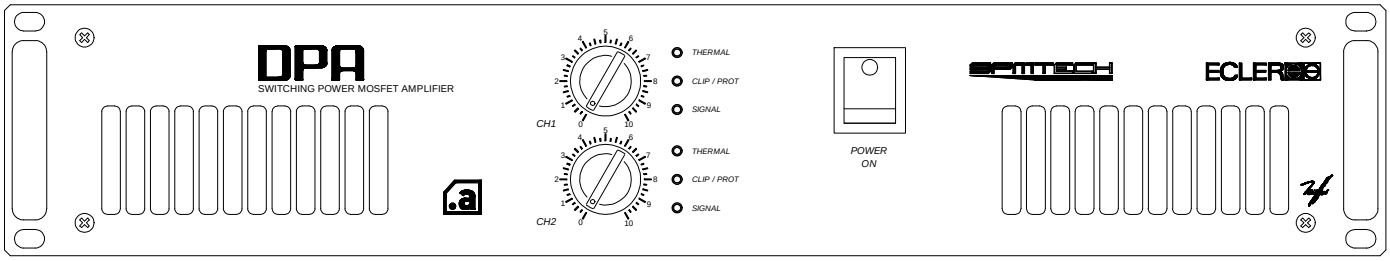
DPA600 DPA1000
DPA1400 DPA2000

SERVICE MANUAL

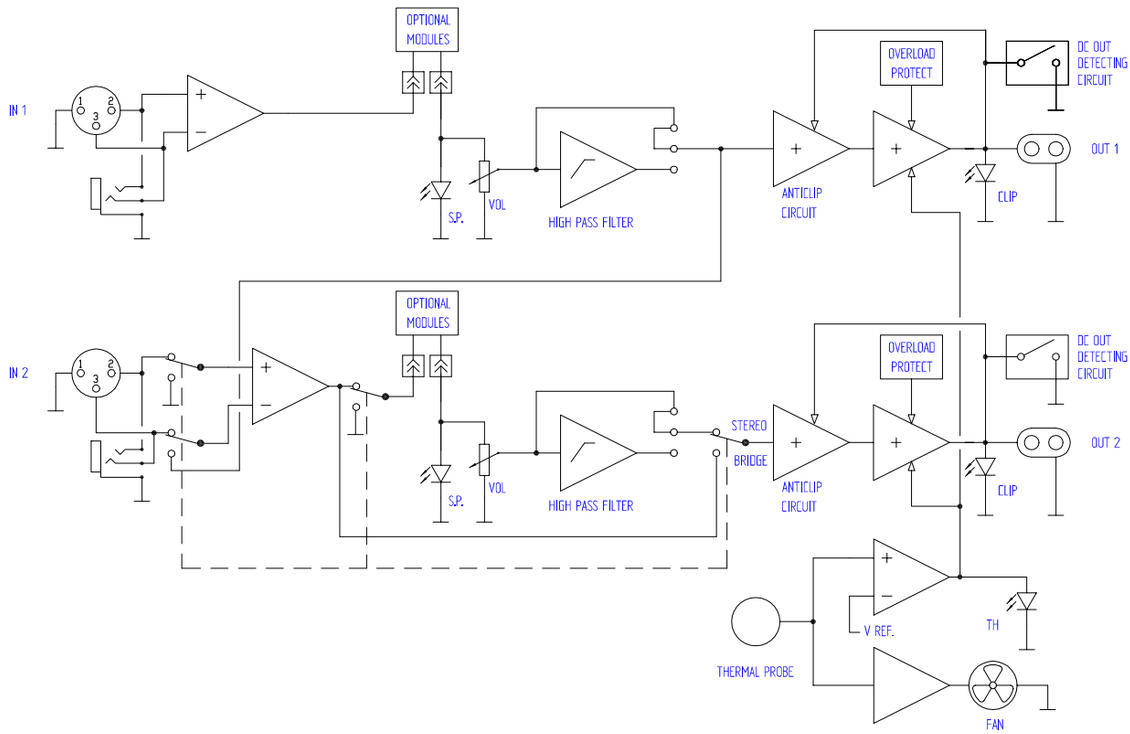


ECLER

AUDIO CREATIVE POWER

SERVICE MANUAL DPA

INDEX



ECLER	drawn: J. Colomines	date: 050615	project: EP03/04/05-04	product: DPA600/1000/1400
number: 10.0697 version 01.01	approved:	title: BLOCK DIAGRAM		

The amplifying stage basic structure is actually the one commonly used until now, this is, a push-pull mounted A-B class amplifier, using P-type (IRFP9240) and N-type (IRFP240) mosfets.

The system's controlling core is a NE5534 OpAmp, which is internally compensated in order to obtain an amplifying gain ratio equal or greater than 3. The amplifier's feedback runs through a resistor and a capacitor associated to the OpAmp's non-inverting input.

Transistors BF471 and BF472 are common-base configured, becoming actually a current source structure. They accomplish a dual function: on one hand, they polarise the mosfet's gate-source junction, keeping them on their conduction knee. On the other hand, they carry out the OpAmp's output voltage variations, referred to signal ground.

The polarisation current adjustment is fixed by a 2k5 trimming potentiometer connected to the BF transistors base. This current is added to the current source's output, which passes through the BF-transistors load resistors. The bias current stability against temperature is fixed through the BD437 transistors. Their temperature- dependent base-emitter voltage curve is used to alter adequately the current source's reference voltage. As a consequence, if the temperature rises, the reference voltage decreases, thus the gate-source voltage also does, and finally the bias current also decreases.

The Zobel network, formed by a resistor-inductor-capacitor group, and which is located at the amplifier's output, intends to keep the amplifier's load impedance as constant as possible, no matter which load is connected to the stage's output, or which signal frequency is to be amplified, in order to prevent an inverted-phase feedback signal.

In order to avoid a DC offset on the output signal, a diac-triac tandem system is used, which shorts the output to signal ground when the DC level is enough to get the diac triggered. To prevent this from happening while carrying audio signal (sine-wave, music), the diac's reference voltage is taken from a filter formed by resistor R149 and capacitor C124.

The protection circuitry supervises at any time the power consumed by the MOSFETS. The circuitry basically consists on two sections: MOSFET's drain current (Id) monitoring and drain-source voltage (Vds) monitoring.

When the drain current exceeds a certain limiting value, a transistor (called control-transistor) becomes conducting, together with an auxiliary circuitry (helper), formed by a transistor (which is the same type as the control-transistor) and a 8'2V Zener diode. This value determines the point where the auxillary circuitry starts to run. The helper-transistor's base-emitter junction curve is used to obtain a non-linear variation on the MOSFETS gate-source voltage control, and thus on their drain current.

Moreover, as the helper-transistor's base-emitter current is temperature-dependent, the controlling circuitry (basically the control-transistor) compensates the safe operation area (SOA) drift due to temperature.

If the MOSFET's drain-source voltage (Vds) drops too low, a second circuitry actuates to alter the control-transistor's triggering level, obtaining a SOA-like curve section and a current stage, which can be adjusted adequately in order to maintain the MOSFET's power consumption as close as possible to its SOA.

Moreover, the amplifier also includes an ANTICLIP system.
When the amplifier reaches its clipping level, the OpAmp becomes unable to keep the system under control, and as a consequence ±V peaks appear at its output (15V power supply). These peaks are used to be rectified and sent to an optocupler (led-resistor), which modifies its impedance as a function of those peaks' amplitude. The resulting impedance is part of a voltage divider, together with the amplifier's input impedance. So, as the optocoupler increases its impedance, the amplifier's input signal level decreases until the system becomes stable.

Also a dual-function temperature control circuitry is provided:

- Temperature-depending control of the cooling fan speed, whose voltage supply is variable between 7 and 14 Vac.

- Amplifier shutdown when temperature exceeds approximately 90ºC.
The circuitry is formed by LM35D-type IC, which acts like a thermal probe, an amplifier, thermal probe level comparator and a 7805-type voltage regulator.

The amplifier is responsible for the cooling fan speed control. The comparator triggers a relay, which cuts off the MOSFETs' bias current by shunting a 22Ω resistance to the BF-type transistors' load resistors. This way, the output signal of the amplifier is effectively cutted off.

The STAND-BY circuit.
This circuit keeps the safety relay closed for about 10 seconds, thus the MOSFET's bias current is cutted off during this period, until the whole system reaches again a voltage-stable situation. Due to this, hearing annoying transients and noises during start up through the loudspeakers is avoided. This delay is obtained by a RC-cell, where R=287K, and C=47µF/50V. During start up, this RC-cell's voltage smoothly rises until the 40106-type Trigger-Schmitt trigging level is reached, and the amplifier starts functioning. C=47µF resets or discharges when the unit is turned off. During a short period of time, a BC817-type transistor acts like a switch, connecting two 75Ω parallel resistors to C=47µ/50V.

The amplifying stage basic structure is actually the one commonly used until now, this is, a push-pull mounted A-B class amplifier, using P-type (IRFP9240) and N-type (IRFP240) mosfets.

The system's controlling core is a NE5534 OpAmp, which is internally compensated in order to obtain an amplifying gain ratio equal or greater than 3. The amplifier's feedback runs through a resistor and a capacitor associated to the OpAmp's non-inverting input.

Transistors BF871 and BF872 are common-base configured, becoming actually a current source structure. They accomplish a dual function: on one hand, they polarise the mosfet's gate-source junction, keeping them on their conduction knee. On the other hand, they carry out the OpAmp's output voltage variations, referred to signal ground.

The polarisation current adjustment is fixed by a 2k5 trimming potentiometer connected to the BF transistors base. This current is added to the current source's output, which passes through the BF-transistors load resistors. The bias current stability against temperature is fixed through the BD437 transistors. Their temperature- dependent base-emitter voltage curve is used to alter adequately the current source's reference voltage. As a consequence, if the temperature rises, the reference voltage decreases, thus the gate-source voltage also does, and finally the bias current also decreases.

The Zobel network, formed by a resistor-inductor-capacitor group, and which is located at the amplifier's output, intends to keep the amplifier's load impedance as constant as possible, no matter which load is connected to the stage's output, or which signal frequency is to be amplified, in order to prevent an inverted-phase feedback signal.

In order to avoid a DC offset on the output signal, a diac-triac tandem system is used, which shorts the output to signal ground when the DC level is enough to get the diac triggered. To prevent this from happening while carrying audio signal (sine-wave, music), the diac's reference voltage is taken from a filter formed by resistor R149 and capacitor C124.

The protection circuitry supervises at any time the power consumed by the MOSFETS. The circuitry basically consists on two sections: MOSFET's drain current (Id) monitoring and drain-source voltage (Vds) monitoring.

When the drain current exceeds a certain limiting value, a transistor (called control-transistor) becomes conducting, together with an auxiliary circuitry (helper), formed by a transistor (which is the same type as the control-transistor) and a 8'2V Zener diode. This value determines the point where the auxillary circuitry starts to run. The helper-transistor's base-emitter junction curve is used to obtain a non-linear variation on the MOSFETS gate-source voltage control, and thus on their drain current.

Moreover, as the helper-transistor's base-emitter current is temperature-dependent, the controlling circuitry (basically the control-transistor) compensates the safe operation area (SOA) drift due to temperature.

If the MOSFET's drain-source voltage (Vds) drops too low, a second circuitry actuates to alter the control-transistor's triggering level, obtaining a SOA-like curve section and a current stage, which can be adjusted adequately in order to maintain the MOSFET's power consumption as close as possible to its SOA.

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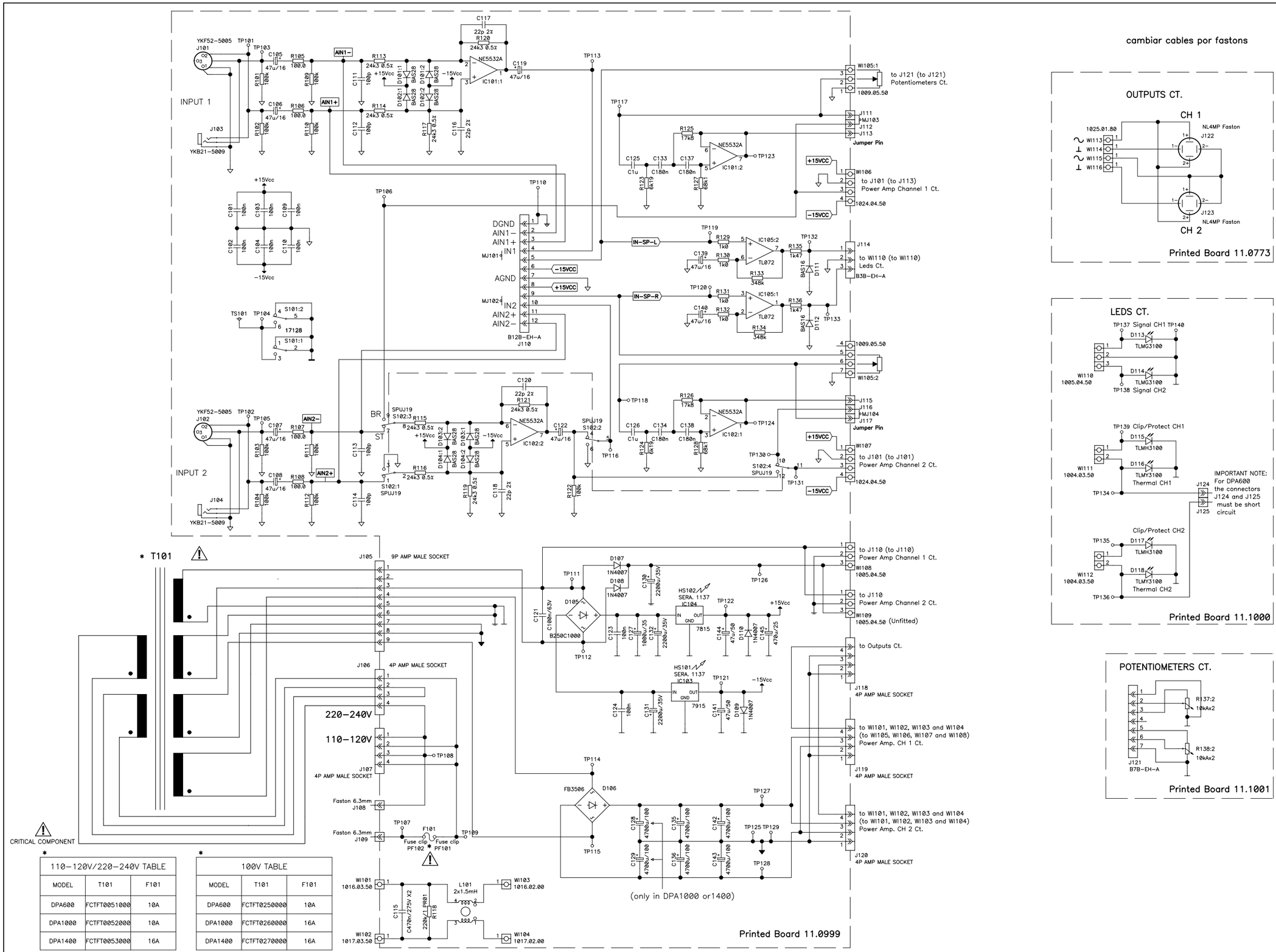


110−120V/220−240V TABLE		
MODEL	T101	F101
DPA600	FCTFT0051000	10A
DPA1000	FCTFT0052000	10A
DPA1400	FCTFT0053000	16A

100V TABLE		
MODEL	T101	F101
DPA600	FCTFT0250000	10A
DPA1000	FCTFT0260000	16A
DPA1400	FCTFT0270000	16A

cambiar cables por fastons

All links indicated are for APA1400 Pro or APA1000 Pro.
In brackets for APA600 Pro.

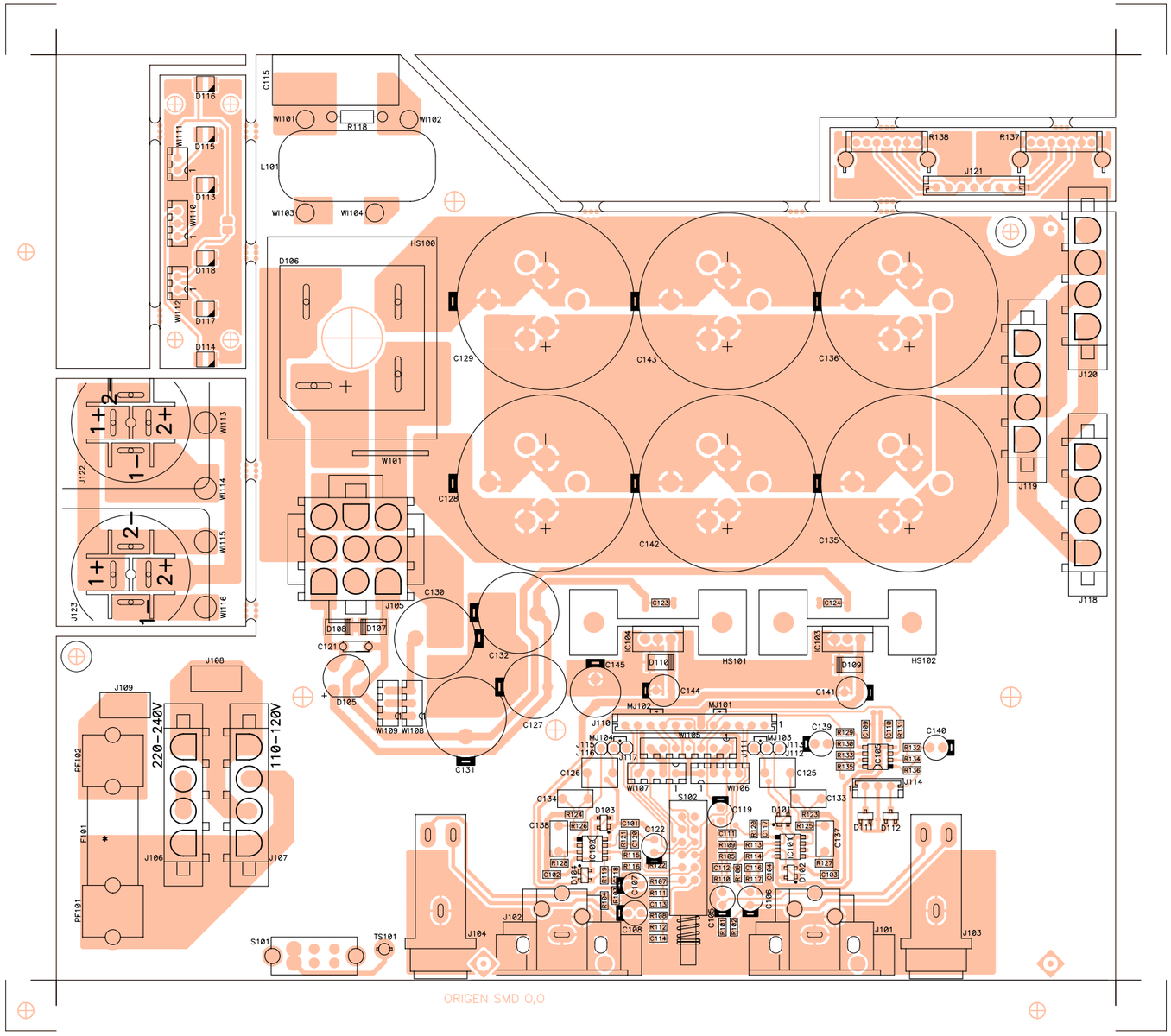
Printed Board 11.1002

ECLER LABORATORIO DE ELECTRO−ACUSTICA S.A.	drawn by: M. Amoros	date: 050329	approved: Angel Sanuy
	project n: EP03/4/5−04	title: Inputs+Power Supply Sch	
	product n: DPA6/10/1400		
number: 10.0674	version: 01.05	page: 1 of 1	

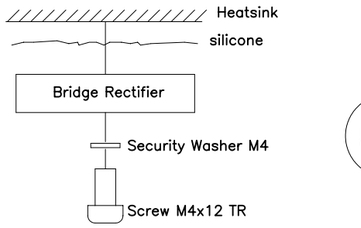
ECLER
LABORATORIO DE ELECTRO-ACUSTICA S.A.

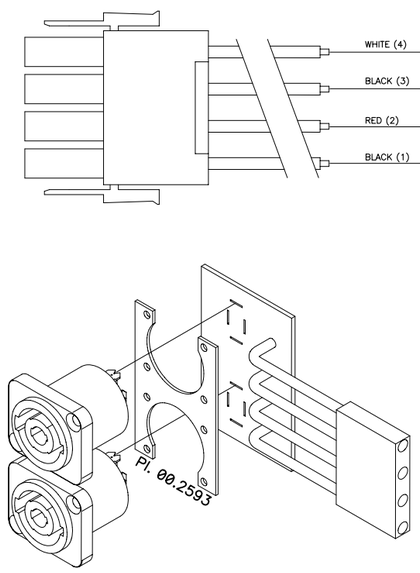
drawn by: M. Amoros	date: 050330	approved: Angel Sanuy	
project n: EP03-99B	title:		
product n: APA600	Power Amp. Sch.		
number: 10.0498	version: 01.03	page: 1 of 1	

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 000316	approved by: Angel Sanuy
	title: EP03-99B Power Amp. Ct.		
number: 10.0498 — version: 01.02			

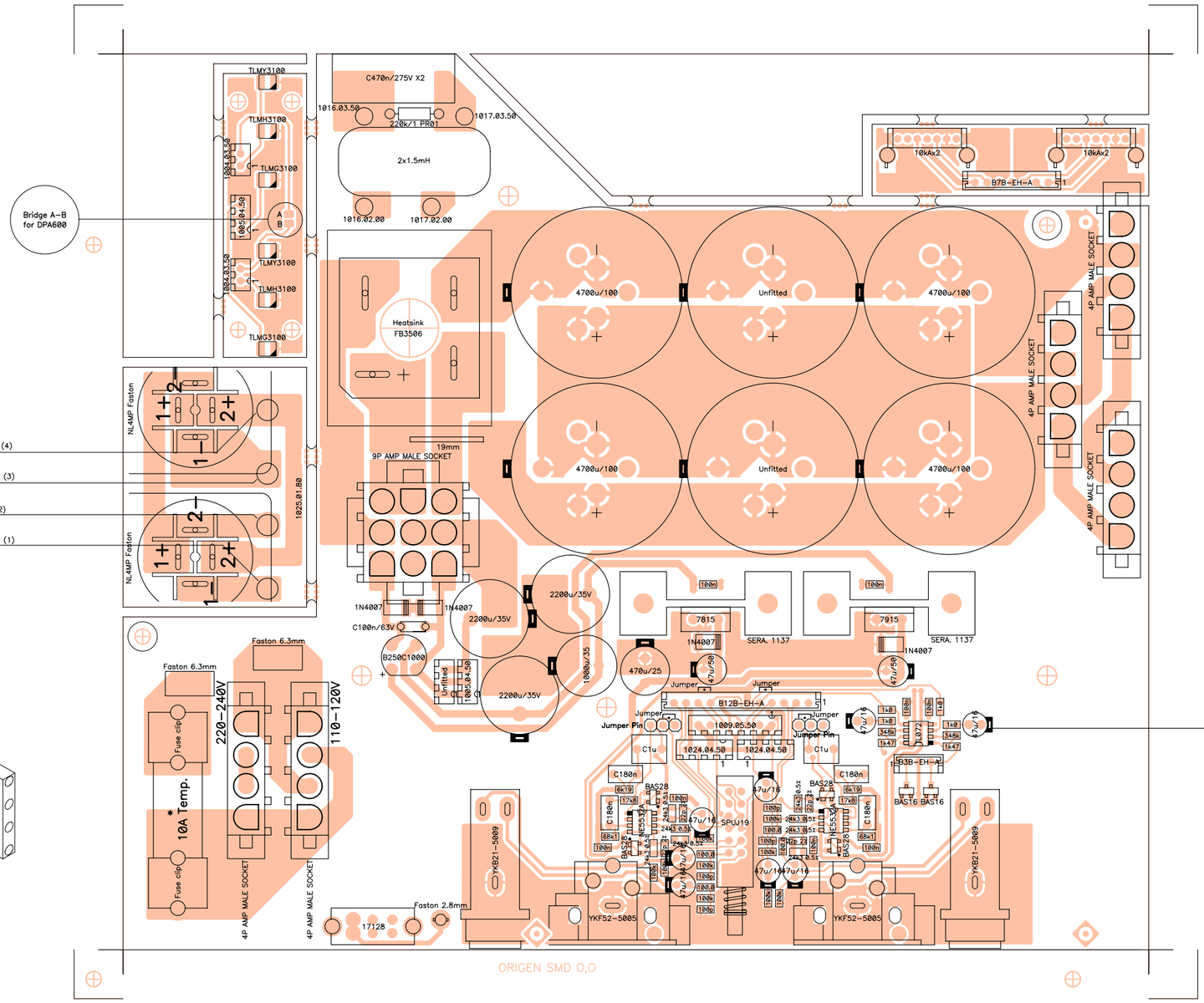


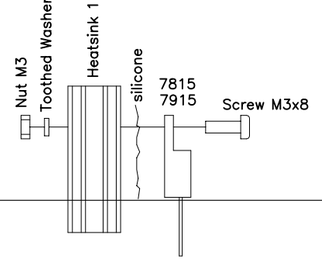
ECLER ee LABORATORIO DE ELECTRO−ACUSTICA S.A.	related to: circuit no: 11.1002−05.01 schema no: 10.0674−01.05 insertion file no: 81.0090−01.00	side: Component view: Reference	
number: 33.0924	version: 01.01	project n: EP03−04	title: Inputs−Power Supply Ct
drawn by: M. Amoros	date: 050329	product n: DPA600 approved: Angel Sanuy	





Detail assembly Speak–on





* 110–120V/220–240V TABLE

MODEL	F101
DPA600	10A

* 100V TABLE

MODEL	F101
DPA600	10A

IMPORTANT NOTE: Apply Clear Silicone Sealant among the 4700u/100V electrolitic capacitors

ECLER LABORATORIO DE ELECTRO–ACUSTICA S.A.		related to: circuit no: 11.1002–05.01 schema no: 10.0674–01.05 insertion file no: 81.0090–01.00	side: Component view: Value
number: 33.0925	version: 01.01	project n: EP03–04	title: Inputs–Power Supply Ct
drawn by: M. Amoros	date: 050329	product n: DPA600	
		approved: Angel Sanuy	

PARTS LIST: PRINTED CIRCUIT 11.1002.05.01

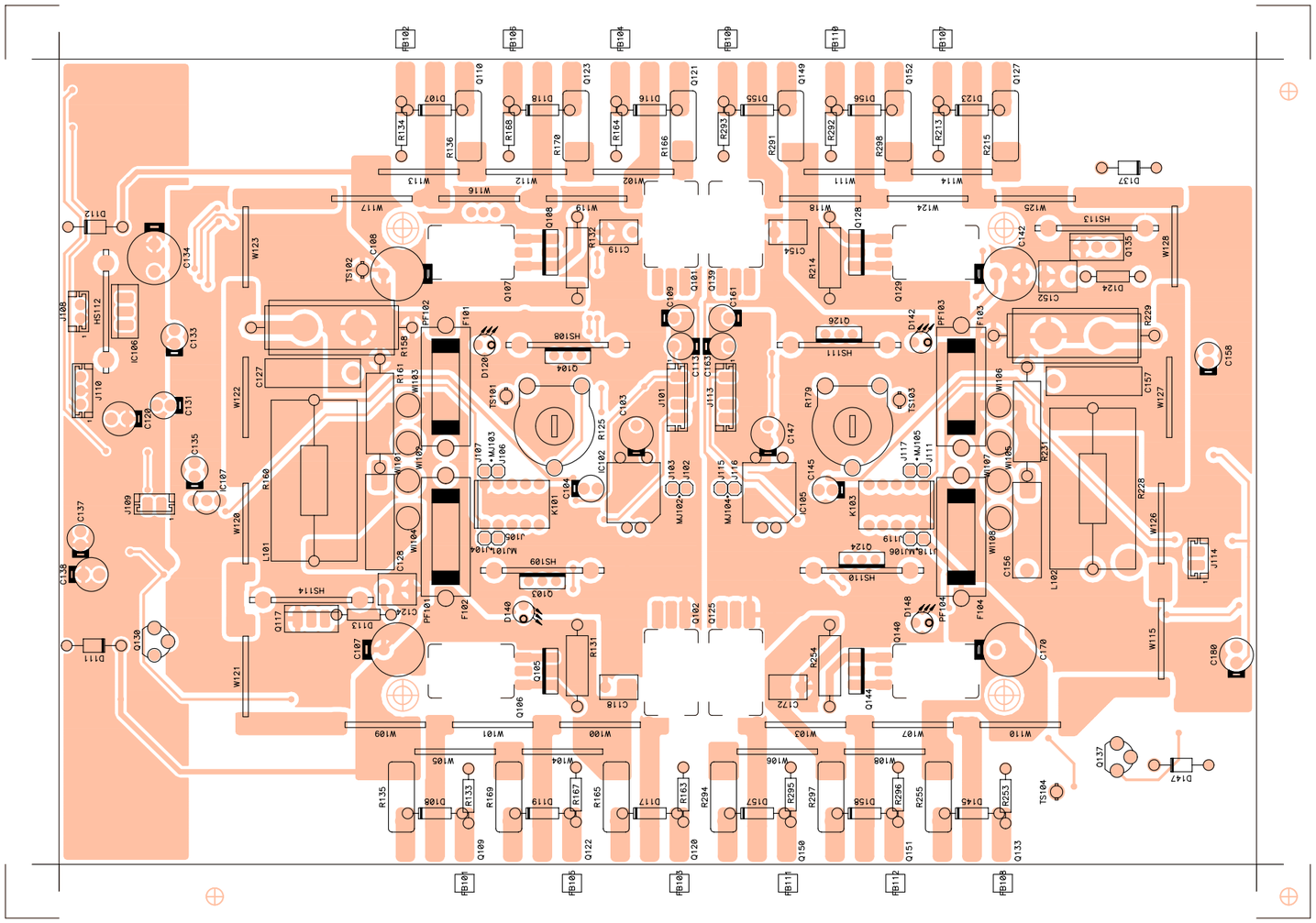
Code	Description	Reference
FCXCD4100000	100n	C101
FCXCD4100000	100n	C102
FCXCD4100000	100n	C103
FCXCD4100000	100n	C104
FCCE10000000	47u/16	C105
FCCE10000000	47u/16	C106
FCCE10000000	47u/16	C107
FCCE10000000	47u/16	C108
FCXCD4100000	100n	C109
FCXCD4100000	100n	C110
FCXCD2100000	100p	C111
FCXCD2100000	100p	C112
FCXCD2100000	100p	C113
FCXCD2100000	100p	C114
FCCDH7147000	C470n/275V X2	C115
FCXCD1220100	22p 2%	C116
FCXCD1220100	22p 2%	C117
FCXCD1220100	22p 2%	C118
FCCE10000000	47u/16	C119
FCXCD1220100	22p 2%	C120
FCCDK1100000	C100n/63V	C121
FCCE10000000	47u/16	C122
FCXCD4100000	100n	C123
FCXCD4100000	100n	C124
FCCDK2001000	C1u	C125
FCCDK2001000	C1u	C126
FCCE21100000	1000u/35	C127
FCCE33152500	4700u/100	C128
FCCE33152500	4700u/100	C129
FCCE21220000	2200u/35V	C130
FCCE21220000	2200u/35V	C131
FCCE21220000	2200u/35V	C132
FCCDK5180000	C180n	C133
FCCDK5180000	C180n	C134
FCCE33152500	4700u/100	C135
FCCE33152500	4700u/100	C136
FCCDK5180000	C180n	C137
FCCDK5180000	C180n	C138
FCCE10000000	47u/16	C139
FCCE10000000	47u/16	C140
FCCE25047000	47u/50	C141
FCCE25047000	47u/50	C144
FCCE15470000	470u/25	C145
FCCI01002000	Printed Board 11.1002	CI101
FCXDDBAS2800	BAS28	D101
FCXDDBAS2800	BAS28	D102
FCXDDBAS2800	BAS28	D103
FCXDDBAS2800	BAS28	D104
FCREC2510000	B250C1000	D105
FCREC3506000	FB3506	D106
FCXDD4007000	1N4007	D107
FCXDD4007000	1N4007	D108
FCXDD4007000	1N4007	D109
FCXDD4007000	1N4007	D110
FCXDDBAS1600	BAS16	D111
FCXDDBAS1600	BAS16	D112

PARTS LIST: PRINTED CIRCUIT 11.1002.05.01

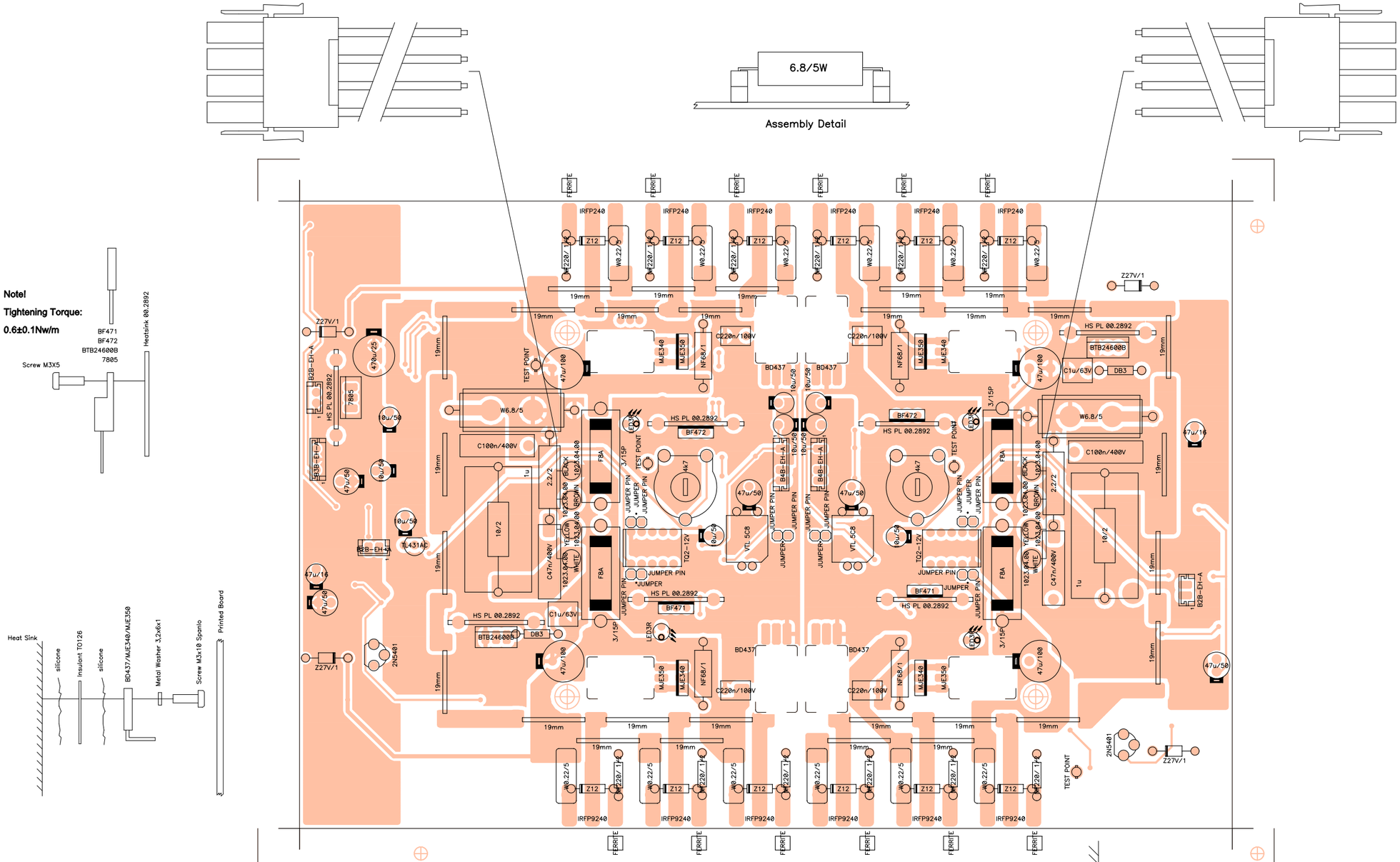
Code	Description	Reference
FCLEDSMD3000	TLMG3100	D113
FCLEDSMD3000	TLMG3100	D114
FCLEDSMD2000	TLMH3100	D115
FCLEDSMD2500	TLMY3100	D116
FCLEDSMD2000	TLMH3100	D117
FCLEDSMD2500	TLMY3100	D118
FCFUS8030000	10A Temp.	F101
FCRAD1151500	Heatsink	HS100
FCRAD1263600	SERA. 1137	HS101
FCRAD1263600	SERA. 1137	HS102
FCIC55322000	NE5532A	IC101
FCIC55322000	NE5532A	IC102
FCREG7915000	7915	IC103
FCREG7815000	7815	IC104
FCIC07201000	TL072	IC105
FCBASX090000	YKF52-5005	J101
FCBASX090000	YKF52-5005	J102
FCBASJ020000	YKB21-5009	J103
FCBASJ020000	YKB21-5009	J104
FCCTAMP09000	9P AMP MALE SOCKET	J105
FCCTAMP04000	4P AMP MALE SOCKET	J106
FCCTAMP04000	4P AMP MALE SOCKET	J107
FCTERMF63000	Faston 6.3mm	J108
FCTERMF63000	Faston 6.3mm	J109
FCCTM0012000	B12B-EH-A	J110
FCTERM010000	Jumper Pin	J111
FCTERM010000	Jumper Pin	J112
FCTERM010000	Jumper Pin	J113
FCCTM0003000	B3B-EH-A	J114
FCTERM010000	Jumper Pin	J115
FCTERM010000	Jumper Pin	J116
FCTERM010000	Jumper Pin	J117
FCCTAMP04000	4P AMP MALE SOCKET	J118
FCCTAMP04000	4P AMP MALE SOCKET	J119
FCCTAMP04000	4P AMP MALE SOCKET	J120
FCCTM0007000	B7B-EH-A	J121
FCBASS010000	NL4MP Faston	J122
FCBASS010000	NL4MP Faston	J123
FCBB2X350000	2x1.5mH	L101
FCMJ00010000	Jumper	MJ101
FCMJ00010000	Jumper	MJ102
FCMJ00010000	Jumper	MJ103
FCMJ00010000	Jumper	MJ104
FC0259300000	Speak-on support	MP100
FCTUE0030000	Nut M3	NV101
FCTUE0030000	Nut M3	NV102
FCPORF020000	Fuse clip	PF101
FCPORF020000	Fuse clip	PF102
FCXR55100000	100k	R101
FCXR55100000	100k	R102
FCXR55100000	100k	R103
FCXR55100000	100k	R104
FCXR52100000	100.0	R105
FCXR52100000	100.0	R106
FCXR52100000	100.0	R107
FCXR52100000	100.0	R108

PARTS LIST: PRINTED CIRCUIT 11.1002.05.01

Code	Description	Reference
FCXR55100000	100k	R109
FCXR55100000	100k	R110
FCXR55100000	100k	R111
FCXR55100000	100k	R112
FCXR64243000	24k3 0.5%	R113
FCXR64243000	24k3 0.5%	R114
FCXR64243000	24k3 0.5%	R115
FCXR64243000	24k3 0.5%	R116
FCXR64243000	24k3 0.5%	R117
FCRP46220000	220k/1 PR01	R118
FCXR64243000	24k3 0.5%	R119
FCXR64243000	24k3 0.5%	R120
FCXR64243000	24k3 0.5%	R121
FCXR55100000	100k	R122
FCXR53619000	6k19	R123
FCXR53619000	6k19	R124
FCXR54178000	17k8	R125
FCXR54178000	17k8	R126
FCXR54681000	68k1	R127
FCXR54681000	68k1	R128
FCXR53100000	1k0	R129
FCXR53100000	1k0	R130
FCXR53100000	1k0	R131
FCXR53100000	1k0	R132
FCXR55348000	348k	R133
FCXR55348000	348k	R134
FCXR53147000	1k47	R135
FCXR53147000	1k47	R136
FCPR21004000	10kAx2	R137
FCPR21004000	10kAx2	R138
FCINTD400000	17128	S101
FCINTAP01200	SPUJ19	S102
FCT750300800	Screw M3x8	SC101
FCT750300800	Screw M3x8	SC102
FCT380401200	Screw M4x12 TR	SC103
FCTERMF28000	Faston 2.8mm	TS101
FP0252400000	19mm	W101
FCARDE030000	Toothed Washer f/M3	WA101
FCARDE030000	Toothed Washer f/M3	WA102
FCARDE040000	Toothed Washer f/M4	WA103
FC2F01635000	1016.03.50	WI101
FC2F01735000	1017.03.50	WI102
FC2F01620000	1016.02.00	WI103
FC2F01720000	1017.02.00	WI104
FC4M00955000	1009.05.50	WI105
FC6J02445000	1024.04.50	WI106
FC6J02445000	1024.04.50	WI107
FC4I00545000	1005.04.50	WI108
FC4I00545000	1005.04.50	WI110
FC4G00435000	1004.03.50	WI111
FC4G00435000	1004.03.50	WI112
FC0H02518000	1025.01.80	WI113



ECLER ee LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0776-02.00 schema no: 10.0498-01.03 insertion file no: 81.0018-01.01	side: Component view: Reference	
number: 33.0425	version: 01.02	project n: EP03-99B	title: Power Amp Ct.
drawn by: M. Amoros	date: 050330	product n: APA600 approved: Angel Sanuy	



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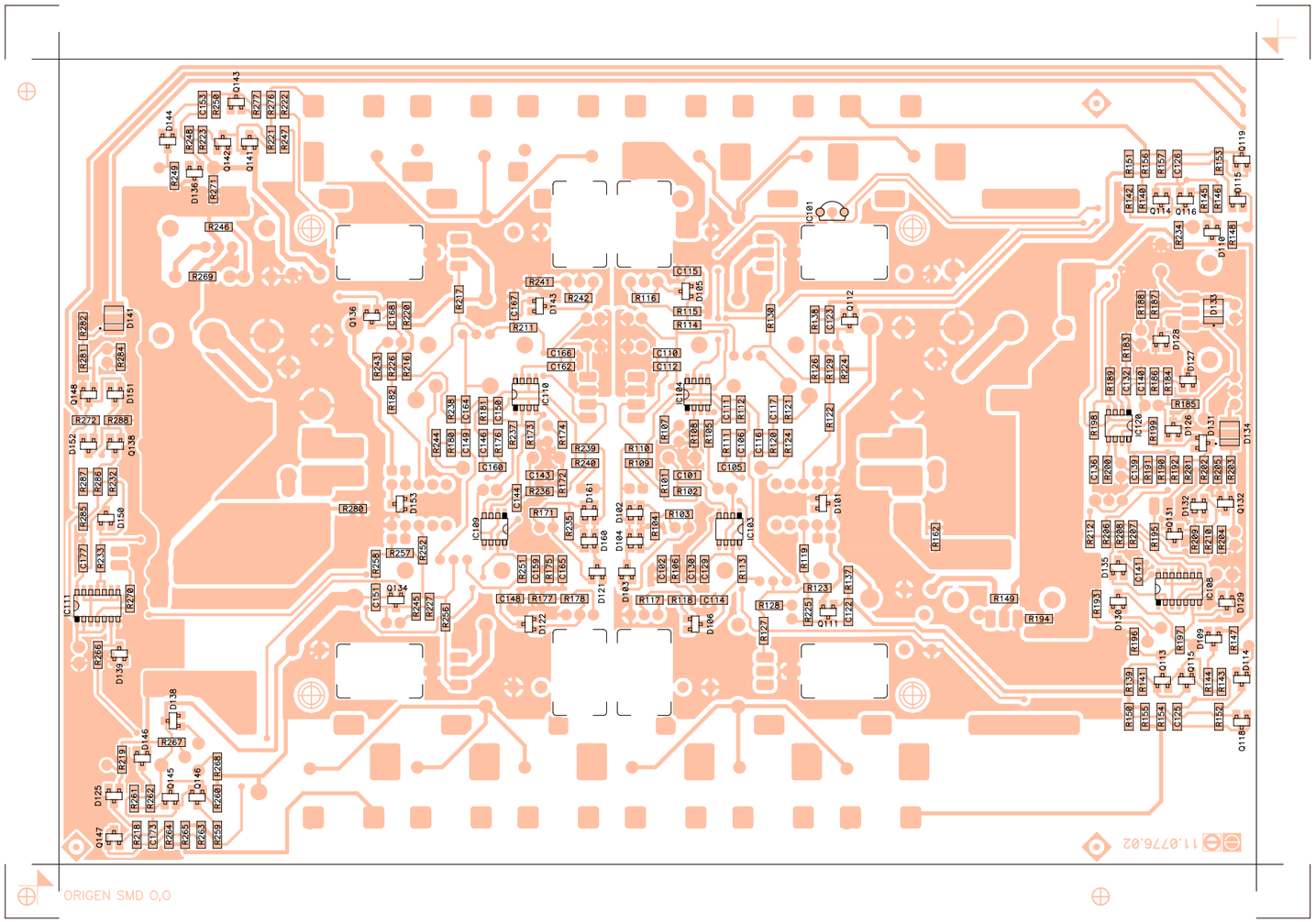
number: 33.0426	version: 01.02	project n: EP03-99B	title: Power Amp Ct.
drawn by: M. Amoros	date: 050330	product n: APA600 approved: Angel Sanuy	



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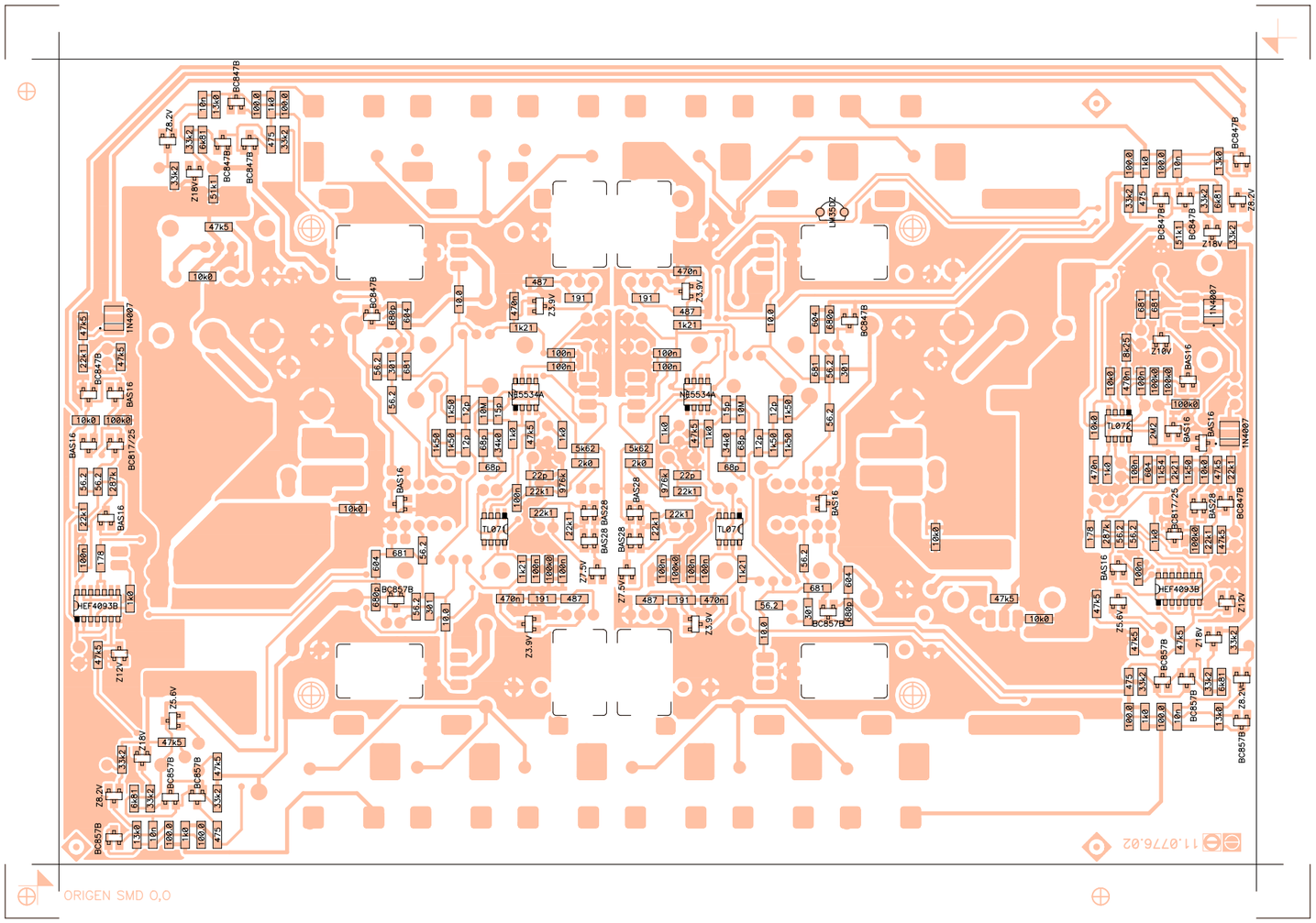
	project n: EP03-99B	title: Power Amp Ct.	
number: 33.0427 / version: 01.02	product n: APA600		
drawn by: M. Amoros / date: 050330	approved: Angel Sanuy		



ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0776-02.00 schema no: 10.0498-01.03 insertion file no: 81.0018-01.01	side: Solder view: Value	
number: 33.0428	version: 01.02	project n: EP03-99B	title: Power Amp Ct.
drawn by: M. Amoros	date: 050330	product n: APA600 approved: Angel Sanuy	

