

# SERVICE MANUAL

# AE-4 CHASSIS

<i>MODEL</i>	<i>COMMANDER</i>	<i>DEST</i>	<i>CHASSIS NO.</i>	<i>MODEL</i>	<i>COMMANDER</i>	<i>DEST</i>	<i>CHASSIS NO.</i>
<b>KV-28WF3A</b>	RM-862	Italian	SCC-K43L-A	<b>KV-32WF3A</b>	RM-862	Italian	SCC-K43K-A
<b>KV-28WF3B</b>	RM-862	French	SCC-K45N-A	<b>KV-32WF3B</b>	RM-862	French	SCC-K45M-A
<b>KV-28WF3D</b>	RM-862	AEP	SCC-K41N-A	<b>KV-32WF3D</b>	RM-862	AEP	SCC-K41M-A
<b>KV-28WF3E</b>	RM-862	Spanish	SCC-K42L-A	<b>KV-32WF3E</b>	RM-862	Spanish	SCC-K42K-A
<b>KV-28WF3K</b>	RM-862	OIRT	SCC-K44M-A	<b>KV-32WF3K</b>	RM-862	OIRT	SCC-K44L-A



TRINITRON® COLOR TV  
**SONY®**

# KV-28WF3/32WF3

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF : A-H2 (C) UHF : 21-69 PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10	PAL NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K, L, I	GERMAN/NICAM Stereo	L VHF : F02-F10 UHF : F21-F60 CABLE : B-Q B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 I UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 D/K VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 D/K VHF : R01-R20 UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN/NICAM STEREO	PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 D/K VHF : R01-R12 UHF : R21-R69	

MODEL	28WF3A	28WF3B	28WF3D	28WF3E	28WF3K	32WF3A	32WF3B	32WF3D	32WF3E	32WF3K
Power Consumption	108 W	119 W	119 W	119 W	119 W	118 W	132 W	132 W	132 W	132 W

## [PICTURE TUBE]

### KV-28WF3


Super Trinitron  
Approx. 71cm (28 inches)  
(Approx. 66cm picture measured diagonally)  
110 degree deflection


### KV-32WF3


Super Trinitron  
Approx. 82cm (32 inches)  
(Approx. 76cm picture measured diagonally)  
110 degree deflection

## Input/Output Terminals





### [REAR]

- 1 →  21-pin Euro connector (CENELEC standard).  
- Inputs for Audio and Video signals.  
- Inputs for RGB.  
- Outputs of TV Video and Audio signals.

-  21-pin Euro connector.  
- inputs for Audio and Video signals.  
- inputs for S Video.  
- outputs for Audio and Video signals (selectable).

-  Phono Jack  
- Outputs for Audio Signals

### [FRONT]

-  Video input - phono jack  
 Audio inputs - phono jacks  
 S Video input 4 pin DIN  
 Headphone jacks : stereo minijack

Sound output 2 x 20W (Music Power)  
Power requirements 220 - 240V

Dimensions  
KV-28WF3 Approx 690x535x534mm  
KV-32WF3 Approx 789x602x576mm




Weight  
KV-28WF3 Approx 38kg  
KV-32WF3 Approx 55.5kg

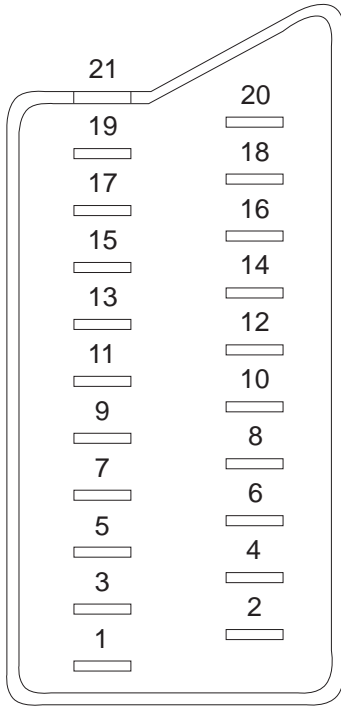
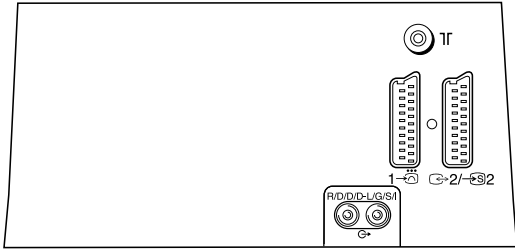
Supplied accessories RM-862 Remote Commander (1)  
IEC designated R6 battery (2)  
Other features DNR (Digital Noise Reduction),  
Digital Plus.  
NICAM\*, FASTEXT, TOPTXT  
\*(KV-28WF3B/28WF3E/28WF3K/  
32WF3B/32WF3E/32WF3K only)

### [RM-862]

Remote control system infrared control  
Power requirements 3V dc (2 Batteries) R6 (Size AA)  
Dimensions Approx 210x56x24mm (w/h/d)  
Weight Approx 110g (Not including battery)

Model Name Item	KV-28WF3A	KV-28WF3B	KV-28WF3D	KV-28WF3E	KV-28WF3K
	KV-32WF3A	KV-32WF3B	KV-32WF3D	KV-32WF3E	KV-32WF3K
Pal Comb	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF
RGB Priority	OFF	OFF	OFF	ON	OFF
Woofers Box	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON
Norm B/G/H	ON	ON	ON	ON	ON
Norm I	OFF	ON	OFF	OFF	OFF
Norm D/K	ON	ON	ON	ON	ON
Norm AUS	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON	ON
Nicam Stereo	OFF	ON	OFF	ON	ON
Language Preset	Italian	French	German	Spanish	OIRT

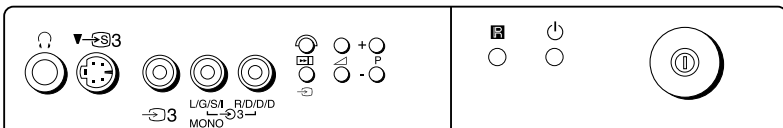
21 pin connector (1 →  ,  2 /  2 )



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

Connected       Not Connected (open)      \* at 20Hz - 20kHz

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V +/- 3dB 75 ohm, positive Sync 0.3V -3/+10dB
4	C (S signal) input	0.3V +/- 3dB 75 ohm, positive Sync



# TABLE OF CONTENTS

<i>Section</i>	<i>Title</i>	<i>Page</i>	<i>Section</i>	<i>Title</i>	<i>Page</i>
<b>1. GENERAL</b>			<b>5. DIAGRAMS</b>		
	Overview	7	5-1.	Block Diagram (1)	31
	Basic Operation	8		Block Diagram (2)	34
	Advanced Operation	9		Block Diagram (3)	35
	Teletext Operation	13		Block Diagram (4)	37
	Optional Equipment	15		Block Diagram (5)	39
	Additional Information	16		Block Diagram (6)	42
<b>2. DISASSEMBLY</b>			5-2.	Circuit Board Location	43
	2-1. Rear Cover Removal	17	5-3.	Schematic Diagrams and Printed Wiring Boards	43
	2-2. Chassis Assy Removal	17		* A Board	47
	2-3. Service Position	17		* C Board	57
	2-4. G Board Removal	17		* D Board	63
	2-5. A Board Removal	18		* G Board	67
	2-6. Picture Tube Removal	18		* VM Board	71
	2-7. Removal and Replacement of the Main Bracket Bottom Plates	19		* B Board	79
<b>3. SET-UP ADJUSTMENTS</b>			5-4.	Semiconductors	87
	3-1. Beam Landing	20	5-5.	IC Blocks	90
	3-2. Convergence	21	<b>6. EXPLODED VIEWS</b>		
	3-3. Focus	23	6-1.	Chassis	91
	3-4. Screen [G2] White Balance (Adjustment in the service mode with remote commander)	23	6-2.	Picture Tube	92
<b>4. CIRCUIT ADJUSTMENTS</b>			<b>7. ELECTRICAL PARTS LIST</b>		94
	4-1. Electrical Adjustments	24			
	4-2. Volume Electrical Adjustments	28			
	4-3. Test mode 2:	29			

## 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 ISOLATING 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  $\triangle$  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 L'ANODE, 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 CHÂSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

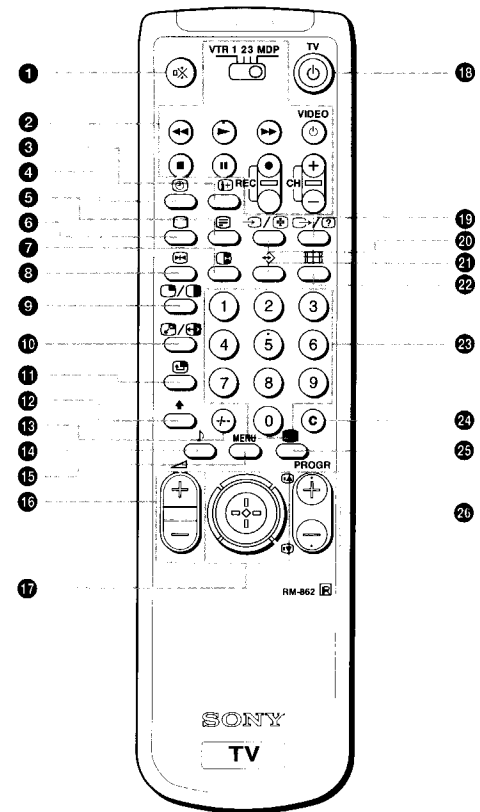
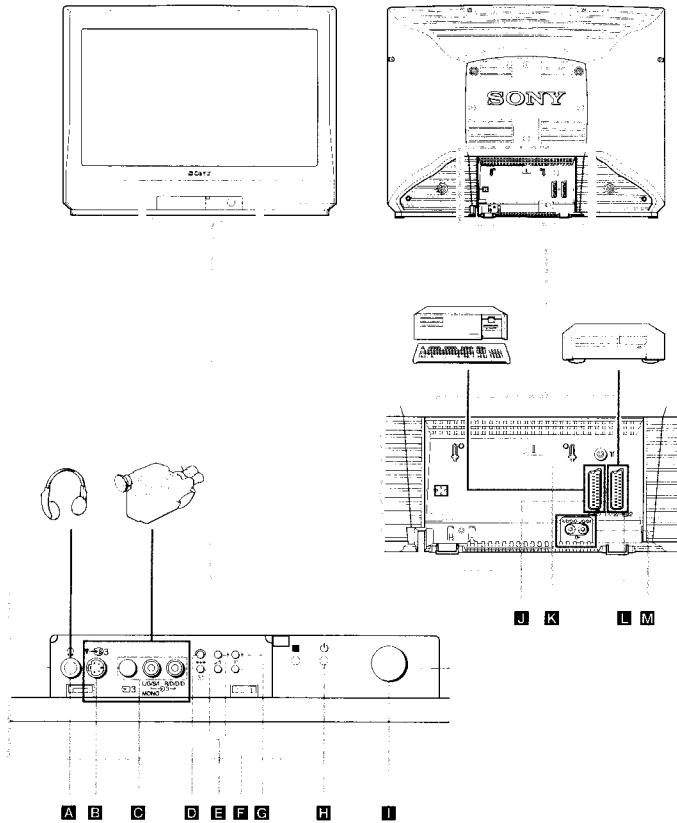
## ATTENTION AUX COMPOSANTS RELATIFS Á LA SÉCURITÉ !!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  $\triangle$  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÉ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÉS PAR SONY.

# SECTION 1 GENERAL

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

9

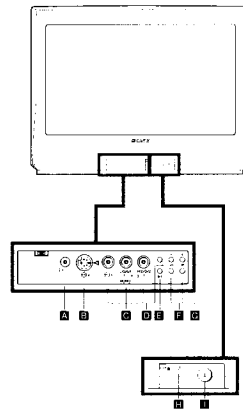


## Overview

This section briefly describes the buttons and controls on the TV set and on the Remote Commander. Please open the flaps at the front and at the back of the Instruction Manual for detailed illustrations of the Remote Commander and the TV set. Letters in boxes refer to the buttons and connectors on the TV set, numbers in circles to the buttons on the Remote Commander. For more information, refer to the pages given next to each description.

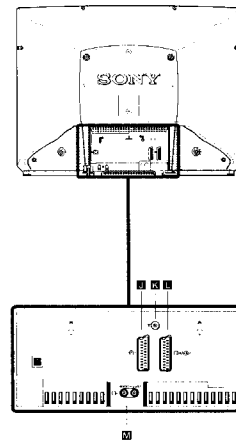
### TV set – front

Reference and Symbol	Name	Refer to page
<b>A</b>	Headphones jack	35
<b>B</b>	S video input jack	40
<b>C</b>	Input jacks (video, audio)	40
<b>D</b>	Reset button	28
<b>E</b>	Input mode button	28
<b>F</b>	Volume control	28
<b>G</b>	Programme buttons	28
<b>H</b>	Standby mode indicator	28
<b>I</b>	Main power switch	28



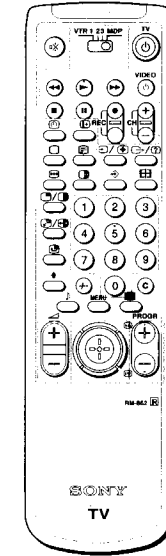
### TV set – rear

Reference and Symbol	Name	Refer to page
<b>J</b>	21-pin Euro connector	40
<b>K</b>	Aerial socket	26
<b>L</b>	21-pin Euro connector	40
<b>M</b>	Audio phono jacks R/D/D/D L/G/S/F	40



## Remote Commander

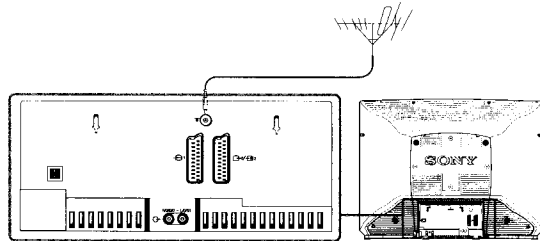
Reference and Symbol	Name	Refer to page
<b>1</b>	Muting on/off button	28
<b>2</b>	VCR operation	41
<b>VTR 123 MDP</b>	VCR equipment selector	41
	Video equipment operation buttons	41
<b>VIDEO</b>	On-screen display button	28
<b>3</b>	On-screen display button	28
<b>4</b>	Time display button	28
<b>5</b>	Teletext button	28, 37
<b>6</b>	TV power on/TV mode button	28
<b>7</b>	No function on this set	
<b>8</b>	Freeze button	28
<b>9</b>	No function on this set	
<b>10</b>	No function on this set	
<b>11</b>	No function on this set	
<b>12</b>	No function on this set	
<b>13</b>	Double digit entering button	28
<b>14</b>	Sound mode button	34
<b>15</b>	Menu on/off button	29
<b>16</b>	Volume control buttons	28
<b>17</b>	Joystick for Menu selection	29
<b>18</b>	Press to confirm selection (OK function)	
<b>19</b>	TV standby button	28
<b>20</b>	Output mode selector	40
<b>21</b>	Teletext: Reveal button	37
<b>22</b>	Input mode selector	28
<b>23</b>	Teletext: Freezing the subpage	37
<b>24</b>	Teletext: Favourite pages button	39
<b>25</b>	Screen format button	28
<b>26</b>	Number buttons	28
<b>27</b>	Direct channel entering button	28
<b>28</b>	Picture mode button	34
<b>29</b>	Programme buttons	28
<b>30</b>	Teletext: Page up/page down buttons	37



## Step 1 Installation

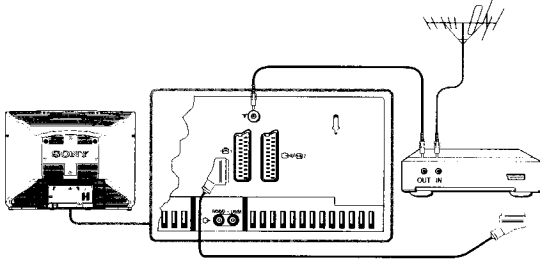
### A Connecting the Aerial

(If you connect a VCR, skip to step B)  
Insert the aerial plug of the supplied aerial cable tightly into the aerial socket T K.



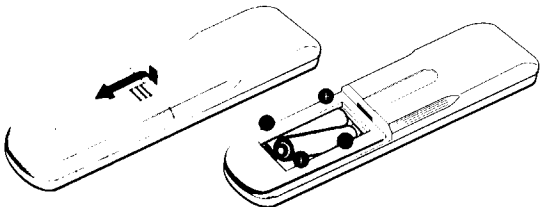
### B Connecting a VCR

We recommend that you tune in the VCR signal to the programme position »0«.  
Use the preset function »Manual Programme Preset« (page 29) to do this.



### C Inserting the batteries into the Remote Commander

Insert the batteries checking the correct polarities.



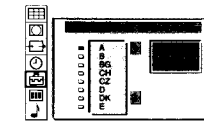
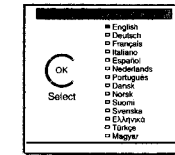
! Respect your environment! Dispose of used batteries in an environmental friendly way.

## Step 2 Basic Presetting

### A Choosing the Menu Language and the Country

Using this function you select the language of the menu screens. Also you select the country in which you will use the TV. In this way the channels of the selected country will automatically get the top positions during automatic presetting.

- 1 Connect the plug of the TV set to the main socket. Press the power switch **1** on the TV. If the standby indicator **1** on the TV is lit, press **0** or a number button **2** on the Remote Commander.
- 2 Press the MENU button **3** on the Remote Commander. The menu LANGUAGE appears.
- 3 Push the joystick **4** to blue or green to select the language. Press the joystick **5** to confirm your selection. The menu COUNTRY appears.
- 4 Push the joystick **4** to blue or green to select the country in which you wish to operate the TV. Press the joystick **5** to confirm the selection.
- 5 Press MENU **3** to restore the normal TV picture.



### B Presetting Channels Automatically

With this function the TV automatically searches and stores up to 100 channels onto programme positions. If you prefer »Manual Presetting of channels« please refer to page 29 in Advanced Operation.

- 1 Press MENU **3**.
- 2 Push the joystick **4** to blue or green to select the symbol **6** on the menu screen, then push to yellow.
- 3 Push the joystick **4** to blue or green to select »Auto Programme«, then push to yellow. The menu AUTO PROGRAMME appears.
- 4 a) All items shown on the menu screen are as wanted: Press joystick **4** to select START. Now the automatic channel presetting starts from programme position 1.  
or  
4 b) You wish to change items as shown on the menu screen: Push the joystick **4** to blue or green. Push to yellow repeatedly until the desired item is highlighted.

Push the joystick **4** to blue or green to select the following possibilities:

**ACI**  
(Automatic Channel Installation, depending on availability of service in your country) on: fast channel presetting by special networks using the channel frequency (e.g. F055) TV-system and station label  
off: ACI is not active, only ITP (Intelligent Tuner Preset)

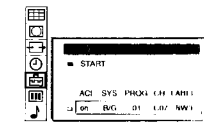
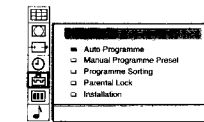
**SYS** (TV Broadcast System)  
B/G for Western European Countries  
D/K for Eastern European Countries

**PROG** (Programme Position)  
Presetting automatically starts from position 1.

**CH** (channel)  
C to start presetting with terrestrial channels  
S to start presetting with cable channels

Press the joystick **4** as soon as the automatic presetting should start.

After presetting the normal TV picture reappears.



Joystick



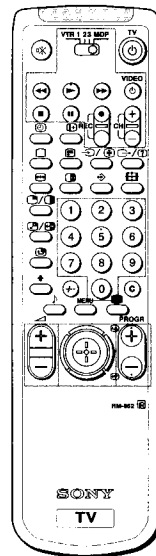
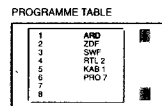
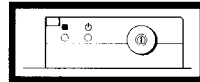


## Step 3 TV operation

### Using Direct Access Buttons

This section explains functions used while watching TV. Most operations are carried out using the Remote Commander (numbers in circles). All basic functions are also available on the TV set itself (letters in boxes).

To	Press
Switch on	• <b>Ⓚ</b> on TV.
Switch off temporarily (Standby mode)	• <b>Ⓚ</b> <b>Ⓜ</b> . TV is now in standby mode and indicator <b>Ⓜ</b> lights up.
Switch on from standby mode	• <b>Ⓚ</b> <b>Ⓜ</b> , <b>PROGR +/-</b> <b>Ⓜ</b> or any number button <b>Ⓜ</b> .
Switch off completely	• <b>Ⓚ</b> on TV. ! To save energy, we recommend to switch off your TV completely when TV is not in use.
Select programmes	• <b>PROGR +/-</b> <b>Ⓜ</b> or number buttons <b>Ⓜ</b> . For a double digit number, press <b>-/-</b> <b>Ⓜ</b> , then the two number buttons <b>Ⓜ</b> . E.g. for 24, press <b>-/-</b> <b>Ⓜ</b> , then 2 and 4.
Display a programme table	• The joystick <b>Ⓜ</b> . Push the joystick <b>Ⓜ</b> to blue or green to select a programme, then press the joystick <b>Ⓜ</b> to confirm.
Display on screen indications	• <b>Ⓜ</b> <b>Ⓜ</b> . Press again to make the indications disappear.
Adjust the volume	• <b>Ⓜ</b> + or - <b>Ⓜ</b> <b>F</b> .
Mute the sound	• <b>Ⓜ</b> <b>Ⓜ</b> . Press again to restore the sound.
Select the Sports mode	• Push the joystick <b>Ⓜ</b> to yellow.
Display the time (only available when teletext is broadcast)	• <b>Ⓜ</b> <b>Ⓜ</b> . Press again to make the display disappear.
Tune in a channel temporarily	• <b>Ⓜ</b> <b>Ⓜ</b> once for terrestrial channels, twice for cable channels. The indication <b>»C«</b> or <b>»S«</b> for cable channels appears. Enter the channel number with two digits, e.g. for 4, press 0, then 4.
View the input of a connected device (see also page 40)	• <b>Ⓜ</b> <b>Ⓜ</b> repeatedly until the desired input signal appears. Press <b>Ⓜ</b> <b>Ⓜ</b> to restore the normal TV picture.
View teletext (see also page 37)	• <b>Ⓜ</b> <b>Ⓜ</b> to switch on. Input a page number, using the number buttons <b>Ⓜ</b> (e.g. for page 125, press 1, 2 and 5). <b>Ⓜ</b> <b>Ⓜ</b> to switch off.
Change the screen mode (see also page 36)	• <b>Ⓜ</b> <b>Ⓜ</b> repeatedly. The mode changes as follows: Auto Wide → Smart → Zoom → Wide → 4:3 → 14:9
Freeze the picture	• <b>Ⓜ</b> <b>Ⓜ</b> . Press again to restore the normal TV picture.
Reset picture settings to factory levels	• <b>Ⓜ</b> <b>Ⓜ</b> .



## Using the Menu System

Use the following buttons on the Remote Commander to operate the Menu system:

1 Press MENU button **Ⓜ** to switch menu on or off.

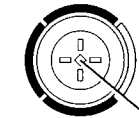
MENU



2 Use the joystick **Ⓜ** as follows:

RED :  
decrease/back to last item or to last menu  
When menu is not displayed:  
Push to red to display the last menu screen

GREEN : scroll up



YELLOW :  
increase/forward to next item

BLUE : scroll down

Joystick: Press at its neutral position to confirm selection or store

## Advanced Presetting

### Presetting Channels Manually

Using this function you can preset channels one by one to different programme positions. It is also convenient to allocate programme numbers to video input sources.

1 Press MENU **Ⓜ**.

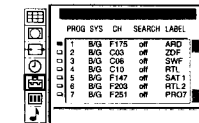
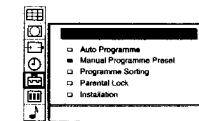
2 Push joystick **Ⓜ** to blue or green to select the symbol **Ⓜ** on the menu screen. Push to yellow to confirm the selection.

3 Push to blue or green to select **»Manual Programme Preset«**. Push to yellow to confirm the selection.

4 Push to blue or green to select the programme position (PROG) to which you want to preset a channel. Push to yellow to confirm.

5 Push to blue or green to select the TV broadcast system (SYS) (B/G for western European countries, D/K for eastern European countries) or a video input source (EXT). Push to yellow to confirm.

6 Push to blue or green to select **»C«** (for terrestrial channels), **»S«** (for cable channels) or **»F«** (for channel frequency). Push to yellow to confirm.



There are two possibilities to preset channels manually:

a) You know the channel number or channel frequency.  
Please use method **»Direct input«**.

or


b) You don't know the channel number or frequency.  
Please use method **»Search«**.

continued >>>


## Advanced Presetting

### 7a) Direct Input

For channel numbers you need to input a two digit number, for the frequency a three digit number.

- Push to blue or green to select the first digit of the channel number or frequency. Push to yellow to confirm.
- Push to blue or green to select the second digit of the number or frequency. Push to yellow to confirm. In case of the channel number the search starts.
- Push to blue or green to select the third digit of the frequency number. Push to yellow to start the search of the frequency.
- To continue search for another channel: Push to blue or green.
- To store the selected channel: Press the joystick .
- Repeat steps 4 to 7a) to preset other channels.

### 7b) Search






- Push repeatedly to yellow until a blue and a green arrow appear in the section SEARCH.
- Push to blue or green to search for the next available channel.
- To continue search for another channel: Push to blue or green.
- To store the selected channel: Press the joystick .
- Repeat steps 4 to 7b) to preset other channels.

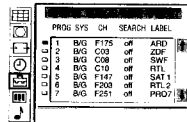
### Joystick



## Captioning a Station Name

Channels are usually automatically labelled during presetting. You can, however, individually name a channel or a video source using up to five characters.






- 1 Press MENU .
- 2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.
- 3 Push to blue or green to select »Manual Programme Preset«. Push to yellow to confirm.
- 4 Push to blue or green to select the programme position with the channel you want to label. Push to yellow repeatedly until the first element of the position LABEL is highlighted.
- 5 Push to blue or green to select a letter or a number (select »-« for a blank). Push to yellow to confirm. Select the other four characters in the same way.
- 6 After selecting all characters, press the joystick .
- 7 Repeat steps 4 to 6 to label other channels or video sources.
- 8 Press MENU  to restore the normal TV picture.



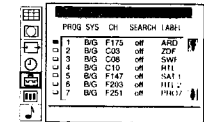
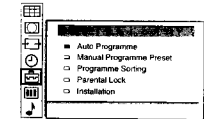
## Advanced Presetting

### Skipping Programme Positions

This function enables you to skip unused programme positions when selecting them with the PROGR +/- buttons. However, by using the number buttons you can still select the skipped programme position.






- 1 Press MENU .
- 2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.
- 3 Push to blue or green to select »Manual Programme Preset«. Push to yellow to confirm.
- 4 Push to blue or green to select the programme position you want to skip. Push to yellow to confirm.
- 5 Push to blue or green to select »---« in the position SYS (system). Press the joystick  to confirm.
- 6 Repeat steps 4 and 5 to skip other programme positions.
- 7 Press MENU  to restore the normal TV picture.

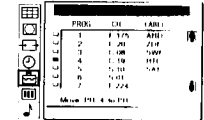
### Joystick



## Sorting Programme Positions







This function enables you to sort the programme positions to a preferable order.



- 1 Press MENU .
- 2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.
- 3 Push to blue or green to select »Programme Sorting«. Push to yellow to confirm.
- 4 Push to blue or green to select the programme position of the channel you want to exchange. Press joystick  to confirm.
- 5 Push to blue or green to select the programme position of the second channel. Press joystick  to confirm. Now the two programme positions are swapped and sorted.
- 6 Repeat steps 4 and 5 to sort other programme positions.

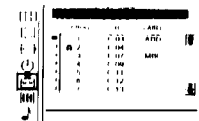


## Using Parental Lock

This function enables you to prevent children watching undesirable broadcasts.

- 1 Press MENU .
- 2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.
- 3 Push to green or blue to select »Parental Lock«. Push to yellow to confirm.
- 4 Push to green or blue to select the channel you want to block. Press the joystick  to confirm. The symbol  appears before the programme position to indicate that this channel is now blocked.
- 5 Repeat step 4 to block other channels.
- 6 Press MENU  to restore the normal TV picture.

! To unblock: Select the channel to unblock in the menu »Parental Lock«. Press the joystick . The symbol  disappears.





## Advanced Presetting

### Using »Further Programme Preset«

Using the menu »Further Programme Preset« you can

- individually adjust and store the volume level of each channel (Volume offset).
- in case of picture distortions use manual fine tuning to obtain a better picture quality. The factory setting is »on« for AFT (Automatic Fine Tuning).

1 Press MENU .


2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.

3 Push to blue or green to select »Installation«. Push to yellow to confirm.


4 Push to blue or green to select »Further Programme Preset«. Push to yellow to confirm.

5 Push to blue or green to select the programme position you want. Push to yellow repeatedly to select:

6a) VOL

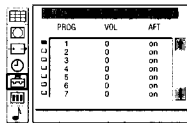
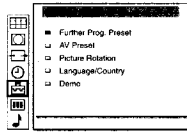
Push to blue or green to adjust the volume for the selected programme position within a range of -7 to +7. Press the joystick  to confirm. Repeat step 6 to set the volume level for other programme positions.

b) AFT

Push to blue or green to fine-tune the channel within a range of -15 to +15. Press the joystick  to confirm. Repeat step 6 to fine-tune other channels.

7 Press MENU  to restore the normal TV picture.

#### Joystick





## Advanced Presetting

### Adjusting the Picture Rotation


If, due to the earth magnetism, the picture slants, you can use this function to readjust the picture.


1 Press MENU .

2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.

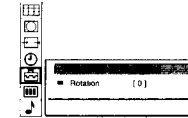
3 Push to blue or green to select »Installation«. Push to yellow to confirm.

4 Push to blue or green to select »Picture Rotation«. Push to yellow to confirm.


5 Push to yellow. Push to blue or green to adjust the picture rotation. The adjusting range is - 4 to + 4. Press the joystick  to confirm.


6 Press MENU  to restore the normal TV picture.



#### Joystick



### Using »AV Preset«

Using this function you can preset the desired input source (e.g. , RGB signal) to the respective AV input (AV1). In this way a connected VCR switches automatically to the RGB signal. Also you can label the input sources.

1 Press MENU .

2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.

3 Push to blue or green to select »Installation«. Push to yellow. Push to blue or green to select »AV Preset«. Push to yellow to confirm.

4 Push to blue or green to select the desired AV input. Push to yellow to confirm.


5 Push to blue or green to select the desired source. Push to yellow to confirm. For the respective AV inputs you have the following choice:

- AV1: RGB or AV
- AV2: YC2 or AV
- AV3: YC3 or AV

6 To label a source: Push to blue or green to select the first character (letter or number, »« for a blank). Push to yellow to confirm. Select the other four characters in the same way.


7 For automatic format selection (Auto 16:9):


Push to blue or green to select »On« for the AV input.

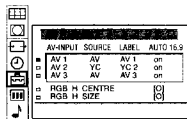
8 Press the joystick  to store.

9 Repeat steps 4 to 8 for the other AV inputs.

10 For RGB input source only: Push to blue or green to select RGB H CENTRE.

- Push to yellow to confirm.
- Push to blue or green to adjust the centre of the picture in a range of -5 to +5. Press the joystick  to store.
- Repeat step 10 to adjust RGB H SIZE.

11 Press MENU  to restore the normal TV picture.



## Advanced TV operation

### Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste.

1 Press **Picture** (for Picture) or **Sound** (for Sound)

or  
Press **MENU**

Push joystick to blue or green to select **Picture** for Picture Control or **Sound** for Sound Control. Push to yellow to confirm. The menu PICTURE CONTROL or SOUND CONTROL appears.

2 Push to blue or green to select the desired item. Push to yellow to confirm.

3 Push to red or yellow to adjust the selected item. Press the joystick to confirm. For the effect of each control, see the following tables.

4 Repeat steps 2 and 3 to adjust other items.

5 Press **MENU** to restore the normal TV picture.

Joystick

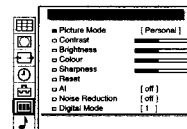


#### Picture Control

Item	Effect
Picture Mode	• Personal → Economy (energy saving setting) → Live → Sports → Movie → Game
Contrast	• Less ——— ——— More
Brightness*	• Darker ——— ——— Brighter
Colour*	• Less ——— ——— More
Hue**	• Greenish ——— ——— Reddish
Sharpness*	• Softer ——— ——— Sharper
Reset	• Resets picture to the factory preset levels
AI	• Off: Normal On: Automatic optimization of contrast level according to TV signal
Noise Reduction	• Off: Normal On: Reduction of picture noise in case of weak signals
Digital Mode	• 1: Normal 2: LFR (Line Flicker Reduction) off

\* Only if «Personal» or «Economy» is selected in «Picture Mode».

\*\* Available for NTSC colour system only.

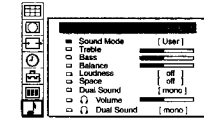


## Advanced TV operation

### Sound Control

Item	Effect
Sound Mode	• Choice between different sound effects User → Sports → Pop → Jazz → Rock
Treble*	• Less ——— ——— More
Bass*	• Less ——— ——— More
Balance	• More left ——— ——— More right
Loudness*	• Off: normal On: for music broadcasts
Space	• Off: normal On: special acoustic effect
Dual Sound	• A: channel 1 or B: channel 2 Stereo → Mono
Headphones	
Volume	• Less ——— ——— More
Dual Sound	• A: channel 1 or B: channel 2 Stereo → Mono

\* Only if «User» is selected in «Sound Mode»



### Using the Sleep Timer

This function enables you to select a time period after which the TV automatically switches into standby mode.

1 Press **MENU**

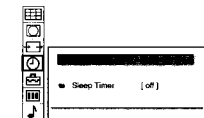
2 Push joystick to blue or green to select the symbol on the menu screen. Push to yellow to confirm.

3 Push to yellow. Push to blue or green to select the time.  
OFF → 10 min → 20 min ..... 80 min → 90 min.  
Press the joystick to confirm.

4 Press **MENU** to restore the normal TV picture.

One minute before the TV switches into standby mode, a message is displayed on the screen.

Joystick





## Advanced TV Operation



### Using »Multi PIP«

Using »Multi PIP« you can scan 12 successive TV channels on the screen (Programme Catching) or display 11 successive freeze pictures on the screen (Photo Mode).



1 Press MENU .

2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.



#### a) Programme Catching

Push to blue or green to select »Programme Catching«. Press the joystick . Now a scan of 12 successive programmes (11 still pictures, 1 live picture where the cursor is positioned) is displayed on the screen starting from the programme tuned in. Pushing the joystick to blue, green, red or yellow you can move the cursor in all directions and update the still pictures. When selecting a programme position lower or higher than the 12 displayed ones the programme scanning starts again. Press MENU  to restore the normal TV picture.

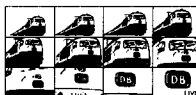
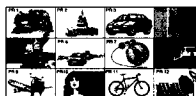
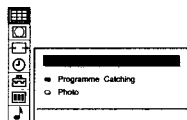
*Selecting a programme using Programme Catching:*

Push the joystick  to blue, green, red or yellow to select the programme position you want, then press the joystick . Now the selected programme appears and you are back in the normal TV mode.

#### b) Photo mode

Push to blue or green to select »Photo mode«. Press the joystick . Now the main picture is displayed as a succession of 11 still pictures and a 12th picture, which is live. Push to blue or green to start the photo mode again. Press the joystick  to restore the normal TV picture.



### Joystick



### Operating Screen Mode


Using Screen Mode you can change the aspect ration of the screen for wide screen effects, or reproduce the main picture image by image (Strobe function).

1 Press MENU .

2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.


3 Push to blue or green to select »Screen Mode«. Push to yellow to confirm. Push to blue or green to select one of the following modes:

- Smart - imitation of wide screen effect (16:9) for 4:3 broadcasts.
- Zoom - imitation of wide screen effect (16:9) for movies broadcast in cinematographic format.
- Wide - for 16:9 broadcasts
- 4:3 - conventional 4:3 picture
- 14:9
- AutoWide - automatic selection of the optimum screen ratio (e.g. 4:3 picture automatically changes to Smart mode, 16:9 picture changes to Zoom mode)


Press the joystick  to confirm the selection.

#### 4 Only in Zoom / Auto Wide Mode: Changing the Screen position

In Zoom mode parts of the top and bottom of the picture are cut off. Using »Screen position« you can move the screen up- or downwards in order to see the cut-off parts (e.g. to read subtitles). Push to blue or green to select »Screen position«. Push to yellow to confirm.

Push to blue or green to adjust the screen position (-10 to +10 or -5 to +5). Press the joystick  to confirm.


#### 5 Strobe Mode

Push to blue or green to select »Strobe«. Push to yellow to confirm. The TV picture is now displayed image by image, creating a slow motion effect. Push to blue or green to select the speed of the motion. Press the joystick  to restore the normal TV picture.

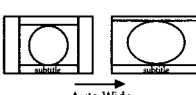
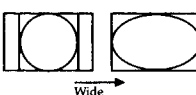
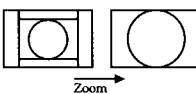
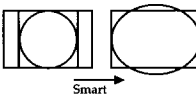
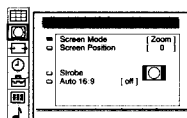
#### 6 Auto 16:9

Push to blue or green to select »Auto 16:9«. Push to yellow to confirm.

Push to blue or green to select »On« for automatic selection of format or »Off« for normal mode.

Press joystick  to confirm.

7 Press MENU  to restore the normal TV picture.




## Teletext


Most TV channels broadcast information via teletext. The index page of the broadcaster (usually page 100) informs you about how to use the service. Make sure to use a TV channel with a strong signal, otherwise Teletext errors may occur.


### Direct Access Function

#### Switching Teletext on and off

1 Select the TV channel which carries the teletext service you want to view.


2 Press  once to get Teletext only.

Press  twice times for Mix mode. The normal TV screen and the Teletext screen are overlapped.

3 Press  to switch Teletext off.

#### Selecting a Teletext page


##### Direct Page Selection



Use the number buttons  to input three digits of the page number.

If you have made a mistake: Type in any three digits, then reenter the correct page number.



##### Page Catching

1 Select a teletext page with page numbers (e.g. index page).



2 Press the joystick . »Page Catching« is displayed at the top of the page.


Push joystick  to blue or green to select the page you want. Press the joystick . The requested page is displayed after some seconds.

#### Accessing the next or preceding page

Press  (Page +) or  (Page -).

#### Freezing a teletext subpage

Press . The symbol  is displayed.


Press  to resume normal teletext reception.

#### Revealing hidden information (e.g. for a quiz)

Press . Press again to cancel.

#### Using Fastext

(only available, if the TV station broadcasts Fastext signals)

With Fastext you can access pages with one key stroke. When Fastext is broadcast, a colour-coded menu appears at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue marks on the Remote Commander. Push the joystick  to the colour mark which corresponds to the colour-coded menu. The page is displayed after some seconds.

