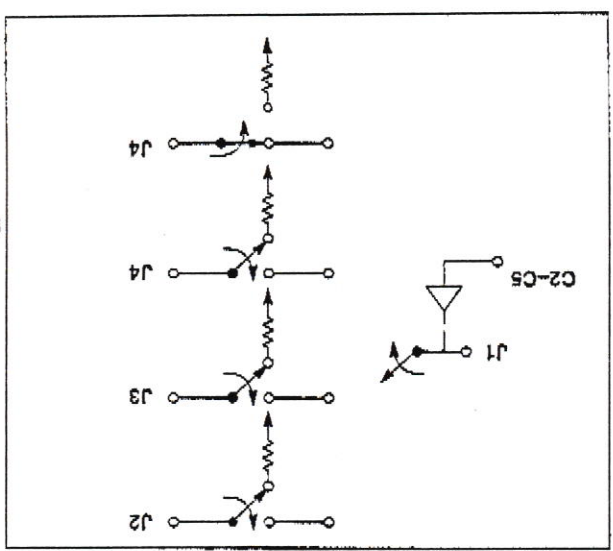
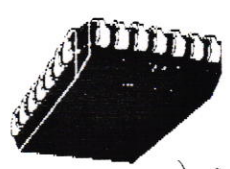




FET SP4T Non-Reflective Switch With Integral Driver In PLCC 28 Package DC-3 GHz

AK002M4-47



Operating Characteristics at 25°C

Impedance		50 Ohms Nominal	
Switching Characteristics		RISE, FALL (10/90% or 90/10% RF)	15 ns Typ
		ON, OFF (50% CTL to 90/10% RF)	35 ns Typ
Video Feedthrough			30 mV Typ
Input Power for 1 dB Compression		0.5-3 GHz	+24 dBm Typ
		0.001 GHz	+16 dBm Typ
Intermodulation Intercept Point for two-tone input power up to +13 dBm		Intercept Points	IP2 IP3
		0.5-2 GHz +68	+40 dBm Typ
		0.001 GHz +57	+29 dBm Typ
Logic Drives (Volts)		Min	Max
Low (0)		0	0.5 Volts
High (1)		4	5 Volts
Bias Voltage		+5V ± 0.5V @ 3 mA Typ	
		-4V ± 0.25V @ 12 mA Typ 3,4	

4. Current increases from 12 mA to 16 mA @ +85°C.

- ### Features
- Integral Driver +5V, -4V Bias Supplies; CMOS and TTL Compatible
 - Low DC Power Consumption - 20 mW per Arm
 - 28 Lead Plastic Chip Carrier (PLCC)
 - Individual TTL Control for Each Port
 - Non-Reflective
 - Base Station Switch Matrix Applications

Description

The AK002M4-47 is a SP4T non-reflective FET MMIC switch. The switch consists of a GaAs SP4T chip and an integral driver. This unit is used in telecommunication applications (e.g. base station switch matrices) and requires 4 lines of control logic.

Electrical Specifications at 25°C

Insertion Loss ¹	DC - 0.5 GHz	1.1	dB	Max
	DC - 1 GHz	1.4	dB	Max
	DC - 2 GHz	1.6	dB	Max
	DC - 3 GHz	2.1	dB	Max
Isolation	DC - 0.5 GHz	48	dB	Min
	DC - 1 GHz	42	dB	Min
	DC - 2 GHz	33	dB	Min
	DC - 3 GHz	27	dB	Min
VSWR (I/O)	DC - 0.5 GHz	1.3:1	Max	
	DC - 1 GHz	1.5:1	Max	
	DC - 3 GHz	1.7:1	Max	

1. Insertion loss changes by 0.003 dB/°C
2. Measured in 500 MHz bandwidth with 1 ns risetime pulse.
3. Bias voltage and ground must be connected before TTL voltage is applied to avoid irreversible damage to the device. Consult factory for application notes.
4. Current increases from 12 mA to 16 mA @ +85°C.

UPPATE

1-113
 4/5
 SEP 62

Datum: 21-NOV-1995/D.Loos

F 447 / Schnelle Schotky-Messung
FG 447 120 / Schaltmatrix-Control

Remote-Buchsen-Belegung

25 polige Cannon-Buchse:

Pin	Bezeichnung	Signal-Zustand
1	Netzkarde Pin 10	
2	Status/NT	H=Bin / L=Aus
3	GND/ In-Extern	
4	GND-EXT	
5	STATUS-REM/MAN*	H=MAN* / L=REM
6	Matrix H / Bit 2.0	
7	Matrix G / Bit 2.0	
8	Matrix F / Bit 2.0	
9	Matrix E / Bit 2.0	
10	Matrix D / Bit 2.0	
11	Matrix C / Bit 2.0	
12	Matrix B / Bit 2.0	
13	Matrix A / Bit 2.0	
14	Netzkarde Pin 12	
15	+5- +24 Volt/In-Extern	Ein/Netzkarde
16	+5V-EXT	
17	REM/CLK	
18	Matrix H / Bit 2.1	
19	Matrix G / Bit 2.1	
20	Matrix F / Bit 2.1	
21	Matrix E / Bit 2.1	
22	Matrix D / Bit 2.1	
23	Matrix C / Bit 2.1	
24	Matrix B / Bit 2.1	
25	Matrix A / Bit 2.1	

Datum: 21-NOV-1995/D.Loos

F 447 / Schnelle Schotky-Messung

FG 447 120 /Schaltmatrix-Control

VG2 - Stecker-Belegung

VG1/64 pol. Messerleiste:

Pin	a	c
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	/YC	/XC
19	-	-
20	/YD	/XD
21	-	-
22	/XB	/YB
23	-	-
24	/XA	/YA
25	-	-
26	/XF	/YF
27	-	-
28	/XE	/YE
29	-	-
30	/YG	/XG
31	-	-
32	/YH	/XH

Datum: 21-NOV-1995/D.Loos

F 447 / Schnelle Schotky-Messung

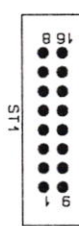
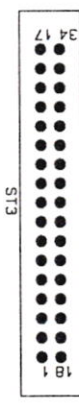
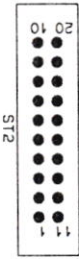
FG 447 120 / Schaltmatrix-Control

VG1 - Stecker-Belegung

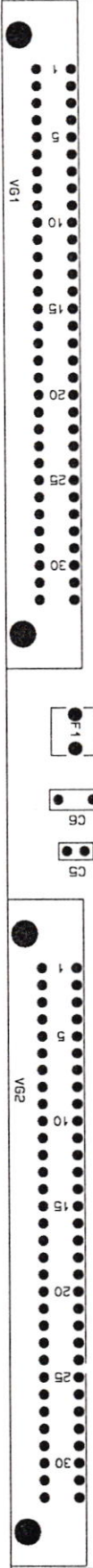
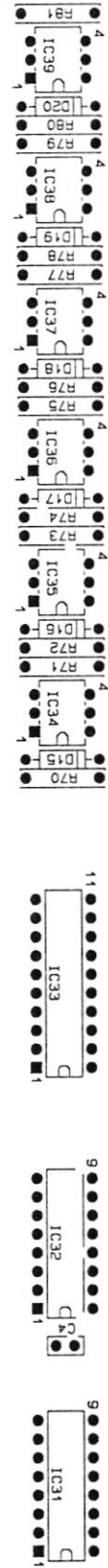
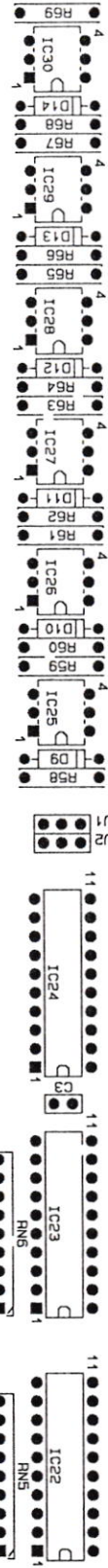
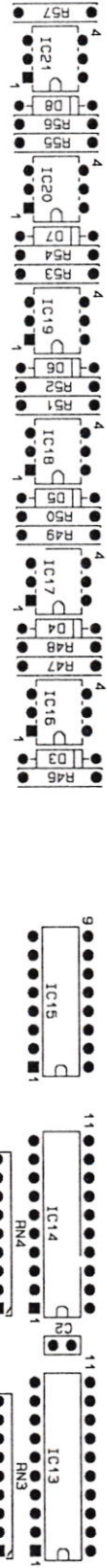
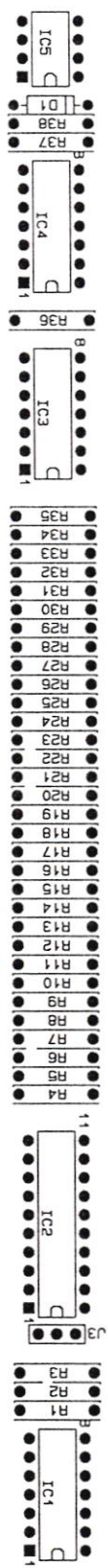
VG1/64 pol. Messerleiste:

Pin	a	c
1	-	-
2	-	STATUS/NT
3	+5/CONTROL	+5-GND
4	GND	GND
5	-	-
6	+5V	+5V
7	-	-
8	INXA	INXB
9	-5/CONTROL	-5-GND
10	INXB	INYB
11	-	-
12	INXC	INYC
13	-	-
14	INXD	INYD
15	-	-
16	REM/CLOCK $\frac{1}{2}$	STATUS-REM/MAN*
17	-	-
18	INXE	INYE
19	-	-
20	INXF	INXF
21	-	-
22	INXG	INYG
23	-	-
24	INXH	INXH
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	+5V-EXT	+5V-EXT
31	-	-
32	GND-EXT	GND-EXT

L=Aus



GSI/GL FG 447.120 LS

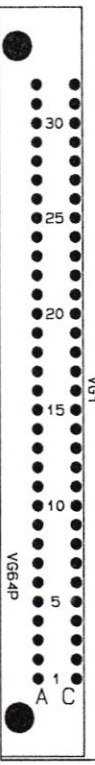
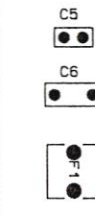
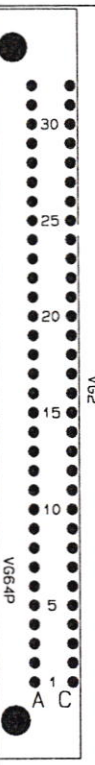
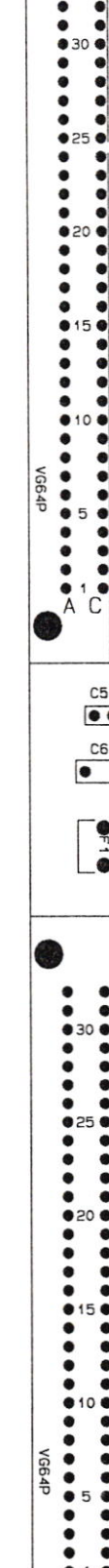
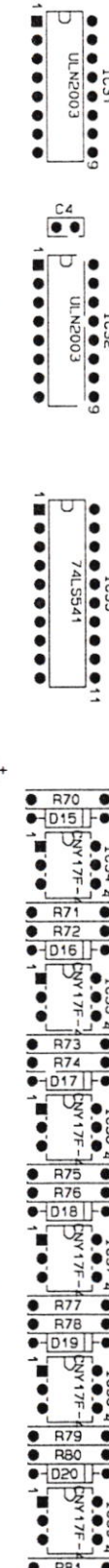
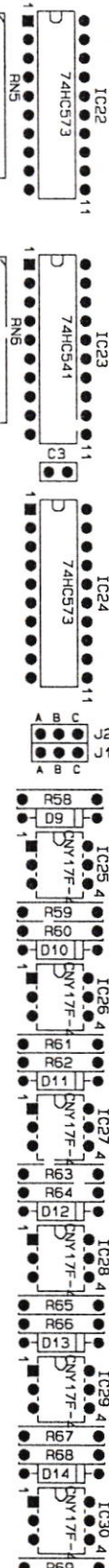
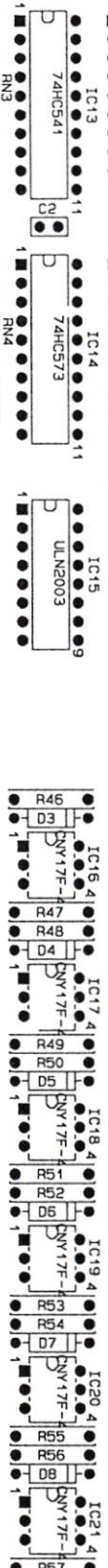
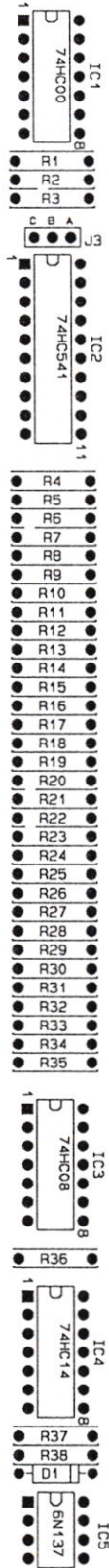
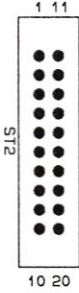
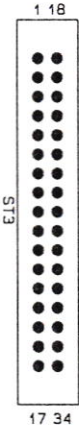
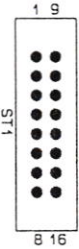


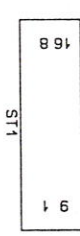
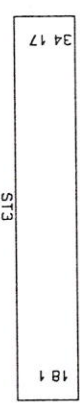
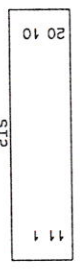
GSI CONKON2

CON

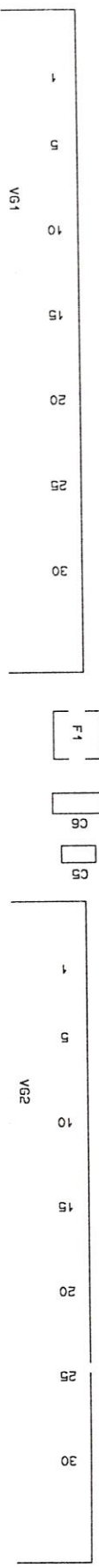
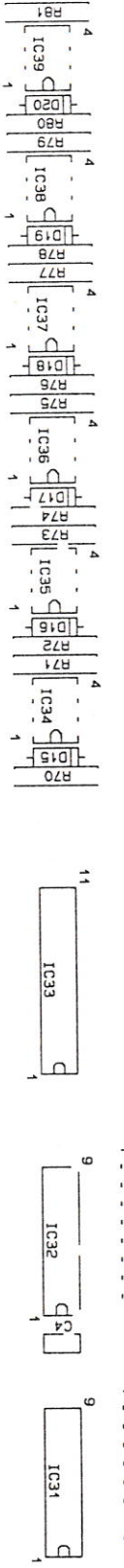
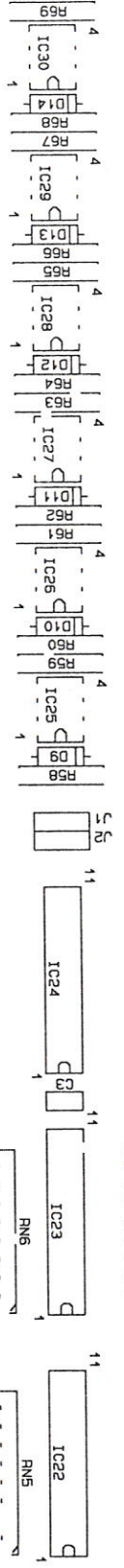
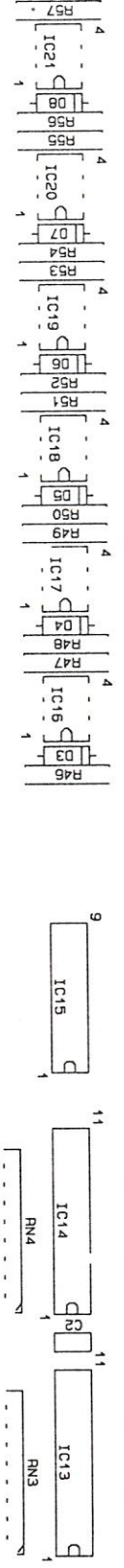
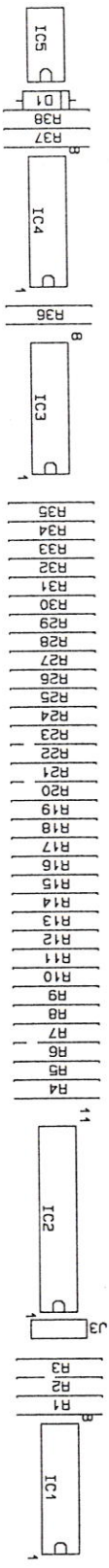
FG 447.120

