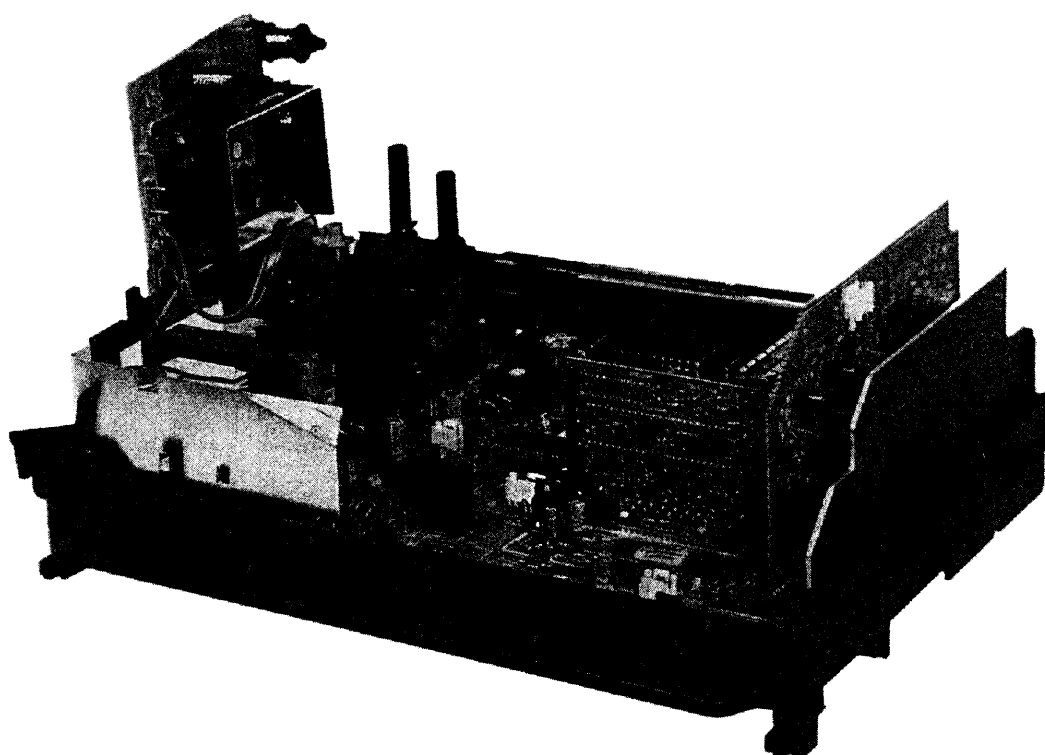




FERGUSON
THOMSON TECHNOLOGY

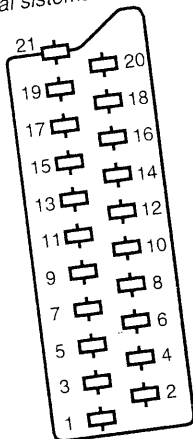
ICC9 SERIES

COLOUR TELEVISION



SERVICE MANUAL

- This service manual is designed to be progressively enlarged and updated as and when necessary. The contents for chapter 1 indicate the various sections which it will eventually contain.
- Dans le sommaire chapitre I sont énumérés les différents chapitres qui, à terme, constitueront cette documentation technique à caractère évolutif. Par notre système de numération des pages nos parutions à venir s'ajouteront ou se substitueront à celles existantes.
- Im Inhaltsverzeichnis von Kapitel I sind die verschiedenen Kapitel aufgeführt, aus denen die vorliegende technische Dokumentation bestehen wird, welche ständig auf dem letzten Stand gehalten wird.
- En el sumario del capítulo I, se enumeran los diferentes capítulos que a plazo, constituirán esta documentación técnica que tiene un carácter evolutivo. Mediante nuestro sistema de numeración de las páginas, los próximos documentos se agregarán a, o sustituirán los existentes.
- Nell'indice del capitolo I sono elencati i differenti capitoli che alla fine costituiranno una documentazione tecnica a carattere evolutivo. In base al sistema di numerazione delle pagine, le future pubblicazioni si aggiungeranno o si sostituiranno a quelle esistenti.



NOTE : **MAIN** ... etc. : identifies each pcb module.

NOTE : **MAIN** ... etc. ... repères des platines constituant l'appareil.

HINWEIS : **MAIN** usw. Kennzeichnungen der Platinen, aus denen das Gerät zusammengesetzt ist.

NOTA : **MAIN** ... etc. marcas de las placas que constituyen el aparato.

NOTA : **MAIN** ... ecc. indicazioni delle piastre che costituiscono l'apparecchio.

		ENGLISH	FRANÇAIS	DEUTSCH	ESPAÑOL	ITALIANO
1	→	AUDIO "R"	AUDIO "D"	AUDIO "R"	AUDIO "D"	AUDIO "D"
2	→	AUDIO "R"	AUDIO "D"	AUDIO "R"	AUDIO "D"	AUDIO "D"
3	→	AUDIO "L"	AUDIO "G"	AUDIO "L"	AUDIO "I"	AUDIO "S"
4	—	AUDIO	AUDIO	AUDIO	AUDIO	AUDIO
5	—	"BLUE"	"BLEU"	"BLAU"	"AZUL"	"BLU"
6	→	AUDIO "L" MONO	AUDIO "G" MONO	AUDIO "L" MONO	AUDIO "I" MONO	AUDIO "S" MONO
7	→	"BLUE"	"BLEU"	"BLAU"	AZUL	BLU
8	→	SLOW SWITCH	COMMUT. LENTE	LANGSAMUMSCHALTUNG	"CONMUTACION LENTA"	"COMMUTAZIONE LENTA"
9	—	"GREEN"	"VERT"	"GRÜN"	"VERDE"	"VERDE"
10	NC	"GREEN"	"VERT"	"GRÜN"	"VERDE"	"VERDE"
11	→	"RED"	"ROUGE"	"ROT"	"ROJA"	"ROSSO"
12	NC	"RED"	"ROUGE"	"ROT"	"ROJA"	"ROSSO"
13	—	"RED"	"ROUGE"	"ROT"	"ROJA"	"ROSSO"
14	NC	"RED"	"ROUGE"	"ROT"	"ROJA"	"ROSSO"
15	→	FAST SWITCH	COMMUT. RAPIDE	SCHNELLUMSCHALTUNG	"CONMUTACION RAPIDA"	"COMMUTAZIONE RAPIDA"
16	→	VIDEO	VIDÉO	VIDÉO	VIDÉO	VIDÉO
17	—	VIDEO	VIDÉO	SCHNELLUMSCHALTUNG	"CONMUTACION RAPIDA"	"COMMUTAZIONE RAPIDA"
18	—	VIDEO	VIDÉO	VIDÉO	VIDÉO	VIDÉO
19	→	VIDEO OR "SYNC"	VIDEO SYNCHRO	VIDÉO ODER SYNCHRO	VIDEO O SINCRO	VIDEO O SINCRO
20	→	PLUG SCREEN BOX	BLINDAGE FICHE	ABSCHIRMUNG DES STECKERS	BLINDAJE DEL ENCHUFE	ARMATURA DELLA SPINA
21	→					

→ : OUTPUT - SORTIE - AUSGANG - SALIDA - USCITA
 → : INPUT - ENTRÉE - EINGANG - ENTRADA - ENTRATA
 — : EARTH - MASSE - MASSE - MASA - MASSA

MEASUREMENT CONDITIONS - CONDITIONS DE MESURES - MESSBEDINGUNGEN CONDICIONES DE MEDIDAS - CONDIZIONI DI MISURA

RECEIVER : On UHF input level : 1 mV, bar test pattern :
 - PAL, 1 standard, 100% white.
 Via the scart socket, input level : 1 VDC, bar test pattern :
 Colour, contrast and brightness at mid-position, sound at minimum.
 Programme selected : PR 01.
 DC voltages measured between the point and earth using a digital voltmeter.

RECEPTEUR : En UHF, niveau d'entrée 1 mV, mire de barres :
 - SECAM, Norm L, Blanc 100%.
 Par la prise Péritelvision, niveau d'entrée 1 Vcc, mire de barres.
 Couleur, contraste, lumière à mi-course, son minimum.
 Programme affecté PR 01.
 Tensions continues relevées par rapport à la masse avec un voltmètre numérique.

RECEPTEUR : En UHF, niveau d'entrée 1 mV, mire de barres :
 - SECAM, Norm L, Blanc 100%.
 Par la prise Péritelvision, niveau d'entrée 1 Vcc, mire de barres.
 Couleur, contraste, lumière à mi-course, son minimum.
 Programme affecté PR 01.
 Tensions continues relevées par rapport à la masse avec un voltmètre numérique.

RICEVITORE : In UHF, livello d'entrata 1 mV, monocoscio per barre :
 - PAL, norma G, bianco 100%.
 Per la presa SCART, livello d'entrata 1 Vcc, monocoscio per barre :
 Colore, Contrasto, Luce a metà corsa. Suono minimo.
 Programma designato PR 01.
 Tensioni continue rilevate per rispetto alla massa con un voltmetro numerico.

EMPFÄNGER : Bei UHF Eingangspegel 1 mV, Stabprüfbild :
 - PAL, Norm G, Weiss 100%.
 Durch die Peritel-Steckdose : Eingangspegel 1 V GS, Prüfbild :
 Farbe, Kontrast, Licht in der Mitte des Bereichs, Ton auf Minimum.
 Zugeordnetes Programm PR 01.
 Gleichspannungen mit einem digitalen Voltmeter zur Masse gemessen.

△ Indicates critical safety components, and identical components should be used for replacement.

Le remplacement des éléments de sécurité (repérés avec le symbole △) par des composants non homologués selon la Norme CEI 65 entraîne la non-conformité de l'appareil.
 Dans ce cas, la responsabilité du fabricant n'est plus engagée.
 Wenn Sicherheitsteile (mit dem Symbol △ gekennzeichnet) durch nicht homologierte Teile ersetzt werden, erlischt die Haftung des Herstellers.

La sostituzione di elementi di sicurezza (marcati con il simbolo △) per componenti non omologati secondo la norma CEI 65, provoca la non conformità dell'apparecchio.
 In tal caso, el fabricante cesa de ser responsable.

La sostituzione degli elementi di sicurezza (marchi con il segno △) con componenti non omologati secondo la norma CEI 65 comporta la non conformità dell'apparecchio.
 In tal caso è esclusa la responsabilità del costruttore.

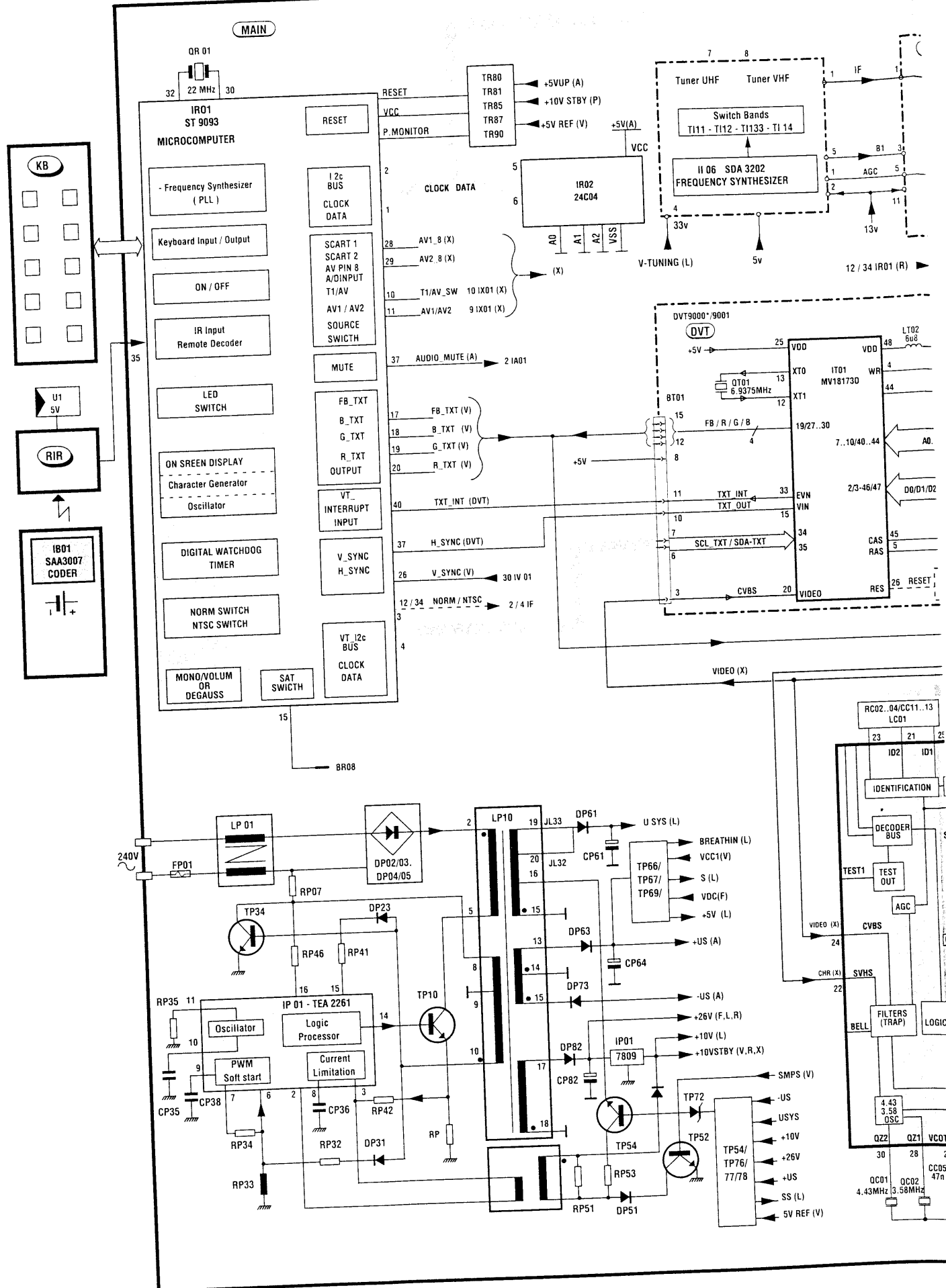
I - TECHNICAL DATA AND COMPOSITION OF RECEIVERS

- Type of set: Colour receiver
- Standard received: I
- Colour decoding system: PAL

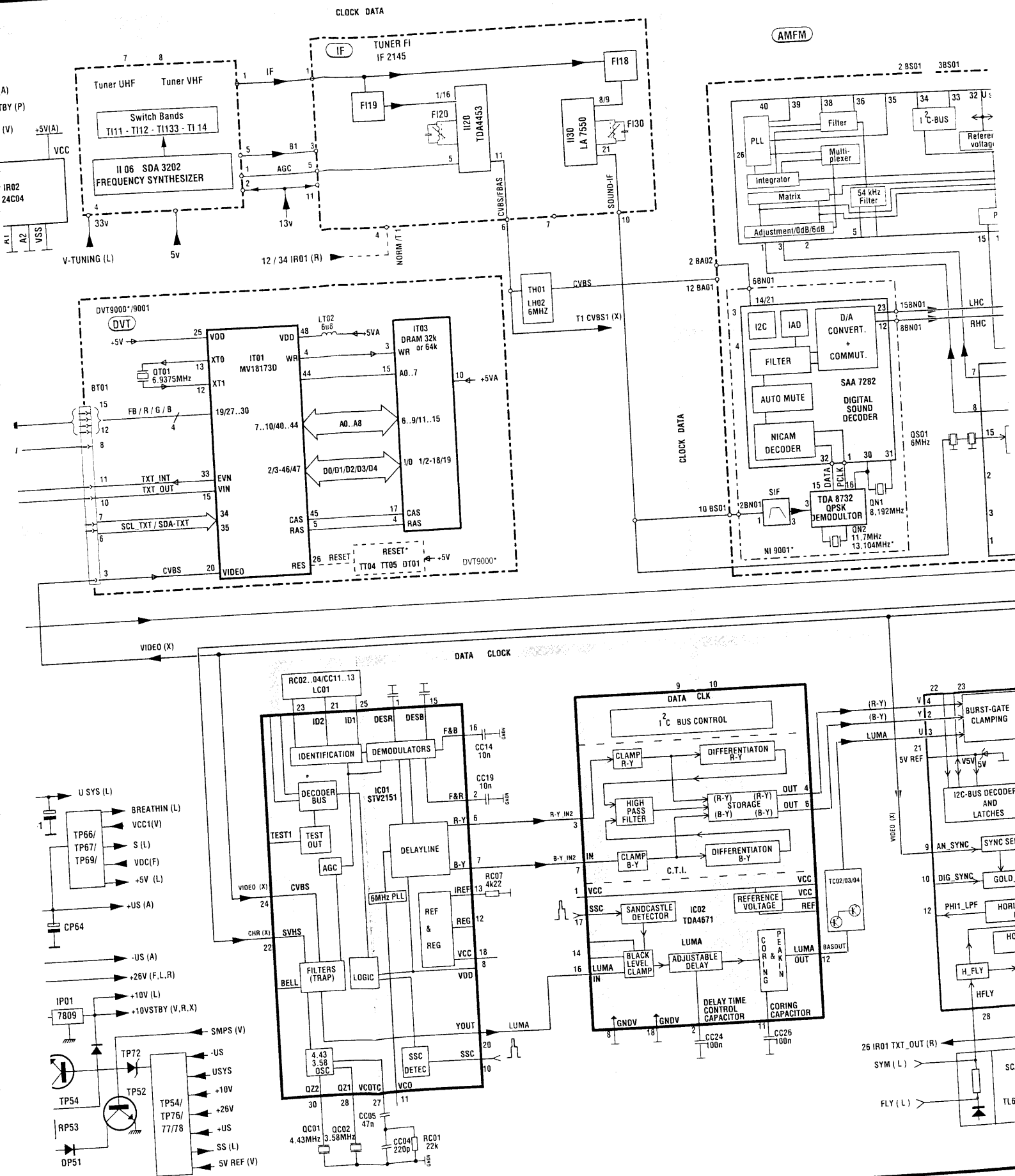
- Selection of 40 programs HF and 2 audiovisual by IR remote control
 - Compatibility SVHS (play)
 - On - Screen Display (O.S.D.)
- for channel programming and identification
- for levels of Customer control settings

COMMERCIAL REFERENCES	L x H x P (mm) Weight (kg)	Cone. (W/h) sound (W)	TRC cm / °	Norm Decoding.	CHAPTER		SUBASSEMBLY										PARTS LISTS	
					III	II-IV-V	Main Board	CRT	Tuner VHF / UHF	IF	KB / FCB	DVT	AMFM	NICAM	OTHERS	VI		
D59F	615X490X430 26,5	- 10W 8Ω	25° 110°	I PAL/SECAM/NTSC	Adjustements 1 to 12	Description ==> Block diagram Schema: P.C.B:	IC93777N 1-3 6-10 1-6/8-9	CRT9000 10 10	MM2015 15 -	IF2605 - 11-13	FC9024 -	DVT9001 17 7	- -	-	MIS5005			
D59N	615X490X430 26,5	105 2X20W 8Ω	25° 110°	I PAL/SECAM/NTSC	Adjustements 1 to 12	Description ==> Block diagram Schema: P.C.B:	IC93270N 1-3 1-5 1-6/8-9	CRT9000 5 10	MM2015 15 -	IF2145 - 16	- 14 -	DVT9001 17 7	AM / FM 9515 11 - 12 11	SUB IN 9001 13-14 12				
D68N	680X525X460	105 2X20W 8Ω	28° 110°	I PAL/SECAM/NTSC	Adjustements 1 to 12	Description ==> Block diagram Schema: P.C.B:	IC93270N 1-3 1-5 1-6/8-9	CRT9000 5 10	MM2015 15 -	IF2145 - 16	- 14 -	DVT9001 17 7	AM / FM 9515 11 - 12 11	SUB IN 9001 13-14 12				
D51ND (GB/IRL)	498X460X480 20,5	105 2X20W 8Ω	21° 90°	I PAL/SECAM/NTSC	Adjustements 1 to 12	Description ==> Block diagram Schema: P.C.B:	IC93280B 1-3 1-5/10B 1-6/8-9	CRT9002 5 10	MM2015 15 -	IF2145 - 16	ISM9000 -	DVT9001 17 7	AM / FM 9515 11 - 12 11	SUB IN 9001 13-14 12	MIS5005			
D78ND	57,5X69,5X52 67	105 2X20W 8Ω	33° 110°	I PAL/SECAM/NTSC	Adjustements 1 to 12	Description ==> Block diagram Schema: P.C.B:	IC93254N 1-3 1-5/10A 1-6/8-9	CRT9000 5 10	MM2015/4015 15 -	IF2145 - 16	KB19002 -	DVT9001 17 7	AM / FM 9515 11 - 12 11	SUB IN 9001 13-14 12				