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

Code	Description	Reference
FCXCN1220000	22p	C101
FCXCN4100000	100n	C102
FCCE25047000	47u/50	C103
FCCE25010000	10u/50	C104
FCXCN1680000	68p	C105
FCXCN1680000	68p	C106
FCCE35047000	47u/100	C107
FCCE35047000	47u/100	C108
FCCE25010000	10u/50	C109
FCXCN4100000	100n	C110
FCXCN1150000	15p	C111
FCXCN4100000	100n	C112
FCCE25010000	10u/50	C113
FCXCN4470000	470n	C114
FCXCN4470000	470n	C115
FCXCN1120000	12p	C116
FCXCN1120000	12p	C117
FCCDK5220000	220n/100V	C118
FCCDK5220000	220n/100V	C119
FCCE25047000	47u/50	C120
FCXCN2680000	680p	C122
FCXCN2680000	680p	C123
FCCDK2001000	1u/63V	C124
FCXCN4010000	10n	C125
FCXCN4010000	10n	C126
FCCDH7110000	100n/400V	C127
FCCDH7104700	47n/400V	C128
FCXCN4100000	100n	C129
FCXCN4100000	100n	C130
FCCE25010000	10u/50	C131
FCXCN4470000	470n	C132
FCCE25010000	10u/50	C133
FCCE15470000	470u/25	C134
FCCE25010000	10u/50	C135
FCXCN4470000	470n	C136
FCCE10000000	47u/16	C137
FCCE25047000	47u/50	C138
FCXCN4100000	100n	C139
FCXCN4100000	100n	C140
FCXCN4100000	100n	C141
FCCE35047000	47u/100	C142
FCXCN1220000	22p	C143
FCXCN4100000	100n	C144
FCCE25010000	10u/50	C145
FCXCN1680000	68p	C146
FCCE25047000	47u/50	C147
FCXCN4470000	470n	C148
FCXCN1120000	12p	C149
FCXCN1150000	15p	C150
FCXCN2680000	680p	C151
FCCDK2001000	1u/63V	C152
FCXCN4010000	10n	C153
FCCDK5220000	220n/100V	C154
FCCDH7104700	47n/400V	C156
FCCDH7110000	100n/400V	C157
FCCE10000000	47u/16	C158

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

Code	Description	Reference
FCXCN4100000	100n	C159
FCXCN1680000	68p	C160
FCCE25010000	10u/50	C161
FCXCN4100000	100n	C162
FCCE25010000	10u/50	C163
FCXCN1120000	12p	C164
FCXCN4100000	100n	C165
FCXCN4100000	100n	C166
FCXCN4470000	470n	C167
FCXCN2680000	680p	C168
FCCE35047000	47u/100	C170
FCCDK5220000	220n/100V	C172
FCXCN4010000	10n	C173
FCXCN4100000	100n	C177
FCCE25047000	47u/50	C180
FCXDDBAS1600	BAS16	D101
FCXDDBAS2800	BAS28	D102
FCXZ00007500	Z7.5V	D103
FCXDDBAS2800	BAS28	D104
FCXZ00003900	Z3.9V	D105
FCXZ00003900	Z3.9V	D106
FCDD04120000	Z12	D107
FCDD04120000	Z12	D108
FCXZ00018000	Z18V	D109
FCXZ00018000	Z18V	D110
FCDD10270000	Z27V/1	D111
FCDD10270000	Z27V/1	D112
FCDIDB300000	DB3	D113
FCXZ00008200	Z8.2V	D114
FCXZ00008200	Z8.2V	D115
FCDD04120000	Z12	D116
FCDD04120000	Z12	D117
FCDD04120000	Z12	D118
FCDD04120000	Z12	D119
FCLED300RO00	LED3R	D120
FCXZ00007500	Z7.5V	D121
FCXZ00003900	Z3.9V	D122
FCDD04120000	Z12	D123
FCDIDB300000	DB3	D124
FCXZ00008200	Z8.2V	D125
FCXDDBAS1600	BAS16	D126
FCXDDBAS1600	BAS16	D127
FCXZ00010000	Z10V	D128
FCXZ00012000	Z12V	D129
FCXZ00005600	Z5.6V	D130
FCXDDBAS1600	BAS16	D131
FCXDDBAS2800	BAS28	D132
FCXDD4007000	1N4007	D133
FCXDD4007000	1N4007	D134
FCXDDBAS1600	BAS16	D135
FCXZ00018000	Z18V	D136
FCDD10270000	Z27V/1	D137
FCXZ00005600	Z5.6V	D138
FCXZ00012000	Z12V	D139
FCLED300RO00	LED3R	D140
FCXDD4007000	1N4007	D141

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

Code	Description	Reference
FCLED300RO00	LED3R	D142
FCXZ00003900	Z3.9V	D143
FCXZ00008200	Z8.2V	D144
FCDD04120000	Z12	D145
FCXZ00018000	Z18V	D146
FCDD10270000	Z27V/1	D147
FCLED300RO00	LED3R	D148
FCXDDBAS1600	BAS16	D150
FCXDDBAS1600	BAS16	D151
FCXDDBAS1600	BAS16	D152
FCXDDBAS1600	BAS16	D153
FCDD04120000	Z12	D155
FCDD04120000	Z12	D156
FCDD04120000	Z12	D157
FCDD04120000	Z12	D158
FCXDDBAS2800	BAS28	D160
FCXDDBAS2800	BAS28	D161
FCFUS5035000	F8A	F101
FCFUS5035000	F8A	F102
FCFUS5035000	F8A	F103
FCFUS5035000	F8A	F104
FCFER4322000	FERRITE	FB101
FCFER4322000	FERRITE	FB102
FCFER4322000	FERRITE	FB103
FCFER4322000	FERRITE	FB104
FCFER4322000	FERRITE	FB105
FCFER4322000	FERRITE	FB106
FCFER4322000	FERRITE	FB107
FCFER4322000	FERRITE	FB108
FCFER4322000	FERRITE	FB109
FCFER4322000	FERRITE	FB110
FCFER4322000	FERRITE	FB111
FCFER4322000	FERRITE	FB112
FP0289200000	HS PL 00.2892	HS100
FP0289200000	HS PL 00.2892	HS101
FP0289200000	HS PL 00.2892	HS102
FCRAD1381000	HEAT SINK MODULE	HS103
FP0289200000	HS PL 00.2892	HS104
FP0289200000	HS PL 00.2892	HS105
FP0289200000	HS PL 00.2892	HS106
FP0289200000	HS PL 00.2892	HS107
FCIC35000000	LM35DZ	IC101
FCOPTVTL5000	VTL 5C8	IC102
FCIC07101000	TL071	IC103
FCIC55341000	NE5534A	IC104
FCOPTVTL5000	VTL 5C8	IC105
FCREG7805000	7805	IC106
FCIC43100000	TL431AC	IC107
FCIC40930100	HEF4093B	IC108
FCIC07101000	TL071	IC109
FCIC55341000	NE5534A	IC110
FCIC40930100	HEF4093B	IC111
FCIC07201000	TL072	IC120
FCMICTO12600	INSULATING TO126	IN100
FCMICTO12600	INSULATING TO126	IN101
FCMICTO12600	INSULATING TO126	IN102

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

Code	Description	Reference
FCMICTO12600	INSULATING TO126	IN103
FCMICTO12600	INSULATING TO126	IN104
FCMICTO12600	INSULATING TO126	IN105
FCMICTO12600	INSULATING TO126	IN106
FCMICTO12600	INSULATING TO126	IN107
FCCTM0004000	B4B-EH-A	J101
FCTERM010000	JUMPER	J102
FCTERM010000	JUMPER	J103
FCTERM010000	JUMPER	J104
FCTERM010000	JUMPER	J105
FCTERM010000	JUMPER	J106
FCTERM010000	JUMPER	J107
FCCTM0002000	B2B-EH-A	J108
FCCTM0002000	B2B-EH-A	J109
FCCTM0003000	B3B-EH-A	J110
FCTERM010000	JUMPER	J111
FCCTM0004000	B4B-EH-A	J113
FCCTM0002000	B2B-EH-A	J114
FCTERM010000	JUMPER	J115
FCTERM010000	JUMPER	J116
FCTERM010000	JUMPER	J117
FCTERM010000	JUMPER	J118
FCTERM010000	JUMPER	J119
FCREL0030000	TQ2-12V	K101
FCREL0030000	TQ2-12V	K103
FCIND0010000	1uH	L101
FCIND0010000	1uH	L102
FCMJ00010000	JUMPER	MJ101
FCMJ00010000	JUMPER	MJ102
FCMJ00010000	JUMPER	MJ103
FCMJ00010000	JUMPER	MJ104
FCMJ00010000	JUMPER	MJ105
FCMJ00010000	JUMPER	MJ106
FCPINZAM0000	CLAMP	MP100
FCPINZAM0000	CLAMP	MP101
FCTIRKON0000	SARCON	MP102
FCTIRKON0000	SARCON	MP103
FCPORF315000	3/15P	PF101
FCPORF315000	3/15P	PF102
FCPORF315000	3/15P	PF103
FCPORF315000	3/15P	PF104
FCTR43700000	BD437	Q101
FCTR43700000	BD437	Q102
FCTR47100000	BF471	Q103
FCTR47200000	BF472	Q104
FCTR34000000	MJE340	Q105
FCTR35000000	MJE350	Q106
FCTR34000000	MJE340	Q107
FCTR35000000	MJE350	Q108
FCTR24300000	IRFP9240	Q109
FCTR24000000	IRFP240	Q110
FCXTT0857000	BC857B	Q111
FCXTT0847000	BC847B	Q112
FCXTT0857000	BC857B	Q113
FCXTT0847000	BC847B	Q114
FCXTT0857000	BC857B	Q115

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

Code	Description	Reference
FCXTT0847000	BC847B	Q116
FCTI24600000	BTB24600B	Q117
FCXTT0857000	BC857B	Q118
FCXTT0847000	BC847B	Q119
FCTR24300000	IRFP9240	Q120
FCTR24000000	IRFP240	Q121
FCTR24300000	IRFP9240	Q122
FCTR24000000	IRFP240	Q123
FCTR47100000	BF471	Q124
FCTR43700000	BD437	Q125
FCTR47200000	BF472	Q126
FCTR24000000	IRFP240	Q127
FCTR35000000	MJE350	Q128
FCTR34000000	MJE340	Q129
FCTR25401000	2N5401	Q130
FCXTT0817000	BC817/25	Q131
FCXTT0847000	BC847B	Q132
FCTR24300000	IRFP9240	Q133
FCXTT0857000	BC857B	Q134
FCTI24600000	BTB24600B	Q135
FCXTT0847000	BC847B	Q136
FCTR25401000	2N5401	Q137
FCXTT0817000	BC817/25	Q138
FCTR43700000	BD437	Q139
FCTR35000000	MJE350	Q140
FCXTT0847000	BC847B	Q141
FCXTT0847000	BC847B	Q142
FCXTT0847000	BC847B	Q143
FCTR34000000	MJE340	Q144
FCXTT0857000	BC857B	Q145
FCXTT0857000	BC857B	Q146
FCXTT0857000	BC857B	Q147
FCXTT0847000	BC847B	Q148
FCTR24000000	IRFP240	Q149
FCTR24300000	IRFP9240	Q150
FCTR24300000	IRFP9240	Q151
FCTR24000000	IRFP240	Q152
FCXR15976000	976k	R101
FCXR14221000	22k1	R102
FCXR14221000	22k1	R103
FCXR14221000	22k1	R104
FCXR13100000	1k0	R105
FCXR15100000	100k0	R106
FCXR13100000	1k0	R107
FCXR14475000	47k5	R108
FCXR13200000	2k0	R109
FCXR13562000	5k62	R110
FCXR14340000	34k0	R111
FCXR07100000	10M	R112
FCXR13121000	1k21	R113
FCXR13121000	1k21	R114
FCXR12487000	487O	R115
FCXR12191000	191O	R116
FCXR12487000	487O	R117
FCXR12191000	191O	R118
FCXR11562000	56.2O	R119

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

Code	Description	Reference
FCXR13150000	1k50	R120
FCXR13150000	1k50	R121
FCXR11562000	56.2O	R122
FCXR12681000	681O	R123
FCXR13150000	1k50	R124
FCRJG4470000	4k7	R125
FCXR12681000	681O	R126
FCXR11100000	10O	R127
FCXR11562000	56.2O	R128
FCXR11562000	56.2O	R129
FCXR11100000	10O	R130
FCRF42680000	NF68O/1	R131
FCRF42680000	NF68O/1	R132
FCRF23220000	NF220O/ 1/2	R133
FCRF23220000	NF220O/ 1/2	R134
FCRY00010000	W0.22O/5	R135
FCRY00010000	W0.22O/5	R136
FCXR12604000	604O	R137
FCXR12604000	604O	R138
FCXR12475000	475O	R139
FCXR12475000	475O	R140
FCXR14332000	33k2	R141
FCXR14332000	33k2	R142
FCXR13681000	6k81	R143
FCXR14332000	33k2	R144
FCXR14332000	33k2	R145
FCXR13681000	6k81	R146
FCXR14332000	33k2	R147
FCXR14332000	33k2	R148
FCXR14475000	47k5	R149
FCXR12100000	100O	R150
FCXR12100000	100O	R151
FCXR14130000	13k0	R152
FCXR14130000	13k0	R153
FCXR12100000	100O	R154
FCXR13100000	1k0	R155
FCXR13100000	1k0	R156
FCXR12100000	100O	R157
FCRY00025000	W6.8O/5	R159
FCRC52100000	10O	R160
FCRC51220000	2.2O/2	R161
FCXR14100000	10k0	R162
FCRF23220000	NF220O/ 1/2	R163
FCRF23220000	NF220O/ 1/2	R164
FCRY00010000	W0.22O/5	R165
FCRY00010000	W0.22O/5	R166
FCRF23220000	NF220O/ 1/2	R167
FCRF23220000	NF220O/ 1/2	R168
FCRY00010000	W0.22O/5	R169
FCRY00010000	W0.22O/5	R170
FCXR14221000	22k1	R171
FCXR15976000	976k	R172
FCXR14475000	47k5	R173
FCXR13100000	1k0	R174
FCXR15100000	100k0	R175
FCXR14340000	34k0	R176

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

Code	Description	Reference
FCXR12191000	191O	R177
FCXR12487000	487O	R178
FCRJG4470000	4k7	R179
FCXR13150000	1k50	R180
FCXR07100000	10M	R181
FCXR11562000	56.2O	R182
FCXR13825000	8k25	R183
FCXR15100000	100k0	R184
FCXR15100000	100k0	R185
FCXR15100000	100k0	R186
FCXR12681000	681O	R187
FCXR12681000	681O	R188
FCXR14100000	10k0	R189
FCXR13154000	1k54	R190
FCXR12604000	604O	R191
FCXR13221000	2k21	R192
FCXR14475000	47k5	R193
FCXR14100000	10k0	R194
FCXR13100000	1k0	R195
FCXR14475000	47k5	R196
FCXR14475000	47k5	R197
FCXR14100000	10k0	R198
FCXR06220000	2M2	R199
FCXR13100000	1k0	R200
FCXR13150000	1k50	R201
FCXR14100000	10k0	R202
FCXR14221000	22k1	R203
FCXR14475000	47k5	R204
FCXR14475000	47k5	R205
FCXR15287000	287k	R206
FCXR11562000	56.2O	R207
FCXR11562000	56.2O	R208
FCXR15100000	100k0	R209
FCXR14221000	22k1	R210
FCXR13121000	1k21	R211
FCXR12178000	178O	R212
FCRF23220000	NF220O/ 1/2	R213
FCRF42680000	NF68O/1	R214
FCRY00010000	W0.22O/5	R215
FCXR12681000	681O	R216
FCXR11100000	10O	R217
FCXR14130000	13k0	R218
FCXR14332000	33k2	R219
FCXR12604000	604O	R220
FCXR12475000	475O	R221
FCXR12100000	100O	R222
FCXR13681000	6k81	R223
FCXR12301000	301O	R224
FCXR12301000	301O	R225
FCXR12301000	301O	R226
FCXR12301000	301O	R227
FCRC52100000	10O/2	R228
FCRY00025000	W6.8O/5	R229
FCRC51220000	2.2O/2	R231
FCXR15287000	287k	R232
FCXR12178000	178O	R233

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

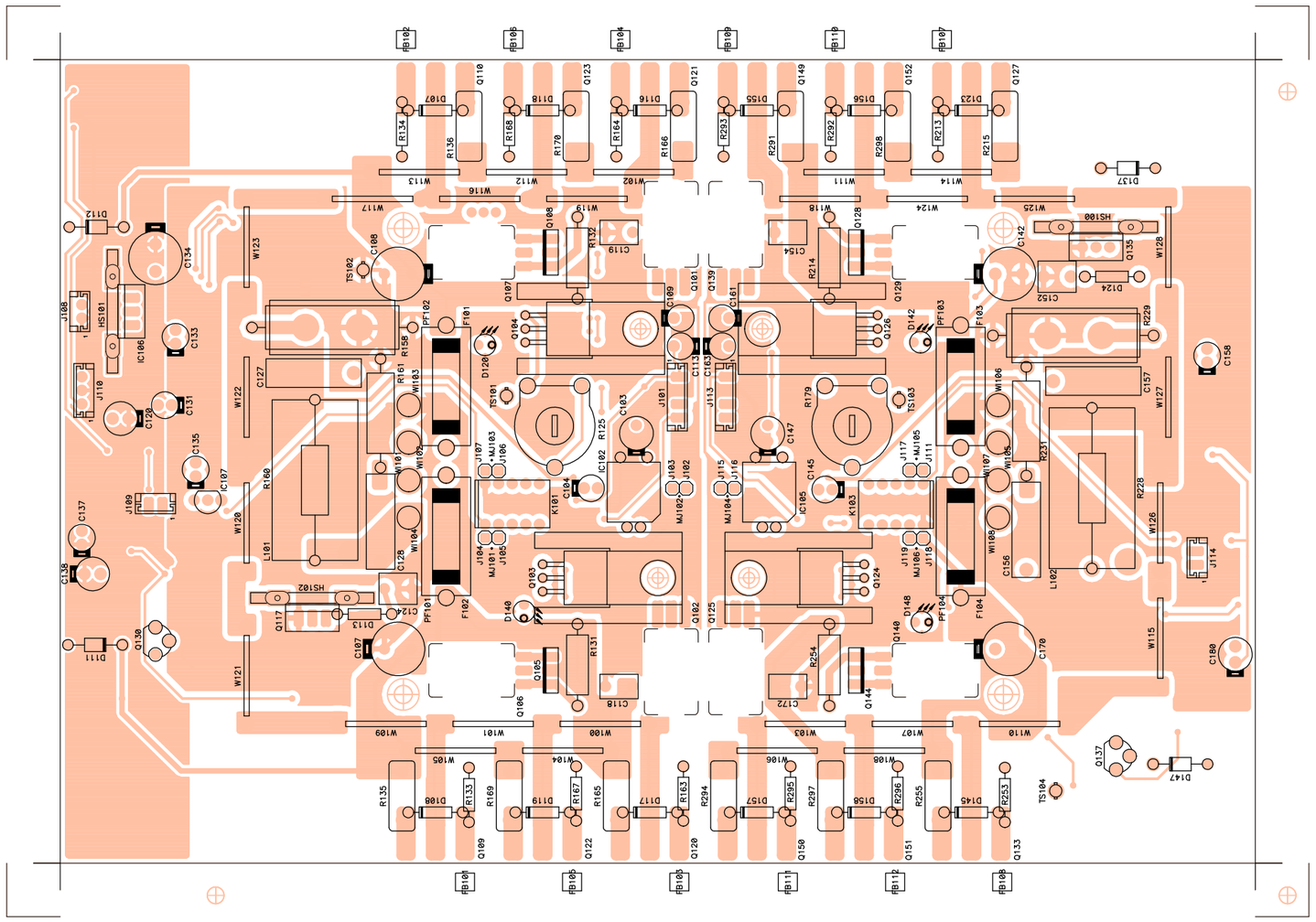
Code	Description	Reference
FCXR14511000	51k1	R234
FCXR14221000	22k1	R235
FCXR14221000	22k1	R236
FCXR13100000	1k0	R237
FCXR13150000	1k50	R238
FCXR13562000	5k62	R239
FCXR13200000	2k0	R240
FCXR12487000	487O	R241
FCXR12191000	191O	R242
FCXR11562000	56.2O	R243
FCXR13150000	1k50	R244
FCXR11562000	56.2O	R245
FCXR14475000	47k5	R246
FCXR14332000	33k2	R247
FCXR14332000	33k2	R248
FCXR14332000	33k2	R249
FCXR14130000	13k0	R250
FCXR13121000	1k21	R251
FCXR11562000	56.2O	R252
FCRF23220000	NF220O/ 1/2	R253
FCRF42680000	NF68O/1	R254
FCRY00010000	W0.22O/5	R255
FCXR11100000	10O	R256
FCXR12681000	681O	R257
FCXR12604000	604O	R258
FCXR12475000	475O	R259
FCXR14332000	33k2	R260
FCXR13681000	6k81	R261
FCXR14332000	33k2	R262
FCXR12100000	100O	R263
FCXR12100000	100O	R264
FCXR13100000	1k0	R265
FCXR14475000	47k5	R266
FCXR14475000	47k5	R267
FCXR14475000	47k5	R268
FCXR14100000	10k0	R269
FCXR13100000	1k0	R270
FCXR14511000	51k1	R271
FCXR14100000	10k0	R272
FCXR13100000	1k0	R276
FCXR12100000	100O	R277
FCXR14100000	10k0	R280
FCXR14221000	22k1	R281
FCXR14475000	47k5	R282
FCXR14475000	47k5	R284
FCXR14221000	22k1	R285
FCXR11562000	56.2O	R286
FCXR11562000	56.2O	R287
FCXR15100000	100k0	R288
FCRY00010000	W0.22O/5	R291
FCRF23220000	NF220O/ 1/2	R292
FCRF23220000	NF220O/ 1/2	R293
FCRY00010000	W0.22O/5	R294
FCRF23220000	NF220O/ 1/2	R295
FCRF23220000	NF220O/ 1/2	R296
FCRY00010000	W0.22O/5	R297

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

Code	Description	Reference
FCRY00010000	W0.22O/5	R298
FCT804006100	SCREW M4x6	SC100
FCT804006100	SCREW M4x6	SC101
FCT804006100	SCREW M4x6	SC102
FCT804006100	SCREW M4x6	SC103
FCSEPPM00000	SPACER	SC104
FCSEPPM00000	SPACER	SC105
FCSEPPM00000	SPACER	SC106
FCSEPPM00000	SPACER	SC107
FCT850300500	SCREW M3x5	SC108
FCT850300500	SCREW M3x5	SC109
FCT850300500	SCREW M3x5	SC110
FCT850300500	SCREW M3x5	SC111
FCT850300500	SCREW M3x5	SC112
FCT850300500	SCREW M3x5	SC113
FCT850300500	SCREW M3x5	SC114
FCT803010000	SCREW M3x10	SC115
FCT803010000	SCREW M3x10	SC116
FCT803010000	SCREW M3x10	SC117
FCT803010000	SCREW M3x10	SC118
FCT803010000	SCREW M3x10	SC119
FCT803010000	SCREW M3x10	SC120
FCT803010000	SCREW M3x10	SC121
FCT803010000	SCREW M3x10	SC122
FCT803010000	SCREW M3x10	SC124
FCT803010000	SPACER M3x10	SC128
FCT803010000	SPACER M3x10	SC129
FCT803010000	SPACER M3x10	SC130
FCTERMSOL000	TEST POINT	TS101
FCTERMSOL000	TEST POINT	TS102
FCTERMSOL000	TEST POINT	TS103
FCTERMSOL000	TEST POINT	TS104
FCMECPON1900	19mm	W100
FCMECPON1900	19mm	W101
FCMECPON1900	19mm	W102
FCMECPON1900	19mm	W103
FCMECPON1900	19mm	W104
FCMECPON1900	19mm	W105
FCMECPON1900	19mm	W106
FCMECPON1900	19mm	W107
FCMECPON1900	19mm	W108
FCMECPON1900	19mm	W109
FCMECPON1900	19mm	W110
FCMECPON1900	19mm	W111
FCMECPON1900	19mm	W112
FCMECPON1900	19mm	W113
FCMECPON1900	19mm	W114
FCMECPON1900	19mm	W115
FCMECPON1900	19mm	W116
FCMECPON1900	19mm	W117
FCMECPON1900	19mm	W118
FCMECPON1900	19mm	W119
FCMECPON1900	19mm	W120
FCMECPON1900	19mm	W121
FCMECPON1900	19mm	W122
FCMECPON1900	19mm	W123

PARTS LIST: PRINTED CIRCUIT 11.0776.02.00

Code	Description	Reference
FCMECPON1900	19mm	W124
FCMECPON1900	19mm	W125
FCMECPON1900	19mm	W126
FCMECPON1900	19mm	W127
FCMECPON1900	19mm	W128
FCARM3201000	WASHER 3.2x6x1	WA106
FCARM3201000	WASHER 3.2x6x1	WA107
FCARM3201000	WASHER 3.2x6x1	WA108
FCARM3201000	WASHER 3.2x6x1	WA109
FCARM3201000	WASHER 3.2x6x1	WA110
FCARM3201000	WASHER 3.2x6x1	WA111
FCARM3201000	WASHER 3.2x6x1	WA112
FCARM3201000	WASHER 3.2x6x1	WA113
FC0H02340000	1023.04.00	WI101 TO WI104
FC0H02340000	1023.04.00	WI105 TO WI108



OLD VERSION

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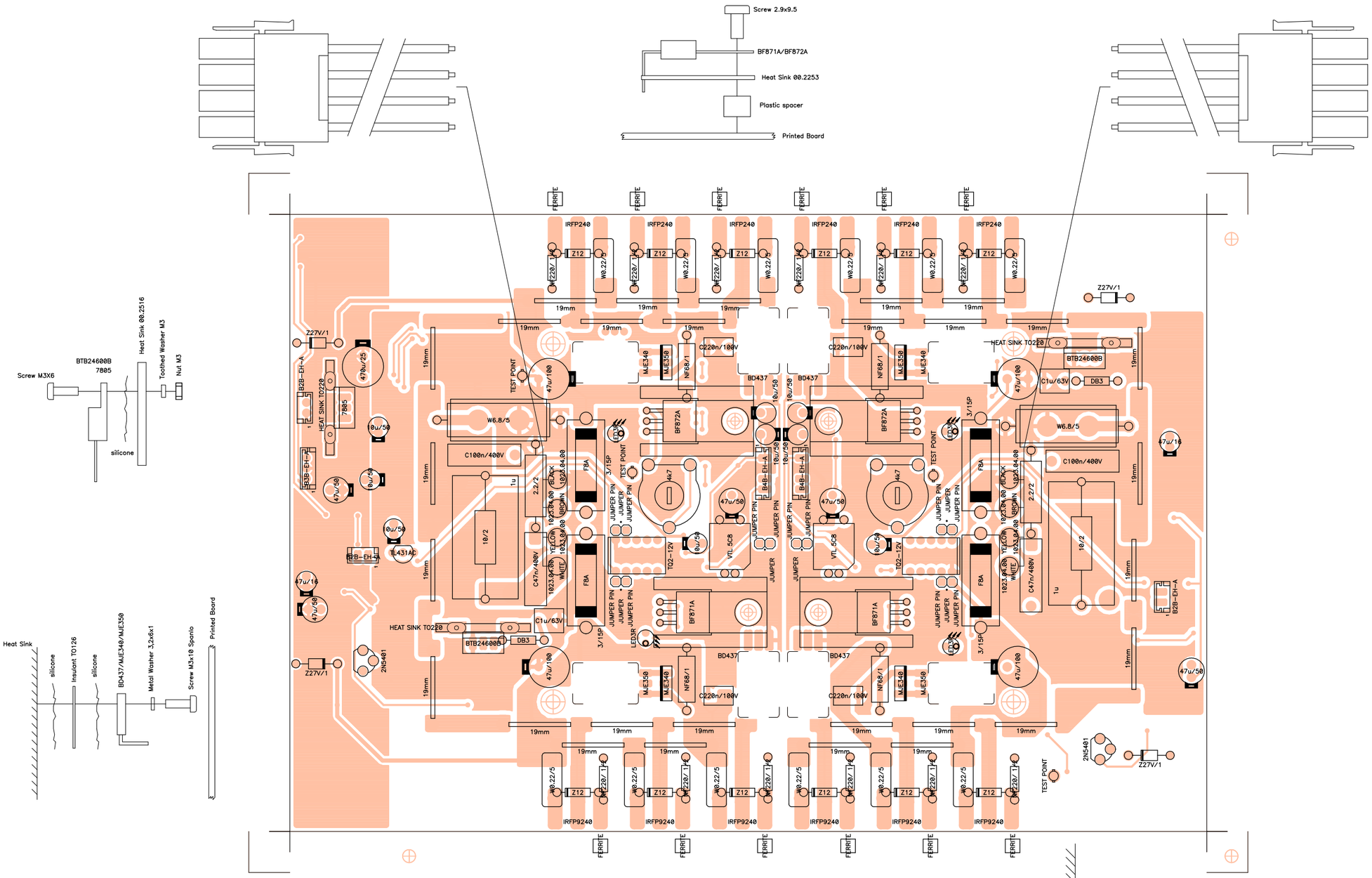
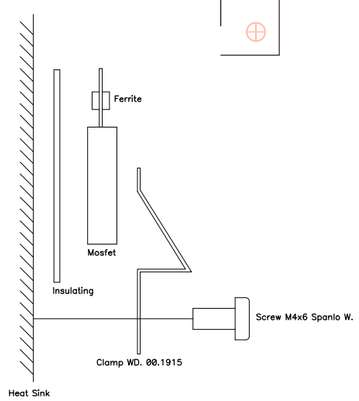
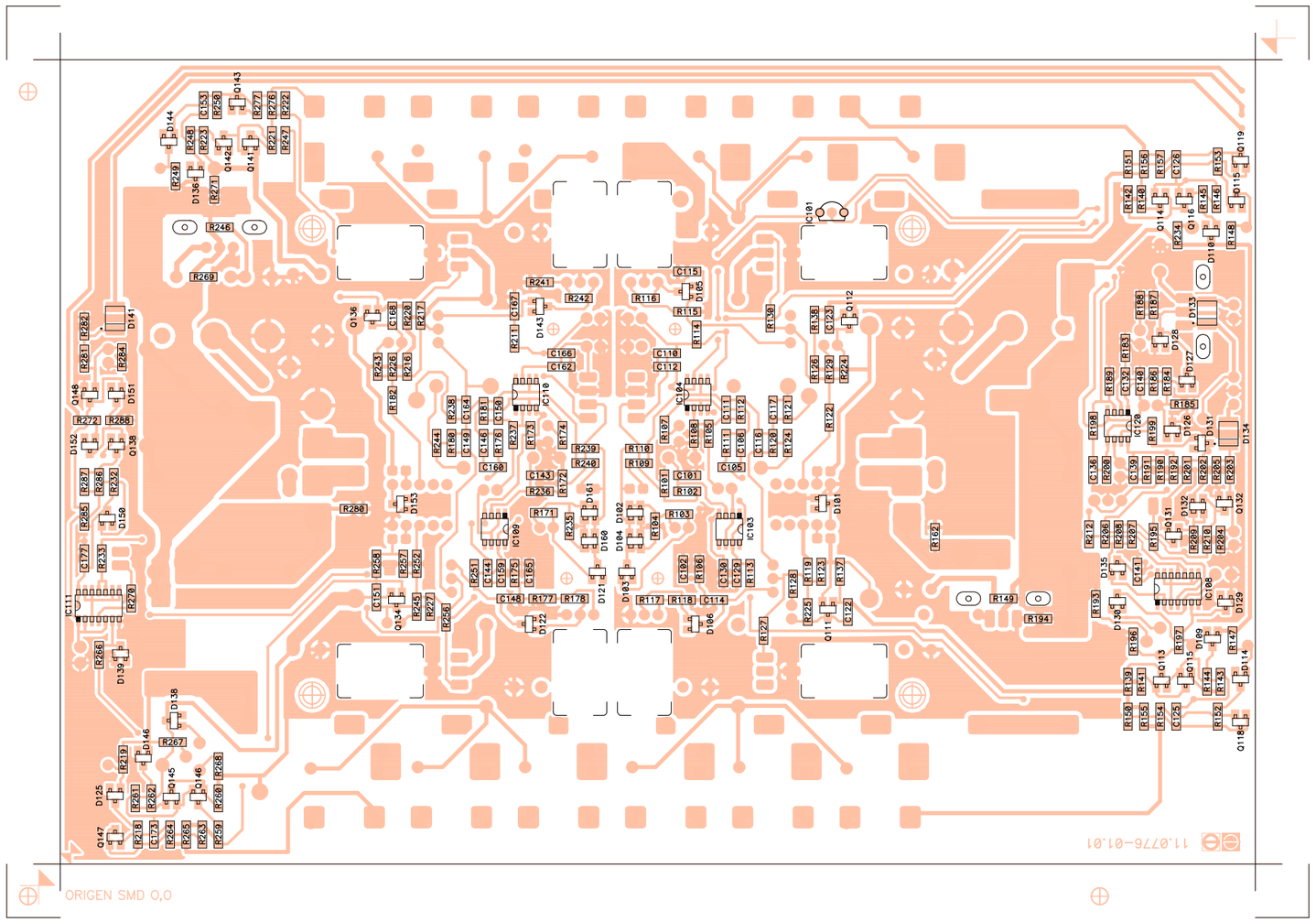
			view: Reference
	drawn by: M. Amoros	date: 000320	approved by: Angel Sanuy
number: 33.0425	version: 01.01	title: EP03-99B Power Amp.	





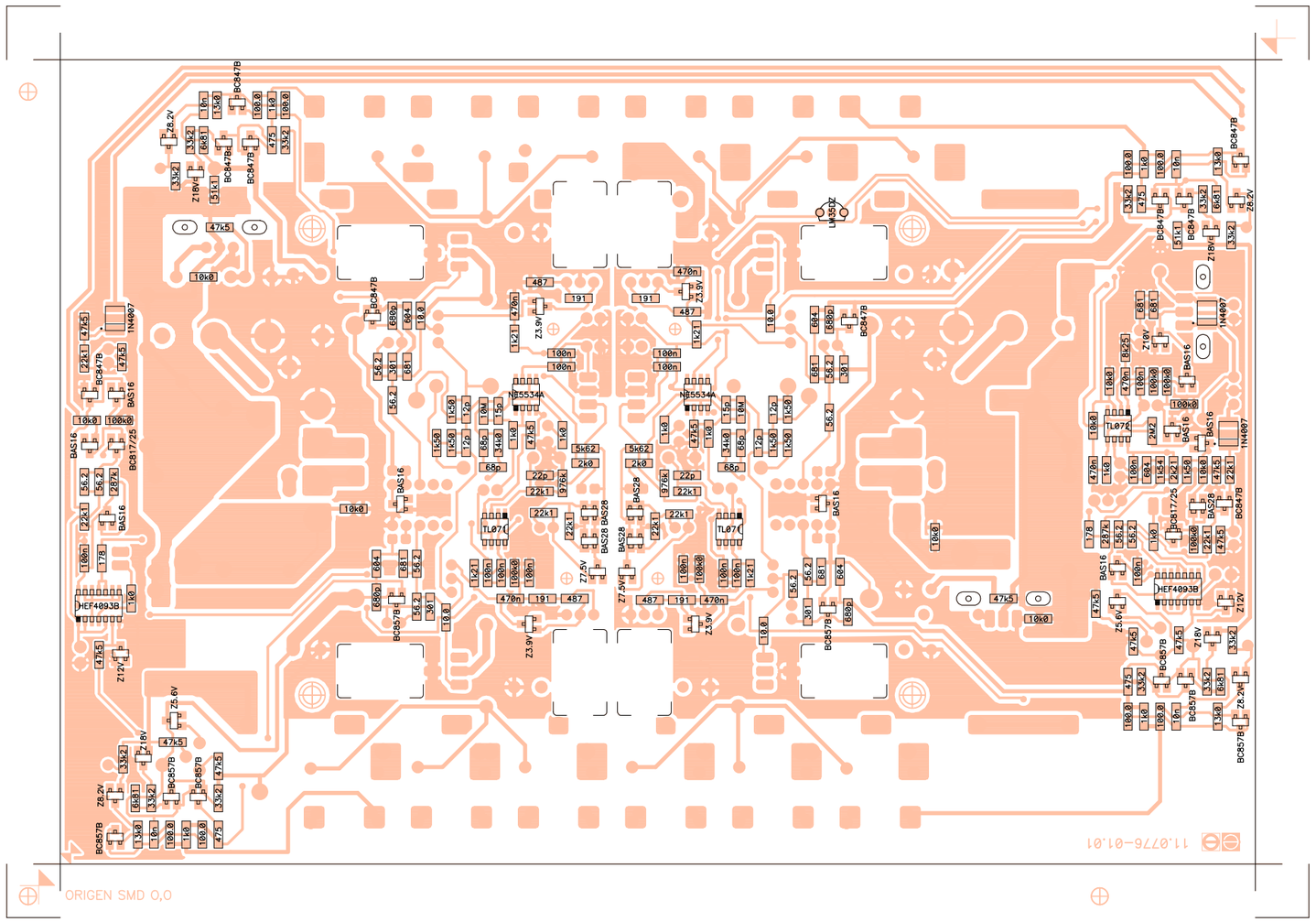
OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0776-01.01 schema no: 10.0498-01.02 insertion file no: 81.0018-01.00		side: Component
			view: Value
	drawn by: M. Amoros	date: 000320	approved by: Angel Sanuy
number: 33.0426	version: 01.01	title: EP03-99B Power Amp.	



OLD VERSION

ECLER — LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0776-01.01 schema no: 10.0498-01.02 insertion file no: 81.0018-01.00		side: Solder
			view: Reference
	drawn by: M. Amoros	date: 000320	approved by: Angel Sanuy
number: 33.0427	version: 01.01	title: EP03-99B Power Amp.	



OLD VERSION

ECLER — LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0776-01.01 schema no: 10.0498-01.02 insertion file no: 81.0018-01.00	side: Solder	
		view: Value	
	drawn by: M. Amoros	date: 000320	approved by: Angel Sanuy
number: 33.0428	version: 01.01	title: EP03-99B Power Amp.	

PRINTED CIRCUIT 11.0776-01.01

REFERENCE	VALUE	CODE
C101	22p	FCXCN12200
C102	100n	FCXCN41000
C103	47u/50	FCCE250470
C104	10u/50	FCCE250100
C105	68p	FCXCN16800
C106	68p	FCXCN16800
C107	47u/100	FCCE350470
C108	47u/100	FCCE350470
C109	10u/50	FCCE250100
C110	100n	FCXCN41000
C111	15p	FCXCN11500
C112	100n	FCXCN41000
C113	10u/50	FCCE250100
C114	470n	FCXCN44700
C115	470n	FCXCN44700
C116	12p	FCXCN11200
C117	12p	FCXCN11200
C118	220n/100V	FCCDK52200
C119	220n/100V	FCCDK52200
C120	47u/50	FCCE250470
C122	680p	FCXCN26800
C123	680p	FCXCN26800
C124	1u/63V	FCCDK20010
C125	10n	FCXCN40100
C126	10n	FCXCN40100
C127	100n/400V	FCCDH71100
C128	47n/400V	FCCDH71047
C129	100n	FCXCN41000
C130	100n	FCXCN41000
C131	10u/50	FCCE250100
C132	470n	FCXCN44700
C133	10u/50	FCCE250100
C134	470u/25	FCCE154700
C135	10u/50	FCCE250100
C136	470n	FCXCN44700
C137	47u/16	FCCE100000
C138	47u/50	FCCE250470
C139	100n	FCXCN41000
C140	100n	FCXCN41000
C141	100n	FCXCN41000
C142	47u/100	FCCE350470
C143	22p	FCXCN12200
C144	100n	FCXCN41000
C145	10u/50	FCCE250100
C146	68p	FCXCN16800
C147	47u/50	FCCE250470
C148	470n	FCXCN44700
C149	12p	FCXCN11200
C150	15p	FCXCN11500
C151	680p	FCXCN26800
C152	1u/63V	FCCDK20010

OLD VERSION

REFERENCE	VALUE	CODE
C153	10n	FCXCN40100
C154	220n/100V	FCCDK52200
C156	47n/400V	FCCDH71047
C157	100n/400V	FCCDH71100
C158	47u/16	FCCE100000
C159	100n	FCXCN41000
C160	68p	FCXCN16800
C161	10u/50	FCCE250100
C162	100n	FCXCN41000
C163	10u/50	FCCE250100
C164	12p	FCXCN11200
C165	100n	FCXCN41000
C166	100n	FCXCN41000
C167	470n	FCXCN44700
C168	680p	FCXCN26800
C170	47u/100	FCCE350470
C172	220n/100V	FCCDK52200
C173	10n	FCXCN40100
C177	100n	FCXCN41000
C180	47u/50	FCCE250470
D101	BAS16	FCXDDBAS16
D102	BAS28	FCXDDBAS28
D103	Z7.5V	FCXZ000075
D104	BAS28	FCXDDBAS28
D105	Z3.9V	FCXZ000039
D106	Z3.9V	FCXZ000039
D107	Z12	FCDD041200
D108	Z12	FCDD041200
D109	Z18V	FCXZ000180
D110	Z18V	FCXZ000180
D111	Z27V/1	FCDD102700
D112	Z27V/1	FCDD102700
D113	DB3	FCDIDB3000
D114	Z8.2V	FCXZ000082
D115	Z8.2V	FCXZ000082
D116	Z12	FCDD041200
D117	Z12	FCDD041200
D118	Z12	FCDD041200
D119	Z12	FCDD041200
D120	LED3R	FCLED300RO
D121	Z7.5V	FCXZ000075
D122	Z3.9V	FCXZ000039
D123	Z12	FCDD041200
D124	DB3	FCDIDB3000
D125	Z8.2V	FCXZ000082
D126	BAS16	FCXDDBAS16
D127	BAS16	FCXDDBAS16
D128	Z10V	FCXZ000100
D129	Z12V	FCXZ000120
D130	Z5.6V	FCXZ000056
D131	BAS16	FCXDDBAS16
D132	BAS28	FCXDDBAS28
D133	1N4007	FCXDD40070
D134	1N4007	FCXDD40070
D135	BAS16	FCXDDBAS16
D136	Z18V	FCXZ000180
D137	Z27V/1	FCDD102700
D138	Z5.6V	FCXZ000056

OLD VERSION

REFERENCE	VALUE	CODE
D139	Z12V	FCXZ000120
D140	LED3R	FCLED300RO
D141	1N4007	FCXDD40070
D142	LED3R	FCLED300RO
D143	Z3.9V	FCXZ000039
D144	Z8.2V	FCXZ000082
D145	Z12	FCDD041200
D146	Z18V	FCXZ000180
D147	Z27V/1	FCDD102700
D148	LED3R	FCLED300RO
D150	BAS16	FCXDDBAS16
D151	BAS16	FCXDDBAS16
D152	BAS16	FCXDDBAS16
D153	BAS16	FCXDDBAS16
D155	Z12	FCDD041200
D156	Z12	FCDD041200
D157	Z12	FCDD041200
D158	Z12	FCDD041200
D160	BAS28	FCXDDBAS28
D161	BAS28	FCXDDBAS28
F101	F8A	FCFUS50350
F102	F8A	FCFUS50350
F103	F8A	FCFUS50350
F104	F8A	FCFUS50350
FB101	FERRITE	FCFER43220
FB102	FERRITE	FCFER43220
FB103	FERRITE	FCFER43220
FB104	FERRITE	FCFER43220
FB105	FERRITE	FCFER43220
FB106	FERRITE	FCFER43220
FB107	FERRITE	FCFER43220
FB108	FERRITE	FCFER43220
FB109	FERRITE	FCFER43220
FB110	FERRITE	FCFER43220
FB111	FERRITE	FCFER43220
FB112	FERRITE	FCFER43220
HS100	HEAT SINK TO220	FCMECTO220
HS101	HEAT SINK TO220	FCMECTO220
HS102	HEAT SINK TO220	FCMECTO220
HS103	HEAT SINK MODULE	FCRAD13810
HS104	HEAT SINK BF'S	FCMECPI130
HS105	HEAT SINK BF'S	FCMECPI130
HS106	HEAT SINK BF'S	FCMECPI130
HS107	HEAT SINK BF'S	FCMECPI130
IC101	LM35DZ	FCIC350000
IC102	VTL 5C8	FCOPTVTL50
IC103	TL071	FCIC071010
IC104	NE5534A	FCIC553410
IC105	VTL 5C8	FCOPTVTL50
IC106	7805	FCREG78050
IC107	TL431AC	FCIC431000
IC108	HEF4093B	FCIC409301
IC109	TL071	FCIC071010
IC110	NE5534A	FCIC553410
IC111	HEF4093B	FCIC409301
IC120	TL072	FCIC072010
IN100	INSULATING TO126	FCMICTO126
IN101	INSULATING TO126	FCMICTO126

OLD VERSION

REFERENCE	VALUE	CODE
IN102	INSULATING TO126	FCMICTO126
IN103	INSULATING TO126	FCMICTO126
IN104	INSULATING TO126	FCMICTO126
IN105	INSULATING TO126	FCMICTO126
IN106	INSULATING TO126	FCMICTO126
IN107	INSULATING TO126	FCMICTO126
J101	B4B-EH-A	FCCTM00040
J102	JUMPER	FCTERM0100
J103	JUMPER	FCTERM0100
J104	JUMPER	FCTERM0100
J105	JUMPER	FCTERM0100
J106	JUMPER	FCTERM0100
J107	JUMPER	FCTERM0100
J108	B2B-EH-A	FCCTM00020
J109	B2B-EH-A	FCCTM00020
J110	B3B-EH-A	FCCTM00030
J111	JUMPER	FCTERM0100
J113	B4B-EH-A	FCCTM00040
J114	B2B-EH-A	FCCTM00020
J115	JUMPER	FCTERM0100
J116	JUMPER	FCTERM0100
J117	JUMPER	FCTERM0100
J118	JUMPER	FCTERM0100
J119	JUMPER	FCTERM0100
K101	TQ2-12V	FCREL00300
K103	TQ2-12V	FCREL00300
L101	1uH	FCIND00100
L102	1uH	FCIND00100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MJ104	JUMPER	FCMJ000100
MJ105	JUMPER	FCMJ000100
MJ106	JUMPER	FCMJ000100
MP100	CLAMP	FCPINZAM00
MP101	CLAMP	FCPINZAM00
MP102	SARCON	FCTIRKON00
MP103	SARCON	FCTIRKON00
NV100	NUT M3	FCTUE00300
NV101	NUT M3	FCTUE00300
NV102	NUT M3	FCTUE00300
PF101	3/15P	FCPORF3150
PF102	3/15P	FCPORF3150
PF103	3/15P	FCPORF3150
PF104	3/15P	FCPORF3150
Q101	BD437	FCTR437000
Q102	BD437	FCTR437000
Q103	BF871A	FCTR871000
Q104	BF872A	FCTR872000
Q105	MJE340	FCTR340000
Q106	MJE350	FCTR350000
Q107	MJE340	FCTR340000
Q108	MJE350	FCTR350000
Q109	IRFP9240	FCTR243000
Q110	IRFP240	FCTR240000
Q111	BC857B	FCXTT08570
Q112	BC847B	FCXTT08470
Q113	BC857B	FCXTT08570

OLD VERSION

REFERENCE	VALUE	CODE
Q114	BC847B	FCXTT08470
Q115	BC857B	FCXTT08570
Q116	BC847B	FCXTT08470
Q117	BTB24600B	FCTI246000
Q118	BC857B	FCXTT08570
Q119	BC847B	FCXTT08470
Q120	IRFP9240	FCTR243000
Q121	IRFP240	FCTR240000
Q122	IRFP9240	FCTR243000
Q123	IRFP240	FCTR240000
Q124	BF871A	FCTR871000
Q125	BD437	FCTR437000
Q126	BF872A	FCTR872000
Q127	IRFP240	FCTR240000
Q128	MJE350	FCTR350000
Q129	MJE340	FCTR340000
Q130	2N5401	FCTR254010
Q131	BC817/25	FCXTT08170
Q132	BC847B	FCXTT08470
Q133	IRFP9240	FCTR243000
Q134	BC857B	FCXTT08570
Q135	BTB24600B	FCTI246000
Q136	BC847B	FCXTT08470
Q137	2N5401	FCTR254010
Q138	BC817/25	FCXTT08170
Q139	BD437	FCTR437000
Q140	MJE350	FCTR350000
Q141	BC847B	FCXTT08470
Q142	BC847B	FCXTT08470
Q143	BC847B	FCXTT08470
Q144	MJE340	FCTR340000
Q145	BC857B	FCXTT08570
Q146	BC857B	FCXTT08570
Q147	BC857B	FCXTT08570
Q148	BC847B	FCXTT08470
Q149	IRFP240	FCTR240000
Q150	IRFP9240	FCTR243000
Q151	IRFP9240	FCTR243000
Q152	IRFP240	FCTR240000
R101	976k	FCXR159760
R102	22k1	FCXR142210
R103	22k1	FCXR142210
R104	22k1	FCXR142210
R105	1k0	FCXR131000
R106	100k0	FCXR151000
R107	1k0	FCXR131000
R108	47k5	FCXR144750
R109	2k0	FCXR132000
R110	5k62	FCXR135620
R111	34k0	FCXR143400
R112	10M	FCXR071000
R113	1k21	FCXR131210
R114	1k21	FCXR131210
R115	487Ω	FCXR124870
R116	191Ω	FCXR121910
R117	487Ω	FCXR124870
R118	191Ω	FCXR121910
R119	56.2Ω	FCXR115620

