PR99 LSM

STUDER REVOX

SCHALTUNGSSAMMLUNG
SET OF SCHEMATICS
RECUEIL DE SCHÉMAS

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REVOX PR99 LSM

Allgemeines

Die Tonbandmaschine REVOX PR99 LSM ist eine modifizierte Ausführung der REVOX PR99 Standard. Ueber den Anschluss RELAY INPUT N.O. kann das Gerät ferngesteuert auf Aufnahme oder auf Aufnahme - Pause geschaltet werden.
Es sind zwei Bandgeschwindigkeiten wählbar; 1 7/8 ips (4,75cm/s) oder 3 3/4 ips (9,5cm/s).
Für die speziellen Bedürfnisse der PR99 LSM werden die Fader Start Logic 1.177.892 und die Tape Drive Control Logic 1.177.895 verwendet.
Die von diesen Print kommenden Signale FAD1, FAD2 und SH-END werden zur Steuerung des Aufnahmebetriebes verwendet.

Funktionsweise des ferngesteuerten Aufnahmebetriebes

Durch Einschalten des Gerätes und durch Drücken des Schalters RECORD CONTROL (Position REMOTE) wird der ferngesteuerte Aufnahmebetrieb eingestellt. Die eingeschalteten Signale FAD1 und FAD2 aktivieren die PLAY-Funktion und S-REC die RECORD-Funktion. Der Aufnahmevorwahl-Schalter hat darauf keinen Einfluss. Die Relaiskontakte RELAY INPUT N.O. müssen offen (hochohmig) sein.
In dieser Betriebsart sind die Laufwerktasten auf der Frontplatte funktionslos.

Aus der RECORD-Funktion kann auf zwei Arten auf RECORD-Pause geschaltet werden:
- Die Anschlüsse RELAY INPUT N.O. werden mit einer Verbindung (kleiner als 1,5kOhm) zusammengeschaltet. Dadurch schaltet das elektronische Relais das Signal S-PAUSE durch.
- Wenn der Phototransistor der Lichtschranke leitend wird (Signal QP-END), schaltet das elektronische Relais das Signal S-PAUSE auf die Laufwerksteuerung.

Wenn der Schalter RECORD CONTROL gelöst wird, schaltet das Gerät auf STOP und kann über die Laufwerktasten auf der Frontplatte normal bedient werden.

REVOX PR99 LSM

General

The model REVOX PR99 LSM is a modified version of the standard PR99 recorder. Remote control of the recorder is possible via the terminals RELAY INPUT N.O. in that the record function can be activated or interrupted by initiating the PAUSE MODE. The two tape speeds of 1 7/8 ips (4.75cm/s) or 3 3/4 ips (9.5cm/s) can be selected.
To meet the special performance requirements of the PR99 LSM, fader start logic 1.177.892 and the tape drive control 1.177.895 are utilised.
The signals FAD1, FAD2 and SH-END which are generated on these prints, are used for controlling the record function.

The remote controlled record function

Remote control of the record function is achieved by pressing the button RECORD CONTROL (position REMOTE) on the already switched on recorder. The signals FAD1 and FAD2 activate the PLAY function and S-REC activate the RECORD function. The safe/ready selectors (record preselectors) are ineffective. The relay contacts RELAY INPUT N.O. must be open (high resistance).
In this operating mode, all tape transport control buttons on the recorder's front panel are disabled.

Out of the RECORD function it is possible to switch into RECORD-PAUSE in two ways:
- When bridging the terminals RELAY INPUT N.O. with a connection which has a resistance of less than 1.5kOhms. This causes the switching of the signal S-PAUSE by the electronic relay.
- As soon as the photo-transistor of the light gate becomes conductive (signal QP-END) the electronic relay connects the signal S-PAUSE to the tape transport control logic.

When releasing the switch RECORD CONTROL the recorder switches into the STOP MODE and the tape transport control buttons on the front panel are effective for normal operation.

REVOX PR99 LSM

Généralité

Le magnétophone REVOX PR99 LSM est une exécution spéciale de la version PR99 standard. Par le raccordement RELAY INPUT N.O., le magnétophone peut être télécommandé en enregistrement ou en enregistrement-pause.
Deux vitesses défilement sont possibles: 1 7/8 ips (4,75cm/s) et 3 3/4 ips (9,5 cm/s).
Pour les besoins spéciaux du PR99 LSM, les circuits Fader Start Logic 1.177.892 et Tape Drive Control Logic 1.177.895 sont utilisés.
Les signaux FAD1, FAD2 et SH-END provenant de ces circuits sont utilisés pour la commande de la fonction d'enregistrement.

Fonctionnement de la fonction d'enregistrement

La fonction d'enregistrement est enclenchée lorsque l'appareil est mis sous tension avec le commutateur RECORD CONTROL enfoncé (position REMOTE). Les signaux FAD1 et FAD2 activent la fonction PLAY, alors que la fonction RECORD est activée par le signal S-REC.
Le présélecteur d'enregistrement n'a pas d'effet. Les contacts du relais RELAY INPUT N.O. doivent être ouverts (haute résistance).
Dans ce mode d'utilisation, les touches de commande du mécanisme de la plaque frontale sont sans effet.

En dehors de de la fonction RECORD, deux modes de RECORD-pause sont possibles:
- Les connexions du RELAY INPUT N.O. sont raccordées ensemble par une liaison (plus faible que 1,5kohms). Ainsi le relais électronique commute le signal S-PAUSE.
- Si le phototransistor de la barrière infrarouge est conducteur (signal QP-END), le relais électronique communique le signal S-PAUSE à la commande du mécanisme.

Quand le commutateur RECORD CONTROL est libéré, l'appareil passe sur STOP et les commandes du mécanisme de la plaque frontale sont réactivées.

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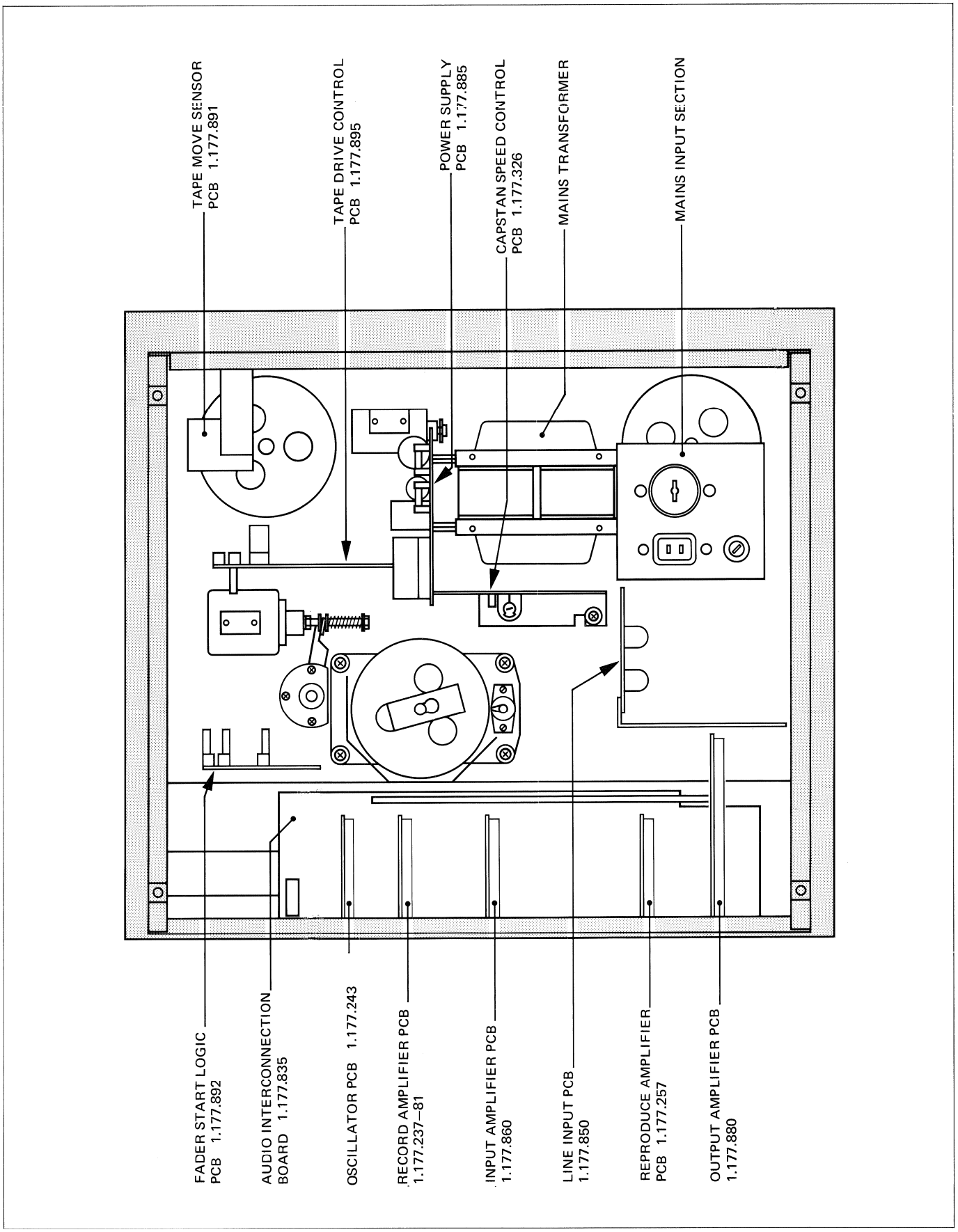
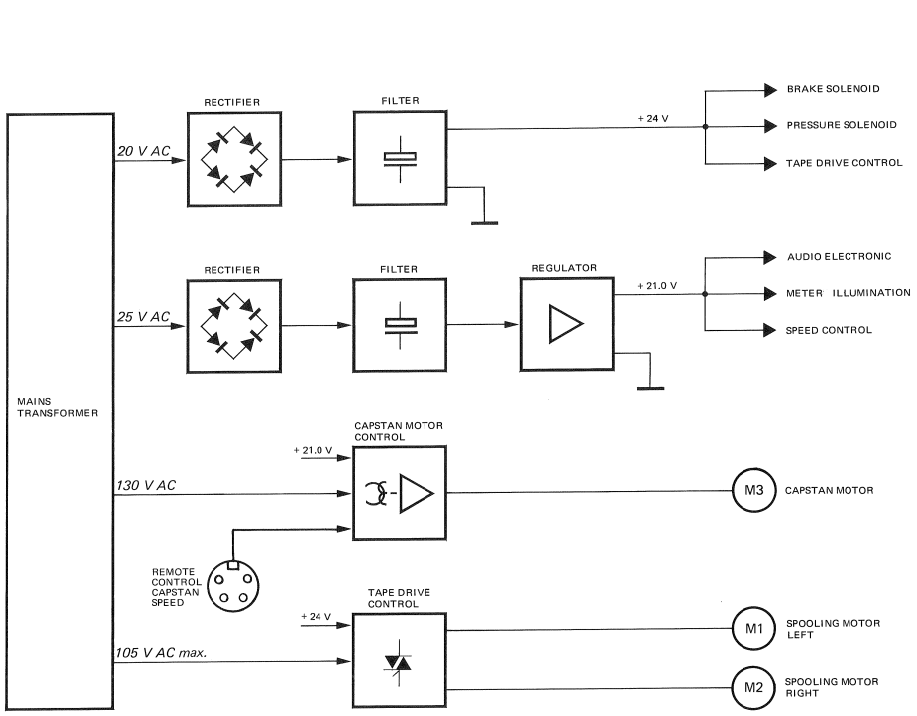
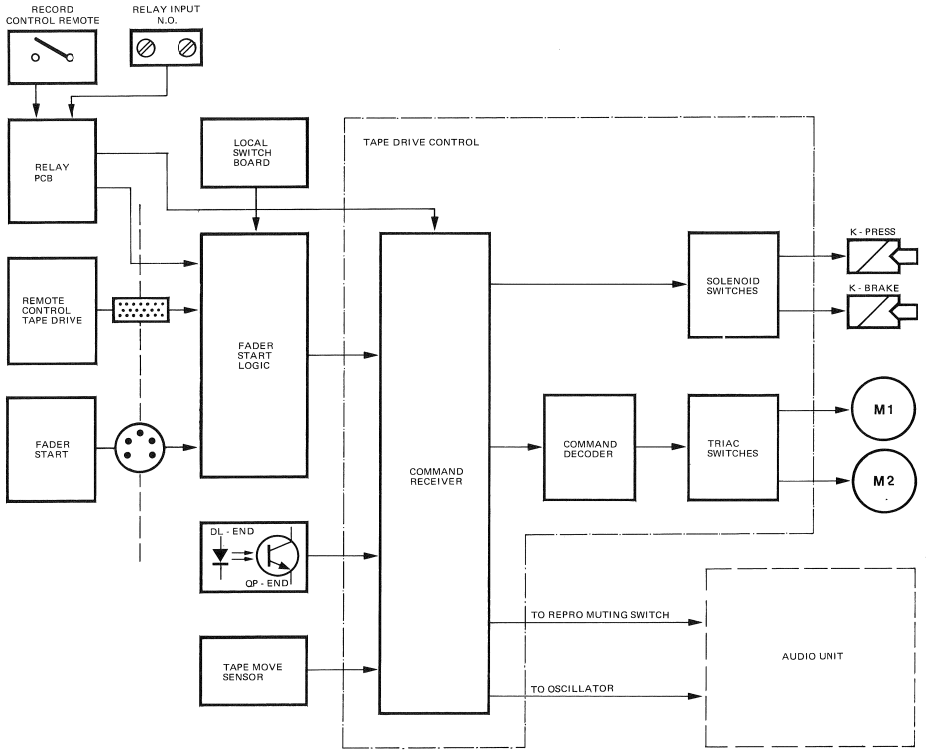
CONTENTS

