

SERVICE ADJUSTMENTS WHICH MUST BE MADE WITH RC HAND UNIT

SERVICE MODE

Before making adjustments with RC hand unit, make sure the supply voltage is correctly adjusted (see service adjustments on power supply/horizontal deflection unit).

Number buttons of the hand unit are used for service adjustments when the set is in the service mode. Analog controls function normally; teletext controls and other special controls don't function.

TV receiver is set to the service mode by pressing quickly one norm button N1, N2 or N3 (or P/C button on the hand unit) and within 8 seconds the service switch located in the local control unit (see figure). In the service mode the display shows one indicator led illuminating and other segments are off. You can get back to normal TV mode by pressing the service switch again. It is possible to get to the service mode only from TV mode.

Remote control commands in the service mode are as follows:

- With number buttons you can give a two numbered code which determines the adjustment (e.g. 27=picture height).

- The adjustment is then made by pressing STEP+ and STEP- buttons.

- The adjusted value is stored to the NVM by pressing -/-- button. You must store each function separately. The value of the adjustment range is 00...31 for vertical and horizontal compensation and 00...63 for other adjustments.

- The version number of the NVM can be asked by pressing P/C button. It is shown in hexadecimal form (e.g. "02" = 2k memory, "01" = 1k memory).

CONFIGURATION AND FAULT DIAGNOSIS FOR CIRCUITS CONNECTED TO THE IIC-BUS

By pressing 04 in the service mode, the processor checks all possible addresses of bus driven circuits and shows the address of the circuit if found for about one second. After checking all the circuits, the display shows 04 again.

The set must be configured after adding or removing some options eg:

- adding or changing the teletext module
- adding the inner satellite unit
- changing the scart unit (copy function)

The configuration of the set is stored in the NVM by pressing -/-- button. The set takes the new configuration in use only after resetting the set with the mains switch. The configuration serves also as a fault diagnosis system.

In table 1 is shown the remarks for the adjustments.

In table 2 is shown two numbered codes for adjustments. If you choose the code which is not defined, the display will show the previous code again.

If all adjustments must be made, follow the order in table 2.

NB! Horizontal linearity is adjusted with Lz5.

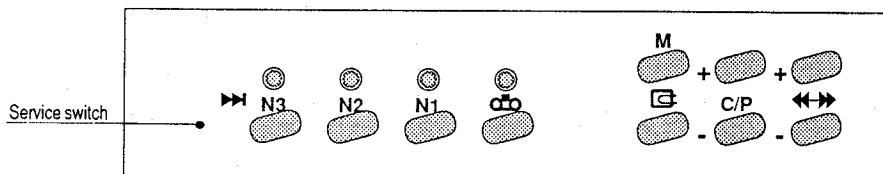
In table 3 is shown the display codes during configuration in the sequence the microprocessor checks them.

NB! There is an adjustment for vertical and horizontal shift (codes 30 and 38) both in 50Hz and 60Hz systems. While adjusting you must have the right transmission.

Adjustment	Code	Remarks
R and G gain	22 and 23	Adjust white area of test picture to white.
Line frequency	25	Connect test point 39 to the ground before adjustment.
Picture height and vert. comp.	27 and 31	Set brightness and contrast to 20% and adjust the picture height (code 27). Press memory button (-/--). Set brightness and contrast to 90 % and compensate the change in picture height (code 31). Press memory button (-/--).
Picture width and hor. comp.	32 and 36	Set brightness and contrast to 20% and adjust the picture width (code 32). Press memory button (-/--). Set brightness and contrast to 90% and compensate the change in picture width (code 36). Press memory button (-/--).

Adjustment	Code
Line frequency	25
Vertical shift/50Hz	30
Vertical shift/60Hz	38
Picture height	27
Vertical compensation	31
Vertical linearity	28
Hor. phase shift	26
Picture width	32
Hor. compensation	36
Trapez correction	35
S-correction	29
E-W corner correction	34
E-W raster correction	33
R gain	22
G gain	23

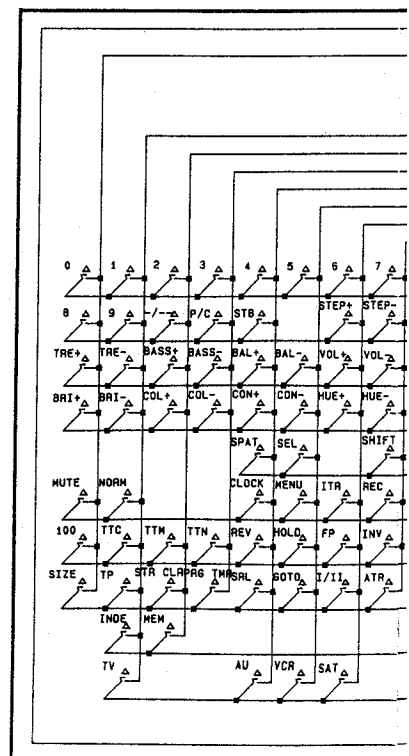
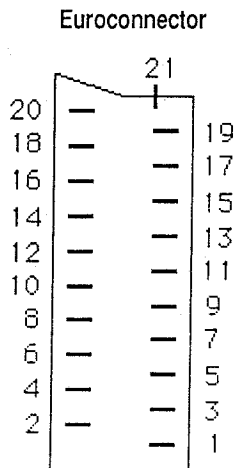
06	Satellite processor
04	Teletext processor (high feature)
22	CCT basic teletext (IC2)
d2	RGB-switch (ICe1)
94	Extra videowitch (only in monitor)
92	Copy switch (IC2)
90	Scart switch (IC1)
80	Sound adjustment circuit (ICd1)
84	Stereo identification circuit (ICd2)
48	Driver of the decoder (ICe2)
8C	Sync processor (ICn2)
C2	PLL (IC1)
A2	NVM of teletext (ICt5)
A0	NVM of TV (ICf1)
Pn	Picture memory n kilobyte
An	Antiope text



REMOTE CONTROL TRANSMITTER

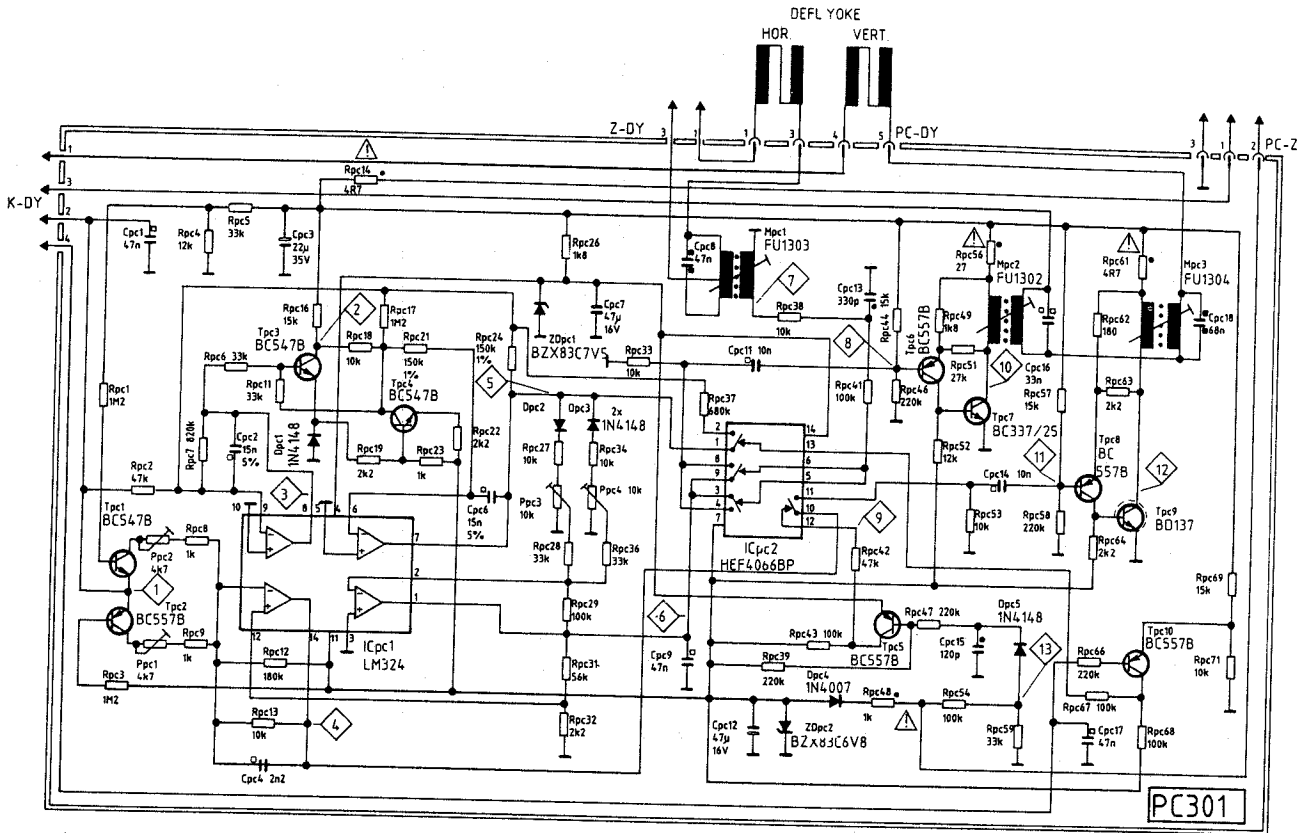
SCART EUROCONNECTOR

Contact number	Signal	Matching value
1	Audio output	0,5V/1kohm
2	Audio input	0,5V/10kohm
3	Audio output	0,5V/1kohm
4	Audio ground	-
5	Blue ground	-
6	Audio input	0,5V/10kohm
7	Blue input	0,7V/75ohm, positive going signal
8	Function switching (TV/VCR) input	Logical zero: 0V to +0,4V Logical one: +9,5V to +12V Open collector
9	RC-5 output	-
10	Green ground	-
11	No connection permitted	-
12	Green input	0,7V/75ohm, positive going signal
13	No connection permitted	-
14	Red ground	-
15	RC-signal input	Min 6Vpp, max 12Vpp
16	Red input	0,7V/75ohm, positive going signal Logical zero: 0V to +0,4V Logical one: +1V to +3V
17	Fast blanking input	-
18	Video ground	-
19	Fast blanking ground	-
20	Video output	1V/75ohm, positive going video
21	Video input	175ohm, positive going video
	Synchronization input	0,3Vpp/75ohm
	Plug shield	Connected to chassis



RASTER CORRECTION MODULE

PC301



RASTER CORRECTION MODULE PC301

SERVICE ADJUSTMENTS

The adjustments have to be made in the following order. Use cross hatch pattern.

PC1. Dynamic S-correction

Connect the oscilloscope to test point 7, and adjust the curve according to figure 1, with Mpc1.

PC2. North-South phase correction

Turn Ppc1 fully clockwise viewed through the print side. Adjust Mpc3 until the bow of the pattern is horizontally in the middle of the screen.

PC3. North-South amplitude correction

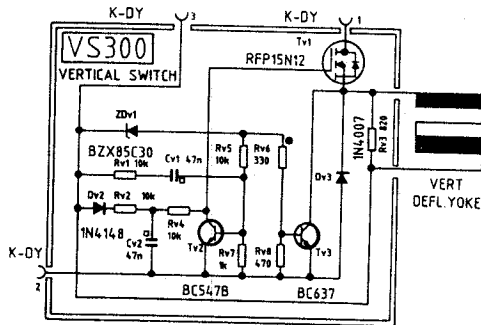
Adjust the horizontal lines as straight as possible with Ppc1 and Ppc2.

PC4. Gullwing phase correction

Turn Ppc3 and Ppc4 to the middle position. Connect the oscilloscope to test points 7 and 10, and adjust the curves according to the figure 2, with Mpc2.

PC5. Gullwing amplitude correction

Adjust the horizontal lines as straight as possible with Ppc3 and Ppc4.



MITTER TC300

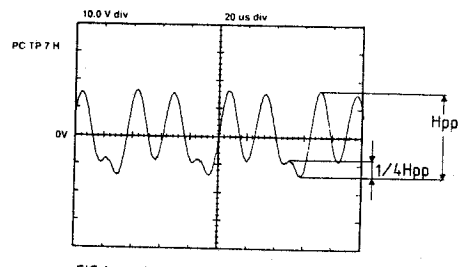
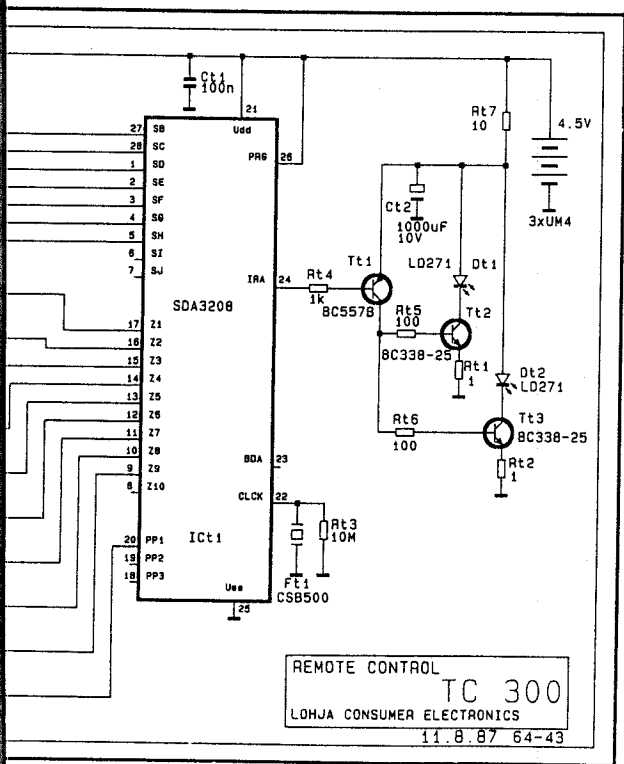


FIG.1

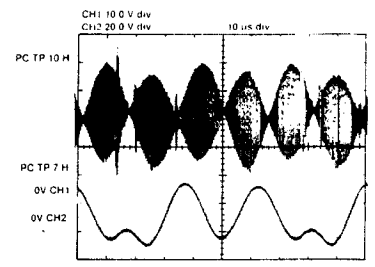


FIG 2

REMOTE CONTROL
TC 300
LOHJA CONSUMER ELECTRONICS
11.8.87 64-43

GB

MOUNTING INSTRUCTIONS OF THE TELETEXT MODULE

1. Mount the Teletext module into the teletext connectors of the Signal Unit (see fig.).
2. Switch the receiver on and set it to the service mode.
3. Start the configuration by pressing 04, store it in the NVM by pressing +/- button and reset the set with the mains switch.

SDA 2060

- CAAD = Clock activated analog display
- NPCLR = No page clear in step function
- FULLF = Full field teletext reception is possible
- APSI, APS0 = Advertising page select

APSI	APS0	
0	0	None
0	1	Quelle
1	0	Finlux
1	1	Asa

IPLB0, IPLB1, IPLB2	= Info page language bits		
IPLB2	IPLB1	IPLB0	
0	0	0	Automatic selection through transmitted language bits
0	0	1	Italian info page
0	1	1	German info page
1	1	0	French info page
1	1	1	English info page

SAA 5231

- STTV = Sync output to TV
- Osc out = Oscillator output (6 MHz)
- Osc in = Oscillator input (6 MHz)
- VID IN = Composite video input
- TTD = Teletext data output
- TTC = Teletext clock output
- F6 = 6 MHz clock output
- VCS = Video composite sync output
- SAND = Sandcastle input
- TCS = Sync input

SAA 5241

- COR = Contrast reduction
- TTD = Teletext data input
- TTC = Teletext clock input
- F6 = 6 MHz clock input
- VCS = Video composite sync input
- SAND = Sandcastle output
- TCS/SCS = Text composite sync/scan composite sync output
- HOK = Hamming O.K.
- D0 - D7 = 8 RAM data lines
- OE = Output enable
- VCC = Power supply
- SCL = Serial clock input
- SDA = Serial data
- Y = Character foreground
- R = Red output
- B = Blue output
- G = Green output
- FB = Blanking output
- A10 - A12 = Chapter address output
- A0 - A9 = RAM address output
- WE = Write enable output

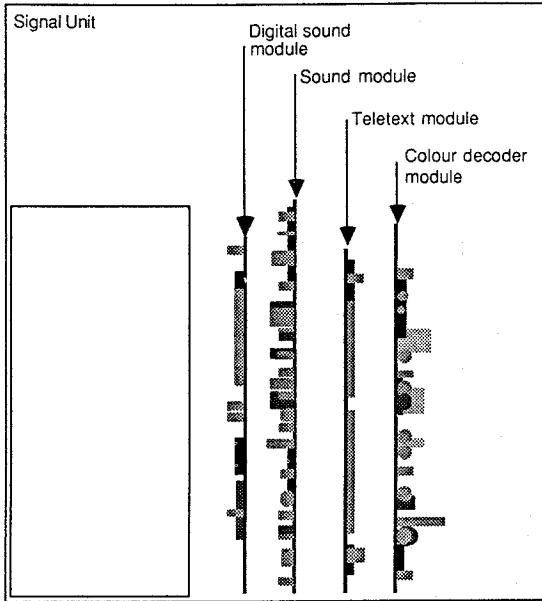
SAA 5231

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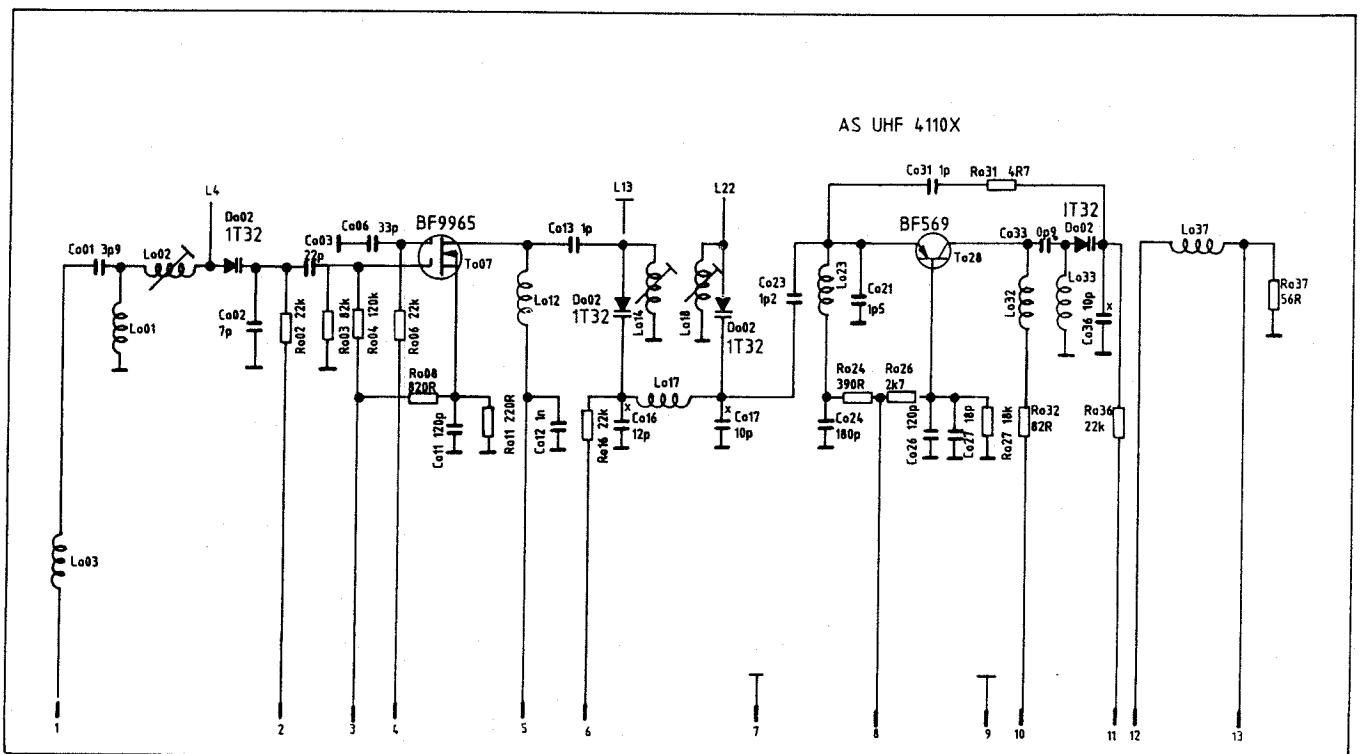
SAA 5240

- COR = Contrast reduction
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- TTC = Teletext clock input
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- VCS = Video composite sync input
- SAND = Sandcastle output
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For Service Manuals Contact
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UHF SUBMODULE 4110



SAA 5241

- = Clock activated analog display
 - = No page clear in step function
 - = Full field teletext reception is possible
 - = Advertising page select
- | | | |
|------|------|--------|
| APS1 | APS0 | |
| 0 | 0 | None |
| 0 | 1 | Quelle |
| 1 | 0 | Finlux |
| 1 | 1 | Asa |

- COR = Contrast reduction
- TTD = Teletext data input
- TTC = Teletext clock input
- F6 = 6 MHz clock input
- VCS = Video composite sync input
- SAND = Sandcastle output
- TCS/SCS = Text composite sync/scan composite sync output
- HOK = Hamming O.K.
- DO - D7 = 8 RAM data lines
- OE = Output enable
- VCC = Power supply
- SCL = Serial clock input
- SDA = Serial data
- Y = Character foreground
- R = Red output
- B = Blue output
- G = Green output
- FB = Blanking output
- A10 - A12 = Chapter address output
- A0 - A9 = RAM address output
- WE = Write enable output

- = Info page language bits
- | | | | |
|-------|-------|-------|---|
| IPLB2 | IPLB1 | IPLB0 | |
| 0 | 0 | 0 | Automatic selection through transmitted language bits |
| 0 | 0 | 1 | Italian info page |
| 0 | 1 | 1 | German info page |
| 1 | 1 | 0 | French info page |
| 1 | 1 | 1 | English info page |

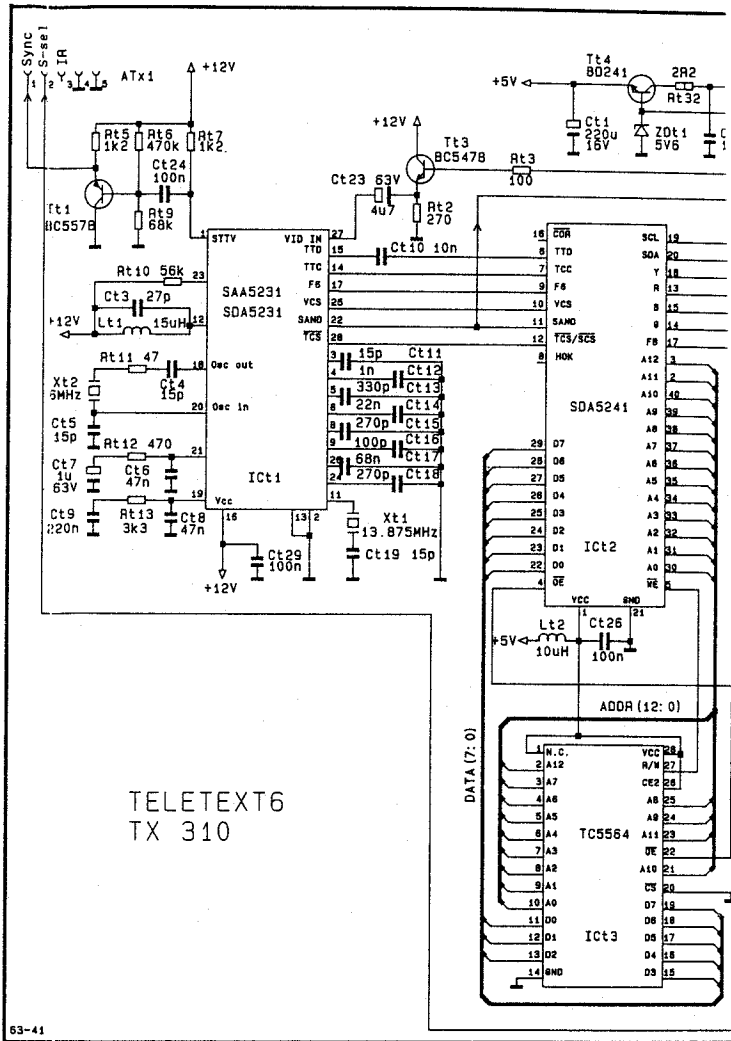
- = Sync output to TV
- = Oscillator output (6 MHz)
- = Oscillator input (6 MHz)
- = Composite video input
- = Teletext data output
- = Teletext clock output
- = 6 MHz clock output
- = Video composite sync output
- = Sandcastle input
- = Sync input

SAA 5231

- STTV = Sync output to TV
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SAA 5240