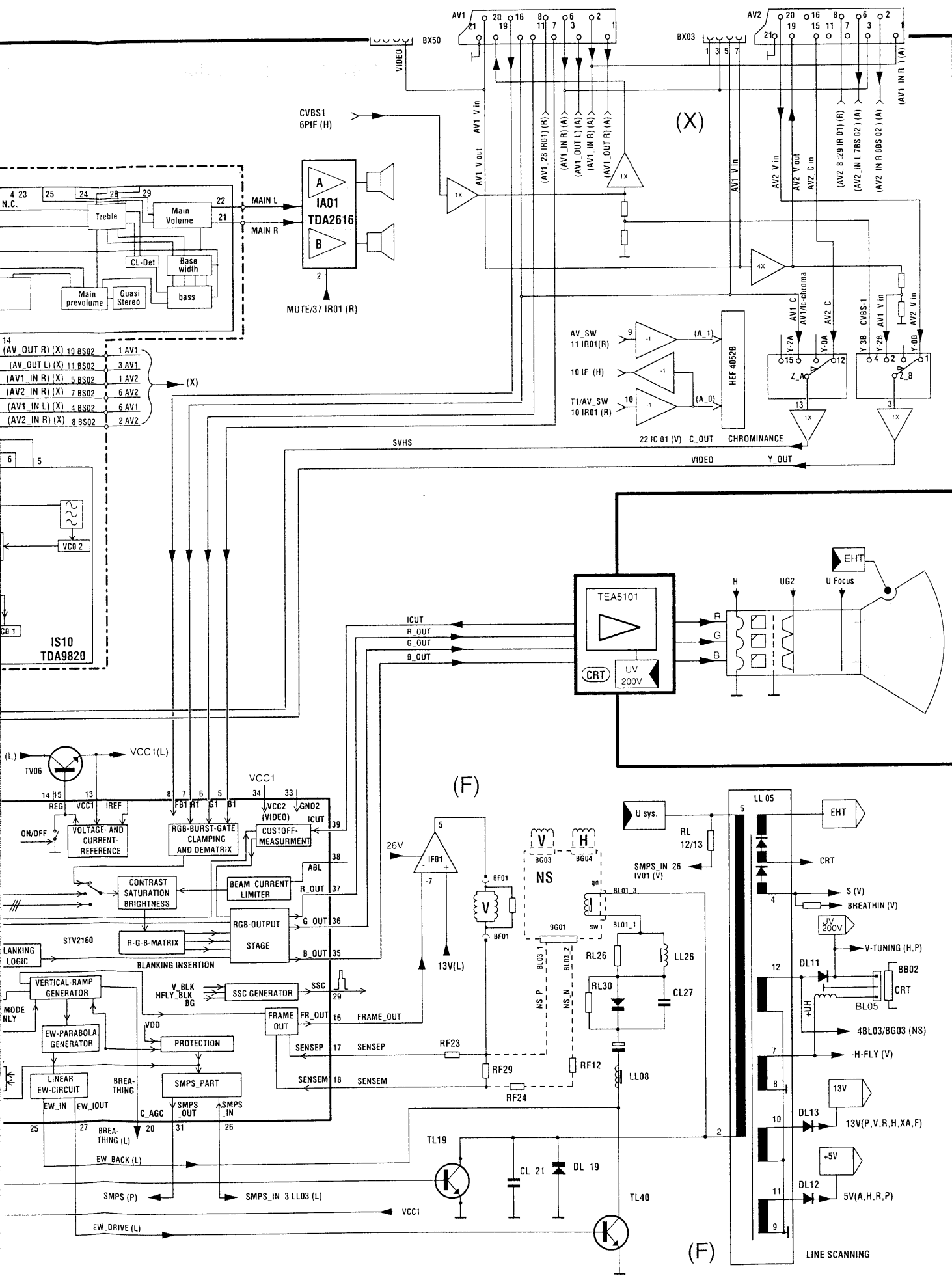
II - BLOCK DIAGRAM - SCHEMA SYNOPTIQUE - BLOCKSCHALTBILD - ESQUEMA DE



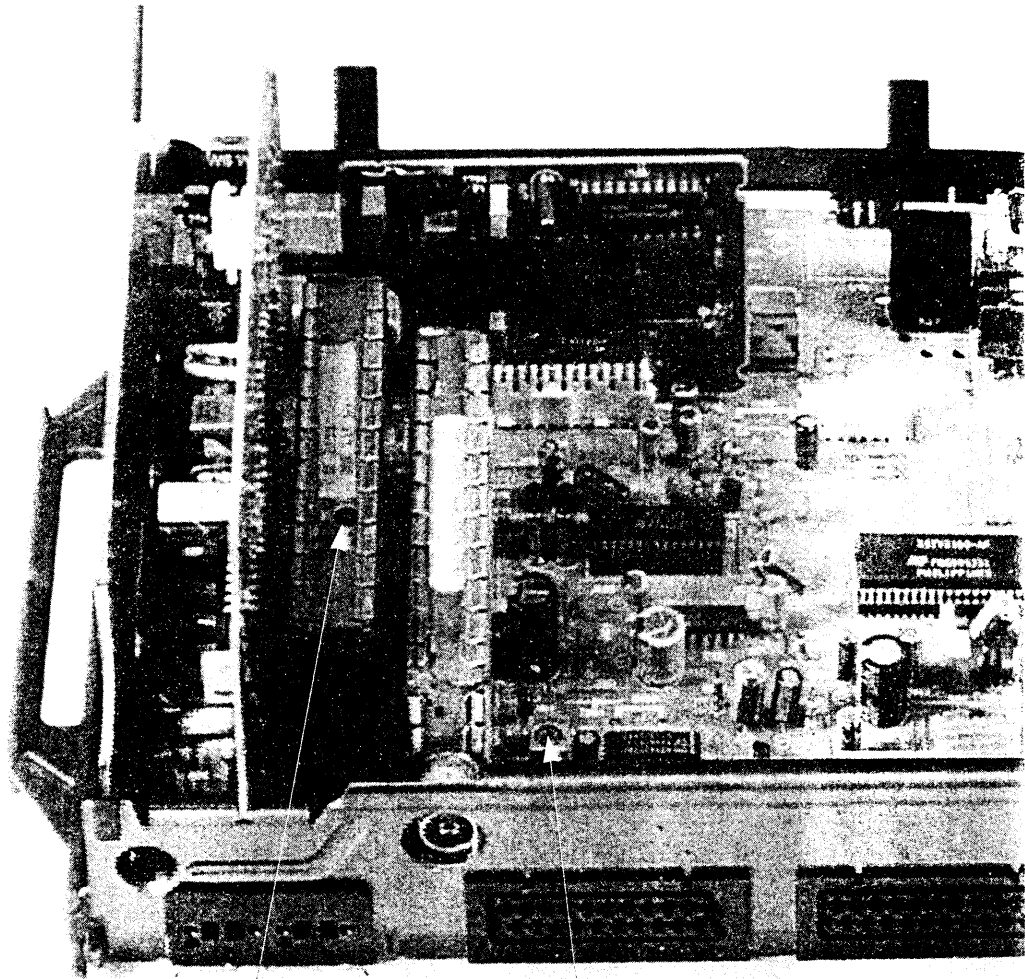
CKSCHALTBILD - ESQUEMA DE BLOQUES - SCHEMA A BLOCCI





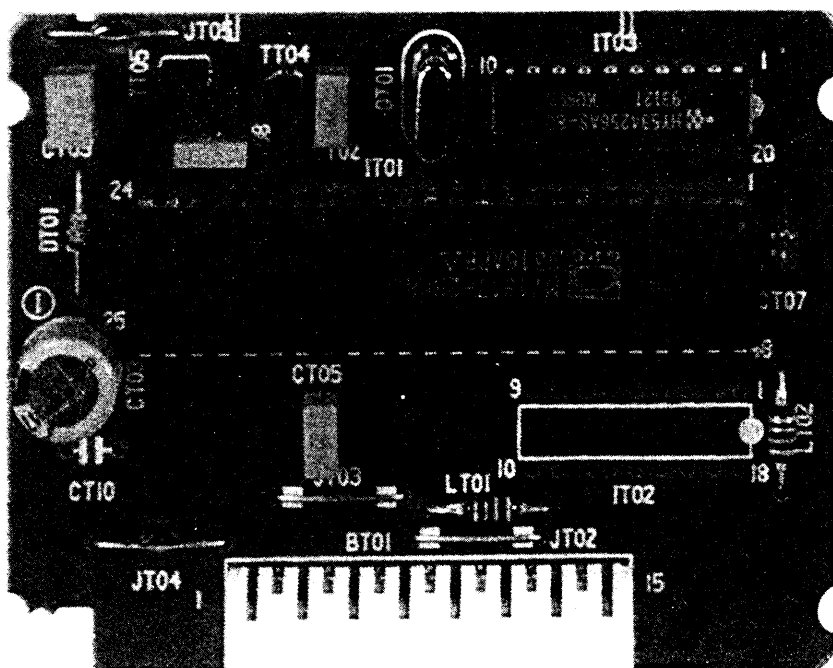


III - LOCATION OF CONTROLS - EMBLEMENTS DES REGLAGES - LAGE DEF



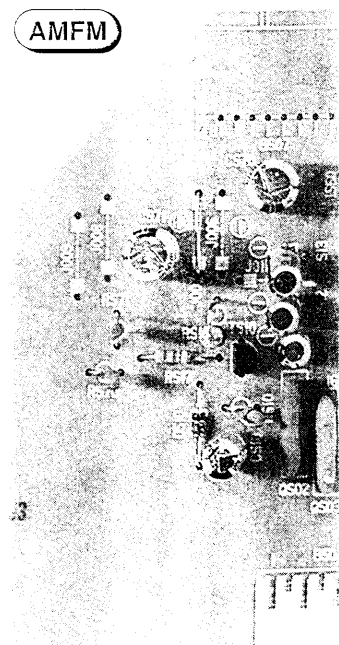
PI40 AGC RF

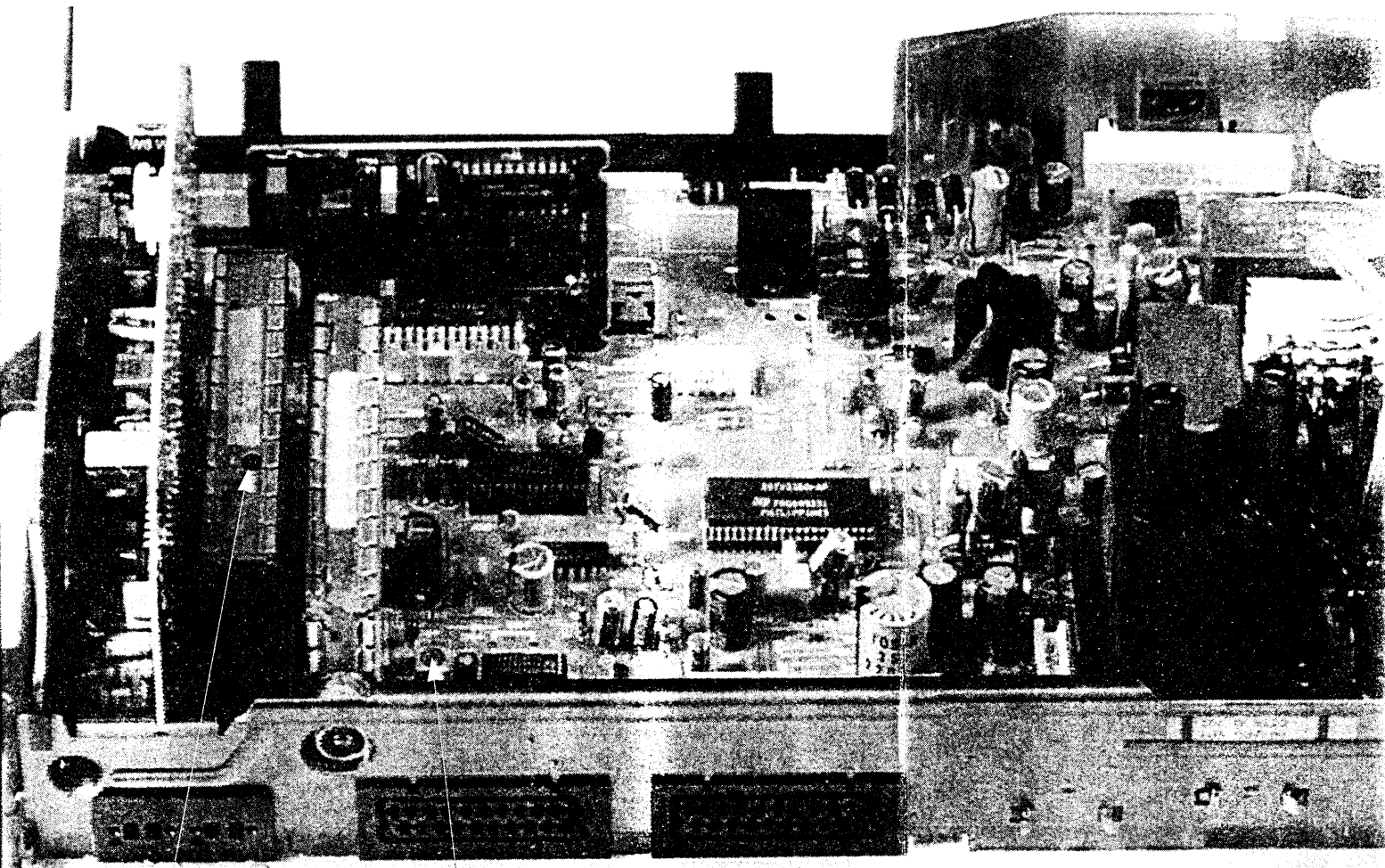
REJECTEUR 5,5MHz



DVT

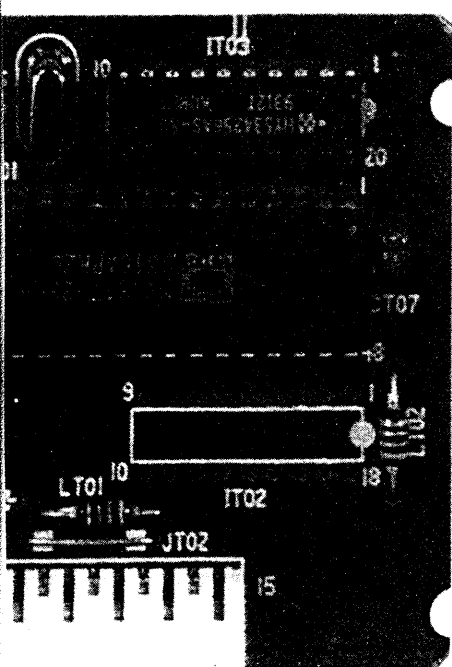
AMFM





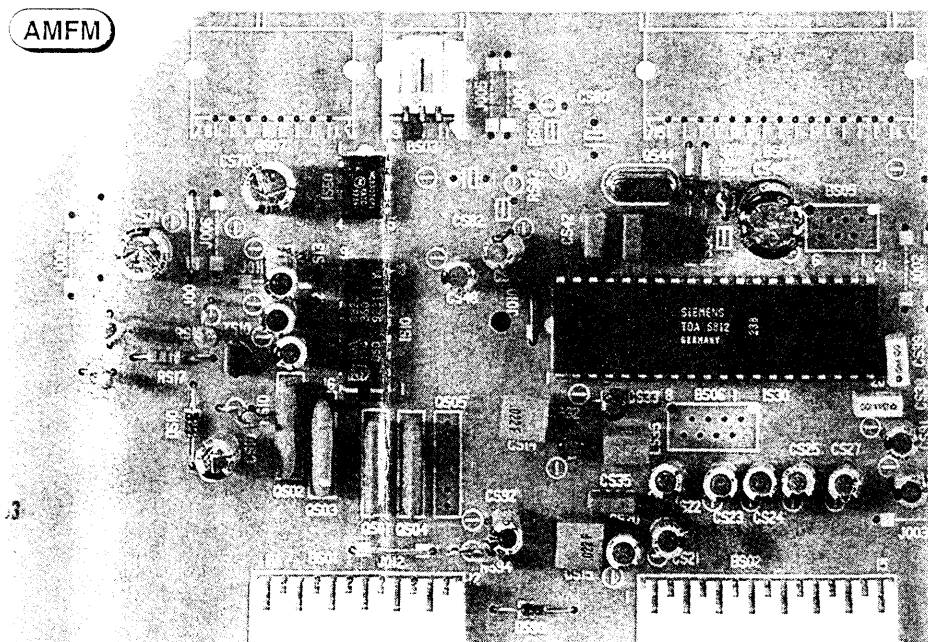
PI40 AGC RF

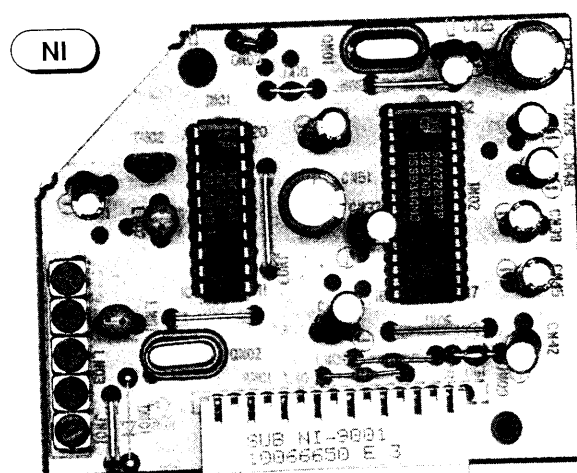
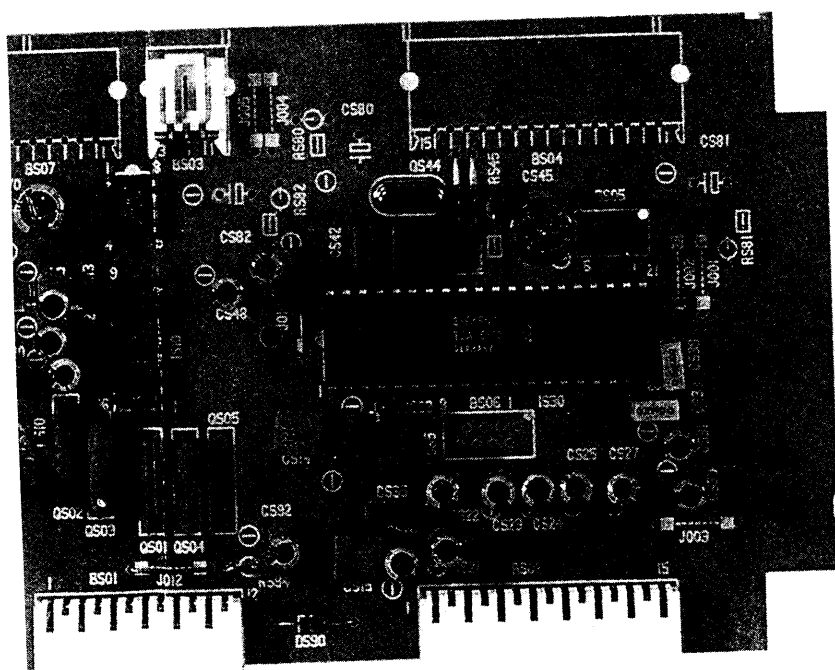
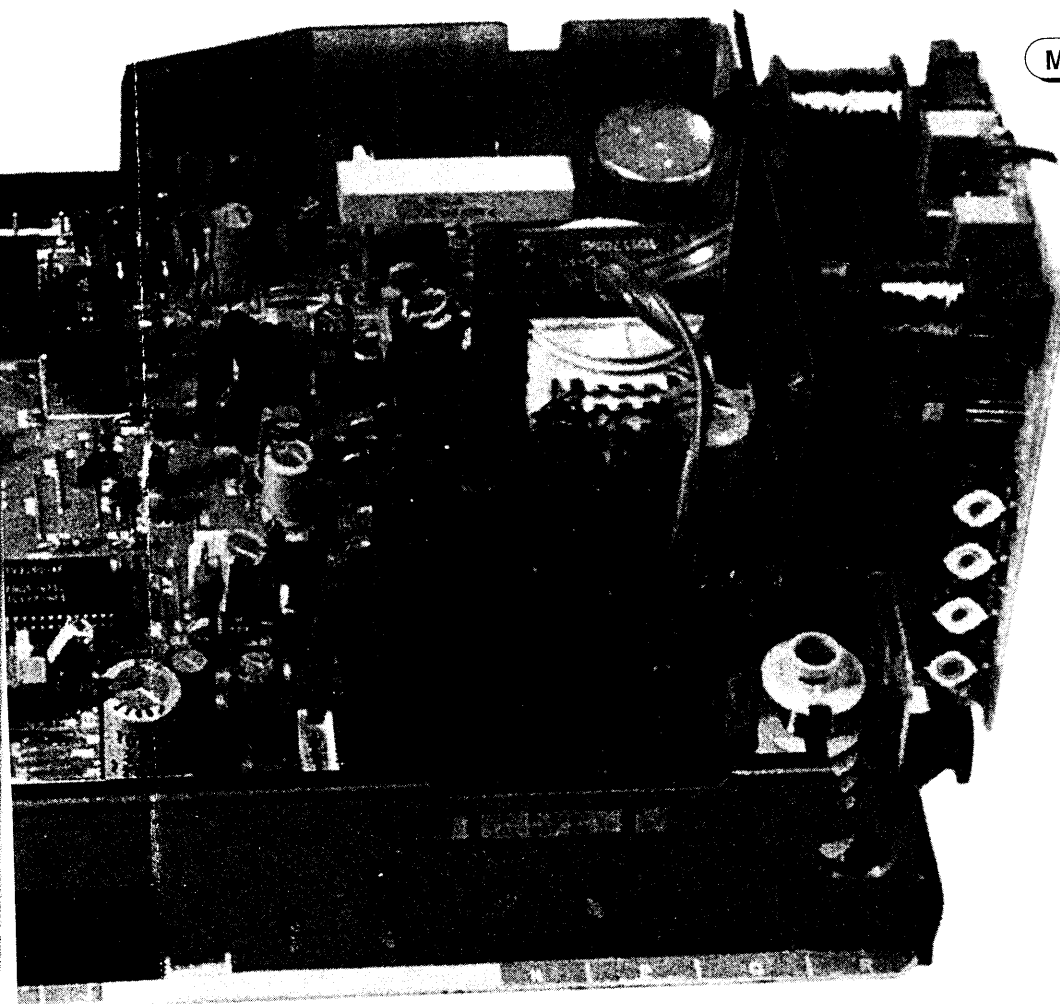
REJECTEUR 5,5MHz



DVT

AMFM



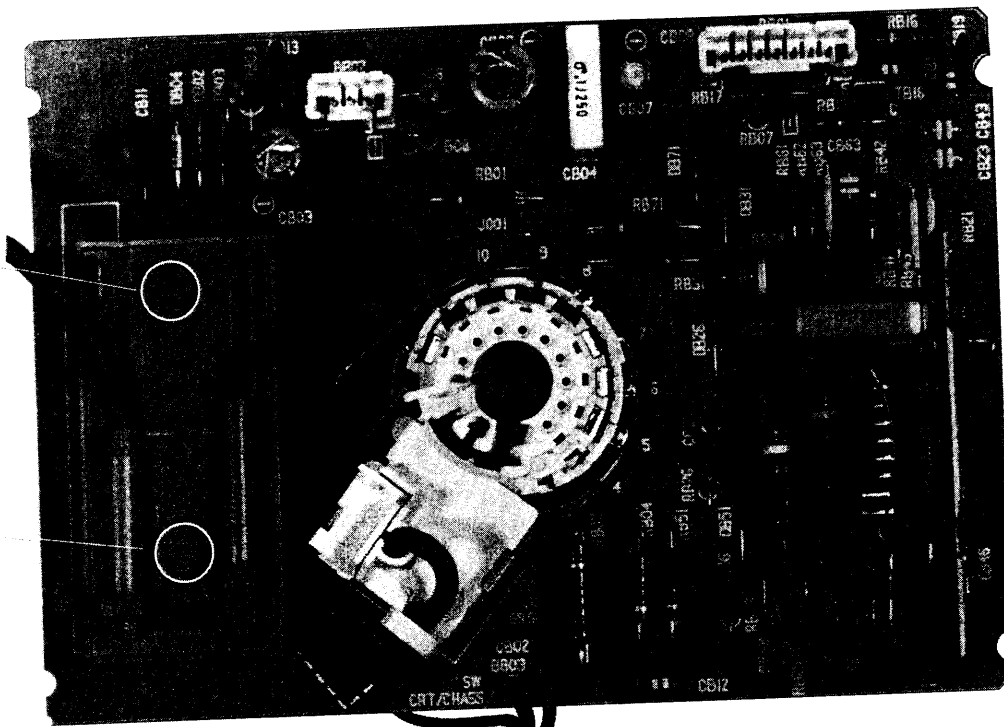


III / 2

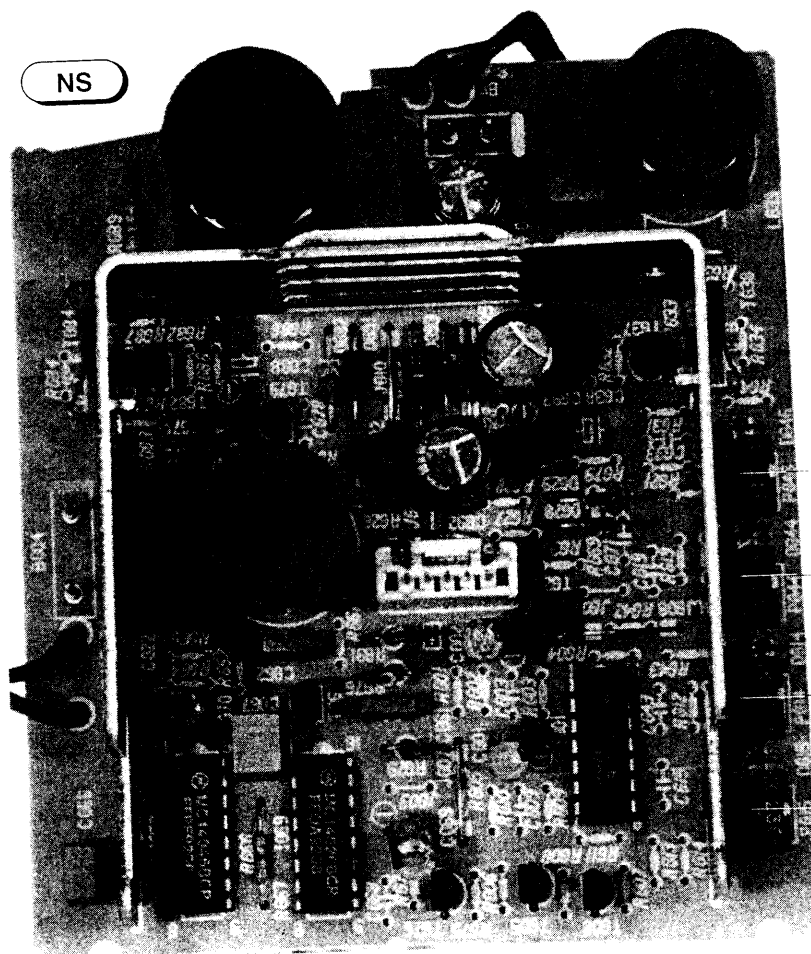
CRT

G2

FOCUS



NS



PG 46

PG 44

PG 14

PG 15

NORTH- SOUTH SETTINGS

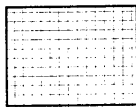
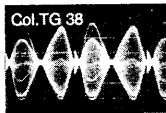
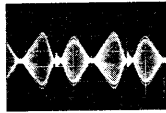
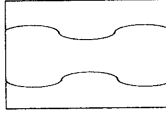
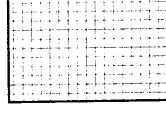
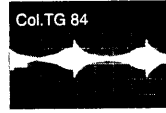
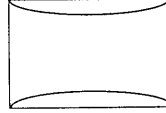
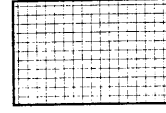
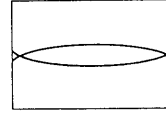
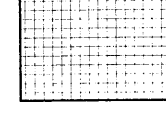
- Check before performing any adjustment of the North-South board

1 - Vertical amplitude:

Proper alignment of the first and last lines with the upper and lower edges of the screen.

2. East-West settings

See the geometry adjustment described in the service mode and TV set alignment sections (page III/8).

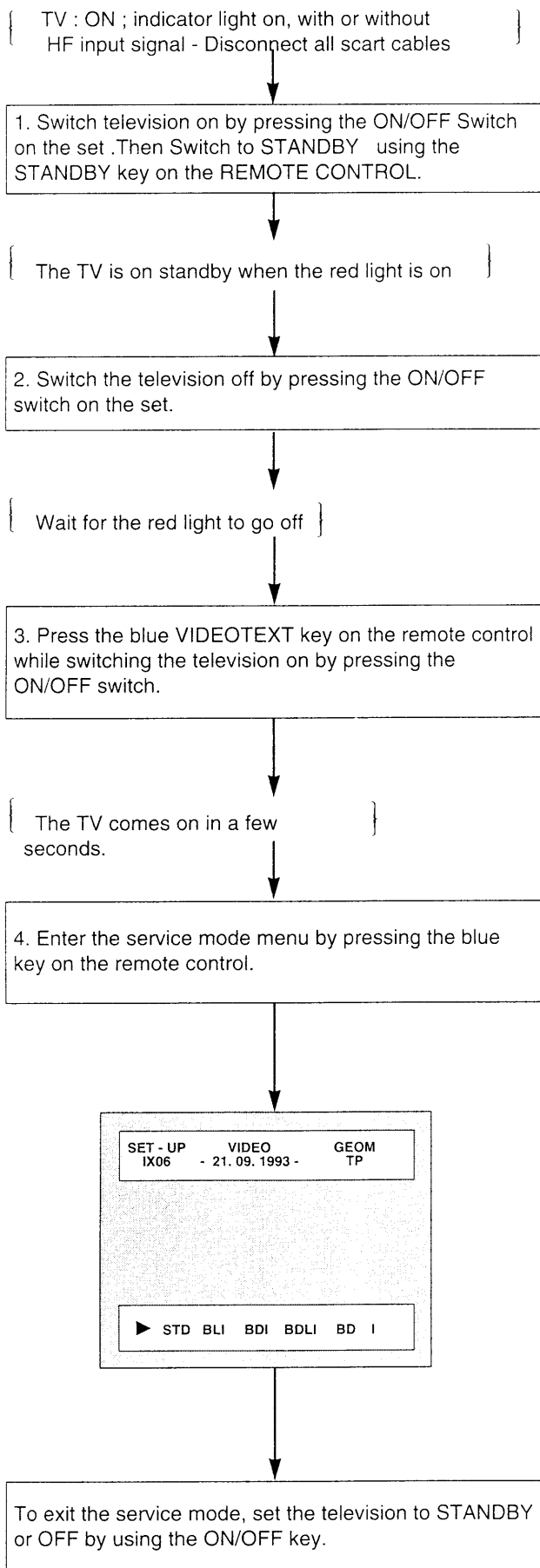
Pos.	Adj. / Rég. / Ein / Tara	Adjust to / Régler pour / Einstellen auf / Reglar para / Regolare su			
NS		Convergence Pattern 			
PG14		-1	PG 14 	max	
PG15	gullwing control amplitude Amplitude de correction aile de mouette Möwenflügel-Korrekturamplitude Amplitud de corrección ala de gaviota Ampiezza correzione ala di gabbiano	-2	LG 39 		
				Incorrect Falsche Incorrecto Scoretto	 Correct Korrekt Correcto Coretto
LG 39		-3	PG 15 		
				Incorrect Falsche Incorrecto Scoretto	 Correct Korrekt Correcto Coretto
		Convergence Pattern 			
PG44		-1	PG 44 	max	
PG46	Amplitude of North/South Pin cushion Amplitude Nord/Sud Nord/Süd Kissen Amplitude Amplitud de cojin Norte/Sur Ampiezza cuscino Nord/Sud	-2	LG 87 		
				Incorrect Falsche Incorrecto Scoretto	 Correct Korrekt Correcto Coretto
LG 84		-3	PG 46 		
				Incorrect Falsche Incorrecto Scoretto	 Correct Korrekt Correcto Coretto
LG22	Symmetry top and buttom Symétrie haut et bas Symmetrie oben unten Simetria alto bajo Simmetria alto basso			Incorrect Falsche Incorrecto Scoretto	 Correct Korrekt Correcto Coretto

III - SERVICE MODE AND ALIGNMENT

1. Accessing service mode
2. Switching between service mode and TV
3. Service mode menu
4. Adjustment sub-menus
 - a) Settings - SET-UP
 - b) Video
 - c) Geometry
5. Selecting an adjustment sub-menu
6. Selecting an adjustment or a configuration
7. Adjustment values
8. Special functions
 - a) Volt
 - b) PEAK (+/-)
 - c) Storing values in NVM : STORE
 - d) Retrieval of values stored in NVM : RESTORE
 - e) ROM (+) Default values
9. Aligning the television set
 - a) Configurations of the television set - SET-UP menu
 - . Standards
 - b) USYS system voltage
 - c) Zoom
 - d) Ambient
 - e) Text language
 - f) Geometry menu
 1. Line oscillator
 2. Geometry adjustments
 - g) Video alignment
 1. G2 voltage adjusting
 2. Focus adjusting
 3. Brightness
 4. Cutoff Adjustment
 5. DRIVE adjustment
 6. S. Colour
 7. White clipping - PEAK WHITE
 8. Videotext: Text contrast
 - h) Audio
 - . Cross Talk

SERVICE MODE AND ALIGNMENT

1. Access to service mode



2. Switching between service mode and TV mode

When in **service mode**, it is possible to use all the TV set's "normal" features by switching between service mode and TV.

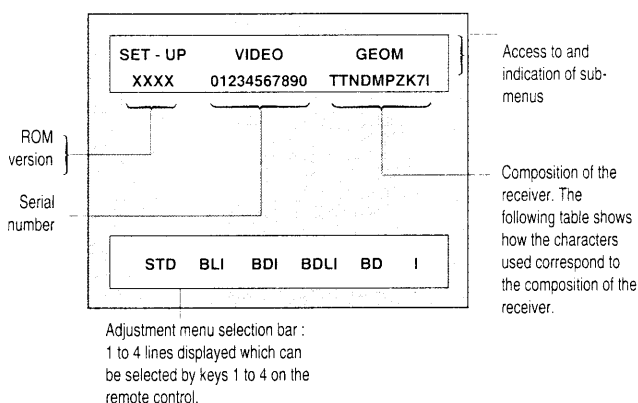
- a) To switch **from service mode to TV** : press the TV key on the remote control.
- b) To switch **from TV to service mode** : press the blue VT "Teletext" key on the remote control.

3. Service mode menus

Three sub-menus can be accessed from the main service mode menu:

- a) **SET-UP** : TV settings
- b) **VIDEO** : Access to video adjustments
- c) **GEOMETRY** : Geometry adjustments

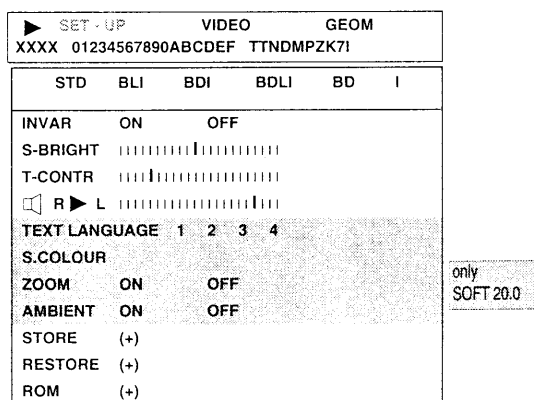
Its briefest form consists of only three lines, thus leaving the largest possible display space on the screen.



Character	Setting
T	Text board build in
TT	Top-Text board build in
N	Nicam board build in
D	Dolby board build in
M	Mono sound is build in
P	PSI is build in
Z	Zoom board build in
K	Brand is TFK
7	Subcode 7 enabled for TFK
I	IR-lock on

4. Adjustment sub-menus

a) Settings - SET-UP



b) Video

SET - UP	VIDEO	GEOM
XXXX 01234567890ABCDEF	TTNDMPZK7I	
R - CUT	OF	
G - CUT	OF	
R - DRV	1F	
G - DRV	1F	
PEAK	(-/+)	
B - DRV	1F	
STORE	(+)	
RESTORE	(+)	
ROM	(+)	

c) Geometry

SET - UP	VIDEO	GEOM
XXXX 01234567890ABCDEF	TTNDMPZK7I	
VOLT	11	
H - VCO	03	
V - POS	08	
V - AMP	33	
V - LIN	01	
H - POS	08	
H - AMP	2A	
TRAP	OF	
EW - 1	10	
EW - 2	08	
STORE	(+)	
RESTORE	(+)	
ROM	(+)	

5. Selecting an adjustment sub-menu

SET - UP	VIDEO	GEOM

a) First Select the sub-menu selection bar by (1)

- Mauve sub-menu bar : not selected
- Light blue sub-menu bar : selected

Procedure :

If accessing service mode : press the blue "Teletext" key on the remote control to select the sub-menu bar (light blue in colour)

If in service mode : first go into normal TV mode by pressing the TV key on the remote control, then select the sub-menu bar by pressing the blue "Teletext" key on the remote control.

b) Selecting an adjustment

Select the required adjustment, either "SET-UP", "VIDEO" or "GEOM" by using the "+" and "-" keys on the remote control.

The adjustment is selected when the text turns dark blue.

6. Selecting an adjustment or a configuration

- First select the adjustment sub-menu
- If necessary, select the number of lines (1 to 4) contained in the adjustment window.

STD	BLI	BDI	BDLI	BD	I
INVAR		ON		OFF	
S - BRIGHT					

VT To move down the adjustment line, press the (blue) Videotext key on the remote control.

→← To move up the adjustment line, use the normalise key on the remote control.

7. Adjustment values

The adjustment values are displayed to the right of the function selected and are in hexadecimals.

e.g. V - POS OA

These values can be adjusted by pressing the "+" and "-" keys on the remote control. The values listed in the tables in chapter 4 are the maximum values obtainable.

8. Special functions.

VOLT

• N.B.

The Usys system voltage represented by the VOLT function **must not** be adjusted with the "+" and "-" keys on the remote control, to avoid any possible damage.

It may be adjusted by pressing the "+" and "-" keys on the TV set. (see Chapter 9, "Aligning the TV set").

PEAK (+/-) (in the video menu)

This function can be used to adjust R-DRV, G-DRV and B-DRV simultaneously. It is thus advisable to menu display the four line to make the adjustment correctly.

RED	DRIVE	1F
GREEN	DRIVE	1F
▶ PEAK	WHITE	+/-
BLUE	DRIVE	1F

Storing values in NVM : STORE

After making the adjustment, select "STORE" and press "+" to confirm. The new value is then stored in NVM.

Retrieval of values stored in NVM : RESTORE.

Select the "RESTORE (+)" line. The value stored in NVM is called up and can thus be "retrieved" if the value was modified during adjustment.

NB. restore will not return values if store has been pressed

e.g.

the "vertical position" geometry adjustment.

▶ V - POS	09	stored in NVM
-----------	----	---------------

The value 09 is incremented to OD, but not stored. The "RESTORE (+)" option can thus be used to retrieve the old value of 09.

Default values

Select the line.

▶ ROM	(+)
-------	-----

Press the (+) key and the full set of default values

Table of hexadecimal values

Geometry		Video	
V - POS	0D h	R - CUT	0F h
H - POS	14 h	G - CUT	05 h
H - AMP	15 h	R - DRV	1B h
V - AMP	30 h	G - DRV	1B h
V - LIN	00 h	B - DRV	16 h
TRAP	0F h		
EW1	1B h		
EW2	00 h		
H - VCO	05 h		
VOLT	11 h		

N.B. These values are given as an indication and may be modified considerably during manufacture.

9. Aligning the television set

Recommended order

- Configuration of the television set
- **U System**
- Adjusting G2 and Focus
- H-VCO
- Vertical and horizontal geometry
- Video adjustments

a) Configuration of the television set - SET-UP menu

Go into Service mode, then select STD in the SET-UP menu.

• Standards:

- Select the line:

► STD BLI BDI BDLI BD I

Selection	Standards
BLI	PAL/SECAM BG - SECAM L - I
BDI	PAL/SECAM BG - DKK' - I
BDLI	PAL/SECAM BG - SECAM L - DKK'
BD	PAL/SECAM BG - SECAM L - I
I	I

- Select the required standards according to the table:

Store by pressing (STORE +) after selection.

b) Usys system voltage

Go into Service mode, then select the Usystem adjustment line from the "GEOM" menu :

► VOLT 11

- Coloured bar test pattern as input signal
- TV in OMA position (brightness, colour and contrast at the medium position).
- Voltmeter connecting the DP61 cathode and the earth.

USYS

DP 61

154 V : 33" ; 29" ; 28" (4/3)
 145 V : 21" (110°)
 121 V : 21" (90°)
 165 V : 32" (16/9)

- Press the "+" and "-" keys on the television keyboard to obtain

USYS = 154 V: 33"; 29"; 25" (4/3)
 145 V: 21" (110°)
 121 V: 21" (90°)
 165 V: 32" (16/9)

N.B.

Do not exceed the stipulated values.

c) Zoom "on" "off"

- "ZOOM" function selection on television sets equipped with the "zoom" module.
- Go into service mode, then select the "ZOOM" option from the SET-UP menu.
- Select "ON" if the set is equipped with the "zoom" module.

It is imperative to select "OFF" if the set is not equipped with this module. Store (by pressing STORE+).

d) Ambient "on" "off"

For televisions equipped with a "light sensor" "Ambiant" selects the luminosity variation option according to the illumination of the TV.

- Go into service mode then select the "ambient" option from the SET-UP menu.
- Select by pressing ON (or OFF) depending on whether the television is equipped with a "light sensor" or not.
- Store by pressing (STORE+).

e) Text language

Enables the videotext to recognise and display the characters relative to the following languages/countries :

- English, German, Swedish, Italian, French, Belgian, Spanish, Czech.
- Polish, German, Hungarian, Turkish, Serbo-Croat
- English, German, Swedish, Italian, French, Czech, Romanian
- South African, German, Danish, Turkish, Serbo-Croat.

- Go into service mode, then select the "TEXT LANGUAGE" option in the SET-UP menu.

- Select 1,2,3, or 4 depending on the language selected.

- Store by pressing (STORE+)

f) Geometry menu

The values listed in the GEOMETRY menu are in hexadecimal.

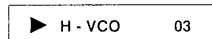
V - POS	0D	Framing V
H - POS	14	Framing H
H - AMP	15	H amplitude
V - AMP	30	V amplitude
V - LIN	00	V linearity
TRAP	0F	Keystone
EW1	1B	East-West
EW2	00	
H - VCO	05	VCO line oscillator adjustment
VOLT	11	Usystem
STORE	(+)	NVM memory
RESTORE	(+)	Retrieval of previous values
ROM	(+)	Default values

- Go into service mode and select the GEOM option in the main menu.

- TV in OMA position →←

1. Line oscillator

- Select the adjustment line in the GEOM menu



- Connect a frequency counter between LL63 or RL67 (TL63 collector) and the earth.
- No signal in HF or AV input
- To frame, press the "+" and "-" keys on the remote control to reach the nearest value to F=15.625 kHz.
- Store after adjustment by pressing STORE+

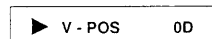
2. Geometry adjustment

Adjustments are made and then checked in the 4:3 and 16:9 formats successively.

- field test pattern at antenna input
- PAL or SECAM standard

• Vertical framing

- select adjustment line



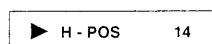
- Use the "-" or "+" keys on the remote control to adjust the framing



- store the setting after adjustment (STORE+)

• Horizontal position

- Select the adjustment line

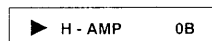


- Press the "+" and "-" keys on the remote control to position the frame horizontally.
- Store after adjustment by pressing STORE+.

3. Horizontal - Vertical Amplitude Adjustment

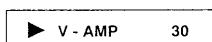
Horizontal amplitude

- Select the adjustment line :



Vertical amplitude

- Select the adjustment line



Adjustment

- Press the "+" and "-" keys on the remote control to adjust amplitude according to the following formats.

• 4:3 formats

1. 4:3 format (Fig.1)

Adjust horizontal and vertical amplitudes with an overscan factor of 7% compared to the screen's limits.

Standard
4:3

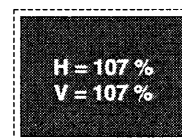


Fig. 1

Overscan factor of 7%

- Store after adjustment.

2. 4/3 format (Fig 2)

(for sets equipped with the "ZOOM" function)

- Adjust the horizontal and vertical amplitudes with an overscan factor of 19% compared to the limits of the screen.

Standard
<4/3>

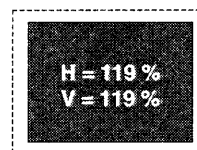


Fig. 2

Overscan factor of 19%.

3. 4:3 format (Fig. 3)

(for sets equipped with the ZOOM function)

- Adjust horizontal and vertical amplitudes with an overscan factor of 37% compared to the screen's limits.

Standard
<<4:3>>

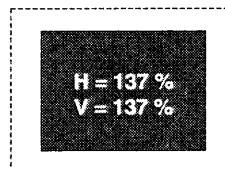


Fig. 3

Overscan factor of 37%

• 16:9 formats

1. 16:9 format (Fig. 4)

- Adjust horizontal amplitudes with an overscan factor of 7% compared to the screen's limits.
- Adjust vertical amplitude with a sub-scanning factor of -20% compared to the screen's limits.
- store after each adjustment.

Standard
16:9

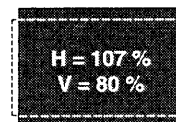


Fig. 4

2. 16:9 format (Fig. 5)

(for sets equipped with a ZOOM function)

- Adjust horizontal amplitude with an overscan factor of 19% compared to the screen's limits.
- Adjust vertical amplitude with a sub-scanning factor of -11% compared to the screen's limits.

