

**FEATURE STEREO
FX-CHASSIS**

58

TV

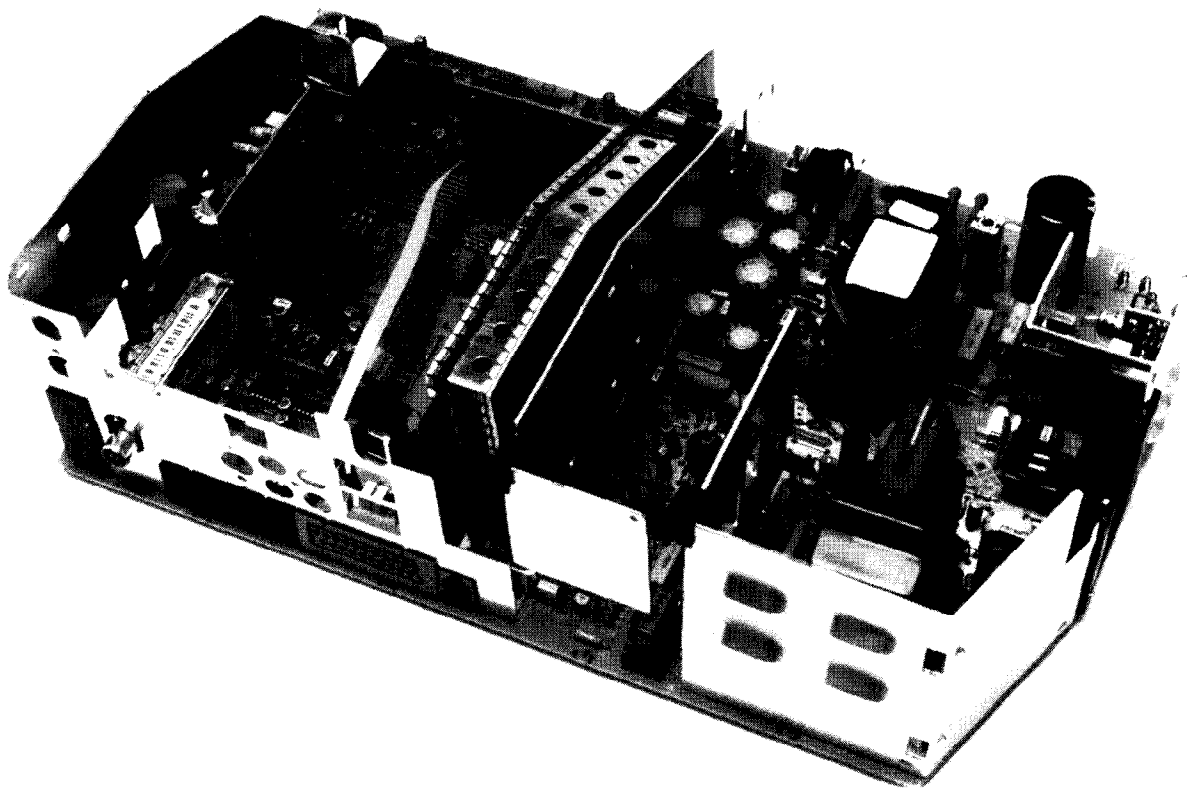
1996

ⒼⒷ Service manual
Ⓓ Service-Manual
Ⓔ Serviceanvisning

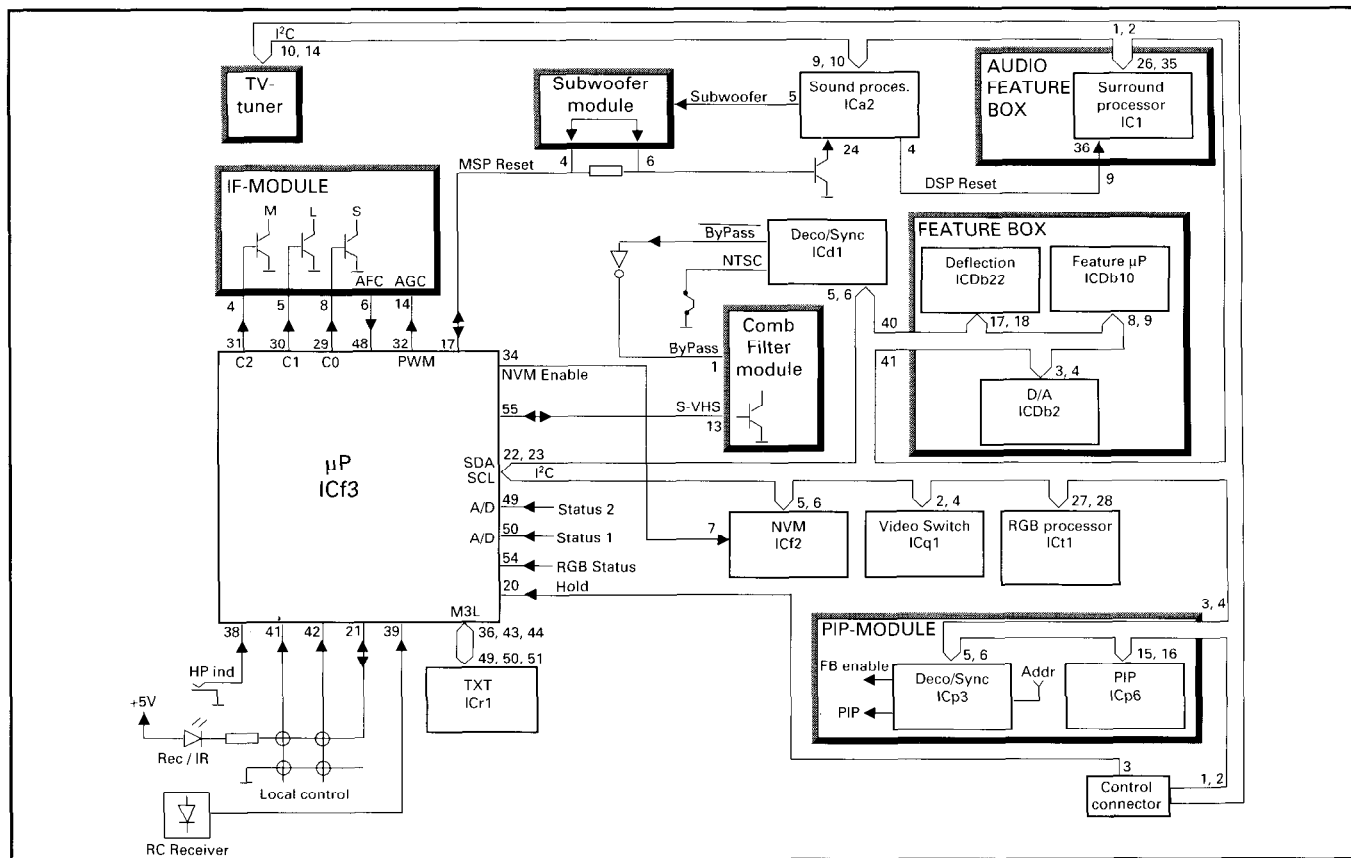
Ⓕ Manuel de service
Ⓖ Manuale di servizio

NOKIA 6395 7195 7496 7497 7497DPL
SALORA 29V100
FINLUX 71U2/74U2 100Hz

Supplement to Service Manual 6611 73 78



BLOCK DIAGRAM, CONTROL SIGNALS



SERVICE MODE SELECTION:

WAHL DES SERVICE-MODUS:

VAL AV SERVICE-LÄGE:

SELECTION DU MODE SERVICE:

SELEZIONE DEL MODO SERVIZIO:

Switch on the receiver by pressing the mains switch and within 5 s. press the remote control buttons MENU, TV and "i" successively.

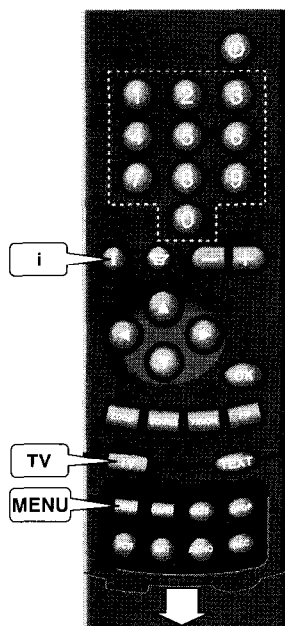
Einschalten Sie das Gerät mit dem Netzschalter und, innerhalb 5 Sekunden drücken Sie nacheinander die Fernbedienungstasten MENU, TV und "i".

Slå på mottagaren med huvudströmbrytaren och inom 5 s. tryck på fjärrkontrollens MENU-, TV- och "i"-knappar successivt.

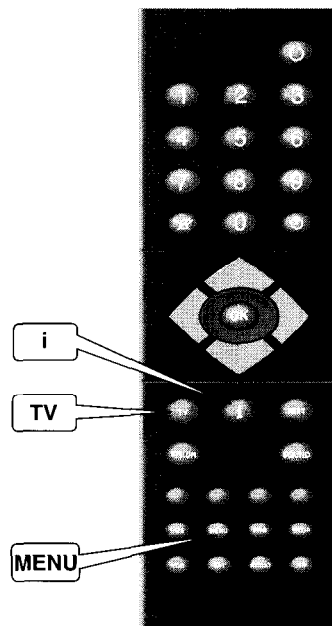
Mettre le récepteur en marche à l'aide de l'interrupteur principal et dans les 5 secondes appuyez successivement sur les touches MENU, TV, et "i" de la télécommande.

Accendere il ricevitore tramite l'interruttore generale e premere in sequenza i tasti del telecomando MENU, TV e "i" entro 5 secondi.

A menu

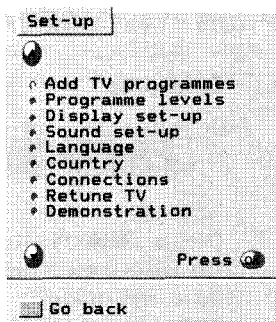
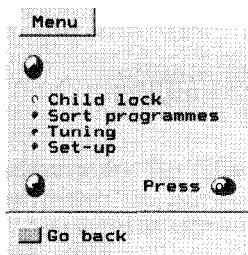


B menu



OPERATING INSTRUCTIONS

A menu



Language selection

1. Press the MENU button (under the lid).
2. Select the SET-UP with the cursor buttons (up-/downwards) and press the OK button.
3. Select the LANGUAGE and press the OK button.
4. Select the desired language and press the OK button.
5. Press the TV button to exit.

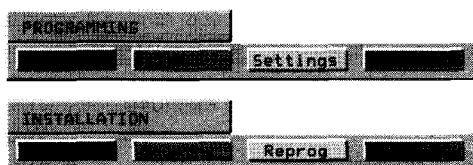
Manual tuning

1. Select programme number you want to tune.
2. Press the MENU button.
3. Select TUNING and press the OK button.
4. Press the red button (SEARCH).
5. Press the OK button to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

1. Press the MENU button.
2. Select SET-UP and press the OK button.
3. Select RETUNE TV and press the OK button.
4. To retune the channels, press the OK button.
5. Press the TV button to exit.