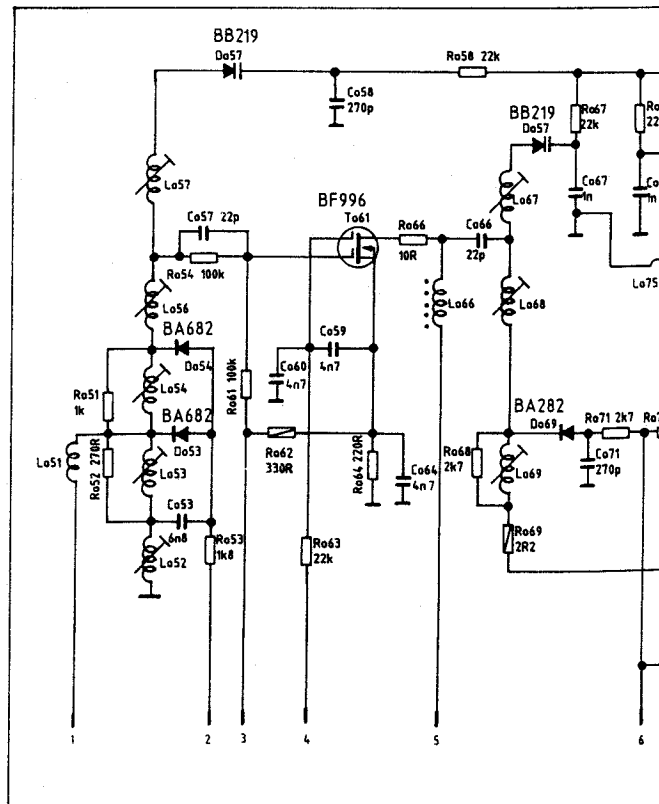
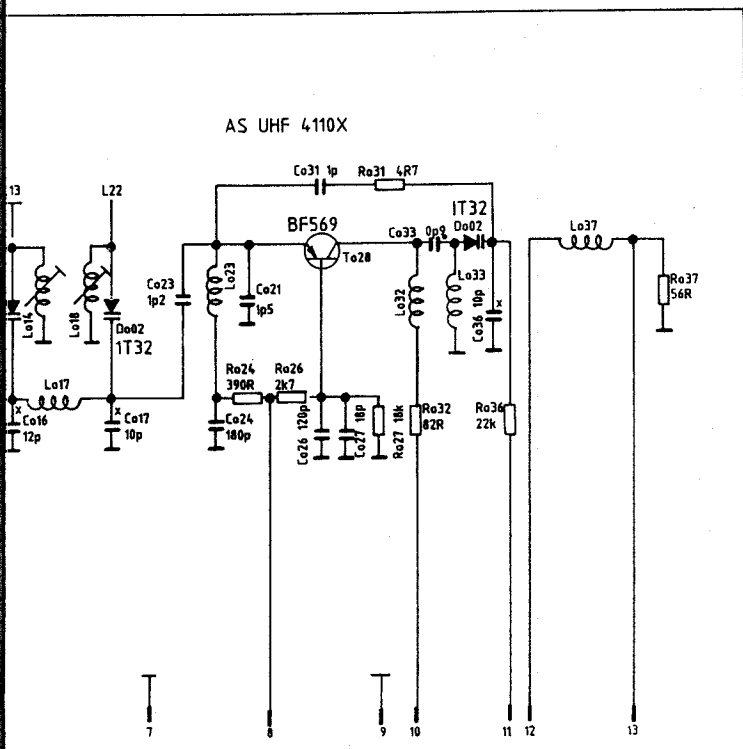
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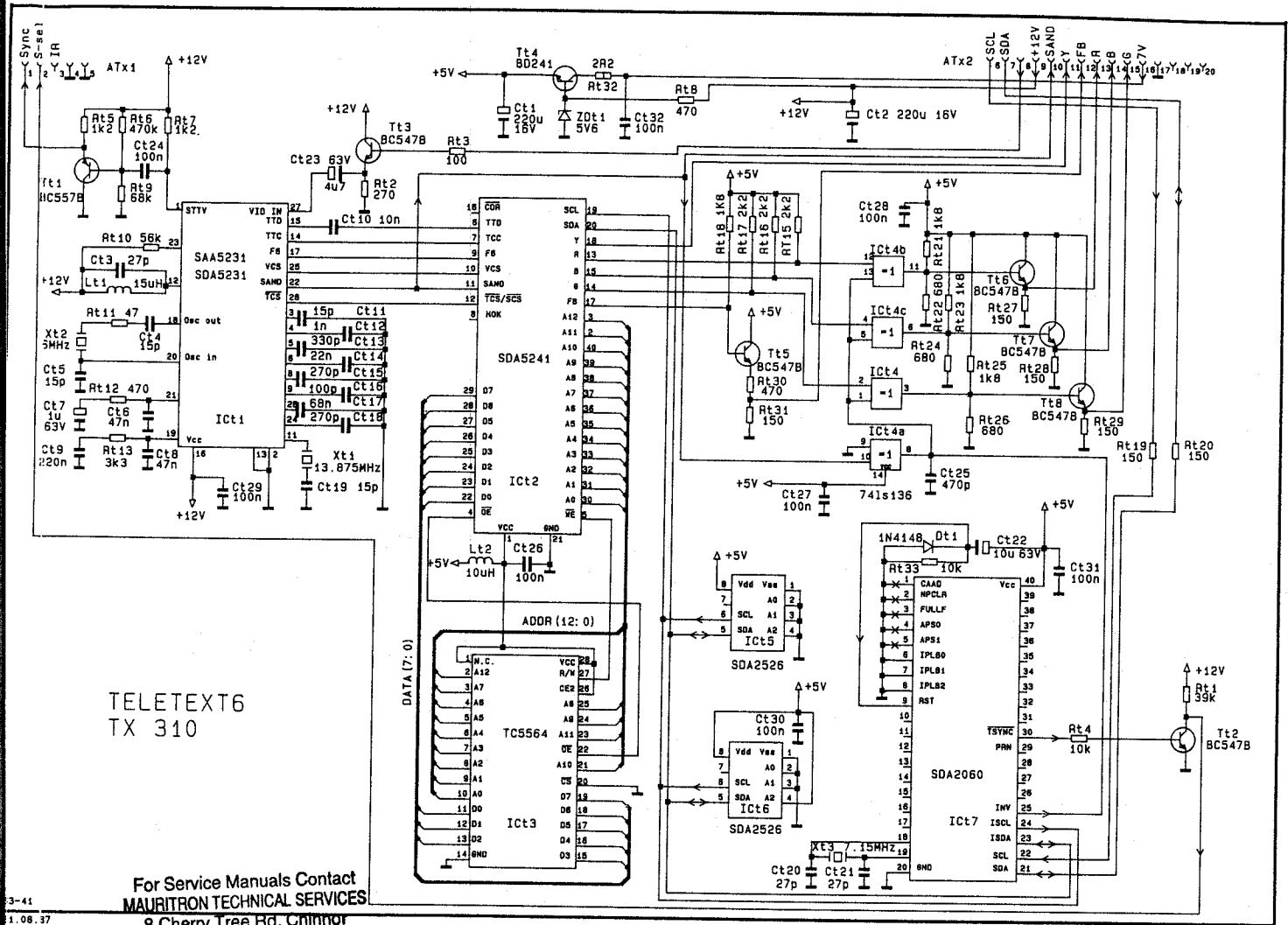
TELETEXT6
TX 310

63-41
21.08.37

UHF SUBMODULE 4110



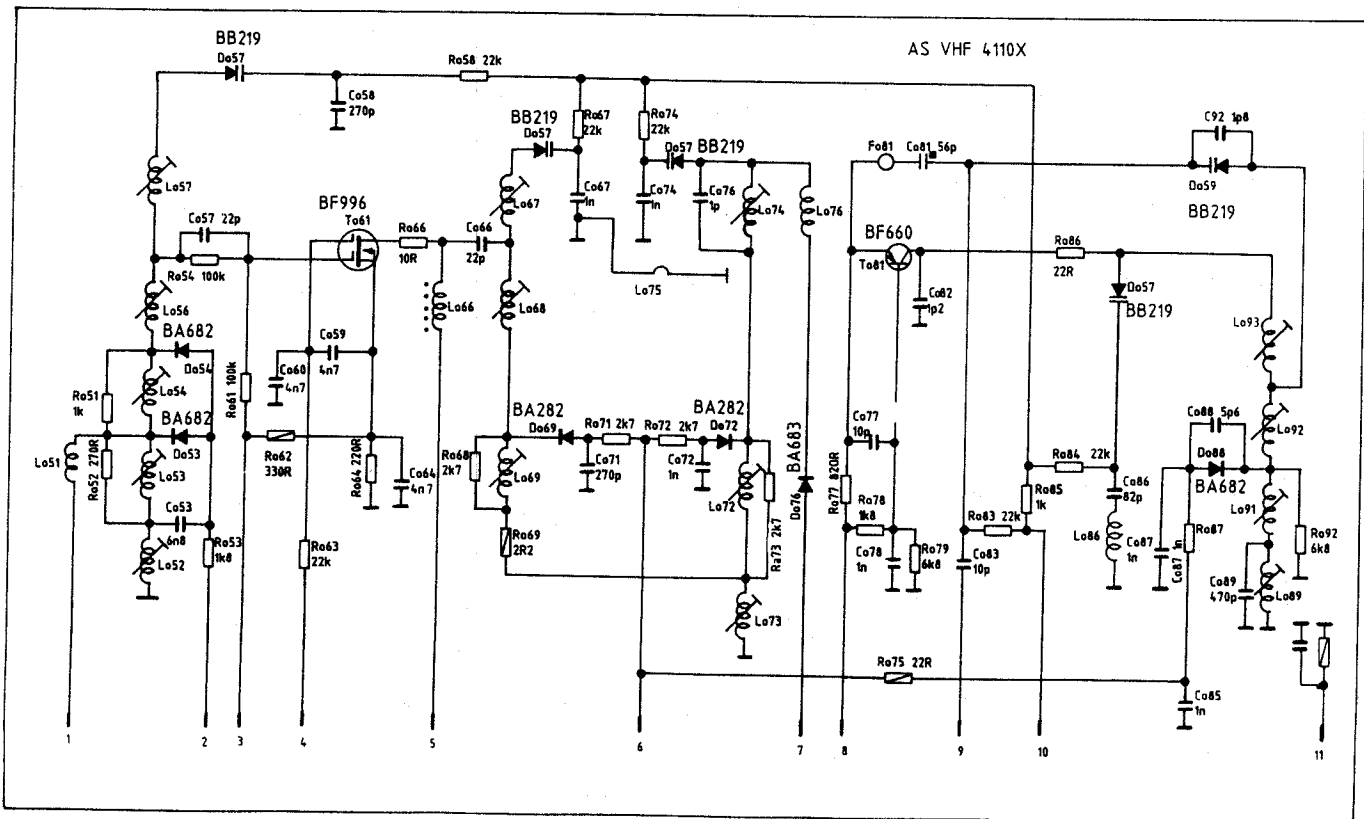
TELETEXT MODULE TX310

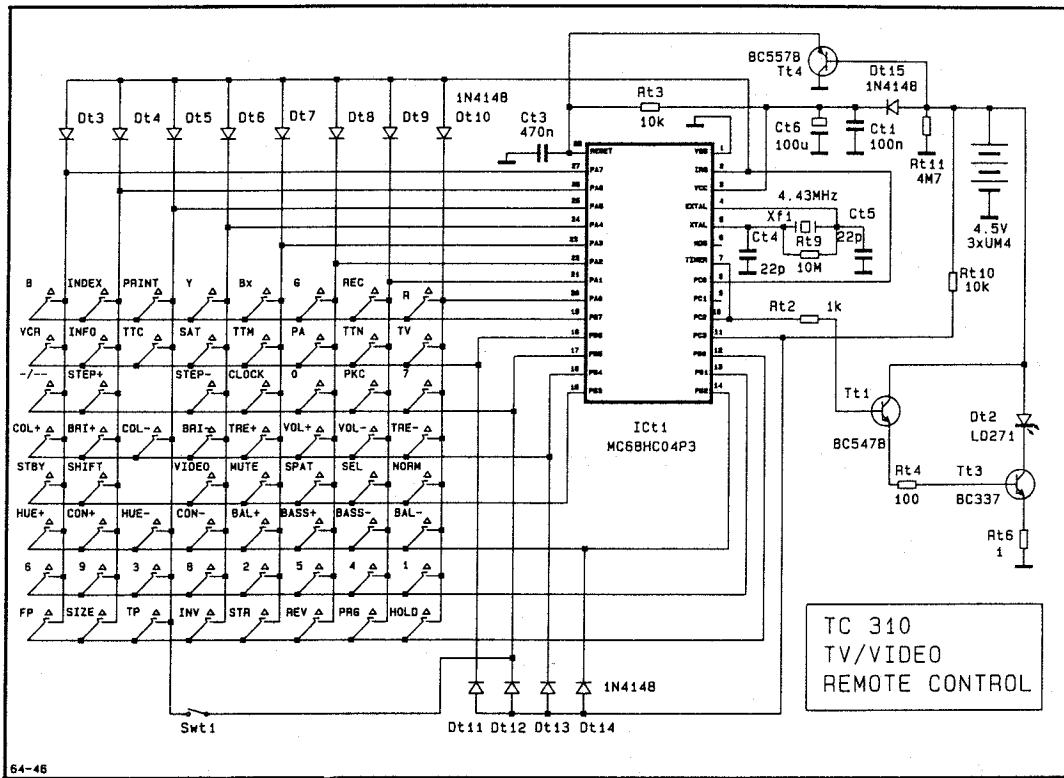


TELETEXT6
TX 310

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VHF SUBMODULE 4110





64-46
15.4.88

	RN100	RN101
Cr11	56p	56p - 100p
Fo1	TH316BQM-2380QDAF	TH316BQM-2110QDAF
Xr01	5,85 MHz	6,552 MHz

PERMANENT PROGRAMMING OF RC3010

Remote control hand unit RC3010 can be programmed for different VCRs by using programming switch and number buttons as described in instruction manual. The basic setting mode of the remote control functions is mode 0 (FINLUX VR 2008) or 8 (ASA VR 2017). You can change the basic setting permanently by mounting the diodes Dt11...Dt14 (1N 4148) according to the table 1. When changing the batteries or when remote control unit lacks the operating voltage for some other reason, the basic setting mode is always taken in use after reconnecting the operating voltage. From table 2 you can find which VCR models function in which mode.

Mode 0	FINLUX VR 2008, SCHNEIDER 266
Mode 1	FINLUX VR 1010, 1012, 1030, 2010, 2030, 2040 ASA VR 6000, VR2019 PHILIPS VR 6443, 6543, 6862, 6462, 6660, 6467, 6760
Mode 2	SHARP 781, 783, 785, 100, 102, 501, 801, 851
Mode 3	SHARP 682, 683, 684, 685, 693, 6F3
Mode 4	JVC HR-D 170, 180, 210, 230, 310, 470, 755, 530 EH, 120, 300
Mode 5	D.E.R.
Mode 6	HITACHI VT-250, VT-120, VT-130, VT-150 414E, 420
Mode 7	PANASONIC NV-G 12, 21, 25, NV-870 BLAUPUNKT RTV-320
Mode 8	ASA VR 2017

Table 2

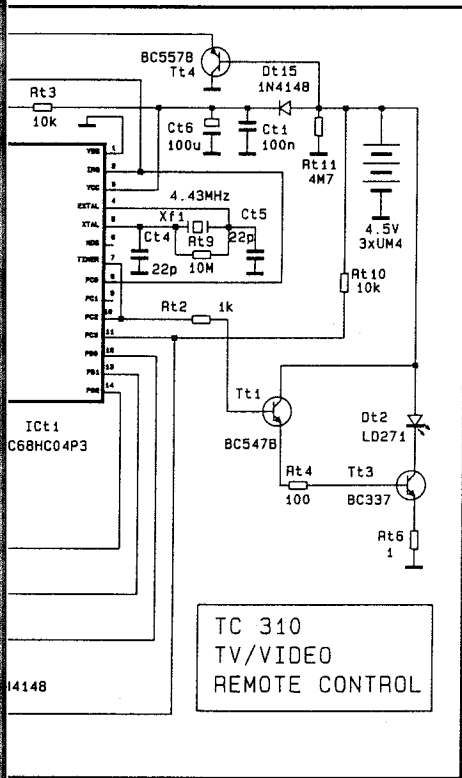
2) Mounting of the Nicam

- o Check that resistors: R are missing, fit 15 kohm
- o Bend the coil Lf3 (6,8) unit.
- o Bend also the signal u connector.

	Dt11	Dt12	Dt13	Dt14
Mode 0	-	-	-	-
Mode 1	-	-	-	x
Mode 2	-	-	x	-
Mode 3	-	-	x	x
Mode 4	-	x	-	-
Mode 5	-	x	-	x
Mode 6	-	x	x	-
Mode 7	-	x	x	x
Mode 8	x	-	-	-

Table 1

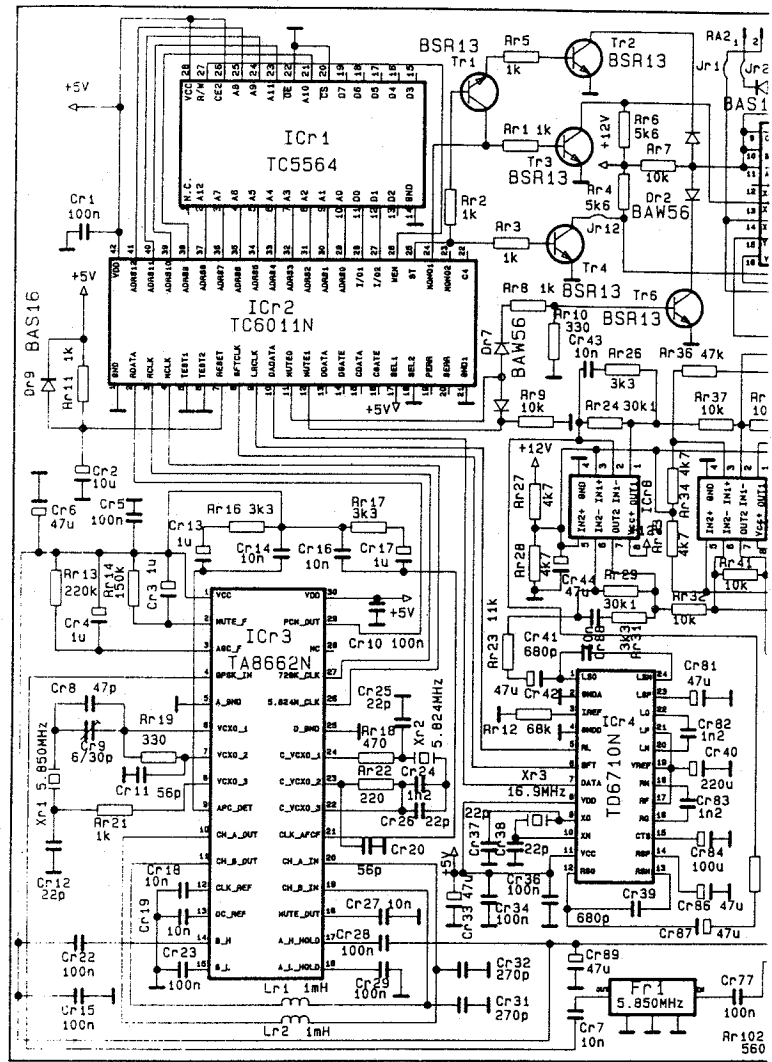
Order no. Art.nr Tilausnumero	NICAM modele NICAM modul NICAM moduli	Tv-chassis Tv-chassi Tv-kojeisto
03500606	RN200	1202, 1204, 1208, 1212, 1213, 1218, 1222, 1224, 1242, 1248, 1288, 2232, 2242, 2272, 2282
03500607	RN100	1308, 1312, 1313, 1318, 1322, 1332, 1342, 132332, 2333, 2336, 2342, 2343, 2346, 2372, 232386
03500608	RN201	1402, 1408, 1412, 1413, 1418, 1422, 1432, 24
03500609	RN101	1622, 1632, 1642, 2633, 2643, 2672, 2682



TC 310
TV/VIDEO
REMOTE CONTROL

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	RN100	RN101
Cr11	56p	56p + 100p
Fr01	TH316BQM- 2080ODAF 5,85 MHz	TH316BQM- 2110ODAF 6,552 MHz
Xr01		



FINLUX VR 2008, SCHNEIDER 266
FINLUX VR 1010, 1012, 1030, 2010, 2030, 2040
ASA VR 6000, VR2019
PHILIPS VR 6443, 6543, 6862, 6462, 6660, 6467, 6760
SHARP 781, 783, 785, 100, 102, 501, 801, 851
SHARP 682, 683, 684, 685, 693, 6F3
JVC HR-D 170, 180, 210, 230, 310, 470, 755, 530 EH, 120, 300
D.E.R.
HITACHI VT-250, VT-120, VT-130, VT-150 414E, 420
PANASONIC NV-G 12, 21, 25, NV-870
BLAUPUNKT RTV-320
ASA VR 2017

Table 2

2) Mounting of the Nicam module

- o Check that resistors R16 and R17 have been composed in the receivers signal unit. If these resistors are missing, fit 15 kohm 0,25 W 5%:
- o Bend the coil Lf3 (6,8 μH) of the NICAM module so that it doesn't touch a coolingplate of the signal unit.
- o Bend also the signal units components that they won't touch the NICAM module when mounting it on connector.

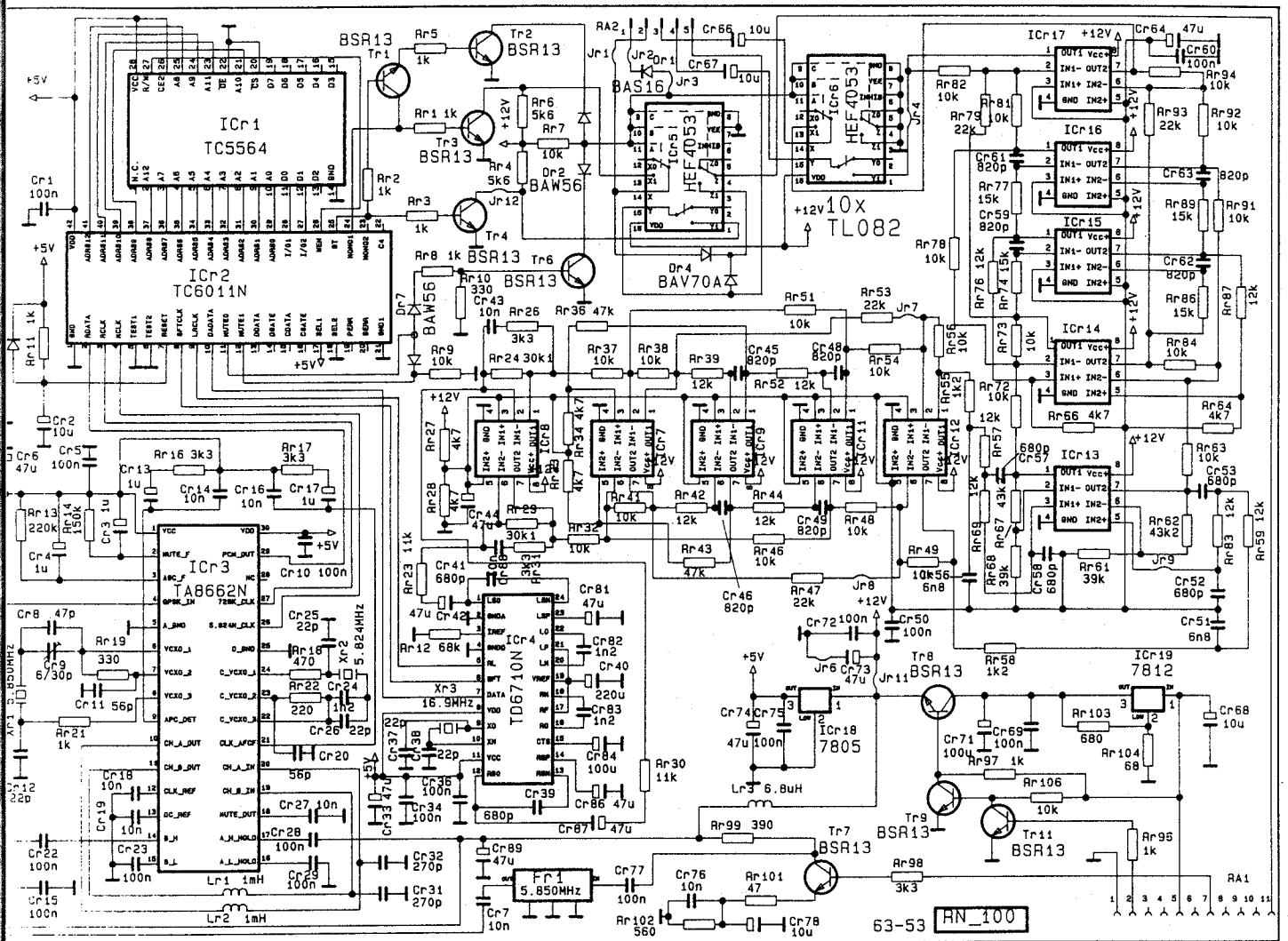
FITTING INSTRUCTIONS OF NICAM 728 MODULE FOR 1000/2000-SERIES RN201

"No-CTI-chassis", models 1402, 1408, 1412, 1413, 1418, 1422, 1432, 2472, 2482

1. If there is an extra sound module fitted in the receiver, remove it. The NICAM-module will be fitted in same connector.
2. Fit the attached wire between Ra6 and pin 2 of 2ND SOUND connector, as shown in figure 1.
3. Fit the attached bundle of wires to components R16 and R17 on the component side and to component and D11 on the foil side, as shown in figure 1. R- and L-channel wires are fitted on the component: prevent radio disturbances.
4. Fit the NICAM module as follows: remove the connector frame, fit the NICAM module to the 2ND SOUND connector and fit the attached connector frame to its place.
5. Connect the plug of the attached bundle of wires to the socket on the NICAM module. Route the 2-sound and S/mmono wires under the signal unit, as shown in figure 1.

NICAM modele NICAM modul NICAM moduli	Tv-chassis Tv-chassi Tv-kojeisto
RN200	1202, 1204, 1208, 1212, 1213, 1218, 1222, 1232, 1238, 1242, 1248, 1288, 2232, 2242, 2272, 2282
RN100	1308, 1312, 1313, 1318, 1322, 1332, 1342, 1378, 1388, 2332, 2333, 2336, 2342, 2343, 2346, 2372, 2376, 2382, 2386
RN201	1402, 1408, 1412, 1413, 1418, 1422, 1432, 2472, 2482
RN101	1622, 1632, 1642, 2633, 2643, 2672, 2682

NICAM MODULE RN100 RN101

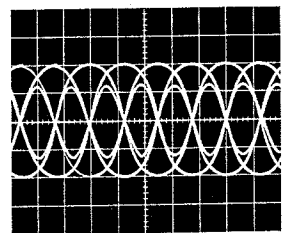


module
and R17 have been composed in the receivers signal unit. If these resistors
0.25 W 5%:

of the NICAM module so that it doesn't touch a coolingplate of the signal

s components that they won't touch the NICAM module when mounting it on

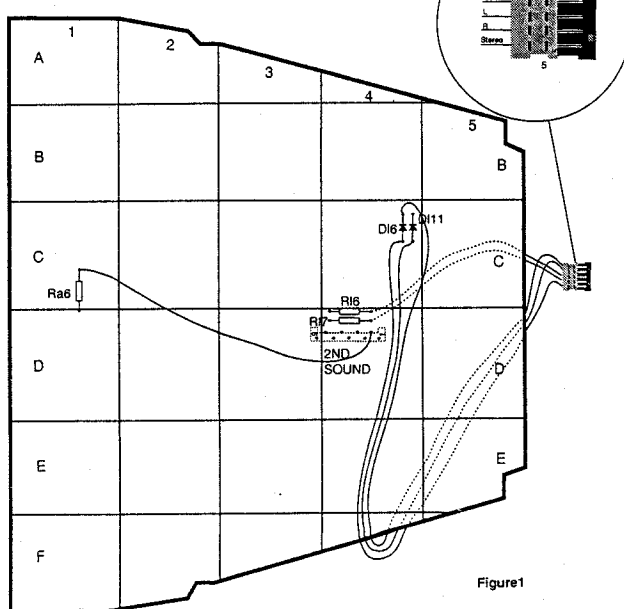
Probe 10:1
20 mV/div
2 μs/div



FITTING INSTRUCTIONS OF NICAM 728 MODULE FOR 1000/2000-SERIES RN201

"No-CTI-chassis", models 1402, 1408, 1412, 1413, 1418, 1422, 1432, 2472, 2482

1. If there is an extra sound module fitted in the receiver, remove it. The NICAM-module will be fitted into the same connector.
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4. Fit the NICAM module as follows: remove the connector frame, fit the NICAM module to the 2ND SOUND connector and fit the attached connector frame to its place.
5. Connect the plug of the attached bundle of wires to the socket on the NICAM module. Route the stereo, 2-sound and S/mono wires under the signal unit, as shown in figure 1.