BOARDS LOCATION

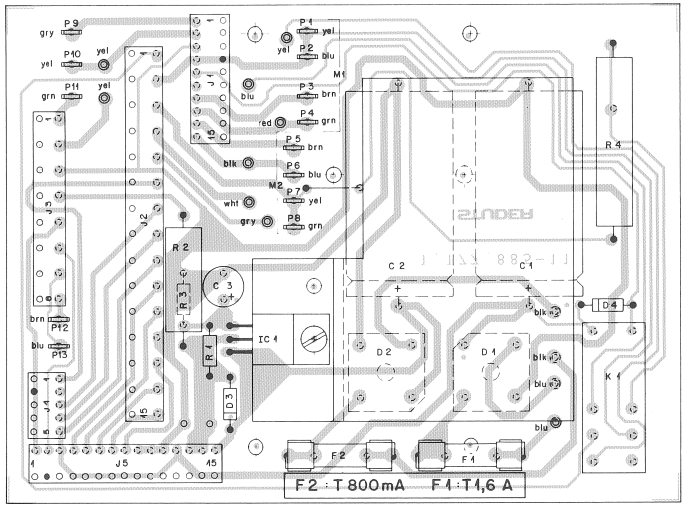


BLOCK DIAGRAM / POWER SUPPLY AND TAPE DRIVE CONTROL





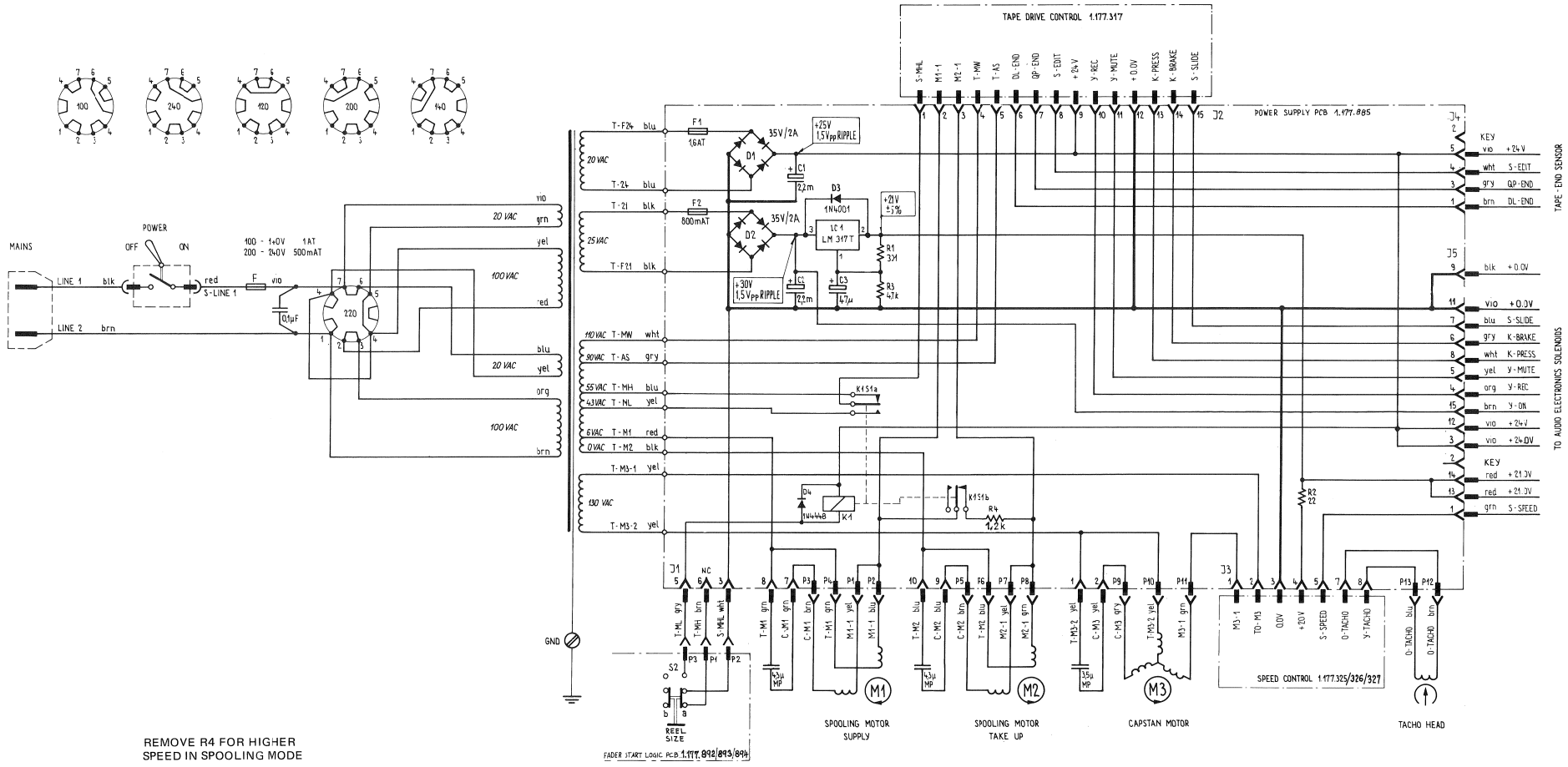
POWER SUPPLY PCB 1.177.885



POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
C 1	59.25.5222	2200 µF	-10% 35V	EL
C 2	59.25.5222	2200 µF	-10% 35V	EL
C 3	59.22.5470	47 µF	-10% 35V	EL
D 1	70.01.0230	35V/2A	Bridge Rect.	SI
D 2	70.01.0230	35V/2A	Bridge Rect.	SI
D 3	50.04.0122	1N 4001		SI
D 4	50.04.0125	1N 4448		SI
F 1	51.01.0119	1,6AT	5X20 Slow Blow	
F 2	51.01.0116	800 mAT	5X20 Slow Blow	
IC 1	50.10.0104	LM 317 T	V Reg.	
J 1	54.01.0290	10-Pol	Socket Strip	
J 2	54.01.0535	15-Pol	"	
J 3	54.01.0546	8-Pol	"	
J 4	54.01.0288	5-Pol	"	
J 5	54.01.0219	15-Pol	"	
K 1	56.01.0116	24V	Relais	
P1...13	54.02.0320	2,8X0,8	AMP Flat Pin	
R 1	57.39.3010	1Ω	1% 0,25W	
R 2	57.56.5220	22	10% 4W	
R 3	57.11.4471	4,7K	5% 0,33W	
R 4	57.59.4122	1,2K	5% 1W	

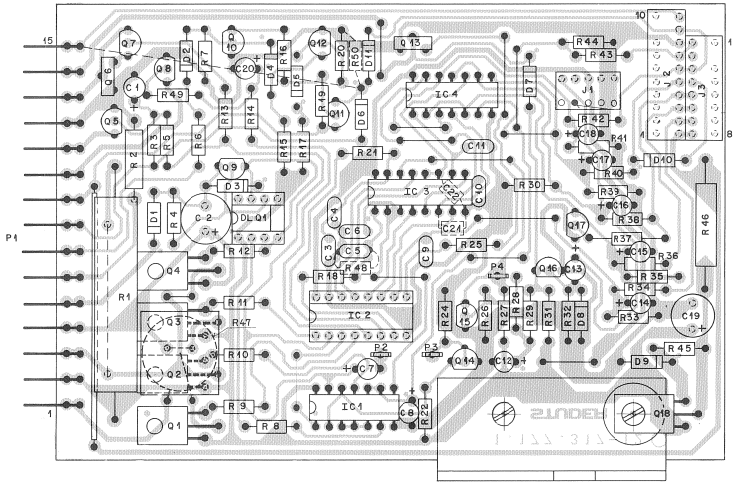
		IRD	23.1.1981 / 26.9.1985
		DATE	Wüpplhäuser / Wüpplhäuser
			NAME
STUDER	Power Supplies	1.177.885.00	PAGE 1 of 1

POWER SUPPLY PCB 1.177.885



REMOVE R4 FOR HIGHER SPEED IN SPOOLING MODE

TAPE DRIVE CONTROL PCB 1.177.895



POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
C 01	59.30.1101	100 µ	-20% 3V TA	
C 02	59.22.6470	47 µ	-10% 40V EL	
C 03	59.32.3103	10 n	-20% 40V CER	
C 04	59.32.3103	10 n		
C 05	59.30.6339	3.3 µ	35V TA	
C 06	59.32.3103	10 n	40V CER	
C 07	59.30.4100	10 µ	-20% 16V TA	
C 08	59.30.6339	3,3 µ	-20% 35V TA	
C 09	59.32.3103	10 n	-20% 40V CER	
C 10	59.32.3103	10 n		
C 11	59.32.3103	10 n		
C 12	59.30.2470	47 µ	-20% 6,3V TA	
C 13	59.30.6339	3,3 µ	-20% 35V TA	
C 14	59.30.6339	3,3 µ		
C 15	59.30.6339	3,3 µ		
C 16	59.30.6339	3,3 µ		
C 17	59.30.6339	3,3 µ		
C 18	59.30.6339	3,3 µ		
C 19	59.22.3101	100 µ	-10% 10V EL	
C 20	59.26.0680	68 µ	20% 6,3V SAL	
C 21	59.32.3472	4,7 n	-20% 40V CER	
C 22	59.32.3472	4,7 n		
D 01	50.04.0122	1N4001		any
D 02	50.04.1119	Z 15	5% 15V 400mW	
D 03	50.04.0122	1N4001		
D 04	50.04.0125	1N4448		any
D 05	50.04.1106	Z 2.7	5% 2.7V 400mW	
D 06	50.04.0125	1N4448		any
D 07	50.04.0125	1N4448		
D 08	50.04.0125	1N4448		
D 09	50.04.1108	Z 5.6	5% 5.6V 400mW	
D 10	50.04.0125	1N4448		any
D 11	50.04.0125	1N4448		any
DLQ 1	50.99.0126	4 N 28	Ic/If= min 10%	TIL 118 O, TI
IC 01	50.06.0000	SN74LS00	LS-TTL	any
IC 02	1.177.317.51	32 x 8	Prom Tri-State	S,M,I
IC 03	50.05.0279	SN74LS279	LS-TTL	any
IC 04	50.05.0002	SN74LS02	LS-TTL	any
J 01	54.01.0288	5-Pole	Socket-Strip AMP	
J 02	54.01.0242	10-Pole	Socket-Strip AMP	
J 03	54.01.0262	8-Pole	Socket-Strip AMP	
P 01	54.01.0481	15-Pole	Pin-Strip AMP	
P02-04	54.02.0320		Flat-Pin AMP	

O = Optron I = Intersil
TI= Texas Instr.
S = Signetics
M = MMI

IND	DATE	NAME
	25.11.81	Wth/gv

STUDER | Tape Drive Control LSM | 1.177.895.00 | PAGE 1 of 3

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
Q 01	50.99.0119	2N6073B	TRIAC 400V/3A	Mo
Q 02	50.99.0119	2N6073B	Igt 3mA	
Q 03	50.99.0119	2N6073B		
Q 04	50.99.0119	2N6073B		
Q 05	50.03.0436	BC107B	NPN	any
Q 06	50.03.0478	BD 135	medium power NPN	2SC 496-O
Q 07	50.03.0436	BC107B	NPN	any
Q 08	50.03.0436	BC107B	NPN	any
Q 09	50.03.0436	BC107B	NPN	any
Q 10	50.03.0436	BC107B	NPN	any
Q 11	50.03.0317	BC177A	PNP	any
Q 12	50.03.0436	BC107B	NPN	any
Q 13	50.03.0478	BD 135	medium power NPN	2SC 496-O
Q 14	50.03.0436	BC107B	NPN	any
Q 15	50.03.0436	BC107B	NPN	any
Q 16	50.03.0436	BC107B	NPN	any
Q 17	50.03.0436	BC107B	NPN	any
Q 18	50.03.0478	BD 135	medium power NPN	2SC 496-O
R 01	57.57.4821	820	5% 9W WW	
R 02	57.42.4332	3.3 k	5% .33W CF	
R 03	57.11.4104	100 k	5% .25W CF	
R 04	57.11.4472	4.7 k		
R 05	57.11.4153	15 k		
R 06	57.11.4472	4.7 k		
R 07	57.11.4223	22 k		
R 08	57.11.4181	180		
R 09	57.11.4471	470		
R 10	57.11.4471	470		
R 11	57.11.4471	470		
R 12	57.11.4122	1.2 k		
R 13	57.11.4272	2.7 k		
R 14	57.11.4681	680		
R 15	57.11.4332	3.3 k		
R 16	57.11.4333	33 k		
R 17	57.11.4121	120		
R 18	57.11.4471	470		
R 19	57.11.4223	22 k		
R 20	57.11.4121	120		
R 21	57.11.4471	470		
R 22	57.11.4392	3.9 k		
R 23				
R 24	57.11.4223	22 k		
R 25	57.11.4331	330		
R 26	57.11.4822	8.2 k		
R 27	57.11.4223	22 k		
R 28	57.11.4223	22 k		
R 29	57.11.4101	100		
R 30	57.11.4681	680		

Mo = Motorola
CF = Carbon Film
WW = Wire Wound

IND	DATE	NAME
	25.11.81	Wth/gv

STUDER | Tape Drive Control LSM | 1.177.895.00 | PAGE 2 of 3

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
R 31	57.11.4153	15 k	5% .25W CF	
R 32	57.11.4473	47 k		
R 33	57.11.4391	390		
R 34	57.11.4222	2.2 k		
R 35	57.11.4681	680		
R 36	57.11.4392	3.9 k		
R 37	57.11.4123	12 k		
R 38	57.11.4392	3.9 k		
R 39	57.11.4681	680		
R 40	57.11.4392	3.9 k		
R 41	57.11.4681	680		
R 42	57.11.4392	3.9 k		
R 43	57.11.4392	3.9 k		
R 44	57.11.4681	680		
R 45	57.11.4122	1.2 k		
R 46	57.56.4101	100	10% 5W WW	
R 47	57.99.0210	2.3	PTC	
R 48	57.11.4563	56 k		
R 49	57.11.4681	680		
R 50	57.11.4104	100 k		

CF = Carbon Film
WW = Wire Wound

IND	DATE	NAME
	25.11.81	Wth/gv

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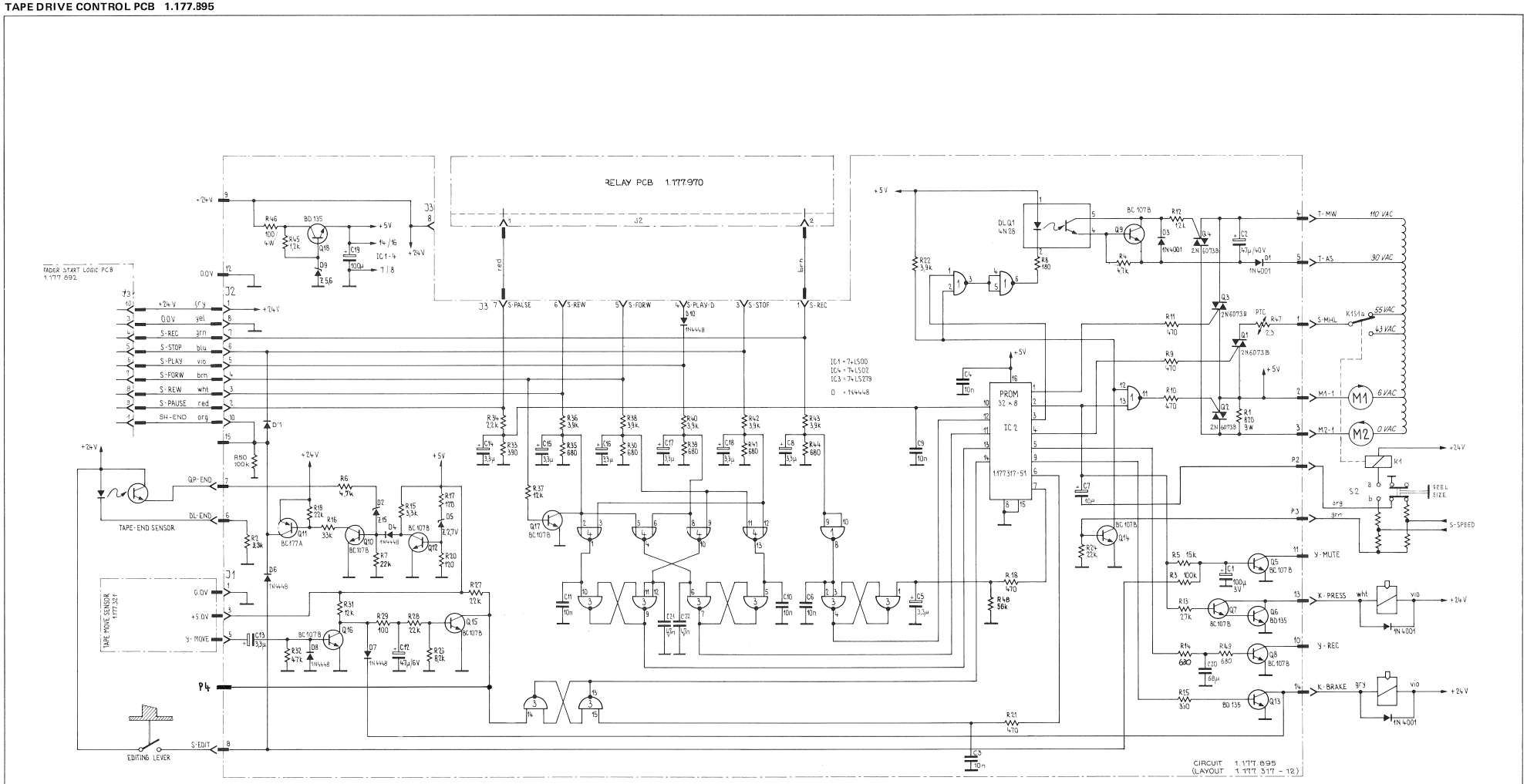
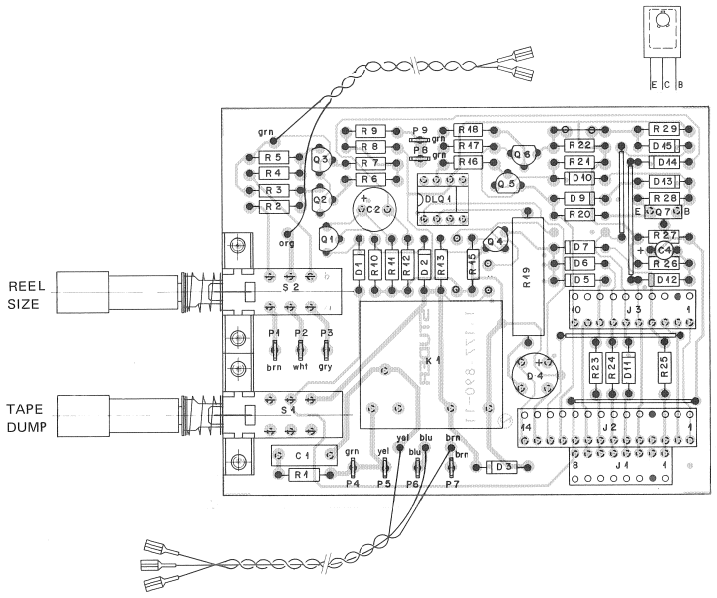
TAPE DRIVE CONTROL PCB 1.177.895



