

**STEREO CHASSIS
MONO PLUS**

39

TV

1995

- Ⓒ Service manual
- Ⓓ Service-Manual
- Ⓔ Serviceanvisning

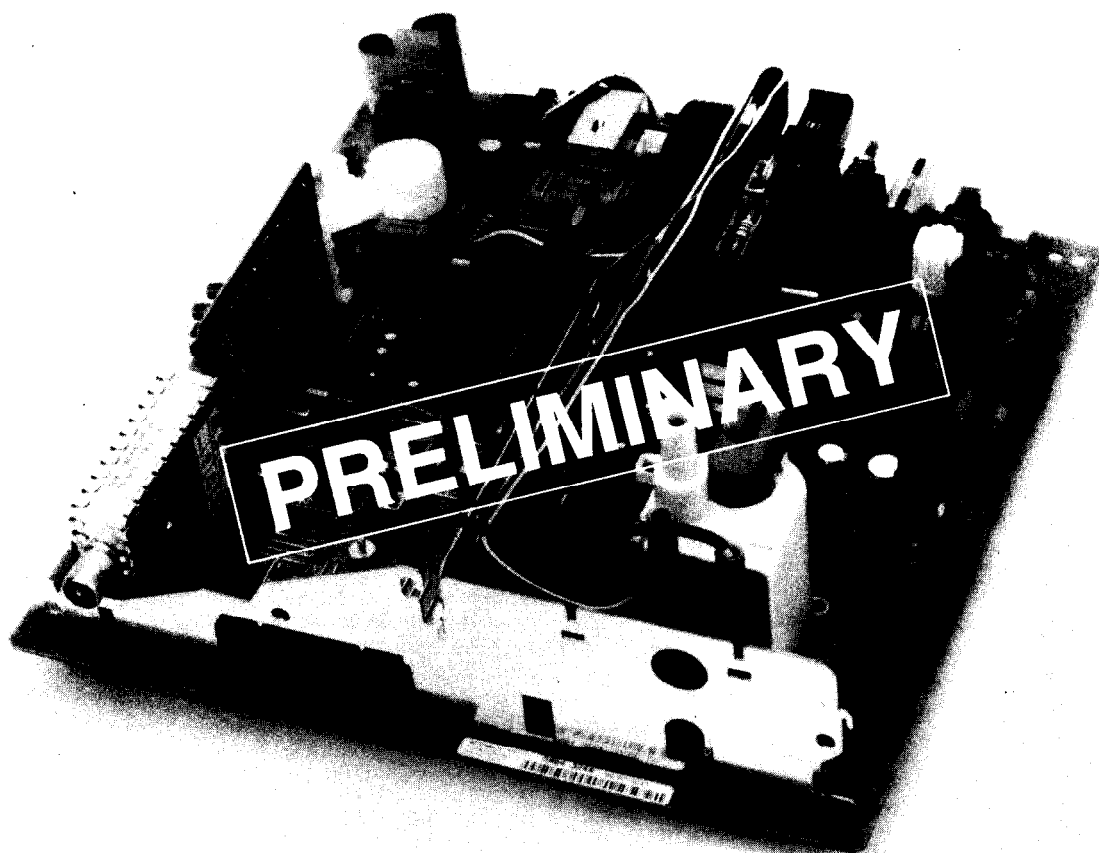
- Ⓕ Manuel de service
- Ⓖ Manuale di servizio

NOKIA

5556

6356

7156



NOKIA 
CONNECTING PEOPLE

GB

Instructions for repair work

N.B.: (cc. switch-mode)

Please use only original component 3447 00 04 for CO06. If standard size electrolyt capacitor CO06 is used, parallel 0,47 μ F MKT must be installed additionally.

1. With the horizontal output stage disconnected (e.g. pin 8 at TK02 open) and a "dummy" load at the cathode of VO31 (e.g. 100 W lamp) the power supply must supply approx. 100% of the setpoint voltage.
2. For fault finding the elect. fuse can be disconnected with a shunt connection across CO07. IF the electronic fuse cuts out due to a momentary overload, the TV set can be re-started by using the mains switch.
3. Make sure there is hum-free d. c. voltage available. For example: the ripple voltage of U1 is approx. 4 V and should, due to capacitance loss of CO33, not increase much more. The ripple voltages of the other d.c. voltages should be less than 1 V. The ripple voltages of U2, U3, U5 are in the mV range.

D

Reparaturtipps

Achtung! (betr. Schaltnetzteil)

Für CO06 nur Originalteil 3447 00 04 verwenden. Bei handelsüblichem Elko CO06 muß parallel 0,47 μ F MKT zusätzlich bestückt werden.

1. Mit abgetrennter Horizontalendstufe (z.B. Anschluß 8 an TK02 offen) und einer Ersatzbelastung an der Kathode von VO31 (100 W Glühlampe) muß das Netzteil ca. 100% der Sollspannung liefern.
2. Zur Fehlersuche bei Sicherungsbetrieb des Netzteiles kann CO07 überbrückt werden. Wurde der Sicherungsbetrieb durch einen flüchtigen Überlastfall ausgelöst, kann das Gerät durch Aus- und Einschalten des Netzschalters wieder in Betrieb genommen werden.
3. Auf brummfreie Gleichspannung achten. Z.B. die Brummspannung von U1 liegt bei ca. 4 V und sollte, bedingt durch Kapazitätsverlust von CO33, nicht viel größer werden. Die Brummspannungen der übrigen Gleichspannungen sollten unter 1 V liegen. Die Brummspannungen von U2, U3 und U5 liegen im mV-Bereich.

F

Conseils de réparation

Attention! (bloc secteur de commutation)

Utiliser uniquement la pice originale 3447 00 04 (CO06). Dans le cas de condensateurs electrochimiques usuels CO06 0,47 μ F MKT doit etre équipé en plus.

1. Lorsque l'étage final horizontal est déconnecté (par ex. raccordement 8 sur TK02 ouvert) et dans le cas d'une charge de remplacement au niveau de la cathode de VO31 (lampe à incandescence de 100 W) le bloc seteur doit délivrer 100% env. des tensions de consigne.
2. Pour la détection d'erreurs en fonctionnement de sécurité du bloc secteur, il est possible de ponter CO07. Lorsque le fonctionnement de sûrete est déclenché à cause d'une surcharge transitoire, l'appareil peut être remis en marche au moyen du commutation principal mise en et hors circuit.
3. Veiller à la présence de tensions continues exemptes d'ondulation. La tension d'ondulation de U1 par exemple est de 4 V env. et ne devrait pas beaucoup augmenter en raison d'une perte de capacité de CO33. Les tensions d'ondulation des autres tensions continues devraient toujours être inférieures à 1 V. Les tensions d'ondulation de U2, U3, U5 se situent dans la gamme des mV.

I

Consigli per le riparazioni

Attenzione! (circ. alimentazione)

Utilizzare soltanto pezzo orig. 3447 00 04 CO06. Nei Elko CO06 reperibili in commercio deve essere ulteriorm. e montato un 0,47 μ F MKT.

1. Con lo stadio di uscita orizzontale staccato (ad es. collegamento 8 al TK02 aperto) e un carico di sostituzione al catodo di VO31 (una lampada a 100 W), l'alimentatore deve fornire circa il 100% della tensione nominale.
2. Per la ricerca di errori in caso di funzionamento di sicurezza del blocco dileeralimentazione, CO07 può essere cavallottato. Se il funzionamento di sicurezza dovesse scattare a causa di un sovraccarico transitorio, l'apparecchio può essere rimesso in funzione azionando l'interruttore principale d'inserzione e disinserzione.
3. Controllare che le tensioni continue siano prive di ronzio. Per es la tensione di ronzio di U1 si trova a ca. 4 V e non dovrebbe aumentare di molto, in dipendenza della perdita di capacità di CO33. Le tensioni di ronzio delle rimanenti tensioni continue dovrebbero rimanere inferiori a 1 V. La tensione di ronzio di U2, U3, U5 si trovano nel campo dei mV.

S

Reparationstips

Obs! (gäller switch-nätdelen)

Endast originalkomponent 3447 00 04 bör användas för CO06. Om en standard elektrolytkondensator används för CO06, måste en 0,47 μ F MKT installeras parallellt.

1. Med horisontalslutsteget urkopplat (t.ex. stift 8 på TK02 öppen) och konstbelastning (t.ex. 100 W lampa) på katoden till VO31, måste nätdelen mata ca. 100% av den nödvändiga spänningen.
2. För felsökning kan skyddskretsen kopplas ur funktion med en bryggkoppling över CO07. Om skyddskretsen utlöser sig, beroende på en tillfällig överbelastning, kan mottagaren kopplas på på nytt med nätbrytaren.
3. Använd endast filtrerad DC-spänning. Exempel: Beroende på kapacitansförlusten över CO33, får brumnivån på U1 inte vara över 4 V. Brumnivån på övriga DC-spänningarna skall vara under 1 V. Brumnivån på U2, U3 och U5 är i mV storlek.

Service adjustments

Note! Before other adjustments U1 voltage must be adjusted.
If the set cannot be switched on with the number buttons, please see under "MODE" (Service menu 3).

Service mode

Select the service mode by pressing the Mute, OK (M) and TV buttons on the remote control unit. You can use the yellow button to call up Service Menu 2, 3 or 4 (or Service Menu 1 again).

Use the cursor button ▲ or ▼ to select required adjustment and adjust it by using the cursor buttons ◀ and ▶.

Store into memory by pressing the red OK (M) button.

Return to normal TV mode by pressing the TV button.

