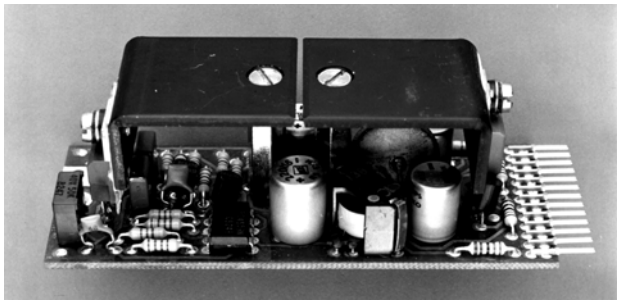
Loudspeaker Amplifier 1.914.505

This low-power amplifier on a modular sub-card is designed to drive a 10...15 Ω speaker. Power output is about 2...3 W. As can be concluded from this specification, the amplifier is not intended for high-quality monitoring. It will be ideally suited, however, for pre-fader listening and similar applications. The amplifier's input is balanced and floating, with adjustable gain.



Technical Specifications

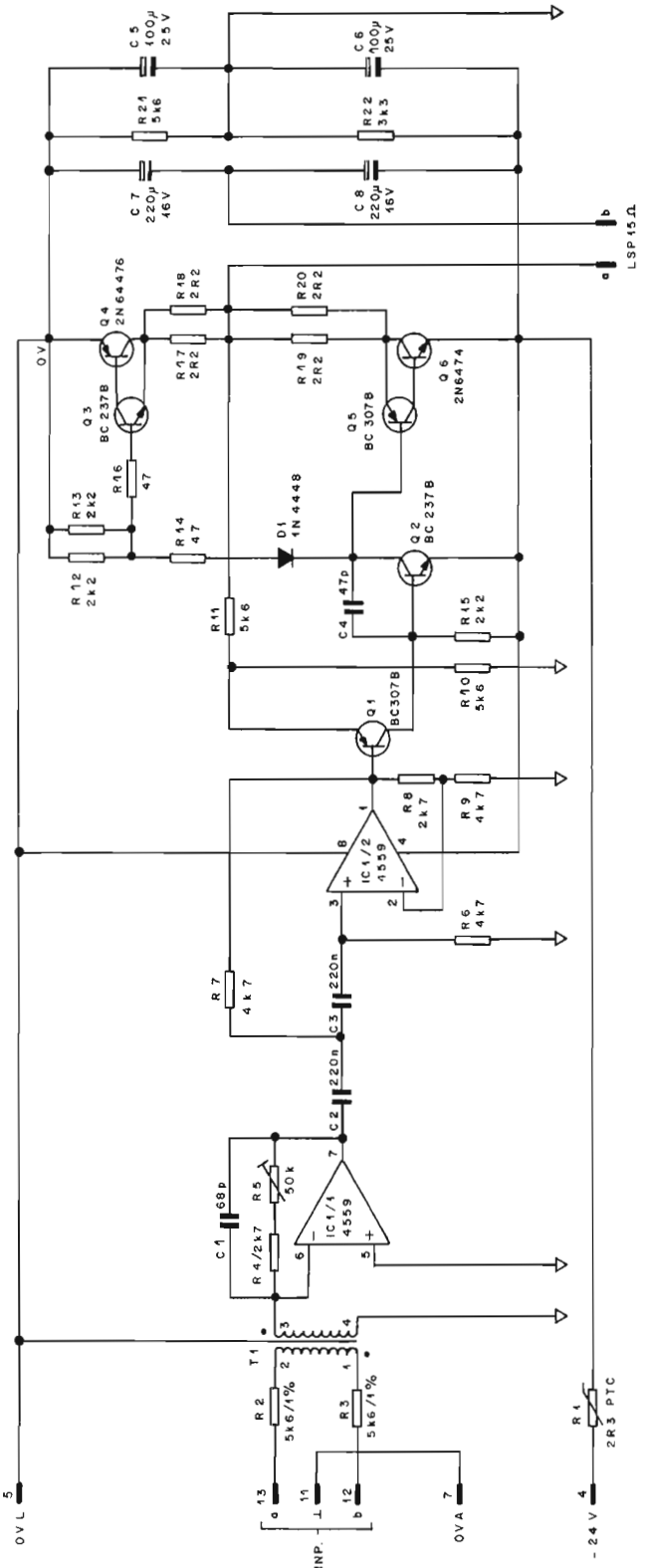
Input impedance	**> 10 kΩ,** balanced and floating (with transformer)
Nominal power output	**2 W** into 15 Ω
Power output	**25 mW...2.5 W** into 15 Ω, with 0 dBu input
Distortion	**< 0.5%** at 2 W
	< 0.15% at 500 mW
S/N	**99 dB,** ref. to 2 W at max. gain
Frequency response	**–0.5 dB** at 15 kHz
High pass filter	**150 Hz,** 12 dB/oct.

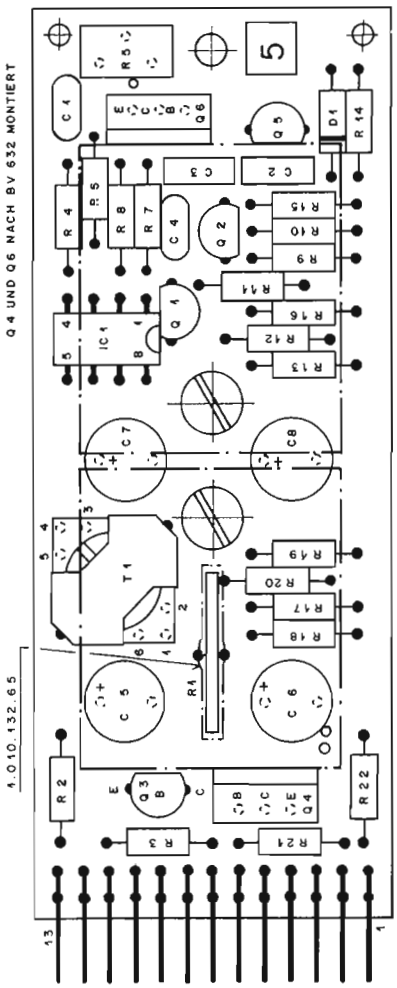
Supply: **–24 V** (40 mA idling, max. 220 mA fully driven)

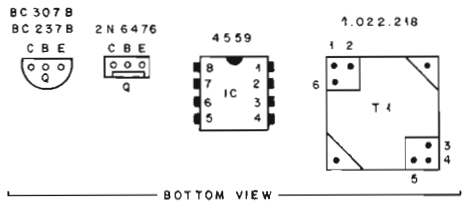
Dimensions: **MS-card,** 34 × 85 mm

Ordering Information: Loudspeaker amplifier 1.914.505.xx

MSC SPEAKER AMPLIFIER







CIS	PIN	EURO 32 PIN			
		ⓐ	ⓑ	ⓒ	ⓓ
INP a	13	1	7	21	27
INP b	12	2	8	22	28
(⊥)	11	3	9	23	29
	10				
	9				
	8				
(⊥)	7				
	6				
0 V	5	19			
- 24V	4	20			
OUT a	3	4	10	24	30
OUT b	2	5	11	25	31
	1				

⓪ 13.9.94		
STUDER REGENSDORF ZÜRICH	LSP AMPLIFIER 3 W (NR. 5)	1.914.505.00

Ad	POS.	REF.No.	DESCRIPTION		MANUFACTURER
	C.....1	59.34.4680	68pF		CER
	C.....2	59.06.0224	0,22µF		PE
	C.....3	59.06.0224	0,22µF		PE
①	C.....4	59.34.2470	47pF		CER
	C.....5	59.22.5101	100µF	25V	EL
	C.....6	59.22.5101	100µF	25V	EL
	C.....7	59.22.4221	220µF	16V	EL
	C.....8	59.22.4221	220µF	16V	EL
	D.....1	50.04.0125	1N4448		
	IC.....1	50.09.0107	RC4559		
	P.....1	54.01.0273	13P	CIS	
	Q.....1	50.03.0515	BC307B		
	Q.....2	50.03.0436	BC237B		
	Q.....3	50.03.0436	BC237B		
	Q.....4	50.03.0345	2N6476		
	Q.....5	50.03.0515	BC307B		
	Q.....6	50.03.0344	2N6474		
	R.....1	57.99.0210	2,3Ω		PTC
	R.....2	57.11.3562	5,6kΩ		
	R.....3	57.11.3562	5,6kΩ		
	R.....4	57.11.4272	2,7kΩ		
	R.....5	58.01.9503	50kΩ		PMG
	R.....6	57.11.4472	4,7kΩ		
	R.....7	57.11.4472	4,7kΩ		
	R.....8	57.11.4272	2,7kΩ		
	R.....9	57.11.4472	4,7kΩ		
	R....10	57.11.3562	5,6kΩ		
	R....11	57.11.3562	5,6kΩ		
	R....12	57.11.4222	2,2kΩ		
	R....13	57.11.4222	2,2kΩ		
	R....14	57.11.4470	47Ω		
	R....15	57.11.4222	2,2kΩ		
	R....16	57.11.4470	47Ω		
	R....17	57.11.4229	2,2Ω		
	R....18	57.11.4229	2,2Ω		
	R....19	57.11.4229	2,2Ω		
	R....20	57.11.4229	2,2Ω		
	R....21	57.11.3562	5,6kΩ		
	R....22	57.11.4332	3,3kΩ		
	T.....1	1.022.218.00	1:1		

CER=Ceramic, PE=Polyester, EL=Electrolytic, PTC=Pos. Temp. Coif., PMG=Cermet

1.914.505.00 LSP AMPLIFIER 3W (Nr. 5) P. Casutt 07/09/83

1.914.505.00 LSP AMPLIFIER 3W (Nr. 5) ① A. Ho 30/11/83

END

→

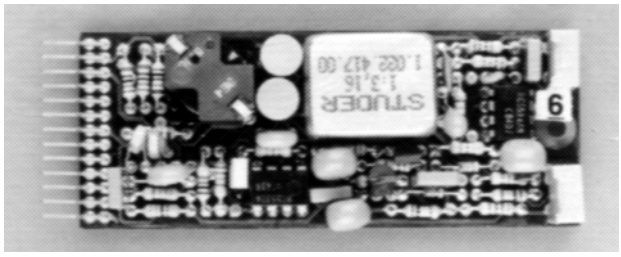
Microphone Pre-Amplifiers 1.914.506/507

Two different microphone pre-amplifiers are available, for dynamic or condenser microphones, and for electret microphones. Both offer high gain and low noise, as is required for microphone pre-amplification.

1.914.506 features a balanced and floating input. It is designed for dynamic or condenser microphones with a source impedance of 200 Ω or less. An RF filter is incorporated at the input transformer's primary. Furthermore, the input is equipped with the resistors required for phantom powering of condenser microphones.

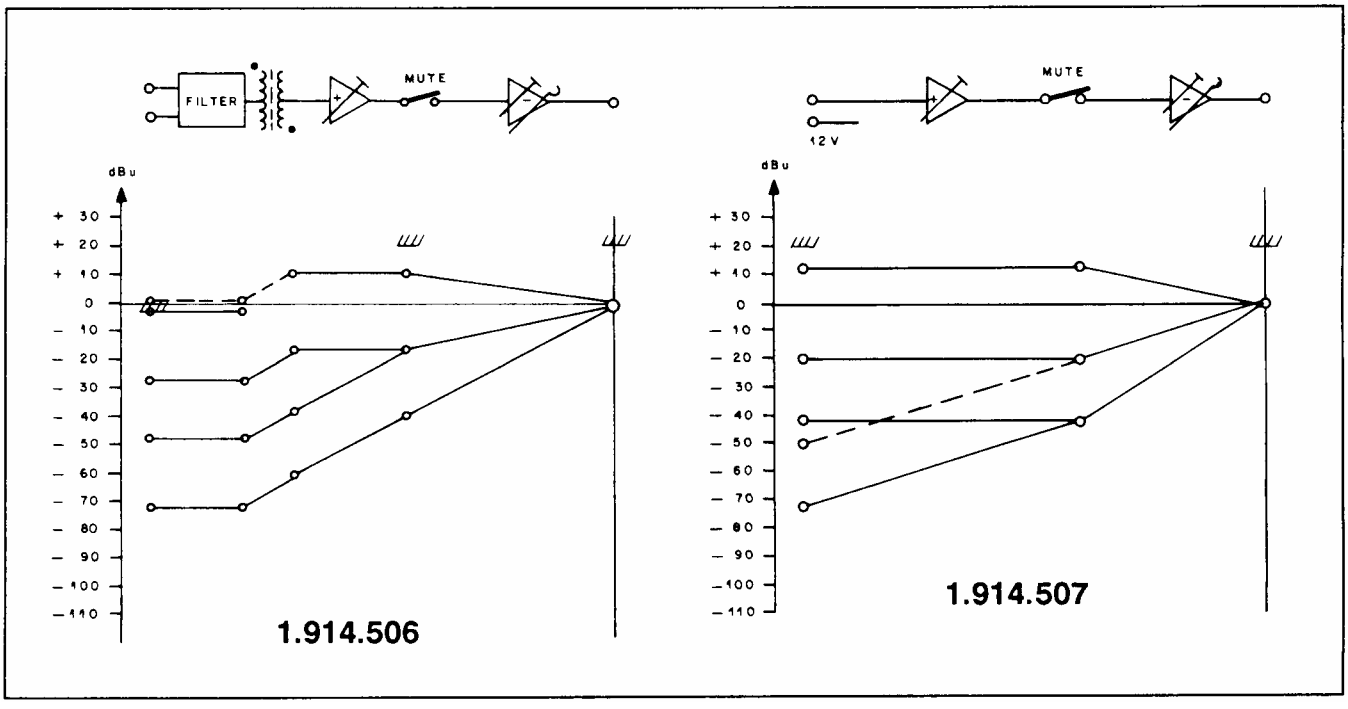
1.914.507 is designed for unbalanced electret microphones requiring a 12 V supply.

A wide range of input levels can be accommodated (see level diagram).



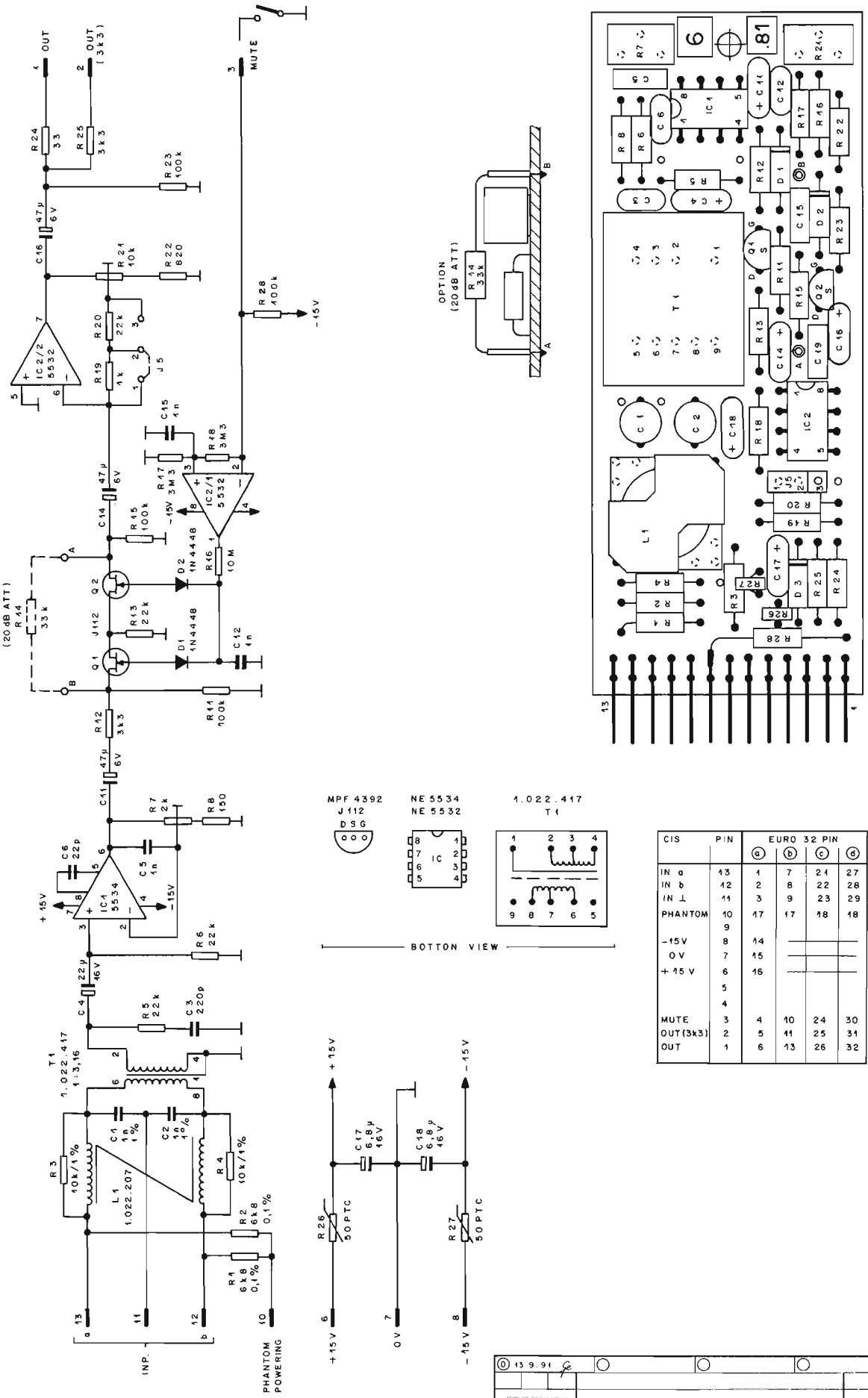
By using the same solid-state switching circuit as can be found in the line and high-level amplifiers, remote muting or activation of a fixed amount of attenuation are possible as well.

The amplifier's two outputs are unbalanced, with impedances of 3.3 kΩ or 33 Ω, respectively.



Technical Specifications

Input:		Transformer-balanced and floating, with RF filter	(1.914.506)
		Unbalanced, with RF filter and electret supply	(1.914.507)
	Impedance	> **1 kΩ,** for microphones with an impedance of 200 Ω or less.	
	Max. input level	**–2 dBu** (615 mV_{rms}); THD at 30 Hz: approx. 1%	
	Common mode rejection	> **60 dB**, unbalanced, to ground	
Output:	Max. level	**+20 dBu** (7.75 V_{rms})	
	Nominal level	**0 dBu** (0.775 V_{rms})	
	Impedance	**33 Ω** (pin1)	
		3.3 kΩ (pin2; to a 0-Ω amp.)	
	Minimum load	**600 Ω**	
	Max. gain	**71 dB** (see level diagram)	
	Frequency response	**±0.5 dB,** 30 Hz...16 kHz	
	THD	< **0.3%,** 30 Hz...16 kHz at 20 dB gain	
	Noise figure, linear	< **4.5 dB**, input terminated with 200 Ω	
Supply:		**±15 V** (11 mA idling)	
		+48 V (1.914.506, only if phantom powering required)	
Dimensions:		**MS-card,** 34 × 85 mm	
Ordering Information:	•	Microphone pre-amplifier for dynamic microphones	1.914.506.xx
	•	Microphone pre-amplifier for electret microphones	1.914.507.xx



CIS	PIN	EURO 32 PIN			
		(a)	(b)	(c)	(d)
IN a	13	1	7	21	27
IN b	12	2	8	22	28
IN ⊥	11	3	9	23	29
PHANTOM	10	17	17	18	18
	9				
-15V	8	14			
0 V	7	15			
+15 V	6	16			
	5				
	4				
MUTE	3	4	10	24	30
OUT(3k3)	2	5	11	25	31
OUT	1	6	13	26	32

0 13.9.91		
STUDER REGENSDORF ZURICH	MIC. AMPLIFIER FLOATING (NR. 6)	1.914.506.81

MICROPHONE PRE-AMP. MSC

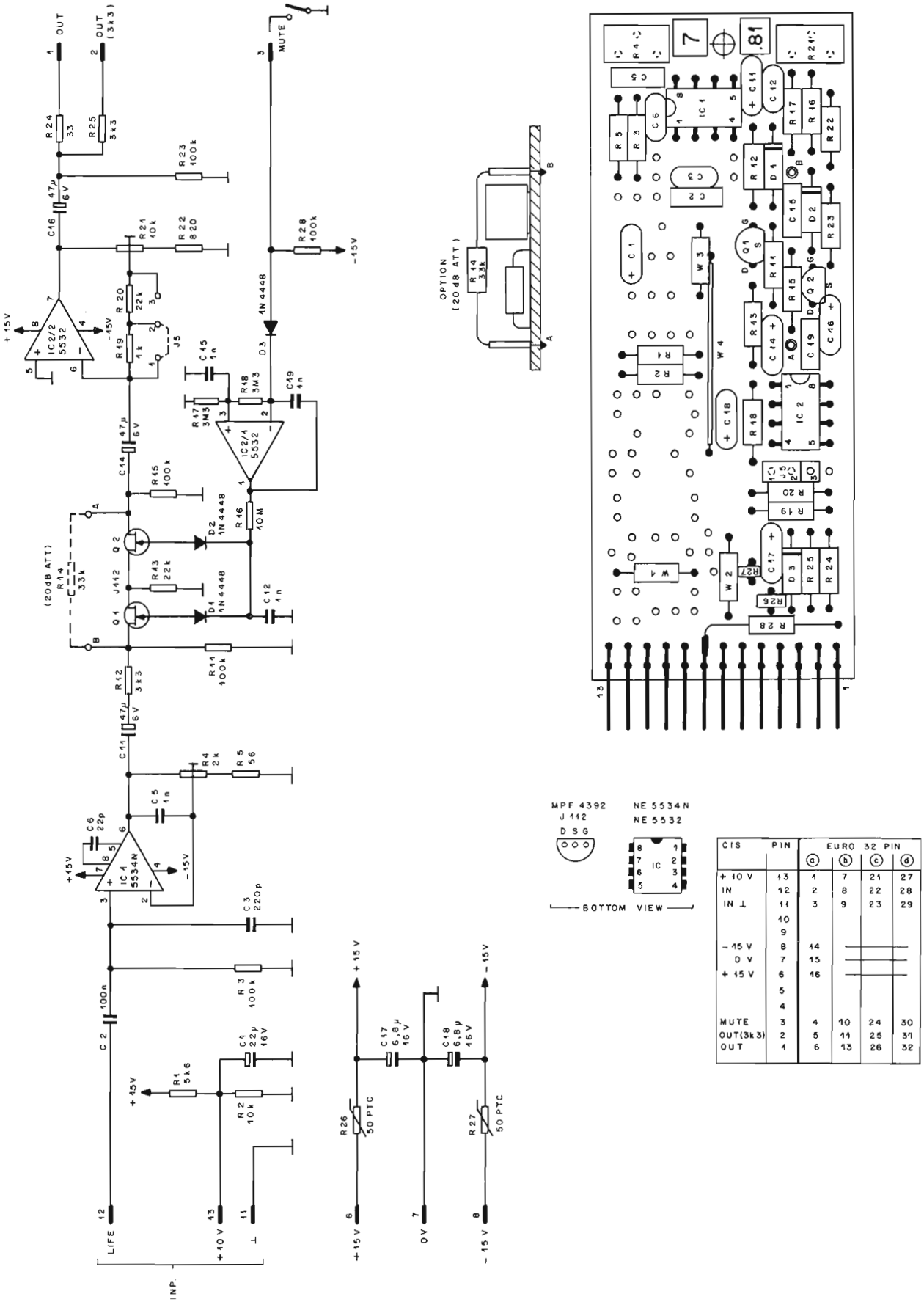
Ad	POS.	REF.No.	DESCRIPTION			MANUFACTURER
	C.....1	59.05.1102	1000pF	630V 1%	PP	
	C.....2	59.05.1102	1000pF	630V 1%	PP	
	C.....3	59.34.4221	220pF		CER	
	C.....4	59.30.4220	22µF	16V	TA	
	C.....5	59.06.0102	1000pF		PE	
	C.....6	59.34.2220	22pF		CER	
	C....11	59.26.0470	47µF	6,3V	SAL	
	C....12	59.32.4102	1000pF		CER	
	C....13					
	C....14	59.26.0470	47µF	6,3V	SAL	
	C....15	59.06.0102	1000pF		PE	
	C....16	59.26.0470	47µF	6,3V	SAL	
	C....17	59.26.2689	6,8µF	16V	SAL	
	C....18	59.26.2689	6,8µF	16V	SAL	
	C....19	59.06.0102	1000pF		PE	
	D.....1	50.04.0125	1N4448			
	D.....2	50.04.0125	1N4448			
	D.....3	50.04.0125	1N4448			
	IC.....1	50.05.0244	NE5534AN	LOW NOISE OP AMP		SIG
	IC.....2	50.09.0106	NE5532AN	DUAL LOW NOISE OP AMP		SIG
	J.....5	54.01.0021		JUMPER		
	L.....1	1.022.207.00		HF SYM. COIL		ST
	P	54.01.0273	13PIN	CIS		
	P (J5)	54.01.0020	PIN	JUMPER PLUG		
	Q.....1	50.03.0350	J112	N	N-FET	
	Q.....2	50.03.0350	J112	N	N-FET	
	R.....1	57.99.0250	6,8kΩ	0,1%		
	R.....2	57.99.0250	6,8kΩ	0,1%		
	R.....3	57.11.3103	10kΩ	1%		
	R.....4	57.11.3103	10kΩ	1%		
	R.....5	57.11.4123	12kΩ			
	R.....6	57.11.4223	22kΩ			
	R.....7	58.01.9202	2kΩ	POT		
	R.....8	57.11.4151	150			
	R....11	57.11.4104	100kΩ			
	R....12	57.11.4332	3,3kΩ			
	R....13	57.11.4223	22kΩ			
	R....14	57.11.4333	33kΩ	OPTIONAL (20dB ATT)		
	R....15	57.11.4104	100kΩ			
	R....16	57.11.5106	10MΩ			
	R....17	57.11.5335	3,3MΩ	5%		
	R....18	57.11.5335	3,3MΩ	5%		
	R....19	57.11.4102	1kΩ			
	R....20	57.11.4223	22kΩ			
	R....21	58.01.9103	10kΩ	POT		
	R....22	57.11.4821	820Ω			
	R....23	57.11.4104	100kΩ			
	R....24	57.11.4330	33Ω			
	R....25	57.11.4332	3,3kΩ			
	R....26	57.99.0206	50Ω	PTC		PH
	R....27	57.99.0206	50Ω	PTC		PH
	R....28	57.11.4104	100kΩ			
	T.....1	1.022.417.00	1:3,16	TRAFO		ST

CER=Ceramic, PE=Polystyrene, SAL=Solid Aluminium, PP=Polypropylen, TA=Tantalum

MANUFACTURER: ST=Studer, SIG=Signetics, PH=Philips

1.914.506.81 MIC. AMPLIFIER, FLOATING (Nr. 6) FRI 19/04/85

END



CIS	PIN	EURO 32 PIN			
		ⓐ	ⓑ	ⓒ	ⓓ
+ 10 V	13	1	7	21	27
IN	12	2	8	22	28
IN ⊥	11	3	9	23	29
	10				
	9				
- 15 V	8	14			
0 V	7	15			
+ 15 V	6	16			
	5				
	4				
MUTE	3	4	10	24	30
OUT(3k3)	2	5	11	25	31
OUT	1	6	13	26	32

⓪ 12.9.91		
STUDER REGENSDORF ZURICH	ELECTRET MIC. AMP. (NR.7)	1.914.507.81

MICROPHONE PRE-AMP. MSC

Ad	POS.	REF.No.	DESCRIPTION			MANUFACTURER
	C.....1	59.30.4220	22µF	16V	TA	
	C.....2	59.06.5104	0,1µF	63V	PE	
	C.....3	59.34.4221	220pF		CER	
	C.....5	59.06.0102	1000pF		PE	
	C.....6	59.34.2220	22pF		CER	
	C....11	59.26.0470	47µF	6,3V	SAL	
	C....12	59.32.4102	1000p		CER	
	C....13					
	C....14	59.26.0470	47µF	6,3V	SAL	
	C....15	59.06.0102	1000pF		PE	
	C....16	59.26.0470	47µF	6,3V	SAL	
	C....17	59.26.2689	6,8µF	16V	SAL	
	C....18	59.26.2689	6,8µF	16V	SAL	
	C....19	59.06.0102	1000pF		PE	
	D.....1	50.04.0125	1N4448			
	D.....2	50.04.0125	1N4448			
①	D.....3	50.04.0125	1N4448			
	IC.....1	50.05.0244	NE5534AN	LOW NOISE OP AMP		SIG
	IC.....2	50.09.0106	NE5532AN	DUAL LOW NOISE OP AMP		SIG
	J.....5	54.01.0021		JUMPER		
	P	54.01.0273	13PIN	CIS		
	P (J5)	54.01.0020	PIN	JUMPER PLUG		
	Q.....1	50.03.0350	J112	N-FET		
	Q.....2	50.03.0350	J112	N-FET		
	R.....1	57.11.4562	5,6kΩ			
	R.....2	57.11.4103	10kΩ			
	R.....3	57.11.4104	100kΩ			
	R.....4	58.01.9202	2kΩ	POT		
	R.....5	57.11.4560	56Ω			
	R....11	57.11.4104	100kΩ			
	R....12	57.11.4332	3,3kΩ			
	R....13	57.11.4223	22kΩ			
	R....14	57.11.4333	33kΩ	OPTIONAL (20dB ATT)		
	R....15	57.11.4104	100kΩ			
	R....16	57.11.5106	10MΩ			
	R....17	57.11.5335	3,3MΩ	5%		
	R....18	57.11.5335	3,3MΩ	5%		
	R....19	57.11.4102	1kΩ			
	R....20	57.11.4223	22kΩ			
	R....21	58.01.9103	10kΩ	POT		
	R....22	57.11.4821	820Ω			
	R....23	57.11.4104	100kΩ			
	R....24	57.11.4330	33Ω			
	R....25	57.11.4332	3,3kΩ			
	R....26	57.99.0206	50Ω	PTC		PH
	R....27	57.99.0206	50Ω	PTC		PH
	R....28	57.11.4104	100kΩ			
①	W.....1	57.11.4000		0Ω LINK		
①	W.....2	57.11.4000		0Ω LINK		
①	W.....3	57.11.4000		0Ω LINK		
①	W.....4			WIRE		

CER=Ceramic, PE=Polystyrene, SAL=Solid Aluminium, TA=Tantalum

MANUFACTURER: SIG=Signetics, PH=Philips

1.914.507.81 ELECTRET MIC AMP (Nr. 7) FRI 19/04/85

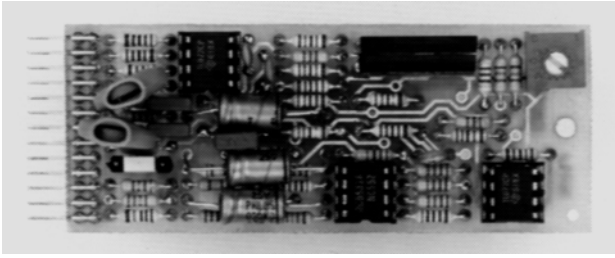
① 1.914.507.81 ELECTRET MIC AMP (Nr. 7) ① FRI 14/10/85

END

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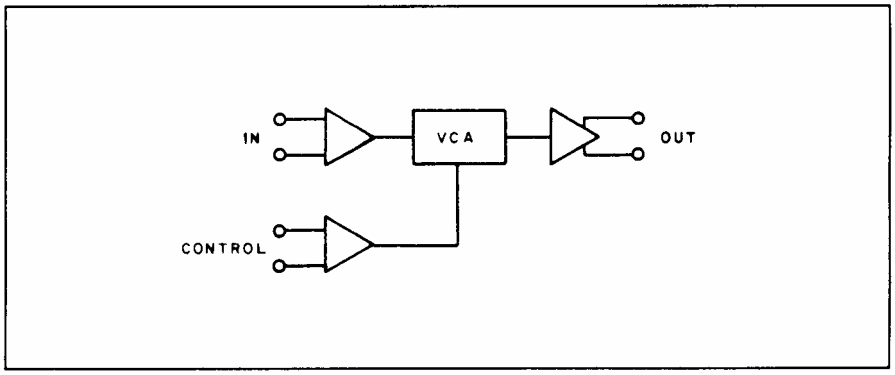
VCA with Electronically Balanced Connections 1.914.515

In contrast to the VCA module 1.914.518/528, this assembly features electronically balanced input and output.



It is intended for use in balanced audio systems for a variety of applications, especially when gain is to be controlled from a remote point. It will be useful in audio-video post-production work where suitable DC ramps can control cross-fades, voice-overs, etc. Its high overload margin and its exceptionally low noise and distortion performance make it the perfect choice for high-quality audio applications.

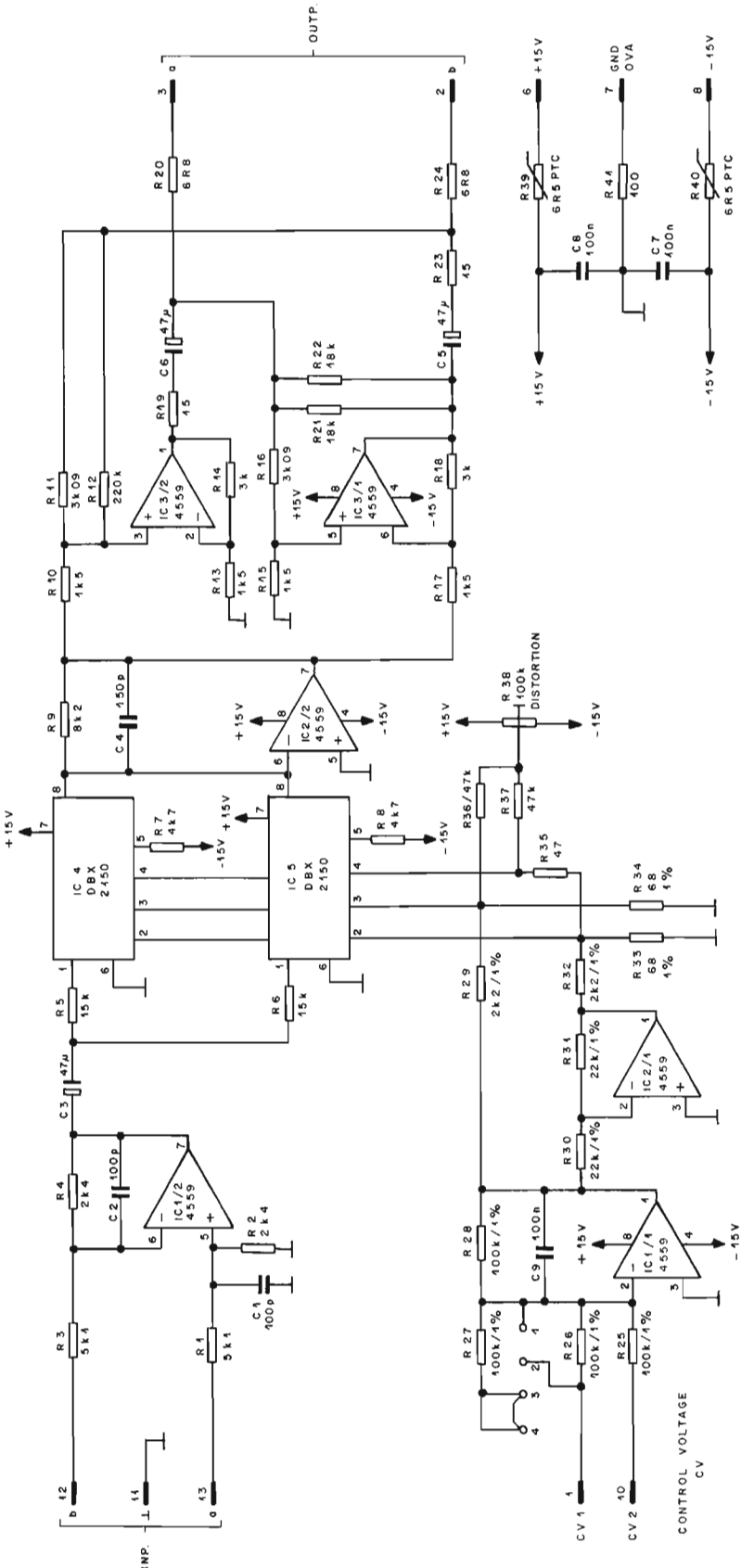
By connecting the gain control terminals of a number of VCAs to a common potentiometer or fader, several audio channels may thus be controlled simultaneously.

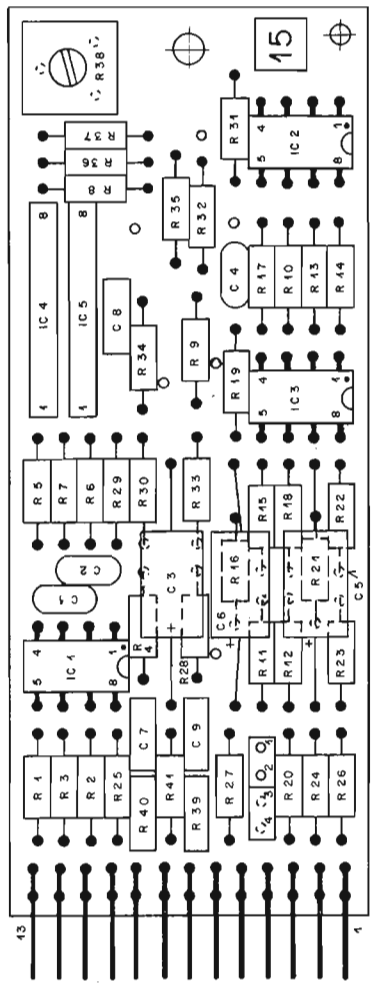


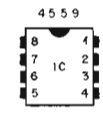
Two control inputs provide VCA gain control from two different remote points

Technical Specifications

Input:	Impedance	**≥ 10 kΩ,** electronically balanced
	Clipping point	**+24 dBu**
Output:		Electronically balanced
	Recommended load	**≥ 2 kΩ**
	Maximum level	**+24 dBu**
	Frequency response	**–0.5 dB,** 30 Hz...15 kHz
	Gain/attenuation range	**+40...–100 dB,** with ext. control
	Control input: pin1; gain tracking	**0 V = unity gain;** **1 dB/µA;** jumper 1-2 **20 dB/V;** jumper 2-3 **10 dB/V;** jumper 3-4
	Control input: pin10; gain tracking	**10 dB/V**
	THD	< **0.1%**
	Equivalent input noise	**–93 dBu** @ unity gain
Supply:		**±15 V** (25 mA)
Dimensions:		**MS-card,** 34 × 85 mm
Ordering Information:		VCA with electronically balanced input and output 1.914.515.xx







BOTTOM VIEW

CIS	PIN	EURO 32 PIN			
		a	b	c	d
INP o	13	1	7	21	27
INP b	12	2	8	22	28
⊥	11	3	9	23	29
CV 2	10	17	17	18	18
	9				
- 15 V	8	14			
0VA	7	15			
+ 15 V	6	16			
	5				
	4				
OUT a	3	4	10	24	30
OUT b	2	5	11	25	31
CV 1	1	6	13	26	32

⓪ 17.9.91		
STUDER REGENSDORF ZÜRICH	BAL. AMP. WITH VCA	1.914.515.00

MSC VCA

Ad	..POS..	...REF.No...	DESCRIPTION.....	MANUFACTURER
	C.....1	59.34.4101	100 pF CER	
	C.....2	59.34.4101	100 pF CER	
	C.....3	59.25.3470	47 uF ALU	
	C.....4	59.34.4151	150 pF CER	
	C.....5	59.25.3470	47 uF ALU	
	C.....6	59.25.3470	47 uF ALU	
	C.....7	59.06.5104	100 nF PE	
	C.....8	59.06.5104	100 nF PE	
	C.....9	59.06.5104	100 nF PE	
	JS....1	54.01.0020	JUMPER PLUG 4-PIN	
	JP....1	54.01.0021	JUMPER JACK	
	IC....1	50.09.0107	RC4559 dual op. amp.	Ra,NE
	IC....2	50.09.0107	RC4559 dual op. amp.	Ra,NE
	IC....3	50.09.0107	RC4559 dual op. amp.	Ra,NE
	IC....4	50.11.0140	2150A VCA	DBX
	IC....5	50.11.0140	2150A VCA	DBX
	P.....1	54.01.0273	13 PIN CIS	
	R.....1	57.11.3512	5.1 kOhm 1% 0.25W MF	
	R.....2	57.11.3242	2.4 kOhm 1% 0.25W MF	
	R.....3	57.11.3512	5.1 kOhm 1% 0.25W MF	
	R.....4	57.11.3242	2.4 kOhm 1% 0.25W MF	
	R.....5	57.11.3153	15 kOhm 1% 0.25W MF	
	R.....6	57.11.3153	15 kOhm 1% 0.25W MF	
	R.....7	57.11.4472	4.7 kOhm 5% 0.25W MF	
	R.....8	57.11.4472	4.7 kOhm 5% 0.25W MF	
	R.....9	57.11.3822	8.2 kOhm 1% 0.25W MF	
	R....10	57.11.3152	1.5 kOhm 1% 0.25W MF	
	R....11	57.39.3091	3.09kOhm 1% 0.25W MF	
	R....12	57.11.4224	220 kOhm 2% 0.25W MF	
	R....13	57.11.3152	1.5 kOhm 1% 0.25W MF	
	R....14	57.11.3302	3.0 kOhm 1% 0.25W MF	
	R....15	57.11.3152	1.5 kOhm 1% 0.25W MF	
	R....16	57.39.3091	3.09kOhm 1% 0.25W MF	
	R....17	57.11.3152	1.5 kOhm 1% 0.25W MF	
	R....18	57.11.3302	3.0 kOhm 1% 0.25W MF	
	R....19	57.11.3150	15 Ohm 1% 0.25W MF	
	R....20	57.11.3689	6.8 Ohm 1% 0.25W MF	
	R....21	57.11.3183	18 kOhm 1% 0.25W MF	
	R....22	57.11.3183	18 kOhm 1% 0.25W MF	
	R....23	57.11.3150	15 Ohm 1% 0.25W MF	
	R....24	57.11.3689	6.8 Ohm 2% 0.25W MF	
	R....25	57.11.3104	100 kOhm 1% 0.25W MF	
	R....26	57.11.3104	100 kOhm 1% 0.25W MF	
	R....27	57.11.3104	100 kOhm 1% 0.25W MF	
	R....28	57.11.3104	100 kOhm 1% 0.25W MF	
	R....29	57.11.3222	2.2 kOhm 1% 0.25W MF	
	R....30	57.11.3223	22 kOhm 1% 0.25W MF	
	R....31	57.11.3223	22 kOhm 1% 0.25W MF	
	R....32	57.11.3222	2.2 kOhm 1% 0.25W MF	
	R....33	57.11.3680	68 Ohm 1% 0.25W MF	
	R....34	57.11.3680	68 Ohm 1% 0.25W MF	
	R....35	57.11.4470	47 Ohm 2% 0.25W MF	
	R....36	57.11.4473	47 kOhm 2% 0.25W MF	
	R....37	57.11.4473	47 kOhm 2% 0.25W MF	
	R....38	58.01.8104	100 kOhm 10% 0.5 W PMG trimming resistor	
	R....39	57.92.1271	6.5 Ohm PTC Philips Nr.2322 662 12711	
01	R....39	57.92.7013	0.75 Ohm I-Hold 0.5A	R-PTC
	R....40	57.92.1271	6.5 Ohm PTC Philips Nr.2322 662 12711	
01	R....40	57.92.7013	0.75 Ohm I-Hold 0.5A	R-PTC
	R....41	57.11.4101	100 Ohm 2% 0.25W MF	

(01) 89/11/02 - Improvement of distance PTC - R

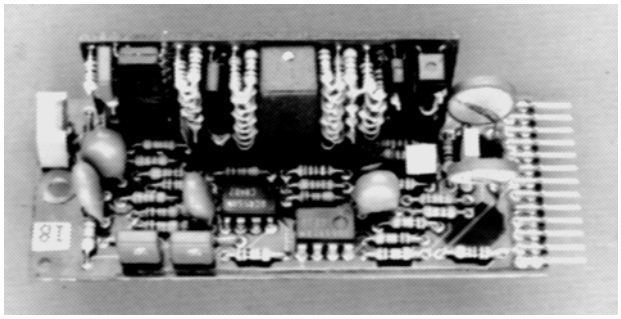
CER=Ceramic, PE=Polyester, SAL=Solid Aluminium
MF=Metal Film, PMG=Cermet

MANUFACTURER: Ex=Exar, NE=NEC, Ph=Philips, Ra=Raytheon,
Sig=Signetics, St=Studer,

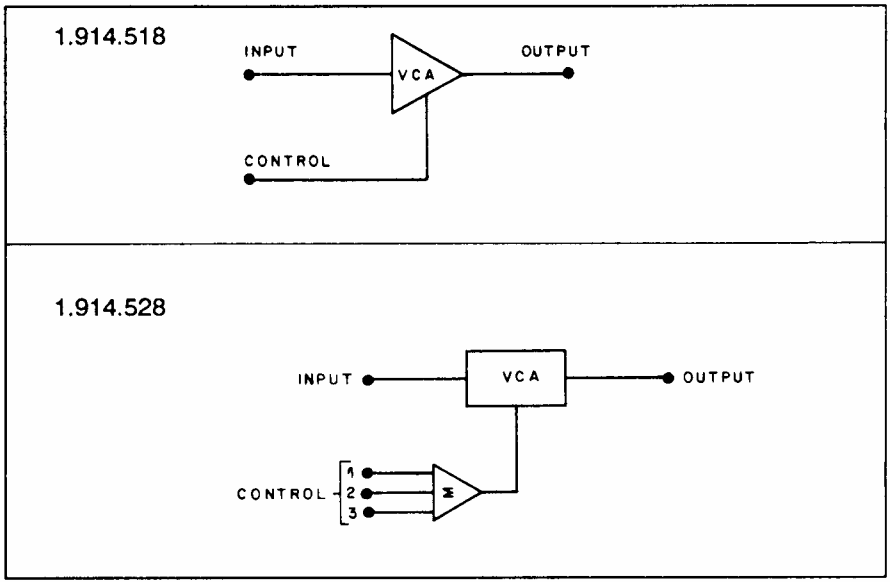
1.914.515.00	BAL AMP WITH VCA	SE 87/07/0100
1.914.515.00	BAL AMP WITH VCA	TA 89/11/0201

VCA with 1 or 3 Control Ports 1.914.518/528

Within the range of modular sub-cards, two more VCAs are available. Voltage controlled amplifiers are ideally suited for applications such as remote level control, level limiting (in combination with the voltage processor 1.914.519) or for automatic “voice-over” circuits, when driven by suitable ramp generators. These VCAs offer outstandingly low noise and harmonic distortion.



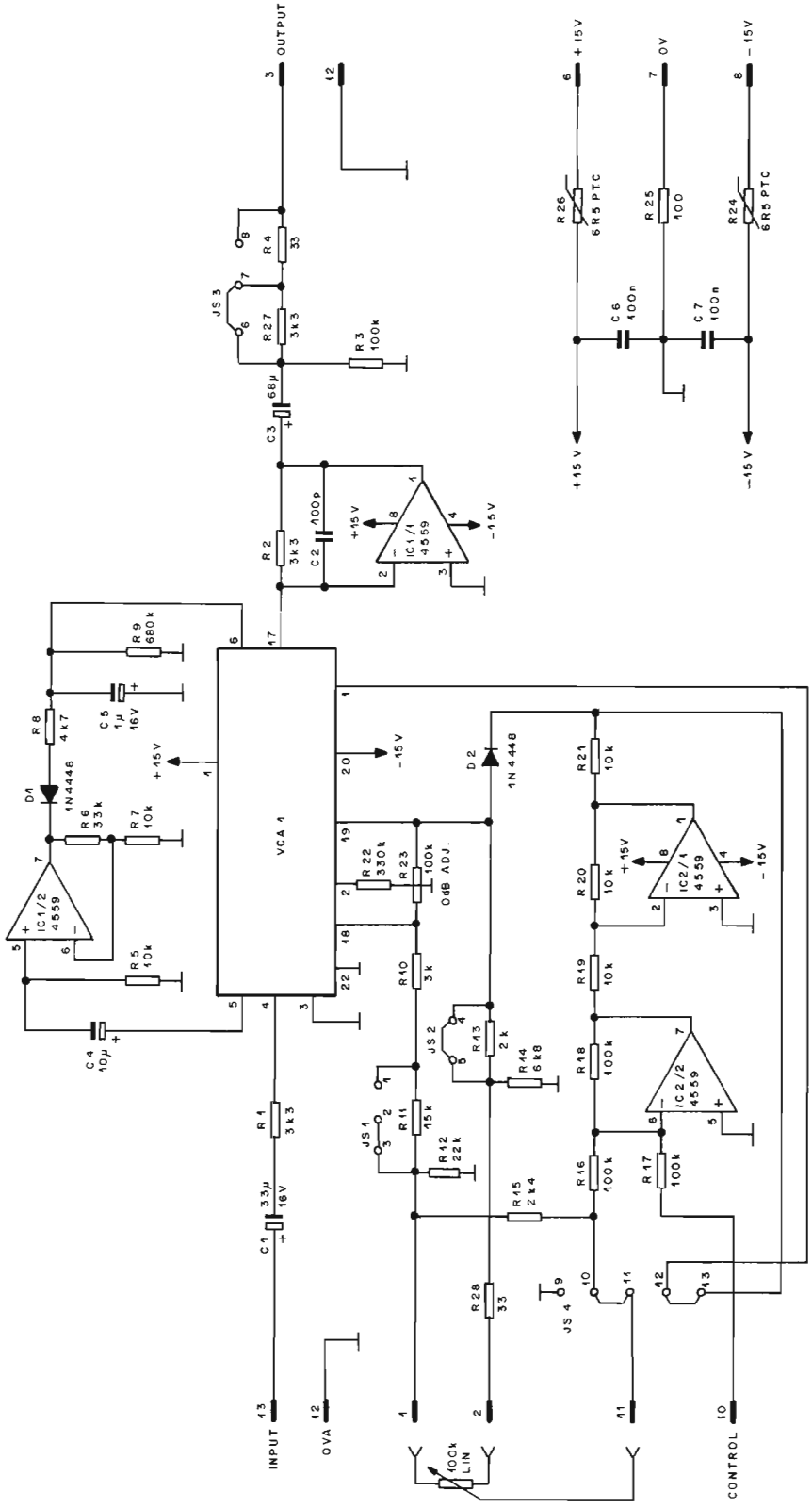
For best performance, they should be operated at a level of 0 dBu.
Gain pre-selection is possible on the 1.914.518 version, allowing gain/attenuation ranges either from +10 to –90 dB or from +40 to –70 dB, using an external potentiometer.
The 1.914.528 VCA card differs in that it is equipped with three external control inputs, providing gain control from three different locations.

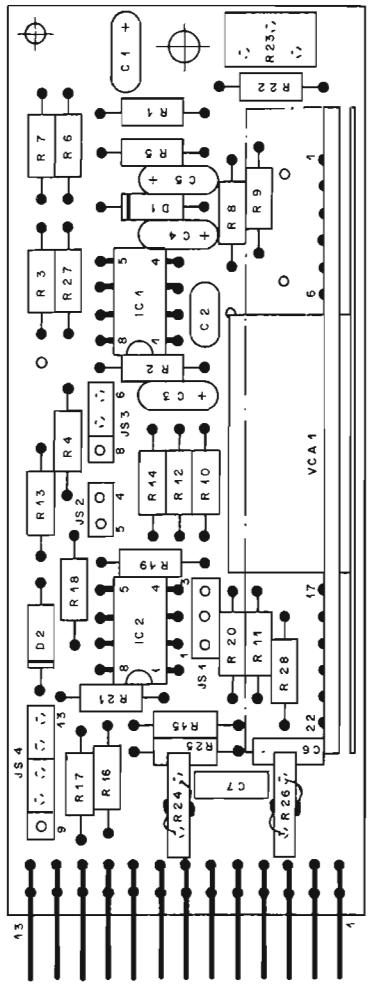


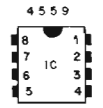
Technical Specifications

Input:	Impedance	**> 3 kΩ**
	Clipping point	**+20 dBu**
Output:	Impedance	**33 Ω or 3.3 kΩ,** selectable
	Max. level	**+20 dBu**
	Recommended load	**≥ 2 kΩ**
	Frequency response	**–0.5 dB,** 30 Hz...16 kHz
	External gain control	**+40...–90 dB** (1.914.518.xx) **+40...–100 dB** (1.914.528.xx)
	Gain/attenuation range (pot. meter)	**+40...–60 dB / +10...–70 dB / +10...–90 dB** (1.914.518.xx only, jumper-selectable)
	Gain tracking	**10 dB/V**
	THD	**< 0.1%**
	Equivalent input noise	**–102 dBu**
Supply:		**±15 V** (40 mA)
Dimensions:		**MS-card,** 34 × 85 mm

Ordering Information:	Voltage controlled amplifier with 1 control port	1.914.518.xx
	Voltage controlled amplifier with 3 control ports	1.914.528.xx







BOTTOM VIEW

CIS	PIN	EURO 32 PIN ⓐ	ⓑ	ⓒ	ⓓ
INPUT	13	1	7	21	27
⊥(INP./OUTP.)	12	2	8	22	28
LIN POT TAP	11	3	9	23	29
LEVEL CONTR.	10	17	17	18	18
	9				
−15V	8	14			
0V	7	15			
+15V	6	16			
	5				
	4				
OUTPUT	3	4	10	24	30
LIN POT 100k	2	5	11	25	31
LIN POT 100k	1	6	13	26	32

⓪ 17.9.91 fe				
STUDER REGENSDORF ZÜRICH	VCA UNIT			1.914.518.81

MSC VCA

Ad	..POS..	...REF.No...	DESCRIPTION					MANUFACTURER
	A.....1	1.010.110.50	Studer VCA					St
01	A.....1	1.911.290.00	VCA-BOARD					St
02	A.....1	1.911.290.81	VCA BOARD					St
	C.....1	59.26.1330	33 uF			SAL		
	C.....2	59.34.4101	100 pF			CER		
	C.....3	59.26.0680	68 uF			SAL		
	C.....4	59.26.2100	10 uF			SAL		
	C.....5	59.26.9109	1 uF			SAL		
	C.....6	59.06.5104	100 nF			PE		
	C.....7	59.06.5104	100 nF			PE		
	D.....1	50.04.0125	1N4448					any
	D.....2	50.04.0125	1N4448					any
	JS....1	54.01.0020	JUMPER PLUG 3-PIN					
	JS....2	54.01.0020	JUMPER PLUG 2-PIN					
	JS....3	54.01.0020	JUMPER PLUG 3-PIN					
	JS....4	54.01.0020	JUMPER PLUG 5-PIN					
	JP....1	54.01.0021	JUMPER JACK					
	JP....2	54.01.0021	JUMPER JACK					
	JP....3	54.01.0021	JUMPER JACK					
	JP....4	54.01.0021	JUMPER JACK					
	IC....1	50.09.0107	RC4559	dual op. amp.				Ra,NE
	IC....2	50.09.0107	RC4559	dual op. amp.				Ra,NE
	P.....1	54.01.0273	13 PIN			CIS		
	R.....1	57.11.4332	3.3 kOhm	5%	0.25W	MF		
	R.....2	57.11.4332	3.3 kOhm	5%	0.25W	MF		
	R.....3	57.11.4104	100 kOhm	5%	0.25W	MF		
	R.....4	57.11.4330	33 Ohm	5%	0.25W	MF		
	R.....5	57.11.4103	10 kOhm	5%	0.25W	MF		
	R.....6	57.11.4333	33 kOhm	5%	0.25W	MF		
	R.....7	57.11.4103	10 kOhm	5%	0.25W	MF		
	R.....8	57.11.4472	4.7 kOhm	5%	0.25W	MF		
	R.....9	57.11.4684	680 kOhm	5%	0.25W	MF		
	R....10	57.11.3302	3.0 kOhm	2%	0.25W	MF		
	R....11	57.11.4153	15 kOhm	2%	0.25W	MF		
	R....12	57.11.3242	2.4 kOhm	2%	0.25W	MF		
	R....13	57.11.3202	2 kOhm	2%	0.25W	MF		
	R....14	57.11.4682	6.8 kOhm	5%	0.25W	MF		
	R....15	57.11.4223	22 kOhm	5%	0.25W	MF		
	R....16	57.11.4104	100 kOhm	2%	0.25W	MF		
	R....17	57.11.4104	100 kOhm	2%	0.25W	MF		
	R....18	57.11.4104	100 kOhm	2%	0.25W	MF		
	R....19	57.11.4103	10 kOhm	2%	0.25W	MF		
	R....20	57.11.4103	10 kOhm	2%	0.25W	MF		
	R....21	57.11.4103	10 kOhm	5%	0.25W	MF		
	R....22	57.11.4334	330 kOhm	5%	0.25W	MF		
	R....23	58.01.9104	100 kOhm	10%	0.5 W	PMG	trimming resistor	
	R....24	57.92.1271	6.5 Ohm			PTC	Philips Nr.2322 662 12711	
	R....25	57.11.4101	100 Ohm	5%	0.25W	MF		
	R....26	57.92.1271	6.5 Ohm			PTC	Philips Nr.2322 662 12711	
	R....27	57.11.4332	3.3 kOhm	5%	0.25W	MF		
	R....28	57.11.4330	33 Ohm	5%	0.25W	MF		

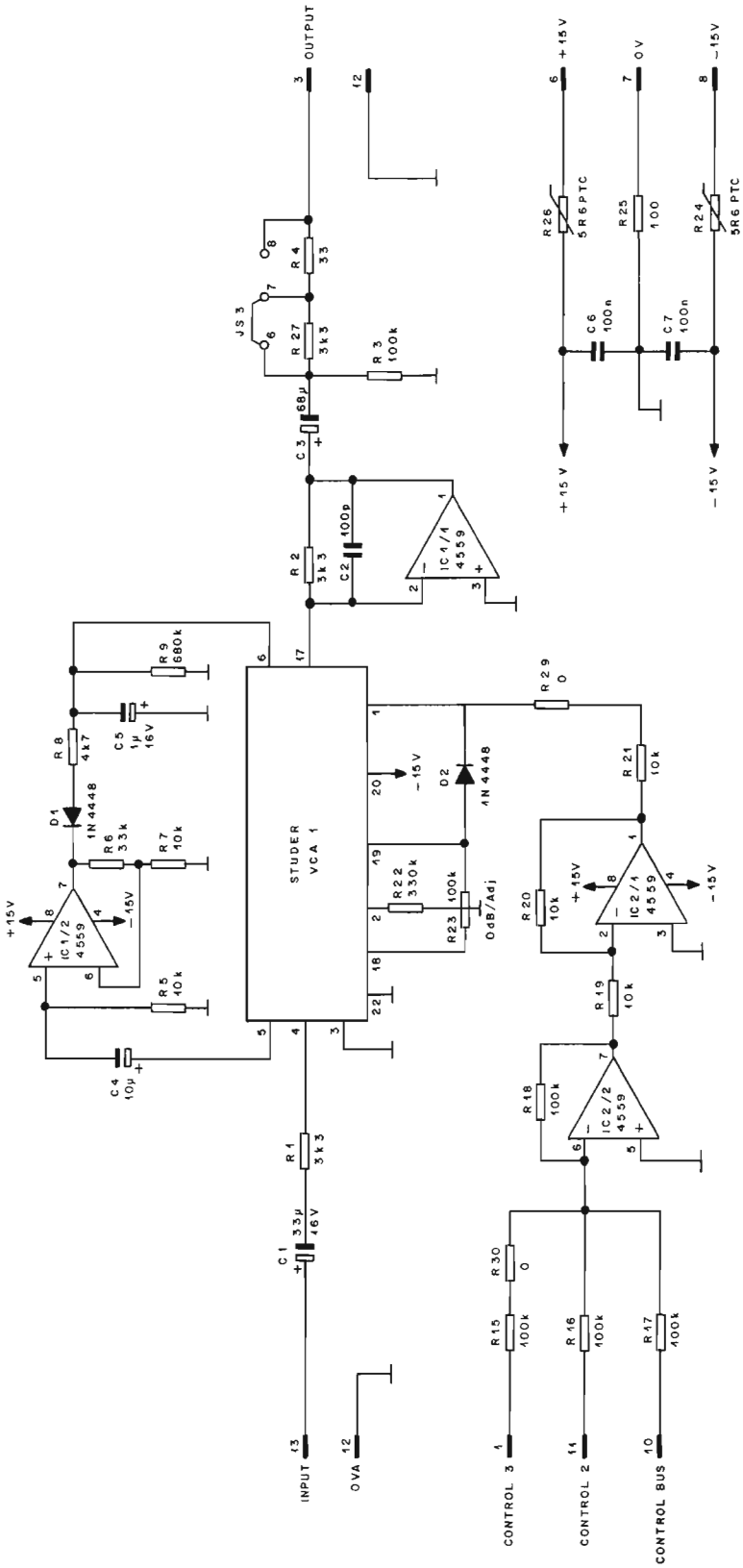
(1) 89/01/13 A1 VCA 1.010.110.50 replaced by 1.911.290.00

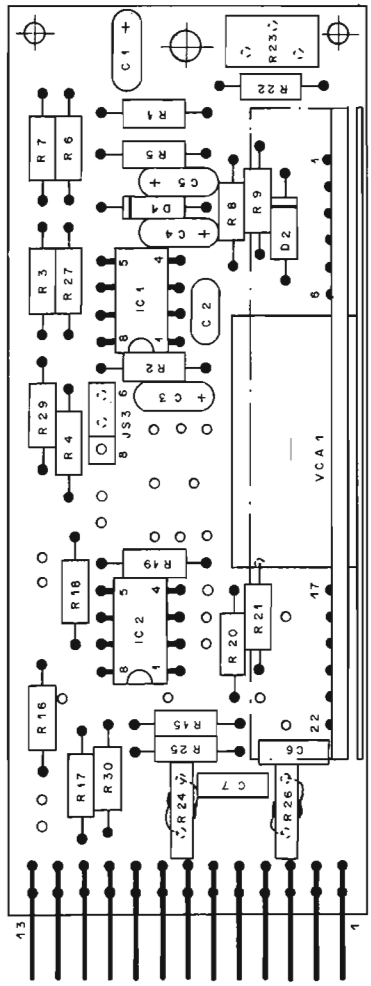
(2) 90/01/17 A1 VCA 1.911.290.00 replaced by 1.911.290.81

CER=Ceramic, PE=Polyester, SAL=Solid Aluminium Lacquard
MF=Metal Film, PMG=Cermet

MANUFACTURER: Ex=Exar, NE=NEC, Ph=Philips, Ra=Raytheon,
Sig=Signetics, St=Studer,

1.914.518.81	VCA UNIT	SE 86/11/0500
1.914.518.81	VCA UNIT	SE 89/01/1301
1.914.518.81	VCA UNIT	WY 90/01/1702





RC 4559



BOTTOM VIEW

CIS	PIN	EURO 32 PIN			
		a	b	c	d
INPUT	13	1	7	21	27
⊥ IN/OUT	12	2	8	22	28
CONTROL 2	11	3	9	23	29
CONTROL BUS	10	17	17	18	18
	9				
-15V	8	14			
0V	7	15			
+15V	6	16			
	5				
	4				
OUTPUT	3	4	10	24	30
	2	5	11	25	31
CONTROL 3	1	6	13	26	32

⓪ 23.9.91 Ge		
STUDER REGENSDORF ZURICH	VCA UNIT / 3 CONTROL	1.914.528.00

VCA MSC

Ad	..POS..	...REF.No...	DESCRIPTION			MANUFACTURER
	A.....1	1.010.110.50	Studer VCA			St
01	A.....1	1.911.290.00	VCA-BOARD			St
02	A.....1	1.911.290.81	VCA-BOARD			St
	C.....1	59.26.1330	33 uF		SAL	
	C.....2	59.34.4101	100 pF		CER	
	C.....3	59.26.0680	68 uF		SAL	
	C.....4	59.26.2100	10 uF		SAL	
	C.....5	59.26.9109	1 uF		SAL	
	C.....6	59.06.5104	100 nF		PE	
	C.....7	59.06.5104	100 nF		PE	
	D.....1	50.04.0125	1N4448			any
	D.....2	50.04.0125	1N4448			any
	JS....3	54.01.0020	JUMPER PLUG 3-PIN			
	JP....1	54.01.0021	JUMPER JACK			
	IC....1	50.09.0107	RC4559	dual op. amp.		Ra,NE
	IC....2	50.09.0107	RC4559	dual op. amp.		Ra,NE
	P.....1	54.01.0273	13 PIN		CIS	
	R.....1	57.11.4332	3.3 kOhm	5% 0.25W	MF	
	R.....2	57.11.4332	3.3 kOhm	5% 0.25W	MF	
	R.....3	57.11.4104	100 kOhm	5% 0.25W	MF	
	R.....4	57.11.4330	33 Ohm	5% 0.25W	MF	
	R.....5	57.11.4103	10 kOhm	5% 0.25W	MF	
	R.....6	57.11.4333	33 kOhm	5% 0.25W	MF	
	R.....7	57.11.4103	10 kOhm	5% 0.25W	MF	
	R.....8	57.11.4472	4.7 kOhm	5% 0.25W	MF	
	R.....9	57.11.4684	680 kOhm	5% 0.25W	MF	
	R....15	57.11.4104	100 kOhm	2% 0.25W	MF	
	R....16	57.11.4104	100 kOhm	2% 0.25W	MF	
	R....17	57.11.4104	100 kOhm	2% 0.25W	MF	
	R....18	57.11.4104	100 kOhm	2% 0.25W	MF	
	R....19	57.11.4103	10 kOhm	2% 0.25W	MF	
	R....20	57.11.4103	10 kOhm	2% 0.25W	MF	
	R....21	57.11.4103	10 kOhm	5% 0.25W	MF	
	R....22	57.11.4334	330 kOhm	5% 0.25W	MF	
	R....23	58.01.9104	100 kOhm	10% 0.5 W	PMG	trimming resistor
	R....24	57.92.1271	6.5 Ohm		PTC	Philips Nr.2322 662 12711
	R....25	57.11.4101	100 Ohm	5% 0.25W	MF	
	R....26	57.92.1271	6.5 Ohm		PTC	Philips Nr.2322 662 12711
	R....27	57.11.4332	3.3 kOhm	5% 0.25W	MF	
	R....29	57.11.4000	0 Ohm			
	R....30	57.11.4000	0 Ohm			

(1) 89/01/13 A1 VCA 1.010.110.50 replaced by 1.911.290.00
(2) 90/01/17 A1 VCA 1.911.290.00 replaced by 1.911.290.81

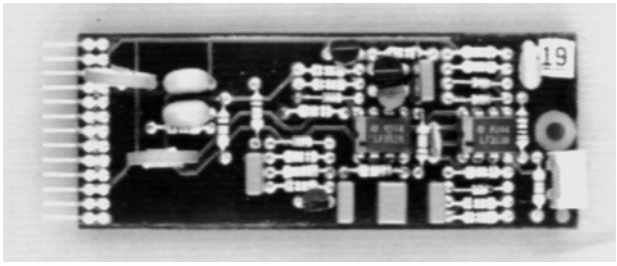
CER=Ceramic, PE=Polyester, SAL=Solid Aluminium
MF=Metal Film, PMG=Cermet

MANUFACTURER: Ex=Exar, NE=NEC, Ph=Philips, Ra=Raytheon,
Sig=Signetics, St=Studer,

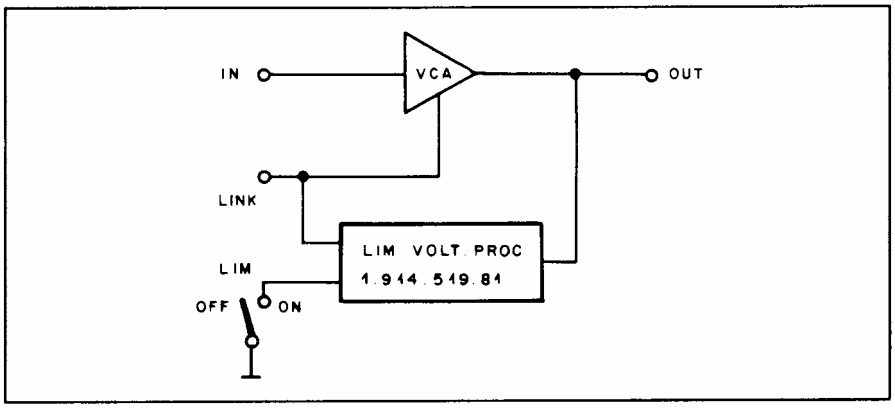
1.914.528.00 VCA UNIT / 3 CONTROL SE 86/10/2800
1.914.528.00 VCA UNIT / 3 CONTROL SE 89/01/1301
1.914.528.00 VCA UNIT / 3 CONTROL WY 90/01/1702

Limiter Voltage Processor 1.914.519

Together with this voltage processor, the VCAs 1.914.518/528 can perform as signal level limiters.



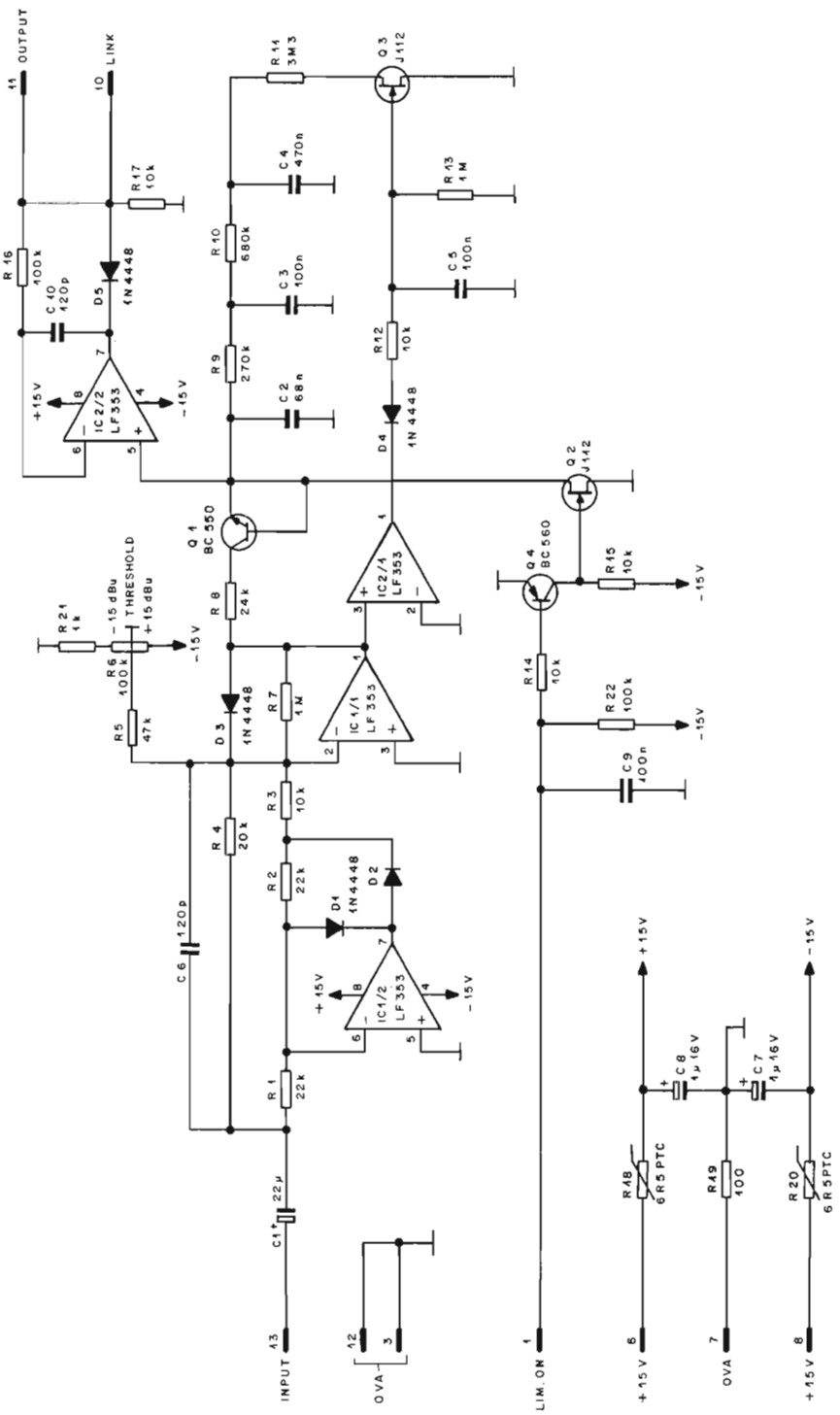
The processor's threshold can be set within a wide range of levels, so that limiting action becomes effective at a desired level within a range of –15 to +15 dBu. Limiting action attacks within 1 ms, whereas release can vary from 50 ms to 5 s, depending on the program's energy content. This means that no audible "pumping" action – which is often associated with such a device – will occur. After the cessation of loud passages, amplification will recover only slowly. For stereo applications, a two-channel set-up (VCAs and voltage processor) can be linked, so that identical amounts of gain reduction will take place simultaneously in both channels.

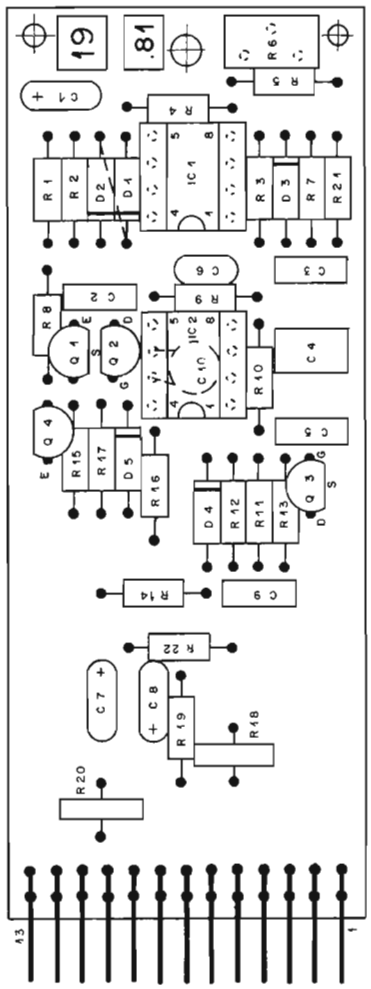


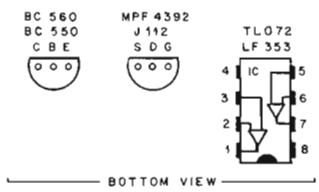
The input of the voltage processor has to be wired to the output of the VCA. The processor's output, when connected to the VCA's control terminal, will effect the necessary gain reduction so that a limiting characteristic is obtained. The limiting threshold is adjustable in a wide range. Remote on/off switching of the limiter function is possible.

Technical Specifications

Limiter:	Input impedance	**≥ 10 kΩ**
	Max. input level	**+20 dBu**
	Frequency range	**30 Hz...16 kHz**
	Output voltage	**0...–13 V_{DC}**
	Threshold level	**–15 dBu...+15 dBu**
	Attack time	**1 ms**
	Release time	**50 ms...5 s,** program-depending
	Compression ratio	**20:1**, in conjunction with a VCA
Supply:		**±15 V** (10 mA)
Dimensions:		**MS-card,** 34 × 85 mm
Ordering Information:	Limiter voltage processor	1.914.519.xx







CIS	PIN	EURO 32 PIN			
		a	b	c	d
INPUT	13	1	7	21	27
⊥ (INP./OUTP.)	12	2	8	22	28
OUTPUT	11	3	9	23	29
LINK	10	17	17	18	18
	9				
- 15 V	8				
0V	7				
+ 15 V	6				
	5				
	4				
⊥ (LIM ON)	3	4	10	24	30
	2	5	11	25	31
LIM ON	1	6	13	26	32

0 16.9.91			
STUDER REGENSDORF ZURICH	LIMITER VOLTAGE PROCESSOR	1.914.519.81	

MSC LIMITER

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	C.....1	59.26.1220	22 uF SAL	
	C.....2	59.06.0683	68 nF PE	
	C.....3	59.06.5104	100 nF PE	
	C.....4	59.06.5474	470 nF PE	
	C.....5	59.06.5104	100 nF PE	
	C.....6	59.34.4121	120 pF CER	
	C.....7	59.26.9109	1 uF SAL	
	C.....8	59.26.9109	1 uF SAL	
	C.....9	59.06.5104	100 nF PE	
	C....10	59.34.4121	120 pF CER	
	D.....1	50.04.0125	1N4448	any
	D.....2	50.04.0125	1N4448	any
	D.....3	50.04.0125	1N4448	any
	D.....4	50.04.0125	1N4448	any
	D.....5	50.04.0125	1N4448	any
	IC....1	50.09.0101	TL 072 dual op. amp. low noise	NS,TI
	IC....2	50.09.0101	TL 072 dual op. amp. low noise	NS,TI
	P.....1	54.01.0273	13 PIN CIS	
	Q.....1	50.03.0497	BC 550 NPN IC>100mA, B>100	any
	Q.....2	50.03.0350	J 112 N-JFET	NS,Mot,Six
	Q.....3	50.03.0350	J 112 N-JFET	NS,Mot,Six
	Q.....4	50.03.0496	BC 560 PNP IC>100mA, B>100	any
	R.....1	57.11.4223	22 kOhm 2% 0.25W MF	
	R.....2	57.11.4223	22 kOhm 2% 0.25W MF	
	R.....3	57.11.4103	10 kOhm 2% 0.25W MF	
	R.....4	57.11.3203	20 kOhm 2% 0.25W MF	
	R.....5	57.11.4473	47 kOhm 5% 0.25W MF	
	R.....6	58.01.9104	100 kOhm 10% 0.50W PMG trimming resistor	
	R.....7	57.11.4106	1 MOhm 5% 0.25W MF	
	R.....8	57.11.3243	24 kOhm 5% 0.25W MF	
	R.....9	57.11.4274	270 kOhm 5% 0.25W MF	
	R....10	57.11.4684	680 kOhm 5% 0.25W MF	
	R....11	57.11.4335	3.3 MOhm 5% 0.25W MF	
	R....12	57.11.4103	10 kOhm 5% 0.25W MF	
	R....13	57.11.4105	1 MOhm 5% 0.25W MF	
	R....14	57.11.4103	10 kOhm 5% 0.25W MF	
	R....15	57.11.4103	10 kOhm 5% 0.25W MF	
	R....16	57.11.4104	100 kOhm 5% 0.25W MF	
	R....17	57.11.4103	10 kOhm 5% 0.25W MF	
	R....18	57.92.1271	6.5 Ohm PTC Philips Nr.2322 662 12711	
	R....19	57.11.4101	100 Ohm 5% 0.25W MF	
	R....20	57.92.1271	6.5 Ohm PTC Philips Nr.2322 662 12711	
	R....21	57.11.4102	1 kOhm 5% 0.25W MF	
	R....22	57.11.4104	100 kOhm 5% 0.25W MF	

CER=Ceramic, PE=Polyester, SAL=Solid Aluminium
MF=Metal Film, PMG=Cermet

MANUFACTURER: Mot=Motorola, NS=National Semiconductors
Six=Siliconix, TI=Texas Instruments

1.914.519.81 LIM VOLTAGE PROCESSOR WM 86.21.1100

1900 Hz Signal Generator 1.914.520

This signal generator produces a stable frequency of 1900 Hz to establish communication on outside broadcast lines, as specified in the EBU/CCIR recommendations.



Technical Specifications

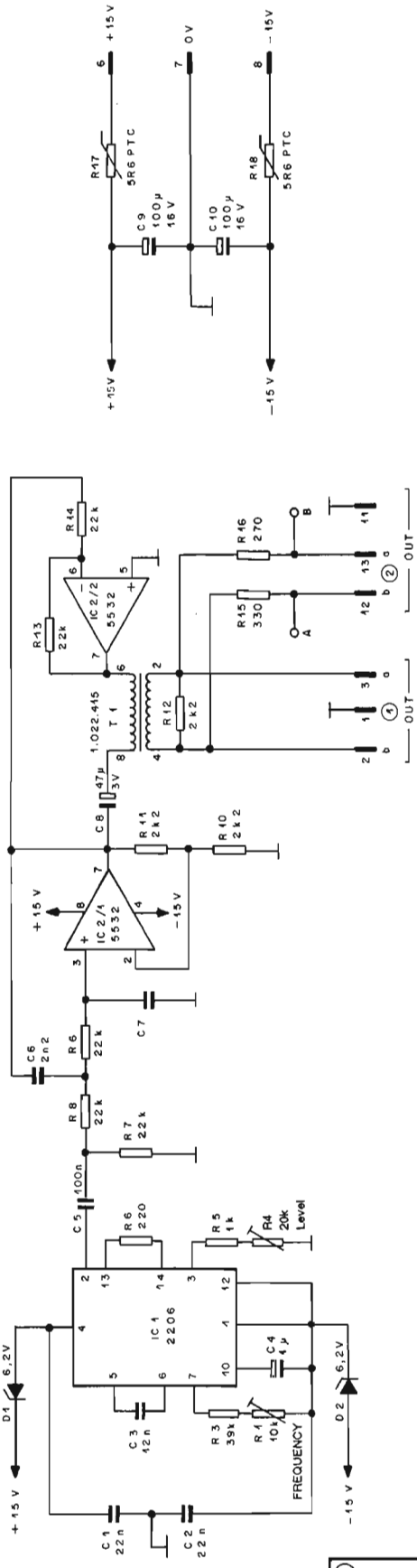
Frequency	**1900 Hz** (adjustable)
Distortion	**< 1%**
Output level	**–15...+6 dBu** (adjustable)
Output	**balanced and floating**
Output Impedance, out 1	**< 15 Ω**
out 2	**600 Ω**
Minimum load	**200 Ω**

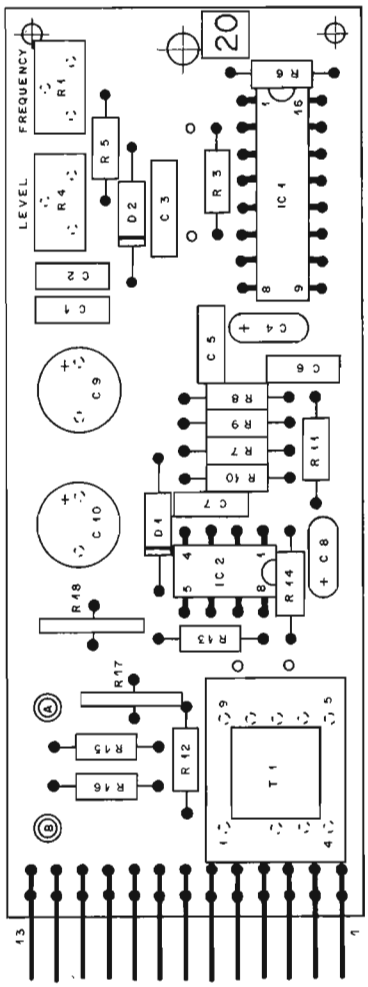
Supply: **±15 V** (20 mA)

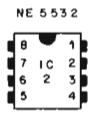
Dimensions: **MS-card,** 34 × 85 mm

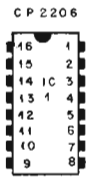
Ordering Information: 1900 Hz signal generator 1.914.520.xx

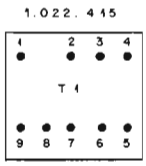
MSC 1900 HZ GENERATOR











CIS	PIN	EURO 32 PIN			
		a	b	c	d
OUT a (2)	13	1	7	21	27
OUT b (2)	12	2	8	22	28
⊥	11	3	9	23	29
	10				
	9				
- 15 V	8	14			
0 V	7	15			
+ 15 V	6	16			
	5				
	4				
OUT a (1)	3	4	10	24	30
OUT b (1)	2	5	11	25	31
⊥	1	6	13	26	32

0 18.9.91		
STUDER REGENSDORF ZÜRICH	SIGNAL GENERATOR (NR.20)	1.914.520.00

MSC 1900 HZ GENERATOR

Ad	POS.	REF.No.	DESCRIPTION			MANUFACTURER
	C....1	59.06.0223	0,022µF		PE	
	C....2	59.06.0223	0,022µF		PE	
	C....3	59.99.0220	0,012µF		CN 40C 123J Centralab	
	C....4	59.26.9109	1µF	40V	B37 983-J-5123-J Siemens SAL	
	C....5	59.06.0104	0,1µF		C062 5123 J5 65 CA Kemet PE	
	C....6	59.06.5222	2200pF		PE	
	C....7	59.06.5222	2200pF		PE	
	C....8	59.26.0470	47µF	6,3V	SAL	
	C....9	59.22.4101	100µF	16V	EL	
	C....10	59.22.4101	100µF	16V	EL	
	D....1	50.04.1511	6,2V	1,3W Zener		
	D....2	50.04.1511	6,2V	1,3W Zener		
	IC....1	50.11.0108	2206CP	DIL 16		EX
	IC....2	50.09.0105	NE5532	DIP 8		SIG/EX
	P	54.01.0273	13P	CIS		AMP
	R....1	58.01.9103	10kΩ	TRIM		
	R....3	57.11.4393	39kΩ			
	R....4	58.01.9203	20kΩ	TRIM		
	R....5	57.11.4102	1kΩ			
①	R....6	57.11.4221	220Ω			
	R....7	57.11.4223	22kΩ			
	R....8	57.11.4223	22kΩ			
	R....9	57.11.4223	22kΩ			
	R....10	57.11.4222	2,2kΩ			
	R....11	57.11.4222	2,2kΩ			
	R....12	57.11.4222	2,2kΩ			
	R....13	57.11.4223	22kΩ			
	R....14	57.11.4223	22kΩ			
①	R....15	57.11.4331	330Ω			
①	R....16	57.11.4271	270Ω			
	R....17	57.99.0209	5,6Ω	2322 662 91005		PH
	R....18	57.99.0209	5,6Ω	2322 662 91005		PH
	T....1	1.022.415.00	1:2			ST

PE=Polyester, SAL=Solid Aluminium, EL=Electrolytic

MANUFACTURER: EX=Exar, SIG=Signetics, ST=Studer, PH=Philips

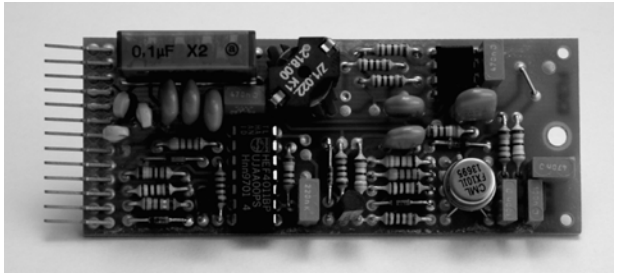
1.914.520.00 SIGNAL GENERATOR (Nr. 20) P. Casutt 14/07/83

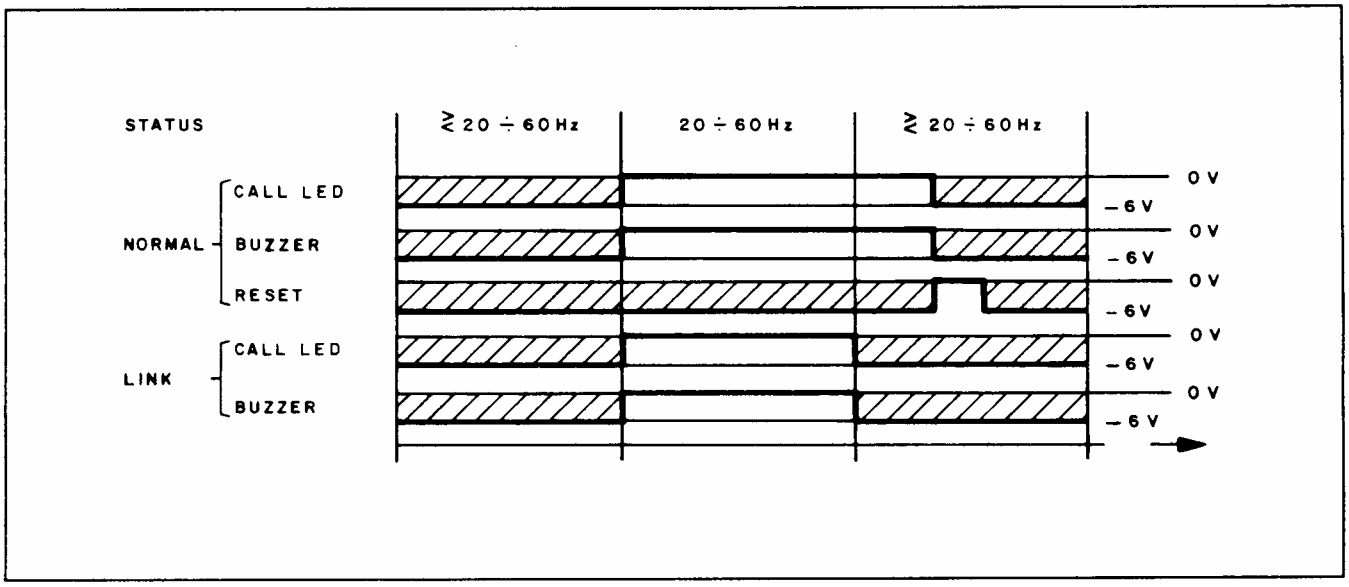
1.914.520.00 SIGNAL GENERATOR (Nr. 20) ① FRI 01/09/83

END

Call Decoder 20...60 Hz 1.914.521

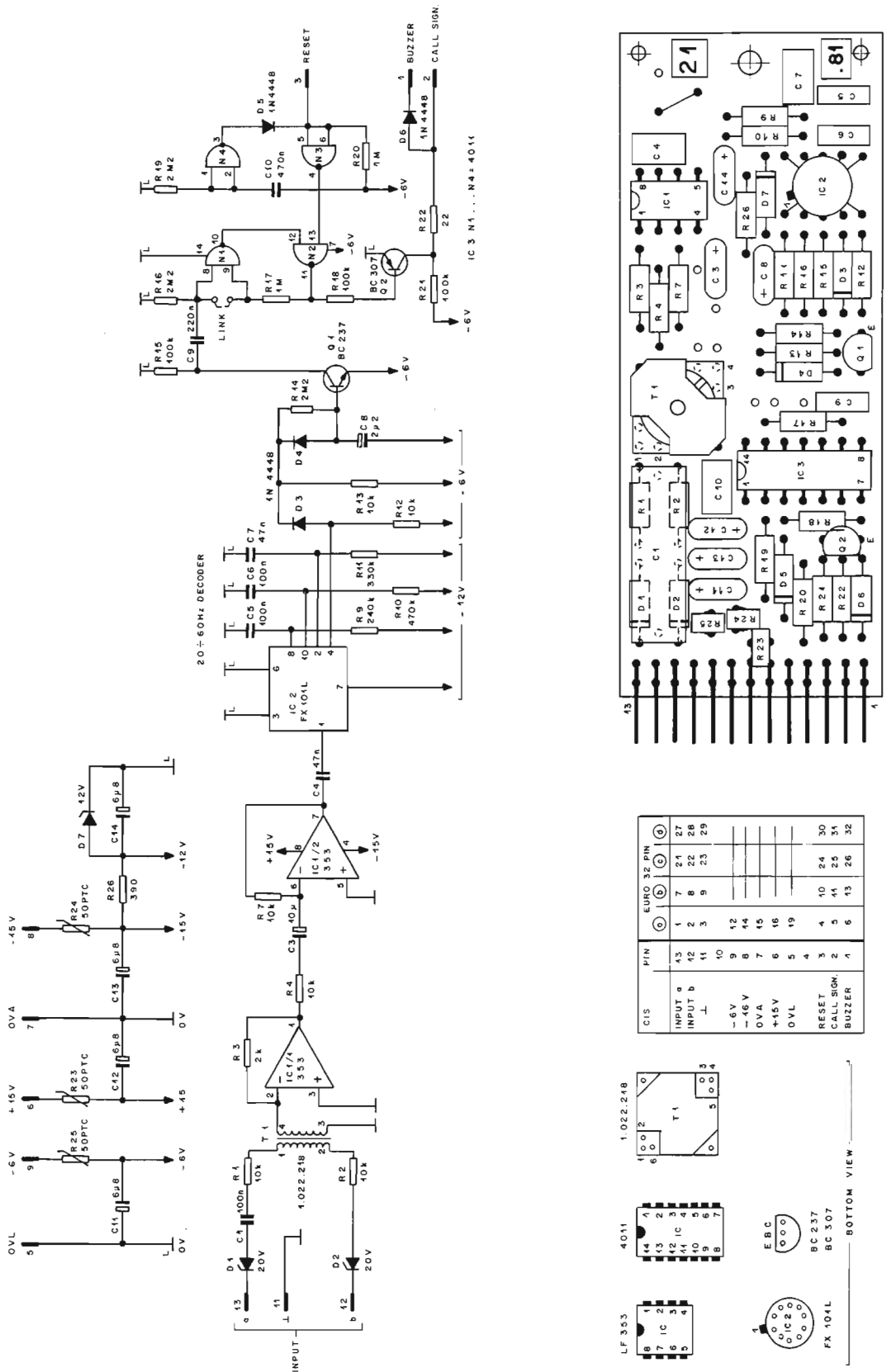
This assembly features a call receiver for the ringing frequency on telephone lines (20...60 Hz). The receiver can activate an optical and/or an acoustical signal generated by an external buzzer (not supplied). In normal mode the buzzer will be on until reset. In linked mode the signal lasts only as long as a call is detected.





Technical Specifications

Input:		**balanced, floating;** no DC
	Impedance	**> 20 kΩ**
	Frequency	**20...60 Hz**
	Min. level	**17 V_{rms}**
	Nominal level	**70 V_{rms}**
Supply:		**+15 V** (5 mA); **–15 V** (10 mA); **–6 V** (2 mA)
Dimensions:		**MS-card,** 34 × 85 mm
Ordering Information:		Call decoder 20...60 Hz 1.914.521.xx



CIS	PIN	EURO 32 PIN b	c	d
INPUT a	13	1	21	27
INPUT b	12	2	22	28
⊥	11	3	23	29
	10			
-6V	9	12		
-16V	8	14		
OVA	7	15		
+15V	6	16		
OVL	5	19		
	4			
RESET	3	4	10	24 30
CALL SIGN.	2	5	11	25 31
BUZZER	1	6	13	26 32

0 21.9.94		
STUDER REGENSDORF ZÜRICH	20 ÷ 60 Hz DECODER (NR.21)	1.914.521.00

MSC CALL DECODER

Ad	POS.	REF.No.	DESCRIPTION		MANUFACTURER
	C.....1	59.99.0453	0,1µF	250V Rifa MP	
	C.....3	59.26.2100	10µF	16V SAL	
	C.....4	59.06.5474	0,47µF	PE	
	C.....5	59.06.5104	0,1µF	PE	
	C.....6	59.06.5104	0,1µF	PE	
	C.....7	59.06.5474	0,47µF	PE	
	C.....8	59.26.5229	2,2µF	25V SAL	
	C.....9	59.06.0224	0,22µF	PE	
	C....10	59.06.5474	0,47µF	PE	
	C....11	59.26.2689	6,8µF	16V SAL	
	C....12	59.26.2689	6,8µF	16V SAL	
	C....13	59.26.2689	6,8µF	16V SAL	
	C....14	59.26.2689	6,8µF	16V SAL	
	D.....1	50.04.1109	20V	400mW Zener	
	D.....2	50.04.1109	20V	400mW Zener	
	D.....3	50.04.0125	1N4448		
	D.....4	50.04.0125	1N4448		
	D.....5	50.04.0125	1N4448		
	D.....6	50.04.0125	1N4448		
	D.....7	50.04.1117	12V	400mW Zener	
	IC.....1	50.09.0101	LF353N	DIP 8	
	IC.....2	50.07.0032	FX101L		CML
①	IC.....3	50.07.1011	4011BPC	DIL 14	
	P	54.01.0273	13P	CIS	
	Q.....1	50.03.0436	BC237B	NPN	
	Q.....2	50.03.0515	BC307B	PNP	
	R.....1	57.11.4103	10kΩ		
	R.....2	57.11.4103	10kΩ		
①	R.....3	57.11.3202	2kΩ		
	R.....4	57.11.4103	10kΩ		
	R.....7	57.11.4103	10kΩ		
②	R.....9	57.11.3244	240kΩ		
	R....10	57.11.4474	470kΩ		
	R....11	57.11.4334	330kΩ		
	R....12	57.11.4103	10kΩ		
	R....13	57.11.4103	10kΩ		
①	R....14	57.11.5225	2,2MΩ		
	R....15	57.11.4104	100kΩ		
①	R....16	57.11.5225	2,2MΩ		
	R....17	57.11.4105	1MΩ		
	R....18	57.11.4104	100kΩ		
①	R....19	57.11.5225	2,2MΩ		
	R....20	57.11.4105	1MΩ		
	R....21	57.11.4104	100kΩ		
	R....22	57.11.4220	22Ω		
	R....23	57.99.0206	50Ω	PTC ┌ 2322 660 91008 Philips	
	R....24	57.99.0206	50Ω	PTC │ Typ YS 822 ITT	
	R....25	57.99.0206	50Ω	PTC └ PTH 60BD 470M 050 Murata	
	R....26	57.11.4391	390Ω		
	T.....1	1.022.218.00	1:1		ST

PE=Polyester, SAL=Solid Aluminium

MANUFACTURER: CML=Consumer Microcircuit LTD, ST=Studer

1.914.521.00 20÷60HZ DECODER (Nr. 21) FRI 23/08/83

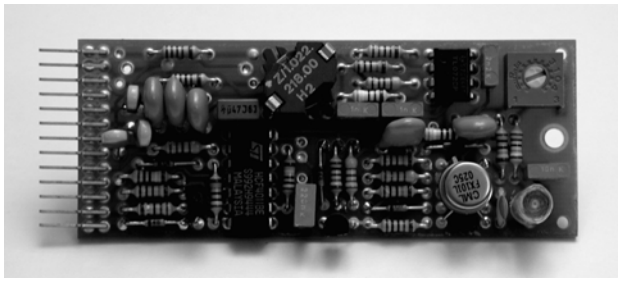
1.914.521.00 20÷60HZ DECODER (Nr. 21) ① FRI 01/09/83

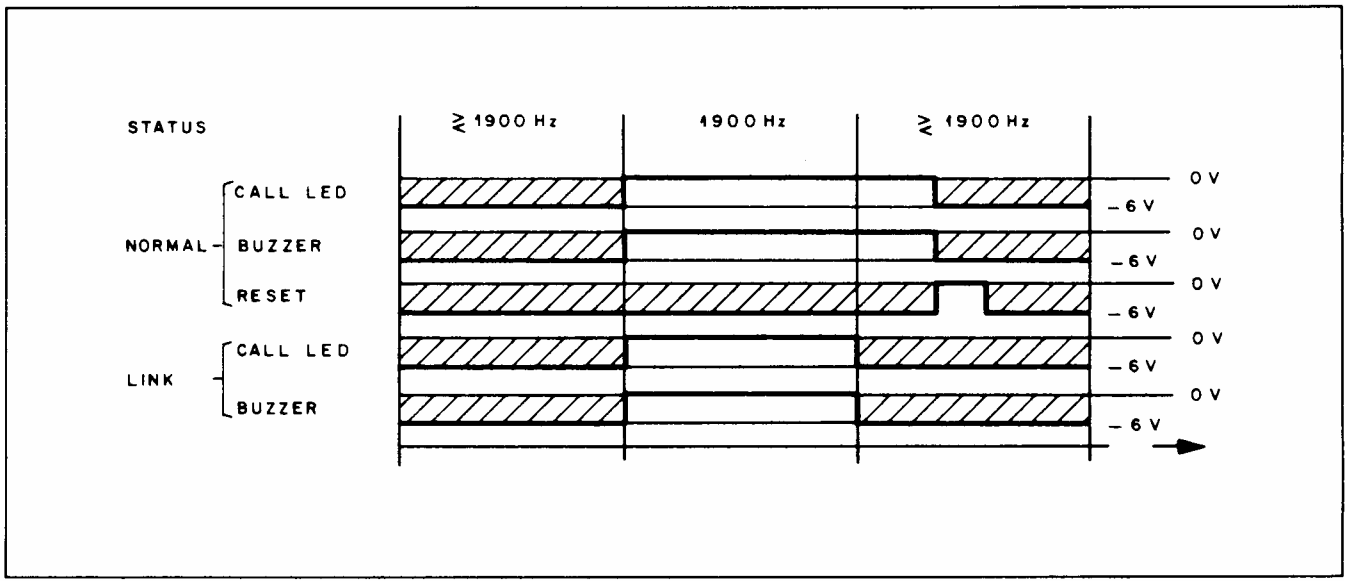
1.914.521.00 20÷60HZ DECODER (Nr. 21) ② FRI 18/06/84

END

Call Decoder 1900 Hz 1.914.522

This card contains a call receiver for the standardized 1900 Hz call frequency on OB lines. It is tuned to respond to 1900 Hz ±1 %. The receiver can be switched either to activate an optical or an acoustical signal for the duration of the 1900 Hz call (linked mode), or the acoustical signal can be selected to remain activated until reset (normal mode).
The acoustical signal can be generated by an external buzzer (not supplied).

