# STEREO PLUS 2
# SN / SW-CHASSIS
# (50 Hz, 4:3 / 16:9)

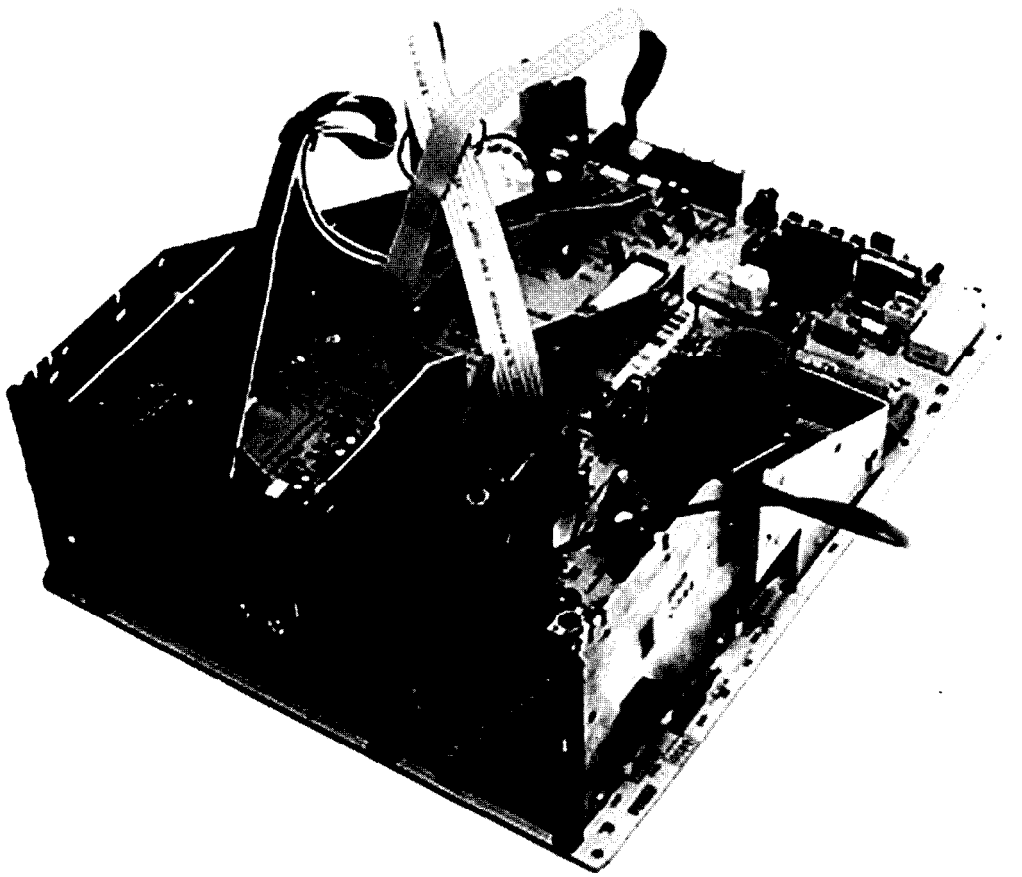
# TV

3 /1999

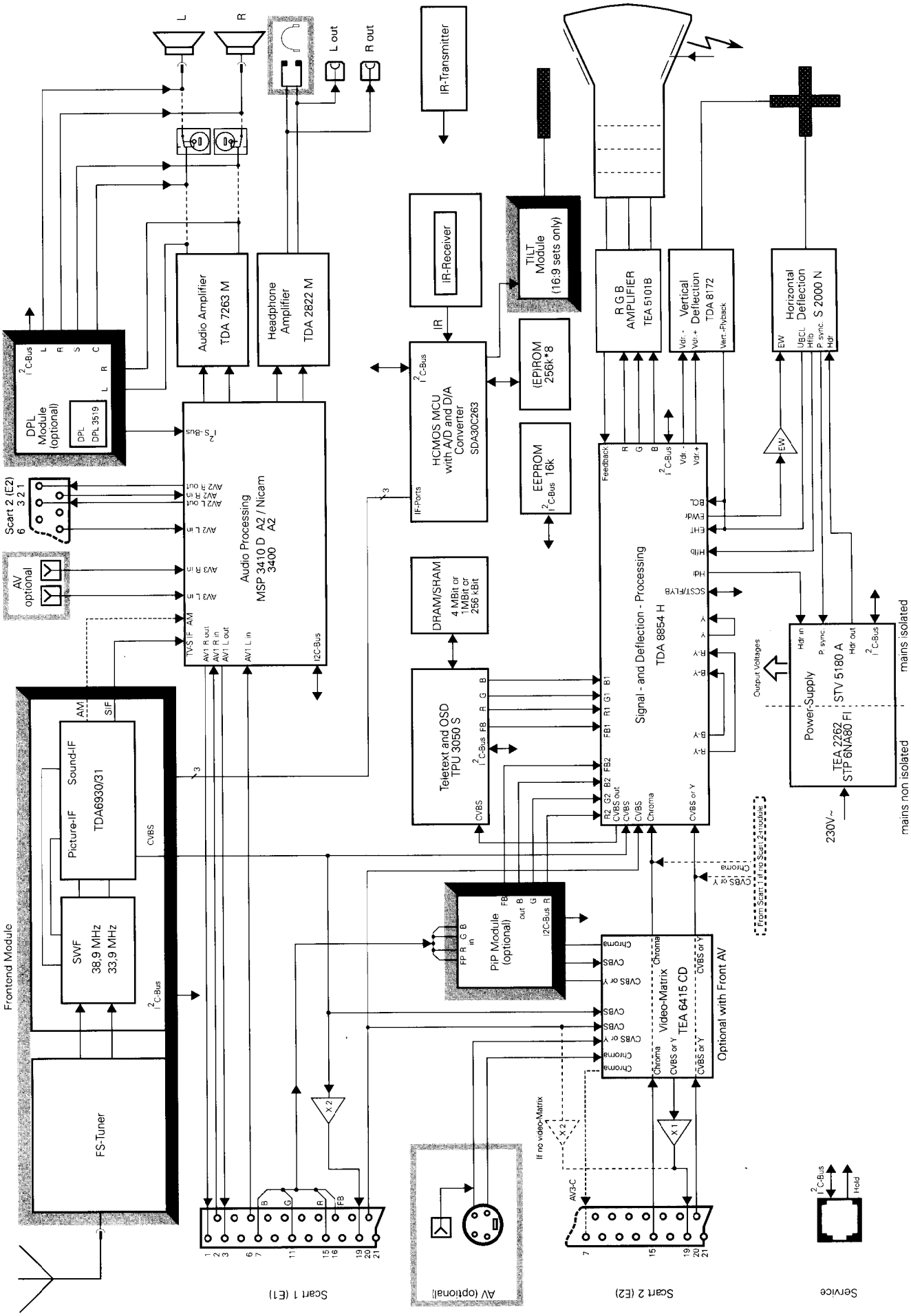
(GB) Service manual
(D) Service-Manual
(S) Serviceanvisning
(F) Manuel de service
(I) Manuale di servizio

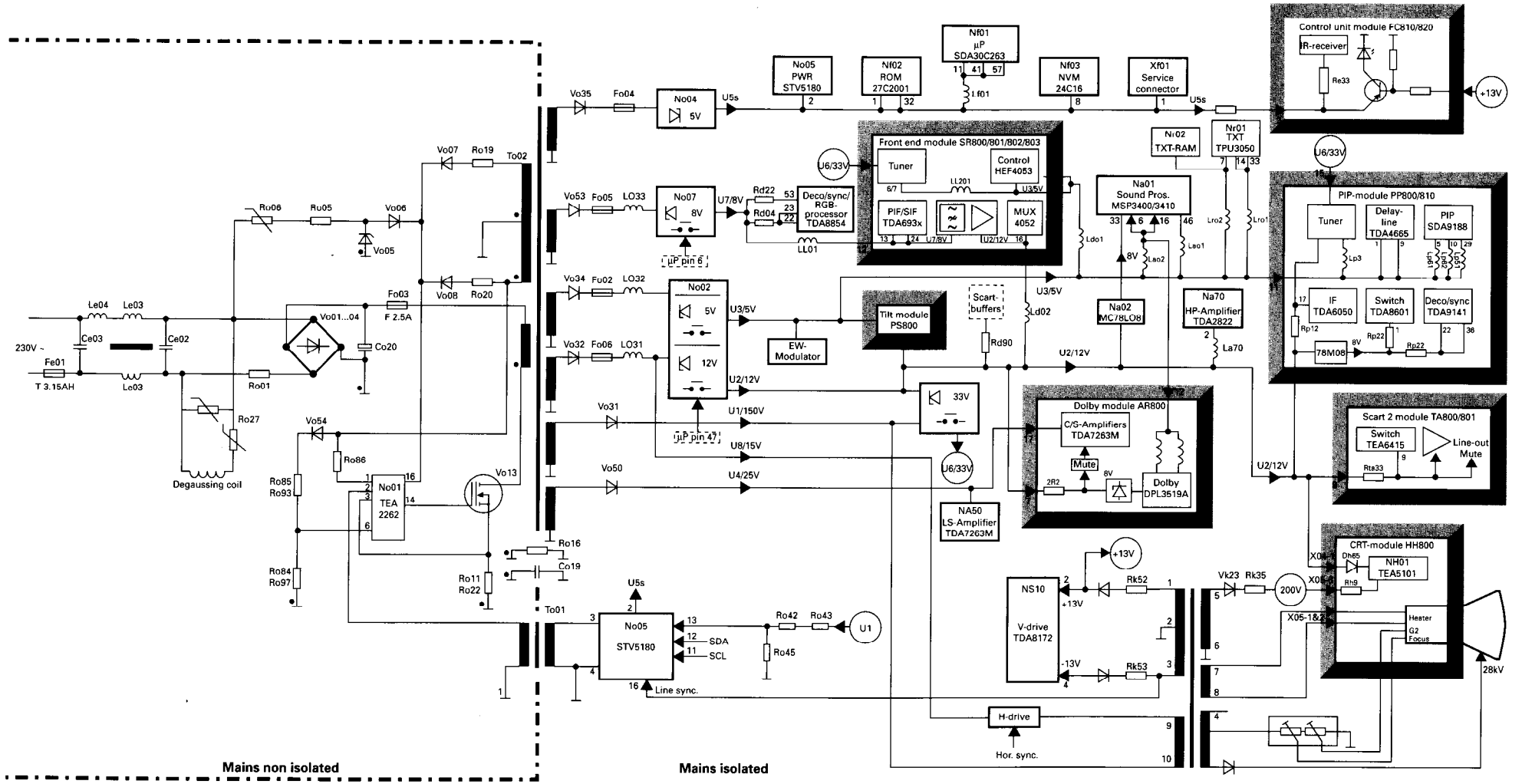
# AKAI

TV 2550-TN
TV 2550-T Multi
TV 2551-TN
TV 2551-TN UK
TV 2551-TN Multi
TV 2850-TN
TV 2850-T Multi
TV 2851-T Multi
TV 2851-T Multi White
TV 2852-T
TV 2852-T Multi
TV 2852-TN UK
TV 2881-T Multi
TV 2881-T Multi UK
TV 3451-T Multi