FADER START LOGIC PCB (1 7/8 - 3 3/4 ips) 1.177.892



IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	C1	59.21.1224	0,22 µF	20% 100V	
	C2	59.36.5233	3,3 µF	20% 35V TA	
	C3				
	C4	59.36.5333	3,3 µF	20% 35V TA	
	D1	50.04.0125	1N4448		
	D2	"	"		
	D3	"	"		
	D4	70.01.0222	BY253/50	Bridge 35V 0,8A	
	D5	50.04.0125	1N4448		
	D6	"	"		
	D7	"	"		
	D8				
	D9	50.04.0125	1N4448		
	D10	"	"		
	D11	"	"		
	D12	"	"		
	D13	"	"		
	D14	"	"		
	D15	"	"		
	DLQ	50.99.0126	4N28		
	J1	54.01.0289	8 Pol	AMP CIS	
	J2	54.01.0290	10 Pol	AMP CIS	
	J3	54.01.0292	14 Pol	AMP CIS	

IND	DATE	NAME
4		
3		
2		
1		
○	24.11.81	Waschkuhn

STUDER Fader Start Logic 435/3.5 PL 1.177.892.00 PAGE 1 OF 3

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	K1	56.99.0116		Relay	
	P1...9	54.02.0320	2,8x0,8	AMP FLat Pin	
	Q1	50.03.0515	BC560B	PNP BC177B	
	Q2	50.03.0436	BC550B	NPN BC109C	
	Q3	50.03.0436	BC550B	NPN BC109C	
	Q4	50.03.0436	BC550B	NPN BC109C	
	Q5	50.03.0515	BC560B	PNP BC177B	
	Q6	50.03.0515	BC560B	PNP BC177B	
	Q7	50.03.0510	BD136-16	PNP	
	R1	57.11.4100	10	2% 0207 MF	
	R2	57.11.4221	220		
	R3	57.11.4181	180		
	R4	57.11.4221	220		
	R5	57.11.4181	180		
	R6	57.11.4684	680k		
	R7	57.11.4684	680k		
	R8	57.11.4104	100k		
	R9	57.11.4274	270k		
	R10	57.11.4223	22k		
	R11	57.11.4103	10k		
	R12	57.11.4103	10k		
	R13	57.11.4123	12k		
	R14				
	R15	57.11.4223	22k		

IND	DATE	NAME
4		
3		
2		
1		
○	24.11.81	Waschkuhn

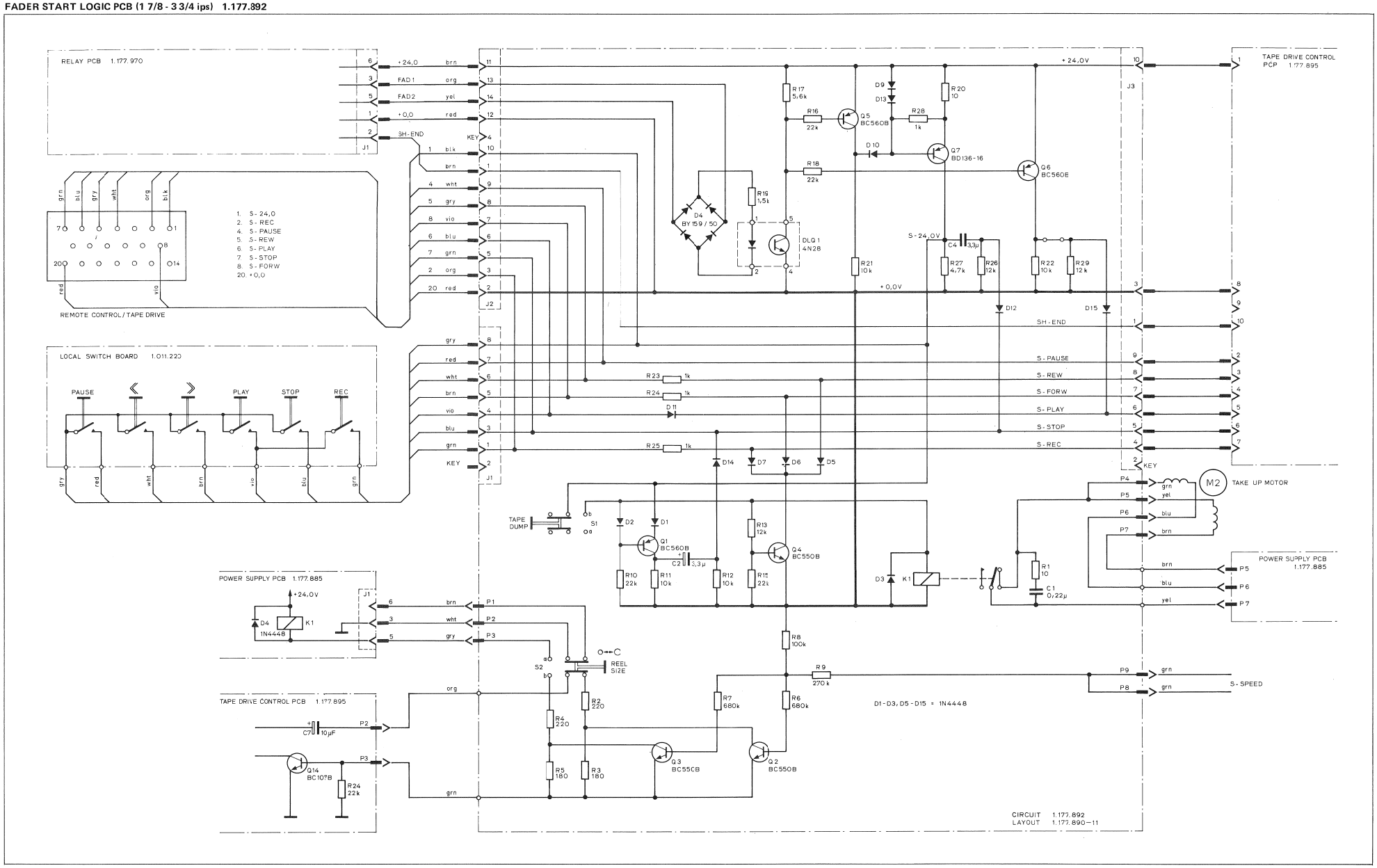
STUDER Fader Start Logic 435/3.5 PL 1.177.892.00 PAGE 2 OF 3

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	R16	57.11.4223	22k	2% 0207 MF	
	R17	57.11.4562	5,6k		
	R18	57.11.4223	22k		
	R19	57.56.5152	1,5k	10% 4W	
	R20	57.11.4100	10	2% 0207 MF	
	R21	57.11.4103	10k		
	R22	57.11.4103	10k		
	R23	57.11.4102	1k		
	R24	57.11.4102	1k		
	R25	57.11.4102	1k		
	R26	57.11.4123	12k		
	R27	57.11.4472	4,7k		
	R28	57.11.4102	1k		
	R29	57.11.4123	12k		
	S1	1.177.100.07		Push button switch	
	S2	1.177.100.07		"	

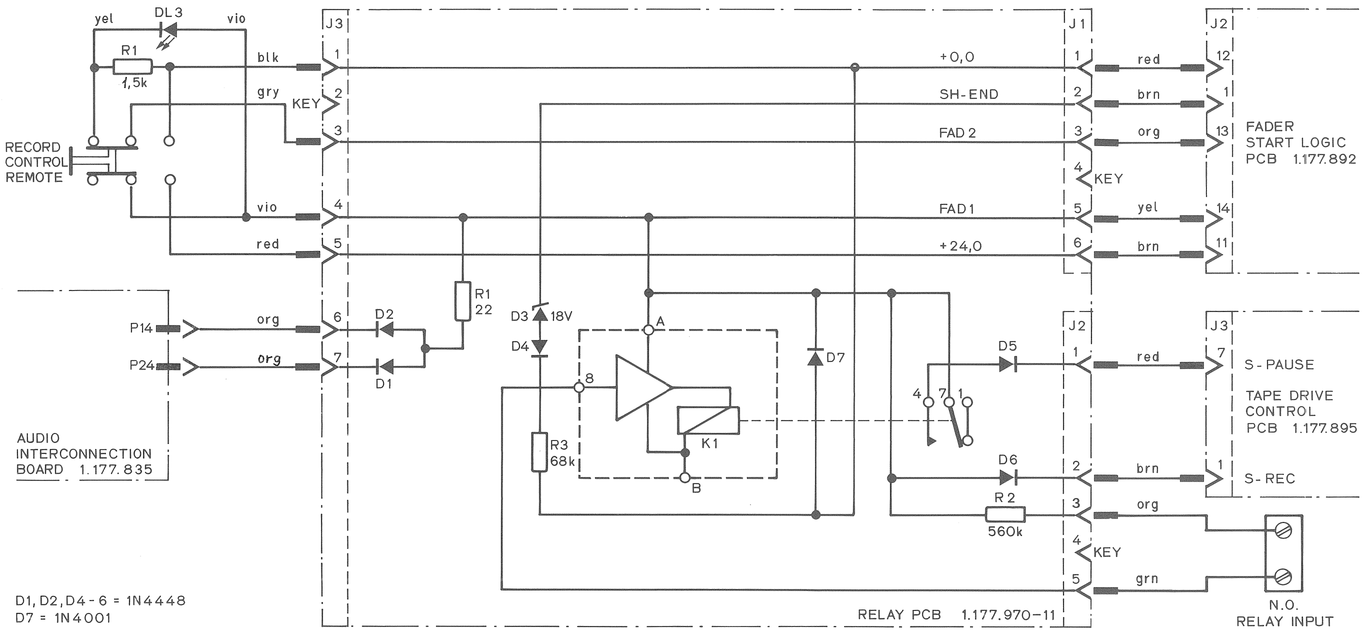
IND	DATE	NAME
4		
3		
2		
1		
○	24.11.81	Waschkuhn

STUDER Fader Start Logic 435/3.5 PL 1.177.892.0- PAGE 3 OF 3

FADER START LOGIC PCB (1 7/8 - 3 3/4 ips) 1.177.892



RELAY PCB 1.177.970

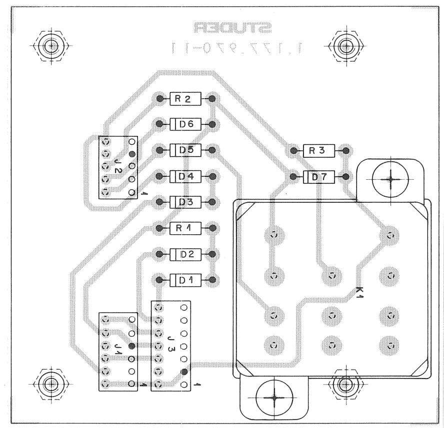


D1, D2, D4-6 = 1N4448
D7 = 1N4001

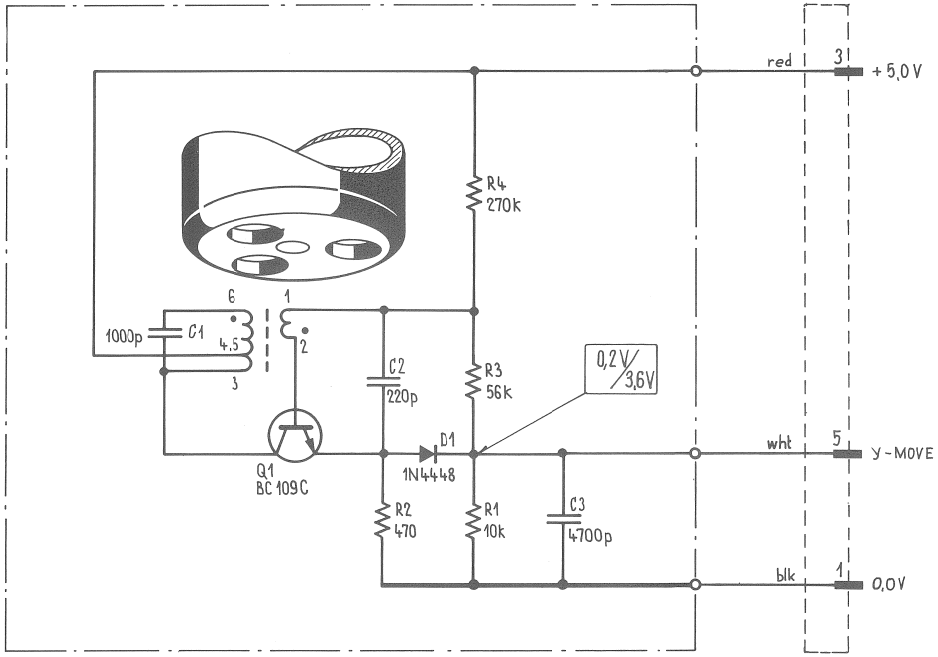
IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR.
	D1	50.04.0125	1N4448		
	D2	50.04.0125	1N4448		
	D3	50.04.1122	Z18	18V 5% Z	
	D4	50.04.0125	1N4448		
	D5	50.04.0125	1N4448		
	D6	50.04.0125	1N4448		
	D7	50.04.0122	1N4001		
	J1	54.01.0216	6Pol	CIS	AMP
	J2	54.01.0288	5Pol	CIS	AMP
	J3	54.01.0218	7Pol	CIS	AMP
	K1	1.067.317.01	24V	Relay KU A11G11	P+B
	R1	57.11.4220	22	2% 0207 MF	
	R2	57.11.4564	560k	"	
	R3	57.11.4683	68k		