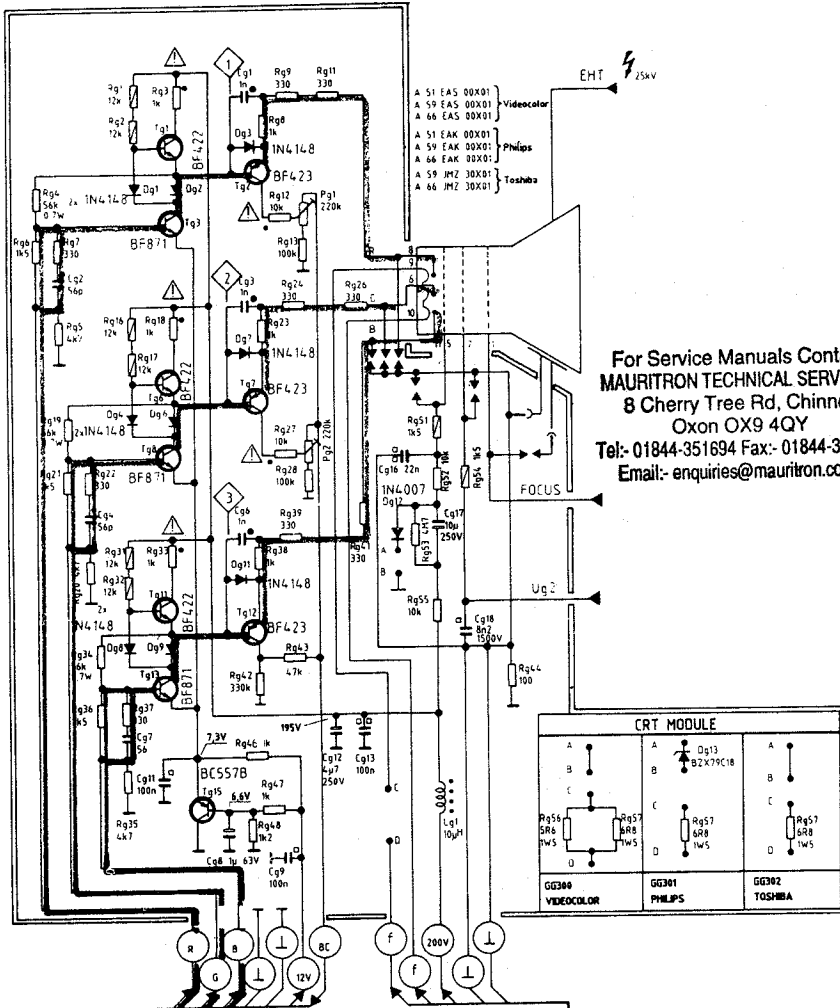


1238,
1388,
2382,
2482

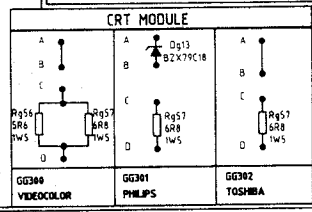
Figure 1

FINLUX 3021

CRT MODULE



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- (B/Y) = BLUE OR B-Y COLOUR DIFFERENCE SIGNAL
- (G/Y) = GREEN OR LUMINANCE SIGNAL
- (R/Y) = RED OR R-Y COLOUR DIFFERENCE SIGNAL
- (FB) = FAST BLANKING SIGNAL
- (R OUT) = RIGHT AUDIO CHANNEL
- (L OUT) = LEFT AUDIO CHANNEL
- (SCL) = SERIAL CLOCK
- (SDA) = SERIAL DATA
- (R IN) = RIGHT AUDIO CHANNEL
- (L IN) = LEFT AUDIO CHANNEL
- (CVBS IN) = VIDEO SIGNAL
- (CVBS OUT) = VIDEO SIGNAL
- (RC) = REMOTE CONTROL
- (STA1) = STATUS FROM SCART 1
- (STA2) = STATUS FROM SCART 2
- (L HP) = LEFT AUDIO CHANNEL FOR HEADPHONES
- (R HP) = RIGHT AUDIO CHANNEL FOR HEADPHONES
- (SAT COP) = SATELLITE COPYING
- (MODE 1) = MODE INFORMATION 1
- (MODE 2) = MODE INFORMATION 2
- (RGB INV) = RGB INVERTING
- (HOLD) = PROCESSOR DISCONNECTING FROM I²C-BUS
- (P-ON) = PICTURE ON DRIVING VOLTAGE 12 V
- (S-ON) = SOUND ON DRIVING VOLTAGE 12 V
- (BC) = BLACK CURRENT
- (EW) = EAST-WEST RASTER CORRECTION
- (BCL) = BEAM CURRENT LIMITING VOLTAGE
- (7V TXT) = SUPPLY VOLTAGE FOR TELETEXT MODULE
- (H FLYB) = LINE FLYBACK
- (H DRIVE) = DRIVE PULSES FOR LINE OUTPUT STAGE
- (F) = FILAMENT VOLTAGE FOR CRT

D6

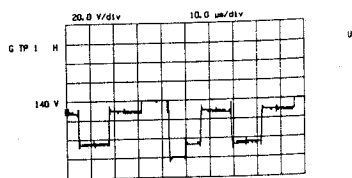
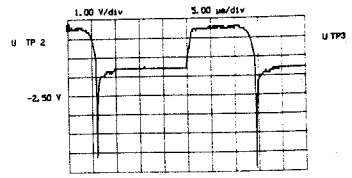
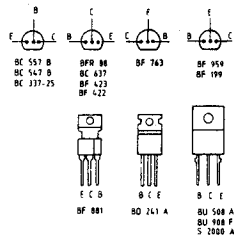
D7

D8

D6

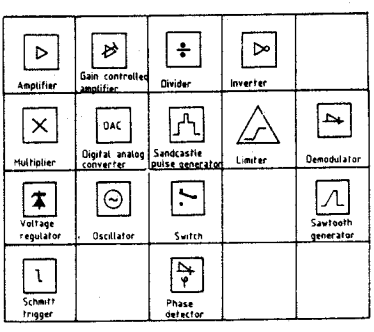
D8

D6

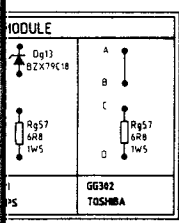


Ceramic	Polystyren	Polyester Polycarbon	Polypropyl	Notes can be combined when necessary
63 - 100V	63 - 100V	100V	100V	Paper capac
160 - 250V	160 - 250V	250V	250V	Electrol 16V 1500V
400 - 500V	400 V	400 V	400 V	Special capac Film capac
Hi-Cap				Tantal capac Y capacitors

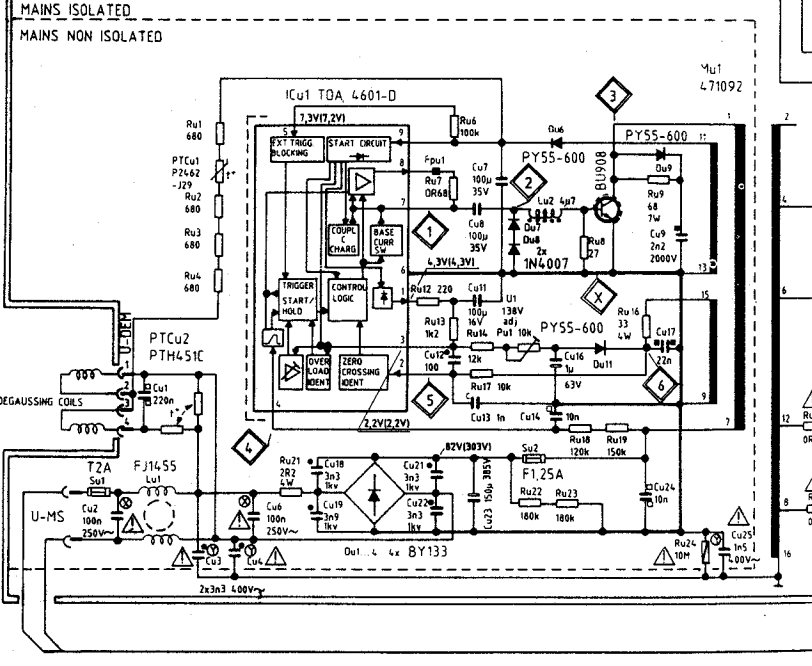
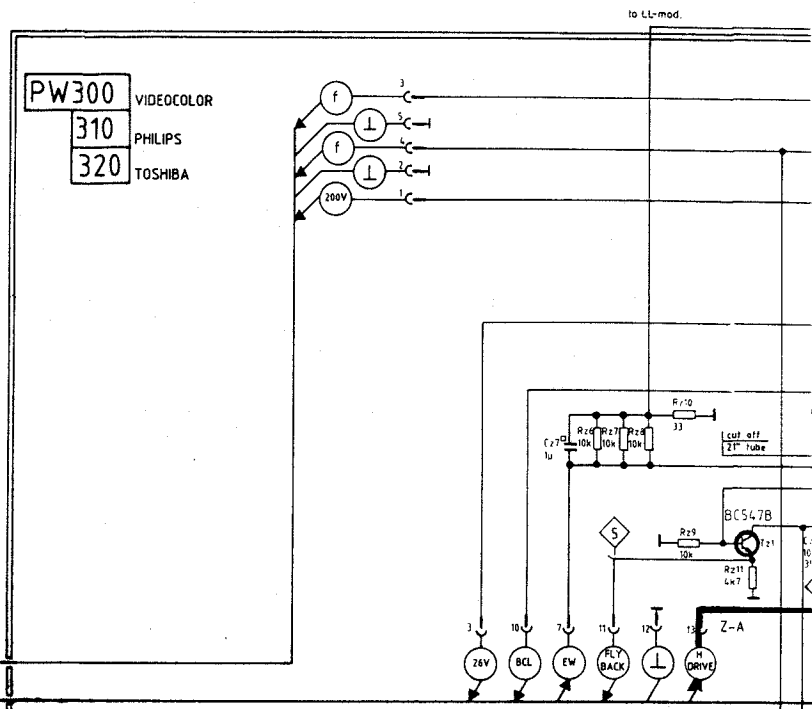
⚠ Critical safety component. Use identical component for replacement.



- (B/Y) = BLUE OR B-Y COLOUR DIFFERENCE SIGNAL
- (G/Y) = GREEN OR LUMINANCE SIGNAL
- (R/Y) = RED OR R-Y COLOUR DIFFERENCE SIGNAL
- (FB) = FAST BLANKING SIGNAL
- (R OUT) = RIGHT AUDIO CHANNEL
- (L OUT) = LEFT AUDIO CHANNEL
- (SCL) = SERIAL CLOCK
- (SDA) = SERIAL DATA
- (R IN) = RIGHT AUDIO CHANNEL
- (L IN) = LEFT AUDIO CHANNEL
- (VBS IN) = VIDEO SIGNAL
- (VBS OUT) = VIDEO SIGNAL
- (RC) = REMOTE CONTROL
- (STA1) = STATUS FROM SCART 1
- (STA2) = STATUS FROM SCART 2
- (L HP) = LEFT AUDIO CHANNEL FOR HEADPHONES
- (R HP) = RIGHT AUDIO CHANNEL FOR HEADPHONES
- (SAT COPY) = SATELLITE COPYING
- (MODE 1) = MODE INFORMATION 1
- (MODE 2) = MODE INFORMATION 2
- (RGB INV) = RGB INVERTING
- (HOLD) = PROCESSOR DISCONNECTING FROM I²C-BUS
- (P-ON) = PICTURE ON DRIVING VOLTAGE 12 V
- (S-ON) = SOUND ON DRIVING VOLTAGE 12 V
- (BC) = BLACK CURRENT
- (EW) = EAST-WEST RASTER CORRECTION
- (BCL) = BEAM CURRENT LIMITING VOLTAGE
- (TV TXT) = SUPPLY VOLTAGE FOR TELETEXT MODULE
- (H FLYB) = LINE FLYBACK
- (H DRIVE) = DRIVE PULSES FOR LINE OUTPUT STAGE
- (f) = FILAMENT VOLTAGE FOR CRT

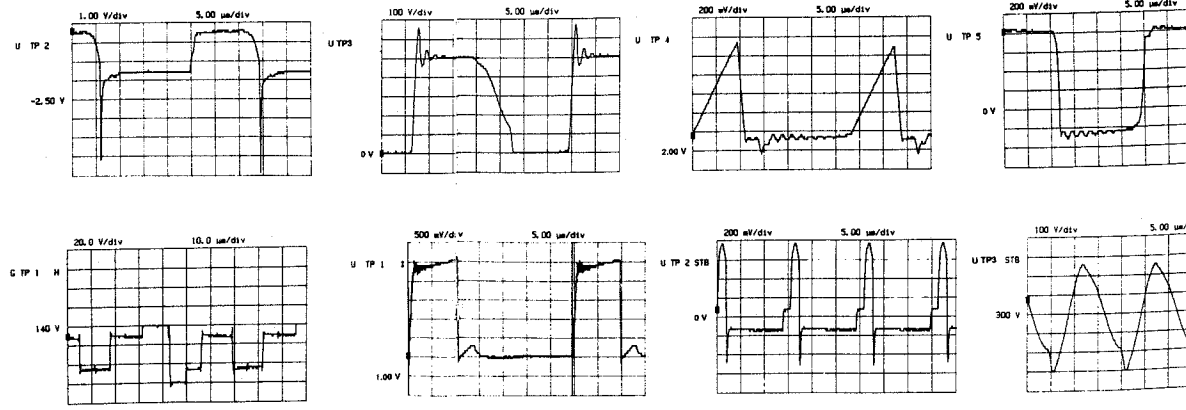


D8



D6

POWER SUPP



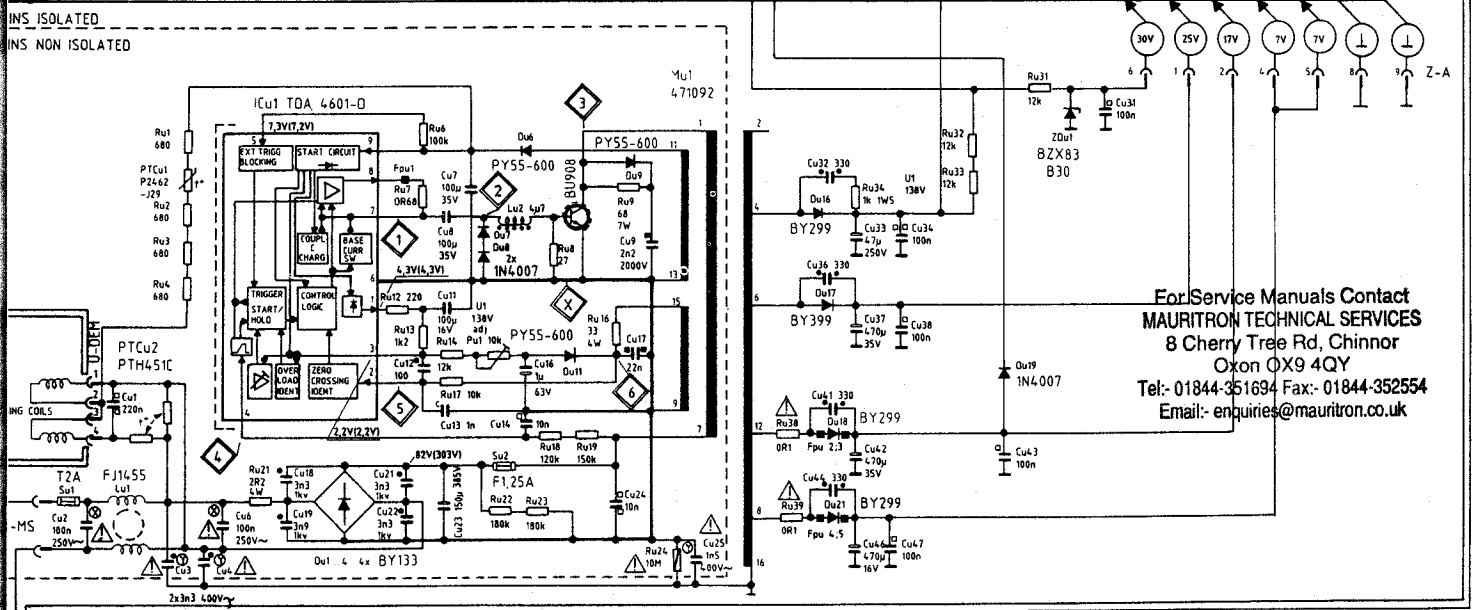
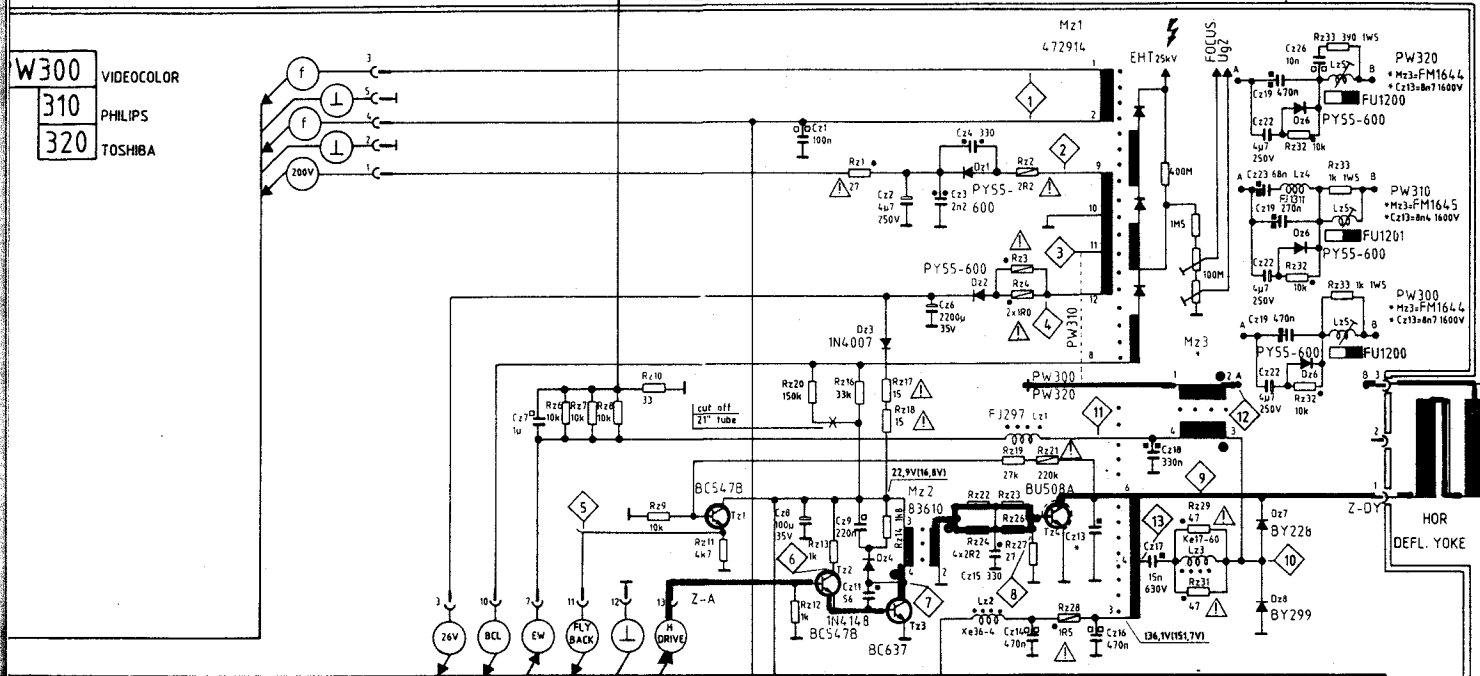
of safety component. Use identical component replacement.

Gain controlled amplifier	Divider	Inverter	
Digital analog converter	Sandcastle pulse generator	Limiter	Demodulator
Oscillator	Switch		Sawtooth generator
	Phase detector		

HOR DEFLECTION

to LL-mod.

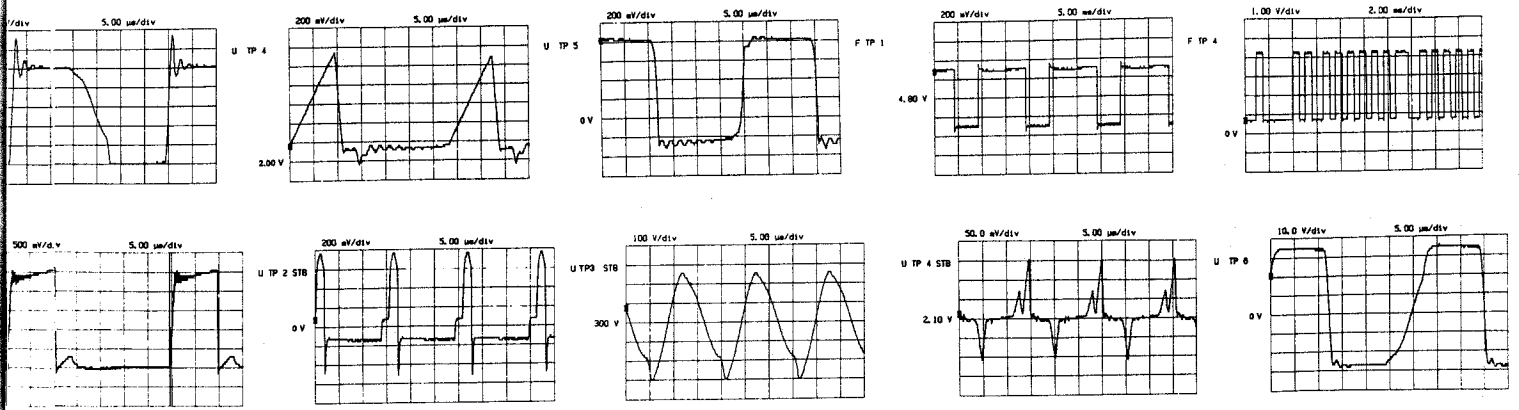
D



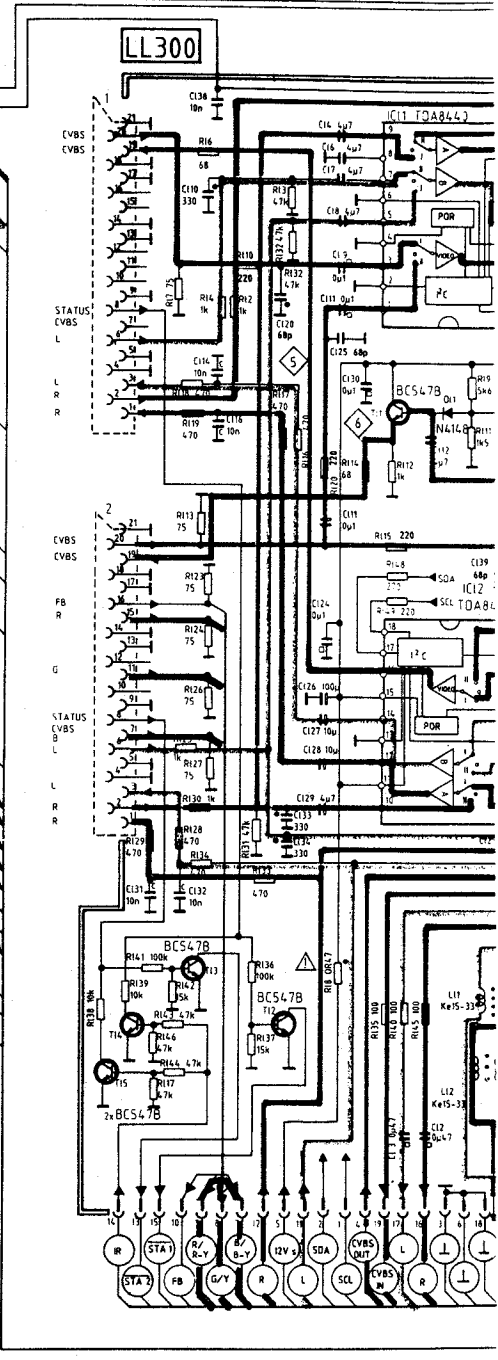
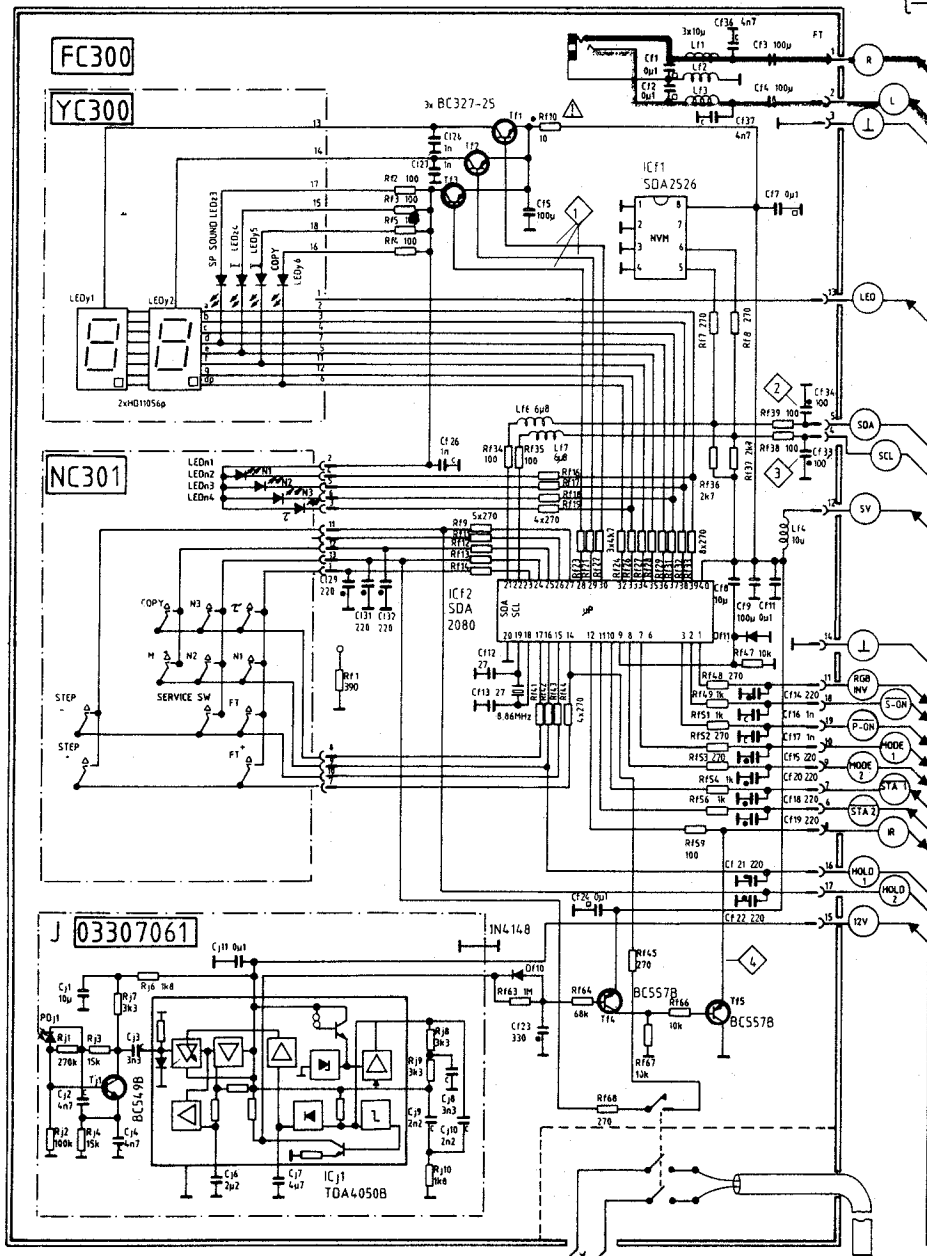
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D2