# Block diagram, signal routes

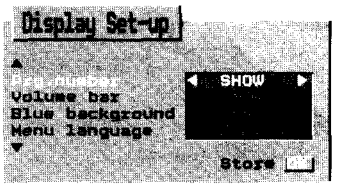



Mains non isolated
Mains isolated
230V ~
Fe01
T 3.15AH
Le04
Le03
Ce03
Ce02
Le03
Vo01...04
Co20
Ro01
Fo03
F 2.5A
Ro06
Ro05
Vo06
Vo05
Vo07
Ro19
To02
Vo08
Ro20
Degaussing coil
Ro27
Vo54
Ro86
Ro85
Ro93
Ro84
Ro97
No01
TEA
2262
Vo13
Ro16
Co19
Ro11
Ro22
To01
U5s
No05
STV5180
SDA
SCL
Line sync.
Ro42
Ro43
U1
Ro45
No04
5V
U5s
Vo35
Fo04
No05
PWR
STV5180
Nf02
ROM
27C2001
Nf01
µP
SDA30C263
I.f01
Nf03
NVM
24C16
Xf01
Service
connector
Control unit module FC810/820
IR-receiver
Re33
+13V
Front end module SR800/801/802/803
Tuner
Control
HEF4053
LL201
U3/5V
PIF/SIF
TDA693x
MUX
4052
U7/8V
U2/12V
U6/33V
Vo53
Fo05
LO33
No07
8V
U7/8V
Rd22
Rd04
Deco/sync/
RGB-
processor
TDA8854
LL01
µP pin 6
Vo34
Fo02
LO32
No02
5V
12V
U3/5V
U2/12V
Vo32
Fo06
LO31
Vo31
U1/150V
µP pin 47
Vo50
U8/15V
U4/25V
EW-
Modulator
Tilt module
PS800
Scart-
buffers
Rd90
33V
U6/33V
NA50
LS-Amplifier
TDA7263M
Nr02
TXT-RAM
Nr01
TXT
TPU3050
Na01
Sound Pros.
MSP3400/3410
Ldo1
Lao1
Lao2
Lro2
Lro1
8V
Na02
MC78L08
Ld02
Na70
HP-Amplifier
TDA2822
La70
U3/5V
U2/12V
Dolby module AR800
C/S-Amplifiers
TDA7263M
Mute
8V
2R2
Dolby
DPL3519A
U2/12V
PIP-module PP800/810
Tuner
Delay-
line
TDA4665
PIP
SDA9188
Lp3
Lp61
Lp62
Lp63
IF
TDA6050
Switch
TDA8601
Deco/sync
TDA9141
Rp12
78M08
8V
Rp22
Rp22
Scart 2 module TA800/801
Switch
TEA6415
Line-out
Mute
Rta33
U2/12V
CRT-module HH800
Dh65
NH01
TEA5101
Rh9
Vk23
Rk35
200V
Heater
G2
Focus
28kV
NS10
V-drive
TDA8172
+13V
Rk52
-13V
Rk53
H-drive
Hor. sync.

# Operating instructions

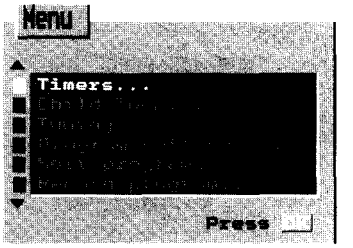
### Changing the menu language

1. Press the yellow button to select the Vision menu.
2. Press the red button to select the Display set-up menu.
3. Change the menu language with cursor buttons.
4. Press the OK button to store the changes.
5. Press the TV button to exit.



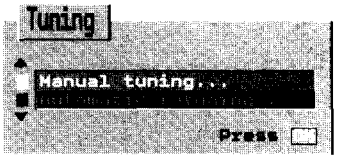

### Manual tuning

1. Select the programme number you want to tune.
2. Press the MENU button.
3. Select "Tuning" with the cursor buttons and press the OK button.
4. Select "Manual tuning" and press the OK button.
5. Select "Channel"-line with the cursor buttons and select the channel you want to watch with 3 digits.
6. Press the OK button to store.
7. Press the TV button to exit.




### APSi (Automatic Programming System)

1. Press the MENU button.
2. Select "Tuning" with the cursor buttons and press the OK button.
3. Select "Automatic retuning" and press the OK button.
4. To retune the channels, press the red button.




# Service adjustments

### Service mode activation

Service mode can be enabled whenever the receiver is switched ON or is in stand-by mode.

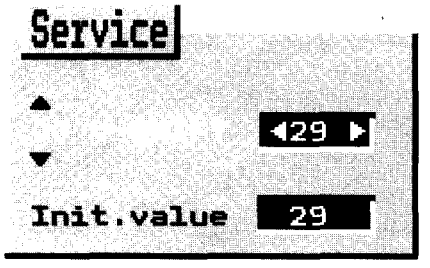
1a)If the receiver is switched ON, press the ◢- (volume minus) button on local control unit and at the same time start entering password: MENU and TV. Release the ◢- button after the MENU button has been pressed.

1b)If the receiver is in stand-by mode, press the ◢- button on local control unit and at the same time start entering password: MENU and TV. Release the ◢- button after the MENU button has been pressed. Switch ON the receiver by pressing the TV button.

2. Activate the service mode by pressing the i button and exit the service mode by pressing the TV button.

3. Disable the service mode by switching off the receiver with the mains switch.

*Note! Service mode activation stays enabled until the receiver is switched off with the mains button.*




In service mode an adjustment menu is shown on the screen.The adjustment number and name, initializing (bottom) and adjustment (top) values are shown in the menu.

# Initialization of NVRAM

### Initialization of NVRAM

If the NVRAM is replaced, it must be initialized and configured.

*Note! The receiver doesn't start with uninitialized NVRAM, but stays in stand-by mode.*

1. Activate the service mode as described in "Service mode activation".

2. Initialize the NVRAM by entering the key code: BLUE, 2, 5, 4 and OK. Wait approx. 15 seconds and then press the OK button again.

3. Exit the service mode by pressing the TV-button.

4. Start the receiver and tune in one or more TV channels with the "manual tuning" method.

*Note! The channel search doesn't work before the reference adjustments (code 12 and 13) have been made, see page 10.*

5. Enter the service mode again and configure the TV set as described in "Configuration and fault diagnosis". (Check that the automatic configuration results in IIC DEV 1&2, AUTO OPT and IF OPT bytes are corresponding to the actual configuration of the TV set.)

6. Set the manual option bytes (TEXT OPT, HW OPT and SW OPT) to correspond the actual configuration of the TV set.

7. Make all necessary service adjustments (see section "SERVICE ADJUSTMENTS VIA IIC BUS, page 9)

*Note! U1 VALU adjustment must be done first.*

8. Disable the service mode by switching off the receiver with the mains switch.

# Service adjustments

## Configuration and fault diagnosis

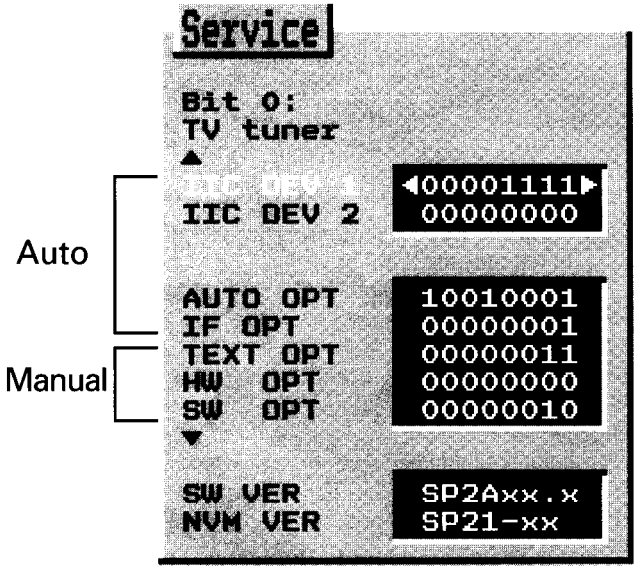
The set must be configured after adding or removing any option. By pressing the RED button in service mode, the processor checks the configuration of the TV set and shows the settings on the screen. The configuration can be stored by pressing the OK button.

This feature can also be used in fault diagnosis. If an option bit is not '1' when it should be, the IC (or feature) is either not present or faulty.

*Note! IIC DEV 1, IIC DEV 2, AUTO OPT and IF OPT bytes are configured automatically every time the RED-button is pressed.*
*TEXT OPT, HW OPT and SW OPT bytes must be set manually.*

## Changing the option bytes

1. Select the configuration mode by pressing the RED button in the service mode.




*SW VER = µP software version.*
*NVM VER = NVRAM software version.*

2. Select IIC Device byte 1 - 2 or Option byte 1 - 5 with cursor buttons (up/down). The selected byte is shown highlighted.
   The name of a responding bit can be seen by using cursor buttons (left/right).

3. Set / clear the bits with number buttons (0 ... 7).

4. Store the settings by pressing the OK button.

5. Return to the normal service mode by pressing the RED button.

## Option byte description

| Bit | Description | Setting | '1' | '0' |
|---|---|---|---|---|
| | | 7 6 5 4 3 2 1 0 | | |
| | **IIC DEV 1** | **00001111** | | |
| 0 | TV tuner 5002PH5 | | Yes | No |
| 1 | Decoder/sync processor TDA8854 | | Yes | No |
| 2 | Teletext processor TPU3050 | | Yes | No |
| 3 | Sound processor MSP34x0 | | Yes | No |
| 4 | Video matrix switch TEA6415 | | Yes | No |
| 5 | PIP processor | | Yes | No |
| 6 | PIP tuner | | Yes | No |
| 7 | 3D virtual sound processor | | Yes | No |
| | **IIC DEV 2** | **00000000** | | |
| 5 | Power controller STV5180 | | Yes | No |
| 6 | Sound processor MSP3410 | | Yes | No |
| 7 | Reserved for production use | | Yes | No |
| | **AUTO OPT** | **10010001** | | |
| 0 | Scart 2 | | Yes | No |
| 1 | 16:9 picture tube | | Yes | No |
| 3 | Text memory 4 Mb DRAM | | Yes | No |
| 4 | Text memory 1 Mb SRAM | | Yes | No |
| 5 | Text memory 256 kb SRAM | | Yes | No |
| 6 | Tilt adjustment | | Yes | No |
| 7 | NICAM identification enabled | | Yes | No |
| | **IF OPT** | **00000001** | | |
| 0 | B/G system in IF | | Yes | No |
| 1 | I system in IF | | Yes | No |
| 2 | D/K system in IF | | Yes | No |
| 3, 4 | L/L' system in IF | | Yes | No |
| 5 | HEF4094B in IF | | Yes | No |
| | **TEXT OPT** | **00000011** | | |
| 1 | FLOF function enabled | | Yes | No |
| 7,6,5 | Text character set selected | 000 = West Europe / Czech<br>001 = East Europe<br>010 = West Europe / USA<br>011 = West Europe / Turkish<br>100 = East Europe 2 | | |
| | **HW OPT** | **00000000** | | |
| 0 | A/V connector installed | | Yes | No |
| 1 | SVHS input in AV | | Yes | No |
| 2 | 3.58 MHz xtal installed | | Yes | No |
| | **SW OPT** | **00000010** | | |
| 1 | Carrier mute enabled | | Yes | No |
| 2 | Stand-by prevent | | Yes | No |
| 3 | Autostart enabled (Special use only!) | | Yes | No |
| 4 | Pal + helper blanking 4:3 | | Yes | No |
| 5 | E1 FB enabled (USER) | | Yes | No |
| 7 | Hotel TV enabled | | Yes | No |

**SW VER** SP2Axx. x

SW VER = µP software version

**NVM VER** SP21-xx

NVM VER = NVRAM software version

# Service adjustments via IIC bus

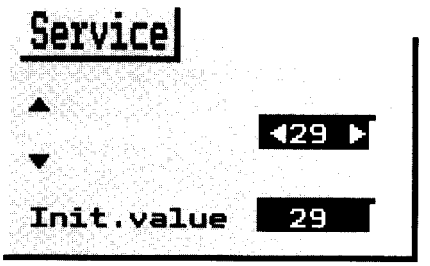
**Remote control buttons in service mode**
When the receiver is in the service mode you can select normal TV mode by pressing the TV button and return to the service mode by pressing the i button.
Number and cursor buttons are used for service adjustments. The OK button stores the settings.
The yellow button hides/shows the service menu to simplify the picture adjustments.