Standard
<16:9>

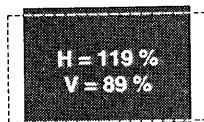


Fig. 5

- Store after each adjustment.

3. 16:9 format (Fig. 6)

(for sets equipped with ZOOM function)

- Adjust horizontal amplitude with an overscan factor of 37% compared to the screen's limits.
- Adjust vertical amplitude with an overscan factor of 7% compared to the screen's limits.

Standard
<<16:9>>

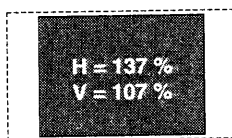
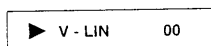


Fig. 6

- Store after each adjustment.

• Vertical linearity

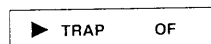
Select the adjustment line :



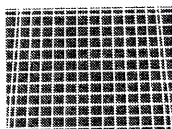
- Press the "+" and "-" keys on the remote control to adjust linearity.

• Keystone

Select the adjustment line :



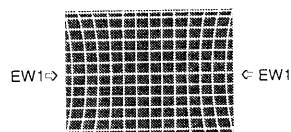
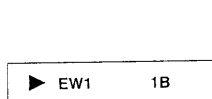
- Adjust the keystone by pressing the "+" and "-" keys on the remote control.



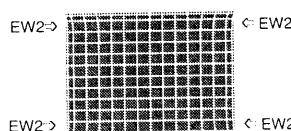
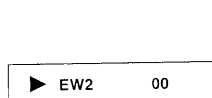
• East-West

EW1 East-West

- Adjust the amplitude of the cushion



EW2 Angle correction
(corners of the screen)



- Select the required adjustment line and make East-West corrections (EW1 or EW2) by pressing the "+" or "-" keys on the remote control.
- Store each of the last adjustments made.

g) Video alignment

The values listed in the VIDEO menu are hexadecimal.

R - CUT	OF	Current line selected.
G - CUT	OE	
R - DRV	16	
G - DRV	14	
B - DRV	OE	
PEAK	(+/-)	Incrementation or decrementation of the three registers: R, G, B DRV.
STORE	(+)	Store in NVM.
RESTORE	(+)	Retrieval of values stored in NVM.
ROM	(+)	Cut-Off and Drive default values

Alignment conditions:

- Call up the default values of the DRIVE and CUT-OFF video registers before the alignment.

Adjustment	Values
R - CUT	OF
G - CUT	05
R - DRV	1B
G - DRV	1B
B - DRV	16

1. G2 voltage adjustment

Position the following controls →← to the medium position :

Adjustment	Values
Brightness	50%
Colour	50%
Contrast	50%
Colour Edging	50%

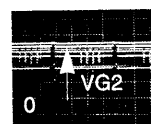
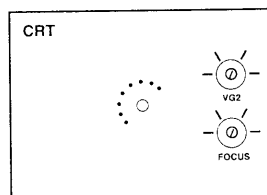
N.B.

These controls are specific to each TV, AV1 or AV2 input and must be adjusted separately for each of them.

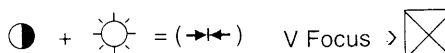
- Inject a composite video signal (grey scale) in SCART, AV1 or AV2 input.

- Connect an oscilloscope (1/100 sensor , 5ms/div, continuous input) on cathode G of the tube (CRT board)
- Use VG2 to obtain:

CRT 9000 00 : 150V, (Tubes with DBXL gun)
 CRT 9001 00 : 160V, (Tubes with COTY-M gun)
 CRT 9002 00 : 150V, (21" 90°)
 CRT 9003 00 : 160V, (Double focus)



2. Focus adjustment

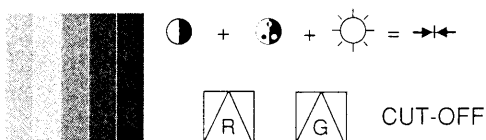


3. Brightness

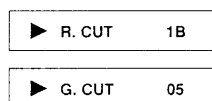
- Inject a SECAM or PAL colour bar test pattern (White 100%, Black 0%) in HF input.
- Position the brightness control at the halfway mark (50%)
- Select the SET-UP option from the service mode main menu,
- Select S-BRIGHT.
- Use the "+" or "-" keys on the remote control to obtain a correct level of black : The black bar should be just visible (5% allowance).

4. CUT-OFF adjustment

- Inject a SECAM or PAL grey scale test pattern (White 100%, Black 0%) as HF input.
- Position the luminance and contrast controls at the halfway mark (50%) $\rightarrow \leftarrow$
- Select the VIDEO option from the service mode menu,
- Select the R.CUT and G.CUT adjustments in succession.

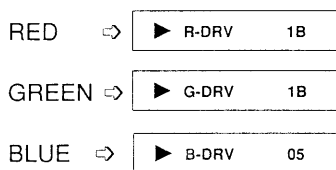


After each adjustment, use the "+" or "-" keys on the remote control to adjust the CUT-OFF.



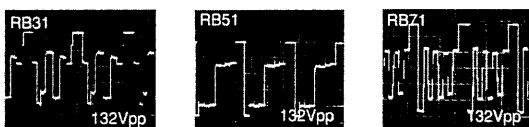
5. DRIVE- WHITE BALANCE adjustment

- Inject a test pattern (White 100%) in HF input.
- Position the luminance and contrast controls at the halfway mark $\rightarrow \leftarrow$
- Validate the VIDEO option from the service mode menu,
- Select the R-DRV, G-DRV and B-DRV adjustments in succession.



- Use the "+" or "-" keys on the remote control to obtain a correct white.

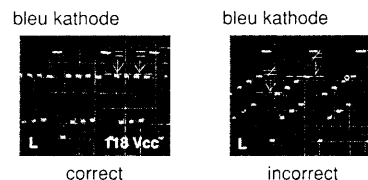
Signals on the picture tube :



N.B. Since the CUT-OFF and White balance adjustments are linked, it may be necessary to repeat these adjustments to obtain a satisfactory result.

6. S. COLOUR

- Adjust saturation on the "Blue" cathode in PAL.
- Inject a PAL colour bar test pattern (White 100%, Black 0%) in HF input.
- Position the luminance, colour and contrast controls at the halfway mark.
- Select the SET-UP option from the service mode menu,
- Select S-COLOUR.
- Connect an oscilloscope to the tube "Blue" cathode .
- Use the "+" or "-" keys on the remote control to obtain 100% saturation on the blue cathode.



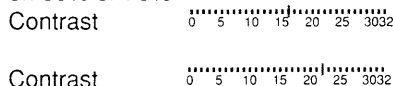
7. White clipping PEAK - WHITE

This adjustment is factory set.
To obtain optimum results:

- Measure NITS with a Lightmeter
- inject a signal from a test pattern showing a 100% white square on a black background, covering approximately 2% of the visible image.
- Select the SET-UP option from the service mode menu.
- Select the line $\rightarrow$ INVAR ON OFF

- By pressing the "+" and "-" keys on the remote control, position :

- "INVAR" on ON or on OFF, then position
- the CONTRAST remote control key on 50% or 70%



According to the tube used (see the following table).

- Store "INVAR" by using STORE+

Adjustment:

- Select the VIDEO option in the main menu
- Select the adjustment $\rightarrow$ PEAK (-/+)

and select the four line menu display : R-DRV, G-DRV, PEAK WHITE and B-DRV.

- Use the "+" and "-" keys on the remote control to obtain the values listed (see table)

CAUTION: Do not increment or decrement the PEAK WHITE values if one of the DRIVE adjustment values is 1F = maximum value, 00= minimum value, so as not to upset the balance of white.

Tube	21"90°	21"MP	25"MP	25"DSF	25"BSP	25"MP	25"SF	28"DFS	28"MP	28"MP
INVAR	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
Contrast	50%	50%	50%	50%	50%	70%	70%	70%	50%	50%
OMA										
Sortie	490 nit	490 nit	420 nit	420 nit	420 nit	510 nit	510 nit	350 nit	350 nit	425 nit

Tube	29"BSP	29"KP	29"SF	33"MP
	52%	44%	44%	52%
INVAR	OFF	ON	ON	OFF
Contrast	50%	70%	70%	50%
OMA				
Sortie	350 nit	425 nit	425 nit	280 nit

- Store in NVM after adjusting by STORE+

8. Teletext contrast : Text-contrast

Adjustment line



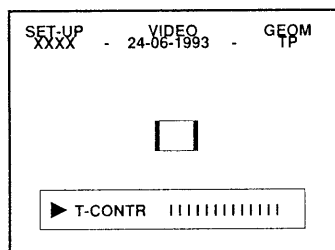
Teletext character contrast can be adjusted by using T-CONTR.

This adjustment is factory set.

To obtain optimal results :

Measure NITS with a lightmeter.

- Select T-CONTR in the service mode's SET-UP menu and press the "+" or "-" keys on the remote control.



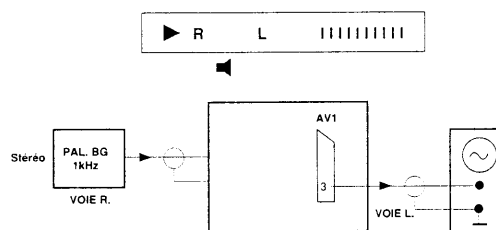
- Go into audio-visual mode.
- Use the "+" or "-" keys on the remote control to obtain the following values, depending on the tube :

Tube	33"	28"	25"	21"
Output	120 nit	140 nit	170 nit	190 nit

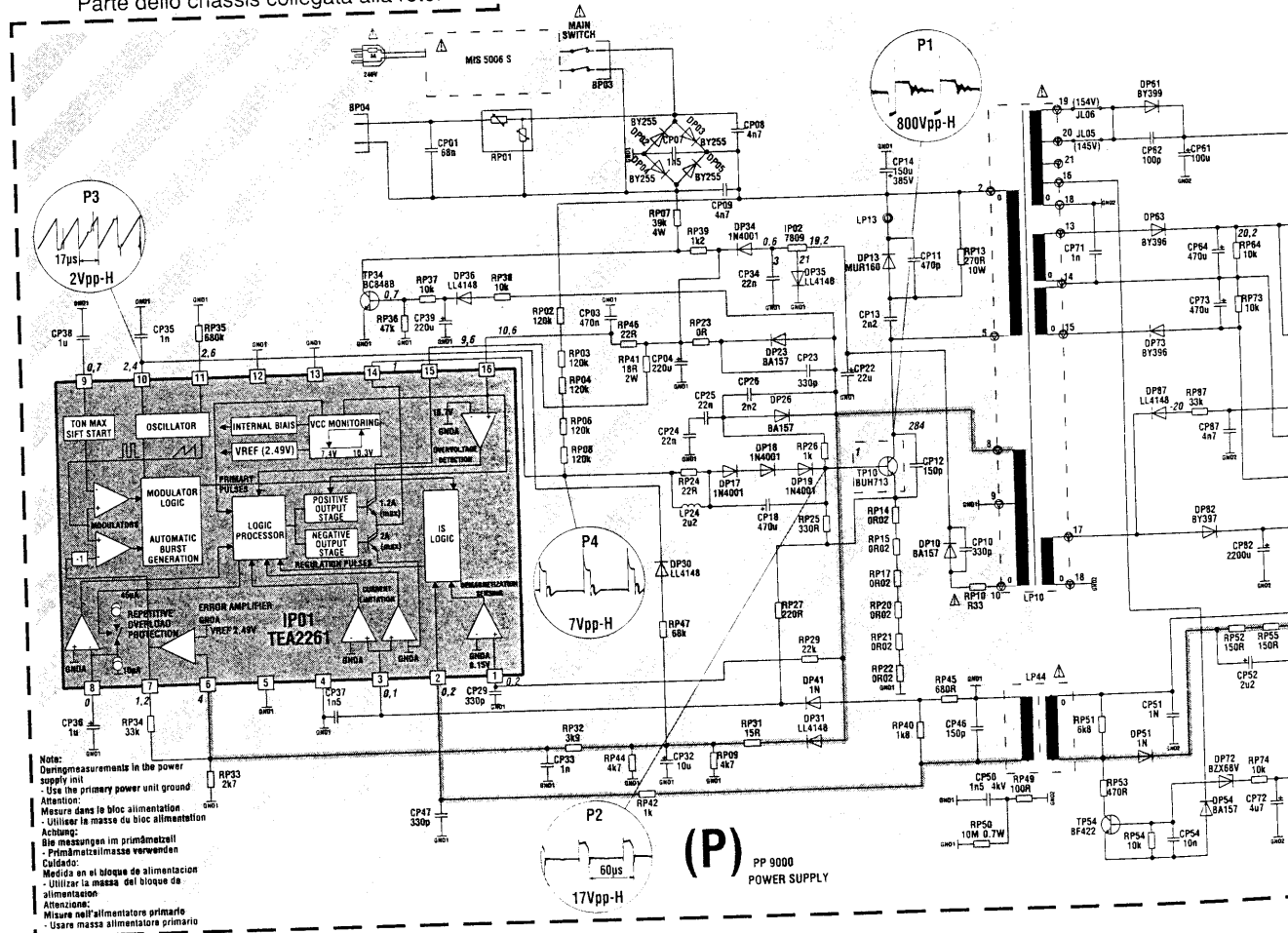
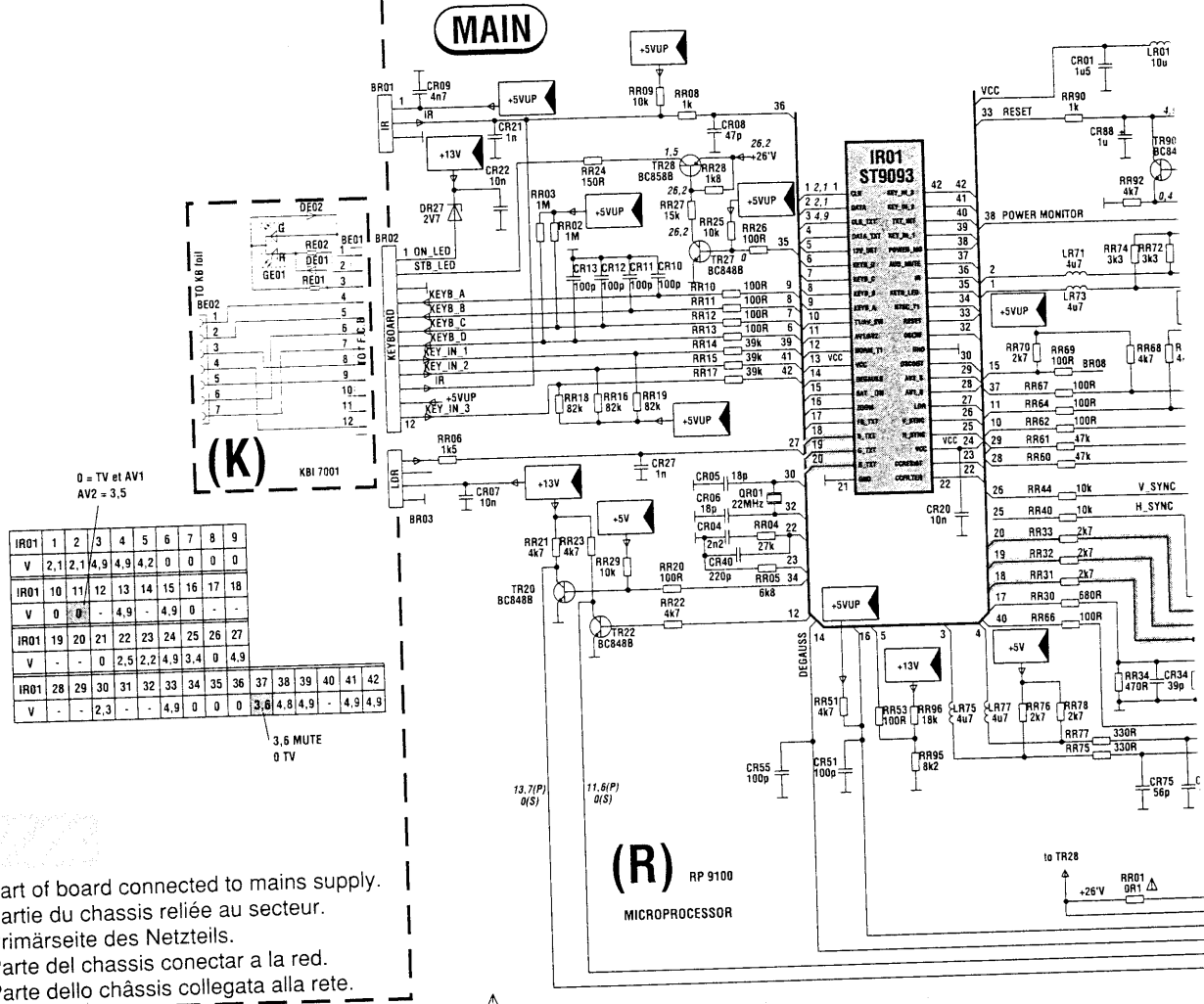
h) CROSS-TALK Audio-Adjustment

For analogue stereo analogue systems only

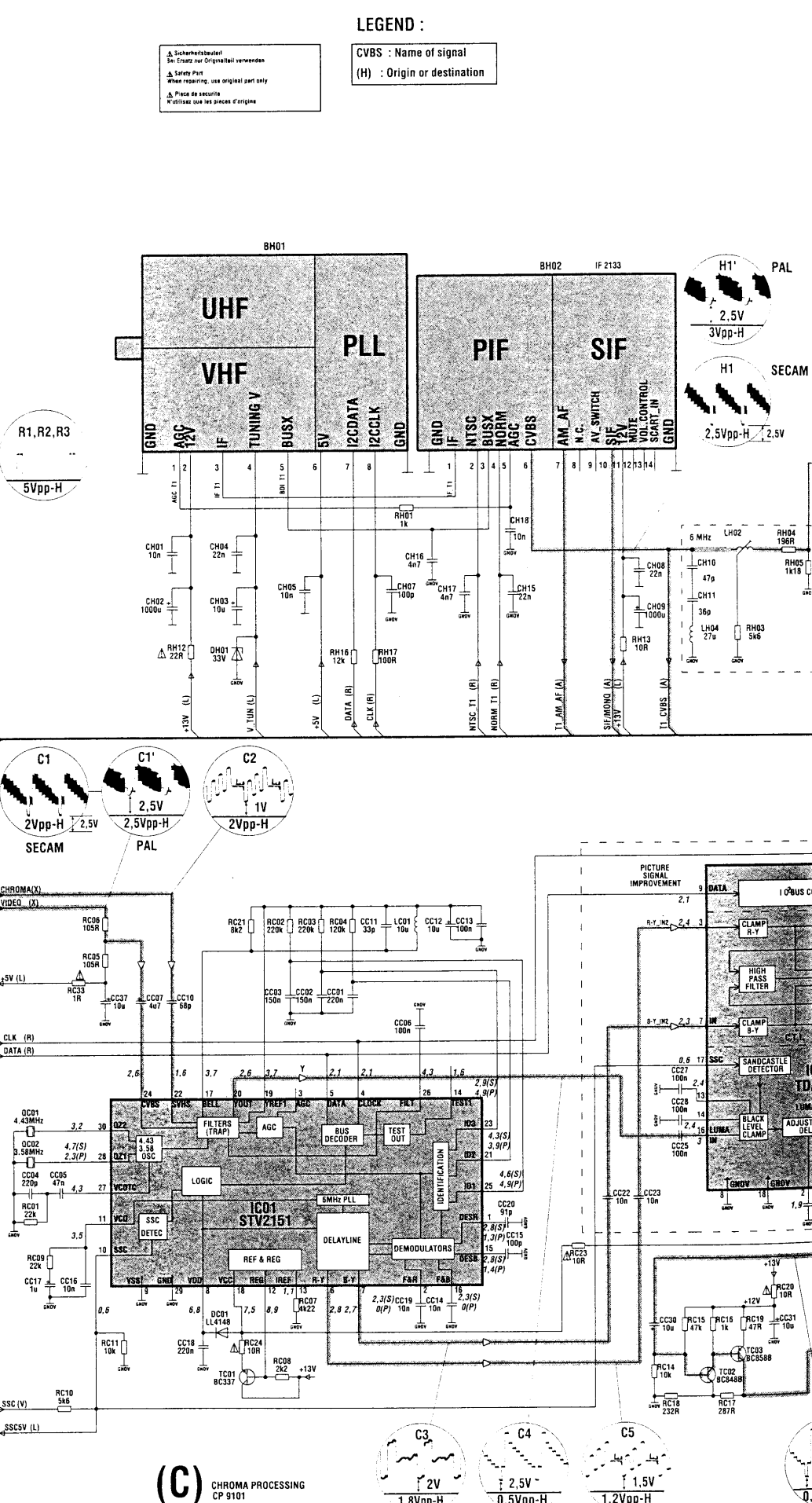
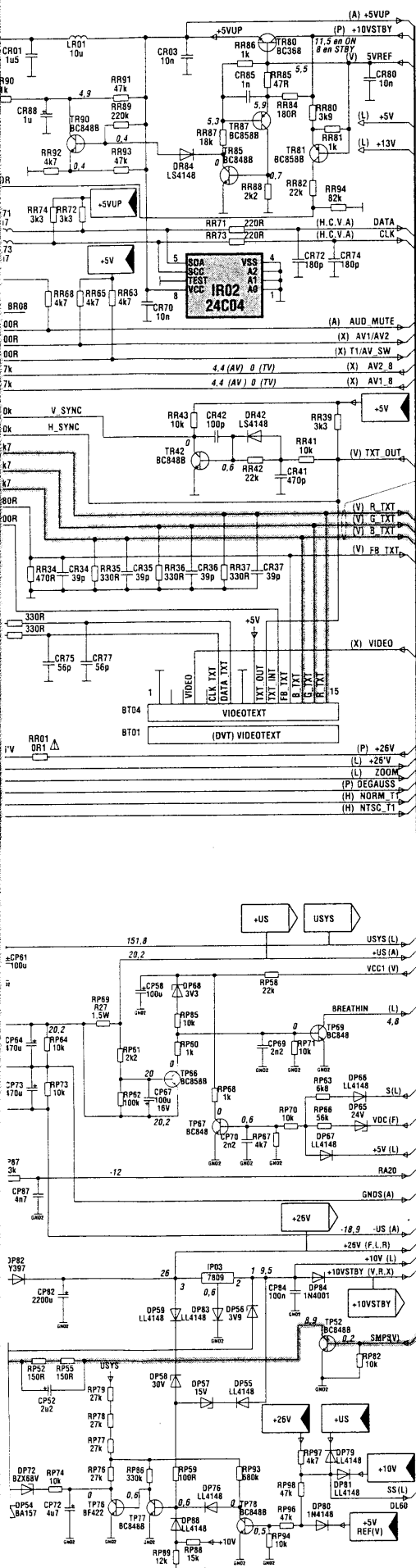
- Inject a PAL BG, 1kHz stereosound signal on the right channel only.
- Connect an oscilloscope to the SCART left audio socket :
- Select the CROSS-TALK adjustment bar from the SET-UP menu.



- Use the "+" or "-" keys on the remote control to obtain the minimum signal.