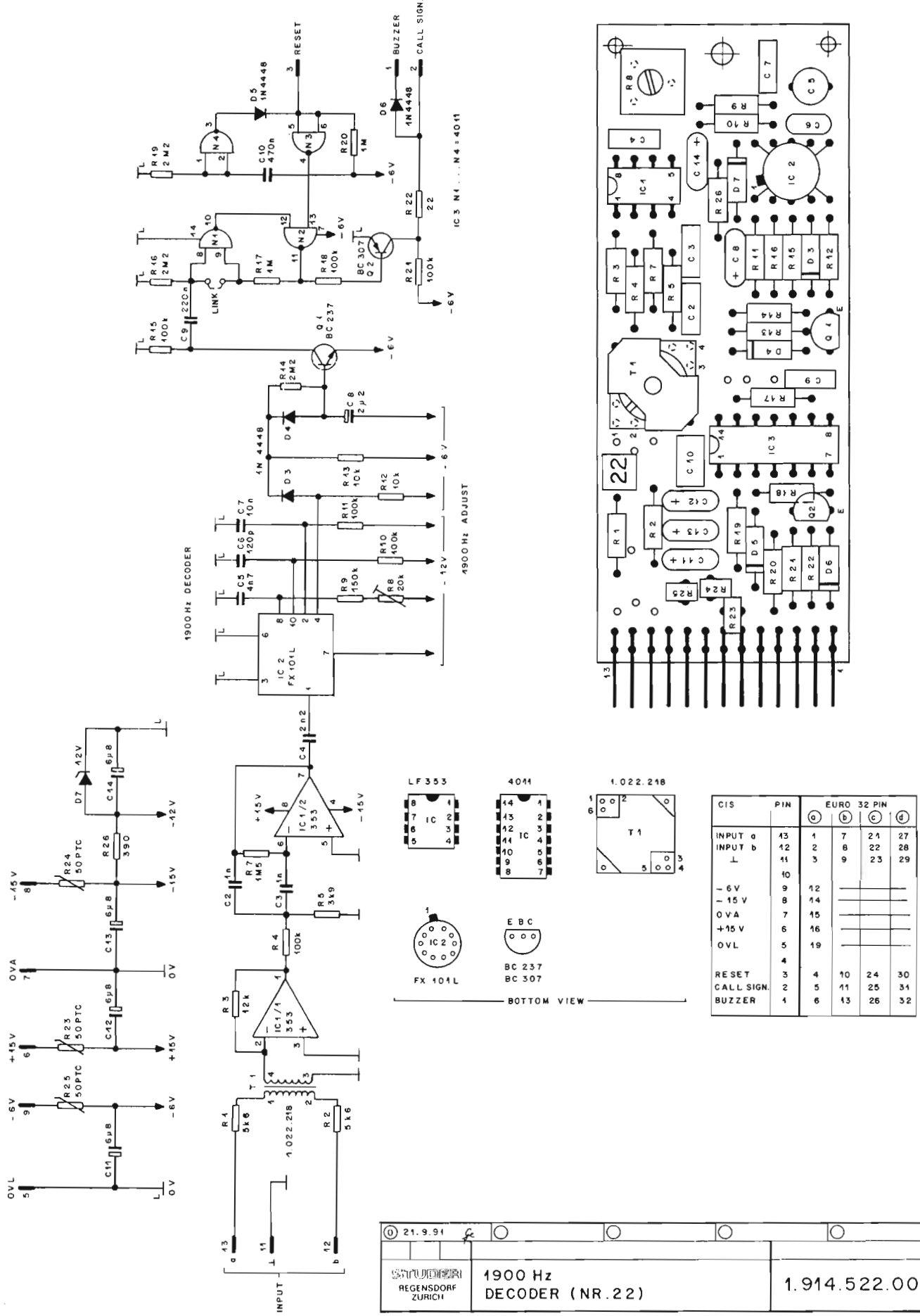




Technical Specifications

Input:		**balanced, floating;** no DC
	Frequency	**1900 Hz,** ±1%
	Impedance	> **10 kΩ**
	Min. level	**–30 dBu**
	Nominal level	**+24 dBu**
Supply:		**+15 V** (5 mA); **–15 V** (10 mA); **–6 V** (2 mA)
	Insulation rating	**500 V_{DC}**
Dimensions:		**MS-card,** 34 × 85 mm
Ordering Information:		Call decoder 1900 Hz 1.914.522.xx

1900Hz CALL-DECODER MSC



CIS	PIN	EURO 32 PIN			
		a	b	c	d
INPUT a	13	1	7	21	27
INPUT b	12	2	8	22	28
⊥	11	3	9	23	29
	10				
- 6 V	9	12			
- 15 V	8	14			
OVA	7	15			
+15 V	6	16			
OVL	5	19			
	4				
RESET	3	4	10	24	30
CALL SIGN.	2	5	11	25	31
BUZZER	1	6	13	26	32

⓪ 21.9.91 fc		
STUDER REGENSDORF ZURICH	1900 Hz DECODER (NR.22)	1.914.522.00

Call Decoder 1900 Hz 1.914.522.00 (1)

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	C 2	59.06.0102		1n0	PETP, 63V, 10%, RM5
0	C 3	59.06.0102		1n0	PETP, 63V, 10%, RM5
0	C 4	59.06.0222		2n2	PETP, 63V, 10%, RM5
0	C 5	59.05.2472		4n7	PP, 2.5%, 63V
0	C 6	59.34.4121		120p	CER 63V, 5%, N750
0	C 7	59.06.0103		10n	PETP, 63V, 10%, RM5
0	C 8	59.26.5229		2u2	SAL, 20%, 25V
0	C 9	59.06.0224		220n	PETP, 63V, 10%, RM5
0	C 10	59.06.5474		470n	PETP, 63V, 5%, RM5
0	C 11	59.26.2689		6u8	SAL 16V 20%
0	C 12	59.26.2689		6u8	SAL 16V 20%
0	C 13	59.26.2689		6u8	SAL 16V 20%
0	C 14	59.26.2689		6u8	SAL 16V 20%
0	D 3	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 4	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 5	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 6	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 7	50.04.1117		12V	Zener, 5%, 0.5W, DO-35
0	IC 1	50.09.0101		TL072	Dual op-amp biFET
0	IC 2	50.07.0032		FX101	IC FX-101 L, ,A
1	IC 3	50.07.1011		4011	Quad 2-inp NAND
0	P 1	54.01.0273		13p	Stecker CIS parallelsteck
0	Q 1	50.03.0515		BC307B	PNP 100mA 45V
0	Q 2	50.03.0436		BC237B	NPN 100mA 45V
0	R 1	57.11.3562		5k6	MF, 1%, 0207
0	R 2	57.11.3562		5k6	MF, 1%, 0207
0	R 3	57.11.3123		12k	MF, 1%, 0207
0	R 4	57.11.3104		100k	MF, 1%, 0207
0	R 5	57.11.3392		3k9	MF, 1%, 0207
0	R 7	57.11.5155		1M5	MF, 5%, 0207
0	R 8	58.01.8203		20k	Cermet, 10%, 0.5W, horizontal
0	R 9	57.11.3154		150k	MF, 1%, 0207
0	R 10	57.11.3104		100k	MF, 1%, 0207
0	R 11	57.11.3104		100k	MF, 1%, 0207
0	R 12	57.11.3103		10k	MF, 1%, 0207
0	R 13	57.11.3103		10k	MF, 1%, 0207
0	R 14	57.11.5225		2M2	MF, 5%, 0207
0	R 15	57.11.3104		100k	MF, 1%, 0207
1	R 16	57.11.5225		2M2	MF, 5%, 0207
0	R 17	57.11.3105		1M0	MF, 1%, 0207
0	R 18	57.11.3104		100k	MF, 1%, 0207
1	R 19	57.11.5225		2M2	MF, 5%, 0207
0	R 20	57.11.3105		1M0	MF, 1%, 0207
0	R 21	57.11.3104		100k	MF, 1%, 0207
0	R 22	57.11.3220		22R	MF, 1%, 0207
0	R 23	57.99.0206		50R	PTC, 25V, 0.5W
0	R 24	57.99.0206		50R	PTC, 25V, 0.5W
0	R 25	57.99.0206		50R	PTC, 25V, 0.5W
0	R 26	57.11.3391		390R	MF, 1%, 0207
0	T 1	1.022.218.00		1 : 1	EINGANGSTRAFO 1 : 1

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description

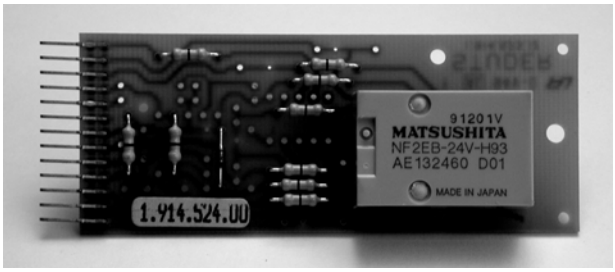
End of List

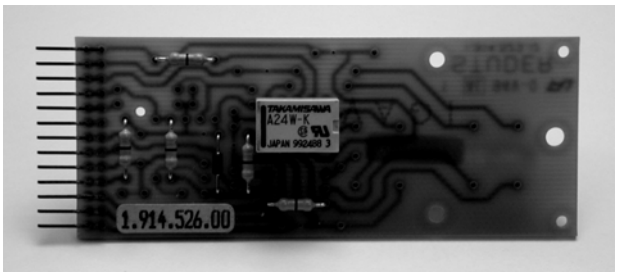
Comments:

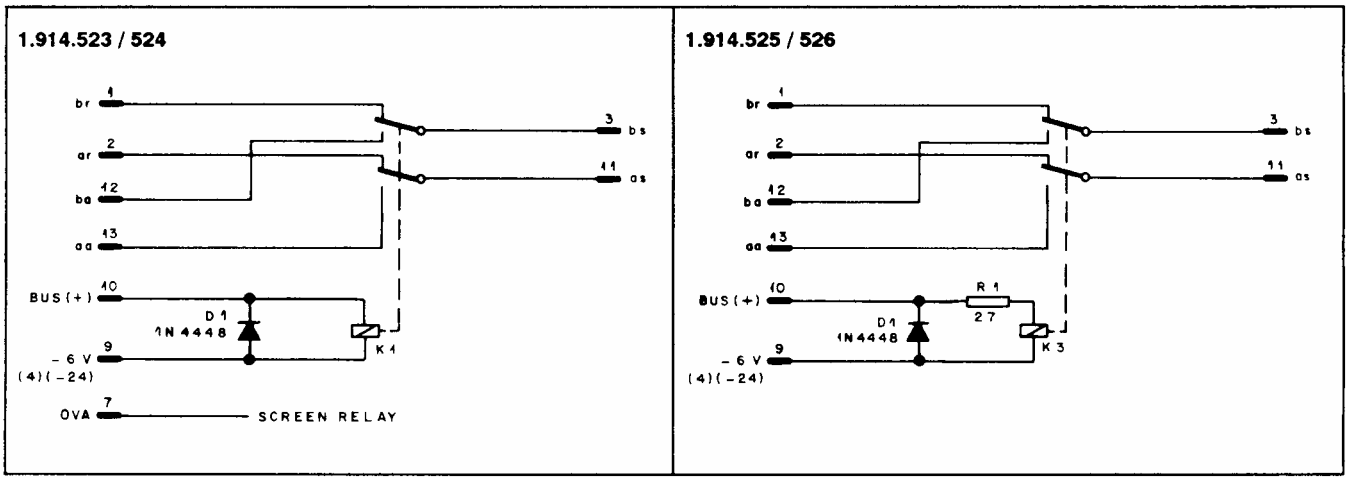
(01) IC3, R16, R19 changed

Relay Sub-Cards 1.914.523/524/525/526

Audio signal routing or enabling/disabling of certain circuit sections is often effected best using relays. The Modular Sub-Card System, therefore, offers a selection of four relays on individual circuit boards. Because only one relay can be accommodated on one MS-Card, several cards (or a card from the Euro-card range) will be required if more complex switching has to be realized.







The relays offer double pole/double throw switching with non-shorting contacts, and coils rated for either 6 V_{DC} or 24 V_{DC} operation. A diode is wired across the relay coil in all versions to suppress interfering back-EMF when de-energizing the relay.
For studio applications where the mechanical click produced by the relay's armature is objectionable, a low-noise type is available.

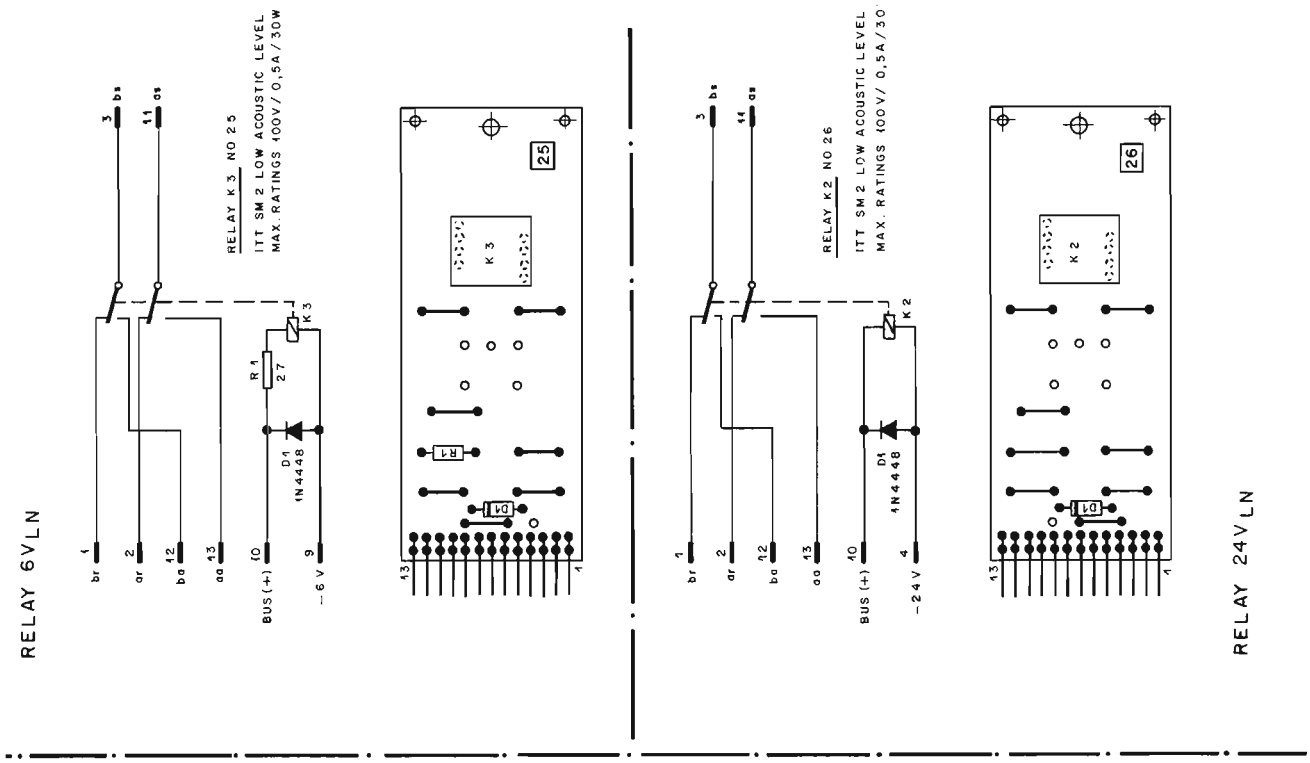
No.	Coil	Contact Rating	
1.914.523	6 V_{DC} / 137 Ω	220 V / 2 A / 60 W	
1.914.524	24 V_{DC} / 2.0 kΩ	220 V / 2 A / 60 W	
* 1.914.525	5 V_{DC} / 135 Ω	100 V / 0.5 A / 30 W	(R1 = 27 Ω for 6 V operation)
* 1.914.526	24 V_{DC} / 2.6 kΩ	100 V / 0.5 A / 30 W	(R1 = 0 Ω)
* Low-noise relays			

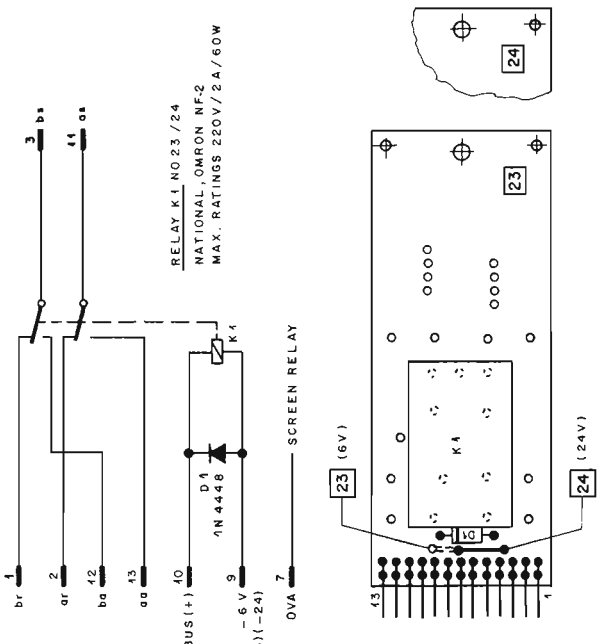
Dimensions: **MS-card,** 34 × 85 mm

Ordering Information:

MSC relay 6 V_{DC}	1.914.523.xx
MSC relay 24 V_{DC}	1.914.524.xx
MSC relay 6 V_{DC}; low-noise	1.914.525.xx
MSC relay 24 V_{DC}; low-noise	1.914.526.xx

MSC RELAYS



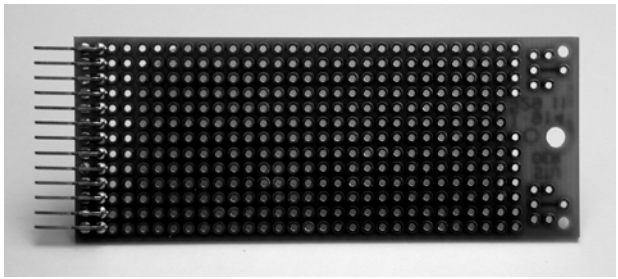


CIS	PIN	EURO 32 P			
		a	b	c	d
aa	13	1	7	21	27
ba	12	2	8	22	28
aa	11	3	9	23	29
BUS	10	17	17	18	18
-6V	9	12			
	8				
	7				
	6				
	5				
-24V	4	20			
bs	3	4	10	24	30
or	2	5	11	25	31
br	1	6	13	26	32

0 2.10.91			
STUDER REGENSDORF ZÜRICH	RELAY BOARD 2U	24V LN	1.914.526.00
		6 V LN	1.914.525.00
		24V	1.914.524.00
		6 V	1.914.523.00

Breadboarding Card 1.914.529

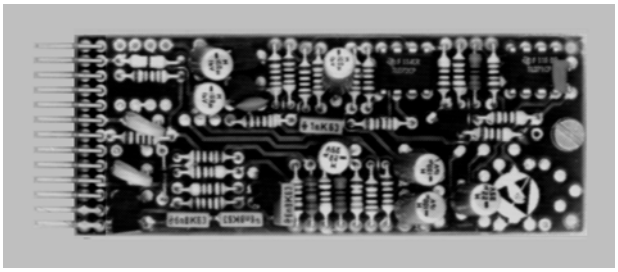
This experimental board is an empty plug-in PCB compatible with the MSC system. It offers a punched 0.1” grid (2.54 × 2.54 mm) for individual component placement.



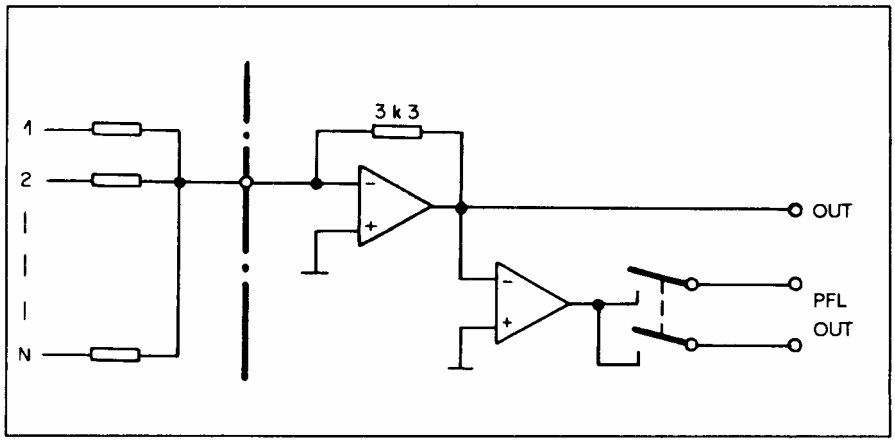
Ordering Information:	Breadboarding card	1.914.529.xx

0-Ω Input Amplifier with PFL Facility 1.914.530

This amplifier with its characteristic input impedance of less than 1 Ω finds its application as a summing amplifier. A multitude of unbalanced sources can thus be mixed with a high degree of effective isolation between the individual inputs.

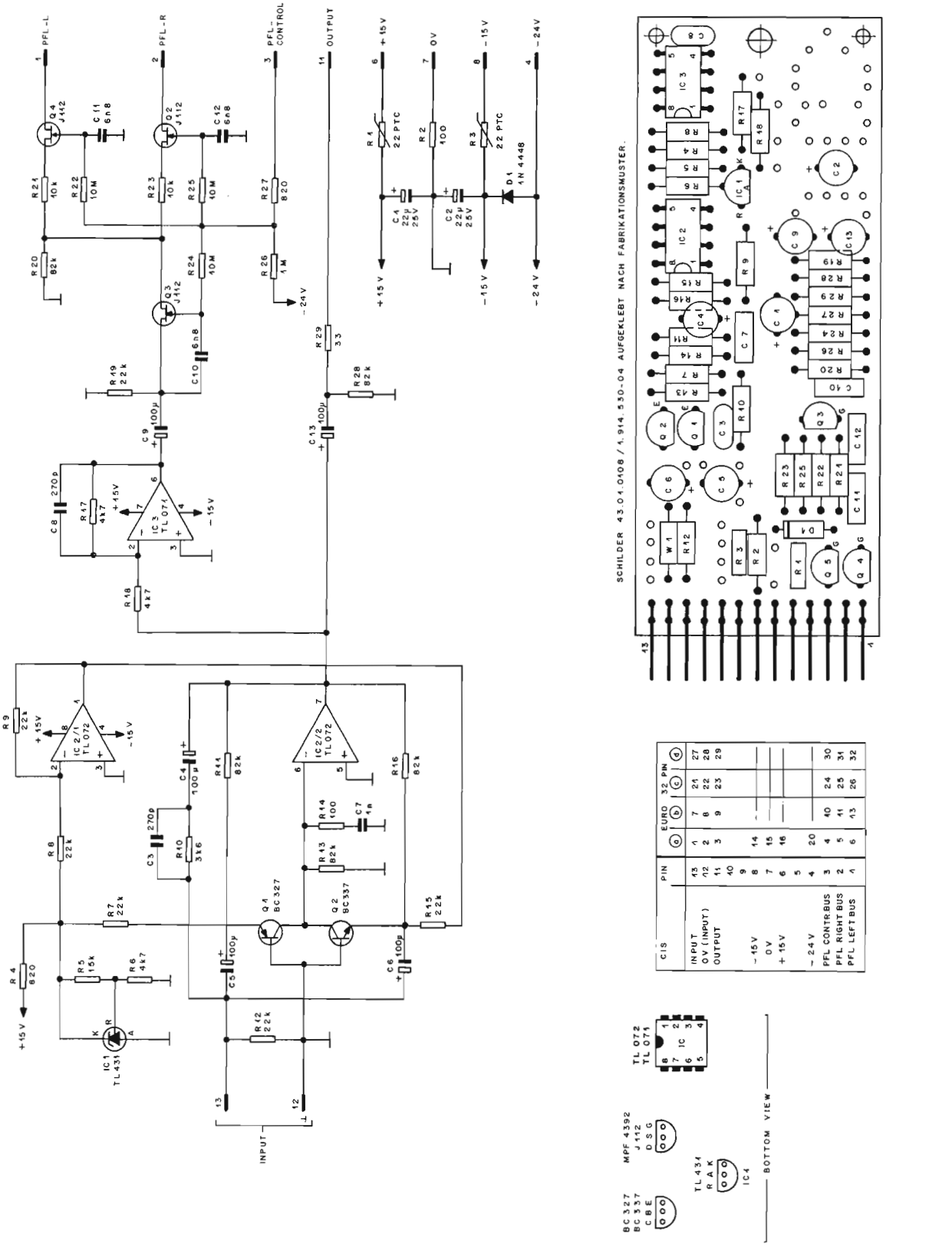


When using 3.3 kΩ resistors as combining (mixing) resistors in series with each source feeding the summing bus, gain will be unity (0 dB), i.e., the amplifier's output level will be equal to the level of the signal source ahead of the combining resistor. The amplifier's output is unbalanced, with low impedance. Additional outputs for monitoring (or pre-listening) can be activated via solid-state switches by remote control.



Technical Specifications

Input:	Max. current	**2.5 mA_{rms}** for max. output swing
	Current for 0 dBu	**234.2 µA;** 0 dBu output (≙ 3.3 kΩ at the input for unity gain)
Output:	Impedance	**33 Ω**
	Max. output swing	**+20 dBu**
	Load	**≥ 600 Ω** @ max. output swing
	Frequency response	**±0.3 dBu,** 30 Hz...16 kHz
	THD	< –75 dB, 30 Hz...16 kHz
	Noise voltage at the output	**–110 dBu**, input terminated with 3.3 kΩ, bandwidth 23 kHz
	Noise figure, 12 inputs	**F < 2 dB** ≙ R_S = 275 Ω
Supply:		**+15 V** (11 mA idling); **–15 V** (7 mA idling)
Dimensions:		**MS-card,** 34 × 85 mm
Ordering Information:		Zero-Ω input amplifier (PFL facility) 1.914.530.xx



CIS	PIN	EURO	32 PIN
INPUT	13	1	21
0V (INPUT)	12	2	22
OUTPUT	11	3	23
	10		
	9		
-15V	8	14	
0V	7	15	
+15V	6	16	
	5		
-24V	4	20	
PFL CONTR.BUS	3	4	40
PFL RIGHT BUS	2	5	41
PFL LEFT BUS	1	6	13

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STUDER REGENSDORF ZÜRICH	0 - Ω - INPUT WITH PFL	ESE	1.914.530.00

MSC 0Ω-INPUT

Ad	..POS..	...REF.No...	DESCRIPTION			MANUFACTURER
	C.....1	59.22.5220	22 uF	25V	EL	
	C.....2	59.22.5220	22 uF	25V	EL	
	C.....3	59.34.4271	270 pF		CER	
	C.....4	59.22.3101	100 uF	10V	EL	
	C.....5	59.22.3101	100 uF	10V	EL	
	C.....6	59.22.3101	100 uF	10V	EL	
	C.....7	59.06.0102	1 nF		PE	
	C.....8	59.34.4271	270 pF		CER	
	C.....9	59.22.3101	100 uF	10V	EL	
	C....10	59.06.0682	6.8 nF		PE	
	C....11	59.06.0682	6.8 nF		PE	
	C....12	59.06.0682	6.8 nF		PE	
	C....13	59.22.3101	100 uF	10V	EL	
	D.....1	50.04.0125	1N4448			any
	IC....1	50.10.0106	TL431CLP	voltage regulator		TI, Mot
	IC....2	50.09.0101	TL072	dual op.amp.		TI
	IC....3	50.09.0103	TL071	dual op.amp.		TI
	P.....1	54.01.0273	CIS, 13 pin			
	Q.....1	50.03.0625	BC327	PNP, low noise		
	Q.....2	50.03.0516	BC337	NPN, low noise		
	Q.....3	50.03.0350	J112	N-J-FET		NS, Mot, Six
	Q.....4	50.03.0350	J112	N-J-FET		NS, Mot, Six
	Q.....5	50.03.0350	J112	N-J-FET		NS, Mot, Six
	R.....1	57.92.1121	22 Ohm	PTC		
	R.....2	57.11.4101	100 Ohm			
	R.....3	57.92.1121	22 Ohm	PTC		
	R.....4	57.11.4821	820 Ohm			
	R.....5	57.11.4153	15 kOhm			
	R.....6	57.11.4472	4.7 kOhm			
	R.....7	57.11.4223	22 kOhm			
	R.....8	57.11.4223	22 kOhm			
	R.....9	57.11.4223	22 kOhm			
	R....10	57.11.3362	3.6 kOhm			
	R....11	57.11.4823	82 kOhm			
	R....12	57.11.4223	22 kOhm			
	R....13	57.11.4823	82 kOhm			
	R....14	57.11.4101	100 Ohm			
	R....15	57.11.4223	22 kOhm			
	R....16	57.11.4823	82 kOhm			
	R....17	57.11.4472	4.7 kOhm			
	R....18	57.11.4472	4.7 kOhm			
	R....19	57.11.4223	22 kOhm			
	R....20	57.11.4823	82 kOhm			
	R....21	57.11.4103	10 kOhm			
	R....22	57.11.5106	10 MOhm			
	R....23	57.11.4103	10 kOhm			
	R....24	57.11.5106	10 MOhm			
	R....25	57.11.5106	10 MOhm			
	R....26	57.11.4105	1 MOhm			
	R....27	57.11.4821	820 Ohm			
	R....28	57.11.4823	82 kOhm			
	R....29	57.11.4330	33 Ohm			
	W.....1	57.11.4000	0 Ohm			

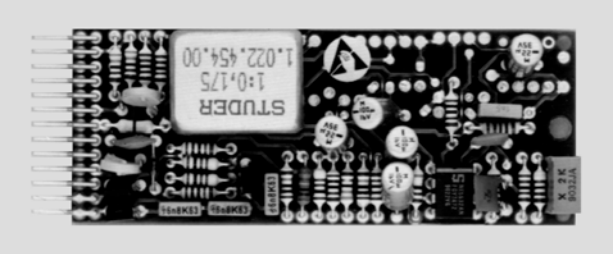
CER = ceramic, EL = electrolytic, PE = polyester

MANUFACTURER Mot=Motorola, NS=National Semiconductor, Six=Siliconics,
TI=Texas Instruments

1.914.530.00 0-OHM INPUT WITH PFL WY 87/06/1800

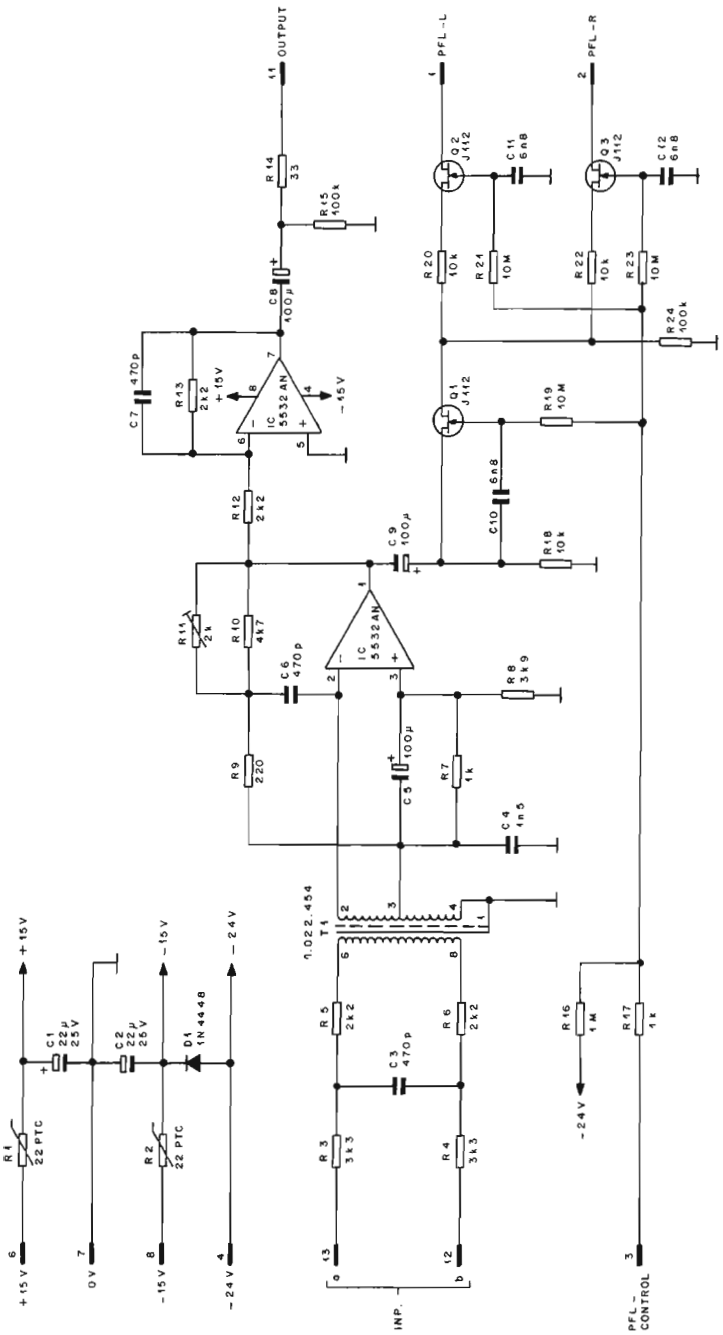
High-Level Input with PFL Facility 1.914.531

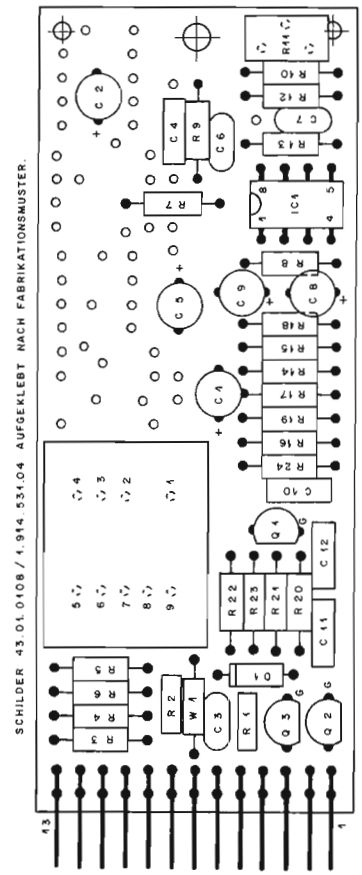
This compact high-level input amplifier features a balanced and floating input stage. The output is unbalanced, with low impedance and low distortion up to +24 dBu. An additional PFL monitoring facility is electronically switchable (FET).



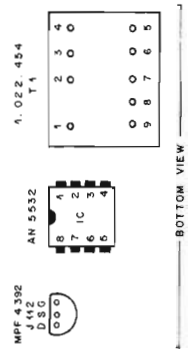
Technical Specifications

Input:		Balanced and floating
	Impedance	> **10 kΩ**
	Max. level	**+26 dBu**
	CMRR	> **110 dB** @ 50 Hz
		> **110 dB** @ 16 kHz
Output:		Unbalanced
	Impedance	**33 Ω**
	Load	**≥ 600 Ω** @ max. output swing
	Max. output swing	**+20 dBu**
	Gain	**–1.4...–17.8 dB**
	Frequency response	**±0.3 dB**, 30 Hz...16 kHz
	THD	< **–85 dB,** 30 Hz...16 kHz
	Noise voltage	< **–107 dBu,** gain –6 dB, bandwidth 23 kHz
Supply:		**±15 V** (10 mA idling)
Dimensions:		**MS-card,** 34 × 85 mm
Ordering Information:		HL input with PFL 1.914.531.xx





CIS	PIN	EURO 32 PIN a	b	c	d
INPUT a	13	1	7	21	27
INPUT b	12	2	8	22	28
OUTPUT	11	3	9	23	29
	10				
	9				
-15V	8	14			
0V	7	15			
+15V	6	16			
	5				
-24V	4	20			
PFL SIGN BUS	3	4	10	24	30
PFL RIGHT BUS	2	5	11	25	31
PFL LEFT BUS	1	6	13	26	32



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STUDER REGENSDORF ZÜRICH	HL INPUT WITH PFL	ESE	1.914.531.00

MSC HL INPUT WITH PFL

Ad	..POS..	...REF.No...	DESCRIPTION.....			.....MANUFACTURER
	C.....1	59.22.5220	22 uF	25V	EL	
	C.....2	59.22.5220	22 uF	25V	EL	
	C.....3	59.34.5471	470 pF		CER	
	C.....4	59.06.5152	1.5 nF		PE	
	C.....5	59.22.3101	100 uF	10V	EL	
	C.....6	59.34.5471	470 pF		CER	
	C.....7	59.34.5471	470 pF		CER	
	C.....8	59.22.3101	100 uF	10V	EL	
	C.....9	59.22.3101	100 uF	10V	EL	
	C....10	59.06.0682	6.8 nF		PE	
	C....11	59.06.0682	6.8 nF		PE	
	C....12	59.06.0682	6.8 nF		PE	
	D.....1	50.04.0125	1N4448			any
	IC....1	50.09.0106	NE5532AN	dual op.amp. low noise		Sig
	P.....1	54.01.0273		CIS, 13 pin		
	Q.....1	50.03.0350	J112	N-J-FET		NS, Mot, Six
	Q.....2	50.03.0350	J112	N-J-FET		NS, Mot, Six
	Q.....3	50.03.0350	J112	N-J-FET		NS, Mot, Six
	R.....1	57.92.1121	22 Ohm	PTC		
	R.....2	57.92.1121	22 Ohm	PTC		
	R.....3	57.11.3332	3.3 kOhm	1%		
	R.....4	57.11.3332	3.3 kOhm	1%		
	R.....5	57.11.3222	2.2 kOhm	1%		
	R.....6	57.11.3222	2.2 kOhm	1%		
	R.....7	57.11.4102	1 kOhm			
	R.....8	57.11.4392	3.9 kOhm			
	R.....9	57.11.4221	220 Ohm			
	R....10	57.11.4472	4.7 kOhm			
	R....11	58.01.9202	2 kOhm	trim potm.		
	R....12	57.11.3222	2.2 kOhm			
	R....13	57.11.3222	2.2 kOhm			
	R....14	57.11.4330	33 Ohm			
	R....15	57.11.4104	100 kOhm			
	R....16	57.11.4105	1 MOhm			
	R....17	57.11.4102	1 kOhm			
	R....18	57.11.4103	10 kOhm			
	R....19	57.11.5106	10 MOhm			
	R....20	57.11.4103	10 kOhm			
	R....21	57.11.5106	10 MOhm			
	R....22	57.11.4103	10 kOhm			
	R....23	57.11.5106	10 MOhm			
	R....24	57.11.4104	10 kOhm			
	T.....1	1.022.454.00		input trafo		
	W.....1	57.11.4000	0 Ohm			

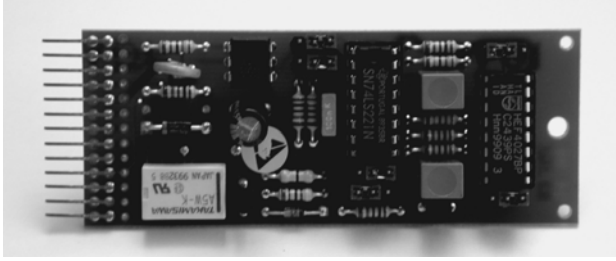
CER = ceramic, EL = electrolytic, PE = polyester

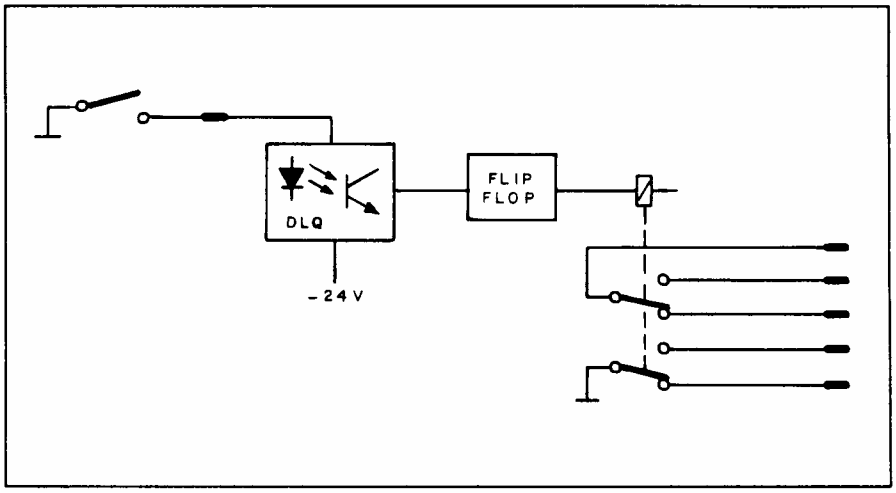
MANUFACTURER Mot=Motorola, NS=National Semiconductor, Six=Siliconics,
TI=Texas Instruments, Sig=Signetics

1.914.531.00 HL-INPUT WITH PFL WY 87/06/1800

Flip-flop Unit 1.914.532

The Flip-flop Unit consists of a relay with two DPDT contacts and a flip-flop circuit with a control input (opto-coupler). A ground pulse from a non-latching switch applied to the input activates the relay. A next ground pulse will deactivate it again.

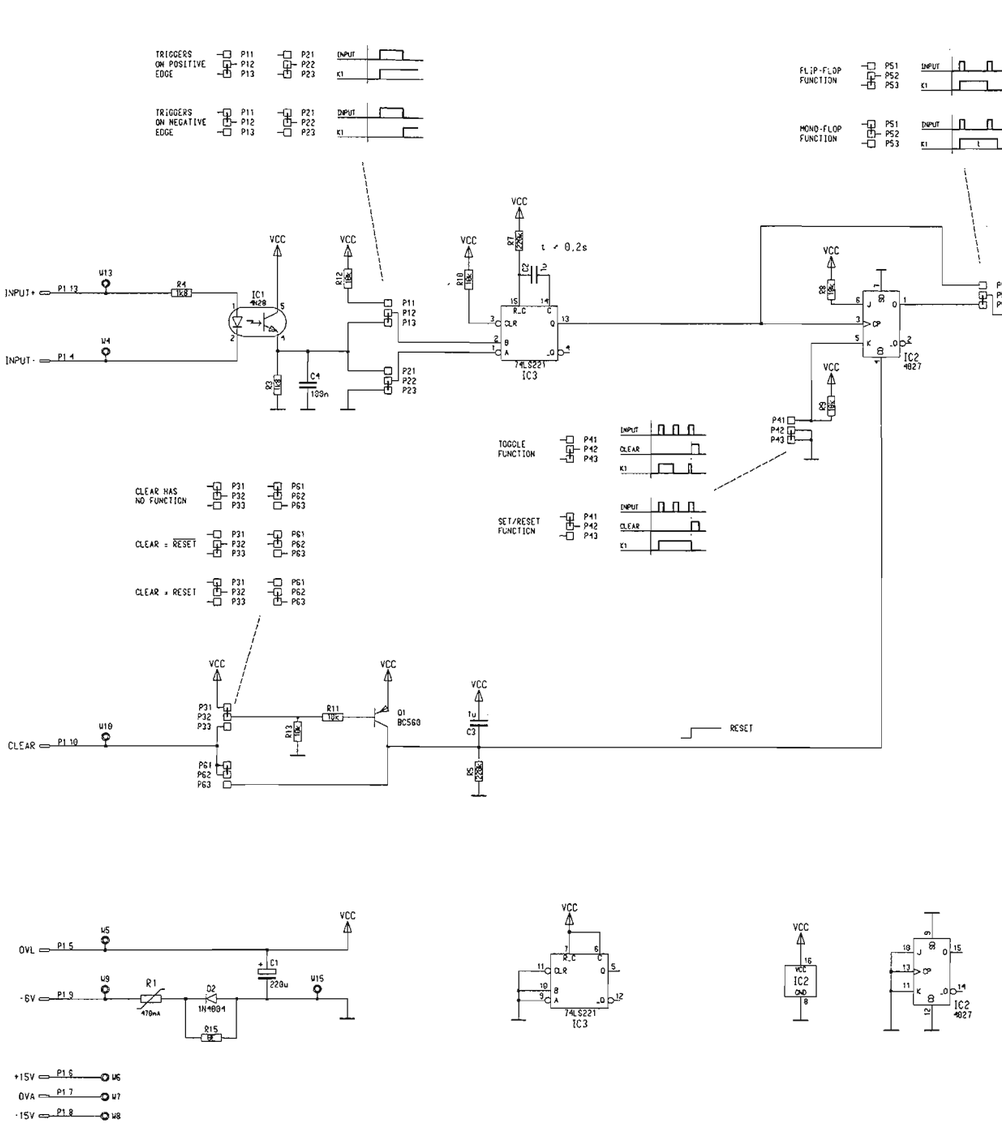


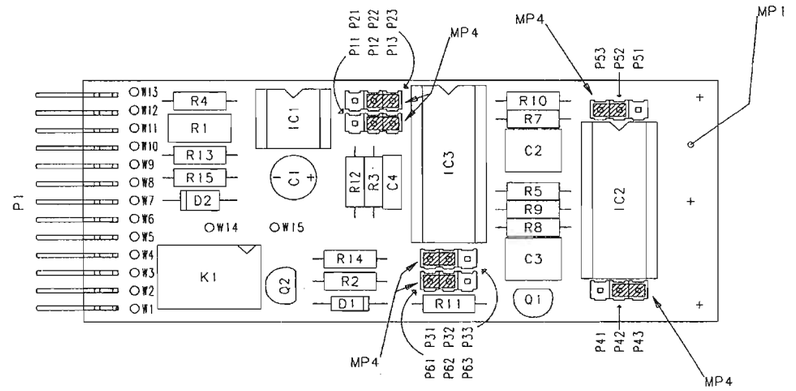


Technical Specifications

Input:		**floating,** with opto-coupler
Relay contacts:	Max. rating	**100 V/0.5 A/30 W**
Supply:		**–6 V** for logic **–24 V** for opto-coupler
Dimensions:		**MS-card,** 34 × 85 mm
Ordering Information:		Flip-flop unit 1.914.532.xx

MSC FLIP FLOP





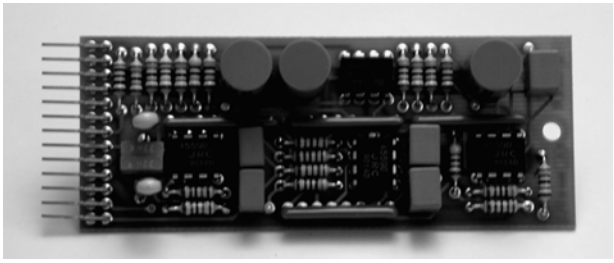
Idx	Pos.	Part No.	Qty.	Type/Val.	Description
0	C 1	59.22.3003		220u	EL 10V, 20%, RM5
0	C 2	59.06.0105		1u0	PETP, 50V, 10%, RM5
0	C 3	59.06.0105		1u0	PETP, 50V, 10%, RM5
0	C 4	59.06.0104		100n	PETP, 63V, 10%, RM5
0	D 1	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 2	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	IC 1	50.99.0126		4N26	Optocoupler
0	IC 2	50.07.0027		4027	IC .. 4027 .. ,A
0	IC 3	50.06.0221		74LS221	IC SN 74 LS 221 N
0	K 1	56.04.0198		2u	5V 125V 2A Ag/Au
0	MP 1	1.914.532.12	mp		FLIP-FLOP PCB
0	MP 2	1.914.532.04	mp		NR.-ETIKETTE 5 * 20
0	MP 3	43.01.0108	mp	Label	ESE-WARNSCHILD
0	MP 4	54.01.0021	6 pcs	Jumper	0.63 * 0.63mm
0	P 1	54.01.0273		13-P	P LEISTE 13 POL CIS WINKEL
0	P 11	54.01.0020		1p	Pin 0.63*0.63
0	P 12	54.01.0020		1p	Pin 0.63*0.63
0	P 13	54.01.0020		1p	Pin 0.63*0.63
0	P 21	54.01.0020		1p	Pin 0.63*0.63
0	P 22	54.01.0020		1p	Pin 0.63*0.63
0	P 23	54.01.0020		1p	Pin 0.63*0.63
0	P 31	54.01.0020		1p	Pin 0.63*0.63
0	P 32	54.01.0020		1p	Pin 0.63*0.63
0	P 33	54.01.0020		1p	Pin 0.63*0.63
0	P 41	54.01.0020		1p	Pin 0.63*0.63
0	P 42	54.01.0020		1p	Pin 0.63*0.63
0	P 43	54.01.0020		1p	Pin 0.63*0.63
0	P 51	54.01.0020		1p	Pin 0.63*0.63
0	P 52	54.01.0020		1p	Pin 0.63*0.63
0	P 53	54.01.0020		1p	Pin 0.63*0.63
0	P 61	54.01.0020		1p	Pin 0.63*0.63
0	P 62	54.01.0020		1p	Pin 0.63*0.63
0	P 63	54.01.0020		1p	Pin 0.63*0.63
0	Q 1	50.03.0601		BC560C	BC 560 C
0	Q 2	50.03.0340		BC337-25	800mA, 45V, NPN
0	R 1	57.92.1391		470mA	PTC, 30V, 2.5 Ohm
0	R 2	57.11.3472		4k7	MF, 1%, 0207
0	R 3	57.11.3182		1k8	MF, 1%, 0207
0	R 4	57.11.3182		1k8	MF, 1%, 0207
0	R 5	57.11.3224		220k	MF, 1%, 0207
0	R 7	57.11.3224		220k	MF, 1%, 0207
0	R 8	57.11.3103		10k	MF, 1%, 0207
0	R 9	57.11.3103		10k	MF, 1%, 0207
0	R 10	57.11.3103		10k	MF, 1%, 0207
0	R 11	57.11.3103		10k	MF, 1%, 0207
0	R 12	57.11.3103		10k	MF, 1%, 0207
0	R 13	57.11.3103		10k	MF, 1%, 0207
0	R 14	57.11.3000		0R0	MF, 0207
0	R 15	not used		0R0	MF, 0207
0	XIC 2	53.03.0168		16p	DIL 0.3", lot. gerade
0	XIC 3	53.03.0168		16p	DIL 0.3", lot. gerade

End of List

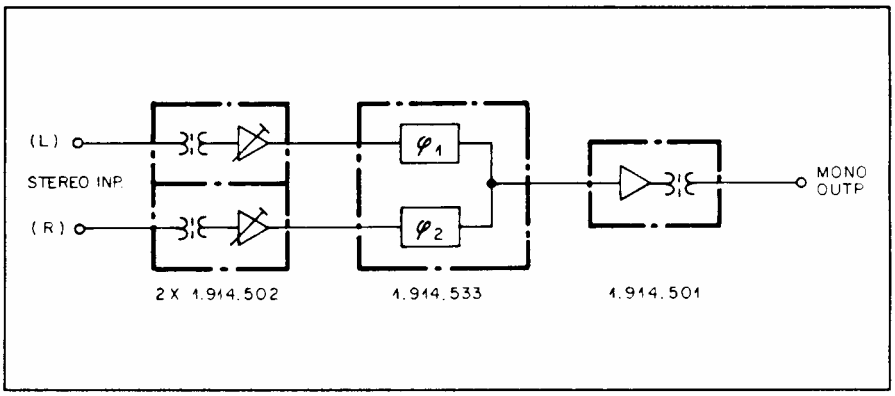
0 11.01.1999 LC			PAGE 1 OF 1
STUDER	FLIP FLOP UNIT	SC	1.914.532.81

90° Filter 1.914.533

This active 90° filter is used to form a monophonic signal from the left and right channel of stereo signals. Simple mixing of the left and right channel will not produce a mono signal of satisfactory quality, but results in an emphasis of the center information. By summing the stereo signals in a 90° phase-shifted manner, this undesirable effect can be avoided.



The 90° filter consists of two all-pass filter chains, producing a uniform 90° phase difference across the whole audio range. The left and the right stereo signals are each passed through one of these filters and added at the filter's output. Doubling of equally-phased signal components as well as canceling of opposite-phased components is thus avoided.



The filter circuits are of unbalanced configuration. For this reason a summing circuit usually consists of two high-level amplifiers with balanced inputs (1.914.502), one 90° filter, and one high-level output amplifier (1.914.501), all accommodated on one MSC motherboard, as shown in the diagram above.

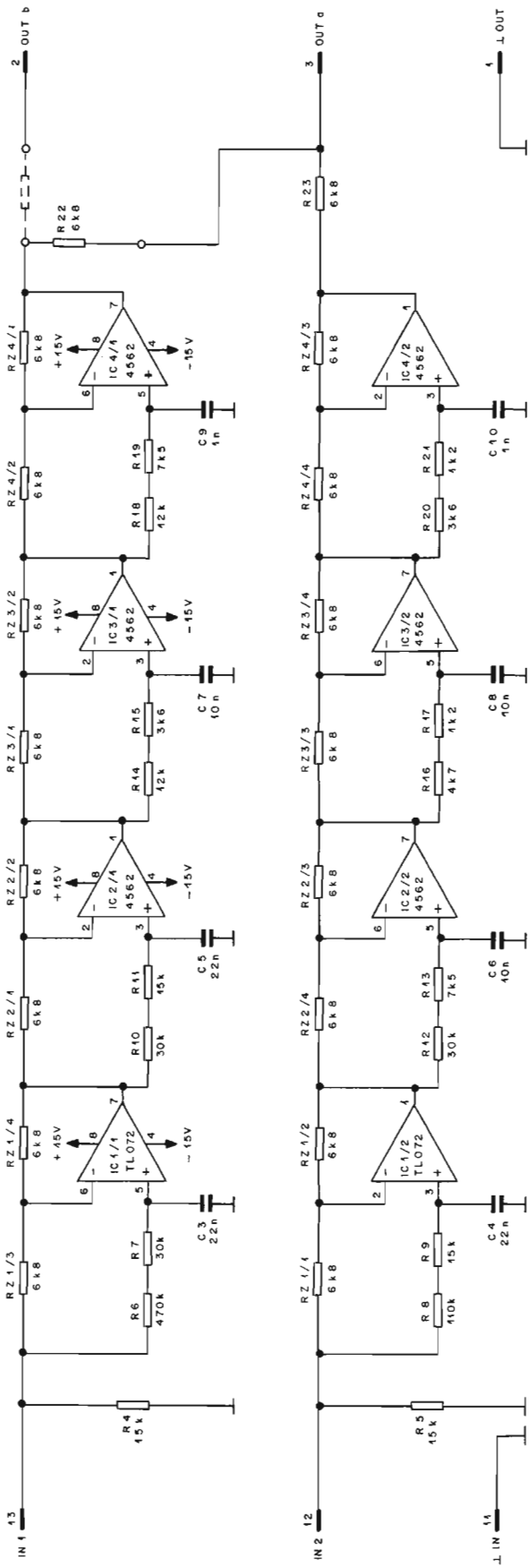
The gain of this combination can be adjusted. A correlated stereo input of equal level in both channels will provide a mono signal of identical level. With only one input channel (left or right), the mono output level will be lower by 3 dB.

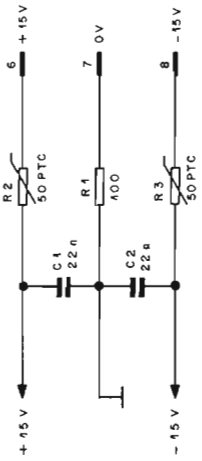
Since the 90° filter with its input and output cards can be realized on a single, Euro-card size MSC motherboard, it can possibly be combined with other Audio Components, such as limiters and isolation amplifiers. Such stereo-to-mono combinations are in use at various radio stations to feed the stereo programs to the monophonic AM-transmitter in a correctly summed manner.

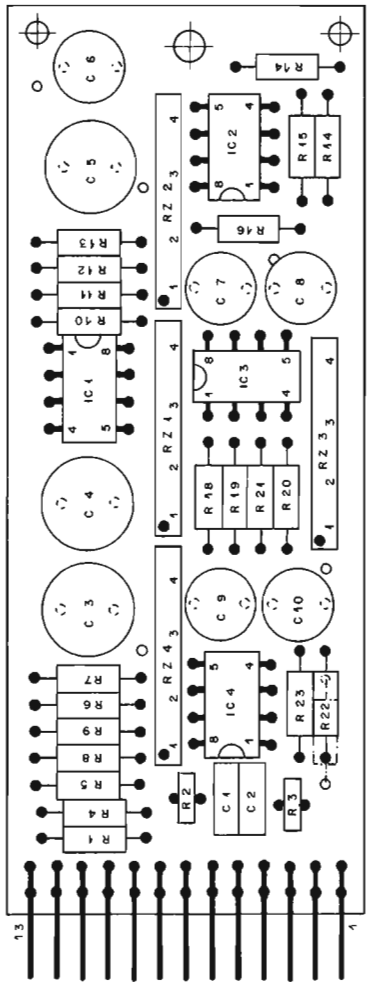
Technical Specifications

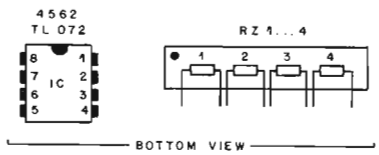
Input:	Max. level	**+20 dBu**
	Impedance	**4 kΩ**
Output:	Max. level	**+20 dBu**
	Impedance	**6.8 kΩ**
	Frequency response	**30 Hz...16 kHz**, ±0.3 dB
	Phase	**90°** ±3°; 30 Hz...16 kHz
	THD	**≤ –80 dB**
	Noise	**< –95 dBu**
Supply:		**±15 V** (18 mA idling)
Dimensions:		**MS-card,** 34 × 85 mm
Ordering Information:		90° filter stereo/mono 1.914.533.xx

MSC 90° FILTER









CIS	PIN	EURO 32 PIN (a)	(b)	(c)	(d)
IN 1	13	1	7	21	27
IN 2	12	2	8	22	28
⊥	11	3	9	23	29
	10				
	9				
-15 V	8	14			
0 V	7	15			
+15V	6	16			
	5				
	4				
OUT a	3	4	10	24	30
OUT b	2	5	11	25	31
⊥	1	6	13	26	32

⓪ 26.9.91		
STUDER REGENSDORF ZÜRICH	90 DEGREE FILTER	1.914.533.00

MSC 90° FILTER

Ad	..POS..	...REF.No...	DESCRIPTION			MANUFACTURER
	C.....1	59.06.0223	22 nF		PE	
	C.....2	59.06.0223	22 nF		PE	
	C.....3	59.05.1223	22 nF	1%	PP	
	C.....4	59.05.1223	22 nF	1%	PP	
	C.....5	59.05.1223	22 nF	1%	PP	
	C.....6	59.05.1103	10 nF	1%	PP	
	C.....7	59.05.1103	10 nF	1%	PP	
	C.....8	59.05.1103	10 nF	1%	PP	
	C.....9	59.05.1102	1 nF	1%	PP	
	C....10	59.05.1102	1 nF	1%	PP	
	IC....1	50.09.0101	TL072	dual op.amp.		TI
01	IC....2	50.09.0107	RC4559	dual op.amp.		Ra
01	IC....3	50.09.0107	RC4559	dual op.amp.		Ra
01	IC....4	50.09.0107	RC4559	dual op.amp.		Ra
	P.....1	54.01.0273		CIS, 13 pin		
	R.....1	57.11.3101	100 Ohm			
	R.....2	57.99.0206	50 Ohm	PTC		
	R.....3	57.99.0206	50 Ohm	PTC		
	R.....4	57.11.3153	15 kOhm			
	R.....5	57.11.3153	15 kOhm			
	R.....6	57.11.3474	470 kOhm	1%		
	R.....7	57.11.3303	30 kOhm	1%		
	R.....8	57.11.3114	110 kOhm	1%		
	R.....9	57.11.3153	15 kOhm	1%		
	R....10	57.11.3303	30 kOhm	1%		
	R....11	57.11.3153	15 kOhm	1%		
	R....12	57.11.3303	30 kOhm	1%		
	R....13	57.11.3752	7.5 kOhm	1%		
	R....14	57.11.3123	12 kOhm	1%		
	R....15	57.11.3362	3.6 kOhm	1%		
	R....16	57.11.3472	4.7 kOhm	1%		
	R....17	57.11.3122	1.2 kOhm	1%		
	R....18	57.11.3123	12 kOhm	1%		
	R....19	57.11.3752	7.5 kOhm	1%		
	R....20	57.11.3362	3.6 kOhm	1%		
	R....21	57.11.3122	1.2 kOhm	1%		
	R....22	57.11.3682	6.8 kOhm	1%		
	R....23	57.11.3682	6.8 kOhm	1%		
	RZ....1	57.88.2682	6.8 kOhm		Resistor-Network	
	RZ....2	57.88.2682	6.8 kOhm		Resistor-Network	
	RZ....3	57.88.2682	6.8 kOhm		Resistor-Network	
	RZ....4	57.88.2682	6.8 kOhm		Resistor-Network	

PE = polyester, PP = polypropylen

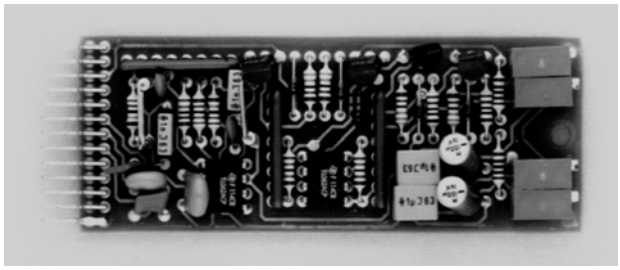
(01) 90/06/21 IC 2...4 RC 4562 replaced by RC 4559

MANUFACTURER TI=Texas Instruments, Ra=Raytheon

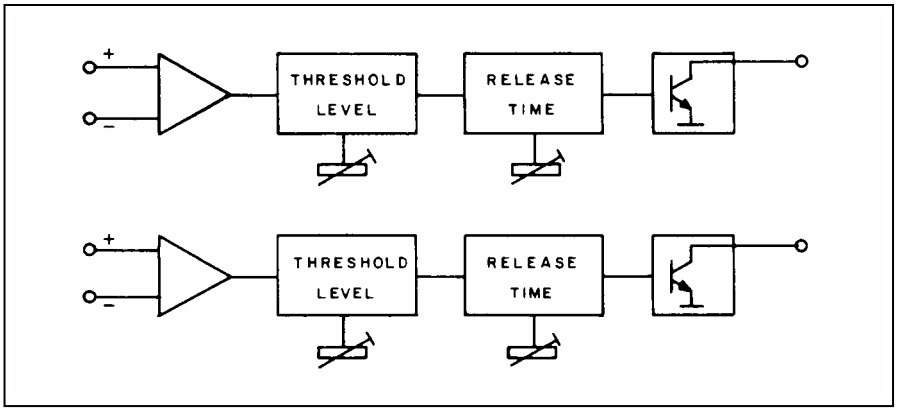
1.914.533.00	90 DEGREE FILTER	HAM88/02/2400
1.914.533.00	90 DEGREE FILTER	FRI90/06/2101

Dual Vox Detector 1.914.534

The Dual Vox Detector card contains two adjustable threshold level detector circuits. Threshold level (–22 dBu...+16 dBu) and release time (0.2 s...10 s) are separately adjustable for two audio channels. These adjustments are effected very precisely with multi-turn trimmer potentiometers.

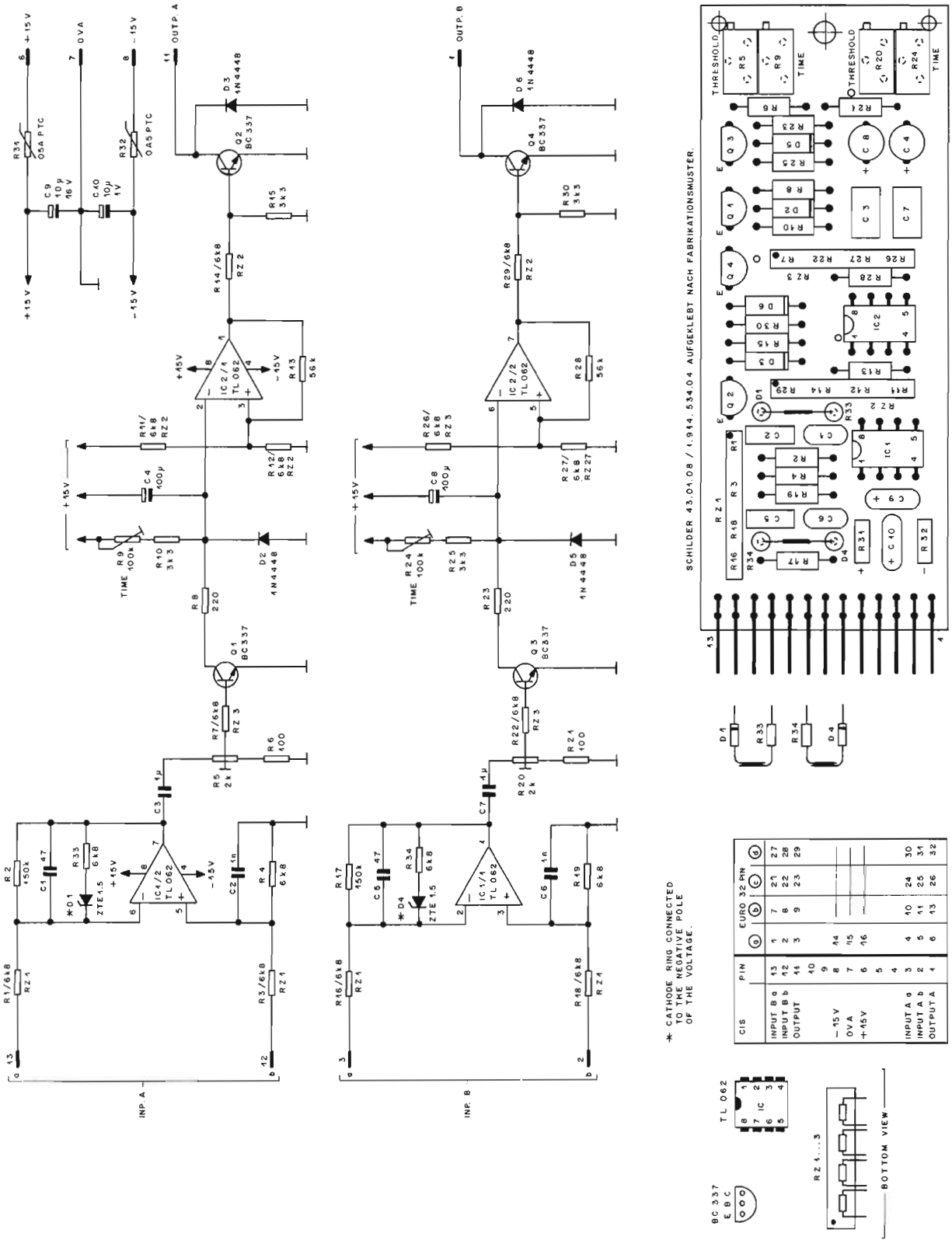


The high-impedance audio input is balanced. The open-collector output is prepared to activate a relay or an alarm device.
A possible application of this card would be to detect incoming modulation.



Technical Specifications

Inputs:		**Electronically balanced**
	Impedance	**≥ 10 kΩ**
	Max. level	**+24 dBu** (0 dBu ≙ 0,775 V_{rms})
	Frequency response	**75 Hz...12 kHz,** –3 dB
	Threshold level	**–22 dBu...+16 dBu**
	Attack time	**100 ms**
	Release time	**200 ms...10 s**
	Hysteresis	**≤ 1 dB**
Outputs:		**Open-collector**; U_{CE} ≤ +45 V; Imax ≤ 100 mA
Supply:		**±15 V** (≤ 15 mA / 4 mA idling)
Dimensions:		**MS-card,** 34 × 85 mm
Ordering Information:		Dual vox detector 1.914.534.xx



⓪ 27.9.91				
STUDER REGENSDORF ZÜRICH	THRESHOLD LEVEL DETECTOR	ESE	1.914.534.00	

MSC DUAL VOX DETECTOR

Ad	..POS..	...REF.No...	DESCRIPTION.....			MANUFACTURER
01	C.....1	59.34.2470	47 pF	63V	CER 5%	
01	C.....2	59.34.5102	1000 pF	63V	PE 5%	
	C.....3	59.06.5105	1 uF		PE 5%	
	C.....4	59.22.3101	100 uF	10V	EL	
01	C.....5	59.34.2470	47 pF	63V	CER 5%	
01	C.....6	59.06.5102	1000 pF	63V	PE 5%	
	C.....7	59.06.5105	1 uF		PE 5%	
	C.....8	59.22.3101	100 uF	10V	EL	
	C.....9	59.26.2100	10 uF	16V	EL	
	C....10	59.26.2100	10 uF	16V	EL	
01	D.....1	50.99.0183	ZTE1.5	1.5V	ZENER	ITT
	D.....2	50.04.0125	1N4448			any
	D.....3	50.04.0125	1N4448			any
01	D.....4	50.99.0183	ZTE1.5	1.5V	ZENER	ITT
	D.....5	50.04.0125	1N4448			any
	D.....6	50.04.0125	1N4448			any
	IC....2	50.09.0119	TL062	dual op.amp.		TI
	IC....3	50.09.0119	TL062	dual op.amp.		TI
	P.....1	54.01.0273		CIS, 13 pin		
	Q.....1	50.03.0516	BC337	NPN		any
	Q.....2	50.03.0516	BC337	NPN		any
	Q.....3	50.03.0516	BC337	NPN		any
	Q.....4	50.03.0516	BC337	NPN		any
	R.....1	. .	6.8 kOhm	RZ 1		
01	R.....2	57.11.3154	150 kOhm			
	R.....3	. .	6.8 kOhm	RZ 1		
01	R.....4	57.11.3682	6.8 kOhm			
	R.....5	58.05.0202	2 kOhm	Trim 10%		
	R.....6	57.11.3101	100 Ohm			
	R.....7	. .	6.8 kOhm	RZ 3		
	R.....8	57.11.3221	220 Ohm			
	R.....9	58.05.0104	100 kOhm	Trim 10%		
	R....10	57.11.3332	3.3 kOhm			
	R....11	. .	6.8 kOhm	RZ 2		
	R....12	. .	6.8 kOhm	RZ 2		
	R....13	57.11.3563	56 kOhm			
	R....14	. .	6.8 kOhm	RZ 2		
	R....15	57.11.3332	3.3 kOhm			
	R....16	. .	6.8 kOhm	RZ 1		
01	R....17	57.11.3154	150 kOhm	1%		
	R....18	. .	6.8 kOhm	RZ 1		
01	R....19	57.11.3682	6.8 kOhm			
	R....20	58.05.0202	2 kOhm	Trim 10%		
	R....21	57.11.3101	100 Ohm			
	R....22	. .	6.8 kOhm	RZ 3		
	R....23	57.11.3221	220 Ohm			
	R....24	58.05.0104	100 kOhm	Trim 10%		
	R....25	57.11.3332	3.3 kOhm			
	R....26	. .	6.8 kOhm	RZ 3		
	R....27	. .	6.8 kOhm	RZ 3		
	R....28	57.11.3563	56 kOhm			
	R....29	. .	6.8 kOhm	RZ 2		
	R....30	57.11.3332	3.3 kOhm			
	R....31	57.92.7001	0.3 Ohm	PTC .5A		
	R....32	57.92.7001	0.3 Ohm	PTC .5A		
01	R....33	57.11.3682	6.8 kOhm			
01	R....34	57.11.3682	6.8 kOhm			
	RZ....1	57.88.2682	6.8 kOhm	R. Network 4*6.8k		
	RZ....2	57.88.2682	6.8 kOhm	R. Network 4*6.8k		
	RZ....3	57.88.2682	6.8 kOhm	R. Network 4*6.8k		

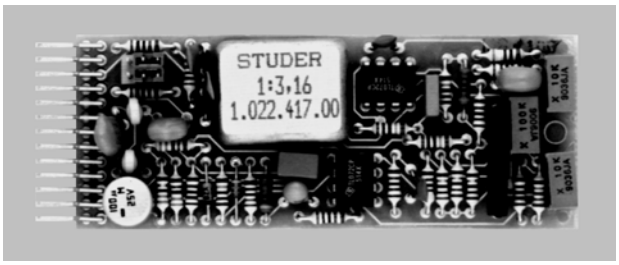
(01) update
(02) old name: THRESHOLD DETECTOR
CER = ceramic, EL = electrolytic, PE = polyester

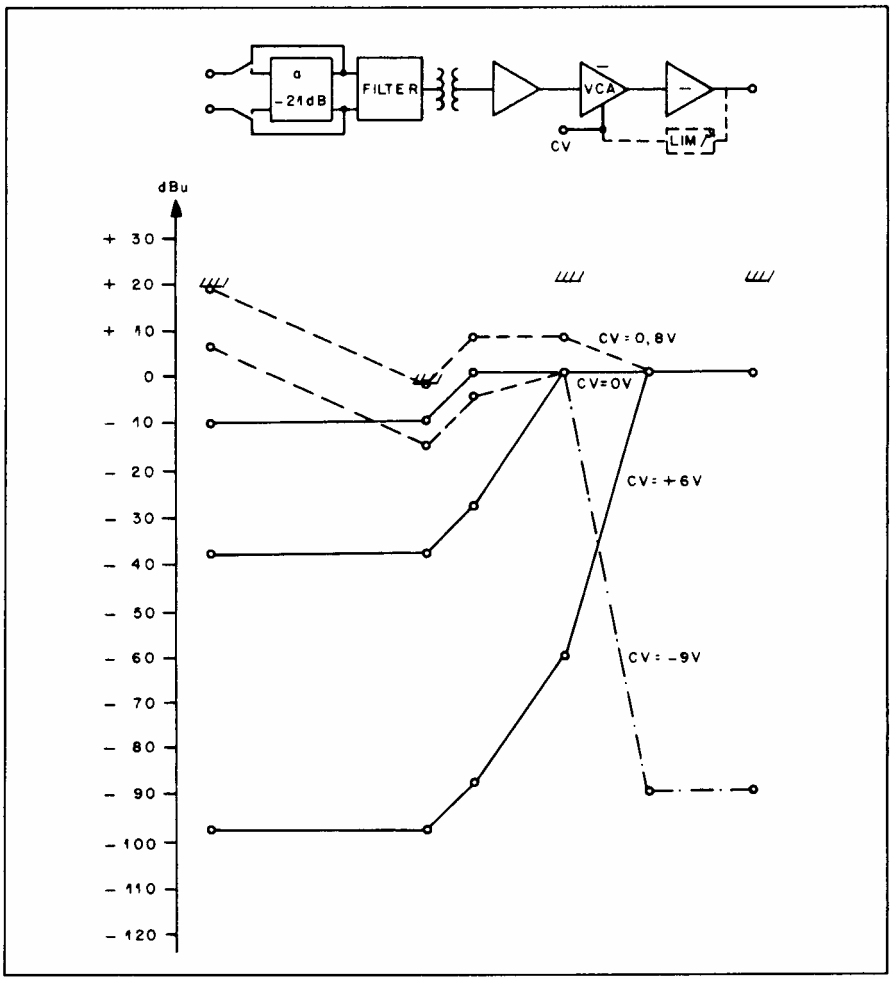
MANUFACTURER Mot=Motorola, NS=National Semiconductor, Six=Siliconics,
TI=Texas Instruments

1.914.534.00	THRESHOLD LEVEL DETECTOR	FRI88/06/1800
1.914.534.00	THRESHOLD LEVEL DETECTOR	FRI88/09/0701
1.914.534.00	DUAL VOX DETECTOR (POS)	FRI88/10/2702

Microphone Amplifier with Limiter 1.914.539

This assembly combines a microphone amplifier and a VCA limiter circuit with adjustable threshold level and program-depending release time. The input is balanced and floating, the output is unbalanced and with low impedance. Gain control is effected internally with a trimmer potentiometer, or externally with a gain-control DC voltage. A jumper-selectable pad reduces the input level by 21 dB.





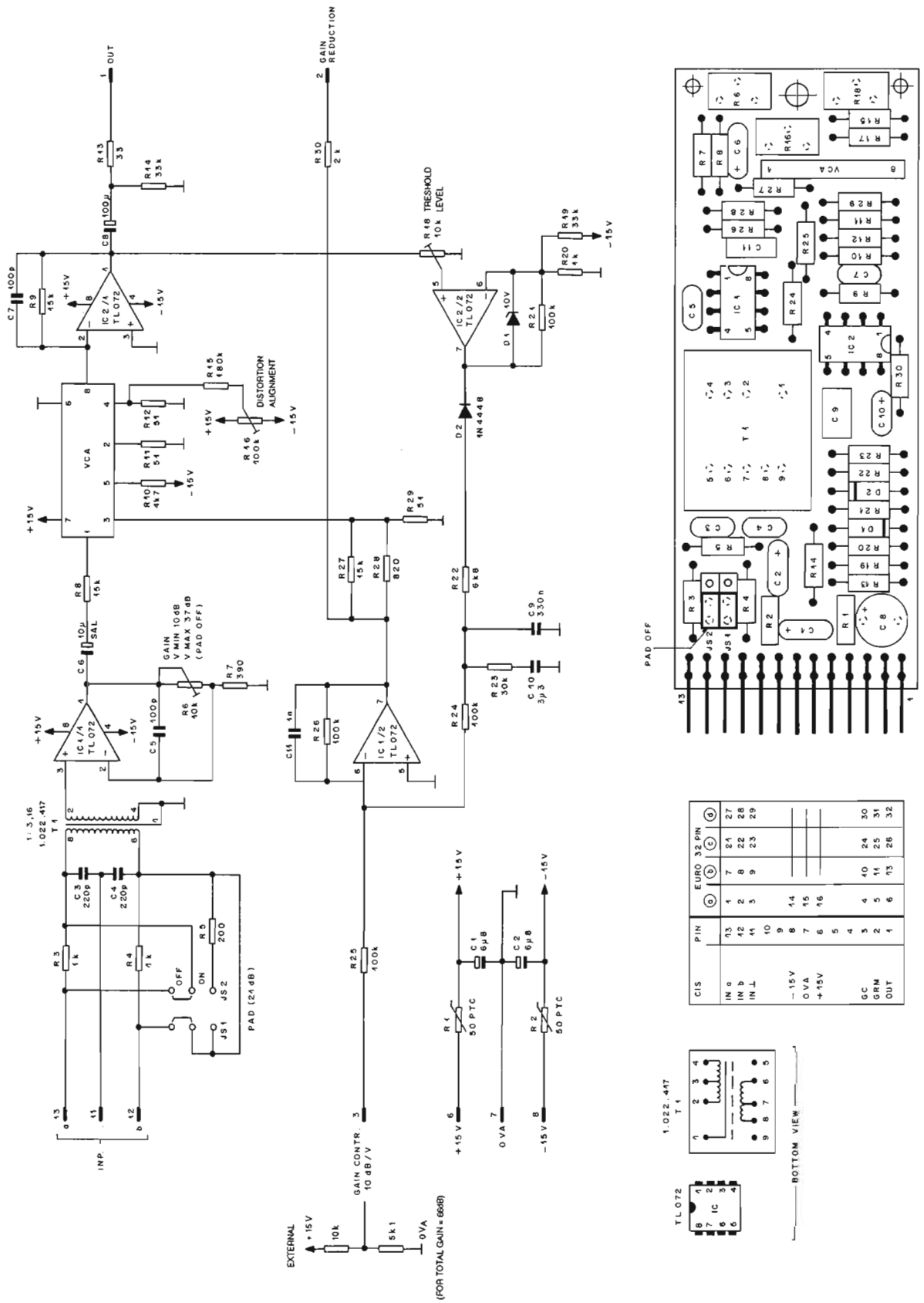
The operation of the limiter circuit can be monitored at the gain reduction output, if an appropriate instrument (GRM) is connected.

This card is ideally suited for talkback applications.

Technical Specifications

Input:	Impedance	**> 1 kΩ,** balanced, floating
	Max. level	**–2 dBu** (THD at 30 Hz ≤ 1%)
		+19 dBu, pad on
	Pad (attenuation)	**–21 dB**, jumper-selectable
	CMRR	**> 60 dB** @ 16 kHz
	Source impedance	**≤ 200 Ω**
Output:	Max. level	**+20 dBu**
	Impedance	**33 Ω**
	Load	**≥ 2 kΩ**
	Gain adjust (v_1)	**min. +10 dB,** VCA = 0 dB; pad off
		max. +37 dB, VCA = 0 dB; pad off
		min. –11 dB, VCA = 0 dB; pad on
		max. +16 dB, VCA = 0 dB; pad on
	Gain control characteristics (v_2)	**10 dB/V**
	DC range	**–10...+6 V**, pin3: gain control input
	Total gain	**v_{tot} = v1 + v2**
	Max. attenuation	**> 90 dB**
General:	Frequency response	**±0.5 dB**, 30 Hz...16 kHz
	THD	**≤ –50 dB,** 20 dB gain; 30 Hz...16 kHz
	Noise voltage	**–95 dBu,** pad on; 0 dB gain
	Noise figure	**F ~ 10 dB,** bandwidth = 23 kHz; 60 dB gain; R_s = 200 Ω; pad off
Limiter:	Threshold level	**–7...+20 dBu**
	Attack time	**0.5 ms**
	Release time	**50 ms...1 s**, program-dependent
	Compression ratio	**10:1** @ 1 kHz
Supply:		**±15 V** (25 mA)

Ordering Information:	Microphone amplifier with limiter	1.914.539.xx



0 4. 10. 91				
STUDER REGENSDORF ZÜRICH	MIC. AMPLIFIER WITH LIMITER			1.914.539.00

MSC MIC AMP / LIMITER

Ad	..POS..	...REF.No...	DESCRIPTION.....			MANUFACTURER
	C.....1	59.26.2689	6.8 uF	16V	SAL	
	C.....2	59.26.2689	6.8 uF	16V	SAL	
	C.....3	59.34.4221	220 pF	63V	CER 5%	
	C.....4	59.34.4221	220 pF	63V	CER 5%	
	C.....5	59.34.4101	100 pF	63V	CER 5%	
	C.....6	59.26.5100	10 uF	25V	SAL	
	C.....7	59.34.4101	100 pF	63V	CER 5%	
	C.....8	59.22.4101	100 uF	16V	EL	
	C.....9	59.06.0334	330 nF	63V	PETP 10%	
	C....10	59.30.6339	3.3 uF	35V	TA 20%	
	C....11	59.06.0102	1 nF	63V	PETP 10%	
	D.....1	50.04.1114	BZX55-C10	Z 10V 0.4W		any
	D.....2	50.04.0125	1N4448	diode		any
	IC....1	50.09.0101	TL072 CP	dual op.amp. biFET		TI
	IC....2	50.09.0101	TL072 CP	dual op.amp. biFET		TI
	IC....3	50.11.0140	dbx2150 A	VCA		dBx
	JS....1	54.01.0021	Jumper	Au		
	JS....2	54.01.0021	Jumper	Au		
	MP....1	43.01.0108	ESE	ESE warning		
	P.....1	54.01.0273	13 PIN	CIS		
	P.....2	54.11.0136	2*3 PIN	Stiftleiste		
	PCB...1	1.914.539.11		empty PCB		St
	R.....1	57.99.0206	50 Ohm	PTC		
	R.....2	57.99.0206	50 Ohm	PTC		
	R.....3	57.11.3102	1 kOhm			
	R.....4	57.11.3102	1 kOhm			
	R.....5	57.11.3201	200 Ohm			
	R.....6	58.01.9103	10 kOhm	variable resistor 10%	PGM	
	R.....7	57.11.3391	390 Ohm			
	R.....8	57.11.3153	15 kOhm			
	R.....9	57.11.3153	15 kOhm			
	R....10	57.11.3472	4.7 kOhm			
	R....11	57.11.3510	51 Ohm			
	R....12	57.11.3510	51 Ohm			
	R....13	57.11.3330	33 Ohm			
	R....14	57.11.3333	33 kOhm			
	R....15	57.11.3184	180 kOhm			
	R....16	58.01.9104	100 kOhm	variable resistor 10%	PGM	
	R....17	57.11.3102	1 kOhm			
	R....18	58.01.9103	10 kOhm	variable resistor 10%	PGM	
	R....19	57.11.3333	33 kOhm			
	R....20	57.11.3102	1 kOhm			
	R....21	57.11.3104	100 kOhm			
	R....22	57.11.3682	6.8 kOhm			
	R....23	57.11.3303	30 kOhm			
	R....24	57.11.3104	100 kOhm			
	R....25	57.11.3104	100 kOhm			
	R....26	57.11.3104	100 kOhm			
	R....27	57.11.3153	15 kOhm			
	R....28	57.11.3821	820 Ohm			
	R....29	57.11.3510	51 Ohm			
	R....30	57.11.3202	2 kOhm			
	T.....1	1.022.417.00	1:3.16	input-transformer		St

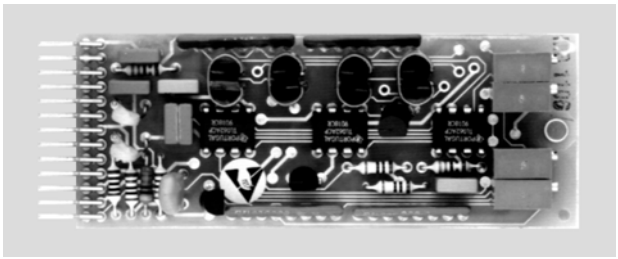
CER = ceramic, EL = electrolytic, PETP = polyester
SAL = solid aluminium, TA = tantal

MANUFACTURER dBx= dBx-Incorp., St= Studer, TI= Texas Instruments

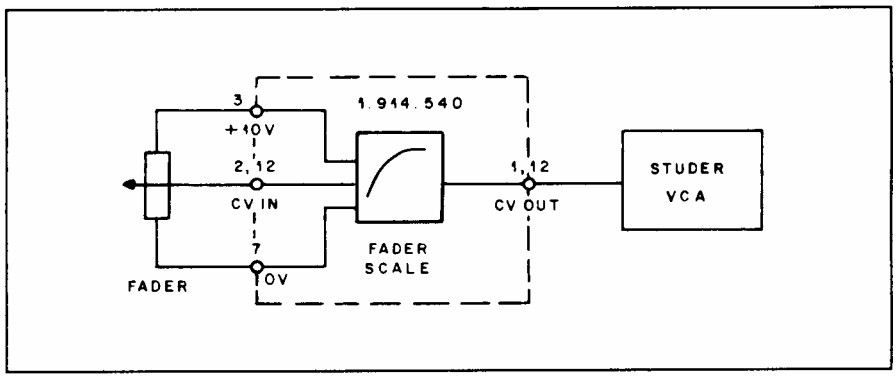
1.914.539.00 MIC.AMPLIFIER WITH LIMITER HOR20/11/9000

Dual Fader/VCA Control Voltage Interface 1.914.540 /541

These interfaces are used to convert the voltage of a linear fader to the non-linear dB scale of a Studer VCA. One card processes two channels. It is available in two versions: 540.xx (0...+10 V_{DC} control voltage), and 541.xx (+5...0 V_{DC} control voltage). A regulated +10 V_{DC} reference voltage is generated on-board. The DC from the fader's wiper is connected to the input. Offset and scale alignment is performed with on-board trimmer potentiometers for matching the VCA gain to the dB scale of the fader.



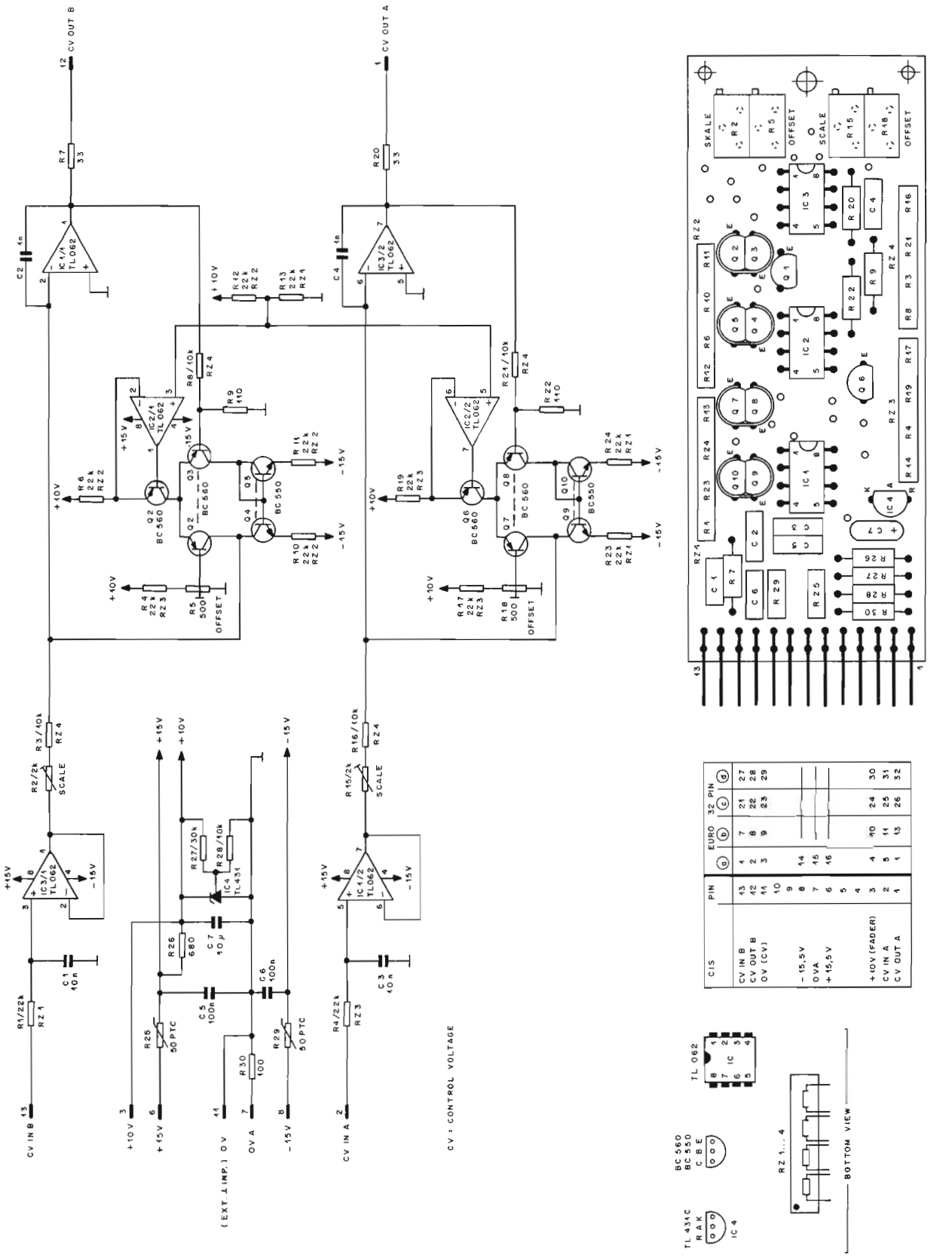




Technical Specifications

		1.914.540.xx	**1.914.541.xx**
Input:	Impedance	**> 1 MΩ,** unbalanced	**100 kΩ,** unbalanced
	Level range	**0...+10 V**	**+5...0 V**
Output:	Impedance	**33 Ω**, unbalanced	**33 Ω**, unbalanced
	Control range	**+1 V...–10 V**	**+1 V...–10 V**
Supply:		**±15 V** (15 mA)	
Dimensions:		**MS-card,** 34 × 85 mm	

Ordering Information:	Fader/VCA control interface	1.914.540.xx
	Fader/VCA control interface	1.914.541.xx



CIS	PIN	EURO 32 PIN		
		(a)	(b)	(c)	(d)
CV IN B	13	1	7	21	27
CV OUT B	12	2	8	22	28
0V (CV)	11	3	9	23	29
	10				
	9				
- 15,5V	8	14			
0VA	7	15			
+ 15,5V	6	16			
	5				
	4				30
+ 10V (FADER)	3	4	10	24	31
CV IN A	2	5	11	25	32
CV OUT A	1		13	26	

© 7. 10. 91 fe		
STUDER REGENSDORF ZURICH	FADER / VCA CV INTERFACE BOARD	1.914.540.00

MSC FADER / VCA INTERFACE

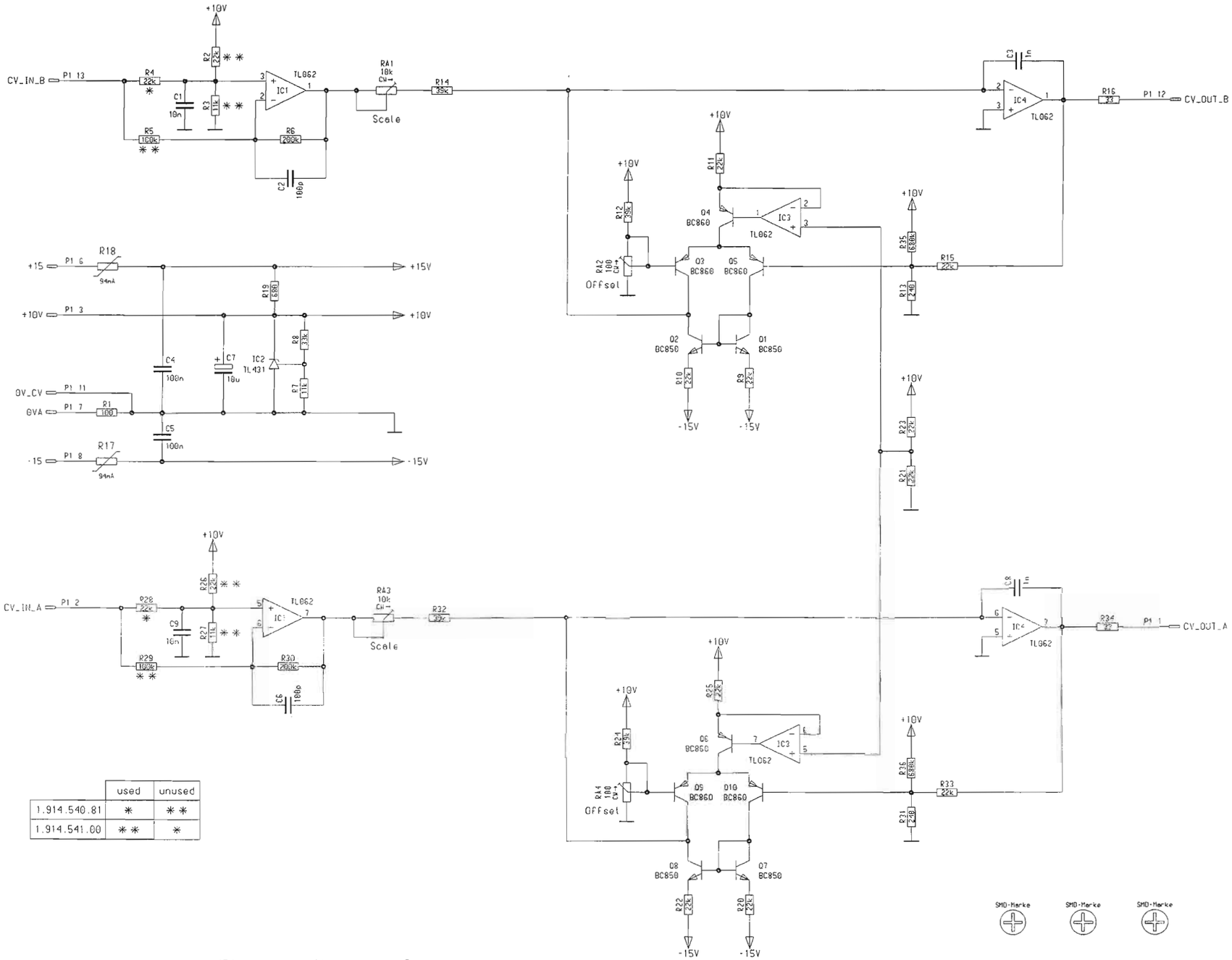
Ad	..POS..	...REF.No...	DESCRIPTION			MANUFACTURER
	C.....1	59.06.0103	10 nF	63V	PE 10%	
	C.....2	59.06.0102	1 nF	63V	PE 10%	
	C.....3	59.06.0103	10 nF	63V	PE 10%	
	C.....4	59.06.0102	1 nF	63V	PE 10%	
	C.....5	59.06.0104	0.1 uF	63V	PE 10%	
	C.....6	59.06.0104	0.1 uF	63V	PE 10%	
	C.....7	59.26.2100	10 uF	16V	SAL	
	IC....1	50.09.0119	TL062 ACP	dual op.amp.		TI
	IC....2	50.09.0119	TL062 ACP	dual op.amp.		TI
	IC....3	50.09.0119	TL062 ACP	dual op.amp.		TI
	IC....4	50.10.0106	TL431 CLP	shunt regulator		TI
	MP....1	50.20.2001	CLIP	2 * TO 92		
	MP....2	50.20.2001	CLIP	2 * TO 92		
	MP....3	50.20.2001	CLIP	2 * TO 92		
	MP....4	50.20.2001	CLIP	2 * TO 92		
	MP....5	43.01.0108	ESE	ESE warning		
	P.....1	54.01.0273	13 PIN	CIS		
	PCB...1	1.914.540.11		empty PCB		St
	Q.....1	50.03.0496	BC560	PNP		Sie
	Q.....2	50.03.0600	BC560	PNP	E6310 see note 1	Sie
	Q.....3	50.03.0600	BC560	PNP	E6310 see note 1	Sie
	Q.....4	50.03.0524	BC550	NPN	E6310 see note 1	Sie
	Q.....5	50.03.0524	BC550	NPN	E6310 see note 1	Sie
	Q.....6	50.03.0496	BC560	PNP		Sie
	Q.....7	50.03.0600	BC560	PNP	E6310 see note 1	Sie
	Q.....8	50.03.0600	BC560	PNP	E6310 see note 1	Sie
	Q.....9	50.03.0524	BC550	NPN	E6310 see note 1	Sie
	Q....10	50.03.0524	BC550	NPN	E6310 see note 1	Sie
	R.....1	58.05.0104	100 kOhm	multi-turn 10%		
	R.....2	58.05.0501	500 Ohm	multi-turn 10%		
	R.....3	57.11.3330	33 Ohm			
	R.....4	57.11.3241	240 Ohm			
	R.....5	58.05.0104	100 kOhm	multi-turn 10%		
	R.....6	58.05.0501	500 Ohm	multi-turn 10%		
	R.....7	57.11.3330	33 Ohm			
	R.....8	57.11.3241	240 Ohm			
	R.....9	57.92.1820	42 Ohm	PTC		
	R....10	57.11.3681	680 Ohm			
	R....11	57.11.3303	30 kOhm			
	R....12	57.11.3103	10 kOhm			
	R....13	57.92.1820	42 Ohm	PTC		
	R....14	57.11.3101	100 Ohm			
	RZ....1	57.88.2223	22 kOhm	network 4 * 22k		
	RZ....2	57.88.2223	22 kOhm	network 4 * 22k		
	RZ....3	57.88.2223	22 kOhm	network 4 * 22k		
	RZ....4	57.88.2223	22 kOhm	network 4 * 22k		

SAL = electrolytic, PE = polyester

MANUFACTURER TI=Texas Instruments, Sie=Siemens, St=Studer

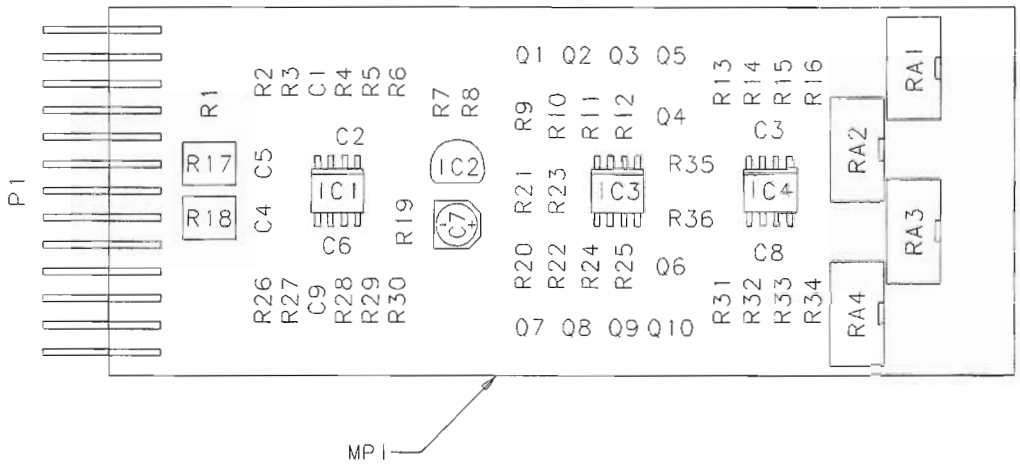
Note 1: Q2,Q3,Q4,Q5,Q7,Q8,Q9,Q10 must fulfill BV 678 !