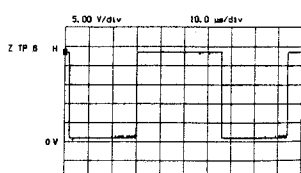
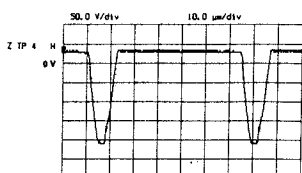
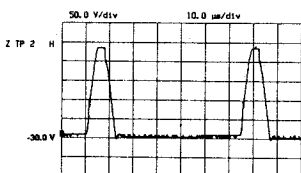
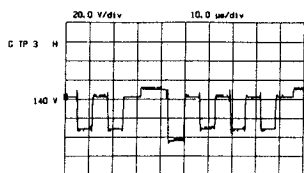
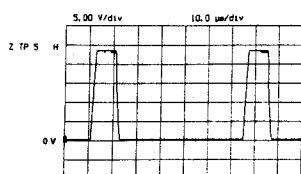
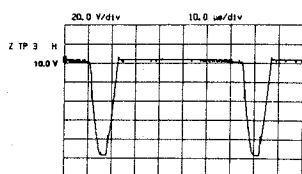
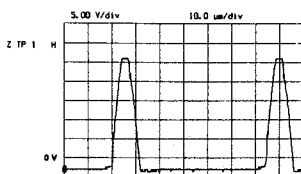
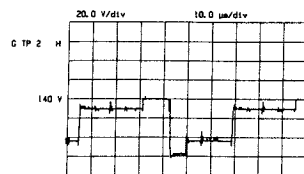
POWER SUPPLY

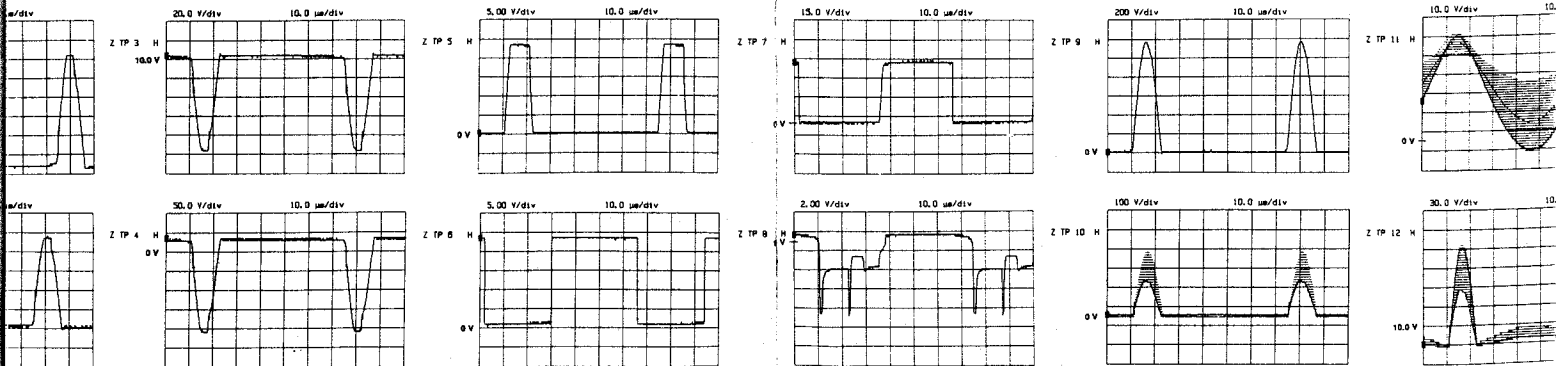
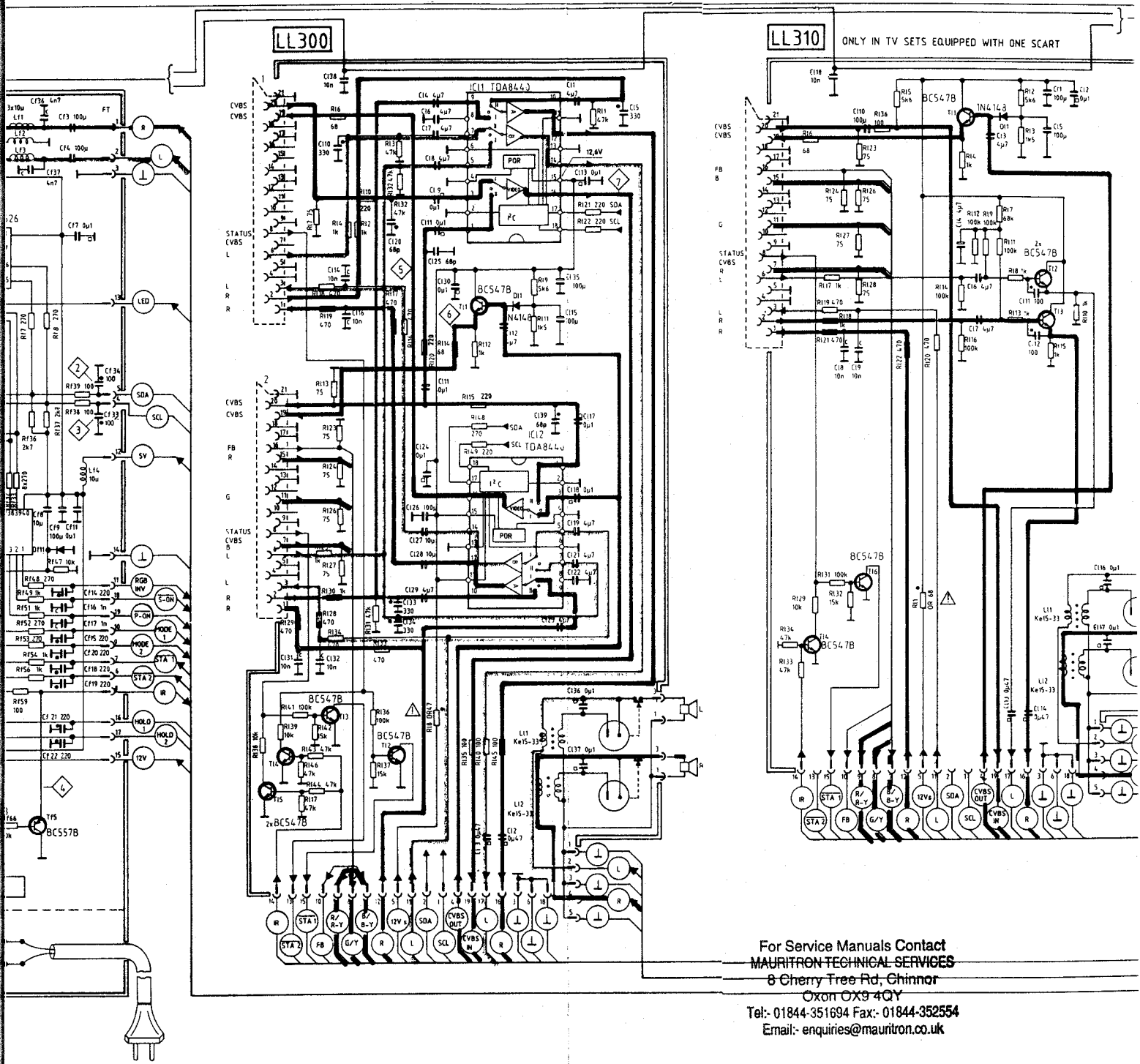


D1



D2



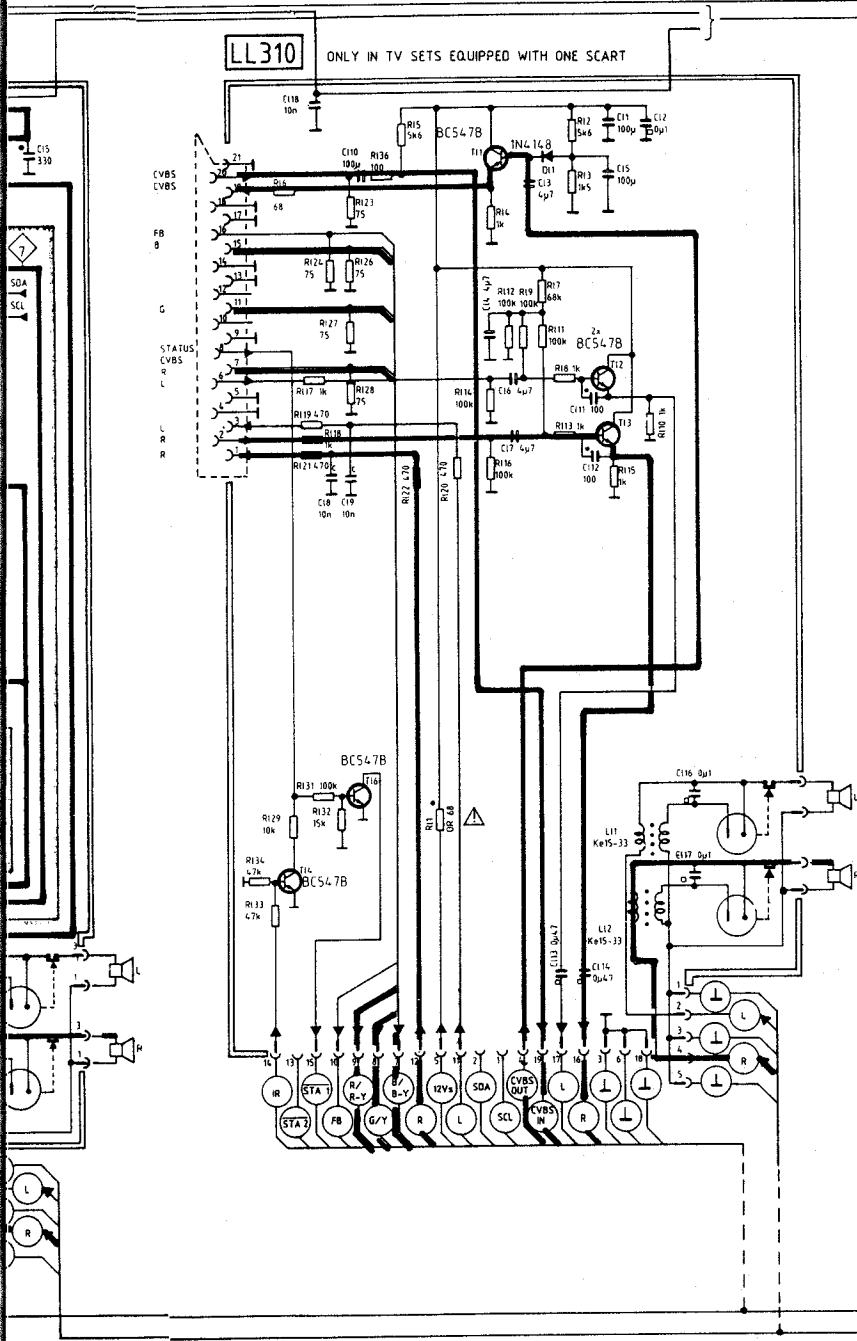


CONNECTOR UNIT

D1

LL310

ONLY IN TV SETS EQUIPPED WITH ONE SCART



POWER SUPPLY/HORIZONTAL DEFLECTION UNIT

PW300 PW310 PW320

GB

SERVICE ADJUSTMENTS

U. POWER SUPPLY

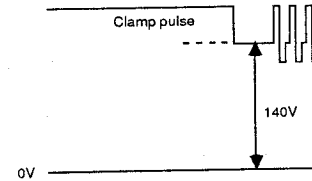
U1. Supply voltage
Set brightness and contrast to normal level. Connect an universal voltmeter to the cathode of Du16. Adjust DC-voltage for +138V (±2V) with Pu1.

Z. HORIZONTAL DEFLECTION

Z1. Horizontal linearity
Adjust with Lz5.

Z2. Focusing
Set the brightness and contrast to normal level. Using the cross hatch pattern adjust the picture for optimum resolution.

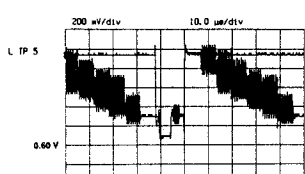
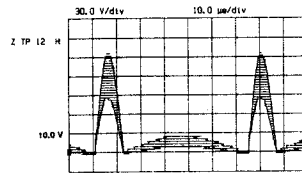
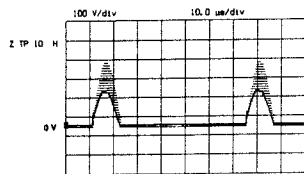
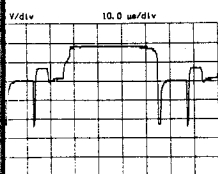
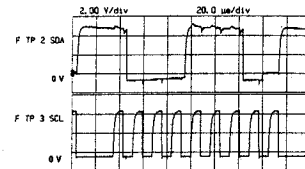
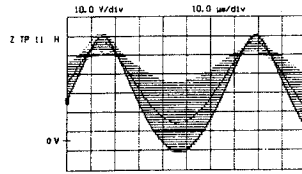
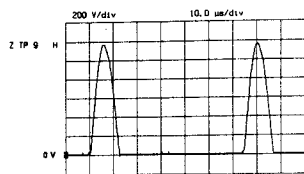
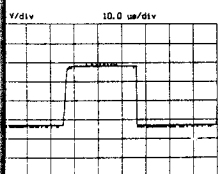
Z3. Screen grid voltage
Set contrast to minimum, brightness and colour saturation to normal level. Use an oscilloscope and control on measuring points 1, 2 and 3 the amplitude of inserted black level clamp pulses during 3 line periods after vertical blanking. Adjust the amplitude of highest clamp pulse to +140V with Ug2 (SCREEN) control (see figure).

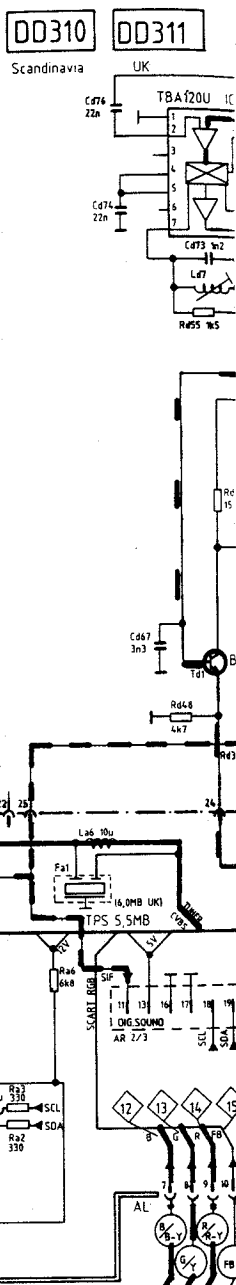
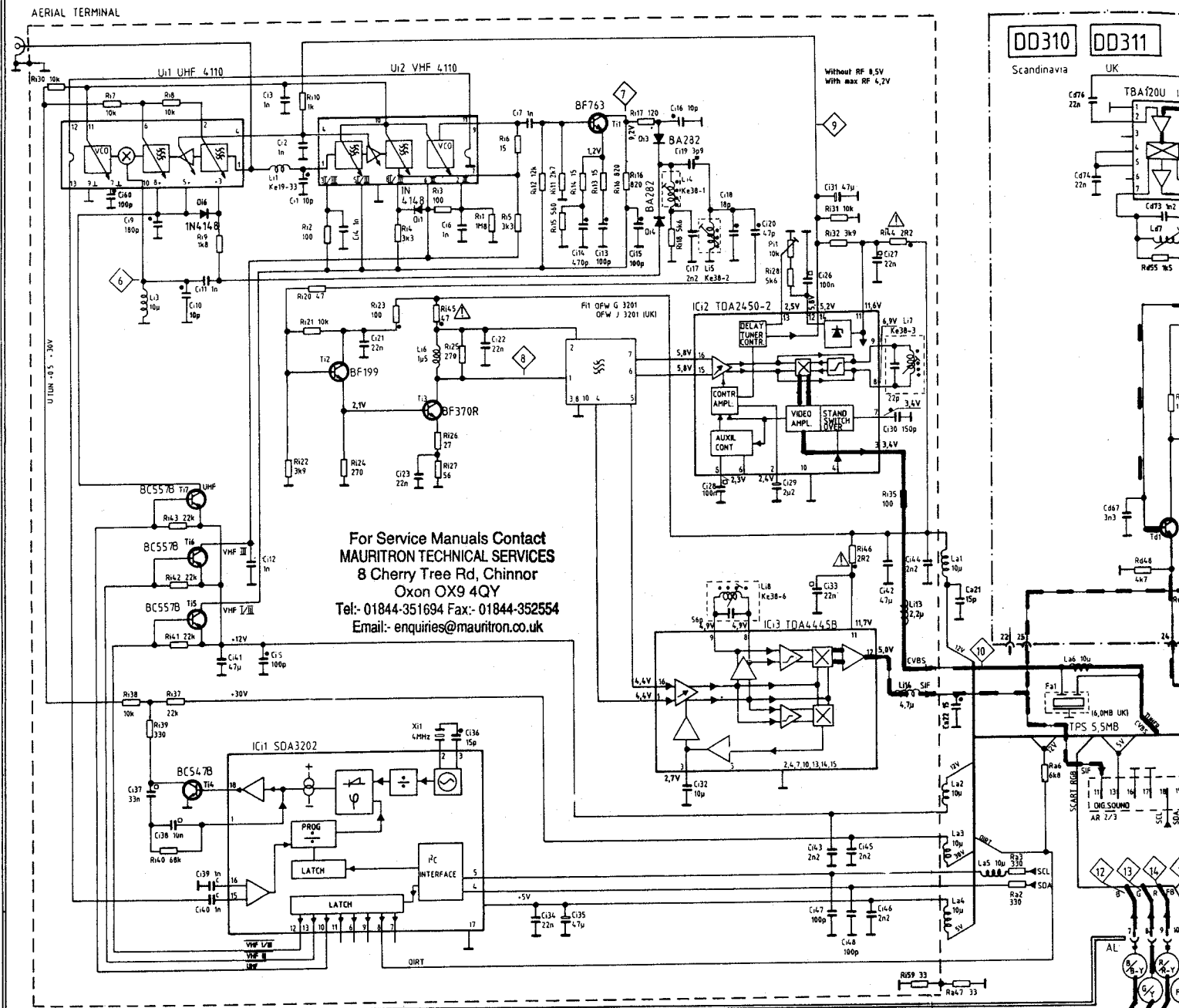


D3

D4

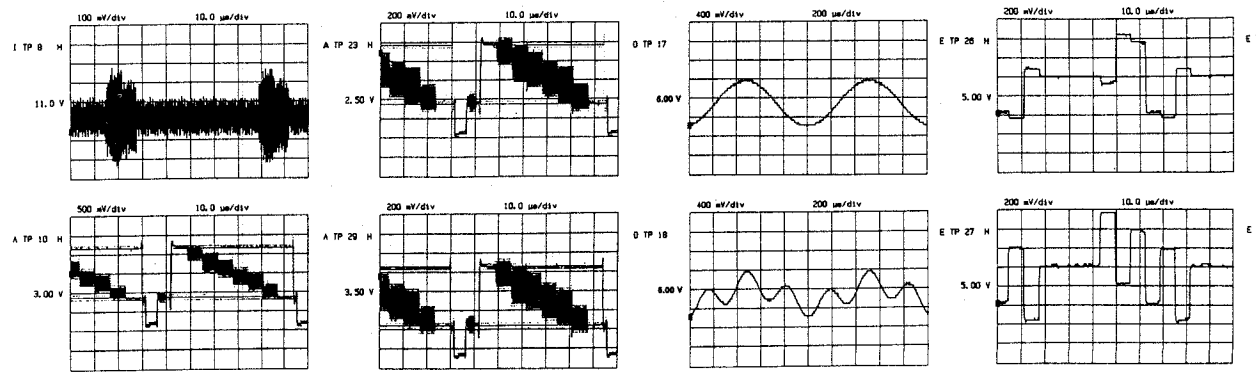
D5

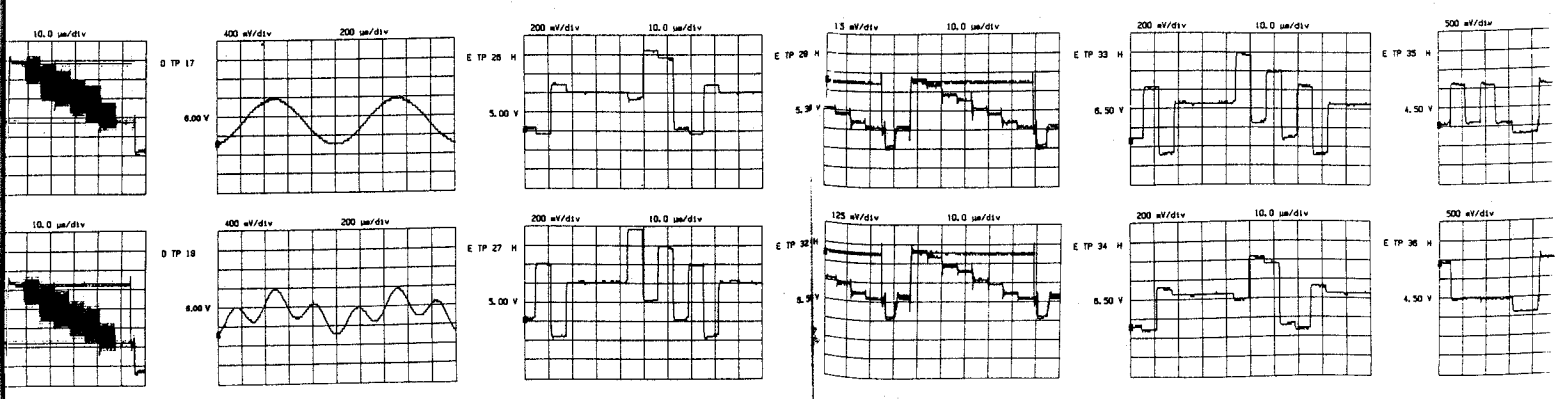
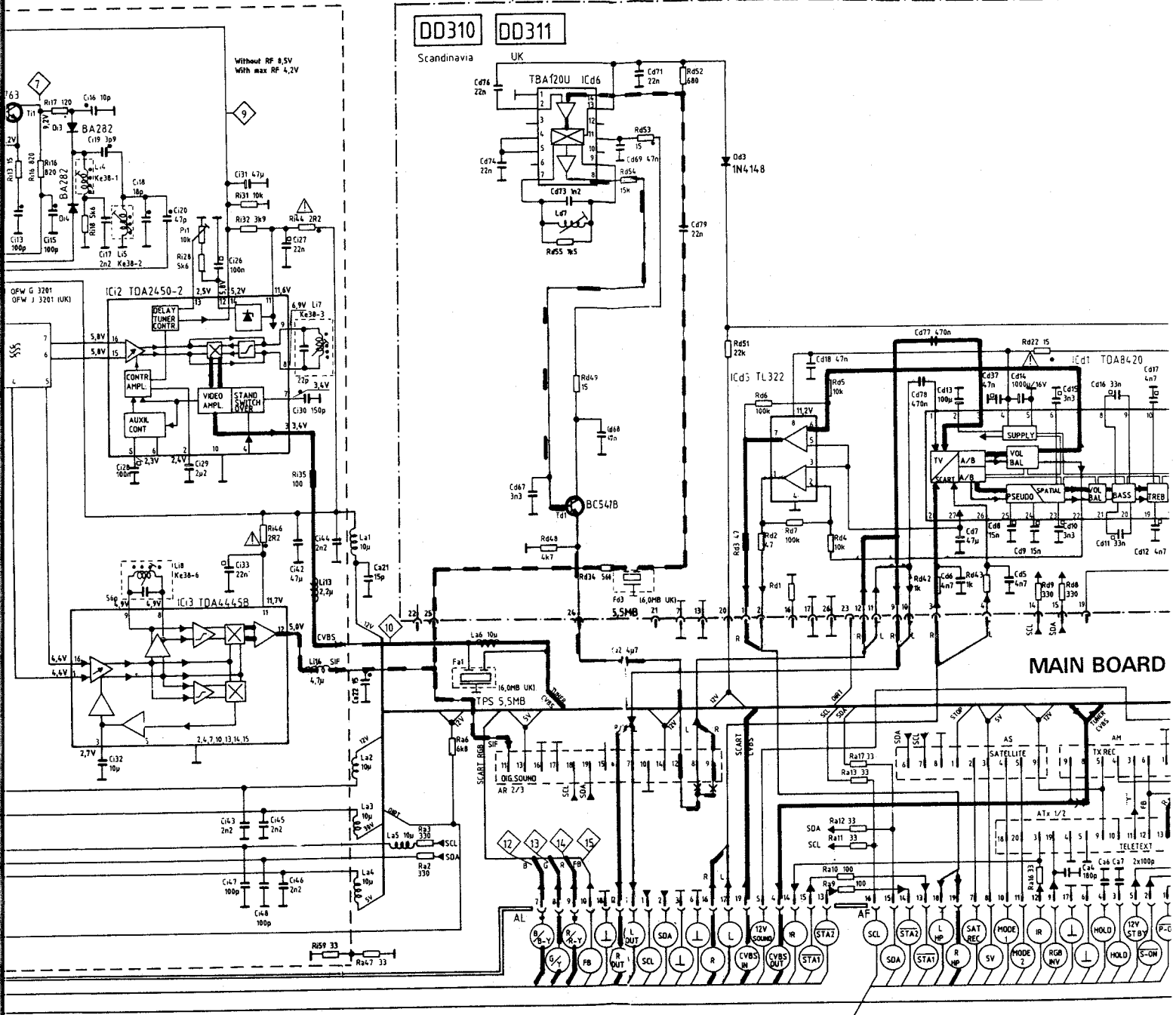




