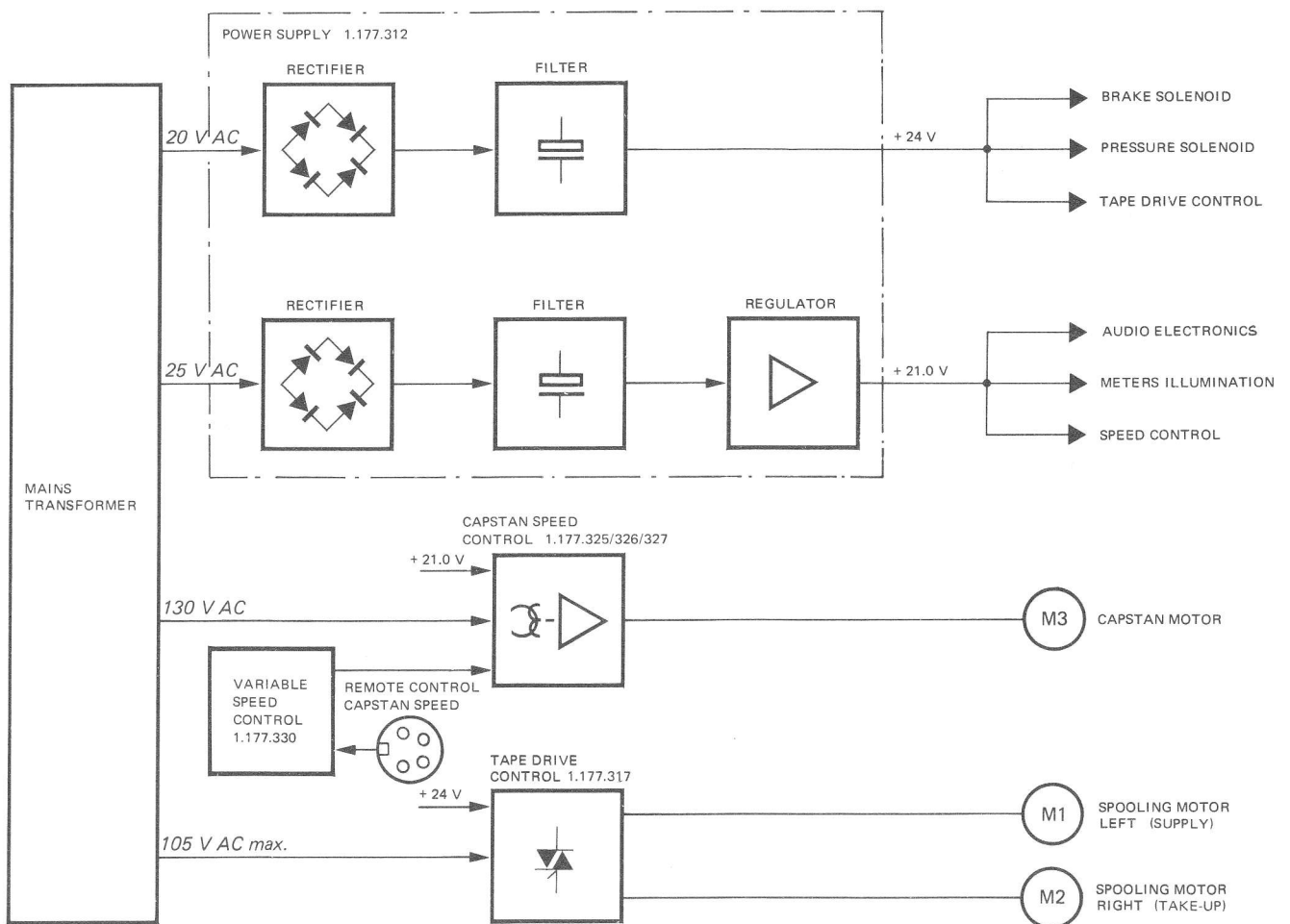
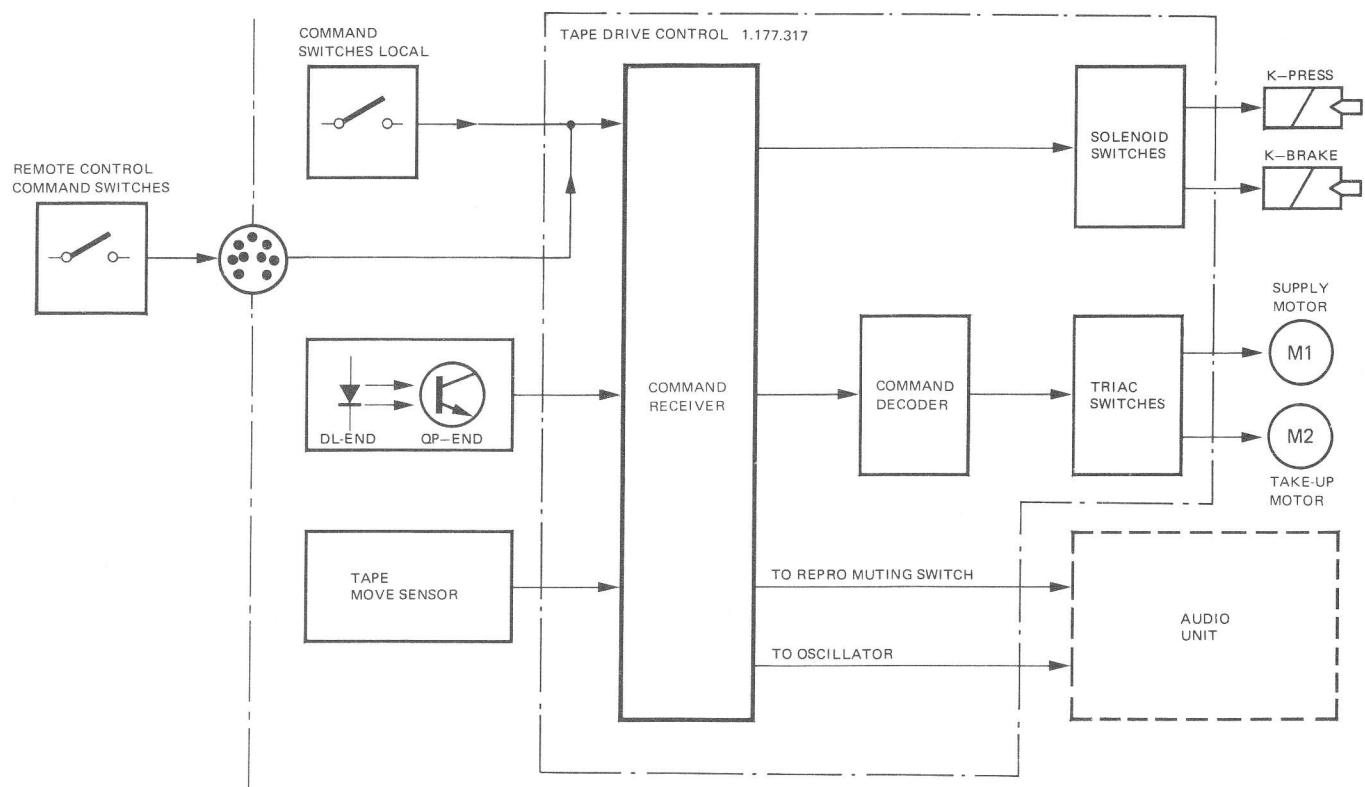


CONTENTS

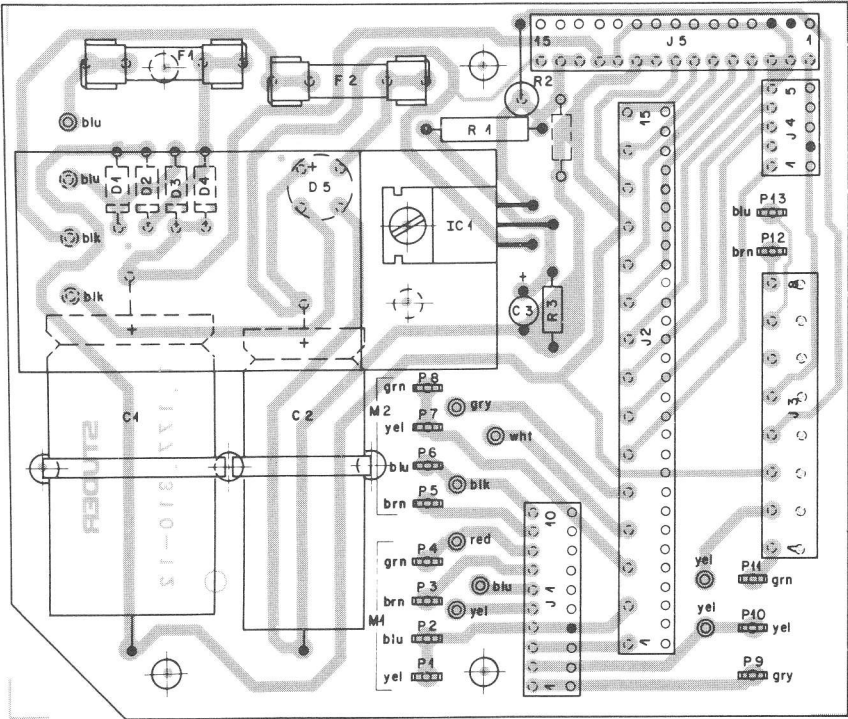
DESCRIPTION	SCHEMATIC NO.	SECTION/PAGE
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POWER SUPPLY PCB	1.177.312	7/8
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BLOCK DIAGRAM / POWER SUPPLY AND TAPE DRIVE CONTROL

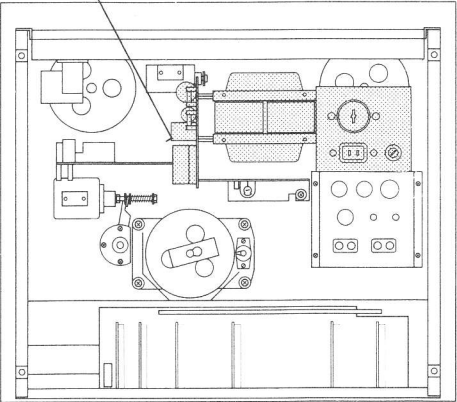




POWER SUPPLY PCB 1.177.310

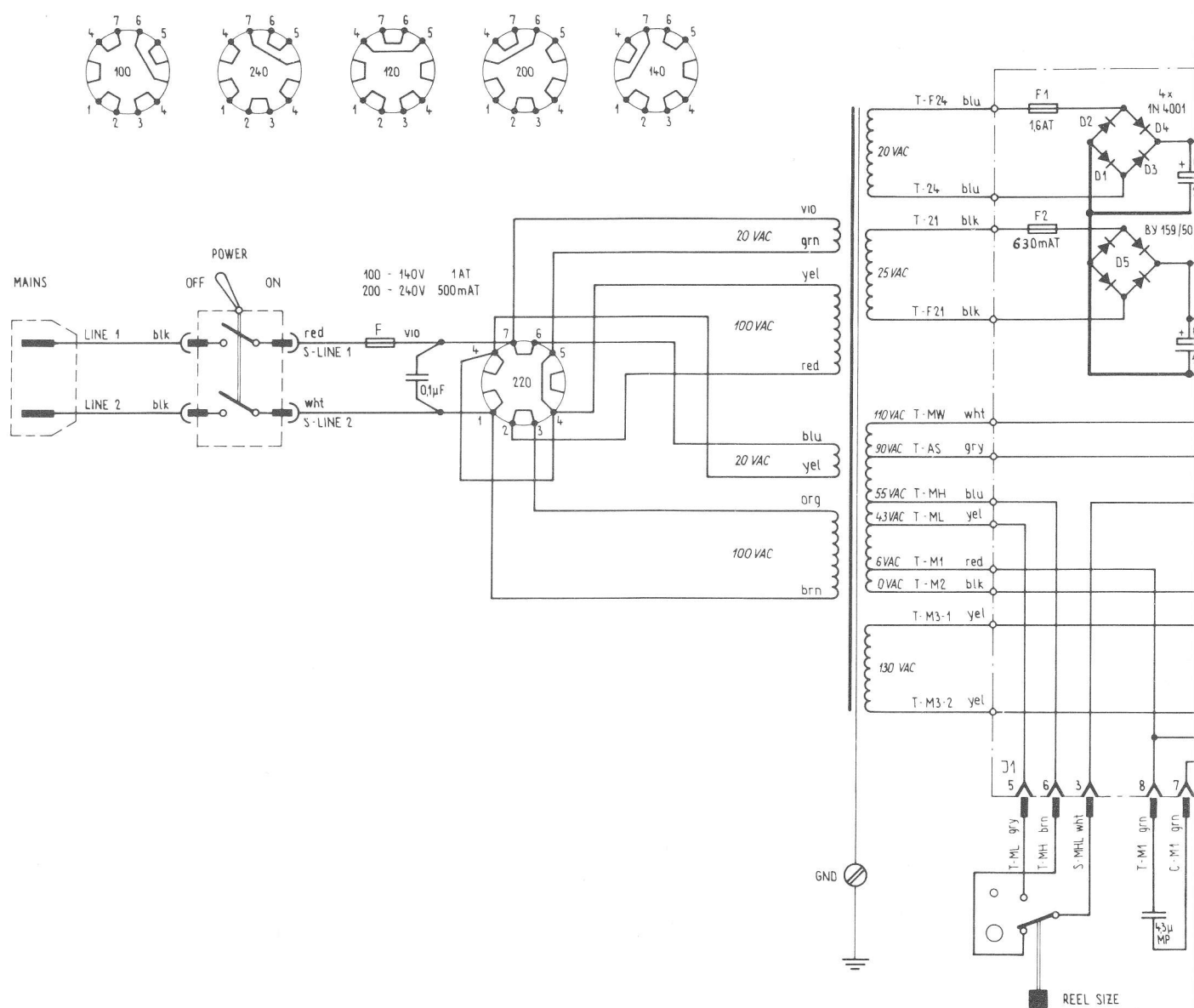


1.177.310

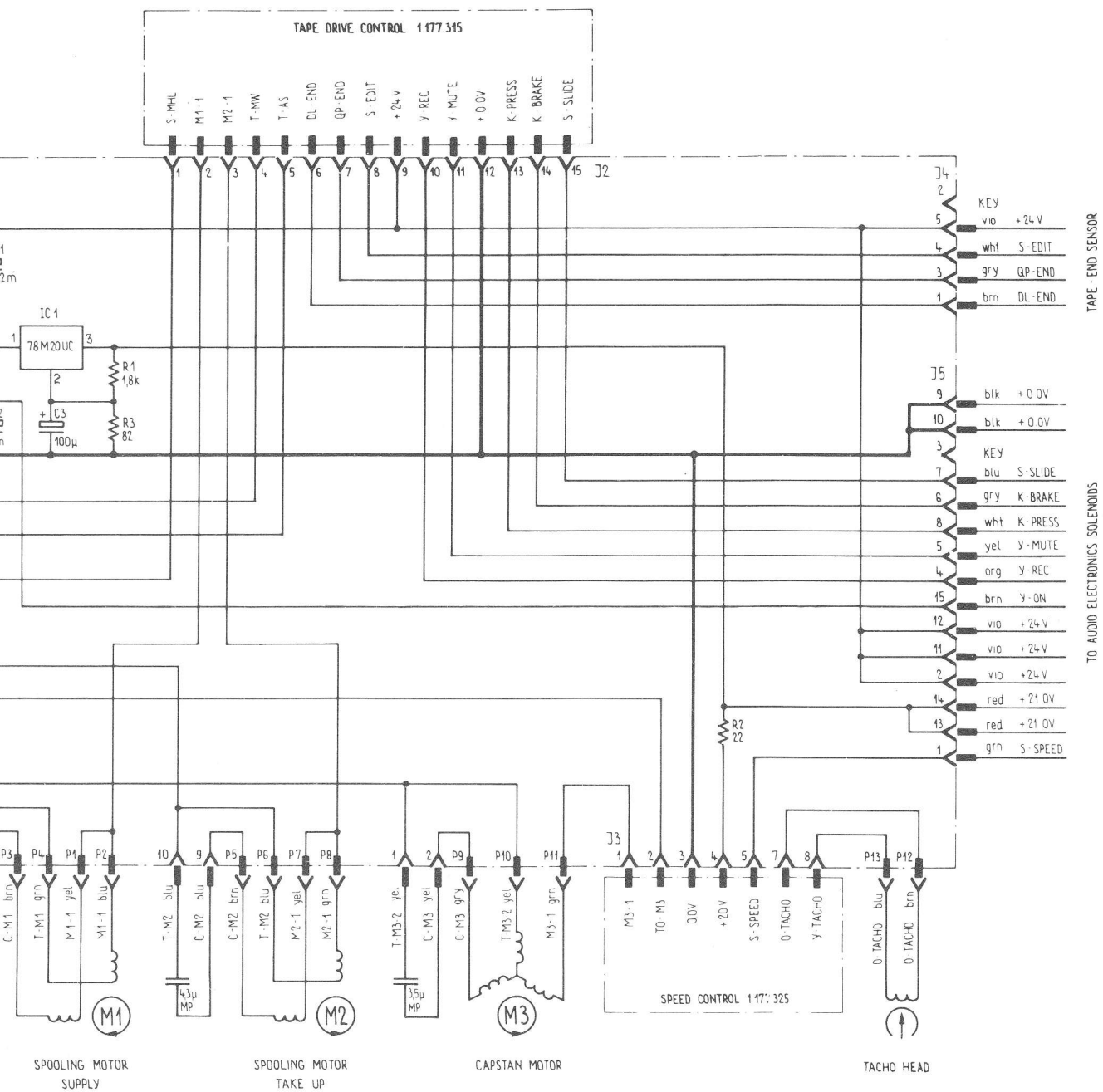


POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
C 01	59.25.5222	2200 U	-10% 35V EL		
C 02	59.25.5102	1000 U	-10% 40V EL		
C 03	59.30.1101	100 U	-20% 3V TA		
D 01	50.04.0122	1 N 4001			any
D 02	50.04.0122	1 N 4001			any
D 03	50.04.0122	1 N 4001			any
D 04	50.04.0122	1 N 4001			any
D 05	70.01.0222	B35 C 800			
F 01	51.01.0119	1,6 AT	5 x 20 Slow Blow		
F 02	51.01.0114	500 mA	5 x 20 Slow Blow		
IC 01	50.05.0242	78 M 20	20V 0,5 A		F.T.
J 01	54.01.0290	10-Pole	Socket Strip		
J 02	54.01.0535	15-Pole	"		
J 03	54.01.0546	8-Pole	"		
J 04	54.01.0288	5-Pole	"		
J 05	54.01.0219	15-Pole	"		
P 1-13	54.02.0320		Flat Pin 0,8 AMP		
R 01	57.42.4182	1,8 K	5% .33W CF		
R 02	57.41.4220	22	5% 4 W WW		
R 03	57.41.4820	82	5% .25W CF		
F = Fairchild CF = Carbon Film			④		
T = Texas Instr.WW = Wire Wound			③		
			②		
			①		
			○	1.4.77	Wartburg/g
			IND	DATE	NAME
STUDER			Power Supply		1.177.310
					PAGE 1 of 1

POWER SUPPLY PCB 1.177.310

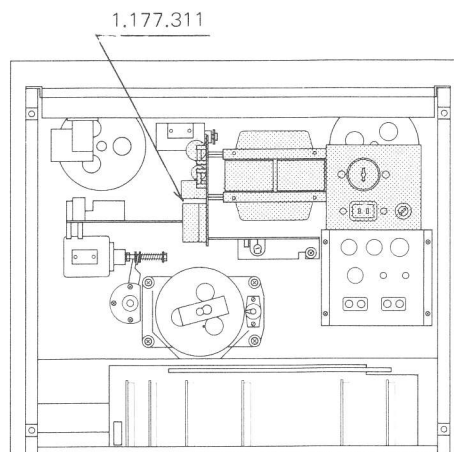
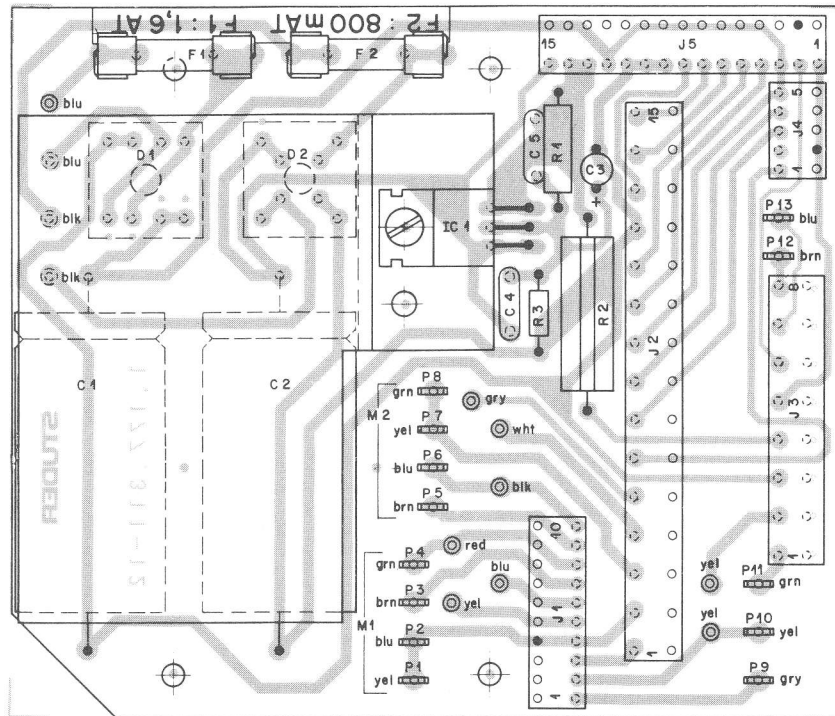


VALID UP TO SERIAL NUMBER 10149



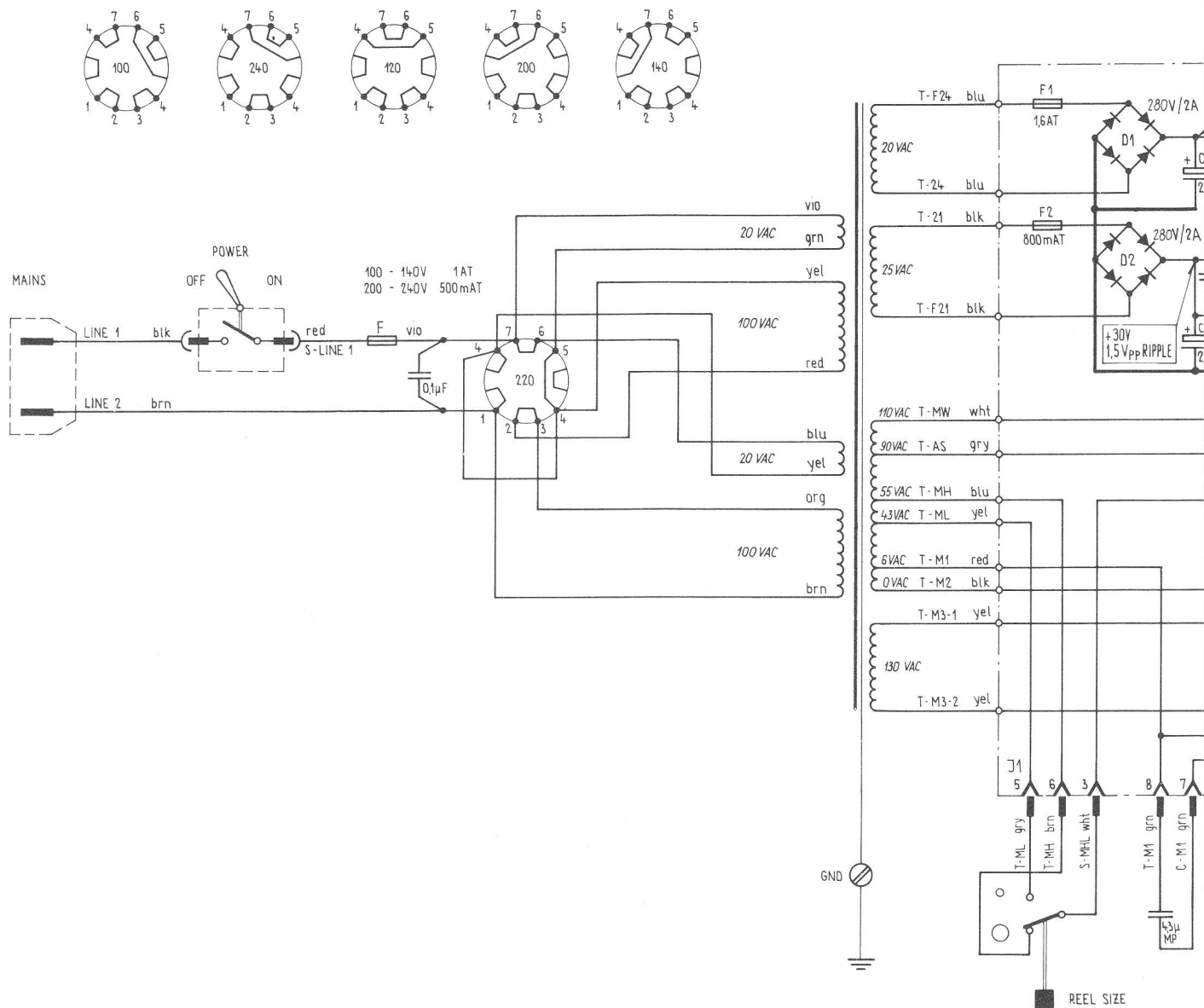
SEE SERVICE INFORMATION
48.6 : BY CHANGE OF 1.177.311

POWER SUPPLY PCB 1.177.311

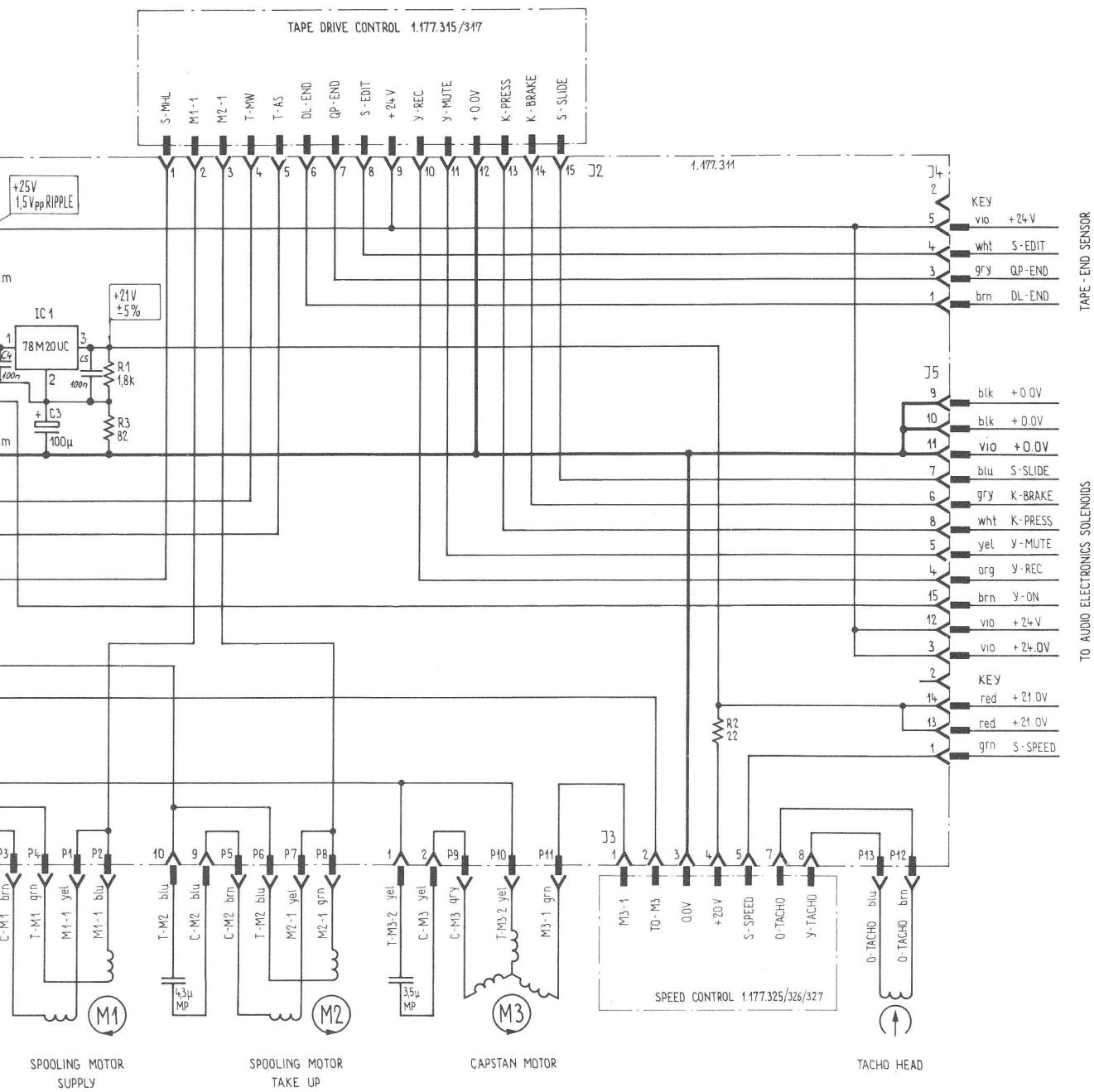


[illegible]

POWER SUPPLY PCB 1.177.311

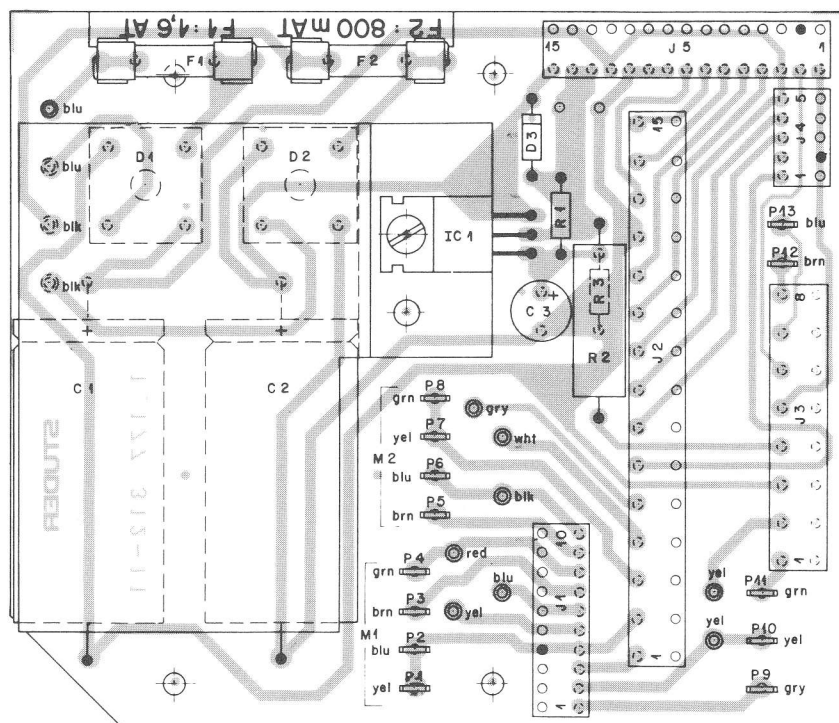


VALID FROM SERIAL NUMBER 10150 TO 107301

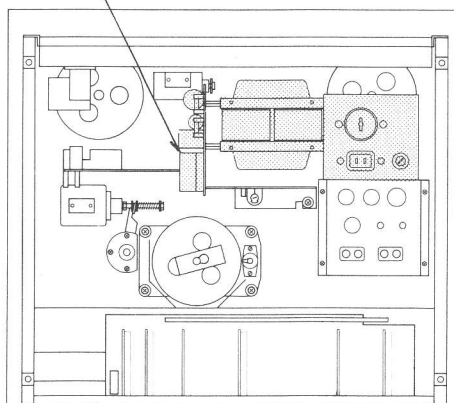


SEE SERVICE INFORMATION
57.6 : C4, C5

POWER SUPPLY PCB 1.177.312



1.177.312



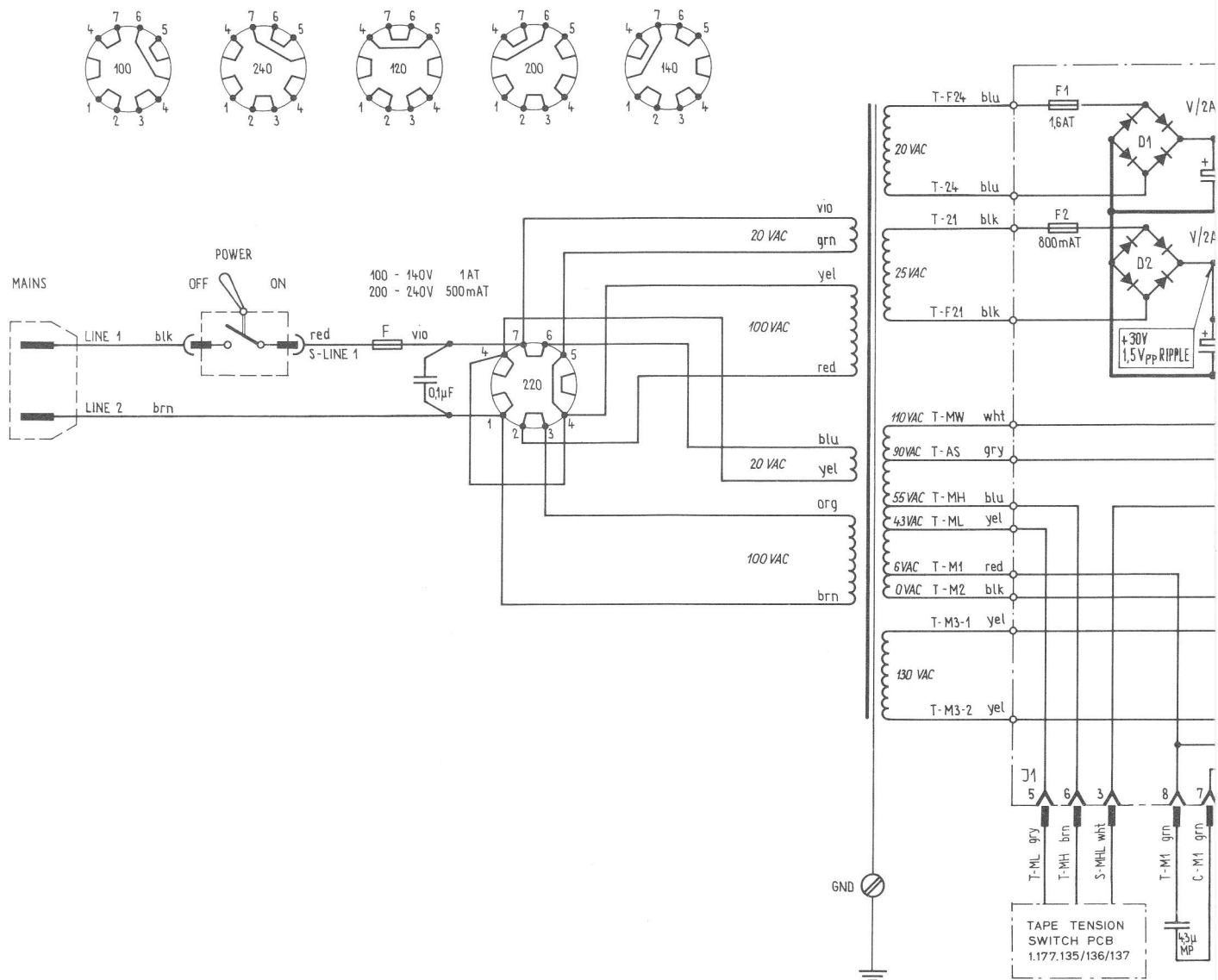
INC.	PES.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.25.5222	2200 uF	-10%,35V,	E1	
C.....2	59.25.5222	2200 uF	-10%,15V,	E1	
C.....3	59.22.5470	47 uF	-10%,25V,	E1	
D.....1	70.01.0119	280V/2A	Bridge Rect.	Si	
D.....2	70.01.0119	280V/2A	Bridge Rect.	Si	
D.....3	56.04.0122	1k 4001		Si	
F.....1	51.01.0119	1.6 A	slow blow	5x20mm	
F.....2	51.01.0116	800 mA	slow blow	5x20mm	
IC.....1	50.10.0104	LM 317	+1.2V- +37V	Volt. Regulator	N, Ti
J.....1	54.01.0290	10-Pole	Socket Strip		
J.....2	54.01.0535	15-Pole	Socket Strip		
J.....3	54.01.0546	8-Pole	Socket Strip		
J.....4	54.01.0288	5-Pole	Socket Strip		
J.....5	54.01.0219	15-Pole	Socket Strip		
P.....1	54.02.0320		Flat Pin 0.8	AMP	
P.....2	54.02.0320		Flat Pin 0.8	AMP	
P.....3	54.02.0320		Flat Pin 0.8	AMP	
P.....4	54.02.0320		Flat Pin 0.8	AMP	
P.....5	54.02.0320		Flat Pin 0.8	AMP	
P.....6	54.02.0320		Flat Pin 0.8	AMP	
P.....7	54.02.0320		Flat Pin 0.8	AMP	
P.....8	54.02.0320		Flat Pin 0.8	AMP	
P.....9	54.02.0320		Flat Pin 0.8	AMP	
P.....10	54.02.0320		Flat Pin 0.8	AMP	
P.....11	54.02.0320		Flat Pin 0.8	AMP	
P.....12	54.02.0320		Flat Pin 0.8	AMP	
P.....13	54.02.0320		Flat Pin 0.8	AMP	
R.....1	57.39.3010	301 Ohm	1%,0.25W,	MF	
R.....2	57.56.4220	22 Ohm	5%, 4 W,	WH	
R.....3	57.11.4472	4.7 kOhm	2%,0.25W,	MF	

S T U D E R 81/04/24 RW POWER SUPPLY 1.177.312.00 PAGE 1

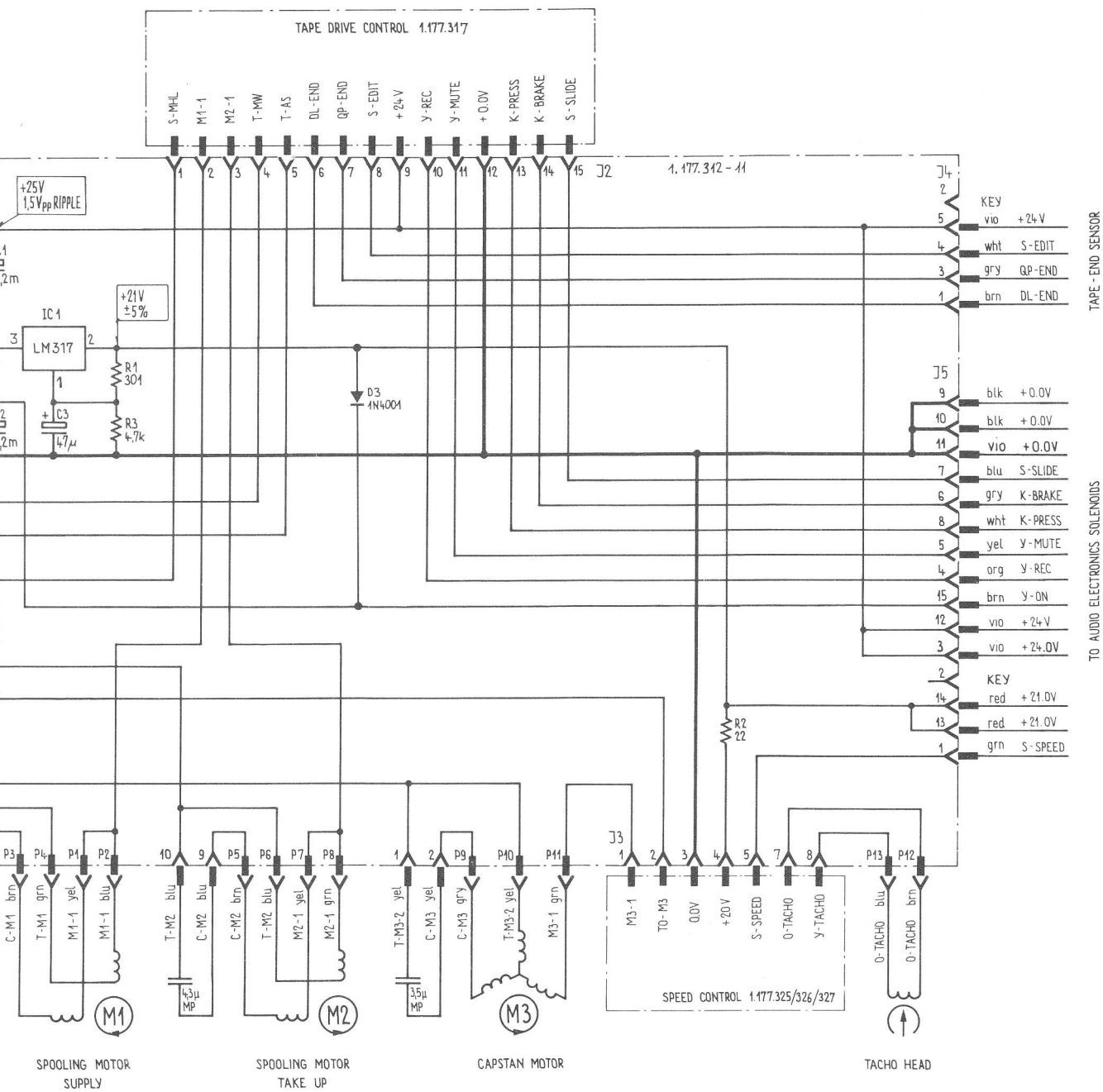
INC.	PES.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
EL=ELECTROLYTIC SI=SILICON MF=METAL FILM% WH=WIRE WOUND, MANUFACTURER: N= NATIONAL, TI=TEXAS INSTRUMENTS, CRIG 81/04/22					

S T U D E R 81/04/24 RW POWER SUPPLY 1.177.312.00 PAGE 2

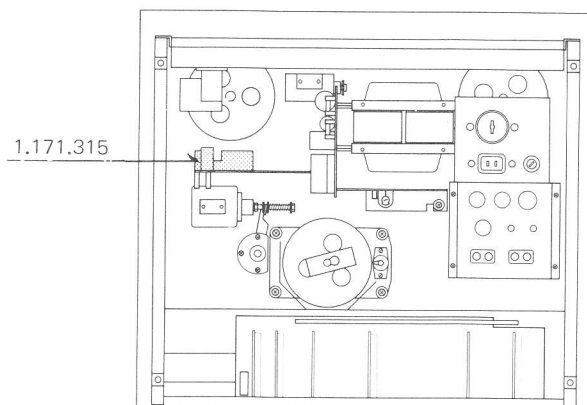
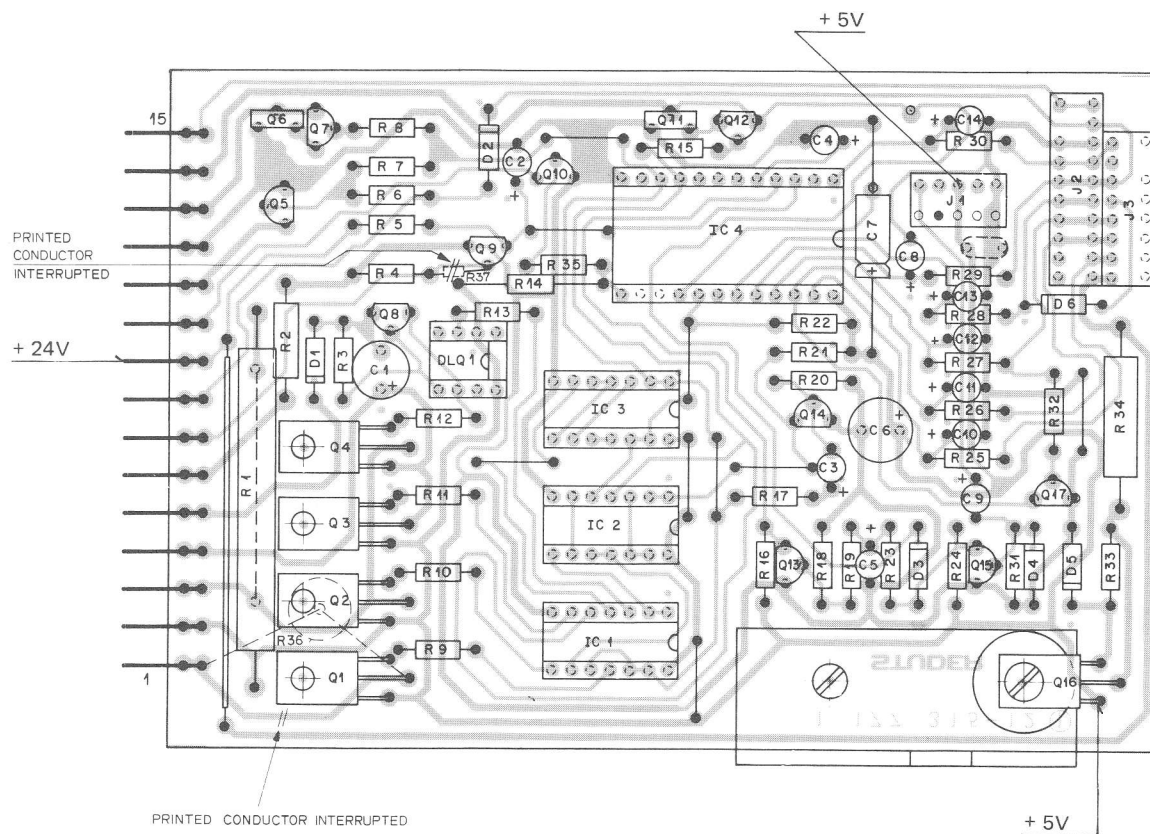
POWER SUPPLY PCB 1.177.312



VALID FROM SERIAL NUMBER 107302

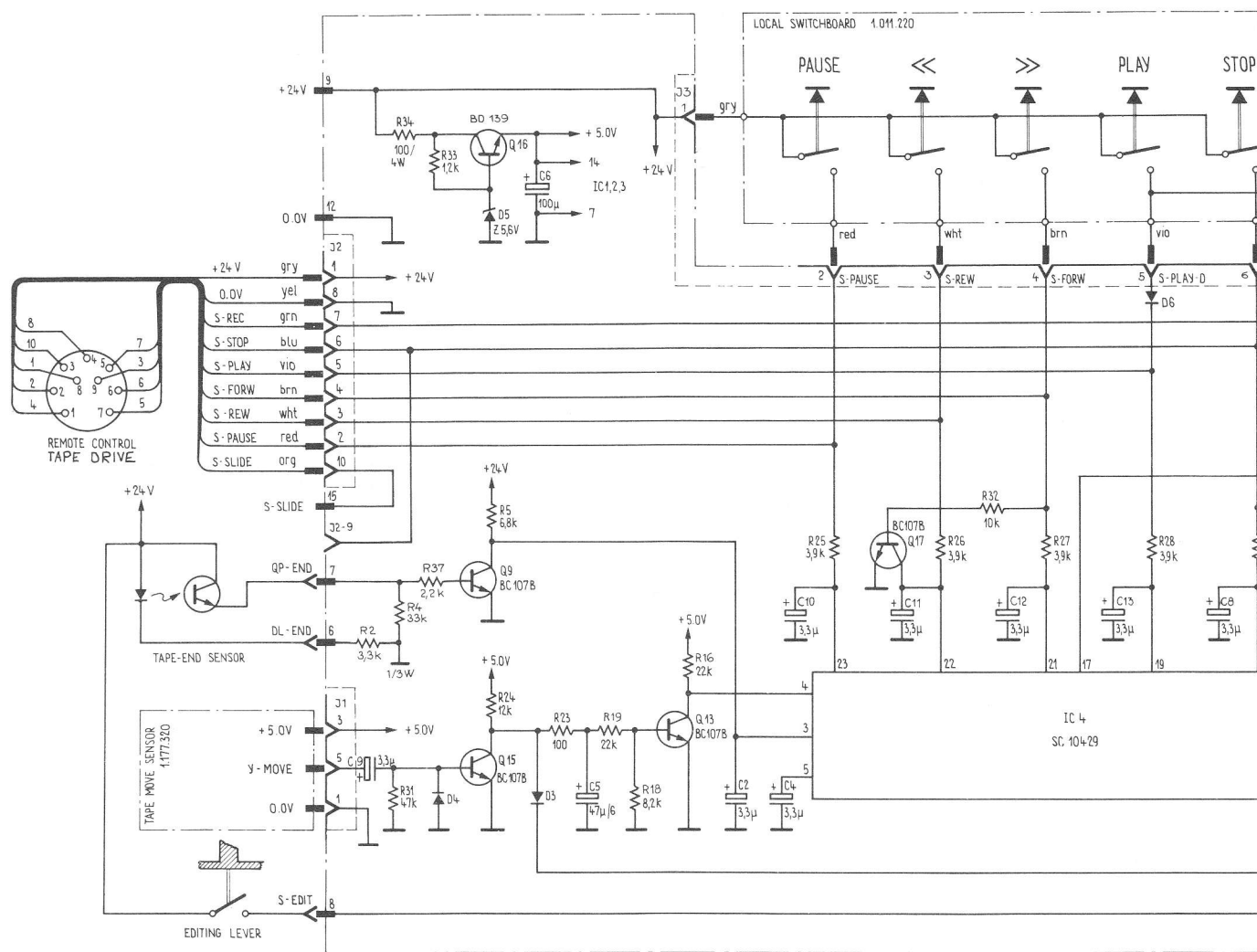


TAPE DRIVE CONTROL PCB 1.177.315

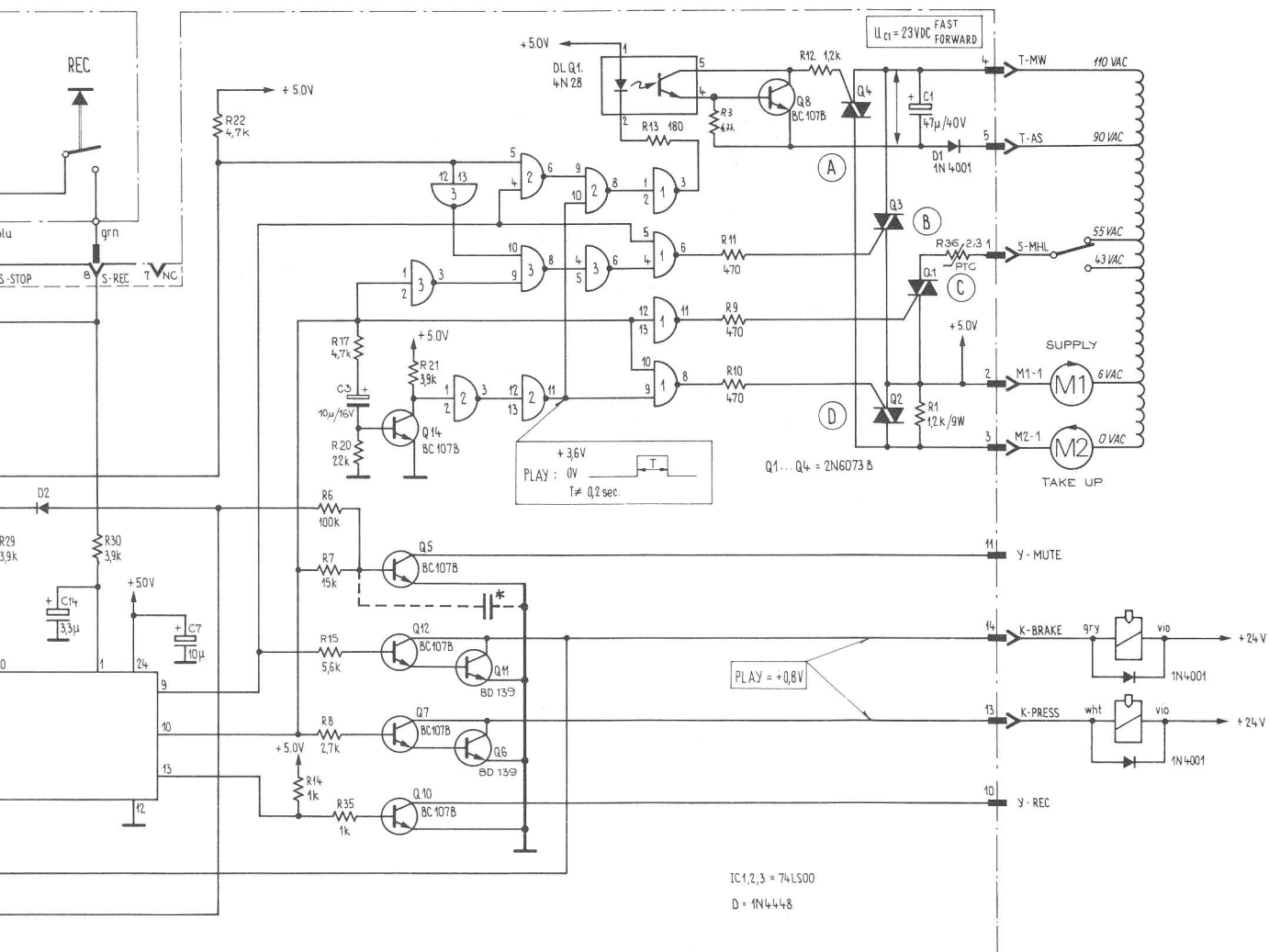


TAPE DRIVE CONTROL PCB 1.177.315

REVISED EDITION



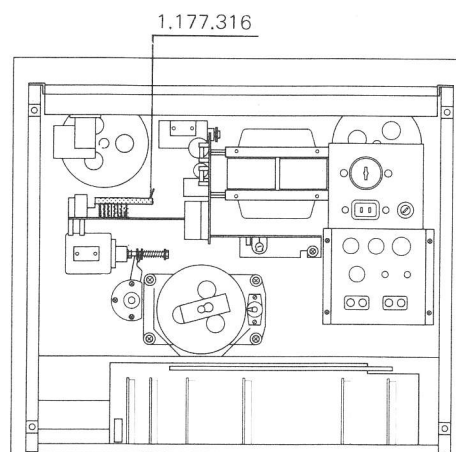
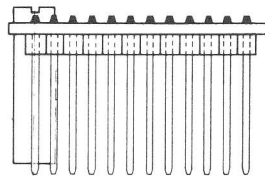
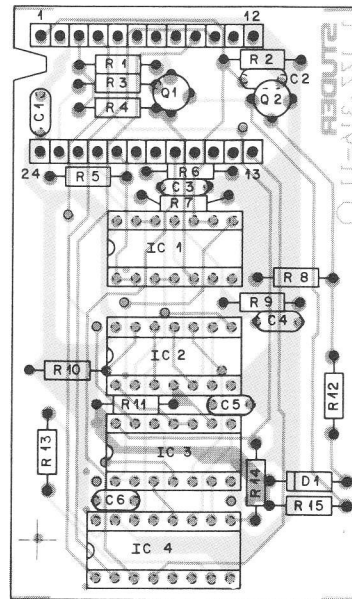
VALID UP TO SERIAL NUMBER 52699



SEE SERVICE INFORMATION
48.9 : C*
52.6 : R2

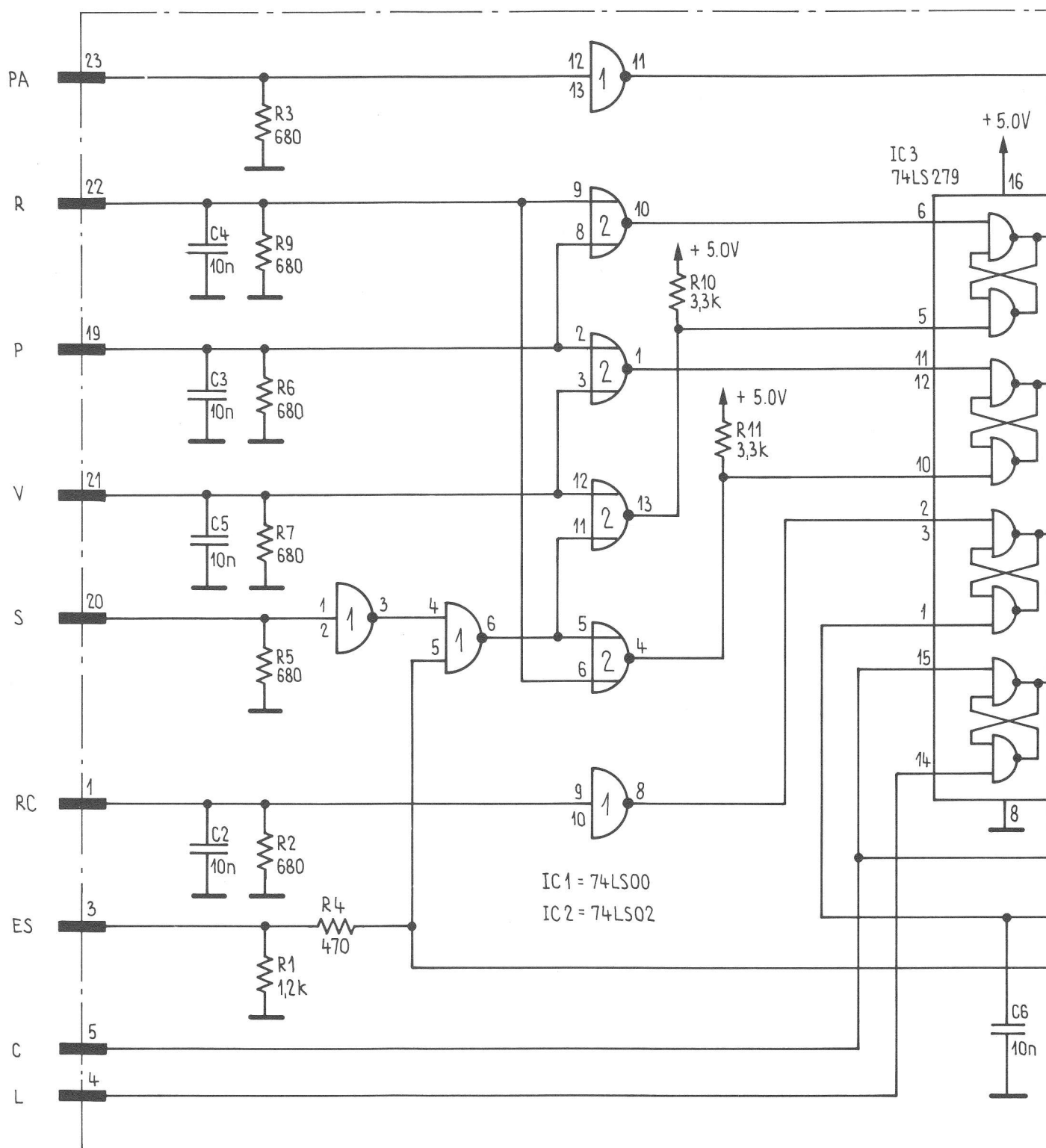
IC4 MAY BE REPLACED BY THE SUBSTITUTION LOGIC PC-BOARD 1.177.316

SUBSTITUTION LOGIC PCB 1.177.316

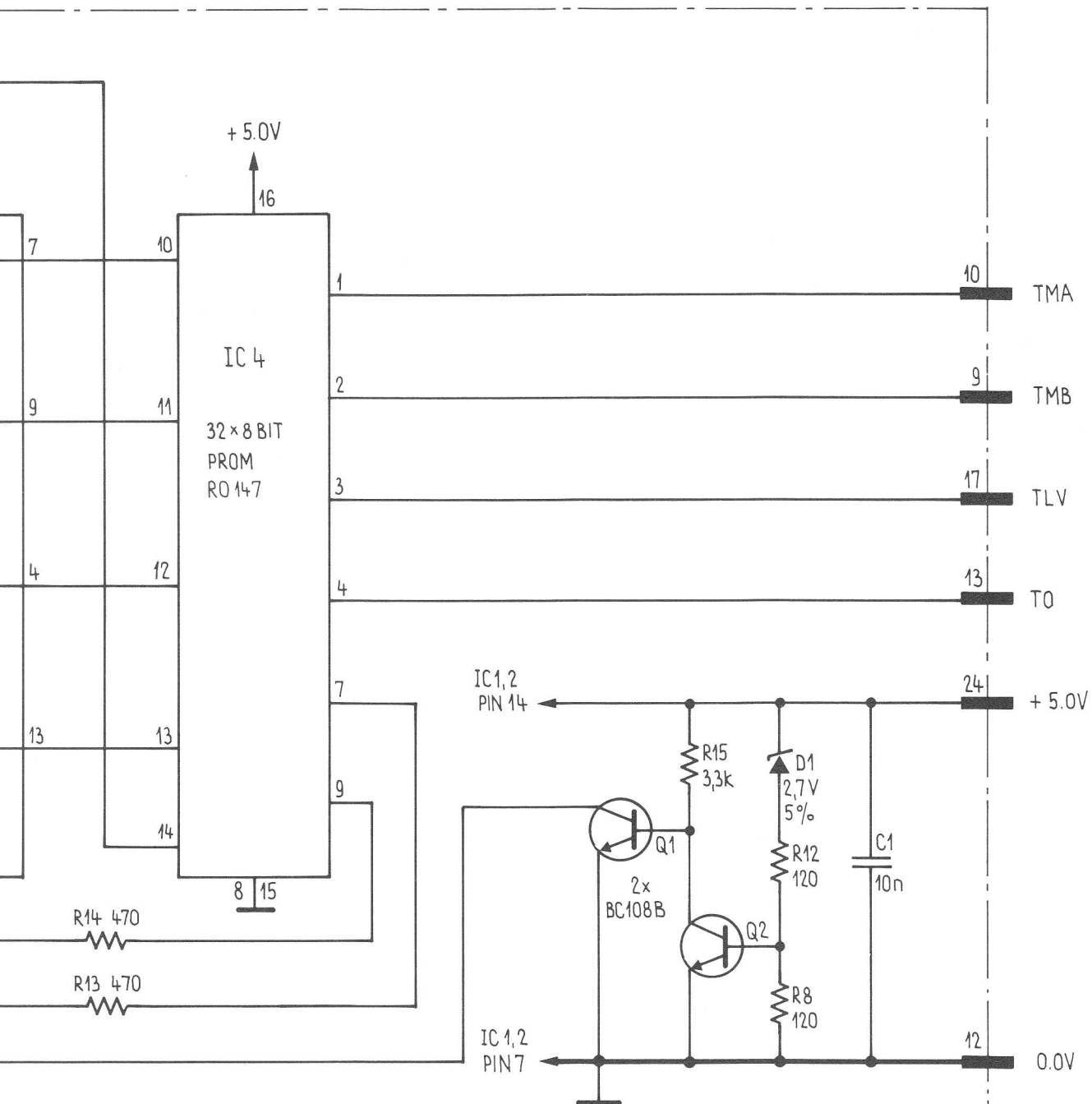


POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
C 1-6	59.32.3103	10 nF	20% CER		
D 01	50.04.1106	Z 2.7 V	5% SI		any
IC 01	50.06.0000	74LS00	LS-TTL		any
IC 02	50.06.0002	74LS02	LS-TTL		any
IC 03	50.06.0279	74LS279	LS-TTL		any
IC 4	1.177.315-51	R 0147	FROM 32x8 Tri-State		Sig.
P1-24	54.01.0020		Pin .63 x .63		
Q1,Q2	50.03.0438	BC 108 B	NPN		any
R 01	57.41.4122	1,2 k	5% .25W CF		
R 02	57.41.4681	680			
R 03	57.41.4681	680			
R 04	57.41.4471	470			
R 05	57.41.4681	680			
R 06	57.41.4681	680			
R 07	57.41.4681	680			
R 08	57.41.4121	120			
R 09	57.41.4681	680			
R 10	57.41.4332	3,3 k			
R 11	57.41.4332	3,3 k			
R 12	57.41.4121	120			
R 13	57.41.4471	470			
R 14	57.41.4471	470			
R 15	57.41.4332	3,3 k			
Sig = Signetix			④		
			③		
			②		
			①		
			0	4.11.77	Waser/gv.
			IND	DATE	NAME
STUDER			Substitution Logic Board		PAGE
			1.177.316		1 of 1

SUBSTITUTION LOGIC PCB 1.177.316

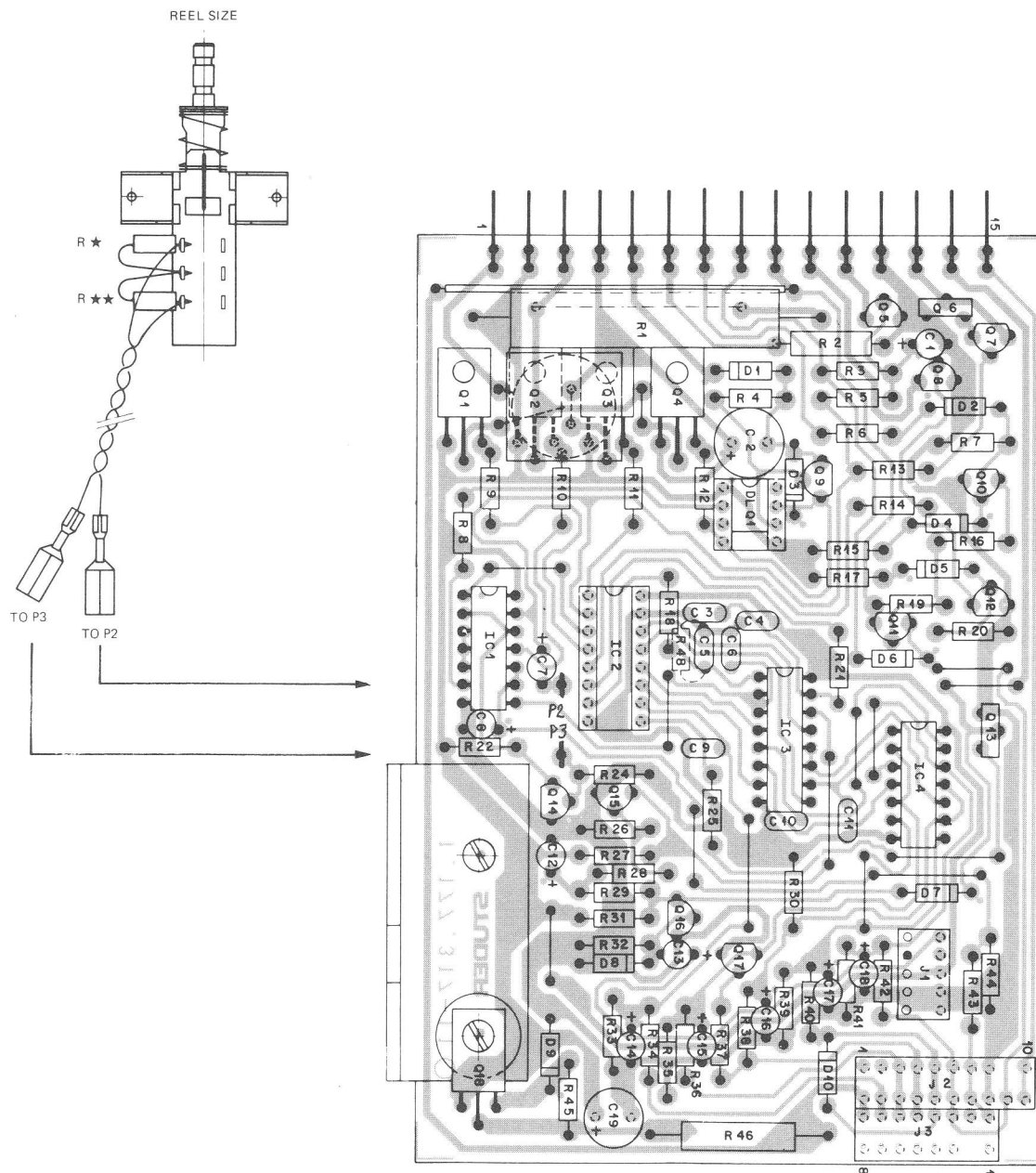


IC4 (TAPE DRIVE CONTROL PCB 1.177.315) MAY BE REPLACED BY THE SUBSTITUTION LOGIC PC-BOARD 1.177.316



1,477,316

TAPE DRIVE CONTROL PCB 1.177.317 (B77 MKI)