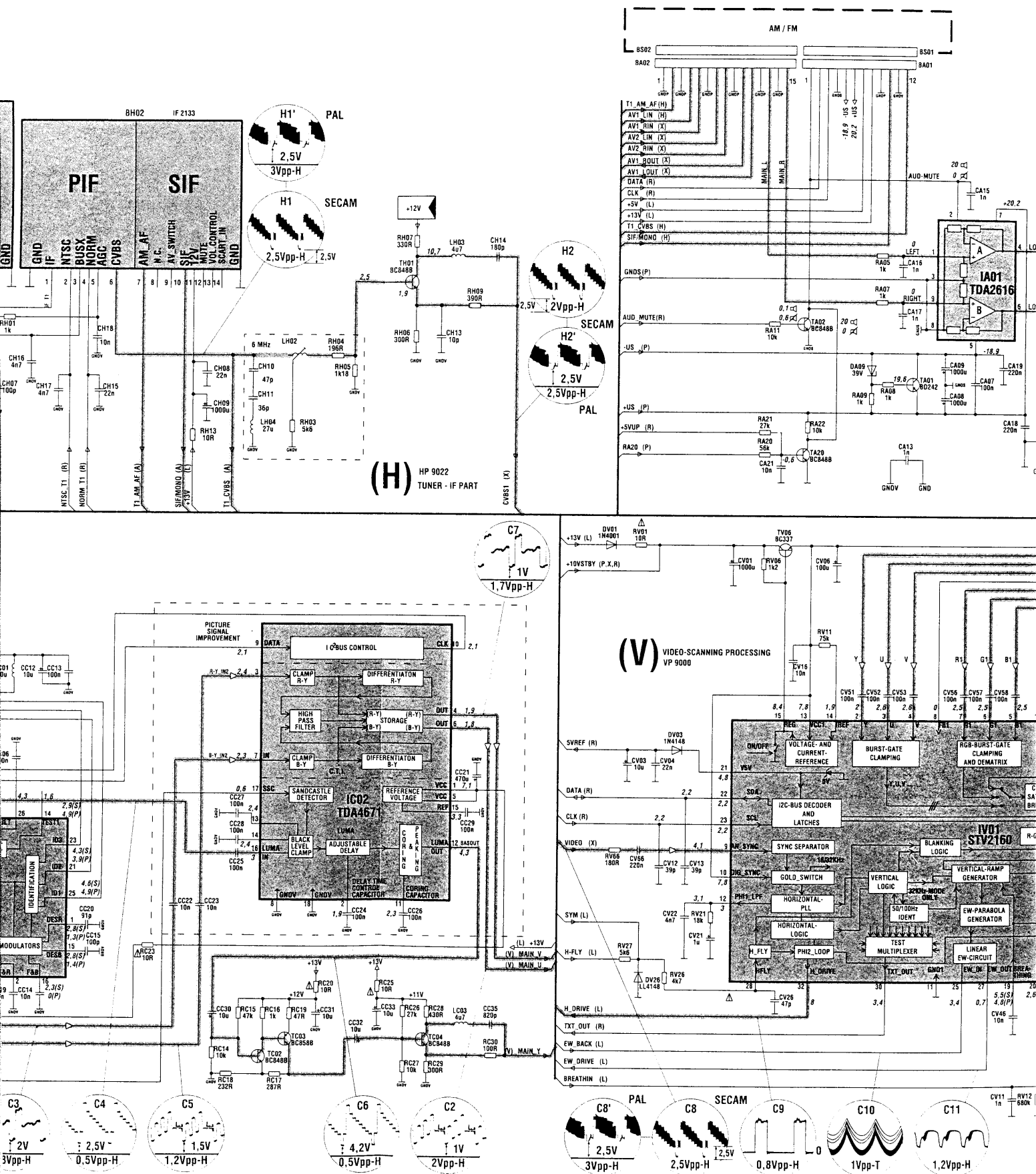


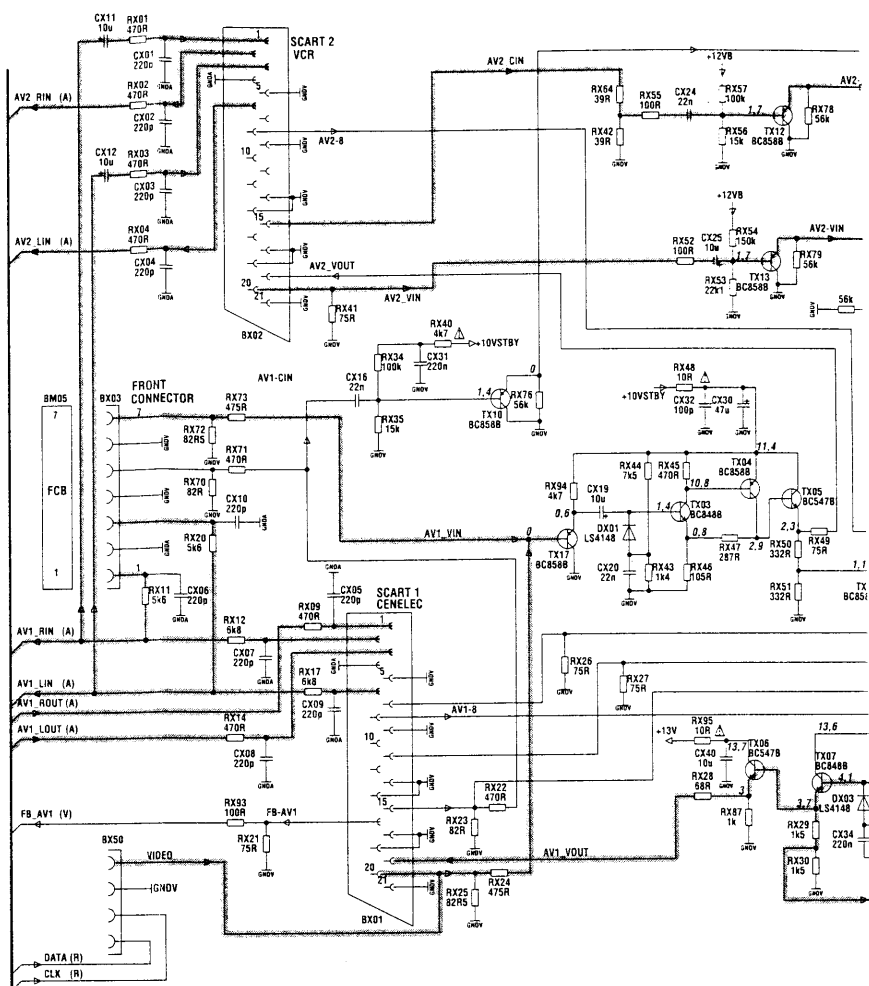




(C) CHROMA PROCESSING CP 9101

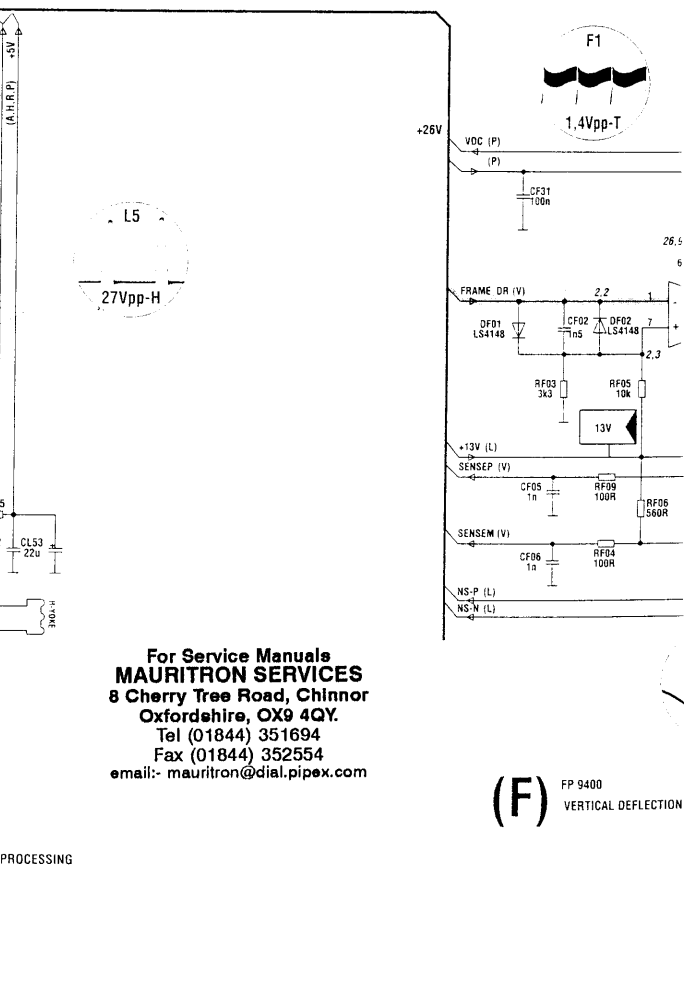
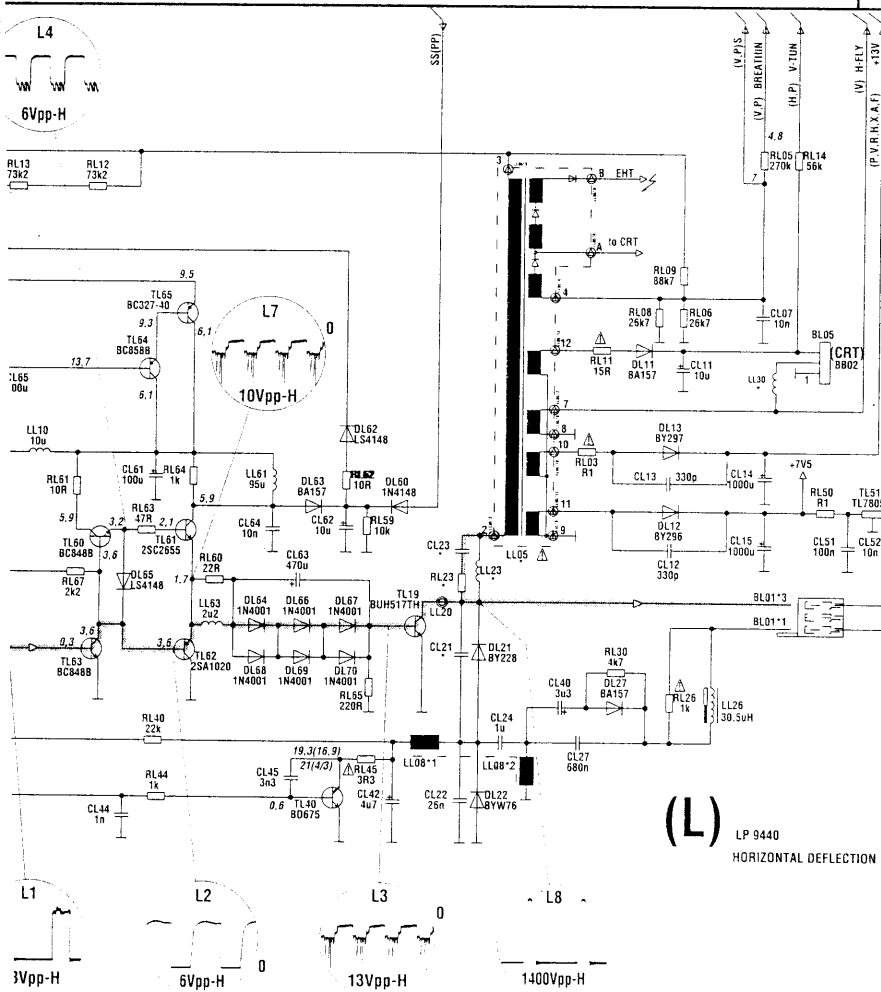
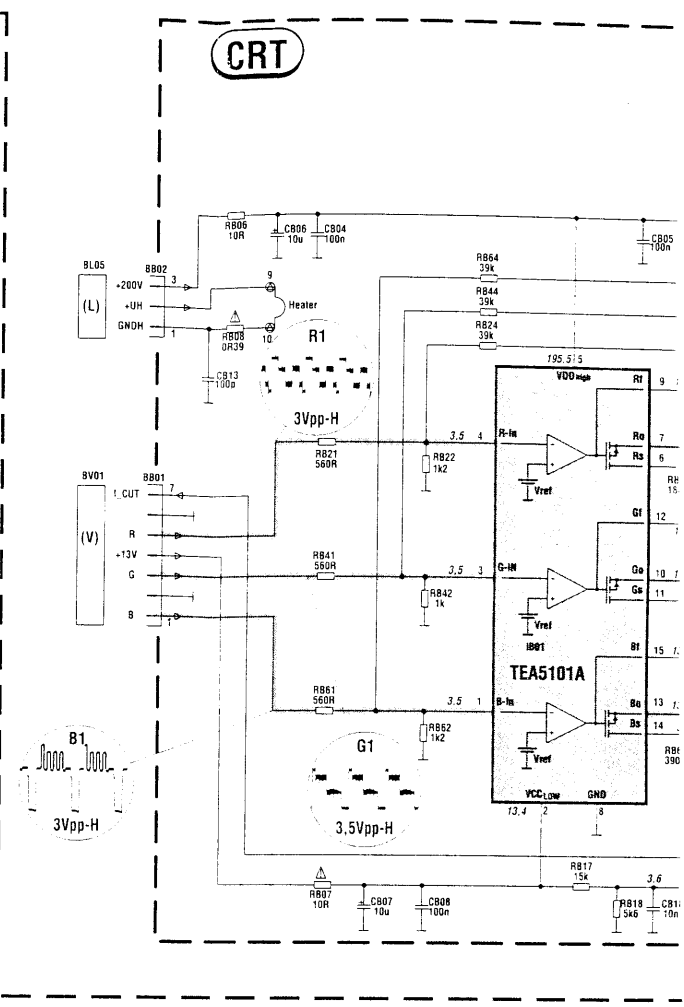
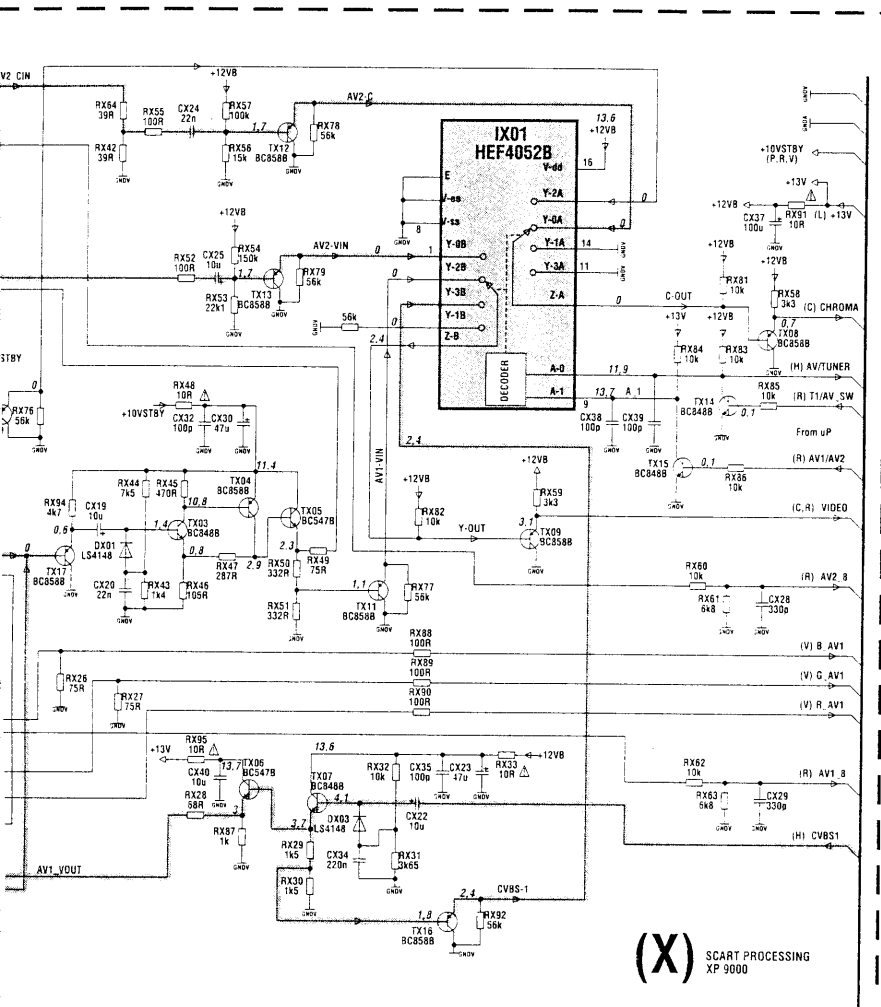
: Name of signal
Origin or destination



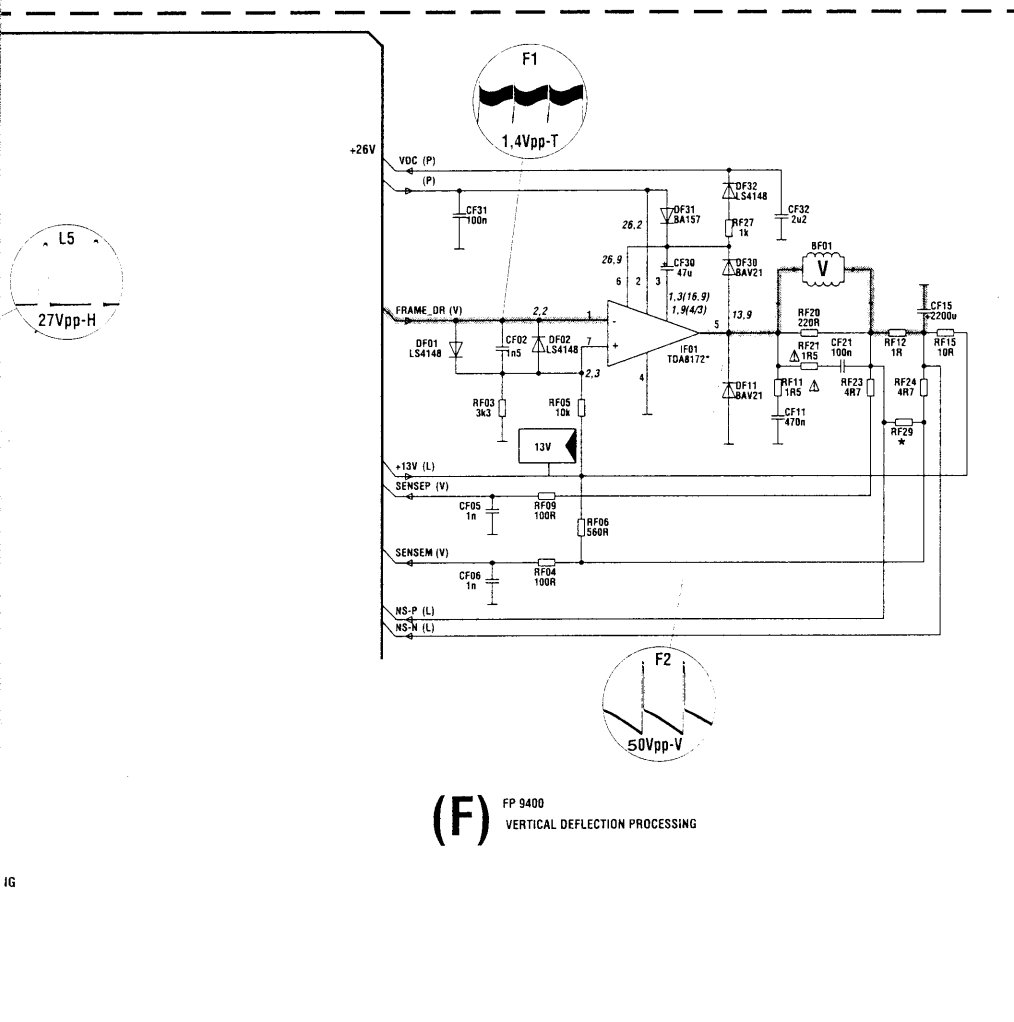
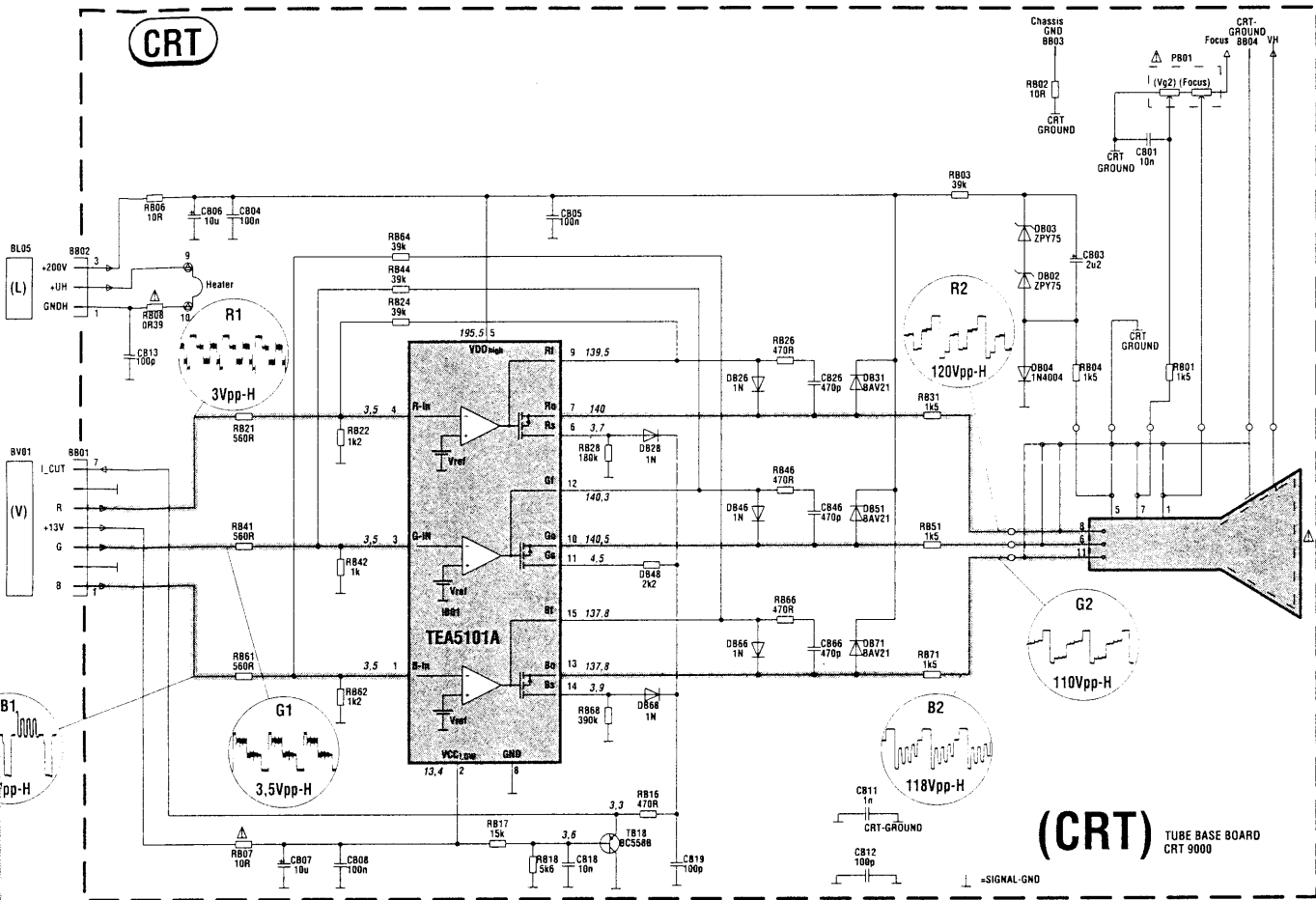


L





For Service Manuals
MAURITRON SERVICES
 8 Cherry Tree Road, Chinnor
 Oxfordshire, OX9 4QY.
 Tel (01844) 351694
 Fax (01844) 352554
 email: mauritron@dial.pipex.com



IX01	1	2	3	4	5	6	7	8	9	10
AV1	0	2	2	0	0	0	0	0	13.7	0
AV2	2.4	0	2.4	-	0	0	0	0	0	0
TV	0	0	2.4	2.4	0	0	0	0	13.7	11.9
IX01	11	12	13	14	15	16				
AV1	0	0	2.1	0	2.1	13.6				
AV2	0	2.4	2.4	0	0	13.6				
TV	0	0	0	0	0	13.6				

*

Partlist	RF29
LP9420	45
LP9430	54
LP9440	54
LP9450	54
LP9460	54
LP9470	54
LP9480	45
LP9490	54
LP9620	45
LP9630	54
LP9640	54
LP9650	54
LP9680	54
LP9690	54

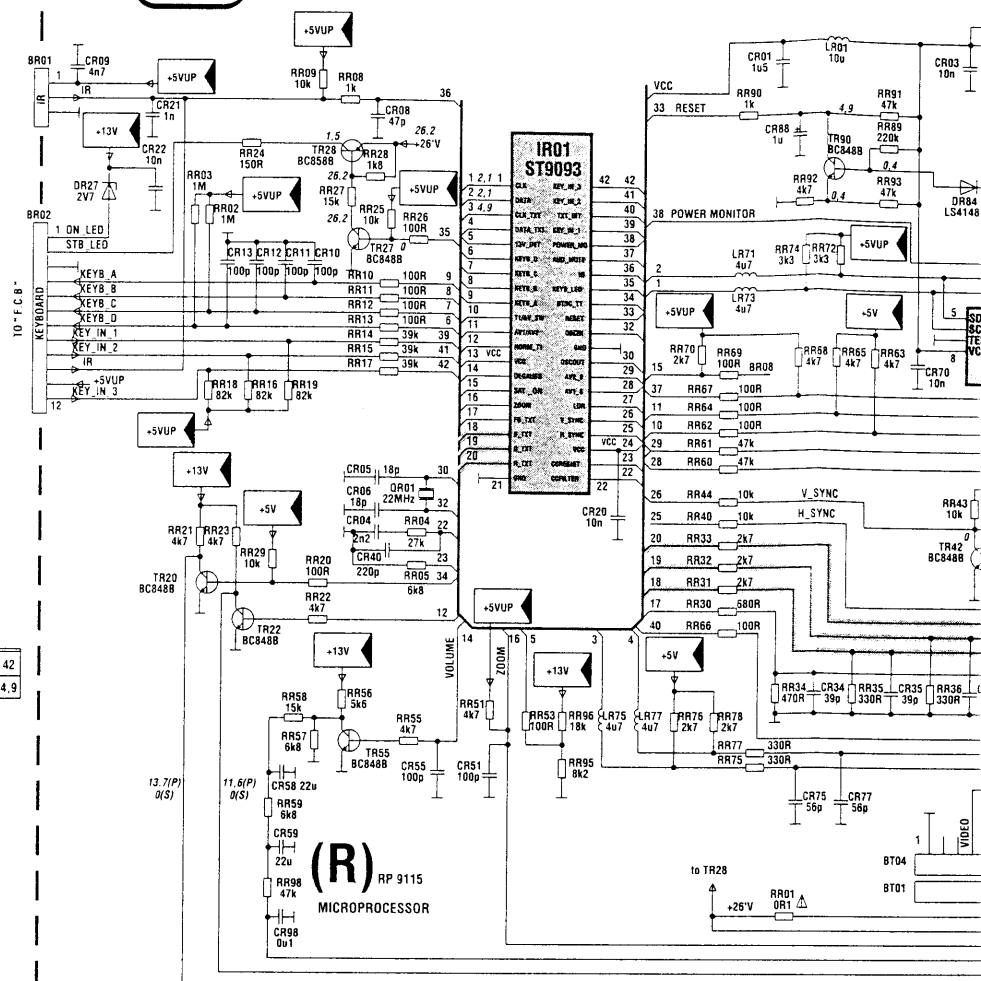
0 = TV et AV1
AV2 = 3,5

IR01	1	2	3	4	5	6	7	8	9
V	2,1	2,1	4,9	4,9	4,2	0	0	0	0
IR01	10	11	12	13	14	15	16	17	18
V	0	0	4,9	4,9	0	0	0	0	0
IR01	19	20	21	22	23	24	25	26	27
V	0	0	2,5	2,2	4,9	3,4	0	4,9	0
IR01	28	29	30	31	32	33	34	35	36
V	0	0	2,3	0	4,9	0	0	0	0
IR01	37	38	39	40	41	42			
V	0	0	0	0	0	0	0	0	0

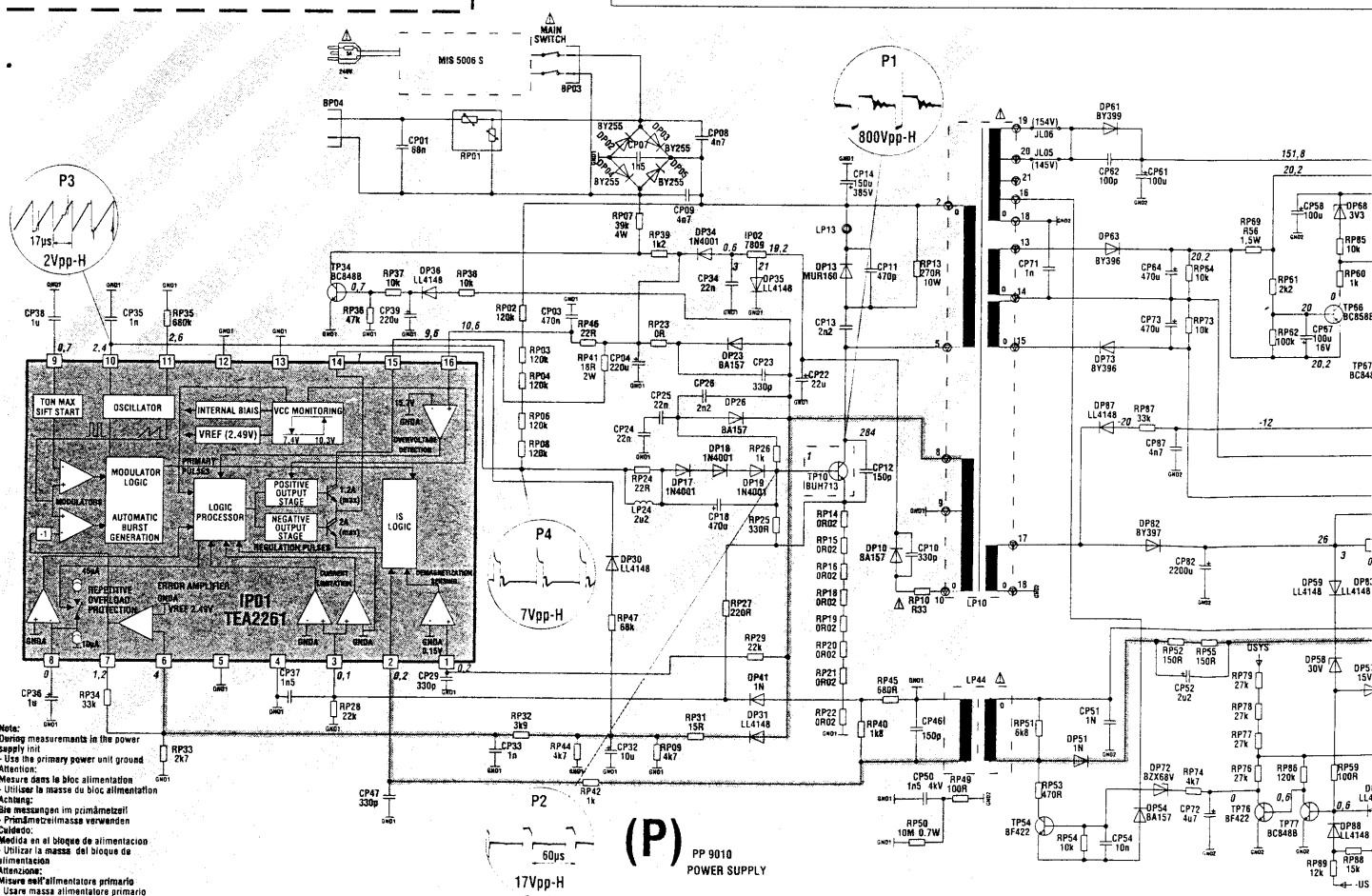
3.6 MUTE
0 TV

Part of board connected to mains supply.
Partie du chassis reliée au secteur.
Primärseite des Netzteils.
Parte del chassis conectar a la red.
Parte dello chassis collegata alla rete.

MAIN



(R) AP 9115
MICROPROCESSOR



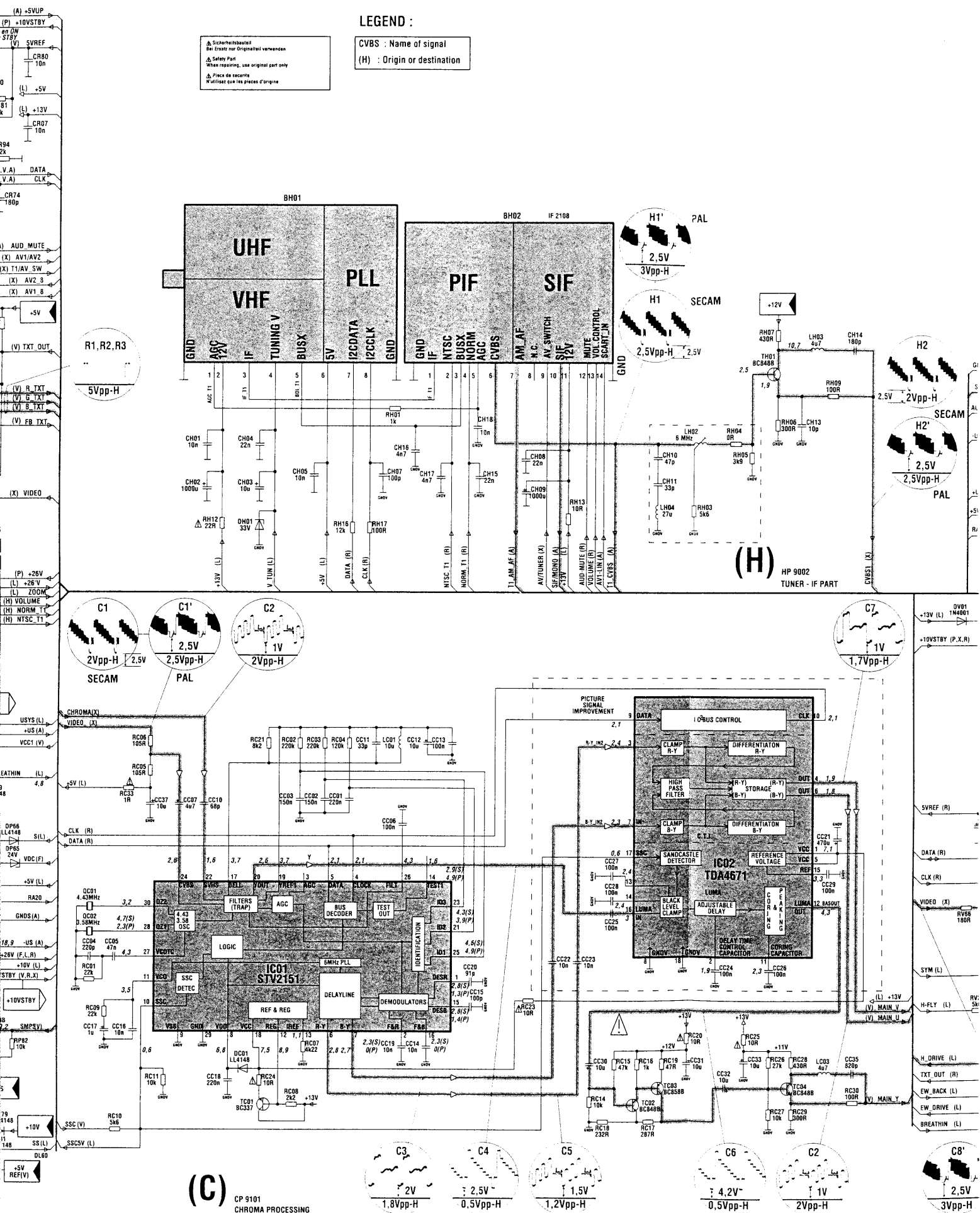
Note:
During measurements in the power supply unit
- Use the primary power unit ground
Attention:
Mesure dans le bloc alimentation
- Utiliser la masse du bloc alimentation
Achtung:
Bie messungen im primärnetzteil
- Primärnetzteilmasse verwenden
Medida en el bloque de alimentación
- Utilizar la masa del bloque de alimentación
Attenzione:
Misura nell'alimentatore primario
- Usare massa alimentatore primario

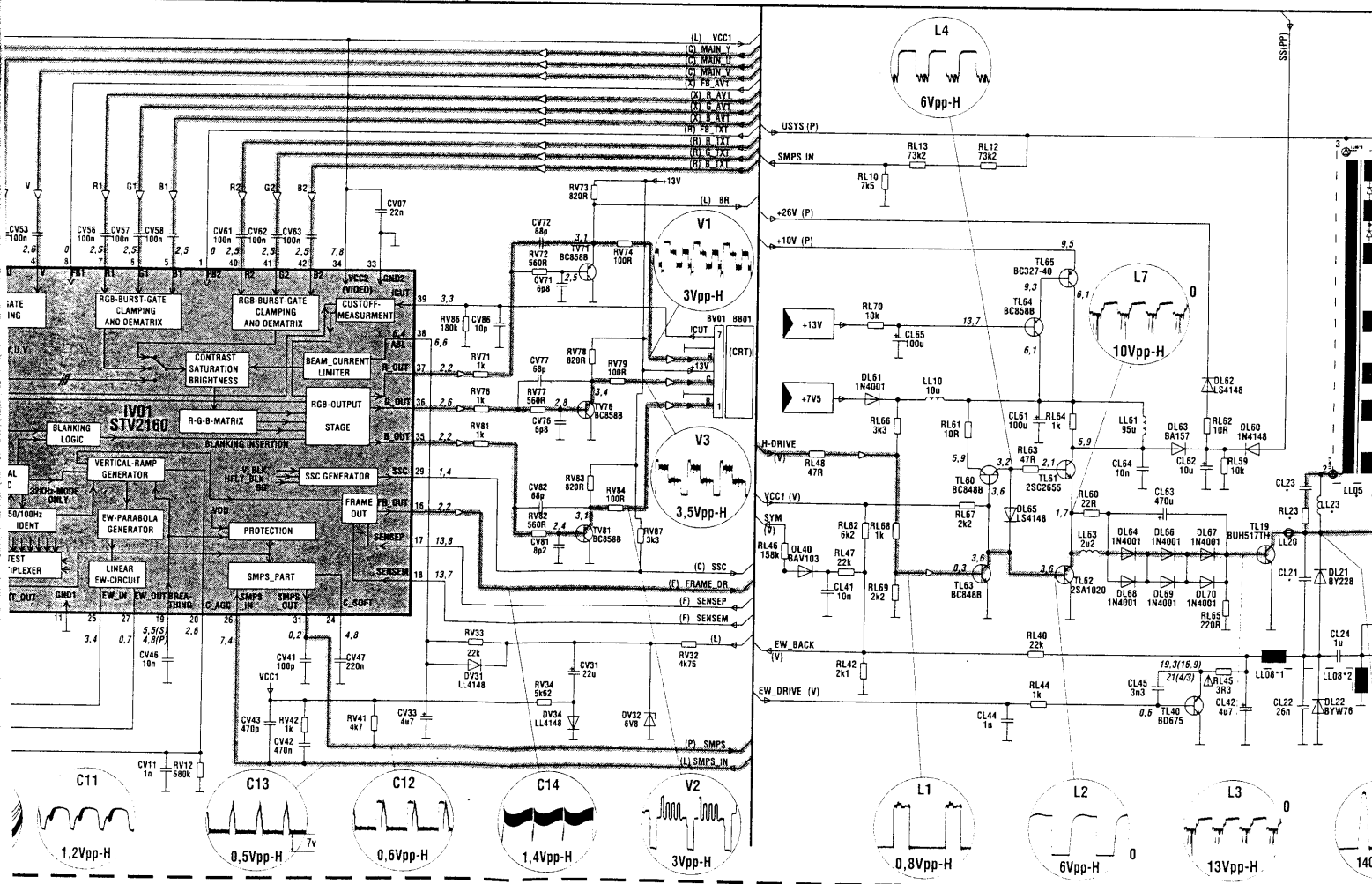
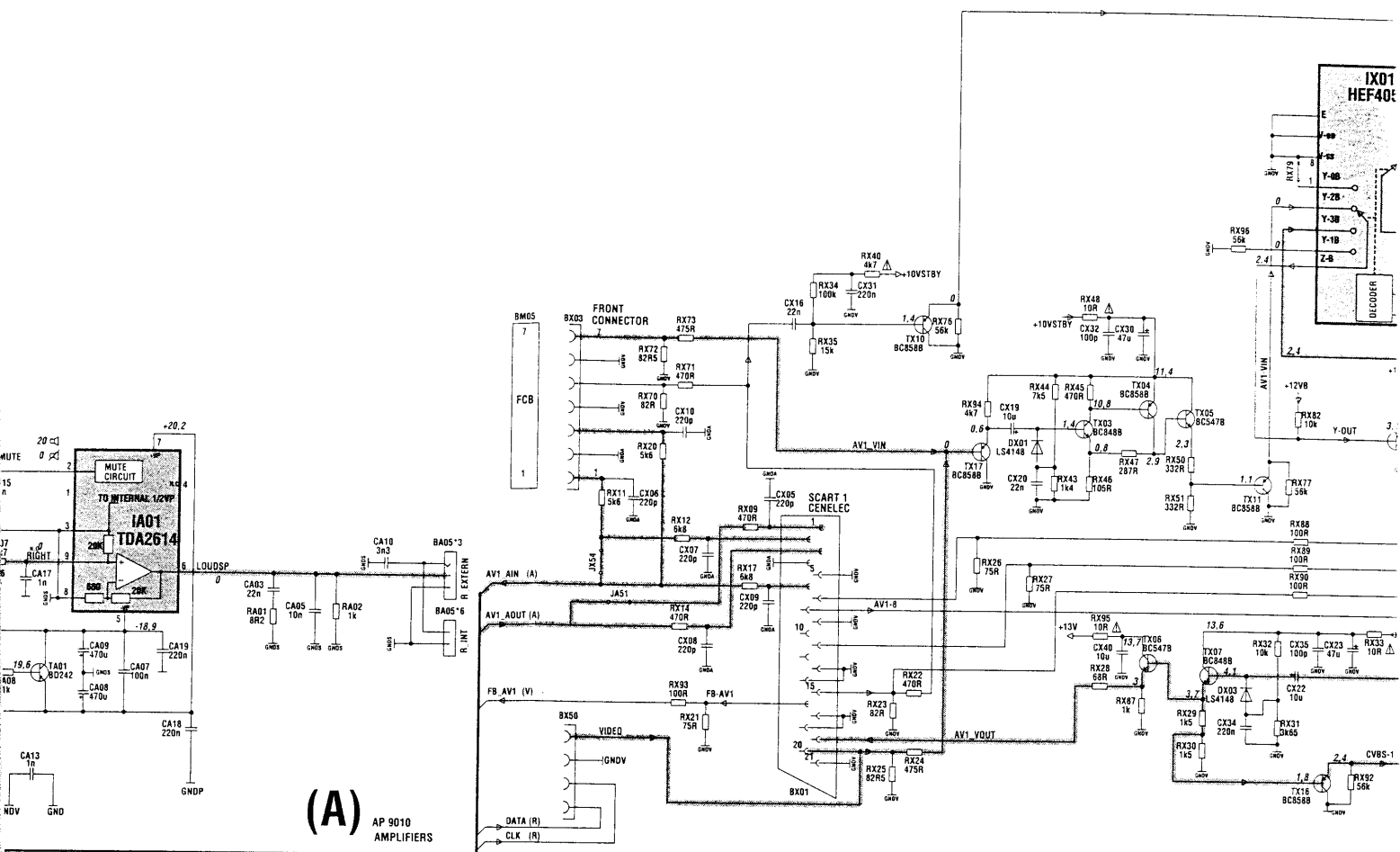
CVBS : Name of signal
(H) : Origin or destination