Service adjustment which are made in service mode

OSD	Note
Service menu 1	
U1	U1 operating voltage, see adjustment "U1 voltage"
AGC	See adjustment "AGC"
H-SHIFT	Adjust centre of the test picture horizontal to a centred position. (Advice on set software)
Service menu 2	
TXT	Teletext.character sets: EAST/WEST/WEST TURK
SCART	SCART socket, YES/1=When a switching voltage is being received at pin 8 (+12 V), the set switches from standby to the "ON" operating status (programme memory location E1). YES/2=as for YES/1; however, the set switches back to the standby operating status when the switching voltage (at pin 8) is switched off. This does not apply if you have changed programmes during operation. NO=E1 cannot be selected.
TXT H-SHIFT	Adjust teletext picture horizontal to centre on the screen.
APS	Set to the appropriate television standard. Specifies APS sequence, e.g. first the BG standard, then L or L, and then BG.
Service menu 3	
AUTOAPS	YES=APS; search function will be run automatically when the set is switched on for the first time and stores all stations in memory. NO=No automatic search function when the set is switched on for the first time.
MODE	1=NOKIA, SALORA 2=other sets 3=UNIVERSUM, MELECTRONIC If the set cannot be switched on with the number buttons on the remote control, then switch the set on with the TV button and go to the service menu 3 (see service mode). Select the MODE setting and alter it to correspond your set. Store the setting in memory with the OK (M) button.
Service menu 4	
NICAM	(ON/OFF)
LOUDNESS	(OFF=linear frequency response)
C4 CHECK	(ON)
CAR. MUTE	(ON/OFF)

Adjustment U1 voltage

1. Set the contrast and brightness to minimum.
2. Connect test point XF01 (chassis board) to ground.
3. Go to service menu 1 (see service mode).
4. Use cursor button ▲ or ▼ to select U1-adjustment.
5. Adjust the U1 voltage to 109.5 V ± 0.5 V (14", 17", 20") / 134.5 V ± 0.5 V (21") / 150 V ± 0.5 (25", 28") with the cursor button ◀ and ▶ at test point XO03.
6. Use the OK (M) (memory) button to store the value in memory.
7. Remove XF01/ground connection again.
8. Return to normal TV mode by pressing the TV button.

AGC

1. Connect test point XF01 to ground.
2. Feed in RF signal without sound carrier with 70 dBµV on a medium UHF channel via the aerial input.
3. Go to service menu 1 (see service mode).
4. Use cursor button ▲ or ▼ to select AGC-adjustment.
5. Connect oscilloscope (bandwidth > 50 MHz) to the tuner's IF output, test point XL03 or XL04 and to ground XL02.
6. Use cursor button ◀ and ▶ to adjust to 400 mVpp ± 50 mV with reference to the signal's synchronizing peaks.
7. Use the OK (M) button to store the value in memory.
8. Remove XF01/ground connection again.
9. Return to normal TV mode by pressing the TV button.

Other service adjustments

Horizontal amplitude

Adjust hor. amplitude to coil LK 12 (21") or to resistor RK66 (25", 28").

Vertical amplitude

Adjust vertical amplitude to resistor RS20.

Vertical position

Adjust vertical position by severing resistor RS24 and / or RS14.

Pincushion distortion correction (25", 28")

Adjust pincushion distortion correction to resistor RK60.

Focus

Use focus adjuster TK02 (at horizontal transformer) to set the focus to optimum sharpness.

G2

1. Test picture with medium beam current, e.g. Fubeka or Philips test picture. Contrast, brightness, colour saturation to ideal setting.
2. Determine the colour cathode with the highest blacklevel measuring pulse.
3. Use the G2 adjuster to set the measuring pulse to 140 V +/- 2 V.

AFC

1. Feed in symmetr. IF signal by means of 4:1 transmitter at test points XL03/04 (BG, DK standard 38.9 MHz or the I standard 39.5 MHz; approx. 0.8 Vpp).
2. At test point XL01 (XL02 ground), set to 3.5 V DC ± 0.5 V with coil ZL01 (AFC reference).

AFC check

Retune the IF signal to approx. 39 MHz (39.7 MHz); when you do this, the voltage must drop to approx. 1 V.

Sound

The BG or I standards are independent of the STANDARD set. With the BG/DK standard: STANDARD 2 = DK and STANDARD 3 = BG.

To set the STANDARD, proceed as follows:

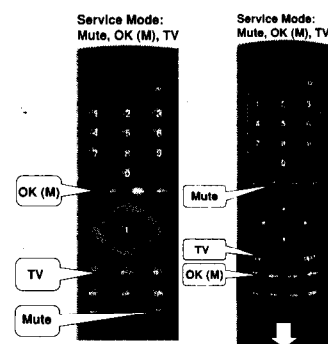
1. Press the PROG button (RCF..Remote Control).
1. Press the blue button twice (RCN..Remote Control).
2. Select the menuline STANDARD.
3. Use the cursor button ◀ and ▶ to switch to STANDARD 3 or 2.
4. Use the OK (M) (memory) button to store the value in memory.
5. Return to normal TV mode by pressing the TV button.

Audio IF calibration

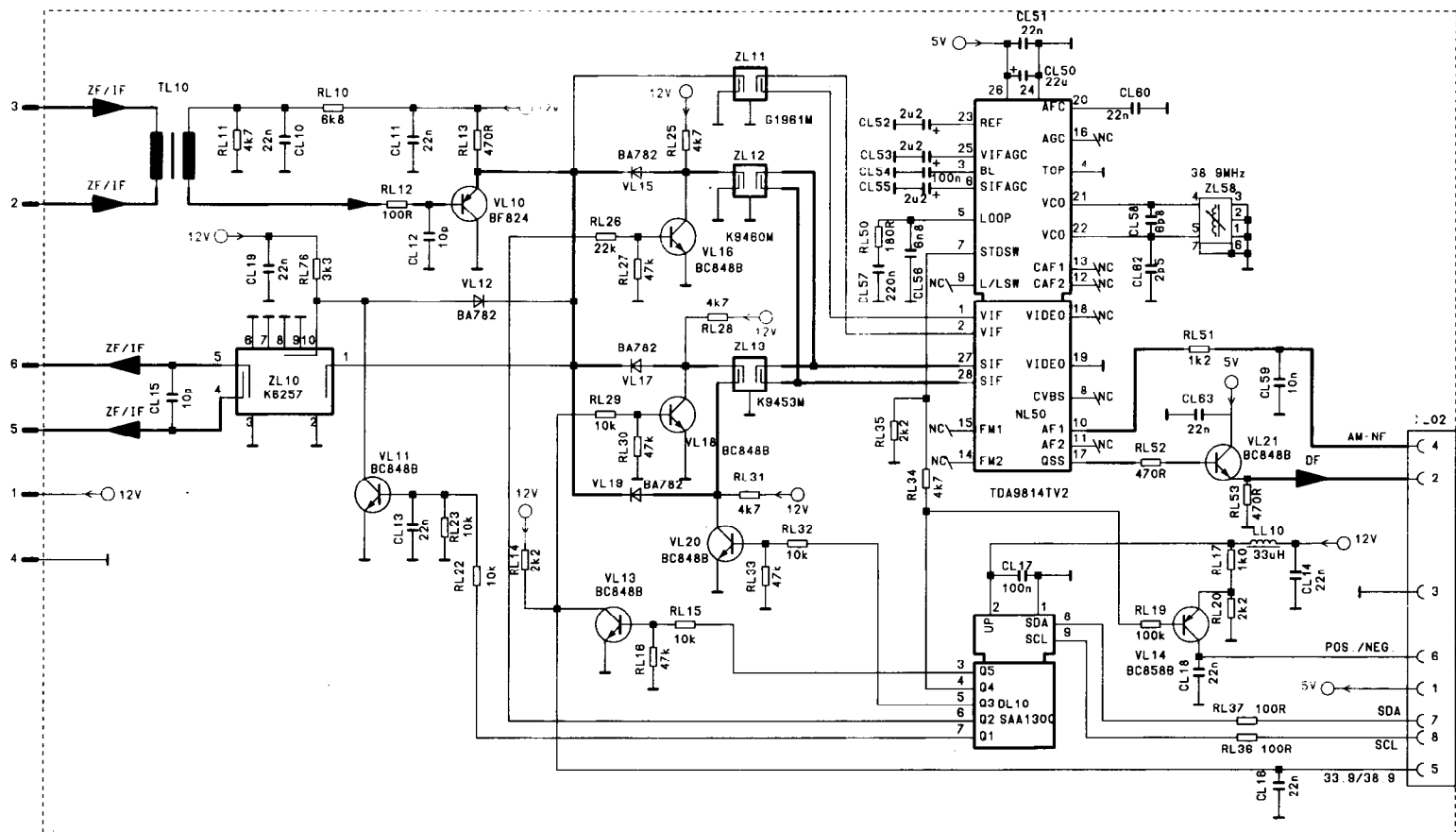
1. Feed in test picture
2. Connect oscilloscope at pin 12 of TDA2545A (stereo module).
3. Use coil ZA61 to calibrate to minimize video signal.

Audio IF calibration (Multinorm Modul)

1. Go to service menu 2 (see service mode).
2. Use cursor button ▲ or ▼ to select APS.
3. Use cursor button ◀ and ▶ to adjust to standard BG.
4. Connect signal generator 38.9 MHz (approx. 350 mV) to test points TP2/TP4.
5. Connect voltmeter to test point TP16.
6. Use coil ZL58 to calibrate the AFC D.C. voltage to 2.5 V ± 0.5 V.
7. AFC check: If the IF is increased, the AFC voltage decreases.
8. Return to normal TV mode by pressing the TV button.