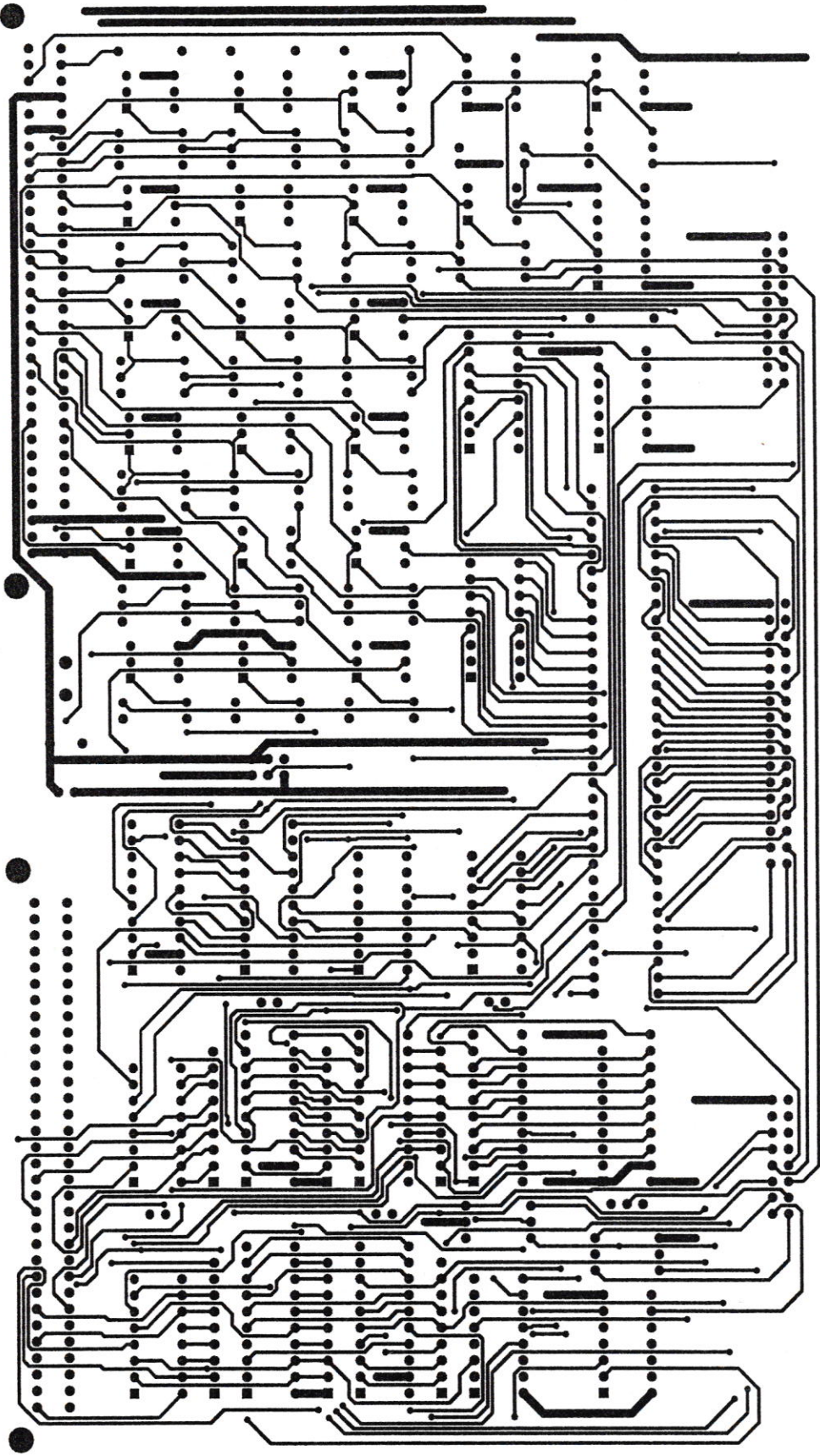
GS1/GL FG 447.120 BS





GSI/GL FG 447.120 LS



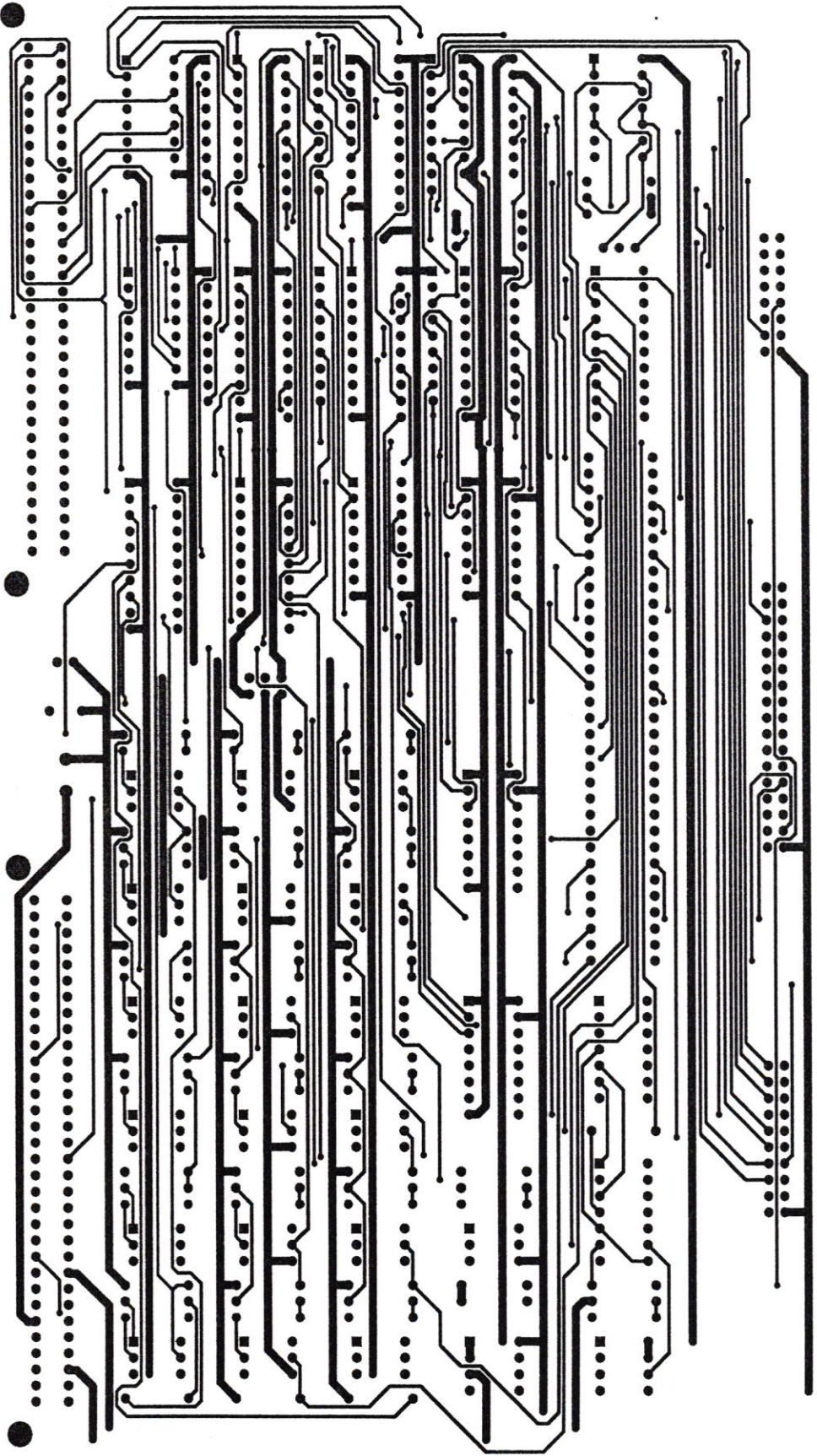


GSI CONL2

CON

FG 447.120



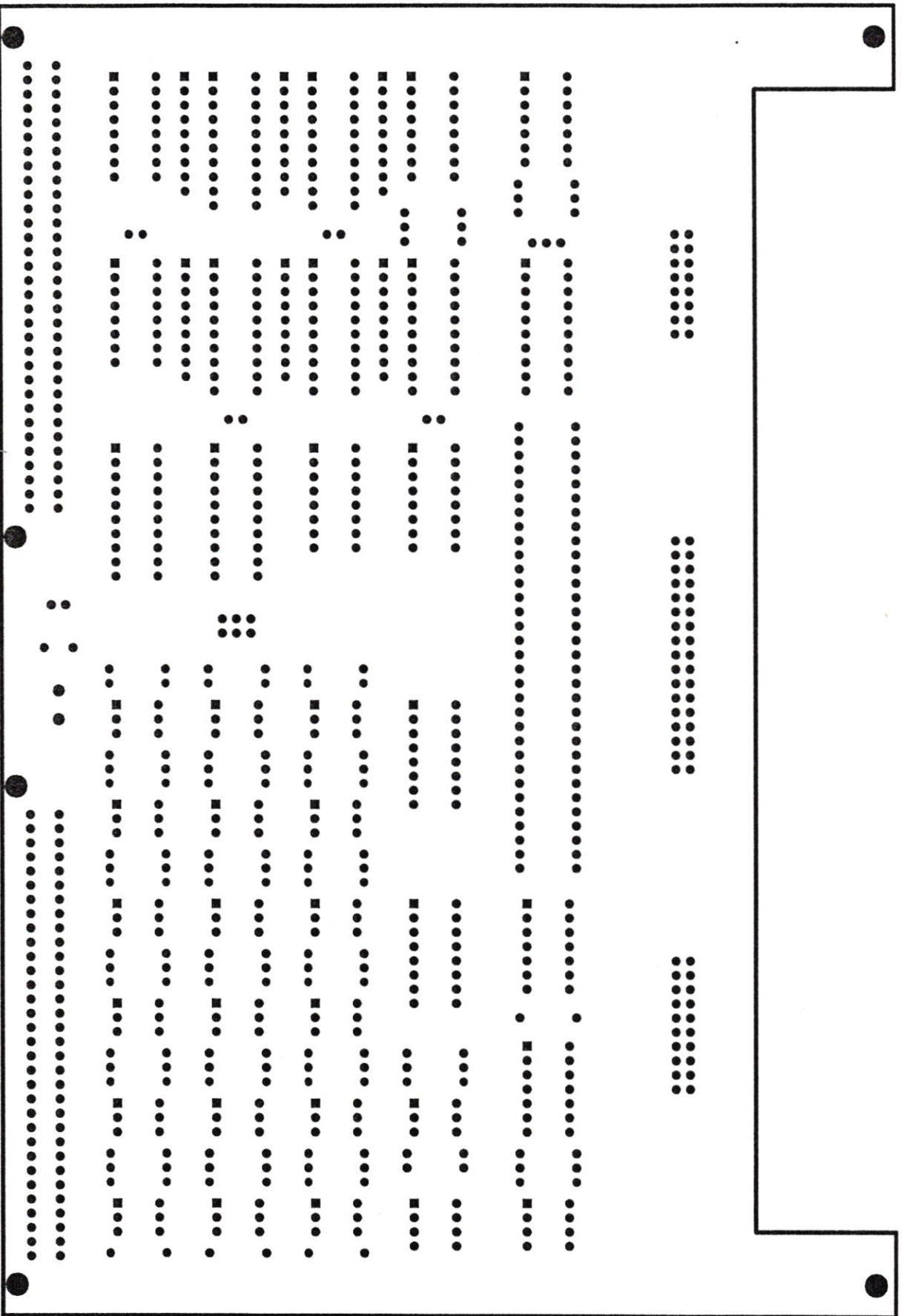


651 CONL 1

CON

FG 447.120





E L E K T R . S T U E C K L I S T E

*RM: 1 EINHEIT = 2.54MM

ST.	BAUTEIL-BEZEICHNUNG	WERT/TYP	RM	HERSTELLER	LG-NR.	BEMERKUNGEN	AUFRUF-NAME
	R29, R30, R31, R32, R33						
	R34, R35, R36, R42						
19	R43, R46, R48, R50, R52	470R	4		10 117	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	470R*J
	R54, R56, R58, R60, R62						
	R64, R66, R68, R70, R72						
	R74, R76, R78, R80						
19	R44, R47, R49, R51, R53	4K7	4		10 063	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	4K7*J
	R55, R57, R59, R61, R63						
	R65, R67, R69, R71, R73						
	R75, R77, R79, R81						
6	RN1, RN2, RN3, RN4	8X10K			10 798	8 WIDERSTAEENDE IM SIL-9-GEHAEUSE	8X10K*31
	RN5, RN6						
1	ST1	ST-3599-6002	3M		14 754	3M3599-6002 16POL PIN GERADE LOETST. 1-8, 9-16 O.BB	ST16P*C1
1	ST2	ST-3592-6002	3M		14 755	3M3592-6002 20POL PIN GERADE LOETST. 1-10, 11-20	ST20P*C1
1	ST3	ST-3594-6002	3M		14 757	3M3594-6002 34POL PIN GERADE LOETST. 1-17, 18-34	ST34P*C1
2	VG1, VG2	VG64P			14 558	64-POL.VG-STECKERLEISTE MIT BEF. BOHRUNGEN	VG64P
1	LEITERPLATTE	FG 447.120					

GS1
DARMSTADT

BEZ.: SCHALTMADRIX - CONTROL

NUMMER: FG 447.120

BEARB.: LOOS

DATUM: 28. Nov. 1995

BLATT: 3 VON 3

E L E K T R . S T U E C K L I S T E

*RM: 1 EINHEIT = 2.54MM

ST.	BAUTEIL-BEZEICHNUNG	WERT/TYP	RM	HERSTELLER	LG-NR.	BEMERKUNGEN	AUFBRUF-NAHME
3	IC2, IC13, IC23	74HC541			13 729	8 NICHINVERT. BUSTREIBER TRI-STATE	74HC541
4	IC7, IC14, IC22, IC24	74HC573			13 732	OCTAL 3-STATE NONINVERTING D-TYPE TRANSPARENT LATCH	74HC573
1	IC33	74LS541				8 NICHINVERT. BUSTREIBER TRI-STATE	74LS541
1	IC12	MAX690		MAXIM	ELEX	PRECISION VOLTAGE MONITOR	MAX690
3	IC15, IC31, IC32	ULN2003			13 305	7 DARLINGTON-TREIBER	ULN2003A
3	KURZSCHL.-BU			COMATEL	16 009	KURZSCHLUSSBUCHSE ISOLIERT MIT OFFENUNG F. PRUEFCL	
	J1, J2, J3	WW-L. ZUSCHN			16 080	COMATEL 385.0358.120.400 WW-LEISTE ZUSCHN. 1X3PINS	JU1X3*B2
19	IC11, IC16, IC17, IC18	CNY17F-4		SIEMENS	13 822	OPTOKOPLER CNY17F-4 BEST.-NR.: Q62703-N54	CNY17F-4
	IC19, IC20, IC21, IC25						
	IC26, IC27, IC28, IC29						
	IC30, IC34, IC35, IC36						
	IC37, IC38, IC39						
4	R2, R3, R39, R40	10K	4		10 071	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	10K*J4
1	R45	1K0	4		10 047	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	1K0*J4
1	R38	1K2	3		10 049	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	1K2*J
6	R1, R18, R20, R26, R37, R41	2K2	4		10 055	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	2K2*J
31	R4, R5, R6, R7, R8, R9, R10	2K7	4		10 057	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	2K7*J
	R11, R12, R13, R14, R15						
	R16, R17, R19, R21, R22						
	R23, R24, R25, R27, R28						

GS1 DARMSTADT
 BEZ.: SCHALTMATRIX - CONTROL
 NUMBER: FG 447.120
 BEARB.: LOOS
 DATUM: 28. Nov. 1995
 BLATT: 2 VON 3

E L E K T R . S T U E C K L I S T E

*RM: 1 EINHEIT = 2.54MM

ST.	BAUTEIL-BEZEICHNUNG	WERT/TYP	RM	HERSTELLER	IG-NR.	BEMERKUNGEN	AUFRUF-NAHME
3		DIP14*D1			13 322	CAB/DALEKTRON 110-91-314 DUAL-IN-LINE ZUM LOETEN	
7		DIP16*D1			13 323	CAB/DALEKTRON 110-91-316 DUAL-IN-LINE ZUM LOETEN	
8		DIP20*D1			13 220	CAB/DALEKTRON 110-91-320 DUAL-IN-LINE ZUM LOETEN	
1		DIP8*D1			13 137	CAB/DALEKTRON 110-91-308 DUAL-IN-LINE ZUM LOETEN	
2	LEITERPLATTENHALTER				14 471	FUER FRONTPLATTENBEFESTIGUNG	
4	MUTTERN	M2, 5			62 545	BEF. VG-LEISTE	
4	ZYLINDERKOPFSCHRAUBEN	M2, 5X10			62 440	BEF. VG-LEISTE	
5	C1, C2, C3, C4, C5	100N	1	UNION CARB	11 096	Union Carbide C320C104K1R5CA stehend Vielschicht-K	100N*A
1	C6	22U	2	STC	11 326	TANTAL-TROPFEN-KONDENSATOR 35V, RM=5.08	22U*TANA
20	D1, D2, D3, D4, D5, D6, D7	1N4151	4		13 001	DIODE 1N4151, DO-35, RM=10.16MM	1N4151
	D8, D9, D10, D11, D12, D13						
	D14, D15, D16, D17, D18						
	D19, D20						
1	MICRO-HALTER			WICKMANN	17 007	MICRO-FUSE HALTER SENKRECHT NR 19556	
1	F1	3A0			17 031	MICRO-FUSE SICHERUNG MIT HALTER STEHEND	F3A0*30003
1	IC5	6N137			13 168	OPTOKOPLER	6N137
1	IC1	74HC00			13 605	4 NAND-GATTER MIT JE 2 EINGANGEN	74HC00
1	IC3	74HC08			13 608	4 AND-GATTER MIT JE 2 EINGANGEN (MINI DIP)	74HC08
4	IC6, IC8, IC9, IC10	74HC139			13 615	ZWEI 2-BIT BINAERDEKODER/DEMULTIPLIKER (2 ZU 4)	74HC139
1	IC4	74HC14			13 609	SECHS INVERTIERENDE SCHMITT-TRIGGER	74HC14

