Self Diagnosis Supported model

SERVICE MANUAL

AE-6B CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.
KV-28LS60B	RM-932	FR	SCC-Q83C-A
KV-28LS60E	RM-932	ESP	SCC-Q81E-A
KV-28LS60U	RM-932	UK	SCC-Q84D-A

MODEL	COMMANDER	DEST	CHASSIS NO.
KV-32LS60B	RM-932	FR	SCC-Q83B-A
KV-32LS60E	RM-932	ESP	SCC-Q81D-A
KV-32LS60K	RM-932	OIRT	SCC-Q82C-A
KV-32LS60U	RM-932	UK	SCC-Q84C-A

FD Trinitron



KV-28/32LS60



RM-932

TRINITRON ® COLOR TV

SONY®

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS, THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE'LANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SECURITÈ!!

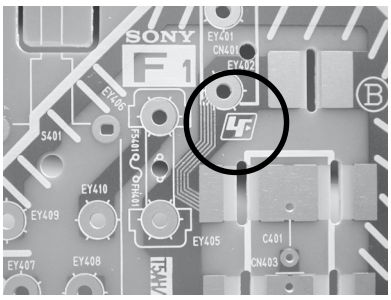
LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

CAUTION

Lead Free Soldered Boards

The circuit boards listed below [Table 1] used in these models may have been processed using Lead Free Solder. The boards are identified by the LF logo located close to the board designation e.g. F1, H1 etc [see examples]. The servicing of these boards requires special precautions to be taken as outlined below.

example 1



example 2

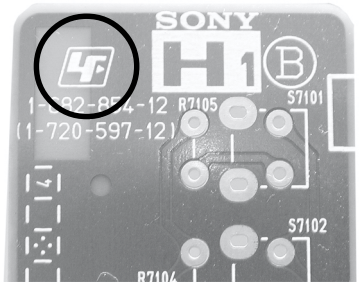


Table 1

Board	Function
C	R,G,B Out
F2	Power Switch/Fuse
H2	Front AV/ Headphone

It is strongly recommended to use Lead Free Solder material in order to guarantee optimal quality of new solder joints. Lead Free Solder is available under the following part numbers :

Partnumber	Diameter	Remarks
7-640-005-19	0.3mm	0.25Kg
7-640-005-20	0.4mm	0.50Kg
7-640-005-21	0.5mm	0.50Kg
7-640-005-22	0.6mm	0.25Kg
7-640-005-23	0.8mm	1.00Kg
7-640-005-24	1.0mm	1.00Kg
7-640-005-25	1.2mm	1.00Kg
7-640-005-26	1.6mm	1.00Kg

Due to the higher melting point of Lead Free Solder the soldering iron tip temperature needs to be set to 370 degrees centigrade. This requires soldering equipment capable of accurate temperature control coupled with a good heat recovery characteristics.

For more information on the use of Lead Free Solder, please refer to *http://www.sony-training.com*

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
B	B/G/H, D/K, I, L	GERMAN/NICAM Stereo	VHF : E2-E12, F2-F10 UHF : E21-E69, F21-F69, B21-B69 CABLE TV : S01-S03, S1-S20, B-Q HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
E	B/G/H	GERMAN/NICAM Stereo	VHF : E2-E12 UHF : E21-E69 CABLE TV : S01-S03, S1-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
K	B/G/H, D/K	GERMAN/NICAM Stereo	VHF : E2-E12, R01-R12 UHF : E21-E69, R21-R69 CABLE TV : S01-S03, S1-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
U	I	NICAM Stereo	I UHF : E21-E69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

<table>
<tr><td rowspan="2">Picture Tube</td><td rowspan="2">Flat Display FD Trinitron
Approx 71 cm (28 inches)
(Approx 66 cm picture measured diagonally) KV-28LS60
Approx 82 cm (32 inches)
(Approx 76 cm picture measured diagonally) KV-32LS60</td><td colspan="2">Sound output</td></tr>
<tr><td>Right and Left speaker

Sub Woofer</td><td>2x20W (Music Power) 2x10W (RMS)

1x30W (Music Power) 1x15W (RMS)</td></tr>
<tr><td colspan="2">Input/Output Terminals [REAR]</td><td colspan="2">General Specifications</td></tr>
<tr><td rowspan="2">1: 21-pin Euro connector (CENELEC standard)</td><td rowspan="2">Inputs for Audio and Video signals.
Inputs for RGB.
Outputs of TV Video and Audio signals.</td><td>Power Requirements</td><td>220 - 240V</td></tr>
<tr><td>Power Consumption</td><td>90 W (KV-28LS60)
88 W (KV-32LS60)</td></tr>
<tr><td rowspan="2">2: 21-pin Euro connector</td><td rowspan="2">Inputs for Audio and Video signals.
Inputs for S Video.
Outputs of TV Video and Audio signals.
(selectable)</td><td>Dimensions</td><td>Approx 806x497x540mm (KV-28LS60)
Approx 891x564x584mm (KV-32LS60)</td></tr>
<tr><td>Weight</td><td>Approx 43kg (KV-28LS60)
Approx 60.5kg (KV-32LS60)</td></tr>
<tr><td>3: 21-pin Euro connector</td><td>Inputs for Audio and Video signals.
Inputs for S Video.
Outputs of TV Video and Audio signals.
(Monitor Out)</td><td>Supplied Accessories</td><td>RM-932 Remote Commander (1)
IEC designated R6 battery (2)</td></tr>
<tr><td>Phono Jacks</td><td>Output Connectors variable for Audio Signals</td><td>Other Features</td><td>100 Hz picture, TV system Autodetection, Teletext, Smartlink, BBE, Virtual Dolby</td></tr>
<tr><td colspan="2">Input/Output Terminals [SIDE]</td><td colspan="2">Remote Control System : Infrared Control</td></tr>
<tr><td>Headphone jack</td><td>stereo mini jack</td><td rowspan="4">Power requirements</td><td rowspan="4">3V dc
2 batteries IEC designation
R6 (size AA)</td></tr>
<tr><td>Audio inputs</td><td>phono jacks</td></tr>
<tr><td>Video inputs</td><td>phono jacks</td></tr>
<tr><td>S Video input</td><td>4 pin DIN</td></tr>
<tr><td colspan="4">Design and specifications are subject to change without notice.</td></tr>
</table>

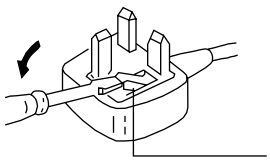
Item \ Model Name	KV-28LS60B ~ KV-32LS60B	KV-28LS60E ~ KV-32LS60E	KV-32LS60K	KV-28LS60U ~ KV-32LS60U
Pal Comb	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	ON	ON
Woofer Box	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF
Norm B/G	ON	ON	ON	OFF
Norm I	ON	OFF	OFF	ON
Norm D/K	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF
Norm L	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON
Nicam Stereo	ON	ON	ON	ON

WARNING (UK Models only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** rating. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by ASTA to **BS 1362**, ie one that carries the ASTA mark.

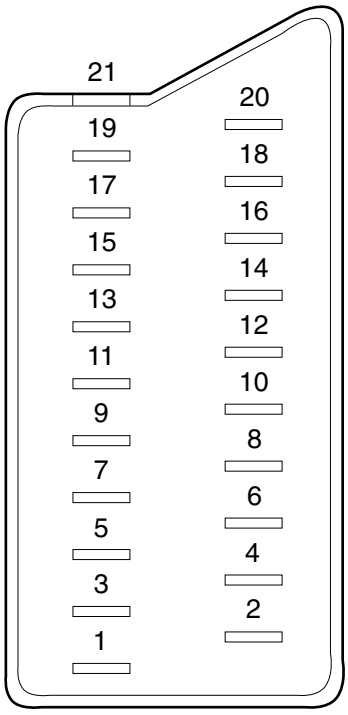
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET.

When an alternative type of plug is used, it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with a screwdriver blade and replace the fuse.

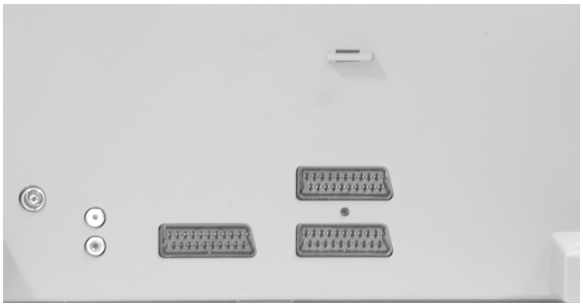
21 pin connector



Pin No	1	2	3	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedence : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedence : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedence : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	–	–	Red input	0.7 +/- 3dB, 75 ohms, positive
	–	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedence : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	–	–	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	–	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Rear Connection Panel



Front Connection Panel

S-Video socket



S Video socket pin configuration		
Pin No	**Signal**	**Signal Level**
1	Ground	-
2	Ground	-
3	Y (S signal) input	1V+/- 3dB 75ohm, positive Sync. 0.3V -3 +10dB
4	C (S signal) input	0.3V+/- 3dB 75ohm, positive Sync.

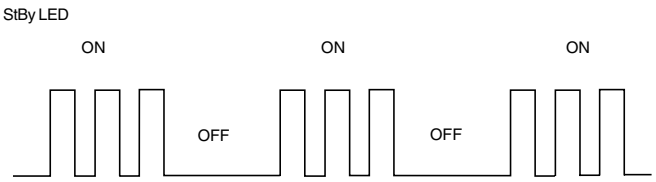
AE-6B SELF DIAGNOSTIC SOFTWARE

The identification of errors within the AE-6B chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See table 1, non fatal errors are reported using this method.
Each time the software detects an error it is stored within the NVM. See Table 2.

Table 1

Error Message	LED Code
No error	00
Reserved	01
OCP (Over Current Protection)	02
Over Voltage Protection	03
No Vertical Sync	04
IKR Error at power on	05
IIC bus clock and/or data lines low at power on	06
NVM no IIC bus acknowledge at power on	07
Horizontal Protection	08
Tuner no acknowledge at power on	09
Sound Processor Error	10
Reserved	11
Scanrate Error	12
DAC Error	13
Backend Error	14
Dynamic Convergence Error	15
PIP Error	16

Flash Timing Example : e.g. error number 3



How to enter into Table 2

1. Turn on the main power switch of the TV set.
2. Program Remote Commander for Operation in Service Mode. [See Page 22].
3. Press 'VIDEO' 'VIDEO' > 'MENU' on the Remote Commander.
4. Using the Remote Commander, Scroll to the 'Error Menu' item using the down arrow key, then press the right arrow key.
5. The following table will be displayed indicating the error count.

Table 2

ERROR MENU			
E02	OCP	(0, 255)	0
E03	OVP	(0, 255)	0
E04	VSYNC	(0, 255)	0
E05	IKR	(0, 255)	0
E06	IIC	(0, 255)	0
E07	NVM	(0, 255)	0
E08	HPROT	(0, 255)	0
E09	TUNER	(0, 255)	0
E10	SOUNDP	(0, 255)	0
E11	-	(0, 255)	0
E12	SCANRATE	(0, 255)	0
E13	DAC	(0, 255)	0
E14	BACKEND	(0, 255)	0
E15	DYN CON	(0, 255)	0
E16	PIP	(0, 255)	0
WORKING TIME			
HOURS			14
MINUTES			7

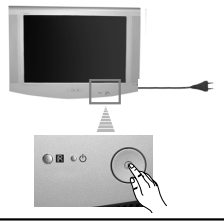
Note: To clear the error count data press '80' on the Remote commander.

The operating instructions mentioned here are partial abstracts from the 'Operating Instruction Manual'. The page numbers of the 'Operating Instruction Manual' remain as in the manual.

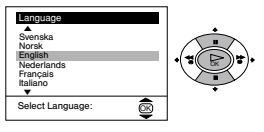
Switching On the TV and Automatically Tuning

The first time you switch on your TV, a sequence of menu screens appear on the TV enabling you to: 1) choose the language of the menu screen, 2) choose the country in which you wish to operate the TV, 3) adjust the picture slant 4) search and store all available channels (TV Broadcast) and 5) change the order in which the channels (TV Broadcast) appear on the screen.
However, if you need to change any of these settings at a later date, you can do that by selecting the appropriate option in the (Set Up menu) or by pressing the Auto Start Up Button on the TV set.

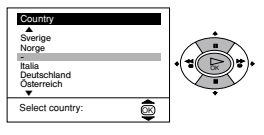
1 Connect the TV plug to the mains socket (220-240V AC, 50Hz)
The first time that the TV set is connected, it is usually turned on. If the TV is off, press the on/off button on the TV set to turn on the TV.
The first time you switch on the **TV**, a **Language** menu displays automatically on the TV screen.



2 Press the ▼ or ▲ button on the remote control to select the language, then press the **OK** button to confirm your selection. From now on all the menus will appear in the selected language.

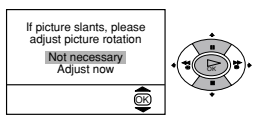


3 The **Country** menu appears automatically on the TV screen. Press the ▼ or ▲ button to select the country in which you will operate the TV set, then press the **OK** button to confirm your selection.



- If the country in which you want to use the TV set does not appear in the list, select "-" instead of a country.
- In order to avoid wrong teletext characters for Cyrillic languages we recommend to select Russia country in the case that your own country does not appear in the list.

4 Because of the earth's magnetism, the picture might slant. The **Picture Rotation** menu allows you to correct the picture slants if it is necessary.

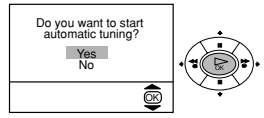


a) If it is not necessary, press ▼ or ▲ to select **Not necessary** and press **OK**.

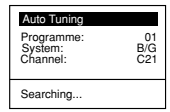
b) If it is necessary, press ▼ or ▲ to select **Adjust now**, then press **OK** and correct any slant of the picture between –5 and +5 by pressing ▼ or ▲ . Finally press **OK** to store.

continued...

5 The Auto Tuning menu appears on the screen. Press the **OK** button to select **Yes**.



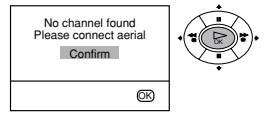
6 The TV starts to automatically search and store all available broadcast channels for you.



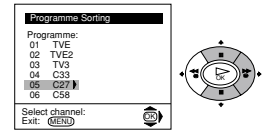
This procedure could take some minutes. Please be patient and do not press any buttons, otherwise the automatic tuning will not be completed.

In some countries is the TV Broadcaster who installs automatically the channels (ACI system). In this case, the TV Broadcaster sends a menu in which you can select your city by pressing the ▼ or ▲ button and **OK** to store the channels.

If no channels were found during the auto tuning process then a new menu appears automatically on the screen asking you to connect the aerial. Please connect the aerial (see page 6) and press **OK**. The auto tuning process will start again.



7 After all available channels are captured and stored, the **Programme Sorting** menu appears automatically on the screen enabling you to change the order in which the channels appear on the screen.



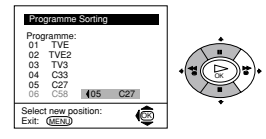
a) If you wish to keep the broadcast channels in the tuned order, go to step 8.

b) If you wish to store the channels in a different order:

1 Press the ▼ or ▲ button to select the programme number with the channel (TV Broadcast) you wish to rearrange, then press the ▶ button.

2 Press the ▼ or ▲ button to select the new programme number position for your selected channel (TV Broadcast), then press ◀ .

3 Repeat steps b)1 and b)2 if you wish to change the order of the other channels.



8 Press the **MENU** button to remove the menu from the screen.



Your TV is now ready for use

GB

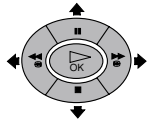
Introducing and Using the Menu System

Your TV uses an on-screen menu system to guide you through the operations. Use the following buttons on the Remote Control to operate the menu system:

1 Press the **MENU** button to switch the first level menu on.



2
- To highlight the desired menu or option, press ▼ or ▲.
- To enter to the selected menu or option, press ▶.
- To return to the last menu or option, press ◀.
- To alter settings of your selected option, press ▼ / ▲ / ◀ or ▶.
- To confirm and store your selection, press **OK**.



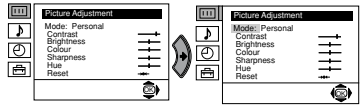
3 Press the **MENU** button to remove the menu from the screen.



GB

Menu Guide

Level 1	Level 2	Level 3 / Function

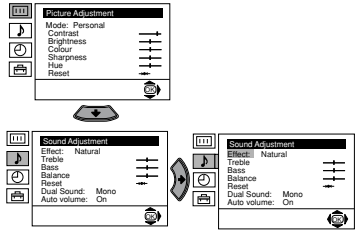


PICTURE ADJUSTMENT
The "Picture Adjustment" menu allows you to alter the picture adjustments.

To do this: after selecting the item you want to alter press ▶, then press repeatedly ▼ / ▲ / ◀ or ▶ to adjust it and finally press **OK** to store the new adjustment.
This menu also allows you to customise the picture mode based on the programme you are watching:
- ▼ **Live** (for live broadcast programmes, DVD and Digital Set Top Box receivers).
- ▼ **Personal** (for individual settings).
- ▼ **Movie** (for films).

- ***Brightness, Colour*** *and* ***Sharpness*** *can only be altered if "Personal" mode is selected.*
- ***Hue*** *is only available for NTSC colour signal (e.g: USA video tapes).*
- *Select* ***Reset*** *and press* ***OK*** *to reset the picture to the factory preset levels.*

Level 1	Level 2	Level 3 / Function



SOUND ADJUSTMENT
The "Sound Adjustment" menu allows you to alter the sound adjustments.

To do this: after selecting the item you want to alter, press ▶. Then press repeatedly ▼ / ▲ / ◀ or ▶ to adjust it and finally press **OK** to store the new adjustment.

Effect ▶
- ▼ **Natural:** Enhances clarity, detail and presence of sound by using "BBE High Definition Sound system"*.
- ▼ **Dynamic:** "BBE High Definition Sound system"* intensifies clarity and presence of sound for better intelligibility and musical realism.
- ▼ **Dolby******Virtual:** Simulates the sound effect of "Dolby Surround Pro Logic".
- ▼ **Off:** Flat response.

Treble ▶ ◀ Less ▶ More

Bass ▶ ◀ Less ▶ More

Balance ▶ ◀ Left ▶ Right

Reset (OK) Resets the sound to the factory preset levels.

Dual Sound ▶
- *For a stereo broadcast:*
  - ▼ **Mono**.
  - ▼ **Stereo**.
- *For a bilingual broadcast:*
  - ▼ **Mono** (for mono channel if available).
  - ▼ **A** (for channel 1).
  - ▼ **B** (for channel 2).

Auto Volume ▶
- ▼ **Off:** volume level changes according to the broadcast signal.
- ▼ **On:** volume level of the channels will stay the same, independent of the broadcast signal (e.g. in the case of advertisements).

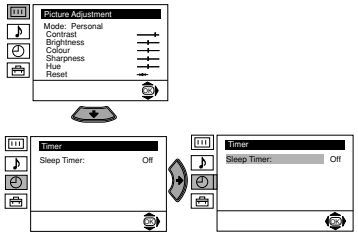
- *If you are listening to the TV through headphones, the "Effect" option will automatically be switched to "Off".*
- *If you select "Dolby Virtual" on the "Effect" option, the "Auto Volume" option will automatically be switched to "Off" and vice versa.*

* *The "BBE High Definition Sound system" is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. Teh word "BBE" and BBE Symbol are trademarks of BBE Sound, Inc.*

** *This TV has been designed to create the "Dolby Surround" sound effect by simulating the sound of four speakers with two speakers, when the broadcast audio signal is Dolby Surround encoded. The sound effect can also be improved by connecting a suitable external amplifier (for details refer to "Connecting to external audio Equipment" on page 19).*

** *Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol* ◻◻ *are trademarks of Dolby Laboratories.*

continued...

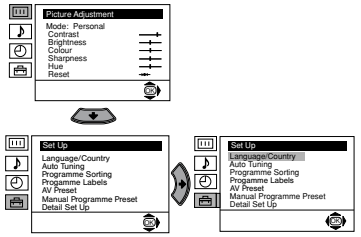


SLEEP TIMER

The "Sleep Timer" option in the "Timer" menu allows you to select a time period for the TV to switch itself automatically into the standby mode.

To do this: after selecting the option press ➧, then press ▼ or ▲ to set the time period delay (max. of 4 hours).

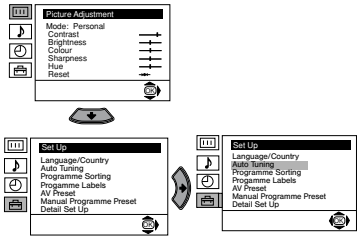
- *While watching the TV, you can press the ⊞ button on the remote control to display the time remaining.*
- *One minute before the TV switches itself into standby mode, the time remaining is displayed on the TV screen automatically.*



LANGUAGE / COUNTRY

The "Language/Country" option in the "Set Up" menu allows you to select the language that the menus are displayed in. It also allows you to select the country in which you wish to operate the TV set.

To do this: after selecting the option, press ➧ and then proceed in the same way as in the steps 2 and 3 of the section "Switching On the TV and Automatically Tuning" on page 7.



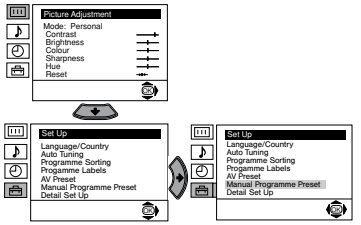
AUTO TUNING

The "Auto Tuning" option in the "Set Up" menu allows you to automatically search for and store all available TV channels.

To do this: after selecting the option, press ➧ and then proceed in the same way as in TV steps 5 and 6 of the section "Switching On the TV and Automatically Tuning" on page 8.

continued...

GB



MANUAL PROGRAMME PRESET

The "Manual Programme Preset" option in the "Set Up" menu allows you to:

a) Preset channels or the VCR channel one by one to the programme order of your choice. To do this:

1 After selecting the "Manual Programme Preset" option, press ➧ then with **Programme** option highlighted press ➧. Press ▼ or ▲ to select on which programme number you want to preset the channel (for VCR, select programme number "0"). Then press ➧.

2 ⓘ The following option is only available depending on the country you have selected in the "Language/Country" menu.

After selecting the **System** option, press ➧.
Then press ▼ or ▲ to select the TV Broadcast system (**B/G** for western European countries or **D/K** for eastern European countries). Then press ➧.

3 After selecting the **Channel** option, press ➧.
Then press ▼ or ▲ to select the channel tuning ("**C**" for terrestrial channels or "**S**" for cable channels). Next press ➧. After that, press the number buttons to enter directly the channel number of the TV Broadcast or the channel of the VCR signal. If you do not know the channel number, press ▼ or ▲ to search for it. When you tune the desired channel, press **OK** twice to store.

Repeat all the above steps to tune and store more channels.

b) Label a channel using up to five characters.
To do this: Highlighting the **Programme** option, press the **PROG +/-** button to select the programme number with the channel you wish to name. When the programme you want to name appears on the screen, select the **Label** option and press ➧. Next press ▼ or ▲ to select a letter, number or "-" for a blank. Press ➧ to confirm this character. Select the other four characters in the same way. After selecting all the characters, press **OK** twice to store.

c) Normally the automatic fine tuning (AFT) is operating, however you can manually fine tune the TV to obtain a better picture reception in the case that the picture is distorted.
To do this: while watching the channel (TV Broadcast) you wish to fine tune, select the **AFT** option and press ➧. Next press ▼ or ▲ to adjust the fine tuning between -15 and +15. Finally press **OK** twice to store.

d) Skip any unwanted programme numbers when they are selected with the PROG +/- buttons.
To do this: Highlighting the **Programme** option, press the **PROG +/-** button to select the programme number you want to skip. When the programme you want to skip appears on the screen, select the **Skip** option and press ➧. Next press ▼ or ▲ to select **Yes**. Finally press **OK** twice to confirm and store.
To cancel this function afterwards, select "No" instead of "Yes" in the step above.

e) View and record correctly scrambling channels when using a decoder connected to the Scart ⊃3/ ⊂3 directly or through a VCR.

ⓘ This option is only available depending on the country you have selected in the "Language/Country" menu.

To do this: select the **Decoder** option and press ➧. Next press ▼ or ▲ to select **On**. Finally press **OK** twice to confirm and store.
To cancel this function afterwards, select "Off" instead of "On" in the step above.

GB

Teletext

Teletext is an information service transmitted by most TV stations. The index page of the teletext service (usually page 100) gives you information on how to use the service. To operate teletext, use the remote control buttons as indicated below.

Make sure to use a channel (TV Broadcast) with a strong signal, otherwise teletext errors may occur.

To Switch On Teletext :

After selecting the TV channel which carries the teletext service you wish to view, press .



To Select a Teletext page:

Input 3 digits for the page number, using the numbered buttons.

- *If you have made a mistake, retype the correct page number.*
- *If the counter on the screen continues searching, it is because this page is not available. In that case, input another page number*

To access the next or preceding page:

Press **PROG +** ( ) or **PROG -** ( ).

To superimpose teletext on to the TV:

Whilst you are viewing teletext, press . Press it again to cancel teletext mode.

To freeze a teletext page:

Press / . Press it again to cancel the freeze.

To reveal concealed information (e.g: answer to a quiz):

Press / . Press it again to conceal the information.

To select a sub page:

A teletext page may consist of several sub pages. In this case the page number that appears on the upper left corner will become from white to green colour and one or more arrows will appear next to the page number. Press repeatedly ◆ or ◆ buttons on the remote control to watch the desired sub page.

To Switch Off Teletext:

Press .

Fastext

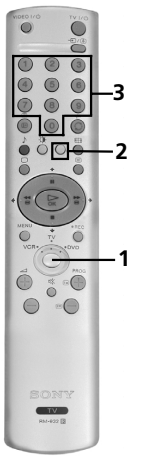
Fastext service lets you access pages with one button push.
While you are in Teletext mode and Fastext is broadcast, a colour coded menu appears at the bottom of the teletext page. Press the colour button (red, green, yellow or blue) to access the corresponding page.

GB

Remote Control Configuration for VCR/DVD

This remote control is default to operate basic functions of this Sony TV, Sony DVD and most of Sony VCR when batteries are initially installed. To control other VCR and DVD major brands and some Sony VCR models, please complete the following steps:

- Before you start, look up the 3 digit code for your brand of DVD or VCR from the list below. On those brands that have more than one code, enter the first code number.
- Sony will endeavour to update the software according to market changes. Therefore, please refer to code table included with the remote control for latest code set.



1 Press the Media Selector button on the remote control repeatedly until the required VCR or DVD green light is lit.

If Media Selector is on TV position, code numbers will not be stored.

2 Before the green light goes out, press and hold the yellow button for approximately 6 seconds until the green light starts flashing.

3 Whilst the green light is flashing, enter all three digits of the code for your brand using the number buttons on the remote control.

If your selected code is entered correctly, all three green lights will be lit momentarily.

4 Turn on your brand VCR or DVD and check that the main functions work.

- If your device is not working or some of the functions do not work please check you entered the correct code set or try the next code listed against the brand.
- Your brand codes may be lost if weak batteries are not replaced within a few minutes. To reset your brand DVD or VCR please repeat the above steps. A small label is added inside the battery door to allow you to record your brand codes.
- Not all brands are covered and not all models of every brand may be covered.

VCR Brand List

Brand	Code
SONY (VHS)	301, 302, 303, 308, 309
SONY (BETA)	303, 307, 310
SONY (DV)	304, 305, 306
AIWA	325, 331, 351
AKAI	326, 329, 330
DAEWOO	342, 343
GRUNDIG	358, 355, 360, 361, 320, 351
HITACHI	327, 333, 334
JVC	314, 315, 322, 344, 352, 353, 354, 348, 349
LG	332, 338
LOEWE	358, 355, 360, 361, 320, 351
MATSUI	356, 357
ORION	328
PANASONIC	321, 323
PHILIPS	311, 312, 313, 316, 317, 318, 358, 359
SAMSUNG	339, 340, 341, 345
SANYO	335, 336
SHARP	324
THOMSON	319, 350
TOSHIBA	337

DVD Brand List

Brand	Code
SONY	001
AIWA	021
DENON	018, 027, 020, 002
GRUNDIG	009, 028, 023, 024, 016, 003
HITACHI	025, 026, 015, 004
JVC	006, 017
KENWOOD	008
LG	015, 014
LOEWE	009, 028, 023, 024, 016, 003
MATSUI	013, 016
ONKYO	022
PANASONIC	018, 027, 020, 002
PHILIPS	009, 028, 023, 024, 016, 003
PIONEER	004
SAMSUNG	011, 014
SANYO	007
SHARP	019, 027
THOMSON	012
TOSHIBA	003
YAMAHA	018, 027, 020, 002

Specifications

TV system:
Depending on your country selection:
B/G/H, D/K

Colour system:
PAL, SECAM
NTSC 3.58, 4.43 (only Video In)

Channel Coverage:

VHF:	E2-E12
UHF:	E21-E69
CATV:	S1-S20
HYPER:	S21-S41
D/K:	R1-R12, R21-R69

Picture Tube:
Flat Display FD Trinitron WIDE 32" (approx. 82 cm. measured diagonally)

Rear Terminals

1/ 1	21-pin scart connector (CENELEC standard) including audio/video input, RGB input, TV audio/video output.
2/ 2	21-pin Scart connector (CENELEC standard) including audio / video input, RGB input, monitor audio/video output.
3/ 3 (SMARTLINK)	21-pin Scart connector (CENELEC standard) including audio / video input, S video input, selectable audio / video output and Smartlink interface.
	audio outputs (Left/ Right) - phono jacks

Side Terminals

4	S Video input – 4 pin DIN
4	video input – phono jack
4	audio input – phono jacks
	headphones jack

Sound Output:
2 x 20 W (music power)
2 x 10 W (RMS)
Woofer:
30 W (music power)
15 W (RMS)

Power Consumption:
130 W

Standby Power Consumption:
0.3 W

Dimensions (w x h x d) :
Approx. 891 x 504 x 584 mm.

Weight:
Approx. 62.2 Kg.

Accessories supplied:
1 Remote Control (RM-932)
2 Batteries (IEC designated)

Other features:
- 100 Hz picture
- Teletext, Fastext, TOPtext (250 page TEXT memory)
- Sleep Timer
- Smartlink (direct link between your TV set and a compatible VCR. For more information on Smartlink, please refer to the Instruction Manual of your VCR).
- TV system Autodetection.
- Dolby Virtual.
- BBE.
- Auto Format.
- ACI (Auto Channel Installation).

Design and specifications are subject to change without notice.

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Troubleshooting

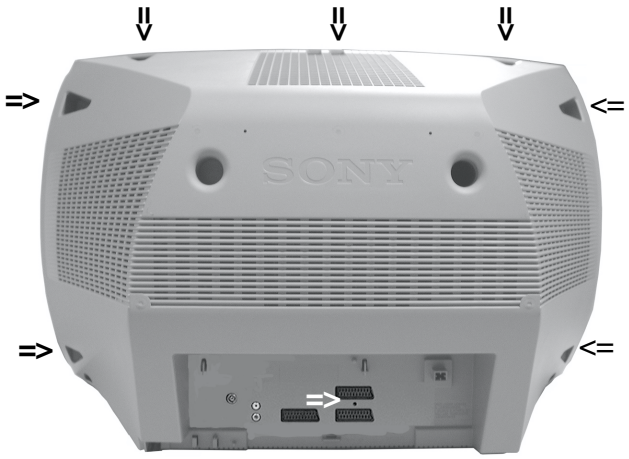
Here are some simple solutions to the problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark) and no sound.	• Check the aerial connection. • Plug the TV in and press the button on the front of the TV. • If the standby indicator is on, press **TV** button on the remote control.
Poor or no picture (screen is dark), but good sound.	• Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to the factory settings.
No picture or no menu information from equipment connected to the Scart connector.	• Check that the optional equipment is on and press the button repeatedly on the remote control until the correct input symbol is displayed on the screen.
Good picture, no sound.	• Press the + button on the remote control. • Check that "TV Speakers" is "On" on the "Detail Set Up" menu. • Check that headphones are not connected.
No colour on colour programmes.	• Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to factory settings.
Distorted picture when changing programmes or selecting teletext.	• Turn off any equipment connected to the Scart connector on the rear of the TV.
Wrong characters appear when viewing teletext.	• Using the menu system, enter to the "Language/Country" menu and select the country in which you operate the TV set. For Cyrillic languages, we recommend to select Russia country in the case that your own country does not appear in the list.
Picture slanted	• Using the menu system, select the "Picture Rotation" option in the "Detail Set Up" menu to correct the picture slant.
Noisy picture when viewing a TV channel.	• Using the menu system, select the "Manual Programme Preset" menu and adjust Fine Tuning (AFT) to obtain better picture reception. • Using the menu system, select the "Noise Reduction" option in the "Detail Set Up" menu and select "Auto" to reduce the noise in the picture.
No unscrambling or unstable picture whilst viewing a scrambling channel with a decoder connected through the Scart connector 3/ 3.	• Using the menu system, select the "Set Up" menu. Then enter to "Detail Set Up" option and set "AV3 Output" to "TV". • Check that the Decoder is not connected on the scart 2/ 2.
Remote control does not function.	• Check that the Media Selector on the remote control is set according to the device you are using (VCR, TV or DVD). • If the remote control does not operate the VCR or DVD even when the Media Selector has been set correctly. Enter the necessary code set as explained on "Remote Control Configuration for VCR/DVD" chapter of this instruction manual. • Replace the batteries.
The standby indicator on the TV flashes.	• Contact your nearest Sony service centre.

If you continue to experience problems, have your TV serviced by qualified personnel. Never open the casing yourself.

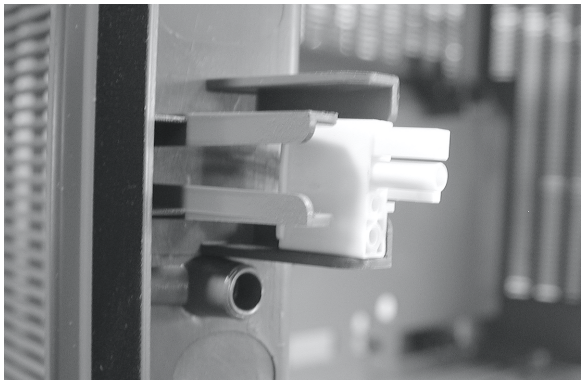
SECTION 2 DISASSEMBLY

2-1. Rear Cover Removal



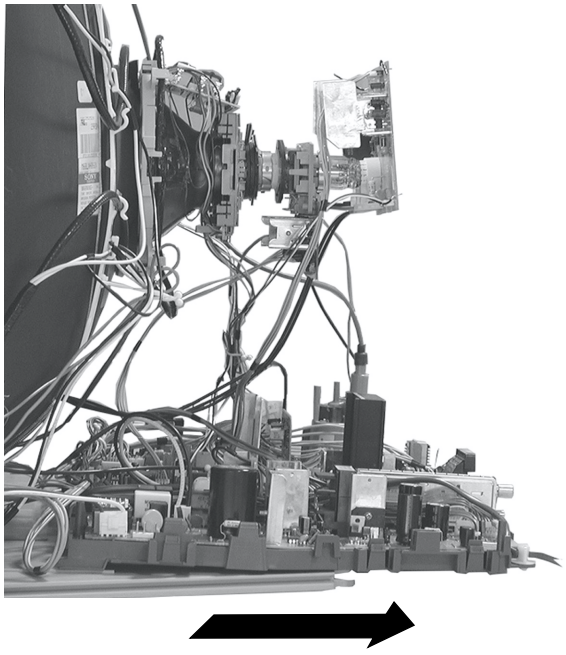
Remove the rear cover fixing screws indicated. Take care when removing the rear cover not to damage the speaker cables [Disconnect the speaker connector] as speakers are fitted inside the rear cover.

2-2. Speaker Connector Disconnection

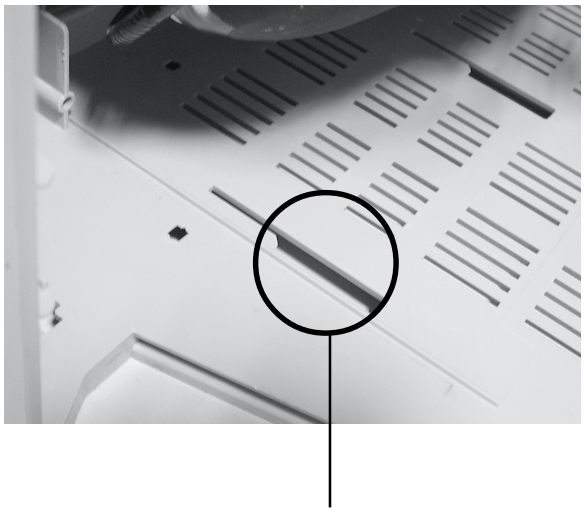


Before completely removing the rear cover disconnect the speaker connector which is located on the inside.

2-3. Chassis Removal and Refitting

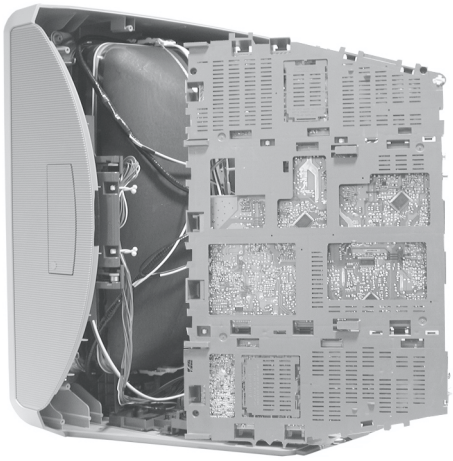


To remove lift the main bracket rear slightly and slide the chassis away from the beznet. Ensure that the interconnecting leads are released from their purse locks to prevent damage being caused.



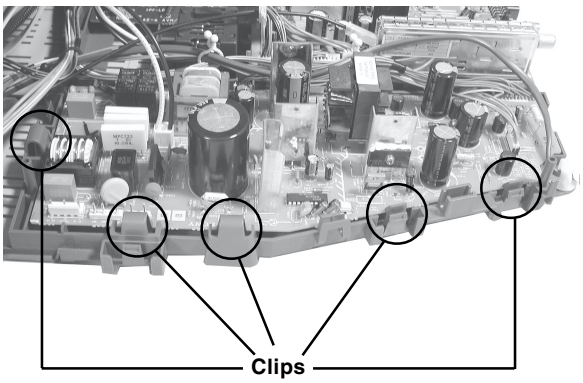
When refitting the chassis ensure that the main bracket is located in the beznet guide slots before sliding the chassis forwards. Refit the interconnecting leads in their respective purse locks.

2-4. Service Position



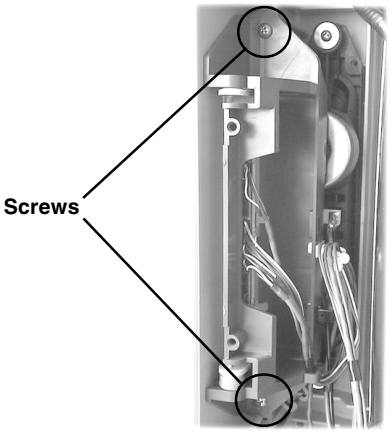
Position the chassis as indicated to access the solder side. To gain access to the underside of the boards follow the instructions on page 17. [Removal and Replacement of the main bracket bottom plates].

2-5. D and G Board Removal



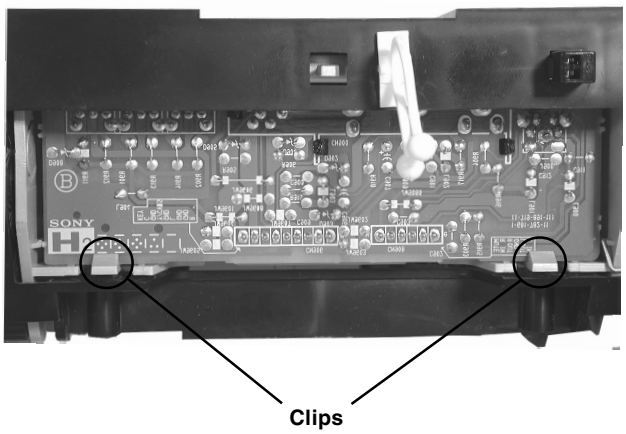
To remove the G Board release the clips circled and ease the board gently away from the support bracket. Removal of the D Board follows the same procedure.

2-6. Side Control Module Removal



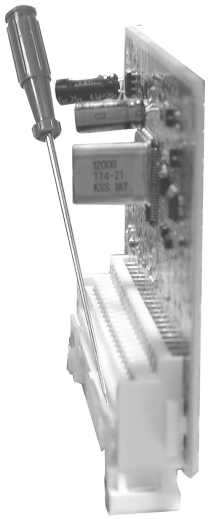
Remove the two screws fixing the user control module to the side of the set. The control module can then be removed by sliding it towards the rear of the set allowing access to the H2 Board.

2-7. H2 Board Removal



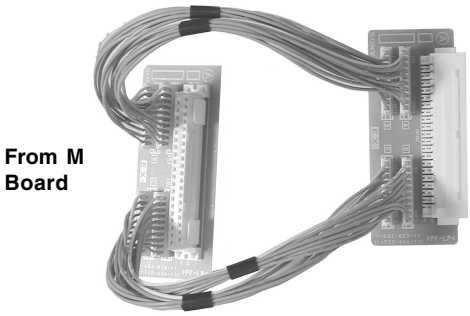
To remove the H2 Board release the two clips circled and ease the board gently away from the support bracket.

2-8. M Board Removal



To remove the M Board gently release the two clips with a screwdriver and remove the board from its socket vertically.