OLD VERSION

REFERENCE	VALUE	CODE
R120	1k50	FCXR131500
R121	1k50	FCXR131500
R122	56.2Ω	FCXR115620
R123	681Ω	FCXR126810
R124	1k50	FCXR131500
R125	4k7	FCRJG44700
R126	681Ω	FCXR126810
R127	10Ω	FCXR111000
R128	56.2Ω	FCXR115620
R129	56.2Ω	FCXR115620
R130	10Ω	FCXR111000
R131	NF68Ω/1	FCRF426800
R132	NF68Ω/1	FCRF426800
R133	NF220Ω/ 1/2	FCRF232200
R134	NF220Ω/ 1/2	FCRF232200
R135	W0.22Ω/5	FCRY000100
R136	W0.22Ω/5	FCRY000100
R137	604Ω	FCXR126040
R138	604Ω	FCXR126040
R139	475Ω	FCXR124750
R140	475Ω	FCXR124750
R141	33k2	FCXR143320
R142	33k2	FCXR143320
R143	6k81	FCXR136810
R144	33k2	FCXR143320
R145	33k2	FCXR143320
R146	6k81	FCXR136810
R147	33k2	FCXR143320
R148	33k2	FCXR143320
R149	47k5	FCXR144750
R150	100Ω	FCXR121000
R151	100Ω	FCXR121000
R152	13k0	FCXR141300
R153	13k0	FCXR141300
R154	100Ω	FCXR121000
R155	1k0	FCXR131000
R156	1k0	FCXR131000
R157	100Ω	FCXR121000
R159	W6.8Ω/5	FCRY000250
R160	10Ω	FCRC521000
R161	2.2Ω/2	FCRC512200
R162	10k0	FCXR141000
R163	NF220Ω/ 1/2	FCRF232200
R164	NF220Ω/ 1/2	FCRF232200
R165	W0.22Ω/5	FCRY000100
R166	W0.22Ω/5	FCRY000100
R167	NF220Ω/ 1/2	FCRF232200
R168	NF220Ω/ 1/2	FCRF232200
R169	W0.22Ω/5	FCRY000100
R170	W0.22Ω/5	FCRY000100
R171	22k1	FCXR142210
R172	976k	FCXR159760
R173	47k5	FCXR144750
R174	1k0	FCXR131000
R175	100k0	FCXR151000
R176	34k0	FCXR143400
R177	191Ω	FCXR121910
R178	487Ω	FCXR124870

OLD VERSION

REFERENCE	VALUE	CODE
R179	4k7	FCRJG44700
R180	1k50	FCXR131500
R181	10M	FCXR071000
R182	56.2Ω	FCXR115620
R183	8k25	FCXR138250
R184	100k0	FCXR151000
R185	100k0	FCXR151000
R186	100k0	FCXR151000
R187	681Ω	FCXR126810
R188	681Ω	FCXR126810
R189	10k0	FCXR141000
R190	1k54	FCXR131540
R191	604Ω	FCXR126040
R192	2k21	FCXR132210
R193	47k5	FCXR144750
R194	10k0	FCXR141000
R195	1k0	FCXR131000
R196	47k5	FCXR144750
R197	47k5	FCXR144750
R198	10k0	FCXR141000
R199	2M2	FCXR062200
R200	1k0	FCXR131000
R201	1k50	FCXR131500
R202	10k0	FCXR141000
R203	22k1	FCXR142210
R204	47k5	FCXR144750
R205	47k5	FCXR144750
R206	287k	FCXR152870
R207	56.2Ω	FCXR115620
R208	56.2Ω	FCXR115620
R209	100k0	FCXR151000
R210	22k1	FCXR142210
R211	1k21	FCXR131210
R212	178Ω	FCXR121780
R213	NF220Ω/ 1/2	FCRF232200
R214	NF68Ω/1	FCRF426800
R215	W0.22Ω/5	FCRY000100
R216	681Ω	FCXR126810
R217	10Ω	FCXR111000
R218	13k0	FCXR141300
R219	33k2	FCXR143320
R220	604Ω	FCXR126040
R221	475Ω	FCXR124750
R222	100Ω	FCXR121000
R223	6k81	FCXR136810
R224	301Ω	FCXR123010
R225	301Ω	FCXR123010
R226	301Ω	FCXR123010
R227	301Ω	FCXR123010
R228	10Ω/2	FCRC521000
R229	W6.8Ω/5	FCRY000250
R231	2.2Ω/2	FCRC512200
R232	287k	FCXR152870
R233	178Ω	FCXR121780
R234	51k1	FCXR145110
R235	22k1	FCXR142210
R236	22k1	FCXR142210
R237	1k0	FCXR131000

OLD VERSION

REFERENCE	VALUE	CODE
R238	1k50	FCXR131500
R239	5k62	FCXR135620
R240	2k0	FCXR132000
R241	487Ω	FCXR124870
R242	191Ω	FCXR121910
R243	56.2Ω	FCXR115620
R244	1k50	FCXR131500
R245	56.2Ω	FCXR115620
R246	47k5	FCXR144750
R247	33k2	FCXR143320
R248	33k2	FCXR143320
R249	33k2	FCXR143320
R250	13k0	FCXR141300
R251	1k21	FCXR131210
R252	56.2Ω	FCXR115620
R253	NF220Ω/ 1/2	FCRF232200
R254	NF68Ω/1	FCRF426800
R255	W0.22Ω/5	FCRY000100
R256	10Ω	FCXR111000
R257	681Ω	FCXR126810
R258	604Ω	FCXR126040
R259	475Ω	FCXR124750
R260	33k2	FCXR143320
R261	6k81	FCXR136810
R262	33k2	FCXR143320
R263	100Ω	FCXR121000
R264	100Ω	FCXR121000
R265	1k0	FCXR131000
R266	47k5	FCXR144750
R267	47k5	FCXR144750
R268	47k5	FCXR144750
R269	10k0	FCXR141000
R270	1k0	FCXR131000
R271	51k1	FCXR145110
R272	10k0	FCXR141000
R276	1k0	FCXR131000
R277	100Ω	FCXR121000
R280	10k0	FCXR141000
R281	22k1	FCXR142210
R282	47k5	FCXR144750
R284	47k5	FCXR144750
R285	22k1	FCXR142210
R286	56.2Ω	FCXR115620
R287	56.2Ω	FCXR115620
R288	100k0	FCXR151000
R291	W0.22Ω/5	FCRY000100
R292	NF220Ω/ 1/2	FCRF232200
R293	NF220Ω/ 1/2	FCRF232200
R294	W0.22Ω/5	FCRY000100
R295	NF220Ω/ 1/2	FCRF232200
R296	NF220Ω/ 1/2	FCRF232200
R297	W0.22Ω/5	FCRY000100
R298	W0.22Ω/5	FCRY000100
SC100	SCREW M4x6	FCT8040061
SC101	SCREW M4x6	FCT8040061
SC102	SCREW M4x6	FCT8040061
SC103	SCREW M4x6	FCT8040061
SC104	SPACER	FCSEPPM000

OLD VERSION

REFERENCE	VALUE	CODE
SC105	SPACER	FCSEPPM000
SC106	SPACER	FCSEPPM000
SC107	SPACER	FCSEPPM000
SC108	SCREW 2.9x9.5	FCT7002909
SC109	SCREW 2.9x9.5	FCT7002909
SC110	SCREW 2.9x9.5	FCT7002909
SC111	SCREW 2.9x9.5	FCT7002909
SC112	SCREW M3x6	FCT7503006
SC113	SCREW M3x6	FCT7503006
SC114	SCREW M3x6	FCT7503006
SC115	SCREW M3x10	FCT8030100
SC116	SCREW M3x10	FCT8030100
SC117	SCREW M3x10	FCT8030100
SC118	SCREW M3x10	FCT8030100
SC119	SCREW M3x10	FCT8030100
SC120	SCREW M3x10	FCT8030100
SC121	SCREW M3x10	FCT8030100
SC122	SCREW M3x10	FCT8030100
SC123	SPACER	FCSEPPM000
SC124	SCREW M3x10	FCT8030100
SC125	SPACER	FCSEPPM000
SC126	SPACER	FCSEPPM000
SC127	SPACER	FCSEPPM000
SC128	SPACER M3x10	FCT8030100
SC129	SPACER M3x10	FCT8030100
SC130	SPACER M3x10	FCT8030100
TS101	TEST POINT	FCTERMSOL0
TS102	TEST POINT	FCTERMSOL0
TS103	TEST POINT	FCTERMSOL0
TS104	TEST POINT	FCTERMSOL0
W100	19mm	FCMECPON19
W101	19mm	FCMECPON19
W102	19mm	FCMECPON19
W103	19mm	FCMECPON19
W104	19mm	FCMECPON19
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	19mm	FCMECPON19
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	19mm	FCMECPON19
W111	19mm	FCMECPON19
W112	19mm	FCMECPON19
W113	19mm	FCMECPON19
W114	19mm	FCMECPON19
W115	19mm	FCMECPON19
W116	19mm	FCMECPON19
W117	19mm	FCMECPON19
W118	19mm	FCMECPON19
W119	19mm	FCMECPON19
W120	19mm	FCMECPON19
W121	19mm	FCMECPON19
W122	19mm	FCMECPON19
W123	19mm	FCMECPON19
W124	19mm	FCMECPON19
W125	19mm	FCMECPON19
W126	19mm	FCMECPON19
W127	19mm	FCMECPON19

OLD VERSION

REFERENCE	VALUE	CODE
W128	19mm	FCMECPON19
WA103	TOOTHED WASHER	FCARDE0300
WA104	TOOTHED WASHER	FCARDE0300
WA105	TOOTHED WASHER	FCARDE0300
WA106	WASHER 3.2x6x1	FCARM32010
WA107	WASHER 3.2x6x1	FCARM32010
WA108	WASHER 3.2x6x1	FCARM32010
WA109	WASHER 3.2x6x1	FCARM32010
WA110	WASHER 3.2x6x1	FCARM32010
WA111	WASHER 3.2x6x1	FCARM32010
WA112	WASHER 3.2x6x1	FCARM32010
WA113	WASHER 3.2x6x1	FCARM32010
WI101 TO WI104	1023.04.00	FC0H023400
WI105 TO WI108	1023.04.00	FC0H023400

OLD VERSION

PRELIMINARY:

- Set the BRIDGE-STEREO switch to STEREO.
- Check the GROUND-LINK switch.
- Place a mini-jumper at connector J110's terminals (power supply).
- Select the subsonic filter switch to OFF.
- Verify that the correct cables and connections are used.
- Connect the unit's mains power cable to a variac output, and leave it on the 0V output voltage position.
- Keep an ammeter prepared to verify the unit's current demand.

VERIFICATION

- Turn on the unit without any load connected to its outputs by setting the main power switch to its ON position. Increase slowly the variac's output voltage until it reaches its maximum value, which is mains voltage. At this point, verify that the unit's bias current demand keeps its factory adjusted value and, if not, proceed to readjust this parameter. After this, fix the adjustment devices with sealing lacquer. Also check that the Power On led is lit.

- Replace the ammeter by the corresponding fuse. Warning! The power supply will be charged! **Note: to discharge the power supply, apply a 0dB 2KHz input signal to the unit and turn its mains voltage down to 0V by reducing the variac's output voltage.**

- Turn off the unit and afterwards on again in order to verify the time it remains in STAND-BY mode, which should last approximately 10 seconds. Also verify that when the unit is turned on, the cooling fans run up until their maximum speed.

- Verify both XLR and JACK input terminals; also check the attenuation values by sweeping their potentiometers between -∞ and 0dB.

Verify the amplifier's output power while connected to the mains power supply:

- DPA1400	635W	51V on 4Ω	BIAS CURRENT = 300mA
- DPA1000	440W	42V on 4Ω	BIAS CURRENT = 250mA
- DPA600	275W	32V on 4Ω	BIAS CURRENT = 150mA

- Verify the ANTICLIP system is functioning correctly by increasing the input signal level up to values higher than 0dB. The output signal should be smoothly clipped. Verify that if a mini-jumper is placed at the test terminals (which are located near the VTL5C8 package), the ANTICLIP system switches on earlier; making the clipped signal appears even more smoothened. Check that the front panel CLIP leds are lit, and observe that, when the input signal is damped 0.5 or 1 dB, the CLIP indicator leds turn off. Do not retire the mini-jumper.

- While applying a 0'5V input signal, verify the unit's frequency response bandwith, which should be linear between 20Hz and 20KHz. The output signal should appear distortion and noise free. Verify that even if the input signal frequency rises up to 50KHz, the output signal level only decreases 1 or 2 dB, but no distortion is noticed.

- Verify the BRIDGE operation mode. Apply a 1KHz 0'5V input signal and set the BRIDGE-STEREO selection switch to the BRIDGE position. The output signals should now appear in phase opposition one referred to the other, and only the Channel 1 input potentiometer is responding. Connect an 8Ω load impedance to the unit's actual active output terminals of both outputs and verify that the anticlip system switches on easily when needed. Set the amplifier back to the STEREO operation mode.

- Connect an output load impedance formed by a 4Ω resistor shunted to a 2µF capacitor, and apply a 1KHz square waveform input signal. Monitor the output signal through an oscilloscope, and increase the input signal level until the output starts clipping. On the flat sections of the sandcastle output waveform, only two or three little ringings should be detected.

- To verify the subsonic filter, apply a 25Hz input signal. When the subsonic filter is active, the output signal should decrease 3dB referred to the non-active filter output level.

- Verify the THERMAL protection. When the thermal probe 1 and 2 leads are shorted, check that the relay opens, the THERMAL indicator led lights on, the output signal is cutted off and the cooling fan increases its speed up to the maximum running speed.

PROTECTIONS

- Turn off the signal generator. Select a 1KHz output signal, set the amplitude range to 1V but leave the amplitude control knob down to its minimum position.

- Connect a 0'5 ohm load impedance to the amplifier's output.

- Turn on the signal generator, and slowly increase the amplifier's input signal amplitude, while watching that the unit's output voltage does not exceed its limiting value, depending on the type under test, as listed below:

MODEL	FIRST STAGE	SECOND STAGE
DPA1400	13Vpp (242V)	22Vpp (215V)
DPA1000	20Vpp (235V)	25Vpp (210V)
DPA600	15Vpp (240V)	18Vp (210V)

Note: the clipping signal should appear distortion and ringing free. The different stages are obtained by varying the amplifier's mains voltage through the variac's output.

BURNING (BURN-IN) TEST

Leave the tested unit connected to its correspondent voltage mains socket, applying input signal and connecting load impedances, and working at 3dB under its maximum output power level for at least 24 hours.

SAFETY VERIFICATION TESTS.

Preliminary:

- Unplug the unit to be tested from the mains outlet.
- Short all ground terminals from signal inputs, outputs and other external connectors, except the mains plug's ground.
- Turn ON the unit's main power switch.

Ground continuity test:

- Connect the tester's probes between the mains ground contact and the unit's backside main ground test point. When applying a 10A current, verify that the ground impedance is lower than 0'1Ω.

Electrical insulation test:

- Connect the electrical insulation tester probes between the mains outlet ground contact and both shorted mains input poles.
- Adjust the tester's current limit down to 10mA.
- Apply 1500Vac during 5 seconds.
- The unit's insulation should be able to resist this voltage, without generating spurious sparks or a sparkover effect, and the tester may not detect any malfunction.

CAUTION: Do not disconnect nor touch the test probes until the test has finished completely!

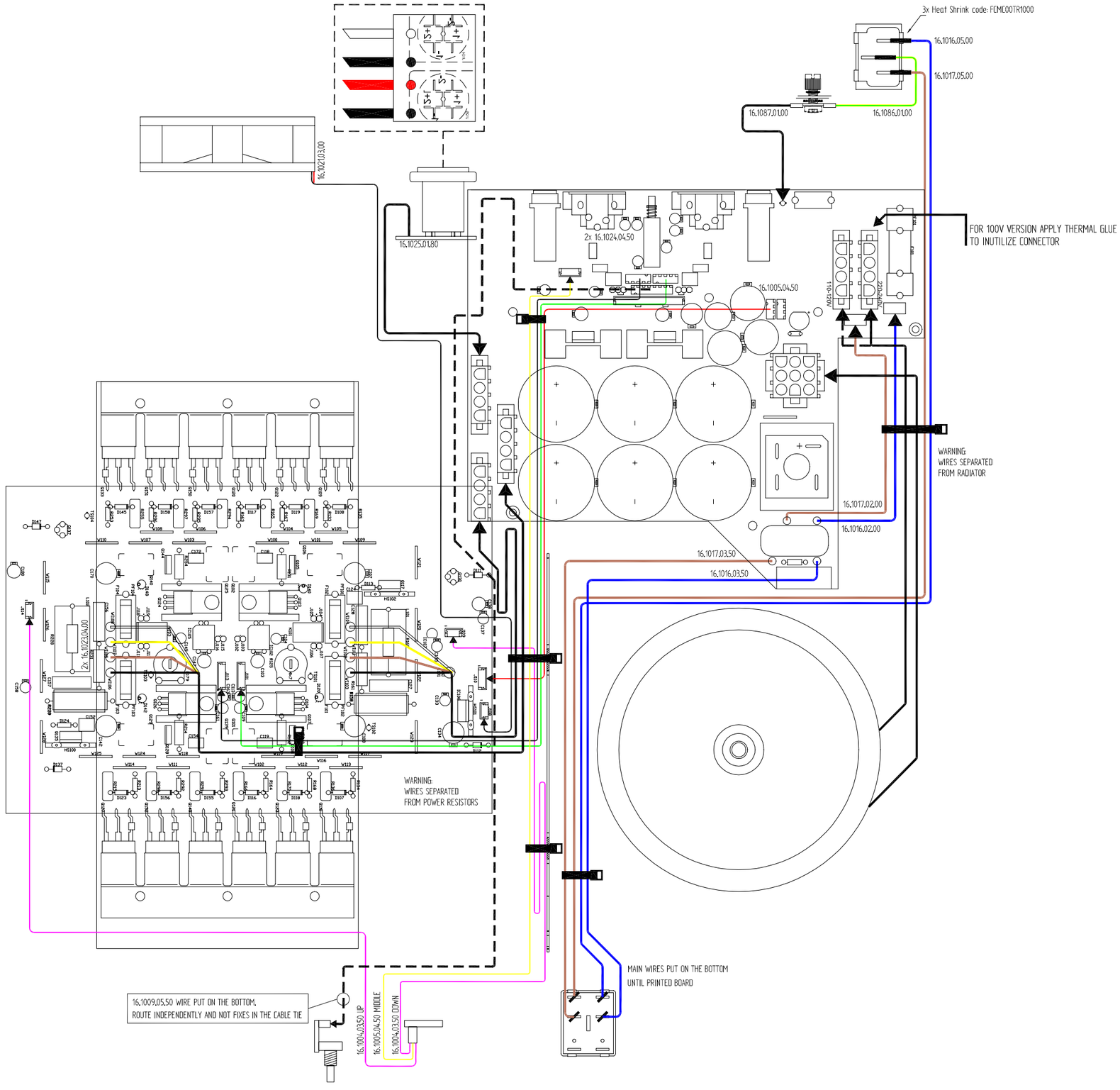
QUALITY CONTROL

All mechanical parts should be visually revised, in order to detect scratches on the unit's painting; all screws should be on their place, correctly tight and unmarked. Check out the unit's general presentation.

VERIFICATION USING MUSIC

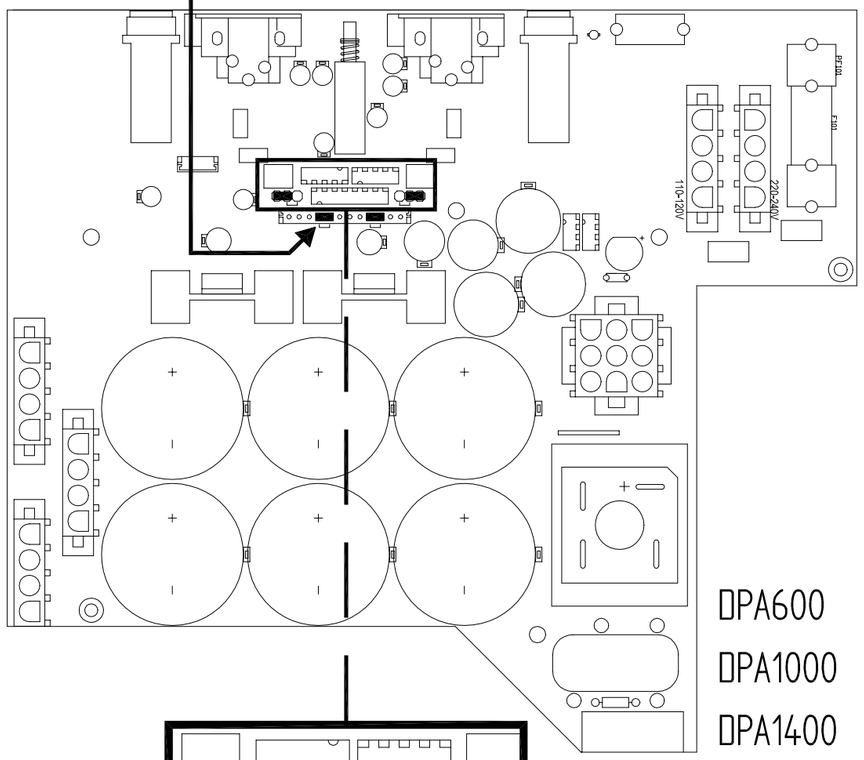
Verify the unit's sound quality, which should be distortion and noise free. Also check that all potentiometers can run smoothly their whole sweep, without annoying noises and crisperings. At their minimum position, check that output signal is completely cutted off. To ensure that all electrical junctions are well fixed, hit the tested unit against your working table, obviously without damaging its outer presentation. Verify also all inputs and outputs. At last, short-circuit the output terminals while carrying amplified signal, and verify that once short-circuit is removed, the amplifying stages still are working.

	DPA600	DPA1000	DPA1400	DPA2000
POWER 20-20kHz 1% THD				
2Ω Stereo	410 WRMS	682 WRMS	990 WRMS	1420 WRMS
4Ω Stereo	275 WRMS	440 WRMS	635 WRMS	940 WRMS
8Ω Stereo	180 WRMS	275 WRMS	395 WRMS	550 WRMS
8Ω Bridged	550 WRMS	882 WRMS	1270 WRMS	1880 WRMS
Peak Power 2Ω/1kHz	0.98Kw	1.5Kw	2Kw	2.95Kw
Frequency response (-1dB)	7Hz-50kHz	7Hz-50kHz	7Hz-50kHz	6Hz-50kHz
High pass filter (-3dB)		25Hz/Butt./18dB/oct.		
THD+Noise @ 1kHz Full Pwr.	<0.03%	<0.03%	<0.03%	<0.07%
Imd. Dist. 50Hz & 7kHz, 4:1	<0.05%	<0.08%	<0.08%	<0.08%
TIM 100	<0.01%	<0.01%	<0.01%	<0.01%
S+N/N 20Hz-20kHz @ 1W/4Ω	>85dB	>85dB	>85dB	>85dB
Damping factor 1kHz @ 8Ω	>300	>300	>300	>300
Slew Rate	±60V/µs	±65V/µs	±75V/µs	±80Vµs
Channel crosstalk @ 1kHz	>75dB	>75dB	>75dB	>75dB
Input connector		XLR3 balanced		
Input CMRR/ref. Max. PWR)		>60dB @ 1kHz		
Input Sensitivity / Impedance		0dBV/>22kΩ		
Signal present indicator		-40dB		
Output connectors		Speakon		
Clip indicators		-1.5dB real clip		
Anticlip limiter		1% & 5% aprox.		
Mains	Depending on your country. See characteristics in the back of the unit.			
Power consumption (max. Out)	830VA	1250VA	1720VA	3115VA
Dimensions				
Panel		482.6x88 mm		
Depth	420 mm	420 mm	420 mm	470 mm
Weight	12.7kg	16.6kg	19.3kg	22.7kg



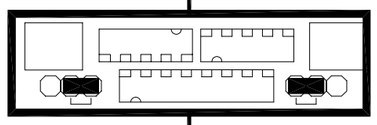
ECLEREE	drawn: J Colomines	date: 050322	project: EP03-04	product: DPA600
number: 31.0195 version 01.01	approved:	title: WIRING DIAGRAM		

2xJUMPERS OR
OPTIONAL MODULE

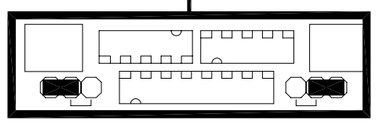


DPA600
DPA1000
DPA1400

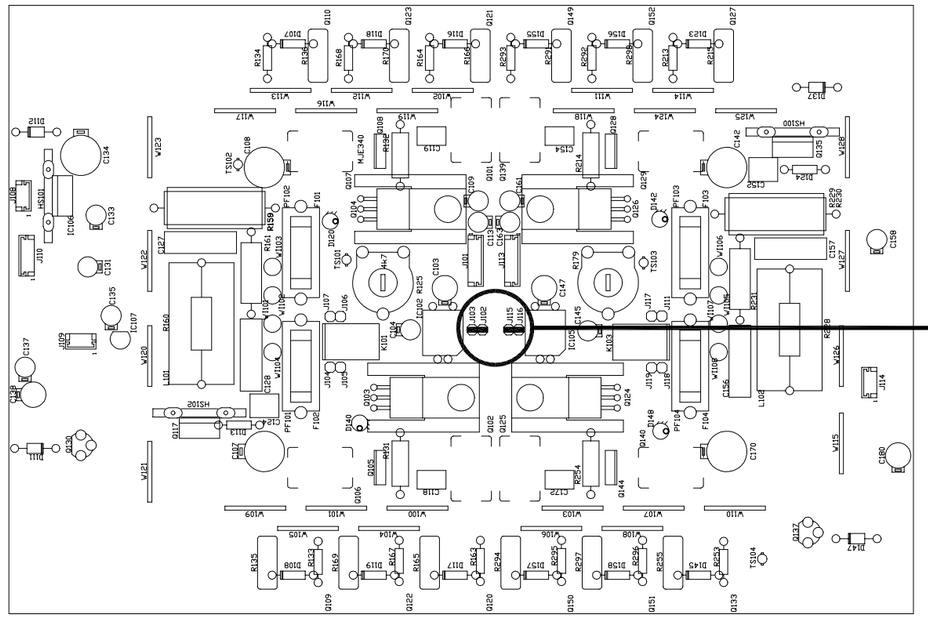
SUBSONIC OFF



SUBSONIC ON



FACTORY ADJUSTED TO "ON" POSITION



FACTORY ADJUSTED TO "HARD" POSITION

ANTICLIP HARD

ANTICLIP SOFT

DPA600

FACTORY ADJUSTED TO "HARD" POSITION

ANTICLIP HARD

ANTICLIP SOFT

DPA1000
DPA1400

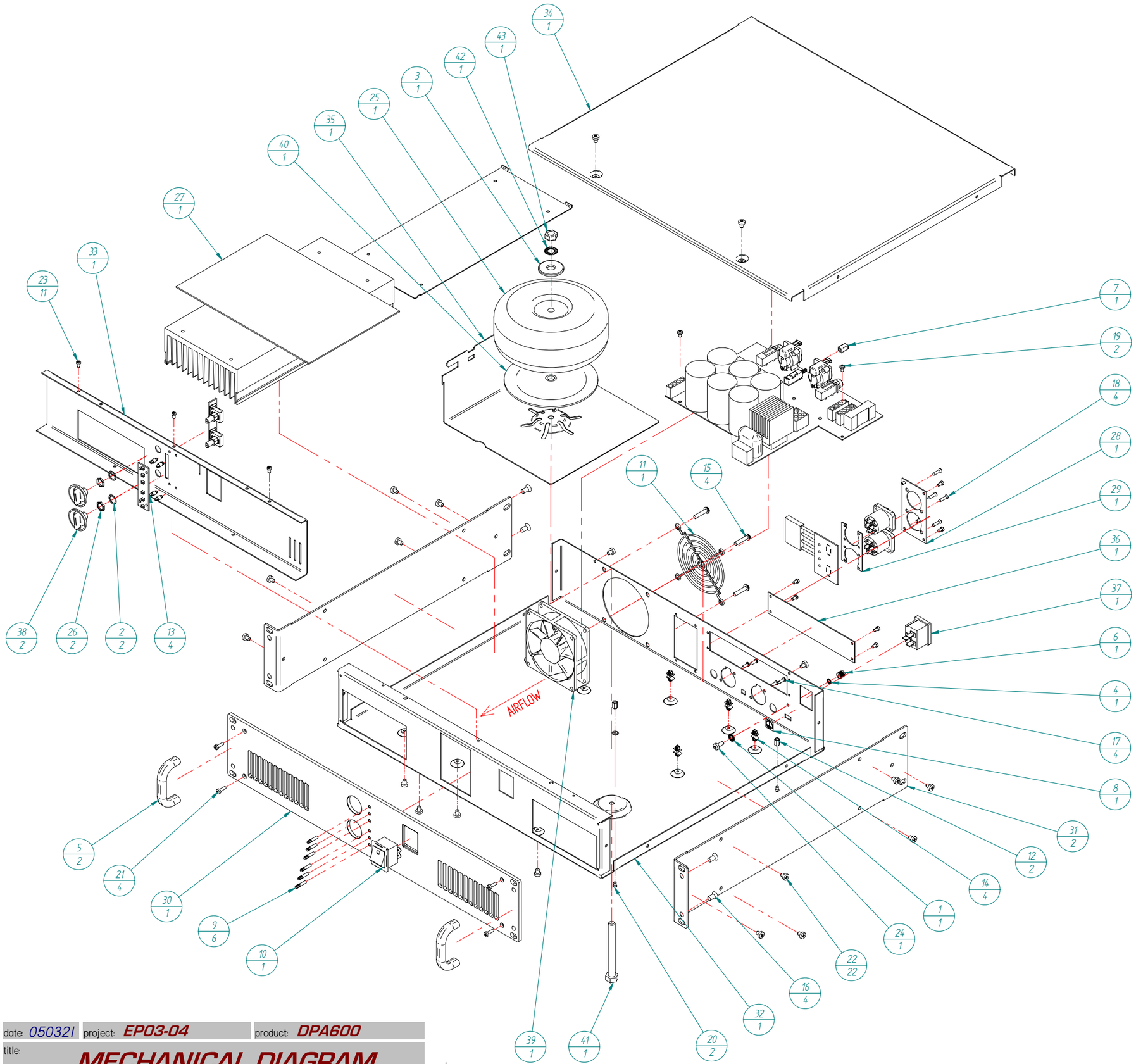
ECLEREE

drawn: J. Colomines | date: 050128 | project: EP03/04/05-04 | product: DPA600/1000/1400

number: 31.0196 | version 01.01 | approved: | title: CONFIGURATION DIAGRAM

Nº	Qty	Code	Description
1	1	FCARDE040000	TOOTHED WASHER M4
2	2	FCARDEPOTE00	ROTARY POT. WASHER M9
3	1	FCARM1050000	WASHER 10,5X30X2,5M
4	1	FCARS4000000	SEGMENTED WASHER M4
5	2	FCASAPWM1000	FRONTAL HANDLE
6	1	FCBOR0030000	GROUND TERMINAL
7	1	FCBOTRE01000	SWITCH KNOB 5,5X5,5 WHITE
8	1	FCETIZTT0000	EARTH TAG
9	6	FCGUIAL10000	LIGHT PIPE GUIDE VERTICAL
10	1	FCINTRED3000	MAINS SWITCH W/LIGHT
11	1	FCREJ0800000	FAN GRILLE 80x80
12	2	FCSEP3080000	SPACER M3x8
13	4	FCSEPDLMSPM0	PLASTIC SPACER DLMSPM-3-01
14	4	FCSEPWLS0600	PLASTIC SPACER 6MM
15	4	FCT060512000	SCREW 5,1x20
16	4	FCT200501000	SCREW DIN965 M5x10
17	4	FCT400290900	SCREW 2,9x9,5 D7981F BLACK
18	4	FCT500291300	SCREW D7982 2,9x13
19	2	FCT803005000	SCREW DIN 7985 M3x5 COMBI
20	2	FCT803005500	SCREW D965 M3x5 BLACK
21	4	FCT803010000	SCREW DIN7985 M3x10 SPANLO
22	22	FCT804006000	SCREW M4x6 SPANLO BLACK
23	11	FCT850300500	SCREW M3x5 REDUCED HEAD
24	1	FCT850411000	SCREW M4x10 TRILOB. WHITE
25*	1*	FCTFT0051000*	TOROIDAL TRANSFORMER*
26	2	FCTUPOT00000	ROTARY POT. NUT M9
27	1	FMMOAPA06000	POWER AMP MODULE
28	1	FP0253100000	SPEAK ON PLATE
29	1	FP0259300000	SPEAKON MECHANICAL SUPPORT
30	1	FP0281900100	FRONT PLATE DPA600
31	2	FP0282500000	LEFT/RIGHT SIDE
32	1	FP0282600000	BASE CHASSIS
33	1	FP0282700000	LED CIRCUIT MEC. SUPORT
34	1	FP0285900000	TOP COVER
35	1	FP0286000000	MECHANICAL REINFORCEMENT
36	1	FP0286200000	REAR BLANK PANEL
37	1	FRBASRE10200	MAINS SOCKET CABLE=450
38	2	FRBOTRD24100	ROTARY KNOB D24 ROTATED INDEX
39	1	FRVEN080B000	FAN 80x80 12VDC CABLE=300
40	1	GENERIC	TRANSFORMER RUBBER DISC
41	1	GENERIC	SCREW M8 TRANSFORMER
42	1	GENERIC	TOOTHED WASHER M8
43	1	GENERIC	TRANSFORMER NUT M8

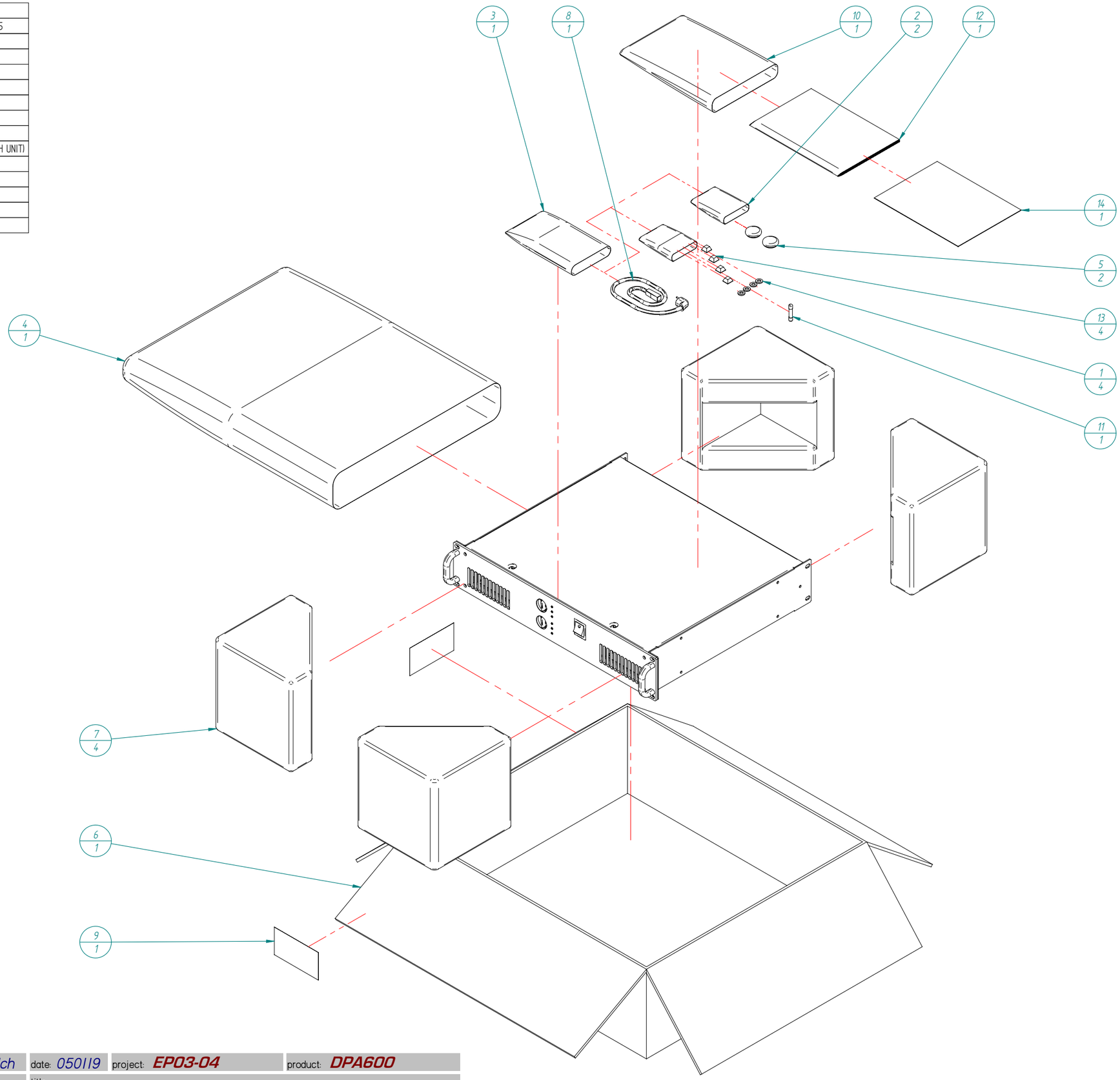
* FOR 100V UNIT TRANSFORMER CODE FCTFT0250000



NOTE:
1.-TO VIEW CABLES POSITION AND WIRING CHARACTERISTICS, SEE WIRING DIAGRAM NUMBER 31.0195

ECLER	drawn: Jordi Folch	date: 050321	project: EP03-04	product: DPA600
number: 30.0203 version 01.01	approved:	title: MECHANICAL DIAGRAM		

N°	Qty	Code	Description
1	4	FCARANY06000	WASHER M6 NYLON BLACK 12x6,4x1,5
2	2	FCBOL0010000	BAG 60x80
3	1	FCBOL0020000	PLASTIC BAG 120x180
4	1	FCBOLS020000	STANDARD BAG 75x65
5	2	FCBOTD240100	ROT. KNOB PROTECTION COVER
6	1	FCCAJSTA2300	PACKING CARDBOARD BOX
7	4	FCCANT116000	INTERIOR REINFORCEMENT
8	1	FCCONX017600	MAINS CORD 3x1,5 ST EU
9	1	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
10	1	FCFUNMAN0000	USER MANUAL BAG
11	1	FCFUS8030000	FUSE 10AT 10x38
12	1	FCMANPAMDPA0	USER MANUAL DPA SERIES
13	4	FCPIE1125500	RUBBER FOOT
14	1	FCTARJG00000	WARRANTY CARD

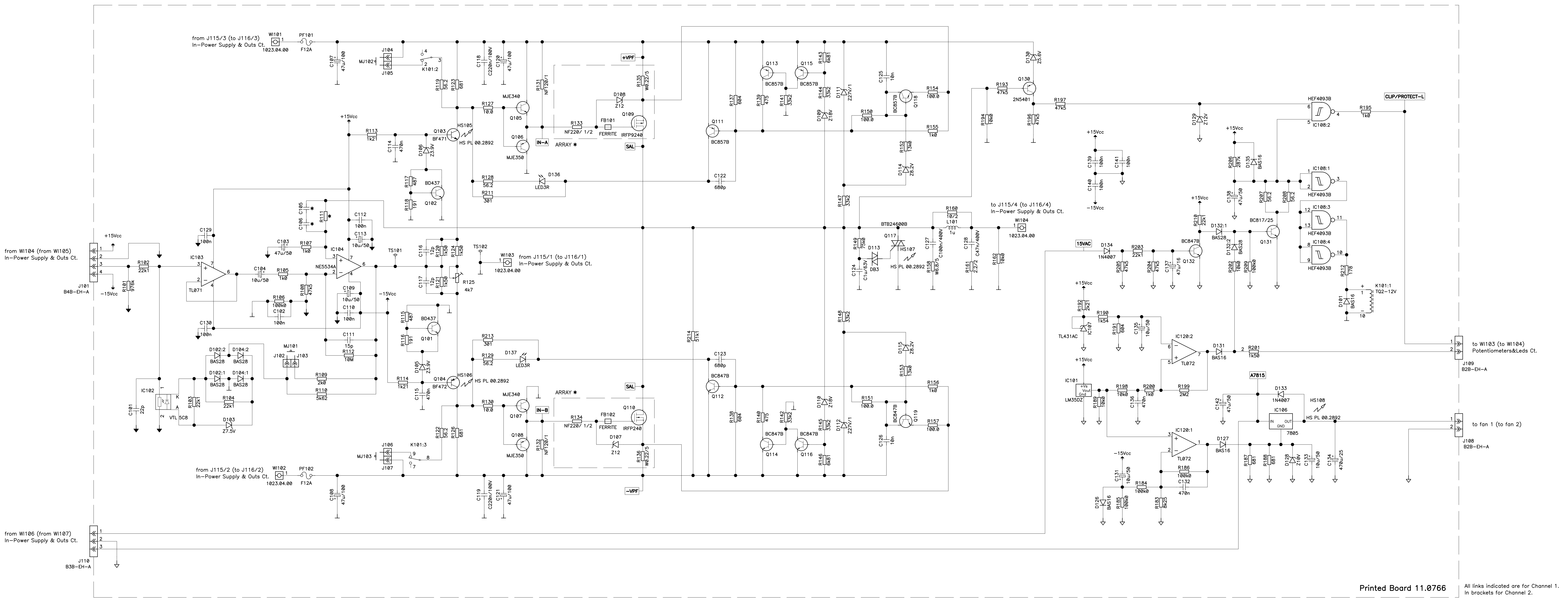


ECLEREE

drawn: Jordi Folch | date: 050119 | project: EP03-04 | product: DPA600

approved: | title: **PACKING DIAGRAM**

number: 32.0111 | version 01.00

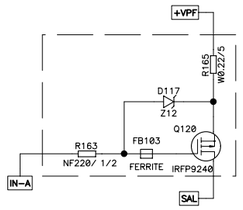


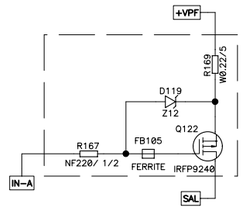
All links indicated are for Channel 1.
In brackets for Channel 2.

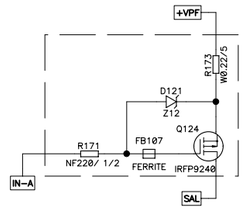
* MODEL	C105 C106	R111	ARRAYS QTY.
EP03-99C	2 x 68p	41k2	5
EP03-99D	2 x 47p	51k1	6

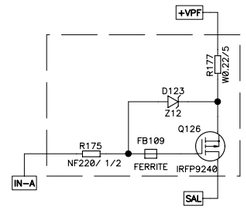
ECLER
LABORATORIO DE ELECTRO-ACUSTICA S.A.

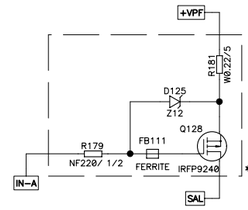
drawn by: M. Amoros	date: 050330	approved: Angel Sanuy	
project n: EP03-99C/D	title: Power Amp. Sch.		
product n: APA1000-1400			
number: 10.0495	version: 01.04	page: 1 of 2	



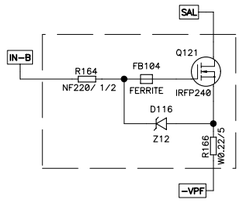


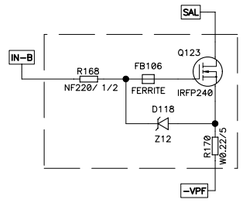


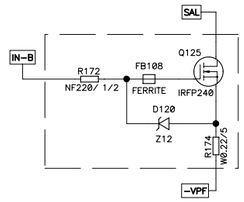


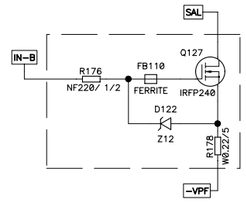


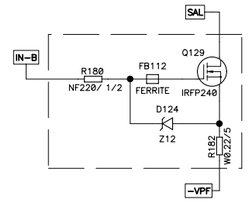
* Unfitted in EP03-99C





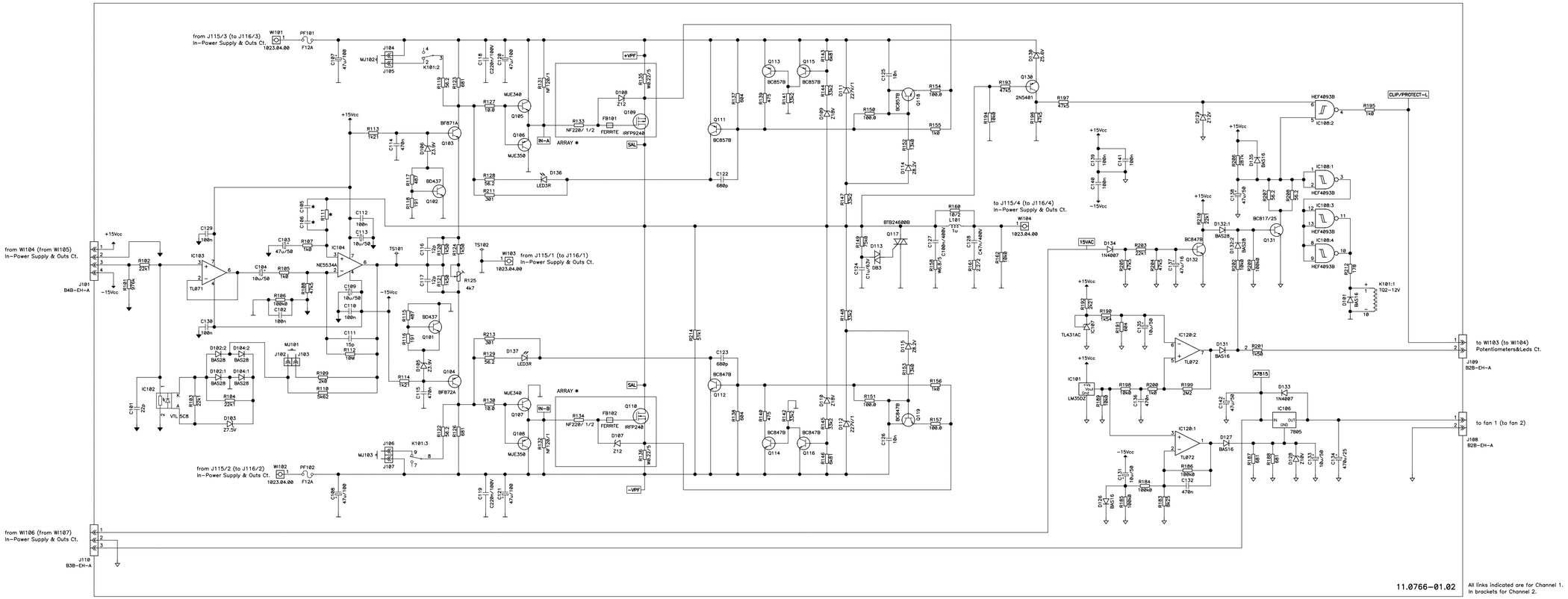






* Unfitted in EP03-99C

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.		drawn by: M. Amoros	date: 050330	approved: Angel Sanuy
		project n: EP03-99C/D	title: Power Amp. Sch.	
		product n: APA1000-1400		
number: 10.0495	version: 01.04	page: 2 of 2		



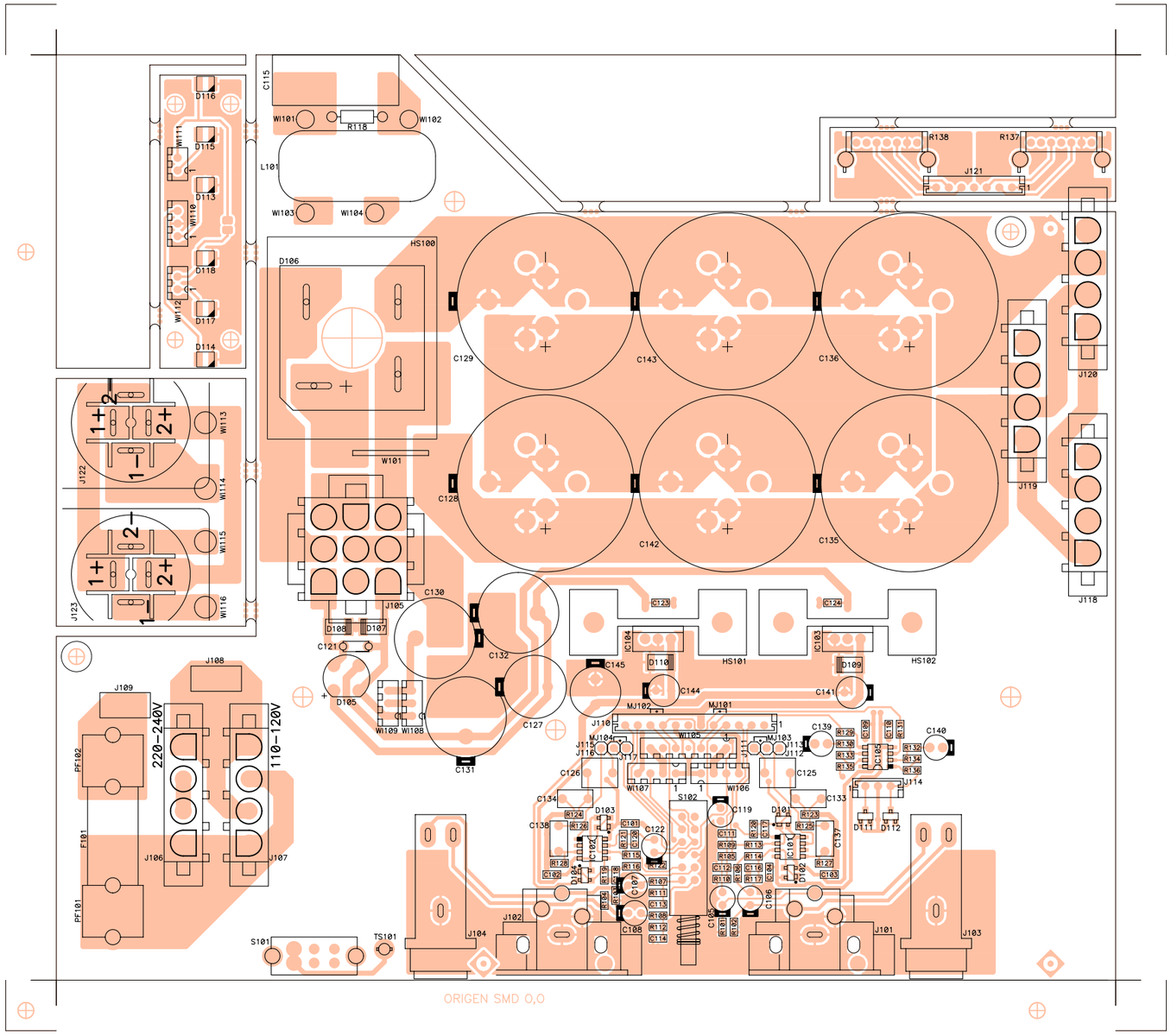
All links indicated are for Channel 1.
In brackets for Channel 2.