1.914.540.00 FADER/VCA CV INTERFACE BOARD HOR16/11/9000



	used	unused
1.914.540.81	*	**
1.914.541.00	**	*

Erstellt	0 17.04.2000 ZT			PAGE 1 OF 1
STUDER	FADER/VCA INTERFACE Type2 FADER/VCA CV INTERFACE	SC	1.914.541.00 1.914.540.81	



Accompanying documents: / Zugehoerige Unterlagen: PL	General tolerance: / Freimasstoleranz:	Scale: / Massstab: 1.5:1	Edition / Ausgabe	17.04.2000 Date / Datum	ZT Visa / Gez.	ML Checked / Gepr.	RL Seen / Ges.	0 Index
Substitute for: / Ersatz fuer:				Page: / Seite: 1 / 1				
STUDER REGENSDORF	Description: / Benennung: FADER/VCA INTERFACE TYPE2 / FADER/VCA CV INTERFACE		Z	Number: / Nummer: 1.914.541.00 / 1.914.540.81				

Dual Fader/VCA Control Voltage IF 1.914.541.00 (0)

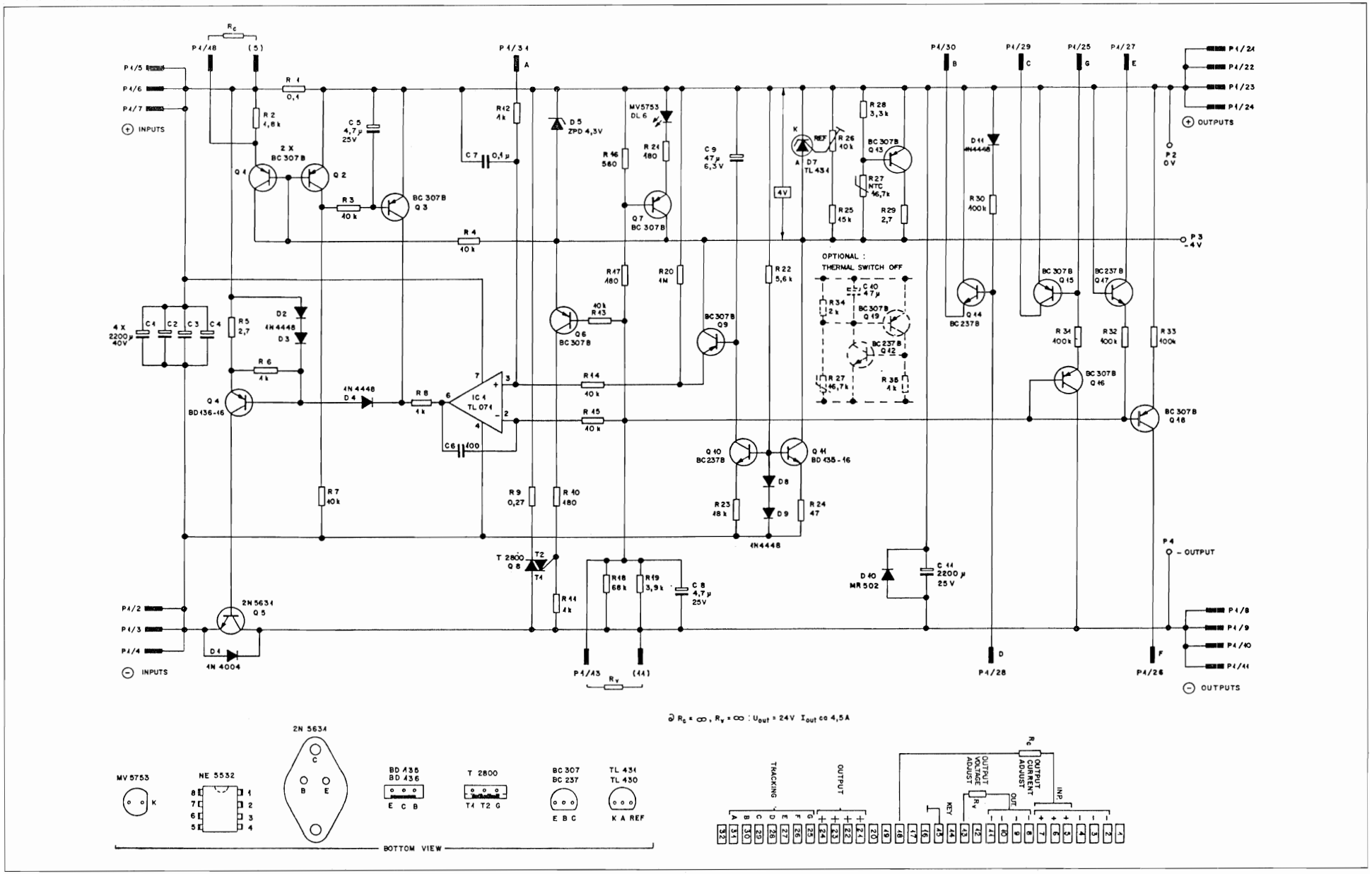
Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	C 1	59.60.3325	1 pce	10n	CER 50V, 10%, X7R, 0805
0	C 2	59.60.2249	1 pce	100p	CER 50V, 5%, C0G, 0603
0	C 3	59.60.2373	1 pce	1n0	CER 50V, 5%, C0G, 0805
0	C 4	59.60.3337	1 pce	100n	CER 50V, 10%, X7R, 0805
0	C 5	59.60.3337	1 pce	100n	CER 50V, 10%, X7R, 0805
0	C 6	59.60.2249	1 pce	100p	CER 50V, 5%, C0G, 0603
0	C 7	59.68.0065	1 pce	10u	EL 16V, 4.0*5.7
0	C 8	59.60.2373	1 pce	1n0	CER 50V, 5%, C0G, 0805
0	C 9	59.60.3325	1 pce	10n	CER 50V, 10%, X7R, 0805
0	IC 1	50.61.0201	1 pce	TL062	Dual FET Op-Amp
0	IC 2	50.10.0106	1 pce	TL431	Shunt regulator
0	IC 3	50.61.0201	1 pce	TL062	Dual FET Op-Amp
0	IC 4	50.61.0201	1 pce	TL062	Dual FET Op-Amp
0	MP 1	1.914.541.11	1 pce		FADER/VCA INTERFACE2 PCB
0	MP 2	1.914.541.04	1 pce		NR.-ETIKETTE 5 * 20
0	MP 3	43.01.0108	1 pce	Label	ESE-Warnschild
0	P 1	54.01.0273	1 pce	13p	Stecker CIS parallelsteck
0	Q 1	50.60.0002	1 pce	BC850C	NPN 45V 100mA SOT 23
0	Q 2	50.60.0002	1 pce	BC850C	NPN 45V 100mA SOT 23
0	Q 3	50.60.1002	1 pce	BC860C	PNP 45V 100mA SOT 23
0	Q 4	50.60.1002	1 pce	BC860C	PNP 45V 100mA SOT 23
0	Q 5	50.60.1002	1 pce	BC860C	PNP 45V 100mA SOT 23
0	Q 6	50.60.1002	1 pce	BC860C	PNP 45V 100mA SOT 23
0	Q 7	50.60.0002	1 pce	BC850C	NPN 45V 100mA SOT 23
0	Q 8	50.60.0002	1 pce	BC850C	NPN 45V 100mA SOT 23
0	Q 9	50.60.1002	1 pce	BC860C	PNP 45V 100mA SOT 23
0	Q 10	50.60.1002	1 pce	BC860C	PNP 45V 100mA SOT 23
0	R 1	57.60.1101	1 pce	100R	MF, 1%, 0204, E24
0	R 2	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 3	57.60.1113	1 pce	11k	MF, 1%, 0204, E24
0	R 4	not used	1 pce	22k	MF, 1%, 0204, E24
0	R 5	57.60.1104	1 pce	100k	MF, 1%, 0204, E24
0	R 6	57.60.1204	1 pce	200k	MF, 1%, 0204, E24
0	R 7	57.60.1113	1 pce	11k	MF, 1%, 0204, E24
0	R 8	57.60.1333	1 pce	33k	MF, 1%, 0204, E24
0	R 9	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 10	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 11	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 12	57.60.1393	1 pce	39k	MF, 1%, 0204, E24
0	R 13	57.60.1241	1 pce	240R	MF, 1%, 0204, E24
0	R 14	57.60.1393	1 pce	39k	MF, 1%, 0204, E24
0	R 15	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 16	57.60.1330	1 pce	33R	MF, 1%, 0204, E24
0	R 17	57.92.1820	1 pce	94mA	PTC 60V
0	R 18	57.92.1820	1 pce	94mA	PTC 60V
0	R 19	57.60.1681	1 pce	680R	MF, 1%, 0204, E24
0	R 20	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 21	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 22	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 23	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 24	57.60.1393	1 pce	39k	MF, 1%, 0204, E24
0	R 25	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 26	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 27	57.60.1113	1 pce	11k	MF, 1%, 0204, E24
0	R 28	not used	1 pce	22k	MF, 1%, 0204, E24
0	R 29	57.60.1104	1 pce	100k	MF, 1%, 0204, E24
0	R 30	57.60.1204	1 pce	200k	MF, 1%, 0204, E24
0	R 31	57.60.1241	1 pce	240R	MF, 1%, 0204, E24
0	R 32	57.60.1393	1 pce	39k	MF, 1%, 0204, E24
0	R 33	57.60.1223	1 pce	22k	MF, 1%, 0204, E24
0	R 34	57.60.1330	1 pce	33R	MF, 1%, 0204, E24
0	R 35	57.60.1684	1 pce	680k	MF, 1%, 0204, E24
0	R 36	57.60.1684	1 pce	680k	MF, 1%, 0204, E24
0	RA 1	58.01.9103	1 pce	10k	Cermet, 10%, 0.5W, vertical
0	RA 2	58.01.9101	1 pce	100R	Cermet, 10%, 0.5W, vertical
0	RA 3	58.01.9103	1 pce	10k	Cermet, 10%, 0.5W, vertical
0	RA 4	58.01.9101	1 pce	100R	Cermet, 10%, 0.5W, vertical

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description

End of List

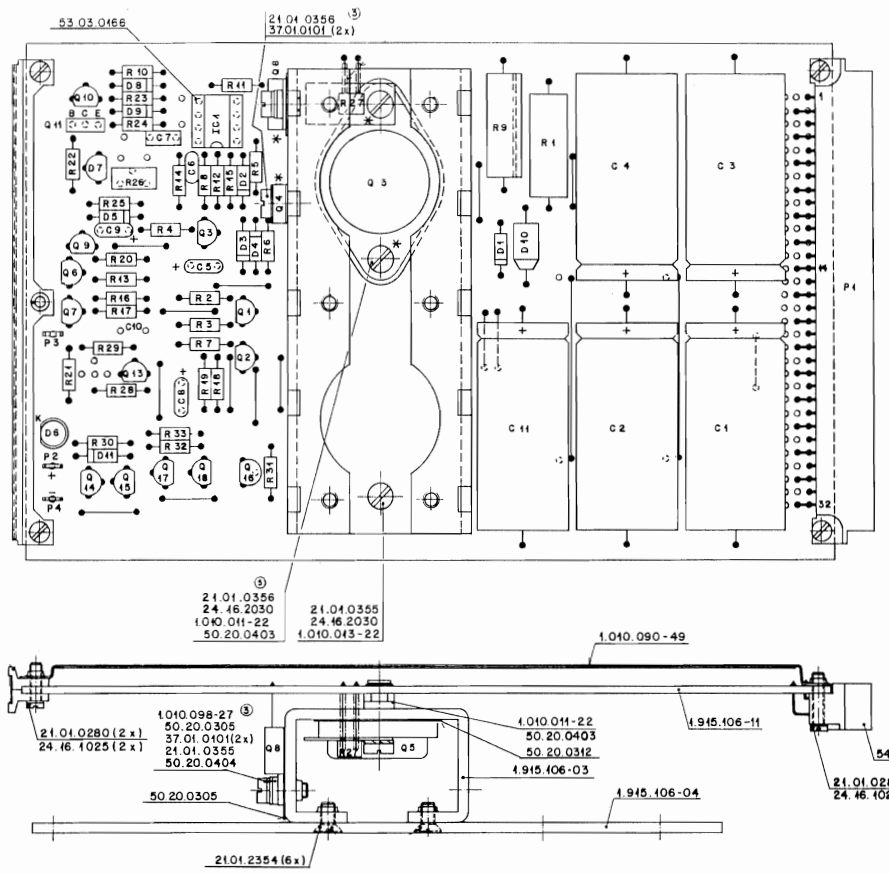
Comments:

STABILIZER 5/24V 1.915.106.00



@ $R_c = \infty$, $R_v = \infty$: $U_{out} = 24V$ $I_{out} \approx 4,5A$

STABILIZER 5/24V 1.915.106.00



IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	C 1	59.25.5222	2200 µF	40V EL	
	C 2	59.25.5222	2200 µF	40V EL	
	C 3	59.25.5222	2200 µF	40V EL	
	C 4	59.26.6222	2200 µF	40V EL	
	C 5	59.26.5479	4,7 µF	25 V SAL	
③	C 6	59.34.4101	100 pF	CER	
	C 7	59.06.0104	0,1 µF	PE	
	C 8	59.26.5479	4,7 µF	25V SAL	
	C 9	59.26.0470	47 µF	6,3V SAL	
	C 10				
	C 11	59.25.6222	2200 µF	25V EL	
	D 1	50.04.0125	1N4004	1A	
	D 2	50.04.0126	1N4448		
	D 3	50.04.0126	1N4448		
	D 4	50.04.0126	1N4448		
	D 5	50.04.1120	ZPD4,3V	5%	
	DL6	50.04.7411	MV5753	LED CH4-254 B	NSK/M
	D 7	50.10.0106	TL430	µA430 CLP IC	TI/F
	D 8	50.04.0126	1N4448		
	D 9	50.04.0126	1N4448		
	D 10	50.04.0507	MR502	3A/30V	
	D 11	50.04.0126	1N4448		
	IC 1	50.09.0103	TL071	LF351 SINGLE FET OPA	TI/N

IND	DATE	NAME		
④			EL - Electrolytic	MS - Monsanto
⑤			SAL - Solid Aluminium	CM - Chicago Miniature
②	28.11.91	Stä	PE - Polyester	TI - Texas Instruments
①	22.6.83	Ja	CER - CERAMIC	N - National
○	22.7.81	Frie		F - Fairchild

STUDER | STABILIZER 5÷24V | 1.915.106.00 | PAGE 1 OF 3

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	Q 1	50.03.0515	BC309.B	PNP General purpose 0,1A/Ucb 240V	any
	Q 2	50.03.0515	BC309.B	PNP	
	Q 3	50.03.0516	BC309.B	PNP	
	Q 4	50.03.0510	BD436/B	PNP min 1A/45V	SGS,T
	Q 5	50.03.0342	2N6634	NPN min 10A/min 60V 200W	M
	Q 6	50.03.0516	BC309.B	PNP	
	Q 7	50.03.0515	BC309.B	PNP	
	Q 8	50.39.0106	T2800	TRIAL 8A SK146D	R/GE
	Q 9	50.03.0515	BC309B	PNP	
	Q 10	50.03.0436	BC239.B	NPN General purpose 0,1A/Ucb 45V	any
	Q 11	50.03.0495	BD435-K	NPN P min 2W	M,SGS,T
	Q 12				
	Q 13	50.03.0515	BC309B	PNP	
	Q 14	50.03.0436	BC239B	NPN	
	Q 16	50.03.0515	BC309.B	PNP	
	Q 16	50.03.0516	BC309.B	PNP	
	Q 17	50.03.0436	BC239.B	NPN	
	Q 18	50.03.0515	BC309.B	PNP	
	R 1	57.56.5108	0,1 Ω	4W	
	R 2	57.11.4182	1,8 k	2%	
	R 3	57.11.4103	10 k		
	R 4	57.11.4103	10 k		
	R 5	57.11.4279	2,7 Ω		
	R 6	57.11.4102	1 k		
	R 7	57.11.4103	10 k		
	R 8	57.11.4102	1 k		
	R 9	57.56.5278	0,27 Ω	4W	

IND	DATE	NAME	
④			N - Motorola
⑤			R - RCA
②	28.11.91	Stä	S - Siemens
①	22.6.83	Ja	T - Telefunken
○	22.7.81	Frie	GE - General Electric

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IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	R 10	57.11.4181	180 Ω		
	R 11	57.11.4102	1 k		
	R 12	57.11.4102	1 k		
	R 13	57.11.4103	10 k		
	R 14	57.11.4103	10 k		
	R 15	57.11.4103	10 k		
	R 16	57.11.4561	560 Ω	2%	
	R 17	57.11.4181	180 Ω	2%	
	R 18	57.11.4683	68 k	2%	
	R 19	57.11.4392	3,9k	2%	
	R 20	57.11.4105	1M		
	R 21	57.11.4181	180 Ω		
	R 22	57.11.4562	5,6k		
	R 23	57.11.4183	18 k		
	R 24	57.11.4470	47 Ω		
	R 25	57.11.4153	15 k		
	R 26	58.01.7103	10 k	LIN 10% CERMET	
②	R 27	57.99.0803	470 k	10% NTC	Sie
	R 28	57.11.4332	3,3 k		
	R 29	57.11.4279	2,7 Ω		
	R 30	57.11.4104	100 k		
	R 31	57.11.4104	100 k		
	R 32	57.11.4104	100 k		
	R 33	57.11.4104	100 k		
		Modification List			
③	C 6	330 pF → 100 pF	pF	HF - Problems	
②	R 27	470 k Philips → 470 k Siemens		no more available	

IND	DATE	NAME	
④			Sie - Siemens
⑤			
②	28.11.91	Stä	
①	22.6.83	Ja	
○	22.7.81	Frie	

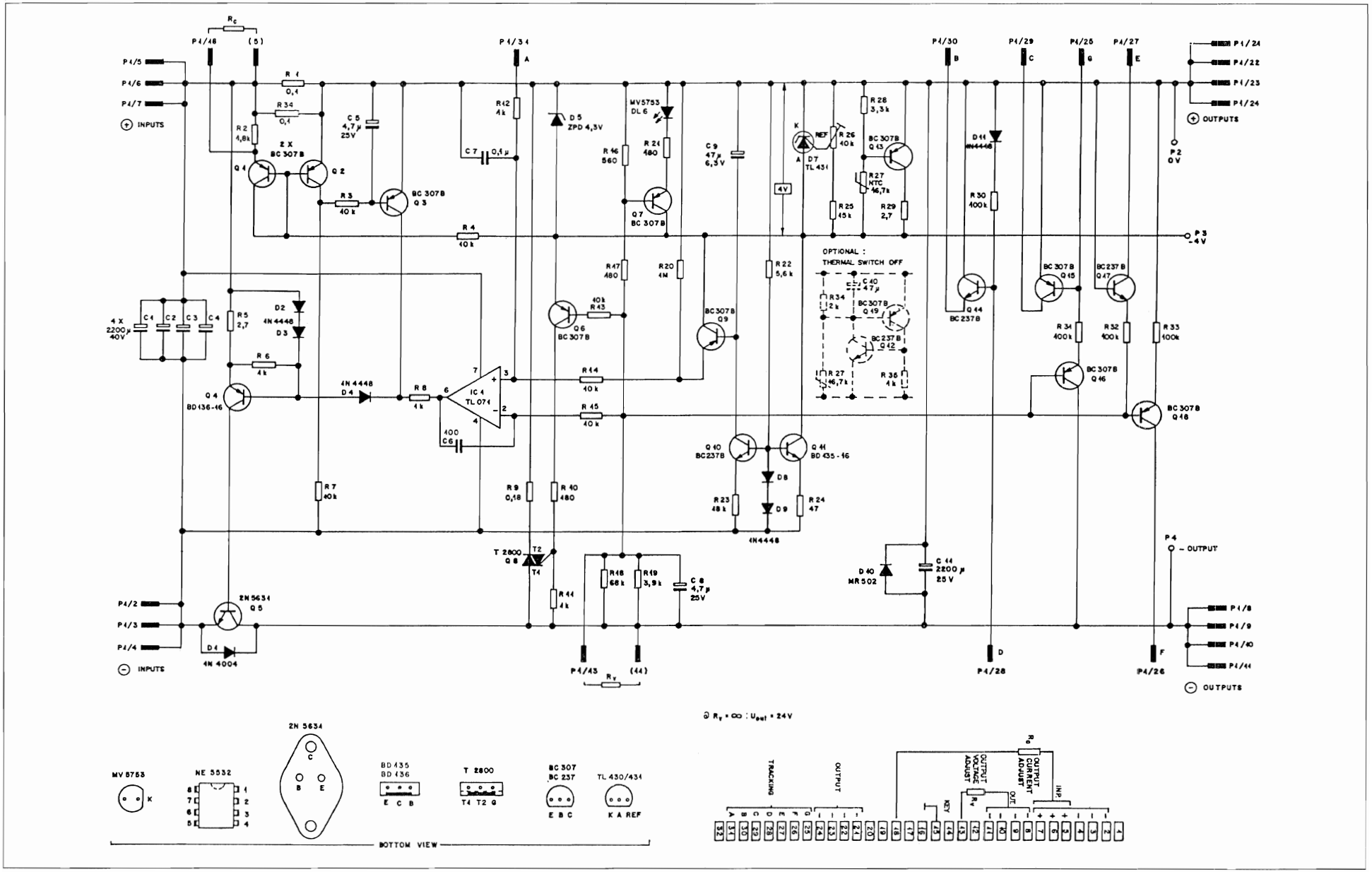
STUDER | Stabilizer 5÷24V | 1.915.106.00 | PAGE 3 OF 3

Index	Datum	Ges.	Gepr.	Ges.	Index
⑥	14.1.93	Stä	W	W	⑥
⑤	19.4.88	Bo	Bo	W	⑤
④	5.6.87	Stä	W	W	④
③	10.1.86	A.Ho	W	W	③
②	1.5.84	A.Ho	W	W	②
①	4.4.84	A.Ho	W	W	①
○	3.8.81	Ho	W	W	○

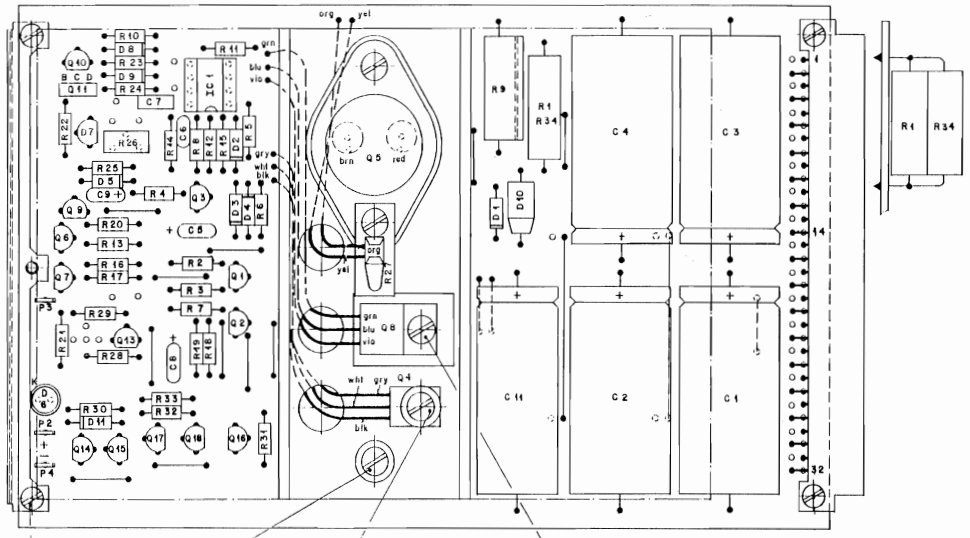
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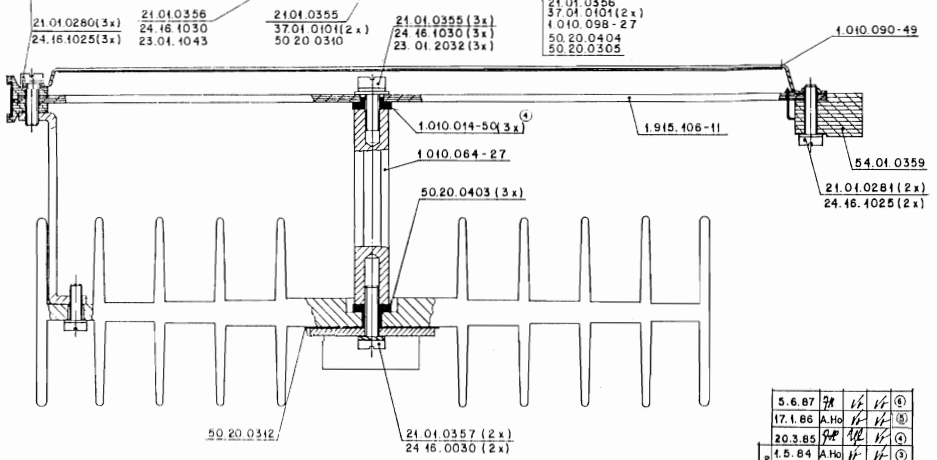
STUDER REGENSDORF ZÜRICH | Benennung: Stabilizer 5÷24 V | Nummer: 1.915.106-00

STABILIZER 5/24V 5A 1.915.108.00



STABILIZER 5/24V 5A 1.915.108.00





IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	C 1	59.25.5222	2200 µF	40V EL	
	C 2	59.25.5222	2200 µF	40V EL	
	C 3	59.25.5222	2200 µF	40V EL	
	C 4	59.25.5222	2200 µF	40V EL	
	C 5	59.26.5479	4,7 µF	25 V SAL	
①	C 6	59.34.4101	100 pF	CER	
	C 7	59.06.0104	0,1 µF	PE	
	C 8	59.26.5479	4,7 µF	25V SAL	
	C 9	59.26.0470	47 µF	6,3V SAL	
	C 10				
	C 11	59.25.4222	2200 µF	25V EL	
	D 1	50.04.0125	1N4004	1A	
	D 2	50.04.0125	1N4448		
	D 3	50.04.0125	1N4448		
	D 4	50.04.0125	1N4448		
	D 5	50.04.1120	ZPD 4,3V	5%	
	DL 6	50.04.2111	MV5753	LED CHA-254 B	HS/KM
	D 7	50.10.0106	TL 430	µA 430 CLP IC	TI/F
	D 8	50.04.0125	1N4448		
	D 9	50.04.0125	1N4448		
	D 10	50.04.0507	MR502	3A/30V	
	D 11	50.04.0125	1N4448		
	IC 1	50.09.0103	TL071	LF361 SINGLE FET OPA	TI/N

IND	DATE	NAME	
④			EL - Electrolytic
③			SAL - Solid Aluminium
②	28.11.91	Hür	PE - Polyester
①	22.6.83	JH	CER - CERAMIC
○	22.11.82	Grie	

MS - Monsanto
CM - Chicago Miniatur
TI - Texas Instruments
N - National
F - Fairchild

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IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	Q 1	50.03.0515	BC 309 B	PNP General purpose Q=4A/Ucb=40V	Sie
	Q 2	50.03.0515	BC 309 B	PNP	
	Q 3	50.03.0515	BC 309 B	PNP	
	Q 4	50.03.0510	BD 436/16	PNP min 1A/45V	M,RS,T
	Q 5	50.03.0342	2N5631	NPN min 10A/min 60V 200W	M
	Q 6	50.03.0515	BC 309 B	PNP	
	Q 7	50.03.0515	BC 309 B	PNP	
	Q 8	50.33.0106	T 2800	TRIAC 8A SC 146 D	R/GE
	Q 9	50.03.0615	BC 309 B	PNP	
	Q 10	50.03.0436	BC 237 B	NPN General purpose Q=0,1A/Ucb=40V	Sie
	Q 11	50.03.0495	BD 135-16	NPN P min 2 W	M,RS,T
	Q 12				
	Q 13	50.03.0515	BC 309 B	PNP	
	Q 14	50.03.0436	BC 237 B	NPN	
	Q 15	50.03.0515	BC 309 B	PNP	
	Q 16	50.03.0515	BC 309 B	PNP	
	Q 17	50.03.0436	BC 237 B	NPN	
	Q 18	50.03.0515	BC 309 B	PNP	
	R 1	57.56.5108	0,1 Ω	4W	
	R 2	57.11.4182	1,8 k	2%	
	R 3	57.11.4103	10 k		
	R 4	57.11.4103	10 k		
	R 5	57.11.4279	2,7 Ω		
	R 6	57.11.4102	1 k		
	R 7	57.11.4103	10 k		
	R 8	57.11.4102	1 k		
	R 9	57.56.5188	0,18 Ω	4W	

IND	DATE	NAME	
④			M - Motorola
③			R - RCA
②	28.11.91	Hür	S - Siemens
①	22.6.83	JH	T - Telefunken
○	22.11.82	Grie	GE - General Electric

STUDER Stabilizer 5÷24V/5A 1.915.108.00 PAGE 2 OF 3

IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
	R 10	57.11.4181	180 Ω		
	R 11	57.11.4102	1 k		
	R 12	57.11.4102	1 k		
	R 13	57.11.4103	10 k		
	R 14	57.11.4102	1 k		
	R 15	57.11.4103	10 k		
	R 16	57.11.4561	560 Ω	2%	
	R 17	57.11.4181	180 Ω	2%	
	R 18	57.11.4683	68 k	2%	
	R 19	57.11.4392	3,9 k	2%	
	R 20	57.11.4105	1 M		
	R 21	57.11.4181	180 Ω		
	R 22	57.11.4562	5,6 k		
	R 23	57.11.4183	18 k		
	R 24	57.11.4470	47 Ω		
	R 25	57.11.4153	15 k		
	R 26	58.01.7103	10 k	LIN 10% CERMET	
②	R 27	57.33.0303	470 Ω	10% NTC	Sie
	R 28	57.11.4332	3,3 k		
	R 29	57.11.4279	2,7 Ω		
	R 30	57.11.4104	100 k		
	R 31	57.11.4104	100 k		
	R 32	57.11.4104	100 k		
	R 33	57.11.4109	100 k		
	R 34	57.56.5108	0,1 Ω	4W	

Modification List

③	C 6	330 pF → 100 pF	HF-Problems
②	R 27	10 k Philips → 470 k Siemens	no more available

IND	DATE	NAME	
④			Sie - Siemens
③			
②	28.11.91	Hür	
①	22.6.83	JH	
○	22.11.82	Grie	

STUDER Stabilizer 5÷24V/5A 1.915.108.00 PAGE 3 OF 3

5.6.87	JH	JH	JH	④
17.1.86	A.Ho	JH	JH	⑤
20.3.85	JH	JH	JH	④
1.5.84	A.Ho	JH	JH	③
4.4.84	A.Ho	JH	JH	②
1.4.84	A.Ho	JH	JH	①
21.2.83	A.Ho	Jz	JH	○
Datum	Ged.	Gepr.	Gca.	Index

Änderung / Ausgabe

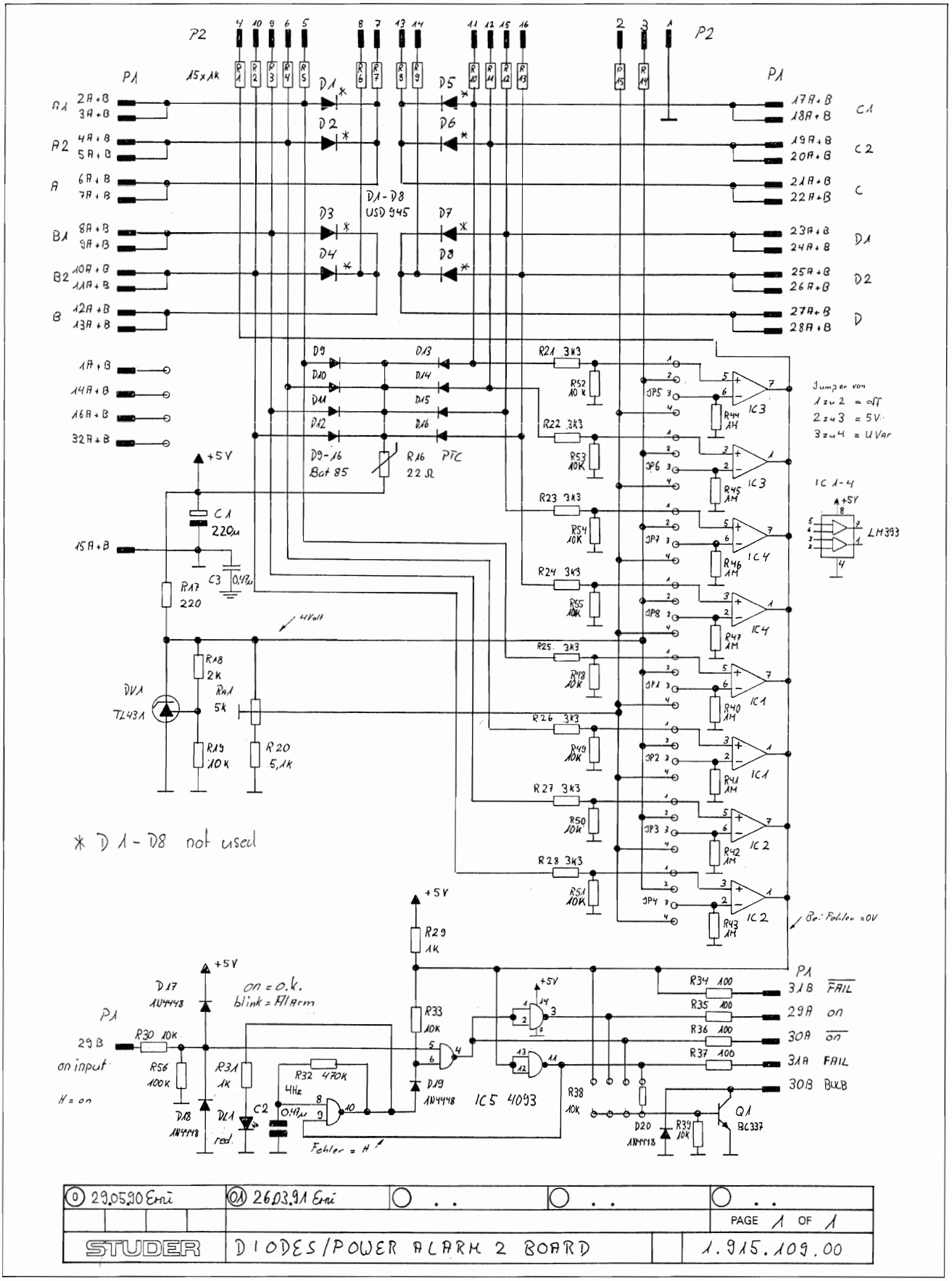
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STUDER REGENSDORF ZÜRICH

Benennung: Stabilizer 5÷24V/5A

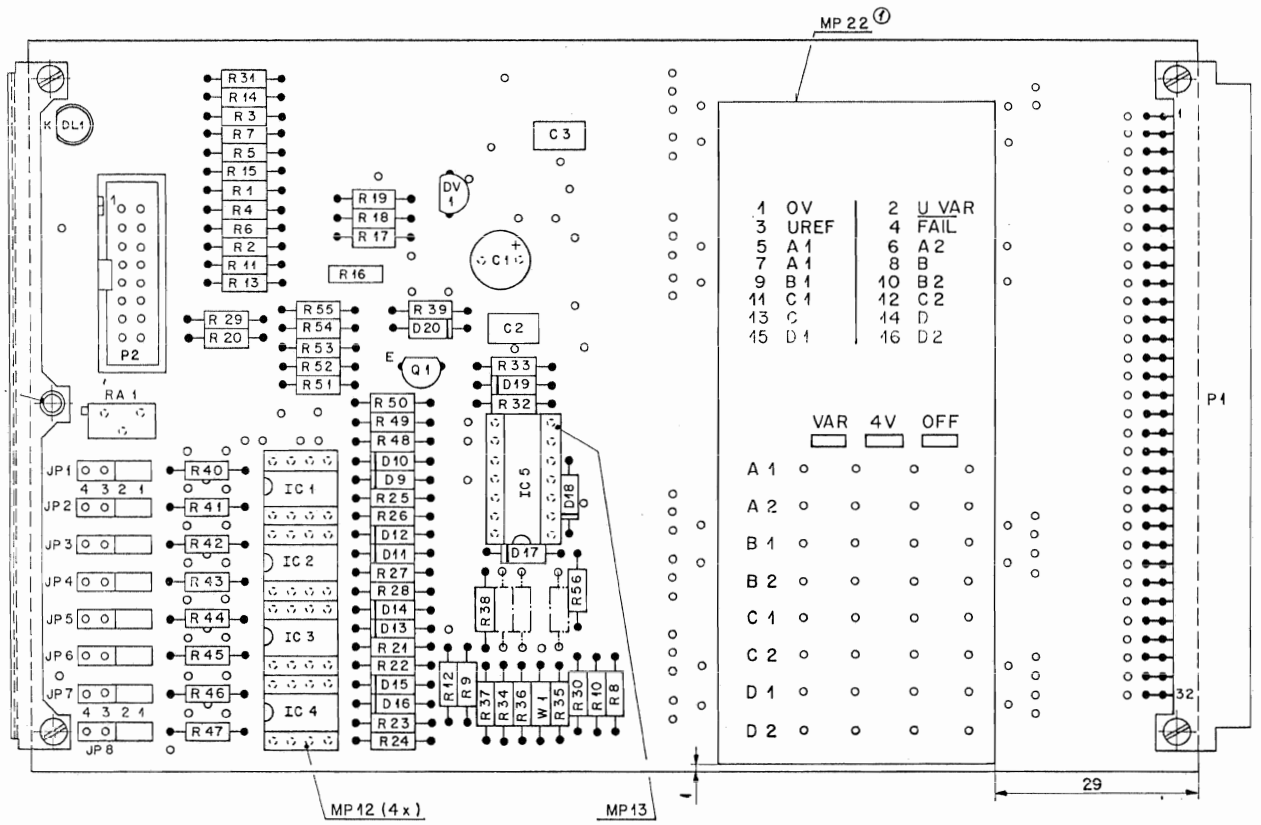
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DIODES / POWER ALARM 2 BOARD 1.915.109.00

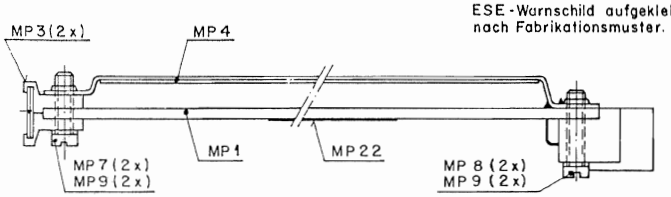


0 29.05.90 Emi	01 26.03.91 Emi	. .	. .	. .
				PAGE 1 OF 1
STUDER	DIODES/POWER ALARM 2 BOARD			1.915.109.00

DIODES / POWER ALARM 2 BOARD 1.915.109.00



ESE-Warnschild aufgeklebt nach Fabrikationsmuster.



Änderung					
					③
					②
	26.3.91				①
Ausgabe	30.11.90				⓪
	Datum	Gez.	Gepr.	Ges.	Index

Kopie für:

STUDER REGENSDORF ZURICH	Benennung: DIODES / POWER ALARM 2 BOARD ESE	Nummer: 1.915.109-00

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	C.....1	59.22.4221	100 uF	EL 16V
01	C.....1	59.22.4221	220 uF	EL 16V
	C.....2	59.06.5474	470 nF	PE
	C.....3	59.06.5474	470 nF	PE
	D.....9	50.04.0127	BAT 85	
	D....10	50.04.0127	BAT 85	
	D....11	50.04.0127	BAT 85	
	D....12	50.04.0127	BAT 85	
	D....13	50.04.0127	BAT 85	
	D....14	50.04.0127	BAT 85	
	D....15	50.04.0127	BAT 85	
	D....16	50.04.0127	BAT 85	
	D....17	50.04.0125	1N4448	75V 100mA
	D....18	50.04.0125	1N4448	75V 100mA
	D....19	50.04.0125	1N4448	75V 100mA
	D....20	50.04.0125	1N4448	75V 100mA
	DL....1	50.04.2111	Led red	
	DV....1	50.10.0106	TL 431 ref	
	IC....1	50.05.0283	LM 393 dual voltage comparator	
	IC....2	50.05.0283	LM 393 dual voltage comparator	
	IC....3	50.05.0283	LM 393 dual voltage comparator	
	IC....4	50.05.0283	LM 393 dual voltage comparator	
	IC....5	50.07.0008	4093 quad 2 input nand	
	JJ....1	54.01.0021	8 pcs jumper jack	
	JP....1	54.01.0020	32 pcs jumper pin	
	P.....1	54.11.2004	2*32 pol eurostecker	
	P.....2	54.14.2002	16 pol Stecker	
	Q.....1	50.03.0340	BC 337 npn	800mA

DIODES / POWER ALARM 2 BOARD 1.915.109.00

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	R.....1	57.11.3102	1 kOhm 1% 0.25W MF	
	R.....2	57.11.3102	1 kOhm 1% 0.25W MF	
	R.....3	57.11.3102	1 kOhm 1% 0.25W MF	
	R.....4	57.11.3102	1 kOhm 1% 0.25W MF	
	R.....5	57.11.3102	1 kOhm 1% 0.25W MF	
	R.....6	57.11.3102	1 kOhm 1% 0.25W MF	
	R.....7	57.11.3102	1 kOhm 1% 0.25W MF	
	R.....8	57.11.3102	1 kOhm 1% 0.25W MF	
	R.....9	57.11.3102	1 kOhm 1% 0.25W MF	
	R....10	57.11.3102	1 kOhm 1% 0.25W MF	
	R....11	57.11.3102	1 kOhm 1% 0.25W MF	
	R....12	57.11.3102	1 kOhm 1% 0.25W MF	
	R....13	57.11.3102	1 kOhm 1% 0.25W MF	
	R....14	57.11.3102	1 kOhm 1% 0.25W MF	
	R....15	57.11.3102	1 kOhm 1% 0.25W MF	
	R....16	57.92.1121	22 Ohm PTC	
	R....17	57.11.3221	220 Ohm 1% 0.25W MF	
	R....18	57.11.3202	2 kOhm 1% 0.25W MF	
	R....19	57.11.3332	3.3 kOhm 1% 0.25W MF	
01	R....19	57.11.3103	10 kOhm 1% 0.25W MF	
	R....20	57.11.3512	5.1 kOhm 1% 0.25W MF	
	R....21	57.11.3102	1 kOhm 1% 0.25W MF	
01	R....21	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....22	57.11.3102	1 kOhm 1% 0.25W MF	
01	R....22	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....23	57.11.3102	1 kOhm 1% 0.25W MF	
01	R....23	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....24	57.11.3102	1 kOhm 1% 0.25W MF	
01	R....24	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....25	57.11.3102	1 kOhm 1% 0.25W MF	
01	R....25	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....26	57.11.3102	1 kOhm 1% 0.25W MF	
01	R....26	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....27	57.11.3102	1 kOhm 1% 0.25W MF	
01	R....27	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....28	57.11.3102	1 kOhm 1% 0.25W MF	
01	R....28	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....29	57.11.3102	1 kOhm 1% 0.25W MF	
	R....30	57.11.3103	10 kOhm 1% 0.25W MF	
	R....31	57.11.3102	1 kOhm 1% 0.25W MF	
	R....32	57.11.3474	470 kOhm 1% 0.25W MF	
	R....33	57.11.3103	10 kOhm 1% 0.25W MF	
	R....34	57.11.3101	100 Ohm 1% 0.25W MF	
	R....35	57.11.3101	100 Ohm 1% 0.25W MF	
	R....36	57.11.3101	100 Ohm 1% 0.25W MF	
	R....37	57.11.3101	100 Ohm 1% 0.25W MF	
	R....38	57.11.3103	10 kOhm 1% 0.25W MF	
	R....39	57.11.3103	10 kOhm 1% 0.25W MF	
	R....40	57.11.3105	1 MOhm 1% 0.25W MF	
	R....41	57.11.3105	1 MOhm 1% 0.25W MF	
	R....42	57.11.3105	1 MOhm 1% 0.25W MF	
	R....43	57.11.3105	1 MOhm 1% 0.25W MF	
	R....44	57.11.3105	1 MOhm 1% 0.25W MF	
	R....45	57.11.3105	1 MOhm 1% 0.25W MF	
	R....46	57.11.3105	1 MOhm 1% 0.25W MF	
	R....47	57.11.3105	1 MOhm 1% 0.25W MF	
	R....48	57.11.3104	100 kOhm 1% 0.25W MF	
01	R....48	57.11.3103	10 kOhm 1% 0.25W MF	
	R....49	57.11.3104	100 kOhm 1% 0.25W MF	
01	R....49	57.11.3103	10 kOhm 1% 0.25W MF	
	R....50	57.11.3104	100 kOhm 1% 0.25W MF	
01	R....50	57.11.3103	10 kOhm 1% 0.25W MF	
	R....51	57.11.3104	100 kOhm 1% 0.25W MF	
01	R....51	57.11.3103	10 kOhm 1% 0.25W MF	
	R....52	57.11.3104	100 kOhm 1% 0.25W MF	
01	R....52	57.11.3103	10 kOhm 1% 0.25W MF	
	R....53	57.11.3104	100 kOhm 1% 0.25W MF	
01	R....53	57.11.3103	10 kOhm 1% 0.25W MF	
	R....54	57.11.3104	100 kOhm 1% 0.25W MF	
01	R....54	57.11.3103	10 kOhm 1% 0.25W MF	
	R....55	57.11.3104	100 kOhm 1% 0.25W MF	
01	R....55	57.11.3103	10 kOhm 1% 0.25W MF	
	R....56	57.11.3104	100 kOhm 1% 0.25W MF	
	RA....1	58.05.0502	5 kOhm trimmpoti	
	W.....1	57.11.3000	0 Ohm	
	MP....1	1.915.109.11	1 pcs Print	Studer
	MP....2	1.915.109.01	1 pcs Bez. Streifen 6.3*91	Studer
	MP....3	1.010.006.33	2 pcs Griffhaelften	Studer
	MP....4	1.010.090.49	1 pcs Abschirmblech	Studer
	MP....5	1.010.096.49	1 pcs Klarsicht Schild	
	MP....6	28.21.1380	1 pcs Rohrniete D2.5/6	
	MP....7	21.01.0280	2 pcs Z - Schraube M2.5*8	
	MP....8	21.01.0281	2 pcs Z - Schraube M2.5*10	
	MP....9	24.16.1025	4 pcs Rippenscheibe D2.7/5	
	MP...10	43.01.0108	1 pcs ESE-Warnschild	
	MP...11	. . 0	1 pcs	
	MP...12	53.03.0166	4 pcs IC-Sockel 8 Pin	
	MP...13	53.03.0167	1 pcs IC-Sockel 16 Pin	
	MP...22	1.915.109.02	1 pcs Klebschild fuer Jumper	

01 Behebung folgender Fehler:
Wenn die Karte kalt ist, wird ein Alarm ausgeloest.
Unterlagen anpassen.

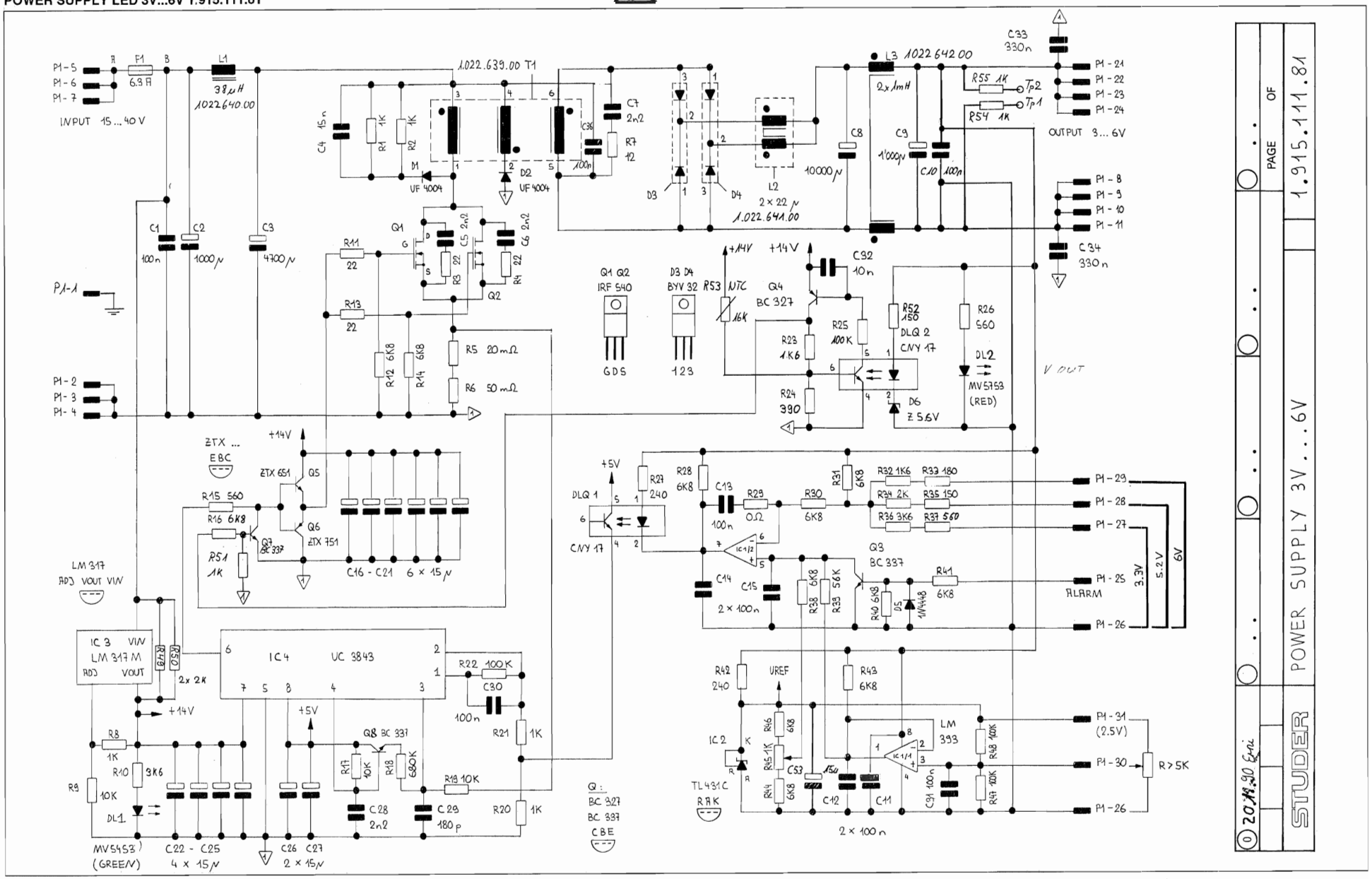
CER=Ceramic, EL =Elektrolyt
MF =Metal Film, PE =Polyesterfolien

MANUFACTURER :
Fe =Ferranti
NE =Nippon Electronic Corp.
NS =National Semiconductors
Ra =Raytheon
Six=Siliconix
Tho=Thomson
Ti =Texas Instrument

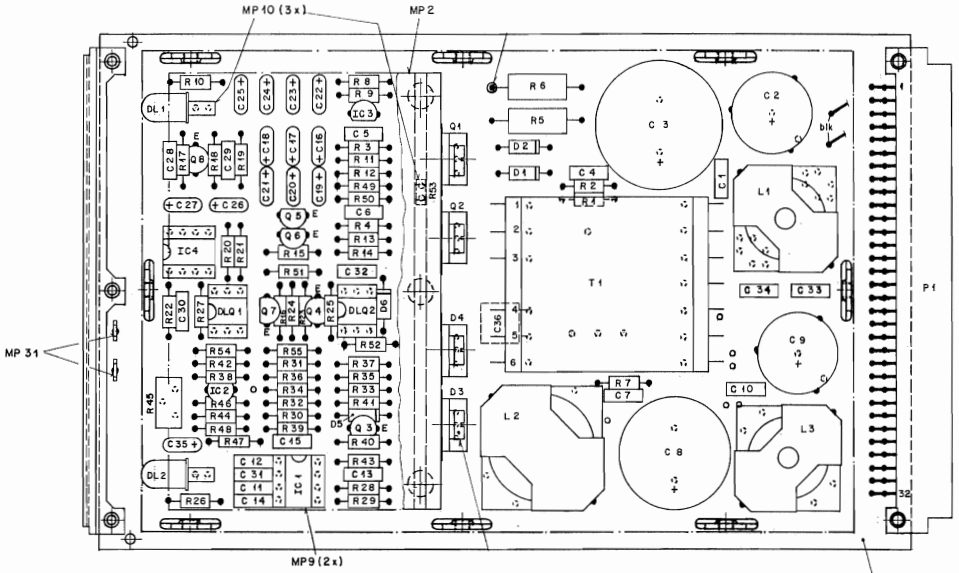
1.915.109.00 DIODES/POWER ALARM 2 BOARD SE 90/03/1000

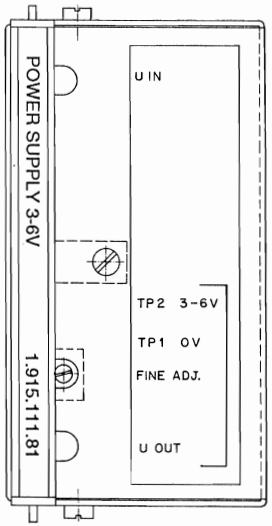
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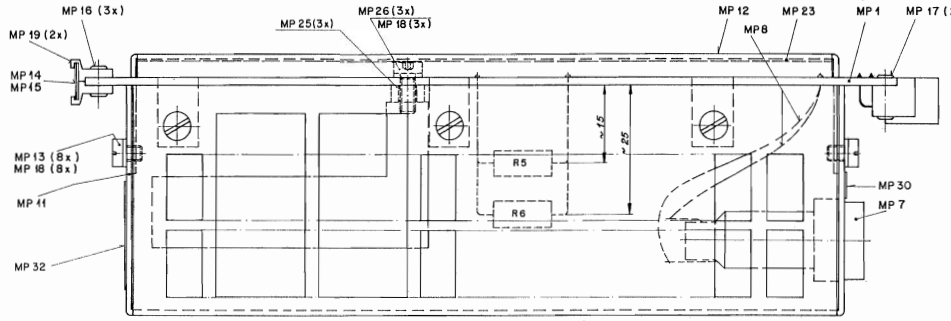
POWER SUPPLY LED 3V...6V 1.915.111.81



POWER SUPPLY LED 3V...6V 1.915.111.81







Ersatz für:	Ersetzt durch:	Kopie für:
STUDER REGENSDORF ZÜRICH	Benennung: POWER SUPPLY LED 3-6V ESE	Nummer: 1.915.111-81

Änderung: 2 Datum 20.11.90 Gez. HK Gepr. SC Ges. Index ②

Ad	..POS..	...REF.No...	DESCRIPTION.....			MANUFACTURER
	C.....1	59.06.0104	100 nF	PE		
	C.....2	59.22.6102	1000 uF	ALU	40V	
	C.....3	59.29.4472	4700 uF	EL	40V	
	C.....4	59.06.0153	15 nF	PE		
	C.....5	59.06.0222	2.2 nF	PE		
	C.....6	59.06.0222	2.2 nF	PE		
	C.....7	59.06.0222	2.2 nF	PE		
	C.....8	59.29.1103	10000 uF	EL	10V	
	C.....9	59.22.6102	1000 uF	ALU		
	C....10	59.06.0104	100 nF	PE		
	C....11	59.06.0104	100 nF	PE		
	C....12	59.06.0104	100 nF	PE		
	C....13	59.06.0104	100 nF	PE		
	C....14	59.06.0104	100 nF	PE		
	C....15	59.06.0104	100 nF	PE		
	C....16	59.26.2150	15 uF	ALU	16V dry	
	C....17	59.26.2150	15 uF	ALU	16V dry	
	C....18	59.26.2150	15 uF	ALU	16V dry	
	C....19	59.26.2150	15 uF	ALU	16V dry	
	C....20	59.26.2150	15 uF	ALU	16V dry	
	C....21	59.26.2150	15 uF	ALU	16V dry	
	C....22	59.26.2150	15 uF	ALU	16V dry	
	C....23	59.26.2150	15 uF	ALU	16V dry	
	C....24	59.26.2150	15 uF	ALU	16V dry	
	C....25	59.26.2150	15 uF	ALU	16V dry	
	C....26	59.26.2150	15 uF	ALU	16V dry	
	C....27	59.26.2150	15 uF	ALU	16V dry	
	C....28	59.06.0222	2.2 nF	PE		
	C....29	59.34.4181	180 pF	CER		
	C....30	59.06.0104	100 nF	PE		
	C....31	59.06.0104	100 nF	PE		
	C....32	59.06.0103	10 nF	PE		
	C....33	59.06.0334	330 nF	PE		
	C....34	59.06.0334	330 nF	PE		
	C....35	59.26.2150	15 uF	ALU	16V dry	
	C....36	59.06.0104	100 nF	PE		
	D.....1	50.04.0138	UF4004			
	D.....2	50.04.0138	UF4004			
	D.....3	50.04.0517	BYY 32	dual diode 2*10A		
	D.....4	50.04.0517	BYY 32	dual diode 2*10A		
	D.....5	50.04.0125	1N4448			
	D.....6	50.04.1108	Z 5.6V			
	DL....1	50.04.2113	MV5453	LED 5mm green		
	DL....2	50.04.2111	MV5753	LED 5mm red		
	DLQ...1	50.04.3200	CNY17	single optoisolator		GI
	DLQ...2	50.04.3200	CNY17	single optoisolator		GI
	F.....1	51.01.0125	6.3A	fuse		
	IC....1	50.05.0283	LM393	dual comparator		NS
	IC....2	50.10.0106	TL431C	shunt voltage regulator		TI
	IC....3	50.10.0108	LM317	series voltage regulator		NS
	IC....4	50.10.0113	UC3843	current mode PWM controller		UN
	L.....1	1.022.640.00	38 uH	5A		STUDER
	L.....2	1.022.641.00	22 uH	dual coil 2*5A		STUDER
	L.....3	1.022.642.00	1.6 mH	dual coil 2*10A		STUDER
	MP....1	1.915.111.12	1 pcs	Power Supply Led 3-6V PCB		STUDER
	MP....2	50.20.3005	1 pcs	heat-sink black 1.8 K/W		
	MP....3	. . 0	not used			
	MP....4	. . 0	not used			
	MP....5	50.20.0305	4 pcs	Glimmerscheibe		
	MP....6	50.20.0404	4 pcs	Isolierdurchfuerung		
	MP....7	53.03.0106	1 pcs	fuse holder 10A		
	MP....8	1.915.111.93	1 pcs	LL Power Supply Led 3-6V		
	MP....9	53.03.0166	2 pcs	IC-socket 8 pins		
	MP...10	1.010.012.50	3 pcs	LED-clip (2LED 1NTC)		
	MP...11	1.915.111.01	1 pcs	Abdeckhaube Bestueckseite		STUDER
	MP...12	1.915.111.02	1 pcs	Abdeckhaube Loetseite		STUDER
	MP...13	21.53.0352	8 pcs	Z Schraube IS M3*4 (Abdeckhaube)		
	MP...14	1.915.111.04	1 pcs	Bez.Streifen 6.3*91		
	MP...15	1.010.096.49	1 pcs	Klarsichtschild		
	MP...16	28.21.1380	3 pcs	Rohrniete D2.25*6.5		
	MP...17	28.99.0119	2 pcs	Rohrniete D 2.5*9		
	MP...18	24.16.1030	11 pcs	Rippenscheibe M3		
	MP...19	1.010.006.33	2 pcs	Griffhaelfte		
	MP...20	37.01.0101	8 pcs	Tellerfeder		
	MP...21	21.01.0356	4 pcs	Z Schraube M3*10 (Halbleiterm.)		
	MP...22	1.010.098.27	4 pcs	Distanzhuelse D 3.1/7*2.3		
	MP...23	1.915.111.03	1 pcs	Isolation 138*89 selbstklebend		
	MP...25	1.010.088.27	3 pcs	Distanzhuelse D 3.2/7 * 35		
	MP...26	21.53.0357	3 pcs	Z -Schraube M3*12		
	MP...27	. . 0	not used			
	MP...28	65.03.0158	23 mm	Isolierschlauch (R6)		
	MP...30	1.010.123.51	1 pcs	Text-Etikette 5*20 (T 6.3A)		
	MP...31	54.02.0320	2 pcs	Flachstecker (Tp1 Tp2)		
	MP...32	1.915.111.05	1 pcs	Klebschild (Poti Led Tp)		
	P.....1	54.11.2004	32 pins	Eurocard connector		
	Q.....1	50.03.1509	IRF 540	power MOS-FET		GE
	Q.....2	50.03.1509	IRF 540	power MOS-FET		GE
	Q.....3	50.03.0340	BC 337	NPN standard		
	Q.....4	50.03.0351	BC 327	PNP standard		
	Q.....5	50.03.0523	ZTX 651	NPN 2A		
	Q.....6	50.03.0352	ZTX 751	PNP 2A		
	Q.....7	50.03.0340	BC 337	NPN standard		

POWER SUPPLY LED 3V...6V 1.915.111.81

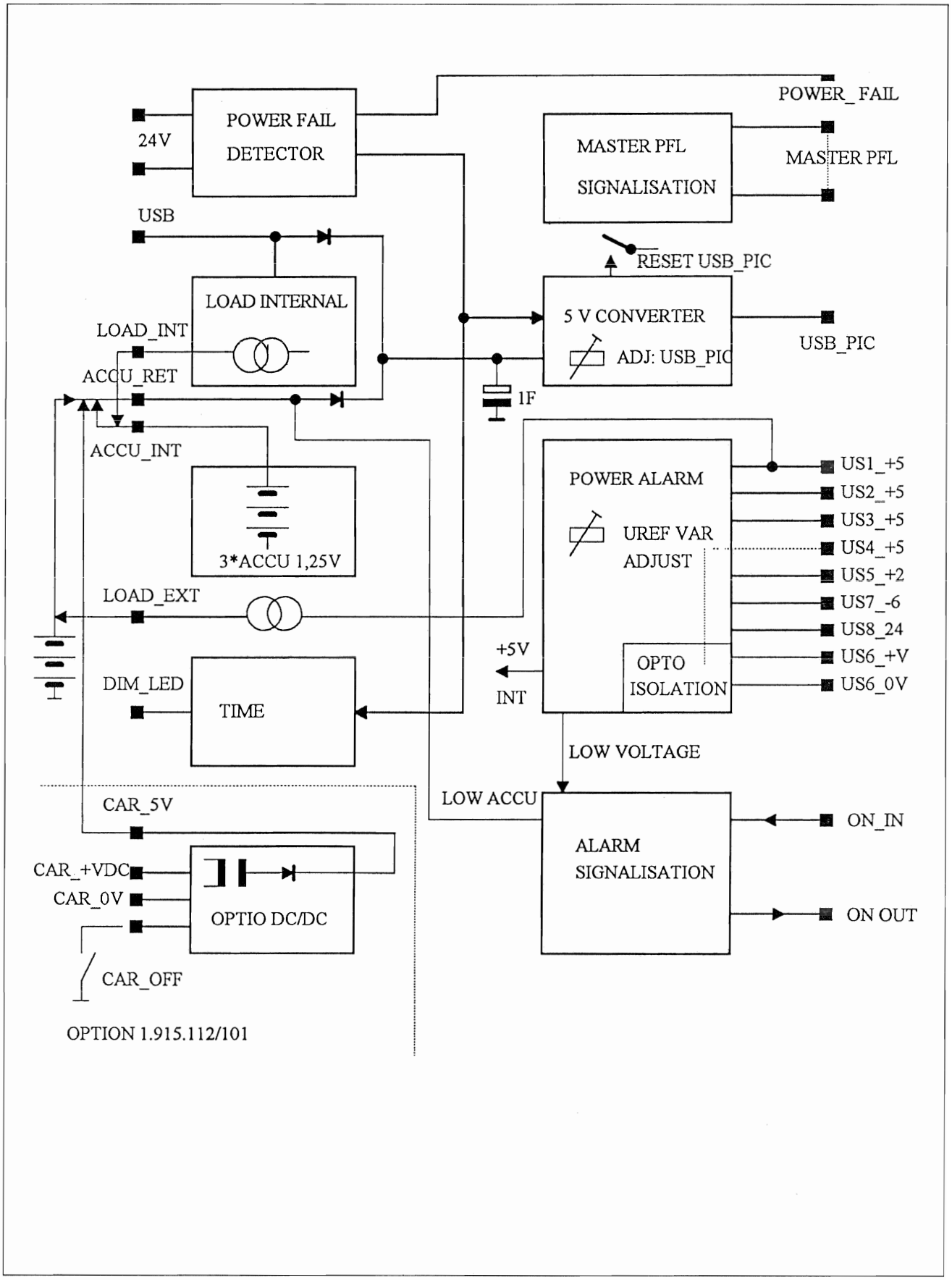
Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	Q.....8	50.03.0340	BC 337 NPN standard	
	R.....1	57.11.3102	1 kOhm	
	R.....2	57.11.3102	1 kOhm	
	R.....3	57.11.3220	22 Ohm	
	R.....4	57.11.3220	22 Ohm	
	R.....5	57.56.2020	20 mOhm 3W small L (10nH)	
	R.....6	57.56.2050	50 mOhm 3W small L (10nH)	
	R.....7	57.11.3120	12 Ohm	
	R.....8	57.11.3102	1 kOhm 5%	
	R.....9	57.11.3103	10 kOhm 5%	
	R....10	57.11.3362	3.6 kOhm	
	R....11	57.11.3220	22 Ohm	
	R....12	57.11.3682	6.8 kOhm	
	R....13	57.11.3220	22 Ohm	
	R....14	57.11.3682	6.8 kOhm	
	R....15	57.11.3561	560 Ohm	
	R....16	57.11.3682	6.8 kOhm	
	R....17	57.11.3103	10 kOhm 5%	
	R....18	57.11.3684	680 kOhm 5%	
	R....19	57.11.3103	10 kOhm	
	R....20	57.11.3102	1 kOhm	
	R....21	57.11.3102	1 kOhm	
	R....22	57.11.3104	100 kOhm	
	R....23	57.11.3162	1.6 kOhm	
	R....24	57.11.3391	390 Ohm	
	R....25	57.11.3104	100 kOhm	
	R....26	57.11.3561	560 Ohm	
	R....27	57.11.3241	240 Ohm	
	R....28	57.11.3682	6.8 kOhm	
	R....29	57.11.3000	0 Ohm	
	R....30	57.11.3682	6.8 kOhm	
	R....31	57.11.3682	6.8 kOhm 1%	
	R....32	57.11.3162	1.6 kOhm 1%	
	R....33	57.11.3181	180 Ohm 1%	
	R....34	57.11.3202	2 kOhm 1%	
	R....35	57.11.3151	150 Ohm 1%	
	R....36	57.11.3362	3.6 kOhm 1%	
	R....37	57.11.3561	560 Ohm 1%	
	R....38	57.11.3682	6.8 kOhm 1%	
	R....39	57.11.3563	56 kOhm 1%	
	R....40	57.11.3682	6.8 kOhm	
	R....41	57.11.3682	6.8 kOhm	
	R....42	57.11.3241	240 Ohm	
	R....43	57.11.3682	6.8 kOhm	
	R....44	57.11.3682	6.8 kOhm 1%	
	R....45	58.01.9102	1 kOhm trimmer	
	R....46	57.11.3682	6.8 kOhm 1%	
	R....47	57.11.3104	100 kOhm 1%	
	R....48	57.11.3104	100 kOhm 1%	
	R....49	57.11.3202	2 kOhm	
	R....50	57.11.3202	2 kOhm	
	R....51	57.11.3102	1 kOhm	
	R....52	57.11.3151	150 Ohm	
	R....53	57.99.0220	16 kOhm NTC	
	R....54	57.11.3102	1 kOhm	
	R....55	57.11.3102	1 kOhm	
	T.....1	1.022.639.00	Schalttrafo Power Supply 3 - 6V	STUDER

PE=Polyester, EL=Electrolytic, ALU=Aluminium, CER=Ceramic

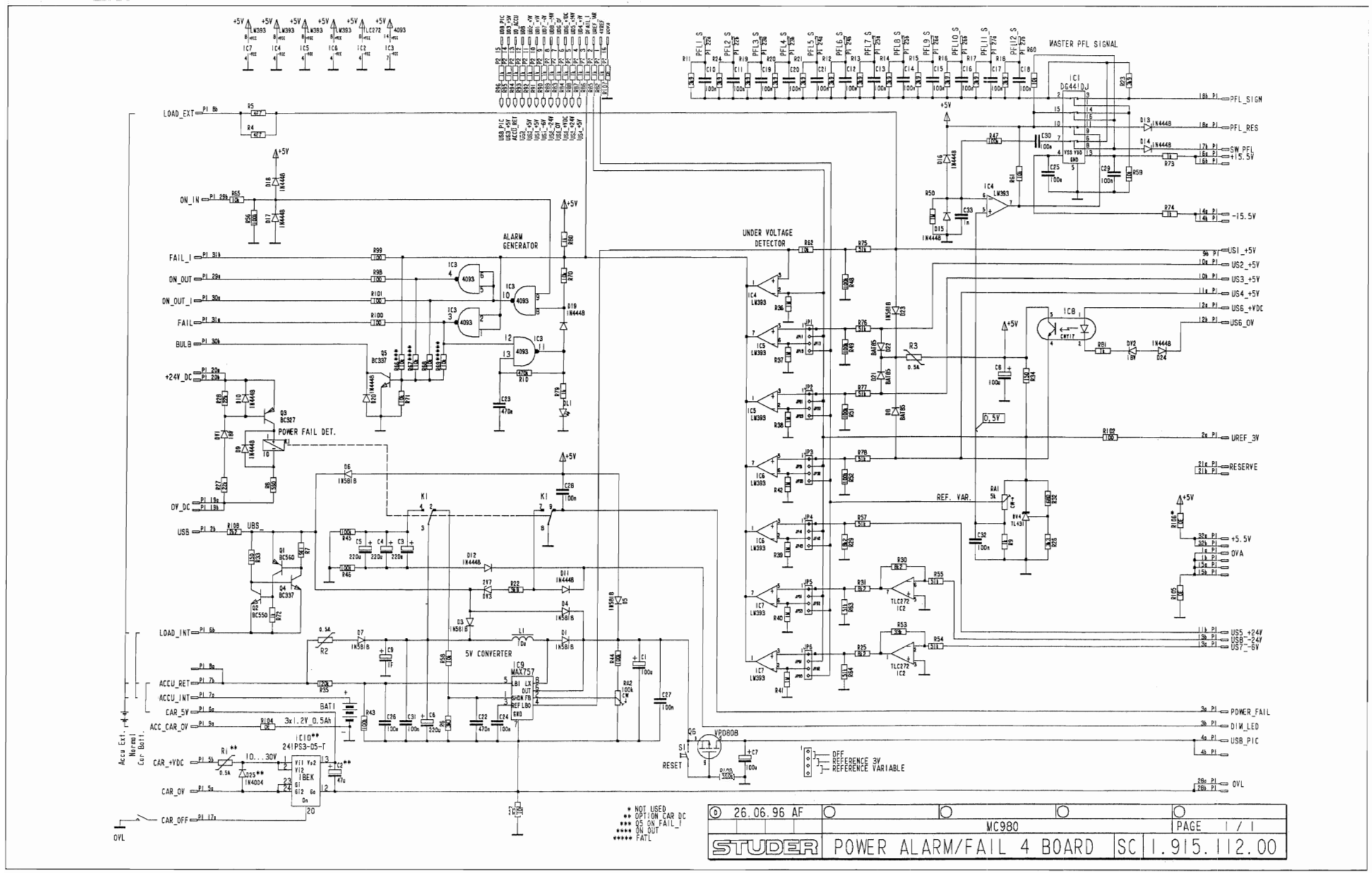
MANUFACTURER: NS=National Semiconductors, TI=Texas Instrument
GI=General Instruments, UN=Unitrod,
GE=General Electric,

1.915.111.81 POWER SUPPLY LED 3-6V SE 92/01/2400

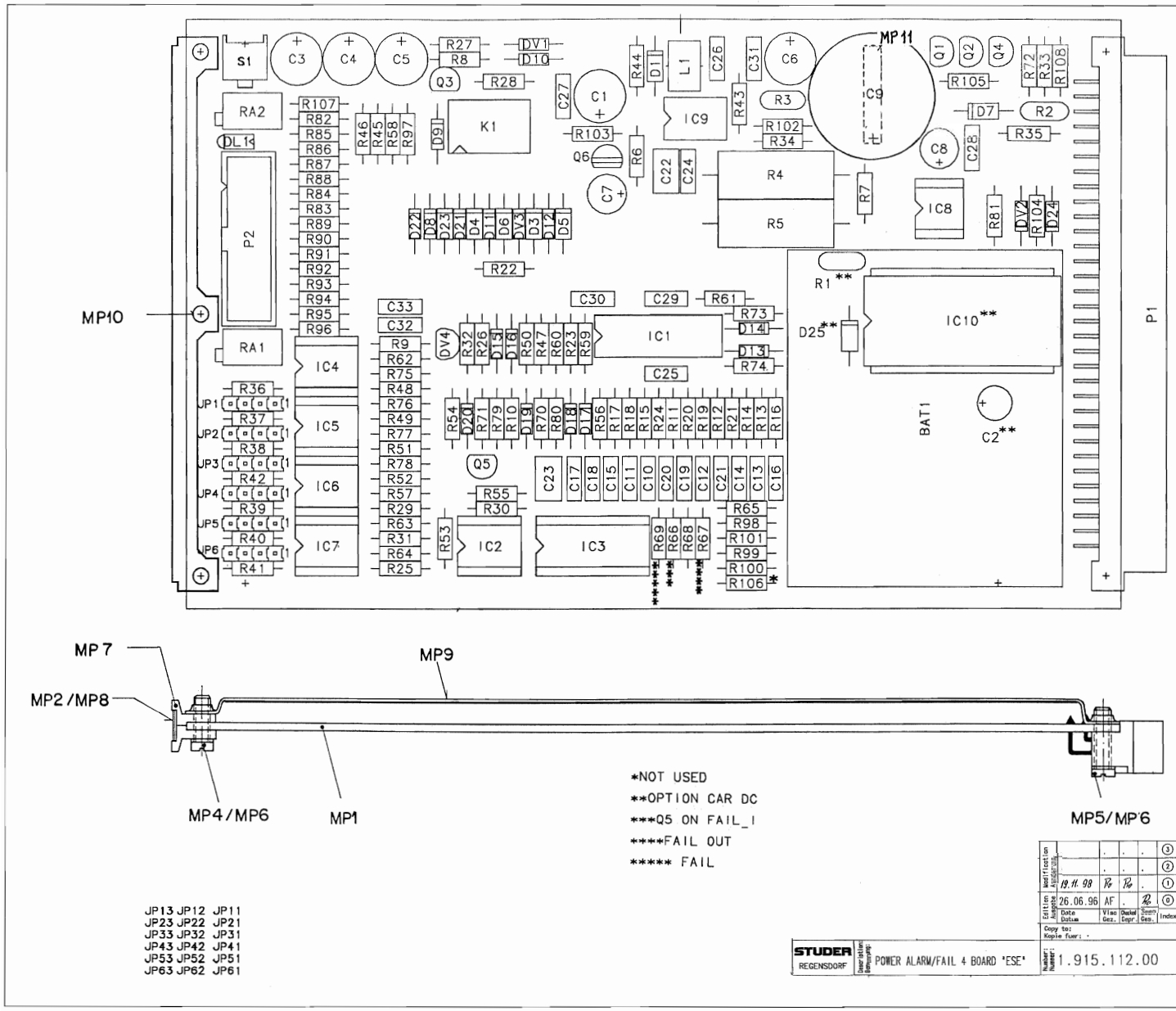
BLOCK DIAGRAM
POWER ALARM / FAIL 4 BOARD 1.915.112.00



POWER ALARM / FAIL 4 BOARD 1.915.112.00



POWER ALARM / FAIL 4 BOARD 1.915.112.00



Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	BAT 1	89.01.2701			BATTERIEHALTER 3 X UM3
0	C 1	59.22.5101		100u	EL 25V, 20%, rad RM5
0	C 2	not used		100u	EL 10V, 20%, rad RM5
					** *OPTION CAR DC*
0	C 3	59.22.3221		220u	EL 10V, 20%, rad RM5
0	C 4	59.22.3221		220u	EL 10V, 20%, rad RM5
0	C 5	59.22.3221		220u	EL 10V, 20%, rad RM5
0	C 6	59.22.3221		220u	EL 10V, 20%, rad RM5
0	C 7	59.22.3101		100u	EL 10V, 20%, rad RM5
0	C 8	59.22.3101		100u	EL 10V, 20%, rad RM5
0	C 9	59.22.1105		1F	EL 5.5V, 20%, rad
0	C 10	59.06.5104		100n	PETP, 5%, 63V
0	C 11	59.06.5104		100n	PETP, 5%, 63V
0	C 12	59.06.5104		100n	PETP, 5%, 63V
0	C 13	59.06.5104		100n	PETP, 5%, 63V
0	C 14	59.06.5104		100n	PETP, 5%, 63V
0	C 15	59.06.5104		100n	PETP, 5%, 63V
0	C 16	59.06.5104		100n	PETP, 5%, 63V
0	C 17	59.06.5104		100n	PETP, 5%, 63V
0	C 18	59.06.5104		100n	PETP, 5%, 63V
0	C 19	59.06.5104		100n	PETP, 5%, 63V
0	C 20	59.06.5104		100n	PETP, 5%, 63V
0	C 21	59.06.5104		100n	PETP, 5%, 63V
0	C 22	59.06.0474		470n	PETP, 10%, 63V
0	C 23	59.06.0474		470n	PETP, 10%, 63V
0	C 24	59.06.0104		100n	PETP, 10%, 63V
0	C 25	59.06.0104		100n	PETP, 10%, 63V
0	C 26	59.06.0104		100n	PETP, 10%, 63V
0	C 27	59.06.0104		100n	PETP, 10%, 63V
0	C 28	59.06.0104		100n	PETP, 10%, 63V
0	C 29	59.06.0104		100n	PETP, 10%, 63V
0	C 30	59.06.0104		100n	PETP, 10%, 63V
0	C 31	59.06.0104		100n	PETP, 10%, 63V
0	C 32	59.06.0104		100n	PETP, 10%, 63V
0	C 33	59.06.0102		1n0	PETP, 10%, 63V
0	D 1	50.04.0512		1N5818	D 1N 5818, 1N 5819,
0	D 3	50.04.0512		1N5818	D 1N 5818, 1N 5819,
0	D 4	50.04.0512		1N5818	D 1N 5818, 1N 5819,
0	D 5	50.04.0512		1N5818	D 1N 5818, 1N 5819,
0	D 6	50.04.0512		1N5818	D 1N 5818, 1N 5819,
0	D 7	50.04.0512		1N5818	D 1N 5818, 1N 5819,
0	D 8	50.04.0127		BAT85	D BAT 85
0	D 9	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 10	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 11	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 12	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 13	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 14	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 15	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 16	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 17	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 18	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 19	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 20	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 21	50.04.0127		BAT85	D BAT 85
0	D 22	50.04.0127		BAT85	D BAT 85
0	D 23	50.04.0512		1N5818	D 1N 5818, 1N 5819,
0	D 24	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 25	not used		1N4004	D 1 N 4004 ... 1 N 4007
					** *OPTION CAR DC*
0	DL 1	50.04.2107		555-2007	DL 555-2007, RT
0	DV 1	50.04.1122		18V	Zener, 5%, 0.5W, DO-35
0	DV 2	50.04.1122		18V	Zener, 5%, 0.5W, DO-35
0	DV 3	50.04.1106		2V7	Zener, 5%, 0.5W, DO-35
0	DV 4	50.10.0106		TL431	IC TL 431 CLP,
0	IC 1	50.19.0300		DG211CJ-2	IC DG 441 DJ ,A
0	IC 2	50.09.0122		TLC272	IC TLC 272 CP,TS 272 CN ,A
0	IC 3	50.07.0008		4093	IC .. 4093 .. ,A
0	IC 4	50.05.0283		LM393	Dual Comparator
0	IC 5	50.05.0283		LM393	Dual Comparator
0	IC 6	50.05.0283		LM393	Dual Comparator
0	IC 7	50.05.0283		LM393	Dual Comparator
0	IC 8	50.04.3200		CNY17	DLQ CNY 17-2, CNY 17-2Z,
0	IC 9	50.10.0123		MAX757	MAX 757 CPA
0	IC 10	not used		unbekannt	unbekanntes Bauteil
					IBEK 24 IPS 3-05-T
					** *OPTION CAR DC*

Edition / Ausgabe	Date / Datum	Visa / Gez.	Dackel / Oppr.	Check / Geo.	Index
	19.11.98	Ro	Ro		1
	26.06.96	AF			0

Modification / Aenderung

Copy to: Kopie fuer:

STUDER REGENSDORF | Description / Bezeichnung: POWER ALARM/FAIL 4 BOARD 'ESE' | Number / Nummer: 1.915.112.00



POWER ALARM / FAIL 4 BOARD 1.915.112.00

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	JP 1	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 2	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 3	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 4	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 5	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 6	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 11	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 12	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 13	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 21	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 22	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 23	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 31	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 32	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 33	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 41	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 42	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 43	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 51	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 52	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 53	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 61	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 62	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JP 63	54.01.0020		1-P	P STIFT .63*.63, H=5.8/3.4
0	JPJ 1	54.01.0021		Jumper	0.63 * 0.63mm
0	JPJ 2	54.01.0021		Jumper	0.63 * 0.63mm
0	JPJ 3	54.01.0021		Jumper	0.63 * 0.63mm
0	JPJ 4	54.01.0021		Jumper	0.63 * 0.63mm
0	JPJ 5	54.01.0021		Jumper	0.63 * 0.63mm
0	JPJ 6	54.01.0021		Jumper	0.63 * 0.63mm
0	K 1	56.04.0197		2U	K 24 V 2*U , 125V/ 2 A, AG/AU
0	L 1	62.03.0001		10uH	L 10 U , 1 A, FILTER
0	MP 1	1.915.112.11	1 pce		Power Alarm/Fail PCB
0	MP 2	1.915.112.01	1 pce		BEZ.STREIFEN 6,3 * 91
0	MP 3	43.01.0108	1 pce	Label	ESE-WARNSCHILD
0	MP 4	21.01.0280	2 pcs	M2.5*8	Z - Schraube Zn gb chr
0	MP 5	21.01.0281	2 pcs	M2.5*10	Z - Schraube Zn gb chr
0	MP 6	24.16.1025	4 pcs		RIPPENSCHEIBE D 2.7/ 5
0	MP 7	1.010.006.33	2 pcs	Handle	GRIFFHAELFTE
0	MP 8	1.010.096.49	1 pce	-	KLARSICHTSCHILD
0	MP 9	1.010.090.49	1 pce	Screen	ABSCHIRMUNG KOMPLETT
0	MP 10	28.21.1380	3 pcs	2.25*6.5	Rohrniete Ms blank
1	MP 11	1.911.323.01	pce		TRAFO-UNTERLAGE *1/2 Stück*
0	P 1	54.11.2004		64-P	P EU-B 2 * 32
0	P 2	54.14.2102		16-P	P STECKER 16 P,AU,VR,GERADE
0	Q 1	50.03.0601		BC560C	BC 560 C
0	Q 2	50.03.0407		BC550C	BC 550 C
0	Q 3	50.03.0351		BC327-25	PNP, 800mA
0	Q 4	50.03.0340		BC337-25	BC 337-25,
0	Q 5	50.03.0340		BC337-25	BC 337-25,
0	Q 6	50.03.1554		VP0808M	VP 0808 M
0	R 1	not used		0.5A	POLY- PTC, 60V *** OPTION CAR DC*
0	R 2	57.92.7013		0.5A	POLY- PTC, 60V
0	R 3	57.92.7013		0.5A	POLY- PTC, 60V
0	R 4	57.56.5479		4R7	WW, 10%, 4 W
0	R 5	57.56.5479		4R7	WW, 10%, 4 W
0	R 6	57.11.5335		3M3	MF, 5%, 0207
0	R 7	57.11.3919		8R2	MF, 1%, 0207
0	R 8	57.11.3561		560R	MF, 1%, 0207
0	R 9	57.11.3102		1k0	MF, 1%, 0207
0	R 10	57.11.3474		470k	MF, 1%, 0207
0	R 11	57.11.3392		3k9	MF, 1%, 0207
0	R 12	57.11.3392		3k9	MF, 1%, 0207
0	R 13	57.11.3392		3k9	MF, 1%, 0207
0	R 14	57.11.3392		3k9	MF, 1%, 0207
0	R 15	57.11.3392		3k9	MF, 1%, 0207
0	R 16	57.11.3392		3k9	MF, 1%, 0207
0	R 17	57.11.3392		3k9	MF, 1%, 0207
0	R 18	57.11.3392		3k9	MF, 1%, 0207
0	R 19	57.11.3392		3k9	MF, 1%, 0207
0	R 20	57.11.3392		3k9	MF, 1%, 0207
0	R 21	57.11.3392		3k9	MF, 1%, 0207
0	R 22	57.11.3392		3k9	MF, 1%, 0207
0	R 23	57.11.3392		3k9	MF, 1%, 0207
0	R 24	57.11.3392		3k9	MF, 1%, 0207
0	R 25	57.11.3332		3k3	MF, 1%, 0207
0	R 26	57.11.3332		3k3	MF, 1%, 0207
0	R 27	57.11.3223		22k	MF, 1%, 0207
0	R 28	57.11.3223		22k	MF, 1%, 0207
0	R 29	57.11.3822		8k2	MF, 1%, 0207
0	R 30	57.11.3822		8k2	MF, 1%, 0207
0	R 31	57.11.3822		8k2	MF, 1%, 0207
0	R 32	57.11.3681		680R	MF, 1%, 0207
0	R 33	57.11.3151		150R	MF, 1%, 0207
0	R 34	57.11.3151		150R	MF, 1%, 0207
0	R 35	57.11.3124		120k	MF, 1%, 0207
0	R 36	57.11.3105		1M0	MF, 1%, 0207
0	R 37	57.11.3105		1M0	MF, 1%, 0207
0	R 38	57.11.3105		1M0	MF, 1%, 0207
0	R 39	57.11.3105		1M0	MF, 1%, 0207
0	R 40	57.11.3105		1M0	MF, 1%, 0207
0	R 41	57.11.3105		1M0	MF, 1%, 0207
0	R 42	57.11.3105		1M0	MF, 1%, 0207
0	R 43	57.11.3104		100k	MF, 1%, 0207
0	R 44	57.11.3104		100k	MF, 1%, 0207
0	R 45	57.11.3104		100k	MF, 1%, 0207
0	R 46	57.11.3104		100k	MF, 1%, 0207
0	R 47	57.11.3104		100k	MF, 1%, 0207
0	R 48	57.11.3104		100k	MF, 1%, 0207
0	R 49	57.11.3104		100k	MF, 1%, 0207
0	R 50	57.11.3105		1M0	MF, 1%, 0207
0	R 51	57.11.3104		100k	MF, 1%, 0207
0	R 52	57.11.3104		100k	MF, 1%, 0207
0	R 53	57.11.3104		100k	MF, 1%, 0207
0	R 54	57.11.3104		100k	MF, 1%, 0207
0	R 55	57.11.3513		51k	MF, 1%, 0207
0	R 56	57.11.3104		100k	MF, 1%, 0207
0	R 57	57.11.3513		51k	MF, 1%, 0207
0	R 58	57.11.3103		10k	MF, 1%, 0207
0	R 59	57.11.3103		10k	MF, 1%, 0207
0	R 60	57.11.3103		10k	MF, 1%, 0207
0	R 61	57.11.3103		10k	MF, 1%, 0207
0	R 62	57.11.3103		10k	MF, 1%, 0207
0	R 63	57.11.3513		51k	MF, 1%, 0207
0	R 64	57.11.3513		51k	MF, 1%, 0207
0	R 65	57.11.3103		10k	MF, 1%, 0207
0	R 66	not used		10k	MF, 1%, 0207 **** Q5 ON FAIL_I*
0	R 67	not used		10k	MF, 1%, 0207 ***** ON_OUT*
0	R 68	57.11.3103		10k	MF, 1%, 0207
0	R 69	not used		10k	MF, 1%, 0207 ****** FAIL*
0	R 70	57.11.3103		10k	MF, 1%, 0207
0	R 71	57.11.3103		10k	MF, 1%, 0207
0	R 72	57.11.3102		1k0	MF, 1%, 0207
0	R 73	57.11.3102		1k0	MF, 1%, 0207
0	R 74	57.11.3102		1k0	MF, 1%, 0207
0	R 75	57.11.3513		51k	MF, 1%, 0207
0	R 76	57.11.3513		51k	MF, 1%, 0207
0	R 77	57.11.3513		51k	MF, 1%, 0207
0	R 78	57.11.3513		51k	MF, 1%, 0207
0	R 79	57.11.3102		1k0	MF, 1%, 0207
0	R 80	57.11.3102		1k0	MF, 1%, 0207
0	R 81	57.11.3102		1k0	MF, 1%, 0207
0	R 82	57.11.3102		1k0	MF, 1%, 0207
0	R 83	57.11.3102		1k0	MF, 1%, 0207
0	R 84	57.11.3102		1k0	MF, 1%, 0207
0	R 85	57.11.3102		1k0	MF, 1%, 0207
0	R 86	57.11.3102		1k0	MF, 1%, 0207
0	R 87	57.11.3102		1k0	MF, 1%, 0207
0	R 88	57.11.3102		1k0	MF, 1%, 0207
0	R 89	57.11.3102		1k0	MF, 1%, 0207
0	R 90	57.11.3102		1k0	MF, 1%, 0207
0	R 91	57.11.3102		1k0	MF, 1%, 0207
0	R 92	57.11.3102		1k0	MF, 1%, 0207
0	R 93	57.11.3102		1k0	MF, 1%, 0207
0	R 94	57.11.3102		1k0	MF, 1%, 0207
0	R 95	57.11.3102		1k0	MF, 1%, 0207
0	R 96	57.11.3102		1k0	MF, 1%, 0207
0	R 97	57.11.3101		100R	MF, 1%, 0207
0	R 98	57.11.3101		100R	MF, 1%, 0207
0	R 99	57.11.3101		100R	MF, 1%, 0207
0	R 100	57.11.3101		100R	MF, 1%, 0207
0	R 101	57.11.3101		100R	MF, 1%, 0207
0	R 102	57.11.3101		100R	MF, 1%, 0207
1	R 103	57.11.3564		560k	MF, 1%, 0207
0	R 104	57.11.3000		0R0	MF, 0207

POWER ALARM / FAIL 4 BOARD 1.915.112.00

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	R 105	57.11.3000		0R0	MF, 0207
1	R 106	not used		0R0	MF, 0207
0	R 107	57.11.3000		0R0	MF, 0207
1	R 108	57.11.3220		22R	MF, 1%, 0207
0	RA 1	58.05.0502		5k	10%, 0.5W, Cermet
0	RA 2	58.05.0104		100k	10%, 0.5W, Cermet
0	S 1	55.15.1004		1*a	S TASTE, 1*A,IMPULS,90 GRD
0	XIC 1	53.03.0168		16p	DIL 0.3", löt, gerade
0	XIC 2	53.03.0166		8p	DIL 0.3", löt, gerade
0	XIC 3	53.03.0167		14p	DIL 0.3", löt, gerade
0	XIC 4	53.03.0166		8p	DIL 0.3", löt, gerade
0	XIC 5	53.03.0166		8p	DIL 0.3", löt, gerade
0	XIC 6	53.03.0166		8p	DIL 0.3", löt, gerade
0	XIC 7	53.03.0166		8p	DIL 0.3", löt, gerade
0	XIC 8	53.03.0164		6p	DIL 0.3", löt, gerade
0	XIC 9	53.03.0166		8p	DIL 0.3", löt, gerade

End of List

Comments

(1) 19.11.1998 Reset-function adjustment

Pin assignment
POWER ALARM/FAIL 4 BOARD 1.915.112.00
Connector P1 (to EURO card rack)

P	NO	NAME	REMARK	TYPE
P	01A	0VA	Audio ground	
P	01B	0VA	Audio ground	
P	02A	UREF_4V	Reference voltage, 4 VDC, Ri = 100 Ω	
P	02B	USB	Stand-by power from supply, 4.5...5 V	
P	03A	POWER_FAIL	No power; contact closed to 0 V (ground)	
P	03B	DIM_LED	No power; LED supply DIM 1.915.111.81	Alarm pin P1_25
P	04A	USB_PIC	Stand by power for PIC, 5 VDC	
P	04B	USB_PIC	Stand by power for PIC, 5 VDC	
P	05A	CAR_0V	Converter MELCHER IBEK 24 IPS 3 - 05 - T	floating
P	05B	CAR_+VDC	DC/DC insulation 500 VRMS, 10...33 V	floating
P	06A	CAR_5V	MELCHER DC/DC converter output, 5 VDC	C
P	06B	LOAD_INT	Charging current for internal rechargeable battery	A B
P	07A	ACCU_INT	Internal rechargeable battery	A
P	07B	ACCU_RET	Return voltage from int./ext. rechargeable battery; car	A B C
P	08A	ACCU_RET	Return voltage from int./ext. rechargeable battery; car	A B C
P	08B	LOAD_EXT	External rechargeable battery, 3 x 1.25 V, +	B
P	09A	ACC_CAR_0V	External rechargeable battery or car battery ground	(B) (C)
P	09B	US1_+5V	+5 V supply voltage to be supervised	ref. to ground
P	10A	US2_+5V	+5 V supply voltage to be supervised	ref. to ground
P	10B	US3_+5V	+5 V supply voltage to be supervised	ref. to ground
P	11A	US4_+5V	+5 V supply voltage to be supervised *or US6*	ref. to ground
P	11B	US5_+24V	+24 V supply voltage to be supervised	ref. to ground
P	12A	US6_+VDC	+XY V supply voltage to be supervised or *US4*	floating
P	12B	US6_0V	+XY 0 V supply voltage to be supervised or*US4*	floating
P	13A	US7_-6V	-6 V supply voltage to be supervised	ref. to ground
P	13B	US8_-24V	-24 V supply voltage to be supervised	ref. to ground
P	14A	-15.5V	Audio supply, –	
P	14B	-15.5V	Audio supply, –	
P	15A	0VA	Audio ground	
P	15B	0VA	Audio ground	
P	16A	+15.5V	Audio supply, +	
P	16B	+15.5V	Audio supply, +	
P	17A	CAR_OFF	PIN to 0 V -> power off	optional (C)
P	17B	SW_PFL	to PFL mode switch 0 V = mutually released	PFL system
P	18A	PFL_RES	PFL reset BUS 5 V = reset	PFL system
P	18B	PFL_SIGN	to sense PFL	PFL system
P	19A	0V_DC	Power fail DC voltage input ground	floating
P	19B	0V_DC	Power fail DC voltage input ground	floating
P	20A	+24V_DC	Power fail DC voltage input, +24 V, unregulated	floating
P	20B	+24V_DC	Power fail DC voltage input, +24 V, unregulated	floating
P	21A	RESERVE		
P	21B	RESERVE		
P	22A	PFL1_S	PFL signal from master unit 1	PFL system
P	22B	PFL2_S	PFL signal from master unit 2	PFL system
P	23A	PFL3_S	PFL signal from master unit 3	PFL system
P	23B	PFL4_S	PFL signal from master unit 4	PFL system
P	24A	PFL5_S	PFL signal from master unit 5 (Film)	PFL system
P	24B	PFL6_S	PFL signal from master unit 6 (Film)	PFL system
P	25A	PFL7_S	PFL signal from master unit A (not connected)	PFL system
P	25B	PFL8_S	PFL signal from master unit B (not connected)	PFL system
P	26A	PFL9_S	PFL signal from master unit C (not connected)	PFL system
P	26B	PFL10_S	PFL signal from master unit D (not connected)	PFL system
P	27A	PFL11_S	PFL signal from master unit E (not connected)	PFL system
P	27B	PFL12_S	PFL signal from master unit F (not connected)	PFL system
P	28A	0VL	Logic ground	
P	28B	0VL	Logic ground	
P	29A	ON_ OUT	ON signal to LED indicator	Alarm system
P	29B	ON_ IN	ON signal from power supply	Alarm system
P	30A	ON_OUT_I	ON_OUT, inverted	Alarm system
P	30B	BULB	Output (open collector)	Alarm system
P	31A	FAIL	Failure on board	Alarm system
P	31B	FAIL_I	Failure on board, inverted	Alarm system
P	32A	+5.5V	Logic supply, +	
P	32B	+5.5V	Logic supply, +	

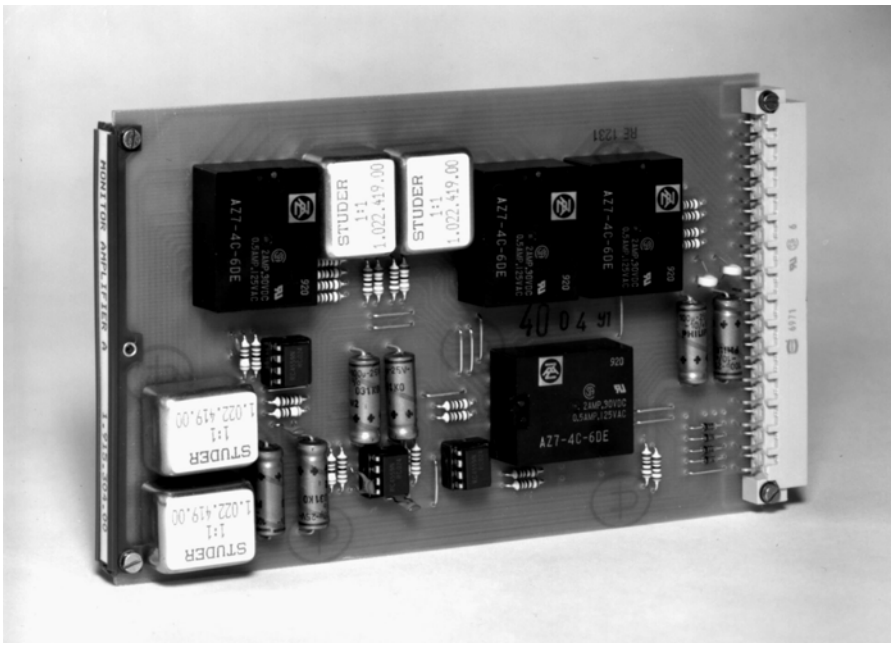
Pin assignment
POWER ALARM/FAIL 4 BOARD 1.915.112.00
Diagnostics connector (P2)

16-pin connector for measuring important voltages; decoupled via 1kΩ resistors.

