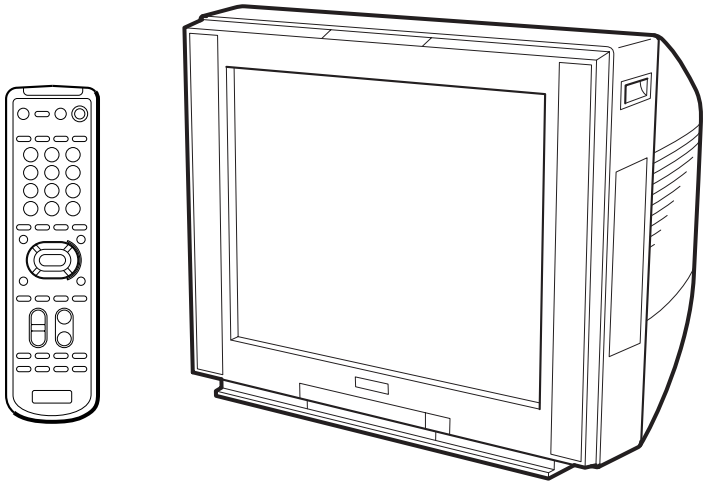
SERVICE MANUAL BG-1L CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-EF29M31	RM-881	OCE	SCC-U08C-A
KV-EF29M61	RM-881	EM	SCC-K58E-A
KV-EF29M61	RM-881	GE	SCC-K52Q-A
KV-EF29M80	RM-881	ME	SCC-K57V-A
KV-EF29M80	RM-881	JE	SCC-K66U-A

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-EF29M90	RM-881	HK	SCC-K56K-A
KV-EF29M91	RM-881	ME	SCC-K57U-A



MICROFILM

* Please file according to model size. ...□

TRINITRON® COLOR TV

SONY®

Specifications

	KV-EF29M90, KV-EF29M61, KV-EF29M91		Note
Power requirements	110-240 V AC, 50/60 Hz		
Power consumption (W)	Indicated on the rear of the TV		
Television system	B/G, I, D/K, M		
Color system	PAL, PAL 60, SECAM, NTSC4.43, NTSC3.58		
Stereo system	NICAM Stereo B/G, I;A2 Stereo (German) B/G		
Teletext language	English, Arabic, French		KV-EF29M31/ EF29M61/EF29M91
Channel coverage			
B/G	VHF : E2 to E12 / UHF : E21 to E69 / CATV : S01 to S03, S1 to S41		
I	UHF : B21 to B68 / CATV : S01 to S03, S1 to S41		
D/K	VHF : C1 to C12, R1 to R12 / UHF : C13 to C57, R21 to R60 CATV : S01 to S03, S1 to S41, Z1 to Z39		
M	VHF : A2 to A13 / UHF : A14 to A79/ CATV : A-8 to A-2, A to W+4, W+6 to W+84		
(Antenna)	75-ohm external terminal		
Audio output (speaker)	15W + 15W		
Number of terminal			
(video)	Input: 4 Output: 1	phono jacks; 1 Vp-p, 75 ohms	
(Audio)	Input: 4 Output: 1	phono jacks; 500 mVrms	
(S Video)	Input: 2	Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	
(Component Video)	Input: 1	phono jacks Y: 1.0 Vp-p, 75 ohms, sync negative B–Y: 0.7 Vp-p, 75 ohms R–Y: 0.7 Vp-p, 75 ohms Audio: 500 mVrms,	
(Headphone)	Output: 1	Minijack	
Picture tube	29 in.		
Tube size (cm)	72		Measured diagonally
Screen size (cm)	68		Measured diagonally
Dimensions (w/h/d, mm)	716 × 572 × 525		
Mass (kg)	54		

Design and specifications are subject to change without notice.

CAUTION

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

SAFETY-RELATED COMPONENT WARNING!!