IND	DATE	NAME	
4			P+B = POTTER & BRUMFIELD
3			
2			
1			
0	25.11.81	[illegible]	

STUDER | Relay PCB | PL 1.177.970.00 | PAGE 1 OF 1



TAPE MOVE SENSOR PCB 1.177.891

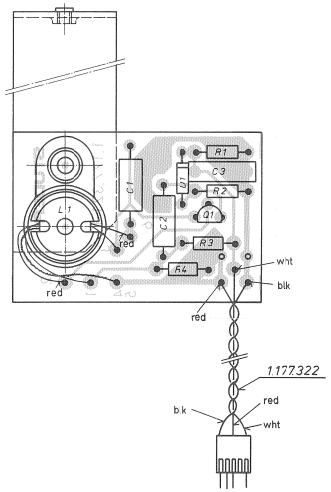


POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
C 01	59.04.7102	1000 P	5% 63V PS		
C 02	59.04.8221	220 P	5% 160V PS		
C 03	59.31.4472	4700 P	20% 160V PETP		
D 01	50.04.0125	1 N 4448			any
L 01	1.177.350				S
Q 01	50.03.0439	BC 109 C			any
R 01	57.41.4103	10 k	5% .25W CF		
R 02	57.41.4471	470			
R 03	57.41.4563	56 k			
R 04	57.41.4274	270 k			

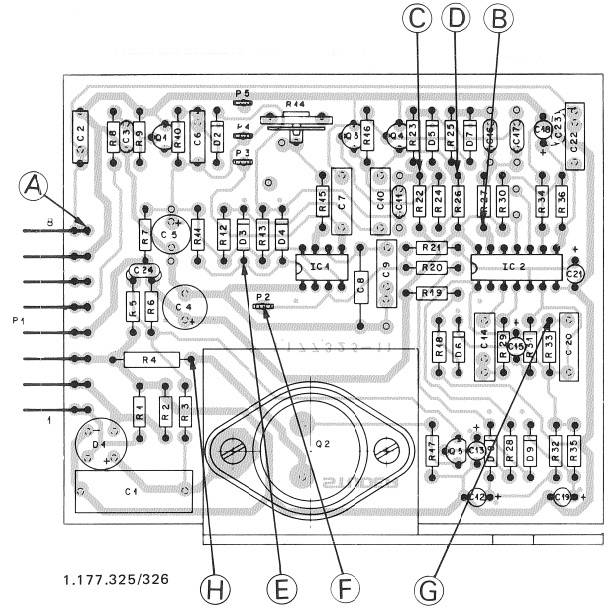
S = Studer
CF = Carbon Film
PS = Polystyrene
PETP= Polyester

IND	DATE	NAME
	10.4.78	Lu./gv

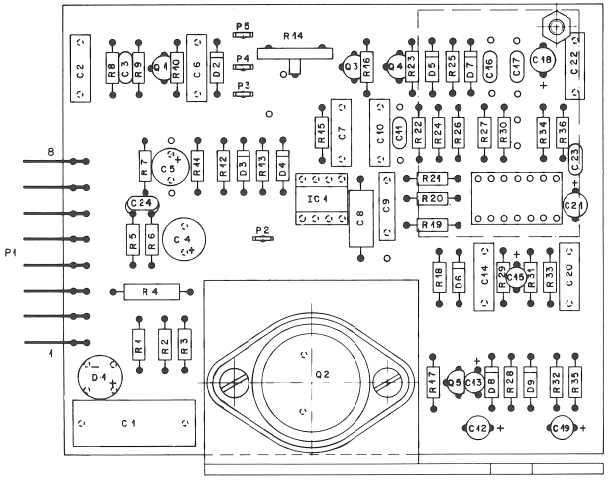
STUDER Tape Move Sensor 1.177.321 PAGE 1 of 1



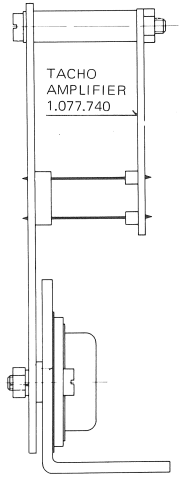
CAPSTAN SPEED CONTROL PCB 1.177.325/326/327

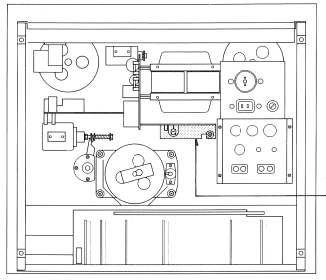


1.177.325/326



1.177.327





1.177.325/326/327

IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
	C....1	59.99.0450	0.47 uF	10%, 150V, MP	
	C....2	59.31.4104	0.1 uF	5%, 250V, MPETP	
	C....3	59.32.3472	4700 pF	-20%, 40V, Cer	
	C....4	59.22.6470	47 uF	10%, 25V, E1	
	C....5	59.22.6470	47 uF	10%, 25V, E1	
	C....6	59.31.4104	0.1 uF	5%, 250V, MPETP	
	C....7	59.31.4103	0.01 uF	20%, 160V, PETP	
	C....8	59.12.9162	1600 pF	1%, 125V, PS	
	C....9	59.11.4472	4700 pF	2.5%, 160V, PC	
	C....10	59.31.4472	4700 pF	20%, 160V, PETP	
	C....11	59.32.3472	4700 pF	-20%, 40V, Cer	
	C....12	59.22.6100	10 uF	10%, 35V, E1	
	C....13	59.22.8109	1 uF	10%, 50V, E1	
	C....14	59.31.4103	0.01 uF	20%, 160V, PETP	
	C....15	59.22.6106	10 uF	10%, 35V, E1	
	C....16	59.32.3472	4700 pF	-20%, 40V, Cer	
	C....17	59.32.3472	4700 pF	-20%, 40V, Cer	
	C....18	59.22.6100	10 uF	10%, 35V, E1	
	C....19	59.22.6100	10 uF	10%, 35V, E1	
	C....20	59.31.1224	0.22 uF	10%, 100V, MPETP	
	C....21	59.22.8109	1 uF	10%, 50V, E1	
	C....22	59.21.4473	0.047uF	20%, 250V, MPETP	
	C....23	59.32.0220	22 pF	20%, 500V, Cer	
	C....24	59.32.0220	22 pF	20%, 500V, Cer	
	C....25	59.32.4102	1000 pF	20%, 40V, Cer	
	D....1	T0.01.0223	B250 C800		
	D....2	50.04.0125	1 N 4448	any	
	D....3	50.04.0125	1 N 4448	any	
	D....4	50.04.0125	1 N 4448	any	
	D....5	50.04.0125	1 N 4448	any	
	D....6	50.04.0125	1 N 4448	any	
	D....7	50.04.0125	1 N 4448	any	
	D....8	50.04.0125	1 N 4448	any	
	D....9	50.04.0125	1 N 4448	any	
	IC....1	50.05.0158	NE 555	Timer	MC1455P S+M

STUDER 82/02/11 RW CAPSTAN SPEED CONTROL 1.177.325.00 PAGE 1

IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
	IC....2	50.05.0237	TBA 231	uA 739 aequiv.	SN76131N F+A+T
	P....1	54.01.0582	8-Pole	Pin-Strip	AMP
	P....2	54.01.0320		Flat-Pin 0.8	AMP
	P....3	54.01.0320		Flat-Pin 0.8	AMP
	P....4	54.01.0320		Flat-Pin 0.8	AMP
	P....5	54.01.0320		Flat-Pin 0.8	AMP
	Q....1	50.03.0436	BC 107 B	NPN	
	Q....2	50.03.0477	MJ 411	NPN-Power	RCA 411 M+RCA
	Q....3	50.03.0436	BC 107 B	NPN	
	Q....4	50.03.0436	BC 107 B	NPN	
	Q....5	50.03.0318	BC 178 B	PNP	
	R....1	57.11.4473	47 kOhm	5%, 0.25W, CF	
	R....2	57.11.4473	47 kOhm	5%, 0.25W, CF	
	R....3	57.11.4683	68 kOhm	5%, 0.25W, CF	
	R....4	57.12.4100	10 Ohm	5%, 0.33W, CF	
	R....5	57.11.4222	2.2 kOhm	5%, 0.25W, CF	
	R....6	57.11.4102	1 kOhm	5%, 0.25W, CF	
	R....7	57.11.4821	820 Ohm	5%, 0.25W, CF	
	R....8	57.11.4103	10 kOhm	5%, 0.25W, CF	
	R....9	57.11.4223	22 kOhm	5%, 0.25W, CF	
	R....10	57.11.4472	4.7 kOhm	5%, 0.25W, CF	
	R....11	57.11.4223	22 kOhm	5%, 0.25W, CF	
	R....12	57.11.4103	10 kOhm	5%, 0.25W, CF	
	R....13	57.11.4103	10 kOhm	5%, 0.25W, CF	
	R....14	58.99.0126	10 kOhm	10%, 500ppm/oC+PCF	
	R....15	58.99.0179	86.6kOhm	1%, 50ppm MF	
	R....16	57.11.4223	22 kOhm	5%, 0.25W, CF	
	R....17	57.11.4152	1.5 kOhm	5%, 0.25W, CF	
	R....18	57.11.4152	1.5 kOhm	5%, 0.25W, CF	
	R....19	57.11.4103	10 kOhm	5%, 0.25W, CF	
	R....20	57.11.4221	220 Ohm	5%, 0.25W, CF	
	R....21	57.11.4472	4.7 kOhm	5%, 0.25W, CF	
	R....22	57.11.4332	3.3 kOhm	5%, 0.25W, CF	
	R....23	57.11.4223	22 kOhm	5%, 0.25W, CF	

STUDER 82/02/11 RW CAPSTAN SPEED CONTROL 1.177.325.00 PAGE 2

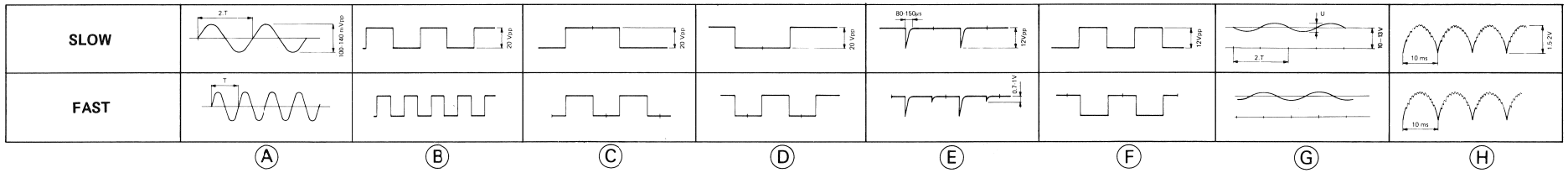
IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
	R....24	57.11.4223	22 kOhm	5%, 0.25W, CF	
	R....25	57.11.4223	22 kOhm	5%, 0.25W, CF	
	R....26	57.11.4332	3.3 kOhm	5%, 0.25W, CF	
	R....27	57.11.4472	4.7 kOhm	5%, 0.25W, CF	
	R....28	57.11.4472	4.7 kOhm	5%, 0.25W, CF	
	R....29	57.11.4330	33 Ohm	5%, 0.25W, CF	
	R....30	57.11.4103	10 kOhm	5%, 0.25W, CF	
	R....31	57.11.4682	6.8 kOhm	5%, 0.25W, CF	
	R....32	57.11.4222	2.2 kOhm	5%, 0.25W, CF	
	R....33	57.11.4105	1 MOhm	5%, 0.25W, CF	
	R....34	57.11.4103	10 kOhm	5%, 0.25W, CF	
	R....35	57.11.4222	2.2 kOhm	5%, 0.25W, CF	
	R....36	57.11.4103	10 kOhm	5%, 0.25W, CF	

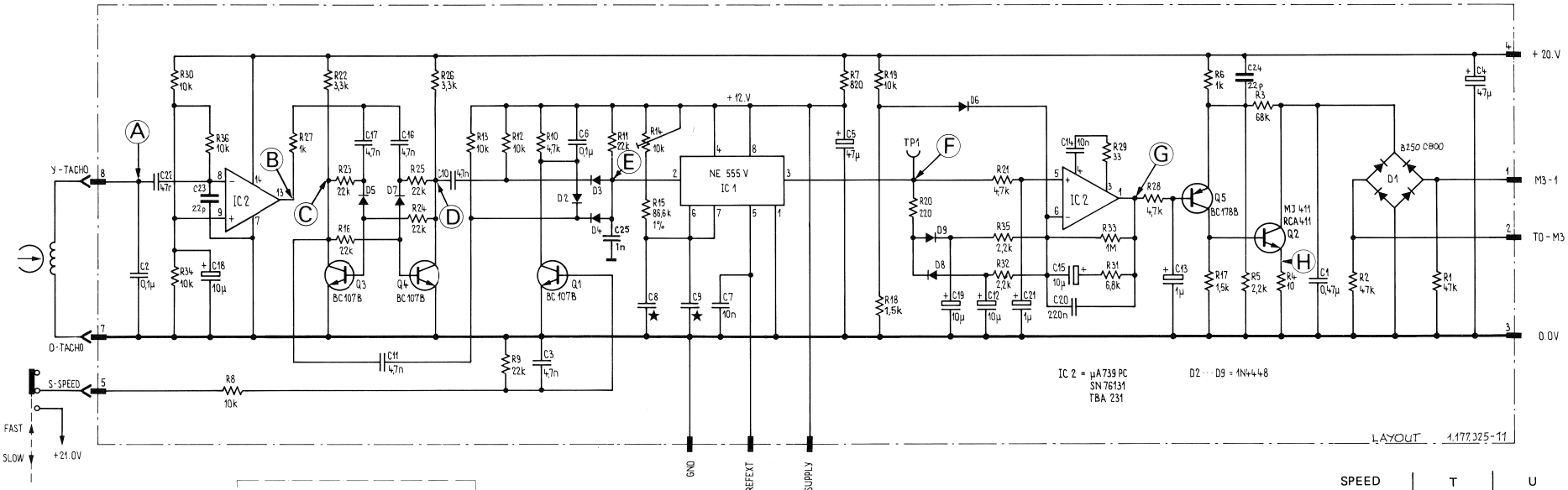
E1=Electrolytic, Cer=Ceramic, MP=Metallized Paper, PS=Polystyrene,
MPETP=Metallized Polyester, PETP=Polyester,
Manufacturer: Sig=Signetics, TI=Texas Instruments
A+Atmel, M=Motorola, F=Fairchild,

