

DC-MEASUREMENTS

ATTENTION : The EHT part of this board contains some points under very high voltage.

Before starting the measurements, the board should be placed upon two extension boards (art. nr. 792009).

- Employed meter : HANDYKIT MK-601
- Supplied signal : Internal convergence signal on 15 kHz.
- Remark : For these measurements, P3 was adjusted so that the image covers the entire width of the picture tube.
- ALL MEASURED VALUES ARE EXPRESSED IN VOLT (DC)

a) Supply voltages

-----

+D : 16.9 V.
+M : 16.9
FBHD : 333
HTHD : 26
HDL : 20
HTHV : 163.7
SF : -13.7

GLEICHSPANNUNGSMESSUNGEN

ACHTUNG : Der EHT - Teil dieser Schaltung enthält Punkte unter einer sehr hohen Spannung.

Vor dem Anfang der Messungen, setzen Sie die Platte auf zwei Verlängerungsplatten (art. nr. 792009).

- Verwandtes Messgerät : HANDYKIT MK-601
- Gespeistes Signal : Das innere Konvergenzsignal auf 15 KHz
- Bemerkung : Für die Messungen ist P3 so eingestellt, daß das Bild die ganze Breite der Bildröhre einnimmt.
- ALLE MESSWERTE SIND AUSGEDRÜCKT IN VOLT (DC).

a) Speisungsspannungen

-----

## b) Other measurements

-----

pin	IC 1	IC 2
1	15.5	12.8
2	6.3	12.8
3	7.9	4.8
4	0.0	11.5
5	*	8.8
6	*	16.6
7	0.2	0.0
8	16.9	0.0
9	-	0.0
10	-	16.6
11	-	0.0
12	-	16.6
13	-	16.6
14	-	16.6

\* : Measurements on these points cause disturbances in the circuit, which makes the projector turn into "Hold down deflection".

- : Pin is not used or not existing

## b) Andere Messungen

-----

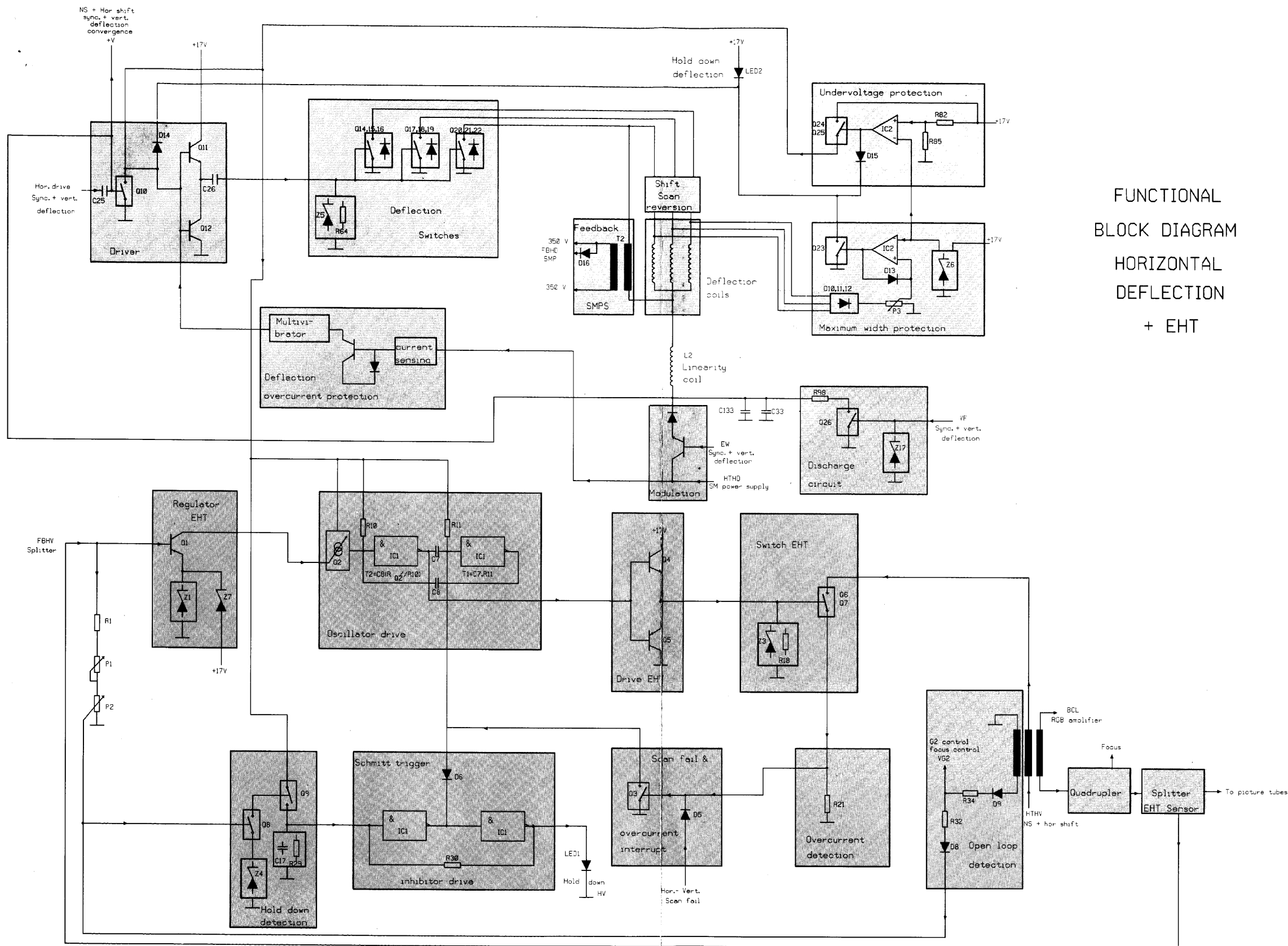
Q..	c	b	e
10	14.5	-5.2	0.0
11	16.1	14.5	14.0
12	0.0	14.5	14.0
13	26.0	21.2	20.5
23	16.2	0.1	0.0
24	0.1	0.7	0.0
25	16.9	16.2	16.9