D3
D4
D5

TYPES
MODELS
3021F
3024F
3028F
3024S
3028S
3024E
3028E
3024M
3028M





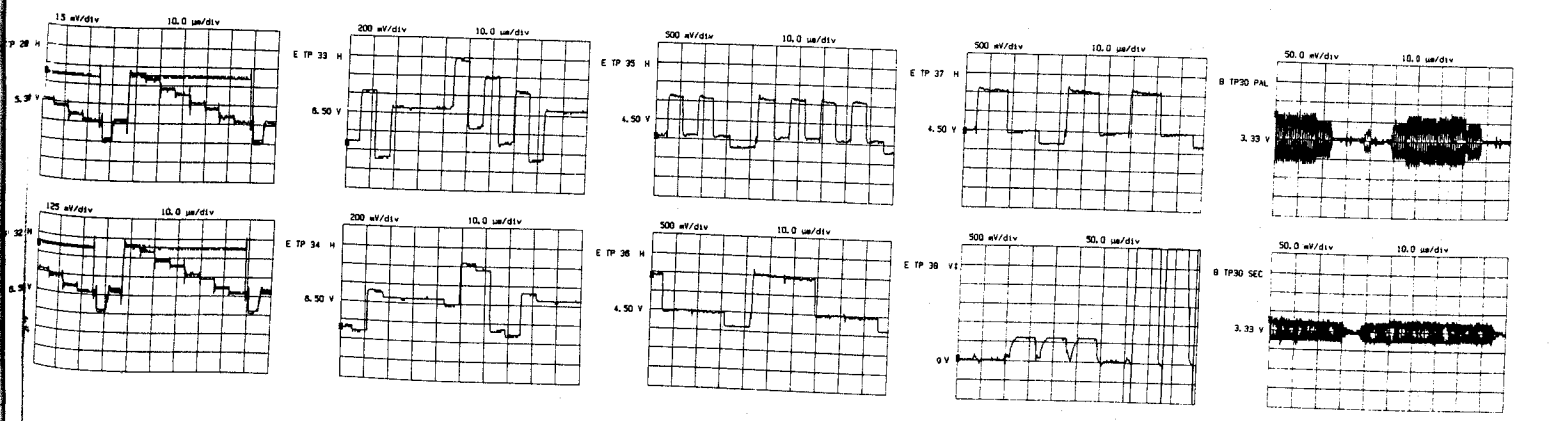
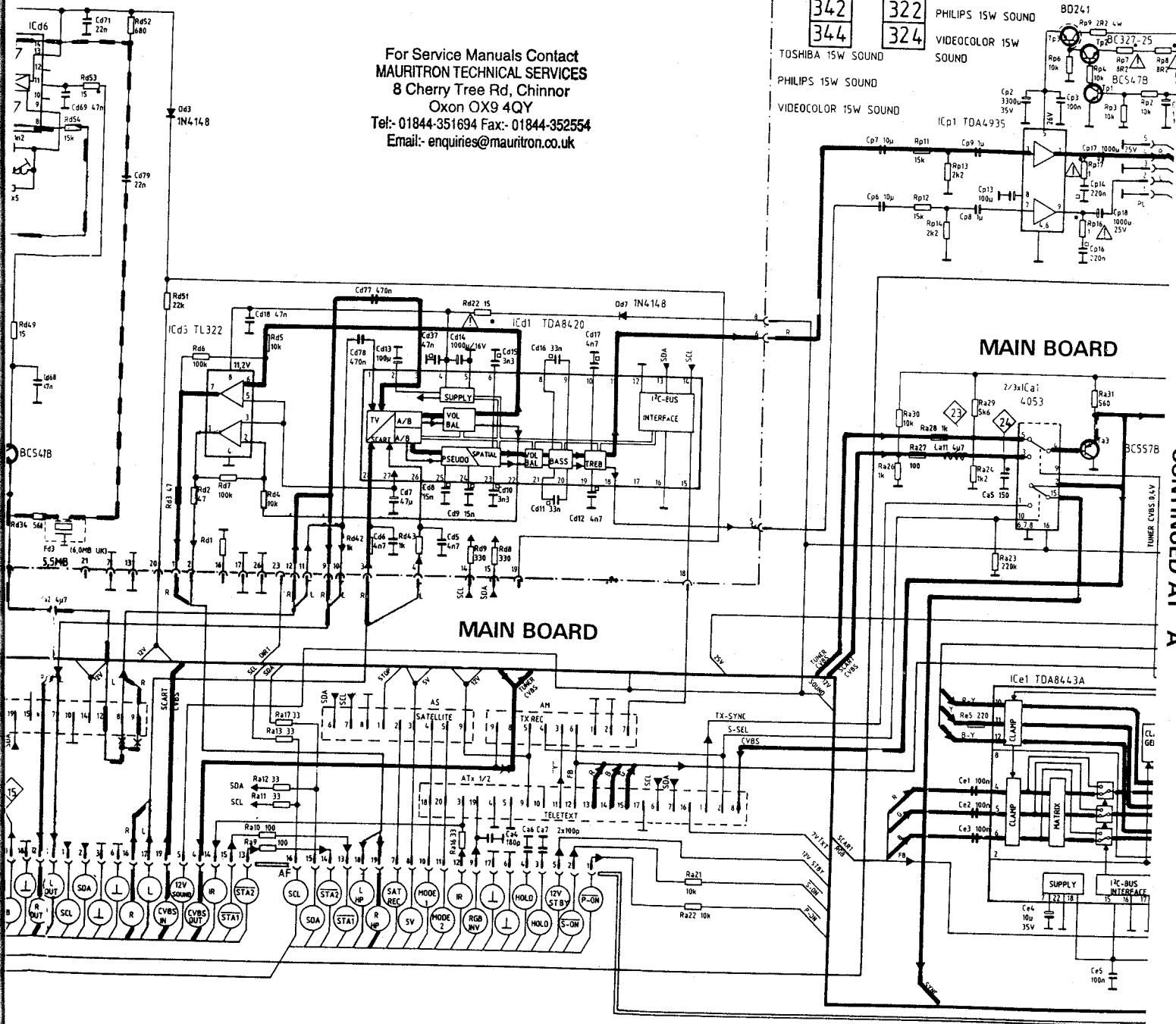
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 Oxon OX9 4QY
 Tel:- 01844-351694 Fax:- 01844-352554
 Email:- enquiries@mauritron.co.uk

UK	Scandinavia
RF340	RF320
342	322
344	324

TOSHIBA 15W SOUND
 PHILIPS 15W SOUND
 VIDEOCOLOR 15W SOUND

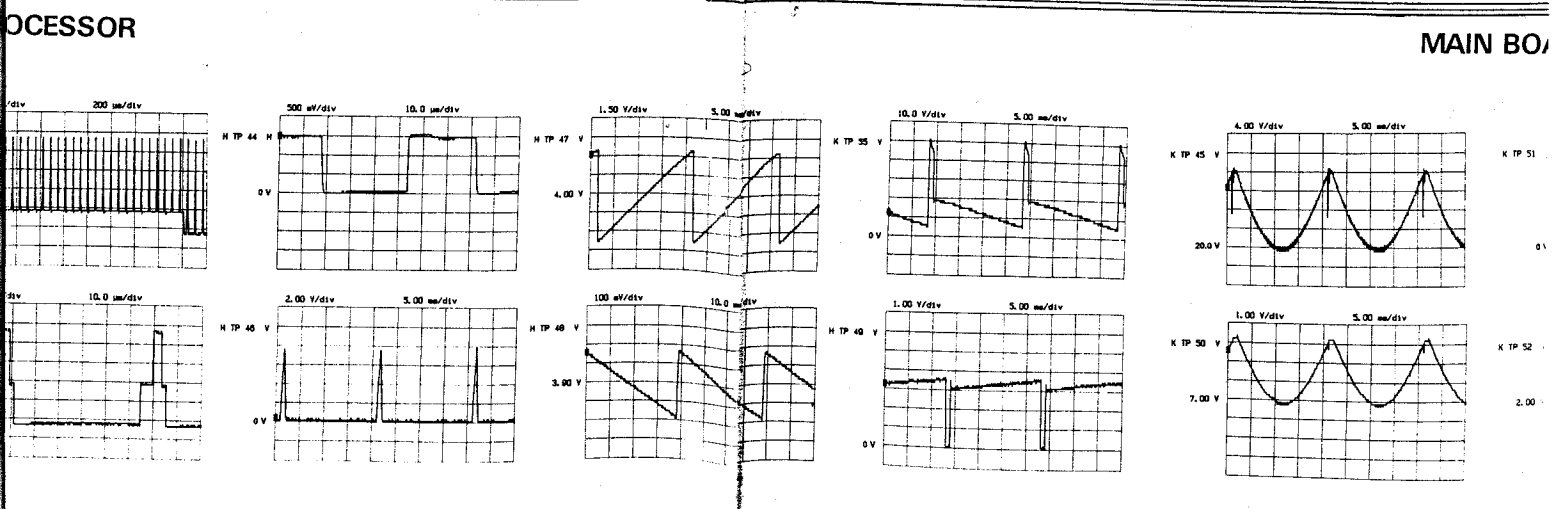
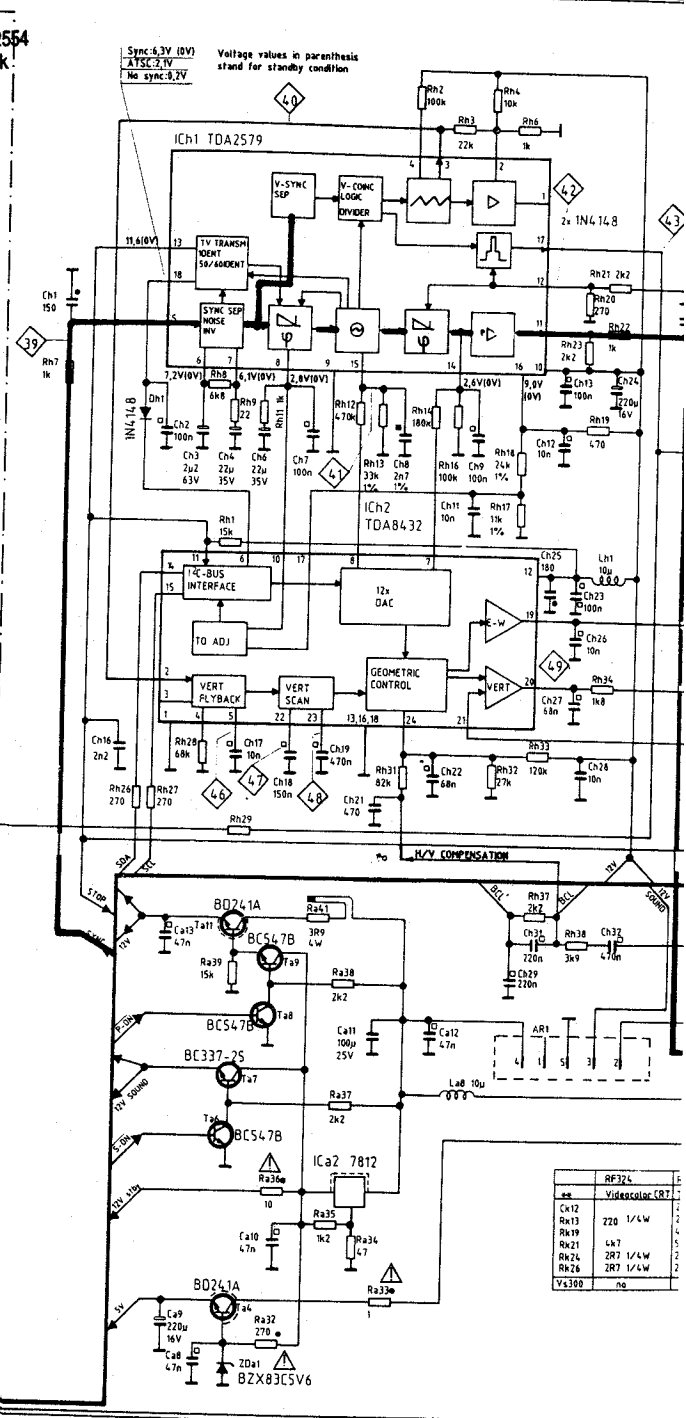
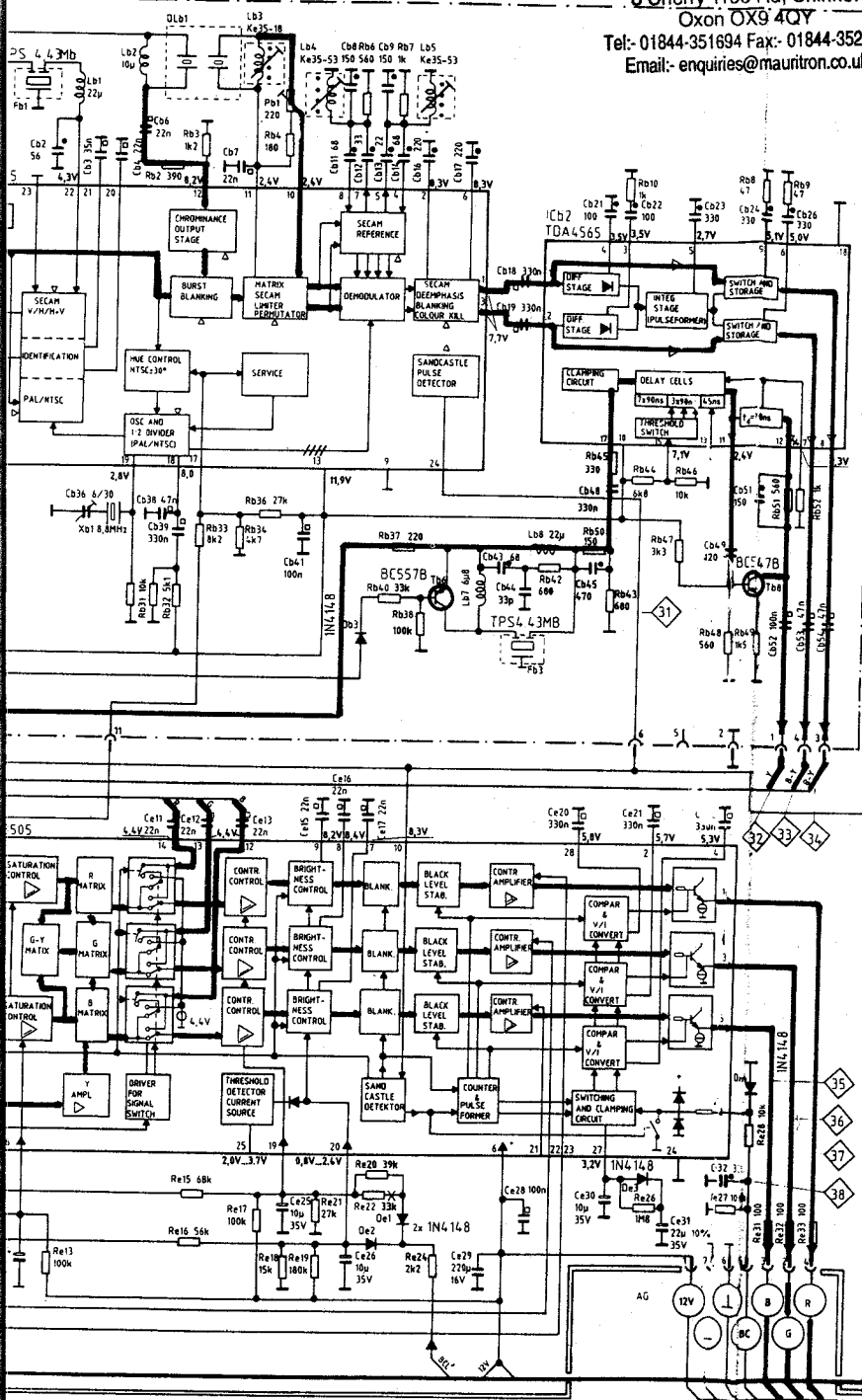
TOSHIBA 15W SOUND
 PHILIPS 15W SOUND
 VIDEOCOLOR 15W SOUND

ICP1 TDA4935



CONTINUED A1 A

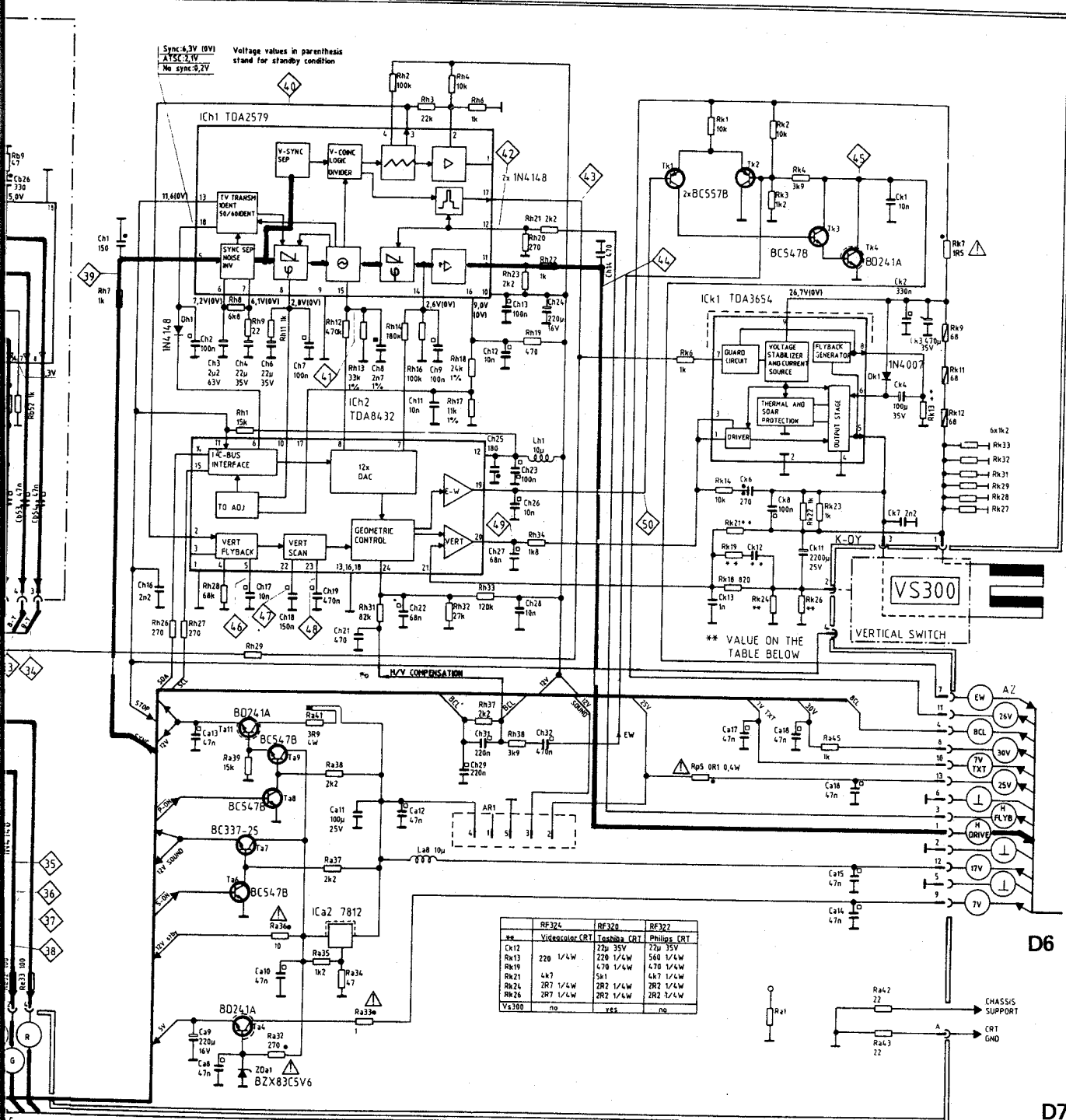
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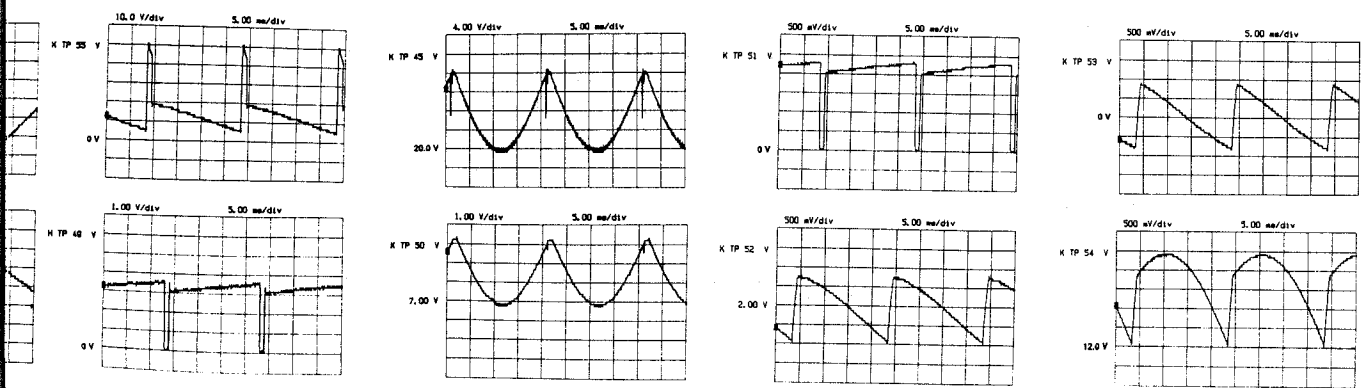
RF32L	CR
Ch12	VideoColor CRT
Rh13	720 1/4W
Rh19	720 1/4W
Rh21	1k7
Rh24	287 1/4W
Rh26	287 1/4W
V3300	no

SYNC/ DEFLECTION PROCESSOR

VERT DEFLECTION



MAIN BOARD



MOUNTING INSTRUCTIONS OF S-VHS

S-VHS CONNECTION KIT
(Order No.: 03500800)

Contents

The connection kit includes following components:

Item	Description	Order No
Colour decoder module		BB 303
S-VHS connection unit		LL 302
S-VHS adapter		96006355
3-pole PCB-connector		51005731
IC11	X2402P	44002625
C115	1 nF, 20%, 63V	23030507
RI52	1 kΩ, 5%, 0,25W	12114908

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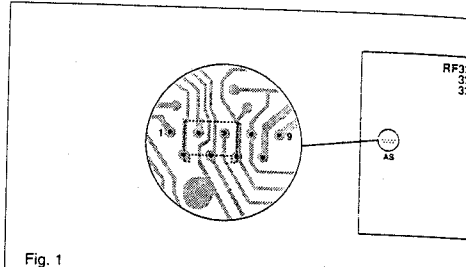


Fig. 1

Mounting instructions

- Switch on the receiver and set it to the service mode. Ask the version number of the NVM (Non-volatile memory IC11) by pressing the P/C button.
 - Version 02: the SVHS-function is not programmed
 - Version 03: the SVHS-function is already programmed

If the version number is 02, perform the mounting according to points 2...9
If the version number is 03, perform the mounting according to points 3...6 and 9
- Read the registered values of all service adjustments made using the remote control hand unit (see service manual of the 3000 series TV receivers) and write them down on the paper. Switch off the receiver and remove the back cover.
- Remove the connector unit LL300 or LL310 and replace it with the connector unit LL302 supplied in the kit.
- Remove the colour decoder module BB300 or BB301 and replace it with the module BB303 supplied in the kit.
- If needed, mount the 3-pole PCB-connector supplied in the kit into place reserved for the 9-pole AS-connector. The 3-pole connector must be mounted so that only pins AS 3, 4, and 5 are used (see Fig. 1)
- Connect the cable connectors BL and AS as shown in Fig. 2.
- Remove the control unit Fc of the receiver and check the etching code of the board. If the etching code is 90505065 replace the components IC11, C115 and RI52 with the corresponding components supplied in the kit (IC11 = X2402P, C115 = 1 nF, RI52 = 1 k). Fit the resistor RI52 to the print side so that the end previously connected to pin 7 of the microprocessor (IC12) becomes connected to pin 5. Mount the control unit back to its place. The control unit Fc with etching code 90505452 contains the above-mentioned changes.
- Switch on the receiver and set it to the service mode. Enter and store the above-mentioned (see item 2) control values into the new NVM-memory (IC11) using the remote control hand unit.
- Perform the configuration and store it into memory. Reset the receiver using the mains switch.