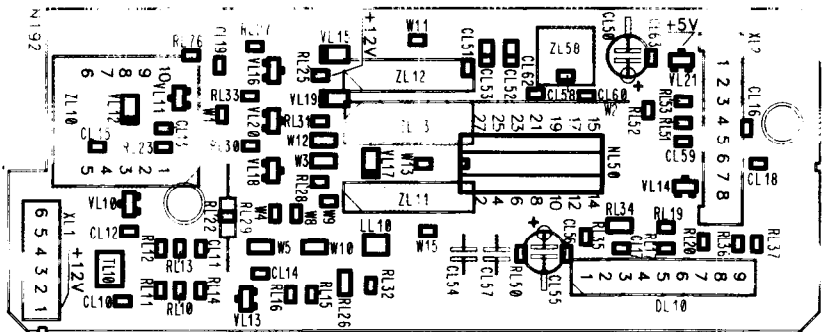


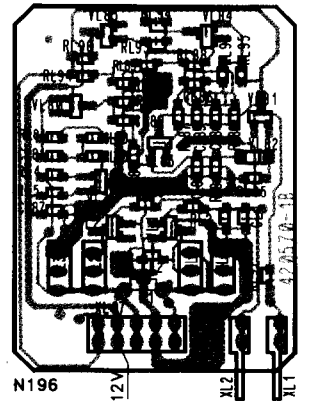
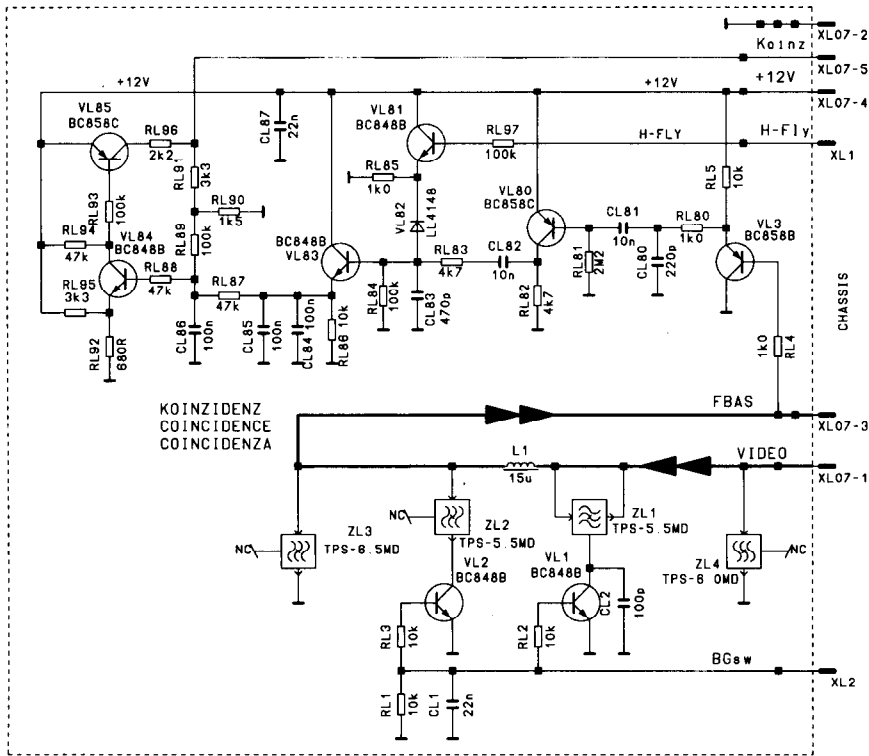
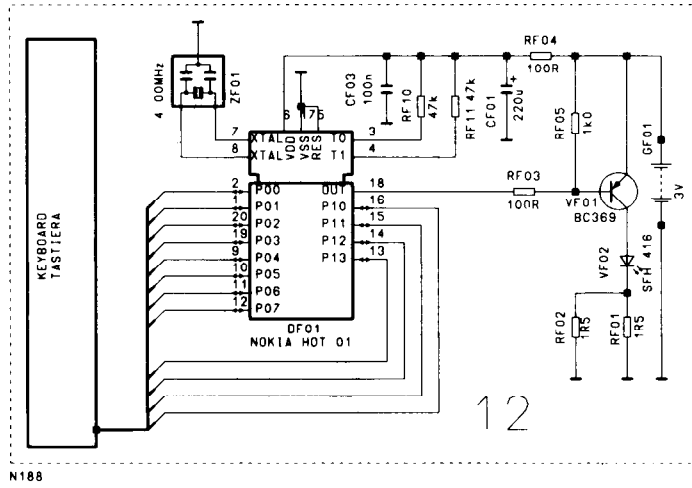
CHASSIS ZL07-4