\* : Messungen auf diese Punkte verursachen Störungen in der Schaltung, wodurch der Projektor in "Hold down deflection" Schaltet.

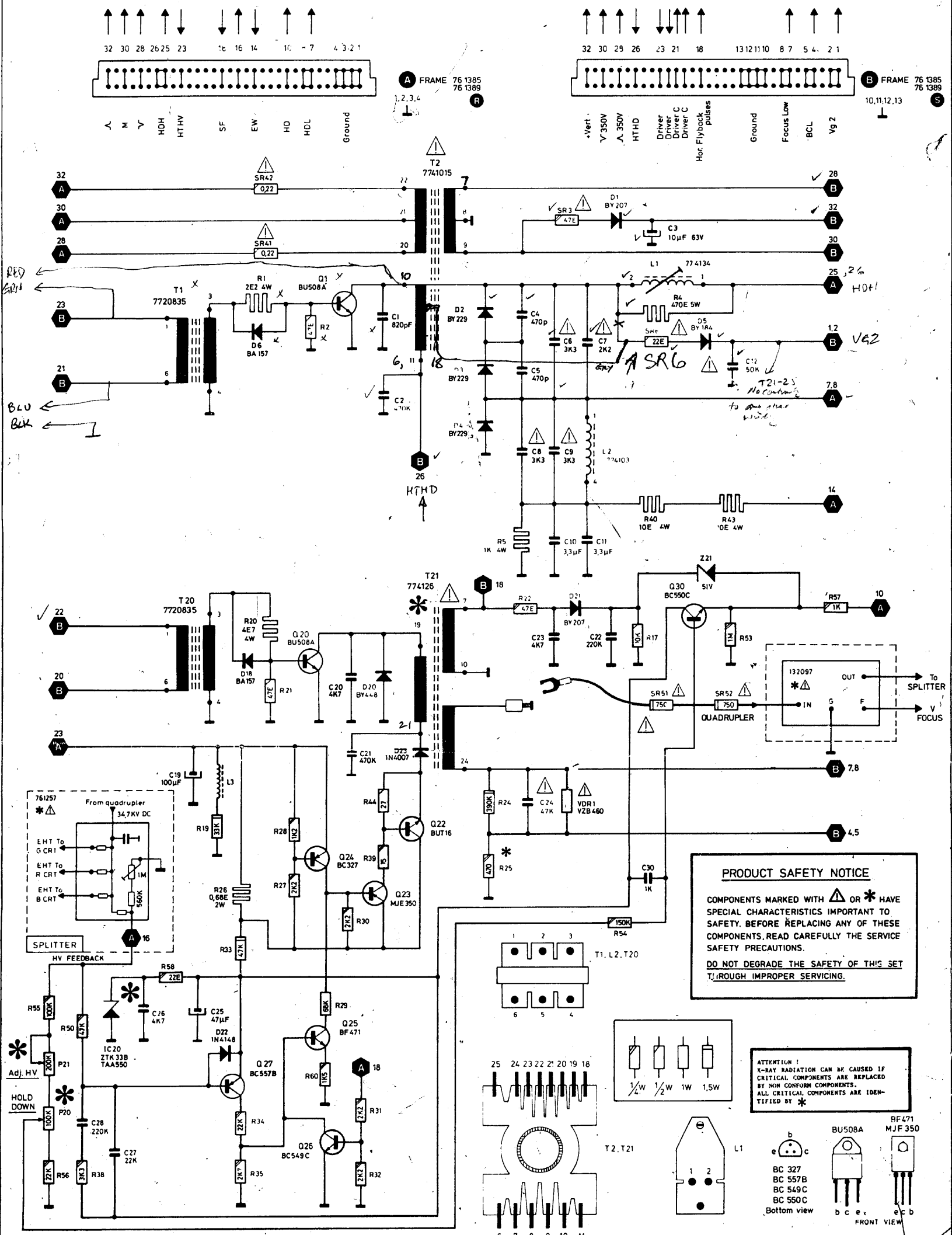
- : Dieser Anschluß ist nicht verwendet oder besteht nicht.