B menu



Language selection

1. Press the PRG button.
2. Select the Install by pressing the blue button.
3. Select the Language by pressing the red button.
4. Select the desired language with the cursor buttons and press the OK button.
5. Press the TV button to exit.

Manual tuning

1. Press the PRG button.
2. Press the red button (Tune).
3. Press the red button (Search).
4. Select the prog. number on which the channel is to be stored.
5. Press the blue button (Store) to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

1. Press the PRG button.
2. Press the blue button (Install).
3. Press the yellow button (Reprog).
4. Press the red button (APSi).
5. Press the green button (Reprog).
6. Press the blue button (OK) to exit.

NVRAM (ICf2)

Initialization of NVRAM

The NVRAM must be initialized and configured, if the NVRAM is replaced or it has totally lost its data. The next procedure is assuming that the tv does not start at all due to wrong data in NVRAM.

1. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively.
Note! The receiver is in the service mode although it looks like the receiver is in stand-by mode!
2. Press the RED-button to pre-configure the set. Green led will flash once to indicate this.
- 3a At the same time the controller will check NVRAM and initialize it automatically if it was "empty". Initializing will take about 15s. When it is completed, the green led will light up. continue from item 4.
- 3b The automatic initializing did not happen, if the green led does not light up steady. In some cases the led might also light up immediately after configuration without any initializing, depending on NVRAM contents. In this case it might be enough to store the new configuration by pressing "OK" and continue from item 4.
- 3c If the automatic initializing did not happen, you can start it manually by entering the key code: BLUE (wait approx. 2s), 2, 5, 4 (wait approx. 2s) and OK. Initializing will take about 15s.
4. Switch off the receiver by pressing the mains switch.
5. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively. If the receiver remains in stand-by mode, press the TV button twice and then press the "i" button.
6. Configure the receiver by pressing the RED button. The configuration menu will show up.
7. Press the OK button.
8. Press the TV-button and tune in one or more tv channels.
9. Return to service mode by pressing "i" button
10. After that make all of the service adjustments (see section "SERVICE ADJUSTMENTS VIA IIC BUS").
11. Switch off the receiver by pressing the mains switch.

SERVICE ADJUSTMENTS

SERVICE MODE SELECTION

1. The receiver is set to the service mode by switching on the receiver with the mains switch and within 5 seconds pressing the remote control buttons MENU, TV and "i" successively.

Note! If the receiver remains in stand by mode after selecting the service mode, switch on the receiver by pressing the TV button twice and select the service mode by pressing the "i" button.

SERVICE

00 V-ampl.

34

36

In the service mode an adjustment menu (including the adjustment number and name, initializing (left) and adjustment (right)) values is shown on the screen.

2. Return from the service mode by switching off the receiver with the mains switch.

CONFIGURATION AND FAULT DIAGNOSIS

The set must be configured after adding or removing some options. By pressing the RED button in the service mode, the processor checks all possible addresses of bus driven circuits and shows the settings on the screen.

This feature can also be used in fault finding; if an option bit is not '1' when it should be, the IC is either not present or faulty. In the configuration mode it is possible to enable/disable options for testing purposes.

Changing of option bytes

1. When in service mode, select the configuration mode by pressing the RED button.

SERVICE

IIC DEV 1 01111011

IIC DEV 2 10000100

IIC DEV 3 00010010

IIC DEV 4 -

DSP OPT 1 00001000

TEXT OPT 2 00000001

SYS OPT 1 11110001

SYS OPT 2 00000000

IF OPT 5 00000001

UIF FLAGS 01100010

SW VER. FTXXX

IPQ VER. 000. 22B

NVM VER. FST1-XX

Description

SW VER. = µP software version.

IPQ VER. = Feature box µP software version.

NVM VER. = NVM software version.

2. Select IIC Device byte 1 - 4 or Option byte 1 - 5 with the cursor button (up-/downwards). Selected byte is shown highlighted.
3. Set the bits with the number buttons (0 ... 7).
4. Store the settings by pressing the OK button.
5. Return to the service mode by pressing the RED button again.

OPTION BYTE DESCRIPTIONS

Bit	Description	Setting	'1'	'0'
7 6 5 4 3 2 1 0				
IIC DEV 1				
		01111011		
0	TV tuner		Yes	No
1	Decoder TDA9141		Yes	No
3	Feature box controller (IPQ)		Yes	No
4	Deflection controller TDA9151		Yes	No
5	RGB processor TDA4780		Yes	No
6	Video switch TDA6417		Yes	No
7	PIP controller SDA9188		Yes	No

IIC DEV 2 10000100

0	PIP tuner	Yes	No
2	Megatext SDA5273	Yes	No
7	MSP3400 / 3410	Yes	No

IIC DEV 3 00010010

0	DPL (AR600)	Yes	No
1	Subwoofer	Yes	No
4	Comb filter (SVHS line low)	Yes	No
6	DPL (AR602)	Yes	No

DSP OPT 1 00001000

0-2	Loudspeaker configuration (set in user mode)		
4	Bass splitting (normally yes, manual)	Yes	No
6	TV-speaker pre-equalisation (manual)	Yes	No

TXT OPT 2 00000001

0	TXT with external RAM	Yes	No
2	Flof text enabled (manual)	Yes	No
4	Text sync mode (manual)	Yes	No
5	Text subpage rolling (manual)	Yes	No

SYS OPT 1 11110001

0	Camera connector installed (manual)	Yes	No
3	RGB E1	Yes	No
4	NTSC 3.58 MHz	Yes	No
5	ACI enabled (manual)	Yes	No
6	NICAM enabled (manual)	Yes	No
7	Loudness enabled (manual)	Yes	No

SYS OPT 2 00000000

0	Start TV with mains	No	Yes
6	Start TV to demo mode (manual)	Yes	No
7	Hotel TV functions enabled (manual)	Yes	No

IF OPT 5 00000001

0	B/G system	Yes	No
1	I system	Yes	No
2	D/K system	Yes	No
3	L/L' system	Yes	No
5	Baseband	Yes	No
7	Only UHF tuner (manual)	Yes	No

UIF FLAGS 01100010

4	OEM option (manual)	Yes	No
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SERVICE ADJUSTMENTS VIA IIC BUS

Remote control buttons in service mode

When the receiver is in service mode you can select the normal TV mode by pressing the TV button and return to the service mode by pressing the "i" button.

Number and cursor buttons are used for service adjustment. The yellow button hides temporarily the service menu. The OK button stores the settings.

Adjustment for different picture format

First make all adjustments with normal 4:3 picture format. The TV uses these adjustment values for all picture formats if no other adjustment were made. In each adjustment it is mentioned if the adjustment must be done separately for different picture format, repeat only those adjustments.

Making the service adjustment

1. Give a two numbered code which determines the adjustment (e.g. 05 = horizontal phase, see the following tables) with the number buttons.

Note! The adjustments can also be selected with the cursor button (up-/downwards).

SERVICE

05 H-shift

33

30

2. Adjust with the cursor button (left/right).

SERVICE

05 H-shift

33

31

3. Store the new value by pressing the OK button.

Note!

- To avoid incomplete adjustments store each adjustment in the memory immediately after adjusting.
- If the adjustment has to be made separately for different picture format, select the normal user mode by pressing the TV button and change the picture format with the zoom button. Return to service mode by pressing the i button.

VERTICAL PICTURE ADJUSTMENTS

Adjustment	Code	OSD name	Init. value	Note!
Vertical amplitude Vertical amplitude 16:9 Vertical amplitude 16:9 zoom	00	V-ampl.	34	Adjust the picture height to correct ratio. <i>Note! Separate adjustments for normal 4:3, normal 16:9 and 16:9 zoom picture format.</i>
Vertical off-centre shift	01	V-shift	4	
Vertical start scan	02	V-start	0	
Vertical S-correction Vertical S-correction 16:9 Vertical S-correction 16:9 zoom	03	S-corr.	49	<i>Note! Separate adjustments for normal 4:3, normal 16:9 and 16:9 zoom picture format.</i>
Vertical slope 4:3 zoom (coarse) Vertical slope 4:3 zoom (fine)	12 13	Zoom-H Zoom-L	71 0	Select 4:3 zoom picture format and adjust the picture to correct ratio.
Center value, 4:3 zoom shift (V-wait)	14	Shift	23	<i>Note! Before adjustment select 4:3 zoom picture format</i>

HORIZONTAL PICTURE ADJUSTMENTS

Adjustment	Code	OSD name	Init. value	Note!
EW width	04	Width	42	<i>Note! Separate adjustments for normal 4:3 and 4:3 zoom picture format. In addition make same adjustments by using RGB signal.</i>
Horizontal phase H-phase zoom H-phase RGB H-phase RGB zoom	05	H-shift	33	
EW parabola EW parabola 16:9 EW parabola 16:9 zoom	06	Parab.	24	
EW corner EW corner 16:9 EW corner 16:9 zoom	07	Corner	25	
EW trapezium EHT compensation	08 09	Trapezium EHT	5 6	Set brightness and contrast to 90% and compensate the change in picture size.

OTHER ADJUSTMENTS

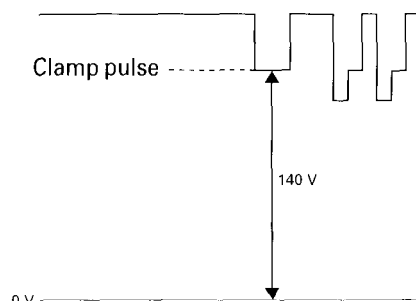
Adjustment	Code	OSD name	Init. value	Note!
Red reference	20	R ref.	52	<i>Note! This procedure is necessary e.g. when the picture tube, CRT-module etc. has been replaced. Apply a test picture and adjust the R, G and B references. Then adjust the R, G and B gains.</i>
Green reference	21	G ref.	21	
Blue reference	22	B ref.	16	
Red gain	17	R gain	41	
Green gain	18	G gain	32	
Blue gain	19	B gain	32	
Clamp shift	11	Clamp	3	Normally no need to adjust.
Peak white limit	23	PWL	63	Normally no need to adjust.
Gamma correction	24	GAMMA	32	Normally no need to adjust.
Tuner AGC	25	TV AGC	170	Apply a 1 mV (60 dB μ V) test signal. Adjust the picture just without noise.

SERVICE ADJUSTMENTS

O POWER SUPPLY BLOCK

Supply voltage and protection circuit

1. Set brightness and contrast to normal level. Connect a universal voltmeter to the cathode of Do11.
2. Adjust with Ro45 the DC voltage for +140 V (± 1 V) or 145 V (± 1 V) depending on the picture tube type, look at the schematic diagram.
3. Check the over-current protection after making any service operations in the primary circuit of the power supply. Set the receiver to the stand-by mode. Short circuit the cathode of Do 13 to the ground and keep the short circuit connected. When the over-current protection works correctly, the power supply will try to start 2-3 times before it stops definitely. Remove the short circuit and switch on the receiver by pressing the mains button.



K HORIZONTAL DEFLECTION BLOCK

Horizontal linearity

Adjust with Lk2.