GSI
 DARMSSTADT

BEZ.:
 SCHALTMATRIX - CONTROL

NUMMER:
 FG 447.120

BEARB.:
 LOOS

DATUM
 28. NOV. 1995

BLATT
 1 VON 3

E L E K T R . S T U E C K L I S T E

*RM: 1 EINHEIT = 2.54MM

ST.	BAUTEIL-BEZEICHNUNG	WERT/TYP	RM	HERSTELLER	LG-NR.	BEMERKUNGEN	AUFRUF-NAHME
1	IC4	74HC14			13 609	SECHS INVERTIERENDE SCHMITT-TRIGGER	74HC14
4	IC2, IC13, IC23, <u>IC33</u>	74HC541			13 729	8 NICHINVERT. BUSSTREIBER TRI-STATE	74HC541
4	IC7, IC14, IC22, IC24	74HC573			13 732	OCTAL 3-STATE NONINVERTING D-TYPE TRANSPARENT IATC	74HC573
1	<u>IC33</u>	<u>74LS541</u>			8	NICHINVERT. BUSSTREIBER TRI-STATE	74LS541
1	IC12	MAX690		MAXIM	ELEX	PRECISION VOLTAGE MONITOR	MAX690
3	IC15, IC31, IC32	ULN2003			13 305	7 DARLINGTON-FREIHER	ULN2003A
4	KURZSCHL.-BU			COMATEL	16 009	KURZSCHLUSSBUCHSE ISOLIERT MIT OEFFNUNG F. PRUEFCL	
	J1, J2, J3, J4			WM-L. ZUSCHN	16 080	COMATEL 385.0358.120.400 WM-LEISTE ZUSCHN. 1X3PINS	JU1X3*B2
19	IC11, IC16, IC17, IC18	CNY17F-4		SIEMENS	13 822	OPTOKOPLER CNY17F-4 BEST.-NR.: Q62703-N54	CNY17F-4
	IC19, IC20, IC21, IC25						
	IC26, IC27, IC28, IC29						
	IC30, IC34, IC35, IC36						
	IC37, IC38, IC39						
4	R2, R3, R39, R40	10K	4		10 071	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	10K*J4
1	R45	1K0	4		10 047	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	1K0*J4
1	R38	1K2	3		10 049	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	1K2*J
6	R1, R18, R20, R26, R37, R41	2K2	4		10 055	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	2K2*J
31	R4, R5, R6, R7, R8, R9, R10	2K7	4		10 057	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	2K7*J
	R11, R12, R13, R14, R15						
	R16, R17, R19, R21, R22						

GSI DARMSTADT

BEZ.: _____

NUMMER: _____

BEARB.: _____

CON - SCHALTMATRIX-CONTROL

FG 447.121

LOOS

DATUM 23. Jan. 1996

BLATT 2 VON 3

E L E K T R . S T U E C K L I S T E

*RM: 1 EINHEIT = 2.54MM

ST.	BAUTEIL-BEZEICHNUNG	WERT/TYP	RM	HERSTELLER	LG-NR.	BEMERKUNGEN	AUFRUF-NAHME
	R23, R24, R25, R27, R28						
	R29, R30, R31, R32, R33						
	R34, R35, R36, R42						
19	R43, R46, R48, R50, R52	470R	4		10 117	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	470R*J
	R54, R56, R58, R60, R62						
	R64, R66, R68, R70, R72						
	R74, R76, R78, R80						
19	R44, R47, R49, R51, R53	4K7	4		10 063	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	4K7*J
	R55, R57, R59, R61, R63						
	R65, R67, R69, R71, R73						
	R75, R77, R79, R81						
6	RM1, RM2, RM3	8X10K			10 798	8 WIDERSTAEENDE IM SIL-9-GEHAEUSE	8X10K*31
	RM4, RM5, RM6						
1	ST1	3599-6002	3M		14 754	3M3599-6002 16POL PIN GERADE LOETST. 1-8,9-16 O.BB	ST16P*C1
1	ST2	3592-6002	3M		14 755	3M3592-6002 20POL PIN GERADE LOETST. 1-10,11-20	ST20P*C1
1	ST3	3594-6002	3M		14 757	3M3594-6002 34POL PIN GERADE LOETST. 1-17,18-34	ST34P*C1
2	VG1, VG2	VG64P			14 558	64-POL.VG-STECKERLEISTE MIT BEF. BOHRUNGEN	VG64P
19	<i>3c-Socher</i>	<i>20P6*31</i>			<i>13232</i>		
1	LEITERPLATTE	FG 447.121					

GSI BEZ.: _____ NUMMER: _____ BEARB.: _____ DATUM 23. Jan. 1996 BLATT 3 VON 3
 DARMSTADT CON - SCHALTMATRIX-CONTROL FG 447.121 LOOS

E L E K T R . S T U E C K L I S T E

*RM: 1 EINHEIT = 2.54MM

ST.	BAUTEIL-BEZEICHNUNG	WERT/TYP	RM	HERSTELLER	LG-NR.	BEMERKUNGEN	AUFRUF-NAHME
3	<i>IC-Soekke C</i> DIP14*D1	DIP14*D1			13 322	CAB/DALEKTRON 110-91-314 DUAL-IN-LINE ZUM LOETEN	
7	DIP16*D1	DIP16*D1			13 323	CAB/DALEKTRON 110-91-316 DUAL-IN-LINE ZUM LOETEN	
8	DIP20*D1	DIP20*D1			13 220	CAB/DALEKTRON 110-91-320 DUAL-IN-LINE ZUM LOETEN	
2	DIP8*D1	DIP8*D1			13 137	CAB/DALEKTRON 110-91-308 DUAL-IN-LINE ZUM LOETEN	
2	LEITERPLATTENHALTER				14 471	FUER FRONTPLATTENBEFESTIGUNG	
4	MUTTERN	M2, 5			62 545	BEF. VG-LEISTE	
4	ZYLINDERKOPFSCHRAUBEN	M2, 5X10			62 440	BEF. VG-LEISTE	
5	C1, C2, C3, C4, C5	100N	1	UNION CARB	11 096	Union Carbide C320C104K1R5CA stehend Vielschicht-K	100N*A
1	C7	100N	1	U-CAR	11 096	KERAMIK-VIELSCHICHT RASTER 2,54	100N*KERA
1	C6	22U	2	STC	11 326	TANTAL-TROPFEN-KONDENSATOR 35V, RM=5.08	22U*TANA
20	D1, D2, D3, D4, D5, D6, D7	1N4151	4		13 001	DIODE 1N4151, DO-35, RM=10.16MM	1N4151
	D8, D9, D10, D11, D12, D13						
	D14, D15, D16, D17, D18						
	D19, D20						
1	MICRO-HALTER			WICKMANN	17 007	MICRO-FUSE HALTER SENKRECHT NR 19556	
1	F1	3A0			17 031	MICRO-FUSE SICHERUNG MIT HALTER STEHEND	F3A0*30003
1	IC5	6N137			13 168	OPTOKOPLER	6N137
1	IC1	74HC00			13 605	4 NAND-GATTER MIT JE 2 EINGAENGEN	74HC00
1	IC3	74HC08			13 608	4 AND-GATTER MIT JE 2 EINGAENGEN (MINI DIP)	74HC08
4	IC6, IC8, IC9, IC10	74HC139			13 615	ZWEI 2-BIT BINARDEKODER/DEMULTIPLIKER (2 ZU 4)	74HC139

BEZ.: GSI
 DARMSTADT
 CON - SCHALTMATRIX-CONTROL
 NUMMER: FG 447.121
 BEARB.: LOOS
 DATUM: 23. Jan. 1996
 BLATT: 1 VON 3

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Stück	Bauteil-Bezeichnung	Wert / Typ	Bauform	Rastermaß	Hersteller Lieferant	GSI-Lager-Nr. oder Firmen-Bestell-Nr.	Bemerkungen
1	Schirmbaugruppe	GHE/14TE			Schroff	20810-470	Früherer mod. 470 nach FH 472-220
1	Plü-Griff	14TE			"	2809-290	
33	Led	grün				Lg. 13820	
3	"	gelb				Lg. 13820	
1	"	rot				Lg. 13819	
16	Kippachse	1x11M			CH	Lg. 15070	
1	"	2x11M			CH	Lg. 15071	
1	Taster	1x11H			CH	Lg. 15014	
37	Led-Färbung	3mm				Lg. 14574	Substrat Led's
1	Postenverbindung	16pol				Lg. 14575	
1	"	20 pol				Lg. 14576	
1	"	34 pol					
	Schraubtastband						
	Silberdraht	Ø 1mm					
	Flachkabel	34 pol					
	Kabelbinde	klein					

GSI
 DARMSTADT
 Name _____
 Tag _____
 Bearb. 24.01.96 Loos, D
 Gepr. _____
 Norm. _____
 CON-Schaetmatix-Console
 Frontplatte
 Bichonzon 1
 Bich-Nr. 1
 FG 477 121
 Ersetzt durch _____
 Elektr. Stückliste

ELEKTROSTUECKLISTE

*RM: 1 EINHEIT = 2.54MM

ST.	BAUTEIL-BEZEICHNUNG	WERT/TYP	RM	HERSTELLER	LG-NR.	BEMERKUNGEN	AUFRUF-NAHME
	R23, R24, R25, R27, R28						
	R29, R30, R31, R32, R33						
	R34, R35, R36, R42						
19	R43, R46, R48, R50, R52	470R	4		10 117	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	470R*J
	R54, R56, R58, R60, R62						
	R64, R66, R68, R70, R72						
	R74, R76, R78, R80						
19	R44, R47, R49, R51, R53	4K7	4		10 063	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	4K7*J
	R55, R57, R59, R61, R63						
	R65, R67, R69, R71, R73						
	R75, R77, R79, R81						
6	RN1, RN2, RN3	8X10K			10 798	8 WIDERSTAEENDE IM SIL-9-GEHAEUSE	8X10K*31
	RN4, RN5, RN6						
1	ST1	3599-6002	3M		14 754	3M3599-6002 16POL PIN GERADE LOETST. 1-8,9-16 O.BB	ST16P*C1
1	ST2	3592-6002	3M		14 755	3M3592-6002 20POL PIN GERADE LOETST. 1-10,11-20	ST20P*C1
1	ST3	3594-6002	3M		14 757	3M3594-6002 34POL PIN GERADE LOETST. 1-17,18-34	ST34P*C1
2	VG1, VG2	VG64P			14 558	64-POL.VG-STECKERLEISTE MIT BEF. BOHRUNGEN	VG64P
1	LEITERPLATTE	FG 447.121					

GSI BEZ.:
 DARMSTADT CON - SCHALTMATRIX-CONTROL
 FG 447.121
 BEARB.:
 LOOS
 DATUM
 23. Jan. 1996
 BLATT
 3 VON 3

E L E K T R . S T U E C K L I S T E

*RM: 1 EINHEIT = 2.54MM

ST.	BAUTEIL-BEZEICHNUNG	WERT/TYP	RM	HERSTELLER	Lg-NR.	BEMERKUNGEN	AUFRUF-NAHME
4	IC6, IC8, IC9, IC10	74HC139			13 615	ZWEI 2-BIT BINARDEKODER/DEMULTIPLIKER (2 ZU 4)	74HC139
1	IC4	74HC14			13 609	SECHS INVERTIERENDE SCHMITT-TRIGGER	74HC14
4	IC2, IC13, IC23, IC33	74HC541			13 729	8 NICHTINVERT. BUSTREIBER TRI-STATE	74HC541
4	IC7, IC14, IC22, IC24	74HC573			13 732	OCTAL 3-STATE NONINVERTING D-TYPE TRANSPARENT LATC	74HC573
1	IC12	MAX690		MAXIM	ELEX	PRECISION VOLTAGE MONITOR	MAX690
3	IC15, IC31, IC32	ULN2003			13 305	7 DARLINGTON-TREIBER	ULN2003A
4	KURZSCHL.-BU			COMATEL	16 009	KURZSCHLUSSBUCHSE ISOLIERT MIT OFFENUNG F. PRUEFCL	
	J1, J2, J3, J4	WW-L. ZUSCHN			16 080	COMATEL 385.0358.120.400 WW-LEISTE ZUSCHN. 1X3PINS	JU1X3*B2
19	IC11, IC16, IC17, IC18	CNY17F-4		SIEMENS	13 822	OPKOPPLER CNY17F-4 BEST.-NR.: Q62703-N54	CNY17F-4
	IC19, IC20, IC21, IC25						
	IC26, IC27, IC28, IC29						
	IC30, IC34, IC35, IC36						
	IC37, IC38, IC39						
4	R2, R3, R39, R40	10K			10 071	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	10K*J4
1	R45	1K0			10 047	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	1K0*J4
1	R38	330R			10 037	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	330R*J
6	R1, R18, R20, R26, R37, R41	2K2			10 055	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	2K2*J
31	R4, R5, R6, R7, R8, R9, R10	2K7			10 057	METALLSCHICHTWIDERSTAND, 0.6W/1% RASTER=4	2K7*J
	R11, R12, R13, R14, R15						
	R16, R17, R19, R21, R22						

BEZ.:

NUMMER:

BEARB.:

DATUM

BLATT

GSI
DARMSTADT

CON - SCHALTMATRIX-CONTROL

FG 447.121

LOOS

23. Jan. 1996

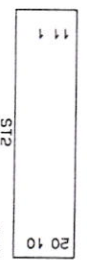
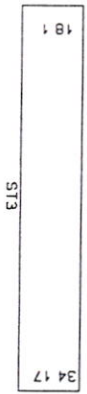
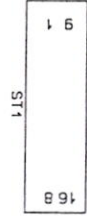
2 VON 3

E L E K T R . S T U E C K L I S T E

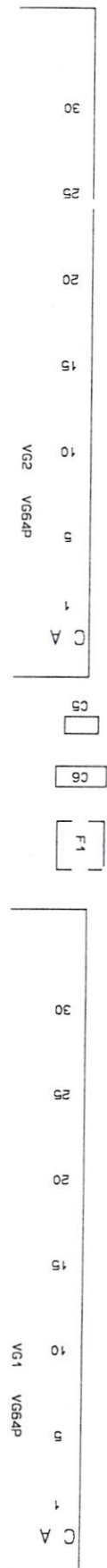
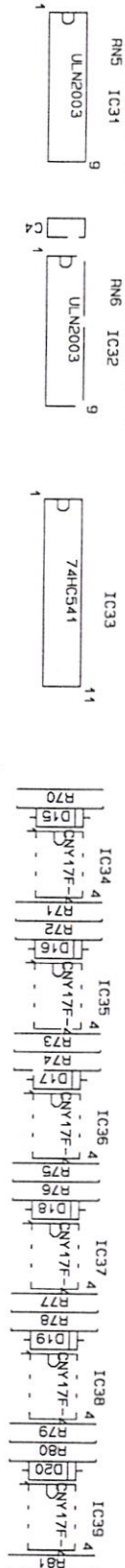
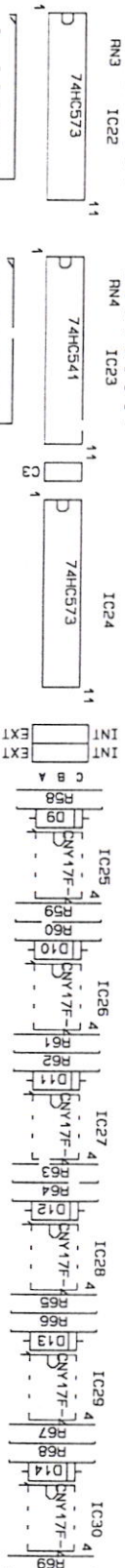
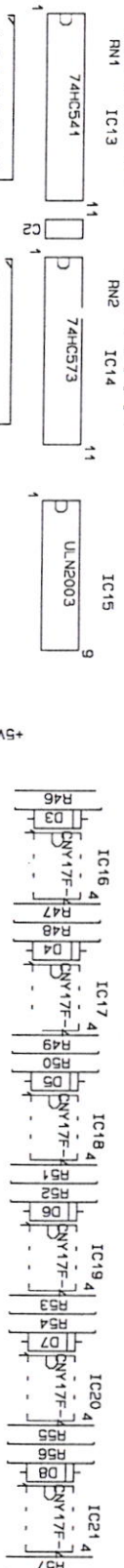
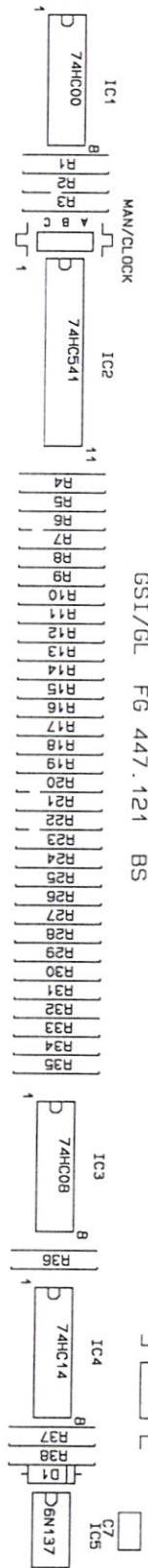
*RM: 1 EINHEIT = 2.54MM