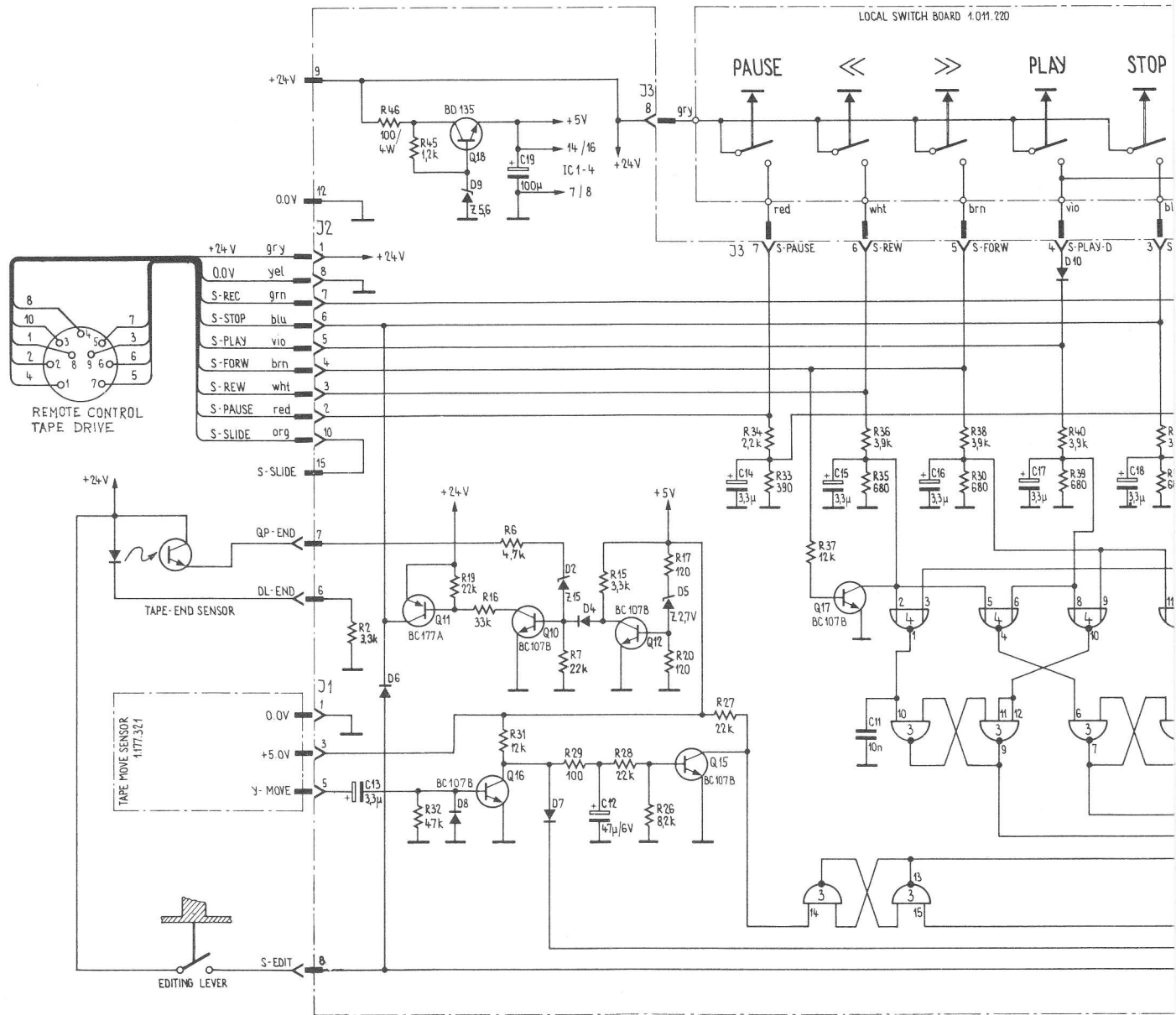
1.177.317

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
(1) 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		
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
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	50.06.0279	SN74LS279	LS-TTL		any
IC 04	50.06.0002	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		
O = Optron I = Intersil			④		
TI = Texas Instr.			③	23.1.81	Fol/gv
S = Signetics			②	12.9.79	Fol/gv
M = MMI			①	12.7.78	Fol/gv
			IND	DATE	NAME
STUDER	Tape Drive Control MK II		1.177.317	PAGE 1 of 3	

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
(2) 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			
CF = Carbon Film			④		
WW = Wire Wound			③	23.1.81	Fol/gv
			②	13.9.79	Fol/gv
			①	12.7.78	Fol/gv
			IND	DATE	NAME
STUDER	Tape Drive Control MK II		1.177.317	PAGE 3 of 3	

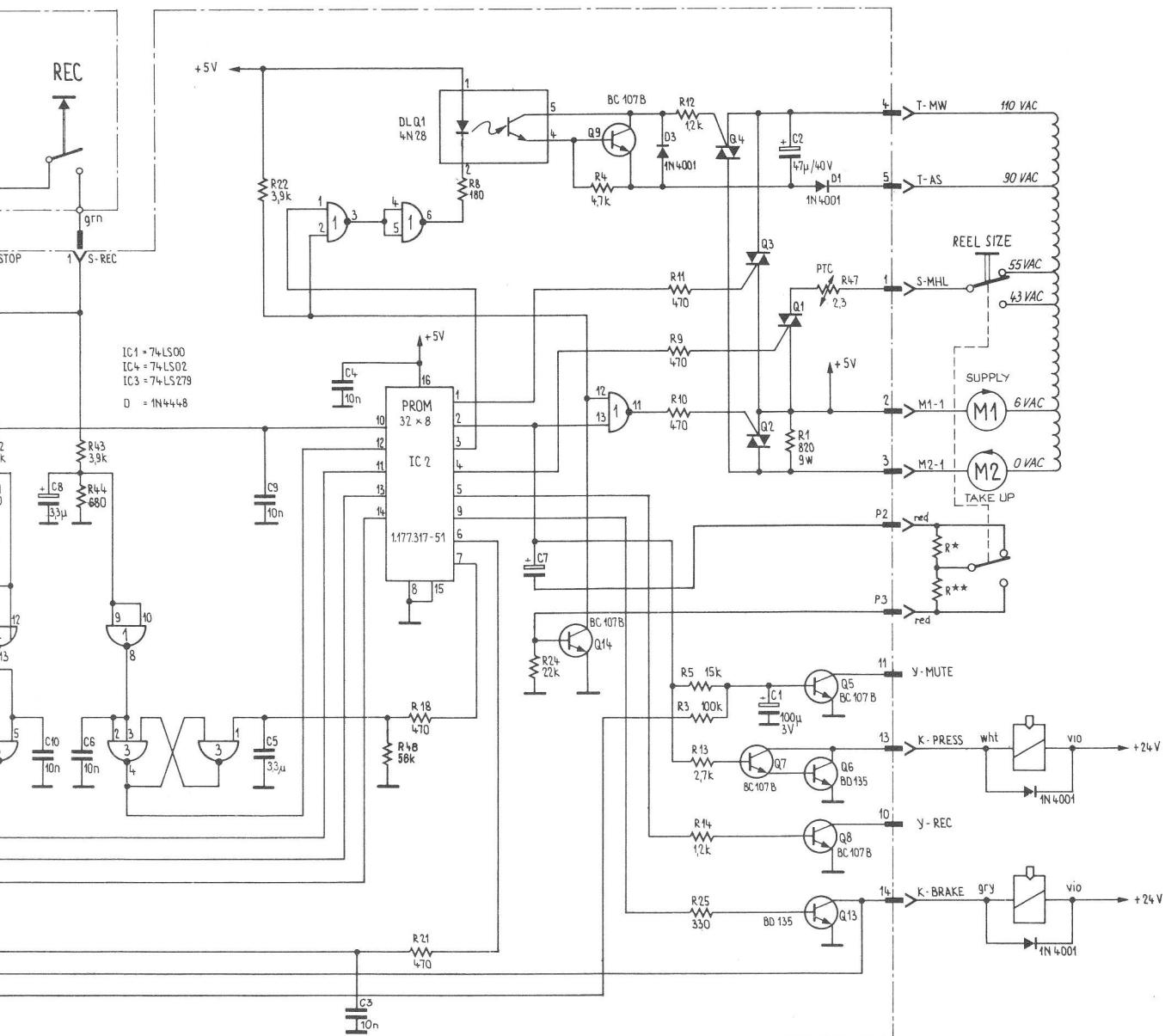
POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
Q 01	50.99.0119	2N6073B	TRIAC 400V/3A		Mo
Q 02	50.99.0119	2N6073B	Igt 3mA		
Q 03	50.99.0119	2N6073B			
Q 04	50.99.0119	2N6073B			
Q 05	50.03.0436	BC107B	medium power NPN	2SC 496-0	any
Q 06	50.03.0478	BD 135			
Q 07	50.03.0436	BC107B	NPN		any
Q 08	50.03.0436	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 496-0	any
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 496-0	
(1) 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			
(1) R 06	57.11.4472	4.7 k			
(1) 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	57.11.4122	1.2 k			
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	57.11.4822	8.2 k			
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			④		
CF = Carbon Film			③	23.1.81	Fol/gv
WW = Wire Wound			②	13.9.79	Fol/gv
			①	12.7.78	Fol/gv
			IND	DATE	NAME
STUDER	Tape Drive Control MK II		1.177.317	PAGE 2 of 3	

TAPE DRIVE CONTROL PCB 1.177.317 (B77 MKI)

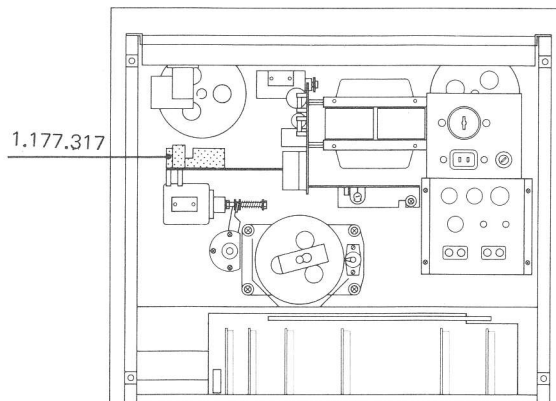
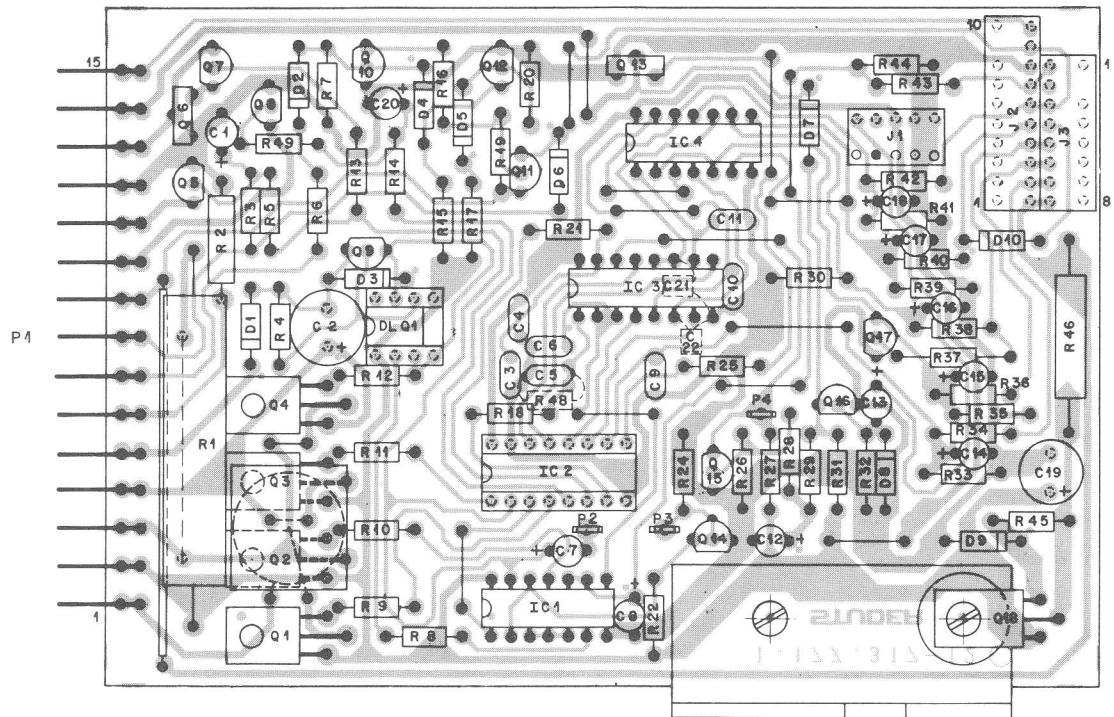


VERSION	REEL SIZE SWITCH	R*	R**
B77 LS/SL5	1.177.145	470 Ω	470 Ω
B77 STD	1.177.146	470 Ω	8.2 k
B77 HS	1.177.147	3.9 k	8.2 k

VALID FROM SERIAL NUMBER 53522 TO 52699



TAPE DRIVE CONTROL PCB 1.177.317 (B77 MKII)



INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.22.3101	100 uF	10%, 10V, EI		
C.....2	59.22.6470	47 uF	-10%, 40V, EI		
C.....3	59.32.3103	10 nF	-20%, 40V, Cer		
C.....4	59.32.3103	10 nF	-20%, 40V, Cer		
C.....5	59.22.8479	4.7 uF	10%, 50V, EI		
C.....6	59.32.3103	10 nF	-20%, 40V, Cer		
C.....7	59.22.6100	10 uF	10%, 35V, EI		
C.....8	59.22.8479	4.7 uF	10%, 50V, EI		
C.....9	59.32.3103	10 nF	-20%, 40V, Cer		
C.....10	59.32.3103	10 nF	-20%, 40V, Cer		
C.....11	59.32.3103	10 nF	-20%, 40V, Cer		
C.....12	59.22.3470	47 uF	10%, 10V, EI		
C.....13	59.22.8479	4.7 uF	10%, 50V, EI		
C.....14	59.22.8479	4.7 uF	10%, 50V, EI		
C.....15	59.22.8479	4.7 uF	10%, 50V, EI		
C.....16	59.22.8479	4.7 uF	10%, 50V, EI		
C.....17	59.22.8479	4.7 uF	10%, 50V, EI		
C.....18	59.22.8479	4.7 uF	10%, 50V, EI		
C.....19	59.22.3101	100 uF	-10%, 10V, EI		
C.....20	59.26.0680	68 uF	20%, 6.3V, SAL		
C.....21	59.32.3472	4700 pF	20%, 40V, Cer		
C.....22	59.32.3472	4700 pF	20%, 40V, Cer		
D.....1	50.04.0122	1 N 4001	any		
D.....2	50.04.1119	2 15	5%, 15V, 400mW		
D.....3	50.04.0122	1 N 4001	any		
D.....4	50.04.0125	1 N 4448	any		
D.....5	50.04.1106	2 2.7	5%, 2.7V, 400mW		
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	50.04.1108	2 5.6	5%, 5.6V, 400mW		
D.....10	50.04.0125	1 N 4448	any		
DLG...1	50.99.0126	4 N 28	IC/lif = min.10%	0+TI	
IC.....1	50.06.0000	SN74LS00	LS-TTL	any	

S T U D E R 82/11/30 RW TAPE DRIVE CONTROL MK 2 1.177.317.00 PAGE 1

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....6	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
R.....7	57.11.4223	22 kOhm	5%, 0.25W, CF		
R.....8	57.11.4181	180 Ohm	5%, 0.25W, CF		
R.....9	57.13.4471	470 Ohm	5%, 0.5 W, CF		
R.....10	57.11.4471	470 Ohm	5%, 0.25W, CF		
R.....11	57.11.4471	470 Ohm	5%, 0.25W, CF		
R.....12	57.11.4122	1.2 kOhm	5%, 0.25W, CF		
R.....13	57.11.4272	2.7 kOhm	5%, 0.25W, CF		
R.....14	57.11.4681	680 Ohm	5%, 0.25W, CF		
R.....15	57.11.4332	3.3 kOhm	5%, 0.25W, CF		
R.....16	57.11.4333	33 kOhm	5%, 0.25W, CF		
R.....17	57.11.4121	120 Ohm	5%, 0.25W, CF		
R.....18	57.11.4471	470 Ohm	5%, 0.25W, CF		
R.....19	57.11.4223	22 kOhm	5%, 0.25W, CF		
R.....20	57.11.4121	120 Ohm	5%, 0.25W, CF		
R.....21	57.11.4471	470 Ohm	5%, 0.25W, CF		
R.....22	57.11.4392	3.9 kOhm	5%, 0.25W, CF		
R.....23					
R.....24	57.11.4223	22 kOhm	5%, 0.25W, CF		
R.....25	57.11.4331	330 Ohm	5%, 0.25W, CF		
R.....26	57.11.4682	6.2 kOhm	5%, 0.25W, CF		
R.....27	57.11.4223	22 kOhm	5%, 0.25W, CF		
R.....28	57.11.4223	22 kOhm	5%, 0.25W, CF		
R.....29	57.11.4101	100 Ohm	5%, 0.25W, CF		
R.....30	57.11.4681	680 Ohm	5%, 0.25W, CF		
R.....31	57.11.4153	15 kOhm	5%, 0.25W, CF		
R.....32	57.11.4473	47 kOhm	5%, 0.25W, CF		
R.....33	57.11.4391	390 Ohm	5%, 0.25W, CF		
R.....34	57.11.4222	2.2 kOhm	5%, 0.25W, CF		
R.....35	57.11.4681	680 Ohm	5%, 0.25W, CF		
R.....36	57.11.4392	3.9 kOhm	5%, 0.25W, CF		
R.....37	57.11.4123	12 kOhm	5%, 0.25W, CF		
R.....38	57.11.4392	3.9 kOhm	5%, 0.25W, CF		
R.....39	57.11.4681	680 Ohm	5%, 0.25W, CF		
R.....40	57.11.4392	3.9 kOhm	5%, 0.25W, CF		
R.....41	57.11.4681	680 Ohm	5%, 0.25W, CF		
R.....42	57.11.4392	3.9 kOhm	5%, 0.25W, CF		

S T U D E R 82/11/30 RW TAPE DRIVE CONTROL MK 2 1.177.317.00 PAGE 3

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
IC.....2	1.177.317.51	32 x 8	Prom, Tri-State	S,M,I	
IC.....3	50.05.0279	SN74LS279	LS-TTL	any	
IC.....4	50.05.0002	SN74LS02	LS-TTL	any	
J.....1	54.01.0288	5-Pole	Socket-Strip	AMP	
J.....2	54.01.0242	10-Pole	Socket-Strip	AMP	
J.....3	54.01.0262	8-Pole	Socket-Strip	AMP	
P.....1	54.01.0481	15-Pole	Pin-Strip	AMP	
P.....2	54.01.0320		Flat-Pin	AMP	
P.....3	54.01.0320		Flat-Pin	AMP	
P.....4	54.01.0320		Flat-Pin	AMP	
Q.....1	50.99.0119	2N6073B	Triac 400V/4A	Mo	
Q.....2	50.99.0119	2N6073B	Triac 400V/4A	Mo	
Q.....3	50.99.0119	2N6073B	Triac 400V/4A	Mo	
Q.....4	50.99.0119	2N6073B	Triac 400V/4A	Mo	
Q.....5	50.03.0436	RC 107 B	NPN	any	
Q.....6	50.03.0478	BD 135	Medium power NPN	2 SC 496-0	
Q.....7	50.03.0436	RC 107 B	NPN	any	
Q.....8	50.03.0436	BC 107 B	NPN	any	
Q.....9	50.03.0436	BC 107 B	NPN	any	
Q.....10	50.03.0436	BC 107 B	NPN	any	
Q.....11	50.03.0317	BC 177 A	PNP	any	
Q.....12	50.03.0436	BC 107 B	NPN	any	
Q.....13	50.03.0478	BD 135	Medium power NPN	2 SC 496-0	
Q.....14	50.03.0436	BC 107 B	NPN	any	
Q.....15	50.03.0436	RC 107 B	NPN	any	
Q.....16	50.03.0436	BC 107 B	NPN	any	
Q.....17	50.03.0436	BC 107 B	NPN	any	
Q.....18	50.03.0478	BD 135	Medium Power NPN	2 SC 496-0	
R.....1	57.57.46821	820 Ohm	5%, 9 W, WW		
R.....2	57.42.4332	3.3 kOhm	5%, 0.33W, CF		
R.....3	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....4	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
R.....5	57.11.4153	15 kOhm	5%, 0.25W, CF		

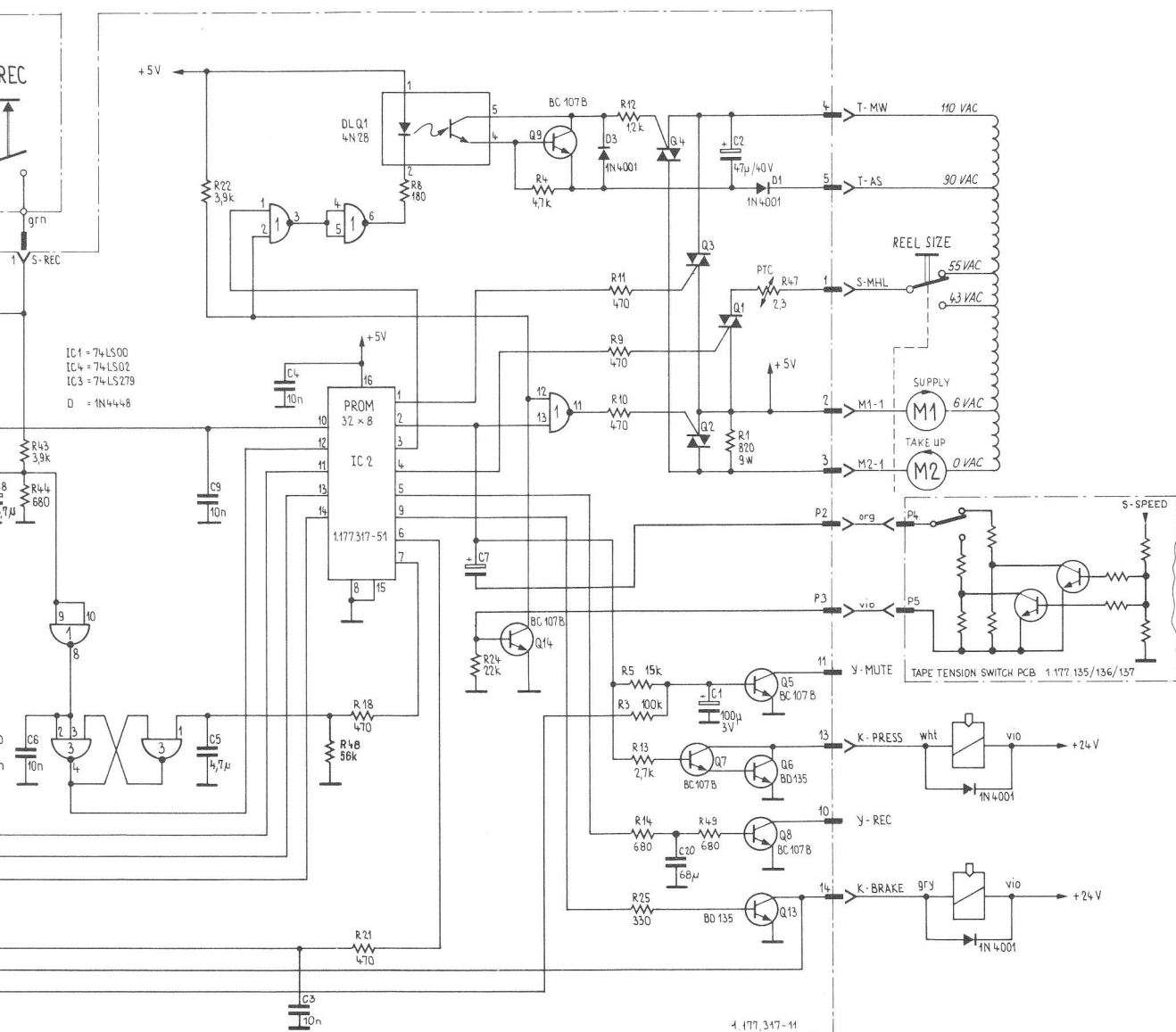
S T U D E R 82/11/30 RW TAPE DRIVE CONTROL MK 2 1.177.317.00 PAGE 2

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....43	57.11.4392	3.9 kOhm	5%, 0.25W, CF		
R.....44	57.41.4681	680 Ohm	5%, 0.25W, CF		
R.....45	57.11.4122	1.2 kOhm	5%, 0.25W, CF		
R.....46	57.56.4101	100 Ohm	10%, 5 W, WW		
R.....47	57.99.0210	2.3 Ohm	5%, 0.25W, PTC		
R.....48	57.11.4563	56 kOhm	5%, 0.25W, CF		
R.....49	57.11.4681	680 Ohm	5%, 0.25W, CF		

S T U D E R 82/11/30 RW TAPE DRIVE CONTROL MK 2 1.177.317.00 PAGE 4

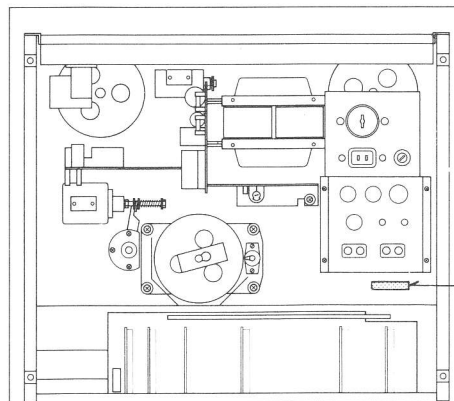
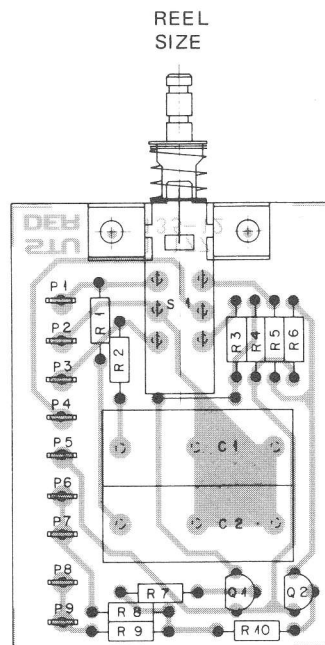
EI=Electrolytic, Cer=Ceramic, O=Optron, M=MMI, S=Signetics,
 TI=Texas Instruments, I=Intersil,
 Manufacturer: Sig=Signetics, TI=Texas Instruments
 CRIG 82/02/08 (05) A1/12/04

VALID FROM SERIAL NUMBER 100001



SEE SERVICE INFORMATION
 67.9/67.10/69.7 : TAPE END SWITCH
 57.9 : C5 (TIMER MODE)
 63.5 : RECORD CLICK
 68.5 : C21, C22

TAPE TENSION SWITCH PCB 1.177.135/136/137



1.177.135/136/137

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
(01)	C.....1	59.99.0450	0.47uF		
(01)	C.....2	59.99.0450	0.47uF		
	P.....1	54.02.0320		AMP-Flat pin	
	P.....2	54.02.0320		AMP-Flat pin	
	P.....3	54.02.0320		AMP-Flat pin	
	P.....4	54.02.0320		AMP-Flat pin	
	P.....5	54.02.0320		AMP-Flat pin	
	P.....6	54.02.0320		AMP-Flat pin	
	P.....7	54.02.0320		AMP-Flat pin	
	P.....8	54.02.0320		AMP-Flat pin	
	P.....9	54.02.0320		AMP-Flat pin	
	Q.....1	50.03.0497	PC 550C		
	Q.....2	50.03.0497	PC 550C		
(01)	R.....1	57.11.4479	4.7 Ohm	5%, 0.25W, CF	
(01)	R.....2	57.11.4479	4.7 Ohm	5%, 0.25W, CF	
(01)	R.....3	57.11.4221	220 Ohm	5%, 0.25W, CF	
(01)	R.....4	57.11.4181	180 Ohm	5%, 0.25W, CF	
(01)	R.....5	57.11.4221	220 Ohm	5%, 0.25W, CF	
(01)	R.....6	57.11.4180	180 Ohm	5%, 0.25W, CF	
(01)	R.....7	57.11.4634	680 kOhm	5%, 0.25W, CF	
(01)	R.....8	57.11.4274	270 kOhm	5%, 0.25W, CF	
(01)	R.....9	57.11.4104	100 kOhm	5%, 0.25W, CF	
(01)	R.....10	57.11.4684	680 kOhm	5%, 0.25W, CF	
	S.....1	1.177.100.07		Push-button switch	

E1=Electrolytic, Ce=Ceramic

Manufacturer: Sig=Signetics, TI=Texas Instruments

CRIG BC/CB/27

S T U C E R R1/01/07 RW TAPE TENSION SWITCH PL 1.177.135.00 PAGE 1

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
(01)	C.....1	59.99.0450	0.47uF		
(01)	C.....2	59.99.0450	0.47uF		
	P.....1	54.02.0320		AMP-Flat pin	
	P.....2	54.02.0320		AMP-Flat pin	
	P.....3	54.02.0320		AMP-Flat pin	
	P.....4	54.02.0320		AMP-Flat pin	
	P.....5	54.02.0320		AMP-Flat pin	
	P.....6	54.02.0320		AMP-Flat pin	
	P.....7	54.02.0320		AMP-Flat pin	
	P.....8	54.02.0320		AMP-Flat pin	
	P.....9	54.02.0320		AMP-Flat pin	
	Q.....1	50.03.0497	PC 550C		
	Q.....2	50.03.0497	PC 550C		
(01)	R.....1	57.11.4479	4.7 Ohm	5%, 0.25W, CF	
(01)	R.....2	57.11.4479	4.7 Ohm	5%, 0.25W, CF	
(01)	R.....3	57.11.4221	220 Ohm	5%, 0.25W, CF	
(01)	R.....4	57.11.4471	470 Ohm	5%, 0.25W, CF	
(01)	R.....5	57.11.4392	3.9 kOhm	5%, 0.25W, CF	
(01)	R.....6	57.11.4392	3.9 kOhm	5%, 0.25W, CF	
(01)	R.....7	57.11.4684	680 kOhm	5%, 0.25W, CF	
(01)	R.....8	57.11.4274	270 kOhm	5%, 0.25W, CF	
(01)	R.....9	57.11.4104	100 kOhm	5%, 0.25W, CF	
(01)	R.....10	57.11.4684	680 kOhm	5%, 0.25W, CF	
	S.....1	1.177.100.07		Push-button switch	

E1=Electrolytic, Ce=Ceramic

Manufacturer: Sig=Signetics, TI=Texas Instruments

CRIG BC/CB/29

S T U C E R R1/01/07 RW TAPE TENSION SWITCH PL 1.177.136.00 PAGE 1

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
(01)	C.....1	59.99.0450	0.47uF		
(01)	C.....2	59.99.0450	0.47uF		
	P.....1	54.02.0320		AMP-Flat pin	
	P.....2	54.02.0320		AMP-Flat pin	
	P.....3	54.02.0320		AMP-Flat pin	
	P.....4	54.02.0320		AMP-Flat pin	
	P.....5	54.02.0320		AMP-Flat pin	
	P.....6	54.02.0320		AMP-Flat pin	
	P.....7	54.02.0320		AMP-Flat pin	
	P.....8	54.02.0320		AMP-Flat pin	
	P.....9	54.02.0320		AMP-Flat pin	
	Q.....1	50.03.0497	BC 550C		
	Q.....2	50.03.0497	BC 550C		
(01)	R.....1	57.11.4479	4.7 Ohm	5%, 0.25W, CF	
(01)	R.....2	57.11.4479	4.7 Ohm	5%, 0.25W, CF	
(01)	R.....3	57.11.4122	1.2 kOhm	5%, 0.25W, CF	
(01)	R.....4	57.11.4272	2.7 kOhm	5%, 0.25W, CF	
(01)	R.....5	57.11.4392	3.9 kOhm	5%, 0.25W, CF	
(01)	R.....6	57.11.4392	3.9 kOhm	5%, 0.25W, CF	
(01)	R.....7	57.11.4684	680 kOhm	5%, 0.25W, CF	
(01)	R.....8	57.11.4274	270 kOhm	5%, 0.25W, CF	
(01)	R.....9	57.11.4104	100 kOhm	5%, 0.25W, CF	
(01)	R.....10	57.11.4684	680 kOhm	5%, 0.25W, CF	
	S.....1	1.177.100.07		Push-button switch	

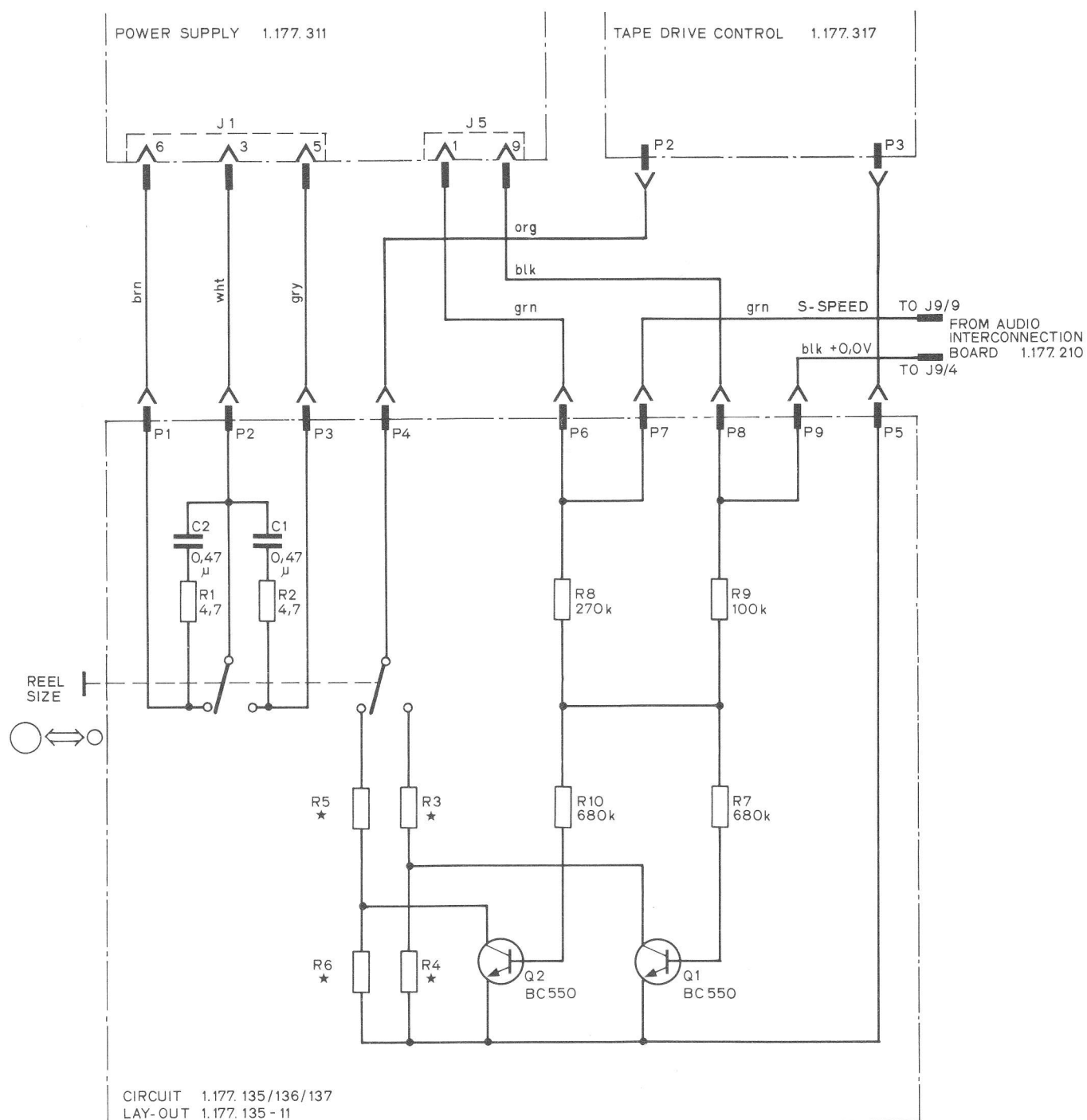
E1=Electrolytic, Ce=Ceramic

Manufacturer: Sig=Signetics, TI=Texas Instruments

CRIG BC/CB/27

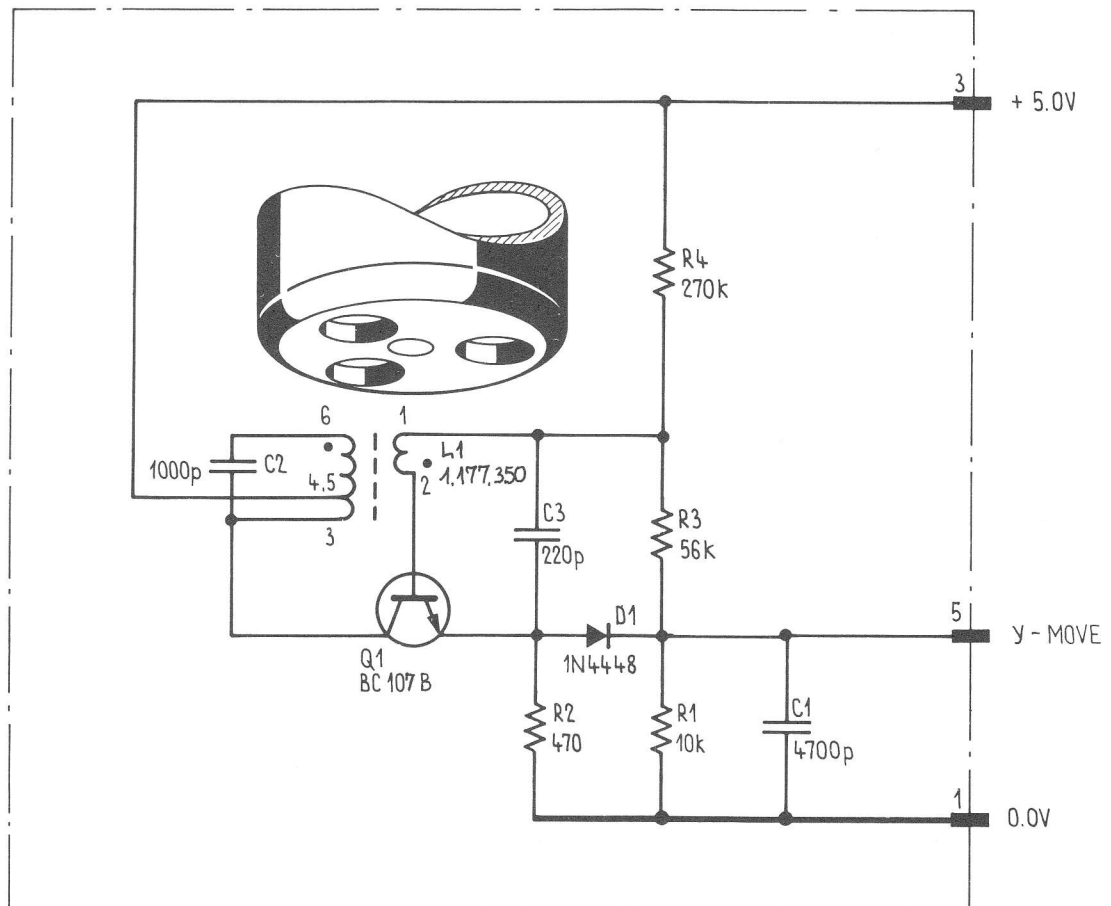
S T U C E R R1/01/07 RW TAPE TENSION SWITCH PL 1.177.137.00 PAGE 1

TAPE TENSION SWITCH PCB 1.177.135/136/137

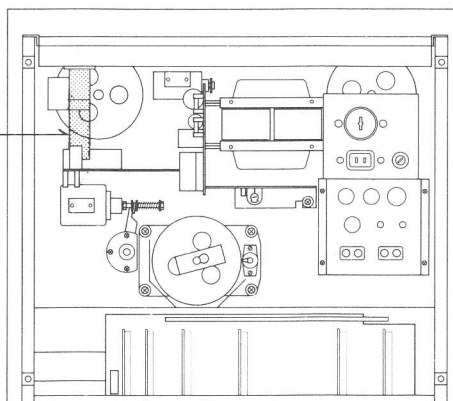


SPEED RANGE	★R3	★R4	★R5	★R6
1.177.135.00 1 ⁷ / ₈ - 3 ³ / ₄ "	220R	180R	220R	180R
1.177.136.00 3 ³ / ₄ - 7 ¹ / ₂ "	220R	470R	3,9k	3,9k
1.177.137.00 7 ¹ / ₂ - 15"	1,2k	2,7k	3,9k	3,9k

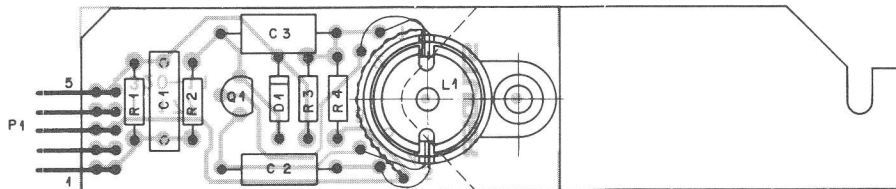
TAPE MOVE SENSOR PCB 1.177.320



1.177.320

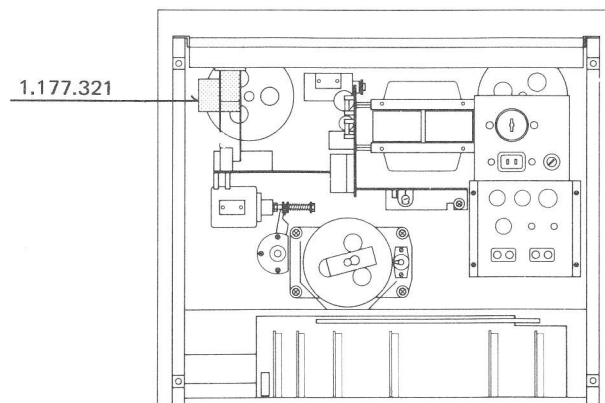
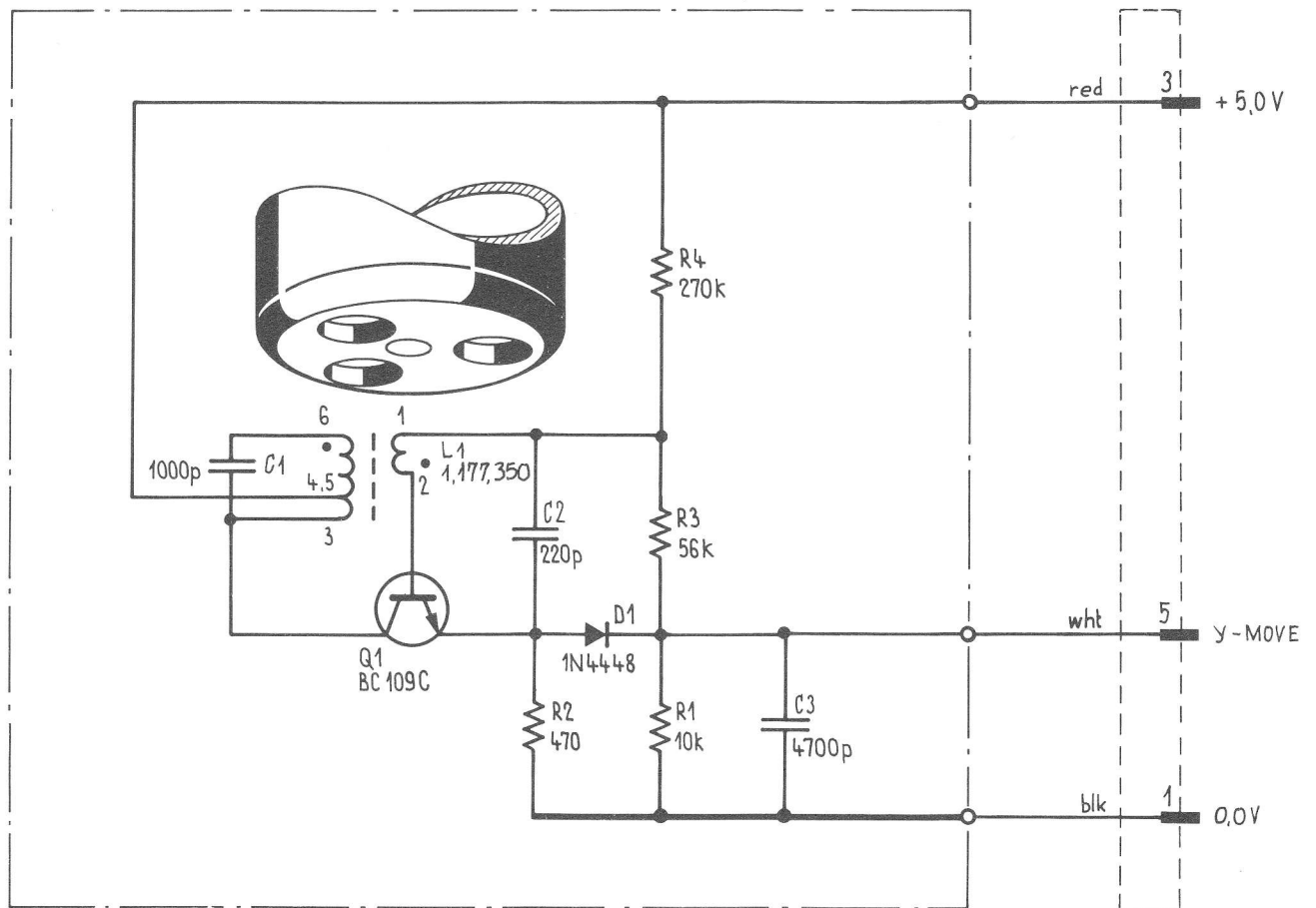


VALID ONLY UP TO SERIAL NUMBER 24029

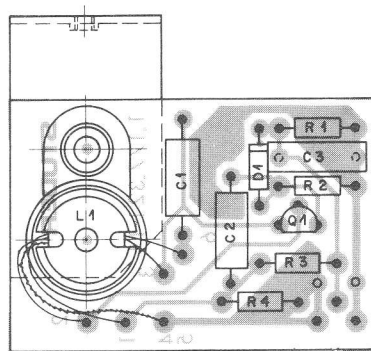


POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
C 01	59.31.4472	4700 P	20% 160V	PETP
C 02	59.04.7102	1000 P	5% 63V	PS
C 03	59.04.8221	220 P	5% 160V	PS
D 01	50.04.0125	1 N 4448		any
L 01	1.177.350			S
P 01	54.01.0269	5 - Pole	Pin Strip	AMP
Q 01	50.03.0436	BC 107 B		any
R 01	57.41.4103	10 K	5% .25W	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 31.3.77 Wartburg IND DATE NAME				
STUDER			Tape Move Sensor	1.177.320 PAGE 1 of 1

TAPE MOVE SENSOR PCB 1.177.321

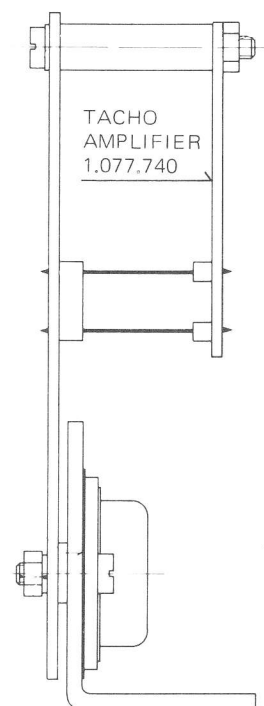
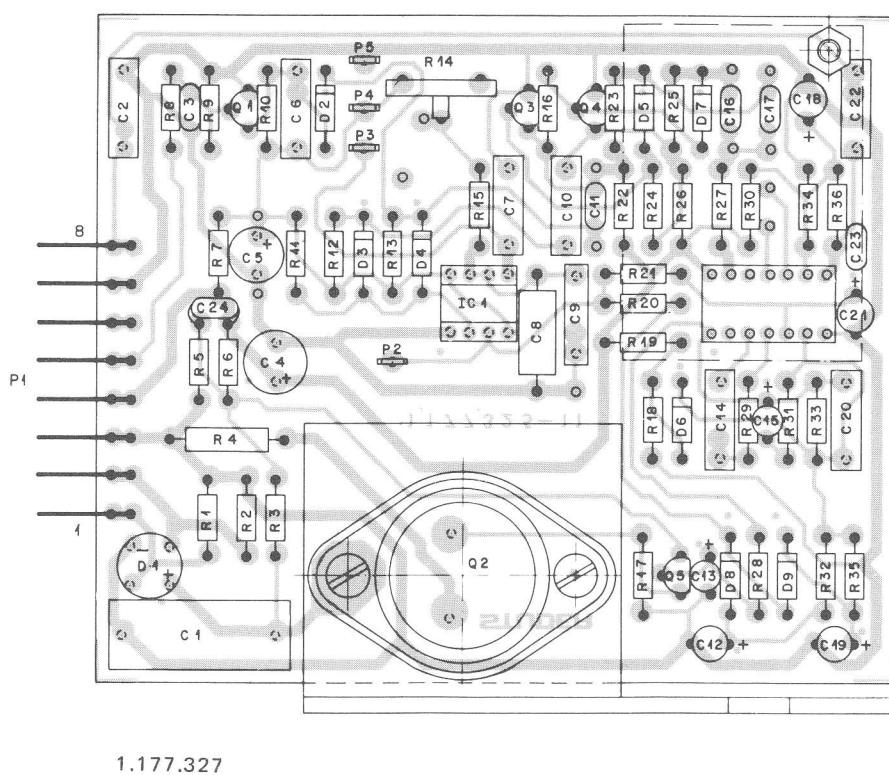
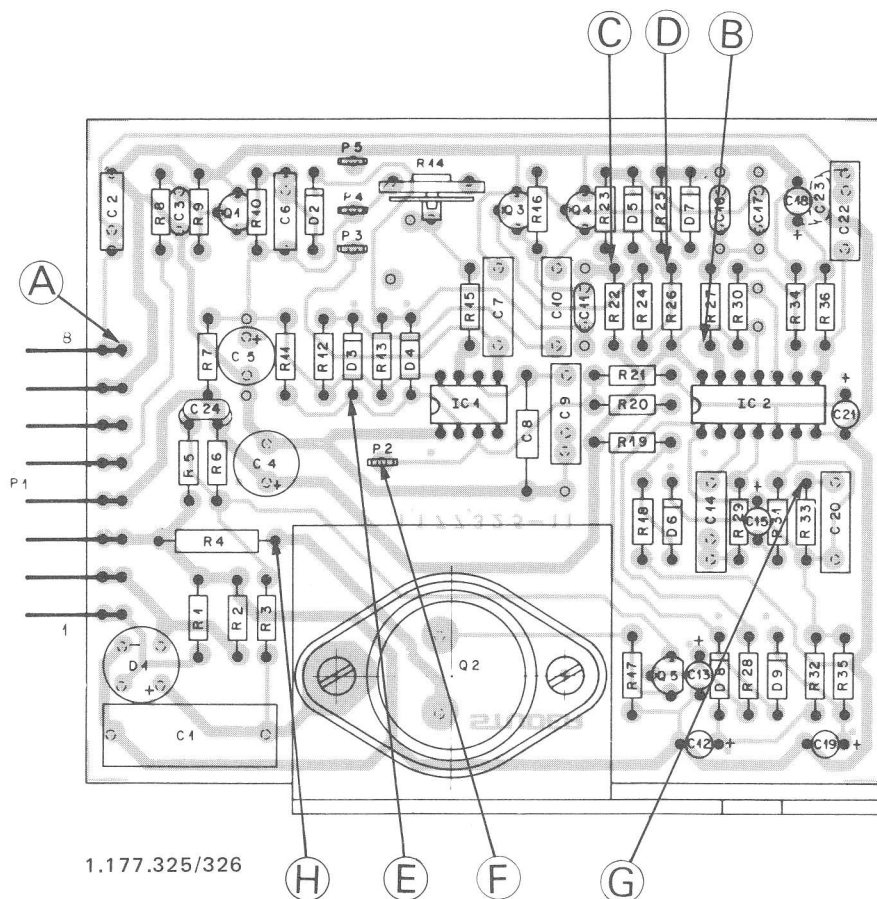


VALID FROM SERIAL NUMBER 24030



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 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ 10-4.78 10-4.78 10-4.78 10-4.78 10-4.78 10-4.78 10-4.78 10-4.78 10-4.78 10-4.78 IND DATE NAME					
STUDER			Tape Move Sensor		1.177.321 PAGE 1 of 1

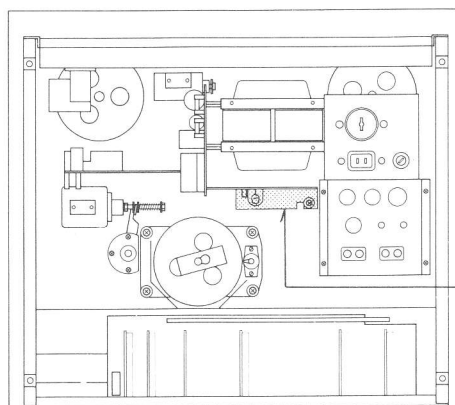
CAPSTAN SPEED CONTROL PCB 1.177.325/326/327 (B77 MKII)



(1)

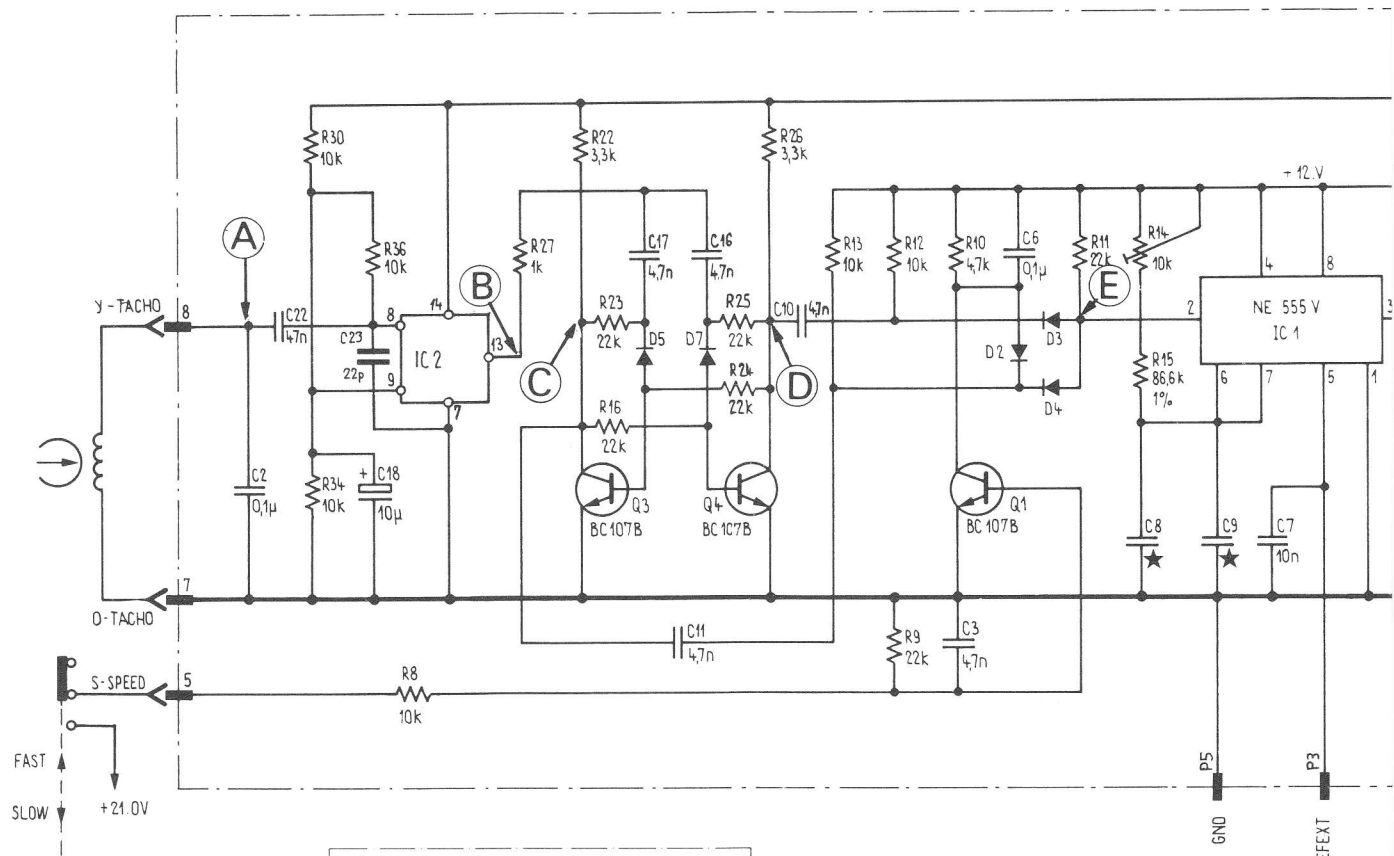
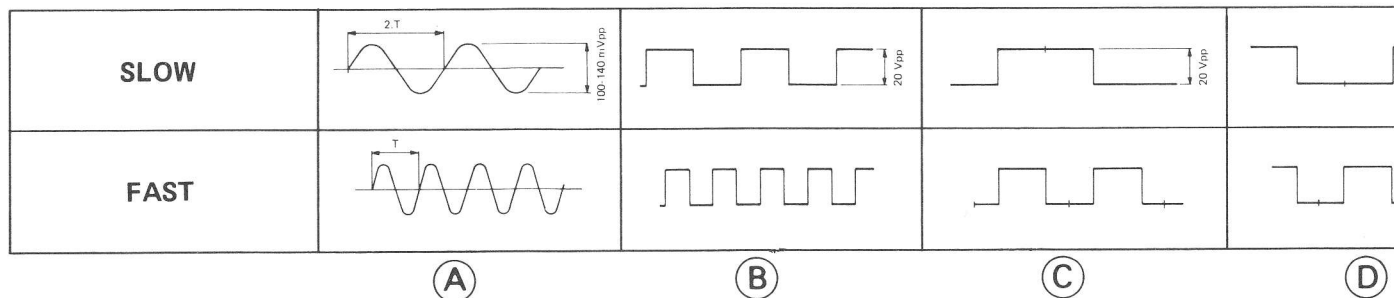
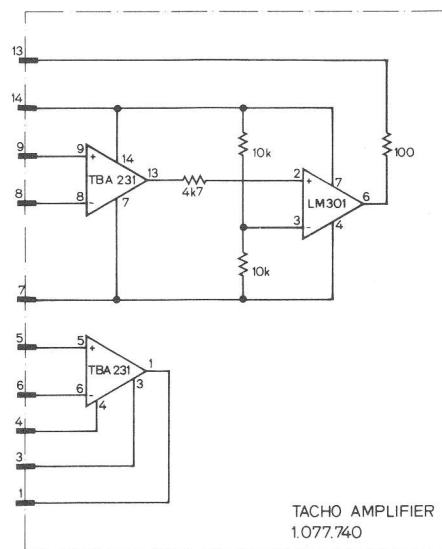
POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
C 01	59.99.0450	0.47 U	±10% 150V	MP
C 02	59.31.4104	0.1 U	5% 250V	MPETP
C 03	59.32.3472	4700 P	-20% 40V	CER
C 04	59.22.5470	47 U	10% 25V	EL
C 05	59.22.5470	47 U	10% 25V	EL
C 06	59.31.4104	0.1 U	5% 250V	MPETP
C 07	59.31.4103	0.01 U	20% 160V	PETP
C 08	59.12.8162	1600 P	1% 125V	PS
C 09	59.11.4472	4700 P	2.5% 160V	PC
C 10	59.31.4472	4700 P	20% 160V	PETP
C 11	59.32.3472	4700 P	-20% 40V	CER
C 12	59.30.4100	10 U	-20% 16V	TA
C 13	59.30.6109	1 U	-20% 35V	TA
C 14	59.31.4103	0.01 U	20% 160V	PETP
C 15	59.30.4100	10 U	20% 16V	TA
C 16	59.32.3472	4700 P	-20% 40V	CER
C 17	59.32.3472	4700 P	-20% 40V	CER
C 18	59.30.4100	10 U	20% 16V	TA
C 19	59.30.4100	10 U	20% 16V	TA
C 20	59.31.1224	0.22 U	20% 100V	MPETP
C 21	59.30.6109	1 U	20% 35V	TA
C 22	59.31.4473	0.047U	20% 250V	MPETP
C 23	59.32.0220	22 P	20% 500V	KER
C 24	59.32.0220	22 P	20% 500V	KER
D 01	70.01.0223	B 250 C800		
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
D 05	50.04.0125	1 N 4448		any
D 06	50.04.0125	1 N 4448		any
D 07	50.04.0125	1 N 4448		any
D 08	50.04.0125	1 N 4448		any
D 09	50.04.0125	1 N 4448		any
IC 01	50.05.0158	NE 555	Timer	MC1455P S,M
IC 02	50.05.0237	TBA 231	µA 739 equiv.	SN76131N F,A,T
P 01	54.01.0582	B - Pole	Pin Strip	AMP
P 2-5	54.02.0320		FLAT-PIN 0,8	AMP
Q 01	50.03.0436	BC 107 B		NPN
Q 02	50.03.0477	MJ 411		NPN Power
Q 03	50.03.0436	BC 107 B		NPN
Q 04	50.03.0436	BC 107 B		NPN
Q 05	50.03.0318	BC 178 B		NPN
M = Motorola MP = metallized paper S = Signetics PS = polystyrene A = Ates CER = ceramic T = Texas Instr. PETP = Polyester F = Fairchild MPETP = metallized polyester				
STUDER			Capstan Speed Control	1.177.325
				PAGE 1 of 2

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT MFR
R 01	57.41.4473	47 K	5% .25W	CF
R 02	57.41.4473	47 K	5% .25W	CF
R 03	57.41.4683	68 K	5% .25W	CF
R 04	57.42.4100	10	5% .33W	CF
R 05	57.41.4222	2,2 K	5% .25W	CF
R 06	57.41.4102	1 K		
R 07	57.41.4821	820		
R 08	57.41.4103	10 K		
R 09	57.41.4223	22 K		
R 10	57.41.4472	4,7 K		
R 11	57.41.4223	22 K		
R 12	57.41.4103	10 K		
R 13	57.41.4103	10 K		
R 14	58.99.0126	10 K	10% 500ppm/°C	PCF
R 15	57.99.0179	86,6K	1% 50ppm	MF
R 16	57.41.4223	22 K	5% .25W	CF
R 17	57.41.4152	1,5 K		
R 18	57.41.4152	1,5 K		
R 19	57.41.4103	10 K		
R 20	57.41.4221	220		
R 21	57.41.4472	4,7 K		
R 22	57.41.4332	3,3 K		
R 23	57.41.4223	22 K		
R 24	57.41.4223	22 K		
R 25	57.41.4223	22 K		
R 26	57.41.4332	3,3 K		
R 27	57.41.4472	4,7 K		
R 28	57.41.4472	4,7 K		
R 29	57.41.4330	33		
R 30	57.41.4103	10 K		
R 31	57.41.4682	6,8 K		
R 32	57.41.4222	2,2 K		
R 33	57.41.4105	1 M		
R 34	57.41.4103	10 K		
R 35	57.41.4222	2,2 K		
R 36	57.41.4103	10 K		
CF = Carbon Film PCF = Pot.carbon Film MF = Metal Film				
STUDER			Capstan Speed Control	1.177.325
				PAGE 2 of 2