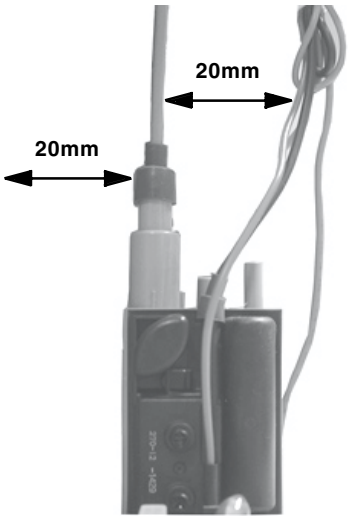
2-9. Service Connector for M Board



Extender Board Assembly A-1642-293-A

If the M Board needs to be removed for testing when the chassis is placed in its service position, it would be necessary to use an extender board and extension cable as indicated above.
The Extender board and extension cable are available as a service part by ordering the part number as indicated.

2-10. Wire Dressing

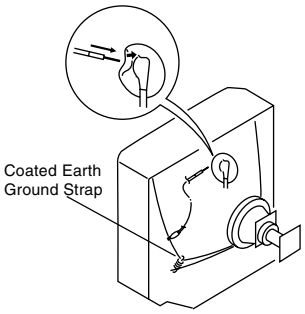


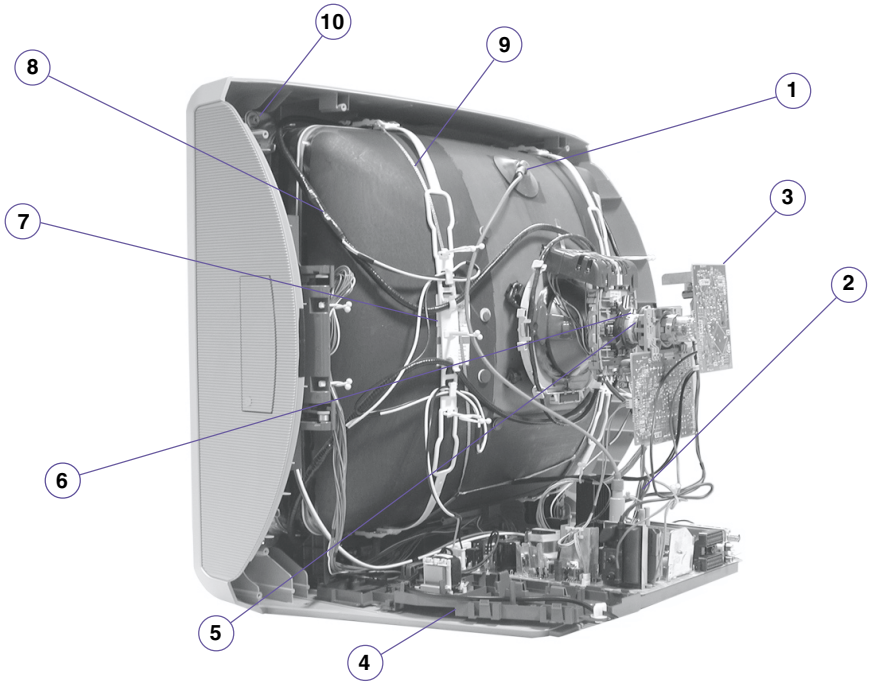
Ensure that wires do not touch heatsinks and high temperature hotspots. All wires must be kept at a minimum distance of 20mm away from the EHT lead

2-11. Picture Tube Removal

WARNING:
BEFORE REMOVING
THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT ***before*** attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.

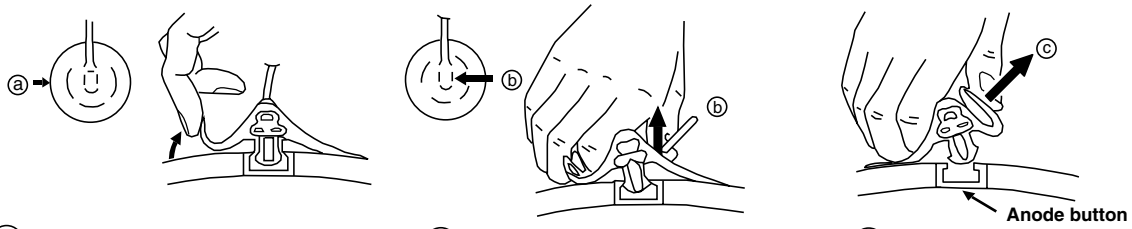




1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the Deflection yoke, neck assy, degaussing coils and CRT grounding strap.
3. Remove the C Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the Neck assembly fixing screw and remove.
6. Loosen the Deflection yoke fixing screw and remove.
7. Place the set with the CRT face down on a cushion and remove the Degaussing Coil holders.
8. Remove the Degaussing Coils.
9. Remove the CRT grounding strap and spring tentioners.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT.
    [Take care not to handle the CRT by the neck.]

Removal of the Anode-Cap

*** REMOVING PROCEDURES.**



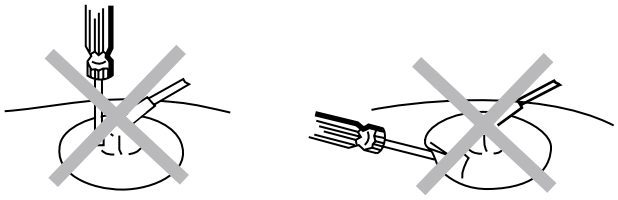
① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

How to handle the Anode-Cap

1. To prevent damaging the surface of the anode-cap do not use sharp materials.
2. Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
3. A metal fitting called a shatter hook terminal is fitted inside the rubber cap.
4. Do not turn the rubber foot over excessively, this may cause damage if the shatter hook sticks out.

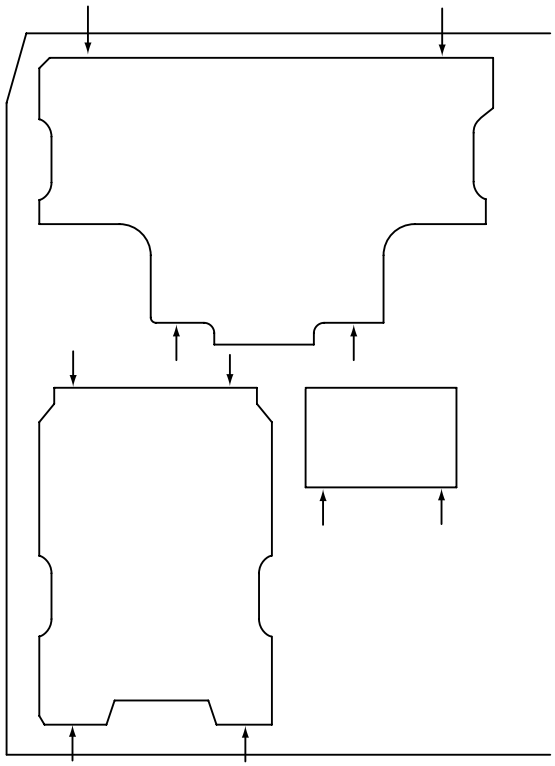


REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

(1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the D Board printed wiring board, the bottom plates fitted to the main chassis bracket require to be removed.
This is performed by cutting the gates with a sharp wire cutter at the locations indicated by the arrows.

Note : There are 3 plates fitted to the main bracket and secured by3 gates.
Only remove the necessary plate to gain access to the printed wiring board.

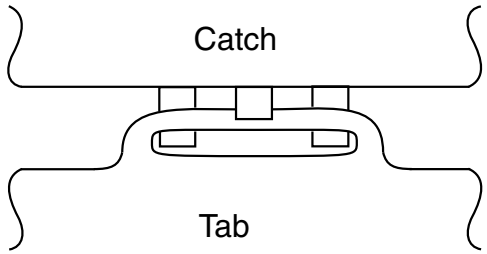


⚠ For safety reasons, on no account should the plates be removed and not refitted after servicing.

(2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from their cut position to allow the tabs to be fitted into their catch positions.



SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings :

  Contrast ..... normal

  Brightness ..... normal

Carry out the adjustments in the following order :

3-1. Beam Landing.
3-2. Convergence.
3-3. Focus.
3-4. White Balance.

Note : Test equipment required.
1. Color bar/pattern generator.
2. Degausser.
3. Oscilloscope.
4. Digital multimeter.

3-1. Beam Landing

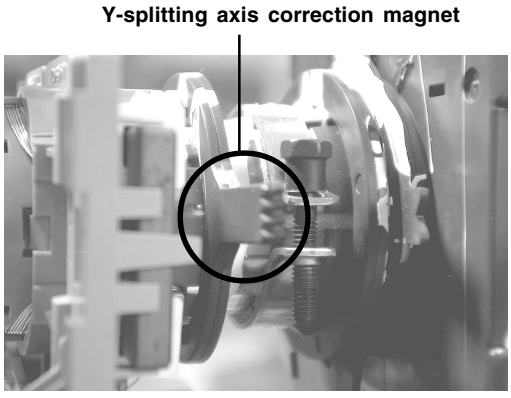
Preparation :

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the TV set's power and degauss with a degausser.

(1) Adjustment of Correction Magnet for Y-Splitting Axis.

1. Input a crosshatch signal from the pattern generator.
2. Set the Picture control to minimum and confirm that the Brightness control is set to normal.
3. Position the neck assembly as indicated in Fig.3-2.
4. Loosen the deflection yoke fixing screw.
5. Move the deflection yoke as far forward as is possible.
6. Adjust the upper and lower pin symmetrically by opening or closing the Y-splitting axis correction magnets located on the neck assembly. [See Fig 3-3]
7. Return the deflection yoke to its original position and re-tighten its fixing screw.

Fig.3-1



Caution :

High voltages are present on the Deflection yoke terminals - take care when handling the Deflection yoke whilst carrying out adjustments.

(2) Landing

Note : Before carrying out the following adjustments adjust the magnets as indicated below [See Fig.3-4].

1. Input a crosshatch signal from the signal generator.
2. Rough-adjust the focus and horizontal convergence.
3. Switch from the crosshatch pattern to an all-red pattern.
4. Move the deflection yoke backwards and adjust with the purity magnet so that the red is at the centre and it aligns symmetrically [See Fig.3-5].
5. Move the deflection yoke forward to the point where the entire screen just becomes red [Mark its position].
6. Move the deflection yoke further forward until the screen just changes colour at the edges. [Mark its position]
7. Position the deflection yoke between the two marks indicated above.
8. Input a crosshatch pattern from the pattern generator and rotate the deflection yoke so that the horizontal lines are parallel with the top and bottom of the screen.
9. When the position of the deflection yoke has been determined, fasten it with its fixing screw.
10. Switch the pattern generator to green then blue and confirm the purity.
11. If the beam does not land correctly in all the corners of the screen, use disk magnets to correct it. [Confirm the corner landing for green and blue]

Fig.3-2

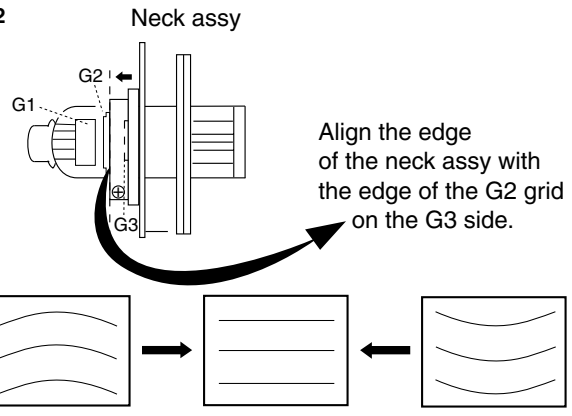
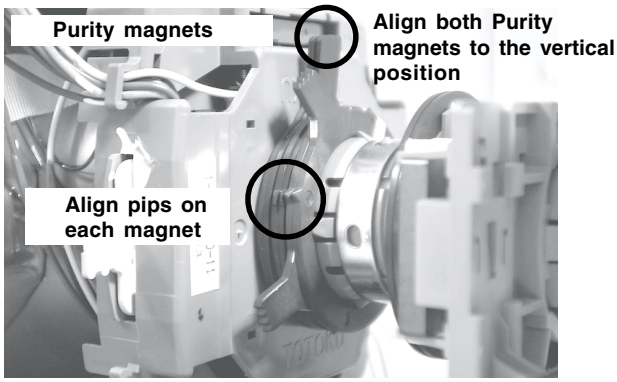
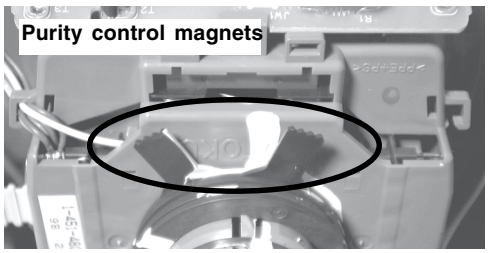
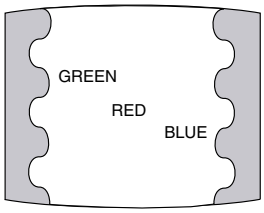


Fig.3-3

Fig.3-4







3-2. Convergence

(1) Screen centre convergence [Static convergence]

1. Input a dot pattern signal from the pattern generator.
2. Normalize the picture setting.
3. [Moving vertically], adjust the V.STAT magnet so that the vertical red, green and blue dots coincide at the centre of the screen.

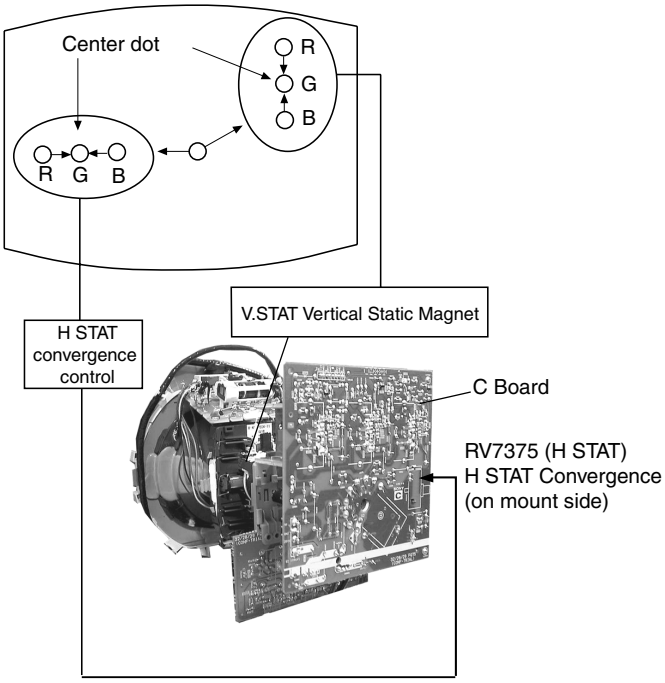
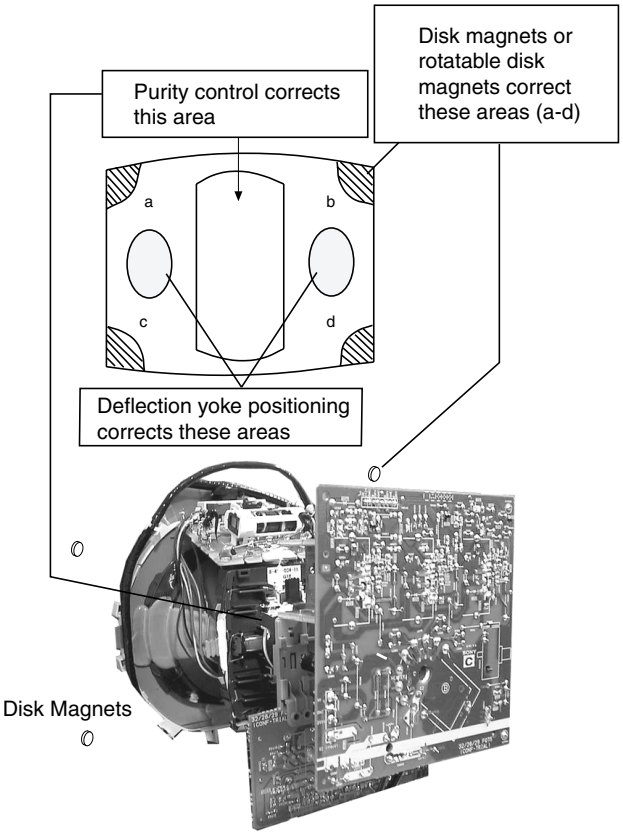
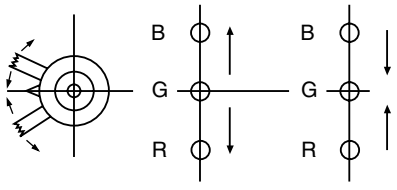


Fig.3-5



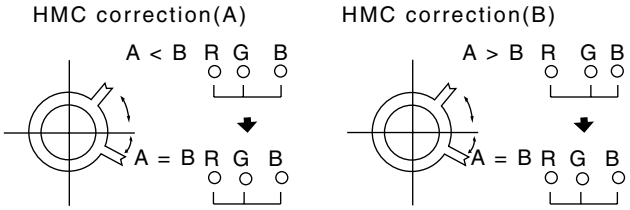
By opening or closing the V.STAT magnet, the red green and blue dots move in the direction indicated below.



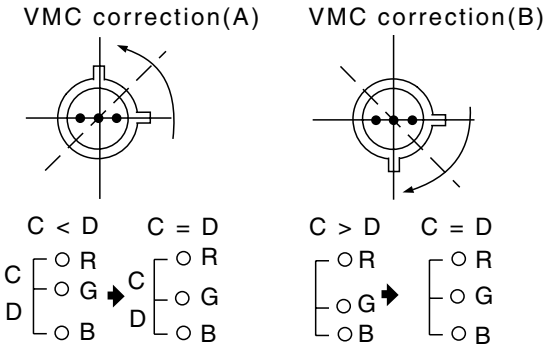
Note: Do not adjust the H.STAT by rotating the V.STAT magnets as this can affect the focus setting.

4. Correction for HMC [Horizontal mis-convergence] and VMC [Vertical mis-convergence] by using the BMC [Hexapole] magnet.

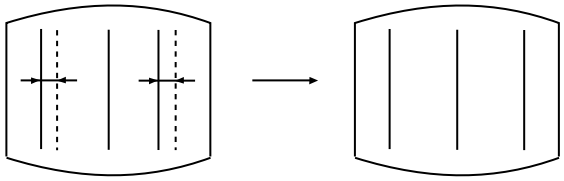
a). HMC correction by BMC [Hexapole] magnet and movement of the electron beam.



b). VMC correction by BMC [Hexapole] magnet and movement of the electron beam.

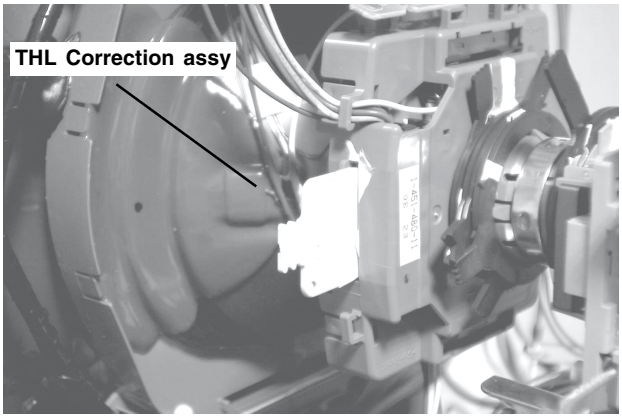


HAMP Adjustment

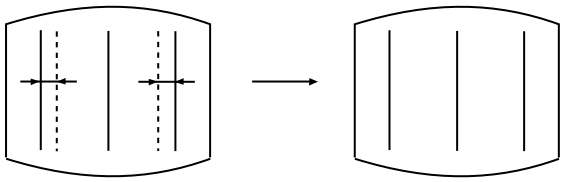


Adjust the HAMP using HAMPL and HAMPR registers in the Dynamic Convergence section of the service menu.

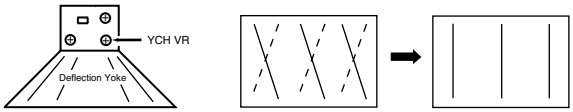
HTIL Adjustment



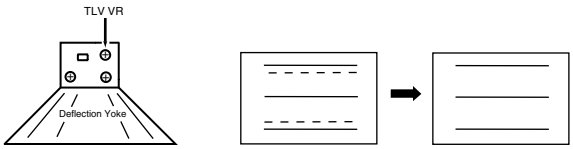
HTIL correction can be performed by adding a THL correction assembly to the Deflection yoke.



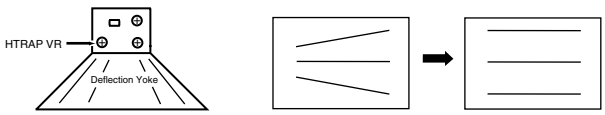
YCH Adjustment



TLV Adjustment

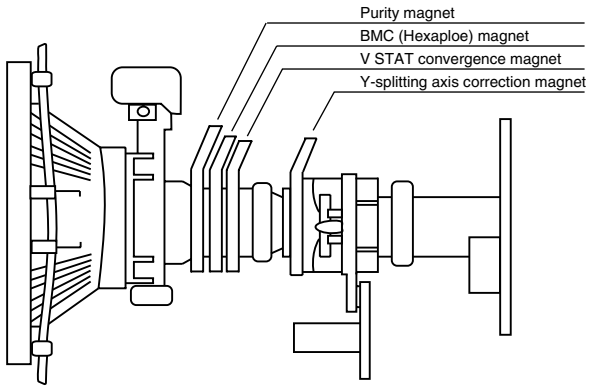


H-TRAP Adjustment

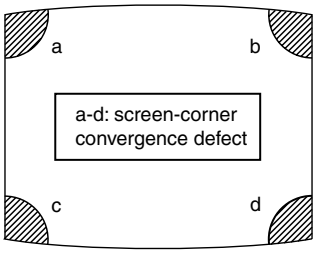


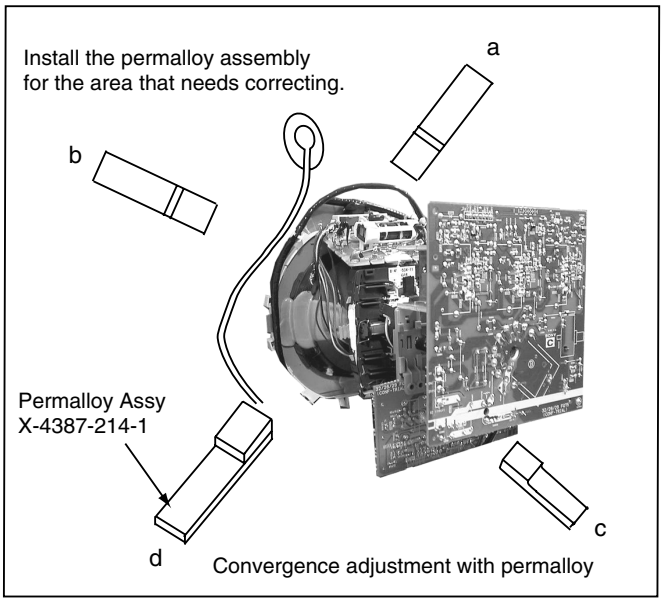
The H-TRAP should not be adjusted unless absolutely necessary as it affects the TLV settings.

Layout of each control



Note : If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloy magnets.

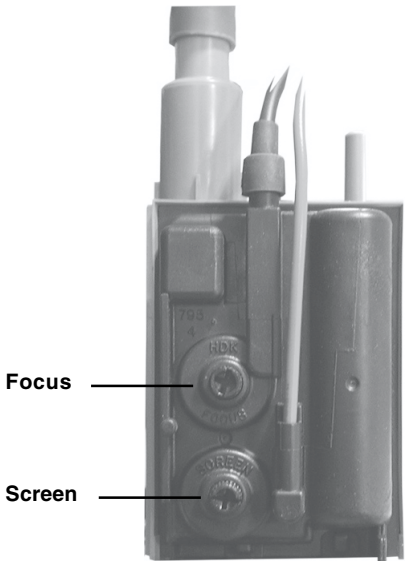




Convergence adjustment with permalloy

3-3. Focus Adjustment

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen.
   Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



3-4. Screen (G2), White Balance

[Adjustment in the service mode using the remote commander]

G2 adjustment

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 165V DC from an external power supply to the R, G and B cathodes of the CRT.
4. Whilst watching the picture, adjust the G2 control [SCREEN] located on the flyback transformer to the point just before the flyback return lines disappear.

White balance adjustment for TV mode

1. Input an all-white signal from the pattern generator.
2. Program the Remote Commander for operation in Service Mode. [See Page 22].
3. Enter into the 'Service Mode' by pressing 'VIDEO' button twice and 'MENU' on the Service Commander.
4. Select 'Service' from the on screen menu display and press 'Right Arrow'.
5. The 'Service' menu will appear on the screen.[See Page 23]
6. Set the 'Contrast' to MAX.
7. Set the 'R-Drive' to 50.
8. Adjust the 'G-Drive' and the 'B-Drive' so that the white balance becomes optimum.
9. Press the 'OK' button to write the data for each item.
10. Set the 'Contrast' to MIN.
11. Set the 'R-Cutoff' to 29.
12. Adjust the 'G-Cutoff', and the 'B-Cutoff' with the left and right buttons on the remote commander so that the white balance becomes optimum.
13. Press the 'OK' button to write the data for each item.

SECTION 4 CIRCUIT ADJUSTMENTS

4-1. Electrical Adjustments

Service adjustments to this model can be performed using the supplied remote Commander RM-932.

Programming the Remote Commander for Operation in Service Mode



1. Press the VCR/TV/DVD button until the TV LED lights.
2. Press and hold the yellow button for approx. 5 seconds until the TV LED flashes quickly.
3. Press 99999. All three LED's should light.
   The remote commander is now set to Service Mode.
4. To return the remote commander to normal operation mode repeat steps 1. and 2. then press 00000. All three LED's should light.
   The remote commander is now set to normal mode.

Setting the TV into Service Mode

1. Program the remote commander for operation in Service Mode as described above.
2. Turn on the TV main power switch.
3. Press the video standby button  on the remote commander twice.
   'TT __' will appear in the upper right corner of the screen.
   Other status information will also be displayed.
4. Press 'MENU' on the remote commander to obtain the following menu on the screen.

```
Geometry
Service
Scanrate
DAC
Dyn. Conv.
PiP
Sound
IF adjust
Error Menu

AE6B v0.14 (Jun 2001)
Factory data FFh  FFh
MSP Device : MSP3411G
```

5. Move to the corresponding adjustment item using the up or down arrow buttons on the Remote Commander.
6. Press the right arrow button to enter into the required menu item.
7. Press the 'Menu' button on the Remote Commander to quit the Service Mode when all adjustments have been completed.

Note :

- After carrying out the service adjustments, to prevent the customer accessing the 'Service Menu' switch the TV set OFF and then ON.

GEOMETRY

ABL TH	(0, 3)	0
ABL MODE	(0, 3)	0
P ABL	(0, 15)	15
V SIZE	(0, 63)	35
V POSITION	(0, 63)	33
V COMP	(0, 3)	1
V LIN	(0, 15)	7
S CORRECTION	(0, 15)	7
H SIZE	(0, 63)	44
PIN AMP	(0, 63)	32
UP CORNERPIN	(0, 63)	29
M PIN	(0, 3)	2
LO CORNERPIN	(0, 63)	29
TRAPEZIUM	(0, 15)	2
H POSITION	(0, 63)	40
AFC BOW	(0, 15)	8
AFC ANGLE	(0, 15)	9
LEFT BLK	(0, 63)	34
RIGHT BLK	(0, 63)	17
V ASPECT	(0, 63)	47
AKBTIM1	(0, 3)	2
AKBTIM2	(0, 1)	0
IKR		*1*
HNG		*0*
VNG		*0*

DYN. CONV.

RANGE	(0, 63)	63
YupL	(0, 1)	0
VAL	(0, 63)	30
YlowL	(0, 1)	0
VAL	(0, 63)	31
MBOWupL	(0, 1)	0
VAL	(0, 63)	31
MBOWlowL	(0, 1)	0
VAL	(0, 63)	32
HAMPL	(0, 1)	0
VAL	(0, 63)	37
YupR	(0, 1)	0
VAL	(0, 63)	30
YlowR	(0, 1)	0
VAL	(0, 63)	30
MBOWupR	(0, 1)	0
VAL	(0, 63)	32
MBOWlowR	(0, 1)	0
VAL	(0, 63)	32
HAMPR	(0, 1)	0
VAL	(0, 63)	36
UP Y	(0, 1)	0
VAL	(0, 63)	31
LOW Y	(0, 1)	0
VAL	(0, 63)	33
H STAT	(0, 1)	0
VAL	(0, 63)	33
UP CORR	(0, 1)	0
VAL	(0, 63)	34
LOW CORR	(0, 1)	0
VAL	(0, 63)	19

IF ADJUST	
Automute	1
Audio Gain	0
L Gating	0

SERVICE		
SUB COL	(0, 63)	Adj
SUB HUE	(0, 63)	31
SUB SHARP	(0, 63)	30
SUB BRIGHT	(0, 63)	13
SUB CONT	(0, 15)	12
R-DRIVE	(0, 63)	50
G-DRIVE	(0, 63)	Adj
B-DRIVE	(0, 63)	Adj
R CUTOFF	(0, 63)	28
G CUTOFF	(0, 63)	24
B CUTOFF	(0, 63)	46
Br TXT	(0, 15)	7
Br OSD	(0, 15)	10

DAC		
CONFIG	*00000000*	
MPIN CONT	(0, 255)	96
HLIN	(0, 255)	83
HTRAP	(0, 255)	127
ROT. COIL	(0, 255)	130
PHOCUS PH	(0, 255)	90

SOUND		
M-N	(0, 511)	200
M-D	(-128, -1)	-20
M-S	(+0, +127)	+20
S-M	(+0, +127)	+10
D-M	(-128, -1)	-10
N-M	(0, 1023)	496
BBE	(+0, +68)	+28
B1	(-96, +96)	+0
B2	(-96, +96)	+0
B3	(-96, +96)	+0
B4	(-96, +96)	+0
B5	(-96, +96)	+0
SW L	(-128, +0)	+0
SW F	(+5, +40)	+30
NICAM C AD	10001	
NICAM Error	(0, 2047)	0
Stereo	(-128, +127)	+0
Status	0000000110	

ERROR MENU			
E02	OCP	(0, 255)	0
E03	OVP	(0, 255)	0
E04	VSYNC	(0, 255)	0
E05	IKR	(0, 255)	0
E06	IIC	(0, 255)	0
E07	NVM	(0, 255)	0
E08	HPROT	(0, 255)	0
E09	TUNER	(0, 255)	0
E10	SOUNDP	(0, 255)	0
E11	-	(0, 255)	0
E12	SCANRATE	(0, 255)	0
E13	DAC	(0, 255)	0
E14	BACKEND	(0, 255)	0
E15	DYN CON	(0, 255)	0
E16	PIP	(0, 255)	0

WORKING TIME	
HOURS	14
MINUTES	7

Sub Brightness Adjustment

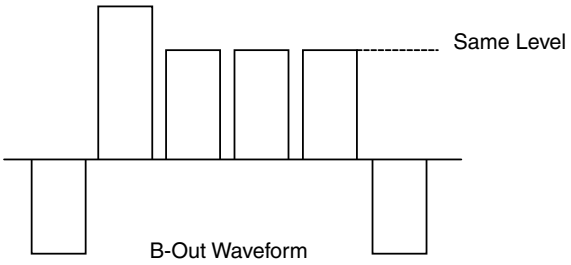
1. Input a Monoscope pattern.
2. Program the Remote Commander for operation in Service Mode. [See Page 22].
3. Press 'VIDEO' 'VIDEO' 13 on the Remote Commander.
4. Adjust the 'Sub-Brightness' data so that there is barely a difference between the 0 IRE and 10 IRE signal levels.

Sub Contrast Adjustment

1. Input a video signal that contains a small 100% white area on a black background.
2. Connect an digital voltmeter to Pin 10 of J7378 [C Board].
3. Program the Remote Commander for operation in Service Mode. [See Page 22].
4. Adjust the Sub-Contrast [Using 'VIDEO' 'VIDEO' '11'] to obtain a voltage of 105 +/- 5V.

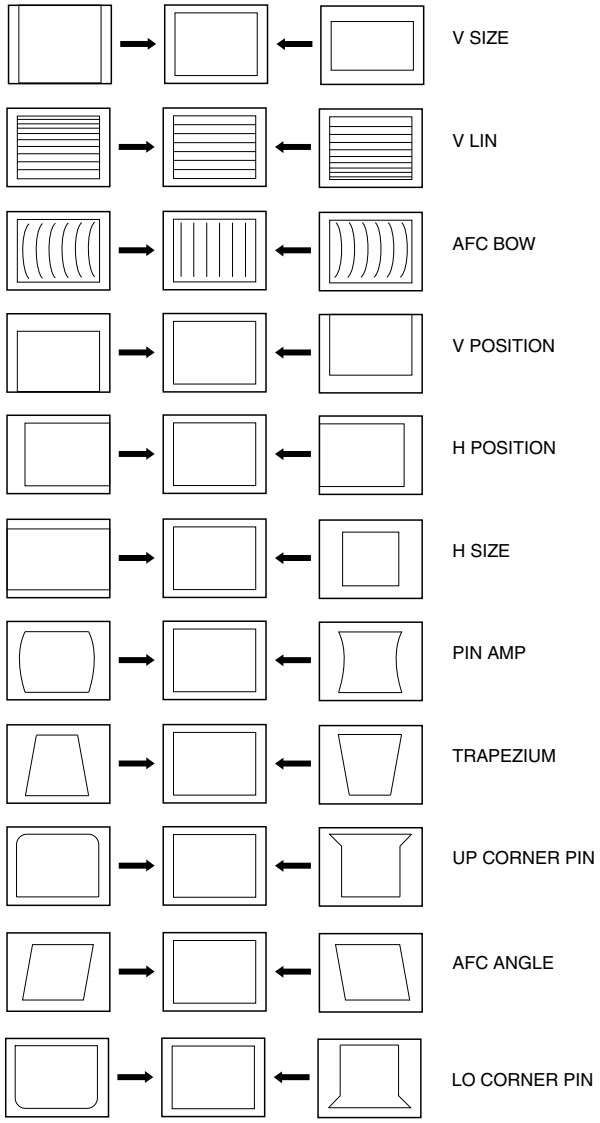
Sub Colour Adjustment

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to Pin 6 of CN7001 [A Board].
3. Program the Remote Commander for operation in Service Mode. [See Page 22].
4. Adjust the 'Sub Colour' [Using 'VIDEO' 'VIDEO' '12'] so that the Cyan, Magenta and Blue colour bars are of equal levels as indicated below.



Deflection System Adjustment

1. Program the Remote Commander for operation in Service Mode. [See Page 22] and enter into the 'Geometry' service menu.
2. Select and adjust each item in order to obtain the optimum image.

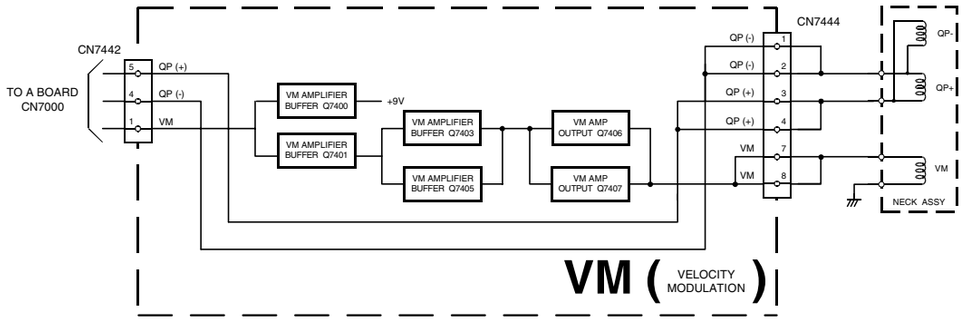


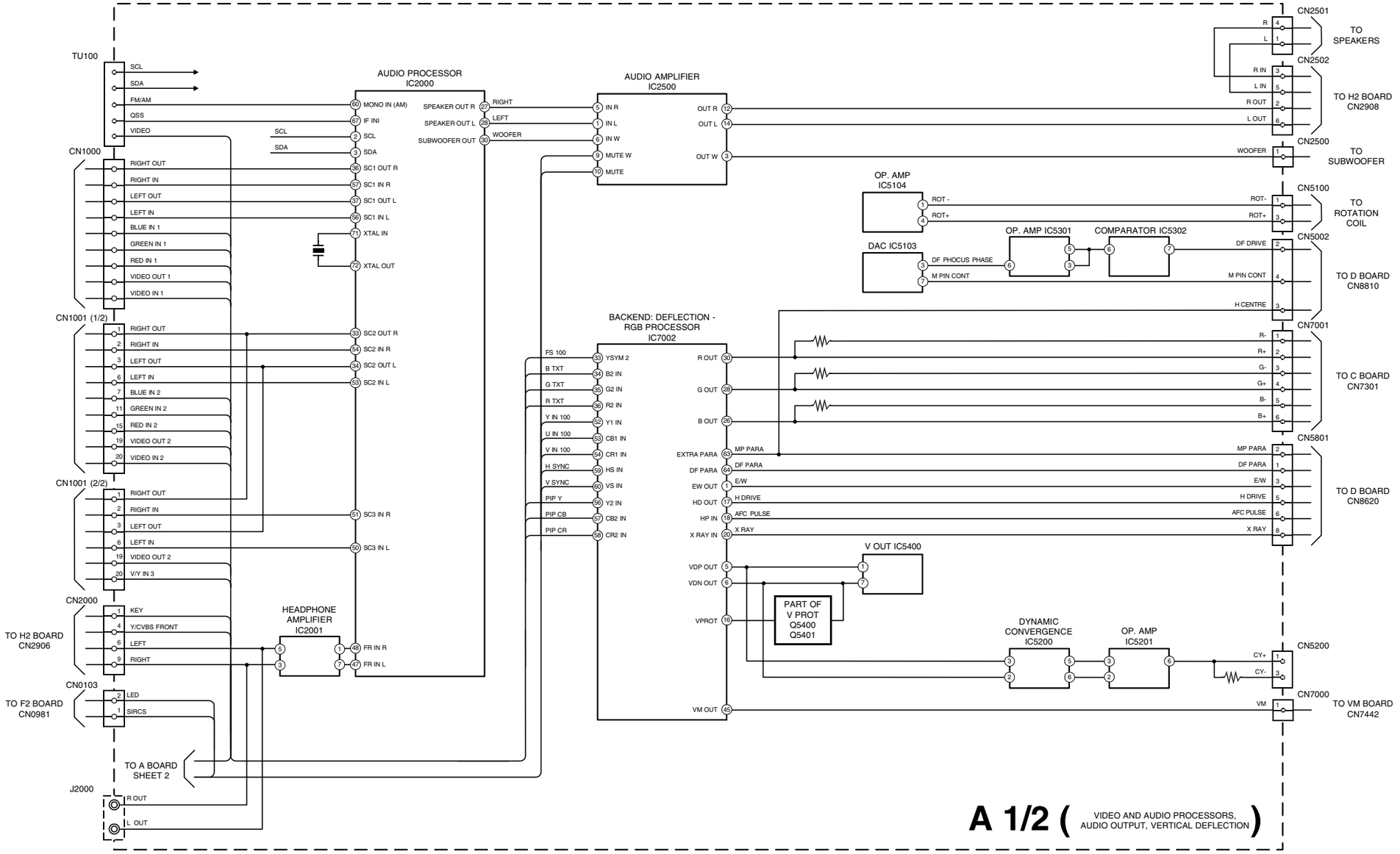
GEOMETRY		
ABL TH	(0, 3)	0
ABL MODE	(0, 3)	0
P ABL	(0, 15)	15
V SIZE	(0, 63)	35
V POSITION	(0, 63)	33
V COMP	(0, 3)	1
V LIN	(0, 15)	7
S CORRECTION	(0, 15)	7
H SIZE	(0, 63)	44
PIN AMP	(0, 63)	32
UP CORNERPIN	(0, 63)	29
M PIN	(0, 3)	2
LO CORNERPIN	(0, 63)	29
TRAPEZIUM	(0, 15)	2
H POSITION	(0, 63)	40
AFC BOW	(0, 15)	8
AFC ANGLE	(0, 15)	9
LEFT BLK	(0, 63)	34
RIGHT BLK	(0, 63)	17
V ASPECT	(0, 63)	47
AKBTIM1	(0, 3)	2
AKBTIM2	(0, 1)	0
IKR		*1*
HNG		*0*
VNG		*0*

4-2. TEST MODE 2:

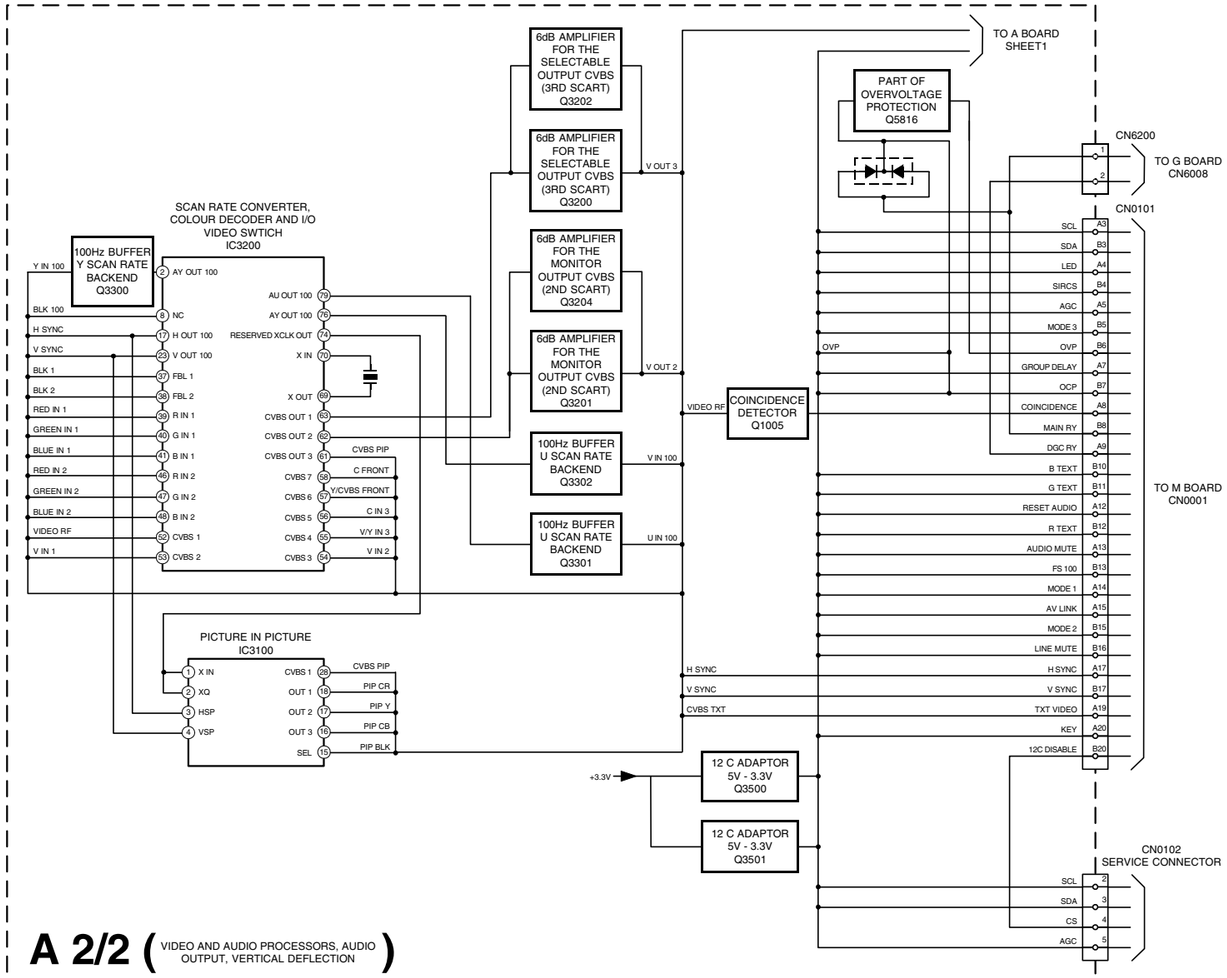
Test Mode 2 is available by rogramming the Remote Commander for operation in Service Mode [As shown on Page 22] then pressing the 'VIDEO' button twice, OSD 'TT' appears. The functions described below are available by selecting the two numbers. To release the 'Test mode 2', press 00, 10, 20 ... twice or switch the TV set into Stand-by mode. In 'TT Menu' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the Menu to reappear. The function is kept even when the menu is not displayed on screen !!.