### Joystick



continued >>>

## Teletext

### User Page Bank System

You can store up to 6 of your favourite teletext pages per Teletext service. In this way you have quick access to the pages you frequently use.

#### Storing pages

- 1 Press **MENU** to switch Teletext on. Press **MENU**.
- 2 Push joystick to blue or green to select »Preset User Pages«. Push to yellow to confirm.
- 3 Push to blue or green to select the bank (from A to E) you want. Push to yellow to confirm.
- 4 Push to blue or green to select the three digits of your first favourite page. Push to yellow after each digit. Push to yellow to confirm.
- 5 Repeat step 4 for the other 5 favourite pages. If you do not want to preset all 6 page numbers push to yellow without inserting any number. After finishing the presetting, press the joystick.
- 6 Push to blue or green to select »Allocate Bank«. Push to yellow to confirm.
- 7 Push to blue or green to select the programme position of the channel which carries the teletext service for which you have selected your favourite pages. Push to yellow to confirm.
- 8 Push to blue or green to select the bank from step 3. Press the joystick to confirm. Push to red.
- 9 Repeat steps 3 to 8 for the other 4 banks available.

#### Displaying User Pages

- 1 Press **MENU**.
  - 2 Push joystick to blue or green to select »User Pages«. Push to yellow to confirm.
  - 3 Push to blue or green to select the page you want. Press the joystick. The page is displayed after some seconds.
- or
- 1 Press **↔**.
  - 2 Push joystick to blue or green to select the page you want. Press the joystick.

#### Joystick



BANK	P1	P2	P3	P4	P5	PE
A	300	256	456	234	200	179
B	200	120	301	303	550	345
C	100	220	300	444		
D	128	321	255			
E	400	238	240	110	127	

PROG	LABEL	BANK	PROG	LABEL	BANK
00	VHS	-	04	MTV	D
01	BBC1	A	05	SMTV	B
02	BBC2	C	06	ITV	C

▶	PAGE 200
◀	PAGE 200
◀	PAGE 203
◀	PAGE 500
◀	PAGE 234
◀	PAGE 150

## Optional Equipment

### Connecting Optional Equipment

You can connect a wide range of optional equipment to your TV. Refer to the illustrations on the back lap page of this instruction Manual.

Symbol	Acceptable input signals	Available output signals
1	Normal audio/video and RGB	Audio/video from TV tuner
2/2	Normal audio/video and S video	Audio/video from selected source
3, 3	Normal audio/video and S video	No output
4	No inputs	Audio from selected source

#### About S video input

Video signals may be separated into Y (luminance) and C (chrominance) signals. Separating the two signals prevents interference and thus improves the picture quality.

#### Tips:

- If the picture or sound is distorted, move the VCR away from the TV.
- When connecting a monaural VCR, connect only the white jack to both the TV and VCR.

### Selecting Input and Output Signals

#### a) Direct Access Buttons

##### Selecting the Input

Press **↔** **E** repeatedly to select one of the following input modes:

Symbol on the screen	Input signals	
1	Audio/video through Euro AV connector	J
2	RGB through Euro AV connector	J
2	Audio/video through Euro AV connector	L
2	S video through Euro AV connector	L
3	Audio/video through the phono jacks	C
3	S video through the 4 pin DIN	B

Press **↔** to restore the normal TV picture.








##### Selecting the Output from Euro AV connector 2/2

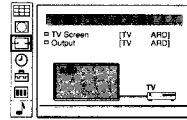
Press **↔** **E** repeatedly to select one of the following output sources for the connector 2/2:

Symbol on the screen	2/2 connector output signal	
1	Audio/video from Euro AV connector	J
2	Audio/video from Euro AV connector	L
2	Audio/video from Euro AV connector	L
3	Audio/video from the phono jacks	C
3	Audio/video from the 4 pin DIN	B
TV	Audio/video from the aerial terminal	K

## Optional Equipment

### b) Using the Menu »Video Connection«


- 1 Press MENU .
- 2 Push joystick  to blue or green to select the symbol  on the menu screen. Push to yellow to confirm.
- 3 Push to blue or green to select »TV screen« (input source for TV-screen), or »Output« (output source for  2/1- 2/1). Push to yellow to confirm. You can select between the following sources:
  - TV: TV-tuner • YC: S video signal • AV: Audio/VideoTV screen: TV, AV1, RGB, AV2, YC2, AV3, YC3  
Output: TV, AV1, AV2, YC2, AV3, YC3
- 4 Push to blue or green to select the desired source. Press joystick  to store.
- 5 Press MENU  to restore the normal TV picture.




Joystick



## Remote Control of other Sony Equipment

Using the buttons  on the Remote Commander you can control other Sony equipment.
















- 1 Set the selector VTR 1 2 3 MDP according to the equipment you want to control.
  - VTR 1: Beta VCR
  - VTR 2: 8mm VCR
  - VTR 3: VHS VCR
  - MDP: Video Disk Player
- 2 Use the buttons  on the Remote Commander to operate the equipment.

### Tips

- If your video equipment has a COMMAND MODE selector, set this selector to the same position as the VTR 1 2 3 MDP selector on the TV Remote Commander.
- If the equipment does not have a certain function, the corresponding button on the Remote Commander does not work.

## Troubleshooting

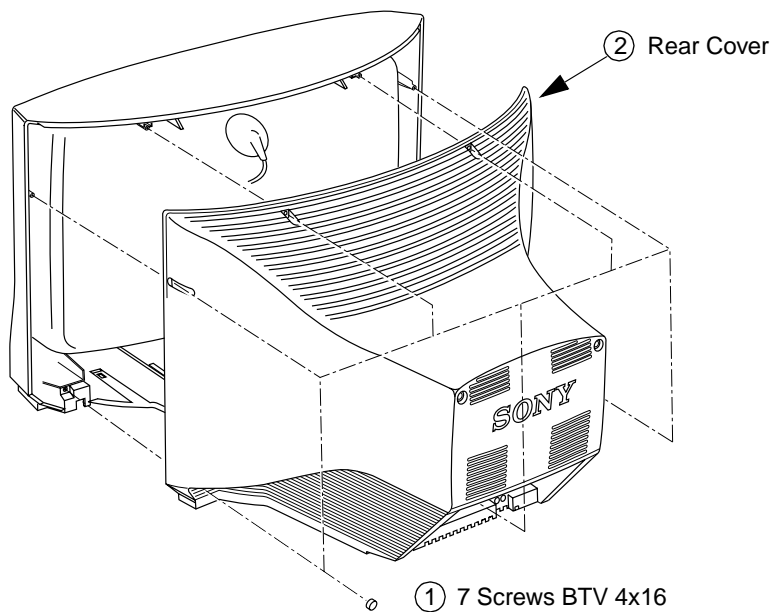
Here are some simple solutions to problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark), no sound	<ul style="list-style-type: none"><li>• Plug the TV in.</li><li>• Press  on the TV. (If  indicator  is on, press  or a programme number  on the Remote Commander.)</li><li>• Check the aerial connection.</li><li>• Check if the selected video source is on.</li><li>• Turn the TV off for 3 or 4 seconds and then turn it on again using .</li></ul>
Poor or no picture (screen is dark), but good sound	<ul style="list-style-type: none"><li>• Press  to enter the PICTURE CONTROL menu and adjust »Brightness«, »Contrast« and »Colour«.</li></ul>
Poor picture quality when watching an RGB video source	<ul style="list-style-type: none"><li>• Press  repeatedly to select .</li></ul>
Good picture but poor or no sound	<ul style="list-style-type: none"><li>• Press  + .</li><li>• If  is displayed on the screen, press .</li></ul>
No colour for colour programmes	<ul style="list-style-type: none"><li>• Press  to enter the PICTURE CONTROL menu, select RESET, then press Joystick .</li></ul>
Remote Commander does not function.	<ul style="list-style-type: none"><li>• Replace batteries.</li></ul>

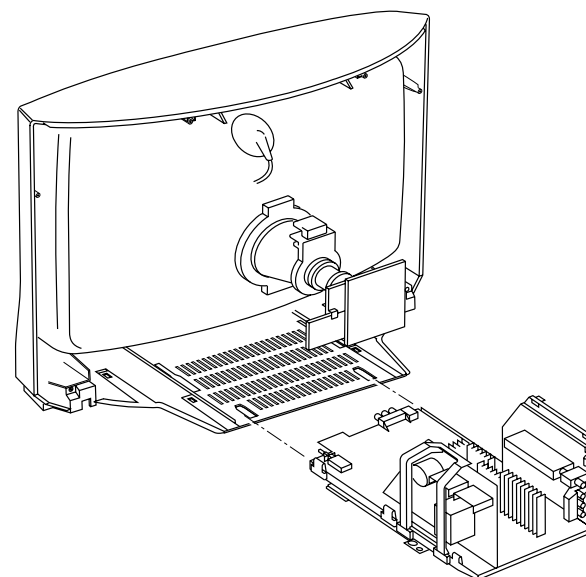
If you continue to have problems, have your TV serviced by qualified personnel. Never open the casing yourself.

## SECTION 2 DISASSEMBLY

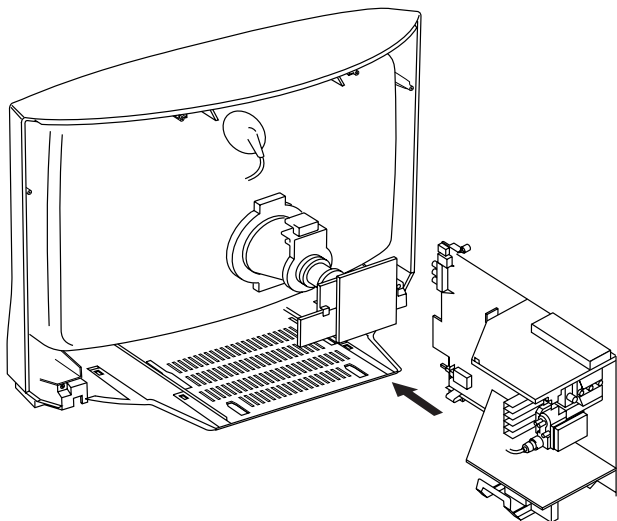
### 2-1. REAR COVER REMOVAL



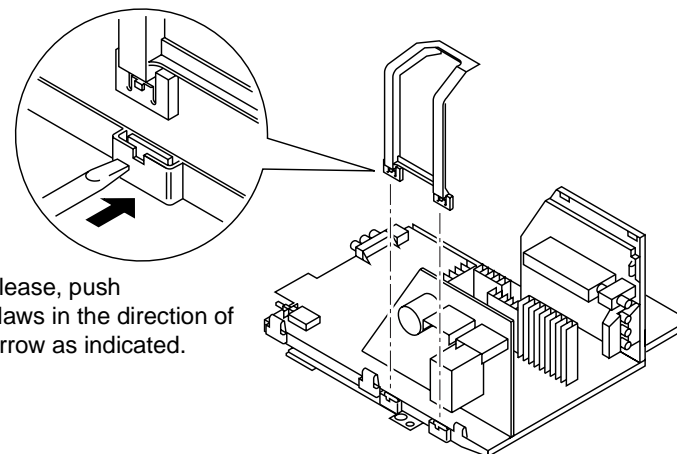
### 2-2. CHASSIS ASSY REMOVAL



### 2-3. SERVICE POSITION

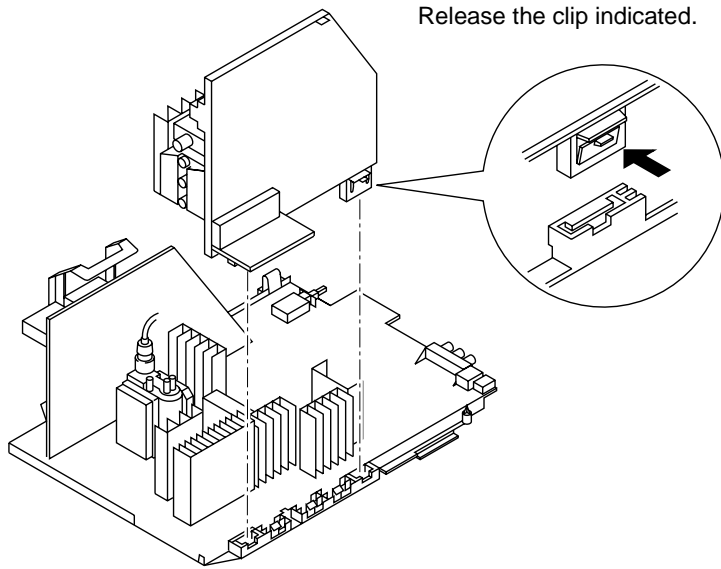


### 2-4. G BOARD REMOVAL





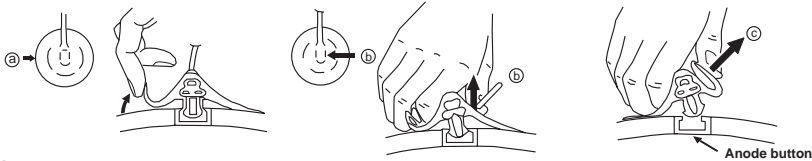
## 2-5. A BOARD REMOVAL



### • REMOVAL OF ANODE-CAP

**Note :** Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

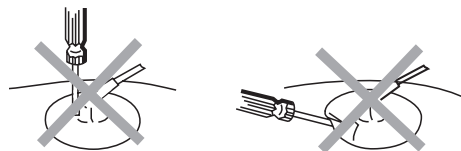
#### \* REMOVING PROCEDURES.



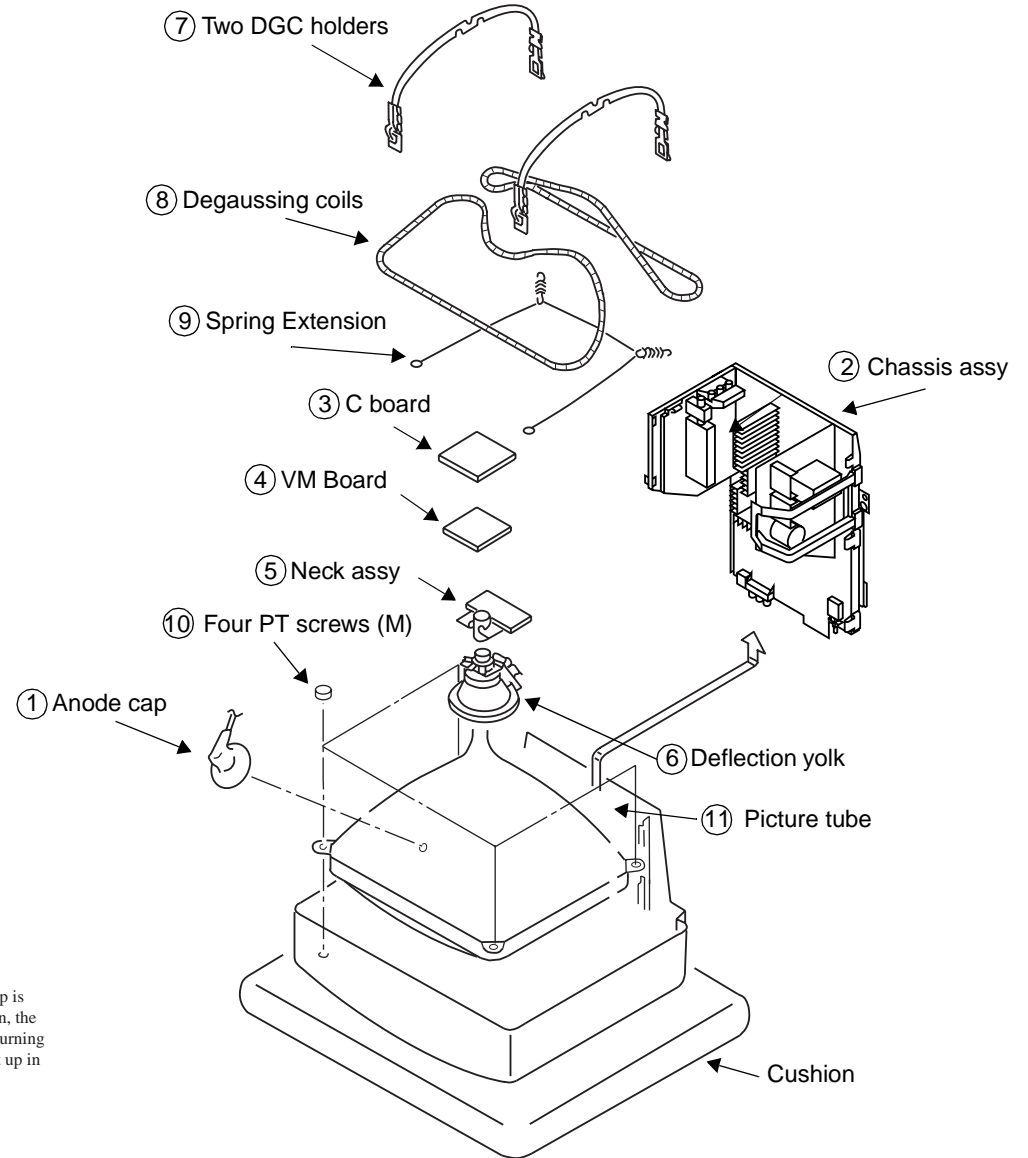
- ① Turn up one side of the rubber cap in the direction indicated by the arrow (a)
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow (b)
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow (c)

### • 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. Do not turn the rubber foot over excessively this may cause damage if the shatter hook sticks out.



## 2-6. PICTURE TUBE REMOVAL



## 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 circuit, 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 shown and indicated by arrows.

**Note :** There are 5 plates fitted to the main bracket and secured by 4 or 6 gates. Only remove the necessary plate to gain access to the circuit board.

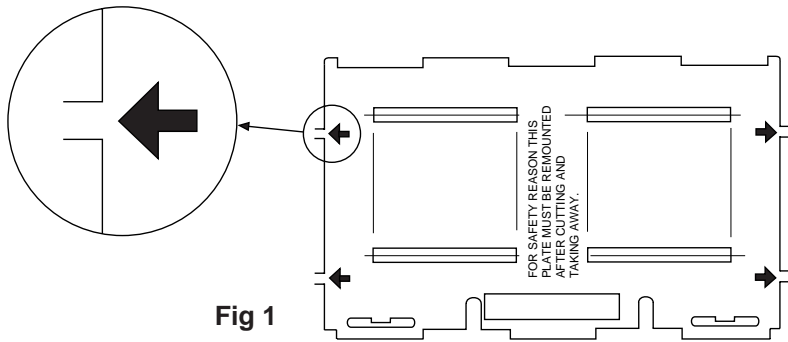


Fig 1



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.

The plates are identified by markings A-B-C-D-E on their top side.

1. Identify the plate by locating its marking.
2. Turn the plate over noting where the marking is located.
3. Locate the corresponding marking indicated on the main chassis bracket. See Fig 2.
4. Refit the plate as indicated in Fig 3 with the markings located next to each other.

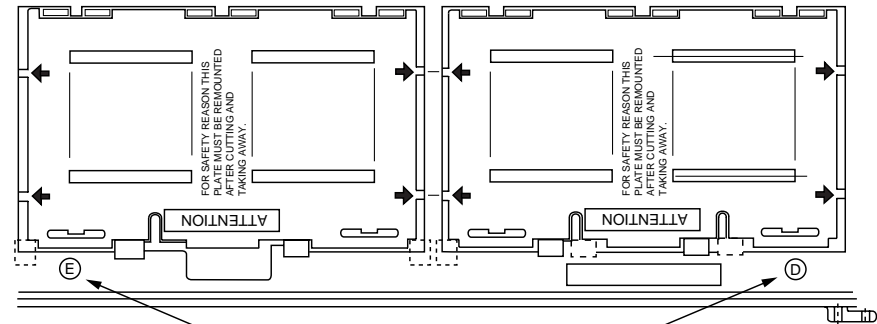


Fig 2

INDEX MARKING AT BRACKET FRAME

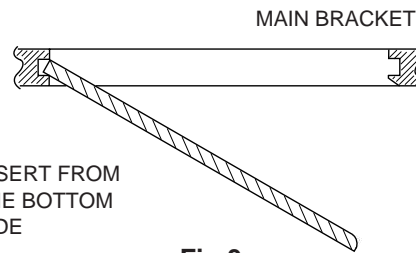


Fig 3

In the event of the plates requiring to be removed at a later stage, this can be achieved by inserting a screwdriver in the snap-recess indicated as in Fig 4 and lifting out.

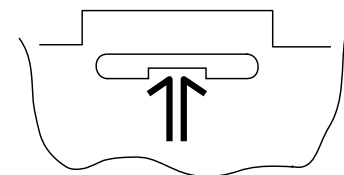


Fig 4

## 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 following adjustments in this 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. Vector scope

### 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 set's power and degauss with the degausser.

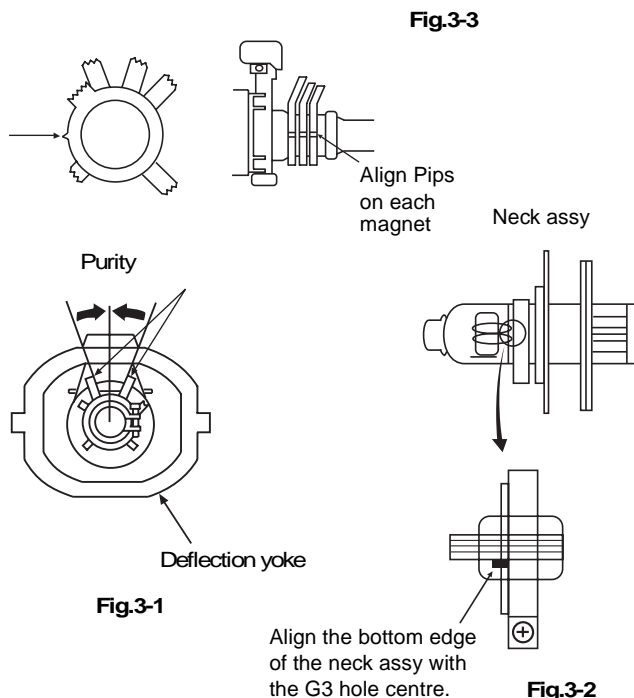
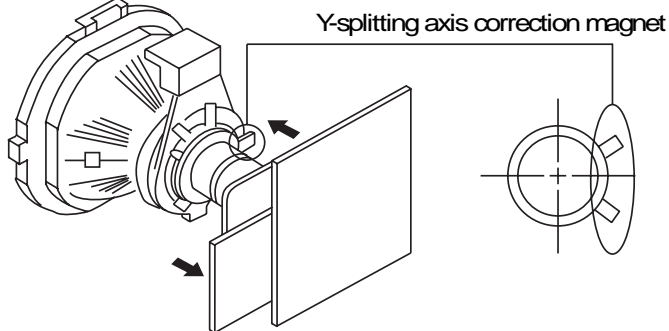
#### (1) Adjustment of Correction Magnet for Y-Splitting Axis

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. Move the deflection yolk as far forward as is possible.
5. Adjust the upper and lower pin symmetrically by opening or closing the Y-splitting axis correction magnets located on the neck assembly.
6. Return the deflection yolk to its original position.

#### (2) Landing

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

1. Input an all-white signal from the pattern generator. Maximize the picture setting and adjust the Brightness setting.
2. Rough-adjust the focus and horizontal convergence.
3. Loosen the deflection yolk screws and align the purity adjustment knob to its central position. [See Fig.3-1].
4. Switch from the all-white pattern to an all-green pattern.
5. Move the deflection yolk backwards and adjust with the purity magnet so that the green is at the centre and it aligns symmetrically. [See Fig.3-4].
6. Move the deflection yolk forward and adjust so that the entire screen becomes green.
7. Switch the raster signal to red, then to blue and verify the landing condition.
8. When the position of the deflection yolk has been determined, fasten the deflection yolk with the screw.
9. If the beam does not land correctly in all the corners of the screen, use magnets to correct it. [See Fig.3-5].



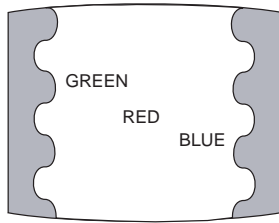


Fig. 3-4

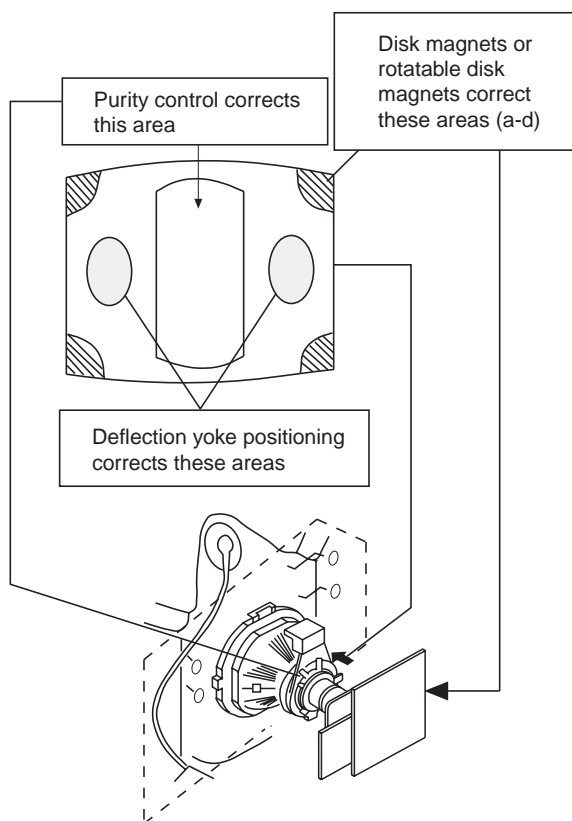
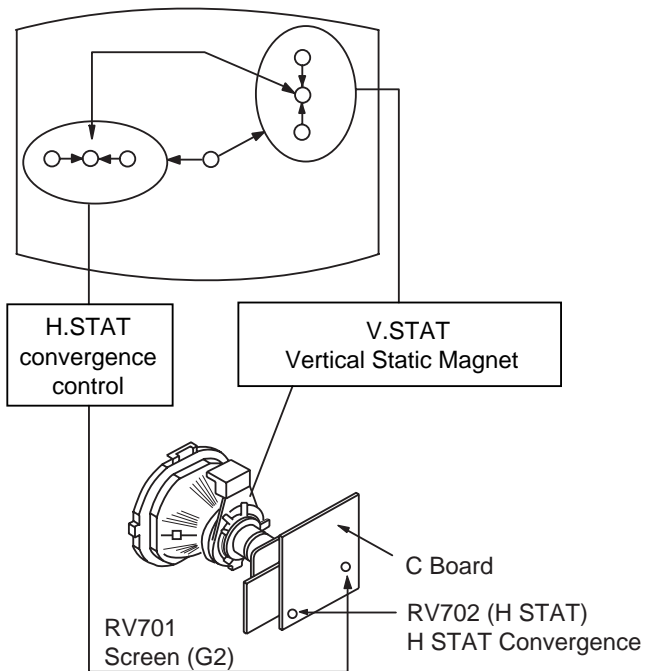


Fig. 3-5

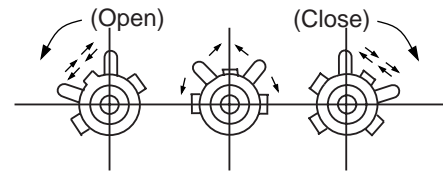
## 3-2. CONVERGENCE

### (1) Screen centre convergence [Static convergence]

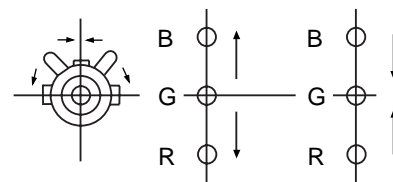
1. Input a dot signal from the pattern generator. Normalize the picture setting.
2. [Moving horizontally], adjust the H.STAT control so that the horizontal red, green and blue dots coincide at the centre of the screen.
3. [Moving vertically], adjust the V.STAT magnet so that the vertical red, green and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



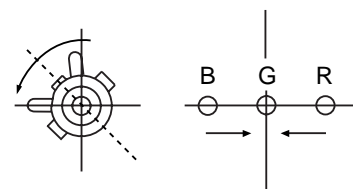
- If the horizontal dots are unable to coincide with the variable range of the H.STAT convergence, adjust together with the V.STAT convergence while tracking.  
[Adjust the convergence by tilting the V.STAT convergence or by opening and closing the V.STAT convergence.]



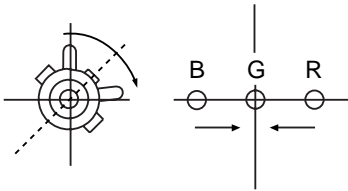
4. Movement of the red, green and blue dots by tilting the V.STAT magnet and by opening or closing the V.STAT magnet.
- a). By opening or closing the V.STAT magnet, the red, green and blue dots move as indicated below.



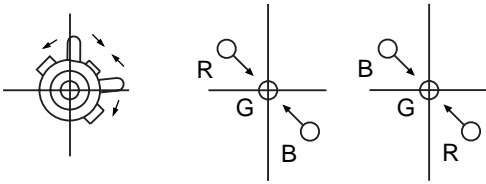
- b). By rotating the V.STAT magnet counter clockwise, the red, green and blue dots move as indicated below.



- c). By rotating the V.STAT magnet clockwise, the red, green and blue dots move in the direction indicated below.



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

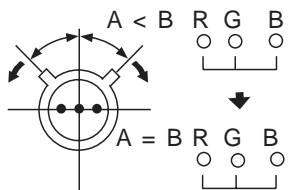


**Note :** If the blue dot does not coincide with the red and green points correct the points by using the BMC [Hexapole] magnet.

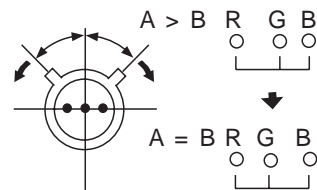
- e). Correction for HMC [horizontal mis-convergence] and VMC [vertical mis-convergence] by using the BMC [Hexapole] magnet.

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

HMC correction(A)

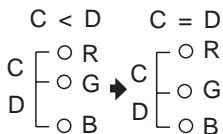
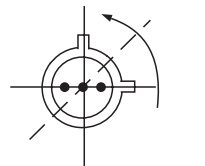


HMC correction(B)

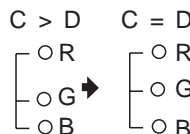
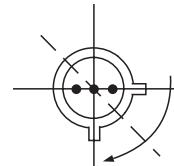


- a). VMC correction by BMC [Hexapole] magnet and movement of the electron beam.

VMC correction(A)



VMC correction(B)



### Layout of each control

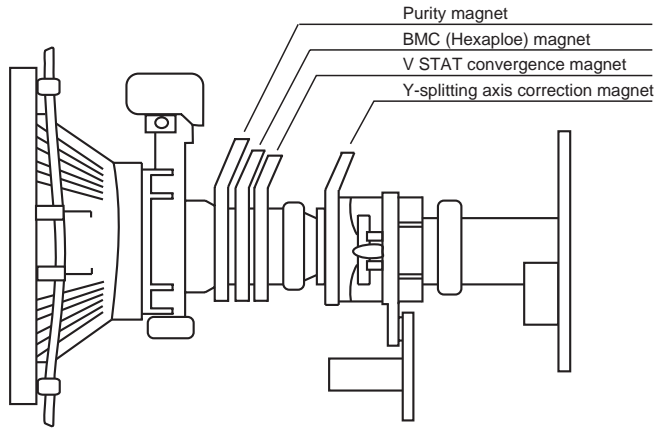
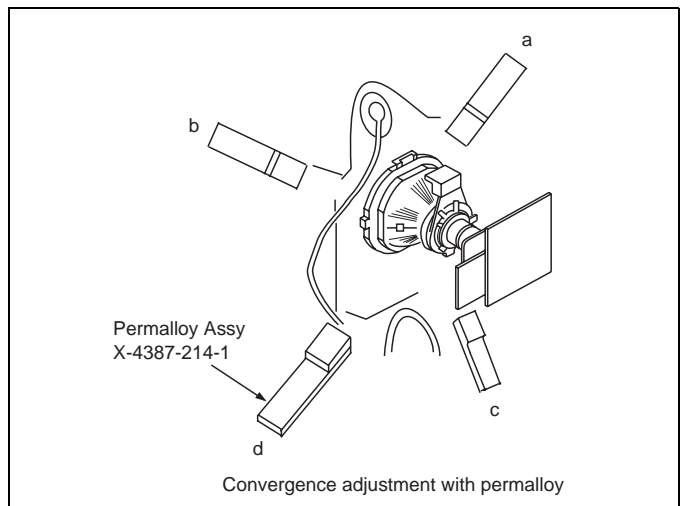
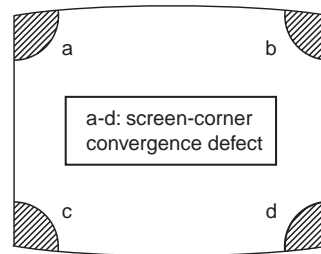


Fig 3-5

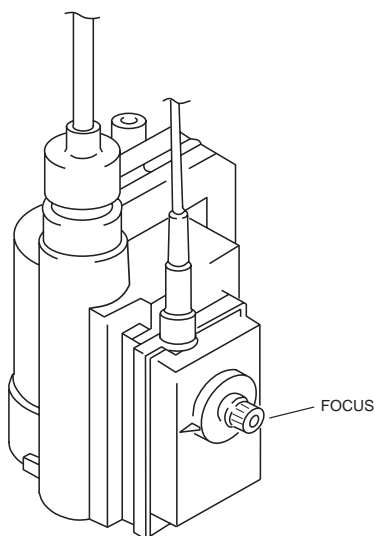
**Note :** If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloys.



Convergence adjustment with permalloy

### 3-3. FOCUS

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 (RV702)

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 170V 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 RV701 [SCREEN] located on the C Board to the point just before the flyback return lines disappear.

#### White balance adjustment

1. Input an all-white signal.
2. Enter into the Service Mode by pressing 'TEST', 'TEST' and 'MENU' on the Service Commander.
3. Select 'VIDEO PROC' from the on screen menu display and press 'OK'.
4. The 'VIDEO PROC TDA4780' menu will appear on the screen.

#### Video Proc. TDA4780

Item No	Adjustment item	Data Amount
1	BRT	31
2	COL	31
3	PIC	53
4	HUE	31
5	R GAIN	31
6	G GAIN	Adj
7	B GAIN	Adj
8	R LVL REF	31
9	G LVL REF	Adj
10	B LVL REF	Adj
11	PEAK DRV LIMIT	48
12	GAMMA	0
13	SCP ON = 3LEV OFF = 2LEV	OFF
14	DELAY	OFF

5. Set the picture to MAX.
6. Switch the Blue Stretch OFF.
7. Set the 'R GAIN' to 31.
8. Adjust the 'G GAIN' and 'B GAIN' so that the white balance becomes optimum.
9. Press the 'OK' button to write the data for each item.
10. Set the picture to MIN.
11. Set the 'R LVL REF' to 31.
12. Adjust the 'G LVL REF', and 'B LVL REF' 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.
14. Switch the Blue Stretch to ON.

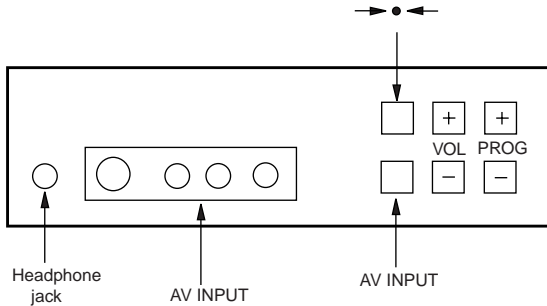
## SECTION 4 CIRCUIT ADJUSTMENTS

### 4-1. ELECTRICAL ADJUSTMENTS

Service adjustments to this model can be performed using the supplied Remote Commander RM-862.

#### HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing PROG + (plus) and PROG - (minus) buttons on the front panel.



2. "TT" will appear in the upper right corner of the screen.
3. Press the 'MENU' button on the remote commander to obtain the service menu on the screen.

DEVICES	
Init TV	
Pip, Lumisponder & Autoside	
Sub Adjust	
Video Proc	TDA4780
Col Dec Main	TDA9144
Deflect. Cont	SDA9361
Col Dec Sub	TDA9143
Feature Box	S87C654
AI	TDA9170
DA	SDA9280
Single PIP	SDA9288
Sound	
Line23 det	

Item No	Adjustment item	Data Amount
1	BRT	31
2	COL	31
3	PIC	53
4	HUE	31
5	R GAIN	31
6	G GAIN	Adj
7	B GAIN	Adj
8	R LVL REF	31
9	G LVL REF	Adj
10	B LVL REF	Adj
11	PEAK DRV LIMIT	48
12	GAMMA	0
13	SCP ON = 3LEV OFF = 2LEV	OFF
14	DELAY	OFF
15	DATA BUFF	OFF
16	NTSC MATRIX	OFF
17	HDTV	OFF
18	FSBL	OFF
19	AUTO CUT OFF	ON
20	FSW 2 DIS	OFF
21	FSW 2	OFF
22	FSW 1 DIS	OFF
23	FSW 1	OFF
24	ADAPT BLACK	OFF
25	Y HIGH 1V	OFF
26	MOD2	OFF
27	BLUE STRETCH	During White Balance adjustment OFF, After W/B adjustment ON
28	VM OUT	OFF
29	PEAK DRV ABS	ON
30	TIME CNST PEAK LIMIT	OFF

**Fig 4-3**

4. Push the joystick up (green) or down (blue) on the remote commander to select the adjustment item.
5. Press the centre button to proceed to the next menu.
6. If the required adjustment item is 'Video Proc', push the down button to move to 'Video Proc'.
7. The Menu indicated in Fig 4-3 will appear on the screen.
8. Move the joystick up or down to move to the adjustment item and press the centre (OK) button.
9. Change the data in order to comply with each standard.