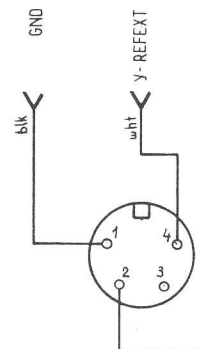
1.177.325/326/327

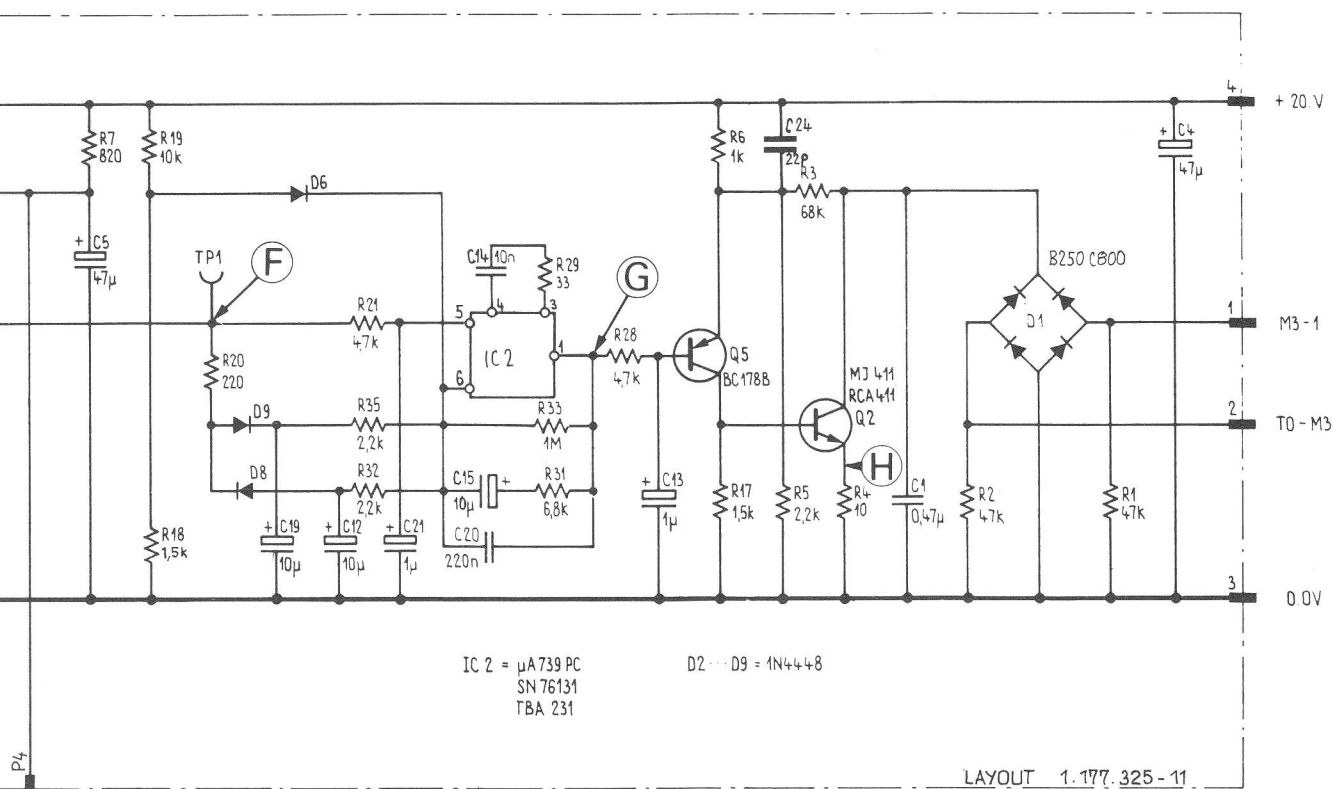
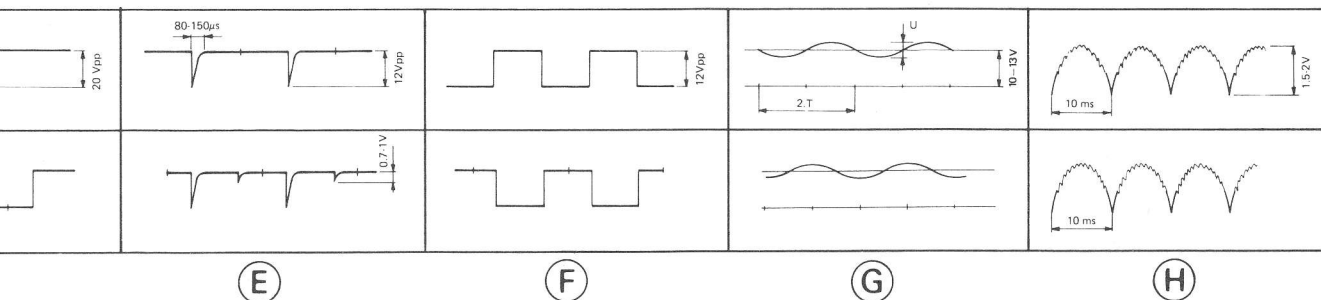
CAPSTAN SPEED CONTROL PCB 1.177.325/326/327 (B77 MKI)

PIN CONFIGURATION
14-PIN DUAL-IN-LINE

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

REMOTE CONTROL
CAPSTAN SPEED

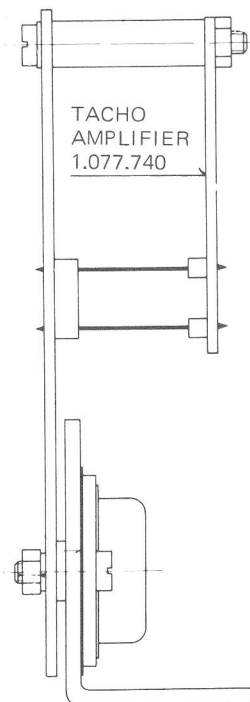
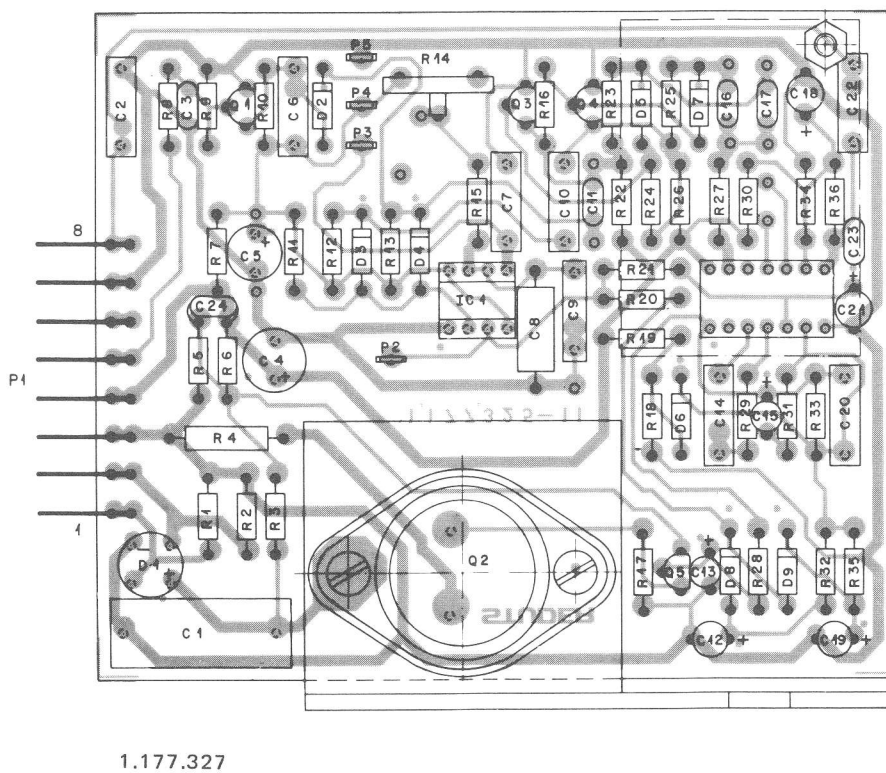
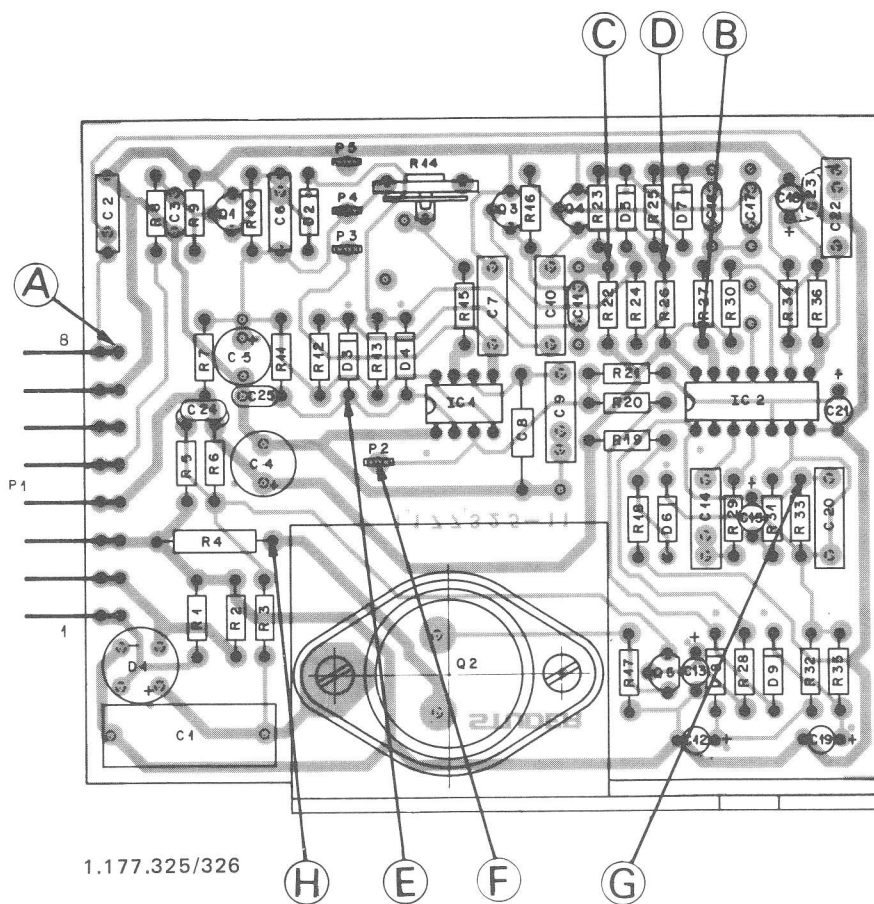




SPEED CONTROL	T	U
1.177.325	625 μ s	1 Vpp
1.177.326	833 μ s	2.5 Vpp
1.177.327	1666 μ s	3 Vpp

TYPE	SPEED	CAPSTAN SHAFT ϕ	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	6.8 nF
SLS	15/16"—1 7/8"	3.00 mm	1.021.304	1.177.327	5.6 nF	10 nF

CAPSTAN SPEED CONTROL PCB 1.177.325/326/327 (B77 MKII)



INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.39.0450	C.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	59.22.5470	47 uF	10%, 25V, EI		
C.....5	59.22.5470	47 uF	10%, 25V, EI		
C.....6	59.31.4104	0.1 uF	5%, 250V, MPETP		
C.....7	59.31.4103	0.01 uF	20%, 160V, PETP		
C.....8	59.12.8162	1600 pF	1%, 125V, PS		
C.....9	59.11.4472	4700 pF	2.5%, 160V, PE		
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, EI		
C.....13	59.22.6100	1 uF	10%, 50V, EI		
C.....14	59.31.4103	0.01 uF	20%, 160V, PETP		
C.....15	59.22.6100	10 uF	10%, 35V, EI		
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, EI		
C.....19	59.22.6100	10 uF	10%, 35V, EI		
C.....20	59.31.1224	0.22 uF	20%, 100V, MPETP		
C.....21	59.22.6100	1 uF	10%, 50V, EI		
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	70.01.0223	8250 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

S T U D E R 82/11/30 RW CAPSTAN SPEED CONTROL 1.177.325.00 PAGE 1

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
IC.....2	50.05.0237	TBA 231	uA 739 equiv.	SN76131N	F+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	57.11.4685	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		

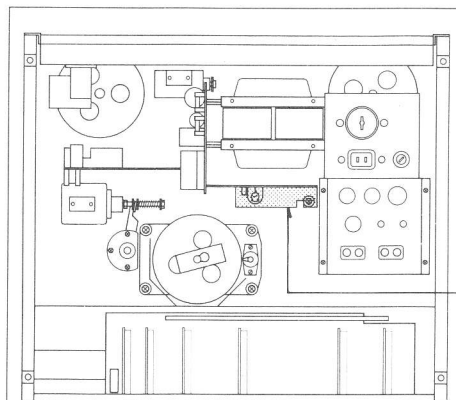
S T U D E R 82/11/30 RW CAPSTAN SPEED CONTROL 1.177.325.00 PAGE 2

INC.	PCS.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		

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

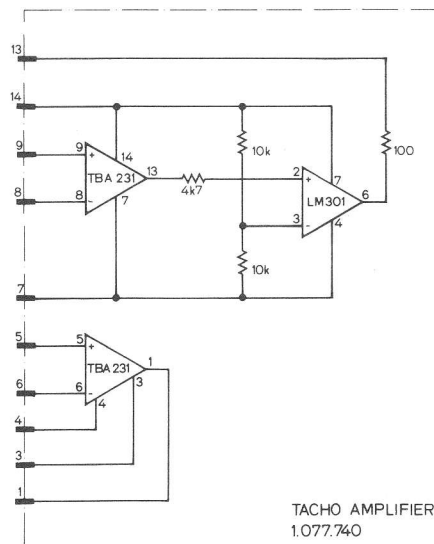
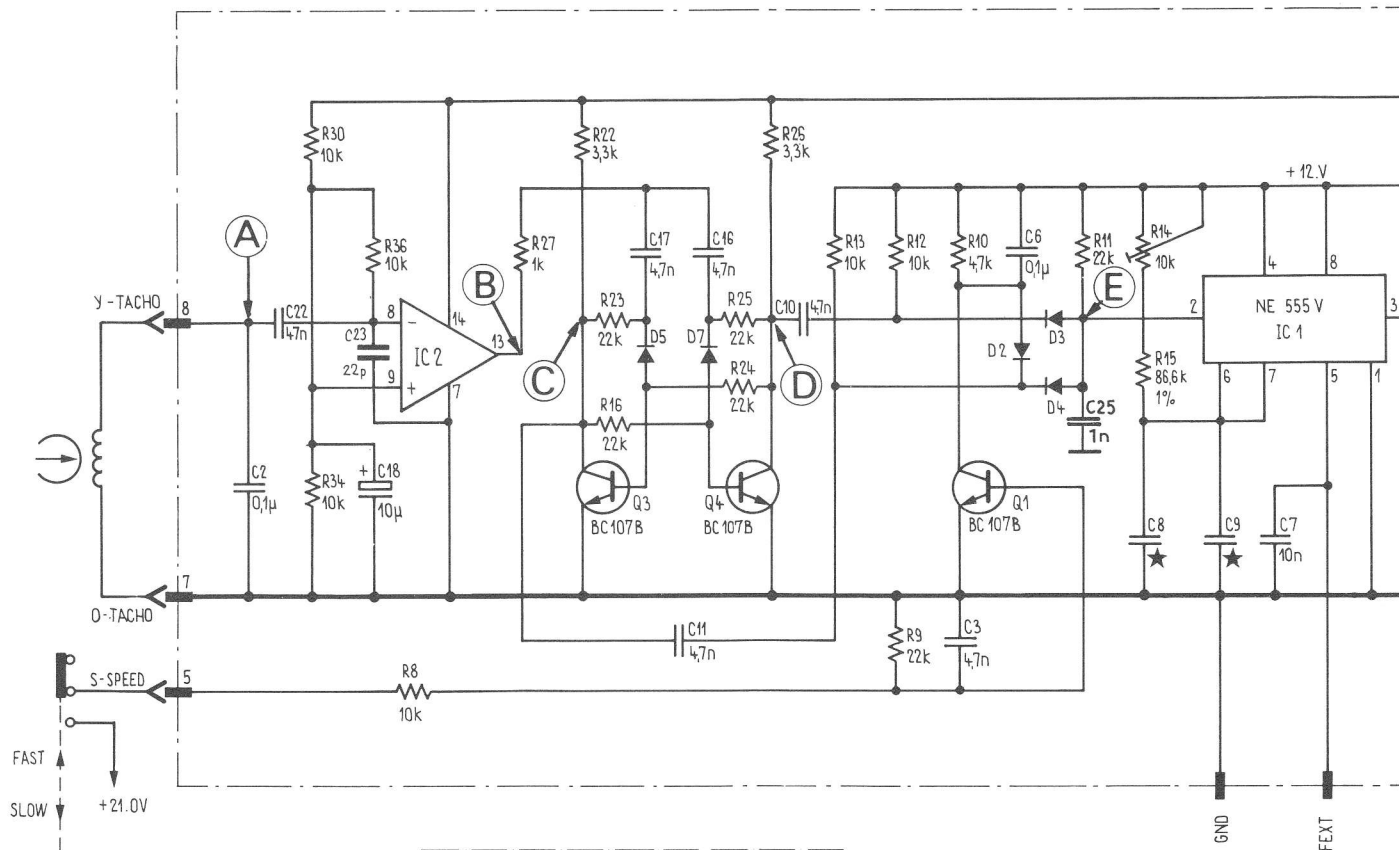
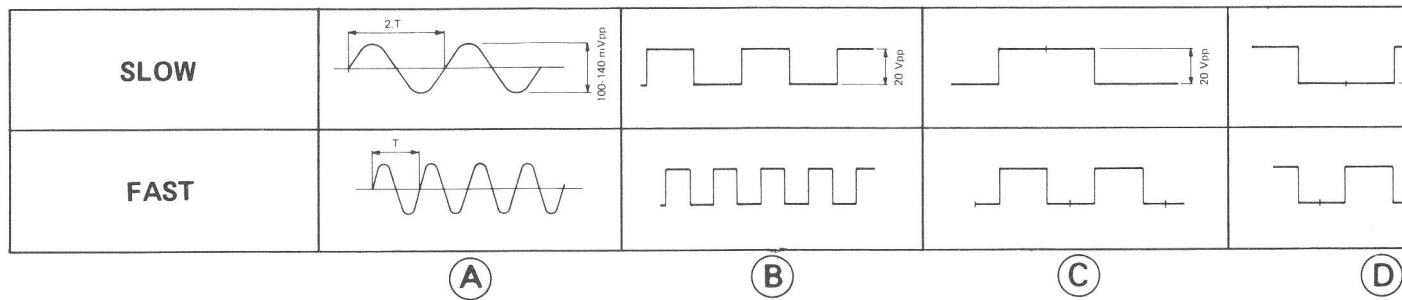
CPIG #2/02/08 (04) #1/12/21

S T U D E R 82/11/30 RW CAPSTAN SPEED CONTROL 1.177.325.00 PAGE 3



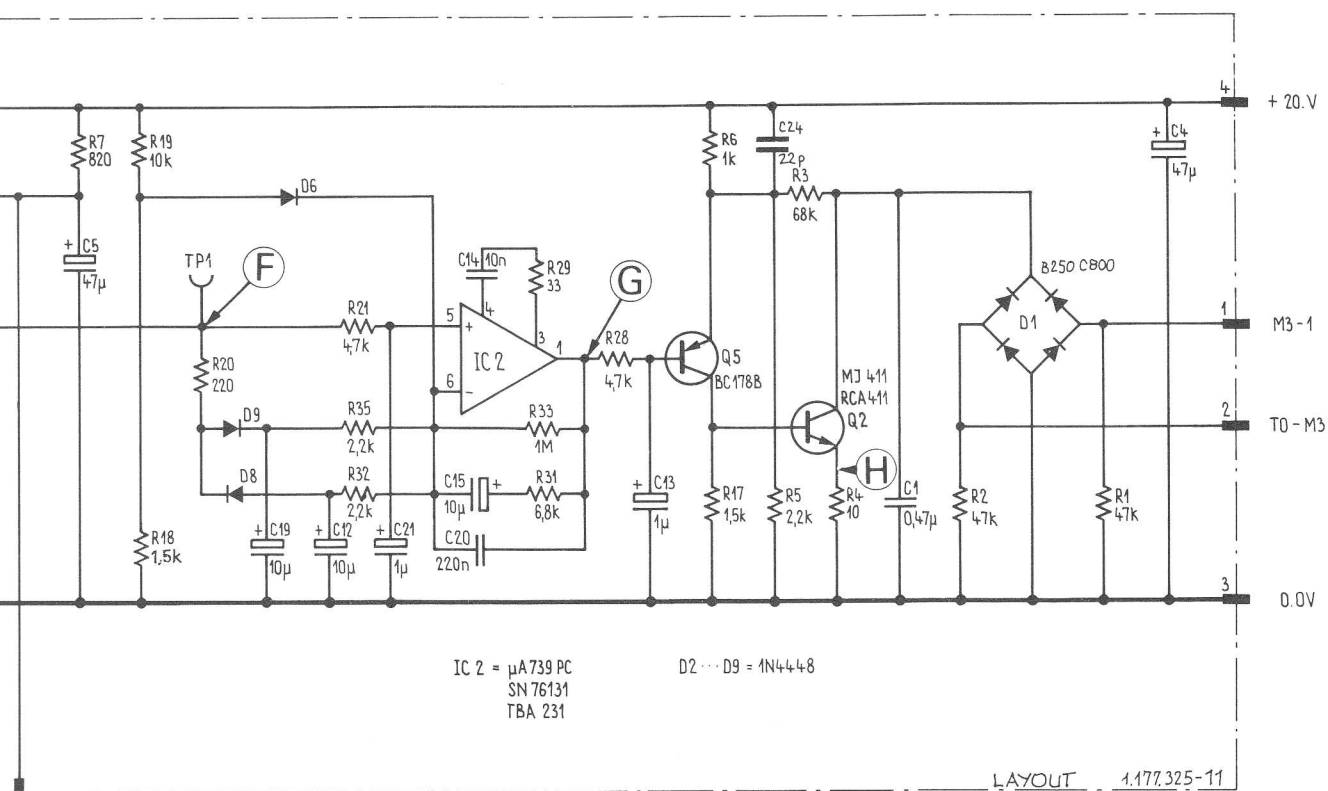
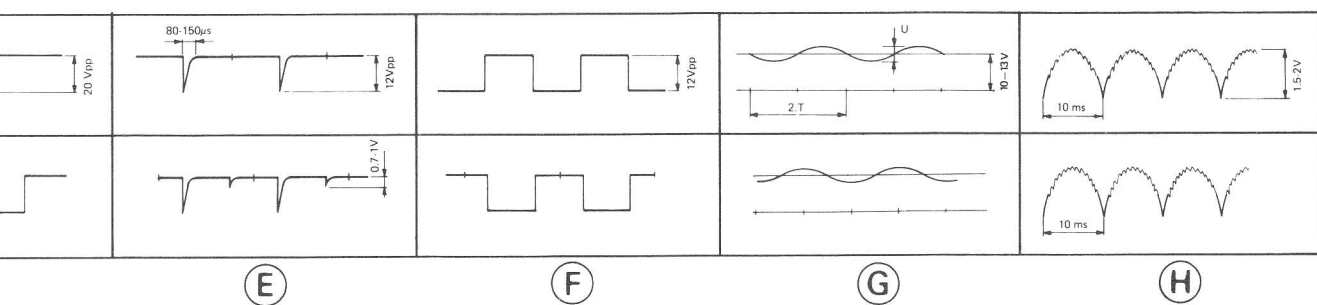
1.177.325/326/327

CAPSTAN SPEED CONTROL PCB 1.177.325/326/327 (B77 MKII)

PIN CONFIGURATION:
14-PIN DUAL-IN-LINETACHO AMPLIFIER
1.077.740

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

VARIABLE SPEED
CONTROL 1.177.330



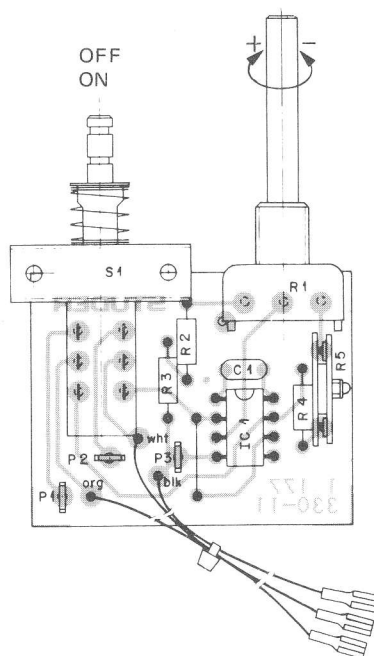
SEE SERVICE INFORMATION
63.9 : CAPSTAN START

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

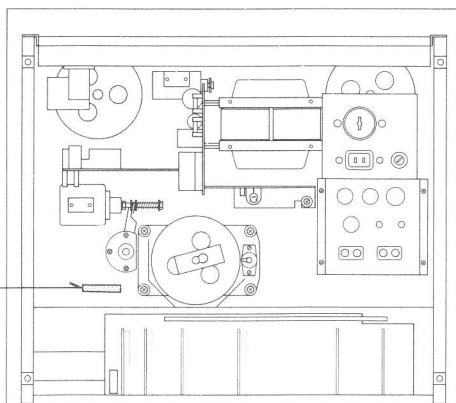
TYPE	SPEED	CAPSTAN SHAFT ϕ	C-MOTOR NO.	SPEED CONTROL	C8 ★	C9 ★
HS	7 1/2''-15''	9.06 mm	1.021.320	1.177.325	1.6 nF	4.7 nF
STD	3 3/4''-7 1/2''	4.51 mm	1.021.300	1.177.325	1.6 nF	4.7 nF
LS	1 7/8''-3 3/4''	3.00 mm	1.021.304	1.177.326	1.6 nF	6.8 nF
SLS	15/16''-1 7/8''	3.00 mm	1.021.304	1.177.327	5.6 nF	10 nF

C/ VARIABLE SPEED CONTROL PCB 1.177.330

VARIABLE SPEED



1.177.330



INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.32.1680		68 pF	Ce	
IC.....1	50.05.0257	LM301			Sig, TI
P.....1	54.02.0320			AMP-Flat pin	
P.....2	54.02.0320			AMP-Flat pin	
P.....3	54.02.0320			AMP-Flat pin	
R.....1	1.177.330.03	10 kOhm			
R.....2	57.11.4332	3.3 kOhm		5%, 0.25W, CF	
R.....3	57.11.4563	56 kOhm		5%, 0.25W, CF	
R.....4	57.39.2432	24.3 kOhm		1%, 0.25W, CF	
R.....5	58.69.0132	4.7 kOhm			
S.....1	1.177.330.02			Push-button switch	

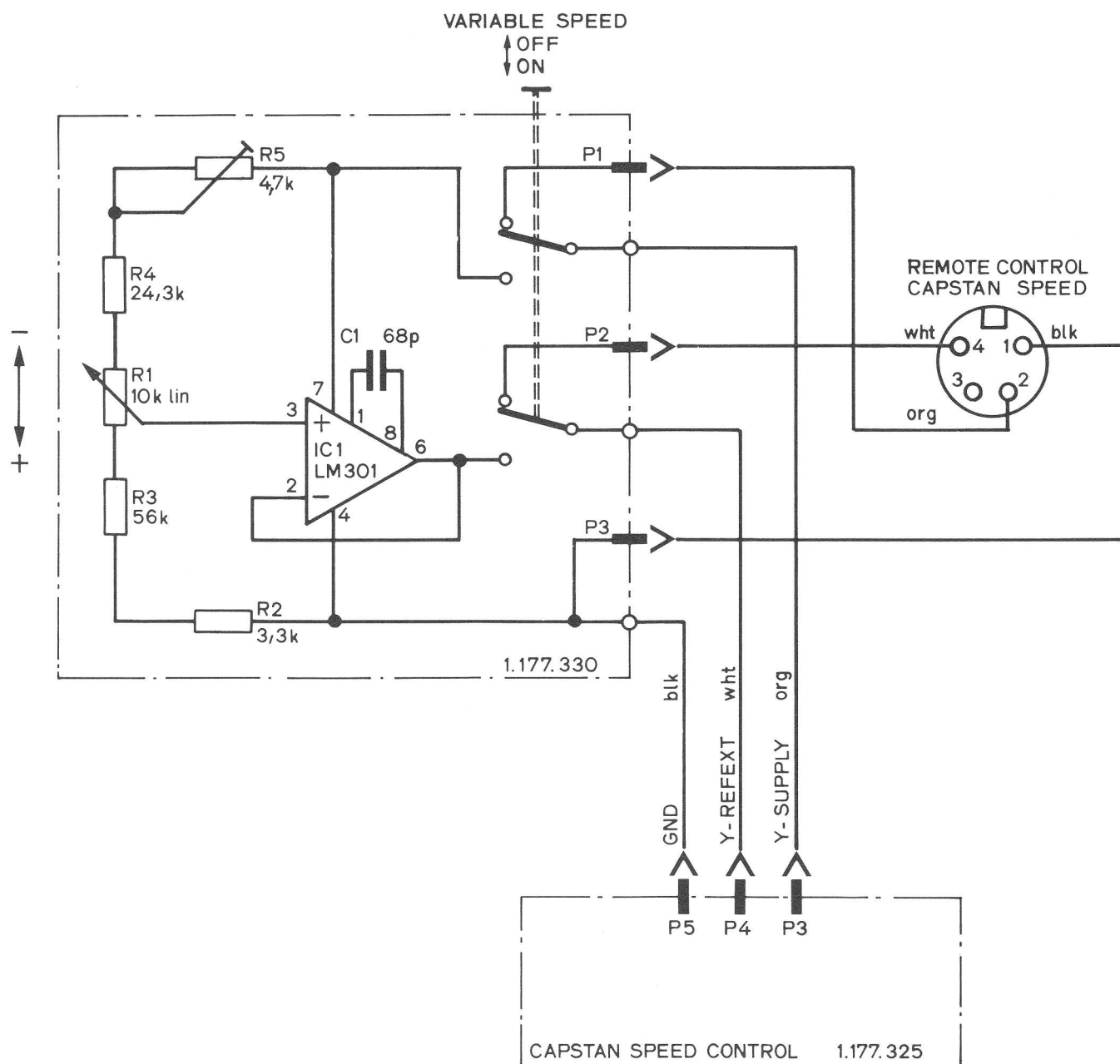
El=Electrolytic, Ce=Ceramic

Manufacturer: Sig=Signetics, TI=Texas Instruments

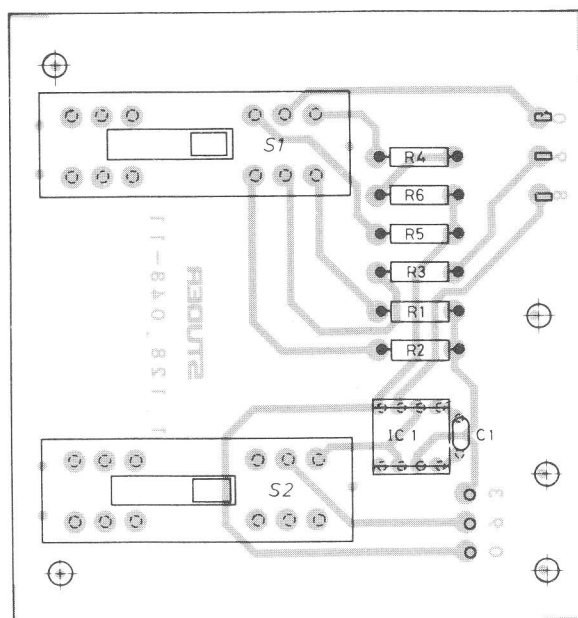
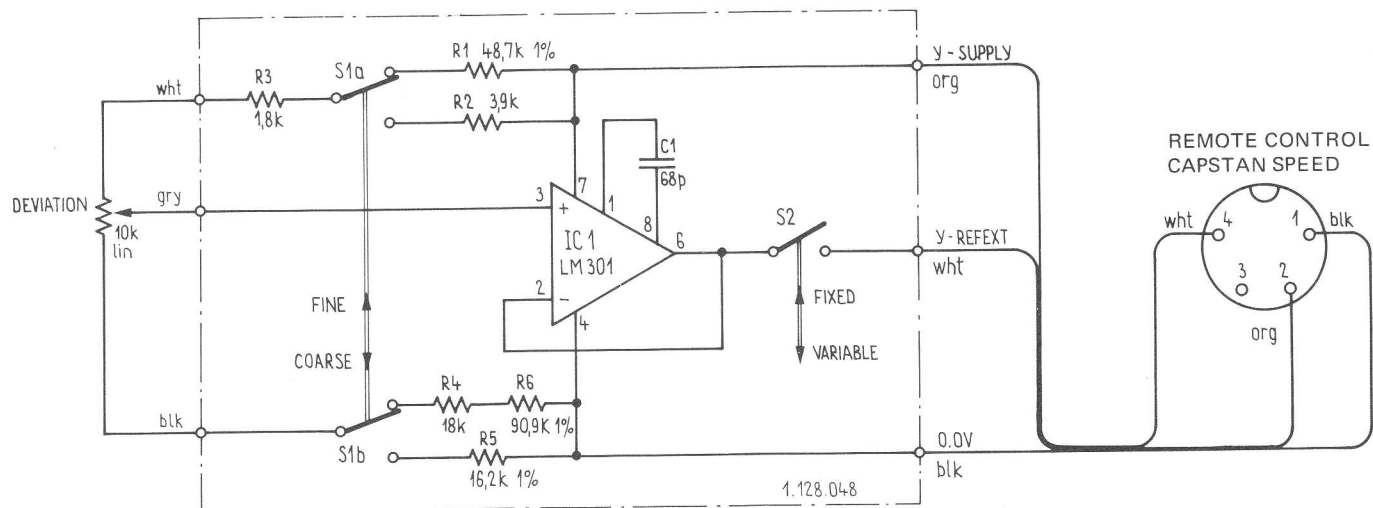
CRIG 80/C8/25

S T U D E R 80/08/25 RW VARIABLE SPEED CONTROL PL 1.177.330.00 PAGE 1

VARIABLE SPEED CONTROL PCB 1.177.330

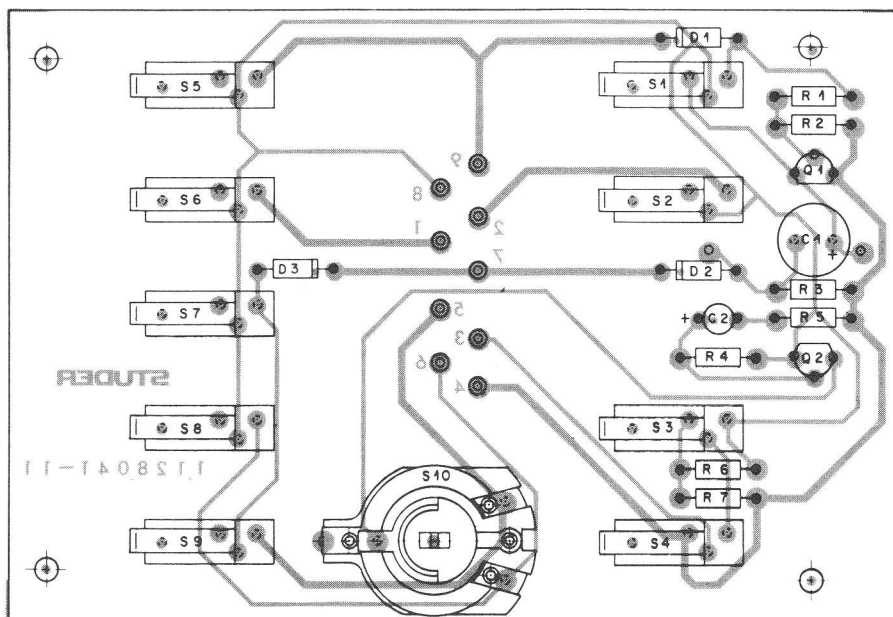
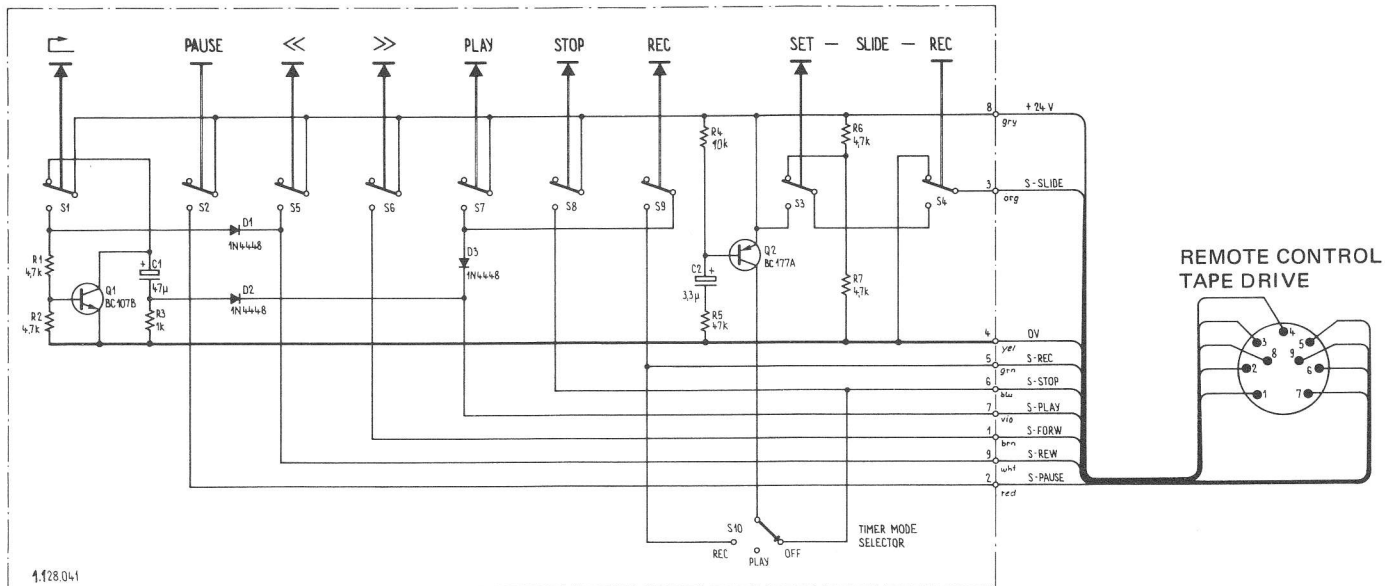


VARIABLE SPEED CONTROL UNIT / EXTERNAL 1.128.045



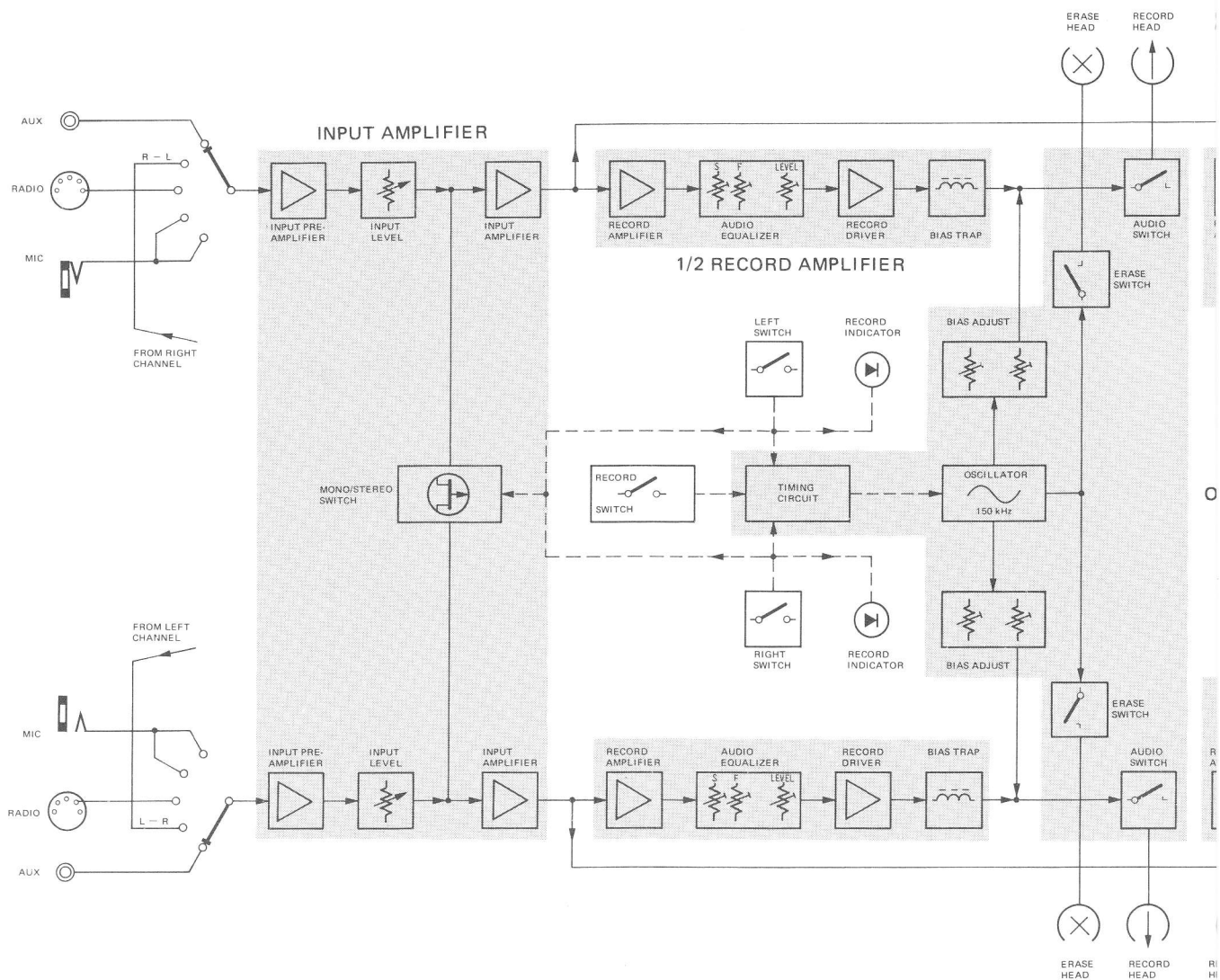
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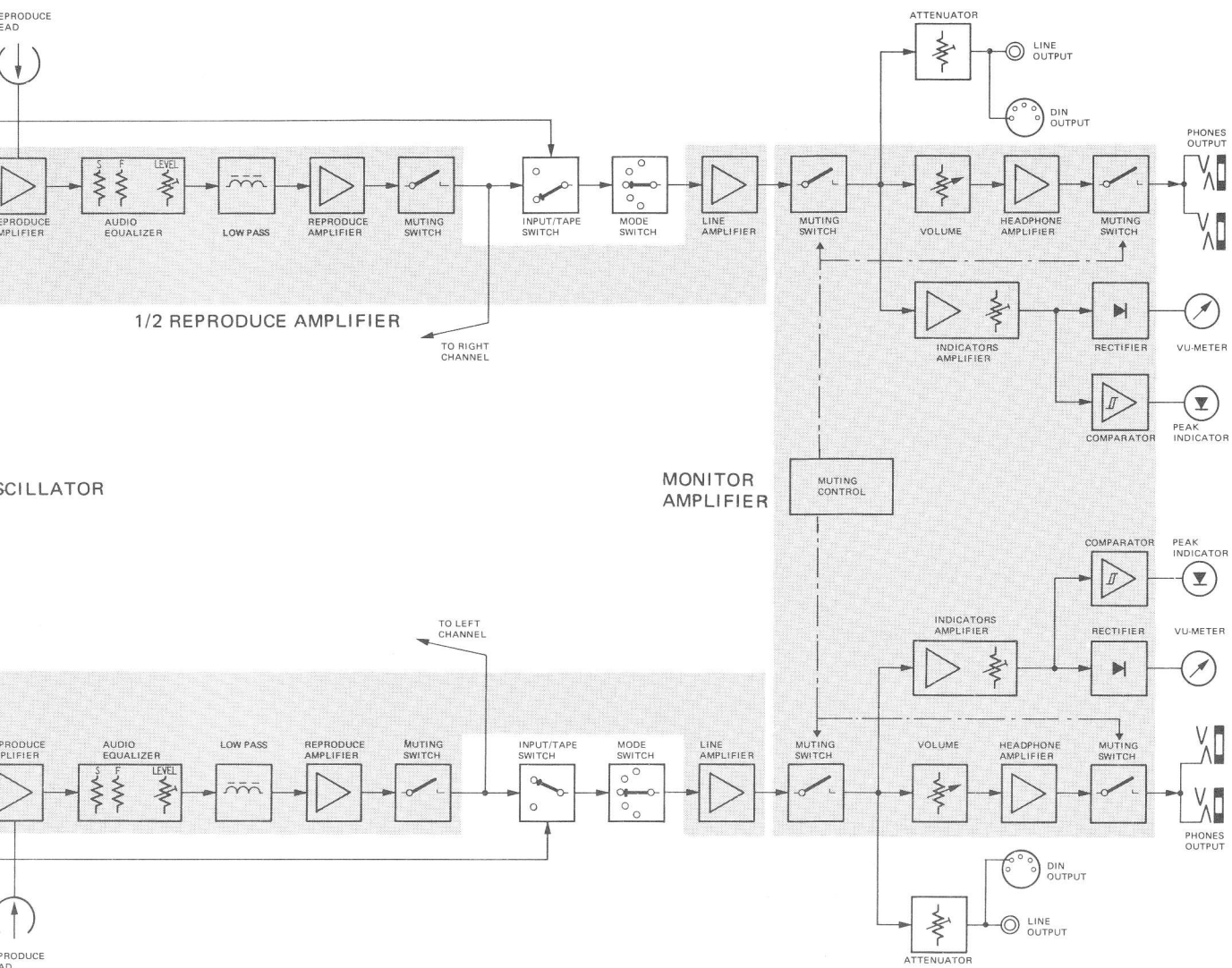
REMOTE CONTROL UNIT / COMMAND SWITCHES 1.128.040



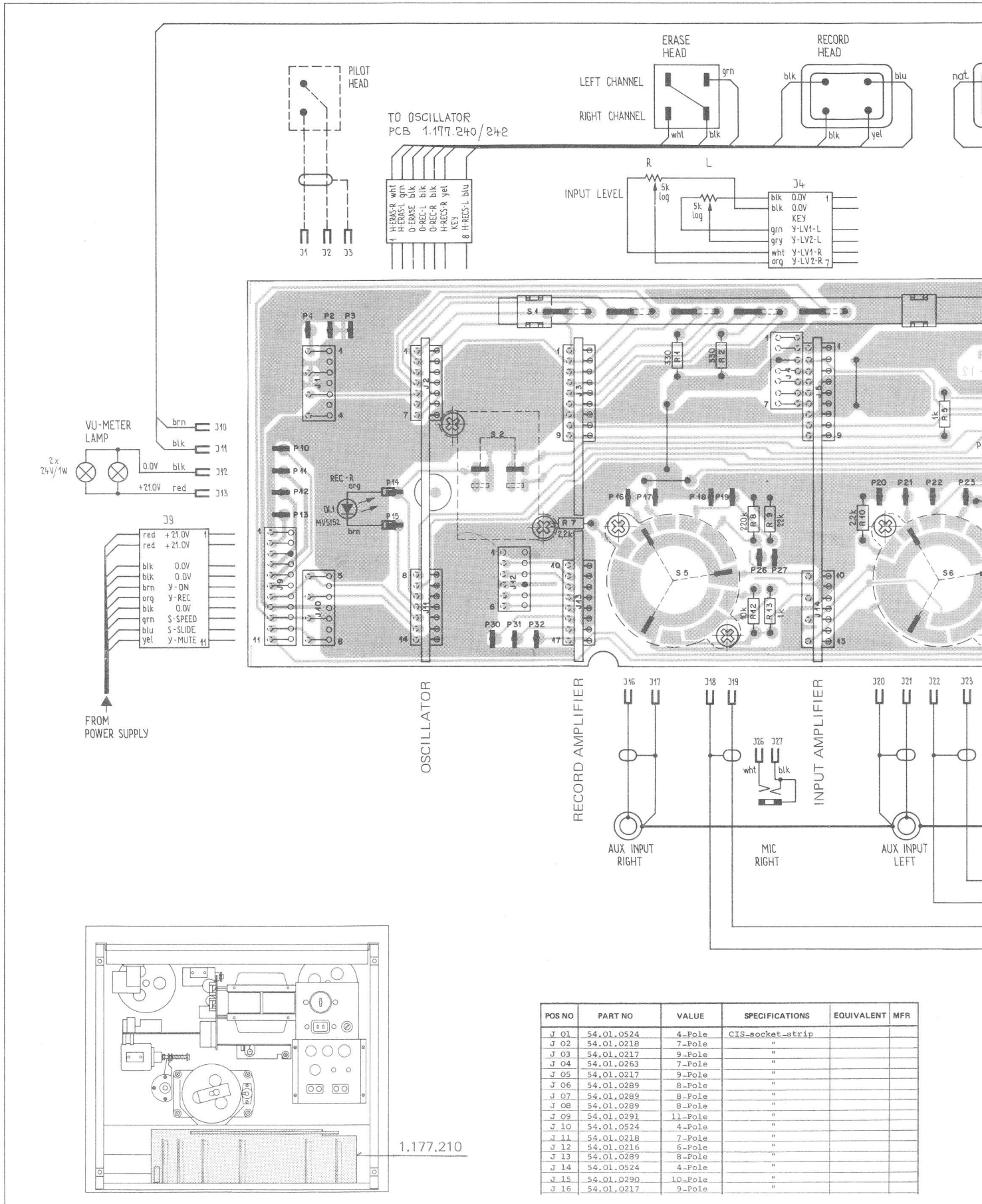
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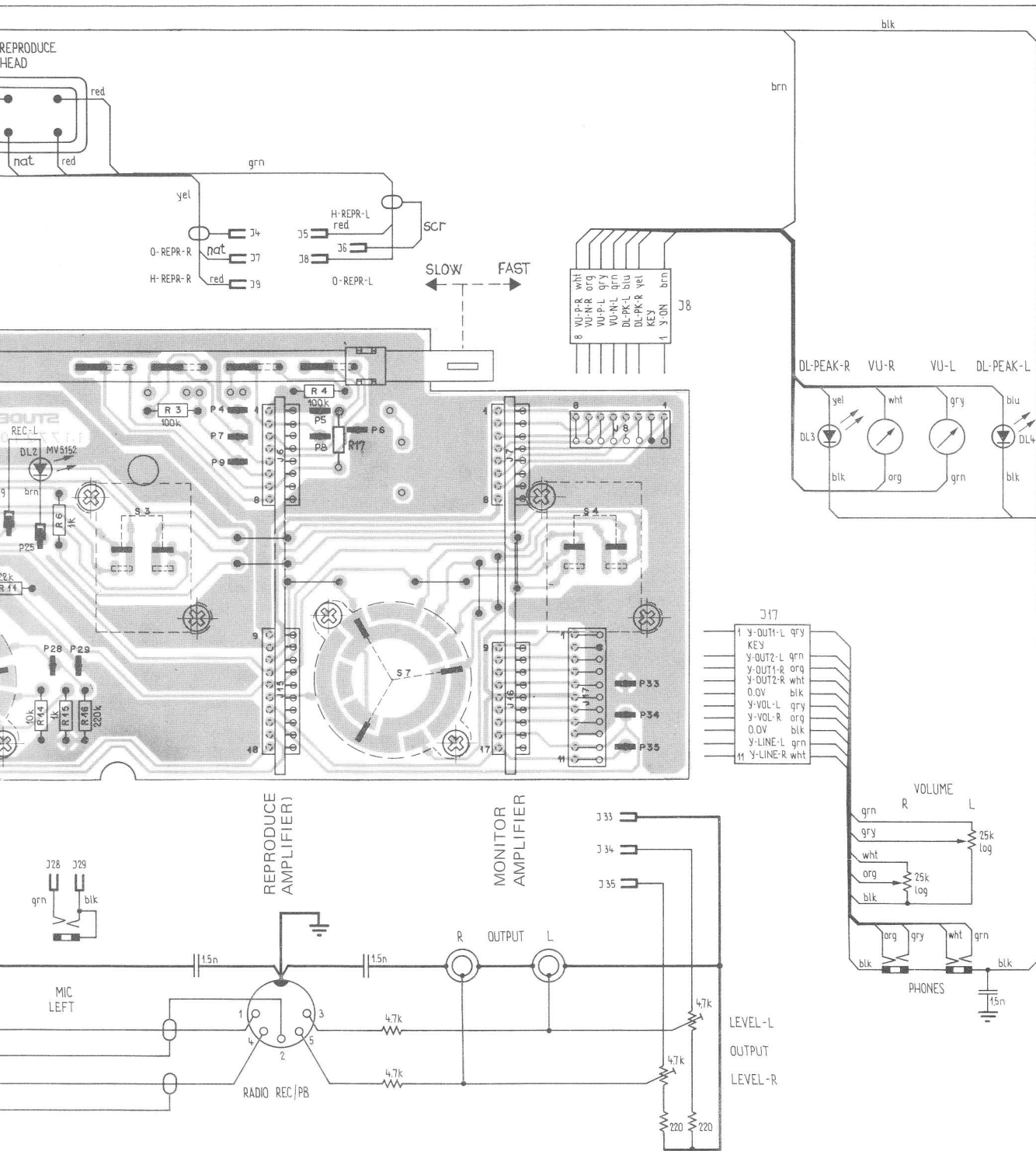
BLOCK DIAGRAM / AUDIO





AUDIO INTERCONNECTION PCB 1.177.210



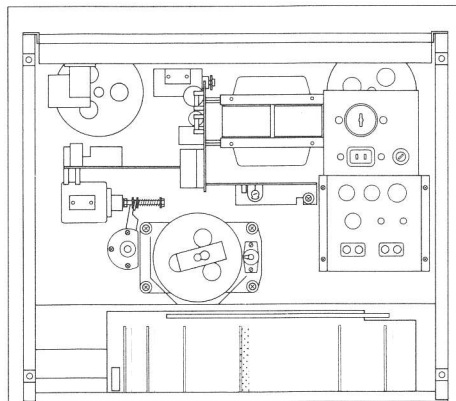
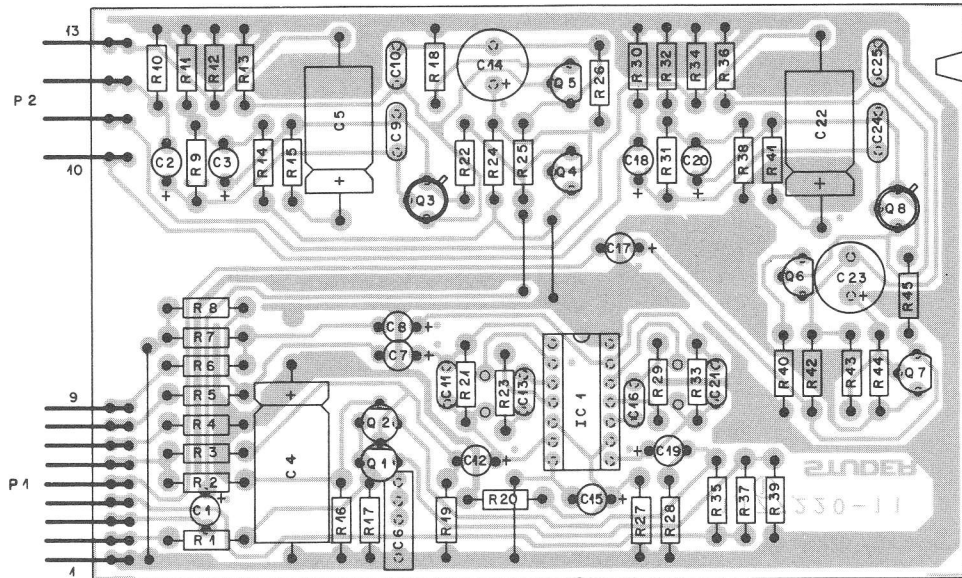


J 17	54.01.0291	11-Pole	"		
P1-35	54.02.0320		AMP-Flat pin		
R 01	57.41.4331	330	5% .25W	CF	
R 02	57.41.4331	330			
R 03	57.41.4104	100 K			
R 04	57.41.4104	100 K			
R 05	57.41.4102	1 K			
R 06	57.41.4102	1 K			
R 07	57.41.4222	2.2 K			
R 08	57.41.4224	220 K			
R 09	57.41.4223	22 K			
R 10	57.41.4222	2.2 K			
R 11	57.41.4223	22 K			
R 12	57.41.4103	10 K			
R 13	57.41.4102	1 K			
R 14	57.41.4103	10 K			
R 15	57.41.4102	1 K			

(1)	R 16	57.41.4224	220 K		
	R 17	57.11.4334	330 K		
	S 1	1.177.210.01	special	Slide-Switch	
	S2-S4	1.011.120.00	2-Pole	Toggle-Switch	
	S5-S7	1.011.301.00	5-pos/3-Pole	Rotary-Switch	

CF = Carbon Film		①		Waser/gv
		②	12.6.78	
		③	10.5.77	
IND	DATE		NAME	
STUDER Audio-Interconnection Board		1.177.210		PAGE 1 of 1

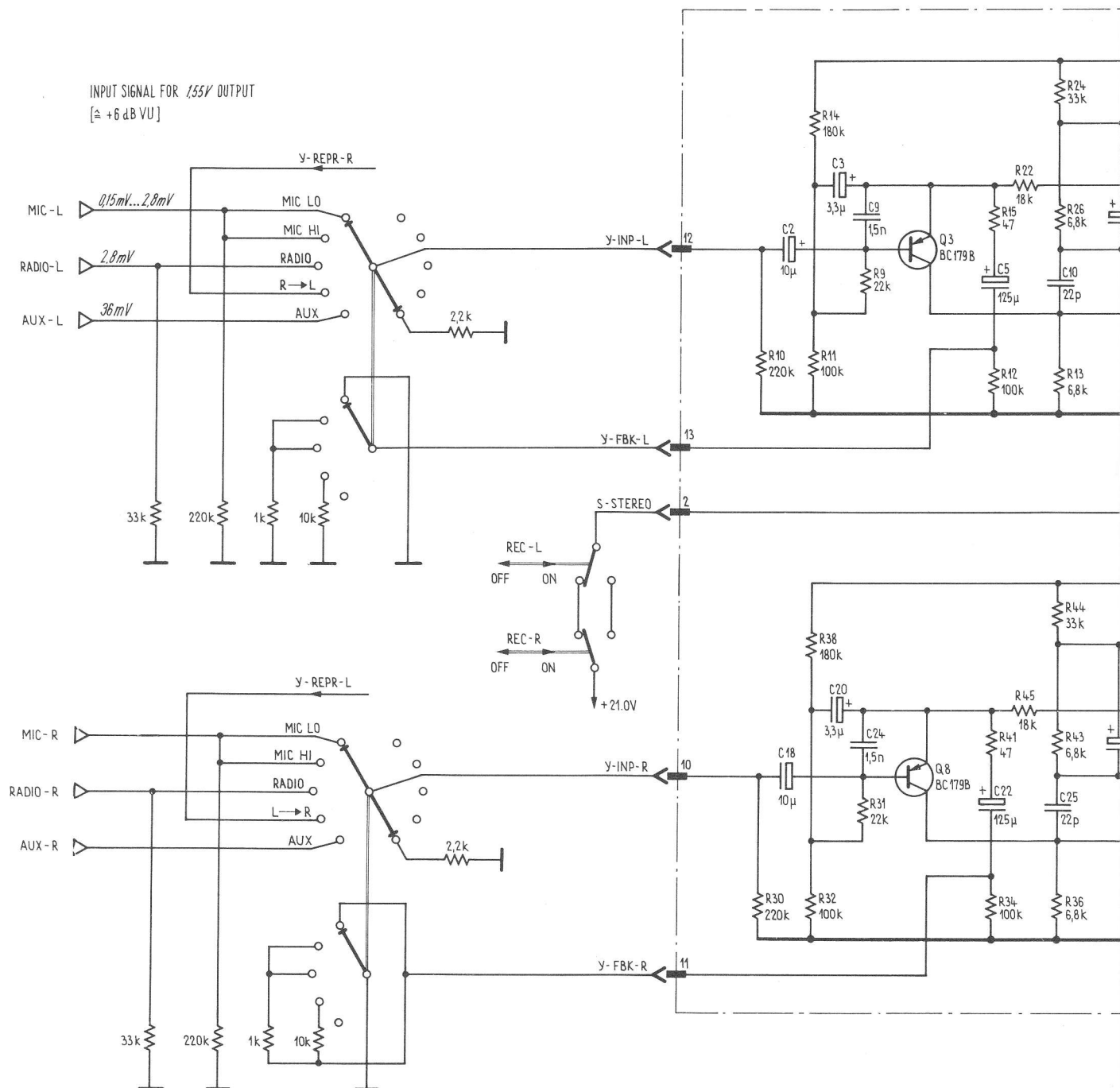
INPUT AMPLIFIER PCB 1.177.220



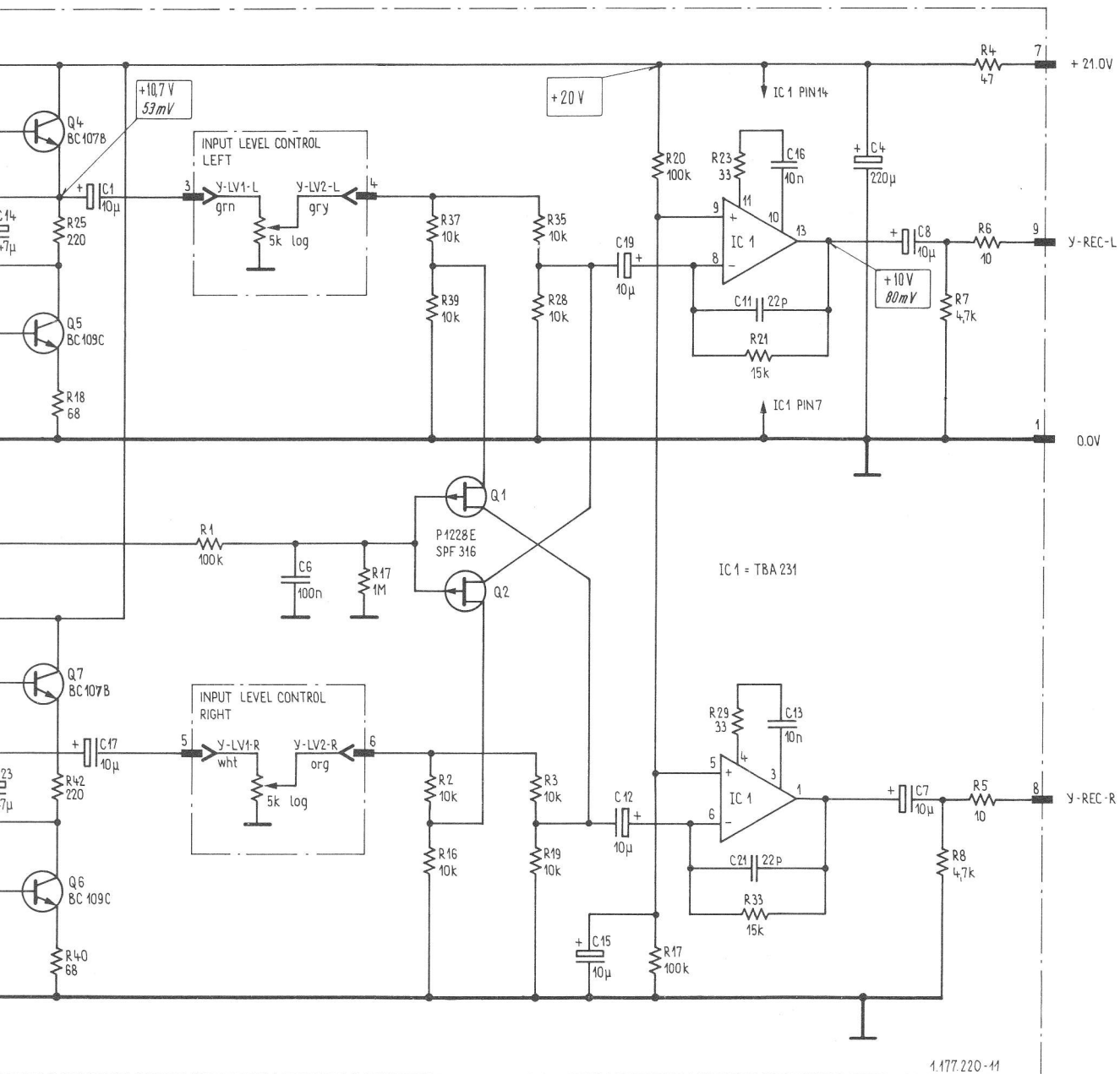
POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
C 01	59.30.4100	10 U	-20% 16 V TA		
C 02	59.30.4100	10 U	-20% 16 V TA		
C 03	59.30.4339	3,3 U	-20% 16 V TA		
C 04	59.25.4221	220 U	-10% 25 V EL		
C 05	59.25.3121	125 U	-10% 16 V EL		
C 06	59.31.1104	0,1 U	20% 100V MPETP		
C 07	59.30.4100	10 U	-20% 16 V TA		
C 08	59.30.4100	10 U	-20% 16 V TA		
C 09	59.32.1152	1500P	-10% 500V CER		
C 10	59.32.0220	22 P	-20% 500V CER		
C 11	59.32.0220	22 P	-20% 500V CER		
C 12	59.30.4100	10 U	-20% 16 V TA		
C 13	59.32.3103	0,01U	-20% 40 V CER		
C 14	59.22.5470	47 U	-10% 25 V EL		
C 15	59.30.4100	10 U	-20% 16 V TA		
C 16	59.32.3103	0,01U	-20% 40 V CER		
C 17	59.30.4100	10 U	-20% 16 V TA		
C 18	59.30.4100	10 U	-20% 16 V TA		
C 19	59.30.4100	10 U	-20% 16 V TA		
C 20	59.30.4339	3,3 U	-20% 16 V TA		
C 21	59.32.0220	22 P	-20% 500V CER		
C 22	59.25.3121	125 U	-10% 16 V EL		
C 23	59.22.5470	47 U	-10% 25 V EL		
C 24	59.32.1152	1500P	-10% 500V CER		
C 25	59.32.0220	22 P	-20% 500V CER		
IC 01	50.05.0288	TBA 231			A
P 01	54.01.0220	9 - Pole	PIN-Strip AMP		
P 02	54.01.0470	4 - Pole	PIN-Strip AMP		
Q 01	50.03.0329	SPF 316	P-Channel J-FET	P1228E	M,T
Q 02	50.03.0329	SPF 316	P-Channel J-FET	P1228E	M,T
Q 03	50.03.0305	BC 179 B	PNP		any
Q 04	50.03.0436	BC 107 B	NPN		
Q 05	50.03.0439	BC 109 C	NPN		
Q 06	50.03.0439	BC 109 C	NPN		
Q 07	50.03.0436	BC 107 B	NPN		any
Q 08	50.03.0305	BC 179 B	PNP		
A = Ates					
M = Motorola					
T = Teledyne					
TI = Texas Instr.					
			IND	DATE	NAME
STUDER				1.177.220	Wattburg/9
Input Amplifier					PAGE 1 of 2