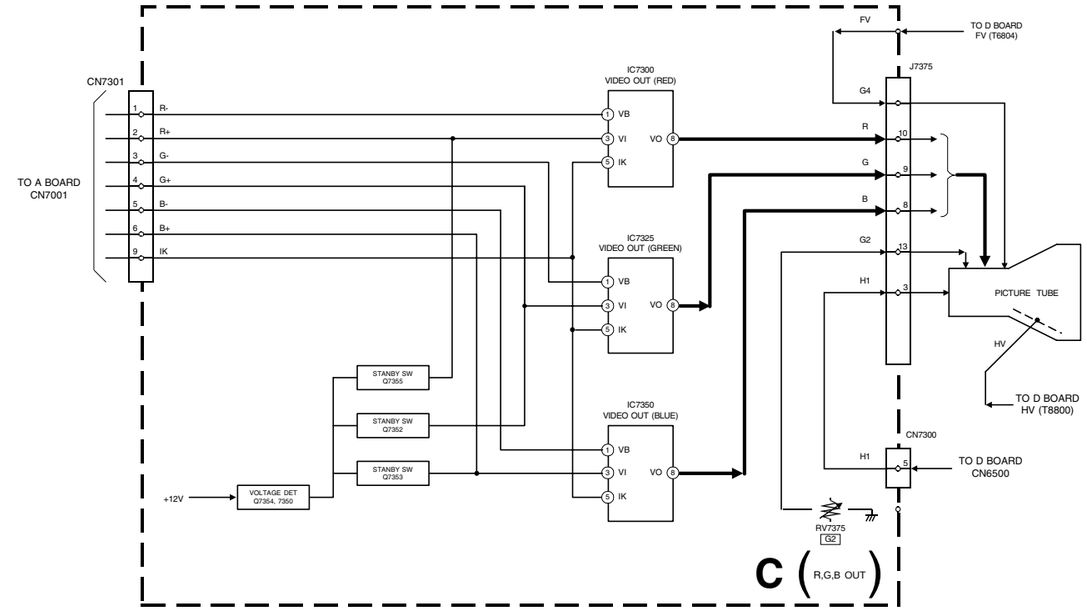
00	'TT' mode off
01	Picture maximum
02	Picture minimum
03	Set speaker/headphone Volume to 35%
04	Set speaker/headphone Volume to 50%
05	Set speaker/headphone Volume to 65%
06	Set speaker/headphone Volume to 80%
07	Ageing mode
08	Shipping Condition
11	Sub picture adjustment
12	Sub colour adjustment
13	Sub Brightness adjustment
14	Text H Position adjustment
15	Rotation Coil Test
16	Picture level 50%
19	Factory Mode Enable/Disable
21	Destination ADEKR
22	Destination BL
23	Destination ADEKR
24	Destination U
25	Destination ADEKR
26	Destination BL
27	Destination ADEKR
28	Destination ADEKR
31	Auto Shutoff Enable/Disable
36	Velocity Modulation (VM) OFF/ON test
41	Re-initialise NVM
43	Select Dual A sound
44	Select Dual B sound
45	Select Mono sound
46	Select Stereo sound
48	Set NVM as non virgin
49	Set NVM as virgin
53	FM Overmodulation Enable/Disable
55	Tuner selection (SONY/ALPS)
59	Select Model 3 Scarts + PIP or 2 Scarts
68	Enable/Disable X26 countermeasure (N problem)
73	Enable Zweiton D/K2 system (6.5/6.74)
74	Enable Zweiton D/K3 system (6.5/5.74)
78	Balance full right
79	Balance full left
87	Local keys test
99	Display Error and Working Time menu

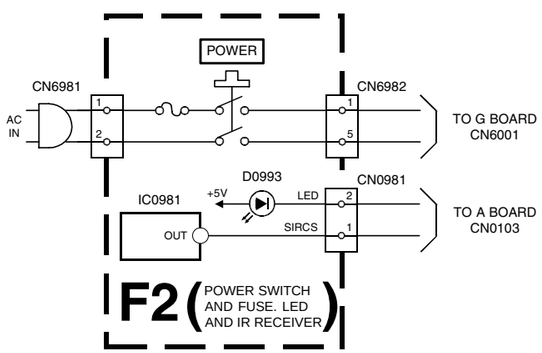

CN7442
TO A BOARD CN7000
5 QP (+)
4 QP (-)
1 VM
VM AMPLIFIER BUFFER Q7400
VM AMPLIFIER BUFFER Q7401
+9V
VM AMPLIFIER BUFFER Q7403
VM AMPLIFIER BUFFER Q7405
VM AMP OUTPUT Q7406
VM AMP OUTPUT Q7407
CN7444
QP (-) 1
QP (-) 2
QP (+) 3
QP (+) 4
VM 7
VM 8
QP-
QP+
VM
NECK ASSY
VM (VELOCITY MODULATION)

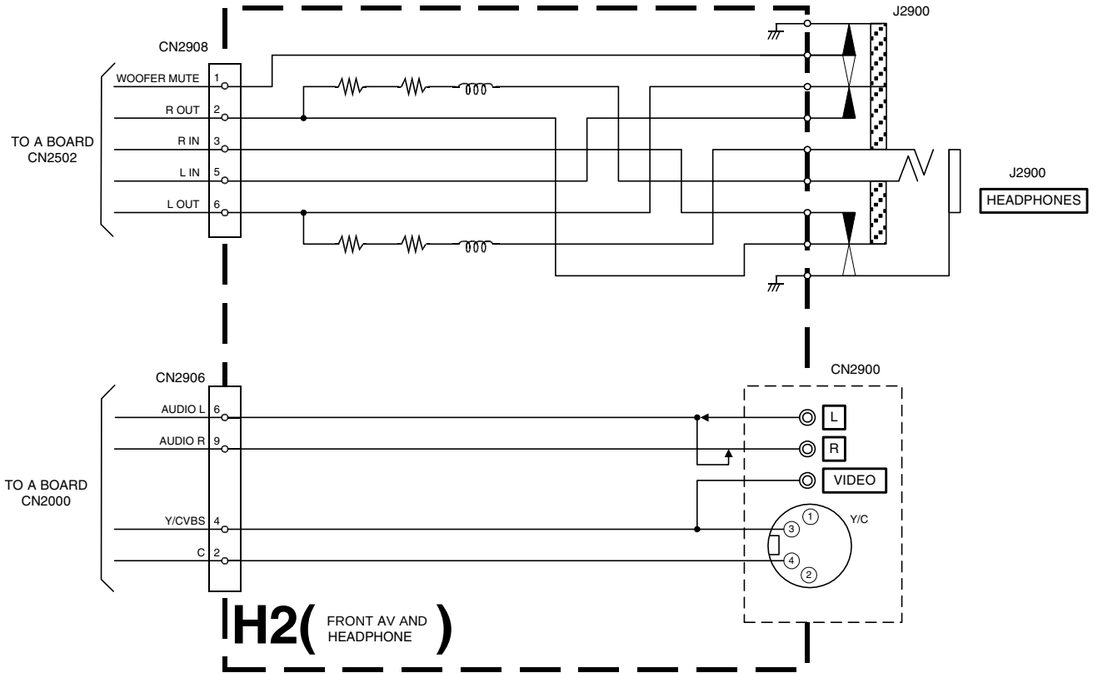

TU100
SCL
SDA
FM/AM
QSS
VIDEO
CN1000
RIGHT OUT
RIGHT IN
LEFT OUT
LEFT IN
BLUE IN 1
GREEN IN 1
RED IN 1
VIDEO OUT 1
VIDEO IN 1
CN1001 (1/2)
RIGHT OUT
RIGHT IN
LEFT OUT
LEFT IN
BLUE IN 2
GREEN IN 2
RED IN 2
VIDEO OUT 2
VIDEO IN 2
CN1001 (2/2)
RIGHT OUT
RIGHT IN
LEFT OUT
LEFT IN
VIDEO OUT 2
V/Y IN 3
CN2000
KEY
Y/CVBS FRONT
LEFT
RIGHT
TO H2 BOARD CN2906
CN0103
LED
SIRCS
TO F2 BOARD CN0981
TO A BOARD SHEET 2
J2000
R OUT
L OUT
AUDIO PROCESSOR IC2000
MONO IN (AM)
IF INI
SCL
SDA
SC1 OUT R
SC1 IN R
SC1 OUT L
SC1 IN L
XTAL IN
XTAL OUT
SC2 OUT R
SC2 IN R
SC2 OUT L
SC2 IN L
SC3 IN R
SC3 IN L
HEADPHONE AMPLIFIER IC2001
FR IN R
FR IN L
SPEAKER OUT R
SPEAKER OUT L
SUBWOOFER OUT
RIGHT
LEFT
WOOFER
AUDIO AMPLIFIER IC2500
IN R
IN L
IN W
MUTE W
MUTE
OUT R
OUT L
OUT W
OP. AMP IC5104
ROT -
ROT+
DAC IC5103
DF PHOCUS PHASE
M PIN CONT
OP. AMP IC5301
COMPARATOR IC5302
BACKEND: DEFLECTION - RGB PROCESSOR IC7002
FS 100
B TXT
G TXT
R TXT
Y IN 100
U IN 100
V IN 100
H SYNC
V SYNC
PIP Y
PIP CB
PIP CR
YSYM 2
B2 IN
G2 IN
R2 IN
Y1 IN
CB1 IN
CR1 IN
HS IN
VS IN
Y2 IN
CB2 IN
CR2 IN
R OUT
G OUT
B OUT
EXTRA PARA
DF PARA
EW OUT
HD OUT
HP IN
X RAY IN
MP PARA
DF PARA
E/W
H DRIVE
AFC PULSE
X RAY
V OUT IC5400
VDP OUT
VDN OUT
VPROT
VM OUT
PART OF V PROT Q5400 Q5401
DYNAMIC CONVERGENCE IC5200
OP. AMP IC5201
CN2501
R
L
TO SPEAKERS
CN2502
R IN
L IN
R OUT
L OUT
TO H2 BOARD CN2908
CN2500
WOOFER
TO SUBWOOFER
CN5100
ROT-
ROT+
TO ROTATION COIL
CN5002
DF DRIVE
M PIN CONT
H CENTRE
TO D BOARD CN8810
CN7001
R-
R+
G-
G+
B-
B+
TO C BOARD CN7301
CN5801
MP PARA
DF PARA
E/W
H DRIVE
AFC PULSE
X RAY
TO D BOARD CN8620
CN5200
CY+
CY-
CN7000
VM
TO VM BOARD CN7442
A 1/2 (VIDEO AND AUDIO PROCESSORS, AUDIO OUTPUT, VERTICAL DEFLECTION)

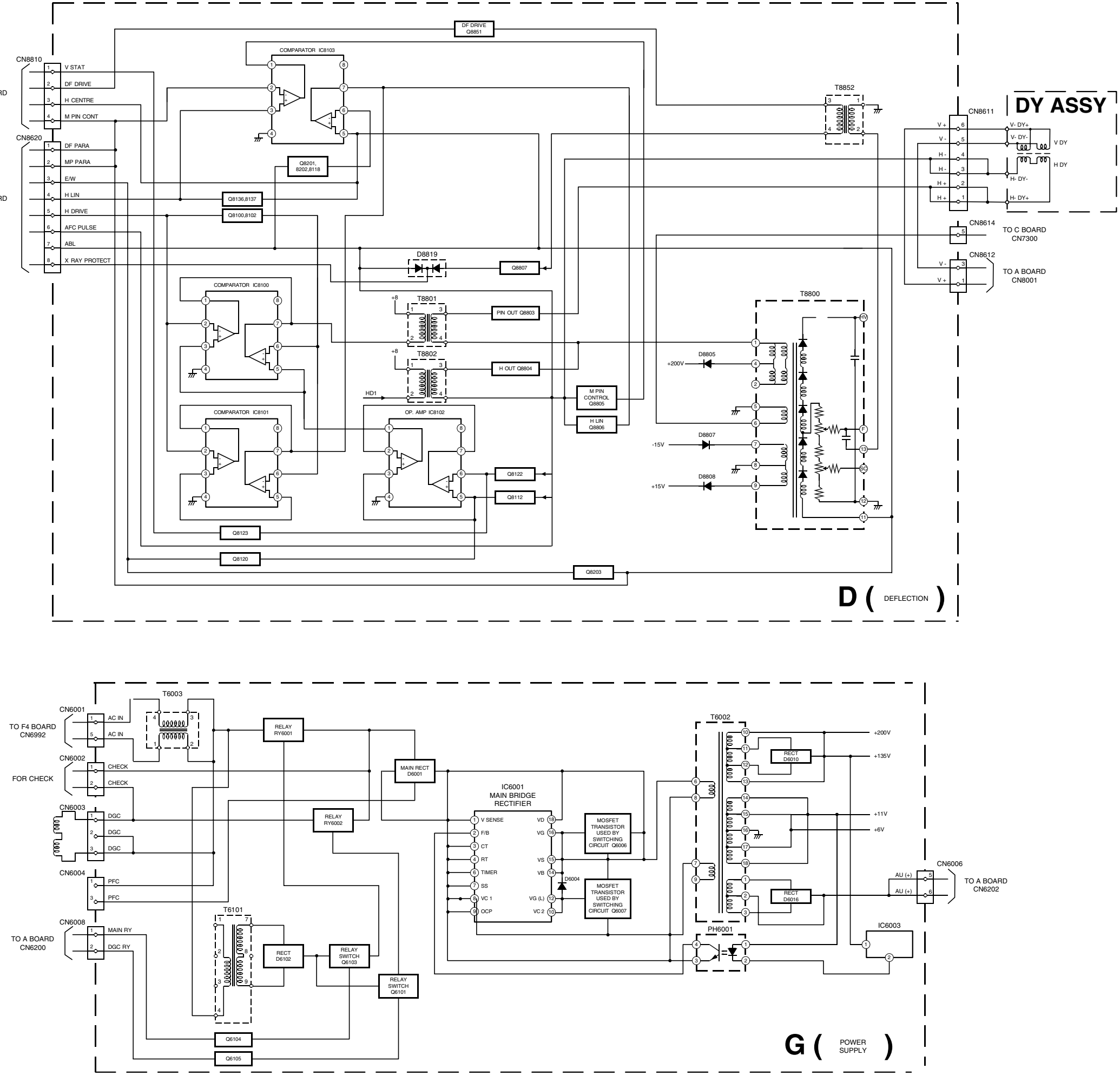
5-1. BLOCK DIAGRAMS (2)



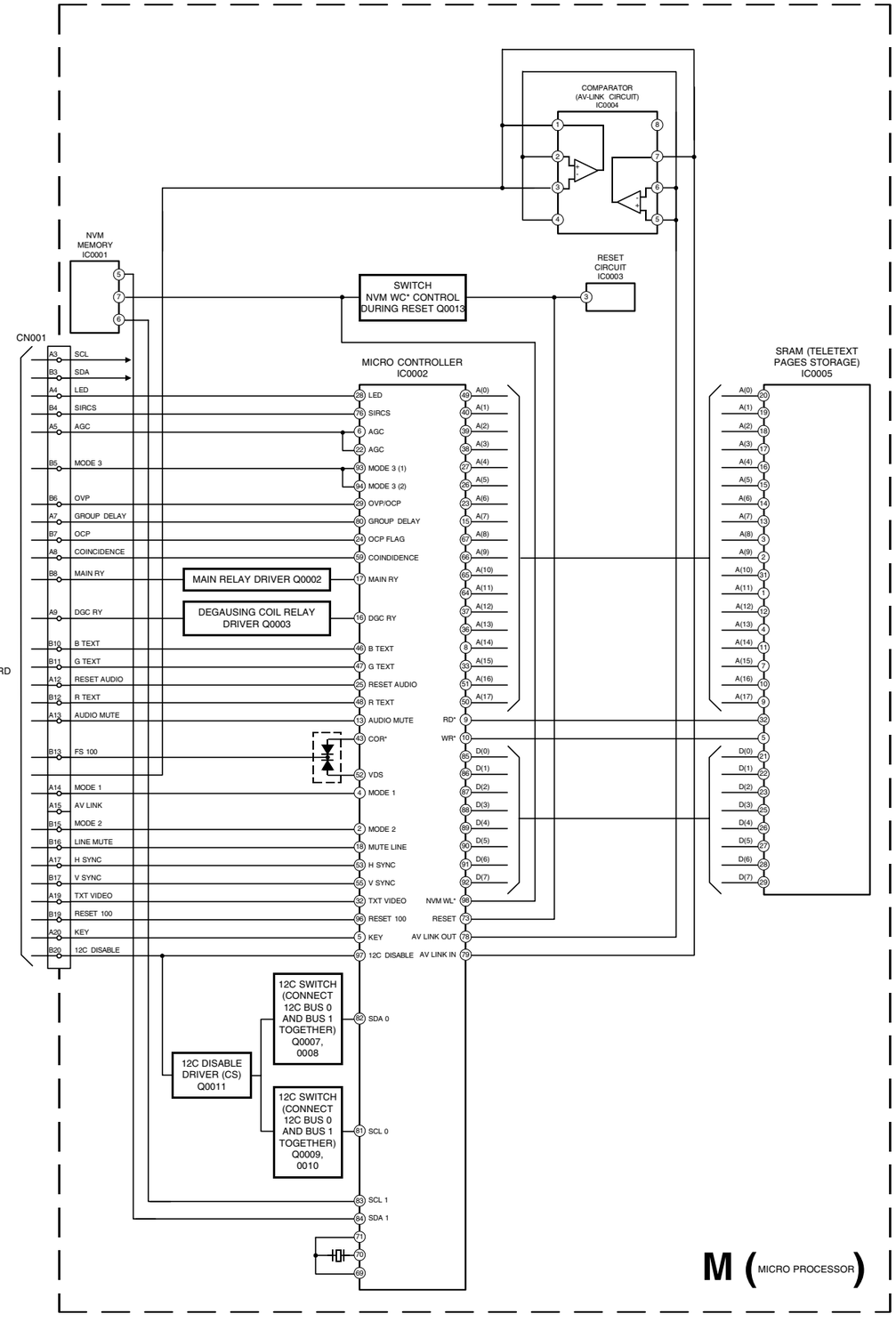




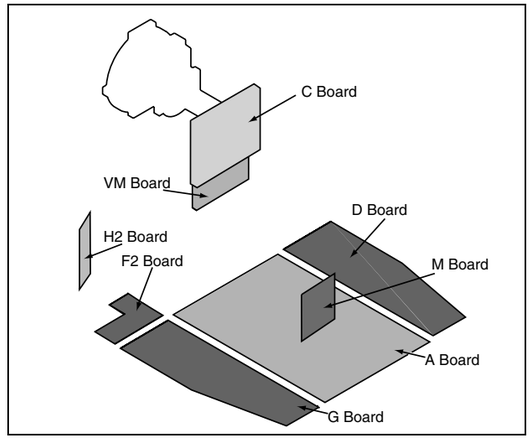



DF DRIVE Q8851
COMPARATOR IC8103
CN8810
V STAT
DF DRIVE
H CENTRE
M PIN CONT
TO A BOARD CN5002
CN8620
DF PARA
MP PARA
E/W
H LIN
H DRIVE
AFC PULSE
ABL
X RAY PROTECT
TO A BOARD CN5801
Q8201, 8202,8118
Q8136,8137
Q8100,8102
T8852
CN8611
DY ASSY
V DY
H DY
V+
V-
H-
H+
V- DY+
V- DY-
H- DY-
H- DY+
CN8614
TO C BOARD CN7300
CN8612
TO A BOARD CN8001
D8819
Q8807
COMPARATOR IC8100
T8801
PIN OUT Q8803
T8802
H OUT Q8804
HD1
M PIN CONTROL Q8805
H LIN Q8806
T8800
D8805
+200V
COMPARATOR IC8101
OP. AMP IC8102
D8807
-15V
D8808
+15V
Q8122
Q8112
Q8123
Q8120
Q8203
D (DEFLECTION)
T6003
CN6001
AC IN
AC IN
TO F4 BOARD CN6992
CN6002
CHECK
CHECK
FOR CHECK
CN6003
DGC
DGC
DGC
CN6004
PFC
PFC
CN6008
MAIN RY
DGC RY
TO A BOARD CN6200
RELAY RY6001
RELAY RY6002
MAIN RECT D6001
IC6001 MAIN BRIDGE RECTIFIER
V SENSE
F/B
CT
RT
TIMER
SS
VC 1
OCP
VD
VG
VS
VB
VG (L)
VC 2
D6004
MOSFET TRANSISTOR USED BY SWITCHING CIRCUIT Q6006
MOSFET TRANSISTOR USED BY SWITCHING CIRCUIT Q6007
T6101
RECT D6102
RELAY SWITCH Q6103
RELAY SWITCH Q6101
Q6104
Q6105
T6002
RECT D6010
RECT D6016
+200V
+135V
+11V
+6V
CN6006
AU (+)
AU (+)
TO A BOARD CN6202
PH6001
IC6003
G (POWER SUPPLY)

5-1. BLOCK DIAGRAMS (4)



5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in µF unless otherwise noted.
- pF : µµF 50WV or less are not indicated except for electrolytic types.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm
Electrical power rating : 1/4W

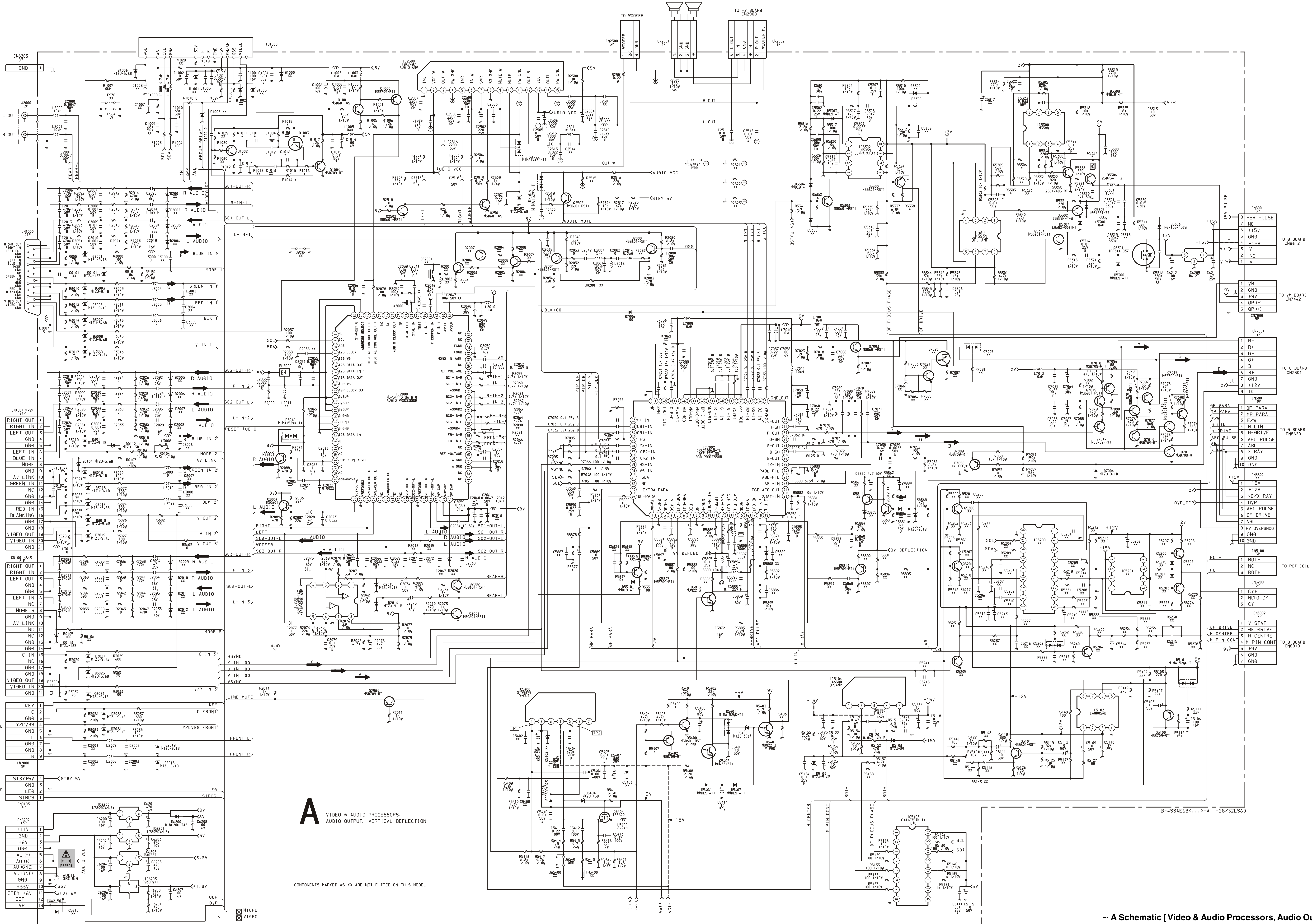
- Chip resistors are 1/10W
- All resistors are in ohms.
  k = 1000 ohms, M = 1000,000 ohms
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital mutimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerences.
- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

Reference Information

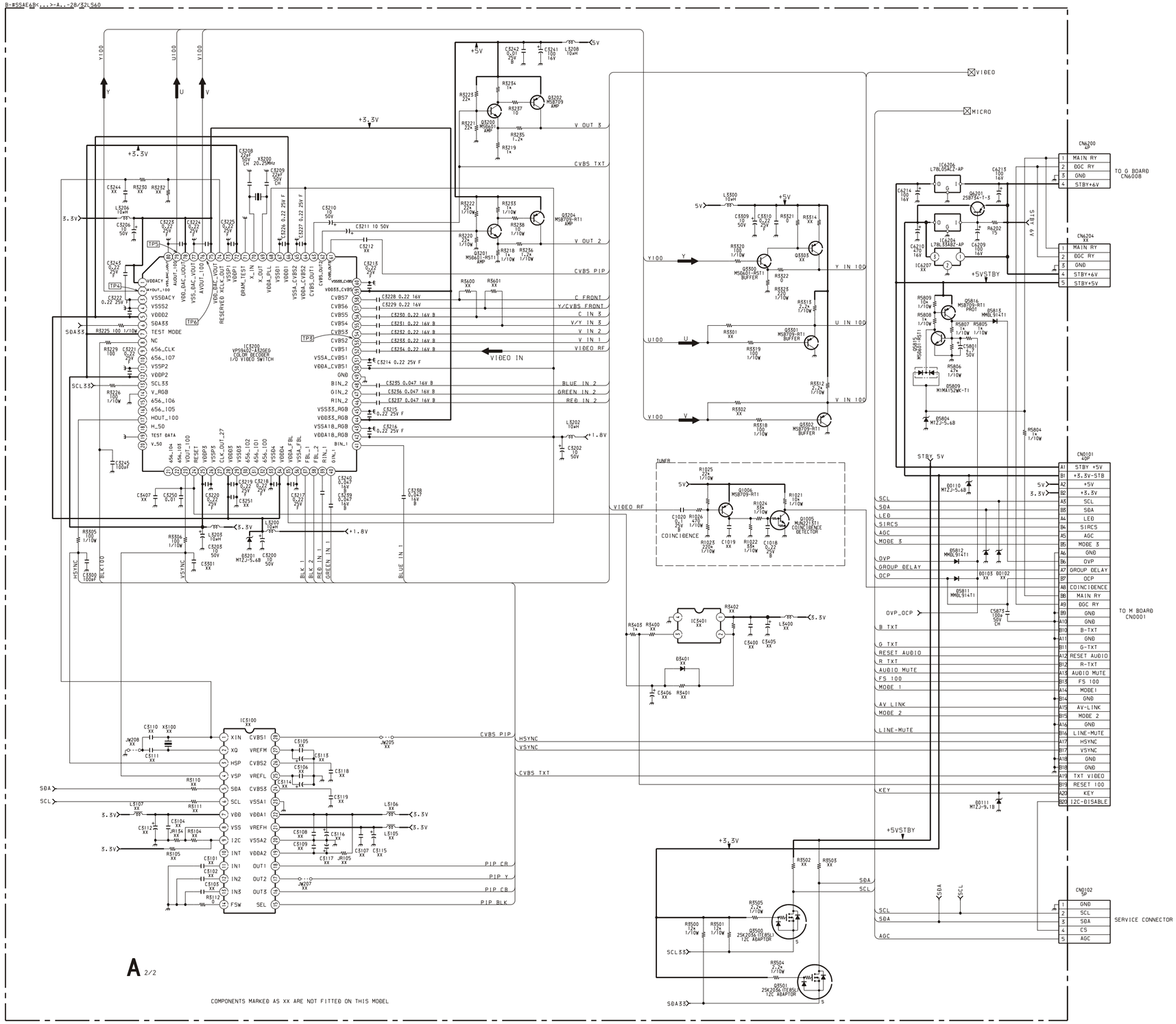
RESISTOR	**RN**	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
		: ADJUSTMENT RESISTOR
COIL	**LF-8L**	: MICRO INDUCTOR
CAPACITOR	**TA**	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

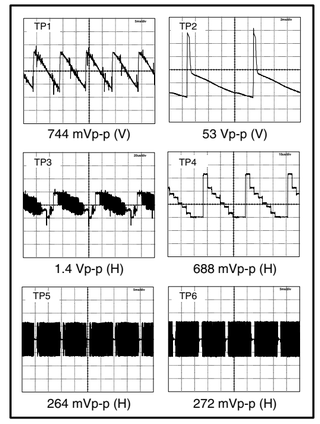
Note : Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié. specified.



~ A Schematic [Video & Audio Processors, Audio Output, Vertical Deflection] page 1/2~



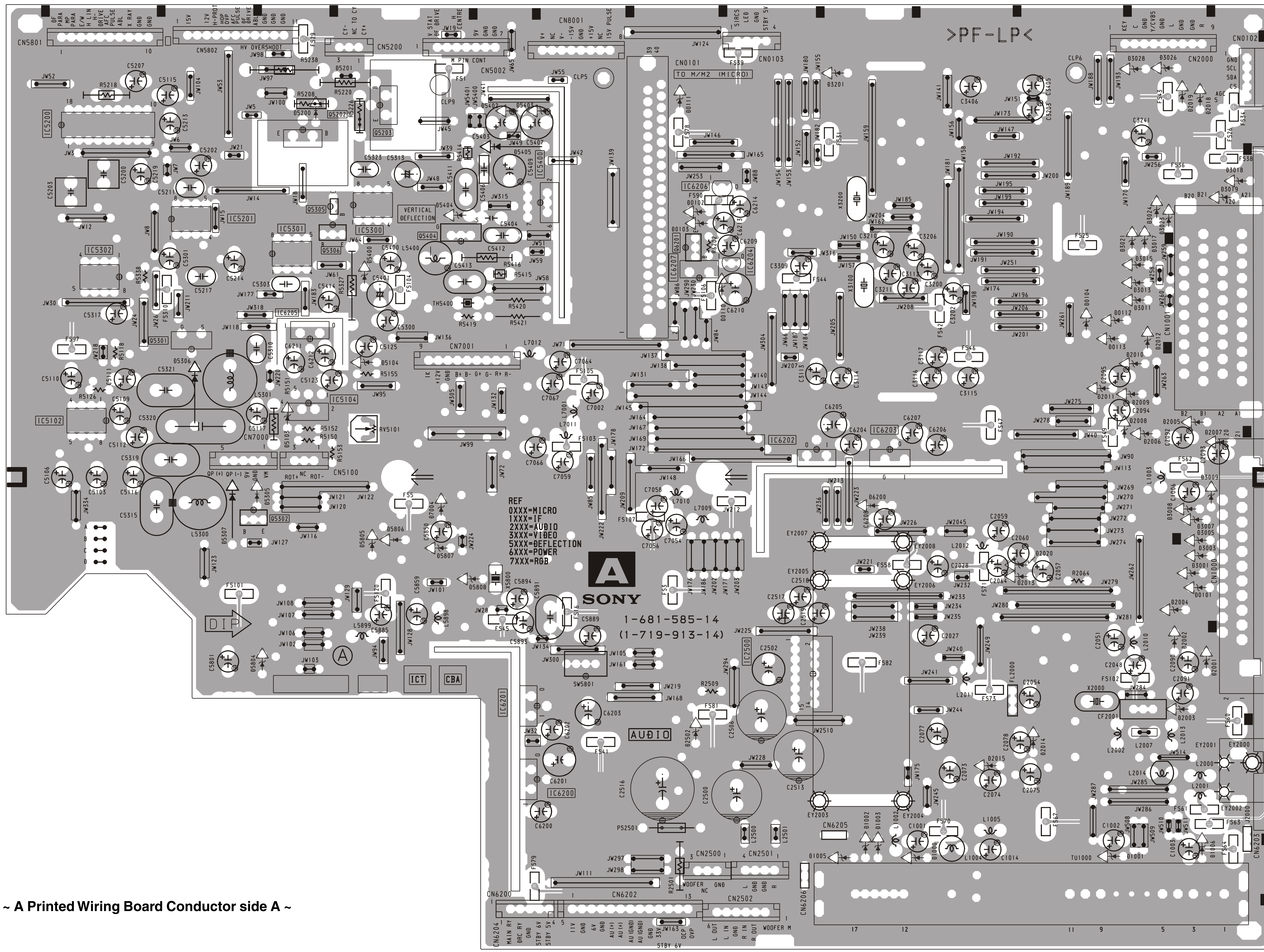
~ A Board Waveforms ~



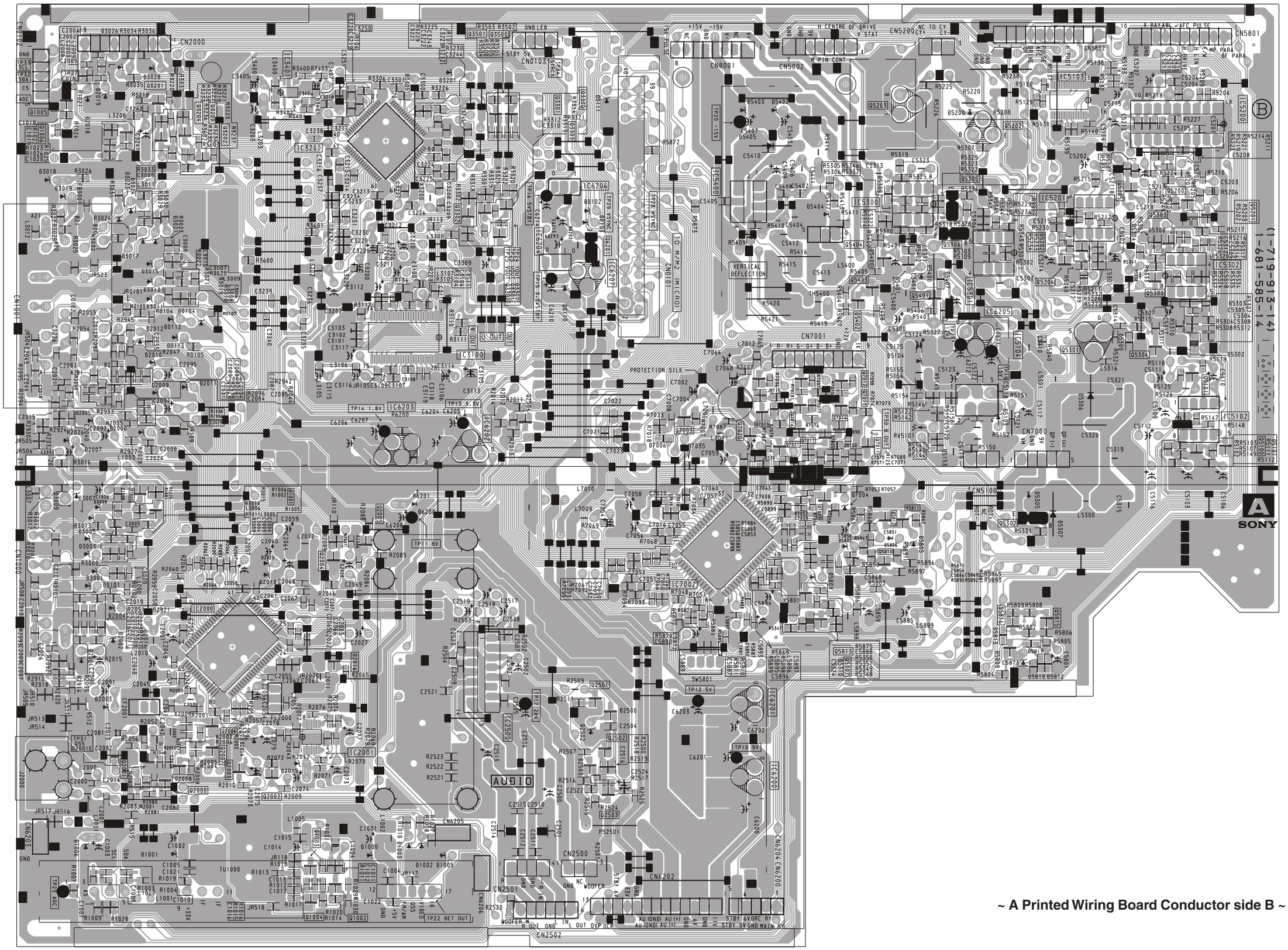
~ A Board Difference Table ~

Ref	28LS60B	28LS60E	28LS60U	32LS60B	32LS60E	32LS60K	32LS60U
C1011	120PF 5% 50V	–	–	120PF 5% 50V	–	–	–
C1012	56PF 5% 50V	–	–	56PF 5% 50V	–	–	–
C1016	10PF 0.50PF 50V	–	–	10PF 0.50PF 50V	–	–	–
C1017	68PF 5% 50V	–	–	68PF 5% 50V	–	–	–
L1004	18UH	–	–	18UH	–	–	–
Q1002	MSD601-RST1	–	–	MSD601-RST1	–	–	–
Q1003	DTC114EK	–	–	DTC114EK	–	–	–
R1011	330 5% 1/10W	–	–	330 5% 1/10W	–	–	–
R1012	330 5% 1/10W	–	–	330 5% 1/10W	–	–	–
R1014	–	SHORT 0	SHORT 0	–	SHORT 0	SHORT 0	SHORT 0
R1015	470 5% 1/10W	–	–	470 5% 1/10W	–	–	–
R1016	100 5% 1/10W	–	–	100 5% 1/10W	–	–	–
R1018	2.2K 5% 1/10W	–	–	2.2K 5% 1/10W	–	–	–
R1020	SHORT 0	–	–	SHORT 0	–	–	–
R5303	56K 0.5% 1/10W	56K 0.5% 1/10W	56K 0.5% 1/10W	27K 0.5% 1/10W	27K 0.5% 1/10W	27K 0.5% 1/10W	27K 0.5% 1/10W
R5306	6.8K 0.5% 1/10W	6.8K 0.5% 1/10W	6.8K 0.5% 1/10W	7.5K 0.5% 1/10W	7.5K 0.5% 1/10W	7.5K 0.5% 1/10W	7.5K 0.5% 1/10W
R5327	82 5% 3W	82 5% 3W	82 5% 3W	39 5% 3W	39 5% 3W	39 5% 3W	39 5% 3W
R5338	1K 5% 1/4W	1K 5% 1/4W	1K 5% 1/4W	470 5% 1/4W	470 5% 1/4W	470 5% 1/4W	470 5% 1/4W
R5400	180K 5% 1/10W	180K 5% 1/10W	180K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W
R5407	560K 5% 1/10W	560K 5% 1/10W	560K 5% 1/10W	1M 5% 1/10W	1M 5% 1/10W	1M 5% 1/10W	1M 5% 1/10W
R5878	820 5% 1/10W	820 5% 1/10W	820 5% 1/10W	1K 5% 1/10W	1K 5% 1/10W	1K 5% 1/10W	1K 5% 1/10W
R5883	2.2M 5% 1/10W	2.2M 5% 1/10W	2.2M 5% 1/10W	680K 5% 1/10W	680K 5% 1/10W	680K 5% 1/10W	680K 5% 1/10W
TU1000	BTF-EF411	BTF-EC411	BTF-EU611	BTF-EF411	BTF-EC411	BTF-EC411	BTF-EU611