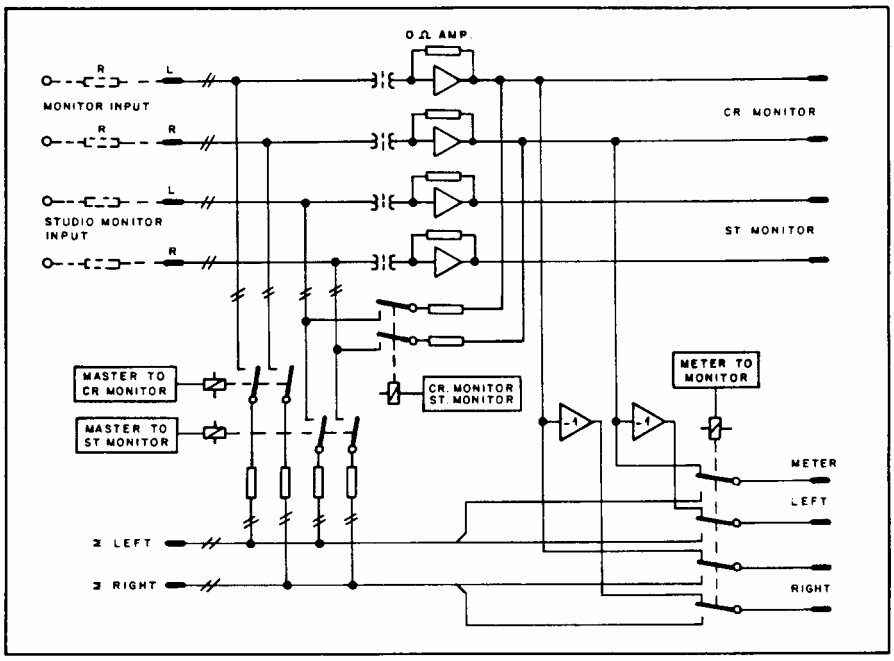
P16B	NO	NAME	REMARK	TYPE
P	1	0VA	Analog ground	DC
P	2	4V REF	Ref. voltage, Ri = 1 kΩ	DC
P	3	UREF_VAR	Ref. voltage, variable, Ri = 1 kΩ	DC
P	4	FAIL_I	Comparator output	DC
P	5	UD4_+5V	+5 V supply voltage to be supervised, *or UD6*	DC
P	6	UD5_+24V	+24 V supply voltage to be supervised	DC
P	7	UD6_+VDC	+XY 0 V supply voltage to be supervised, or *UD4*	DC
P	8	UD6_0V	+XY V supply voltage to be supervised, or *UD4*	DC
P	9	UD8_-24V	–24 V supply voltage to be supervised	DC
P	10	UD7_-6V	–6 V supply voltage to be supervised	DC
P	11	UD1_+5V	+5 V supply voltage to be supervised	DC
P	12	UD2_+5V	+5 V supply voltage to be supervised	DC
P	13	UDB	Stand-by voltage from power supply	DC
P	14	UD_ACCU	Rechargeable battery voltage, 3.6 VDC	DC
P	15	UD3_+5V	+5 V supply voltage to be supervised	DC
P	16	UDB_PIC	Constant PIC stand-by voltage, 4.5...5 VDC	DC

Monitor Amplifier and Switching Relays (Studio/CR) 1.915.304

The circuit on this Euro-card is designed to form part of an audio monitoring system. The card is narrower than most others, i.e., 4 M units only. It contains four amplifiers, each presenting a 0-Ω input impedance, two metering amplifiers, and four relays for audio switching.



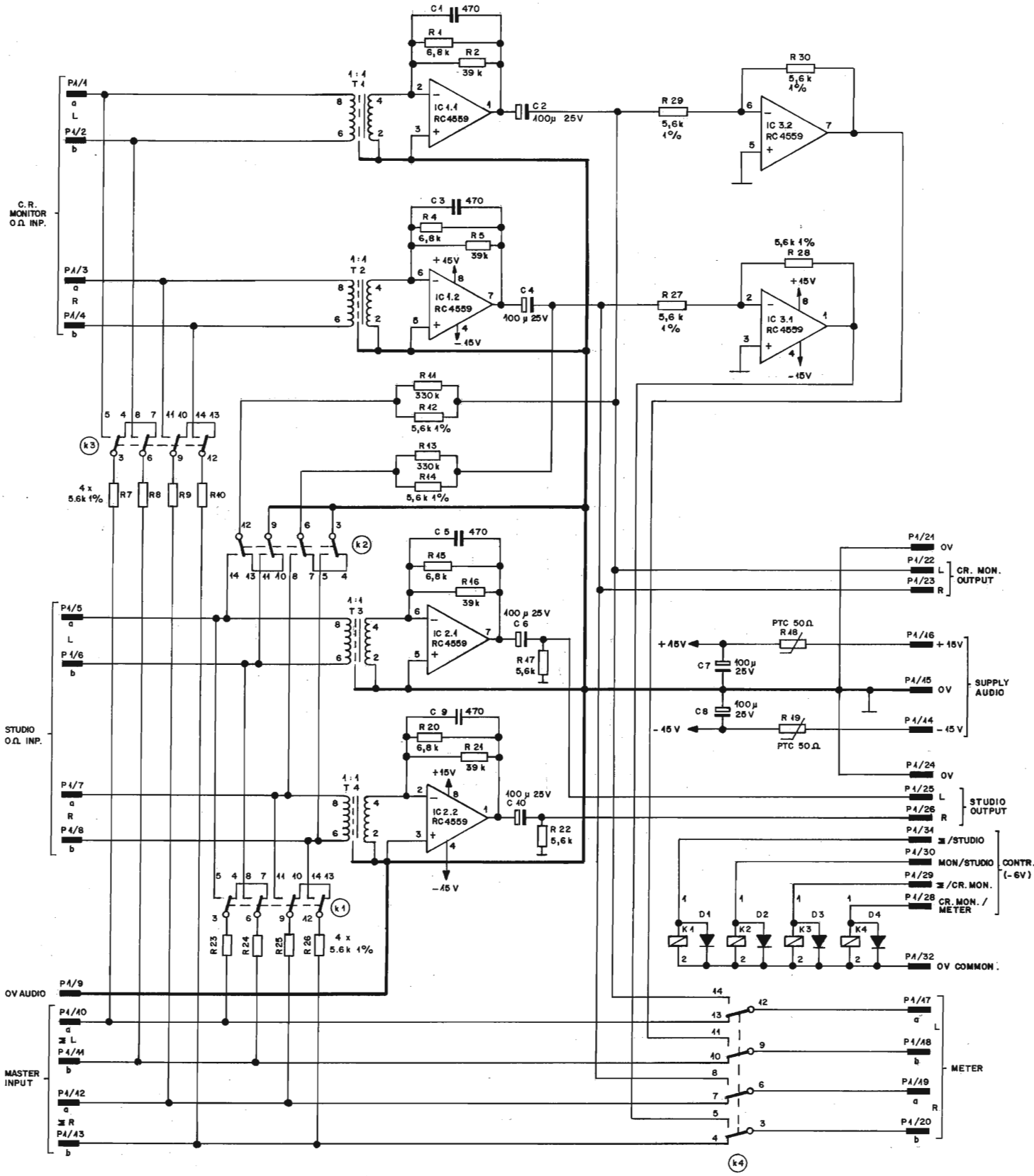
Two stereo signal inputs from a combination of sources (with suitable isolation resistors at the output of each source) can thus be summed for Control Room (CR) and Studio Monitoring, for example. In addition, the signal from the stereo master can be assigned to either monitor line and, if needed, CR monitoring and studio monitoring can be paralleled. A further circuit permits switchover of level meters from the master bus to the CR monitor line. The relays are designed for 6 V_{DC} operation.



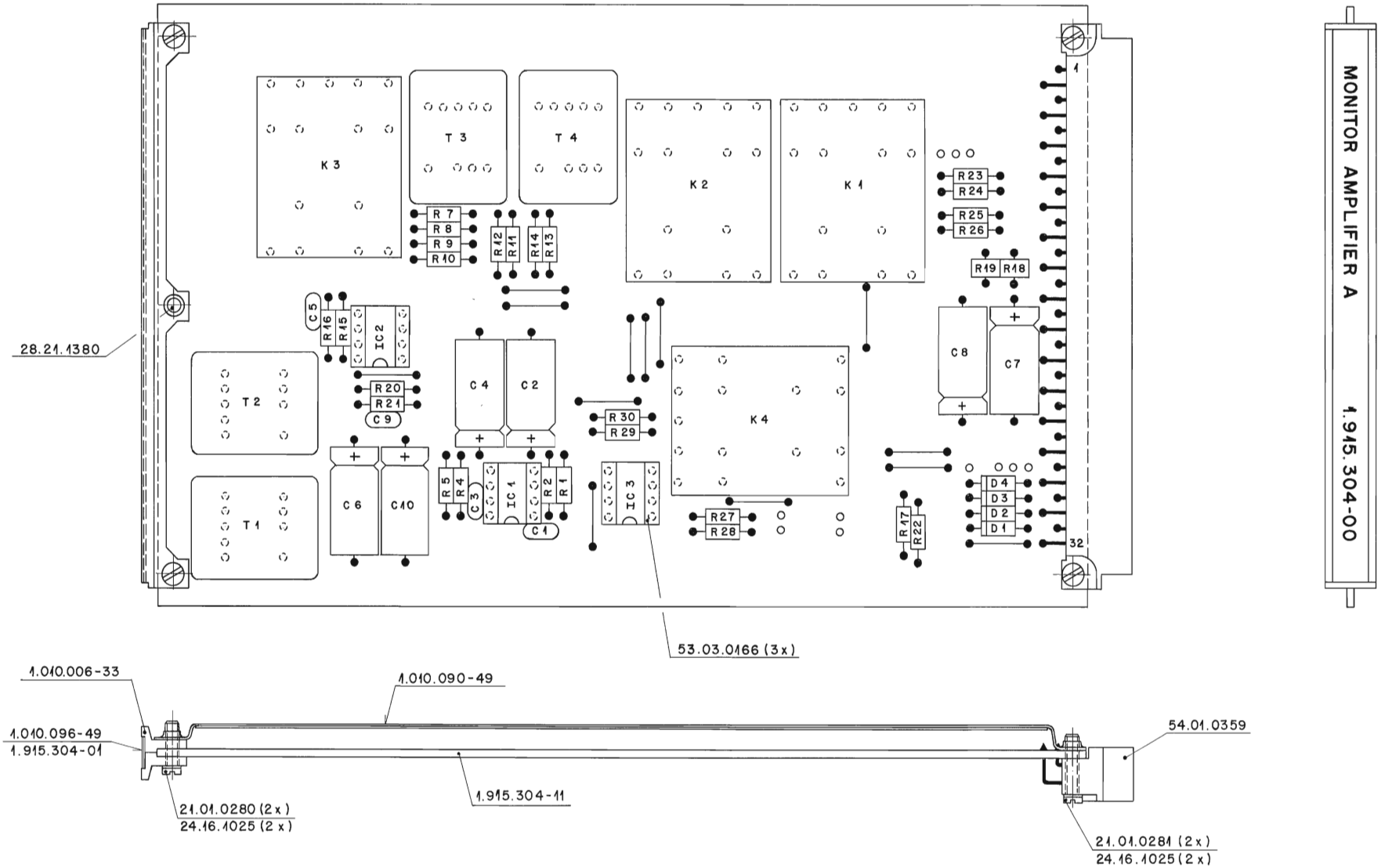
Technical Specifications

Inputs:		**balanced and floating** (for CR monitor and studio monitor)
	Impedance	**> 10 kΩ**
	Maximum level	**+24 dBu**
Outputs:		**unbalanced** (for CR monitor and studio monitor)
	Impedance	**< 3 Ω**
	Maximum level	**+20 dBu** into 1 kΩ
	Maximum load	**1 kΩ**
Meter outputs:		**push-pull**
	Maximum level	**+24 dBu**
	Frequency response	**±0.5 dB,** 30 Hz...16 kHz
	THD	**< 0.1%,** @ +6 dBu input, 30 Hz...16 kHz
	S/N	**105 dB,** 20 Hz...23 kHz
Supply:		**±15 V** (20 mA)
Dimensions:	Euro-card	**100 × 160 mm**, **4M units wide (19 mm)**
	Connector system	**DIN 41612, type B**
	Weight	**approx. 270 g**

Ordering Information:	Monitor amplifier and switching relay	1.915.304.xx



DATE:	20.11.81					
SIGN:						
STUDER REGENSDORF ZÜRICH	MONITOR AMPLIFIER A					SC. 1.915.304



Änderung					
					3
					2
	4.4.84	A.Ho			1
Ausgabe	8.10.81	Ho			0
	Datum	Gez.	Gepr.	Ges.	Index

Kopie für:

STUDER REGENSDORF ZÜRICH	Benennung: Monitor Amplifier A	Nummer: 1.915.304-00

Monitor Amp 1.915.304.00 (0)

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	C 1	59.32.4471	1 pce	470p	CER , 20%, 50V
0	C 2	59.25.4101	1 pce	100u	EL 25V 20% axial
0	C 3	59.32.4471	1 pce	470p	CER , 20%, 50V
0	C 4	59.25.4101	1 pce	100u	EL 25V 20% axial
0	C 5	59.32.4471	1 pce	470p	CER , 20%, 50V
0	C 6	59.25.4101	1 pce	100u	EL 25V 20% axial
0	C 7	59.25.4101	1 pce	100u	EL 25V 20% axial
0	C 8	59.25.4101	1 pce	100u	EL 25V 20% axial
0	C 9	59.32.4471	1 pce	470p	CER , 20%, 50V
0	C 10	59.25.4101	1 pce	100u	EL 25V 20% axial
0	D 1	50.04.0125	1 pce	1N4448	75V, 150mA, 4ns, DO-35
0	D 2	50.04.0125	1 pce	1N4448	75V, 150mA, 4ns, DO-35
0	D 3	50.04.0125	1 pce	1N4448	75V, 150mA, 4ns, DO-35
0	D 4	50.04.0125	1 pce	1N4448	75V, 150mA, 4ns, DO-35
0	IC 1	50.09.0107	1 pce	4559	Dual Op-Amp
0	IC 2	50.09.0107	1 pce	4559	Dual Op-Amp
0	IC 3	50.09.0107	1 pce	4559	Dual Op-Amp
0	K 1	56.04.0146	1 pce	4*u	6V, 220V/2A, PCB
0	K 2	56.04.0146	1 pce	4*u	6V, 220V/2A, PCB
0	K 3	56.04.0146	1 pce	4*u	6V, 220V/2A, PCB
0	K 4	56.04.0146	1 pce	4*u	6V, 220V/2A, PCB
0	R 1	57.11.3682	1 pce	6k8	MF, 1%, 0207
0	R 2	57.11.3393	1 pce	39k	MF, 1%, 0207
0	R 4	57.11.3682	1 pce	6k8	MF, 1%, 0207
0	R 5	57.11.3393	1 pce	39k	MF, 1%, 0207
0	R 7	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 8	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 9	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 10	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 11	57.11.3334	1 pce	330k	MF, 1%, 0207
0	R 12	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 13	57.11.3334	1 pce	330k	MF, 1%, 0207
0	R 14	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 15	57.11.3682	1 pce	6k8	MF, 1%, 0207
0	R 16	57.11.3393	1 pce	39k	MF, 1%, 0207
0	R 17	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 18	57.99.0206	1 pce	50R	PTC, 25V, 0.5W
0	R 19	57.99.0206	1 pce	50R	PTC, 25V, 0.5W
0	R 20	57.11.3682	1 pce	6k8	MF, 1%, 0207
0	R 21	57.11.3393	1 pce	39k	MF, 1%, 0207
0	R 22	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 23	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 24	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 25	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 26	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 27	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 28	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 29	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	R 30	57.11.3562	1 pce	5k6	MF, 1%, 0207
0	T 1	1.022.419.00	1 pce		EINGANGSTRAFO 1:1
0	T 2	1.022.419.00	1 pce		EINGANGSTRAFO 1:1
0	T 3	1.022.419.00	1 pce		EINGANGSTRAFO 1:1
0	T 4	1.022.419.00	1 pce		EINGANGSTRAFO 1:1

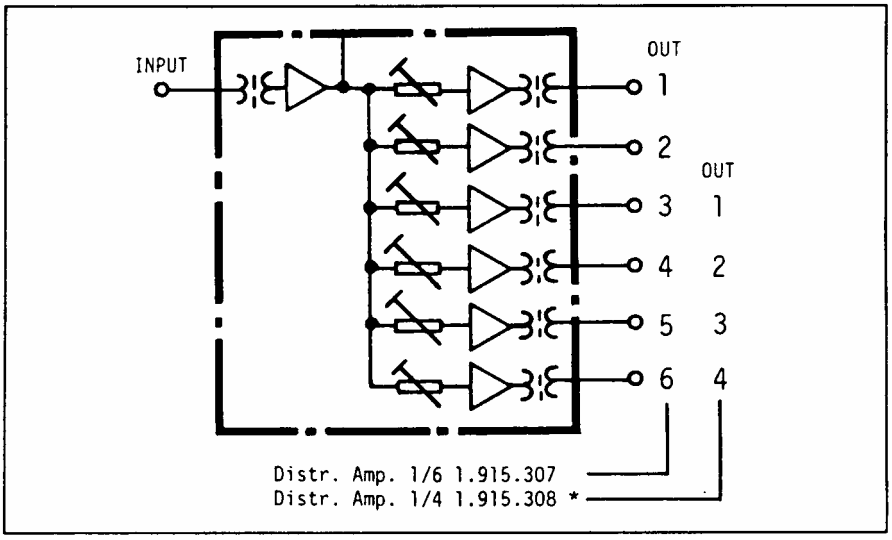
Idx.	Pos.	Part No.	Qty.	Type/Val.	Description

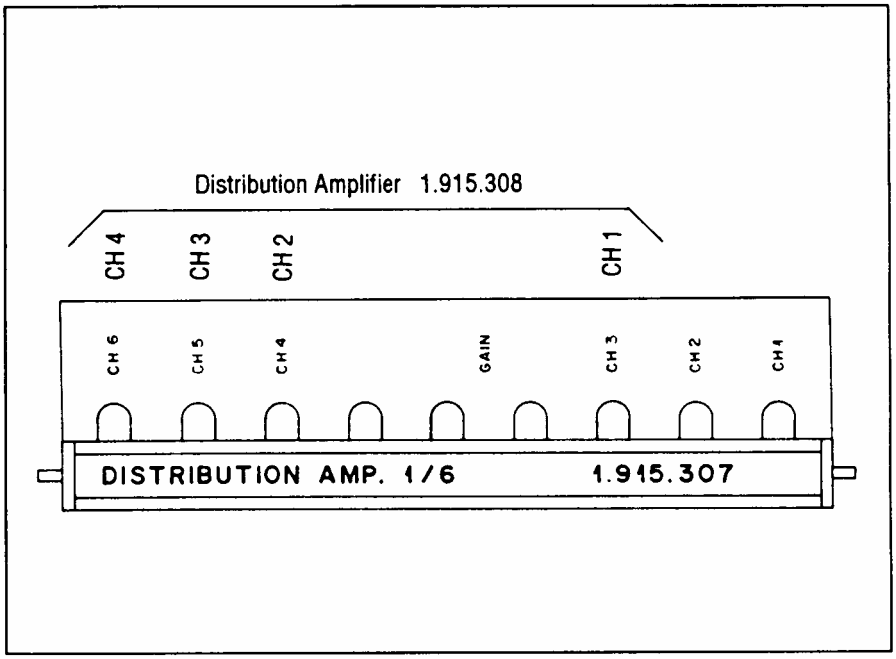
End of List

Comments:

Distribution Amplifier 1.915.307/308

The distribution amplifier cards offer splitting of one input to four or six individually adjustable outputs (versions 1.915.308 or 1.915.307, respectively). The input and all outputs are transformer-balanced and floating.
These cards satisfy any complex requirement of signal routing and distribution.



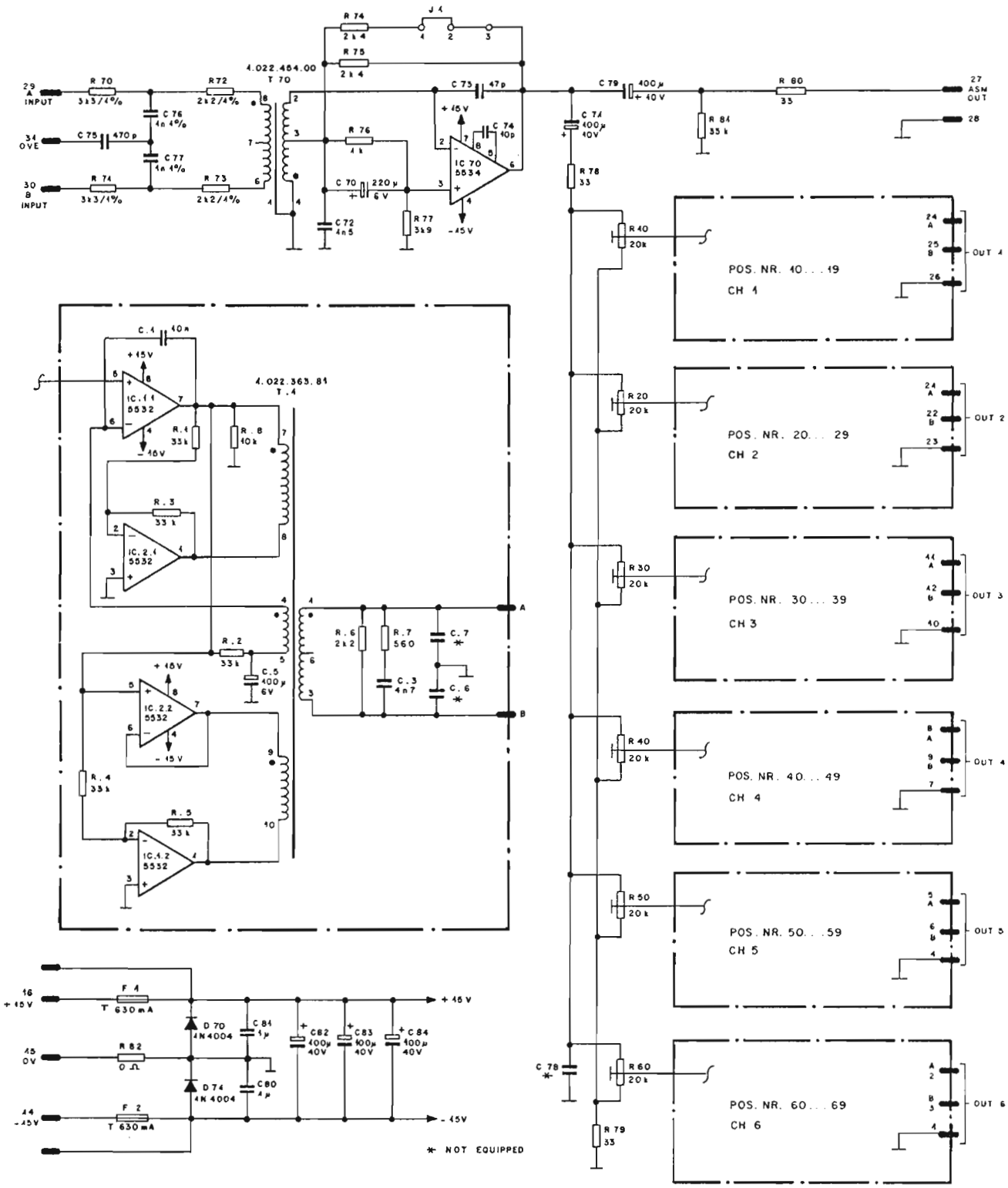


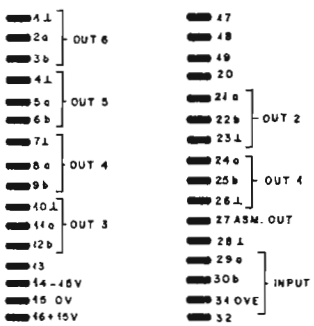
Technical Specifications

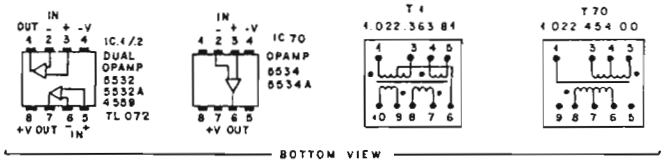
General:	Frequency range	**31.5 Hz...16 kHz**
	Frequency response	**+0.2/–0.5 dB,** R_L = 300 Ω
Input:		**balanced and floating**
	Impedance	**≥ 10 kΩ**
	Symmetry	**≥ 60 dB**
	Gain, adjustable	**–20...+10 dB** (Jumper 2-3: +6 dB Gain)
Outputs:		**balanced and floating**
	Impedance	**≤ 40 Ω**
	Maximum level	**+24 dBu,** R_L = 600 Ω/THD < 1%
		+21 dBu, R_L = 200 Ω/THD < 1%
	THD	**≤ 0.02%,** +6 dBu/300 Ω
	Output noise voltage	**–100 dBu,** 0 dB gain
Supply:		**±15 V_{DC}** (90 mA, all outputs +6 dBu, without load; 180 mA, all outputs +24 dBu into 300 Ω
Dimensions:	Euro-card	**100 × 160 mm, 7 M units wide**
	Weight	**500 g** (1.915.308)
		600 g (1.915.307)

Ordering Information:

Euro-cards:	•	Distribution amplifier 1 to 6	1.915.307.xx
	•	Distribution amplifier 1 to 4	1.915.308.xx
19”/1U standard products:	•	Distribution unit 2 × 1 in/4 out on XLR	75.700.89301
	•	Distribution unit 3 × 1 in/4 out on XLR	75.700.89302
	•	Distribution unit 2 × 1 in/6 out on XLR	75.700.89303







⓪ 24.11.93 fc	① 12.4.94 We			
STUDER REGENSDORF ZURICH	DISTRIBUTION AMP. 1/6		SC 1.915.307-81	

DISTRIBUTION AMPLIFIER

Ad	..POS..	...REF.No...		DESCRIPTION		MANUFACTURER
	C....11	. .		not used		
01	C....11	59.06.0222	2.2 nF		PE	
	C....12	59.34.2470	47 pF		CER	
	C....13	59.06.0472	4.7 nF		PE	
	C....14	59.34.2470	47 pF		CER	
	C....15	59.22.3101	100 uF		ALU 10V	
	C....16	59.32.1680	68 pF		CER 400V	
	C....17	. .		not used		
	C....21	. .		not used		
01	C....21	59.06.0222	2.2 nF		PE	
	C....22	59.34.2470	47 pF		CER	
	C....23	59.06.0472	4.7 nF		PE	
	C....24	59.34.2470	47 pF		CER	
	C....25	59.22.3101	100 uF		ALU 10V	
	C....26	59.32.1680	68 pF		CER 400V	
	C....27	. .		not used		
	C....31	. .		not used		
01	C....31	59.06.0222	2.2 nF		PE	
	C....32	59.34.2470	47 pF		CER	
	C....33	59.06.0472	4.7 nF		PE	
	C....34	59.34.2470	47 pF		CER	
	C....35	59.22.3101	100 uF		ALU 10V	
	C....36	59.32.1680	68 pF		CER 400V	
	C....37	. .		not used		
	C....41	. .		not used		
01	C....41	59.06.0222	2.2 nF		PE	
	C....42	59.34.2470	47 pF		CER	
	C....43	59.06.0472	4.7 nF		PE	
	C....44	59.34.2470	47 pF		CER	
	C....45	59.22.3101	100 uF		ALU 10V	
	C....46	59.32.1680	68 pF		CER 400V	
	C....47	. .		not used		
	C....51	. .		not used		
01	C....51	59.06.0222	2.2 nF		PE	
	C....52	59.34.2470	47 pF		CER	
	C....53	59.06.0472	4.7 nF		PE	
	C....54	59.34.2470	47 pF		CER	
	C....55	59.22.3101	100 uF		ALU 10V	
	C....56	59.32.1680	68 pF		CER 400V	
	C....57	. .		not used		
	C....61	. .		not used		
01	C....61	59.06.0222	2.2 nF		PE	
	C....62	59.34.2470	47 pF		CER	
	C....63	59.06.0472	4.7 nF		PE	
	C....64	59.34.2470	47 pF		CER	
	C....65	59.22.3101	100 uF		ALU 10V	
	C....66	59.32.1680	68 pF		CER 400V	
	C....67	. .		not used		
	C....70	59.22.4221	220 uF		ALU 6V	
	C....71	59.22.4101	100 uF		ALU 10V	
	C....72	59.06.0152	1.5 nF		CER	
	C....73	59.34.2470	47 pF		CER	
	C....74	59.34.4100	10 pF		CER	
	C....75	59.34.5471	470 pF		CER	
	C....76	59.05.1102	1 nF	1%		
	C....77	59.05.1102	1 nF	1%		
	C....79	59.22.4101	100 uF		ALU 10V	
	C....80	59.06.5105	1 uF		PE	
	C....81	59.06.5105	1 uF		PE	
	C....82	59.25.5101	100 uF		40V	
	C....83	59.25.5101	100 uF		40V	
	C....84	59.25.5101	100 uF		40V	
	D....70	50.04.0105	1N4004			
	D....71	50.04.0105	1N4004			
	F.....1	51.01.0115		T 630mA /250V 5*20		
	F.....2	51.01.0115		T 630mA /250V 5*20		
	IC...11	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...12	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...21	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...22	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...31	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...32	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...41	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...42	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...51	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...52	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...61	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...62	50.09.0106	NE5532AN	dual op. amp.		Ra,NE
	IC...70	50.05.0244	NE5534AN	single op.amp.		Ra,NE
	JP....1	54.01.0021		JUMPER JACK		
	JS....1	54.01.0020		JUMPER PLUG 3-PIN		
	MP....1	53.03.0142	4 pcs	Fuse holder		
	MP....2	1.915.307.02	1 pcs	Abdeckwinkel		
	MP....3	1.915.307.05	1 pcs	Kuelblech		
	MP....4	1.022.400.03	1 pcs	Isolation T 70		
	R....10	58.01.9203	20 kOhm	10% 0.5 W	PMG trimming resistor	

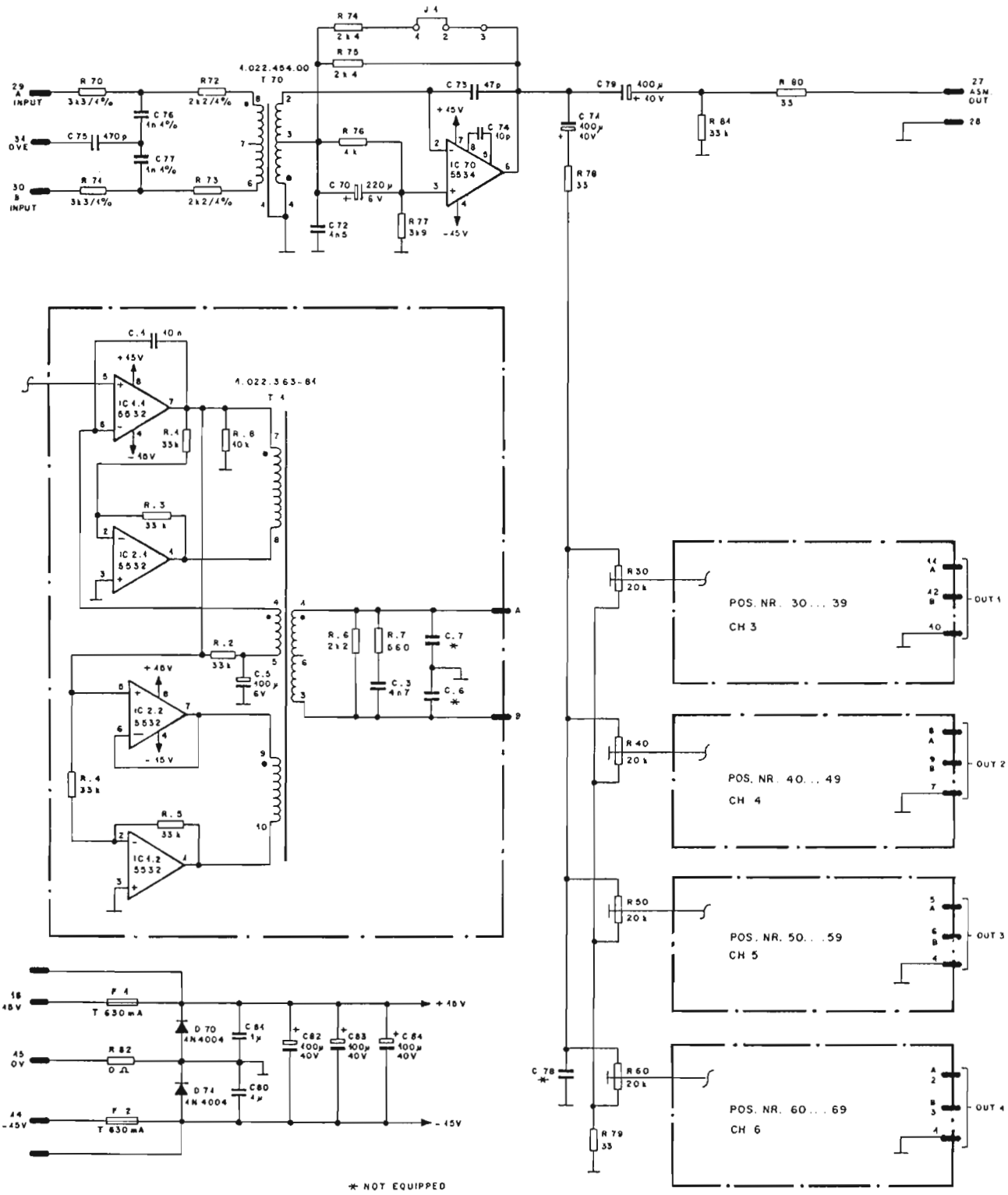
Ad	..POS..	...REF.No...		DESCRIPTION		MANUFACTURER
	R....11	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....12	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....13	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....14	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....15	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....16	57.11.4222	2.2 kOhm	5% 0.25W	MF	
	R....17	57.11.4102	1 kOhm	5% 0.25W	MF	
	R....18	57.11.4103	10 kOhm	5% 0.25W	MF	
	R....20	58.01.9203	20 kOhm	10% 0.5 W	PMG trimming resistor	
	R....21	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....22	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....23	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....24	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....25	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....26	57.11.4222	2.2 kOhm	5% 0.25W	MF	
	R....27	57.11.4102	1 kOhm	5% 0.25W	MF	
	R....28	57.11.4103	10 kOhm	5% 0.25W	MF	
	R....30	58.01.9203	20 kOhm	10% 0.5 W	PMG trimming resistor	
	R....31	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....32	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....33	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....34	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....35	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....36	57.11.4222	2.2 kOhm	5% 0.25W	MF	
	R....37	57.11.4102	1 kOhm	5% 0.25W	MF	
	R....38	57.11.4103	10 kOhm	5% 0.25W	MF	
	R....40	58.01.9203	20 kOhm	10% 0.5 W	PMG trimming resistor	
	R....41	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....42	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....43	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....44	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....45	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....46	57.11.4222	2.2 kOhm	5% 0.25W	MF	
	R....47	57.11.4102	1 kOhm	5% 0.25W	MF	
	R....48	57.11.4103	10 kOhm	5% 0.25W	MF	
	R....50	58.01.9203	20 kOhm	10% 0.5 W	PMG trimming resistor	
	R....51	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....52	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....53	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....54	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....55	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....56	57.11.4222	2.2 kOhm	5% 0.25W	MF	
	R....57	57.11.4102	1 kOhm	5% 0.25W	MF	
	R....58	57.11.4103	10 kOhm	5% 0.25W	MF	
	R....60	58.01.9203	20 kOhm	10% 0.5 W	PMG trimming resistor	
	R....61	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....62	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....63	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....64	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....65	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....66	57.11.4222	2.2 kOhm	5% 0.25W	MF	
	R....67	57.11.4102	1 kOhm	5% 0.25W	MF	
	R....68	57.11.4103	10 kOhm	5% 0.25W	MF	
	R....70	57.11.3332	3.3 kOhm	1% 0.25W	MF	
	R....71	57.11.3332	3.3 kOhm	1% 0.25W	MF	
	R....72	57.11.3222	2.2 kOhm	1% 0.25W	MF	
	R....73	57.11.3222	2.2 kOhm	1% 0.25W	MF	
	R....74	57.11.3242	2.4 kOhm	1% 0.25W	MF	
	R....75	57.11.3242	2.4 kOhm	1% 0.25W	MF	
	R....76	57.11.4102	1 kOhm	5% 0.25W	MF	
	R....77	57.11.4392	3.9 kOhm	5% 0.25W	MF	
	R....78	57.11.4330	33 Ohm	5% 0.25W	MF	
	R....79	57.11.4330	33 Ohm	5% 0.25W	MF	
	R....80	57.11.4330	33 Ohm	5% 0.25W	MF	
	R....81	57.11.4333	33 kOhm	5% 0.25W	MF	
	R....82	57.11.4000	0 Ohm	5% 0.25W	MF	
	T....10	1.022.363.00		output trafo		
	T....20	1.022.363.00		output trafo		
	T....30	1.022.363.00		output trafo		
	T....40	1.022.363.00		output trafo		
	T....50	1.022.363.00		output trafo		
	T....60	1.022.363.00		output trafo		
	T....70	1.022.454.00		input trafo		

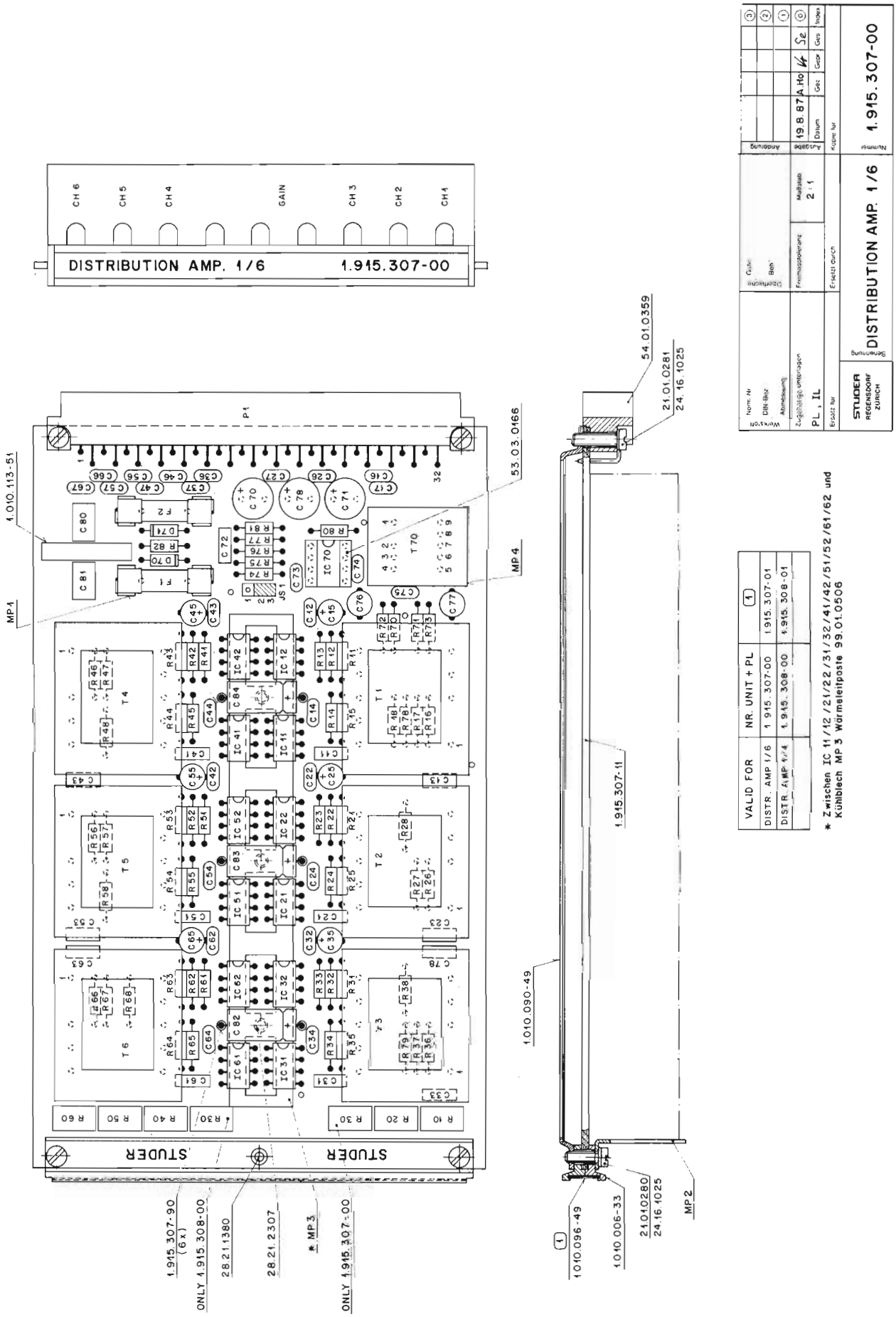
CER=Ceramic, PE=Polyester
MF=Metal Film, PMG=Cermet

MANUFACTURER: Ex=Exar, NEC=Nippon Electric Corp., Ph=Philips, Ra=Rayth
Sig=Signetics, St=Studer.

1.915.307.00	DISTRIBUTION AMP. 1/6		SE 87/09/0400
1.915.307.00	DISTRIBUTION AMP. 1/6		SE 92/07/0201

END


POS. NR. 30 ... 39
CH 3
POS. NR. 40 ... 49
CH 4
POS. NR. 50 ... 59
CH 5
POS. NR. 60 ... 69
CH 6
OUT 1
OUT 2
OUT 3
OUT 4
* NOT EQUIPPED
BOTTOM VIEW
DISTRIBUTION AMP. 1/4
SC 1.915.308-81
STUDER REGENSDORF ZURICH
EDITION: 19. April 1993



VALID FOR	NR. UNIT + PL	(1)
DISTR. AMP 1/6	1.915.307-00	1.915.307-01
DISTR. AMP 4/4	1.915.308-00	1.915.308-01

* Zwischen IC 11/12/21/22/31/32/41/42/51/52/61/62 und Kühlblech MP 3 Wärmeleitpaste 99.01.0506

DISTRIBUTION AMPLIFIER

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	C....31	. .	not used	
01	C....31	59.06.0222	2.2 nF PE	
	C....32	59.34.2470	47 pF CER	
	C....33	59.06.0472	4.7 nF PE	
	C....34	59.34.2470	47 pF CER	
	C....35	59.22.3101	100 uF ALU 10V	
	C....36	59.32.1680	68 pF CER 400V	
	C....37	. .	not used	
	C....41	. .	not used	
01	C....41	59.06.0222	2.2 nF PE	
	C....42	59.34.2470	47 pF CER	
	C....43	59.06.0472	4.7 nF PE	
	C....44	59.34.2470	47 pF CER	
	C....45	59.22.3101	100 uF ALU 10V	
	C....46	59.32.1680	68 pF CER 400V	
	C....47	. .	not used	
	C....51	. .	not used	
01	C....51	59.06.0222	2.2 nF PE	
	C....52	59.34.2470	47 pF CER	
	C....53	59.06.0472	4.7 nF PE	
	C....54	59.34.2470	47 pF CER	
	C....55	59.22.3101	100 uF ALU 10V	
	C....56	59.32.1680	68 pF CER 400V	
	C....57	. .	not used	
	C....61	. .	not used	
01	C....61	59.06.0222	2.2 nF PE	
	C....62	59.34.2470	47 pF CER	
	C....63	59.06.0472	4.7 nF PE	
	C....64	59.34.2470	47 pF CER	
	C....65	59.22.3101	100 uF ALU 10V	
	C....66	59.32.1680	68 pF CER 400V	
	C....67	. .	not used	
	C....70	59.22.4221	220 uF ALU 6V	
	C....71	59.22.4101	100 uF ALU 10V	
	C....72	59.06.0152	1.5 nF CER	
	C....73	59.34.2470	47 pF CER	
	C....74	59.34.4100	10 pF CER	
	C....75	59.34.5471	470 pF CER	
	C....76	59.05.1102	1 nF 1%	
	C....77	59.05.1102	1 nF 1%	
	C....79	59.22.4101	100 uF ALU 10V	
	C....80	59.06.5105	1 uF PE	
	C....81	59.06.5105	1 uF PE	
	C....82	59.25.5101	100 uF 40V	
	C....83	59.25.5101	100 uF 40V	
	C....84	59.25.5101	100 uF 40V	
	D....70	50.04.0105	1N4004	
	D....71	50.04.0105	1N4004	
	F.....1	51.01.0115	T 630mA /250V 5*20	
	F.....2	51.01.0115	T 630mA /250V 5*20	
	IC...31	50.09.0106	NE5532AN dual op. amp.	Ra,NE
	IC...32	50.09.0106	NE5532AN dual op. amp.	Ra,NE
	IC...41	50.09.0106	NE5532AN dual op. amp.	Ra,NE
	IC...42	50.09.0106	NE5532AN dual op. amp.	Ra,NE
	IC...51	50.09.0106	NE5532AN dual op. amp.	Ra,NE
	IC...52	50.09.0106	NE5532AN dual op. amp.	Ra,NE
	IC...61	50.09.0106	NE5532AN dual op. amp.	Ra,NE
	IC...62	50.09.0106	NE5532AN dual op. amp.	Ra,NE
	IC...70	50.05.0244	NE5534AN single op.amp.	Ra,NE
	JP....1	54.01.0021	JUMPER JACK	
	JS....1	54.01.0020	JUMPER PLUG 3-PIN	
	MP....1	53.03.0142	4 pcs Fuse holder	
	MP....2	1.915.307.02	1 pcs Abdeckwinkel	
	MP....3	1.915.307.05	1 pcs Kuelblech	
	MP....4	1.022.400.03	1 pcs Isolation T 70	
	R....30	58.01.9203	20 kOhm 10% 0.5 W PMG trimming resistor	
	R....31	57.11.4333	33 kOhm 5% 0.25W MF	
	R....32	57.11.4333	33 kOhm 5% 0.25W MF	
	R....33	57.11.4333	33 kOhm 5% 0.25W MF	
	R....34	57.11.4333	33 kOhm 5% 0.25W MF	
	R....35	57.11.4333	33 kOhm 5% 0.25W MF	
	R....36	57.11.4222	2.2 kOhm 5% 0.25W MF	
	R....37	57.11.4102	1 kOhm 5% 0.25W MF	
	R....38	57.11.4103	10 kOhm 5% 0.25W MF	
	R....40	58.01.9203	20 kOhm 10% 0.5 W PMG trimming resistor	
	R....41	57.11.4333	33 kOhm 5% 0.25W MF	
	R....42	57.11.4333	33 kOhm 5% 0.25W MF	
	R....43	57.11.4333	33 kOhm 5% 0.25W MF	
	R....44	57.11.4333	33 kOhm 5% 0.25W MF	
	R....45	57.11.4333	33 kOhm 5% 0.25W MF	
	R....46	57.11.4222	2.2 kOhm 5% 0.25W MF	
	R....47	57.11.4102	1 kOhm 5% 0.25W MF	
	R....48	57.11.4103	10 kOhm 5% 0.25W MF	
	R....50	58.01.9203	20 kOhm 10% 0.5 W PMG trimming resistor	
	R....51	57.11.4333	33 kOhm 5% 0.25W MF	
	R....52	57.11.4333	33 kOhm 5% 0.25W MF	
	R....53	57.11.4333	33 kOhm 5% 0.25W MF	
	R....54	57.11.4333	33 kOhm 5% 0.25W MF	
	R....55	57.11.4333	33 kOhm 5% 0.25W MF	

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	R....56	57.11.4222	2.2 kOhm 5% 0.25W MF	
	R....57	57.11.4102	1 kOhm 5% 0.25W MF	
	R....58	57.11.4103	10 kOhm 5% 0.25W MF	
	R....60	58.01.9203	20 kOhm 10% 0.5 W PMG trimming resistor	
	R....61	57.11.4333	33 kOhm 5% 0.25W MF	
	R....62	57.11.4333	33 kOhm 5% 0.25W MF	
	R....63	57.11.4333	33 kOhm 5% 0.25W MF	
	R....64	57.11.4333	33 kOhm 5% 0.25W MF	
	R....65	57.11.4333	33 kOhm 5% 0.25W MF	
	R....66	57.11.4222	2.2 kOhm 5% 0.25W MF	
	R....67	57.11.4102	1 kOhm 5% 0.25W MF	
	R....68	57.11.4103	10 kOhm 5% 0.25W MF	
	R....70	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....71	57.11.3332	3.3 kOhm 1% 0.25W MF	
	R....72	57.11.3222	2.2 kOhm 1% 0.25W MF	
	R....73	57.11.3222	2.2 kOhm 1% 0.25W MF	
	R....74	57.11.3242	2.4 kOhm 1% 0.25W MF	
	R....75	57.11.3242	2.4 kOhm 1% 0.25W MF	
	R....76	57.11.4102	1 kOhm 5% 0.25W MF	
	R....77	57.11.4392	3.9 kOhm 5% 0.25W MF	
	R....78	57.11.4330	33 Ohm 5% 0.25W MF	
	R....79	57.11.4330	33 Ohm 5% 0.25W MF	
	R....80	57.11.4330	33 Ohm 5% 0.25W MF	
	R....81	57.11.4333	33 kOhm 5% 0.25W MF	
	R....82	57.11.4000	0 Ohm 5% 0.25W MF	
	T....30	1.022.363.00	output trafo	
	T....40	1.022.363.00	output trafo	
	T....50	1.022.363.00	output trafo	
	T....60	1.022.363.00	output trafo	
	T....70	1.022.454.00	input trafo	

CER=Ceramic, PE=Polyester, SAL=Solid Aluminium
MF=Metal Film, PMG=Cermet

MANUFACTURER: Ex=Exar, NE=NEC, Ph=Philips, Ra=Raytheon,
Sig=Signetics, St=Studer,

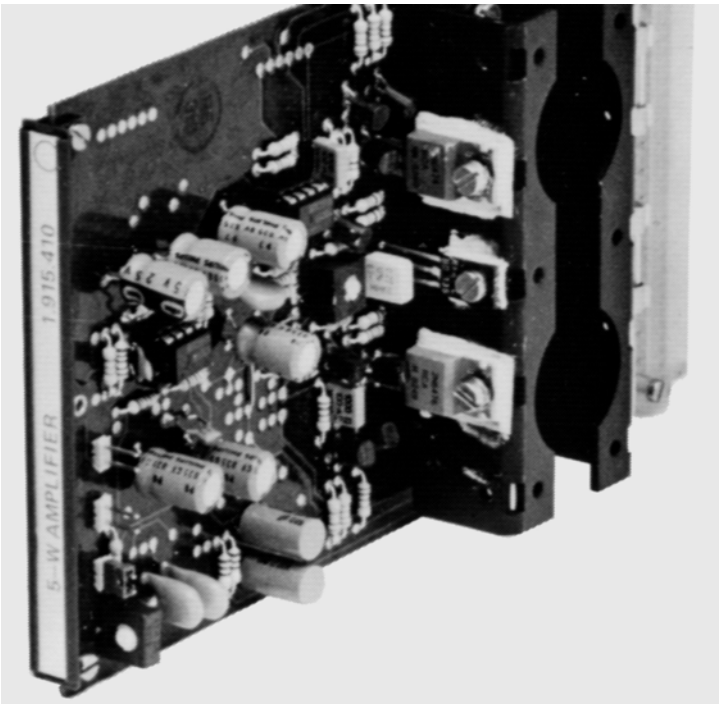
1.915.308.00 DISTRIBUTION AMP.1/4 SE 87/09/0400

1.915.308.00 DISTRIBUTION AMP.1/4 SE 92/07/0201

END

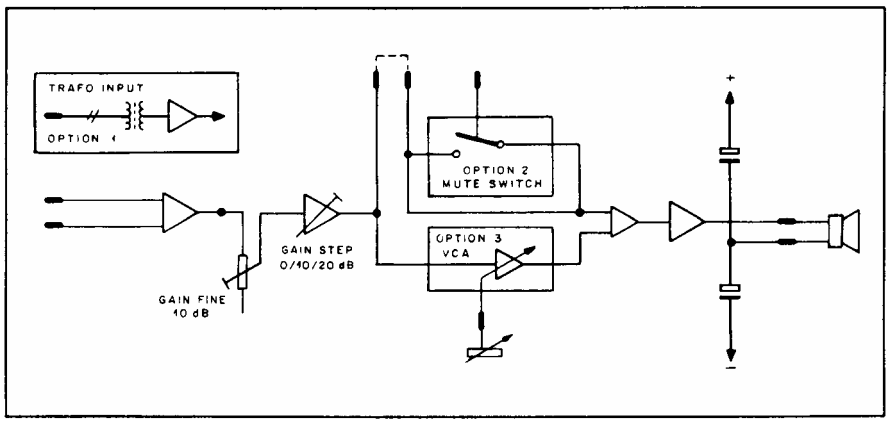
5 W Power Amplifier 1.915.410/415

This amplifier on one Euro-card is designed for operation on a ±15 V supply. It is capable of providing a power output of 5 W into a load of 8 Ω.
With its low-to-medium power level, this amplifier is ideally suited for applications such as pre-listening or talkback speaker operation. Its output stage is protected by instantaneous output power limiting.



The standard version has an electronically balanced (transformerless) input. It is also available with the following options:

- Input balancing transformer
- Remote muting
- Remote gain control (VCA)
- Input balancing transformer plus remote muting
- Input balancing transformer plus remote gain control (VCA).

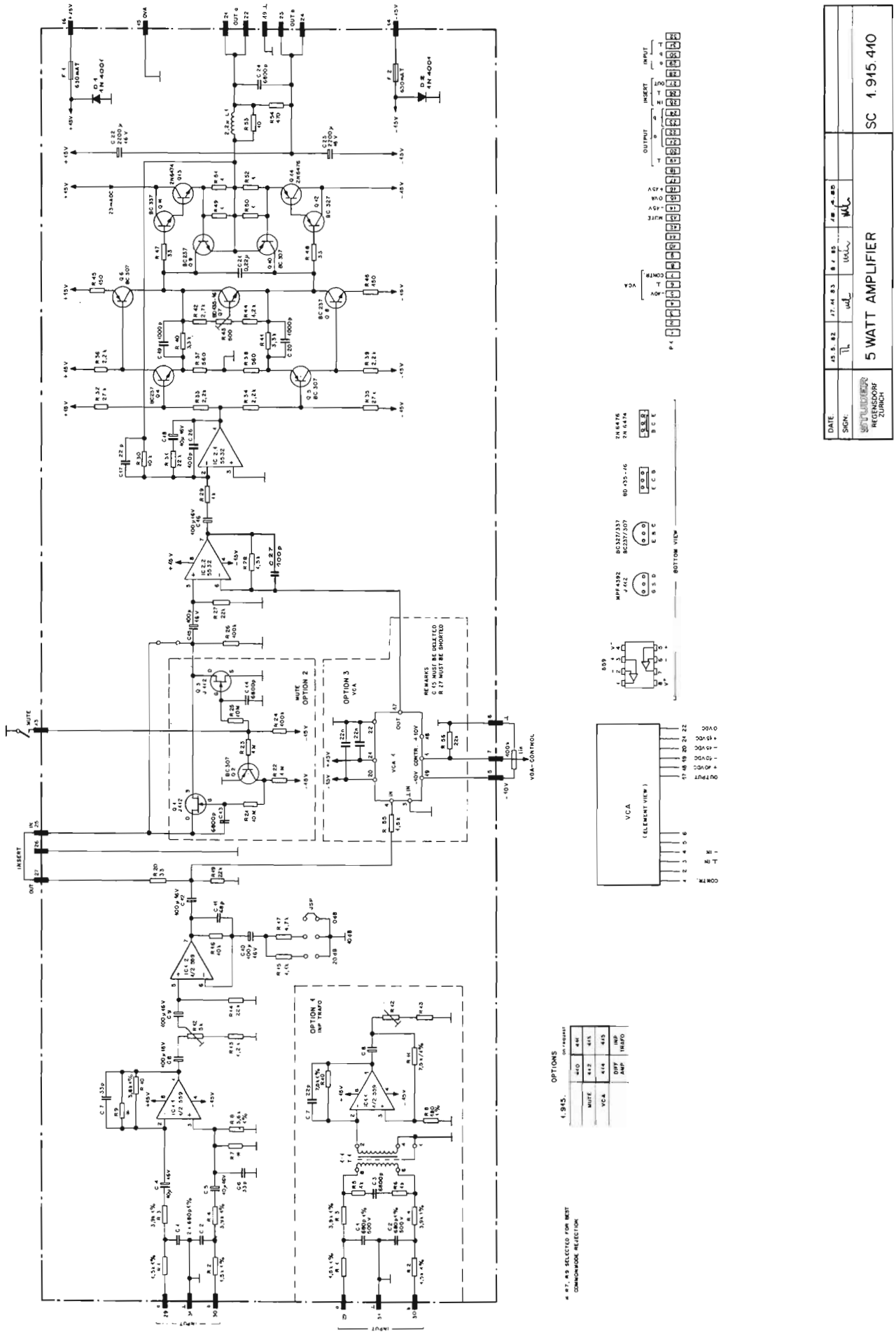


Technical Specifications

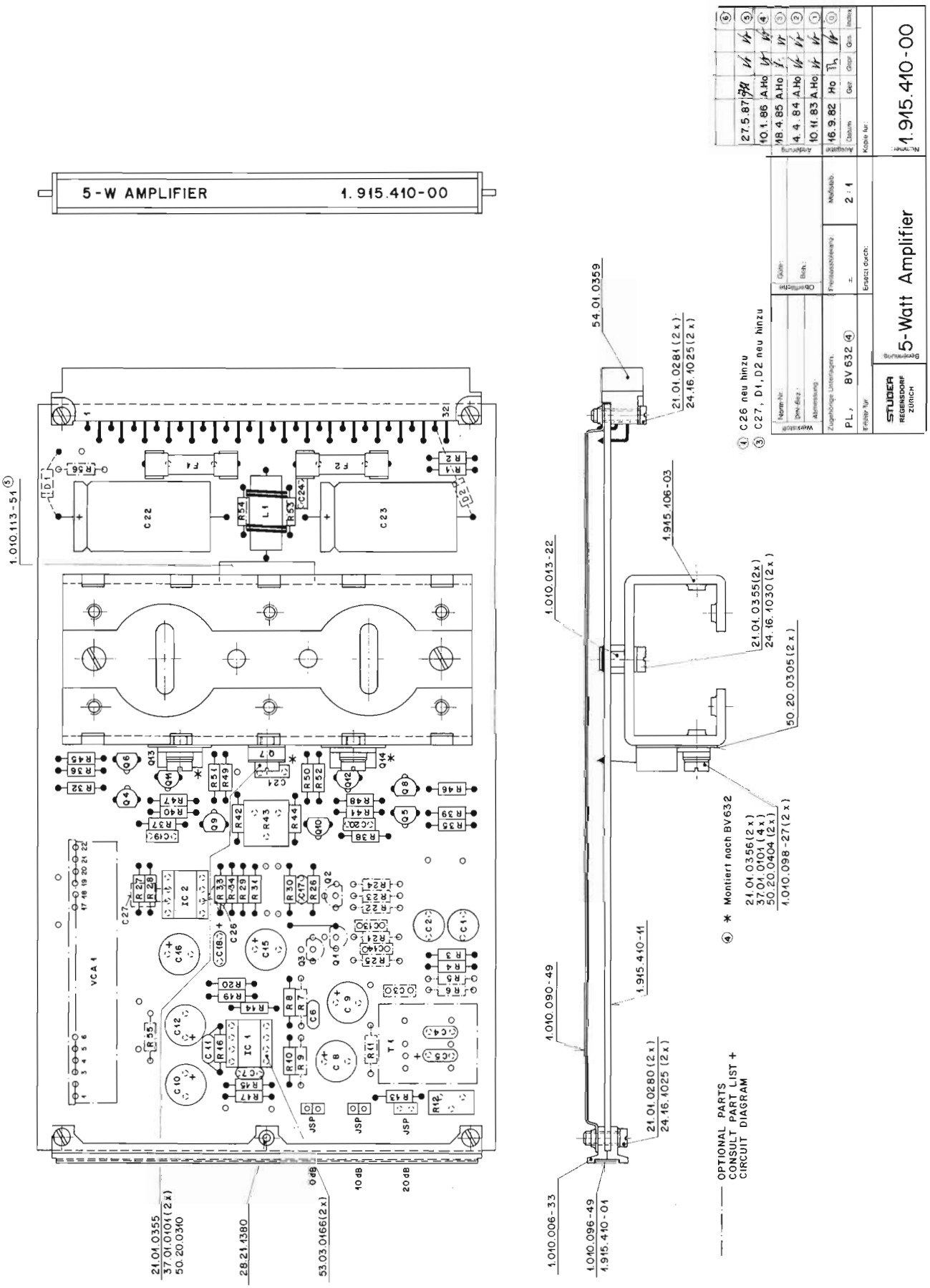
Audio:	Power output	**4 W/15 Ω** **5 W/8 Ω** **2.5 W/4 Ω,** continuous, sine wave
	THD	< **0.1%** @ rated output, 30 Hz...16 kHz
	Frequency response	**±0.5 dB,** 30 Hz...16 kHz
	Input impedance	**10 kΩ,** balanced
	Sensitivity	**–17...+16 dBu** (0.11...4.9 V_{rms}) for rated output
	Maximum input level	**+24 dBu** (12.3 V_{rms}) clipping point
	S/N	**100 dB,** linear to 23 kHz at normal operating gain (input +6 dBu) **85 dB,** at maximum gain
Supply:		**±15 V DC** (40 mA idling; 400 mA @ 5 W/8 Ω
	Output stage quiescent current	**23 mA**
Dimensions:	Euro-card	**100 × 160 mm, 7M units wide**
	Weight	**approx. 210 g**

Ordering Information:

5 W amplifier with	• transformerless input	1.915.410.xx
	• input transformer	1.915.411.xx
	• transformerless input and remote muting facility	1.915.412.xx
	• input transformer and remote muting facility	1.915.413.xx
	• transformerless input and remote gain control (VCA)	1.915.414.xx
	• input transformer and remote gain control (VCA)	1.915.415.xx


5 WATT AMPLIFIER
SC 1.915.410
STUDER REGENSDORF ZURICH
MUTE
OPTION 2
OPTION 3 VCA
OPTION 4 INP TRAFO
INSERT
VCA
OPTIONS
BOTTOM VIEW

5W AUDIO AMPLIFIER



5W AUDIO AMPLIFIER

Ad	POS.	REF.No.	DESCRIPTION	MANUFACTURER
	C....1	59.05.1681	680p 1% 500V PP	
	C....2	59.05.1681	680p 1% 500V PP	
	C....3		OPT 1	
	C....4	59.26.2100	10µ 16V SAL	
	C....5	59.26.2100	10µ 16V SAL	
	C....6	59.34.2330	33p CER	
	C....7	59.34.2330	33p CER	
	C....8	59.22.5101	100µ 16V EL	
	C....9	59.22.5101	100µ 16V EL	
	C....10	59.22.5101	100µ 16V EL	
	C....11	59.34.4680	68p CER	
	C....12	59.22.5101	100µ 16V EL	
	C....13		OPT 2	
	C....14		OPT 2	
	C....15	59.22.5101	100µ 16V EL	
	C....16	59.22.5101	100µ 16V EL	
	C....17	59.34.2220	22p CER	
	C....18	59.26.2100	10µ 16V SAL	
	C....19	59.06.0102	1000p PE	
	C....20	59.06.0102	1000p PE	
	C....21	59.06.0224	0,22µ PE	
	C....22	59.25.3222	2200µ 16V EL	
	C....23	59.25.3222	2200µ 16V EL	
	C....24	59.06.0682	6800p PE	
	C....25		OPT 3	
①	C....26	59.34.4101	100p CER	
②	C....27	59.34.4101	100p CER	
	F....1	51.01.0115	630mA SLOW BLOW 5•20	
	F....2	51.01.0115	630mA SLOW BLOW 5•20	
	IC....1	50.09.0107	4559 DUAL OP AMP	RA
①	IC....2	50.09.0106	5532 DUAL OP AMP	SIG
	JSP	54.01.0020	PIN (2•)	
		54.01.0021	JUMPER	
	L....1	1.068.614.00	2,2µH	
	P....1	54.01.0359	32p EDGE CONN. TYBE B	
	Q....1		OPT 2	
	Q....2		OPT 2	
	Q....3		OPT 2	
	Q....4	50.03.0436	BC237B NPN GEN. PURPOSE	
	Q....5	50.03.0515	BC307B PNP GEN. PURPOSE	
	Q....6	50.03.0515	BC307B PNP GEN. PURPOSE	
	Q....7	50.03.0495	BD135-16 NPN	
	Q....8	50.03.0436	BC237B NPN GEN. PURPOSE	
	Q....9	50.03.0436	BC237B NPN GEN. PURPOSE	
	Q....10	50.03.0515	BC307B PNP GEN. PURPOSE	
	Q....11	50.03.0340	BC337 NPN 800mA	
	Q....12	50.03.0351	BC327 PNP 800mA	
	Q....13	50.03.0344	2N6474 NPN	RCA
	Q....14	50.03.0345	2N6476 PNP	RCA
	R....1	57.11.3152	1,5k 1%	
	R....2	57.11.3152	1,5k 1%	
	R....3	57.11.3392	3,9k 1%	
	R....4	57.11.3392	3,9k 1%	
	R....5		OPT 1	
	R....6		OPT 1	
	R....7		SELECTED	
	R....8	57.11.3362	3,6k 1%	
	R....9		SELECTED	
	R....10	57.11.3362	3,6k 1%	
	R....11		OPT 1	
	R....12	58.01.7502	5k TRIM	
	R....13	57.11.4122	1,2k	
	R....14	57.11.4223	22k	
	R....15	57.11.3112	1,1k 1%	
	R....16	57.11.4103	10k	
	R....17	57.11.4472	4,7k	
	R....18		NOT USED	
	R....19	57.11.4223	22k	
	R....20	57.11.4330	33	
	R....21		OPT 2	
	R....22		OPT 2	
	R....23		OPT 2	
	R....24		OPT 2	
	R....25		OPT 2	
	R....26	57.11.4104	100k	
	R....27	57.11.4223	22k	
	R....28	57.11.4152	1,5k	
	R....29	57.11.4102	1k	
	R....30	57.11.4103	10k	
	R....31	57.11.4223	22k	
	R....32	57.11.4273	27k	
	R....33	57.11.4222	2,2k	
	R....34	57.11.4222	2,2k	
	R....35	57.11.4273	27k	
	R....36	57.11.4222	2,2k	
	R....37	57.11.4561	560	
	R....38	57.11.4561	560	
	R....39	57.11.4222	2,2k	
	R....40	57.11.4332	3,3k	
	R....41	57.11.4332	3,3k	
	R....42	57.11.4272	2,7k	
	R....43	58.01.8501	500 TRIM	
	R....44	57.11.4122	1,2k	
	R....45	57.11.4151	150	
	R....46	57.11.4151	150	
	R....47	57.11.4330	33	
	R....48	57.11.4330	33	
	R....49	57.11.4109	1	
	R....50	57.11.4109	1	
	R....51	57.11.4109	1	
	R....52	57.11.4109	1	
	R....53	57.11.4100	10	
	R....54	57.11.4471	470	
	R....55		OPT 3	
	R....56		OPT 3	
	XF	53.03.0142	FUSE HOLDER	
	XIC	53.03.0166	8pDIL	
	OPTIONS			
			OPTION 1	
	C....3	59.06.0682	6800p PE	
	C....7	59.34.2220	22p CER	
	R....5	57.11.4102	1k	
	R....6	57.11.4102	1k	
	R....8	57.11.3181	180 1%	
	R....10	57.11.3752	7,5k 1%	
	R....11	57.11.3752	7,5k 1%	
	T....1	1.022.419.00	1:1	ST
		1.022.400.03	INSULATION	
			OPTION 2	
	C....13	59.06.0682	6800p	
	C....14	59.06.0682	6800p	
	Q....1	50.03.0350	J112 ND FET MPF4392	SIX, MOT
	Q....2	50.03.0515	BC307 PNP GEN. PURPOSE	
	Q....3	50.03.0350	J112 ND FET MPF4392	SIX, MOT
	R....21	57.11.6106	10M	
	R....22	57.11.4105	1M	
	R....23	57.11.4105	1M	
	R....24	57.11.4104	100k	
	R....25	57.11.6106	10M	
			OPTION 3	
②	D....1	50.04.0122	1N4001	MOT
②	D....2	50.04.0122	1N4001	MOT
	R....55	57.11.4152	1,5k	
	R....56	57.11.4223	22k	
	VCA...1	1.010.110.50	VOLTAGE CONTROLLED AMPL.	ST

Additional Diodes see Page 6

PP=Polypropylene, SAL= Solid Aluminium, CER=Ceramic, EL=Electrolytic, PE=Polyester

MANUFACTURER: ST=Studer, MOT=Motorola, SIX=Siliconix, RA=Raytheon, SIG=Signetics

1.915.410.00 5 WATT AMPLIFIER TH 14/04/82

1.915.410.00 5 WATT AMPLIFIER ① HO 04/11/83

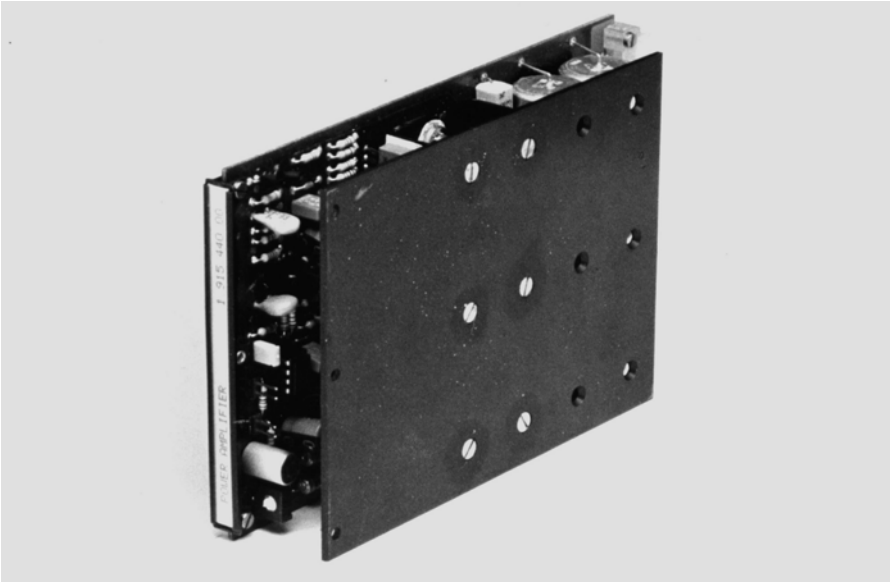
1.915.410.00 5 WATT AMPLIFIER ② PA 18/04/85

END

→

40 W Power Amplifier 1.915.440/441

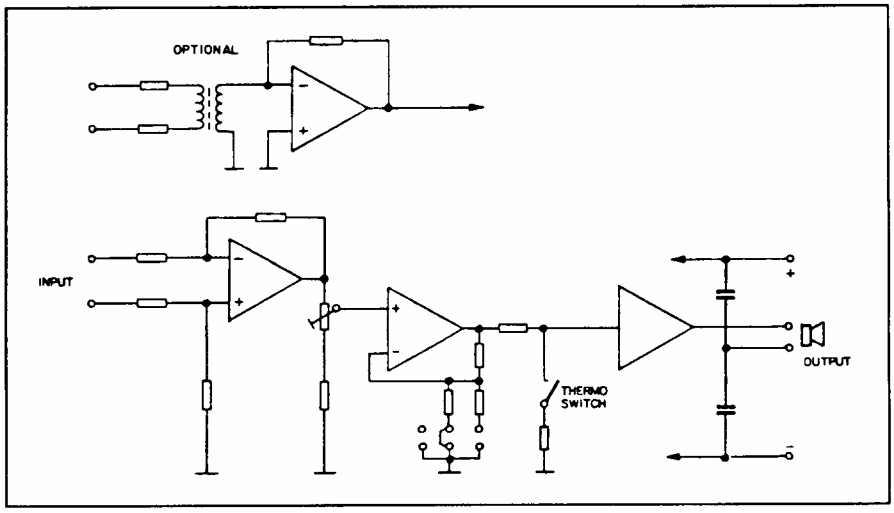
For applications where higher power level is needed, a 40 W amplifier has been realized on a Euro-card. Its width is 32 mm, which equals 7M widths approximately.



Power is supplied from a separate 45 V_{DC} source, as is contained in the 19" mounting frame 1.918.120.xx. Two amplifier cards will fit into that frame, making it suitable for applications where stereophonic monitoring is required.

Special Features

- Transformerless version with electronically balanced inputs standard
- Version with balanced and floating inputs available
- Output stage protected from overload by momentary power limiting
- Temperature sensing avoids thermal overload
- High-end frequency response limited to prevent transient intermodulation distortion
- Low distortion performance, even at low power output
- Operation with output transformer possible

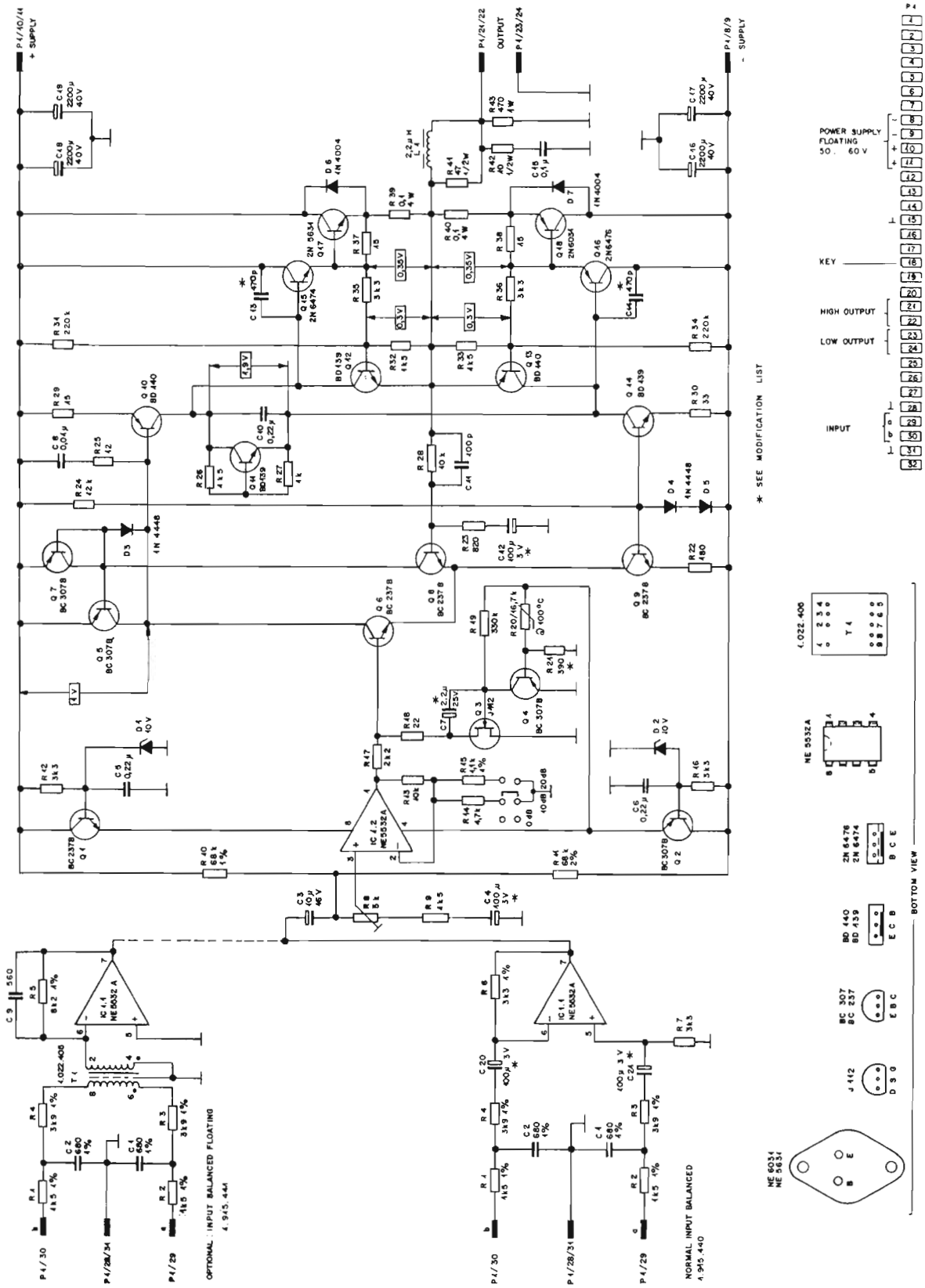


Technical Specifications

Audio:	Power output	**40 W/4 Ω**, continuous, sine-wave,
	THD	**< 0.1 %**, 30 Hz...15 kHz (up to rated output)
	Output impedance	**0.1 Ω**
	Input impedance	**10 kΩ**
	Common mode rejection	> **50 dB**, 30 Hz...16 kHz (with input transformer)
	Input sensitivity	**–12...+18 dBu** (0.195...6.2 V_{rms}) for rated output (adjustable with jumper in three 10 dB-increments, plus fine-trim range of 12 dB)
	Frequency response	**+0.5/–1 dB,** 30 Hz...15 kHz
	S/N	**105 dB** @ maximum gain
		90 dB @ minimum gain
Supply:		**45 V_{DC}** (70 mA idling, 1.5 A @ 40 W/4 Ω
Dimensions:	Euro-card	**100 × 160 mm, 7M units wide**

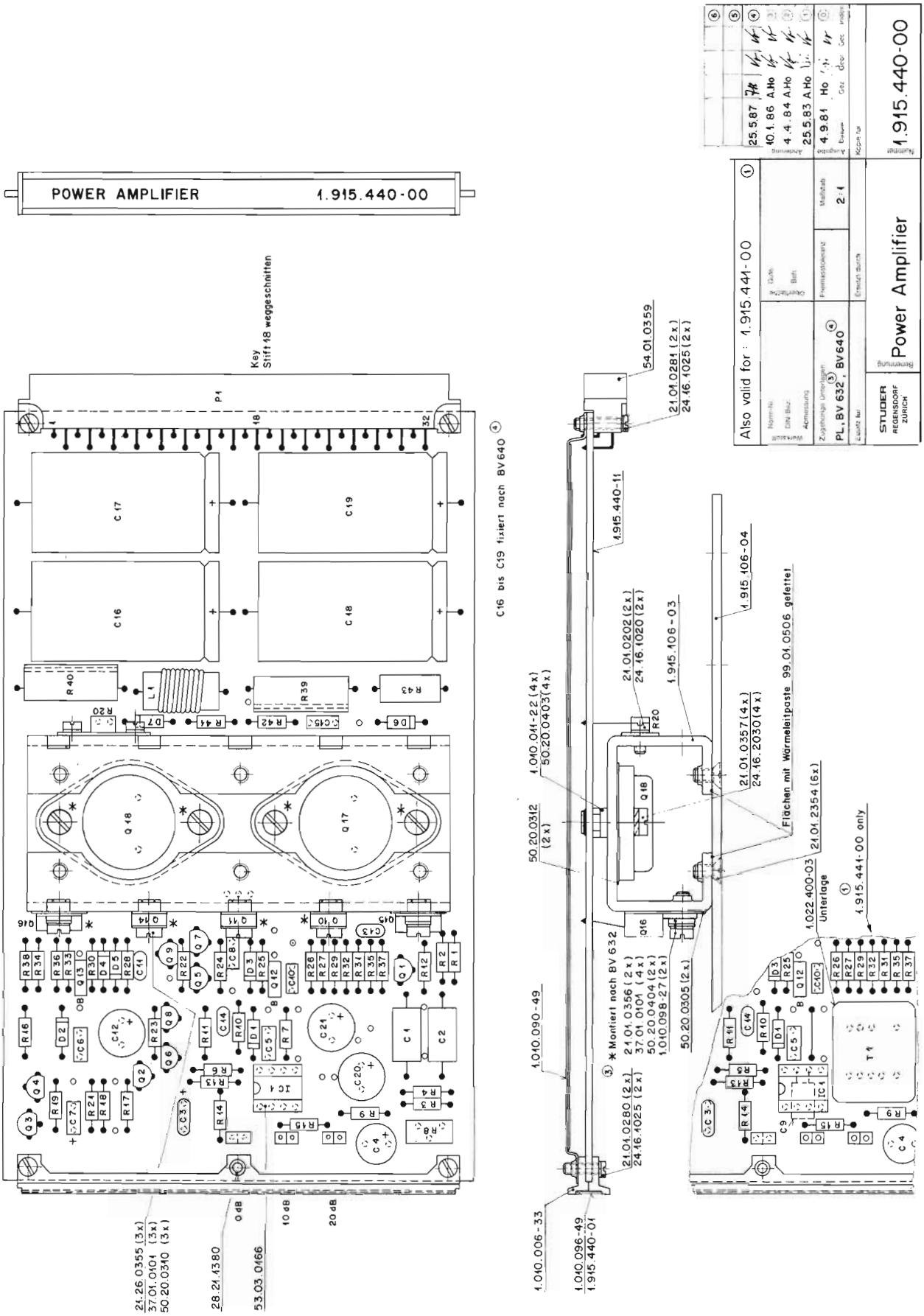
Ordering Information:

Euro-cards	•	40 W power amplifier with transformerless input	1.915.440.xx
	•	40 W power amplifier with input transformer	1.915.441.xx
19”/1U standard products			
40 W power amplifier	•	Mono version, 19”/1U	75.700.80311
	•	Stereo version, 19”/1U	75.700.80322
	•	19”/1U mounting frame (without amplifier cards)	1.918.120.xx



DATE:	12.1.82	24.5.83	24.6.83	23.11.83	
SIGN:					
STUDER REGENSDORF ZÜRICH	POWER AMPLIFIER OPTIONAL : INP. BALANCED FLOATING				SC 1.915.440 4.945.444

40W POWER AMPLIFIER



40W POWER AMPLIFIER

Ad	POS.	REF.No.	DESCRIPTION			MANUFACTURER
	C....1	59.12.9681	680pF	500V 1%	PS	
	C....2	59.12.9681	680pF	500V 1%	PS	
	C....3	59.26.2100	10µF	16V	SAL	
②	C....4	59.30.1101	100µF	3V	TA	
	C....5	59.06.0224	0,22µF		PE	
	C....6	59.06.0224	0,22µF		PE	
①	C....7	59.26.5229	2,2µF	25V	SAL	
	C....8	59.06.0103	0,01µF		PE	
	C....9	59.34.5561	560pF		CER (1.915.441)	
	C...10	59.06.0224	0,22µF		PE	
②	C...11	59.34.4101	100pF		CER	
②	C...12	59.30.1101	100µF	3V	TA	
②	C...13	59.32.1471	470pF		CER	
②	C...14	59.32.1471	470pF		CER	
	C...15	59.06.0104	0,1µF		PE	
	C...16	59.25.5222	2200µF	40V	EL	
	C...17	59.25.5222	2200µF	40V	EL	
	C...18	59.25.5222	2200µF	40V	EL	
	C...19	59.25.5222	2200µF	40V	EL	
②	C...20	59.30.1101	100µF	3V	TA (1.915.440)	
②	C...21	59.30.1101	100µF	3V	TA (1.915.440)	
	D....1	50.04.1114	ZPD10V	10V @ 5mA		
	D....2	50.04.1114	ZPD10V	10V @ 5mA		
	D....3	50.04.0125	1N4448		SI	
	D....4	50.04.0125	1N4448		SI	
	D....5	50.04.0125	1N4448		SI	
	D....6	50.04.0105	1N4004	1,1V @ 1A	SI	
	D....7	50.04.0105	1N4004	1,1V @ 1A	SI	
	IC....1	50.09.0105	NE5532A	DUAL OPA		SIG
	L....1	1.068.614.00	2,2µH			ST
	Q....1	50.03.0436	BC237B	NPN		PH, TI
	Q....2	50.03.0515	BC307B	PNP		PH, TI
	Q....3	50.03.0350	J112	FET		SIX, N
	Q....4	50.03.0515	BC307B	PNP		PH, TI
	Q....5	50.03.0515	BC307B	PNP		PH, TI
	Q....6	50.03.0436	BC237B	NPN		PH, TI
	Q....7	50.03.0515	BC307B	PNP		PH, TI
	Q....8	50.03.0436	BC237B	NPN		PH, TI
	Q....9	50.03.0436	BC237B	NPN		PH, TI
	Q...10	50.03.0452	BD140	PNP		PH, SIE
	Q...11	50.03.0451	BD139	NPN		PH, SIE
	Q...12	50.03.0451	BD139	NPN		PH, SIE
	Q...13	50.03.0452	BD140	PNP		PH, SIE
	Q...14	50.03.0451	BD139	NPN		PH, SIE
	Q...15	50.03.0344	2N6474	NPN		R
	Q...16	50.03.0345	2N6476	PNP		R
	Q...17	50.03.0342	2N5631	NPN		MOT
	Q...18	50.03.0343	2N6031	PNP		MOT
	R....1	57.11.3152	1,5k	1%		
	R....2	57.11.3152	1,5k	1%		
	R....3	57.11.3392	3,9k	1%		
	R....4	57.11.3392	3,9k	1%		
	R....5	57.11.3822	8,2k	1% (1.915.441)		
	R....6	57.11.3332	3,3k	1% (1.915.440)		
	R....7	57.11.3332	3,3k	1% (1.915.440)		
	R....8	58.01.7502	5k	10%	LIN	
	R....9	57.11.4152	1,5k			
	R...10	57.11.4683	68k			
	R...11	57.11.4683	68k			
	R...12	57.11.4332	3,3k			
	R...13	57.11.4103	10k	2%		
	R...14	57.11.4472	4,7k	2%		
	R...15	57.11.3112	1,1k	2%		
	R...16	57.11.4332	3,3k			
	R...17	57.11.4222	2,2k	2%		
	R...18	57.11.4220	22			
	R...19	57.11.4334	330k			
④	R...20	57.99.0803	16,7k		NTC	PH
②	R...21	57.11.4391	390			
	R...22	57.11.4181	180			
	R...23	57.11.4821	820			
	R...24	57.11.4123	12k			
	R...25	57.11.4120	12			
	R...26	57.11.4152	1,5k			
	R...27	57.11.4102	1k			
	R...28	57.11.4103	10k			
	R...29	57.11.4150	15			
	R...30	57.11.4330	33			
③	R...31	57.11.4224	220k			
	R...32	57.11.4152	1,5k			
	R...33	57.11.4152	1,5k			
③	R...34	57.11.4224	220k			
	R...35	57.11.4332	3,3k			
	R...36	57.11.4332	3,3k			
	R...37	57.11.4150	15			
	R...38	57.11.4150	15			
	R...39	57.56.5108	0,1	10% 4W WW		
	R...40	57.56.5108	0,1	10% 4W WW		
	R...41	57.11.4470	47	0,4W		
	R...42	57.11.4100	10	0,4W		
	R...43	57.13.4471	470	1W		
	T....1	1.022.405.00	1:1	INPUT TRANSFORMER		ST

MODIFICATION LIST

②	C....4	220µFEL→100µTA	QUALITY IMPROVEMENT
①	C....7	0,22µF→2,2µF	BETTER INRUSH
②	C...12	100µFEL→100µTA	QUALITY IMPROVEMENT
②	C...13	560pF→470pF	PRODUCTIONS REASONS
②	C...20	100µFEL→100µTA	QUALITY IMPROVEMENT
②	C...21	100µFEL→100µTA	QUALITY IMPROVEMENT
②	R...21	1kΩ→390Ω	SWITCH OFF @ 100°C
③	R...31	100k→220k	CURRENT LIMIT @ HIGHER IDLE VOLTAGES
③	R...34	100k→220k	CURRENT LIMIT @ HIGHER IDLE VOLTAGES

PS=Polystyrene, EL=Electrolytic, SAL=Solid Aluminium, PE=Polyester, CER=Ceramic, SI=Silicium, T=Tantalum
WW=Wire Wound

MANUFACTURER: PH=Philips, SIG=Signetics, SIX=Siliconix, SIE=Siemens, TI=Texas Instruments, R=RCA
MOT=Motorola, N=National, ST=Studer

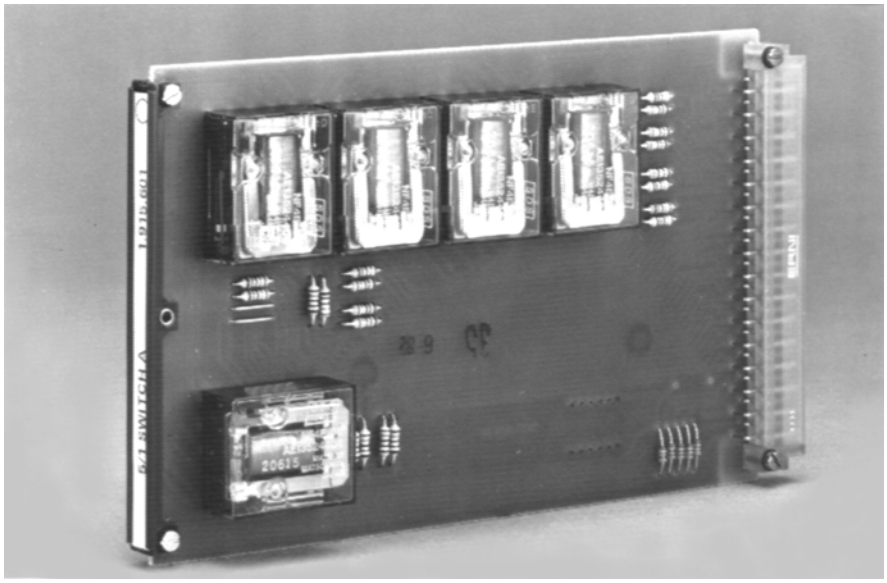
Also Valid for: 1.915.441 ①

1.915.440 POWER AMPLIFIER	PA 09/06/81
1.915.440 POWER AMPLIFIER	① VO 25/05/83
1.915.440 POWER AMPLIFIER	② FRI 06/07/83
1.915.440 POWER AMPLIFIER	③ VO 23/11/83
1.915.440 POWER AMPLIFIER	④ VO 23/09/91

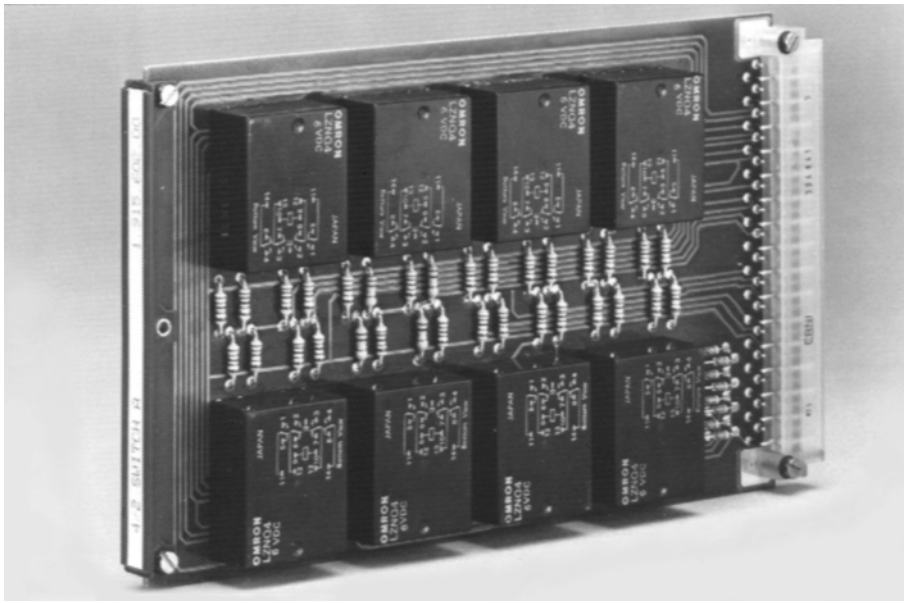
END
→

Monitor Switching Relays 1.915.601/602

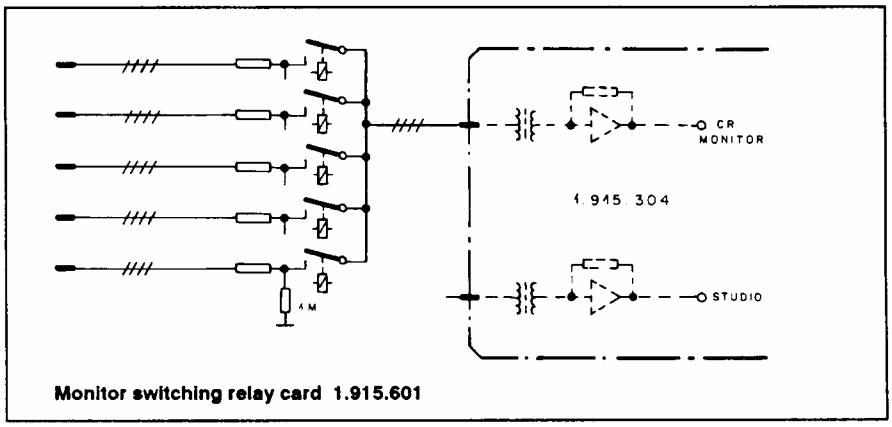
Two different monitor circuit switching cards are available. They are equipped with either five or eight relays for switching of a corresponding number of stereo sources to one or two stereo outputs in monitor circuits.