Focusing

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

(Screen grid voltage) Ug2 voltage

1. Set contrast to minimum, brightness and colour saturation to normal level.
2. At the end of the vertical blanking, there is a black current measurement pulse (clamp pulse) at pin 9 of ICh1, ICh2 and ICh3. Use an oscilloscope and find the output stage with the highest cut-off (i.e. the highest voltage during the black current measurement pulse).
3. Adjust the voltage of the clamp pulse to +140 V with Ug2 (see figure).

LL PICTURE AND SOUND IF MODULE

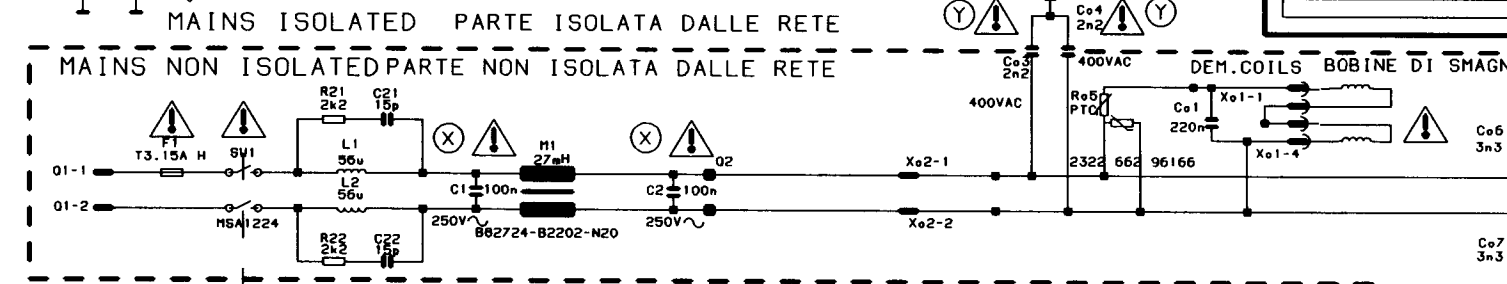
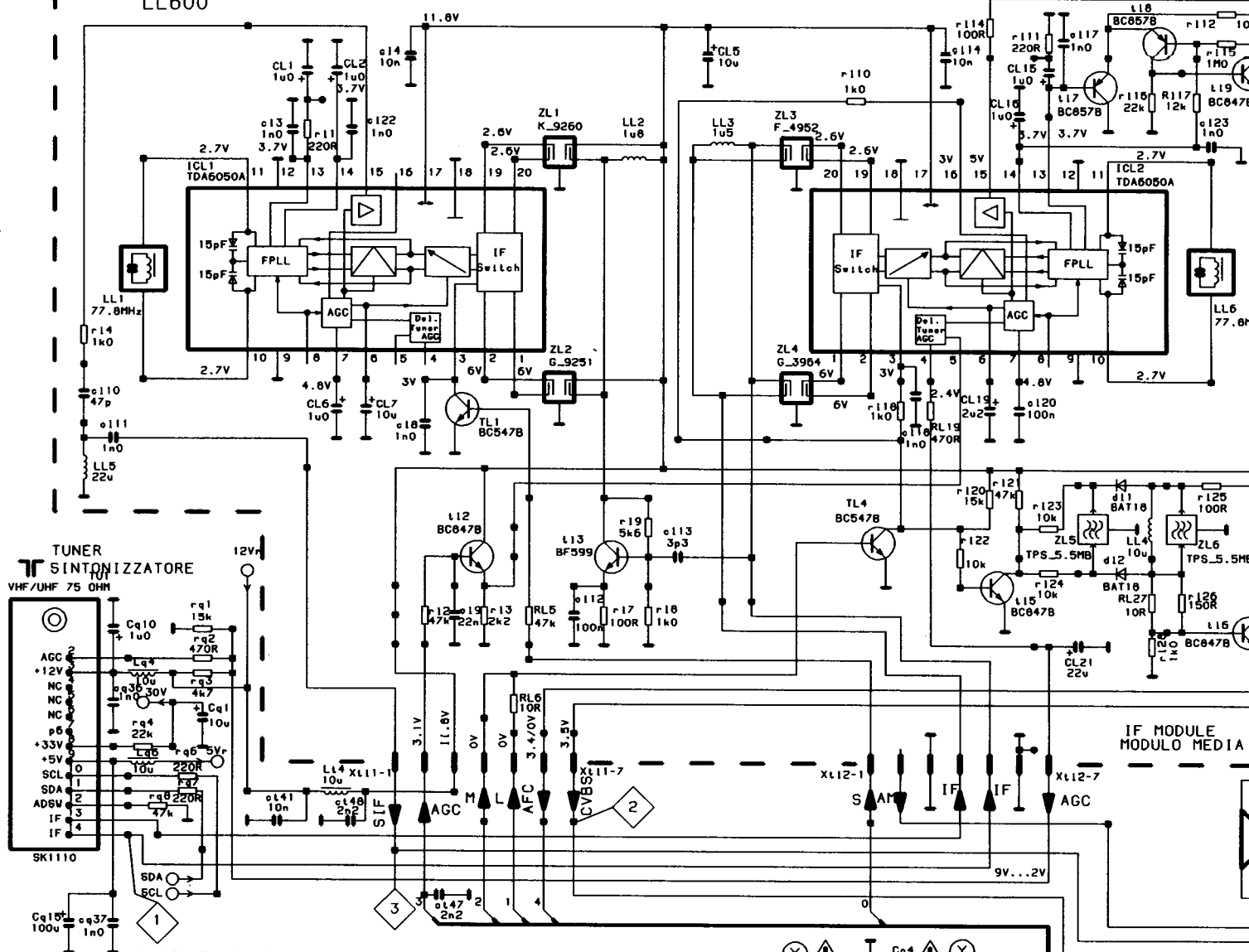
Video demodulator

1. Apply a test signal (1 mV = 60 dB μ V).
2. Connect a universal voltmeter to the module connector X1 pin 6.
3. Adjust with LI6 the DC voltage to the point where it changes from 0 to 5 V.

Sound demodulator

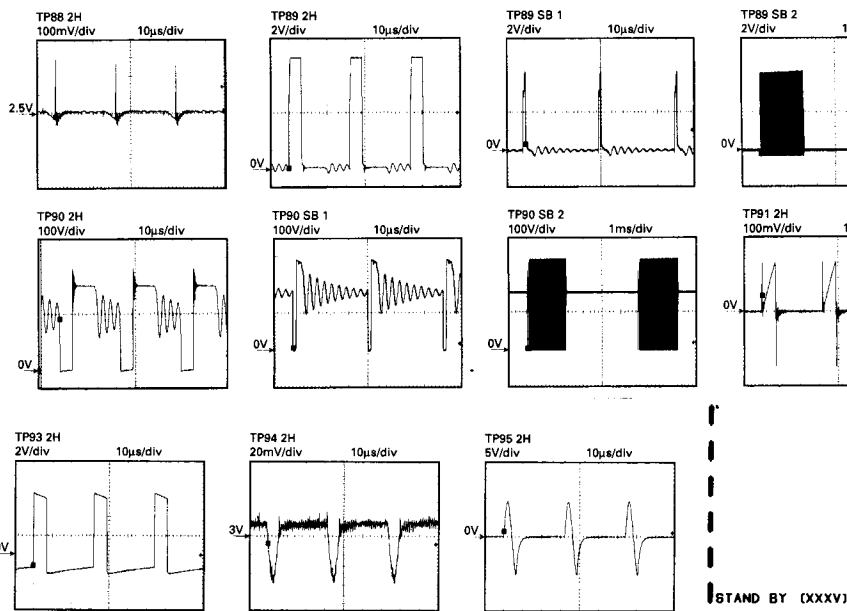
1. Apply a CCIR B/G standard (FM modulated sound) test signal.
2. Connect a universal voltmeter to ICI1 pin 13.
3. Adjust with LI1 the DC voltage for +3.7 V.