**Making adjustments for different picture formats**
Make all adjustments with PAL signal unless otherwise mentioned. Make 4:3 set adjustments with normal 4:3(CLASSIC) picture format and 16:9 set adjustments with wide picture format. Then make the necessary adjustments with other picture formats/signals. The required adjustments are shown in the table below.

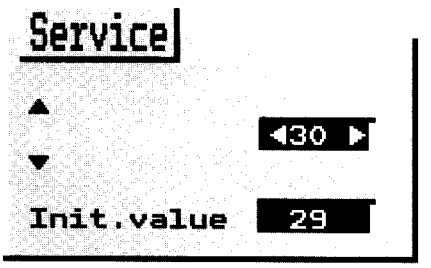
*Note! Check the configuration of the TV set before making the adjustments and make only the necessary adjustments.*

**Making a service adjustment**
1. Give a two digit code which determines an adjustment (e.g. 00 = vertical shift, see the following tables) with the number buttons. You can also select the adjustment with cursor buttons (up-/down).

*Note! Power supply and UG2 adjustments must be done before picture geometry adjustments.*




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




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

*Note!*
- *To avoid incomplete adjustments store each adjustment in the memory immediately after an adjustment has been made.*
- *If an adjustment has to be made separately for different picture format/signal, select first the normal mode by pressing the TV button and select then the desired picture format/signal. Return to service mode by pressing the i button.*

**Picture geometry adjustments**

| | | | 4:3 sets | | | | | 16:9 sets | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adjustment | Code | OSD name | CLASSIC (4:3) | MOVIE (4:3) | MOVIE LIFTED (4:3) | WIDE (4:3) | CLASSIC (16:9) | IDEAL (16:9) | FULL (16:9) | FULL LIFTED (16:9) | WIDE (16:9) | RGB | 60 Hz signal | Note! |
| Vertical off-centre shift | 00 | V-SHIFT | X | | | | | | | | X | | | Center line |
| Vertical amplitude | 01 | V-AMPL. | X | | | | | | | | X | | X | Adjust upper side |
| Vertical slope | 02 | V SLOPE | X | | | | | | | | X | | | Adjust lower part |
| Vertical S-correction | 03 | S-CORR. | X | | | | | X | | | X | | | |
| Vertical zoom | 04 | VER ZOOM | (X) | X | | X | | X | X | | (X) | | | Recommended to use init value first! |
| Vertical scrolling | 05 | V SCROLL | (X) | | | X | | | | X | (X) | | | Recommended to use init value first! |
| Width | 06 | WIDTH | X | X | | | X | | | | X | | X | |
| Horizontal shift deflection | 07 | H-SHIFT | X | | | | | | | | X | X | X | |
| Parabola | 08 | PARABOLA | X | | | | | | | | X | | | |
| Corner | 09 | CORNER | X | | | | | | | | X | | | |
| Trapezium | 10 | TRAPEZ | X | | | | | | | | X | | | |

# Service adjustments

## O Power supply block

**Supply voltage and protection circuit**

1. Set the brightness and the contrast to the normal level. Connect a universal voltmeter to the cathode of Vo31.

2. Adjust the U1 voltage with U1 VALU in the service mode. (The voltage depends on the picture tube type, refer to the section "Variable components").

3. Check the over-current protection after making any service operations in the primary circuit of the power supply. Switch the set to stand-by mode. Short circuit the cathode of Vo50 to the ground and keep the short circuit connected. When the over-current protection works correctly, the power supply stops permanently. Switch off the receiver by pressing the mains button. Remove the short circuit and then switch on the receiver by pressing the mains button.

**AFC adjustments (code 12 and 13)**

1) The right value is found when while changing the value, the AFC display changes from 0 to 1.

2) Adjust with a channel sent with L'-standard. Needed only in multinorm TV sets.

*Note! Use the right channel frequency.*
*Tune the channel with "manual tuning method"*
*(see page 7).*

## K Horizontal deflection block

**Focusing**

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

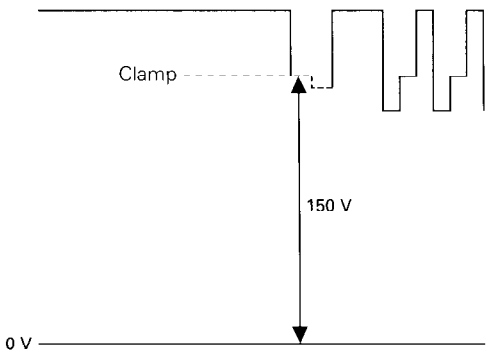
**(Screen grid voltage) Ug2 voltage**

1. Set the brightness and the colour saturation to the normal level and the contrast to minimum.

2. At the end of the vertical blanking, there is a black current measurement pulse (clamp pulse) at pin 9, 12 and 15 of NH01. 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 upper clamp pulse to +150 V with Ug2 (see figure).

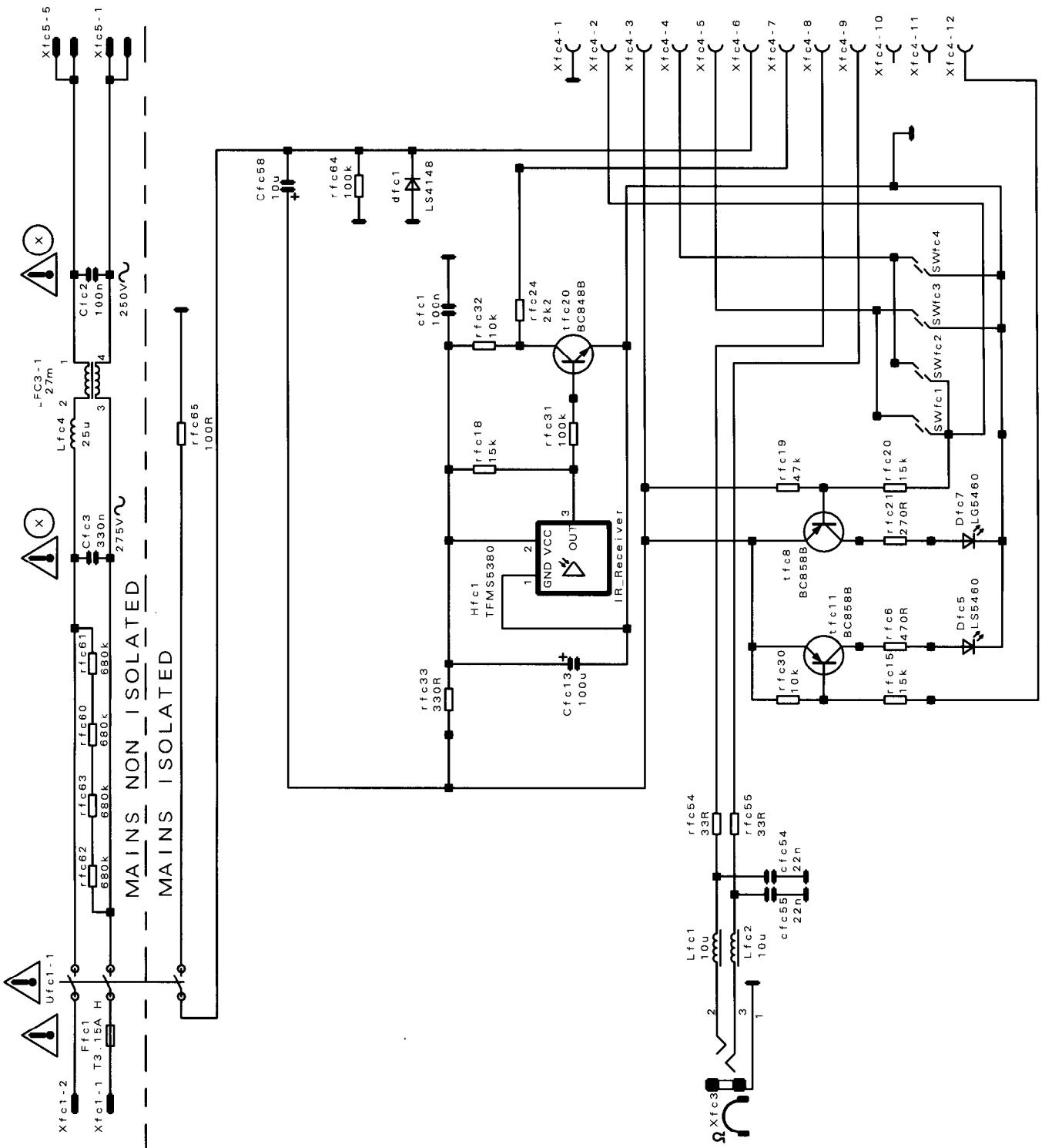
*Note! Adjust the voltage with a clamp pulse.*