The relays are available with coil ratings of 6 V_{DC} or 24 V_{DC}, depending on the user's requirement. Click-suppressing diodes are wired across each relay coil. The relays are equipped with four double throw (change-over) contacts each.

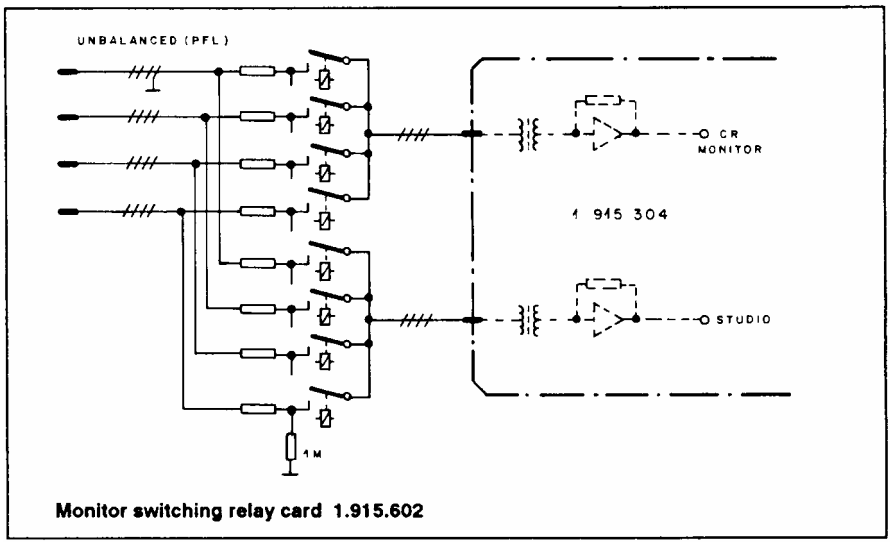


Isolation of the monitor lines from external circuitry is achieved by 5.6 kΩ resistors in the "a" and "b" legs of each stereo line, thus a high impedance (bridging) load is presented to the outside source, even in de-energized (non-selected) status, when the respective pair of relay contacts shorts the lines after the respective isolation resistors. With a relay energized, the corresponding stereo pair is routed to a stereo bus available on four pins of the 32-contact edge connector (in case of the 5-input card 1.915.601.xx).



Monitor switching relay card 1.915.601

Card 1.915.602.xx features a similar circuit configuration with eight relays, to switch one unbalanced and three balanced stereo inputs. Two stereo buses appear on eight pins of the edge-connector; in this way, the four inputs can be switched to either one or to both outputs, such as may be the case with separate monitor circuits in the control room and in the studio.

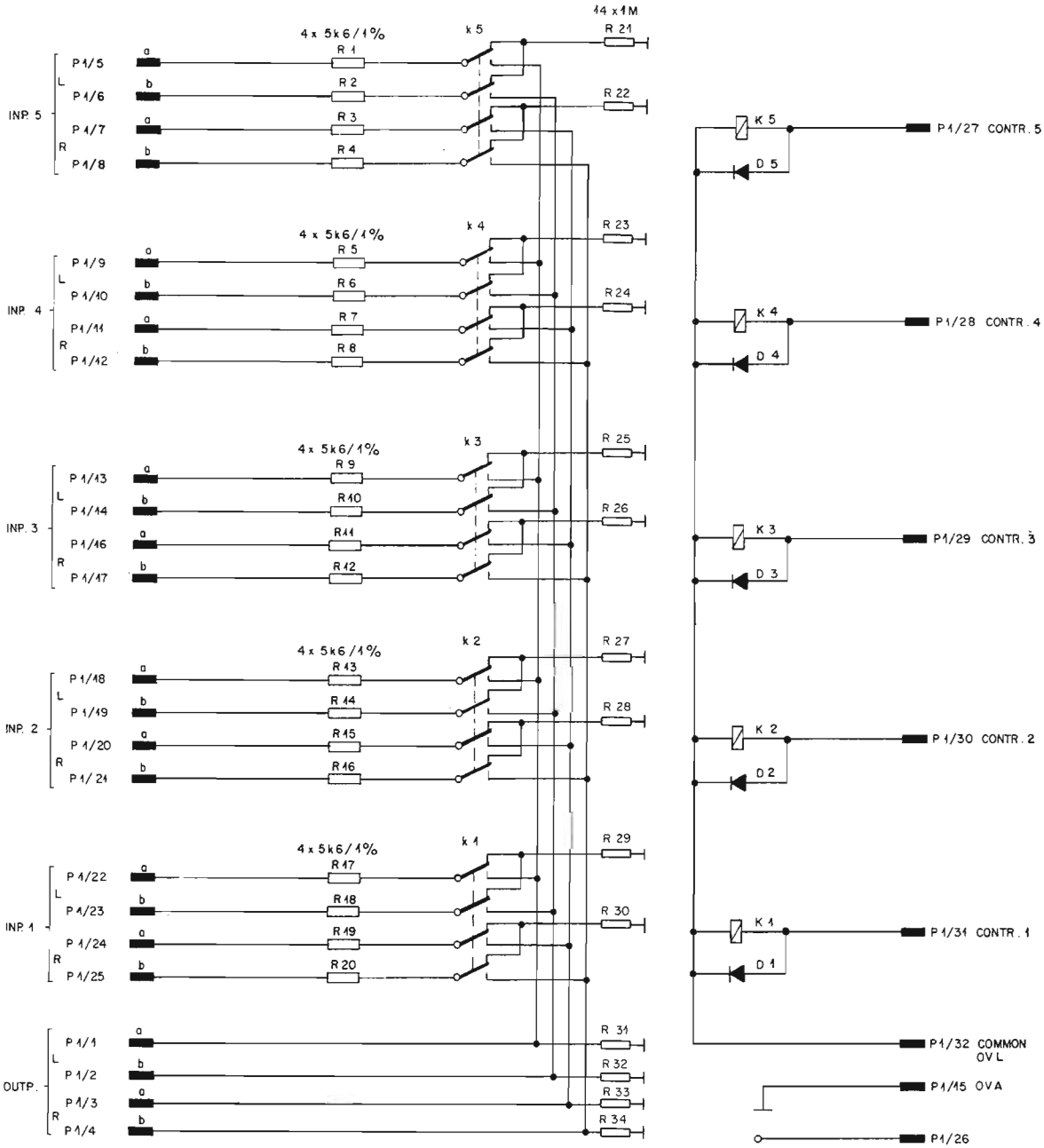


Monitor switching relay card 1.915.602

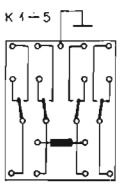
Dimensions: Euro-card **100 × 160 mm, 4 M units wide**
Weight **approx. 250 g**

Ordering Information:

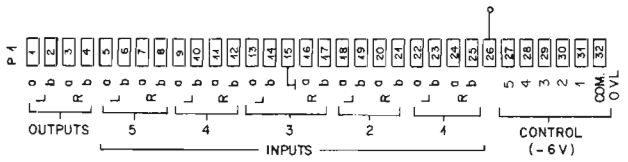
•	Relay card, 5 IN/1 OUT	1.915.601.xx
•	Relay card, 4 IN/2 OUT	1.915.602.xx



D1 . . . D5 = 1N4448

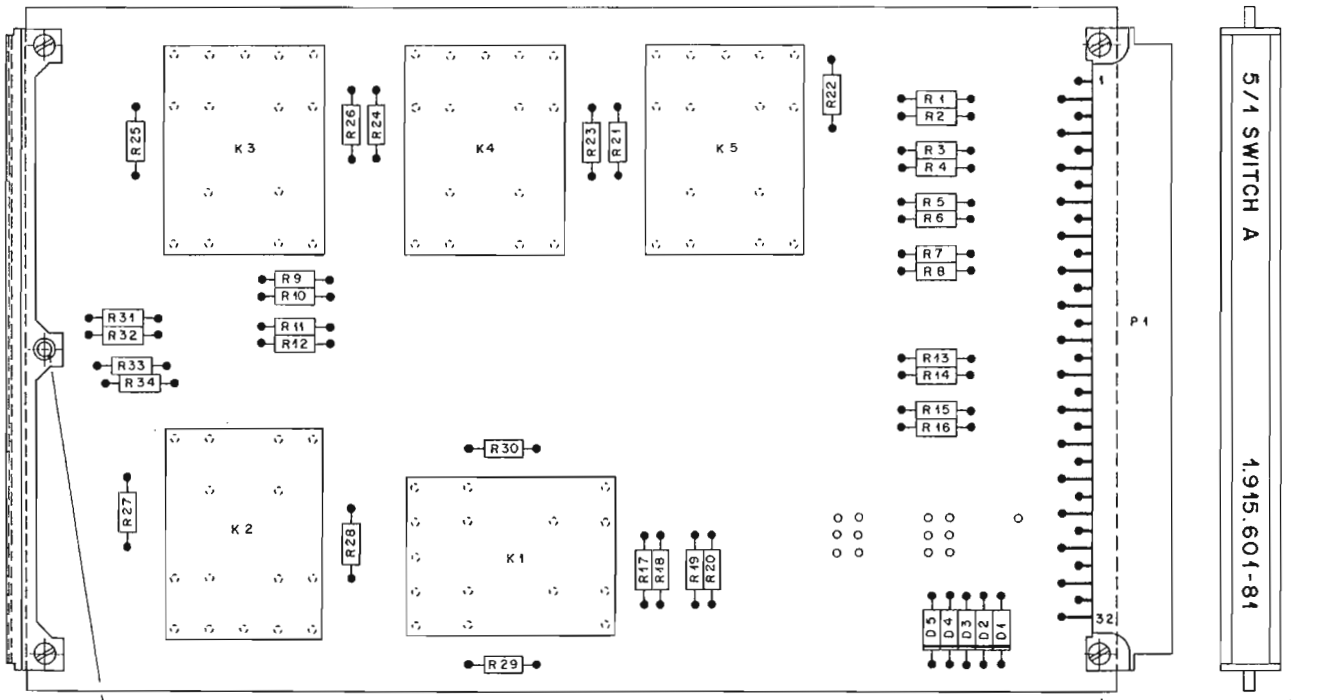


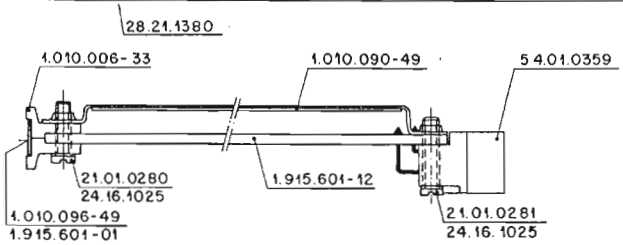
BOTTOM VIEW



DATE:	26.10.87				
SIGN:					
STUDER REGENSDORF ZURICH	5/1 SWITCH A MONITOR RELAYS				SC 1.915.601.81

RELAYS





Werkstoff: Norm-Nr.: DIN-Bez.: Abmessung:	Oberfläche: Güte: Beh.:			Änderung			
Zugehörige Unterlagen: PL	Freimasstoleranz:	Maßstab: 2:1		Ausgabe	9.10.87	A.Ho	
				Datum	Gez.	Gepr.	Ges. Index
Ersatz für: 1.915.601-00	Ersetzt durch:			Kopie für:			
STUDER REGENSDORF ZÜRICH	Benennung: 5/1 SWITCH A			Nummer: 1.915.601-81			

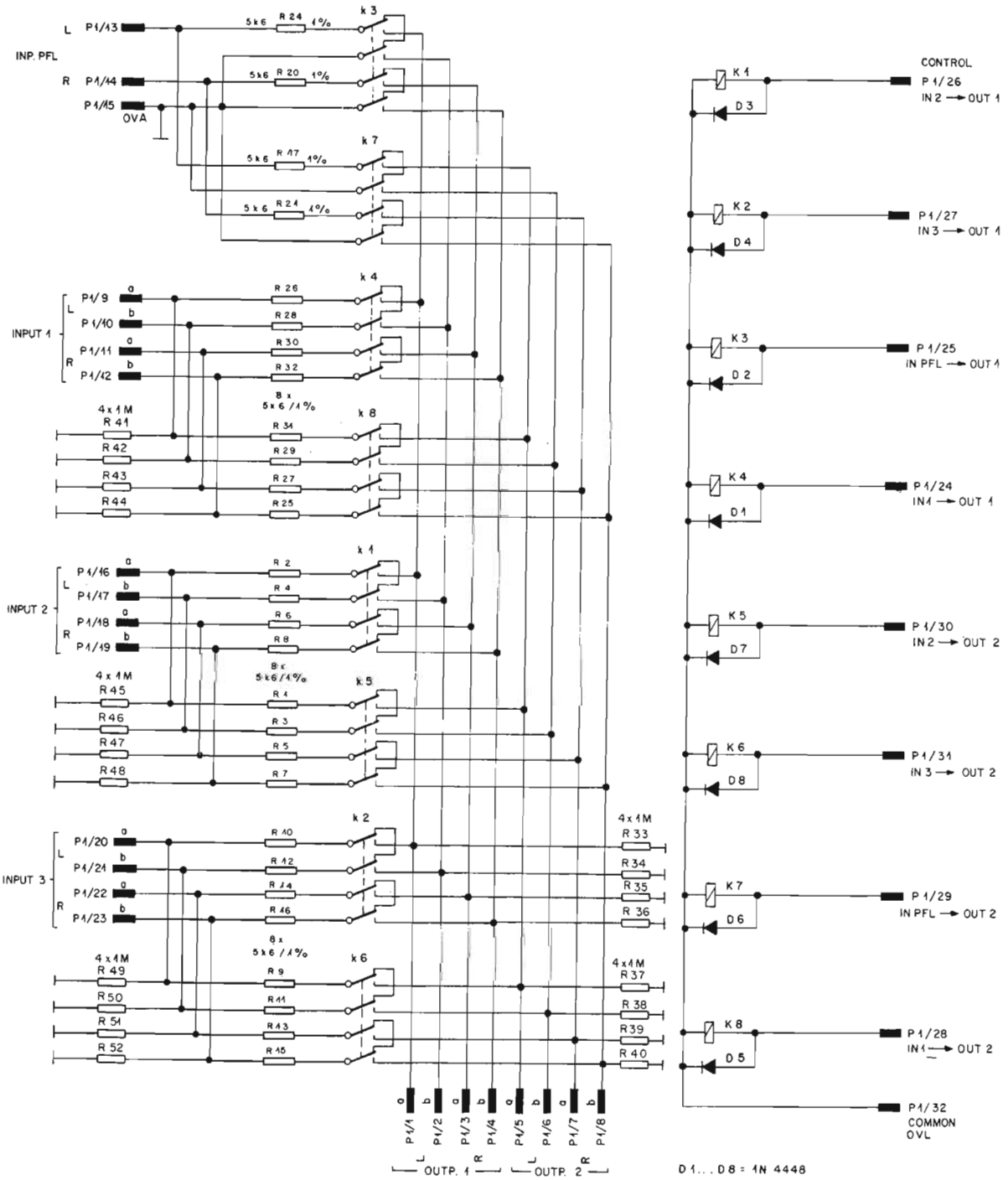
Ad	POS.	REF.No.	DESCRIPTION		MANUFACTURER
	D.....1	50.04.0125	1N4448		ANY
	D.....2	50.04.0125	1N4448		ANY
	D.....3	50.04.0125	1N4448		ANY
	D.....4	50.04.0125	1N4448		ANY
	D.....5	50.04.0125	1N4448		ANY
	K.....1	56.04.0146	4U/6V		N/O
	K.....2	56.04.0146	4U/6V		N/O
	K.....3	56.04.0146	4U/6V		N/O
	K.....4	56.04.0146	4U/6V		N/O
	K.....5	56.04.0146	4U/6V		N/O
	R.....1	57.11.3562	5,6k	1%	
	R.....2	57.11.3562	5,6k	1%	
	R.....3	57.11.3562	5,6k	1%	
	R.....4	57.11.3562	5,6k	1%	
	R.....5	57.11.3562	5,6k	1%	
	R.....6	57.11.3562	5,6k	1%	
	R.....7	57.11.3562	5,6k	1%	
	R.....8	57.11.3562	5,6k	1%	
	R.....9	57.11.3562	5,6k	1%	
	R....10	57.11.3562	5,6k	1%	
	R....11	57.11.3562	5,6k	1%	
	R....12	57.11.3562	5,6k	1%	
	R....13	57.11.3562	5,6k	1%	
	R....14	57.11.3562	5,6k	1%	
	R....15	57.11.3562	5,6k	1%	
	R....16	57.11.3562	5,6k	1%	
	R....17	57.11.3562	5,6k	1%	
	R....18	57.11.3562	5,6k	1%	
	R....19	57.11.3562	5,6k	1%	
	R....20	57.11.3562	5,6k	1%	
	R....21	57.11.4105	1M		
	R....22	57.11.4105	1M		
	R....23	57.11.4105	1M		
	R....24	57.11.4105	1M		
	R....25	57.11.4105	1M		
	R....26	57.11.4105	1M		
	R....27	57.11.4105	1M		

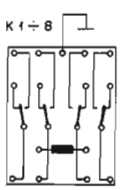
Ad	POS.	REF.No.	DESCRIPTION	MANUFACTURER
	R....28	57.11.4105	1M	
	R....29	57.11.4105	1M	
	R....30	57.11.4105	1M	
	R....31	57.11.4105	1M	
	R....32	57.11.4105	1M	
	R....33	57.11.4105	1M	
	R....34	57.11.4105	1M	

MANUFACTURER: N=National, O=Omron

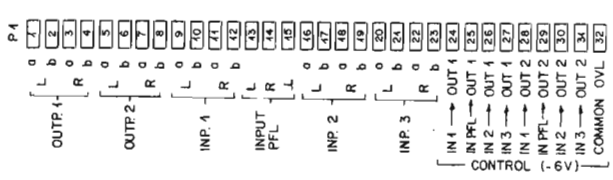
1.915.601.81 5/1 SWITCH A WY 14/10/87

END



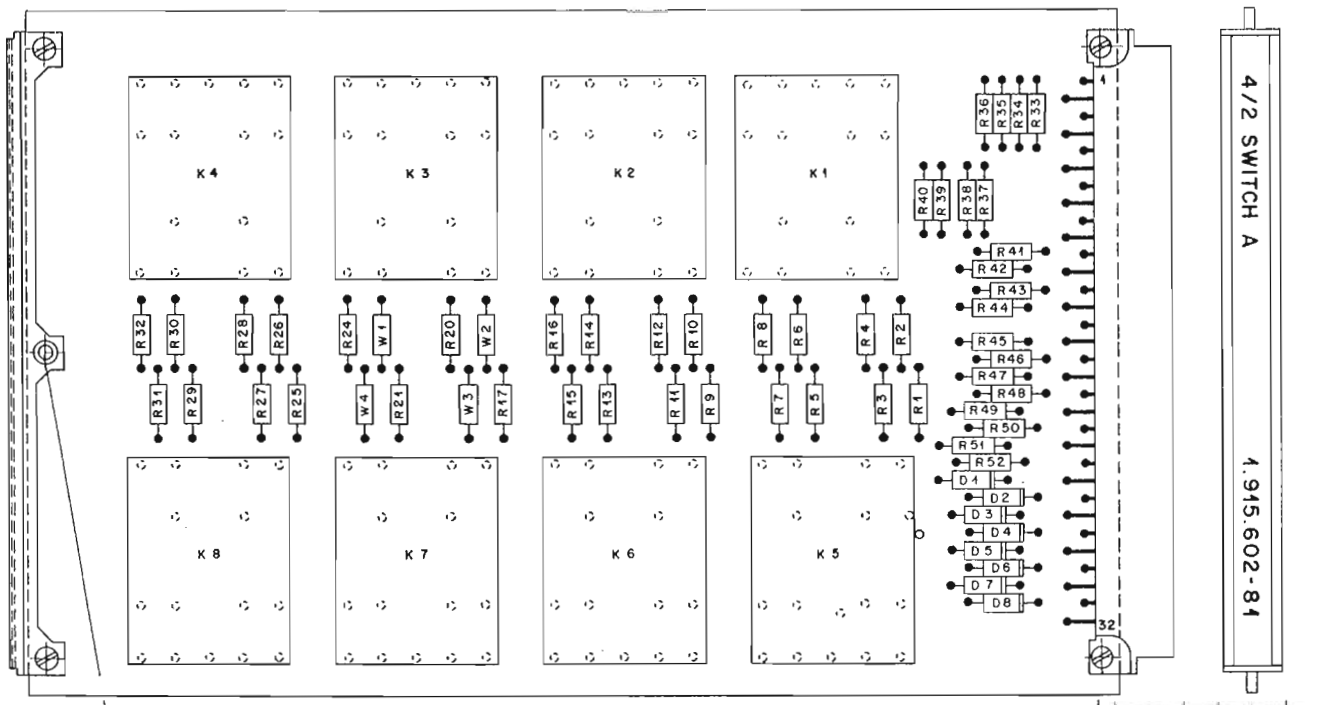


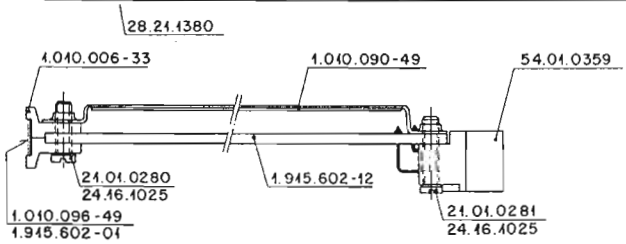
BOTTOM VIEW



DATE:	26.10.87					
SIGN:						
STUDER REGENSDORF ZÜRICH	4/2 SWITCH A MONITOR RELAYS					SC 1.915.602.81

RELAYS





Werkstoff: Norm-Nr.: DIN-Bez.: Abmessung:	Oberfläche: Gute: Beh.:		Änderung:
Zugehörige Unterlagen: PL	Freimasstoleranz:	Maßstab: 2:1	Ausgabe: 9.10.87 A.Ho
Ersatz für: 1.915.602-00	Ersetzt durch:		Kopie für:
STUDER REGENSDORF ZÜRICH	Benennung: 4/2 SWITCH A		Nummer: 1.915.602-81

Ad	POS.	REF.No.	DESCRIPTION	MANUFACTURER
	D....1	50.04.0125	1N4448	ANY
	D....2	50.04.0125	1N4448	ANY
	D....3	50.04.0125	1N4448	ANY
	D....4	50.04.0125	1N4448	ANY
	D....5	50.04.0125	1N4448	ANY
	D....6	50.04.0125	1N4448	ANY
	D....7	50.04.0125	1N4448	ANY
	D....8	50.04.0125	1N4448	ANY
	K....1	56.04.0146	4U/6V	N/O
	K....2	56.04.0146	4U/6V	N/O
	K....3	56.04.0146	4U/6V	N/O
	K....4	56.04.0146	4U/6V	N/O
	K....5	56.04.0146	4U/6V	N/O
	K....6	56.04.0146	4U/6V	N/O
	K....7	56.04.0146	4U/6V	N/O
	K....8	56.04.0146	4U/6V	N/O
	R....1	57.11.3562	5,6k 1% 28Stk.	
	R....2	57.11.3562	5,6k 1% 28Stk.	
	R....3	57.11.3562	5,6k 1% 28Stk.	
	R....4	57.11.3562	5,6k 1% 28Stk.	
	R....5	57.11.3562	5,6k 1% 28Stk.	
	R....6	57.11.3562	5,6k 1% 28Stk.	
	R....7	57.11.3562	5,6k 1% 28Stk.	
	R....8	57.11.3562	5,6k 1% 28Stk.	
	R....9	57.11.3562	5,6k 1% 28Stk.	
	R....10	57.11.3562	5,6k 1% 28Stk.	
	R....11	57.11.3562	5,6k 1% 28Stk.	
	R....12	57.11.3562	5,6k 1% 28Stk.	
	R....13	57.11.3562	5,6k 1% 28Stk.	
	R....14	57.11.3562	5,6k 1% 28Stk.	
	R....15	57.11.3562	5,6k 1% 28Stk.	
	R....16	57.11.3562	5,6k 1% 28Stk.	
	R....17	57.11.3562	5,6k 1% 28Stk.	
	R....25	57.11.3562	5,6k 1% 28Stk.	
	R....26	57.11.3562	5,6k 1% 28Stk.	
	R....27	57.11.3562	5,6k 1% 28Stk.	
	R....28	57.11.3562	5,6k 1% 28Stk.	
	R....29	57.11.3562	5,6k 1% 28Stk.	
	R....30	57.11.3562	5,6k 1% 28Stk.	
	R....31	57.11.3562	5,6k 1% 28Stk.	
	R....32	57.11.3562	5,6k 1% 28Stk.	
	R....33	57.11.3105	1M	
	R....34	57.11.3105	1M	
	R....35	57.11.3105	1M	
	R....36	57.11.3105	1M	
	R....37	57.11.3105	1M	
	R....38	57.11.3105	1M	
	R....39	57.11.3105	1M	
	R....40	57.11.3105	1M	
	R....41	57.11.3105	1M	
	R....42	57.11.3105	1M	
	R....43	57.11.3105	1M	
	R....44	57.11.3105	1M	
	R....45	57.11.3105	1M	
	R....46	57.11.3105	1M	
	R....47	57.11.3105	1M	
	R....48	57.11.3105	1M	
	R....49	57.11.3105	1M	
	R....50	57.11.3105	1M	
	R....51	57.11.3105	1M	
	R....52	57.11.3105	1M	
	W....1	57.11.3000	0-Ω	
	W....2	57.11.3000	0-Ω	
	W....3	57.11.3000	0-Ω	
	W....4	57.11.3000	0-Ω	

MANUFACTURER: N=National, O=Omron

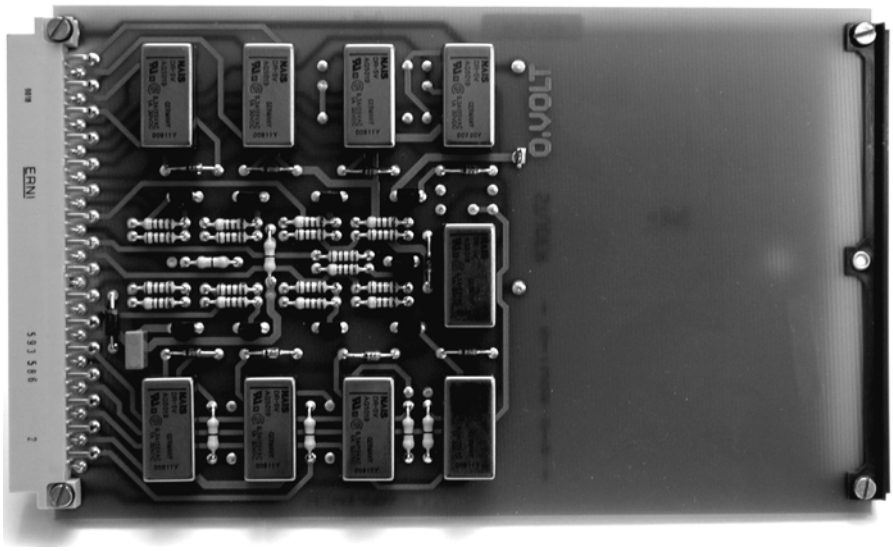
1.915.602.81 4/2 SWITCH A WY 14/10/87

1.915.602.81 4/2 SWITCH A ① WY 22/05/89

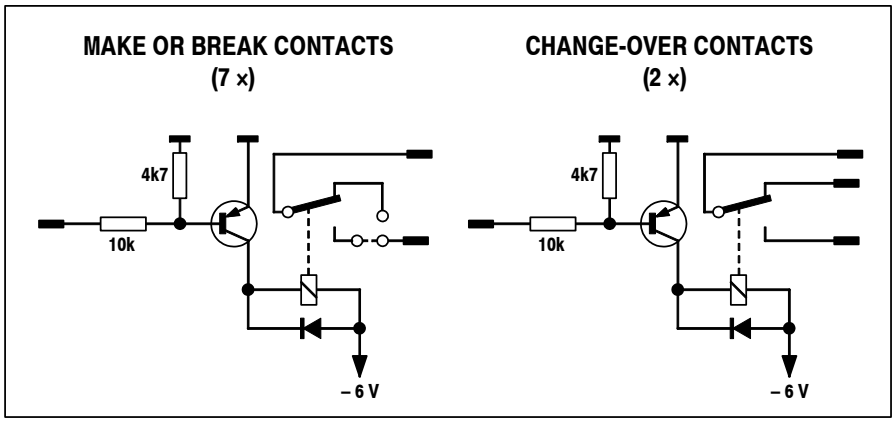
END

Transistor-Driven Relays (7+2) 1.915.603

This Euro-card is supplied with nine transistor-driven relays with single-pole, double-throw (SPDT) contacts. For two of the relays, both normally-open and normally-closed contacts are routed to the edge connector; for the remaining seven it is jumper-selectable whether the normally-open or the normally-closed contact is used.



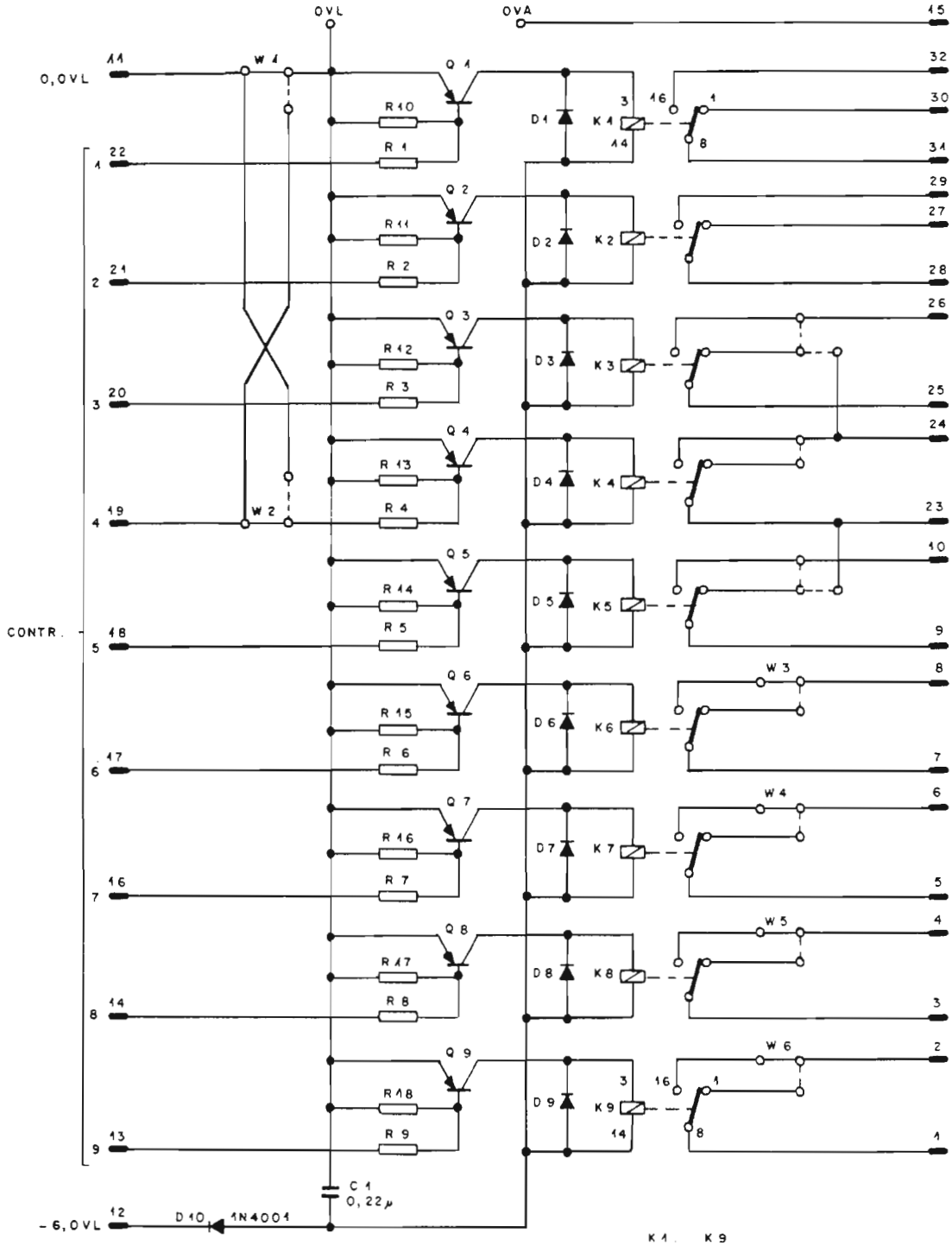
The relays are designed for operation on 6 V_{DC}, and each relay coil is bridged with a click-suppressing diode. PNP transistors in series with the coils are blocking the current flow, because each transistor is normally biased off. By applying the output from the gate of an external control logic to the base of a transistor, it is switched into saturation, thereby energizing the respective relay. This arrangement of nine relays was designed for use in signaling systems within a studio installation; however, it may find its use for other applications as well.



Polarity of the relay's supply voltage must be observed when utilizing this circuit.

Technical Specifications

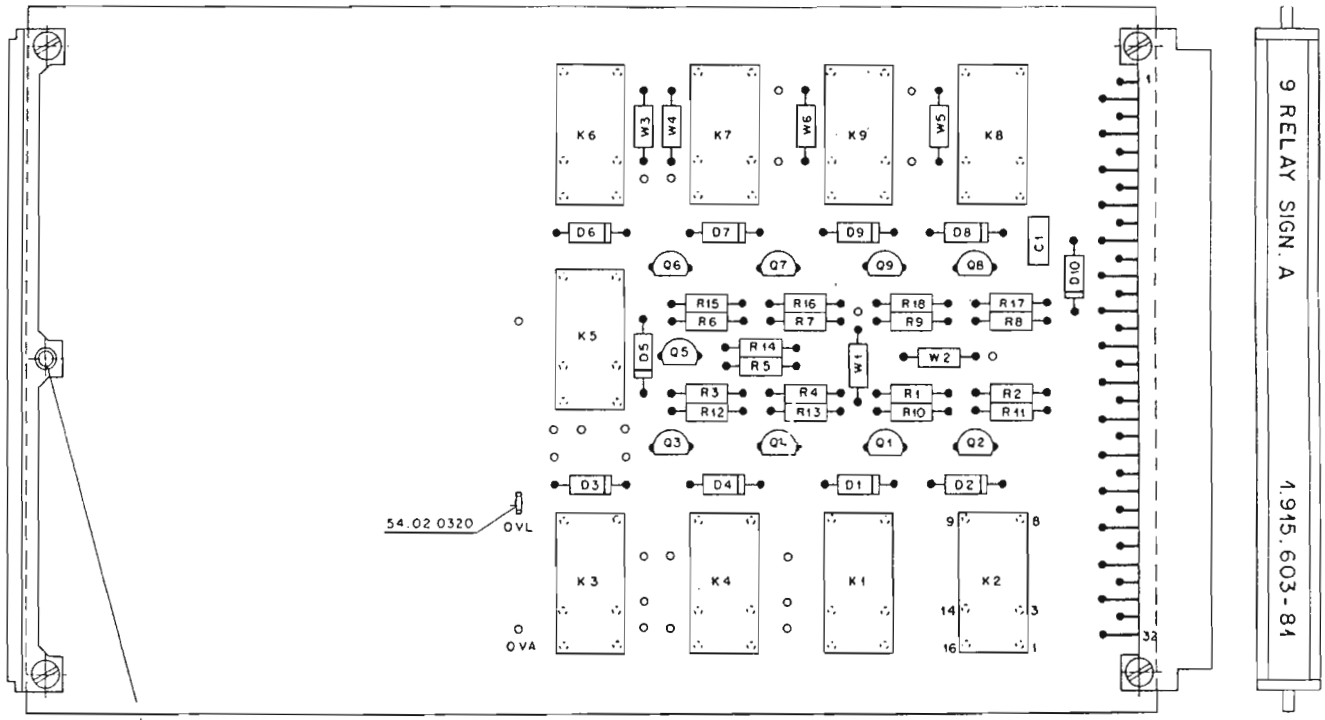
Contact Ratings:		**max. 1 A/30 V_{DC} or 0.3 A/125 V_{AC}**
	Note:	*In this application **48 V** must not be exceeded to avoid shock hazard.*
	Switching power	**60 VA** (AC) **100 W** (DC)
Dimensions:	Euro-card	**100 × 160 mm, 4 M units wide**
Ordering Information:		Transistor-driven relays 1.915.603.xx

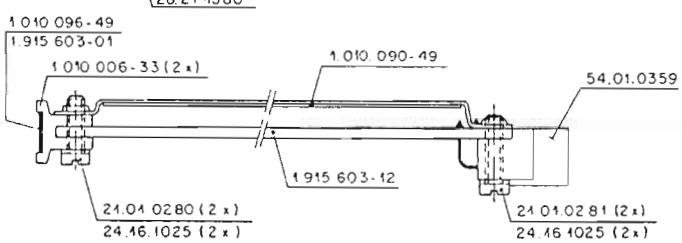


R 1 . . . R 9 = 10 k
R 10 . . . R 18 = 4 k 7
D 1 . . . D 9 = 1N 4448
Q 1 . . . Q 9 = BC 560
K 1 . . . K 9 DR - 5 V

⓪ 24 11 92 We				
STUDER REGENSDORF ZÜRICH	9 RELAYS SIGN. A			SC 1.915.603-81

RELAYS





Werkstoff: Norm-Nr. / DIN-Bez. / Abmessung	Oberfläche: Güte / Ben		Änderung
Zugehörige Unterlagen	Freimaßtoleranz	Maßstab	Ausgabe 30.9.92
PL	±	2 : 1	Datum / Gez. / Gepr. / Gen. / Index
Ersatz für	Ersatz durch		Kopie für
STUDER REGENSDORF ZÜRICH	Benennung: RELAYS UNIT 9A SIGNALISATION		Nummer: 1.915.603-81

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	C 1	59.06.0224	KONDENSATOR 0,22µ	
	D.....1	50.04.0125	DIODE	1N 4448
	D.....2	50.04.0125	DIODE	1N 4448
	D.....3	50.04.0125	DIODE	1N 4448
	D.....4	50.04.0125	DIODE	1N 4448
	D.....5	50.04.0125	DIODE	1N 4448
	D.....6	50.04.0125	DIODE	1N 4448
	D.....7	50.04.0125	DIODE	1N 4448
	D.....8	50.04.0125	DIODE	1N 4448
	D.....9	50.04.0125	DIODE	1N 4448
	D....10	50.04.0122	DIODE	1N 4001
	K.....1	56.04.0190	RELAYS	DR-5V
	K.....2	56.04.0190	RELAYS	DR-5V
	K.....3	56.04.0190	RELAYS	DR-5V
	K.....4	56.04.0190	RELAYS	DR-5V
	K.....5	56.04.0190	RELAYS	DR-5V
	K.....6	56.04.0190	RELAYS	DR-5V
	K.....7	56.04.0190	RELAYS	DR-5V
	K.....8	56.04.0190	RELAYS	DR-5V
	K.....9	56.04.0190	RELAYS	DR-5V
	Q.....1	50.03.0601	TRANSISTOR	BC 560
	Q.....2	50.03.0601	TRANSISTOR	BC 560
	Q.....3	50.03.0601	TRANSISTOR	BC 560
	Q.....4	50.03.0601	TRANSISTOR	BC 560
	Q.....5	50.03.0601	TRANSISTOR	BC 560
	Q.....6	50.03.0601	TRANSISTOR	BC 560
	Q.....7	50.03.0601	TRANSISTOR	BC 560
	Q.....8	50.03.0601	TRANSISTOR	BC 560
	Q.....9	50.03.0601	TRANSISTOR	BC 560

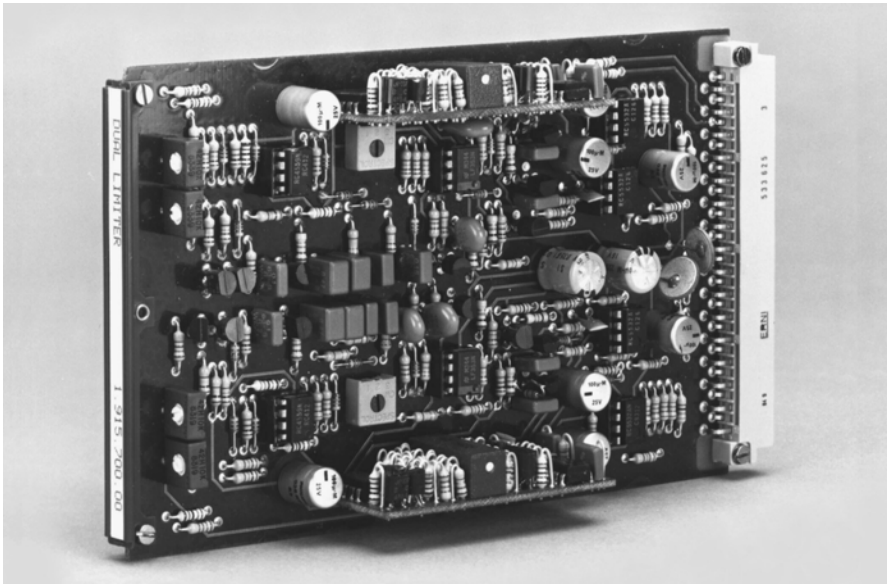
Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	R.....1	57.11.3103	WIDERSTAND	10K
	R.....2	57.11.3103	WIDERSTAND	10K
	R.....3	57.11.3103	WIDERSTAND	10K
	R.....4	57.11.3103	WIDERSTAND	10K
	R.....5	57.11.3103	WIDERSTAND	10K
	R.....6	57.11.3103	WIDERSTAND	10K
	R.....7	57.11.3103	WIDERSTAND	10K
	R.....8	57.11.3103	WIDERSTAND	10K
	R.....9	57.11.3103	WIDERSTAND	10K
	R....10	57.11.3472	WIDERSTAND	4,7K
	R....11	57.11.3472	WIDERSTAND	4,7K
	R....12	57.11.3472	WIDERSTAND	4,7K
	R....13	57.11.3472	WIDERSTAND	4,7K
	R....14	57.11.3472	WIDERSTAND	4,7K
	R....15	57.11.3472	WIDERSTAND	4,7K
	R....16	57.11.3472	WIDERSTAND	4,7K
	R....17	57.11.3472	WIDERSTAND	4,7K
	R....18	57.11.3472	WIDERSTAND	4,7K
	W.....1	57.11.3000	O OHM WIDERSTAND	
	W.....2	57.11.3000	O OHM WIDERSTAND	
	W.....3	57.11.3000	O OHM WIDERSTAND	
	W.....4	57.11.3000	O OHM WIDERSTAND	
	W.....5	57.11.3000	O OHM WIDERSTAND	
	W.....6	57.11.3000	O OHM WIDERSTAND	

1.915.603.81 RELAY UNIT 9A 21/10/92

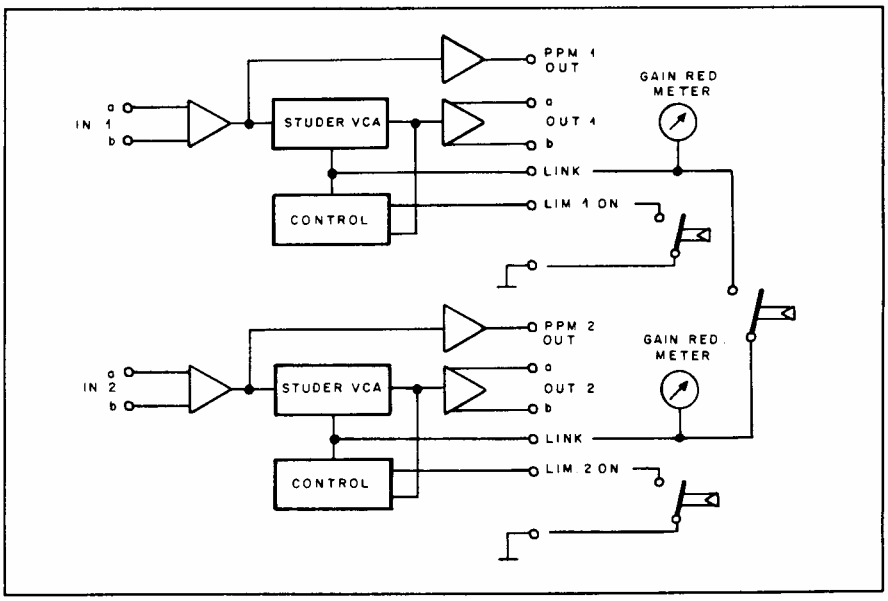
END

Dual Limiter 1.915.700

In sound work there are numerous situations where the signal amplitude has to be limited to a pre-determined level in order to prevent overloading of succeeding equipment, such as light modulators in film work, or radio transmitters. With this limiter, excessive levels are automatically reduced to a preset level, and, since regulation is controlled by the program's energy content, the performance of this limiter is free of any "pumping" effects. Gain reduction is achieved with a Studer Voltage Controlled Amplifier (VCA) which ensures low noise performance and negligible distortion.



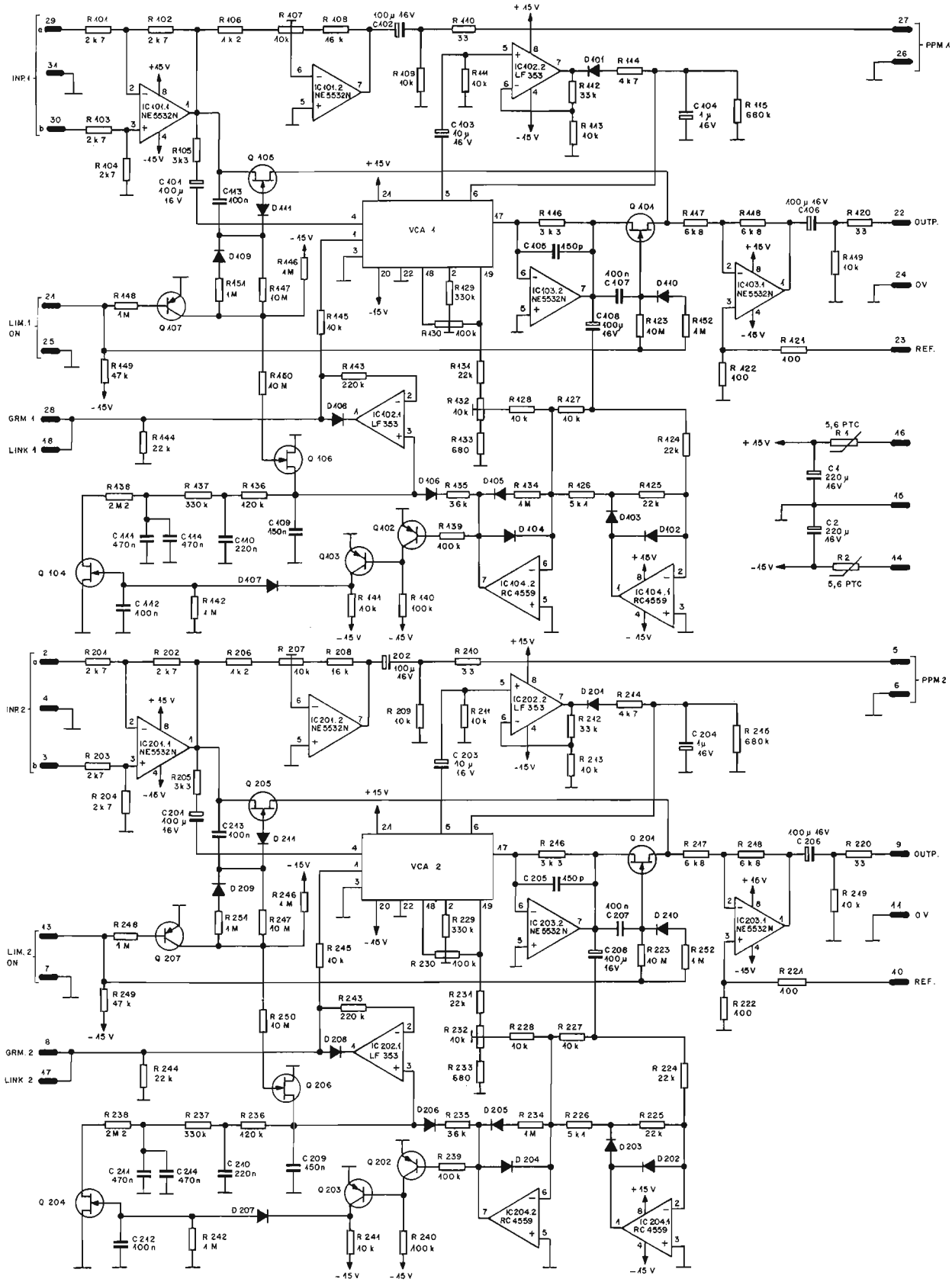
Two identical, independent limiter circuits are contained on one Euro-card, plus additional, separate gain stages to drive peak program meters.
The perfect tracking of the two VCAs makes this Dual Limiter suitable for stereo work as well, in which case a simple electrical connection is needed to link the units.



Note: Gain reduction meters *(not supplied)* can be connected to the LINK outputs as well, if required.

Technical Specifications

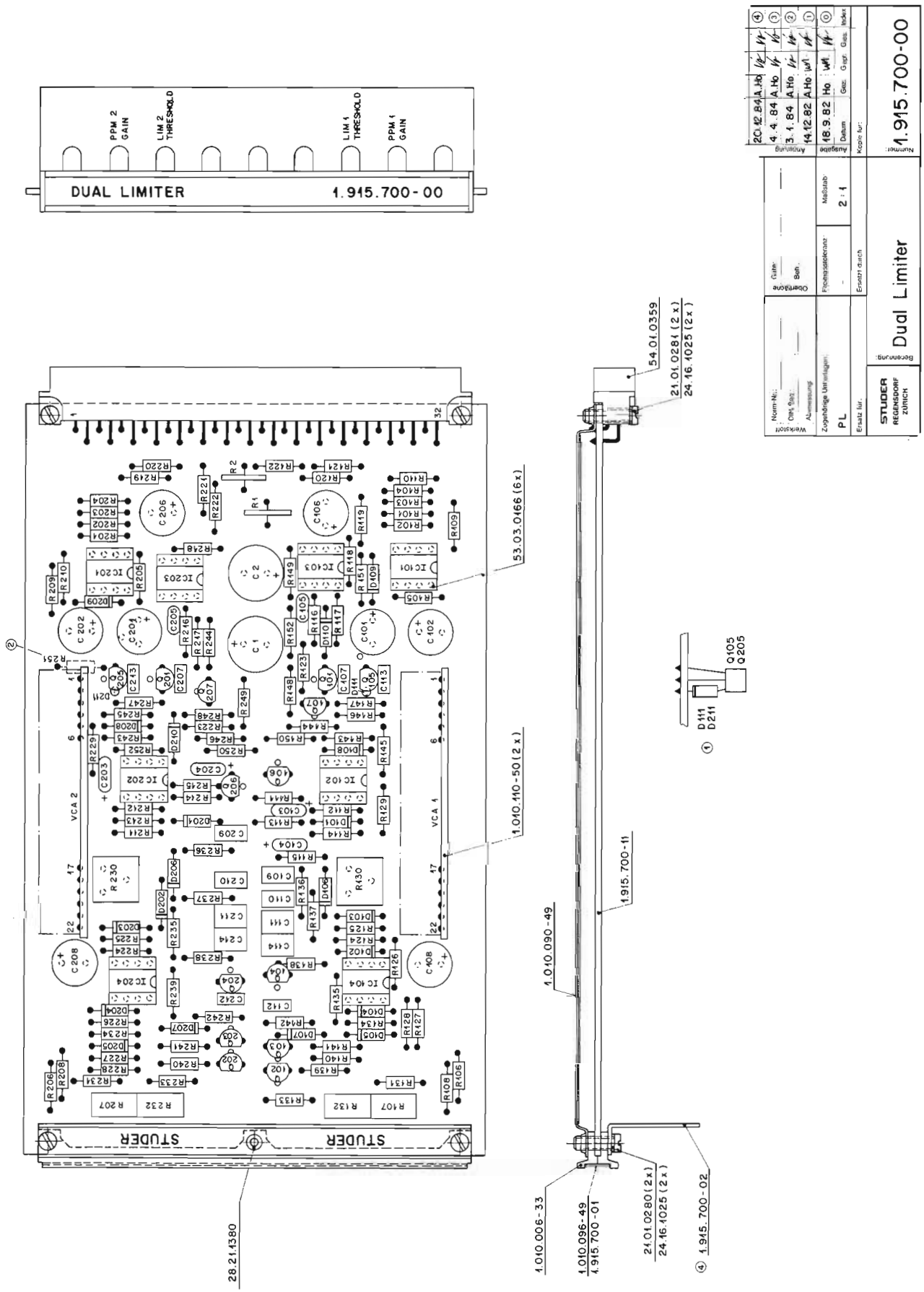
Input:	Impedance	**5.4 kΩ**, balanced configuration
		2.7 kΩ, unbalanced configuration
	Overload point	**+20 dBu** (7.75 V_{rms})
Output:	Impedance	**< 50 Ω,** unbalanced
	Frequency response	**+0/–0.5 dB**, 30 Hz...15 kHz
		+0/–3 dB, 2 Hz...200 kHz
	Gain	**0 dB,** limiter off
	Output noise level	**–102 dBu,** Limiter on
		–106 dBu, Limiter off
	Limiting ratio	**20:1**
	Threshold	**–15 dBu...+3 dBu,** adjustable
	Limited output level	**–14 dBu...+4 dBu,** depending on threshold setting
	Attack time	**1 ms**
	Release time	**50 ms...5 s,** program-dependent
PPM Section:	Output impedance	**< 50 Ω,** unbalanced
	Maximum output level	**+20 dBu**
	Gain	**2.5 dB...27 dB,** adjustable
	Frequency response	**+0/–3 dB,** 2 Hz...200 kHz
Supply:		**±15 V** (100 mA)
Dimensions:	Euro-card	**100 × 160 mm, 7 M units wide**
Ordering Information:		Dual limiter 1.915.700.xx



ALL DIODES 4N4448
ALL PNP BC560
ALL FET J112

DATE:	3.3.83	16.7.84				
SIGN:	ml	ml				
STUDER REGENSDORF ZÜRICH	DUAL LIMITER					SC 1.915.700

DUAL LIMITER



DUAL LIMITER

Ad	POS.	REF.No.	DESCRIPTION				MANUFACTURER
	C....1	59.22.4221	220µ	16V	EL		
	C....2	59.22.4221	220µ	16V	EL		
	C....1	59.22.4101	100µ	16V	EL		
	C....2	59.22.4101	100µ	16V	EL		
	C....3	59.26.2100	10µ	16V	EL, SAL		
	C....4	59.26.5109	1µ	16V	EL, SAL		
	C....5	59.34.4151	150p		CER		
	C....6	59.22.4101	100µ	16V	EL		
	C....7	59.06.5104	100n		PETP		
	C....8	59.22.4101	100µ	16V	EL		
	C....9	59.06.5154	150n	5%	PETP		
	C....10	59.06.5224	220n	5%	PETP		
	C....11	59.06.5474	470n	5%	PETP		
	C....12	59.06.5104	100n		PETP		
	C....13	59.06.5104	100n		PETP		
	C....14	59.06.5474	470n	5%	PETP		
	D....1	50.04.0125	1N4448		SI		
	D....2	50.04.0125	1N4448		SI		
	D....3	50.04.0125	1N4448		SI		
	D....4	50.04.0125	1N4448		SI		
	D....5	50.04.0125	1N4448		SI		
	D....6	50.04.0125	1N4448		SI		
	D....7	50.04.0125	1N4448		SI		
	D....8	50.04.0125	1N4448		SI		
	D....9	50.04.0125	1N4448		SI		
	D....10	50.04.0125	1N4448		SI		
①	D....11	50.04.0125	1N4448		SI		
	IC....1	50.09.0106	NE5532N	DUAL OP		XR5532N	SIG, EX
	IC....2	50.09.0101	LF353N	DUAL OP		TL072	N, TI
	IC....3	50.09.0106	NE5532N	DUAL OP		XR5532N	SIG, EX
	IC....4	50.09.0107	RC4559NB	DUAL OP			RA, TI
	Q....1	50.03.0350	J112	J-FET			SIX, N
	Q....2	50.03.0496	BC560	PNP			SIE
	Q....3	50.03.0496	BC560	PNP			SIE
	Q....4	50.03.0350	J112	J-FET			SIX, N
	Q....5	50.03.0350	J112	J-FET			SIX, N
	Q....6	50.03.0350	J112	J-FET			SIX, N
	Q....7	50.03.0496	BC560	PNP			SIE
	R....1	57.99.0209	5,6		PTC		PH
	R....2	57.99.0209	5,6		PTC		PH
	R....1	57.11.4272	2,7k	2%			
	R....2	57.11.4272	2,7k	2%			
	R....3	57.11.4272	2,7k	2%			
	R....4	57.11.4272	2,7k	2%			
	R....5	57.11.4332	3,3k	2%			
	R....6	57.11.4122	1,2k				
	R....7	58.01.7103	10k	10% LIN	PMG		
	R....8	57.11.3163	16k				
	R....9	57.11.4103	10k				
	R....10	57.11.4330	33				
	R....11	57.11.4103	10k				
	R....12	57.11.4333	33k				
	R....13	57.11.4103	10k				
	R....14	57.11.4472	4,7k				
	R....15	57.11.4684	680k				
	R....16	57.11.4332	3,3k	2%			
	R....17	57.11.4682	6,8k	2%			
	R....18	57.11.4682	6,8k	2%			
	R....19	57.11.4103	10k				
	R....20	57.11.4330	33				
	R....21	57.11.4101	100	2%			
	R....22	57.11.4101	100	2%			
	R....23	57.11.6106	10M				
	R....24	57.11.4223	22k	2%			
	R....25	57.11.4223	22k	2%			
	R....26	57.11.3512	5,1k	2%			
	R....27	57.11.4103	10k	2%			
	R....28	57.11.4103	10k	2%			
	R....29	57.11.4334	330k				
	R....30	58.01.8104	100k	10% LIN	PMG		
	R....31	57.11.4223	22k				
	R....32	58.01.7103	10k	10% LIN	PMG		
	R....33	57.11.4681	680				
②	R....34	57.11.4105	1M				
③	R....35	57.11.3363	36k				
	R....36	57.11.4124	120k				
	R....37	57.11.4334	330k				
	R....38	57.11.5225	2,2M				
	R....39	57.11.4104	100k				
	R....40	57.11.4104	100k				
	R....41	57.11.4103	10k				
	R....42	57.11.4105	1M				
	R....43	57.11.4224	220k				
	R....44	57.11.4223	22k				
	R....45	57.11.4103	10k				
	R....46	57.11.4105	1M				
	R....47	57.11.6106	10M				
	R....48	57.11.4105	1M				
	R....49	57.11.4473	47k				
	R....50	57.11.6106	10M				
	R....51	57.11.4105	1M				
	R....52	57.11.4105	1M				
④⑤	VCA..1	1.911.290.81		STUDER VCA-BOARD			ST
④⑤	VCA..2	1.911.290.81		STUDER VCA-BOARD			ST
	XIC	53.03.0166	DIP8POL				

EL=Electrolytic, SAL=Solid Aluminium, CER=Ceramic, PETP=Polyester, SI=Silicium, PTC=Pos. Temp. Coif. PMG=Cermet

MANUFACTURER: SIG=Signetics, EX=Exar, N=National, TI=Texas Instruments, RA=Raytheon, SIX=Siliconix SIE=Siemens, PH=Philips, ST=Studer

1.915.700.00	DUAL LIMITER	W. Markl 14/06/82
1.915.700.00	DUAL LIMITER	① W. Markl 14/12/82
1.915.700.00	DUAL LIMITER	② A. Ho 01/04/84
1.915.700.00	DUAL LIMITER	③ VO 16/07/84
1.915.700.00	DUAL LIMITER	④ PA 13/01/89
1.915.700.00	DUAL LIMITER	⑤ WY 17/01/90

END

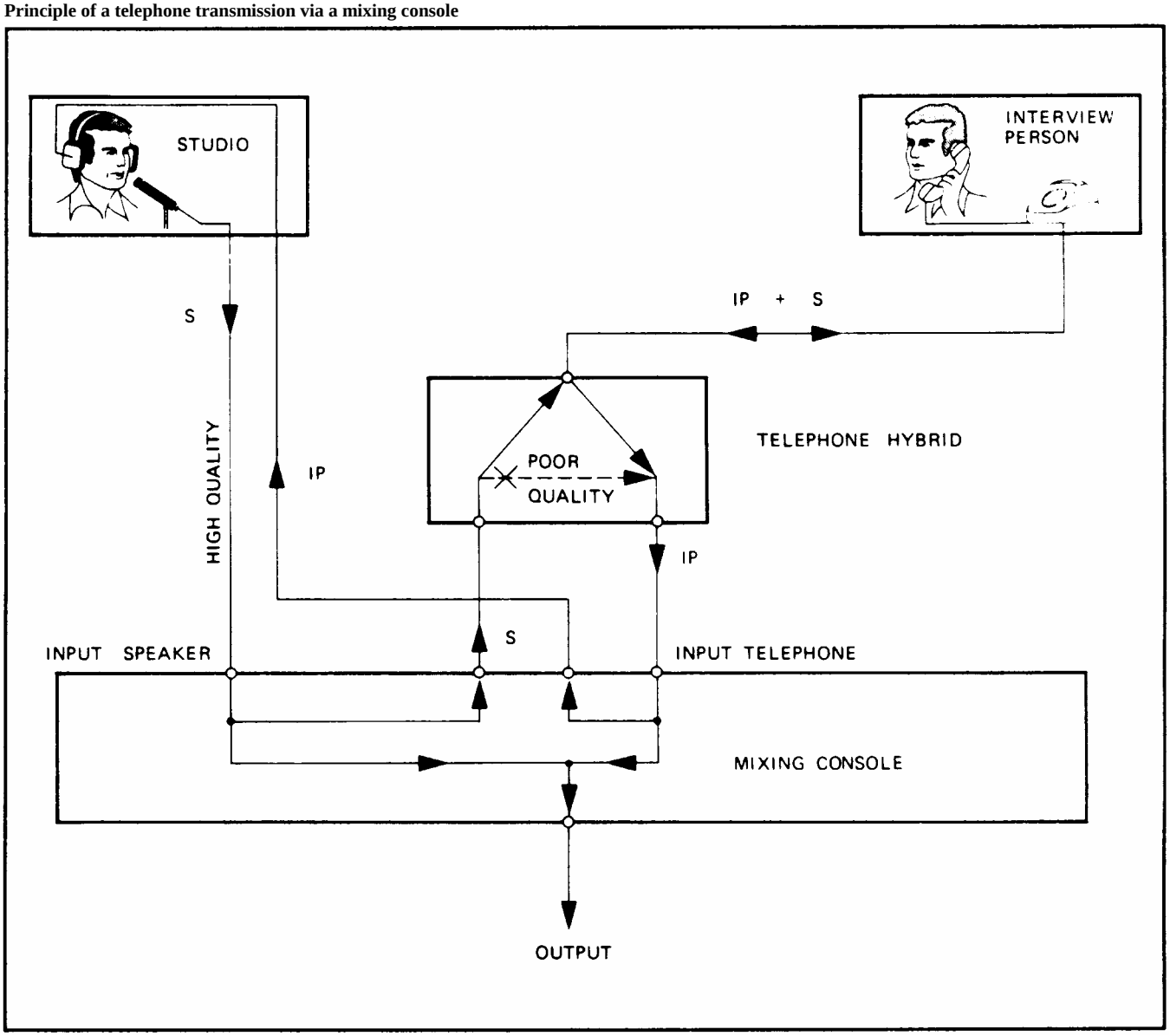
→

Telephone Hybrid 1.915.760/764

In order to record or transmit a conversation between the announcer in the studio and a person outside the studio being interviewed by telephone, the telephone line must be connected to the mixing console.

In such a case, the full conversation is transmitted, since both voice signals are carried on normal 2-wire telephone lines. However, also the voice of the announcer in the studio is then transmitted in telephone quality (300... 3400 Hz). By mixing the microphone signal of the announcer (in studio quality) to the conversation, the addition of the “good” and “poor” signals results in a distorted and untrue signal.

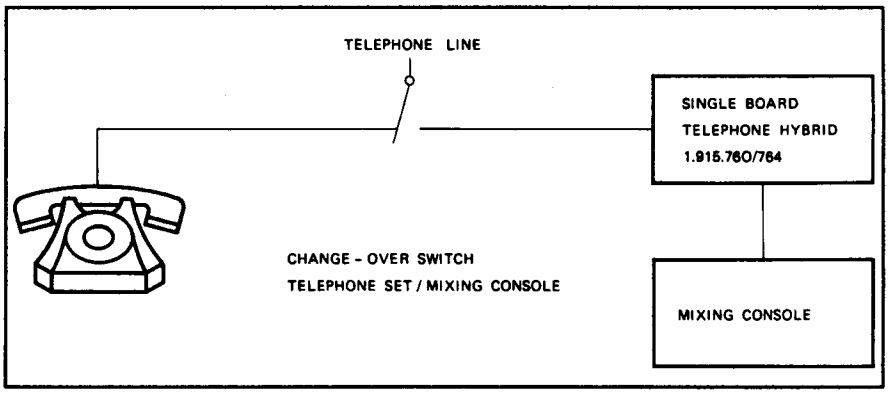
Principle of a telephone transmission via a mixing console



The telephone hybrid allows to greatly improve the quality of a telephone transmission by selectively suppressing the undesired “poor” announcer signal (side-tone attenuation). This side-tone attenuation is done in principle by a hybrid circuit which is a familiar feature in telephony.

The Studer telephone hybrid permits high-quality transmission of telephone conversations with the announcer in the studio. Apart from connecting it to the telephone line, the hybrid works automatically.

Maximum side-tone attenuation of the studio voice signal in the receiver line is achieved by automatically constituting a dummy load for the telephone line. This adjustment is performed electronically, the real (resistive) and imaginary (capacitive) components of the telephone line impedance being matched as near as possible. This automatical matching process begins as soon as an announcer signal is present.



Operation with a single Telephone Hybrid Board

The telephone set is used to establish a telephone connection (call). After switching over to the mixing console, the holding current for the subscriber's relay is maintained by a resistor on the hybrid board.

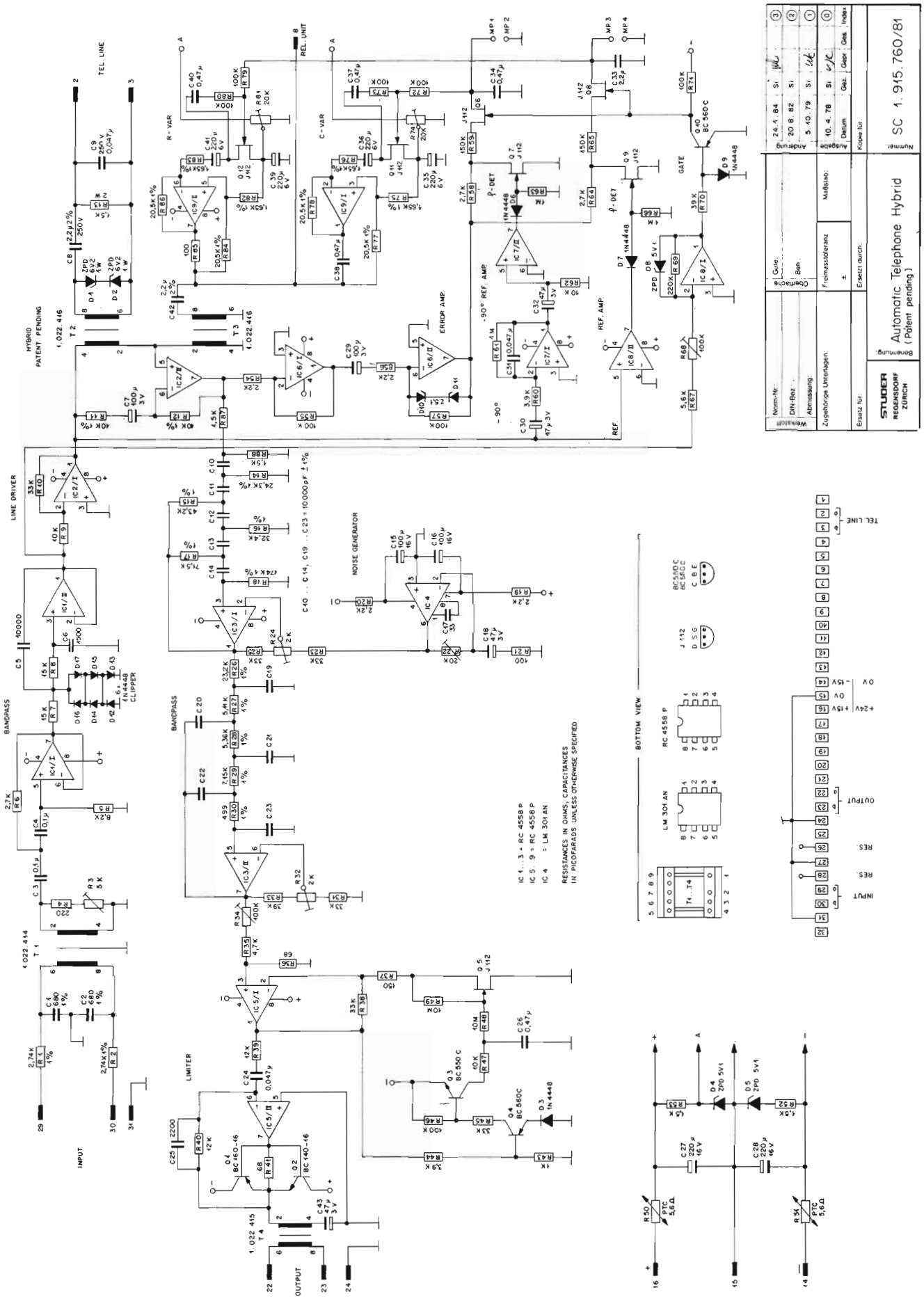
Versions:

A variety of 19" Telephone Hybrid units with one or two channels is available, consisting of the following versions:

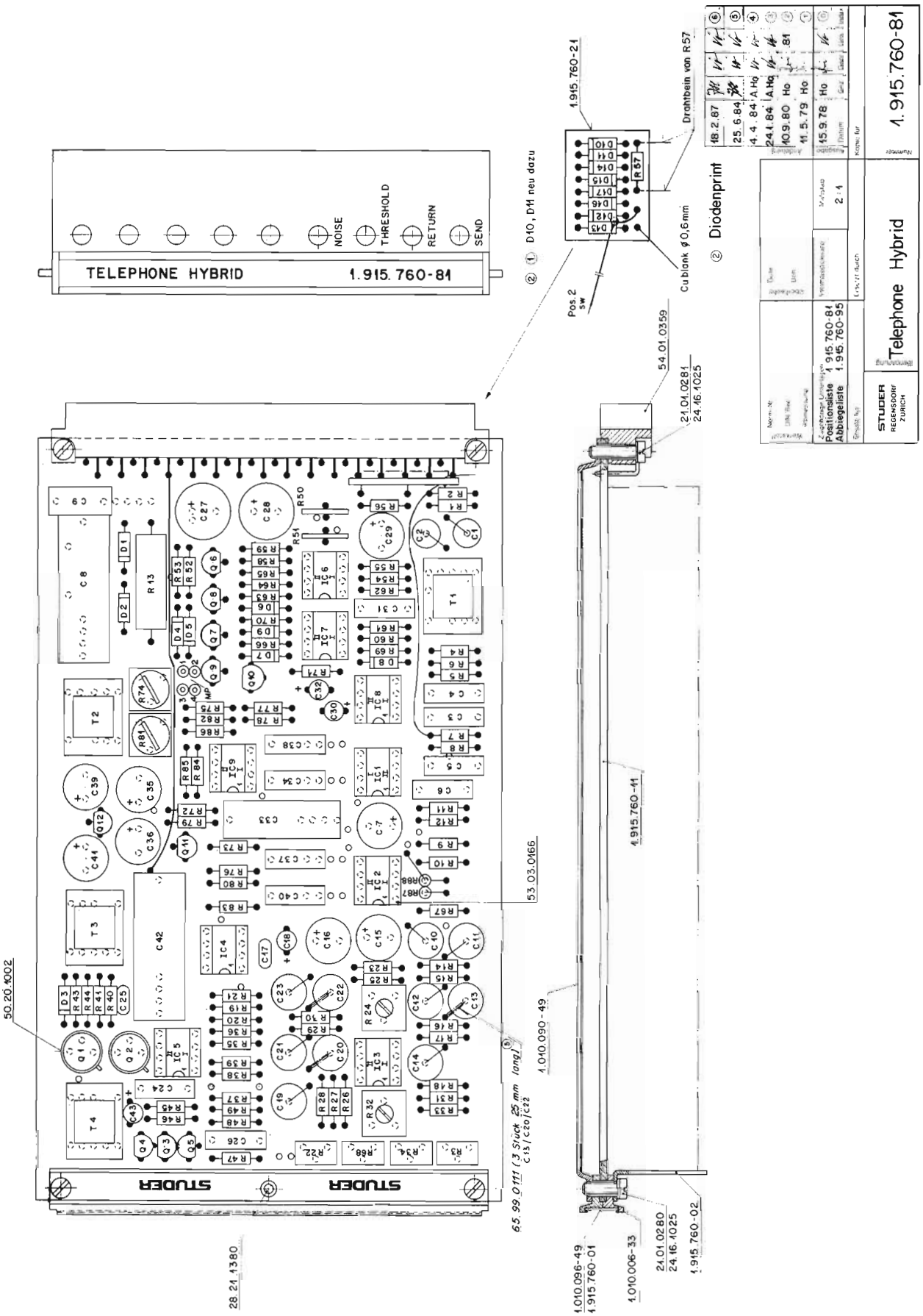
- Standard version (ST) – 19"/1U Telephone Hybrid unit for direct connection to the telephone line and a relay to switch the telephone line from the telephone set to the hybrid.
- Noise gate version (NG) – same as standard version, equipped with a noise gate
- Current-adjustable version (CA) – same as standard version, but additionally featuring adjustable holding current for the telephone line.

Ordering Information:

Euro-cards:	• Telephone hybrid card	1.915.760.xx
	• Telephone hybrid card with noise gate	1.915.764.xx
19" standard products:	• Telephone hybrid 1CH-ST	75.700.89118
	• Telephone hybrid 2CH-ST	75.700.89228
	• Telephone hybrid 1CH-NG	75.700.89114
	• Telephone hybrid 2CH-NG	75.700.89224
	• Telephone hybrid 1CH-CA	75.700.89116
	• Telephone hybrid 2CH-CA	75.700.89226
	• Telephone hybrid 1CH-CA/NG	75.700.89117
	• Telephone hybrid 2CH-CA/NG	75.700.89227


Automatic Telephone Hybrid
(Patent pending)
STUDER
REGENSDORF
ZÜRICH
SC 1.915.760/81
HYBRID
PATENT PENDING
1.022.416
LINE DRIVER
BANDPASS
CLIPPER
INPUT
LIMITER
OUTPUT
NOISE GENERATOR
ERROR AMP.
90° REF. AMP.
REF. AMP.
R - VAR
C - VAR
ρ - DET
GATE
TEL. LINE
REL. UNIT
BOTTOM VIEW
RC 4558 P
LM 301 AN
RESISTANCES IN OHMS, CAPACITANCES
IN PICOFARADS UNLESS OTHERWISE SPECIFIED
IC 1...3 = RC 4558 P
IC 5...9 = RC 4558 P
IC 4 = LM 301 AN

TEL. HYBRID


TELEPHONE HYBRID 1.915.760-81
NOISE
THRESHOLD
RETURN
SEND
① D10, D11 neu dazu
② Diodenprint
1.915.760-21
Drahtbein von R57
Cu blank ø0,6mm
Pos 2 sw
54.01.0359
21.01.0281
24.16.1025
1.915.760-41
53.03.0466
1.010.090-49
65.99.0111 (3 Stück 25 mm lang)
C13/C20/C22
50.20.1002
28.21.1380
1.010.096-49
1.915.760-01
1.010.006-33
21.01.0280
24.16.1025
1.915.760-02
STUDER
REGENSDORF
ZÜRICH
Telephone Hybrid
1.915.760-81
Positionsliste 1.915.760-81
Abbiegeliste 1.915.760-95
2:1

Ad	POS.	REF.No.	DESCRIPTION				MANUFACTURER
	C....1	59.12.9681	680pF	1%	500V-	PS	
	C....2	59.12.9681	680pF	1%		PS	
	C....3	59.31.6104	0,1µF	10%		PE	
	C....4	59.31.6104	0,1µF	10%		PE	
	C....5	59.12.4103	0,01µF	5%		PE	
	C....6	59.11.6152	1500pF	5%		PC	
	C....7	59.22.4101	100µF	3V		EL	
①	C....8	1.915.760.03	2,2µF	1%	250V-	PE	ST
①⑥	C....9	59.31.8473	0,047µF	400V-		PE	
	C....10	59.12.7103	0,01µF	1%		PS	
	C....11	59.12.7103	0,01µF	1%		PS	
	C....12	59.12.7103	0,01µF	1%		PS	
	C....13	59.12.7103	0,01µF	1%		PS	
	C....14	59.12.7103	0,01µF	1%		PS	
	C....15	59.22.4101	100µF	16V		EL	
	C....16	59.22.4101	100µF	16V		EL	
	C....17	59.34.2330	33pF			CER	
	C....18	59.36.0470	47µF	3V		TA	
	C....19	59.12.7103	0,01µF	1%		PS	
	C....20	59.12.7103	0,01µF	1%		PS	
	C....21	59.12.7103	0,01µF	1%		PS	
	C....22	59.12.7103	0,01µF	1%		PS	
	C....23	59.12.7103	0,01µF	1%		PS	
	C....24	59.12.4473	0,047µF			PE	
	C....25	59.32.2222	2200pF			CER	
	C....26	59.02.0474	0,47µF	5%		PC	
	C....27	59.22.4221	220µF	16V		EL	
	C....28	59.22.4221	220µF	16V		EL	
	C....29	59.22.4101	100µF	3V		EL	
	C....30	59.36.0470	47µF	3V		TA	
	C....31	59.12.4473	0,047µF			PE	
	C....32	59.36.0470	47µF	3V		TA	
	C....33	59.02.2225	2,2µF			PC	
①	C....34	59.02.0474	0,47µF			PE	
	C....35	59.22.2221	220µF	6V		EL	
	C....36	59.22.2221	220µF	6V		EL	
	C....37	59.02.0474	0,47µF			PC	
	C....38	59.02.0474	0,47µF			PC	
	C....39	59.22.2221	220µF			EL	
	C....40	59.02.0474	0,47µF			PC	
	C....41	59.22.2221	220µF	6V		EL	
①	C....42	1.915.760.03	2,2µF	1%	250V-	PE	ST
	C....43	59.36.0470	47µF	3V		TA	
	D....1	50.04.1511	U_z 6,2V	ZPD 6V2 1W			
	D....2	50.04.1511	U_z 6,2V	ZPD 6V2 1W			
	D....3	50.04.0125	1N4448			SI	
	D....4	50.04.1112	U_z 5,1V	ZPD 5V1 0,4W			
	D....5	50.04.1112	U_z 5,1V	ZPD 5V1 0,4W			
	D....6	50.04.0125	1N4448			SI	
	D....7	50.04.0125	1N4448			SI	
	D....8	50.04.1112	U_z 5,1V	ZPD 5V1 0,4W			
	D....9	50.04.0125	1N4448			SI	
②	D....10	50.04.1112	U_z 5,1V	ZPD 5V1 0,4W			
②	D....11	50.04.1112	U_z 5,1V	ZPD 5V1 0,4W			
③	D....12	50.04.0125	1N4448			SI	
③	D....13	50.04.0125	1N4448			SI	
③	D....14	50.04.0125	1N4448			SI	
③	D....15	50.04.0125	1N4448			SI	
③	D....16	50.04.0125	1N4448			SI	
③	D....17	50.04.0125	1N4448			SI	
④	IC....1	50.09.0107	RC4559NB	DUAL OP AMP			TI, RA
④	IC....2	50.09.0107	RC4559NB				
④	IC....3	50.09.0107	RC4559NB				
	IC....4	50.05.0144	LM301AN	OP AMP			NS
④	IC....5	50.09.0107	RC4559NB				
④	IC....6	50.09.0107	RC4559NB				
④	IC....7	50.09.0107	RC4559NB				
④	IC....8	50.09.0107	RC4559NB				
④	IC....9	50.09.0107	RC4559NB				
	Q....1	50.03.0315	BC160-16				SIE, F
	Q....2	50.03.0316	BC140-16				SIE, F
	Q....3	50.03.0497	BC550-C				T, ITT
	Q....4	50.03.0496	BC560-C				T, ITT
	Q....5	50.03.0350	J112				SIX, NS
	Q....6	50.03.0350	J112				SIX, NS
	Q....7	50.03.0350	J112				SIX, NS
	Q....8	50.03.0350	J112				SIX, NS
	Q....9	50.03.0350	J112				SIX, NS
	Q....10	50.03.0496	BC560-C				T, ITT
	Q....11	50.03.0350	J112				SIX, NS
	Q....12	50.03.0350	J112				SIX, NS
	R....1	57.39.2741	2,74k	1%			
	R....2	57.39.2741	2,74K	1%			
①	R....3	58.01.7502	5k	LIN			TR, SP

Ad	POS.	REF.No.	DESCRIPTION			MANUFACTURER
	R....4	57.11.4221	220			
	R....5	57.11.4822	8,2k	2%		
	R....6	57.11.4272	2,7k	2%		
	R....7	57.11.4153	15k	2%		
	R....8	57.11.4153	15k			
	R....9	57.11.4103	10k			
	R....10	57.11.4333	33k			
	R....11	57.39.1002	10k	1%		
	R....12	57.39.1002	10k	1%		
	R....13	57.56.5152	1,5k	2W		
	R....14	57.39.2432	24,3k	1%		
	R....15	57.39.4322	43,2k	1%		
	R....16	57.39.3242	32,4k	1%		
	R....17	57.39.7152	71,5k	1%		
	R....18	57.39.1743	174k	1%		
	R....19	57.11.4222	2,2k			
	R....20	57.11.4222	2,2k			
	R....21	57.11.4101	100			
	R....22	58.01.7203	20k	LIN	10%	TR, SP
	R....23	57.11.4333	33k	2%		
	R....24	58.01.8202	2k	LIN	10%	TR, SP
	R....25	57.11.4333	33k	2%		
	R....26	57.39.2322	23,2k	1%		
	R....27	57.39.5111	5,11k	1%		
	R....28	57.39.5361	5,36k	1%		
	R....29	57.39.7151	7,15k	1%		
	R....30	57.39.4990	499	1%		
	R....31	57.11.4333	33k	2%		
	R....32	58.01.8202	2k	LIN	10%	TR, SP
	R....33	57.11.4393	39k	2%		
	R....34	58.01.7104	100k	LIN	10%	TR, SP
	R....35	57.11.4472	4,7k			
	R....36	57.11.4680	68			
	R....37	57.11.4151	150			
	R....38	57.11.4333	33k			
	R....39	57.11.4123	12k			
	R....40	57.11.4123	12k			
	R....41	57.11.4680	68			
	R....42					
	R....43	57.11.4102	1k			
	R....44	57.11.4392	3,9k			
	R....45	57.11.4333	33k			
	R....46	57.11.4104	100k			
	R....47	57.11.4103	10k			
	R....48	57.02.5106	10M			
	R....49	57.02.5106	10M			
	R....50	57.99.0209	5,6Ω	PTC 2322 662 91005		PH
	R....51	57.99.0209	5,6Ω	PTC		PH
	R....52	57.11.4152	1,5k			
	R....53	57.11.4152	1,5k			
	R....54	57.11.4222	2,2k			
	R....55	57.11.4104	100k			
	R....56	57.11.4222	2,2k			
	R....57	57.11.4104	100k			
	R....58	57.11.4272	2,7k			
	R....59	57.11.4154	150k			
	R....60	57.11.4392	3,9k			
	R....61	57.11.4105	1M			
	R....62	57.11.4103	10k			
	R....63	57.11.4105	1M			
	R....64	57.11.4272	2,7k			
	R....65	57.11.4154	150k			
	R....66	57.11.4105	1M			
	R....67	57.11.4562	5,6k			
	R....68	58.01.7104	100k	LIN	10%	TR, SP
	R....69	57.11.4224	220k			
	R....70	57.11.4393	39k			
	R....71	57.11.4104	10k			
	R....72	57.11.4104	100k			
	R....73	57.11.4104	100k			
	R....74	58.01.8203	20k	LIN	10%	TR, SP
	R....75	57.39.1651	1,65k	1%		
	R....76	57.39.1651	1,65k	1%		
	R....77	57.39.2052	20,5k	1%		
	R....78	57.39.2052	20,5k	1%		
	R....79	57.11.4104	100k			
	R....80	57.11.4104	100k			
	R....81	58.01.8203	20k	LIN	10%	TR, SP
	R....82	57.39.1651	1,65k	1%		
	R....83	57.39.1651	1,65k	1%		
	R....84	57.39.2052	20,5k	1%		
	R....85	57.11.4101	100	2%		
	R....86	57.39.2052	20,5k	1%		
①	R....87	57.02.5152	1,5k			
①	R....88	57.02.5152	1,5k			

TEL. HYBRID

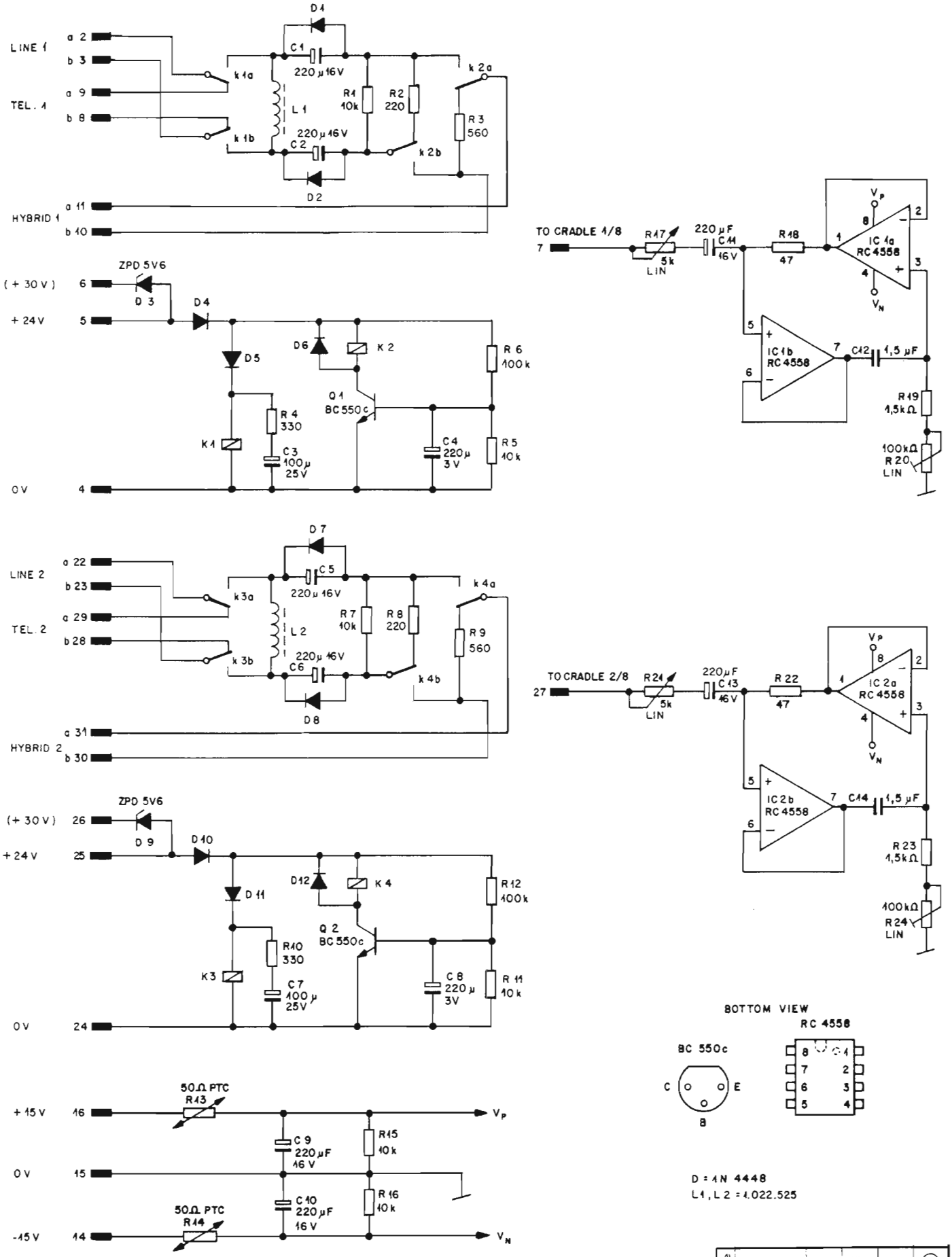
T.....1	1.022.414	1:1	ST
T.....2	1.022.416	1:1	ST
T.....3	1.022.416	1:1	ST
T.....4	1.022.415	1:2	ST

CER=Ceramic, EL=Electrolytic, TA=Tantalum, PE=Polyester, PS=Polystyrene, PC=Polycarbonate

MANUFACTURER: ST=Studer, PH=Philips, TR=TRW, SP=Spectrol, TI=Texas Instruments, RA=Raytheon
NS=National Sem., SIX=Siliconix, T=Telefunken, SIE=Siemens, F=Fairchild

1.915.760.81	TELEPHONE HYBRID	FRI 14/03/78
1.915.760.81	TELEPHONE HYBRID	① FRI 06/11/78
1.915.760.81	TELEPHONE HYBRID	② HO 11/05/79
1.915.760.81	TELEPHONE HYBRID	③ HO 10/09/80
1.915.760.81	TELEPHONE HYBRID	④ VO 11/03/81
1.915.760.81	TELEPHONE HYBRID	⑤ VO 20/08/82

END
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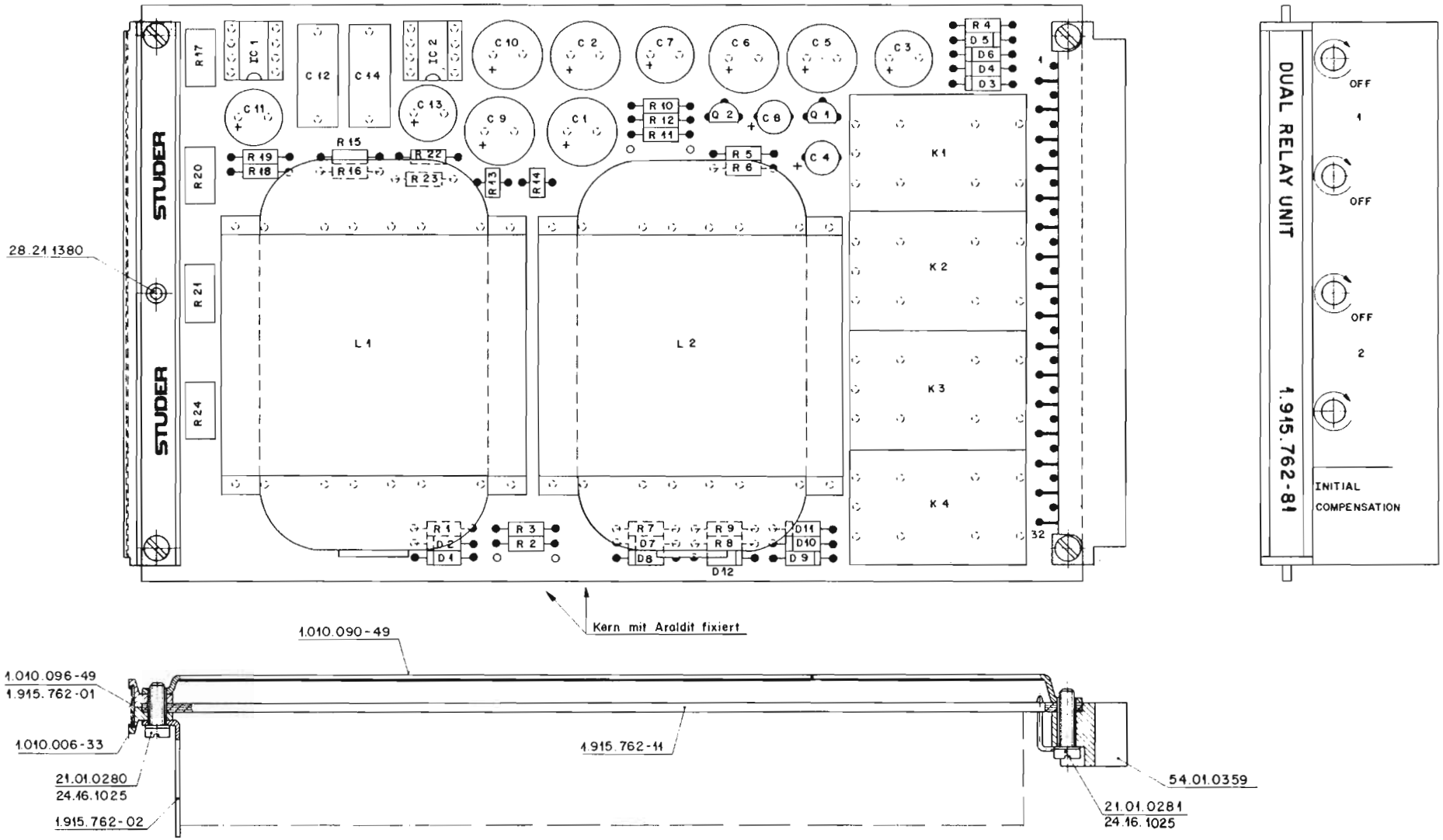


D = 1N 4448

L1, L2 = 1.022.525

Ausgabe	16.2.79	Si			⓪
	Datum	Gez.	Gepr.	Ges.	Index

Ersatz für:	Ersetzt durch:	Kopie für:
STUDER REGENSDORF ZÜRICH	Benennung: DUAL RELAY UNIT	Nummer: SC 1.915.762-81



Werkstoff: Norm Nr / DIN-Bez / Abmessung	Oberfläche: Gute / Beh		Änderung: 4.4.84 A.Ho
Zugehörige Unterlagen: PL, AL	Freimasstoleranz	Maßstab: 2:1	Ausgabe: 18.7.79 Ho (Datum / Gez / Gepr / Ges / Index)
Ersatz für	Ersetzt durch		Kopie für
STUDER REGENSDORF ZURICH	Benennung: Dual Relay Unit		Nummer: 1.915.762-81

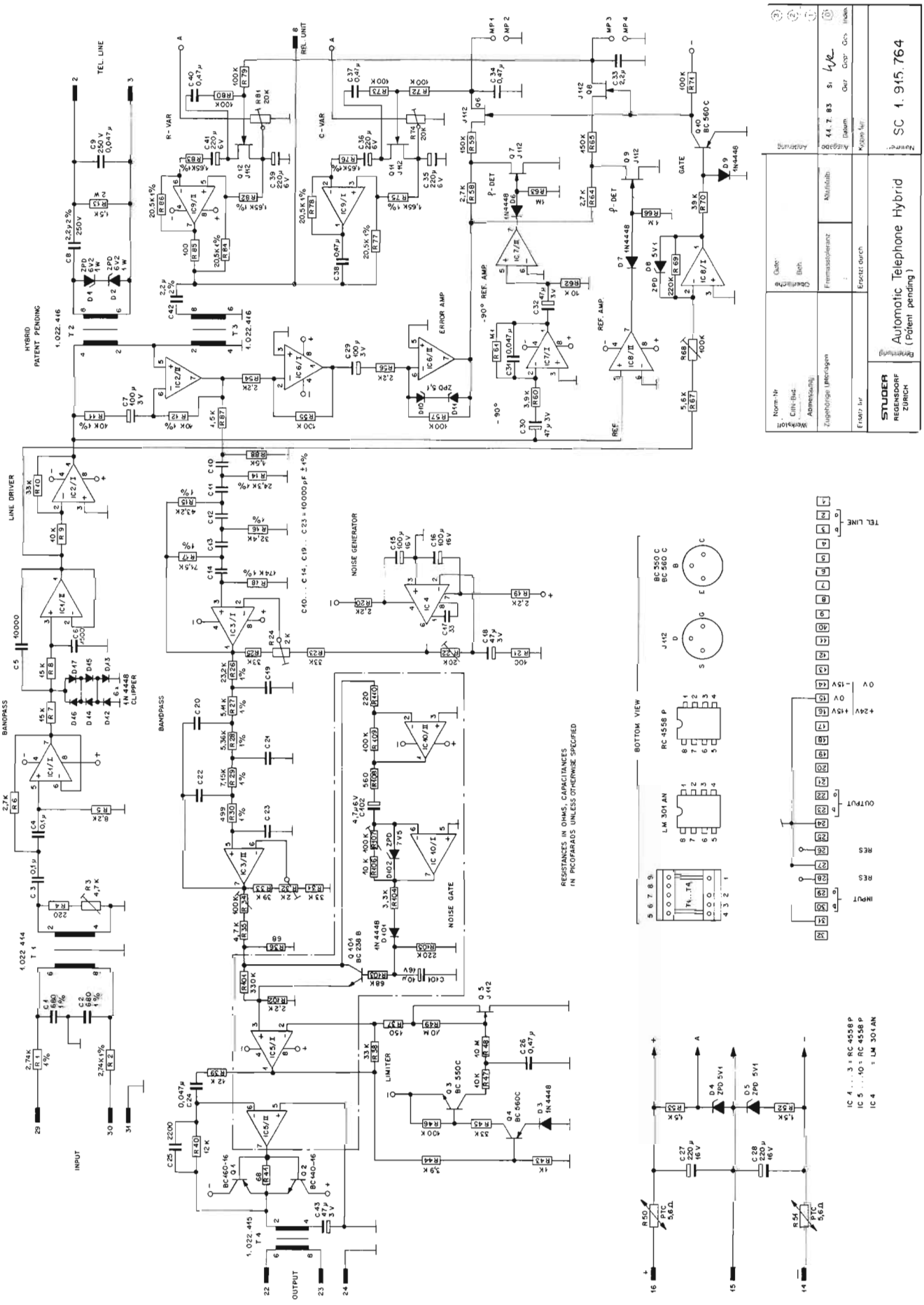
IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
C	1	59.22.4221	220µF	16 V EL	
C	2	59.22.4221	220µF	16 V EL	
C	3	59.22.5101	100µF	25V EL	
C	4	59.30.1221	220µF	3V TA	
C	5	59.22.4221	220µF	16 V EL	
C	6	59.22.4221	220µF	16 V EL	
C	7	59.22.5101	100µF	25V EL	
C	8	59.30.1221	220µF	3V TA	
C	9	59.22.4221	220µF	16 V EL	
C	10	59.22.4221	220µF	16 V EL	
C	11	59.22.2221	220µF	6V EL	
C	12	59.05.1155	1,5µF	63V MPC	
C	13	59.22.2221	220µF	6V EL	
C	14	59.05.1155	1,5µF	63V MPC	
D	1...12	50.04.0125	1N4448	or equivalent	ANY
	except				
D	3, 9	50.04.1108	ZPD5V6	BZX83 5V6	ITT, S
① IC	1, 2	50.09.0107	RC4559NB	Dual Op. Amp.	TI, RA
② K	1...4	56.04.0143	2u, AgAu	Relay	NA
L	1, 2	1.022.525		Inductivity	ST
P		54.01.0359		Edge Connector	
Q	1, 2	50.03.0497	BC550C		T, P, ITT

IND	DATE	NAME
④		
③		
②	15.9.82	Jfl
①	11.3.81	Vo
○	18.7.79	WY

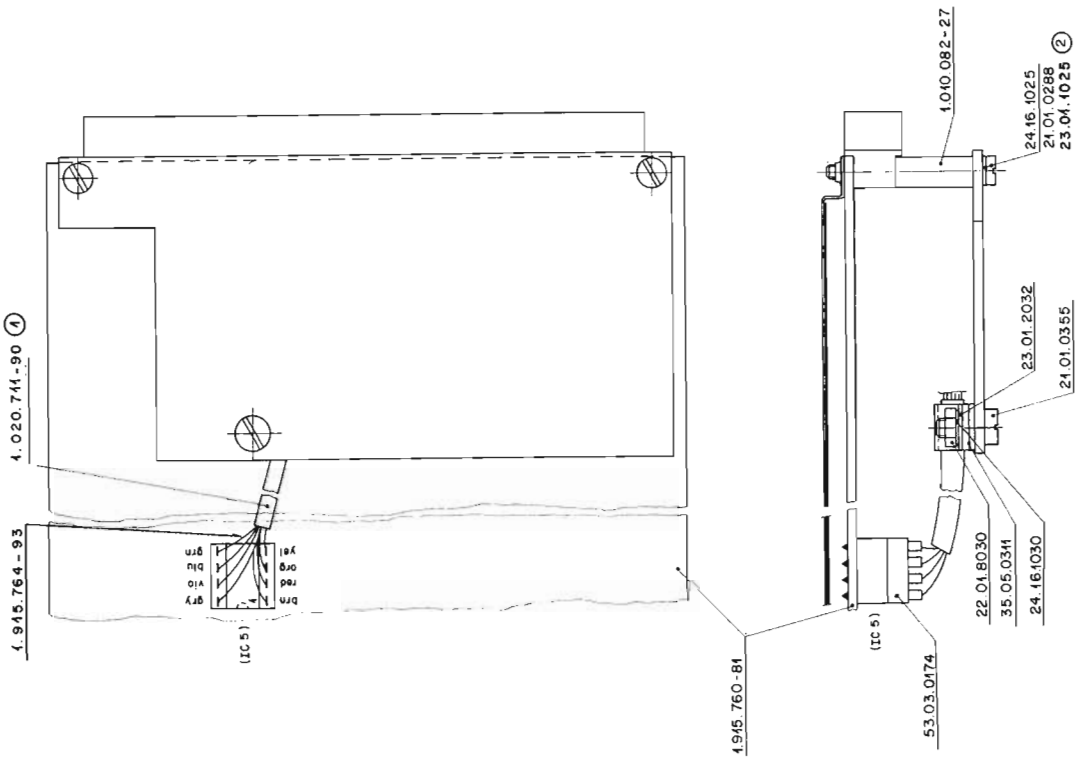
ITT INTERMETALL ST STUDER
NA NATIONAL TI TEXAS INSTRUMENTS
P PHILIPS EL ELECTROLYTIC
RA RAYTHEON TA TANTALLUM
S SIEMENS MPC POLYCARBONATE

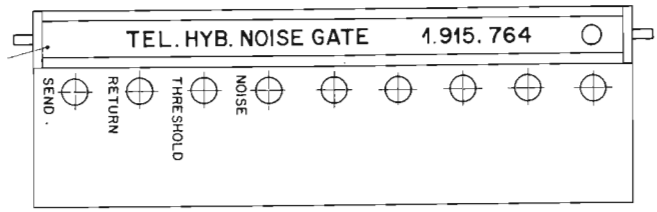
IND	POS NO	PART NO	VALUE	SPECIFICATIONS/EQUIVALENT	MFR
R	1	57.11.4103	10 k		
R	2	57.11.4221	220		
R	3	57.11.4561	560		
R	4	57.11.4331	330		
R	5	57.11.4103	10 k		
R	6	57.11.4104	100k		
R	7	57.11.4103	10 k		
R	8	57.11.4221	220		
R	9	57.11.4561	560		
R	10	57.11.4331	330		
R	11	57.11.4103	10 k		
R	12	57.11.4104	100k		
R	13	57.99.0206	50	PTC	
R	14	57.99.0206	50	PTC	
R	15	57.11.4103	10 k		
R	16	57.11.4103	10 k		
R	17	58.01.7502	5 k	Potm.	
R	18	57.11.4470	47		
R	19	57.11.4152	1,5k		
R	20	58.01.7104	100k	Potm.	
R	21	58.01.7502	5 k	Potm.	
R	22	57.11.4470	47		
R	23	57.11.4152	1,5k		
R	24	58.01.7104	100k	Potm.	
XIC		53.03.0166		IC-Socket DIL 8 pins	

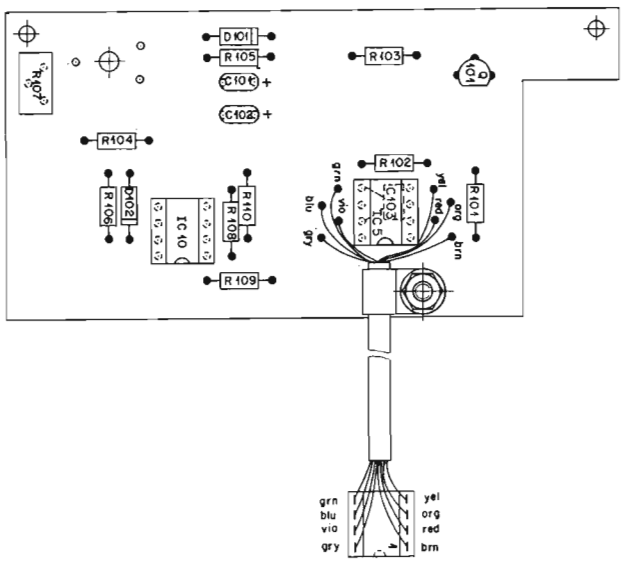
IND	DATE	NAME
④		
③		
②	15.9.82	Jfl
①	11.3.81	Vo
○	18.7.79	WY


Automatic Telephone Hybrid
(Patent pending)
SC 1.915.764
STUDER
REGENSDORF
ZÜRICH
HYBRID
PATENT PENDING
1.022.416
TEL. LINE
REL. UNIT
R-VAR
C-VAR
P-DET
GATE
-90° REF. AMP
ERROR AMP
REF. AMP.
LINE DRIVER
BANDPASS
CLIPPER
NOISE GENERATOR
NOISE GATE
LIMITER
INPUT
OUTPUT
1.022.414
1.022.415
RESISTANCES IN OHMS, CAPACITANCES
IN PICOFARADS UNLESS OTHERWISE SPECIFIED
BOTTOM VIEW
RC 4558 P
LM 301 AN
IC 4 . . . 3 = RC 4558 P
IC 5 . . . 10 = RC 4558 P
IC 4 = LM 301 AN

TEL. HYBRID







Ad	POS.	REF.No.	DESCRIPTION		MANUFACTURER
	C...101	59.26.2100	10µF	16V EL	
	C...102	59.26.1479	4,7µF	10V EL	
①	C...103	59.32.1101	110pF	CR	
	D...101	50.04.0125	1N4448		
	D...102	50.04.1103	ZPD7V5		
	IC....5	50.09.0107	RC4559	DUAL OP AMP	TI, RA
	IC...10	50.09.0107	RC4559	DUAL OP AMP	TI, RA
	Q.....1	50.03.0436	BC237B	NPN	PH, SIE, MOT
		53.03.0174		ADAPTER PLUG	
		1.915.760.81		TEL. HYBRID KOMPL	ST
		21.01.0355	M3x8	SCREW	
		23.01.2032	7/3,2	WASHER	
		22.01.8030	M3	NUT	
		35.05.0311	4,8	BINDER	
		21.01.0288	M2,5x25		
		1.010.082.27	3,2/5x13	SPACER	
		1.915.764.01		LABEL	ST
	R...101	57.11.4334	330k		
	R...102	57.11.4222	2,2k		
	R...103	57.11.4683	68k		
	R...104	57.11.4332	3,3k		
	R...105	57.11.4224	220k		
	R...106	57.11.4103	10k		
	R...107	58.01.7104	100k	LIN	
	R...108	57.11.4561	560		
	R...109	57.11.4104	100k		
	R...110	57.11.4221	220		

EL=Electrolytic

MANUFACTURER: ST=Studer, TI=Texas Instruments, RA=Raytheon, PH=Philips, SIE=Siemens, MOT=Motorola

1.915.764.00 TEL. HYBRID WITH NOISE GATE FRI 30/11/81

1.915.764.00 TEL. HYBRID WITH NOISE GATE ① VO 19/10/87

END

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			19.10.87	SI	Ge	
			27.5.87	SI	Ge	
			3.6.86	Ho	Ge	
			3.6.84	Ho		
PL, LL		2:1		Gry	Grn	Ges. Form

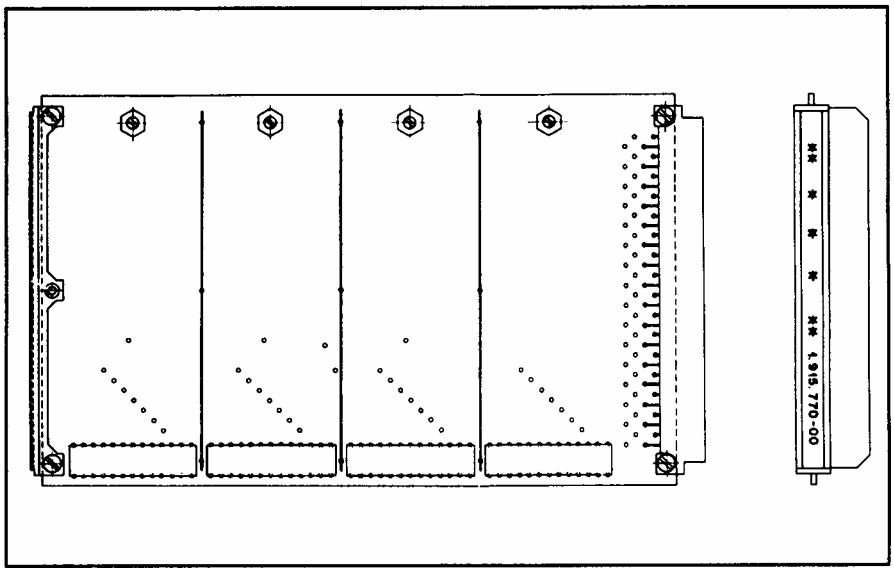
STUDER REGENSDORF ZURICH

Telephone Hybrid with Noise Gate

1.915. 764-00

Motherboard for 4 MS-Cards 1.915.770

The Modular Sub-Cards require a mounting base for mechanical and electrical installation. This motherboard for four MS-cards in standard Eurocard size easily integrates into the Studer audio components system; it carries 32 printed tracks from its edge connector to four small plug-in sockets. Each socket has 13 contacts; six of them are common supply lines, while another six are individual to each socket. Then there is a separate bus line for circuits 1 and 2, and another bus line for circuits 3 and 4.
A motherboard for only one MS-card is available as well.