LL600

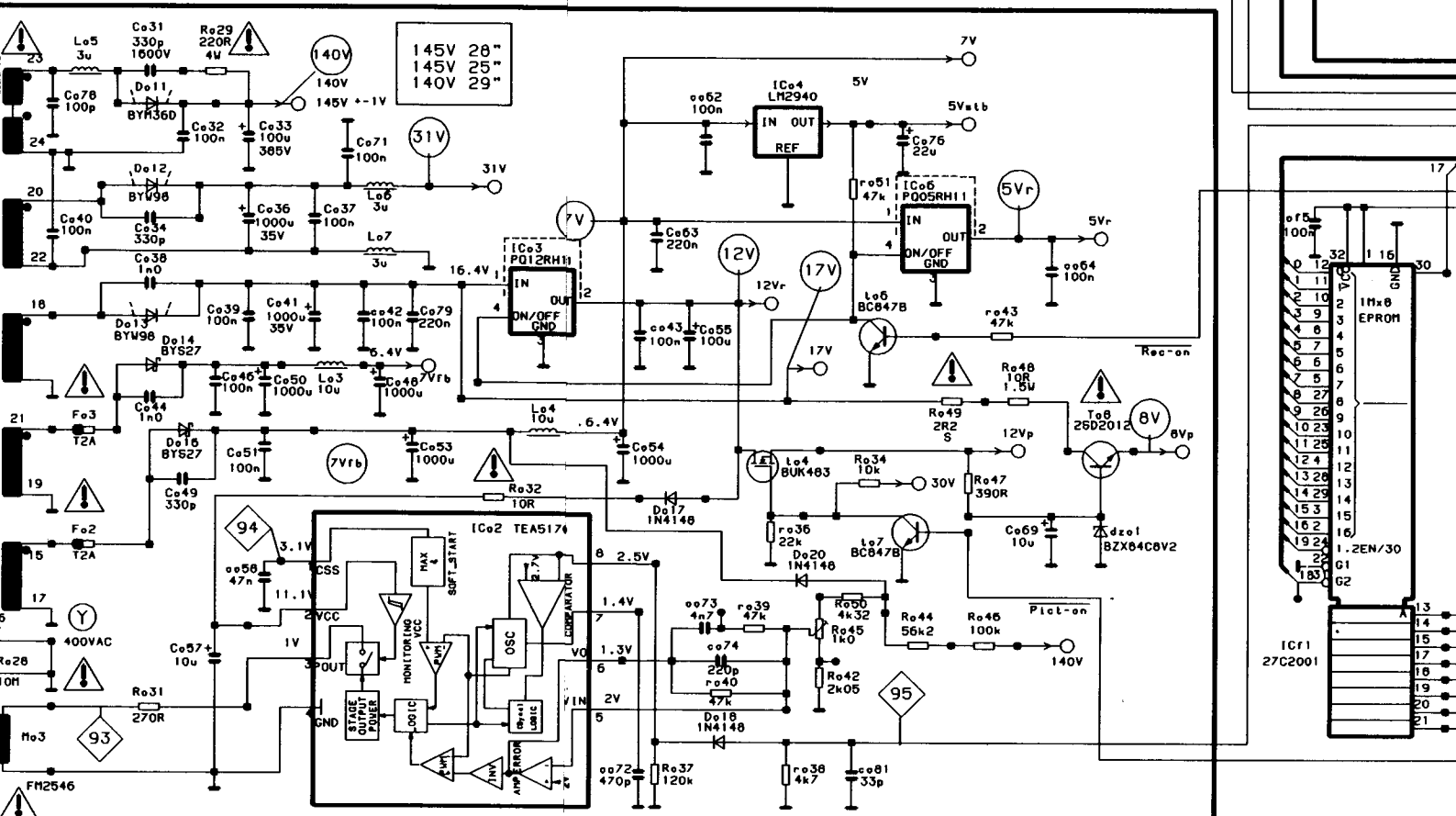
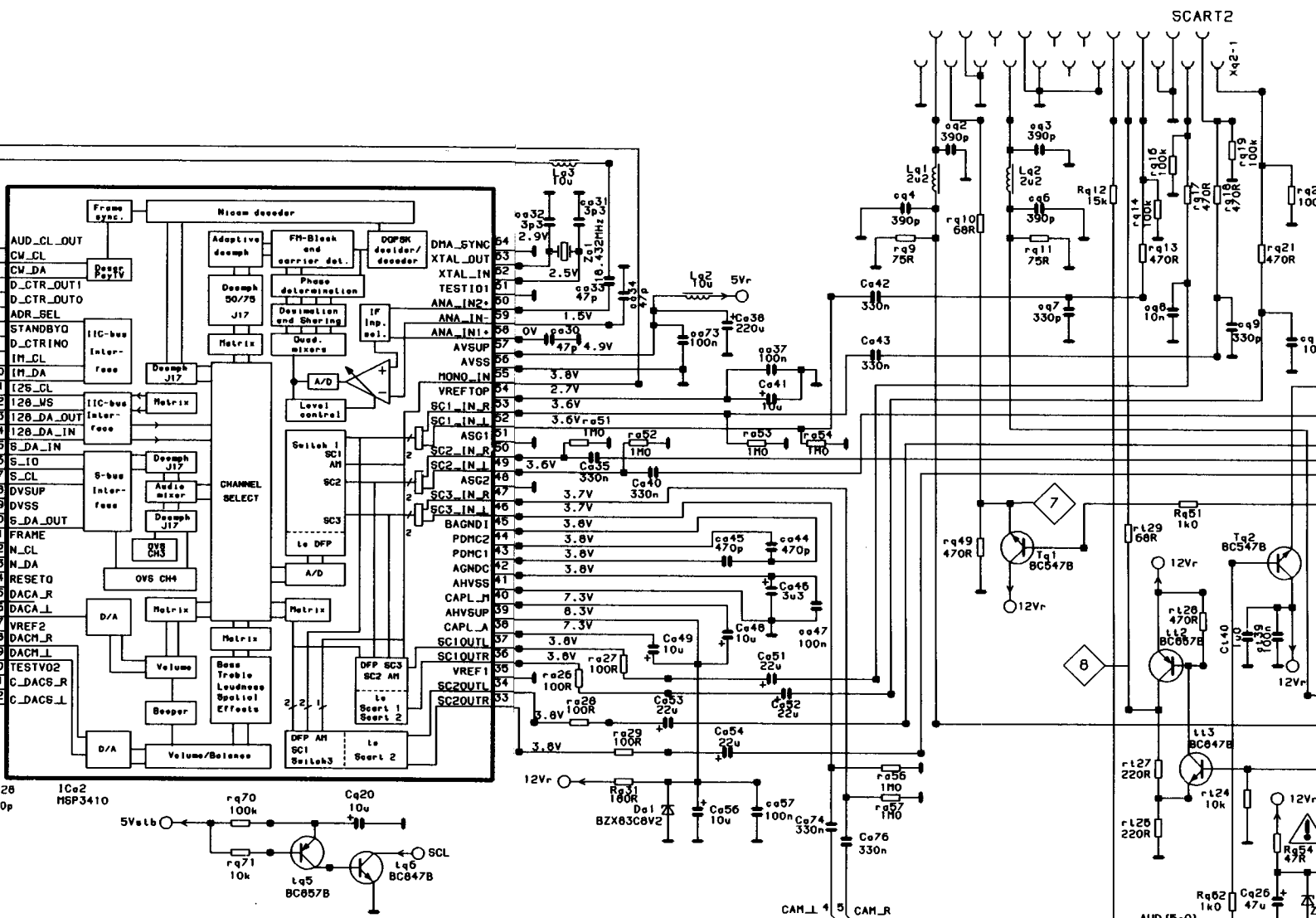