## SDA9361 (VIDEO PROC)

Item No	Adjustment item	Data Amount
1	V Size	Adj
2	V Centre	Adj
3	V Linearity	Adj
4	S Correction	Adj
5	H Size	Adj
6	Pin Amp	Adj
7	Up Corner Correction	Adj
8	Low Corner Correction	Adj
9	V Bow	Adj
10	Pin Phase	Adj
11	V Angle	Adj
12	HDE	ON
13	VR	0
14	RABL	ON
15	Blk Dis	OFF
16	2FH 2xLine Freq	ON
17	Stand-by Mode	OFF
18	Vertical	ON
19	BSE Blk Select	OFF
20	SSE Start Scan	OFF
21	SRSE Start Red Scan	OFF
22	GBE Guard Board	OFF
23	STE Scan time table	OFF
24	NSA Self Adaption	ON
25	V EHT comp	28" = 111 32" = 90
26	H EHT comp	28" = 85 32" = 90
27	H Centre	32
28	PWM Start	0

Item No	Adjustment item	Data Amount
29	D/A	0
30	V Blk Time	27
31	H Blk Time	41
32	Start V Scan	0
33	H Blk Phase	61
34	V Scan width 0	0
35	V Scan width 1	0
36	Guard Band	0
37	Start Red Scan	0
38	Number fields	1
39	NI Non Interface	OFF
40	NR V Sync Noise Red	OFF
41	SSC with VBL	ON
42	Min lines/field	0
43	Max lines/field	0
44	AFC EHT comp	0
45	PLL Freq	6
46	VCR	ON
47	Gen Mode	OFF
48	HSWID	ON
49	Int H Phase	Adj
50	PWM width	0
51	Noisy VCR	OFF
52	Killzip	OFF
53	tc3rd	OFF
54	Bandgap 4 off	OFF
55	Bandgap off	OFF
56	Bandgap	0



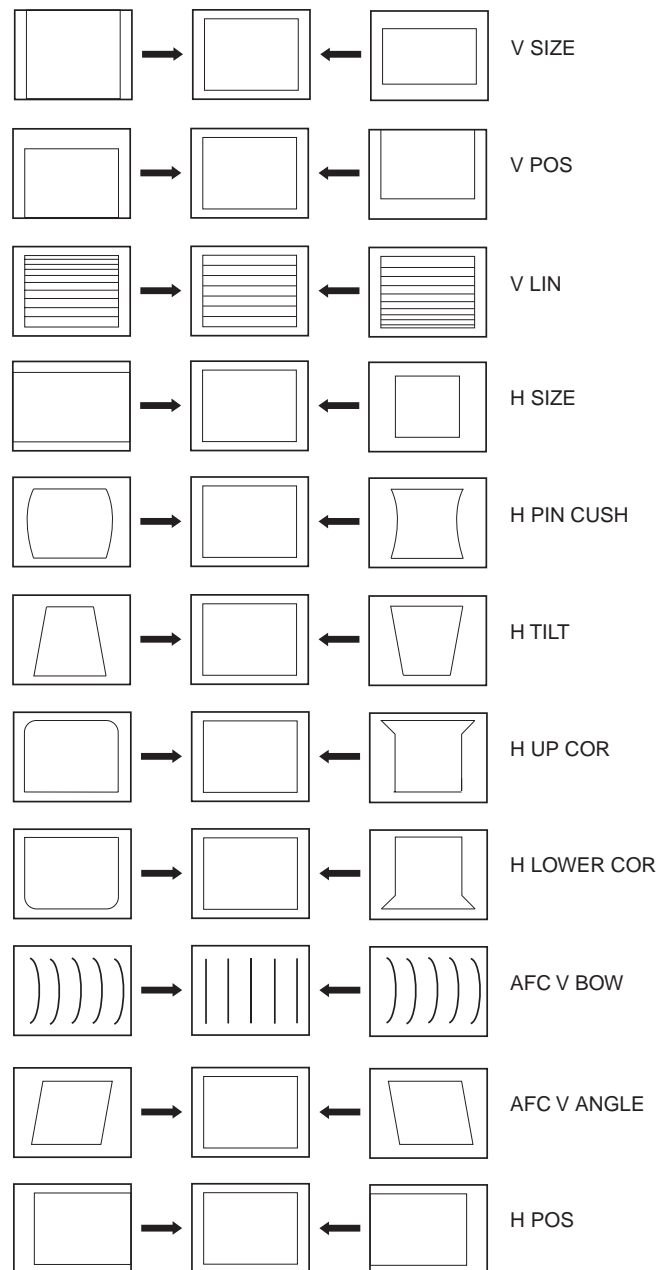
## TDA4780 (VIDEO PROC)

Item No	Adjustment item	Data Amount
1	BRT	31
2	COL	31
3	PIC	53
4	HUE	31
5	R GAIN	31
6	G GAIN	Adj
7	B GAIN	Adj
8	R LVL REF	31
9	G LVL REF	Adj
10	B LVL REF	Adj
11	PEAK DRV LIMIT	48
12	GAMMA	0
13	SCP ON = 3LEV OFF = 2LEV	OFF
14	DELAY	OFF
15	DATA BUFF	OFF
16	NTSC MATRIX	OFF
17	HDTV	OFF
18	FSBL	OFF
19	AUTO CUT OFF	ON
20	FSW 2 DIS	OFF
21	FSW 2	OFF
22	FSW 1 DIS	OFF
23	FSW 1	OFF
24	ADAPT BLACK	OFF
25	Y HIGH 1V	OFF
26	MOD2	OFF
27	BLUE STRETCH	During White Balance adjustment OFF, After W/B adjustment ON
28	VM OUT	OFF
29	PEAK DRV ABS	ON
30	TIME CNST PEAK LIMIT	OFF

## DEFLECTION SYSTEM ADJUSTMENT

1. Enter into the service mode and select 'Deflection cont'. The 'Deflect cont. SDA9361' adjustment menu will be displayed.
2. Select and adjust each item in order to get an optimum image.

Item No	Adjustment item	Data Amount
1	V Size	Adj
2	V Centre	Adj
3	V Linearity	Adj
4	S Correction	Adj
5	H Size	Adj
6	Pin Amp	Adj
7	Up Corner Correction	Adj
8	Low Corner Correction	Adj
9	V Bow	Adj
10	Pin Phase	Adj
11	V Angle	Adj
12	HDE	ON
13	VR	0
14	RABL	ON
15	Blk Dis	OFF
16	2FH 2xLine Freq	ON
17	Stand-by Mode	OFF
18	Vertical	ON
19	BSE Blk Select	OFF
20	SSE Start Scan	OFF
21	SRSE Start Red Scan	OFF
22	GBE Guard Board	OFF
23	STE Scan time table	OFF
24	NSA Self Adaption	ON
25	V EHT comp	28" = 111 32" = 90
26	H EHT comp	28" = 85 32" = 90
27	H Centre	32
28	PWM Start	0



## 4-2. VOLUME ELECTRICAL ADJUSTMENTS

### Sub Brightness Adjustment

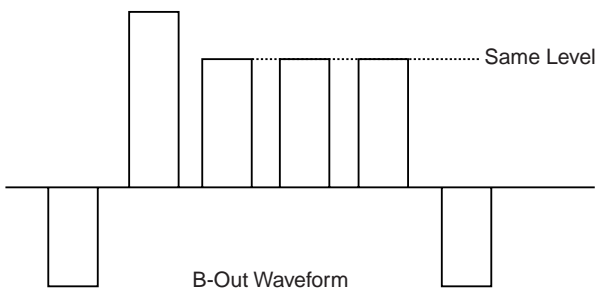
1. Enter into the service mode (Device Menu).
2. Select 'SUB ADJUST MENU'.

Sub adjustment
Sub Picture
Sub Color
Sub Brightness
4/3 Centre
PAP H-Centre
PAP HWE-Offset

3. Adjust the value according to the following advice.

### Sub Colour Adjustment

1. Input a PAL colour bar signal.
2. Connect an oscilloscope to CN3703.
3. Enter into the 'SERVICE MODE'.
4. Choose 'SUB ADJUST'.
5. Enter into 'Sub Colour' mode.
6. Adjust data so that the right sides of the waveforms are of equal height.



## 4-2. TEST MODE 2:

Is available by pressing 'TEST' button twice, OSD 'TT' appears. The functions described below are available by pressing the two numbers. To release the Test mode 2, press 0, 10, 20 ... twice or switch the TV set into Stand-by Mode. Pressing the two Local Control buttons ( + and - ) during Power ON will also switch into 'TT' mode.

In 'TT' 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 !!.

00	Switch back to normal mode - 'TT' mode off
01	Switch service menu on
02	Direct access to Noise reduction
03	Set Volume to 30%
04	Service menu in 'Service Mode'
05	Service menu in 'Production Mode'
06	Set Volume to 80%
07	Ageing Mode
08	Shipping Condition
09	Language Reset
10	The 'TT' number will be deleted
11	Direct access to Balance
12	Direct access to Hue
13	Display of TV set configuration
14	Production Info Display
15	Read Analog F in NVM
16	Save Analog F in NVM
17	This function presets the Labels for the AV sources : AV1, RGB, AV2, YC2, AV3, YC3, AV4 and YC4.
18	No function
19	No function
20	See 'TT10'
21	Picture Rotation automatic function (-4) -> (+4) -> 0
22	Error Monitor Display
23	Direct access to Sub Brightness Adjustment
24	Direct access to Sub Colour
25	Status Menu Display
26	Text character selection (Char set 06 -> West Europe)
27	Text character selection (Char set 38 -> East Europe)
28	Text character selection (Char set 40 -> West Europe) US English
29	Text character selection (Char set 55 -> West Europe) Turkish
30	See 'TT10'
31	No function
32	No function
33	No function
34	No function
35	No function
36	No function
37	No function

38	Screen Position
39	Reset Programme Table
40	See 'TT10'
41	Picture Min
42	No function
43	No function
44	No function
45	Set NVM to Protect Mode
46	IR Channel Pressetting Mode. The channel pressetting- can be done using a Special transmitter. Sequence: 'TT46' -> --PR Number select display appears Select Prog No. from where the channel shall be stored. --> Now TV is waiting for IR sequence <-- --> If no IR transmission starts 'TT46 is released after 20 secs <-- ! Note: when 'TT46' is active, any transmission will be interpreted as PROG data !
47	No function
48	No function
49	New Initialize
50	See 'TT10'
51	Strobo mode is active
52	No function
53	No function
54	Direct access to Velocity Modulation VM (Production use)
55	Slicer High
56	Slicer No
57	Megatext Service Menu ON
58	MTX Small Framing Code Window

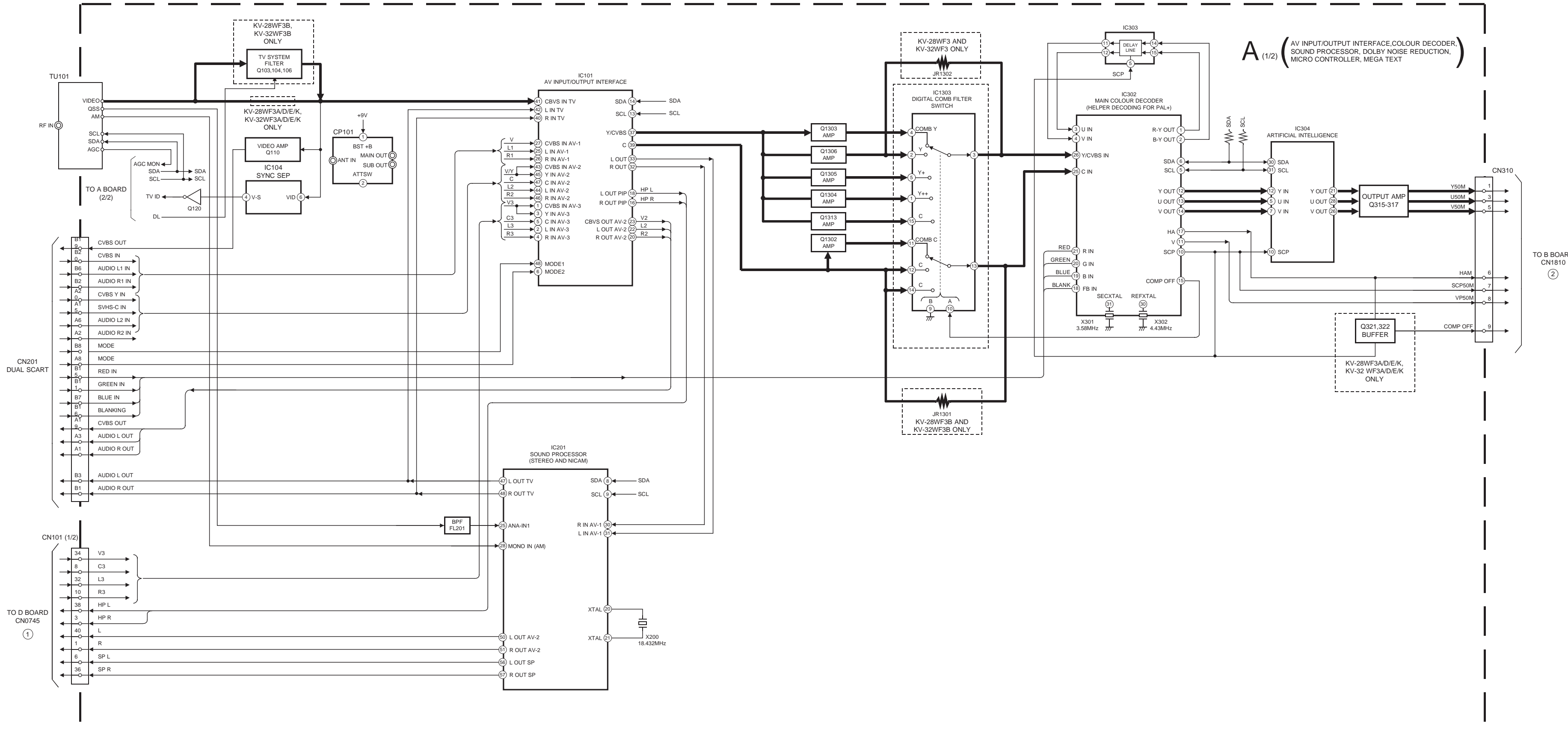
continued on page 30

**continued**

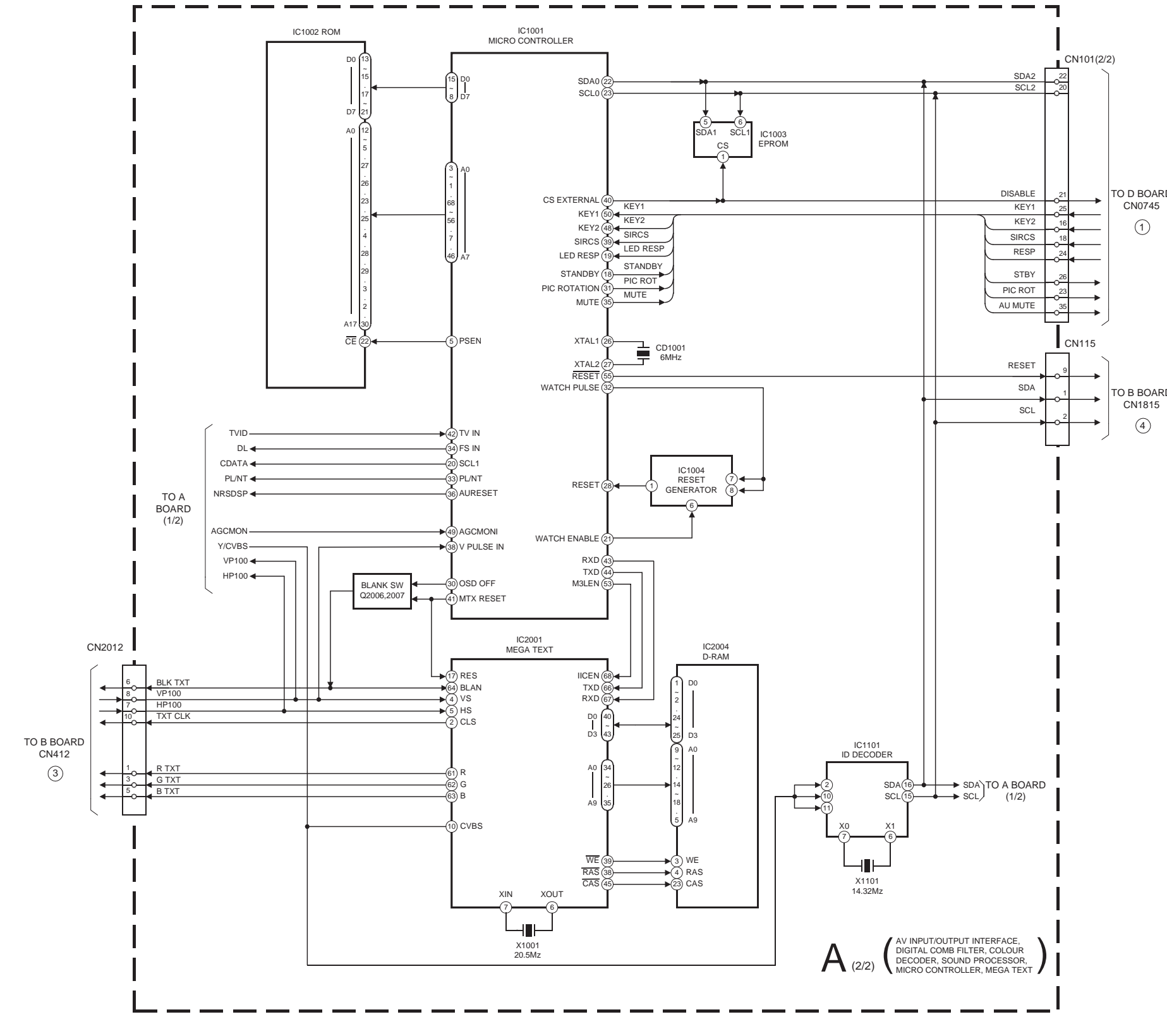
<b>82</b>	Default value for TDA 9170
<b>83</b>	Default value for SAA 7185
<b>84</b>	Default value for TDA 4780
<b>85</b>	Default value for TDA 9144
<b>86</b>	Default value for TDA 9143
<b>87</b>	Default value for SDA 9288
<b>88</b>	Text character set Russia / east
<b>89</b>	Text character set Russia / west
<b>90</b>	Tenth entry is deleted
<b>91</b>	DOLBY mode normal
<b>92</b>	No function
<b>93</b>	No function
<b>94</b>	Noise sequence 'left'
<b>95</b>	Noise sequence 'centre'
<b>96</b>	Noise sequence 'right'
<b>97</b>	Noise sequence 'surround'
<b>98</b>	Surround mode 'off'
<b>99</b>	DOLBY mode 'phantom'

SECTION 5  
DIAGRAMS

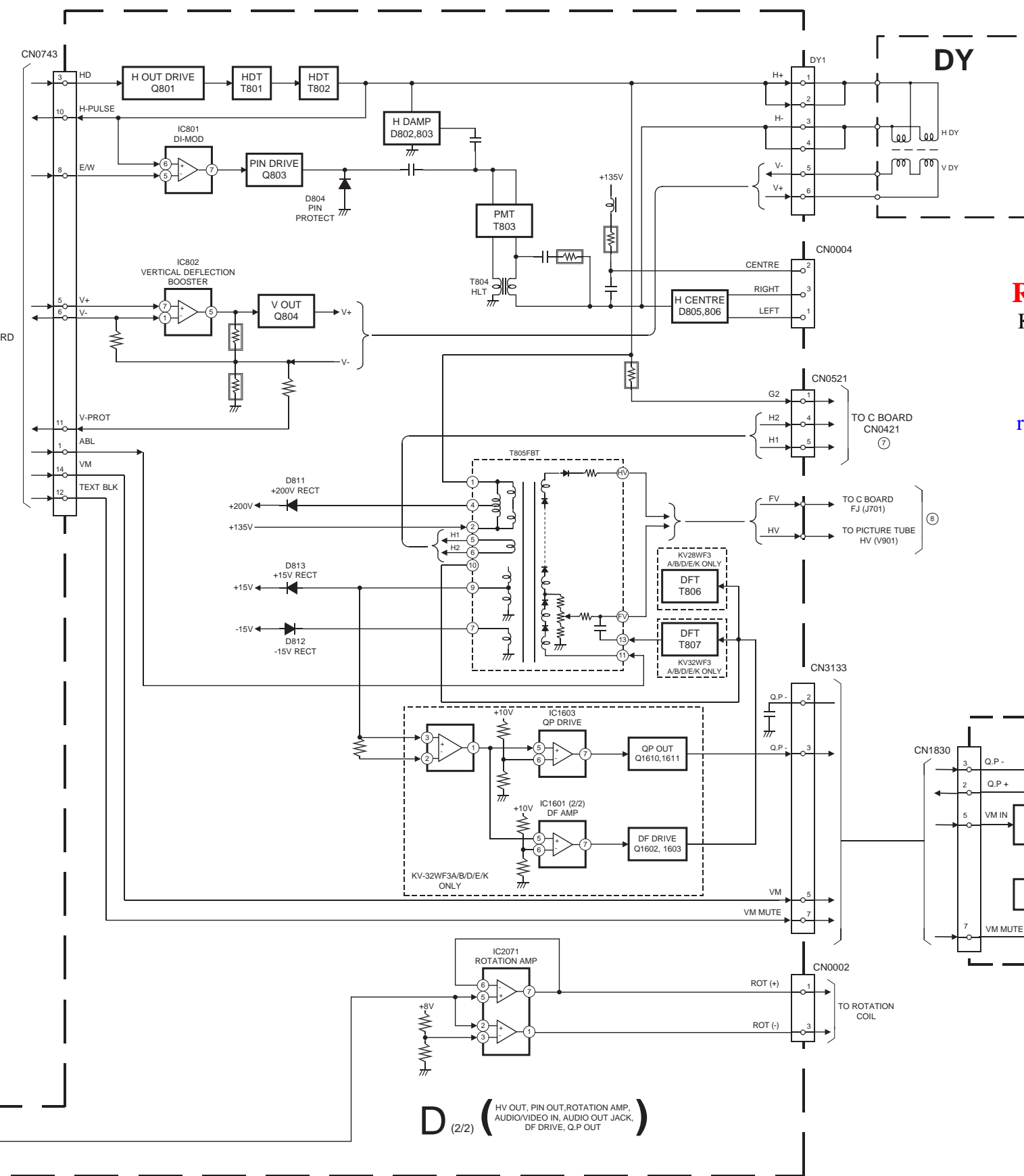
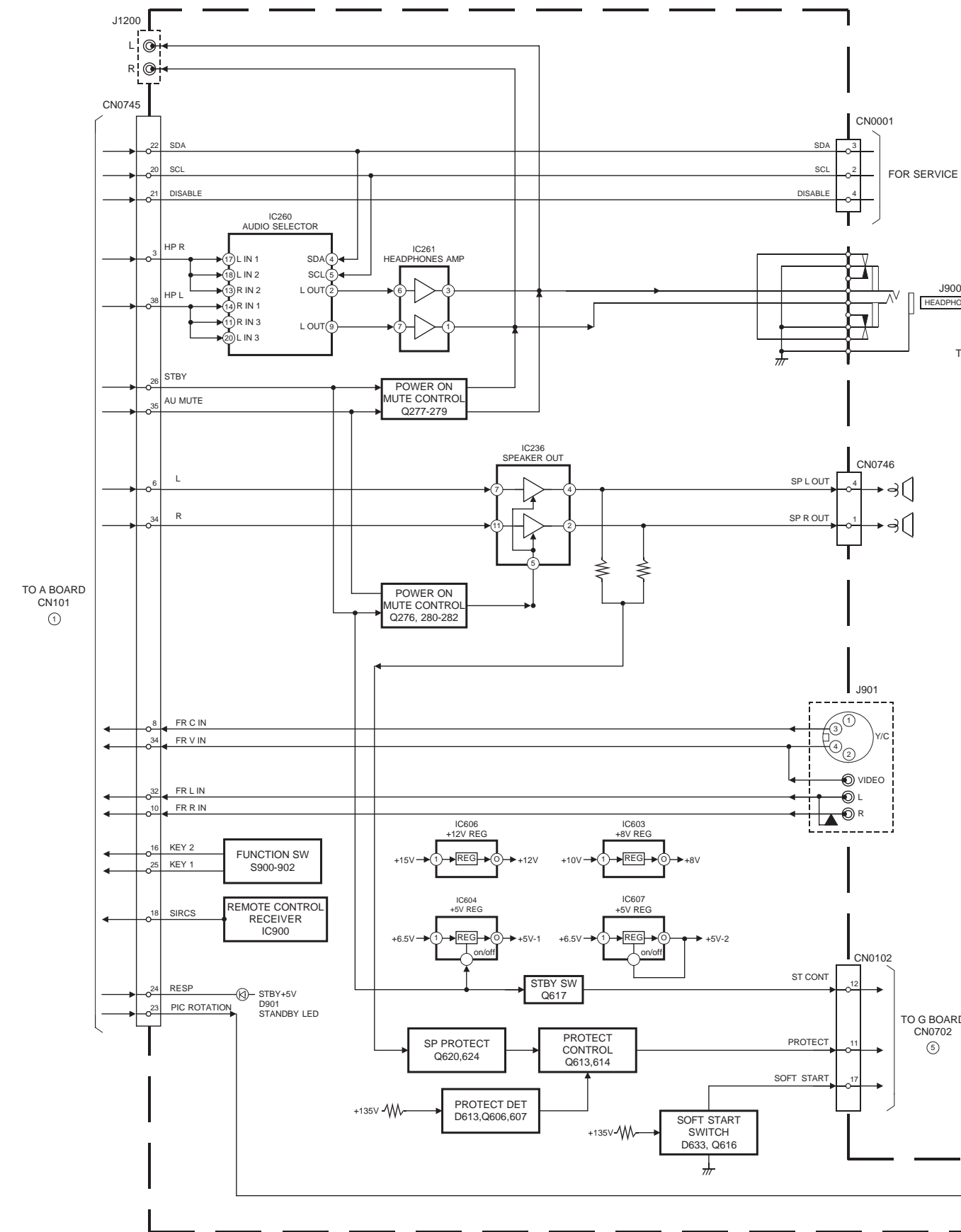
BLOCK DIAGRAM (1)



BLOCK DIAGRAM (2)

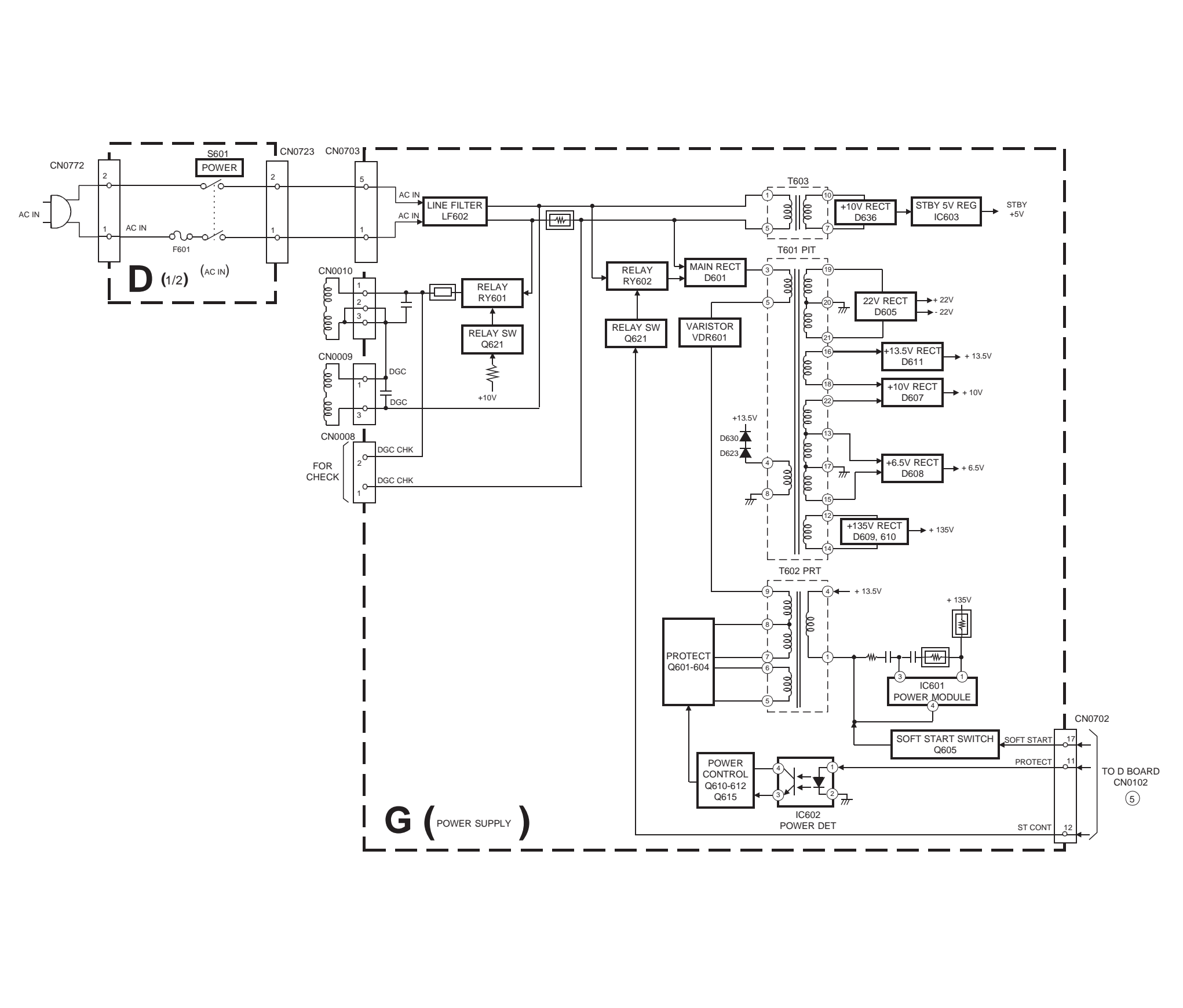


**BLOCK DIAGRAM (3)**



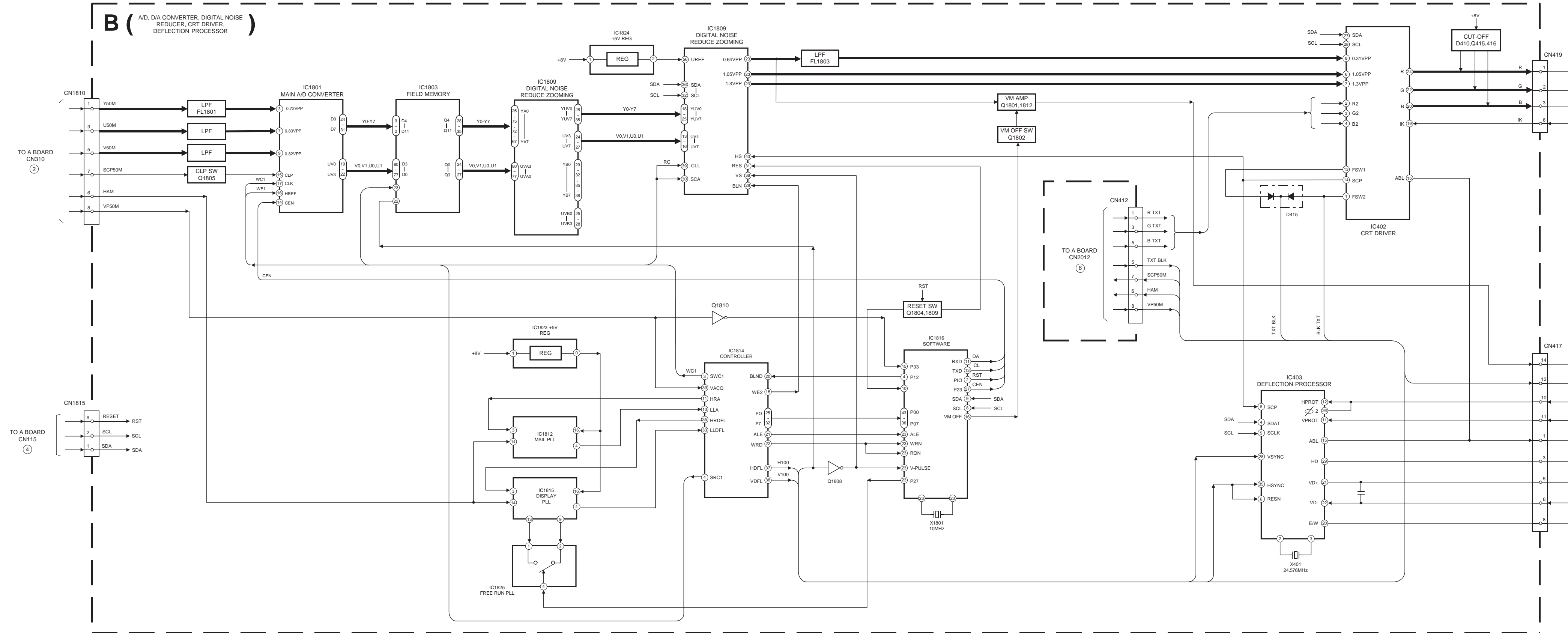
**RTV servis Horvat**  
 Kešinci, 31402 Semeljci  
 031-856-139  
 031-856-637  
 098-788-319  
[rtv-servis-horvat@os.tel.hr](mailto:rtv-servis-horvat@os.tel.hr)  
 Croatia

**BLOCK DIAGRAM (4)**

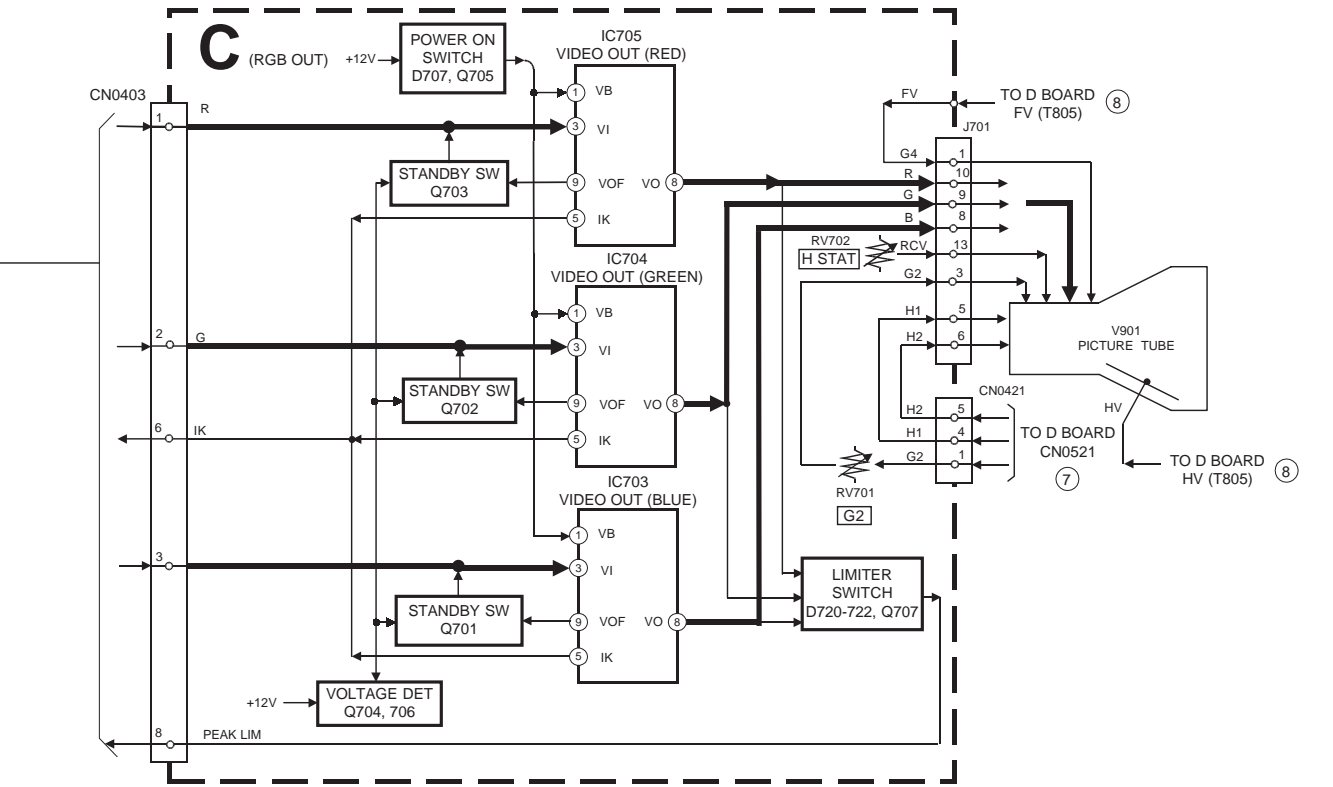


**G (POWER SUPPLY)**

BLOCK DIAGRAM (5)



BLOCK DIAGRAM (6)



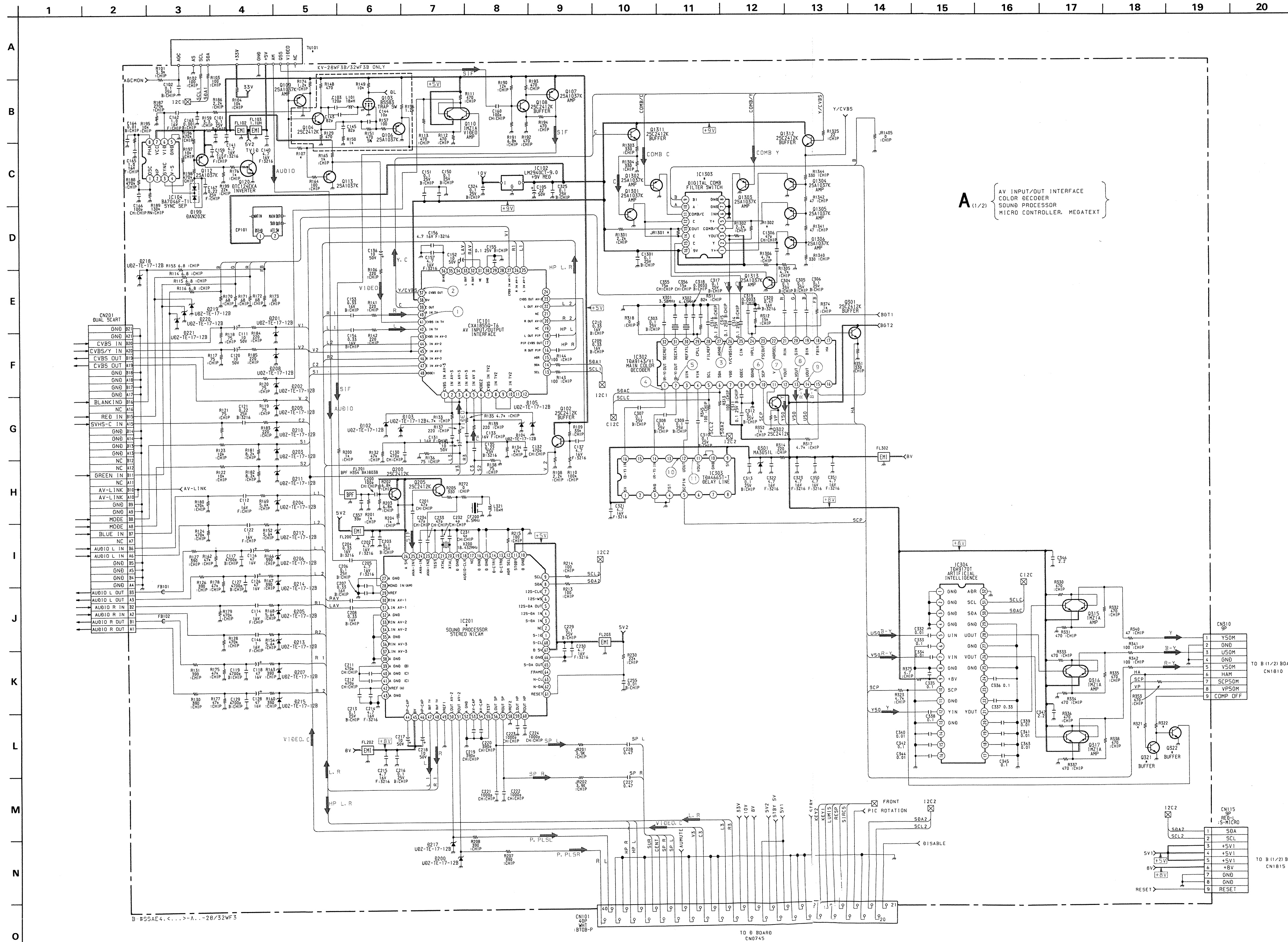


**A BOARD**

IC	Q1311	G - 22
IC001	Q1312	F - 22
IC002	Q1313	G - 3
IC004	Q2005	D - 6
IC201	Q2006	B - 15
IC302	Q2007	B - 15
IC303	I - 22	
IC304	H - 3	
IC1001	D102	G - 9
IC1002	D103	E - 4
IC1002	D104	F - 4
IC1003	D105	G - 9
IC1004	D199	C - 19
IC1101	D200	H - 7
IC2001	D201	E - 2
IC2004	D202	D - 2
	D203	F - 3
	D204	H - 2
	D205	F - 3
	D206	H - 8
	D207	H - 8
	D208	E - 2
	D209	E - 2
	D210	E - 3
	D211	F - 2
	D212	G - 2
	D213	G - 2
	D214	F - 3
	D215	F - 2
	D217	H - 7
	D218	G - 1
	D219	H - 1
	D220	H - 1
	D221	G - 1
	D223	E - 2
	D301	H - 22
	D1007	C - 10
	D1008	C - 14
	D1009	C - 11
	D1010	C - 11
	D2001	C - 8