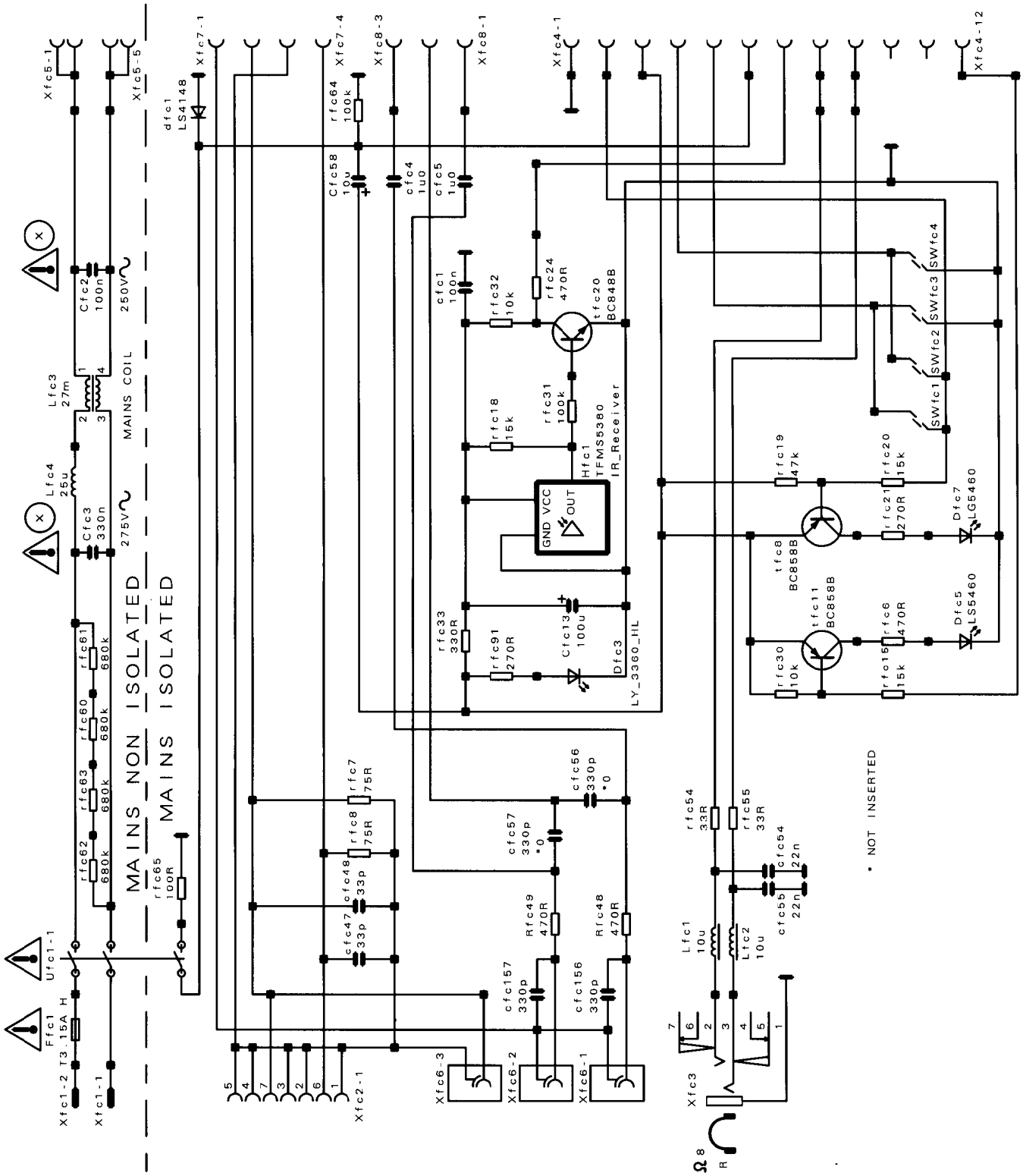

**Other adjustments**

| Adjustment | Code | OSD name | RF OTHER | RF SECAM L | SCART | Note! |
|---|---|---|---|---|---|---|
| Luma delay | 11 | Y-DELAY | X | X | X | |
| IF 33.9 reference voltage for AFC | 12 | REF 339 | | | | 1), 2) |
| IF 38.9 reference voltage for AFC | 13 | REF 389 | | | | 1) |
| STV5180 DAC value for U1 control | 14 | U1 VALU | | | | Must be done before other adjustments! |
| Red gain | 15 | R GAIN | | | | |
| Green gain | 16 | G GAIN | | | | |
| Blue gain | 17 | B GAIN | | | | |

