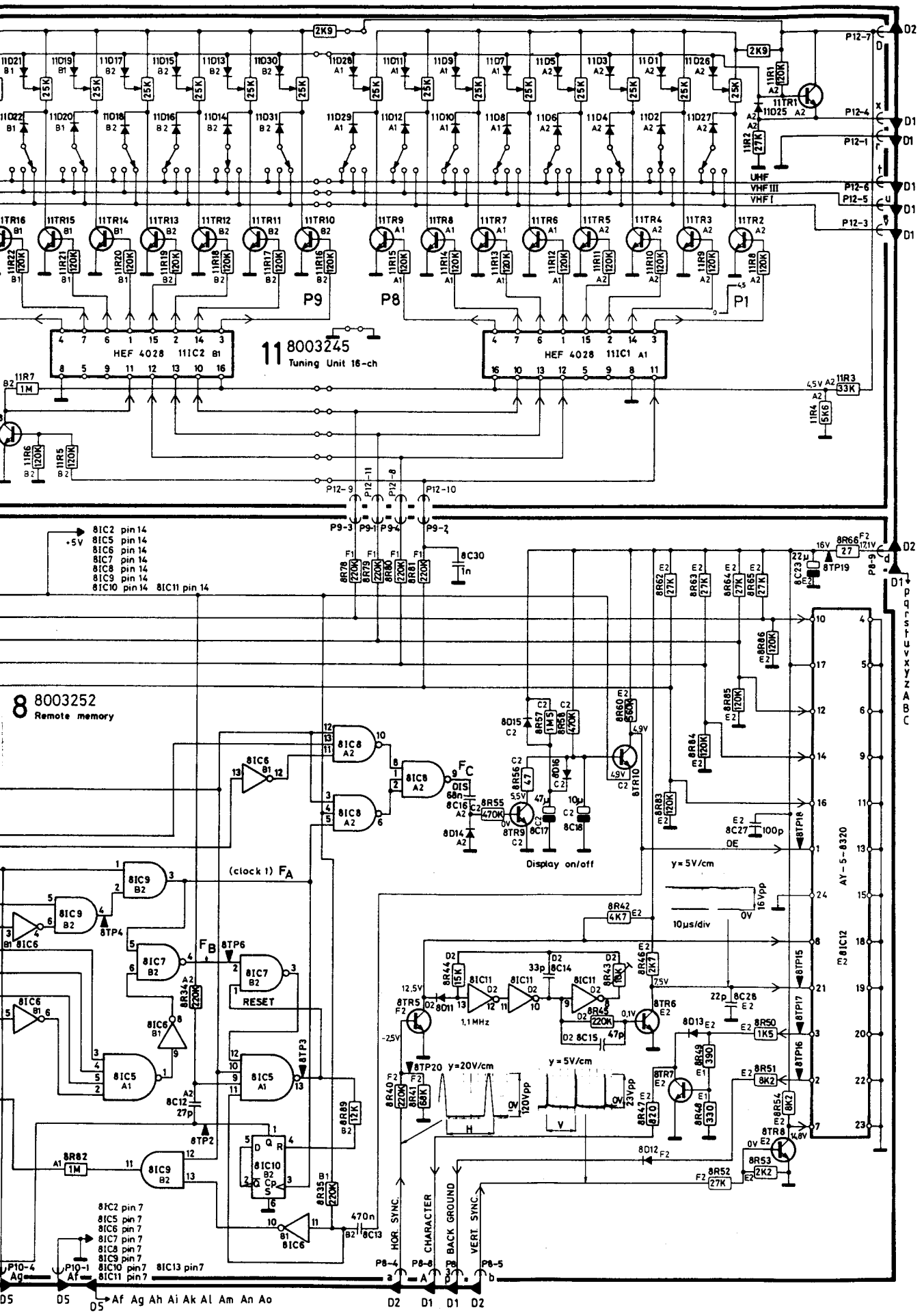
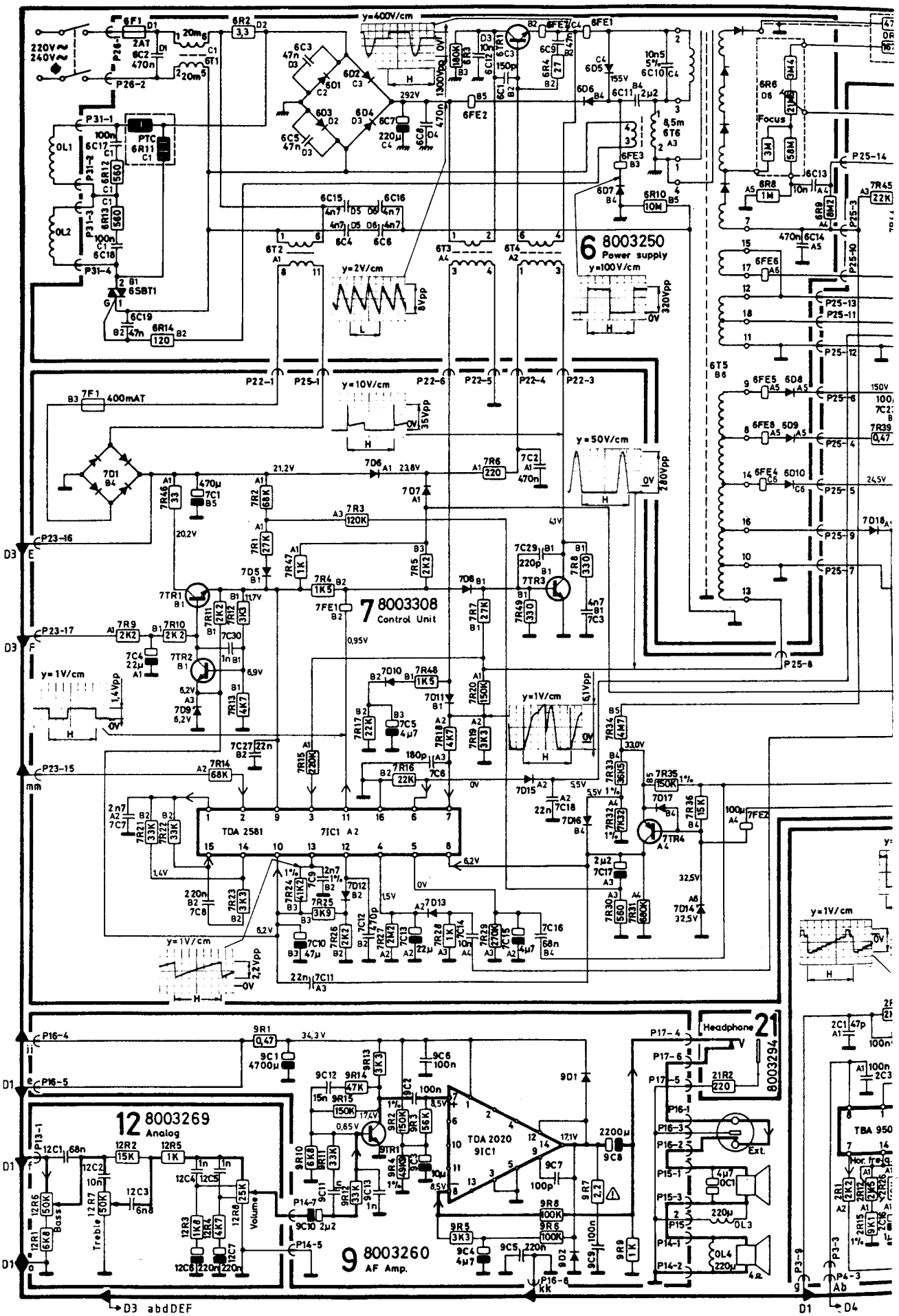
Bang&Olufsen