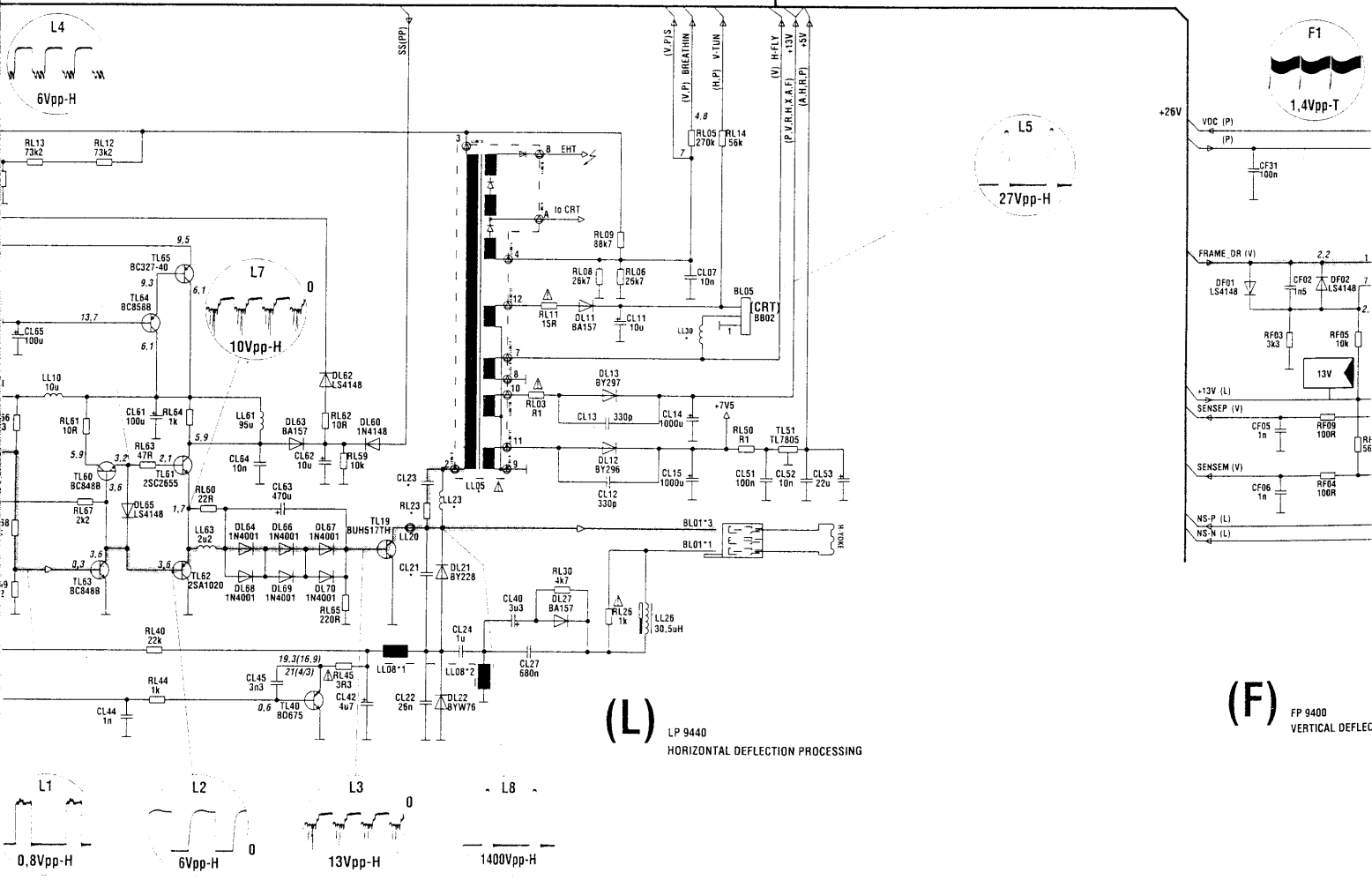
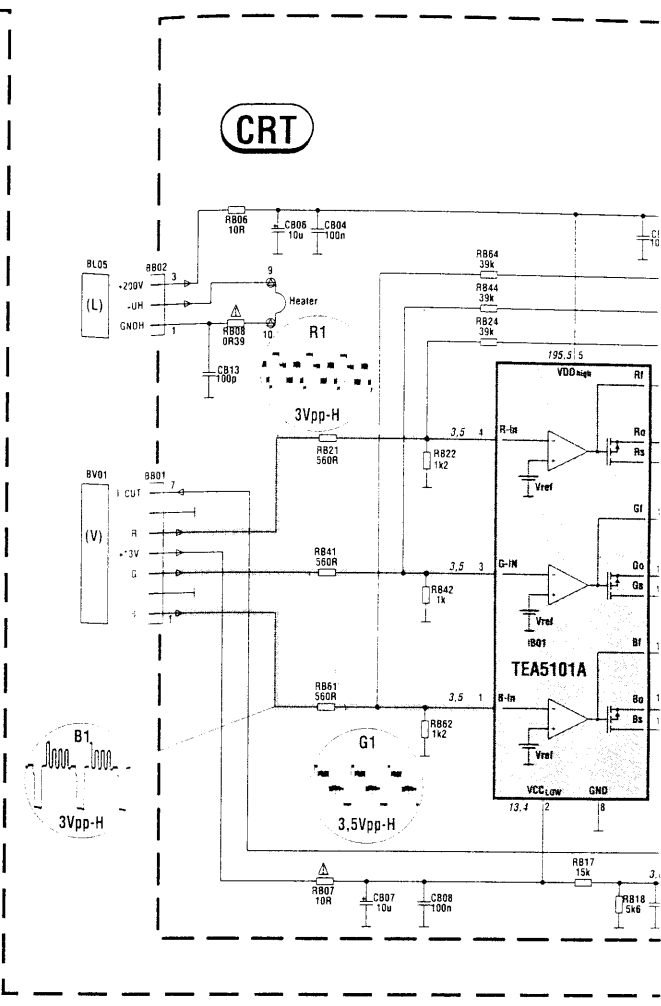
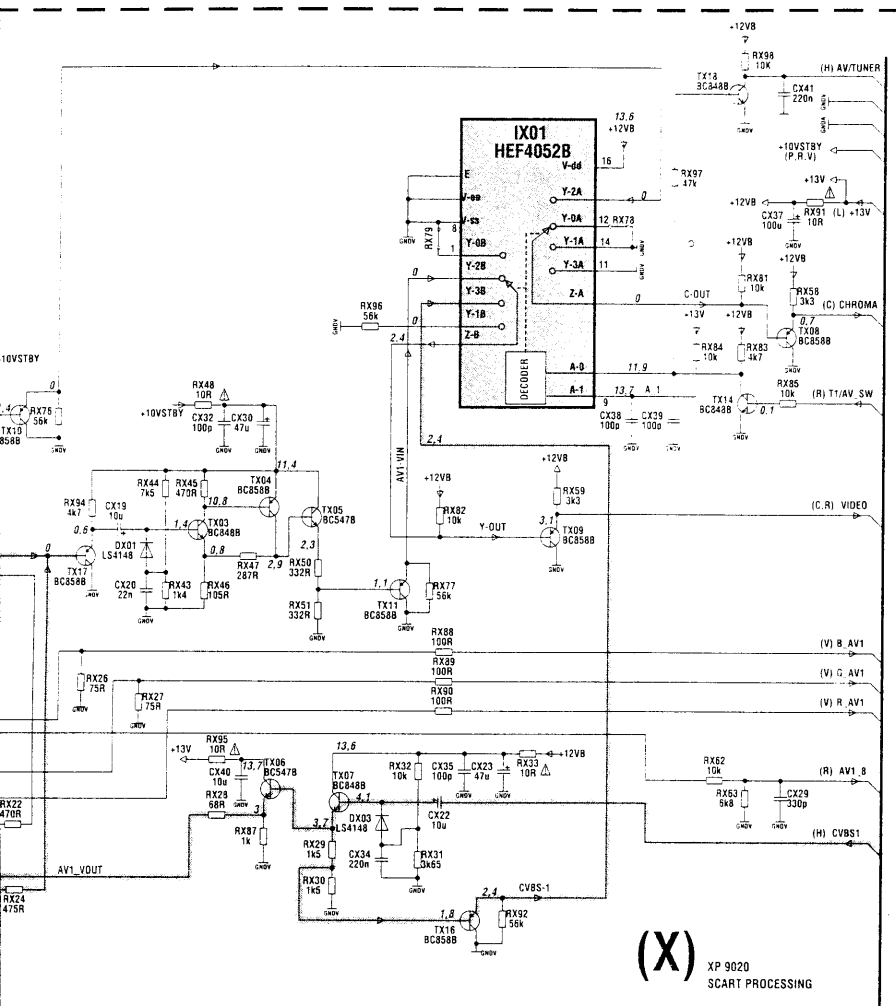
 Sicherheitsbauteil
Bei Ersatz nur Originalteil verwenden

 Safety Part
When repairing, use original part only

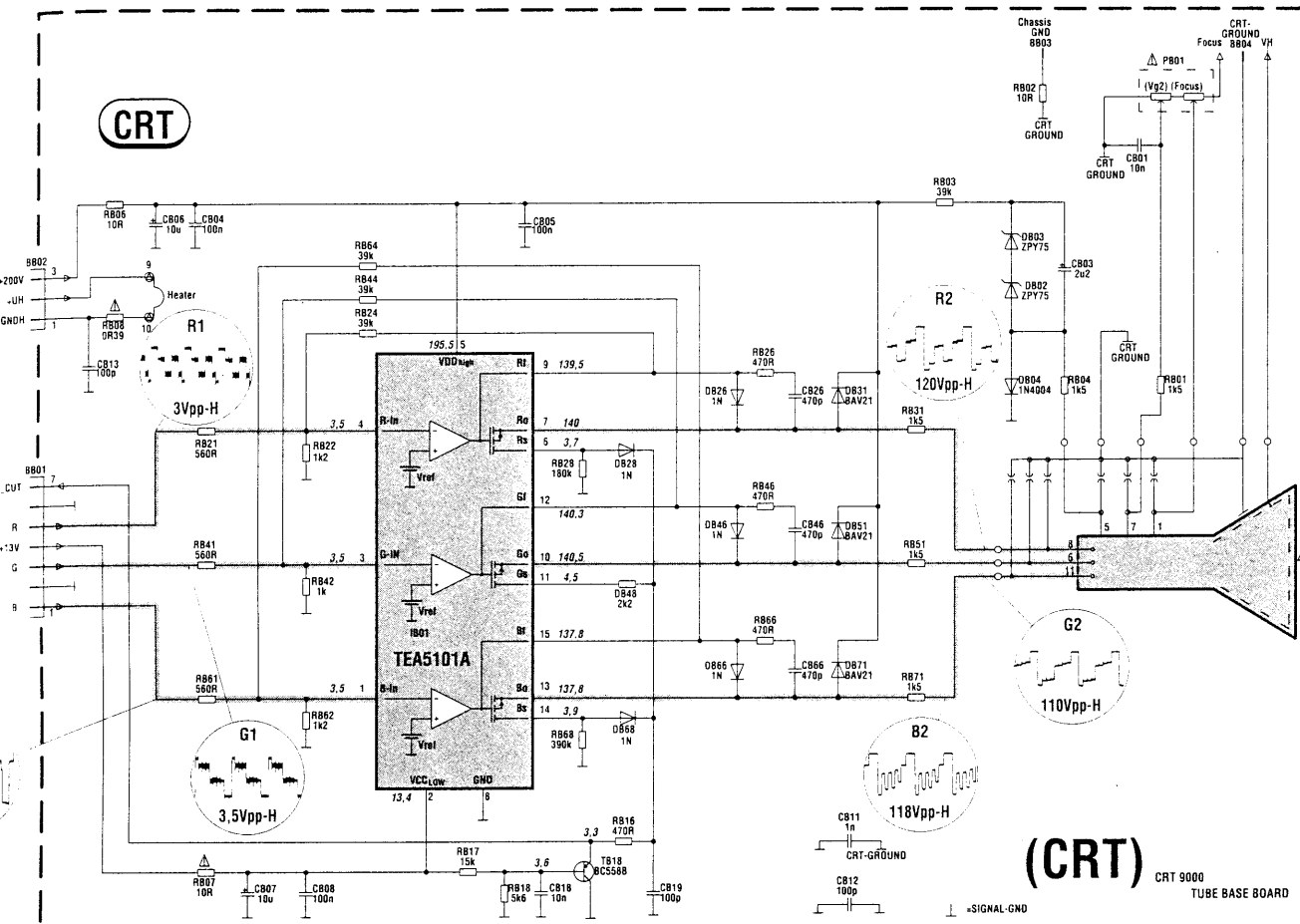
 Pièce de sécurité
N'utiliser que les pièces d'origine





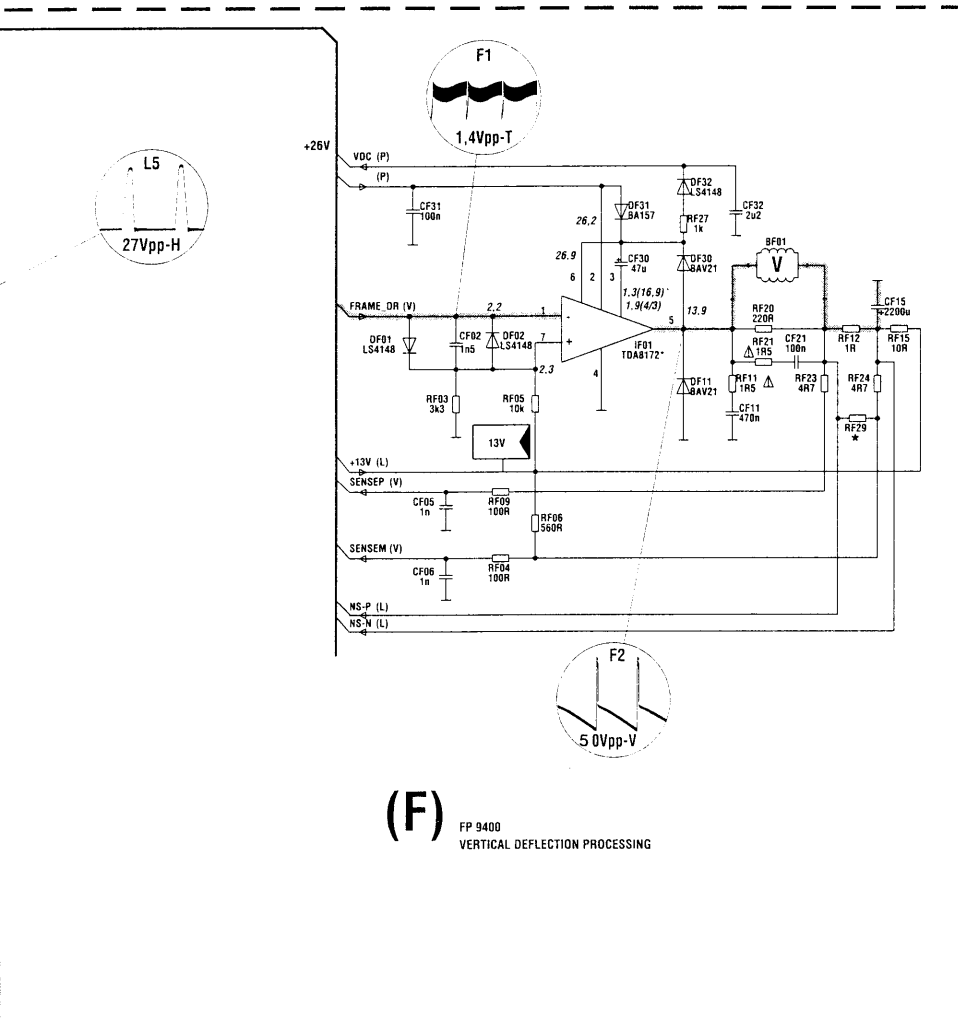


CRT



(CRT)

CRT 9000
TUBE BASE BOARD



(F)

FP 9400
VERTICAL DEFLECTION PROCESSING

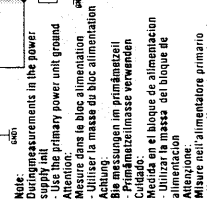
IX01	1	2	3	4	5	6	7	8	9	10
V AV1	0	2	2	0	0	0	0	0	13.7	0
AV2	2.4	0	2.4	0	0	0	0	0	0	0
TV	0	0	2.4	2.4	0	0	0	0	13.7	11.9
IX01	11	12	13	14	15	16				
AV1	0	0	2.1	0	2.1	13.6				
AV2	0	2.4	2.4	0	0	13.6				
TV	0	0	0	0	0	13.6				

Partlist	RF29
LP9420	45
LP9430	54
LP9440	54
LP9450	54
LP9460	54
LP9470	54
LP9480	45
LP9490	54
LP9620	45
LP9630	54
LP9640	54
LP9650	54
LP9680	54
LP9690	54

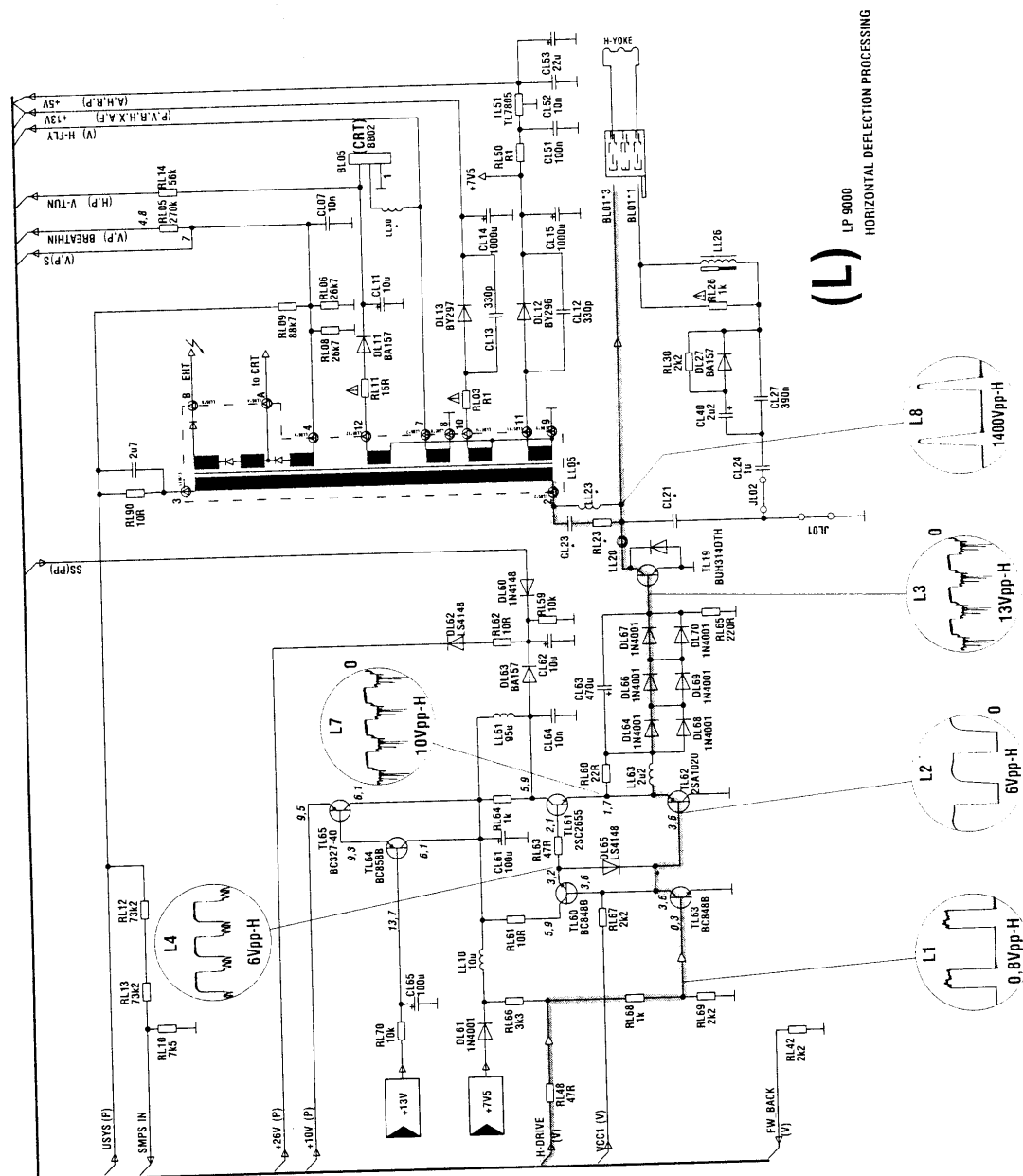
IV/10A

ICC 9
04/1994

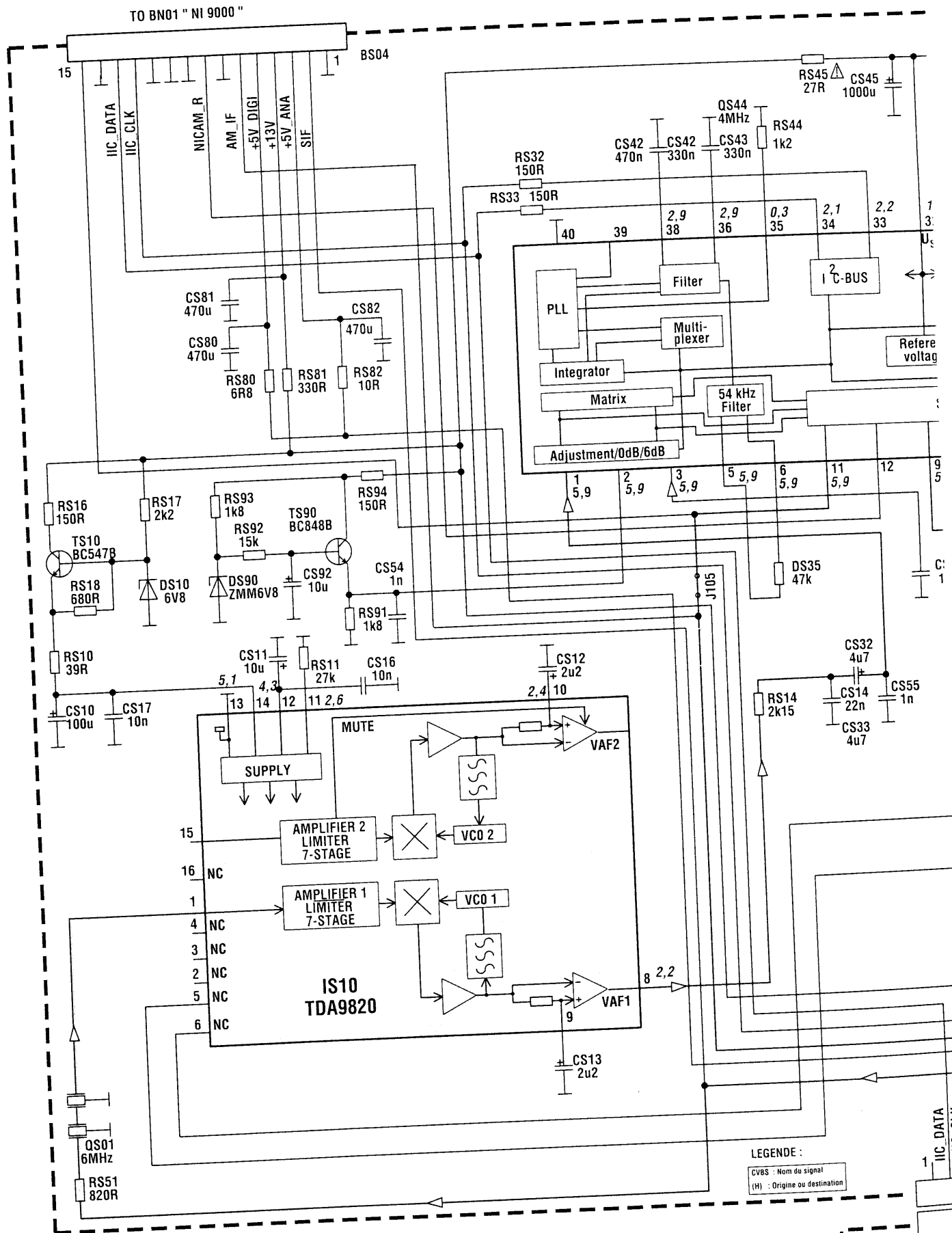
Primärseite des Netzteils.