ST.	BAUTEIL-BEZEICHNUNG	WERT/TYP	RM	HERSTELLER	LG-NR.	BEMERKUNGEN	AUFRUF-NAHME
19	6 POL. IC-SOCKEL	DIP6*D1			13 232	CAB/DALEKTRON 110-91-306 DUAL-IN-LINE ZUM LOETTEN	
2	8 POL. IC-SOCKEL	DIP8*D1			13 137	CAB/DALEKTRON 110-91-308 DUAL-IN-LINE ZUM LOETTEN	
3	14POL. IC-SOCKEL	DIP14*D1			13 322	CAB/DALEKTRON 110-91-314 DUAL-IN-LINE ZUM LOETTEN	
7	16POL. IC-SOCKEL	DIP16*D1			13 323	CAB/DALEKTRON 110-91-316 DUAL-IN-LINE ZUM LOETTEN	
8	20POL. IC-SOCKEL	DIP20*D1			13 220	CAB/DALEKTRON 110-91-320 DUAL-IN-LINE ZUM LOETTEN	
2	LEITERPLATTENHALTER				14 471	FUER FRONTPLATTENBEFESTIGUNG	
4	MUTTERN	M2,5			62 545	BEF. VG-LEISTE	
4	ZYLINDERKOPFSCHRAUBEN	M2,5X10			62 440	BEF. VG-LEISTE	
5	C1,C2,C3,C4,C5	100N	1	UNION CARB	11 096	Union Carbide C320C104K1R5CA stehend Vielschicht-K	100N*A
1	C7	100N	1	U-CAR	11 096	KERAMIK-VIELSCHICHT RASTER 2,54	100N*KERA
1	C6	22U	2	STC	11 326	TANTAL-TROPFEN-KONDENSATOR 35V, RM=5.08	22U*TANA
20	D1,D2,D3,D4,D5,D6,D7	1N4151	4		13 001	DIODE 1N4151, DO-35, RM=10.16MM	1N4151
	D8,D9,D10,D11,D12,D13						
	D14,D15,D16,D17,D18						
	D19,D20						
1	MICRO-HALTER			WICKMANN	17 007	MICRO-FUSE HALTER SENKRECHT NR 19556	
1	F1	3A0			17 031	MICRO-FUSE SICHERUNG MIT HALTER STEHEND	F3A0*30003
1	ICS	6N137			13 168	OPTOKOPPLER	6N137
1	IC1	74HC00			13 605	4 NAND-GATTER MIT JE 2 EINGANGEN	74HC00
1	IC3	74HC08			13 608	4 AND-GATTER MIT JE 2 EINGANGEN (MINI DIP)	74HC08

GSI
 DARMSTADT
 BEZ.:
 CON - SCHALTMATRIX-CONTROL
 NUMMER:
 FG 447.121
 BEARB.:
 LOOS
 DATUM
 23.Jan.1996
 BLATT
 1 VON 3



GSI/GL FG 447.121 BS



GSI CONBST1
24-JAN-1996 LOOS

CON

FG 447.121

MATERIALAUFNAHMESCHEIN

Beleg-Nr.	14 - 18
	7

Kostenstelle 62100 entnimmt folgendes Material für

Mengeninhalt:
 1 = Stück 4 = kg
 2 = l 5 = m²
 3 = m³ 6 = m

Vom Lager auszufüllen
 ME gelieferte Menge
 45 47 - 51 52-54

Material-Bezeichnung	Mat.-Schl.	angeforderte Menge	Mat.-Schl.	32 - 36	39 - 43	45
R-Netzwerk 8 x 10K			14754	10798	68370	
Pfostenlecker 16pc			14755			
"			14757			
VG-Leiste 64pc			14558			

1 = Neuell und Material zur Erweiterung 2 = Neuell und Material zum Einbau in einer bestehenden Anlage 3 = Ersatzteil	4 = neuas selbständig nutzbares Gerät 5 = Verbrauchsmaterial u. Betriebsstoffe 6 = Reparatur 9 = Austauschgerät	geprüft:	Empfänger:
SA	Bel.-Ber.	11 - 12	8 - 10
100	60	21	26
27 - 31	37-38	44	55
89100	10	1	1
Lager-Kost.	Schl. WKZ	Aussteller:	genehmigt:
27 - 31	37-38	44	55
26	27	31	59
19-20	Datum	19-20	26

100	60	21	26	27	31	37-38	44	55	59
SA	Bel.-Ber.	Datum	Lager-Kost.	Schl. WKZ	Aussteller:	Genehmigt: <i>Los</i>			
8-10	11-12	19-20				Empfänger:			
1 = Neuill und Material zur Erweiterung 2 = Neuill und Material zum Einbau in eine in Bau befindliche Anlage 3 = Ersatzteil 4 = neues selbständig nutzbares Gerät 5 = Verbrauchsmaterial u. Betriebsstoffe 6 = Reparatur 7 = Austauschgerät									
geprüft:					gezeichnet:				

Material-Bezeichnung	Menge	angeforderte Nr.	Mat. Schl.	Kostenstelle bzw. Kostensammel-Nr.	Vom Lager auszufüllen	gelieferte Menge
68370 10798	4.2		39 - 43		45	47 - 51 52-54
R-Netzwerk 8 x 10V	7					
Protokollbuch 16 pol	7					
"	7					
"	7					
"	7					
VG-Leiste 64 pol	7					

GS1

MATERIALENTNAHMESCHEIN

Kostenstelle 62100 entnimmt folgendes Material für

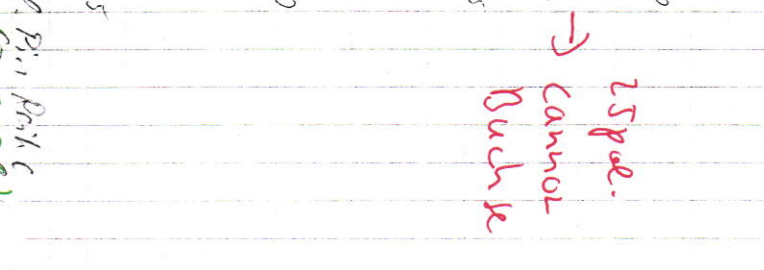
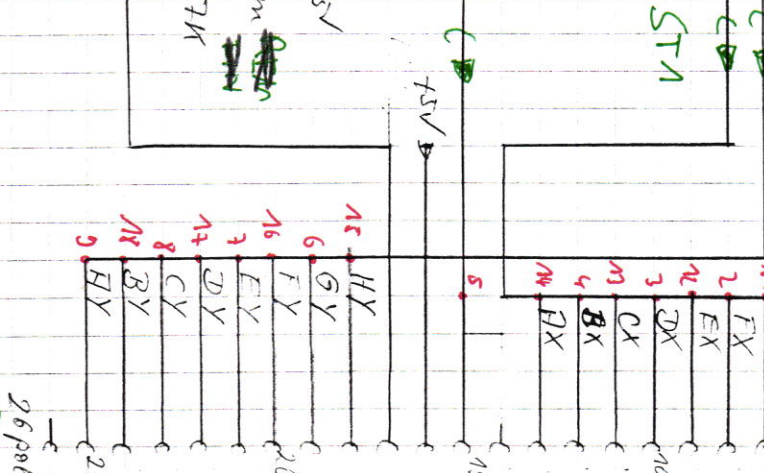
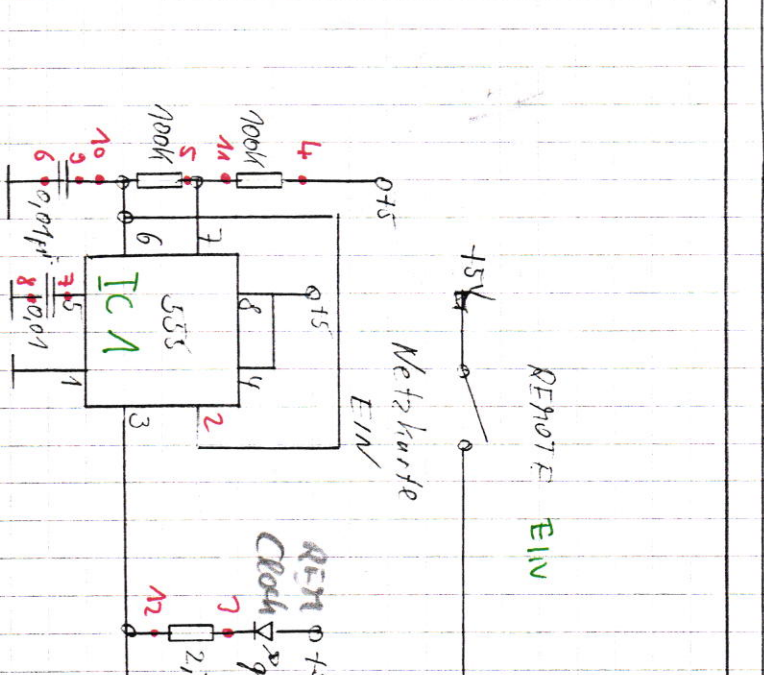
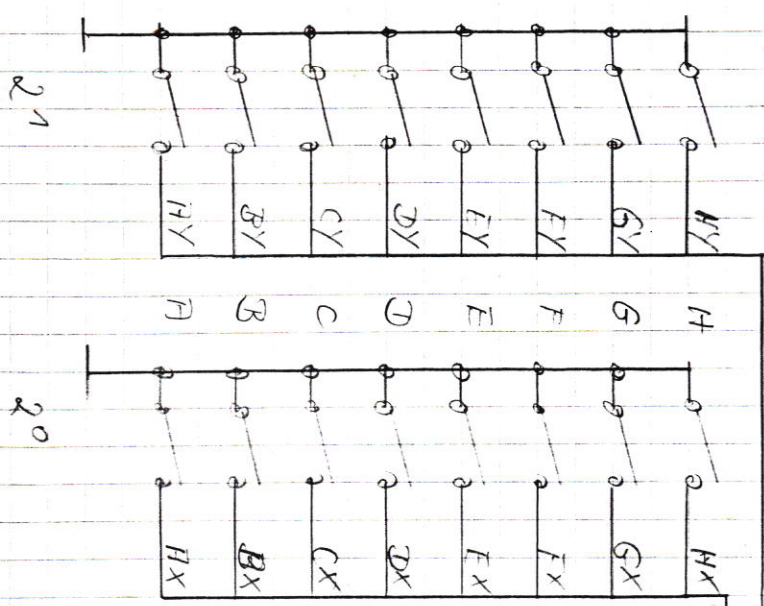
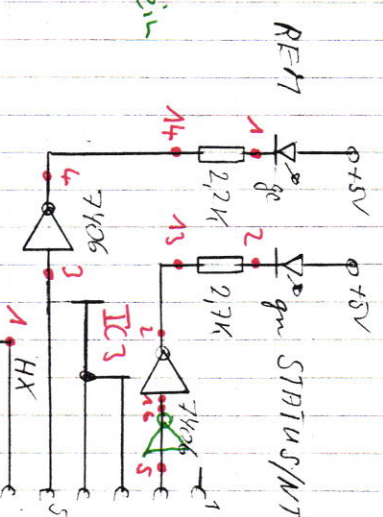
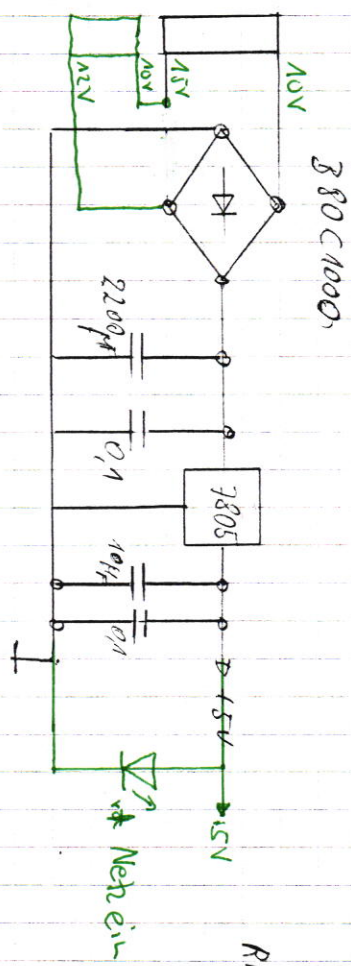
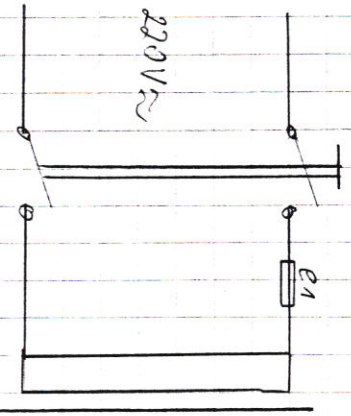
F 447 121