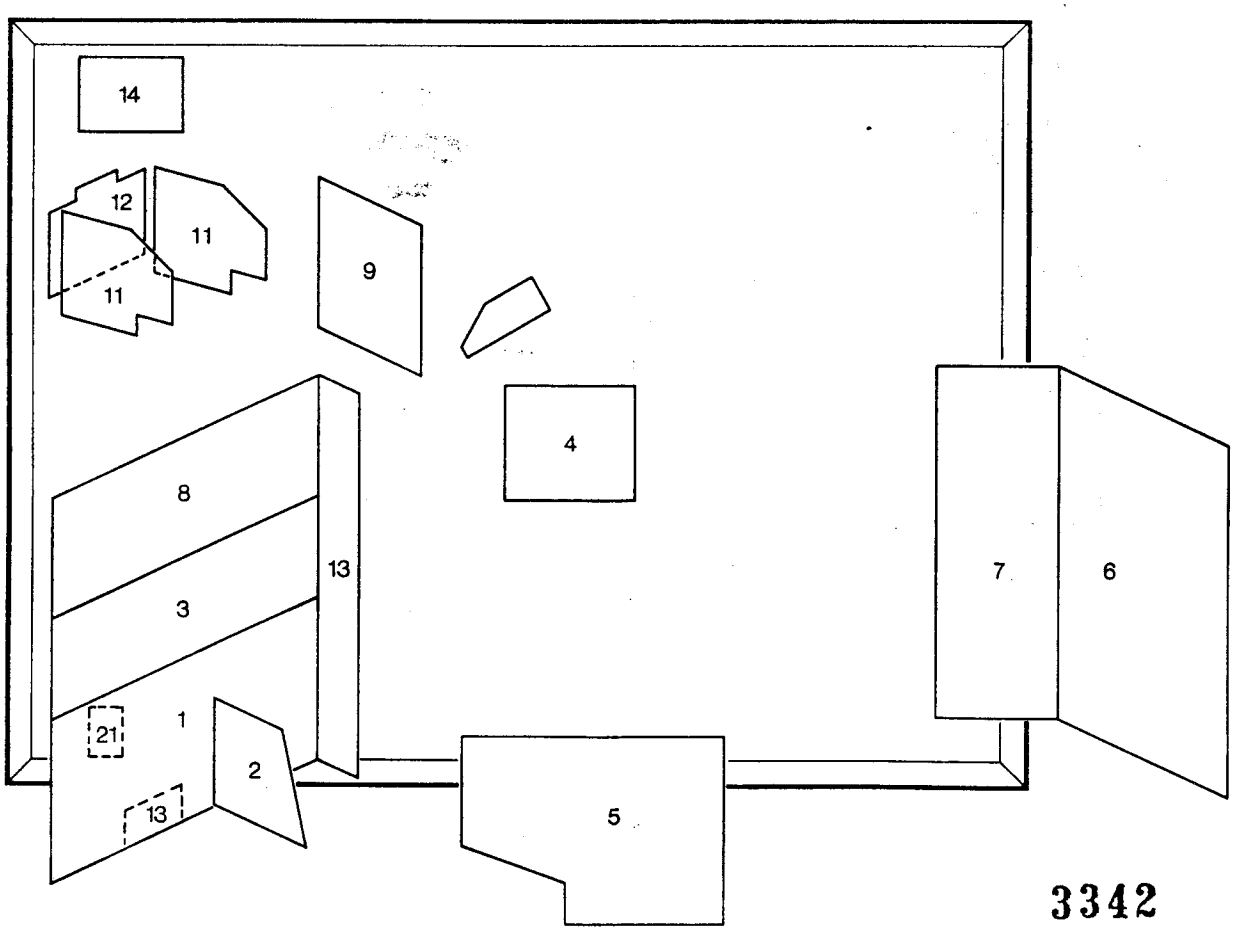


Bang&Olufsen

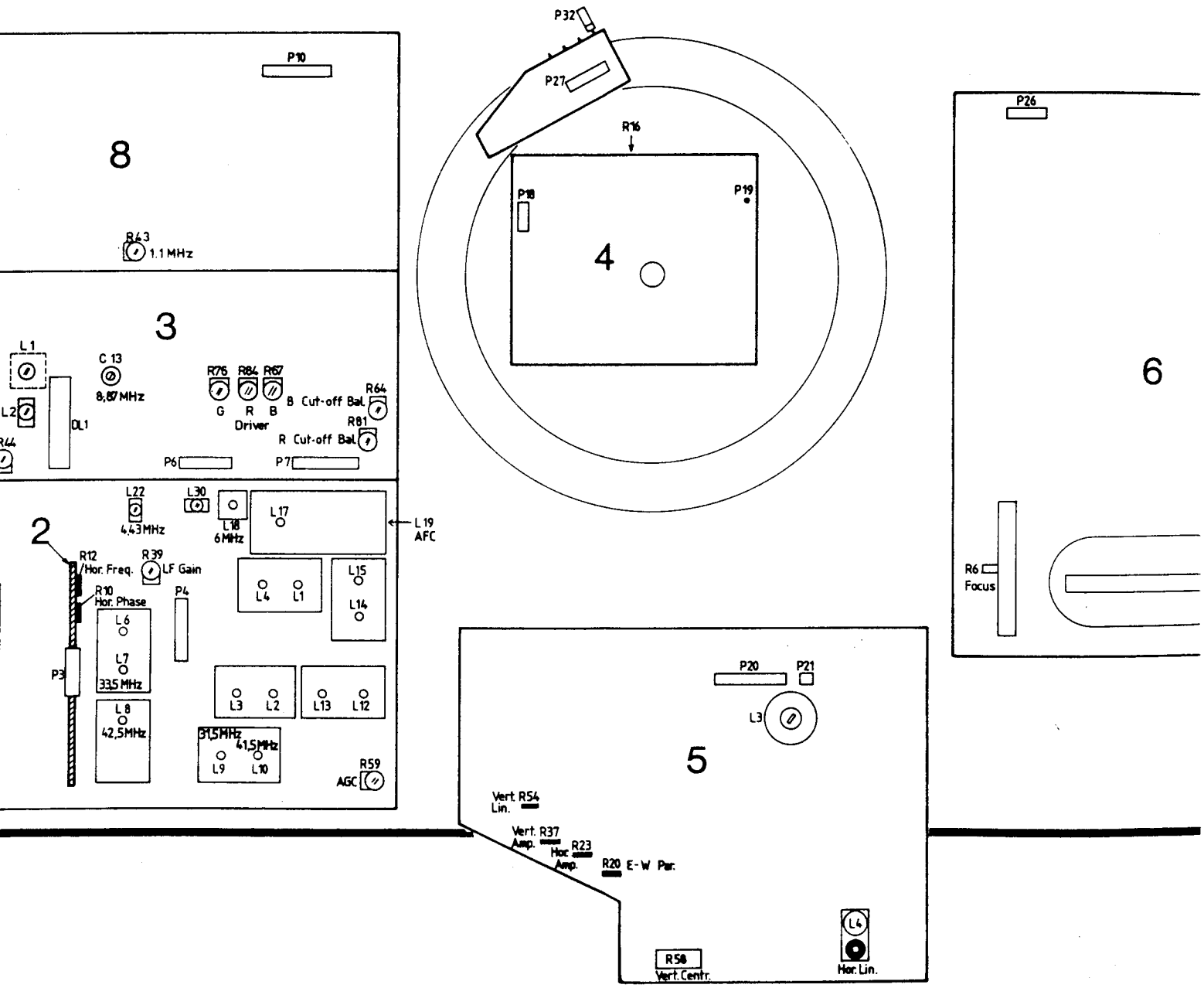


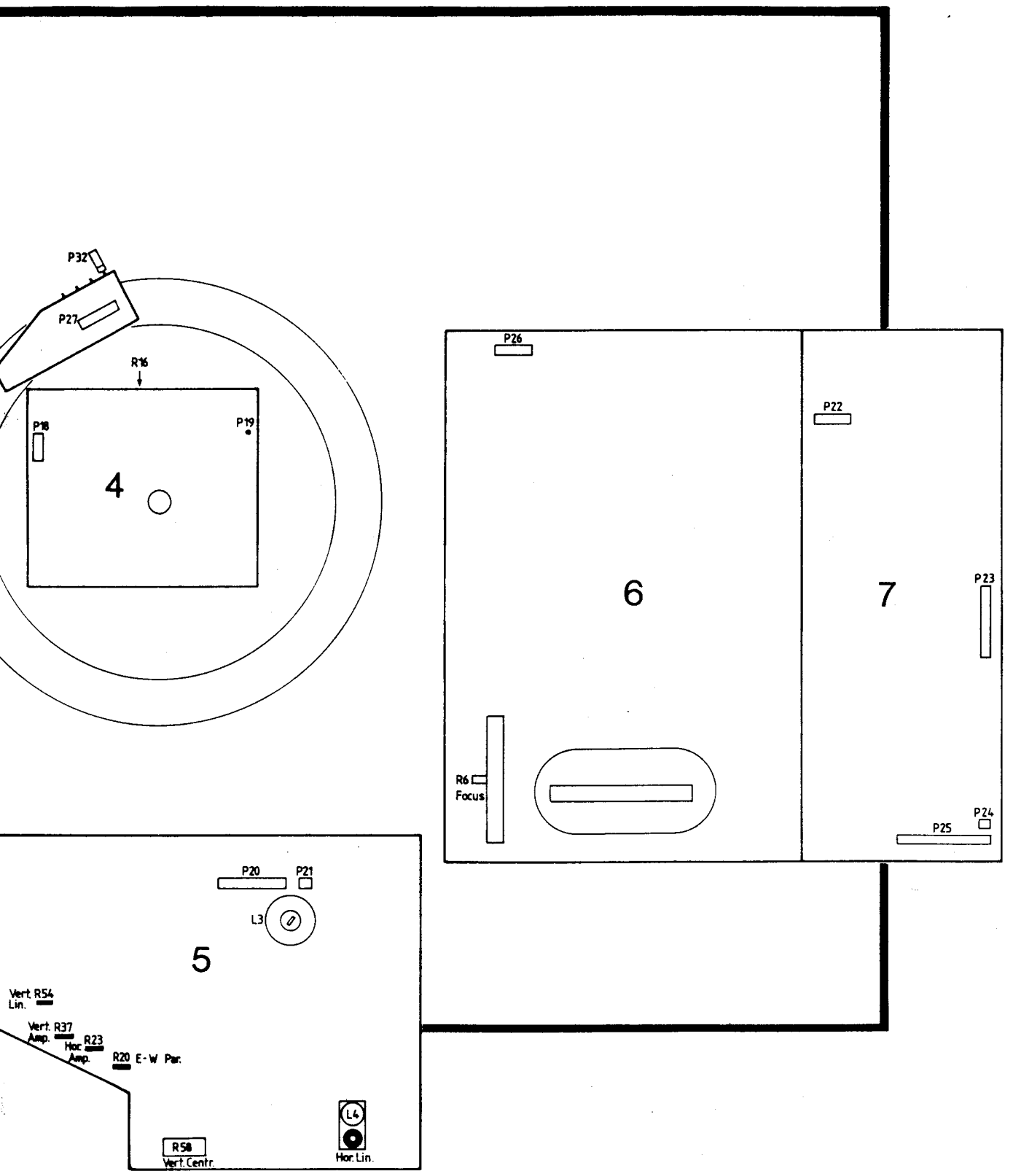
Bang&Olufsen

1	Video IF	diagr. 1	9	AF Amp	diagr. 1-2
2	Horizontal osc.	diagr. 2	11	Tuning Unit 16-ch.	diagr. 3
3	PAL Decoder	diagr. 1	12	Analog	diagr. 1-2-3
4	Video Output	diagr. 1-2	13	Mother Board Remote	diagr. 1
5	Deflection Unit	diagr. 2	14	Infra Red Amp.	diagr. 3
6	Power Supply	diagr. 2	18	Control Module	diagr. 3
7	Control Unit for Power Supply	diagr. 2	21	Headphone PC	diagr. 1-2