ITEM NO.	SIT.	DESCRIPTION	ITEM NO.	SIT.	DESCRIPTION
11 37121	C..1	CAPACITOR POME 10K K5 100	13 2590	Q..1	TRANSISTOR BC560B
11 3728	C..2	CAPACITOR POME 220K K5 63	13 14182	Q..2	TRANSISTOR BC559C,BC309C
11 2747	C..3	CAPACITOR CE MI 4K7 K5 63	13 14295	Q..3	TRANSISTOR BC549B,
11 1488	C..4	CAPACITOR ELPR 220M Z5 40	13 1424	Q..4	TRANSISTOR BC338
11 3724	C..6	CAPACITOR POME 100K K5 63	13 14311	Q..5	TRANSISTOR BC327
11 2387	C..7	CAPACITOR N152MI 470P J5 63	13 2900	Q..6	TRANSISTOR BUZ310
11 2368	C..8	CAPACITOR N750MI 330P J5 63	13 2900	Q..7	TRANSISTOR BUZ310
11 1531	C..9	CAPACITOR ELPRMI 10M M5 35	13 1411	Q..8	TRANSISTOR BC549C,BC239C
11 1476	C.10	CAPACITOR ELPR 47M Z5 25	13 14182	Q..9	TRANSISTOR BC559C,BC309C
11 41031	C.11	CAPACITOR POMEFF 270K K 100	13 1411	Q.10	TRANSISTOR BC549C,BC239C
11 1722	C.12	CAPACITOR PPMEPO 10K J 1500	13 1424	Q.11	TRANSISTOR BC338
11 37141	C.13	CAPACITOR POME 15K K5 100	13 14311	Q.12	TRANSISTOR BC327
11 1159	C.14	CAPACITOR ELAX 47M T 25	13 25131	Q.13	TRANSISTOR BDH65 DAR
11 2739	C.15	CAPACITOR CE MI 1K K5 63	13 2901	Q.14	TRANSISTOR BUZ357 BUZ356-S1
11 2763	C.16	CAPACITOR CE MI 10K U5 63	13 2901	Q.15	TRANSISTOR BUZ357 BUZ356-S1
11 2763	C.17	CAPACITOR CE MI 10K U5 63	13 2901	Q.16	TRANSISTOR BUZ357 BUZ356-S1
11 4636	C.18	CAPACITOR HV AX 50K M 1600	13 2901	Q.17	TRANSISTOR BUZ357 BUZ356-S1
11 1639	C.19	CAPACITOR ELRA 47M T 250	13 2901	Q.18	TRANSISTOR BUZ357 BUZ356-S1
11 4100	C.20	CAPACITOR POMEFF 100K K 100	13 2901	Q.19	TRANSISTOR BUZ357 BUZ356-S1
11 59201	C.25	CAPACITOR PP RA 1K5 J5 100	13 2901	Q.20	TRANSISTOR BUZ357 BUZ356-S1
11 4104	C.26	CAPACITOR POMEFF 470K K 100	13 2901	Q.21	TRANSISTOR BUZ357 BUZ356-S1
11 1775	C.27	CAPACITOR PPMEPO 5K6 J 1500	13 2901	Q.22	TRANSISTOR BUZ357 BUZ356-S1
11 1775	C.28	CAPACITOR PPMEPO 5K6 J 1500	13 1411	Q.23	TRANSISTOR BC549C,BC239C
11 1775	C.29	CAPACITOR PPMEPO 5K6 J 1500	13 14295	Q.24	TRANSISTOR BC549B,
11 4603	C.30	CAPACITOR POHVPO 100K M 1000	13 14311	Q.25	TRANSISTOR BC327
11 2242	C.31	CAPACITOR NPO MI 100P J5 63	13 2593	Q.26	TRANSISTOR BUZ74A FET
11 1569	C.32	CAPACITOR ELPRMI 10M M5 250	13 2552	Q201	TRANSISTOR BF423
11 4799	C.33	CAPACITOR PAMERA 30M K AC300	13 14295	Q202	TRANSISTOR BC549B,
11 4160	C.34	CAPACITOR POMEFF 68K K 400	13 14295	Q203	TRANSISTOR BC549B,
11 3732	C.35	CAPACITOR POME 470K K5 63			
11 2739	C.36	CAPACITOR CE MI 1K K5 63	10 1160	R..1	RESISTOR CF 100K J OW25
11 59161	C201	CAPACITOR PP RA 1K J5 100	10 1152	R..2	RESISTOR CF 22K J OW25