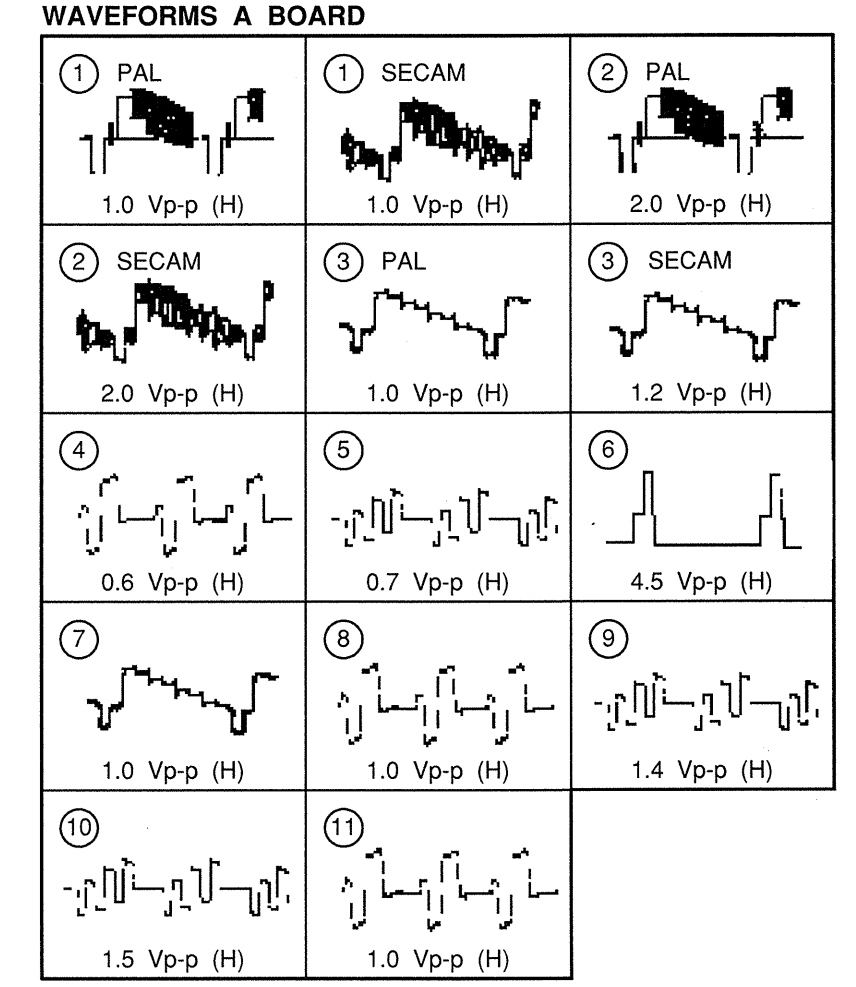
TRANSISTOR	
Q102	E - 23
Q103	C - 18
Q104	D - 8
Q106	D - 7
Q108	C - 10
Q109	D - 7
Q112	B - 19
Q112	B - 19
Q120	C - 11
Q200	G - 8
Q205	F - 9
Q301	H - 4
Q302	I - 22
Q315	H - 23
Q316	I - 24
Q317	I - 24
Q318	H - 22
Q321	I - 2
Q322	H - 2
Q1001	C - 9
Q1011	C - 14
Q1301	H - 22
Q1304	G - 21
Q1305	G - 21
Q1306	G - 22



**IC Voltage Table**

Ref No	Pin No	Voltage (V)	Ref No	Pin No	Voltage (V)
IC201	4	0.5	IC1201	4	4.7
	5-6	4.7		13	4.7
	7	2.4		31	4.7
	8-9	4.7		35	4.7
	20	2.4		37	2.7
	24	4.4		39	2.2
	25	8.8		40	2.7
	26	4.4		41	4.7
	28	3.8		45	4.8
	29	2.7		29	2.7
	30-31	3.8		30-31	3.8
	39-42	3.8		39-42	3.8
	44	6.2		44	6.2
	45	8.0		45	8.0
	46	7.0		1	5.0
IC302	47-48	3.8	IC1303	5	0.6
	50-51	3.7		11-12	3.0
	53-54	3.8		14	1.4
	56-57	1.2		16	1.2
	61	4.8		1-2	2.0
	1-2	2.0		3-4	2-4
	3-4	2.4		5	3.5
	5	3.0		6	4.0
	6	4.0		7	7.8
	7	8.0		8	5.0
	8	5.0		10	0.8
	10	0.5		12	2.4
	12	3.2		13-14	2.6
	13-14	2.6		15	8.0
	15	8.0		17	0.3
17	0.3	22	7.8		
19	1.6	24	3.6		
21	1.0	26	3.3		
23-24	4.0	28	3.5		
26	3.7	29	4.3		
28	3.5	30	2.6		
29	5.0	31	2.6		
30	2.5	32	3.8		
31	2.5				
32	2.0				

A (1/2) AV INPUT/OUT INTERFACE  
COLOR DECODER  
SOUND PROCESSOR  
MICRO CONTROLLER, MEGATEXT



**A (1/2) BOARD TRANSISTOR VOLTAGE TABLE**

**Transistor Voltage Table**

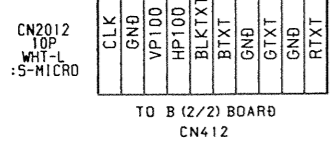
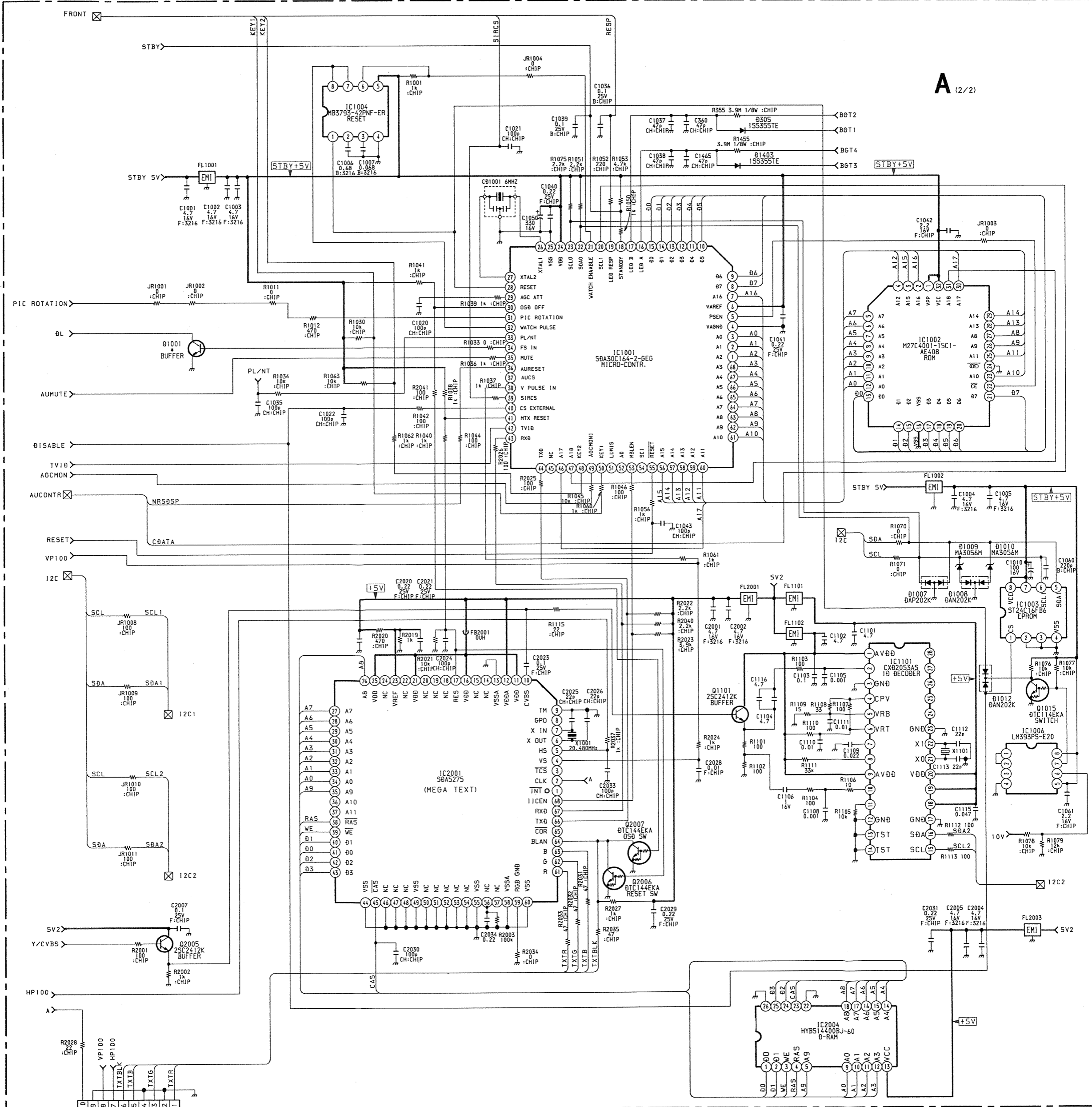
Ref No	(B) Base	(C) Collector	(E) Emitter
Q102	1.9	4.7	1.3
Q105	0.08	4.5	0.08
Q107	4.4	1.7	5.0
Q108	1.8	4.4	1.2
Q112	4.3	4.9	5.0
Q120	4.6	0.1	0.1
Q301	0.5	8.0	0.4
Q302	-	8.0	0.3
Q318	0.1	5.2	0.1
Q1201	8.6	5.0	9.2
Q1202	0.7	5.0	9.2
Q1301	1.9	-	0.2
Q1302	-	-	0.6
Q1303	0.8	-	1.5
Q1304	2.2	-	0.1
Q1305	2.0	-	0.1
Q1306	1.7	-	-
Q1307	-	3.4	0.1
Q1308	3.5	4.7	2.9
Q1309	0.9	0.1	1.6
Q1310	1.0	0.1	1.6
Q1311	4.5	9.0	3.9
Q1312	4.5	9.0	-
Q1313	4.6	0.7	0.1
Q1314	4.8	4.7	4.3
Q1404	4.5	7.8	3.8
Q1411	0.5	8.0	0.6
Q1412	0.1	8.0	0.1
Q1201	2.6	8.6	2.1
Q1202	2.6	8.6	2.1

**A BOARD \* MARK**

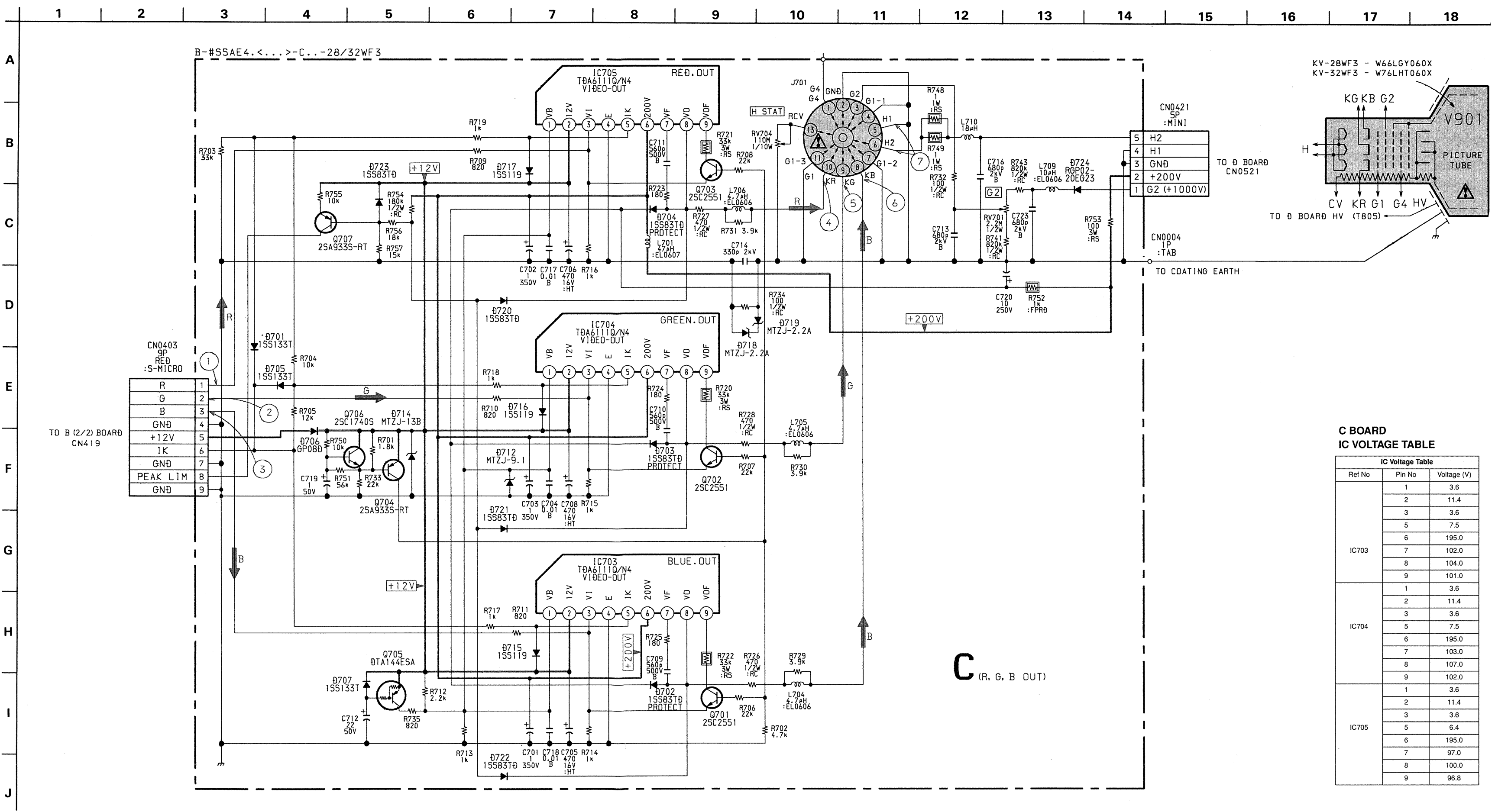
Ref	28WF3A	28WF3B	28WF3D	28WF3E	28WF3K	32WF3A	32WF3B	32WF3D	32WF3E	32WF3K
IC201	MSP3400C-PS-C6-T	MSP3410D-PS-B4-T	MSP3400C-PS-C6-T	MSP3410D-PS-B4-T	MSP3400C-PS-C6-T	MSP3410D-PS-B4-T	MSP3400C-PS-C6-T	MSP3410D-PS-B4-T	MSP3400C-PS-C6-T	MSP3410D-PS-B4-T
IC1303	MC14052BDR2	-	MC14052BDR2	MC14052BDR2	MC14052BDR2	-	MC14052BDR2	MC14052BDR2	MC14052BDR2	MC14052BDR2
JR1901	-	SHORT 0	-	-	-	-	SHORT 0	-	-	-
JR1902	-	SHORT 0	-	-	-	-	SHORT 0	-	-	-
Q321	2SC2412K-T-146-R	-	2SC2412K-T-146-R	2SC2412K-T-146-R	2SC2412K-T-146-R	-	2SC2412K-T-146-R	2SC2412K-T-146-R	2SC2412K-T-146-R	2SC2412K-T-146-R
Q322	2SC2412K-T-146-R	-	2SC2412K-T-146-R	2SC2412K-T-146-R	2SC2412K-T-146-R	-	2SC2412K-T-146-R	2SC2412K-T-146-R	2SC2412K-T-146-R	2SC2412K-T-146-R
Q1001	-	2SC2412K-T-146-R	-	-	-	-	2SC2412K-T-146-R	-	-	-
R107	SHORT 0	-	SHORT 0	SHORT 0	SHORT 0	-	SHORT 0	SHORT 0	SHORT 0	SHORT 0
R321	10K	-	10K	10K	10K	-	10K	10K	10K	10K
R322	10K	-	10K	10K	10K	-	10K	10K	10K	10K
TU101	1-693-338-11	1-693-340-11	1-693-338-11	1-693-338-11	1-693-338-11	1-693-338-11	1-693-340-11	1-693-338-11	1-693-338-11	1-693-338-11
R1052	330	330	330	220	220	330	330	220	220	220

B-#SSAE4...-A...-28/32WF3

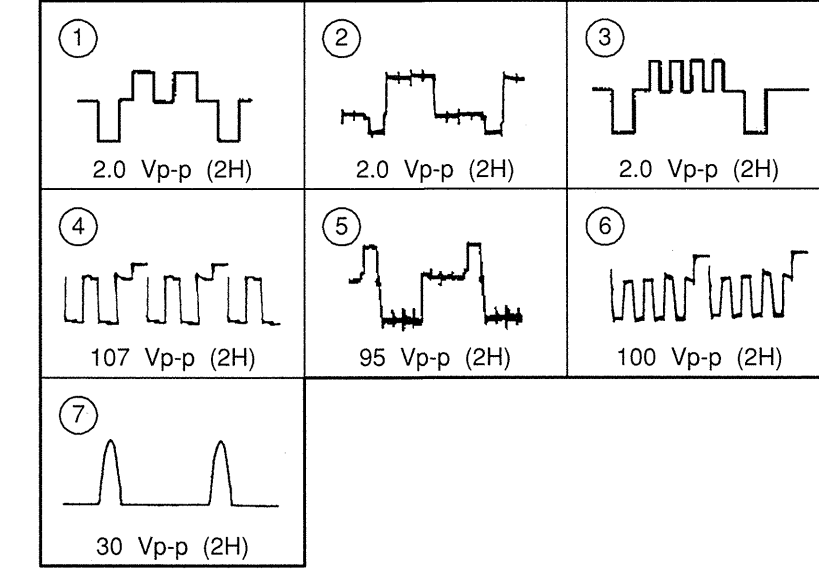
A (2/2)



TO B (2/2) BOARD  
CN412



**WAVEFORMS C BOARD**

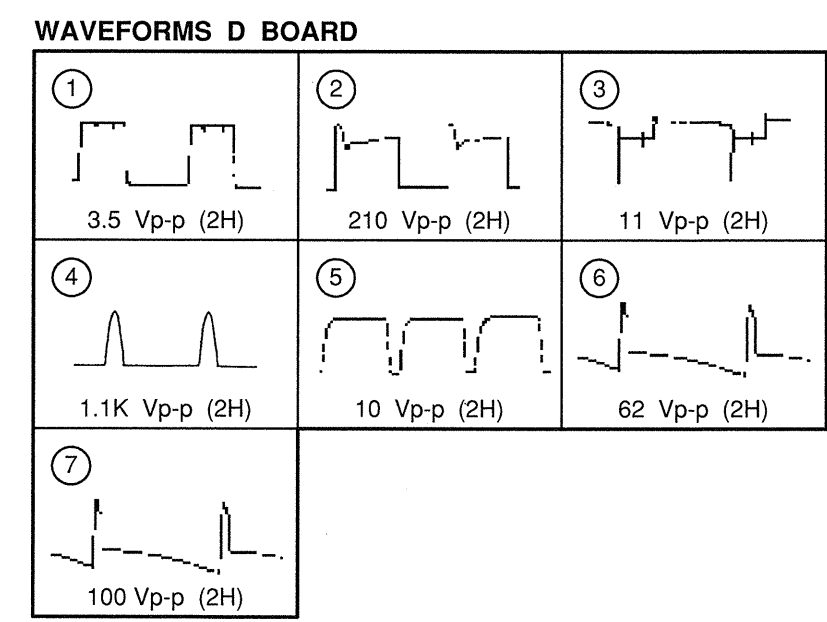
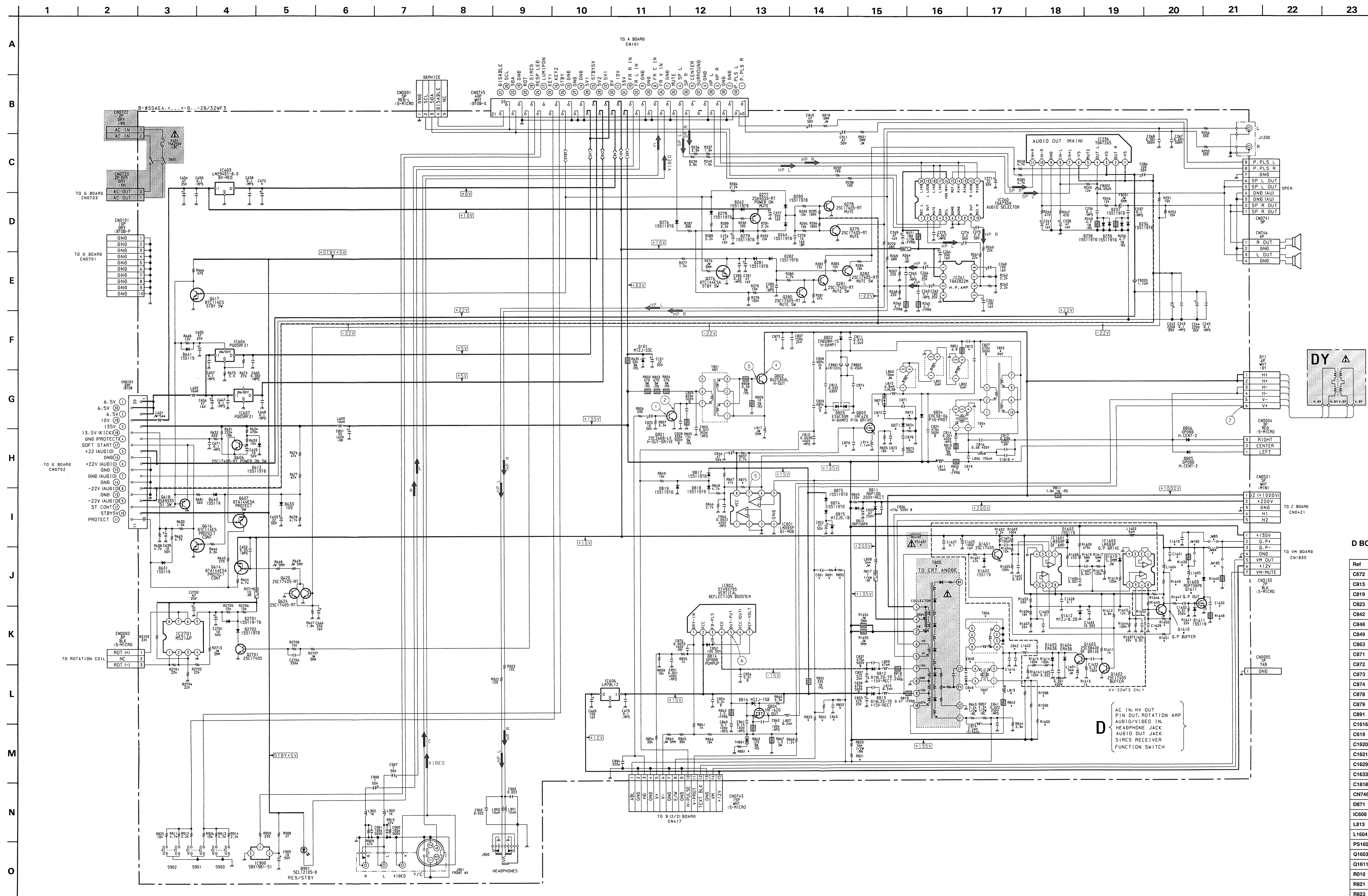


**C BOARD IC VOLTAGE TABLE**

Ref No	Pin No	Voltage (V)
IC703	1	3.6
	2	11.4
	3	3.6
	5	7.5
	6	195.0
	7	102.0
	8	104.0
	9	101.0
	IC704	1
2		11.4
3		3.6
5		7.5
6		195.0
7		103.0
8		107.0
9		102.0
IC705		1
	2	11.4
	3	3.6
	5	6.4
	6	195.0
	7	97.0
	8	100.0
	9	96.8

**C BOARD TRANSISTOR VOLTAGE TABLE**

Ref No	Transistor Voltage Table		
	(B) Base	(C) Collector	(E) Emitter
Q701	4.2	3.7	3.6
Q702	4.2	3.7	3.6
Q703	4.2	3.7	3.6
Q704	10.7	11.2	11.3
Q705	11.3	3.6	11.3
Q706	11.3	11.3	10.7
Q707	11.8	9.8	11.3

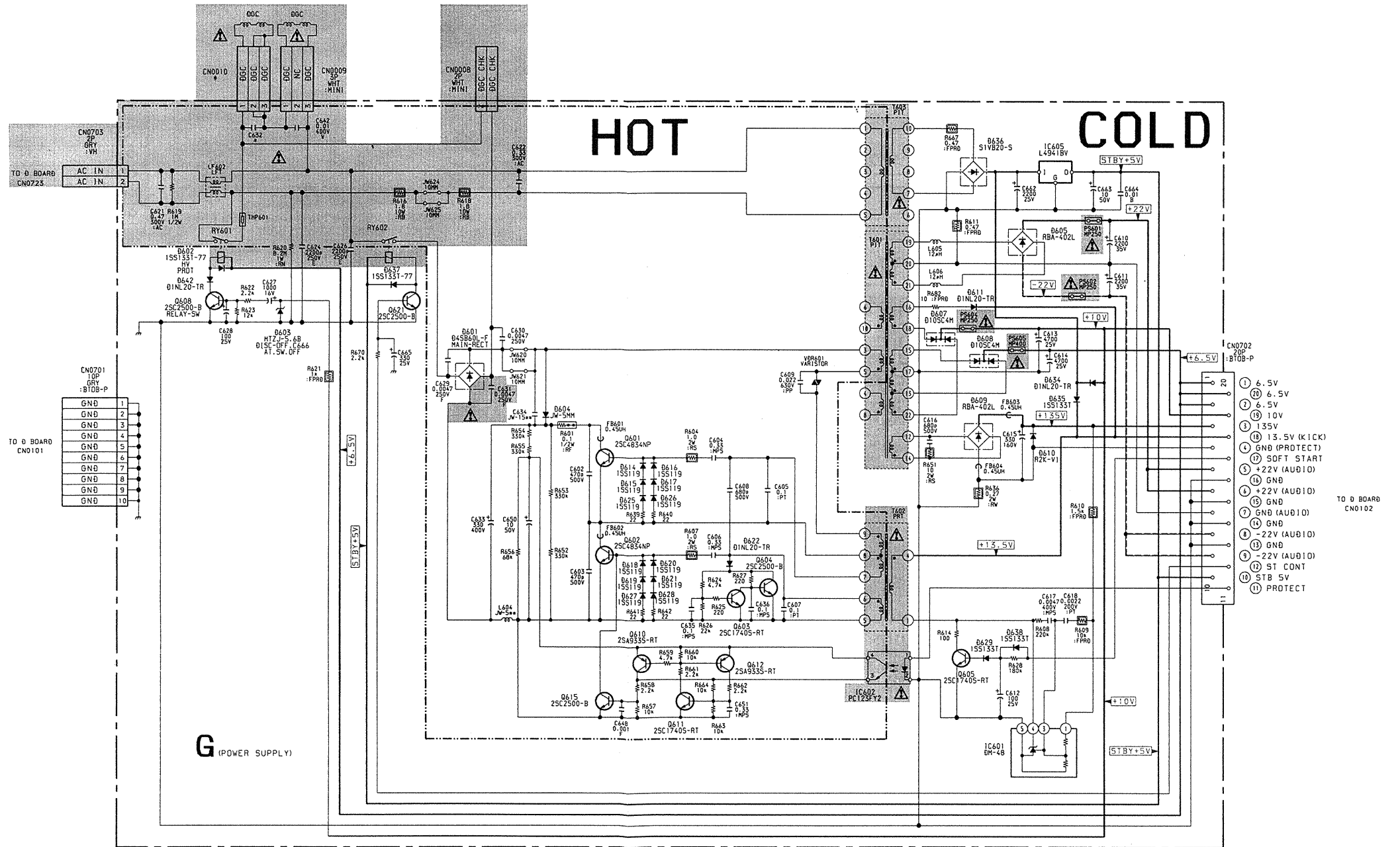


**D BOARD TRANSISTOR VOLTAGE TABLE**

Transistor Voltage Table				
Ref No	(B) Base	(C) Collector	(E) Emitter	
Q276	0.7	4.0	-	-
Q277	10.0	-	9.7	-
Q278	-1.3	-	-	-
Q279	-1.3	-	-1.3	-
Q280	0.4	0.7	-	-
Q281	0.7	-	-	-
Q282	0.7	-	-	-
Q801	-1.0	101.0	-	-
Q802	-	136.0	-	-
Q803	9.0	15.0	-	-
Q804	11.3	0.1	-1.3	-
Q806	0.5	4.8	0.3	-
Q807	4.8	1.6	4.8	-
Q813	13.5	-	-	-
Q814	10.0	9.0	10.0	-
Q816	0.7	-	-	-
Q817	0.7	3.5	-	-
Q818	3.5	-	-	-
Q820	-	10.0	-	-
Q824	-	10.0	-	-
Q2701	-	2.3	-	-
Q1610	-0.5	2.2	-	-
Q1611	0.2	43.4	-	-

**D BOARD MARK**

Ref	KV-28WF3	KV-32WF3	Ref	KV-28WF3	KV-32WF3
C672	-	47MF	R842	33	-
C813	0.68MF	0.82MF	R852	390K	JW 5.0MM
C819	0.022MF	0.033MF	R853	220K	180K
C823	0.01MF	0.1MF	R871	100K	-
C842	0.0047MF	-	R872	470K	-
C848	-	150PF	R875	3.3K	JW 5.0MM
C849	-	150PF	R881	4.7	22
C863	-	0.1MF	R891	-	47K
C871	0.0082MF	-	R892	-	JW 5.0MM
C872	0.1MF	-	R910	-	-
C873	-	330PF	R1598	47K	6.8K
C874	1000PF	0.0047MF	R1599	-	6.8K
C878	0.1MF	-	R1600	-	6.8K
C879	-	100PF	R1639	-	220
C891	-	0.002MF	R1640	-	1.5K
C1616	-	0.0018MF	R1645	68K	4.7K
C819	0.1MF	0.018MF	R1646	2.2K	680
C1620	JW 5.0MM	220PF	R1647	JW 5.0MM	560
C1621	0.01MF	0.0047MF	R1648	10K	JW 5.0MM
C1629	0.0068MF	-	R1649	10K	-
C1633	-	10MF	R1650	10K	-
C1818	-	0.0022MF	R1651	33	-
CN746	-	4P	R1652	2.2K	-
D871	1S119-25TD	-	T803	1-246-897-11	1-247-776-11
IC508	-	LM2940T-8.0	T804	1-429-288-11	1-429-287-11
L813	0UH	-	T805	NX-4003	NX-4123
L1604	0UH	-	T806	DFT	-
PS1601	JW 5.0MM	LINK IC	T807	-	DFT
Q1603	-	2SC3840(3)	JW83	-	JW 5.0MM
Q1611	2SC4793	IRF620	JW84	-	JW 5.0MM
R010	-	47K	JW180	-	JW 5.0MM
R821	6.8K	JW 5.0MM	JW185	-	JW 5.0MM
R823	1.8K	3.3K	-	-	-
R834	220K	-	-	-	-



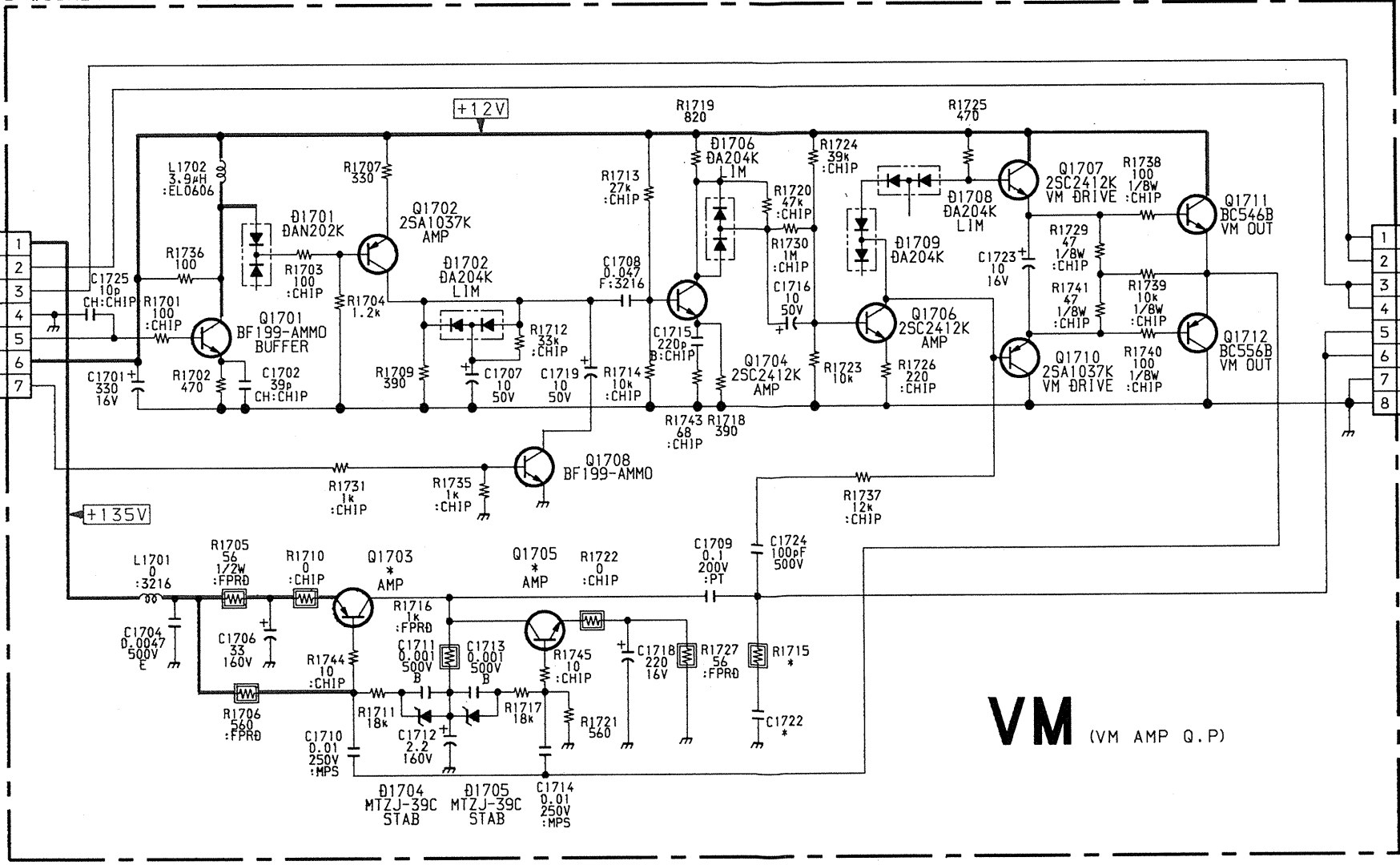
1 2 3 4 5 6 7 8 9 10 11 12 13

B-#SSAE4.<...>-VM.-28/32WF3

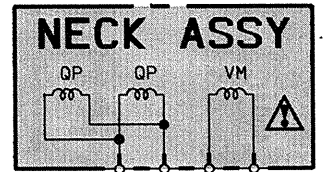
A  
B  
C  
D  
E  
F

TO 9 BOARD  
CN3133

+135V	1
Q.P.+	2
Q.P.-	3
GND	4
VM OUT	5
+12V	6
VM-MUTE	7

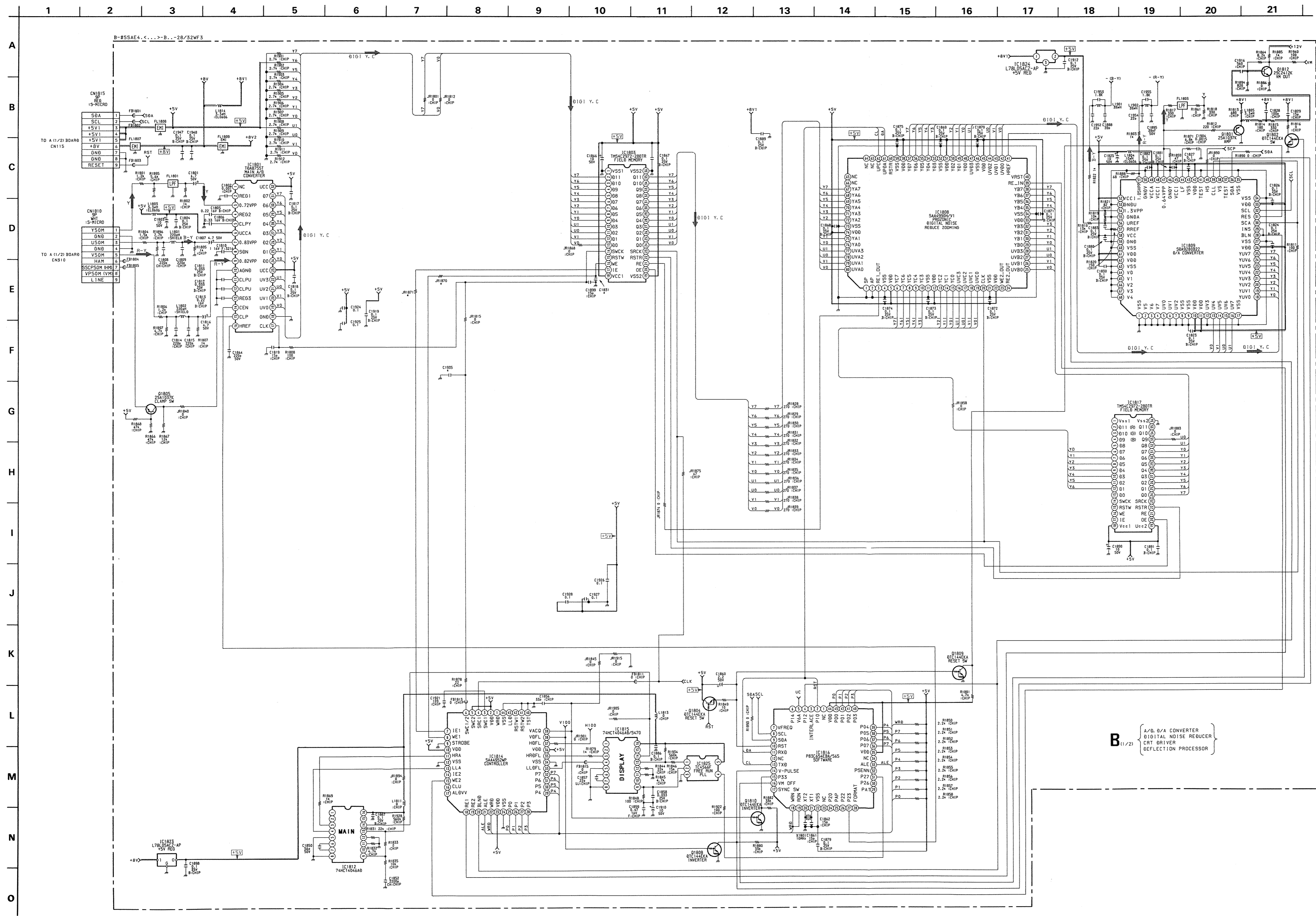


**VM** (VM AMP Q.P.)



1	Q.P.-
2	Q.P.-
3	Q.P.+
4	Q.P.+
5	VM
6	VM
7	GND
8	GND

CN1701 \*



**B BOARD MARK**

Ref	KV-28WF3A, KV-28WF3B, KV-28WF3D, KV-28WF3E, KV-28WF3K	KV-32WF3A, KV-32WF3B, KV-32WF3D, KV-32WF3E, KV-32WF3K
C442	0.1MF	
C457	0.01MF	
C1831	220PF	
C1935	15PF	
JR408	SHORT 0	
JR409	1K	SHORT 0