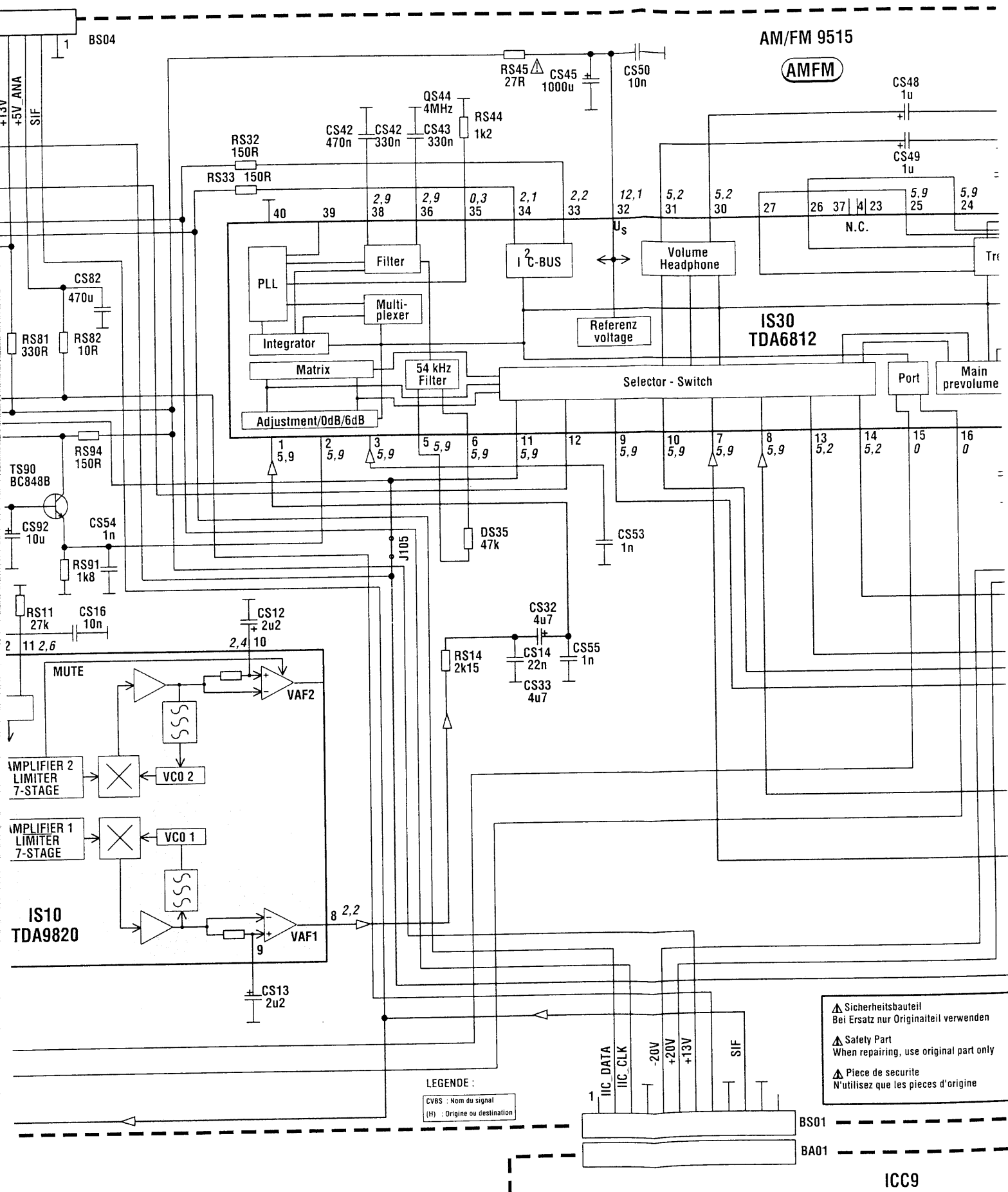
SCANNING - BALAYAGE - ABLENKUNG - BARRIDO - SCANSIONE

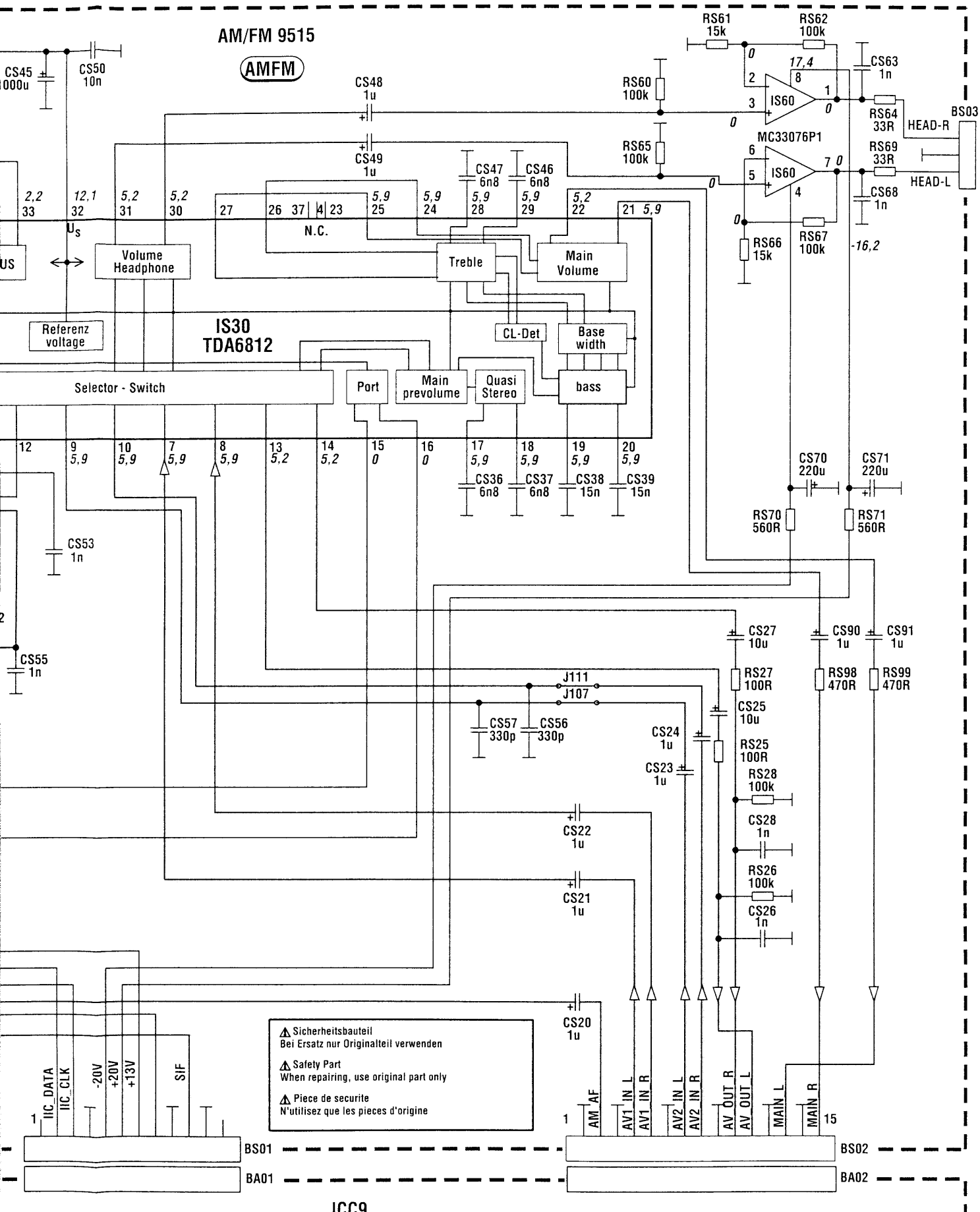


AUDIO SIGNAL MODULE - MODULE AUDIO - TON SIGNAL BAUSTEIN - MODULO AUDIO



- MODULE AUDIO - TON SIGNAL BAUSTEIN - MODULO AUDIO

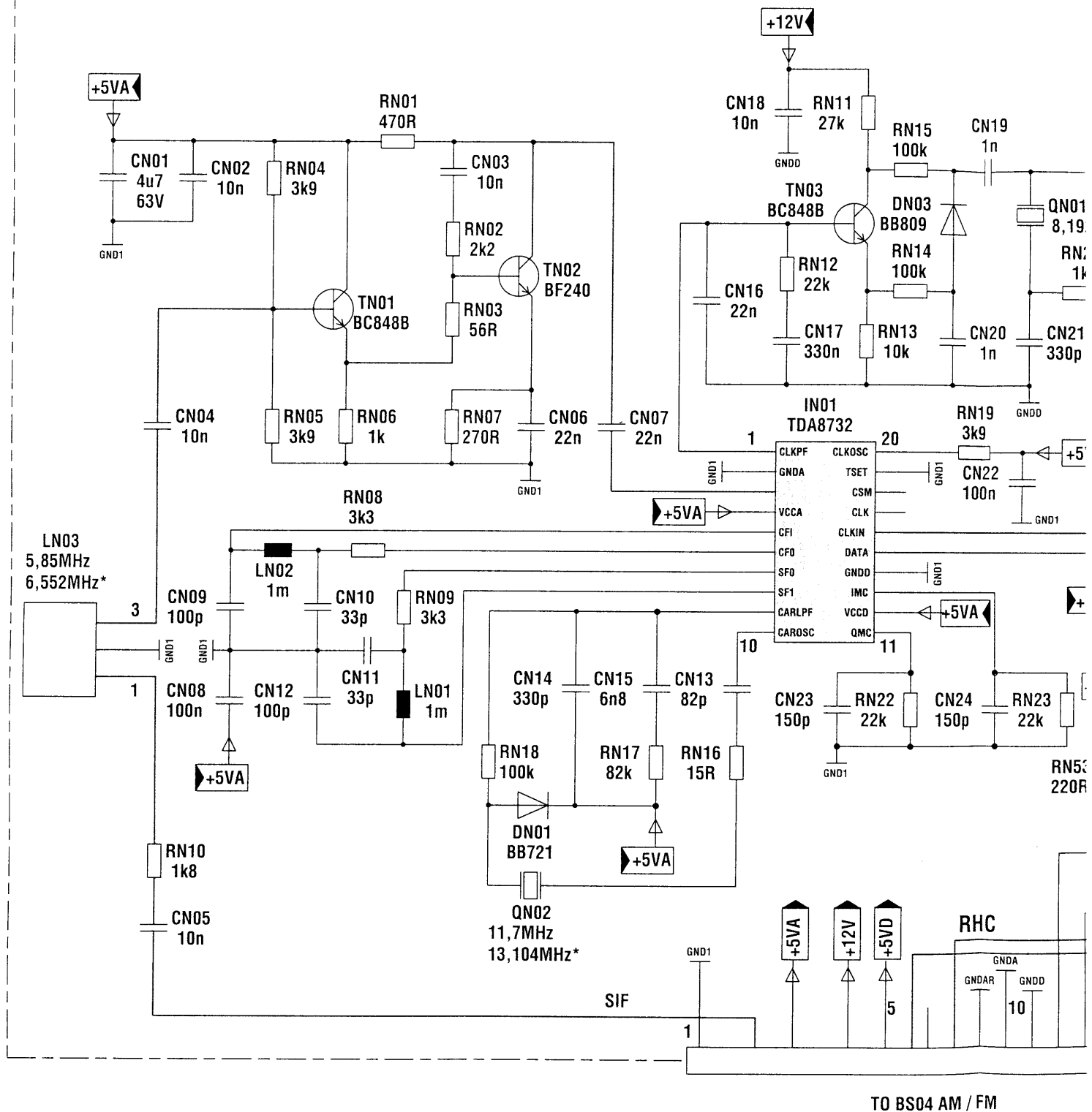




NICAM MODULE - MODULE NICAM - NICAM BAUSTEIN - MODULO NICAM

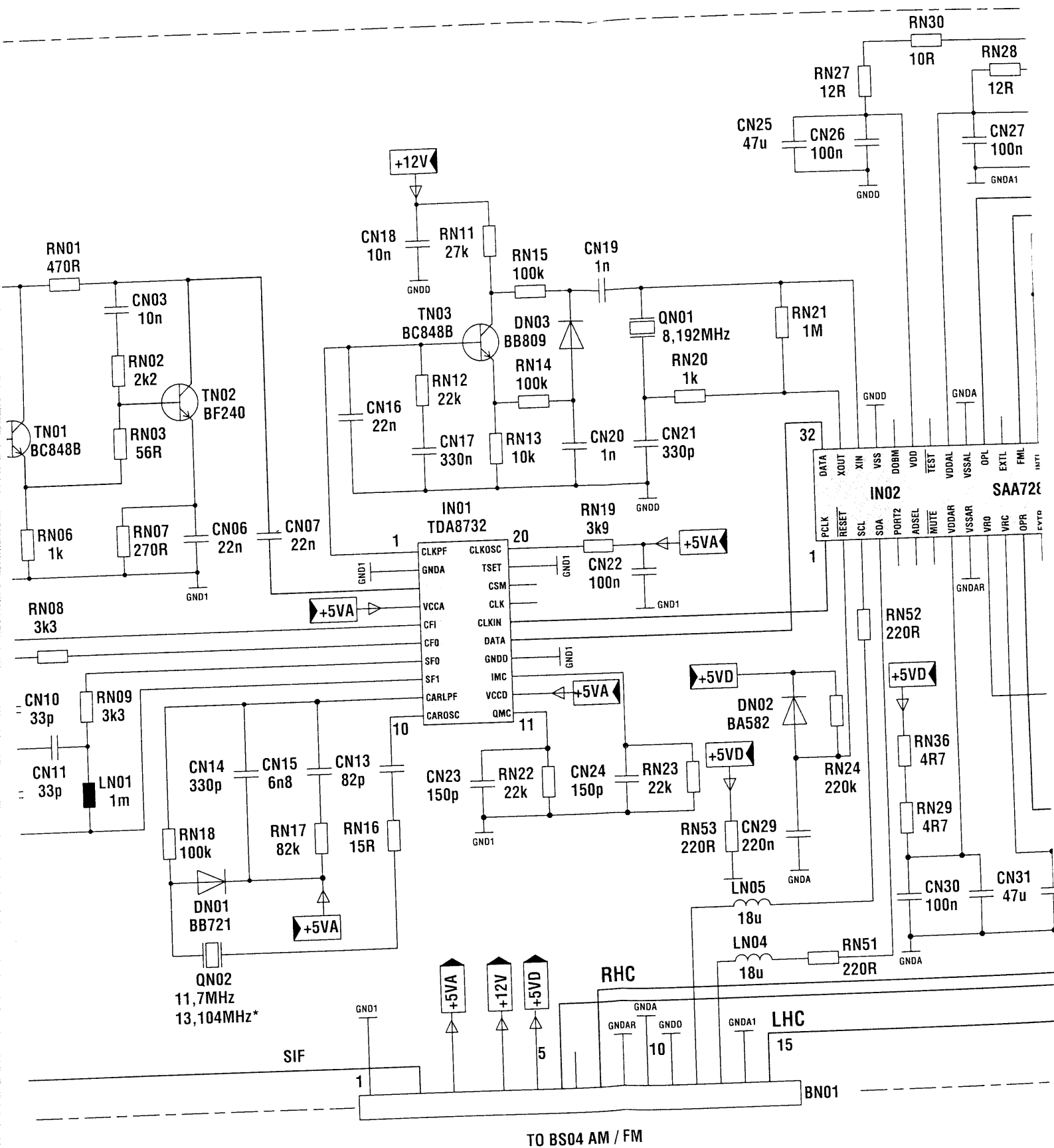
SUB NI 9000/9001*

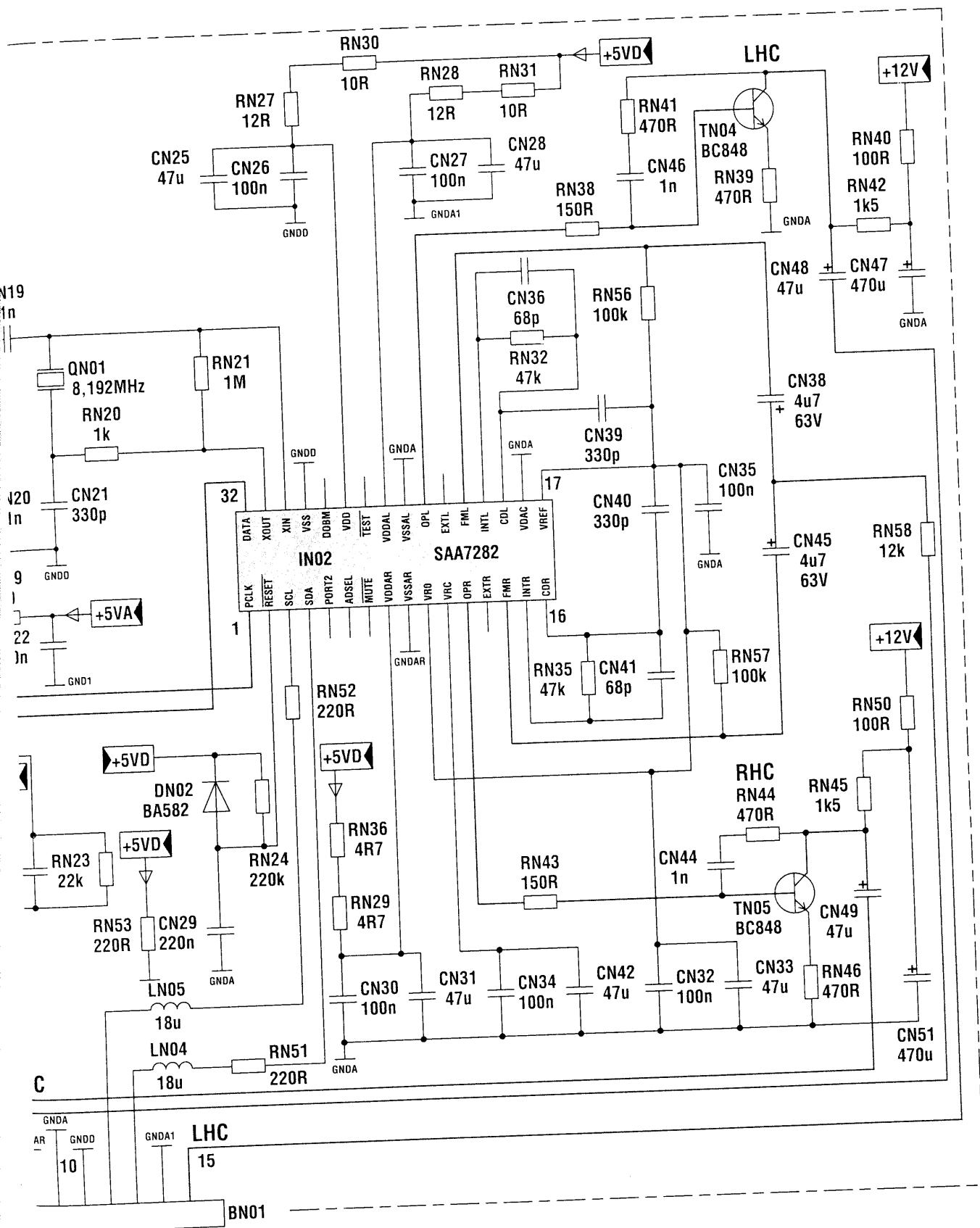
NI



TO BS04 AM / FM

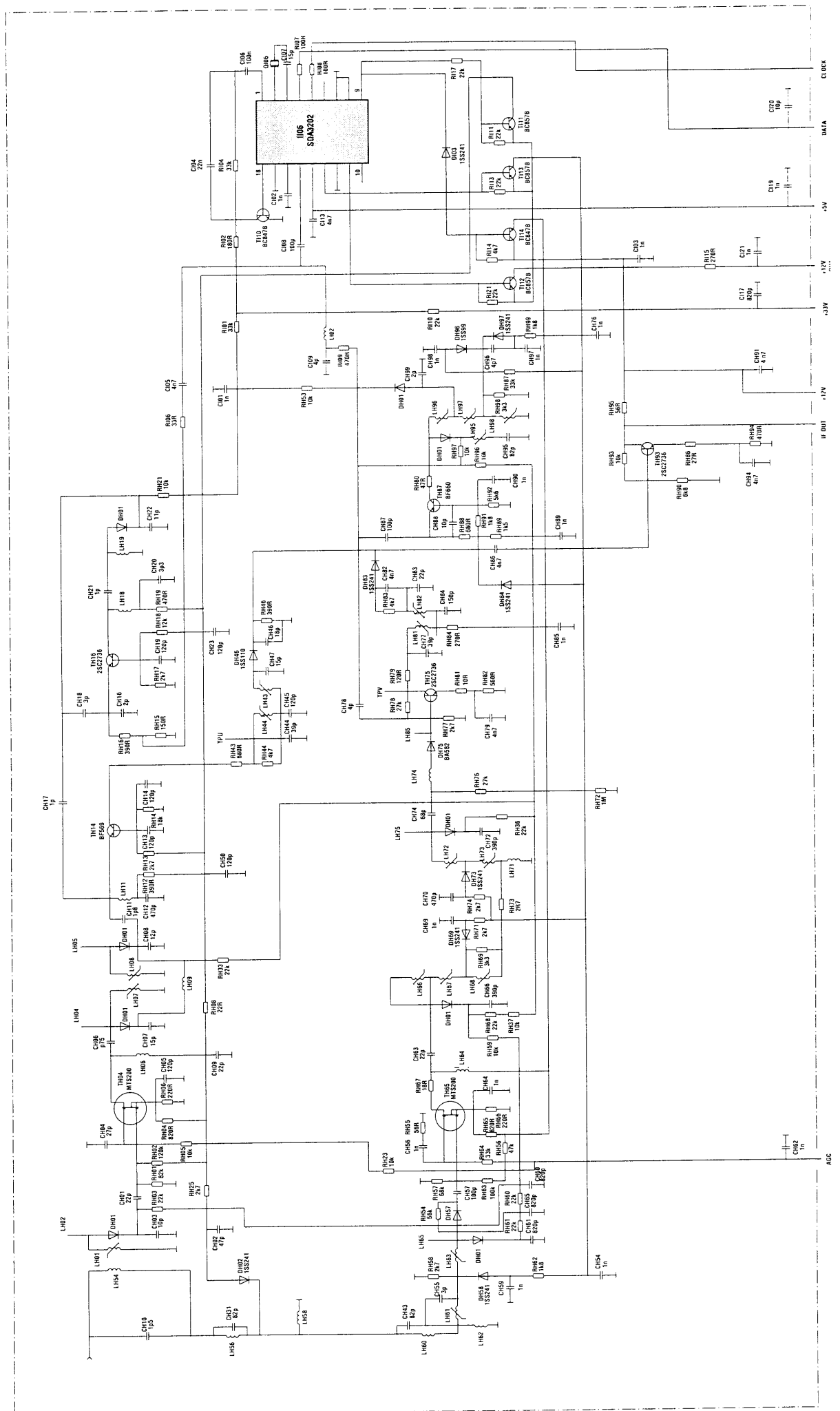
NICAM - NICAM BAUSTEIN - MODULO NICAM



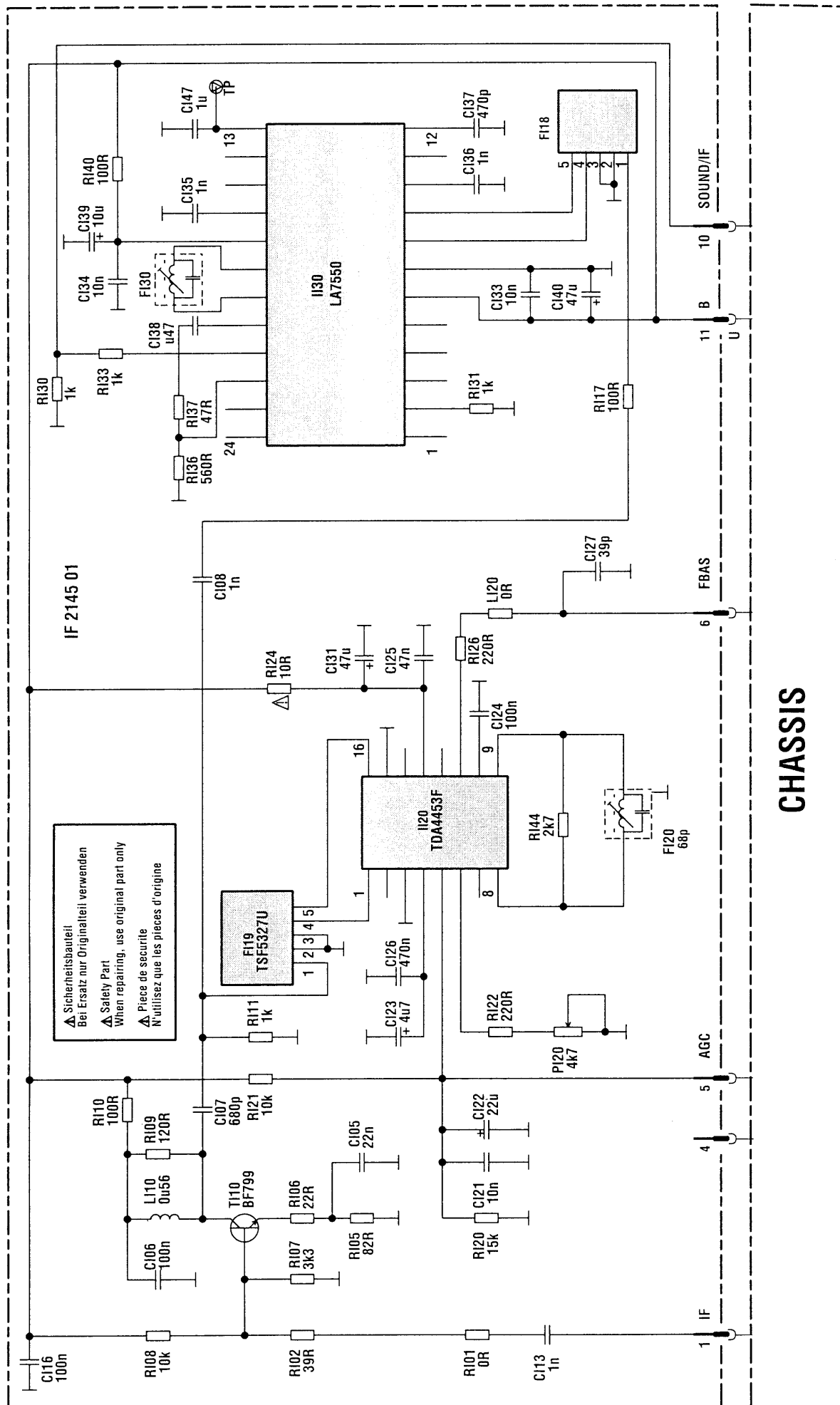


For Service Manuals
MAURITRON SERVICES
 8 Cherry Tree Road, Chinnor
 Oxfordshire, OX9 4QY.
 Tel (01844) 351694
 Fax (01844) 352554
 email:- mauritron@dial.pipex.com

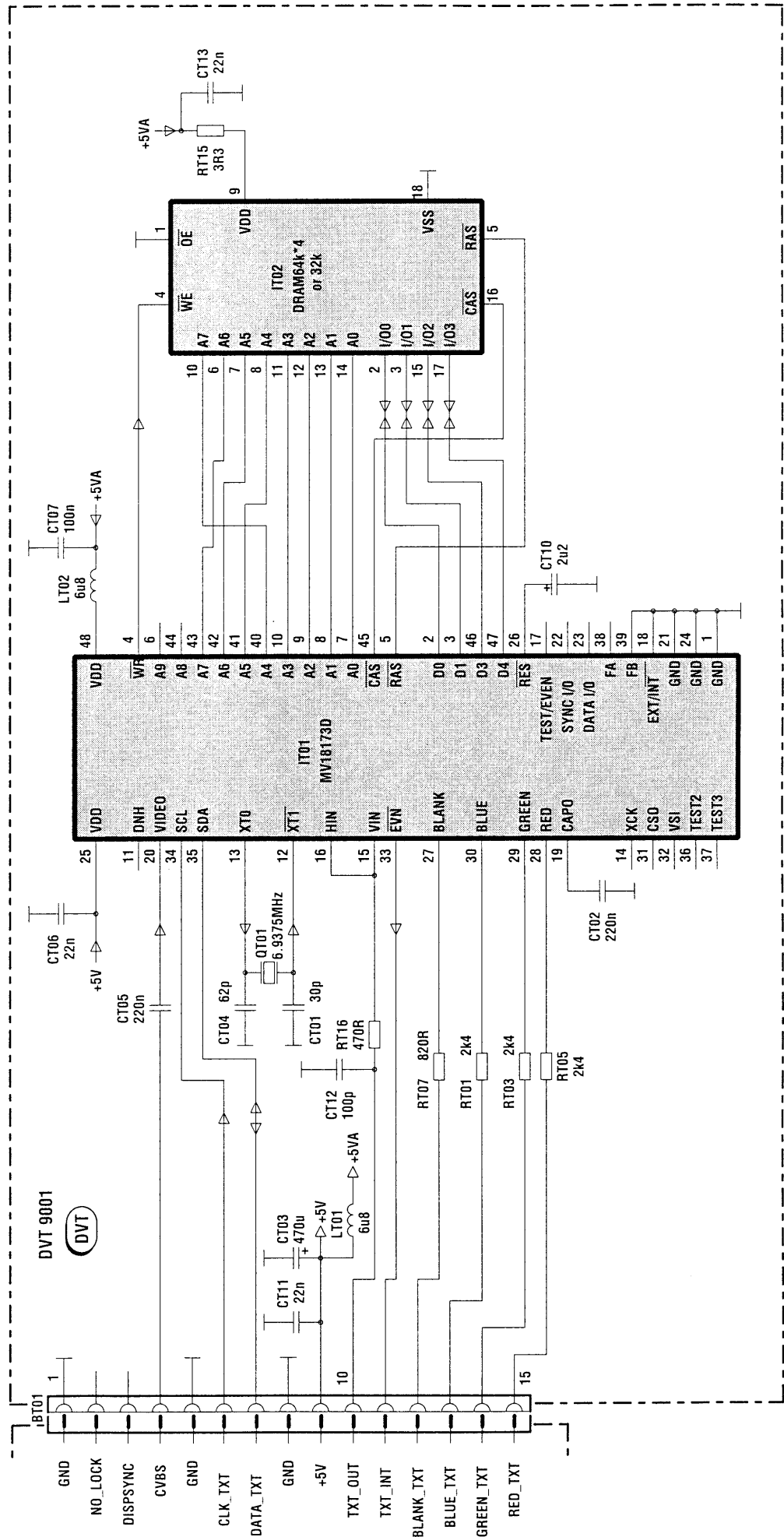
TUNER MTP 2015

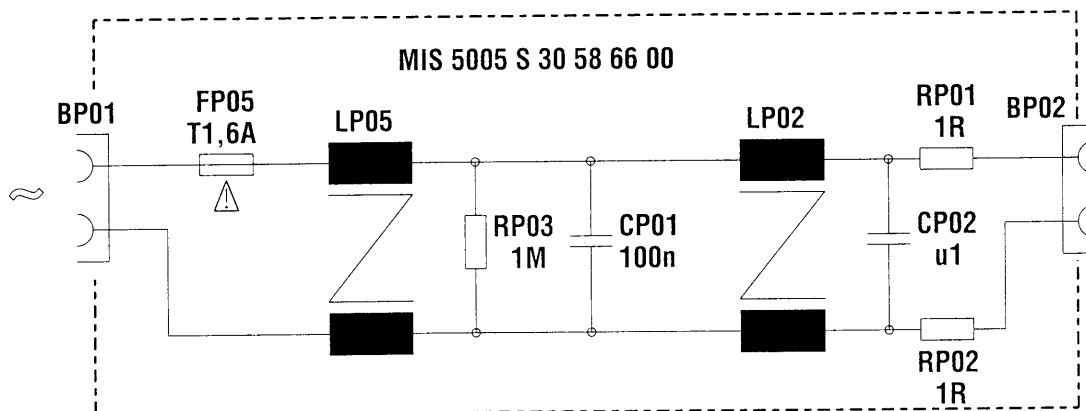
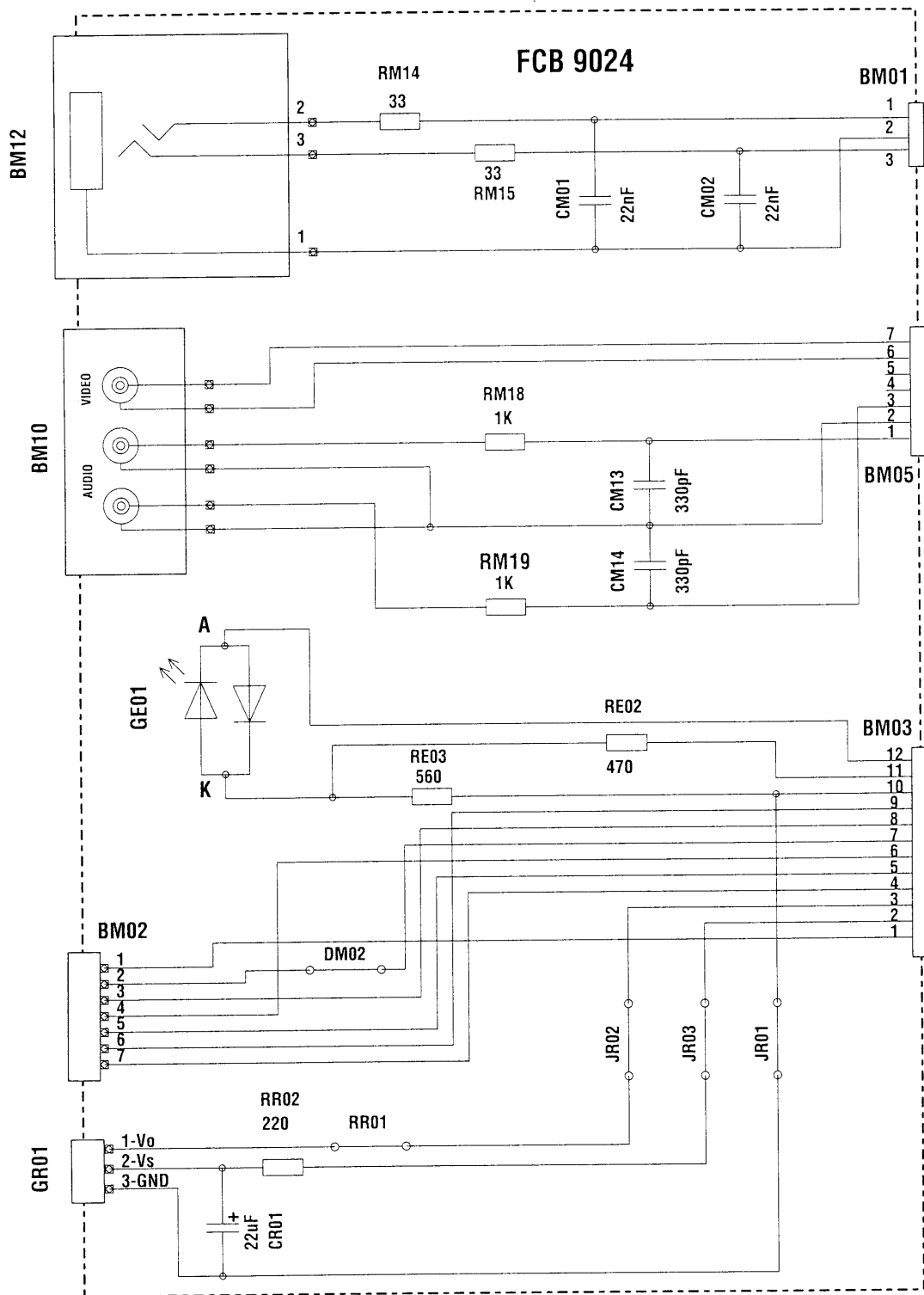


IF 2145



TELETEXT MODULE - MODULE TELETEXTE - VIDEOTEXTE BAUSTEIN - MODULO TELEVIDEO - MODULO TELETXT





COMPONENT LOCATION - LOCALISATION DES ELEMENTS - KOMONENTEN POSITION LOCALIZZAZIONE DEGLI ELEMENTI - LOCALIZACION DE LOS COMPONENTES

1	2	3
BA01	B4	
BA02	B7	
BA03	A0	
BA05	B9	
BF01	L8	
BH01	D6	
BH02	C6	
BL01	P7	
BL02	M8	
BL03	L7	
BL05	L4	
BP03	J0	
BP04	J1	
BR01	D0	
BR02	B1	
BR02	B2	
BR03	F0	
BR05	F1	
BR08	F2	
BT04	E3	
BV01	H3	
BV02	G3	
BX01	H9	
BX02	E9	
BX03	H7	
BX04	F6	
BX50	K9	

II

CA01	C9
CA02	B9
CA03	A5
CA04	B9
CA05	B9
CA06	A6
CA07	A5
CA08	A7
CA09	A8
CA10	B8
CA11	C8
CA13	C8
CA15	B6
CA16	A6
CA17	A5
CA18	B5
CA19	A6
CA20	A4
CA21	A2
CC01	F3
CC02	F3
CC03	E3
CC04	E4
CC05	E4
CC06	E4
CC07	F4
CC09	E4
CC10	F4
CC11	F4
CC12	F3
CC13	F4
CC14	G4
CC15	F4
CC16	F5
CC17	F5
CC18	E5
CC19	E4
CC20	E4
CC21	F6
CC22	F6
CC23	F6
CC24	F5
CC25	F5
CC26	G5
CC27	F5
CC28	F5
CC29	F5
CC30	G5
CC31	H6
CC32	G5
CC33	F3
CC37	E4
CF01	L7
CF02	L9
CF03	K9
CF05	J5
CF06	J5

CF09	K5
CF11	K8
CF15	K7
CF21	K8
CF30	K8
CF31	M9
CF32	K8
CH01	D6
CH02	E6
CH03	D5
CH04	D5
CH05	D4
CH06	D4
CH07	D4
CH08	C4
CH09	D4
CH10	D6
CH11	D6
CH12	D7
CH13	D8
CH14	D7
CH15	B6
CH16	C6
CH17	C7
CH18	B6
CL07	L8
CL11	L5
CL12	K5
CL13	L6
CL14	K7
CL15	L6
CL21	Q7
CL22	R8
CL23	P6
CL24	Q8
CL25	P8
CL27	N8
CL40	M8
CL41	J4
CL42	M9
CL44	J5
CL45	N9
CL51	G1
CL52	G2
CL53	G2
CL61	P6
CL62	Q5
CL63	R5
CL64	Q5
CL65	P5
CP01	J1
CP03	M1
CP04	M2
CP07	K0
CP08	K0
CP09	L0
CP10	N2
CP11	N1
CP12	P1
CP13	N0
CP14	Q1
CP18	M0
CP22	M2
CP23	P2
CP24	P2
CP25	P1
CP26	M1
CP29	N2
CP32	K2
CP33	L2
CP34	M2
CP35	M2
CP36	L2
CP37	L1
CP38	M2
CP39	N1
CP43	N2
CP46	K1
CP47	L1
CP50	L3
CP51	J3
CP52	K3
CP54	K2
CP58	F2
CP61	Q4
CP62	R4
CP64	L4
CP65	G1
CP66	M4

CP67	A1
CP69	G0
CP70	G2
CP71	P4
CP72	M5
CP73	L3
CP74	M3
CP82	P4
CP83	P4
CP84	N4
CP87	G0
CR01	D1
CR03	E2
CR04	F1
CR05	D1
CR06	D1
CR07	E0
CR08	D1
CR09	D0
CR10	D1
CR11	C1
CR12	C1
CR13	C2
CR20	E1
CR21	D0
CR22	B4
CR27	D1
CR34	E2
CR35	E2
CR36	E2
CR37	F2
CR40	E1
CR41	F2
CR42	F1
CR51	E1
CR55	D1
CR58	B2
CR59	B3
CR70	C2
CR71	D2
CR72	D5
CR73	C2
CR74	D4
CR75	E3
CR77	E3
CR80	D3
CR85	B1
CR88	E0
CR98	B4
CV01	H6
CV03	H6
CV04	H6
CV06	J5
CV07	H5
CV11	J5
CV12	J5
CV13	K5
CV16	J5
CV17	J5
CV21	J6
CV22	J5
CV26	J5
CV31	F3
CV33	G3
CV41	J5
CV42	J4
CV43	J4
CV46	J5
CV47	J5
CV51	G5
CV52	H6
CV53	H6
CV56	H5
CV57	H5
CV58	H5
CV61	H4
CV62	G4
CV63	G4
CV66	H5
CV67	H5
CV71	H4
CV72	H4
CV76	H4
CV77	H4
CV81	H3
CV82	H4
CV86	H5
CX01	D9
CX02	D8

CX03	E9
CX04	E8
CX05	G9
CX06	H8
CX07	G8
CX08	H9
CX09	H8
CX10	H8
CX11	E8
CX12	E8
CX16	H8
CX19	H7
CX20	H7
CX22	E8
CX23	E7
CX24	F8
CX25	F8
CX28	E9
CX29	H9
CX30	G6
CX31	G7
CX32	G6
CX34	E8
CX35	E8
CX37	G6
CX38	E7
CX39	C5
CX40	J8
CX41	C5

▶

DA09	A3
DC01	F4
DF01	L9
DF02	L9
DF07	L8
DF11	K8
DF30	K8
DF31	L9
DF32	K8
DH01	D5
DL11	L5
DL12	L6
DL13	K6
DL21	Q7
DL22	R9
DL25	P8
DL26	P8
DL27	N8
DL28	N8
DL40	J4
DL60	N5
DL61	K3
DL62	N5
DL63	P5
DL64	R6
DL65	Q5
DL66	Q6
DL67	R6
DL68	R6
DL69	Q6
DL70	R6
DP02	K0
DP03	K0
DP04	K0
DP05	L1
DP10	N2
DP13	N1
DP17	M1
DP18	M1
DP19	M1
DP23	P2
DP26	P1
DP30	K2
DP31	L1
DP34	M2
DP35	M2
DP36	P2
DP41	K1
DP51	K3
DP54	K2
DP55	N4
DP56	J2
DP57	M4
DP58	M4
DP59	N4
DP61	R4
DP63	M3