8	Remote Memory	diagr. 3			



view

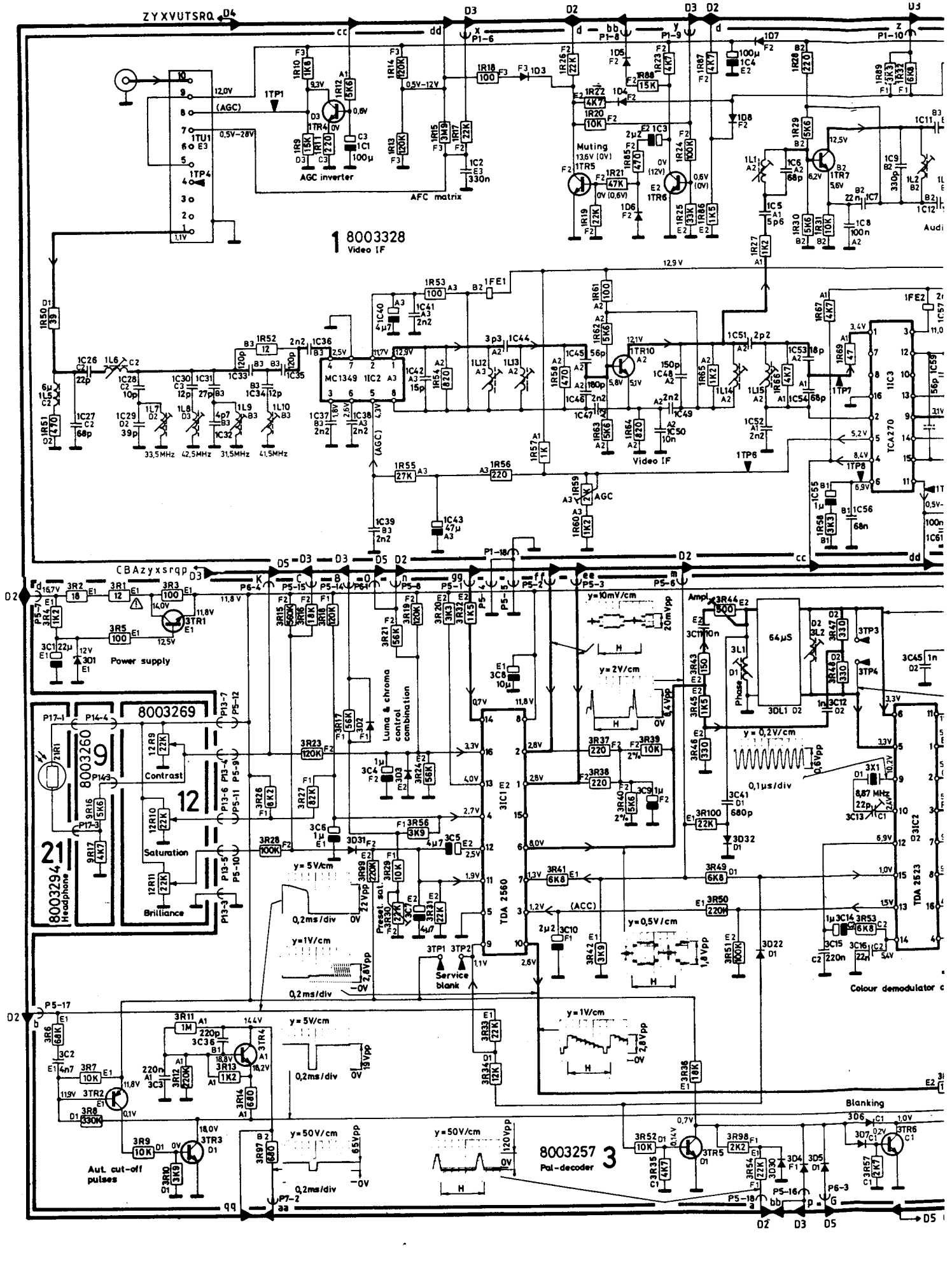

8
P10
R43
1.1 MHz
3
L1
C13
8,87 MHz
L2
DL1
R44
R76
R84
R87
G
R
B
Driver
B Cut-off Bal.
R64
R81
R Cut-off Bal.
P6
P7
2
L22
4,43 MHz
L30
L18
6 MHz
L17
L19
AFC
R12
/Hor. Freq.
R39
LF Gain
R10
Hor. Phase
P4
L6
L7
33,5 MHz
L8
42,5 MHz
P3
L4
L1
L15
L14
L3
L2
L13
L12
31,5 MHz
41,5 MHz
L9
L10
R59
AGC
P32
P27
R16
P18
P19
4
P26
6
R6
Focus
P20
P21
L3
5
Vert. R54
Lin.
Vert. R37
Amp.
Hor. R23
Amp.
R20 E-W Par.
R58
Vert. Centr.
L4
Hor. Lin.