**B (1/2) BOARD IC VOLTAGE TABLE**

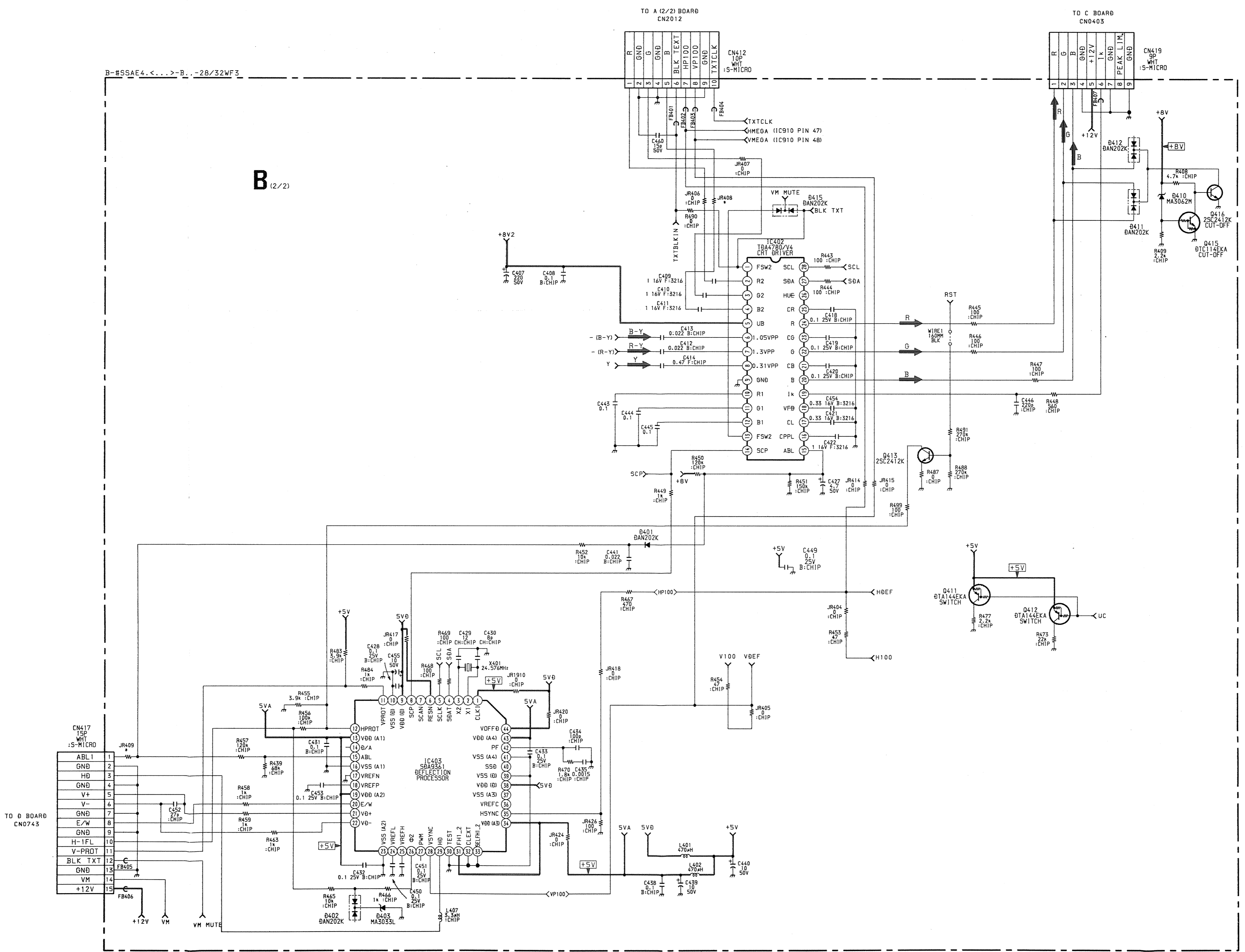
Ref No	Pin No	Voltage (V)
IC1812	3-4	2.4
	6-7	0.7
	9	4.6
	11-13	4.7
	14	0.3
	16	5.0
IC1813	3-4	2.4
	6-7	0.7
	9	4.6
	11-13	4.7
	14	0.3
	16	5.0
IC1815	1	5.0
	2	2.3
	3-4	2.5
	6-7	0.8
	9-11	3.0
	12	4.5
IC1821	13	3.0
	14	0.4
	15	0.2
	16	5.2
	2	2.5
	4-5	2.3
IC1822	12	2.0
	14	2.0
	15	2.6
	16	8.0
	2	2.9
	4-5	2.6

**B BOARD TRANSISTOR VOLTAGE TABLE**

Ref No	(B) Base	(C) Collector	(E) Emitter
Q411	0.1	4.8	4.8
Q412	0.1	4.8	4.8
Q415	1.8	0.1	-
Q416	0.1	5.6	-
Q1801	0.1	-	0.9
Q1802	4.0	0.1	0.1
Q1804	0.3	4.8	0.1
Q1805	2.5	1.3	0.7
Q1807	2.5	1.3	0.7
Q1808	0.1	4.7	0.1
Q1809	0.1	0.1	0.1
Q1810	0.1	4.8	-
Q1812	0.5	10.5	-
Q1813	0.1	3.7	0.1

B (1/2) { A/D, D/A CONVERTER  
DIGITAL NOISE REDUCER  
CRT DRIVER  
REFLECTION PROCESSOR }

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O

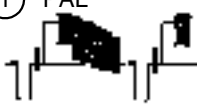




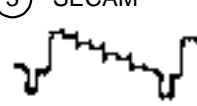
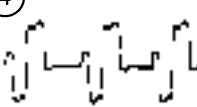
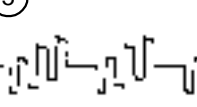


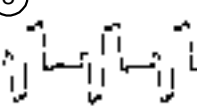
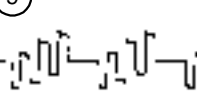
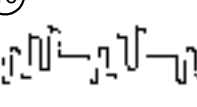
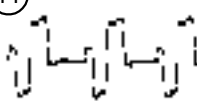


B (2/2) BOARD  
IC VOLTAGE TABLE

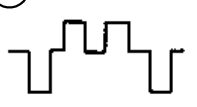


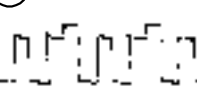



IC Voltage Table		
Ref No	Pin No	Voltage (V)
IC402	2-4	5.0
	5	7.8
	6-7	4.0
	8	3.7
	10-12	5.0
	14	0.7
	16	4.7
	17	5.1
	18	1.8
	19	7.5
	20	2.5
	21	3.3
	22	2.8
	23	3.3
	24	2.9
	25	3.3
27	4.0	
28	3.8	
IC405	5	3.2
	9	3.2
	13-14	3.2
IC406	16	4.8



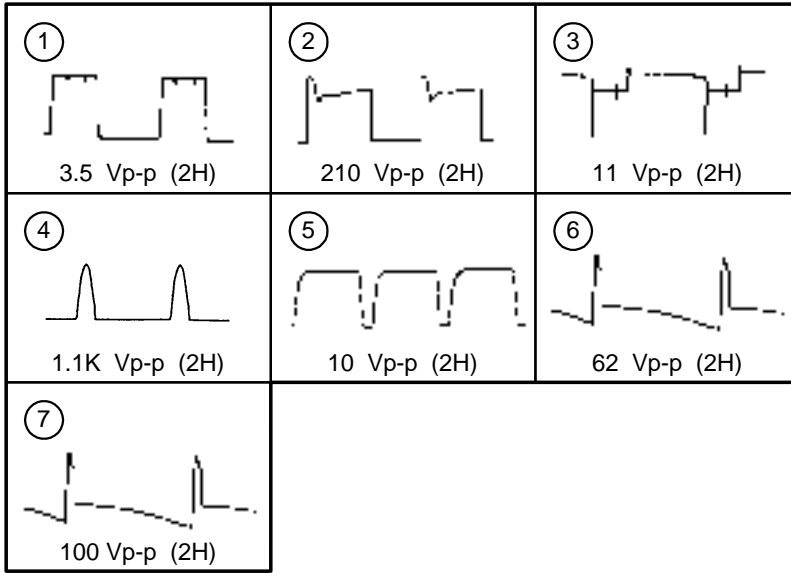
**WAVEFORMS A BOARD**

<p>① PAL</p>  <p>1.0 Vp-p (H)</p>	<p>① SECAM</p>  <p>1.0 Vp-p (H)</p>	<p>② PAL</p>  <p>2.0 Vp-p (H)</p>
<p>② SECAM</p>  <p>2.0 Vp-p (H)</p>	<p>③ PAL</p>  <p>1.0 Vp-p (H)</p>	<p>③ SECAM</p>  <p>1.2 Vp-p (H)</p>
<p>④</p>  <p>0.6 Vp-p (H)</p>	<p>⑤</p>  <p>0.7 Vp-p (H)</p>	<p>⑥</p>  <p>4.5 Vp-p (H)</p>
<p>⑦</p>  <p>1.0 Vp-p (H)</p>	<p>⑧</p>  <p>1.0 Vp-p (H)</p>	<p>⑨</p>  <p>1.4 Vp-p (H)</p>
<p>⑩</p>  <p>1.5 Vp-p (H)</p>	<p>⑪</p>  <p>1.0 Vp-p (H)</p>	

**WAVEFORMS C BOARD**

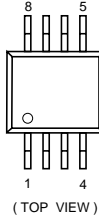
<p>①</p>  <p>2.0 Vp-p (2H)</p>	<p>②</p>  <p>2.0 Vp-p (2H)</p>	<p>③</p>  <p>2.0 Vp-p (2H)</p>
<p>④</p>  <p>107 Vp-p (2H)</p>	<p>⑤</p>  <p>95 Vp-p (2H)</p>	<p>⑥</p>  <p>100 Vp-p (2H)</p>
<p>⑦</p>  <p>30 Vp-p (2H)</p>		

### WAVEFORMS D BOARD

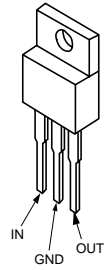


# 5-4 SEMICONDUCTORS

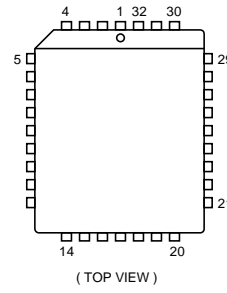
BA7046F  
BA7046F-T1  
MB3793-42NF  
MB3793-42NF-ER  
NJM2240M  
NJM2240M(TE2)



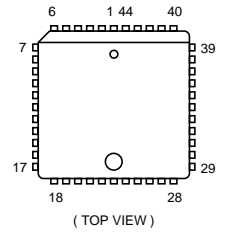
LM2940CT-9.0  
LM2940T-8.0  
LM2940T-9.0  
L4941BV  
TEA7605



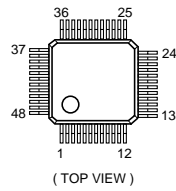
M27C4001-15C1-AE406  
M27C4001-15C1



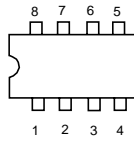
SAA4952WP/V1



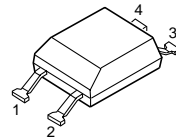
CXA1855Q-T6



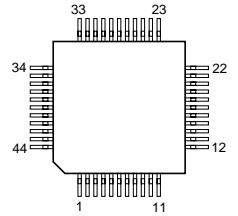
LM393P  
M5216P  
ST24C16FB6  
TDA2822M  
UPC393C



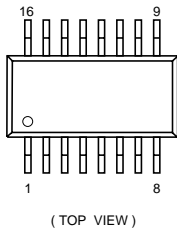
PC123F2  
PC123FY2



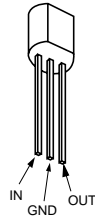
SDA9361



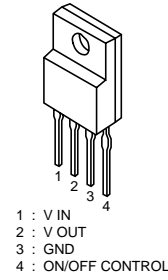
CXA1875AM-T4  
HE4053BT  
MC14052BDR2  
MC74F157ADR2  
SN74LS221D  
74HCT4046AD/S470



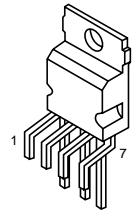
LM78L05ACZ  
LM78L12ACZ  
L78L05ACZ-AP  
L78L12ACZ-AP



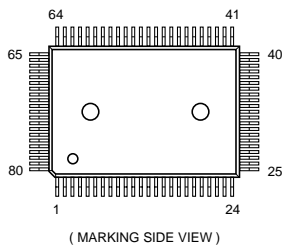
PQ05RF21



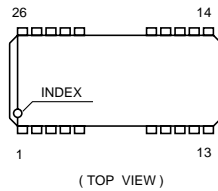
STV9379



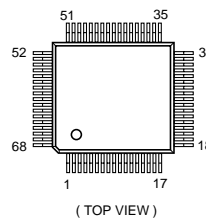
CXD2044Q-TL  
SAA4990H/V2



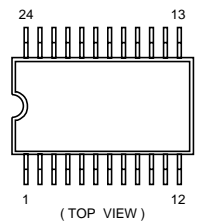
MB814400C-70PJN-ER



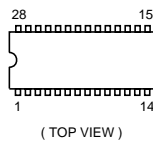
P83C654EBA/565  
SDA9280A41



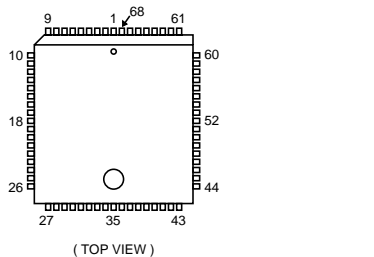
TC9293F-EL



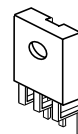
CXD2053S  
TDA4780/V3



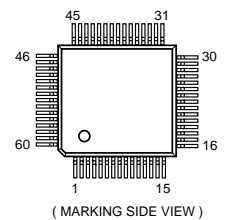
MSP3400C-PS-C6-T  
MSP3410B-PS-F7-T-ND  
SAA7185WP  
SDA30C164-2-GEG  
SDA5275



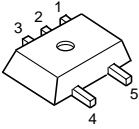
SBX1981-51



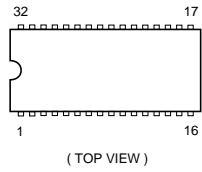
TC9337F-015



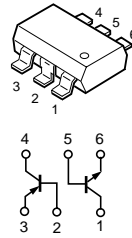
TC4S66F  
TC4S66F-TE85L



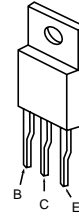
TDA9143/N2  
TDA9144/N2  
TDA9170T



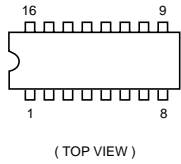
IMZ1A-T109



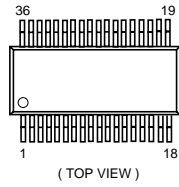
2SA1837



TDA4665T-T



TMS4C2972-26DTR  
TMS4C2972-28DTR



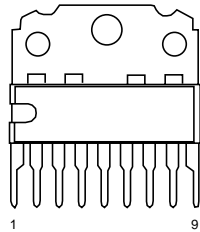
IRF614  
IRF620



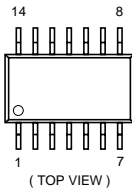
2SC2500-B  
2SC2551-O  
2SC2551O-TPE2



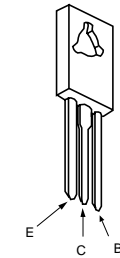
TDA6111Q  
TDA6111Q/N4



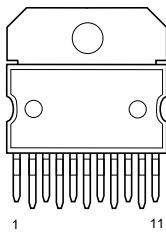
U2860B-BFPG3  
74LVC08D



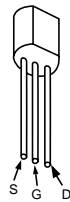
2SC2688-LK  
2SC3840K



TDA7265

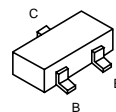


BC546B  
BC556B

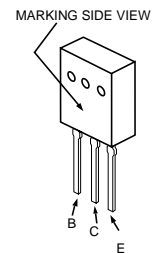


DTA144EK  
DTA144EK-T146  
DTC114EK  
DTC114EKA-T146  
DTC123EK  
DTC123EK-T146  
DTC124EKA-T146

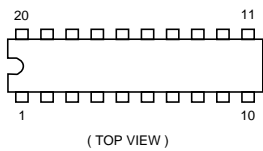
DTC144EK  
DTC144EK-T146  
2SA1037K-T-146-R  
2SA1162-G  
2SC2412K-QR  
2SC2412K-T-146-R



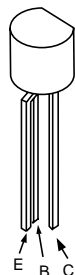
2SC3997CA



TDA7309

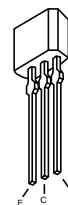


BF199  
BF199-AMMO



JA101TP-Q  
DTA144ESA  
DTA144ESA-TP  
DTC114ESA-TP  
DTC144ESA-TP  
2SA1175-HFE

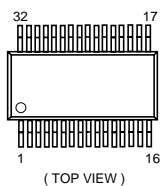
2SA733-K  
2SA933AS-RT  
2SA933AS-QRT  
2SA933S-RT  
2SC1740S-RT  
2SC2785-HFE



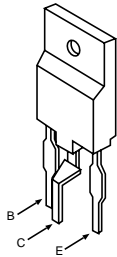
2SC4793



TDA8755T-T



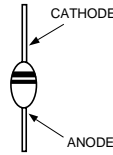
2SC4834NP-F09



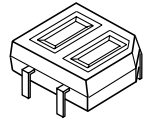
D1NL20  
D1NL20-TA  
D1NL20-TR  
EGP20G  
EL1Z  
GP08D  
GP08DPKG23  
MTZJ-T-77-9.1  
MTZJ-T-77-9.1A

R2K-V1  
RGP02-20EG23  
RGP02-20EL-6394  
RGP10GPKG23  
RGP15GPKG23  
S2LA20F  
1SS133T-77  
1SS83  
1SS83TD

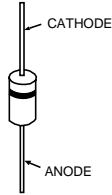
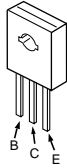
ERC38-06



MA73-TX

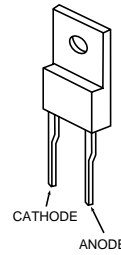


2SD2396H

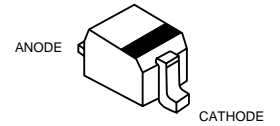


D10SC4M

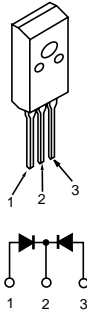
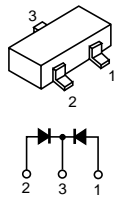
ERD08M-15



RD12SB2  
UDZ-TE-17-12B

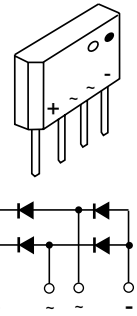
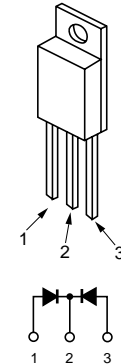


DAN202K  
DAN202K-T-146

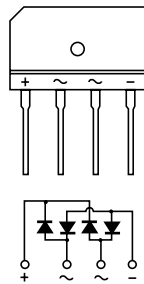
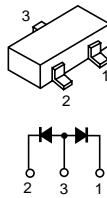


D4SB60L  
D4SB60L-F  
RBA-402L

ESAC39M-06C  
ESAC39M-06CF38

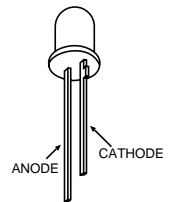


DAP202K  
DAP202K-T-146

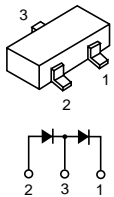


MA3033-L  
MA3033L-TX  
MA3056M-TX  
MA3062M-TX  
MA3030-H-(TX)  
RD5.6M-B2

SLA-570KT3F

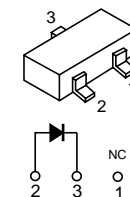


DA204K  
DA204K-T-146

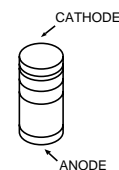
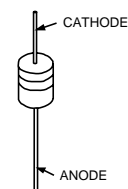


ERA38-06  
ERA38-06TP1  
MTZJ-T-77-13B  
MTZJ-T-77-15B  
MTZJ-T-77-2.2A  
MTZJ-T-77-33C  
MTZJ-T-77-39C  
MTZJ-T-77-5.6B  
MTZJ-T-77-8.2B  
MTZJ-T-77-9.1B

MTZJ-13B  
MTZJ-33C  
MTZJ-39C  
RD15ES-B2  
RD5.6ESB2  
RD8.2ES-B2  
RD9.1ESB2  
1SS119-25  
1SS119-25TD

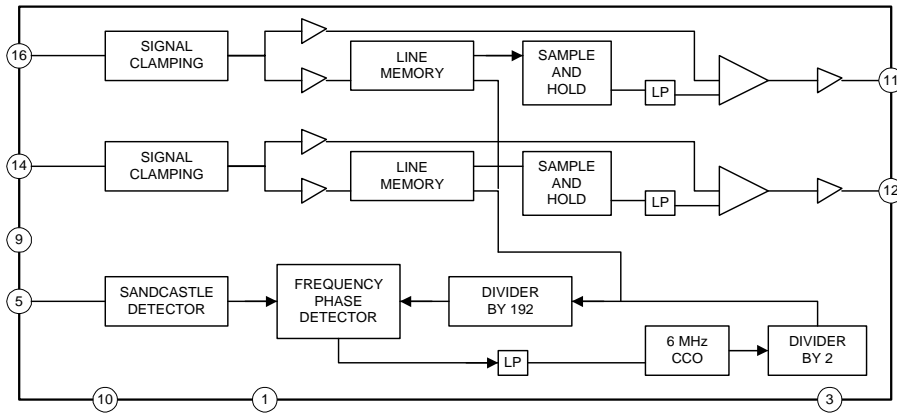


MA3051L-TX

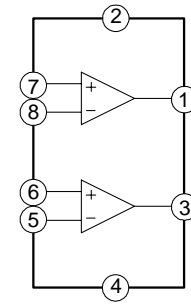


## 5-5. IC BLOCK DIAGRAMS

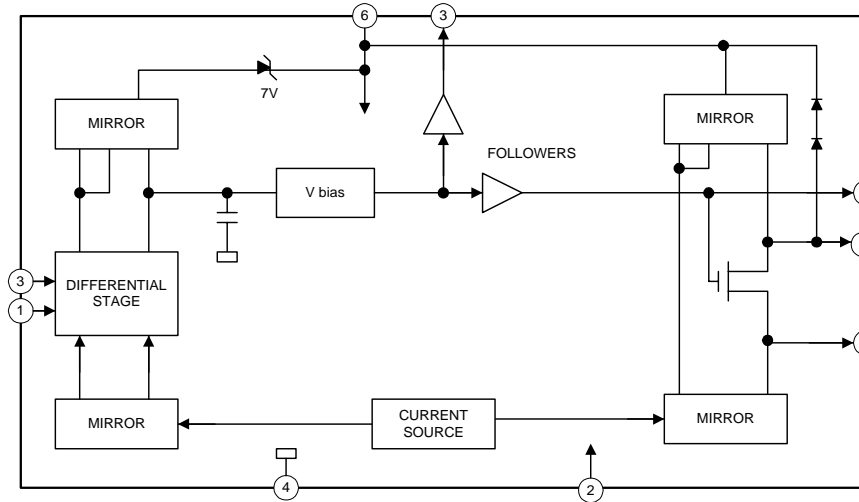
**A Board IC303, TDA4665T-T**



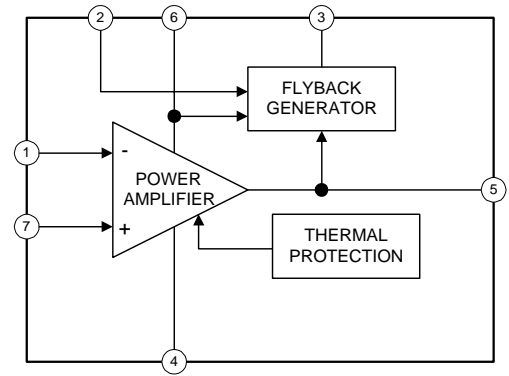
**D Board IC261 TDA2822M**



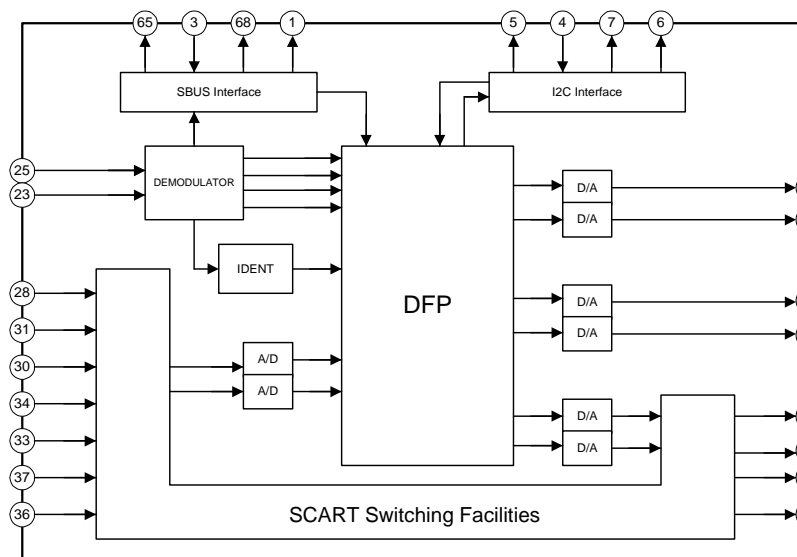
**C Board IC703,704,705 TDA6111Q/N4**



**D Board IC802 STV9379**



**A Board IC201 MSP3400C-PS-C6-T/MSP3410B-PS-F7-T**



## SECTION 6 EXPLODED VIEWS

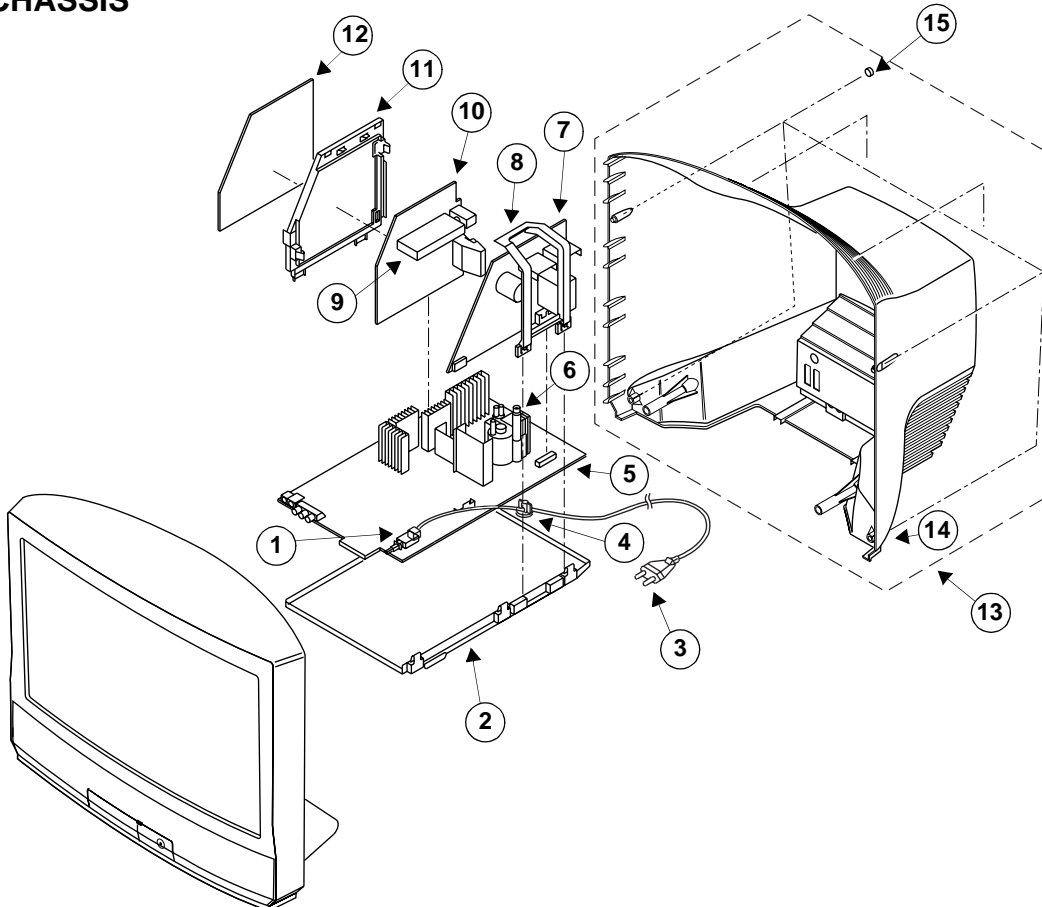
### NOTE :

- 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.

**Note :** Les composants identifiés par une trame et par une marque Δ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifique.

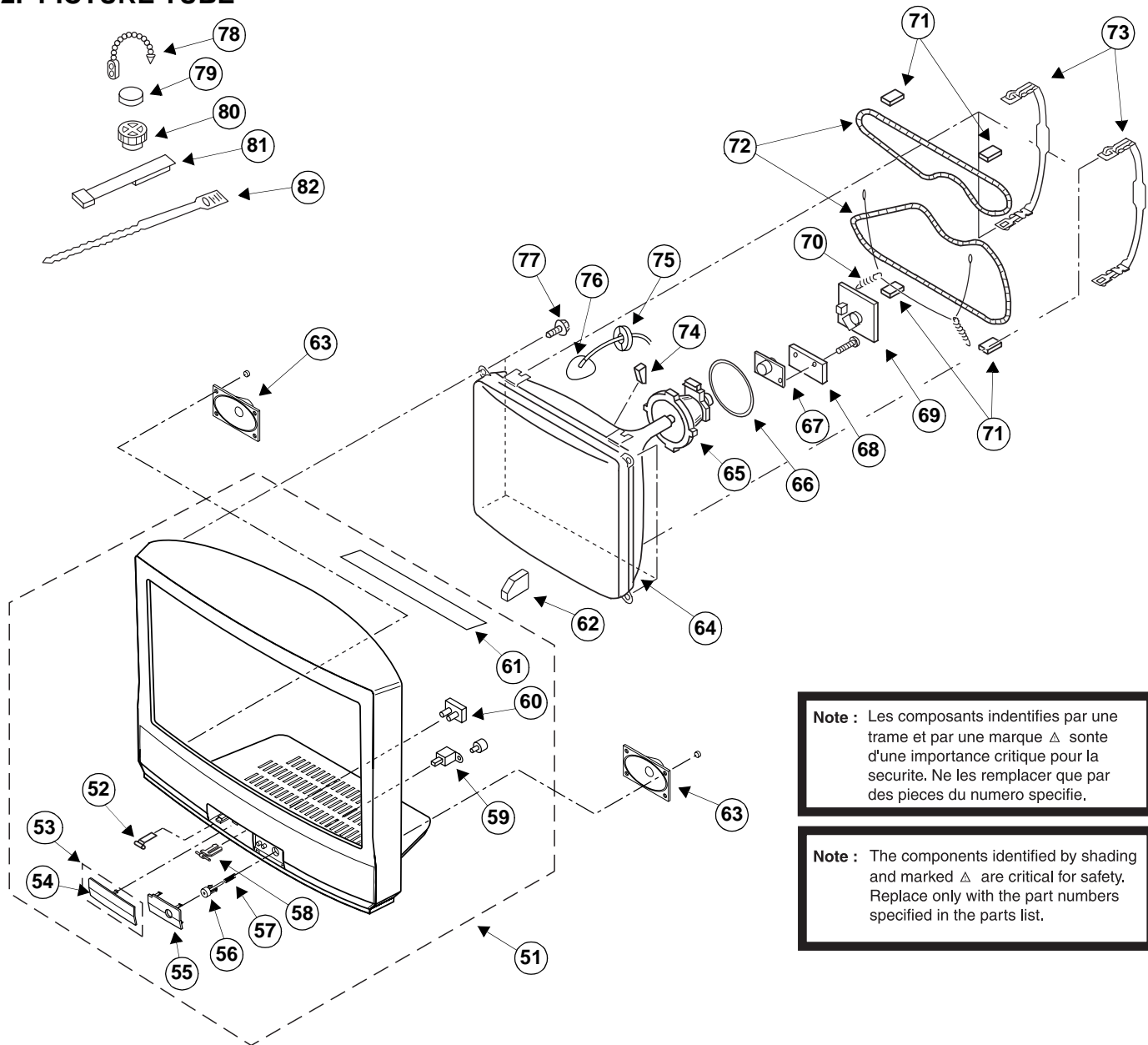
**Note :** The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

### 6-1. CHASSIS



REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
1	△ 1-571-433-21	SWITCH, PUSH (AC POWER)			*A-1632-776-A	A BOARD, COMPLETE (KV-28WF3B)	
2	*4-203-457-01	BRACKET, MAIN			*A-1632-724-A	A BOARD, COMPLETE (KV-28WF3D)	
3	△ 1-765-286-11	CORD, POWER			*A-1632-778-A	A BOARD, COMPLETE (KV-28WF3E)	
4	*4-202-531-01	AC CORD LOCK (AC)			*A-1632-779-A	A BOARD, COMPLETE (KV-28WF3K)	
5	*A-1640-244-A	D BOARD, COMPLETE			*A-1632-722-A	A BOARD, COMPLETE (KV-32WF3A)	
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)			*A-1632-773-A	A BOARD, COMPLETE (KV-32WF3B)	
	*A-1640-305-A	D BOARD, COMPLETE			*A-1632-724-A	A BOARD, COMPLETE (KV-32WF3D)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)			*A-1632-774-A	A BOARD, COMPLETE (KV-32WF3E)	
6	△ 1-453-222-11	TRANSFORMER ASSY, FLYBACK (NX-4003/U2B4)			*A-1632-775-A	A BOARD, COMPLETE (KV-32WF3K)	
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		11	*4-203-612-01	BRACKET, A-B	
	△ 1-453-223-11	TRANSFORMER ASSY, FLYBACK (NX-4123/U2B4)		12	*A-1620-107-A	B BOARD, COMPLETE	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)				(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
7	*A-1636-030-A	G BOARD, COMPLETE			*A-1620-108-A	B BOARD, COMPLETE	
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)				(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
	*A-1636-031-A	G BOARD, COMPLETE		13	X-4200-384-1	COVER ASSY, REAR	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)				(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
8	*4-203-613-01	SUPPORTER G		14	4-203-775-01	COVER, REAR	
9	1-693-338-11	TUNER (VIF) (AEP)				(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
		(KV-28WF3A/28WF3D/28WF3E/28WF3K/ 32WF3A/32WF3D/32WF3E/32WF3K)			4-203-754-01	COVER, REAR	
	1-693-340-11	TUNER (VIF) (FR) (KV-28WF3B/32WF3B)				(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
10	*A-1632-777-A	A BOARD, COMPLETE (KV-28WF3A)		15	4-039-358-01	SCREW (4X16), (+) BV TAPPING	

6-2. PICTURE TUBE



**Note :** Les composants indentifiés par une trame et par une marque Δ sont 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 Δ are critical for safety. Replace only with the part numbers specified in the parts list.