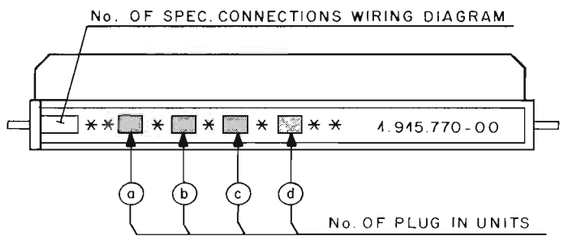
Dimensions:	Euro-card	**100 × 160 mm**
Connectors:	1 × Euro connector	**32-pin,** DIN 41612
	4 × CIS connector	**13-pin,** plug-in socket for MSC

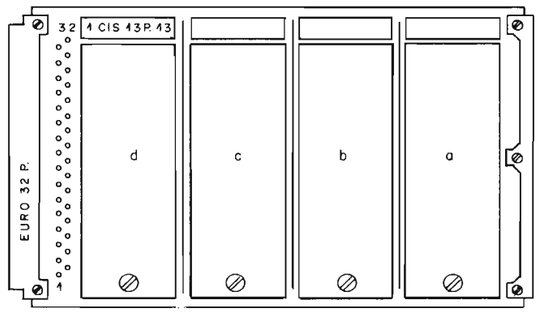
Ordering Information:	MSC motherboard	1.915.770.xx

PIN EURO	No. CIS	SIGNAL	SECTION	CONNECTION REMARKS
1	a 13		1.914.5..	1
2	a 12			2
3	a 11		ⓐ NAME	3
4	a 3			4
5	a 2			5
6	a 1			6
7	b 13		1.914.5..	7
8	b 12			8
9	b 11			9
10	b 3		ⓑ NAME	10
11	b 2			11
12		- 6 V		- 6V 12
13	b 1			13
14		- 15 V		- 15V 14
15		0 VA		0 VA 15
16		+ 15 V		+ 15 V 16
17	a, b 10			BUS ab 17
18	c, d 10			BUS cd 18
19		0 VL		0 VL 19
20		- 24 V		- 24V 20
21	c 13		1.914.5..	21
22	c 12			22
23	c 11		ⓒ NAME	23
24	c 3			24
25	c 2			25
26	c 1			26
27	d 13		1.914.5..	27
28	d 12			28
29	d 11		ⓓ NAME	29
30	d 3			30
31	d 2			31
32	d 1			32

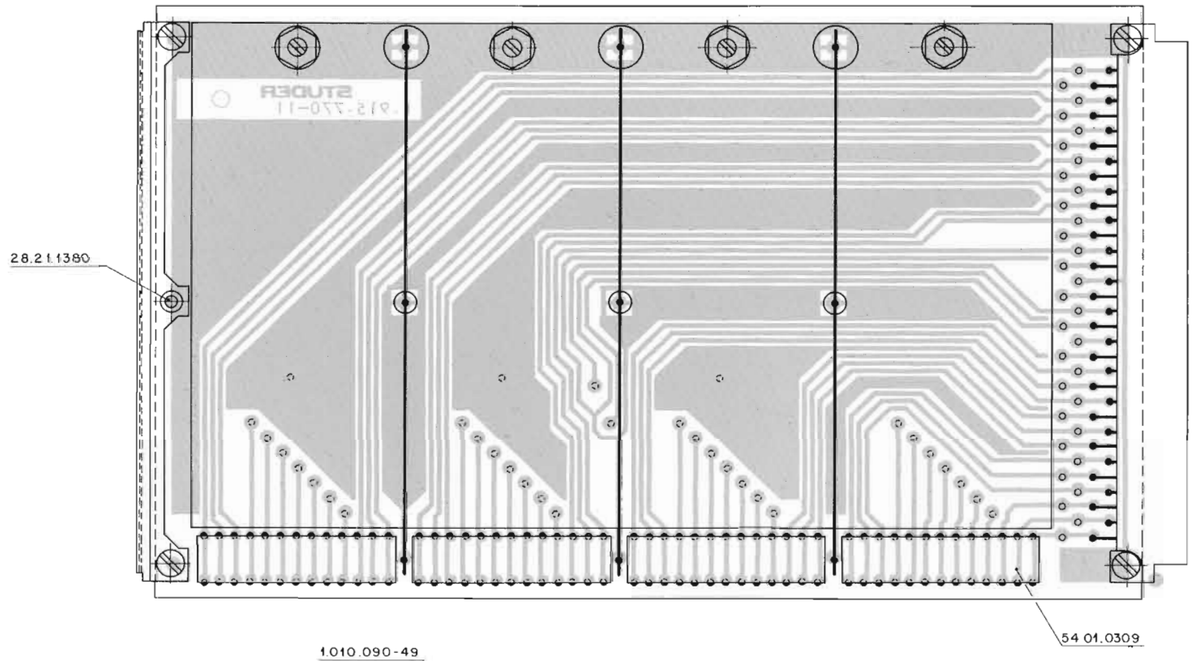
CIS 13 P.

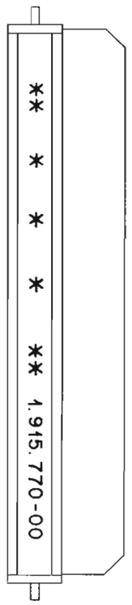
	a	b	c	d
13				
12				
11				
10	BUS	BUS	BUS	BUS
9	- 6 V	- 6 V	- 6 V	- 6 V
8	- 15 V	- 15 V	- 15 V	- 15 V
7	0 VA	0 VA	0 VA	0 VA
6	+ 15 V	+ 15 V	+ 15 V	+ 15 V
5	0 VL	0 VL	0 VL	0 VL
4	- 24 V	- 24 V	- 24 V	- 24 V
3				
2				
1				

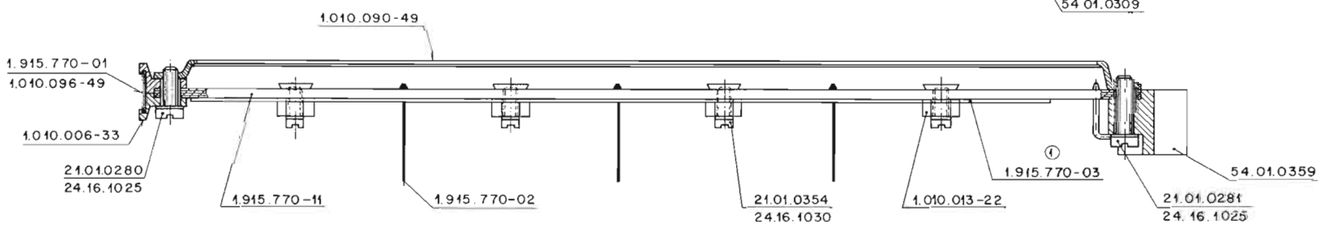




MSC MOTHER BOARD





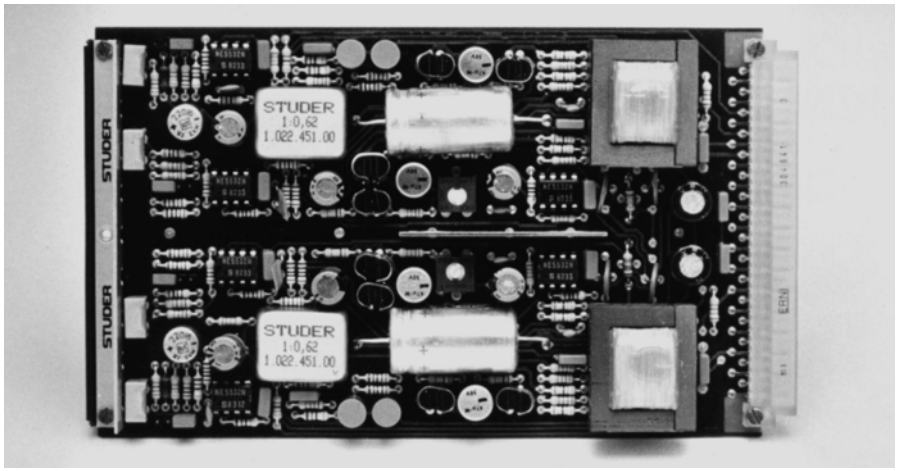


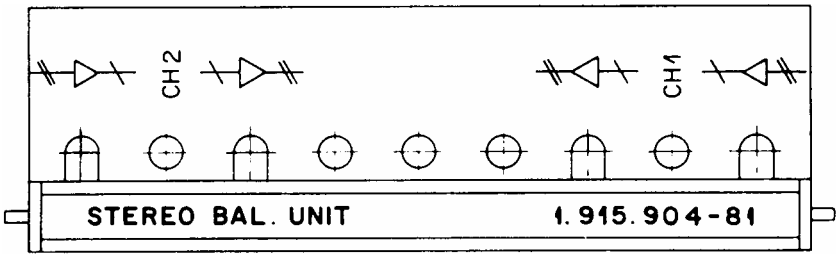
Änderung					
					3
					2
	8.2.85	A.Ho			1
Ausgabe	04.04.84	STJ			0
	Datum	Gez	Gepr	Ges	Index
	Kopie für				

STUDER REGENSDORF ZÜRICH	Benennung	BASIS BOARD	Nummer	1.915.770-00

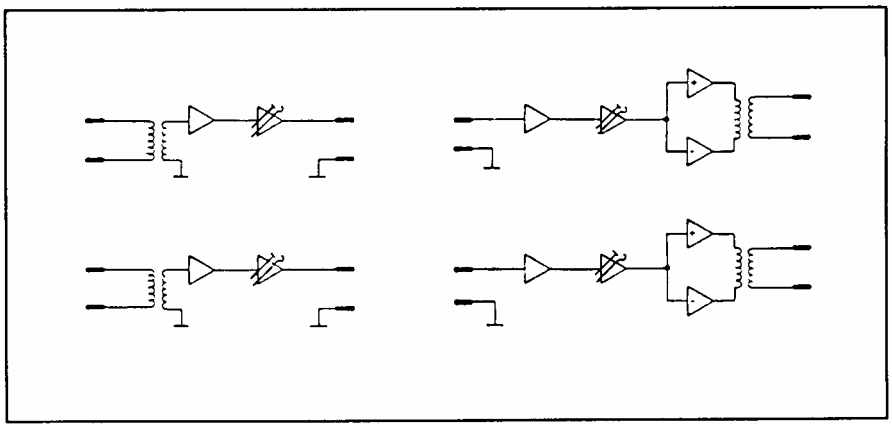
Dual Balancing Unit/Dual Line Amplifier 1.915.904

In professional audio work it is not uncommon that equipment with unbalanced input or output configuration must be connected to a system that is based on a strictly balanced design. The Dual Balancing Unit is the ideal component if the requirement of matching unbalanced to balanced equipment or vice versa has to be satisfied.

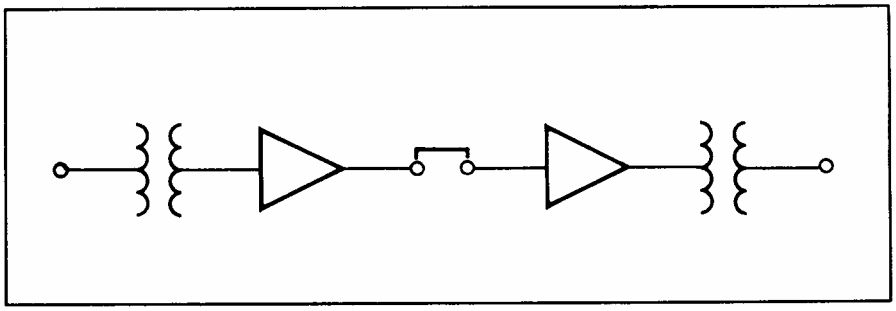




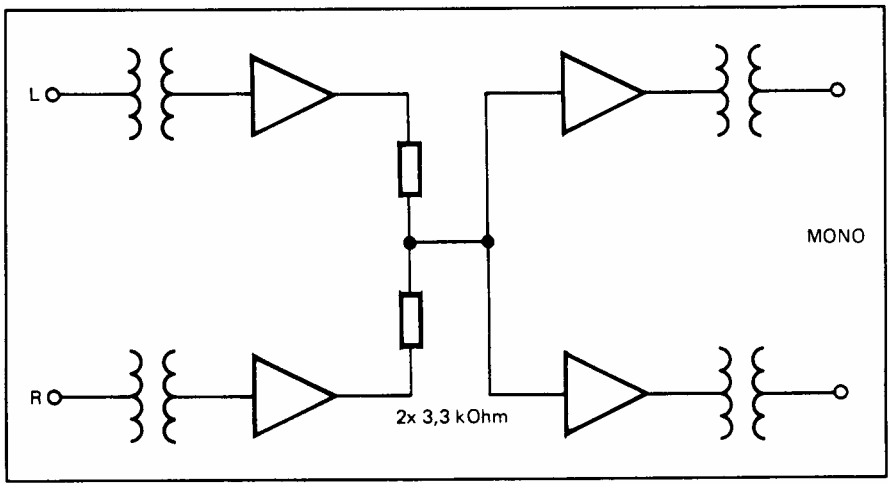
The Dual Balancing Unit consists of one Euro-card which contains four separate circuits to accommodate unbalanced-to-balanced or balanced-to-unbalanced matching in a stereo system. It is the ideal choice for applications in which consumer-type stereo equipment has to be integrated into a professional audio system, where balanced audio lines are a must. The Dual Balancing Unit will also be used in situations where balanced auxiliary units must be connected to unbalanced insert points on a mixing desk.



The use of the balancing unit is not restricted to matching of balanced and unbalanced audio system components, because it can also be utilized as a (line) booster amplifier or as a stereo-to-mono mixer. By simply connecting the unbalanced outputs and inputs together and by adjusting again within the available ranges, two booster amplifiers with a maximum gain of 30 dB and a maximum output capability of +24 dBu*) can be realized.



For stereo-to-mono mixing, the unbalanced sides of the amplifier sections simply are connected by means of combining (mixing) resistors, as shown in the diagram below.



*) To avoid signal clipping, a system should always be designed in such a way that signal peaks stay well below an amplifier's maximum output capacity. Alignment procedures and level settings depend to a large degree on the type of metering used in an audio system. When making measurements with a steady-state signal, a margin of 6 dB below a system's clipping point and the PPM deflected to "zero volume", or a margin of 15 dB (for programs with extreme crest factors, even 20 dB) when utilizing a VU-meter, is considered good engineering practice.

Technical Specifications

Balanced to unbalanced (Section 1):

Input impedance	**≥ 10 kΩ,** balanced/floating
Maximum input level	**+24 dBu**
Output impedance	< **100 Ω,** unbalanced
Maximum output level	**+20 dBu**
Minimum load	**600 Ω**
Frequency response	**±0.2 dB**, 30 Hz...16 kHz
Attenuation	**0/15 dB;** two fixed steps
	0...15 dB; variable
S/N	> **100 dB;** attenuation set to 6 dB, line level +6 dBu

Unbalanced to balanced (Section 2):

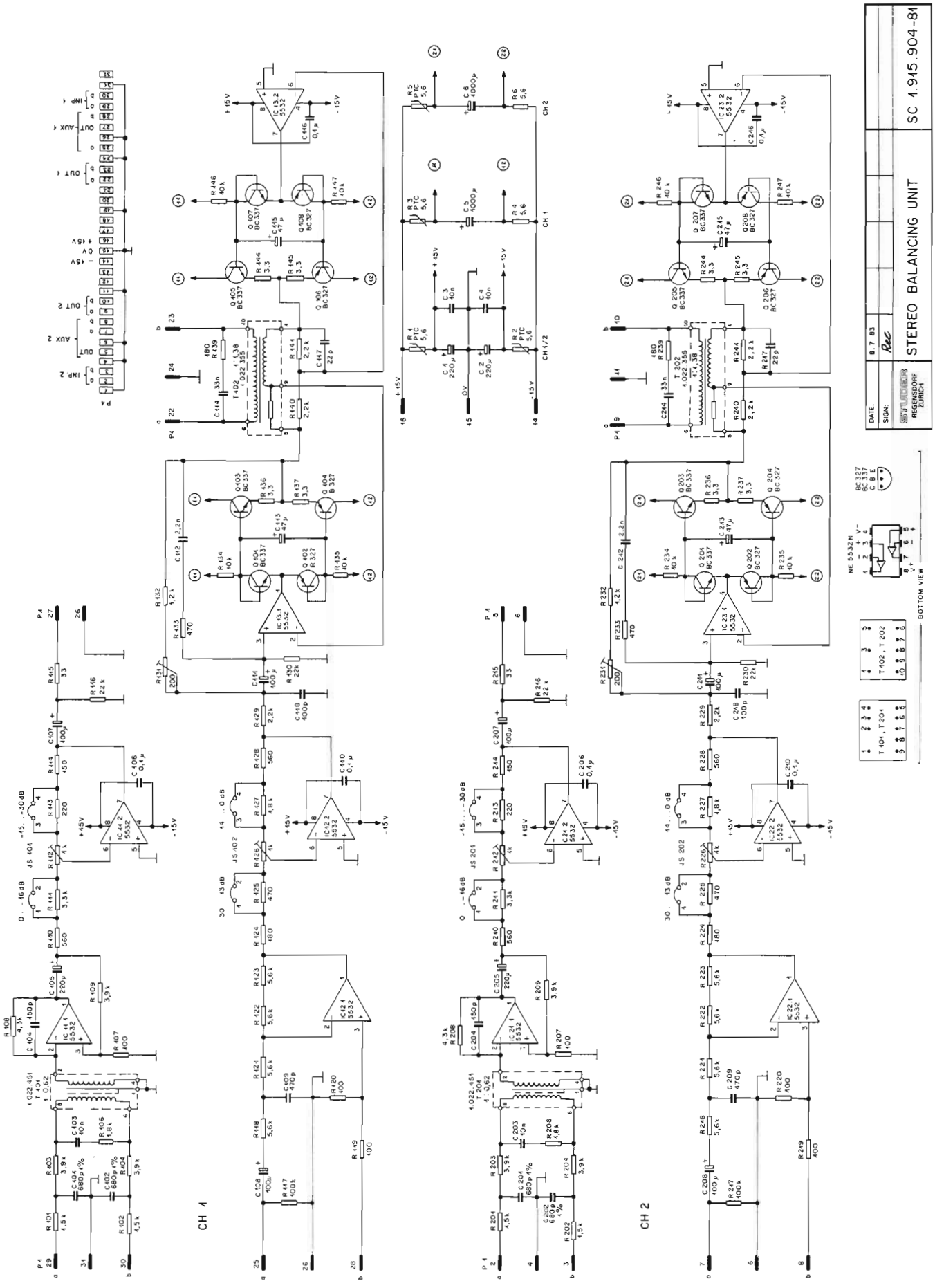
Input impedance	**5 kΩ,** unbalanced
Maximum input level	**+20 dBu**
Output impedance	**≤ 50 Ω,** balanced/floating
Minimum load	**200 Ω**
Maximum output level	**+24 dBu**
Frequency response	**±0.2 dB,** 30 Hz...16 kHz
Gain	**14/30 dB;** two fixed steps
	0...17 dB; variable
S/N	> **100 dB;** gain set to 6 dB, line level +6 dBu

Supply: **±15 V** (70 mA, idling; 170 mA, each channel +24 dBu into 200 Ω)

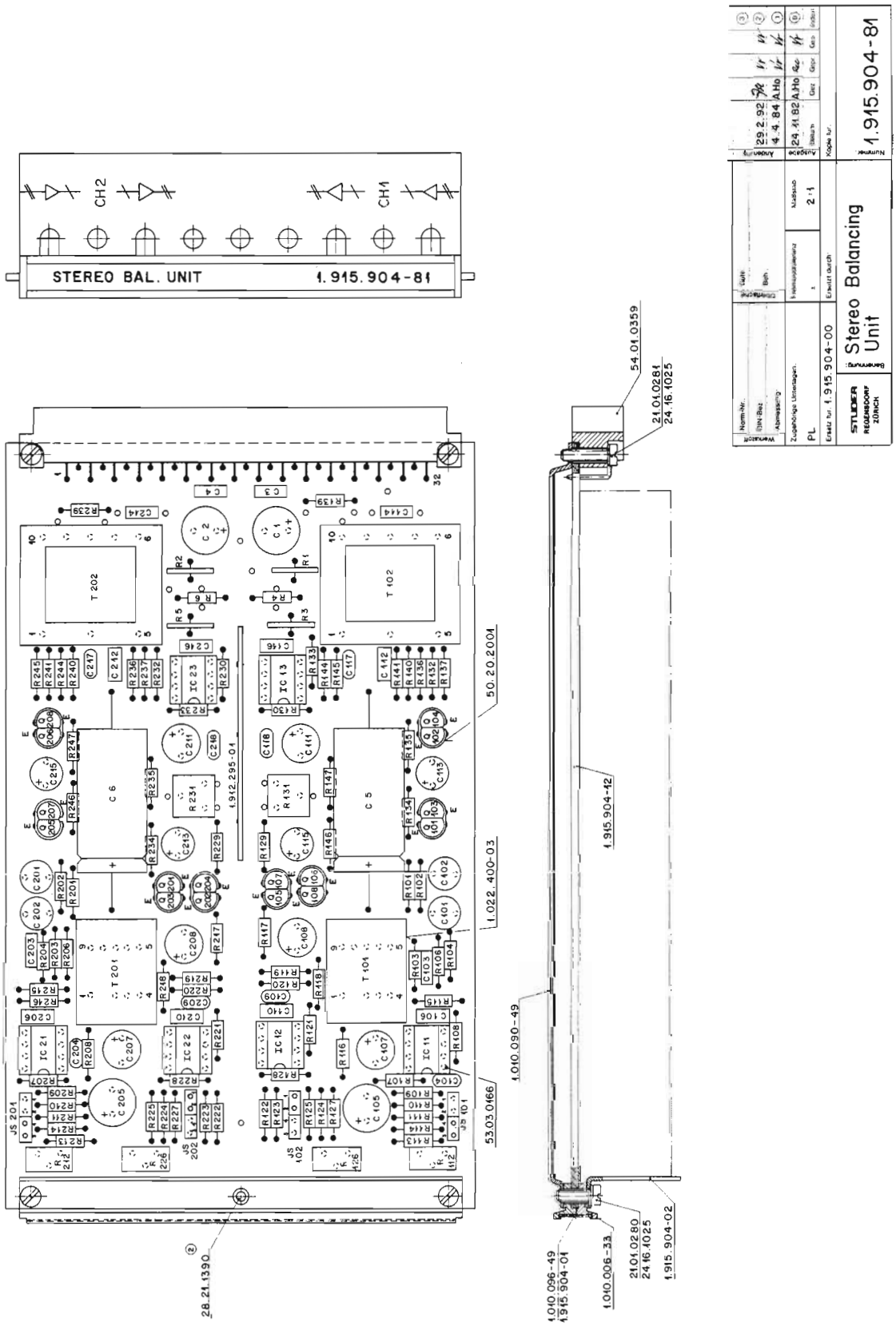
Dimensions: Euro-card **100 × 160 mm, 7 M units wide**

Ordering Information:

Euro-card:	•	Dual balancing unit	1.915.904.xx
19”/1U standard products:	•	2CH balancing unit (1 × 1.915.904)	75.700.89212
	•	4CH balancing unit (2 × 1.915.904)	75.700.89422
	•	6CH balancing unit (3 × 1.915.904)	75.700.89632


STEREO BALANCING UNIT
SC 1.915.904-81
CH 1
CH 2
CH 1/2
BOTTOM VIEW

DUAL BALANCING UNIT



DUAL BALANCING UNIT

Ad	POS.	REF.No.	DESCRIPTION				MANUFACTURER	
	C....1	59.22.4221	220µ		16V	EL		
	C....2	59.22.4221	220µ		16V	EL		
	C....3	59.06.0103	10n		63V	PE		
	C....4	59.06.0103	10n		63V	PE		
	C....5	59.25.5102	1000µ		40V	EL		
	C....6	59.25.5102	1000µ		40V	EL		
	C....1	59.05.1681	680p	1%	630V	PP		
	C....2	59.05.1681	680p	1%	630V	PP		
	C....3	59.06.0103	10n		63V	PE		
	C....4	59.34.4151	150p		63V	CER		
	C....5	59.22.2221	220µ		6V	EL		
	C....6	59.06.0104	0,1µ		63V	PE		
	C....7	59.22.5101	100µ		25V	EL		
	C....8	59.22.5101	100µ		25V	EL		
	C....9	59.34.5471	470p		63V	CER		
	C....10	59.06.0104	0,1µ		63V	PE		
	C....11	59.22.5101	100µ		25V	EL		
	C....12	59.06.0222	2,2n		63V	PE		
	C....13	59.22.5470	47µ		25V	EL		
	C....14	59.06.0333	33n		63V	PE		
	C....15	59.22.5470	47µ		25V	EL		
	C....16	59.06.0104	0,1µ		63V	PE		
	C....17	59.34.2220	22p		63V	CER		
①	C....18	59.34.4101	100p		63V	CER		
	IC....1	50.09.0105	NE5532	DUAL OP AMP			XR5532	SIG, EX
	IC....2	50.09.0105	NE5532	DUAL OP AMP			XR5532	SIG, EX
	IC....3	50.09.0105	NE5532	DUAL OP AMP			XR5532	SIG, EX
	JS....1	54.01.0020	4PIN					
		54.01.0021	JUMPER					
	JS....2	54.01.0021	4PIN					
		54.01.0021	JUMPER					
	P.....1	54.01.0359	2•16P					
	Q.....1	1.010.037.50	BC337	NPN				
	Q.....2	1.010.036.50	BC327	PNP				
	Q.....3	1.010.037.50	BC337	NPN		MATCHED		
	Q.....4	1.010.036.50	BC327	PNP				
	Q.....5	1.010.037.50	BC337	NPN				
	Q.....6	1.010.036.50	BC327	PNP				
	Q.....7	1.010.037.50	BC337	NPN				
	Q.....8	1.010.036.50	BC327	PNP				
	R.....1	57.99.0209	5,6	PTC				PH
	R.....2	57.99.0209	5,6	PTC				PH
	R.....3	57.99.0209	5,6	PTC				PH
	R.....4	57.11.4569	5,6					
	R.....5	57.99.0209	5,6	PTC				PH
	R.....6	57.11.4569	5,6					
	R.....1	57.11.3152	1,5k	1%				
	R.....2	57.11.3152	1,5k	1%				
	R.....3	57.11.3392	3,9k	1%				
	R.....4	57.11.3392	3,9k	1%				
	R.....5							
	R.....6	57.11.4182	1,8k					
	R.....7	57.11.3101	100					
	R.....8	57.11.3432	4,3k					
	R.....9	57.11.3392	3,9k	2%				
	R....10	57.11.4561	560					
	R....11	57.11.4332	3,3k					
	R....12	58.01.9102	1k	10%	TRIM			
	R....13	57.11.4221	220	2%				
	R....14	57.11.4151	150	2%				
	R....15	57.11.4330	33					
	R....16	57.11.4223	22k					
	R....17	57.11.4104	100k					
	R....18	57.11.3562	5,6k					
	R....19	57.11.3101	100					
	R....20	57.11.3101	100	1%				
	R....21	57.11.3562	5,6k					
	R....22	57.11.3562	5,6k					
	R....23	57.11.3562	5,6k					
	R....24	57.11.4181	180	2%				
	R....25	57.11.4471	470	2%				
	R....26	58.01.9102	1k	10%	TRIM			
	R....27	57.11.4182	1,8k	2%				
	R....28	57.11.4561	560	2%				
	R....29	57.11.4222	2,2k					
	R....30	57.11.4223	22k					
	R....31	58.01.8201	200	TRIM				
	R....32	57.11.4122	1,2k					
	R....33	57.11.4471	470					
	R....34	57.11.4103	10k					
	R....35	57.11.4103	10k					
	R....36	57.11.4339	3,3					
	R....37	57.11.4339	3,3					
	R....38							
	R....39	57.11.4181	180					
	R....40	57.11.4222	2,2k	2%				
	R....41	57.11.4222	2,2k	2%				
	R....42							
	R....43							
	R....44	57.11.4339	3,3					
	R....45	57.11.4339	3,3					
	R....46	57.11.4103	10k					
	R....47	57.11.4103	10k					
	T.....1	1.022.451.00	1:0,62	INPUT TRAFO				ST
	T.....2	1.022.355.00	1:1,38	LINE OUTPUT TRAFO				ST
	XIC	53.03.0166	8P	IC SOCKET				

EL=Electrolytic, PE=Polyester, PP=Polypropylen, CER=Ceramic

MANUFACTURER: SIG=Signetics, PH=Philips, EX=Exar, ST=Studer

1.915.904.81 STEREO BAL. UNIT BR 24/11/82

END

→

Schemata / Circuit Diagrams

Connection Boards

Circuit diagrams, component layouts, and parts lists:

Input/Fader Connection Board 4A 1.980.710.00

Input/Fader Connection Board 4A, VCA 1.980.711.00

Input/Output Connection / Digital Bus Board 1.980.712.00

XLR to Flatcable Male Board 1.980.720.00

XLR to Flatcable Female Board 1.980.721.81

3 x 16-Pin To 37-Pin D-Type Board 1.980.761.00

Aux P5 Connection Board 1.980.763.00

Address Select Board, 40 mm 1.980.764.00

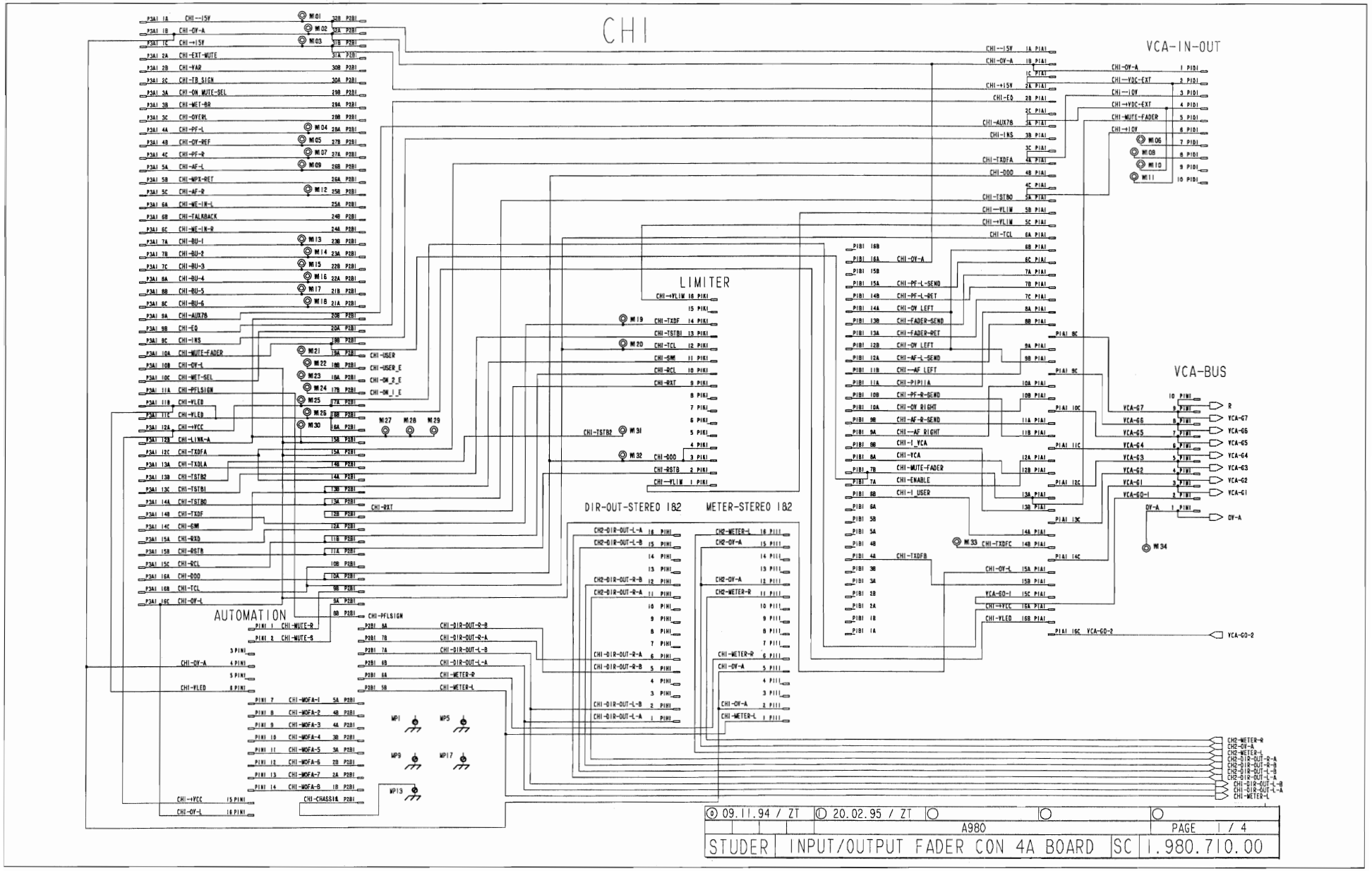
Address Select Board, 60 mm 1.980.765.00

10-Pin Connection Board, 60 mm 1.980.771.00

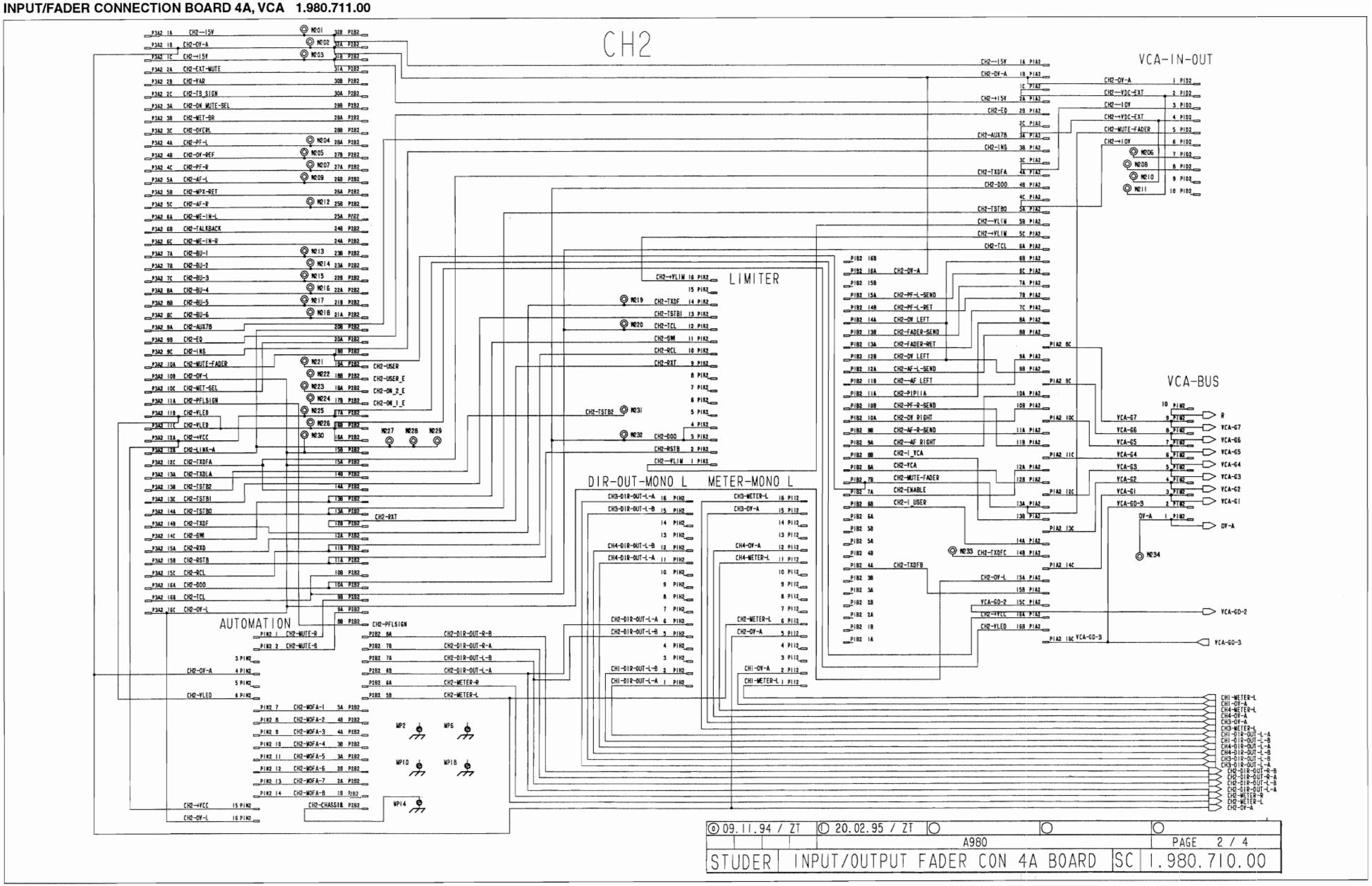
10-Pin Connection Board, 40 mm 1.980.772.00

Aux Jumper Connection Board 2x16 Pin 1.980.773.00

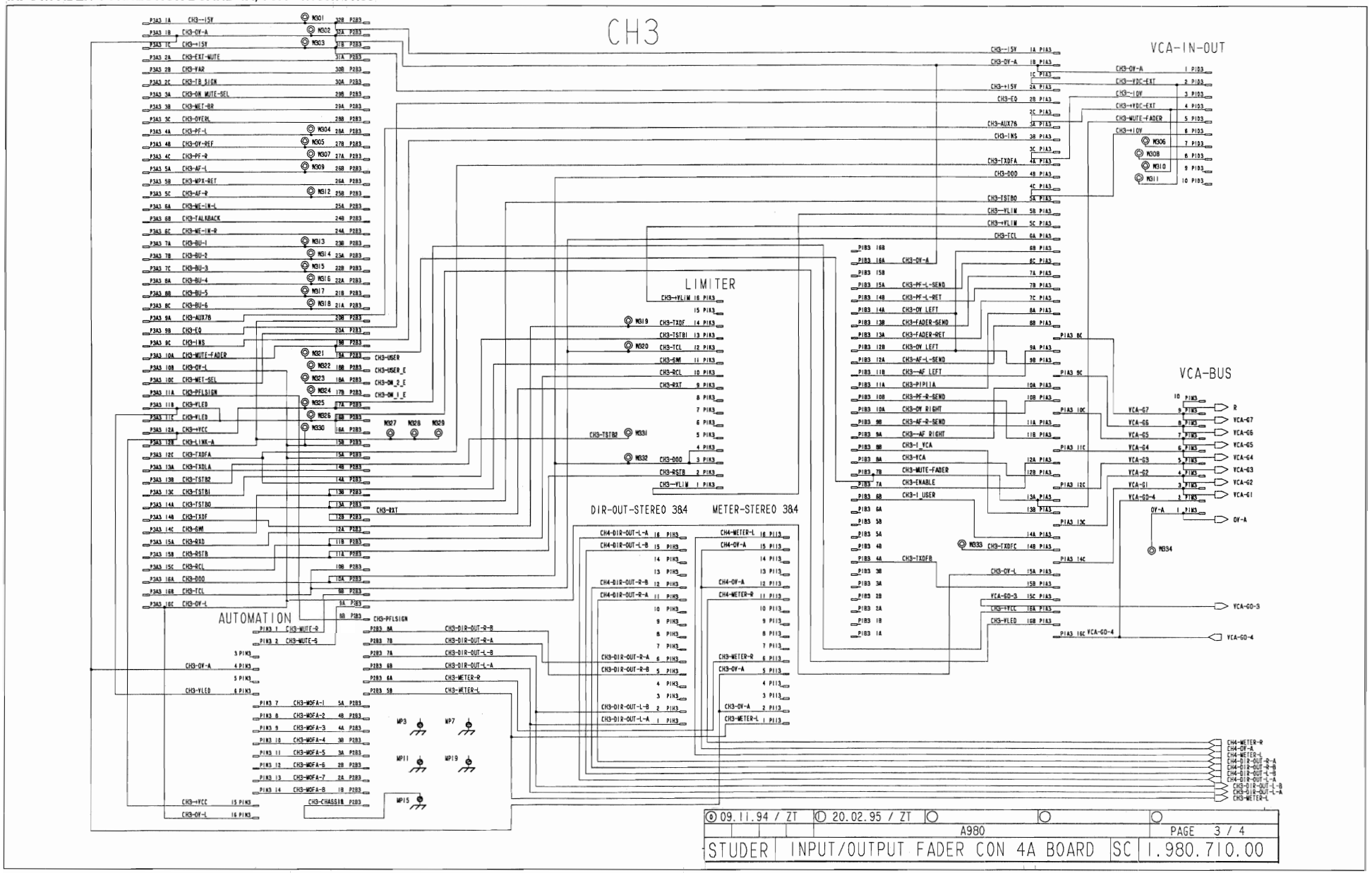
INPUT/FADER CONNECTION BOARD 4A 1.980.710.00
INPUT/FADER CONNECTION BOARD 4A, VCA 1.980.711.00



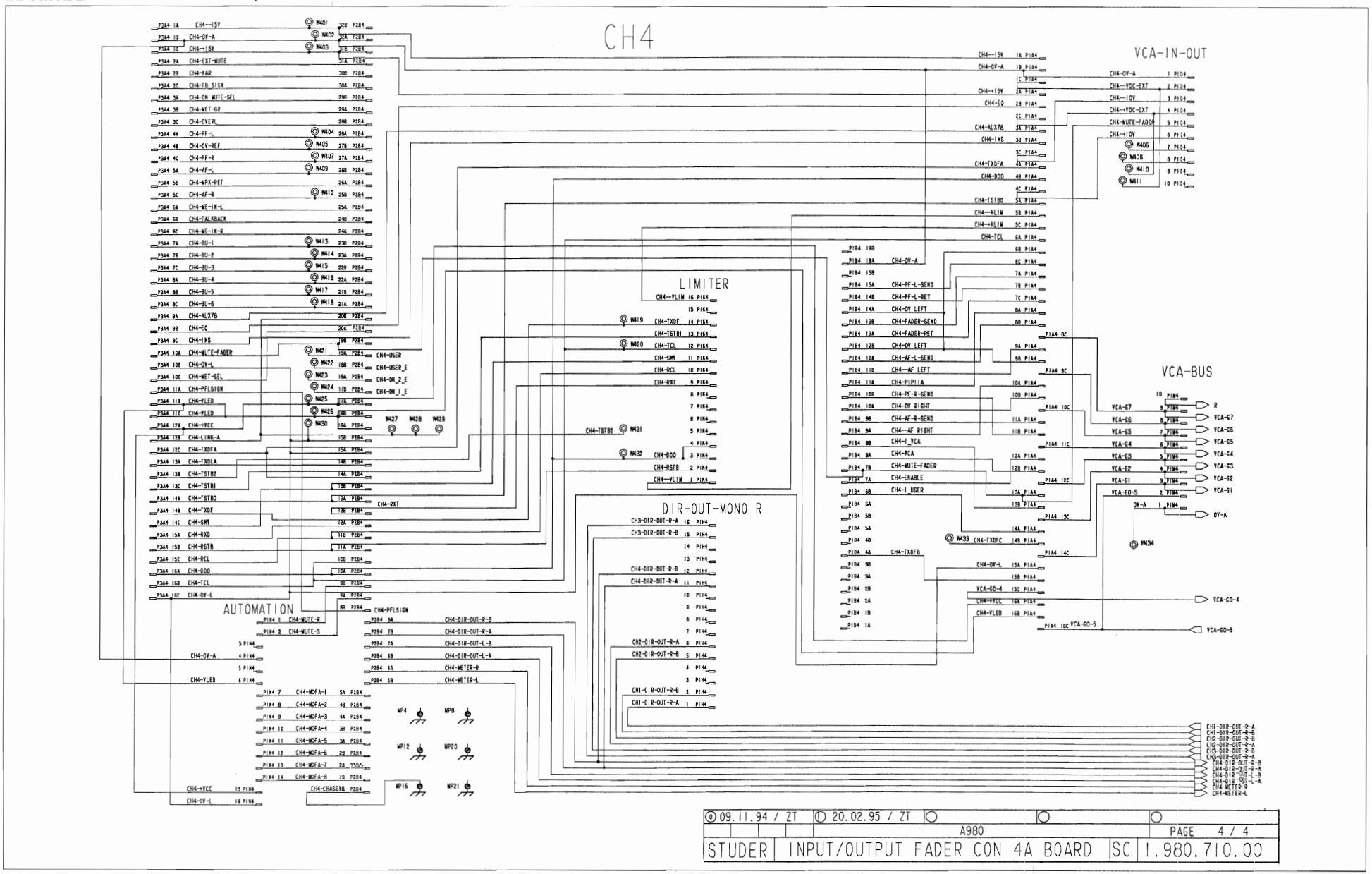
INPUT/FADER CONNECTION BOARD 4A 1.980.710.00
INPUT/FADER CONNECTION BOARD 4A, VCA 1.980.711.00



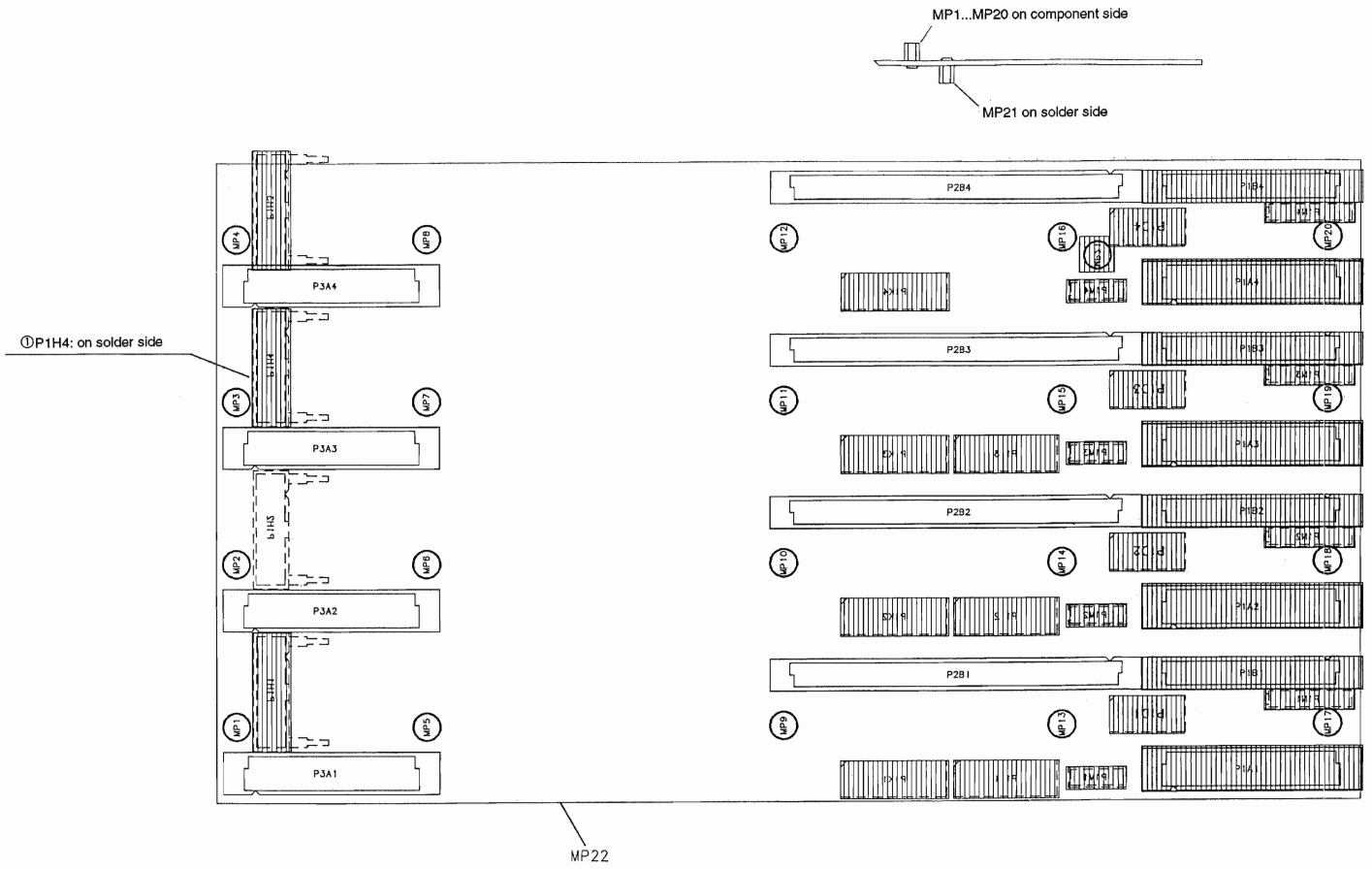
INPUT/FADER CONNECTION BOARD 4A 1.980.710.00
INPUT/FADER CONNECTION BOARD 4A, VCA 1.980.711.00



INPUT/FADER CONNECTION BOARD 4A 1.980.710.00
INPUT/FADER CONNECTION BOARD 4A, VCA 1.980.711.00



INPUT/FADER CONNECTION BOARD 4A 1.980.710.00



Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	MP 1	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 2	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 3	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 4	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 5	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 6	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 7	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 8	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 9	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 10	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 11	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 12	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 13	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 14	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 15	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 16	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 17	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 18	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 19	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 20	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 21	1.010.017.22	pce	3*6	NIETMUTTER SW 6 M 3 * 6
0	MP 22	1.980.710.12	pce		INPUT/FADER CON 4A PCB /!\
0	MP 23	1.980.710.04	pce		NR.-ETIKETTE 5 * 20
0	P1A 1	not used		J48p	J EU-CK 3 * 16 LOET
0	P1A 2	not used		J48p	J EU-CK 3 * 16 LOET
0	P1A 3	not used		J48p	J EU-CK 3 * 16 LOET
0	P1A 4	not used		J48p	J EU-CK 3 * 16 LOET
0	P1B 1	not used		32-P	J EU-BK 2 * 16
0	P1B 2	not used		32-P	J EU-BK 2 * 16
0	P1B 3	not used		32-P	J EU-BK 2 * 16
0	P1B 4	not used		32-P	J EU-BK 2 * 16
0	P1D 1	not used		10P	PCB-VERB 10 P , SN, FLACHK
0	P1D 2	not used		10P	PCB-VERB 10 P , SN, FLACHK
0	P1D 3	not used		10P	PCB-VERB 10 P , SN, FLACHK
0	P1D 4	not used		10P	PCB-VERB 10 P , SN, FLACHK
0	P1H 1	not used		16-P	P STECKER 16 P,AU,VR,GERADE
0	P1H 2	54.14.2102		16-P	P STECKER 16 P,AU,VR,GERADE
0	P1H 3	not used		16-P	P STECKER 16 P,AU,VR,GERADE
1	P1H 4	not used		16-P	P STECKER 16 P,AU,VR,GERADE
0	P1I 1	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1I 2	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1I 3	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1K 1	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1K 2	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1K 3	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1K 4	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1M 1	not used		10-P	J PCB-BUCHSE GERADE 10 P
0	P1M 2	not used		10-P	J PCB-BUCHSE GERADE 10 P
0	P1M 3	not used		10-P	J PCB-BUCHSE GERADE 10 P
0	P1M 4	not used		10-P	J PCB-BUCHSE GERADE 10 P
0	P1N 1	not used		16-P	J PCB-BUCHSE GERADE 16 P
0	P1N 2	not used		16-P	J PCB-BUCHSE GERADE 16 P
0	P1N 3	not used		16-P	J PCB-BUCHSE GERADE 16 P
0	P1N 4	not used		16-P	J PCB-BUCHSE GERADE 16 P
0	P2B 1	54.11.2005		64-P	J EU-B 2 * 32
0	P2B 2	54.11.2005		64-P	J EU-B 2 * 32
0	P2B 3	54.11.2005		64-P	J EU-B 2 * 32
0	P2B 4	54.11.2005		64-P	J EU-B 2 * 32
0	P3A 1	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P3A 2	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P3A 3	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P3A 4	54.11.2262		J48p	J EU-CK 3 * 16 LOET

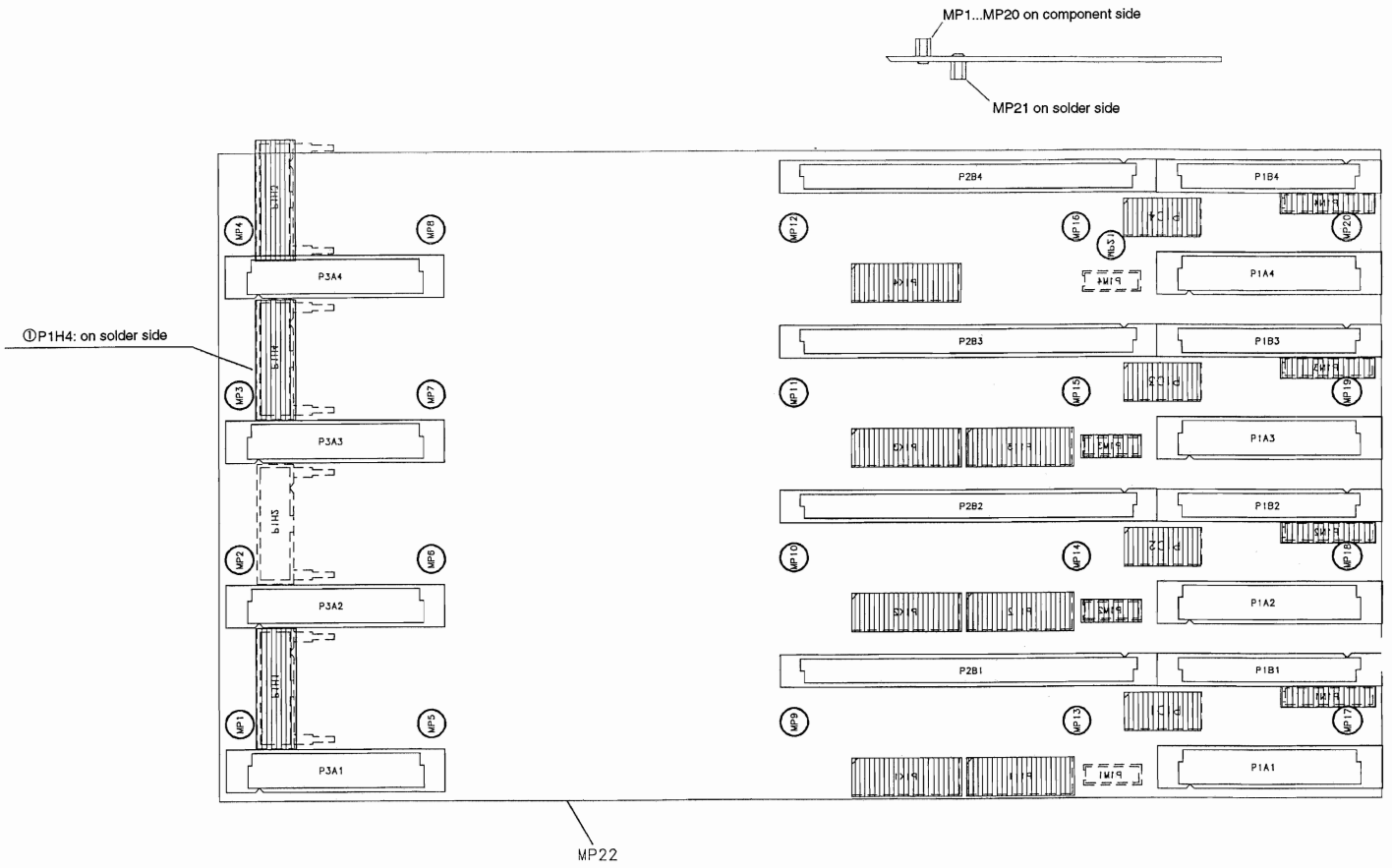
End of List

Edition Ausgabe	Date Datum	Visa Gez.	Checked Gepr.	Seen Ges.	Index
Modification Aenderung					③
					②
	20.02.95	ZT			①
	09.11.94	ZT			⓪

Copy to: Kopie fuer:

STUDER REGENSDORF | Description Benennung: INPUT/FADER CON 4A BOARD | Number: Nummer: 1.980.710.00

INPUT/FADER CONNECTION BOARD 4A, VCA 1.980.711.00



Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	MP 1	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 2	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 3	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 4	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 5	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 6	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 7	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 8	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 9	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 10	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 11	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 12	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 13	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 14	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 15	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 16	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 17	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 18	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 19	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 20	1.010.014.22	pce	3*4.5	NIETMUTTER SW 6 M 3 *4,5
0	MP 21	1.010.017.22	pce	3*6	NIETMUTTER SW 6 M 3 * 6
0	MP 22	1.980.710.12	pce		INPUT/FADER CON 4A PCB /I\
0	MP 23	1.980.710.04	pce		NR.-ETIKETTE 5 * 20
0	P1A 1	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P1A 2	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P1A 3	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P1A 4	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P1B 1	54.11.2014		32-P	J EU-BK 2 * 16
0	P1B 2	54.11.2014		32-P	J EU-BK 2 * 16
0	P1B 3	54.11.2014		32-P	J EU-BK 2 * 16
0	P1B 4	54.11.2014		32-P	J EU-BK 2 * 16
0	P1D 1	not used		10P	PCB-VERB 10 P , SN, FLACHK
0	P1D 2	not used		10P	PCB-VERB 10 P , SN, FLACHK
0	P1D 3	not used		10P	PCB-VERB 10 P , SN, FLACHK
0	P1D 4	not used		10P	PCB-VERB 10 P , SN, FLACHK
0	P1H 1	not used		16-P	P STECKER 16 P,AU,VR,GERADE
0	P1H 2	54.14.2102		16-P	P STECKER 16 P,AU,VR,GERADE
0	P1H 3	not used		16-P	P STECKER 16 P,AU,VR,GERADE
1	P1H 4	not used		16-P	P STECKER 16 P,AU,VR,GERADE
0	P1I 1	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1I 2	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1I 3	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1K 1	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1K 2	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1K 3	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1K 4	not used		16P	PCB-VERB 16 P , SN, FLACHK
0	P1M 1	54.14.5510		10-P	J PCB-BUCHSE GERADE 10 P
0	P1M 2	not used		10-P	J PCB-BUCHSE GERADE 10 P
0	P1M 3	not used		10-P	J PCB-BUCHSE GERADE 10 P
0	P1M 4	54.14.5510		10-P	J PCB-BUCHSE GERADE 10 P
0	P1N 1	not used		16-P	J PCB-BUCHSE GERADE 16 P
0	P1N 2	not used		16-P	J PCB-BUCHSE GERADE 16 P
0	P1N 3	not used		16-P	J PCB-BUCHSE GERADE 16 P
0	P1N 4	not used		16-P	J PCB-BUCHSE GERADE 16 P
0	P2B 1	54.11.2005		64-P	J EU-B 2 * 32
0	P2B 2	54.11.2005		64-P	J EU-B 2 * 32
0	P2B 3	54.11.2005		64-P	J EU-B 2 * 32
0	P2B 4	54.11.2005		64-P	J EU-B 2 * 32
0	P3A 1	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P3A 2	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P3A 3	54.11.2262		J48p	J EU-CK 3 * 16 LOET
0	P3A 4	54.11.2262		J48p	J EU-CK 3 * 16 LOET

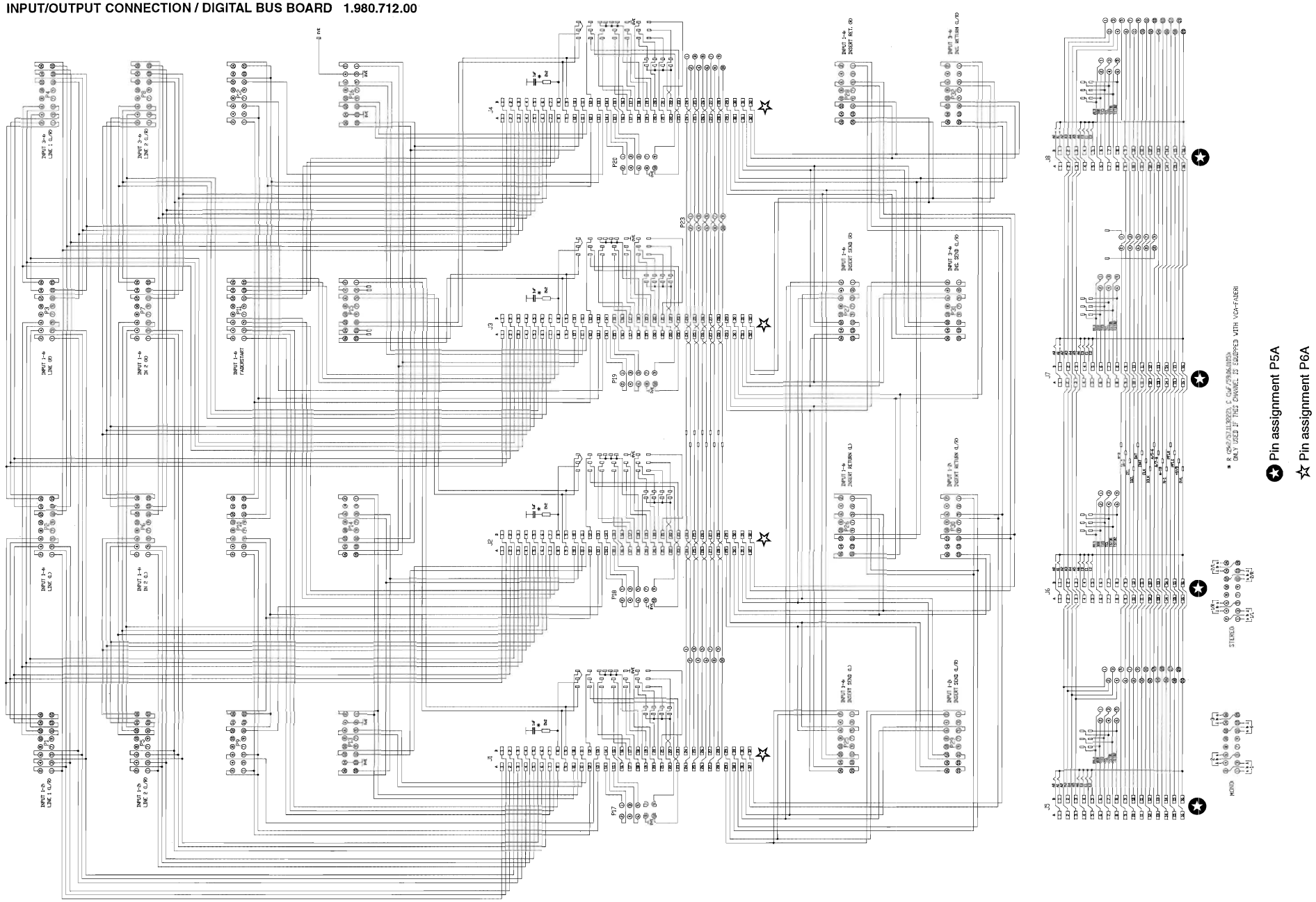
End of List

Modification Änderung	Date Datum	Visa Gez.	Dessin Gepr.	Seen Ges.	Index
	.	.	.	.	③
	.	.	.	.	②
	20.02.95	ZT			①
Edition Ausgabe	09.11.94	ZT			0

Copy to: Kopie fuer: .

STUDER REGENSDORF | Description Benennung: INPUT/FADER CON VCA 4A BOARD | Number Nummer: 1.980.711.00

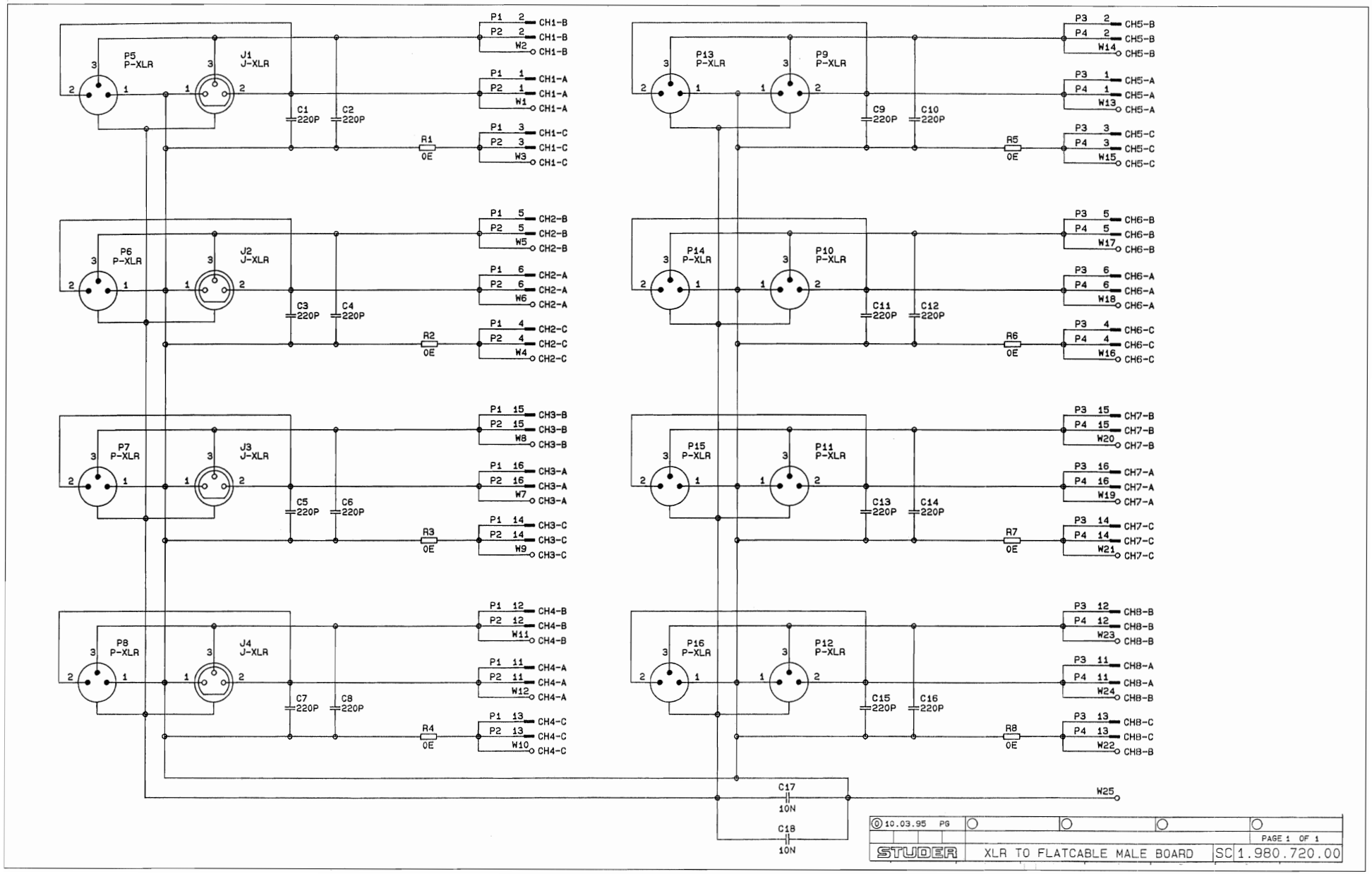
INPUT/OUTPUT CONNECTION / DIGITAL BUS BOARD 1.980.712.00



Pin assignment P5A

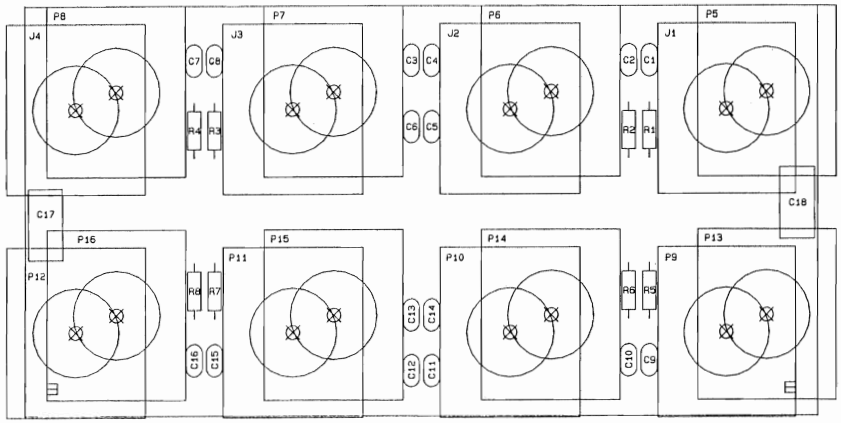
Pin assignment P6A

XLR TO FLATCABLE MALE BOARD 1.980.720.00

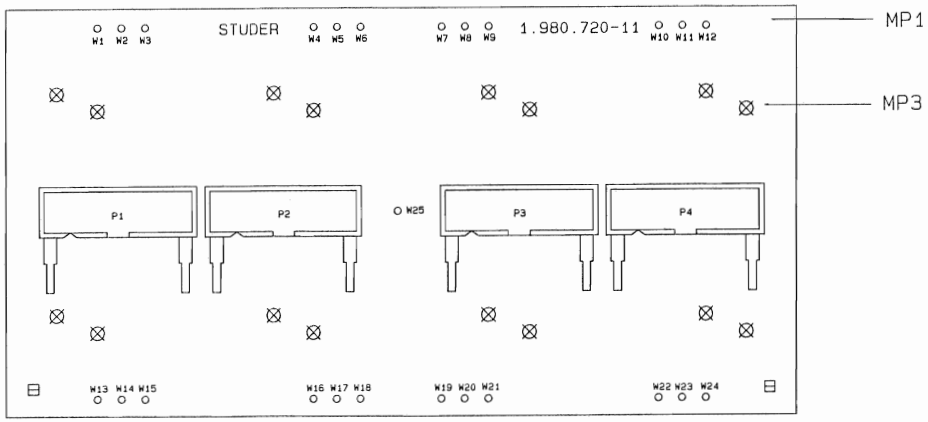


XLR TO FLATCABLE MALE BOARD 1.980.720.00

COMPONENT SIDE



SOLDER SIDE



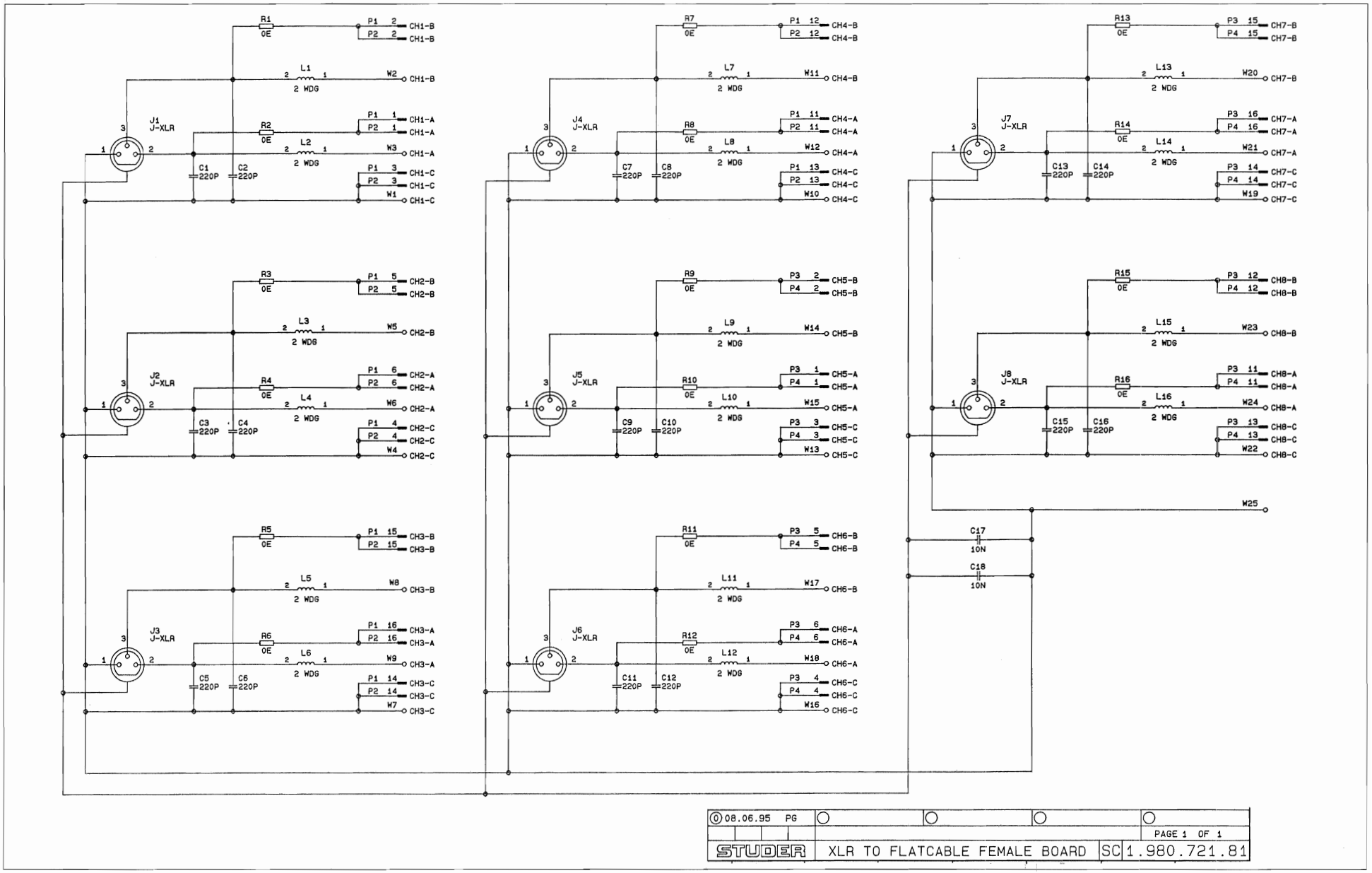
IND.	DATUM	GEZ.	GEPR.	GES.
0	10.03.95	PG	PG	HH
	BLATT 1 VON 1			

STUDER | XLR TO FLATCABLE MALE BOARD | BP | 1.980.720.00

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	C 1	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 2	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 3	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 4	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 5	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 6	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 7	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 8	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 9	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 10	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 11	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 12	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 13	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 14	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 15	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 16	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 17	59.05.6103		10n	C .01 U , 10%, 400V , MPP
0	C 18	59.05.6103		10n	C .01 U , 10%, 400V , MPP
0	J 1	54.21.2002		JXLR3p	J 3 POL CHASSIS/PRINT,XLR
0	J 2	54.21.2002		JXLR3p	J 3 POL CHASSIS/PRINT,XLR
0	J 3	54.21.2002		JXLR3p	J 3 POL CHASSIS/PRINT,XLR
0	J 4	54.21.2002		JXLR3p	J 3 POL CHASSIS/PRINT,XLR
0	MP 1	1.980.720.11	1 pce		XLR TO FLATCABLE MALE PCB /I\
0	MP 2	1.980.720.04	1 pce		NR.-ETIKETTE 5 * 20
0	MP 3	20.21.7102	8 pcs	MP	LIN-BLECHSCHR. KS D2.2* 4.5
0	P 1	54.14.2102		16-P	P STECKER 16 P,AU,VR,GERADE
0	P 2	54.14.2102		16-P	P STECKER 16 P,AU,VR,GERADE
0	P 3	54.14.2102		16-P	P STECKER 16 P,AU,VR,GERADE
0	P 4	54.14.2102		16-P	P STECKER 16 P,AU,VR,GERADE
0	P 5	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 6	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 7	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 8	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 9	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 10	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 11	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 12	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 13	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 14	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 15	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	P 16	54.21.2001		PXLR3p	P 3 POL CHASSIS/PRINT,XLR
0	R 1	57.11.3000		0R0	R 0 , 0207 , MF
0	R 2	57.11.3000		0R0	R 0 , 0207 , MF
0	R 3	57.11.3000		0R0	R 0 , 0207 , MF
0	R 4	57.11.3000		0R0	R 0 , 0207 , MF
0	R 5	57.11.3000		0R0	R 0 , 0207 , MF
0	R 6	57.11.3000		0R0	R 0 , 0207 , MF
0	R 7	57.11.3000		0R0	R 0 , 0207 , MF
0	R 8	57.11.3000		0R0	R 0 , 0207 , MF

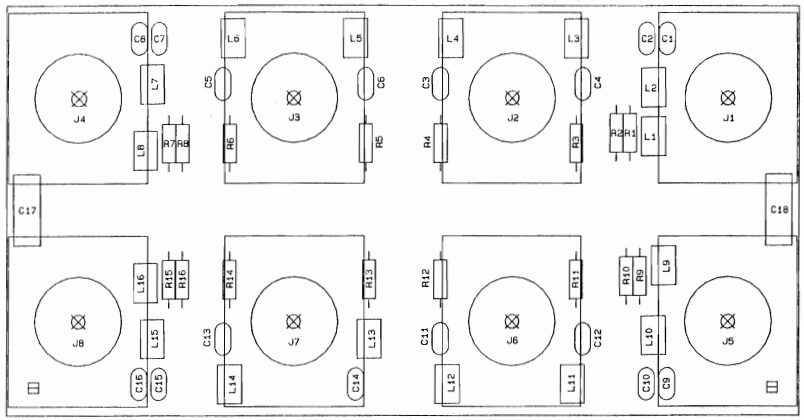
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XLR TO FLATCABLE FEMALE BOARD 1.980.721.81

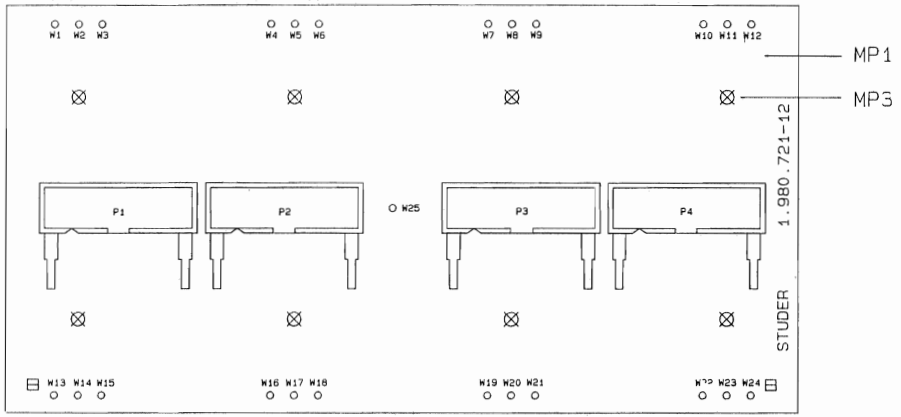


XLR TO FLATCABLE FEMALE BOARD 1.980.721.81

COMPONENT SIDE



SOLDER SIDE



IND.	DATUM	GEZ.	GEPR.	GES.
0	08.05.95	PG	PG	HM

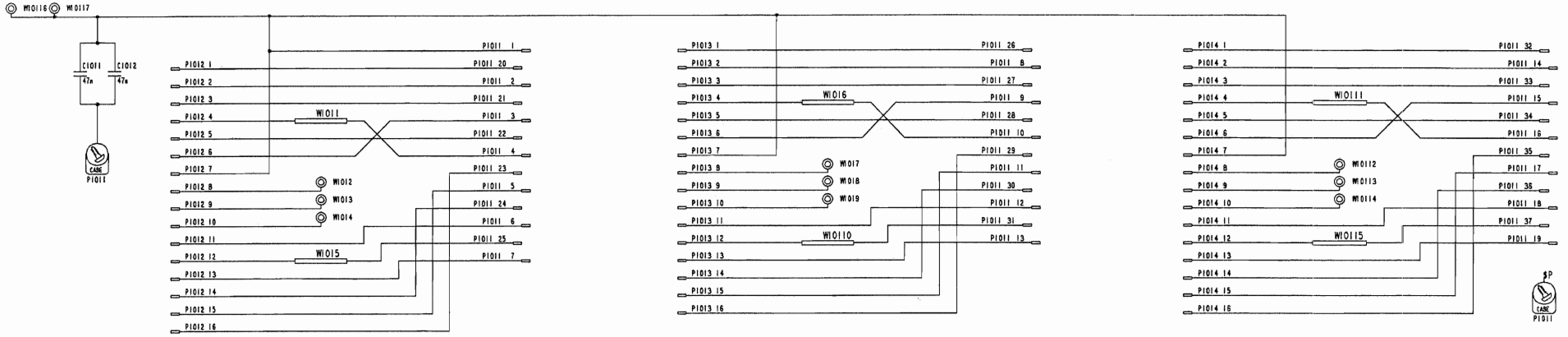
BLATT 1 VON 1

STUDER	XLR TO FLATCABLE FEMALE BOARD	BP	1.980.721.81

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	C 1	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 2	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 3	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 4	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 5	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 6	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 7	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 8	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 9	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 10	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 11	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 12	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 13	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 14	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 15	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 16	59.32.1221		220p	C 220 P , 10%, 400V , CER
0	C 17	59.05.6103		10n	C .01 U , 10%, 400V , MPP
0	C 18	59.05.6103		10n	C .01 U , 10%, 400V , MPP
0	MP 1	1.980.721.12	1 pce		XLR to Flatcable fem Board PCB
0	MP 2	1.980.721.04	1 pce		NR.-ETIKETTE 5 * 20
0	P 1	54.14.2102		16-P	P STECKER 16 P,AU,VR,GERADE
0	R 1	57.11.3000		0R0	R 0 , 0207 , MF
0	R 2	57.11.3000		0R0	R 0 , 0207 , MF
0	R 3	57.11.3000		0R0	R 0 , 0207 , MF
0	R 4	57.11.3000		0R0	R 0 , 0207 , MF
0	R 5	57.11.3000		0R0	R 0 , 0207 , MF
0	R 6	57.11.3000		0R0	R 0 , 0207 , MF
0	R 7	57.11.3000		0R0	R 0 , 0207 , MF
0	R 8	57.11.3000		0R0	R 0 , 0207 , MF
0	R 9	57.11.3000		0R0	R 0 , 0207 , MF
0	R 10	57.11.3000		0R0	R 0 , 0207 , MF
0	R 11	57.11.3000		0R0	R 0 , 0207 , MF
0	R 12	57.11.3000		0R0	R 0 , 0207 , MF
0	R 13	57.11.3000		0R0	R 0 , 0207 , MF
0	R 14	57.11.3000		0R0	R 0 , 0207 , MF
0	R 15	57.11.3000		0R0	R 0 , 0207 , MF
0	R 16	57.11.3000		0R0	R 0 , 0207 , MF

End of List

3 x 16-PIN TO 37-PIN D-TYPE BOARD 1.980.761.00

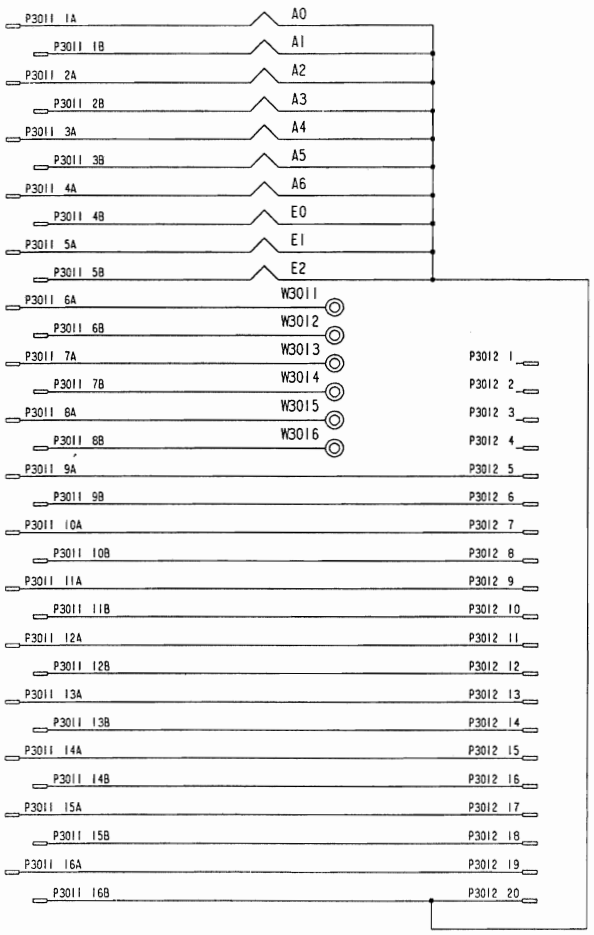


Ad	POS.	REF.No.	DESCRIPTION	MANUFACTURER
	C1011	59.06.0473	47 nF 63V C-PETP	
	C1012	59.02.5473	47 nF 250V	
	P1011	54.13.0074	37 Pin PCB D-Buchse winkel	
	P1012	54.14.2102	16 Pin PCB Stecker gerade	
	P1013	54.14.2102	16 Pin PCB Stecker gerade	
	P1014	54.14.2102	16 Pin PCB Stecker gerade	
	MP101	1.980.761.11	EMPTY PCB	

1.980.761.00 3x16P TO 37D TYP PCB ZT 95/03/21

⓪ 21.03.95/ ZT					
					PAGE 1 / 1
STUDER	3x16P to 37D TYP PCB			SC	1.980.761.00

AUX P5 CONNECTION BOARD 1.980.763.00



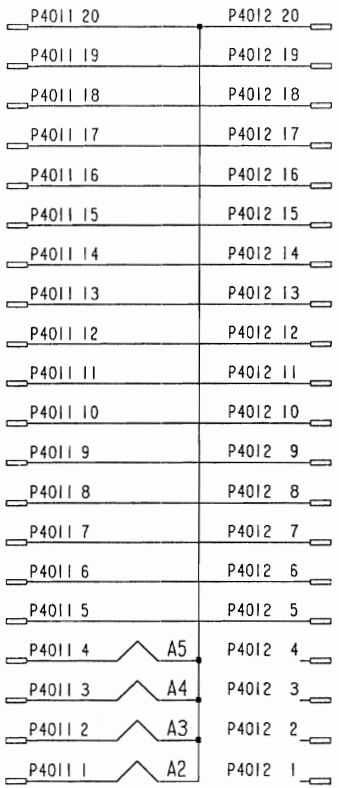
Ad ..POS.. ...REF.No... DESCRIPTION.....MANUFACTURER