★

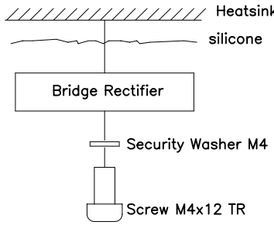
MODEL	C105 C106	R111	ARRAYS QTY.
EP03-99C	2 x 68p	41k2	5
EP03-99D	2 x 47p	51k1	6

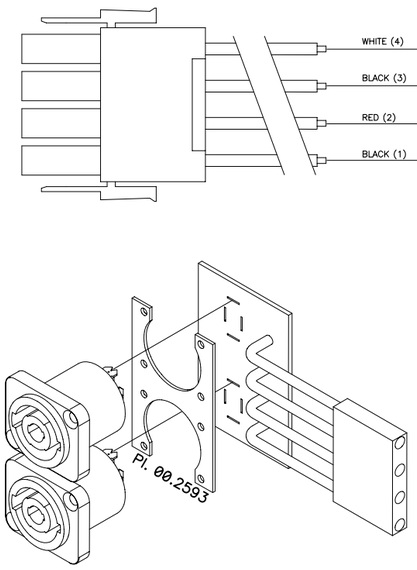
OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: M. Amoros	date: 000314	approved by: Angel Sanuy
	title: EP03-99C&D Power Amp. Ct.		
number: 10.0495	version: 01.03		

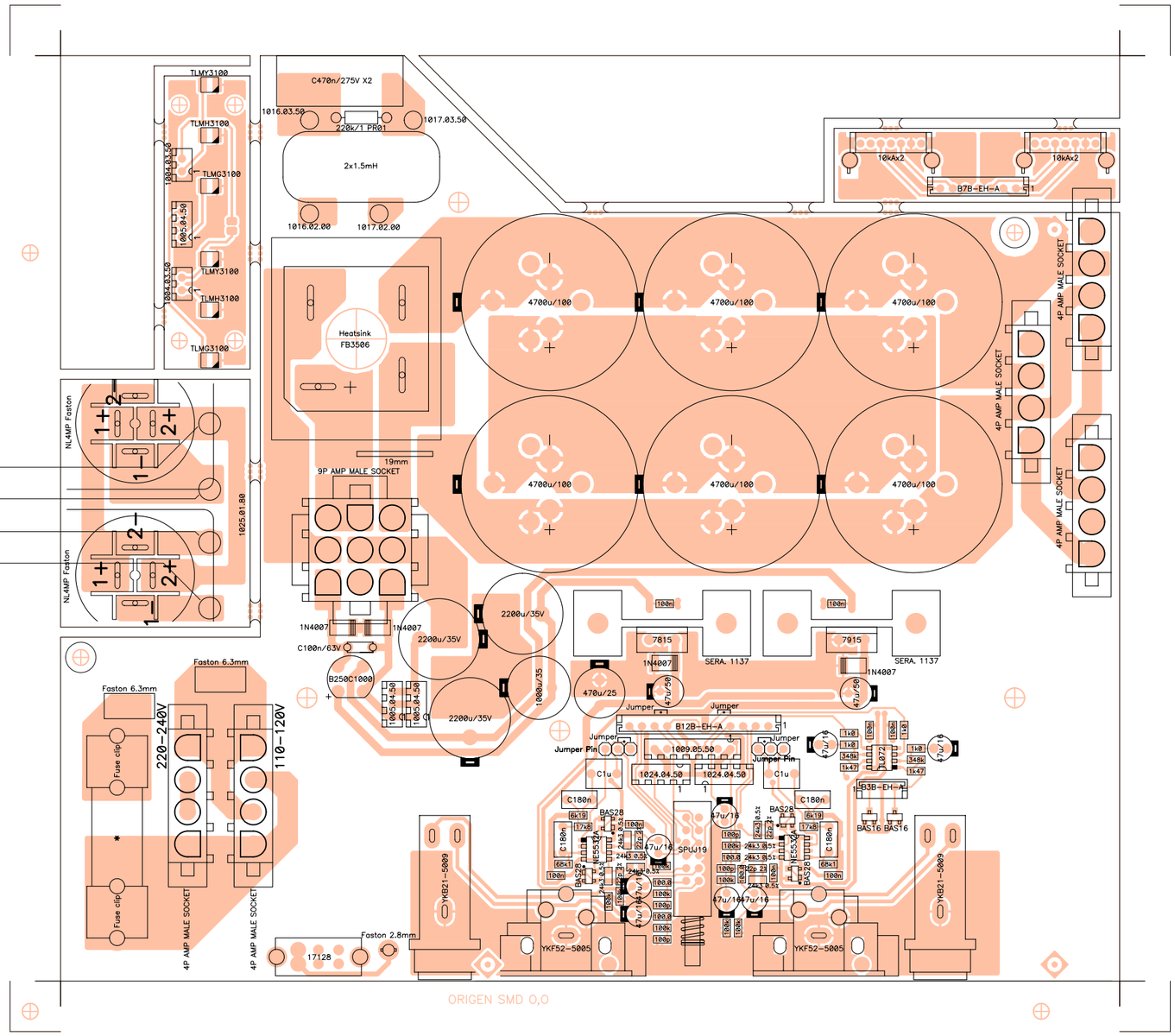


ECLEREE LABORATORIO DE ELECTRO−ACUSTICA S.A.		related to: circuit no: 11.1002−05.01 schema no: 10.0674−01.05 insertion file no: 81.0090−01.00	side: Component view: Reference
number: 33.0926	version: 01.01	project n: EP04/05−04 product n: DPA1000/1400	title: Inputs−Power Supply Ct
drawn by: M. Amoros	date: 050329	approved: Angel Sanuy	



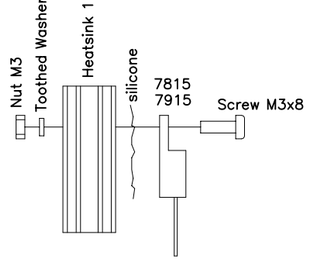


Detail assembly Speak-on



* 110-120V/220-240V TABLE	
MODEL	F101
DPA1000	10A
DPA1400	16A

* 100V TABLE	
MODEL	F101
DPA1000	16A
DPA1400	16A



IMPORTANT NOTE: Apply Clear Silicone Sealant among the 4700u/100V electrolitic capacitors

ECLER
LABORATORIO DE ELECTRO-ACUSTICA S.A.

related to: circuit no: 11.1002-05.01 schema no: 10.0674-01.05 insertion file no: 81.0090-01.00		side: Component view: Value	
project n: EP04/05-04	title: Inputs-Power Supply Ct		
number: 33.0927	version: 01.01	product n: DPA1000/1400	
drawn by: M. Amoros	date: 050329	approved: Angel Sanuy	

PARTS LIST: PRINTED CIRCUIT 11.1002.05.01 DPA1000

Code	Description	Reference
FCXCD4100000	100n	C101
FCXCD4100000	100n	C102
FCXCD4100000	100n	C103
FCXCD4100000	100n	C104
FCCE10000000	47u/16	C105
FCCE10000000	47u/16	C106
FCCE10000000	47u/16	C107
FCCE10000000	47u/16	C108
FCXCD4100000	100n	C109
FCXCD4100000	100n	C110
FCXCD2100000	100p	C111
FCXCD2100000	100p	C112
FCXCD2100000	100p	C113
FCXCD2100000	100p	C114
FCCDH7147000	C470n/275V X2	C115
FCXCD1220100	22p 2%	C116
FCXCD1220100	22p 2%	C117
FCXCD1220100	22p 2%	C118
FCCE10000000	47u/16	C119
FCXCD1220100	22p 2%	C120
FCCDK1100000	C100n/63V	C121
FCCE10000000	47u/16	C122
FCXCD4100000	100n	C123
FCXCD4100000	100n	C124
FCCDK2001000	C1u	C125
FCCDK2001000	C1u	C126
FCCE21100000	1000u/35	C127
FCCE33152500	4700u/100	C128
FCCE33152500	4700u/100	C129
FCCE21220000	2200u/35V	C130
FCCE21220000	2200u/35V	C131
FCCE21220000	2200u/35V	C132
FCCDK5180000	C180n	C133
FCCDK5180000	C180n	C134
FCCE33152500	4700u/100	C135
FCCE33152500	4700u/100	C136
FCCDK5180000	C180n	C137
FCCDK5180000	C180n	C138
FCCE10000000	47u/16	C139
FCCE10000000	47u/16	C140
FCCE25047000	47u/50	C141
FCCE33152500	4700u/100	C142
FCCE33152500	4700u/100	C143
FCCE25047000	47u/50	C144
FCCE15470000	470u/25	C145
FCCI01002000	Printed Board 11.1002	CI101
FCXDDBAS2800	BAS28	D101
FCXDDBAS2800	BAS28	D102
FCXDDBAS2800	BAS28	D103
FCXDDBAS2800	BAS28	D104
FCREC2510000	B250C1000	D105
FCREC3506000	FB3506	D106
FCXDD4007000	1N4007	D107
FCXDD4007000	1N4007	D108
FCXDD4007000	1N4007	D109
FCXDD4007000	1N4007	D110

PARTS LIST: PRINTED CIRCUIT 11.1002.05.01 DPA1000

Code	Description	Reference
FCXDDBAS1600	BAS16	D111
FCXDDBAS1600	BAS16	D112
FCLEDSMD3000	TLMG3100	D113
FCLEDSMD3000	TLMG3100	D114
FCLEDSMD2000	TLMH3100	D115
FCLEDSMD2500	TLMY3100	D116
FCLEDSMD2000	TLMH3100	D117
FCLEDSMD2500	TLMY3100	D118
FCFUS8030000	10A Temp.	F101
FCRAD1151500	Heatsink	HS100
FCRAD1263600	SERA. 1137	HS101
FCRAD1263600	SERA. 1137	HS102
FCIC55322000	NE5532A	IC101
FCIC55322000	NE5532A	IC102
FCREG7915000	7915	IC103
FCREG7815000	7815	IC104
FCIC07201000	TL072	IC105
FCBASX090000	YKF52-5005	J101
FCBASX090000	YKF52-5005	J102
FCBASJ020000	YKB21-5009	J103
FCBASJ020000	YKB21-5009	J104
FCCTAMP09000	9P AMP MALE SOCKET	J105
FCCTAMP04000	4P AMP MALE SOCKET	J106
FCCTAMP04000	4P AMP MALE SOCKET	J107
FCTERMF63000	Faston 6.3mm	J108
FCTERMF63000	Faston 6.3mm	J109
FCCTM0012000	B12B-EH-A	J110
FCTERM010000	Jumper Pin	J111
FCTERM010000	Jumper Pin	J112
FCTERM010000	Jumper Pin	J113
FCCTM0003000	B3B-EH-A	J114
FCTERM010000	Jumper Pin	J115
FCTERM010000	Jumper Pin	J116
FCTERM010000	Jumper Pin	J117
FCCTAMP04000	4P AMP MALE SOCKET	J118
FCCTAMP04000	4P AMP MALE SOCKET	J119
FCCTAMP04000	4P AMP MALE SOCKET	J120
FCCTM0007000	B7B-EH-A	J121
FCBASS010000	NL4MP Faston	J122
FCBASS010000	NL4MP Faston	J123
FCBB2X350000	2x1.5mH	L101
FCMJ00010000	Jumper	MJ101
FCMJ00010000	Jumper	MJ102
FCMJ00010000	Jumper	MJ103
FCMJ00010000	Jumper	MJ104
FC0259300000	Speak-on support	MP100
FCTUE0030000	Nut M3	NV101
FCTUE0030000	Nut M3	NV102
FCPORF020000	Fuse clip	PF101
FCPORF020000	Fuse clip	PF102
FCXR55100000	100k	R101
FCXR55100000	100k	R102
FCXR55100000	100k	R103
FCXR55100000	100k	R104
FCXR52100000	100.0	R105
FCXR52100000	100.0	R106

PARTS LIST: PRINTED CIRCUIT 11.1002.05.01 DPA1000

Code	Description	Reference
FCXR52100000	100.0	R107
FCXR52100000	100.0	R108
FCXR55100000	100k	R109
FCXR55100000	100k	R110
FCXR55100000	100k	R111
FCXR55100000	100k	R112
FCXR64243000	24k3 0.5%	R113
FCXR64243000	24k3 0.5%	R114
FCXR64243000	24k3 0.5%	R115
FCXR64243000	24k3 0.5%	R116
FCXR64243000	24k3 0.5%	R117
FCRP46220000	220k/1 PR01	R118
FCXR64243000	24k3 0.5%	R119
FCXR64243000	24k3 0.5%	R120
FCXR64243000	24k3 0.5%	R121
FCXR55100000	100k	R122
FCXR53619000	6k19	R123
FCXR53619000	6k19	R124
FCXR54178000	17k8	R125
FCXR54178000	17k8	R126
FCXR54681000	68k1	R127
FCXR54681000	68k1	R128
FCXR53100000	1k0	R129
FCXR53100000	1k0	R130
FCXR53100000	1k0	R131
FCXR53100000	1k0	R132
FCXR55348000	348k	R133
FCXR55348000	348k	R134
FCXR53147000	1k47	R135
FCXR53147000	1k47	R136
FCPR21004000	10kAx2	R137
FCPR21004000	10kAx2	R138
FCINTD400000	17128	S101
FCINTAP01200	SPUJ19	S102
FCT750300800	Screw M3x8	SC101
FCT750300800	Screw M3x8	SC102
FCT380401200	Screw M4x12 TR	SC103
FCTERMF28000	Faston 2.8mm	TS101
FP0252400000	19mm	W101
FCARDE030000	Toothed Washer f/M3	WA101
FCARDE030000	Toothed Washer f/M3	WA102
FCARDE040000	Toothed Washer f/M4	WA103
FC2F01635000	1016.03.50	WI101
FC2F01735000	1017.03.50	WI102
FC2F01620000	1016.02.00	WI103
FC2F01720000	1017.02.00	WI104
FC4M00955000	1009.05.50	WI105
FC6J02445000	1024.04.50	WI106
FC6J02445000	1024.04.50	WI107
FC4I00545000	1005.04.50	WI108
FC4I00545000	1005.04.50	WI109
FC4I00545000	1005.04.50	WI110
FC4G00435000	1004.03.50	WI111
FC4G00435000	1004.03.50	WI112
FC0H02518000	1025.01.80	WI113

PARTS LIST: PRINTED CIRCUIT 11.1002.05.01 DPA1400

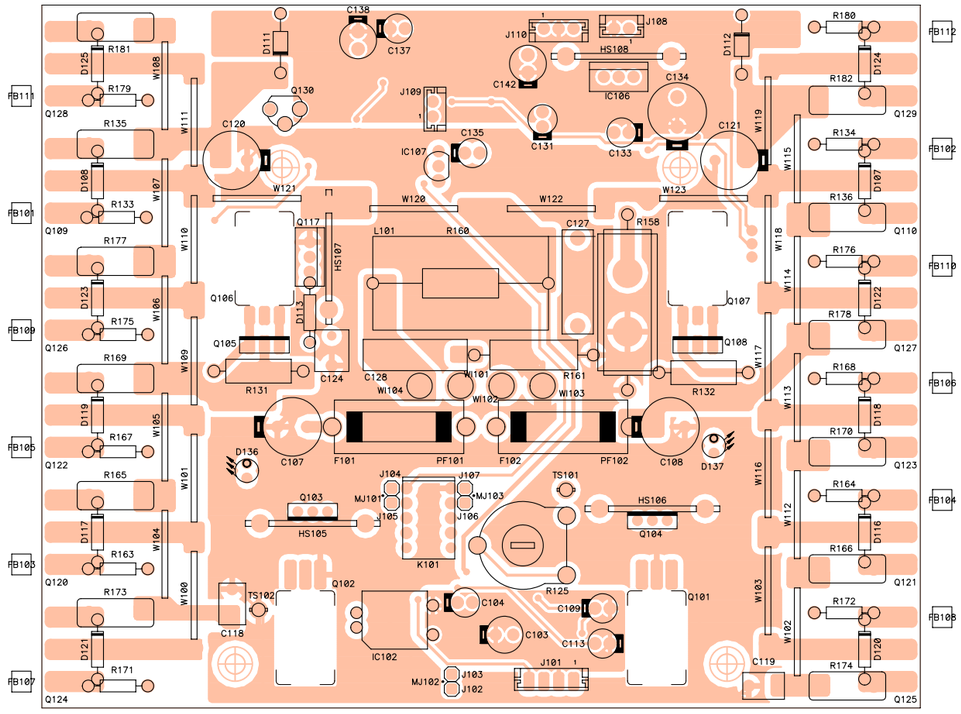
Code	Description	Reference
FCXCD4100000	100n	C101
FCXCD4100000	100n	C102
FCXCD4100000	100n	C103
FCXCD4100000	100n	C104
FCCE10000000	47u/16	C105
FCCE10000000	47u/16	C106
FCCE10000000	47u/16	C107
FCCE10000000	47u/16	C108
FCXCD4100000	100n	C109
FCXCD4100000	100n	C110
FCXCD2100000	100p	C111
FCXCD2100000	100p	C112
FCXCD2100000	100p	C113
FCXCD2100000	100p	C114
FCCDH7147000	C470n/275V X2	C115
FCXCD1220100	22p 2%	C116
FCXCD1220100	22p 2%	C117
FCXCD1220100	22p 2%	C118
FCCE10000000	47u/16	C119
FCXCD1220100	22p 2%	C120
FCCDK1100000	C100n/63V	C121
FCCE10000000	47u/16	C122
FCXCD4100000	100n	C123
FCXCD4100000	100n	C124
FCCDK2001000	C1u	C125
FCCDK2001000	C1u	C126
FCCE21100000	1000u/35	C127
FCCE33152500	4700u/100	C128
FCCE33152500	4700u/100	C129
FCCE21220000	2200u/35V	C130
FCCE21220000	2200u/35V	C131
FCCE21220000	2200u/35V	C132
FCCDK5180000	C180n	C133
FCCDK5180000	C180n	C134
FCCE33152500	4700u/100	C135
FCCE33152500	4700u/100	C136
FCCDK5180000	C180n	C137
FCCDK5180000	C180n	C138
FCCE10000000	47u/16	C139
FCCE10000000	47u/16	C140
FCCE25047000	47u/50	C141
FCCE33152500	4700u/100	C142
FCCE33152500	4700u/100	C143
FCCE25047000	47u/50	C144
FCCE15470000	470u/25	C145
FCCI01002000	Printed Board 11.1002	CI101
FCXDDBAS2800	BAS28	D101
FCXDDBAS2800	BAS28	D102
FCXDDBAS2800	BAS28	D103
FCXDDBAS2800	BAS28	D104
FCREC2510000	B250C1000	D105
FCREC3506000	FB3506	D106
FCXDD4007000	1N4007	D107
FCXDD4007000	1N4007	D108
FCXDD4007000	1N4007	D109
FCXDD4007000	1N4007	D110

PARTS LIST: PRINTED CIRCUIT 11.1002.05.01 DPA1400

Code	Description	Reference
FCXDDBAS1600	BAS16	D111
FCXDDBAS1600	BAS16	D112
FCLEDSMD3000	TLMG3100	D113
FCLEDSMD3000	TLMG3100	D114
FCLEDSMD2000	TLMH3100	D115
FCLEDSMD2500	TLMY3100	D116
FCLEDSMD2000	TLMH3100	D117
FCLEDSMD2500	TLMY3100	D118
FCFUS8040000	16A Temp.	F101
FCRAD1151500	Heatsink	HS100
FCRAD1263600	SERA. 1137	HS101
FCRAD1263600	SERA. 1137	HS102
FCIC55322000	NE5532A	IC101
FCIC55322000	NE5532A	IC102
FCREG7915000	7915	IC103
FCREG7815000	7815	IC104
FCIC07201000	TL072	IC105
FCBASX090000	YKF52-5005	J101
FCBASX090000	YKF52-5005	J102
FCBASJ020000	YKB21-5009	J103
FCBASJ020000	YKB21-5009	J104
FCCTAMP09000	9P AMP MALE SOCKET	J105
FCCTAMP04000	4P AMP MALE SOCKET	J106
FCCTAMP04000	4P AMP MALE SOCKET	J107
FCTERMF63000	Faston 6.3mm	J108
FCTERMF63000	Faston 6.3mm	J109
FCCTM0012000	B12B-EH-A	J110
FCTERM010000	Jumper Pin	J111
FCTERM010000	Jumper Pin	J112
FCTERM010000	Jumper Pin	J113
FCCTM0003000	B3B-EH-A	J114
FCTERM010000	Jumper Pin	J115
FCTERM010000	Jumper Pin	J116
FCTERM010000	Jumper Pin	J117
FCCTAMP04000	4P AMP MALE SOCKET	J118
FCCTAMP04000	4P AMP MALE SOCKET	J119
FCCTAMP04000	4P AMP MALE SOCKET	J120
FCCTM0007000	B7B-EH-A	J121
FCBASS010000	NL4MP Faston	J122
FCBASS010000	NL4MP Faston	J123
FCBB2X350000	2x1.5mH	L101
FCMJ00010000	Jumper	MJ101
FCMJ00010000	Jumper	MJ102
FCMJ00010000	Jumper	MJ103
FCMJ00010000	Jumper	MJ104
FC0259300000	Speak-on support	MP100
FCTUE0030000	Nut M3	NV101
FCTUE0030000	Nut M3	NV102
FCPORF020000	Fuse clip	PF101
FCPORF020000	Fuse clip	PF102
FCXR55100000	100k	R101
FCXR55100000	100k	R102
FCXR55100000	100k	R103
FCXR55100000	100k	R104
FCXR52100000	100.0	R105
FCXR52100000	100.0	R106

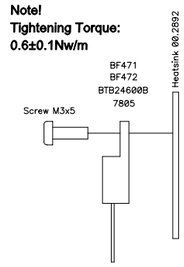
PARTS LIST: PRINTED CIRCUIT 11.1002.05.01 DPA1400

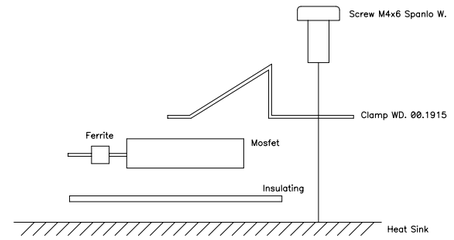
Code	Description	Reference
FCXR52100000	100.0	R107
FCXR52100000	100.0	R108
FCXR55100000	100k	R109
FCXR55100000	100k	R110
FCXR55100000	100k	R111
FCXR55100000	100k	R112
FCXR64243000	24k3 0.5%	R113
FCXR64243000	24k3 0.5%	R114
FCXR64243000	24k3 0.5%	R115
FCXR64243000	24k3 0.5%	R116
FCXR64243000	24k3 0.5%	R117
FCRP46220000	220k/1 PR01	R118
FCXR64243000	24k3 0.5%	R119
FCXR64243000	24k3 0.5%	R120
FCXR64243000	24k3 0.5%	R121
FCXR55100000	100k	R122
FCXR53619000	6k19	R123
FCXR53619000	6k19	R124
FCXR54178000	17k8	R125
FCXR54178000	17k8	R126
FCXR54681000	68k1	R127
FCXR54681000	68k1	R128
FCXR53100000	1k0	R129
FCXR53100000	1k0	R130
FCXR53100000	1k0	R131
FCXR53100000	1k0	R132
FCXR55348000	348k	R133
FCXR55348000	348k	R134
FCXR53147000	1k47	R135
FCXR53147000	1k47	R136
FCPR21004000	10kAx2	R137
FCPR21004000	10kAx2	R138
FCINTD400000	17128	S101
FCINTAP01200	SPUJ19	S102
FCT750300800	Screw M3x8	SC101
FCT750300800	Screw M3x8	SC102
FCT380401200	Screw M4x12 TR	SC103
FCTERMF28000	Faston 2.8mm	TS101
FP0252400000	19mm	W101
FCARDE030000	Toothed Washer f/M3	WA101
FCARDE030000	Toothed Washer f/M3	WA102
FCARDE040000	Toothed Washer f/M4	WA103
FC2F01635000	1016.03.50	WI101
FC2F01735000	1017.03.50	WI102
FC2F01620000	1016.02.00	WI103
FC2F01720000	1017.02.00	WI104
FC4M00955000	1009.05.50	WI105
FC6J02445000	1024.04.50	WI106
FC6J02445000	1024.04.50	WI107
FC4I00545000	1005.04.50	WI108
FC4I00545000	1005.04.50	WI109
FC4I00545000	1005.04.50	WI110
FC4G00435000	1004.03.50	WI111
FC4G00435000	1004.03.50	WI112
FC0H02518000	1025.01.80	WI113

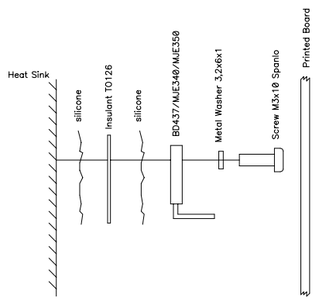


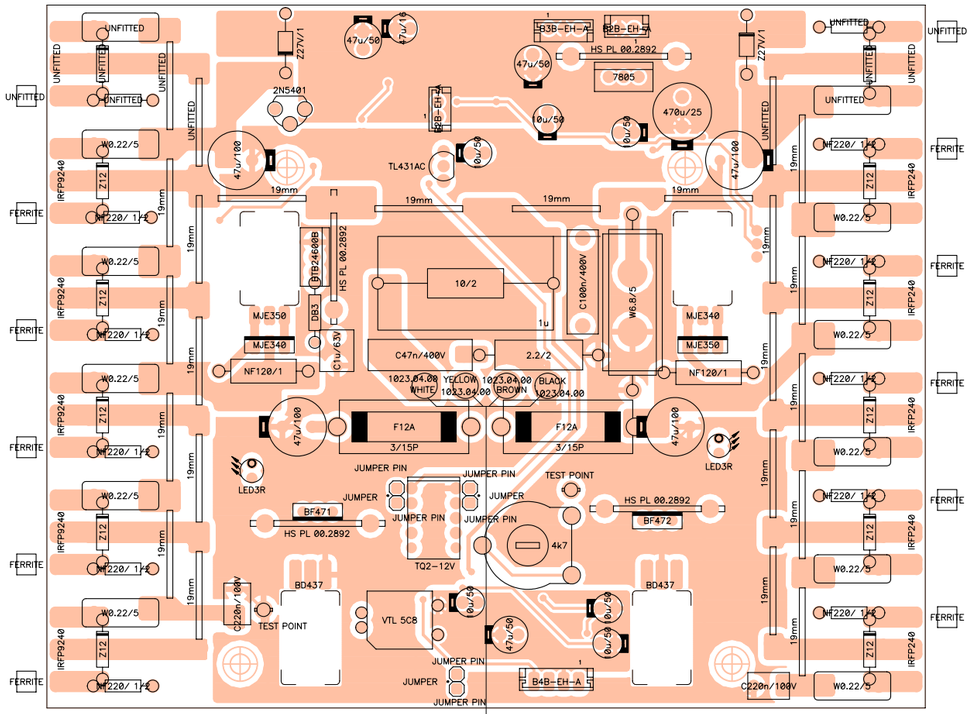
ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0766–02.00 schema no: 10.0495–01.04 insertion file no: 81.0017–01.02	side: Component view: Reference	
number: 33.0437	version: 01.03	project n: EP03–99C	title: Power Amp. Ct.
drawn by: M. Amoros	date: 050330	product n: APA1000 approved: Angel Sanuy	

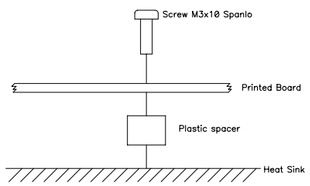
Note!
Tightening Torque:
0.6±0.1Nw/m

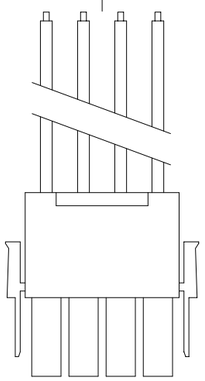


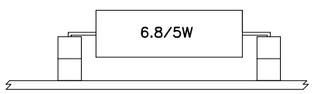






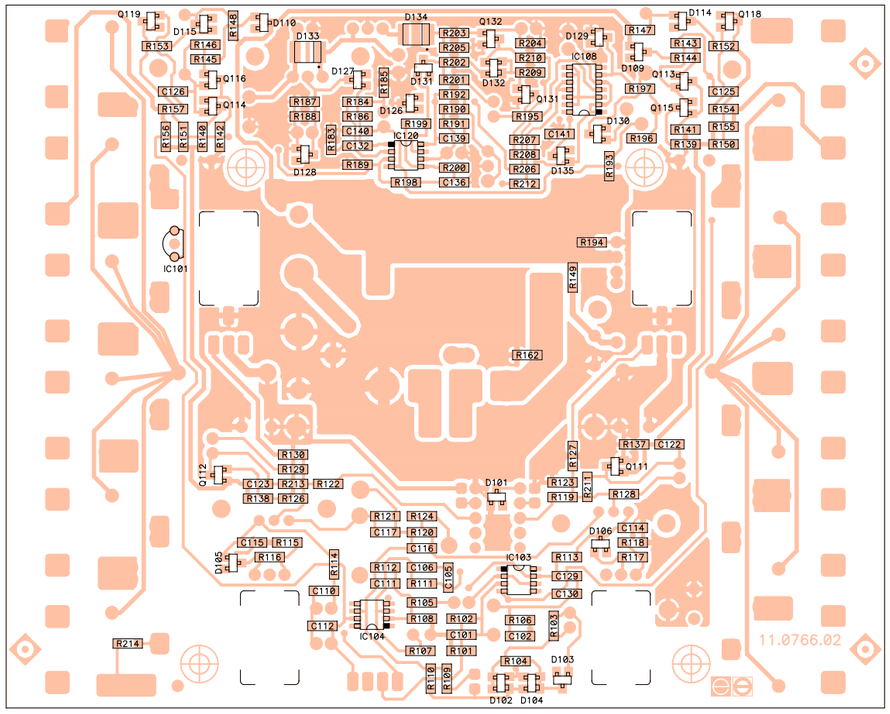




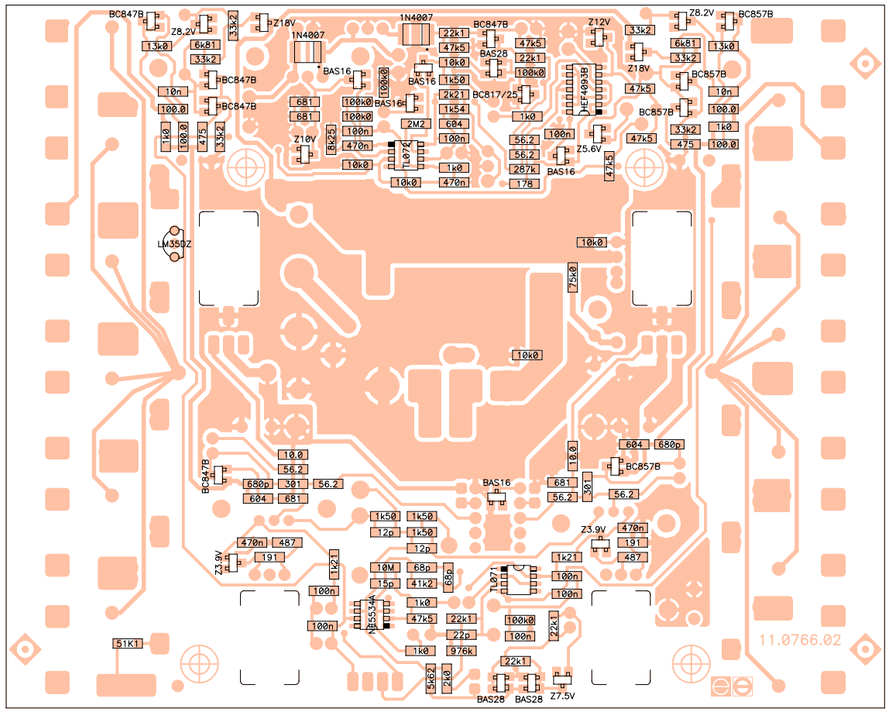


Assembly Detail

ECLEREE LABORATORIO DE ELECTRO-ACUSTICA S.A.		related to: circuit no: 11.0766-02.00 schema no: 10.0495-01.04 insertion file no: 81.0017-01.02	side: Component view: Value
number: 33.0438	version: 01.03	project n: EP03-99C	title: Power Amp. Ct.
drawn by: M. Amoros	date: 050330	product n: APA1000	
		approved: Angel Sanuy	



ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0766–02.00 schema no: 10.0495–01.04 insertion file no: 81.0017–01.02		side: Solder view: Reference
	project n: EP03–99C	title: Power Amp. Ct.	
number: 33.0439	version: 01.03	product n: APA1000	
drawn by: M. Amoros	date: 050330	approved: Angel Sanuy	



ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0766–02.00 schema no: 10.0495–01.04 insertion file no: 81.0017–01.02	side: Solder view: Value	
number: 33.0440	version: 01.03	project n: EP03–99C	title: Power Amp. Ct.
drawn by: M. Amoros	date: 050330	product n: APA1000	
		approved: Angel Sanuy	

PARTS LIST: PRINTED CIRCUIT 11.0766.02.00 DPA1000

Code	Description	Reference
FCXCN1220000	22p	C101
FCXCN4100000	100n	C102
FCCE25047000	47u/50	C103
FCCE25010000	10u/50	C104
FCXCN1680000	68p	C105
FCXCN1680000	68p	C106
FCCE35047000	47u/100	C107
FCCE35047000	47u/100	C108
FCCE25010000	10u/50	C109
FCXCN4100000	100n	C110
FCXCN1150000	15p	C111
FCXCN4100000	100n	C112
FCCE25010000	10u/50	C113
FCXCN4470000	470n	C114
FCXCN4470000	470n	C115
FCXCN1120000	12p	C116
FCXCN1120000	12p	C117
FCCDK5220000	C220n/100V	C118
FCCDK5220000	C220n/100V	C119
FCCE35047000	47u/100	C120
FCCE35047000	47u/100	C121
FCXCN2680000	680p	C122
FCXCN2680000	680p	C123
FCCDK2001000	C1u/63V	C124
FCXCN4010000	10n	C125
FCXCN4010000	10n	C126
FCCDH7110000	C100n/400V	C127
FCCDH7104700	C47n/400V	C128
FCXCN4100000	100n	C129
FCXCN4100000	100n	C130
FCCE25010000	10u/50	C131
FCXCN4470000	470n	C132
FCCE25010000	10u/50	C133
FCCE15470000	470u/25	C134
FCCE25010000	10u/50	C135
FCXCN4470000	470n	C136
FCCE10000000	47u/16	C137
FCCE25047000	47u/50	C138
FCXCN4100000	100n	C139
FCXCN4100000	100n	C140
FCXCN4100000	100n	C141
FCCE25047000	47u/50	C142
FCXDDBAS1600	BAS16	D101
FCXDDBAS2800	BAS28	D102
FCXZ00007500	Z7.5V	D103
FCXDDBAS2800	BAS28	D104
FCXZ00003900	Z3.9V	D105
FCXZ00003900	Z3.9V	D106
FCDD04120000	Z12	D107
FCDD04120000	Z12	D108
FCXZ00018000	Z18V	D109
FCXZ00018000	Z18V	D110
FCDD10270000	Z27V/1	D111
FCDD10270000	Z27V/1	D112
FCDIDB300000	DB3	D113
FCXZ00008200	Z8.2V	D114

Code	Description	Reference
FCXZ00008200	Z8.2V	D115
FCDD04120000	Z12	D116
FCDD04120000	Z12	D117
FCDD04120000	Z12	D118
FCDD04120000	Z12	D119
FCDD04120000	Z12	D120
FCDD04120000	Z12	D121
FCDD04120000	Z12	D122
FCDD04120000	Z12	D123
	UNFITTED	D124
	UNFITTED	D125
FCXDDBAS1600	BAS16	D126
FCXDDBAS1600	BAS16	D127
FCXZ00010000	Z10V	D128
FCXZ00012000	Z12V	D129
FCXZ00005600	Z5.6V	D130
FCXDDBAS1600	BAS16	D131
FCXDDBAS2800	BAS28	D132
FCXDD4007000	1N4007	D133
FCXDD4007000	1N4007	D134
FCXDDBAS1600	BAS16	D135
FCLED300RO00	LED3R	D136
FCLED300RO00	LED3R	D137
FCFUS5040000	F12A	F101
FCFUS5040000	F12A	F102
FCFER4322000	FERRITE	FB101
FCFER4322000	FERRITE	FB102
FCFER4322000	FERRITE	FB103
FCFER4322000	FERRITE	FB104
FCFER4322000	FERRITE	FB105
FCFER4322000	FERRITE	FB106
FCFER4322000	FERRITE	FB107
FCFER4322000	FERRITE	FB108
FCFER4322000	FERRITE	FB109
FCFER4322000	FERRITE	FB110
	UNFITTED	FB111
	UNFITTED	FB112
FP0289200000	HS PL 00.2892	HS100
FP0289200000	HS PL 00.2892	HS101
FP0289200000	HS PL 00.2892	HS102
FP0289200000	HS PL 00.2892	HS103
FCRAD1380000	HEAT SINK MODULE	HS104
FCIC35000000	LM35DZ	IC101
FCOPTVTL5000	VTL 5C8	IC102
FCIC07101000	TL071	IC103
FCIC55340000	NE5534A	IC104
FCREG7805000	7805	IC106
FCIC43100000	TL431AC	IC107
FCIC40930100	HEF4093B	IC108
FCIC07201000	TL072	IC120
FCMICTO12600	INSULATING TO126	IN100
FCMICTO12600	INSULATING TO126	IN101
FCMICTO12600	INSULATING TO126	IN102
FCMICTO12600	INSULATING TO126	IN103
FCCTM0004000	B4B-EH-A	J101
FCTERM010000	JUMPER PIN	J102

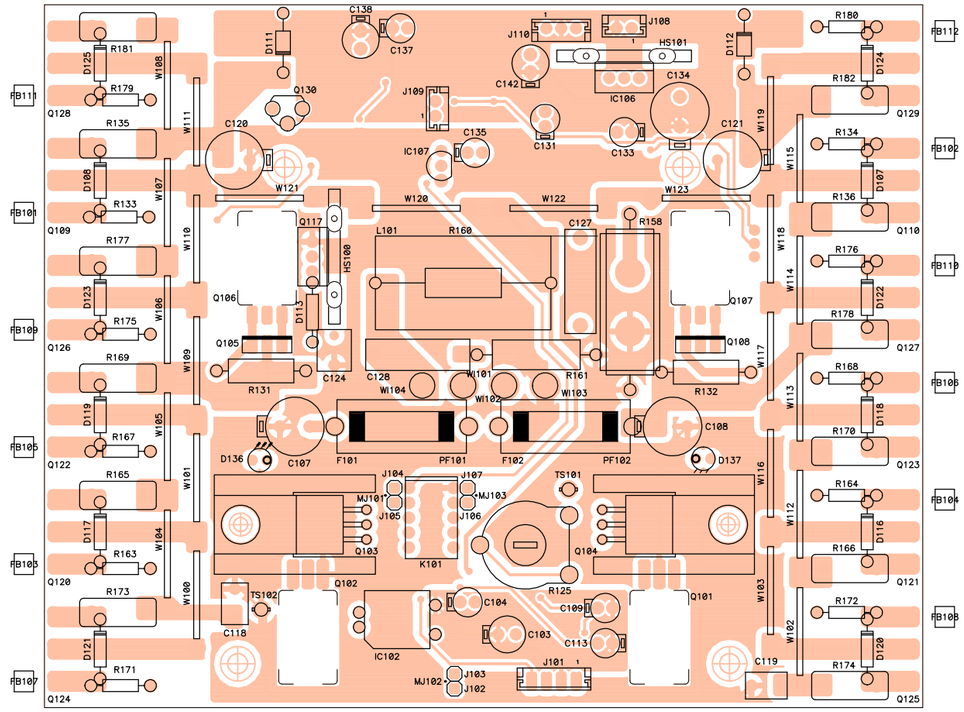
Code	Description	Reference
FCTERM010000	JUMPER PIN	J103
FCTERM010000	JUMPER PIN	J104
FCTERM010000	JUMPER PIN	J105
FCTERM010000	JUMPER PIN	J106
FCTERM010000	JUMPER PIN	J107
FCCTM0002000	B2B-EH-A	J108
FCCTM0002000	B2B-EH-A	J109
FCCTM0003000	B3B-EH-A	J110
FCREL0030000	TQ2-12V	K101
FCIND0010000	1uH	L101
FCMJ00010000	JUMPER	MJ101
FCMJ00010000	JUMPER	MJ102
FCMJ00010000	JUMPER	MJ103
FCPINZAM0000	CLAMP	MP100
FCPINZAM0000	CLAMP	MP101
FCTIRKON0000	SARCON	MP102
FCTIRKON0000	SARCON	MP103
FCPORF315000	3/15P	PF101
FCPORF315000	3/15P	PF102
FCTR43700000	BD437	Q101
FCTR43700000	BD437	Q102
FCTR47100000	BF471	Q103
FCTR47200000	BF472	Q104
FCTR34000000	MJE340	Q105
FCTR35000000	MJE350	Q106
FCTR34000000	MJE340	Q107
FCTR35000000	MJE350	Q108
FCTR24300000	IRFP9240	Q109
FCTR24000000	IRFP240	Q110
FCXTT0857000	BC857B	Q111
FCXTT0847000	BC847B	Q112
FCXTT0857000	BC857B	Q113
FCXTT0847000	BC847B	Q114
FCXTT0857000	BC857B	Q115
FCXTT0847000	BC847B	Q116
FCTI24600000	BTB24600B	Q117
FCXTT0857000	BC857B	Q118
FCXTT0847000	BC847B	Q119
FCTR24300000	IRFP9240	Q120
FCTR24000000	IRFP240	Q121
FCTR24300000	IRFP9240	Q122
FCTR24000000	IRFP240	Q123
FCTR24300000	IRFP9240	Q124
FCTR24000000	IRFP240	Q125
FCTR24300000	IRFP9240	Q126
FCTR24000000	IRFP240	Q127
	UNFITTED	Q128
	UNFITTED	Q129
FCTR25401000	2N5401	Q130
FCXTT0817000	BC817/25	Q131
FCXTT0847000	BC847B	Q132
FCXR15976000	976k	R101
FCXR14221000	22k1	R102
FCXR14221000	22k1	R103
FCXR14221000	22k1	R104
FCXR13100000	1k0	R105

Code	Description	Reference
FCXR15100000	100k0	R106
FCXR13100000	1k0	R107
FCXR14475000	47k5	R108
FCXR13200000	2k0	R109
FCXR13562000	5k62	R110
FCXR14412000	41k2	R111
FCXR07100000	10M	R112
FCXR13121000	1k21	R113
FCXR13121000	1k21	R114
FCXR12487000	487O	R115
FCXR12191000	191O	R116
FCXR12487000	487O	R117
FCXR12191000	191O	R118
FCXR11562000	56.2O	R119
FCXR13150000	1k50	R120
FCXR13150000	1k50	R121
FCXR11562000	56.2O	R122
FCXR12681000	681O	R123
FCXR13150000	1k50	R124
FCRJG4470000	4k7	R125
FCXR12681000	681O	R126
FCXR11100000	10.0O	R127
FCXR11562000	56.2O	R128
FCXR11562000	56.2O	R129
FCXR11100000	10.0O	R130
FCRF43120000	NF120O/1	R131
FCRF43120000	NF120O/1	R132
FCRF23220000	NF220O/ 1/2	R133
FCRF23220000	NF220O/ 1/2	R134
FCRY00010000	W0.22O/5	R135
FCRY00010000	W0.22O/5	R136
FCXR12604000	604O	R137
FCXR12604000	604O	R138
FCXR12475000	475O	R139
FCXR12475000	475O	R140
FCXR14332000	33k2	R141
FCXR14332000	33k2	R142
FCXR13681000	6k81	R143
FCXR14332000	33k2	R144
FCXR14332000	33k2	R145
FCXR13681000	6k81	R146
FCXR14332000	33k2	R147
FCXR14332000	33k2	R148
FCXR14750000	75k	R149
FCXR12100000	100.0O	R150
FCXR12100000	100.0O	R151
FCXR14130000	13k0	R152
FCXR14130000	13k0	R153
FCXR12100000	100.0O	R154
FCXR13100000	1k0	R155
FCXR13100000	1k0	R156
FCXR12100000	100.0O	R157
FCRY00025000	W6.8O/5	R158
FCRC52100000	10/2	R160
FCRC51220000	2.2O/2	R161
FCXR14100000	10k0	R162

Code	Description	Reference
FCRF23220000	NF220O/ 1/2	R163
FCRF23220000	NF220O/ 1/2	R164
FCRY00010000	W0.22O/5	R165
FCRY00010000	W0.22O/5	R166
FCRF23220000	NF220O/ 1/2	R167
FCRF23220000	NF220O/ 1/2	R168
FCRY00010000	W0.22O/5	R169
FCRY00010000	W0.22O/5	R170
FCRF23220000	NF220O/ 1/2	R171
FCRF23220000	NF220O/ 1/2	R172
FCRY00010000	W0.22O/5	R173
FCRY00010000	W0.22O/5	R174
FCRF23220000	NF220O/ 1/2	R175
FCRF23220000	NF220O/ 1/2	R176
FCRY00010000	W0.22O/5	R177
FCRY00010000	W0.22O/5	R178
	UNFITTED	R179
	UNFITTED	R180
	UNFITTED	R181
	UNFITTED	R182
FCXR13825000	8k25	R183
FCXR15100000	100k0	R184
FCXR15100000	100k0	R185
FCXR15100000	100k0	R186
FCXR12681000	681O	R187
FCXR12681000	681O	R188
FCXR14100000	10k0	R189
FCXR13154000	1k54	R190
FCXR12604000	604O	R191
FCXR13221000	2k21	R192
FCXR14475000	47k5	R193
FCXR14100000	10k0	R194
FCXR13100000	1k0	R195
FCXR14475000	47k5	R196
FCXR14475000	47k5	R197
FCXR14100000	10k0	R198
FCXR06220000	2M2	R199
FCXR13100000	1k0	R200
FCXR13150000	1k50	R201
FCXR14100000	10k0	R202
FCXR14221000	22k1	R203
FCXR14475000	47k5	R204
FCXR14475000	47k5	R205
FCXR15287000	287k	R206
FCXR11562000	56.2O	R207
FCXR11562000	56.2O	R208
FCXR15100000	100k0	R209
FCXR14221000	22k1	R210
FCXR12301000	301O	R211
FCXR12178000	178O	R212
FCXR12301000	301O	R213
FCXR14511000	51K1	R214
FCT804006100	SCREW M4x6	SC100
FCT804006100	SCREW M4x6	SC101
FCT804006100	SCREW M4x6	SC102
FCT804006100	SCREW M4x6	SC103

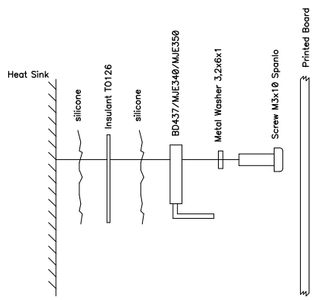
PARTS LIST: PRINTED CIRCUIT 11.0766.02.00 DPA1000

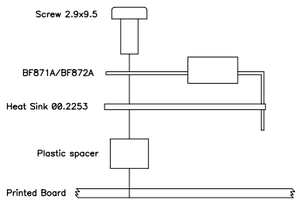
Code	Description	Reference
FCT803010000	SCREW M3x10	SC104
FCT803010000	SCREW M3x10	SC105
FCT803010000	SCREW M3x10	SC106
FCT803010000	SCREW M3x10	SC107
FCT803010000	SCREW M3x10	SC108
FCT803010000	SCREW M3x10	SC109
FCT803010000	SCREW M3x10	SC110
FCT803010000	SCREW M3x10	SC111
FCSEPPM00000	SPACER	SC112
FCSEPPM00000	SPACER	SC113
FCSEPPM00000	SPACER	SC114
FCSEPPM00000	SPACER	SC115
FCT850300500	SCREW M3X5	SC116
FCT850300500	SCREW M3X5	SC119
FCT850300500	SCREW M3X5	SC120
FCT850300500	SCREW M3X5	SC121
FCTERMSOL000	TEST POINT	TS101
FCTERMSOL000	TEST POINT	TS102
FCMECPON1900	19mm	W100
FCMECPON1900	19mm	W101
FCMECPON1900	19mm	W102
FCMECPON1900	19mm	W103
FCMECPON1900	19mm	W104
FCMECPON1900	19mm	W105
FCMECPON1900	19mm	W106
FCMECPON1900	19mm	W107
FCMECPON1900	19mm	W108
FCMECPON1900	19mm	W109
FCMECPON1900	19mm	W110
FCMECPON1900	19mm	W111
FCMECPON1900	19mm	W112
FCMECPON1900	19mm	W113
FCMECPON1900	19mm	W114
FCMECPON1900	19mm	W115
FCMECPON1900	19mm	W116
FCMECPON1900	19mm	W117
FCMECPON1900	19mm	W118
FCMECPON1900	19mm	W119
FCMECPON1900	19mm	W120
FCMECPON1900	19mm	W121
FCMECPON1900	19mm	W122
FCMECPON1900	19mm	W123
FCARM3201000	WASHER 3.2x6x1 M	WA100
FCARM3201000	WASHER 3.2x6x1 M	WA101
FCARM3201000	WASHER 3.2x6x1 M	WA102
FCARM3201000	WASHER 3.2x6x1 M	WA103
FC0H02340000	1023.04.00	WI101 TO WI104

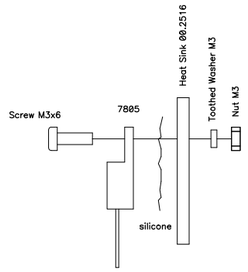


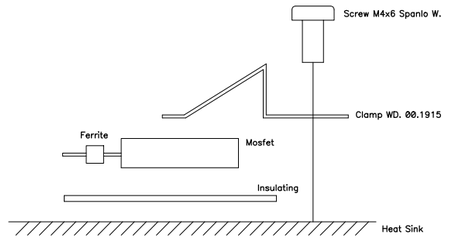
OLD VERSION

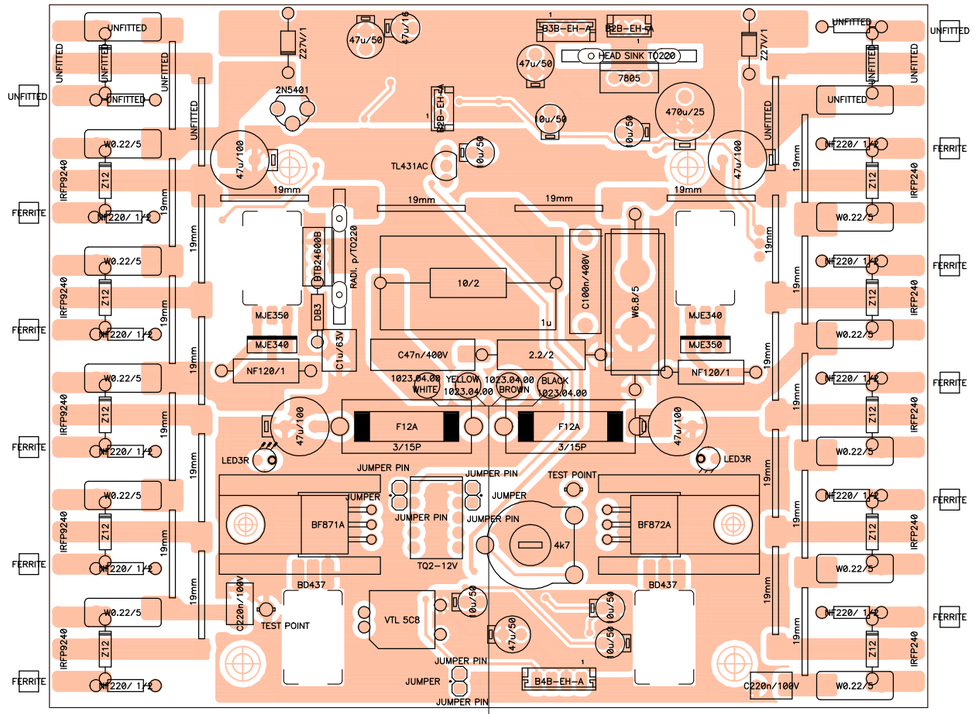
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0017-01.01		side: Component
			view: Reference
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0437	version: 01.02	title: EP03-99C Power Amp.	