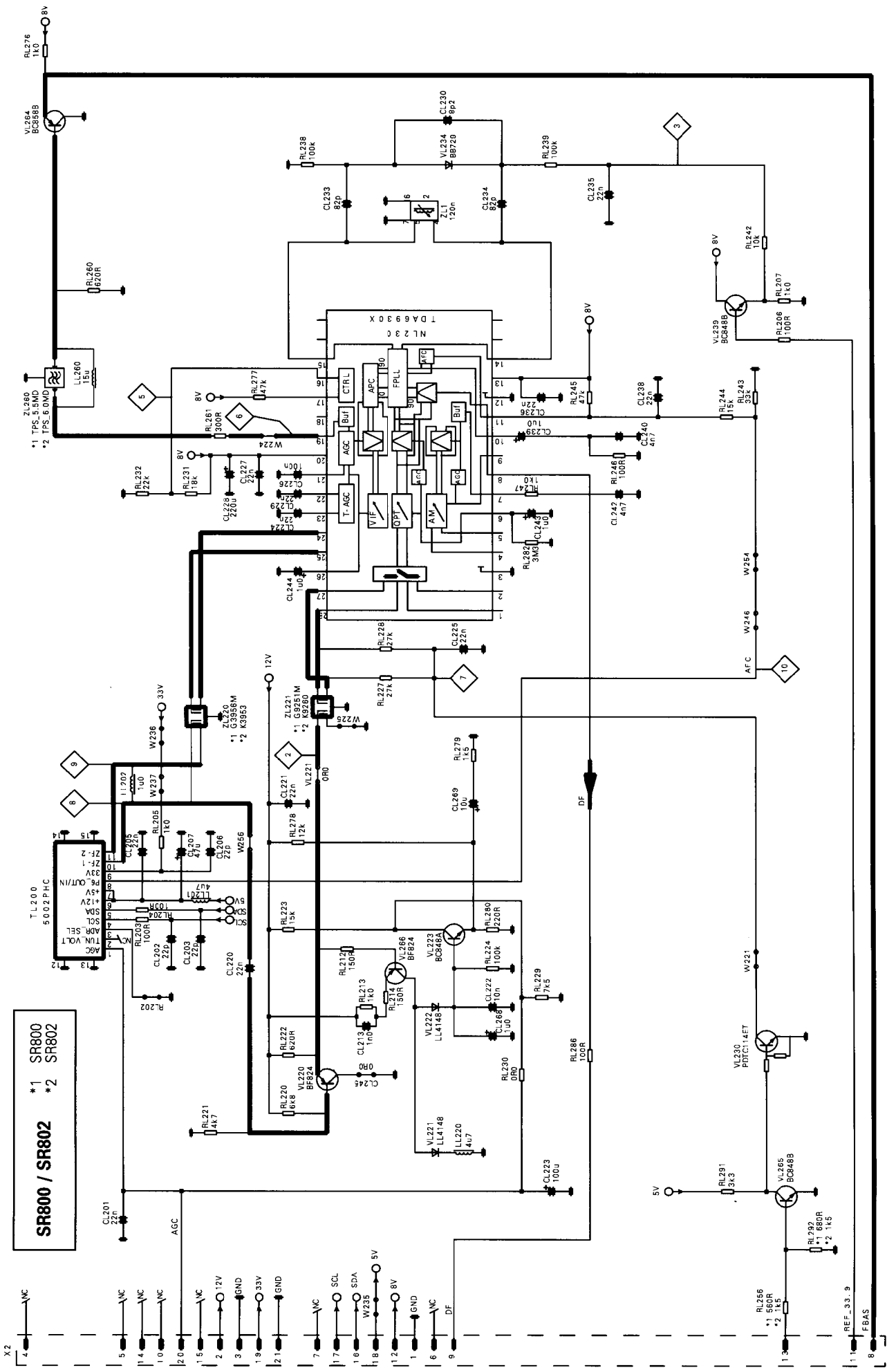
# FC810 Control unit module



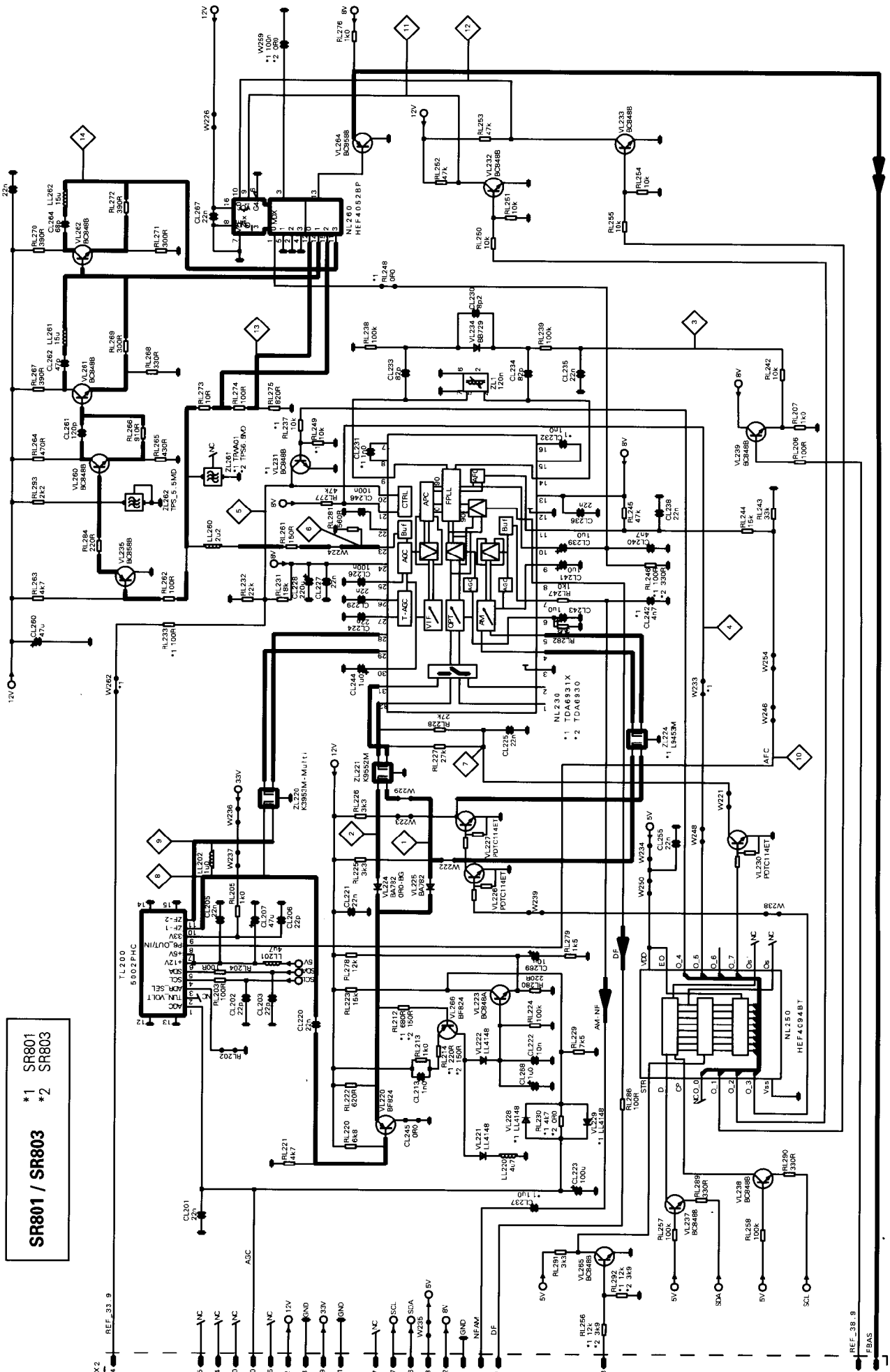
# FC820 Control unit module



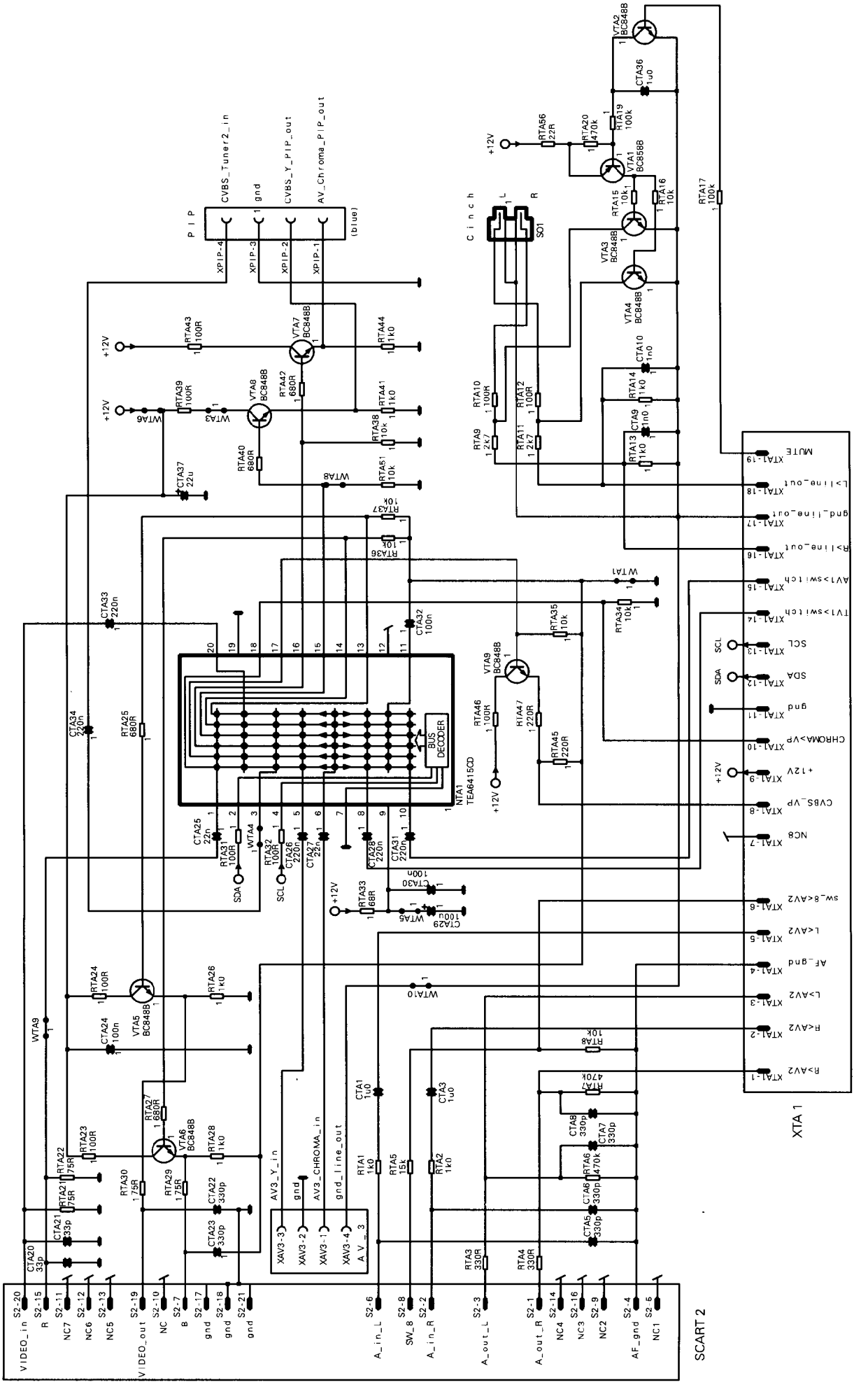
# SR800/802 Frontend module (BG/I)



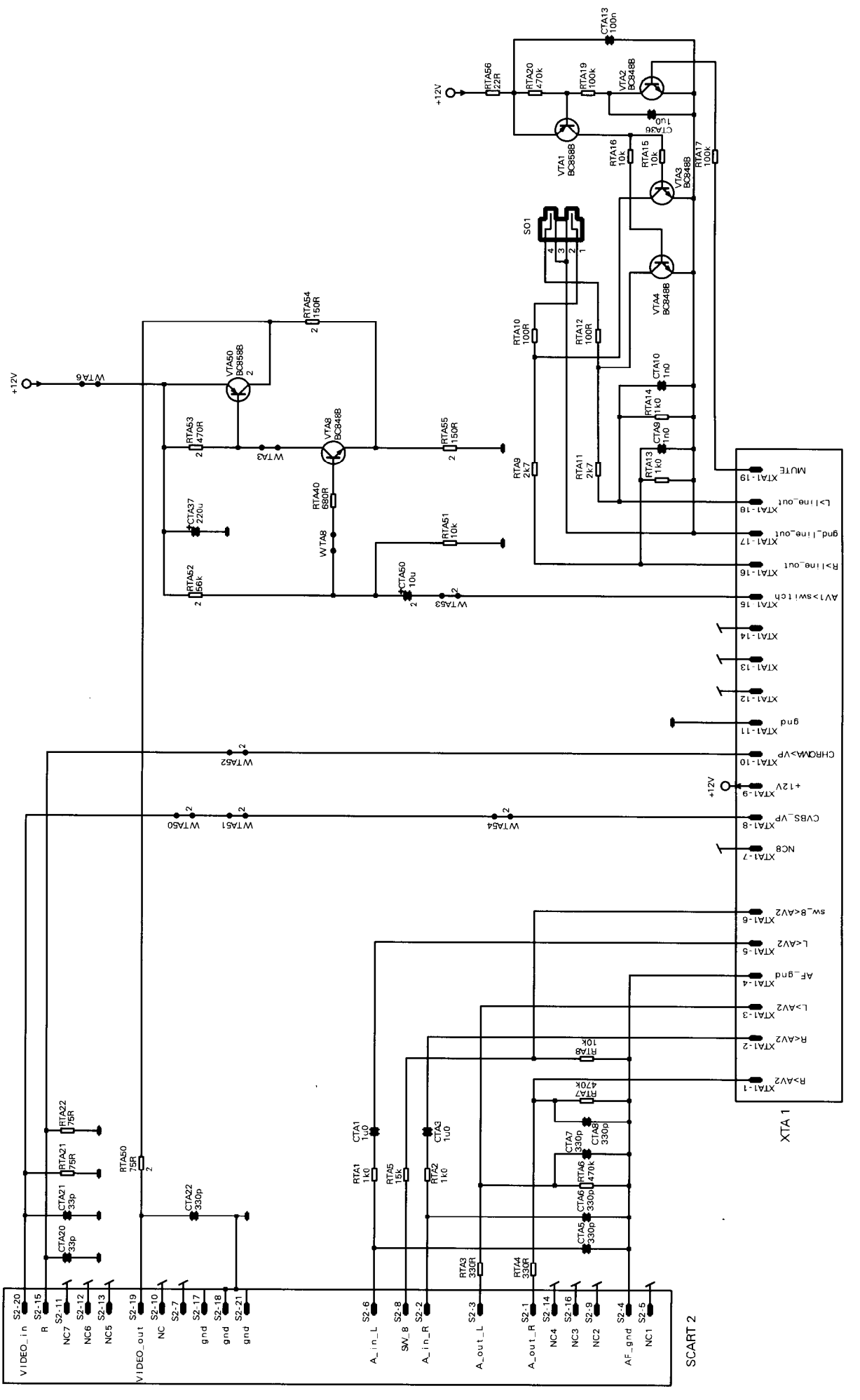
# SR801 Frontend module (Multinorm)