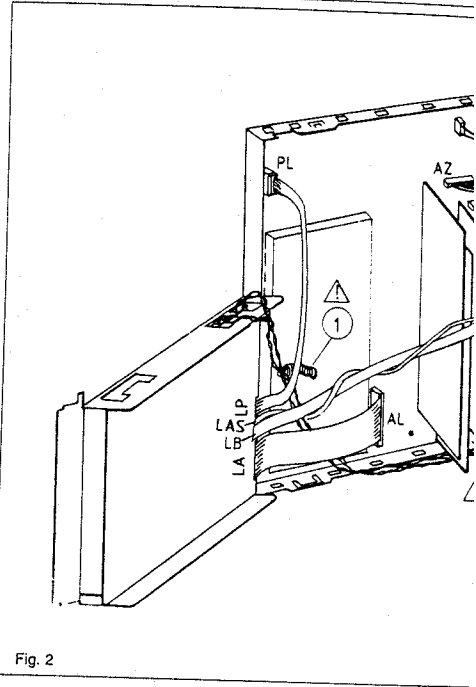
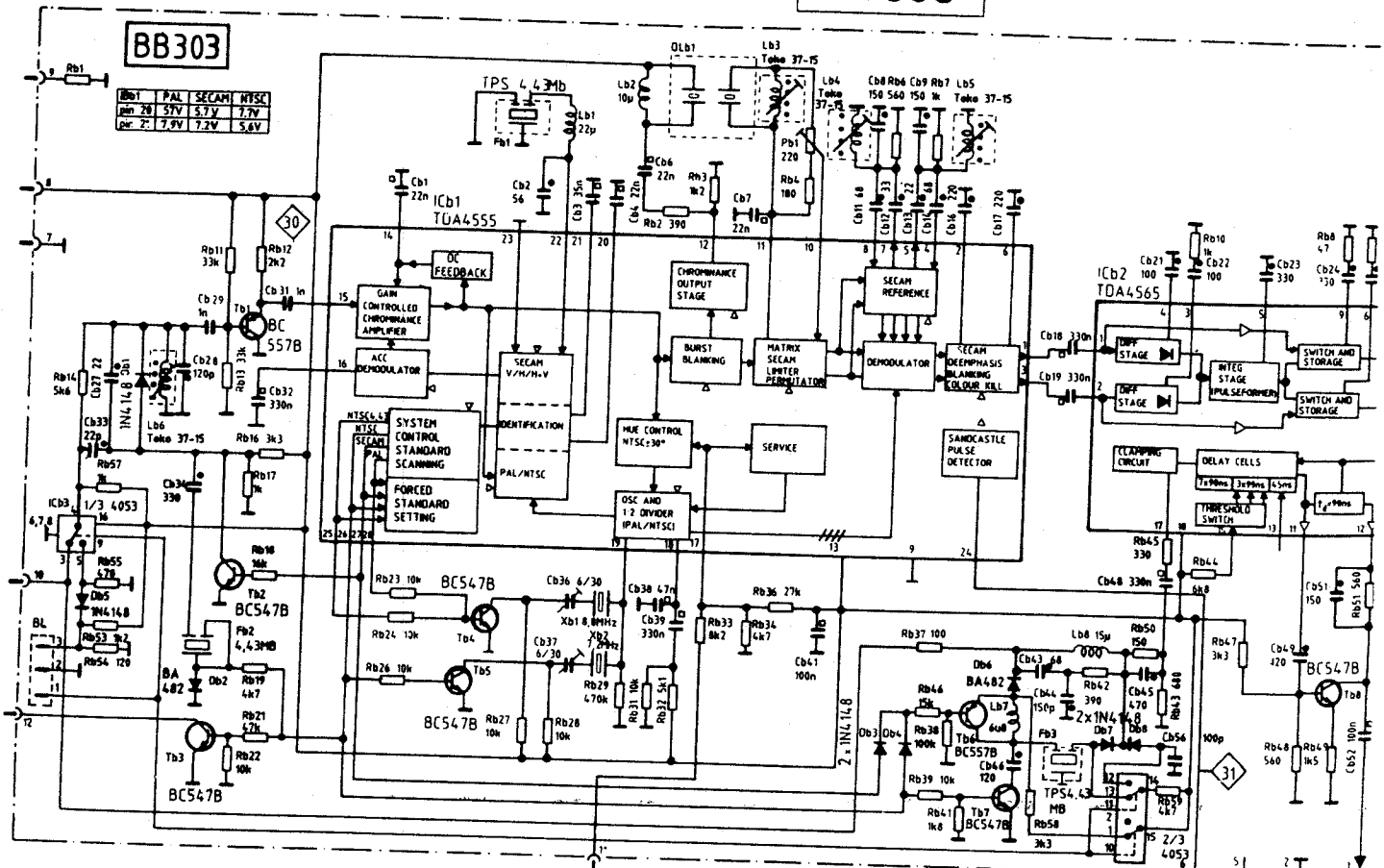


Fig. 2

COLOUR DECODER MODULE

BB303



F S-VHS

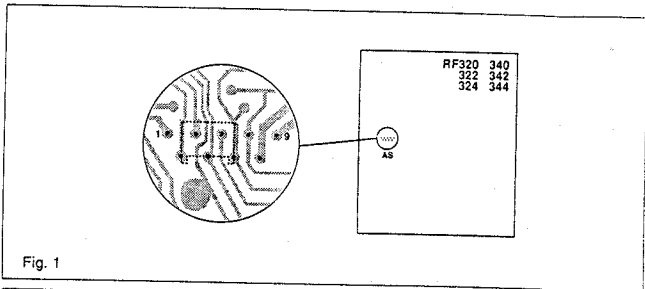


Fig. 1

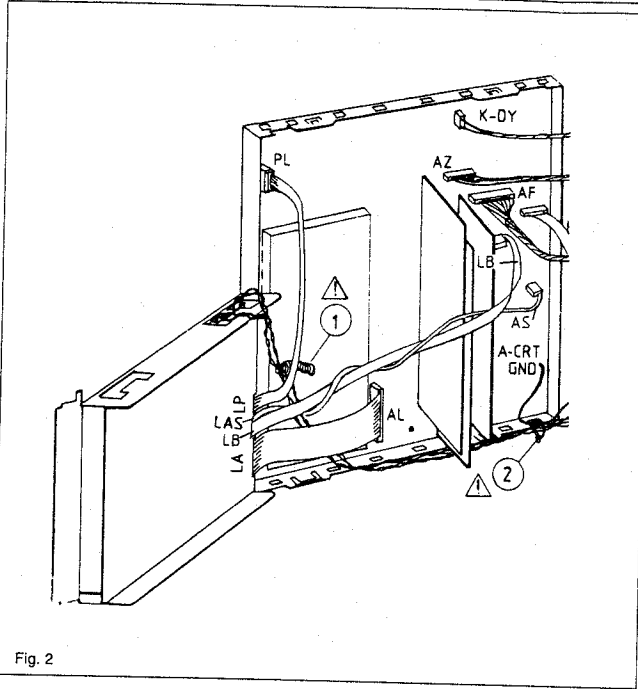
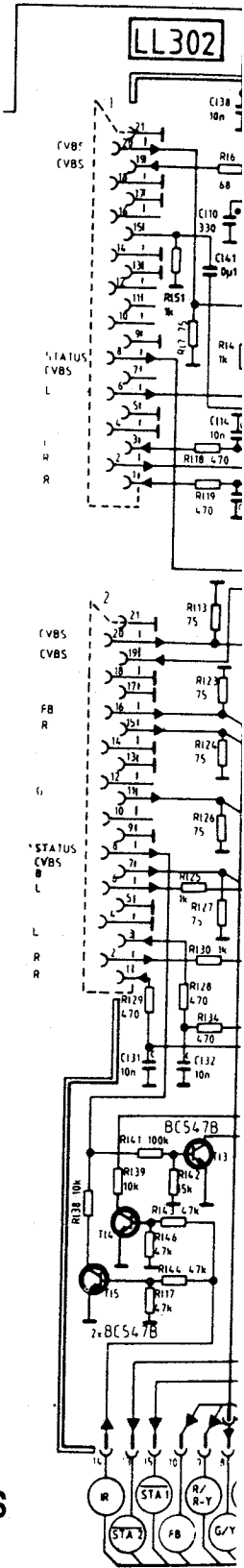


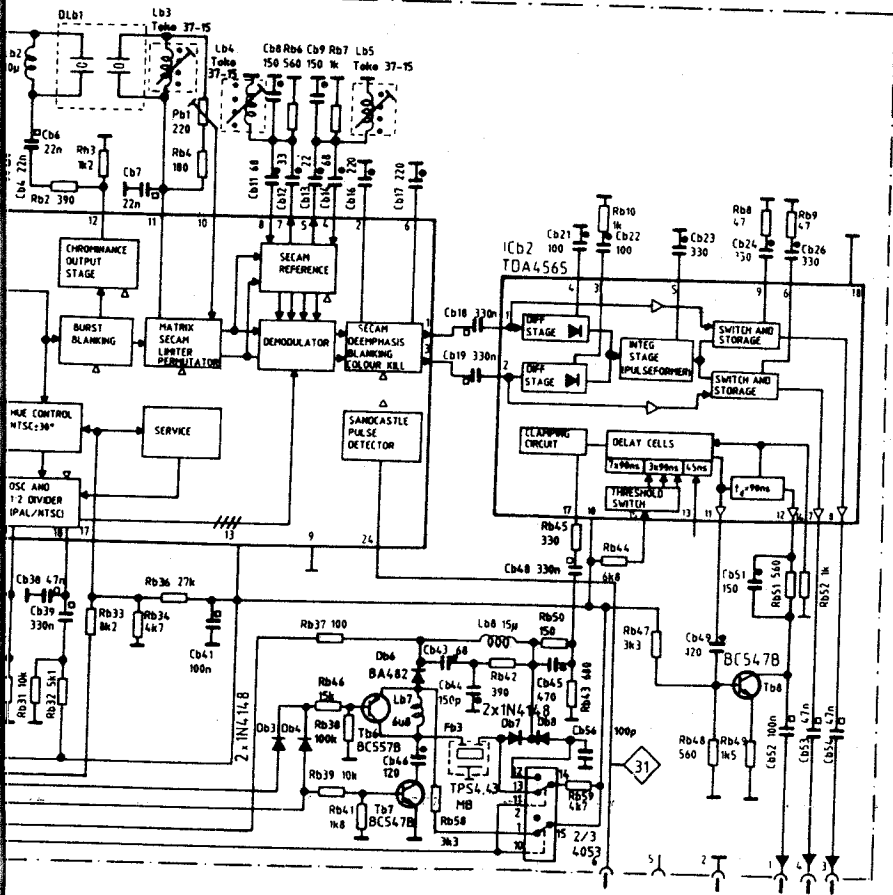
Fig. 2



M (Non-volatile
hit (see service
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(see item 2)
ch.

LE

BB303



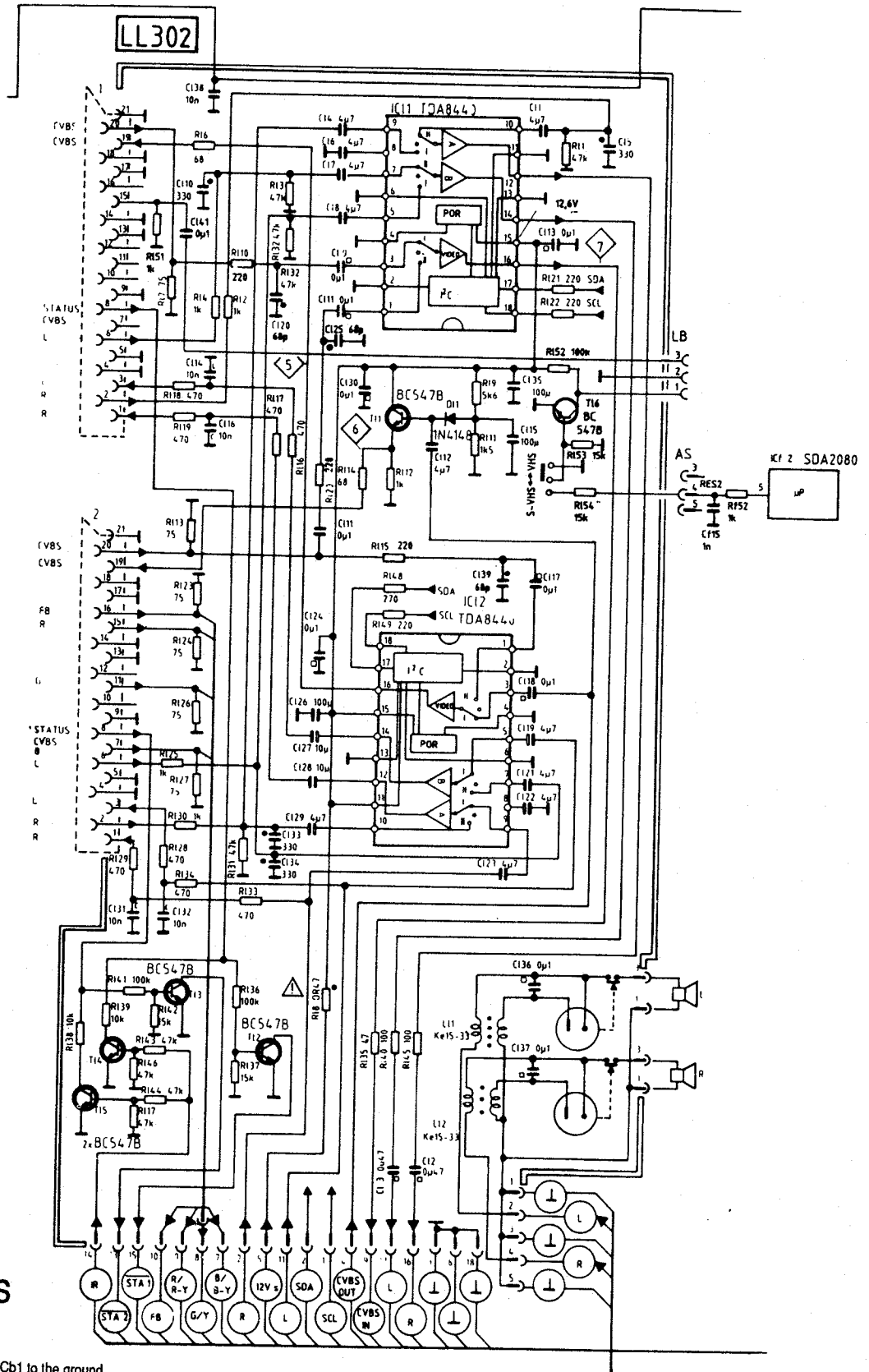
SERVICE ADJUSTMENTS

- B1. Reference oscillator**
Connect a colour bar test signal. Connect pin 17 of ICb1 to the ground. Adjust PAL colours straight with Cb36. Remove the link and check that the colours stay on their own places. Make the same adjustments to the 3.58 MHz NTSC colours with Cb37 (only in module BB303).
- B2. PAL-delay demodulator**
Connect a colour test chart. Eliminate the "Venetian blind effect" on the colour fields +V and ±U with Pb1, likewise on the colour field +U with Lb3. Repeat the procedure if necessary.
- B3. SECAM colour filter**
Connect SECAM signal to the aerial inlet. Connect oscilloscope to test point 30 and adjust Lb6 so that pattern is equal.
- B4. SECAM demodulator**
Connect SECAM signal to the aerial inlet. Connect the oscilloscope to pins 1 and 3 of ICb1. Tune with Lb4 and Lb5 test chart so that uncoloured parts are uncoloured. Remove the measuring cables. Fine-tune colours equal and edges of colours sharp with Lb6.

CONNECTOR UNIT

LL302

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SERVICE ADJUSTMENTS

B1. Reference oscillator

Connect a colour bar test signal. Connect pin 17 of ICb1 to the ground. Adjust PAL colours straight with Cb36. Remove the link and check that the colours stay on their own places. Make the same adjustments to the 3.58 MHz NTSC colours with Cb37 (only in module BB303).

B2. PAL-delay demodulator

Connect a colour test chart. Eliminate the "Venetian blind effect" on the colour fields +V and ±U with Pb1, likewise on the colour field +U with Lb3. Repeat the procedure if necessary.

B3. SECAM colour filter

Connect SECAM signal to the aerial inlet. Connect oscilloscope to test point 30 and adjust Lb6 so that pattern is equal.

B4. SECAM demodulator

Connect SECAM signal to the aerial inlet. Connect the oscilloscope to pins 1 and 3 of ICb1. Tune with Lb4 and Lb5 test chart so that uncoloured parts are uncoloured. Remove the measuring cables. Fine-tune colours equal and edges of colours sharp with Lb6.

MATRIX

ITEM

SEE MODEL

Power Supply/Deflection

PW300/310/320

FINLUX 3021

VHF Sub Mod 4110

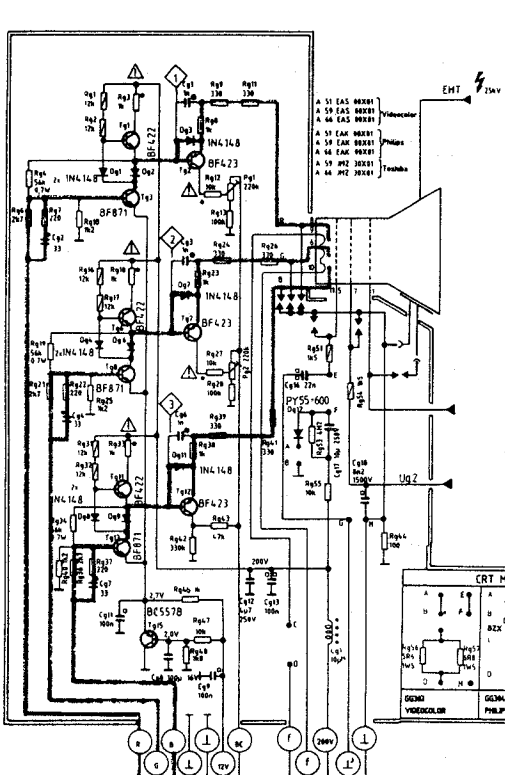
FINLUX 3021

UHF Sub Mod 4110

FINLUX 3021

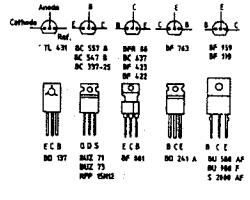
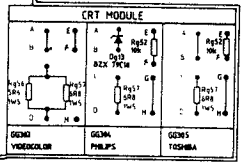
MOUNTING INSTRUCTIONS OF THE NICAM 728 MODULE

CRT MODULE



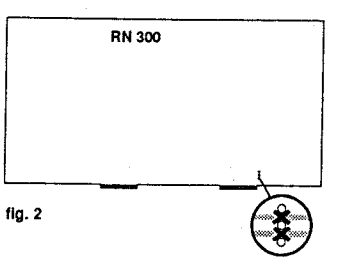
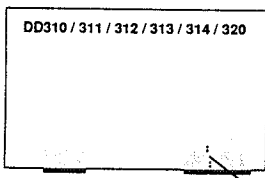
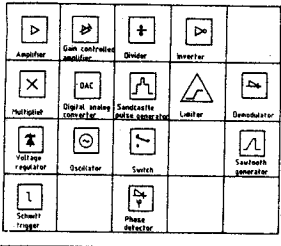
- (B-Y) = BLUE OR B-Y COLOUR DIFFERENCE SIGNAL
- (G-Y) = GREEN OR LUMINANCE SIGNAL
- (R-Y) = RED OR R-Y COLOUR DIFFERENCE SIGNAL
- (FB) = FAST BLANKING SIGNAL
- (R) = RIGHT AUDIO CHANNEL
- (L) = LEFT AUDIO CHANNEL
- (SCL) = SERIAL CLOCK
- (SDA) = SERIAL DATA
- (R IN) = RIGHT AUDIO CHANNEL
- (L IN) = LEFT AUDIO CHANNEL
- (VBS) = VIDEO SIGNAL
- (VBS OUT) = VIDEO SIGNAL
- (RC) = REMOTE CONTROL
- (STA 1) = STATUS FROM SCART 1
- (STA 2) = STATUS FROM SCART 2

- (L HP) = LEFT AUDIO CHANNEL FOR HEADPHONES
- (R HP) = RIGHT AUDIO CHANNEL FOR HEADPHONES
- (SAT COPY) = SATELLITE COPYING
- (MOD 1) = MODE INFORMATION 1
- (MOD 2) = MODE INFORMATION 2
- (RGB INV) = RGB INVERTING
- (HOLD) = PROCESSOR DISCONNECTING FROM I²C-BUS
- (P-ON) = PICTURE ON DRIVING VOLTAGE 12 V
- (S-ON) = SOUND ON DRIVING VOLTAGE 12 V
- (BC) = BLACK CURRENT
- (EW) = EAST-WEST RASTER CORRECTION
- (BCL) = BEAM CURRENT LIMITING VOLTAGE
- (TX) = SUPPLY VOLTAGE FOR TELETEXT MODULE
- (FLYB) = LINE FLYBACK
- (DRIVE) = DRIVE PULSES FOR LINE OUTPUT STAGE
- (I) = FILAMENT VOLTAGE FOR CRT



Column	Manufacturer	Resistor	Capacitor	Notes can be combined where necessary
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10
11	11	11	11	11
12	12	12	12	12
13	13	13	13	13
14	14	14	14	14
15	15	15	15	15
16	16	16	16	16
17	17	17	17	17
18	18	18	18	18
19	19	19	19	19
20	20	20	20	20
21	21	21	21	21
22	22	22	22	22
23	23	23	23	23
24	24	24	24	24
25	25	25	25	25
26	26	26	26	26
27	27	27	27	27
28	28	28	28	28
29	29	29	29	29
30	30	30	30	30
31	31	31	31	31
32	32	32	32	32
33	33	33	33	33
34	34	34	34	34
35	35	35	35	35
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38	38	38	38	38
39	39	39	39	39
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42	42	42	42	42
43	43	43	43	43
44	44	44	44	44
45	45	45	45	45
46	46	46	46	46
47	47	47	47	47
48	48	48	48	48
49	49	49	49	49
50	50	50	50	50
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62	62	62	62	62
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69	69	69	69	69
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71	71	71	71	71
72	72	72	72	72
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75	75	75	75	75
76	76	76	76	76
77	77	77	77	77
78	78	78	78	78
79	79	79	79	79
80	80	80	80	80
81	81	81	81	81
82	82	82	82	82
83	83	83	83	83
84	84	84	84	84
85	85	85	85	85
86	86	86	86	86
87	87	87	87	87
88	88	88	88	88
89	89	89	89	89
90	90	90	90	90
91	91	91	91	91
92	92	92	92	92
93	93	93	93	93
94	94	94	94	94
95	95	95	95	95
96	96	96	96	96
97	97	97	97	97
98	98	98	98	98
99	99	99	99	99
100	100	100	100	100

⚠ Critical safety component! Use identical component for replacement!



1. a) When mounting the NICAM-sound module to receiver containing the LF sound module (DD310, DD311, DD312, DD313, DD314, DD320), cut off the foils on DD-module as shown in fig. 1.

1. b) When mounting the NICAM-module to receiver containing the German A2 standard stereo sound module, cut off the foils on NICAM module as shown in fig. 2.

2. If the RF-block doesn't contain ready-mounted pin contacts AR2 and AR3, mount the contacts as shown in fig. 3.

3. Cut off the foils on RF-block as shown in fig. 3.

4. Mount the NICAM-module on contacts AR2 and AR3.

5. Make an isolating cover on Cd 14 (DD-module) using plastic tape or tube.

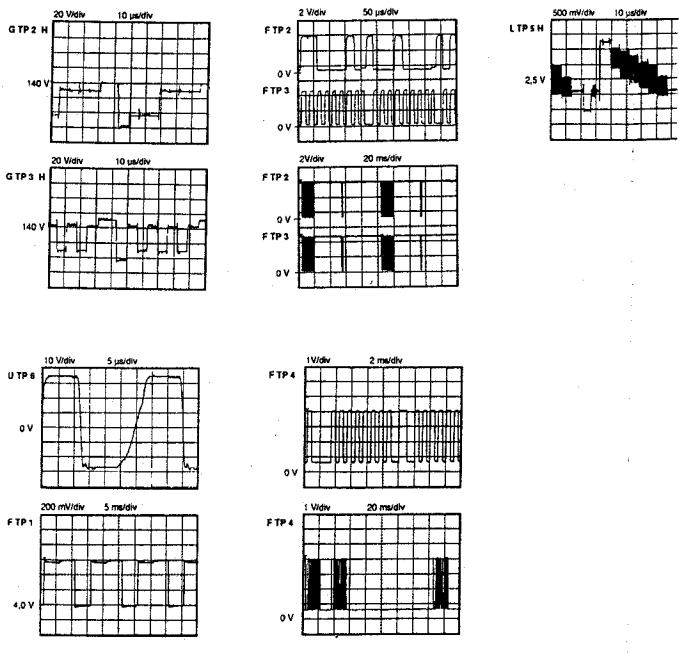


fig. 1

fig. 2

fig. 3

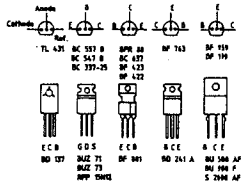
D8

D2

D6

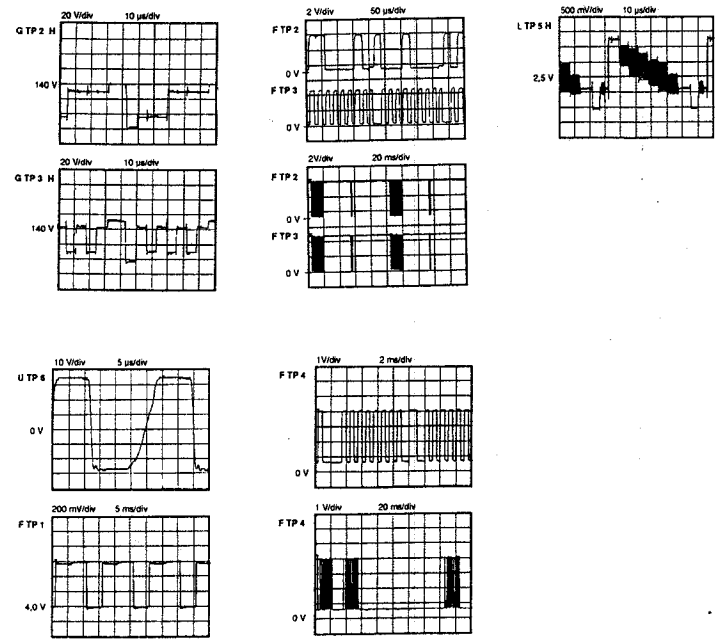
NICAM 728 MODULE

- COLOUR DIFFERENCE SIGNAL (HP) = LEFT AUDIO CHANNEL FOR HEADPHONES
- COLOUR DIFFERENCE SIGNAL (HP) = RIGHT AUDIO CHANNEL FOR HEADPHONES
- COLOUR DIFFERENCE SIGNAL (SAT COPY) = SATELLITE COPYING
- MODE INFORMATION 1 (MOD1)
- MODE INFORMATION 2 (MOD2)
- RGB INVERTING (RGB INV)
- PROCESSOR DISCONNECTING FROM I²C-BUS (HOLD)
- PICTURE ON DRIVING VOLTAGE 12 V (P-ON)
- SOUND ON DRIVING VOLTAGE 12 V (S-ON)
- BLACK CURRENT (BC)
- EAST-WEST RASTER CORRECTION (EW)
- BEAM CURRENT LIMITING VOLTAGE (BCL)
- SUPPLY VOLTAGE FOR TELETEXT MODULE (TV LX)
- LINE FLYBACK (H FL YB)
- DRIVE PULSES FOR LINE OUTPUT STAGE (H DRIVE)
- FILAMENT VOLTAGE FOR CRT (I)



Critical safety component: Use identical component for replacement.