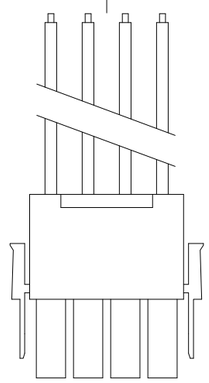






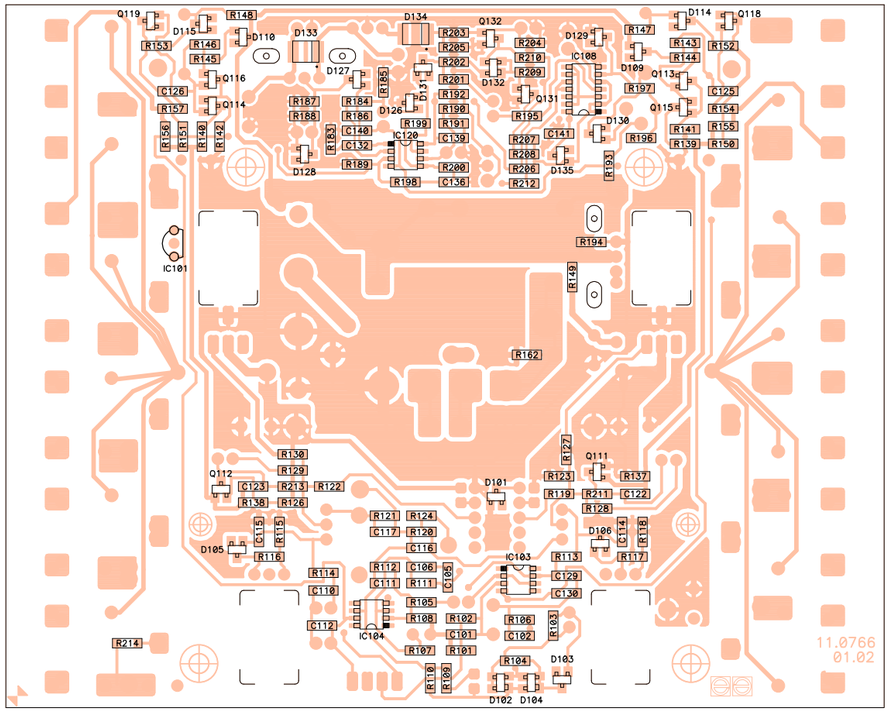






OLD VERSION

ECLER ee LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0017-01.01		side: Component
			view: Value
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0438	version: 01.02	title: EP03-99C Power Amp.	



OLD VERSION

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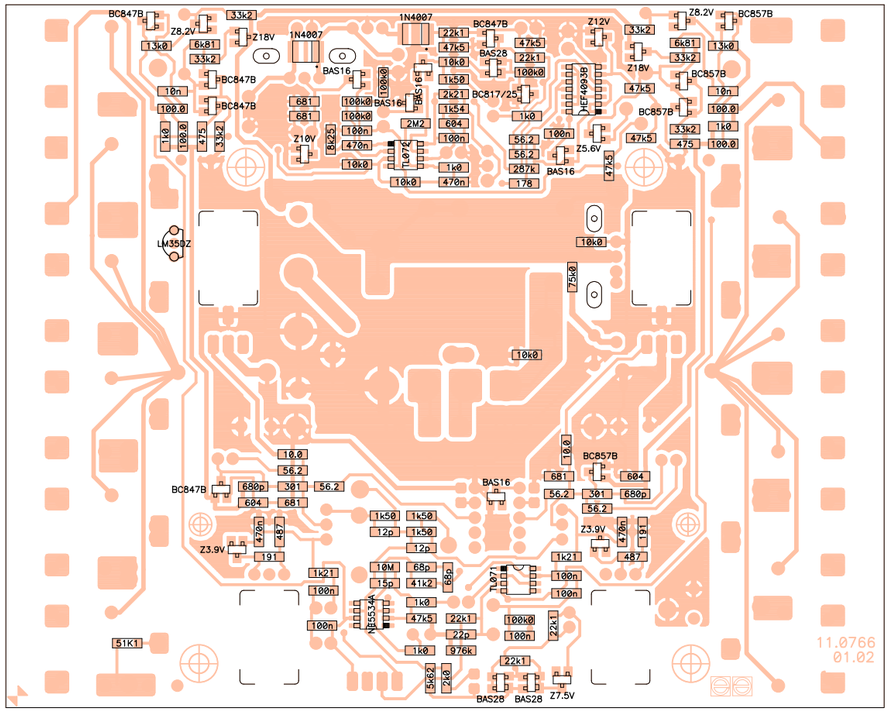
			view: Reference
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0439	version: 01.02	title: EP03-99C Power Amp.	



OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0017-01.01		side: Solder
			view: Value
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0440	version: 01.02	title: EP03-99C Power Amp.	

ECLER

author: Queralt
approved:

date: 000913
model:

num: 40.0051 version: 01.00

PARTS LIST

EP03-99C

PRINTED CIRCUIT 11.0766-01.02

OLD VERSION

REFERENCE	VALUE	CODE
C101	22p	FCXCN12200
C102	100n	FCXCN41000
C103	47u/50	FCCE250470
C104	10u/50	FCCE250100
C105	68p	FCXCN16800
C106	68p	FCXCN16800
C107	47u/100	FCCE350470
C108	47u/100	FCCE350470
C109	10u/50	FCCE250100
C110	100n	FCXCN41000
C111	15p	FCXCN11500
C112	100n	FCXCN41000
C113	10u/50	FCCE250100
C114	470n	FCXCN44700
C115	470n	FCXCN44700
C116	12p	FCXCN11200
C117	12p	FCXCN11200
C118	C220n/100V	FCCDK52200
C119	C220n/100V	FCCDK52200
C120	47u/100	FCCE350470
C121	47u/100	FCCE350470
C122	680p	FCXCN26800
C123	680p	FCXCN26800
C124	C1u/63V	FCCDK20010
C125	10n	FCXCN40100
C126	10n	FCXCN40100
C127	C100n/400V	FCCDH71100
C128	C47n/400V	FCCDH71047
C129	100n	FCXCN41000
C130	100n	FCXCN41000
C131	10u/50	FCCE250100
C132	470n	FCXCN44700
C133	10u/50	FCCE250100
C134	470u/25	FCCE154700
C135	10u/50	FCCE250100
C136	470n	FCXCN44700
C137	47u/16	FCCE100000
C138	47u/50	FCCE250470
C139	100n	FCXCN41000
C140	100n	FCXCN41000
C141	100n	FCXCN41000
C142	47u/50	FCCE250470
D101	BAS16	FCXDDBAS16
D102	BAS28	FCXDDBAS28
D103	Z7.5V	FCXZ000075
D104	BAS28	FCXDDBAS28
D105	Z3.9V	FCXZ000039
D106	Z3.9V	FCXZ000039
D107	Z12	FCDD041200
D108	Z12	FCDD041200
D109	Z18V	FCXZ000180
D110	Z18V	FCXZ000180

REFERENCE	VALUE	CODE
D111	Z27V/1	FCDD102700
D112	Z27V/1	FCDD102700
D113	DB3	FCDIDB3000
D114	Z8.2V	FCXZ000082
D115	Z8.2V	FCXZ000082
D116	Z12	FCDD041200
D117	Z12	FCDD041200
D118	Z12	FCDD041200
D119	Z12	FCDD041200
D120	Z12	FCDD041200
D121	Z12	FCDD041200
D122	Z12	FCDD041200
D123	Z12	FCDD041200
D124	UNFITTED	
D125	UNFITTED	
D126	BAS16	FCXDDBAS16
D127	BAS16	FCXDDBAS16
D128	Z10V	FCXZ000100
D129	Z12V	FCXZ000120
D130	Z5.6V	FCXZ000056
D131	BAS16	FCXDDBAS16
D132	BAS28	FCXDDBAS28
D133	1N4007	FCXDD40070
D134	1N4007	FCXDD40070
D135	BAS16	FCXDDBAS16
D136	LED3R	FCLED300RO
D137	LED3R	FCLED300RO
F101	F12A	FCFUS50400
F102	F12A	FCFUS50400
FB101	FERRITE	FCFER43220
FB102	FERRITE	FCFER43220
FB103	FERRITE	FCFER43220
FB104	FERRITE	FCFER43220
FB105	FERRITE	FCFER43220
FB106	FERRITE	FCFER43220
FB107	FERRITE	FCFER43220
FB108	FERRITE	FCFER43220
FB109	FERRITE	FCFER43220
FB110	FERRITE	FCFER43220
FB111	UNFITTED	
FB112	UNFITTED	
HS100	HEAT SINK TO220	FCMECTO220
HS101	HEAT SINK	FCMECTO220
HS102	HEAT SINK BF'S	FCMECPI130
HS103	HEAT SINK BF'S	FCMECPI130
HS104	HEAT SINK MODULE	FCRAD13800
IC101	LM35DZ	FCIC350000
IC102	VTL 5C8	FCOPTVTL50
IC103	TL071	FCIC071010
IC104	NE5534A	FCIC553400
IC106	7805	FCREG78050
IC107	TL431AC	FCIC431000
IC108	HEF4093B	FCIC409301
IC120	TL072	FCIC072010
IN100	INSULATING TO126	FCMICTO126
IN101	INSULATING TO126	FCMICTO126
IN102	INSULATING TO126	FCMICTO126
IN103	INSULATING TO126	FCMICTO126

OLD VERSION

REFERENCE	VALUE	CODE
J101	B4B-EH-A	FCCTM00040
J102	JUMPER PIN	FCTERM0100
J103	JUMPER PIN	FCTERM0100
J104	JUMPER PIN	FCTERM0100
J105	JUMPER PIN	FCTERM0100
J106	JUMPER PIN	FCTERM0100
J107	JUMPER PIN	FCTERM0100
J108	B2B-EH-A	FCCTM00020
J109	B2B-EH-A	FCCTM00020
J110	B3B-EH-A	FCCTM00030
K101	TQ2-12V	FCREL00300
L101	1uH	FCIND00100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MP100	CLAMP	FCPINZAM00
MP101	CLAMP	FCPINZAM00
MP102	SARCON	FCTIRKON00
MP103	SARCON	FCTIRKON00
NV100	NUT M3	FCTUE00300
NV101	NUT M3	FCTUE00300
PF101	3/15P	FCPORF3150
PF102	3/15P	FCPORF3150
Q101	BD437	FCTR437000
Q102	BD437	FCTR437000
Q103	BF871A	FCTR871000
Q104	BF872A	FCTR872000
Q105	MJE340	FCTR340000
Q106	MJE350	FCTR350000
Q107	MJE340	FCTR340000
Q108	MJE350	FCTR350000
Q109	IRFP9240	FCTR243000
Q110	IRFP240	FCTR240000
Q111	BC857B	FCXTT08570
Q112	BC847B	FCXTT08470
Q113	BC857B	FCXTT08570
Q114	BC847B	FCXTT08470
Q115	BC857B	FCXTT08570
Q116	BC847B	FCXTT08470
Q117	BTB24600B	FCTI246000
Q118	BC857B	FCXTT08570
Q119	BC847B	FCXTT08470
Q120	IRFP9240	FCTR243000
Q121	IRFP240	FCTR240000
Q122	IRFP9240	FCTR243000
Q123	IRFP240	FCTR240000
Q124	IRFP9240	FCTR243000
Q125	IRFP240	FCTR240000
Q126	IRFP9240	FCTR243000
Q127	IRFP240	FCTR240000
Q128	UNFITTED	
Q129	UNFITTED	
Q130	2N5401	FCTR254010
Q131	BC817/25	FCXTT08170
Q132	BC847B	FCXTT08470
R101	976k	FCXR159760
R102	22k1	FCXR142210
R103	22k1	FCXR142210

OLD VERSION

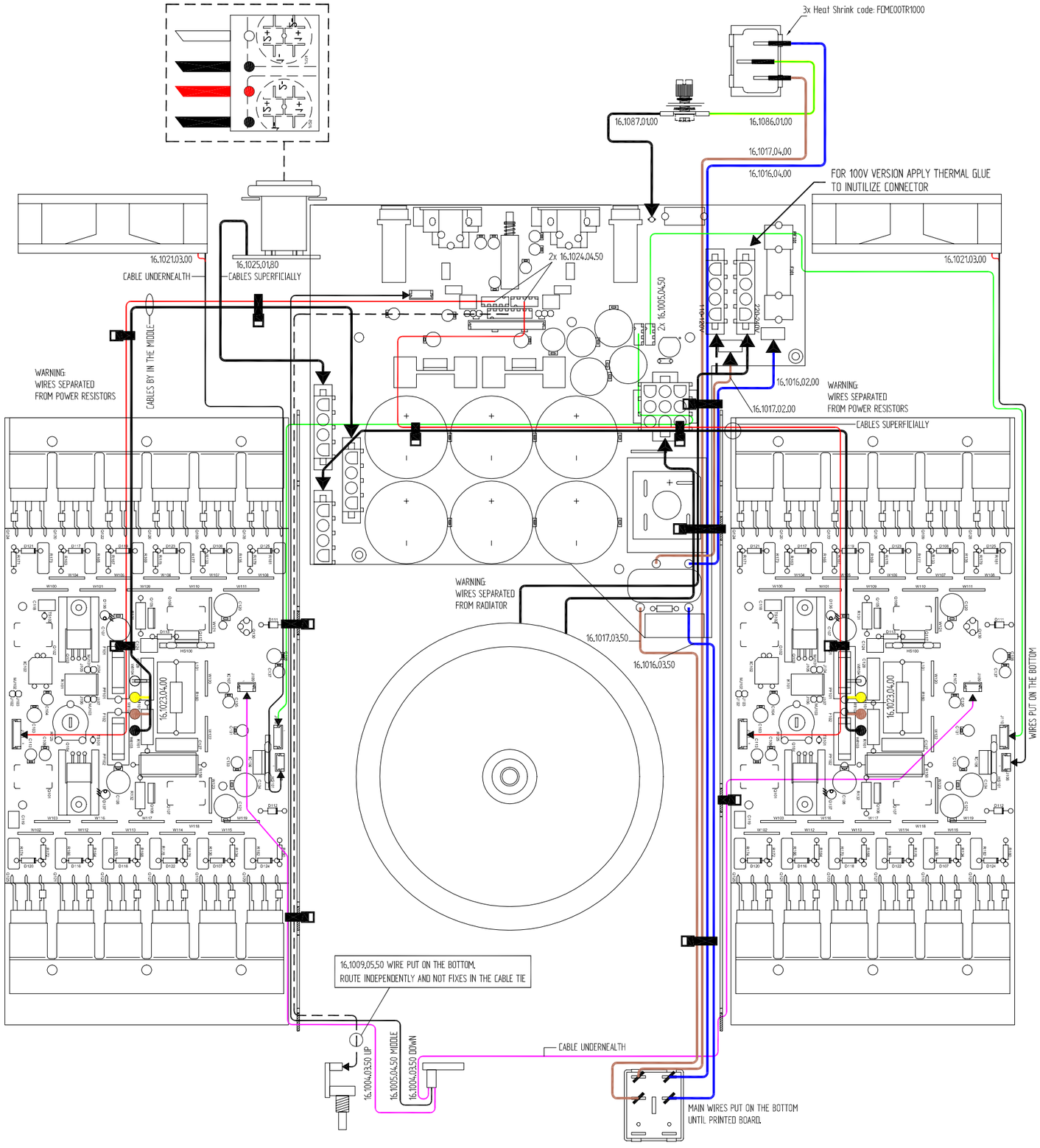
REFERENCE	VALUE	CODE
R104	22k1	FCXR142210
R105	1k0	FCXR131000
R106	100k0	FCXR151000
R107	1k0	FCXR131000
R108	47k5	FCXR144750
R109	2k0	FCXR132000
R110	5k62	FCXR135620
R111	41k2	FCXR144120
R112	10M	FCXR071000
R113	1k21	FCXR131210
R114	1k21	FCXR131210
R115	487Ω	FCXR124870
R116	191Ω	FCXR121910
R117	487Ω	FCXR124870
R118	191Ω	FCXR121910
R119	56.2Ω	FCXR115620
R120	1k50	FCXR131500
R121	1k50	FCXR131500
R122	56.2Ω	FCXR115620
R123	681Ω	FCXR126810
R124	1k50	FCXR131500
R125	4k7	FCRJG44700
R126	681Ω	FCXR126810
R127	10.0Ω	FCXR111000
R128	56.2Ω	FCXR115620
R129	56.2Ω	FCXR115620
R130	10.0Ω	FCXR111000
R131	NF120Ω/1	FCRF431200
R132	NF120Ω/1	FCRF431200
R133	NF220Ω/ 1/2	FCRF232200
R134	NF220Ω/ 1/2	FCRF232200
R135	W0.22Ω/5	FCRY000100
R136	W0.22Ω/5	FCRY000100
R137	604Ω	FCXR126040
R138	604Ω	FCXR126040
R139	475Ω	FCXR124750
R140	475Ω	FCXR124750
R141	33k2	FCXR143320
R142	33k2	FCXR143320
R143	6k81	FCXR136810
R144	33k2	FCXR143320
R145	33k2	FCXR143320
R146	6k81	FCXR136810
R147	33k2	FCXR143320
R148	33k2	FCXR143320
R149	75k	FCXR147500
R150	100.0Ω	FCXR121000
R151	100.0Ω	FCXR121000
R152	13k0	FCXR141300
R153	13k0	FCXR141300
R154	100.0Ω	FCXR121000
R155	1k0	FCXR131000
R156	1k0	FCXR131000
R157	100.0Ω	FCXR121000
R158	W6.8Ω/5	FCRY000250
R160	10/2	FCRC521000
R161	2.2Ω/2	FCRC512200
R162	10k0	FCXR141000

OLD VERSION

REFERENCE	VALUE	CODE
R163	NF220Ω/ 1/2	FCRF232200
R164	NF220Ω/ 1/2	FCRF232200
R165	W0.22Ω/5	FCRY000100
R166	W0.22Ω/5	FCRY000100
R167	NF220Ω/ 1/2	FCRF232200
R168	NF220Ω/ 1/2	FCRF232200
R169	W0.22Ω/5	FCRY000100
R170	W0.22Ω/5	FCRY000100
R171	NF220Ω/ 1/2	FCRF232200
R172	NF220Ω/ 1/2	FCRF232200
R173	W0.22Ω/5	FCRY000100
R174	W0.22Ω/5	FCRY000100
R175	NF220Ω/ 1/2	FCRF232200
R176	NF220Ω/ 1/2	FCRF232200
R177	W0.22Ω/5	FCRY000100
R178	W0.22Ω/5	FCRY000100
R179	UNFITTED	
R180	UNFITTED	
R181	UNFITTED	
R182	UNFITTED	
R183	8k25	FCXR138250
R184	100k0	FCXR151000
R185	100k0	FCXR151000
R186	100k0	FCXR151000
R187	681Ω	FCXR126810
R188	681Ω	FCXR126810
R189	10k0	FCXR141000
R190	1k54	FCXR131540
R191	604Ω	FCXR126040
R192	2k21	FCXR132210
R193	47k5	FCXR144750
R194	10k0	FCXR141000
R195	1k0	FCXR131000
R196	47k5	FCXR144750
R197	47k5	FCXR144750
R198	10k0	FCXR141000
R199	2M2	FCXR062200
R200	1k0	FCXR131000
R201	1k50	FCXR131500
R202	10k0	FCXR141000
R203	22k1	FCXR142210
R204	47k5	FCXR144750
R205	47k5	FCXR144750
R206	287k	FCXR152870
R207	56.2Ω	FCXR115620
R208	56.2Ω	FCXR115620
R209	100k0	FCXR151000
R210	22k1	FCXR142210
R211	301Ω	FCXR123010
R212	178Ω	FCXR121780
R213	301Ω	FCXR123010
R214	51K1	FCXR145110
SC100	SCREW M4x6	FCT8040061
SC101	SCREW M4x6	FCT8040061
SC102	SCREW M4x6	FCT8040061
SC103	SCREW M4x6	FCT8040061
SC104	SCREW M3x10	FCT8030100
SC105	SCREW M3x10	FCT8030100

REFERENCE	VALUE	CODE
SC106	SCREW M3x10	FCT8030100
SC107	SCREW M3x10	FCT8030100
SC108	SCREW M3x10	FCT8030100
SC109	SCREW M3x10	FCT8030100
SC110	SCREW M3x10	FCT8030100
SC111	SCREW M3x10	FCT8030100
SC112	SPACER	FCSEPPM000
SC113	SPACER	FCSEPPM000
SC114	SPACER	FCSEPPM000
SC115	SPACER	FCSEPPM000
SC116	SCREW M3x6	FCT7503006
SC117	SPACER	FCSEPPM000
SC118	SPACER	FCSEPPM000
SC119	SCREW 2.9x9.5	FCT7002909
SC120	SCREW 2.9x9.5	FCT7002909
SC121	SCREW M3x6	FCT7503006
TS101	TEST POINT	FCTERMSOL0
TS102	TEST POINT	FCTERMSOL0
W100	19mm	FCMECPON19
W101	19mm	FCMECPON19
W102	19mm	FCMECPON19
W103	19mm	FCMECPON19
W104	19mm	FCMECPON19
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	19mm	FCMECPON19
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	19mm	FCMECPON19
W111	19mm	FCMECPON19
W112	19mm	FCMECPON19
W113	19mm	FCMECPON19
W114	19mm	FCMECPON19
W115	19mm	FCMECPON19
W116	19mm	FCMECPON19
W117	19mm	FCMECPON19
W118	19mm	FCMECPON19
W119	19mm	FCMECPON19
W120	19mm	FCMECPON19
W121	19mm	FCMECPON19
W122	19mm	FCMECPON19
W123	19mm	FCMECPON19
WA100	WASHER 3.2x6x1 M	FCARM32010
WA101	WASHER 3.2x6x1 M	FCARM32010
WA102	WASHER 3.2x6x1 M	FCARM32010
WA103	WASHER 3.2x6x1 M	FCARM32010
WA104	TOOTHED WASHER	FCARDE0300
WA105	TOOTHED WASHER	FCARDE0300
WI101 TO WI104	1023.04.00	FC0H023400

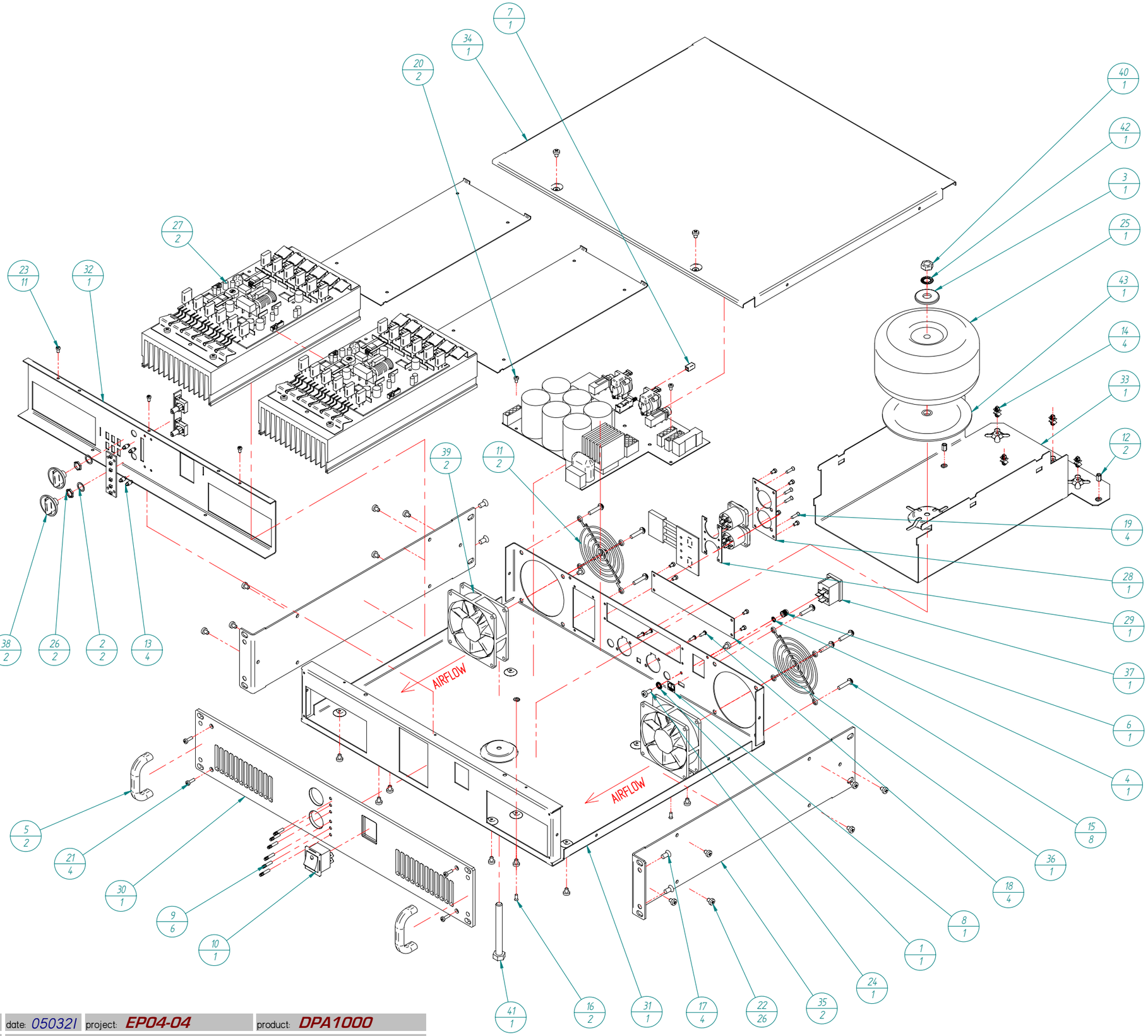
OLD VERSION



ECLER	drawn: J. Colomines	date: 050322	project: EP04/05-04	product: DPA1000/1400
number: 31.0199	version: 01.01	approved:	title: **WIRING DIAGRAM**	

Nº	Qty	Code	Description
1	1	FCARDE040000	TOOTHED WASHER M4
2	2	FCARDEPOTE00	ROTARY POT. WASHER M9
3	1	FCARM1050000	WASHER 10,5X30X2,5M
4	1	FCARS4000000	SEGMENTED WASHER M4
5	2	FCASAPWM1000	FRONTAL HANDLE
6	1	FCBOR0030000	GROUND TERMINAL
7	1	FCBOTRE01000	SWITCH KNOB 5,5X5,5 WHITE
8	1	FCETIZTT0000	EARTH TAG
9	6	FCGUIAL10000	LIGHT PIPE GUIDE VERTICAL
10	1	FCINTRED3000	MAINS SWITCH W/LIGHT
11	2	FCREJ0800000	FAN GRILLE 80x80
12	2	FCSEP3080000	SPACER M3x8
13	4	FCSEPDLMSPM0	PLASTIC SPACER DLMSPM-3-01
14	4	FCSEPWLS0600	PLASTIC SPACER 6MM
15	8	FCT060512000	SCREW 5,1x20
16	2	FCT200300800	SCREW DIN965 M3x8 BLACK
17	4	FCT200501000	SCREW DIN965 M5x10
18	4	FCT400290900	SCREW 2,9x9,5 D7981F BLACK
19	4	FCT500291300	SCREW D7982 2,9x13
20	2	FCT803005000	SCREW DIN 7985 M3x5 COMBI
21	4	FCT803010000	SCREW DIN7985 M3x10 SPANLO
22	26	FCT804006000	SCREW M4x6 SPANLO BLACK
23	11	FCT850300500	SCREW M3x5 REDUCED HEAD
24	1	FCT850411000	SCREW M4x10 TRILOB. WHITE
25 *	1 *	FCTFT0052000 *	TOROIDAL TRANSFORMER *
26	2	FCTUPOT00000	ROTARY POT. NUT M9
27	2	FMMOAPA10000	POWER AMP MODULE
28	1	FP0253100000	SPEAK ON PLATE
29	1	FP0259300000	SPEAKON MECHANICAL SUPPORT
30	1	FP0281900200	FRONT PANEL DPA1000
31	1	FP0282100000	BASE CHASSIS
32	1	FP0282200000	LED CIRCUIT MEC. SUPORT
33	1	FP0282300000	TRANSFORMER MECHANICAL SUPPORT
34	1	FP0282400000	TOP COVER
35	2	FP0282500000	LEFT/RIGHT SIDE
36	1	FP0286200000	REAR BLANK PANEL
37	1	FRBASRE10100	MAINS SOCKET CABLE=400
38	2	FRBOTRD24100	ROTARY KNOB D24 ROTATED INDEX
39	2	FRVEN080B000	FAN 80x80 12VDC CABLE=300
40	1	GENERIC	TRANSFORMER NUT M8
41	1	GENERIC	SCREW M8 TRANSFORMER
42	1	GENERIC	TOOTHED WASHER M8
43	1	GENERIC	TRANSFORMER RUBBER DISC

* FOR 100V UNIT TRANSFORMER CODE FCTFT0260000



NOTE:
1.-TO VIEW CABLES POSITION AND WIRING
CHARACTERISTICS, SEE WIRING DIAGRAM NUMBER 31.099

ECLER

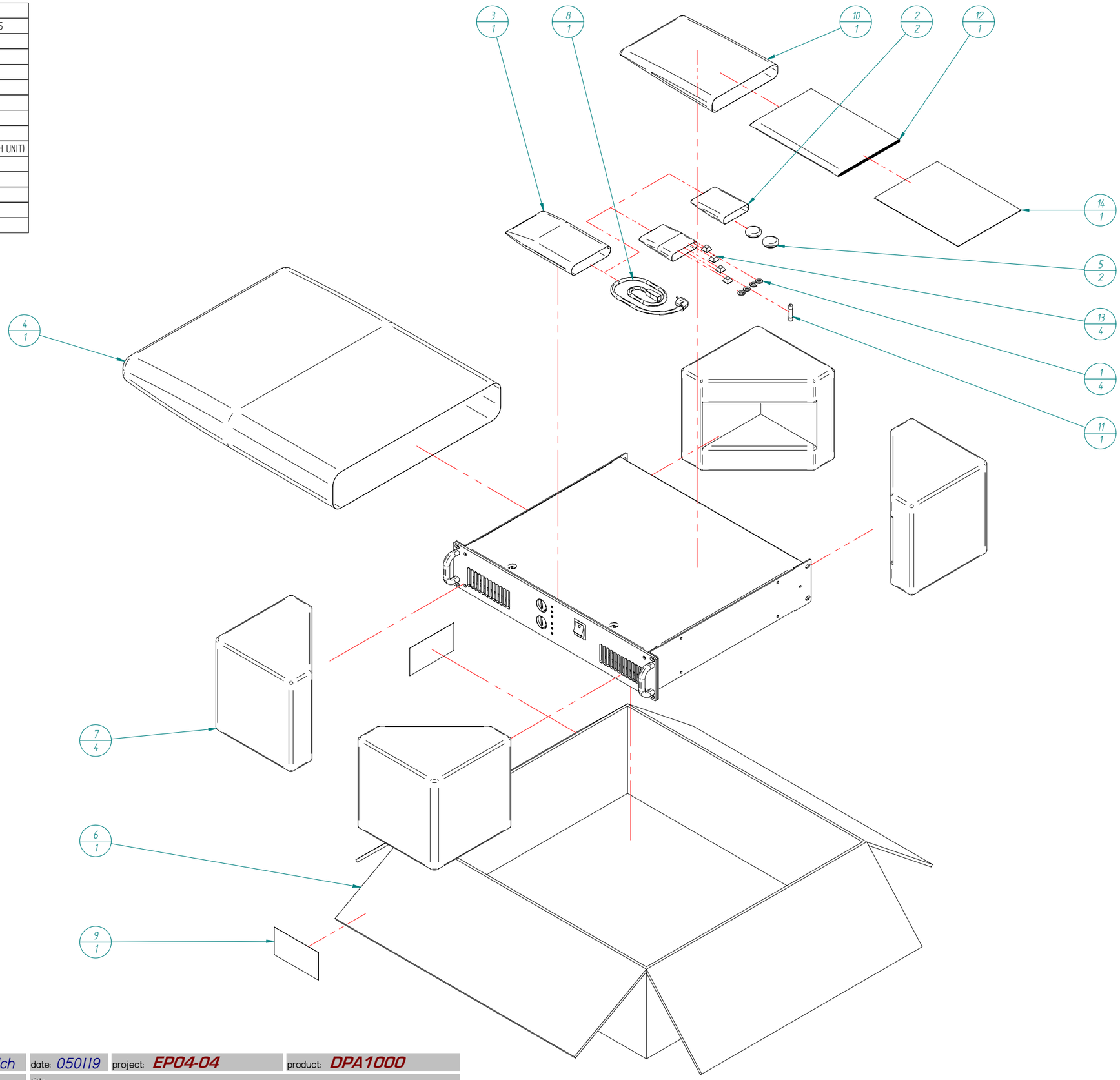
drawn: Jordi Folch | date: 050321 | project: EP04-04 | product: DPA1000

approved: | title: MECHANICAL DIAGRAM

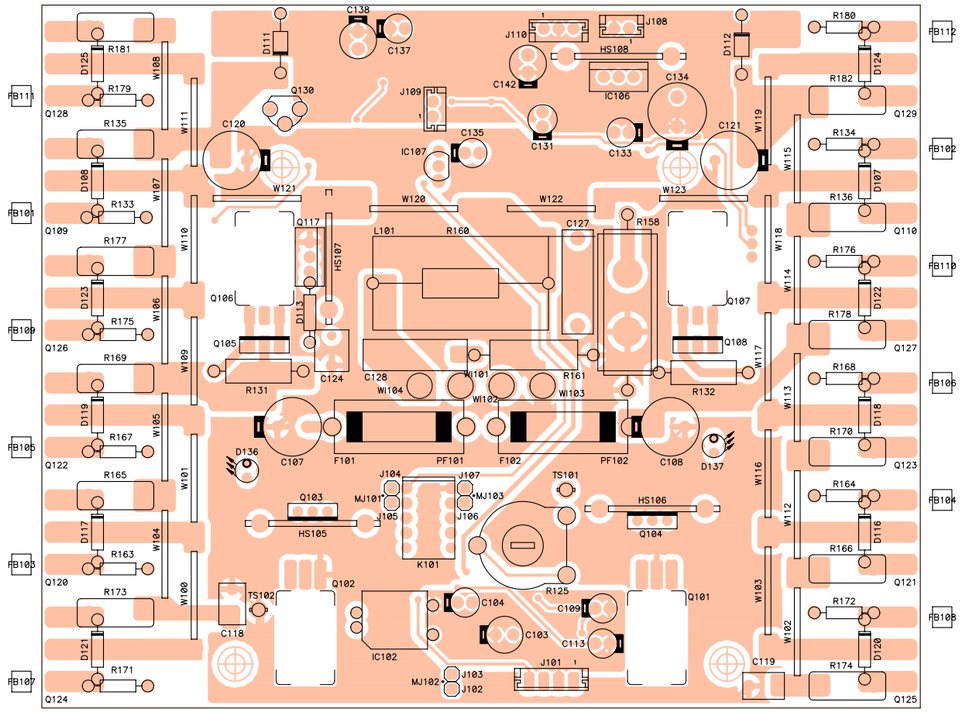
number: 30.0204 | version 01.01

N°	Qty	Code	Description
1	4	FCARANY06000	WASHER M6 NYLON BLACK 12x6,4x1,5
2	2	FCBOL0010000	BAG 60x80
3	1	FCBOL0020000	PLASTIC BAG 120x180
4	1	FCBOLS020000	STANDARD BAG 75x65
5	2	FCBOTD240100	ROT. KNOB PROTECTION COVER
6	1	FCCAJSTA2300	PACKING CARDBOARD BOX
7	4	FCCANT116000	INTERIOR REINFORCEMENT
8	1	FCCONX017600	MAINS CORD 3x1,5 ST EU
9	1	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
10	1	FCFUNMAN0000	USER MANUAL BAG
11 *	1 *	FCFUS8030000 *	FUSE 10AT 10x38 *
12	1	FCMANPAMDPA0	USER MANUAL DPA SERIES
13	4	FCPIE1125500	RUBBER FOOT
14	1	FCTARJG00000	WARRANTY CARD

* FOR 100V UNIT FUSE CODE FCFUS8040000 FUSE 16AT 10x38



ECLEREE	drawn: Jordi Folch	date: 050119	project: EP04-04	product: DPA1000
number: 32.0112 version 01.00	approved:	title: PACKING DIAGRAM		

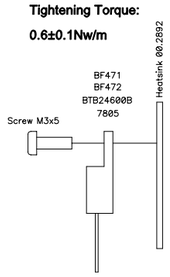


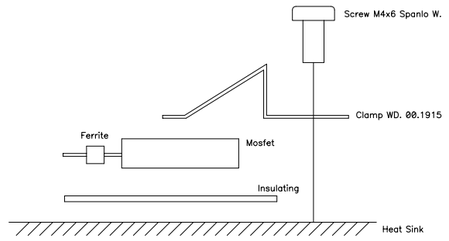
ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.		related to: circuit no: 11.0766–02.00 schema no: 10.0495–01.04 insertion file no: 81.0019–01.02	side: Component view: Reference	
number: 33.0449	version: 01.03	project n: EP03–99D	title: Power Amp. Ct.	
drawn by: M. Amoros	date: 050330	product n: APA1400 approved: Angel Sanuy		

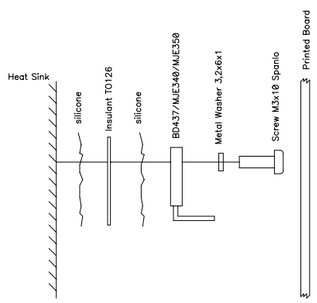
Note!

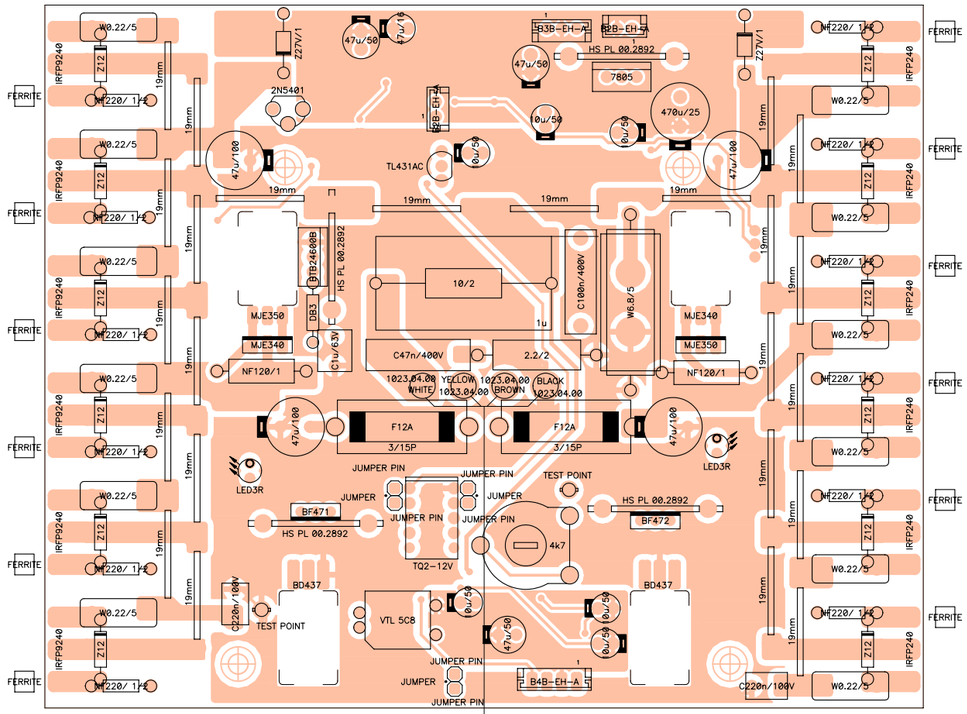
Tightening Torque:

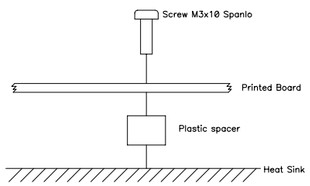
0.6±0.1Nw/m

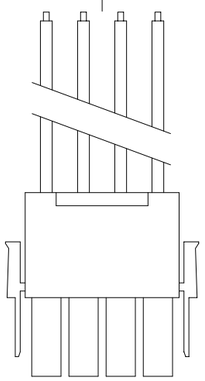


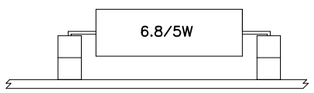






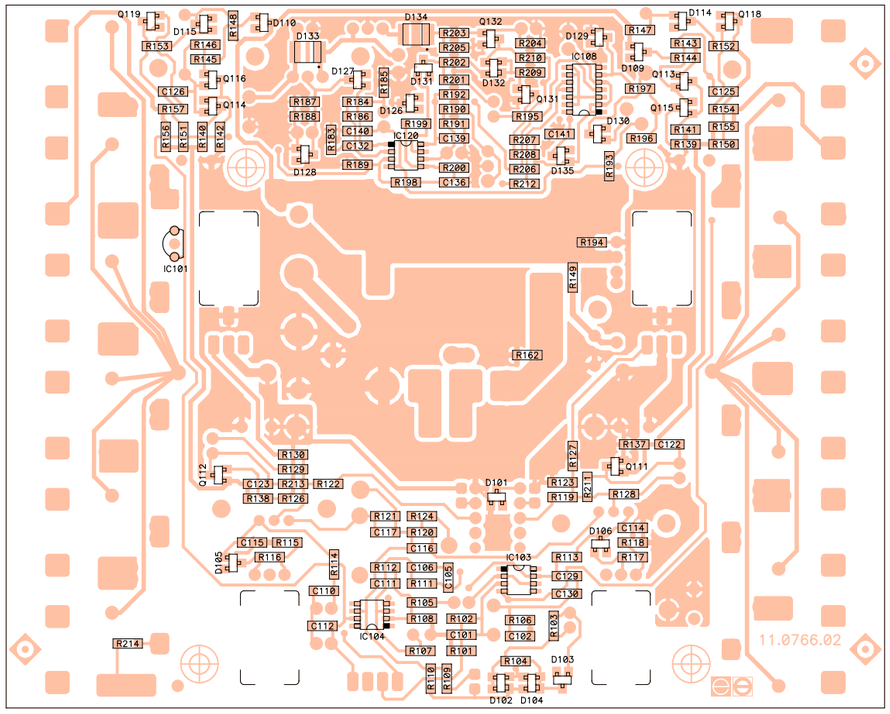




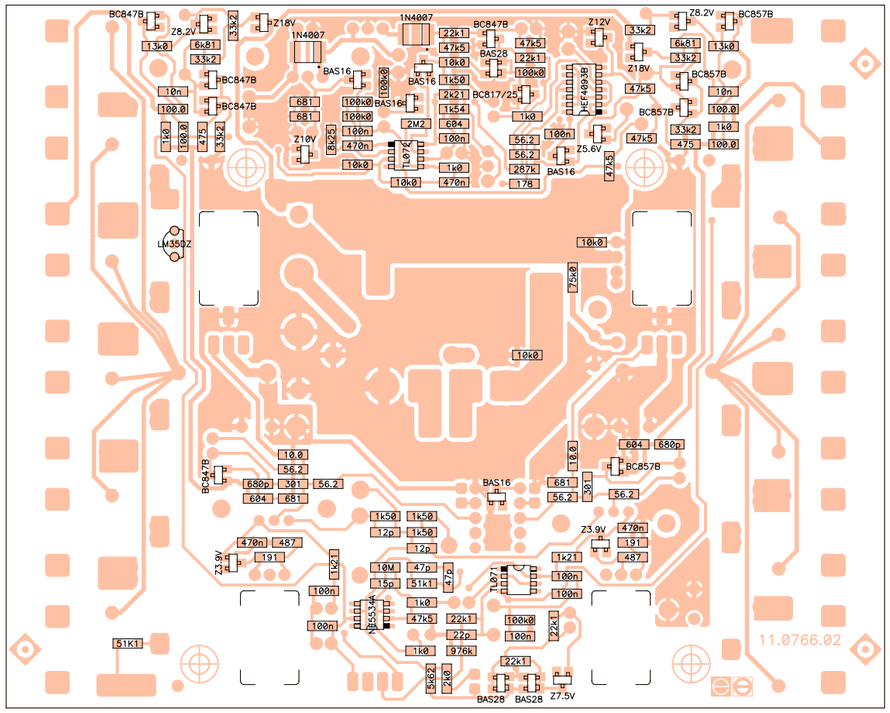


Assembly Detail

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.		related to: circuit no: 11.0766-02.00 schema no: 10.0495-01.04 insertion file no: 81.0019-01.02	side: Component view: Value
number: 33.0450	version: 01.03	project n: EP03-99D	title: Power Amp. Ct.
drawn by: M. Amoros	date: 050330	product n: APA1400	
		approved: Angel Sanuy	



ECLEREE LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-02.00 schema no: 10.0495-01.04 insertion file no: 81.0019-01.02	side: Solder view: Reference	
number: 33.0451	version: 01.03	project n: EP03-99D	title: Power Amp. Ct.
drawn by: M. Amoros	date: 050330	product n: APA1400 approved: Angel Sanuy	



ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0766–02.00 schema no: 10.0495–01.04 insertion file no: 81.0019–01.02	side: Solder view: Value	
number: 33.0452	version: 01.03	project n: EP03–99D	title: Power Amp. Ct.
drawn by: M. Amoros	date: 050330	product n: APA1400	
		approved: Angel Sanuy	