11 3724		CAPACITOR POME 100K K5 63	10 1156	R..3	RESISTOR CF 47K J OW25
13 1621	D..1	DIODE 1N4148 SWITCH	10 1149	R..4	RESISTOR CF 12K J OW25
13 1621	D..2	DIODE 1N4148 SWITCH	10 1112	R..5	RESISTOR CF 10E J OW25
13 1621	D..3	DIODE 1N4148 SWITCH	10 1148	R..6	RESISTOR CF 10K J OW25
13 1621	D..4	DIODE 1N4148 SWITCH	10 3252	R..7	RESISTOR MO 22K J 1W50
13 1621	D..5	DIODE 1N4148 SWITCH	10 1156	R..8	RESISTOR CF 47K J OW25
13 1621	D..6	DIODE 1N4148 SWITCH	10 1220	R..9	RESISTOR CF 47E J OW50
13 1913	D..7	DIODE BY229-1000 RECTIFIER	10 1162	R.10	RESISTOR CF 150K J OW25
13 1621	D..8	DIODE 1N4148 SWITCH	10 1156	R.11	RESISTOR CF 47K J OW25
13 1907	D..9	DIODE BY584 BY184 RECTIFIER	10 1148	R.12	RESISTOR CF 10K J OW25
13 1906	D.10	DIODE BYV96E	10 1112	R.13	RESISTOR CF 10E J OW25
13 1906	D.11	DIODE BYV96E	10 1120	R.14	RESISTOR CF 47E J OW25
13 1906	D.12	DIODE BYV96E	10 1142	R.15	RESISTOR CF 3K3 J OW25
13 1621	D.13	DIODE 1N4148 SWITCH	10 1148	R.16	RESISTOR CF 10K J OW25
13 1636	D.14	DIODE BAT43 SD101 SCHOTTKY	10 1142	R.17	RESISTOR CF 3K3 J OW25
13 1636	D.15	DIODE BAT43 SD101 SCHOTTKY	10 1136	R.18	RESISTOR CF 1K J OW25
13 1637	D.16	DIODE BA158 SWITCH	10 1116	R.19	RESISTOR CF 22E J OW25
13 1621	D.18	DIODE 1N4148 SWITCH	10 1116	R.20	RESISTOR CF 22E J OW25
13 1636	D201	DIODE BAT43 SD101 SCHOTTKY	10 3606	R.21	RESISTOR WW H 0E33 K 4W
13 1621	D202	DIODE 1N4148 SWITCH	10 1141	R.22	RESISTOR CF 2K7 J OW25
13 1621	D203	DIODE 1N4148 SWITCH	10 1104	R.23	RESISTOR CF 2E2 J OW25
13 1662	DLED	DIODE CQY54-A3 LED D3 RED	10 1164	R.25	RESISTOR CF 220K J OW25
13 73945	I..1	INTEGRATED CIRCUIT 4093B HEF	10 1152	R.26	RESISTOR CF 22K J OW25
13 4114	I..2	INTEGRATED CIRCUIT 393	10 1148	R.27	RESISTOR CF 10K J OW25
77 4154	L..1	COIL CHOKE HOR DATA HR45	10 1152	R.28	RESISTOR CF 22K J OW25
77 4159	L..2	COIL LINEARITY HOR GRAPHICS	10 1160	R.29	RESISTOR CF 100K J OW25
10 6834	P..1	TRIMPOT CEMV 200K K OW50	10 1156	R.30	RESISTOR CF 47K J OW25
10 6833	P..2	TRIMPOT CEMV 100K K OW50	10 1144	R.31	RESISTOR CF 4K7 J OW25
10 6736	P..3	TRIMPOT CEMH 500K K OW50	10 4674	R.32	RESISTOR HV 6M8 J OW50
71 6298	PC..	PC DATA HOR EHT HR45 761263	10 1152	R.33	RESISTOR CF 22K J OW25
71 6491	PC..	PC HORSUB - 761265	10 11209	R.34	RESISTOR CFFUL 47E J OW25
			10 1129	R.35	RESISTOR CF 270E J OW25
			10 1124	R.36	RESISTOR CF 100E J OW25
			10 1147	R.37	RESISTOR CF 8K2 J OW25
			10 1130	R.50	RESISTOR CF 330E J OW25
			10 1162	R.51	RESISTOR CF 150K J OW25
			10 1168	R.52	RESISTOR CF 470K J OW25