Mengeneinheit:
 1 = Stück 4 = kg
 2 = l 5 = m²
 3 = m³ 6 = m

13	7
Beleg-Nr.	14 - 18

Remste Testbox für Schaltmatrix - (Onthoe
 FG 447 200

1025
 23.04.96

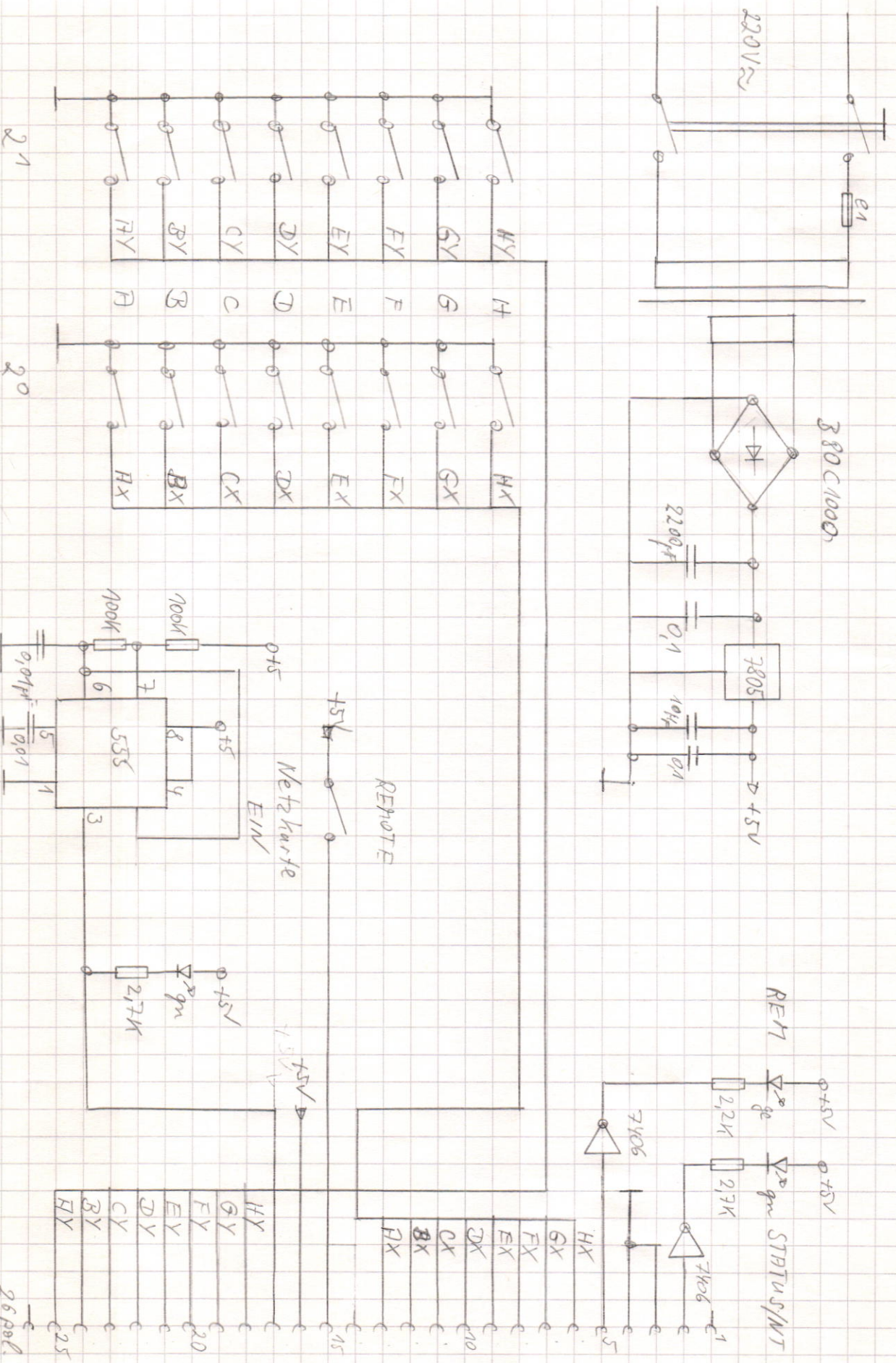


→ 25pol.
 cannot
 Buchse

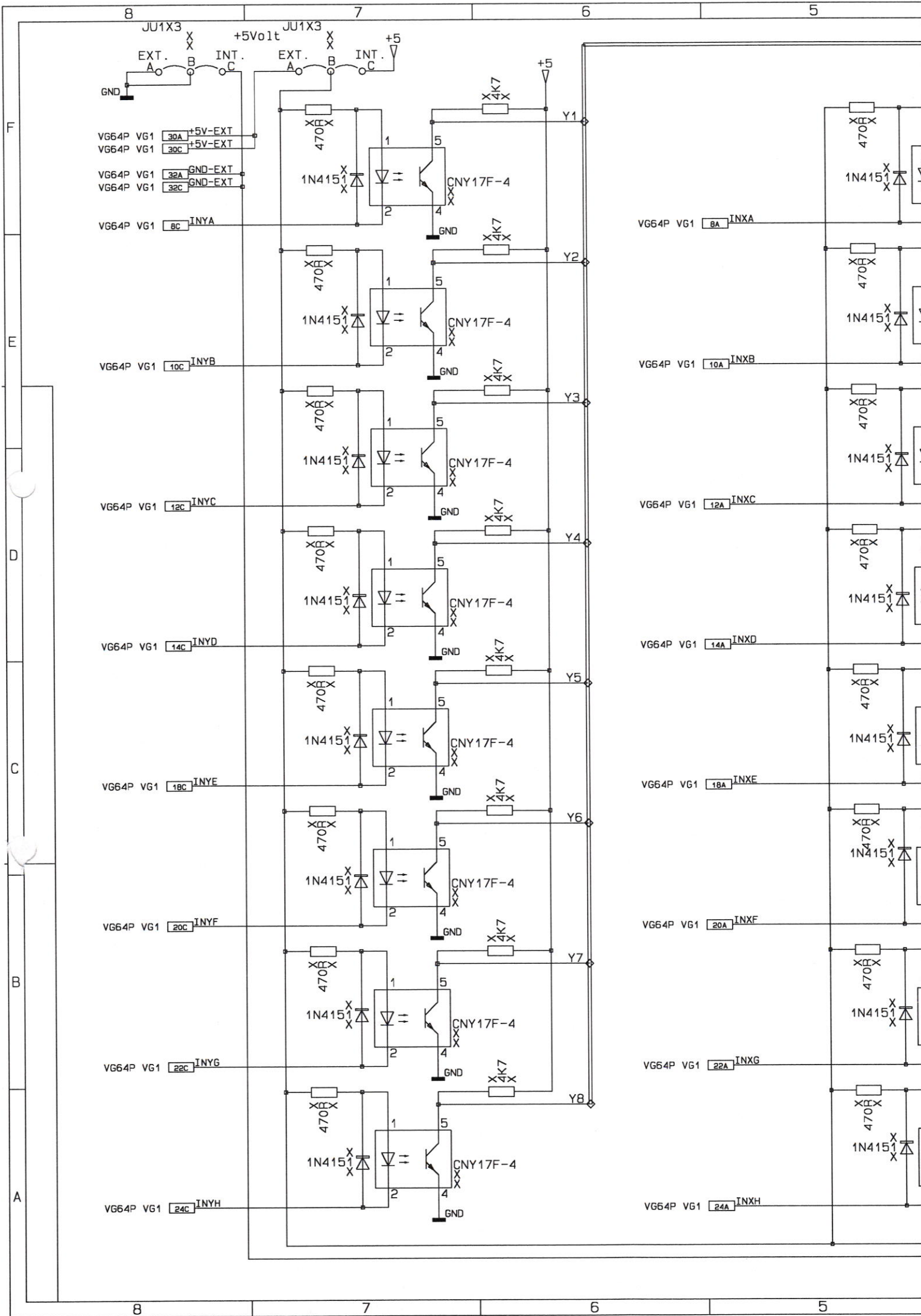
26pol. Pin 1 Pin 2
 (200 ppc 1)

Remote -) Testbox für Schaltmatrix - Control
 FG 447 200

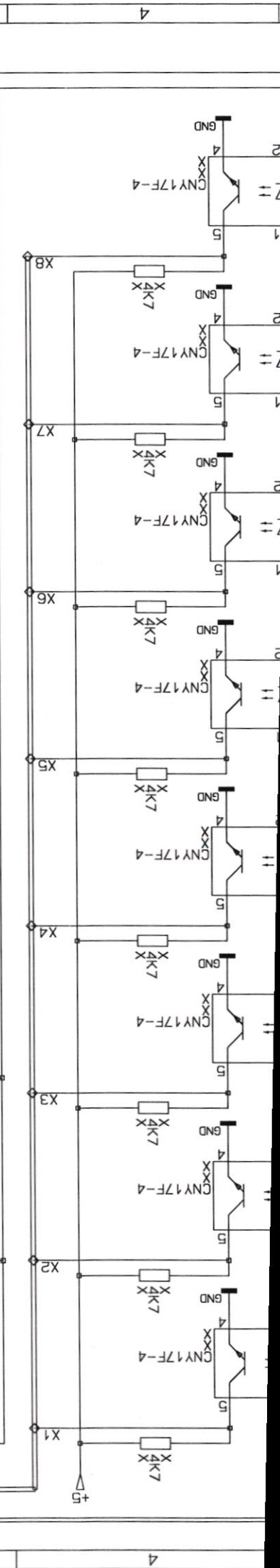
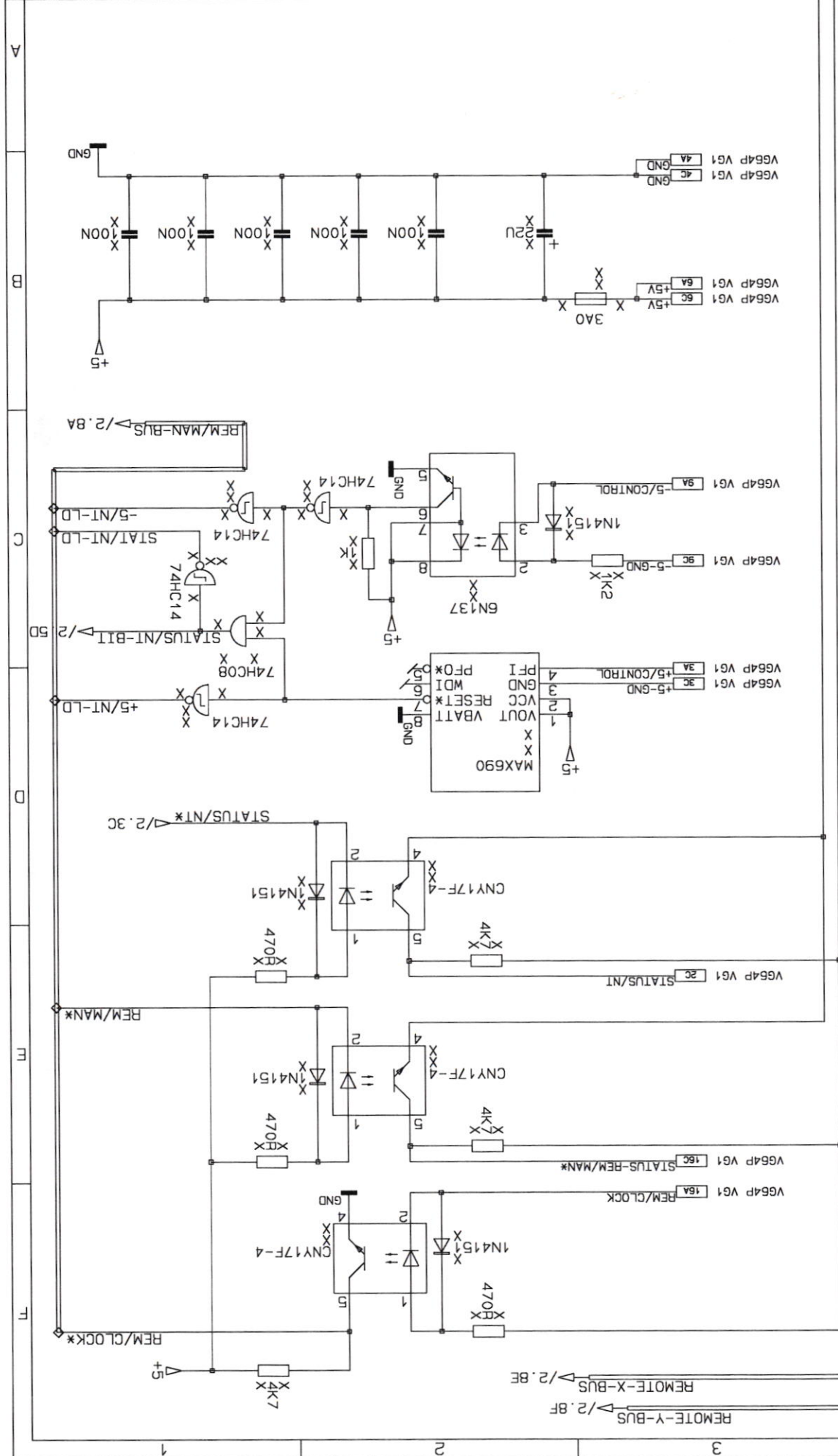
1005
 23.01.96



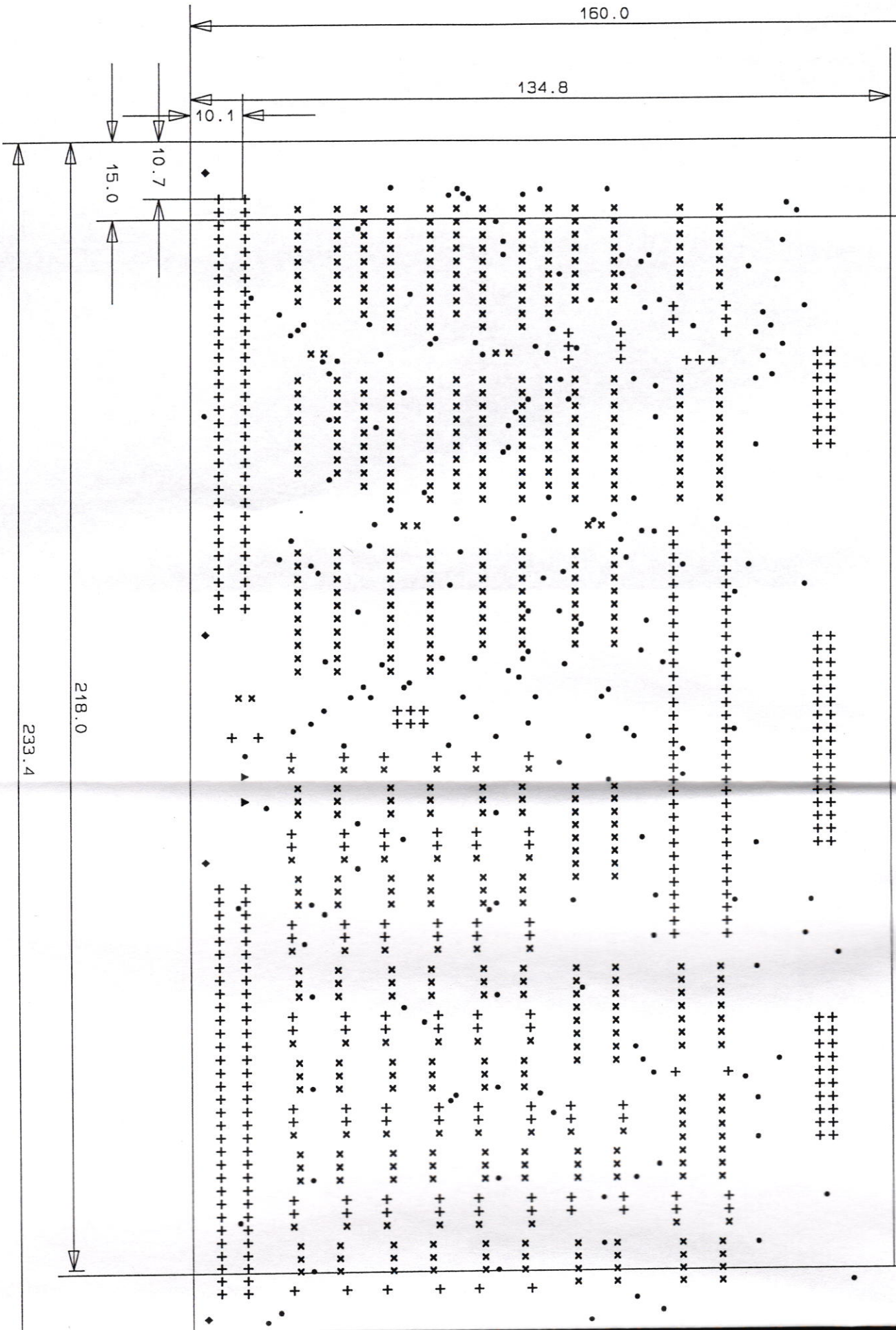
26pol. Pin Reihe (Doppelpol 13x13)



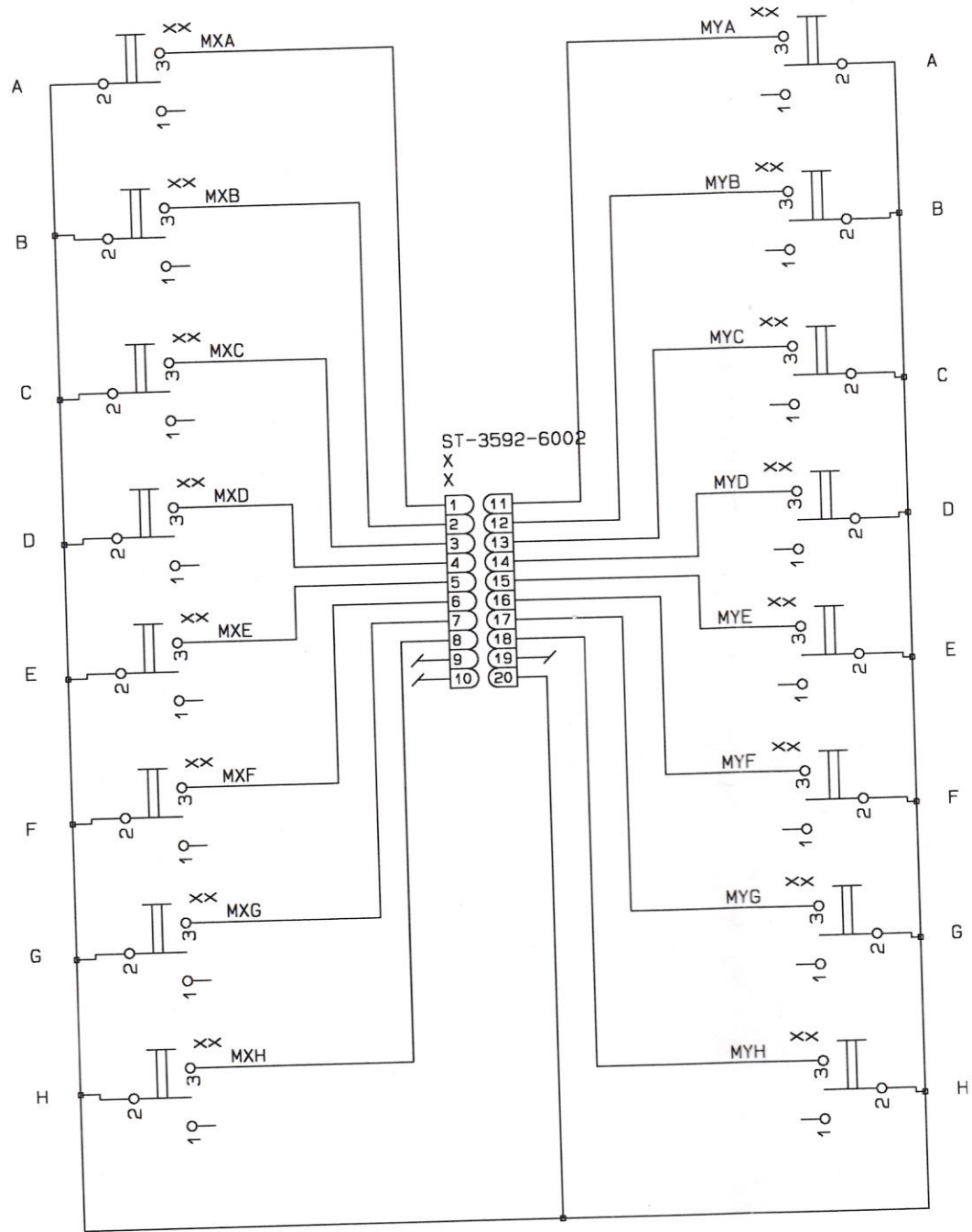
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	SCHALTMATRIX-CONTROL		BEARB. X	NAME	DARMASTADT
BLATT 1	IN-/OUTPUT		GEPR.		
VON 2	VERS. FG 447 120				