P3011	54.11.2014	32 Pin	EU-Buchse gerade
P3012	54.14.5034	20 Pin	PCB Lötverbinder für Flachkabel
MP301	1.980.763.11	EMPTY	PCB

1.980.763.00 AUX P5 CONN. PCB ZT 95/03/21

ⓓ 21.03.95 / ZT	A980	PAGE 1 / 1
STUDER	AUX P5 CONN.PCB	SC 1.980.763.00

ADDRESS SELECT BOARD, 40 mm 1.980.764.00



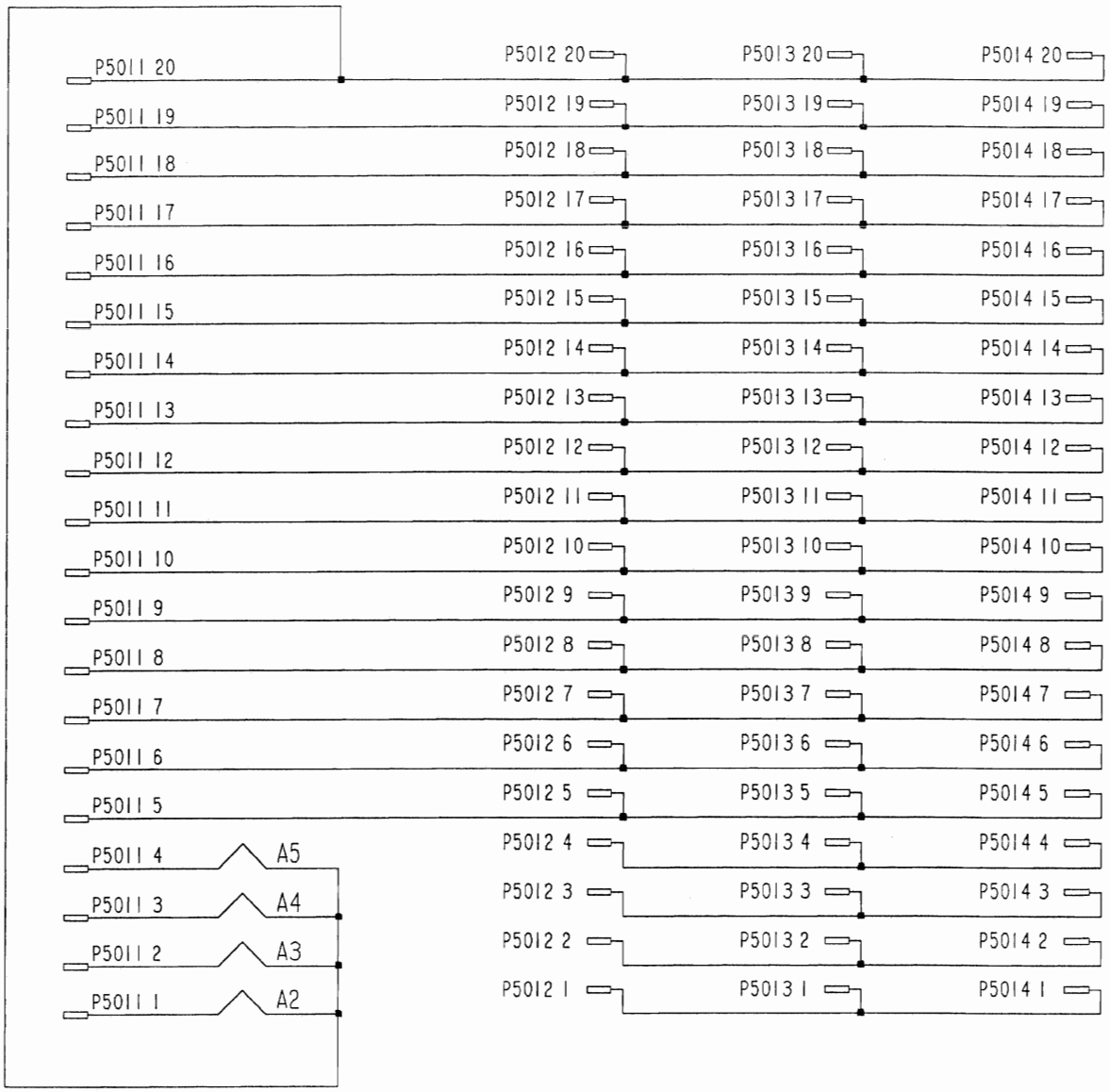
Ad ..POS.. ...REF.No... DESCRIPTION.....MANUFACTURER

P4011	54.14.5590 Micro-Match	20 Pin	Stecker gerade
P4012	54.14.5590 Micro-Match	20 Pin	Stecker gerade
MP401	1.980.764.11	EMPTY	PCB

1.980.764.00 ADDRESS SELECT 40MM PCB ZT 95/03/21

ⓓ 21.03.95 / ZT	A980	PAGE 1 / 1
STUDER	ADDRESS SELECT 40MM PCB	SC 1.980.764.00

ADDRESS SELECT BOARD, 60 mm 1.980.765.00

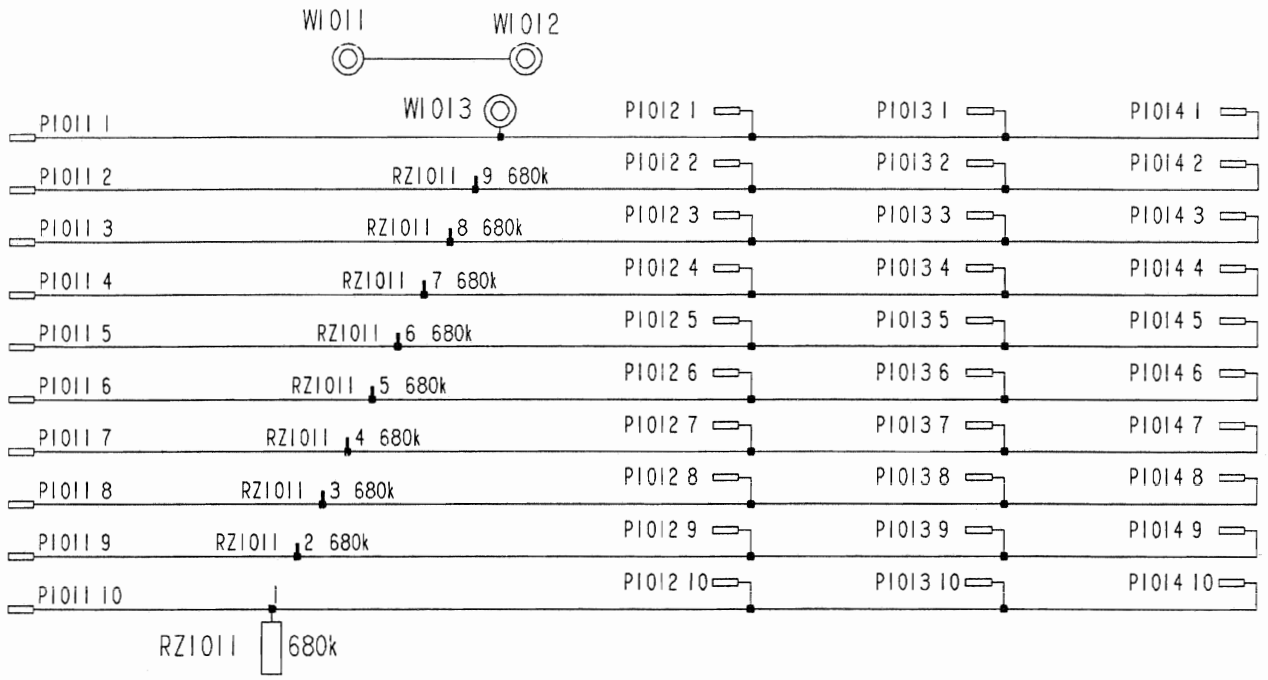


Ad	..POS..	...REF.No...	DESCRIPTION			MANUFACTURER
	P5011	54.14.5590	Micro-Match	20 Pin	Stecker gerade	
	P5012	54.14.5590	Micro-Match	20 Pin	Stecker gerade	n.c.
	P5013	54.14.5620	Micro-Match	20 Pin	PCB Lötverbinder	n.c.
	P5014	54.14.5590	Micro-Match	20 Pin	Stecker gerade	
	MP501	1.980.765.11	EMPTY		PCB	

1.980.765.00 ADDRESS SELECT 60MM PCB ZT 95/03/21

⓪ 21.03.95 / ZT	A980		PAGE 1 / 1
STUDER	ADDRESS SELECT 60MM PCB	SC	1.980.765.00

10-PIN CONNECTION BOARD, 60 mm 1.980.771.00

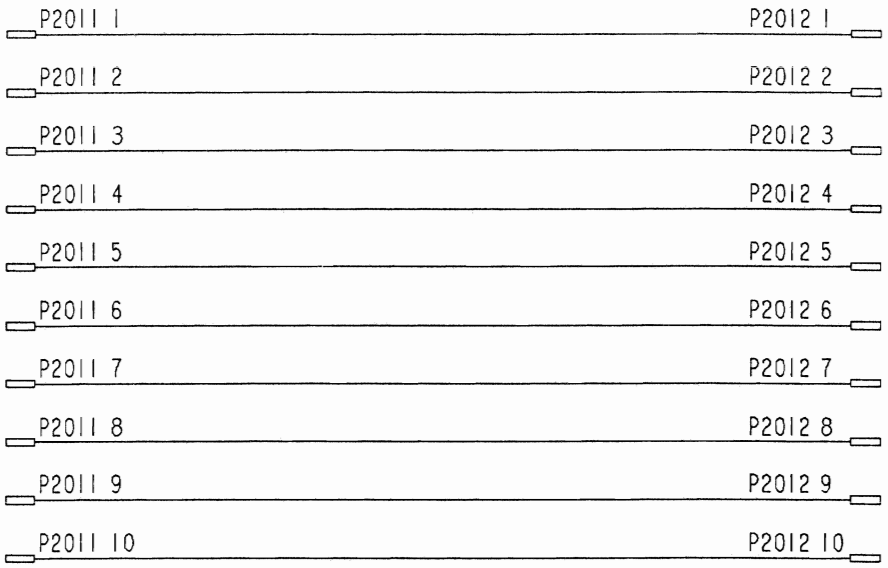


Ad	..POS..	...REF.No...	DESCRIPTION			MANUFACTURER
	P1011	54.14.5580	Micro-Match	10 Pin	Stecker gerade	
	P1012	54.14.5580	Micro-Match	10 Pin	Stecker gerade	n.c.
	P1013	54.14.5610	Micro-Match	10 Pin	PCB Lötverbinder	n.c.
	P1014	54.14.5580	Micro-Match	10 Pin	Stecker gerade	
	RZ1011	57.88.4684		680 k	Netzwerk	n.c.
	MP101	1.980.771.11	EMPTY	PCB		

1.980.771.00 10P CONN. 60MM PCB ZT 95/02/22

⓪ 22.02.95 / ZT				
	A980			PAGE 1 / 1
STUDER	10P CONN. 60MM PCB		SC	1.980.771.00

10-PIN CONNECTION BOARD, 40 mm 1.980.772.00

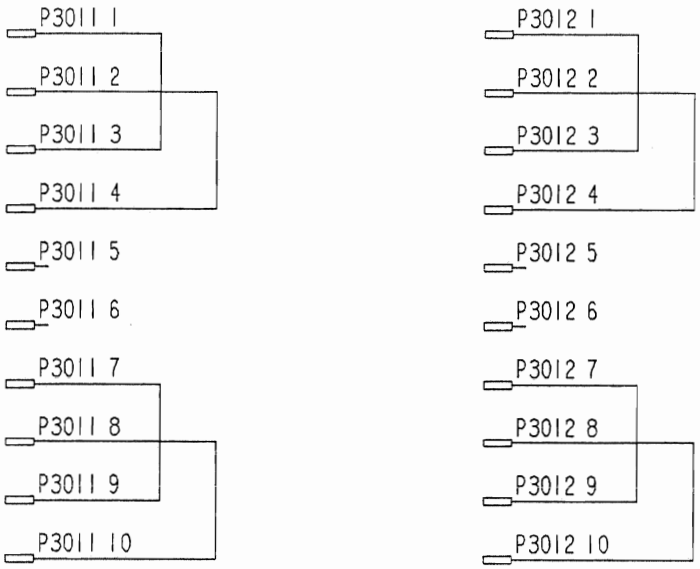


Ad	POS.	REF.No.	DESCRIPTION		MANUFACTURER
	P2011	54.14.5580	Micro-Match	10 Pin	Stecker gerade
	P2012	54.14.5580	Micro-Match	10 Pin	Stecker gerade
	MP201	1.980.772.11	EMPTY	PCB	

1.980.772.00 10P CONN. 40MM PCB ZT 95/02/22

0 22.02.95 / ZT	A980		PAGE 1 / 1
STUDER	10P CONN. 40MM PCB	SC	1.980.772.00

AUX JUMPER CONNECTION BOARD, 2 x 26 PIN 1.980.773.00



Ad	..POS..	...REF.No...	DESCRIPTION		MANUFACTURER
	P3011	54.14.5586	Micro-Match	16 Pin	Stecker gerade
	P3012	54.14.5586	Micro-Match	16 Pin	Stecker gerade
	MP301	1.980.773.11	EMPTY	PCB	

1.980.773.00 AUX JUMP. CONN. 2x16 PCB ZT 95/02/22

⓪ 22.02.95 / ZT				
	A980			PAGE 1 / 1
STUDER	AUX JUMP. CONN. 2x16 PCB		SC	1.980.773.00

Schemata / Circuit Diagrams

Power Supply

Block diagrams, circuit diagrams, component layouts, and parts lists:

Power Supply 1.918.420

Mains Transformer 2 ..... 1.910.503.00

Change-Over Board 1.918.075.00

Ventilator 1.918.078.00

NTC-Sensor 1.918.079.00

LED Board 1.918.082.00

Rectifier/Capacitor 1.918.083.00

±15 V Stabilizer Board 1.918.084.00

Mains Selector Board 1.918.085.00

Power Amplifier Rectifier Board 1.918.086.00

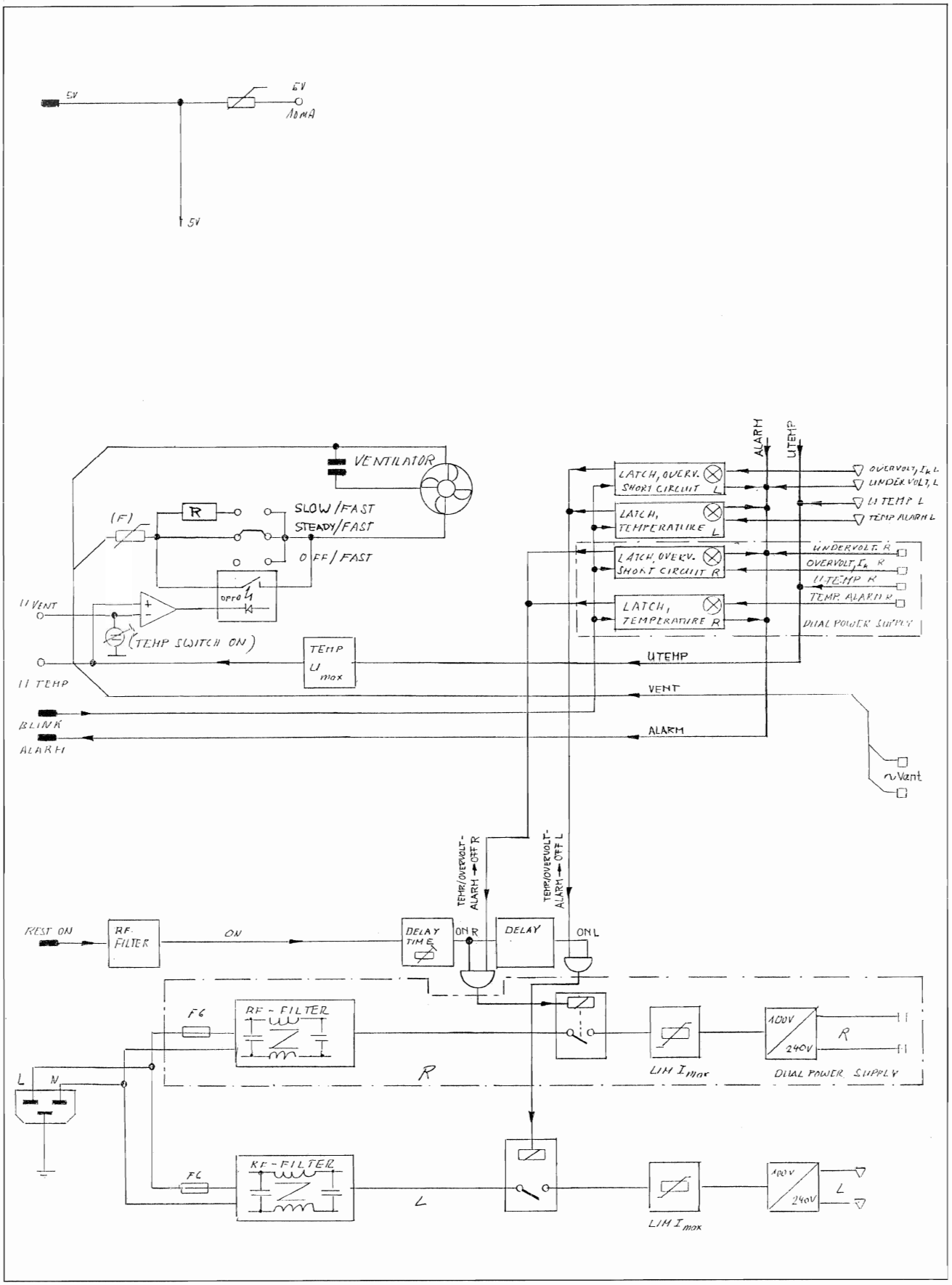
± Dual Stabilizer Rectifier Board 1.918.087.81

Phantom S.B. ±12 V Board 1.918.088.00

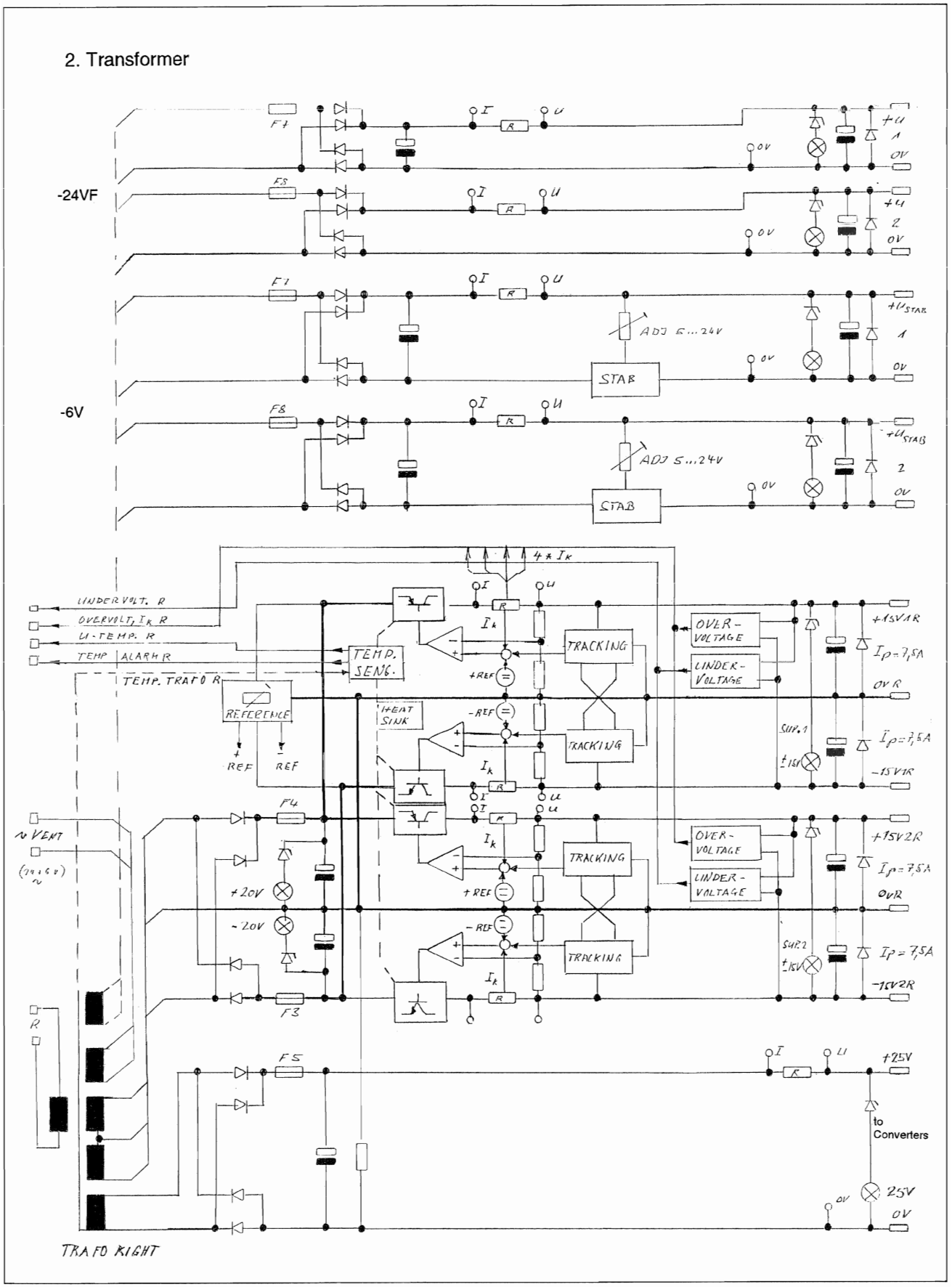
Feed-Through Board 1.918.089.00

Modification for Power Supply 1.918.420/101

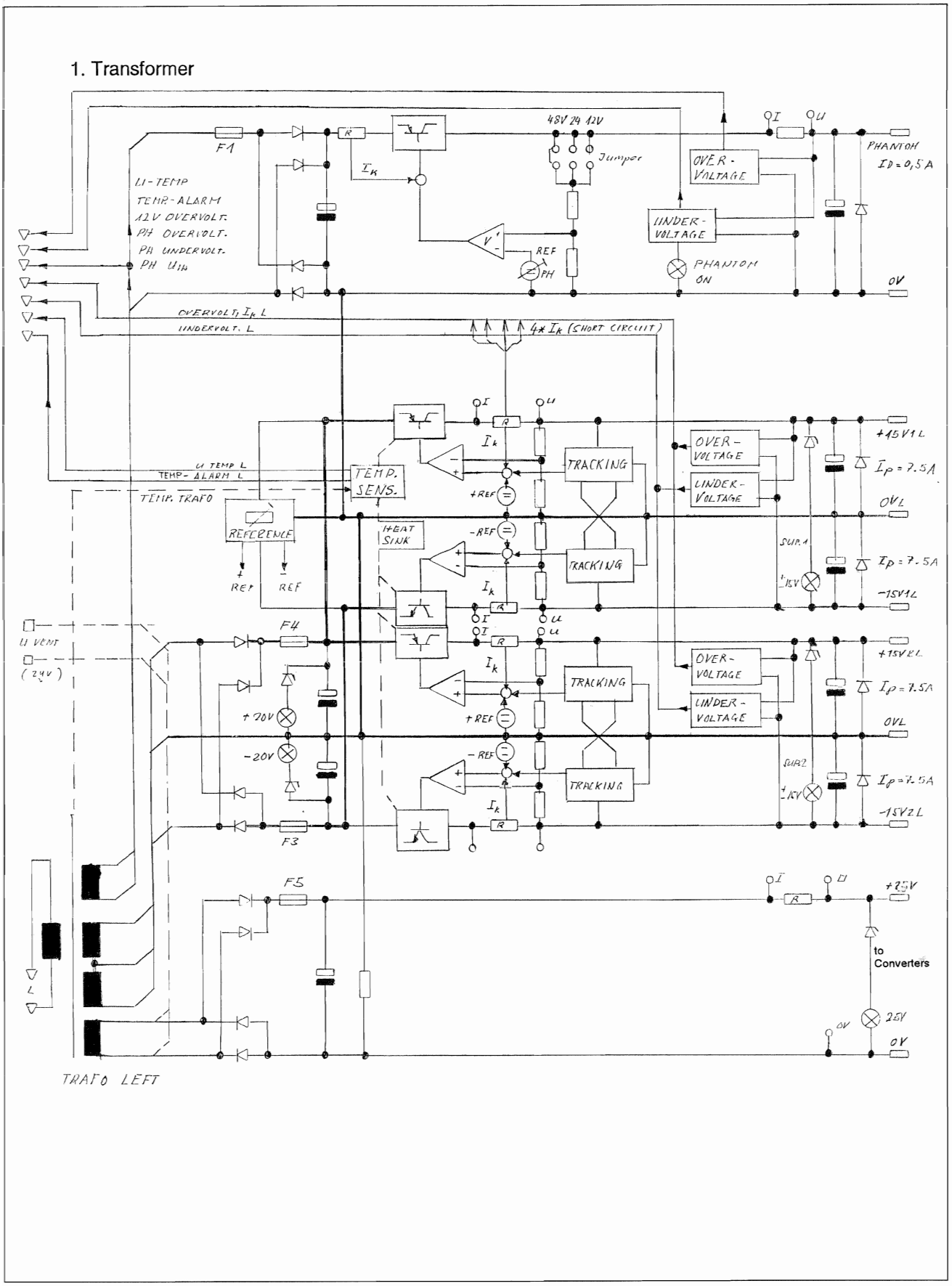
BLOCK DIAGRAM
POWER SUPPLY 1.918.420



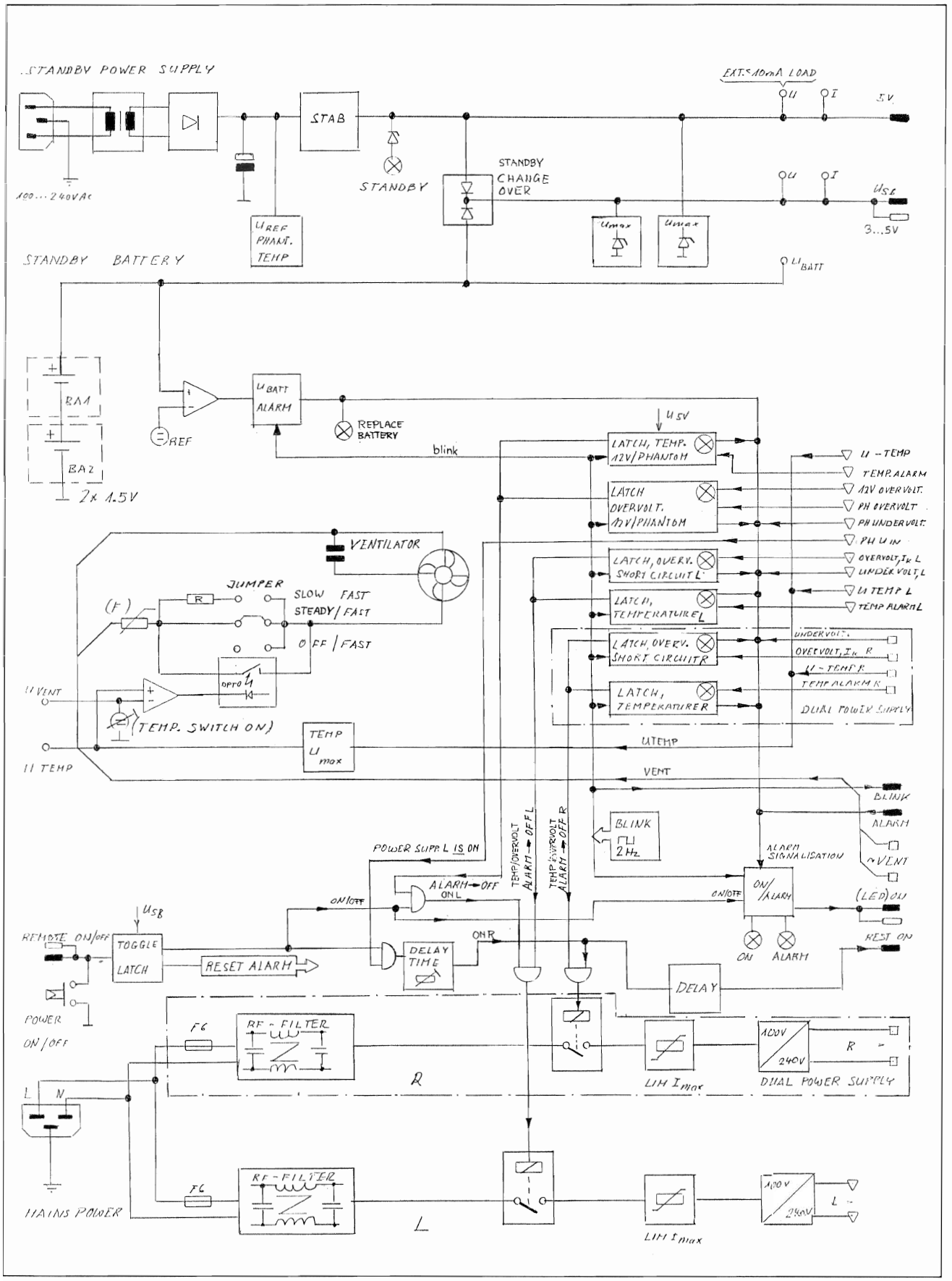
BLOCK DIAGRAM
POWER SUPPLY 1.918.420



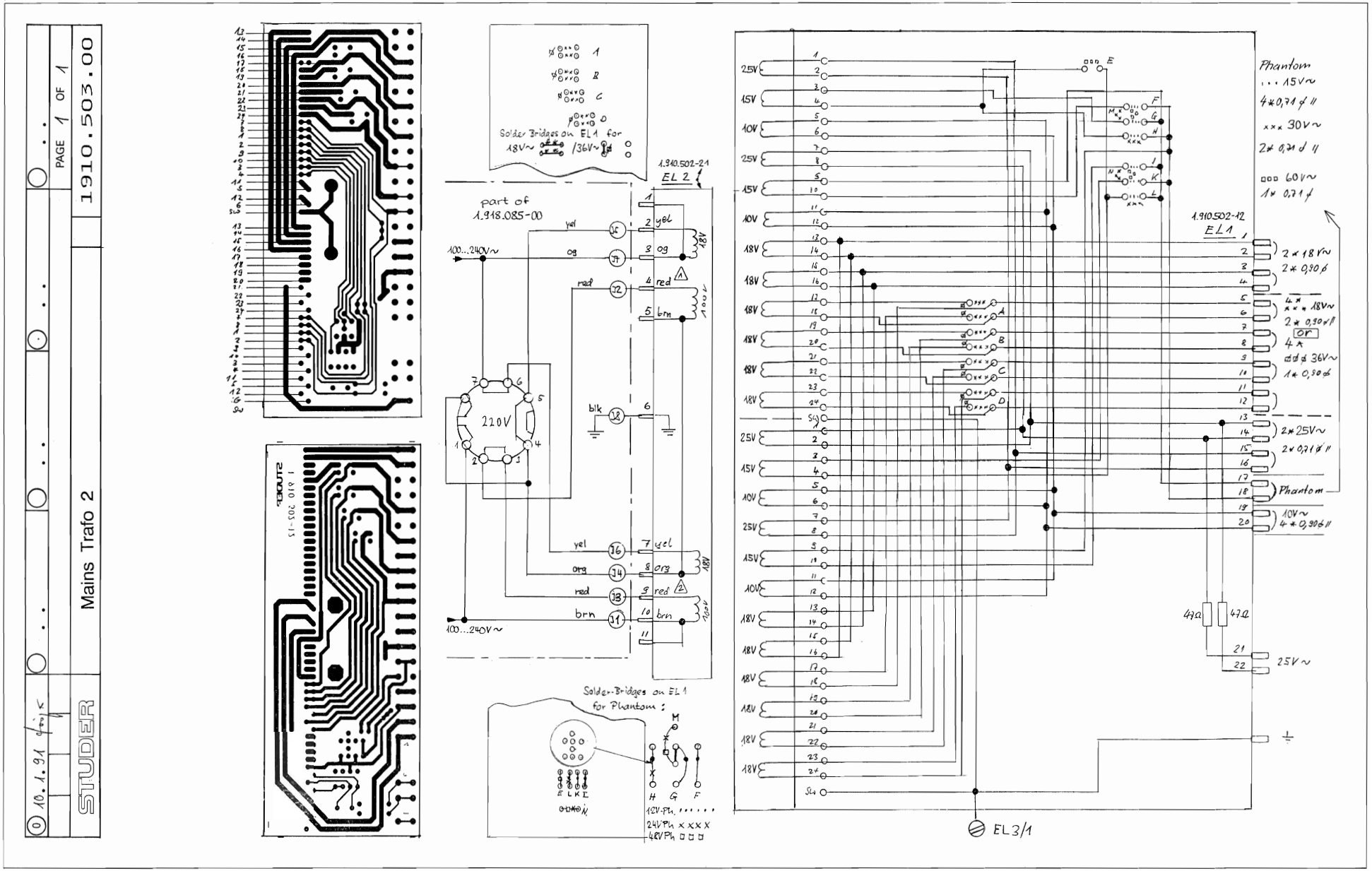
BLOCK DIAGRAM
POWER SUPPLY 1.918.420



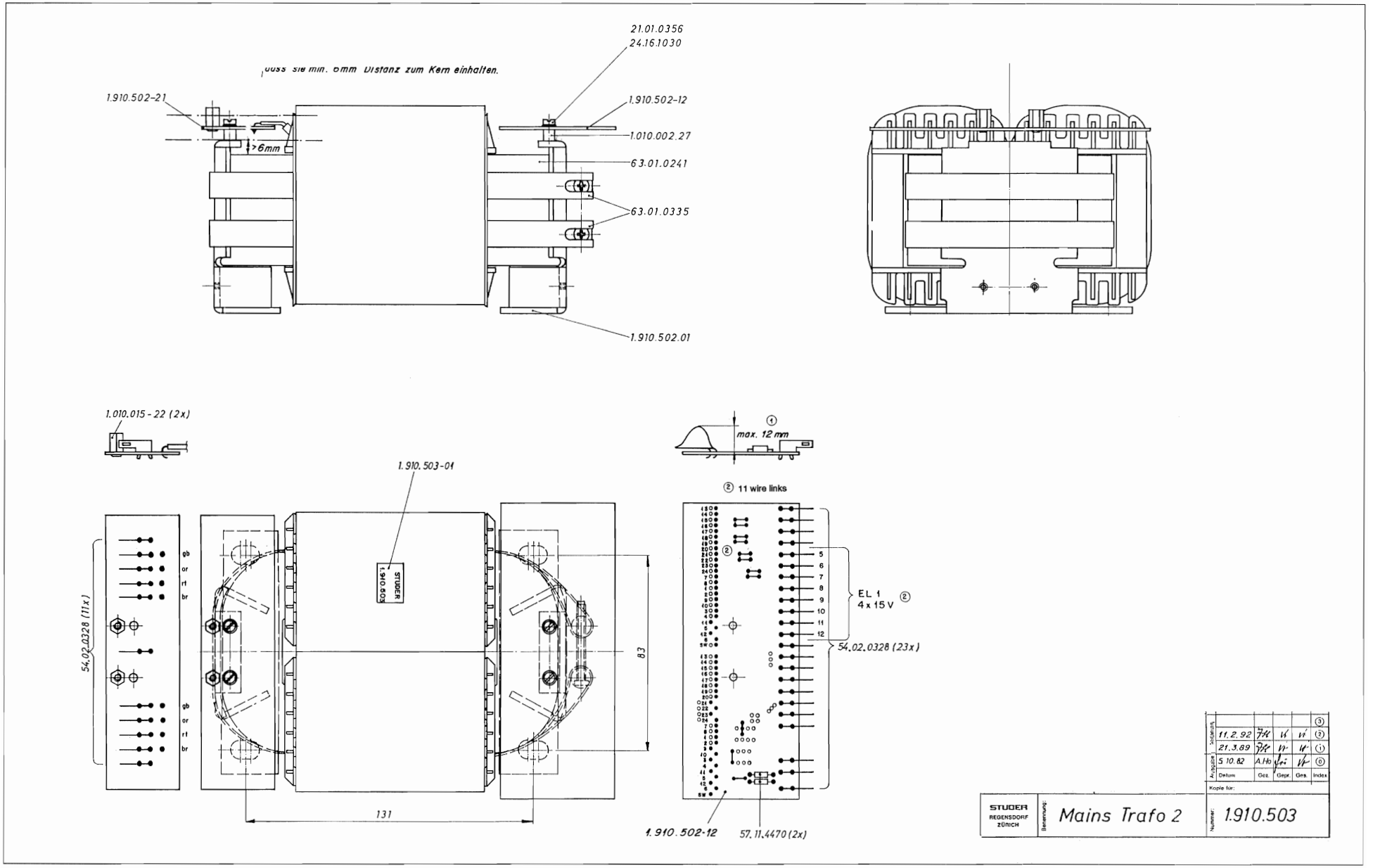
BLOCK DIAGRAM
POWER SUPPLY 1.918.420



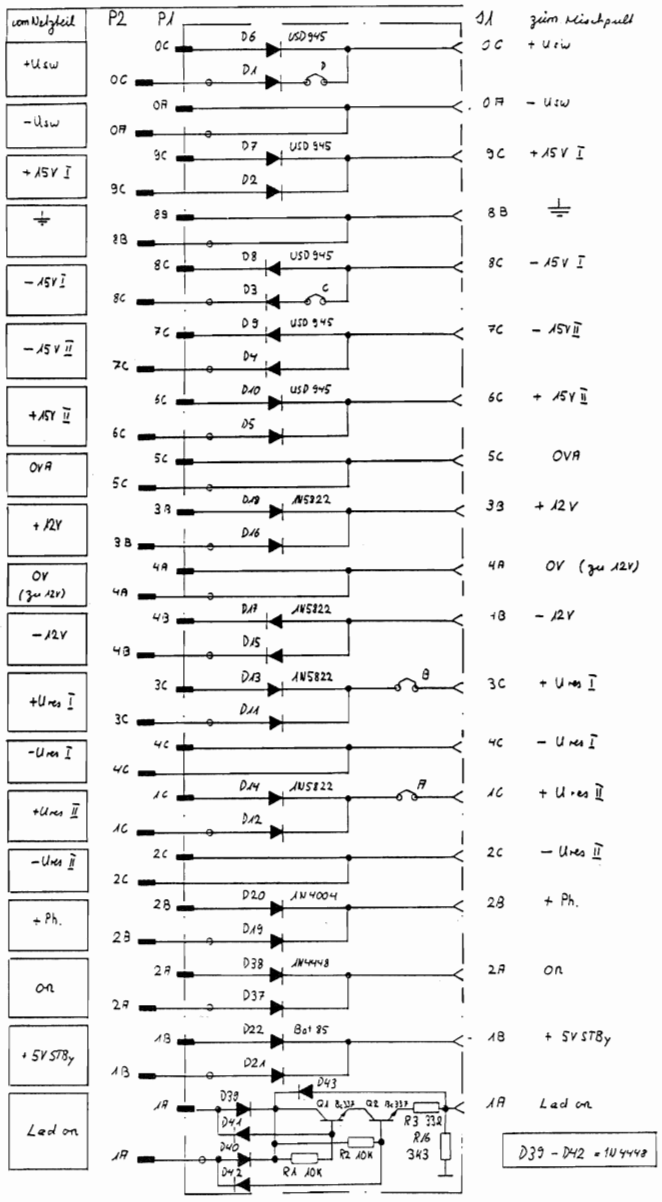
MAINS TRANSFORMER 2 1.910.503.00



MAINS TRANSFORMER 2 1.910.503.00

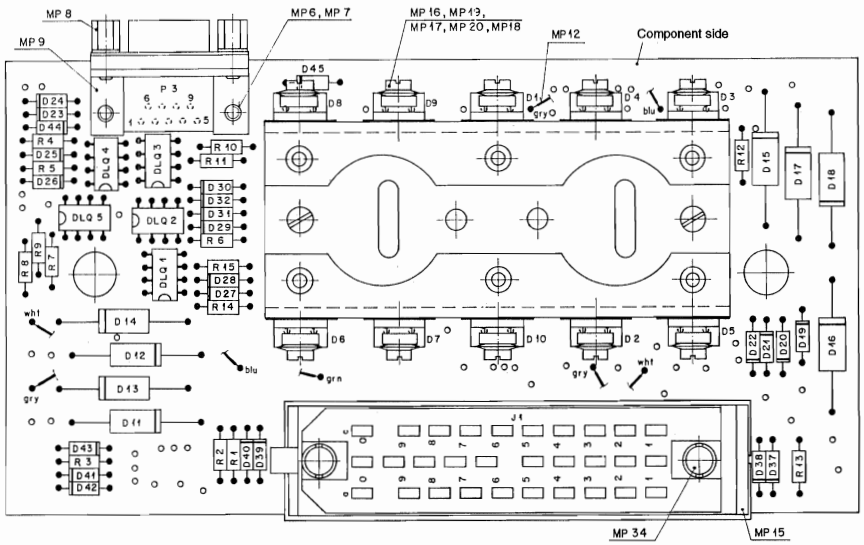


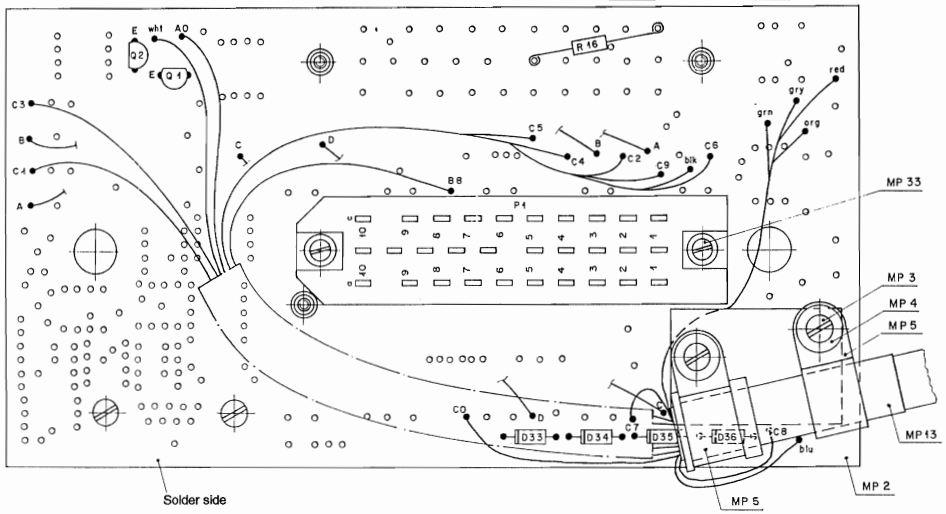
CHANGE-OVER BOARD 1.918.075.00

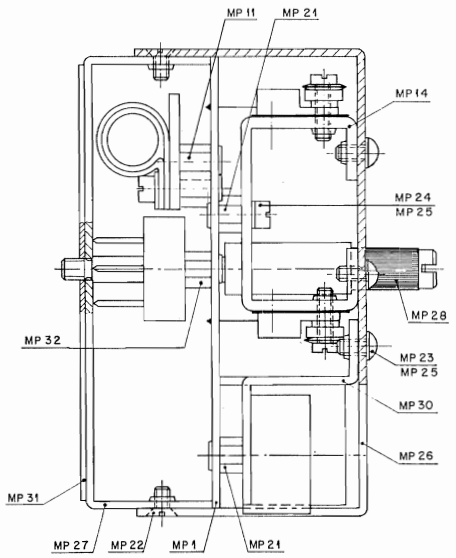


0 29.01.91 Emi				PAGE 1 OF 1
STUDER	CHANGE-OVER BOARD			1.918.075.00

CHANGE-OVER BOARD 1.918.075.00







Änderung					③ ② ①
Ausgabe	14.2.91				⑥
	Datum	Gez.	Gepr.	Ges.	Index
Kopie für:					

STUDER REGENSDORF ZÜRICH — Benennung: CHANGE-OVER BOARD — Nummer: 1.918.075-00

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
D	1	50.04.0516	USD 945	45V 16 A
D	2	50.04.0516	USD 945	45V 16 A
D	3	50.04.0516	USD 945	45V 16 A
D	4	50.04.0516	USD 945	45V 16 A
D	5	50.04.0516	USD 945	45V 16 A
D	6	50.04.0516	USD 945	45V 16 A
D	7	50.04.0516	USD 945	45V 16 A
D	8	50.04.0516	USD 945	45V 16 A
D	9	50.04.0516	USD 945	45V 16 A
D	10	50.04.0516	USD 945	45V 16 A
D	11	50.04.0519	1N5822	30V 3 A schottky
D	12	50.04.0519	1N5822	30V 3 A schottky
D	13	50.04.0519	1N5822	30V 3 A schottky
D	14	50.04.0519	1N5822	30V 3 A schottky
D	15	50.04.0519	1N5822	30V 3 A schottky
D	16	50.04.0519	1N5822	30V 3 A schottky
D	17	50.04.0519	1N5822	30V 3 A schottky
D	18	50.04.0519	1N5822	30V 3 A schottky
D	19	50.04.0105	1N4004	400V 1 A
D	20	50.04.0105	1N4004	400V 1 A
D	21	50.04.0127	BAT 85	
D	22	50.04.0127	BAT 85	
D	23	. . 0	not used	
D	24	. . 0	not used	
D	25	. . 0	not used	
D	26	. . 0	not used	
D	27	. . 0	not used	
D	28	. . 0	not used	
D	29	. . 0	not used	
D	30	. . 0	not used	

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
D	31	. . 0	not used	
D	32	. . 0	not used	
D	33	. . 0	not used	
D	34	. . 0	not used	
D	35	. . 0	not used	
D	36	. . 0	not used	
D	37	50.04.0125	1N4448 (darf nicht bat 85 sein)	
D	38	50.04.0125	1N4448 (darf nicht bat 85 sein)	
D	39	50.04.0125	1N4448 75V 100mA	
D	40	50.04.0125	1N4448 75V 100mA	
D	41	50.04.0125	1N4448 75V 100mA	
D	42	50.04.0125	1N4448 75V 100mA	
D	43	50.04.0125	1N4448 75V 100mA	
D	44	. . 0	not used	
D	45	. . 0	not used	
DLQ	1	. . 0	not used DLQ1 - DLQ5 not used	
MP	1	1.918.075.11	1 pcs CHANGE OVER PCB	STUDER
MP	2	1.918.075.05	1 pcs Halteblech (Platte Zugentlastung)	STUDER
MP	3	21.53.0356	2 pcs Z-Schraube M3*10	
MP	4	23.01.1032	2 pcs U scheibe	
MP	5	35.05.0315	2 pcs Kabelbriede D 11.1	
MP	6	. .	0 pcs Schraube M3*8	
MP	7	. .	0 pcs Rippenscheibe	
MP	8	. .	0 pcs Sechskantbolzen	
MP	9	. .	0 pcs Befestigung 9 Pol Stecker	STUDER
MP	11	1.010.017.22	2 pcs Loetnietmutter 6mm (Zugentlastung)	
MP	12	1.918.075.93	1 pcs Litzen Liste CHANGE OVER BOARD	
MP	13	1.918.076.00	1 pcs CHANGE OVER CABLE	STUDER
MP	14	1.915.106.03	1 pcs Kuehlbuegel	STUDER
MP	15	54.14.7002	1 pcs Riegelwanne zu Buchsenleiste	
MP	16	21.53.0356	10 pcs Z-Schraube M3*10 (diode mon)	
MP	17	1.010.098.27	10 pcs Distanshuelse (" ")	
MP	18	50.20.0305	10 pcs Glimmerscheibe (" ")	
MP	19	37.01.0101	20 pcs Tellerfeder (" ")	
MP	20	50.20.0404	10 pcs Durchfuerung (" ")	
MP	21	1.010.014.22	4 pcs Loetnietmutter 4.5mm	
MP	22	1.010.045.21	4 pcs S-Schr IS sw M 3*6	
MP	23	1.010.025.21	6 pcs Linsenschraube M 3*6	
MP	24	21.53.0354	2 pcs Schraube M3*6 (Kuelbuegel)	
MP	25	24.16.1030	8 pcs Rippenscheibe (Kuelbuegel) D 3.2/5.5	
MP	26	1.918.075.01	1 pcs Abdeckung	STUDER
MP	27	1.918.075.02	1 pcs Chassis	STUDER
MP	28	1.918.075.03	2 pcs Befestigungsschraube	STUDER
MP	29	1.918.075.04	0 pcs Studer-Nr.-Etikette 10*20	STUDER
MP	30	1.918.075.06	1 pcs Blende	STUDER
MP	31	1.918.075.07	1 pcs Unterlage	STUDER
MP	32	1.010.016.22	2 pcs Loetnietmutter 5mm	
MP	33	54.14.7020	2 pcs Pass Stift	
MP	34	54.14.7023	2 pcs Pass Buchse	
J	1	54.14.1032	1 pcs 30 pol Stecker Buchsenleiste Print	
P	1	54.14.1022	1 pcs 30 pol Stecker Messerleiste Print	
P	2	. .	30 pol Stecker 1.918.076.00	
P	3	. . 0	not used (9 pol Stecker M)	
Q	1	50.03.0340	BC337 npn standard	
Q	2	50.03.0340	BC337 npn standard	
R	1	57.11.3103	10 kOhm 1% 0.25W MF	
R	2	57.11.3103	10 kOhm 1% 0.25W MF	
R	3	57.11.3330	33 Ohm 1% 0.25W MF	
R	4	. . 0	not used R4 - R15 not used	
R	16	57.11.3332	3.3kOhm 1% 0.25W MF	

Mit Spannungsueberwachung bitte #918075i ausdrucken.

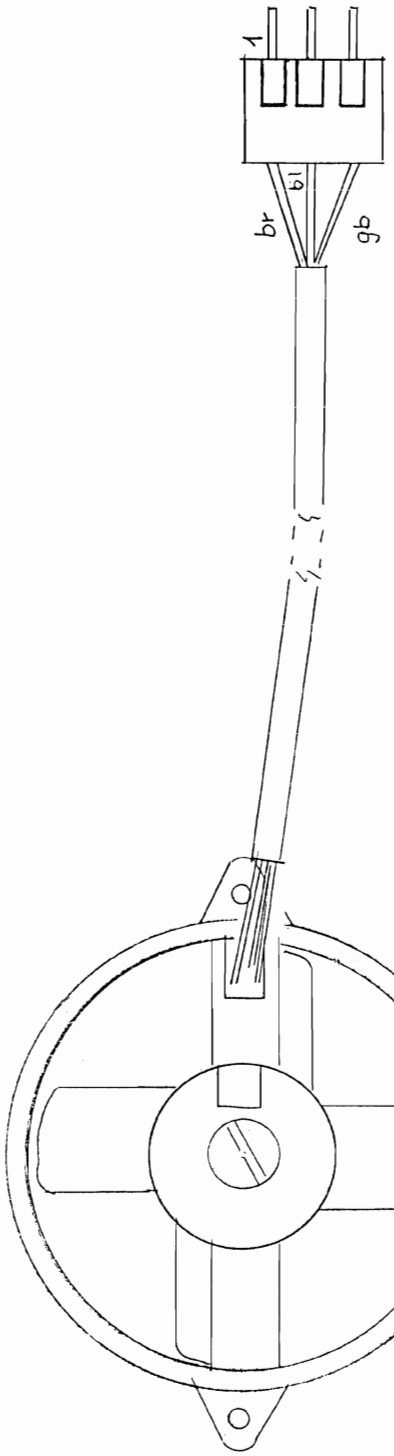
CER=Ceramic, MF =Metal Film, EL =Elektrolyt, PE =Polyesterfolien

MANUFACTURER :

Fe =Ferranti
NE =Nippon Electronic Corp.
NS =National Semiconductors
Ra =Raytheon
Six=Siliconix
Tho=Thomson
Ti =Texas Instrument

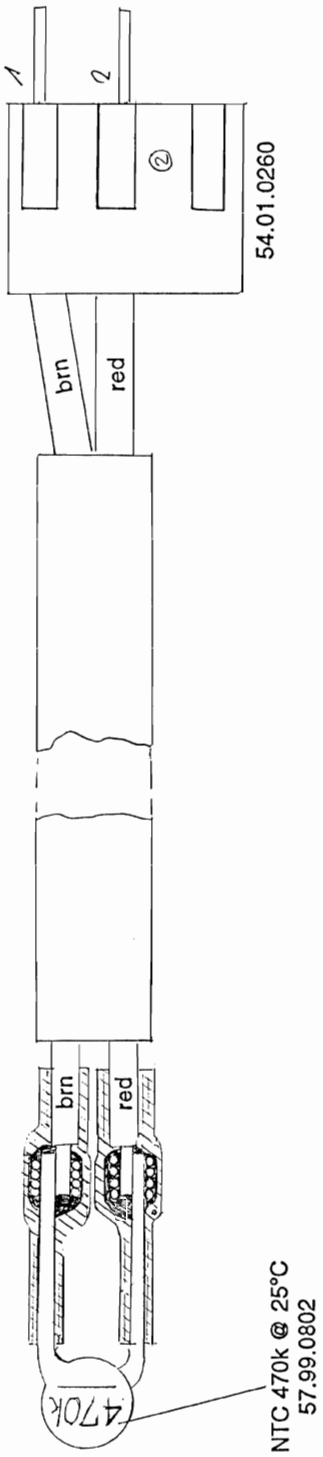
1.918.075.00 CHANGE-OVER BOARD SE 90/12/0400

VENTILATOR 1.918.078.00



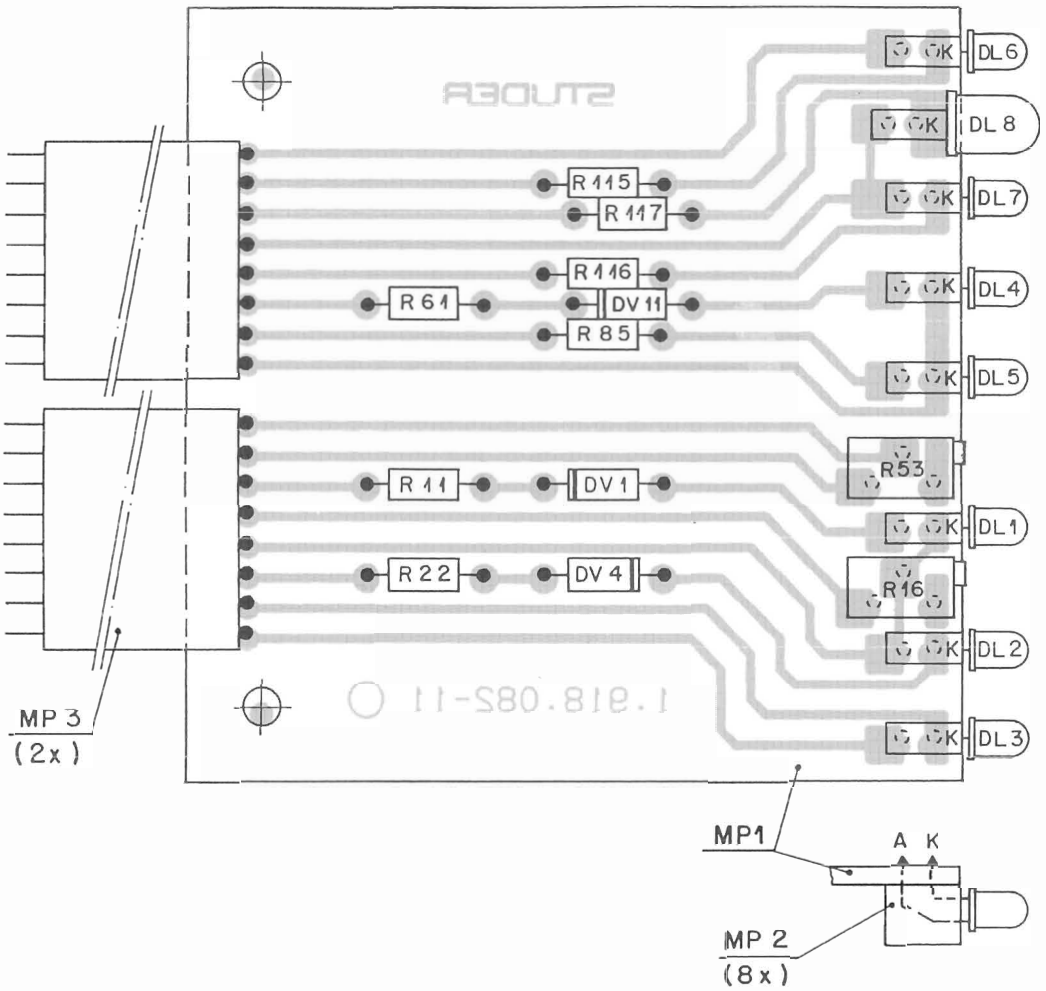
⓪ 9.1.90 frie.	① 15.11.90 ab	. .	. .	. .
				PAGE 1 OF 1
STUDER	VENTILATOR			1.918.078.00

NTC-SENSOR 1.918.079.00



⓪ 13.12.89 fü	① 12.3.90 fü	② 15.11.90 ab	③ 23.09.91 fü	. .
				PAGE 1 OF 1
STUDER	NTC - SENSOR			1.918.079.00

LED BOARD 1.918.082.00



Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
DL....1	50.04.2130	LY3360	LED 3.18mm gb	Sie
DL....2	50.04.2130	LY3360	LED 3.18mm gb	Sie
DL....3	50.04.2129	LS3360	LED 3.18mm rt	Sie
DL....4	50.04.2130	LY3360	LED 3.18mm gb	Sie
DL....5	50.04.2130	LY3360	LED 3.18mm gb	Sie
DL....6	50.04.2129	LS3360	LED 3.18mm rt	Sie
DL....7	50.04.2129	LS3360	LED 3.18mm rt	Sie
DL....8	50.04.2111	MV5753	rt/diff 5.8mm	GI
DV....1	50.04.1103	Z 7.5V	500 mW	any
DV....4	50.04.1103	Z 7.5V	500 mW	any
DV...11	50.04.1106	Z 2.7V	500 mW	any
R....11	57.11.3821	820 Ohm		
R....16	58.05.0501	500 Ohm	22-turn Trim. +/- 12V	
R....22	57.11.3821	820 Ohm		
R....53	58.05.0501	500 Ohm	22-turn Trim. Phantom	
R....61	57.11.3151	150 Ohm		
R....85	57.11.3471	470 Ohm		
R...115	57.11.3102	1 kOhm		
R...116	57.11.3102	1 kOhm		
R...117	57.11.3102	1 kOhm		
MP....1	1.918.082.11	1 pcs	LED Board PCB	St
MP....2	1.010.012.50	8 pcs	Led Holder	St
MP....3	64.03.0502	2 pcs	Flat Cable	

GI = Generel Instruments, SIE = Siemens, St=Studer

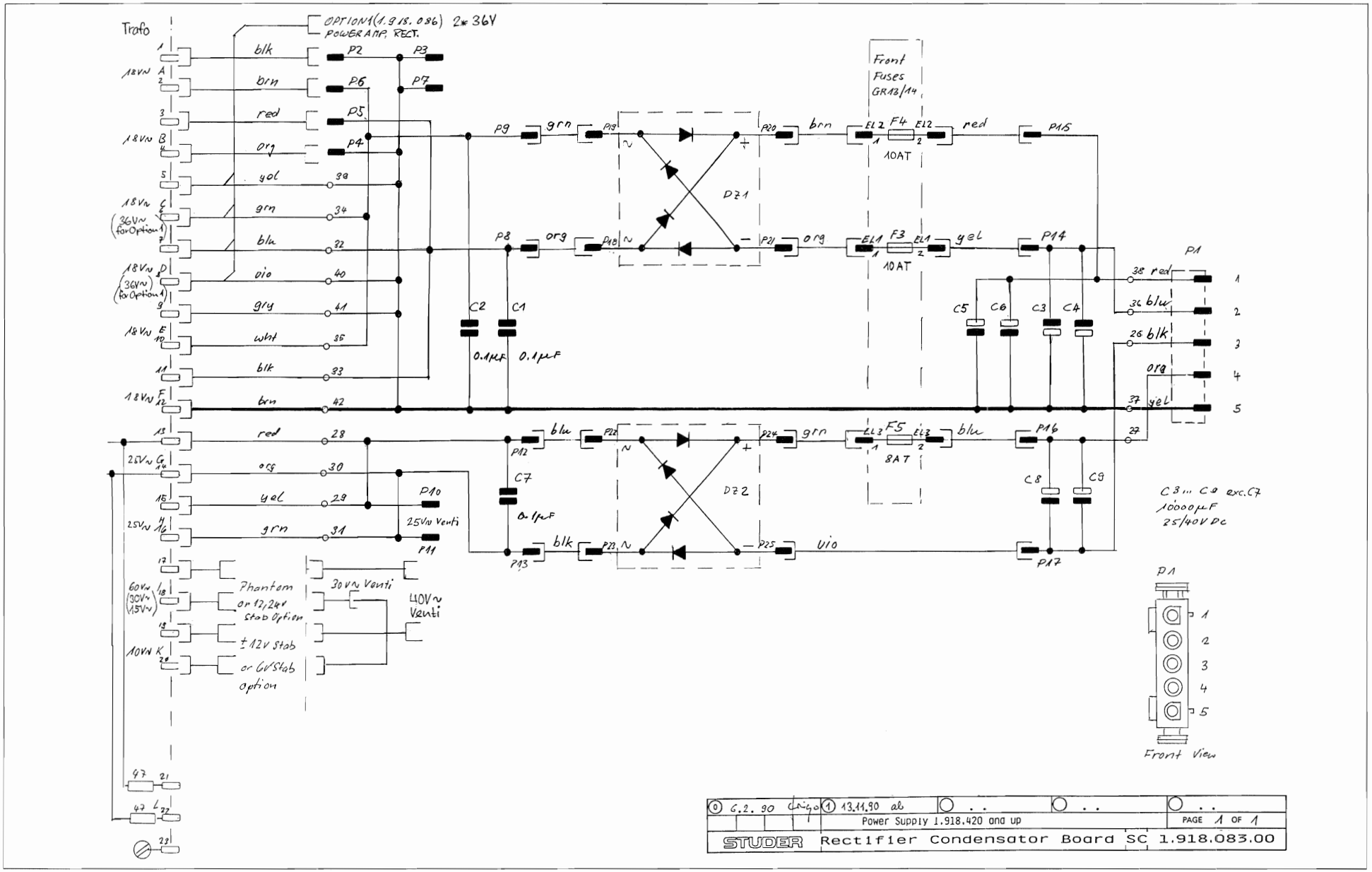
1.918.082.00 LED BOARD FRI89/10/2400

Änderung					
					(3)
					(2)
					(1)
Ausgabe	17.4.90				(0)
	Datum	Gez	Gepr	Ges	Index

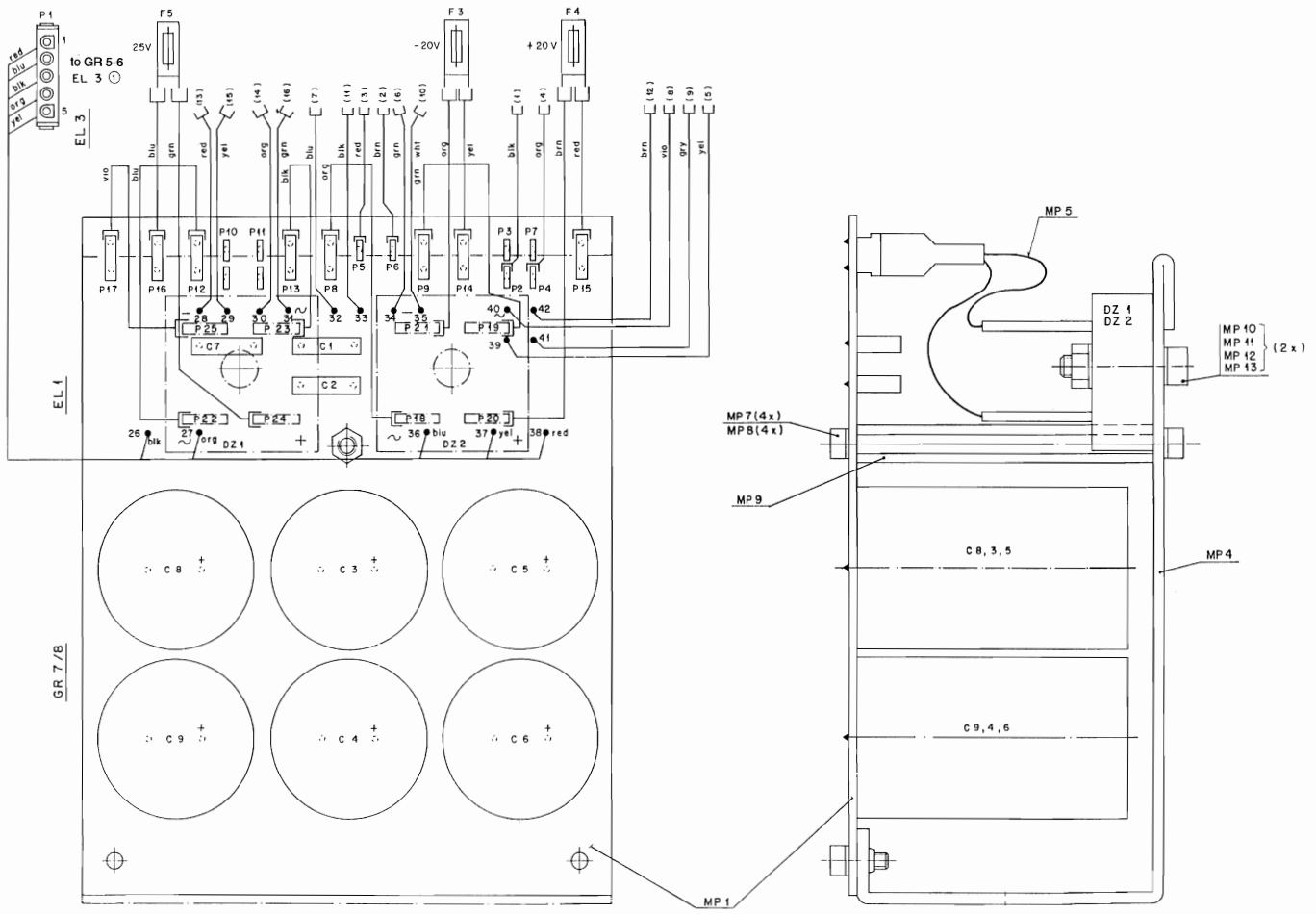
Ausgabe für

STUDER REGENSDORF | Benennung: LED BOARD | Nummer: 1.918.082-00

RECTIFIER / CAPACITOR 1.918.083.00



RECTIFIER / CAPACITOR 1.918.083.00



Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	C.....1	59.31.6104	100 nF PE	
	C.....2	59.31.6104	100 nF PE	
	C.....3	59.29.4103	0.01 F 35V EL	Sie
	C.....4	59.29.4103	0.01 F 35V EL	Sie
	C.....5	59.29.4103	0.01 F 35V EL	Sie
	C.....6	59.29.4103	0.01 F 35V EL	Sie
	C.....7	59.31.6104	100 nF PE	
	C.....8	59.29.4103	0.01 F 35V EL	Sie
	C.....9	59.29.4103	0.01 F 35V EL	Sie
	DZ....1	70.01.0232	200V 35A	
	DZ....2	70.01.0232	200V 35A	
	MP....1	1.918.083.11	1 pcs Condensator PCB	St
	MP....2	1.918.083.04	1 pcs Nr-Etikette	
	MP....3	. . 0	not used	
	MP....4	1.918.083.01	1 pcs Kuehlkoerper	St
	MP....5	1.918.083.93	1 pcs Li-LiCondensator Board	St
	MP....6	. . 0	not used	
	MP....7	21.53.0355	4 pcs Z-Schrauben M3*8	
	MP....8	24.16.1030	4 pcs Rippenscheibe M3	
	MP....9	1.010.220.27	1 pcs Mutterbolzen 6-kt M3*56mm	St
	MP...10	21.53.0460	2 pcs Z-Schrauben M4*20	
	MP...11	24.16.1040	2 pcs Rippenscheibe M4	
	MP...12	23.01.1043	2 pcs U-Scheibe	
	MP...13	22.01.8040	2 pcs Sechskantmutter M4 0.8d	
	P.....1	. . 0	not used is Part of LL 1.918.083.93	
	P.....2	54.02.0320	Faston connector 2.8mm	
	P.....3	54.02.0320	Faston connector 2.8mm	
	P.....4	54.02.0320	Faston connector 2.8mm	
	P.....5	54.02.0320	Faston connector 2.8mm	
	P.....6	54.02.0320	Faston connector 2.8mm	
	P.....7	54.02.0320	Faston connector 2.8mm	
	P.....8	54.02.0335	Faston connector 6.3mm	
	P.....9	54.02.0335	Faston connector 6.3mm	
	P....10	54.02.0320	Faston connector 2.8mm	
	P....11	54.02.0320	Faston connector 2.8mm	
	P....12	54.02.0335	Faston connector 6.3mm	
	P....13	54.02.0335	Faston connector 6.3mm	
	P....14	54.02.0335	Faston connector 6.3mm	
	P....15	54.02.0335	Faston connector 6.3mm	
	P....16	54.02.0335	Faston connector 6.3mm	
	P....17	54.02.0335	Faston connector 6.3mm	
	P....18	. . 0	not used is Part of Power-Rectifier	
	P....19	. . 0	not used is Part of Power-Rectifier	
	P....20	. . 0	not used is Part of Power-Rectifier	
	P....21	. . 0	not used is Part of Power-Rectifier	
	P....22	. . 0	not used is Part of Power-Rectifier	
	P....23	. . 0	not used is Part of Power-Rectifier	
	P....24	. . 0	not used is Part of Power-Rectifier	
	P....25	. . 0	not used is Part of Power-Rectifier	

EL=Electrolytic, PE=Polyester

MANUFACTURER: GI=General Instruments, PH=Philips, NS=National Semicond
Sie=Siemens, ST=Studer, TI=Texas Instrument, Ya=Yamaichi

1.918.083.00 RECTIFIER CONDENSATOR BOARD AB 90/11/1300

Änderung	Datum	Gez.	Gepr.	Gen.	Index
					③
					②
	3.5.91				①
Ausgabe	17.4.90				⓪

PL,LL,BV640 ①

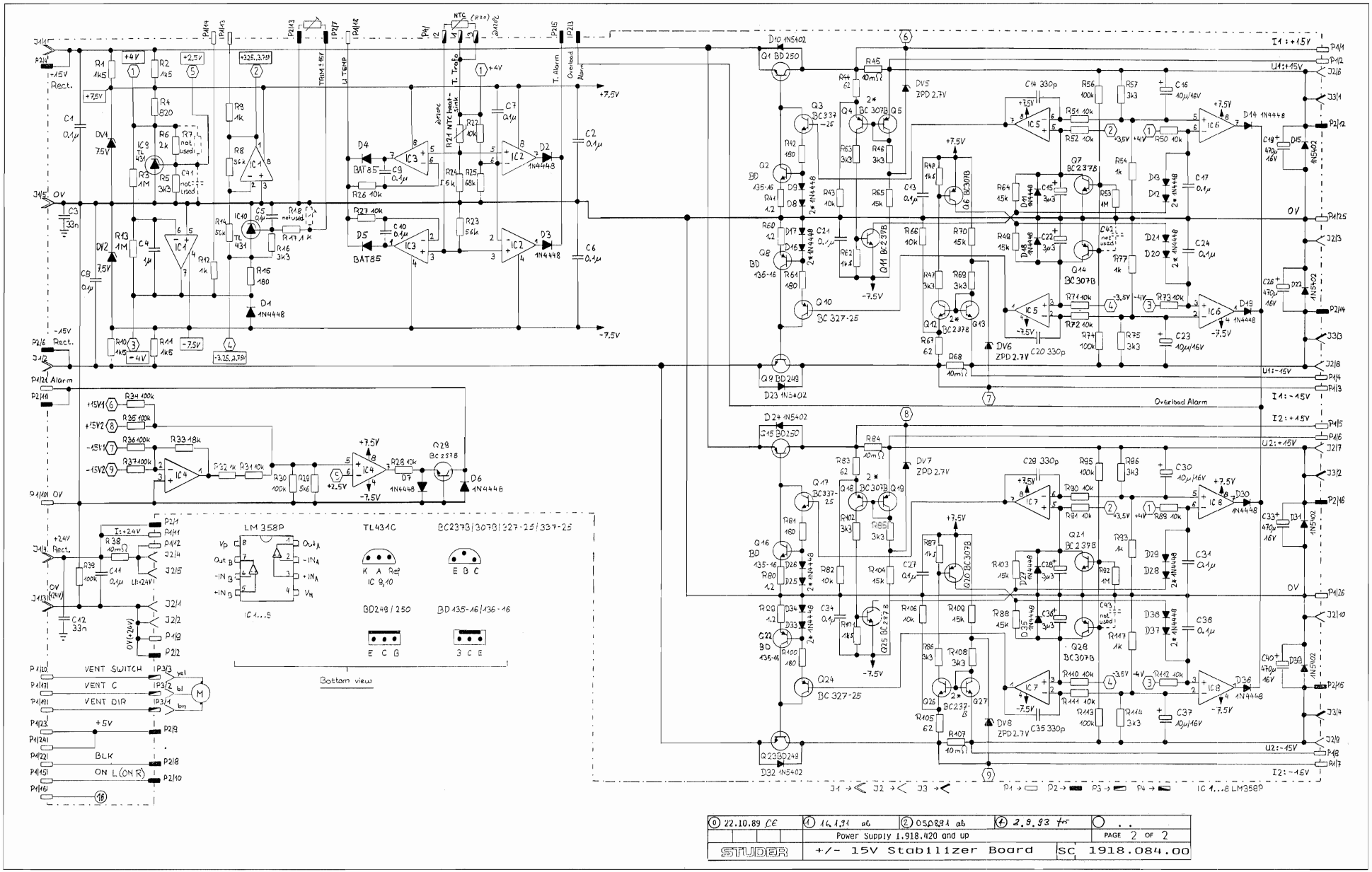
Kopie für

STUDER REGENSDORF ZÜRICH

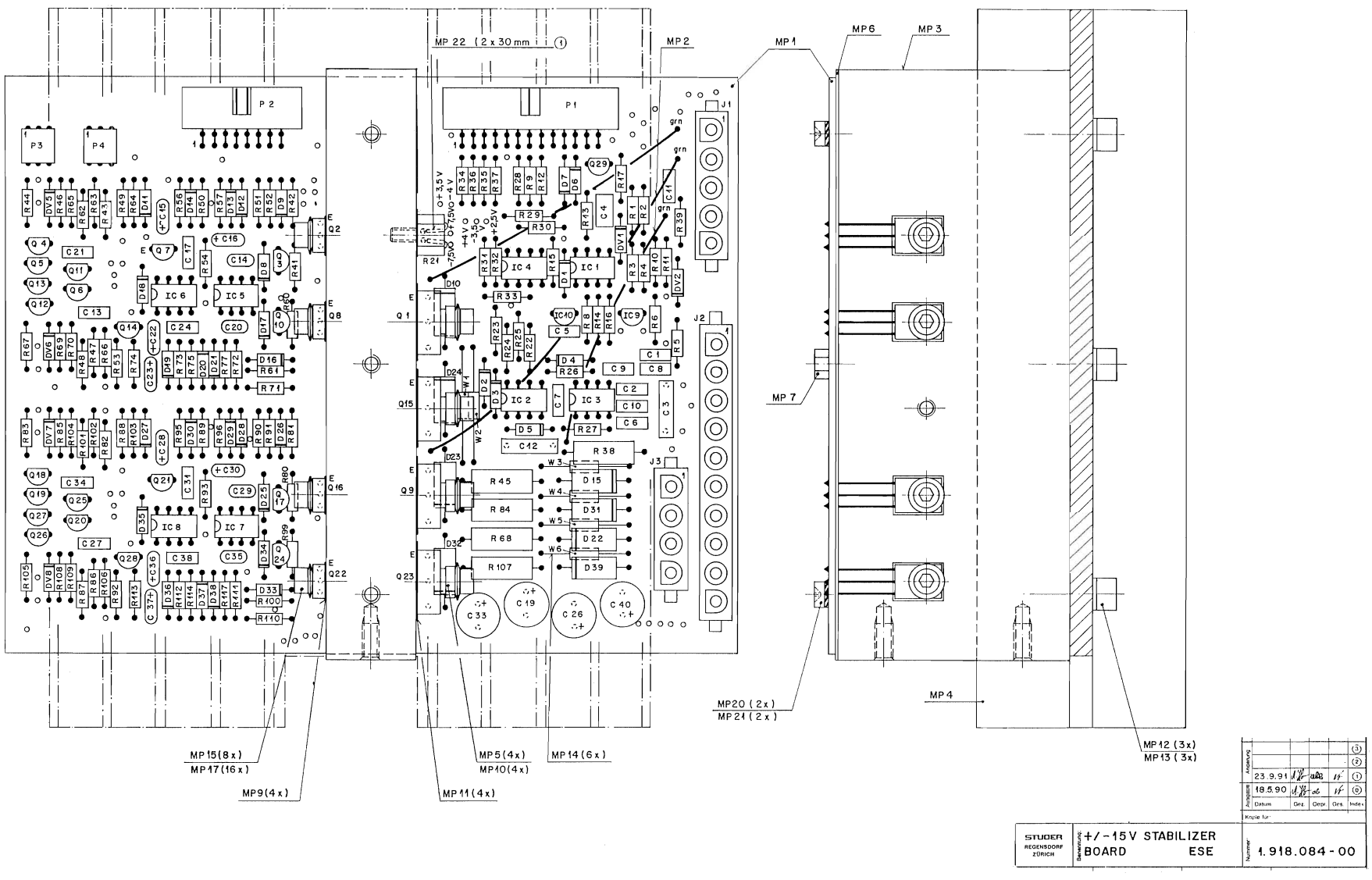
Benennung: RECTIFIER / CONDENSATOR BOARD

Nummer: 1.918.083-00

±15V STABILIZER BOARD 1.918.084.00



±15V STABILIZER BOARD 1.918.084.00



±15V STABILIZER BOARD 1.918.084.00

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	C.....1	59.06.0104	100 nF PE	
	C.....2	59.06.0104	100 nF PE	
	C.....3	59.31.8333	33 nF 400V PE	
	C.....4	59.06.0105	1 uF PE	
	C.....5	59.06.0104	100 nF PE	
	C.....6	59.06.0104	100 nF PE	
	C.....7	59.06.0104	100 nF PE	
	C.....8	59.06.0104	100 nF PE	
	C.....9	59.06.0104	100 nF PE	
	C....10	59.06.0104	100 nF PE	
	C....11	59.06.0104	100 nF PE	
	C....12	59.31.8333	33 nF 400V PE	
	C....13	59.06.0104	100 nF PE	
	C....14	59.34.4331	330 pF CER	
	C....15	59.26.2339	3.3uF 16V SAL	
	C....16	59.26.2100	10 uF 16V SAL	
	C....17	59.06.0104	100 nF PE	
	C....18	. . 0	not used	
	C....19	59.22.4471	470 uF 16V EL	
	C....20	59.34.4331	330 pF CER	
	C....21	59.06.0104	100 nF PE	
	C....22	59.26.2339	3.3uF 16V SAL	
	C....23	59.26.2100	10 uF 16V SAL	
	C....24	59.06.0104	100 nF PE	
	C....25	. . 0	not used	
	C....26	59.22.4471	470 uF 16V EL	
	C....27	59.06.0104	100 nF PE	
	C....28	59.26.2339	3.3uF 16V SAL	
	C....29	59.34.4331	330 pF CER	
	C....30	59.26.2100	10 uF 16V SAL	
	C....31	59.06.0104	100 nF PE	
	C....32	. . 0	not used	
	C....33	59.22.4471	470 uF 16V EL	
	C....34	59.06.0104	100 nF PE	
	C....35	59.34.4331	330 pF CER	
	C....36	59.26.2339	3.3uF 16V SAL	
	C....37	59.26.2100	10 uF 16V SAL	
	C....38	59.06.0104	100 nF PE	
	C....39	. . 0	not used	
	C....40	59.22.4471	470 uF 16V EL	
	D.....1	50.04.0125	1N 4448 Si Diode	any
	D.....2	50.04.0125	1N 4448 Si Diode	any
	D.....3	50.04.0125	1N 4448 Si Diode	any
	D.....4	50.04.0127	BAT 85 Schottky Diode	any
	D.....5	50.04.0127	BAT 85 Schottky Diode	any
	D.....6	50.04.0125	1N 4448 Si Diode	any
	D.....7	50.04.0125	1N 4448 Si Diode	any
	D.....8	50.04.0125	1N 4448 Si Diode	any
	D.....9	50.04.0125	1N 4448 Si Diode	any
	D....10	50.04.0507	1N 5402 Si Diode 3A	any
	D....11	50.04.0125	1N 4448 Si Diode	any
	D....12	50.04.0125	1N 4448 Si Diode	any
	D....13	50.04.0125	1N 4448 Si Diode	any
	D....14	50.04.0125	1N 4448 Si Diode	any
	D....15	50.04.0507	1N 5402 Si Diode 3A	any
	D....16	50.04.0125	1N 4448 Si Diode	any
	D....17	50.04.0125	1N 4448 Si Diode	any
	D....18	50.04.0125	1N 4448 Si Diode	any
	D....19	50.04.0125	1N 4448 Si Diode	any
	D....20	50.04.0125	1N 4448 Si Diode	any
	D....21	50.04.0125	1N 4448 Si Diode	any
	D....22	50.04.0507	1N 5402 Si Diode 3A	any
	D....23	50.04.0507	1N 5402 Si Diode 3A	any
	D....24	50.04.0507	1N 5402 Si Diode 3A	any
	D....25	50.04.0125	1N 4448 Si Diode	any
	D....26	50.04.0125	1N 4448 Si Diode	any
	D....27	50.04.0125	1N 4448 Si Diode	any
	D....28	50.04.0125	1N 4448 Si Diode	any
	D....29	50.04.0125	1N 4448 Si Diode	any
	D....30	50.04.0125	1N 4448 Si Diode	any
	D....31	50.04.0507	1N 5402 Si Diode 3A	any
	D....32	50.04.0507	1N 5402 Si Diode 3A	any
	D....33	50.04.0125	1N 4448 Si Diode	any
	D....34	50.04.0125	1N 4448 Si Diode	any
	D....35	50.04.0125	1N 4448 Si Diode	any
	D....36	50.04.0125	1N 4448 Si Diode	any
	D....37	50.04.0125	1N 4448 Si Diode	any
	D....38	50.04.0125	1N 4448 Si Diode	any
	D....39	50.04.0507	1N 5402 Si Diode 3A	any
	DV....1	50.04.1503	ZPD 7.5V Si Z-Diode 1.3W	any
	DV....2	50.04.1503	ZPD 7.5V Si Z-Diode 1.3W	any
	DV....3	. . 0	not used	
	DV....4	. . 0	not used	
	DV....5	50.04.1106	ZPD 2.7V Si Z-Diode 0.5W	any
	DV....6	50.04.1106	ZPD 2.7V Si Z-Diode 0.5W	any
	DV....7	50.04.1106	ZPD 2.7V SI Z-Diode 0.5W	any
	DV....8	50.04.1106	ZPD 2.7V Si Z-Diode 0.5W	any
	IC....1	50.05.0286	LM 358P Dual Op.Amp.	TI
	IC....2	50.05.0286	LM 358P Dual Op.Amp.	TI
	IC....3	50.05.0286	LM 358P Dual Op.Amp.	TI
	IC....4	50.05.0286	LM 358P Dual Op.Amp.	TI
	IC....5	50.05.0286	LM 358P Dual Op.Amp.	TI
	IC....6	50.05.0286	LM 358P Dual Op.Amp.	TI
	IC....7	50.05.0286	LM 358P Dual Op.Amp.	TI
	IC....8	50.05.0286	LM 358P Dual Op.Amp.	TI
	IC....9	50.10.0106	TL 431C Shunt-Regulator	TI
	IC...10	50.10.0106	TL 431C Shunt-Regulator	TI

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	J.....1	54.25.0005	5PIN Power-Connector	
	J.....2	54.25.0010	10PIN Power-Connector	
	J.....3	54.25.0004	4PIN Power-Connector	
	MP....1	1.918.084.11	1 pcs Print	St
	MP....2	1.918.084.93	1 pcs Litzenliste	St
	MP....3	1.918.084.01	1 pcs Kuehlprofiltraeger	St
	MP....4	1.918.084.02	1 pcs Kuehlprofil	St
	MP....5	1.010.098.27	4 pcs Distanzhuelse	St
	MP....6	1.918.084.03	1 pcs Isolierunterlage	St
	MP....7	1.010.013.22	1 pcs Nietmuttern M3*3mm	St
	MP....8	43.01.0108	1 pcs ESE Warnschild	
	MP....9	50.20.0317	4 pcs Glimmer TO 218	
	MP...10	50.20.0404	4 pcs Durchfuehrung	
	MP...11	50.20.0310	4 pcs Glimmer TO 126	
	MP...12	21.53.0456	3 pcs Schrauben M4*10mm Z	
	MP...13	24.16.1040	3 pcs Rippenscheiben M4	
	MP...14	57.11.3000	6 pcs 0 Ohm Drahtbruecken W1...W6	
	MP...15	21.53.0355	8 pcs Schrauben M3*8mm Z	
02	MP...15	21.53.0356	8 pcs Schrauben M3*10mm Z	
	MP...16	. . 0	not used	
	MP...17	37.01.0101	16 pcs Federscheiben M3	
03	MP...18	. . 0	not used	
03	MP...19	. . 0	not used	
	MP...20	21.38.0355	2 pcs Schrauben M3*8mm A2 Z	
	MP...21	24.16.2030	2 pcs Faecherscheibe A d 3,2	
03	MP...22	65.99.0111	2 * 30 mm PTFE-Schlauch Spez. 0.89 * 0.152 mm.	
	P.....1	54.14.2074	26PIN PCB Flat-cabel connector	Ya
	P.....2	54.14.2072	16PIN PCB Flat-cabel connector	Ya
	P.....3	54.01.0249	3PIN CIS Connector	
	P.....4	54.01.0249	3PIN CIS Connector	
	Q.....1	50.03.0951	BD 250 PNP	TI
	Q.....2	50.03.0495	BD 135-16 NPN	Ph
	Q.....3	50.03.0340	BC 337-25 NPN	any
	Q.....4	50.03.0515	BC 307B PNP	any
	Q.....5	50.03.0515	BC 307B PNP	any
	Q.....6	50.03.0515	BC 307B PNP	any
	Q.....7	50.03.0436	BC 237B NPN	any
	Q.....8	50.03.0510	BD 136-16 PNP	Ph
	Q.....9	50.03.0901	BD 249 NPN	TI
	Q....10	50.03.0351	BC 327-25 PNP	any
	Q....11	50.03.0436	BC 237B NPN	any
	Q....12	50.03.0436	BC 237B NPN	any
	Q....13	50.03.0436	BC 237B NPN	any
	Q....14	50.03.0515	BC 307B PNP	any
	Q....15	50.03.0951	BD 250 PNP	TI
	Q....16	50.03.0495	BD 135-16 NPN	Ph
	Q....17	50.03.0340	BC 337-25 NPN	any
	Q....18	50.03.0515	BC 307B PNP	any
	Q....19	50.03.0515	BC 307B PNP	any
	Q....20	50.03.0515	BC 307B PNP	any
	Q....21	50.03.0436	BC 237B NPN	any
	Q....22	50.03.0510	BD 136-16 PNP	Ph
	Q....23	50.03.0901	BD 249 NPN	TI
	Q....24	50.03.0351	BC 327-25 PNP	any
	Q....25	50.03.0436	BC 237B NPN	any
	Q....26	50.03.0436	BC 237B NPN	any
	Q....27	50.03.0436	BC 237B NPN	any
	Q....28	50.03.0515	BC 307B PNP	any
	Q....29	50.03.0436	BC 237B NPN	any
	R.....1	57.11.3152	1.5 kOhm 1% 0.25W	
	R.....2	57.11.3152	1.5 kOhm 1% 0.25W	
	R.....3	57.11.3105	1 MOhm 5% 0.25W	
	R.....4	57.11.3821	820 Ohm 1% 0.25W	
	R.....5	57.11.3332	3.3 kOhm 1% 0.25W	
	R.....6	57.11.3202	2 kOhm 1% 0.25W	
	R.....7	. . 0	not used	
	R.....8	57.11.3563	56 kOhm 1% 0.25W	
	R.....9	57.11.3102	1 kOhm 1% 0.25W	
	R....10	57.11.3152	1.5 kOhm 1% 0.25W	
	R....11	57.11.3152	1.5 kOhm 1% 0.25W	
	R....12	57.11.3102	1 kOhm 1% 0.25W	
	R....13	57.11.3105	1 MOhm 5% 0.25W	
	R....14	57.11.3563	56 kOhm 1% 0.25W	
	R....15	57.11.3181	180 Ohm 1% 0.25W	
	R....16	57.11.3332	3.3 kOhm 1% 0.25W	
	R....17	57.11.3102	1 kOhm 1% 0.25W	
	R....18	. . 0	not used voltage adjust on board	
	R....19	. . 0	not used voltage adjust on 1.918.085, 2k]] 2k2	
	R....20	. . 0	not used 1.918.079.00 NTC-Sensor on Trafo	
03	R....21	57.99.0803	470 kOhm 10%, NTC	Sie.
	R....22	57.11.3103	10 kOhm 1% 0.25W	
	R....23	57.11.3563	56 kOhm 1% 0.25W	
	R....24	57.11.3563	56 kOhm 1% 0.25W	
	R....25	57.11.3683	68 kOhm 1% 0.25W	
	R....26	57.11.3103	10 kOhm 1% 0.25W	
	R....27	57.11.3103	10 kOhm 1% 0.25W	
	R....28	57.11.3102	1 kOhm 1% 0.25W	
02	R....28	57.11.3103	10 kOhm 1% 0.25W	
	R....29	57.11.3562	5.6 kOhm 1% 0.25W	
	R....30	57.11.3104	100 kOhm 1% 0.25W	
	R....31	57.11.3103	10 kOhm 1% 0.25W	
	R....32	57.11.3102	1 kOhm 1% 0.25W	
	R....33	57.11.3183	18 kOhm 1% 0.25W	
	R....34	57.11.3104	100 kOhm 1% 0.25W	

±15V STABILIZER BOARD 1.918.084.00

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	R....35	57.11.3104	100 kOhm 1% 0.25W	
	R....36	57.11.3104	100 kOhm 1% 0.25W	
	R....37	57.11.3104	100 kOhm 1% 0.25W	
	R....38	57.56.2010	10 mOhm 3% 3 W	
	R....39	57.11.3104	100 kOhm 1% 0.25W	
	R....40	. . 0	not used	
	R....41	57.11.3129	1.2 Ohm 1% 0.25W	
	R....42	57.11.3181	180 Ohm 1% 0.25W	
	R....43	57.11.3103	10 kOhm 1% 0.25W	
	R....44	57.11.3620	62 Ohm 1% 0.25W	
	R....45	57.56.2010	10 mOhm 3% 3 W	
	R....46	57.11.3332	3.3 kOhm 1% 0.25W	
	R....47	57.11.3332	3.3 kOhm 1% 0.25W	
	R....48	57.11.3102	1 kOhm 1% 0.25W	
01	R....48	57.11.3152	1.5 kOhm 1% 0.25W	
04	R....48	57.11.3122	1.2 kOhm 1% 0.25W	
	R....49	57.11.3153	15 kOhm 1% 0.25W	
	R....50	57.11.3103	10 kOhm 1% 0.25W	
	R....51	57.11.3103	10 kOhm 1% 0.25W	
	R....52	57.11.3103	10 kOhm 1% 0.25W	
	R....53	57.11.3105	1 MOhm 5% 0.25W	
	R....54	57.11.3102	1 kOhm 1% 0.25W	
	R....55	. . 0	not used	
	R....56	57.11.3104	100 kOhm 1% 0.25W	
	R....57	57.11.3332	3.3 kOhm 1% 0.25W	
	R....58	. . 0	not used	
	R....59	. . 0	not used	
	R....60	57.11.3129	1.2 Ohm 1% 0.25W	
	R....61	57.11.3181	180 Ohm 1% 0.25W	
	R....62	57.11.3102	1 kOhm 1% 0.25W	
01	R....62	57.11.3152	1.5 kOhm 1% 0.25W	
04	R....62	57.11.3122	1.2 kOhm 1% 0.25W	
	R....63	57.11.3332	3.3 kOhm 1% 0.25W	
	R....64	57.11.3153	15 kOhm 1% 0.25W	
	R....65	57.11.3153	15 kOhm 1% 0.25W	
	R....66	57.11.3103	10 kOhm 1% 0.25W	
	R....67	57.11.3620	62 Ohm 1% 0.25W	
	R....68	57.56.2010	10 mOhm 3% 3 W	
	R....69	57.11.3332	3.3 kOhm 1% 0.25W	
	R....70	57.11.3153	15 kOhm 1% 0.25W	
	R....71	57.11.3103	10 kOhm 1% 0.25W	
	R....72	57.11.3103	10 kOhm 1% 0.25W	
	R....73	57.11.3103	10 kOhm 1% 0.25W	
	R....74	57.11.3104	100 kOhm 1% 0.25W	
	R....75	57.11.3332	3.3 kOhm 1% 0.25W	
	R....76	. . 0	not used	
	R....77	57.11.3102	1 kOhm 1% 0.25W	
	R....78	. . 0	not used	
	R....79	. . 0	not used	
	R....80	57.11.3129	1.2 Ohm 1% 0.25W	
	R....81	57.11.3181	180 Ohm 1% 0.25W	
	R....82	57.11.3103	10 kOhm 1% 0.25W	
	R....83	57.11.3620	62 Ohm 1% 0.25W	
	R....84	57.56.2010	10 mOhm 3% 3 W	
	R....85	57.11.3332	3.3 kOhm 1% 0.25W	
	R....86	57.11.3332	3.3 kOhm 1% 0.25W	
	R....87	57.11.3102	1 kOhm 1% 0.25W	
01	R....87	57.11.3152	1.5 kOhm 1% 0.25W	
04	R....87	57.11.3122	1.2 kOhm 1% 0.25W	
	R....88	57.11.3153	15 kOhm 1% 0.25W	
	R....89	57.11.3103	10 kOhm 1% 0.25W	
	R....90	57.11.3103	10 kOhm 1% 0.25W	
	R....91	57.11.3103	10 kOhm 1% 0.25W	
	R....92	57.11.3105	1 MOhm 5% 0.25W	
	R....93	57.11.3102	1 kOhm 1% 0.25W	
	R....94	. . 0	not used	
	R....95	57.11.3104	100 kOhm 1% 0.25W	
	R....96	57.11.3332	3.3 kOhm 1% 0.25W	
	R....97	. . 0	not used	
	R....98	. . 0	not used	
	R....99	57.11.3129	1.2 Ohm 1% 0.25W	
	R...100	57.11.3181	180 Ohm 1% 0.25W	
	R...101	57.11.3102	1 kOhm 1% 0.25W	
01	R...101	57.11.3152	1.5 kOhm 1% 0.25W	
04	R...101	57.11.3122	1.2 kOhm 1% 0.25W	
	R...102	57.11.3332	3.3 kOhm 1% 0.25W	
	R...103	57.11.3153	15 kOhm 1% 0.25W	
	R...104	57.11.3153	15 kOhm 1% 0.25W	
	R...105	57.11.3620	62 Ohm 1% 0.25W	
	R...106	57.11.3103	10 kOhm 1% 0.25W	
	R...107	57.56.2010	10 mOhm 3% 3 W	
	R...108	57.11.3332	3.3 kOhm 1% 0.25W	
	R...109	57.11.3153	15 kOhm 1% 0.25W	
	R...110	57.11.3103	10 kOhm 1% 0.25W	
	R...111	57.11.3103	10 kOhm 1% 0.25W	
	R...112	57.11.3103	10 kOhm 1% 0.25W	
	R...113	57.11.3104	100 kOhm 1% 0.25W	
	R...114	57.11.3332	3.3 kOhm 1% 0.25W	
	R...115	. . 0	not used	
	R...116	. . 0	not used	
	R...117	57.11.3102	1 kOhm 1% 0.25W	
	W.....0	. .	see MP 14	

(01) 91/01/16 Current-Limiter set to appr. 6...9A (before 12...15 A)
R 48, 62, 87, 101 new 1k5

(02) 91/08/05 Screws (MP 15) longer
less current flow: R 28 new 10k instead of 1k

(03) 91/09/23 Philips NTC Resistor #57.99.0208 is no longer available.
R21 is now a Siemens NTC Resistor #57.99.0803 and the
leads are insulated with 2 pcs. PTFE-tube #65.99.0111,
L=30 mm. (MP22 position).
MP18 & MP19 positions are no longer used.