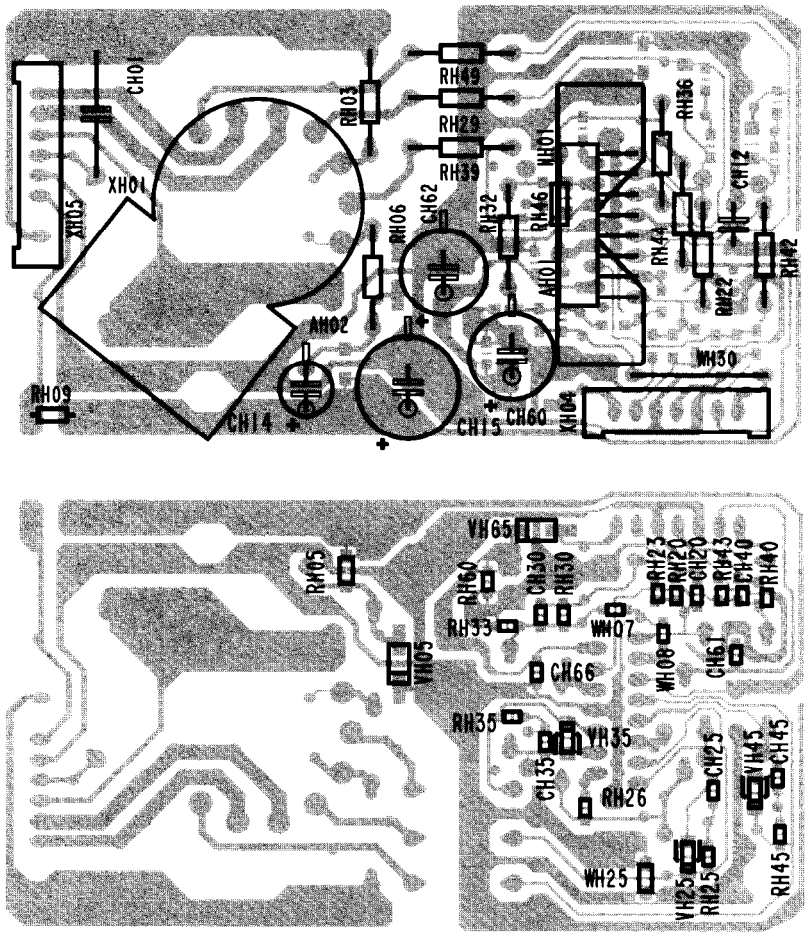
# TA800 AV / Scart 2 module



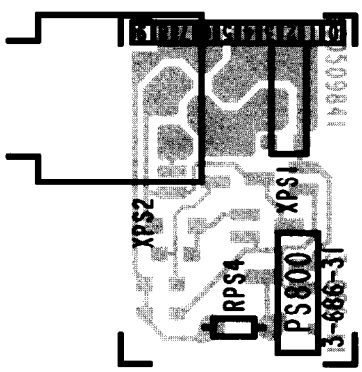
# TA801 Scart 2 module

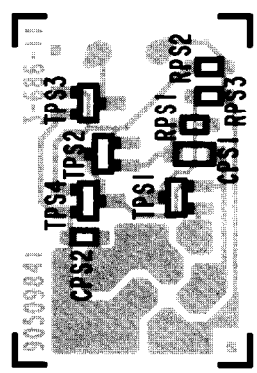


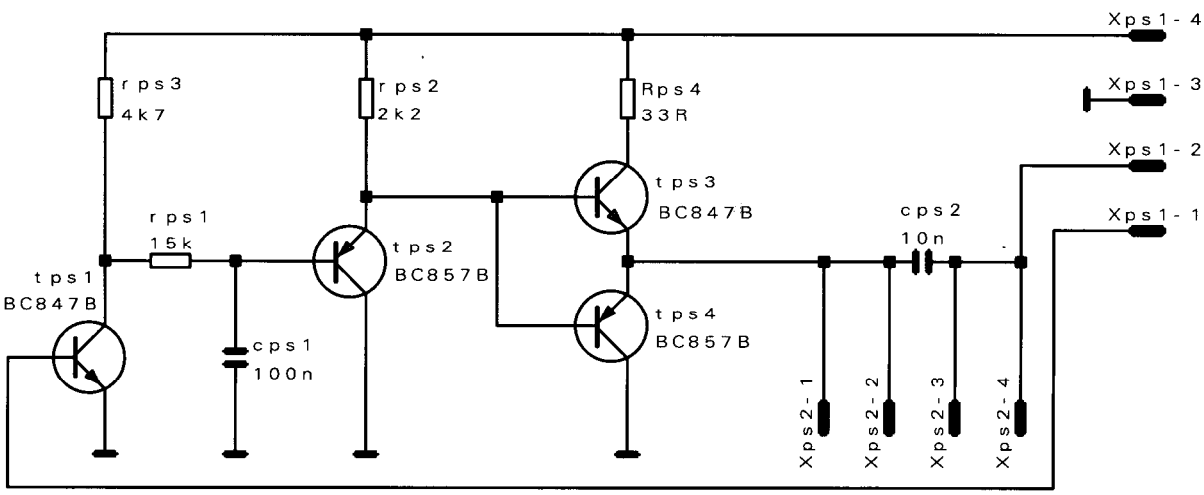
## HH800/HH810 CRT module




## PS800 Picture tilt module



| Picture tube | Vi A59EAS 13X01 | | Vi A59EHJ 43X01 | | Vi A66EAS 13X01 | | Vi A66EHJ 43X01 | | Vi A66EHJ 43X01 | | Vi W66EHU 013X101 | | Vi A80AEJ 33X04 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chassis | C*AB1A* | | B*BC3A* | | C*AE1A* | | B*AF2A* | | B*BF3A* | | C*BJ7A* | | B*AM3A* | |
| PW-block | PW-8B0 | | PW-8C0 | | PW-8E0 | | PW-8F0 | | PW-8F0 | | PW-8J0 | | PW-8M0 | |
| RF-block | RF-801 | | RF-803 | | RF-801 | | RF-802 | | RF-803 | | RF-807 | | RF-803 | |
| RA 42,43 | | | 3142 5852 | 100R | | | 3142 5852 | 100R | 3142 5852 | 100R | 3142 5852 | 100R | 3142 5852 | 100R |
| RA 65,66 | | | 3142 6211 | 2K0 | | | | | 3142 6211 | 2K0 | 3142 6211 | 2K0 | 3142 6211 | 2K0 |
| RD 59 | 3163 0092 | 390K | 3154 8967 | 270K | 3163 0092 | 390K | 3154 8967 | 270K | 3154 8967 | 270K | 3163 0045 | 220K | 3154 8967 | 270K |
| RE 07,08 | | | 3142 5669 | 75R | | | | | 3142 5669 | 75R | | | 3142 5669 | 75R |
| RE 48,49 | | | 3142 5817 | 470R | | | | | 3142 5817 | 470R | | | 3142 5817 | 470R |
| RE 50,51 | | | 3142 5848 | 470K | | | | | 3142 5848 | 470K | | | 3142 5848 | 470K |
| RK 51 | | | | | 3154 8729 | 82K | 3154 8729 | 82K | 3154 8729 | 82K | 3154 8729 | 82K | 3144 0013 | 61K9 |
| RS 12 | 3143 0281 | 2R15 0W6 | 3143 0281 | 2R15 0W6 | 3143 0281 | 2R15 0W6 | 3143 0281 | 2R15 0W6 | 3143 0281 | 2R15 0W6 | 3143 0301 | 3R0 0W6 | 3143 0281 | 2R15 |
| RS 34 | 3143 0281 | 2R15 0W6 | 3143 0281 | 2R15 0W6 | 3143 0281 | 2R15 0W6 | 3143 0281 | 2R15 0W6 | 3143 0281 | 2R15 0W6 | 3143 0301 | 3R0 0W6 | 3143 0281 | 2R15 |
| CA 20,21,40,41 | | | 3212 5517 | 330p | | | 3212 5517 | 330p | 3212 5517 | 330p | 3212 5517 | 330p | 3212 5517 | 330p |
| CA 42,43 | | | 3422 3250 | 22µ / 16V | | | 3422 3250 | 22µ / 16V | 3422 3250 | 22µ / 16V | 3422 3250 | 22µ /16 V | 3422 3250 | 22µ / 16V |
| CA 58,59 | 3422 0551 | 470µ / 16V | 3455 0001 | 1000µ / 16V | 3422 0551 | 470µ / 16V | 3455 0001 | 1000µ / 16V | 3455 0001 | 1000µ / 16V | 3455 0001 | 1000µ / 16V | 3455 0001 | 1000µ / 16V |
| CE 35,36 | | | 3212 5517 | 330p | | | | | 3212 5517 | 330p | 3212 5517 | 330p | 3212 5517 | 330p |
| CE 60,61 | | | 3454 0022 | 1µ0 / 63V | | | | | 3454 0022 | 1µ0 / 63V | | | 3454 0022 | 1µ0 / 63V |
| CE 156,157 | | | 3212 5517 | 330p | | | | | 3212 5517 | 330p | | | 3212 5517 | 330p |
| CK 11 | 3324 0835 | 27n 400V | 3324 0835 | 27n 400V | 3324 0835 | 27n 400V | 3324 0835 | 27n 400V | 3324 0835 | 27n 400V | 3325 0915 | 22n | 3324 0835 | 27n 400V |
| CK 13 | 3348 0013 | 400n 400V | 3348 0011 | 300n 400V | 3348 0013 | 400n 400V | 3348 0011 | 300n 400V | 3348 0011 | 300n 400V | 3348 0011 | 300n 400V | 3348 0011 | 300n 400V |
| CK60 | 3312 0948 | 1µ5 63V | 3312 0948 | 1µ5 63V | 3312 0948 | 1µ5 63V | 3312 0948 | 1µ5 63V | 3312 0948 | 1µ5 63V | 3338 0021 | 3µ3 100V | 3312 0948 | 1µ5 63V |
| NR 02 | | | 3786 0042 | IC SRAM | | | | | 3786 0042 | IC SRAM | 3786 0042 | IC SRAM | | |
| NR 03 | 3786 0025 | IC SRAM | | | 3786 0025 | IC SRAM | 3786 0025 | IC SRAM | | | | | 3786 0025 | IC SRAM |
| LA 04,05 | | | 4562 0055 | 5,6µH B82144 | | | 4562 0055 | 5,6µH B82144 | 4562 0055 | 5,6µH B82144 | 4562 0055 | 5,6µH B82144 | 4562 0055 | 5,6µH B82144 |
| LK 60 | 4538 0006 | 490µH | 4538 0006 | 490µH | 4538 0006 | 490µH | 4538 0006 | 490µH | 4538 0006 | 490µH | 4538 0025 | 590µH | 4538 0006 | 490µH |
| W 42 | | | | | | | | | | | Jumper | 10mm | | |
| W 72 | | | Jumper | 8,75 mm | | | Jumper | 8,75 mm | Jumper | 8,75 mm | Jumper | 8,75 mm | Jumper | 8,75 mm |
| W 77 | | | Jumper | 10,0 mm | | | Jumper | 10,0 mm | Jumper | 10,0 mm | Jumper | 10,0 mm | Jumper | 10,0 mm |
| WA 23,38,39 | | | Jumper | 15,0 mm | | | Jumper | 15,0 mm | Jumper | 15,0 mm | Jumper | 15,0 mm | Jumper | 15,0 mm |
| WA 24 | | | Jumper | 20,0 mm | | | Jumper | 20,0 mm | Jumper | 20,0 mm | Jumper | 20,0 mm | Jumper | 20,0 mm |
| WA 52,59 | | | 3142 5802 | 0R | | | 3142 5802 | 0R | 3142 5802 | 0R | 3142 5802 | 0R | 3142 5802 | 0R |
| WA 53,55 | 3142 5802 | 0R | | | 3142 5802 | 0R | | | | | | | | |
| WD 51 | Jumper | 12,5 mm | | | Jumper | 12,5 mm | | | | | | | | |
| WD 61 | 3142 5601 | 0R | | | 3142 5601 | 0R | | | | | | | | |
| WW 01,02 | | | Jumper | 10,0 mm | | | Jumper | 10,0 mm | Jumper | 10,0 mm | Jumper | 10,0 mm | Jumper | 10,0 mm |
| Rear plate | 8440 0680 | | 8440 0920 | | 8440 0680 | | 8440 0920 | | 8440 0920 | | 8440 0920 | | 8440 0920 | |
| PS800 module | | | | | | | | | | | 6913 7137 | PS800 | | |
| TA80x module | | | 6913 7138 | TA800 | | | 6913 7141 | TA801 | 6913 7138 | TA800 | 6913 7138 | TA800 | 6913 7138 | TA800 |
| U1- voltage | 150V | | 150V | | 150V | | 150V | | 150V | | 150V | | 150V | |

ONLY FOR PUSH THROUGH
VERSIONS FC80B

NETZGETRENNT/MAINS-INSULATED

NETZVERBUNDEN/MAINS-CONNECTED

DEGAUSSING COIL

SERVICE

SLIDESWITCH

IR_Receiver

EPROM

NF01 SDA30C263

NR01 TPU3050S

NR02 256k GM76C256 1M TC551001 4M HM514100

GM76C8128

NF03 ST24W16D

NF04 TL7705A

NF02 262144

N001 TEA2262

STR-S6509F

BUS INTERFACE MEMORY EXTERNAL

SERVICE

SCART 1

XW03 *5

NETZGETRENNT/MAINS- INSULATED

NETZVERBUNDEN/MAINS-CONNECTED

VERT. ABLENKUNG
DEFLECTION
DEFLESSIONE

SCART 1

XW03 *5 PIP/GUESTLINK

ZF A103 FRONTEND_DISCRETE

COMBFILTER XW02 *10

XW01

TV-CVBS

XP34

MSP 3410DPO

DFP

SCART SWITCH FACILITY

NA01 A2 : MSP3400C NICAM : MSP3410D

NA02 MC78L06ACP

NDO1 TDA8854H

PAL/SECAM /NTSC-DEC

BASEBD. DELAY

RGB2 MATRIX SWITCH

RGB MATRIX SWITCH

RGB-CONTROL OUTPUT

H-OUT 2nd LOOP

SYNC-SEPERAT. 1st LOOP VCO

LUMA DELAY

SAT.-CONTROL

SWITCH + FILTER

VOLUME SWITCH

FM-PLL

I2C-BUS

EW/VERTICAL-DRIVE

DIVIDER

SCART1-CVBS

TV-CVBS

AV-Y

AV-C

VERT. ABLENKUNG
DEFLECTION
DEFLESSIONE

E/W-Modulator

UBCL

H_FLYBACK

*0 not inserted
*1 static RAM 256k or 1M
*2 dynamic RAM 4M
*3 sets with 1 scart
*4 sets with 2 scart
*5 PIP
*6 AV front
*7 stereo without ext.speakers
*8 stereo with ext.speakers
*9 dolby
*10 without comp.filter
** version component

1192.6xxx

COMBFILTER
XW02 *10

DPL/SUBWOOFER

MSP
3410DPD

DFP

NA01 A2 : MSP3400C
NICAM : MSP3410D

NA02 MC78L06ACP

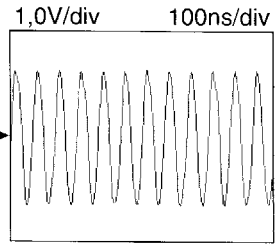
NA50 TDA7263M

NA70 TDA2822M

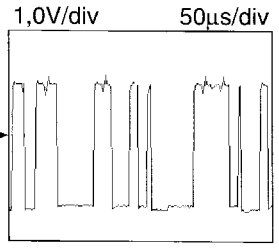
*0 not inserted
*1 static RAM 256k or 1M
*2 dynamic RAM 4M
*3 sets with 1 scart
*4 sets with 2 scart
*5 PIP
*6 AV front
*7 stereo without ext.speakers
*8 stereo with ext.speakers
*9 dolby
*10 without comp.filter
** version component

