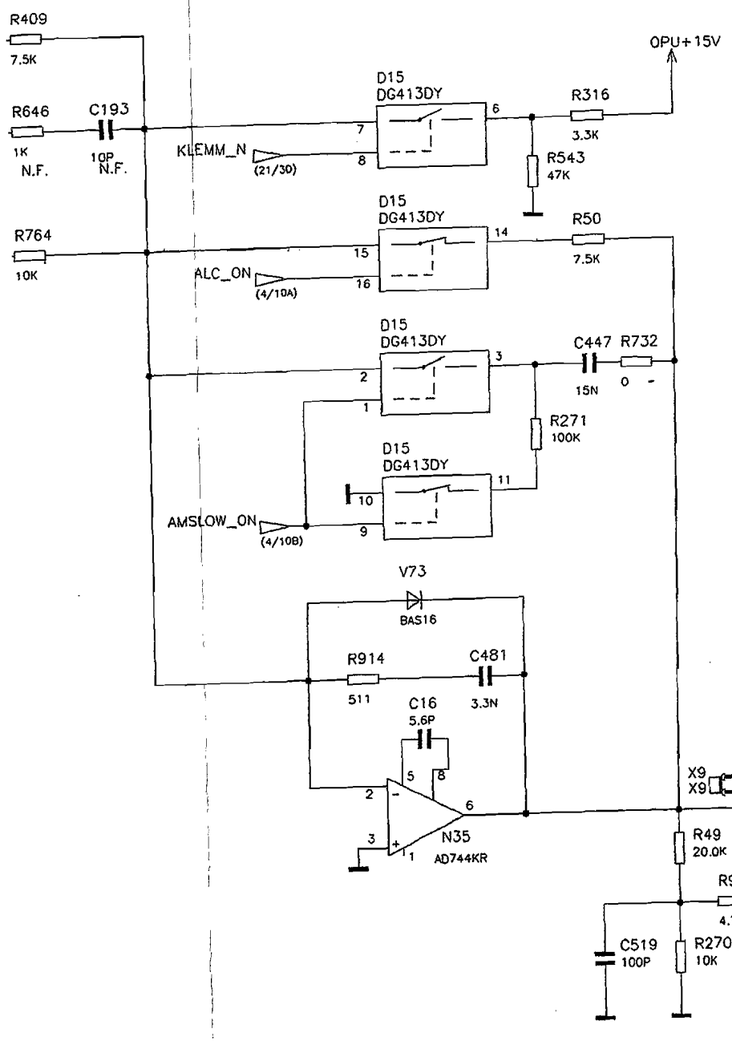
08.13

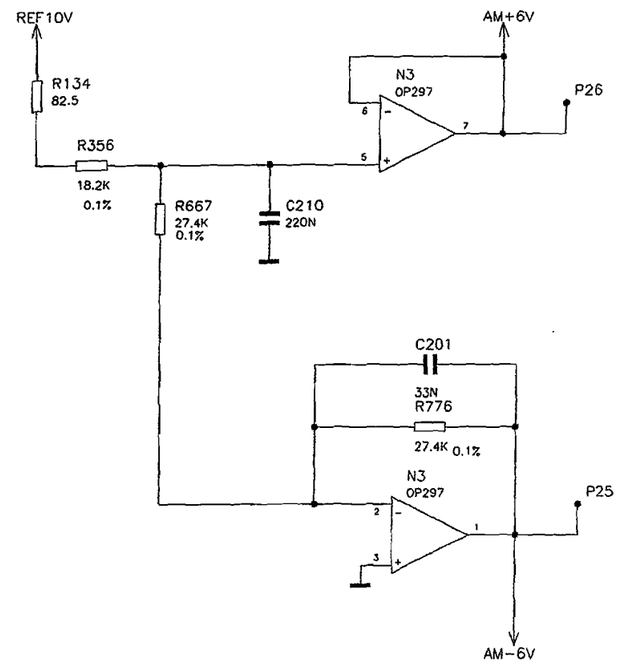
AEND. IND. — AENDERI MITTEILU

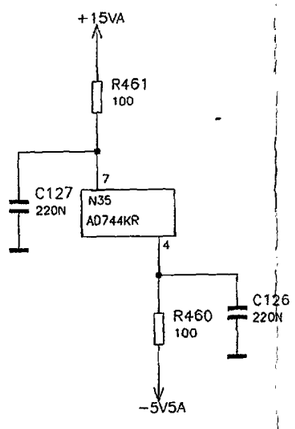
GENAUEN WIR UNSAUBE RECHTE VOR

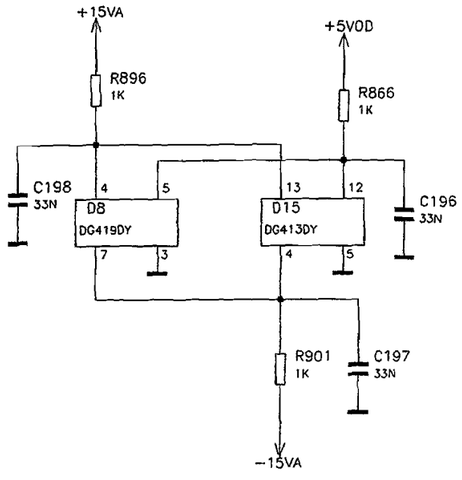
AM_MODULATOR

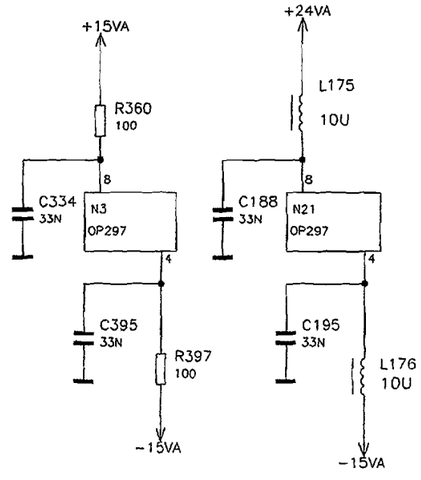
A SERBUS











08.13				1GPK	DATUM	NAME	BENENNUNG	
				BEARB.		HO	IQ-MODULATOR	
				GEPR.			IQ-MODULATOR	
				NORM			TOP/TOP.18	
				PLOTT	99-06-29	HOFBERGE	ROHDE&SCHWARZ	ZEICHN.-NR. 1084.9800.01 S
AEND. IND.	AENDERUNGS-MITTEILUNG	DATUM	NAME	ZU GERAET	SMIQ		REG.I.V. 1084.8004	ERSTE Z. 1084.8004.01

BLATT-NR. 22 -

AM_MODULATOR

A SERBUS

OPU+15V
P57
R462 0
R1061 20K
R1024 10K
C517 33N
N21 OP297
V155 BC8508
R806 3.3K
R272 10K
REF10V
C263 220N
R274 15K
C192 33N
P58
R275 10K
N21 OP297
C580 33N
R645 10
OPU-10V
R431 100
L177 1U
+24VA