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
R 01	57.41.4104	100 k	5% .25W CF		
R 02	57.41.4103	10 k			
R 03	57.41.4103	10 k			
R 04	57.41.4470	47			
R 05	57.41.4100	10			
R 06	57.41.4100	10			
R 07	57.41.4472	4,7 k			
R 08	57.41.4472	4,7 k			
R 09	57.41.4223	22 k			
R 10	57.41.4224	220 k			
R 11	57.41.4104	100 k			
R 12	57.41.4104	100 k			
R 13	57.41.4682	6,8 k			
R 14	57.41.4184	180 k			
R 15	57.41.4470	47			
R 16	57.41.4103	10 k			
R 17	57.41.4105	1 M			
R 18	57.41.4680	68			
R 19	57.41.4103	10 k			
R 20	57.41.4104	100 k			
R 21	57.41.4153	15 k			
R 22	57.41.4183	18 k			
R 23	57.41.4330	33			
R 24	57.41.4333	33 k			
R 25	57.41.4221	220			
R 26	57.41.4682	6,8 k			
R 27	57.41.4104	100 k			
R 28	57.41.4103	10 k			
R 29	57.41.4330	33			
R 30	57.41.4224	220 k			
R 31	57.41.4223	22 k			
R 32	57.41.4104	100 k			
R 33	57.41.4153	15 k			
R 34	57.41.4104	100 k			
R 35	57.41.4103	10 k			
R 36	57.41.4682	6,8 k			
R 37	57.41.4103	10 k			
R 38	57.41.4184	180 k			
R 39	57.41.4103	10 k			
R 40	57.41.4680	68			
R 41	57.41.4470	47			
R 42	57.41.4221	220			
R 43	57.41.4682	6,8 k			
R 44	57.41.4333	33 k			
R 45	57.41.4183	18 k			
CF= Carbon Film					
			IND	DATE	NAME
STUDER				1.177.220	Wattburg/9
Input Amplifier					PAGE 2 of 2

INPUT AMPLIFIER PCB 1.177.220

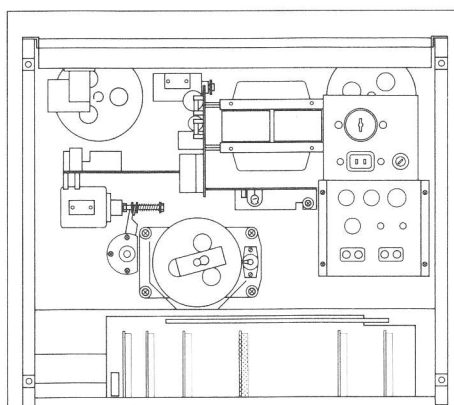
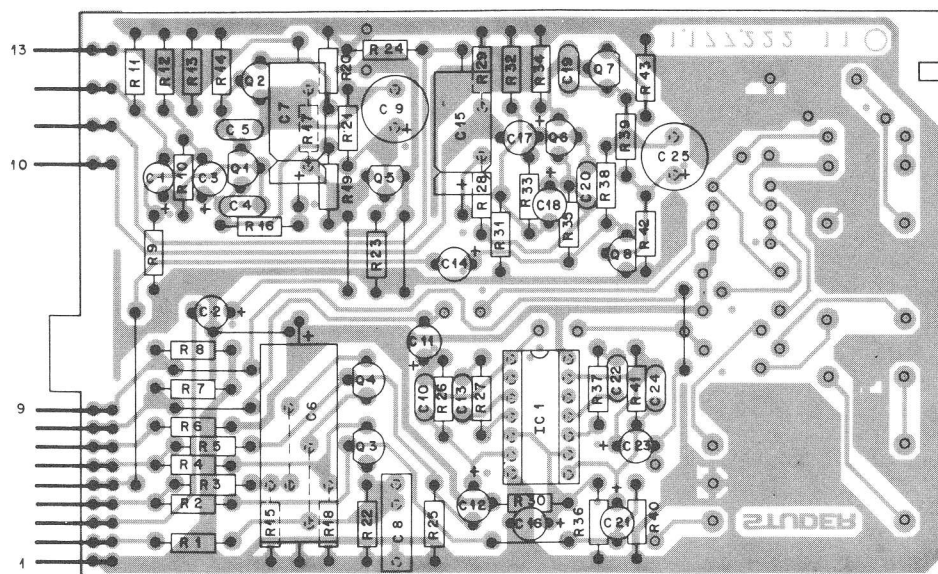


VALID TILL SERIAL No. 38284



SEE SERVICE INFORMATION
51.3 : C10,11,21,25 (OSCILLATION)

INPUT AMPLIFIER PCB 1.177.221



IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.22.6100	10 uF	10%, 35V, E1		
C.....2	59.22.6100	10 uF	10%, 35V, E1		
C.....3	59.22.8479	4.7 uF	-10%, 50V, E1		
C.....4	59.32.1152	1500 pF	-10%, 50V, Cer		
C.....5	59.32.0470	47 pF	-20%, 50V, Cer		
C.....6	59.25.4221	220 uF	-10%, 25V, E1		
C.....7	59.25.3121	125 uF	-10%, 16V, E1		
C.....8	59.31.1104	0.1 uF	20%, 100V, MPETP		
C.....9	59.22.5470	47 uF	20%, 25V, E1		
C.....10	59.32.0470	47 pF	-20%, 50V, Cer		
C.....11	59.22.6100	10 uF	-10%, 35V, E1		
C.....12	59.22.6100	10 uF	-10%, 35V, E1		
C.....13	59.32.3103	0.01 uF	+80%, 40V, Cer		
C.....14	59.22.6100	10 uF	-10%, 35V, E1		
C.....15	59.25.3121	125 uF	-10%, 16V, E1		
C.....16	59.22.6100	10 uF	-10%, 35V, E1		
C.....17	59.22.6100	10 uF	-10%, 35V, E1		
C.....18	59.22.8479	4.7 uF	-10%, 50V, E1		
C.....19	59.32.0470	47 pF	-20%, 50V, Cer		
C.....20	59.32.1152	1500 pF	-10%, 50V, Cer		
C.....21	59.22.6100	10 uF	-10%, 35V, E1		
C.....22	59.32.3103	0.01 uF	+80%, 40V, Cer		
C.....23	59.22.6100	10 uF	-10%, 35V, E1		
C.....24	59.32.0470	47 pF	-20%, 50V, E1		
C.....25	59.22.5470	47 uF	20%, 25V, E1		
IC.....1	50.05.0288	TBA 231			A
P.....1	54.01.0220	9-Pole	Pin-Strip		AMP
P.....2	54.01.0470	4-Pole	Pin-Strip		AMP
Q.....1	50.03.0305	BC 179 B	PNP		
Q.....2	50.03.0439	BC 109 C	NPN		
Q.....3	50.03.0329	SPF 316	P-channel J-FET		M,T
Q.....4	50.03.0329	SPF 316	P-channel J-FET		M,T
Q.....5	50.03.0436	BC 107 B	NPN		
Q.....6	50.03.0305	BC 179 B	PNP		

S T U D E R 82/12/06 RW INPUT AMPL. MK 2 1.177.221.00 PAGE 1

IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....7	50.03.0439	BC 109 C	NPN		
Q.....8	50.03.0436	BC 107 B	NPN		
R.....1	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....2	57.11.4103	10 kOhm	5%, 0.25W, CF		
R.....3	57.11.4103	10 kOhm	5%, 0.25W, CF		
R.....4	57.11.4103	10 kOhm	5%, 0.25W, CF		
R.....5	57.11.4103	10 kOhm	5%, 0.25W, CF		
R.....6	57.11.4470	47 Ohm	5%, 0.25W, CF		
R.....7	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
R.....8	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
R.....9	57.11.4184	180 kOhm	5%, 0.25W, CF		
R.....10	57.11.4223	22 kOhm	5%, 0.25W, CF		
R.....11	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....12	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....13	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....14	57.11.4682	6.8 kOhm	5%, 0.25W, CF		
R.....15	57.11.4103	10 kOhm	5%, 0.25W, CF		
R.....16	57.11.4470	47 Ohm	5%, 0.25W, CF		
R.....17	57.11.4221	220 Ohm	5%, 0.25W, CF		
R.....18	57.11.4103	10 kOhm	5%, 0.25W, CF		
R.....19	57.11.4183	18 kOhm	5%, 0.25W, CF		
R.....20	57.11.4680	68 Ohm	5%, 0.25W, CF		
R.....21	57.11.4682	6.8 kOhm	5%, 0.25W, CF		
R.....22	57.11.4105	1 MOhm	5%, 0.25W, CF		
R.....23	57.11.4333	33 kOhm	5%, 0.25W, CF		
R.....24	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....25	57.11.4103	10 kOhm	5%, 0.25W, CF		
R.....26	57.11.4153	15 kOhm	5%, 0.25W, CF		
R.....27	57.11.4330	33 Ohm	5%, 0.25W, CF		
R.....28	57.11.4470	47 Ohm	5%, 0.25W, CF		
R.....29	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....30	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....31	57.11.4184	180 kOhm	5%, 0.25W, CF		
R.....32	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....33	57.11.4223	22 kOhm	5%, 0.25W, CF		
R.....34	57.11.4682	6.8 kOhm	5%, 0.25W, CF		

S T U D E R 82/12/06 RW INPUT AMPL. MK 2 1.177.221.00 PAGE 2

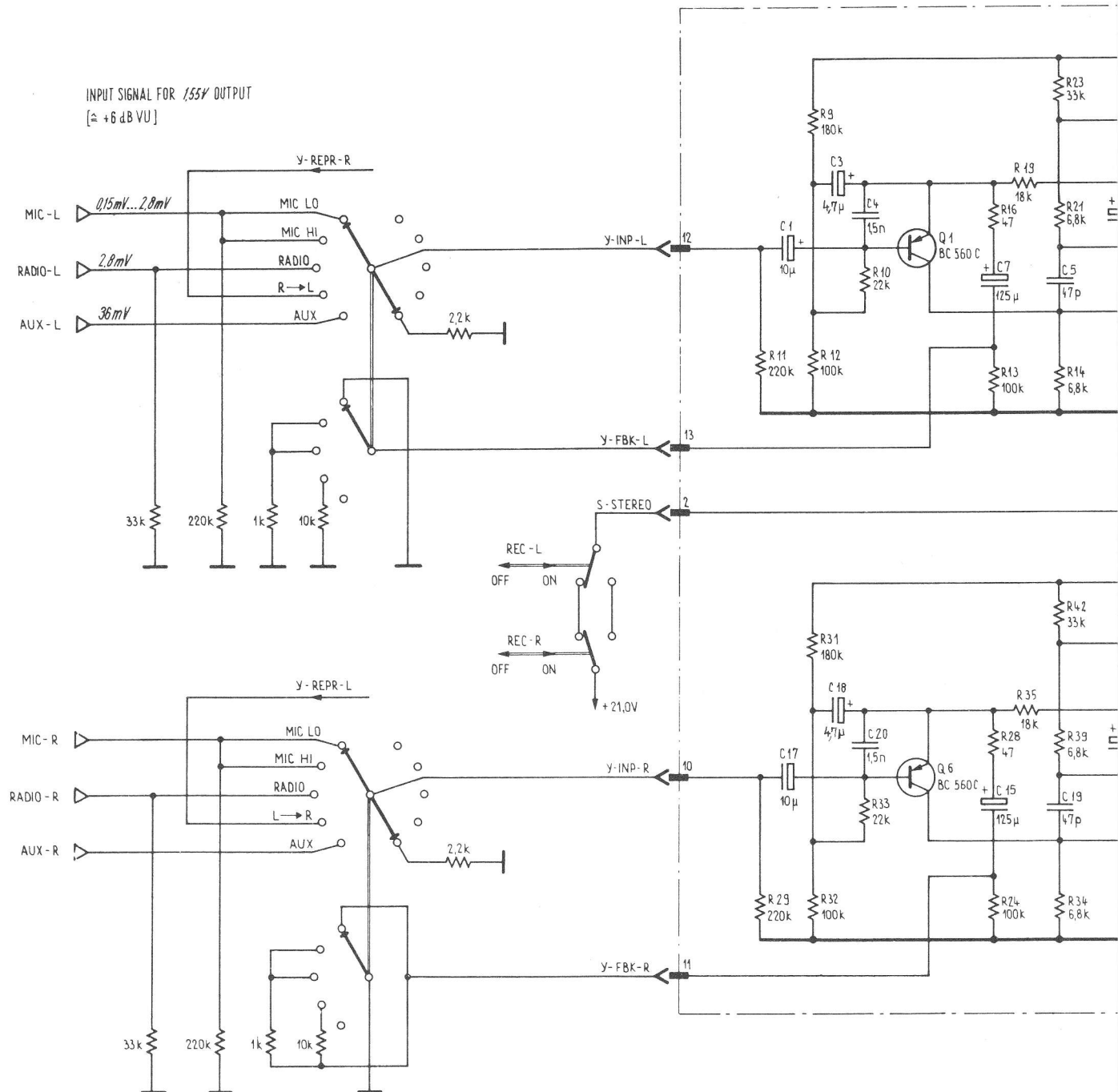
IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....35	57.11.4183	18 kOhm	5%, 0.25W, CF		
R.....36	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....37	57.11.4330	33 Ohm	5%, 0.25W, CF		
R.....38	57.11.4221	220 Ohm	5%, 0.25W, CF		
R.....39	57.11.4682	6.8 kOhm	5%, 0.25W, CF		
R.....40	57.11.4103	10 kOhm	5%, 0.25W, CF		
R.....41	57.11.4153	15 kOhm	5%, 0.25W, CF		
R.....42	57.11.4333	33 kOhm	5%, 0.25W, CF		
R.....43	57.11.4680	68 Ohm	5%, 0.25W, CF		

E1=Electrolytic, Ce=Ceramic, TA=Tantalum, MPETP=Metallized polyest.
 Manufacturer: Ray=Raytheon, TI=Texas Instruments, A=SGS-Ates,
 M=Motorola, T=Teledyne, N=National

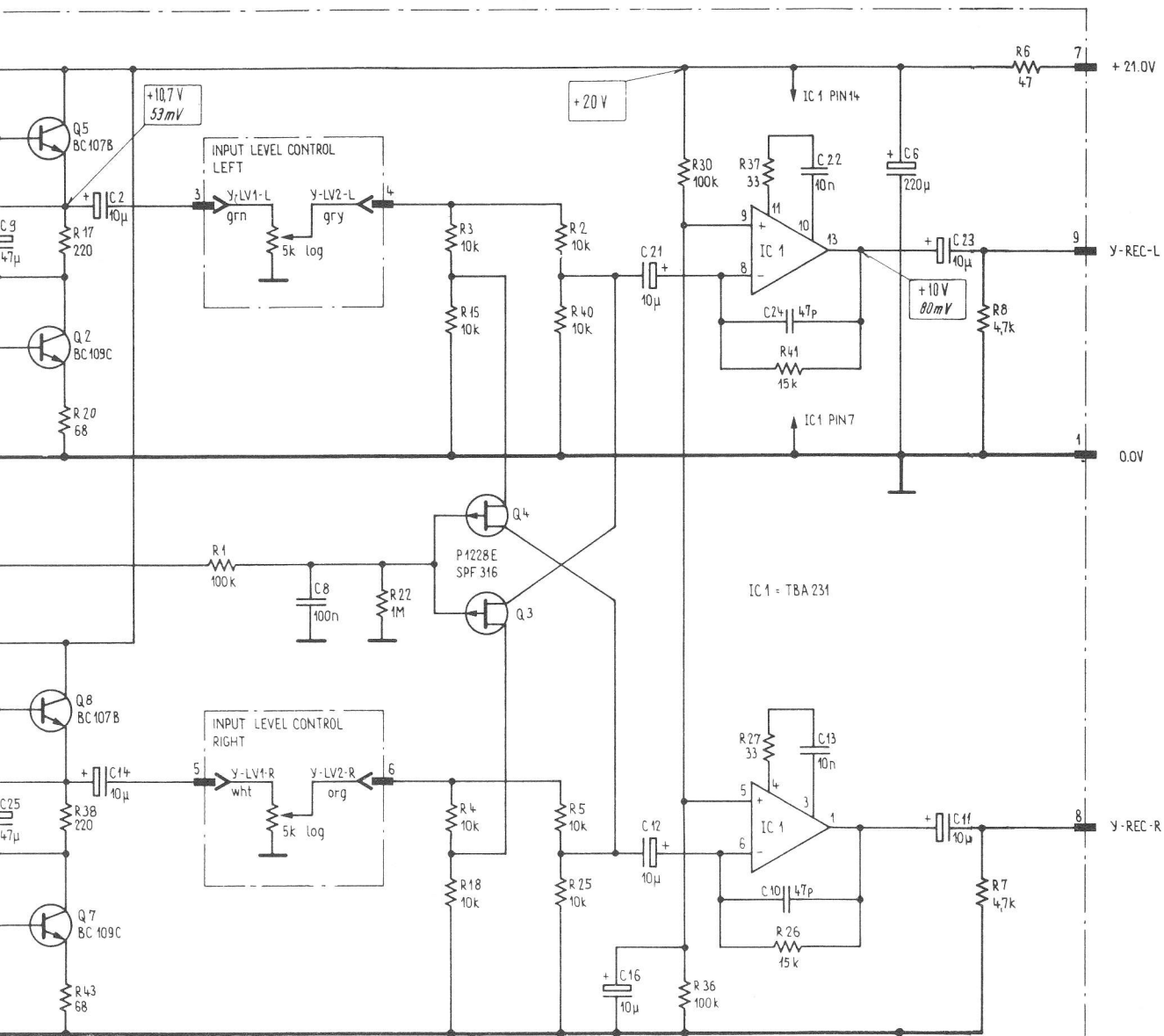
ORIG 82/02/08 (02) 81/12/21

S T U D E R 82/12/06 RW INPUT AMPL. MK 2 1.177.221.00 PAGE 3

INPUT AMPLIFIER PCB 1.177.221

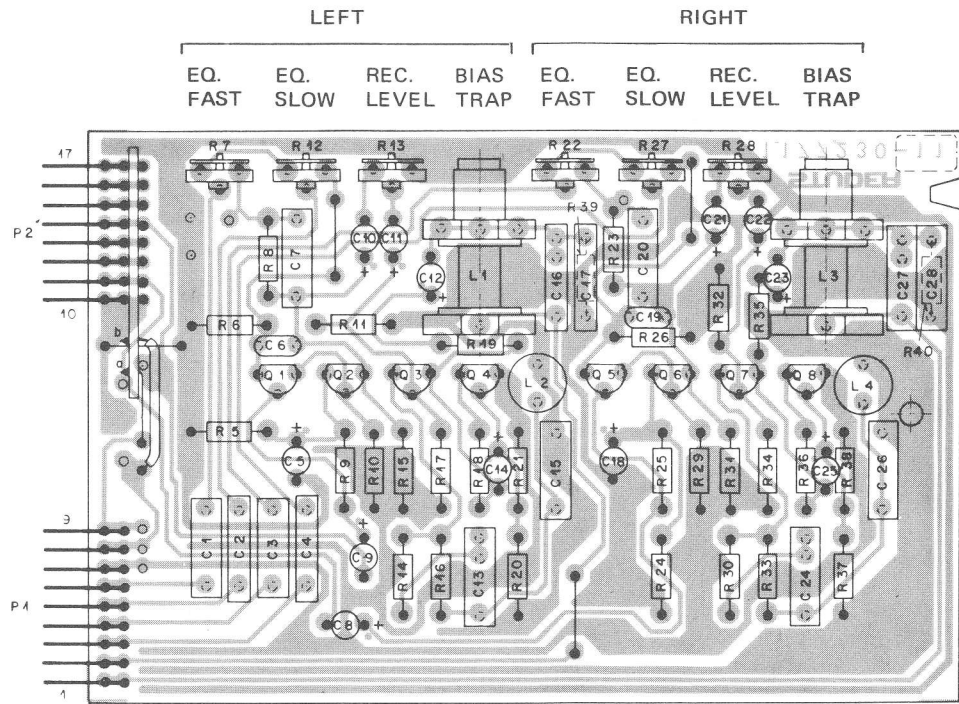


VALID SINCE SERIAL No. 38285

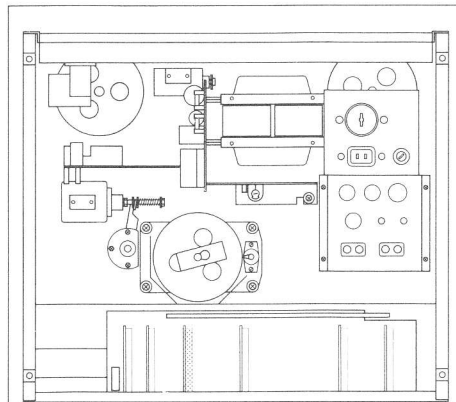
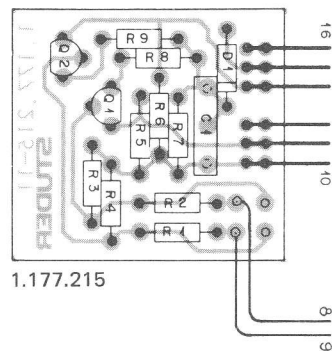


LAYOUT 1.177.222-11

RECORD AMPLIFIER PCB (NAB 3 3/4 - 7 1/2 ips) 1.177.230-81



1.177.230-81



IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.11.6272	2700 pF	5%, 400V, PC		
C.....2	59.11.6272	2700 pF	5%, 400V, PC		
C.....3	59.11.6272	2700 pF	5%, 400V, PC		
C.....4	59.11.6272	2700 pF	5%, 400V, PC		
C.....5	59.22.3101	100 uF	10%, 12V, E1		
C.....6	59.32.0220	22 pF	20%, 500V, Cer		
C.....7	59.31.6104	0.1 uF	10%, 100V, MPETP		
C.....8	59.22.8479	4.7 uF	10%, 50V, E1		
C.....9	59.22.8479	4.7 uF	10%, 50V, E1		
C.....10	59.22.8479	4.7 uF	10%, 50V, E1		
C.....11	59.22.8109	1 uF	10%, 50V, E1		
C.....12	59.22.8479	4.7 uF	10%, 50V, E1		
C.....13	59.99.0257	0.033uF	10%, 160V, PETP		
C.....14	59.22.3670	47 uF	10%, 10V, E1		
C.....15	59.31.9103	0.01 uF	10%, 100V, PETP		
C.....16	59.11.6471	470 pF	5%, 400V, PC		
C.....17	59.11.6332	3300 pF	5%, 400V, PC		
C.....18	59.22.3101	100 uF	10%, 12V, E1		
C.....19	59.32.0220	22 pF	20%, 500V, Cer		
C.....20	59.31.6104	0.1 uF	10%, 100V, MPETP		
C.....21	59.22.8479	4.7 uF	10%, 50V, E1		
C.....22	59.22.8109	1 uF	10%, 50V, E1		
C.....23	59.22.8479	4.7 uF	10%, 50V, E1		
C.....24	59.99.0257	0.033uF	10%, 160V, PETP		
C.....25	59.22.3670	47 uF	10%, 10V, E1		
C.....26	59.31.9103	0.01 uF	10%, 100V, PETP		
C.....27	59.11.6471	470 pF	5%, 400V, PC		
C.....28	59.11.6332	3300 pF	5%, 400V, PC		
L.....1	1.177.231.00				S
L.....2	62.C7.1222	2.2 mH	5%		S
L.....3	1.177.231.00				S
L.....4	62.C2.1222	2.2 mH	5%		S
P.....1	54.01.0220	9-Pole	Pin-Strip		AMP
P.....2	54.01.0270	8-Pole	Pin-Strip		AMP

S T U D E R 82/11/30 PW RECCRD AMPLIFIER 1.177.230.81 PAGE 1

IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....1	50.03.0439	BC 109 C	NPN		
Q.....2	50.03.0436	BC 107 B	NPN		
Q.....3	50.03.0436	BC 107 B	NPN		
Q.....4	50.03.0436	BC 107 B	NPN		
Q.....5	50.03.0439	BC 109 C	NPN		
Q.....6	50.03.0436	PC 107 B	NPN		
Q.....7	50.03.0436	RC 107 B	NPN		
Q.....8	50.03.0436	RC 107 B	NPN		
P.....1					
P.....2					
P.....3					
P.....4					
P.....5	57.11.4821	820 Ohm	5%, 0.25W, CF		
P.....6	57.11.4332	3.3 kOhm	5%, 0.25W, CF		
P.....7	58.02.4223	22 kOhm	10%, 0.1 W, CF		
P.....8	57.11.4563	56 kOhm	5%, 0.25W, CF		
P.....9	57.11.4104	100 kOhm	5%, 0.25W, CF		
P.....10	57.11.4154	150 kOhm	5%, 0.25W, CF		
P.....11	57.11.4563	56 kOhm	5%, 0.25W, CF		
P.....12	58.02.4223	22 kOhm	10%, 0.1 W, CF		
P.....13	58.02.4223	22 kOhm	10%, 0.1 W, CF		
P.....14	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
P.....15	57.11.4682	6.8 kOhm	5%, 0.25W, CF		
P.....16	57.11.4681	680 Ohm	5%, 0.25W, CF		
P.....17	57.11.4224	220 kOhm	5%, 0.25W, CF		
P.....18	57.11.4331	330 Ohm	5%, 0.25W, CF		
P.....19	57.11.4102	1 kOhm	5%, 0.25W, CF		
P.....20	57.11.4224	220 kOhm	5%, 0.25W, CF		
P.....21	57.11.4104	100 kOhm	5%, 0.25W, CF		
P.....22	58.02.4223	22 kOhm	10%, 0.1 W, CF		
P.....23	57.11.4563	56 kOhm	5%, 0.25W, CF		
P.....24	57.11.4821	820 Ohm	5%, 0.25W, CF		
P.....25	57.11.4104	100 kOhm	5%, 0.25W, CF		
P.....26	57.11.4332	3.3 kOhm	5%, 0.25W, CF		
P.....27	58.02.4223	22 kOhm	10%, 0.1 W, CF		
P.....28	58.02.4223	22 kOhm	10%, 0.1 W, CF		

S T U D E R 82/11/30 RW RECCRD AMPLIFIER 1.177.230.81 PAGE 2

IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
P.....29	57.11.4154	150 kOhm	5%, 0.25W, CF		
P.....30	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
P.....31	57.11.4682	6.8 kOhm	5%, 0.25W, CF		
P.....32	57.11.4563	56 kOhm	5%, 0.25W, CF		
P.....33	57.11.4681	680 Ohm	5%, 0.25W, CF		
P.....34	57.11.4224	220 kOhm	5%, 0.25W, CF		
P.....35	57.11.4102	1 kOhm	5%, 0.25W, CF		
P.....36	57.11.4331	330 Ohm	5%, 0.25W, CF		
P.....37	57.11.4224	220 kOhm	5%, 0.25W, CF		
P.....38	57.11.4104	100 kOhm	5%, 0.25W, CF		
P.....39	57.11.4104	100 kOhm	5%, 0.25W, CF		
P.....40	57.11.4104	100 kOhm	5%, 0.25W, CF		

E1=Electrolytic, Cer=Ceramic, PC=Polycarbonate, MPETP=Metallized Polyester
PETP=Polyester
Manufacturer: S=STUDER

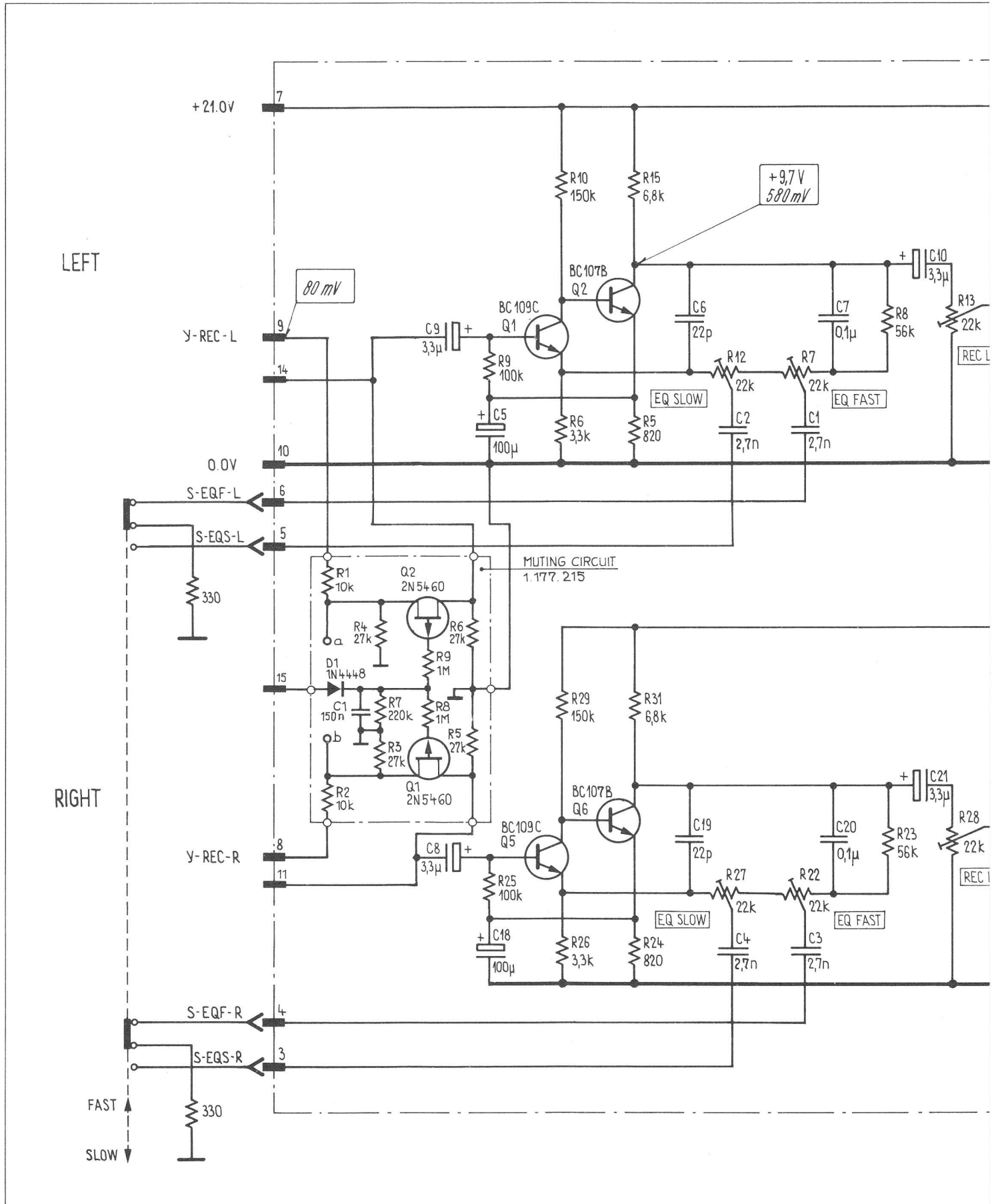
CRIN 82/02/08 (02) *1/12/31

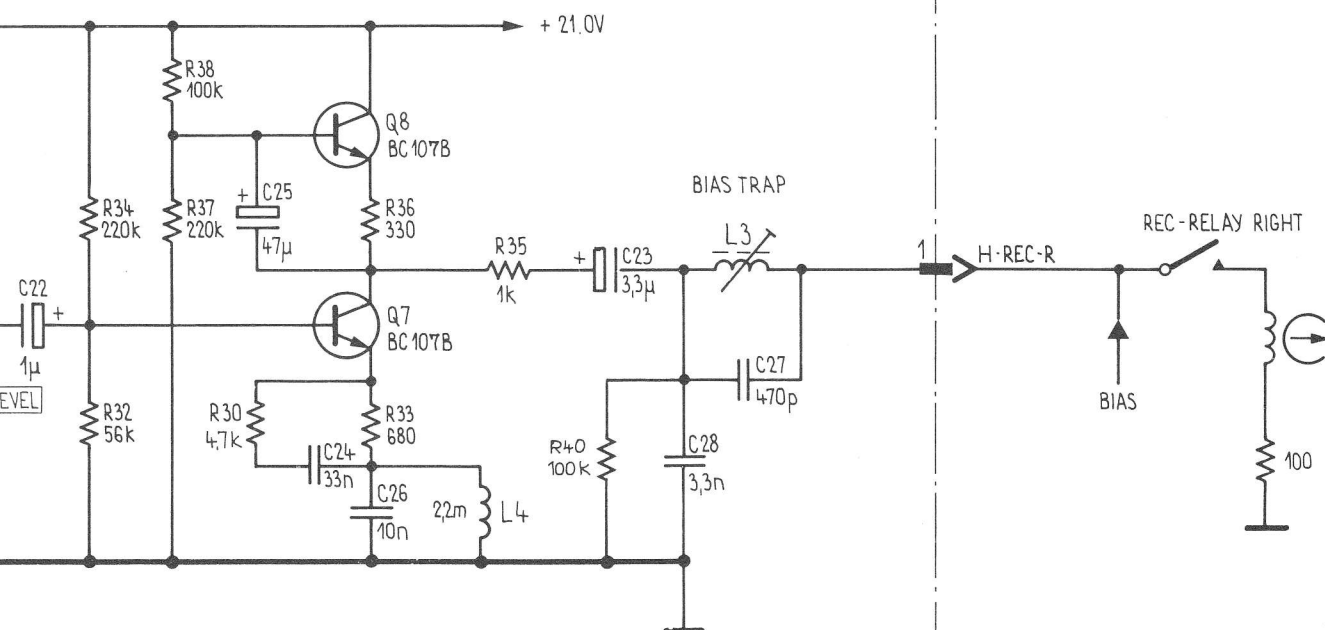
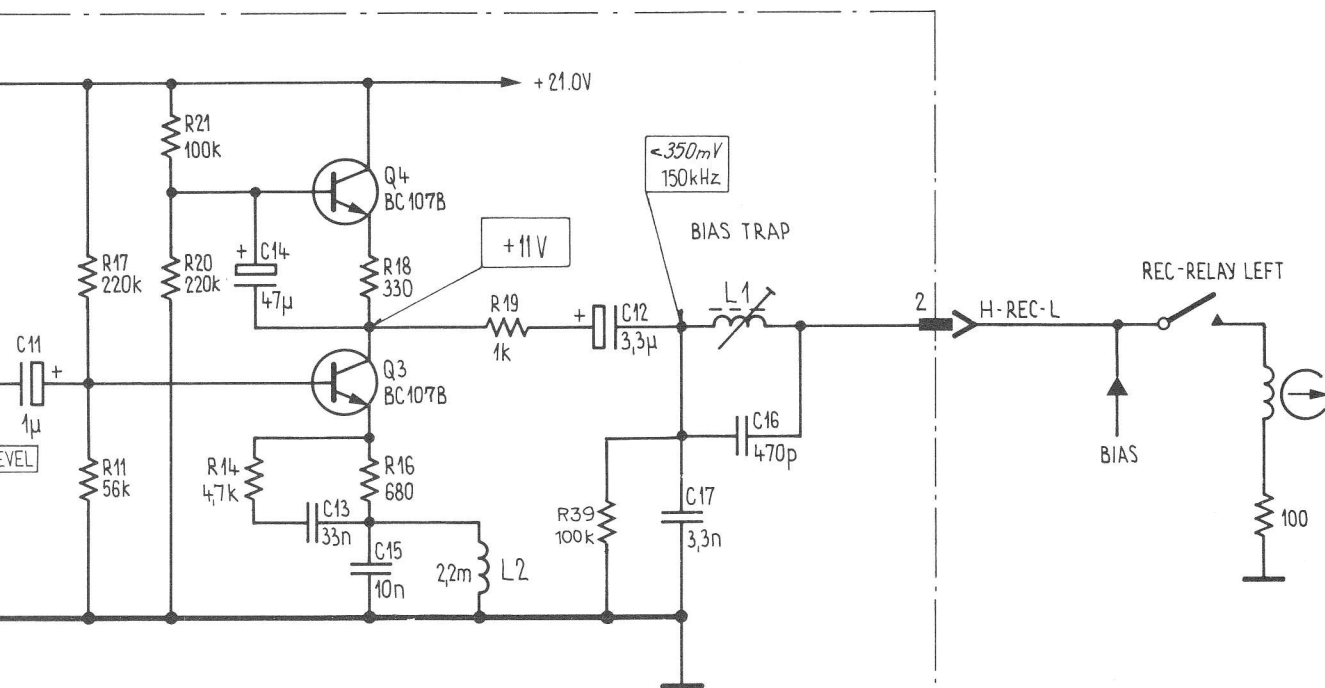
S T U D E R 82/11/30 RW RECCRD AMPLIFIER 1.177.230.81 PAGE 3

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	3Po1	CIS	
J2	54.01.0227	3Po1	CIS	
Q1	50.03.0312	2N5460	PCH Fet	
Q2	50.03.0312	2N5460	PCH 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	11k		
① R9	57.11.4105	11k		

IND	DATE	NAME	
④			
③	11.3.81	Wagthorn	
②	28.1.81	Wagthorn	
①	14.1.81	Gantner	
○	18.12.80	Santner	
STUDER			PL 1.177.215-00 PAGE 1 OF 1

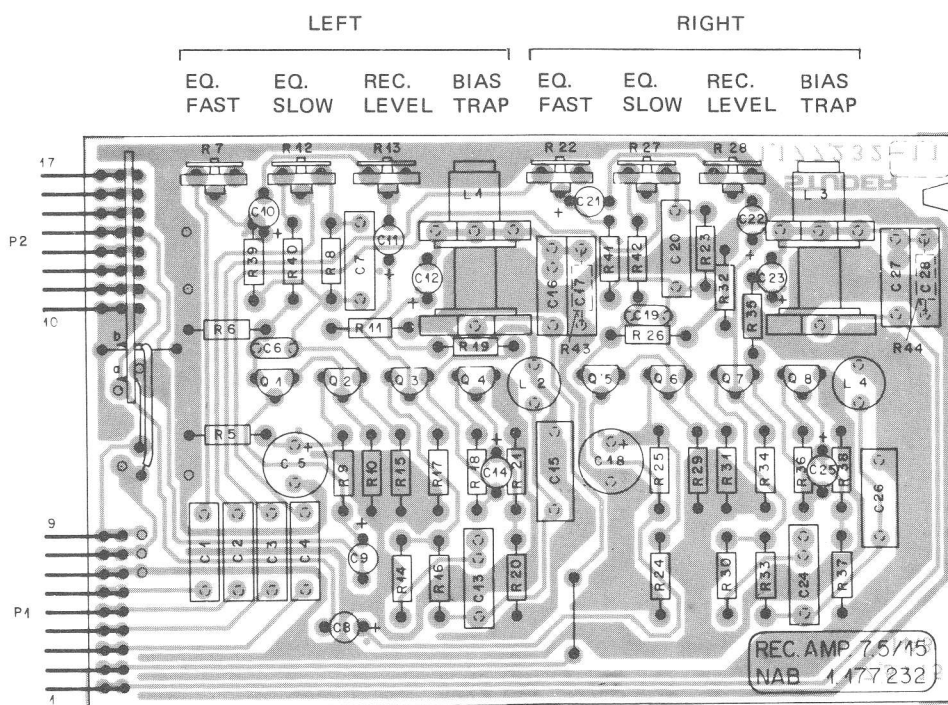
RECORD AMPLIFIER PCB (NAB 3 3/4 - 7 1/2 ips) 1.177.230-81



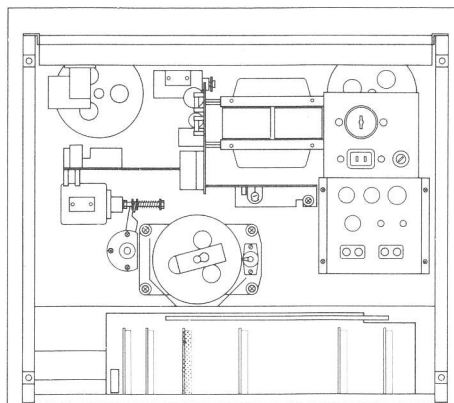
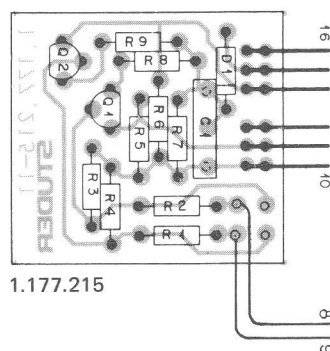


LAYOUT 1.177.230 - 11

SEE SERVICE INFORMATION
63.7 : MUTING CIRCUIT 1.177.215

RECORD AMPLIFIER PCB (NAB 7 1/2 - 15 ips) 1.177.232-81

1.177.232-81



INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.11.3692	6800 pF	5%, 400V, PC		
C.....2	59.11.6272	2700 pF	5%, 400V, PC		
C.....3	59.11.3682	6800 pF	5%, 400V, PC		
C.....4	59.11.6272	2700 pF	5%, 400V, PC		
C.....5	59.22.3101	100 uF	10%, 12V, EI		
C.....6	59.22.0220	22 pF	20%, 500V, Cer		
C.....7	59.31.6104	0.1 uF	10%, 100V, MPETP		
C.....8	59.22.8479	4.7 uF	10%, 50V, EI		
C.....9	59.22.8479	4.7 uF	10%, 50V, EI		
C.....10	59.22.8479	4.7 uF	10%, 50V, EI		
C.....11	59.22.8109	1 uF	10%, 50V, EI		
C.....12	59.22.8479	4.7 uF	10%, 50V, EI		
C.....13	59.11.3682	6800 pF	5%, 400V, PC		
C.....14	59.22.3670	47 uF	10%, 10V, EI		
C.....15	59.31.9103	0.01 uF	10%, 100V, PETP		
C.....16	59.11.6471	470 pF	5%, 400V, PC		
C.....17	59.11.6332	3300 pF	5%, 400V, PC		
C.....18	59.22.3101	100 uF	10%, 12V, EI		
C.....19	59.32.0220	22 pF	20%, 500V, Cer		
C.....20	59.31.6104	0.1 uF	10%, 100V, MPETP		
C.....21	59.22.8479	4.7 uF	10%, 50V, EI		
C.....22	59.22.8109	1 uF	10%, 50V, EI		
C.....23	59.22.8479	4.7 uF	10%, 50V, EI		
C.....24	59.11.3682	6800 pF	5%, 400V, PC		
C.....25	59.22.3670	47 uF	10%, 10V, EI		
C.....26	59.31.9103	0.01 uF	10%, 100V, PETP		
C.....27	59.11.6471	470 pF	5%, 400V, PC		
C.....28	59.11.6322	3300 pF	5%, 400V, PC		
L.....1	1.177.231.00				S
L.....2	62.02.1222	2.2 mH	5%		S
L.....3	1.177.231.00				S
L.....4	62.02.1222	2.2 mH	5%		S
P.....1	54.01.0220	9-Pole	Pin-Strip		AMP
P.....2	54.01.0270	8-Pole	Pin-Strip		AMP

S T L D E R 82/11/30 RW RECCRD AMPLIFIER 7.5-15 NAB 1.177.232.81 PAGE 1

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....1	50.03.0439	BC 109 C	NPN		
Q.....2	50.03.0436	BC 107 B	NPN		
Q.....3	50.03.0436	BC 107 B	NPN		
Q.....4	50.03.0436	BC 107 B	NPN		
Q.....5	50.03.0439	BC 109 C	NPN		
Q.....6	50.03.0436	BC 107 B	NPN		
Q.....7	50.03.0436	BC 107 B	NPN		
Q.....8	50.03.0436	BC 107 B	NPN		
R.....1					
R.....2					
R.....3					
R.....4					
R.....5	57.11.4821	820 Ohm	5%, 0.25W, CF		
R.....6	57.11.4332	3.3 kOhm	5%, 0.25W, CF		
R.....7	58.02.4223	22 kOhm	10%, 0.1 W, CF		
R.....8	57.11.4393	39 kOhm	5%, 0.25W, CF		
R.....9	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....10	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....11	57.11.4563	56 kOhm	5%, 0.25W, CF		
R.....12	58.02.4223	22 kOhm	10%, 0.1 W, CF		
R.....13	58.02.4223	22 kOhm	10%, 0.1 W, CF		
R.....14	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....15	57.11.4682	6.8 kOhm	5%, 0.25W, CF		
R.....16	57.11.4681	680 Ohm	5%, 0.25W, CF		
R.....17	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....18	57.11.4331	330 Ohm	5%, 0.25W, CF		
R.....19	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....20	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....21	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....22	58.02.4223	22 kOhm	10%, 0.1 W, CF		
R.....23	57.11.4393	39 kOhm	5%, 0.25W, CF		
R.....24	57.11.4821	820 Ohm	5%, 0.25W, CF		
R.....25	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....26	57.11.4332	3.3 kOhm	5%, 0.25W, CF		
R.....27	58.02.4223	22 kOhm	10%, 0.1 W, CF		
R.....28	58.02.4223	22 kOhm	10%, 0.1 W, CF		

S T L D E R 82/11/30 RW RECCRD AMPLIFIER 7.5-15 NAB 1.177.232.81 PAGE 2

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....29	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....30	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....31	57.11.4682	6.8 kOhm	5%, 0.25W, CF		
R.....32	57.11.4563	56 kOhm	5%, 0.25W, CF		
R.....33	57.11.4681	680 Ohm	5%, 0.25W, CF		
R.....34	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....35	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....36	57.11.4331	330 Ohm	5%, 0.25W, CF		
R.....37	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....38	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....39	57.11.4272	2.7 kOhm	5%, 0.25W, CF		
R.....40	57.11.4223	22 kOhm	5%, 0.25W, CF		
R.....41	57.11.4272	2.7 kOhm	5%, 0.25W, CF		
R.....42	57.11.4223	22 kOhm	5%, 0.25W, CF		
R.....43	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....44	57.11.4104	100 kOhm	5%, 0.25W, CF		

El=Electrolytic, Cer=Ceramic, PC=Polycarbonate, MPETP=Metallized Polyester
PETP=Polyester
Manufacturer: S=STUDER

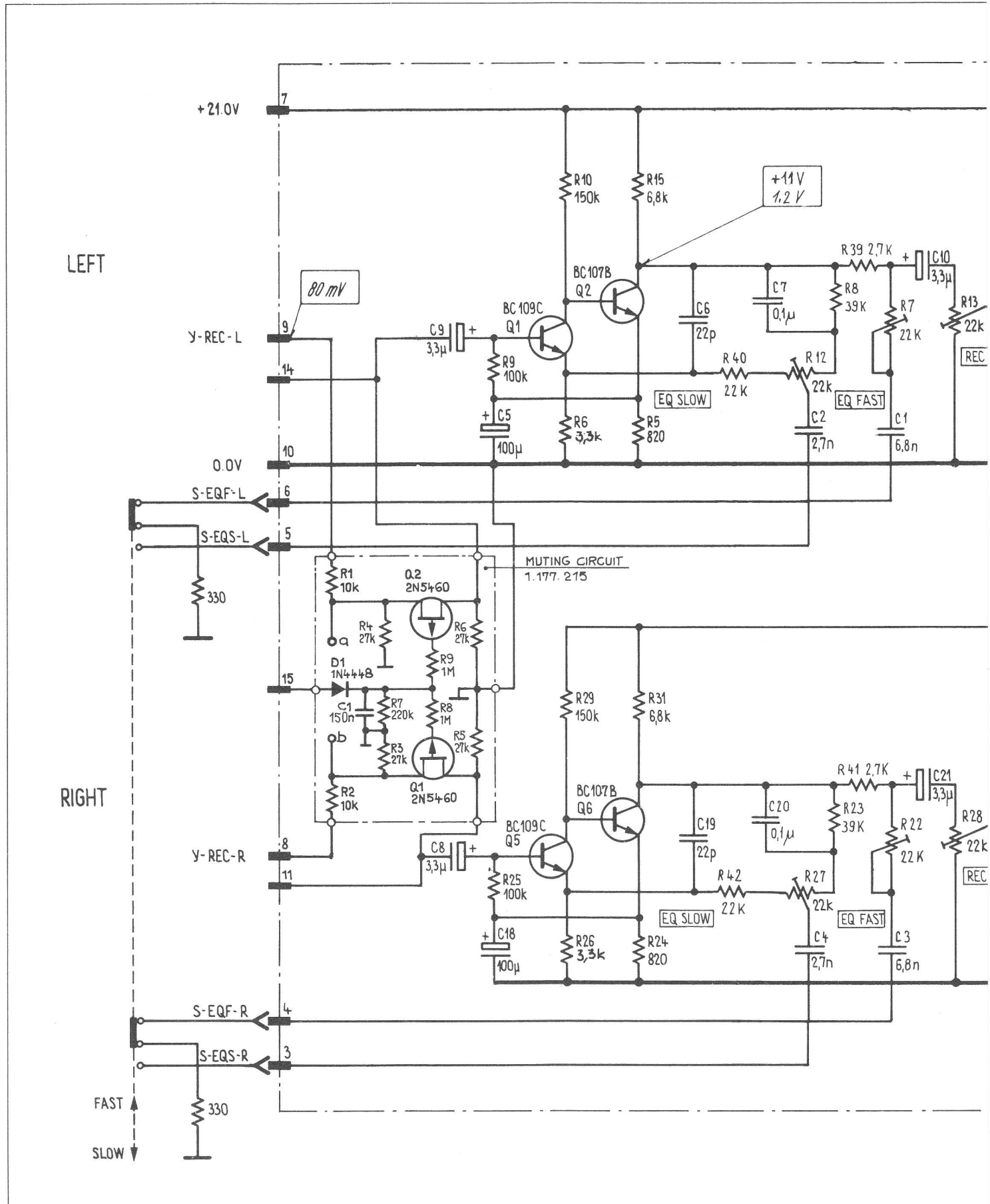
CRIG R2/02/08 (02) 81/12/21

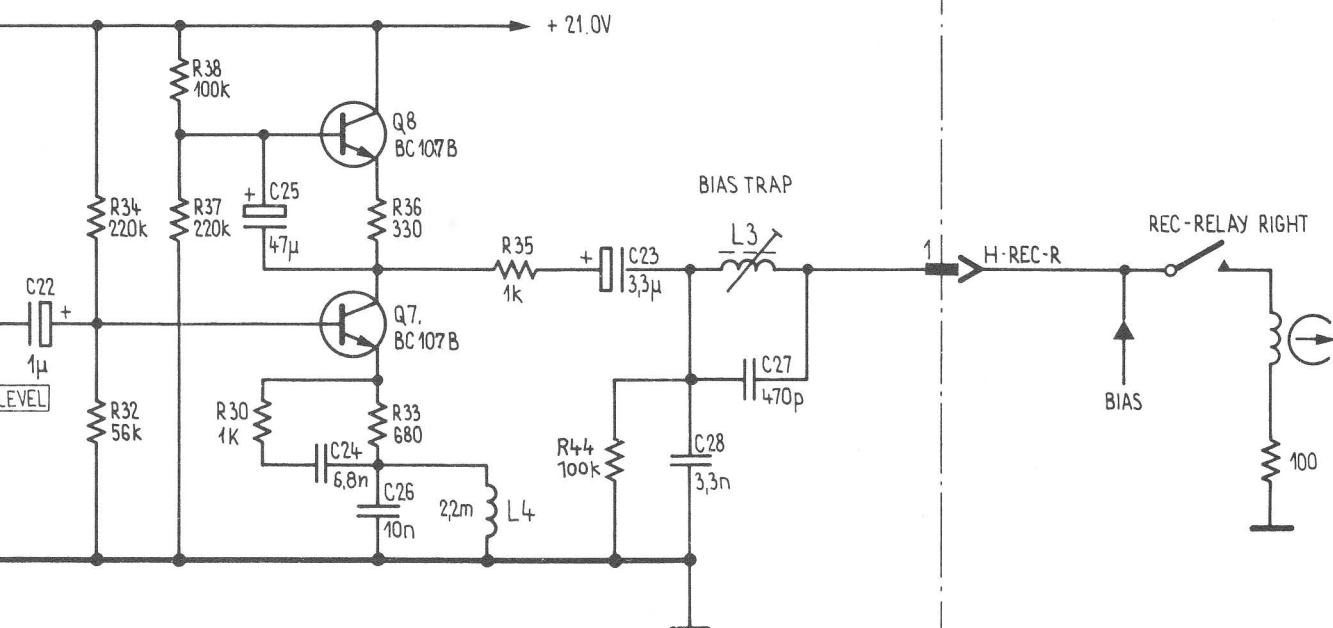
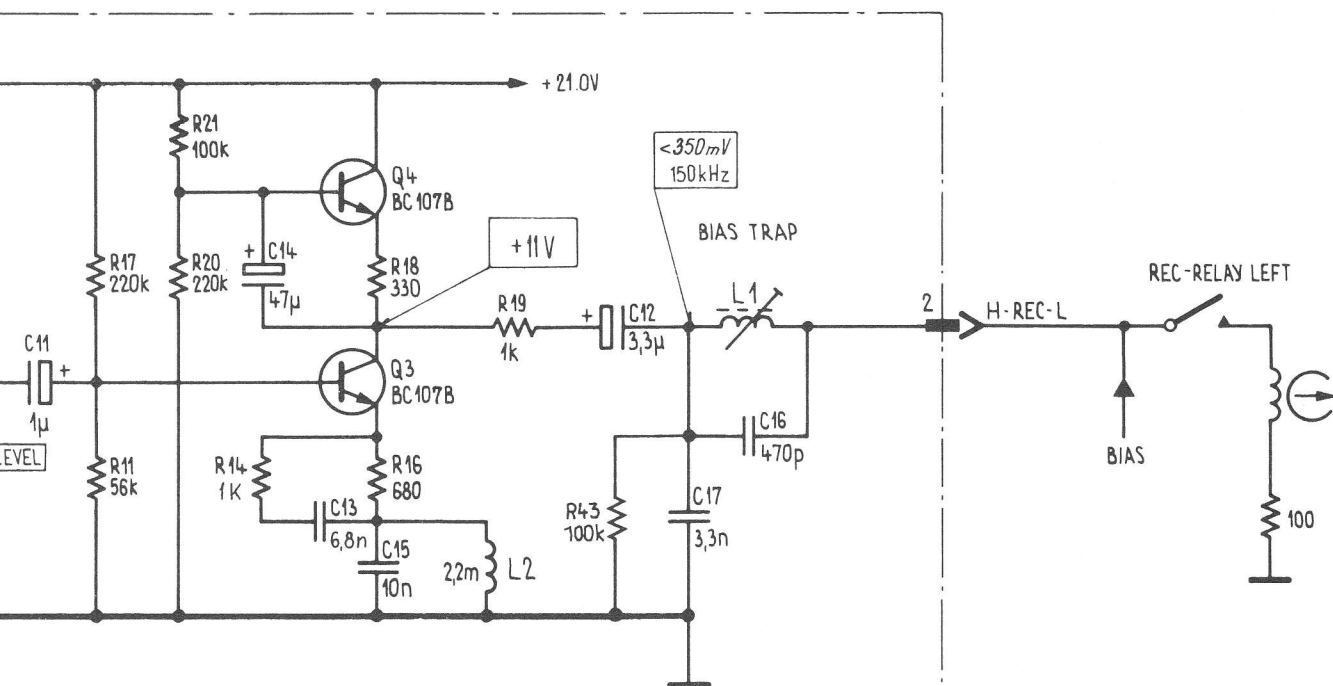
S T L D E R 82/11/30 RW RECCRD AMPLIFIER 7.5-15 NAB 1.177.232.81 PAGE 3

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
③	CA	59.31.4454	150nF		
	DA	50.04.0125	1N4448	S	
	JA	54.01.0227	3Po1	CIS	
	J2	54.01.0227	3Po1	CIS	
	QA	50.03.0312	2N3960	PCH Fet	
	Q2	50.03.0312	2N3960	PCH Fet	
②	PA	57.11.4103	10K		
②	PA	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	PA	57.11.4105	1M		
①	PA	57.11.4105	1M		

IND	DATE	NAME
④		
③	11.3.81	Wapthor
②	28.1.81	Wapthor
①	14.1.81	Gantner
①	18.12.80	Gantner
STUDER	Mixing Circuit	
PL	1.177.215-00	PAGE 1 OF 1

RECORD AMPLIFIER PCB (NAB 7 1/2 - 15 ips) 1.177.232-81

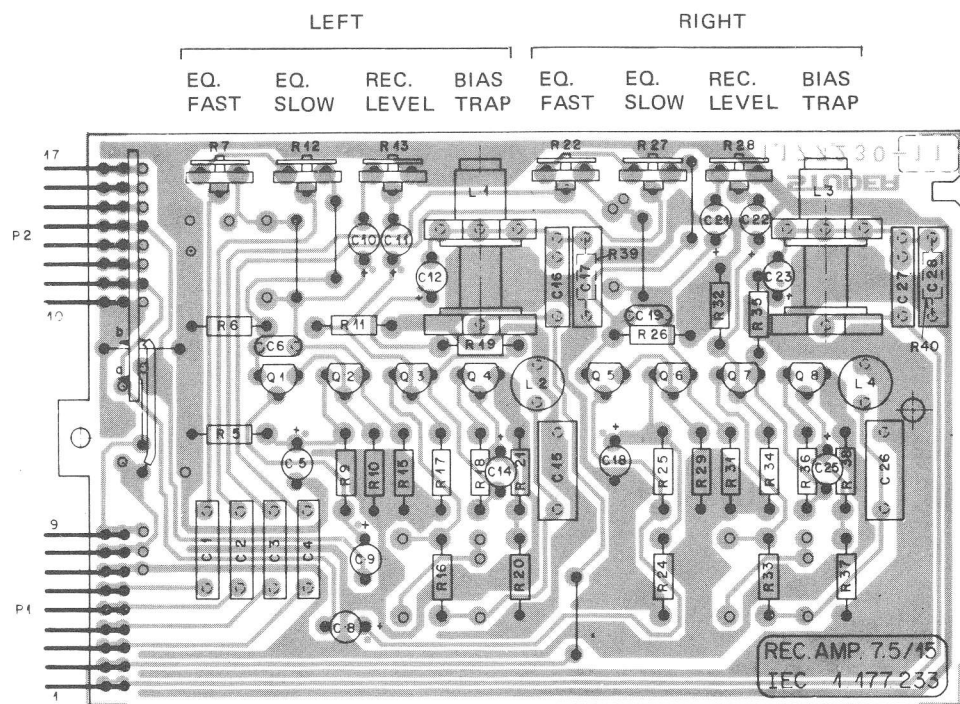




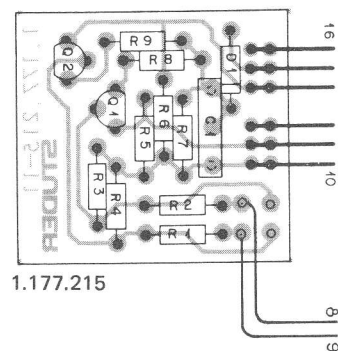
CIRCUIT 1.177.232-81
 (LAY-OUT 1.177.232-11)

SEE SERVICE INFORMATION
 63.7 : MUTING CIRCUIT 1.177.215

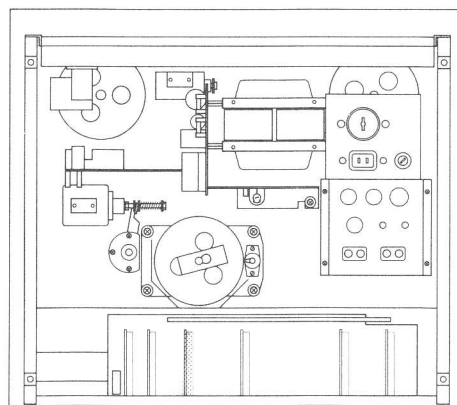
RECORD AMPLIFIER PCB (IEC 7 1/2 - 15 ips) 1.177.233-81



1.177.233-81



1.177.215



S T U D E R 82/11/30 RW RECORD AMPLIFIER 7.5-15 CCIR 1.177.233.81 PAGE 1

S T U D E R 82/11/30 RW RECORD AMPLIFIER 7,5-15 CCIR 1.177.233.81 PAGE 2

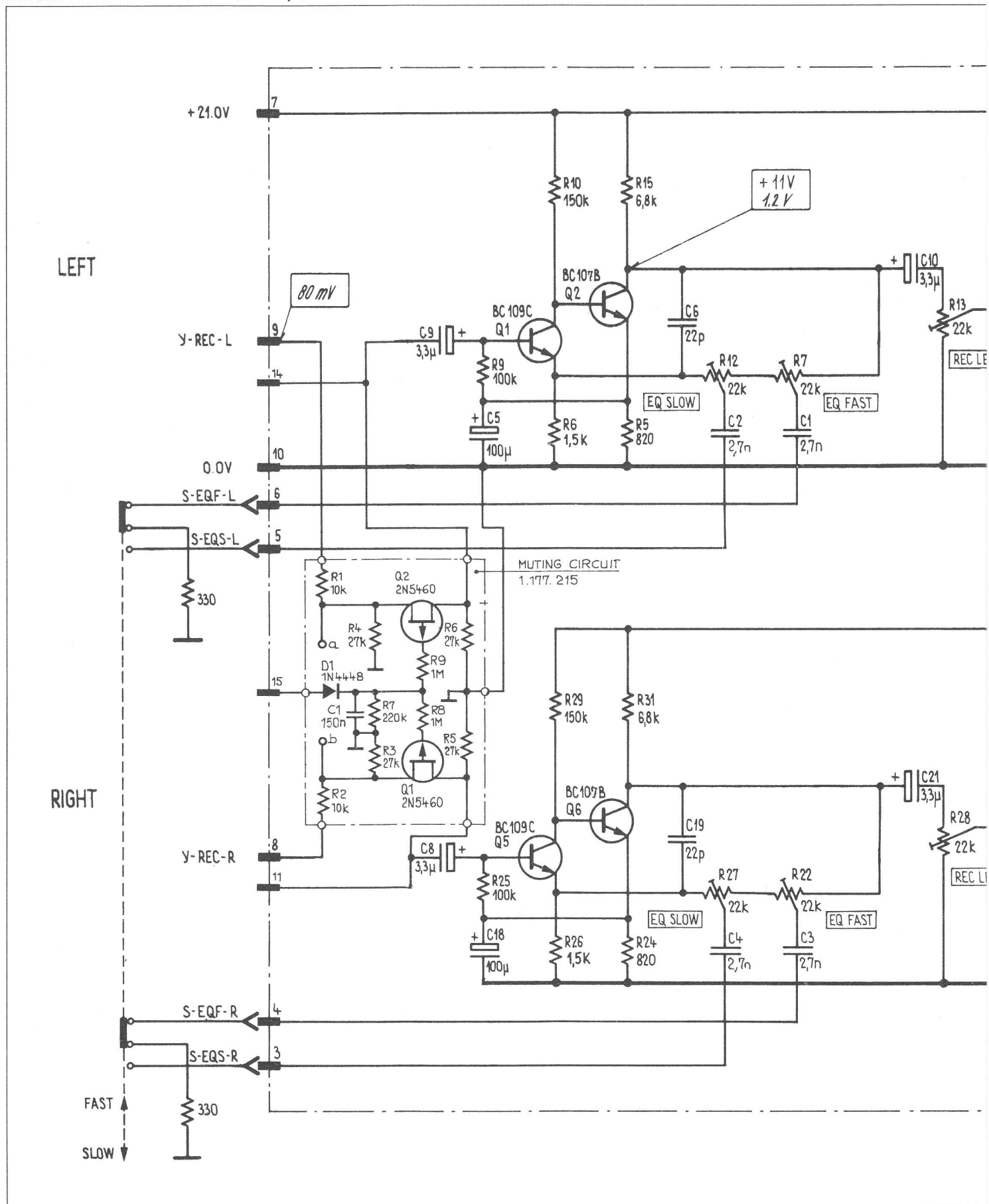
E1=Electrolytic; Cer=Ceramic; PC=Polycarbonate; MPETP=Metallized Polyester
PETP=Polyester
Manufacturer: S=STUDER

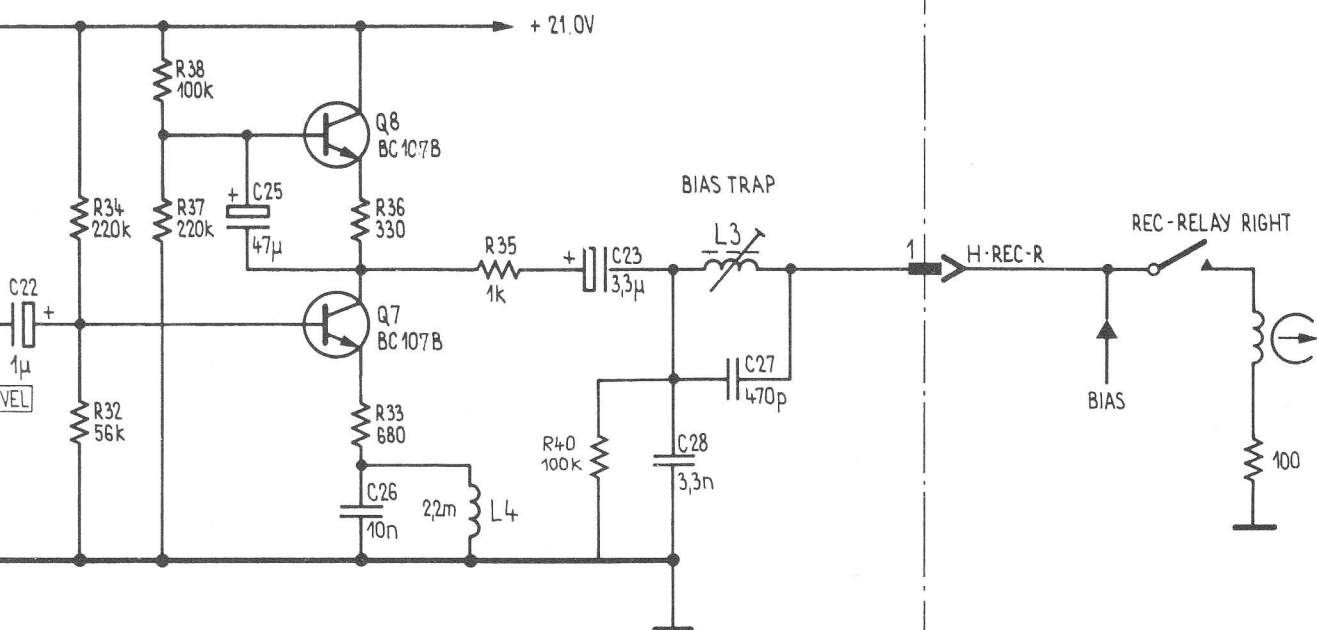
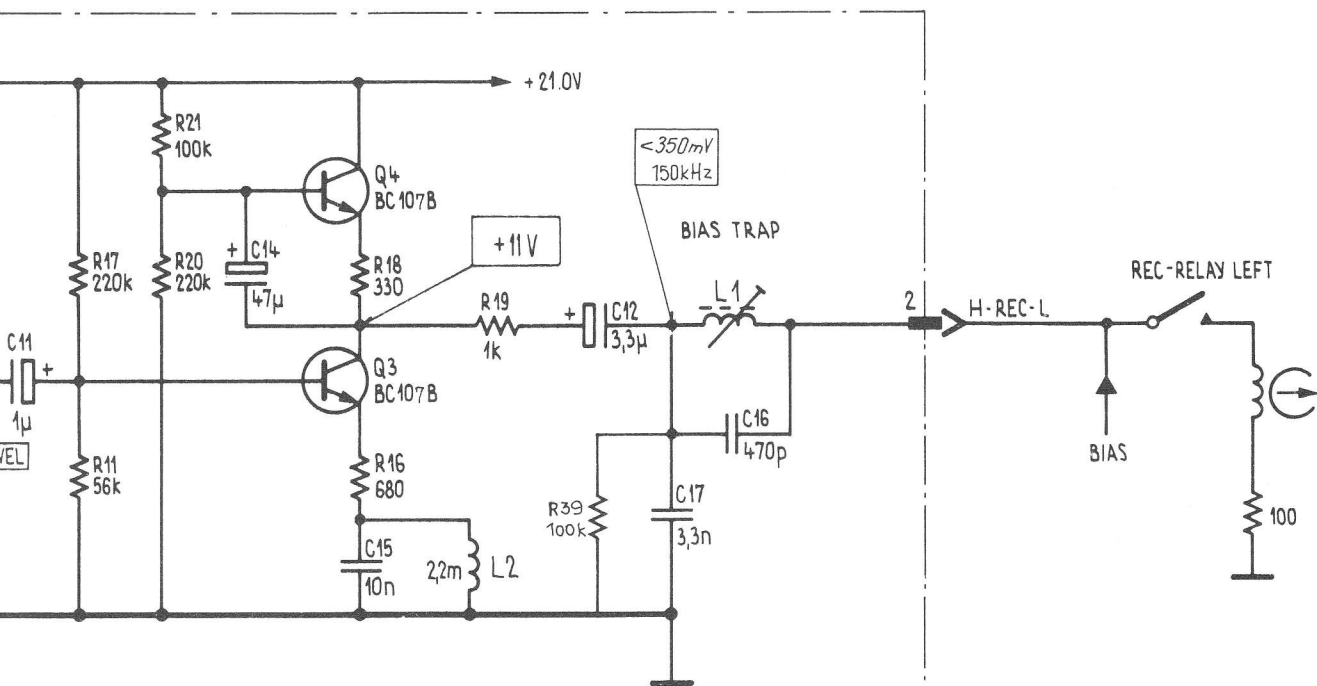
CRIG 82/02/08 (02) 81/12/21