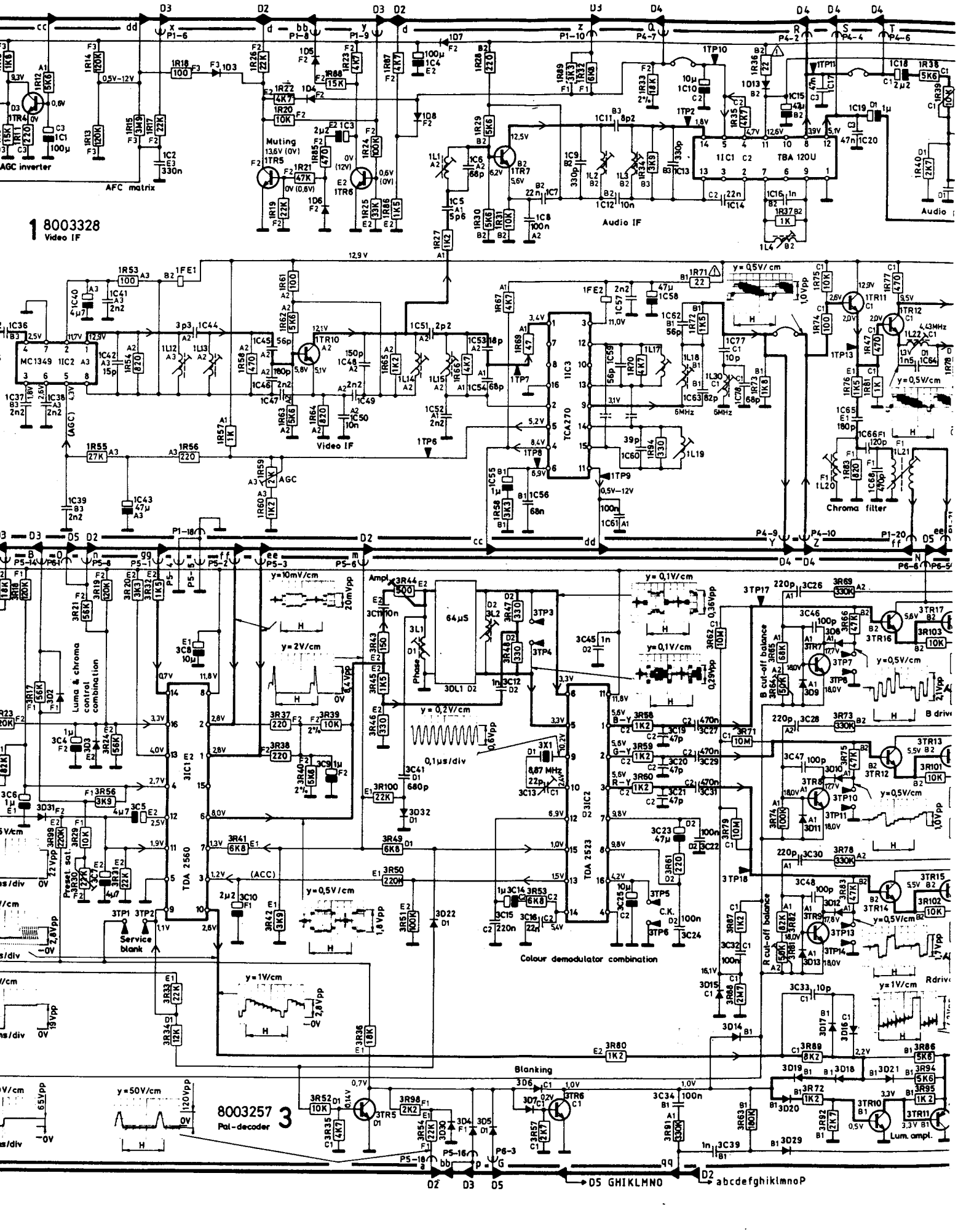

P32
P27
R16
P18
P19
4
P26
P22
6
7
P23
R6
Focus
P24
P25
P20
P21
L3
5
Vert. R54
Lin.
Vert. R37
Amp.
Hor.
Amp.
R23
R20 E-W Par.
L4
R58
Vert. Centr.
Hor. Lin.

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CORRECTION B	CORR. MADE IN DIAG.	BEFORE CORRECTION	AFTER CORRECTION
3C44	D1		Added (220p)
3C45	D1	3C18 (100n)	3C45 (1n)
3C46	D1		Added (100p)
3C47	D1		Added (100p)
3C48	D1		Added (100p)
3IC3	D1	3IC3	3TR16,17 (8320097)
3IC4	D1	3IC4	3TR12,13 (8320097)
3IC5	D1	3IC5	3TR14,15 (8320097)
3D23	D1		Removed
3D24	D1		Removed
3D25	D1		Removed
3D26	D1		Removed
3D27	D1		Removed
3D28	D1		Removed
3D32	D1		Added (8300058)
4R15	D1	2K2	Removed
4R22	D1		Added (560 Ω)
4R23	D1		Added (560 Ω)
4R24	D1		Added (560 Ω)
4C1	D1	10n	Removed
5R33	D2	2K2	15K
5R37	D2	25K	47K
5C22	D2	10n	20n
5C23	D2	4n7	33n
8R89	D3		Added (12K)

DIAGRAM 1


8003328
Video IF
AGC inverter
AFC matrix
Muting
Video IF
MC1349
TCA270
8003269
Contrast
Saturation
Brilliance
8003294
Headphone
Power supply
Luma & chroma control combination
TDA 2560
TDA 2523
Service blank
Aut. cut-off pulses
8003257
Pal-decoder
Blanking
Colour demodulator
Phase
Ampl.
64µS
Preset. sat.
AGC
(AGC)
Audi


1 8003328
Video IF
AGC inverter
AFC matrix
Muting
Audio IF
TBA 120U
Audio
Video IF
MC1349
TCA270
6MHz
5MHz
Chroma filter
Luma & chroma control combination
TDA 2560
TDA 2523
Colour demodulator combination
Service blank
Phase
64µS
B cut-off balance
R cut-off balance
Blanking
8003257 3
Pal-decoder
Lum. ampl.
D2 abcdefghiklmnoP
D5 GHIKLMNO