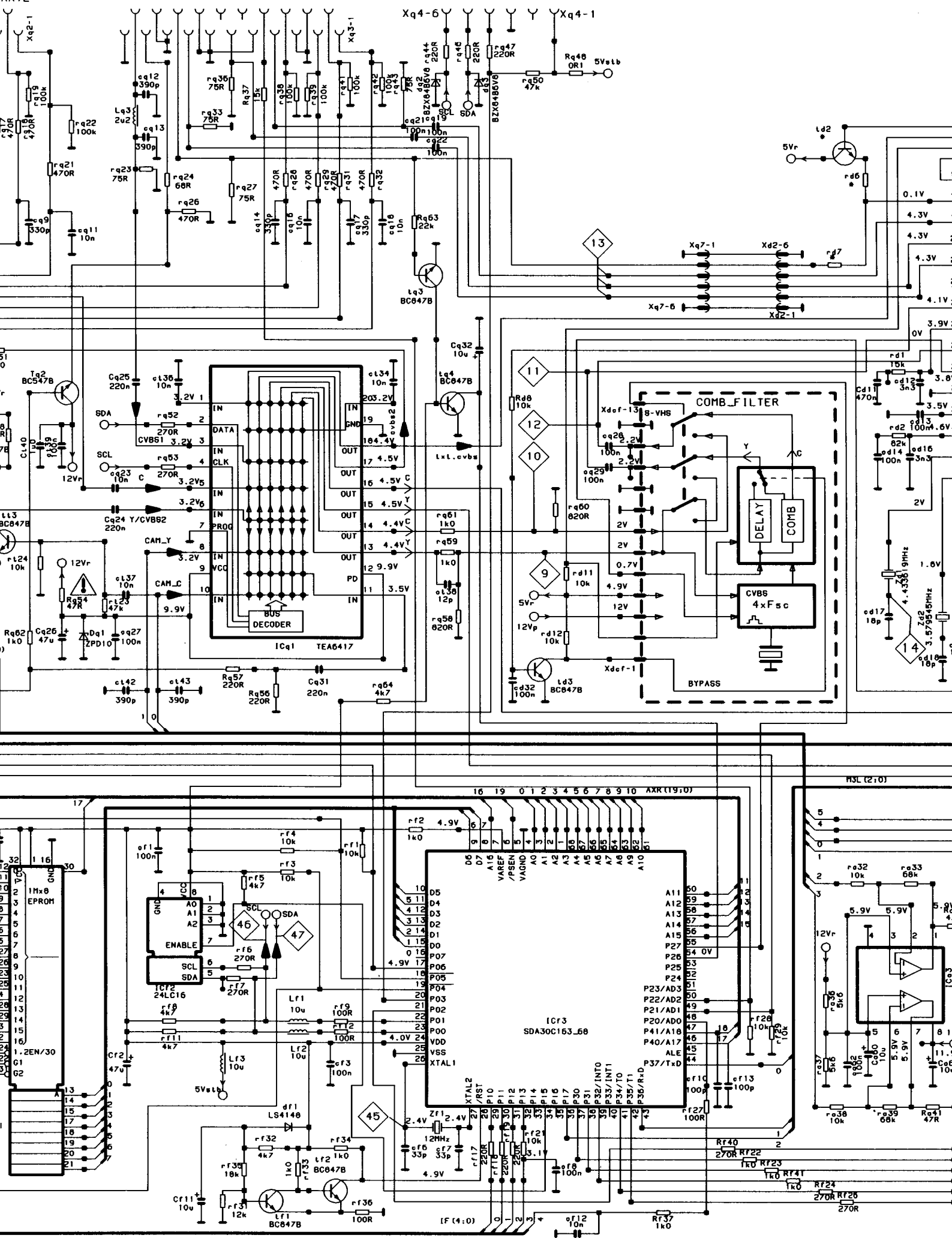
**CHASSIS
FX-SERIE
100 Hz**

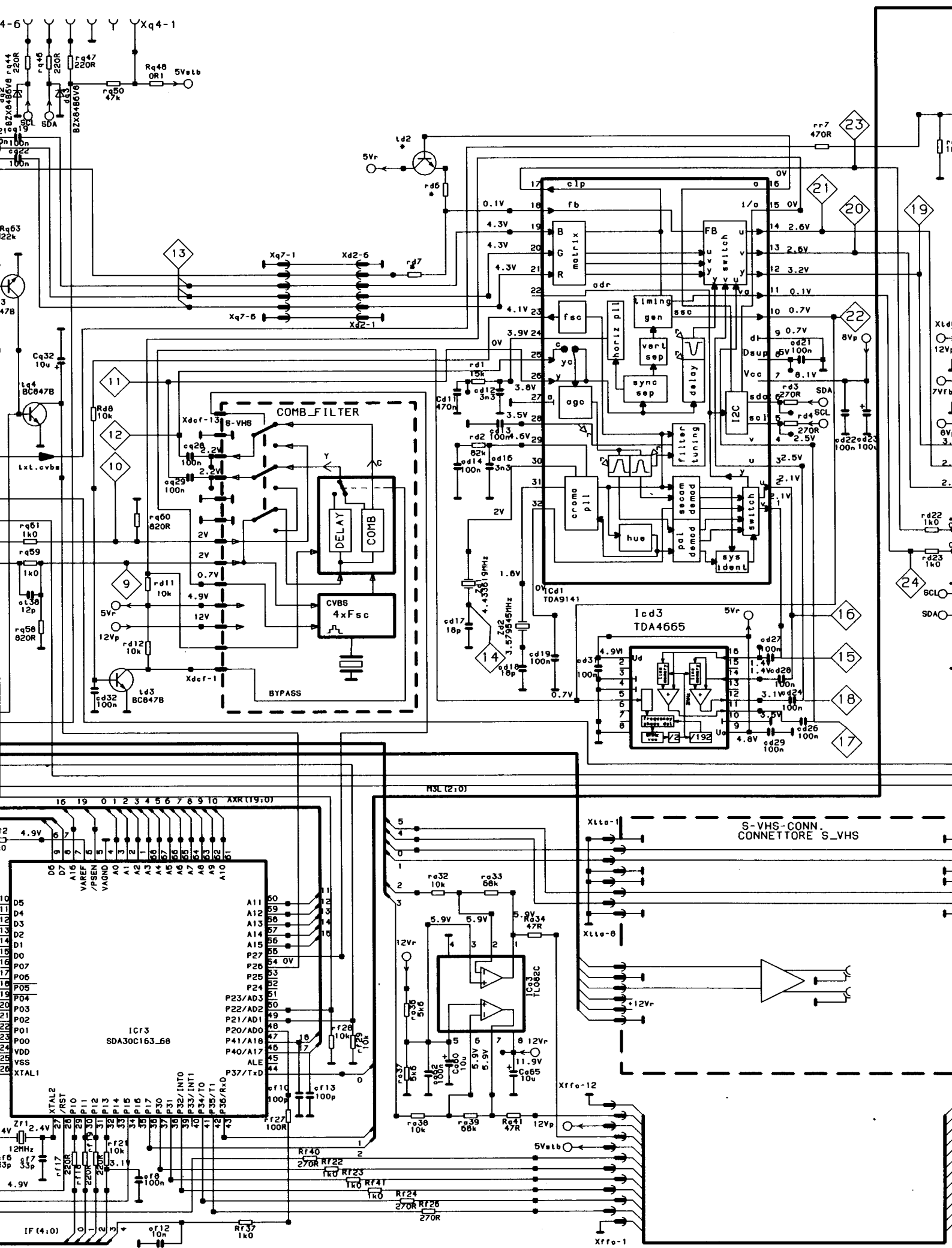
6611 72 13

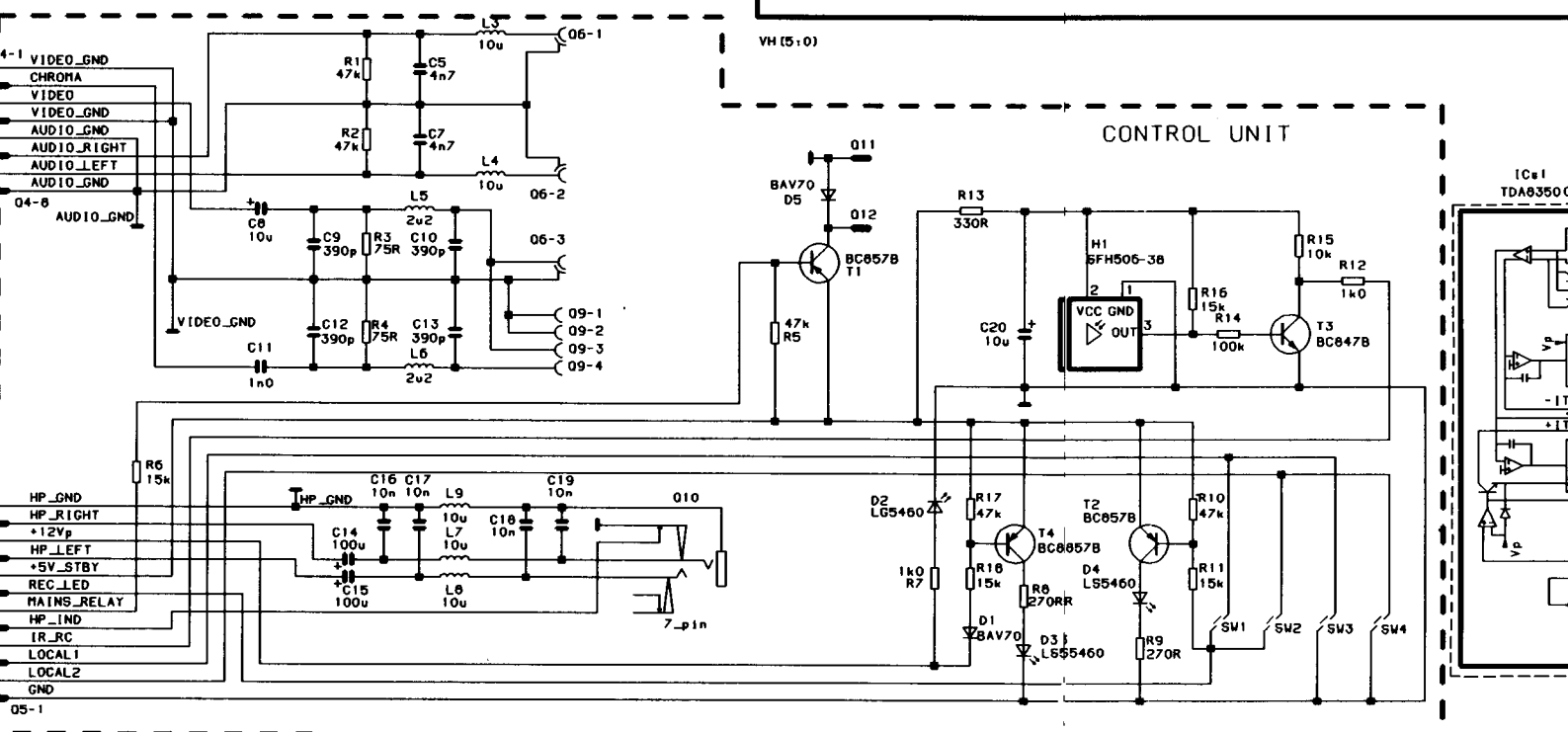