DP64	G1
DP65	K8
DP66	N7
DP67	G2
DP68	G1
DP72	L3
DP73	N3
DP76	M4
DP78	N4
DP79	N4
DP80	K6
DP81	N5
DP82	Q4
DP83	N4
DP84	N4
DP87	P3
DP88	M4
DR27	C0
DR42	F2
DR84	B1
DV01	K6
DV03	J6
DV13	G2
DV26	L3
DV31	G3
DV32	F3
DV34	F3
DX01	H7
DX03	E8
DX04	E6
DX05	D3



IA01	A6
IC01	F4
IC02	F5
IF01	L9
IP01	M1
IP02	N2
IP03	N4
IR01	D1
IV01	H5
IX01	F7
IX08	F7

JA01	A8
JA02	A7
JA03	A7
JA04	B6
JA05	A5
JA06	A3
JA07	A4
JA08	B4
JA09	B4
JA10	A5
JA11	B3
JA12	A3
JA13	A8
JA51	C9
JA52	C9
JA53	C9
JA54	A4
JA55	A7
JA56	C8
JC01	G4
JC02	G6
JC03	G4
JC04	G6
JC05	E5
JC06	E3
JC52	F4
JC53	E5
JC54	E5
JC55	F5
JC58	F5
JC60	G6
JF10	J7
JF11	L8
JF13	L7
JH01	C8
JH02	C6
JH03	C5
JH04	B7
JH05	B5
JH06	C4

JH07	D5
JH08	D5
JH09	D4
JH10	E3
JH11	E6
JH12	J7
JH13	E6
JH14	B6
JH15	D4
JH16	D3
JH51	B6
JH52	D7
JH54	C4
JH55	C4
JH56	D5
JH57	D5
JH58	D5
JH59	E7
JL02	Q8
JL03	N8
JL05	R4
JL06	Q4
JL10	R8
JL12	N7
JL13	N5
JL14	Q8
JL15	Q8
JL18	M6
JL21	N6
JL22	N6
JL23	N6
JL24	K6
JL25	K6
JL26	K7
JL27	M5
JL28	N6
JL30	K5
JL31	N5
JL50	M7
JL51	P5
JL52	M7
JL58	P5
JL62	N7
JL65	M9
JL66	M9
JP01	N0
JP02	J0
JP03	J0
JP04	K4
JP05	J3
JP06	M5
JP07	K1
JP09	M1
JP10	J6
JP11	L6
JP12	Q4
JP13	N5
JP14	P5
JP15	N6
JP16	K3
JP17	N5
JP18	K3
JP19	K3
JP20	H0
JP21	N5
JP22	G1
JP23	H2
JP26	M3
JP27	N4
JP30	P0
JP51	J3
JP52	N7
JP53	K3
JP54	F1
JP60	E1
JR01	C3
JR02	C3
JR05	E2
JR06	F2
JR07	C1
JR08	B0
JR09	E2
JR10	E2
JR13	G2
JR14	G0
JR15	D3
JR18	G1
JR51	D3
JR52	D4

JR53	C0
JR54	E0
JR55	F1
JR56	C1
JR57	E1
JR58	B0
JR59	C2
JR62	B3
JR63	B3
JR64	E5
JR65	D3
JR66	D2
JV01	H6
JV02	F3
JV03	H3
JV04	K4
JV05	J3
JV06	K4
JV07	K5
JV08	J7
JV09	J7
JV11	K6
JV12	K6
JV13	K6
JV15	J6
JV16	H7
JV17	K4
JV20	G3
JV22	L7
JV23	K7
JV51	H5
JV52	H5
JV53	H5
JV54	H5
JV55	J5
JV56	G4
JV57	J3
JV59	J3
JV64	G3
JX02	E5
JX03	E5
JX04	E5
JX05	E5
JX06	E7
JX07	J8
JX10	G9
JX11	G8
JX12	H8
JX13	G8
JX14	G7
JX15	F8
JX16	F8
JX17	F7
JX18	G7
JX19	G7
JX20	G6
JX21	H7
JX22	J8
JX23	J8
JX24	E5
JX25	J7
JX51	G8
JX52	E5
JX53	D8
JX54	D9
JX55	D9
JX56	E9
JX57	G8
JX59	G9
JX65	F7



LC01	F4
LC03	G4
LH01	E6
LH02	E7
LH03	D7
LH04	E6
LL05	N5
LL08	R8
LL10	K4
LL20	R7
LL23	P6
LL26	P9
LL30	L5
LL61	Q6
LL63	Q5
LP10	Q3

COMPONENT LOCATION - LOCALISATION DES ELEMENTS - KOMPONENTEN POSITION
LOCALIZZAZIONE DEGLI ELEMENTI - LOCALIZACION DE LOS COMPONENTES



LP13	P1
LP22	P2
LP23	Q2
LP24	L0
LP25	P1
LP26	Q1
LP44	K2
LP61	R4
LP62	R5
LP64	N3
LP66	M3
LP72	N3
LP73	M3
LP83	Q5
LP84	Q4
LR01	E2
LR71	D2
LR73	C2
LR75	D2
LR77	D2



QC01	E4
QC02	E4
QR01	D0



RA01	B5
RA02	A9
RA03	B6
RA04	A7
RA05	A6
RA06	A5
RA07	B5
RA08	A4
RA09	A3
RA10	B9
RA11	B4
RA20	A2
RA21	A2
RA22	A3
RC01	E4
RC02	E3
RC03	E3
RC04	F4
RC05	E3
RC06	E4
RC07	F4
RC08	G4
RC09	F5
RC10	G5
RC11	F4
RC12	G5
RC14	H6
RC15	G6
RC16	G6
RC17	H5
RC18	H6
RC19	G5
RC20	G6
RC21	F3
RC23	G5
RC24	G4
RC25	G3
RC26	G4
RC27	G5

RC28	G4
RC29	G5
RC30	G4
RC33	E3
RC35	G4
RF03	K9
RF04	K6
RF05	K7
RF06	K7
RF07	L9
RF09	J5
RF10	J7
RF11	K8
RF12	L7
RF15	K7
RF20	K8
RF21	L8
RF23	K7
RF24	K7
RF25	K7
RF26	K7
RF27	K8
RF29	K7
RH01	D8
RH03	D7
RH04	D7
RH05	D8
RH06	D8
RH07	D7
RH09	D8
RH12	E6
RH13	D3
RH14	C7
RH15	D7
RH16	D5
RH17	D5
RH18	C7
RH19	C7
RL03	L6
RL05	K4
RL06	L8
RL08	L8
RL09	L4
RL10	J5
RL11	L6
RL12	K4
RL13	J4
RL14	K5
RL23	Q6
RL25	P8
RL30	M8
RL40	L7
RL41	J4
RL42	J5
RL43	M9
RL44	M9
RL45	N9
RL46	K4
RL47	J4
RL48	J3
RL50	H2
RL59	Q5
RL60	R5
RL61	P6
RL62	P5
RL63	Q6
RL64	P6
RL65	R6
RL66	K3
RL67	L4

RL68	K3
RL69	L4
RL70	M6
RL82	K4
RP01	J1
RP02	L0
RP03	M0
RP04	M0
RP05	F0
RP06	M0
RP07	L1
RP08	M1
RP09	L2
RP10	N2
RP11	P0
RP12	P0
RP13	P1
RP14	P0
RP15	P0
RP16	P0
RP17	P0
RP18	P0
RP19	P0
RP20	Q0
RP21	R0
RP22	R0
RP23	N2
RP24	L1
RP25	M0
RP26	M1
RP27	L1
RP28	L2
RP29	M1
RP31	L1
RP32	L2
RP33	L2
RP34	M2
RP35	M2
RP36	N1
RP37	N1
RP38	P2
RP39	N1
RP40	K1
RP41	N1
RP42	L1
RP43	N2
RP44	L2
RP45	K1
RP46	M1
RP47	K1
RP49	Q3
RP50	H0
RP51	J2
RP52	K3
RP53	K2
RP54	K2
RP55	K3
RP56	E1
RP57	G1
RP58	F2
RP59	M4
RP60	G0
RP61	A1
RP62	A1
RP63	N7
RP64	M3
RP66	L7
RP67	G2
RP68	F2
RP69	A1

RP70	G2
RP71	G0
RP72	P4
RP73	M3
RP74	M4
RP76	M5
RP77	N6
RP78	N6
RP79	N6
RP82	J3
RP86	M5
RP87	J2
RP88	M4
RP89	M4
RP93	M5
RP94	P4
RP96	N4
RP97	N4
RP98	N4
RR01	N4
RR02	B0
RR03	B1
RR04	F1
RR05	E1
RR06	F0
RR08	C0
RR09	C0
RR10	D1
RR11	D1
RR12	D1
RR13	C1
RR14	C1
RR15	C1
RR16	C2
RR17	C1
RR18	B1
RR19	C1
RR20	D1
RR21	B3
RR22	D1
RR23	C3
RR24	C0
RR25	D0
RR26	D0
RR27	F0
RR28	F0
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RR31	E2
RR32	E2
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RR89	B1
RR90	D0
RR91	D0
RR92	E0
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RR94	C0
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RX97	C5

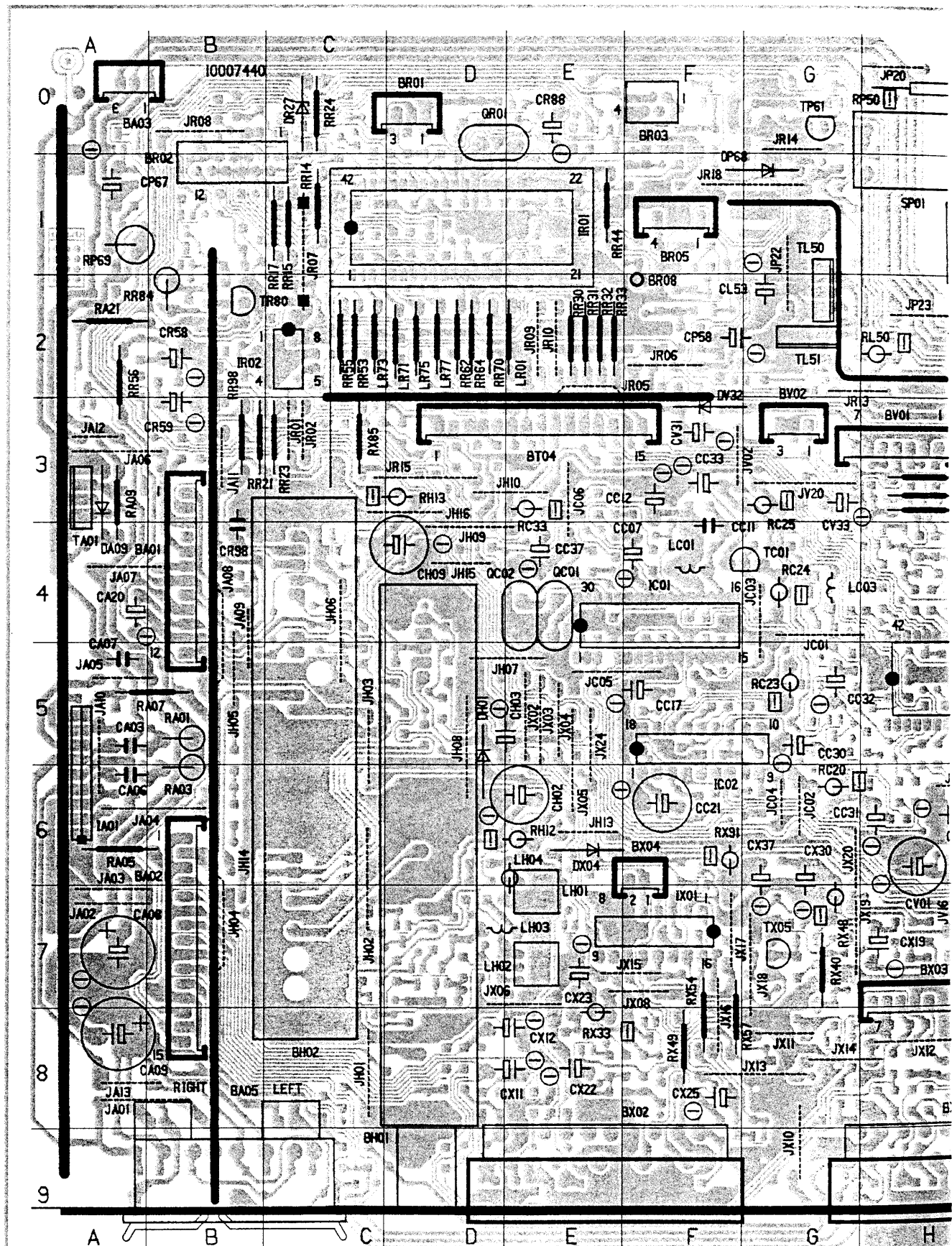
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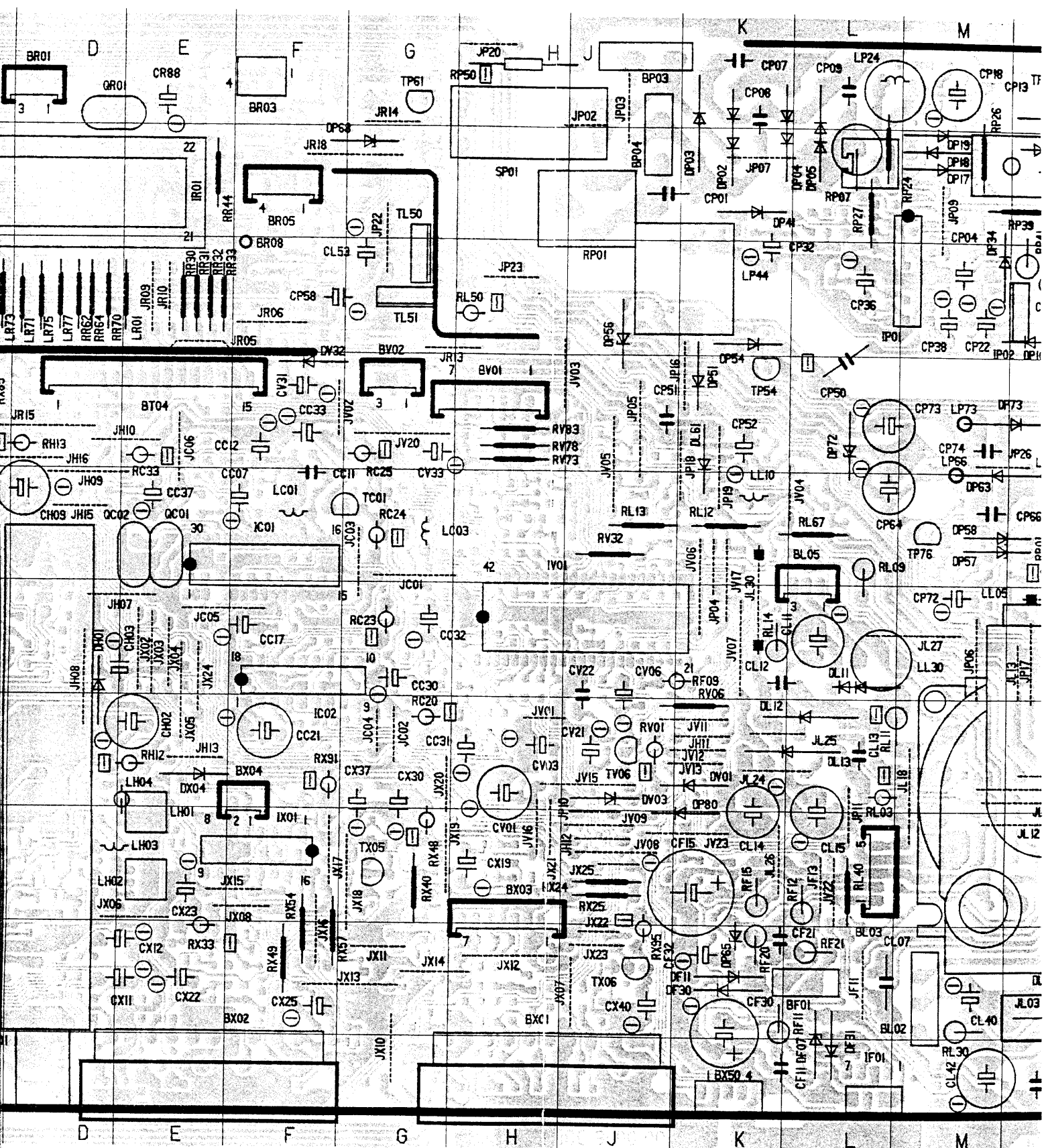
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TH04	C7
TH05	D7
TL19	R7
TL40	N9
TL50	G2
TL51	G2
TL60	Q6
TL61	Q6
TL62	R6
TL63	L4
TL64	P5
TL65	P5
TP10	N0
TP34	M1
TP52	J3
TP54	K3
TP61	G0
TP66	A0
TP67	F2
TP69	G0
TP76	M4
TP77	M4
TP78	P4
TR20	B2
TR22	B2
TR27	E0
TR28	F0
TR42	F2
TR55	B2
TR80	B2
TR81	C0
TR85	B1
TR87	B1
TR90	E0
TV06	J6
TV71	H4
TV76	H3
TV81	H4
TX03	G7
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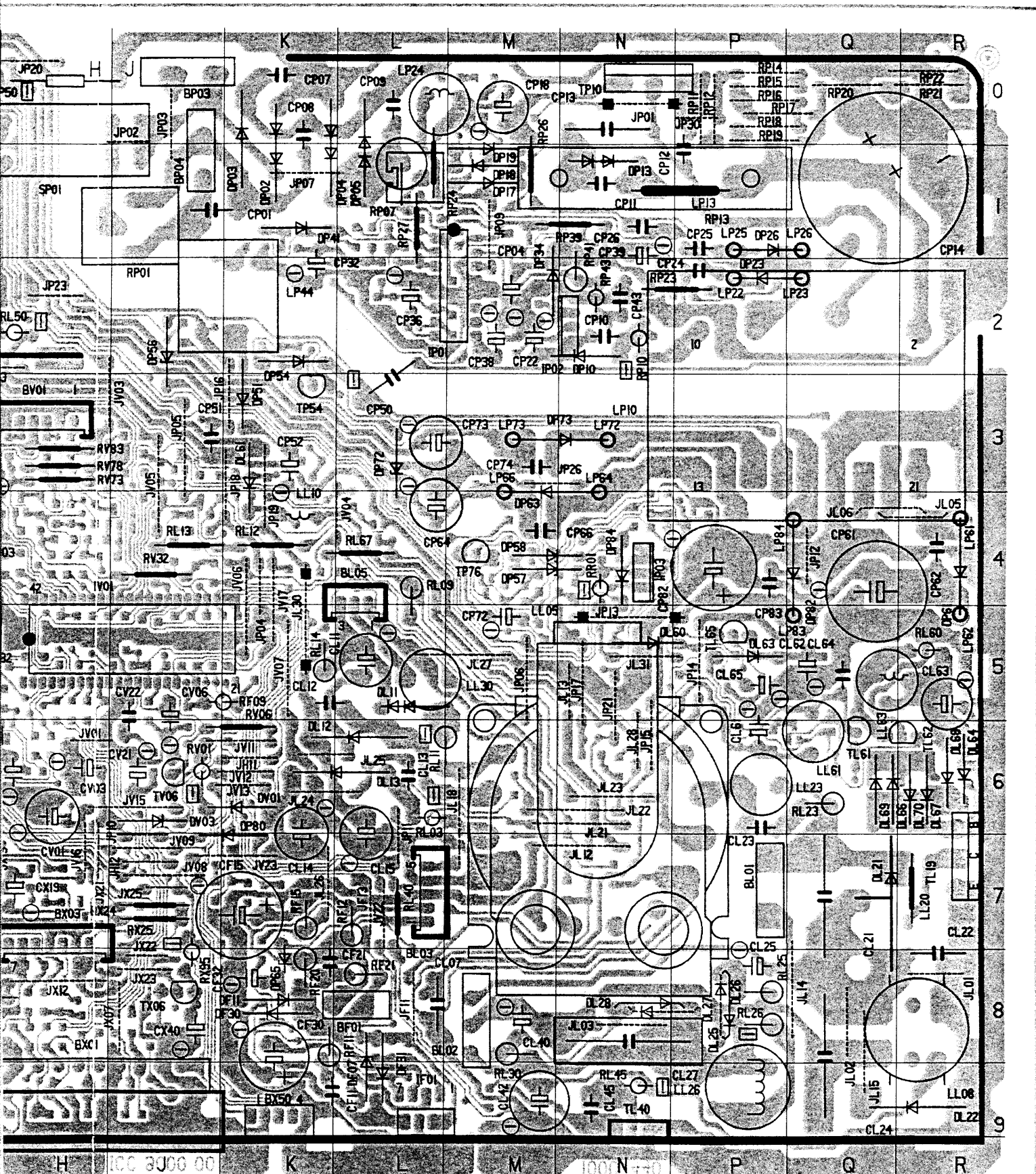
V - CIRCUIT BOARDS - CIRCUITS IMPRIMES - GEDRUCKTE SCHALTUNG - C

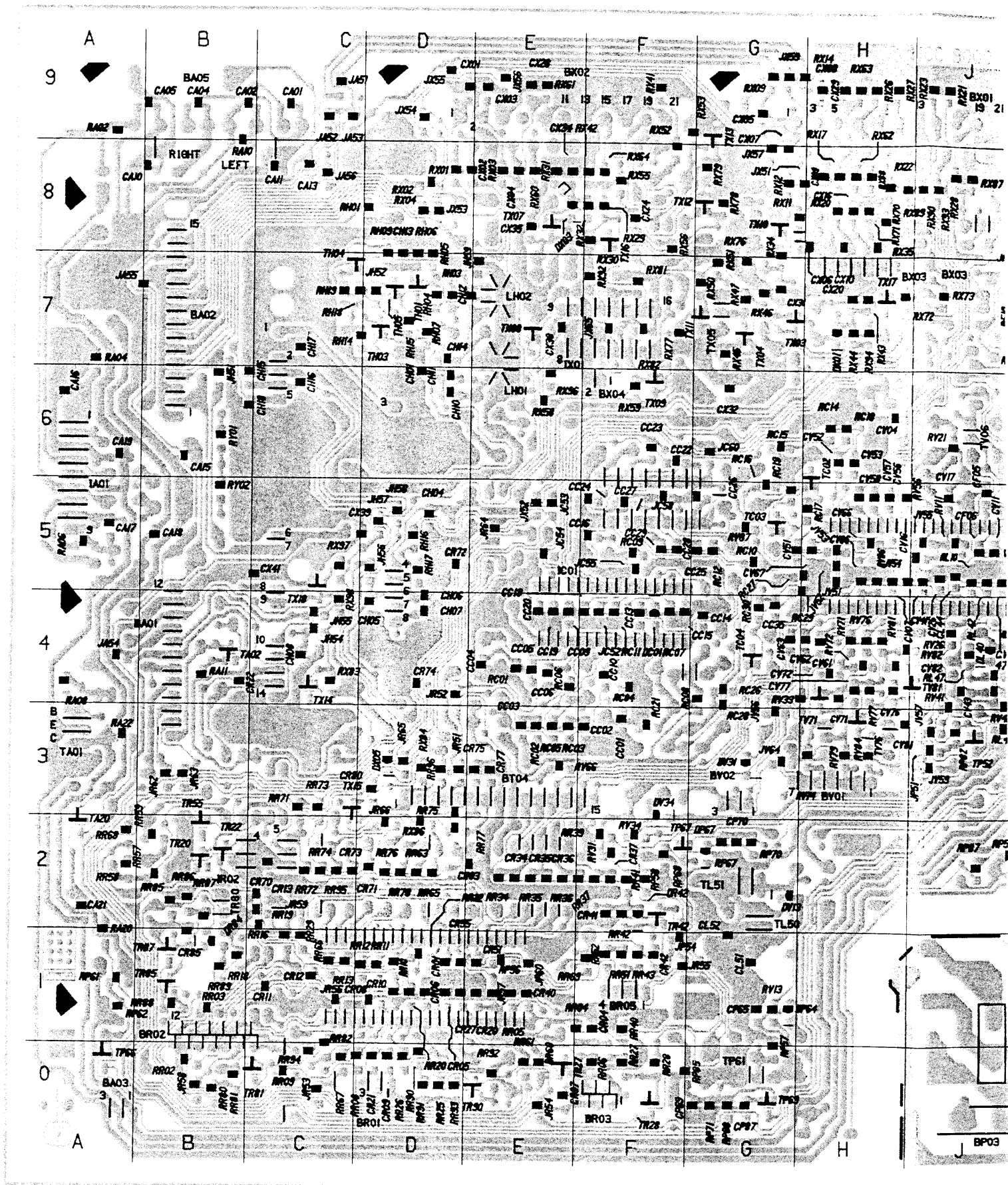
COMPONENT SIDE - COTE ELEMENTS - BESTÜCKUNGSEITE - LADO COMPONENTES - LATO COMPONENT



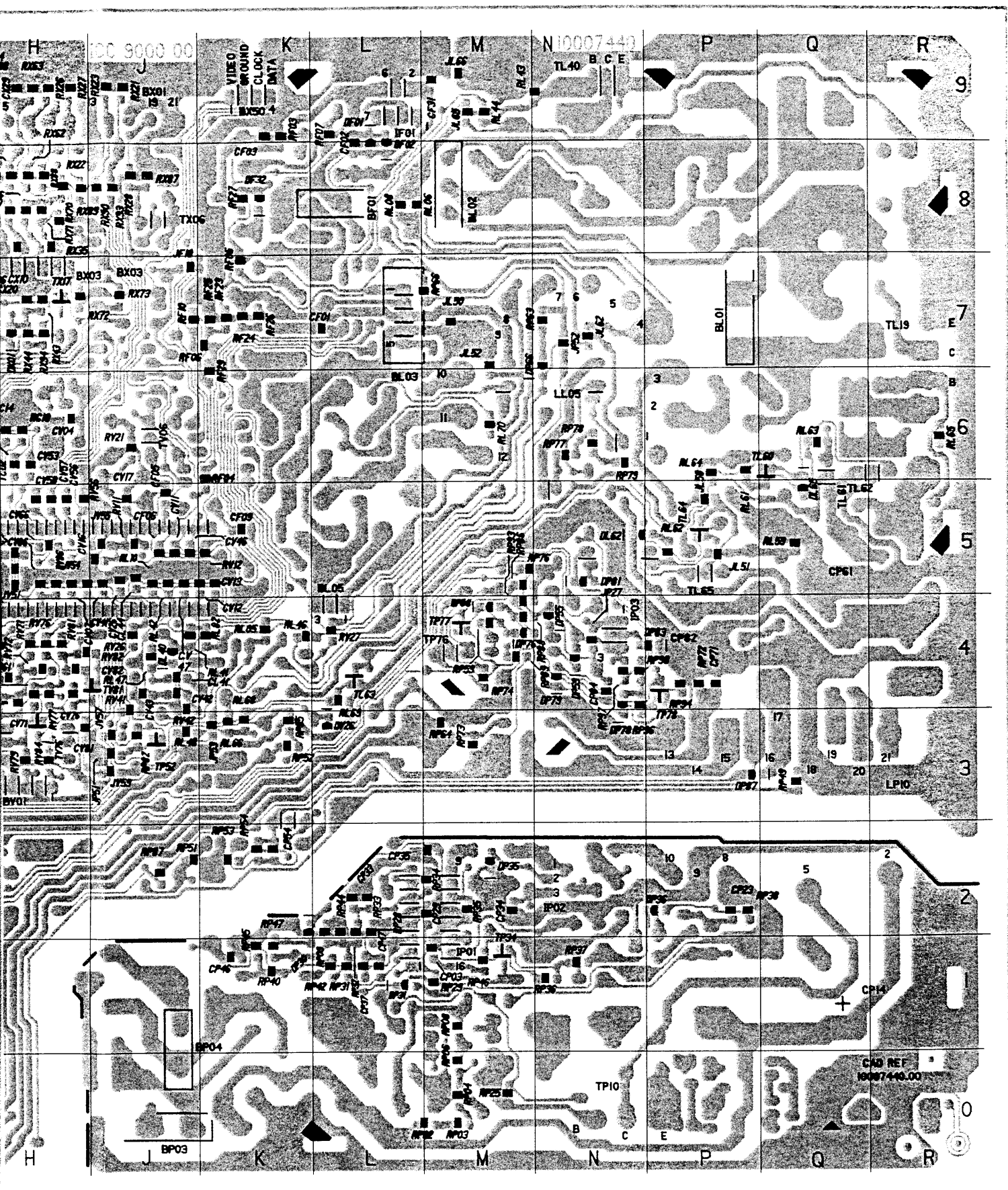
For Service Manuals
MAURITRON SERVICES
 8 Cherry Tree Road, Chinnor
 Oxfordshire, OX9 4QY.
 Tel (01844) 351694
 Fax (01844) 352554
 email:- mauritron@dial.pipex.com





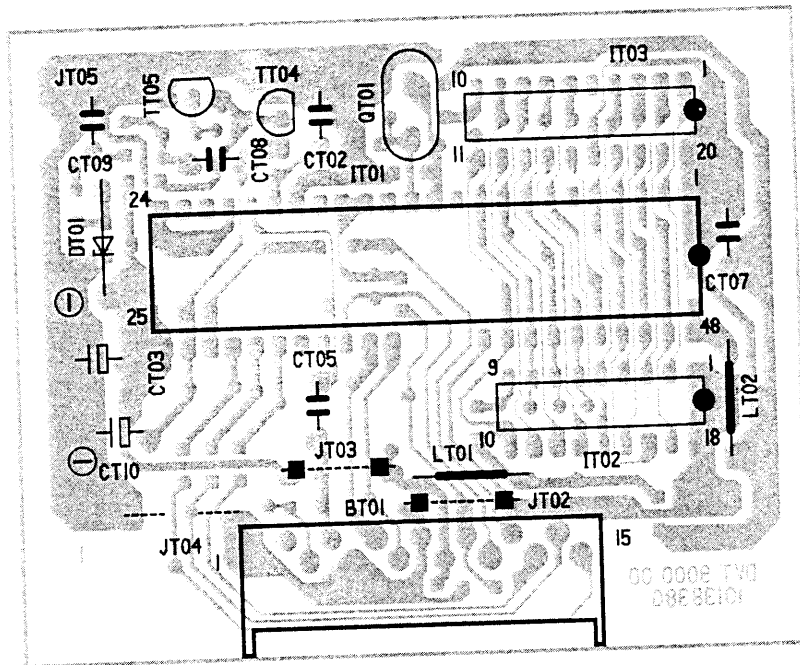




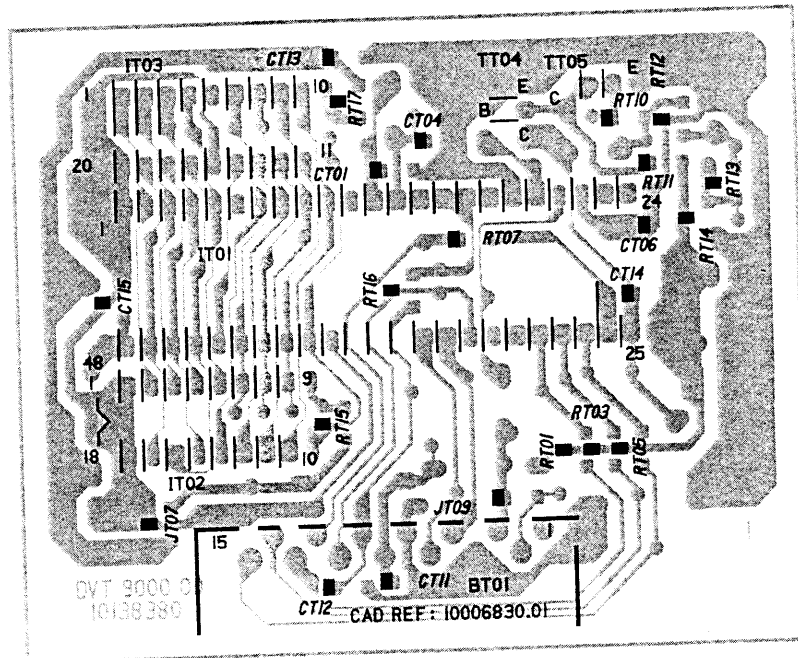


DVT 9000/9001

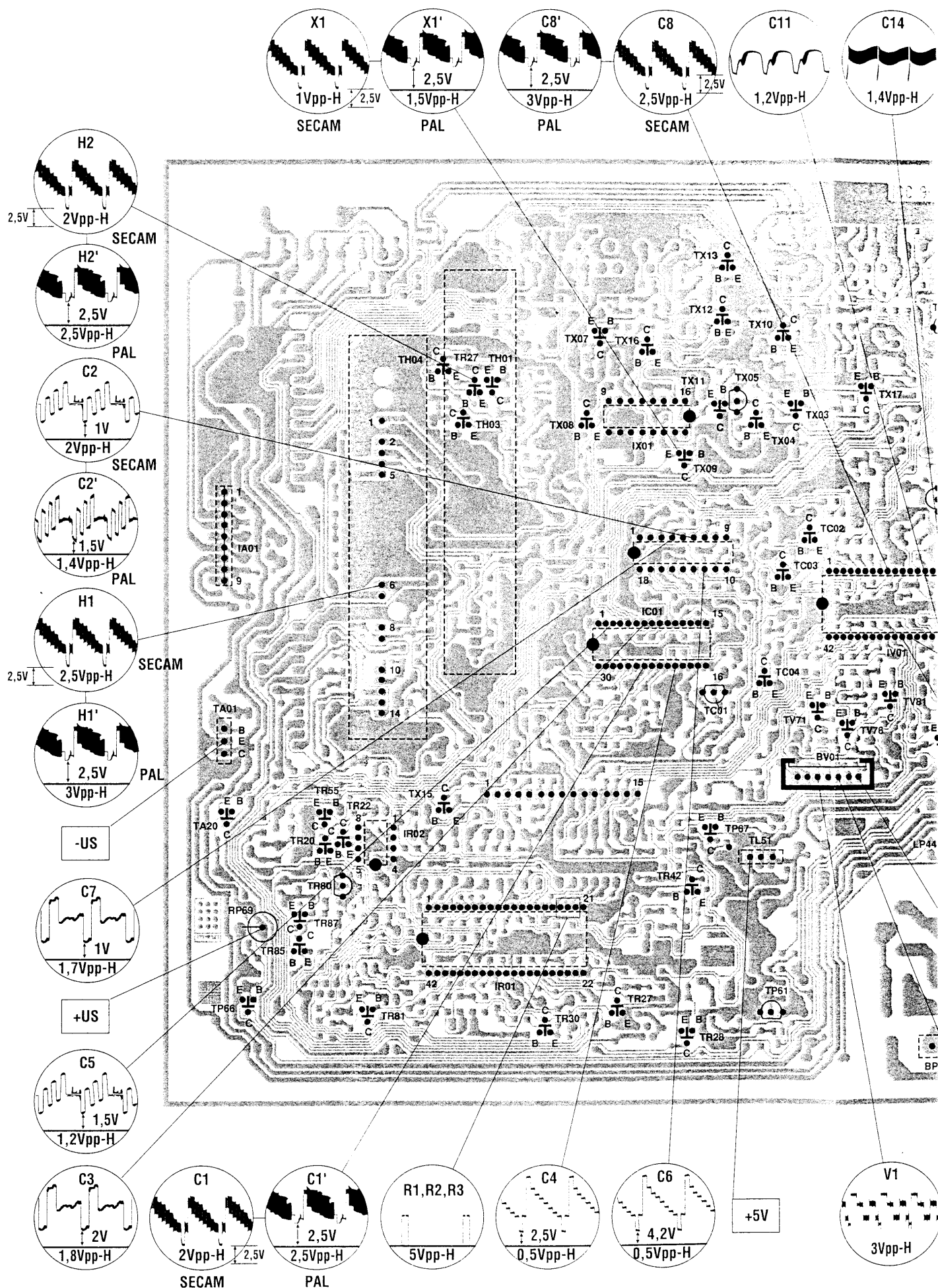
(COMPONENT SIDE - COTE ELEMENTS - BESTÜCKUNGSEITE
LADO COMPONENTES - LATO COMPONENTI)