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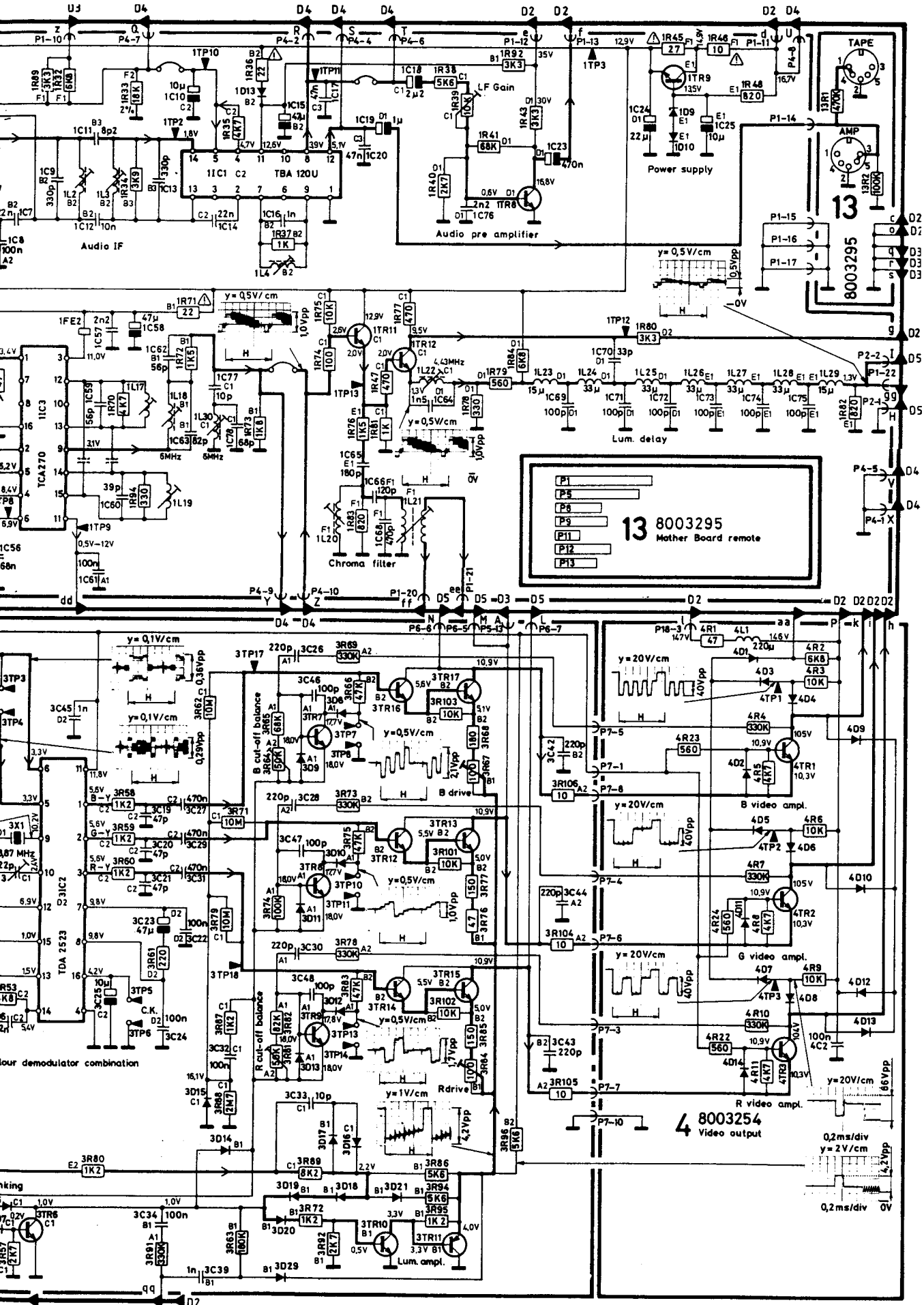
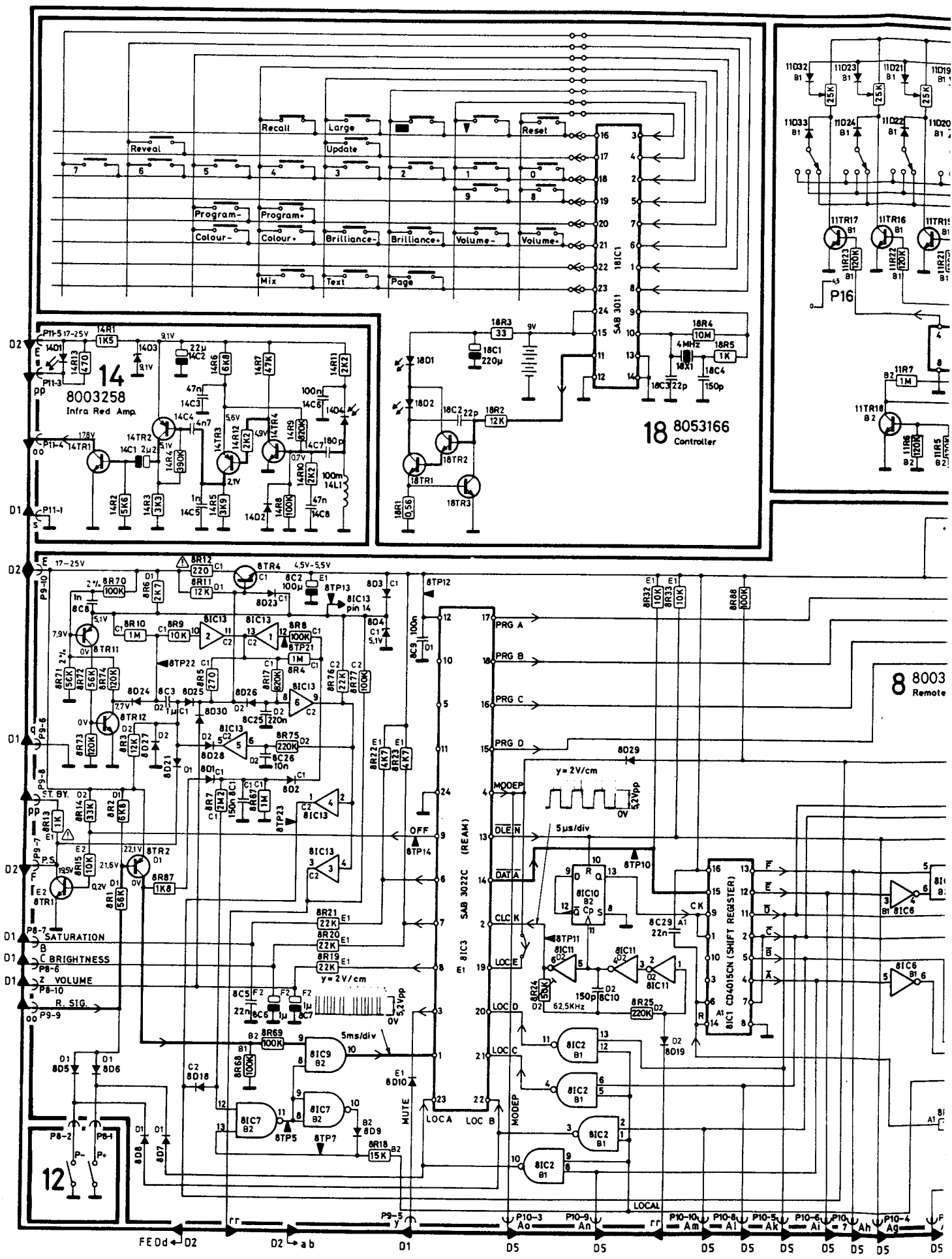
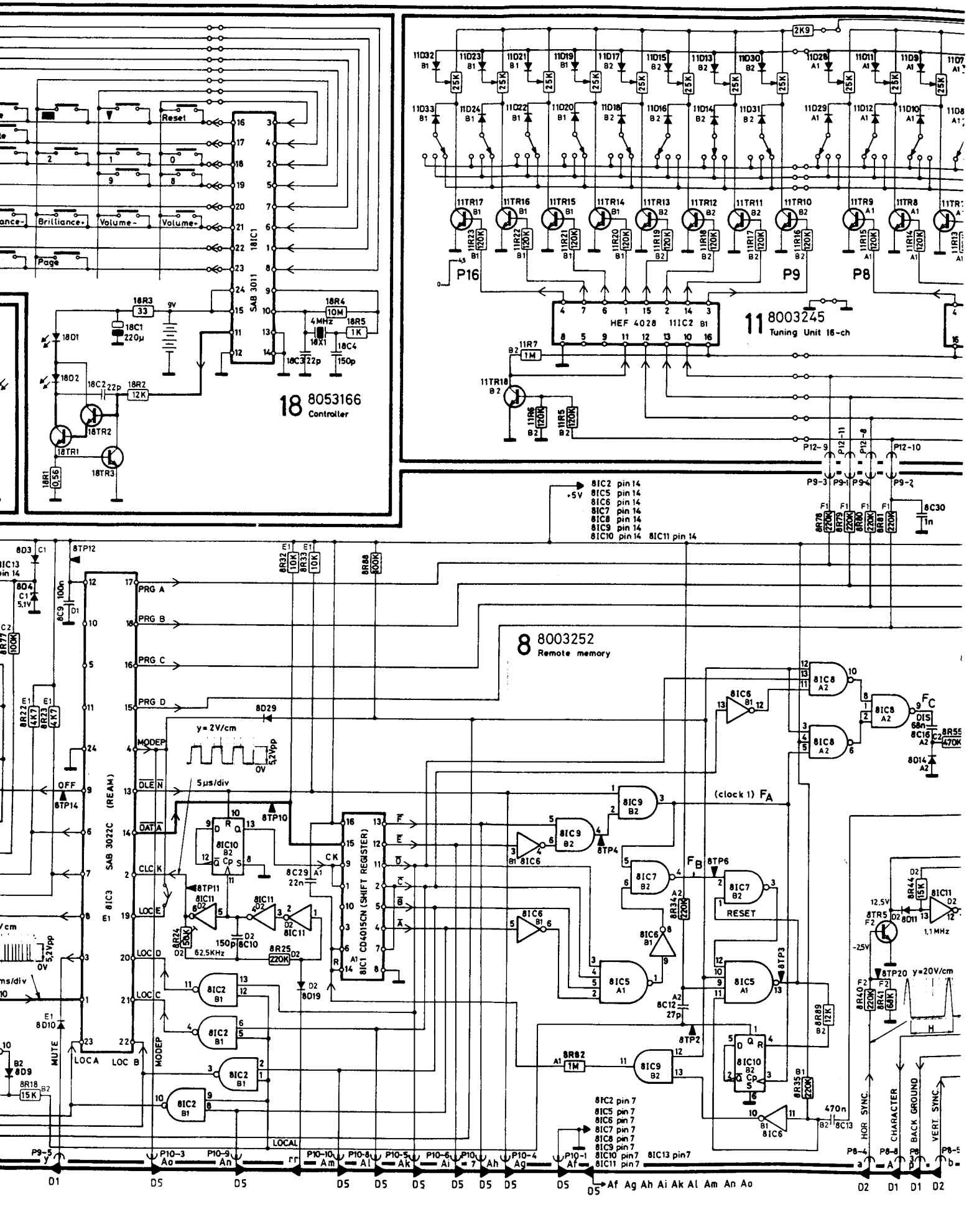