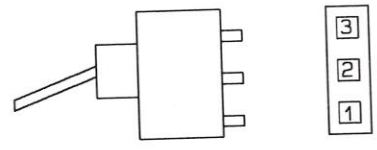
6SI CONBLS
29-NOV-1995 L005
CON
FG 447.120
Bohrkontrollfilm mit Masszeichnung fuer die Platine CON



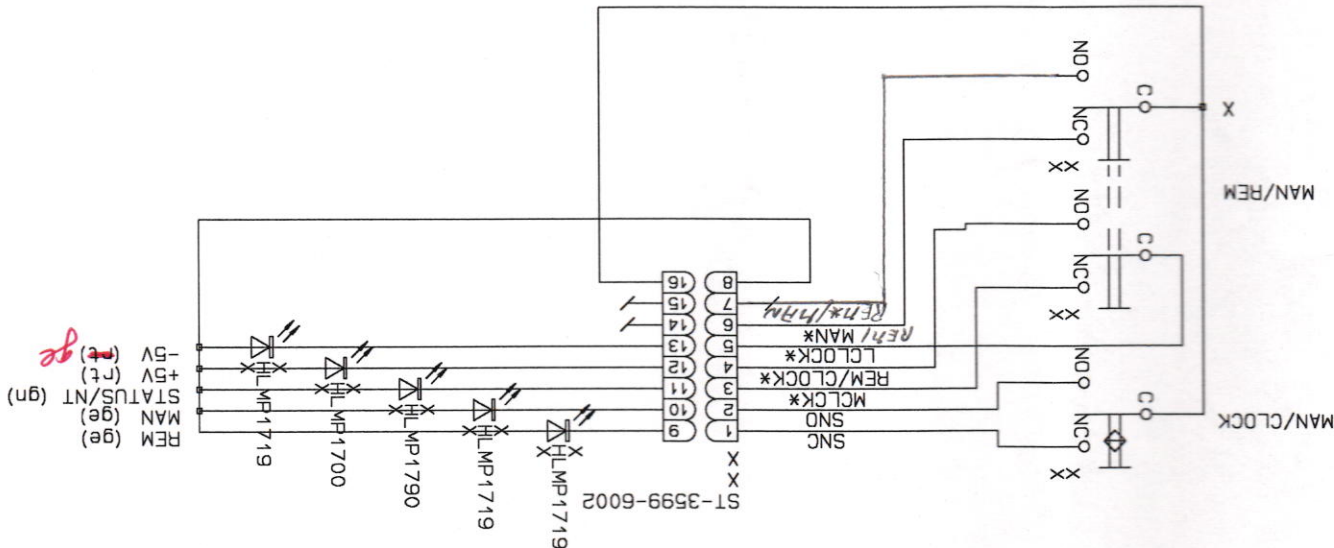
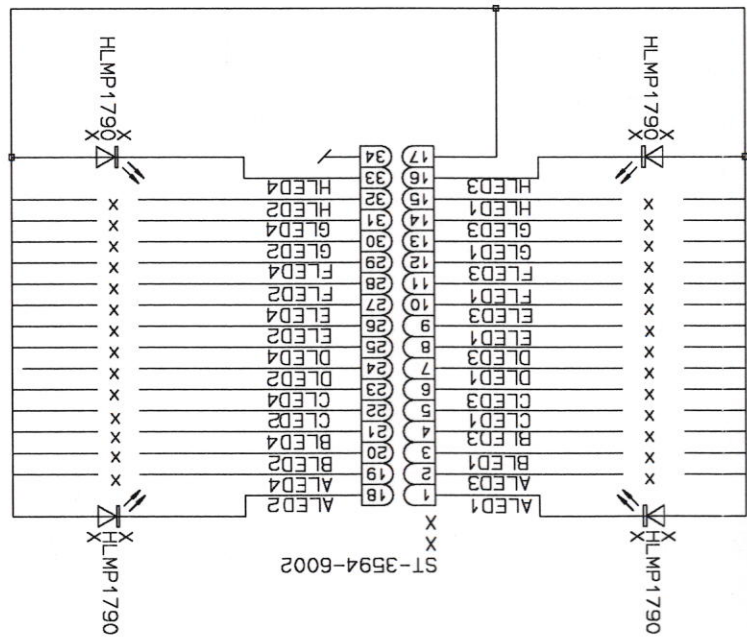
2.0 Bit 2.1



CK-SERIE 7000

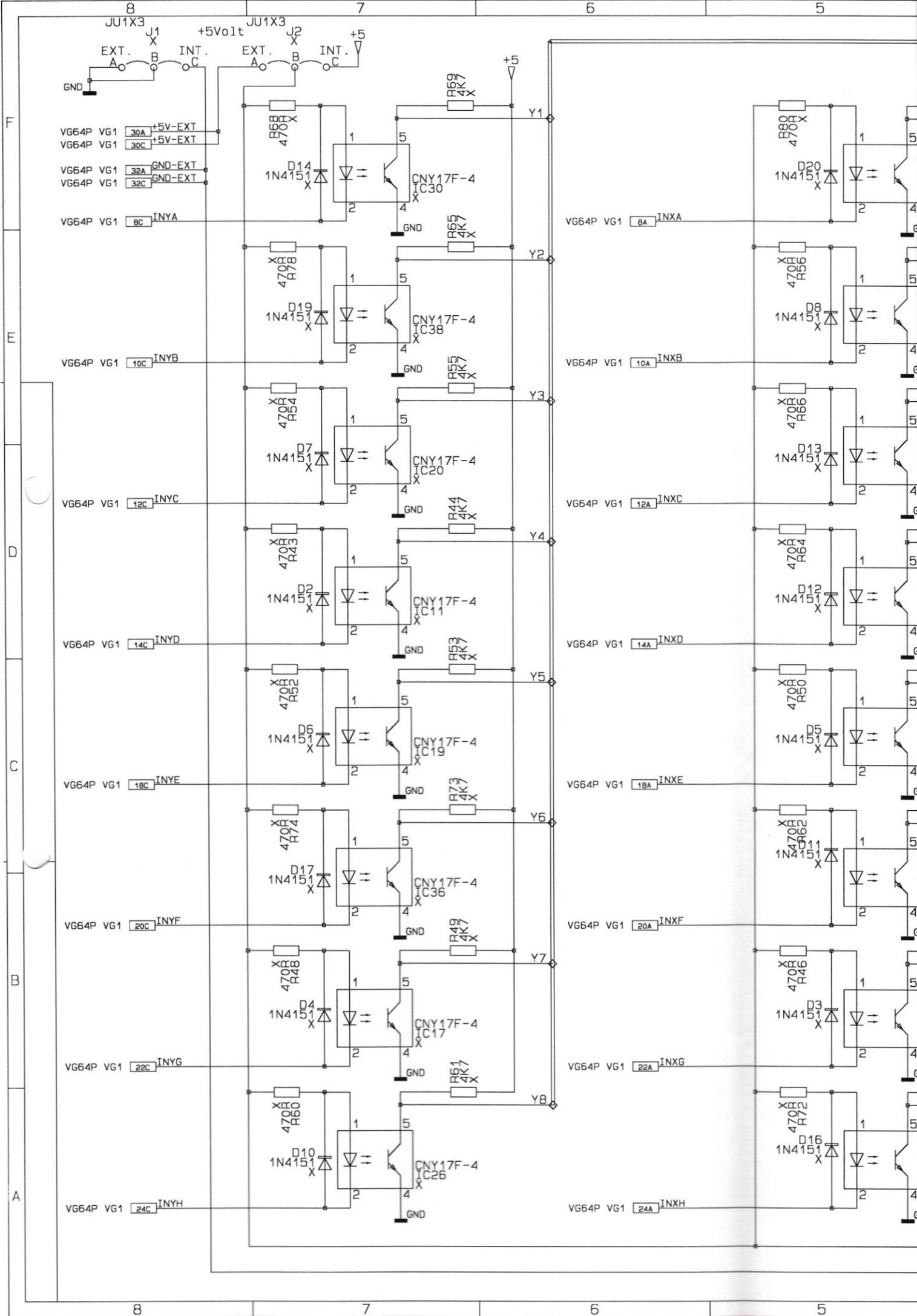


MASSTAB	CON	ENTW. D. LOOS	17-NOV-95	DATE	NAME
		BEARB. X	X	BEARB.	GS I - DARMSTADT
BLATT 3 VON 3	SCHALTMATRIX-CONTROL	VERÄHRTUNG FRONTPLATTE	VER. FG 447 120	VER.	

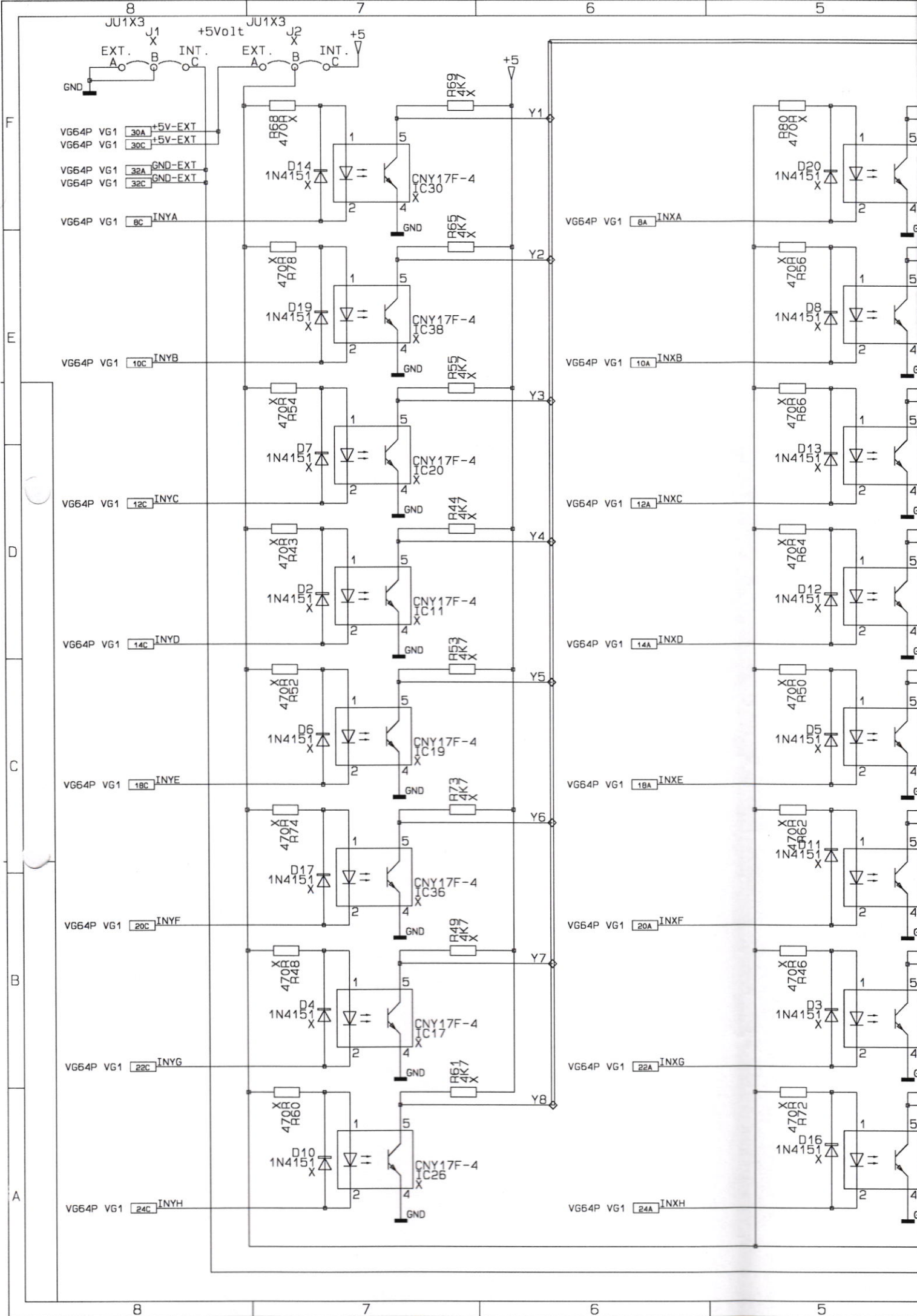


A
B
C
D
E
F

1 2 3 4

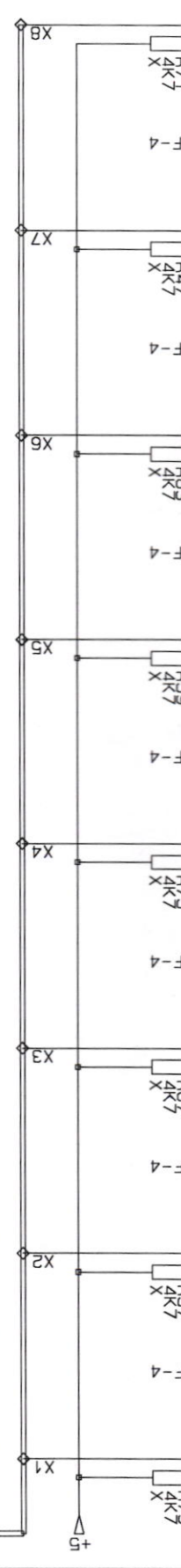
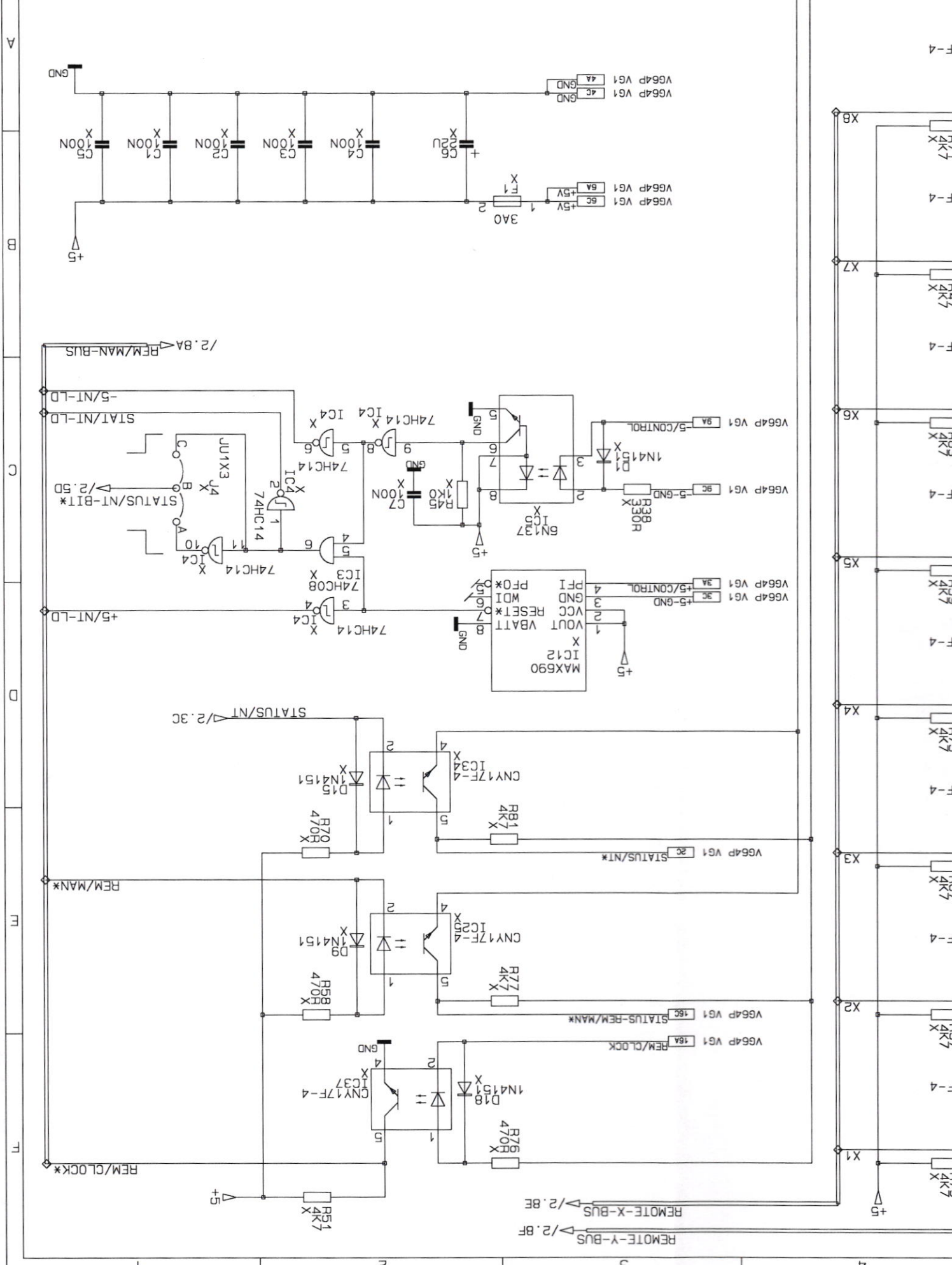