PARTS LIST: PRINTED CIRCUIT 11.0766.02.00 DPA1400

Code	Description	Reference
FCXCN1220000	22p	C101
FCXCN4100000	100n	C102
FCCE25047000	47u/50	C103
FCCE25010000	10u/50	C104
FCXCN1470000	47p	C105
FCXCN1470000	47p	C106
FCCE35047000	47u/100	C107
FCCE35047000	47u/100	C108
FCCE25010000	10u/50	C109
FCXCN4100000	100n	C110
FCXCN1150000	15p	C111
FCXCN4100000	100n	C112
FCCE25010000	10u/50	C113
FCXCN4470000	470n	C114
FCXCN4470000	470n	C115
FCXCN1120000	12p	C116
FCXCN1120000	12p	C117
FCCDK5220000	C220n/100V	C118
FCCDK5220000	C220n/100V	C119
FCCE35047000	47u/100	C120
FCCE35047000	47u/100	C121
FCXCN2680000	680p	C122
FCXCN2680000	680p	C123
FCCDK2001000	C1u/63V	C124
FCXCN4010000	10n	C125
FCXCN4010000	10n	C126
FCCDH7110000	C100n/400V	C127
FCCDH7104700	C47n/400V	C128
FCXCN4100000	100n	C129
FCXCN4100000	100n	C130
FCCE25010000	10u/50	C131
FCXCN4470000	470n	C132
FCCE25010000	10u/50	C133
FCCE15470000	470u/25	C134
FCCE25010000	10u/50	C135
FCXCN4470000	470n	C136
FCCE10000000	47u/16	C137
FCCE25047000	47u/50	C138
FCXCN4100000	100n	C139
FCXCN4100000	100n	C140
FCXCN4100000	100n	C141
FCCE25047000	47u/50	C142
FCXDDBAS1600	BAS16	D101
FCXDDBAS2800	BAS28	D102
FCXZ00007500	Z7.5V	D103
FCXDDBAS2800	BAS28	D104
FCXZ00003900	Z3.9V	D105
FCXZ00003900	Z3.9V	D106
FCDD04120000	Z12	D107
FCDD04120000	Z12	D108
FCXZ00018000	Z18V	D109
FCXZ00018000	Z18V	D110
FCDD10270000	Z27V/1	D111
FCDD10270000	Z27V/1	D112
FCDIDB300000	DB3	D113
FCXZ00008200	Z8.2V	D114

Code	Description	Reference
FCXZ00008200	Z8.2V	D115
FCDD04120000	Z12	D116
FCDD04120000	Z12	D117
FCDD04120000	Z12	D118
FCDD04120000	Z12	D119
FCDD04120000	Z12	D120
FCDD04120000	Z12	D121
FCDD04120000	Z12	D122
FCDD04120000	Z12	D123
FCDD04120000	Z12	D124
FCDD04120000	Z12	D125
FCXDDBAS1600	BAS16	D126
FCXDDBAS1600	BAS16	D127
FCXZ00010000	Z10V	D128
FCXZ00012000	Z12V	D129
FCXZ00005600	Z5.6V	D130
FCXDDBAS1600	BAS16	D131
FCXDDBAS2800	BAS28	D132
FCXDD4007000	1N4007	D133
FCXDD4007000	1N4007	D134
FCXDDBAS1600	BAS16	D135
FCLED300RO00	LED3R	D136
FCLED300RO00	LED3R	D137
FCFUS5040000	F12A	F101
FCFUS5040000	F12A	F102
FCFER4322000	FERRITE	FB101
FCFER4322000	FERRITE	FB102
FCFER4322000	FERRITE	FB103
FCFER4322000	FERRITE	FB104
FCFER4322000	FERRITE	FB105
FCFER4322000	FERRITE	FB106
FCFER4322000	FERRITE	FB107
FCFER4322000	FERRITE	FB108
FCFER4322000	FERRITE	FB109
FCFER4322000	FERRITE	FB110
FCFER4322000	FERRITE	FB111
FCFER4322000	FERRITE	FB112
FP0289200000	HS PL 00.2892	HS100
FP0289200000	HS PL 00.2892	HS101
FP0289200000	HS PL 00.2892	HS102
FP0289200000	HS PL 00.2892	HS103
FCRAD1380000	HEAT SINK MODULE	HS104
FCIC35000000	LM35DZ	IC101
FCOPTVTL5000	VTL 5C8	IC102
FCIC07101000	TL071	IC103
FCIC55340000	NE5534A	IC104
FCREG7805000	7805	IC106
FCIC43100000	TL431AC	IC107
FCIC40930100	HEF4093B	IC108
FCIC07201000	TL072	IC120
FCMICTO12600	INSULATING TO126	IN100
FCMICTO12600	INSULATING TO126	IN101
FCMICTO12600	INSULATING TO126	IN102
FCMICTO12600	INSULATING TO126	IN103
FCCTM0004000	B4B-EH-A	J101
FCTERM010000	JUMPER PIN	J102

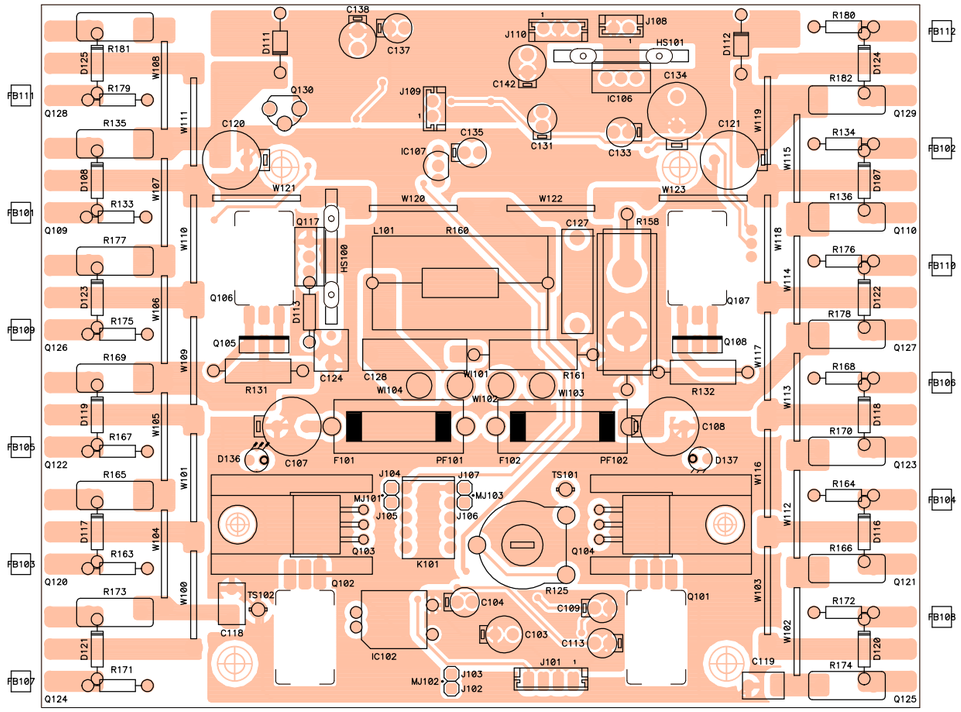
Code	Description	Reference
FCTERM010000	JUMPER PIN	J103
FCTERM010000	JUMPER PIN	J104
FCTERM010000	JUMPER PIN	J105
FCTERM010000	JUMPER PIN	J106
FCTERM010000	JUMPER PIN	J107
FCCTM0002000	B2B-EH-A	J108
FCCTM0002000	B2B-EH-A	J109
FCCTM0003000	B3B-EH-A	J110
FCREL0030000	TQ2-12V	K101
FCIND0010000	1uH	L101
FCMJ00010000	JUMPER	MJ101
FCMJ00010000	JUMPER	MJ102
FCMJ00010000	JUMPER	MJ103
FCPINZAM0000	CLAMP	MP100
FCPINZAM0000	CLAMP	MP101
FCTIRKON0000	SARCON	MP102
FCTIRKON0000	SARCON	MP103
FCPORF315000	3/15P	PF101
FCPORF315000	3/15P	PF102
FCTR43700000	BD437	Q101
FCTR43700000	BD437	Q102
FCTR47100000	BF471	Q103
FCTR47200000	BF472	Q104
FCTR34000000	MJE340	Q105
FCTR35000000	MJE350	Q106
FCTR34000000	MJE340	Q107
FCTR35000000	MJE350	Q108
FCTR24300000	IRFP9240	Q109
FCTR24000000	IRFP240	Q110
FCXTT0857000	BC857B	Q111
FCXTT0847000	BC847B	Q112
FCXTT0857000	BC857B	Q113
FCXTT0847000	BC847B	Q114
FCXTT0857000	BC857B	Q115
FCXTT0847000	BC847B	Q116
FCTI24600000	BTB24600B	Q117
FCXTT0857000	BC857B	Q118
FCXTT0847000	BC847B	Q119
FCTR24300000	IRFP9240	Q120
FCTR24000000	IRFP240	Q121
FCTR24300000	IRFP9240	Q122
FCTR24000000	IRFP240	Q123
FCTR24300000	IRFP9240	Q124
FCTR24000000	IRFP240	Q125
FCTR24300000	IRFP9240	Q126
FCTR24000000	IRFP240	Q127
FCTR24300000	IRFP9240	Q128
FCTR24000000	IRFP240	Q129
FCTR25401000	2N5401	Q130
FCXTT0817000	BC817/25	Q131
FCXTT0847000	BC847B	Q132
FCXR15976000	976k	R101
FCXR14221000	22k1	R102
FCXR14221000	22k1	R103
FCXR14221000	22k1	R104
FCXR13100000	1k0	R105

Code	Description	Reference
FCXR15100000	100k0	R106
FCXR13100000	1k0	R107
FCXR14475000	47k5	R108
FCXR13200000	2k0	R109
FCXR13562000	5k62	R110
FCXR14511000	51k1	R111
FCXR07100000	10M	R112
FCXR13121000	1k21	R113
FCXR13121000	1k21	R114
FCXR12487000	487O	R115
FCXR12191000	191O	R116
FCXR12487000	487O	R117
FCXR12191000	191O	R118
FCXR11562000	56.2O	R119
FCXR13150000	1k50	R120
FCXR13150000	1k50	R121
FCXR11562000	56.2O	R122
FCXR12681000	681O	R123
FCXR13150000	1k50	R124
FCRJG4470000	4k7	R125
FCXR12681000	681O	R126
FCXR11100000	10.0O	R127
FCXR11562000	56.2O	R128
FCXR11562000	56.2O	R129
FCXR11100000	10.0O	R130
FCRF43120000	NF120O/1	R131
FCRF43120000	NF120O/1	R132
FCRF23220000	NF220O/ 1/2	R133
FCRF23220000	NF220O/ 1/2	R134
FCRY00010000	W0.22O/5	R135
FCRY00010000	W0.22O/5	R136
FCXR12604000	604O	R137
FCXR12604000	604O	R138
FCXR12475000	475O	R139
FCXR12475000	475O	R140
FCXR14332000	33k2	R141
FCXR14332000	33k2	R142
FCXR13681000	6k81	R143
FCXR14332000	33k2	R144
FCXR14332000	33k2	R145
FCXR13681000	6k81	R146
FCXR14332000	33k2	R147
FCXR14332000	33k2	R148
FCXR14750000	75k0	R149
FCXR12100000	100.0O	R150
FCXR12100000	100.0O	R151
FCXR14130000	13k0	R152
FCXR14130000	13k0	R153
FCXR12100000	100.0O	R154
FCXR13100000	1k0	R155
FCXR13100000	1k0	R156
FCXR12100000	100.0O	R157
FCRY00025000	W6.8O/5	R158
FCRC52100000	10/2	R160
FCRC51220000	2.2O/2	R161
FCXR14100000	10k0	R162

Code	Description	Reference
FCRF23220000	NF220O/ 1/2	R163
FCRF23220000	NF220O/ 1/2	R164
FCRY00010000	W0.22O/5	R165
FCRY00010000	W0.22O/5	R166
FCRF23220000	NF220O/ 1/2	R167
FCRF23220000	NF220O/ 1/2	R168
FCRY00010000	W0.22O/5	R169
FCRY00010000	W0.22O/5	R170
FCRF23220000	NF220O/ 1/2	R171
FCRF23220000	NF220O/ 1/2	R172
FCRY00010000	W0.22O/5	R173
FCRY00010000	W0.22O/5	R174
FCRF23220000	NF220O/ 1/2	R175
FCRF23220000	NF220O/ 1/2	R176
FCRY00010000	W0.22O/5	R177
FCRY00010000	W0.22O/5	R178
FCRF23220000	NF220O/ 1/2	R179
FCRF23220000	NF220O/ 1/2	R180
FCRY00010000	W0.22O/5	R181
FCRY00010000	W0.22O/5	R182
FCXR13825000	8k25	R183
FCXR15100000	100k0	R184
FCXR15100000	100k0	R185
FCXR15100000	100k0	R186
FCXR12681000	681O	R187
FCXR12681000	681O	R188
FCXR14100000	10k0	R189
FCXR13154000	1k54	R190
FCXR12604000	604O	R191
FCXR13221000	2k21	R192
FCXR14475000	47k5	R193
FCXR14100000	10k0	R194
FCXR13100000	1k0	R195
FCXR14475000	47k5	R196
FCXR14475000	47k5	R197
FCXR14100000	10k0	R198
FCXR06220000	2M2	R199
FCXR13100000	1k0	R200
FCXR13150000	1k50	R201
FCXR14100000	10k0	R202
FCXR14221000	22k1	R203
FCXR14475000	47k5	R204
FCXR14475000	47k5	R205
FCXR15287000	287k	R206
FCXR11562000	56.2O	R207
FCXR11562000	56.2O	R208
FCXR15100000	100k0	R209
FCXR14221000	22k1	R210
FCXR12301000	301O	R211
FCXR12178000	178O	R212
FCXR12301000	301O	R213
FCXR14511000	51K1	R214
FCT804006100	SCREW M4x6	SC100
FCT804006100	SCREW M4x6	SC101
FCT804006100	SCREW M4x6	SC102
FCT804006100	SCREW M4x6	SC103

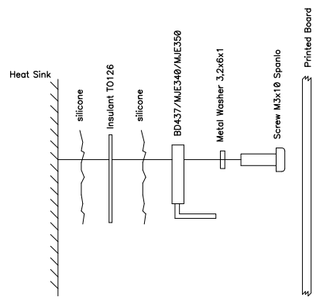
PARTS LIST: PRINTED CIRCUIT 11.0766.02.00 DPA1400

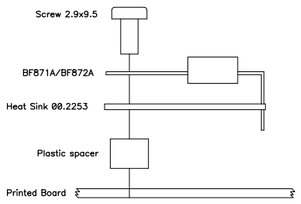
Code	Description	Reference
FCT803010000	SCREW M3x10	SC104
FCT803010000	SCREW M3x10	SC105
FCT803010000	SCREW M3x10	SC106
FCT803010000	SCREW M3x10	SC107
FCT803010000	SCREW M3x10	SC108
FCT803010000	SCREW M3x10	SC109
FCT803010000	SCREW M3x10	SC110
FCT803010000	SCREW M3x10	SC111
FCSEPPM00000	SPACER	SC112
FCSEPPM00000	SPACER	SC113
FCSEPPM00000	SPACER	SC114
FCSEPPM00000	SPACER	SC115
FCT850300500	SCREW M3x5	SC116
FCT850300500	SCREW M3x5	SC119
FCT850300500	SCREW M3x5	SC120
FCT850300500	SCREW M3x5	SC121
FCTERMSOL000	TEST POINT	TS101
FCTERMSOL000	TEST POINT	TS102
FCMECPON1900	19mm	W100
FCMECPON1900	19mm	W101
FCMECPON1900	19mm	W102
FCMECPON1900	19mm	W103
FCMECPON1900	19mm	W104
FCMECPON1900	19mm	W105
FCMECPON1900	19mm	W106
FCMECPON1900	19mm	W107
FCMECPON1900	19mm	W108
FCMECPON1900	19mm	W109
FCMECPON1900	19mm	W110
FCMECPON1900	19mm	W111
FCMECPON1900	19mm	W112
FCMECPON1900	19mm	W113
FCMECPON1900	19mm	W114
FCMECPON1900	19mm	W115
FCMECPON1900	19mm	W116
FCMECPON1900	19mm	W117
FCMECPON1900	19mm	W118
FCMECPON1900	19mm	W119
FCMECPON1900	19mm	W120
FCMECPON1900	19mm	W121
FCMECPON1900	19mm	W122
FCMECPON1900	19mm	W123
FCARM3201000	WASHER 3.2x6x1 M	WA100
FCARM3201000	WASHER 3.2x6x1 M	WA101
FCARM3201000	WASHER 3.2x6x1 M	WA102
FCARM3201000	WASHER 3.2x6x1 M	WA103
FC0H02340000	1023.04.00	WI101 TO WI104

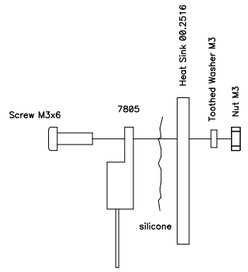


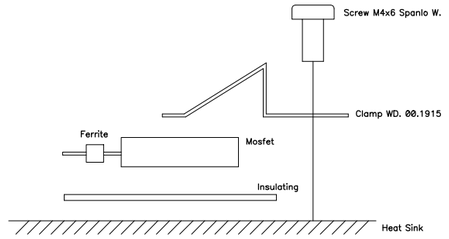
OLD VERSION

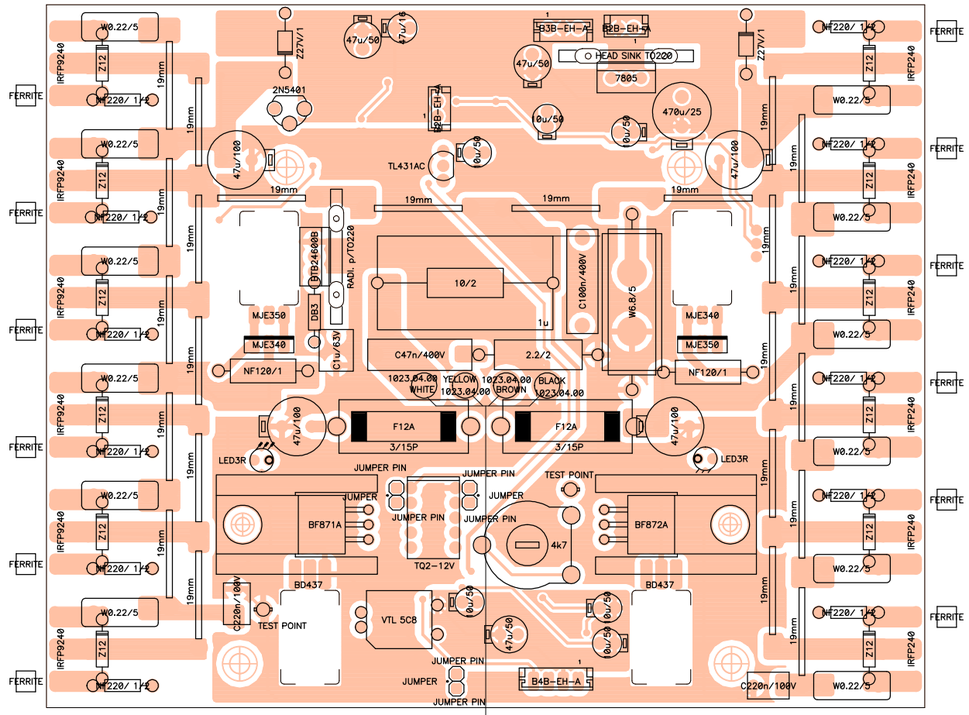
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0019-01.01		side: Component
			view: Reference
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0449	version: 01.02	title: EP03-99D Power Amp.	





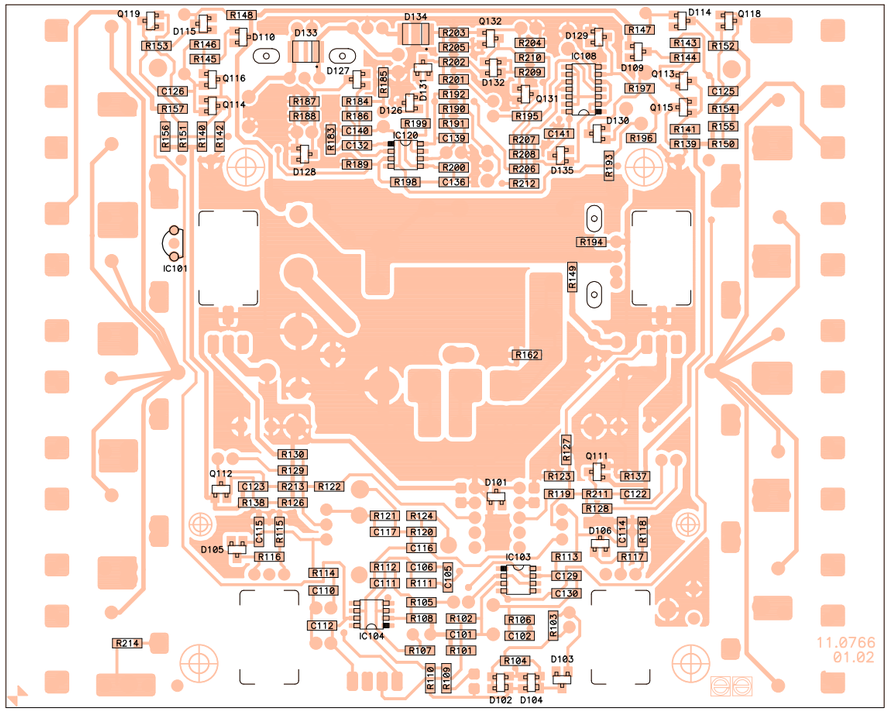






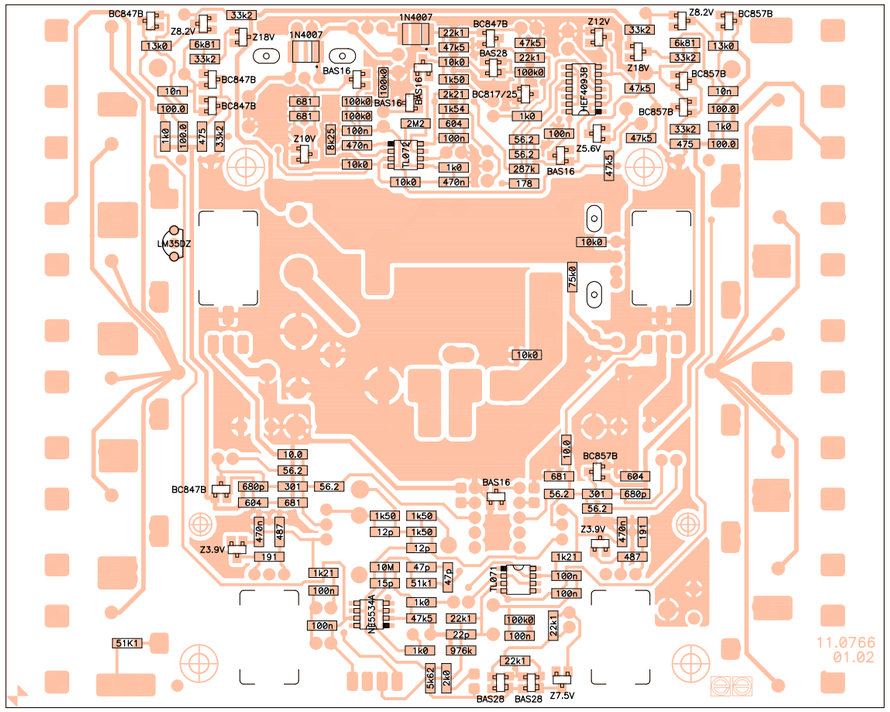
OLD VERSION

ECLER ee LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0019-01.01		side: Component
			view: Value
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0450	version: 01.02	title: EP03-99D Power Amp.	



OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0019-01.01		side: Solder
			view: Reference
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0451	version: 01.02	title: EP03-99D Power Amp.	



OLD VERSION

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0766-01.02 schema no: 10.0495-01.03 insertion file no: 81.0019-01.01		side: Solder
			view: Value
	drawn by: M. Amoros	date: 000310	approved by: Angel Sanuy
number: 33.0452	version: 01.02	title: EP03-99D Power Amp.	

ECLER

author: Queralt
approved:

date: 000913
model:

num: 40.0050 version: 01.00

PARTS LIST

EP03-99D

PRINTED CIRCUIT 11.0766-01.02

OLD VERSION

REFERENCE	VALUE	CODE
C101	22p	FCXCN12200
C102	100n	FCXCN41000
C103	47u/50	FCCE250470
C104	10u/50	FCCE250100
C105	47p	FCXCN14700
C106	47p	FCXCN14700
C107	47u/100	FCCE350470
C108	47u/100	FCCE350470
C109	10u/50	FCCE250100
C110	100n	FCXCN41000
C111	15p	FCXCN11500
C112	100n	FCXCN41000
C113	10u/50	FCCE250100
C114	470n	FCXCN44700
C115	470n	FCXCN44700
C116	12p	FCXCN11200
C117	12p	FCXCN11200
C118	C220n/100V	FCCDK52200
C119	C220n/100V	FCCDK52200
C120	47u/100	FCCE350470
C121	47u/100	FCCE350470
C122	680p	FCXCN26800
C123	680p	FCXCN26800
C124	C1u/63V	FCCDK20010
C125	10n	FCXCN40100
C126	10n	FCXCN40100
C127	C100n/400V	FCCDH71100
C128	C47n/400V	FCCDH71047
C129	100n	FCXCN41000
C130	100n	FCXCN41000
C131	10u/50	FCCE250100
C132	470n	FCXCN44700
C133	10u/50	FCCE250100
C134	470u/25	FCCE154700
C135	10u/50	FCCE250100
C136	470n	FCXCN44700
C137	47u/16	FCCE100000
C138	47u/50	FCCE250470
C139	100n	FCXCN41000
C140	100n	FCXCN41000
C141	100n	FCXCN41000
C142	47u/50	FCCE250470
D101	BAS16	FCXDDBAS16
D102	BAS28	FCXDDBAS28
D103	Z7.5V	FCXZ000075
D104	BAS28	FCXDDBAS28
D105	Z3.9V	FCXZ000039
D106	Z3.9V	FCXZ000039
D107	Z12	FCDD041200
D108	Z12	FCDD041200
D109	Z18V	FCXZ000180
D110	Z18V	FCXZ000180

REFERENCE	VALUE	CODE
D111	Z27V/1	FCDD102700
D112	Z27V/1	FCDD102700
D113	DB3	FCDIDB3000
D114	Z8.2V	FCXZ000082
D115	Z8.2V	FCXZ000082
D116	Z12	FCDD041200
D117	Z12	FCDD041200
D118	Z12	FCDD041200
D119	Z12	FCDD041200
D120	Z12	FCDD041200
D121	Z12	FCDD041200
D122	Z12	FCDD041200
D123	Z12	FCDD041200
D124	Z12	FCDD041200
D125	Z12	FCDD041200
D126	BAS16	FCXDDBAS16
D127	BAS16	FCXDDBAS16
D128	Z10V	FCXZ000100
D129	Z12V	FCXZ000120
D130	Z5.6V	FCXZ000056
D131	BAS16	FCXDDBAS16
D132	BAS28	FCXDDBAS28
D133	1N4007	FCXDD40070
D134	1N4007	FCXDD40070
D135	BAS16	FCXDDBAS16
D136	LED3R	FCLED300RO
D137	LED3R	FCLED300RO
F101	F12A	FCFUS50400
F102	F12A	FCFUS50400
FB101	FERRITE	FCFER43220
FB102	FERRITE	FCFER43220
FB103	FERRITE	FCFER43220
FB104	FERRITE	FCFER43220
FB105	FERRITE	FCFER43220
FB106	FERRITE	FCFER43220
FB107	FERRITE	FCFER43220
FB108	FERRITE	FCFER43220
FB109	FERRITE	FCFER43220
FB110	FERRITE	FCFER43220
FB111	FERRITE	FCFER43220
FB112	FERRITE	FCFER43220
HS100	HEAT SINK TO220	FCMECTO220
HS101	HEAT SINK	FCMECTO220
HS102	HEAT SINK BF'S	FCMECPI130
HS103	HEAT SINK BF'S	FCMECPI130
HS104	HEAT SINK MODULE	FCRAD13800
IC101	LM35DZ	FCIC350000
IC102	VTL 5C8	FCOPTVTL50
IC103	TL071	FCIC071010
IC104	NE5534A	FCIC553400
IC106	7805	FCREG78050
IC107	TL431AC	FCIC431000
IC108	HEF4093B	FCIC409301
IC120	TL072	FCIC072010
IN100	INSULATING TO126	FCMICTO126
IN101	INSULATING TO126	FCMICTO126
IN102	INSULATING TO126	FCMICTO126
IN103	INSULATING TO126	FCMICTO126

OLD VERSION

REFERENCE	VALUE	CODE
J101	B4B-EH-A	FCCTM00040
J102	JUMPER PIN	FCTERM0100
J103	JUMPER PIN	FCTERM0100
J104	JUMPER PIN	FCTERM0100
J105	JUMPER PIN	FCTERM0100
J106	JUMPER PIN	FCTERM0100
J107	JUMPER PIN	FCTERM0100
J108	B2B-EH-A	FCCTM00020
J109	B2B-EH-A	FCCTM00020
J110	B3B-EH-A	FCCTM00030
K101	TQ2-12V	FCREL00300
L101	1uH	FCIND00100
MJ101	JUMPER	FCMJ000100
MJ102	JUMPER	FCMJ000100
MJ103	JUMPER	FCMJ000100
MP100	CLAMP	FCPINZAM00
MP101	CLAMP	FCPINZAM00
MP102	SARCON	FCTIRKON00
MP103	SARCON	FCTIRKON00
NV100	NUT M3	FCTUE00300
NV101	NUT M3	FCTUE00300
PF101	3/15P	FCPORF3150
PF102	3/15P	FCPORF3150
Q101	BD437	FCTR437000
Q102	BD437	FCTR437000
Q103	BF871A	FCTR871000
Q104	BF872A	FCTR872000
Q105	MJE340	FCTR340000
Q106	MJE350	FCTR350000
Q107	MJE340	FCTR340000
Q108	MJE350	FCTR350000
Q109	IRFP9240	FCTR243000
Q110	IRFP240	FCTR240000
Q111	BC857B	FCXTT08570
Q112	BC847B	FCXTT08470
Q113	BC857B	FCXTT08570
Q114	BC847B	FCXTT08470
Q115	BC857B	FCXTT08570
Q116	BC847B	FCXTT08470
Q117	BTB24600B	FCTI246000
Q118	BC857B	FCXTT08570
Q119	BC847B	FCXTT08470
Q120	IRFP9240	FCTR243000
Q121	IRFP240	FCTR240000
Q122	IRFP9240	FCTR243000
Q123	IRFP240	FCTR240000
Q124	IRFP9240	FCTR243000
Q125	IRFP240	FCTR240000
Q126	IRFP9240	FCTR243000
Q127	IRFP240	FCTR240000
Q128	IRFP9240	FCTR243000
Q129	IRFP240	FCTR240000
Q130	2N5401	FCTR254010
Q131	BC817/25	FCXTT08170
Q132	BC847B	FCXTT08470
R101	976k	FCXR159760
R102	22k1	FCXR142210
R103	22k1	FCXR142210

OLD VERSION

REFERENCE	VALUE	CODE
R104	22k1	FCXR142210
R105	1k0	FCXR131000
R106	100k0	FCXR151000
R107	1k0	FCXR131000
R108	47k5	FCXR144750
R109	2k0	FCXR132000
R110	5k62	FCXR135620
R111	51k1	FCXR145110
R112	10M	FCXR071000
R113	1k21	FCXR131210
R114	1k21	FCXR131210
R115	487Ω	FCXR124870
R116	191Ω	FCXR121910
R117	487Ω	FCXR124870
R118	191Ω	FCXR121910
R119	56.2Ω	FCXR115620
R120	1k50	FCXR131500
R121	1k50	FCXR131500
R122	56.2Ω	FCXR115620
R123	681Ω	FCXR126810
R124	1k50	FCXR131500
R125	4k7	FCRJG44700
R126	681Ω	FCXR126810
R127	10.0Ω	FCXR111000
R128	56.2Ω	FCXR115620
R129	56.2Ω	FCXR115620
R130	10.0Ω	FCXR111000
R131	NF120Ω/1	FCRF431200
R132	NF120Ω/1	FCRF431200
R133	NF220Ω/ 1/2	FCRF232200
R134	NF220Ω/ 1/2	FCRF232200
R135	W0.22Ω/5	FCRY000100
R136	W0.22Ω/5	FCRY000100
R137	604Ω	FCXR126040
R138	604Ω	FCXR126040
R139	475Ω	FCXR124750
R140	475Ω	FCXR124750
R141	33k2	FCXR143320
R142	33k2	FCXR143320
R143	6k81	FCXR136810
R144	33k2	FCXR143320
R145	33k2	FCXR143320
R146	6k81	FCXR136810
R147	33k2	FCXR143320
R148	33k2	FCXR143320
R149	75k0	FCXR147500
R150	100.0Ω	FCXR121000
R151	100.0Ω	FCXR121000
R152	13k0	FCXR141300
R153	13k0	FCXR141300
R154	100.0Ω	FCXR121000
R155	1k0	FCXR131000
R156	1k0	FCXR131000
R157	100.0Ω	FCXR121000
R158	W6.8Ω/5	FCRY000250
R160	10/2	FCRC521000
R161	2.2Ω/2	FCRC512200
R162	10k0	FCXR141000

OLD VERSION

REFERENCE	VALUE	CODE
R163	NF220Ω/ 1/2	FCRF232200
R164	NF220Ω/ 1/2	FCRF232200
R165	W0.22Ω/5	FCRY000100
R166	W0.22Ω/5	FCRY000100
R167	NF220Ω/ 1/2	FCRF232200
R168	NF220Ω/ 1/2	FCRF232200
R169	W0.22Ω/5	FCRY000100
R170	W0.22Ω/5	FCRY000100
R171	NF220Ω/ 1/2	FCRF232200
R172	NF220Ω/ 1/2	FCRF232200
R173	W0.22Ω/5	FCRY000100
R174	W0.22Ω/5	FCRY000100
R175	NF220Ω/ 1/2	FCRF232200
R176	NF220Ω/ 1/2	FCRF232200
R177	W0.22Ω/5	FCRY000100
R178	W0.22Ω/5	FCRY000100
R179	NF220Ω/ 1/2	FCRF232200
R180	NF220Ω/ 1/2	FCRF232200
R181	W0.22Ω/5	FCRY000100
R182	W0.22Ω/5	FCRY000100
R183	8k25	FCXR138250
R184	100k0	FCXR151000
R185	100k0	FCXR151000
R186	100k0	FCXR151000
R187	681Ω	FCXR126810
R188	681Ω	FCXR126810
R189	10k0	FCXR141000
R190	1k54	FCXR131540
R191	604Ω	FCXR126040
R192	2k21	FCXR132210
R193	47k5	FCXR144750
R194	10k0	FCXR141000
R195	1k0	FCXR131000
R196	47k5	FCXR144750
R197	47k5	FCXR144750
R198	10k0	FCXR141000
R199	2M2	FCXR062200
R200	1k0	FCXR131000
R201	1k50	FCXR131500
R202	10k0	FCXR141000
R203	22k1	FCXR142210
R204	47k5	FCXR144750
R205	47k5	FCXR144750
R206	287k	FCXR152870
R207	56.2Ω	FCXR115620
R208	56.2Ω	FCXR115620
R209	100k0	FCXR151000
R210	22k1	FCXR142210
R211	301Ω	FCXR123010
R212	178Ω	FCXR121780
R213	301Ω	FCXR123010
R214	51K1	FCXR145110
SC100	SCREW M4x6	FCT8040061
SC101	SCREW M4x6	FCT8040061
SC102	SCREW M4x6	FCT8040061
SC103	SCREW M4x6	FCT8040061
SC104	SCREW M3x10	FCT8030100
SC105	SCREW M3x10	FCT8030100

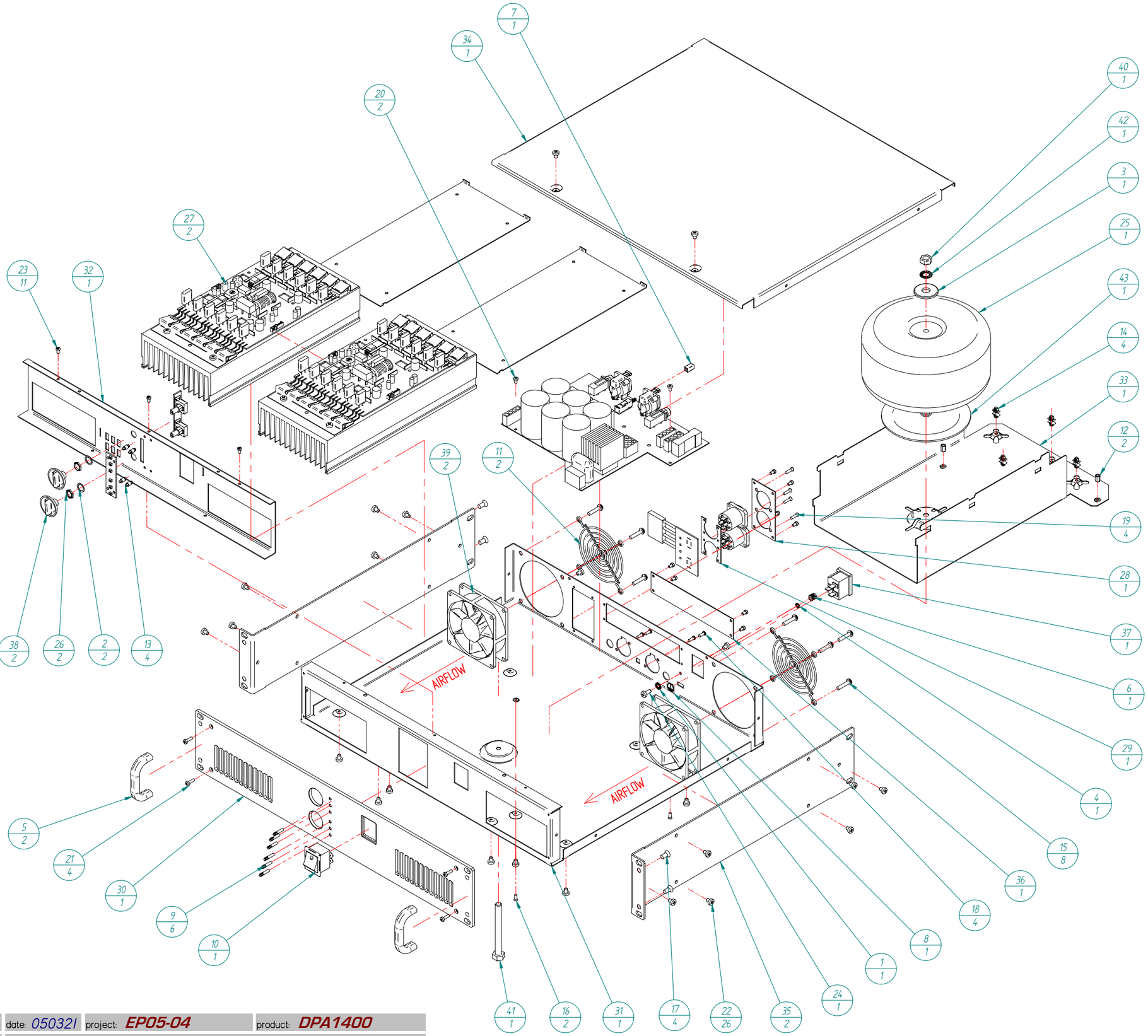
OLD VERSION

REFERENCE	VALUE	CODE
SC106	SCREW M3x10	FCT8030100
SC107	SCREW M3x10	FCT8030100
SC108	SCREW M3x10	FCT8030100
SC109	SCREW M3x10	FCT8030100
SC110	SCREW M3x10	FCT8030100
SC111	SCREW M3x10	FCT8030100
SC112	SPACER	FCSEPPM000
SC113	SPACER	FCSEPPM000
SC114	SPACER	FCSEPPM000
SC115	SPACER	FCSEPPM000
SC116	SCREW M3x6	FCT7503006
SC117	SPACER	FCSEPPM000
SC118	SPACER	FCSEPPM000
SC119	SCREW 2.9x9.5	FCT7002909
SC120	SCREW 2.9x9.5	FCT7002909
SC121	SCREW M3x6	FCT7503006
TS101	TEST POINT	FCTERMSOL0
TS102	TEST POINT	FCTERMSOL0
W100	19mm	FCMECPON19
W101	19mm	FCMECPON19
W102	19mm	FCMECPON19
W103	19mm	FCMECPON19
W104	19mm	FCMECPON19
W105	19mm	FCMECPON19
W106	19mm	FCMECPON19
W107	19mm	FCMECPON19
W108	19mm	FCMECPON19
W109	19mm	FCMECPON19
W110	19mm	FCMECPON19
W111	19mm	FCMECPON19
W112	19mm	FCMECPON19
W113	19mm	FCMECPON19
W114	19mm	FCMECPON19
W115	19mm	FCMECPON19
W116	19mm	FCMECPON19
W117	19mm	FCMECPON19
W118	19mm	FCMECPON19
W119	19mm	FCMECPON19
W120	19mm	FCMECPON19
W121	19mm	FCMECPON19
W122	19mm	FCMECPON19
W123	19mm	FCMECPON19
WA100	WASHER 3.2x6x1 M	FCARM32010
WA101	WASHER 3.2x6x1 M	FCARM32010
WA102	WASHER 3.2x6x1 M	FCARM32010
WA103	WASHER 3.2x6x1 M	FCARM32010
WA104	TOOTHED WASHER	FCARDE0300
WA105	TOOTHED WASHER	FCARDE0300
WI101 TO WI104	1023.04.00	FC0H023400

OLD VERSION

N°	Qty	Code	Description
1	1	FCARDE040000	TOOTHED WASHER M4
2	2	FCARDEPOTE00	ROTARY POT. WASHER M9
3	1	FCARM1050000	WASHER 10,5X30X2,5M
4	1	FCARS4000000	SEGMENTED WASHER M4
5	2	FCASAPWM1000	FRONTAL HANDLE
6	1	FCBOR0030000	GROUND TERMINAL
7	1	FCBOTRE01000	SWITCH KNOB 5,5X5,5 WHITE
8	1	FCETIZTT0000	EARTH TAG
9	6	FCGUIAL10000	LIGHT PIPE GUIDE VERTICAL
10	1	FCINTRED3000	MAINS SWITCH W/LIGHT
11	2	FCREJ0800000	FAN GRILLE 80x80
12	2	FCSEP3080000	SPACER M3x8
13	4	FCSEPDLMSPM0	PLASTIC SPACER DLMSPM-3-01
14	4	FCSEPWLS0600	PLASTIC SPACER 6MM
15	8	FCT060512000	SCREW 5,1x20
16	2	FCT200300800	SCREW DIN965 M3x8 BLACK
17	4	FCT200501000	SCREW DIN965 M5x10
18	4	FCT400290900	SCREW 2,9x9,5 D7981F BLACK
19	4	FCT500291300	SCREW D7982 2,9x13
20	2	FCT803005000	SCREW DIN 7985 M3x5 COMBI
21	4	FCT803010000	SCREW DIN7985 M3x10 SPANLO
22	26	FCT804006000	SCREW M4x6 SPANLO BLACK
23	11	FCT850300500	SCREW M3x5 REDUCED HEAD
24	1	FCT850411000	SCREW M4x10 TRILOB. WHITE
25*	1*	FCTFT0053000*	TOROIDAL TRANSFORMER*
26	2	FCTUPOT00000	ROTARY POT. NUT M9
27	2	FMM0APA14000	POWER AMP MODULE
28	1	FP0253100000	SPEAK ON PLATE
29	1	FP0259300000	SPEAKON MECHANICAL SUPPORT
30	1	FP0281900300	FRONT PANEL DPA1400
31	1	FP0282100000	BASE CHASSIS
32	1	FP0282200000	LED CIRCUIT MEC. SUPORT
33	1	FP0282300000	TRANSFORMER MECHANICAL SUPPORT
34	1	FP0282400000	TOP COVER
35	2	FP0282500000	LEFT/RIGHT SIDE
36	1	FP0286200000	REAR BLANK PANEL
37	1	FRBASRE10100	MAINS SOCKET CABLE=400
38	2	FRBOTRD24100	ROTARY KNOB D24 ROTATED INDEX
39	2	FRVEN080B000	FAN 80x80 12VDC CABLE=300
40	1	GENERIC	TRANSFORMER NUT M8
41	1	GENERIC	SCREW M8 TRANSFORMER
42	1	GENERIC	TOOTHED WASHER M8
43	1	GENERIC	TRANSFORMER RUBBER DISC

** FOR 100V UNIT TRANSFORMER CODE FCTFT0270000*



NOTE:
1.-TO VIEW CABLES POSITION AND WIRING
CHARACTERISTICS, SEE WIRING DIAGRAM NUMBER 31.0199

ECLEREE

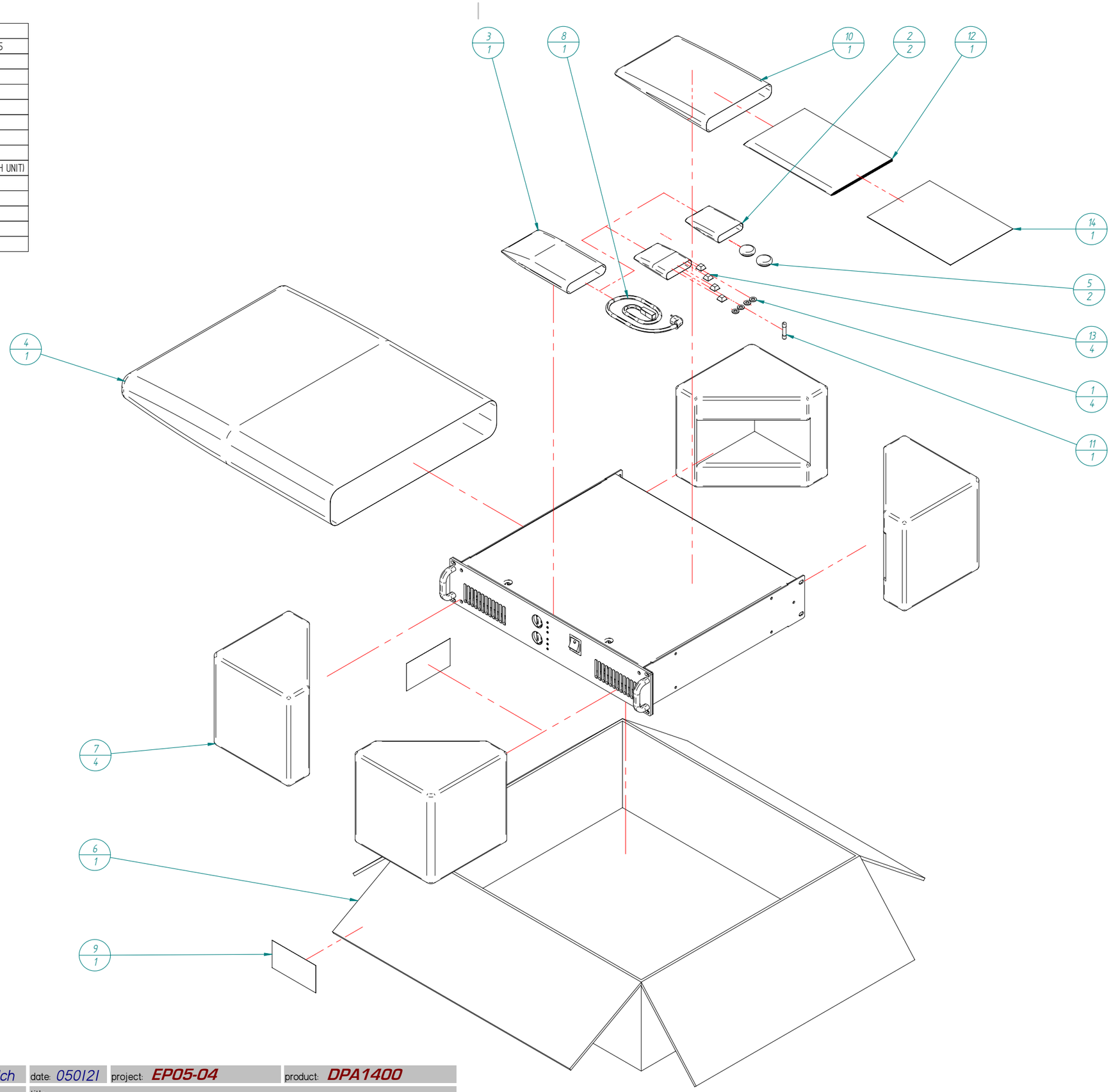
drawn: Jordi Folch | date: 050321 | project: EP05-04 | product: DPA1400

approved:

number: 30.0205 | version 01.01

title: **MECHANICAL DIAGRAM**

N°	Qty	Code	Description
1	4	FCARANY06000	WASHER M6 NYLON BLACK 12x6,4x1,5
2	2	FCBOL0010000	BAG 60x80
3	1	FCBOL0020000	PLASTIC BAG 120x180
4	1	FCBOLS020000	STANDARD BAG 75x65
5	2	FCBOTD240100	ROT. KNOB PROTECTION COVER
6	1	FCCAJSTA2300	PACKING CARDBOARD BOX
7	4	FCCANT116000	INTERIOR REINFORCEMENT
8	1	FCCONX017600	MAINS CORD 3x1,5 ST EU
9	1	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
10	1	FCFUNMAN0000	USER MANUAL BAG
11	1	FCFUS8040000	FUSE 16A 10x38
12	1	FCMANPAMDPA0	USER MANUAL DPA SERIES
13	4	FCPIE1125500	RUBBER FOOT
14	1	FCTARJG00000	WARRANTY CARD

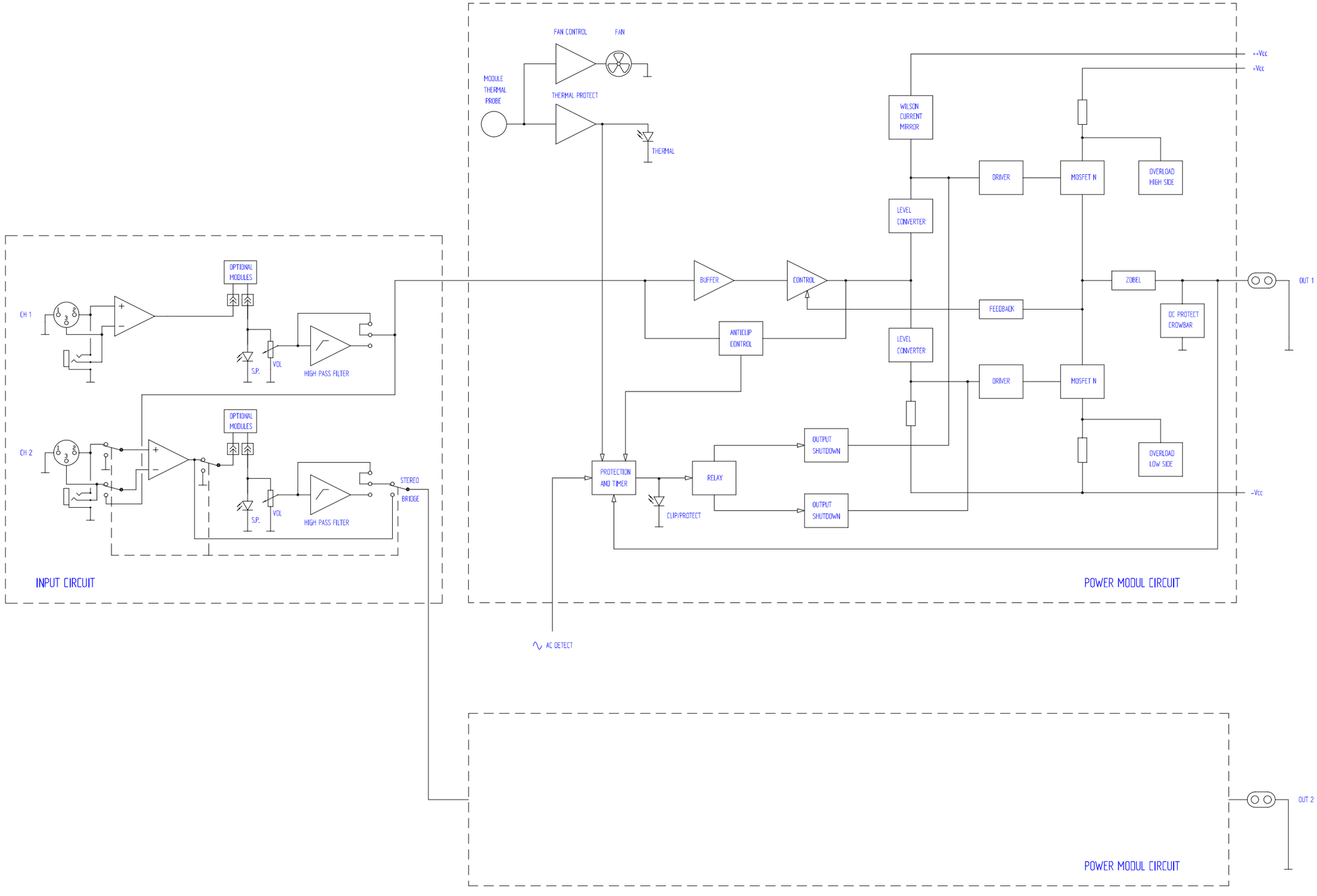


ECLEREE

drawn: Jordi Folch | date: 050121 | project: EP05-04 | product: DPA1400

approved: | title: **PACKING DIAGRAM**

number: 32.0113 | version 01.00



ECLEREE	drawn: J. Colomines	date: 050118	project: EP06-04	product: DPA2000
number: 10.0698 version 01.00	approved:	title: BLOCK DIAGRAM		

Due to the high power level required on the output load, the amplifier final stage's structure differs from the design used until now. This is due to the breakdown voltage limit on P-channel MosFET's, witch is 200V. This final stage is formed by several-shunted MosFET's, where those of the positive branch are common-drain configured, and the negative branch is mounted in common-source configuration.