ITEM NO.	SIT.	DESCRIPTION	ITEM NO.	SIT.	DESCRIPTION
10 1139	R.53	RESISTOR CF 1K8 J OW25	77 4128	T..1	TRANSFORMER EHT DATA HR 45
10 1118	R.54	RESISTOR CF 33E J OW25	77 4129	T..2	TRANSFORMER HOR DEF DATA HR 45
10 1116	R.55	RESISTOR CF 22E J OW25	13 2102	Z..1	INTEGRATED CIRCUIT 550 TAA
10 1116	R.56	RESISTOR CF 22E J OW25	13 1745	Z..2	DIODE ZENER 18V 1W1 C
10 1116	R.57	RESISTOR CF 22E J OW25	13 1730	Z..3	DIODE ZENER 20V OW5 C
10 1116	R.58	RESISTOR CF 22E J OW25	13 1744	Z..4	DIODE ZENER 5V6 OW5 C
10 1116	R.59	RESISTOR CF 22E J OW25	13 1730	Z..5	DIODE ZENER 20V OW5 C
10 1116	R.60	RESISTOR CF 22E J OW25	13 1791	Z..6	DIODE ZENER 6V2 OW5 B
10 1116	R.61	RESISTOR CF 22E J OW25	13 1749	Z..7	DIODE ZENER 18V OW5 C
10 1116	R.62	RESISTOR CF 22E J OW25	13 1745	Z.16	DIODE ZENER 18V 1W1 C
10 1116	R.63	RESISTOR CF 22E J OW25	13 1730	Z.17	DIODE ZENER 20V OW5 C
10 1136	R.64	RESISTOR CF 1K J OW25	31 3525	001.	CONNECTOR EURO MOBSE P64
10 11008	R.65	RESISTOR CFF 1E J OW25	31 3531	0010	CONNECTOR EURO MOBSE P64 KEY
10 4690	R.66	RESISTOR HV 33M J OW50	36 7699	0011	RIVET CHOBERT D2,38 L6,35
10 1142	R.70	RESISTOR CF 3K3 J OW25	80 1297	002.	HEATSINK 45 HOR EHT BUZ310
10 1254	R.71	RESISTOR CF 33K J OW50	80 0256	0021	SPACER ISO L10 D9,75D6,5PTFE
10 3634	R.72	RESISTOR WW H 68E K 4W	13 3064	0022	TRANSISTOR MICA INSULAT SOT-93
10 11209	R.74	RESISTOR CFFUL 47E J OW25	80 1397	0023	ISOL FIX HEATSINK HOR 45 00
10 1152	R.80	RESISTOR CF 22K J OW25	36 20256	0024	SCREW DIN84 M 3 X16 MP-
10 1136	R.81	RESISTOR CF 1K J OW25	80 1360	0025	NUT + WASHER M3 FIX TRANSISTOR
10 1147	R.82	RESISTOR CF 8K2 J OW25	80 1324	003.	FIX HEATSINK HOR 45 HR
10 1143	R.83	RESISTOR CF 3K9 J OW25	36 20226	0031	SCREW DIN84 M 3 X 8 MP-