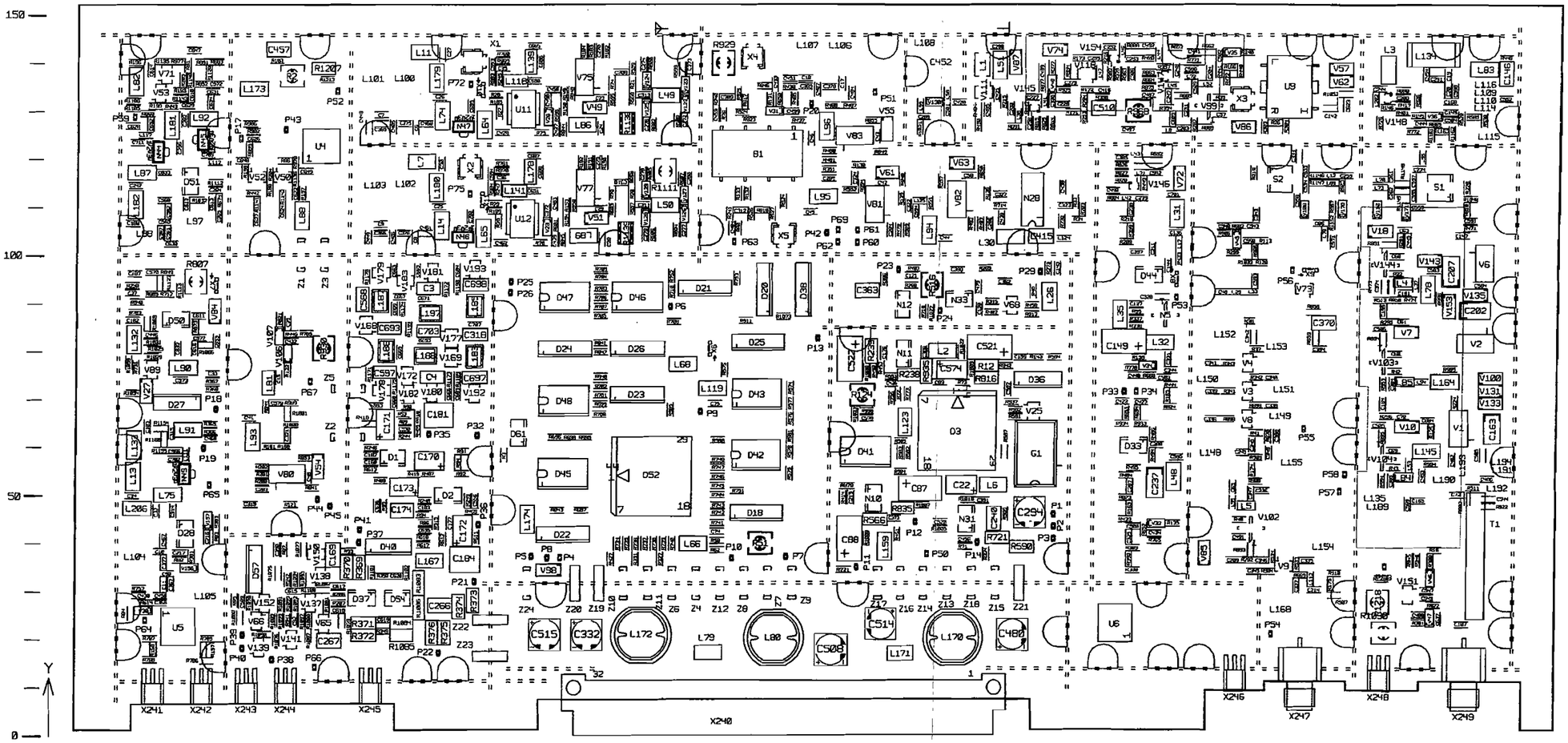
V_REFINT (21/12C)
R409 7.5K
V_DETOUT (19/12C)
R127 0
C516 100P N.F.
D8 DG419DY
R646 1K N.F.
C193 10P N.F.
DETOUT_ON (4/9B)
R764 10K
KLEMM_N (21/3D)
D15 DG413DY
R316 3.3K
OPU+15V
R543 47K
R50 7.5K
ALC_ON (4/10A)
C447 15N
R732 0
R271 100K
AMSLOW_ON (4/10B)
V73 BAS16
R914 511
C481 3.3N
C16 5.6P
N35 AD744KR
P56
X9
X9
R126 100
V_AMOD (17/8B)
C518 22P
R49 20.0K
R920 4.7K
D_AMOD (3/7C,3/8B)
C519 100P
R270 10K