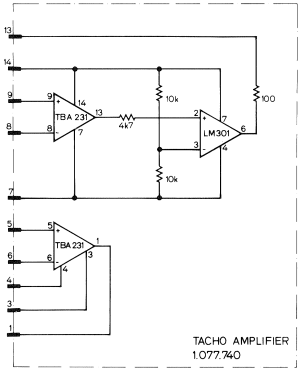
DRIG 82/02/08

STUDER 82/02/11 RW CAPSTAN SPEED CONTROL 1.177.325.00 PAGE 3

CAPSTAN SPEED CONTROL PCB 1.177.325/326/327



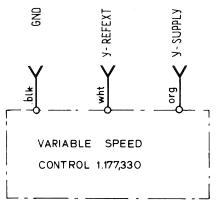




PIN CONFIGURATION:
14-PIN DUAL-IN-LINE

TACHO AMPLIFIER
1.077.740

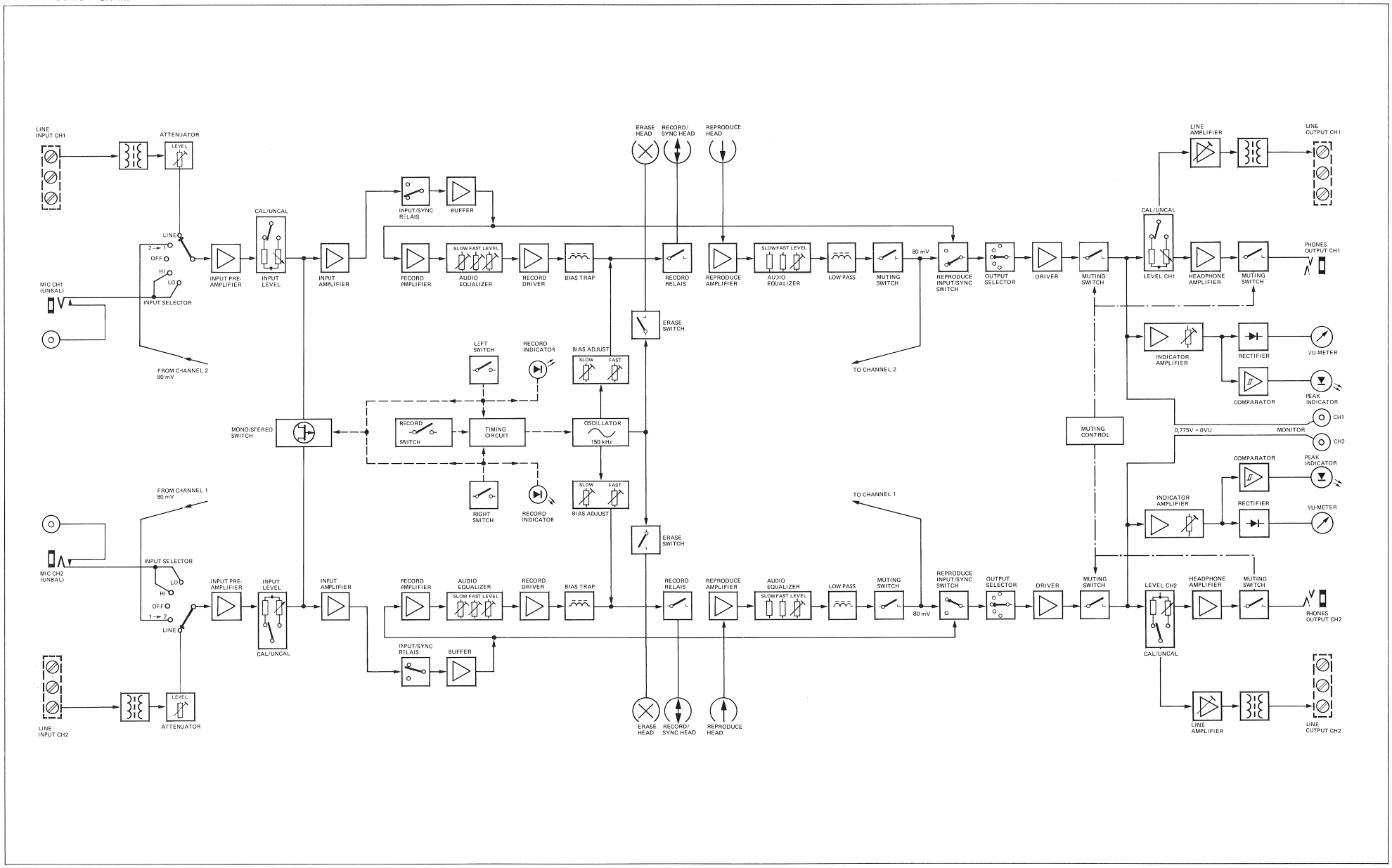
VERSION 1.177.327:
INSTEAD OF THE REMOVED IC2 THE SUB-ASSEMBLY TACHO AMPLIFIER 1.077.740 IS PLUGGED INTO THE IC2 SOCKET



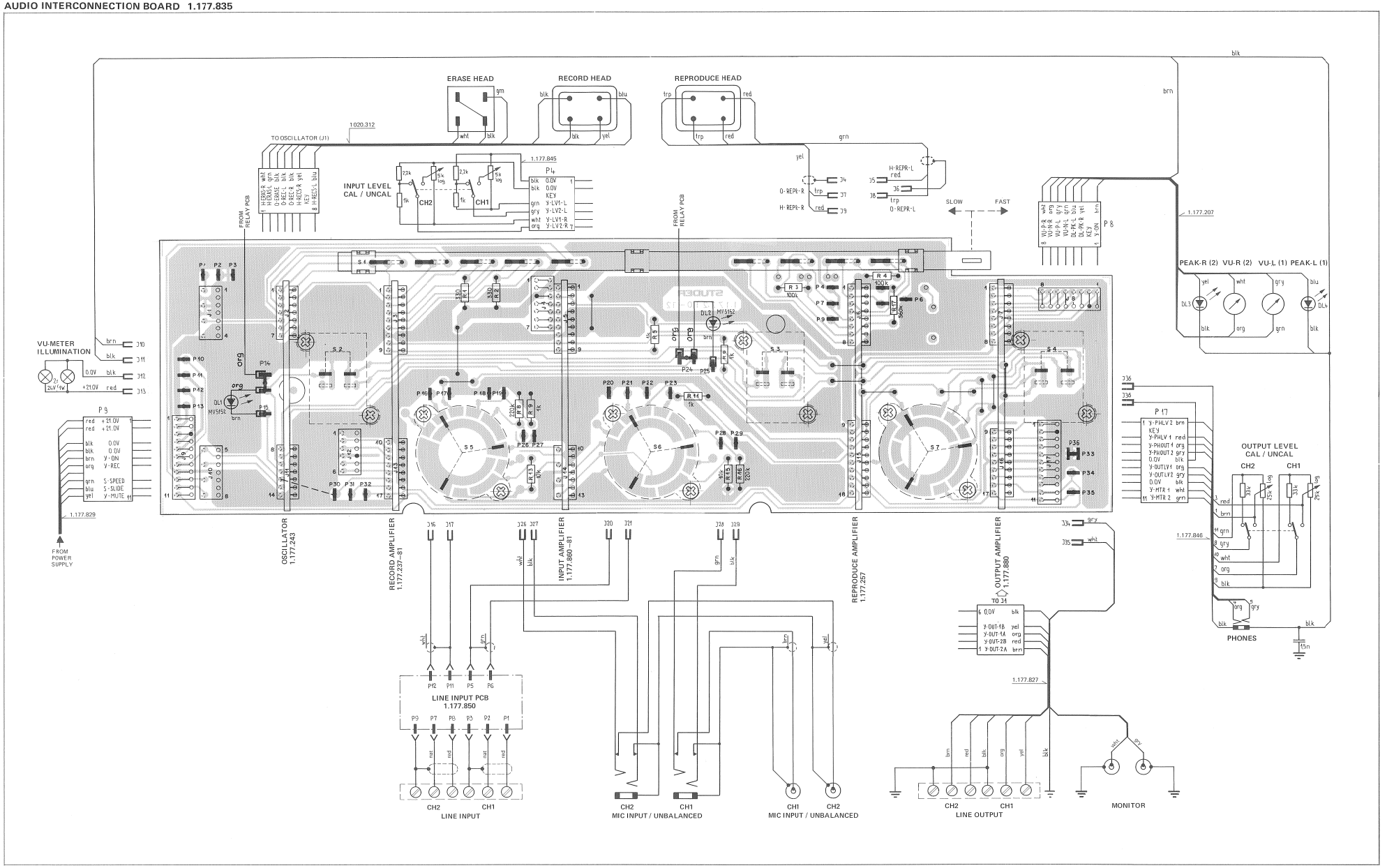
SPEED CONTROL	T	U
1.177.325	625 µs	1 Vpp
1.177.326	833 µs	2.5 Vpp
1.177.327	1666 µs	3 Vpp

TYPE	SPEED	CAPSTAN SHAFT ø	C-MOTOR NO.	SPEED CONTROL	C8 ★	C9 ★
HS	7 1/2"–15"	9.06 mm	1.021.320	1.177.325	1.6 nF	4.7 nF
STD	3 3/4"–7 1/2"	4.51 mm	1.021.300	1.177.325	1.6 nF	4.7 nF
LS	1 7/8"–3 3/4"	3.00 mm	1.021.304	1.177.326	1.6 nF	6.3 nF
SLS	15/16"–1 7/8"	3.00 mm	1.021.304	1.177.327	5.6 nF	10 nF

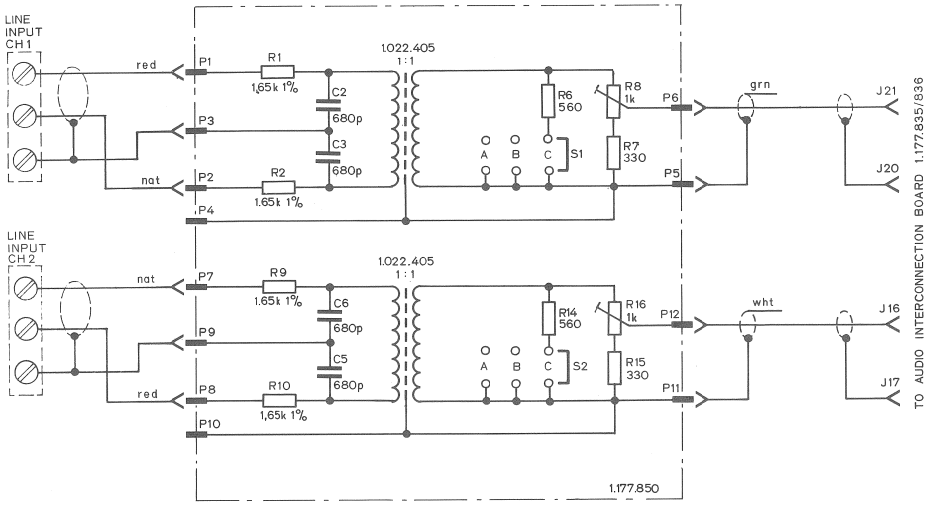
AUDIO BLOCK DIAGRAM

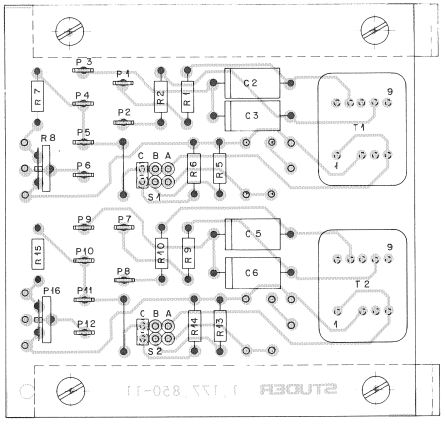


AUDIO INTERCONNECTION BOARD 1.177.835



LINE INPUT PCB 1.177.850





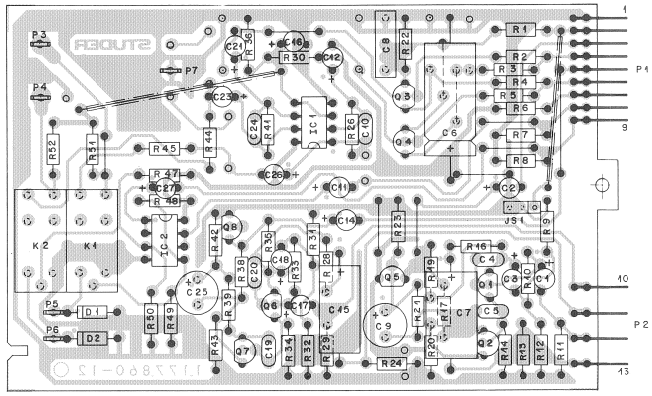
POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
C1					
C2	59.12.9681	680pF	1% PS		
C3	59.12.9681	680pF	1% PS		
C4					
C5	59.12.9681	680pF	1% PS		
C6	59.12.9681	680pF	1% PS		
② P1..12	54.01.0320	2,8 X 0,8	AMP FLAT PIN		
R1	57.39.1651	1,65k	1% MF		
R2	57.39.1651	1,65k	1% MF		
R3					
R4					
R5					
R6	57.11.4561	560			
R7	57.11.4331	330			
R8	58.19.0102	1K	TRIM		
R9	57.39.1651	1,65k	1% MF		
R10	57.39.1651	1,65k	1% MF		
R11					
R12					
R13					
R14	57.11.4561	560			
R15	57.11.4331	330			
R16	58.19.0102	1K	TRIM		
S1	54.01.0021	2 x 0,6	JUMPER		
S2	54.01.0021	2 x 0,6	JUMPER		
T1	1.022.405.00	1:1	LINE TRAFO		ST
T2	1.022.405.00	1:1	LINE TRAFO		ST

ST = STUDER

IND	DATE	NAME
	30.10.80	WK
	26.9.80	WK

STUDER Line Input PCC 1.177.850 PAGE 1 of 1

INPUT AMPLIFIER PCB 1.177.860–81



IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	C1	59.30.4100	10µF	-20% 16V TA	
	C2	59.30.4100	10µF		
	C3	59.30.4339	3,3µF		
	C4	59.32.1152	1500pF	-10% 50V CER	
	C5	59.32.0470	47pF	-20% 50V CER	
	C6	59.25.4221	220µF	-10% 25V EL	
	C7	59.25.3121	125µF	-10% 16V EL	
	C8	59.31.1104	0,1µF	20% 100V MKTP	
	C9	59.22.5470	47µF	20% 25V EL	
	C10	59.32.0470	47pF	-20% 50V CER	
	C11	59.30.4100	10µF	-20% 16V TA	
	C12	59.30.4100	10µF		
	C13				
	C14	59.30.4100	10µF	-20% 16V TA	
	C15	59.25.3121	125µF	-10% 16V EL	
	C16	59.30.4100	10µF	-20% 16V TA	
	C17	59.30.4100	10µF		
	C18	59.30.4339	3,3µF		
	C19	59.32.0470	47pF	-20% 50V CER	
	C20	59.32.1152	1500pF	-10% 50V CER	
	C21	59.30.4100	10µF	-20% 16V TA	
	C22				
	C23	59.30.4100	10µF	-20% 16V TA	
	C24	59.32.0470	47pF	-20% 50V CER	
	C25	59.22.5470	47µF	20% 25V EL	
	C26	59.30.4100	10µF	-20% 16V TA	
	C27	59.30.4100	10µF		