~ A Schematic [Video & Audio Processors, Audio Output, Vertical Deflection] page 2/2~

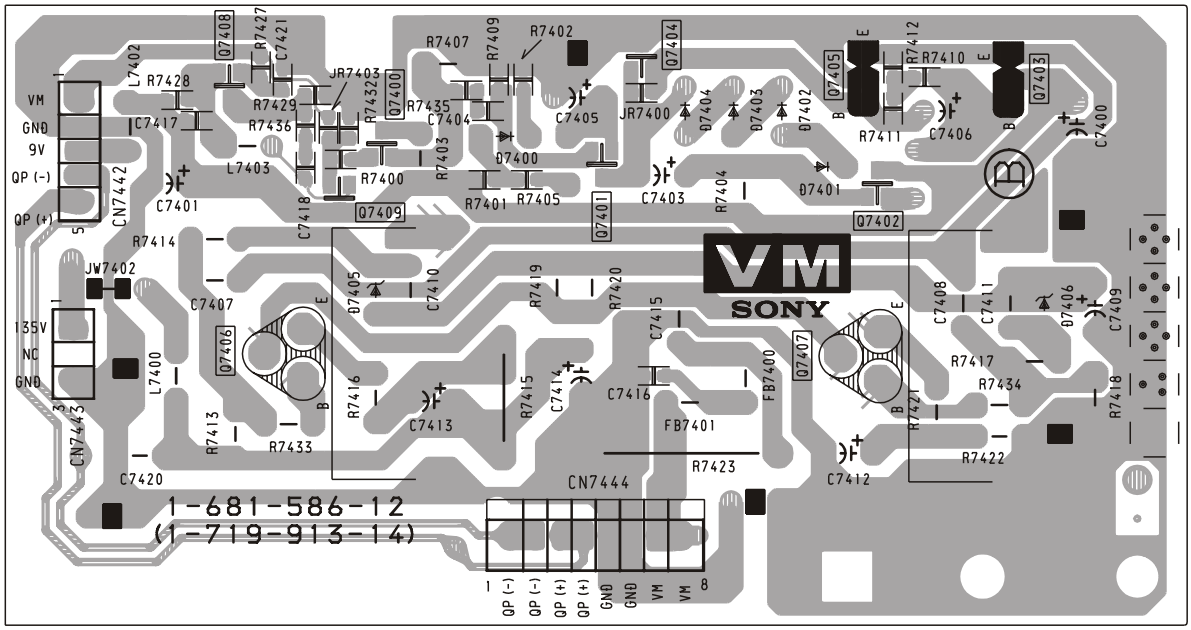


~ A Printed Wiring Board Conductor side A ~

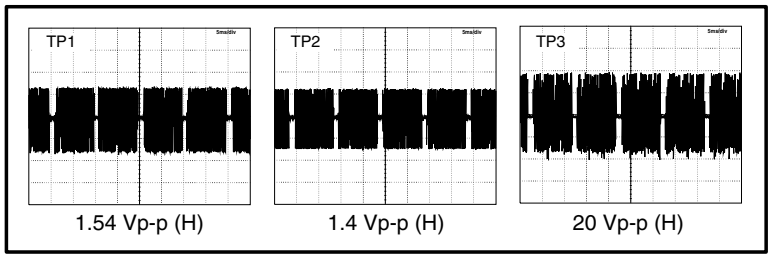


~ A Printed Wiring Board Conductor side B ~

~ VM Printed Wiring Board Conductor side ~



~ VM Board Waveforms ~



~ VM Board Voltage Table ~

Ref	(e)(s)	(b)(g)	(c)(d)
Q7400	5.0	5.7	8.7
Q7401	0.9	1.5	4.1
Q7402	5.5	6.1	8.9
Q7403	5.1	5.5	8.9
Q7404	4.7	4.1	0
Q7405	5.1	4.7	0
Q7406	134	133.8	68
Q7407	1.1	1.4	68
Q7408	6.3	5.6	2.5
Q7409	5.7	6.3	0.9

~ A Board Location Table (A Side) ~

DIODE		D2014	K - 9	D3005	M - 7	D3017	M - 4	D3028	M - 2	D5306	C - 5	D7004	F - 7	IC5301	D - 4	IC6206	H - 3
D0101	M - 7	D2015	K - 9	D3007	M - 7	D3018	N - 3	D3201	J - 2	D5307	C - 6	D5809	K - 8	IC5302	B - 4	IC6207	H - 4
D0104	L - 4	D2018	M - 2	D3008	M - 7	D3019	N - 3	D5103	D - 6	D5400	E - 4	IC		IC5400	G - 4	TRANSISTOR	
D0110	I - 4	D2019	M - 2	D3009	N - 7	D3021	M - 4	D5104	E - 5	D5404	F - 3	IC5104	D - 6	IC6201	G - 10	Q5202	E - 2
D0111	H - 2	D2502	H - 9	D3011	M - 4	D3023	M - 4	D5200	D - 2	D5405	F - 3	IC5200	B - 3	IC6202	I - 6	Q5301	C - 5
D0112	M - 4	D3001	M - 7	D3013	M - 4	D3024	M - 4	D5201	E - 2	D5807	F - 7	IC5201	C - 4	IC6203	J - 6	Q5306	E - 4
D0113	M - 5	D3003	M - 7	D3015	M - 4	D3026	M - 2	D5305	D - 6	D6200	J - 6	IC5300	E - 4	IC6205	D - 5	Q5404	F - 4
D1006	M - 10																

~ A Board Location Table (B Side) ~

DIODE		D2503	G - 9	D3024	B - 3	D5309	J - 3	IC5103	L - 3	TRANSISTOR		Q3201	C - 2	Q5300	M - 4	Q7003	H - 6
D0101	B - 7	D3001	B - 7	D3026	B - 2	D5400	K - 4	IC5104	K - 6	Q1000	C - 6	Q3202	C - 3	Q5301	L - 5	Q7009	K - 6
D0104	C - 5	D3003	B - 7	D3028	C - 2	D5401	J - 4	IC5200	M - 3	Q1001	D - 6	Q3204	C - 3	Q5302	K - 7	Q7011	J - 6
D0110	G - 4	D3005	B - 7	D3201	F - 2	D5404	J - 3	IC5201	L - 4	Q1004	D - 10	Q3300	F - 3	Q5303	M - 4	Q7012	J - 5
D0111	G - 2	D3007	B - 6	D5103	L - 6	D5405	I - 3	IC5300	J - 3	Q1005	B - 2	Q3301	F - 3	Q5304	M - 5	Q7013	J - 6
D0112	C - 5	D3008	B - 6	D5104	J - 5	D5809	K - 8	IC5301	K - 4	Q1006	B - 3	Q3302	F - 3	Q5305	K - 3	Q7014	J - 6
D0113	C - 5	D3009	B - 6	D5200	K - 2	D5811	L - 8	IC5302	M - 4	Q2000	C - 9	Q3500	F - 3	Q5306	K - 4	Q7015	I - 5
D1006	B - 10	D3011	C - 4	D5202	L - 4	D5812	L - 8	IC5400	I - 3	Q2002	D - 9	Q3501	F - 3	Q5400	J - 4	Q7016	I - 5
D2014	C - 9	D3013	C - 4	D5300	L - 5	D6200	F - 7	IC6200	I - 9	Q2003	D - 9	Q5101	M - 5	Q5401	K - 4	Q7017	I - 6
D2015	D - 9	D3015	C - 4	D5303	N - 4	IC		IC6201	I - 8	Q2004	E - 7	Q5200	M - 4	Q5402	J - 5	Q7018	I - 5
D2016	E - 8	D3017	B - 4	D5304	M - 4	IC2000	C - 8	IC6202	F - 6	Q2005	E - 7	Q5201	N - 3	Q5403	J - 4	Q7019	I - 5
D2018	B - 2	D3018	B - 3	D5305	L - 6	IC2001	D - 9	IC6203	E - 6	Q2501	G - 8	Q5202	K - 3	Q5404	J - 4		
D2019	B - 2	D3019	B - 3	D5306	L - 5	IC2500	F - 8	IC6205	K - 5	Q2502	G - 9	Q5203	J - 2	Q5813	J - 8		
D2500	G - 9	D3021	C - 4	D5307	L - 7	IC3100	E - 5	IC6206	G - 3	Q2503	G - 9	Q5204	L - 4	Q5815	L - 8		
D2502	G - 9	D3023	B - 3	D5308	M - 4	IC3200	E - 3	IC6207	G - 4	Q3200	C - 3	Q5205	M - 3	Q5816	L - 8		

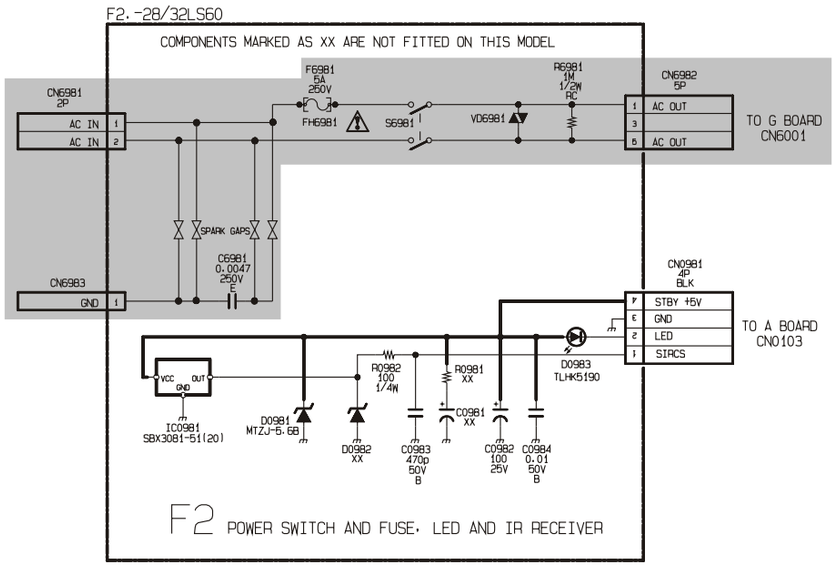
~ A Board Semiconductor Voltage Table ~

Ref	(s)	(g)	(d)	Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)
Q3500	2.7	3.3	3.9	Q2002	0	0	4	Q3204	5	4.4	3.4	Q5205	1.9	1.2	0	Q5813	0	7.9	0	Q7015	11.6	10.9	8.8
Q3501	2.7	3.3	4	Q2003	0	0	4	Q3300	0.7	1.3	5	Q5300	0	0.4	2.2	Q5814	0	0	0	Q7016	6	6.6	10.9
Q5301	0	5.1	51.2	Q2004	3.3	3.9	8.3	Q3301	1.9	1.2	0	Q5301	5.1	0	51.2	Q5815	0	0	5	Q7017	2.7	2	0
Q5404	0	0	0.5	Q2005	3.3	3.9	8.3	Q3302	1.9	1.2	0	Q5302	8.9	5.7	0	Q5816	5	5	0	Q7018	11.6	10.9	8.6
Ref	**(e)**	**(b)**	**(c)**	Q2501	0	0	15.2	Q3500	3.3	2.7	3.9	Q5304	0	0.4	5.6	Q7003	5.6	6.2	8.8	Q7019	6	6.6	10.9
Q1001	3.2	3.9	8.3	Q2502	0	0.7	0	Q3501	3.3	2.7	4	Q3400	0	0	0.1	Q7009	3.2	7	0.1	Q7020	8.9	8.9	0
Q1004	1.9	1.3	0	Q2503	0.6	0.6	0.5	Q5101	0	0.4	6.4	Q5401	0	0	7.9	Q7011	2.5	1.9	0	Q7021	2.7	2.7	8.9
Q1005	0	0.5	5	Q3200	1.9	2.5	4.4	Q5201	2.8	3.4	7.9	Q5402	0	0	-11.3	Q7012	11.6	10.9	8.7				
Q1006	5	4.7	1	Q3201	1.9	2.5	4.4	Q5202	0.2	0.8	11.7	Q5403	-13.5	-11.2	-8.3	Q7013	6	6.6	10.9				
Q2000	4.2	4.8	8.3	Q3202	5	4.4	3.4	Q5203	0.2	0.8	11.7	Q5404	0	0	0.5	Q7014	2.5	1.8	0				

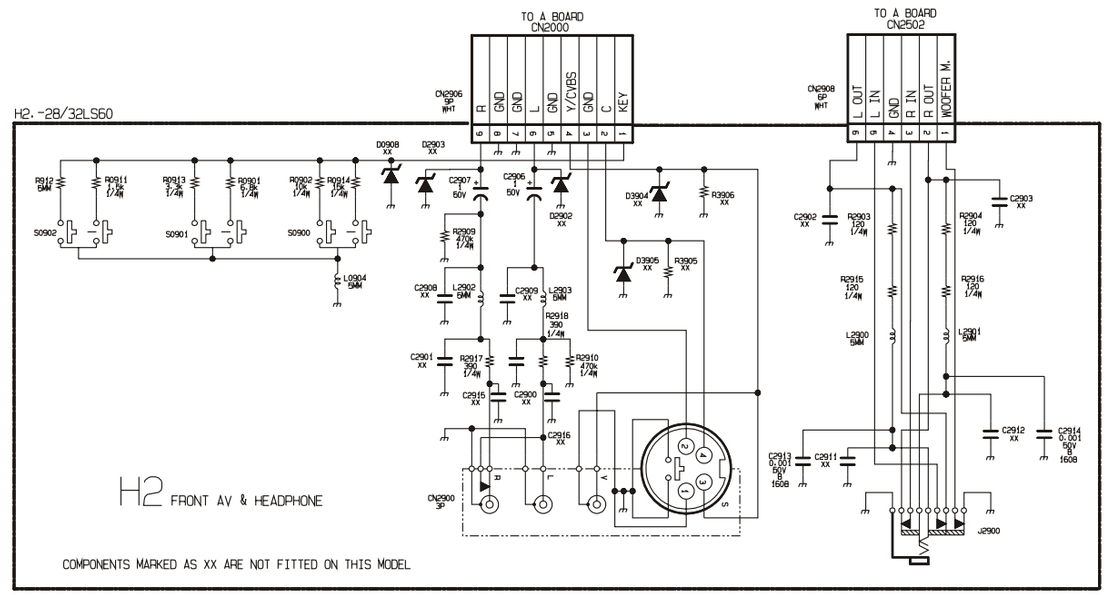
~ A Board IC Voltage Table ~

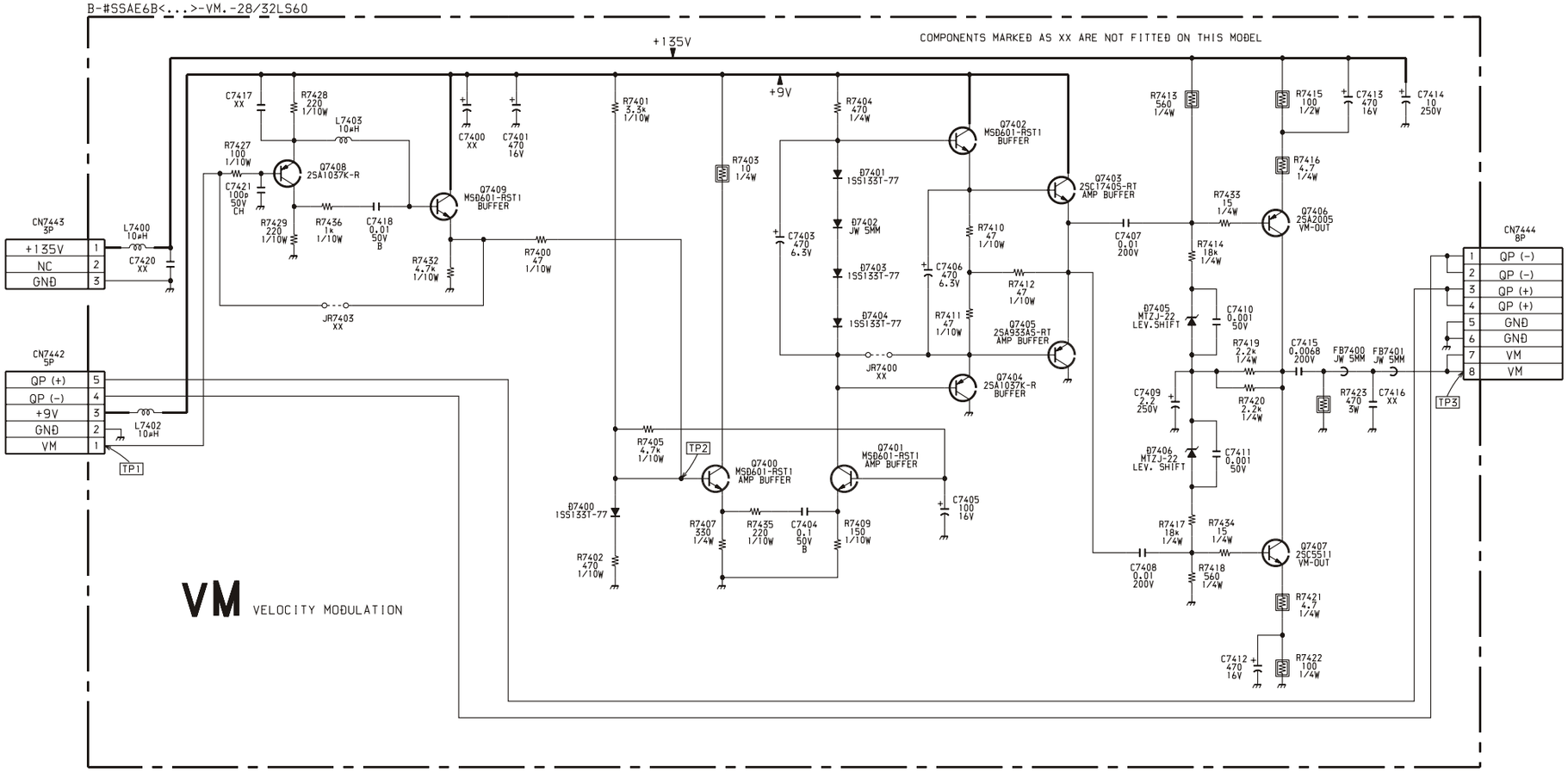
IC Voltage Table														
Ref No	**Pin No**	**Voltage (V)**	Ref No	**Pin No**	**Voltage (V)**	Ref No	**Pin No**	**Voltage (V)**	Ref No	**Pin No**	**Voltage (V)**	Ref No	**Pin No**	**Voltage (V)**
IC3100	1	1.3	IC5103	6	1.8	IC5201	5	9.3	IC5400	6	13.7	IC7002	32	8.9
	2	1.7		7	2		6	0.5		7	1.4		33	0
	3	2.6		8	0		7	12.1	IC7002	1	3.6		34	4.7
	4	0		9	3.1		8	-14.1		2	0		35	4.7
	5	2.5		10	3	IC5300	1	6		3	4.4		36	4.7
	6	3.3		11	5		2	6		4	4.8		37	8.9
	7	0		12	5		3	6		5	3.5		38	0
	8	0		13	5		4	0		6	3.4		39	4.8
	9	1.1		14	0		5	6		7	7.6		40	4.8
	10	1.1		15	0		6	6		8	0		41	4.8
	11	0		16	5		7	6		9	0		42	0
	12	0	IC5200	1	4.8		8	12		10	0.4		43	0
	13	0		2	4.9	IC5301	1	1.7		11	1.8		44	0
	14	0		3	4.8		2	8.5		12	0.4		45	6.3
	15	0.5		4	4.8		3	6.5		13	0.9		46	8.9
	16	0.3		5	5		4	0		14	5		47	8.9
	17	0.3		6	5		5	6.5		15	2.5		48	6
	18	0.3		7	5		6	7.1		16	0		49	2.5
	19	3.3		8	5		7	0.4		17	3		50	4.1
	20	0		9	4.9		8	12		18	2.7		51	0
	21	3.3		10	12.1	IC5302	1	0		19	3.9		52	6
	22	3.3		11	4.1		2	5.8		20	0		53	5.8
	23	0		12	5		3	6.3		21	6.1		54	5.8
	24	3.2		13	5		4	0		22	2.7		55	0.4
	25	1.2		14	1.9		5	6.6		23	8.8		56	5.8
	26	3.2		15	1.1		6	6.5		24	0		57	5.8
	27	2.1		16	0		7	0.4		25	4.3		58	5.8
	28	0.3		17	0		8	12		26	3.2		59	0.3
IC5103	1	3.3		18	0	IC5400	1	1.4		27	5.2		60	0
	2	3.3	IC5201	1	9.3		2	13.2		28	0.3		61	0
	3	1.9		2	3.8		3	-12.5		29	4.9		62	2.9
	4	2.6		3	3.8		4	-15.4		30	3.4		63	3.7
	5	2.5		4	-15.4		5	-0.4		31	5.6			

~ F2 Board Schematic Diagram [Power Switch & Fuse. LED & IR Receiver] ~

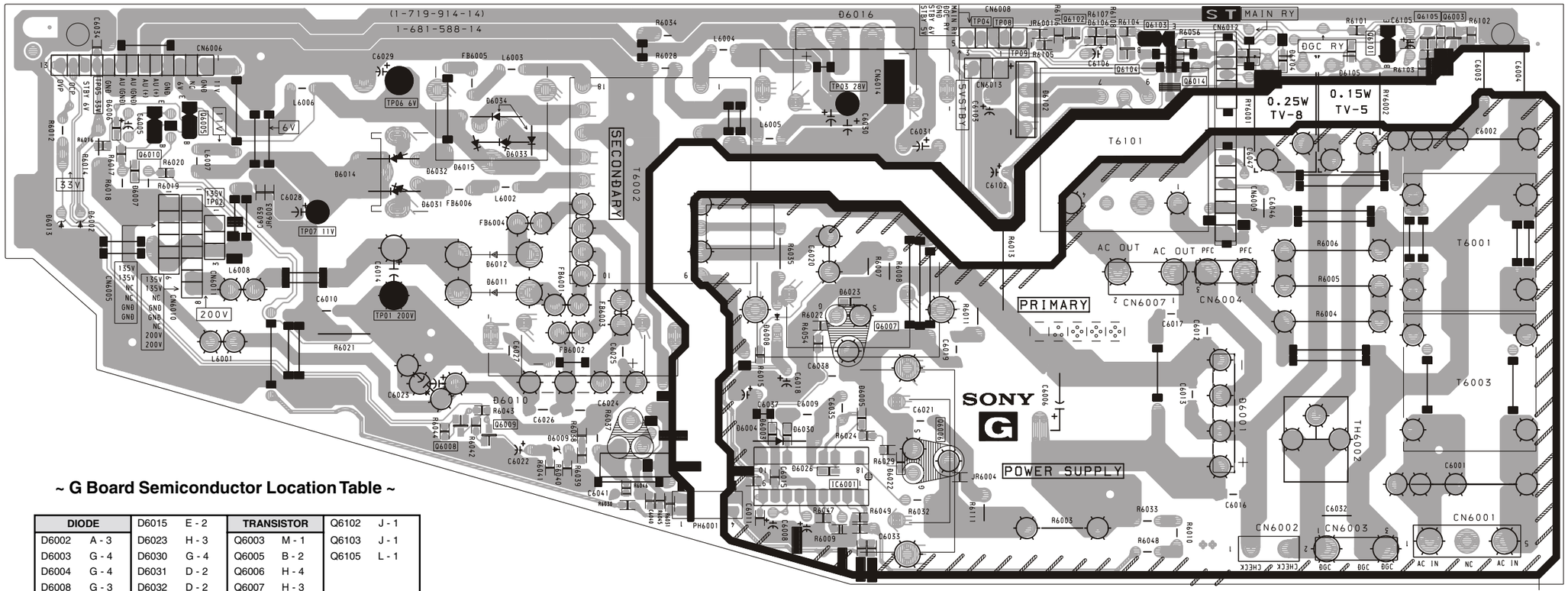


~ H2 Board Schematic Diagram [Front AV & Headphone] ~





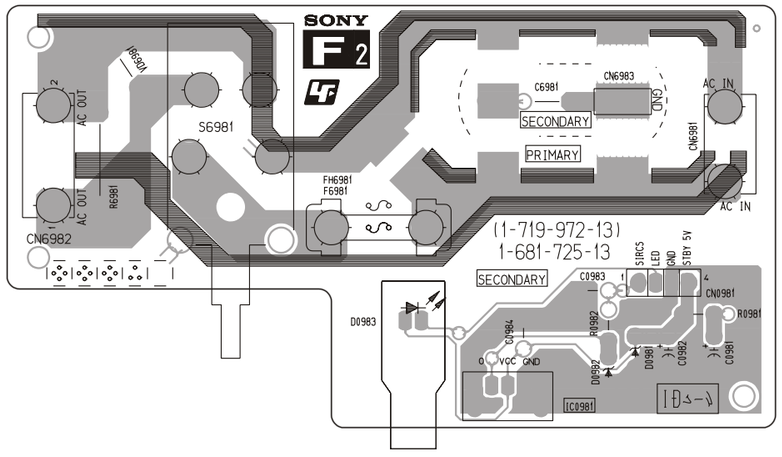
~ VM Board Schematic Diagram [Velocity Modulation] ~



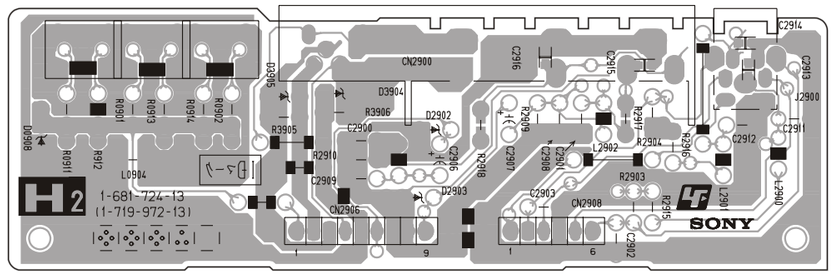
~ G Printed Wiring Board Conductor side ~

~ G Board Semiconductor Location Table ~

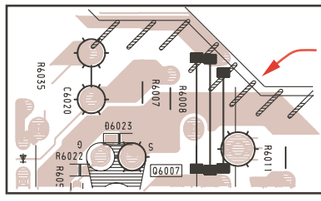
DIODE		D6015	E - 2	TRANSISTOR		Q6102	J - 1
D6002	A - 3	D6023	H - 3	Q6003	M - 1	Q6103	J - 1
D6003	G - 4	D6030	G - 4	Q6005	B - 2	Q6105	L - 1
D6004	G - 4	D6031	D - 2	Q6006	H - 4		
D6008	G - 3	D6032	D - 2	Q6007	H - 3		
D6009	E - 4	D6033	E - 2	Q6008	D - 4		
D6010	E - 4	D6034	E - 2	Q6009	E - 4		
D6011	E - 3	IC		Q6010	B - 2		
D6012	E - 3	IC6001	G - 5	Q6014	J - 2		
D6013	A - 3			Q6101	L - 1		



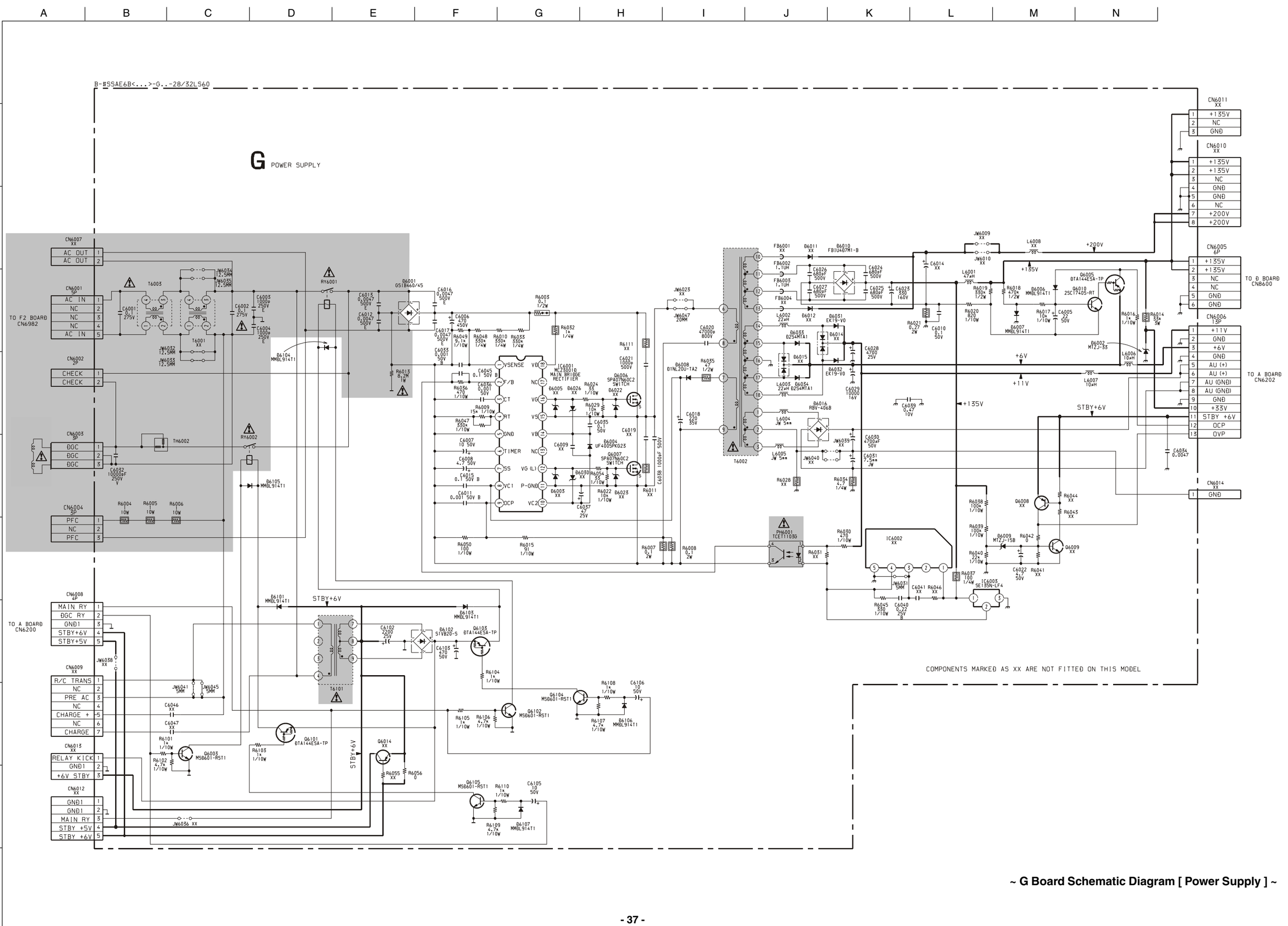
~ F2 Printed Wiring Board Conductor side ~



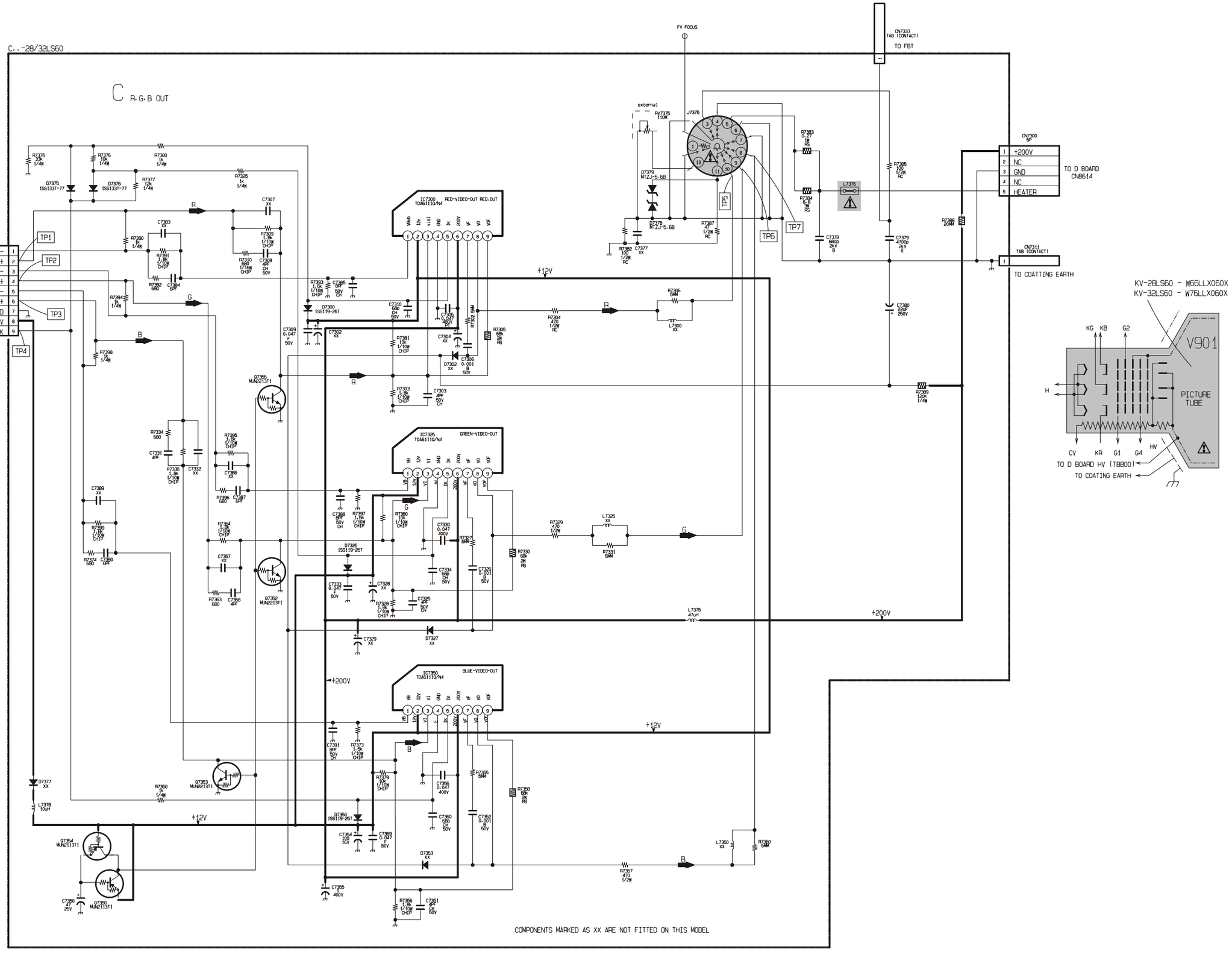
~ H2 Printed Wiring Board Conductor side ~



Note :
Portions of the circuit contained within the marked areas as shown have high voltages present. Use care to prevent electric shock during inspection or repair. An Isolation Transformer must be used during any Service work to avoid possible shock hazard due to live chassis. The chassis of this receiver is directly connected to the power line.

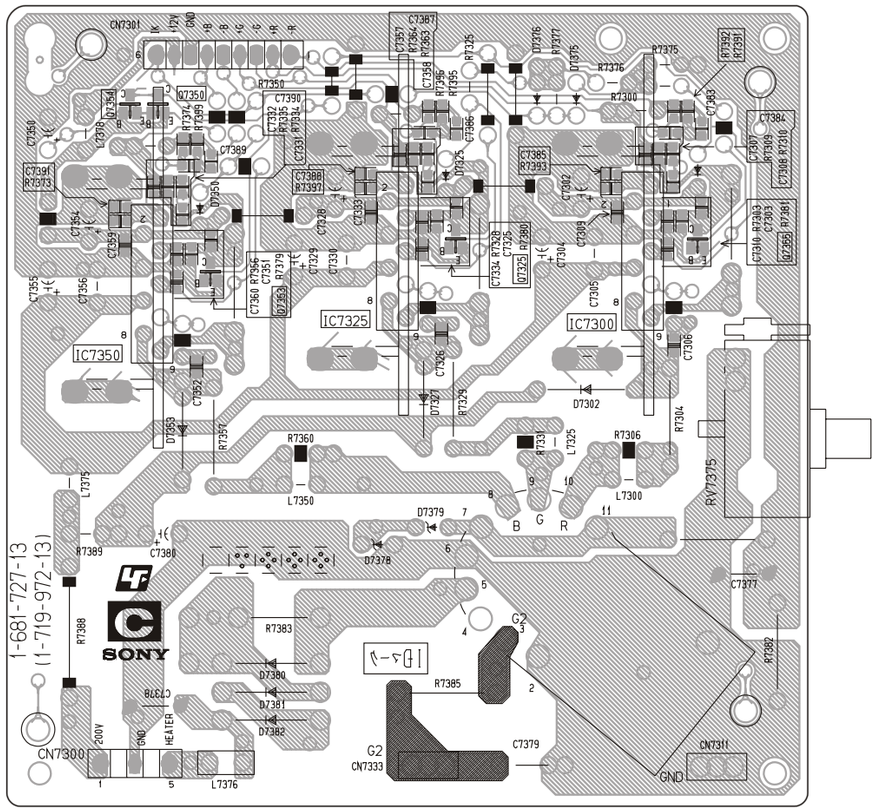


~ G Board Schematic Diagram [Power Supply] ~

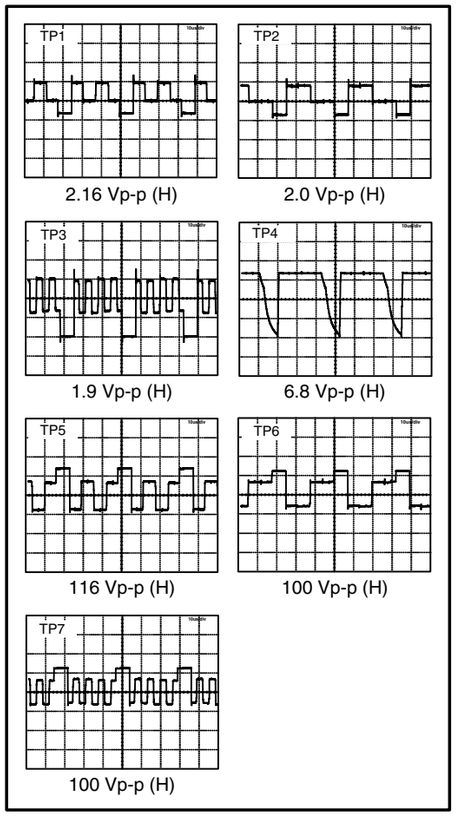


~ C Board Schematic Diagram [R-G-B Out] ~

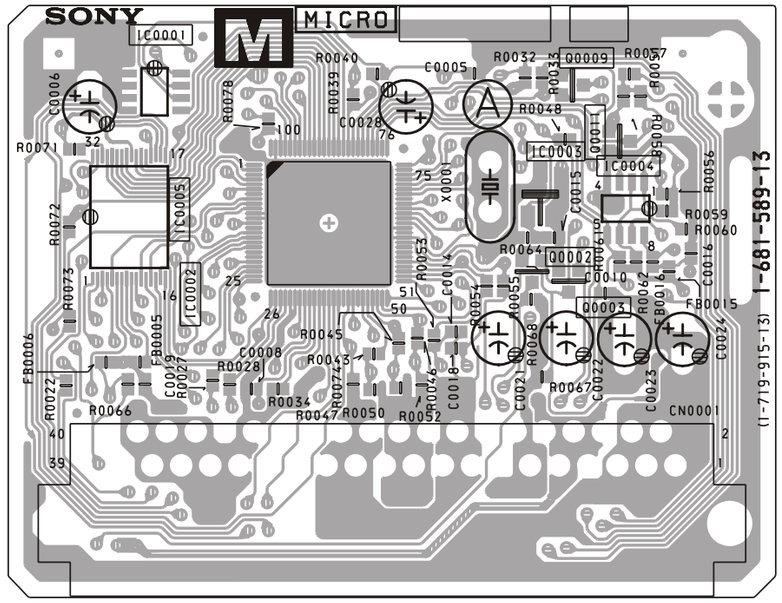
~ C Printed Wiring Board Conductor side ~