NICAM-containing 10, 0314, DD-

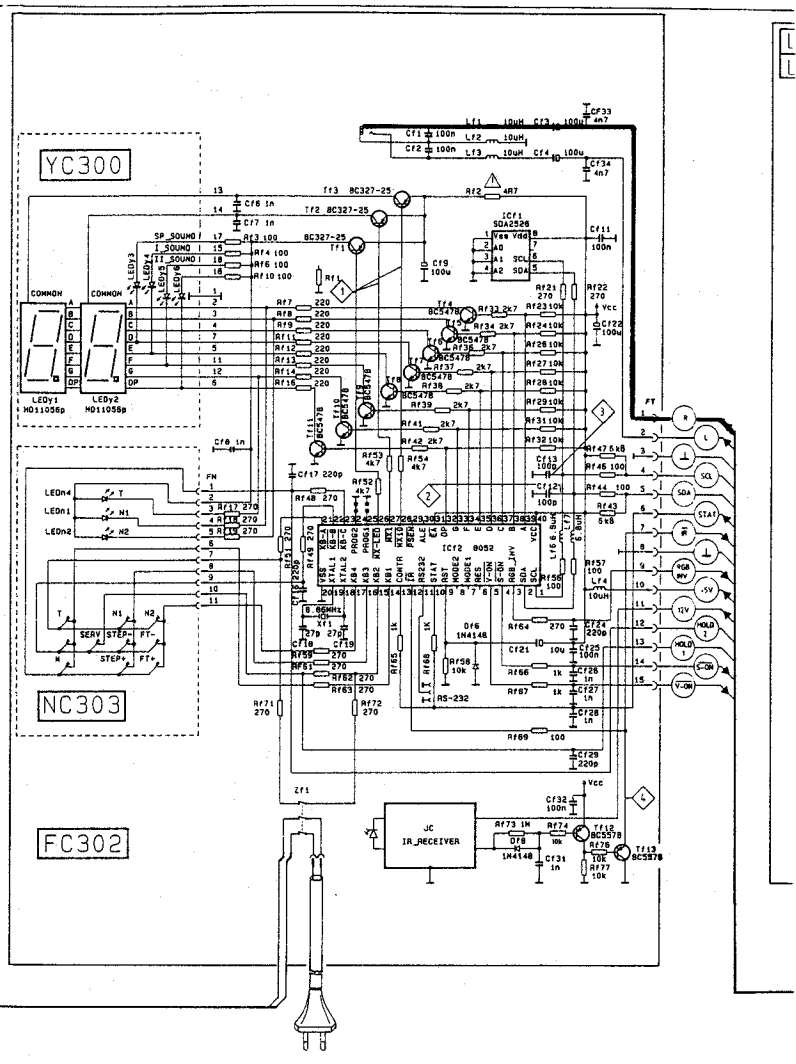


NICAM-containing the sound NICAM

contain AR2 as as

ck as

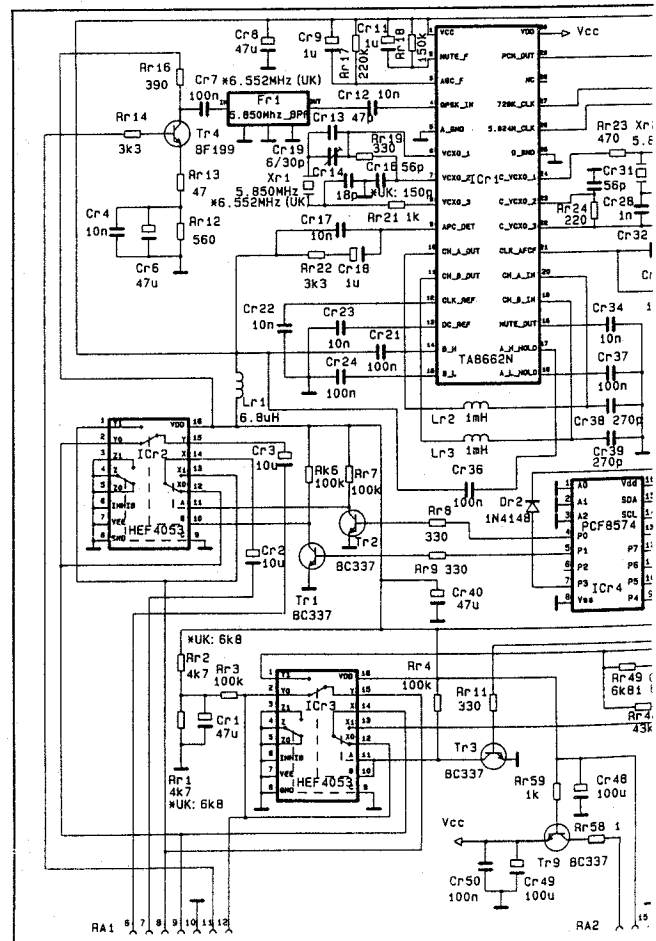
on Cd stic tape



D8

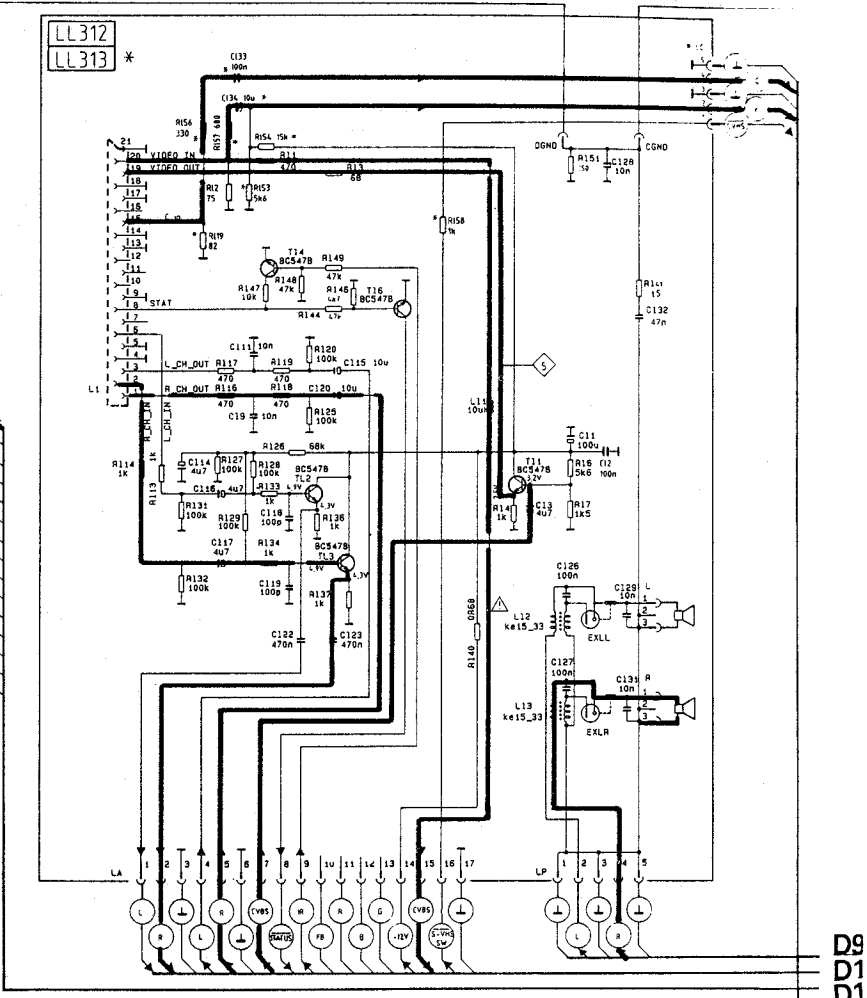
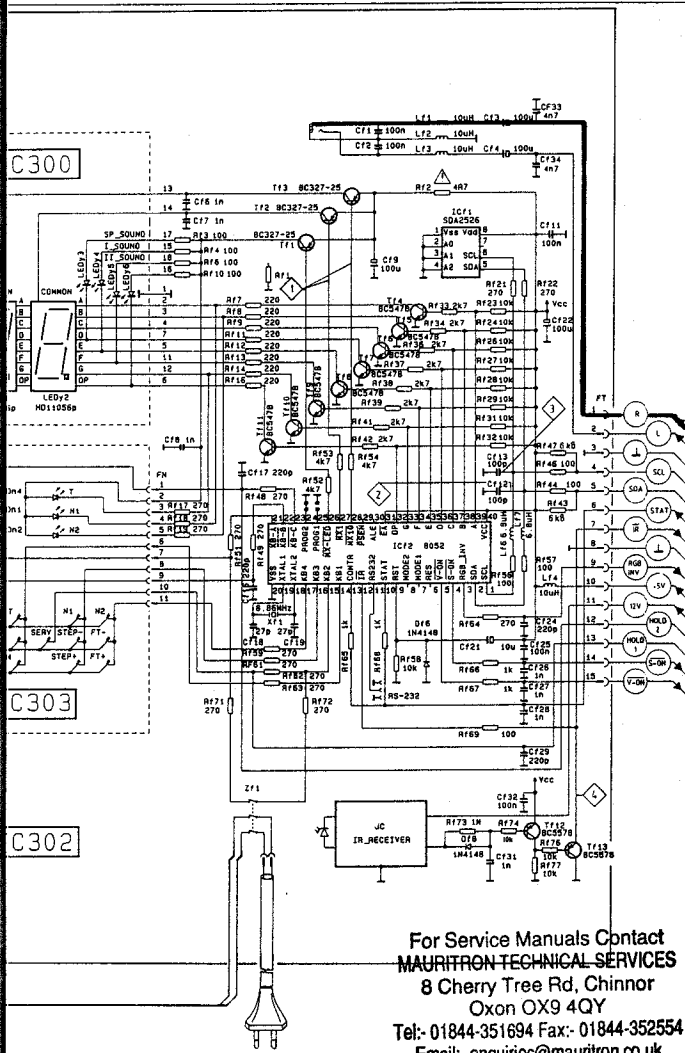
D2

D6



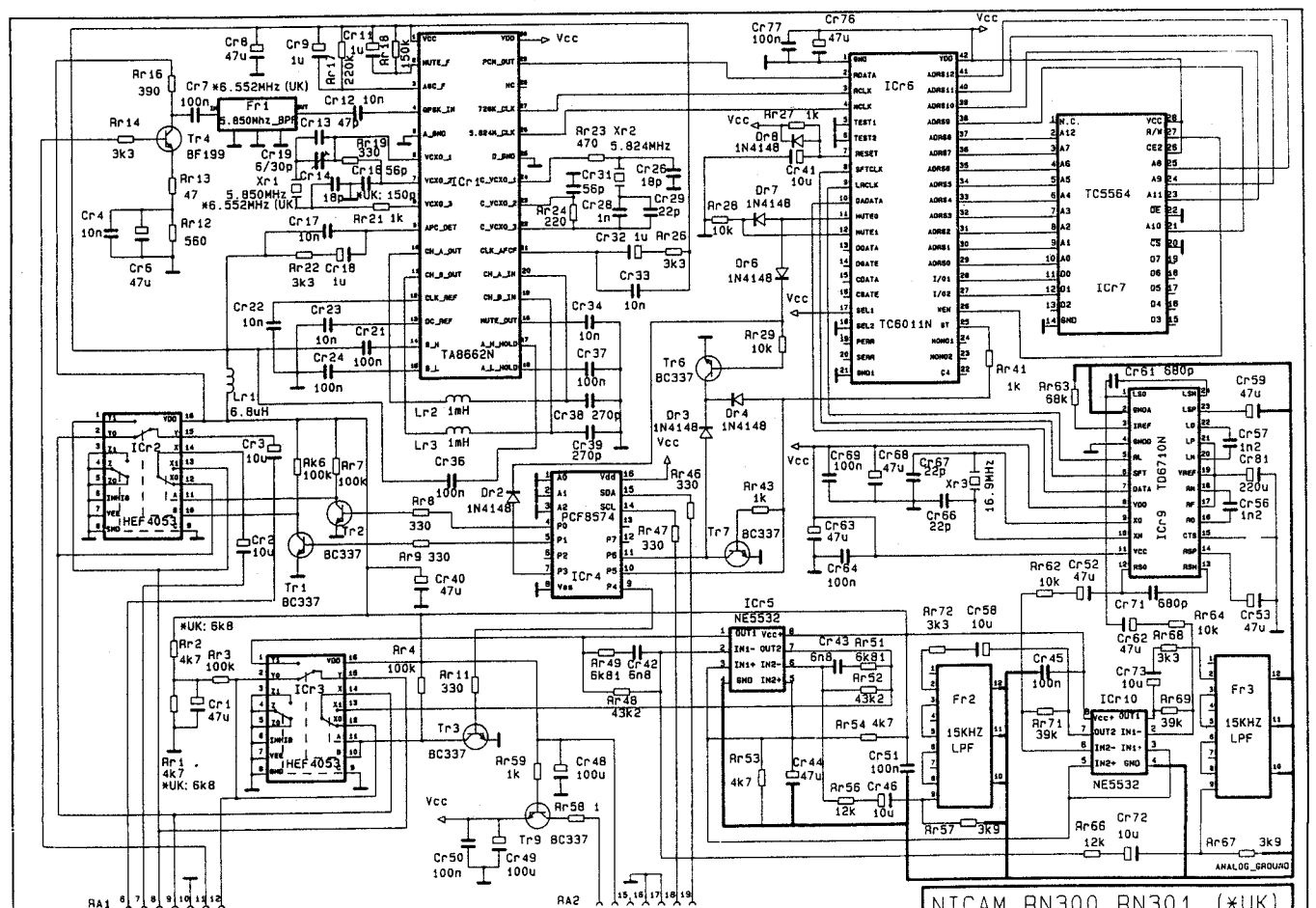
CONTROL UNIT

CONNECTOR UNIT



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Chery Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

NICAM MODULE **RN300** **RN301**

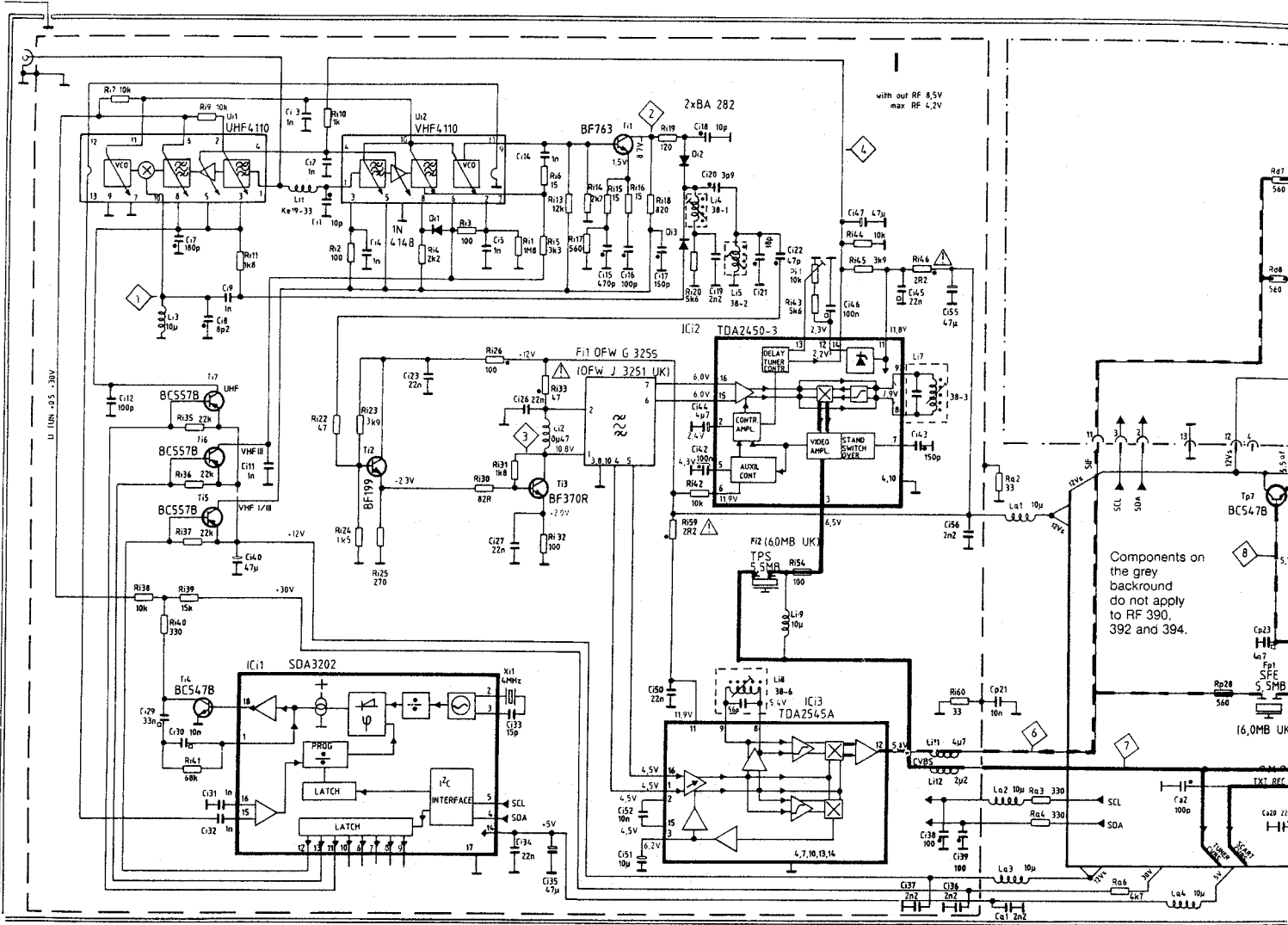


NICAM RN300 RN301 (*UK)

D9
D1
D1

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel:- 01844-351694 Fax:- 01844-352554
 Email:- enquiries@mauritron.co.uk

TUNER UNIT

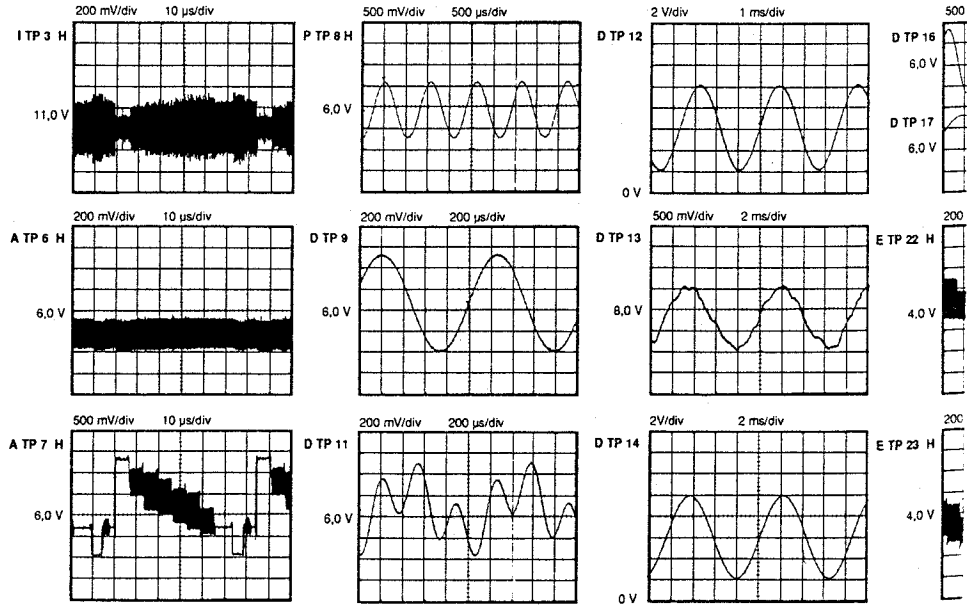


Components on the grey background do not apply to RF 390, 392 and 394.

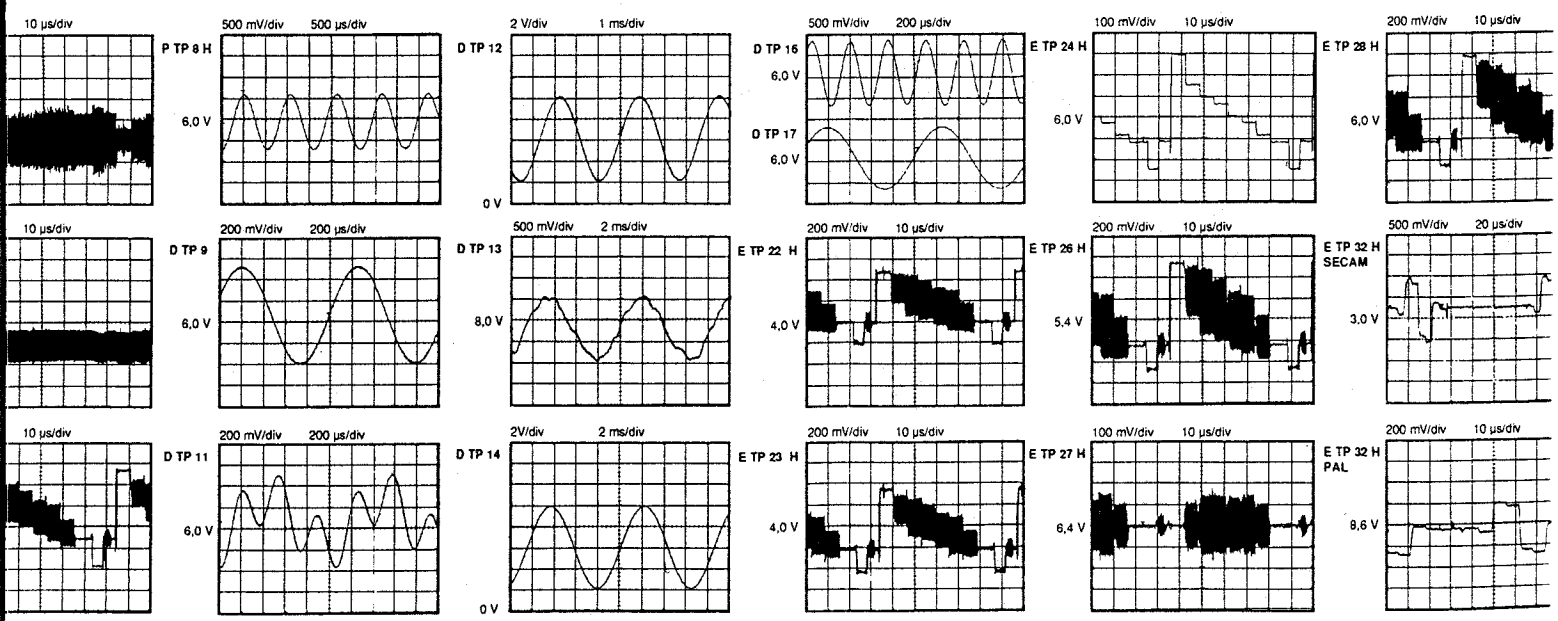
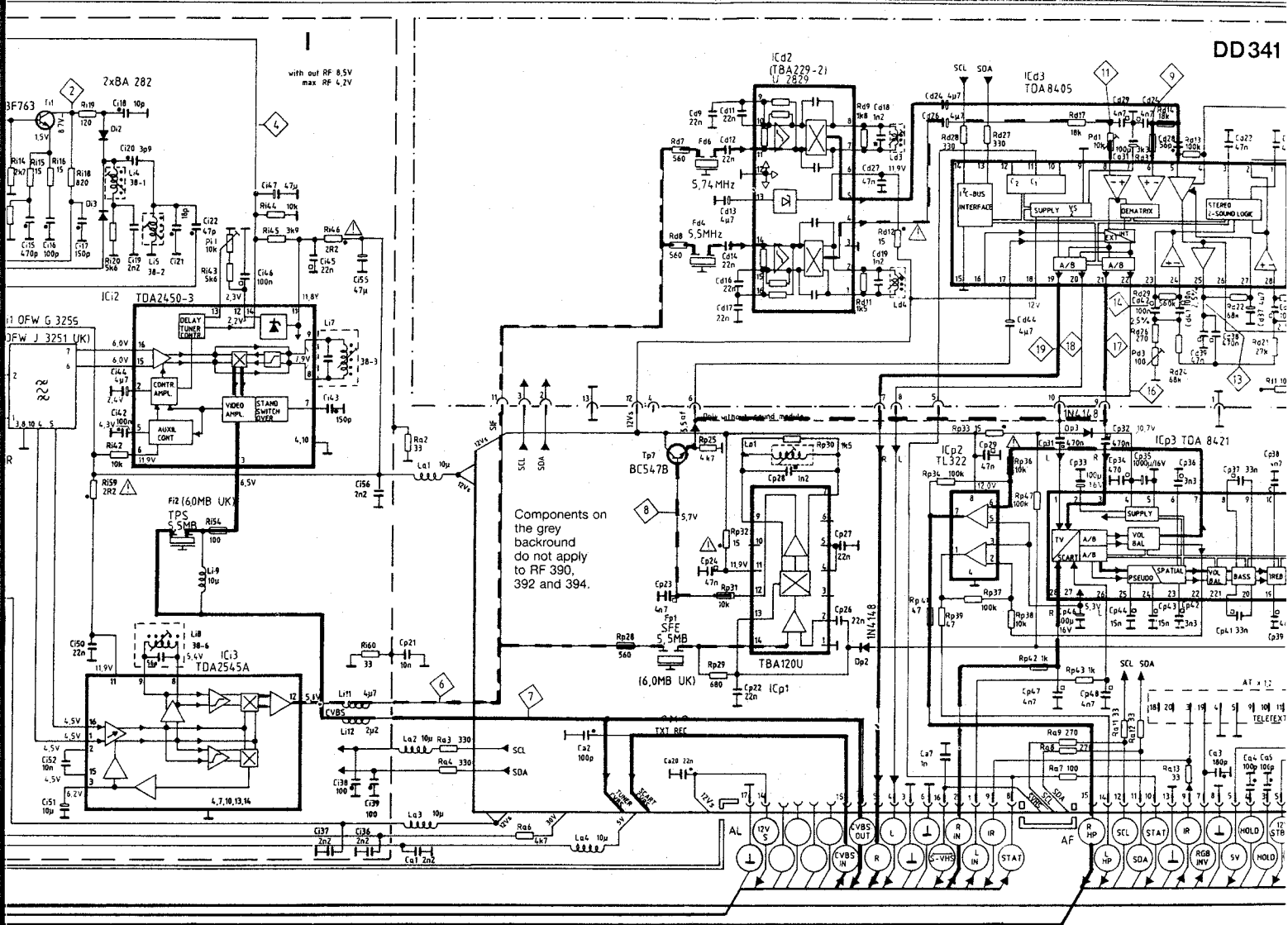
D9
D10
D11
D12

TYPES		MODELS		TYPES		MODELS	
3624V	1AC	3624V	1BC	3624V	1BC	3624V	1BC
3628E	1AC	3628E	1BC	3628E	1BC	3628E	1BC
3624E	1AC	3624E	1BC	3624E	1BC	3624E	1BC
3628M	1AC	3628M	1BC	3628M	1BC	3628M	1BC
3624M	1AC	3624M	1BC	3624M	1BC	3624M	1BC
3628P	1AC	3628P	1BC	3628P	1BC	3628P	1BC
3624P	1AC	3624P	1BC	3624P	1BC	3624P	1BC
3621F	1AC	3621F	1BC	3621F	1BC	3621F	1BC

TYPES		MODELS		TYPES		MODELS	
3624V	1GC	3624V	1NC	3624V	1DC	3624V	1DC
3628E	1GC	3628E	1NC	3628E	1DC	3628E	1DC
3624E	1GC	3624E	1NC	3624E	1DC	3624E	1DC
3628M	1GC	3628M	1NC	3628M	1DC	3628M	1DC
3624M	1GC	3624M	1NC	3624M	1DC	3624M	1DC
3628P	1GC	3628P	1NC	3628P	1DC	3628P	1DC
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3621F	1GC	3621F	1NC	3621F	1DC	3621F	1DC