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
51	X-4200-344-1	BEZNET ASSY (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	52-61	4-203-722-11	BUTTON, POWER (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		
	X-4200-343-1	BEZNET ASSY (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		57	4-202-964-01	SPRING (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
52	4-045-250-01	DAMPER		4-202-964-11	SPRING (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		
53	X-4200-369-1	DOOR, ASSY (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		58	3-703-035-11	SHAFT, LID (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
54	4-203-723-01	DOOR (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		4-202-555-01	SHAFT, DOOR (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		
	4-203-723-21	DOOR (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		59	4-042-940-21	UNIT, LOCK	
55	4-203-724-01	WINDOW, ORNAMENTAL		60	4-203-739-01	GUIDE, LIGHT (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
56	4-203-722-02	BUTTON, POWER (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		4-203-739-11	GUIDE, LIGHT (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		



The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
61	*4-203-128-11	SHEET BLOTTING			4-200-433-01	SPRING, EXTENSION (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
62	4-203-870-01	SUPPORTER, CRT (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		71	*4-203-390-01	CUSHION, DGC	
	4-203-098-01	SUPPORTER, CRT (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		72	$\Delta$ 1-411-893-11	COIL, DEMAGNETIC (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
63	1-505-782-11	SPEAKER (7X13CM)			$\Delta$ 1-416-450-11	COIL, DEMAGNETIC (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
64	$\Delta$ 8-737-781-05	PICTURE TUBE (SD-284T) (W66LGY060X) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		73	4-203-769-01	DGC HOLDER (28") (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
	$\Delta$ 8-735-037-05	PICTURE TUBE (SD-297) (W76LHT060X) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)			4-045-294-01	HOLDER, DGC (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
65	$\Delta$ 8-451-433-11	DEFLECTION YOKE (Y28GICM) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		74	3-704-495-01	SPACER, DY	
	$\Delta$ 8-451-485-11	DEFLECTION YOKE (Y32C2C2-M) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		75	4-200-693-01	HOLDER, HV CABLE (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
66	1-452-724-11	COIL, NA ROTATION (RT-165)			4-203-022-01	HOLDER, HV CABLE (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
67	$\Delta$ 8-453-005-31	NECK ASSY, NA297-M3 (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		76	$\Delta$ 1-251-317-31	CAP, ASSY HIGH VOLTAGE	
	$\Delta$ 8-453-011-11	NECK ASSY, NA299-M (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		77	4-203-216-01	PT-SCREW (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
68	*A-1644-084-A	VM BOARD, COMPLETE (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		78	4-308-870-00	CLIP, LEAD WIRE	
	*A-1644-089-A	VM BOARD, COMPLETE (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		79	1-425-032-00	MAGNET, DISK; 10MM $\emptyset$	
69	*A-1638-092-A	C BOARD, COMPLETE		80	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM $\emptyset$	
70	4-369-318-31	SPRING, TENSION (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		81	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
				82	3-701-007-00	BAND BINDING	

\*\*\*\*\*

## SECTION 7 ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

CAPACITORS                      COILS  
MF : mF, PF : mmF              MMH : mH , uH

- Items marked “ \* “ are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- RESISTORS
- All resistors are in ohms.
- F : nonflammable.

**Note :** Les composants identifiés par une trame et par une marque  $\Delta$  sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

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

B

REF. NO.	PART. NO	DESCRIPTION	REMARK	REF. NO.	PART. NO	DESCRIPTION	REMARK
	*A-1620-107-A	B BOARD COMPLETE ***** KV-28WF3A/28WF3B/28WF3D/ KV-28WF3E/28WF3K)		C455	1-126-964-11	ELECT      10MF      20%	50V
	*A-1620-108-A	B BOARD COMPLETE ***** KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)		C460	1-163-097-00	CERAMIC CHIP 15PF      5%	50V
	< CAPACITOR >			C1801	1-126-963-11	ELECT      4.7MF      20%	50V
C407	1-126-969-11	ELECT      220MF      20%	50V	C1802	1-163-141-00	CERAMIC CHIP 0.001MF      5%	50V
C408	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1803	1-126-964-11	ELECT      10MF      20%	50V
C409	1-162-638-11	CERAMIC CHIP 1MF      16V		C1804	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V
C410	1-162-638-11	CERAMIC CHIP 1MF      16V		C1805	1-164-489-11	CERAMIC CHIP 0.22MF      10%	16V
C411	1-162-638-11	CERAMIC CHIP 1MF      16V		C1806	1-110-501-11	CERAMIC CHIP 0.33MF      10%	16V
C412	1-163-037-11	CERAMIC CHIP 0.022MF      10%	50V	C1807	1-126-963-11	ELECT      4.7MF      20%	50V
C413	1-163-037-11	CERAMIC CHIP 0.022MF      10%	50V	C1808	1-163-259-91	CERAMIC CHIP 220PF      5%	50V
C414	1-164-005-11	CERAMIC CHIP 0.47MF      25V		C1809	1-163-125-00	CERAMIC CHIP 220PF      5%	50V
C418	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1810	1-162-638-11	CERAMIC CHIP 1MF      16V	
C419	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1811	1-163-989-11	CERAMIC CHIP 0.033MF      10%	25V
C420	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1812	1-163-989-11	CERAMIC CHIP 0.033MF      10%	25V
C421	1-162-568-11	CERAMIC CHIP 0.33MF      10%	16V	C1813	1-164-489-11	CERAMIC CHIP 0.22MF      10%	16V
C422	1-162-638-11	CERAMIC CHIP 1MF      16V		C1814	1-163-125-00	CERAMIC CHIP 220PF      5%	50V
C427	1-126-963-11	ELECT      4.7MF      20%	50V	C1815	1-163-125-00	CERAMIC CHIP 220PF      5%	50V
C428	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1816	1-126-963-11	ELECT      4.7MF      20%	50V
C429	1-163-229-11	CERAMIC CHIP 12PF      5%	50V	C1817	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V
C430	1-163-091-00	CERAMIC CHIP 8PF      0.25PF	50V	C1818	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V
C431	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1819	1-163-097-00	CERAMIC CHIP 15PF      5%	50V
C432	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1823	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V
C433	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1824	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V
C434	1-163-117-00	CERAMIC CHIP 100PF      5%	50V	C1825	1-126-964-11	ELECT      10MF      20%	50V
C435	1-163-145-00	CERAMIC CHIP 0.0015MF      5%	50V	C1826	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V
C438	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1827	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V
C439	1-126-964-11	ELECT      10MF      20%	50V	C1828	1-163-117-00	CERAMIC CHIP 100PF      5%	50V
C440	1-126-964-11	ELECT      10MF      20%	50V	C1829	1-163-097-00	CERAMIC CHIP 15PF      5%	50V
C441	1-163-037-11	CERAMIC CHIP 0.022MF      10%	50V	C1830	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V
C443	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1831	1-163-125-00	CERAMIC CHIP 220PF      5%	50V
C444	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V			(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
C445	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1850	1-163-245-11	CERAMIC CHIP 56PF      5%	50V
C446	1-163-125-00	CERAMIC CHIP 220PF      5%	50V	C1852	1-164-695-11	CERAMIC CHIP 0.0022MF      5%	50V
C449	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1856	1-163-105-00	CERAMIC CHIP 33PF      5%	50V
C450	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1857	1-163-101-00	CERAMIC CHIP 22PF      5%	50V
C451	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1858	1-163-989-11	CERAMIC CHIP 0.033MF      10%	25V
C452	1-163-103-00	CERAMIC CHIP 27PF      5%	50V	C1859	1-164-005-11	CERAMIC CHIP 0.47MF      16V	
C453	1-164-004-11	CERAMIC CHIP 0.1MF      10%	25V	C1860	1-126-961-11	ELECT      2.2MF      20%	50V
C454	1-162-568-11	CERAMIC CHIP 0.33MF      10%	16V	C1861	1-163-097-00	CERAMIC CHIP 15PF      5%	50V
				C1862	1-163-097-00	CERAMIC CHIP 15PF      5%	50V
				C1864	1-163-125-00	CERAMIC CHIP 220PF      5%	50V
				C1866	1-126-964-11	ELECT      10MF      20%	50V

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C1867	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D415	8-719-914-43	DIODE DAN202K	
C1868	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V			< FERRITE BEAD >	
C1869	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB401	1-414-234-11	INDUCTOR CHIP 0UH	
C1870	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB402	1-414-234-11	INDUCTOR CHIP 0UH	
C1871	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB403	1-414-234-11	INDUCTOR CHIP 0UH	
C1872	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB404	1-414-234-11	INDUCTOR CHIP 0UH	
C1873	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB405	1-414-234-11	INDUCTOR CHIP 0UH	
C1874	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB406	1-414-234-11	INDUCTOR CHIP 0UH	
C1875	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB407	1-414-234-11	INDUCTOR CHIP 0UH	
C1879	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB1801	1-414-234-11	INDUCTOR CHIP 0UH	
C1880	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB1802	1-414-234-11	INDUCTOR CHIP 0UH	
C1881	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB1803	1-414-234-11	INDUCTOR CHIP 0UH	
C1882	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB1805	1-414-234-11	INDUCTOR CHIP 0UH	
C1883	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB1811	1-414-950-21	FERRITE 0UH	
C1886	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB1813	1-414-553-11	FERRITE 0UH	
C1887	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FB1815	1-216-295-91	SHORT 0	
C1888	1-163-241-11	CERAMIC CHIP 39PF	5% 50V			< ENCAPSULATED FILTER >	
C1889	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FL1801	1-233-767-21	FILTER	
C1890	1-126-964-11	ELECT 10MF	20% 50V	FL1803	1-415-940-21	DELAY LINE	
C1891	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FL1807	1-236-071-11	ENCAPSULATED COMPONENT	
C1895	1-163-241-11	CERAMIC CHIP 39PF	5% 50V	FL1808	1-236-071-11	ENCAPSULATED COMPONENT	
C1898	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FL1809	1-236-071-11	ENCAPSULATED COMPONENT	
C1899	1-163-097-00	CERAMIC CHIP 15PF	5% 50V			< IC >	
C1904	1-163-145-00	CERAMIC CHIP 0.0015MF	5% 50V	IC402	8-759-490-51	IC TDA4780/V4	
C1910	1-126-964-11	ELECT 10MF	20% 50V	IC403	8-759-421-42	IC SDA9361	
C1912	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1801	8-759-257-59	IC TDA8755T-T	
C1916	1-216-043-91	RES,CHIP 560	5% 1/10W	IC1803	8-759-439-27	IC TMS4C2972-28DTR	
C1919	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1808	8-759-439-62	IC SAA4990H/V2	
C1921	1-216-027-00	RES,CHIP 120	5% 1/10W	IC1809	8-759-467-19	IC SDA9280B22	
C1924	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1812	8-759-426-57	IC 74HCT4046AD	
C1925	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1814	8-759-438-64	IC SAA4952WP/V1	
C1926	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1815	8-759-444-24	IC 74HCT4046AD/S470	
C1927	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1816	8-759-470-61	IC P83C654EBA/565	
C1928	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1817	8-759-439-27	IC TMS4C2972-28DTR	
C1935	1-163-097-00	CERAMIC CHIP 15P	5% 50V	IC1823	8-759-991-41	IC L78L05ACZ	
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		IC1824	8-759-991-41	IC L78L05ACZ	
C1947	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1825	8-759-234-77	IC TC4S66F	
C1948	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V			< COIL >	
C1952	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	L401	1-408-623-31	INDUCTOR 470UH	
C1953	1-216-204-00	RES,CHIP 1.8K	5% 1/8W	L402	1-408-623-31	INDUCTOR 470UH	
C1954	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	L407	1-410-999-11	INDUCTOR CHIP 3.3UH	
C1955	1-216-204-00	RES,CHIP 1.8K	5% 1/8W	L1801	1-410-435-21	INDUCTOR 220UH	
		< CONNECTOR >		L1802	1-410-435-21	INDUCTOR 220UH	
CN412	1-564-513-11	PLUG, CONNECTOR 10P		L1803	1-408-597-31	INDUCTOR 3.3UH	
CN417	*1-564-596-11	PLUG, CONNECTOR 15P		L1804	1-408-603-31	INDUCTOR 10UH	
CN419	*1-564-512-11	PLUG, CONNECTOR 9P		L1805	1-410-999-11	INDUCTOR CHIP 3.3UH	
CN1810	*1-564-512-11	PLUG, CONNECTOR 9P		L1811	1-216-295-91	SHORT 0	
CN1815	*1-564-512-11	PLUG, CONNECTOR 9P		L1813	1-216-296-91	SHORT 0	
		< DIODE >		L1814	1-408-597-31	INDUCTOR 3.3UH	
D401	8-719-914-43	DIODE DAN202K		L1901	1-410-426-11	INDUCTOR 39UH	
D402	8-719-914-43	DIODE DAN202K		L1902	1-410-426-11	INDUCTOR 39UH	
D403	8-719-028-00	DIODE MA3033-L					
D410	8-719-401-63	DIODE MA3062M-TX					
D411	8-719-914-43	DIODE DAN202K					
D412	8-719-914-43	DIODE DAN202K					

B

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
< TRANSISTOR >				JR1910	1-216-295-91	SHORT	0
Q411	8-729-901-06	TRANSISTOR DTA144EK		JR1915	1-216-295-91	SHORT	0
Q412	8-729-901-06	TRANSISTOR DTA144EKB		R408	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
Q413	8-729-620-06	TRANSISTOR 2SC3052-EF		R409	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
Q415	8-729-900-53	TRANSISTOR DTC114EK		R439	1-216-093-00	RES,CHIP	68K 5% 1/10W
Q416	8-729-620-06	TRANSISTOR 2SC3052-EF		R443	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1801	8-729-216-22	TRANSISTOR 2SA1162-G		R444	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1802	1-801-806-11	TRANSISTOR DTC144EKA		R445	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1804	1-801-806-11	TRANSISTOR DTC144EKA		R446	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1805	8-729-216-22	TRANSISTOR 2SA1162-G		R447	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1808	1-801-806-11	TRANSISTOR DTC144EKA		R448	1-216-043-91	RES,CHIP	560 5% 1/10W
Q1809	1-801-806-11	TRANSISTOR DTC144EKA		R449	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q1810	1-801-806-11	TRANSISTOR DTC144EKA		R450	1-216-099-00	RES,CHIP	120K 5% 1/10W
Q1812	8-729-620-06	TRANSISTOR 2SC3052-EF		R451	1-216-101-00	RES,CHIP	150K 5% 1/10W
< RESISTOR >				R452	1-216-073-00	RES,CHIP	10K 5% 1/10W
JR404	1-216-295-91	SHORT	0	R453	1-216-017-91	RES,CHIP	47 5% 1/10W
JR406	1-216-295-91	SHORT	0	R454	1-216-017-91	RES,CHIP	47 5% 1/10W
JR408	1-216-295-91	SHORT	0	R455	1-216-063-91	RES,CHIP	3.9K 5% 1/10W
JR409	1-216-049-91	RES,CHIP	1K 5% 1/10W	R456	1-216-097-91	RES,CHIP	100K 5% 1/10W
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		R457	1-216-099-00	RES,CHIP	120K 5% 1/10W
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		R458	1-216-049-91	RES,CHIP	1K 5% 1/10W
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		R459	1-216-049-91	RES,CHIP	1K 5% 1/10W
JR414	1-216-295-91	SHORT	0	R463	1-216-049-91	RES,CHIP	1K 5% 1/10W
JR415	1-216-295-91	SHORT	0	R465	1-216-073-00	RES,CHIP	10K 5% 1/10W
JR417	1-216-295-91	SHORT	0	R466	1-216-049-91	RES,CHIP	1K 5% 1/10W
JR418	1-216-295-91	SHORT	0	R467	1-216-041-00	RES,CHIP	470 5% 1/10W
JR420	1-216-295-91	SHORT	0	R468	1-216-025-91	RES,CHIP	100 5% 1/10W
JR424	1-216-295-91	SHORT	0	R469	1-216-025-91	RES,CHIP	100 5% 1/10W
JR426	1-163-117-00	CERAMIC CHIP	100PF 5% 50V	R470	1-216-055-00	RES,CHIP	1.8K 5% 1/10W
JR1801	1-216-295-91	SHORT	0	R473	1-216-081-00	RES,CHIP	22K 5% 1/10W
JR1812	1-216-295-91	SHORT	0	R477	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
JR1815	1-216-295-91	SHORT	0	R483	1-216-063-91	RES,CHIP	3.9K 5% 1/10W
JR1828	1-216-035-00	RES,CHIP	270 5% 1/10W	R484	1-216-049-91	RES,CHIP	1K 5% 1/10W
JR1829	1-216-035-00	RES,CHIP	270 5% 1/10W	R487	1-216-295-91	SHORT	0
JR1830	1-216-035-00	RES,CHIP	270 5% 1/10W	R488	1-216-107-00	RES,CHIP	270K 5% 1/10W
JR1831	1-216-035-00	RES,CHIP	270 5% 1/10W	R490	1-216-295-91	SHORT	0
JR1832	1-216-035-00	RES,CHIP	270 5% 1/10W	R491	1-216-107-00	RES,CHIP	270K 5% 1/10W
JR1833	1-216-035-00	RES,CHIP	270 5% 1/10W	R499	1-216-025-91	RES,CHIP	100 5% 1/10W
JR1834	1-216-035-00	RES,CHIP	270 5% 1/10W	R1801	1-216-051-00	RES,CHIP	1.2K 5% 1/10W
JR1835	1-216-035-00	RES,CHIP	270 5% 1/10W	R1802	1-216-049-91	RES,CHIP	1K 5% 1/10W
JR1836	1-216-035-00	RES,CHIP	270 5% 1/10W	R1803	1-216-049-91	RES,CHIP	1K 5% 1/10W
JR1837	1-216-035-00	RES,CHIP	270 5% 1/10W	R1804	1-216-053-00	RES,CHIP	1.5K 5% 1/10W
JR1838	1-216-035-00	RES,CHIP	270 5% 1/10W	R1805	1-216-049-91	RES,CHIP	1K 5% 1/10W
JR1839	1-216-035-00	RES,CHIP	270 5% 1/10W	R1806	1-216-051-00	RES,CHIP	1.2K 5% 1/10W
JR1840	1-216-295-91	SHORT	0	R1807	1-216-049-91	RES,CHIP	1K 5% 1/10W
JR1845	1-216-295-91	SHORT	0	R1808	1-216-025-91	RES,CHIP	100 5% 1/10W
JR1858	1-216-295-91	SHORT	0	R1810	1-216-076-00	RES,CHIP	13K 5% 1/10W
JR1868	1-216-295-91	SHORT	0	R1811	1-216-025-91	RES,CHIP	100 5% 1/10W
JR1874	1-216-295-91	SHORT	0	R1812	1-216-033-00	RES,CHIP	220 5% 1/10W
JR1875	1-216-017-91	RES,CHIP	47 5% 1/10W	R1813	1-216-045-00	RES,CHIP	680 5% 1/10W
JR1883	1-216-295-91	SHORT	0	R1814	1-216-031-00	RES,CHIP	180 5% 1/10W
JR1890	1-216-295-91	SHORT	0	R1815	1-216-037-00	RES,CHIP	330 5% 1/10W
JR1894	1-216-295-91	SHORT	0	R1816	1-216-295-91	SHORT	0
JR1901	1-216-295-91	SHORT	0	R1817	1-216-037-00	RES,CHIP	330 5% 1/10W
JR1905	1-216-295-91	SHORT	0	R1818	1-216-037-00	RES,CHIP	330 5% 1/10W
				R1819	1-216-073-00	RES,CHIP	10K 5% 1/10W
				R1820	1-216-029-00	RES,CHIP	150 5% 1/10W

B

A

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R1821	1-216-023-00	RES,CHIP	82 5% 1/10W	R1940	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1822	1-216-049-91	RES,CHIP	1K 5% 1/10W			< CRYSTAL >	
R1831	1-216-081-00	RES,CHIP	22K 5% 1/10W	X401	1-767-639-21	VIBRATOR, CRYSTAL	
R1832	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	X1801	1-579-175-11	VIBRATOR, CERAMIC	
R1833	1-216-295-91	SHORT	0			*****	
R1835	1-216-073-00	RES,CHIP	10K 5% 1/10W		*A-1632-777-A	A BOARD COMPLETE (KV-28WF3A)	
R1844	1-216-081-00	RES,CHIP	22K 5% 1/10W			*****	
R1845	1-216-065-91	RES,CHIP	4.7K 5% 1/10W		*A-1632-776-A	A BOARD COMPLETE (KV-28WF3B)	
R1846	1-216-077-00	RES,CHIP	15K 5% 1/10W			*****	
R1848	1-216-025-91	RES,CHIP	100 5% 1/10W		*A-1632-724-A	A BOARD COMPLETE (KV-28WF3D)	
R1849	1-216-001-00	RES,CHIP	10 5% 1/10W			*****	
R1850	1-216-057-00	RES,CHIP	2.2K 5% 1/10W		*A-1632-724-A	A BOARD COMPLETE (KV-28WF3D)	
R1851	1-216-057-00	RES,CHIP	2.2K 5% 1/10W			*****	
R1852	1-216-057-00	RES,CHIP	2.2K 5% 1/10W		*A-1632-778-A	A BOARD COMPLETE (KV-28WF3E)	
R1853	1-216-057-00	RES,CHIP	2.2K 5% 1/10W			*****	
R1854	1-216-057-00	RES,CHIP	2.2K 5% 1/10W		*A-1632-779-A	A BOARD COMPLETE (KV-28WF3K)	
R1855	1-216-057-00	RES,CHIP	2.2K 5% 1/10W			*****	
R1856	1-216-057-00	RES,CHIP	2.2K 5% 1/10W		*A-1632-772-A	A BOARD COMPLETE (KV-32WF3A)	
R1857	1-216-057-00	RES,CHIP	2.2K 5% 1/10W			*****	
R1858	1-216-057-00	RES,CHIP	2.2K 5% 1/10W		*A-1632-773-A	A BOARD COMPLETE (KV-32WF3B)	
R1859	1-216-017-91	RES,CHIP	47 5% 1/10W			*****	
R1861	1-216-295-91	SHORT	0		*A-1632-724-A	A BOARD COMPLETE (KV-32WF3D)	
R1864	1-216-071-00	RES,CHIP	8.2K 5% 1/10W			*****	
R1866	1-216-089-91	RES,CHIP	47K 5% 1/10W		*A-1632-774-A	A BOARD COMPLETE (KV-32WF3E)	
R1867	1-216-075-00	RES,CHIP	12K 5% 1/10W			*****	
R1868	1-216-089-91	RES,CHIP	47K 5% 1/10W		*A-1632-775-A	A BOARD COMPLETE (KV-32WF3K)	
R1869	1-216-049-91	RES,CHIP	1K 5% 1/10W			*****	
R1871	1-216-069-00	RES,CHIP	6.8K 5% 1/10W			< CAPACITOR >	
R1878	1-216-009-00	RES,CHIP	22 5% 1/10W	C101	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R1879	1-216-049-91	RES,CHIP	1K 5% 1/10W	C102	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R1880	1-216-085-00	RES,CHIP	33K 5% 1/10W	C103	1-163-253-11	CERAMIC CHIP 120PF	5% 50V
R1881	1-216-065-91	RES,CHIP	4.7K 5% 1/10W			(KV-28WF3B/32WF3B)	
R1882	1-216-085-00	RES,CHIP	33K 5% 1/10W	C105	1-126-965-11	ELECT 22MF	20% 50V
R1885	1-216-049-91	RES,CHIP	1K 5% 1/10W	C111	1-126-964-11	ELECT 10MF	20% 50V
R1886	1-216-295-91	SHORT	0	C112	1-164-346-11	CERAMIC CHIP 1MF	16V
R1888	1-216-021-00	RES,CHIP	68 5% 1/10W	C114	1-164-346-11	CERAMIC CHIP 1MF	16V
R1890	1-216-295-91	SHORT	0	C116	1-126-967-11	ELECT 47MF	20% 16V
R1893	1-216-295-91	SHORT	0	C117	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
R1894	1-216-047-91	RES,CHIP	820 5% 1/10W	C118	1-126-967-11	ELECT 47MF	20% 16V
R1895	1-216-067-00	RES,CHIP	5.6K 5% 1/10W	C119	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
R1896	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C120	1-126-964-11	ELECT 10MF	20% 50V
R1897	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	C121	1-164-299-11	CERAMIC CHIP 0.22MF	10% 25V
R1901	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C122	1-164-346-11	CERAMIC CHIP 1MF	16V
R1902	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C126	1-126-967-11	ELECT 47MF	20% 16V
R1903	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C127	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
R1904	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C128	1-126-967-11	ELECT 47MF	20% 16V
R1905	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C129	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
R1906	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C130	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
R1907	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C131	1-164-346-11	CERAMIC CHIP 1MF	16V
R1908	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C132	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
R1909	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C133	1-164-346-11	CERAMIC CHIP 1MF	16V
R1910	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C134	1-126-964-11	ELECT 10MF	20% 50V
R1911	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C135	1-164-299-11	CERAMIC CHIP 0.22MF	10% 25V
R1912	1-216-059-00	RES,CHIP	2.7K 5% 1/10W	C136	1-126-964-11	ELECT 10MF	20% 50V
R1922	1-216-025-91	RES,CHIP	100 5% 1/10W	C137	1-164-506-11	CERAMIC CHIP 4.7MF	16V
R1928	1-216-115-00	RES,CHIP	560K 5% 1/10W	C140	1-164-506-11	CERAMIC CHIP 4.7MF	16V
R1934	1-216-115-00	RES,CHIP	560K 5% 1/10W	C141	1-164-506-11	CERAMIC CHIP 4.7MF	16V
				C143	1-163-249-11	CERAMIC CHIP 82PF	5% 50V
						(KV-28WF3B/32WF3B)	

A

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C144	1-163-227-11	CERAMIC CHIP 10PF	0.5PF 50V (KV-28WF3B/32WF3B)	C305	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C145	1-163-249-11	CERAMIC CHIP 82PF	5% 50V (KV-28WF3B/32WF3B)	C306	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C146	1-164-346-11	CERAMIC CHIP 1MF	16V	C307	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C150	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C308	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C151	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C309	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C152	1-126-964-11	ELECT 10MF	20% 50V	C310	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C153	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V	C311	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C154	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V	C312	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C155	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C313	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C156	1-164-506-11	CERAMIC CHIP 4.7MF	16V	C314	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C157	1-164-506-11	CERAMIC CHIP 4.7MF	16V	C315	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C159	1-164-505-11	CERAMIC CHIP 2.2MF	16V	C316	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C160	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C317	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C162	1-164-346-11	CERAMIC CHIP 1MF	16V	C318	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C163	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C319	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C164	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C320	1-165-320-11	CERAMIC CHIP 0.47MF	10% 16V
C165	1-164-346-11	CERAMIC CHIP 1MF	16V	C321	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C166	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C322	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C167	1-164-222-11	CERAMIC CHIP 0.22MF	25V	C323	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C200	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C324	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C201	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C325	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C202	1-164-506-11	CERAMIC CHIP 4.7MF	16V	C332	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C203	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C333	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C204	1-162-568-11	CERAMIC CHIP 0.33MF	10% 16V	C334	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C205	1-164-506-11	CERAMIC CHIP 4.7MF	16V	C335	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C206	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C336	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C207	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V	C337	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V
C208	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V	C338	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C209	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V	C339	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C210	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V	C340	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C211	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	C341	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C212	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	C342	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C213	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C343	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C214	1-164-506-11	CERAMIC CHIP 4.7MF	16V	C344	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C215	1-164-506-11	CERAMIC CHIP 4.7MF	16V	C345	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C216	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C346	1-164-505-11	CERAMIC CHIP 2.2MF	16V
C217	1-126-964-11	ELECT 10MF	20% 50V	C347	1-164-505-11	CERAMIC CHIP 2.2MF	16V
C218	1-126-964-11	ELECT 10MF	20% 50V	C350	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C219	1-163-131-00	CERAMIC CHIP 390PF	5% 50V	C351	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C220	1-163-131-00	CERAMIC CHIP 390PF	5% 50V	C355	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
C221	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	C356	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
C222	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	C357	1-163-241-11	CERAMIC CHIP 39PF	5% 50V
C223	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	C360	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
C224	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	C1001	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C227	1-165-320-11	CERAMIC CHIP 0.47MF	10% 16V	C1002	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C228	1-165-320-11	CERAMIC CHIP 0.47MF	10% 16V	C1003	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C229	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C1004	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C230	1-164-506-11	CERAMIC CHIP 4.7MF	16V	C1005	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C231	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V	C1006	1-165-321-11	CERAMIC CHIP 0.68MF	10% 16V
C232	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V	C1007	1-164-157-11	CERAMIC CHIP 0.068MF	10% 25V
C233	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C1010	1-126-933-11	ELECT 100MF	20% 16V
C234	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C1020	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C255	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C1021	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C303	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C1022	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C304	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C1035	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
				C1036	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C1037	1-163-243-11	CERAMIC CHIP 47PF	5% 50V

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C1038	1-163-243-11	CERAMIC CHIP 47PF	5% 50V			< DIODE >	
C1039	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D102	8-719-158-49	DIODE RD12SB2	
C1040	1-164-222-11	CERAMIC CHIP 0.22MF	25V	D103	8-719-158-49	DIODE RD12SB2	
C1041	1-164-222-11	CERAMIC CHIP 0.22MF	25V	D104	8-719-158-49	DIODE RD12SB2	
C1042	1-164-505-11	CERAMIC CHIP 2.2MF	16V	D105	8-719-158-49	DIODE RD12SB2	
C1043	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D199	8-719-914-43	DIODE DAN202K	
C1050	1-104-661-91	ELECT 330MF	20% 16V	D200	8-719-158-49	DIODE RD12SB2	
C1060	1-163-001-11	CERAMIC CHIP 220PF	10% 50V	D201	8-719-158-49	DIODE RD12SB2	
C1061	1-164-505-11	CERAMIC CHIP 2.2MF	16V	D202	8-719-158-49	DIODE RD12SB2	
C1101	1-164-506-11	CERAMIC CHIP 4.7MF	16V	D203	8-719-158-49	DIODE RD12SB2	
C1102	1-164-506-11	CERAMIC CHIP 4.7MF	16V	D204	8-719-158-49	DIODE RD12SB2	
C1103	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D205	8-719-158-49	DIODE RD12SB2	
C1104	1-164-506-11	CERAMIC CHIP 4.7MF	16V	D206	8-719-158-49	DIODE RD12SB2	
C1105	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	D207	8-719-158-49	DIODE RD12SB2	
C1106	1-164-346-11	CERAMIC CHIP 1MF	16V	D208	8-719-158-49	DIODE RD12SB2	
C1108	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	D209	8-719-158-49	DIODE RD12SB2	
C1109	1-163-037-11	CERAMIC CHIP 0.022MF	10% 50V	D210	8-719-158-49	DIODE RD12SB2	
C1110	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	D211	8-719-158-49	DIODE RD12SB2	
C1111	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	D212	8-719-158-49	DIODE RD12SB2	
C1112	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	D213	8-719-158-49	DIODE RD12SB2	
C1113	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	D214	8-719-158-49	DIODE RD12SB2	
C1115	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	D215	8-719-158-49	DIODE RD12SB2	
C1116	1-164-506-11	CERAMIC CHIP 4.7MF	16V	D217	8-719-158-49	DIODE RD12SB2	
C1301	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D218	8-719-158-49	DIODE RD12SB2	
C1306	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	D219	8-719-158-49	DIODE RD12SB2	
C1465	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	D220	8-719-158-49	DIODE RD12SB2	
C2001	1-164-506-11	CERAMIC CHIP 4.7MF	16V	D221	8-719-158-49	DIODE RD12SB2	
C2002	1-164-506-11	CERAMIC CHIP 4.7MF	16V	D301	8-719-401-41	DIODE MA3051L-TX	
C2004	1-164-506-11	CERAMIC CHIP 4.7MF	16V	D305	8-719-988-62	DIODE 1SS355	
C2005	1-164-506-11	CERAMIC CHIP 4.7MF	16V	D1007	8-719-914-44	DIODE DAP202K	
C2007	1-163-038-11	CERAMIC CHIP 0.1MF	25V	D1008	8-719-914-43	DIODE DAN202K	
C2020	1-164-222-11	CERAMIC CHIP 0.22MF	25V	D1009	8-719-105-91	DIODE RD5.6M-B2	
C2021	1-164-222-11	CERAMIC CHIP 0.22MF	25V	D1010	8-719-105-91	DIODE RD5.6M-B2	
C2023	1-163-038-11	CERAMIC CHIP 0.1MF	25V	D1012	8-719-914-43	DIODE DAN202K	
C2024	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D1403	8-719-988-62	DIODE 1SS355	
C2025	1-163-235-11	CERAMIC CHIP 22PF	5% 50V			< FERRITE BEAD >	
C2026	1-163-235-11	CERAMIC CHIP 22PF	5% 50V	FB101	1-414-235-11	INDUCTOR CHIP 0UH	
C2028	1-163-031-11	CERAMIC CHIP 0.01MF	50V	FB102	1-414-235-11	INDUCTOR CHIP 0UH	
C2029	1-164-222-11	CERAMIC CHIP 0.22MF	25V	FB2001	1-414-234-11	INDUCTOR CHIP 0UH	
C2030	1-163-251-11	CERAMIC CHIP 100PF	5% 50V			< ENCAPSULATED FILTER >	
C2031	1-164-222-11	CERAMIC CHIP 0.22MF	25V	FL102	1-236-071-11	ENCAPSULATED COMPONENT	
C2033	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	FL103	1-410-397-21	FERRITE 1.1UH	
C2034	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V	FL200	1-236-071-11	ENCAPSULATED COMPONENT	
		< FILTER >		FL201	1-233-764-21	FILTER	
CD1001	1-527-992-31	OSCILLATOR, CERAMIC		FL202	1-236-071-11	ENCAPSULATED COMPONENT	
CF200	1-409-327-00	TRAP, CERAMIC (6.5MHZ)		FL203	1-236-071-11	ENCAPSULATED COMPONENT	
		< CONNECTOR >		FL302	1-236-071-11	ENCAPSULATED COMPONENT	
CN101	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P		FL1001	1-236-071-11	ENCAPSULATED COMPONENT	
CN115	*1-564-524-11	PLUG, CONNECTOR 9P		FL1002	1-236-071-11	ENCAPSULATED COMPONENT	
CN201	1-766-296-11	CONNECTOR, DUAL SCART		FL1101	1-236-071-11	ENCAPSULATED COMPONENT	
CN2012	*1-564-525-11	PLUG, CONNECTOR 10P		FL1102	1-236-071-11	ENCAPSULATED COMPONENT	
CP101	1-473-953-11	ADAPTOR, IEC		FL2001	1-236-071-11	ENCAPSULATED COMPONENT	
				FL2003	1-236-071-11	ENCAPSULATED COMPONENT	



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
		< IC >					
IC101	8-752-068-45	IC CXA1855Q		Q1302	8-729-216-22	TRANSISTOR 2SA1162-G	
IC102	8-759-267-25	IC LM2940T-9.0		Q1303	8-729-216-22	TRANSISTOR 2SA1162-G	
IC104	8-759-514-57	IC BA7046F		Q1304	8-729-216-22	TRANSISTOR 2SA1162-G	
IC201	8-759-437-97	IC MSP3400C-PS-C6-T-S	(KV-28WF3A/28WF3D/ KV-32WF3A/32WF3D)	Q1305	8-729-216-22	TRANSISTOR 2SA1162-G	
	8-759-491-94	IC MSP3410D-PS-B4-T	(KV-28WF3B/28WF3E/28WF3K/ KV-32WF3B/32WF3E/32WF3K)	Q1306	8-729-216-22	TRANSISTOR 2SA1162-G	
IC302	8-759-447-68	IC TDA9143/N1		Q1311	8-729-620-06	TRANSISTOR 2SC3052-EF	
IC303	8-759-288-85	IC TDA4665T-T		Q1312	8-729-620-06	TRANSISTOR 2SC3052-EF	
IC304	8-759-439-60	IC TDA9170T		Q1313	8-729-216-22	TRANSISTOR 2SA1162-G	
IC1001	8-759-442-44	IC SDA30C164-2-GEG		Q2005	8-729-620-06	TRANSISTOR 2SC3052-EF	
IC1002	8-759-444-65	IC M27C4001-15C1-AE408		Q2006	1-801-806-11	TRANSISTOR DTC144EKA	
	1-750-797-11	SOCKET, PLCC (IC1002)		Q2007	1-801-806-11	TRANSISTOR DTC144EKA	
IC1003	8-759-378-21	IC ST24C16FB6				< RESISTOR >	
IC1004	8-759-259-18	IC MB3793-42PNF		JR201	1-216-063-91	RES,CHIP 3.9K 5%	1/10W
IC1006	8-759-988-13	IC LM393PS		JR202	1-216-063-91	RES,CHIP 3.9K 5%	1/10W
IC1101	8-752-383-01	IC CXD2053AS		JR1001	1-216-295-91	SHORT 0	
IC1303	8-759-385-76	IC MC14052BDR2	(KV-28WF3A/28WF3D/28WF3E/28WF3K/ KV-32WF3A/32WF3D/32WF3E/32WF3K)	JR1002	1-216-295-91	SHORT 0	
IC2001	8-759-438-62	IC SDA5275		JR1003	1-216-295-91	SHORT 0	
IC2004	8-759-483-52	IC HYB514400BJ-60		JR1004	1-216-295-91	SHORT 0	
		< COIL >		JR1008	1-216-025-91	RES,CHIP 100 5%	1/10W
L101	1-412-751-11	INDUCTOR 18UH	(KV-28WF3B/32WF3B)	JR1009	1-216-025-91	RES,CHIP 100 5%	1/10W
L321	1-412-006-31	INDUCTOR CHIP 10UH		JR1010	1-216-025-91	RES,CHIP 100 5%	1/10W
		< TRANSISTOR >		JR1011	1-216-025-91	RES,CHIP 100 5%	1/10W
Q102	8-729-620-06	TRANSISTOR 2SC3052-EF		JR1301	1-216-295-91	SHORT 0	(KV-28WF3B/32WF3B)
Q103	8-729-039-67	TRANSISTOR BSS83	(KV-28WF3B/32WF3B)	JR1302	1-216-295-91	SHORT 0	(KV-28WF3B/32WF3B)
Q104	8-729-620-06	TRANSISTOR 2SC3052-EF	(KV-28WF3B/32WF3B)	JR1405	1-216-295-91	SHORT 0	
Q106	8-729-216-22	TRANSISTOR 2SA1162-G	(KV-28WF3B/32WF3B)	R101	1-216-061-00	RES,CHIP 3.3K 5%	1/10W
Q107	8-729-216-22	TRANSISTOR 2SA1162-G		R102	1-216-025-91	RES,CHIP 100 5%	1/10W
				R103	1-216-025-91	RES,CHIP 100 5%	1/10W
Q108	8-729-620-06	TRANSISTOR 2SC3052-EF		R104	1-216-073-00	RES,CHIP 10K 5%	1/10W
Q109	8-729-216-22	TRANSISTOR 2SA1162-G		R106	1-216-033-00	RES,CHIP 220 5%	1/10W
Q110	8-729-038-96	TRANSISTOR IMZ1A-T109		R107	1-216-295-91	SHORT 0	(KV-28WF3A/28WF3D/28WF3E/28WF3K/ KV-32WF3A/32WF3D/32WF3E/32WF3K)
Q112	8-729-216-22	TRANSISTOR 2SA1162-G		R108	1-216-057-00	RES,CHIP 2.2K 5%	1/10W
Q113	8-729-216-22	TRANSISTOR 2SA1162-G		R109	1-216-085-00	RES,CHIP 33K 5%	1/10W
Q120	8-729-901-00	TRANSISTOR DTC124EK		R110	1-216-097-91	RES,CHIP 100K 5%	1/10W
Q200	8-729-620-06	TRANSISTOR 2SC3052-EF		R111	1-216-041-00	RES,CHIP 470 5%	1/10W
Q205	8-729-620-06	TRANSISTOR 2SC3052-EF		R112	1-216-041-00	RES,CHIP 470 5%	1/10W
Q301	8-729-620-06	TRANSISTOR 2SC3052-EF		R113	1-216-041-00	RES,CHIP 470 5%	1/10W
Q302	8-729-620-06	TRANSISTOR 2SC3052-EF		R114	1-216-311-00	RES,CHIP 6.8 5%	1/10W
Q315	8-729-038-96	TRANSISTOR IMZ1A-T109		R115	1-216-311-00	RES,CHIP 6.8 5%	1/10W
Q316	8-729-038-96	TRANSISTOR IMZ1A-T109		R116	1-216-311-00	RES,CHIP 6.8 5%	1/10W
Q317	8-729-038-96	TRANSISTOR IMZ1A-T109		R117	1-216-022-00	RES,CHIP 75 5%	1/10W
Q321	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R	(KV-28WF3A/28WF3D/28WF3E/28WF3K/ KV-32WF3A/32WF3D/32WF3E/32WF3K)	R118	1-216-022-00	RES,CHIP 75 5%	1/10W
Q322	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R	(KV-28WF3A/28WF3D/28WF3E/28WF3K/ KV-32WF3A/32WF3D/32WF3E/32WF3K)	R119	1-216-022-00	RES,CHIP 75 5%	1/10W
Q1001	8-729-620-06	TRANSISTOR 2SC3052-EF	(KV-28WF3B/32WF3B)	R120	1-216-022-00	RES,CHIP 75 5%	1/10W
Q1015	8-729-900-53	TRANSISTOR DTC114EK		R121	1-216-022-00	RES,CHIP 75 5%	1/10W
Q1101	8-729-620-06	TRANSISTOR 2SC3052-EF		R122	1-216-073-00	RES,CHIP 10K 5%	1/10W
Q1301	8-729-216-22	TRANSISTOR 2SA1162-G		R123	1-216-073-00	RES,CHIP 10K 5%	1/10W
				R124	1-216-113-00	RES,CHIP 470K 5%	1/10W
				R126	1-216-039-00	RES,CHIP 390 5%	1/10W
				R127	1-216-039-00	RES,CHIP 390 5%	1/10W
				R128	1-216-113-00	RES,CHIP 470K 5%	1/10W
				R129	1-216-643-11	METAL CHIP 470 0.50%	1/10W (KV-28WF3B/32WF3B)