IND	DATE	NAME	
④			
③	11.3.81	Wagthorne	
②	28.1.81	Wagthorne	
①	14.1.81	Gantner	
○	18.12.80	Gantner	
STUDER	Mating Circuit	PL	1.177.215-00 PAGE 1 of 1

CRIG 82/02/08 (02) 81/12/21

RECORD AMPLIFIER PCB (IEC 7 1/2 - 15 ips) 1.177.233-81

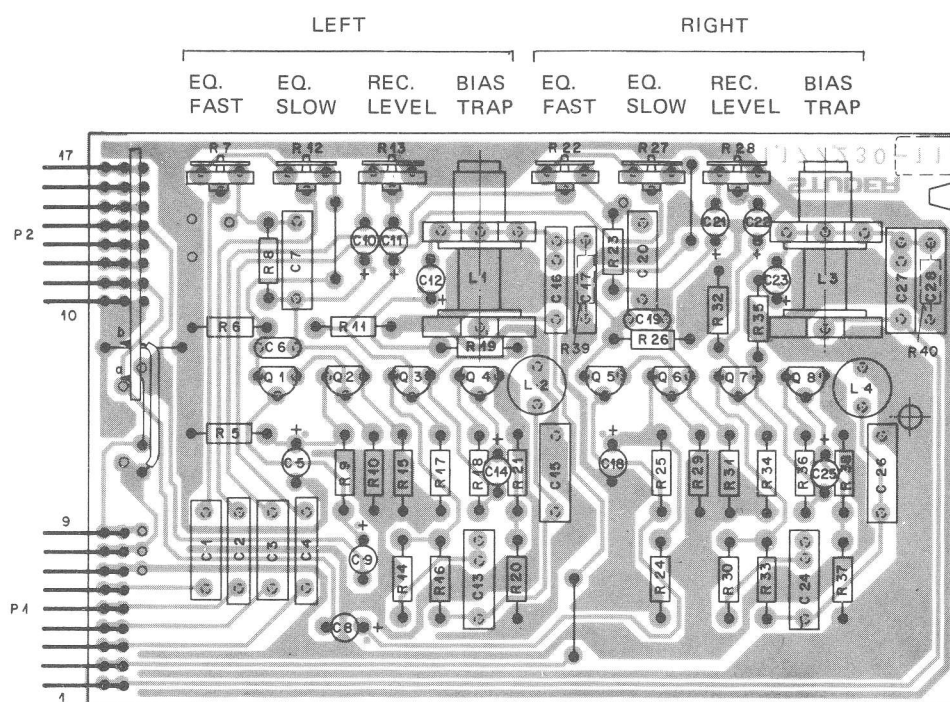




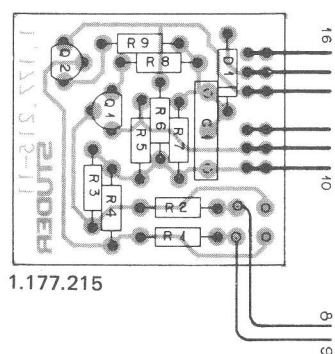
CIRCUIT 1.177.233-81
(LAY-OUT 1.177.230-11)

SEE SERVICE INFORMATION
63.7 : MUTING CIRCUIT 1.177.215

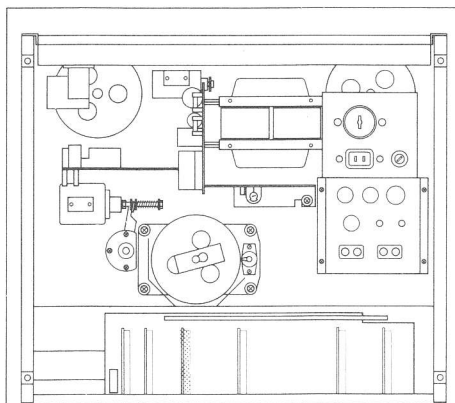
RECORD AMPLIFIER PCB (NAB 1 7/8 – 3 3/4 ips) 1.177.237-81



1.177.237-81



1.177.215



INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.11.6272	2700 pF	5%, 400V,	PC	
C.....2	59.11.4472	4700 pF	2.5%,	PC	
C.....3	59.11.6272	2700 pF	5%, 400V,	PC	
C.....4	59.11.4472	4700 pF	2.5%,	PC	
C.....5	59.22.3101	100 uF	10%, 12V,	EI	
C.....6	59.32.0220	22 pF	20%, 500V,	Cer	
C.....7	59.31.6104	0.1 uF	10%, 100V,	MPETP	
C.....8	59.22.8479	4.7 uF	10%, 50V,	EI	
C.....9	59.22.8479	4.7 uF	10%, 50V,	EI	
C.....10	59.22.8479	4.7 uF	10%, 50V,	EI	
C.....11	59.22.8109	1 uF	10%, 50V,	EI	
C.....12	59.22.8479	4.7 uF	10%, 50V,	EI	
C.....13	59.11.3103	0.01uF	10%, 160V,	PETP	
C.....14	59.22.3470	47 uF	10%, 10V,	EI	
C.....15	59.11.3103	0.01 uF	5%, 160V,	PETP	
C.....16	59.11.6471	470 pF	5%, 400V,	PC	
C.....17	59.11.6332	3300 pF	5%, 400V,	PC	
C.....18	59.22.3101	100 uF	10%, 12V,	EI	
C.....19	59.32.0220	22 pF	20%, 500V,	Cer	
C.....20	59.31.6104	0.1 uF	10%, 100V,	MPETP	
C.....21	59.22.8479	4.7 uF	10%, 50V,	EI	
C.....22	59.22.8109	1 uF	10%, 50V,	EI	
C.....23	59.22.8479	4.7 uF	10%, 50V,	EI	
C.....24	59.11.3103	0.01 uF	10%, 160V,	PETP	
C.....25	59.22.3470	47 uF	10%, 10V,	EI	
C.....26	59.11.3103	0.01 uF	5%, 160V,	PETP	
C.....27	59.11.6471	470 pF	5%, 400V,	PC	
C.....28	59.11.6322	3300 pF	5%, 400V,	PC	

L.....1	1.177.231.00				S
L.....2	62.02.1222	2.2 mH	5%		S
L.....3	1.177.231.00				
L.....4	62.02.1222	2.2 mH	5%		
P.....1	54.01.0220	9-Pole	Pin-Strip		AMP
P.....2	54.01.0270	8-Pole	Pin-Strip		AMP

S T U D E R 82/11/30 RW RECORD AMPLIFIER 4+75/9+5 1.177.237.81 PAGE 1

IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....1	50.03.0439	BC 109 C		NPN	
Q.....2	50.03.0436	BC 107 B		NPN	
Q.....3	50.03.0436	BC 107 B		NPN	
Q.....4	50.03.0436	BC 107 B		NPN	
Q.....5	50.03.0439	BC 109 C		NPN	
Q.....6	50.03.0436	BC 107 B		NPN	
Q.....7	50.03.0436	BC 107 B		NPN	
Q.....8	50.03.0436	BC 107 B		NPN	
R.....1					
R.....2					
R.....3					
R.....4					
R.....5	57.11.4621	820 Ohm	5%, 0.25W,	CF	
R.....6	57.11.4222	2.2 kOhm	5%, 0.25W,	CF	
R.....7	58.02.4223	22 kOhm	10%, 0.1 W,	CF	
R.....8	57.11.4473	47 kOhm	5%, 0.25W,	CF	
R.....9	57.11.4104	100 kOhm	5%, 0.25W,	CF	
R.....10	57.11.4154	150 kOhm	5%, 0.25W,	CF	
R.....11	57.11.4563	56 kOhm	5%, 0.25W,	CF	
R.....12	58.02.4223	22 kOhm	10%, 0.1 W,	CF	
R.....13	58.02.4223	22 kOhm	10%, 0.1 W,	CF	
R.....14	57.11.4102	1 kOhm	5%, 0.25W,	CF	
R.....15	57.11.4682	6.8 kOhm	5%, 0.25W,	CF	
R.....16	57.11.4681	680 Ohm	5%, 0.25W,	CF	
R.....17	57.11.4224	220 kOhm	5%, 0.25W,	CF	
R.....18	57.11.4331	330 Ohm	5%, 0.25W,	CF	
R.....19	57.11.4102	1 kOhm	5%, 0.25W,	CF	
R.....20	57.11.4224	220 kOhm	5%, 0.25W,	CF	
R.....21	57.11.4104	100 kOhm	5%, 0.25W,	CF	
R.....22	58.02.4223	22 kOhm	10%, 0.1 W,	CF	
R.....23	57.11.4473	47 kOhm	5%, 0.25W,	CF	
R.....24	57.11.4621	820 Ohm	5%, 0.25W,	CF	
R.....25	57.11.4104	100 kOhm	5%, 0.25W,	CF	
R.....26	57.11.4222	2.2 kOhm	5%, 0.25W,	CF	
R.....27	58.02.4223	22 kOhm	10%, 0.1 W,	CF	
R.....28	58.02.4223	22 kOhm	10%, 0.1 W,	CF	

S T U D E R 82/11/30 RW RECORD AMPLIFIER 4+75/9+5 1.177.237.81 PAGE 2

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....29	57.11.4154	150 kOhm	5%, 0.25W,	CF	
R.....30	57.11.4102	1 kOhm	5%, 0.25W,	CF	
R.....31	57.11.4682	6.8 kOhm	5%, 0.25W,	CF	
R.....32	57.11.4563	56 kOhm	5%, 0.25W,	CF	
R.....33	57.11.4681	680 Ohm	5%, 0.25W,	CF	
R.....34	57.11.4224	220 kOhm	5%, 0.25W,	CF	
R.....35	57.11.4102	1 kOhm	5%, 0.25W,	CF	
R.....36	57.11.4331	330 Ohm	5%, 0.25W,	CF	
R.....37	57.11.4224	220 kOhm	5%, 0.25W,	CF	
R.....38	57.11.4104	100 kOhm	5%, 0.25W,	CF	
R.....39	57.11.4104	100 kOhm	5%, 0.25W,	CF	
R.....40	57.11.4104	100 kOhm	5%, 0.25W,	CF	

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
③	C1	59.3.1.1154	150nF		
	D1	50.04.0.125	1N442	S'	
	J1	54.01.0227	3Po1	CIS	
	J2	54.01.0227	3Po1	CIS	
	Q1	50.03.03.12	2N5460	PCH Fet	
	Q2	50.03.03.12	2N5460	PCH Fet	
②	R1	57.11.4.103	10k		
②	R2	57.11.4.103	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	57.11.4.105	1M		
①	R9	57.11.4.105	1M		

IND	DATE	NAME
④		
③	11.3.81	Wapthorpe
②	28.1.81	Wapthorpe
①	14.1.81	Gantner
○	18.12.80	Gantner

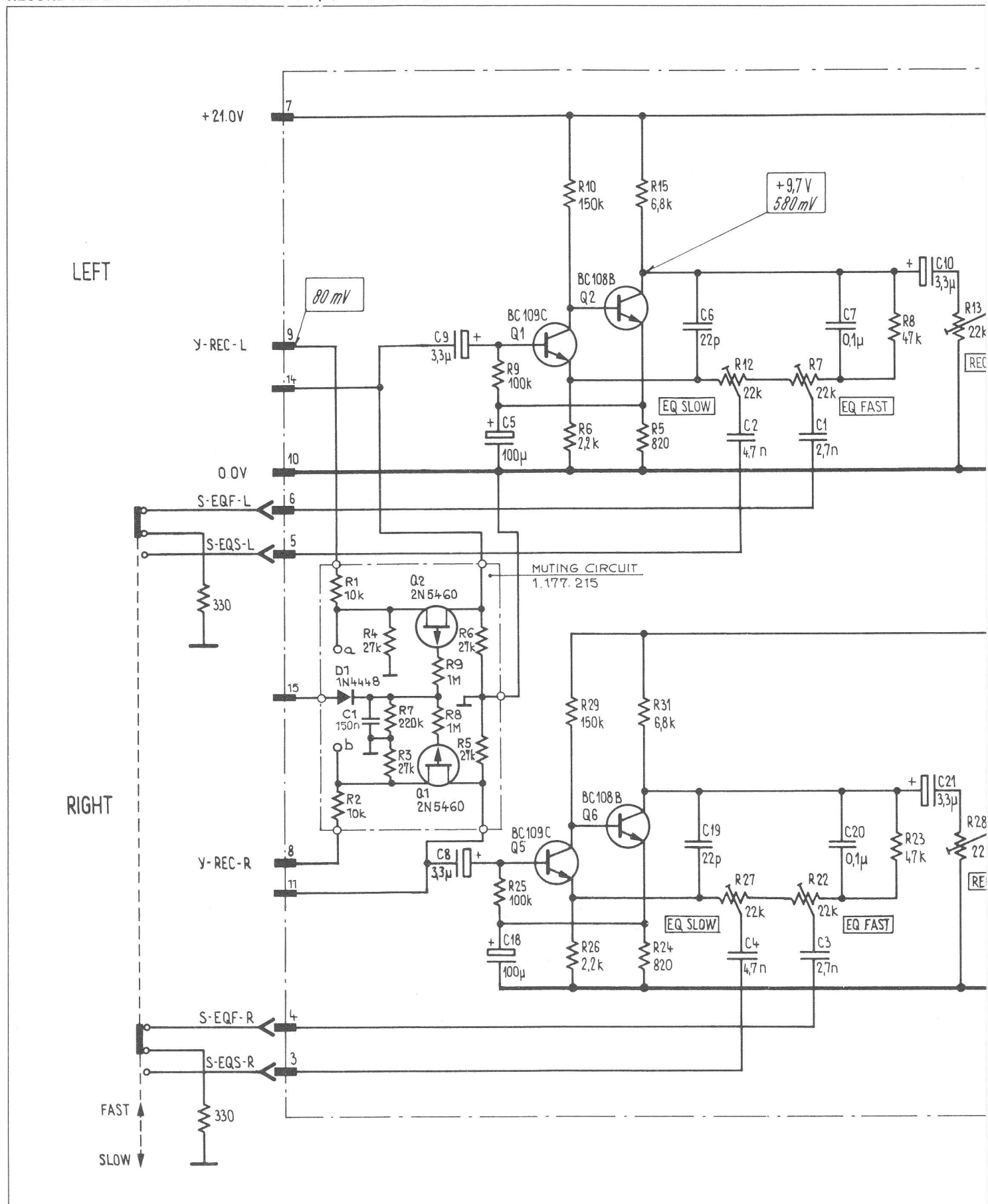
STUDER Muting Circuit PL 1.177.215-00 PAGE 1 OF 1

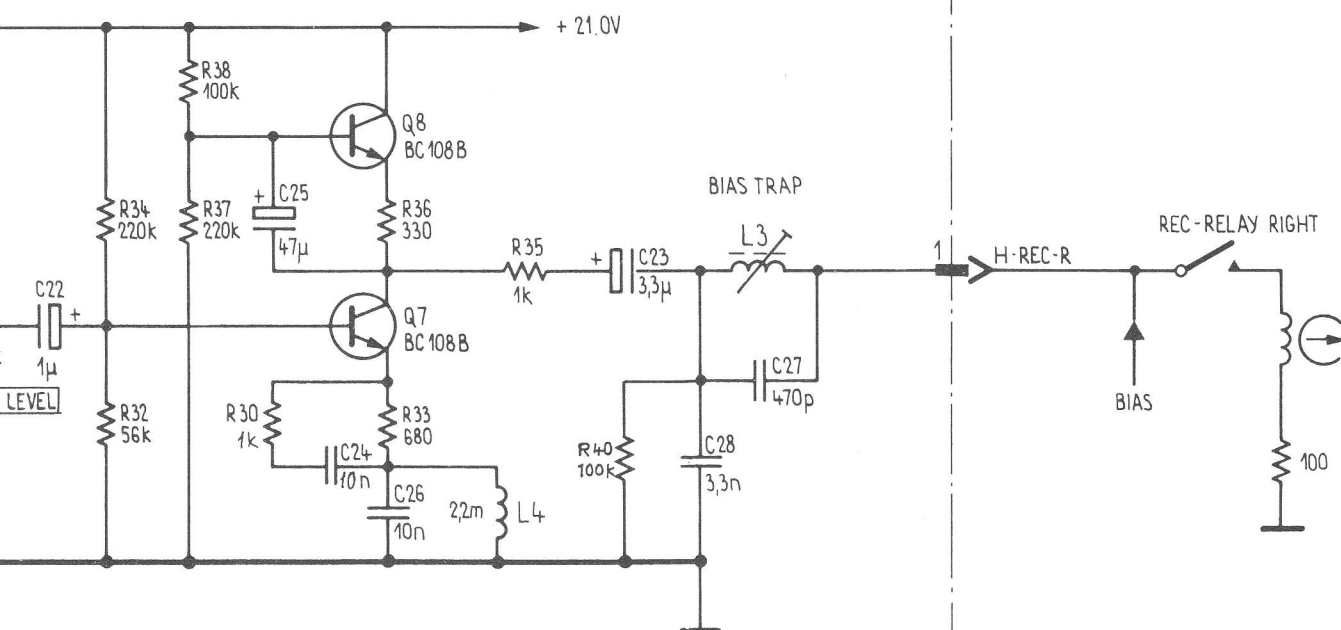
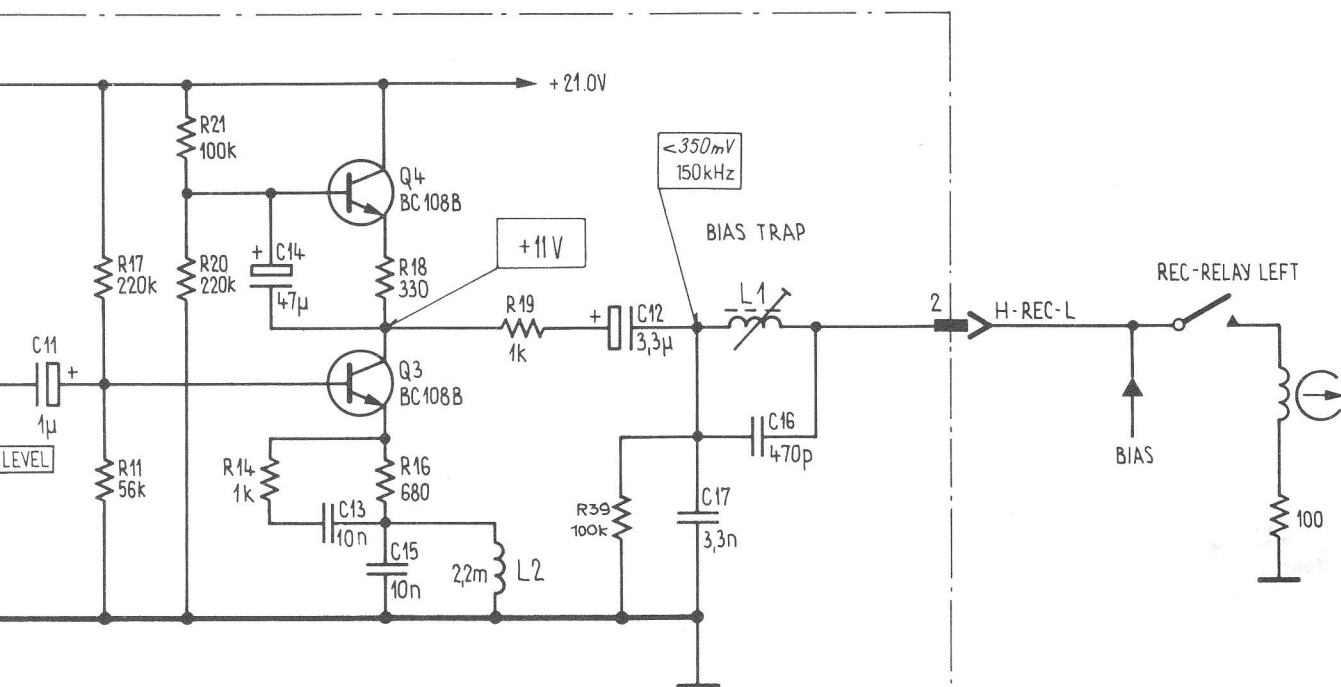
EI=Electrolytic; Cer=Ceramic; PC=Polycarbonate; MPETP=Metallized Polyester
PETP=Polyester
Manufacturer: S=STUDER

ORIG R2/C2/10 (02) R1/12/21

S T U D E R 82/11/30 RW RECORD AMPLIFIER 4+75/9+5 1.177.237.81 PAGE 3

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

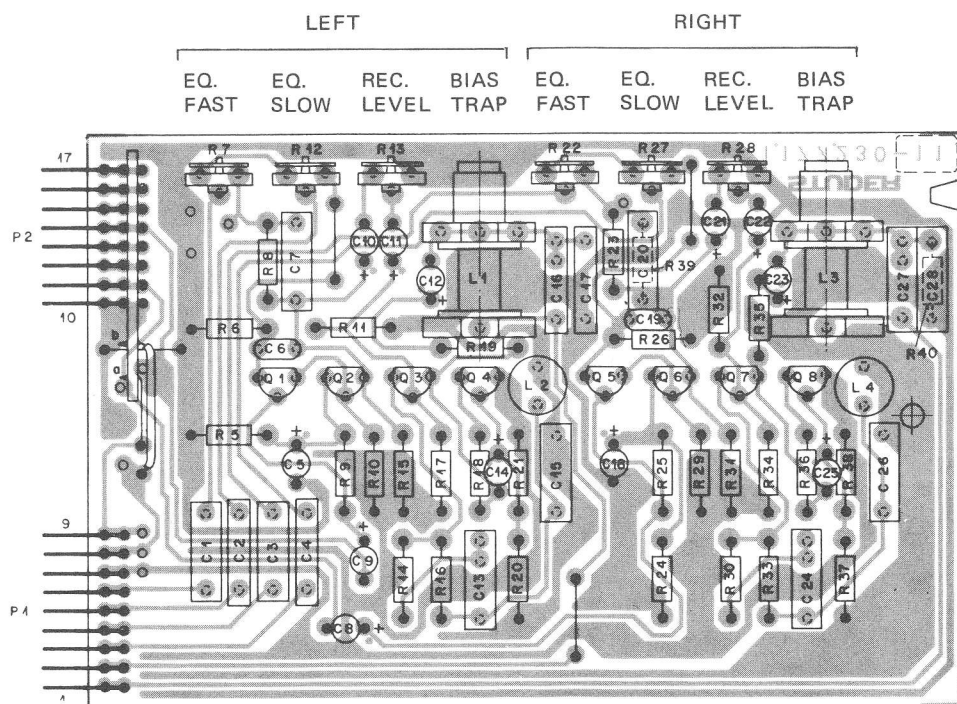




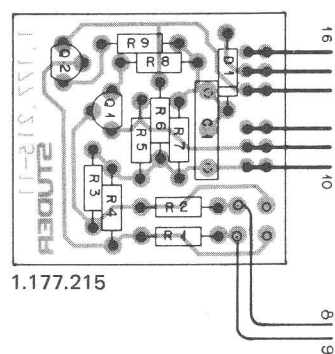
CIRCUIT 1.177.237-01
 (LAY-OUT 1.177.230-11)

SEE SERVICE INFORMATION
 63.7 : MUTING CIRCUIT 1.177.215

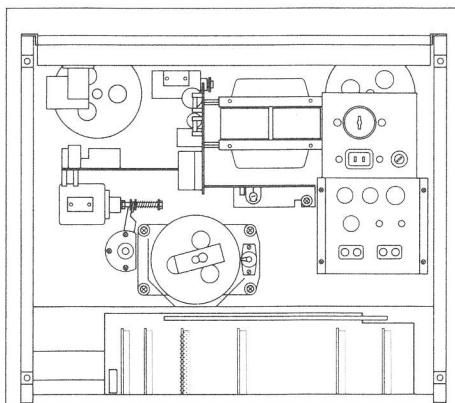
RECORD AMPLIFIER PCB (NAB 15/16 - 1 7/8 ips) 1.177.238-81



1.177.238-81



1.177.215



IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.11.4103	0.01 uF	2.5%	160V ₊ PC	
C.....2	59.12.4183	0.018uF	5%	250V ₊ MPETP	
C.....3	59.11.4103	0.01 uF	2.5%	160V ₊ PC	
C.....4	59.11.4183	0.018uF	5%	250V ₊ MPETP	
C.....5	59.22.3101	100 uF	10%	12V ₊ EI	
C.....6	59.32.0220	22 pF	20%	500V ₊ Cer	
C.....7	59.31.6104	0.1 uF	10%	100V ₊ MPETP	
C.....8	59.22.8479	4.7 uF	10%	50V ₊ EI	
C.....9	59.22.8479	4.7 uF	10%	50V ₊ EI	
C.....10	59.22.8479	4.7 uF	10%	50V ₊ EI	
C.....11	59.22.8109	1 uF	10%	50V ₊ EI	
C.....12	59.22.8479	4.7 uF	10%	50V ₊ EI	
C.....13	59.11.3103	0.01uF	10%	160V ₊ PETP	
C.....14	59.22.3470	47 uF	10%	10V ₊ EI	
C.....15	59.31.9103	0.01 uF	10%	100V ₊ PETP	
C.....16	59.11.6471	470 pF	5%	400V ₊ PC	
C.....17	59.11.6332	3300 pF	5%	400V ₊ PC	
C.....18	59.22.3101	100 uF	10%	12V ₊ EI	
C.....19	59.32.0220	22 pF	20%	500V ₊ Cer	
C.....20	59.31.6104	0.1 uF	10%	100V ₊ MPETP	
C.....21	59.22.8479	4.7 uF	10%	50V ₊ EI	
C.....22	59.22.8109	1 uF	10%	50V ₊ EI	
C.....23	59.22.8479	4.7 uF	10%	50V ₊ EI	
C.....24	59.11.4103	0.01 uF	2.5%	160V ₊ PC	
C.....25	59.22.3470	47 uF	10%	10V ₊ EI	
C.....26	59.31.9103	0.01 uF	10%	100V ₊ PETP	
C.....27	59.11.6471	470 pF	5%	400V ₊ PC	
C.....28	59.11.6322	3300 pF	5%	400V ₊ PC	
L.....1	1.177.231.00				S
L.....2	62.02.1222	2.2 mH	5%		S
L.....3	1.177.231.00				
L.....4	62.02.1222	2.2 mH	5%		
P.....1	54.01.0220	9-Pole		Pin-Strip	AMP
P.....2	54.01.0270	8-Pole		Pin-Strip	AMP

STUDER 82/11/30 RW RECORD AMPLIFIER 2.38/4.75 1.177.238.81 PAGE 1

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....1	50.03.0439	BC 109 C		NPN	
Q.....2	50.03.0436	BC 107 B		NPN	
Q.....3	50.03.0436	BC 107 B		NPN	
Q.....4	50.03.0436	BC 107 B		NPN	
Q.....5	50.03.0439	BC 109 C		NPN	
Q.....6	50.03.0436	BC 107 B		NPN	
Q.....7	50.03.0436	BC 107 B		NPN	
Q.....8	50.03.0436	BC 107 B		NPN	
R.....1					
R.....2					
R.....3					
R.....4					
R.....5	57.11.4821	820 Ohm	5%	0.25W ₊ CF	
R.....6	57.11.4332	3.3 kOhm	5%	0.25W ₊ CF	
R.....7	58.02.4223	22 kOhm	10%	0.1 W ₊ CF	
R.....8	57.11.4563	56 kOhm	5%	0.25W ₊ CF	
R.....9	57.11.4104	100 kOhm	5%	0.25W ₊ CF	
R.....10	57.11.4154	150 kOhm	5%	0.25W ₊ CF	
R.....11	57.11.4563	56 kOhm	5%	0.25W ₊ CF	
R.....12	58.02.4223	22 kOhm	10%	0.1 W ₊ CF	
R.....13	58.02.4223	22 kOhm	10%	0.1 W ₊ CF	
R.....14	57.11.4681	680 Ohm	5%	0.25W ₊ CF	
R.....15	57.11.4682	6.8 kOhm	5%	0.25W ₊ CF	
R.....16	57.11.4681	680 Ohm	5%	0.25W ₊ CF	
R.....17	57.11.4224	220 kOhm	5%	0.25W ₊ CF	
R.....18	57.11.4331	330 Ohm	5%	0.25W ₊ CF	
R.....19	57.11.4102	1 kOhm	5%	0.25W ₊ CF	
R.....20	57.11.4224	220 kOhm	5%	0.25W ₊ CF	
R.....21	57.11.4104	100 kOhm	5%	0.25W ₊ CF	
R.....22	58.02.4223	22 kOhm	10%	0.1 W ₊ CF	
R.....23	57.11.4563	56 kOhm	5%	0.25W ₊ CF	
R.....24	57.11.4821	820 Ohm	5%	0.25W ₊ CF	
R.....25	57.11.4104	100 kOhm	5%	0.25W ₊ CF	
R.....26	57.11.4332	3.3 kOhm	5%	0.25W ₊ CF	
R.....27	58.02.4223	22 kOhm	10%	0.1 W ₊ CF	
R.....28	58.02.4223	22 kOhm	10%	0.1 W ₊ CF	

STUDER 82/11/30 RW RECORD AMPLIFIER 2.38/4.75 1.177.238.81 PAGE 2

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....29	57.11.4154	150 kOhm	5%	0.25W ₊ CF	
R.....30	57.11.4681	680 Ohm	5%	0.25W ₊ CF	
R.....31	57.11.4682	6.8 kOhm	5%	0.25W ₊ CF	
R.....32	57.11.4563	56 kOhm	5%	0.25W ₊ CF	
R.....33	57.11.4681	680 Ohm	5%	0.25W ₊ CF	
R.....34	57.11.4224	220 kOhm	5%	0.25W ₊ CF	
R.....35	57.11.4102	1 kOhm	5%	0.25W ₊ CF	
R.....36	57.11.4331	330 Ohm	5%	0.25W ₊ CF	
R.....37	57.11.4224	220 kOhm	5%	0.25W ₊ CF	
R.....38	57.11.4104	100 kOhm	5%	0.25W ₊ CF	
R.....39	57.11.4104	100 kOhm	5%	0.25W ₊ CF	
R.....40	57.11.4104	100 kOhm	5%	0.25W ₊ CF	

E=Electrolytic, Cer=Ceramic, PC=Polycarbonate, MPETP=Metallized Polyester
PFTP=Polyester
Manufacturer: S=STUDER

ORIG 82/02/10 (02) R1/12/21

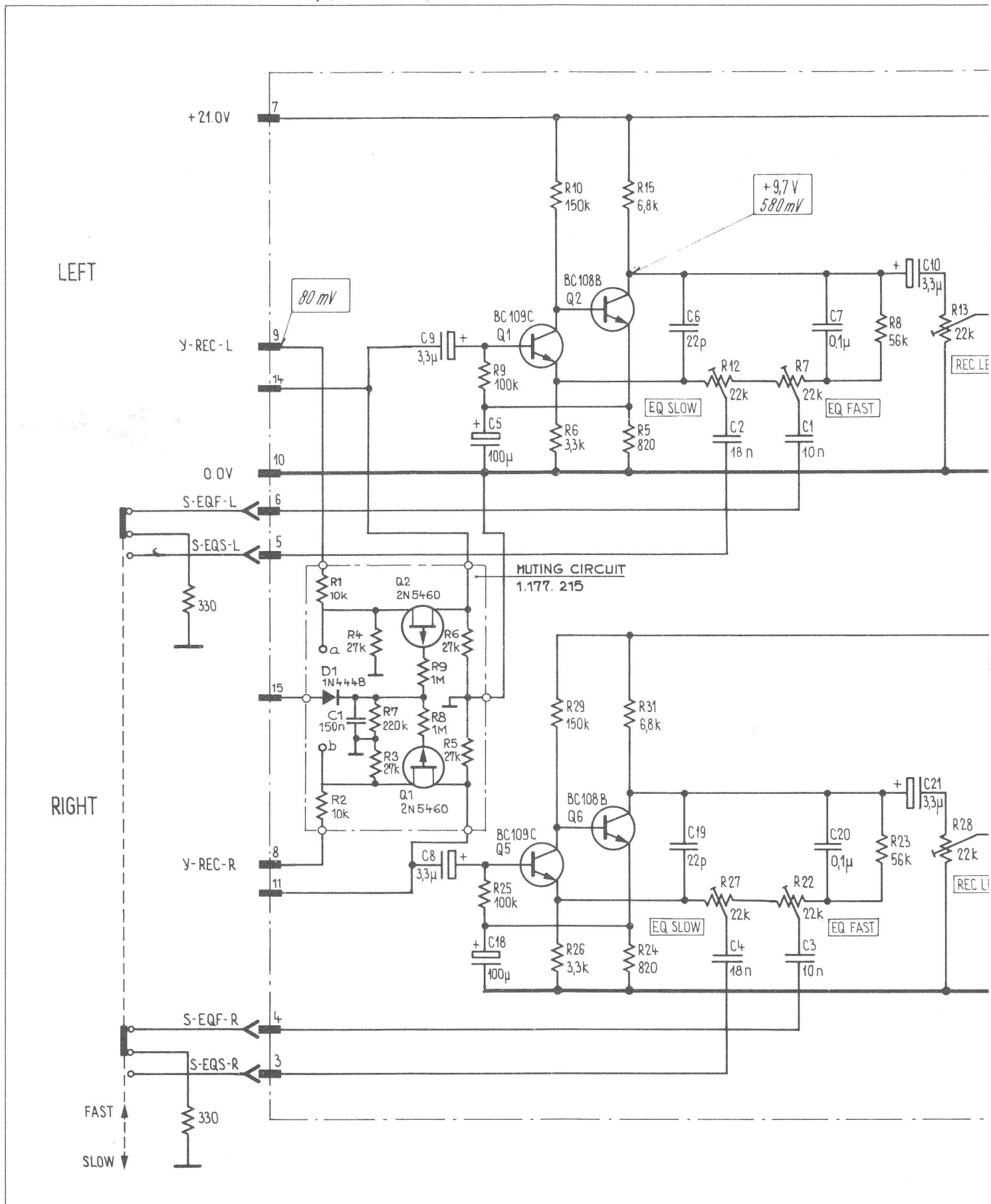
STUDER 82/11/30 RW RECORD AMPLIFIER 2.38/4.75 1.177.238.81 PAGE 3

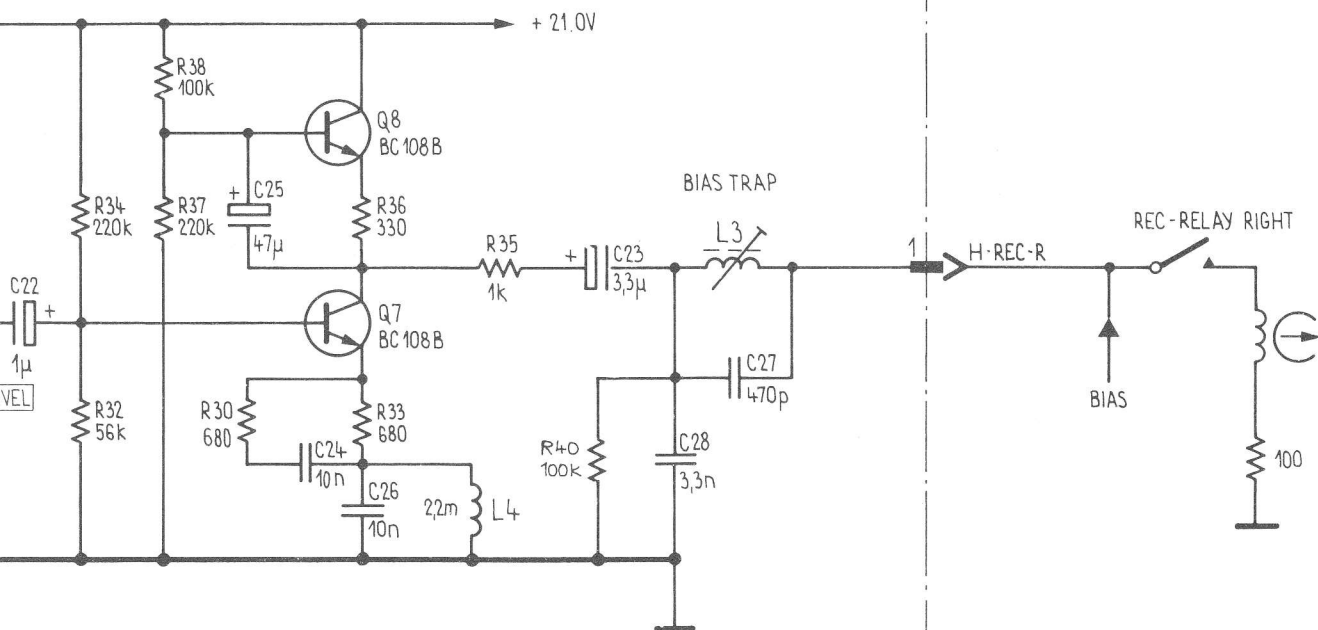
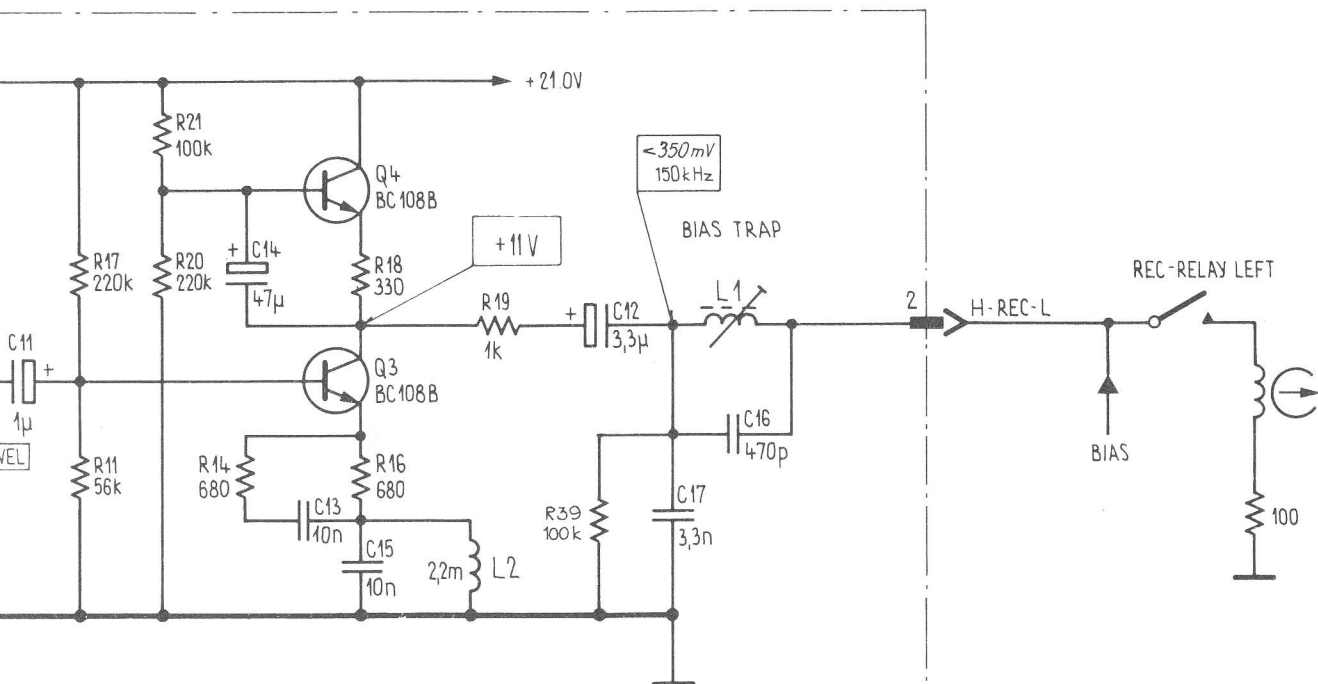
IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
③	C1	59.31.1154	150nF		
	D1	50.04.0125	1N4448	S:	
	J1	54.01.0227	3Pol	CIS	
	J2	54.01.0227	3Pol	CIS	
	Q1	50.03.0312	2N3760	P-CH Fet	
	Q2	50.03.0312	2N3760	PCH Fet	
②	R1	57.11.4103	10k		
②	R2	57.11.4103	10k		
	R3	57.11.4273	27k		
	R4	57.11.4273	27k		
	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	11.3.81	Wapthaler
②	28.1.81	Wapthaler
①	14.1.81	Gautner
○	18.12.80	Gautner

STUDER Muting Circuit PL 1.177.215-00 PAGE 1 OF 1

RECORD AMPLIFIER PCB (NAB 15/16 - 1 7/8 ips) 1.177.238-81

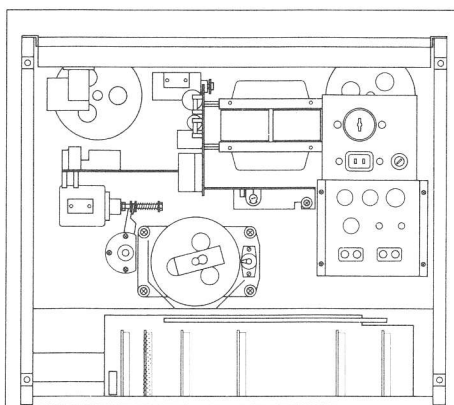
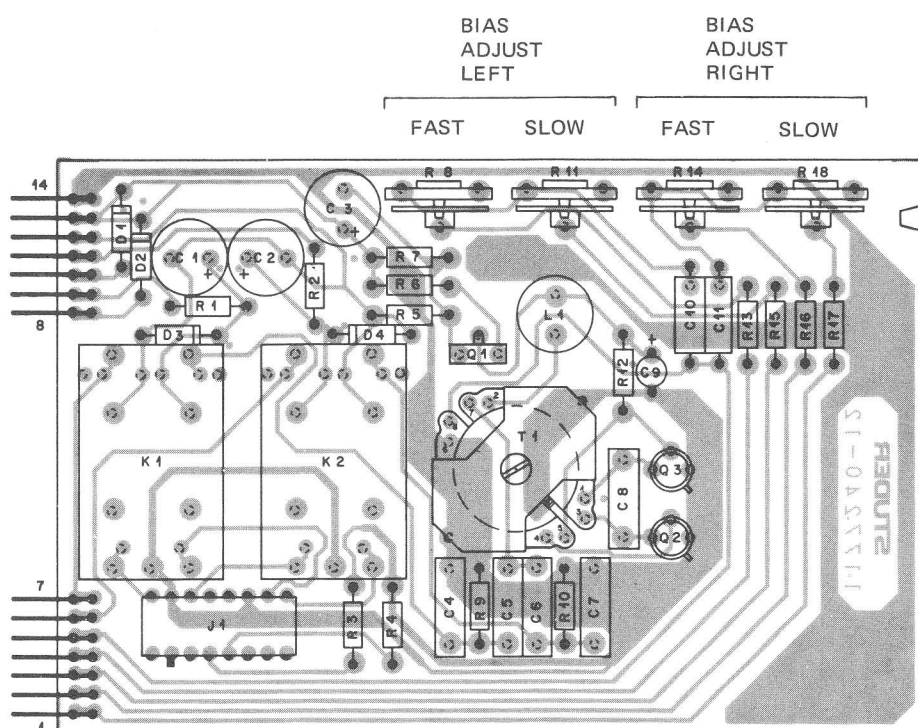




CIRCUIT 1.177.238-81
(LAY-OUT 1.177.230-11)

SEE SERVICE INFORMATION
63.7 : MUTING CIRCUIT 1.177.215

OSCILLATOR PCB 4 TRACK 1.177.240 / 2 TRACK 1.177.243



IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.22.4101	100 uF	10%, 16V, E1		
C.....2	59.22.4101	100 uF	10%, 16V, E1		
C.....3	59.22.2221	220 uF	10%, 6.3V, E1		
C.....4	59.11.4472	4700 pF	2.5%, 160V, PC		
C.....5	59.11.4472	4700 pF	2.5%, 160V, PC		
C.....6	59.11.4472	4700 pF	2.5%, 160V, PC		
C.....7	59.11.4472	4700 pF	2.5%, 160V, PC		
C.....8	59.11.3682	6800 pF	5%, 160V, PC		
2) C.....9	59.22.8479	4.7 uF	10%, 50V, E1		
C.....10	59.04.8221	220 pF	5%, 160V, PS		
C.....11	59.04.8221	220 pF	5%, 160V, PS		

D.....1	50.04.0125	1 N 4448		any	
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	
J.....1	54.01.0306	8-Pole	Socket-Strip	AMP	
4) K.....1	56.04.0150	2 x U	500 Ohm, 12V	N+0	
4) K.....2	56.04.0150	2 x U	500 Ohm, 12V	N+0	
L.....1	62.02.2122	1.2 mH	5% RDC max. 6 Ohm		
P.....1	54.01.0223	7-Pole	Pin-Strip	AMP	
P.....2	54.01.0223	7-Pole	Pin-Strip	AMP	
Q.....1	50.03.0479	BD 140	Medium Power PNP		
Q.....2	50.03.0434	BFR 18	NPN		
Q.....3	50.03.0434	BFR 18	NPN		
R.....1	57.41.4331	330 Ohm	5%, 0.25W, CF		
R.....2	57.41.4331	330 Ohm	5%, 0.25W, CF		
R.....3	57.41.4101	100 Ohm	5%, 0.25W, CF		
R.....4	57.41.4101	100 Ohm	5%, 0.25W, CF		
R.....5	57.41.4682	6.8 kOhm	5%, 0.25W, CF		
R.....6	57.41.4100	10 Ohm	5%, 0.25W, CF		

S T U D E R 82/11/30 RW OSCILLATOR 1.177.240.00 PAGE 1

IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.22.4101	100 uF	10%, 16V, E1		
C.....2	59.22.4101	100 uF	10%, 16V, E1		
C.....3	59.22.2221	220 uF	10%, 6.3V, E1		
C.....4	59.11.4472	4700 pF	2.5%, 160V, PC		
C.....5	59.11.4472	4700 pF	2.5%, 160V, PC		
C.....6	59.11.4472	4700 pF	2.5%, 160V, PC		
C.....7	59.11.4472	4700 pF	2.5%, 160V, PC		
C.....8	59.08.0516	12 nF	5%, 160V, PC		
2) C.....9	59.22.8479	4.7 uF	10%, 50V, E1		
C.....10	59.04.8221	220 pF	5%, 160V, PS		
C.....11	59.04.8221	220 pF	5%, 160V, PS		

D.....1	50.04.0125	1 N 4448		any	
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	
J.....1	54.01.0306	8-Pole	Socket-Strip	AMP	
K.....1	56.04.0150	2 x U	500 Ohm, 12V	N+0	
K.....2	56.04.0150	2 x U	500 Ohm, 12V	N+0	
L.....1	62.02.2122	1.2 mH	5% RDC max. 6 Ohm		
P.....1	54.01.0223	7-Pole	Pin-Strip	AMP	
P.....2	54.01.0223	7-Pole	Pin-Strip	AMP	
4) Q.....1	50.03.0510	BD 136-16	Medium Power PNP		
Q.....2	50.03.0434	BFR 18	NPN		
Q.....3	50.03.0434	BFR 18	NPN		
R.....1	57.11.4331	330 Ohm	5%, 0.25W, CF		
R.....2	57.11.4331	330 Ohm	5%, 0.25W, CF		
R.....3	57.11.4101	100 Ohm	5%, 0.25W, CF		
R.....4	57.11.4101	100 Ohm	5%, 0.25W, CF		
4) R.....5	57.11.4562	5.6 kOhm	5%, 0.25W, CF		
R.....6	57.11.4100	10 Ohm	5%, 0.25W, CF		

S T U D E R 82/11/30 RW OSCILLATOR B 77 2-Track 1.177.243.00 PAGE 1

IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....7	57.41.4102	1 kOhm	5%, 0.25W, CF		
R.....8	58.19.0503	50 kOhm	20%, 0.15W, PCF		
R.....9	57.41.4105	1 MOhm	5%, 0.25W, CF		
R.....10	57.41.4105	1 MOhm	5%, 0.25W, CF		
R.....11	58.19.0503	50 kOhm	20%, 0.15W, PCF		
R.....12	57.41.4153	15 kOhm	5%, 0.25W, CF		
R.....13	57.41.4102	1 kOhm	5%, 0.25W, CF		
R.....14	58.19.0503	50 kOhm	20%, 0.15W, PCF		
R.....15	57.41.4102	1 kOhm	5%, 0.25W, CF		
R.....16	57.41.4102	1 kOhm	5%, 0.25W, CF		
R.....17	57.41.4102	1 kOhm	5%, 0.25W, CF		
R.....18	58.19.0503	50 kOhm	20%, 0.15W, PCF		
T.....1	1.022.181.00		Oscillator Coil	5	

E1=Electrolytic, Ce=Ceramic, PS=Polystyrene, N=National, O=Omron,
PC=Polycarbonate, CF=Carbonfilm, PCF=Pot.Carbon Film,
Manufacturer: Ray=Raytheon, TI=Texas Instruments, A=SGS-Ates,
M=Motorola, T=Teleadyne, N=National.

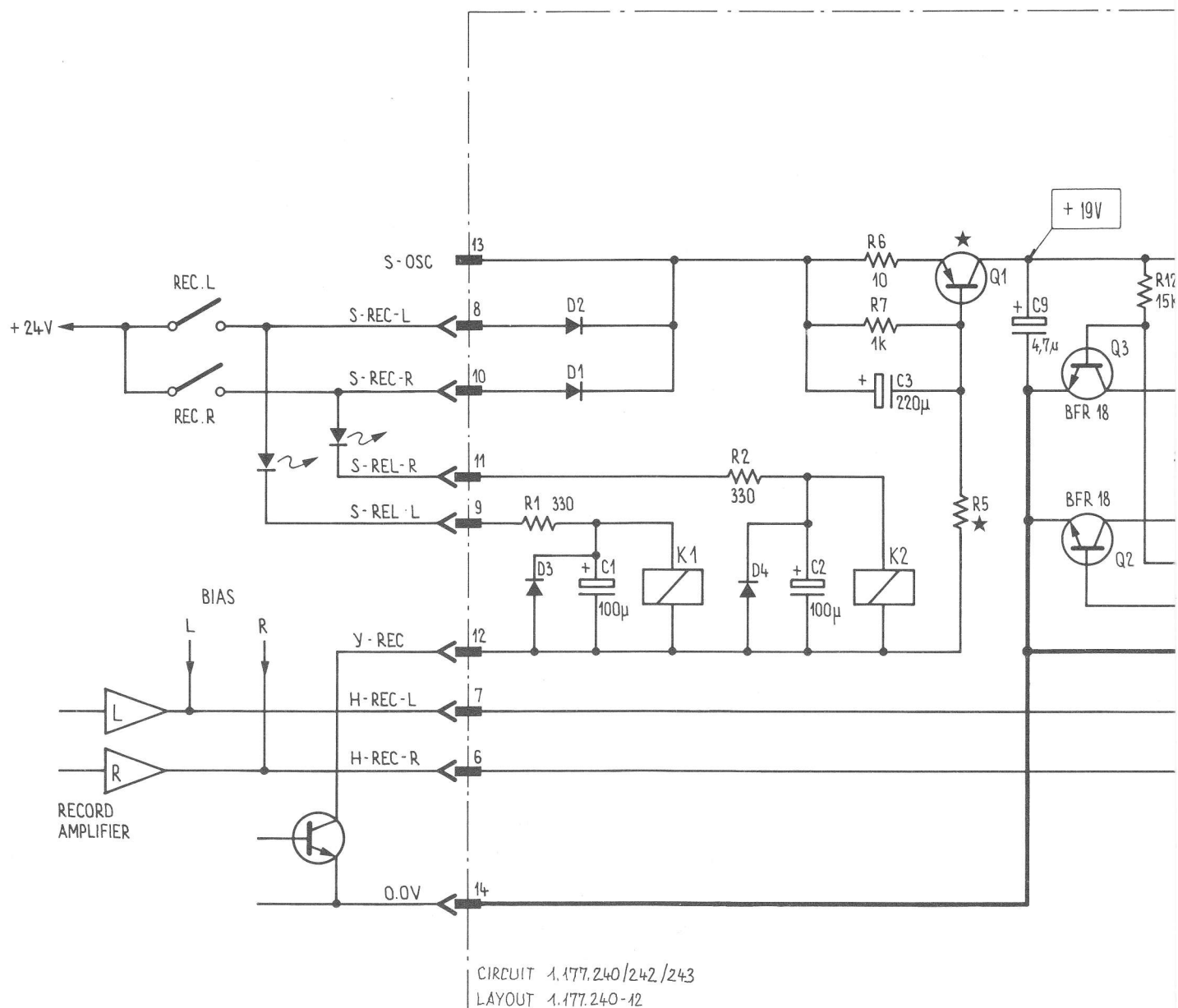
ORIG 82/02/08 (02) 81/12/21
S T U D E R 82/11/30 RW OSCILLATOR 1.177.240.00 PAGE 2

IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....7	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....8	58.19.0503	50 kOhm	20%, 0.15W, PCF		
R.....9	57.11.4105	1 MOhm	5%, 0.25W, CF		
R.....10	57.11.4105	1 MOhm	5%, 0.25W, CF		
R.....11	58.19.0503	50 kOhm	20%, 0.15W, PCF		
R.....12	57.11.4153	15 kOhm	5%, 0.25W, CF		
R.....13	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....14	58.19.0503	50 kOhm	20%, 0.15W, PCF		
R.....15	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....16	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....17	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....18	58.19.0503	50 kOhm	20%, 0.15W, PCF		
T.....1	1.022.203.00		Oscillator Coil	5	

E1=Electrolytic, Ce=Ceramic, PS=Polystyrene, N=National, O=Omron,
PC=Polycarbonate, CF=Carbonfilm, PCF=Pot.Carbon Film,
Manufacturer: Ray=Raytheon, TI=Texas Instruments, A=SGS-Ates,
M=Motorola, T=Teleadyne, N=National.

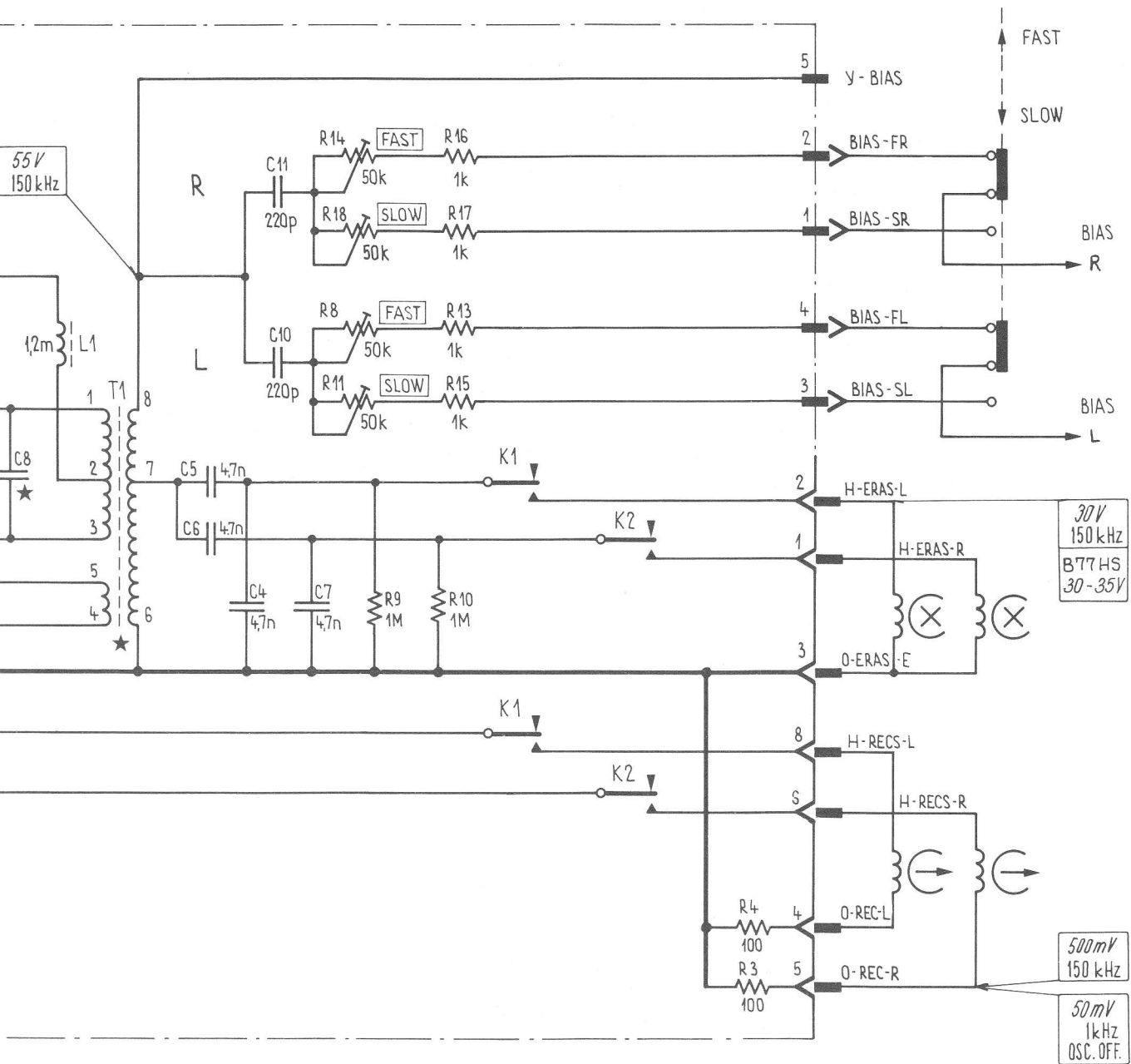
ORIG 82/02/08 (02) 81/12/21
S T U D E R 82/11/30 RW OSCILLATOR B 77 2-Track 1.177.243.00 PAGE 2

OSCILLATOR PCB 4 TRACK 1.177.240 / 2 TRACK 1.177.243

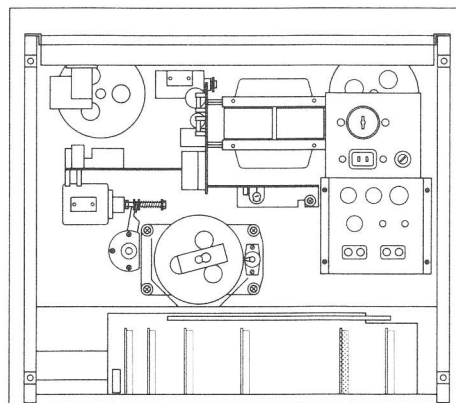
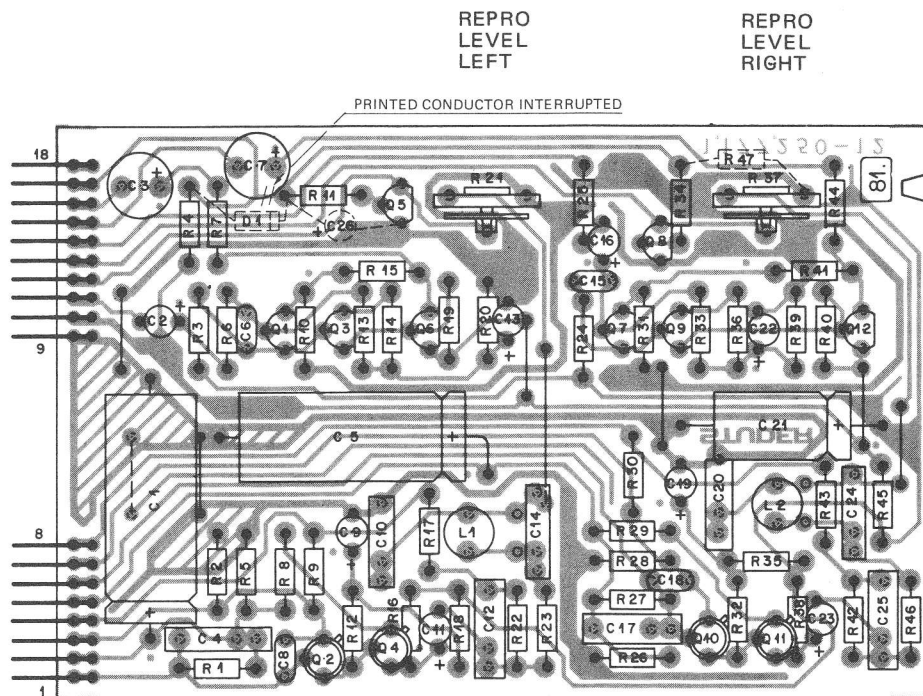


1.177.242: VALID ONLY FOR EARLIER VERSIONS B77 HS
T1 = 1.022.192.00 C8 = 8200p

★ VALUES SEE CORRESPONDING POSITION LIST



REPRODUCE AMPLIFIER PCB (NAB 3 3/4 - 7 1/2 ips) 1.177.250-81



IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.25.0162	1600 uF	10%, 3V, EI		
C.....2	59.22.8479	4.7 uF	10%, 50V, EI		
C.....3	59.22.6220	22 uF	10%, 40V, EI		
C.....4	59.11.6221	220 pF	5%, 400V, PC		
C.....5	59.25.0162	1600 uF	10%, 3V, EI		
C.....6	59.32.0101	100 pF	20%, 500V, Cer		
C.....7	59.22.6220	22 uF	10%, 40V, EI		
C.....8	59.32.0101	100 uF	20%, 500V, Cer		
C.....9	59.22.8479	4.7 pF	10%, 50V, EI		
C.....10	59.99.0259	2700 pF	10%, 50V, PETP		
C.....11	59.22.8479	4.7 uF	10%, 50V, EI		
C.....12	59.11.3103	0.01 uF	5%, 160V, PC		
C.....13	59.22.3101	100 uF	10%, 10V, EI		
C.....14	59.11.6561	560 pF	5%, 400V, PC		
C.....15	59.32.0101	100 pF	20%, 500V, Cer		
C.....16	59.22.8479	4.7 uF	10%, 50V, EI		
C.....17	59.11.6221	220 pF	5%, 400V, PC		
C.....18	59.32.0101	100 pF	20%, 500V, Cer		
C.....19	59.22.8479	4.7 uF	10%, 50V, EI		
C.....20	59.99.0259	2700 pF	10%, 400V, PETP		
C.....21	59.25.4101	100 uF	10%, 25V, EI		
C.....22	59.22.3101	100 uF	10%, 10V, EI		
C.....23	59.22.8479	4.7 uF	10%, 50V, EI		
C.....24	59.11.6561	560 pF	5%, 400V, PC		
C.....25	59.11.3101	0.01 uF	5%, 160V, PC		
C.....26	59.36.5339	3.3 uF	20%, 35V, TA		
D.....1	50.04.0125	1N 4448			
L.....1	62.02.1222	2.2 mH	5%		
L.....2	62.02.1222	2.2 mH	5%		
P.....1	54.01.0270	8-Pole	Pin-Strip	AMP	
P.....2	54.01.0271	10-Pole	Pin-Strip	AMP	
Q.....1	50.03.0439	BC 109 C	NPN		
Q.....2	50.03.0407	BC 109 C	T018, NPN	any	