DIAGRAM 3


Recall
Large
Reset
Reveal
Update
Program-
Program+
Colour-
Colour+
Brilliance-
Brilliance+
Volume-
Volume+
Mix
Text
Page
18IC1
SAB 3011
18 8053166
Controller
14 8003258
Infra Red Amp.
P16
8 8003
Remote
12
SATURATION
BRIGHTNESS
VOLUME
R. SIG.
ST. BY.
P.S.
SAB 3022C (REAM)
8IC1 CD4015CN (SHIFT REGISTER)
PRG A
PRG B
PRG C
PRG D
MODEP
OLEN
DATA
CLCK
LOCE
LOC D
LOC C
LOC A
LOC B
MUTE
LOCAL
y= 2V/cm
5µs/div
5ms/div
62,5KHz
5,2Vpp


18 8053166
Controller
11 8003245
Tuning Unit 16-ch
8 8003252
Remote memory
SAB 3011
SAB 3022C (REAM)
HEF 4028
CD4015CN (SHIFT REGISTER)
Reset
Brilliance+
Brilliance-
Volume+
Volume-
Page
PRG A
PRG B
PRG C
PRG D
MODEP
DLEN
DATA
CLCK
LOCE
LOC D
LOC C
LOC B
LOCA
MUTE
OFF
LOCAL
RESET
HOR SYNC.
CHARACTER
BACK GROUND
VERT. SYNC.
P16
P9
P8
+5V
(clock 1) FA
FB
FC

MEASURING CONDITIONS FOR DIAGRAMS

All DC voltages are measured in relation to chassis potential and with a voltmeter having an input resistance of not less than 2 Mohms. An approx. 1 mV VHF signal is fed into the aerial socket, and brightness and contrast are set for nominal picture. This means that the brightness control is advanced to the point where light is only just visible in a black field on a test pattern, and contrast is regulated till 40 Vpp G. signal is measured at test point 4TP2.

However, the power supply section in PC6 is an exception.
In it, voltages and oscilloscope pictures are measured with a mains voltage of 220 volts and with brightness and contrast controls turned down (zero beam current).

All other oscilloscope patterns in the diagrams are measured with approx. 1 mV VHF input signal with 100% saturated colour bar signal. Brightness and contrast set for normal picture as described above, and saturation set for best possible square-wave signal at 4TP2, so that the colour bar signals correspond to the black and white levels.

SYMBOL FOR SAFETY RESISTORS



In case of replacement of components with this symbol use the same type and the same values for ohm and watt. The new component is to be mounted in the same way as the replaced.

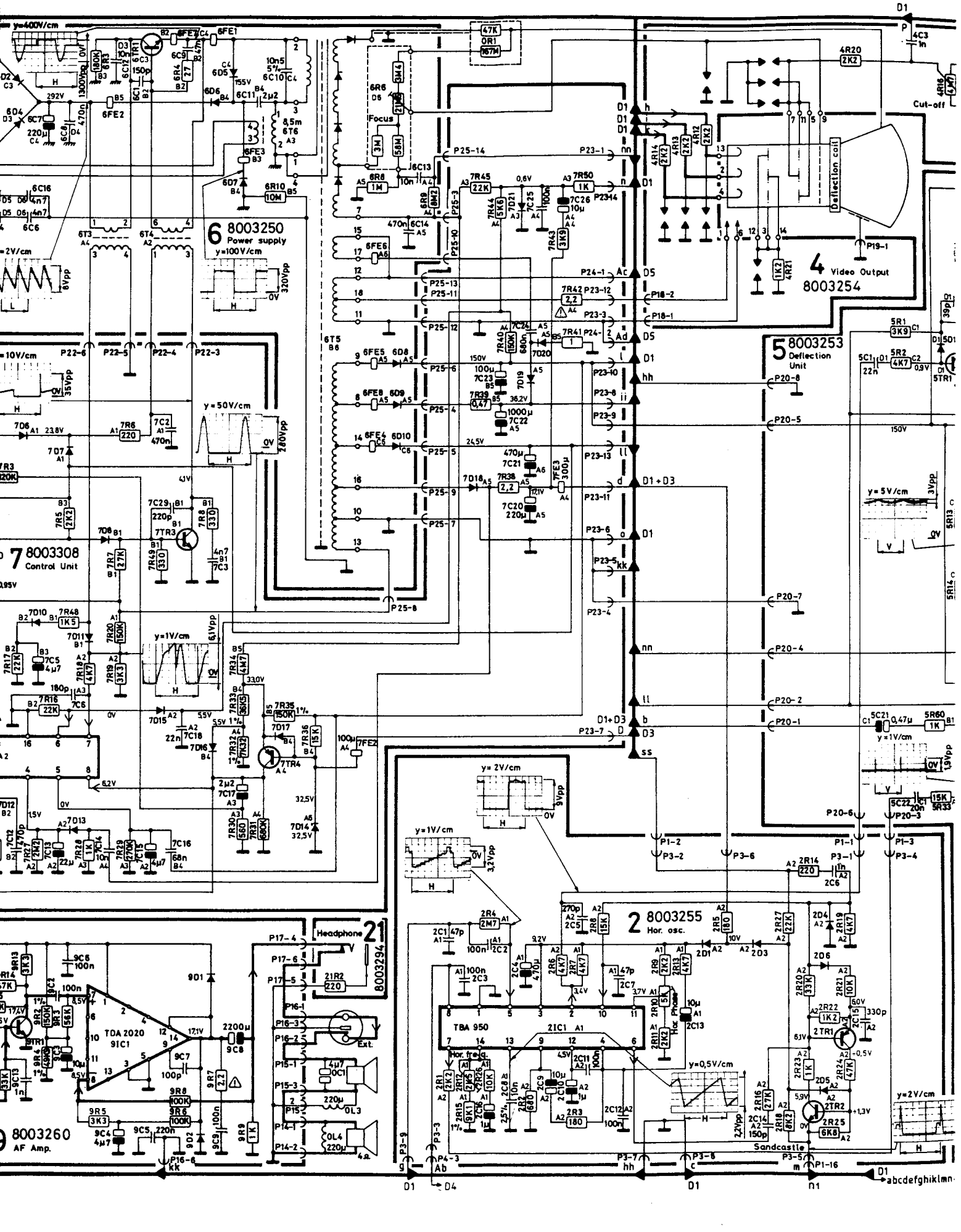
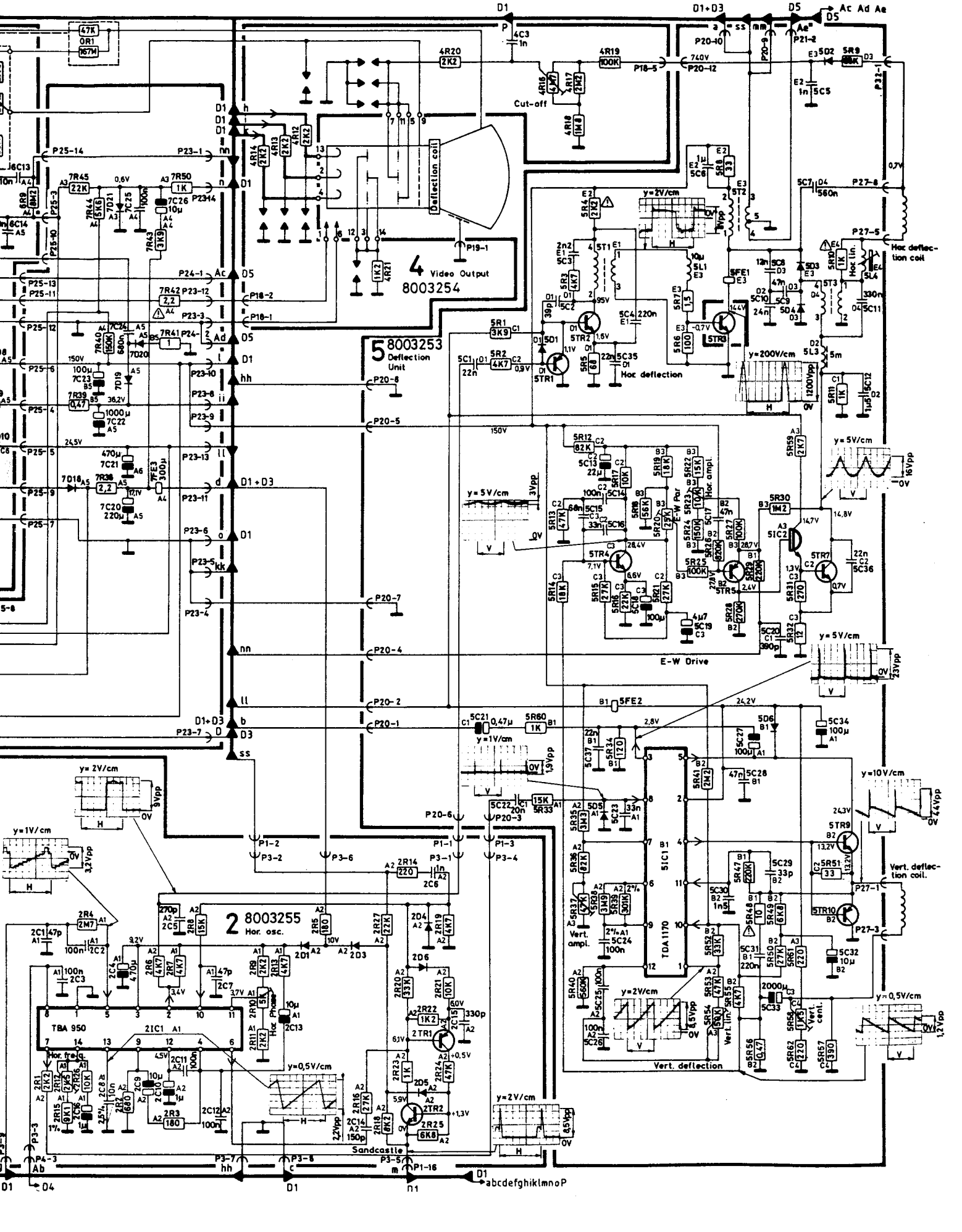
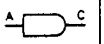
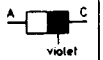
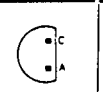
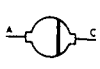