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R130	1-216-039-00	RES,CHIP	390 5% 1/10W	R188	1-216-113-00	RES,CHIP	470K 5% 1/10W
R131	1-216-039-00	RES,CHIP	390 5% 1/10W	R189	1-218-755-11	METAL CHIP	130K 0.50% 1/10W
R132	1-216-089-91	RES,CHIP	47K 5% 1/10W	R190	1-216-075-00	RES,CHIP	12K 5% 1/10W
R133	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R191	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
R134	1-216-089-91	RES,CHIP	47K 5% 1/10W	R192	1-216-041-00	RES,CHIP	470 5% 1/10W
R135	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R193	1-216-041-00	RES,CHIP	470 5% 1/10W
R136	1-216-022-00	RES,CHIP	75 5% 1/10W	R194	1-216-041-00	RES,CHIP	470 5% 1/10W
R137	1-216-033-00	RES,CHIP	220 5% 1/10W	R195	1-216-073-00	RES,CHIP	10K 5% 1/10W
R138	1-216-022-00	RES,CHIP	75 5% 1/10W	R196	1-216-113-00	RES,CHIP	470K 5% 1/10W
R139	1-216-033-00	RES,CHIP	220 5% 1/10W	R197	1-216-073-00	RES,CHIP	10K 5% 1/10W
R141	1-216-033-00	RES,CHIP	220 5% 1/10W	R198	1-216-113-00	RES,CHIP	470K 5% 1/10W
R142	1-216-033-00	RES,CHIP	220 5% 1/10W	R199	1-216-081-00	RES,CHIP	22K 5% 1/10W
R143	1-216-025-91	RES,CHIP	100 5% 1/10W	R200	1-216-049-91	RES,CHIP	1K 5% 1/10W
R144	1-216-025-91	RES,CHIP	100 5% 1/10W	R201	1-216-049-91	RES,CHIP	1K 5% 1/10W
R148	1-216-643-11	METAL CHIP	470 0.50% 1/10W (KV-28WF3B/32WF3B)	R202	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
R149	1-216-073-00	RES,CHIP	10K 5% 1/10W (KV-28WF3B/32WF3B)	R203	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
R150	1-216-049-91	RES,CHIP	1K 5% 1/10W (KV-28WF3B/32WF3B)	R204	1-216-049-91	RES,CHIP	1K 5% 1/10W
R151	1-216-643-11	METAL CHIP	470 0.50% 1/10W (KV-28WF3B/32WF3B)	R205	1-216-037-00	RES,CHIP	330 5% 1/10W
R152	1-216-067-00	RES,CHIP	5.6K 5% 1/10W	R207	1-216-039-00	RES,CHIP	390 5% 1/10W
R153	1-216-311-00	RES,CHIP	6.8 5% 1/10W	R208	1-216-039-00	RES,CHIP	390 5% 1/10W
R154	1-216-067-00	RES,CHIP	5.6K 5% 1/10W	R213	1-216-025-91	RES,CHIP	100 5% 1/10W
R156	1-216-051-00	RES,CHIP	1.2K 5% 1/10W (KV-28WF3B/32WF3B)	R214	1-216-025-91	RES,CHIP	100 5% 1/10W
R157	1-216-025-91	RES,CHIP	100 5% 1/10W (KV-28WF3B/32WF3B)	R215	1-216-025-91	RES,CHIP	100 5% 1/10W
R159	1-216-304-11	RES,CHIP	3.3 5% 1/10W	R230	1-216-081-00	RES,CHIP	22K 5% 1/10W
R160	1-216-039-00	RES,CHIP	390 5% 1/10W	R272	1-216-295-91	SHORT	0
R162	1-216-089-91	RES,CHIP	47K 5% 1/10W	R311	1-216-095-00	RES,CHIP	82K 5% 1/10W
R163	1-216-039-00	RES,CHIP	390 5% 1/10W	R312	1-216-077-00	RES,CHIP	15K 5% 1/10W
R164	1-216-025-91	RES,CHIP	100 5% 1/10W	R313	1-216-025-91	RES,CHIP	100 5% 1/10W
R165	1-216-049-91	RES,CHIP	1K 5% 1/10W	R314	1-216-033-00	RES,CHIP	220 5% 1/10W
R166	1-216-039-00	RES,CHIP	390 5% 1/10W	R317	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
R167	1-216-039-00	RES,CHIP	390 5% 1/10W	R318	1-220-860-91	METAL	0
R168	1-216-067-00	RES,CHIP	5.6K 5% 1/10W	R321	1-216-073-00	RES,CHIP	10K 5% 1/10W (KV-32WF3A/32WF3D/32WF3E/32WF3K)
R169	1-216-067-00	RES,CHIP	5.6K 5% 1/10W	R322	1-216-073-00	RES,CHIP	10K 5% 1/10W (KV-32WF3A/32WF3D/32WF3E/32WF3K)
R170	1-216-021-00	RES,CHIP	68 5% 1/10W	R323	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
R171	1-216-021-00	RES,CHIP	68 5% 1/10W	R330	1-216-041-00	RES,CHIP	470 5% 1/10W
R172	1-216-021-00	RES,CHIP	68 5% 1/10W	R331	1-216-041-00	RES,CHIP	470 5% 1/10W
R173	1-216-021-00	RES,CHIP	68 5% 1/10W	R332	1-216-041-00	RES,CHIP	470 5% 1/10W
R174	1-216-051-00	RES,CHIP	1.2K 5% 1/10W	R333	1-216-041-00	RES,CHIP	470 5% 1/10W
R175	1-216-089-91	RES,CHIP	47K 5% 1/10W	R334	1-216-041-00	RES,CHIP	470 5% 1/10W
R176	1-216-049-91	RES,CHIP	1K 5% 1/10W	R335	1-216-041-00	RES,CHIP	470 5% 1/10W
R177	1-216-089-91	RES,CHIP	47K 5% 1/10W	R336	1-216-041-00	RES,CHIP	470 5% 1/10W
R178	1-216-089-91	RES,CHIP	47K 5% 1/10W	R337	1-216-041-00	RES,CHIP	470 5% 1/10W
R179	1-216-113-00	RES,CHIP	470K 5% 1/10W	R338	1-216-041-00	RES,CHIP	470 5% 1/10W
R180	1-216-113-00	RES,CHIP	470K 5% 1/10W	R340	1-216-017-91	RES,CHIP	47 5% 1/10W
R181	1-216-071-00	RES,CHIP	8.2K 5% 1/10W	R341	1-216-025-91	RES,CHIP	100 5% 1/10W
R182	1-216-071-00	RES,CHIP	8.2K 5% 1/10W	R342	1-216-025-91	RES,CHIP	100 5% 1/10W
R183	1-216-033-00	RES,CHIP	220 5% 1/10W	R345	1-216-025-91	RES,CHIP	100 5% 1/10W
R184	1-216-033-00	RES,CHIP	220 5% 1/10W	R351	1-216-037-00	RES,CHIP	330 5% 1/10W
R185	1-216-033-00	RES,CHIP	220 5% 1/10W	R352	1-216-049-91	RES,CHIP	1K 5% 1/10W
R186	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R353	1-216-041-00	RES,CHIP	470 5% 1/10W
R187	1-216-107-00	RES,CHIP	270K 5% 1/10W	R355	1-216-284-00	RES,CHIP	3.9M 5% 1/8W
				R374	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R375	1-216-308-00	RES,CHIP	4.7 5% 1/10W
				R1001	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R1011	1-216-295-91	SHORT	0



REF. NO.	PART. NO	DESCRIPTION	REMARK	REF. NO.	PART. NO	DESCRIPTION	REMARK
R1012	1-216-041-00	RES,CHIP	470 5% 1/10W	R2002	1-216-049-91	RES,CHIP	1K 5% 1/10W
R1030	1-216-073-00	RES,CHIP	10K 5% 1/10W	R2003	1-216-097-91	RES,CHIP	100K 5% 1/10W
R1033	1-216-295-91	SHORT	0	R2019	1-216-049-91	RES,CHIP	1K 5% 1/10W
R1034	1-216-073-00	RES,CHIP	10K 5% 1/10W	R2020	1-216-041-00	RES,CHIP	470 5% 1/10W
R1036	1-216-049-91	RES,CHIP	1K 5% 1/10W	R2021	1-216-073-00	RES,CHIP	10K 5% 1/10W
R1037	1-216-049-91	RES,CHIP	1K 5% 1/10W	R2022	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R1038	1-216-049-91	RES,CHIP	1K 5% 1/10W	R2023	1-216-063-91	RES,CHIP	3.9K 5% 1/10W
R1039	1-216-049-91	RES,CHIP	1K 5% 1/10W	R2024	1-216-049-91	RES,CHIP	1K 5% 1/10W
R1040	1-216-049-91	RES,CHIP	1K 5% 1/10W	R2025	1-216-025-91	RES,CHIP	100 5% 1/10W
R1041	1-216-049-91	RES,CHIP	1K 5% 1/10W	R2026	1-216-025-91	RES,CHIP	100 5% 1/10W
R1042	1-216-025-91	RES,CHIP	100 5% 1/10W	R2027	1-216-049-91	RES,CHIP	1K 5% 1/10W
R1044	1-216-025-91	RES,CHIP	100 5% 1/10W	R2028	1-216-009-00	RES,CHIP	22 5% 1/10W
R1045	1-216-073-00	RES,CHIP	10K 5% 1/10W	R2031	1-216-017-91	RES,CHIP	47 5% 1/10W
R1046	1-216-025-91	RES,CHIP	100 5% 1/10W	R2032	1-216-017-91	RES,CHIP	47 5% 1/10W
R1050	1-216-049-91	RES,CHIP	1K 5% 1/10W	R2033	1-216-017-91	RES,CHIP	47 5% 1/10W
R1051	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R2034	1-216-295-91	SHORT	0
R1052	1-216-033-00	RES,CHIP	220 5% 1/10W	R2035	1-216-017-91	RES,CHIP	47 5% 1/10W
R1053	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R2037	1-216-049-91	RES,CHIP	1K 5% 1/10W
R1056	1-216-049-91	RES,CHIP	1K 5% 1/10W	R2040	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R1060	1-216-049-91	RES,CHIP	1K 5% 1/10W	R2041	1-216-025-91	RES,CHIP	100 5% 1/10W
R1061	1-216-049-91	RES,CHIP	1K 5% 1/10W	< TUNER >			
R1062	1-216-049-91	RES,CHIP	1K 5% 1/10W	TU101	1-693-338-11	TUNER/VIF (AEP)	
R1063	1-216-073-00	RES,CHIP	10K 5% 1/10W			(KV-28WF3A/28WF3D/28WF3E/28WF3K/ KV-32WF3A/32WF3D/32WF3E/32WF3K)	
R1070	1-216-295-91	SHORT	0		1-693-340-11	TUNER/VIF (FR)	(KV-28WF3B/32WF3B)
R1071	1-216-295-91	SHORT	0	< CRYSTAL >			
R1075	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	X200	1-760-628-11	VIBRATOR, CRYSTAL	
R1076	1-216-073-00	RES,CHIP	10K 5% 1/10W	X301	1-567-505-11	OSCILLATOR, CRYSTAL	
R1077	1-216-073-00	RES,CHIP	10K 5% 1/10W	X302	1-567-504-11	OSCILLATOR, CRYSTAL	
R1078	1-216-073-00	RES,CHIP	10K 5% 1/10W	X1001	1-760-551-21	VIBRATOR, CERAMIC	
R1079	1-216-075-00	RES,CHIP	12K 5% 1/10W	X1101	1-767-342-21	VIBRATOR, CRYSTAL	
R1101	1-216-025-91	RES,CHIP	100 5% 1/10W	*****			
R1102	1-216-025-91	RES,CHIP	100 5% 1/10W	*A-1636-030-A	G BOARD COMPLETE	(KV-28WF3A/28WF3B/28WF3D/ KV-28WF3E/28WF3K)	
R1103	1-216-025-91	RES,CHIP	100 5% 1/10W	*A-1636-031-A	G BOARD COMPLETE	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)	
R1104	1-216-025-91	RES,CHIP	100 5% 1/10W	*4-203-609-01	HOLDER, G		
R1105	1-216-073-00	RES,CHIP	10K 5% 1/10W	4-382-854-11	SCREW (M3X10), P, SW (+)		
R1106	1-216-001-00	RES,CHIP	10 5% 1/10W	< CAPACITOR >			
R1107	1-216-025-91	RES,CHIP	100 5% 1/10W	C602	1-165-127-11	CERAMIC	470PF 10% 500V
R1108	1-216-013-00	RES,CHIP	33 5% 1/10W	C603	1-165-127-11	CERAMIC	470PF 10% 500V
R1109	1-216-005-00	RES,CHIP	15 5% 1/10W	C604	1-136-171-00	FILM	0.33MF 5% 50V
R1110	1-216-025-91	RES,CHIP	100 5% 1/10W	C605	1-137-399-11	FILM	0.1MF 5% 50V
R1111	1-216-085-00	RES,CHIP	33K 5% 1/10W	C606	1-136-171-00	FILM	0.33MF 5% 50V
R1112	1-216-025-91	RES,CHIP	100 5% 1/10W	C607	1-137-399-11	FILM	0.1MF 5% 50V
R1113	1-216-025-91	RES,CHIP	100 5% 1/10W	C608	1-164-625-11	CERAMIC	680PF 10% 500V
R1115	1-216-009-00	RES,CHIP	22 5% 1/10W	C609	1-129-718-00	FILM	0.022MF 5% 630V
R1301	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	C610	1-126-953-11	ELECT	2200MF 20% 35V
R1302	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	C611	1-126-953-11	ELECT	2200MF 20% 35V
R1303	1-216-037-00	RES,CHIP	330 5% 1/10W	C612	1-104-665-11	ELECT	100MF 20% 25V
R1304	1-216-037-00	RES,CHIP	330 5% 1/10W	C613	1-128-548-11	ELECT	4700MF 20% 25V
R1305	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	C614	1-128-548-11	ELECT	4700MF 20% 25V
R1306	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	C615	1-110-626-11	ELECT	330MF 20% 160V
R1325	1-216-009-00	RES,CHIP	22 5% 1/10W	C616	1-164-625-11	CERAMIC	680PF 10% 500V
R1340	1-216-037-00	RES,CHIP	330 5% 1/10W				
R1341	1-216-017-91	RES,CHIP	47 5% 1/10W				
R1342	1-216-017-91	RES,CHIP	47 5% 1/10W				
R1344	1-216-037-00	RES,CHIP	330 5% 1/10W				
R1455	1-216-284-00	RES,CHIP	3.9M 5% 1/8W				
R2001	1-216-025-91	RES,CHIP	100 5% 1/10W				

The components identified by shading and marked  $\Delta$  are critical for safety  
 Replace only with the part number specified.



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C617	1-136-559-11	MYLAR	0.0047MF 10% 400V	D625	8-719-911-19	DIODE 1SS119-25	
C618	1-104-989-91	FILM	0.0022MF 5% 200V	D626	8-719-911-19	DIODE 1SS119-25	
C621	$\Delta$ 1-136-527-12	FILM	0.47MF 20% 300V	D627	8-719-911-19	DIODE 1SS119-25	
C622	$\Delta$ 1-136-415-51	FILM	0.33MF 20% 300V	D628	8-719-911-19	DIODE 1SS119-25	
C624	$\Delta$ 1-113-907-51	CERAMIC	0.0022MF 99% 250V	D629	8-719-991-33	DIODE 1SS133T-77	
C626	$\Delta$ 1-113-907-51	CERAMIC	0.0022MF 99% 250V	D634	8-719-510-64	DIODE S2LA20F	
C627	1-126-767-11	ELECT	1000MF 20% 16V	D635	8-719-991-33	DIODE 1SS133T-77	
C628	1-104-665-11	ELECT	100MF 20% 25V	D636	8-719-511-40	DIODE S1VB40	
C629	1-162-599-12	CERAMIC	0.0047MF 250V	D637	8-719-991-33	DIODE 1SS133T-77	
C630	1-162-599-12	CERAMIC	0.0047MF 250V	D638	8-719-991-33	DIODE 1SS133T-77	
C631	$\Delta$ 1-162-599-12	CERAMIC	0.0047MF 250V	D642	8-719-510-64	DIODE D1NL20-TR	
C632	1-535-143-11	LEAD, JUMPER (10.0MM)				< FERRITE BEAD >	
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)					
	$\Delta$ 1-161-744-00	CERAMIC	0.01MF 400V				
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
C633	1-125-555-11	ELECT(BLOCK)	330MF 20% 400V	FB601	1-410-396-41	FERRITE	0.45UH
C634	1-535-143-31	LEAD, JUMPER (15.0MM)		FB602	1-410-396-41	FERRITE	0.45UH
C635	1-136-165-00	FILM	0.1MF 5% 50V	FB603	1-410-396-41	FERRITE	0.45UH
C636	1-136-165-00	FILM	0.1MF 5% 50V	FB604	1-410-396-41	FERRITE	0.45UH
C642	$\Delta$ 1-161-744-00	CERAMIC	0.01MF 400V			< IC >	
C648	1-101-001-00	CERAMIC	0.001MF 50V	IC601	1-810-051-11	POWER MODULE DM-48	
C650	1-126-964-11	ELECT	10MF 20% 50V	IC602	$\Delta$ 8-749-010-64	PHOTO COUPLER PC123F2	
C651	1-136-171-00	FILM	0.33MF 5% 50V	IC605	8-759-510-52	IC L4941BV	
C662	1-126-943-11	ELECT	2200MF 20% 25V			< COIL >	
C663	1-126-964-11	ELECT	10MF 20% 50V	L604	1-535-303-00	LEAD, JUMPER (5.0MM)	
C664	1-102-129-00	CERAMIC	0.01MF 10% 50V	L605	1-412-526-11	INDUCTOR 12UH	
C665	1-126-940-11	ELECT	330MF 20% 25V	L605	1-412-526-11	INDUCTOR 12UH	
		< CONNECTOR >		L606	1-412-526-11	INDUCTOR 12UH	
CN0008	$\Delta$ 1-508-786-00	PIN, CONNECTOR (5MM PITCH)	2P			< TRANSFORMER >	
CN0009	$\Delta$ 1-508-765-00	PIN, CONNECTOR (5MM PITCH)	3P				
CN0010	$\Delta$ 1-508-765-00	PIN, CONNECTOR (5MM PITCH)	3P				
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		LF602	$\Delta$ 1-429-860-11	TRANSFORMER, LINE FILTER	
CN0701	1-573-299-21	CONNECTOR, BOARD TO BOARD	10P			< IC LINK >	
CN0702	1-695-300-11	CONNECTOR, BOARD TO BOARD	20P	PS601	$\Delta$ 1-801-550-21	PROTECTOR MODULE 2.5 Amp (MP-250)	
CN0703	$\Delta$ *1-691-291-11	PIN, CONNECTOR (PC BOARD)	5P	PS602	$\Delta$ 1-801-550-21	PROTECTOR MODULE 2.5 Amp (MP-250)	
		< DIODE >		PS604	$\Delta$ 1-801-550-21	PROTECTOR MODULE 2.5 Amp (MP-250)	
D601	8-719-510-53	DIODE D4SB60L-L		PS605	$\Delta$ 1-801-549-21	PROTECTOR MODULE 4.0 Amp (MP-400)	
D602	8-719-991-33	DIODE 1SS133T-77				< TRANSISTOR >	
D603	8-719-109-89	DIODE RD5.6ESB2		Q601	8-729-032-87	TRANSISTOR 2SC4834NP-F09	
D604	1-535-303-00	LEAD, JUMPER (5.0MM)		Q602	8-729-032-87	TRANSISTOR 2SC4834NP-F09	
D605	8-719-047-31	DIODE RBA-402L		Q603	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D607	8-719-510-12	DIODE D10SC4M		Q604	8-729-200-21	TRANSISTOR 2SC2500-B	
D608	8-719-510-12	DIODE D10SC4M		Q605	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D609	8-719-047-31	DIODE RBA-402L		Q608	8-729-200-21	TRANSISTOR 2SC2500-B	
D610	8-719-312-39	DIODE R2K-V1		Q610	8-729-119-76	TRANSISTOR 2SA1175-HFE	
D611	8-719-510-64	DIODE S2LA20F		Q611	8-729-119-78	TRANSISTOR 2SC2785-HFE	
D614	8-719-911-19	DIODE 1SS119-25		Q612	8-729-119-76	TRANSISTOR 2SA1175-HFE	
D615	8-719-911-19	DIODE 1SS119-25		Q615	8-729-200-21	TRANSISTOR 2SC2500-B	
D616	8-719-911-19	DIODE 1SS119-25		Q621	8-729-200-21	TRANSISTOR 2SC2500-B	
D617	8-719-911-19	DIODE 1SS119-25				< RESISTOR >	
D618	8-719-911-19	DIODE 1SS119-25		R601	1-202-933-61	FUSIBLE 0.1 10% 1/2W F	
D619	8-719-911-19	DIODE 1SS119-25		R604	1-216-369-00	METAL OXIDE 1 5% 2W F	
D620	8-719-911-19	DIODE 1SS119-25		R607	1-216-369-00	METAL OXIDE 1 5% 2W F	
D621	8-719-911-19	DIODE 1SS119-25		R608	1-247-887-00	CARBON 220K 5% 1/4W	
D622	8-719-510-64	DIODE S2LA20F		R609	1-249-429-11	CARBON 10K 5% 1/4W F	

The components identified by shading and marked  $\Delta$  are critical for safety  
 Replace only with the part number specified.



REF. NO.	PART.NO	DESCRIPTION	REMARK
R610	1-249-419-11	CARBON	1.5K 5% 1/4W F
R611	1-249-377-11	CARBON	0.47 5% 1/4W F
R614	1-247-807-31	CARBON	100 5% 1/4W
R616	$\Delta$ 1-202-961-11	CEMENTED	1.8 5% 10W
R618	$\Delta$ 1-202-961-11	CEMENTED	1.8 5% 10W
R619	$\Delta$ 1-214-937-00	CARBON	1M 5% 1/2W
R620	$\Delta$ 1-218-265-11	METAL	8.2M 5% 1W
R621	1-249-417-11	CARBON	1K 5% 1/4W F
R622	1-249-421-11	CARBON	2.2K 5% 1/4W
R623	1-249-430-11	CARBON	12K 5% 1/4W
R624	1-249-425-11	CARBON	4.7K 5% 1/4W
R625	1-247-815-91	CARBON	220 5% 1/4W
R626	1-247-863-91	CARBON	22K 5% 1/4W
R627	1-247-815-91	CARBON	220 5% 1/4W
R628	1-247-885-00	CARBON	180K 5% 1/4W
R636	1-207-905-00	WIREWOUND	0.27 10% 2W F
R639	1-247-791-91	CARBON	22 5% 1/4W
R640	1-247-791-91	CARBON	22 5% 1/4W
R641	1-247-791-91	CARBON	22 5% 1/4W
R642	1-247-791-91	CARBON	22 5% 1/4W
R651	1-215-880-00	METAL OXIDE	10 5% 2W F
R652	1-247-891-00	CARBON	330K 5% 1/4W
R653	1-247-891-00	CARBON	330K 5% 1/4W
R654	1-247-891-00	CARBON	330K 5% 1/4W
R655	1-247-891-00	CARBON	330K 5% 1/4W
R656	1-249-439-11	CARBON	68K 5% 1/4W
R657	1-249-429-11	CARBON	10K 5% 1/4W
R658	1-249-421-11	CARBON	2.2K 5% 1/4W
R659	1-249-425-11	CARBON	4.7K 5% 1/4W
R660	1-249-429-11	CARBON	10K 5% 1/4W
R661	1-249-421-11	CARBON	2.2K 5% 1/4W
R662	1-249-421-11	CARBON	2.2K 5% 1/4W
R663	1-249-429-11	CARBON	10K 5% 1/4W
R664	1-249-429-11	CARBON	10K 5% 1/4W
R667	1-249-377-11	CARBON	0.47 5% 1/4W F
R670	1-249-421-11	CARBON	2.2K 5% 1/4W
R682	1-247-688-11	CARBON	10 5% 1/4W F
< RELAY >			
RY601	$\Delta$ 1-755-167-11	RELAY, AC POWER	
RY602	$\Delta$ 1-755-167-11	RELAY, AC POWER	
< TRANSFORMER >			
T601	$\Delta$ 1-429-844-11	TRANSFORMER, CONVERTER (PIT)	
T602	$\Delta$ 1-427-864-11	TRANSFORMER, CONVERTER (PRT)	
T603	$\Delta$ 1-429-952-11	TRANSFORMER, POWER	
< THERMISTOR >			
THP601	$\Delta$ 1-809-827-11	THERMISTOR, POSITIVE	
VDR601	1-810-977-21	VARISTOR ERZV10D621	
VDR601	1-810-977-21	VARISTOR ERZV10D621	

REF. NO.	PART.NO	DESCRIPTION	REMARK
*A-1638-092-A	C BOARD COMPLETE	*****	
< CAPACITOR >			
C701	1-107-666-11	ELECT	1MF 20% 350V
C702	1-107-666-11	ELECT	1MF 20% 350V
C703	1-107-666-11	ELECT	1MF 20% 350V
C704	1-102-129-00	CERAMIC	0.01MF 10% 50V
C705	1-126-935-11	ELECT	470MF 20% 16V
C706	1-126-935-11	ELECT	470MF 20% 16V
C708	1-126-935-11	ELECT	470MF 20% 16V
C709	1-102-157-00	CERAMIC	560PF 10% 500V
C710	1-102-157-00	CERAMIC	560PF 10% 500V
C711	1-102-157-00	CERAMIC	560PF 10% 500V
C712	1-126-965-11	ELECT	22MF 20% 50V
C713	1-162-116-00	CERAMIC	680PF 10% 2KV
C714	1-162-115-00	CERAMIC	330PF 10% 2KV
C716	1-162-116-00	CERAMIC	680PF 10% 2KV
C717	1-102-129-00	CERAMIC	0.01MF 10% 50V
C718	1-102-129-00	CERAMIC	0.01MF 10% 50V
C719	1-126-960-11	ELECT	1MF 20% 50V
C720	1-107-652-11	ELECT	10MF 20% 250V
C723	1-162-116-00	CERAMIC	680PF 10% 2KV
< CONNECTOR >			
CN0004	1-695-915-11	TAB (CONTACT)	
CN0403	*1-564-512-11	PLUG, CONNECTOR 9P	
CN0421	*1-508-767-00	PIN, CONNECTOR (5MM PITCH) 5P	
< DIODE >			
D701	8-719-991-33	DIODE 1SS133T-77	
D702	8-719-901-83	DIODE 1SS83	
D703	8-719-901-83	DIODE 1SS83	
D704	8-719-901-83	DIODE 1SS83	
D705	8-719-991-33	DIODE 1SS133T-77	
D706	8-719-908-03	DIODE GP08D	
D707	8-719-991-33	DIODE 1SS133T-77	
D712	8-719-923-60	DIODE MTZJ-T-77-9.1A	
D714	8-719-921-88	DIODE MTZJ-13B	
D715	8-719-911-19	DIODE 1SS119-25T	
D716	8-719-911-19	DIODE 1SS119-25T	
D717	8-719-911-19	DIODE 1SS119-25T	
D718	8-719-982-96	DIODE MTZJ-T-77-2.2A	
D719	8-719-982-96	DIODE MTZJ-T-77-2.2A	
D720	8-719-901-83	DIODE 1SS83	
D721	8-719-901-83	DIODE 1SS83	
D722	8-719-901-83	DIODE 1SS83	
D723	8-719-901-83	DIODE 1SS83	
D724	8-719-031-34	DIODE RGP02-20EG23	
< IC >			
IC703	8-759-360-83	IC TDA6111Q/N4	
IC704	4-382-854-11	SCREW (M3X10), P, SW (+) (IC703)	
IC704	8-759-360-83	IC TDA6111Q/N4	
IC704	4-382-854-11	SCREW (M3X10), P, SW (+) (IC704)	
IC705	8-759-360-83	IC TDA6111Q/N4	
IC705	4-382-854-11	SCREW (M3X10), P, SW (+) (IC705)	

The components identified by shading and marked  $\Delta$  are critical for safety  
 Replace only with the part number specified.



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
< CRT SOCKET >				R741	1-202-884-11	SOLID 820K 20%	1/2W
J701	$\Delta$ 1-526-990-21	SOCKET, CRT		R743	1-202-884-11	SOLID 820K 20%	1/2W
< COIL >				R748	1-216-349-00	METAL OXIDE 1 5%	1W F
L701	1-410-671-31	INDUCTOR 47UH		R749	1-216-349-00	METAL OXIDE 1 5%	1W F
L704	1-408-599-31	INDUCTOR 4.7UH		R750	1-249-429-11	CARBON 10K 5%	1/4W
L705	1-408-599-31	INDUCTOR 4.7UH		R751	1-249-438-11	CARBON 56K 5%	1/4W
L706	1-408-599-31	INDUCTOR 4.7UH		R752	1-249-417-11	CARBON 1K 5%	1/4W F
L709	1-408-603-31	INDUCTOR 10UH		R753	1-215-911-11	METAL OXIDE 100 5%	3W F
L710	1-412-528-11	INDUCTOR 18UH		R754	1-202-841-00	SOLID 180K 20%	1/2W
< TRANSISTOR >				R755	1-249-429-11	CARBON 10K 5%	1/4W
Q701	8-729-255-12	TRANSISTOR 2SC25510		R756	1-249-432-11	CARBON 18K 5%	1/4W
Q702	8-729-255-12	TRANSISTOR 2SC25510		R757	1-249-431-11	CARBON 15K 5%	1/4W
Q703	8-729-255-12	TRANSISTOR 2SC25510		< VARIABLE RESISTOR >			
Q704	8-729-119-76	TRANSISTOR 2SA1175-HFE		RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
Q705	8-729-029-56	TRANSISTOR DTA144ESA		RV704	1-241-656-21	RES, ADJ, METAL FILM 110M	
Q706	8-729-119-78	TRANSISTOR 2SC2785-HFE		*****			
Q707	8-729-119-76	TRANSISTOR 2SA1175-HFE		*A-1640-244-A	D BOARD COMPLETE	(KV-28WF3A/28WF3B/28WF3D/ KV-28WF3E/28WF3K)	
< RESISTOR >				*A-1640-305-A	D BOARD COMPLETE	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)	
R701	1-249-420-11	CARBON 1.8K 5%	1/4W	4-200-399-01	SPACER, IC		
R702	1-249-425-11	CARBON 4.7K 5%	1/4W	4-201-023-01	SPACER, INSULATING		
R703	1-249-435-11	CARBON 33K 5%	1/4W	4-202-373-01	SPRING, IC		
R704	1-249-429-11	CARBON 10K 5%	1/4W	4-202-710-01	SPACER, INSULATING		
R705	1-249-430-11	CARBON 12K 5%	1/4W	4-382-854-11	SCREW (M3X10), P, SW (+)		
R706	1-247-863-91	CARBON 22K 5%	1/4W	< CAPACITOR >			
R707	1-247-863-91	CARBON 22K 5%	1/4W	C101	1-126-965-11	ELECT 22MF 20%	50V
R708	1-247-863-91	CARBON 22K 5%	1/4W	C236	1-136-165-00	FILM 0.1MF 5%	50V
R709	1-249-416-11	CARBON 820 5%	1/4W	C237	1-136-165-00	FILM 0.1MF 5%	50V
R710	1-249-416-11	CARBON 820 5%	1/4W	C238	1-126-967-11	ELECT 47MF 20%	16V
R711	1-249-416-11	CARBON 820 5%	1/4W	C241	1-126-967-11	ELECT 47MF 20%	16V
R712	1-249-421-11	CARBON 2.2K 5%	1/4W	C242	1-126-953-11	ELECT 2200MF 20%	35V
R713	1-249-417-11	CARBON 1K 5%	1/4W	C243	1-136-165-00	FILM 0.1MF 5%	50V
R714	1-249-417-11	CARBON 1K 5%	1/4W	C244	1-126-953-11	ELECT 2200MF 20%	35V
R715	1-249-417-11	CARBON 1K 5%	1/4W	C245	1-136-165-00	FILM 0.1MF 5%	50V
R716	1-249-417-11	CARBON 1K 5%	1/4W	C260	1-126-933-11	ELECT 100MF 20%	16V
R717	1-249-417-11	CARBON 1K 5%	1/4W	C261	1-126-933-11	ELECT 100MF 20%	16V
R718	1-249-417-11	CARBON 1K 5%	1/4W	C262	1-104-665-11	ELECT 100MF 20%	25V
R719	1-249-417-11	CARBON 1K 5%	1/4W	C263	1-136-165-00	FILM 0.1MF 5%	50V
R720	1-215-926-00	METAL OXIDE 33K 5%	3W F	C264	1-104-661-91	ELECT 330MF 20%	16V
R721	1-215-926-00	METAL OXIDE 33K 5%	3W F	C265	1-136-165-00	FILM 0.1MF 5%	50V
R722	1-215-926-00	METAL OXIDE 33K 5%	3W F	C266	1-104-665-11	ELECT 100MF 20%	25V
R723	1-249-408-11	CARBON 180 5%	1/4W	C267	1-162-318-11	CERAMIC 0.001MF 10%	500V
R724	1-249-408-11	CARBON 180 5%	1/4W	C268	1-162-318-11	CERAMIC 0.001MF 10%	500V
R725	1-249-408-11	CARBON 180 5%	1/4W	C269	1-126-967-11	ELECT 47MF 20%	16V
R726	1-202-565-00	SOLID 470 20%	1/2W	C271	1-126-965-11	ELECT 22MF 20%	50V
R727	1-202-565-00	SOLID 470 20%	1/2W	C273	1-136-161-00	FILM 0.047MF 5%	50V
R728	1-202-565-00	SOLID 470 20%	1/2W	C274	1-126-961-11	ELECT 2.2MF 20%	50V
R729	1-249-424-11	CARBON 3.9K 5%	1/4W	C275	1-126-961-11	ELECT 2.2MF 20%	50V
R730	1-249-424-11	CARBON 3.9K 5%	1/4W	C276	1-126-967-11	ELECT 47MF 20%	16V
R731	1-249-424-11	CARBON 3.9K 5%	1/4W	C277	1-126-934-11	ELECT 220MF 20%	16V
R732	1-202-549-00	SOLID 100 20%	1/2W	C278	1-107-714-11	ELECT 10MF 20%	16V
R733	1-247-863-91	CARBON 22K 5%	1/4W	C280	1-136-169-00	FILM 0.22MF 5%	50V
R734	1-202-549-00	SOLID 100 20%	1/2W	C281	1-126-967-11	ELECT 47MF 20%	16V
R735	1-249-416-11	CARBON 820 5%	1/4W				

D

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C283	1-136-169-00	FILM	0.22MF 5% 50V	C848	1-162-129-00	CERAMIC 150PF 10% 2KV (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C286	1-126-968-11	ELECT	100MF 20% 50V	C849	1-162-129-00	CERAMIC 150PF 10% 2KV (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C620	1-126-964-11	ELECT	10MF 20% 50V	C851	1-129-702-00	FILM 0.001MF 10% 400V	
C639	1-126-964-11	ELECT	10MF 20% 50V	C852	1-126-968-11	ELECT 100MF 20% 50V	
C652	1-136-171-00	FILM	0.33MF 5% 50V	C854	1-102-129-00	CERAMIC 0.01MF 10% 50V	
C653	1-126-965-11	ELECT	22MF 20% 50V	C855	1-126-941-11	ELECT 470MF 20% 25V	
C654	1-104-664-11	ELECT	47MF 20% 25V	C856	1-102-129-00	CERAMIC 0.01MF 10% 50V	
C655	1-104-664-11	ELECT	47MF 20% 25V	C857	1-126-941-11	ELECT 470MF 20% 25V	
C656	1-126-967-11	ELECT	47MF 20% 16V	C860	1-106-220-00	MYLAR 0.1MF 10% 100V	
C657	1-136-165-00	FILM	0.1MF 5% 50V	C861	1-137-423-11	MYLAR 0.15MF 10% 100V	
C658	1-136-165-00	FILM	0.1MF 5% 50V	C862	1-130-789-00	FILM 1MF 5% 100V	
C659	1-136-165-00	FILM	0.1MF 5% 50V	C863	1-136-165-00	FILM 0.1MF 5% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C660	1-136-164-00	FILM	0.082MF 5% 50V	C866	1-137-040-11	FILM 0.0022MF 10% 400V	
C666	1-104-661-91	ELECT	330MF 20% 16V	C871	1-110-189-81	MYLAR 0.0082MF 10% 400V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
C667	1-136-165-00	FILM	0.1MF 5% 50V	C872	1-110-175-81	MYLAR 0.1MF 10% 100V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
C668	1-136-165-00	FILM	0.1MF 5% 50V	C873	1-162-115-00	CERAMIC 330PF 10% 2KV (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C669	1-126-933-11	ELECT	100MF 20% 16V	C874	1-164-645-11	CERAMIC 1000PF 10% 500V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
C670	1-136-165-00	FILM	0.1MF 5% 50V		1-137-493-11	FILM 0.0047MF 5% 630V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C671	1-136-165-00	FILM	0.1MF 5% 50V	C876	1-136-298-00	FILM 0.0033MF 2% 100V	
C672	1-126-967-11	ELECT	47MF 20% 16V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	C878	1-110-175-81	MYLAR 0.1MF 10% 100V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
C801	1-123-024-21	ELECT	33MF 160V	C879	1-102-973-00	CERAMIC 100PF 5% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C802	1-136-207-11	FILM	0.047MF 10% 250V	C891	1-137-040-11	FILM 0.0022MF 10% 400V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C805	1-102-212-00	CERAMIC	820PF 10% 500V	C894	1-102-978-00	CERAMIC 220PF 5% 50V	
C807	1-162-129-00	CERAMIC	150PF 10% 2KV	C900	1-101-810-00	CERAMIC 100PF 5% 500V	
C808	1-162-116-00	CERAMIC	680PF 10% 2KV	C901	1-101-810-00	CERAMIC 100PF 5% 500V	
C809	1-162-116-00	CERAMIC	680PF 10% 2KV	C902	1-137-372-11	FILM 0.022MF 5% 50V	
C810	1-136-558-11	FILM	0.0039MF 10% 400V	C902	1-137-372-11	FILM 0.022MF 5% 50V	
C811	1-109-948-11	FILM	0.015MF 3% 2.5KV	C905	1-126-964-11	ELECT 10MF 20% 50V	
C812	1-129-720-00	FILM	0.033MF 5% 630V	C907	1-126-960-11	ELECT 1MF 20% 50V	
C813	1-109-844-11	FILM	0.68MF 5% 400V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	C908	1-126-960-11	ELECT 1MF 20% 50V	
	1-107-804-11	FILM	0.82MF 5% 400V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	C910	1-126-967-11	ELECT 47MF 20% 50V	
C814	1-129-702-00	FILM	0.001MF 10% 400V	C911	1-126-967-11	ELECT 47MF 20% 50V	
C816	1-109-844-11	FILM	0.68MF 5% 400V	C1601	1-102-973-00	CERAMIC 100PF 5% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C817	1-136-759-11	FILM	0.039MF 5% 630V	C1602	1-136-161-00	FILM 0.047MF 5% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C819	1-137-102-11	FILM	0.022MF 10% 250V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	C1603	1-102-129-00	CERAMIC 0.01MF 10% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
	1-137-104-11	FILM	0.033MF 10% 250V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	C1604	1-129-702-00	FILM 0.001MF 5% 630V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C822	1-126-967-11	ELECT	47MF 20% 50V	C1605	1-136-205-11	FILM 0.022MF 10% 400V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C823	1-102-129-00	CERAMIC	0.01MF 10% 50V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	C1606	1-136-250-11	FILM 0.001MF 2% 100V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
	1-136-497-91	FILM	0.1MF 5% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	C1607	1-136-207-11	FILM 0.047MF 10% 250V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
C824	1-102-228-00	CERAMIC	470PF 10% 500V				
C825	1-126-964-11	ELECT	10MF 20% 50V				
C827	1-102-228-00	CERAMIC	470PF 10% 500V				
C828	1-102-030-00	CERAMIC	330PF 10% 500V				
C835	1-107-655-11	ELECT	47MF 20% 250V				
C836	1-102-228-00	CERAMIC	470PF 10% 500V				
C837	1-102-228-00	CERAMIC	470PF 10% 500V				
C838	1-102-228-00	CERAMIC	470PF 10% 500V				
C841	1-106-375-12	MYLAR	0.022MF 10% 250V				
C842	1-110-186-81	MYLAR	0.0047MF 10% 400V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)				
C846	1-107-909-11	ELECT	47MF 20% 50V				

The components identified by shading and marked  $\Delta$  are critical for safety  
 Replace only with the part number specified.