10 1160	R.84	RESISTOR CF 100K J OW25	36 7502	0032	WASHER DIN6798 A 3,2
10 1147	R.85	RESISTOR CF 8K2 J OW25	80 1341	004.	HEATSINK 45 HOR EHT BDX65
10 1152	R.86	RESISTOR CF 22K J OW25	80 1282	0042	SPACER ISO L 5 D9,75D6,9PTFE
10 1142	R.87	RESISTOR CF 3K3 J OW25	13 3008	0043	TRANSISTOR MICA INSULAT TO-3
10 1144	R.88	RESISTOR CF 4K7 J OW25	36 20256	0044	SCREW DIN84 M 3 X16 MP-
10 1156	R.89	RESISTOR CF 47K J OW25	80 0354	0045	WASHER DIA 3,25X 7,5 T, MS
10 1156	R.90	RESISTOR CF 47K J OW25	31 5331	0046	SOLDERLUG SCREW 1TAG D3.2 L12
10 1144	R.91	RESISTOR CF 4K7 J OW25	36 7502	0047	WASHER DIN6798 A 3,2
10 1152	R.92	RESISTOR CF 22K J OW25	36 61026	0048	NUT DIN934 M 3 HEXAGONAL
10 1148	R.93	RESISTOR CF 10K J OW25	72 1850	006.	CLIPS PROTECTION TRIMPOT CEMH
10 1148	R.94	RESISTOR CF 10K J OW25	31 3220	007.	RESISTOR WW V HOLDER H10
10 1144	R.95	RESISTOR CF 4K7 J OW25	80 12922	008.	HEATSINK TO220 AL
10 1235	R.96	RESISTOR CF 820E J OW50	36 20226	0081	SCREW DIN84 M 3 X 8 MP-
10 1152	R.97	RESISTOR CF 22K J OW25	36 7502	0082	WASHER DIN6798 A 3,2
10 4423	R.98	RESISTOR WW V 68E K 11W	36 61026	0083	NUT DIN934 M 3 HEXAGONAL
10 1116	R.99	RESISTOR CF 22E J OW25	13 3029	0084	TRANSISTOR SET INSULAT TO-220
10 11328	R100	RESISTOR CFF 470E J OW25	13 3039	009.	SPACER L 8 D 4 D1,2 CER
10 1136	R201	RESISTOR CF 1K J OW25	31 5315		CONNECTOR RIVET MOBTE D2 L14
10 1156	R202	RESISTOR CF 47K J OW25	13 30291		TRANSISTOR MICA INSULAT TO-220
10 1143	R203	RESISTOR CF 3K9 J OW25	13 30292		TRANSISTOR BUSH INSULAT TO-220
10 1148	R204	RESISTOR CF 10K J OW25	31 3338		SPACER L15,9 PCB
10 1143	R205	RESISTOR CF 3K9 J OW25	36 7413		RIVET EYE D3,2L 7,2
10 1140	R206	RESISTOR CF 2K2 J OW25			
10 1150	R207	RESISTOR CF 15K J OW25			
10 1154	R208	RESISTOR CF 33K J OW25			