IND	DATE	NAME
4		
3		
2		
1		
○	24.11.81	Wasphdsv

STUDER | Input Amplifier | PL 1.177.860.81 | PAGE 1 OF 4

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	R1	57.11.4104	100k	2% 0207 MF	
	R2	57.11.4103	10k		
	R3	57.11.4103	10k		
	R4	57.11.4103	10k		
	R5	57.11.4103	10k		
	R6	57.11.4470	47		
	R7	57.11.4472	4,7k		
	R8	57.11.4472	4,7k		
	R9	57.11.4184	180k		
	R10	57.11.4223	22k		
	R11	57.11.4223	22ok		
	R12	57.11.4104	100k		
	R13	57.11.4153	15k		
	R14	57.11.4682	6,8k		
	R15				
	R16	57.11.4181	180		
	R17	57.11.4221	220		
	R18				
	R19	57.11.4153	15k		
	R20	57.11.4680	68		
	R21	57.11.4682	6,8k		
	R22	57.11.4105	1M		
	R23	57.11.4233	33k		
	R24	57.11.4153	15k		
	R25				
	R26	57.11.4223	22k		
	R27				
	R28	57.11.4181	150		
	R29	57.11.4224	220k		
	R30	57.11.4104	100k		

IND	DATE	NAME
4		
3		
2		
1		
○	24.11.81	Wasphdsv

STUDER | Input Amplifier | PL 1.177.860.81 | PAGE 3 OF 4

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	D1	50.04.0125	1N4448		
	D2	50.04.0125	1N4448		
	IC1	50.09.0106	NE5532A		
	IC2	50.05.0245	RC4558		
	JS1	54.01.0020	2,63x,63	Contact Pin (3x)	
		54.01.0021	2x .63	Bridge	
	K1	56.02.1001		Relay	
	K2	56.02.1001		Relay	
	P1	54.01.0220	9 Pol	Pin-Strip	AMP
	P2	54.01.0470	4 Pol	Pin-Strip	AMP
	P3...7	54.02.0320	2,5x0,5	Flat Pin	AMP
	Q1	50.03.0436	BC560C	PNP	
	Q2	50.03.0437	BC550B	NPN BC108C	
	Q3	50.03.0329	PJ228E	P-CH J-FET	
	Q4	50.03.0329	PJ228E	P-CH J-FET	
	Q5	50.03.0436	BC550B	NPN BC107B	
	Q6	50.03.0436	BC560C	PNP	
	Q7	50.03.0437	BC550C	NPN BC108C	
	Q8	50.03.0436	BC550B	NPN BC107B	

IND	DATE	NAME
4		
3		
2		
1		
○	24.11.81	Wasphdsv

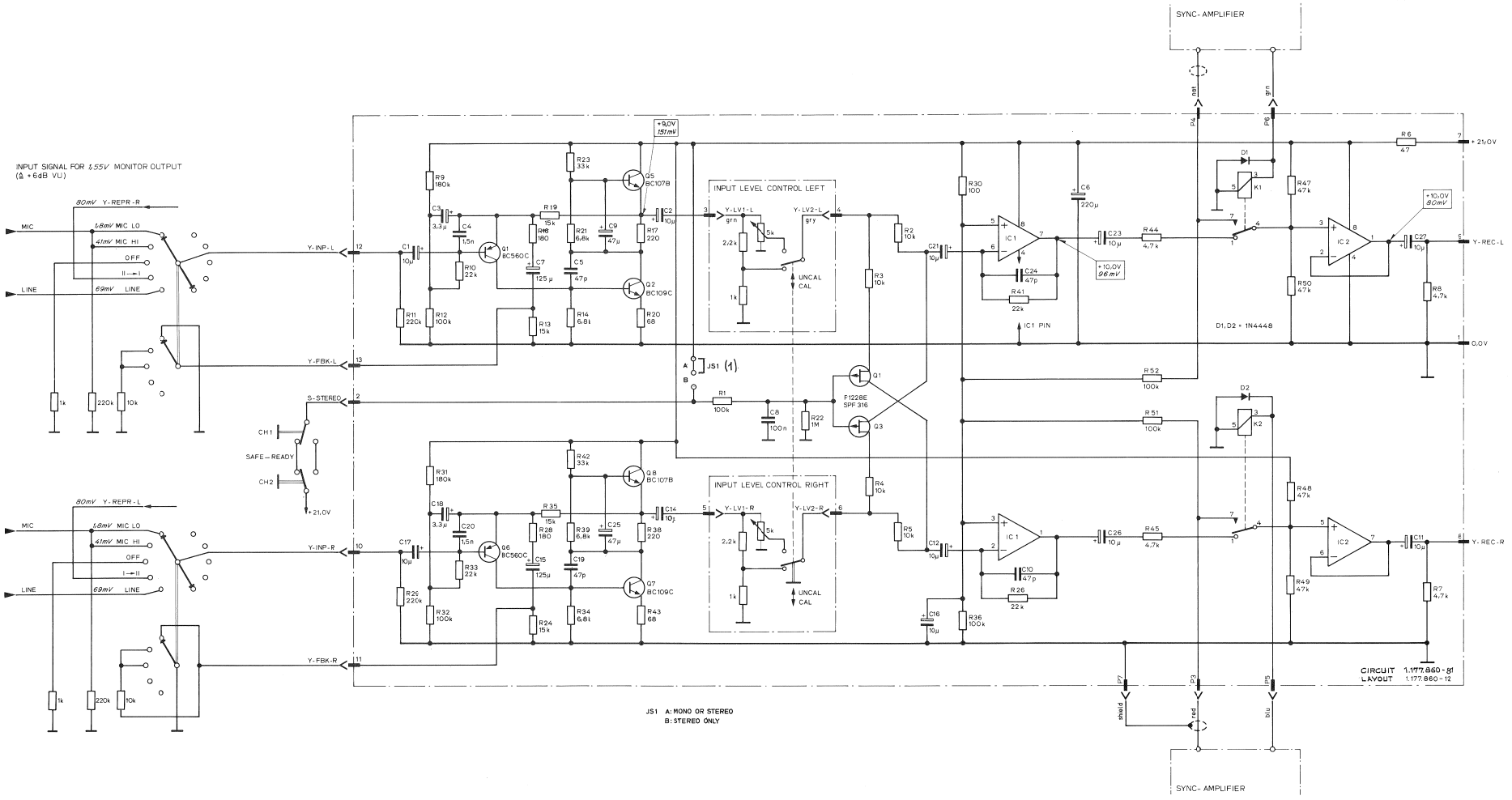
STUDER | Input Amplifier | PL 1.177.860.81 | PAGE 2 OF 4

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	R31	57.11.4184	180k	2% 0207 MF	
	R32	57.11.4106	100k		
	R33	57.11.4223	22k		
	R34	57.11.4682	6,8k		
	R35	57.11.4153	15k		
	R36	57.11.4104	100k		
	R37	—			
	R38	57.11.4221	220		
	R39	57.11.4682	6,8k		
	R40	—			
	R41	57.11.4223	22k		
	R42	57.11.4333	33k		
	R43	57.11.4680	68		
	R44	57.11.4472	4,7k		
	R45	57.11.4472	4,7k		
	R46	—			
	R47	57.11.4473	47k		
	R48	57.11.4473	47k		
	R49	57.11.4473	47k		
	R50	57.11.4473	47k		
	R51	57.11.4104	100k		
	R52	57.11.4104	100k		

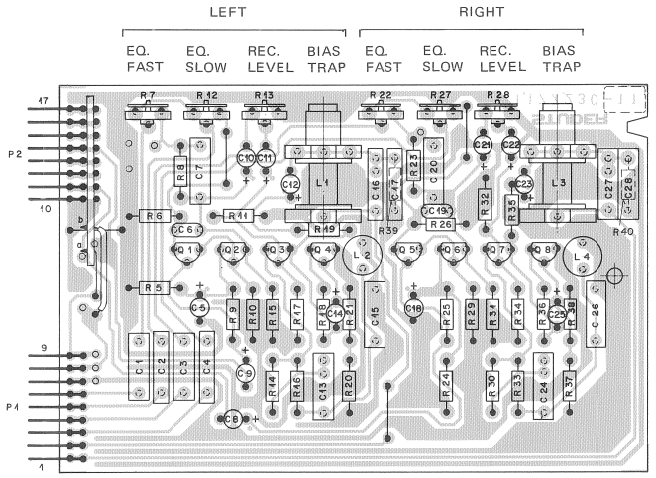
IND	DATE	NAME
4		
3		
2		
1		
○	24.11.81	Wasphdsv

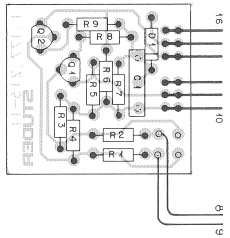
STUDER | Input Amplifier | PL 1.177.860.81 | PAGE 4 OF 4

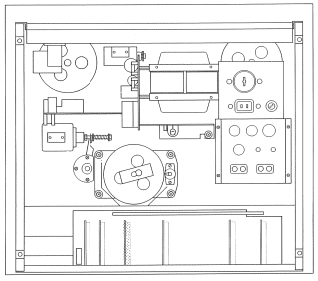
INPUT AMPLIFIER PCB 1.177.860–81



RECORD AMPLIFIER PCB (NAB 1 7/8 - 3 3/4 ips) 1.177.237–81







POS NO	PART NO	VALUE	SPECIFICATIONS			EQUIVALENT	MFR
C 01	59.11.6272	2700 P	5%	400V	PC		
C 02	59.11.4472	4700 P	2,5%		PC		
C 03	59.11.6272	2700 P	5%	400V	PC		
C 04	59.11.4472	4700 P	2,5%		PC		
C 05	59.22.3101	100 U	10%	12V	EL		
C 06	59.32.0220	22 P	20%	500V	CER		
C 07	59.31.6104	0,1 U	10%	100V	MPETP		
C 08	59.30.6339	3,3 U	20%	35V	TA		
C 09	59.30.6339	3,3 U					
C 10	59.30.6339	3,3 U					
C 11	59.30.6109	1 U					
C 12	59.30.6339	3,3 U					
C 13	59.11.3103	0,01 U	5%	160V	PETP		
C 14	59.30.1470	47 U	20%	3V	TA		
C 15	59.11.3103	0,01 U	5%	160V	PETP		
C 16	59.11.6471	470 P	5%	400V	PC		
C 17	59.11.6312	3300 P	5%	160V	PETP		
C 18	59.22.3101	100 U	10%	12V	EL		
C 19	59.32.0220	22 P	20%	500V	CER		
C 20	59.31.6104	0,1 U	10%	100V	MPETP		
C 21	59.30.6339	3,3 U	20%	35V	TA		
C 22	59.30.6109	1 U					
C 23	59.30.6339	3,3 U					
C 24	59.11.3103	0,01 U	5%	160V	PETP		
C 25	59.30.1470	47 U	20%	3V	TA		
C 26	59.11.3103	0,01 U	5%	160V	PETP		
C 27	59.11.6471	470 P	5%	400V	PC		
C 28	59.11.6312	3300 P	5%	400V	PC		
L 01	1.177.231.00						S
L 02	62.02.1222	2,2 mH	5%				S
L 03	1.177.231.00						
L 04	62.02.1222	2,2 mH					
P 01	54.01.0220	9-Pole	Pin-Strip			AMP	
P 02	54.01.0270	8-Pole	Pin-Strip			AMP	
Q 01	50.03.0439	BC109C			NPN		any
Q 02	50.03.0436	BC107B			NPN		any
Q 03	50.03.0436	BC107B			NPN		any
Q 04	50.03.0436	BC107B			NPN		any
Q 05	50.03.0439	BC109C			NPN		any
Q 06	50.03.0436	BC107B			NPN		any
Q 07	50.03.0436	BC107B			NPN		any

PC = Polycarbonate
CER = Ceramic
PETP = Polyester
MPETP = Metallized Polyester
S = Studer

IND	DATE	NAME
⑥		
⑤		
④		
③	13.1.81	Wth 81
②	30.8.78	Weibel/gv
①		
○		

STUDER Record Amplifier 4,75/9,5 1.177.237 -81 PAGE 1 of 2

POS NO	PART NO	VALUE	SPECIFICATIONS			EQUIVALENT	MFR
Q 08	50.03.0436	BC107B			NPN		any
R 01							
R 02							
R 03	57.11.4123	12 k					
R 04	57.11.4123	12 k					
R 05	57.11.4621	820					
R 06	57.11.4222	2,2 k					
R 07	58.02.4223	22 k	10%	.1 W	PCF		
R 08	57.11.4473	47 k	5%	.25W	CF		
R 09	57.11.4104	100 k					
R 10	57.11.4154	150 k					
R 11	57.11.4563	56 k					
R 12	58.02.4223	22 k	10%	.1 W	PCF		
R 13	58.02.4223	22 k					
R 14	57.11.4102	1 k	5%	.25W	CF		
R 15	57.11.4682	6,8 k					
R 16	57.11.4681	680					
R 17	57.11.4224	220 k					
R 18	57.11.4331	330					
R 19	57.11.4102	1 k					
R 20	57.11.4224	220 k					
R 21	57.11.4104	100 k					
R 22	58.02.4223	22 k	10%	.1 W	PCF		
R 23	57.11.4473	47 k	5%	.25W	CF		
R 24	57.11.4621	820					
R 25	57.11.4104	100 k					
R 26	57.11.4222	2,2 k					
R 27	58.02.4223	22 k	10%	.1 W	PCF		
R 28	58.02.4223	22 k					
R 29	57.11.4154	150 k	5%	.25W	CF		
R 30	57.11.4102	1 k					
R 31	57.11.4682	6,8 k					
R 32	57.11.4563	56 k					
R 33	57.11.4681	680					
R 34	57.11.4224	220 k					
R 35	57.11.4102	1 k					
R 36	57.11.4331	330					
R 37	57.11.4224	220 k					
R 38	57.11.4104	100 k					
1) R 39	57.11.4'04	100 k					
1) R 40	57.11.4'04	100 k					