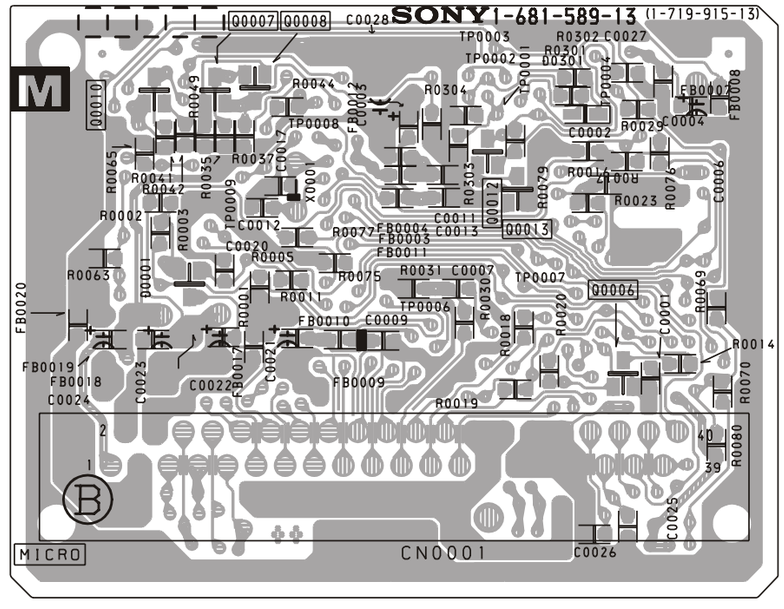
~ C Board Waveforms ~



~ M Printed Wiring Board Conductor side A ~



~ M Printed Wiring Board Conductor side B ~

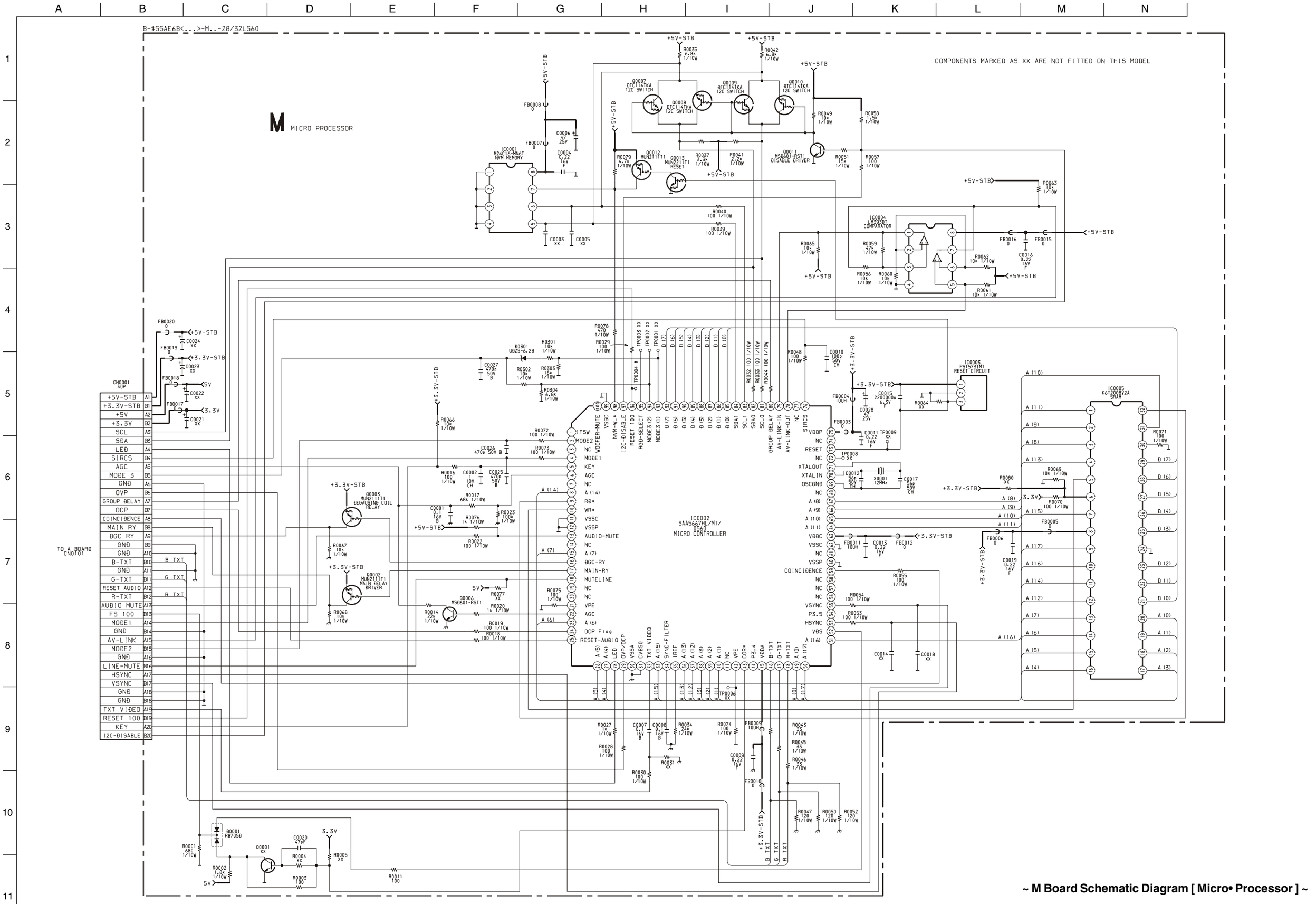


~ C Board Semiconductor Voltage Table ~

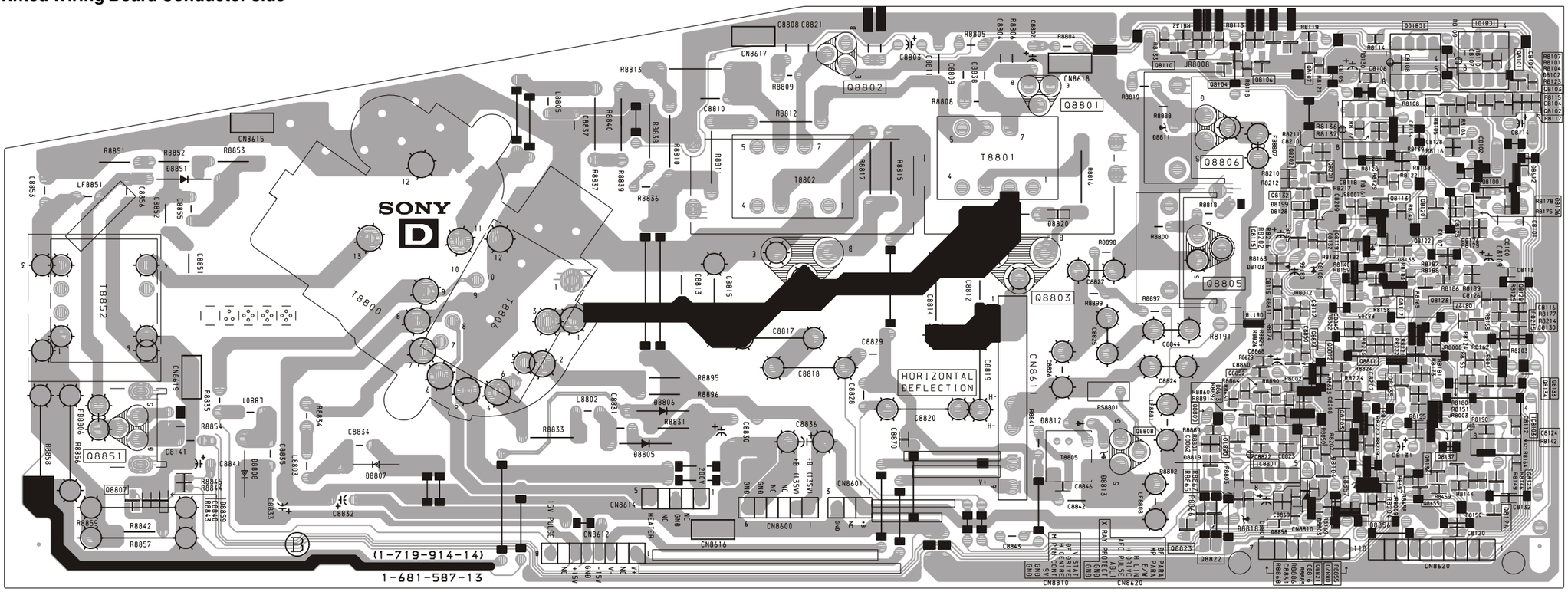
Ref	(e)	(b)	(c)
Q7350	12	11.98	0
Q7352	0	0	3.8
Q7353	0	0	3.8
Q7354	11.98	12	0
Q7355	0	0	3.8

~ C Board IC Voltage Table ~

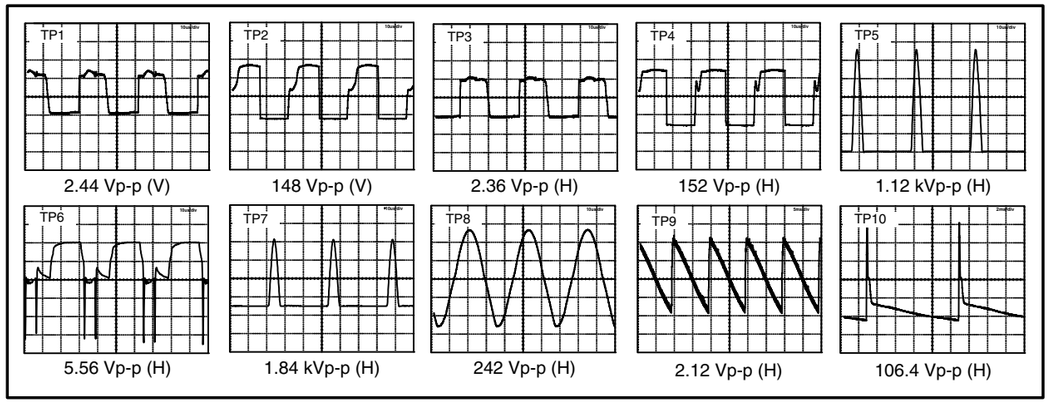
IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC7300	1	3.9
	3	3.8
	5	7.5
	6	200
	7	140
	8	153
	9	140
IC7325	1	3.9
	3	3.8
	5	7.7
	6	200
	7	140
	8	153
	9	140
IC7350	1	3.9
	3	3.8
	5	7.5
	6	200
	7	139
	8	148
	9	138


B-#SSAE6B<...>-M..-28/32LS60
M MICRO PROCESSOR
COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL
IC0002 SAA5667HL/M1/0560 MICRO CONTROLLER
IC0001 M24C16-WW6T NVM MEMORY
IC0003 PST572JMT RESET CIRCUIT
IC0004 LM393DT COMPARATOR
IC0005 K6T2008V2A SRAM
CN0001 40P
TO A BOARD CN0T01
+5V-STB
+3.3V-STB
+5V
+3.3V
SCL
SDA
LED
SIRCS
AGC
MODE 3
GND
OVP
GROUP DELAY
OCP
COINCIDENCE
MAIN RY
DGC RY
B-TXT
G-TXT
RESET AUDIO
R-TXT
AUDIO MUTE
FS 100
MODE1
MODE2
AV-LINK
LINE-MUTE
HSYNC
VSYNC
TXT VIDEO
RESET 100
KEY
I2C-DISABLE
Q0007 DTC114TKA I2C SWITCH
Q0008 DTC114TKA I2C SWITCH
Q0009 DTC114TKA I2C SWITCH
Q0010 DTC114TKA I2C SWITCH
Q0011 MSD601-RST1 DISABLE DRIVER
Q0012 MUN2111T1 RESET
Q0013 MUN2211T1
Q0001 RB705D
Q0002 MUN2111T1 MAIN RELAY DRIVER
Q0003 MUN2111T1 DEGAUSING COIL RELAY
Q0006 MSD601-RST1
D0301 UDZS-6.2B
X0001 12MHz
TP0001 TP0002 TP0003 TP0004 TP0006 TP0008 TP0009
~ M Board Schematic Diagram [Micro• Processor] ~

~ D Printed Wiring Board Conductor side ~



~ D Board Waveforms ~

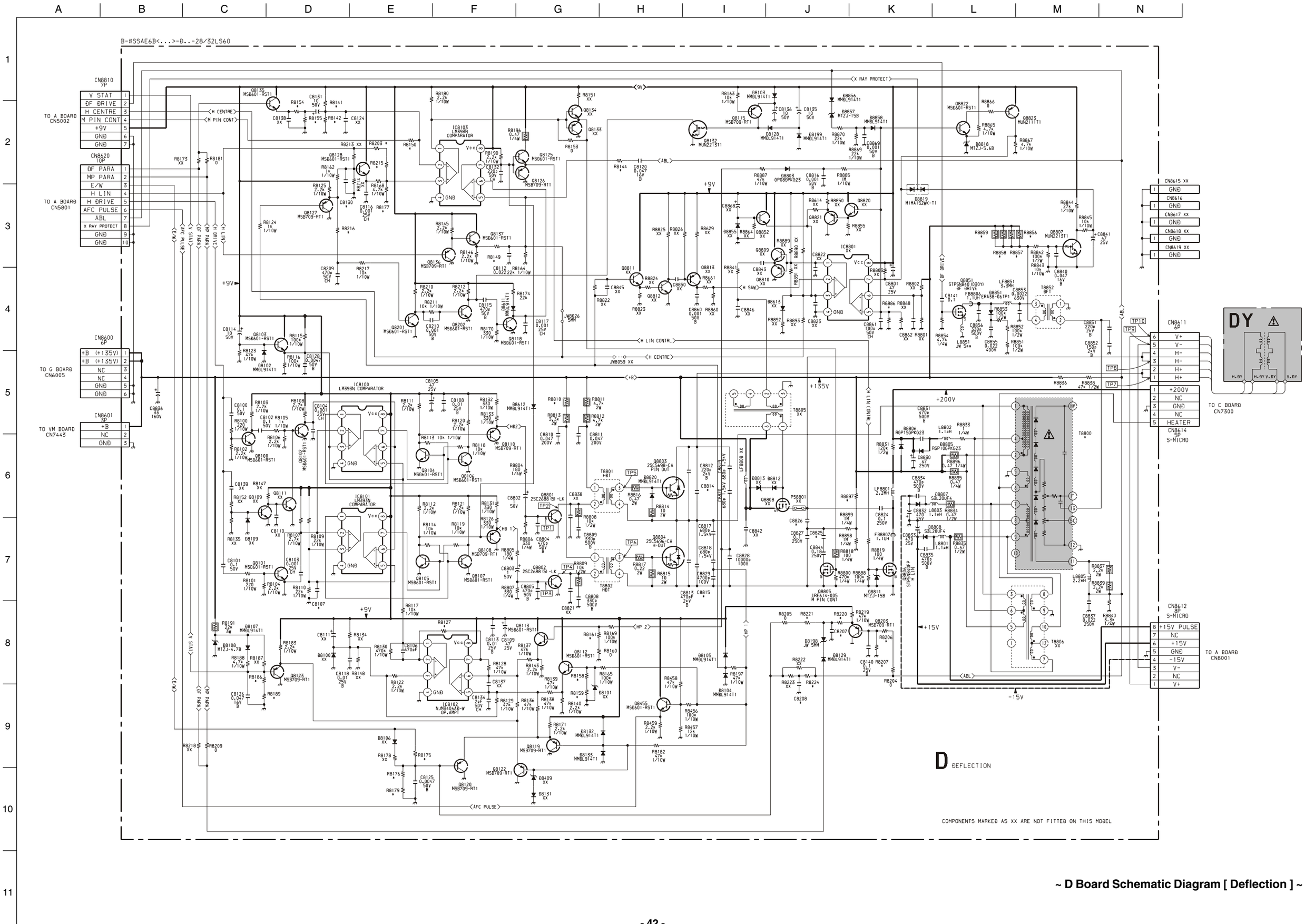


~ D Board IC Voltage Table ~

IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC8100	1	0.3
	2	4.3
	3	4.1
	5	4.1
	6	3.0
	7	0.4
IC8101	1	0.3
	2	4.3
	3	4.4
	5	4.4
	6	3.0
	7	0.4
IC8102	1	4.1
	2	0.4
	3	0.4
	5	0.4
	6	0.4
	7	0.4
IC8103	1	2.5
	2	2.1
	3	1.7
	5	1.6
	6	1.0
	7	1.1

~ D Board Semiconductor Voltage Table ~

Ref	(e)(s)	(b)(g)	(c)(d)	Ref	(e)(s)	(b)(g)	(c)(d)	Ref	(e)(s)	(b)(g)	(c)(d)	Ref	(e)(s)	(b)(g)	(c)(d)
Q8100	0	0.6	3.6	Q8110	2.4	3.1	0	Q8128	3.4	1.5	8.9	Q8801	0	0.4	64.7
Q8101	0	0.6	4.3	Q8113	0.3	0.2	8.9	Q8132	0	0	3.4	Q8802	0	0.4	73.2
Q8102	0	0.3	4.3	Q8115	8.6	8.9	0	Q8135	2.6	3.2	8.9	Q8807	0	6.3	0
Q8103	4.0	0	8.9	Q8118	0	0	5.0	Q8136	2.5	1.8	0	Q8818	0	0	5.0
Q8104	0	0.4	3.1	Q8119	0.7	1.4	0	Q8137	1.8	2.5	8.9	Q8822	5.5	4.9	0
Q8105	0	0.4	3.2	Q8120	0.7	2.3	0	Q8201	0	0.6	3.9	Q8823	8.9	8.5	0
Q8106	0	0.3	4.3	Q8122	0.5	1.4	0	Q8202	0	0.8	3.4	Q8805	0	2.5	33
Q8107	0	0.3	4.2	Q8123	0.5	1.4	0	Q8203	1.4	0.9	0	Q8806	0	1.2	135
Q8108	2.4	3.2	0	Q8127	1.4	1.5	0	Q8455	1.1	1.7	8.9	Q8851	0	5.4	81.5



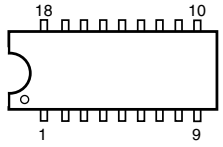
~ D Board Schematic Diagram [Deflection] ~

~ D Board Difference Table ~

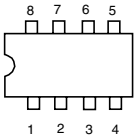
Ref	28LS60B	28LS60E	28LS60U	32LS60B	32LS60E	32LS60K	32LS60U
C8107	-	-	-	27K 0.5% 1/10W	27K 0.5% 1/10W	27K 0.5% 1/10W	27K 0.5% 1/10W
C8130	220PF 5% 50V	220PF 5% 50V	220PF 5% 50V	_	_	_	_
C8207	_	_	_	0.047UF 10% 16V	0.047UF 10% 16V	0.047UF 10% 16V	0.047UF 10% 16V
C8208	_	_	_	0.01UF 10% 25V	0.01UF 10% 25V	0.01UF 10% 25V	0.01UF 10% 25V
C8814	7500PF 3% 1.2KV	7500PF 3% 1.2KV	7500PF 3% 1.2KV	6800PF 3% 1.2KV	6800PF 3% 1.2KV	6800PF 3% 1.2KV	6800PF 3% 1.2KV
C8815	6800PF 3% 1.5KV	6800PF 3% 1.5KV	6800PF 3% 1.5KV	6200PF 3% 1.5KV	6200PF 3% 1.5KV	6200PF 3% 1.5KV	6200PF 3% 1.5KV
C8825	0.22UF 5% 250V	0.22UF 5% 250V	0.22UF 5% 250V	0.18UF 5% 250V	0.18UF 5% 250V	0.18UF 5% 250V	0.18UF 5% 250V
C8826	0.68UF 5% 250V	0.68UF 5% 250V	0.68UF 5% 250V	0.56UF 5% 250V	0.56UF 5% 250V	0.56UF 5% 250V	0.56UF 5% 250V
R8127	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W	6.8K 0.5% 1/10W	6.8K 0.5% 1/10W	6.8K 0.5% 1/10W	6.8K 0.5% 1/10W
R8141	22K 0.5% 1/10W	22K 0.5% 1/10W	22K 0.5% 1/10W	33K 0.5% 1/10W	33K 0.5% 1/10W	33K 0.5% 1/10W	33K 0.5% 1/10W
R8142	7.5K 0.5% 1/10W	7.5K 0.5% 1/10W	7.5K 0.5% 1/10W	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W
R8144	220K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W	120K 5% 1/10W	120K 5% 1/10W	120K 5% 1/10W	120K 5% 1/10W
R8149	22K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W	3.9K 5% 1/10W	3.9K 5% 1/10W	3.9K 5% 1/10W	3.9K 5% 1/10W
R8150	22K 5% 1/10W	22K 5% 1/10W	22K 5% 1/10W	6.8K 5% 1/10W	6.8K 5% 1/10W	6.8K 5% 1/10W	6.8K 5% 1/10W
R8154	5.6K 5% 1/10W	5.6K 5% 1/10W	5.6K 5% 1/10W	3.3K 5% 1/10W	3.3K 5% 1/10W	3.3K 5% 1/10W	3.3K 5% 1/10W
R8155	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W	2.7K 5% 1/10W	2.7K 5% 1/10W	2.7K 5% 1/10W	2.7K 5% 1/10W
R8158	2.2K 0.5% 1/10W	2.2K 0.5% 1/10W	2.2K 0.5% 1/10W	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W	4.7K 0.5% 1/10W
R8159	2.2K 0.5% 1/10W	2.2K 0.5% 1/10W	2.2K 0.5% 1/10W	SHORT 0	SHORT 0	SHORT 0	SHORT 0
R8161	6.8K 0.5% 1/10W	6.8K 0.5% 1/10W	6.8K 0.5% 1/10W	8.2K 0.5% 1/10W	8.2K 0.5% 1/10W	8.2K 0.5% 1/10W	8.2K 0.5% 1/10W
R8175	4.7K 5% 1/10W	4.7K 5% 1/10W	4.7K 5% 1/10W	6.8K 5% 1/10W	6.8K 5% 1/10W	6.8K 5% 1/10W	6.8K 5% 1/10W
R8176	SHORT 0	SHORT 0	SHORT 0	10K 5% 1/10W	10K 5% 1/10W	10K 5% 1/10W	10K 5% 1/10W
R8177	5.6K 5% 1/10W	5.6K 5% 1/10W	5.6K 5% 1/10W	4.7K 5% 1/10W	4.7K 5% 1/10W	4.7K 5% 1/10W	4.7K 5% 1/10W
R8179	4.7K 5% 1/10W	4.7K 5% 1/10W	4.7K 5% 1/10W	SHORT 0	SHORT 0	SHORT 0	SHORT 0
R8186	2.7K 5% 1/10W	2.7K 5% 1/10W	2.7K 5% 1/10W	3.9K 5% 1/10W	3.9K 5% 1/10W	3.9K 5% 1/10W	3.9K 5% 1/10W
R8189	1.5K 5% 1/10W	1.5K 5% 1/10W	1.5K 5% 1/10W	560 5% 1/10W	560 5% 1/10W	560 5% 1/10W	560 5% 1/10W
R8203	6.8K 5% 1/10W	6.8K 5% 1/10W	6.8K 5% 1/10W	SHORT 0	SHORT 0	SHORT 0	SHORT 0
R8206	470K 5% 1/10W	470K 5% 1/10W	470K 5% 1/10W	330K 0.5% 1/10W	330K 0.5% 1/10W	330K 0.5% 1/10W	330K 0.5% 1/10W
R8207	270K 5% 1/10W	270K 5% 1/10W	270K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W
R8215	22K 0.5% 1/10W	22K 0.5% 1/10W	22K 0.5% 1/10W	47K 0.5% 1/10W	47K 0.5% 1/10W	47K 0.5% 1/10W	47K 0.5% 1/10W
R8216	47K 5% 1/10W	47K 5% 1/10W	47K 5% 1/10W	47K 0.5% 1/10W	47K 0.5% 1/10W	47K 0.5% 1/10W	47K 0.5% 1/10W
R8220	6.8K 5% 1/10W	6.8K 5% 1/10W	6.8K 5% 1/10W	12K 5% 1/10W	12K 5% 1/10W	12K 5% 1/10W	12K 5% 1/10W
R8221	18K 5% 1/10W	18K 5% 1/10W	18K 5% 1/10W	22K 5% 1/10W	22K 5% 1/10W	22K 5% 1/10W	22K 5% 1/10W
R8224	_	_	_	3.3K 5% 1/10W	3.3K 5% 1/10W	3.3K 5% 1/10W	3.3K 5% 1/10W
R8810	4.7K 5% 2W	4.7K 5% 2W	4.7K 5% 2W	3.9K 5% 2W	3.9K 5% 2W	3.9K 5% 2W	3.9K 5% 2W
R8836	18K 5% 1/4W	18K 5% 1/4W	18K 5% 1/4W	15K 5% 1/4W	15K 5% 1/4W	15K 5% 1/4W	15K 5% 1/4W
R8856	8.2K 5% 3W	8.2K 5% 3W	8.2K 5% 3W	6.8K 5% 3W	6.8K 5% 3W	6.8K 5% 3W	6.8K 5% 3W
R8857	8.2K 5% 3W	8.2K 5% 3W	8.2K 5% 3W	6.8K 5% 3W	6.8K 5% 3W	6.8K 5% 3W	6.8K 5% 3W
R8858	8.2K 5% 3W	8.2K 5% 3W	8.2K 5% 3W	6.8K 5% 3W	6.8K 5% 3W	6.8K 5% 3W	6.8K 5% 3W
R8859	8.2K 5% 3W	8.2K 5% 3W	8.2K 5% 3W	6.8K 5% 3W	6.8K 5% 3W	6.8K 5% 3W	6.8K 5% 3W
R8886	220K 0.5% 1/10W	220K 0.5% 1/10W	220K 0.5% 1/10W	220K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W	220K 5% 1/10W
R8897	470K 1% 1/4W	470K 1% 1/4W	470K 1% 1/4W	680K 1% 1/4W	680K 1% 1/4W	680K 1% 1/4W	680K 1% 1/4W
T8800	FBT ASSY NX4522//Z214	FBT ASSY NX4522//Z214	FBT ASSY NX4522//Z214	FBT ASSY NX4522//Z2B4	FBT ASSY NX4522//Z2B4	FBT ASSY NX4522//Z2B4	FBT ASSY NX4522//Z2B4

5-4. SEMICONDUCTORS

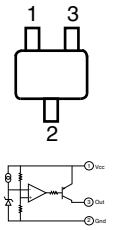
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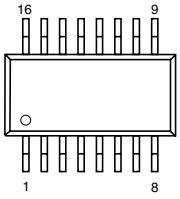
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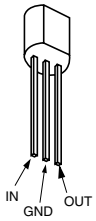


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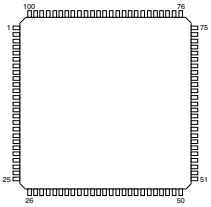


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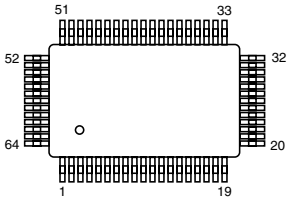
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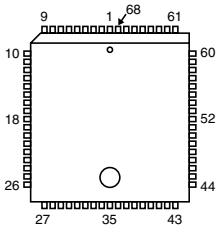


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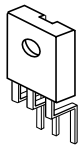
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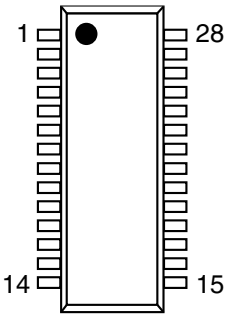


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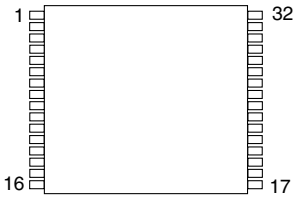
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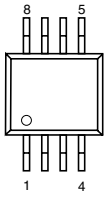
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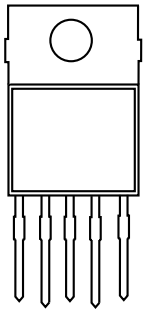


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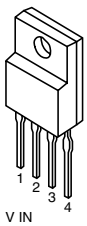


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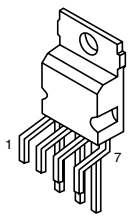


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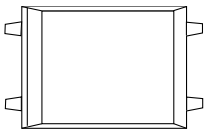


1 : V IN
2 : V OUT
3 : GND
4 : ON/OFF CONTROL

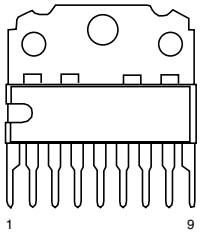
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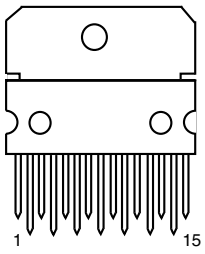
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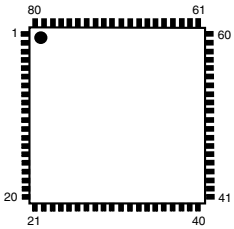
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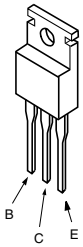


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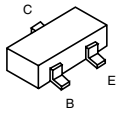


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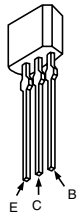
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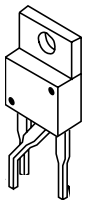
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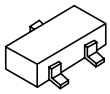
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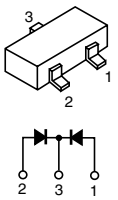
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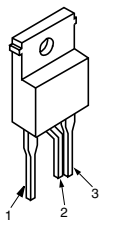
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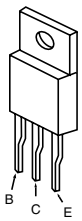


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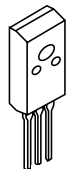


1 V OUT SENSE
2 COLLECTOR
3 GND

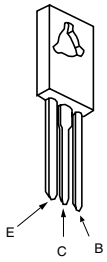
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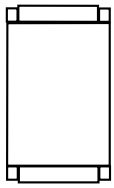
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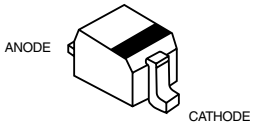
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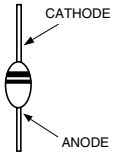
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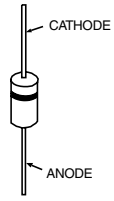
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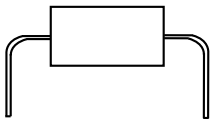
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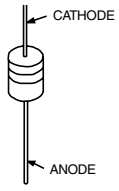
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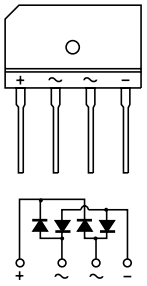
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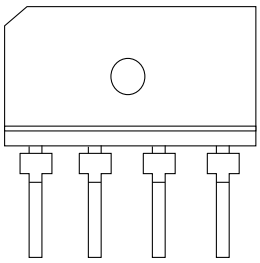
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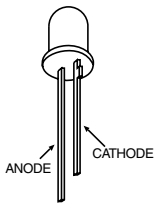
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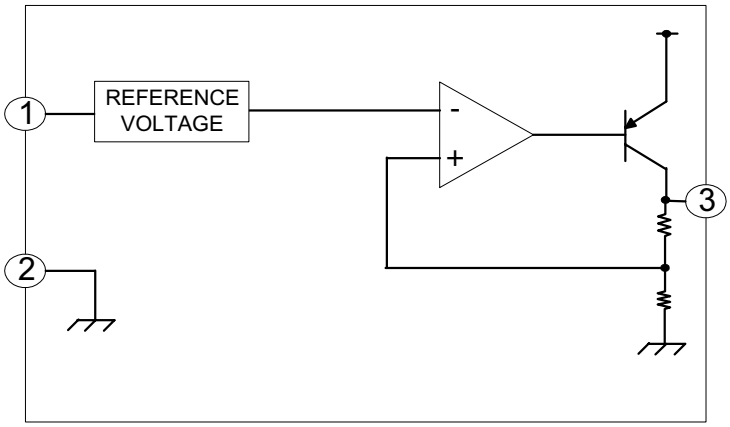


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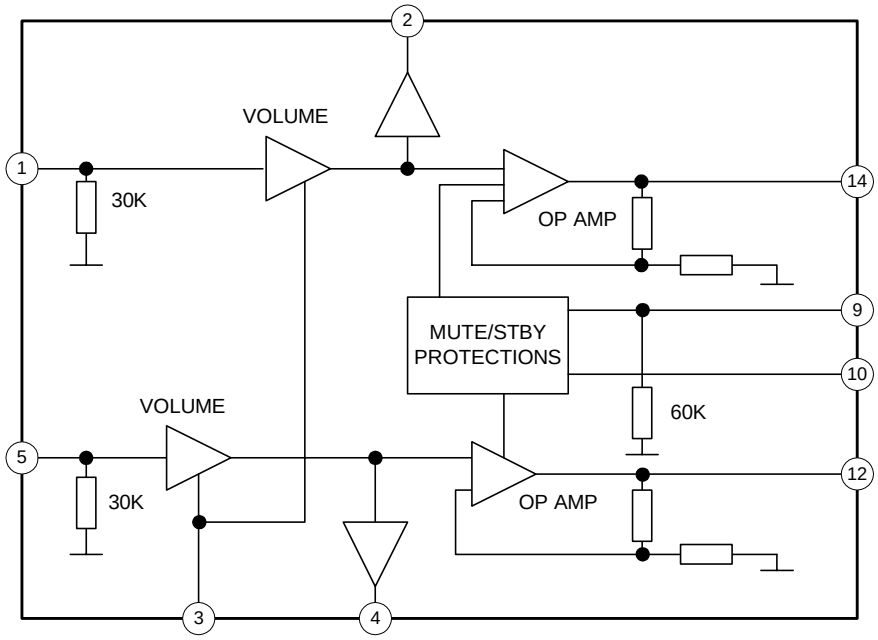


5-5 IC BLOCK DIAGRAMS

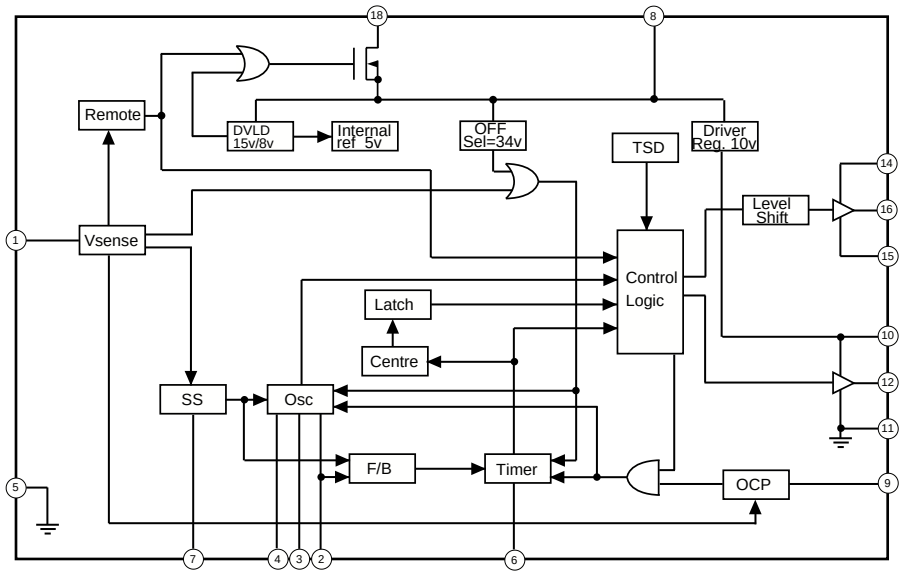
A BOARD IC6202/IC6205 BA033T/BA12T



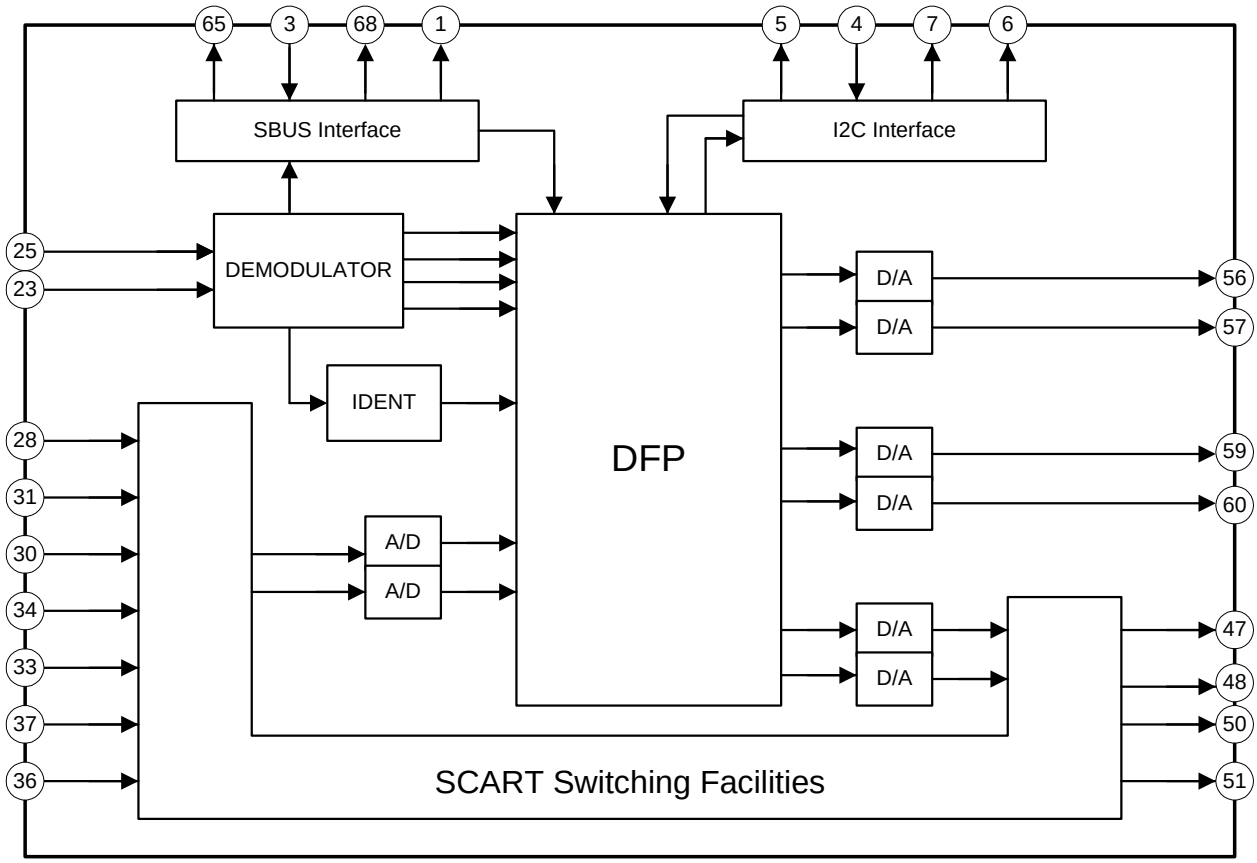
A BOARD IC2500 TDA7497



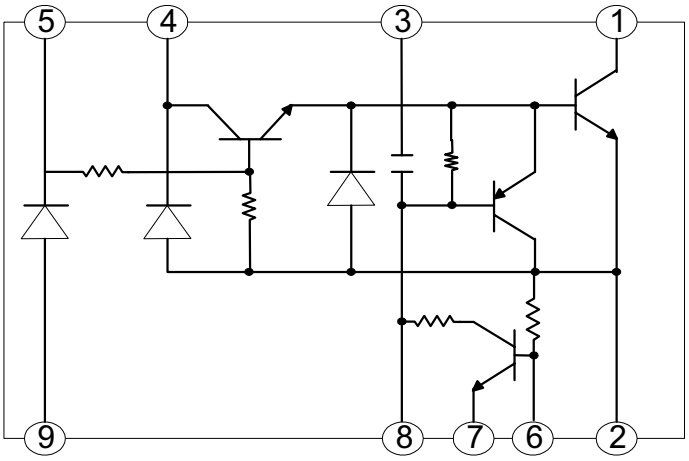
G BOARD IC6001 MCZ3001D



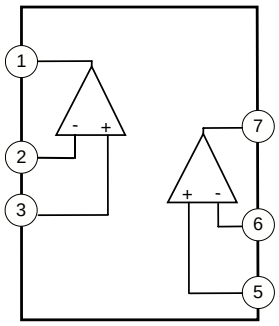
A BOARD IC2000 MSP3411G



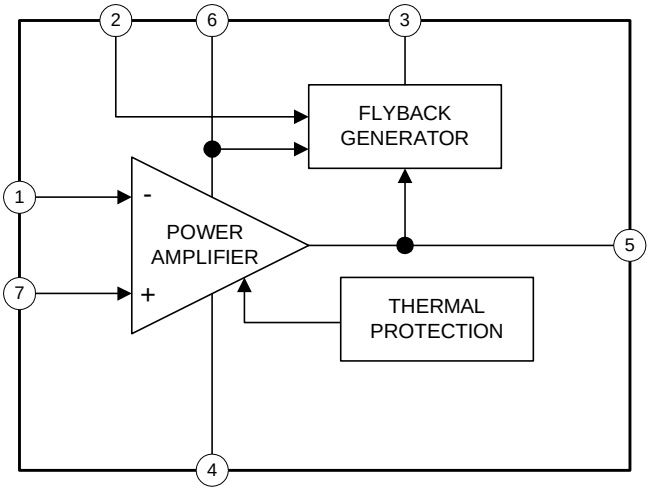
G BOARD IC6003 SE135N-LF4



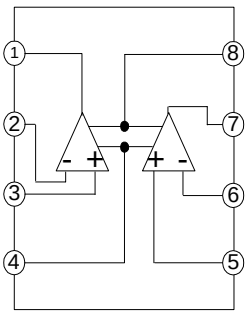
A BOARD IC5301/IC5302 LM393N



A BOARD IC5400 STV9379



A BOARD IC5300 LM358N



SECTION 6
EXPLODED VIEWS

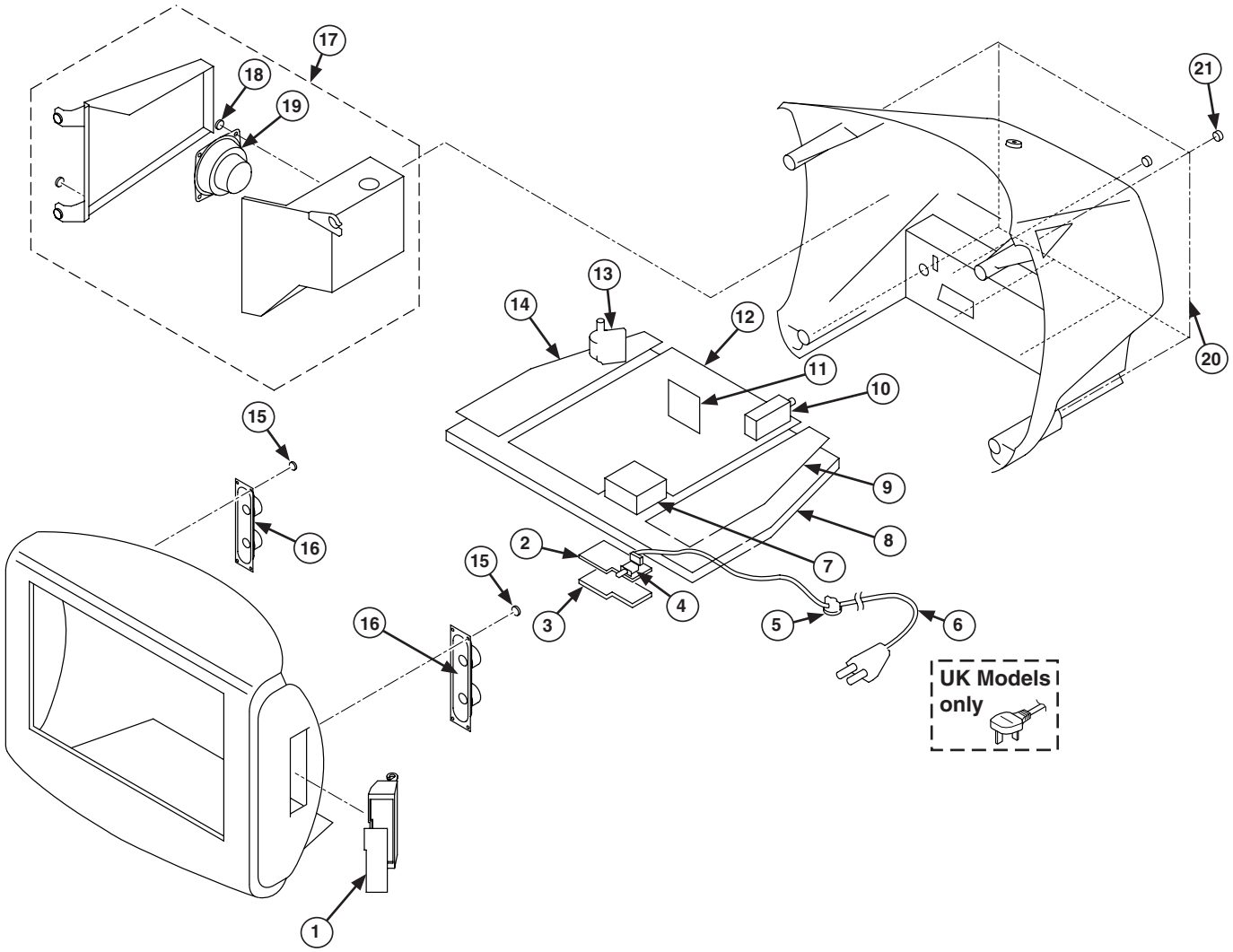
Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