S T U D E R 82/07/06 RW REPRODUCE-AMPLIFIER 1.177.250.81 PAGE 1

IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....3	50.03.0436	BC 107 B	NPN		
Q.....4	50.03.0407	BC 109 C	T018, NPN		
Q.....5	50.03.0436	BC 107 B	NPN		
Q.....6	50.03.0436	BC 107 B	NPN		
Q.....7	50.03.0439	BC 109 C	NPN		
Q.....8	50.03.0436	BC 107 B	NPN		
Q.....9	50.03.0436	BC 107 B	NPN		
Q.....10	50.03.0407	BC 109 C	T018, NPN		
Q.....11	50.03.0407	BC 109 C	T018, NPN		
Q.....12	50.03.0436	BC 107 B	NPN		
R.....1	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....2	57.11.4331	330 Ohm	5%, 0.25W, CF		
R.....3	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....4	57.11.4682	6.8 kOhm	5%, 0.25W, CF		
R.....5	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....6	57.11.4102	1 Ohm	5%, 0.25W, CF		
R.....7	57.11.4391	390 Ohm	5%, 0.25W, CF		
R.....8	57.11.4680	68 Ohm	5%, 0.25W, CF		
R.....9	57.11.4392	3.9 kOhm	5%, 0.25W, CF		
R.....10	57.11.4470	47 Ohm	5%, 0.25W, CF		
R.....11	57.11.4123	12 kOhm	5%, 0.25W, CF		
R.....12	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....13	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....14	57.11.4680	68 Ohm	5%, 0.25W, CF		
R.....15	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....16	57.11.4123	12 kOhm	5%, 0.25W, CF		
R.....17	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
R.....18	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....19	57.11.4153	15 kOhm	5%, 0.25W, CF		
R.....20	57.11.4182	1.8 kOhm	5%, 0.25W, CF		
R.....21	58.19.0203	20 kOhm	20%, 0.15W, PCF, 1in		
R.....22	57.11.4334	330 kOhm	5%, 0.25W, CF		
R.....23	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....24	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....25	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....26	57.11.4102	1 kOhm	5%, 0.25W, CF		

S T U D E R 82/07/06 RW REPRODUCE-AMPLIFIER 1.177.250.81 PAGE 2

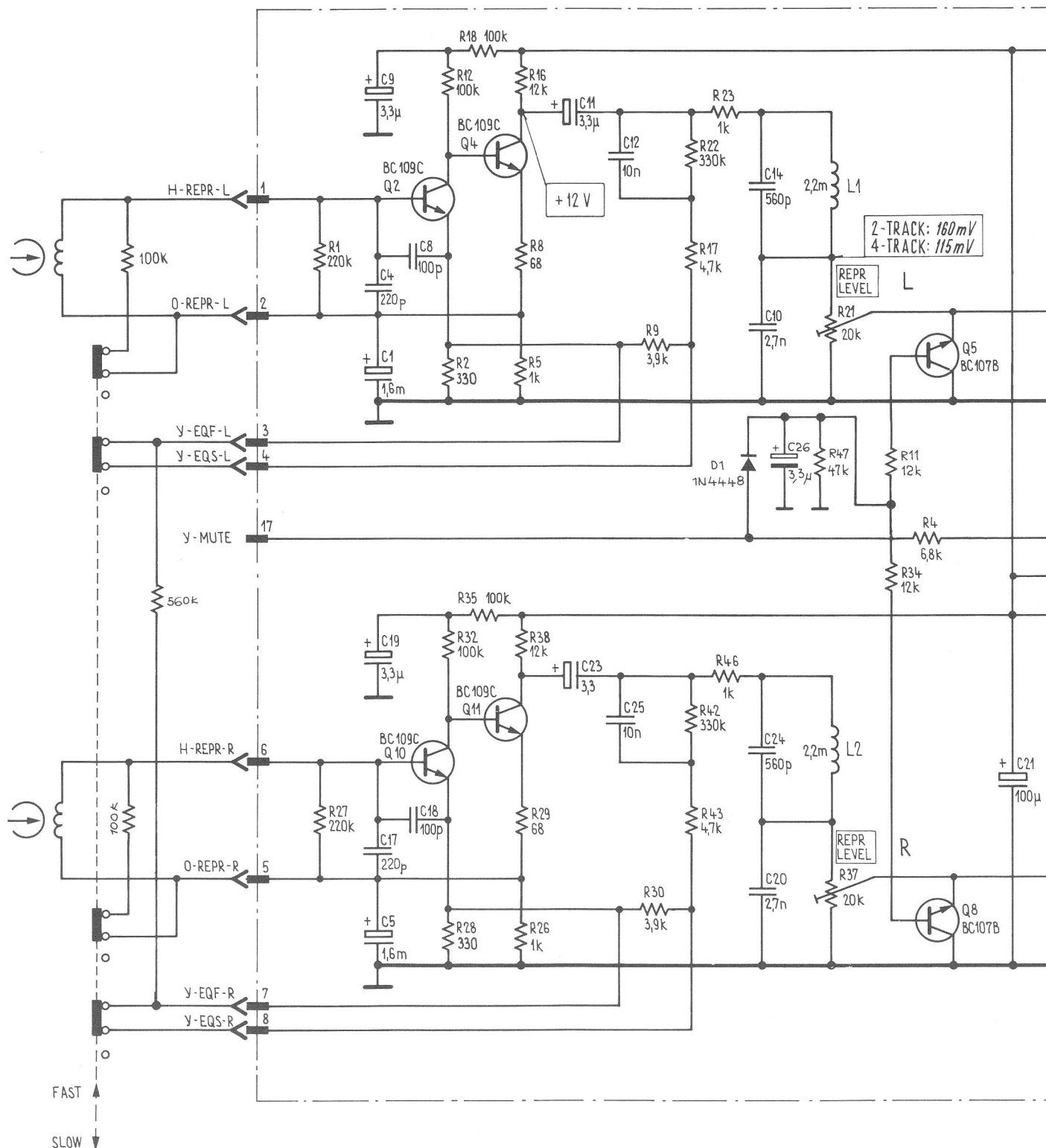
IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....27	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....28	57.11.4331	330 Ohm	5%, 0.25W, CF		
R.....29	57.11.4680	68 Ohm	5%, 0.25W, CF		
R.....30	57.11.4392	3.9 kOhm	5%, 0.25W, CF		
R.....31	57.11.4470	47 Ohm	5%, 0.25W, CF		
R.....32	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....33	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....34	57.11.4123	12 kOhm	5%, 0.25W, CF		
R.....35	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....36	57.11.4680	68 Ohm	5%, 0.25W, CF		
R.....37	58.19.0203	20 kOhm	20%, 0.15W, PCF, 1in		
R.....38	57.11.4123	12 kOhm	5%, 0.25W, CF		
R.....39	57.11.4182	1.8 kOhm	5%, 0.25W, CF		
R.....40	57.11.4153	15 kOhm	5%, 0.25W, CF		
R.....41	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....42	57.11.4334	330 kOhm	5%, 0.25W, CF		
R.....43	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
R.....44	57.11.4391	390 Ohm	5%, 0.25W, CF		
R.....45	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....46	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....47	57.11.4473	47 kOhm	5%, 0.25W, CF		

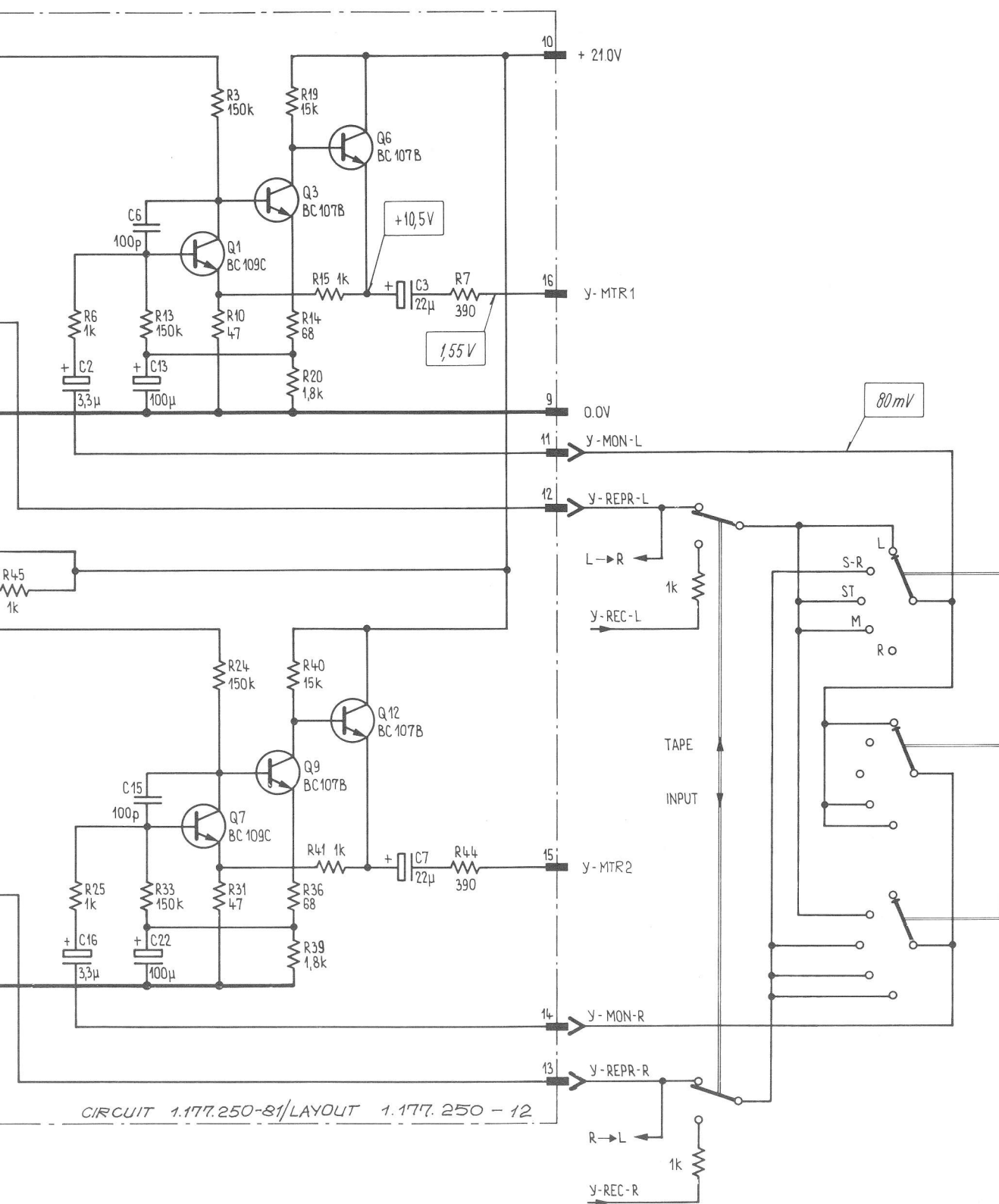
EI=Electrolytic, Cer=Ceramic, PC=Polycarbonate, PETP=Polyester,
CF=Carbon Film, PCF=Pot.Carbon Film
Manufacturer: Sig=Signetics, TI=Texas Instruments

ORIG 82/07/08

S T U D E R 82/07/06 RW REPRODUCE-AMPLIFIER 1.177.250.81 PAGE 3

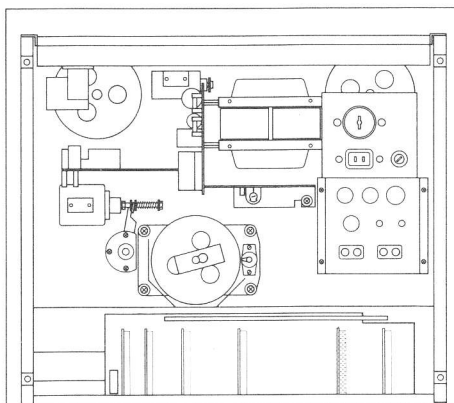
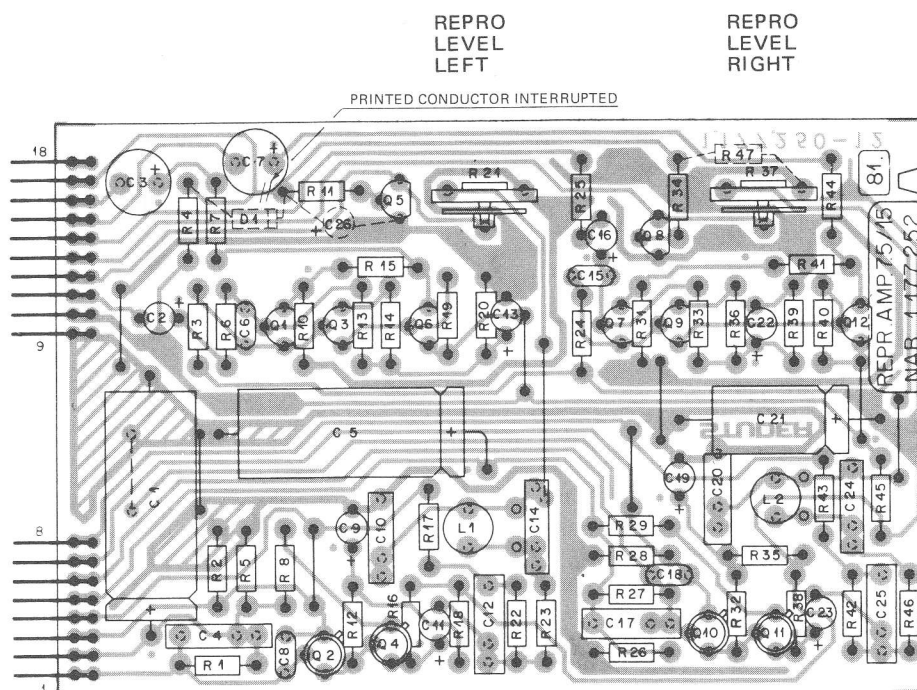
REPRODUCE AMPLIFIER PCB (NAB 3 3/4 - 7 1/2 ips) 1.177.250-81





CIRCUIT 1.177.250-81/LAYOUT 1.177.250-12

REPRODUCE AMPLIFIER PCB (NAB 7 1/2 - 15 ips) 1.177.252-81



IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.25.0162	1600 uF	10%, 3V, EI		
C.....2	59.22.8479	4.7 uF	10%, 50V, EI		
C.....3	59.22.6220	22 uF	10%, 40V, EI		
C.....4	59.11.6221	220 pF	5%, 400V, PC		
C.....5	59.25.0162	1600 uF	10%, 3V, EI		
C.....6	59.32.0101	100 pF	20%, 500V, Cer		
C.....7	59.22.6220	22 uF	10%, 40V, EI		
C.....8	59.32.0101	100 uF	20%, 500V, Cer		
C.....9	59.22.8479	4.7 uF	10%, 50V, EI		
C.....10	59.99.0259	2700 pF	10%, 50V, PETP		
C.....11	59.22.8479	4.7 uF	10%, 50V, EI		
C.....12	59.11.3103	0.01 uF	5%, 160V, PC		
C.....13	59.22.3101	100 uF	10%, 10V, EI		
C.....14	59.11.6561	560 pF	5%, 400V, PC		
C.....15	59.32.0101	100 pF	20%, 500V, Cer		
C.....16	59.22.8479	4.7 uF	10%, 50V, EI		
C.....17	59.11.6221	220 pF	5%, 400V, PC		
C.....18	59.32.0101	100 pF	20%, 500V, Cer		
C.....19	59.22.8479	4.7 uF	10%, 50V, EI		
C.....20	59.99.0259	2700 pF	10%, 400V, PETP		
C.....21	59.25.4101	100 uF	10%, 25V, EI		
C.....22	59.22.3101	100 uF	10%, 10V, EI		
C.....23	59.22.8479	4.7 uF	10%, 50V, EI		
C.....24	59.11.6561	560 pF	5%, 400V, PC		
C.....25	59.11.3101	0.01 uF	5%, 160V, PC		
C.....26	59.36.5339	3.3 uF	20%, 35V, TA		
D.....1	50.04.0125	1N4448			
L.....1	62.02.1222	2.2 mH	5%		
L.....2	62.02.1222	2.2 mH	5%		
P.....1	54.01.0270	8-Pole	Pin-Strip	AMP	
P.....2	54.01.0271	10-Pole	Pin-Strip	AMP	
Q.....1	50.03.0439	BC 109 C	NPN		any
Q.....2	50.03.0407	BC 109 C	T018, NPN		

S T U C E R 82/11/30 RW REPRODUCE AMPL. 7.5-15 NAB 1.177.252.81 PAGE 1

IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....3	50.03.0436	BC 107 B	NPN		
Q.....4	50.03.0407	BC 109 C	T018, NPN		
Q.....5	50.03.0436	BC 107 B	NPN		
Q.....6	50.03.0436	BC 107 B	NPN		
Q.....7	50.03.0439	BC 109 C	NPN		
Q.....8	50.03.0436	BC 107 B	NPN		
Q.....9	50.03.0436	BC 107 B	NPN		
Q.....10	50.03.0407	BC 109 C	T018, NPN		
Q.....11	50.03.0407	BC 109 C	T018, NPN		
Q.....12	50.03.0436	BC 107 B	NPN		
R.....1	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....2	57.11.4331	330 Ohm	5%, 0.25W, CF		
R.....3	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....4	57.11.4682	6.8 kOhm	5%, 0.25W, CF		
R.....5	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....6	57.11.4102	1 Ohm	5%, 0.25W, CF		
R.....7	57.11.4391	390 Ohm	5%, 0.25W, CF		
R.....8	57.11.4680	68 Ohm	5%, 0.25W, CF		
R.....9					
R.....10	57.11.4470	47 Ohm	5%, 0.25W, CF		
R.....11	57.11.4123	12 kOhm	5%, 0.25W, CF		
R.....12	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....13	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....14	57.11.4680	68 Ohm	5%, 0.25W, CF		
R.....15	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....16	57.11.4123	12 kOhm	5%, 0.25W, CF		
R.....17	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
R.....18	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....19	57.11.4153	15 kOhm	5%, 0.25W, CF		
R.....20	57.11.4182	1.8 kOhm	5%, 0.25W, CF		
R.....21	58.19.0203	20 kOhm	20%, 0.15W, PCF, 1in		
R.....22	57.11.4274	270 kOhm	5%, 0.25W, CF		
R.....23	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....24	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....25	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....26	57.11.4102	1 kOhm	5%, 0.25W, CF		

S T U D E R 82/11/30 RW REPRODUCE AMPL. 7.5-15 NAB 1.177.252.81 PAGE 2

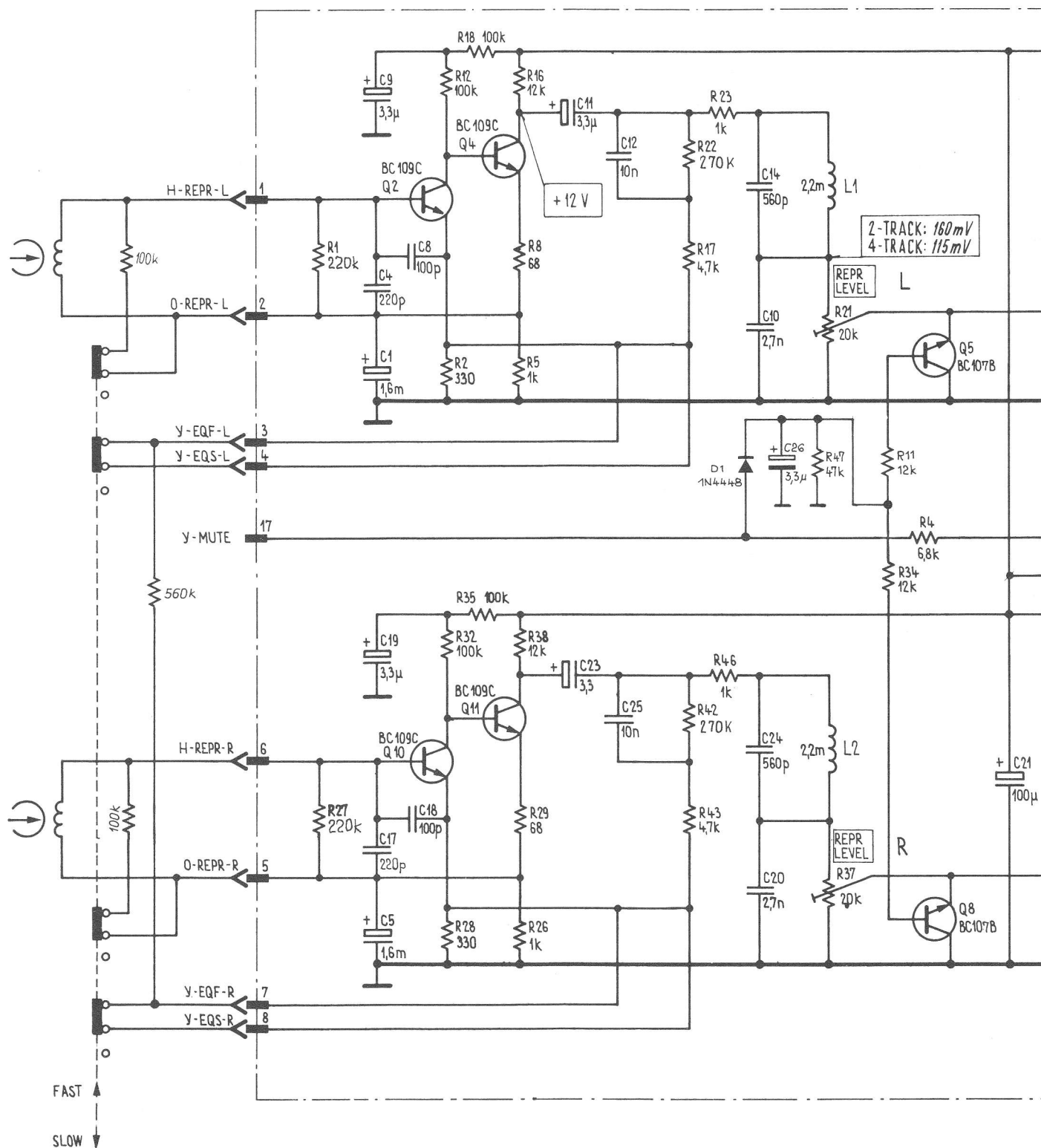
IND.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....27	57.11.4224	220 kOhm	5%, 0.25W, CF		
R.....28	57.11.4331	330 Ohm	5%, 0.25W, CF		
R.....29	57.11.4680	68 Ohm	5%, 0.25W, CF		
R.....30					
R.....31	57.11.4470	47 Ohm	5%, 0.25W, CF		
R.....32	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....33	57.11.4154	150 kOhm	5%, 0.25W, CF		
R.....34	57.11.4123	12 kOhm	5%, 0.25W, CF		
R.....35	57.11.4104	100 kOhm	5%, 0.25W, CF		
R.....36	57.11.4680	68 Ohm	5%, 0.25W, CF		
R.....37	58.19.0203	20 kOhm	20%, 0.15W, PCF, 1in		
R.....38	57.11.4123	12 kOhm	5%, 0.25W, CF		
R.....39	57.11.4182	1.8 kOhm	5%, 0.25W, CF		
R.....40	57.11.4153	15 kOhm	5%, 0.25W, CF		
R.....41	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....42	57.11.4274	270 kOhm	5%, 0.25W, CF		
R.....43	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
R.....44	57.11.4391	390 Ohm	5%, 0.25W, CF		
R.....45	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....46	57.11.4102	1 kOhm	5%, 0.25W, CF		
R.....47	57.11.4473	47 kOhm	5%, 0.25W, CF		

EI=Electrolytic, Cer=Ceramic, PC=Polycarbonate, PETP=Polyester.

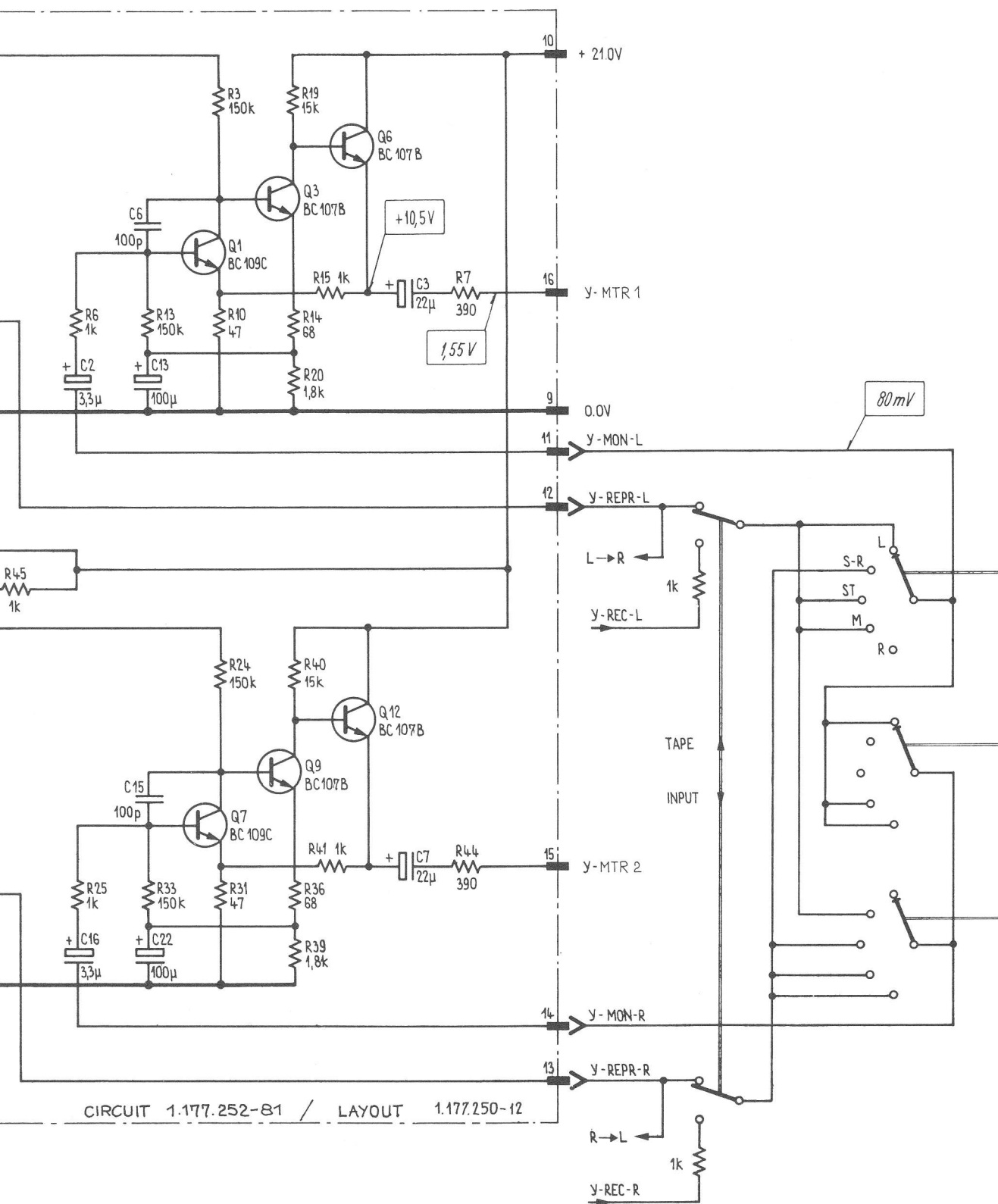
CRIG 82/C7/08

S T U C E R 82/11/30 RW REPRODUCE AMPL. 7.5-15 NAB 1.177.252.81 PAGE 3

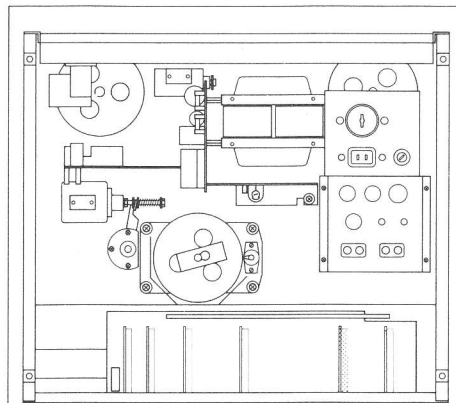
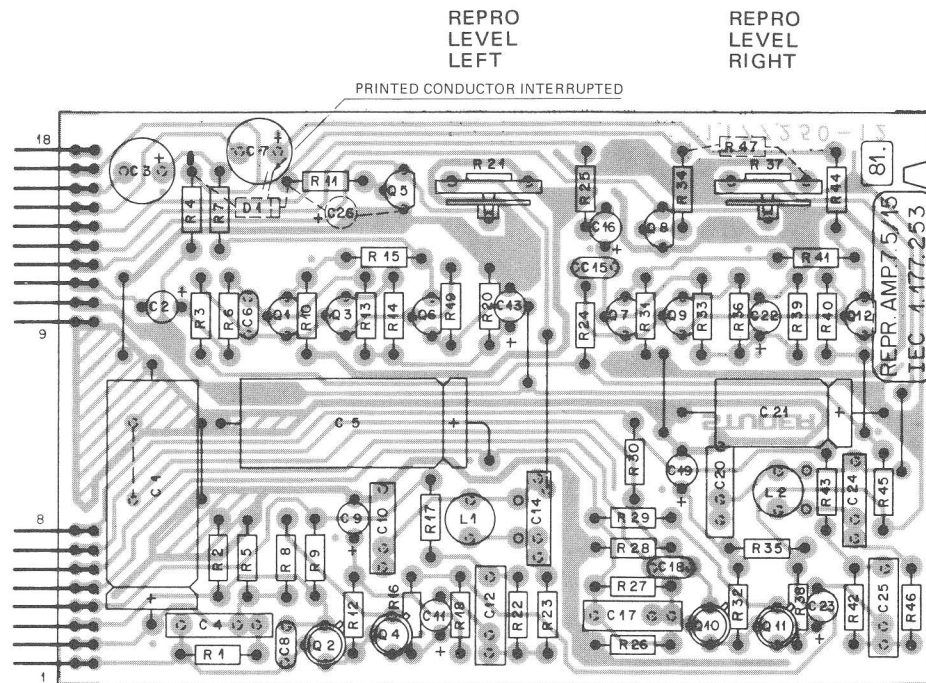
REPRODUCE AMPLIFIER PCB (NAB 7 1/2 - 15 ips) 1.177.252-81



C26, D1, R47 ARE MISSING FOR VERSION 1.177.252-00



REPRODUCE AMPLIFIER PCB (IEC 7 1/2 - 15 ips) 1.177.253-81



IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1		59.25.0162	1600 uF	10%, 3V, E1	
C.....2		59.22.8479	4.7 uF	10%, 50V, E1	
C.....3		59.22.6220	22 uF	10%, 40V, E1	
C.....4		59.11.6221	220 pF	5%, 400V, PC	
C.....5		59.25.0162	1600 uF	10%, 3V, E1	
C.....6		59.32.0101	100 pF	20%, 500V, Cer	
C.....7		59.22.6220	22 uF	10%, 40V, E1	
C.....8		59.32.0101	100 uF	20%, 500V, Cer	
C.....9		59.22.8479	4.7 pF	10%, 50V, E1	
C.....10		59.99.0259	2700 pF	10%, 50V, PETP	
C.....11		59.22.8479	4.7 uF	10%, 50V, E1	
C.....12		59.11.3103	0.01 uF	5%, 160V, PC	
C.....13		59.22.3101	100 uF	10%, 10V, E1	
C.....14		59.11.6561	560 pF	5%, 400V, PC	
C.....15		59.32.0101	100 pF	20%, 500V, Cer	
C.....16		59.22.8479	4.7 uF	10%, 50V, E1	
C.....17		59.11.6221	220 pF	5%, 400V, PC	
C.....18		59.32.0101	100 pF	20%, 500V, Cer	
C.....19		59.22.8479	4.7 uF	10%, 50V, E1	
C.....20		59.99.0259	2700 pF	10%, 400V, PETP	
C.....21		59.25.4101	100 uF	10%, 25V, E1	
C.....22		59.22.3101	100 uF	10%, 10V, E1	
C.....23		59.22.8479	4.7 uF	10%, 50V, E1	
C.....24		59.11.6561	560 pF	5%, 400V, PC	
C.....25		59.11.3101	0.01 uF	5%, 160V, PC	
C.....26		59.36.5339	3.3 uF	20%, 35V, TA	
D.....1		50.04.0125	1N4448		any
L.....1		62.02.1222	2.2 mH	5%	
L.....2		62.02.1222	2.2 mH	5%	
P.....1		54.01.0270	8-Pole	Pin-Strip	AMP
P.....2		54.01.0271	10-Pole	Pin-Strip	AMP
Q.....1		50.03.0439	BC 109 C	NPN	
Q.....2		50.03.0407	BC 109 C	TO18, NPN	any

S T U D E R R2/07/06 RW REPRODUCE AMPL. 7.5-15 CCIR 1.177.253.81 PAGE 1

IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....3		50.03.0436	BC 107 B	NPN	
Q.....4		50.03.0407	BC 109 C	TO18, NPN	
Q.....5		50.03.0436	BC 107 B	NPN	
Q.....6		50.03.0436	BC 107 B	NPN	
Q.....7		50.03.0439	BC 109 C	NPN	
Q.....8		50.03.0436	BC 107 B	NPN	
Q.....9		50.03.0436	BC 107 B	NPN	
Q.....10		50.03.0407	BC 109 C	TO18, NPN	
Q.....11		50.03.0407	BC 109 C	TO18, NPN	
Q.....12		50.03.0436	BC 107 B	NPN	
R.....1		57.41.4563	56 kOhm	5%, 0.25W, CF	
R.....2		57.41.4331	330 Ohm	5%, 0.25W, CF	
R.....3		57.41.4154	150 kOhm	5%, 0.25W, CF	
R.....4		57.41.4680	6.8 kOhm	5%, 0.25W, CF	
R.....5		57.41.4102	1 kOhm	5%, 0.25W, CF	
R.....6		57.41.4102	1 Ohm	5%, 0.25W, CF	
R.....7		57.41.4391	390 Ohm	5%, 0.25W, CF	
R.....8		57.41.4680	68 Ohm	5%, 0.25W, CF	
R.....9		57.41.4272	2.7 kOhm	5%, 0.25W, CF	
R.....10		57.41.4470	47 Ohm	5%, 0.25W, CF	
R.....11		57.41.4123	12 kOhm	5%, 0.25W, CF	
R.....12		57.41.4104	100 kOhm	5%, 0.25W, CF	
R.....13		57.41.4154	150 kOhm	5%, 0.25W, CF	
R.....14		57.41.4680	68 Ohm	5%, 0.25W, CF	
R.....15		57.41.4102	1 kOhm	5%, 0.25W, CF	
R.....16		57.11.4123	12 kOhm	5%, 0.25W, CF	
R.....17		57.41.4392	3.9 kOhm	5%, 0.25W, CF	
R.....18		57.41.4104	100 kOhm	5%, 0.25W, CF	
R.....19		57.41.4153	15 kOhm	5%, 0.25W, CF	
R.....20		57.41.4182	1.8 kOhm	5%, 0.25W, CF	
R.....21		58.19.0203	20 kOhm	20%, 0.15W, PCF, Tin	
R.....22		57.41.4474	470 kOhm	5%, 0.25W, CF	
R.....23		57.41.4102	1 kOhm	5%, 0.25W, CF	
R.....24		57.41.4154	150 kOhm	5%, 0.25W, CF	
R.....25		57.41.4102	1 kOhm	5%, 0.25W, CF	
R.....26		57.41.4102	1 kOhm	5%, 0.25W, CF	

S T U D E R R2/07/06 RW REPRODUCE AMPL. 7.5-15 CCIR 1.177.253.81 PAGE 2

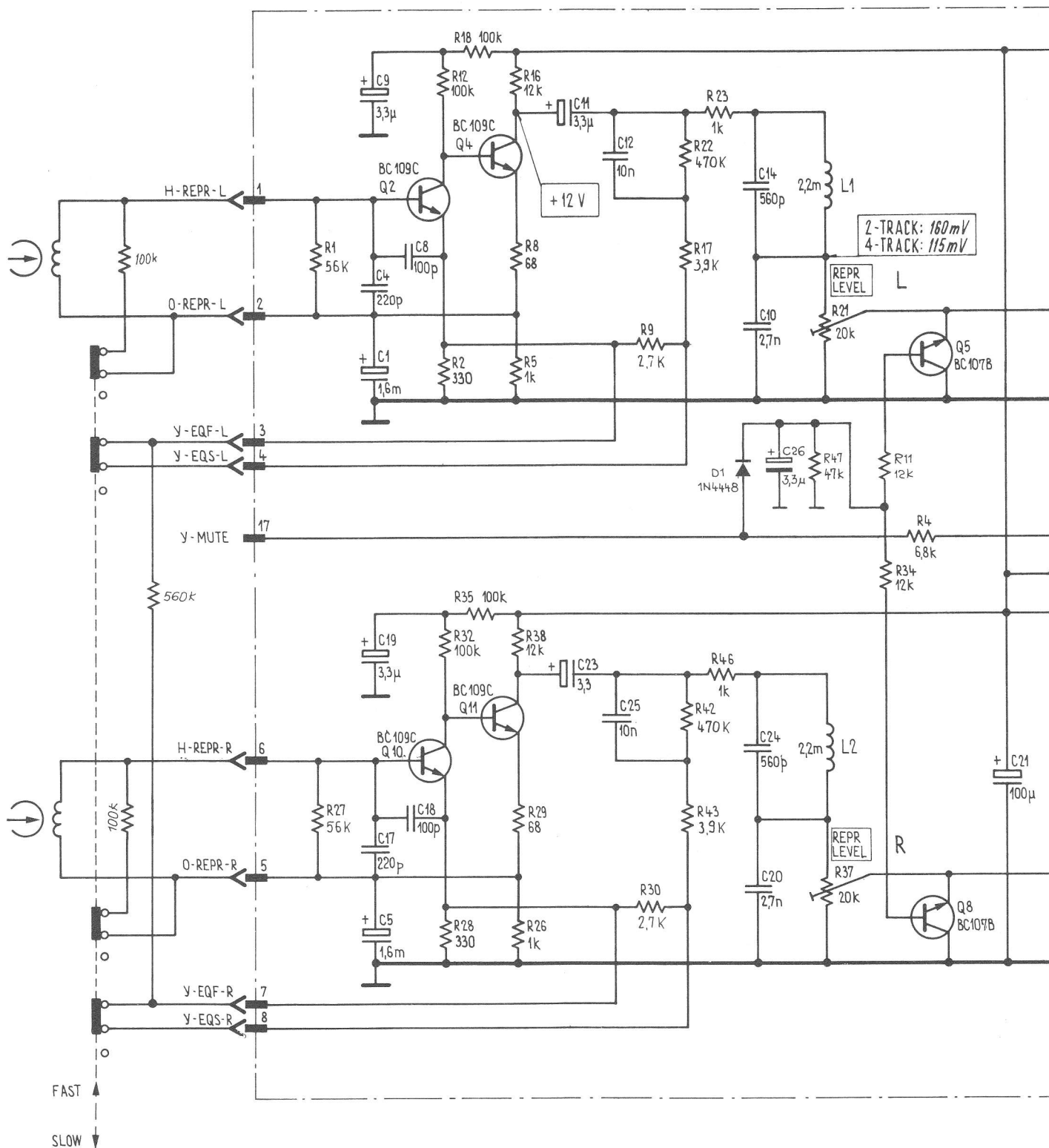
IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....27		57.41.4563	56 kOhm	5%, 0.25W, CF	
R.....28		57.41.4331	330 Ohm	5%, 0.25W, CF	
R.....29		57.41.4680	68 Ohm	5%, 0.25W, CF	
R.....30		57.41.4272	2.7 kOhm	5%, 0.25W, CF	
R.....31		57.41.4470	47 Ohm	5%, 0.25W, CF	
R.....32		57.11.4104	100 kOhm	5%, 0.25W, CF	
R.....33		57.41.4154	150 kOhm	5%, 0.25W, CF	
R.....34		57.41.4123	12 kOhm	5%, 0.25W, CF	
R.....35		57.41.4104	100 kOhm	5%, 0.25W, CF	
R.....36		57.41.4680	68 Ohm	5%, 0.25W, CF	
R.....37		58.19.0203	20 kOhm	20%, 0.15W, PCF, Tin	
R.....38		57.11.4123	12 kOhm	5%, 0.25W, CF	
R.....39		57.41.4182	1.8 kOhm	5%, 0.25W, CF	
R.....40		57.41.4153	15 kOhm	5%, 0.25W, CF	
R.....41		57.41.4102	1 kOhm	5%, 0.25W, CF	
R.....42		57.41.4474	470 kOhm	5%, 0.25W, CF	
R.....43		57.41.4392	3.9 kOhm	5%, 0.25W, CF	
R.....44		57.41.4391	390 Ohm	5%, 0.25W, CF	
R.....45		57.41.4102	1 kOhm	5%, 0.25W, CF	
R.....46		57.41.4102	1 kOhm	5%, 0.25W, CF	
R.....47		57.11.4673	47 kOhm	5%, 0.25W, CF	

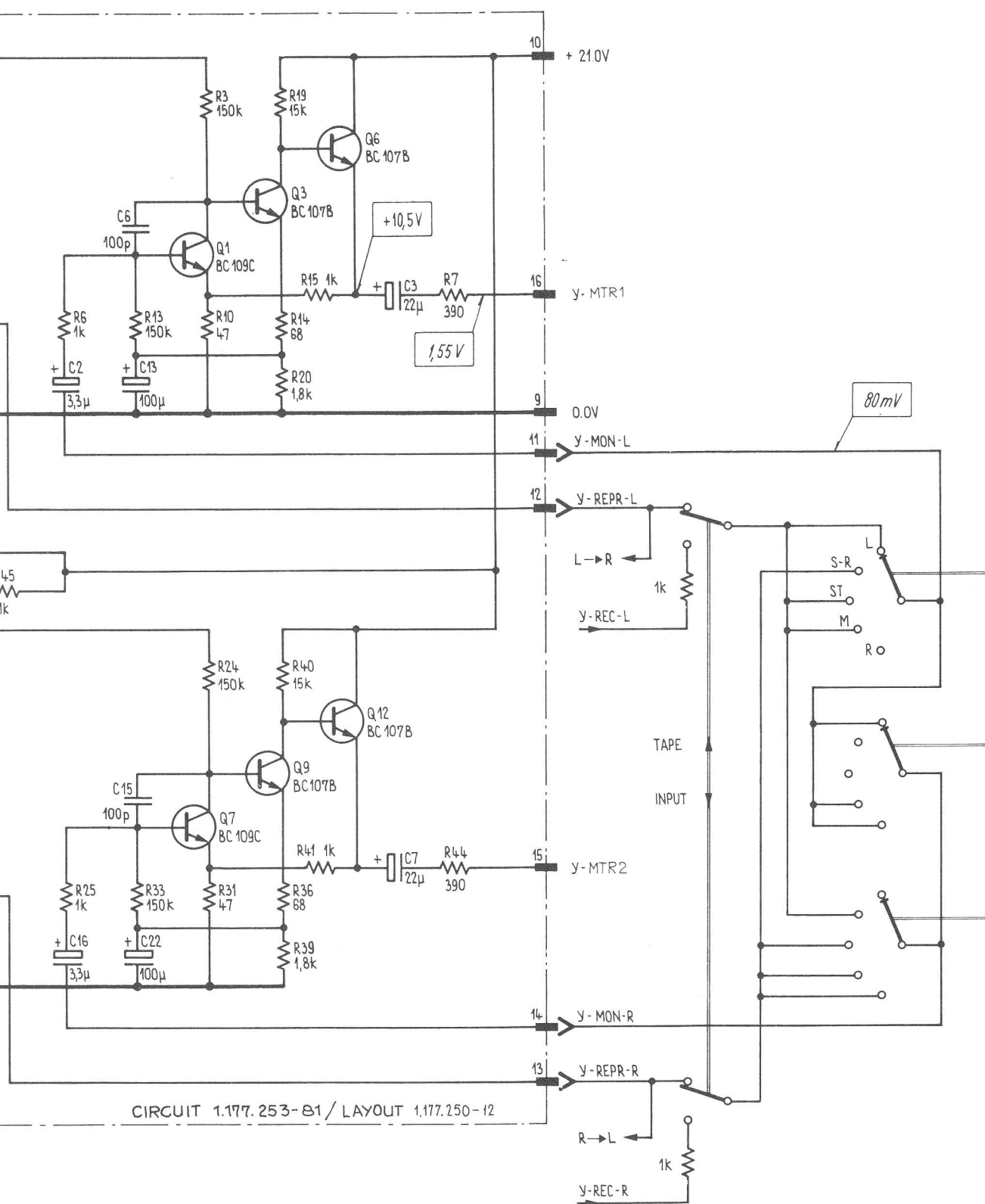
E1=Electrolytic, Cer=Ceramic, PC=Polycarbonate, PETP=Polyester, TA=Tantal

ORIG R2/07/08

S T U D E R R2/07/06 RW REPRODUCE AMPL. 7.5-15 CCIR 1.177.253.81 PAGE 3

REPRODUCE AMPLIFIER PCB (IEC 7 1/2 - 15 ips) 1.177.253-81

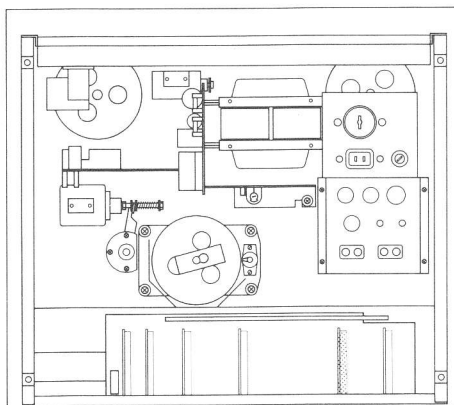
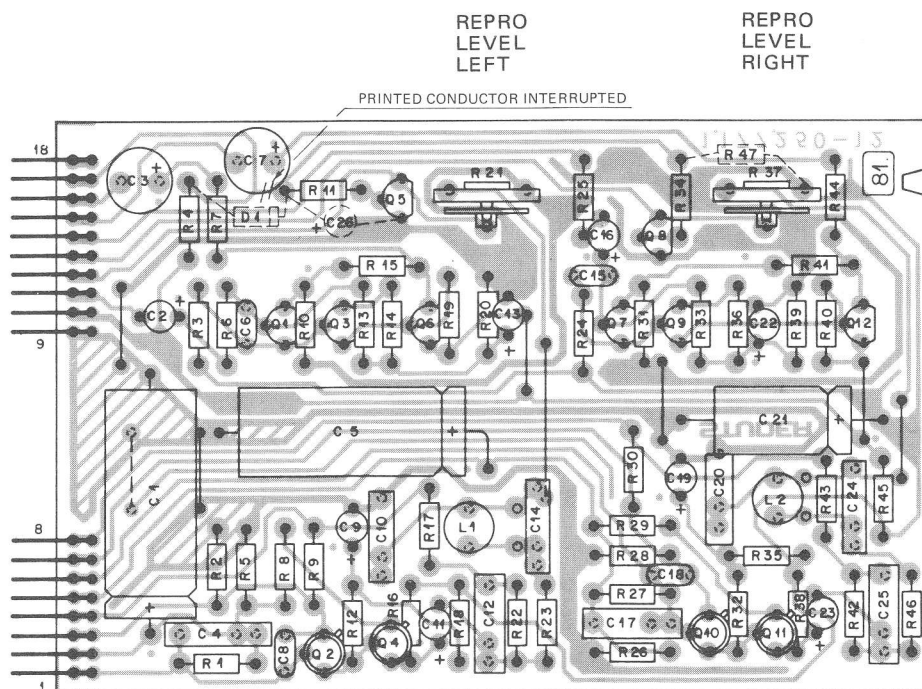




CIRCUIT 1.177.253-81 / LAYOUT 1.177.250-12

SEE SERVICE INFORMATION
63.10 : R17

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



IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1		59.25.0162	1600 uF	10%, 3V, EI	
C.....2		59.22.8479	4.7 uF	10%, 50V, EI	
C.....3		59.22.6220	22 uF	10%, 40V, EI	
C.....4		59.11.6221	220 pF	5%, 400V, PC	
C.....5		59.25.0162	1600 uF	10%, 3V, EI	
C.....6		59.32.0101	100 pF	20%, 500V, Cer	
C.....7		59.22.6220	22 uF	10%, 40V, EI	
C.....8		59.32.0101	100 uF	20%, 500V, Cer	
C.....9		59.22.8479	4.7 uF	10%, 50V, EI	
C.....10		59.99.0259	2700 pF	10%, 50V, PETP	
C.....11		59.22.8479	4.7 uF	10%, 50V, EI	
C.....12		59.11.3103	0.01 uF	5%, 160V, PC	
C.....13		59.22.3101	100 uF	10%, 10V, EI	
C.....14		59.11.6561	560 pF	5%, 400V, PC	
C.....15		59.32.0101	100 pF	20%, 500V, Cer	
C.....16		59.22.8479	4.7 uF	10%, 50V, EI	
C.....17		59.11.6221	220 pF	5%, 400V, PC	
C.....18		59.32.0101	100 pF	20%, 500V, Cer	
C.....19		59.22.8479	4.7 uF	10%, 50V, EI	
C.....20		59.99.0259	2700 pF	10%, 400V, PETP	
C.....21		59.25.4101	100 uF	10%, 25V, EI	
C.....22		59.22.3101	100 uF	10%, 10V, EI	
C.....23		59.22.8479	4.7 uF	10%, 50V, EI	
C.....24		59.11.6561	560 pF	5%, 400V, PC	
C.....25		59.11.3101	0.01 uF	5%, 160V, PC	
C.....26		59.36.5339	3.3 uF	20%, 35V, TA	
D.....1		50.04.0125	1N 444B		
L.....1		62.02.1222	2.2 mH	5%	
L.....2		62.02.1222	2.2 mH	5%	
P.....1		54.01.0270	8-Pole	Pin-Strip	AMP
P.....2		54.01.0271	10-Pole	Pin-Strip	AMP
Q.....1		50.03.0439	BC 109 C	NPN	
Q.....2		50.03.0407	BC 109 C	TO18, NPN	any

S T U D E R 82/07/06 RW REPRODUCE-AMPLIFIER 4.75/9.5 1.177.257.81 PAGE 1

IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....3		50.03.0436	BC 107 B	NPN	
Q.....4		50.03.0407	BC 109 C	TO18, NPN	
Q.....5		50.03.0436	BC 107 B	NPN	
Q.....6		50.03.0436	BC 107 B	NPN	
Q.....7		50.03.0439	BC 109 C	NPN	
Q.....8		50.03.0436	BC 107 B	NPN	
Q.....9		50.03.0436	BC 107 B	NPN	
Q.....10		50.03.0407	BC 109 C	TO18, NPN	
Q.....11		50.03.0407	BC 109 C	TO18, NPN	
Q.....12		50.03.0436	BC 107 B	NPN	
R.....1		57.11.4224	220 kOhm	5%, 0.25W, CF	
R.....2		57.11.4331	330 Ohm	5%, 0.25W, CF	
R.....3		57.11.4154	150 kOhm	5%, 0.25W, CF	
R.....4		57.11.4682	6.8 kOhm	5%, 0.25W, CF	
R.....5		57.11.4102	1 kOhm	5%, 0.25W, CF	
R.....6		57.11.4102	1 kOhm	5%, 0.25W, CF	
R.....7		57.11.4391	390 Ohm	5%, 0.25W, CF	
R.....8		57.11.4680	68 Ohm	5%, 0.25W, CF	
R.....9		57.11.4332	3.3 kOhm	5%, 0.25W, CF	
R.....10		57.11.4470	47 Ohm	5%, 0.25W, CF	
R.....11		57.11.4123	12 kOhm	5%, 0.25W, CF	
R.....12		57.11.4104	100 kOhm	5%, 0.25W, CF	
R.....13		57.11.4154	150 kOhm	5%, 0.25W, CF	
R.....14		57.11.4680	68 Ohm	5%, 0.25W, CF	
R.....15		57.11.4102	1 kOhm	5%, 0.25W, CF	
R.....16		57.11.4123	12 kOhm	5%, 0.25W, CF	
R.....17		57.11.4682	8.2 kOhm	5%, 0.25W, CF	
R.....18		57.11.4104	100 kOhm	5%, 0.25W, CF	
R.....19		57.11.4153	15 kOhm	5%, 0.25W, CF	
R.....20		57.11.4182	1.8 kOhm	5%, 0.25W, CF	
R.....21		58.19.0203	20 kOhm	20%, 0.15W, PCF, lin	
R.....22		57.11.4334	330 kOhm	5%, 0.25W, CF	
R.....23		57.11.4102	1 kOhm	5%, 0.25W, CF	
R.....24		57.11.4154	150 kOhm	5%, 0.25W, CF	
R.....25		57.11.4102	1 kOhm	5%, 0.25W, CF	
R.....26		57.11.4102	1 kOhm	5%, 0.25W, CF	

S T U D E R 82/07/06 RW REPRODUCE-AMPLIFIER 4.75/9.5 1.177.257.81 PAGE 2

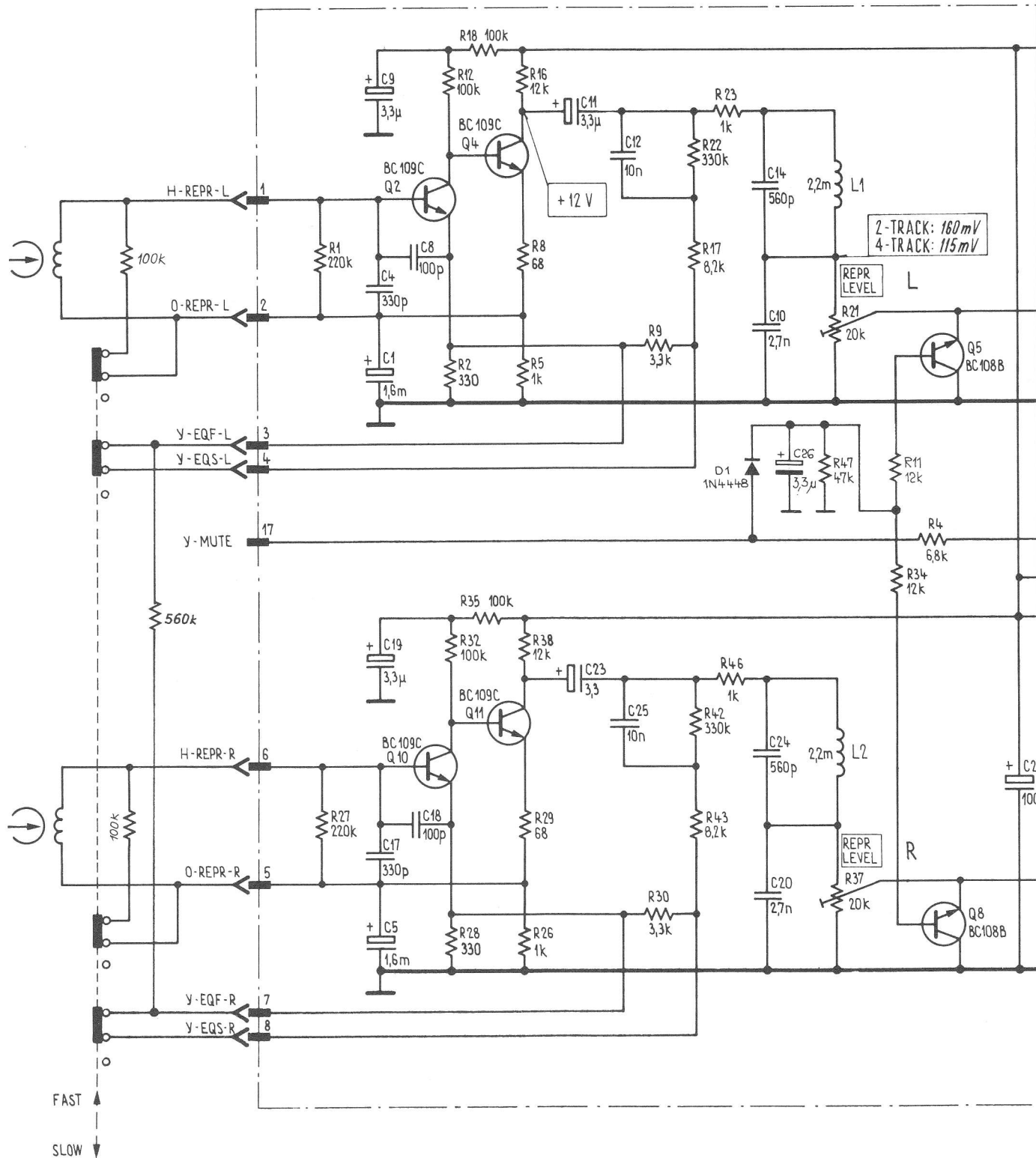
IND.	POS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....27		57.11.4224	220 kOhm	5%, 0.25W, CF	
R.....28		57.11.4331	330 Ohm	5%, 0.25W, CF	
R.....29		57.11.4680	68 Ohm	5%, 0.25W, CF	
R.....30		57.11.4332	3.3 kOhm	5%, 0.25W, CF	
R.....31		57.11.4470	47 Ohm	5%, 0.25W, CF	
R.....32		57.11.4104	100 kOhm	5%, 0.25W, CF	
R.....33		57.11.4154	150 kOhm	5%, 0.25W, CF	
R.....34		57.11.4123	12 kOhm	5%, 0.25W, CF	
R.....35		57.11.4104	100 kOhm	5%, 0.25W, CF	
R.....36		57.11.4680	68 Ohm	5%, 0.25W, CF	
R.....37		58.19.0203	20 kOhm	20%, 0.15W, PCF, lin	
R.....38		57.11.4123	12 kOhm	5%, 0.25W, CF	
R.....39		57.11.4182	1.8 kOhm	5%, 0.25W, CF	
R.....40		57.11.4153	15 kOhm	5%, 0.25W, CF	
R.....41		57.11.4102	1 kOhm	5%, 0.25W, CF	
R.....42		57.11.4334	330 kOhm	5%, 0.25W, CF	
R.....43		57.11.4622	8.2 kOhm	5%, 0.25W, CF	
R.....44		57.11.4391	390 Ohm	5%, 0.25W, CF	
R.....45		57.11.4102	1 kOhm	5%, 0.25W, CF	
R.....46		57.11.4102	1 kOhm	5%, 0.25W, CF	
R.....47		57.11.4473	47 kOhm	5%, 0.25W, CF	

E1=Electrolytic, Ce=Ceramic, PC=Polycarbonate, PETP=Polyester,
CF=Carbon Film, PCF=Pot-Carbon Film
Manufacturer: Sig=Signetics, TI=Texas Instruments

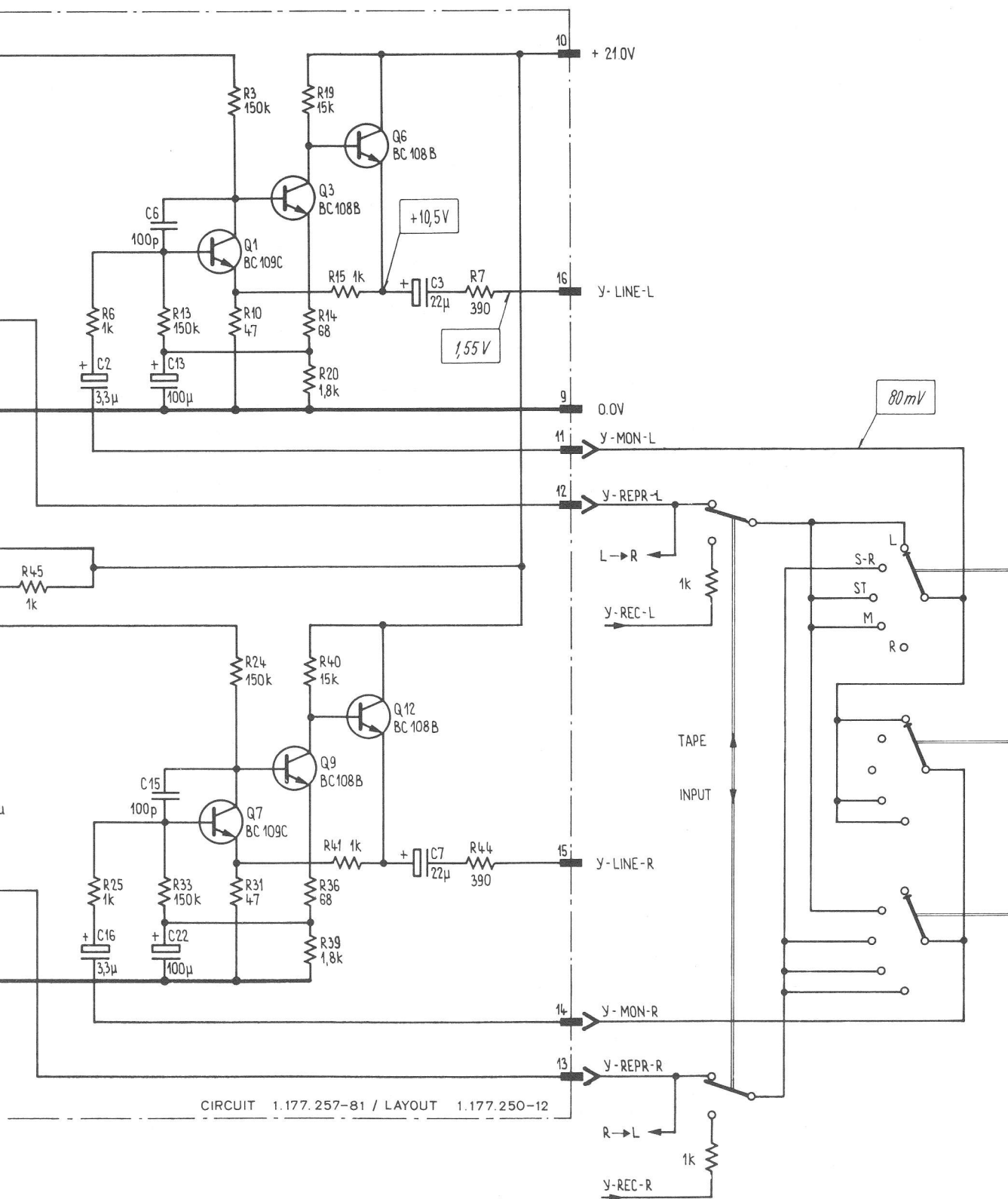
ORIG 82/07/08

S T U D E R 82/07/06 RW REPRODUCE-AMPLIFIER 4.75/9.5 1.177.257.81 PAGE 3

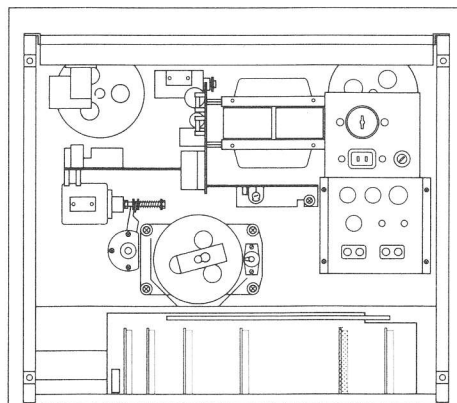
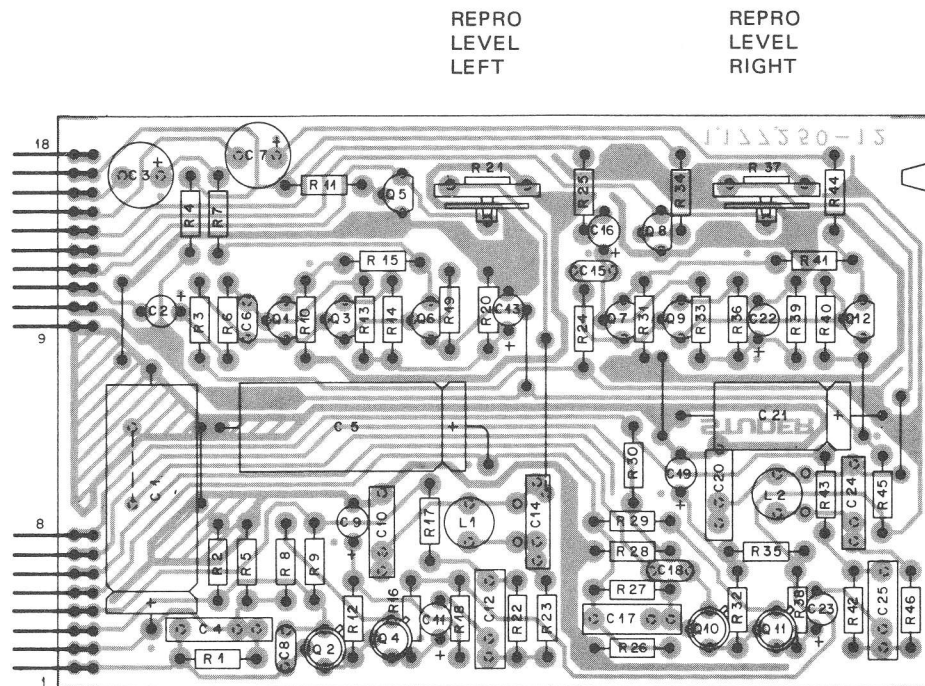
REPRODUCE AMPLIFIER PCB (NAB 1 7/8 - 3 3/4 ips) 1.177.257-81