6 8003250
Power supply
y=100V/cm
4 Video Output
8003254
5 8003253
Deflection Unit
7 8003308
Control Unit
2 8003255
Hor. osc.
21 8003294
9 8003260
AF Amp.
TDA 2020
9IC1
TBA 950
2IC1
Deflection coil
Focus
Cut-off
Headphone
Ext.
Sandcastle
y=400V/cm
y=2V/cm
y=10V/cm
y=50V/cm
y=1V/cm
y=5V/cm
y=0,5V/cm

DIAGRAM 2


5 8003253 Deflection Unit
4 Video Output 8003254
2 8003255 Hor. osc.
Deflection coil
Cut-off
Hor deflection
E-W Drive
Vert. deflection
Hor. deflection coil
Vert. deflection coil.
Sandcastle
TDA 1170
TBA 950

DIODE LIST

203	209	212	214	215	217	219	221
							

1D3-1D8	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
1D9	8300316	**209**	ZPD 13V 2%
		209	BZX 83 13.0V
		209	BZX 79 13.0V
1D10	8300058	**217**	SFD 184
1D13		**215**	1N 4148
		209	1N 4148
2D1-2D4	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
3D1	8300029	**209**	ZPD 12V 5%
		209	BZX 79 12.0V
		209	BZX 83 12.0V
3D2-	8300058	**217**	SFD 184
3D15		**215**	1N 4148
		209	1N 4148
3D16-	8300209	**209**	AA 144
3D17			
3D18-	8300058	**217**	SFD 184
3D32		**215**	1N 4148
		209	1N 4148
4D1	8300101	**214**	BAX 16-TB
4D2	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
4D3-	8300101	**214**	BAX 16-TB
4D10			
4D11	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
4D12-	8300101	**214**	BAX 16-TB
4D13			
4D14	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148

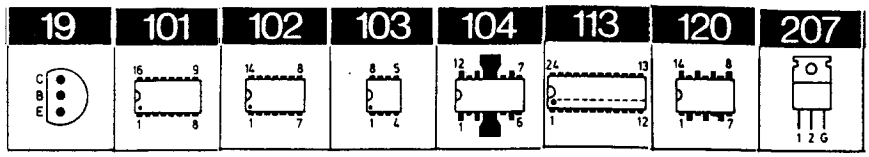
5D1	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
5D2	8300138	**209**	BY 184
5D3	8300304	**221**	BY 228
5D4	8300244	**212**	BYX 55-600
5D5	8300209	**209**	AA 144
5D6*	8300317	**209**	1N 4001
6D1-6D4	8300302	**209**	1N 5407
6D5	8300332	**221**	BY 448
6D6-6D7	8300307	**212**	BYX 55-350
6D8	8300332	**221**	BY 448
6D9-	8300307	**212**	BYX 55-350
6D10			
7D1-7D4	8300303		B80C1500/1000
7D5	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
7D6-7D7	8300212	**209**	1N 4448
7D8	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
7D9	8300201	**209**	ZPD 6.2V 5%
		209	BZX 79 6.2V
		209	BZX 83 6.2V
7D10-	8300058	**217**	SFD 184
7D13		**215**	1N 4148
		209	1N 4148
7D14*	8300248	**209**	ZTK 33
			DPD 32.5V

* Speciel udvalgt eller bearbejdet eksemplar.
* Specially selected or adapted sample.
* Speziell ausgewähltes und bearbeitets Exemplar.

7D15-	8300058	**217**	SFD 184
7D17		**215**	1N 4148
		209	1N 4148
7D18	8300307	**212**	BYX 55-350
7D19-	8300039	**212**	BA 148
7D20		**212**	BY 206
7D21	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
8D1-8D3	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
8D4	8300128	**209**	ZPD 5.6V 5%
		209	BZX 79 5.6V
		209	BZX 83 5.6V
8D5-	8300058	**217**	SFD 184
8D28		**215**	1N 4148
		209	1N 4148
8D30	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
9D1-9D2 *	8300317	**209**	1N 4002
11D1-	8300058	**217**	SFD 184
11D33		**215**	1N 4148
		209	1N 4148
14D1	8330019	**203**	CQX 39B
14D2	8300058	**217**	SFD 184
		215	1N 4148
		209	1N 4148
14D3	8300028	**209**	ZPD 9.1V5%
		209	BZX 79 9.1V
		209	BZX 83 9.1V
14D4	8330004	**219**	SFH 205
18D1	8330005	**203**	COY 99
18D2			

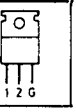
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IC AND THYR. LIST



1IC1	8340086	**102**	TBA 120U
		102	SN 76622N
1IC2	8340022	**103**	MC 1349P
1IC3	8340017	**101**	TCA 270
		101	TCA 270S
2IC1	8340021	**102**	TBA 950
3IC1	8340179	**101**	TDA 2560
		101	TDA 2560N
3IC2	8340180	**101**	TDA 2523
5IC1	8340185	**104**	TDA 1170
5IC2	8340054	**19**	MPS A13
		19	TPS A13
7IC1	8340186	**101**	TDA 2581
8IC1	8340175	**101**	CD 4015CN
		101	MC 14015BCP
		101	HEF 4015BP
8IC2	8340109	**102**	CD 4011BCN
8IC3	8340171	**113**	SAB 3022 C
8IC5	8340174	**102**	CD 4012CN
		102	MC 14012BCP
		102	HEF 4012BP
8IC6	8340173	**102**	CD 4069CN
8IC7	8340109	**102**	CD 4011BCN
8IC8	8340182	**102**	CD 4023BCN
		102	MC 14023BCP
		102	HEF 4023BP