FUNCTIONAL  
BLOCK DIAGRAM  
HORIZONTAL  
DEFLECTION  
+ EHT



**PRODUCT SAFETY NOTICE**

COMPONENTS MARKED WITH OR \* HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SERVICE SAFETY PRECAUTIONS.

DO NOT DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

**ATTENTION**

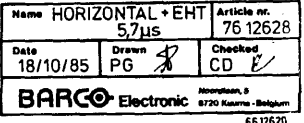
X-RAY RADIATION CAN BE CAUSED IF CRITICAL COMPONENTS ARE REPLACED BY NON CONFORM COMPONENTS. ALL CRITICAL COMPONENTS ARE IDENTIFIED BY \*

BU508A  
BC 327  
BC 557B  
BC 549C  
BC 550C  
Bottom view

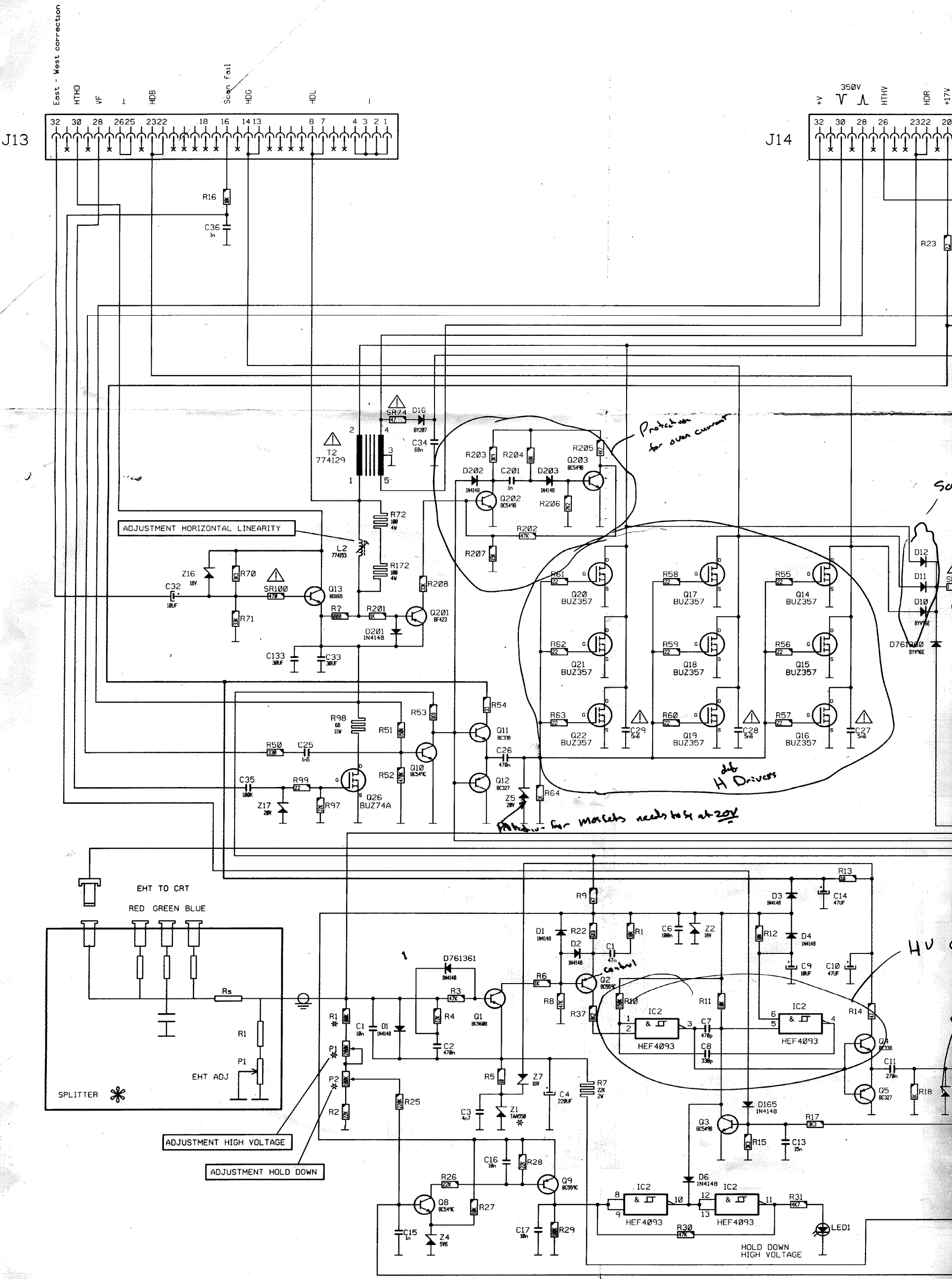
9F471  
MJF 350  
Front view

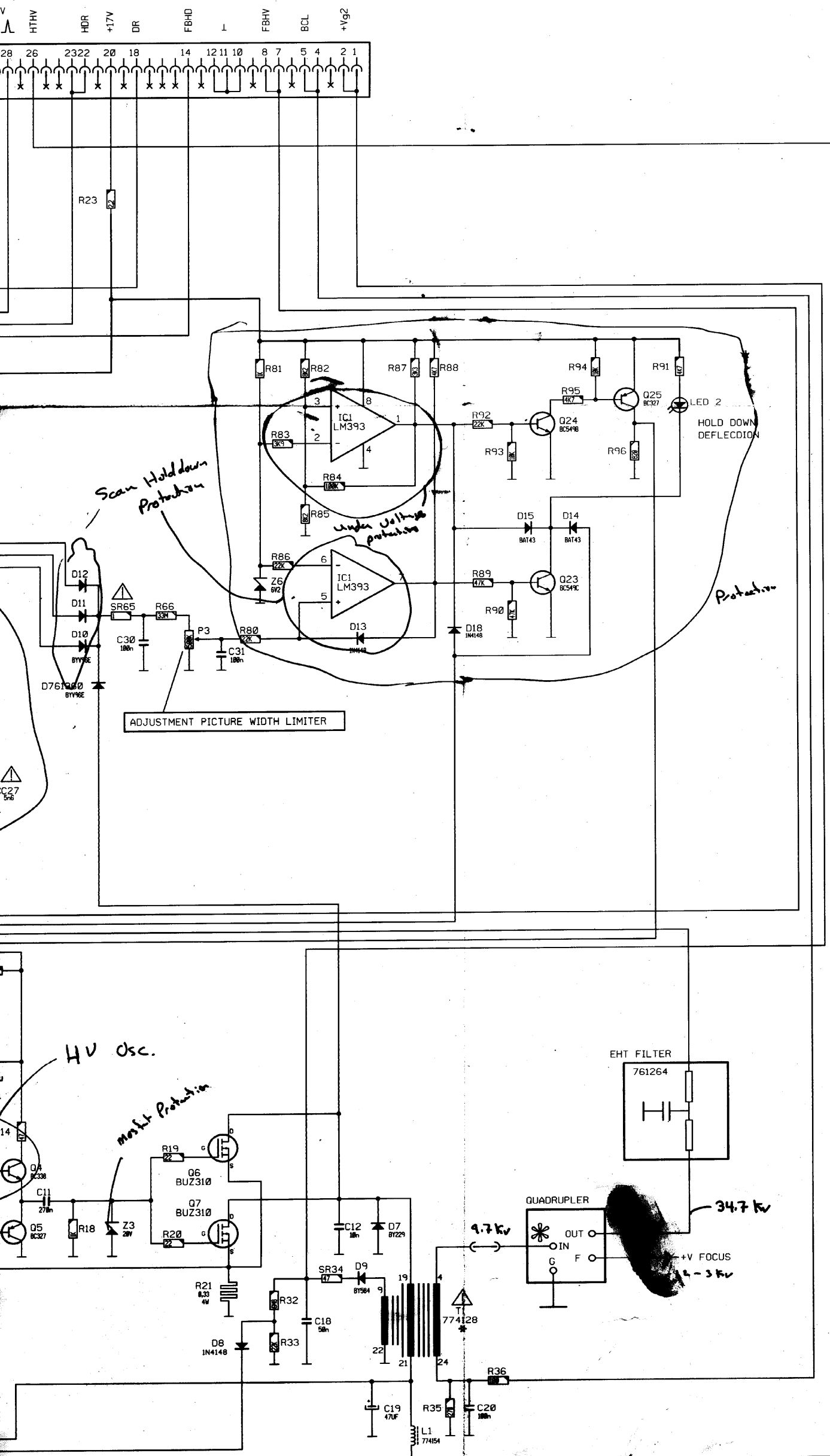
MODIFICATIONS RESERVED												