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



REPRODUCE AMPLIFIER PCB (NAB 15/15 - 1 7/8 ips) 1.177.258



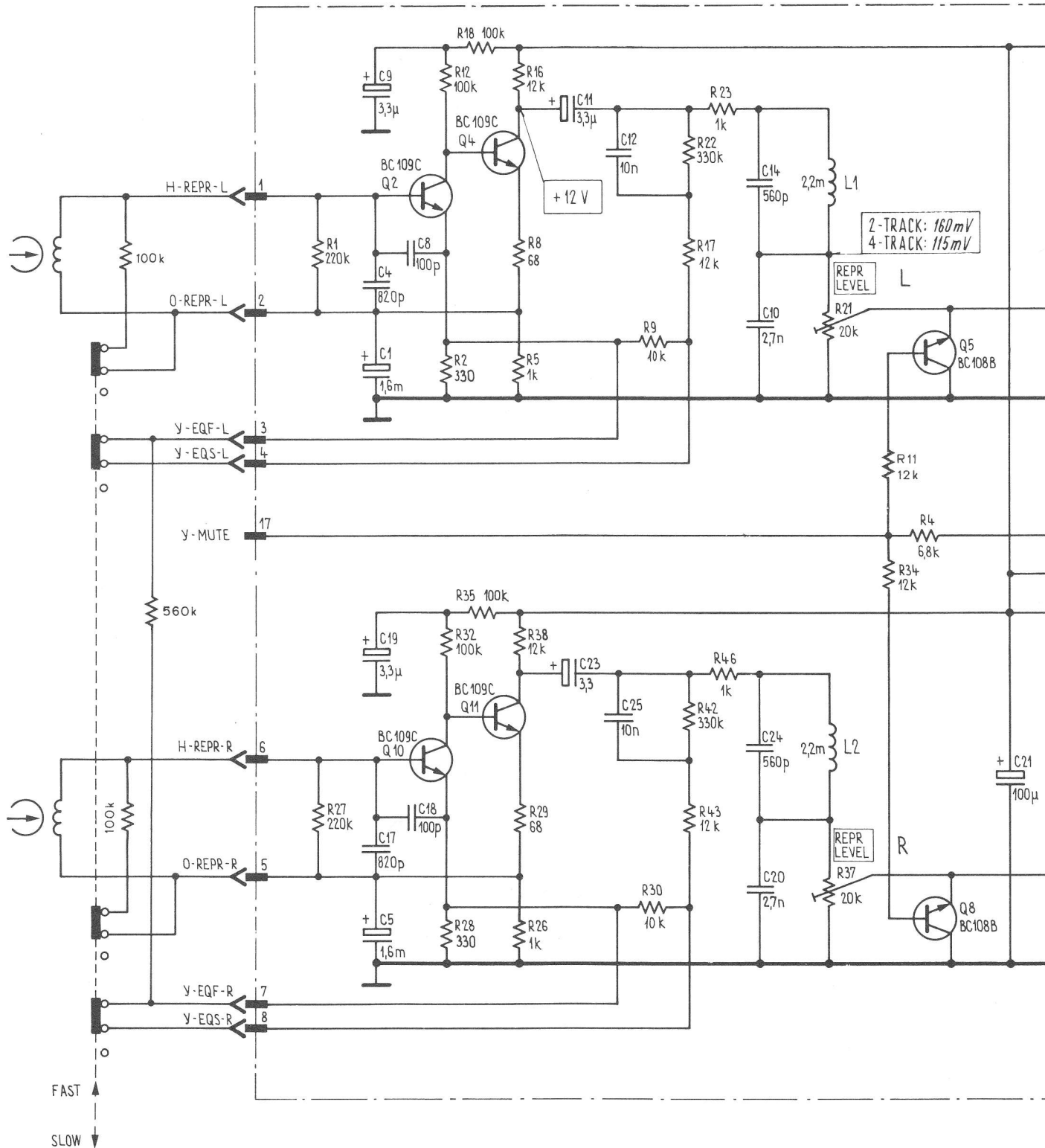
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③			PC = Polycarbonate
②			PETP= Polyester
①			CER = Ceramic
○	15.2.79	R.W/gv	
STUDER		Reproduce-Amplifier 2,38/4,75	1.177.258
			PAGE 1 OF 4

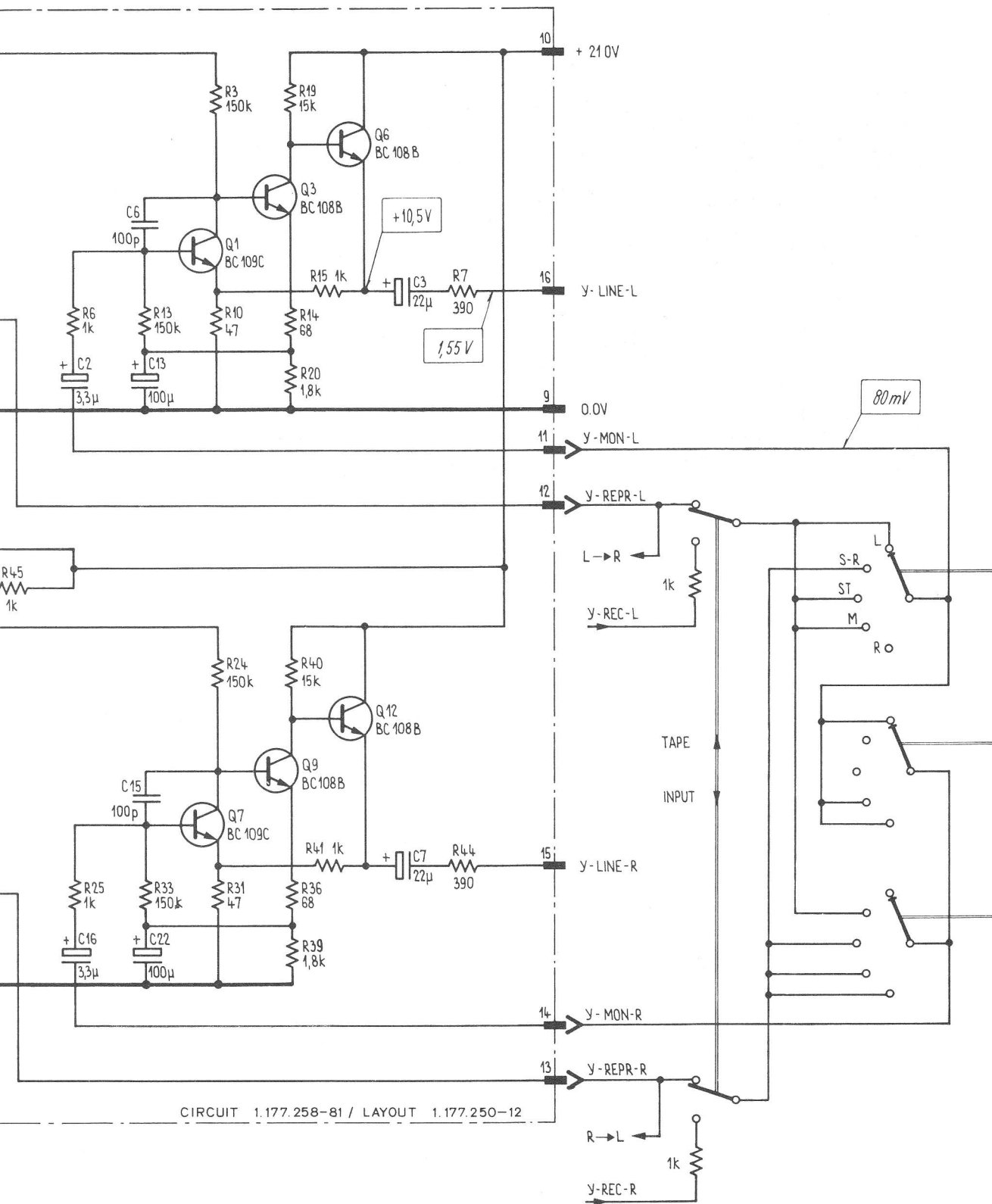
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③				
②				
①				
○	15.2.1979	R.W /gv		
STUDER		Reproduce-Amplifier 2,38/4,75	1.177.258	PAGE 2 OF 4

IND	DATE	NAME			
④					
③					
②					
①					
○	15.2.1979	R.W /gv			
STUDER		Reproduce-Amplifier 2,38/4,75	1.177.258	PAGE 3 OF 4	

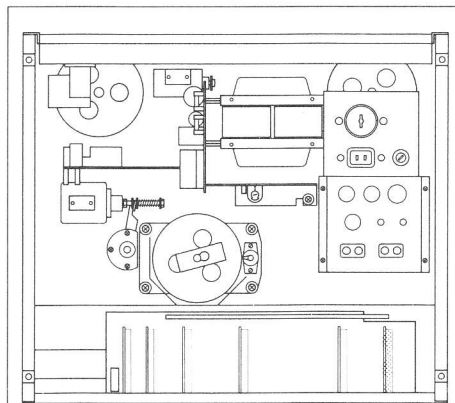
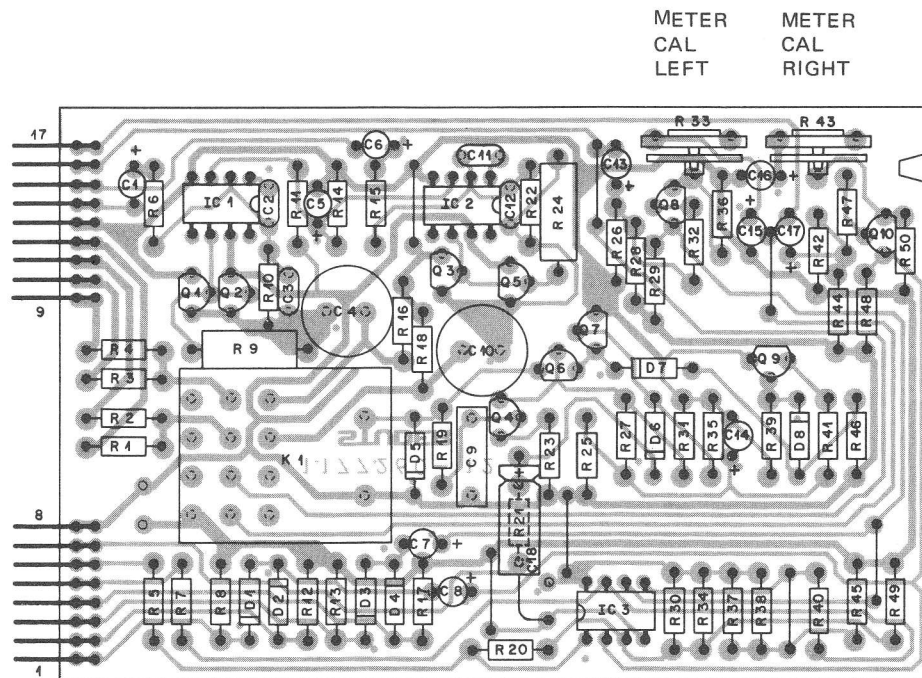
IND	DATE	NAME			
④					
③					
②					
①					
○	15.2.1979	R.W/gv			
STUDER		Reproduce-Amplifier 2,38/4,75	1.177.258	PAGE 4 OF 4	

REPRODUCE AMPLIFIER PCB (NAB 15/16 - 1 7/8 ips) 1.177.258





MONITOR AMPLIFIER PCB 1.177.260



INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
C.....1	59.22.8479	4.7 uF	10%, 50V, E1		
C.....2	59.32.9101	100 pF	20%, 500V, Cer		
C.....3	59.32.1330	33 pF	10%, 500V, Cer		
C.....4	59.22.5101	100 uF	10%, 25V, E1		
C.....5	59.22.6100	10 uF	10%, 35V, E1		
C.....6	59.22.8479	4.7 uF	10%, 50V, E1		
C.....7	59.22.8479	4.7 uF	10%, 50V, E1		
C.....8	59.22.8479	4.7 uF	10%, 50V, E1		
C.....9	59.31.1104	0.1 uF	20%, 100V, MPETP		
C.....10	59.22.5101	100 uF	20%, 25V, E1		
C.....11	59.32.9101	100 pF	20%, 500V, Cer		
C.....12	59.32.1330	33 pF	10%, 500V, Cer		
C.....13	59.22.8479	4.7 uF	10%, 50V, E1		
C.....14	59.22.6100	10 uF	10%, 35V, E1		
C.....15	59.22.6100	10 uF	10%, 35V, E1		
C.....16	59.22.6100	10 uF	10%, 35V, E1		
C.....17	59.22.8479	4.7 uF	10%, 50V, E1		
C.....18	59.25.5220	22 uF	10%, 40V, E1		
D.....1	50.04.0953	AA 116	GE		
D.....2	50.04.0953	AA 116	GE		
D.....3	50.04.0953	AA 116	GE		
D.....4	50.04.0953	AA 116	GE		
D.....5	50.04.0125	1 N 4448	any		
D.....6	50.04.1109	2 20 V	5% 400mV		
D.....7	50.04.0125	1 N 4448	any		
D.....8	50.04.0125	1 N 4448	any		
IC.....1	50.05.0257	LM 301			TI+N
IC.....2	50.05.0257	LM 301			TI+N
IC.....3	50.05.0245	RC 455B			TI+R
K.....1	56.04.0121	PZ 4	850 Ohm, 24V		
P.....1	54.01.0270	8-Pole	Pin-Strip		AMP
P.....2	54.01.0220	9-Pole	Pin-Strip		AMP

S T U D E R 82/11/30 RW MONITOR AMPLIFIER 1.177.260.00 PAGE 1

INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
Q.....1	50.03.0318	BC 178 B	PNP		
Q.....2	50.03.0436	BC 107 B	NPN		
Q.....3	50.03.0318	BC 178 B	PNP		
Q.....4	50.03.0318	BC 178 B	PNP		
Q.....5	50.03.0436	BC 107 B	NPN		
Q.....6	50.03.0436	BC 107 B	NPN		
Q.....7	50.03.0436	BC 107 B	NPN		
Q.....8	50.03.0436	BC 107 B	NPN		
Q.....9	50.03.0436	BC 107 B	NPN		
Q.....10	50.03.0436	BC 107 B	NPN		
R.....1	57.41.4221	220 Ohm	5%, 0.25W, CF		
R.....2	57.41.4221	220 Ohm	5%, 0.25W, CF		
R.....3	57.41.4221	220 Ohm	5%, 0.25W, CF		
R.....4	57.41.4221	220 Ohm	5%, 0.25W, CF		
R.....5	57.41.4821	820 Ohm	5%, 0.25W, CF		
R.....6	57.41.4183	18 kOhm	5%, 0.25W, CF		
R.....7	57.41.4821	820 Ohm	5%, 0.25W, CF		
R.....8	57.41.4272	2.7 kOhm	5%, 0.25W, CF		
R.....9	57.43.4471	470 Ohm	5%, 0.5 W, CF		
R.....10	57.41.4683	68 kOhm	5%, 0.25W, CF		
R.....11	57.41.4103	10 kOhm	5%, 0.25W, CF		
R.....12	57.41.4272	2.7 kOhm	5%, 0.25W, CF		
R.....13	57.41.4272	2.7 kOhm	5%, 0.25W, CF		
R.....14	57.41.4103	10 kOhm	5%, 0.25W, CF		
R.....15	57.41.4183	18 kOhm	5%, 0.25W, CF		
R.....16	57.41.4472	4.7 kOhm	5%, 0.25W, CF		
R.....17	57.41.4272	2.7 kOhm	5%, 0.25W, CF		
R.....18	57.41.4472	4.7 kOhm	5%, 0.25W, CF		
R.....19	57.41.4104	100 kOhm	5%, 0.25W, CF		
R.....20	57.41.4473	47 kOhm	5%, 0.25W, CF		
R.....21	57.11.4472	4.7 kOhm	5%, 0.25W, CF		
R.....22	57.41.4683	68 kOhm	5%, 0.25W, CF		
R.....23	57.41.4472	4.7 kOhm	5%, 0.25W, CF		
R.....24	57.43.4471	470 Ohm	5%, 0.5 W, CF		
R.....25	57.41.4564	560 kOhm	5%, 0.25W, CF		
R.....26	57.41.4273	27 kOhm	5%, 0.25W, CF		

S T U D E R 82/11/30 RW MONITOR AMPLIFIER 1.177.260.00 PAGE 2

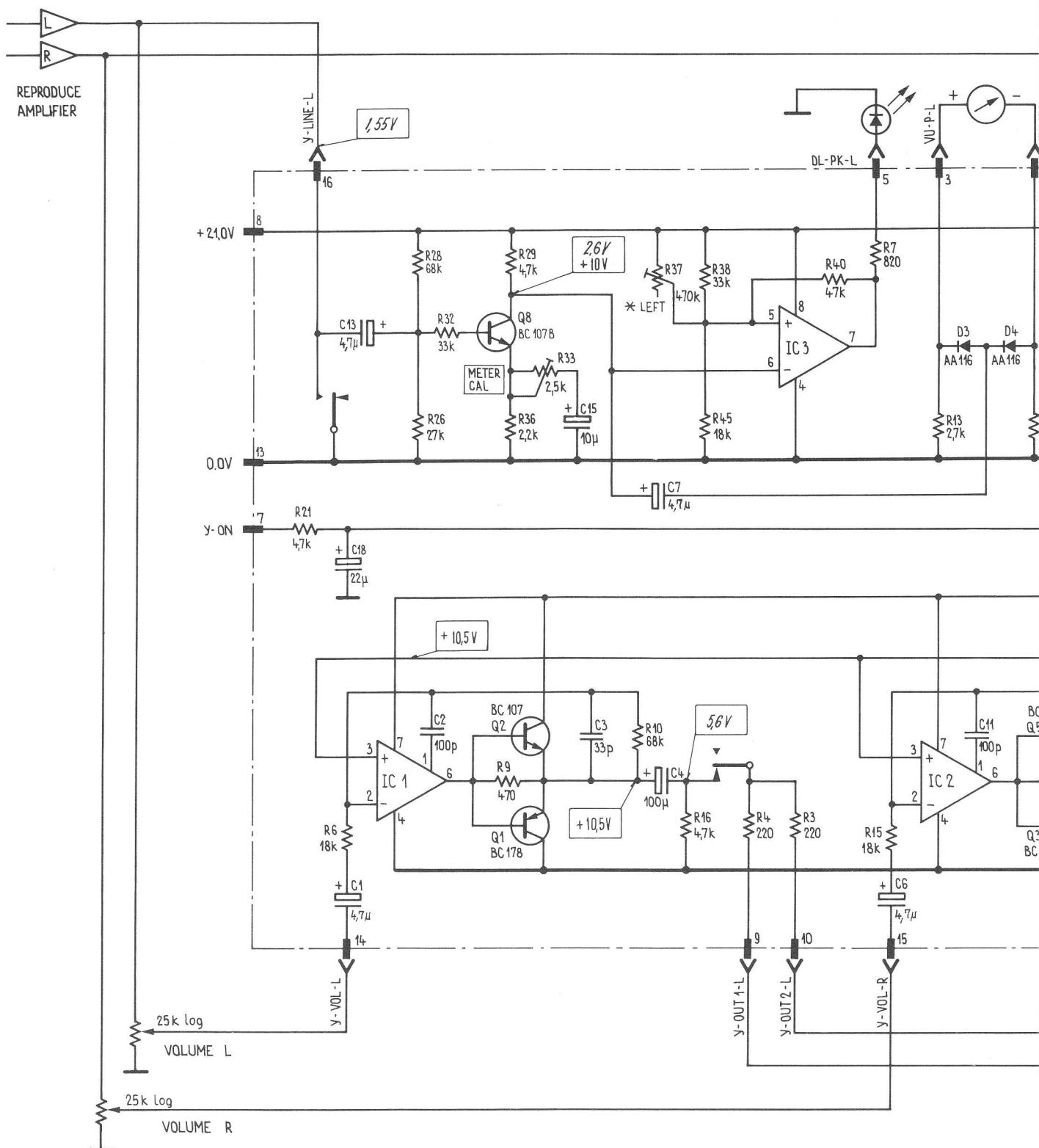
INC.	PCS.NO.	PART NO.	VALUE	SPECIFICATIONS / EQUIVALENT	MANUF.
R.....27	57.41.4564	560 kOhm	5%, 0.25W, CF		
R.....28	57.41.4683	68 kOhm	5%, 0.25W, CF		
R.....29	57.41.4472	4.7 kOhm	5%, 0.25W, CF		
R.....30	57.41.4333	33 kOhm	5%, 0.25W, CF		
R.....31	57.41.4104	100 kOhm	5%, 0.25W, CF		
R.....32	57.41.4333	33 kOhm	5%, 0.25W, CF		
R.....33	58.19.0252	2.5 kOhm	20%, 0.15W, PCF		
R.....34	58.99.0131	470 kOhm	20%, 0.15W, PCF		
R.....35	57.41.4222	2.2 kOhm	5%, 0.25W, CF		
R.....36	57.41.4222	2.2 kOhm	5%, 0.25W, CF		
R.....37	58.99.0131	470 kOhm	20%, 0.15W, PCF		
R.....38	57.41.4333	33 kOhm	5%, 0.25W, CF		
R.....39	57.41.4103	10 kOhm	5%, 0.25W, CF		
R.....40	57.41.4473	47 kOhm	5%, 0.25W, CF		
R.....41	57.41.4391	390 Ohm	5%, 0.25W, CF		
R.....42	57.41.4273	27 kOhm	5%, 0.25W, CF		
R.....43	58.19.0252	2.5 kOhm	20%, 0.15W, PCF		
R.....44	57.41.4683	68 kOhm	5%, 0.25W, CF		
R.....45	57.41.4183	18 kOhm	5%, 0.25W, CF		
R.....46	57.41.4472	4.7 kOhm	5%, 0.25W, CF		
R.....47	57.41.4333	33 kOhm	5%, 0.25W, CF		
R.....48	57.41.4472	4.7 kOhm	5%, 0.25W, CF		
R.....49	57.41.4183	18 kOhm	5%, 0.25W, CF		
R.....50	57.41.4222	2.2 kOhm	5%, 0.25W, CF		

E1=Electrolytic, Ce=Ceramic, PS=Polystyrene, N=National, O=Omron,
PC=Polycarbonate, CF=Carbonfilm, PCF=Pot. Carbon Film,
Manufacturer: Ray=Raytheon, TI=Texas Instruments, N=National,

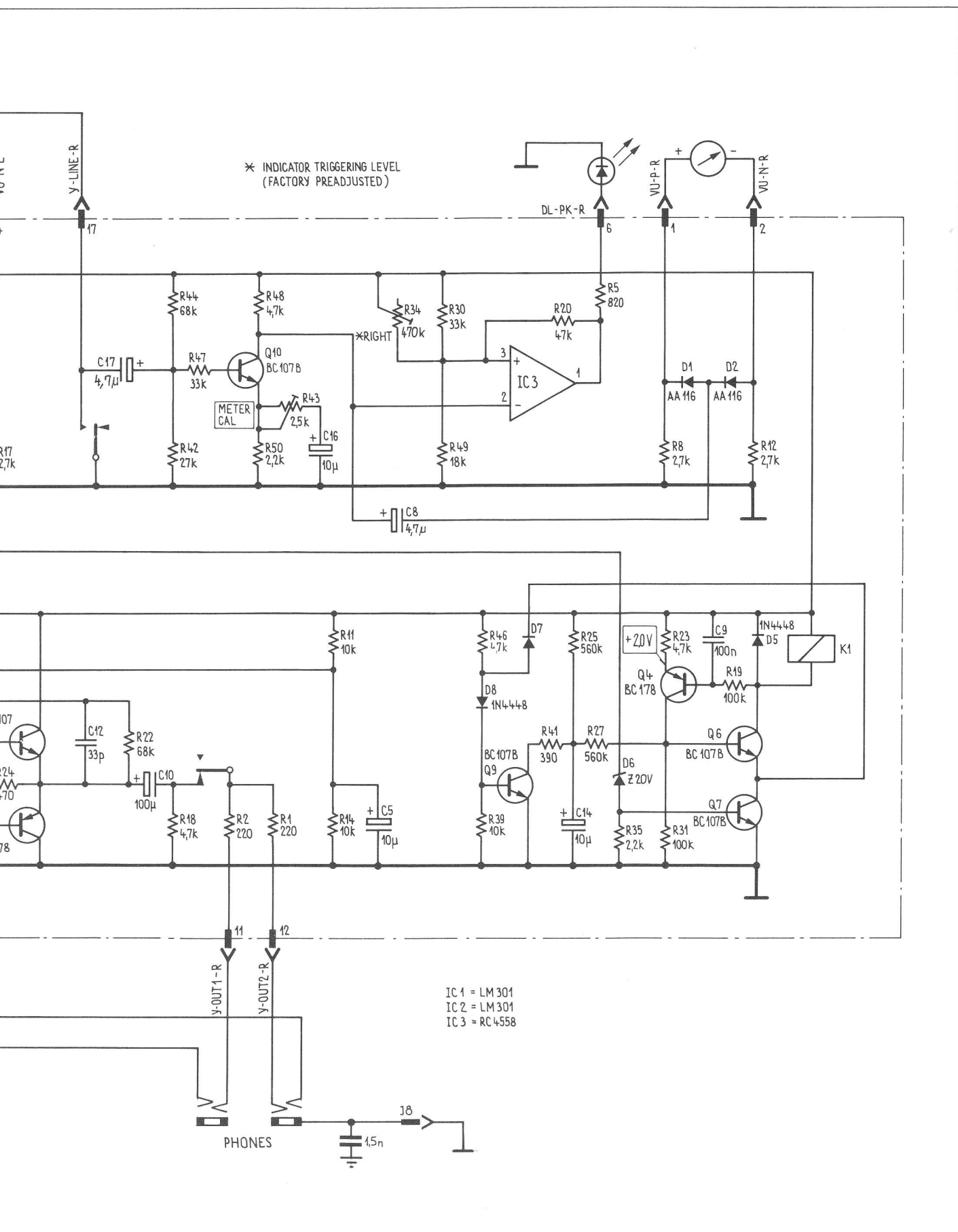
CPIG 82/02/08 (04) 81/12/21

S T U D E R 82/11/30 RW MONITOR AMPLIFIER 1.177.260.00 PAGE 3

MONITOR AMPLIFIER PCB 1.177.260



UP TO SERIAL NUMBER 20190 : D6 = Z 24V / R34, R37 = FIXED RESISTORS



**EINBAUANLEITUNG FÜR DIA-
STEUERUNGEN****FH / Free Head**

Für "free head"-Betrieb

Bestellnummern: 2-Spur 74501
4-Spur 74503

DIA / Dia-Synchro

Zur einfachen Diasteuerung

Bestellnummern: 2-Spur 74502
4-Spur 74504

DHA / Dissolve Head Amplifier

Für Dia Überblendsysteme

Bestellnummern: 2-Spur 74495
4-Spur 74496

Allgemeines

1. Laufwerkabdeckung vom Tonbandgerät abnehmen.

2. Dia-Pilotkopf auf die im Nachrüstsatz enthaltene, rechteckige Montageplatte aufschrauben und zwar auf der Seite der versenkten Montagelöcher.

3. Montageplatte mit Diapilotkopf rechts von der Tonachse auf den Kopfträger schrauben (siehe Fig. 4). Die drei Federn sind an der Unterseite der Montageplatte zu verwenden.

4. Die am anderen Ende des Kopfkabels befindlichen Flachstecker auf dem Audio Interconnection Board 1.177.210 einstecken (gemäss Fig. 1, 2, 3/Polarität beliebig). Kopfkabel kann am grossen Kabelbund fixiert werden.

5. Nach Ausbau des Audio-Anschlussfeldes die bereits mit Verbindungskabeln versehene 5- bzw. 6-polige Buchse beim Anschluss SLIDE SYNC montieren. Im Falle eines DHA-Bausatzes ist das abgeschirmte Kabel zwischen Capstan-Motor und NF-Platine zu verlegen. Weiteres Vorgehen entsprechend der jeweiligen Bausatzvariante.

Beim FH-Bausatz:

6. Das Kabel von der 5-poligen Buchse oberhalb des Tonmotors verlegen und den am Kabelende befindlichen Flachstecker in die Steckerleiste J1 des Audio Interconnection Boards 1.177.210 einstecken (siehe Fig. 1). Danach weiter bei Punkt 10.

**INSTALLATION INSTRUCTIONS FOR
SLIDE CONTROL ELECTRONICS****FH / Free Head**

For "free head" operation

Order number: 2-track 74501
4-track 74503

DIA / Dia-Synchro

For single projector operation

Order number: 2-track 74502
4-track 74504

DHA / Dissolve Head Amplifier

For cross-fade systems

Order number: 2-track 74495
4-track 74496

General

1. Remove tape transport cover.

2. Attach the sync head to the rectangular mounting plate contained in the kit, so that the countersink side of the holes points to its head.

3. Install the sync head with its mounting plate on the right of the capstan shaft by utilizing the 3-flat head screws (see fig. 4). Use the 3 springs on the underside of the mounting plate.

4. Connect the push on terminals of the head cable to the mother board 1.177.210 as shown in the drawing on page 3 of this instruction sheet (according fig. 1, 2, 3/no need to observe polarity). If found necessary, tie the head cable to the existing wire harness.

5. Remove audio connector panel and install the 5-pole or 6-pole socket (depending on kit) at position 44 (SLIDE SYNC) of the connector panel. Route the shielded cable between the capstan motor and the audio boards. Continue as described under the appropriate heading.

FH kit

6. Place the cable from the 5-pole socket above the capstan motor and insert the flat plug at the cable's end into the upper edge J1 connector on board 1.177.210 (see fig. 1). Continue at step 10.

**INSTRUCTION DE MONTAGE POUR LES
KITS DE COMMANDE DE DIAPOSITIVES****FH / Free Head**

Pour utilisation "tête libre"

Numéros de référence: 2-pistes 74501
4-pistes 74503

DIA / Dia-Synchro

Pour commande dias simple

Numéros de référence: 2-pistes 74502
4-pistes 74504

DHA / Dissolve Head Amplifier

Pour fondu enchaîné

Numéros de référence: 2-pistes 74495
4-pistes 74496

Généralités

1. Déposez le capot de recouvrement du mécanisme.

2. Vissez la tête pilote contenue dans le kit, sur la plaque de montage rectangulaire, côté fraisé des trous de fixation.

3. A droite de l'axe de cabestan, vissez la plaque de montage avec la tête pilote, sur le support des têtes (voir fig. 4), les 3 ressorts sous la plaque de montage.

4. Raccordez la fiche plate de l'extrémité du câble à circuit de base 1.177.210 (conforme à fig. 1, 2, 3/polarité quelconque). Attachez si nécessaire, le câble au toron principal.

5. Après démontage du panneau de raccordement audio, fixez la prise 5 ou 6 pôles à l'emplacement 44 (SLIDE SYNC). Pour la version DHA, tirez le câble blindé entre le moteur de cabestan et le circuit de base. Les instructions suivantes varient selon les versions.

Kit de montage FH

6. Placez le câble de la fiche 5 pôles au-dessus du moteur de cabestan et raccordez la fiche plate de l'extrémité du câble J1 à la partie supérieure du connecteur libre du circuit de base 1.177.210 (voir fig. 1). Poursuivre au point 10.

Beim DIA- sowie DHA Bausatz:

6.
DIA- oder DHA-Platine (1.177.270 resp. 1.177.282) in die freien Steckerleisten J1/J10 auf dem Audio Interconnection Board 1.177.210 einstecken (siehe Fig. 2).

7.
Dreheschalter des DHA-Bausatzes bzw. Schalter des DIA-1/4Spur-Bausatzes in das im Chassis vorhandene Loch rechts der Drucktaste "reel size" einbauen.

8.
Beim DIA-Bausatz das Verbindungskabel zur 6-poligen Buchse SLIDE SYNC oberhalb des Tonmotors verlegen und die beiden Flachstecker (beliebige Polung) auf dem Slide Synchronizer 1.177.270 einstecken (siehe Fig. 2).

Beim DHA-Satz den flachen, 6-poligen (CIS) Stecker in die freie Steckerleiste auf dem Interface 1.177.282 einstecken (siehe Fig. 3).

9.
Bei DHA- oder DIA-1/4Spur-Umrüstung auf der Laufwerkabdeckung die Lochmitte für den jeweiligen Schalter links vom Kopfträger, schräg unterhalb des Bandführlhebels, gemäss der Massskizze Fig. 4 anreissen. Loch mit einem Durchmesser von 8,7 mm bohren und anschliessend die zutreffende Beschriftungsetikette aufkleben.

10.
Nach Auflegen eines Tonbandes den Diapilotkopf in der Höhe so verstellen, dass seine Ober- und Unterkante mit dem vorbeilaufenden Tonband bündig ist.

Bei den DHA- und FH-Versionen kann zur Senkrechtstellung des Spaltes die Vollspur-Aufzeichnung einer Frequenz im Bereich von 1...3 kHz abgespielt werden, wobei der Kopf mittels Taulmelschraube auf maximale Ausgangsspannung einzustellen ist.

Bei der Version DIA empfiehlt sich eine Funktionskontrolle nach Bedienungsanleitung 10.2.

11.
Laufwerkabdeckung wieder montieren. Dabei darauf achten, dass das Kopfkabel nicht eingeklemmt wird.

DIA and DHA kit

6.
Insert DIA or DHA circuit board (1.177.270 or 1.177.282) into the free socket strip J1/J10 on board 1.177.210 (see fig. 2).

7.
Install the 3 position rotary switch of the DHA kit or the push-button switch of the DIA-1/4track-kit in the free hole to the right of the push-button "reel size".

8.
When installing a DIA kit, route the interconnecting cable to the 6-pole socket SLIDE SYNC above the capstan motor and connect the two push-on terminals to the DIA electronics 1.177.270 (see fig. 2).

In case of the DHA kit connect the flat 6-pole plug to the free socket on board 1.177.282 (see fig. 3).

9.
When retrofitting a DHA- or DIA-1/4track-kit, mark the center of the hole for the required switch to the left of the head-block as shown on the drawing at the bottom according the dimensional drawing fig. 4. Drill a 8,7 mm (11/32 inch) diameter hole and attach the self-adhesive designation label.

10.
By running a tape on the recorder, adjust the sync head laterally, so that its upper and lower edges are in line with the passing tape.
On DHA and FH kits gap azimuth can be adjusted by reproducing a full-track recording of 1...3 khz and altering the heads azimuth setting until a maximum signal output is obtained.
On DIA conversions, it is suggested to run a functional check as per section 10.2 of the recorders operating instructions.

11.
Reinstall the plastic deck cover and take care not to pinch the head cable.

Kit de montage DIA ou DHA

6.
Enfichez la plaquette DIA (1.177.270) ou DHA (1.177.282) dans les connecteurs libres J1/J10 du circuit de base 1.177.210 (voir fig. 2).

7.
A droite de la touche "reel size", montez dans le trou libre du châssis le commutateur du kit DIA 4 pistes ou le commutateur rotatif du kit DHA.

8.
Pour le kit DIA, placez au-dessus du moteur de cabestan, le câble de la fiche 6 pôles SLIDE SYNC et raccordez les deux fiches plates (sans tenir compte de la polarité) aux connecteurs de la plaquette DIA 1.177.270 (voir fig. 2).

Pour le kit DHA, raccordez la fiche plate 6 pôles (CIS) au connecteur de la plaquette 1.177.282 (voir fig. 3).

9.
Les versions DIA 4 pistes et DHA nécessitent une perforation du capot de recouvrement du mécanisme, à gauche du support des têtes, en-dessous du tendeur de bande. Marquez le centre du trou à l'aide de l'esquisse se trouvant au dessin des dimensions fig. 4. Percez avec une mèche de 8,7 mm et collez l'étiquette correspondante.

10.
Après la mise en place d'une bande, ajustez la hauteur de la tête pilote, de manière à faire coïncider les arrêts supérieurs et inférieurs avec la largeur de la bande.

Dans les versions DHA et FH, l'ajustage correct de l'azimut permet l'enregistrement et la lecture dans une largeur de bande allant de 1...3 kHz. On réglera l'azimut au maximum de signal de sortie.

Pour la version DIA, il est conseillé d'effectuer un contrôle de fonction selon le mode d'emploi 10.2.

11.
Remontez le capot de recouvrement du mécanisme, en veillant de ne pas pincer le câble de la tête pilote.

FIG.1 INSTALLATION OF FREE HEAD KIT

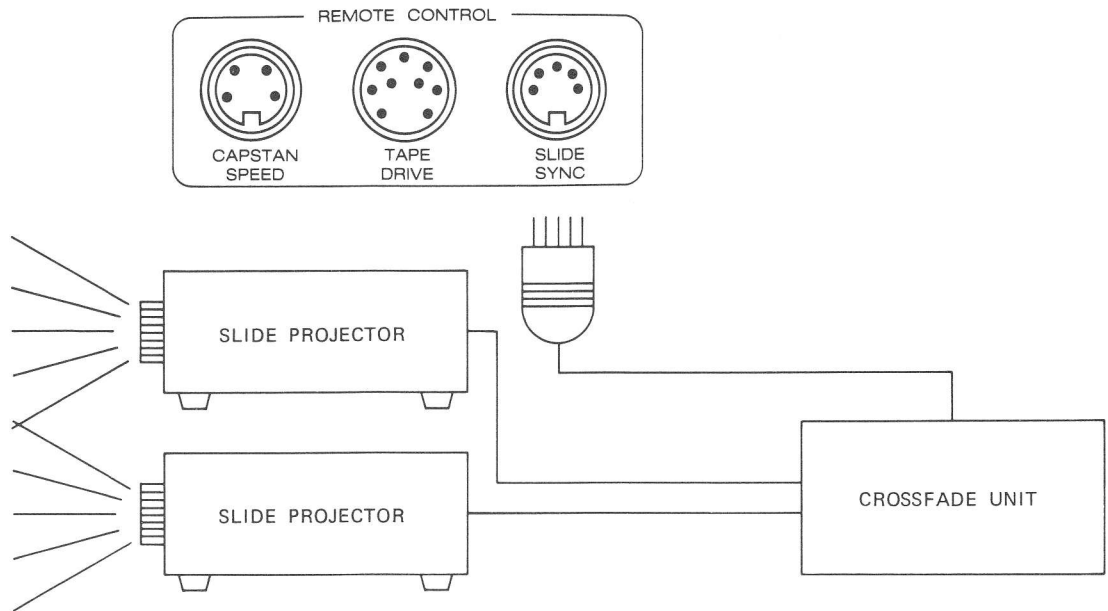
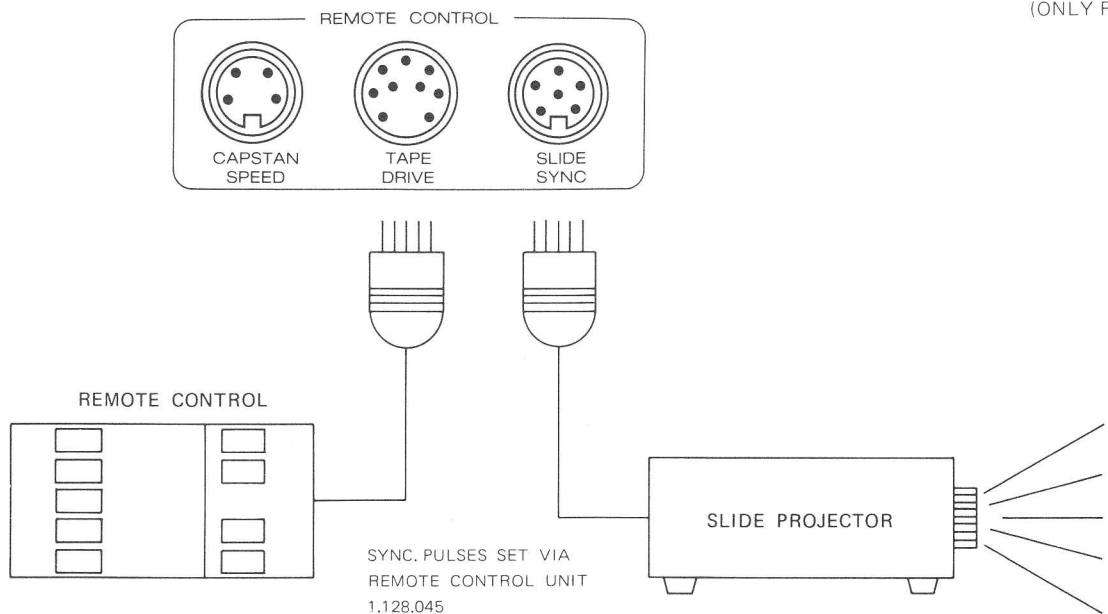
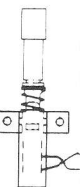


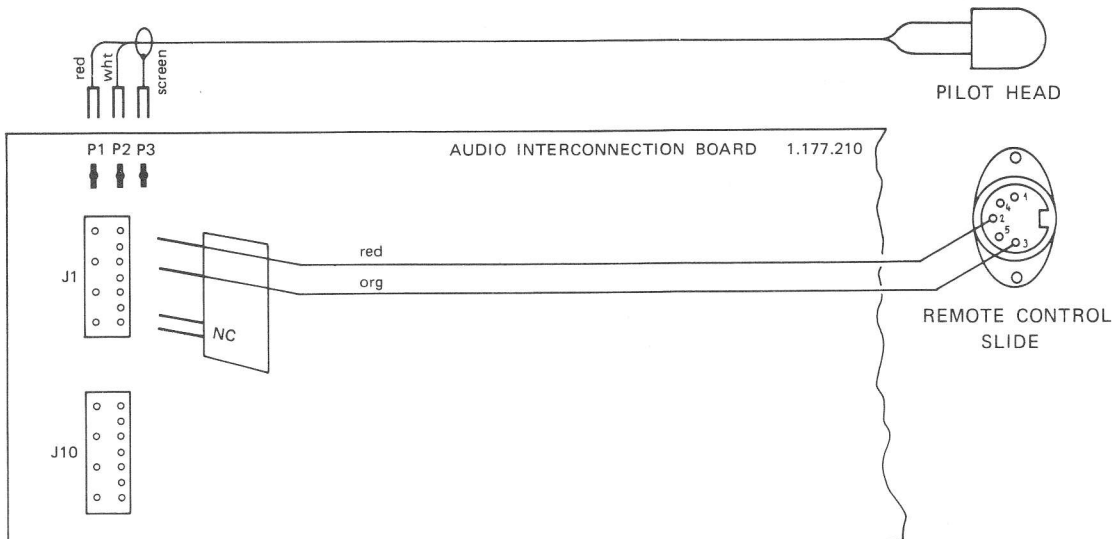
FIG.2 INSTALLATION OF DIA SYNC KIT



DIA PILOT MUTING
(ONLY FOR 4-TRACK)

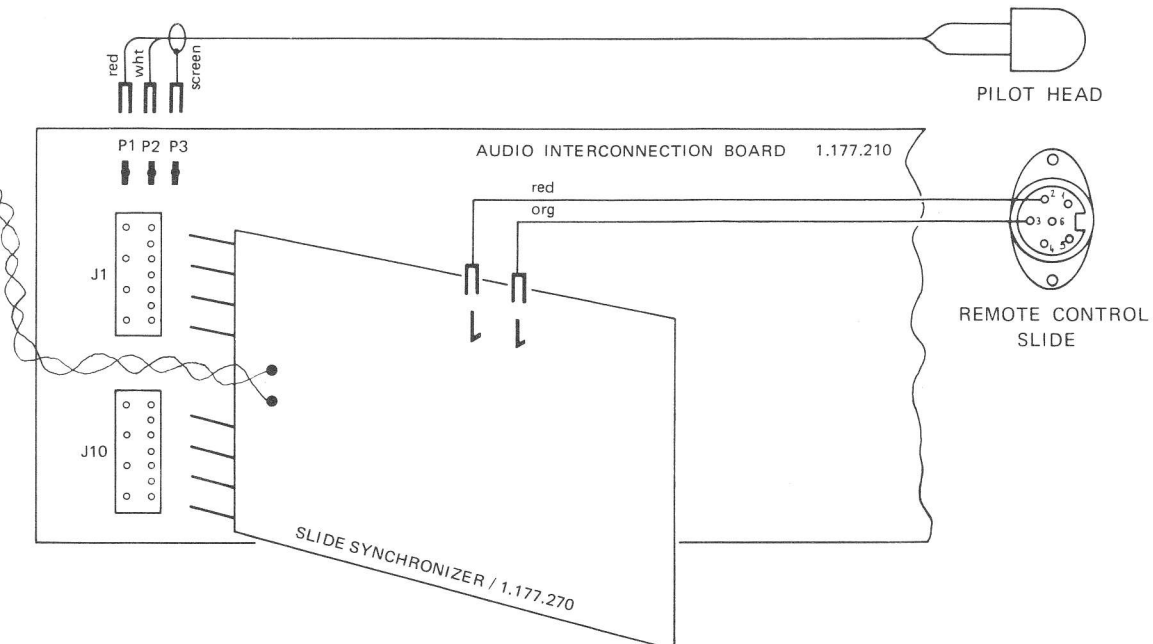


PILOT HEAD 2-TRACK 1.116.082-01
PILOT HEAD 4-TRACK 1.116.083-01

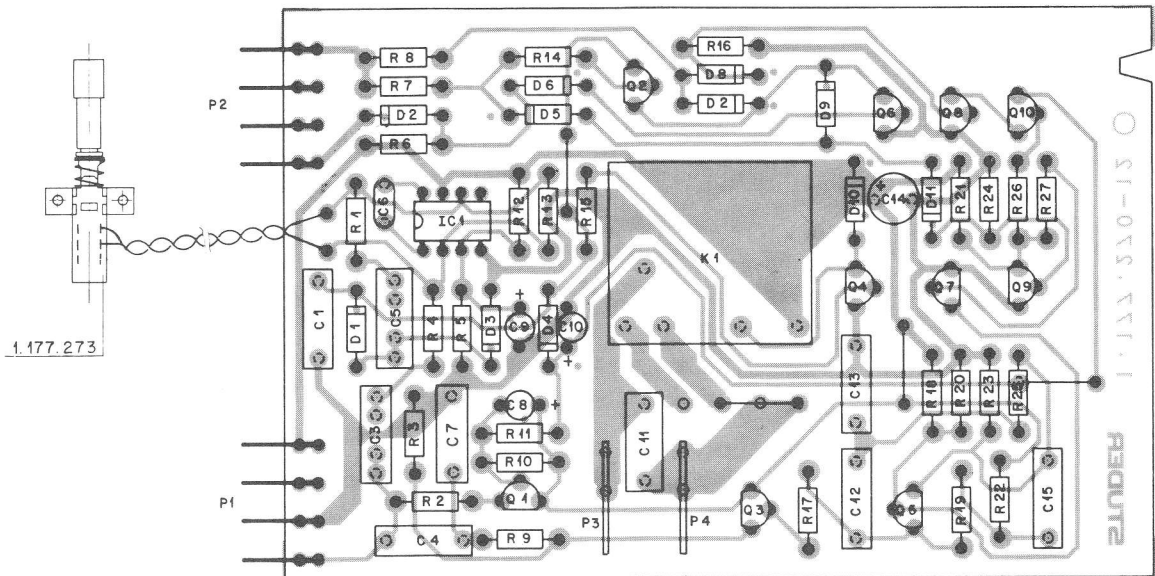


SWITCH
(VERSIONS)

PILOT HEAD 2-TRACK 1.116.082-01
PILOT HEAD 4-TRACK 1.116.083-01



SLIDE SYNCHRONIZER PCB 1.177.270



DIASTEUERUNG 1.177.270

Mit einem eingebauten Spezial-Tonkopf und angeschlossener Laufwerk-Fernbedienung, ermöglicht diese Schaltung Steuerimpulse für den Bildwechsel bei handelsüblichen Dia-Projektoren auf Band zu bringen.

Eine Anpassung der Steuerschaltung an diverse Projektor-Fabrikate ist gewährleistet, indem über einen galvanisch getrennten Relaiskontakt geschaltet wird.

Über die beiden Steuertasten REC-SLIDE und SET-SLIDE, werden die folgenden Betriebszustände gewählt:

- Wiedergabe von Schaltimpulsen
- Sperren der Wiedergabe von bereits aufgezeichneten Schaltimpulsen (wichtig bei bespielten 4-Spur Bändern)
- Löschen sowie Setzen von (neuen) Impulsen

Es werden 1 kHz Sinussignale aufgezeichnet. Die Löschung erfolgt mit Gleichstrom.

Die genaue Funktion der Steuertasten ist aus der Tabelle ersichtlich. Ausserbetriebsetzen des Relais ohne angeschlossene Fernbedienung ist mit Schalter "DIA PILOT MUTING SWITCH" möglich.

Slide synchronizing electronics 1.177.270

A special magnetic head in conjunction with the slide synchronizing electronics makes it possible to record control impulses on tape. Upon playback, these impulses will effect a picture change in any commercially available projector, when connected to the B77 recorder. This system is operational only in conjunction with the REVOX B77 remote control device.

Reliable operation with different makes of projectors is ensured by the fact that control of the slide advance mechanism is effected by separate relay contacts.

By means of the buttons REC-SLIDE and SET-SLIDE on the remote control device, the following operating conditions can be selected:

- Reproduction of control (switching) impulses.
- Disabling of the synchronizing circuit so as not to respond to signals scanned by the impulse head (important when playing fully recorded quarter track tapes).
- Erasure and recording of (new) control impulses.

The exact function of each control button can be seen from the table. To disable the relay without a remote control device connected to the recorder, pull the "DIA PILOT MUTING SWITCH".

Synchronisateur de diapositives 1.177.270

Ce circuit monté dans un B77 équipé d'une tête pilote et raccordé à la commande à distance, permet la commande par la bande d'un projecteur de diapositives.

La commande par les contacts du relais, isolés galvaniquement du circuit, s'adapte à n'importe quel type de projecteur.

Les deux touches de commande REC-SLIDE et SET-SLIDE permettent les fonctions suivantes:

- Lecture des impulsions de commande
- Blocage de la lecture des impulsions de commande (important pour les appareils 4 pistes).
- Effacement ainsi qu'enregistrement des (nouvelles) impulsions.

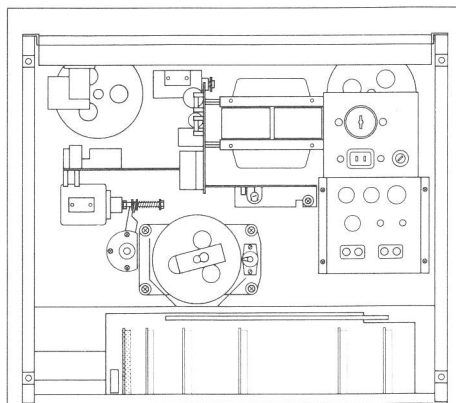
Ces impulsions sont constituées par des trains d'un signal sinusoïdal de 1 kHz. L'effacement s'effectue par courant continu.

Les fonctions exactes des touches de commande sont données par la table. La mise sans l'aide de la commande à distance, peut se faire avec le bouton poussoir "DIA PILOT MUTING SWITCH".

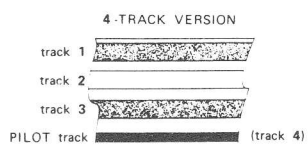
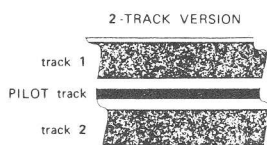
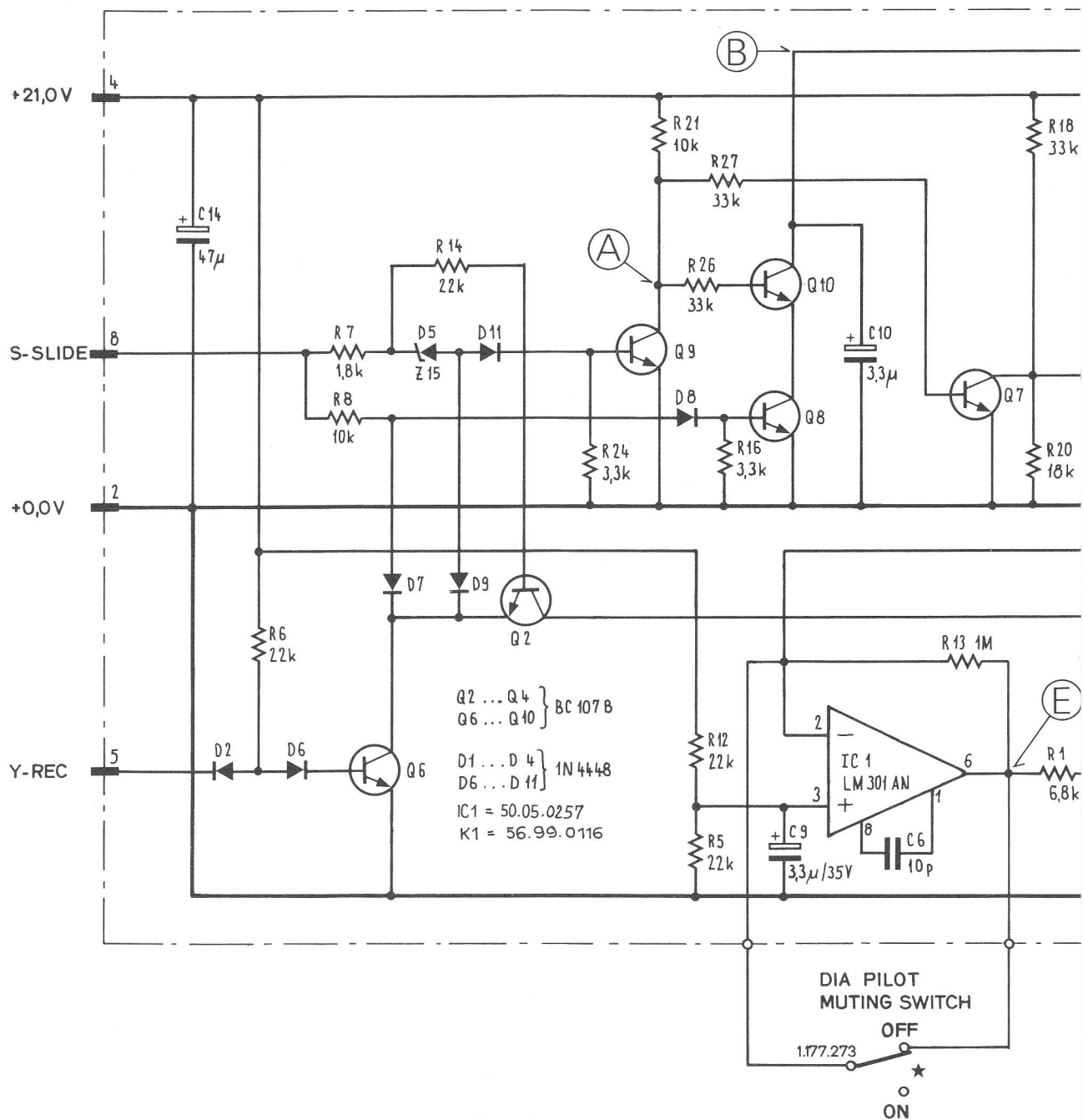
Schaltbefehl	Funktion	Effected switching	Resulting function	Commande	Fonction
PLAY	Wiedergabe Steuerimpulse	PLAY	Reproduction of control impulses	PLAY	Lecture des impulsions
PLAY + SLIDE-REC	Wiedergabe Steuerimpulse gesperrt	PLAY + SLIDE-REC	Reproduction of control impulses disabled	PLAY + SLIDE-REC	Blocage de la lecture des impulsions
PLAY + REC + Vorwahl	normale NF-Aufnahme	PLAY + REC + preselector	Normal audio recording	PLAY + REC + présélecteur	Enregistrement BF normal
PLAY + REC + SLIDE-REC	Löschen der Steuerimpulse	PLAY + REC + SLIDE-REC	Erasure of control impulses	PLAY + REC + SLIDE-REC	Effacement des impulsions de commande
PLAY + REC + SLIDE-REC + SET-SLIDE	solange SET gedrückt, wird Steuerimpuls gesetzt (kurz und lang möglich).	PLAY + REC + SLIDE-REC + SET-SLIDE	Recording of a new impulse as long as the button SET is kept depressed.	PLAY + REC + SLIDE-REC + SET-SLIDE	Enregistrement des impulsions de commande aussi longtemps que la touche SET reste enfoncée.

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
C 01	59.31.6104	0,1 U	10% 100V MPETP		
C 03	59.31.6104	0,1 U	10% 100V MPETP		
C 04	59.31.6104	0,1 U	10% 100V MPETP		
C 05	59.31.1224	0,22 U	10% 100V MPETP		
C 06	59.32.0100	10 P	20% 50V CER		
C 07	59.31.6104	0,1 U	10% 100V MPETP		
C 08	59.30.1470	47 U	-20% 3V TA		
C 09	59.30.6339	3,3 U	-20% 35V TA		
C 10	59.30.6339	3,3 U			
C 11	59.31.1224	0,22 U	20% 100V MPETP		
C 12	59.31.6104	0,1 U	10%		
C 13	59.31.6104	0,1 U			
C 14	59.22.5470	47 U	-10% 25V EL		
C 15	59.31.6104	0,1 U	10% 100V MPETP		
D 01	50.04.0125	1N 4448		any	
D 02	50.04.0125	1N 4448			
D 03	50.04.0125	1N 4448			
D 04	50.04.0125	1N 4448			
D 05	50.04.0119	Z 15	15V 5% 400mW		
D 06	50.04.0125	1N 4448			
D 07	50.04.0125	1N 4448			
D 08	50.04.0125	1N 4448			
D 09	50.04.0125	1N 4448			
D 10	50.04.0125	1N 4448			
D 11	50.04.0125	1N 4448			
IC 1	50.05.0257	LM 301		TI, N	
K 01	56.99.0116	1 x U	24V	S, O	
P 01	54.01.0470	4-Pole	PIN-Strip AMP		
P 02	54.01.0470	4-Pole	PIN-Strip AMP		
P 03	54.02.0328		Flat Pin 0,8 AMP		
P 04	54.02.0328		Flat Pin 0,8 AMP		
Q 01	50.03.0318	BC178B	PNP	any	
Q 02	50.03.0436	BC107B	NPN		
Q 03	50.03.0436	BC107B	NPN		
Q 04	50.03.0436	BC107B	NPN		
Q 05	50.03.0439	BC109C	NPN		
Q 06	50.03.0436	BC107B	NPN		
Q 07	50.03.0436	BC107B	NPN		
Q 08	50.03.0436	BC107B	NPN		
Q 09	50.03.0436	BC107B	NPN		
Q 10	50.03.0436	BC107B	NPN		
TI = Texas Instr. N = National S = Siemens O = Omron			MPETP = metallized polyester TA = tantalum EL = electrolytic CER = ceramic	1.2.82 8.3.79 8.6.78	Fol. Lu./gv 40
STUDER			SLIDE SYNCHRONIZER	1.177.270	PAGE 2 of 2

POS NO	PART NO	VALUE	SPECIFICATIONS	EQUIVALENT	MFR
R 01	57.41.4682	6,8 k	5% .25W CF		
R 02	57.41.4153	15 k			
R 03	57.41.4822	8,2 k			
R 04	57.41.4271	270			
R 05	57.41.4223	22 k			
R 06	57.41.4223	22 k			
R 07	57.41.4182	1,8 k			
R 08	57.41.4103	10 k			
R 09	57.41.4472	4,7 k			
R 10	57.41.4332	3,3 k			
R 11	57.41.4333	33 k			
R 12	57.41.4223	22 k			
R 13	57.41.4105	1 M			
R 14	57.41.4223	22 k			
R 15	57.11.4333	33 k			
R 16	57.41.4332	3,3 k			
R 17	57.41.4103	10 k			
R 18	57.41.4333	33 k			
R 19	57.41.4332	3,3 k			
R 20	57.41.4183	18 k			
R 21	57.41.4103	10 k			
R 22	57.41.4182	1,8 k			
R 23	57.41.4332	3,3 k			
R 24	57.41.4332	3,3 k			
R 25	57.41.4331	330			
R 26	57.41.4333	33 k			
R 27	57.41.4333	33 k			
CF = Carbon Film			1.2.82 8.3.79 8.6.78	Fol. Lu./gv 40	
STUDER			SLIDE SYNCHRONIZER	1.177.270	PAGE 2 of 2

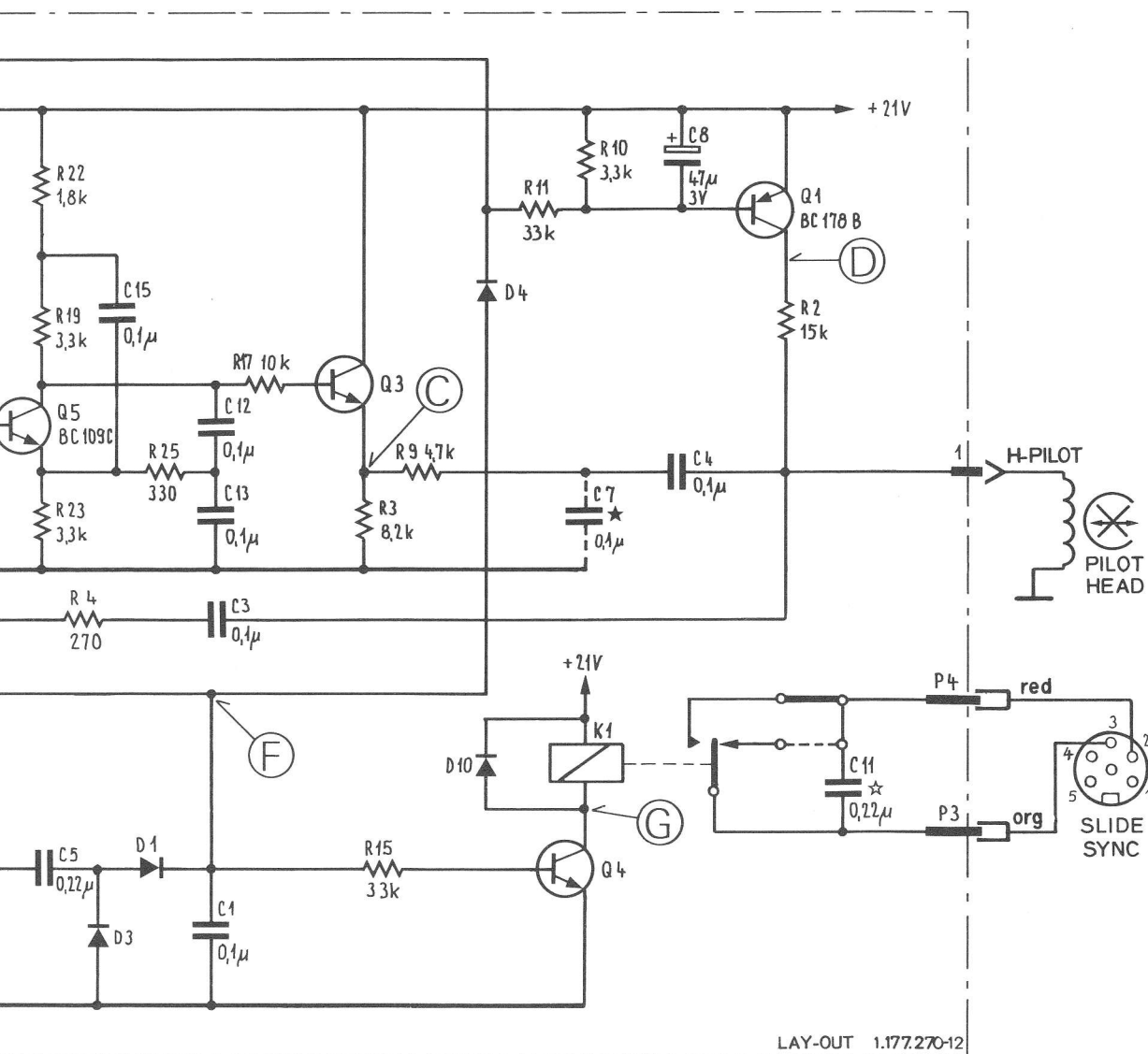


SLIDE SYNCHRONIZER PCB 1.177.270



2-TRACK VERSION / KIT 74502

4-TRACK VERSION / KIT 74504



★ FOR 4-TRACK VERSION ONLY

MODE	Y-REC	S-SLIDE	RELAY	1 kHz-OSC	DC ERASING	(A)	(B)	(C)	(D)	(E)	(F)	(G)
PLAY	HI	00V	(ON)	---	---	15 V	21 V	---	0V	46Vrms	1.5V AC ±0.5V	(0V)
RECORD + REC-SLIDE	LO	12V	---	---	ON	12.5V	0.1V	---	21V	---	0.5V DC	21V
RECORD + REC-SLIDE + SET -SLIDE	LO	24V	ON	ON	---	0.1V	21 V	2Vrms	0V	15Vpp	3 V AC ±0.7V	(0V)
PLAY + REC-SLIDE (CANCELS REPRO PULSES)	HI	12V	---	---	---	15 V	21 V	---	0V	---	0V	21V

FIG.3 INSTALLATION OF DISSOLVE HEAD KIT

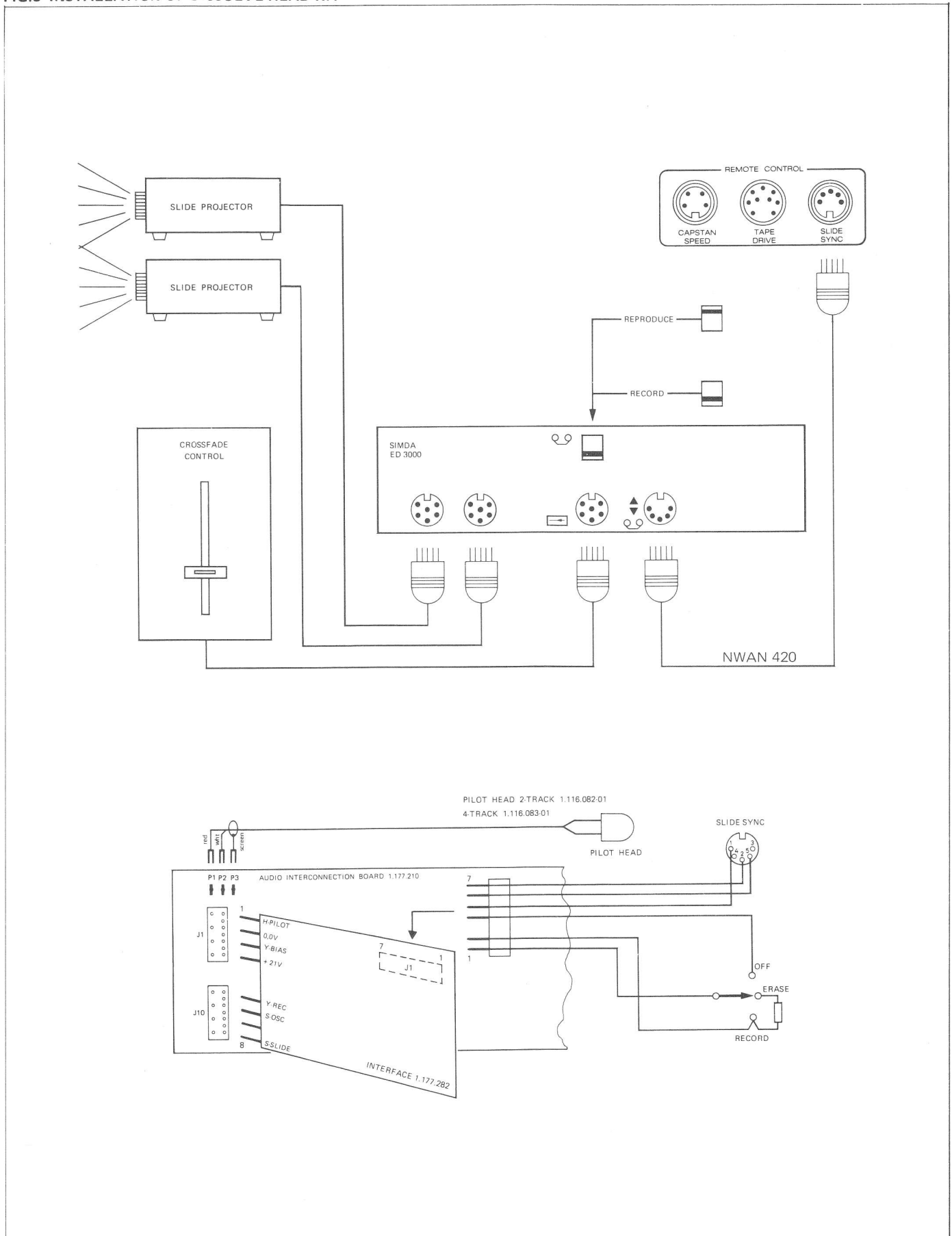


FIG.4 HOLE DRILLING INSTRUCTIONS

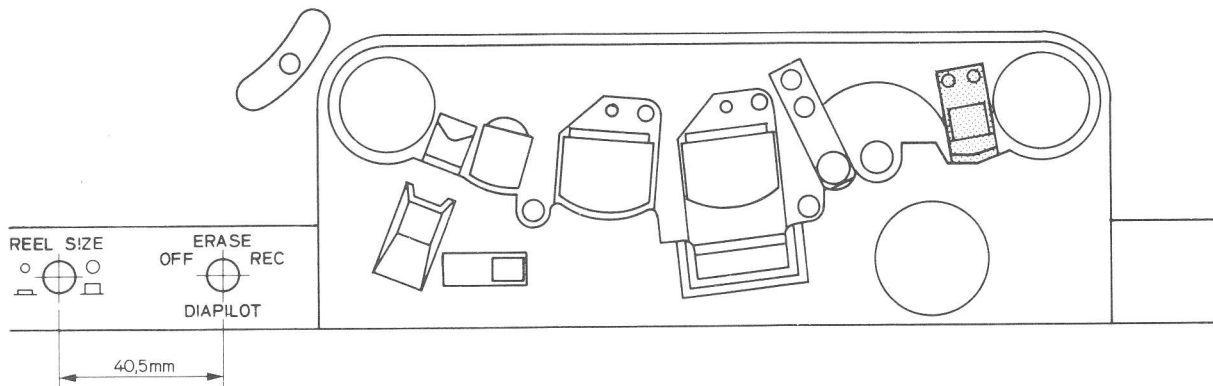
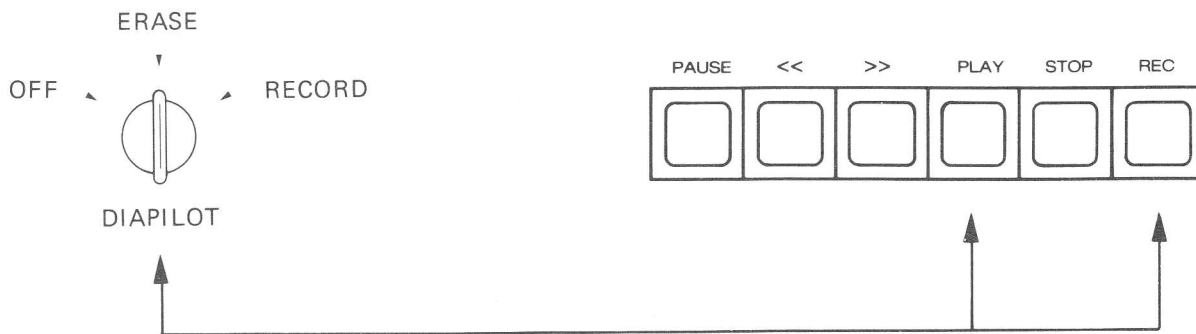