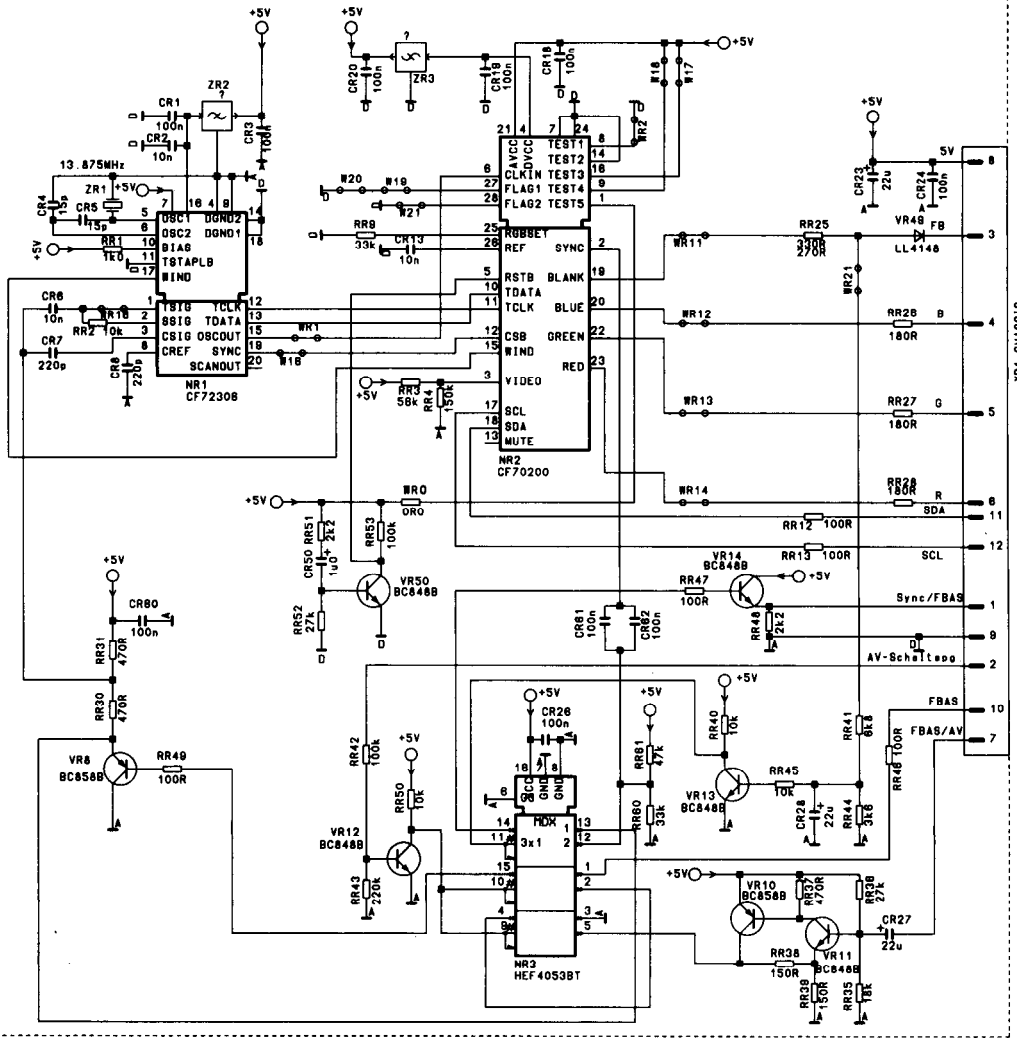


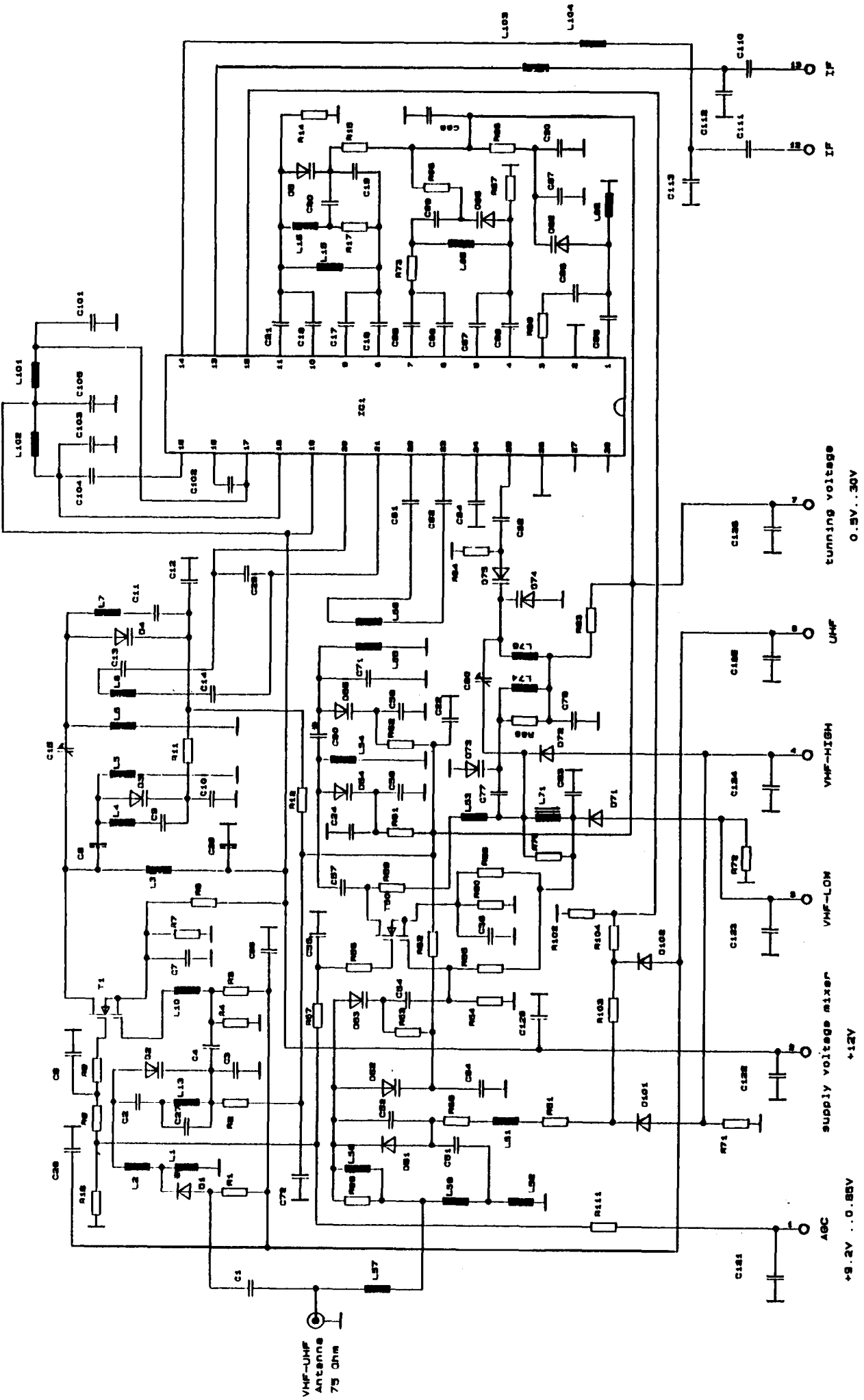
STEREO-MODUL

N185









VHF-UHF
Antenna
75 Ohm

ABC
+9.2V .0.85V

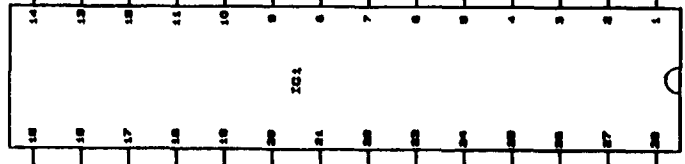
supply voltage mixer
+12V

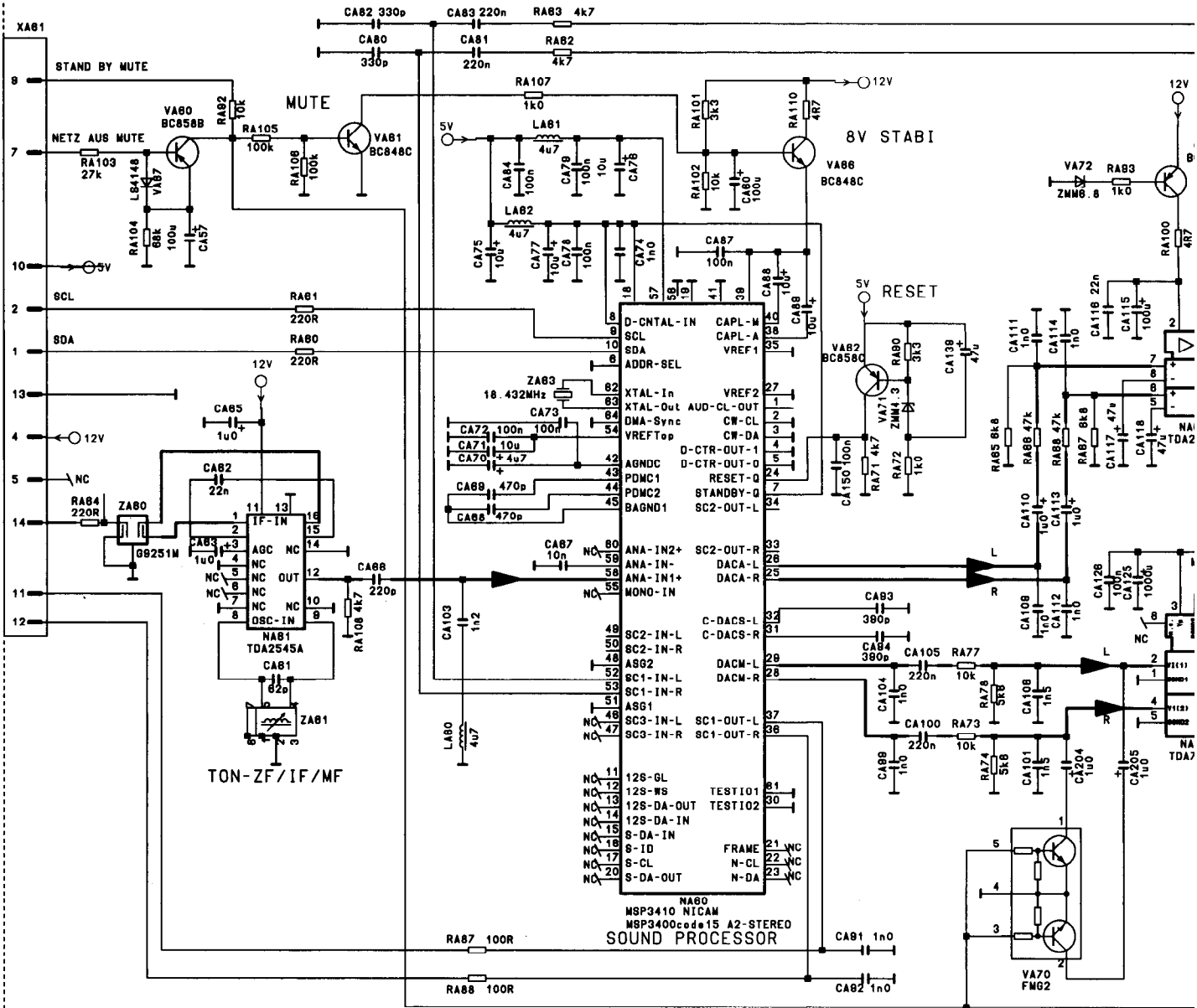
VHF-LOW

VHF-HIGH

UHF

tuning voltage