CF = Carbon Film
PCF = Pot'met.Carbon Film

IND	DATE	NAME
⑥		
⑤		
④		
③	13.1.81	Wth 81
②	30.8.78	Weibel/gv
①		
○		

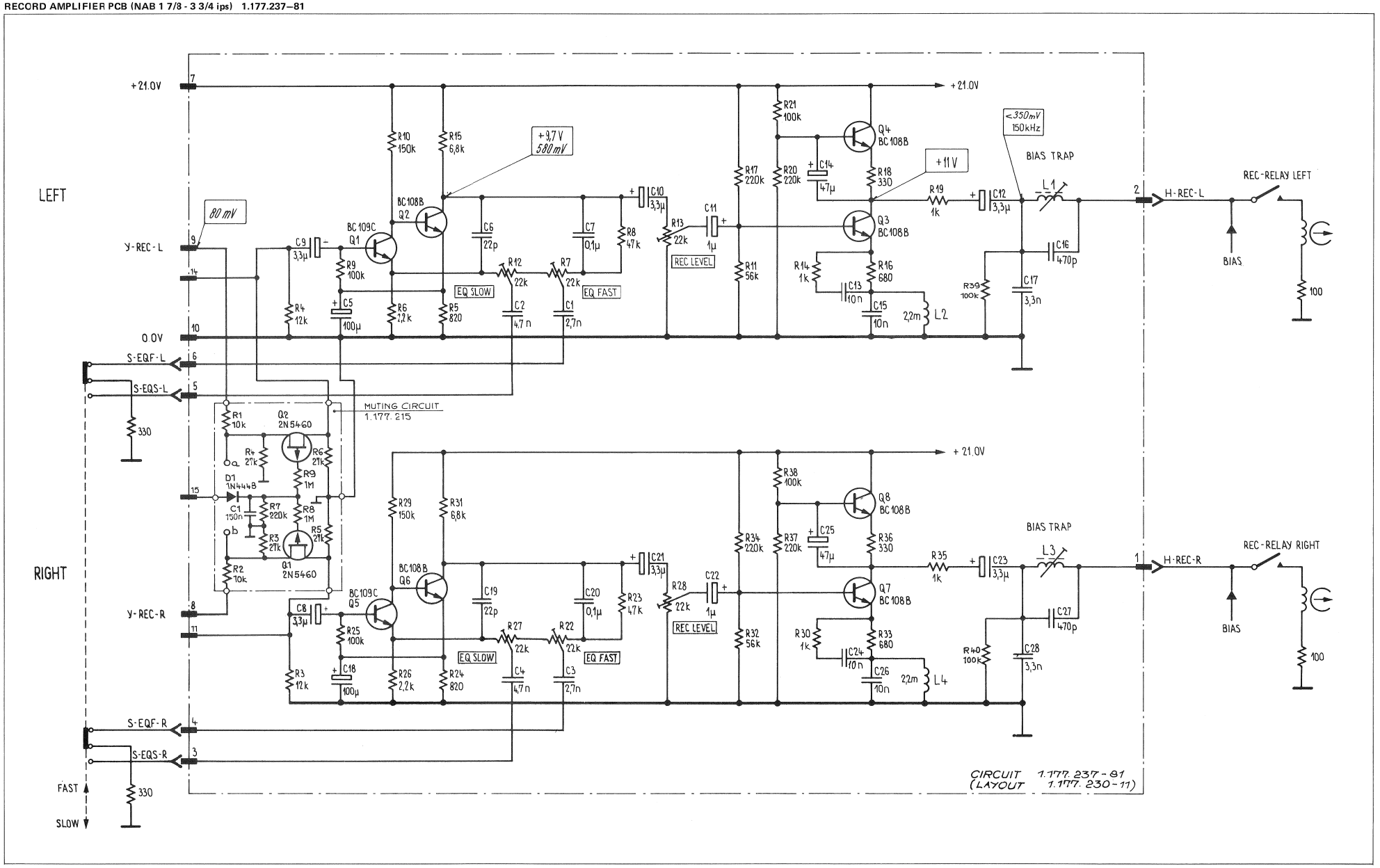
STUDER Record Amplifier 4,75/9,5 1.177.237 -81 PAGE 2 of 2

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
③	C1	59.31.1154	150nF		
	D1	50.04.0125	1N4448	Si	
	J1	54.01.0227	3Pol	CTS	
	J2	54.01.0227	3Pol	CTS	
	Q1	50.03.03.12	2N5460	P-CH Fet	
	Q2	50.03.03.12	2N5460	P-CH Fet	
②	R1	57.11.4103	10k		
②	R2	57.11.4103	10k		
	R3	57.11.4273	27k		
	R4	57.11.4273	27k		
	R5	57.11.4273	27k		
	R6	57.11.4273	27k		
	R7	57.11.4224	220k		
①	R8	57.11.4105	1M		
①	R9	57.11.4105	1M		

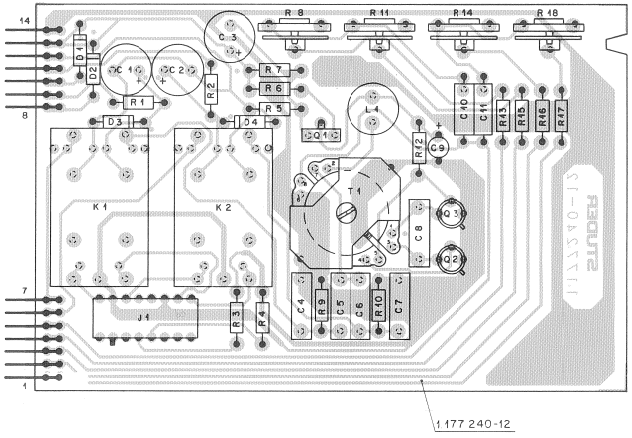
IND	DATE	NAME
④		
③	11.2.81	Wüthrich
②	28.1.81	Wüthrich
①	14.1.81	Gantner
○	18.12.80	Gantner

STUDER Wiring Circuit PL 1.177.215-00 PAGE 1 OF 1

RECORD AMPLIFIER PCB (NAB 1 7/8 - 3 3/4 ips) 1.177.237–81



OSCILLATOR PCB 1.177.243



POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
C 01	59.22.4101	100 U	10% 16 V EL		
C 02	59.22.4101	100 U	10% 16 V EL		
C 03	59.22.2221	220 U	10% 6,3V EL		
C 04	59.11.4472	4700P	2,5% 160V PC		
C 05	59.11.4472	4700P	2,5% 160V PC		
C 06	59.11.4472	4700P	2,5% 160V PC		
C 07	59.11.4472	4700P	2,5% 160V PC		
C 08	59.99.0516	12 N	5% 160V PC		
C 09	59.30.6339	3,3 U	20% 35 V TA		
C 10	59.04.8221	220 P	5% 160V PS		
C 11	59.04.8221	220 P	5% 160V PS		
D 01	50.04.0125	1 N 4448			any
D 02	50.04.0125	1 N 4448			any
D 03	50.04.0125	1 N 4448			any
D 04	50.04.0125	1 N 4448			any
J 01	54.01.0306	8 - Pole	Socket-Strip AMP		
K 01	56.04.0150	2 x U	500 Ω 12V		N,O
K 02	56.04.0150	2 x U	500 Ω 12V		N,O
L 01	62.02.2122	1,2 mH	5% R_{DC} max. 60		
P 01	54.01.0223	7 -Pole	Pin-Strip AMP		
P 02	54.01.0223	7 -Pole	Pin-Strip AMP		
1) Q 01	50.03.0510	BD136-16	Medium Power PNP		
Q 02	50.03.0434	BFR 18	NPN		
Q 03	50.03.0434	BFR 18	NPN		
R 01	57.11.4331	330	5% .25W CF		
R 02	57.11.4331	330			
R 03	57.11.4101	100			
R 04	57.11.4101	100			
1) R 05	57.11.4562	5,6 k			
R 06	57.11.4100	10			
R 07	57.11.4102	1 k			
R 08	58.19.0503	50 k	20% .15W PCF		

PC = Polycarbonate N = National
PS = Polystyrene O = Omron
CF = Carbon Film
PCF= Pot.Carbon Film

	IND	DATE	NAME
①		15.4.81	Wth/gv
⓪		21.1.80	Lu/gv

STUDER | Oscillator B 77 2-Track | 1.177.243 | PAGE 1 of 2

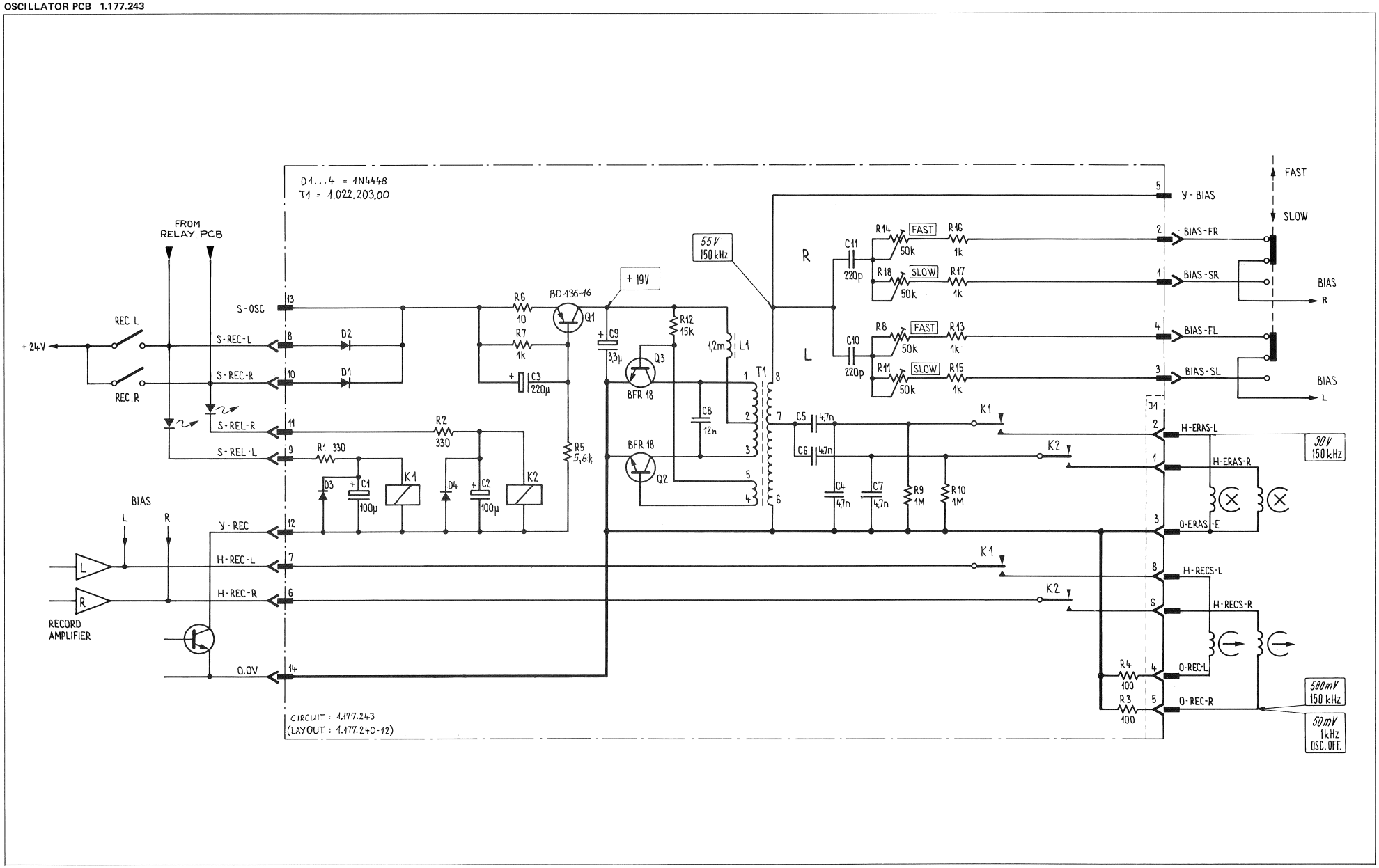
POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
R 09	57.11.4105	1 M	5% .25W CF		
R 10	57.11.4105	1 M	5% .25W CF		
R 11	58.19.0503	50 k	20% .15W PCF		
R 12	57.11.4153	15 k	5% .25W CF		
R 13	57.11.4102	1 k	5% .25W CF		
R 14	58.19.0503	50 k	20% .15W PCF		
R 15	57.11.4102	1 k	5% .25W CF		
R 16	57.11.4102	1 k	5% .25W CF		
R 17	57.11.4102	1 k	5% .25W CF		
R 18	58.19.0503	50 k	20% .15W PCF		
T 01	1.022.203.00		Oscillator Coil		S

CF = Carbon Film S = Studer
PCF= Pot.Carbon Film

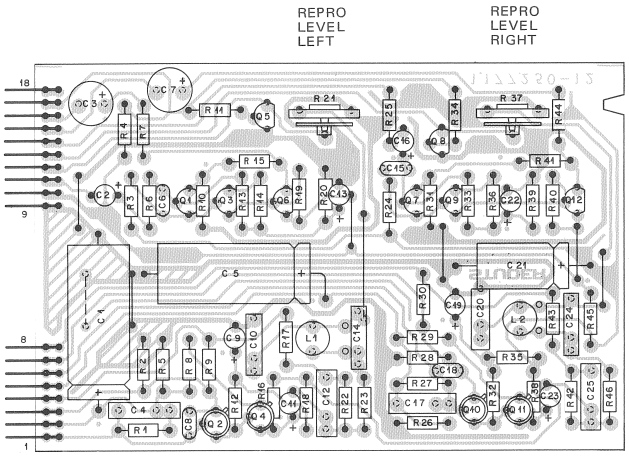
	IND	DATE	NAME
①		15.4.81	Wth/gv
⓪		21.1.80	Lu/gv

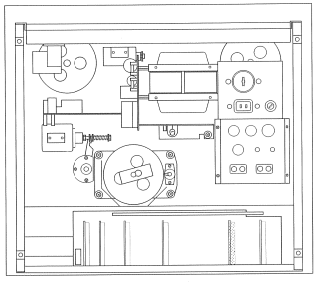
STUDER | Oscillator B 77 2-Track | 1.177.243 | PAGE 2 of 2

OSCILLATOR PCB 1.177.243



REPRODUCE AMPLIFIER PCB (NAB 1 7/8 - 3 3/4 ips) 1.177.257





POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
C 01	59.25.0162	1600 U	10% 3V EL	
C 02	59.30.6339	3,3 U	20% 35V TA	
C 03	59.22.6220	22 U	10% 40V EL	
C 04	59.11.6221	220 P	5% 400V PC	
C 05	59.25.0162	1600 U	10% 3V EL	
C 06	59.32.0101	100 P	20% 500V CER	
C 07	59.22.6220	22 U	10% 40V EL	
C 08	59.32.0101	100 P	20% 500V CER	
C 09	59.30.6339	3,3 U	20% 35V TA	
C 10	59.99.0259	2700 P	10% 50V PETP	
C 11	59.30.6339	3,3 U	20% 35V TA	
C 12	59.11.1103	0,01 U	5% 160V PC	
C 13	59.30.1101	100 U	20% 3V TA	
C 14	59.11.6561	560 P	5% 400V PC	
C 15	59.32.0101	100 P	20% 500V CER	
C 16	59.30.6339	3,3 U	20% 35V TA	
C 17	59.11.6221	220 P	5% 400V PC	
C 18	59.32.0101	100 P	20% 500V CER	
C 19	59.30.6339	3,3 U	20% 35V TA	
C 20	59.99.0259	2700 P	10% 400V PETP	
C 21	59.25.4101	100 U	10% 25V EL	
C 22	59.30.1101	100 U	20% 3V TA	
C 23	59.30.6339	3,3 U	20% 35V TA	
C 24	59.11.6561	560 P	5% 400V PC	
C 25	59.11.3101	0,01 U	5% 160V PC	
L 01	62.02.1222	2,2 mH	5%	
L 02	62.02.1222	2,2 mH	5%	
P 01	54.01.0270	8-Pole	Pin-Strip AMP	
P 02	54.01.0271	10-Pole	Pin-Strip AMP	
Q 01	50.03.0439	BC109C	NPN	any
Q 02	50.03.0407	BC109C	TO18 NPN	
Q 03	50.03.0436	BC107B	NPN	
Q 04	50.03.0407	BC109C	TO18 NPN	
Q 05	50.03.0436	BC107B	NPN	
Q 06	50.03.0436	BC107B	NPN	
Q 07	50.03.0439	BC109C	NPN	
Q 08	50.03.0436	BC107B	NPN	
Q 09	50.03.0436	BC107B	NPN	
Q 10	50.03.0407	BC109C	TO18 NPN	
Q 11	50.03.0407	BC109C	TO18 NPN	
Q 12	50.03.0436	BC107B	NPN	any