NOTE :

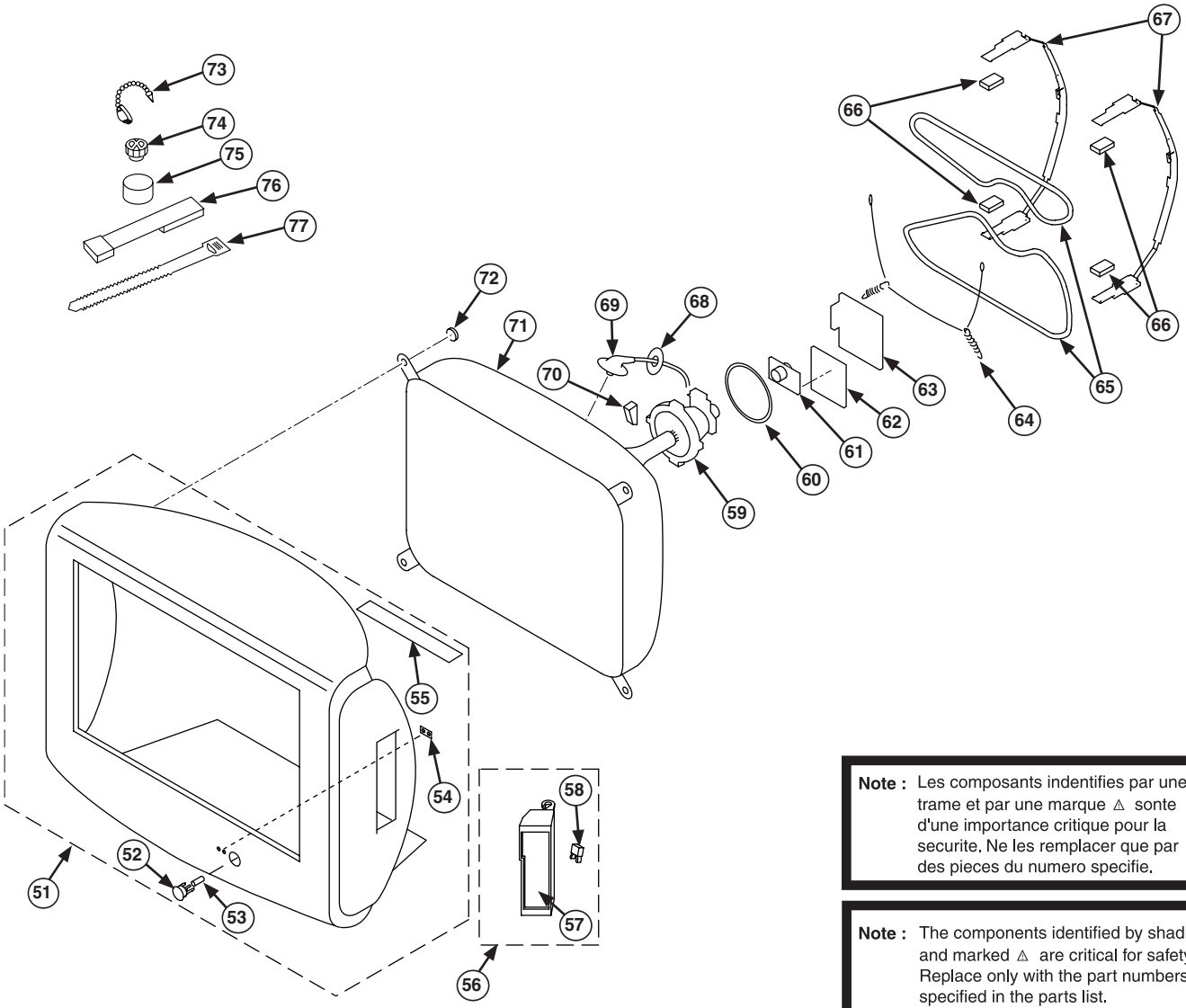
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

6-1. CHASSIS



REF.NO.		PART.NO	DESCRIPTION	REMARK
1		*A-1647-043-A	H2 BOARD, COMPLETE	
2		*A-1624-102-A	F2 BOARD, COMPLETE	
3		*4-206-055-01	BRACKET F2	
4	⚠	1-571-433-21	SWITCH, PUSH (AC POWER)	
5		*4-202-531-01	AC CORD LOCK (SC)	
6	⚠	1-823-853-11	CORD, POWER (KV-28LS60B/28LS60E/32LS60B/ KV-32LS60E/32LS60K)	
	⚠	1-776-860-12	POWER CORD, FILTER (UK) (KV-28LS60U/32LS60U)	
7		1-424-855-11	COIL, CHOKE 29MMH	
8		*4-206-106-01	BRACKET, MAIN	
9		*A-1300-179-A	G BOARD, COMPLETE	
10		8-598-535-11	FRONTEND BTF-EF411 (KV-28LS60B/32LS60B)	
		8-598-533-01	FRONTEND BTF-EC411 (KV-28LS60E/32LS60E /32LS60K)	
		8-598-529-01	FRONTEND BTF-EU611 (KV-28LS60U/32LS60U)	
11		*A-1300-287-A	M BOARD, COMPLETE	
12		*A-1300-302-A	A BOARD, COMPLETE (KV-28LS60B)	
		*A-1300-175-A	A BOARD, COMPLETE (KV-28LS60E)	
		*A-1300-301-A	A BOARD, COMPLETE (KV-28LS60U)	
		*A-1300-288-A	A BOARD, COMPLETE (KV-32LS60B)	
		*A-1300-177-A	A BOARD, COMPLETE (KV-32LS60E/32LS60K)	
		*A-1300-289-A	A BOARD, COMPLETE (KV-32LS60U)	
13	⚠	1-453-383-21	TRANSFORMER ASSY, FLYBACK (NX-4522//Z214) (KV-28LS60)	
	⚠	1-453-340-31	TRANSFORMER ASSY, FLYBACK (NX-4522//Z2B4) (KV-32LS60)	
14		*A-1300-176-A	D BOARD, COMPLETE (KV-28LS60)	
		*A-1300-178-A	D BOARD, COMPLETE (KV-32LS60)	
15		7-685-663-71	SCREW +BVTP 4x16 TYPE 2 IT-3	
16		1-529-408-11	SPEAKER (4.2x24CM)	
17		*A-1678-219-A	WOOFER COMPL. ASSY	18-19
18		7-685-663-71	SCREW +BVTP 4x16 TYPE 2 IT-3	
19		1-529-989-11	SPEAKER (8CM)	
20		4-206-089-11	COVER REAR (KV-28LS60)	
		4-206-062-21	COVER REAR (KV-32LS60)	
21		7-685-663-79	SCREW +BVTP 4x16 TYPE 2 IT-3	

6-2. PICTURE TUBE



Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.		PART.NO	DESCRIPTION	REMARK
51		X-4039-915-1	BEZNET ASSY (KV-28LS60)	52-55
		X-4200-824-1	BEZNET ASSY (KV-32LS60)	
52		4-205-948-02	POWER BUTTON	
53		4-204-426-01	SPRING	
54		4-205-375-01	GUIDE, LIGHT	
55		4-204-295-01	SHEET, BLOTTING	
56		X-4200-712-3	DOOR ASSY (KV-28LS60)	57-58
		X-4039-993-1	DOOR ASSY (KV-32LS60)	
57		4-205-946-02	DOOR	
58		4-047-464-01	CATCHER, PUSH	
59	⚠	8-451-521-11	DEFLECTION YOKE (Y28RVC3-B) (KV-28LS60)	
	⚠	1-451-480-11	DEFLECTION YOKE (Y32RVC2) (KV-32LS60)	
60		1-419-363-11	COIL, NA ROTATION (RT200)	
61		8-453-011-11	NECK ASSY, (NA299-M)	
62		*A-1644-119-A	VM BOARD, COMPLETE	
63		*A-1638-158-A	C BOARD, COMPLETE	
64		4-369-318-21	SPRING, TENSION	

REF.NO.		PART.NO	DESCRIPTION	REMARK
65	⚠	1-424-886-11	COIL, DEGAUSSING (KV-28LS60)	
	⚠	1-424-888-11	COIL, DEGAUSSING (KV-32LS60)	
66		4-203-390-11	CUSHION, DGC	
67		*4-204-768-01	HOLDER, DGC (29")	
68		*4-203-022-01	HOLDER, HV	
69	⚠	1-251-946-21	CAP ASSY, HIGH-VOLTAGE (KV-28LS60)	
	⚠	1-251-374-32	CAP ASSY, HIGH-VOLTAGE (KV-32LS60)	
70		3-704-495-01	SPACER, DY	
71	⚠	8-735-099-05	PICTURE TUBE (W66LLX060X) (KV-28LS60)	
	⚠	8-735-079-05	PICTURE TUBE (W76LLZ060X) (KV-32LS60)	
72		4-046-765-12	SCREW, TAPPING 7+CROWN WASHER	
73		4-308-870-00	CLIP, LEAD WIRE	
74		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
75		1-452-032-00	MAGNET, DISK; 10MM	
76		X-4387-214-1	PERMALLOY ASSY, CORRECTION	
77		3-701-007-00	BAND, BINDING	

SECTION 7
ELECTRICAL PARTS LIST

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Note : Refer to the designated variant parts list when seeking a part indicated by an asterisk (*)
Parts indicated (XX) on the Schematic Diagram are not used in this model and therefore do not appear in the Parts List.

REF.NO.	PART.NO	DESCRIPTION		REMARK
***A-1300-176-A**	**D Board, Complete (KV-28LS60)**			
***A-1300-178-A**	**D Board, Complete (KV-32LS60)**			
D Board, Common Parts				
	4-382-854-01	SCREW (M3X8), P, SW (+)		
		< CAPACITOR >		
C8100	1-136-165-00	FILM	0.1UF	5.00% 50V
C8101	1-136-165-00	FILM	0.1UF	5.00% 50V
C8102	1-136-165-00	FILM	0.1UF	5.00% 50V
C8103	1-115-416-11	CERAMIC CHIP	0.001UF	5.00% 25V
C8104	1-115-416-11	CERAMIC CHIP	0.001UF	5.00% 25V
C8105	1-126-947-11	ELECT	47UF	20.00% 25V
C8106	1-164-315-91	CERAMIC CHIP	470PF	5.00% 50V
C8108	1-162-970-11	CERAMIC CHIP	0.01UF	10.00% 25V
C8109	1-126-947-11	ELECT	47UF	20.00% 25V
C8112	1-164-227-91	CERAMIC CHIP	22000PF	10.00% 25V
C8113	1-162-970-11	CERAMIC CHIP	0.01UF	10.00% 25V
C8114	1-126-964-11	ELECT	10UF	20.00% 50V
C8115	1-162-962-11	CERAMIC CHIP	470PF	10.00% 50V
C8116	1-115-416-11	CERAMIC CHIP	0.001UF	5.00% 25V
C8117	1-115-416-11	CERAMIC CHIP	0.001UF	5.00% 25V
C8118	1-162-970-11	CERAMIC CHIP	0.01UF	10.00% 25V
C8120	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C8125	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00% 50V
C8126	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C8128	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00% 50V
C8131	1-126-964-11	ELECT	10UF	20.00% 50V
C8132	1-164-230-11	CERAMIC CHIP	220PF	5.00% 50V
C8134	1-102-935-00	CERAMIC	2PF	0.25PF 50V
C8135	1-126-964-11	ELECT	10UF	20.00% 50V
C8136	1-126-964-11	ELECT	10UF	20.00% 50V
C8140	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C8141	1-136-165-00	FILM	0.1UF	5.00% 50V
C8209	1-164-315-11	CERAMIC CHIP	470PF	5.00% 50V
C8210	1-162-964-11	CERAMIC CHIP	0.001UF	10.00% 50V
C8801	1-126-947-11	ELECT	47UF	20.00% 25V
C8802	1-126-960-11	ELECT	1UF	20.00% 50V
C8803	1-126-960-11	ELECT	1UF	20.00% 50V
C8804	1-102-114-00	CERAMIC	470PF	10.00% 50V
C8805	1-102-114-00	CERAMIC	470PF	10.00% 50V
C8808	1-102-030-00	CERAMIC	330PF	10.00% 500V
C8809	1-102-030-00	CERAMIC	330PF	10.00% 500V
C8810	1-107-368-11	MYLAR	0.047UF	10.00% 200V
C8811	1-107-368-11	MYLAR	0.047UF	10.00% 200V
C8812	1-162-131-11	CERAMIC	220PF	10.00% 2KV
C8813	1-162-134-11	CERAMIC	470PF	10.00% 2KV
C8816	1-162-964-11	CERAMIC CHIP	0.001UF	10.00% 50V
C8817	1-125-893-11	FILM	680PF	3.00% 1.5KV
C8818	1-125-893-11	FILM	680PF	3.00% 1.5KV
C8819	1-125-893-11	FILM	680PF	3.00% 1.5KV
C8820	1-125-893-11	FILM	680PF	3.00% 1.5KV
C8824	1-107-846-11	FILM	0.1UF	5.00% 250V
C8827	1-107-846-11	FILM	0.1UF	5.00% 250V
C8828	1-127-681-11	FILM	10000PF	2% 100V
C8829	1-127-680-11	FILM	4700PF	2% 100V
C8830	1-107-655-11	ELECT	47UF	20.00% 250V
C8831	1-102-228-00	CERAMIC	470PF	10.00% 500V
C8832	1-126-941-11	ELECT	470UF	20.00% 25V
C8833	1-126-941-11	ELECT	470UF	20.00% 25V
C8834	1-102-228-00	CERAMIC	470PF	10.00% 500V
C8835	1-102-228-00	CERAMIC	470PF	10.00% 500V
C8836	1-123-024-21	ELECT	33UF	160V
C8837	1-106-375-12	MYLAR	0.022UF	10.00% 250V
C8840	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C8841	1-126-947-11	ELECT	47UF	20.00% 25V
C8844	1-115-513-21	FILM	0.18UF	5.00% 250V
C8851	1-162-131-11	CERAMIC	220PF	10.00% 2KV
C8852	1-162-129-00	CERAMIC	150PF	10.00% 2KV
C8853	1-129-898-00	FILM	0.0022UF	5.00% 630V
C8855	1-136-205-11	MYLAR	0.022UF	10.00% 400V
C8856	1-102-030-00	CERAMIC	330PF	10.00% 500V
C8860	1-162-964-11	CERAMIC CHIP	0.001UF	10.00% 50V
C8861	1-162-927-11	CERAMIC CHIP	100PF	5.00% 50V
C8869	1-162-964-11	CERAMIC CHIP	0.001UF	10.00% 50V
		< CONNECTOR >		
CN8600	*1-564-509-11	PLUG, CONNECTOR 6P		
CN8601	*1-564-506-11	PLUG, CONNECTOR 3P		
CN8611	*1-785-270-12	PIN, DY CONNECTOR (PC BOARD)		
CN8612	*1-564-511-11	PLUG, CONNECTOR 8P		
CN8614	*1-564-508-11	PLUG, CONNECTOR 5P		
CN8616	1-695-915-11	TAB (CONTACT)		
CN8620	*1-764-333-11	PLUG, CONNECTOR 10P		
CN8810	*1-564-510-11	PLUG, CONNECTOR 7P		
		< DIODE >		
D8102	8-719-081-97	DIODE MMDL914T1		
D8103	8-719-081-97	DIODE MMDL914T1		
D8104	8-719-081-97	DIODE MMDL914T1		
D8105	8-719-081-97	DIODE MMDL914T1		
D8107	8-719-081-97	DIODE MMDL914T1		
D8108	8-719-921-40	DIODE MTZJ-4.7C		
D8128	8-719-081-97	DIODE MMDL914T1		
D8129	8-719-081-97	DIODE MMDL914T1		
D8132	8-719-081-97	DIODE MMDL914T1		
D8133	8-719-081-97	DIODE MMDL914T1		
D8198	1-535-143-61	LEAD, JUMPER (5.0MM)		

REF.NO.	PART.NO	DESCRIPTION	REMARK
D8199	8-719-081-97	DIODE MMDL914T1	
D8611	8-719-081-97	DIODE MMDL914T1	
D8612	8-719-081-97	DIODE MMDL914T1	
D8803	8-719-908-03	DIODE GP08D	
D8805	8-719-302-43	DIODE EL1Z	
D8806	8-719-979-85	DIODE EPG20G	
D8807	8-719-510-73	DIODE S3L20UF4	
D8808	8-719-510-73	DIODE S3L20UF4	
D8811	8-719-110-41	DIODE RD15ES-B2	
D8818	8-719-109-89	DIODE RD15ES-B2	
D8819	8-719-050-38	DIODE M1MA152WK-T1	
D8820	8-719-081-97	DIODE MMDL914T1	
D8851	8-719-970-87	DIODE ERA38-06	
D8856	8-719-081-97	DIODE MMDL914T1	
D8857	8-719-110-41	DIODE RD15ES-B2	
D8858	8-719-081-97	DIODE MMDL914T1	
		< FERRITE BEAD >	
FB8806	1-410-397-21	FERRITE 1.1UH	
FB8807	1-410-397-21	FERRITE 1.1UH	
		< IC >	
IC8100	8-759-450-95	IC LM393N	
IC8101	8-759-450-95	IC LM393N	
IC8102	8-759-638-79	IC NJM3404AD-W	
IC8103	8-759-450-95	IC LM393N	
		< COIL >	
L8801	1-410-397-21	FERRITE 1.1UH	
L8802	1-410-397-21	FERRITE 1.1UH	
L8803	1-410-397-21	FERRITE 1.1UH	
L8805	1-408-947-00	INDUCTOR 2.2MH	
L8851	1-535-143-61	LEAD, JUMPER (5.0MM)	
		< FILTER >	
LF8801	1-406-985-11	INDUCTOR 2.2MH	
LF8851	1-406-674-11	INDUCTOR 3.3MH	
		< TRANSISTOR >	
Q8100	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8101	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8102	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8103	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8104	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8105	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8106	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8107	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8108	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8110	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8112	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8113	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8115	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8118	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8119	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8120	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8122	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8123	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8125	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8126	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8127	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8128	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8132	8-729-421-19	TRANSISTOR UN2213	
Q8135	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8136	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8137	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8201	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8202	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8203	8-729-010-05	TRANSISTOR MSB709-RT1	
Q8455	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8801	8-729-048-47	TRANSISTOR 2SC2688(5)-LK	
Q8802	8-729-048-47	TRANSISTOR 2SC2688(5)-LK	
Q8803	8-729-056-16	TRANSISTOR 2SC5698-SONY-CA	
Q8804	8-729-056-17	TRANSISTOR 2SC5696-SONY-CA	
Q8805	8-729-050-48	TRANSISTOR IRF614-005	
Q8806	8-729-047-59	TRANSISTOR STP5NB40FP	
Q8807	8-729-421-19	TRANSISTOR MUN2213T1	
Q8822	8-729-010-29	TRANSISTOR MSD601-RST1	
Q8823	8-729-424-08	TRANSISTOR UN2111	
Q8851	6-550-012-01	TRANSISTOR STP5NB40(033Y)	
		< RESISTOR >	
R8100	1-216-813-11	RES-CHIP 220 5% 1/10W	
R8101	1-216-813-11	RES-CHIP 220 5% 1/10W	
R8102	1-216-825-11	RES-CHIP 2.2K 5% 1/10W	
R8103	1-216-825-11	RES-CHIP 2.2K 5% 1/10W	
R8104	1-216-825-11	RES-CHIP 2.2K 5% 1/10W	
R8105	1-216-821-11	RES-CHIP 1K 5% 1/10W	
R8106	1-216-825-11	RES-CHIP 2.2K 5% 1/10W	
R8107	1-208-792-11	METAL CHIP 2.7K 0.5% 1/10W	
R8108	1-208-792-11	METAL CHIP 2.7K 0.5% 1/10W	
R8109	1-208-814-91	METAL CHIP 22K 0.5% 1/10W	
R8110	1-208-814-91	METAL CHIP 22K 0.5% 1/10W	
R8111	1-216-825-11	RES-CHIP 2.2K 5% 1/10W	
R8112	1-216-825-11	RES-CHIP 2.2K 5% 1/10W	
R8113	1-216-833-11	RES-CHIP 10K 5% 1/10W	
R8114	1-216-833-11	RES-CHIP 10K 5% 1/10W	
R8115	1-216-845-11	RES-CHIP 100K 5% 1/10W	
R8116	1-216-845-11	RES-CHIP 100K 5% 1/10W	
R8117	1-216-833-11	RES-CHIP 10K 5% 1/10W	

REF.NO.	PART.NO	DESCRIPTION			REMARK
R8118	1-216-833-11	RES-CHIP	10K	5%	1/10W
R8119	1-216-833-11	RES-CHIP	10K	5%	1/10W
R8120	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8121	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8122	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8123	1-216-841-11	RES-CHIP	47K	5%	1/10W
R8124	1-216-821-11	RES-CHIP	1K	5%	1/10W
R8125	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8126	1-216-815-11	RES-CHIP	330	5%	1/10W
R8128	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8129	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8130	1-208-846-11	METAL CHIP	470K	0.5%	1/10W
R8131	1-216-815-11	RES-CHIP	330	5%	1/10W
R8132	1-216-815-11	RES-CHIP	330	5%	1/10W
R8133	1-216-815-11	RES-CHIP	330	5%	1/10W
R8136	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8137	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8138	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8139	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8140	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8143	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8145	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8146	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R8153	1-216-295-91	SHORT	0		
R8160	1-216-295-91	SHORT	0		
R8162	1-216-821-11	RES-CHIP	1K	5%	1/10W
R8163	1-216-833-11	RES-CHIP	10K	5%	1/10W
R8164	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R8165	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R8168	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R8169	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R8170	1-216-815-11	RES-CHIP	330	5%	1/10W
R8171	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8174	1-216-837-91	RES-CHIP	22K	5%	1/10W
R8180	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8181	1-216-295-91	SHORT	0		
R8182	1-216-841-11	RES-CHIP	47K	5%	1/10W
R8183	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8188	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R8190	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8191	1-215-925-11	METAL OXIDE	22K	5%	3W
R8196	1-249-377-11	CARBON	0.47	5%	1/4W
R8197	1-216-841-11	RES-CHIP	47K	5%	1/10W
R8204	1-216-295-91	SHORT	0		
R8205	1-216-295-91	SHORT	0		
R8209	1-216-295-91	SHORT	0		
R8210	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8211	1-216-833-11	RES-CHIP	10K	5%	1/10W
R8212	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8217	1-216-833-11	RES-CHIP	10K	5%	1/10W
R8219	1-216-841-11	RES-CHIP	47K	5%	1/10W
R8456	1-216-845-11	RES-CHIP	100K	5%	1/10W
R8457	1-216-834-11	RES-CHIP	12K	5%	1/10W
R8458	1-216-841-11	RES-CHIP	47K	5%	1/10W
R8459	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R8800	1-247-895-91	CARBON	470K	5%	1/4W
R8804	1-249-408-11	CARBON	180	5%	1/4W
R8805	1-249-408-11	CARBON	180	5%	1/4W
R8806	1-249-411-11	CARBON	330	5%	1/4W
R8807	1-249-411-11	CARBON	330	5%	1/4W
R8808	1-260-340-11	CARBON	10K	5%	1/2W
R8809	1-260-340-11	CARBON	10K	5%	1/2W
R8811	1-215-896-00	METAL OXIDE	4.7K	5%	2W
R8812	1-215-896-00	METAL OXIDE	4.7K	5%	2W
R8813	1-215-895-11	METAL OXIDE	3.3K	5%	2W
R8814	1-215-880-00	METAL OXIDE	10	5%	2W
R8815	1-215-880-00	METAL OXIDE	10	5%	2W
R8816	1-216-365-00	METAL OXIDE	0.47	5%	2W
R8817	1-216-361-00	METAL OXIDE	0.22	5%	2W
R8818	1-249-405-11	CARBON	100	5%	1/4W
R8819	1-247-807-31	CARBON	100	5%	1/4W
R8831	1-260-124-11	CARBON	120K	5%	1/2W
R8833	1-202-972-61	FUSIBLE	1	5%	1/4W
R8834	1-260-288-11	CARBON	0.47	5%	1/2W
R8835	1-260-288-11	CARBON	0.47	5%	1/2W
R8837	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R8838	1-214-905-11	METAL	47K	1%	1/2W
R8839	1-215-894-11	METAL OXIDE	2.2K	5%	2W
R8840	1-247-843-11	CARBON	3.3K	5%	1/4W
R8842	1-260-123-11	CARBON	100K	5%	1/2W
R8843	1-216-833-11	RES-CHIP	10K	5%	1/10W
R8844	1-216-838-11	RES-CHIP	27K	5%	1/10W
R8845	1-216-833-11	RES-CHIP	10K	5%	1/10W
R8851	1-260-123-11	CARBON	100K	5%	1/2W
R8852	1-260-123-11	CARBON	100K	5%	1/2W
R8853	1-260-123-11	CARBON	100K	5%	1/2W
R8854	1-249-425-11	CARBON	4.7K	5%	1/4W
R8865	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R8866	1-216-295-91	SHORT	0		
R8867	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R8869	1-216-837-11	RES-CHIP	22K	5%	1/10W
R8870	1-216-837-11	RES-CHIP	22K	5%	1/10W
R8885	1-208-854-11	METAL CHIP	1M	0.5%	1/10W
R8887	1-216-841-11	RES-CHIP	47K	5%	1/10W
R8888	1-249-441-11	CARBON	100K	5%	1/4W
R8895	1-249-443-11	CARBON	0.47	5%	1/4W
R8896	1-249-443-11	CARBON	0.47	5%	1/4W
R8898	1-215-493-00	METAL	1M	1%	1/4W
R8899	1-215-493-00	METAL	1M	1%	1/4W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

D

REF.NO.	PART.NO	DESCRIPTION			REMARK
	<TRANSFORMER >				
T8801	1-437-430-11	TRANSFORMER, FERRITE (HDT)			
T8802	1-437-430-11	TRANSFORMER, FERRITE (HDT)			
T8852	1-437-690-11	TRANSFORMER, FERRITE (DFT)			

D Board Variant Parts KV-28LS60

	< CAPACITOR >				
C8107	NOT FITTED				
C8130	1-164-230-11	CERAMIC CHIP	220PF	5%	25V
C8207	NOT FITTED				
C8208	NOT FITTED				
C8814	1-117-641-11	FILM	7500PF	3%	1.2KV
C8815	1-117-836-11	FILM	6800PF	3%	1.5KV
C8825	1-117-663-11	FILM	0.22UF	5%	250V
C8826	1-115-520-11	FILM	0.68UF	5%	250V
	< RESISTOR >				
R8127	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R8141	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R8142	1-208-803-11	METAL CHIP	7.5K	0.5%	1/10W
R8144	1-216-849-11	RES-CHIP	220K	5%	1/10W
R8149	1-216-837-91	RES-CHIP	22K	5%	1/10W
R8150	1-216-831-11	RES-CHIP	22K	5%	1/10W
R8154	1-216-830-91	RES-CHIP	5.6K	5%	1/10W
R8155	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R8158	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R8159	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R8161	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R8175	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R8176	1-216-864-91	SHORT	0		
R8177	1-216-830-11	RES-CHIP	5.6K	5%	1/10W
R8179	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R8186	1-216-826-11	RES-CHIP	2.7K	5%	1/10W
R8189	1-216-823-91	RES-CHIP	1.5K	5%	1/10W
R8203	1-216-831-91	RES-CHIP	6.8K	5%	1/10W
R8206	1-216-853-91	RES-CHIP	470K	5%	1/10W
R8207	1-216-850-91	RES-CHIP	270K	5%	1/10W
R8215	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R8216	1-216-841-91	RES-CHIP	47K	5%	1/10W
R8220	1-216-831-91	RES-CHIP	6.8K	5%	1/10W
R8221	1-216-836-91	RES-CHIP	18K	5%	1/10W
R8224	NOT FITTED				
R8810	1-216-896-00	METAL OXIDE	4.7K	5%	2W
R8836	1-249-432-11	CARBON	18K	5%	1/4W
R8856	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R8857	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R8858	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R8859	1-216-486-00	METAL OXIDE	8.2K	5%	3W
R8886	1-218-760-11	METAL CHIP	220K	0.5%	1/10W
R8897	1-215-485-00	METAL	470K	1%	1/4W
	<TRANSFORMER >				
T8800	⚠ 1-453-383-21	TRANSFORMER ASSY, FLYBACK (NX4522//Z214)			

D Board Variant Parts KV-32LS60

	< CAPACITOR >				
C8107	1-208-816-91	RES-CHIP	27K	0.5%	1/10W
C8130	NOT FITTED				
C8207	1-165-176-11	CERAMIC CHIP	0.047UF	10%	16V
C8208	1-162-970-11	CERAMIC CHIP	0.01UF	10%	25V
C8814	1-117-640-11	FILM	6800PF	3%	1.2KV
C8815	1-117-835-11	FILM	6200PF	3%	1.5KV
C8825	1-117-662-11	FILM	0.18UF	5%	250V
C8826	1-115-519-11	FILM	0.56UF	5%	250V
	< RESISTOR >				
R8127	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R8141	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R8142	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R8144	1-216-846-11	RES-CHIP	120K	5%	1/10W
R8149	1-216-828-11	RES-CHIP	3.9K	5%	1/10W
R8150	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R8154	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R8155	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R8158	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R8159	1-216-295-91	SHORT	0		
R8161	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
R8175	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R8176	1-216-833-11	RES-CHIP	10K	5%	1/10W
R8177	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R8179	1-216-295-91	SHORT	0		
R8186	1-216-828-91	RES-CHIP	3.9K	5%	1/10W
R8189	1-216-818-91	RES-CHIP	560	5%	1/10W
R8203	1-216-295-91	SHORT	0		
R8206	1-208-842-91	RES-CHIP	330K	0.5%	1/10W
R8207	1-216-849-11	RES-CHIP	220K	5%	1/10W
R8215	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8216	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R8220	1-216-834-11	RES-CHIP	12K	5%	1/10W
R8221	1-216-837-11	RES-CHIP	22K	5%	1/10W
R8224	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R8810	1-216-460-11	METAL OXIDE	3.9K	5%	2W
R8836	1-249-431-11	CARBON	15K	5%	1/4W
R8856	1-215-922-11	METAL OXIDE	6.8K	5%	3W
R8857	1-215-922-11	METAL OXIDE	6.8K	5%	3W
R8858	1-215-922-11	METAL OXIDE	6.8K	5%	3W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.		PART.NO	DESCRIPTION		REMARK
R8859		1-215-922-11	METAL OXIDE	6.8K 5%	3W
R8886		1-216-849-11	METAL CHIP	220K 5%	1/10W
R8897		1-215-489-00	METAL	680K 1%	1/4W
			<TRANSFORMER >		
T8800	⚠	1-453-340-31	TRANSFORMER ASSY, FLYBACK (NX4522//Z2B4)		

*A-1300-179-A G Board, Complete

		4-382-854-01	SCREW (M3X8), P, SW (+)		
			< CAPACITOR >		
C6001	⚠	1-137-999-11	FILM	0.1UF	275V
C6002	⚠	1-137-999-11	FILM	0.1UF	275V
C6003	⚠	1-119-889-51	CERAMIC	1000PF 20.00%	250V
C6004	⚠	1-119-889-51	CERAMIC	1000PF 20.00%	250V
C6005		1-126-965-91	ELECT	22UF 20.00%	50V
C6006		1-117-753-11	ELECT(BLOCK)	470UF 20.00%	450V
C6007		1-126-964-11	ELECT	10UF 20.00%	50V
C6008		1-126-963-11	ELECT	4.7UF 20.00%	50V
C6010		1-136-165-00	FILM	0.1UF 5.00%	50V
C6011		1-162-964-11	CERAMIC CHIP	0.001UF 10.00%	50V
C6012	⚠	1-161-830-00	CERAMIC	0.0047UF	500V
C6013	⚠	1-161-830-00	CERAMIC	0.0047UF	500V
C6015		1-115-339-11	CERAMIC CHIP	0.1UF 10.00%	50V
C6016		1-161-830-00	CERAMIC	0.0047UF	500V
C6017		1-161-830-00	CERAMIC	0.0047UF	500V
C6018		1-126-949-11	ELECT	220UF 20.00%	35V
C6020		1-135-946-21	FILM	47000PF 3%	800V
C6021		1-164-645-11	CERAMIC	1000PF 10.00%	500V
C6022		1-126-963-11	ELECT	4.7UF 20.00%	50V
C6023		1-110-626-41	ELECT	330UF 20.00%	160V
C6024		1-164-625-11	CERAMIC	680PF 10.00%	500V
C6025		1-164-625-11	CERAMIC	680PF 10.00%	500V
C6026		1-164-625-11	CERAMIC	680PF 10.00%	500V
C6027		1-164-625-11	CERAMIC	680PF 10.00%	500V
C6028		1-128-548-11	ELECT	4700UF 20.00%	25V
C6029		1-126-939-11	ELECT	10000UF 20.00%	16V
C6030		1-119-940-51	ELECT	4700UF 20.00%	50V
C6032	⚠	1-127-802-51	CERAMIC	10000PF 20.00%	250V
C6033		1-162-964-11	CERAMIC CHIP	0.001UF 10.00%	50V
C6034		1-162-968-11	CERAMIC CHIP	0.0047UF 10.00%	50V
C6035		1-136-165-00	FILM	0.1UF 5.00%	50V
C6036		1-136-479-11	FILM	0.001UF 2.00%	50V
C6037		1-126-947-11	ELECT	47UF 20.00%	25V
C6038		1-164-645-11	CERAMIC	1000PF 10.00%	500V
C6039		1-125-891-11	CERAMIC CHIP	0.47UF 10.00%	10V
C6040		1-115-340-11	CERAMIC CHIP	0.22UF 10.00%	25V
C6045		1-115-339-11	CERAMIC CHIP	0.1UF 10.00%	50V
C6102		1-126-943-11	ELECT	2200UF 20.00%	25V
C6103		1-126-971-11	ELECT	470UF 20.00%	50V
C6105		1-126-964-11	ELECT	10UF 20.00%	50V
C6106		1-126-964-11	ELECT	10UF 20.00%	50V
			< CONNECTOR >		
CN6001	⚠	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P		
CN6002	⚠	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		
CN6003	⚠	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		
CN6004	⚠	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P		
CN6005		*1-564-509-11	PLUG, CONNECTOR 6P		
CN6006		*1-564-516-11	PLUG, CONNECTOR 13P		
CN6008		*1-564-507-11	PLUG, CONNECTOR 4P		
			< DIODE >		
D6001		6-500-067-01	DIODE GSIB460L/45		
D6002		8-719-982-26	DIODE MTZJ-33B		
D6004		8-719-979-64	DIODE UF4005PKG23		
D6006		8-719-081-97	DIODE MMDL914T1		
D6007		8-719-081-97	DIODE MMDL914T1		
D6008		8-719-063-70	DIODE D1NL20U		
D6009		8-719-110-41	DIODE RD15ES-B2		
D6010		8-719-085-24	DIODE FBIU4D7M1-B		
D6016		8-719-312-47	DIODE RBA-406B		
D6031		8-719-080-59	DIODE EK19-V0		
D6032		8-719-080-59	DIODE EK19-V0		
D6033		8-719-022-97	DIODE D2S4MF		
D6034		8-719-022-97	DIODE D2S4MF		
D6101		8-719-081-97	DIODE MMDL914T1		
D6102		8-719-511-40	DIODE S1VB40		
D6103		8-719-081-97	DIODE MMDL914T1		
D6104		8-719-081-97	DIODE MMDL914T1		
D6105		8-719-081-97	DIODE MMDL914T1		
D6106		8-719-081-97	DIODE MMDL914T1		
D6107		8-719-081-97	DIODE MMDL914T1		
			< FERRITE BEAD >		
FB6002		1-410-397-21	FERRITE	1.1UH	
FB6003		1-410-397-21	FERRITE	1.1UH	
FB6005		1-535-143-61	LEAD, JUMPER	(5.0MM)	
FB6006		1-535-143-61	LEAD, JUMPER	(5.0MM)	
			< IC >		
IC6001		8-759-670-30	IC MCZ3001D		
IC6003		8-749-016-19	IC SE135N-LF4		
			< COIL >		
L6001		1-406-663-21	INDUCTOR	47UH	
L6002		1-412-529-11	INDUCTOR	22UH	
L6003		1-412-529-11	INDUCTOR	22UH	
L6004		1-535-143-61	LEAD, JUMPER	(5.0MM)	

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

G **M**

REF.NO.		PART.NO	DESCRIPTION			REMARK
L6005		1-535-143-61	LEAD, JUMPER (5.0MM)			
L6006		1-406-659-11	INDUCTOR 10UH			
L6007		1-412-525-31	INDUCTOR 10UH			
			< PHOTO COUPLER >			
PH6001	⚠	8-749-016-21	IC TCET1103G			
			< TRANSISTOR >			
Q6003		8-729-010-29	TRANSISTOR MSD601-RST1			
Q6005		8-729-029-56	TRANSISTOR DTA144ESA			
Q6006		6-550-146-01	TRANSISTOR SPA07N60C2-E8152			
Q6007		6-550-146-01	TRANSISTOR SPA07N60C2-E8152			
Q6010		8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q6101		8-729-029-56	TRANSISTOR DTA144ESA			
Q6102		8-729-010-29	TRANSISTOR MSD601-RST1			
Q6103		8-729-029-56	TRANSISTOR DTA144ESA			
Q6104		8-729-010-29	TRANSISTOR MSD601-RST1			
Q6105		8-729-010-29	TRANSISTOR MSD601-RST1			
			< RESISTOR >			
JR6001		1-216-295-91	SHORT 0			
JR6004		1-216-295-91	SHORT 0			
R6003		1-202-933-61	FUSIBLE	0.1	10%	1/2W
R6004	⚠	1-205-998-11	CEMENTED	1	5%	10W
R6005	⚠	1-205-998-11	CEMENTED	1	5%	10W
R6006	⚠	1-205-998-11	CEMENTED	1	5%	10W
R6007		1-243-979-21	METAL OXIDE	0.1	5%	2W
R6008		1-243-979-21	METAL OXIDE	0.1	5%	2W
R6009		1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R6010		1-215-481-00	METAL	330K	1%	1/4W
R6013	⚠	1-218-265-11	METAL	8.2M	5%	1W
R6014		1-215-926-00	METAL OXIDE	33K	5%	3W
R6015		1-208-757-11	METAL CHIP	91	0.5%	1/10W
R6016		1-216-821-11	RES-CHIP	1K	5%	1/10W
R6017		1-216-833-11	RES-CHIP	10K	5%	1/10W
R6018		1-260-131-11	CARBON	470K	5%	1/2W
R6019		1-260-129-11	CARBON	330K	5%	1/2W
R6020		1-216-820-11	RES-CHIP	820	5%	1/10W
R6021		1-216-362-11	METAL OXIDE	0.27	5%	2W
R6022		1-216-833-11	RES-CHIP	10K	5%	1/10W
R6024		1-216-615-11	METAL CHIP	33	0.5%	1/10W
R6029		1-216-833-11	RES-CHIP	10K	5%	1/10W
R6030		1-216-817-11	RES-CHIP	470	5%	1/10W
R6032		1-249-417-11	CARBON	1K	5%	1/4W
R6033		1-215-481-00	METAL	330K	1%	1/4W
R6034		1-249-389-11	CARBON	4.7	5%	1/4W
R6035		1-260-083-11	CARBON	47	5%	1/2W
R6036		1-216-817-11	RES-CHIP	470	5%	1/10W
R6037		1-249-405-11	CARBON	100	5%	1/4W