0.5V .30V



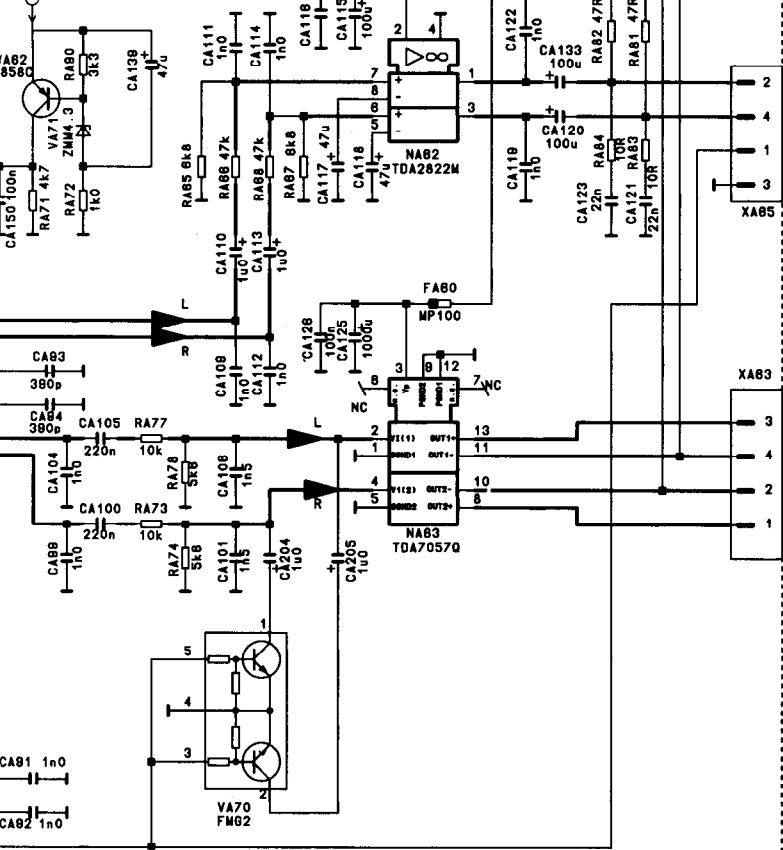


12V

8V STABI

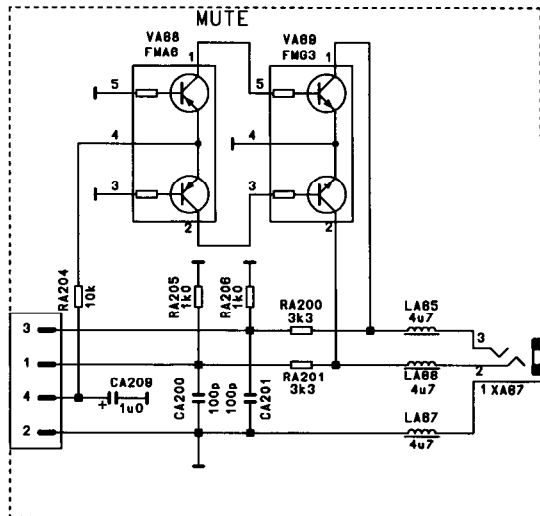
A68
848C

5V
RESET

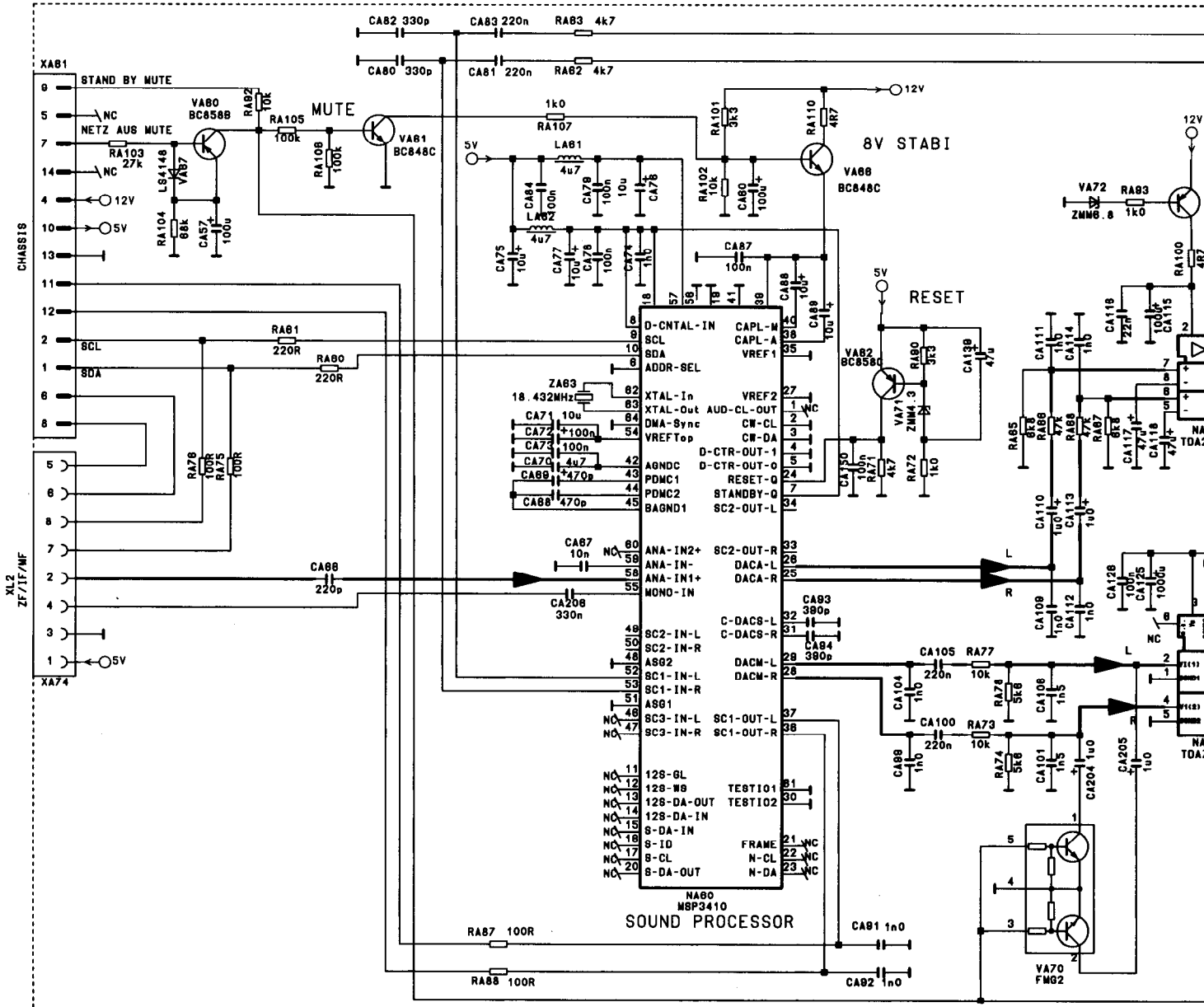


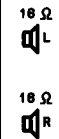
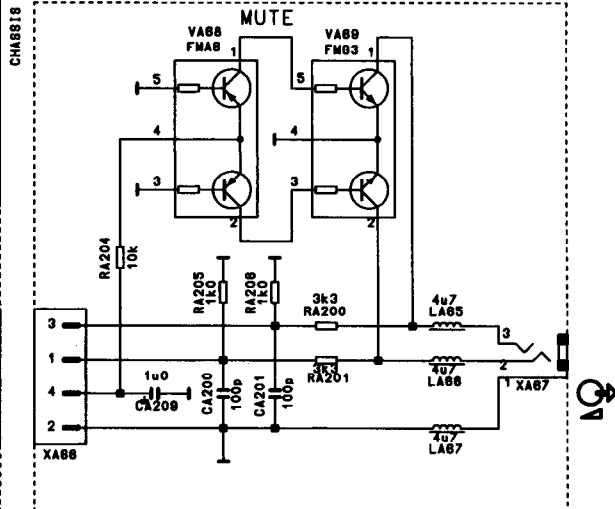
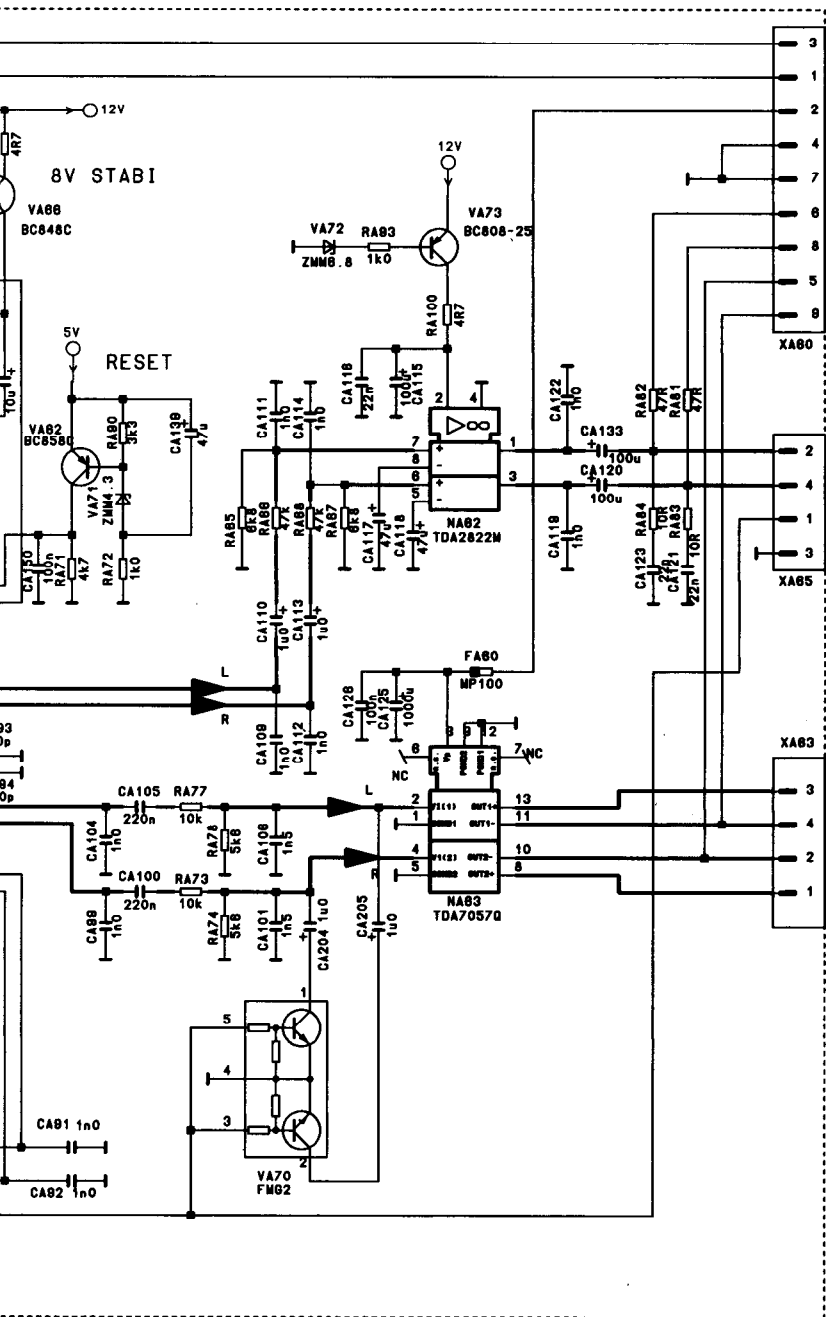
CHASSIS