1192.6xxx

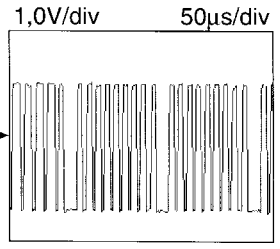
TP21 Xtal
1,0V/div 100ns/div
2,5V



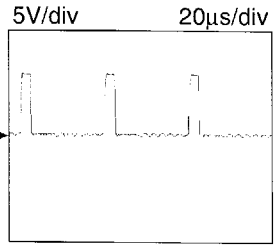
TP22 SDA
1,0V/div 50µs/div
3,0V



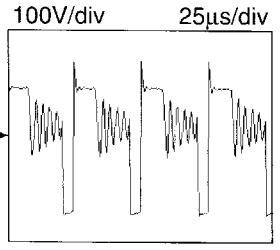
TP23 SCL
1,0V/div 50µs/div
3,0V



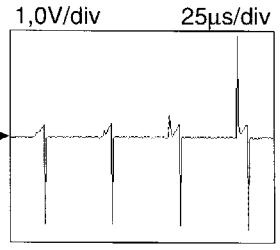
TP44
5V/div 20µs/div
0,0V



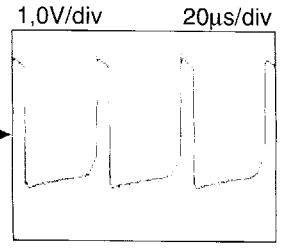
TP45
100V/div 25µs/div
300V



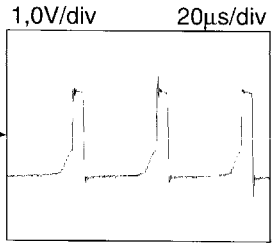
TP46
1,0V/div 25µs/div
0,0V



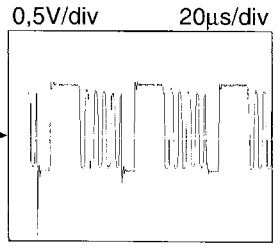
TP47
1,0V/div 20µs/div
1,0V



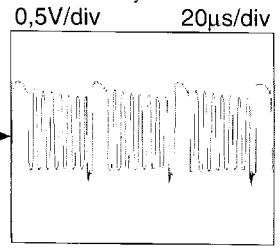
TP48
1,0V/div 20µs/div
1,0V



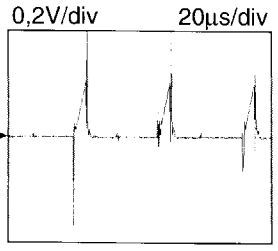
TP49a
0,5V/div 20µs/div
0,0V



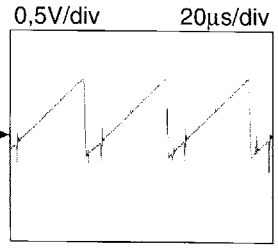
TP49b stby
0,5V/div 20µs/div
0,0V



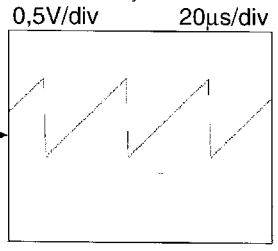
TP50
0,2V/div 20µs/div
0,0V



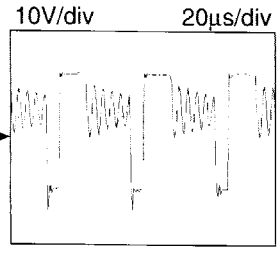
TP51a
0,5V/div 20µs/div
2,0V



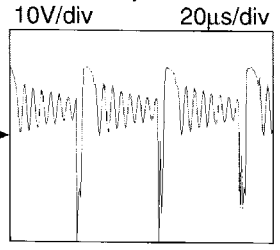
TP51b stby
0,5V/div 20µs/div
2,0V



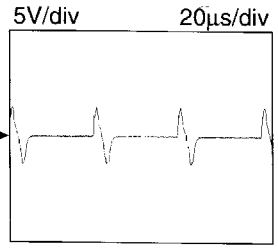
TP52a
10V/div 20µs/div
-10V



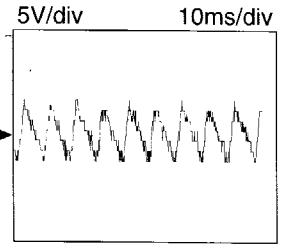
TP52b stby
10V/div 20µs/div
-10V



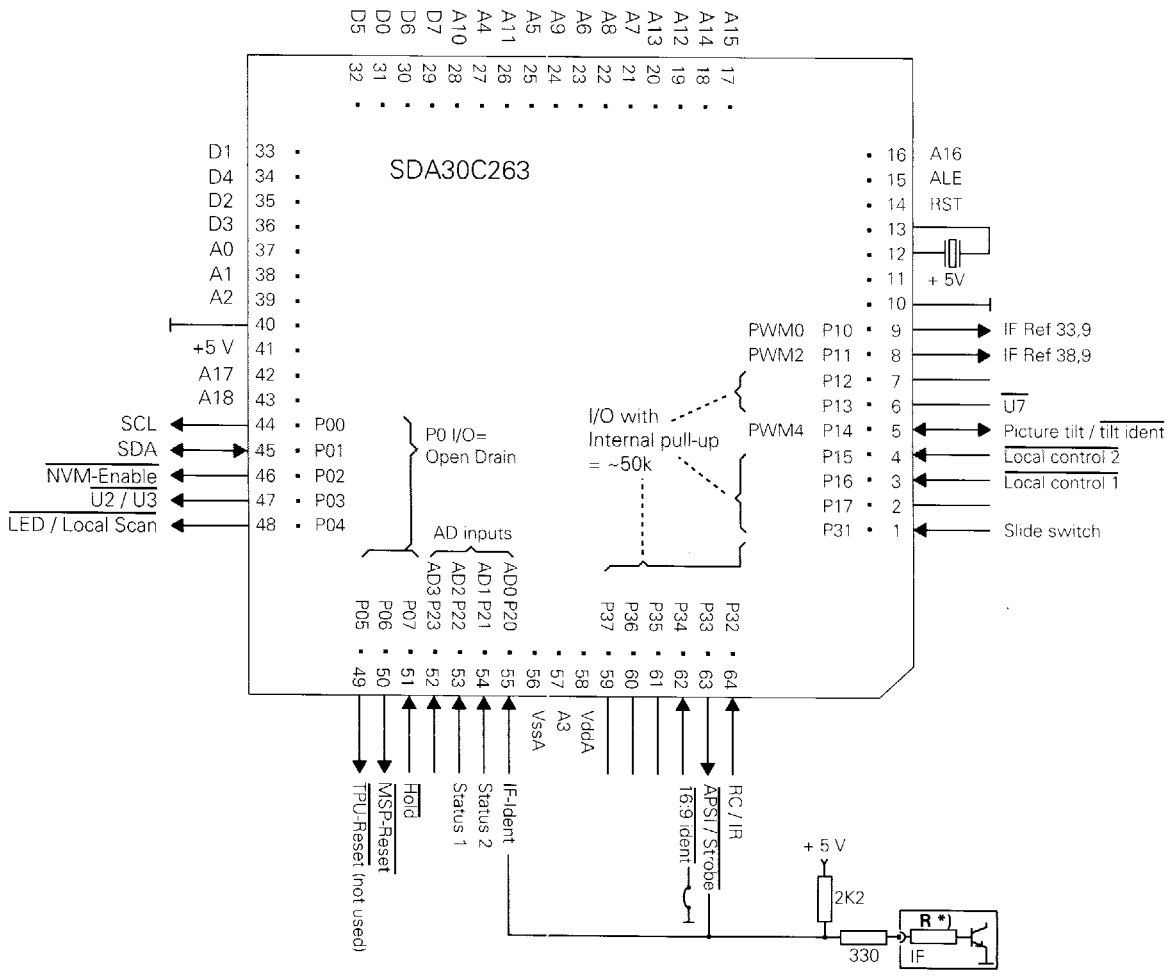
TP53
5V/div 20µs/div
0,0V

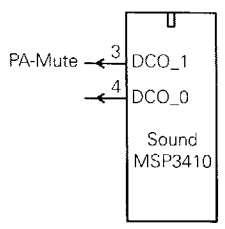


TP54
5V/div 10ms/div
330V



**NF01**




| Scart status voltages | | |
|---|---|---|
| Mode | Scart | µP-pin |
| 4:3 | 8,5...12V | 3,4...5V |
| 16:9 | 3.5...8V | 1,4...3,2V |
| OFF | 0...3V | 0...1,2V |

AD0 as IF Ident

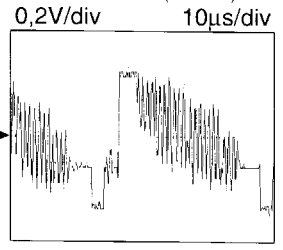
| Voltages | R *) | IF versions | Frontend mod. |
|---|---|---|---|
| 3,9 - 5,0 | 12k | BG / DK / I / LL' | SR801 |
| 3,1 - 3,9 | 3k9 | BG / DK | SR803 |
| 2,3 - 3,1 | 1k5 | I | SR802 |
| 1,7 - 2,3 | 680 | BG | SR800 |

**3rd EDITION**

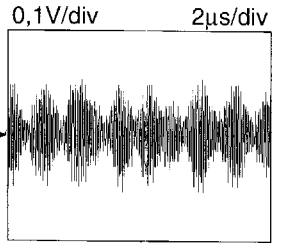
# CHASSIS SP2-SERIE

6611 96 18

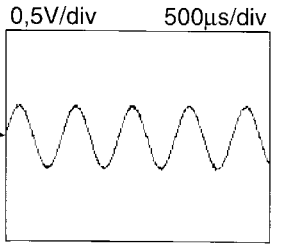
TP1 TV video (col. bar)
0,2V/div 10µs/div
3,8V



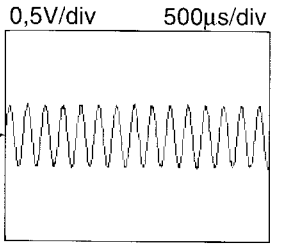
TP2 Sound IF FM+Nicam
0,1V/div 2µs/div
3,3V



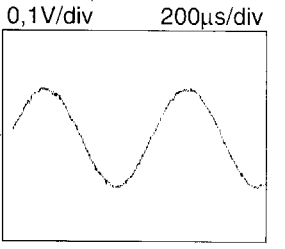
TP3 Audio R 1 kHz
0,5V/div 500µs/div
2,0V



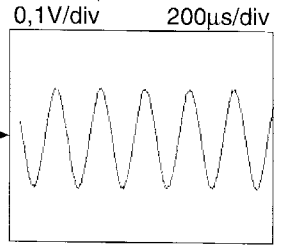
TP4 Audio L 3 kHz
0,5V/div 500µs/div
2,0V