REF.NO.		PART.NO	DESCRIPTION			REMARK
R6038		1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R6039		1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R6040		1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6042		1-216-295-91	SHORT 0			
R6045		1-208-770-11	METAL CHIP	330	0.5%	1/10W
R6047		1-208-842-11	METAL CHIP	330K	0.5%	1/10W
R6048		1-215-481-00	METAL	330K	1%	1/4W
R6049		1-208-805-11	METAL CHIP	9.1K	0.5%	1/10W
R6050		1-208-758-11	METAL CHIP	100	0.5%	1/10W
R6054		1-216-615-11	METAL CHIP	33	0.5%	1/10W
R6056		1-216-295-91	SHORT 0			
R6101		1-216-821-11	RES-CHIP	1K	5%	1/10W
R6102		1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R6103		1-216-821-11	RES-CHIP	1K	5%	1/10W
R6104		1-216-821-11	RES-CHIP	1K	5%	1/10W
R6105		1-216-821-11	RES-CHIP	1K	5%	1/10W
R6106		1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R6107		1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R6108		1-216-821-11	RES-CHIP	1K	5%	1/10W
R6109		1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R6110		1-216-821-11	RES-CHIP	1K	5%	1/10W
			< RELAY >			
RY6001	⚠	1-755-395-11	RELAY (AC POWER)			
RY6002	⚠	1-755-389-11	RELAY (AC POWER)			
			< TRANSFORMER >			
T6002	⚠	1-437-443-11	TRANSFORMER, CONVERTER (PIT)			
T6003	⚠	1-424-896-11	TRANSFORMER, LINE FILTER			
T6101	⚠	1-437-483-11	TRANSFORMER, STANDBY			
			< THERMISTOR >			
TH6002	⚠	1-804-650-11	THERMISTOR			

*A-1300-287-A M Board, Complete

		< CAPACITOR >			
C0001	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C0002	1-109-982-11	CERAMIC CHIP	1UF	10.00%	10V
C0004	1-165-128-11	CERAMIC CHIP	0.22UF		16V
C0006	1-126-947-11	ELECT	47UF	20.00%	25V
C0007	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C0008	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C0009	1-165-128-11	CERAMIC CHIP	0.22UF		16V
C0010	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C0011	1-165-128-11	CERAMIC CHIP	0.22UF		16V
C0012	1-162-924-11	CERAMIC CHIP	56PF	5.00%	50V
C0013	1-165-128-11	CERAMIC CHIP	0.22UF		16V
C0015	1-135-834-91	CERAMIC CHIP	2.2E+06PF		6.3V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C0016	1-165-128-11	CERAMIC CHIP 0.22UF	16V
C0017	1-162-924-11	CERAMIC CHIP 56PF	5.00% 50V
C0019	1-165-128-11	CERAMIC CHIP 0.22UF	16V
C0020	1-162-923-11	CERAMIC CHIP 47PF	5.00% 50V
C0025	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C0026	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C0027	1-162-962-11	CERAMIC CHIP 470PF	10.00% 50V
C0028	1-126-947-11	ELECT 47UF	20.00% 25V
		< CONNECTOR >	
CN0001	1-793-497-11	CONNECTOR, BOARD TO BOARD 40P	
		< DIODE >	
D0001	8-719-992-02	DIODE RB705D	
D0301	8-719-069-56	DIODE UDZSTE-176.2B	
		< FERRITE BEAD >	
FB0003	1-216-295-91	SHORT 0	
FB0004	1-412-006-31	INDUCTOR 10UH	
FB0005	1-216-864-11	SHORT 0	
FB0006	1-216-864-11	SHORT 0	
FB0007	1-216-295-91	SHORT 0	
FB0008	1-216-295-91	SHORT 0	
FB0009	1-412-006-31	INDUCTOR 10UH	
FB0010	1-216-295-91	SHORT 0	
FB0011	1-412-006-31	INDUCTOR 10UH	
FB0012	1-216-295-91	SHORT 0	
FB0015	1-216-864-11	SHORT 0	
FB0016	1-216-864-11	SHORT 0	
FB0017	1-216-295-91	SHORT 0	
FB0018	1-216-295-91	SHORT 0	
FB0019	1-216-295-91	SHORT 0	
FB0020	1-216-295-91	SHORT 0	
		< IC >	
IC0001	8-759-699-33	IC M24C16-MN6T(A)	
IC0002	6-702-143-01	IC SAA5667HL/M1/0560	
IC0003	8-759-672-39	IC PST573IMT	
IC0004	8-759-665-11	IC LM393DT	
IC0005	6-700-132-01	IC K6T2008V2A-YF70T00	
		< TRANSISTOR >	
Q0002	8-729-424-08	TRANSISTOR UN2111	
Q0003	8-729-424-08	TRANSISTOR UN2111	
Q0006	8-729-010-29	TRANSISTOR MSD601-RST1	
Q0007	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0008	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0009	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0010	8-729-027-44	TRANSISTOR DTC114TKA-T146	
Q0011	8-729-010-29	TRANSISTOR MSD601-RST1	
Q0012	8-729-424-08	TRANSISTOR UN2111	
Q0013	8-729-421-22	TRANSISTOR UN2211	
		< RESISTOR >	
R0001	1-216-045-00	RES-CHIP 680 5%	1/10W
R0002	1-216-055-00	RES-CHIP 1.8K 5%	1/10W
R0003	1-216-025-11	RES-CHIP 100 5%	1/10W
R0011	1-216-025-11	RES-CHIP 100 5%	1/10W
R0014	1-216-081-00	RES-CHIP 22K 5%	1/10W
R0016	1-216-025-11	RES-CHIP 100 5%	1/10W
R0017	1-216-093-91	RES-CHIP 68K 5%	1/10W
R0018	1-216-025-11	RES-CHIP 100 5%	1/10W
R0019	1-216-025-11	RES-CHIP 100 5%	1/10W
R0020	1-216-049-11	RES-CHIP 1K 5%	1/10W
R0022	1-216-809-11	RES-CHIP 100 5%	1/10W
R0023	1-216-097-11	RES-CHIP 100K 5%	1/10W
R0027	1-216-821-11	RES-CHIP 1K 5%	1/10W
R0028	1-216-833-11	RES-CHIP 10K 5%	1/10W
R0029	1-216-025-11	RES-CHIP 100 5%	1/10W
R0030	1-216-025-11	RES-CHIP 100 5%	1/10W
R0032	1-216-809-11	RES-CHIP 100 5%	1/10W
R0033	1-216-809-11	RES-CHIP 100 5%	1/10W
R0034	1-218-725-11	RES-CHIP 24K 5%	1/10W
R0035	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R0037	1-216-061-91	RES-CHIP 3.3K 5%	1/10W
R0039	1-216-809-11	RES-CHIP 100 5%	1/10W
R0040	1-216-809-11	RES-CHIP 100 5%	1/10W
R0041	1-216-057-00	RES-CHIP 2.2K 5%	1/10W
R0042	1-216-069-00	RES-CHIP 6.8K 5%	1/10W
R0043	1-216-803-11	RES-CHIP 33 5%	1/10W
R0044	1-216-025-11	RES-CHIP 100 5%	1/10W
R0045	1-216-803-11	RES-CHIP 33 5%	1/10W
R0046	1-216-803-11	RES-CHIP 33 5%	1/10W
R0047	1-216-810-11	RES-CHIP 120 5%	1/10W
R0048	1-216-809-11	RES-CHIP 100 5%	1/10W
R0049	1-216-073-91	RES-CHIP 10K 5%	1/10W
R0050	1-216-810-11	RES-CHIP 120 5%	1/10W
R0051	1-216-835-11	RES-CHIP 15K 5%	1/10W
R0052	1-216-810-11	RES-CHIP 120 5%	1/10W
R0053	1-216-809-11	RES-CHIP 100 5%	1/10W
R0054	1-216-809-11	RES-CHIP 100 5%	1/10W
R0055	1-216-809-11	RES-CHIP 100 5%	1/10W
R0056	1-216-833-11	RES-CHIP 10K 5%	1/10W
R0057	1-216-809-11	RES-CHIP 100 5%	1/10W
R0058	1-216-823-11	RES-CHIP 1.5K 5%	1/10W
R0059	1-216-841-11	RES-CHIP 47K 5%	1/10W
R0060	1-216-833-11	RES-CHIP 10K 5%	1/10W
R0061	1-216-833-11	RES-CHIP 10K 5%	1/10W
R0062	1-216-833-11	RES-CHIP 10K 5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R0063	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0065	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0066	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R0067	1-216-833-11	RES-CHIP	10K	5%	1/10W
R0068	1-216-833-11	RES-CHIP	10K	5%	1/10W
R0069	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0070	1-216-025-11	RES-CHIP	100	5%	1/10W
R0071	1-216-809-11	RES-CHIP	100	5%	1/10W
R0072	1-216-809-11	RES-CHIP	100	5%	1/10W
R0073	1-216-809-11	RES-CHIP	100	5%	1/10W
R0074	1-216-809-11	RES-CHIP	100	5%	1/10W
R0075	1-216-025-11	RES-CHIP	100	5%	1/10W
R0076	1-216-049-11	RES-CHIP	1K	5%	1/10W
R0078	1-216-041-00	RES-CHIP	470	5%	1/10W
R0079	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R0301	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0302	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0303	1-216-836-11	RES-CHIP	18K	5%	1/10W
R0304	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
		< CRYSTAL >			
X0001	1-578-774-71	VIBRATOR, CRYSTAL			

***A-1300-302-A A Board, Complete (KV-28LS60B)**
***A-1300-301-A A Board, Complete (KV-28LS60U)**
***A-1300-175-A A Board, Complete (KV-28LS60E)**
***A-1300-288-A A Board, Complete (KV-32LS60B)**
***A-1300-289-A A Board, Complete (KV-32LS60U)**
***A-1300-177-A A Board, Complete (KV-32LS60E/ KV-32LS60K)**

A Board, Common Parts

	4-382-854-01	SCREW (M3X8), P, SW (+)			
		< CAPACITOR >			
C1001	1-126-933-11	ELECT	100UF	20.00%	16V
C1002	1-126-964-11	ELECT	10UF	20.00%	50V
C1004	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C1006	1-126-933-11	ELECT	100UF	20.00%	16V
C1008	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C1009	1-162-925-11	CERAMIC CHIP	68PF	5.00%	50V
C1010	1-162-925-11	CERAMIC CHIP	68PF	5.00%	50V
C1014	1-126-933-11	ELECT	100UF	20.00%	16V
C1015	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C1018	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C1020	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1021	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C1022	1-216-295-91	SHORT	0		
C2000	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C2001	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C2006	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2007	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2008	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C2009	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2010	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C2011	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2012	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2013	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2014	1-164-346-11	CERAMIC CHIP	1UF		16V
C2015	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2016	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2018	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2019	1-164-346-11	CERAMIC CHIP	1UF		16V
C2021	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2022	1-162-966-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C2023	1-162-966-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C2024	1-164-346-11	CERAMIC CHIP	1UF		16V
C2026	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2027	1-126-947-11	ELECT	47UF	20.00%	25V
C2028	1-126-947-11	ELECT	47UF	20.00%	25V
C2029	1-164-346-11	CERAMIC CHIP	1UF		16V
C2031	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2034	1-164-346-11	CERAMIC CHIP	1UF		16V
C2035	1-164-346-11	CERAMIC CHIP	1UF		16V
C2038	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C2039	1-162-906-11	CERAMIC CHIP	1.5PF	0.25PF	50V
C2040	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C2041	1-162-906-11	CERAMIC CHIP	1.5PF	0.25PF	50V
C2042	1-216-864-11	SHORT	0		
C2043	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C2044	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2046	1-162-923-11	CERAMIC CHIP	47PF	5.00%	50V
C2047	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C2048	1-126-947-11	ELECT	47UF	20.00%	25V
C2049	1-162-925-11	CERAMIC CHIP	68PF	5.00%	50V
C2050	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C2051	1-126-964-11	ELECT	10UF	20.00%	50V
C2052	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2053	1-164-227-11	CERAMIC CHIP	0.022UF	10.00%	25V
C2054	1-126-947-11	ELECT	47UF	20.00%	25V
C2055	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C2057	1-126-964-11	ELECT	10UF	20.00%	50V
C2058	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2059	1-126-964-11	ELECT	10UF	20.00%	50V
C2060	1-126-947-11	ELECT	47UF	20.00%	25V
C2061	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C2062	1-164-346-11	CERAMIC CHIP	1UF		16V
C2063	1-164-346-11	CERAMIC CHIP	1UF		16V
C2064	1-126-964-11	ELECT	10UF	20.00%	50V
C2065	1-162-966-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C2066	1-162-966-11	CERAMIC CHIP	0.0022UF	10.00%	50V

REF.NO.	PART.NO	DESCRIPTION		REMARK
C2069	1-127-715-91	CERAMIC CHIP	0.22UF	10% 16V
C2073	1-126-960-11	ELECT	1UF	20.00% 50V
C2074	1-126-960-11	ELECT	1UF	20.00% 50V
C2075	1-126-960-11	ELECT	1UF	20.00% 50V
C2077	1-126-960-11	ELECT	1UF	20.00% 50V
C2078	1-126-963-11	ELECT	4.7UF	20.00% 50V
C2079	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C2080	1-162-927-11	CERAMIC CHIP	100PF	5.00% 50V
C2081	1-162-928-11	CERAMIC CHIP	120PF	5.00% 50V
C2082	1-216-864-11	SHORT	0	
C2083	1-162-964-11	CERAMIC CHIP	0.001UF	10.00% 50V
C2084	1-162-962-11	CERAMIC CHIP	470PF	10.00% 50V
C2085	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V
C2086	1-162-964-11	CERAMIC CHIP	0.001UF	10.00% 50V
C2087	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V
C2088	1-162-964-11	CERAMIC CHIP	0.001UF	10.00% 50V
C2089	1-162-962-11	CERAMIC CHIP	470PF	10.00% 50V
C2090	1-126-947-11	ELECT	47UF	20.00% 25V
C2091	1-126-947-11	ELECT	47UF	20.00% 25V
C2092	1-126-947-11	ELECT	47UF	20.00% 25V
C2093	1-126-947-11	ELECT	47UF	20.00% 25V
C2094	1-126-947-11	ELECT	47UF	20.00% 25V
C2095	1-126-947-11	ELECT	47UF	20.00% 25V
C2096	1-162-970-11	CERAMIC CHIP	0.01UF	10.00% 25V
C2500	1-126-952-11	ELECT	1000UF	20.00% 35V
C2502	1-104-666-11	ELECT	220UF	20.00% 25V
C2504	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C2505	1-115-339-11	CERAMIC CHIP	0.1UF	10.00% 50V
C2506	1-126-972-11	ELECT	1000UF	20.00% 50V
C2507	1-164-230-11	CERAMIC CHIP	220PF	5.00% 50V
C2508	1-164-230-11	CERAMIC CHIP	220PF	5.00% 50V
C2509	1-164-230-11	CERAMIC CHIP	220PF	5.00% 50V
C2510	1-164-227-11	CERAMIC CHIP	0.022UF	10.00% 25V
C2511	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V
C2512	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V
C2513	1-126-952-11	ELECT	1000UF	20.00% 35V
C2515	1-164-227-11	CERAMIC CHIP	0.022UF	10.00% 25V
C2516	1-126-953-11	ELECT	2200UF	20.00% 35V
C2517	1-126-960-11	ELECT	1UF	20.00% 50V
C2518	1-126-960-11	ELECT	1UF	20.00% 50V
C2519	1-126-959-11	ELECT	0.47UF	20.00% 50V
C2521	1-164-489-11	CERAMIC CHIP	0.22UF	10.00% 16V
C2523	1-115-339-11	CERAMIC CHIP	0.1UF	10.00% 50V
C3200	1-126-964-11	ELECT	10UF	20.00% 50V
C3202	1-126-964-11	ELECT	10UF	20.00% 50V
C3203	1-126-964-11	ELECT	10UF	20.00% 50V
C3206	1-126-964-11	ELECT	10UF	20.00% 50V
C3208	1-163-235-11	CERAMIC CHIP	22PF	5.00% 50V
C3209	1-163-235-11	CERAMIC CHIP	22PF	5.00% 50V
C3210	1-126-964-11	ELECT	10UF	20.00% 50V
C3211	1-126-964-11	ELECT	10UF	20.00% 50V
C3213	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3214	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3215	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3216	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3217	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3218	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3219	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3220	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3221	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3222	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3223	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3224	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3225	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3226	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3227	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3228	1-164-489-11	CERAMIC CHIP	0.22UF	10.00% 16V
C3229	1-164-489-11	CERAMIC CHIP	0.22UF	10.00% 16V
C3230	1-164-489-11	CERAMIC CHIP	0.22UF	10.00% 16V
C3231	1-164-489-11	CERAMIC CHIP	0.22UF	10.00% 16V
C3232	1-164-489-11	CERAMIC CHIP	0.22UF	10.00% 16V
C3233	1-164-489-11	CERAMIC CHIP	0.22UF	10.00% 16V
C3234	1-164-489-11	CERAMIC CHIP	0.22UF	10.00% 16V
C3235	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C3236	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C3237	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C3238	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C3239	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C3240	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C3241	1-126-933-11	ELECT	100UF	20.00% 16V
C3242	1-162-970-11	CERAMIC CHIP	0.01UF	10.00% 25V
C3243	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C3245	1-163-251-11	CERAMIC CHIP	100PF	5.00% 50V
C3250	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V
C3300	1-163-251-11	CERAMIC CHIP	100PF	5.00% 50V
C3309	1-126-964-11	ELECT	10UF	20.00% 50V
C3310	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C5103	1-126-960-11	ELECT	1UF	20.00% 50V
C5106	1-126-933-11	ELECT	100UF	20.00% 16V
C5109	1-126-964-11	ELECT	10UF	20.00% 50V
C5110	1-126-947-11	ELECT	47UF	20.00% 25V
C5111	1-126-964-11	ELECT	10UF	20.00% 50V
C5112	1-126-964-11	ELECT	10UF	20.00% 50V
C5114	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5115	1-126-964-11	ELECT	10UF	20.00% 50V
C5117	1-126-964-11	ELECT	10UF	20.00% 50V
C5118	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5119	1-107-823-11	CERAMIC CHIP	0.47UF	10.00% 16V
C5120	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C5121	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V

REF.NO.	PART.NO	DESCRIPTION		REMARK
C5122	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5123	1-126-964-11	ELECT	10UF	20.00% 50V
C5124	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5125	1-126-964-11	ELECT	10UF	20.00% 50V
C5300	1-126-933-11	ELECT	100UF	20.00% 16V
C5301	1-126-947-11	ELECT	47UF	20.00% 25V
C5302	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C5303	1-136-153-00	FILM	0.01UF	5.00% 50V
C5304	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00% 50V
C5305	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C5306	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5307	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5309	1-162-927-11	CERAMIC CHIP	100PF	5.00% 50V
C5310	1-136-165-00	FILM	0.1UF	5.00% 50V
C5311	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5312	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C5313	1-107-714-11	ELECT	10UF	20.00% 50V
C5314	1-162-970-11	CERAMIC CHIP	0.01UF	10.00% 25V
C5316	1-164-230-11	CERAMIC CHIP	220PF	5.00% 50V
C5318	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5319	1-136-347-11	FILM	0.0047UF	5.00% 630V
C5320	1-129-716-00	FILM	0.015UF	5.00% 630V
C5321	1-136-347-11	FILM	0.0047UF	5.00% 630V
C5322	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5323	1-136-159-00	FILM	0.033UF	5.00% 50V
C5400	1-126-964-11	ELECT	10UF	20.00% 50V
C5401	1-107-714-11	ELECT	10UF	20.00% 50V
C5403	1-128-527-11	ELECT	330UF	20.00% 25V
C5404	1-102-228-00	CERAMIC	470PF	10.00% 500V
C5405	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V
C5406	1-129-702-00	MYLAR	0.001UF	10.00% 400V
C5407	1-128-527-11	ELECT	330UF	20.00% 25V
C5409	1-126-968-11	ELECT	100UF	20.00% 50V
C5410	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V
C5411	1-137-401-11	MYLAR	0.22UF	10.00% 100V
C5412	1-106-220-00	MYLAR	0.1UF	10.00% 100V
C5413	1-130-785-11	MYLAR	0.47UF	10.00% 100V
C5414	1-126-964-11	ELECT	10UF	20.00% 50V
C5801	1-126-963-11	ELECT	4.7UF	20.00% 50V
C5850	1-126-963-11	ELECT	4.7UF	20.00% 50V
C5851	1-107-826-11	CERAMIC CHIP	0.1UF	10.00% 16V
C5853	1-162-970-11	CERAMIC CHIP	0.01UF	10.00% 25V
C5854	1-107-826-11	CERAMIC CHIP	0.1UF	10.00% 16V
C5858	1-107-826-11	CERAMIC CHIP	0.1UF	10.00% 16V
C5859	1-126-960-11	ELECT	1UF	20.00% 50V
C5860	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C5868	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C5872	1-164-346-11	CERAMIC CHIP	1UF	16V
C5873	1-163-251-11	CERAMIC CHIP	100PF	5.00% 50V
C5888	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5889	1-126-964-11	ELECT	10UF	20.00% 50V
C5890	1-164-227-11	CERAMIC CHIP	0.022UF	10.00% 25V
C5891	1-137-581-11	FILM	0.1UF	5.00% 100V
C5892	1-107-826-11	CERAMIC CHIP	0.1UF	10.00% 16V
C5893	1-126-947-11	ELECT	47UF	20.00% 25V
C5894	1-126-947-11	ELECT	47UF	20.00% 25V
C5895	1-164-156-11	CERAMIC CHIP	0.1UF	25V
C5896	1-165-176-11	CERAMIC CHIP	0.047UF	10.00% 16V
C5897	1-162-970-11	CERAMIC CHIP	0.01UF	10.00% 25V
C5898	1-162-964-11	CERAMIC CHIP	0.001UF	10.00% 50V
C5899	1-107-823-11	CERAMIC CHIP	0.47UF	10.00% 16V
C6200	1-126-933-11	ELECT	100UF	20.00% 16V
C6201	1-126-935-11	ELECT	470UF	20.00% 16V
C6202	1-126-933-11	ELECT	100UF	20.00% 16V
C6203	1-126-935-11	ELECT	470UF	20.00% 10V
C6204	1-126-933-11	ELECT	100UF	20.00% 16V
C6205	1-126-935-11	ELECT	470UF	20.00% 10V
C6206	1-126-933-11	ELECT	100UF	20.00% 16V
C6207	1-126-933-11	ELECT	100UF	20.00% 16V
C6208	1-126-933-11	ELECT	100UF	20.00% 16V
C6209	1-126-933-11	ELECT	100UF	20.00% 16V
C6210	1-126-935-11	ELECT	470UF	20.00% 16V
C6211	1-126-947-11	ELECT	47UF	20.00% 25V
C6212	1-126-933-11	ELECT	100UF	20.00% 16V
C6213	1-126-933-11	ELECT	100UF	20.00% 16V
C6214	1-126-933-11	ELECT	100UF	20.00% 16V
C7002	1-126-947-11	ELECT	47UF	20.00% 25V
C7004	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C7008	1-162-919-11	CERAMIC CHIP	22PF	5.00% 50V
C7016	1-107-823-11	CERAMIC CHIP	0.47UF	10.00% 16V
C7018	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7019	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7020	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7021	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7022	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7023	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7030	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7031	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7032	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7038	1-107-823-11	CERAMIC CHIP	0.47UF	10.00% 16V
C7039	1-162-966-11	CERAMIC CHIP	0.0022UF	10.00% 50V
C7050	1-162-927-11	CERAMIC CHIP	100PF	5.00% 50V
C7051	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7052	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7053	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V
C7054	1-126-963-11	ELECT	4.7UF	20.00% 50V
C7055	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C7056	1-126-933-11	ELECT	100UF	20.00% 16V
C7057	1-164-222-91	CERAMIC CHIP	0.22UF	25V
C7058	1-126-933-11	ELECT	100UF	20.00% 16V

REF.NO.	PART.NO	DESCRIPTION	REMARK
C7059	1-126-933-11	ELECT 100UF	20.00% 16V
C7060	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7061	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7062	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7063	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C7064	1-126-947-11	ELECT 47UF	20.00% 25V
C7065	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7067	1-126-947-11	ELECT 47UF	20.00% 25V
C7068	1-164-222-91	CERAMIC CHIP 0.22UF	25V
C7069	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
C7070	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
C7071	1-162-919-11	CERAMIC CHIP 22PF	5.00% 50V
		< CONNECTOR >	
CN0101	1-823-330-11	CONNECTOR, BOARD TO BOARD 40P	
CN0102	*1-564-520-11	PLUG, CONNECTOR 5P	
CN0103	*1-564-507-11	PLUG, CONNECTOR 4P	
CN1000	1-770-130-11	CONNECTOR (SQUARE TYPE) 21P	
CN1001	1-766-296-21	CONNECTOR, DUAL SCART	
CN2000	*1-564-512-11	PLUG, CONNECTOR 9P	
CN2500	*1-564-506-11	PLUG, CONNECTOR 3P	
CN2501	*1-564-507-11	PLUG, CONNECTOR 4P	
CN2502	*1-564-509-11	PLUG, CONNECTOR 6P	
CN5002	*1-564-510-11	PLUG, CONNECTOR 7P	
CN5100	*1-564-506-11	PLUG, CONNECTOR 3P	
CN5200	*1-564-506-11	PLUG, CONNECTOR 3P	
CN5801	*1-764-333-11	PLUG, CONNECTOR 10P	
CN6200	*1-564-507-11	PLUG, CONNECTOR 4P	
CN6202	*1-564-516-11	PLUG, CONNECTOR 13P	
CN6203	1-695-915-11	TAB (CONTACT)	
CN7000	*1-564-508-11	PLUG, CONNECTOR 5P	
CN7001	*1-564-512-11	PLUG, CONNECTOR 9P	
CN8001	1-766-281-11	PIN, CONNECTOR (PC BOARD) 8P	
		< DIODE >	
D0101	8-719-921-88	DIODE MTZJ-13B	
D0104	8-719-109-89	DIODE RD5.6ESB2	
D0110	8-719-109-89	DIODE RD5.6ESB2	
D0111	8-719-929-15	DIODE HZS9.1NB2	
D0112	8-719-921-88	DIODE MTZJ-13B	
D0113	8-719-921-88	DIODE MTZJ-13B	
D1006	8-719-109-89	DIODE RD5.6ESB2	
D2014	8-719-929-15	DIODE HZS9.1NB2	
D2015	8-719-929-15	DIODE HZS9.1NB2	
D2016	8-719-050-38	DIODE M1MA152WK-T1	
D2018	8-719-929-15	DIODE HZS9.1NB2	
D2019	8-719-929-15	DIODE HZS9.1NB2	
D2500	8-719-050-38	DIODE M1MA152WK-T1	
D2502	8-719-109-89	DIODE RD5.6ESB2	
D2503	8-719-050-38	DIODE M1MA152WK-T1	

REF.NO.	PART.NO	DESCRIPTION	REMARK
D3001	8-719-929-15	DIODE HZS9.1NB2	
D3003	8-719-929-15	DIODE HZS9.1NB2	
D3005	8-719-929-15	DIODE HZS9.1NB2	
D3007	8-719-109-89	DIODE RD5.6ESB2	
D3008	8-719-109-89	DIODE RD5.6ESB2	
D3009	8-719-929-15	DIODE HZS9.1NB2	
D3011	8-719-929-15	DIODE HZS9.1NB2	
D3013	8-719-929-15	DIODE HZS9.1NB2	
D3015	8-719-929-15	DIODE HZS9.1NB2	
D3017	8-719-109-89	DIODE RD5.6ESB2	
D3018	8-719-109-89	DIODE RD5.6ESB2	
D3019	8-719-929-15	DIODE HZS9.1NB2	
D3021	8-719-929-15	DIODE HZS9.1NB2	
D3023	8-719-109-89	DIODE RD5.6ESB2	
D3024	8-719-929-15	DIODE HZS9.1NB2	
D3026	8-719-929-15	DIODE HZS9.1NB2	
D3028	8-719-929-15	DIODE HZS9.1NB2	
D3201	8-719-109-89	DIODE RD5.6ESB2	
D5101	8-719-050-38	DIODE M1MA152WK-T1	
D5103	8-719-110-88	DIODE RD39ES-B2	
D5104	8-719-109-89	DIODE RD5.6ESB2	
D5300	8-719-081-97	DIODE MMDL914T1	
D5303	8-719-081-97	DIODE MMDL914T1	
D5304	8-719-081-97	DIODE MMDL914T1	
D5305	8-719-991-33	DIODE 1SS133T-77	
D5306	8-719-302-43	DIODE EL1Z	
D5307	8-719-987-87	DIODE ERA82-009	
D5309	8-719-081-97	DIODE MMDL914T1	
D5310	8-719-081-97	DIODE MMDL914T1	
D5400	8-719-982-03	DIODE MTZJ-3.6A	
D5401	8-719-050-38	DIODE M1MA152WK-T1	
D5404	8-719-110-41	DIODE RD15ES-B2	
D5405	8-719-908-03	DIODE GP08D	
D5406	8-719-081-97	DIODE MMDL914T1	
D5407	8-719-081-97	DIODE MMDL914T1	
D5804	8-719-109-89	DIODE RD5.6ESB2	
D5807	8-719-929-15	DIODE HZS9.1NB2	
D5809	8-719-050-38	DIODE M1MA152WK-T1	
D5811	8-719-081-97	DIODE MMDL914T1	
D5812	8-719-081-97	DIODE MMDL914T1	
D5813	8-719-081-97	DIODE MMDL914T1	
D6200	8-719-063-70	DIODE D1NL20U	
D7004	8-719-929-15	DIODE HZS9.1NB2	
D7006	1-216-809-11	RES-CHIP 100 5%	1/10W
		< FERRITE BEAD >	
FB3001	1-414-760-21	FERRITE 0UH	

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.	PART.NO	DESCRIPTION	REMARK
	< FILTER >		
FL2000	1-239-803-11	FILTER, EMI	
	< IC >		
IC2000	6-701-031-01	IC MSP3411G-QA-B10	
IC2001	8-759-100-96	IC UPC4558G2	
IC2500	8-759-831-56	IC TDA7497	
IC3200	6-700-505-01	IC VSP9402A-A32GEG	
IC5102	8-759-325-48	IC CA0005AD	
IC5103	8-752-072-94	IC CXA1875AM-T4	
IC5104	8-759-803-42	IC LA6500-FA	
IC5300	8-759-008-70	IC LM358N	
IC5301	8-759-450-95	IC LM393N	
IC5302	8-759-450-95	IC LM393N	
IC5400	8-759-696-71	IC STV9379A	
IC6200	8-759-648-19	IC L7809CV/LSY	
IC6201	8-759-648-20	IC L7805CV/LSY	
IC6202	8-759-445-59	IC BA033T	
IC6203	8-759-098-24	IC PQ30RV11	
IC6204	8-759-591-02	IC L78L33ABZ-AP	
IC6205	8-759-394-35	IC BA12T	
IC6206	8-759-991-41	IC LM78L05ACZ	
IC7002	8-752-090-88	IC CXA2100AQ-TL	
	< JACK >		
J2000	1-784-632-11	JACK, PIN 2P	
	< COIL >		
L1000	1-412-987-31	INDUCTOR 4.7UH	
L1001	1-412-987-31	INDUCTOR 4.7UH	
L1002	1-414-934-21	INDUCTOR 10UH	
L1003	1-414-934-21	INDUCTOR 10UH	
L1005	1-414-934-21	INDUCTOR 10UH	
L2000	1-414-934-21	INDUCTOR 10UH	
L2001	1-414-934-21	INDUCTOR 10UH	
L2007	1-535-143-61	LEAD, JUMPER (5.0MM)	
L2008	1-216-295-91	SHORT 0	
L2009	1-216-295-91	SHORT 0	
L2010	1-414-928-21	INDUCTOR 1UH	
L2012	1-414-934-21	INDUCTOR 10UH	
L2014	1-408-602-31	INDUCTOR 8.2UH	
L2500	1-535-143-61	LEAD, JUMPER (5.0MM)	
L2501	1-535-143-61	LEAD, JUMPER (5.0MM)	
L3000	1-216-295-91	SHORT 0	
L3004	1-216-295-91	SHORT 0	
L3005	1-216-295-91	SHORT 0	
L3006	1-216-295-91	SHORT 0	
L3007	1-216-295-91	SHORT 0	
L3008	1-216-295-91	SHORT 0	
L3009	1-216-295-91	SHORT 0	
L3010	1-216-295-91	SHORT 0	
L3011	1-216-295-91	SHORT 0	
L3012	1-216-295-91	SHORT 0	
L3200	1-412-006-31	INDUCTOR 10UH	
L3202	1-412-006-31	INDUCTOR 10UH	
L3203	1-412-006-31	INDUCTOR 10UH	
L3206	1-412-006-31	INDUCTOR 10UH	
L3208	1-412-006-31	INDUCTOR 10UH	
L3300	1-412-006-31	INDUCTOR 10UH	
L5300	1-406-989-21	INDUCTOR 10MH	
L5301	1-406-989-21	INDUCTOR 10MH	
L5400	1-412-524-11	INDUCTOR 8.2UH	
L5896	1-216-864-11	SHORT 0	
L5897	1-216-864-11	SHORT 0	
L5898	1-414-934-21	INDUCTOR 10UH	
L5899	1-414-934-21	INDUCTOR 10UH	
L7001	1-414-934-21	INDUCTOR 10UH	
L7009	1-414-934-21	INDUCTOR 10UH	
L7010	1-414-934-21	INDUCTOR 10UH	
L7011	1-414-934-21	INDUCTOR 10UH	
L7012	1-414-934-21	INDUCTOR 10UH	
	< IC LINK >		
PS2501	⚠ 1-533-597-31	LINK, IC 5A	
	< TRANSISTOR >		
Q1000	8-729-010-05	TRANSISTOR MSB709-RT1	
Q1001	8-729-010-29	TRANSISTOR MSD601-RST1	
Q1004	8-729-010-05	TRANSISTOR MSB709-RT1	
Q1005	8-729-421-19	TRANSISTOR UN2213	
Q1006	8-729-010-05	TRANSISTOR MSB709-RT1	
Q2000	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2001	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2002	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2003	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2004	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2005	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2501	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2502	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2503	8-729-010-29	TRANSISTOR MSD601-RST1	
Q2504	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3200	8-729-010-29	TRANSISTOR MSD601-RST1	
Q3201	8-729-010-29	TRANSISTOR MSD601-RST1	
Q3202	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3204	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3300	8-729-010-29	TRANSISTOR MSD601-RST1	
Q3301	8-729-010-05	TRANSISTOR MSB709-RT1	

REF.NO.	PART.NO	DESCRIPTION	REMARK
Q3302	8-729-010-05	TRANSISTOR MSB709-RT1	
Q3500	8-729-028-28	TRANSISTOR 2SK2036(TE85L)	
Q3501	8-729-028-28	TRANSISTOR 2SK2036(TE85L)	
Q5100	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5101	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5300	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5301	8-729-053-33	TRANSISTOR IRF614-037	
Q5302	8-729-140-97	TRANSISTOR 2SB734-34	
Q5303	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5304	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5305	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q5306	8-729-140-97	TRANSISTOR 2SB734-34	
Q5307	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5400	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5401	8-729-421-19	TRANSISTOR UN2213	
Q5402	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5403	8-729-421-19	TRANSISTOR UN2213	
Q5404	8-729-926-76	TRANSISTOR IRF620	
Q5813	8-729-421-19	TRANSISTOR UN2213	
Q5814	8-729-010-05	TRANSISTOR MSB709-RT1	
Q5815	8-729-010-29	TRANSISTOR MSD601-RST1	
Q5816	8-729-010-05	TRANSISTOR MSB709-RT1	
Q6201	8-729-140-97	TRANSISTOR 2SB734-34	
Q7003	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7009	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7011	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7012	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7013	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7014	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7015	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7016	8-729-010-29	TRANSISTOR MSD601-RST1	
Q7017	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7018	8-729-010-05	TRANSISTOR MSB709-RT1	
Q7019	8-729-010-29	TRANSISTOR MSD601-RST1	