(04) 93/09/03 Current-Limiter set to appr. 9..12A (before 6...9A)
R 48, 62, 87, 101 new 1k2

CER=Ceramic, CF=Carbon Film, EL=Electrolytic, MF=Metal Film,
PE=Polyester, SAL=Solid aluminium lacquard

MANUFACTURERS: Ph=Philips, Sie=Siemens, St=Studer, TI=Texas Instrument
Ya=Yamaichi

1.918.084.00 +/-15V STABILIZER AB 90/11/2700

1.918.084.00 +/-15V STABILIZER AB 91/01/1601

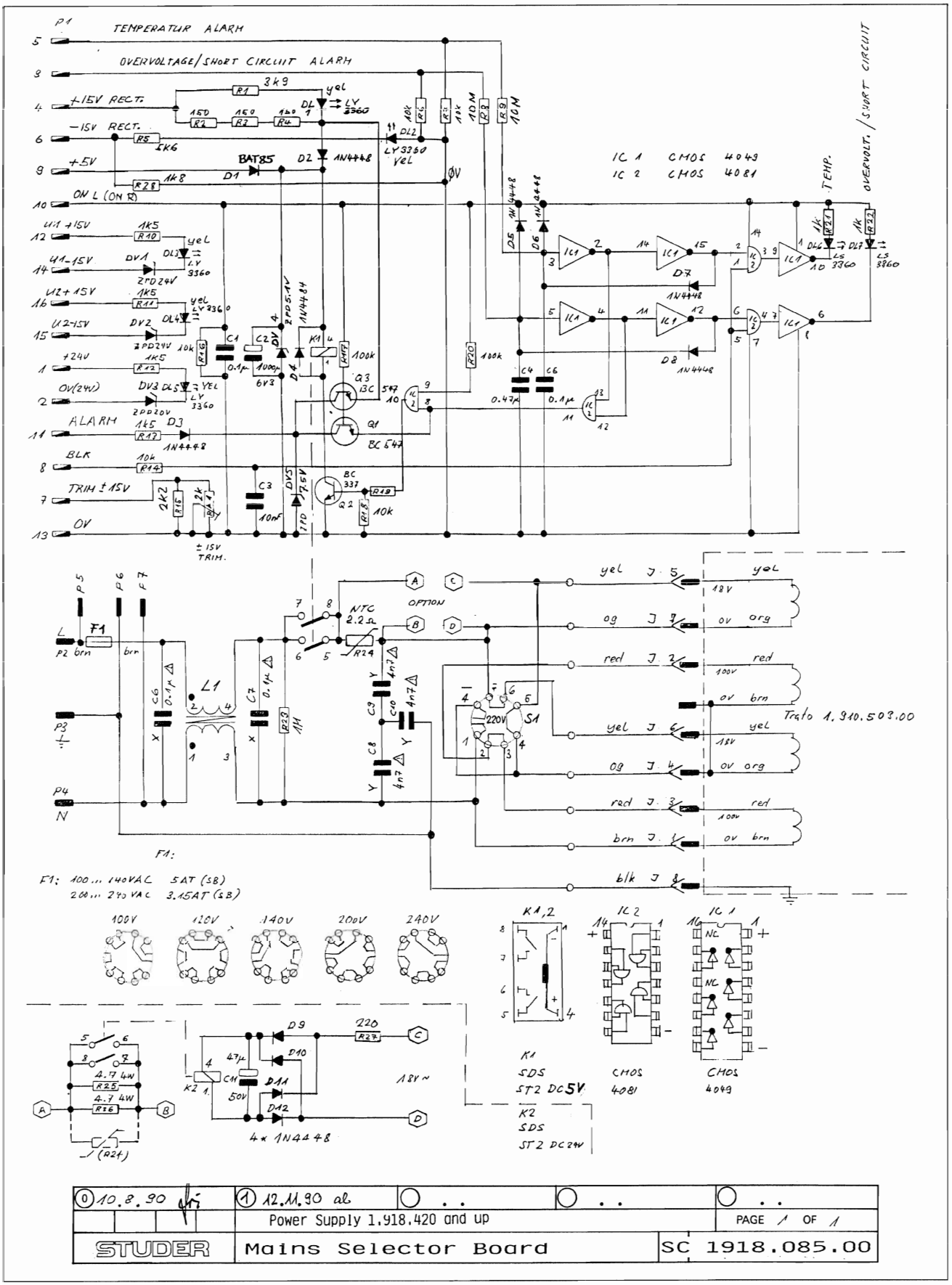
1.918.084.00 +/-15V STABILIZER AB 91/08/0502

1.918.084.00 +/-15V STABILIZER AB 91/09/2303

1.918.084.00 +/-15V STABILIZER FRI93/09/0304

END

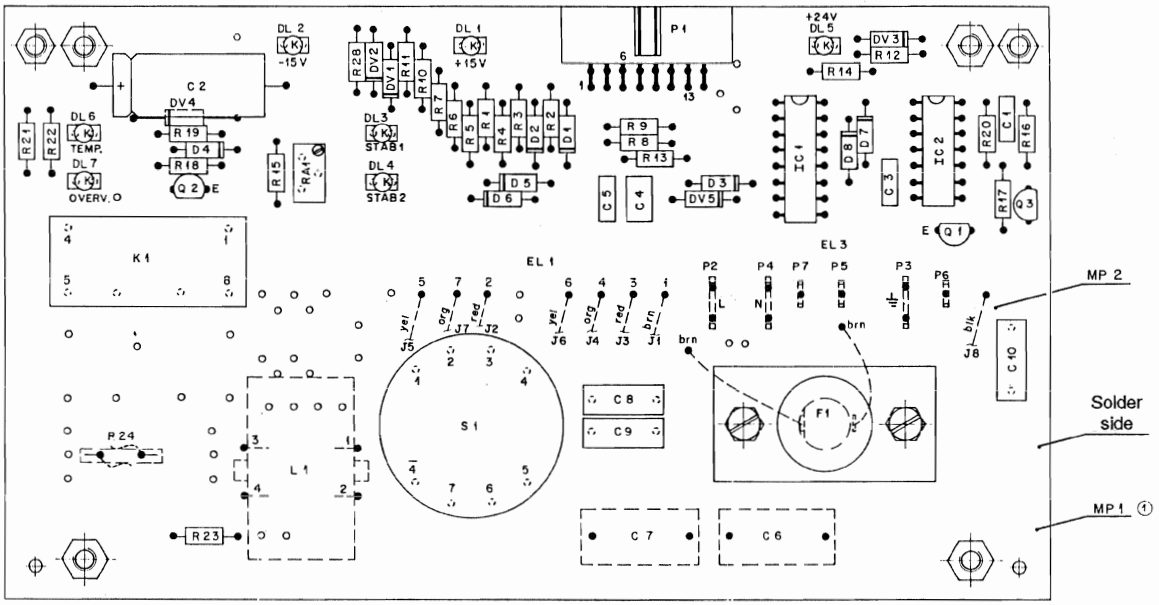
MAINS SELECTOR BOARD 1.918.085.00

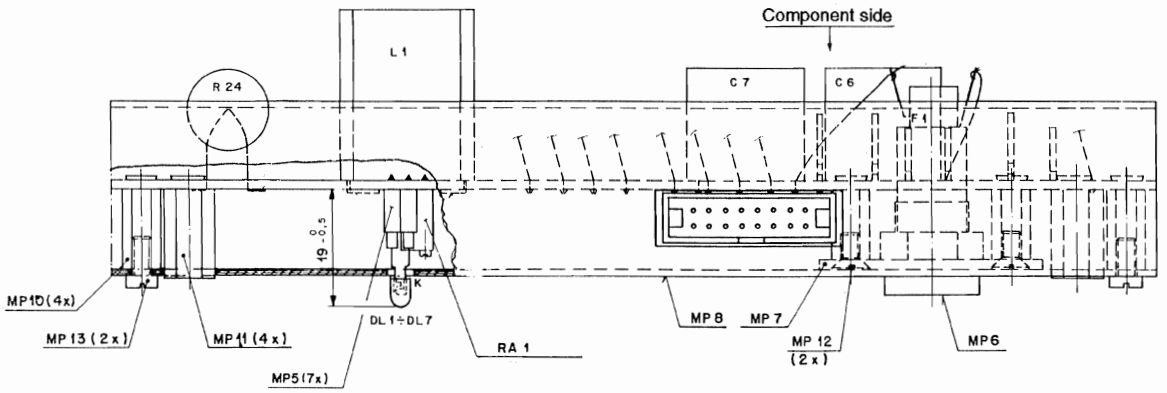


F1: 100 ... 140VAC 5AT (SB)
200 ... 240 VAC 3.15AT (SB)

0 10.8.90	1 12.11.90 ab	. .	. .	. .
	Power Supply 1.918.420 and up			PAGE 1 OF 1
STUDER	Mains Selector Board			SC 1918.085.00

MAINS SELECTOR BOARD 1.918.085.00





Änderung					
					③
					②
	23.4.91	A.Z.	aB	W	①
Ausgabe	15.5.90	A.Z.	fri	W	⓪
	Datum	Gez	Gepr	Ges	Index

Kopie für:

STUDER REGENSDORF ZÜRICH	Benennung: MAINS SELECTOR BOARD ESE	Nummer: 1.918.085-00

MAINS SELECTOR BOARD 1.918.085.00

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	C.....1	59.06.0104	100 nF PE	
	C.....2	59.25.1102	1000 uF 6,3V EL	
	C.....3	59.06.0103	10 nF PE	
	C.....4	59.06.0474	470 nF PE	
	C.....5	59.06.0104	100 nF PE	
	C.....6	59.14.3104	0,1uF 300VAC +/-20% X-2	Sie
	C.....7	59.14.3104	0,1uF 300VAC +/-20% X-2	Sie
	C.....8	59.14.0472	4,7nF 250VAC IEC 65 Y	Ri
	C.....9	59.14.0472	4,7nF 250VAC IEC 65 Y	Ri
	C....10	59.14.0472	4,7nF 250VAC IEC 65 Y	Ri
02	C....11	. . 0	not used 59.22.8470, 47uF, 63V, EL option	
	D.....1	50.04.0125	1N4448	any
02	D.....1	50.04.0127	BAT 85 Schottky	any
	D.....2	50.04.0125	1N4448	any
	D.....3	50.04.0125	1N4448	any
	D.....4	50.04.0125	1N4448	any
	D.....5	50.04.0125	1N4448	any
	D.....6	50.04.0125	1N4448	any
	D.....7	50.04.0125	1N4448	any
	D.....8	50.04.0125	1N4448	any
02	D.....9	. . 0	not used 50.04.0125, 1N4448 option	
02	D....10	. . 0	not used 50.04.0125, 1N4448 option	
02	D....11	. . 0	not used 50.04.0125, 1N4448 option	
02	D....12	. . 0	not used 50.04.0125, 1N4448 option	
	DL....1	50.04.2130	LY3360 LED 3.18mm gb	Sie
	DL....2	50.04.2130	LY3360 LED 3.18mm gb	Sie
	DL....3	50.04.2130	LY3360 LED 3.18mm gb	Sie
	DL....4	50.04.2130	LY3360 LED 3.18mm gb	Sie
	DL....5	50.04.2130	LY3360 LED 3.18mm gb	Sie
	DL....6	50.04.2129	LS3360 LED 3.18mm rt	Sie
	DL....7	50.04.2129	LS3360 LED 3.18mm rt	Sie
	DV....1	50.04.1121	Z24 V 500 mW	any
	DV....2	50.04.1121	Z24 V 500 mW	any
	DV....3	50.04.1109	Z20 V 500 mW	any
	DV....4	50.04.1112	Z 5.1V 500 mW	any
	DV....5	50.04.1112	Z 5.1V 500 mW	any
01	DV....5	50.04.1103	Z 7.5V 500 mW	any
	F.....1	51.01.0122	3.15 AT Slow blow	
	IC....1	50.07.0049	4049 CMOS hex inverting buffer	Ph
	IC....2	50.07.0081	4081 CMOS Quad 2-Input AND Gate	Ph
	K.....1	56.04.0181	6V Power Supply Relais	SDS
02	K.....1	56.04.0181	5V Power Supply Relais	SDS
02	K.....2	. . 0	not used 56.04.0181, SDS-Relais 24V, ST2-24V option	
	L.....1	62.03.0105	1.8mH I=5A	TOK
	MP....1	1.918.085.11	1 pcs Print	St
	MP....2	1.918.085.93	1 pcs Litzenliste	St
	MP....3	43.01.0108	1 pcs ESE Warnschild	
02	MP....4	. . 0	not used	
02	MP....5	53.03.0240	7 pcs Led sockel	
02	MP....6	53.03.0106	1 pcs Sicherungshalter	
02	MP....7	1.918.085.01	1 pcs Sichererungshalteblech	St
02	MP....8	1.918.085.02	1 pcs Isolierabdeckung	St
02	MP....9	1.918.085.04	1 pcs Nr. Etikette	St
02	MP...10	1.010.058.22	4 pcs Nietmutter M3*13mm	St
02	MP...11	1.010.046.22	4 pcs Nietmutter M3*14.5mm	St
02	MP...12	21.01.2354	2 pcs S-Schraube M3*6mm	
02	MP...13	21.99.0117	2 pcs Z-Schraube M3*6mm Nylon	
	P.....1	54.14.2072	16 pin PCB connector side entry male	
	P.....2	54.02.0335	6.3mm Flat Pin Connector	
	P.....3	54.02.0335	6.3mm Flat Pin Connector	
	P.....4	54.02.0335	6.3mm Flat Pin Connector	
	P.....5	54.02.0320	2.8mm Flat Pin Connector	
	P.....6	54.02.0320	2.8mm Flat Pin Connector	
	P.....7	54.02.0320	2.8mm Flat Pin Connector	
	Q.....1	50.03.0436	BC 547B NPN	any
	Q.....2	50.03.0340	BC 337 NPN	any
01	Q.....3	50.03.0436	BC 547B NPN	any
	R.....1	57.11.3392	3.9kOhm	
	R.....2	57.11.3151	150 Ohm	
	R.....3	57.11.3151	150 Ohm	
	R.....4	57.11.3151	150 Ohm	
	R.....5	57.11.3562	5.6kOhm	
	R.....6	57.11.3103	10 kOhm	
	R.....7	57.11.3103	10 kOhm	
	R.....8	57.11.3105	1 MOhm	
01	R.....8	57.11.5106	10 MOhm	
	R.....9	57.11.3105	1 MOhm	
01	R.....9	57.11.5106	10 MOhm	
	R....10	57.11.3152	1.5kOhm	
	R....11	57.11.3152	1.5kOhm	
	R....12	57.11.3152	1.5kOhm	
	R....13	57.11.3152	1.5kOhm	
	R....14	57.11.3103	10 kOhm	
	R....15	57.11.3222	2.2kOhm	
	R....16	57.11.3103	10 kOhm	
	R....17	57.11.3104	100 kOhm	
	R....18	57.11.3103	10 kOhm	
	R....19	57.11.3103	10 kOhm	
	R....20	57.11.3104	100 kOhm	
	R....21	57.11.3102	1 kOhm	
	R....22	57.11.3102	1 kOhm	
	R....23	57.11.3105	1 MOhm	
	R....24	57.93.1229	2.2 Ohm NTC	
02	R....25	. . 0	not used 57.56.5479, 4.7 Ohm, 4 Watt, option	
02	R....26	. . 0	not used 57.56.5479, 4.7 Ohm, 4 Watt, option	
02	R....27	. . 0	not used 57.11.3221, 220 Ohm option	
01	R....28	57.11.3162	1.6kOhm	
	RA....1	58.05.1202	2 kOhm Trim. pot. lin.	
	S.....1	53.03.0134	100-240V Voltage selector	

EL=Electrolytic, PE=Polyester

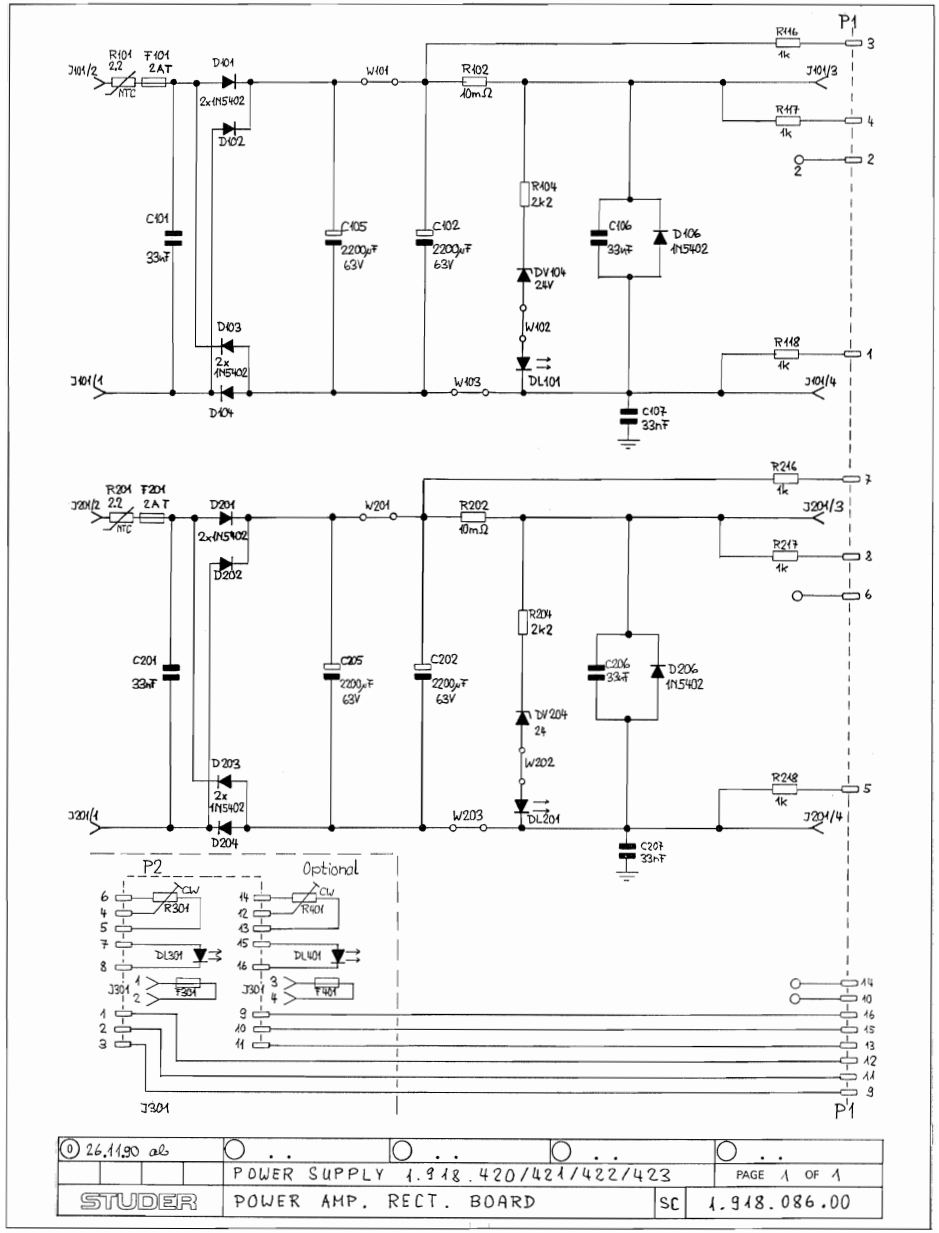
(01) 90/08/13 Power-up modification
(02) 90/11/12 K1:5V-Type, D1:Schottky, Option-description, MP-Numbers

MANUFACTURER: PH=Philips, Ri=Rifa, SDS=Sauer Relais, Sie=Siemens, St=S TOK=Tokin

1.918.085.00	MAINS SELECTOR BOARD	PF 90/03/2100
1.918.085.00	MAINS SELECTOR BOARD	STW90/08/1301
1.918.085.00	MAINS SELECTOR BOARD	AB 90/11/1202

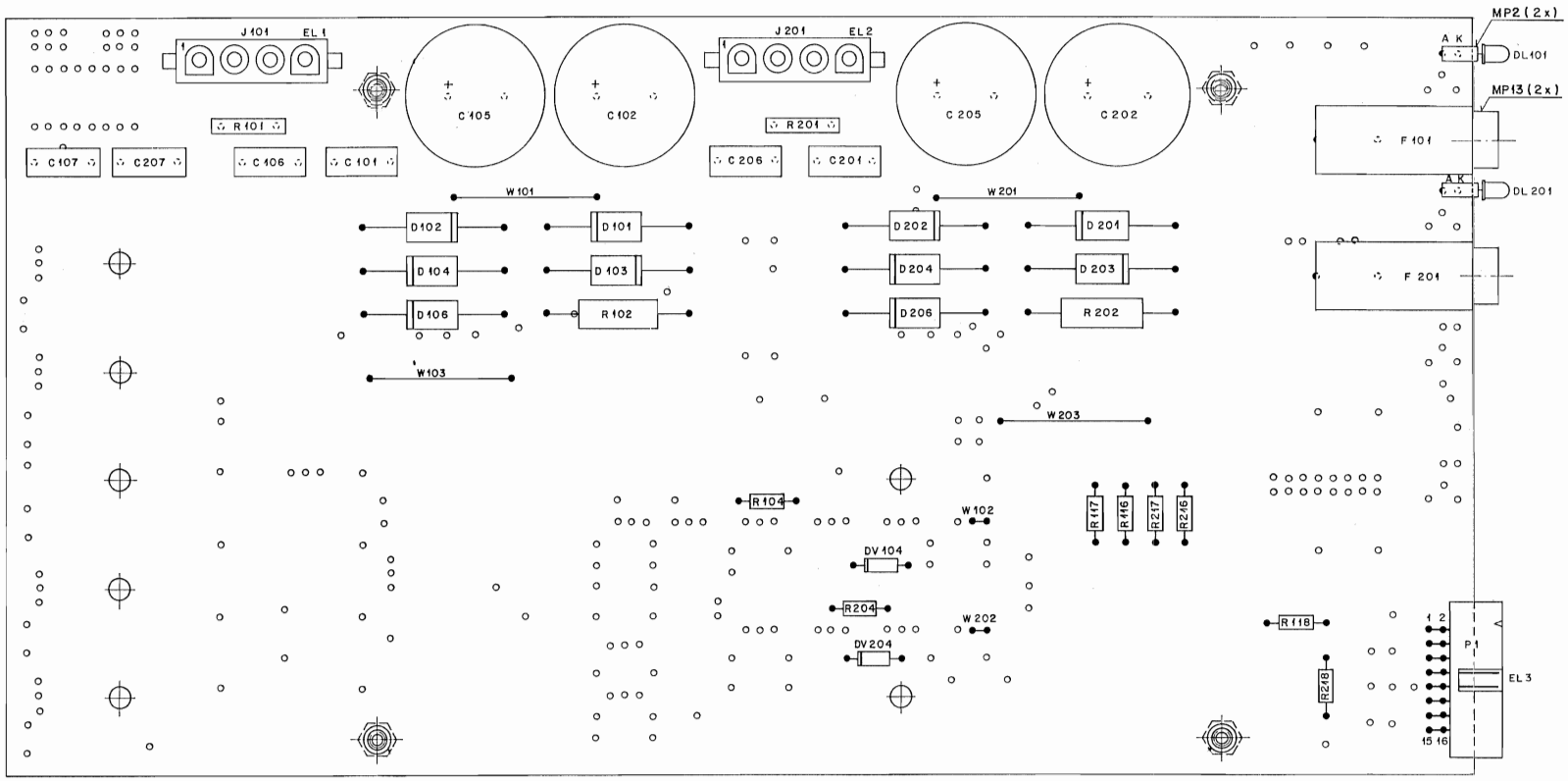
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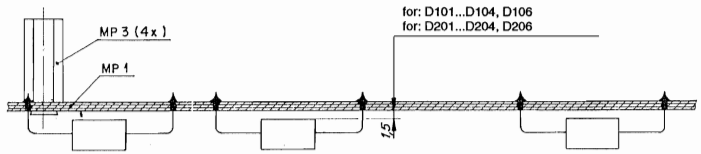
POWER AMPLIFIER RECTIFIER BOARD 1.918.086.00



① 26.11.90 ab				
	POWER SUPPLY 1.918.420/421/422/423			PAGE 1 OF 1
STUDER	POWER AMP. RECT. BOARD		SC	1.918.086.00

POWER AMPLIFIER RECTIFIER BOARD 1.918.086.00





Änderung					③
					②
	11.1.91	JH	lf	lf	①
Ausgabe	2.10.90	AK	ak	lf	⓪
	Datum	Gez.	Gepr.	Gen.	Index

Kopie für:

STUDER REGENSDORF ZÜRICH	Benennung: POWER AMP. RECT. BOARD	Nummer: 1.918.086-00

POWER AMPLIFIER RECTIFIER BOARD 1.918.086.00

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	C.....1	. . 0	NOT USED	
	C...101	59.31.8333	.033 uF 10%, 400V , PE	
	C...102	59.29.5222	2200 uF 20%, 63 V , EL	
	C...103	. . 0	NOT USED	
	C...104	. . 0	NOT USED	
	C...105	59.29.5222	2200 uF 20%, 63 V , EL	
	C...106	59.31.8333	.033 uF 10%, 400V , PE	
	C...107	59.31.8333	.033 uF 10%, 400V , PE	
	C...201	59.31.8333	.033 uF 10%, 400V , PE	
	C...202	59.29.5222	2200 uF 20%, 63 V , EL	
	C...203	. . 0	NOT USED	
	C...204	. . 0	NOT USED	
	C...205	59.29.5222	2200 uF 20%, 63 V , EL	
	C...206	59.31.8333	.033 uF 10%, 400V , PE	
	C...207	59.31.8333	.033 uF 10%, 400V , PE	
	D...101	50.04.0507	MR 502 1N 5402, 200 V, 3 A	
	D...102	50.04.0507	MR 502 1N 5402, 200 V, 3 A	
	D...103	50.04.0507	MR 502 1N 5402, 200 V, 3 A	
	D...104	50.04.0507	MR 502 1N 5402, 200 V, 3 A	
	D...105	. . 0	NOT USED	
	D...106	50.04.0507	MR 502 1N 5402,	
	D...201	50.04.0507	MR 502 1N 5402,	
	D...202	50.04.0507	MR 502 1N 5402,	
	D...203	50.04.0507	MR 502 1N 5402,	
	D...204	50.04.0507	MR 502 1N 5402,	
	D...205	. . 0	NOT USED	
	D...206	50.04.0507	MR 502 1N 5402,	
	DL..101	50.04.2130	LY 3360 yellow diff.	
	DL..201	50.04.2130	LY 3360 yellow diff.	
	DL..301	. . 0	not used 50.04.2130 , ye diff,	Option 1
	DL..401	. . 0	not used 50.04.2130 , ye diff,	Option 1
	DV..101	. . 0	NOT USED	
	DV..102	. . 0	NOT USED	
	DV..103	. . 0	NOT USED	
	DV..104	50.04.1121	24 V 5%, .40W, Z,	
	DV..201	. . 0	NOT USED	
	DV..202	. . 0	NOT USED	
	DV..203	. . 0	NOT USED	
	DV..204	50.04.1121	24 V 5%, .40W, Z,	
	F.....0	. .	Fuseholder see MP 13	
	F...101	51.01.0120	T2.0A/ 250V, 5 * 20	
	F...201	51.01.0120	T2.0A/ 250V, 5 * 20	
	F...301	. . 0	not used Fuse, 5 * 20,	Option 1
	F...401	. . 0	not used Fuse, 5 * 20,	Option 1
	J...101	54.25.0004	Power-Conn., 4 POL 16 A	AMP
	J...201	54.25.0004	Power-Conn., 4 POL 16 A	AMP
	J...301	. . 0	not used 54.25.0004 , 4 pol 16A,	Option 1
	MP....1	1.918.086.11	Power Amp.Rect. PCB	St
	MP....2	1.010.012.50	2 pcs Diodenhalter	
	MP....3	1.010.046.22	4 pcs Nietmutter, M 3 * 14.5	
	MP....4	. . 0	NOT USED	
	MP....5	. . 0	NOT USED	
	MP....6	. . 0	NOT USED	
	MP....7	. . 0	NOT USED	
	MP....8	. . 0	NOT USED	
	MP....9	. . 0	NOT USED	
	MP...10	. . 0	NOT USED	
	MP...11	. . 0	NOT USED	
	MP...12	. . 0	NOT USED	
	MP...13	53.03.0145	2 pcs Sicherungshalter liegend 5*20	
	MP...14	. . 0	NOT USED	
	MP...15	. . 0	NOT USED	
	MP...16	. . 0	NOT USED	
	MP...17	1.918.086.04	Nr.-Etikette 5 * 20	
	MP...18	. . 0	NOT USED	
	P.....1	54.14.2072	16 pin Plug, SN, (Winkel), Diagnostic	
	P.....2	. . 0	not used 54.14.2002, 16 P,	Option 1
	R...101	57.93.1229	2.2 Ohm NTC, Surge-suppressor	
	R...102	57.56.2010	10 mOhm 5%, 3 W	
	R...103	. . 0	NOT USED	
	R...104	57.11.3222	2.2 kOhm 10%, .5 W	
	R...105	. . 0	NOT USED	
	R...106	. . 0	NOT USED	
	R...107	. . 0	NOT USED	
	R...108	. . 0	NOT USED	
	R...109	. . 0	NOT USED	
	R...110	. . 0	NOT USED	
	R...111	. . 0	NOT USED	
	R...112	. . 0	NOT USED	
	R...113	. . 0	NOT USED	
	R...114	. . 0	NOT USED	
	R...115	. . 0	NOT USED	
	R...116	57.11.3102	1 kOhm 10%, .5 W	
	R...117	57.11.3102	1 kOhm 10%, .5 W	
	R...118	57.11.3102	1 kOhm 10%, .5 W	
	R...201	57.93.1229	2.2 Ohm NTC, Surge-suppressor	
	R...202	57.56.2010	10 mOhm 5%, 3 W	
	R...203	. . 0	NOT USED	
	R...204	57.11.3222	2.2 kOhm 10%, .5 W	
	R...205	. . 0	NOT USED	
	R...206	. . 0	NOT USED	
	R...207	. . 0	NOT USED	
	R...208	. . 0	NOT USED	
	R...209	. . 0	NOT USED	
	R...210	. . 0	NOT USED	
	R...211	. . 0	NOT USED	
	R...212	. . 0	NOT USED	
	R...213	. . 0	NOT USED	
	R...214	. . 0	NOT USED	
	R...215	. . 0	NOT USED	
	R...216	57.11.3102	1 kOhm 10%, .5 W	
	R...217	57.11.3102	1 kOhm 10%, .5 W	
	R...218	57.11.3102	1 kOhm 10%, .5 W	
	R...301	. . 0	not used 58.05.0502, 5 kOhm 10%, .5 W,	Option 1
	R...401	. . 0	not used 58.05.0502, 5 kOhm 10%, .5 W,	Option 1
	W...101	57.11.3000	0 Ohm Wiring bridge	
	W...102	1.010.329.64	2.5mm Wiring bridge	
	W...103	57.11.3000	0 Ohm Wiring bridge	
	W...201	57.11.3000	0 Ohm Wiring bridge	
	W...202	1.010.329.64	2.5mm Wiring bridge	
	W...203	57.11.3000	0 Ohm Wiring bridge	

Pos # 1...99 : Global
101..199 : for U 1
201..299 : for U 2
301..499 : for U 3, U 4 (Option 1)

NOT USED : This part is used in 1.918.087

CE=Ceramic, CF=Carbon Film, EL=Electrolytic, MF=Metal Film,
PE=Polyester, PP=Polypropylen, PS=Polystyrol

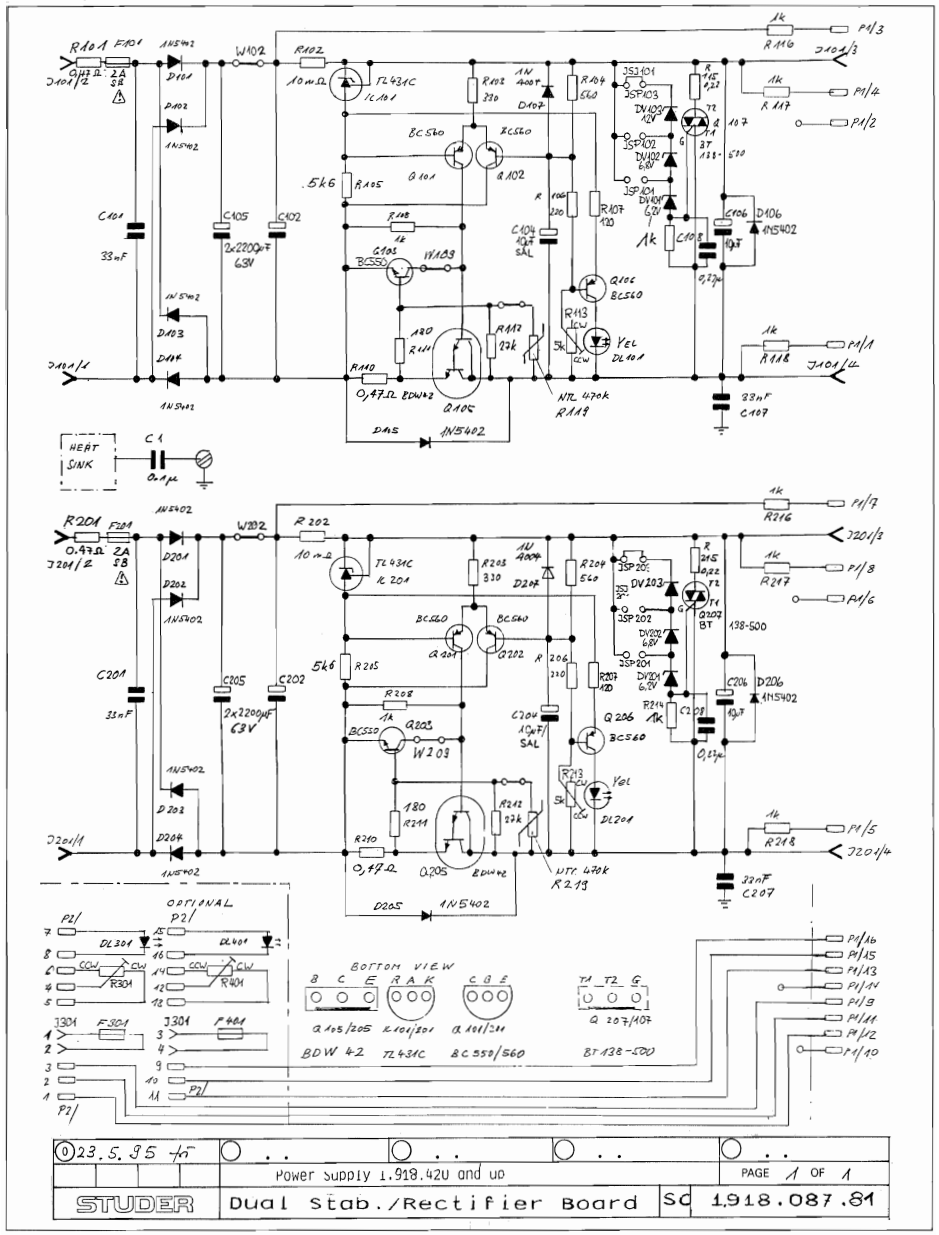
MANUFACTURER:
****

St=Studer

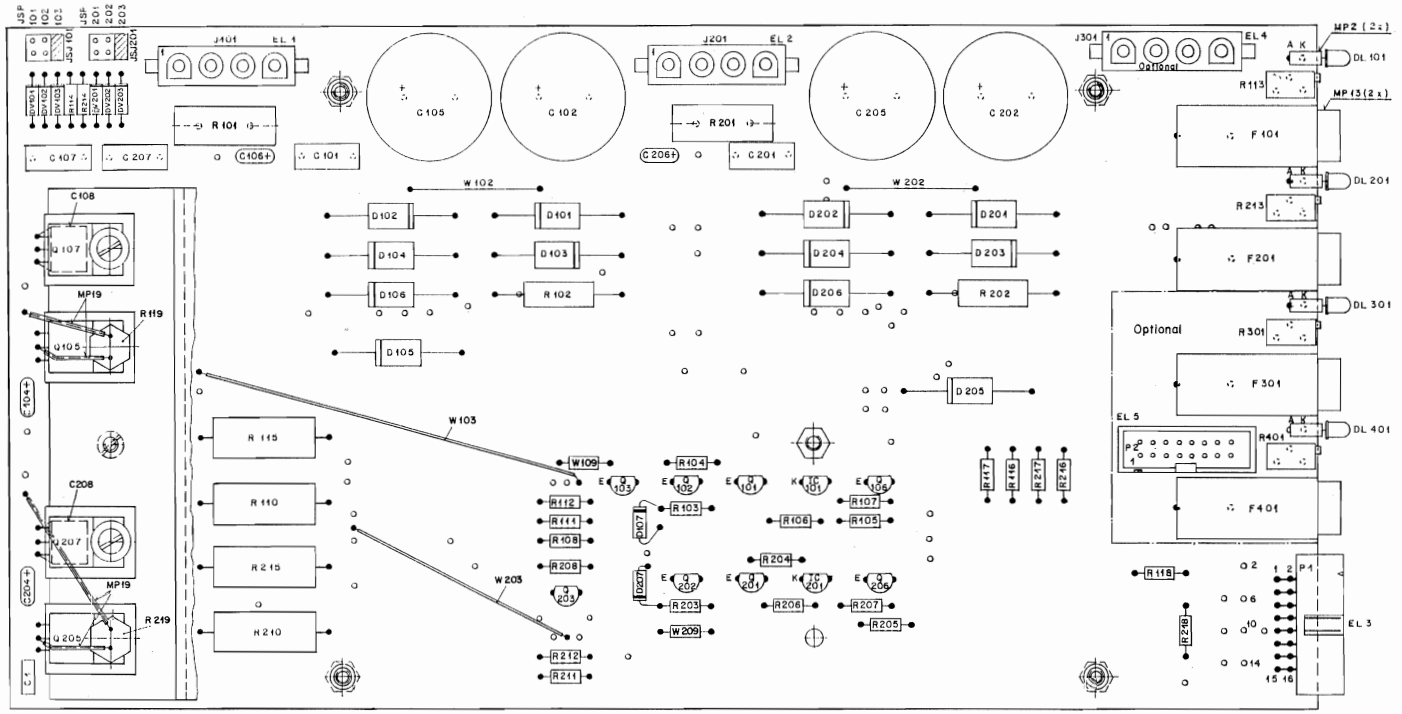
1.918.086.00 POWER AMP. RECT. BOARD AB 90/11/2200

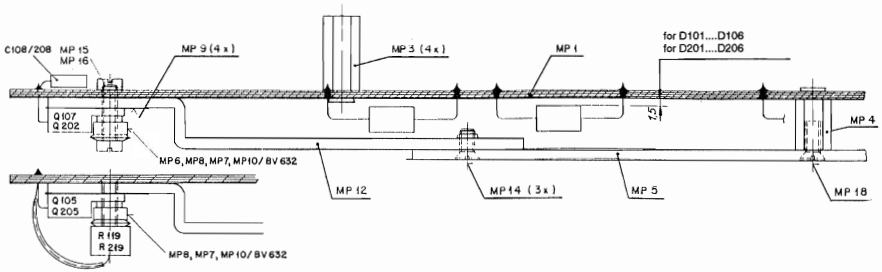
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± DUAL STABILIZER RECTIFIER BOARD 1.918.087.81



± DUAL STABILIZER RECTIFIER BOARD 1.918.087.81





Änderung					
					3
					2
					1
Ausgabe	23.5.95				0
	Datum	Ges.	Gepr.	Ges.	Index

Kopie für:

STUDER REGENSDORF ZÜRICH | Benennung: +/- DUAL STAB. RECT. BOARD | Nummer: 1.918.087-81

Ad	..POS..	...REF.No...	DESCRIPTION		MANUFACTURER
C	1	59.06.0104	0.1 uF	10%, 63V, PE	
C	101	59.31.8333	.033 uF	10%, 400V, PE	
C	102	59.29.5222	2200 uF	20%, 63 V, EL	
C	104	59.26.5100	10 uF	20%, 25V, SAL	
C	105	59.29.5222	2200 uF	20%, 63 V, EL	
C	106	59.26.5100	10 uF	20%, 25V, SAL	
C	107	59.31.8333	.033 uF	10%, 400V, PE	
C	108	59.06.0224	.22 uF	10% 63V, PE	
C	201	59.31.8333	.033 uF	10%, 400V, PE	
C	202	59.29.5222	2200 uF	20%, 63 V, EL	
C	204	59.26.5100	10 uF	20%, 25V, SAL	
C	205	59.29.5222	2200 uF	20%, 63 V, EL	
C	206	59.26.5100	10 uF	20%, 25V, SAL	
C	207	59.31.8333	.033 uF	10%, 400V, PE	
C	208	59.06.0224	.22 uF	10%, 63V, PE	
D	101	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	102	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	103	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	104	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	105	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	106	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	107	50.04.0105		1N 4004, 400V, 1A	
D	201	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	202	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	203	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	204	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	205	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	206	50.04.0507	MR 502	1N 5402, 200V, 3A	
D	207	50.04.0105		1N 4004, 400V, 1A	
DL	101	50.04.2130	LY 3360	yellow diff.	
DL	201	50.04.2130	LY 3360	yellow diff.	
DL	301	. . 0	not used	50.04.2130 , ye diff,	Option 1
DL	401	. . 0	not used	50.04.2130 , ye diff,	Option 1
DV	101	50.04.1118	6.2 V	5%, .4W, Z,	
DV	102	50.04.1102	6.8 V	5%, .4W, Z,	
DV	103	50.04.1117	12 V	5%, .4W, Z,	
DV	201	50.04.1118	6.2 V	5%, .4W, Z,	
DV	202	50.04.1102	6.8 V	5%, .4W, Z,	
DV	203	50.04.1117	12 V	5%, .4W, Z,	
F				fuseholder see MP 13	
F	101	51.01.0120		T2.0A/ 250V, 5 * 20	
F	201	51.01.0120		T2.0A/ 250V, 5 * 20	
F	301	. . 0	not used	Fuse, 5 * 20,	Option 1
F	401	. . 0	not used	Fuse, 5 * 20,	Option 1
IC	101	50.10.0106		TL 431 CLP,	
IC	201	50.10.0106		TL 431 CLP,	
J	101	54.25.0004		Power-Conn., 4 POL 16 A	AMP
J	201	54.25.0004		Power-Conn., 4 POL 16 A	AMP
J	301	. . 0	not used	54.25.0004, 4 POL 16 A,	Option 1
JSJ	101	54.01.0021		Jumper female	
JSJ	201	54.01.0021		Jumper female	
JSP				see MP 11	
MP	1	1.918.086.11		Power Amp.Rect. PCB	St
MP	2	1.010.012.50	2 pcs	Diodenhalter	
MP	3	1.010.046.22	4 pcs	Nietmutter, M 3 * 14.5	
MP	4	1.010.049.22		Nietmutter, M 3 * 10.0	
MP	5	1.915.106.04		Kuehlblech	
MP	6	21.01.0355	2 pcs	Z - Schr. , ZN , M 3 * 8	
MP	7	1.010.098.27	4 pcs	Distanzhuelse D3.1/7.0* 2.3	
MP	8	37.01.0101	8 pcs	Tellerfeder D3.2/8 * 0.3	
MP	9	50.20.0305	4 pcs	TO 220 Glimmerscheibe gefettet	
MP	10	50.20.0404	4 pcs	Isolierdurchfuehrung, D 6.0/3.5	
MP	11	54.11.0136	2 pcs	2*3 Pin, RM2.54, Crowbar Voltage	
MP	12	1.918.086.01		Kuehlwinkel	
MP	13	53.03.0145	2 pcs	Sicherungshalter liegend 5*20	
MP	14	21.01.2354	3 pcs	S - Schr. , ZN , M 3 * 6	
MP	15	21.01.0354		Z - Schr. , M 3 * 6	
MP	16	23.01.1032		U-Scheibe ,D 3.2/ 6*0.5	
MP	17	1.918.087.04		Nr.-Etikette 5 * 20	
MP	18	21.01.2355		S - Schr. , ZN , M 3 * 8	
P	1	54.14.2072	16 pin	Plug, SN, (Winkel), Diagnostic	
P	2	. . 0	not used	54.14.2002, 16 P,	Option 1
Q	101	50.03.0515	BC 307	BC 557 B ,PNP hfe>180	
Q	102	50.03.0515	BC 307	BC 557 B ,PNP hfe>180	
Q	103	50.03.0436	BC 237 B	..C, BC 547 B,NPN, hfe>180	
Q	105	50.03.0777	BDW 42	BDX 33C, BDW 93C, Darlington Ic min. 5 A	
Q	106	50.03.0515	BC 307	BC 557 B ,PNP hfe>180	
Q	107	50.99.0106		BT 138 - 500 TRIAC	

± DUAL STABILIZER RECTIFIER BOARD 1.918.087.81

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	Q...201	50.03.0515	BC 307	BC 557 B ,PNP hfe>180
	Q...202	50.03.0515	BC 307	BC 557 B ,PNP hfe>180
	Q...203	50.03.0436	BC 237 B	..C, BC 547 B,NPN, hfe>180
	Q...205	50.03.0777	BDW 42	BDX 33C, BDW 93C, Darlington
	Q...206	50.03.0515	BC 307	BC 557 B ,PNP hfe>180
	Q...207	50.99.0106		BT 138 - 500 TRIAC
	R...101	57.56.5478	0,47 Ohm	10% 4 W, WW
	R...102	57.56.2010	10 mOhm	5%, 3 W
	R...103	57.11.3331	330 Ohm	10%, .5 W
	R...104	57.11.3561	560 Ohm	10%, .5 W
	R...105	57.11.3562	5.6 kOhm	10% .5 W
	R...106	57.11.3221	220 Ohm	10%, .5 W
	R...107	57.11.3121	120 Ohm	10%, .5 W
	R...108	57.11.3102	1 kOhm	10%, .5 W
	R...110	57.56.5478	.47 Ohm	10%, 4 W, WW
	R...111	57.11.3181	180 Ohm	10%, .5 W
	R...112	57.11.3273	27 kOhm	10%, .5 W
	R...113	58.05.0502	5 kOhm	10%, .5 W 22 turn, Trim U 1
	R...114	57.11.3102	1 kOhm	10%, .5 W
	R...115	57.56.5228	.22 Ohm	10%, 4 W, WW
	R...116	57.11.3102	1 kOhm	10%, .5 W
	R...117	57.11.3102	1 kOhm	10%, .5 W
	R...118	57.11.3102	1 kOhm	10%, .5 W
	R...119	57.99.0803	470 kOhm	NTC Siemens
	R...201	57.56.5478	0,47 Ohm	10%, 4 W, WW
	R...202	57.56.2010	10 mOhm	5%, 3 W
	R...203	57.11.3331	330 Ohm	10%, .5 W
	R...204	57.11.3561	560 Ohm	10%, .5 W
	R...205	57.11.3562	5.6 kOhm	10%, .5 W
	R...206	57.11.3221	220 Ohm	10%, .5 W
	R...207	57.11.3121	120 Ohm	10%, .5 W
	R...208	57.11.3102	1 kOhm	10%, .5 W
	R...210	57.56.5478	0,47 Ohm	10%, 4 W, WW
	R...211	57.11.3181	180 Ohm	10%, .5 W
	R...212	57.11.3273	27 kOhm	10%, .5 W
	R...213	58.05.0502	5 kOhm	10%, .5 W 22 turn, Trim U 2
	R...214	57.11.3102	1 kOhm	10%, .5 W
	R...215	57.56.5228	.22 Ohm	10%, 4 W, WW
	R...216	57.11.3102	1 kOhm	10%, .5 W
	R...217	57.11.3102	1 kOhm	10%, .5 W
	R...218	57.11.3102	1 kOhm	10%, .5 W
	R...219	57.99.0803	470 kOhm	NTC Siemens
	R...301	. . 0	not used	58.05.0502, 5 kOhm 10%, .5 W, Option 1
	R...401	. . 0	not used	58.05.0502, 5 kOhm 10%, .5 W, Option 1
	W...102	64.01.0108	0,8 mm	wiring bridge
	W...109	57.11.3000	0 Ohm	wiring bridge
	W...202	64.01.0108	0,8 mm	wiring bridge
	W...209	57.11.3000	Ohm	wiring bridge

Pos # 1...99 : Global
101..199 : for U 1
201..299 : for U 2
301..499 : for U 3, U 4 (Option 1)

-81 no auto switch off
thermal fold back
both stabilizer max. input voltage 45 V
current ~ 1 ampere

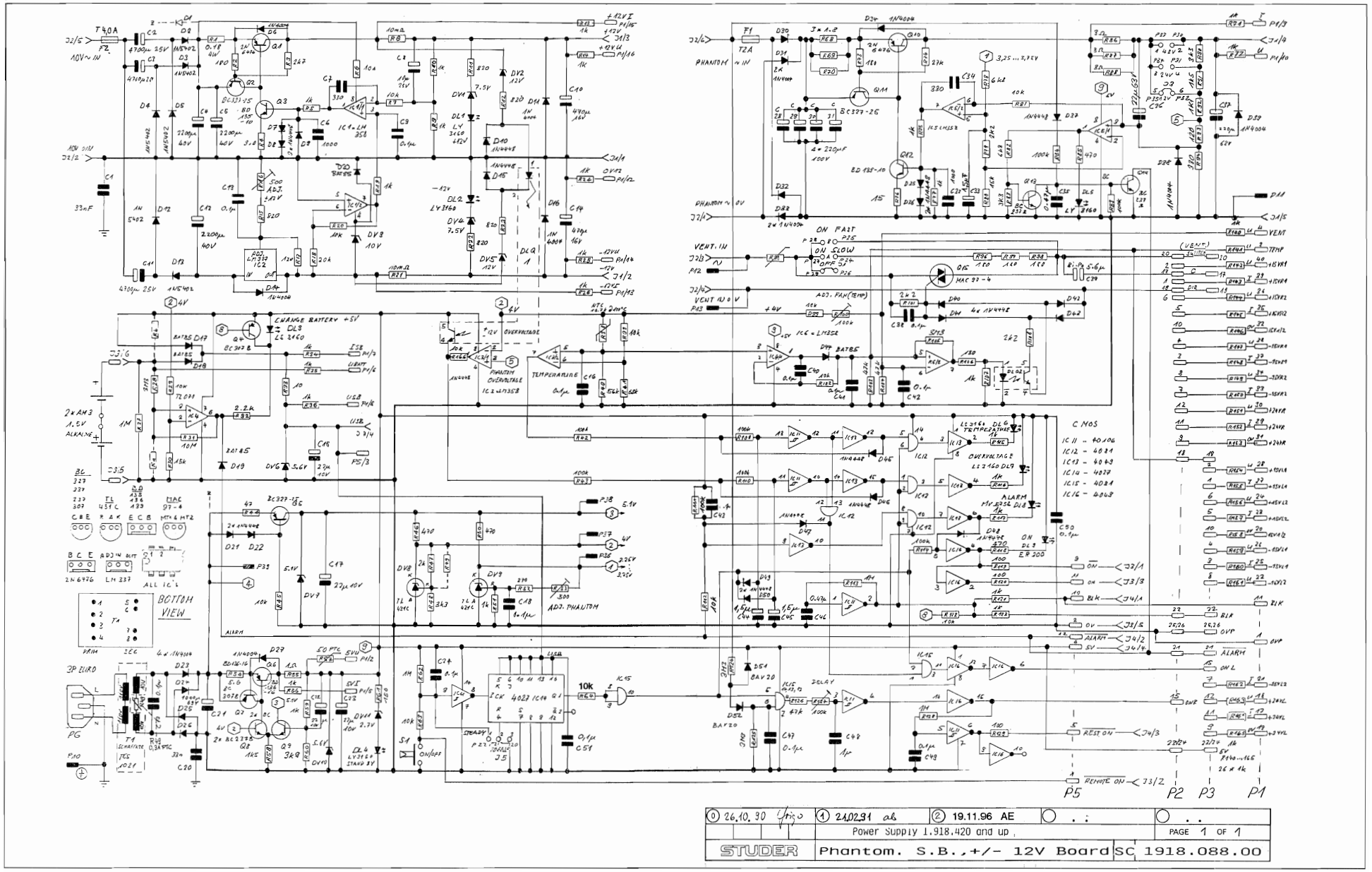
Option 2
max. 2 ampere current for 5V or 6V DC output:
R 0,47 Ohm in parallel to R110 or R210 on solder side.
R 10 kOhm in parallel to R112 or R212 on solder side.
F 101 or F201 3.15 A SB

CE=Ceramic, CF=Carbon Film, EL=Electrolytic, MF=Metal Film,
PE=Polyester, PP=Polypropylen, SAL=Solid Aluminium Lacquered
PS=Polystyrol

MANUFACTURER: St=Studer

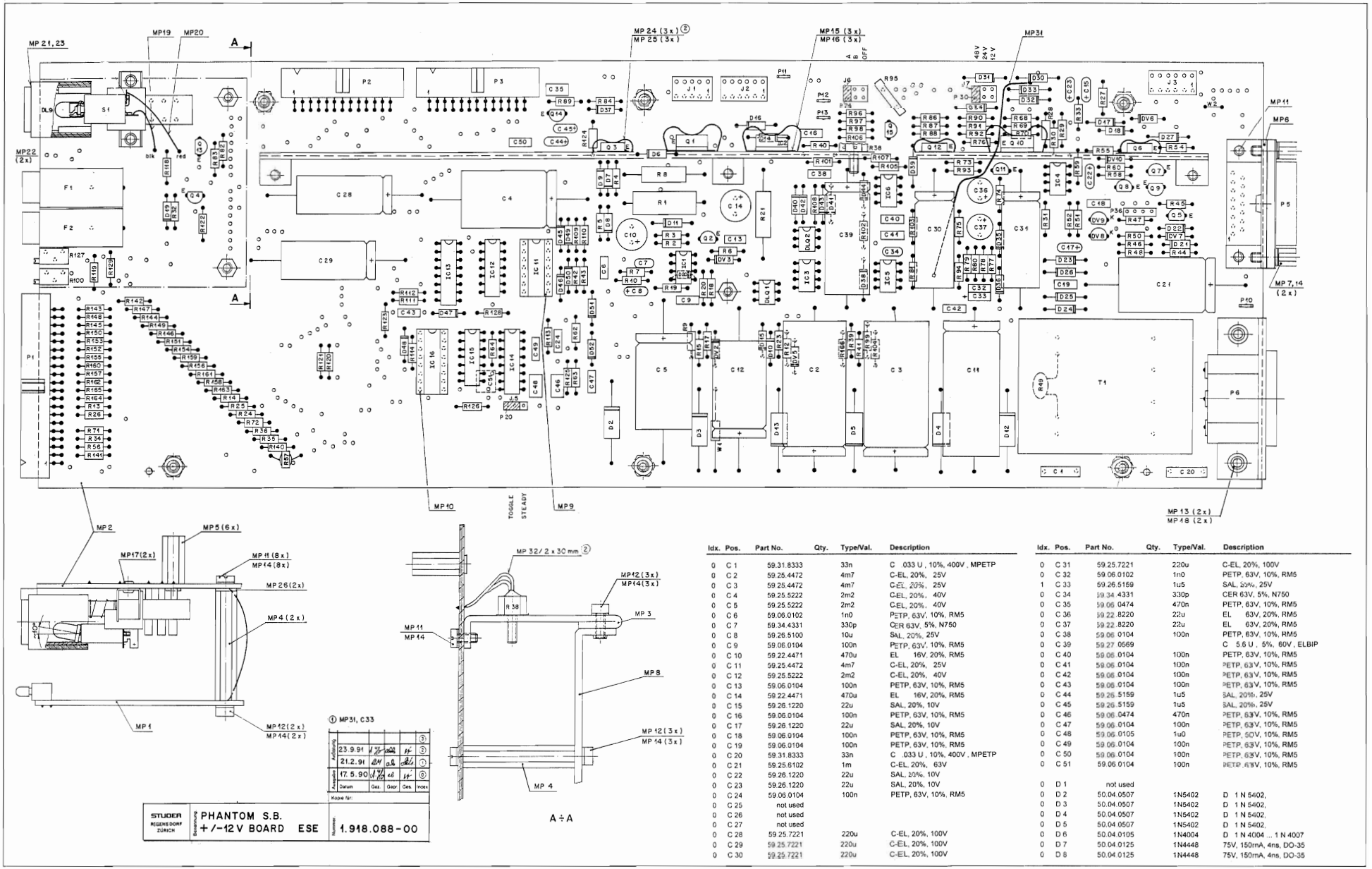
1.918.087.81 +/- DUAL STAB. RECT. BOARD FRI95/05/2300

PHANTOM S.B. ±12V BOARD 1.918.088.00



0 26.10.90 Uriso	1 24.02.97 ab	2 19.11.96 AE	. .
	Power Supply 1.918.420 and up		PAGE 1 OF 1
STUDER	Phantom. S.B.,+/- 12V Board		SC 1918.088.00

PHANTOM S.B. ±12V BOARD 1.918.088.00



① MP31, C33

	Datum	Ges.	Gepr.	Ges.	Index
Änderung	23.9.91				③
	21.2.91				②
Ausgabe	17.5.90				①

Kopie für:

STUDER REGENSDORF ZÜRICH | Benennung: PHANTOM S.B. +/-12 V BOARD ESE | Nummer: 1.918.088-00

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	C 1	59.31.8333		33n	C .033 U , 10%, 400V , MPETP
0	C 2	59.25.4472		4m7	C-EL, 20%, 25V
0	C 3	59.25.4472		4m7	C-EL, 20%, 25V
0	C 4	59.25.5222		2m2	C-EL, 20%, 40V
0	C 5	59.25.5222		2m2	C-EL, 20%, 40V
0	C 6	59.06.0102		1n0	PETP, 63V, 10%, RM5
0	C 7	59.34.4331		330p	CER 63V, 5%, N750
0	C 8	59.26.5100		10u	SAL, 20%, 25V
0	C 9	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 10	59.22.4471		470u	EL 16V, 20%, RM5
0	C 11	59.25.4472		4m7	C-EL, 20%, 25V
0	C 12	59.25.5222		2m2	C-EL, 20%, 40V
0	C 13	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 14	59.22.4471		470u	EL 16V, 20%, RM5
0	C 15	59.26.1220		22u	SAL, 20%, 10V
0	C 16	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 17	59.26.1220		22u	SAL, 20%, 10V
0	C 18	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 19	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 20	59.31.8333		33n	C .033 U , 10%, 400V , MPETP
0	C 21	59.25.6102		1m	C-EL, 20%, 63V
0	C 22	59.26.1220		22u	SAL, 20%, 10V
0	C 23	59.26.1220		22u	SAL, 20%, 10V
0	C 24	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 25	not used			
0	C 26	not used			
0	C 27	not used			
0	C 28	59.25.7221		220u	C-EL, 20%, 100V
0	C 29	59.25.7221		220u	C-EL, 20%, 100V
0	C 30	59.25.7221		220u	C-EL, 20%, 100V

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	C 31	59.25.7221		220u	C-EL, 20%, 100V
0	C 32	59.06.0102		1n0	PETP, 63V, 10%, RM5
1	C 33	59.26.5159		1u5	SAL, 20%, 25V
0	C 34	59.34.4331		330p	CER 63V, 5%, N750
0	C 35	59.06.0474		470n	PETP, 63V, 10%, RM5
0	C 36	59.22.8220		22u	EL 63V, 20%, RM5
0	C 37	59.22.8220		22u	EL 63V, 20%, RM5
0	C 38	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 39	59.27.0569			C 5.6 U , 5%, 60V , ELBIP
0	C 40	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 41	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 42	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 43	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 44	59.26.5159		1u5	SAL, 20%, 25V
0	C 45	59.26.5159		1u5	SAL, 20%, 25V
0	C 46	59.06.0474		470n	PETP, 63V, 10%, RM5
0	C 47	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 48	59.06.0105		1u0	PETP, 50V, 10%, RM5
0	C 49	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 50	59.06.0104		100n	PETP, 63V, 10%, RM5
0	C 51	59.06.0104		100n	PETP, 63V, 10%, RM5
0	D 1	not used			
0	D 2	50.04.0507		1N5402	D 1 N 5402,
0	D 3	50.04.0507		1N5402	D 1 N 5402,
0	D 4	50.04.0507		1N5402	D 1 N 5402,
0	D 5	50.04.0507		1N5402	D 1 N 5402,
0	D 6	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 7	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 8	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35



PHANTOM S.B. ±12V BOARD 1.918.088.00

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	D 9	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 10	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 11	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 12	50.04.0507		1N5402	D 1 N 5402,
0	D 13	50.04.0507		1N5402	D 1 N 5402,
0	D 14	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 15	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 16	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 17	50.04.0127		BAT85	200mA, Schottky
0	D 18	50.04.0127		BAT85	200mA, Schottky
0	D 19	50.04.0127		BAT85	200mA, Schottky
0	D 20	50.04.0127		BAT85	200mA, Schottky
0	D 21	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 22	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 23	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 24	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 25	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 26	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 27	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 28	not used			
0	D 29	not used			
0	D 30	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 31	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 32	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 33	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 34	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 35	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 36	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 37	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 38	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 39	50.04.0105		1N4004	D 1 N 4004 ... 1 N 4007
0	D 40	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 41	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 42	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 43	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 44	50.04.0127		BAT85	200mA, Schottky
0	D 45	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 46	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 47	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 48	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 49	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 50	50.04.0125		1N4448	75V, 150mA, 4ns, DO-35
0	D 51	50.04.0133		BAV20	D BAV 20 , SI
0	D 52	50.04.0133		BAV20	D BAV 20 , SI
0	DL 1	not used			
0	DL 2	not used			
0	DL 3	not used			
0	DL 4	not used			
0	DL 5	not used			
0	DL 6	not used			
0	DL 7	not used			
0	DL 8	not used			
0	DL 9	50.04.2155		ER300	DL ER 300 RT
0	DLQ 1	50.04.3200		CNY17	DLQ CNY 17-2, CNY 17-2Z,
0	DLQ 2	50.04.3200		CNY17	DLQ CNY 17-2, CNY 17-2Z,
0	DV 1	not used			
0	DV 2	50.04.1117		12V	Zener, 5%, 0.5W, DO-35
0	DV 3	50.04.1114		10V	Zener, 5%, 0.5W, DO-35
0	DV 4	not used			
0	DV 5	50.04.1117		12V	Zener, 5%, 0.5W, DO-35
0	DV 6	50.04.1108		5V6	Zener, 5%, 0.5W, DO-35
0	DV 7	50.04.1112		5V1	Zener, 5%, 0.5W, DO-35
0	DV 8	50.10.0106		TL431	IC TL 431 CLP,
0	DV 9	50.10.0106		TL431	IC TL 431 CLP,
0	DV 10	50.04.1108		5V6	Zener, 5%, 0.5W, DO-35
0	DV 11	not used			
0	F 1	51.01.0120		2.0A	T 5*20 L 250V
0	F 2	51.01.0123		4.0A	T 5*20 L 250V
0	IC 1	50.05.0286		LM358	IC LM 358 N,LM 358 P,OPAMP ,A
0	IC 2	50.10.0105		LM337KC	IC LM 337 KC, ..SP, ..T,
0	IC 3	50.05.0286		LM358	IC LM 358 N,LM 358 P,OPAMP ,A
0	IC 4	50.09.0103		TL071	IC TL 071 CP, ,A
0	IC 5	50.05.0286		LM358	IC LM 358 N,LM 358 P,OPAMP ,A
0	IC 6	50.05.0286		LM358	IC LM 358 N,LM 358 P,OPAMP ,A
0	IC 7	not used			
0	IC 8	not used			
0	IC 9	not used			
0	IC 10	not used			
0	IC 11	50.07.0014		40106	Hex Schmitt Trigger
0	IC 12	50.07.0081		4081	IC .. 4081 .. ,A
0	IC 13	50.07.0049		4049	IC .. 4049 .. ,A
0	IC 14	50.07.0027		4027	IC .. 4027 .. ,A
0	IC 15	50.07.0081		4081	IC .. 4081 .. ,A
0	IC 16	50.07.0049		4049	IC .. 4049 .. ,A
0	J 1	54.01.0288		5-P	J LEISTE 5 POL CIS AUFST.
0	J 2	54.01.0216		6-P	J LEISTE 6 POL CIS AUFST.
0	J 3	54.01.0216		6-P	J LEISTE 6 POL CIS AUFST.
0	J 4	not used			
0	J 5	54.01.0021		Jumper	0.63 * 0.63mm
0	J 6	54.01.0021		Jumper	0.63 * 0.63mm
0	J 7	54.01.0021		Jumper	0.63 * 0.63mm
0	MP 1	1.918.082.00	1 mp		LED BOARD
0	MP 2	1.918.088.11	1 mp		PHANTOM S.B. +/- 12V PCB
0	MP 3	1.918.088.01	1 mp		KUEHLBLECH
0	MP 4	1.010.027.27	3 mp		MUTTERBOLZEN M 3 * 35
0	MP 5	1.010.046.22	6 mp		NIETMUTTER
0	MP 6	1.963.001.22	1 mp		HALTEWINKEL D-15POL.
0	MP 7	1.010.036.54	2 mp		VERIEGELUNGS-GEWINDEBOLZEN
0	MP 8	1.918.088.02	1 mp		KUEHLBLECHERWEITERUNG
0	MP 9	53.03.0167	1 mp	14p	DIL 0.3", lot, gerade
0	MP 10	53.03.0168	1 mp	16p	DIL 0.3", lot, gerade
0	MP 11	21.13.0354	8 mp		Z - SCHR. A2/A2 M 3 * 6
0	MP 12	21.53.0355	6 mp		Z - SCHR. IS , ZN , M 3 * 8
0	MP 13	23.01.1032	2 mp		U-SCHEIBE D 3.2/ 6 *0.5
0	MP 14	24.16.1030	16 mp		RIPPENSCHEIBE D 3.2/5.5
0	MP 15	50.20.2004	3 mp		MONTAGECLIP ZU TO 220
0	MP 16	50.20.0315	3 mp		TO 220 GLIMMERSCHEIBE, ZU CLIP
0	MP 17	28.21.1350	2 mp		ROHRNIETE, D2.25* 4.0
0	MP 18	28.21.2408	2 mp		ROHRNIETE,DIN D 3.0* 6.0
0	MP 19	1.010.200.64	1 mp		LITZE SW, 70MM, M.RASTKONTAKT
0	MP 20	1.010.202.64	1 mp		LITZE RT, 70MM, M.RASTKONTAKT
0	MP 21	55.15.0101	1 mp		BX W2*4.6D, ZU SCHADOW- TYP F
0	MP 22	53.03.0145	2 mp		XF 5 * 20, PCB-LIEGEND ,U
0	MP 23	55.15.0143	1 mp		S TASTE GRUND SW KAPPE OR
2	MP 24	50.20.2002	3 mp		MONTAGECLIP ZU TO 126
0	MP 25	50.20.0314	3 mp		TO 126 GLIMMERSCHEIBE, ZU CLIP
0	MP 26	1.010.013.23	2 mp		U-SCHEIBE ST D 3.1/ 6 X1
0	MP 27	43.01.0108	1 mp	Label	ESE-WARNSCHILD
2	MP 28	not used	mp		
0	MP 29	1.918.088.04	1 mp		NR.-ETIKETTE 5 * 20
0	MP 30	54.01.0020	7 mp	1p	Pin 0.63*0.63 *PCB Connector P20..22, P36..39*
1	MP 31	64.01.0309	90 mm		SCHALTDRAHT WS, ISOL D 0.6/1.2 *Schaltdraht iso, min D=0.6 mm*
2	MP 32	65.99.0111	60 mm		PTFE-SCHLAUCH SPEZ .89*0.152 *PTFE-Schlauch Spez. 0.89 * 0.152mm.*
0	P 1	54.14.2075		40p	1/20" Au, winkel, ohne Verrieg
0	P 2	54.14.2074		26p	1/20" Au, winkel, ohne Verrieg
0	P 3	54.14.2074		26p	1/20" Au, winkel, ohne Verrieg
0	P 4	not used			
0	P 5	54.13.0012		15p	P D-TYPE, 15 POL.WINKL,PRINT
0	P 6	54.42.0020		3-P	IEC 320 GERAETESTECKER 6A
0	P 7	not used			
0	P 8	not used			
0	P 9	not used			
0	P 10	54.02.0320		1p	Flatpin, 2.8*0.8mm
0	P 11	54.02.0320		1p	Flatpin, 2.8*0.8mm
0	P 12	54.02.0320		1p	Flatpin, 2.8*0.8mm
0	P 13	54.02.0320		1p	Flatpin, 2.8*0.8mm
0	P 14	not used			
0	P 15	not used			
0	P 16	not used			
0	P 17	not used			
0	P 18	not used			
0	P 19	not used			
0	P 20	not used			
0	P 23	not used			
0	P 24	54.11.0136		2*3p	Pin 0.63*0.63, RM2.54
0	P 30	54.11.0136		2*3p	Pin 0.63*0.63, RM2.54
0	P 36	not used			
0	Q 1	50.03.0345		MJE15029	MJE 15 029 PNP
0	Q 2	50.03.0351		BC327-25	PNP, 800mA
0	Q 3	50.03.0495		BD135-16	BD 135-16 NPN
0	Q 4	50.03.0515		BC307B	BC 307 B , BC 557 B ,PNP
0	Q 5	50.03.0351		BC327-25	PNP, 800mA
0	Q 6	50.03.0510		BD136-16	BD 136-16, ..-K, -L, -M

PHANTOM S.B. ±12V BOARD 1.918.088.00

Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	Q 7	50.03.0515		BC307B	BC 307 B , BC 557 B ,PNP
0	Q 8	50.03.0436		BC237B	BC 237 B, 547 B, 550 B,
0	Q 9	50.03.0436		BC237B	BC 237 B, 547 B, 550 B,
0	Q 10	50.03.0345		MJE15029	MJE 15 029 PNP
0	Q 11	50.03.0351		BC327-25	PNP, 800mA
0	Q 12	50.03.0451		BD139-10	BD 139-10
0	Q 13	50.03.0436		BC237B	BC 237 B, 547 B, 550 B,
0	Q 14	50.03.0436		BC237B	BC 237 B, 547 B, 550 B,
0	Q 15	50.08.0001			Q MAC 97-4 200V,0.6A, TRIAC
					Triac UAC=200V IAC=0.6A *Mot*
0	R 1	57.56.4188		R18	WW, 5%, 4 W
0	R 2	57.11.3181		180R	MF, 1%, 0207
0	R 3	57.11.3272		2k7	MF, 1%, 0207
0	R 4	57.11.3309		3R0	MF, 1%, 0207
0	R 5	57.11.3102		1k0	MF, 1%, 0207
0	R 6	57.19.0100		10R	5%, 0207, Fuse
0	R 7	57.11.3103		10k	MF, 1%, 0207
0	R 8	57.56.2010		R010	WW, 5%, 3 W
0	R 9	57.11.3102		1k0	MF, 1%, 0207
0	R 10	57.11.3102		1k0	MF, 1%, 0207
0	R 11	not used		820R	MF, 1%, 0207
0	R 12	57.11.3821		820R	MF, 1%, 0207
0	R 13	57.11.3102		1k0	MF, 1%, 0207
0	R 14	57.11.3102		1k0	MF, 1%, 0207
0	R 15	57.11.3821		820R	MF, 1%, 0207
0	R 17	57.11.3121		120R	MF, 1%, 0207
0	R 18	57.11.3203		20k	MF, 1%, 0207
0	R 19	57.11.3102		1k0	MF, 1%, 0207
0	R 20	57.11.3103		10k	MF, 1%, 0207
0	R 21	57.56.2010		R010	WW, 5%, 3 W
0	R 22	not used		820R	MF, 1%, 0207
0	R 23	57.11.3821		820R	MF, 1%, 0207
0	R 24	57.11.3102		1k0	MF, 1%, 0207
0	R 25	57.11.3102		1k0	MF, 1%, 0207
0	R 26	57.11.3102		1k0	MF, 1%, 0207
0	R 27	57.11.3105		1M0	MF, 1%, 0207
0	R 28	57.11.5335		3M3	MF, 5%, 0207
0	R 29	57.11.3103		10k	MF, 1%, 0207
0	R 30	57.11.3153		15k	MF, 1%, 0207
0	R 31	57.11.5106		10M	MF, 5%, 0207
0	R 32	57.11.3222		2k2	MF, 1%, 0207
0	R 33	57.11.3100		10R	MF, 1%, 0207
0	R 34	57.11.3102		1k0	MF, 1%, 0207
0	R 35	57.11.3102		1k0	MF, 1%, 0207
0	R 36	57.11.3102		1k0	MF, 1%, 0207
0	R 37	not used			
2	R 38	57.99.0803			R 470 K, 10%, NTC
0	R 39	57.11.3103		10k	MF, 1%, 0207
0	R 40	57.11.3563		56k	MF, 1%, 0207
0	R 41	57.11.3683		68k	MF, 1%, 0207
0	R 42	57.11.3104		100k	MF, 1%, 0207
0	R 43	57.11.3104		100k	MF, 1%, 0207
0	R 44	57.11.3470		47R	MF, 1%, 0207
0	R 45	57.11.3103		10k	MF, 1%, 0207
0	R 46	57.11.3471		470R	MF, 1%, 0207
0	R 47	57.11.3202		2k0	MF, 1%, 0207
0	R 48	57.11.3332		3k3	MF, 1%, 0207
0	R 49	57.92.7012		0.3A	POLY- PTC, 60V
0	R 50	57.11.3471		470R	MF, 1%, 0207
0	R 51	57.11.3102		1k0	MF, 1%, 0207
0	R 52	57.11.3271		270R	MF, 1%, 0207
0	R 54	57.11.3569		5R6	MF, 1%, 0207
0	R 55	57.11.3109		1R0	MF, 1%, 0207
0	R 56	57.11.3102		1k0	MF, 1%, 0207
0	R 57	57.99.0206			R 50 , 25V, .5 W , PTC
0	R 58	57.11.3152		1k5	MF, 1%, 0207
0	R 59	57.11.3102		1k0	MF, 1%, 0207
0	R 60	57.11.3392		3k9	MF, 1%, 0207
0	R 61	not used		150R	MF, 1%, 0207
0	R 62	57.11.3105		1M0	MF, 1%, 0207
0	R 63	57.11.3103		10k	MF, 1%, 0207
3	R 64	57.11.3103		10k	MF, 1%, 0207
0	R 65	not used			
0	R 66	not used			
0	R 67	not used			
0	R 68	57.11.3189		1R8	MF, 1%, 0207
0	R 69	57.11.3189		1R8	MF, 1%, 0207
0	R 70	57.11.3189		1R8	MF, 1%, 0207
0	R 71	57.11.3102		1k0	MF, 1%, 0207
0	R 72	57.11.3102		1k0	MF, 1%, 0207
0	R 73	57.11.3181		180R	MF, 1%, 0207
0	R 74	57.11.3273		27k	MF, 1%, 0207
0	R 75	57.11.3102		1k0	MF, 1%, 0207
0	R 76	57.11.3150		15R	MF, 1%, 0207
0	R 77	57.11.3102		1k0	MF, 1%, 0207
0	R 78	57.11.3682		6k8	MF, 1%, 0207
0	R 79	57.11.3222		2k2	MF, 1%, 0207
0	R 80	57.11.3153		15k	MF, 1%, 0207
0	R 81	57.11.3103		10k	MF, 1%, 0207
0	R 82	57.11.3682		6k8	MF, 1%, 0207
0	R 83	57.11.3332		3k3	MF, 1%, 0207
0	R 84	57.11.3104		100k	MF, 1%, 0207
0	R 85	not used		470R	MF, 1%, 0207
0	R 86	57.11.3309		3R0	MF, 1%, 0207
0	R 87	57.11.3309		3R0	MF, 1%, 0207
0	R 88	57.11.3309		3R0	MF, 1%, 0207
0	R 89	57.11.3104		100k	MF, 1%, 0207
0	R 90	57.11.3332		3k3	MF, 1%, 0207
0	R 91	57.11.3152		1k5	MF, 1%, 0207
0	R 92	57.11.3112		1k1	MF, 1%, 0207
0	R 93	57.11.3121		120R	MF, 1%, 0207
0	R 94	57.11.3331		330R	MF, 1%, 0207
0	R 95	57.92.1221		270mA	PTC, 30V, 6 Ohm
0	R 96	57.11.3181		180R	MF, 1%, 0207
0	R 97	57.11.3181		180R	MF, 1%, 0207
0	R 98	57.11.3181		180R	MF, 1%, 0207
0	R 99	57.11.3103		10k	MF, 1%, 0207
0	R 100	58.05.0104		100k	10%, 0.5W, Cermet
0	R 101	57.11.3222		2k2	MF, 1%, 0207
0	R 102	57.11.3103		10k	MF, 1%, 0207
0	R 103	57.11.3473		47k	MF, 1%, 0207
0	R 104	57.11.3473		47k	MF, 1%, 0207
0	R 105	57.11.5335		3M3	MF, 5%, 0207
0	R 106	57.11.3181		180R	MF, 1%, 0207
0	R 107	57.11.3102		1k0	MF, 1%, 0207
0	R 108	57.11.3222		2k2	MF, 1%, 0207
0	R 109	57.11.3104		100k	MF, 1%, 0207
0	R 110	57.11.3104		100k	MF, 1%, 0207
0	R 111	57.11.3104		100k	MF, 1%, 0207
0	R 112	57.11.3103		10k	MF, 1%, 0207
0	R 113	57.11.3105		1M0	MF, 1%, 0207
0	R 114	57.11.3104		100k	MF, 1%, 0207
0	R 115	not used		1k0	MF, 1%, 0207
0	R 116	not used		1k0	MF, 1%, 0207
0	R 117	not used		1k0	MF, 1%, 0207
0	R 118	57.11.3471		470R	MF, 1%, 0207
0	R 119	57.11.3101		100R	MF, 1%, 0207
0	R 120	57.11.3101		100R	MF, 1%, 0207
0	R 121	57.11.3102		1k0	MF, 1%, 0207
0	R 122	57.11.3103		10k	MF, 1%, 0207
0	R 123	57.11.3102		1k0	MF, 1%, 0207
0	R 124	57.11.5335		3M3	MF, 5%, 0207
0	R 125	57.11.5335		3M3	MF, 5%, 0207
0	R 126	57.11.3473		47k	MF, 1%, 0207
0	R 127	58.05.0104		100k	10%, 0.5W, Cermet
0	R 128	57.11.3105		1M0	MF, 1%, 0207
0	R 129	57.11.3101		100R	MF, 1%, 0207
0	R 130	not used			
0	R 131	not used			
0	R 132	not used			
0	R 133	not used			
0	R 134	not used			
0	R 135	not used			
0	R 136	not used			
0	R 137	not used			
0	R 138	not used			
0	R 139	not used			
0	R 140	57.11.3102		1k0	MF, 1%, 0207
0	R 141	57.11.3102		1k0	MF, 1%, 0207
0	R 142	57.11.3102		1k0	MF, 1%, 0207
0	R 143	57.11.3102		1k0	MF, 1%, 0207
0	R 144	57.11.3102		1k0	MF, 1%, 0207
0	R 145	57.11.3102		1k0	MF, 1%, 0207
0	R 146	57.11.3102		1k0	MF, 1%, 0207
0	R 147	57.11.3102		1k0	MF, 1%, 0207
0	R 148	57.11.3102		1k0	MF, 1%, 0207
0	R 149	57.11.3102		1k0	MF, 1%, 0207
0	R 150	57.11.3102		1k0	MF, 1%, 0207
0	R 151	57.11.3102		1k0	MF, 1%, 0207
0	R 152	57.11.3102		1k0	MF, 1%, 0207
0	R 153	57.11.3102		1k0	MF, 1%, 0207
0	R 154	57.11.3102		1k0	MF, 1%, 0207
0	R 155	57.11.3102		1k0	MF, 1%, 0207
0	R 156	57.11.3102		1k0	MF, 1%, 0207
0	R 157	57.11.3102		1k0	MF, 1%, 0207
0	R 158	57.11.3102		1k0	MF, 1%, 0207

PHANTOM S.B. ±12V BOARD 1.918.088.00

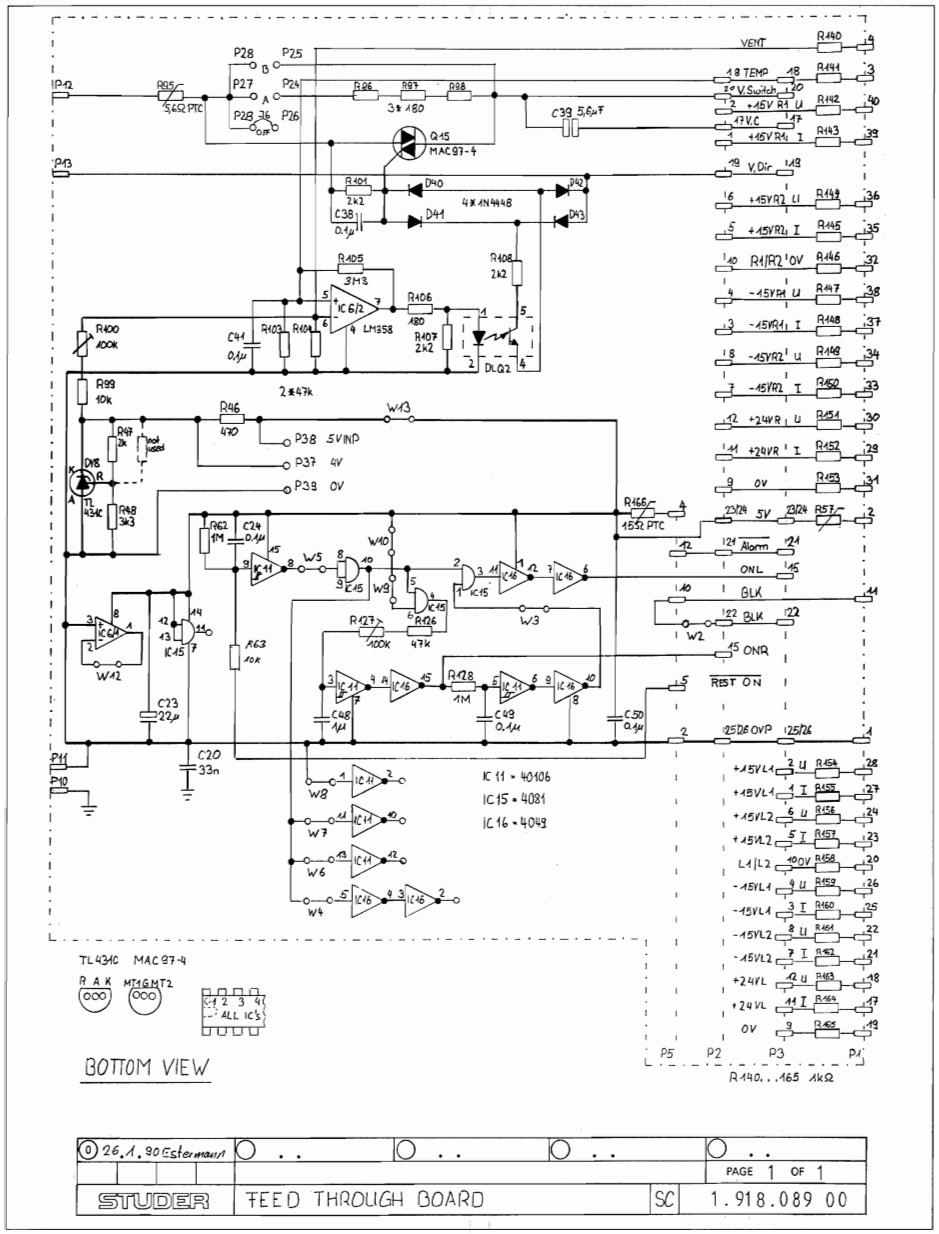
Idx.	Pos.	Part No.	Qty.	Type/Val.	Description
0	R 159	57.11.3102		1k0	MF, 1%, 0207
0	R 160	57.11.3102		1k0	MF, 1%, 0207
0	R 161	57.11.3102		1k0	MF, 1%, 0207
0	R 162	57.11.3102		1k0	MF, 1%, 0207
0	R 163	57.11.3102		1k0	MF, 1%, 0207
0	R 164	57.11.3102		1k0	MF, 1%, 0207
0	R 165	57.11.3102		1k0	MF, 1%, 0207
0	R 166	57.11.3103		10k	MF, 1%, 0207
0	S 1	55.15.0032			SZ 1 TASTE, 2U, IMPULS OHNE
0	T 1	63.20.0101			NETZTRAFO 2 X 10.2V / 3.5VA
0	W 1	57.11.3000		0R0	MF, 0207
0	W 2	1.010.321.64		Wire	DRAHTBRUECKE U, 4.3* 5.0, 0.6

End of List

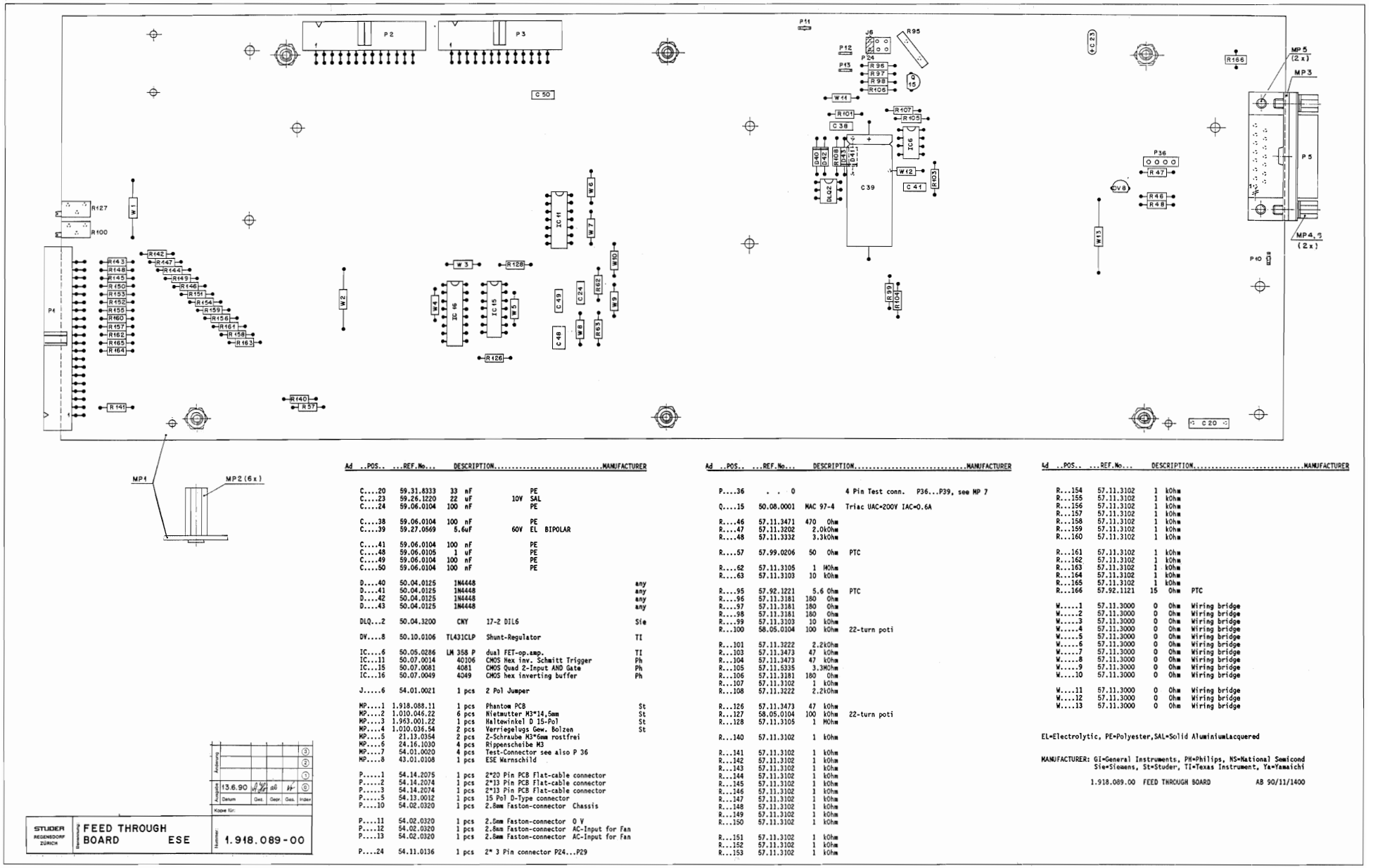
Comments

(01) 21.02.91 AB
Better Phantom Performance
(02) 23.09.91 AB
Philips NTC Resistor #57.99.0220 is no longer available.
R38 is now a Siemens NTC Resistor #57.99.0803 and the leads are insulated with 2 pcs. PTFE-tube #65.99.0111, L=30 mm. (MP32 position).
At the MP24 position, one pc. is removed from the board.
The MP28 position is no longer used.
(03) 19.11.96 AE
Circuit works at lower temperature

FEED-THROUGH BOARD 1.918.089.00



FEED-THROUGH BOARD 1.918.089.00



Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	C....20	59.31.8333	33 nF PE	
	C....23	59.26.1220	22 uF 10V SAL	
	C....24	59.06.0104	100 nF PE	
	C....38	59.06.0104	100 nF PE	
	C....39	59.27.0569	5.6uF 60V EL BIPOLAR	
	C....41	59.06.0104	100 nF PE	
	C....48	59.06.0105	1 uF PE	
	C....49	59.06.0104	100 nF PE	
	C....50	59.06.0104	100 nF PE	
	D....40	50.04.0125	1N4448	any
	D....41	50.04.0125	1N4448	any
	D....42	50.04.0125	1N4448	any
	D....43	50.04.0125	1N4448	any
	DLQ...2	50.04.3200	CNY 17-2 DIL6	Sie
	DV....8	50.10.0106	TL431CLP Shunt-Regulator	TI
	IC....6	50.05.0286	LM 358 P dual FET-op.amp.	TI
	IC....11	50.07.0014	40106 CMOS Hex inv. Schmitt Trigger	Ph
	IC....15	50.07.0081	4081 CMOS Quad 2-Input AND Gate	Ph
	IC....16	50.07.0049	4049 CMOS hex inverting buffer	Ph
	J.....6	54.01.0021	1 pcs 2 Pol Jumper	
	MP....1	1.918.088.11	1 pcs Phantom PCB	St
	MP....2	1.010.046.22	6 pcs Nietmutter M3*14,5mm	St
	MP....3	1.963.001.22	1 pcs Haltewinkel D 15-Pol	St
	MP....4	1.010.036.54	2 pcs Verriegelugs Gew. Bolzen	St
	MP....5	21.13.0354	2 pcs Z-Schraube M3*6mm rostfrei	
	MP....6	24.16.1030	4 pcs Rippenscheibe M3	
	MP....7	54.01.0020	4 pcs Test-Connector see also P 36	
	MP....8	43.01.0108	1 pcs ESE Warnschild	
	P.....1	54.14.2075	1 pcs 2*20 Pin PCB Flat-cable connector	
	P.....2	54.14.2074	1 pcs 2*13 Pin PCB Flat-cable connector	
	P.....3	54.14.2074	1 pcs 2*13 Pin PCB Flat-cable connector	
	P.....5	54.13.0012	1 pcs 15 Pol D-Type connector	
	P....10	54.02.0320	1 pcs 2.8mm faston-connector Chassis	
	P....11	54.02.0320	1 pcs 2.8mm faston-connector 0 V	
	P....12	54.02.0320	1 pcs 2.8mm faston-connector AC-Input for fan	
	P....13	54.02.0320	1 pcs 2.8mm faston-connector AC-Input for fan	
	P....24	54.11.0136	1 pcs 2* 3 Pin connector P24...P29	

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	P....36	. . 0	4 Pin Test conn. P36...P39, see MP 7	
	Q....15	50.08.0001	MAC 97-4 Triac UAC=200V IAC=0.6A	
	R....46	57.11.3471	470 Ohm	
	R....47	57.11.3202	2.0kOhm	
	R....48	57.11.3332	3.3kOhm	
	R....57	57.99.0206	50 Ohm PTC	
	R....62	57.11.3105	1 MOhm	
	R....63	57.11.3103	10 kOhm	
	R....95	57.92.1221	5.6 Ohm PTC	
	R....96	57.11.3181	180 Ohm	
	R....97	57.11.3181	180 Ohm	
	R....98	57.11.3181	180 Ohm	
	R....99	57.11.3103	10 kOhm	
	R...100	58.05.0104	100 kOhm 22-turn poti	
	R...101	57.11.3222	2.2kOhm	
	R...103	57.11.3473	47 kOhm	
	R...104	57.11.3473	47 kOhm	
	R...105	57.11.5335	3.3MOhm	
	R...106	57.11.3181	180 Ohm	
	R...107	57.11.3102	1 kOhm	
	R...108	57.11.3222	2.2kOhm	
	R...126	57.11.3473	47 kOhm	
	R...127	58.05.0104	100 kOhm 22-turn poti	
	R...128	57.11.3105	1 MOhm	
	R...140	57.11.3102	1 kOhm	
	R...141	57.11.3102	1 kOhm	
	R...142	57.11.3102	1 kOhm	
	R...143	57.11.3102	1 kOhm	
	R...144	57.11.3102	1 kOhm	
	R...145	57.11.3102	1 kOhm	
	R...146	57.11.3102	1 kOhm	
	R...147	57.11.3102	1 kOhm	
	R...148	57.11.3102	1 kOhm	
	R...149	57.11.3102	1 kOhm	
	R...150	57.11.3102	1 kOhm	
	R...151	57.11.3102	1 kOhm	
	R...152	57.11.3102	1 kOhm	
	R...153	57.11.3102	1 kOhm	

Ad	..POS..	...REF.No...	DESCRIPTION	MANUFACTURER
	R...154	57.11.3102	1 kOhm	
	R...155	57.11.3102	1 kOhm	
	R...156	57.11.3102	1 kOhm	
	R...157	57.11.3102	1 kOhm	
	R...158	57.11.3102	1 kOhm	
	R...159	57.11.3102	1 kOhm	
	R...160	57.11.3102	1 kOhm	
	R...161	57.11.3102	1 kOhm	
	R...162	57.11.3102	1 kOhm	
	R...163	57.11.3102	1 kOhm	
	R...164	57.11.3102	1 kOhm	
	R...165	57.11.3102	1 kOhm	
	R...166	57.92.1121	15 Ohm PTC	
	W.....1	57.11.3000	0 Ohm Wiring bridge	
	W.....2	57.11.3000	0 Ohm Wiring bridge	
	W.....3	57.11.3000	0 Ohm Wiring bridge	
	W.....4	57.11.3000	0 Ohm Wiring bridge	
	W.....5	57.11.3000	0 Ohm Wiring bridge	
	W.....6	57.11.3000	0 Ohm Wiring bridge	
	W.....7	57.11.3000	0 Ohm Wiring bridge	
	W.....8	57.11.3000	0 Ohm Wiring bridge	
	W.....9	57.11.3000	0 Ohm Wiring bridge	
	W....10	57.11.3000	0 Ohm Wiring bridge	
	W....11	57.11.3000	0 Ohm Wiring bridge	
	W....12	57.11.3000	0 Ohm Wiring bridge	
	W....13	57.11.3000	0 Ohm Wiring bridge	

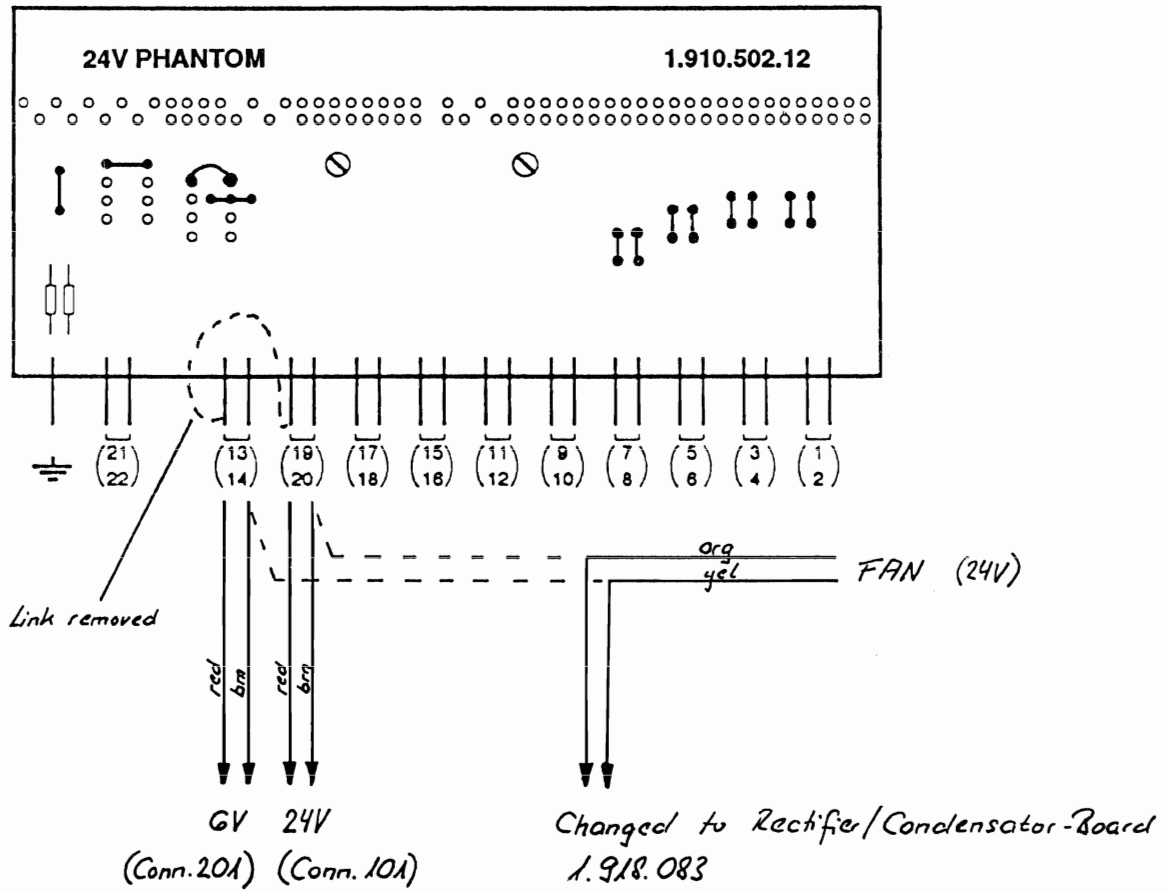
EL=Electrolytic, PE=Polyester,SAL=Solid AluminiumLacquered

MANUFACTURER: GI=General Instruments, PH=Philips, NS=National Semicond
Sie=Siemens, St=Studer, TI=Texas Instrument, Ya=Yamaichi

1.918.089.00 FEED THROUGH BOARD AB 90/11/1400

STUDER REGENSDORF ZÜRICH	Benennung: FEED THROUGH BOARD ESE	Nummer: 1.918.089-00	
Änderung			③ ② ①
Ausgabe	13.6.90		⑥
Datum	Ges.	Gepr.	Ges. Index
Kopie für:			

MODIFICATION FOR POWER SUPPLY 1.918.420 / 101



ONLY TRAFO-BLOCK B!

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STUDER	Modification for Powe-Supply 1.918.420/101			