The system's controlling device is a NE5534-type operational amplifier, witch is internally compensated in order to obtain gain levels equal or higher than three. The amplifier's feedback is given by a resistor and a capacitor associated to the operational amplifier's non-inverting input.

Transistors BF471 and BF472 are common-base configured, forming a current supply structure. This specific transistor type is used because of the higher Vce voltage level required by this design. They perform simultaneously two functions: they polarize the MosFET's gate-source junctions, keeping them on the conducting edge, and they transfer the OpAmp's output voltage variations referred to signal ground.

The signal variations normally reflected by Q103 and referred to the positive power supply, are now needed to be floating variations, and referred to the outputs. This function is done by Q105-106 (BF472), witch are mounted forming a Wilson-type mirror current supply. This mirror current supply transfers all of the current variations detected while descending through Q105's collector, to similar variations on Q106's collector also downward current. Resistors R124 and R132 are used to balance the current mirror, in order to avoid the use of transistors with forcibly the same beta value. C116 and C119 suppress their resistance when high frequency signal is processed. Diodes D107 and D108 avoid the transistors to get saturated, and R128 eliminates the loads on BF472's bases (Baker Circuit).

The system requires about 12Vdc additional voltage upon the usual Vcc level, this allows a correct saturation and a symmetric clipping at the higher MosFET's.

The correct polarization current value is adjusted by a 4K7 potentiometer connected to the BF transistor's emitter. This adds an additional current to the current source output on the BF transistor's loading resistors.

In order to maintain the appropriate stand-by current level against varying temperature conditions, BD437-type transistors are used. As they have a particular temperature-depending base-emitter voltage curve, this voltage is used to keep a correct voltage reference for the current supply. As the temperature rises, the reference voltage level decreases, the gate-source voltage also decreases and, finally, the bias current also decreases.

Transistors Q107 and Q108, and their corresponding twins at the lower branch, form a current-buffering circuit witch allows a fast charge and discharge of the power MosFET's gates.

The Zobel circuit, a resistance-capacitance-inductance formed network associated to the amplifier's output, tries to keep the amplifier's output load impedance constant no matter witch load value is connected to the output, or witch frequency is processed, in order to avoid phase shifts on the feedback signal.

To avoid the presence of DC voltage on the output, a diac-triac based system is used, witch shorts the output to signal ground in case the DC level reaches the diac's triggering value. To avoid this to happen when processing correct signal (sine waveform, music...), the diac obtains its reference level from a filtering network formed by a 100K resistor and a 1μF capacitor.

The protections circuitry overhauls the MosFET's power consumption. Basically, this circuitry consists of two important sections: MosFET's Id current monitoring, and MosFET's Vds value detection.

When the MosFET's Id level rises above a certain level, transistor Q115 (controlling transistor) conducts and decreases the BF transistor's loading resistance, thus reducing also their gate-source voltage and, finally, lowering the Id current value. This system is helped by a delayed performance, due to the associated circuitry to Q117 and C140. This capacitor starts to charge when a current level above the allowed value is detected, and the protection starts. The greater is the capacitor's charge level, the higher is also the voltage applied to Q115 controlling transistor's base, increasing its conduction and, consequently, reducing the gate-source voltage and thus the Id current value. This system uses a feedback network. The delay used is necessary to avoid clipping the processed signal's dynamic range, witch should result in the typical clipping noise. In the negative branch, the protection circuitry is associated to control transistor Q116.

STANDBY CIRCUITRY.

This circuit maintains the Output shutdown relay closed for about 10 seconds, and thus annulated any current through the MosFET's during this period, just until the whole system's power supply voltage reaches its stable level. By this system, we avoid to hear through the loudspeakers any possible annoying noise proceeding from the system's start-up. This delay time is achieved by using a RC cell, where R194=287K and C152=47μF/50V. As this cell charges, its voltage increases until reaching the 40106-type Schmidt trigger (IC107) switching value; at this point, the relay opens and the amplifier starts to function normally.

The discharge or reset of capacitor C152=47μF can be done by cutting off the power supply, or by triggering the Thermal or other protections. During a short period of time, BC817 type transistor Q122 acts like a switch, shunting two 750 ohm resistors to C152.

Moreover, the amplifier includes some other additional features, like:

- Volume control by a VCA system.
- An ANTICLIP system.
- Temperature control system.

The ANTICLIP system. When the amplifier reaches clipping levels, the operational amplifier looses control on the system's performance and at its output some ±Vcc voltage peaking pulses may appear, proceeding from its power supply. This peaking pulses are used to be rectified and sent to an optocoupler (IC111), witch varies the system's VCA control voltage as a function of those pulse's amplitude, creating a negative feedback witch should pull back the system into stable functioning area.

The Temperature control system has three main functions:

- Controlling the cooling fan speed, as it is a function of the measured temperature. The fan's operation voltage range is ≈7 to 4 Volt.
- Suspending the amplifier's functioning when the temperature exceeds ≈90ºC

The temperature control system consists on a LM35D-type IC, an amplifier, a comparator for the thermal probe and a 7805-type IC to feed the cooling fan.

The amplifier acts on the cooling fan speed control. The comparator is responsible for the output shutdown relay performance, in order to close it as the temperature reaches 90ºC, and thus cutting of the amplifier's MosFETs bias current. As this happens, the signal output of the whole unit is cutted off.

CH I

CH II

WI103 1025.01.80

WI104 1025.01.80

WI105 1025.01.80

WI106 1025.01.80

J105 NL4MP Faston

J106 NL4MP Faston

Printed Board 11.0773

POTENTIOMETERS CT.

R145:2 10kAx2

R146:2 10kAx2

J123 B7B-EH-A

Printed Board 11.1001

LEDS CT.

TP149 Signal CH1 TP152

D129 TLMG3100

D128 TLMG3100

WI112 1005.05.50

TP150 Signal CH2

TP151 Clip/Protect CH1

D127 TLMH3100

D126 TLMY3100 Thermal CH1

WI113 1004.01.80

TP146

TP147 Clip/Protect CH2

D125 TLMH3100

D130 TLMY3100 Thermal CH2

WI114 1004.02.50

TP148

J124

J125

IMPORTANT NOTE: For DPA600 the connectors J118 and J119 must be short circuit

Printed Board 11.1000

TP117

WI107:1

to WI101 Potentiometers&Leds Ct.

1009.05.50

J111 MJ103 J112 J113 Jumper Pin

to WI102 Potentiometers&Leds Ct.

TP121 C126 C1u C130 C180n C132 C180n R124 6k19 R132 68k1 R130 17k8 TP127 NE5532A IC101:2

+15VCC −15VCC

WI108 1024.04.50

to J101 Power Amp Channel 1 Ct.

IN-SP-L R126 1k0 R127 1k0 C128 47u/16 R133 348k IC103:2 TL072 R136 1k47 TP128 D114 BAS16

IN-SP-R R128 1k0 R129 1k0 C129 47u/16 R134 348k IC103:1 TL072 R137 1k47 TP129 D115 BAS16

J114 B3B-EH-A

TP118

1009.05.50

WI107:2

TP122 C127 C1u C131 C180n C133 C180n R125 6k19 R135 68k1 R131 17k8 TP130 NE5532A IC102:1

TP145

Jumper Pin J115 MJ104 J116 J117

to J101 Power Amp Channel 2 Ct.

INPUT 1

YKF52-5005 J101

YKB21-5009 J103

TP105 TP106 C101 47u/16 R106 100.0 AIN1− R114 24k3 0.5x R102 100k R110 100k C106 100p D105:1 BAS28 D105:2 BAS28 D106:1 BAS28 D106:2 BAS28 +15Vcc −15Vcc C112 22p 2x R121 24k3 0.5x NE5532A IC101:1 C119 47u/16 TP115 TP116

C102 47u/16 R107 100.0 AIN1+ R115 24k3 0.5x R103 100k R111 100k C107 100p R119 24k3 0.5x C111 22p 2x

DGND AIN1− AIN1+ IN1 MJ101 AGND MJ102 IN2 AIN2+ AIN2− B12B-EH-A J107

INPUT 2

YKF52-5005 J102

YKB21-5009 J104

TP107 TP108 C103 47u/16 R108 100.0 AIN2− R104 100k R112 100k C108 100p C117 22p 2x R122 24k3 0.5x NE5532A IC102:2 R117 24k3 0.5x R118 24k3 0.5x D107:2 BAS28 D107:1 BAS28 D108:1 BAS28 D108:2 BAS28 +15Vcc −15Vcc R120 24k3 0.5x C114 22p 2x C118 47u/16 R123 100k

C104 47u/16 R109 100.0 AIN2+ R105 100k R113 100k C109 100p

TP111 BR SPUJ19 S101:3 ST S101:1 SPUJ19 S101:4 SPUJ19 SPUJ19 S101:2 TP120 TP119

TS101 TP112 S102:2 17128 S102:1 17128

+15VCC −15VCC C120 100n C121 100n C122 100n C123 100n C124 100n C125 100n

TP123 TP124 D109 1N4007 D111 1N4007 D110 1N4007 D112 1N4007 C135 3300u/35 R140 147k C136 100n TP132 TP131

PF103 250mA Temp. PF104 250mA Temp.

PF105 250mA Temp. PF106 250mA Temp.

WI109 1024.04.50

to J108 Power Amp Channel 1 Ct.

WI110 1007.05.50

to J108 Power Amp Channel 2 Ct.

WI111 1007.05.50

D123 1N4007 TP142 HS103 SERA. 1137 IC106 7805 TP144 D119 BAS16 TP136 D120 BAS16 TP135

to Fan

J118 B2B-EH-A

to Fan

J119 B2B-EH-A

D116 1N4007 D117 1N4007 TP133 B250C1000 D118 TP134 C134 C100n/63V C153 1000u/35 C141 100n C145 2200u/35 C147 100n C150 2200u/35 R143 68k1 R144 68k1 D124 Z10V C151 10u/50 C152 470u/25

HS101 SERA. 1137 IC104 7815 TP137 C148 47u/50 D121 1N4007 C154 470u/25 +15VCC

to Outputs

J120 4P AMP MALE SOCKET

HS102 SERA. 1137 IC105 7915 TP138 C142 100n C146 2200u/35 C149 47u/50 D122 1N4007 −15VCC

to J110 Power Amp. Channel 1 Ct.

J121 4P AMP MALE SOCKET

TP125 FB5006 D113 TP126 R138 147k C137 4700u/130 C139 4700u/130 C143 4700u/130 R139 147k C138 4700u/130 C140 4700u/130 C144 4700u/130 TP140 R141 147k TP139 TP143 R142 147k TP141

to J110 Power Amp. Channel 2 Ct.

J122 4P AMP MALE SOCKET

11.0841 Printed Board

TP101 W101 1017.05.00 F101 PF102 PF101 16A Temp.

CB105 Cer. Bead CB106 Cer. Bead R116 NTC10 K101:2

TP103 TP104 D101 1N4007 D103 1N4007 D102 1N4007 D104 1N4007 CB101 CB102 Cer. Bead R101 5k6/2 CB103 CB104 Cer. Bead TP109 C105 22u/100 K101:1 Relay 60V 6000 TP110

TP102 WI102 1016.05.00

C110 470n/275V X2 C113 470n/275V X2 C115 C2n2/250V Y1 C116 C2n2/250V Y1 TP113 TP114 2x1.5mH L101

220−240V 110−120V

J108 6P AMP MALE SOCKET J109 6P AMP MALE SOCKET

115V 115V

Printed Board 11.0840

16V 16V 73V 73V 11V

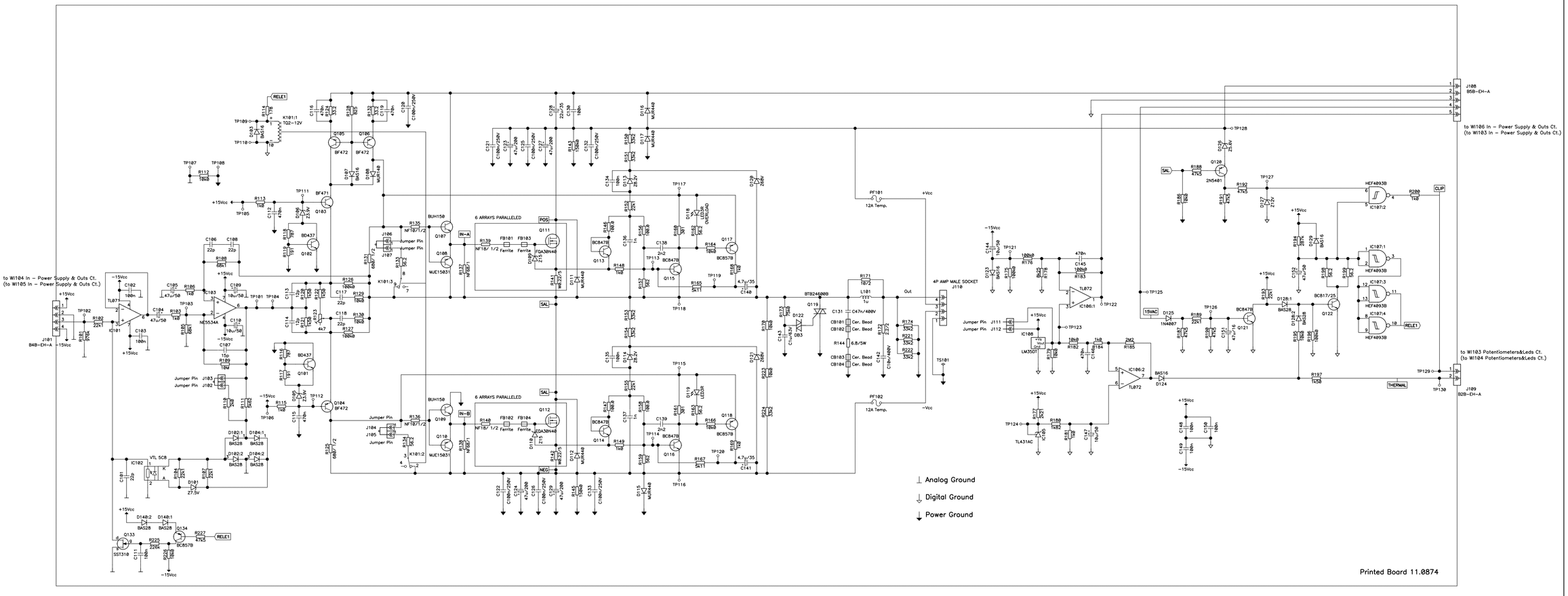
J110 9P AMP MALE SOCKET

T101 POWER TRANSFORMER

CRITICAL COMPONENT

For 100V Unit:
F101= 20A Temp 10x38 (FCFUS80500)

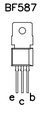
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: Miguel Amoros	date: 050328	approved: Angel Sanuy
	project n: EP06-04	title: Power Supply&In-Out Ct.	
number: 10.0699	version: 01.01	product n: DPA2000	page: 1 of 1



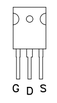
For Q111, Q112, Q123, Q124, Q125, Q126, Q127, Q128 Q129, Q130, Q131, Q132 = IRFP360
R139, R140, R201, R202, R205, R206, R209, R210, R213, R214, R217, R218 = NF 10 ohms 1/2W

Values between brockets belong to Power Amp Channel 2 Ct.

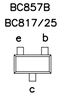
BF588 BF587



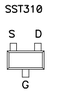
IRFP360



TOP VIEW
BC847B
BC857B
BC817/25



TOP VIEW
SST310



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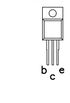

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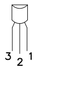
BUH150

TL431A

LM35D



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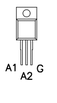
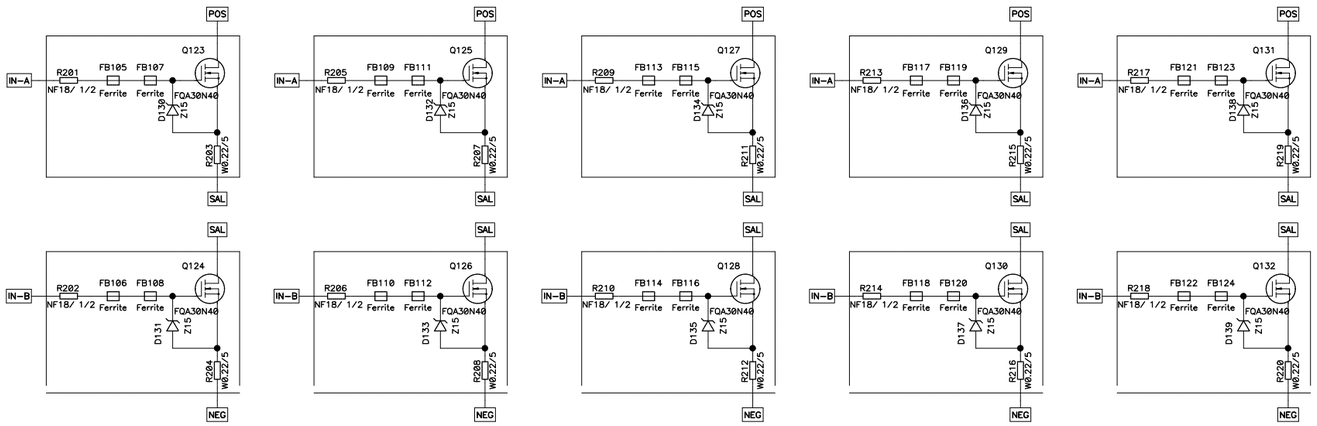
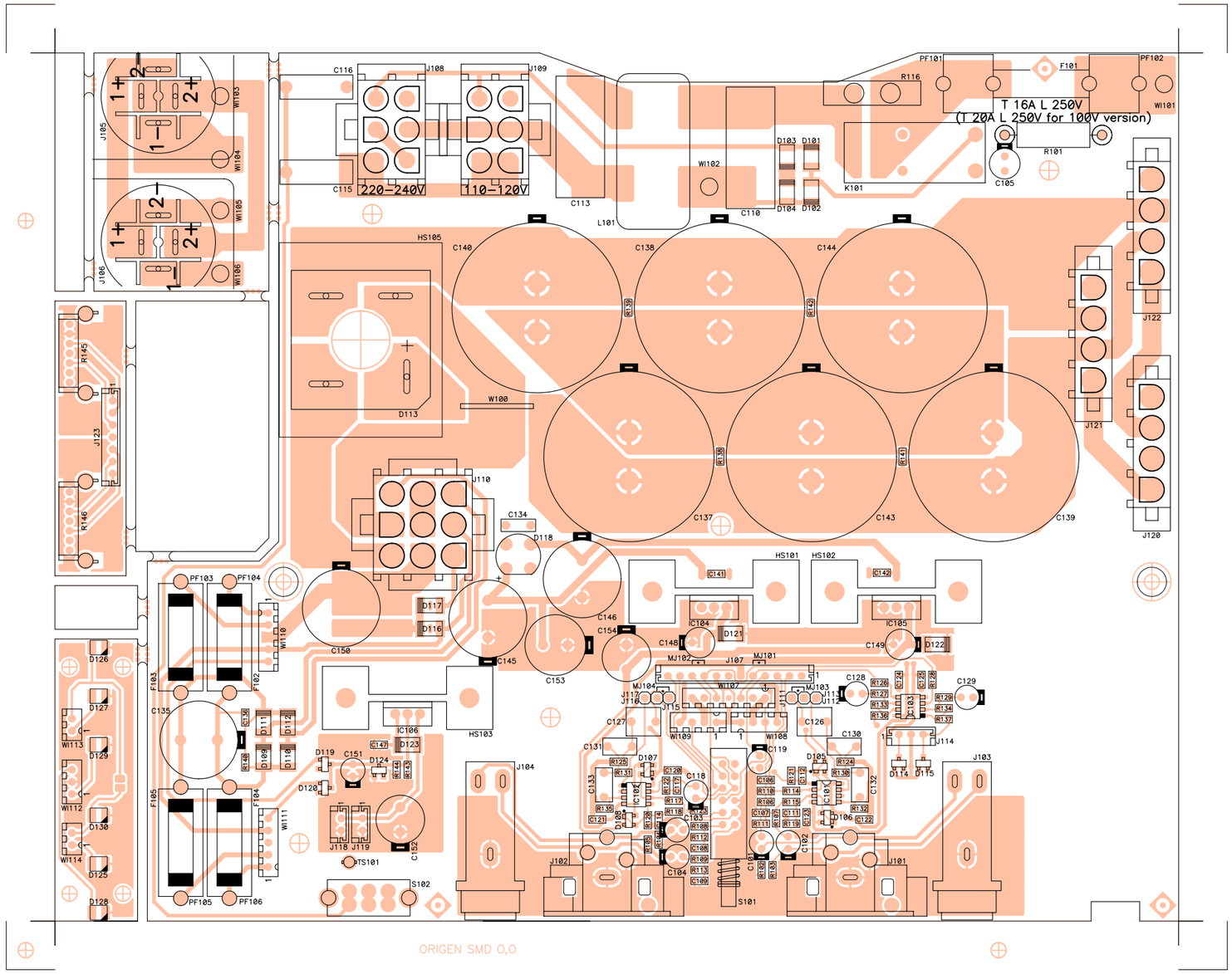


ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	drawn by: Jordi Folch	date: 011105	approved: Angel Sanuy
	project n: EP08-00	title: Power-Protect Module	
	product n: APA2000		
number: 10.0528	version: 02.05	page: 2 of 2	

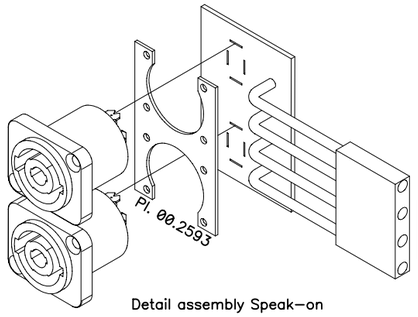


For Q111, Q112, Q123, Q124, Q125, Q126, Q127, Q128 Q129, Q130, Q131, Q132 = IRFP360
R139, R140, R201, R202, R205, R206, R209, R210, R213, R214, R217, R218 = NF 10 ohms 1/2W

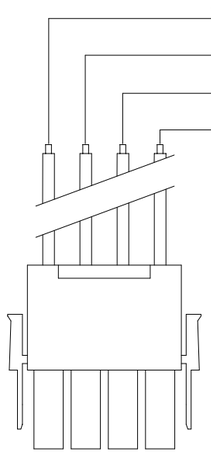
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.		drawn by: Jordi Folch	date: 011105	approved: Angel Sanuy
		project n: EP08-00	title: Power-Protect Module	
		product n: APA2000		
number: 10.0528	version: 02.05	page: 2 of 2		

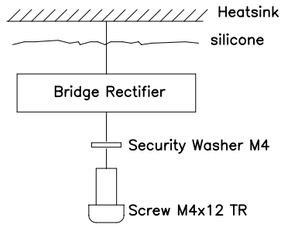


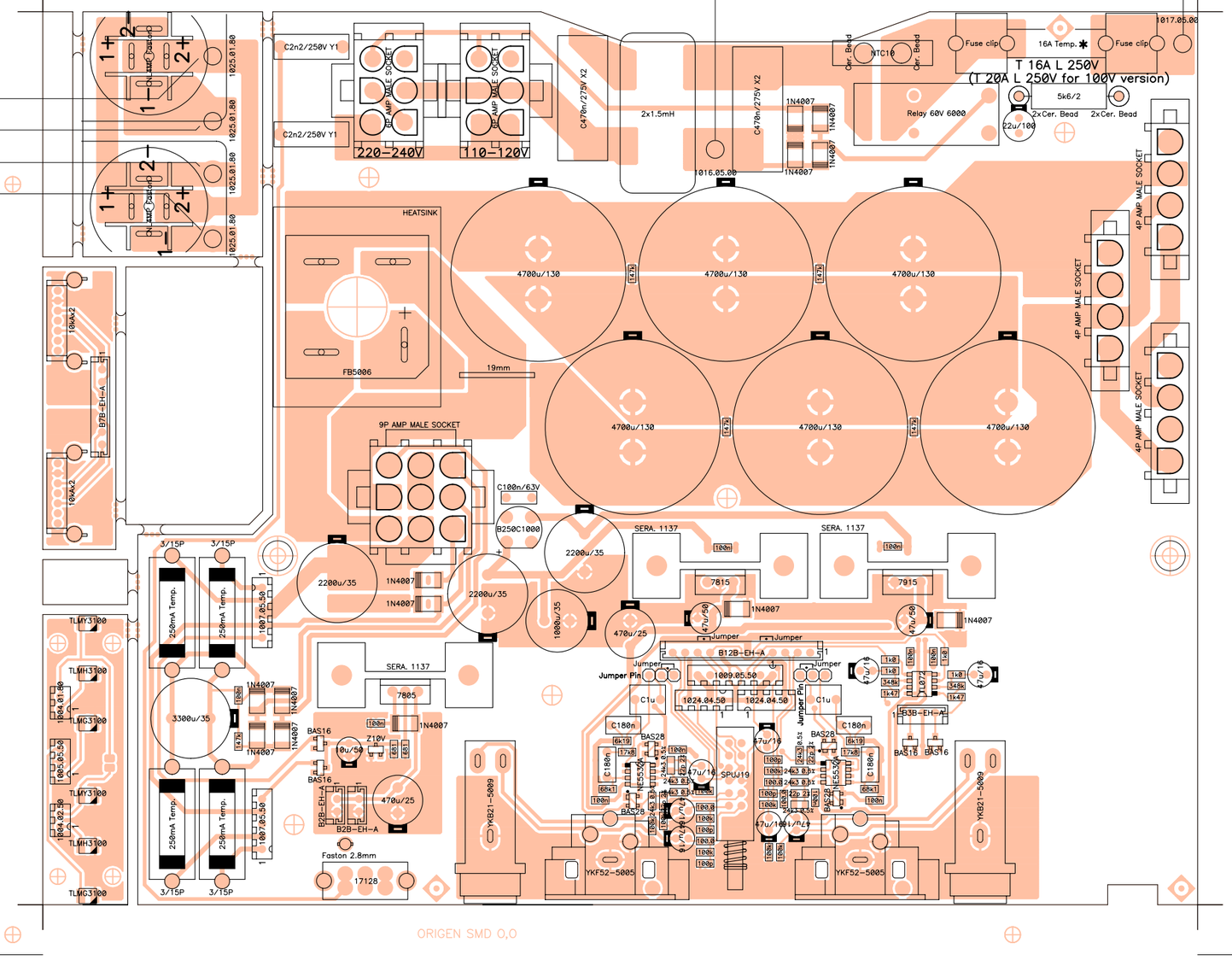
ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0841-07.01 schema no: 10.0699-01.01 insertion file no: 81.0101-01.00		side: Component view: Reference
number: 33.0922 / version: 01.01	project n: EP06-04	title: Power S.&Ins+Outs Ct.	
drawn by: Jordi Folch / date: 050329	product n: DPA2000		
	approved: Angel Sanuy		



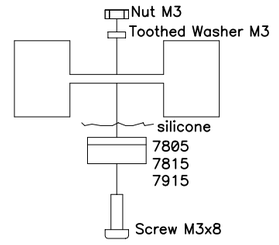
Detail assembly Speak–on







* For 100V Unit:
F101= 20A Temp 10x38
(FCFUS8050000)



IMPORTANT NOTE: Apply Clear Silicone Sealant
among the 4700u/130V electrolitic capacitors

ECLER LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0841–07.01 schema no: 10.0699–01.01 insertion file no: 81.0101–01.00	side: Component view: Value	
number: 33.0923	version: 01.01	project n: EP06–04	title: Power S.&Ins+Outs Ct.
drawn by: Jordi Folch	date: 050329	product n: DPA2000 approved: Angel Sanuy	

PARTS LIST: PRINTED CIRCUIT 11.0841.07.01

Code	Description	Reference
FCCE10000000	47u/16	C101
FCCE10000000	47u/16	C102
FCCE10000000	47u/16	C103
FCCE10000000	47u/16	C104
FCCE35022000	22u/100	C105
FCXCD2100000	100p	C106
FCXCD2100000	100p	C107
FCXCD2100000	100p	C108
FCXCD2100000	100p	C109
FCCDH7147000	C470n/275V X2	C110
FCXCD1220100	22p 2%	C111
FCXCD1220100	22p 2%	C112
FCCDH7147000	C470n/275V X2	C113
FCXCD1220100	22p 2%	C114
FCCCD2225000	C2n2/250V Y1	C115
FCCCD2225000	C2n2/250V Y1	C116
FCXCD1220100	22p 2%	C117
FCCE10000000	47u/16	C118
FCCE10000000	47u/16	C119
FCXCD4100000	100n	C120
FCXCD4100000	100n	C121
FCXCD4100000	100n	C122
FCXCD4100000	100n	C123
FCXCD4100000	100n	C124
FCXCD4100000	100n	C125
FCCDK2001000	C1u	C126
FCCDK2001000	C1u	C127
FCCE10000000	47u/16	C128
FCCE10000000	47u/16	C129
FCCDK5180000	C180n	C130
FCCDK5180000	C180n	C131
FCCDK5180000	C180n	C132
FCCDK5180000	C180n	C133
FCCDK1100000	C100n/63V	C134
FCCE21330000	3300u/35	C135
FCXCD4100000	100n	C136
FCCE37152500	4700u/130	C137
FCCE37152500	4700u/130	C138
FCCE37152500	4700u/130	C139
FCCE37152500	4700u/130	C140
FCXCD4100000	100n	C141
FCXCD4100000	100n	C142
FCCE37152500	4700u/130	C143
FCCE37152500	4700u/130	C144
FCCE21220000	2200u/35	C145
FCCE21220000	2200u/35	C146
FCXCD4100000	100n	C147
FCCE25047000	47u/50	C148
FCCE25047000	47u/50	C149
FCCE21220000	2200u/35	C150
FCCE25010000	10u/50	C151
FCCE15470000	470u/25	C152
FCCE21100000	1000u/35	C153
FCCE15470000	470u/25	C154
FCPERL255000	2 x Cer. Bead	CB101
FCPERL255000	Cer. Bead	CB102

PARTS LIST: PRINTED CIRCUIT 11.0841.07.01

Code	Description	Reference
FCPERL255000	2 x Cer. Bead	CB103
FCPERL255000	Cer. Bead	CB104
FCPERL255000	Cer. Bead	CB105
FCPERL255000	Cer. Bead	CB106
FCCIPAM84100	11.0841 Printed Board	CI101
FCXDD4007000	1N4007	D101
FCXDD4007000	1N4007	D102
FCXDD4007000	1N4007	D103
FCXDD4007000	1N4007	D104
FCXDDBAS2800	BAS28	D105
FCXDDBAS2800	BAS28	D106
FCXDDBAS2800	BAS28	D107
FCXDDBAS2800	BAS28	D108
FCXDD4007000	1N4007	D109
FCXDD4007000	1N4007	D110
FCXDD4007000	1N4007	D111
FCXDD4007000	1N4007	D112
FCREC5006000	FB5006	D113
FCXDDBAS1600	BAS16	D114
FCXDDBAS1600	BAS16	D115
FCXDD4007000	1N4007	D116
FCXDD4007000	1N4007	D117
FCREC2510000	B250C1000	D118
FCXDDBAS1600	BAS16	D119
FCXDDBAS1600	BAS16	D120
FCXDD4007000	1N4007	D121
FCXDD4007000	1N4007	D122
FCXDD4007000	1N4007	D123
FCXZ00010000	Z10V	D124
FCLEDSMD2000	TLMH3100	D125
FCLEDSMD2500	TLMY3100	D126
FCLEDSMD2000	TLMH3100	D127
FCLEDSMD3000	TLMG3100	D128
FCLEDSMD3000	TLMG3100	D129
FCLEDSMD2500	TLMY3100	D130
FCFUS8040000	16A Temp.	F101
FCFUS5008000	250mA Temp.	F102
FCFUS5008000	250mA Temp.	F103
FCFUS5008000	250mA Temp.	F104
FCFUS5008000	250mA Temp.	F105
FCRAD1263600	SERA. 1137	HS101
FCRAD1263600	SERA. 1137	HS102
FCRAD1263600	SERA. 1137	HS103
FCRAD1151500	HEATSINK	HS105
FCIC55322000	NE5532A	IC101
FCIC55322000	NE5532A	IC102
FCIC07201000	TL072	IC103
FCREG7815000	7815	IC104
FCREG7915000	7915	IC105
FCREG7805000	7805	IC106
FCBASX090000	YKF52-5005	J101
FCBASX090000	YKF52-5005	J102
FCBASJ020000	YKB21-5009	J103
FCBASJ020000	YKB21-5009	J104
FCBASS010000	NL4MP Faston	J105
FCBASS010000	NL4MP Faston	J106

PARTS LIST: PRINTED CIRCUIT 11.0841.07.01

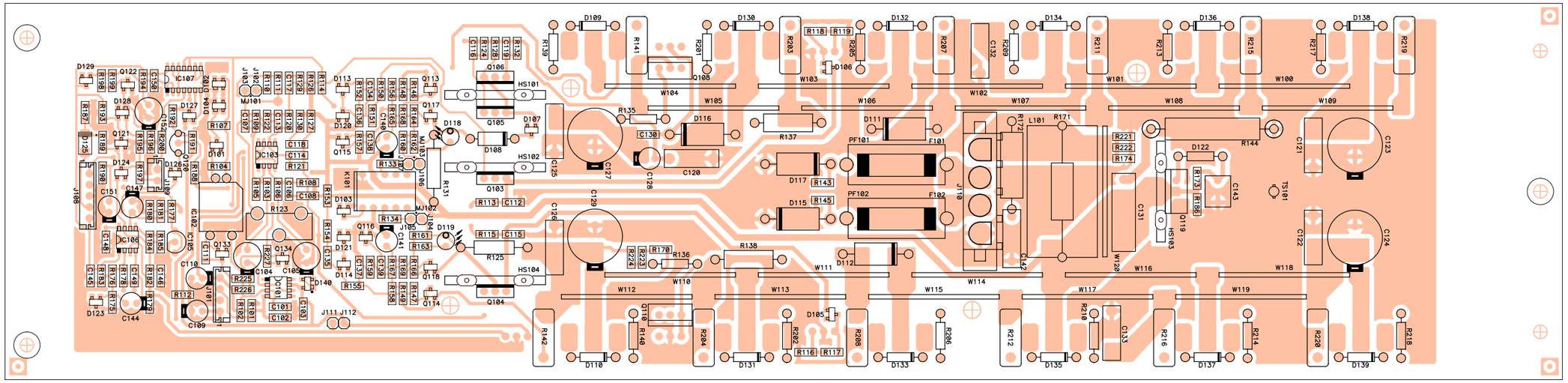
Code	Description	Reference
FCCTM0012000	B12B-EH-A	J107
FCCTAMP06000	6P AMP MALE SOCKET	J108
FCCTAMP06000	6P AMP MALE SOCKET	J109
FCCTAMP09000	9P AMP MALE SOCKET	J110
FCTERM010000	Jumper Pin	J111
FCTERM010000	Jumper Pin	J112
FCTERM010000	Jumper Pin	J113
FCCTM0003000	B3B-EH-A	J114
FCTERM010000	Jumper Pin	J115
FCTERM010000	Jumper Pin	J116
FCTERM010000	Jumper Pin	J117
FCCTM0002000	B2B-EH-A	J118
FCCTM0002000	B2B-EH-A	J119
FCCTAMP04000	4P AMP MALE SOCKET	J120
FCCTAMP04000	4P AMP MALE SOCKET	J121
FCCTAMP04000	4P AMP MALE SOCKET	J122
FCCTM0007000	B7B-EH-A	J123
FCREL1060000	Relay 60V 6000	K101
FCBB2X350000	2x1.5mH	L101
FCMJ00010000	Jumper	MJ101
FCMJ00010000	Jumper	MJ102
FCMJ00010000	Jumper	MJ103
FCMJ00010000	Jumper	MJ104
FC0259300000	Speak-on support	MP100
FCTUE0030000	Nut M3	NV101
FCTUE0030000	Nut M3	NV102
FCTUE0030000	Nut M3	NV103
FCPORF010000	Fuse clip	PF101
FCPORF010000	Fuse clip	PF102
FCPORF315000	3/15P	PF103
FCPORF315000	3/15P	PF104
FCPORF315000	3/15P	PF105
FCPORF315000	3/15P	PF106
FCRC54560000	5k6/2	R101
FCXR55100000	100k	R102
FCXR55100000	100k	R103
FCXR55100000	100k	R104
FCXR55100000	100k	R105
FCXR52100000	100.0	R106
FCXR52100000	100.0	R107
FCXR52100000	100.0	R108
FCXR52100000	100.0	R109
FCXR55100000	100k	R110
FCXR55100000	100k	R111
FCXR55100000	100k	R112
FCXR55100000	100k	R113
FCXR64243000	24k3 0.5%	R114
FCXR64243000	24k3 0.5%	R115
FCNTC0030000	NTC10	R116
FCXR64243000	24k3 0.5%	R117
FCXR64243000	24k3 0.5%	R118
FCXR64243000	24k3 0.5%	R119
FCXR64243000	24k3 0.5%	R120
FCXR64243000	24k3 0.5%	R121
FCXR64243000	24k3 0.5%	R122
FCXR55100000	100k	R123

PARTS LIST: PRINTED CIRCUIT 11.0841.07.01

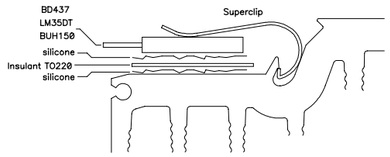
Code	Description	Reference
FCXR53619000	6k19	R124
FCXR53619000	6k19	R125
FCXR53100000	1k0	R126
FCXR53100000	1k0	R127
FCXR53100000	1k0	R128
FCXR53100000	1k0	R129
FCXR54178000	17k8	R130
FCXR54178000	17k8	R131
FCXR54681000	68k1	R132
FCXR55348000	348k	R133
FCXR55348000	348k	R134
FCXR54681000	68k1	R135
FCXR53147000	1k47	R136
FCXR53147000	1k47	R137
FCXR55147000	147k	R138
FCXR55147000	147k	R139
FCXR55147000	147k	R140
FCXR55147000	147k	R141
FCXR55147000	147k	R142
FCXR52681000	681	R143
FCXR52681000	681	R144
FCPR21004000	10kAx2	R145
FCPR21004000	10kAx2	R146
FCINTAP01200	SPUJ19	S101
FCINTD400000	17128	S102
FCT750300800	Screw M3x8	SC101
FCT750300800	Screw M3x8	SC102
FCT750300800	Screw M3x8	SC103
FCT380401200	Screw M4x12 TR	SC104
FCTERMF28000	Faston 2.8mm	TS101
FP0252400000	19mm	W100
FCARDE030000	Toothed Washer f/M3	WA101
FCARDE030000	Toothed Washer f/M3	WA102
FCARDE030000	Toothed Washer f/M3	WA103
FCARDE040000	Toothed Washer f/M4	WA104
FC2F01750000	1017.05.00	WI101
FC2F01650000	1016.05.00	WI102
FC0H02518000	1025.01.80	WI103
FC4M00955000	1009.05.50	WI107
FC6J02445000	1024.04.50	WI108
FC6J02445000	1024.04.50	WI109
FC4K00755000	1007.05.50	WI110
FC4K00755000	1007.05.50	WI111
FC4I00555000	1005.05.50	WI112
FC4G00418000	1004.01.80	WI113
FC4G00425000	1004.02.50	WI114

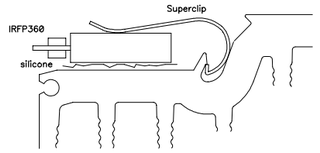
For Q111, Q112, Q123, Q124, Q125, Q126, Q127, Q128 Q129, Q130, Q131, Q132 = IRFP360

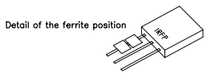
R139, R140, R201, R202, R205, R206, R209, R210, R213, R214, R217, R218 = NF 10 ohms 1/2W



ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0874–06.00 schema no: 10.0528–02.05 insertion file no: 81.0056–02.03	side: Component view: Reference	
number: 33.0642	version: 02.03	project n: EP08–00 product n: APA2000	title: Power–Protect Module
drawn by: Jordi Folch	date: 011105	approved: Angel Sanuy	

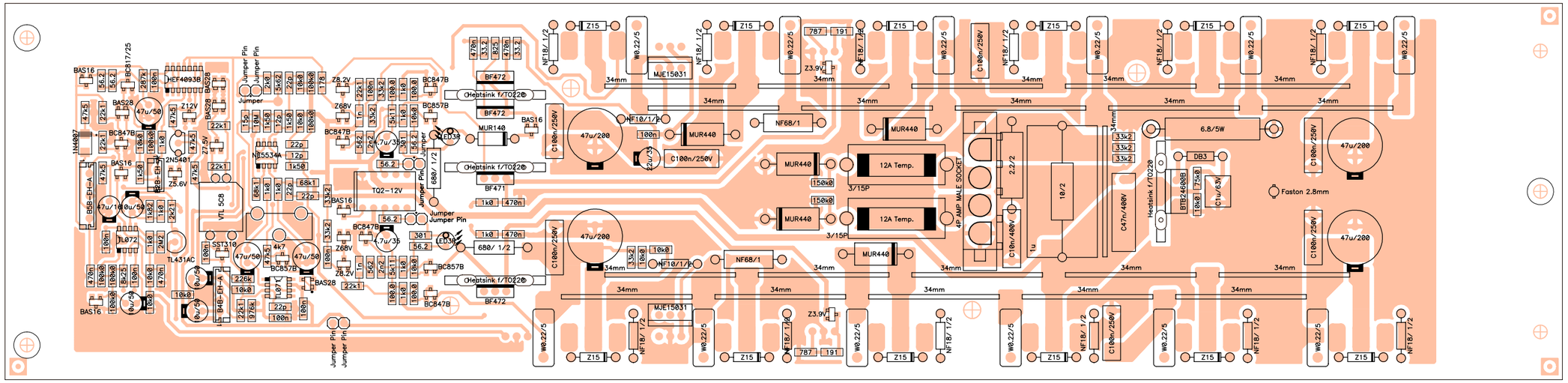


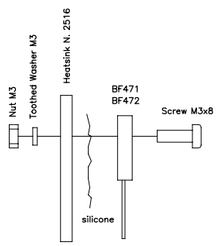


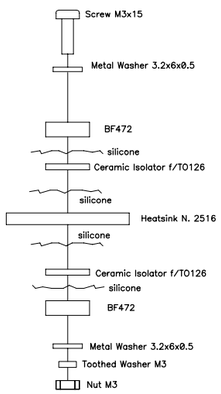


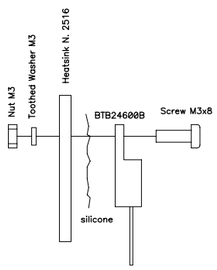
For Q111, Q112, Q123, Q124, Q125, Q126, Q127, Q128 Q129, Q130, Q131, Q132 = IRFP360

R139, R140, R201, R202, R205, R206, R209, R210, R213, R214, R217, R218 = NF 10 ohms 1/2W

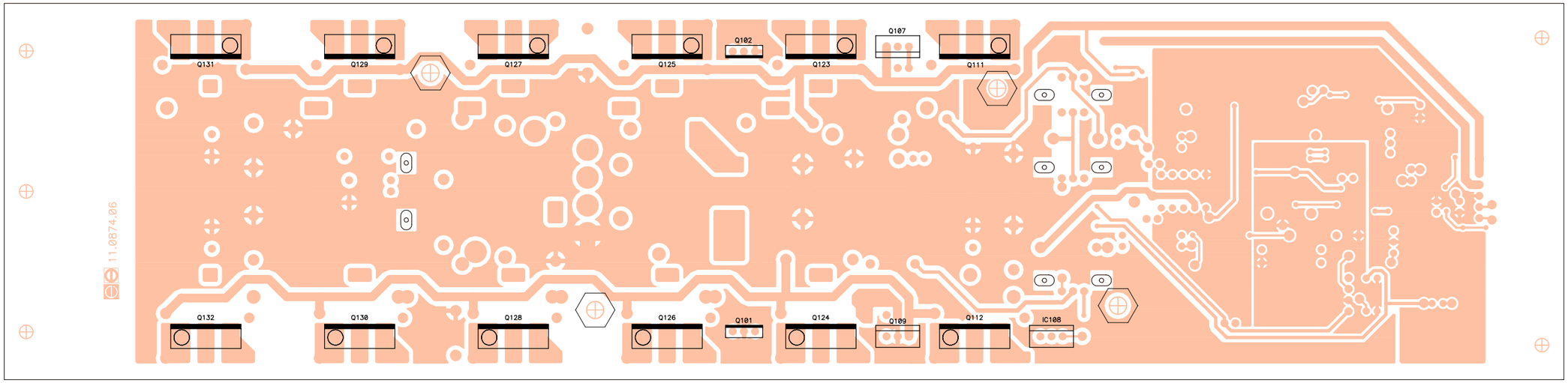








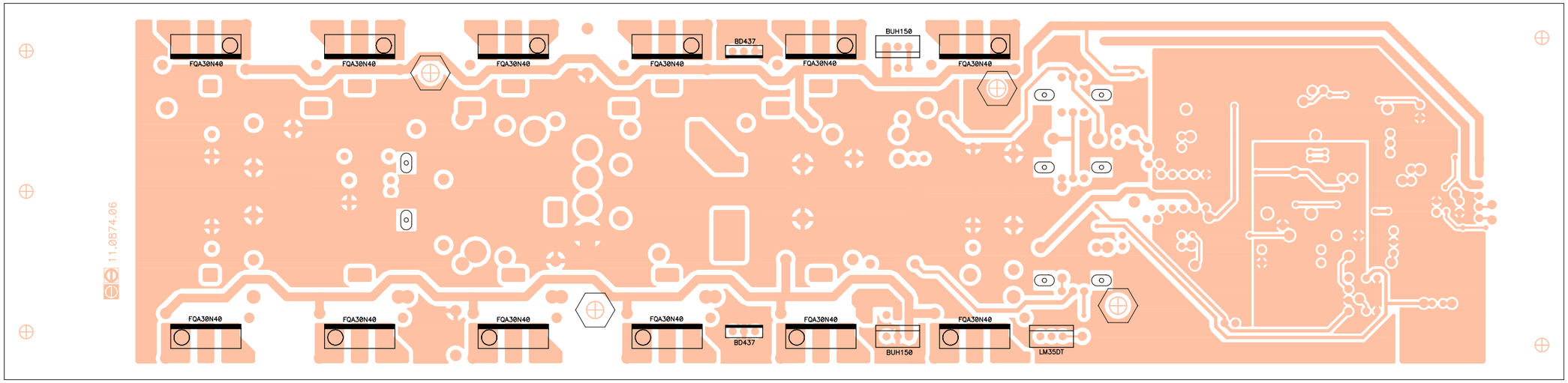
ECLEREE LABORATORIO DE ELECTRO–ACUSTICA S.A.	related to: circuit no: 11.0874–06.00 schema no: 10.0528–02.05 insertion file no: 81.0056–02.03	side: Component view: Value	
number: 33.0643	version: 02.04	project n: EP08–00	title: Power–Protect Module
drawn by: Jordi Folch	date: 011105	product n: APA2000 approved: Angel Sanuy	