R	55, P21, P20, 56, 50, 38	58	19, 26, 27, 28, 33, 34, 35, 1, 20, 21, 41, 42, 2	29	30, 32, 31, 39, 44	24, 25	5, 22, VDR1, 3	54	17, 6, 40, 4	51, 53, 52, 43		
C	28	27	26	19, 25	20, 21, 1, 2	23, 4, 5, 8, 24, 6, 3, 10, 7, 11	22	3	30	12		
Q			27	24	20, 25, 26	1, 23	22			30		

Name	Horizontal deflection + EHT		Article n°	7612625
Date	9/10/85	Drawn PG	Checked CD	
BARCO Electronic			Noordlaan, 5 8720 Kaarne - Belgium	
6612625				









Problem Parts

Q13

SR100

Q11

Q12

all H<sub>1</sub> Drivers

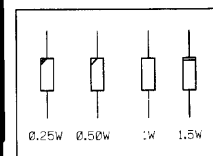
D10-D12

SR65

Q6 Q7

Q1

T1 (Bubble on side)  
Replace



HEF 4293B { pin 14 = +17V  
pin 7 = gnd

Name	Horizontal deflection - EHT	Article nr.	76 1265
Date	17/03/88	Drawn	PG
		Checked	CHJ
BARCO	Electronic	Nordleen 5	8728 Kurne - Belgium