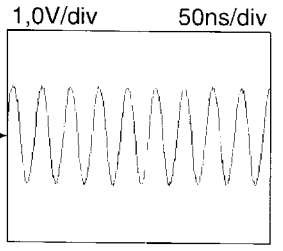
TP5 Hp R 1 kHz
0,1V/div 200µs/div
0,0mV



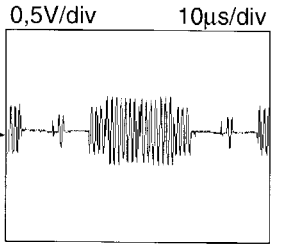
TP6 Hp L 3 kHz
0,1V/div 200µs/div
0,0mV



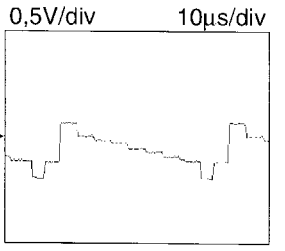
TP7 Xtal
1,0V/div 50ns/div
2,0V



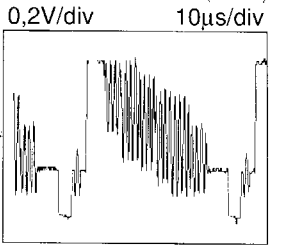
TP8 AV-C
0,5V/div 10µs/div
1,0V



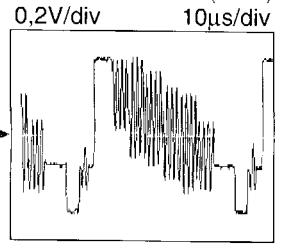
TP9 AV-Y
0,5V/div 10µs/div
4,0V



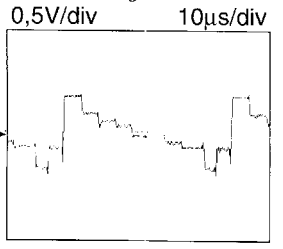
TP10 Scart 1 Video(1scart)
0,2V/div 10µs/div
3,8V



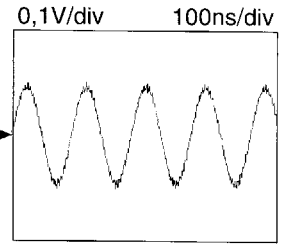
TP11 Scart 1 Video(2scart)
0,2V/div 10µs/div
3,8V



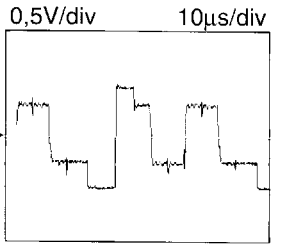
TP12 Y-sigr
0,5V/div 10µs/div
2,5V



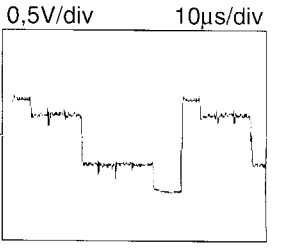
TP13 Xtal
0,1V/div 100ns/div
0,0mV



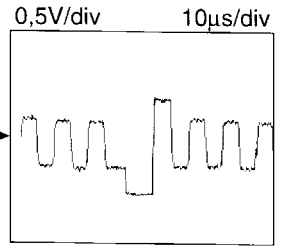
TP14 R
0,5V/div 10µs/div
3,5V



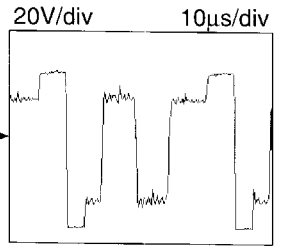
TP15 G
0,5V/div 10µs/div
3,5V



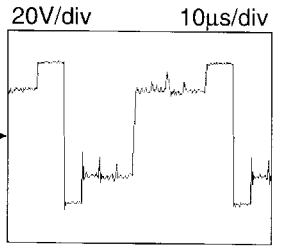
TP16 B
0,5V/div 10µs/div
3,5V



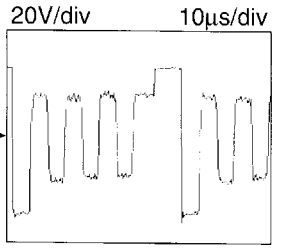
TP17 R
20V/div 10µs/div
110V



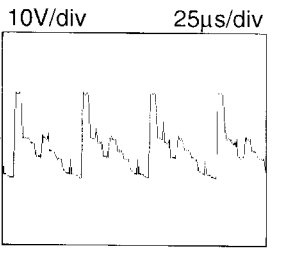
TP18 G
20V/div 10µs/div
110V



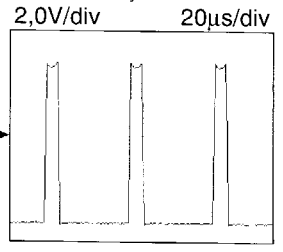
TP19 B
20V/div 10µs/div
110V



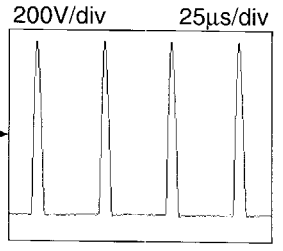
TP20
10V/div 25µs/div
20V



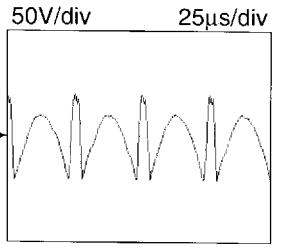
TP24 H-flyb
2,0V/div 20µs/div
6,0V



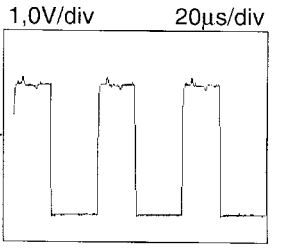
TP25 H
200V/div 25µs/div
600V



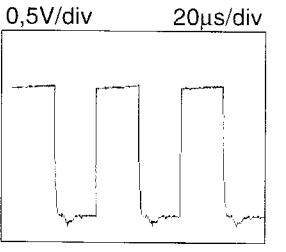
TP26 H
50V/div 25µs/div
150V



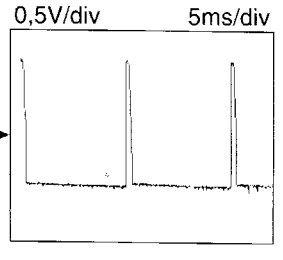
TP27 H
1,0V/div 20µs/div
3,0V



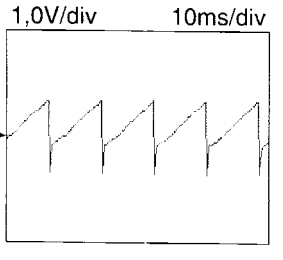
TP28 H
0,5V/div 20µs/div
1,5V



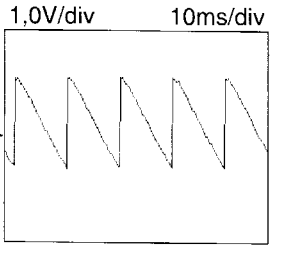
TP29 BCL
0,5V/div 5ms/div
3,5V



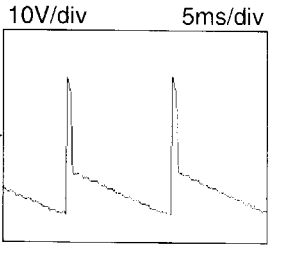
TP30 V
1,0V/div 10ms/div
2,0V



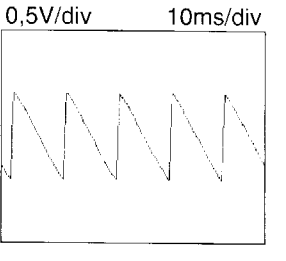
TP31 V
1,0V/div 10ms/div
2,0V



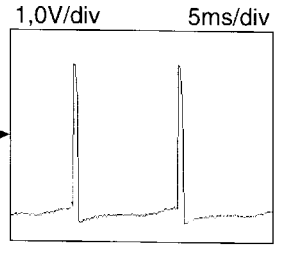
TP32 V
10V/div 5ms/div
20V



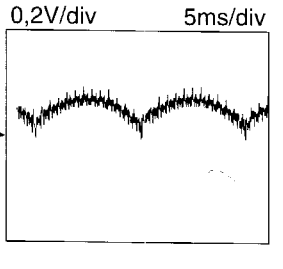
TP33 V
0,5V/div 10ms/div
0,0V



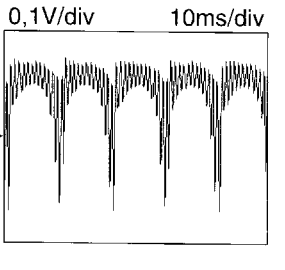
TP34 V
1,0V/div 5ms/div
3,0V



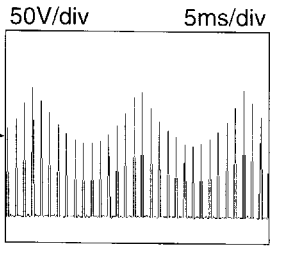
TP35 E-W
0,2V/div 5ms/div
1,6V



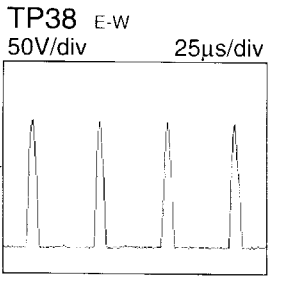
TP36 E-W
0,1V/div 10ms/div
0,3V



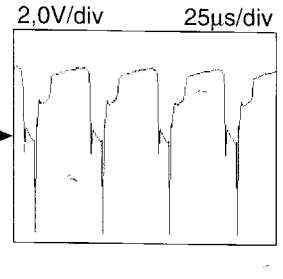
TP37 E-W
50V/div 5ms/div
150V



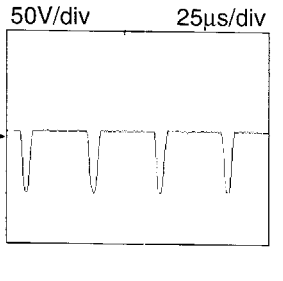
TP38 E-W
50V/div 25µs/div
150V



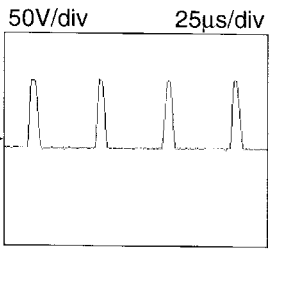
TP39
2,0V/div 25µs/div
-4,0V



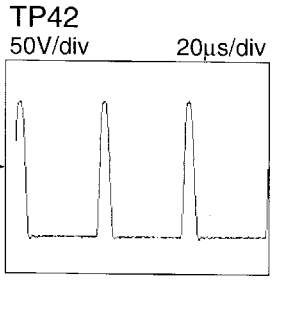
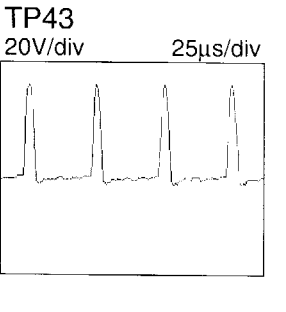
TP40
50V/div 25µs/div
0,0V



TP41
50V/div 25µs/div
0,0V



TP42
50V/div 20µs/div
100V



TP43
20V/div 25µs/div
0,0V