F
E
D
C
B
A



8 7 6 5

GSI - DARMSSTADT		GEPR.
VERS. FG_447.121		BEARB. LANGER
SCHALTMATRIX-CONTROL		ENTW. D.LOOS 13-NOV-96
IN-/OUTPUT		DATUM
BLATT 1		NAME
VON 2		BEARB. LANGER
MASSTAB		DATUM
CON		NAME



F

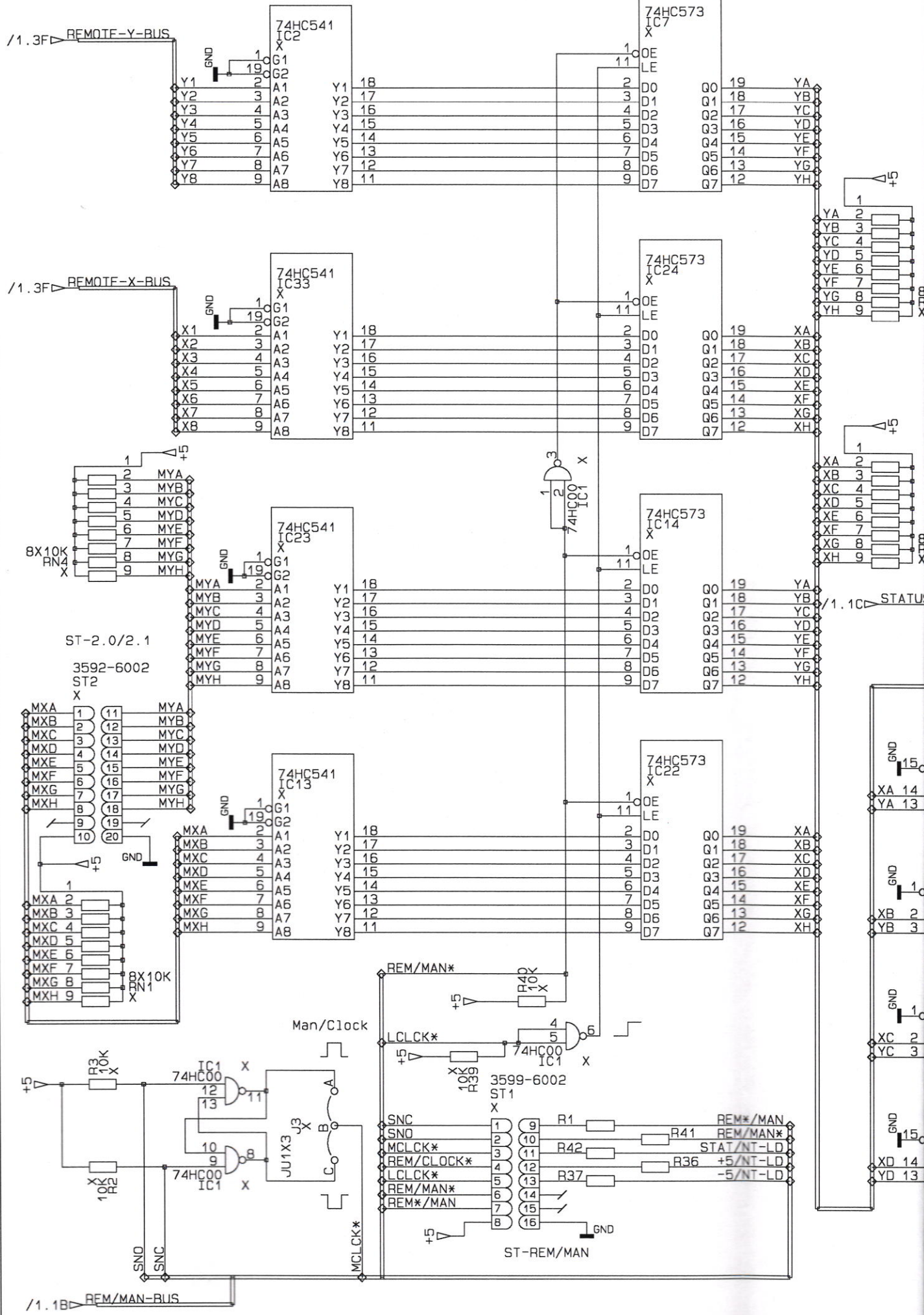
E

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C

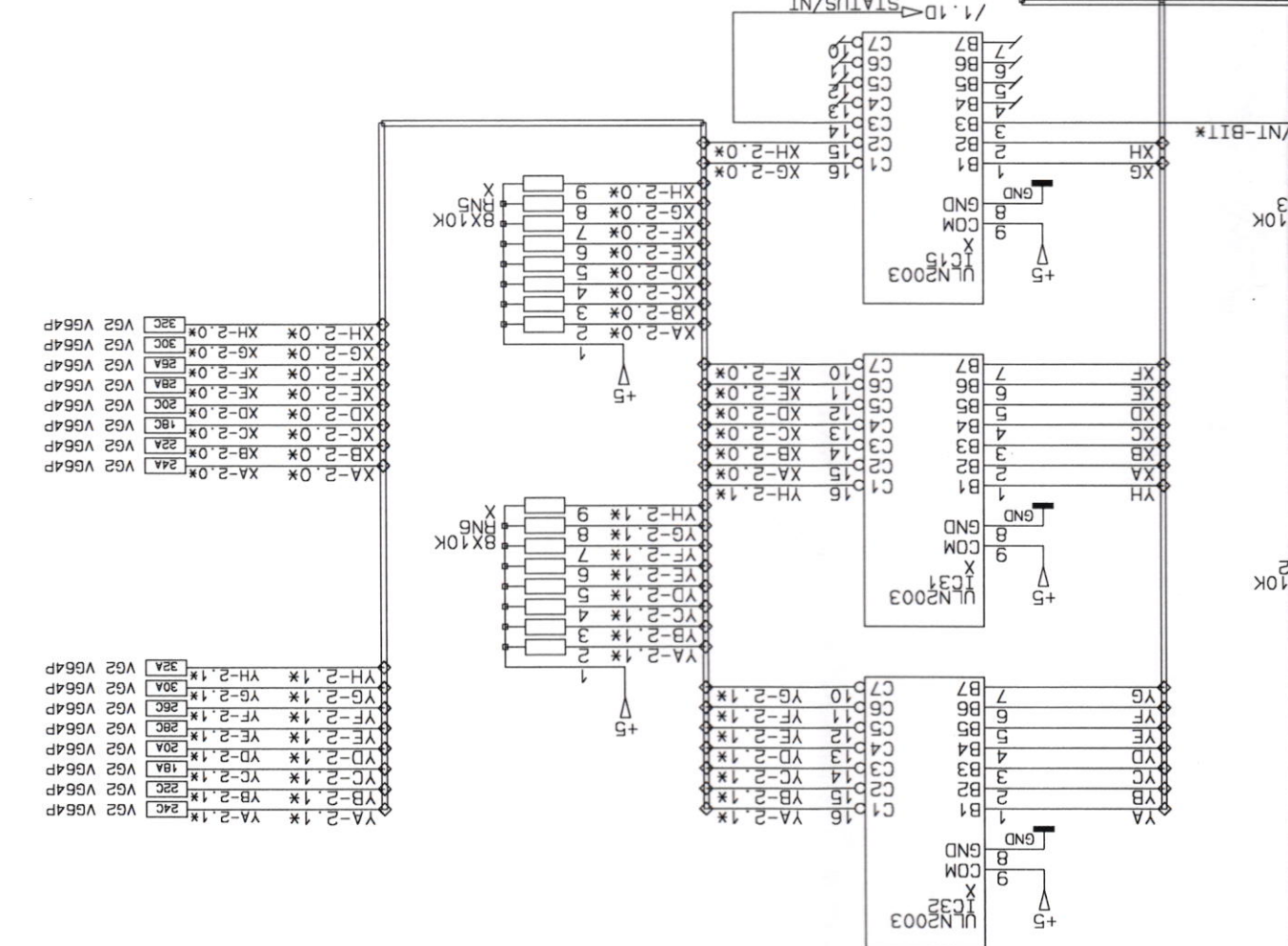
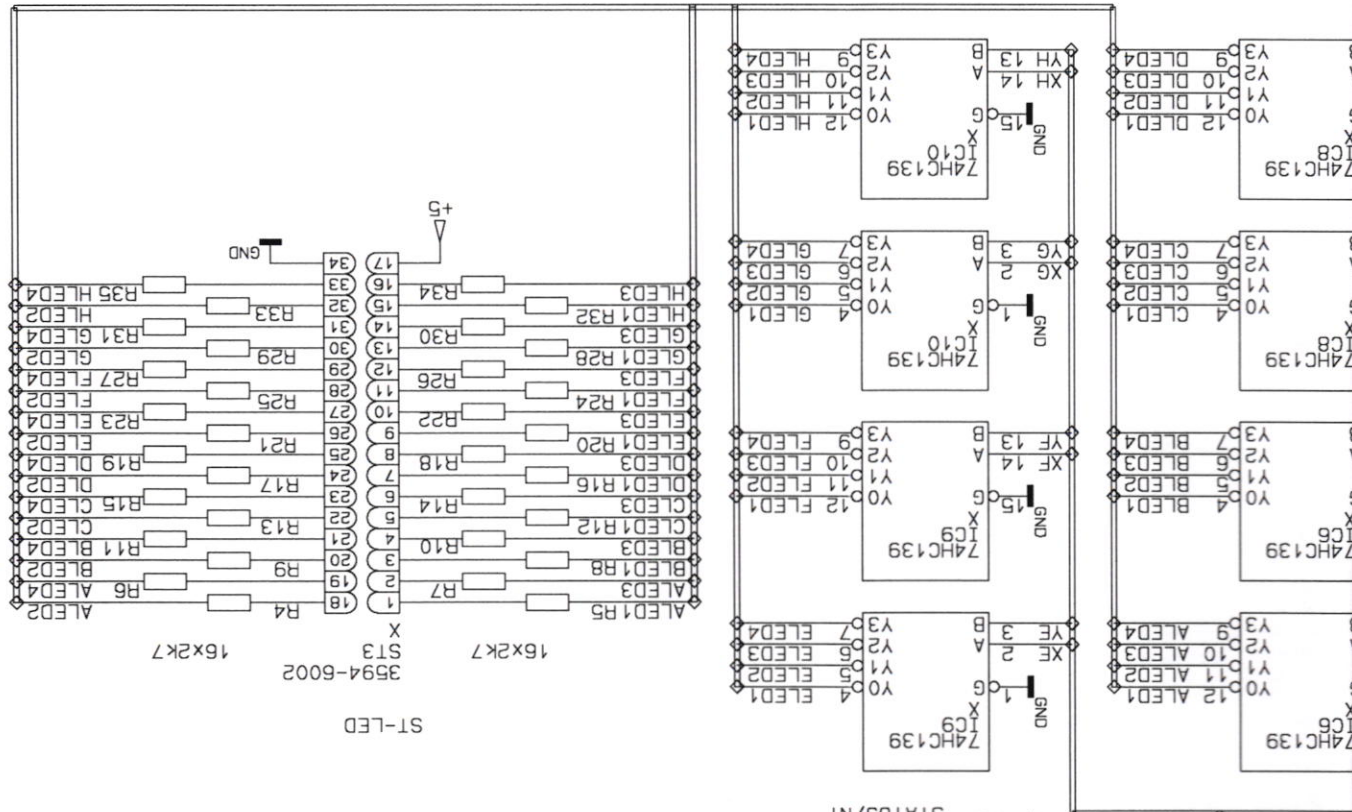
B

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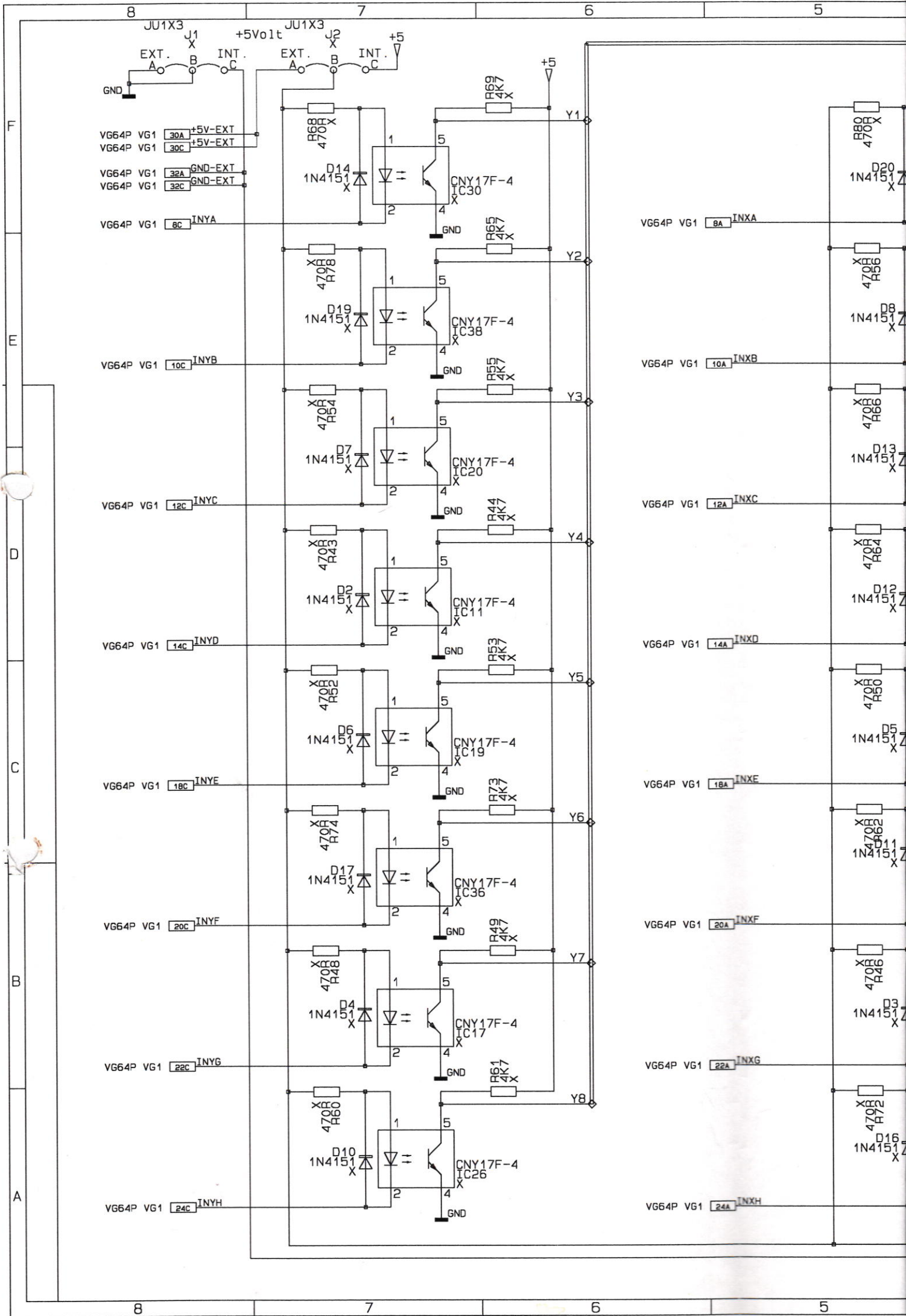


VERS. FG_447.121	GSI - DARMSSTADT	
	BEARB. X	GEPR.
Remote/Manuell Umschaltung	D. LOOS	ENTW.
SCHALTMATRIX-CONTROL	15-NOV-95	DATUM
CON	NAME	
MASSSTAB		