18 Ω
18 Ω



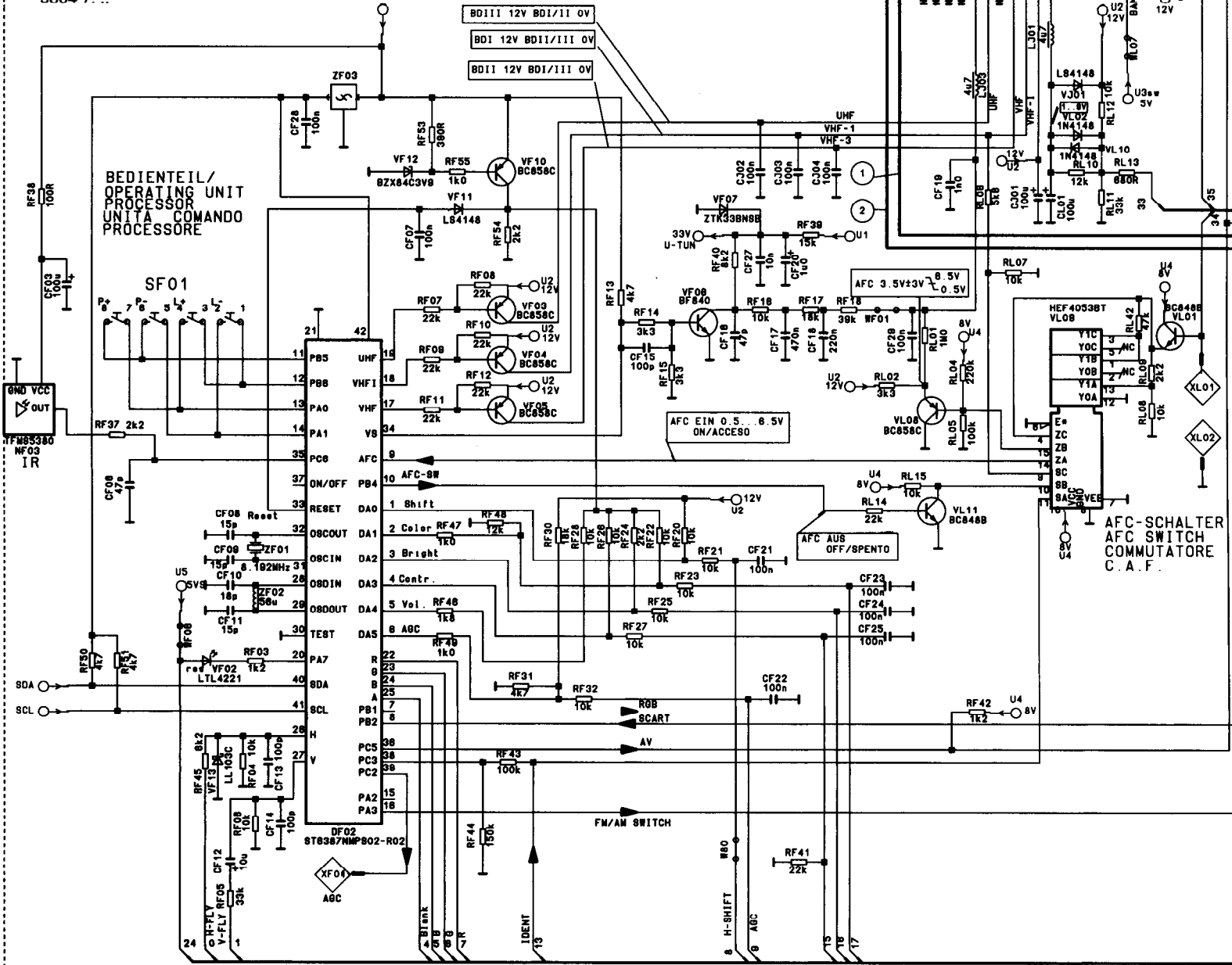
10



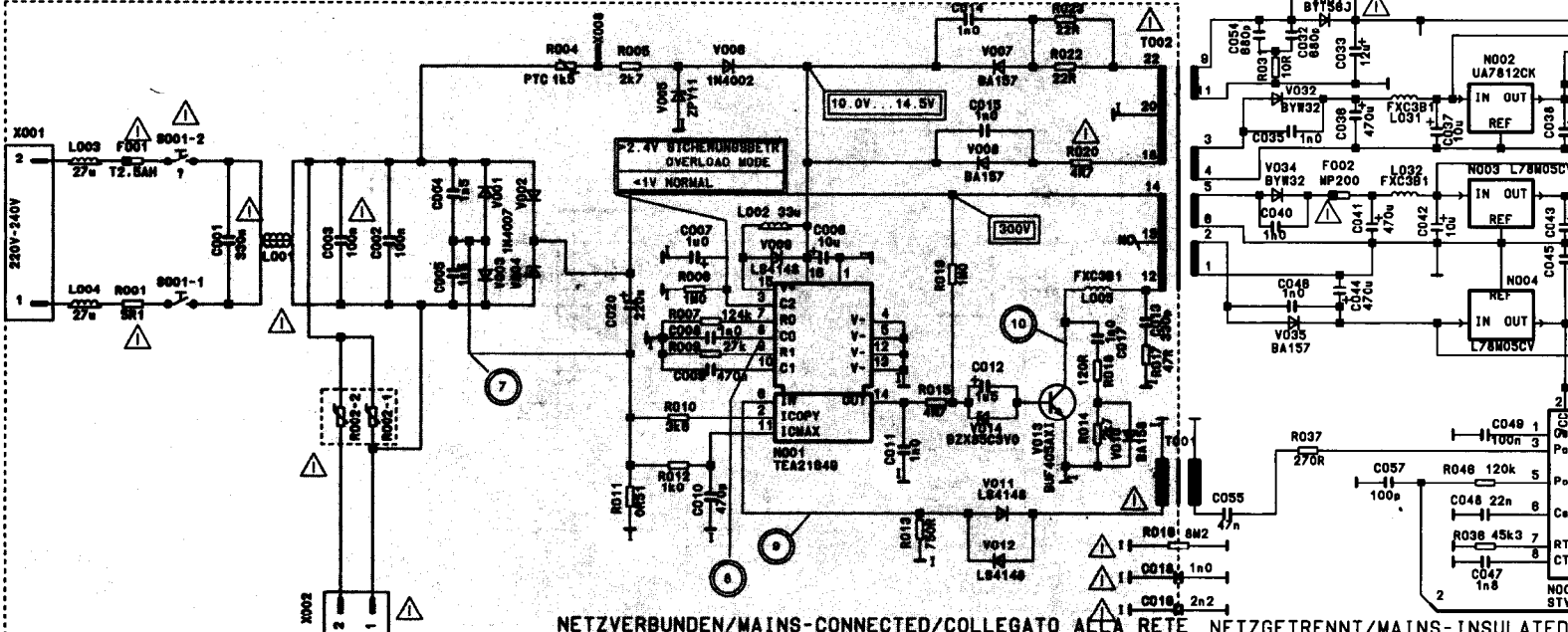


Mono Plus 110° Stereo Chassis

5864 7...



SCHALTNETZTEIL / SWITCH MODE / CIRC. ALIMENTAZIONE

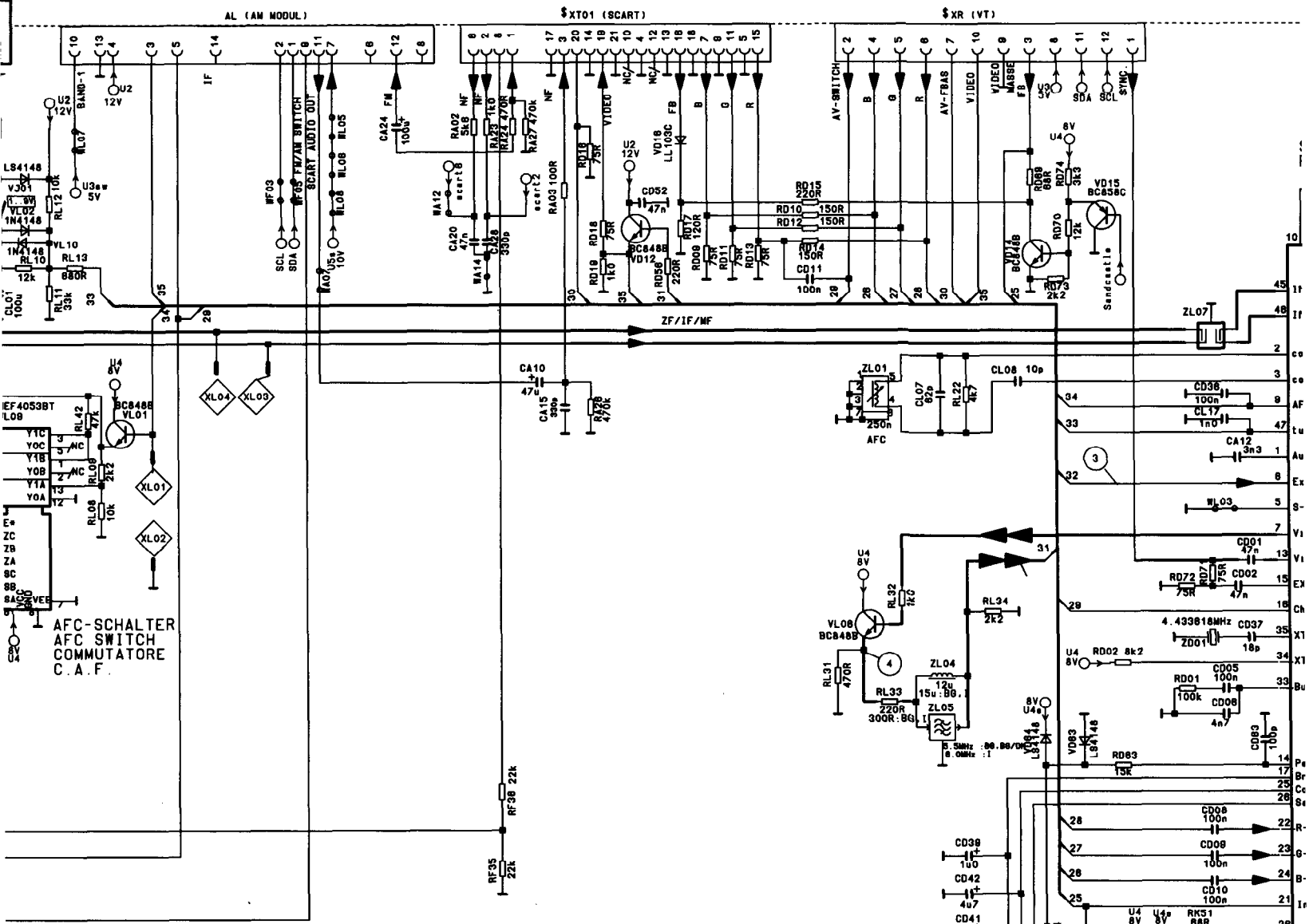


NETZVERBUNDEN / MAINS-CONNECTED / COLLEGATO ALLA RETE NETZGETRENNT / MAINS-INSULATED.