< RESISTOR >

JR121	1-216-864-11	SHORT	0		
JR123	1-216-864-11	SHORT	0		
JR2000	1-216-295-91	SHORT	0		
R0101	1-216-833-11	RES-CHIP	10K	5%	1/10W
R0102	1-216-827-11	RES-CHIP	3.3K	5%	1/10W
R0103	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0105	1-216-025-11	RES-CHIP	100	5%	1/10W
R0107	1-216-025-11	RES-CHIP	100	5%	1/10W
R1000	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1001	1-216-001-00	RES-CHIP	10	5%	1/10W
R1002	1-216-821-11	RES-CHIP	1K	5%	1/10W
R1003	1-216-809-11	RES-CHIP	100	5%	1/10W
R1004	1-216-809-11	RES-CHIP	100	5%	1/10W
R1005	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1006	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R1007	1-414-813-11	FERRITE	0UH		
R1008	1-216-295-91	SHORT	0		
R1009	1-216-295-91	SHORT	0		
R1010	1-216-295-91	SHORT	0		
R1017	1-216-822-11	RES-CHIP	1.2K	5%	1/10W
R1019	1-216-295-91	SHORT	0		
R1021	1-216-833-11	RES-CHIP	10K	5%	1/10W
R1022	1-216-839-11	RES-CHIP	33K	5%	1/10W
R1023	1-216-849-11	RES-CHIP	220K	5%	1/10W
R1024	1-216-839-11	RES-CHIP	33K	5%	1/10W
R1025	1-216-837-11	RES-CHIP	22K	5%	1/10W
R1026	1-216-817-11	RES-CHIP	470	5%	1/10W
R2009	1-216-817-11	RES-CHIP	470	5%	1/10W
R2010	1-216-817-11	RES-CHIP	470	5%	1/10W
R2011	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2014	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2015	1-216-295-91	SHORT	0		
R2017	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2018	1-216-295-91	SHORT	0		
R2020	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2023	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2026	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2029	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2032	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2035	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2038	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2041	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2042	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R2043	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R2044	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2047	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2048	1-216-837-11	RES-CHIP	22K	5%	1/10W
R2050	1-216-845-11	RES-CHIP	100K	5%	1/10W
R2051	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2052	1-216-837-11	RES-CHIP	22K	5%	1/10W
R2053	1-216-864-11	SHORT	0		
R2054	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2055	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2056	1-216-037-00	RES-CHIP	330	5%	1/10W
R2057	1-216-025-11	RES-CHIP	100	5%	1/10W
R2058	1-216-025-11	RES-CHIP	100	5%	1/10W
R2059	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R2060	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R2061	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R2062	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R2063	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R2064	1-249-425-11	CARBON	4.7K	5%	1/4W
R2065	1-216-837-11	RES-CHIP	22K	5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R2066	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R2067	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R2068	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2069	1-216-837-11	RES-CHIP	22K	5%	1/10W
R2070	1-216-833-11	RES-CHIP	10K	5%	1/10W
R2071	1-216-839-11	RES-CHIP	33K	5%	1/10W
R2072	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2073	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2074	1-216-837-11	RES-CHIP	22K	5%	1/10W
R2075	1-216-833-11	RES-CHIP	10K	5%	1/10W
R2076	1-216-839-11	RES-CHIP	33K	5%	1/10W
R2077	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2078	1-216-025-11	RES-CHIP	100	5%	1/10W
R2079	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2080	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R2081	1-216-833-11	RES-CHIP	10K	5%	1/10W
R2082	1-216-805-11	RES-CHIP	47	5%	1/10W
R2083	1-216-817-11	RES-CHIP	470	5%	1/10W
R2084	1-216-837-11	RES-CHIP	22K	5%	1/10W
R2085	1-216-837-11	RES-CHIP	22K	5%	1/10W
R2086	1-216-837-11	RES-CHIP	22K	5%	1/10W
R2087	1-216-837-11	RES-CHIP	22K	5%	1/10W
R2088	1-216-041-00	RES-CHIP	470	5%	1/10W
R2089	1-216-041-00	RES-CHIP	470	5%	1/10W
R2092	1-216-039-00	RES-CHIP	390	5%	1/10W
R2093	1-216-039-00	RES-CHIP	390	5%	1/10W
R2094	1-216-039-00	RES-CHIP	390	5%	1/10W
R2095	1-216-039-00	RES-CHIP	390	5%	1/10W
R2096	1-216-039-00	RES-CHIP	390	5%	1/10W
R2097	1-216-039-00	RES-CHIP	390	5%	1/10W
R2098	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2099	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2500	1-216-073-91	RES-CHIP	10K	5%	1/10W
R2501	1-216-341-11	METAL OXIDE	0.22	5%	1W
R2502	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R2503	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R2504	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2507	1-216-837-11	RES-CHIP	22K	5%	1/10W
R2509	1-249-417-11	CARBON	1K	5%	1/4W
R2511	1-216-073-91	RES-CHIP	10K	5%	1/10W
R2516	1-216-081-00	RES-CHIP	22K	5%	1/10W
R2517	1-216-841-11	RES-CHIP	47K	5%	1/10W
R2518	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2519	1-216-833-11	RES-CHIP	10K	5%	1/10W
R2520	1-216-025-11	RES-CHIP	100	5%	1/10W
R2524	1-216-833-11	RES-CHIP	10K	5%	1/10W
R2525	1-216-828-11	RES-CHIP	3.9K	5%	1/10W
R2912	1-216-295-91	SHORT	0		
R2914	1-216-853-11	RES-CHIP	470K	5%	1/10W
R2921	1-216-295-91	SHORT	0		
R2924	1-216-295-91	SHORT	0		
R2927	1-216-295-91	SHORT	0		
R2930	1-216-295-91	SHORT	0		
R2933	1-216-295-91	SHORT	0		
R2936	1-216-295-91	SHORT	0		
R2939	1-216-295-91	SHORT	0		
R2942	1-216-295-91	SHORT	0		
R2945	1-216-295-91	SHORT	0		
R3000	1-216-025-11	RES-CHIP	100	5%	1/10W
R3001	1-216-022-00	RES-CHIP	75	5%	1/10W
R3009	1-216-025-11	RES-CHIP	100	5%	1/10W
R3010	1-216-022-00	RES-CHIP	75	5%	1/10W
R3011	1-216-025-11	RES-CHIP	100	5%	1/10W
R3012	1-216-022-00	RES-CHIP	75	5%	1/10W
R3013	1-216-025-11	RES-CHIP	100	5%	1/10W
R3014	1-216-022-00	RES-CHIP	75	5%	1/10W
R3015	1-216-022-00	RES-CHIP	75	5%	1/10W
R3016	1-216-025-11	RES-CHIP	100	5%	1/10W
R3017	1-216-022-00	RES-CHIP	75	5%	1/10W
R3018	1-216-025-11	RES-CHIP	100	5%	1/10W
R3019	1-216-022-00	RES-CHIP	75	5%	1/10W
R3020	1-216-025-11	RES-CHIP	100	5%	1/10W
R3021	1-216-022-00	RES-CHIP	75	5%	1/10W
R3022	1-216-025-11	RES-CHIP	100	5%	1/10W
R3023	1-216-022-00	RES-CHIP	75	5%	1/10W
R3024	1-216-025-11	RES-CHIP	100	5%	1/10W
R3025	1-216-022-00	RES-CHIP	75	5%	1/10W
R3026	1-216-022-00	RES-CHIP	75	5%	1/10W
R3027	1-216-025-11	RES-CHIP	100	5%	1/10W
R3028	1-216-022-00	RES-CHIP	75	5%	1/10W
R3029	1-216-045-00	RES-CHIP	680	5%	1/10W
R3030	1-216-022-00	RES-CHIP	75	5%	1/10W
R3031	1-216-022-00	RES-CHIP	75	5%	1/10W
R3032	1-216-022-00	RES-CHIP	75	5%	1/10W
R3033	1-216-025-11	RES-CHIP	100	5%	1/10W
R3034	1-216-022-00	RES-CHIP	75	5%	1/10W
R3035	1-216-025-11	RES-CHIP	100	5%	1/10W
R3036	1-216-022-00	RES-CHIP	75	5%	1/10W
R3037	1-216-045-00	RES-CHIP	680	5%	1/10W
R3218	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3219	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3220	1-216-837-11	RES-CHIP	22K	5%	1/10W
R3221	1-216-837-11	RES-CHIP	22K	5%	1/10W
R3222	1-216-837-11	RES-CHIP	22K	5%	1/10W
R3223	1-216-837-11	RES-CHIP	22K	5%	1/10W
R3225	1-216-025-11	RES-CHIP	100	5%	1/10W
R3226	1-216-025-11	RES-CHIP	100	5%	1/10W
R3229	1-216-025-11	RES-CHIP	100	5%	1/10W
R3233	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3234	1-216-821-11	RES-CHIP	1K	5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R3235	1-216-822-11	RES-CHIP	1.2K	5%	1/10W
R3236	1-216-822-11	RES-CHIP	1.2K	5%	1/10W
R3237	1-216-797-11	RES-CHIP	10	5%	1/10W
R3238	1-216-797-11	RES-CHIP	10	5%	1/10W
R3305	1-216-025-11	RES-CHIP	100	5%	1/10W
R3306	1-216-025-11	RES-CHIP	100	5%	1/10W
R3312	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R3313	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R3318	1-216-025-11	RES-CHIP	100	5%	1/10W
R3319	1-216-025-11	RES-CHIP	100	5%	1/10W
R3320	1-216-025-11	RES-CHIP	100	5%	1/10W
R3321	1-216-864-11	SHORT	0		
R3322	1-216-864-11	SHORT	0		
R3323	1-216-813-11	RES-CHIP	220	5%	1/10W
R3403	1-216-821-11	RES-CHIP	1K	5%	1/10W
R3500	1-216-834-11	RES-CHIP	12K	5%	1/10W
R3501	1-216-834-11	RES-CHIP	12K	5%	1/10W
R3504	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R3505	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R3603	1-216-295-91	SHORT	0		
R5102	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R5103	1-216-637-11	METAL CHIP	270	0.5%	1/10W
R5107	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R5111	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R5112	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R5118	1-249-411-11	CARBON	330	5%	1/4W
R5119	1-216-844-11	RES-CHIP	82K	5%	1/10W
R5122	1-216-821-11	RES-CHIP	1K	5%	1/10W
R5125	1-216-836-11	RES-CHIP	18K	5%	1/10W
R5126	1-249-406-11	CARBON	120	5%	1/4W
R5127	1-216-025-11	RES-CHIP	100	5%	1/10W
R5128	1-216-809-11	RES-CHIP	100	5%	1/10W
R5129	1-216-809-11	RES-CHIP	100	5%	1/10W
R5130	1-216-809-11	RES-CHIP	100	5%	1/10W
R5131	1-216-821-11	RES-CHIP	1K	5%	1/10W
R5132	1-216-809-11	RES-CHIP	100	5%	1/10W
R5133	1-216-809-11	RES-CHIP	100	5%	1/10W
R5137	1-216-809-11	RES-CHIP	100	5%	1/10W
R5138	1-216-809-11	RES-CHIP	100	5%	1/10W
R5139	1-216-821-11	RES-CHIP	1K	5%	1/10W
R5140	1-216-821-11	RES-CHIP	1K	5%	1/10W
R5146	1-216-025-11	RES-CHIP	100	5%	1/10W
R5148	1-216-809-11	RES-CHIP	100	5%	1/10W
R5149	1-216-637-11	METAL CHIP	270	0.5%	1/10W
R5150	1-249-414-11	CARBON	560	5%	1/4W
R5151	1-249-454-11	CARBON	3.9	5%	1/4W
R5152	1-249-413-11	CARBON	470	5%	1/4W
R5153	1-249-393-11	CARBON	10	5%	1/4W
R5154	1-216-833-11	RES-CHIP	10K	5%	1/10W
R5155	1-249-421-11	CARBON	2.2K	5%	1/4W
R5156	1-216-833-11	RES-CHIP	10K	5%	1/10W
R5157	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R5300	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5301	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R5302	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5304	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5305	1-208-852-11	METAL CHIP	820K	0.5%	1/10W
R5307	1-216-041-00	RES-CHIP	470	5%	1/10W
R5308	1-216-295-91	SHORT	0		
R5309	1-208-824-11	METAL CHIP	56K	0.5%	1/10W
R5310	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R5311	1-216-045-00	RES-CHIP	680	5%	1/10W
R5312	1-208-832-11	METAL CHIP	120K	0.5%	1/10W
R5314	1-208-840-11	METAL CHIP	270K	0.5%	1/10W
R5315	1-216-043-91	RES-CHIP	560	5%	1/10W
R5316	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5317	1-216-845-11	RES-CHIP	100K	5%	1/10W
R5318	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5319	1-208-840-11	METAL CHIP	270K	0.5%	1/10W
R5320	1-216-833-11	RES-CHIP	10K	5%	1/10W
R5321	1-216-837-11	RES-CHIP	22K	5%	1/10W
R5322	1-216-820-11	RES-CHIP	820	5%	1/10W
R5324	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R5325	1-208-812-11	METAL CHIP	18K	0.5%	1/10W
R5326	1-216-845-11	RES-CHIP	100K	5%	1/10W
R5328	1-216-033-00	RES-CHIP	220	5%	1/10W
R5331	1-216-033-00	RES-CHIP	220	5%	1/10W
R5332	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5333	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R5334	1-208-834-11	METAL CHIP	150K	0.5%	1/10W
R5335	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R5336	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5337	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R5340	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5341	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5342	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R5343	1-208-808-11	METAL CHIP	12K	0.5%	1/10W
R5344	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R5345	1-208-832-11	METAL CHIP	120K	0.5%	1/10W
R5346	1-216-849-11	RES-CHIP	220K	5%	1/10W
R5347	1-216-833-11	RES-CHIP	10K	5%	1/10W
R5349	1-216-043-91	RES-CHIP	560	5%	1/10W
R5350	1-216-041-00	RES-CHIP	470	5%	1/10W
R5351	1-216-809-11	RES-CHIP	100	5%	1/10W
R5352	1-216-821-11	RES-CHIP	1K	5%	1/10W
R5401	1-216-837-11	RES-CHIP	22K	5%	1/10W
R5402	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5403	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R5404	1-216-829-11	RES-CHIP	4.7K	5%	1/10W
R5405	1-216-829-11	RES-CHIP	4.7K	5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R5408	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R5409	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5410	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R5411	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R5413	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5414	1-249-383-11	CARBON	1.5	5%	1/4W
R5415	1-249-389-11	CARBON	4.7	5%	1/4W
R5416	1-215-888-00	METAL OXIDE	220	5%	2W
R5417	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R5420	1-214-798-21	METAL	1.8	1%	1/2W
R5421	1-214-798-21	METAL	1.8	1%	1/2W
R5803	1-216-861-11	RES-CHIP	2.2M	5%	1/10W
R5804	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5805	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5806	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5807	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5808	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5809	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5865	1-216-841-11	RES-CHIP	47K	5%	1/10W
R5869	1-216-817-11	RES-CHIP	470	5%	1/10W
R5871	1-216-850-11	RES-CHIP	270K	5%	1/10W
R5875	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R5877	1-216-821-91	RES-CHIP	1K	5%	1/10W
R5879	1-216-809-11	RES-CHIP	100	5%	1/10W
R5880	1-216-809-11	RES-CHIP	100	5%	1/10W
R5881	1-216-833-11	RES-CHIP	10K	5%	1/10W
R5882	1-216-833-11	RES-CHIP	10K	5%	1/10W
R5884	1-216-841-11	RES-CHIP	47K	5%	1/10W
R5885	1-216-809-11	RES-CHIP	100	5%	1/10W
R5887	1-216-809-11	RES-CHIP	100	5%	1/10W
R5888	1-216-809-11	RES-CHIP	100	5%	1/10W
R5889	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R5892	1-216-833-11	RES-CHIP	10K	5%	1/10W
R5895	1-216-833-11	RES-CHIP	10K	5%	1/10W
R5898	1-216-832-11	RES-CHIP	8.2K	5%	1/10W
R5899	1-216-863-11	RES-CHIP	3.3M	5%	1/10W
R6200	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R6201	1-216-643-11	METAL CHIP	470	0.5%	1/10W
R6202	1-249-395-11	CARBON	15	5%	1/4W
R7007	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7018	1-216-025-11	RES-CHIP	100	5%	1/10W
R7023	1-216-834-11	RES-CHIP	12K	5%	1/10W
R7034	1-216-025-11	RES-CHIP	100	5%	1/10W
R7035	1-216-025-11	RES-CHIP	100	5%	1/10W
R7048	1-216-025-11	RES-CHIP	100	5%	1/10W
R7050	1-216-833-11	RES-CHIP	10K	5%	1/10W
R7051	1-216-025-11	RES-CHIP	100	5%	1/10W
R7052	1-216-025-11	RES-CHIP	100	5%	1/10W
R7053	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7054	1-216-847-11	RES-CHIP	150K	5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R7056	1-218-867-11	RES-CHIP	6.8K	5%	1/10W
R7057	1-216-842-11	RES-CHIP	56K	5%	1/10W
R7058	1-216-049-11	RES-CHIP	1K	5%	1/10W
R7065	1-216-821-11	RES-CHIP	1K	5%	1/10W
R7066	1-216-809-11	RES-CHIP	100	5%	1/10W
R7068	1-216-681-11	METAL CHIP	18K	0.5%	1/10W
R7070	1-216-817-11	RES-CHIP	470	5%	1/10W
R7071	1-216-817-11	RES-CHIP	470	5%	1/10W
R7072	1-216-817-11	RES-CHIP	470	5%	1/10W
R7073	1-216-041-00	RES-CHIP	470	5%	1/10W
R7074	1-216-043-91	RES-CHIP	560	5%	1/10W
R7075	1-216-817-11	RES-CHIP	470	5%	1/10W
R7076	1-216-041-00	RES-CHIP	470	5%	1/10W
R7077	1-216-043-91	RES-CHIP	560	5%	1/10W
R7078	1-216-817-11	RES-CHIP	470	5%	1/10W
R7079	1-216-041-00	RES-CHIP	470	5%	1/10W
R7080	1-216-043-91	RES-CHIP	560	5%	1/10W
R7081	1-216-817-11	RES-CHIP	470	5%	1/10W
R7082	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R7088	1-208-783-11	METAL CHIP	1.1K	0.5%	1/10W
R7089	1-216-819-11	RES-CHIP	680	5%	1/10W
R7090	1-216-819-11	RES-CHIP	680	5%	1/10W
R7091	1-216-819-11	RES-CHIP	680	5%	1/10W
R7092	1-216-295-91	SHORT	0		
R7093	1-216-295-91	SHORT	0		
R7094	1-216-295-91	SHORT	0		
R7095	1-216-295-91	SHORT	0		
R7096	1-216-803-11	RES-CHIP	33	5%	1/10W
R7097	1-216-803-11	RES-CHIP	33	5%	1/10W
R7098	1-216-803-11	RES-CHIP	33	5%	1/10W

< CRYSTAL >

X2000	1-760-628-11	VIBRATOR, CRYSTAL	
X3200	1-781-946-21	VIBRATOR, CRYSTAL	
X5800	1-767-127-11	VIBRATOR, CERAMIC	

A Board Variant Parts KV-28LS60B

< CAPACITOR >

C1011	1-163-253-11	CERAMIC CHIP	120PF	5%	50V
C1012	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C1016	1-162-915-11	CERAMIC CHIP	10PF	0.50PF	50V
C1017	1-163-247-91	CERAMIC CHIP	68PF	5%	50V

< COIL >

L1004	1-412-751-11	INDUCTOR	18UH

< TRANSISTOR >

Q1002	8-729-010-29	TRANSISTOR MSD601-RST1
Q1003	8-729-900-53	TRANSISTOR DTC114EK

REF.NO.	PART.NO	DESCRIPTION			REMARK
	< RESISTOR >				
R1011	1-216-815-11	RES-CHIP	330	5%	1/10W
R1012	1-216-815-11	RES-CHIP	330	5%	1/10W
R1014	NOT FITTED				
R1015	1-216-817-11	RES-CHIP	470	5%	1/10W
R1016	1-216-809-11	RES-CHIP	100	5%	1/10W
R1018	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R1020	1-216-295-91	SHORT	0		
R5303	1-208-824-11	METAL CHIP	56K	0.5%	1/10W
R5306	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5327	1-216-474-11	METAL OXIDE	82	5%	3W
R5338	1-249-417-11	CARBON	1K	5%	1/4W
R5400	1-216-848-11	RES-CHIP	180K	5%	1/10W
R5407	1-216-854-11	RES-CHIP	560K	5%	1/10W
R5878	1-216-820-91	RES-CHIP	820	5%	1/10W
R5883	1-216-861-91	RES-CHIP	2.2M	5%	1/10W
	< TUNER >				
TU1000	8-598-535-01	FRONT END BTF-EF411			

A Board Variant Parts KV-28LS60E

	< CAPACITOR >				
C1011	NOT FITTED				
C1012	NOT FITTED				
C1016	NOT FITTED				
C1017	NOT FITTED				
	< COIL >				
L1004	NOT FITTED				
	< TRANSISTOR >				
Q1002	NOT FITTED				
Q1003	NOT FITTED				
	< RESISTOR >				
R1011	NOT FITTED				
R1012	NOT FITTED				
R1014	1-216-295-91	SHORT	0		
R1015	NOT FITTED				
R1016	NOT FITTED				
R1018	NOT FITTED				
R1020	NOT FITTED				
R5303	1-208-824-11	METAL CHIP	56K	0.5%	1/10W
R5306	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5327	1-216-474-11	METAL OXIDE	82	5%	3W
R5338	1-249-417-11	CARBON	1K	5%	1/4W
R5400	1-216-848-11	RES-CHIP	180K	5%	1/10W
R5407	1-216-854-11	RES-CHIP	560K	5%	1/10W
R5878	1-216-820-91	RES-CHIP	820	5%	1/10W
R5883	1-216-861-91	RES-CHIP	2.2M	5%	1/10W
	< TUNER >				
TU1000	8-598-533-01	FRONT END BTF-EC411			

A Board Variant Parts KV-28LS60U

	< CAPACITOR >				
C1011	NOT FITTED				
C1012	NOT FITTED				
C1016	NOT FITTED				
C1017	NOT FITTED				
	< COIL >				
L1004	NOT FITTED				
	< TRANSISTOR >				
Q1002	NOT FITTED				
Q1003	NOT FITTED				
	< RESISTOR >				
R1011	NOT FITTED				
R1012	NOT FITTED				
R1014	1-216-295-91	SHORT	0		
R1015	NOT FITTED				
R1016	NOT FITTED				
R1018	NOT FITTED				
R1020	NOT FITTED				
R5303	1-208-824-11	METAL CHIP	56K	0.5%	1/10W
R5306	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R5327	1-216-474-11	METAL OXIDE	82	5%	3W
R5338	1-249-417-11	CARBON	1K	5%	1/4W
R5400	1-216-848-11	RES-CHIP	180K	5%	1/10W
R5407	1-216-854-11	RES-CHIP	560K	5%	1/10W
R5878	1-216-820-91	RES-CHIP	820	5%	1/10W
R5883	1-216-861-91	RES-CHIP	2.2M	5%	1/10W
	< TUNER >				
TU1000	8-598-529-01	FRONT END BTF-EU611			

A Board Variant Parts KV-32LS60B

	< CAPACITOR >				
C1011	1-163-253-11	CERAMIC CHIP	120PF	5%	50V
C1012	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C1016	1-162-915-11	CERAMIC CHIP	10PF	0.50PF	50V
C1017	1-163-247-91	CERAMIC CHIP	68PF	5%	50V

REF.NO.	PART.NO	DESCRIPTION			REMARK
	< COIL >				
L1004	1-412-751-11	INDUCTOR	18UH		
	< TRANSISTOR >				
Q1002	8-729-010-29	TRANSISTOR MSD601-RST1			
Q1003	8-729-900-53	TRANSISTOR DTC114EK			
	< RESISTOR >				
R1011	1-216-815-11	RES-CHIP	330	5%	1/10W
R1012	1-216-815-11	RES-CHIP	330	5%	1/10W
R1014	NOT FITTED				
R1015	1-216-817-11	RES-CHIP	470	5%	1/10W
R1016	1-216-809-11	RES-CHIP	100	5%	1/10W
R1018	1-216-825-11	RES-CHIP	2.2K	5%	1/10W
R1020	1-216-295-91	SHORT	0		
R5303	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R5306	1-208-803-11	METAL CHIP	7.5K	0.5%	1/10W
R5327	1-216-474-11	METAL OXIDE	39	5%	3W
R5338	1-249-413-11	CARBON	470	5%	1/4W
R5400	1-216-849-11	RES-CHIP	220K	5%	1/10W
R5407	1-216-857-11	RES-CHIP	1M	5%	1/10W
R5878	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5883	1-216-855-11	RES-CHIP	680K	5%	1/10W
	< TUNER >				
TU1000	8-598-535-01	FRONT END BTF-EF411			

A Board Variant Parts KV-32LS60E/32LS60K

REF.NO.	PART.NO	DESCRIPTION			REMARK
	< CAPACITOR >				
C1011	NOT FITTED				
C1012	NOT FITTED				
C1016	NOT FITTED				
C1017	NOT FITTED				
	< COIL >				
L1004	NOT FITTED				
	< TRANSISTOR >				
Q1002	NOT FITTED				
Q1003	NOT FITTED				
	< RESISTOR >				
R1011	NOT FITTED				
R1012	NOT FITTED				
R1014	1-216-295-91	SHORT	0		
R1015	NOT FITTED				
R1016	NOT FITTED				
R1018	NOT FITTED				
R1020	NOT FITTED				
R5303	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R5306	1-208-803-11	METAL CHIP	7.5K	0.5%	1/10W
R5327	1-216-474-11	METAL OXIDE	39	5%	3W
R5338	1-249-413-11	CARBON	470	5%	1/4W
R5400	1-216-849-11	RES-CHIP	220K	5%	1/10W
R5407	1-216-857-11	RES-CHIP	1M	5%	1/10W
R5878	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5883	1-216-855-11	RES-CHIP	680K	5%	1/10W
	< TUNER >				
TU1000	8-598-533-01	FRONT END BTF-EC411			

A Board Variant Parts KV-32LS60U

REF.NO.	PART.NO	DESCRIPTION			REMARK
	< CAPACITOR >				
C1011	NOT FITTED				
C1012	NOT FITTED				
C1016	NOT FITTED				
C1017	NOT FITTED				
	< COIL >				
L1004	NOT FITTED				
	< TRANSISTOR >				
Q1002	NOT FITTED				
Q1003	NOT FITTED				
	< RESISTOR >				
R1011	NOT FITTED				
R1012	NOT FITTED				
R1014	1-216-295-91	SHORT	0		
R1015	NOT FITTED				
R1016	NOT FITTED				
R1018	NOT FITTED				
R1020	NOT FITTED				
R5303	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R5306	1-208-803-11	METAL CHIP	7.5K	0.5%	1/10W
R5327	1-216-474-11	METAL OXIDE	39	5%	3W
R5338	1-249-413-11	CARBON	470	5%	1/4W
R5400	1-216-849-11	RES-CHIP	220K	5%	1/10W
R5407	1-216-857-11	RES-CHIP	1M	5%	1/10W
R5878	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5883	1-216-855-11	RES-CHIP	680K	5%	1/10W
	< TUNER >				
TU1000	8-598-529-01	FRONT END BTF-EU611			

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.		PART.NO	DESCRIPTION		REMARK
***A-1624-102-A**		**F2 Board, Complete**			
		4-206-220-01	HOLDER, LED		
		*4-374-846-01	COVER, CAPACITOR, CAP TYPE		
			< CAPACITOR >		
C0982		1-104-665-11	ELECT	100UF	20.00% 25V
C0983		1-102-114-00	CERAMIC	470PF	10.00% 50V
C0984		1-102-129-00	CERAMIC	0.01UF	10.00% 50V
C6981	⚠	1-113-924-11	CERAMIC	0.0047UF	20.00% 250V
			< CONNECTOR >		
CN0981		*1-564-507-11	PLUG, CONNECTOR 4P		
CN6981	⚠	*1-580-844-11	PIN, CONNECTOR (POWER)		
CN6982	⚠	*1-695-292-11	PIN, CONNECTOR (POWER)		
CN6983	⚠	1-695-915-11	TAB (CONTACT)		
			< DIODE >		
D0981		8-719-109-89	DIODE MTZJ-T-77-5.6B		
D0983		8-719-082-12	DIODE TLHK5190		
			< FUSE >		
F6981	⚠	1-576-232-11	FUSE (H.B.C.) 5A/250V		
	⚠	1-533-725-11	HOLDER, FUSE (F6981)		
			< IC >		
IC0981		8-742-180-30	HYB IC SBX3081-51(20)		
			< RESISTOR >		
R0982		1-247-807-31	CARBON	100 5%	1/4W
R6981	⚠	1-202-719-00	SOLID	1M 10%	1/2W
			< SWITCH >		
S6981	⚠	1-571-433-21	SWITCH, PUSH (AC POWER)		
			< VARISTOR >		
VD6981	⚠	1-803-830-31	VARISTOR (ERZV14D621)		
***A-1638-158-A**		**C Board, Complete**			
		4-382-854-01	SCREW (M3X8), P, SW (+)		
			< CAPACITOR >		
C7303		1-162-909-11	CERAMIC CHIP	4PF	0.25PF 50V
C7305		1-136-207-11	MYLAR	0.047UF	10.00% 400V
C7306		1-163-009-91	CERAMIC CHIP	0.001UF	10.00% 50V
C7308		1-162-909-11	CERAMIC CHIP	4PF	0.25PF 50V
C7309		1-163-035-00	CERAMIC CHIP	0.047UF	50V
C7310		1-163-247-91	CERAMIC CHIP	68PF	5.00% 50V
C7325		1-162-909-11	CERAMIC CHIP	4PF	0.25PF 50V
C7326		1-163-009-91	CERAMIC CHIP	0.001UF	10.00% 50V
C7330		1-136-207-11	MYLAR	0.047UF	10.00% 400V
C7331		1-162-909-11	CERAMIC CHIP	4PF	0.25PF 50V
C7333		1-163-035-00	CERAMIC CHIP	0.047UF	50V
C7334		1-163-247-91	CERAMIC CHIP	68PF	5.00% 50V
C7350		1-126-947-11	ELECT	47UF	20.00% 25V
C7351		1-162-909-11	CERAMIC CHIP	4PF	0.25PF 50V
C7352		1-163-009-91	CERAMIC CHIP	0.001UF	10.00% 50V
C7354		1-126-933-11	ELECT	100UF	20.00% 16V
C7355		1-107-967-11	ELECT	1UF	20.00% 400V
C7356		1-136-207-11	MYLAR	0.047UF	10.00% 400V
C7358		1-162-909-11	CERAMIC CHIP	4PF	0.25PF 50V
C7359		1-163-035-00	CERAMIC CHIP	0.047UF	50V
C7360		1-163-247-91	CERAMIC CHIP	68PF	5.00% 50V
C7378		1-162-116-00	CERAMIC	680PF	10.00% 2KV
C7379		1-162-114-00	CERAMIC	0.0047UF	2KV
C7380		1-107-662-11	ELECT	22UF	20.00% 250V
C7384		1-162-911-11	CERAMIC CHIP	6PF	0.50PF 50V
C7385		1-162-913-11	CERAMIC CHIP	8PF	0.50PF 50V
C7387		1-162-911-11	CERAMIC CHIP	6PF	0.50PF 50V
C7388		1-162-913-11	CERAMIC CHIP	8PF	0.50PF 50V
C7390		1-162-911-11	CERAMIC CHIP	6PF	0.50PF 50V
C7391		1-162-913-11	CERAMIC CHIP	8PF	0.50PF 50V
			< CONNECTOR >		
CN7300		*1-564-508-11	PLUG, CONNECTOR 5P		
CN7301		*1-564-512-11	PLUG, CONNECTOR 9P		
CN7311		1-695-915-11	TAB (CONTACT)		
CN7333		1-695-915-11	TAB (CONTACT)		
			< DIODE >		
D7300		8-719-911-19	DIODE 1SS119-25TD		
D7325		8-719-911-19	DIODE 1SS119-25TD		
D7350		8-719-911-19	DIODE 1SS119-25TD		
D7375		8-719-991-33	DIODE 1SS133T-77		
D7376		8-719-991-33	DIODE 1SS133T-77		
D7378		8-719-109-89	DIODE MTZJ-T-77-5.6B		
D7379		8-719-109-89	DIODE MTZJ-T-77-5.6B		
			< IC >		
IC7300		8-759-360-83	IC TDA6111Q/N4		
IC7325		8-759-360-83	IC TDA6111Q/N4		
IC7350		8-759-360-83	IC TDA6111Q/N4		
			< SOCKET >		
J7375	⚠	1-251-732-11	SOCKET, CRT		

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.		PART.NO	DESCRIPTION			REMARK
			< COIL >			
L7375		1-410-671-31	INDUCTOR	47UH		
L7376	⚠	1-532-637-00	LINK, IC 1A/150V			
L7378		1-414-934-21	INDUCTOR	10UH		
			< TRANSISTOR >			
Q7350		8-729-901-06	TRANSISTOR MUN2113T1			
Q7352		8-729-421-19	TRANSISTOR MUN2213T1			
Q7353		8-729-421-19	TRANSISTOR MUN2213T1			
Q7354		8-729-901-06	TRANSISTOR MUN2113T1			
Q7355		8-729-421-19	TRANSISTOR MUN2213T1			
			< RESISTOR >			
R7300		1-249-417-11	CARBON	1K	5%	1/4W
R7303		1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R7304		1-260-095-11	SOLID	470	20%	1/2W
R7305		1-215-903-11	METAL OXIDE	68K	5%	2W
R7306		1-535-143-61	LEAD, JUMPER (5.0MM)			
R7309		1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R7310		1-216-819-11	RES-CHIP	680	5%	1/10W
R7325		1-249-417-11	CARBON	1K	5%	1/4W
R7328		1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R7329		1-260-095-11	SOLID	470	20%	1/2W
R7330		1-215-903-11	METAL OXIDE	68K	5%	2W
R7331		1-535-143-61	LEAD, JUMPER (5.0MM)			
R7334		1-216-819-11	RES-CHIP	680	5%	1/10W
R7335		1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R7350		1-249-417-11	CARBON	1K	5%	1/4W
R7356		1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R7357		1-260-095-11	SOLID	470	20%	1/2W
R7358		1-215-903-11	METAL OXIDE	68K	5%	2W
R7363		1-216-819-11	RES-CHIP	680	5%	1/10W
R7364		1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R7373		1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R7374		1-216-819-11	RES-CHIP	680	5%	1/10W
R7375		1-249-435-11	CARBON	33K	5%	1/4W
R7376		1-249-429-11	CARBON	10K	5%	1/4W
R7377		1-249-430-11	CARBON	12K	5%	1/4W
R7379		1-216-833-11	RES-CHIP	10K	5%	1/10W
R7380		1-216-833-11	RES-CHIP	10K	5%	1/10W
R7381		1-216-833-11	RES-CHIP	10K	5%	1/10W
R7382		1-202-549-00	SOLID	100	20%	1/2W
R7383		1-216-342-51	FILM	0.27	5%	1W
R7384		1-216-399-00	METAL OXIDE	6.8	5%	3W
R7385		1-202-549-00	SOLID	100	20%	1/2W
R7387		1-247-735-11	SOLID	47	20%	1/2W
R7388		1-535-143-51	LEAD, JUMPER (20.0MM)			
R7389		1-247-881-00	CARBON	120K	5%	1/4W
R7390		1-249-417-11	CARBON	1K	5%	1/4W
R7391		1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R7392		1-216-819-11	RES-CHIP	680	5%	1/10W
R7393		1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R7394		1-249-417-11	CARBON	1K	5%	1/4W
R7395		1-216-824-11	RES-CHIP	1.8K	5%	1/10W
R7396		1-216-819-11	RES-CHIP	680	5%	1/10W
R7397		1-216-823-11	RES-CHIP	1.5K	5%	1/10W
R7398		1-249-417-11	CARBON	1K	5%	1/4W
R7399		1-216-824-11	RES-CHIP	1.8K	5%	1/10W
			< VARIABLE RESISTOR >			
RV7375		1-225-952-11	RES, ADJ, METAL FILM 110M			

*A-1647-043-A H2 Board, Complete

			< CAPACITOR >			
C2906		1-126-960-11	ELECT	1UF		20.00% 50V
C2907		1-126-960-11	ELECT	1UF		20.00% 50V
C2913		1-162-964-11	CERAMIC CHIP	0.001UF		10.00% 50V
C2914		1-162-964-11	CERAMIC CHIP	0.001UF		10.00% 50V
			< CONNECTOR >			
CN2900		1-779-947-11	TERMINAL BLOCK, S			
CN2906		*1-564-524-11	PLUG, CONNECTOR 9P			
CN2908		1-564-521-11	PLUG, CONNECTOR 6P			
			< JACK >			
J2900		1-750-264-11	JACK			
			< COIL >			
L0904		1-535-143-61	LEAD, JUMPER (5.0MM)			
L2900		1-535-143-61	LEAD, JUMPER (5.0MM)			
L2901		1-535-143-61	LEAD, JUMPER (5.0MM)			
L2902		1-535-143-61	LEAD, JUMPER (5.0MM)			
L2903		1-535-143-61	LEAD, JUMPER (5.0MM)			
			< RESISTOR >			
R912		1-535-143-61	LEAD, JUMPER (5.0MM)			
R0901		1-249-427-11	CARBON	6.8K	5%	1/4W
R0902		1-215-445-00	METAL	10K	1%	1/4W
R0911		1-249-419-11	CARBON	1.5K	5%	1/4W
R0913		1-247-843-11	CARBON	3.3K	5%	1/4W
R0914		1-249-431-11	CARBON	15K	5%	1/4W
R2903		1-249-406-11	CARBON	120	5%	1/4W
R2904		1-249-406-11	CARBON	120	5%	1/4W
R2909		1-247-895-91	CARBON	470K	5%	1/4W
R2910		1-247-895-91	CARBON	470K	5%	1/4W
R2915		1-249-406-11	CARBON	120	5%	1/4W
R2916		1-249-406-11	CARBON	120	5%	1/4W
R2917		1-249-412-11	CARBON	390	5%	1/4W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R2918	1-249-412-11	CARBON	390	5%	1/4W
		< SWITCH >			
S0900	1-692-979-11	SWITCH, TACTILE			
S0901	1-692-979-11	SWITCH, TACTILE			
S0902	1-692-979-11	SWITCH, TACTILE			

*A-1644-119-A VM Board, Complete

	4-382-854-01	SCREW (M3X8), P, SW (+)			
		< CAPACITOR >			
C7401	1-126-935-11	ELECT	470UF	20.00%	16V
C7403	1-126-935-11	ELECT	470UF	20.00%	6.3V
C7404	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C7405	1-126-933-11	ELECT	100UF	20.00%	16V
C7406	1-126-935-11	ELECT	470UF	20.00%	6.3V
C7407	1-107-364-11	MYLAR	0.01UF	10.00%	200V
C7408	1-107-364-11	MYLAR	0.01UF	10.00%	200V
C7409	1-107-649-11	ELECT	2.2UF	20.00%	250V
C7410	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C7411	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C7412	1-126-935-11	ELECT	470UF	20.00%	16V
C7413	1-126-935-11	ELECT	470UF	20.00%	16V
C7414	1-107-652-11	ELECT	10UF	20.00%	250V
C7415	1-107-363-91	MYLAR	0.0068UF	10.00%	200V
C7418	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C7421	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
		< CONNECTOR >			
CN7442	*1-564-508-11	PLUG, CONNECTOR 5P			
CN7443	*1-564-506-11	PLUG, CONNECTOR 3P			
CN7444	*1-770-723-11	CONNECTOR, BOARD TO BOARD 8P			
		< DIODE >			
D7400	8-719-991-33	DIODE 1SS133T-77			
D7401	8-719-991-33	DIODE 1SS133T-77			
D7402	1-535-143-61	LEAD, JUMPER (5.0MM)			
D7403	8-719-991-33	DIODE 1SS133T-77			
D7404	8-719-991-33	DIODE 1SS133T-77			
D7405	8-719-924-11	DIODE MTZJ-T-77-22			
D7406	8-719-924-11	DIODE MTZJ-T-77-22			
		< FERRITE BEAD >			
FB7400	1-535-143-61	LEAD, JUMPER (5.0MM)			
FB7401	1-535-143-61	LEAD, JUMPER (5.0MM)			
		< COIL >			
L7400	1-414-934-21	INDUCTOR	10UH		
L7402	1-414-934-21	INDUCTOR	10UH		
L7403	1-414-934-21	INDUCTOR	10UH		
		< TRANSISTOR >			
Q7400	8-729-010-29	TRANSISTOR MSD601-RST1			
Q7401	8-729-010-29	TRANSISTOR MSD601-RST1			
Q7402	8-729-010-29	TRANSISTOR MSD601-RST1			
Q7403	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q7404	8-729-216-22	TRANSISTOR 2SA1162-G			
Q7405	8-729-026-39	TRANSISTOR 2SA933AS-QT			
Q7406	8-729-045-05	TRANSISTOR 2SA2005			
Q7407	8-729-045-04	TRANSISTOR 2SC5511			
Q7408	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R			
Q7409	8-729-010-29	TRANSISTOR MSD601-RST1			
		< RESISTOR >			
R7400	1-216-017-91	RES-CHIP	47	5%	1/10W
R7401	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R7402	1-216-041-00	RES-CHIP	470	5%	1/10W
R7403	1-249-393-11	CARBON	10	5%	1/4W
R7404	1-249-413-11	CARBON	470	5%	1/4W
R7405	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R7407	1-249-411-11	CARBON	330	5%	1/4W
R7409	1-216-029-00	RES-CHIP	150	5%	1/10W
R7410	1-216-017-91	RES-CHIP	47	5%	1/10W
R7411	1-216-017-91	RES-CHIP	47	5%	1/10W
R7412	1-216-017-91	RES-CHIP	47	5%	1/10W
R7413	1-249-414-11	CARBON	560	5%	1/4W
R7414	1-249-432-11	CARBON	18K	5%	1/4W
R7415	1-247-739-11	CARBON	100	5%	1/2W
R7416	1-249-389-11	CARBON	4.7	5%	1/4W
R7417	1-249-432-11	CARBON	18K	5%	1/4W
R7418	1-249-414-11	CARBON	560	5%	1/4W
R7419	1-249-421-11	CARBON	2.2K	5%	1/4W
R7420	1-249-421-11	CARBON	2.2K	5%	1/4W
R7421	1-249-389-11	CARBON	4.7	5%	1/4W
R7422	1-249-405-11	CARBON	100	5%	1/4W
R7423	1-215-915-11	METAL OXIDE	470	5%	3W
R7427	1-216-025-11	RES-CHIP	100	5%	1/10W
R7428	1-216-033-00	RES-CHIP	220	5%	1/10W
R7429	1-216-033-00	RES-CHIP	220	5%	1/10W
R7432	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R7433	1-249-395-11	CARBON	15	5%	1/4W
R7434	1-249-395-11	CARBON	15	5%	1/4W
R7435	1-216-033-00	RES-CHIP	220	5%	1/10W
R7436	1-216-049-11	RES-CHIP	1K	5%	1/10W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.	PART.NO	DESCRIPTION	REMARK

MISCELLANEOUS

⚠	1-571-433-21	SWITCH PUSH (AC POWER)	
⚠	1-823-853-11	CORD, POWER (KV-28LS60B/28LS60E/32LS60B/ KV-32LS60E/32LS60K)	
⚠	1-776-860-12	POWER CORD, FILTER (UK) (KV-28LS60U/32LS60U)	
	1-424-855-11	COIL, CHOKE 29MMH	
	8-598-535-11	FRONTEND BTF-EF411 (KV-28LS60B/32LS60B)	
	8-598-533-01	FRONTEND BTF-EC411 (KV-28LS60E/32LS60E /32LS60K)	
	8-598-529-01	FRONTEND BTF-EU611 (KV-28LS60U/32LS60U)	
⚠	1-453-383-21	TRANSFORMER ASSY, FLYBACK (NX-4522//Z214)	(KV-28LS60)
⚠	1-453-340-31	TRANSFORMER ASSY, FLYBACK (NX-4522//Z2B4)	(KV-32LS60)
	1-529-408-11	SPEAKER (4.2x24CM)	
	1-529-989-11	SPEAKER (8CM)	
⚠	8-451-521-11	DEFLECTION YOKE (Y28RVC3-B)	(KV-28LS60)
⚠	1-451-480-11	DEFLECTION YOKE (Y32RVC2)	(KV-32LS60)
	1-419-363-11	COIL, NA ROTATION (RT200)	
	8-453-011-11	NECK ASSY, (NA299-M)	
⚠	1-424-886-11	COIL, DEGAUSSING (KV-28LS60)	
⚠	1-424-888-11	COIL, DEGAUSSING (KV-32LS60)	
⚠	1-251-946-21	CAP ASSY, HIGH-VOLTAGE (KV-28LS60)	
⚠	1-251-374-32	CAP ASSY, HIGH-VOLTAGE (KV-32LS60)	
⚠	8-735-099-05	PICTURE TUBE (W66LLX060X)	(KV-28LS60)
⚠	8-735-079-05	PICTURE TUBE (W76LLZ060X)	(KV-32LS60)
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
	1-452-032-00	MAGNET, DISK; 10MM	

ACCESSORIES AND PACKAGING MATERIALS

*	4-029-168-01	BAG, PROTECTION
*	4-205-939-01	INDIVIDUAL CARTON (KV-28LS60)
*	4-206-691-01	INDIVIDUAL CARTON (KV-32LS60)
	4-206-694-21	INSTRUCTION MANUAL (KV-28LS60B/32LS60B) (GERMAN/FRENCH/ITALIAN/DUTCH)
	4-206-694-61	INSTRUCTION MANUAL (KV-28LS60E/32LS60E) (ITALIAN)
	4-206-694-51	INSTRUCTION MANUAL (KV-28LS60E/32LS60E) (DANISH/SPANISH/NORWEGIAN/PORTUGUESE/ SWEDISH/FINNISH)
	4-206-694-11	INSTRUCTION MANUAL (KV-28LS60E/32LS60E) (GERMAN/GREEK/TURKISH)
	4-206-694-31	INSTRUCTION MANUAL (KV-32LS60K) (BULGARIAN/CZECH/ENGLISH/HUNGARIAN POLISH/RUSSIAN)
	4-206-694-41	INSTRUCTION MANUAL (KV-28LS60U/32LS60U) (ENGLISH)

REMOTE COMMANDER

	1-476-702-11	REMOTE COMMANDER (RM-932)

TRACE

A new TV Repair Assistance Tool that combines ease of use and powerful PC software tools to allow you to save valuable time during many TV repairs.



The TRACE interface connects to the PC's serial port. It provides connection to the TV's I^2C bus and can be provided with an InfraRed transmitter (optional).

The interface is powered by a standard 9 V PP3 battery for portable use, and can also be powered by an external 9V/25mA DC power supply.

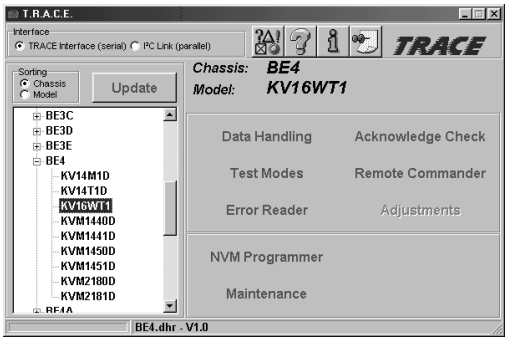
The TRACE software that is supplied with the interface allows you to:

- Read, restore and compare NVM contents via the I^2C bus
- Acknowledge check of all I^2C devices in the TV set
- Read Error Codes (emulation of the Error Reader tool)

With the optional IR Add-on kit, the following features can be added:

- Remote Commander emulation
- User programmable Functional Check through Infrared
- Fast and documented Test Mode setting of all Sony TV chassis

Additional features such as Adjustments and Troubleshooting are available in chassis-dependent software modules. Please contact your local Sony Service organisation for the latest information.



Note: For workshops already using the existing I^2C Link parallel port interface (9-948-320-30), this software can be used as well, replacing the TV Data Handling software (9-948-340-50), but Error Reader and IR functions can only be accessed with the TRACE interface.

Partnumbers:

TRACE Starter Kit (TRACE interface + software):	9-948-320-70
TRACE Software (for users of the I^2C Link interface):	9-948-340-80
TRACE IR Add-on (IR interface + Remote Commander software):	9-948-320-80

PC requirements: IBM-compatible PC with operating system Windows95, Windows98, or WindowsNT*.

* WindowsNT only supported with TRACE interface

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