+15VA
R461 100
C127 220N
N35 AD744KR
R460 100
C126 220N
-5V5A

08.13

AEND. IND.
AEND MITTE

BEHALTEN WIR UNS ALLE RECHTE VOR



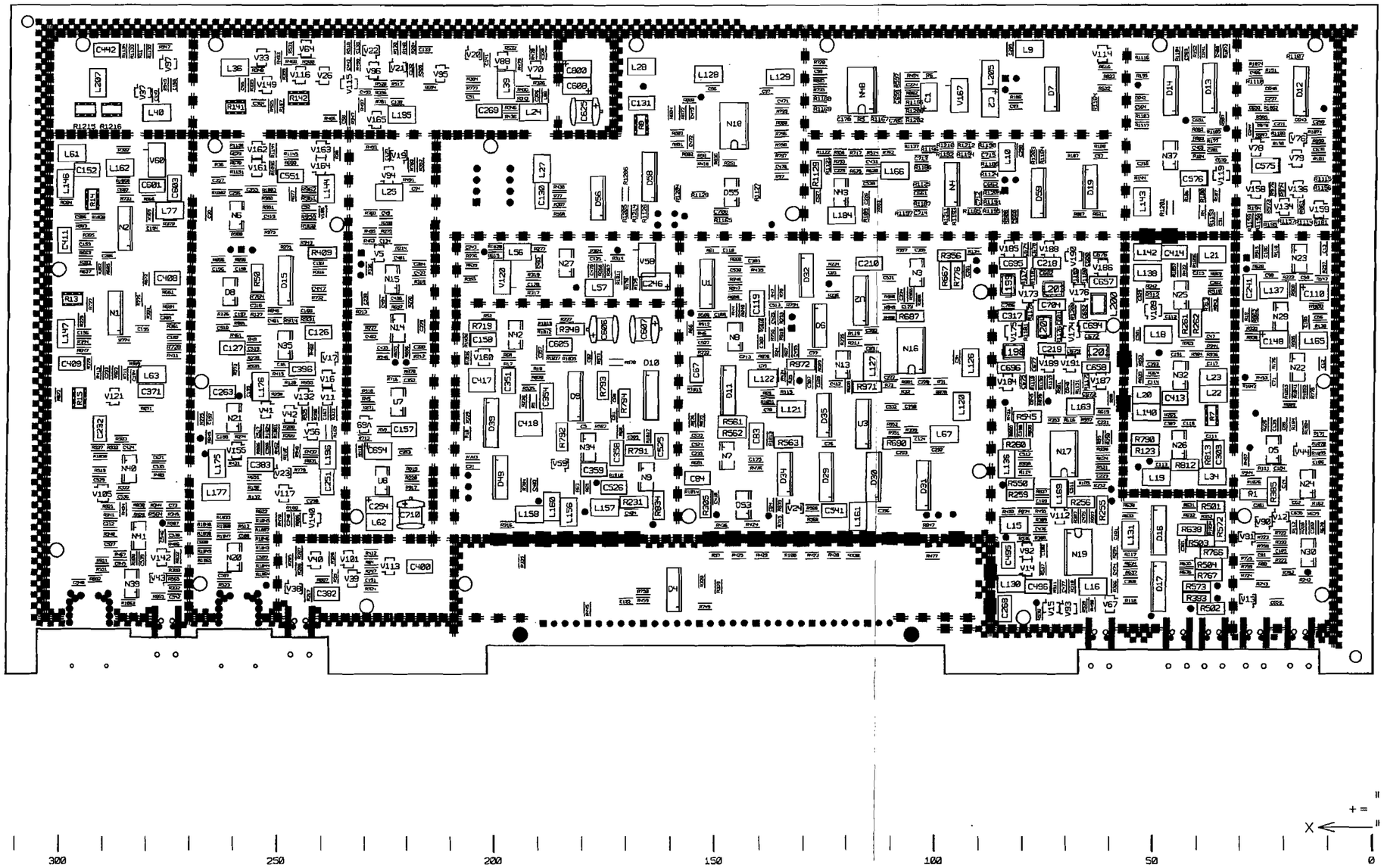
DARSTELLUNG SEITE B
VIEW ON SIDE B

ACHTUNG: EGB!
BAUELEMENTE UND BAUGRUPPEN SIND IN ANTISTATIK-VERPACKUNG ZU VERSENDEN UND ZU LAGERN.
ATTENTION ESD!
ELECTROSTATIC SENSITIVE DEVICES
SHIPPING AND STORAGE IN ANTISTATIC PACKING MATERIAL.

BINDENDE ANGABEN ÜBER VARIANTEN, TRIMMUNG, BAUELEMENTE UND NICHT BESTÜCKTE BAUTEILE SIEHE SA.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NONFITTED COMPONENTS SEE PARTS LIST.

00.01				IGPK	DATUM	NAME	BENENNUNG
				BEARB.		HO	IQ-MODULATOR
				GEPR.		HO	IQ-MODULATOR
				NORM			
				PLOTT	88-11-17	HOFBERGE	
							ZEICHN.-NR. 1084.9800.01 D
							BLATT-NR. 1+
AEND.-IND.	ÄNDERUNGS-/LETTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			REG.:V. 1084.6004 ERSTE Z. 1084.6004
				ZU GERÄT SMIQ			



DARSTELLUNG SEITE A
VIEW ON SIDE A

ACHTUNG: ESDI
ELECTROSTATISCH GEFÄHRDETE BAUELEMENTE, BAUGRUPPEN UND SCHALTUNGEN VORHANDEN.
ATTENTION ESDI
ELECTROSTATIC SENSITIVE DEVICES, MODULES & CIRCUITS INSIDE.

BINDENDE ANGABEN LIEGEN VARIANTEN, THERMISCHE, BAUTEILWERTE UND NICHT BESTÜCKTE BAUTEILE SIEHE SA.

FOR BINDING INFORMATION ON MODELS, TRIMMING AND COMPONENTS VALUES AND NOT FITTED COMPONENTS SEE PARTS LIST.

GEÄN				1QPK	DATUM	NAME	BENENNUNG
				BEARB		HO	IQ-MODULATOR
				GEPR.		HO	IQ-MODULATOR
				NORM			
				PLOTT	88-11-17	HOFBERGE	
							ZEICHN.-NR.
							1084.9800.01 D
ÄNR/ IND.	ÄNDERUNGS-MITTEILUNG	DATUM	NAME	ROHDE&SCHWARZ			BLATT-NR. 2 V. BL.
				ZI GEPRÜFT SM10			REF.-U. 1084.8004 ERSTE-Z. 1084.8004