8IC9	8340172	**102**	CD4081BCN
		102	MC 14081BCP
		102	HEF 4081BP
8IC10	8340176	**102**	CD 4013BCN
		102	MC 14013BCP
		102	HEF 4013BP
8IC11	8340173	**102**	CD 4069CN
8IC12	8340110	**113**	AY-5-8320
8IC13	8340178	**102**	MM 74C906
9IC1	8340170	**120**	TDA 2020
11IC1	8340177	**101**	CD 4028BCN
11IC2		**101**	MC 14028BCP
		101	HEF 4028BP
18IC1	8340181	**113**	SAB 3011
6SBT1	8300320	**207**	TAG 232-600



CN
BCP
BP

CN
BCP
BP

N

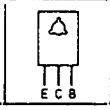
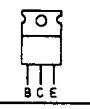
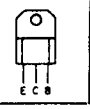
0

06

CN
BCP
BP

600

TRANSISTOR LIST

17	20	29	32	33	42	44	
							

1TR4-	8320108	**20**	BC 548B
1TR6			
1TR7	8320281	**42**	BF 199
1TR8	8320108	**20**	BC 548B
1TR9	8320329	**20**	BC 338-25/18
1TR10	8320281	**42**	BF 199
1TR11	8320108	**20**	BC 548B
1TR12			
2TR1	8320152	**20**	BC 557B
2TR2	8320097	**20**	BC 547B
3TR1	8320329	**20**	BC 338-25/18
3TR2	8320104	**20**	BC 558B
3TR3	8320097	**20**	BC 547B
3TR4	8320370	**17**	BF 422
3TR5	8320108	**20**	BC 548B
3TR6			
3TR7-	8320097	**20**	BC 547B
3TR9			
3TR10	8320108	**20**	BC 548B
3TR11	8320152	**20**	BC 557B
3TR12-	8320097	**20**	BC 547B
3TR17			
4TR1-	8320440	**44**	BF 869
4TR3			
5TR1	8320152	**20**	BC 557B
5TR2	8320433	**32**	BU 125P
5TR3	8320431	**29**	BU 208
5TR4	8320097	**20**	BC 547B
5TR5	8320152	**20**	BC 557B
5TR7	8320381	**32**	BD 235
5TR8	8320097	**20**	BC 547B
5TR9	8320439	**33**	BD 535
5TR10	8320438	**33**	BD 536
6TR1	8320431	**29**	BU 208
7TR1	8320378	**17**	BC 635
7TR2	8320097	**20**	BC 547B
7TR3	8320430	**17**	BC 639
7TR4	8320152	**20**	BC 557B
8TR1	8320097	**20**	BC 547B
8TR2	8320152	**20**	BC 557B
8TR4	8320295	**20**	BC 337-25/18
8TR5-	8320097	**20**	BC 547B
8TR9			
8TR10	8320377	**20**	BC 547C
8TR11	8320152	**20**	BC 557B
8TR12	8320097	**20**	BC 547B
9TR1*	8320095	**20**	BC 549
11TR1-	8320097	**20**	BC 547B
11TR18			
14TR1	8320108	**20**	BC 548B
14TR2	8320202	**20**	BC 557A
14TR3			
14TR4	8320108	**20**	BC 548B
18TR1	8320424	**17**	BC 368
18TR2	8320416	**20**	BC 548B
18TR3			

ADJUSTMENTS	Apply a normal CTV test pattern to receiver, if nothing else is mentioned.
HORIZONTAL DEFLECTION **Horizontal Frequency**	Short-circuit P3 pin 8 and 9. Adjust to correct line frequency with 2R12. Remove short-circuit.
E/W Parabola	Adjust with 5R20.
Horizontal Amplitude	Adjust with 5R23.
Horizontal Linearity	Adjust with 5L4.
Horizontal Centering	Adjust with 2R10.
Focus	Set to maximum contrast and normal brightness and adjust 6R6 to maximum sharpness seen 9 - 10 cm from screen edge.
VERTICAL DEFLECTION **Vertical Amplitude**	Adjust 5R37 to correct position at top of the picture.
Vertical Linearity	Adjust with 5R54.
Vertical Centering	Adjust with 5R58.
AF GAIN	Set sound to maximum by means of the control module. At 30% sound modulation adjust with 1R39 till 4,50 V_{pp} is measured at the collector of 1TR8.
AGC	Turn 1R59 anti-clockwise to stop (seen from copperfoil side). Increase aerial signal by means of an attenuator till no noise can be seen in the picture. Now turn 1R59 clockwise till noise can again be seen in the picture. Turn 1R59 backwards till noise just disappears.
PAL DECODER	Short-circuit colour killer by connecting 3TP5 to 3TP6. Short-circuit output of 3DL1 by connecting 3TP3 to 3TP4.
Reference Oscillator	Adjust 3C13 to most free-running frequency. Remove the two short-circuits.
Amplitude	Apply a NTSC signal to receiver. Short-circuit colour killer by connecting 3TP5 to 3TP6. Connect an oscilloscope to 3TP18. Adjust 3R44 (ampl.) to minimum »hannover blind« in 3TP18. Remove short-circuit.
Phase	Apply a PAL signal to receiver. Short-circuit colour killer by connecting 3TP5 to 3TP6. Connect an oscilloscope to 3TP18. Adjust 3L1 to minimum »hannover blinds« in 3TP18.
Preset Saturation	Set colour saturation to 5. Set brightness and contrast to minimum. Increase contrast till field for 75% white is just visible. Adjust 3R30 till field for 75% blue is just less visible than 75% white.
Cut-off	Short-circuit 3TP1 and 3TP2. Adjust 4R16 till 15 V is measured across the one of 4R3, 4R6, or 4R9 with the lowest voltage drop.
Drive	Adjust 3R67 (B) and 3R84 (R) till white = 6500 k° (lum. D). 3R76 (G) will normally be placed in mechanical center position. Reference tube should be used.
Cut-off Balance	Adjust 3R64 (B) and 3R81 (R) till the dark fields in the picture are colourless. (Must be made with correct brightness setting). Reference tube should be used.

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RETTELSE
CORRECTION
BERICHTIGUNG

CORRECTION B	CORR. MADE IN DIAG.	BEFORE CORRECTION	AFTER CORRECTION
1R44	D1	1K2	Removed
1R92	D1		Added (3K3)
1R94	D1		Added (330 Ω)
1D13	D1		Added (8300058)
2R16	D2	47K	27K
2R17	D2	10K	Removed
2R19	D2	2K2	4K7
2R20	D2	47K	33K
2R22	D2	10K	1K2
2R23	D2	39K	1K
2R25	D2	10K	6K8
2R27	D2		Added (22K)
2C14	D2	68p	150p
2C15	D2	560p	330p
2D2	D2		Removed
2D5	D2		Added (8300058)
2D6	D2		Added (8300058)
3R6	D1	56K	68K
3R7	D1	4K7	10K
3R65	D1	56K	68K
3R66	D1	22K	47K
3R69	D1	100K	330K
3R70	D1	2K7	Removed
3R73	D1	100K	330K
3R74	D1	82K	100K
3R75	D1	22K	47K
3R78	D1	100K	330K
3R82	D1	68K	82K
3R83	D1	22K	47K
3R86	D1	2K7	5K6
3R90	D1	1K8	Removed
3R93	D1	100K	Removed
3R100	D1		Added (22K)
3R101	D1		Added (10K)
3R102	D1		Added (10K)
3R103	D1		Added (10K)
3R104	D1		Added (10 Ω)
3R105	D1		Added (10 Ω)
3R106	D1		Added (10 Ω)
3C2	D1	3n3	4n7
3C26	D1	390p	220p
3C28	D1	390p	220p
3C30	D1	390p	220p
3C35	D1	12p	Removed
3C38	D1	22n	Removed
3C40	D1	18p	Removed
3C41	D1		Added (680p)
3C42	D1		Added (220p)
3C43	D1		Added (220p)

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Plan view of adjustment controls and plugs, rear view