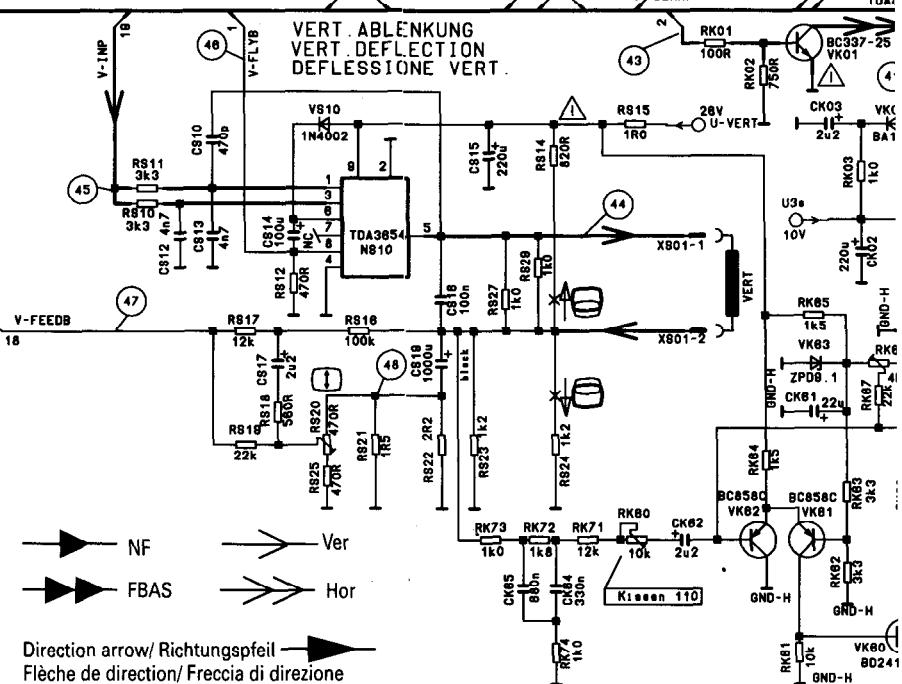
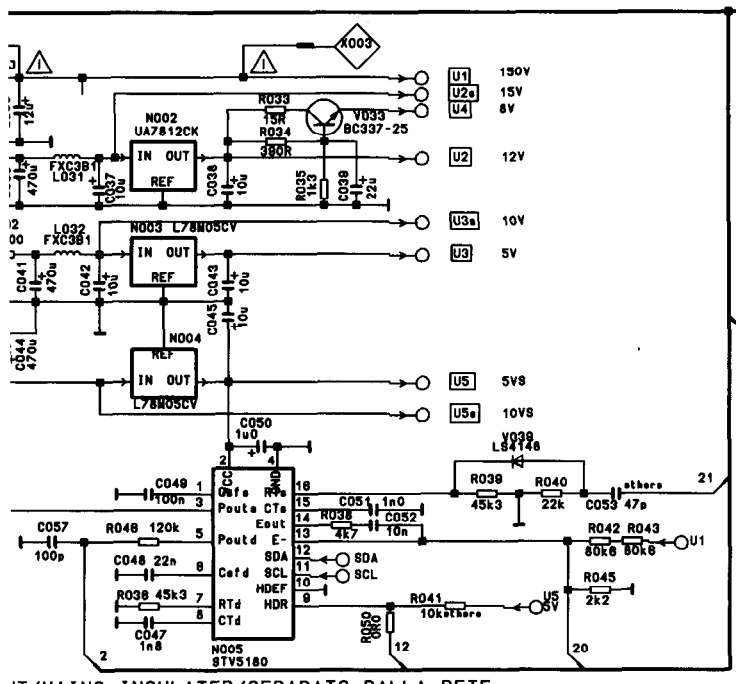
ENTMAGNETISIERUNG
DEGAUSSING COIL
BOBINA SMAGNETIZZAZIONE

○ Waveforms referenced to earth on TEA 2164 G pin 1 ect./ Oszillogramm-Meßpunkt auf Masse an TEA 2164 G Pin 1 etc. bezogen./
Tous les oszillogrammes se rapportant à la masse TEA 2164 G pin 1./ Riferire tutti gli oscillogrammi alla massa TEA 2164 G pin 1./
Mätta pulser mot TEA 2164G: jord, stift 1.

□ Measurements referenced to earth on TEA 2164 G pin 1 ect./ Mesures se rapportant à la masse TEA 2164 G pin 1 etc. bezogen./
Tous les oszillogrammes se rapportant à la masse TEA 2164 G pin 1./ Riferire tutti gli oscillogrammi alla massa TEA 2164 G pin 1./
Mätta pulser mot TEA 2164G: jord, stift 1.

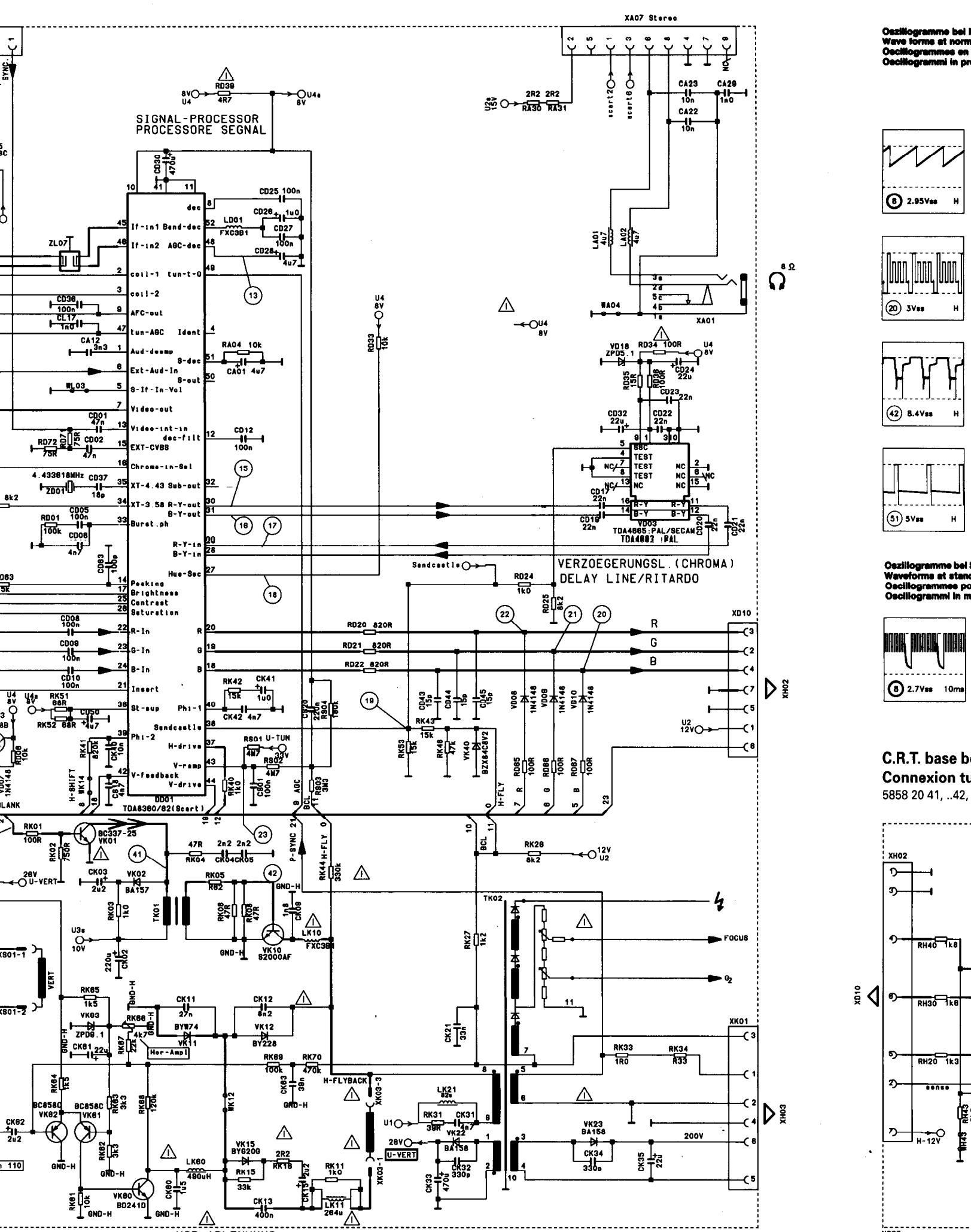


After DF02 has been replaced, the AGC must also be recalibrated.
 Nach Austausch von DF02 muß auch die AGC neu abgeglichen werden.
 Après avoir remplacé DF02, AGC doit également être rééquilibrée.
 Dopo aver sostituito il DF02 è necessario equilibrare nuovamente anche l' AGC.
 AGC: n máste också justeras när DF02 byts.