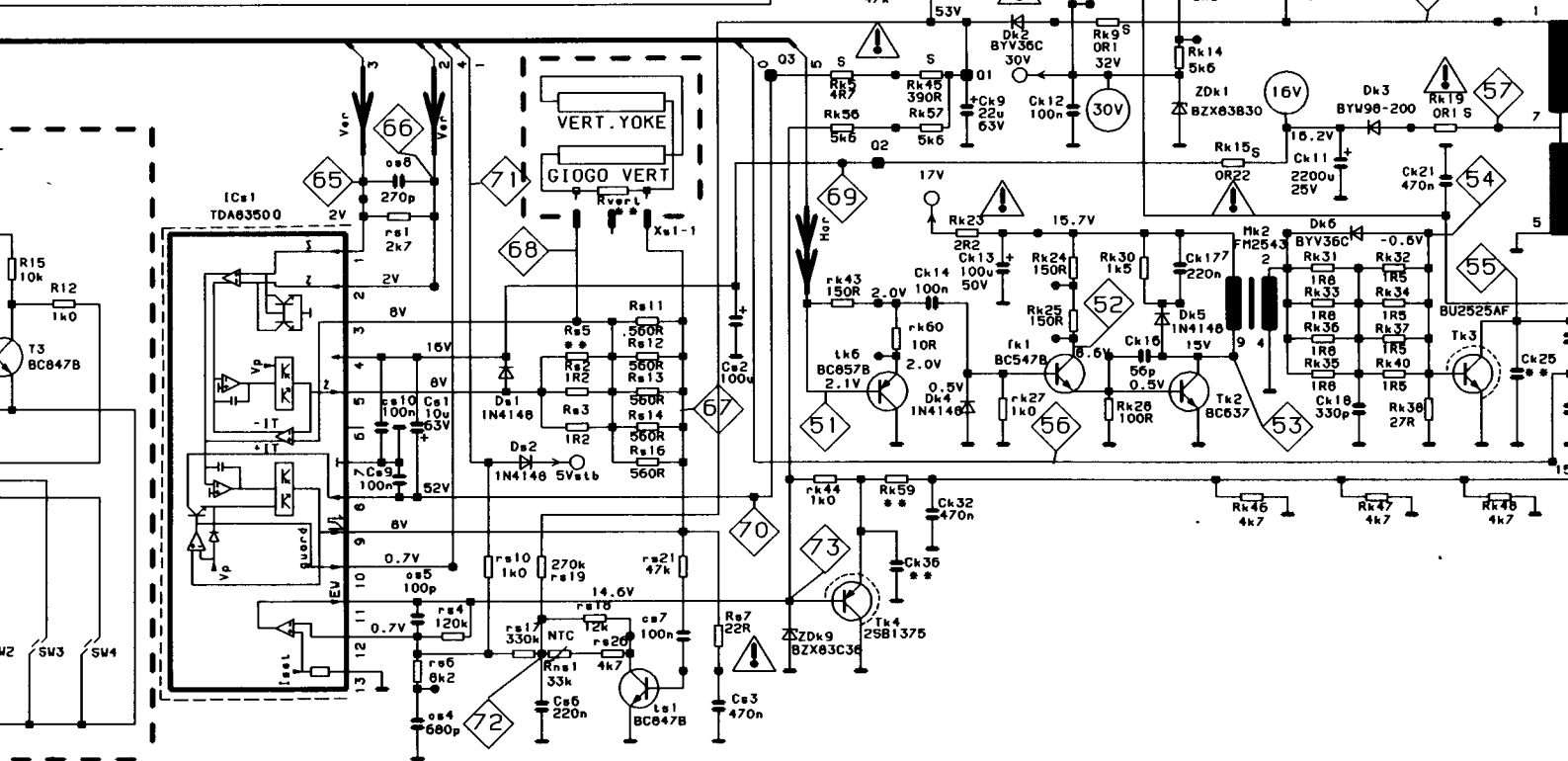
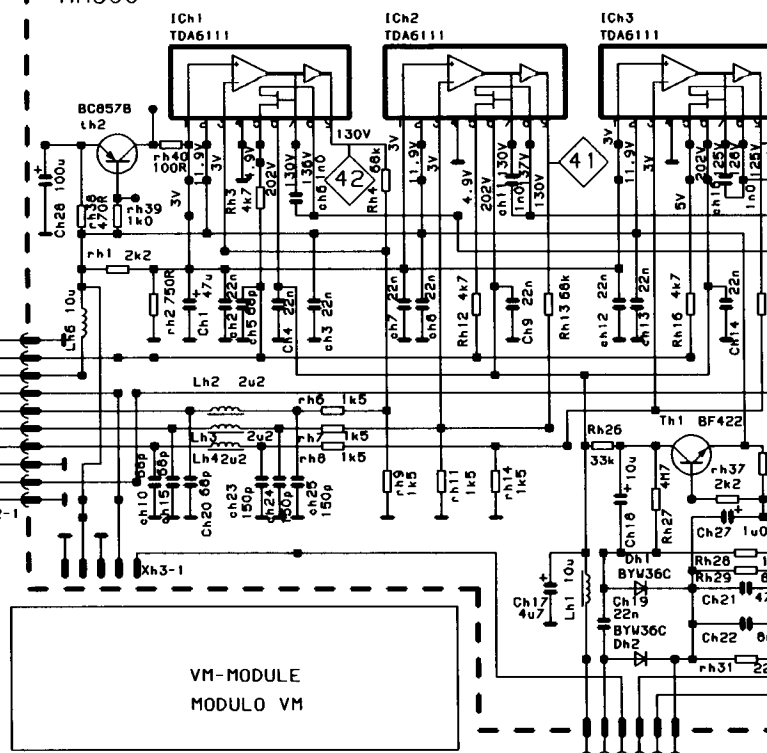
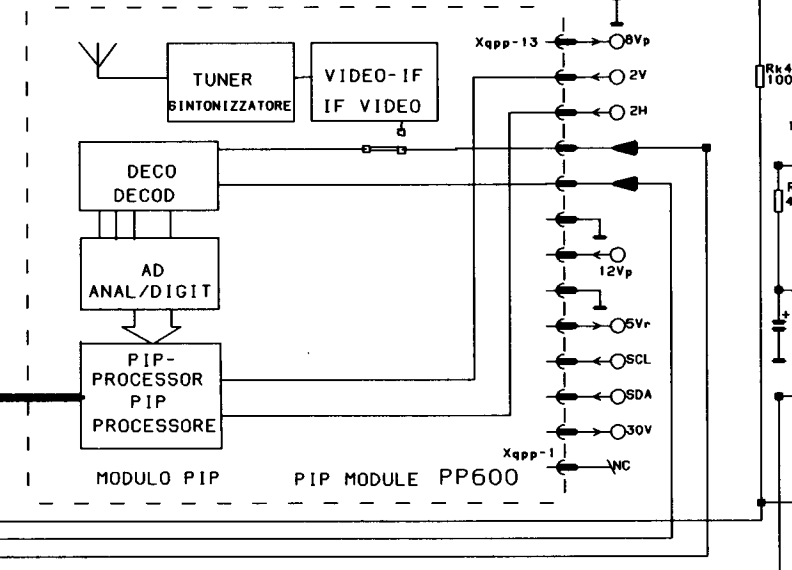
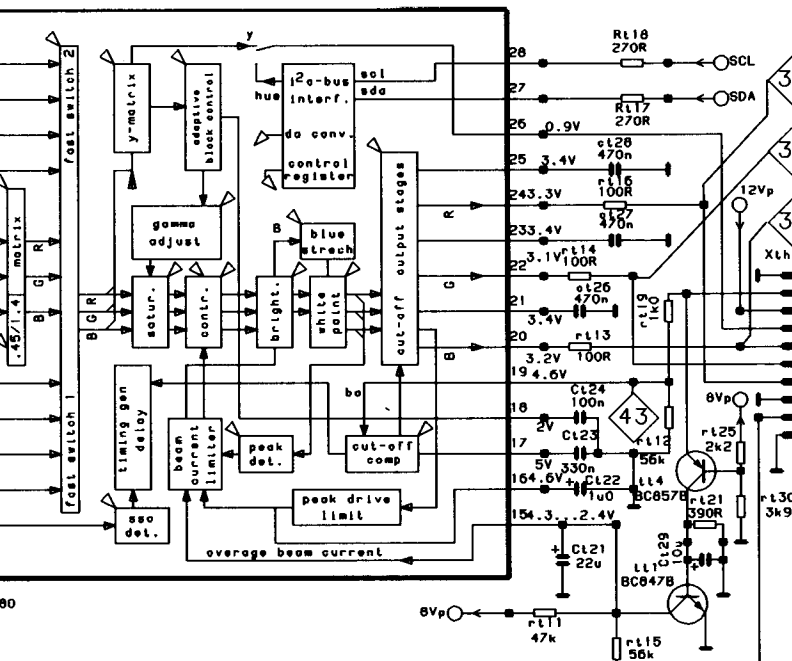
STAND BY (XXXV)