FIG.5 DHA OPERATION



PLAY+REC	⊕	DIAPILOT "OFF"	= REPRODUCTION OF PILOT-TRACK
		"ERASE"	= PILOT TRACK ERASED
		"RECORD"	= SIMDA-SIGNAL RECORDED ON PILOT-TRACK

PLAY	⊕	DIAPILOT "OFF"	}	= REPRODUCTION OF PILOT-TRACK
		"ERASE"		
		"RECORD"		

POSITION OF RECORD PRESELECTORS NOT IMPORTANT FOR DIAPILOT-MODE

DISSOLVE HEAD AMPLIFIER PCB 1.177.282 (INTERFACE SIMDA ED 3000 P)

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	C 01	59.31.2103	10 N	20% 100V MPETP	
	C 02	59.32.1152	1500 P	10% 400V CER	
	C 03	59.11.3562	5,6 N	10% 100V PC	
	C 04	59.31.1224	220 N	20% 100V MPETP	
	C 05	59.30.4100	10 U	20% 16V TA	
	C 06	59.30.4100	10 U		
	C 07	59.31.1104	100 N	20% 100V MPETP	
	C 08	59.31.1104	100 N		
	C 09	59.30.4100	10 U	20% 16V TA	
	C 10	59.11.6561	560 P	5% 400V PC	
	C 11	59.30.1470	47 U	20% 3V TA	
	C 12	59.30.4100	10 U	20% 16V TA	
	C 13	59.31.1104	100 N	20% 100V MPETP	
	D 01	50.04.0125	1N4448		
	D 02	50.04.0125	1N4448		
	D 03	50.04.0125	1N4448		
	D 04	50.04.0125	1N4448		
	D 05	50.04.0125	1N4448		
	D 06	50.04.0125	1N4448		
	D 07	50.04.0125	1N4448		
	D 08	50.04.1119	15 V	Z	
	J 01	54.01.0244	7-Pole	Socket-Strip AMP	
	IC 01	50.05.0245	RC4558		
	K 01	56.04.0140	500 Ω	Relais 12V	N

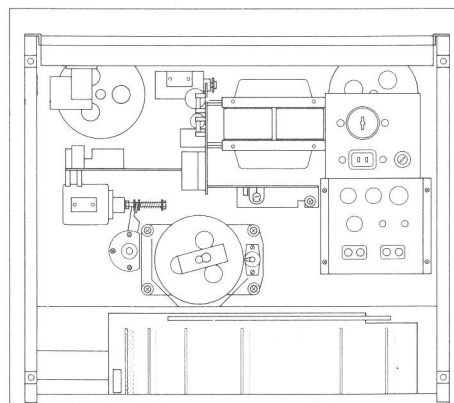
IND	DATE	NAME
④		N = National
③		
②		
①		
○	23.5.79	R.W/gv
STUDER Interface Simda ED3000P/B77 1.177.282.00 PAGE 1 OF 3		

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	L 01	1.022.141.00		RF Transformer	
	L 02	62.02.3473	47 mH		
	P 01	54.01.0470	4-Pole	PIN-Strip AMP	
	P 02	54.01.0470	4-Pole	PIN-Strip AMP	
	Q 01	50.03.0436	BC107B	NPN	
	Q 02	50.03.0436	BC107B	NPN	
	Q 03	50.03.0318	BC178A	PNP	
	Q 04	50.03.0436	BC107B	NPN	
	Q 05	50.03.0436	BC107B	NPN	
	Q 06	50.03.0436	BC107B	NPN	
	Q 07	50.03.0318	BC178A	PNP	
	Q 08	50.03.0436	BC107B	NPN	
	R 01	57.11.4472	4,7 k	5% .25W CF	
	R 02	57.11.4391	390		
	R 03	57.11.4153	15 k		
	R 04	57.11.4472	4,7 k		
	R 05	57.11.4223	22 k		
	R 06	57.11.4222	2,2 k		
	R 07	57.11.4471	470		
	R 08	57.11.4223	22 k		
	R 09	58.02.5103	10 k	20% .1 W PCF	
	R 10	57.11.4103	10 k	5% .25W CF	
	R 11	57.11.4562	5,6 k		
	R 12	57.11.4472	4,7 k		
	R 13	57.11.4472	4,7 k		

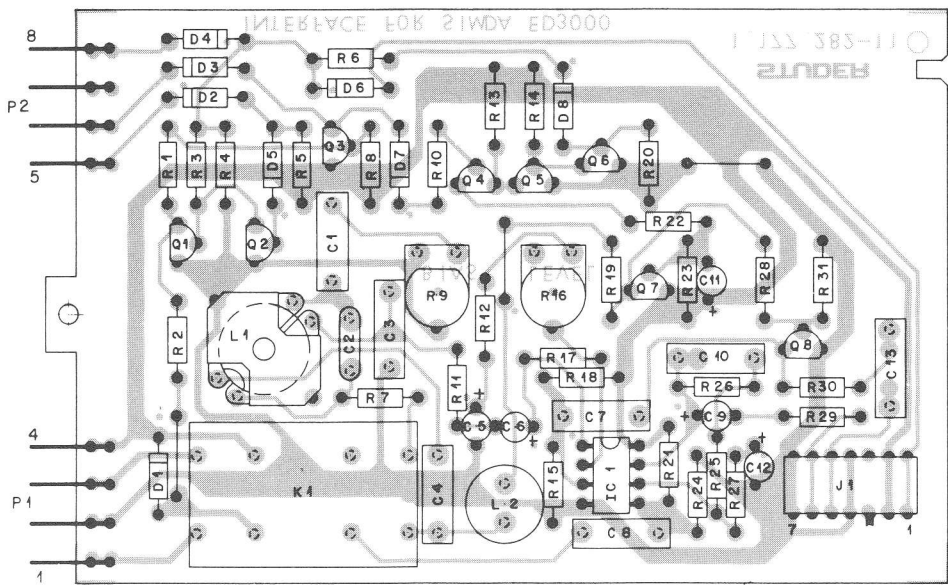
IND	DATE	NAME
④		
③		
②		
①		
○	23.5.79	R.W/gv
STUDER Interface Simda ED3000P/B77 1.177.282.00 PAGE 2 OF 3		

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	R 14	57.11.4103	10 k	5% .25W CF	
	R 15	57.11.4224	220 k		
	R 16	58.02.5103	10 k	20% .1 W PCF	
	R 17	57.11.4104	100 k	5% .25W CF	
	R 18	57.11.4224	220 k		
	R 19	57.11.4153	15 k		
	R 20	57.11.4223	22 k		
	R 21	57.11.4224	220 k		
	R 22	57.11.4103	10 k		
	R 23	57.11.4332	3,3 k		
	R 24	57.11.4224	220 k		
	R 25	57.11.4154	150 k		
	R 26	57.11.4105	1 M		
	R 27	57.11.4102	1 k		
	R 28	57.11.4153	15 k		
	R 29	57.11.4222	2,2 k		
	R 30	57.11.4104	100 k		
	R 31	57.11.4332	3,3 k		

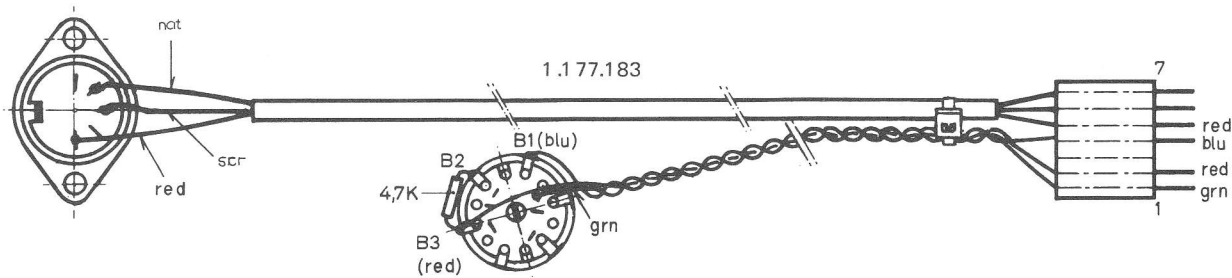
IND	DATE	NAME
④		
③		
②		
①		
○	23.5.79	R.W/gv
STUDER Interface Simda ED3000P/B77 1.177.282.00 PAGE 3 OF 3		



DISSOLVE HEAD AMPLIFIER PCB 1.177.282 (INTERFACE SIMDA ED 3000 P)



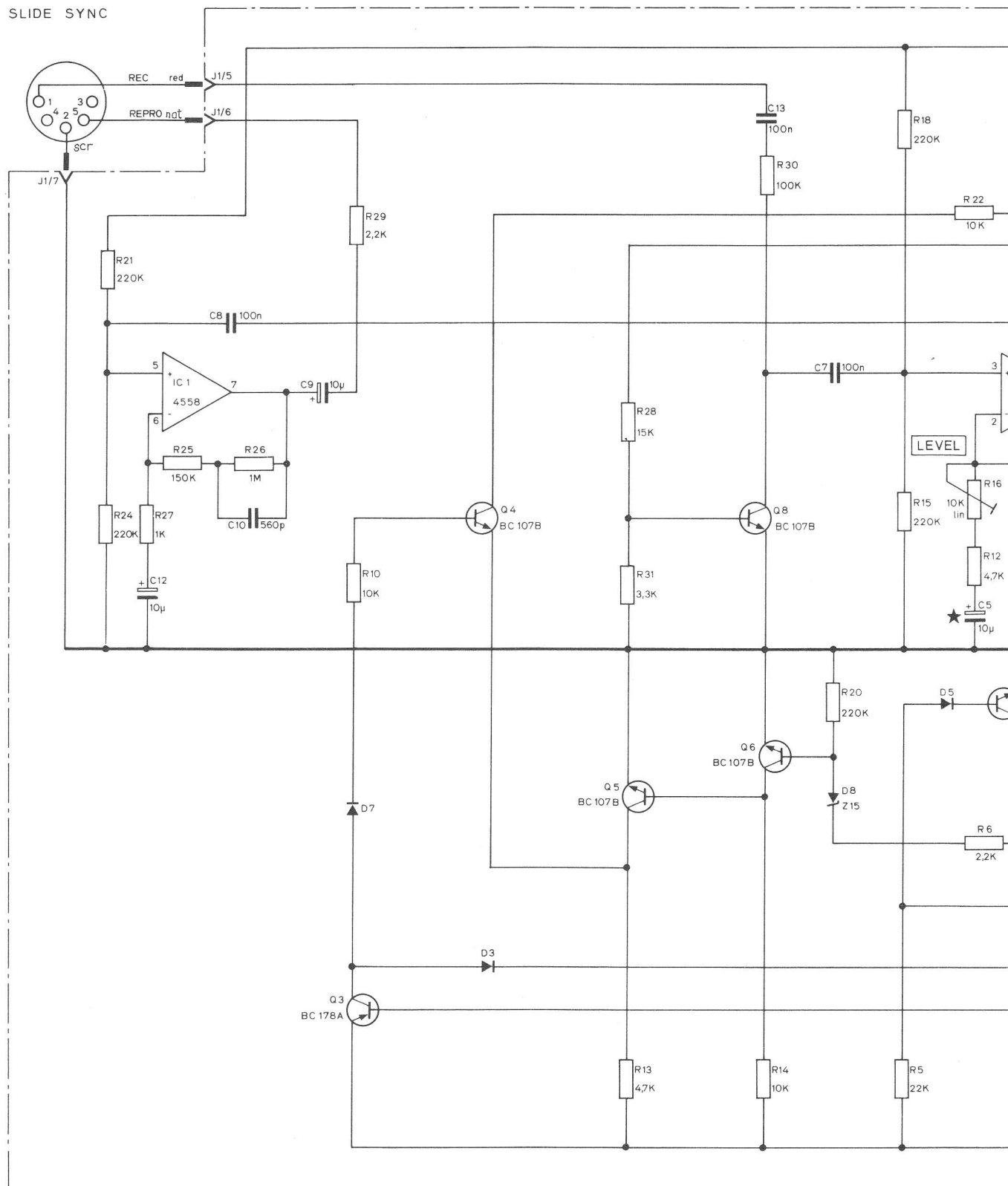
WIRE HARNESS TO DHA-KIT



PILOT TRACK VERSIONS

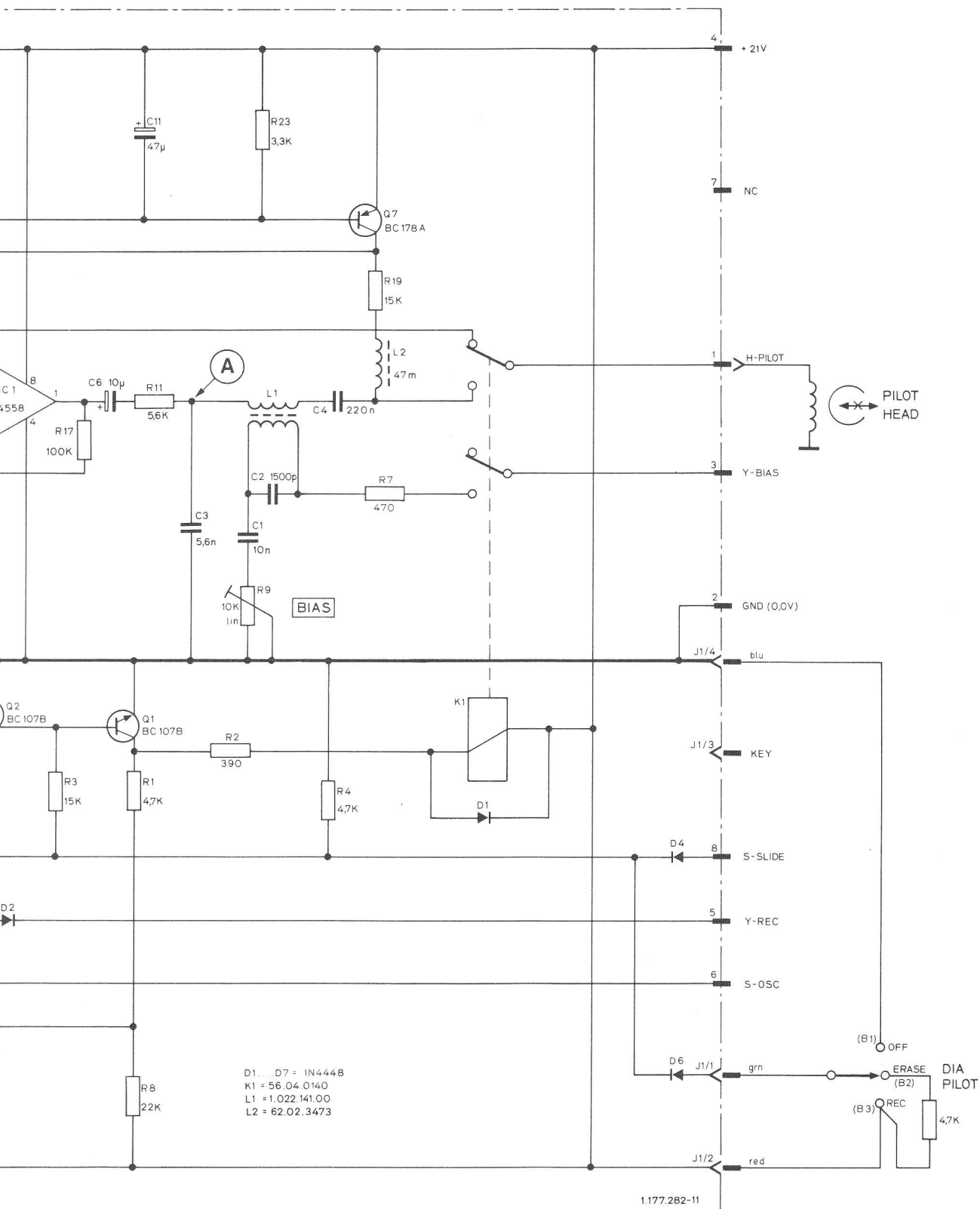


DISSOLVE HEAD AMPLIFIER PCB 1.177.282 (INTERFACE SIMDA ED 3000 P)



WIRE HARNESS TO DIA PILOT SWITCH AND SLIDE SYNC CONNECTOR = 1.177.183

★ FOR SYSTEMS OTHER THAN ED 3000 P C5 = 1 µF TO DECREASE HUM SENSITIVITY



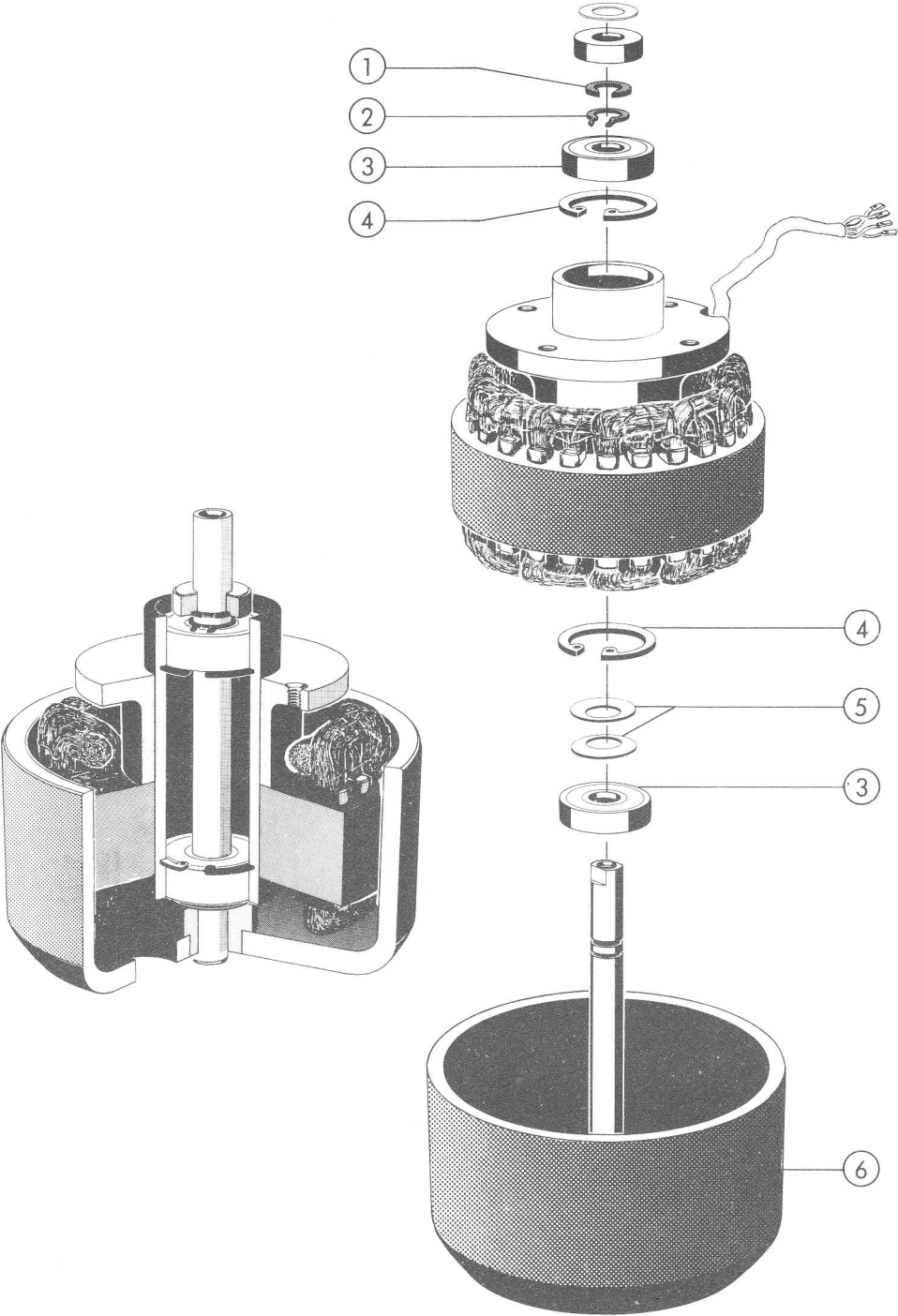
INHALTSVERZEICHNIS

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REPERTOIRE

Bezeichnung	Seite	Description	Page	Designation	
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Tonmotor	8/4	Capstan motor	8/4	Moteur de cabestan	8/4
Laufwerk	8/6	Tape drive	8/6	Mécanisme du transport	8/6
Druckasteneinheit	8/10	Push button unit	8/10	Bloc des touches	8/10
Bremsaggregat	8/12	Brake system	8/12	Agrégat des freins	8/12
Kopfträger	8/14	Tape head assembly	8/14	Châssis de défilement	8/14
Bedienungseinheit	8/16	Operating section	8/16	Unité de commande	8/16

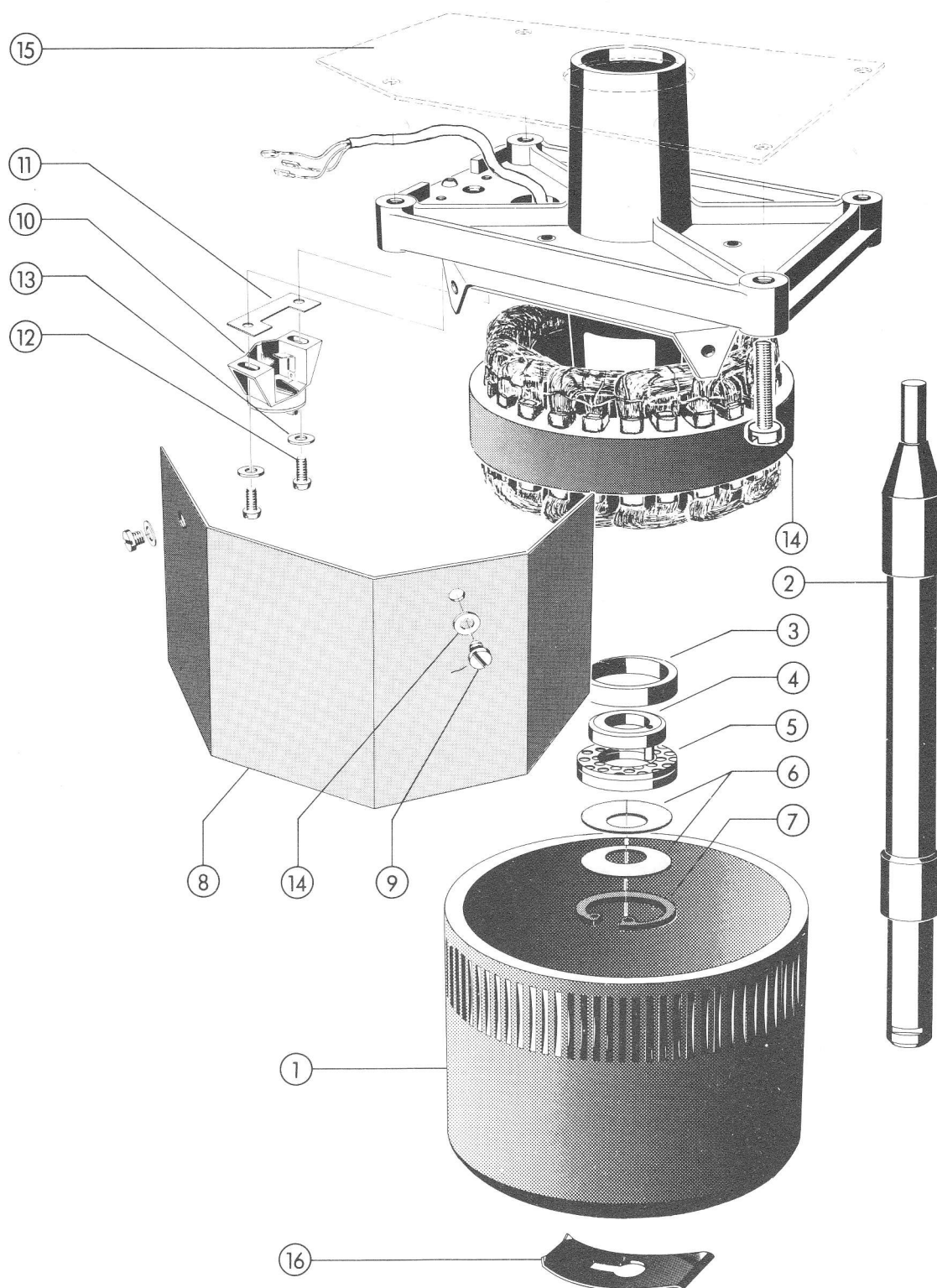
SPOOLING MOTOR



SPOOLING MOTOR

[illegible]

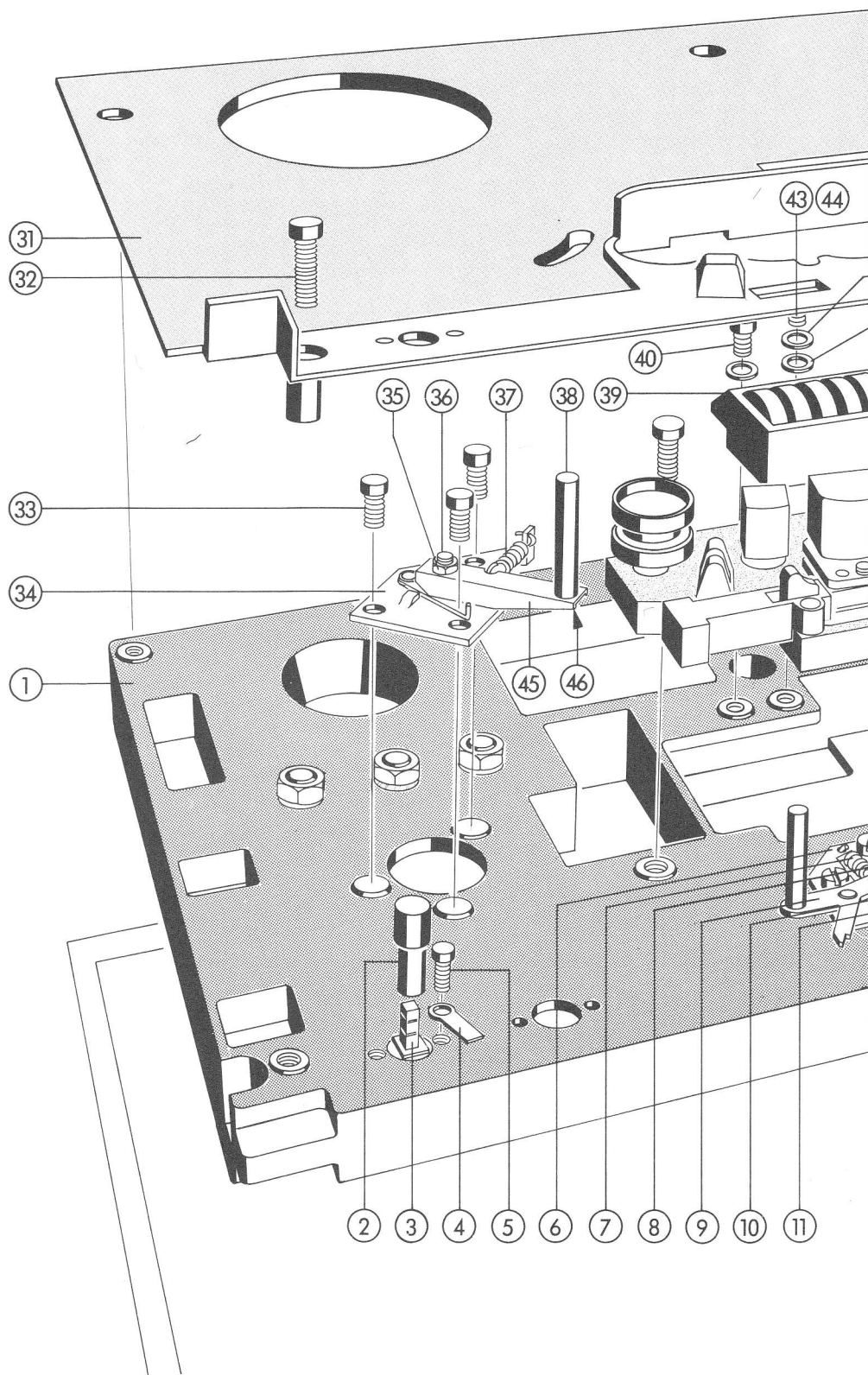
CAPSTAN MOTOR

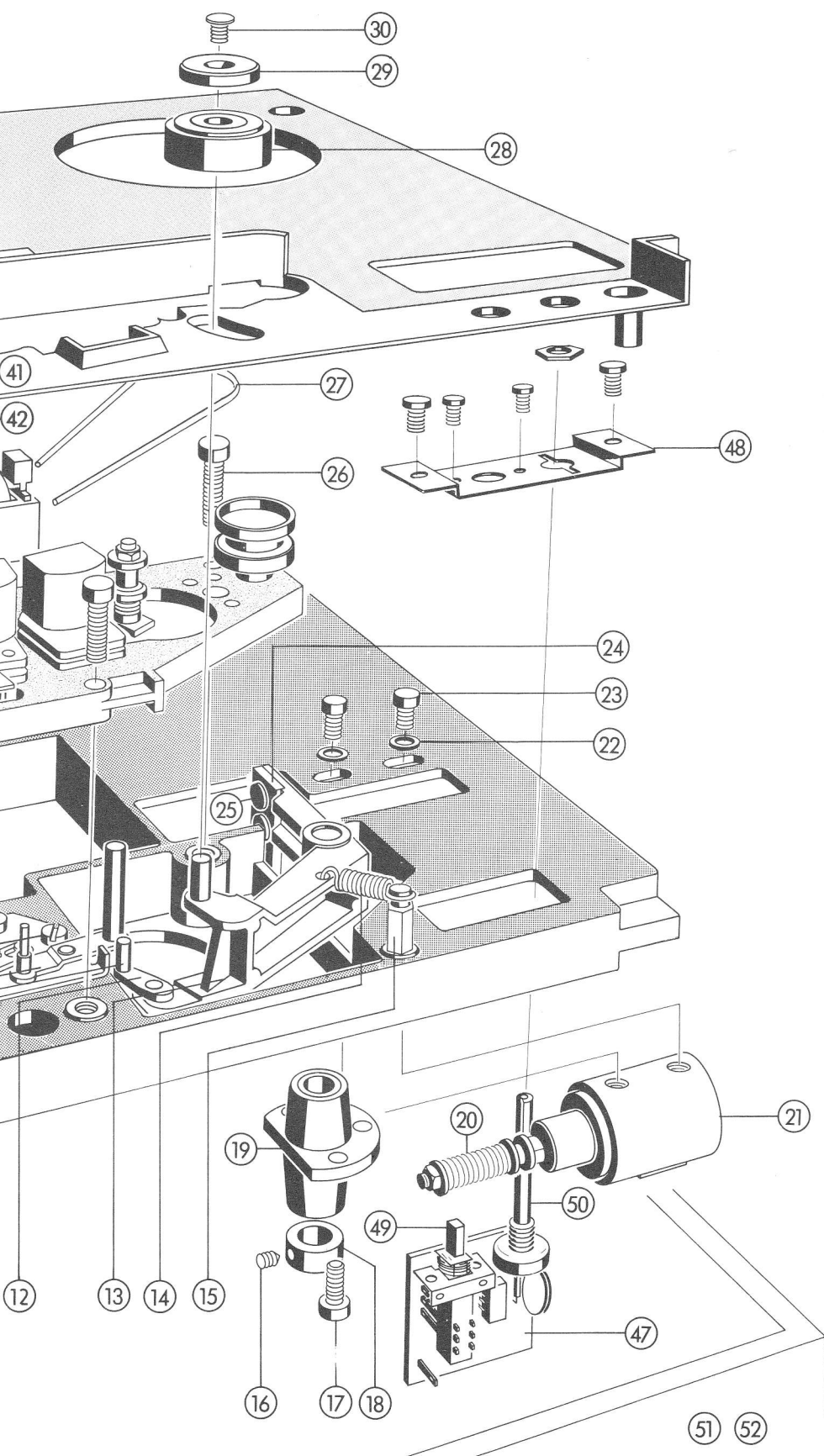


CAPSTAN MOTOR

[illegible]

TAPE DRIVE





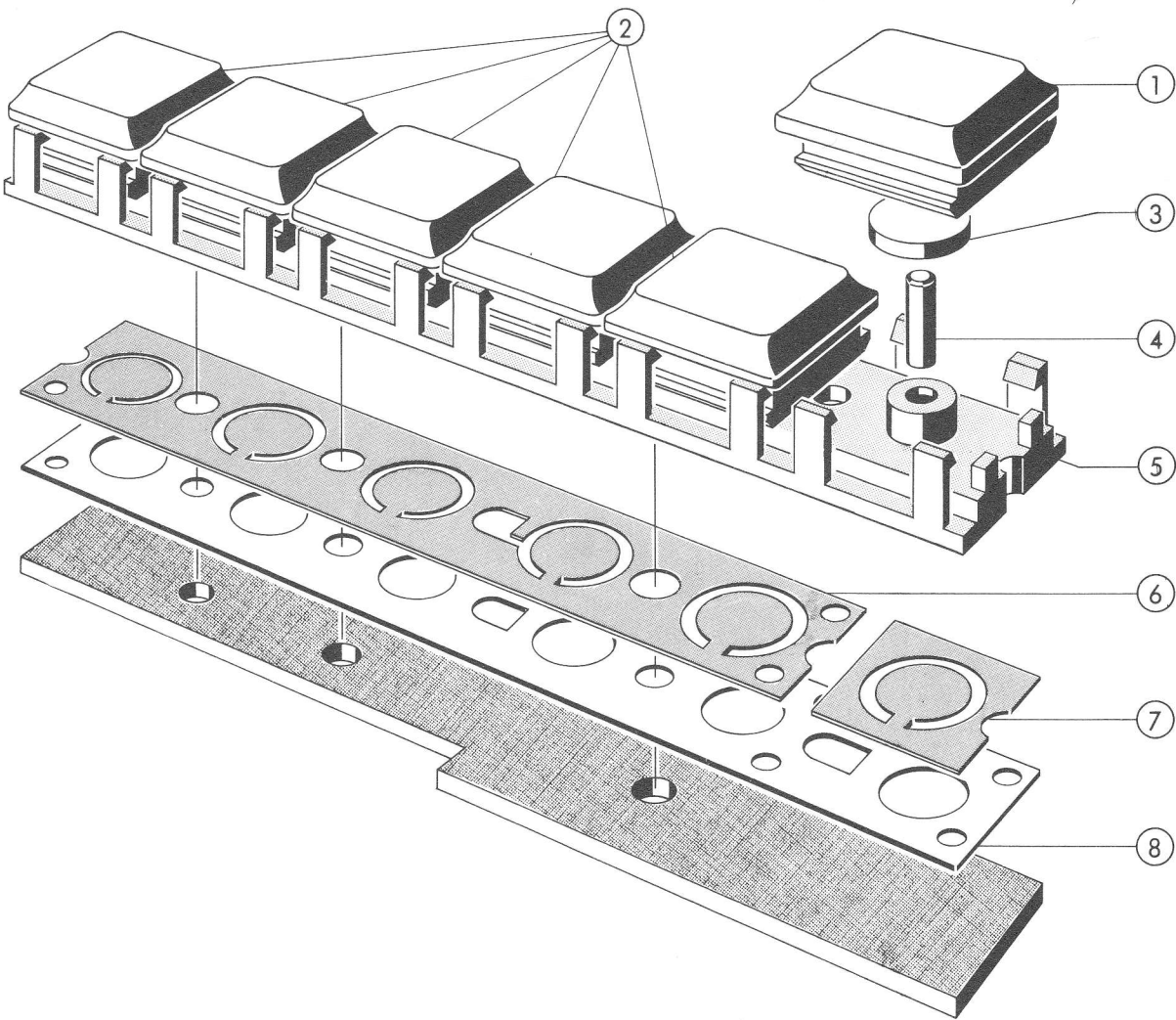
TAPE DRIVE

INDEX	QTY		ORDER NUMBER	PART NAME
01	1		1.177.100.01	Tape drive chassis
02	1		1.177.100.09	Push button
03	1		1.177.100.07	Push button switch
04	1		29.26.1022	Solder lug
05	2		20.21.7154	Self-tapping screw
06	1		1.177.131.00	Base plate, compl. MKI
	1		1.177.813.00	Base plate, compl. MKII
07	1		1.010.024.37	Tension spring
08	3		21.26.0354	Screw M3x6
09	1		1.177.132.00	Lever left, riveted MKI
	1		1.177.812.00	Lever left, riveted MKII
10	1		1.177.134.00	Lever right, riveted MKI
	1		1.177.811.00	Lever right, riveted MKII
11	1		1.177.120.01	Dog pin
12	1		21.26.2354	Screw M3x6
13	1		1.177.123.00	Pich roller arm with shaft
14	1		1.010.025.37	Tension spring
15	1		1.067.100.06	Anchor pin
16	1		21.59.5452	Set screw M4
17	3		21.26.0356	Screw M3x10
18	1		1.080.112.06	Adjusting ring
19	1		1.177.125.00	Pich roller arm bearing
20	1		1.177.126.00	Plunger compl.
21	1		1.014.710.00	Pich roller solenoid compl. without plunger
22	2		23.01.3043	Washer
23	2		21.26.0454	Screw M4x6
24	1		1.177.120.02	Lever
25	2		21.26.0455	Screw M4x8
26	3		21.26.0459	Screw M4x18
27	1		31.99.0106	Rubber ring
28	1		1.167.178.00	Pinch roller compl.
29	1		1.177.100.25	Pinch roller cover
30	1		21.27.2355	Screw M3x8
31	1	MKI:	1.177.421.00	Tape transport cover (DOLBY)

TAPE DRIVE

INDEX	QTY		ORDER NUMBER	PART NAME
	1	MKI :	1.177.419.00	Tape transport cover (AUTO START)
		MKI :	1.177.414.00	Tape transport cover (DIA PILOT)
		MKI :	1.177.412.00	Tape transport cover (SIMDA)
		MKI :	1.177.417.00	Tape transport cover (SYNC)
		MKII :	1.177.494.00	Tape transport cover (SYNC)
		MKII :	1.177.491.00	Tape transport cover (STANDARD)
32	5		21.27.0462	Screw M4x25
33	3		21.26.0354	Screw M3x6
	1		1.177.140.00	Tape guide pin compl.
34	1		1.177.142.00	Base plate
35	1		22.13.8040	Hexagonal nut M4
36	1		1.177.140.03	Shaft
37	1		1.010.025.37	Tension spring
38	1		1.177.140.02	Guide pin
39	1		1.077.100.09	Counter
40	1		21.01.0355	Screw M3x8
41	2		24.99.0107	Spring washer
42	2		23.01.2032	Washer
43	1		1.077.100.19	Threaded spacer
44	1		1.077.100.20	Rubber cap
45	1		1.177.140.01	Lever
46	1		21.26.0354	Screw M3x6
47	1		1.177.330.00	Print
48	1		1.177.330.01	Mounting bracket
49	1		1.177.330.02	Switch
50	1		1.177.330.03	Potmeter
51	1		1.177.470.00	19"-rack version
52	1		1.177.450.00	Standard version
to above	4		20.20.3310	Screw
	4		1.010.007.23	Washer
	1		1.177.450.02	Handle

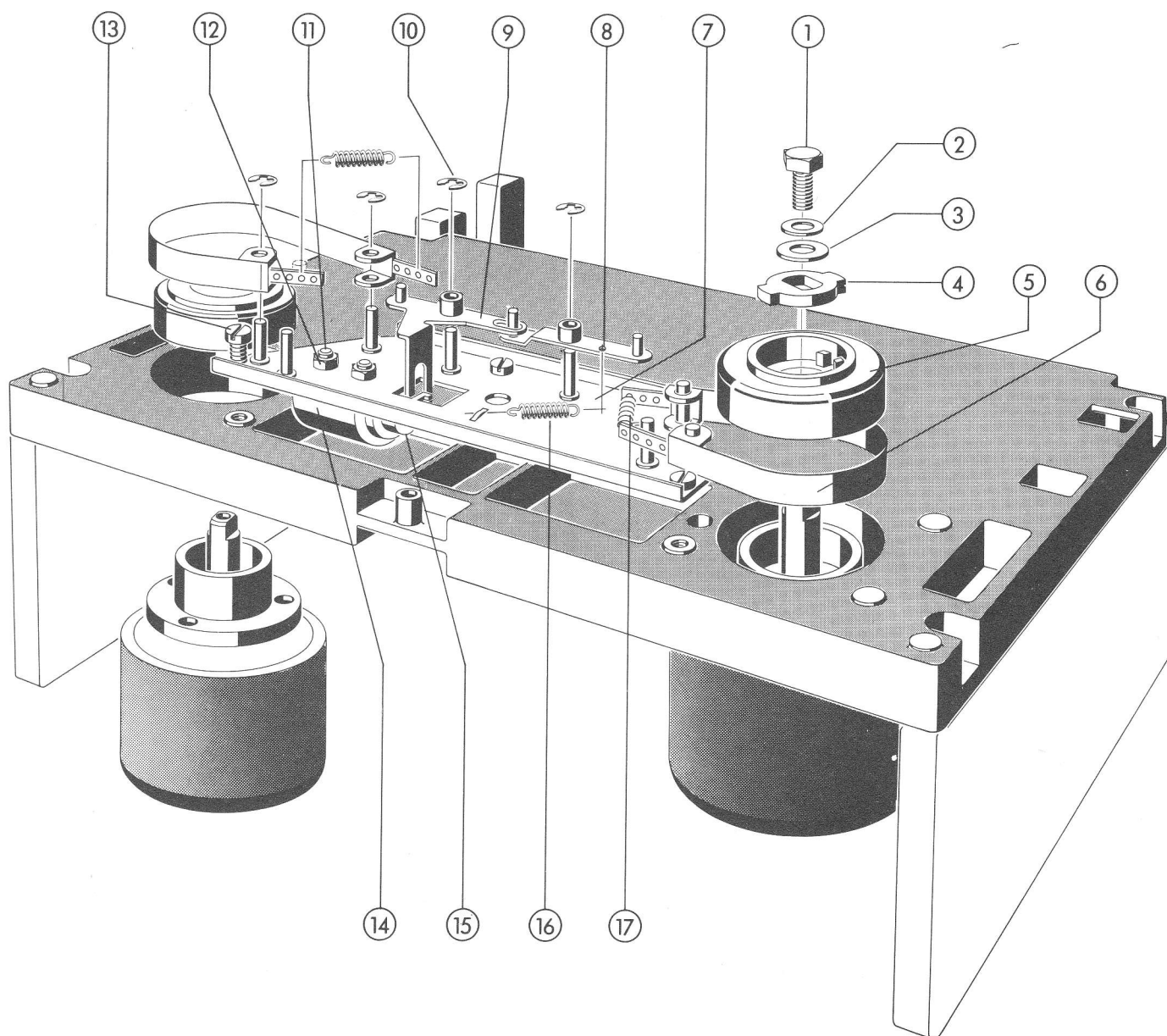
PUSH BUTTON UNIT



PUSH BUTTON UNIT

[illegible]

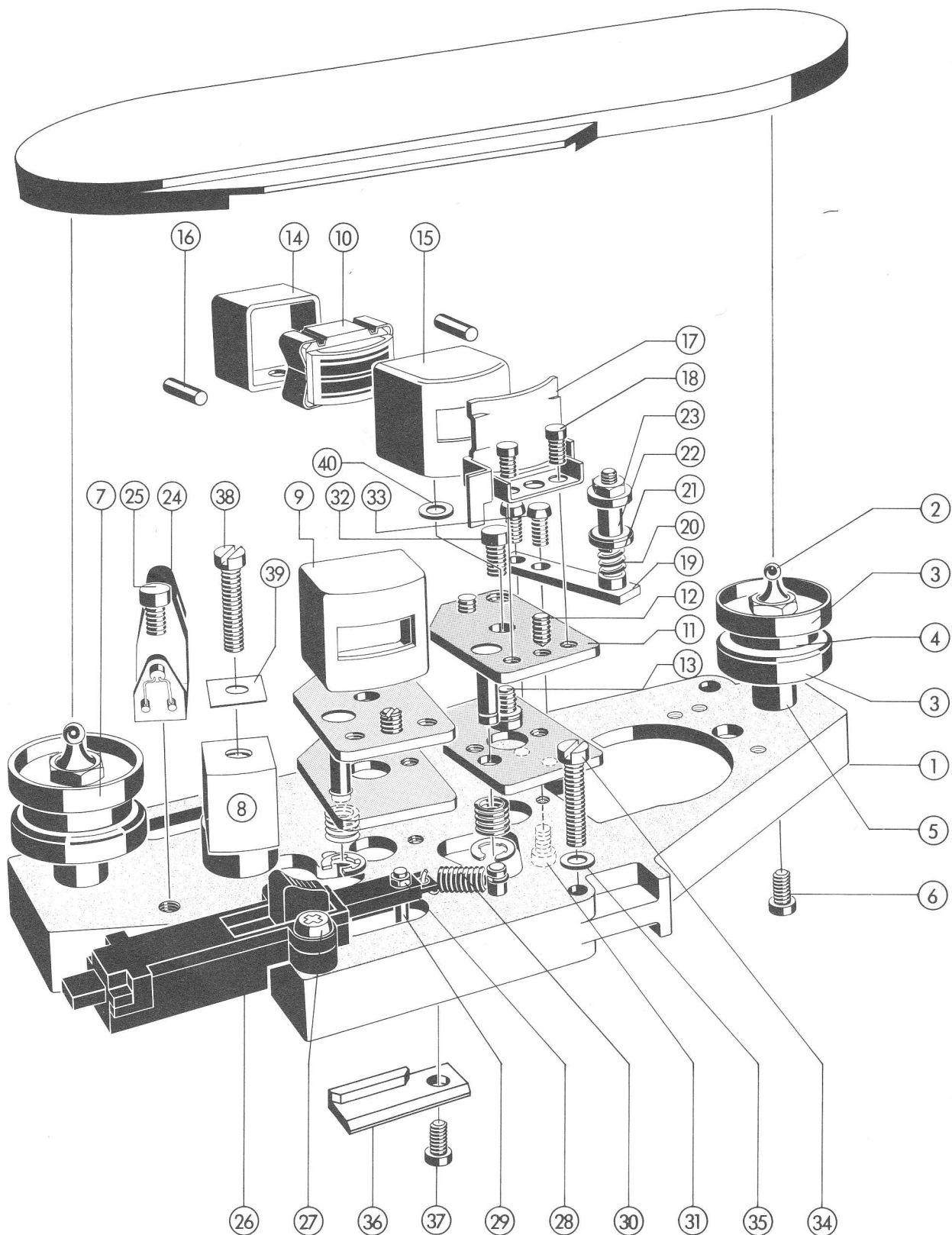
BRAKE SYSTEM



BRAKE SYSTEM

[illegible]

TAPE HEAD ASSEMBLY

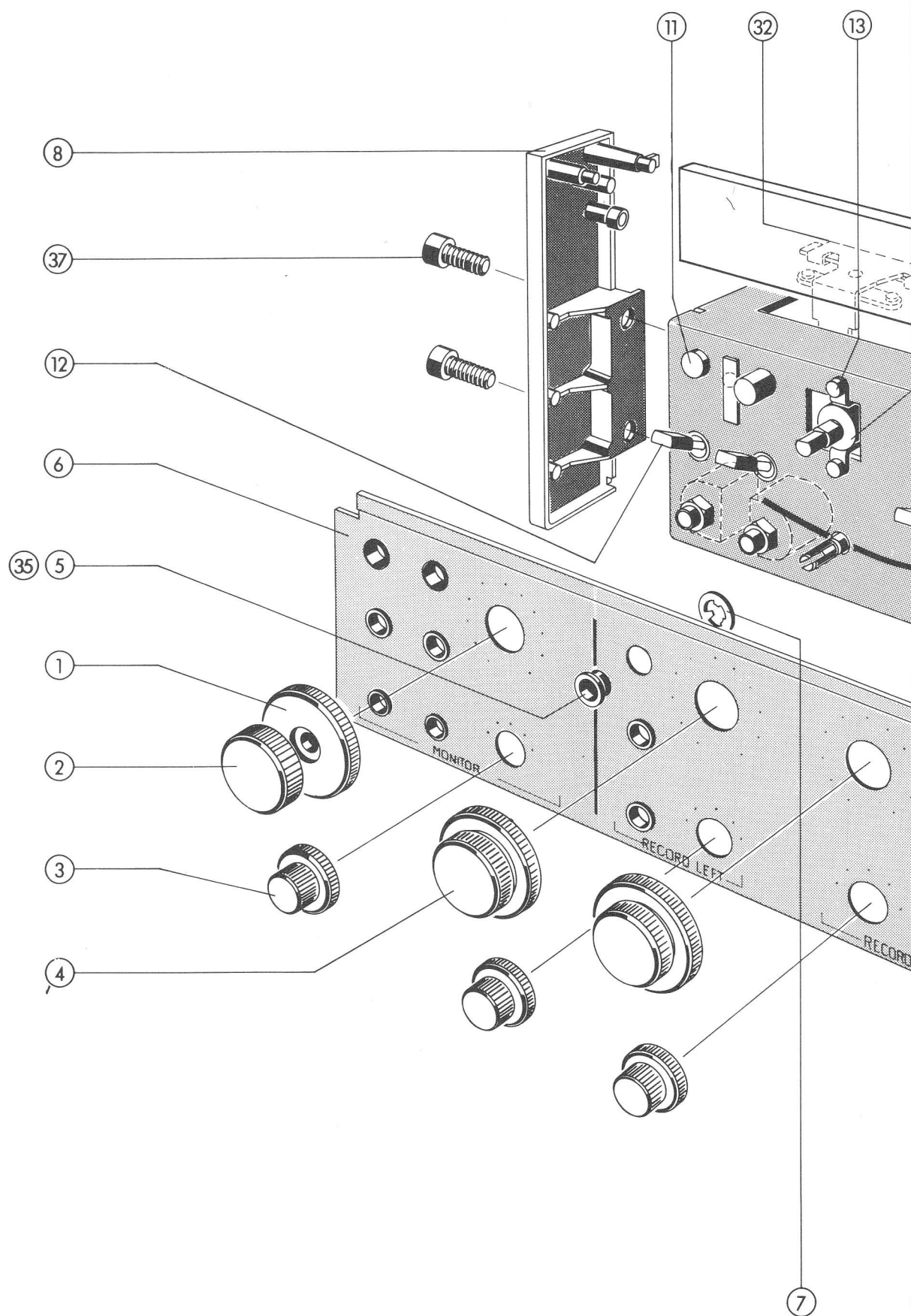


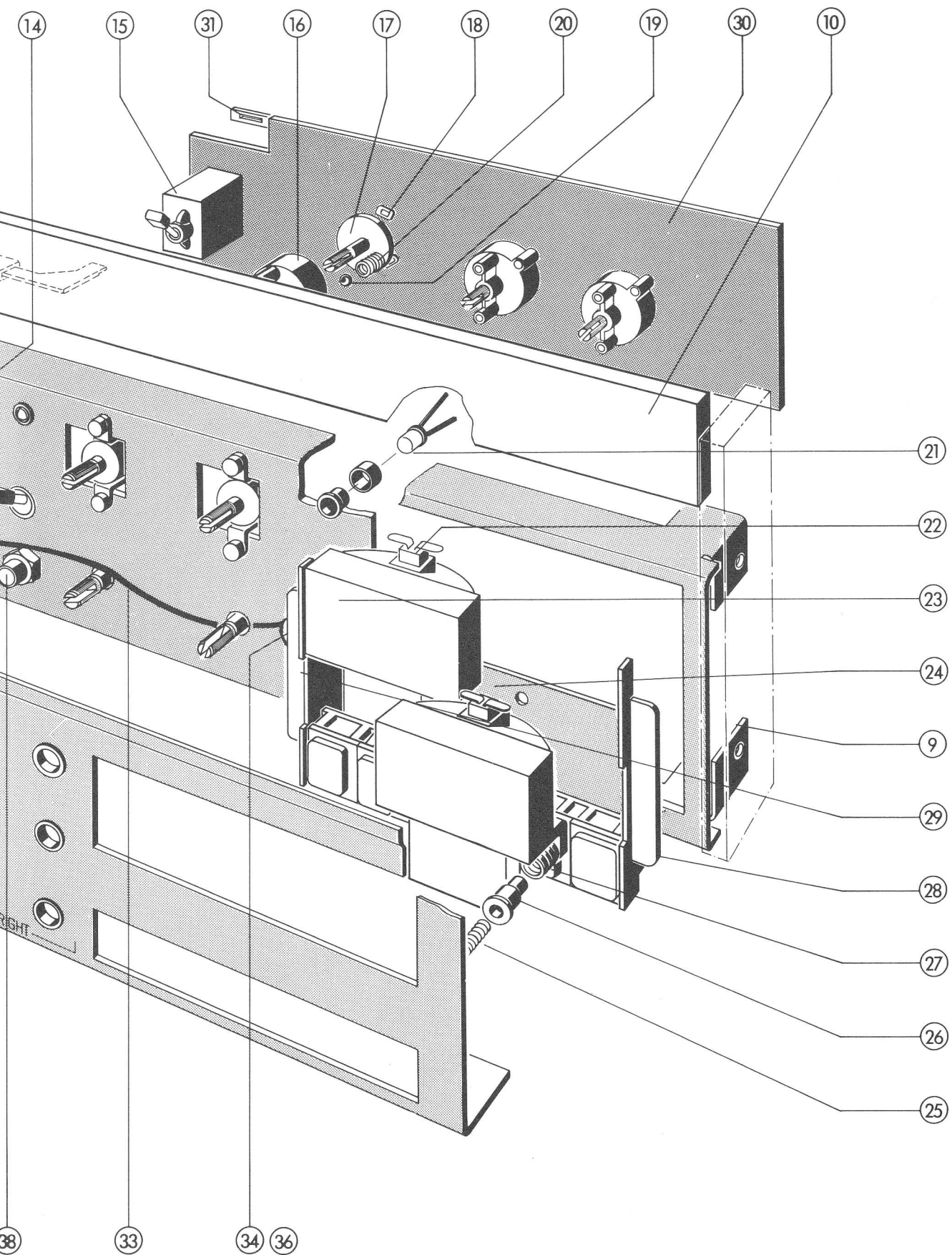
TAPE HEAD ASSEMBLY

INDEX	QTY		ORDER NUMBER	PART NAME
			1.020.300.00	Tape head assembly compl. 1/4",2-track
			1.020.301.00	Tape head assembly compl. 1/4",4-track
01	1		1.020.300.01	Tape head chassis
02	2		1.020.300.06	Centering screw
03	4		1.077.121.02	Tape guide cup
04	1		1.077.121.04	Spacer
05	2		1.020.300.04	Threaded support
06	2		21.26.0455	Screw M4x8
07	1		41.99.0102	Ball bearing
08	1		1.116.098.01	Erase head 1/4",2-track
from	57329		1.116.098.04	Erase head 1/4",2-track
	1		1.116.099.01	Erase head 1/4",4-track
from	60977		1.116.099.04	Erase head 1/4",4-track
09	1		1.116.022.00	Record head 1/4",2-track
	1		1.116.042.00	Record head 1/4",4-track
10	1		1.116.027.00	Reproduce head 1/4",2-track
	1		1.116.047.00	Reproduce head 1/4",4-track
11	2		1.020.801.00	Head mounting plate compl.
12	4		21.18.6354	Set screw
13	2		21.99.0118	Screw M3x7
14	2		1.077.155.05	Head housing, internal
15	2		1.077.155.06	Head housing, outer
16	4		1.077.155.07	Plastic pin
17	1		1.020.311.00	Shielding lid compl.
18	2		21.01.0202	Screw M2x4
19	1		1.020.310.00	Clamp, riveted
20	1		1.020.820.12	Pressure spring
21	2		1.077.145.01	Guide disk
22	1		1.077.145.02	Spacer sleeve
23	1		22.01.8030	Nut M3
24	1		1.020.320.00	Light gate compl.
to above	1		23.01.3032	Washer
25	1		21.26.0354	Screw M3x6
26	1		1.020.318.00	Edit switch compl.

[illegible]

OPERATING SECTION





OPERATING SECTION

INDEX	QTY		ORDER NUMBER	PART NAME
01	1		1.177.100.12	Knob, disk type
02	1		1.177.100.11	Knob
03	3		1.177.100.10	Knob
04	2		1.068.700.23	Knob
05	2		1.166.450.03	Lens red
06	1		1.177.400.00	Operating panel compl. (STANDARD)
			1.177.401.00	Operating panel compl. (HS)
			1.177.402.00	Operating panel compl. (DOLBY)
			1.177.403.00	Operating panel compl. (LS)
			1.177.404.00	Operating panel compl. (SLS)
07	2		22.16.6004	Lock washer
08	1		1.177.100.05	Side part left
09	1		1.177.100.06	Side part right
10	1		1.177.430.00	Flap compl.
11	2		1.177.190.03	Button
12	1		1.011.102.00	Mains switch, single pole
13	2		21.26.0354	Screw M3x6
14	1		1.177.200.02	Twin potmeter
15	3		1.011.120.00	Toggle switch
16	3		1.011.301.01	Housing
17	3		1.011.301.00	Rotary switch
18	9		1.010.001.55	Contact spring
19	3		41.01.0240	Steel ball
20	3		1.010.040.37	Pressure spring
21	2		50.04.2114	LED compl.
22	2		51.02.0142	Lampe type W2D, 24V, 1W
23	2		1.177.205.01	VU-meter
from	58252		1.177.205.05	VU-meter
24	1		1.177.205.02	Mounting bracket
25	4		21.26.0372	Screw M3x16
26	4		1.067.435.02	Sleeve
27	4		1.067.435.01	Pressure spring
28	1		1.177.205.04	Bracket, right
29	1		1.177.205.03	Bracket, left

[illegible]

9. Spezialversionen 9.1. B77 mit Diasteuerung 9.1.1. Allgemeines	9. Special Versions 9.1. B77 with slide synchronizing electronics 9.1.1. General	9. Versions spéciales 9.1. B77 avec synchronisateur de diapositives 9.1.1. Généralités
Die B77 mit Diasteuerung ist mit einem Spezial-Tonkopf für die Steuerimpuls-Aufnahme und -Wiedergabe ausgerüstet. Die Steuerimpulse werden zwischen zwei Spuren gespeichert, dadurch ist es nicht nötig, eine Tonspur für die Steuerimpulse zu verbrauchen. Zugehörige Schemata7-35/7-37	For slide presentations with synchronous sound accompaniment, the B77 recorder must be equipped with a special magnetic head to record and to reproduce the sync impulses. These impulses are recorded on the "land" between the two audio tracks, which means that both tracks are available for stereophonic sound reproduction. Relating circuit diagrams7-35/7-37	Le magnétophone B77 avec synchronisateur de diapositives est équipé d'une tête magnétique spéciale supplémentaire pour l'enregistrement et la lecture des impulsions de commande. Ces impulsions sont enregistrées entre les deux pistes, laissant ces dernières absolument libres. Schéma correspondant7-35/7-37
9.2. Tonbandmaschine B77 HS (High Speed) 9.2.1. Allgemeines	9.2. Tape recorder B77 "HS" (High Speed) 9.2.1. General	9.2. Magnétophone B77 "HS" (High Speed) 9.2.1. Généralités
Bei der Tonbandmaschine B77 HS mussten einige Baugruppen abgeändert werden. Die zu Kapitel 5.1. nicht identischen Baugruppen sind: Aufnahmeverstärker Entzerrung CCIR1.177.233 Entzerrung NAB1.177.232 Wiedergabeverstärker Entzerrung CCIR1.177.253 Entzerrung NAB1.177.252 Capstanmotor 19/381.021.302.00 Zugehörige Schemata 1.177.232/2337-23a/7-23b 1.177.252/2537-27a/7-27b	In the HS version of the B77 tape recorder, several subassemblies had to be changed. The following assemblies are not identical with those described in chapter 5.1.: Recording amplifier CCIR equalization1.177.233 NAB equalization1.177.232 Replay amplifier CCIR equalization1.177.253 NAB equalization1.177.252 Capstan motor 19/381.021.302.00 Relating circuit diagrams 1.177.232/2337-23a/7-23b 1.177.252/2537-27a/7-27b	Dans cette version un certain nombre de modules sont modifiés. Les modules différents du chapitre 5.1. sont: Amplificateur d'enregistrement Norme CCIR1.177.233 Norme NAB1.177.232 Amplificateur de lecture Norme CCIR1.177.253 Norme NAB1.177.252 Moteur de cabestan 19/381.021.302.00 Schémas correspondants 1.177.232/2337-23a/7-23b 1.177.252/2537-27a/7-27b
9.2.2. Daten	9.2.2. Performance data	9.2.2. Caractéristiques
Der Einfachheit halber sind nur die von der Normalversion abweichenden Daten aufgeführt. Tonhöhenchwankungen: (nach DIN 45507) bei 19 cm/s besser als 0,08 % bei 38 cm/s besser als 0,06 % Frequenzgang: (über Band gemessen bei -20 VU) bei 19 cm/s 30 Hz ... 20 kHz+ 2 -3 dB 50 Hz ... 15 kHz± 1,5 dB bei 38 cm/s 30 Hz ... 22 kHz+ 2 -3 dB 50 Hz ... 18 kHz± 1,5 dB	For the sake of simplicity, only the data differing from the standard version are listed. Wow and flutter: (per DIN 45507) at 7.5 ips less than 0.08 % at 15 ips less than 0.06 % Frequency response: (measured via tape, at -20 VU) at 7.5 ips 30 Hz ... 20 kHz+ 2 -3 dB 50 Hz ... 15 kHz± 1.5 dB at 15 ips 30 Hz ... 22 kHz+ 2 -3 dB 50 Hz ... 18 kHz± 1.5 dB	Afin de simplifier, seules les caractéristiques de la version standard sont données. Pleurage: (d'après DIN 45507) à 19 cm/s meilleur que 0,08 % à 38 cm/s meilleur que 0,06 % Réponse en fréquence: (enregistrement-lecture, mesuré à -20 VU) à 19 cm/s 30 Hz ... 20 kHz+ 2 dB -3 dB 50 Hz ... 15 kHz± 1,5 dB à 38 cm/s 30 Hz ... 22 kHz+ 2 dB -3 dB 50 Hz ... 18 kHz± 1,5 dB

Geräuschspannungsabstand:

(nach ASA-A 2-Spur)

bezogen auf Vollaussteuerung (514 nWb/m)

19 cm/s	38 cm/s
> 66 dB	> 65 dB

Signal to noise ratio:

(weighted as per ASA-A, measured via tape)

half track

at 7.5 ips	at 15 ips
> 66 dB	> 65 dB

Rapport signal/bruit:

(d'après ASA-A, enregistrement-lecture)

2 pistes

à 19 cm/s	à 38 cm/s
> 66 dB	> 65 dB

BIAS-Einstellung:

	ΔU-19 cm/s	ΔU-38 cm/s
REVOX 601	4 dB	2 dB
REVOX 621	4 dB	2,5 dB
REVOX 631	6 dB	4 dB

BIAS adjustment:

	ΔU-7.5 ips	ΔU-15 ips
REVOX 601	4 dB	2 dB
REVOX 621	4 dB	2.5 dB
REVOX 631	6 dB	4 dB

Ajustement du courant de prémagnétisation:

	ΔU-19 cm/s	ΔU-38 cm/s
REVOX 601	4 dB	2 dB
REVOX 621	4 dB	2,5 dB
REVOX 631	6 dB	4 dB

Änderungen vorbehalten.

Subject to change.

Sous réserve de modification.