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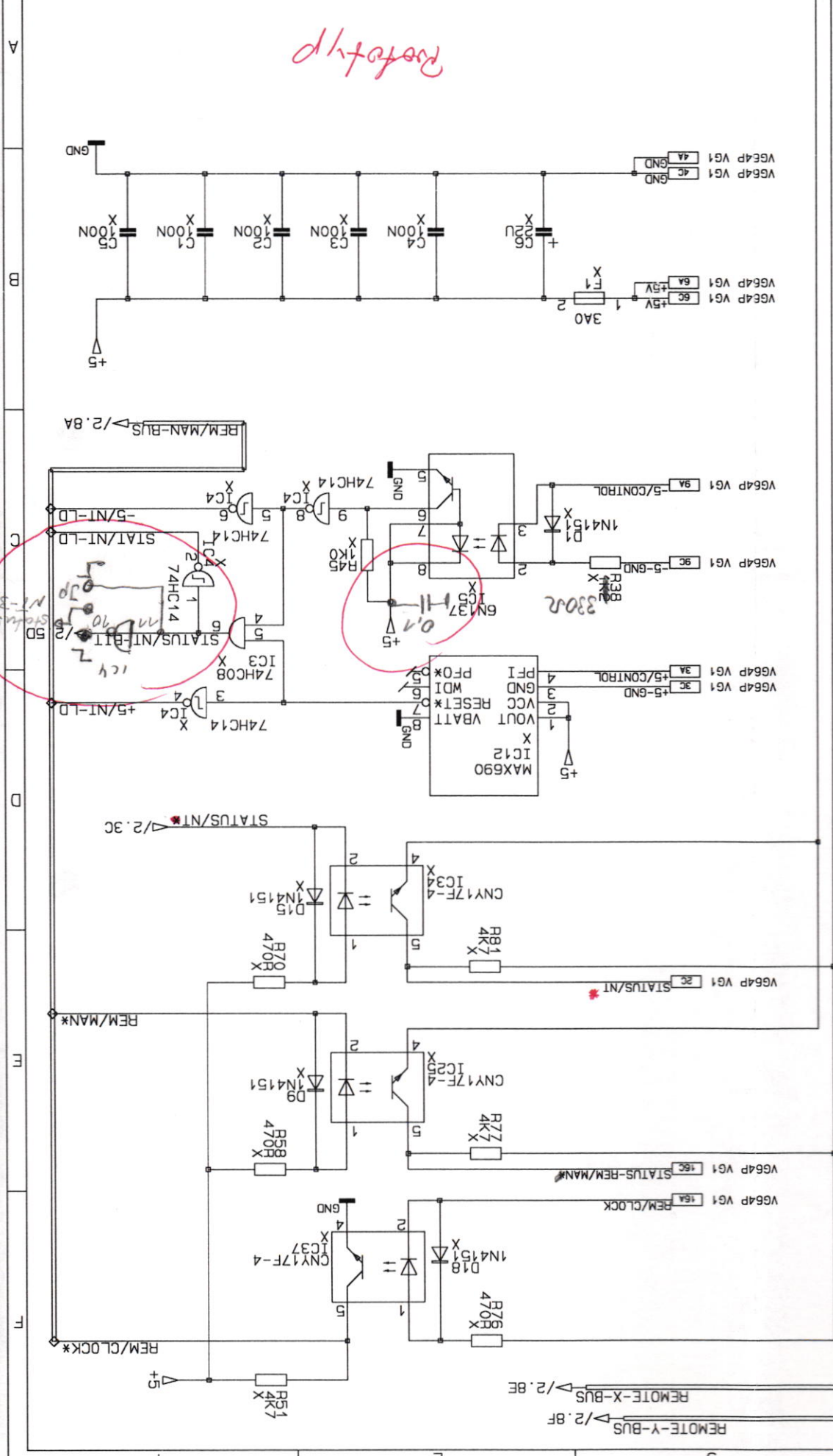


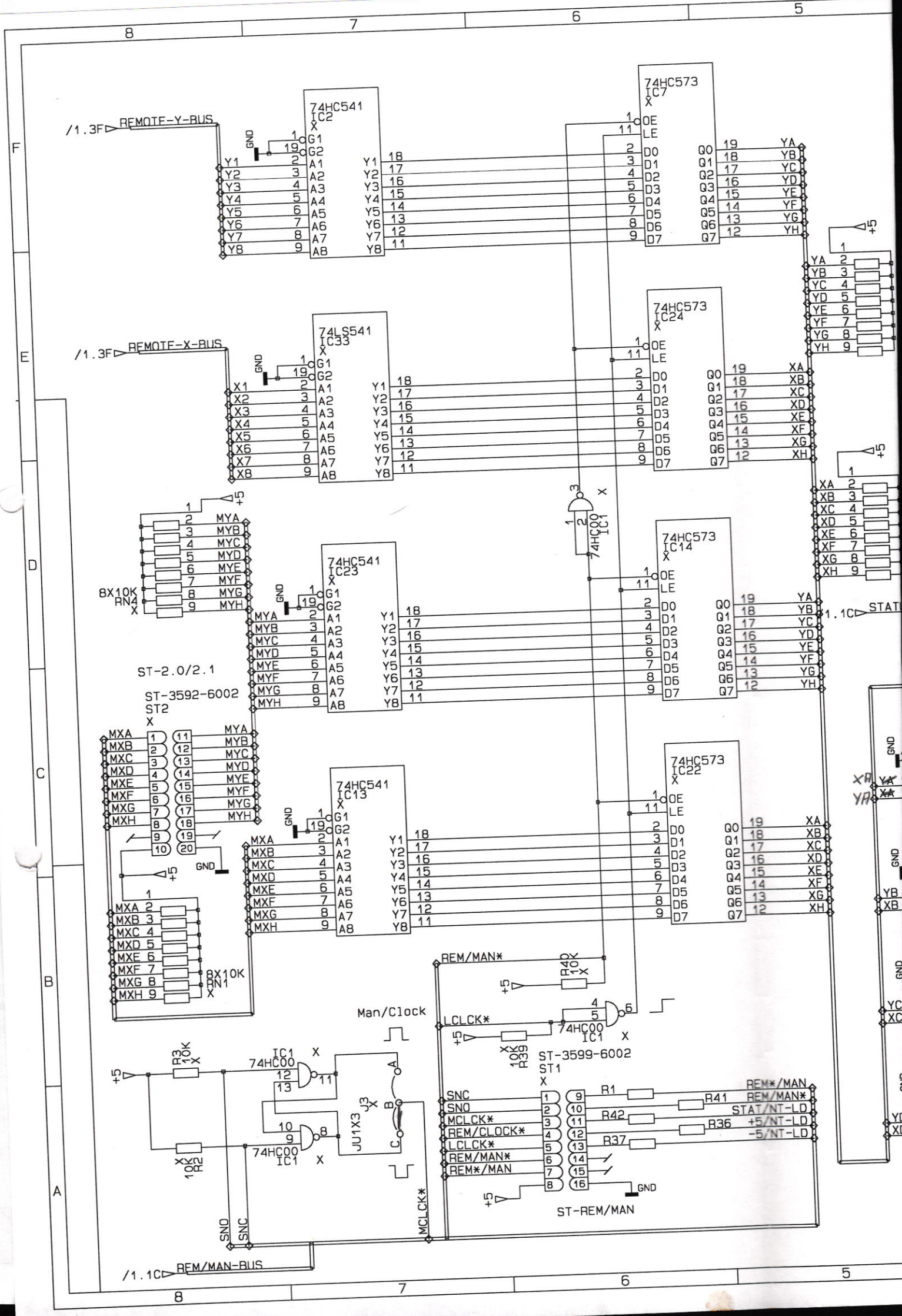
Y	24C	YG-2.1k	YH-2.1k	24A	YA-2.1k	YB-2.1k	YH-2.1k	24B	YD-2.1k	YF-2.1k	YH-2.1k	24C	YB-2.1k	YD-2.1k	YF-2.1k	YH-2.1k	24D	YD-2.1k	YF-2.1k	YH-2.1k	24E	YF-2.1k	YH-2.1k	24F	YH-2.1k
X	24A	XA-2.0k	XB-2.0k	24B	XC-2.0k	XD-2.0k	XE-2.0k	24C	XF-2.0k	XG-2.0k	XH-2.0k	24D	XA-2.0k	XB-2.0k	24E	XC-2.0k	XD-2.0k	24F	XE-2.0k	XF-2.0k	24G	XF-2.0k	XG-2.0k	24H	XH-2.0k



MASSTAB	CON	ENTM.	D. LOOS	13-NOV-95	DATE	NAME	
		BEARB.	X	X			
BLATT	SCHALTMATRIX-CONTROL	VERS.	GSI - DARMSTADT				
VON 2	IN-/OUTPUT	FG 447 120					

Prototyp





/1.3F REMOTE-Y-BUS

/1.3F REMOTE-X-BUS

BX10K RN4 X

ST-2.0/2.1
ST-3592-6002
ST2 X

BX10K RN1 X

R3 10K X

/1.1C REM/MAN-BUS

74HC541 IC2 X

74HC541 IC33 X

74HC541 IC23 X

74HC541 IC13 X

74HC573 IC7 X

74HC573 IC24 X

74HC573 IC14 X

74HC573 IC22 X

74HC00 IC1 X

Man/Clock

REM/MAN*
LCLCK*
+5

ST-3599-6002 ST1 X

SNC
SNO
MCLCK*
REM/CLOCK*
LCLCK*
REM/MAN*
REM*/MAN

R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16

REM*/MAN
STAT/NT-LD
+5/NT-LD
-5/NT-LD

ST-REM/MAN

+5

+5

1.1C STAT

GND

GND

GND

GND

GND

GND

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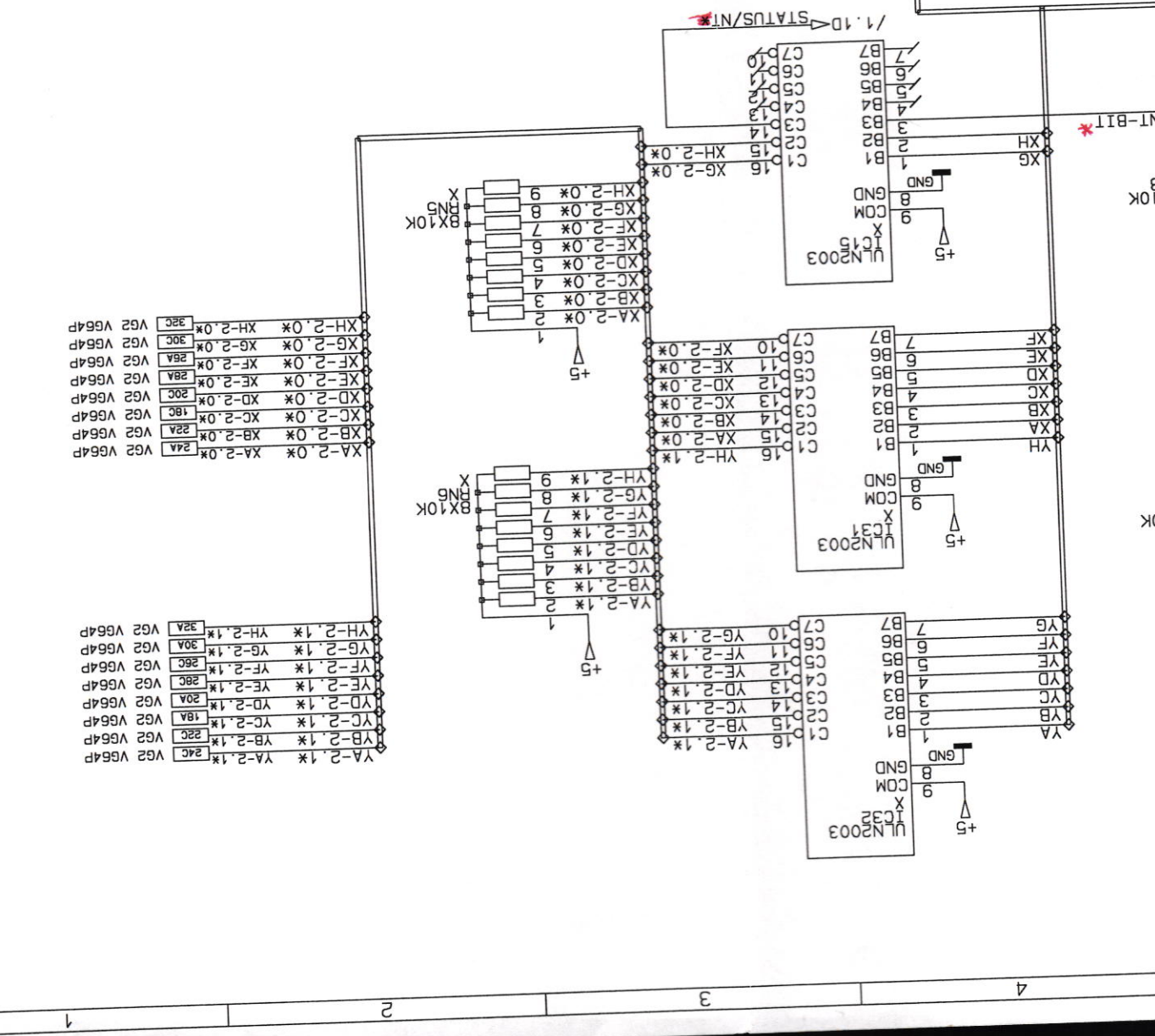
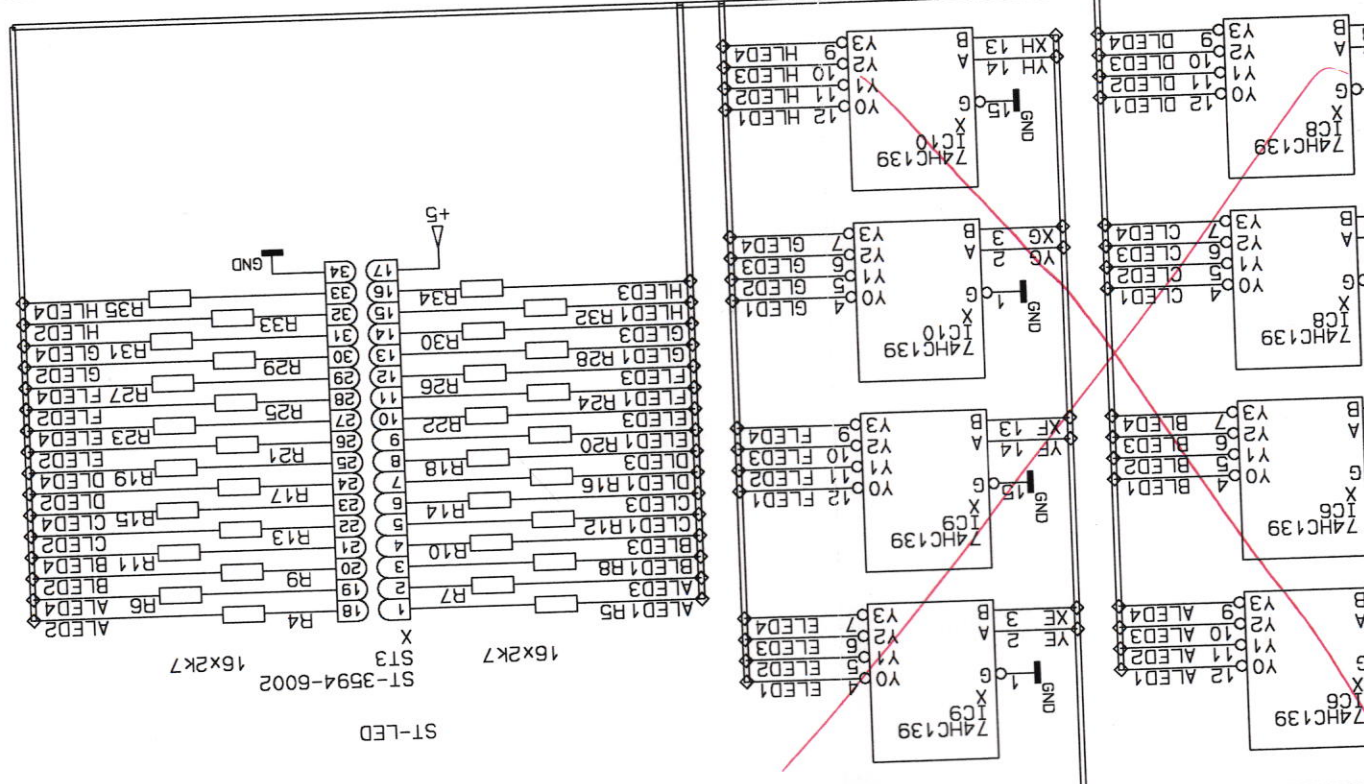
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MASSTAB	CON		ENTW.	D. LOOS	15-NOV-95
	SCHALTMATRIX-CONTROL		BEARB.	X	X
BLATT	Remote/Manuell Umschaltung		GEPR.		
VON	2		GSI - DARMSTADT		
ZU	2		VERS. FG 447 120		



24A	VG2	VG64P	XA-2.0*	XA-2.0*
24B	VG2	VG64P	XB-2.0*	XB-2.0*
24C	VG2	VG64P	XC-2.0*	XC-2.0*
24D	VG2	VG64P	XD-2.0*	XD-2.0*
24E	VG2	VG64P	XE-2.0*	XE-2.0*
24F	VG2	VG64P	XF-2.0*	XF-2.0*
24G	VG2	VG64P	XG-2.0*	XG-2.0*
24H	VG2	VG64P	XH-2.0*	XH-2.0*
24I	VG2	VG64P	YA-2.1*	YA-2.1*
24J	VG2	VG64P	YB-2.1*	YB-2.1*
24K	VG2	VG64P	YC-2.1*	YC-2.1*
24L	VG2	VG64P	YD-2.1*	YD-2.1*
24M	VG2	VG64P	YE-2.1*	YE-2.1*
24N	VG2	VG64P	YF-2.1*	YF-2.1*
24O	VG2	VG64P	YG-2.1*	YG-2.1*
24P	VG2	VG64P	YH-2.1*	YH-2.1*