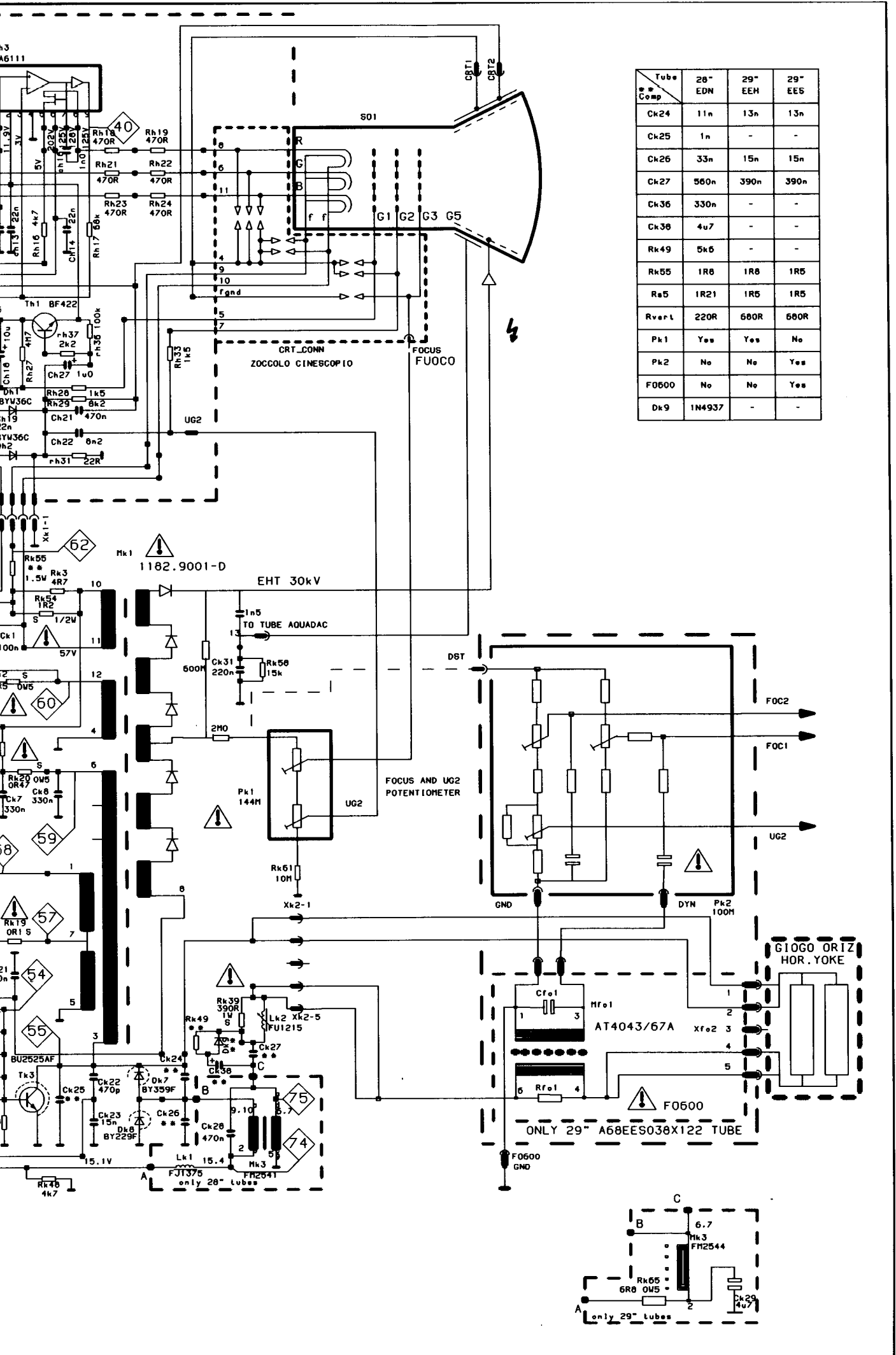


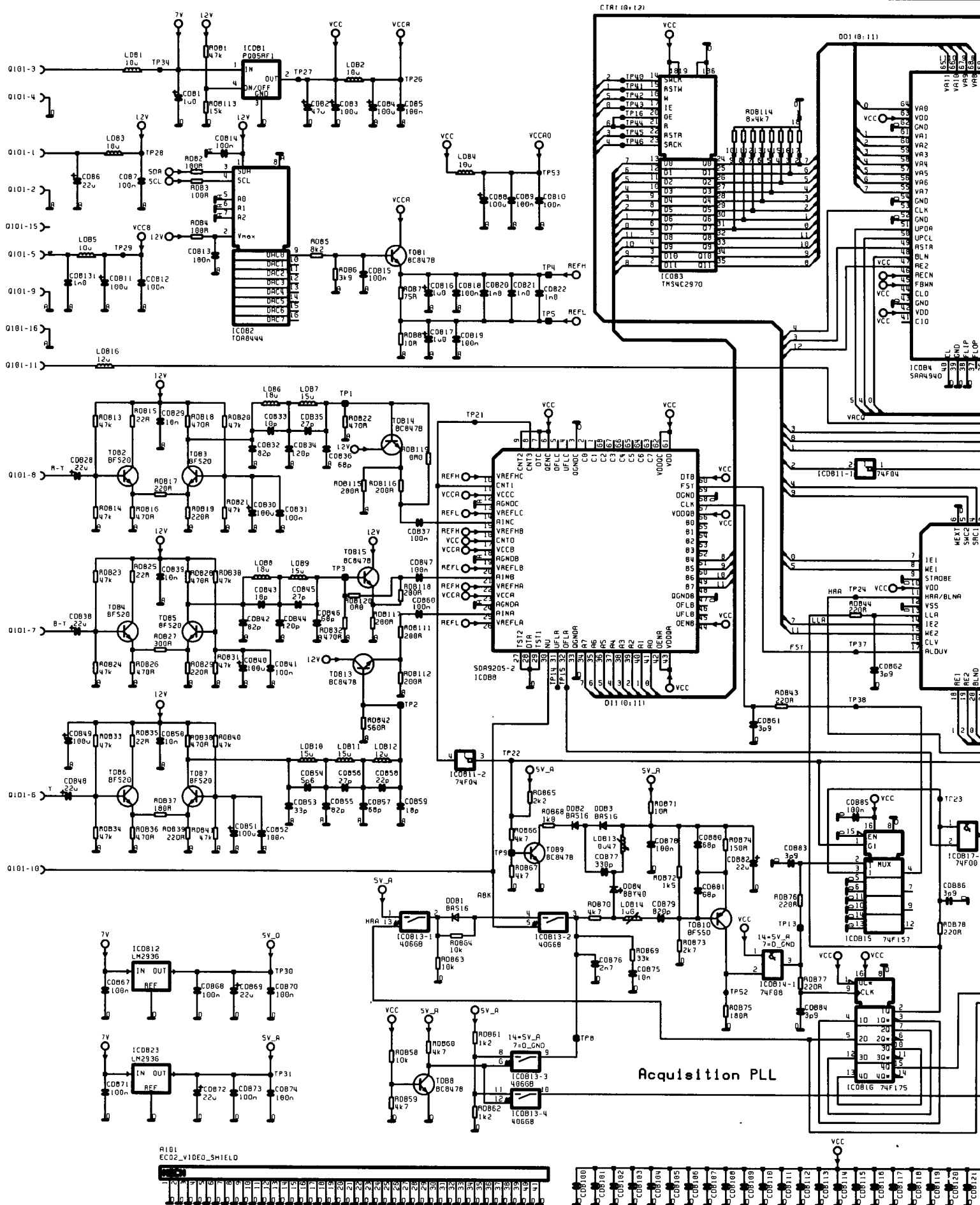


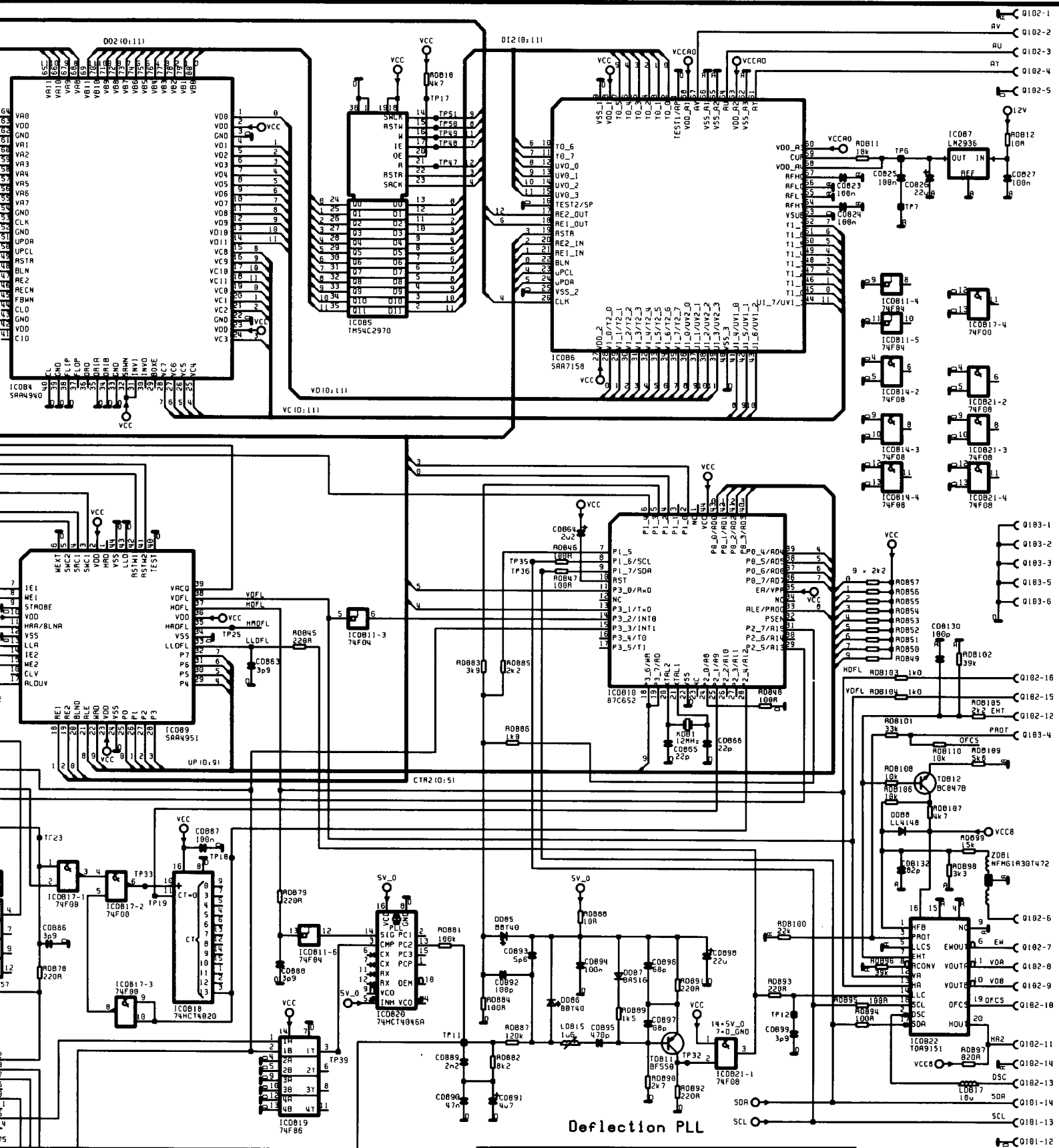




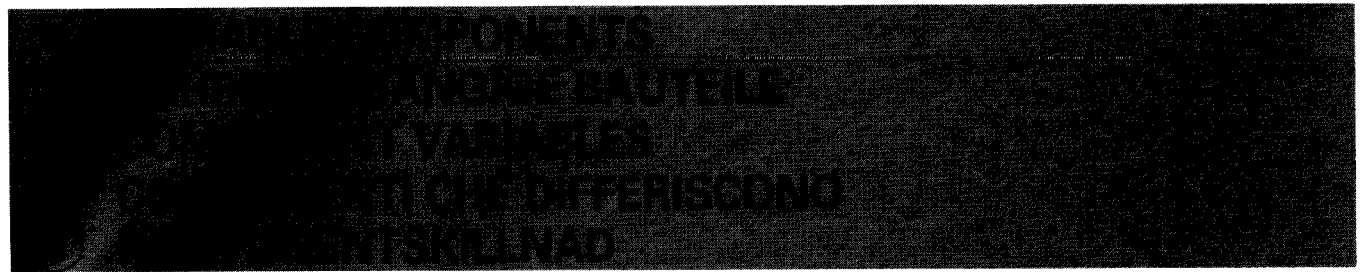




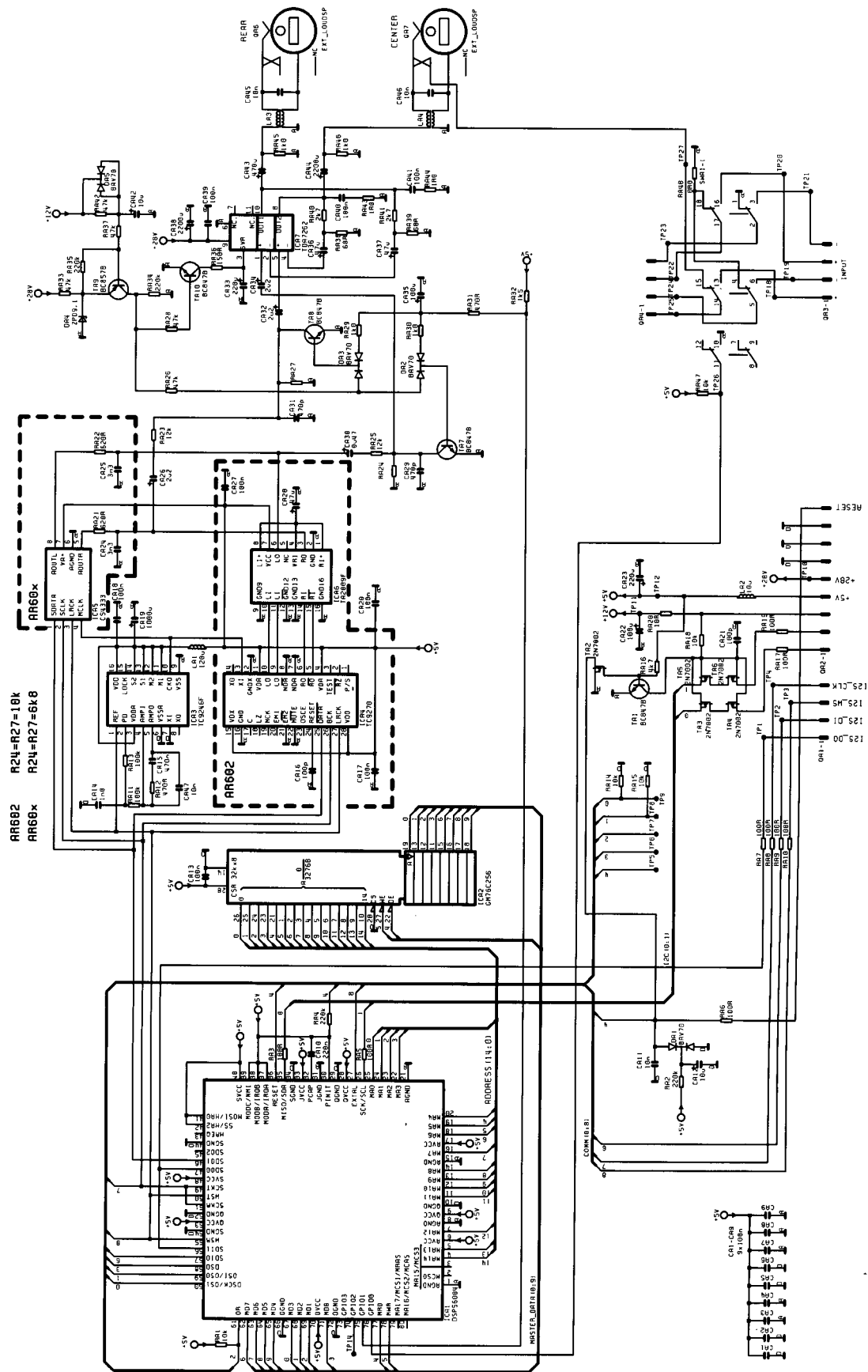


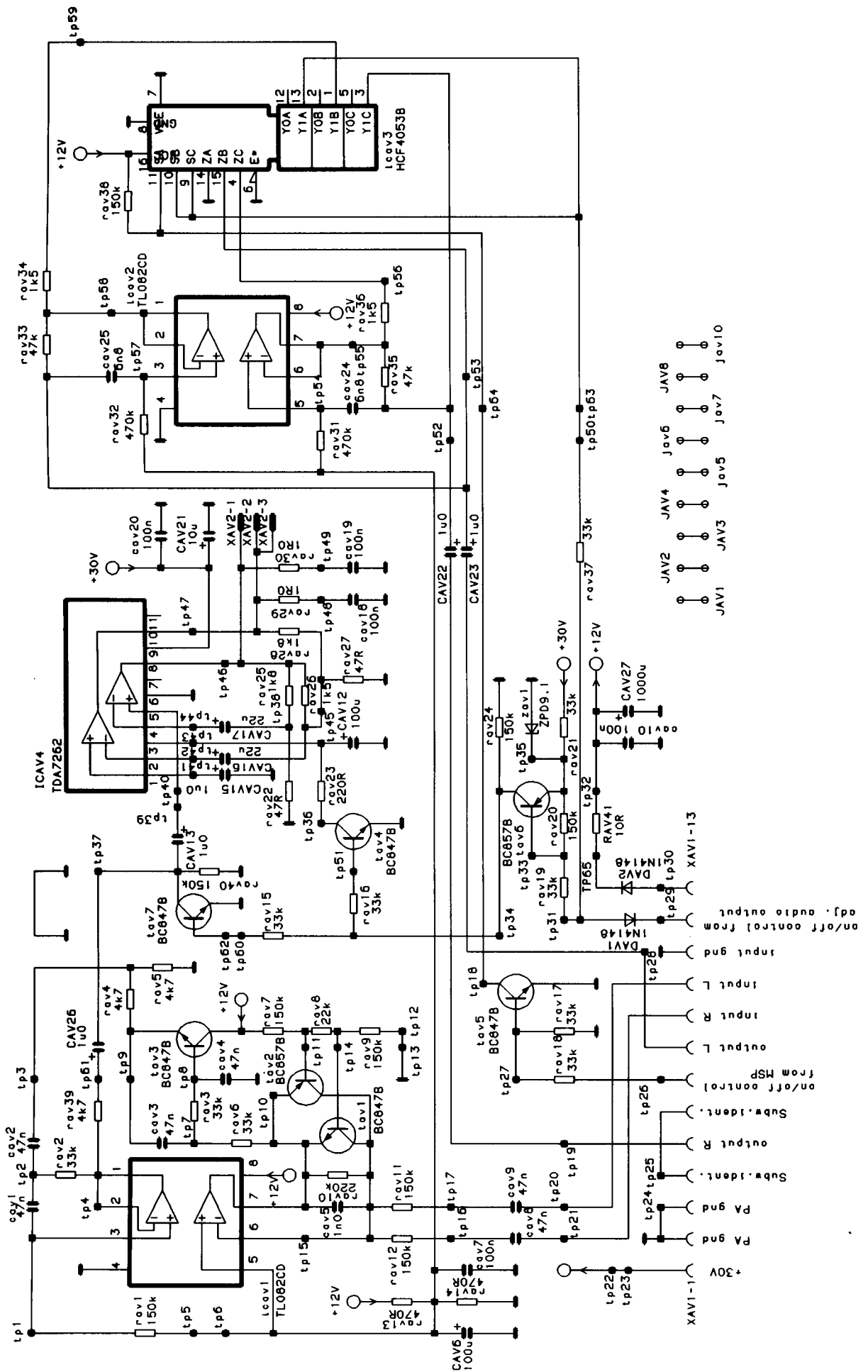


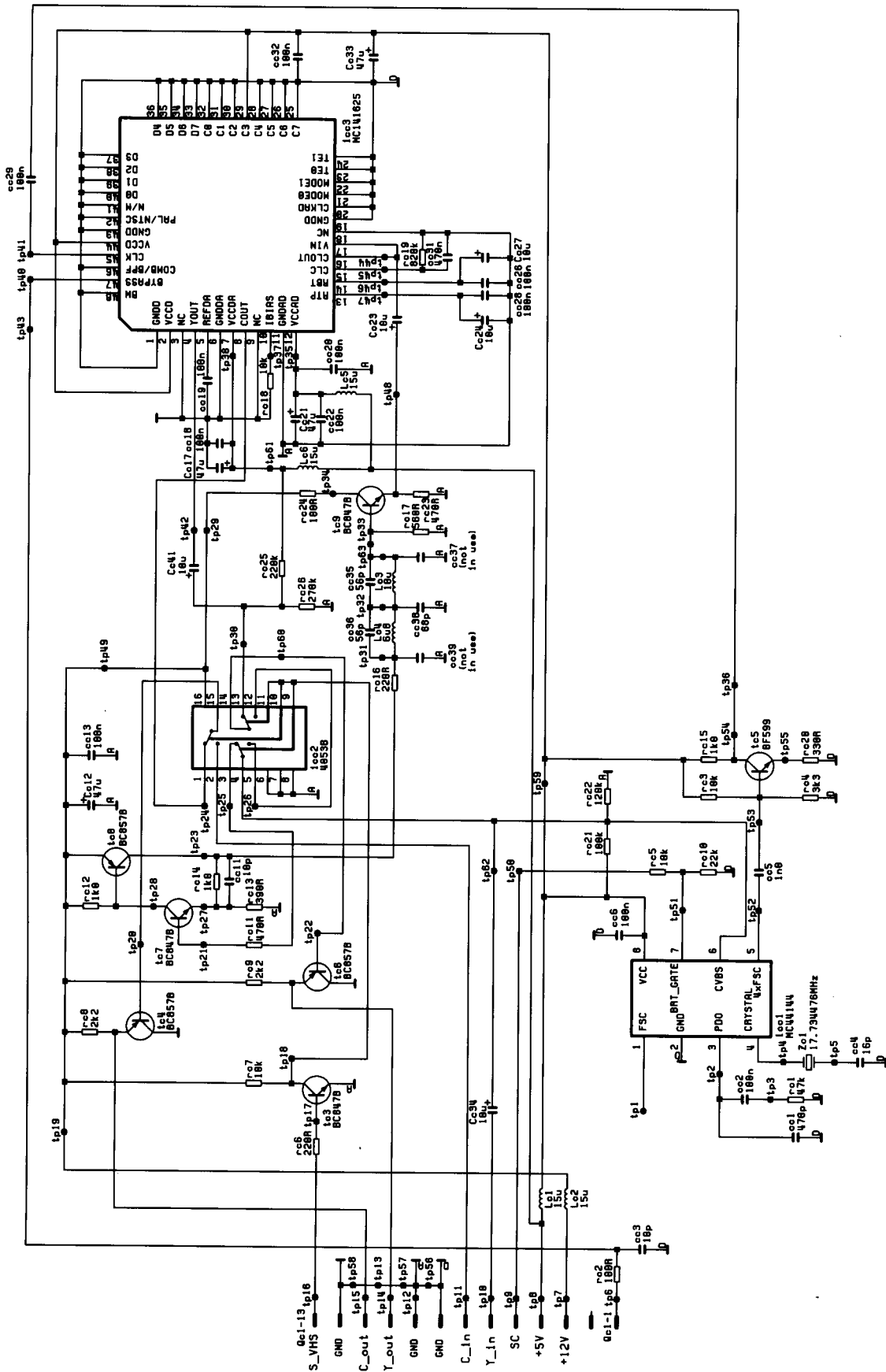
FEATURE BOX
DB600



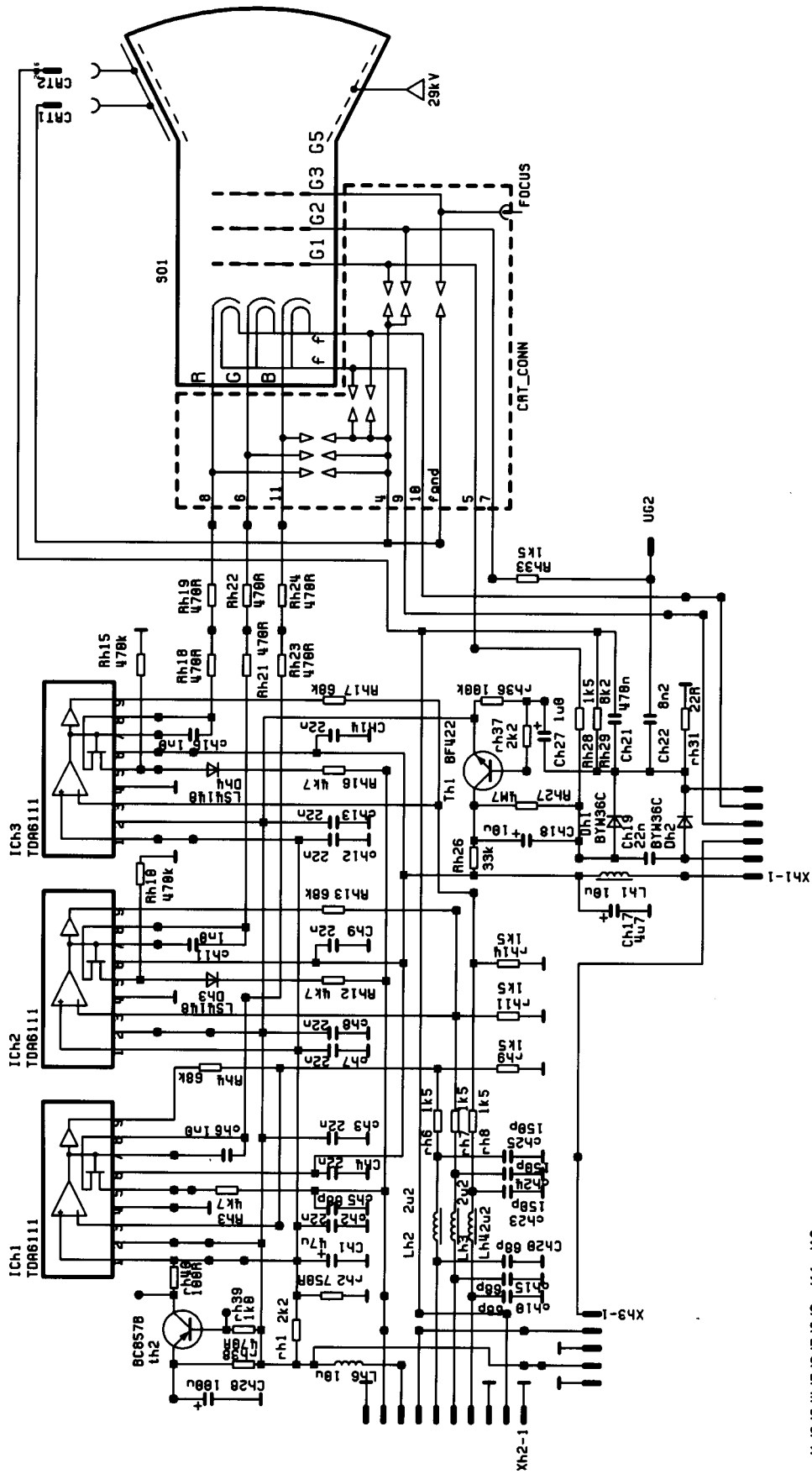
Picture	Vi 28	Vi 29	Vi 29	Vi 29	Vi 29	Vi 29
Tube	A66 EDN	A68 EEH	A68 EES	A68 EES	A68EEH	A68EEH
	43x100	048x122	038x122	038x322	048x322	048x322
Mainboard	AX**V	AX**L	AX**S	AX**T	AX**U	AX**U
PW-block	PW-600	PW-601	PW-602	PW-603	PW-604	PW-605
Ck24	11n	13n	13n	13n	13n	13n
Ck25	1n0	-	-	330p	330p	330p
Ck26	33n	15n	15n	15n	15n	15n
Ck27	560n	390n	390n	390n	390n	390n
Ck28	470n	-	-	-	-	-
Ck29		4u7	4u7	4u7	4u7	4u7
Ck36	330n	-	-	-	-	-
Ck38	4u7	-	-	-	-	-
Rk3	4R7	4R7	4R7	4R7	4R7	4R7
Rk31	-	1R8	1R8	-	-	-
Rk32	-	1R5	1R5	-	-	-