For Q111, Q112, Q123, Q124, Q125, Q126, Q127, Q128 Q129, Q130, Q131, Q132 = IRFP360

R139, R140, R201, R202, R205, R206, R209, R210, R213, R214, R217, R218 = NF 10 ohms 1/2W

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0874-06.00 schema no: 10.0528-02.05 insertion file no:		side: Solder view: Reference
	project n: EP08-00	title: Power-Protect Module	
number: 33.0644	version: 02.02	product n: APA2000	
drawn by: Jordi Folch	date: 011105	approved: Angel Sanuy	



For Q111, Q112, Q123, Q124, Q125, Q126, Q127, Q128 Q129, Q130, Q131, Q132 = IRFP360

R139, R140, R201, R202, R205, R206, R209, R210, R213, R214, R217, R218 = NF 10 ohms 1/2W

ECLER LABORATORIO DE ELECTRO-ACUSTICA S.A.	related to: circuit no: 11.0874-06.00 schema no: 10.0528-02.05 insertion file no:	side: Solder view: Value	
	project n: EP08-00	title: Power-Protect Module	
number: 33.0645	version: 02.02	product n: APA2000	
drawn by: Jordi Folch	date: 011105	approved: Angel Sanuy	

PARTS LIST: PRINTED CIRCUIT 11.0874.06.00

Code	Description	Reference
FCXCN12200	22p	C101
FCXCN41000	100n	C102
FCXCN41000	100n	C103
FCCE250470	47u/50	C104
FCCE250470	47u/50	C105
FCXCN12200	22p	C106
FCXCN11500	15p	C107
FCXCN12200	22p	C108
FCCE250100	10u/50	C109
FCCE250100	10u/50	C110
FCXCN41000	100n	C111
FCXCN44700	470n	C112
FCXCN11200	12p	C113
FCXCN11200	12p	C114
FCXCN44700	470n	C115
FCXCN44700	470n	C116
FCXCN12200	22p	C117
FCXCN12200	22p	C118
FCXCN44700	470n	C119
FCCDN11000	C100n/250V	C120
FCCDN11000	C100n/250V	C121
FCCDN11000	C100n/250V	C122
FCCE350220	47u/200	C123
FCCE350220	47u/200	C124
FCCDN11000	C100n/250V	C125
FCCDN11000	C100n/250V	C126
FCCE350220	47u/200	C127
FCCE200220	22u/35	C128
FCCE350220	47u/200	C129
FCXCN41000	100n	C130
FCCDH71047	C47n/400V	C131
FCCDN11000	C100n/250V	C132
FCCDN11000	C100n/250V	C133
FCXCN41000	100n	C134
FCXCN41000	100n	C135
FCXCN40010	1n	C136
FCXCN40010	1n	C137
FCXCN40022	2n2	C138
FCXCN40022	2n2	C139
FCCE200047	4.7u/35	C140
FCCE200047	4.7u/35	C141
FCCDH71011	C10n/400V	C142
FCCDK20010	C1u/63V	C143
FCCE250100	10u/50	C144
FCXCN44700	470n	C145
FCXCN44700	470n	C146
FCCE250100	10u/50	C147
FCXCN41000	100n	C148
FCXCN41000	100n	C149
FCXCN41000	100n	C150
FCCE100000	47u/16	C151
FCCE250470	47u/50	C152
FCPERL2550	Cer. Bead	CB101
FCPERL2550	Cer. Bead	CB102
FCPERL2550	Cer. Bead	CB103
FCPERL2550	Cer. Bead	CB104

PARTS LIST: PRINTED CIRCUIT 11.0874.06.00

Code	Description	Reference
FCCIPAM874	Printed Board 11.0874	CI101
FCXZ000075	Z7.5V	D101
FCXDDBAS28	BAS28	D102
FCXDDBAS16	BAS16	D103
FCXDDBAS28	BAS28	D104
FCXZ000039	Z3.9V	D105
FCXZ000039	Z3.9V	D106
FCXDDBAS16	BAS16	D107
FCDDMUR140	MUR140	D108
FCDD041500	Z15	D109
FCDD041500	Z15	D110
FCDDMUR440	MUR440	D111
FCDDMUR440	MUR440	D112
FCXZ000082	Z8.2V	D113
FCXZ000082	Z8.2V	D114
FCDDMUR440	MUR440	D115
FCDDMUR440	MUR440	D116
FCDDMUR440	MUR440	D117
FCLED300RO	LED3R	D118
FCLED300RO	LED3R	D119
FCXZ000680	Z68V	D120
FCXZ000680	Z68V	D121
FCDIDB3000	DB3	D122
FCXDDBAS16	BAS16	D123
FCXDDBAS16	BAS16	D124
FCXDD40070	1N4007	D125
FCXZ000056	Z5.6V	D126
FCXZ000120	Z12V	D127
FCXDDBAS28	BAS28	D128
FCXDDBAS16	BAS16	D129
FCDD041500	Z15	D130
FCDD041500	Z15	D131
FCDD041500	Z15	D132
FCDD041500	Z15	D133
FCDD041500	Z15	D134
FCDD041500	Z15	D135
FCDD041500	Z15	D136
FCDD041500	Z15	D137
FCDD041500	Z15	D138
FCDD041500	Z15	D139
FCXDDBAS28	BAS28	D140
FCFUS50400	12A Temp.	F101
FCFUS50400	12A Temp.	F102
FCFER43220	Ferrite	FB101
FCFER43220	Ferrite	FB102
FCFER43220	Ferrite	FB103
FCFER43220	Ferrite	FB104
FCFER43220	Ferrite	FB105
FCFER43220	Ferrite	FB106
FCFER43220	Ferrite	FB107
FCFER43220	Ferrite	FB108
FCFER43220	Ferrite	FB109
FCFER43220	Ferrite	FB110
FCFER43220	Ferrite	FB111
FCFER43220	Ferrite	FB112
FCFER43220	Ferrite	FB113

PARTS LIST: PRINTED CIRCUIT 11.0874.06.00

Code	Description	Reference
FCFER43220	Ferrite	FB114
FCFER43220	Ferrite	FB115
FCFER43220	Ferrite	FB116
FCFER43220	Ferrite	FB117
FCFER43220	Ferrite	FB118
FCFER43220	Ferrite	FB119
FCFER43220	Ferrite	FB120
FCFER43220	Ferrite	FB121
FCFER43220	Ferrite	FB122
FCFER43220	Ferrite	FB123
FCFER43220	Ferrite	FB124
FCMECT0220	Heatsink f/TO220	HS101
FCMECT0220	Heatsink f/TO220	HS102
FCMECT0220	Heatsink f/TO220	HS103
FCMECT0220	Heatsink f/TO220	HS104
FCIC071010	TL071	IC101
FCOPTVTL50	VTL 5C8	IC102
FCIC553410	NE5534A	IC103
FCIC431000	TL431AC	IC105
FCIC072010	TL072	IC106
FCIC409301	HEF4093B	IC107
FCIC35DT00	LM35DT	IC108
FCSEPCE126	Cer. Isol. TO126	IN100
FCMICTO220C0	Insulant TO220	IN101
FCMICTO220C0	Insulant TO220	IN102
FCMICTO220C0	Insulant TO220	IN103
FCMICTO220C0	Insulant TO220	IN104
FCMICTO220C0	Insulant TO220	IN105
FCSEPCE126	Cer. Isol. TO126	IN106
FCCTM00040	B4B-EH-A	J101
FCTERM0100	Jumper Pin	J102
FCTERM0100	Jumper Pin	J103
FCTERM0100	Jumper Pin	J104
FCTERM0100	Jumper Pin	J105
FCTERM0100	Jumper Pin	J106
FCTERM0100	Jumper Pin	J107
FCCTM00050	B5B-EH-A	J108
FCCTM00020	B2B-EH-A	J109
FCCTAMP040	4P AMP MALE SOCKET	J110
FCTERM0100	Jumper Pin	J111
FCTERM0100	Jumper Pin	J112
FCREL00300	TQ2-12V	K101
FCIND00100	1u	L101
FCMJ000100	Jumper	MJ101
FCMJ000100	Jumper	MJ102
FCMJ000100	Jumper	MJ103
FCPINZAM10	Superclip 5k	MP100
FCPINZAM10	Superclip 5k	MP101
FCPINZAM10	Superclip 5k	MP102
FCPINZAM10	Superclip 5k	MP103
FCPINZAM10	Superclip 5k	MP104
FCPINZAM10	Superclip 5k	MP105
FCPINZAM10	Superclip 5k	MP106
FCPINZAM10	Superclip 5k	MP107
FCPINZAM10	Superclip 5k	MP108
FCPINZAM10	Superclip 5k	MP109

PARTS LIST: PRINTED CIRCUIT 11.0874.06.00

Code	Description	Reference
FCPINZAM10	Superclip 5k	MP110
FCPINZAM10	Superclip 5k	MP111
FCPINZAM10	Superclip 5k	MP112
FCPINZAM10	Superclip 5k	MP113
FCPINZAM10	Superclip 5k	MP114
FCPINZAM10	Superclip 5k	MP115
FCPINZAM10	Superclip 5k	MP116
FCTUE00300	Nut M3	NV101
FCTUE00300	Nut M3	NV102
FCTUE00300	Nut M3	NV103
FCTUE00300	Nut M3	NV104
FCPORF3150	3/15P	PF101
FCPORF3150	3/15P	PF102
FCTR437000	BD437	Q101
FCTR437000	BD437	Q102
FCTR471000	BF471	Q103
FCTR472000	BF472	Q104
FCTR472000	BF472	Q105
FCTR472000	BF472	Q106
FCTR150000	BUH150	Q107
FCTR150310	MJE15031	Q108
FCTR150000	BUH150	Q109
FCTR150310	MJE15031	Q110
FCTR360000	FQA30N40	Q111
FCTR360000	FQA30N40	Q112
FCXTT08470	BC847B	Q113
FCXTT08470	BC847B	Q114
FCXTT08470	BC847B	Q115
FCXTT08470	BC847B	Q116
FCXTT08570	BC857B	Q117
FCXTT08570	BC857B	Q118
FCTI246000	BTB24600B	Q119
FCTR254010	2N5401	Q120
FCXTT08470	BC847B	Q121
FCXTT08170	BC817/25	Q122
FCTR360000	FQA30N40	Q123
FCTR360000	FQA30N40	Q124
FCTR360000	FQA30N40	Q125
FCTR360000	FQA30N40	Q126
FCTR360000	FQA30N40	Q127
FCTR360000	FQA30N40	Q128
FCTR360000	FQA30N40	Q129
FCTR360000	FQA30N40	Q130
FCTR360000	FQA30N40	Q131
FCTR360000	FQA30N40	Q132
FCTRX03100	SST310	Q133
FCXTT08570	BC857B	Q134
FCXR159760	976k	R101
FCXR142210	22k1	R102
FCXR131000	1k0	R103
FCXR142210	22k1	R104
FCXR146810	68k1	R105
FCXR131000	1k0	R106
FCXR142210	22k1	R107
FCXR146810	68k1	R108
FCXR071000	10M	R109

PARTS LIST: PRINTED CIRCUIT 11.0874.06.00

Code	Description	Reference
FCXR132000	2k0	R110
FCXR135620	5k62	R111
FCXR141000	10k0	R112
FCXR131000	1k0	R113
FCXR121780	178	R114
FCXR131000	1k0	R115
FCXR127870	787	R116
FCXR121910	191	R117
FCXR127870	787	R118
FCXR121910	191	R119
FCXR131500	1k50	R120
FCXR131500	1k50	R121
FCXR131500	1k50	R122
FCRJR44700	4k7	R123
FCXR113320	33.2	R124
FCRC236800	680/ 1/2	R125
FCXR151000	100k0	R126
FCXR151000	100k0	R127
FCXR128250	825	R128
FCXR141000	10k0	R129
FCXR141000	10k0	R130
FCRC236800	680/ 1/2	R131
FCXR113320	33.2	R132
FCXR115620	56.2	R133
FCXR115620	56.2	R134
FCRF221000	NF10/1/2	R135
FCRF221000	NF10/1/2	R136
FCRF426800	NF68/1	R137
FCRF426800	NF68/1	R138
FCRF221800	NF18/ 1/2	R139
FCRF221800	NF18/ 1/2	R140
FCRY000100	W0.22/5	R141
FCRY000100	W0.22/5	R142
FCXR151500	150k0	R143
FCRY000250	6.8/5W	R144
FCXR151500	150k0	R145
FCXR121000	100.0	R146
FCXR121000	100.0	R147
FCXR131000	1k0	R148
FCXR131000	1k0	R149
FCXR143320	33k2	R150
FCXR143320	33k2	R151
FCXR142210	22k1	R152
FCXR143320	33k2	R153
FCXR143320	33k2	R154
FCXR142210	22k1	R155
FCXR121000	100.0	R156
FCXR125620	562	R157
FCXR121000	100.0	R158
FCXR125620	562	R159
FCXR123010	301	R160
FCXR123010	301	R161
FCXR115620	56.2	R162
FCXR115620	56.2	R163
FCXR141000	10k0	R164
FCXR135110	5k11	R165

PARTS LIST: PRINTED CIRCUIT 11.0874.06.00

Code	Description	Reference
FCXR141000	10k0	R166
FCXR135110	5k11	R167
FCXR131000	1k0	R168
FCXR131000	1k0	R169
FCXR141000	10k0	R170
FCRC521000	10/2	R171
FCRC512200	2.2/2	R172
FCXR147500	75k0	R173
FCXR143320	33k2	R174
FCXR151000	100k0	R175
FCXR151000	100k0	R176
FCXR132210	2k21	R177
FCXR138250	8k25	R178
FCXR141000	10k0	R179
FCXR131820	1k82	R180
FCXR131000	1k0	R181
FCXR141000	10k0	R182
FCXR151000	100k0	R183
FCXR131000	1k0	R184
FCXR062200	2M2	R185
FCXR141000	10k0	R186
FCXR144750	47k5	R187
FCXR144750	47k5	R188
FCXR142210	22k1	R189
FCXR144750	47k5	R190
FCXR144750	47k5	R191
FCXR144750	47k5	R192
FCXR142210	22k1	R193
FCXR152870	287k	R194
FCXR141000	10k0	R195
FCXR151000	100k0	R196
FCXR131500	1k50	R197
FCXR115620	56.2	R198
FCXR115620	56.2	R199
FCXR131000	1k0	R200
FCRF221800	NF18/ 1/2	R201
FCRF221800	NF18/ 1/2	R202
FCRY000100	W0.22/5	R203
FCRY000100	W0.22/5	R204
FCRF221800	NF18/ 1/2	R205
FCRF221800	NF18/ 1/2	R206
FCRY000100	W0.22/5	R207
FCRY000100	W0.22/5	R208
FCRF221800	NF18/ 1/2	R209
FCRF221800	NF18/ 1/2	R210
FCRY000100	W0.22/5	R211
FCRY000100	W0.22/5	R212
FCRF221800	NF18/ 1/2	R213
FCRF221800	NF18/ 1/2	R214
FCRY000100	W0.22/5	R215
FCRY000100	W0.22/5	R216
FCRF221800	NF18/ 1/2	R217
FCRF221800	NF18/ 1/2	R218
FCRY000100	W0.22/5	R219
FCRY000100	W0.22/5	R220
FCXR143320	33k2	R221

PARTS LIST: PRINTED CIRCUIT 11.0874.06.00

Code	Description	Reference
FCXR143320	33k2	R222
FCXR141000	10k0	R223
FCXR143320	33k2	R224
FCXR152260	226k	R225
FCXR141000	10k0	R226
FCXR144750	47k5	R227
FCT7503008	Screw M3x8	SC100
FCT7503008	Screw M3x8	SC101
FCT7503008	Screw M3x8	SC102
FCT7003015	Screw M3x15	SC103
FCTERMF280	Faston 2.8mm	TS101
FCMECPON34	34mm	W100
FCMECPON34	34mm	W101
FCMECPON34	34mm	W102
FCMECPON34	34mm	W103
FCMECPON34	34mm	W104
FCMECPON34	34mm	W105
FCMECPON34	34mm	W106
FCMECPON34	34mm	W107
FCMECPON34	34mm	W108
FCMECPON34	34mm	W109
FCMECPON34	34mm	W110
FCMECPON34	34mm	W111
FCMECPON34	34mm	W112
FCMECPON34	34mm	W113
FCMECPON34	34mm	W114
FCMECPON34	34mm	W115
FCMECPON34	34mm	W116
FCMECPON34	34mm	W117
FCMECPON34	34mm	W118
FCMECPON34	34mm	W119
FCMECPON34	34mm	W120
FCARDE0300	Toothed Washer f/M3	WA101
FCARM32000	Metal Washer 3.2x6x0.5	WA102
FCARDE0300	Toothed Washer f/M3	WA103
FCARDE0300	Toothed Washer f/M3	WA104
FCARDE0300	Toothed Washer f/M3	WA105
FCARM32000	Metal Washer 3.2x6x0.5	WA106

PRELIMINARY:

- Set the BRIDGE-STEREO selection switch to STEREO.
- Check the Ground Link switch.
- Place a mini-jumper at connector J107's terminals (power supply).
- Be sure that the correct cable types are used.
- Connect the power amplifier's mains plug to a 230Vac variac output, and leave it on its 0V position.
- Keep an ammeter nearby, in order to verify the current consumption adjustments.

VERIFICATION:

- Switch the tested unit's Power main switch to ON, without applying any input signal. Insert the ammeter into the channel to be tested.

- Slowly increase the variac's output until it reaches the unit's nominal mains voltage, and verify that the current consumption adjustments remain correct: **150mA**. If this value has changed, rectify it. Once adjusted, seal the potentiometer with fixing lacquer.
  Caution! The unit's power supply will be charged! Before removing the ammeter and replacing the fuse, it is strongly recommended to completely discharge the unit's power supply by applying a 2KHz 0dB input signal and connecting load impedances to the amplifier's output, and reduce the unit's mains voltage to 0V by turning down the variac's output.

- Repeat this procedure on the other channel.

- Once the adjustments are done, turn off and on again the unit by switching over its main power switch, and verify the STANDBY period lasting approximately 10 seconds, and also the cooling fans run up to their maximum running speed.

- Verify both XLR-type inputs, and their correspondent signal present indicator LED's and also check the correct functioning of the input signal attenuators, as their actuation range should be from -∞dB to 0dB.

- Verify the unit's output power when working at nominal mains voltage (230Vac):

DPA 2000 940W 61V on 4Ω

- To verify the ANTICLIP function, increase the input signal level above 0dB and check that the clipping output signal is smoothened. Place a mini-jumper into the test point terminal (J102-J103) near the VTL5C8 device, verify that the anticlip function now is triggered earlier and rounds the clipping signal even more. Check the CLIP indicator LED's are lit, and, when reducing the output signal level in 0'5 or 1dB, the CLIP Leds turn off. Verify that each indicator LED is paired with its own channel.

- Verify the unit's bandwidth curve, which, with a 2KHz 0'5V input signal, should be linear between 20Hz and 20KHz without inducing any distortion to the output signal. Also check that when applying an input signal up to 50KHz, the unit's output level only decreases in 1 or 2 dB, and no visible distortion is observed.

- Verify the BRIDGE operating mode. Switch over the BRIDGE-STEREO selector to BRIDGE, check that both channels are sending outputs in phase opposition. Only the channel I potentiometer should be active by now. Apply an 8Ω load impedance between the active output terminals and verify that the unit reaches to clip without troubles. Return the unit to its STEREO mode.

- Connect a load impedance formed by a 4Ω resistor shunted to a 2µ2F capacitor, and apply a 1KHz square waveform input signal. Using an oscilloscope, observe the output signal, and increase the input signal level until the displayed signal starts clipping. At the flat level areas of the squared waveform, only two or three ringing should be detected.

- To verify the subsonic filter, apply a 25Hz input signal. When the subsonic filter is active, the output signal should decrease 3dB referred to the non-active filter output level.

- Verify the THERMAL protection circuitry. Short the unit's thermal probe J111 - J112, and verify that the relay releases, while the THERMAL indicator light up, as the output signal is cutted off and the cooling fan increases its speed until it reaches maximum airflow.

- Repeat this procedure on the other module.

PROTECTIONS

- Signal generator OFF, -10dB scale, and level potentiometer down to its minimum.
- Oscilloscope adjusted to 5v/div, 0.2ms/div time base, test probe not attenuated.
- Connect a 0'5Ω load impedance, the verifier's load can be used.
- Turn up quickly the level potentiometer. Both positive and negative half of the signal cycle is clipped. Occasionally, only one of both signal cycles may be clipped. If this happens increase the generator's output level in 5dB. Verify that no ringing appear when the protection is triggered.

BURNING (BURN-IN) TEST

Leave the tested unit connected to its correspondent voltage mains socket, applying input signal and connecting load impedances, and working at 3dB under its maximum output power level for at least 24 hours.

SAFETY VERIFICATION TESTS.

Preliminary:

- Unplug the unit to be tested from the mains outlet.
- Short all ground terminals from signal inputs, outputs and other external connectors, except the mains plug's ground.
- Turn ON the unit's main power switch.

Ground continuity test:

- Connect the tester's probes between the mains ground contact and the unit's backside main ground test point. When applying a 10A current, verify that the ground impedance is lower than 0'1Ω.

Electrical insulation test:

- Connect the electrical insulation tester probes between the mains outlet ground contact and both shorted mains input poles.
- Adjust the tester's current limit down to 10mA.
- Apply 1500Vac during 5 seconds.
- The unit's insulation should be able to resist this voltage, without generating spurious sparks or a sparkover effect, and the tester may not detect any malfunction.

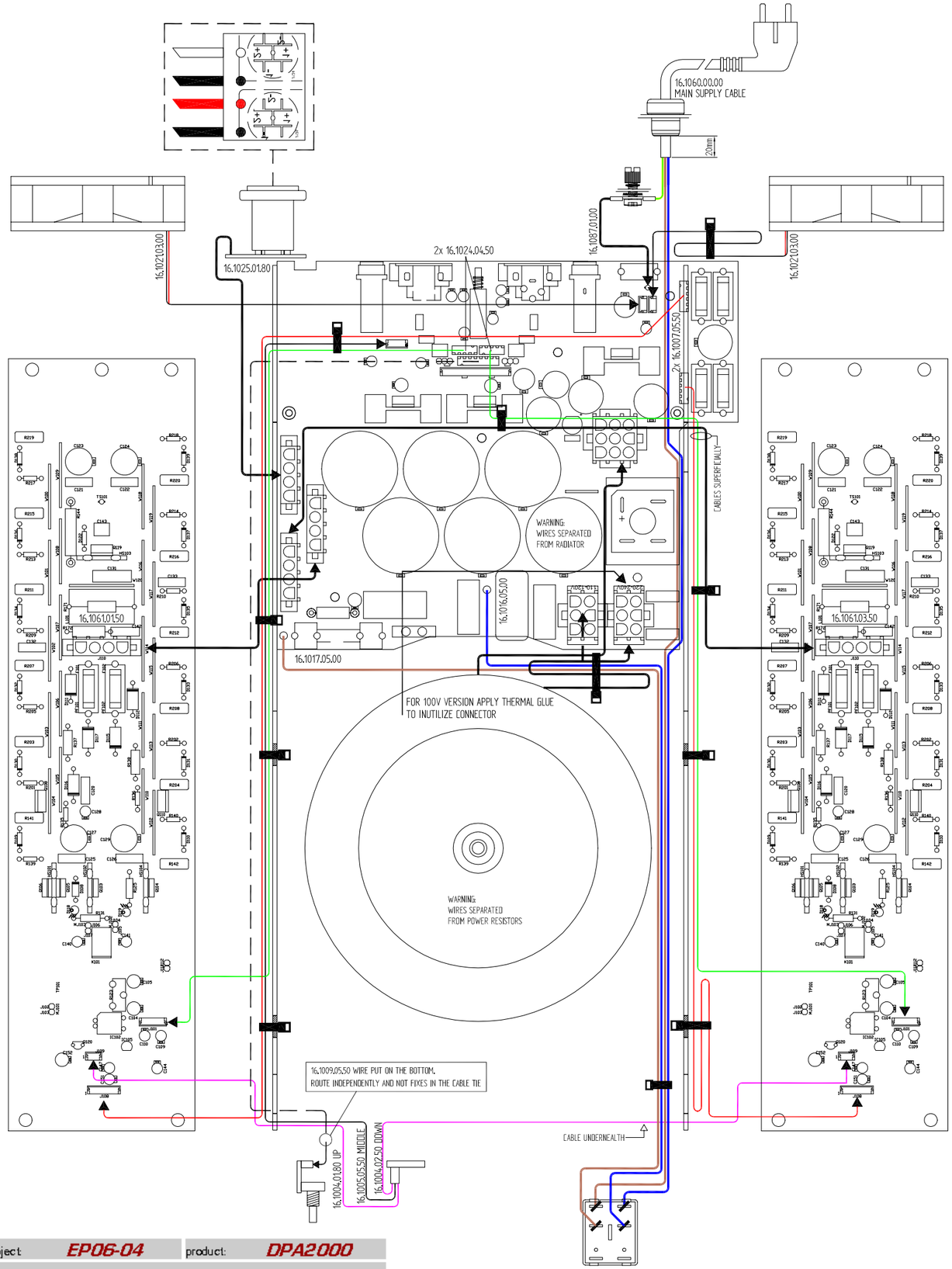
CAUTION: Do not disconnect nor touch the test probes until the test has finished completely!

QUALITY CONTROL

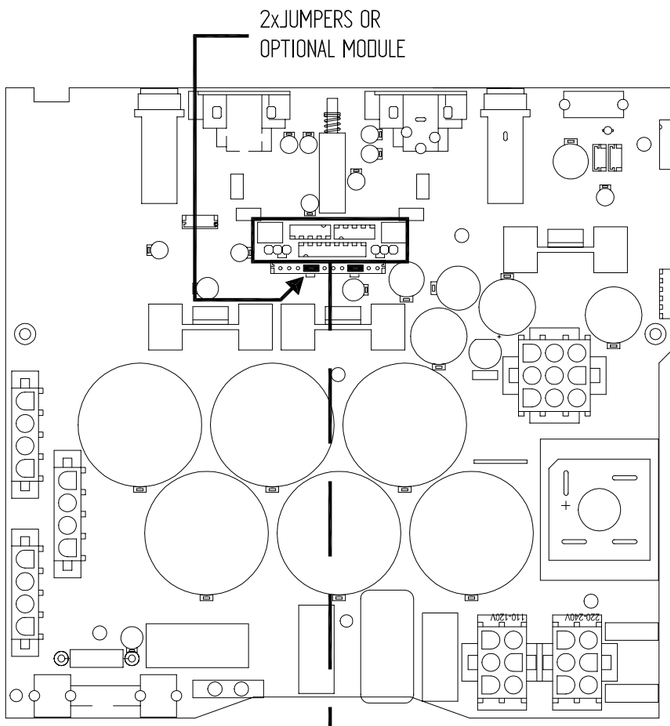
All mechanical parts should be visually revised, in order to detect scratches on the unit's painting; all screws should be on their place, correctly tight and unmarked. Check out the unit's general presentation.

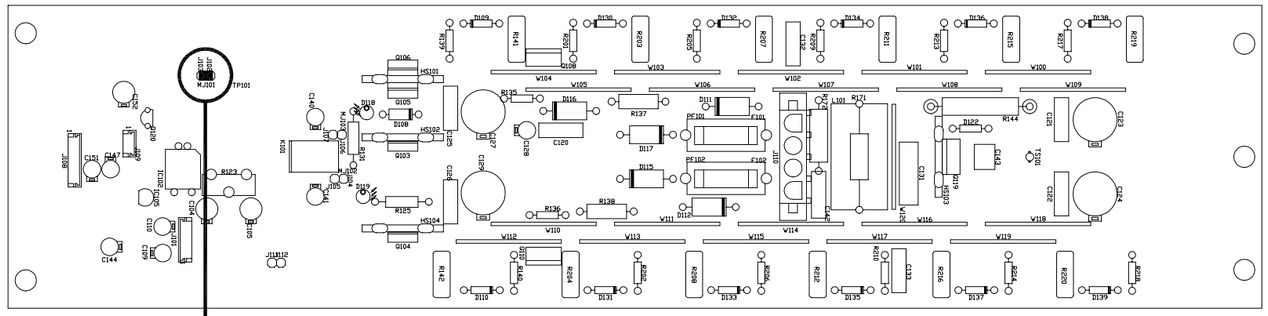
VERIFICATION USING MUSIC

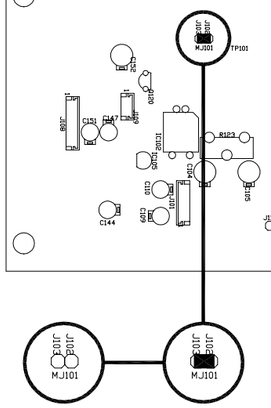
Verify the unit's sound quality, which should be distortion and noise free. Also check that all potentiometers can run smoothly their whole sweep, without annoying noises and crisperings. At their minimum position, check that output signal is completely cutted off. To ensure that all electrical junctions are well fixed, hit the tested unit against your working table, obviously without damaging its outer presentation. Verify also all inputs and outputs. At last, short-circuit the output terminals while carrying amplified signal, and verify that once short-circuit is removed, the amplifying stages still are working.



ECLER	drawn: J. Colomines	date: 050321	project: EP06-04	product: DPA2000
number: 31.0197 version 01.01	approved:	title: WIRING DIAGRAM		



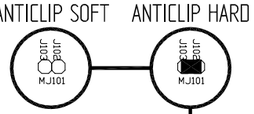




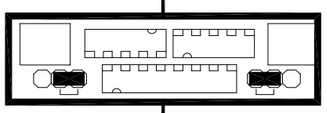
ANTICLIP SOFT

ANTICLIP HARD

FACTORY ADJUSTED TO "HARD" POSITION



SUBSONIC OFF



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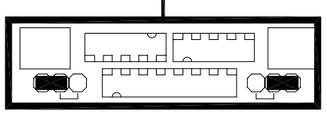
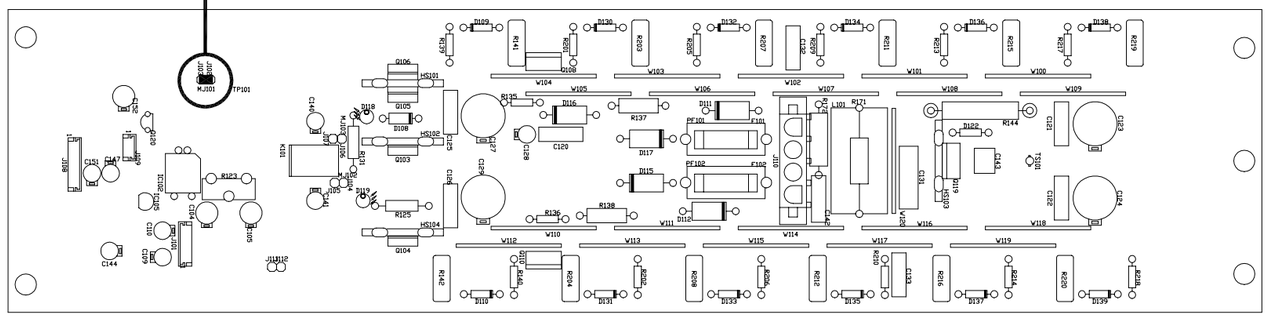


FACTORY ADJUSTED TO "ON" POSITION

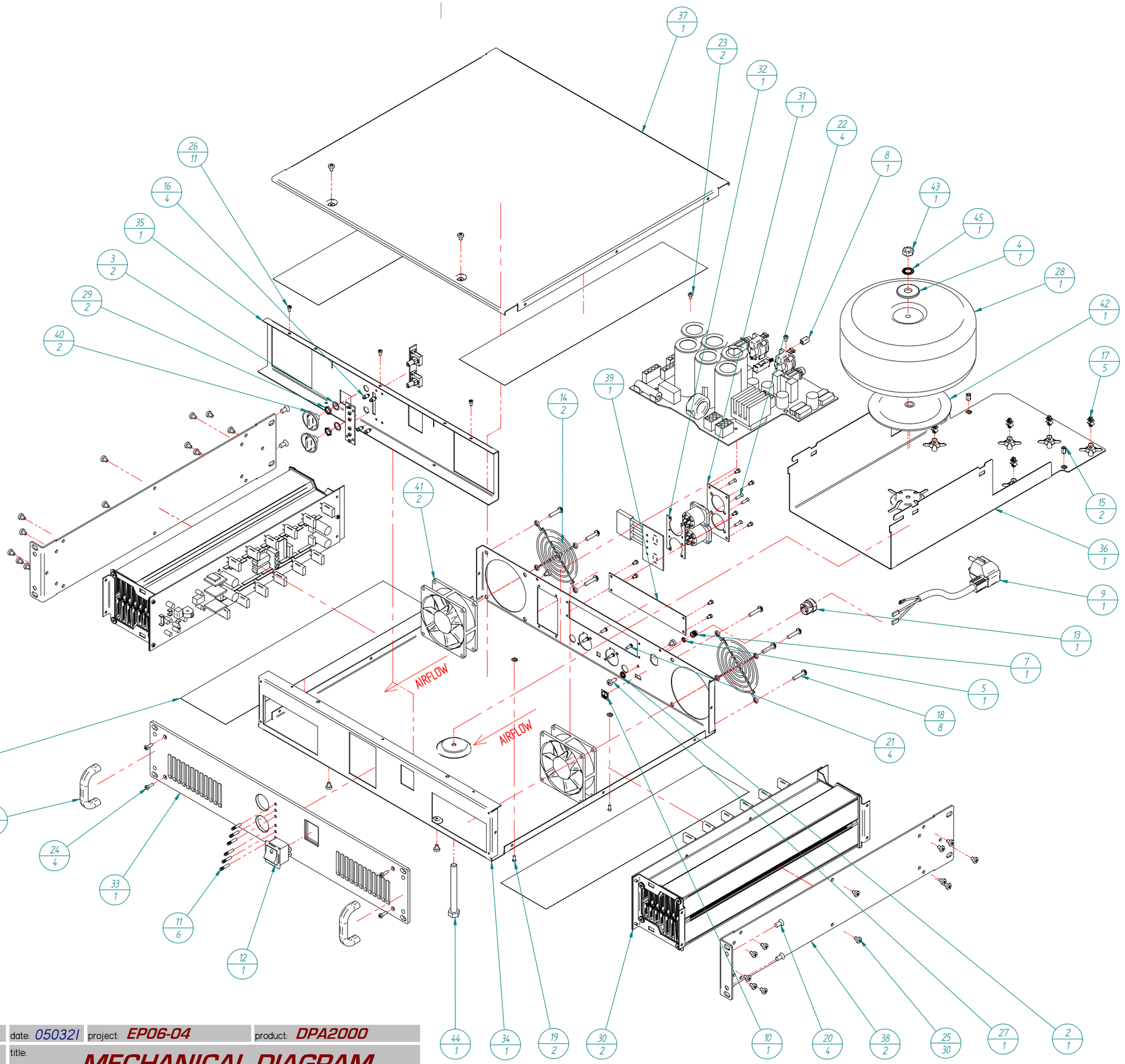


DPA2000

ECLEREE	drawn: J. Colomines	date: 050120	project: EP06-04	product: DPA2000
number: 31.0198 version 01.00	approved:	title: CONFIGURATION DIAGRAM		

N°	Qty	Code	Description
1	4	FCAISLA20000	ISOLATOR FOR MODULE
2	1	FCARDE040000	TOOTHED WASHER M4
3	2	FCARDEPOTE00	ROTARY POT. WASHER M9
4	1	FCARM1050000	WASHER 10,5X30X2,5M
5	1	FCARS4000000	SEGMENTED WASHER M4
6	2	FCASAPWM1000	FRONTAL HANDLE
7	1	FCBOR0030000	GROUND TERMINAL
8	1	FCBOTRE01000	SWITCH KNOB 5,5X5,5 WHITE
9	1	FCCONX106000	MAINS CORD 3 x 1,5 STANDARD
10	1	FCETIZTT0000	EARTH TAG
11	6	FCGUIAL10000	LIGHT PIPE GUIDE VERTICAL
12	1	FCINTRED3000	MAINS SWITCH W/LIGHT
13	1	FCPC00DM6000	BUSHING ØM6
14	2	FCREJ0800000	FAN GRILLE 80x80
15	2	FCSEP3080000	SPACER M3x8
16	4	FCSEPDLMSPM0	PLASTIC SPACER DLMSPM-3-01
17	5	FCSEPWLS0600	PLASTIC SPACER 6MM
18	8	FCT060512000	SCREW 5,1x20
19	2	FCT200300800	SCREW DIN965 M3x8 BLACK
20	4	FCT200501000	SCREW DIN965 M5x10
21	4	FCT400290900	SCREW 2,9x9,5 D7981F BLACK
22	4	FCT500291300	SCREW D7982 2,9x13
23	2	FCT803005000	SCREW DIN 7985 M3x5 COMBI
24	4	FCT803010000	SCREW DIN7985 M3x10 SPANLO
25	30	FCT804006000	SCREW M4x6 SPANLO BLACK
26	11	FCT850300500	SCREW M3x5 REDUCED HEAD
27	1	FCT850411000	SCREW M4x10 TRILOB. WHITE
28*	1*	FCTFT0054000*	TOROIDAL TRANSFORMER*
29	2	FCTUPOT00000	ROTARY POT. NUT M9
30	2	FMMOAPA20000	POWER AMP MODULE
31	1	FP0253100000	SPEAK ON PLATE
32	1	FP0259300000	SPEAKON MECHANICAL SUPPORT
33	1	FP0281900400	FRONT PLATE DPA2000
34	1	FP0282800000	BASE CHASSIS
35	1	FP0282900000	FRONTAL CIRCUIT MEC. SUPORT
36	1	FP0283000000	TRANSFORMER MECHANICAL SUPPORT
37	1	FP0283100000	TOP COVER
38	2	FP0283200000	LEFT/RIGHT SIDE
39	1	FP0286200000	REAR BLANK PANEL
40	2	FRBOTRD24100	ROTARY KNOB D24 ROTATED INDEX
41	2	FRVEN080B000	FAN 80x80 12VDC CABLE=300
42	1	GENERIC	TRANSFORMER RUBBER DISC
43	1	GENERIC	TRANSFORMER NUT M8
44	1	GENERIC	SCREW M8 TRANSFORMER
45	1	GENERIC	TRANSFORMER TOOTHED WASHER M8

* FOR 100V UNIT TRANSFORMER CODE FCTFT0275000

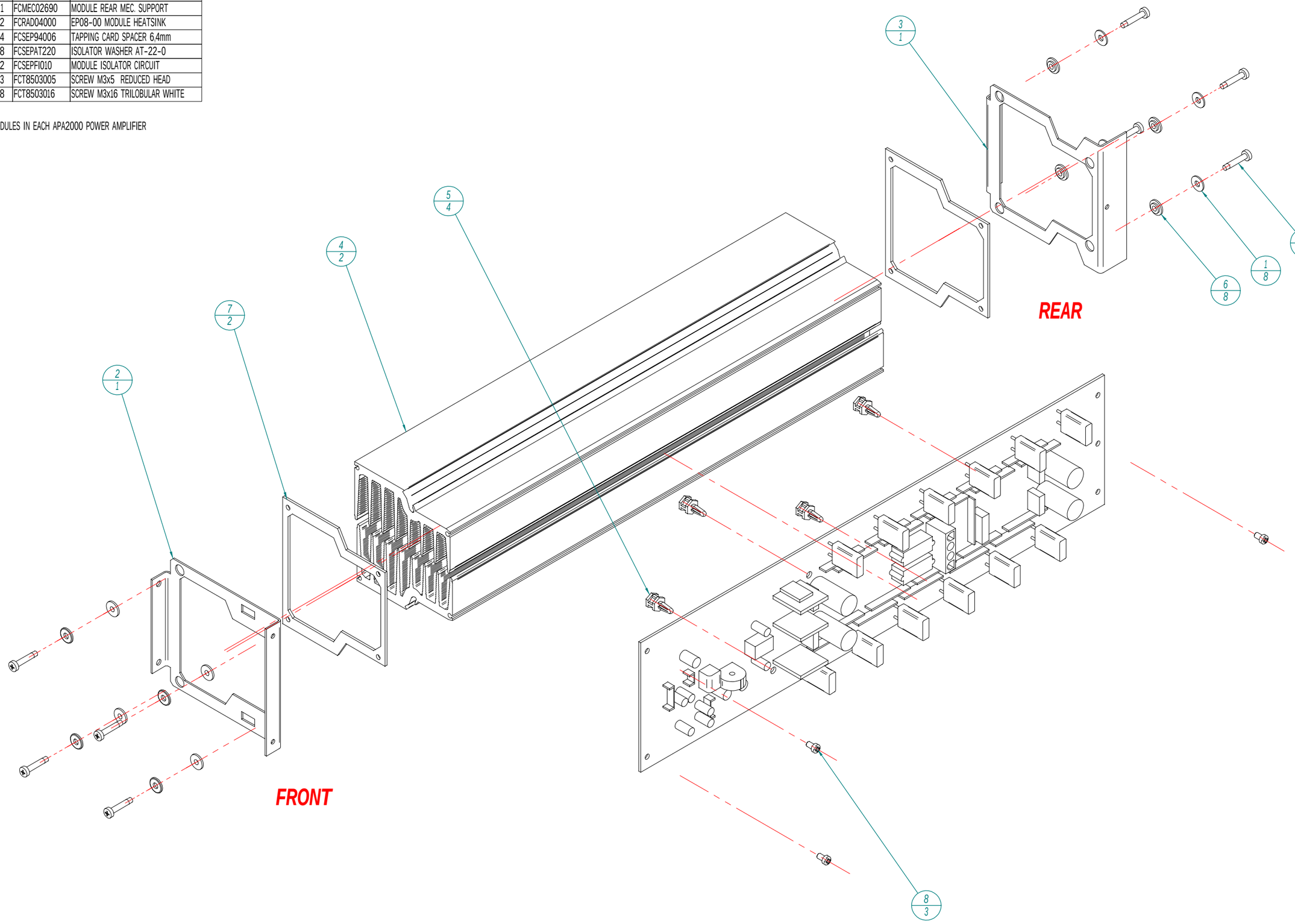


NOTE:
1.-TO VIEW GROUND CABLES POSITION AND MAIN CORD CHARACTERISTICS, SEE WIRING DIAGRAM NUMBER 31.097

ECLEREE	drawn: Jordi Folch	date: 050321	project: EP06-04	product: DPA2000
number: 30.0206 version 01.01	approved:	title: MECHANICAL DIAGRAM		

Nº	Qty	ECLER Code	Description
1	8	FCARM35000	WASHER 3,5X9X1M
2	1	FCMEC02689	MODULE FRONTAL MEC. SUPPORT
3	1	FCMEC02690	MODULE REAR MEC. SUPPORT
4	2	FCRAD04000	EP08-00 MODULE HEATSINK
5	4	FCSEP94006	TAPPING CARD SPACER 6,4mm
6	8	FCSEPAT220	ISOLATOR WASHER AT-22-0
7	2	FCSEPFI010	MODULE ISOLATOR CIRCUIT
8	3	FCT8503005	SCREW M3x5 REDUCED HEAD
9	8	FCT8503016	SCREW M3x16 TRILOBULAR WHITE

NOTE:
TWO MODULES IN EACH APA2000 POWER AMPLIFIER



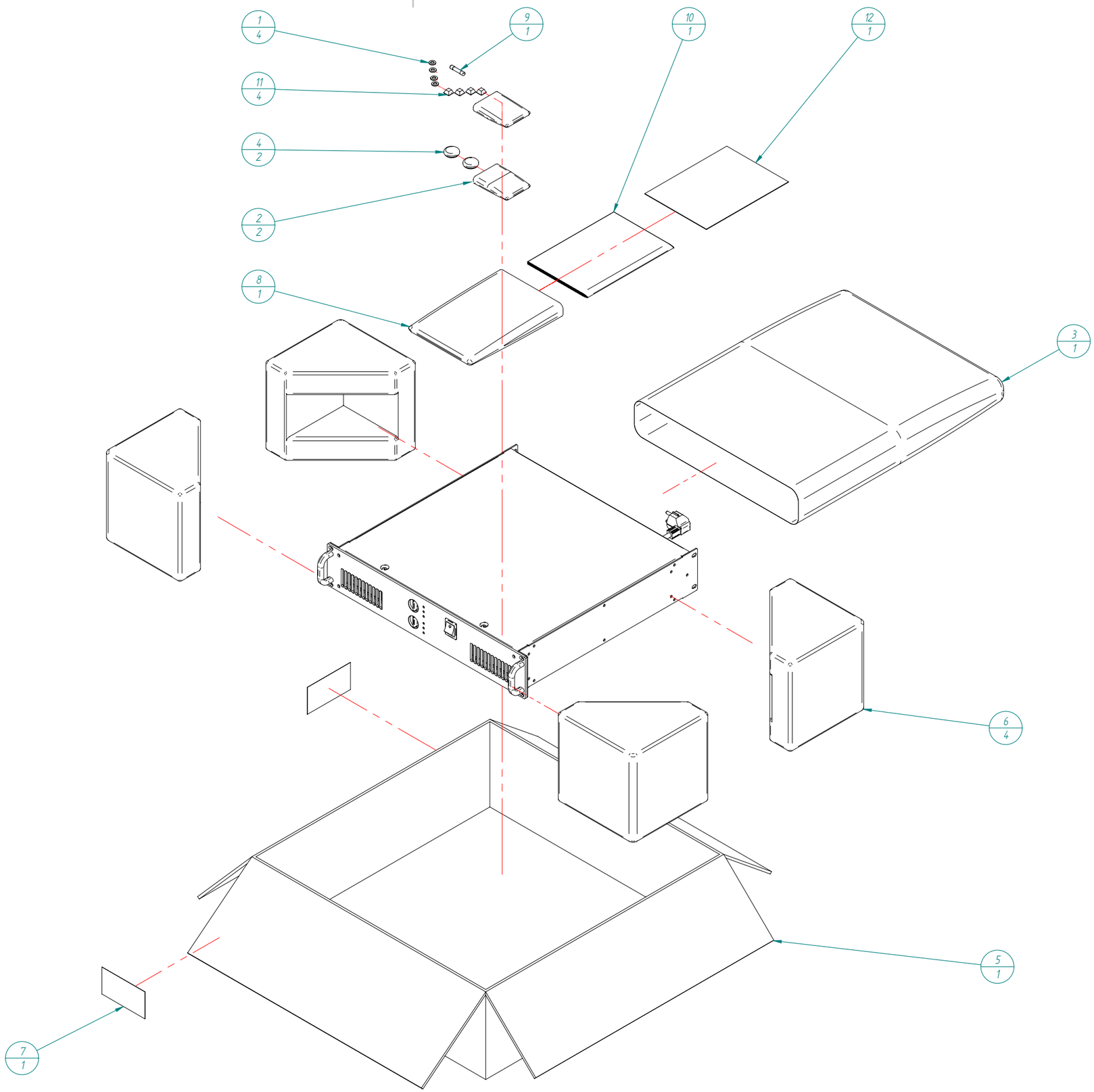
ECLER

drawn: Jordi Folch | date: 020827 | project: EP08-00 | product: APA2000

number: 30.0166 | version 01.02 | approved:

title: POWER MODULE MECHANICAL DIAGRAM

N°	Qty	Code	Description
1	4	FCARANY06000	WASHER M6 NYLON BLACK 12x6,4x1,5
2	2	FCBOL0010000	BAG 60x80
3	1	FCBOLS020000	STANDARD BAG 75x65
4	2	FCBOTD240100	ROT. KNOB PROTECTION COVER
5	1	FCCAJSTA2100	PACKING CARDBOARD BOX
6	4	FCCANT116000	INTERIOR REINFORCEMENT
7	1	FCETI0951140	PRODUCT LABEL PACK (ONE FOR EACH UNIT)
8	1	FCFUNMAN0000	USER MANUAL BAG
9	1	FCFUS8040000	FUSE 16A 10x38
10	1	FCMANPAMDPA0	USER MANUAL DPA SERIES
11	4	FCPIE1125500	RUBBER FOOT
12	1	FCTARJG00000	WARRANTY CARD



ECLEREE	drawn: Jordi Folch	date: 050119	project: EP06-04	product: DPA2000
number: 32.0114 version 01.00	approved:	title: PACKING DIAGRAM		