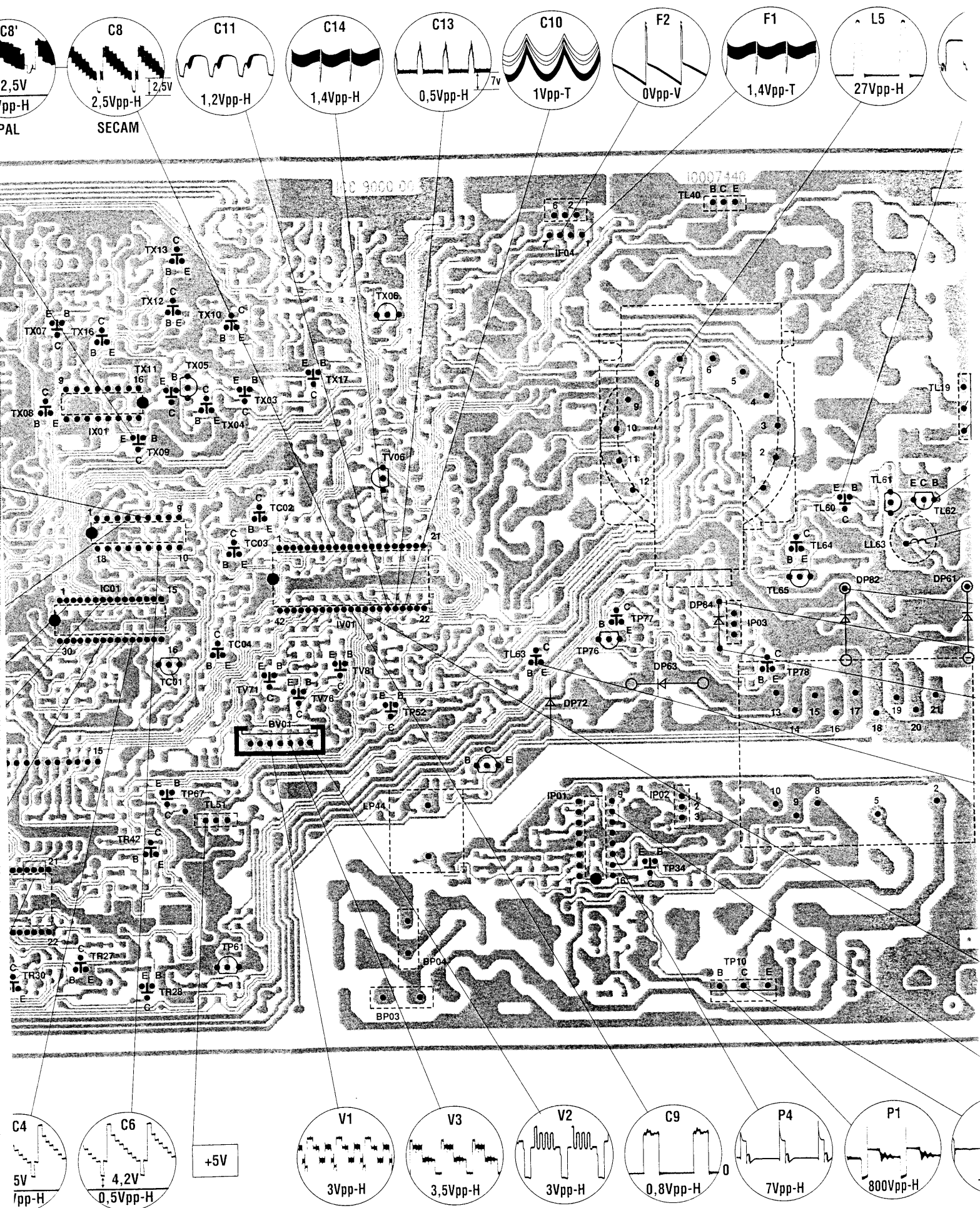
(SOLDER SIDE - COTE CUIVRE - LOTSEITE
LADO DEL COBRE - LATO SALDATURE)



PCB WITH MAIN MEASUREMENTS - CIRCUIT IMPRIME AVEC RELEVÉ DES PRINCIPALES
CIRCUITO IMPRESO CON PRINCIPALES MEDIDAS - PIASTRA CIRCUIT

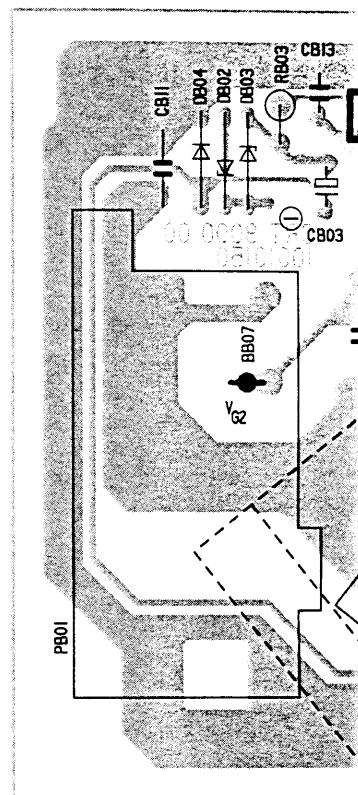
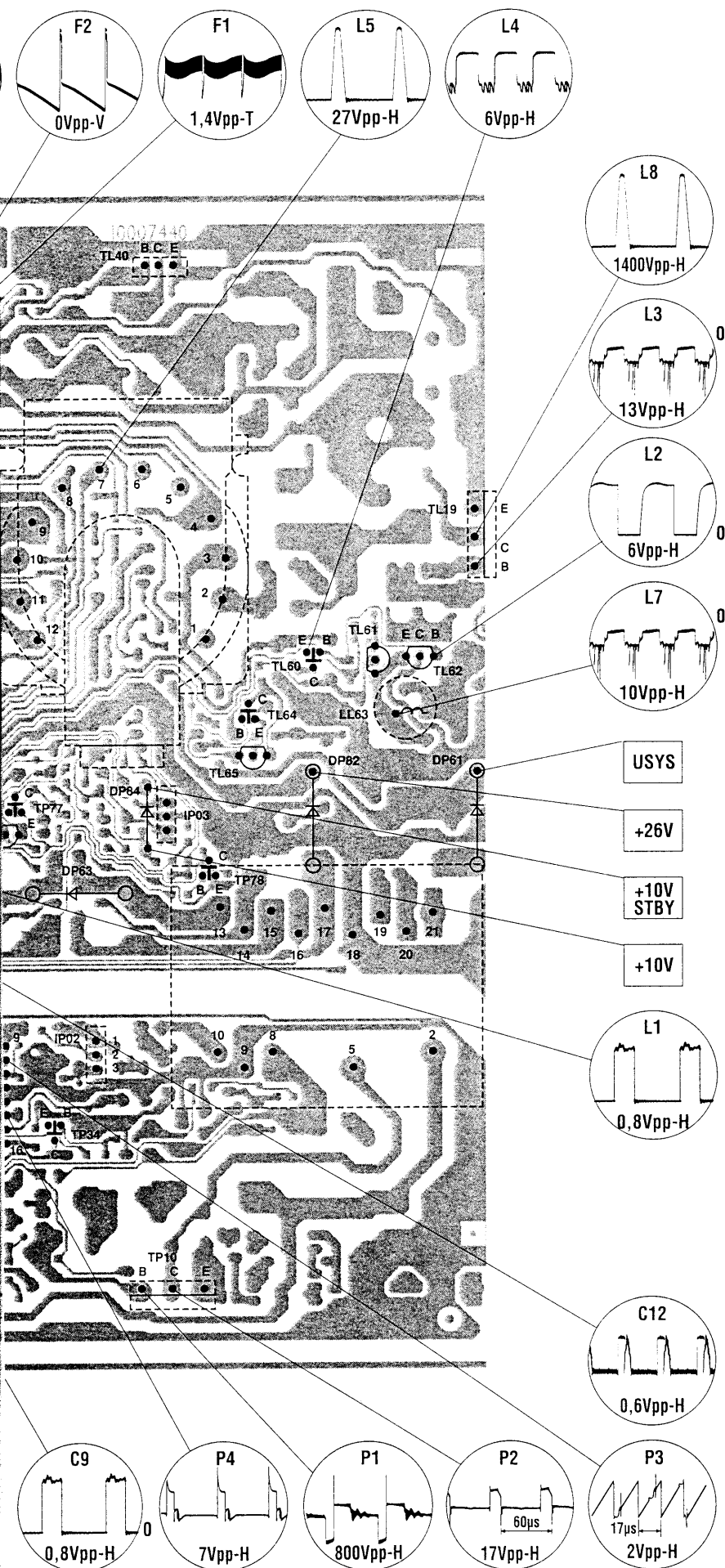


PRIME AVEC RELEVÉ DES PRINCIPALES MESURES - GEDRUCKTE SCHALTUNG MIT HAUPTMESSUNGEN
 CIPALES MEDIDAS - PIASTRA CIRCUITO STAMPATO CON LE PRINCIPALI REGOLAZIONI

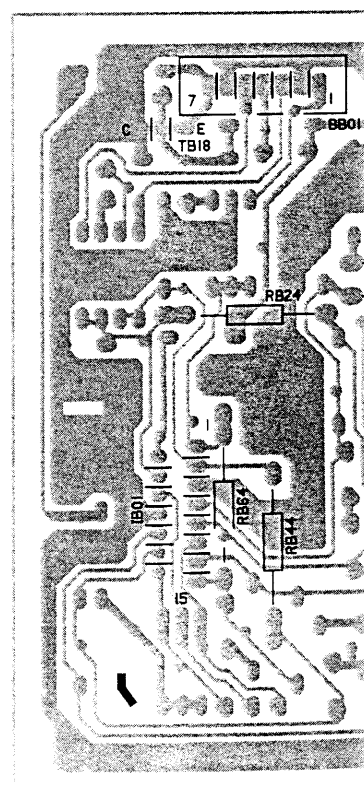


KTE SCHALTUNG MIT HAUPTMESSUNGEN PRINCIPALI REGOLAZIONI

(COMPONENT SIDE - COTE ELEMENTI)

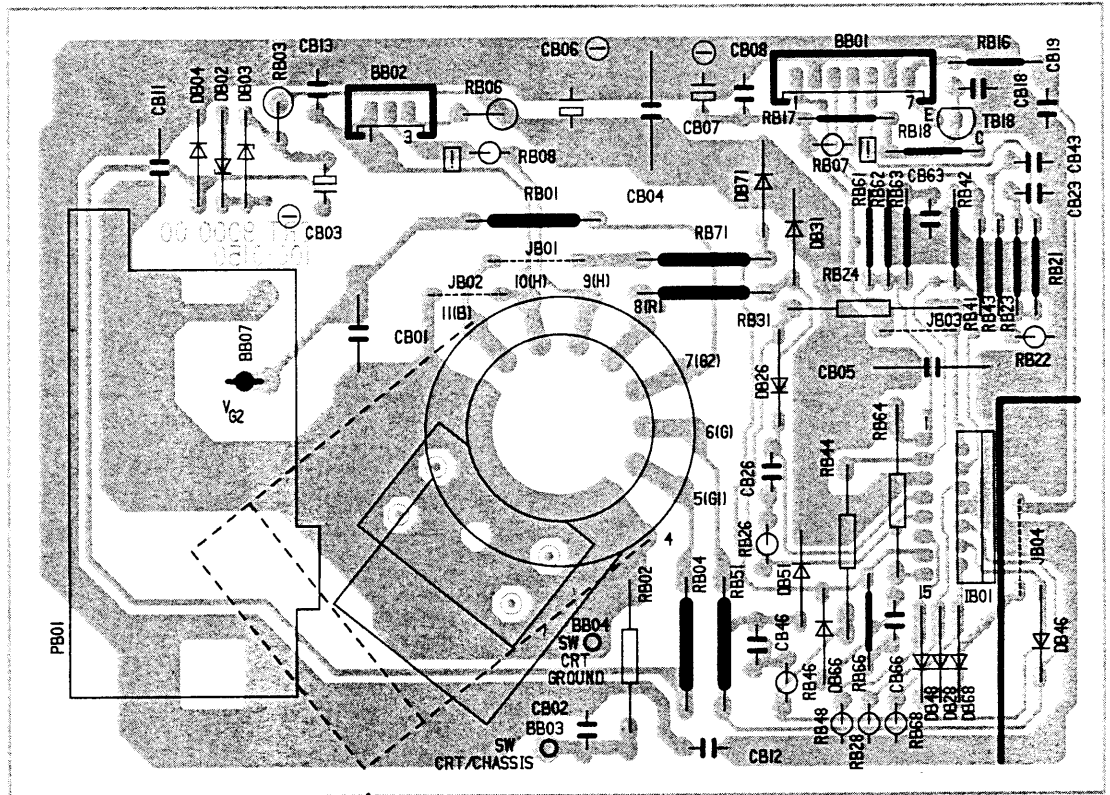


(SOLDER SIDE - COTE CL)

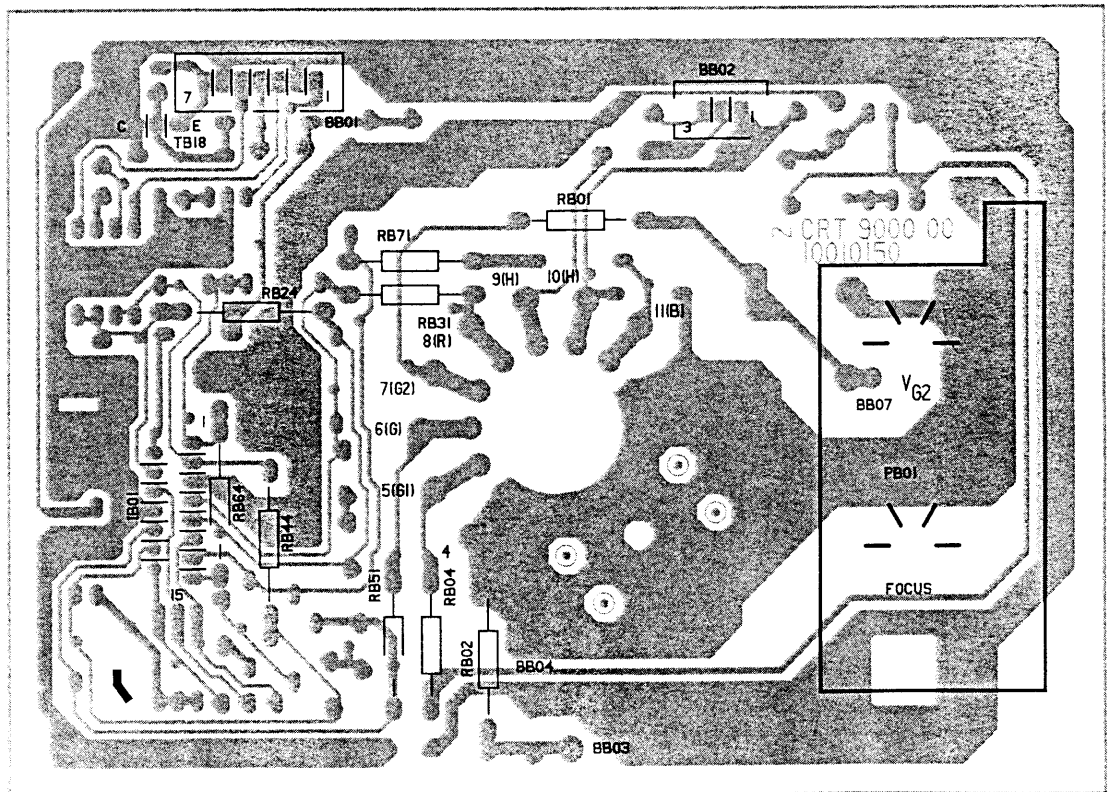


CRT 9000/9001

(COMPONENT SIDE - COTE ELEMENTS - BESTÜCKUNGSBEITE - LADO COMPONENTES - LATO COMPONENTES)

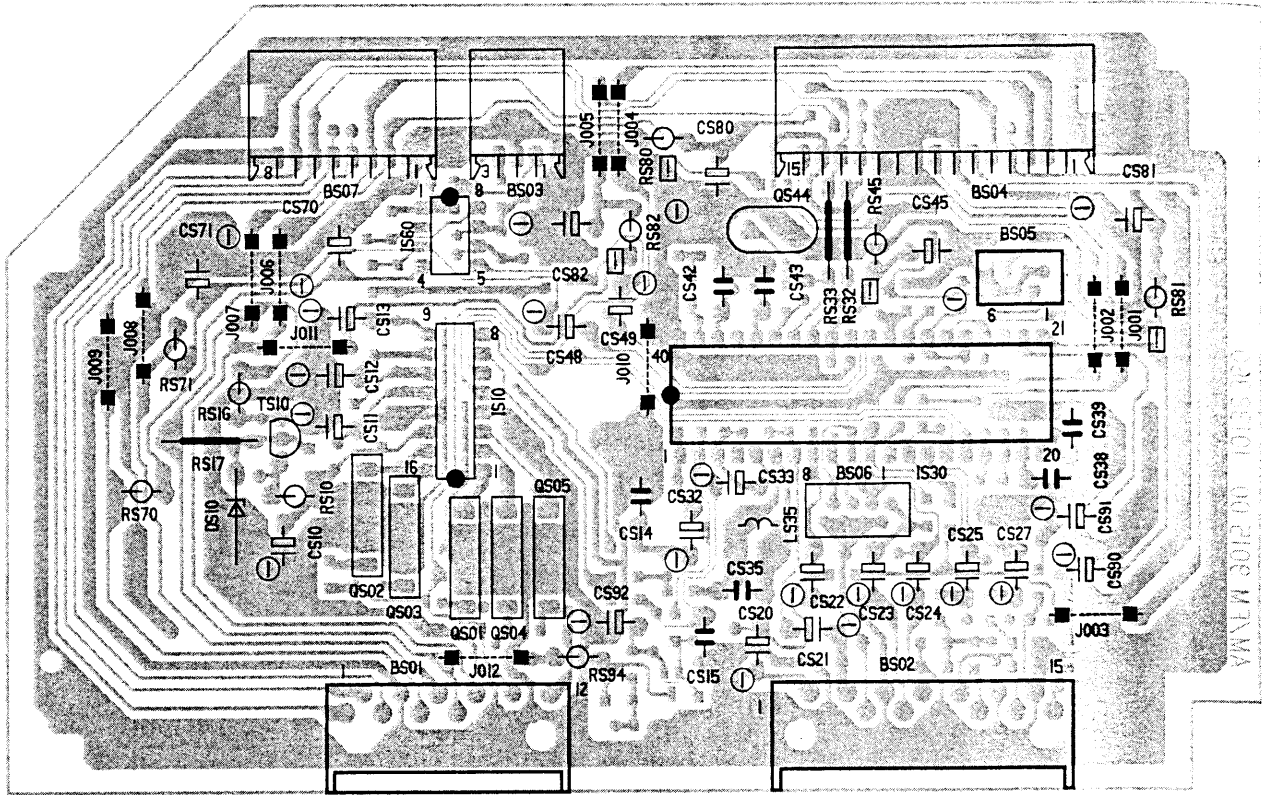


(SOLDER SIDE - COTE CUIVRE - LOTSEITE - LADO DEL COBRE - LATO SALDATURE)

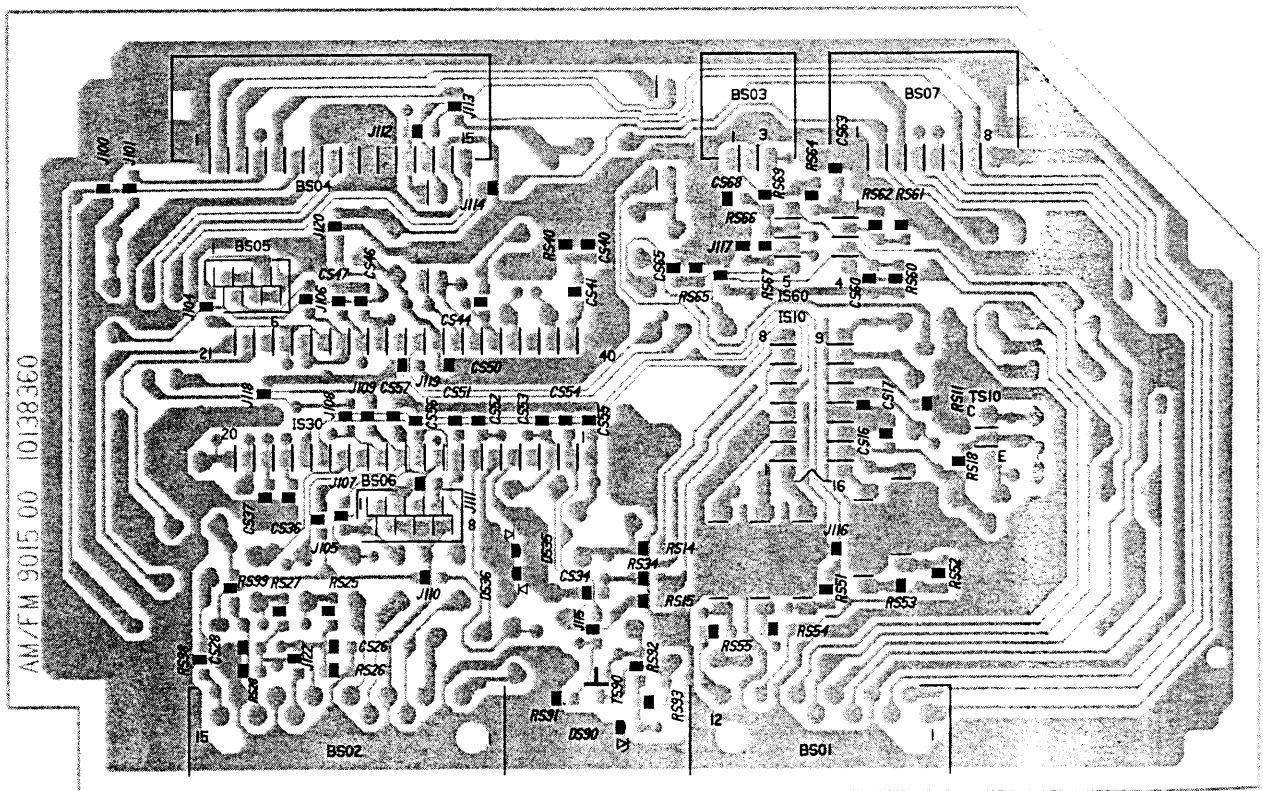


AM FM 9315/9515

1) (COMPONENT SIDE - COTE ELEMENTS - BESTUCKUNGSEITE - LADO COMPONENTES - LATO COMPONENTI)

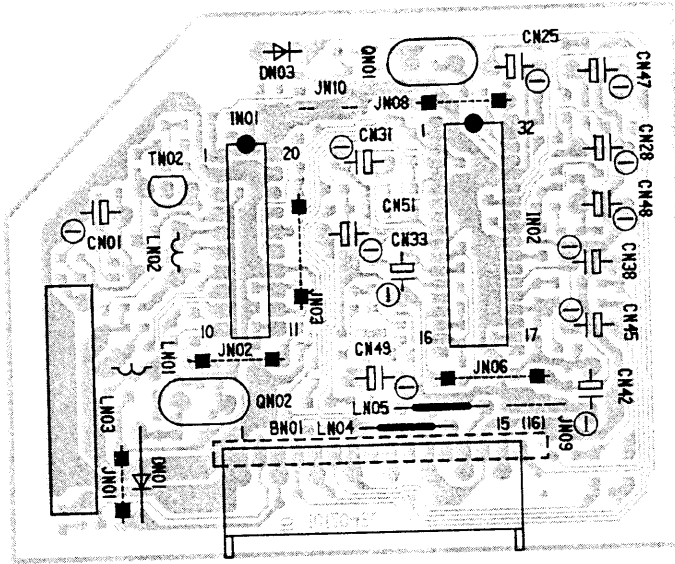


(SOLDER SIDE - COTE CUIVRE - LOTSEITE - LADO DEL COBRE - LATO SALDATURE)

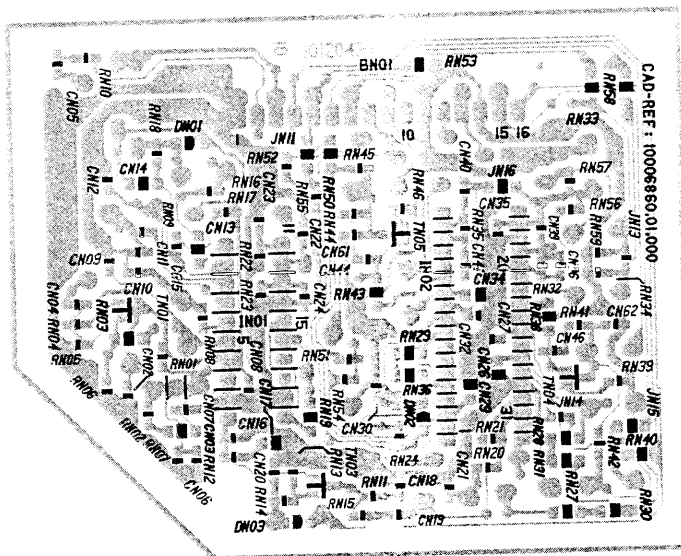


SUB NI.9000/9001

(COMPONENT SIDE - COTE ELEMENTS - BESTÜCKUNGSEITE - LADO COMPONENTES - LATO COMPONENTI)



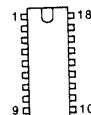
(SOLDER SIDE - COTE CUIVRE - LOTSEITE - LADO DEL COBRE - LATO SALDATURE)



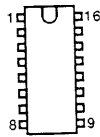
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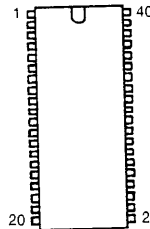
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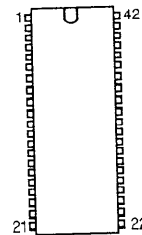
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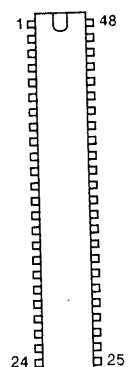
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TDA 6812



ST9093
STV2160



MV 18173D



CBE
BC337-40
BC 557
BC 558 A-B-C



ECB
BF 422
BC368N



EBC
BC327



ECB
2SC1020
2SC2655



ECB
BD 237
BD137
BD861

LIST OF ABBREVIATIONS

● AUD-MUTE	AUDIO MUTE (37 1R01)	● H-VCO	UNLOCKED LINE FREQUENCY
● AV1/AV2	AV1/AV2 SWITCH (A1 IX01)	● ICUT	CATHODE CURRENT MEASURE
● AV1-8	SLOW COMMAND (AV1)	● IF	SIGNAL FROM THE HFTUNER
● AV1-L IN	LEFT CHANNEL AUDIO INPUT (SCART 1) (AV1)	● LUMA IN	LUMINANCE INPUT
● AV1-L OUT	LEFT CHANNEL AUDIO OUTPUT (SCART 1) (AV1)	● MAIN-U	PAL B-Y
● AV1-R IN	RIGHT CHANNEL AUDIO INPUT (SCART 1) (AV1)	● MAIN-V	PAL R-Y
● AV1-R OUT	RIGHT CHANNEL AUDIO OUTPUT (SCART 1) (AV1)	● MAIN-Y	PAL LUMINANCE
● AV1-V IN	VIDEO INPUT (AV1)	● NORM-T1	STANDARD SELECTION
● AV1-V OUT	VIDEO OUTPUT (AV1)	● NS-N	FRAME RETURN (DC VERTICAL AMPLITUDE)
● AV2-C IN	CHROM. INPUT (SCART 2) (AV2)	● NS-P	FRAME RETURN (AC VERTICAL FRAMING)
● AV2-L IN	LEFT CHANNEL AUDIO INPUT (SCART 2) (AV2)	● NTSC-T1	NTSC STANDARD SELECTION
● AV2-L OUT	LEFT CHANNEL AUDIO OUTPUT (SCART 2) (AV2)	● NVM	NON-VOLATILE MEMORY
● AV2-R IN	RIGHT CHANNEL AUDIO INPUT (SCART 2) (AV2)	● R-AV1	CHROM. INPUT/RED INPUT (AV1)
● AV2-V IN	VIDEO INPUT (SCART 2) (AV2)	● R-AV1	RED SIGNAL (AV1)
● AV2-V OUT	VIDEO OUTPUT (SCART 2) (AV2)	● R-TXT	RED SIGNAL (IR01/DVT)
● AV-TUNER	IF/MONO SWITCH	● S / SYM	GEOMETRY CONTROL
● BREATHIN	SCANNING SAFETY	● SENSEN	VERTICAL FRAMING CONTROL
● B-AV1	BLUE SIGNAL (AV1)	● SENSEP	VERTICAL AMPLITUDE CONTROL
● B-TXT	BLUE SIGNAL IR01/DVT	● SIF MONO	MONO IF OR STEREO IF OUTPUT
● CLK	CLOCK SIGNAL	● SS	POWER CONTROL
● CVBS1	COMPOSITE VIDEO (FROM THE IF)	● SSC	SUPER SANDCASTLE
● DATA	DIGITAL DATA	● SSC5V	SUPER SANDCASTLE
● EW-BACK	EAST-WEST RETURN PULSE	● STBY	STANDBY VOLTAGE
● EW-DRIVE	EAST-WEST AMPLITUDE CONTROL	● T1 AV-SW	SWITCH (A0 IX01)
● FB-AV1	QUICK SWITCHING (SCART 1)	● T1-AM-AF	AM AUDIO L STANDARD
● FB-TXT	QUICK VIDEO TEXT SWITCHING	● T1-CVBS	CVBS (IF 6)
● FRAME-DR	FRAME CONTROL	● TXT-OUT	VIDEO TEXT OUTPUT
● G-AV1	GREEN INPUT (AV1)	● USYS	SYSTEM POWER
● G-TXT	GREEN SIGNAL IR01/DVT	● VCC1	SWITCHED VOLTAGE
● HV	G2 AND FOCUS VOLTAGES	● VDC	VERTICAL PROTECTION
● H-DRIVE	HORIZONTAL CONTROL	● V-TUN	VARICAP VOLTAGE
● H-FLY	LINE RETURN	● +US-US	LF AMPLI POWER SUPPLY