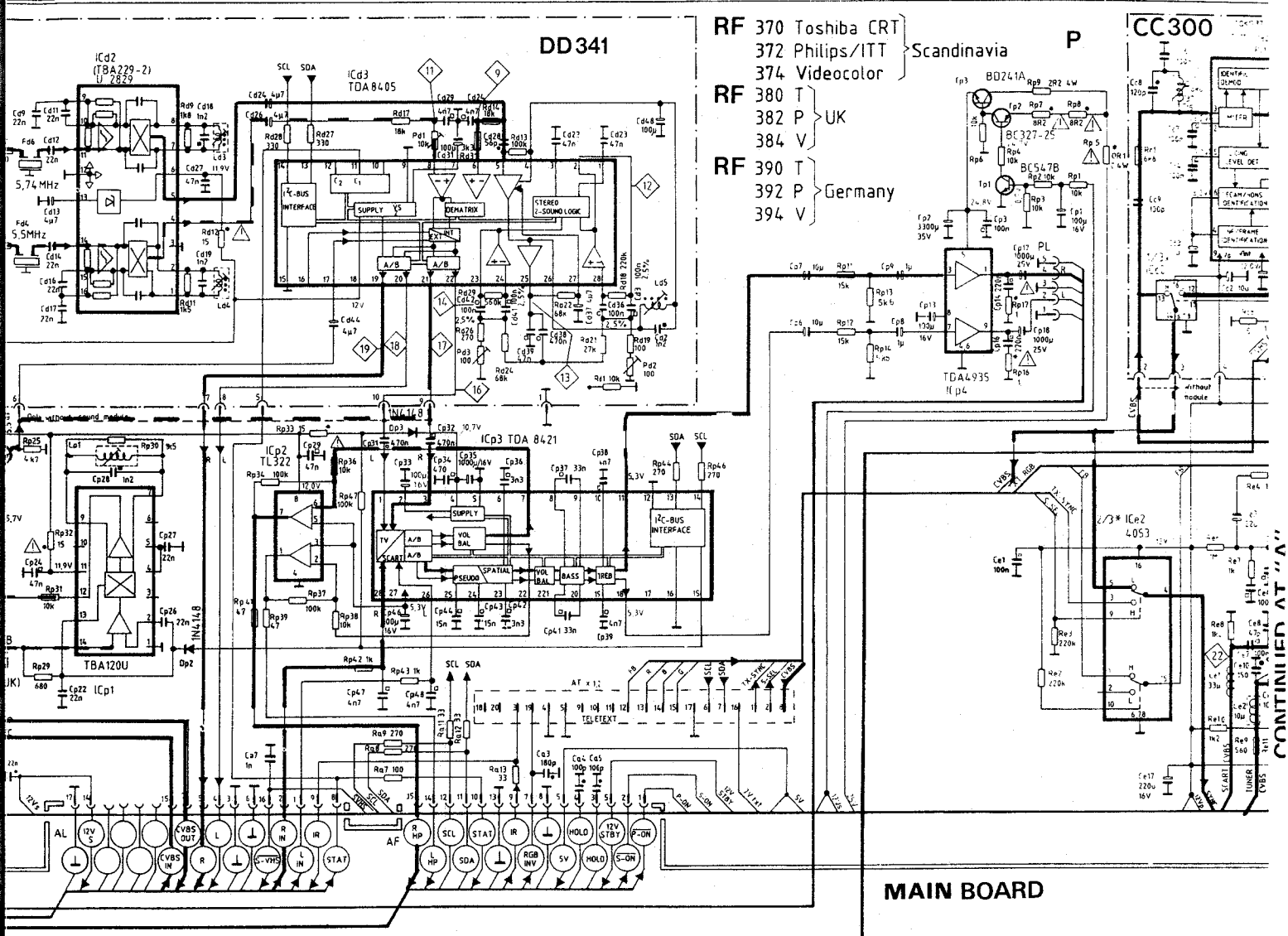
SOUND MODULE



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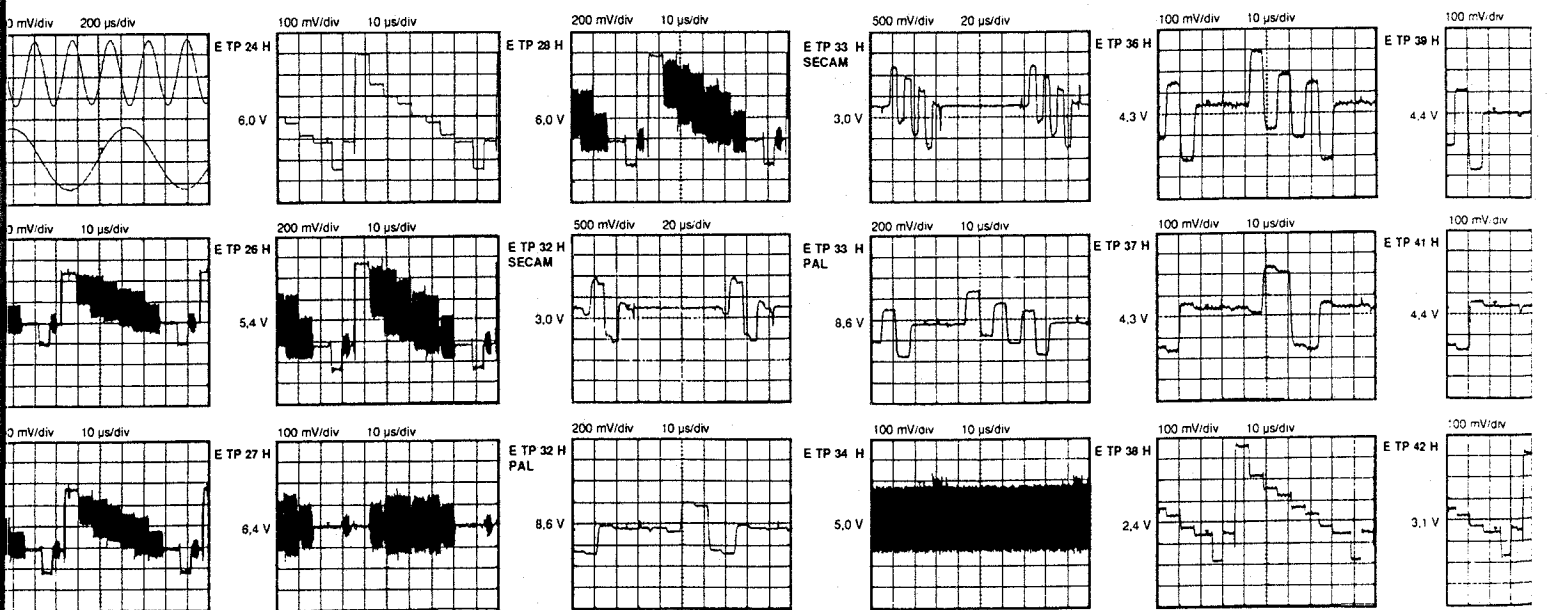
SOUND MODULE

AUDIO AMPLIFIER



- RF 370 Toshiba CRT } Scandinavia
- RF 372 Philips/ITT } Scandinavia
- RF 374 Videocolor } Scandinavia
- RF 380 T } UK
- RF 382 P } UK
- RF 384 V } UK
- RF 390 T } Germany
- RF 392 P } Germany
- RF 394 V } Germany

MAIN BOARD

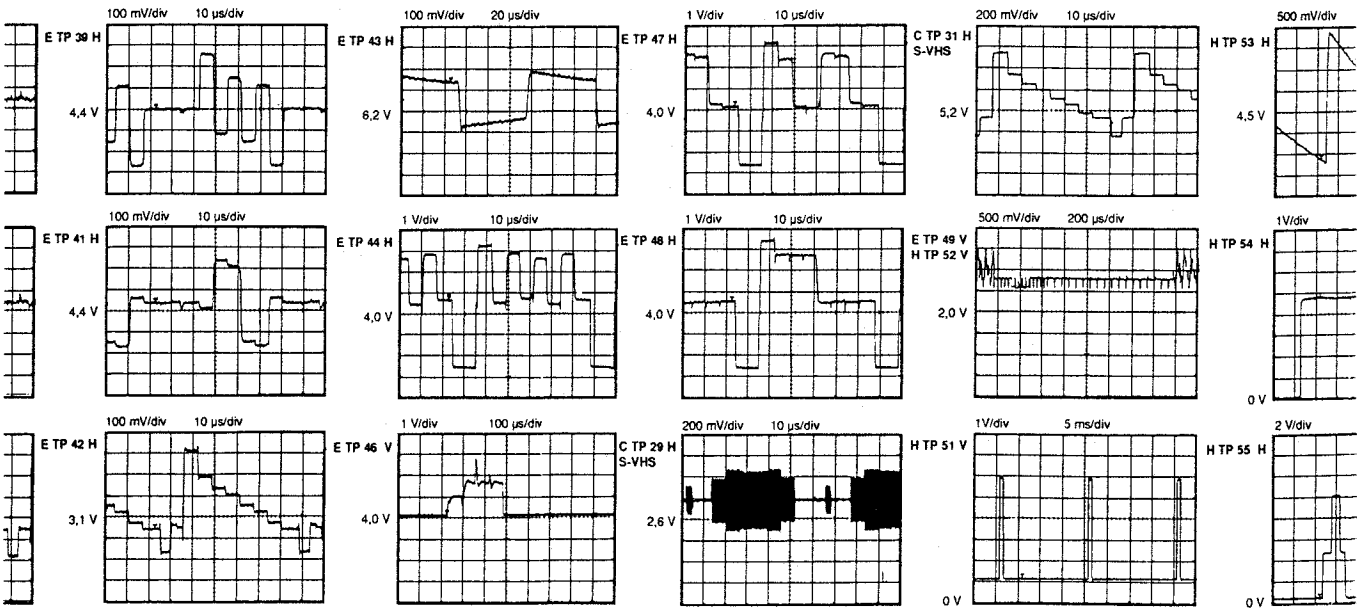
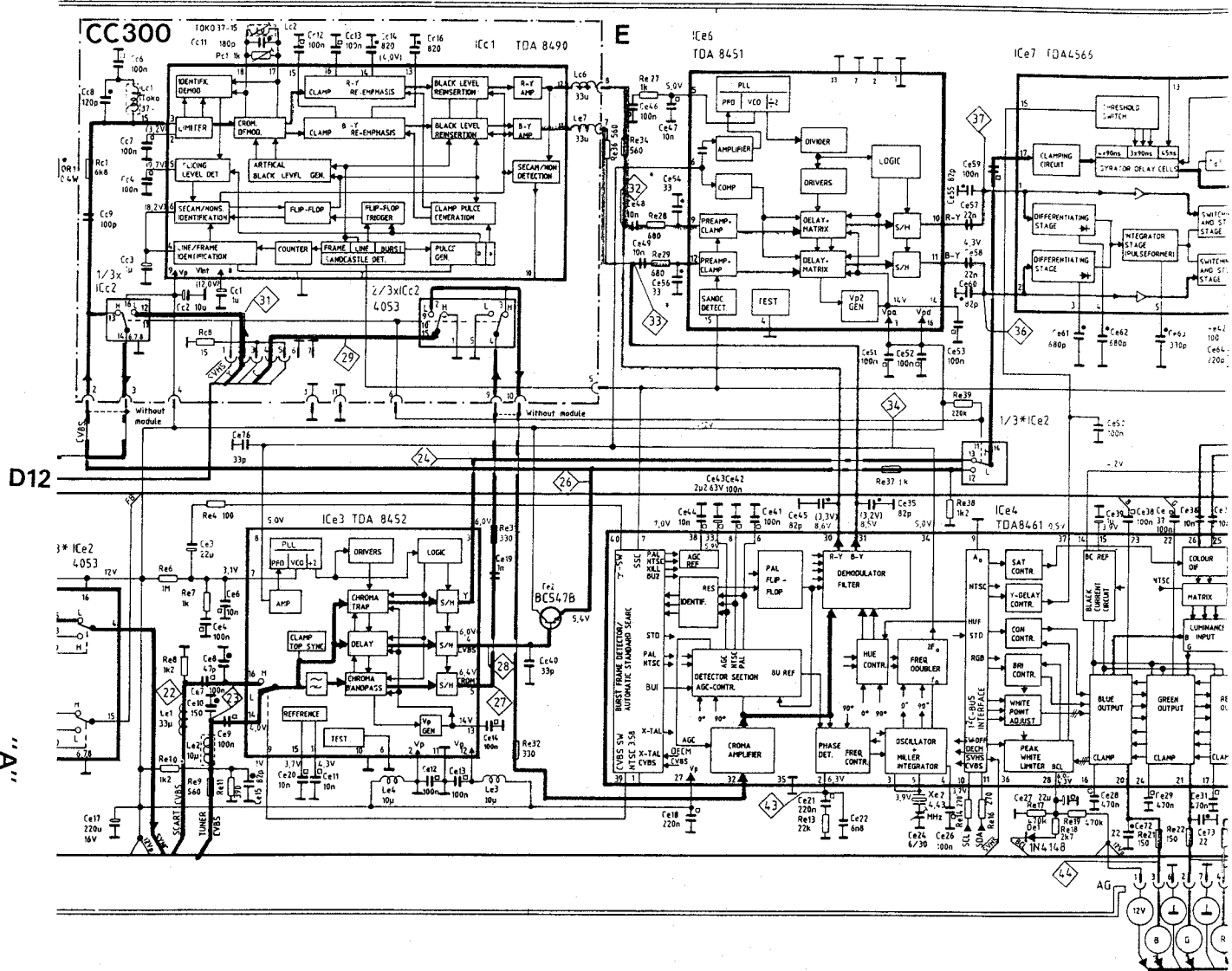


CONTINUED AT "A"

SECAM MODULE

LUMINANCE AND CHROMINANCE

* (SECAM)



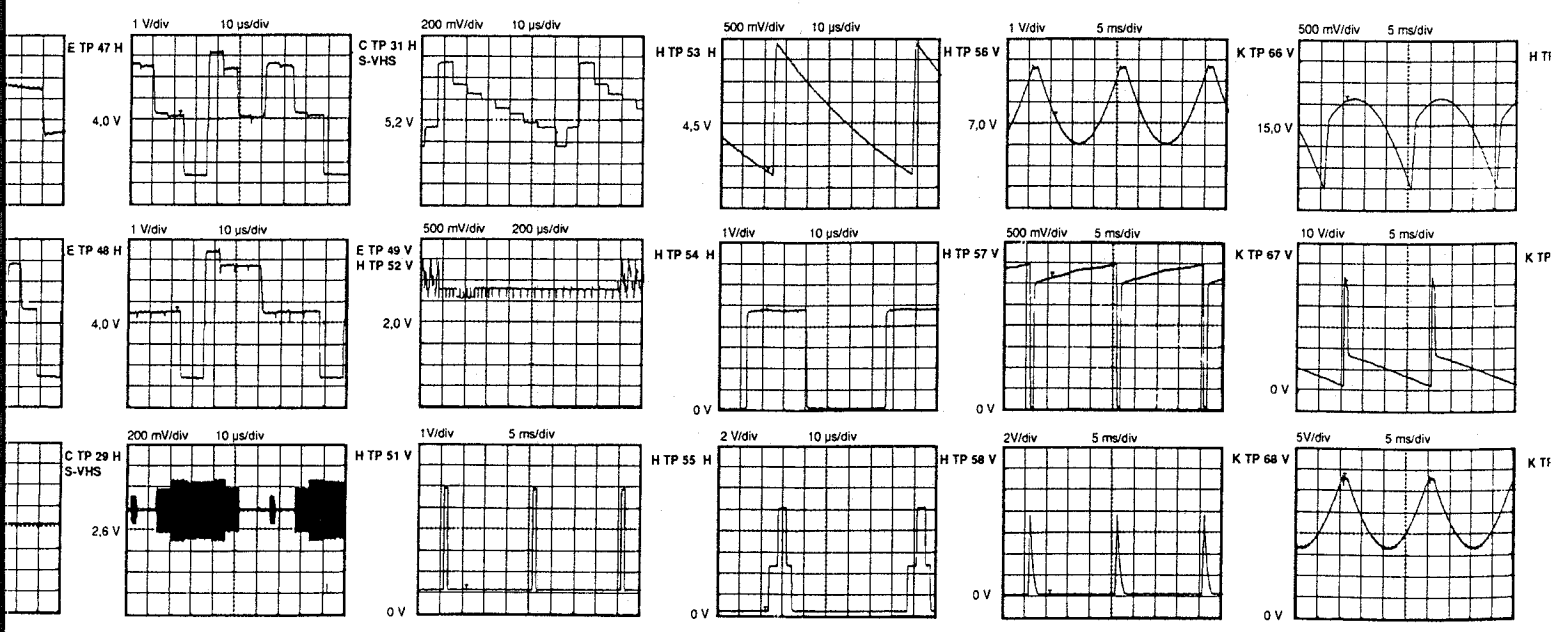
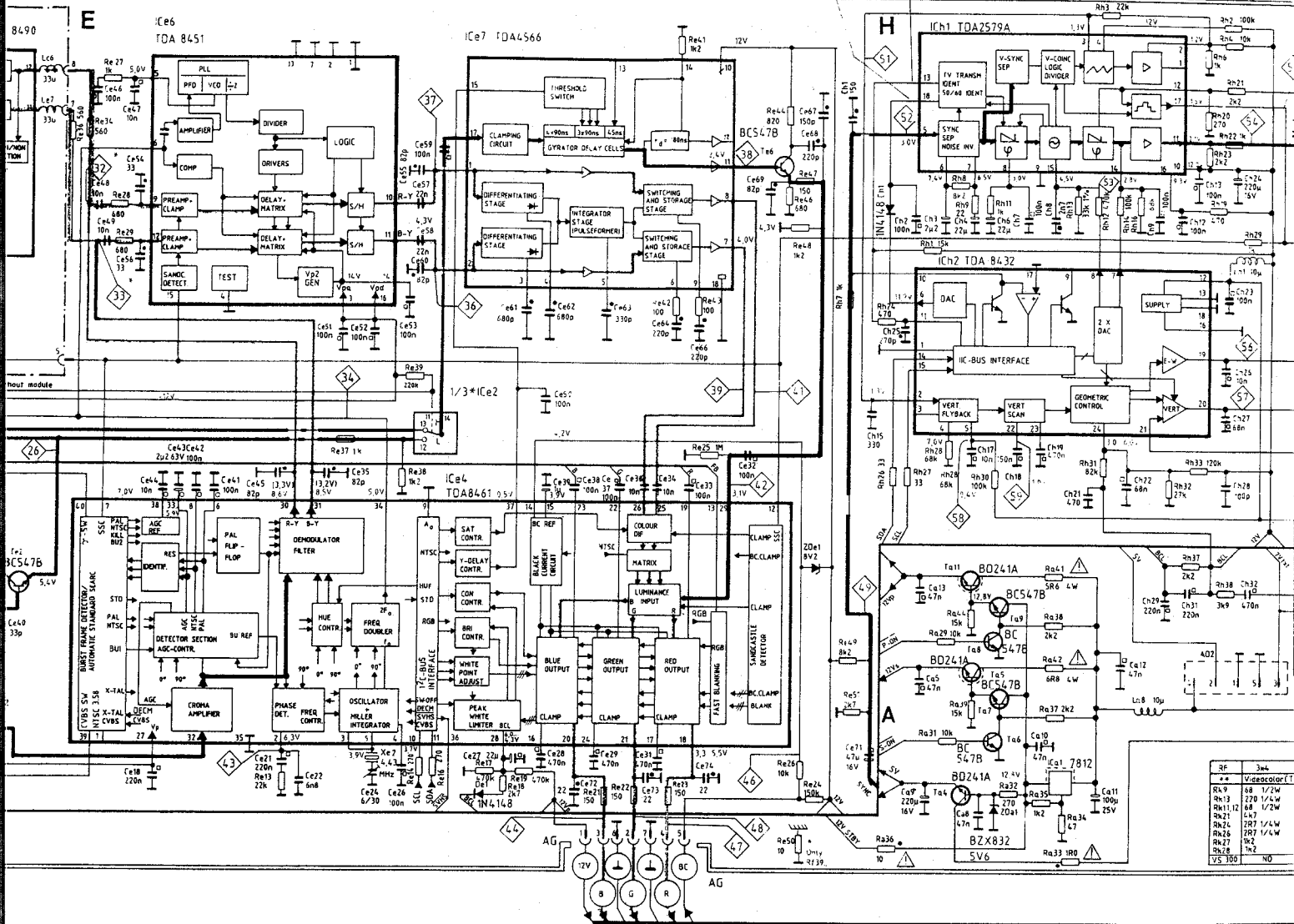
For Service Manuals Contact
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 Email: enquiries@mauritron.co.uk

LUMINANCE AND CHROMINANCE

SYNC/ DEFLECTION PROCESSOR

ISECAMI

RF 9.4V
 40 Hz sign 11.7V
 200V RF 10.2V
 VCR sign 1V
 No sign 0.2V



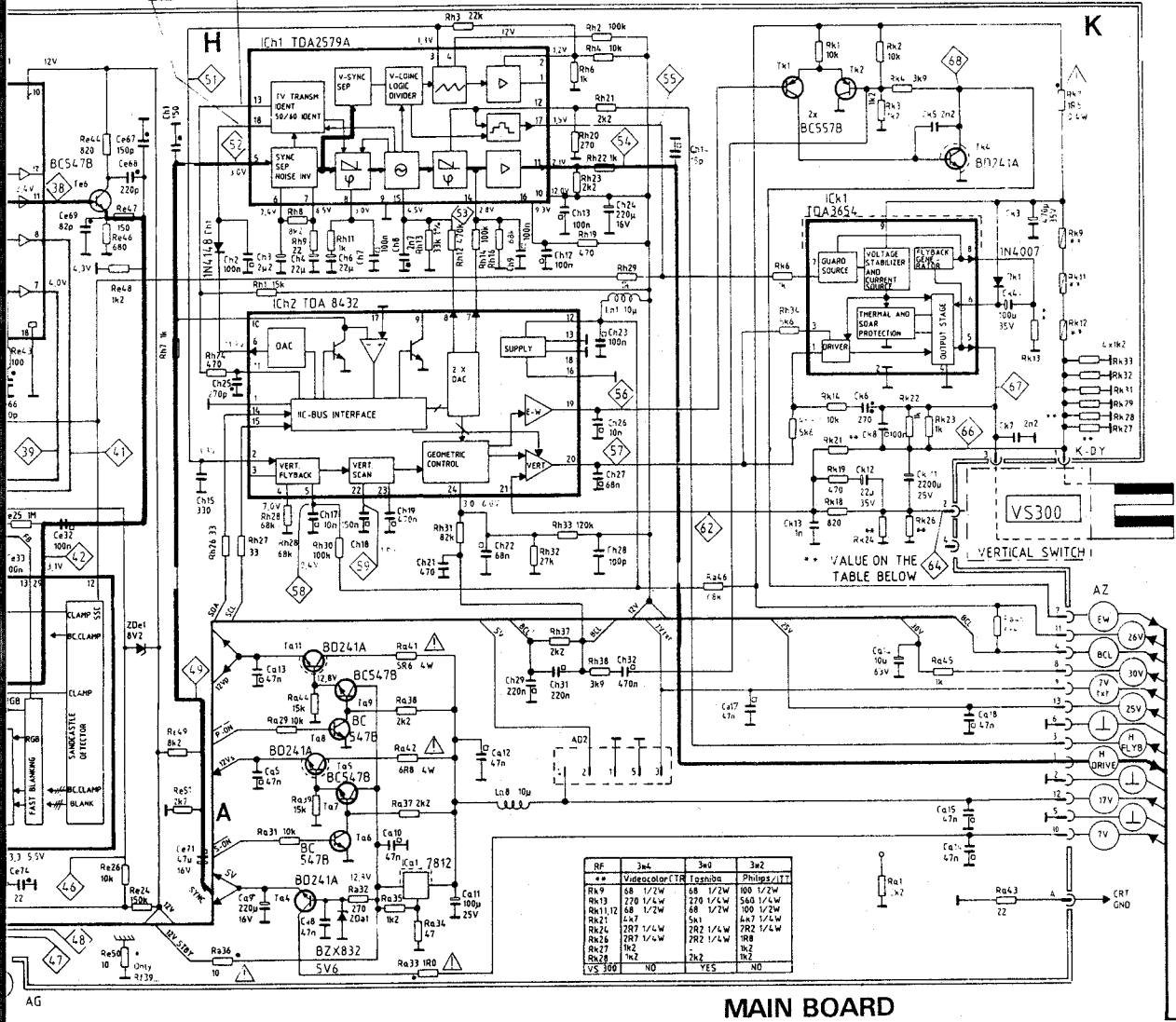
RF	3x4
R19	Videocontrol
R19	68 1/2W
R11	220 1/4W
R21	6.8
R24	20K 1/4W
R26	20K 1/4W
R27	10K
R28	10K
VS	100

SYNC/ DEFLECTION PROCESSOR

VERT DEFLECTION

12V RF 5.4V
 10V V_{CC} 10.2V
 V_{CC} SUP 1.1V
 No sign 0.2V

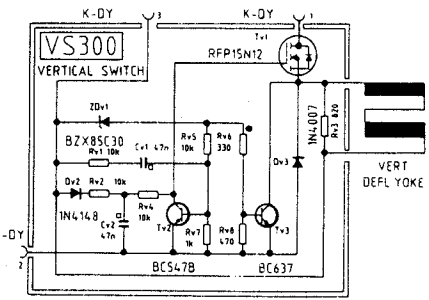
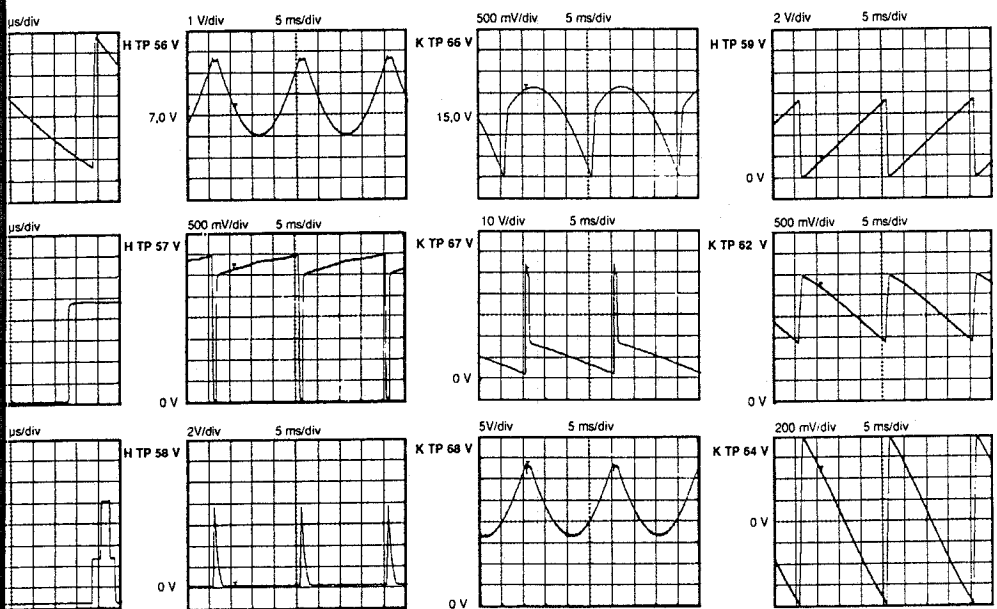
12V sign 11.7V
 10 Hz sign 7.6V
 No sign 0.1V



RF	3w4	3w0	3w2
** Videocolor CRT	toshiba	toshiba	Philips/ITT
Rk9	68 1/2W	68 1/2W	100 1/2W
Rk13	270 1/4W	270 1/4W	500 1/4W
Rk11/12	68 1/2W	68 1/2W	100 1/2W
Rk21	4.7k	5k1	6.8k 1/4W
Rk24	20k 1/4W	20k 1/4W	20k 1/4W
Rk26	20k 1/4W	20k 1/4W	20k 1/4W
Rk27	1k2	1k2	1k2
Rk28	1k2	1k2	1k2
VS300	NO	YES	NO

MAIN BOARD

D6
 D7



Equipments and setting values for pulses:
 Signal generator PM 5515-TX
 Amplitude of video signal 1V (E TP 22 H)
 Modulation of chrominance signal 100%
 Amplitude of RF signal 3 mV
 Sound stereo (or dual), 1 kHz (L), 3 kHz (R)
 Test picture colour bar