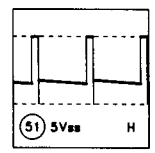
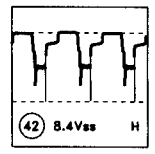
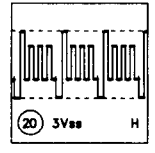
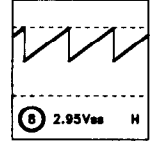


IT/MAINS-INSULATED/SEPARATO DALLA RETE

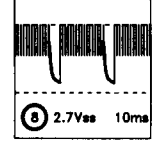
measurements referenced to switch-mode power supply minus potential \perp / Messungen auf Schaltnetzteil-Minuspotential \perp bezogen
 les mesures se rapportant au potentiel négatif du bloc-secteur de commutation \perp / Riferire tutte le misure al potenziale negativo della sezione di
 / Mätta mot nätdelens minuspotential \perp



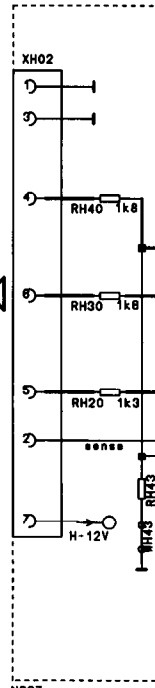
Oscillogramme bei N
Wave forms at norm
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Connexion tu
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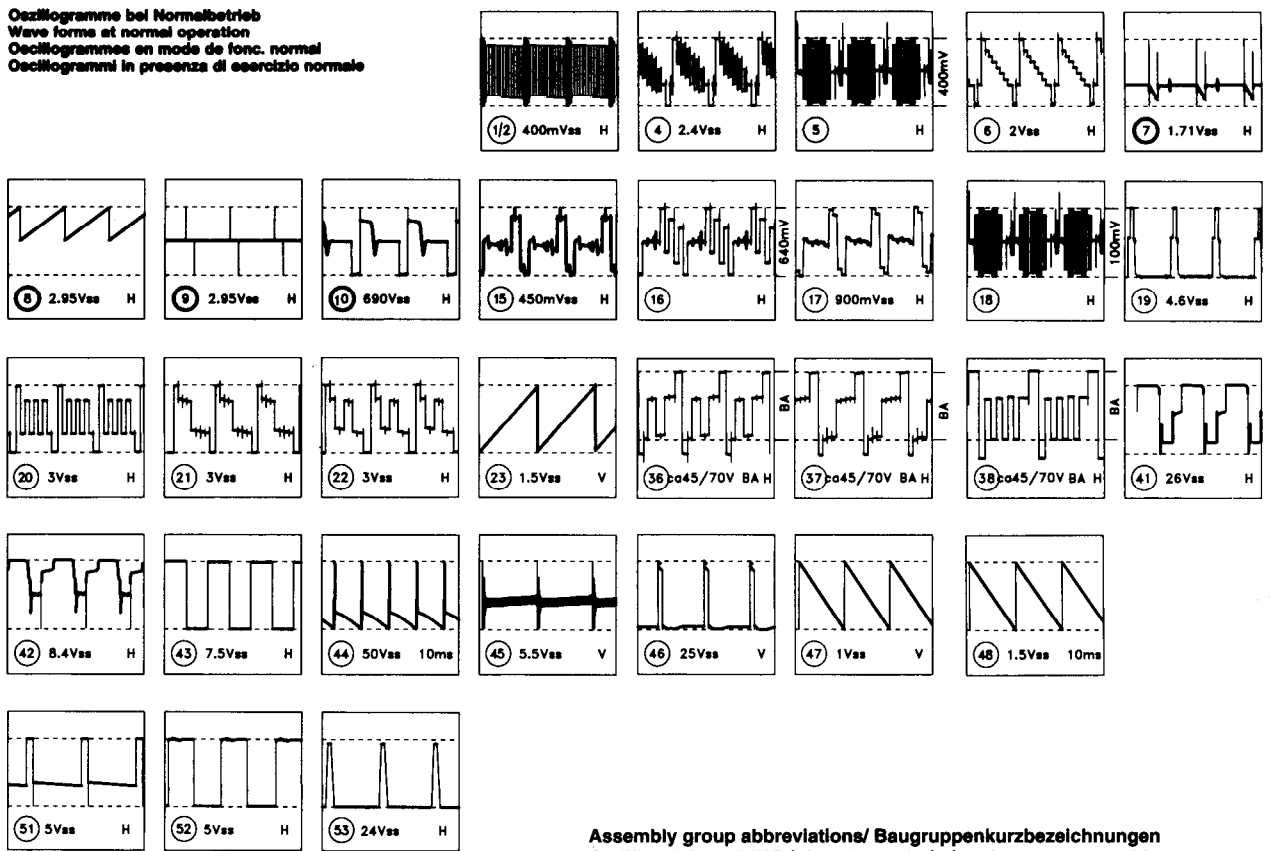


HOR. ABLENKUNG
HOR. DEFLECTION
DEFLESSIONE ORIZZ.

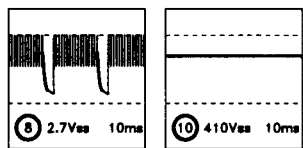
\$ Depending on the chassis version, these components can either be fitted or not.
Diese Bauteile können je nach Chassisversion bestückt/ nicht bestückt sein.
Suivant la version du chassis, ces composants sont montés/ pas montés.
La possibilità di montaggio di questi componenti dipende dalla versione dello chassis.
Dessa komponenters montering är beroende på chassisversion.

In standby mode, the
Im Standby-Betrieb lie
En mode stand-by les
Net funzionamento in

Oscillogramme bei Normalbetrieb
Wave forms at normal operation
Oscillogrammes en mode de fonc. normal
Oscillogrammi in presenza di esercizio normale



Oscillogramme bei Stand-by-Betrieb
Waveforms at stand-by mode
Oscillogrammes pour fonctionnement en stand-by
Oscillogrammi in modo «stand-by»

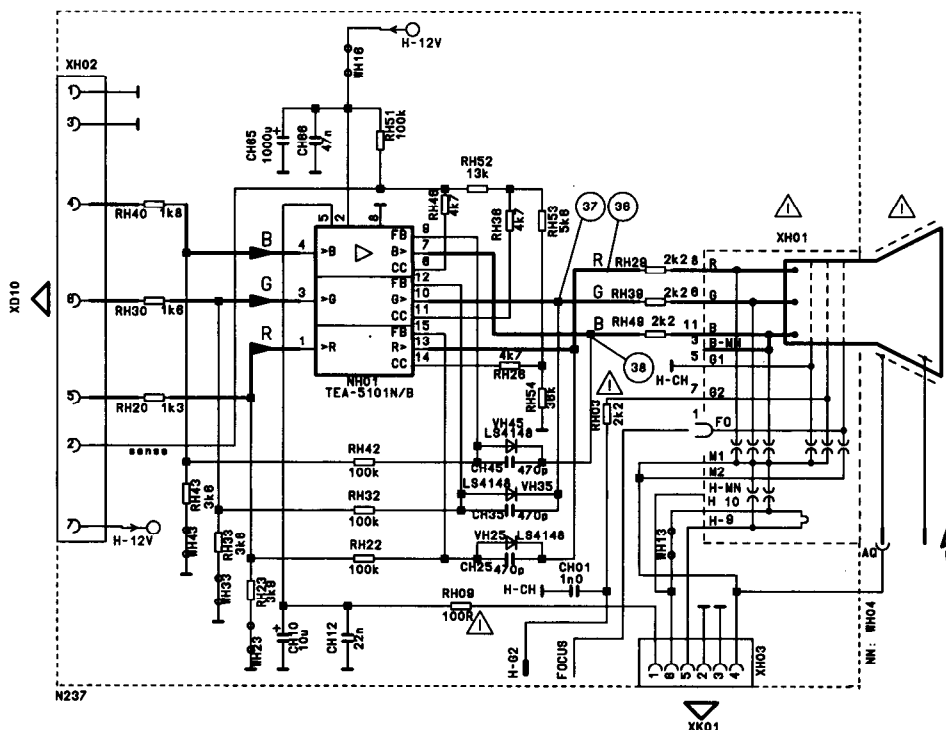


Assembly group abbreviations/ Baugruppenkurzbezeichnungen
Codifica dei moduli/ Désignations abrégées des sous-ensembles
Blockförkortningar

- D = Color decoder/ Decodificatore colore/ Färgdekoder
- K = Deflectione orizzontale/ Hor. deflection/ Horisontal avlänkning
- S = Verticale/ Vertical
- I = AF/ ZF/ HF
- L = IF/ MF/
- F = Control unit/ Unità di comando/ Kontrollenhet
- A = Audio
- O = Power supply/ Schaltnetzteil/ Circuito aliment. rete/ Nätdel
- H = C.R.T. board/ Bildröhrenanschluß/ Colleg. cinescopio/ Bildrörslattan
- R = Videotext/ Teletext/ Televideo/ Text-TV

C.R.T. base board/ Bildröhrenanschlußplatte/
Connexion tube image/ Collegamento cinescopio
 5858 20 41, ..42, ..55

STEREO CHASSIS 110°



In standby mode, the voltages at the switch-mode power supply are approx. 30% of those applying in normal operating mode (except for U5).

Im Standby-Betrieb liegen die Spannungen am Schaltnetzteilausgang bei ca. 30% des Normalbetriebes (außer U5).

En mode stand-by les tensions appliquées a la sortie du block secteur de commutation s'elevent a 30% env. du fonctionnement normal (a part U5).

Net funzionamento in stand-by, all' altezza dell' uscita del trasf. di rete le tensioni sono il 30% ca. delle tensioni net funzion. normale (eccetto U5).

När apparaten är i beredskapsläge är nätdelens spänningar ca. 30% av normalt värde (förutom U5).