PC = Polycarbonate
PETP= Polyester
TA = Tantalum
EL = Electrolytyc

IND	DATE	NAME
	30.8.78	Weibel/gv

STUDER Reproduce-Amplifier 4,75/9,5 1.177.257 PAGE 1 of 2

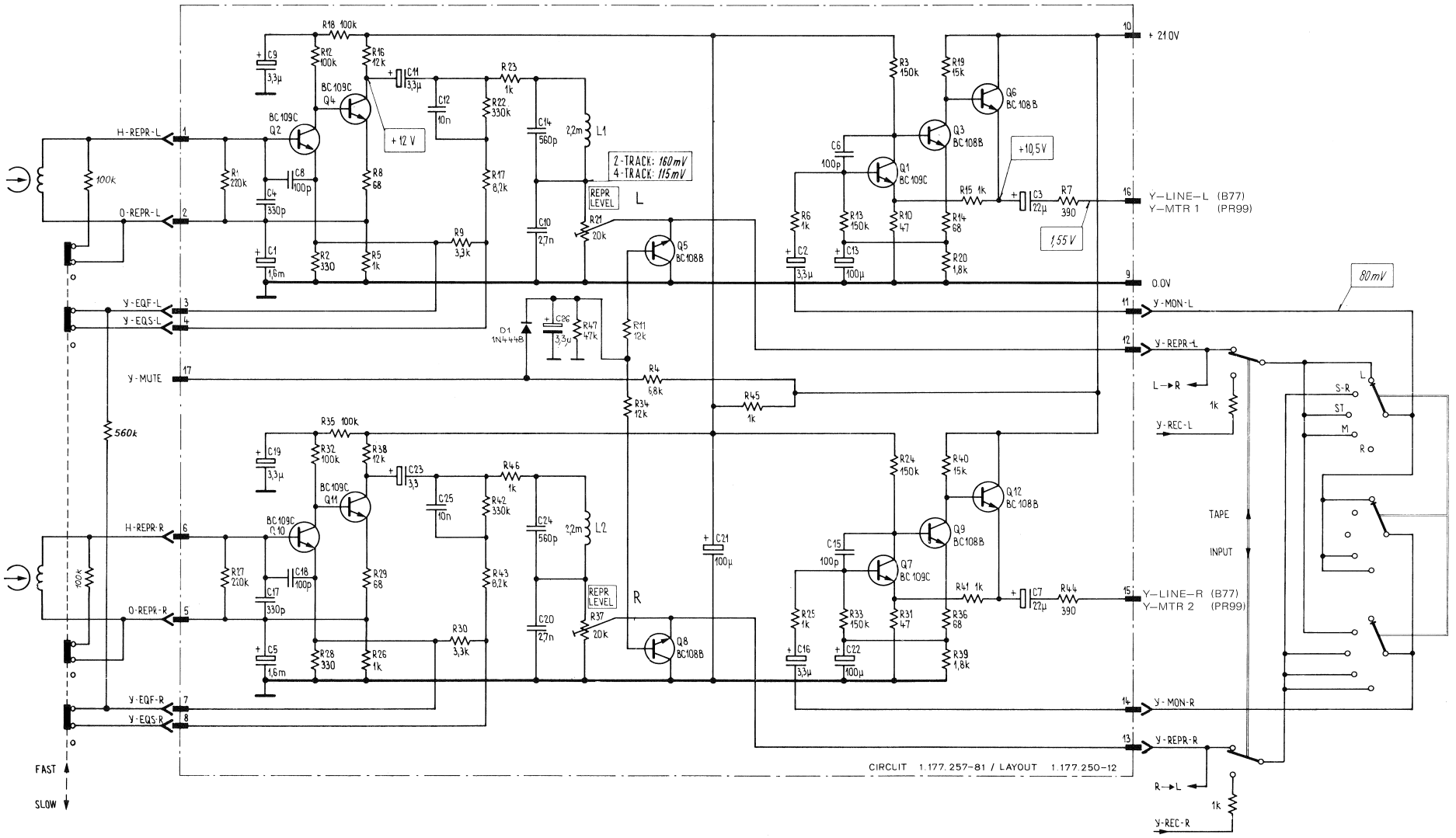
POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
R 01	57.11.4224	220 k	5% .25W CF	
R 02	57.11.4331	330		
R 03	57.11.4154	150 k		
R 04	57.11.4682	6,8 k		
R 05	57.11.4102	1 k		
R 06	57.11.4102	1 k		
R 07	57.11.4391	390		
R 08	57.11.4680	68		
R 09	57.11.4332	3,3 k		
R 10	57.11.4470	47		
R 11	57.11.4123	12 k		
R 12	57.11.4104	100 k		
R 13	57.11.4154	150 k		
R 14	57.11.4680	68		
R 15	57.11.4102	1 k		
R 16	57.11.4123	12 k		
R 17	57.11.4822	8,2 k		
R 18	57.11.4104	100 k		
R 19	57.11.4153	15 k		
R 20	57.11.4182	1,8 k		
R 21	58.19.0203	20 k	20% .15W PCF lin.	
R 22	57.11.4334	330 k	5% .25W CF	
R 23	57.11.4102	1 k		
R 24	57.11.4154	150 k		
R 25	57.11.4102	1 k		
R 26	57.11.4102	1 k		
R 27	57.11.4224	220 k		
R 28	57.11.4331	330		
R 29	57.11.4680	68		
R 30	57.11.4332	3,3 k		
R 31	57.11.4470	47		
R 32	57.11.4104	100 k		
R 33	57.11.4154	150 k		
R 34	57.11.4123	12 k		
R 35	57.11.4104	100 k		
R 36	57.11.4680	68		
R 37	58.19.0203	20 k	20% .15W PCF lin.	
R 38	57.11.4123	12 k	5% .25W CF	
R 39	57.11.4182	1,8 k		
R 40	57.11.4153	15 k		
R 41	57.11.4102	1 k		
R 42	57.11.4334	330 k		
R 43	57.11.4822	8,2 k		
R 44	57.11.4391	390		
R 45	57.11.4102	1 k		
R 46	57.11.4102	1 k		

CF = Carbon Film
PCF = Pot'meter Carbon Film

IND	DATE	NAME
	30.8.78	Weibel/gv

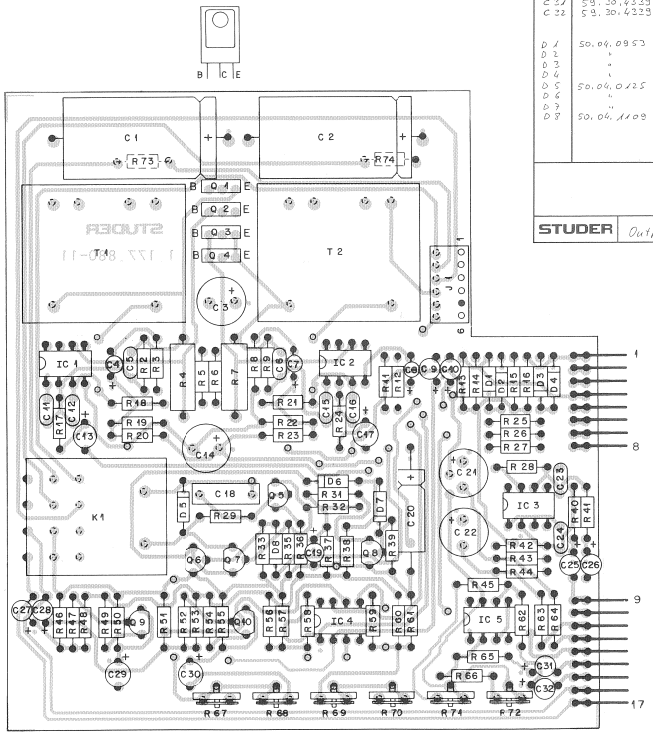
STUDER Reproduce-Amplifier 4,75/9,5 1.177.257 PAGE 2 of 2

REPRODUCE AMPLIFIER PCB (NAB 1 7/8 - 3 3/4 ips) 1.177.257–81



C26,D1,R47 ARE MISSING FOR VERSION 1.177.257–00

OUTPUT AMPLIFIER PCB 1.177.880



POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
C 1	59.25.3222	2200µF	-10% 16V	EL
C 2	59.25.3221	2200µF	-10% 16V	EL
C 3	59.22.5101	100µF	-10% 25V	EL
C 4	59.30.4220	22µF	-20% 16V	TA
C 5	59.32.0220	22pF		KER
C 6	59.32.0220	22pF		KER
C 7	59.30.4220	22µF	-20% 16V	TA
C 8	59.30.4339	3.3µF	-20% 16V	TA
C 9	59.30.4100	10µF	-20% 16V	TA
C 10	59.30.4100	10µF	-20% 16V	TA
C 11	59.32.0220	22pF		KER
C 12	59.32.0101	100pF		KER
C 13	59.30.4339	3.3µF	-20% 16V	TA
C 14	59.22.5101	100µF	-10% 25V	EL
C 15	59.32.0220	22pF		KER
C 16	59.32.0101	100pF		KER
C 17	59.30.4339	3.3µF	-20% 16V	TA
C 18	59.21.4106	100nF	20%	MKTP
C 19	59.30.4220	22µF	-20% 16V	TA
C 20	59.27.5228	2.2µF	-10% 40V	EL
C 21	59.22.4101	100µF	-10% 16V	EL
C 22	59.22.4101	100µF	-10% 16V	EL
C 23	59.32.1330	33pF		KER
C 24	59.32.1330	33pF		KER
C 25	59.30.4339	3.3µF	-20% 16V	TA
C 26	59.30.4339	3.3µF	-20% 16V	TA
C 27	59.30.4339	3.3µF	-20% 16V	TA
C 28	59.30.4339	3.3µF	-20% 16V	TA
C 29	59.30.4100	10µF	-20% 16V	TA
C 30	59.30.4100	10µF	-20% 16V	TA
C 31	59.30.4339	3.3µF	-20% 16V	TA
C 32	59.30.4339	3.3µF	-20% 16V	TA
D 1	50.04.0953	AA 116		
D 2	"	"		
D 3	"	"		
D 4	"	"		
D 5	50.04.0125	1N4445		
D 6	"	"		
D 7	"	"		
D 8	50.04.1109	20V	5% 0.4W	DI

IND	DATE	NAME
	19.2.1981	Wüthrich
	5.11.1980	Wüthrich
	3.11.1980	Wüthrich
	29.9.1980	Wüthrich

STUDER Output Amplifier 1.177.880.00 PAGE 1 of 5

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
IC 1	50.05.0144	LM 301AH		
IC 2	50.05.0144	LM 301AH		
IC 3	50.05.0245	RC 4558		
IC 4	50.05.0245	RC 4558P		
IC 5	50.05.0245	RC 4558P		

IND	DATE	NAME
	19.2.1981	Wüthrich
	5.11.1980	Wüthrich
	3.11.1980	Wüthrich
	29.9.1980	Wüthrich

STUDER Output Amplifier 1.177.880.00 PAGE 2 of 5

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
J 1	54.01.0216	6 POL	AMP CIS	
K 1	56.04.0121	P24	Relais	
P 1	54.01.0270	8 POL	AMP CIS	
P 2	54.01.0220	9 POL	AMP CIS	
D 1	50.03.0510	BD 136-16	PNP	
Q 1	50.03.0495	BD 135-16	NPN	
Q 2	50.03.0510	BD 136-16	PNP	
Q 4	50.03.0485	BD 135-16	NPN	
Q 5	50.03.0515	BC 560 B	PNP	BC 178 B
Q 6	50.03.0436	BC 550 B	NPN	BC 108 B
Q 7	50.03.0436	BC 550 B	NPN	BC 108 B
Q 8	50.03.0436	BC 550 B	NPN	BC 108 B
Q 9	50.03.0436	BC 550 B	NPN	BC 108 B
Q 10	50.03.0436	BC 550 B	NPN	BC 108 B
R 1				
R 2	59.11.4233	33k		
R 3	59.11.4128	1.8		
R 4	59.43.4471	470	5% 0.5W	
R 5	59.11.4100	10		
R 6	59.11.4100	10		
R 7	59.43.4471	470	5% 0.5W	
R 8	59.11.4128	1.8		
R 9	59.11.4233	33k		
R 10				
R 11	59.11.4153	15k		
R 12	59.11.4153	15k		
R 13	59.11.4272	2.7k		
R 14	59.11.4272	2.7k		
R 15	59.11.4272	2.7k		
R 16	59.11.4272	2.7k		
R 17	59.11.4103	10k		
R 18	59.11.4332	3.3k		
R 19	59.11.4103	10k		
R 20	59.11.4103	10k		
R 21	59.11.4222	2.2k		
R 22	59.11.4103	10k		
R 23	59.11.4103	10k		
R 24	59.11.4103	10k		

IND	DATE	NAME
	19.2.1981	Wüthrich
	5.11.1980	Wüthrich
	3.11.1980	Wüthrich
	29.9.1980	Wüthrich

STUDER Output Amplifier 1.177.880.00 PAGE 3 of 5

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
R 25	59.11.4221	220		
R 26	59.11.4221	220		
R 27	59.11.4472	4.7k		
R 28	59.11.4106	100k		
R 29	59.11.4106	100k		
R 30				
R 31	59.11.4391	390		
R 32	59.11.4563	56ok		
R 33	59.11.4222	2.2k		
R 34				
R 35	59.11.4104	100k		
R 36	59.11.4432	4.3k		
R 37	59.11.4474	470k		
R 38	59.11.4472	4.7k		
R 39	59.11.4103	10k		
R 40	59.11.4293	29k		
R 41	59.11.4273	27k		
R 42	59.11.4106	100k		
R 43	59.11.4432	4.3k		
R 44	59.11.4432	4.3k		
R 45	59.11.4471	470		
R 46	59.11.4273	27k		
R 47	59.11.4333	33k		
R 48	59.11.4823	82k		
R 49	59.11.4102	1k		
R 50	59.11.4471	470		
R 51	59.11.4273	27k		
R 52	59.11.4333	33k		
R 53	59.11.4823	82k		
R 54	59.11.4102	1k		
R 55	59.11.4471	470		
R 56	59.11.4333	33k		
R 57	59.11.4183	18k		
R 58	59.11.4693	43k		
R 59	59.11.4613	43k		
R 60	59.11.4333	33k		
R 61	59.11.4183	18k		
R 62	59.11.4153	15k		
R 63	59.11.4221	220		
R 64	59.11.4221	220		
R 65	59.11.4153	15k		
R 66	59.11.4471	470		
R 67	58.02.4222	2.2k		
R 68	58.02.4221	220		
R 69	58.02.4104	100k		
R 70	58.02.4104	100k		

IND	DATE	NAME
	19.2.1981	Wüthrich
	5.11.1980	Wüthrich
	3.11.1980	Wüthrich
	29.9.1980	Wüthrich

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POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
R 71	58.02.4223	22k		
R 72	58.02.4223	22k		
R 73	59.11.4431	430		
R 74	59.11.4431	430		
T 1	1.022.350.00	1 : 2,7	Transformer	ST
T 2	1.022.351.00	1 : 2,7	Transformer	ST

ST= STUDER

IND	DATE	NAME
	19.2.1981	Wüthrich
	5.11.1980	Wüthrich
	3.11.1980	Wüthrich
	29.9.1980	Wüthrich

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