Rk33	-	1R8	1R8	-	-	-
Rk34	0R33	1R5	1R5	0R33	0R33	0R33
Rk35	-	1R8	1R8	-	-	-
Rk36	0R47	1R8	1R8	0R47	0R47	0R47
Rk37	-	1R5	1R5	-	-	-
Rk40	-	1R5	1R5	-	-	-
Rk49	5k6	-	-	-	-	-
Rk54	1R2	1R2	1R2	1R5	1R2	1R5
Rk55	1R8	1R8	1R5	1R5	1R8	1R5
Rk65	-	6R8	6R8	6R8	6R8	6R8
Rk59	6R8	jumper	jumper	jumper	jumper	jumper
Rs5	1R21	1R54	1R54	1R54	1R54	1R54
Rs11	560R	560R	560R	1k8	560R	1k8
Rs12	560R	560R	560R	1k8	560R	1k8
Rs16	560R	560R	560R	1k8	560R	1k8
Rs13	560R	560R	560R	-	560R	-
Rs14	560R	560R	560R	-	560R	-
Dk9	1N4937	-	-	-	-	-
Lk1	FJ1368	-	-	-	-	-
Mk3	TCP8581	FM2544	FM2544	FM2544	FM2544	FM2544
focus	144M	144M	-	-	144M	144M
FO600	-	-	Yes	Yes	-	-
UG2	96010141	96010141	96010141	96010141	96010141	96010141
defl.coil	220R	680R	680R	100R	200R	100R
J351	No	Yes	Yes	Yes	Yes	Yes
J352	Yes	No	No	No	No	No
rt21	390R	-	-	330R	390R	390R/330R











J1 J2 J3 J4 J5 J6 J7 J8 J9 J11 J13
J18 J12