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C1616	1-137-535-11	FILM 0.0018MF 5% 630V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D262	8-719-911-19	DIODE 1SS119-25	
C1619	1-110-175-81	MYLAR 0.1MF 10% 100V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		D264	8-719-911-19	DIODE 1SS119-25	
	1-129-717-00	FILM 0.018MF 5% 630V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D276	8-719-911-19	DIODE 1SS119-25	
C1620	1-535-143-61	LEAD, JUMPER (5.0MM) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		D278	8-719-911-19	DIODE 1SS119-25	
	1-102-110-00	CERAMIC 220PF 10% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D279	8-719-911-19	DIODE 1SS119-25	
C1621	1-110-190-81	FILM 0.01MF 10% 400V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		D280	8-719-911-19	DIODE 1SS119-25	
	1-137-493-11	FILM 0.0047MF 5% 630V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D281	8-719-911-19	DIODE 1SS119-25	
C1622	1-130-785-11	FILM 0.47MF 10% 100V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D282	8-719-911-19	DIODE 1SS119-25	
C1624	1-101-004-00	CERAMIC 0.01MF 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D613	8-719-911-19	DIODE 1SS119-25	
C1625	1-126-767-11	ELECT 1000MF 20% 16V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D631	8-719-911-19	DIODE 1SS119-25	
C1627	1-136-244-11	FILM 0.1MF 5% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D633	1-247-807-31	CARBON 100 5% 1/4W	
C1628	1-136-244-11	FILM 0.1MF 5% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D640	8-719-911-19	DIODE 1SS119-25	
C1629	1-137-369-91	FILM 0.0068MF 5% 50V (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		D641	8-719-911-19	DIODE 1SS119-25	
C1632	1-136-203-11	FILM 0.01MF 10% 250V		D802	8-719-979-99	DIODE ERD08M-15	
C1633	1-126-964-11	ELECT 10MF 20% 50V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D803	8-719-043-14	DIODE ESAC39M-06C	
C1818	1-129-928-00	FILM 0.0027MF 5% 630V (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D804	8-719-971-20	DIODE ERC38-06	
C2701	1-126-964-11	ELECT 10MF 20% 50V		D805	8-719-908-03	DIODE GP08D	
C2702	1-104-664-11	ELECT 47MF 20% 25V		D806	8-719-908-03	DIODE GP08D	
C2706	1-102-820-00	CERAMIC 330PF 5% 50V		D810	8-719-979-85	DIODE EGP20G	
< CONNECTOR >				D811	8-719-302-43	DIODE EL1Z	
CN0001	*1-564-520-11	PLUG, CONNECTOR 5P		D812	8-719-510-64	DIODE S2LA20F	
CN0002	*1-568-878-51	PIN, CONNECTOR 3P		D813	8-719-510-64	DIODE S2LA20F	
CN0004	1-568-878-51	PIN, CONNECTOR 3P		D814	8-719-908-03	DIODE GP08D	
CN0005	1-695-915-11	TAB (CONTACT)		D815	8-719-929-15	DIODE HZS9.1NB2	
CN0101	*1-573-296-21	CONNECTOR, BOARD TO BOARD 10P		D816	8-719-110-41	DIODE RD15ES-B2	
CN0102	1-695-297-11	CONNECTOR, BOARD TO BOARD 20P		D817	8-719-911-19	DIODE 1SS119-25	
CN0521	*1-508-767-00	PIN, CONNECTOR (5MM PITCH) 5P		D818	8-719-911-19	DIODE 1SS119-25	
CN0722 $\Delta$	*1-580-844-11	PIN, CONNECTOR (POWER)		D819	8-719-911-19	DIODE 1SS119-25	
CN0723 $\Delta$	*1-695-292-11	PIN, CONNECTOR (POWER)		D871	8-719-921-20	DIODE 1SS119-25	(KV-28WF3A/28WF3B/28WF3D/ KV-28WF3E/28WF3K)
CN0741	*1-564-512-11	PLUG, CONNECTOR 9P		D873	8-719-911-19	DIODE 1SS119-25	
CN0743	*1-564-596-11	PLUG, CONNECTOR 15P		D874	8-719-911-19	DIODE 1SS119-25	
CN0745	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P		D901	8-719-302-45	DIODE SEL1210S-CD	
CN0746	*1-568-879-11	PIN, CONNECTOR 4P		*4-203-258-11	HOLDER, LED (D901)		
CN3133	1-568-882-51	PIN, CONNECTOR 7P		D1602	8-719-911-19	DIODE 1SS119-25	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)
< DIODE >				D1603	8-719-911-19	DIODE 1SS119-25	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)
D101	8-719-982-27	DIODE MTZJ-33C		D1604	8-719-970-87	DIODE ERA38-06	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)
D236	8-719-911-19	DIODE 1SS119-25		D1605	8-719-970-87	DIODE ERA38-06	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)
D237	8-719-911-19	DIODE 1SS119-25		D1609	8-719-979-85	DIODE EGP20G	
D238	8-719-911-19	DIODE 1SS119-25		D1610	1-535-303-00	LEAD, JUMPER (5.0MM) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
D239	8-719-911-19	DIODE 1SS119-25		D1611	8-719-911-19	DIODE 1SS119-25	
< DIODE >				D1612	8-719-110-08	DIODE RD8.2ES-B2	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)
< DIODE >				D2701	8-719-911-19	DIODE 1SS119-25	
< DIODE >				D2702	8-719-911-19	DIODE 1SS119-25	
< DIODE >				< CONNECTOR >			
< DIODE >				DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P	
< DIODE >				< FUSE >			
< DIODE >				F601 $\Delta$	1-532-505-41	FUSE 5 AMP 250V	
< DIODE >					*1-533-725-11	HOLDER, FUSE (F601)	

D

The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
< FERRITE BEAD >				L1604	1-406-988-21	INDUCTOR 0UH (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
FB201	1-535-303-00	LEAD, JUMPER (5.0MM)		L1605	1-406-988-21	INDUCTOR 0UH (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
FB202	1-410-396-41	FERRITE 0.45UH			1-459-104-00	COIL, WITH CORE (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
FB203	1-410-397-21	FERRITE 1.1UH		L1622	1-406-674-11	INDUCTOR 0UH (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
FB801	1-422-613-11	COIL, AIR CORE			1-406-675-11	INDUCTOR 0UH (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
FB802	1-410-396-41	FERRITE 0.45UH		< IC LINK >			
< IC >				PS1601	1-535-143-61	LEAD, JUMPER (5.0MM) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
IC236	8-759-190-89	IC TDA7265		$\Delta$ 1-532-637-11	LINK, IC 1.0A (ICP-F25) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		
IC260	8-759-330-93	IC TDA7309		< TRANSISTOR >			
IC261	8-759-502-21	IC TDA2822M		Q276	8-729-030-02	TRANSISTOR DTC144ESA	
IC604	8-759-513-71	IC PQ05RF21		Q277	8-729-119-76	TRANSISTOR 2SA1175-HFE	
	4-202-373-01	SPRING, IC (IC604)		Q278	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC606	8-759-991-43	IC LM78L12ACZ		Q279	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC607	8-759-513-71	IC PQ05RF21		Q280	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC801	8-759-103-93	IC UPC393C	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)	Q281	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC802	8-759-192-71	IC STV9379		Q282	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC900	8-742-014-11	HYB IC SBX1981-51		Q606	8-729-119-78	TRANSISTOR 2SC2785-HFE	
IC1601	8-759-103-93	IC UPC393C	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)	Q607	8-729-029-56	TRANSISTOR DTA144ESA	
IC1603	8-759-103-93	IC UPC393C	(KV-32WF3A/32WF3B/32WF3D/ KV-32WF3E/32WF3K)	Q614	8-729-029-56	TRANSISTOR DTA144ESA	
IC2701	8-759-603-37	IC M5216P		Q616	8-729-029-66	TRANSISTOR DTC114ESA	
< SOCKET >				Q617	8-729-029-66	TRANSISTOR DTC114ESA	
J900	1-764-606-11	JACK		Q618	8-729-119-76	TRANSISTOR 2SA1175-HFE	
J901	1-568-678-11	TERMINAL BLOCK, S 3P		Q620	8-729-119-78	TRANSISTOR 2SC2785-HFE	
J1200	1-770-218-11	JACK, PIN		Q624	8-729-119-78	TRANSISTOR 2SC2785-HFE	
< COIL >				Q801	8-729-119-80	TRANSISTOR 2SC2688-LK	
L601	1-535-303-00	LEAD, JUMPER (5.0MM)		Q802	8-729-042-94	TRANSISTOR BU2530AL	
L602	1-412-525-31	INDUCTOR 10UH		Q803	8-729-039-68	TRANSISTOR IRF620	
L603	1-412-525-31	INDUCTOR 10UH		Q804	8-729-039-68	TRANSISTOR IRF620	
L801	1-459-474-11	INDUCTOR 0UH		Q1601	8-729-119-78	TRANSISTOR 2SC2785-HFE (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
L802	1-459-474-11	INDUCTOR 0UH		Q1602	8-729-119-78	TRANSISTOR 2SC2785-HFE (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
L803	1-535-143-11	LEAD, JUMPER (10.0MM)		Q1603	8-729-043-95	TRANSISTOR 2SC3840 (3) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
L806	1-459-592-11	COIL (WITH CORE) (PMC)		Q1610	8-729-119-78	TRANSISTOR 2SC1740S-RT	
L807	1-412-524-11	INDUCTOR 8.2UH		Q1611	8-729-017-06	TRANSISTOR 2SC4793 (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
L808	1-535-303-00	LEAD, JUMPER (5.0MM)			8-729-039-68	TRANSISTOR IRF620 (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
L809	1-412-533-21	INDUCTOR 47UH		Q2701	8-729-119-78	TRANSISTOR 2SC2785-HFE	
L810	1-412-524-11	INDUCTOR 8.2UH		< RESISTOR >			
L811	1-459-104-00	COIL, WITH CORE		R236	1-249-424-11	CARBON 3.9K 5% 1/4W	
L813	1-406-989-21	INDUCTOR 0UH (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		R237	1-249-417-11	CARBON 1K 5% 1/4W	
L814	1-410-397-21	FERRITE 1.1UH		R239	1-249-424-11	CARBON 3.9K 5% 1/4W	
L815	1-412-523-11	INDUCTOR 6.8UH		R240	1-249-417-11	CARBON 1K 5% 1/4W	
L815	1-412-523-41	INDUCTOR 6.8UH		R244	1-249-413-11	CARBON 470 5% 1/4W	
L816	1-408-947-00	INDUCTOR 2.2MMH		R245	1-249-430-11	CARBON 12K 5% 1/4W	
L817	1-535-303-00	LEAD, JUMPER (5.0MM)		R246	1-249-430-11	CARBON 12K 5% 1/4W	
L900	1-408-603-31	INDUCTOR 10UH					
L901	1-408-603-31	INDUCTOR 10UH					
L902	1-249-417-11	CARBON 1K 5% 1/4W					
L903	1-249-417-11	CARBON 1K 5% 1/4W					
L1601	1-535-303-00	LEAD, JUMPER (5.0MM) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
L1602	1-459-474-11	INDUCTOR 0UH (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R247	1-249-413-11	CARBON	470 5% 1/4W	R666	1-249-413-11	CARBON	470 5% 1/4W
R248	1-249-425-11	CARBON	4.7K 5% 1/4W	R668	1-249-430-11	CARBON	12K 5% 1/4W
R249	1-216-357-00	METAL OXIDE	4.7 5% 1W F	R674	1-249-410-11	CARBON	270 5% 1/4W
R250	1-216-357-00	METAL OXIDE	4.7 5% 1W F	R675	1-249-387-11	CARBON	3.3 5% 1/4W
R251	1-249-429-11	CARBON	10K 5% 1/4W	R676	1-249-437-11	CARBON	47K 5% 1/4W
R252	1-249-429-11	CARBON	10K 5% 1/4W	R677	1-249-437-11	CARBON	47K 5% 1/4W
R255	1-249-411-11	CARBON	330 5% 1/4W	R678	1-249-425-11	CARBON	4.7K 5% 1/4W
R256	1-249-411-11	CARBON	330 5% 1/4W	R681	1-249-414-11	CARBON	560 5% 1/4W
R260	1-247-863-91	CARBON	22K 5% 1/4W	R802	1-215-915-71	METAL OXIDE	470 5% 3W F
R261	1-247-863-91	CARBON	22K 5% 1/4W	R803	1-215-915-71	METAL OXIDE	470 5% 3W F
R262	1-249-421-11	CARBON	2.2K 5% 1/4W	R804	1-215-915-71	METAL OXIDE	470 5% 3W F
R263	1-249-421-11	CARBON	2.2K 5% 1/4W	R805	1-216-487-11	METAL OXIDE	12K 5% 3W F
R264	1-212-857-00	FUSIBLE	10 5% 1/4W F	R806	1-249-411-11	CARBON	330 5% 1/4W
R265	1-249-389-11	CARBON	4.7 5% 1/4W F	R807	1-247-843-11	CARBON	3.3K 5% 1/4W
R266	1-249-389-11	CARBON	4.7 5% 1/4W F	R808	1-216-384-11	METAL OXIDE	0.39 5% 3W F
R267	1-247-815-91	CARBON	220 5% 1/4W	R809	1-215-880-00	METAL OXIDE	10 5% 2W F
R268	1-247-815-91	CARBON	220 5% 1/4W	R810	1-215-914-11	METAL OXIDE	330 5% 3W F
R269	1-249-415-11	CARBON	680 5% 1/4W	R811	1-216-434-11	METAL OXIDE	1.8K 5% 1W F
R270	1-249-415-11	CARBON	680 5% 1/4W	R817	1-202-972-61	FUSIBLE	1 5% 1/4W F
R271	1-247-742-11	CARBON	180 5% 1/2W F	R818	1-249-377-11	CARBON	0.47 5% 1/4W F
R276	1-535-303-00	LEAD, JUMPER (5.0MM)		R819	1-249-377-11	CARBON	0.47 5% 1/4W F
R277	1-249-419-11	CARBON	1.5K 5% 1/4W	R820	1-214-907-00	METAL	56K 1% 1/2W
R278	1-249-441-11	CARBON	100K 5% 1/4W	R821	1-247-851-91	CARBON	6.8K 5% 1/4W (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)
R279	1-249-429-11	CARBON	10K 5% 1/4W		1-535-303-00	LEAD, JUMPER (5.0MM)	
R280	1-249-425-11	CARBON	4.7K 5% 1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R281	1-249-437-11	CARBON	47K 5% 1/4W	R823	1-249-420-11	CARBON	1.8K 5% 1/4W (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)
R282	1-249-430-11	CARBON	12K 5% 1/4W		1-247-843-11	CARBON	3.3K 5% 1/4W (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)
R283	1-249-429-11	CARBON	10K 5% 1/4W	R834	1-247-887-00	CARBON	220K 5% 1/4W (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)
R284	1-249-432-11	CARBON	18K 5% 1/4W	R835	1-249-432-11	CARBON	18K 5% 1/4W
R285	1-249-425-11	CARBON	4.7K 5% 1/4W	R837	1-249-422-11	CARBON	2.7K 5% 1/4W
R286	1-249-421-11	CARBON	2.2K 5% 1/4W	R842	1-249-399-11	CARBON	33 5% 1/4W (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)
R287	1-249-412-11	CARBON	390 5% 1/4W	R843	1-202-822-00	SOLID	2.2K 20% 1/2W
R288	1-249-421-11	CARBON	2.2K 5% 1/4W	R844	1-249-424-11	CARBON	3.9K 5% 1/4W
R289	1-249-421-11	CARBON	2.2K 5% 1/4W	R845	1-247-881-00	CARBON	120K 5% 1/4W
R290	1-247-807-31	CARBON	100 5% 1/4W	R846	1-249-422-11	CARBON	2.7K 5% 1/4W
R291	1-249-421-11	CARBON	2.2K 5% 1/4W	R847	1-249-437-11	CARBON	47K 5% 1/4W
R292	1-249-429-11	CARBON	10K 5% 1/4W	R848	1-249-425-11	CARBON	4.7K 5% 1/4W
R293	1-249-429-11	CARBON	10K 5% 1/4W	R849	1-249-429-11	CARBON	10K 5% 1/4W
R294	1-249-429-11	CARBON	10K 5% 1/4W	R850	1-249-389-11	CARBON	4.7 5% 1/4W F
R295	1-247-885-00	CARBON	180K 5% 1/4W	R851	1-216-399-00	METAL OXIDE	6.8 5% 3W F
R296	1-247-885-00	CARBON	180K 5% 1/4W	R852	1-247-893-11	CARBON	390K 5% 1/4W (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)
R297	1-247-807-31	CARBON	100 5% 1/4W		1-247-885-00	CARBON	180K 5% 1/4W (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)
R298	1-247-807-31	CARBON	100 5% 1/4W	R853	1-247-887-00	CARBON	220K 5% 1/4W (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)
R630	1-249-419-11	CARBON	1.5K 5% 1/4W		1-247-885-00	CARBON	180K 5% 1/4W (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)
R631	1-215-477-00	METAL	220K 1% 1/4W	R854	1-249-436-11	CARBON	39K 5% 1/4W
R632	1-249-416-11	CARBON	820 5% 1/4W	R855	1-249-417-11	CARBON	1K 5% 1/4W
R633	1-249-429-11	CARBON	10K 5% 1/4W	R857	1-202-822-00	SOLID	2.2K 20% 1/2W
R634	1-247-895-91	CARBON	470K 5% 1/4W	R859	1-249-432-11	CARBON	18K 5% 1/4W
R635	1-215-926-00	METAL OXIDE	33K 5% 3W F				
R638	1-249-425-11	CARBON	4.7K 5% 1/4W				
R644	1-249-425-11	CARBON	4.7K 5% 1/4W				
R645	1-249-410-11	CARBON	270 5% 1/4W				
R646	1-247-843-11	CARBON	3.3K 5% 1/4W				
R647	1-249-420-11	CARBON	1.8K 5% 1/4W				
R648	1-535-303-00	LEAD, JUMPER (5.0MM)					
R649	1-535-303-00	LEAD, JUMPER (5.0MM)					
R665	1-249-425-11	CARBON	4.7K 5% 1/4W				



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R860	1-247-843-11	CARBON 3.3K 5%	1/4W	R1606	1-215-451-00	METAL 18K 1%	1/4W
R861	1-249-417-11	CARBON 1K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R862	1-249-383-11	CARBON 1.5 5%	1/4W F	R1607	1-215-453-00	METAL 22K 1%	1/4W
R863	1-216-475-11	METAL OXIDE 120 5%	3W F			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R864	1-535-303-00	LEAD, JUMPER (5.0MM)		R1608	1-249-413-11	CARBON 470 5%	1/4W
						(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R865	1-249-436-11	CARBON 39K 5%	1/4W	R1609	1-215-485-00	METAL 470K 1%	1/4W
R866	1-249-432-11	CARBON 18K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R867	1-216-390-11	METAL OXIDE 1.2 5%	3W F	R1610	1-535-465-11	LEAD, JUMPER (5.0MM)	
R868	1-249-418-11	CARBON 1.2K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R871	1-249-441-11	CARBON 100K 5%	1/4W	R1611	1-249-417-11	CARBON 1K 5%	1/4W
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)				(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R872	1-247-895-91	CARBON 470K 5%	1/4W	R1612	1-249-427-11	CARBON 6.8K 5%	1/4W
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)				(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R873	1-247-887-00	CARBON 220K 5%	1/4W	R1613	1-249-417-11	CARBON 1K 5%	1/4W
R875	1-247-843-11	CARBON 3.3K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		R1614	1-249-441-11	CARBON 100K 5%	1/4W
	1-535-303-00	LEAD, JUMPER (5.0MM)				(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		R1615	1-249-441-11	CARBON 100K 5%	1/4W
R881	1-249-389-11	CARBON 4.7 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		R1616	1-249-441-11	CARBON 100K 5%	1/4W
	1-247-791-91	CARBON 22 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		R1617	1-535-303-00	LEAD, JUMPER (5.0MM)	
R891	1-249-437-11	CARBON 47K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		R1618	1-215-471-00	METAL 120K 1%	1/4W
R892	1-535-143-61	LEAD, JUMPER (5.0MM)				(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		R1619	1-215-469-00	METAL 100K 1%	1/4W
R895	1-215-866-11	METAL OXIDE 330 5%	1W F			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R900	1-247-815-91	CARBON 220 5%	1/4W	R1637	1-215-453-00	METAL 22K 1%	1/4W
R908	1-249-401-11	CARBON 47 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R909	1-249-437-11	CARBON 47K 5%	1/4W	R1639	1-215-888-00	METAL OXIDE 220 5%	2W F
R910	1-249-437-11	CARBON 47K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R911	1-249-425-11	CARBON 4.7K 5%	1/4W	R1640	1-215-918-00	METAL OXIDE 1.5K 5%	3W F
R912	1-249-421-11	CARBON 2.2K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R913	1-249-425-11	CARBON 4.7K 5%	1/4W	R1641	1-247-863-91	CARBON 22K 5%	1/4W
R914	1-249-421-11	CARBON 2.2K 5%	1/4W	R1643	1-215-447-00	METAL 12K 1%	1/4W
R919	1-535-303-00	LEAD, JUMPER (5.0MM)				(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R921	1-535-303-00	LEAD, JUMPER (5.0MM)		R1644	1-215-469-00	METAL 100K 1%	1/4W
R922	1-249-406-11	CARBON 120 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R923	1-249-406-11	CARBON 120 5%	1/4W	R1645	1-249-439-11	CARBON 68K 5%	1/4W
						(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
R925	1-249-429-11	CARBON 10K 5%	1/4W		1-249-425-11	CARBON 4.7K 5%	1/4W
R926	1-249-429-11	CARBON 10K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R1598	1-215-922-11	METAL OXIDE 6.8K 5%	3W F			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		R1646	1-249-421-11	CARBON 2.2K 5%	1/4W
R1599	1-215-922-11	METAL OXIDE 6.8K 5%	3W F			(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)			1-249-415-11	CARBON 680 5%	1/4W
R1600	1-215-922-11	METAL OXIDE 6.8K 5%	3W F			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		R1647	1-535-143-61	LEAD, JUMPER (5.0MM)	
R1601	1-249-437-11	CARBON 47K 5%	1/4W			(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)			1-249-414-11	CARBON 560 5%	1/4W
R1602	1-249-421-11	CARBON 2.2K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		R1648	1-215-875-11	METAL OXIDE 10K 5%	1W F
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)				(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
R1603	1-249-441-11	CARBON 100K 5%	1/4W		1-535-303-00	LEAD, JUMPER (5.0MM)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)				(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
R1604	1-249-429-11	CARBON 10K 5%	1/4W	R1649	1-249-429-11	CARBON 10K 5%	1/4W
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)				(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
R1605	1-249-441-11	CARBON 100K 5%	1/4W			(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)				(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	

The components identified by shading and marked  $\Delta$  are critical for safety  
 Replace only with the part number specified.



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R1650	1-249-429-11	CARBON 10K 5% 1/4W (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		C1704	1-161-830-00	CERAMIC 0.0047MF	500V
R1651	1-249-399-11	CARBON 33 5% 1/4W F (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		C1706	1-107-638-11	ELECT 33MF	20% 160V
R1652	1-249-421-11	CARBON 2.2K 5% 1/4W (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		C1707	1-126-964-11	ELECT 10MF	20% 50V
R1653	1-249-411-11	CARBON 330 5% 1/4W (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		C1708	1-163-075-00	CERAMIC CHIP 0.047MF	50V
R1654	1-535-303-00	LEAD, JUMPER (5.0MM)		C1709	1-104-999-11	FILM 0.1MF	5% 200V
R1655	1-535-303-00	LEAD, JUMPER (5.0MM)		C1710	1-136-203-11	FILM 0.01MF	10% 250V
R2701	1-247-863-91	CARBON 22K 5% 1/4W		C1711	1-162-318-11	CERAMIC 0.001MF	10% 500V
R2702	1-247-863-91	CARBON 22K 5% 1/4W		C1712	1-107-667-11	ELECT 2.2MF	20% 160V
R2703	1-247-863-91	CARBON 22K 5% 1/4W		C1713	1-162-318-11	CERAMIC 0.001MF	10% 500V
R2704	1-247-863-91	CARBON 22K 5% 1/4W		C1714	1-136-203-11	FILM 0.01MF	10% 250V
R2705	1-249-429-11	CARBON 10K 5% 1/4W		C1715	1-163-001-11	CERAMIC CHIP 220PF	10% 50V
R2706	1-249-429-11	CARBON 10K 5% 1/4W		C1716	1-126-964-11	ELECT 10MF	20% 50V
R2707	1-535-303-00	LEAD, JUMPER (5.0MM)		C1717	1-126-934-11	ELECT 220MF	20% 16V
R2708	1-249-429-11	CARBON 10K 5% 1/4W		C1718	1-126-964-11	ELECT 10MF	20% 50V
R2713	1-535-303-00	LEAD, JUMPER (5.0MM)		C1719	1-101-810-00	CERAMIC 100PF	5% 500V
R2719	1-212-857-00	FUSIBLE 10 5% 1/4W F		C1720	1-535-303-00	LEAD, JUMPER (5.0MM) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
< SWITCH >				C1721	1-126-791-11	ELECT 10MF	20% 16V
S601	$\Delta$ 1-571-433-21	SWITCH, PUSH (AC POWER)		C1722	1-101-810-00	CERAMIC 100PF	5% 500V
S900	1-692-979-11	SWITCH, TACTILE		C1723	1-126-791-11	ELECT 10MF	20% 16V
S901	1-692-979-11	SWITCH, TACTILE		C1724	1-101-810-00	CERAMIC 100PF	5% 500V
S902	1-692-979-11	SWITCH, TACTILE		C1725	1-163-227-91	CERAMIC CHIP 10PF	0.5PF 50V
< TRANSFORMER >				< CONNECTOR >			
T801	1-427-762-11	TRANSFORMER, FERRITE (HDT)		CN1701	*1-774-418-11	CONNECTOR, BOARD TO BOARD 8P (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
T803	1-426-897-11	TRANSFORMER, FERRITE (PMT) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)			*1-770-723-11	CONNECTOR, BOARD TO BOARD 8P (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)	
	1-427-776-11	TRANSFORMER, FERRITE (PMT) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		CN1830	1-568-882-51	PIN, CONNECTOR 7P	
T804	1-429-288-11	HLT (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		< DIODE >			
	1-429-287-11	HLT (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D1701	8-719-914-43	DIODE DAN202K	
T805	$\Delta$ 1-453-222-11	TRANSFORMER ASSY, FLYBACK (NX-4003/U2B4) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		D1702	8-719-914-42	DIODE DA204K	
	$\Delta$ 1-453-223-11	TRANSFORMER ASSY, FLYBACK (NX-4123/U2B4) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D1704	8-719-982-37	DIODE MTZJ-39C	
T806	1-413-059-00	TRANSFORMER, FERRITE (DFT) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		D1705	8-719-982-37	DIODE MTZJ-39C	
T807	1-426-896-11	TRANSFORMER, FERRITE (DFT) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		D1706	8-719-914-42	DIODE DA204K	
< THERMISTOR >				D1708	8-719-914-42	DIODE DA204K	
TH801	1-800-193-00	THERMISTOR		D1709	8-719-914-42	DIODE DA204K	
*****				< COIL >			
*A-1644-084-A	VM BOARD COMPLETE (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)			L1701	1-216-296-91	SHORT 0	
*A-1644-089-A	VM BOARD COMPLETE (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)			L1702	1-408-598-31	INDUCTOR 3.9UH	
4-382-854-11	SCREW (M3X10), P, SW (+)			< TRANSISTOR >			
< CAPACITOR >				Q1701	8-729-901-59	TRANSISTOR BF199	
C1701	1-104-661-91	ELECT 330MF	20% 16V	Q1702	8-729-216-22	TRANSISTOR 2SA1162-G	
C1702	1-163-241-11	CERAMIC CHIP 39PF	5% 50V	Q1703	8-729-017-05	TRANSISTOR 2SA1837 (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
				Q1704	8-729-620-06	TRANSISTOR 2SC3052-EF	
				Q1705	8-729-017-06	TRANSISTOR 2SC4793 (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)	
				Q1706	8-729-620-06	TRANSISTOR 2SC3052-EF	
				Q1707	8-729-620-06	TRANSISTOR 2SC3052-EF	
				Q1708	8-729-901-59	TRANSISTOR BF199	
				Q1710	8-729-216-22	TRANSISTOR 2SA1162-G	
				Q1711	8-729-039-27	TRANSISTOR BC546B	
				Q1712	8-729-039-25	TRANSISTOR BC556B	



REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< RESISTOR >							
R1701	1-216-025-00	RES,CHIP	100 5%			1/10W	
R1702	1-249-413-11	CARBON	470 5%			1/4W	
R1703	1-216-174-00	RES,CHIP	100 5%			1/8W	
R1704	1-249-418-11	CARBON	1.2K 5%			1/4W	
R1705	1-247-736-11	CARBON	56 5%			1/2W F	
R1706	1-249-414-11	CARBON	560 5%			1/4W F	
R1707	1-249-411-11	CARBON	330 5%			1/4W	
R1709	1-249-412-11	CARBON	390 5%			1/4W	
R1710	1-216-295-00	SHORT	0				
R1711	1-249-432-11	CARBON	18K 5%			1/4W	
R1712	1-216-085-00	RES,CHIP	33K 5%			1/10W	
R1713	1-216-083-00	RES,CHIP	27K 5%			1/10W	
R1714	1-216-073-00	RES,CHIP	10K 5%			1/10W	
R1715	1-215-866-11	METAL OXIDE	330 5%			1W F	
		(KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)					
	1-215-888-00	METAL OXIDE	220 5%			2W F	
		(KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
R1716	1-249-417-11	CARBON	1K 5%			1/4W F	
R1717	1-249-432-11	CARBON	18K 5%			1/4W	
R1718	1-249-412-11	CARBON	390 5%			1/4W	
R1719	1-249-416-11	CARBON	820 5%			1/4W	
R1720	1-216-089-00	RES,CHIP	47K 5%			1/10W	
R1721	1-249-414-11	CARBON	560 5%			1/4W	
R1722	1-216-295-00	SHORT	0				
R1723	1-249-429-11	CARBON	10K 5%			1/4W	
R1724	1-216-689-11	RES,CHIP	39K 5%			1/10W	
R1725	1-249-413-11	CARBON	470 5%			1/4W	
R1726	1-216-033-00	RES,CHIP	220 5%			1/10W	
R1727	1-249-402-11	CARBON	56 5%			1/4W F	
R1729	1-216-166-00	RES,CHIP	47 5%			1/8W	
R1730	1-216-121-91	RES,CHIP	1M 5%			1/10W	
R1731	1-216-049-00	RES,CHIP	1K 5%			1/10W	
R1735	1-216-049-00	RES,CHIP	1K 5%			1/10W	
R1736	1-247-807-31	CARBON	100 5%			1/4W	
R1737	1-216-075-00	RES,CHIP	12K 5%			1/10W	
R1738	1-216-174-00	RES,CHIP	100 5%			1/8W	
R1739	1-216-222-00	RES,CHIP	10K 5%			1/8W	
R1740	1-216-174-00	RES,CHIP	100 5%			1/8W	
R1741	1-216-166-00	RES,CHIP	47 5%			1/8W	
R1743	1-216-021-00	RES,CHIP	68 5%			1/10W	
R1744	1-216-150-91	RES,CHIP	10 5%			1/8W	
R1745	1-216-150-91	RES,CHIP	10 5%			1/8W	

\*\*\*\*\*

The components identified by shading and marked  $\Delta$  are critical for safety  
 Replace only with the part number specified.

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
		MISCELLANEOUS *****		4-204-132-41	MANUAL, INSTRUCTION (ITALIAN)	(KV-28WF3A/32WF3A)	
		$\Delta$ 1-251-317-31 CAP ASSY, HIGH VOLTAGE		4-204-132-51	MANUAL, INSTRUCTION (FRENCH/GERMAN/ITALIAN/DUTCH)	(KV-28WF3B/32WF3B)	
		$\Delta$ 1-411-893-11 COIL, DEMAGNETIZATION (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)		4-204-132-11	MANUAL, INSTRUCTION (GERMAN/GREEK/DUTCH/ENGLISH/TURKISH)	(KV-28WF3D/32WF3D)	
		$\Delta$ 1-416-450-11 COIL, DEMAGNETIZATION (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)		4-204-132-71	MANUAL, INSTRUCTION (SPANISH/PORTUGUESE/FINNISH/DANISH/NORWEGIAN/SWEDISH)	(KV-28WF3E/32WF3E)	
		1-452-032-00 MAGNET, DISC; 10MM $\emptyset$		4-204-132-91	MANUAL, INSTRUCTION (POLISH/CZECH/ENGLISH/HUNGARIAN)	(KV-28WF3K/32WF3K)	
		1-452-094-00 MAGNET, ROTATABLE DISC; 15MM $\emptyset$			REMOTE COMMANDER *****		
		1-452-724-11 COIL, NA ROTATION (RT-165)		1-473-692-11	COMMANDER, STANDARD TYPE (RM-862)		
		$\Delta$ 1-453-222-11 TRANSFORMER ASSY, FLYBACK (NX-4003/U2B4) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)			*****		
		$\Delta$ 1-453-223-11 TRANSFORMER ASSY, FLYBACK (NX-4123/U2B4) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
		1-505-782-11 SPEAKER (7X13CM)					
		$\Delta$ 1-571-433-21 SWITCH, PUSH (AC POWER)					
		1-693-338-11 TUNER (VIF) (AEP) (KV-28WF3A/28WF3D/28WF3E/28WF3K) (KV-32WF3A/32WF3D/32WF3E/32WF3K)					
		1-693-340-11 TUNER (VIF) (FR) (KV-28WF3B/32WF3B)					
		$\Delta$ 1-756-286-11 CORD, POWER					
		$\Delta$ 8-451-433-11 DEFLECTION YOKE (Y28G1CM) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)					
		$\Delta$ 8-451-485-11 DEFLECTION YOKE (Y32C2C2-M) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
		$\Delta$ 8-453-005-31 NECK ASSY, NA297-M3 (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)					
		$\Delta$ 8-453-011-11 NECK ASSY, NA299-M (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
		$\Delta$ 8-737-781-05 PICTURE TUBE (SD-284T) (W66LGY060X) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)					
		$\Delta$ 8-735-037-05 PICTURE TUBE (SD-297) (W76LHT060X) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
		*****					
		ACCESSORIES AND PACKAGING MATERIALS *****					
		1-769-175-21 CABLE, ANTENNA (WITH FILTER)					
		4-204-008-01 ADDENDUM, ANTENNA CABLE					
		4-395-957-01 BAG, PROTECTION (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)					
		4-029-168-01 BAG, PROTECTION (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
		4-203-885-01 INDIVIDUAL CARTON (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)					
		4-203-902-01 INDIVIDUAL CARTON (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
		4-203-883-01 CUSHION (UPPER) (ASSY) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)					
		4-203-900-01 CUSHION (UPPER) (ASSY) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
		4-203-883-01 CUSHION (LOWER) (ASSY) (KV-28WF3A/28WF3B/28WF3D/28WF3E/28WF3K)					
		4-203-901-04 CUSHION (LOWER) (ASSY) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					
		4-203-908-01 CUSHION (REAR) (KV-32WF3A/32WF3B/32WF3D/32WF3E/32WF3K)					