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

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

SECTION 1
GENERAL

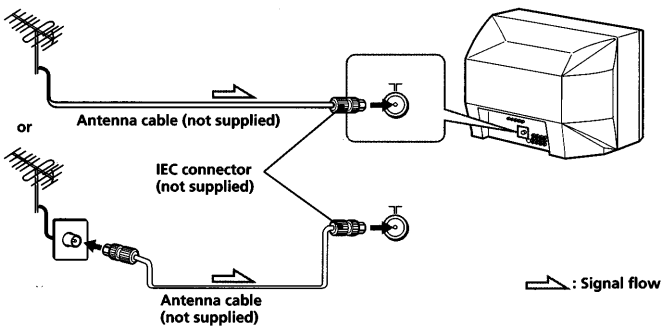
Using Your New TV

Getting Started

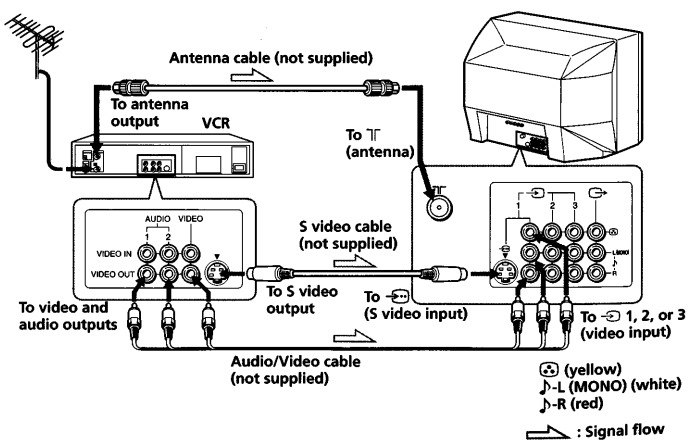
Step 1

Connect the antenna

If you wish to connect a VCR, see the "Connecting a VCR" diagram below.



Connecting a VCR

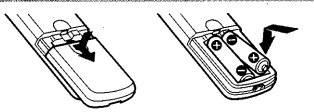


Notes

- If you connect a monaural VCR, connect the yellow plug to (the yellow jack) and the black plug to -L (MONO) (the white jack).
- If you connect a VCR to the (antenna) terminal, preset the signal output from the VCR to the program position 0 on the TV.
- Do not simultaneously connect video equipment to the 3 (video input) jacks at the front and the 3 (video input) jacks at the rear of your TV.
- If both (S video input) and 1 (video input) are input simultaneously, the (S video input) is automatically selected. To view the video input to 1 (video input), disconnect the S video cable.
- When no signal is input to the connected VCR (or video equipment), the screen becomes blue.

Step 2

Insert the batteries to the remote

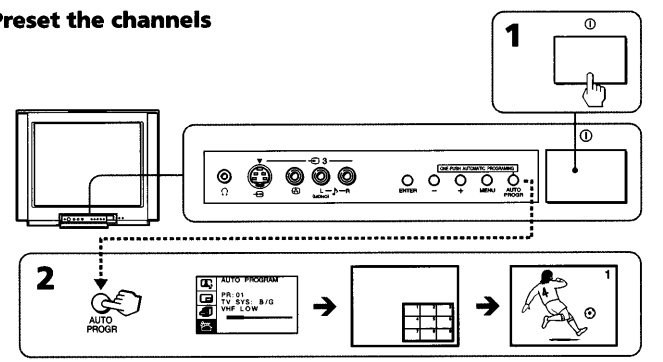


Note

- Do not use old batteries nor use different types of batteries together.

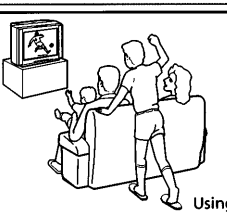
Step 3

Preset the channels



Now You Are Ready. . .

The channels are now automatically preset in your TV. To preset the channels manually, see page 34.

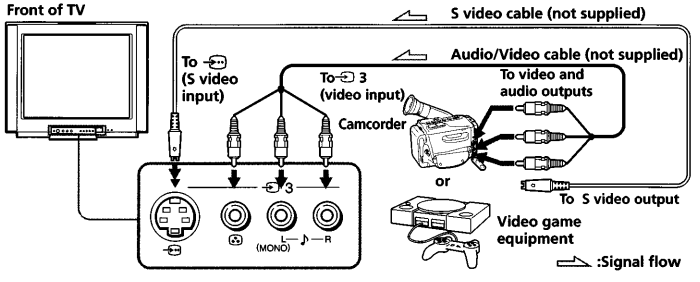


Using Your New TV

Connecting optional components

You can connect optional audio/video components, such as a VCR, multi disc player, camcorder, video game or stereo system.

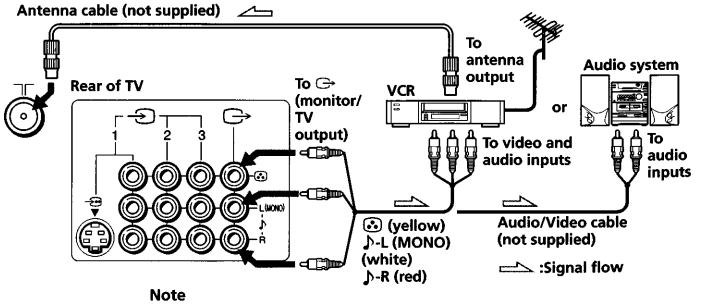
Connecting a camcorder/video game equipment using the ⇦ (video input) jacks



Notes

- You can also connect video equipment to the ⇦ 3 (video input) jacks at the rear of your TV.
- Do not simultaneously connect video equipment to the ⇦ 3 (video input) jacks at the front and the ⇦ 3 (video input) jacks at the rear of your TV; otherwise, the picture will not be displayed properly on the screen.

Connecting audio/video equipment using the ⇨ (monitor/TV output) jacks

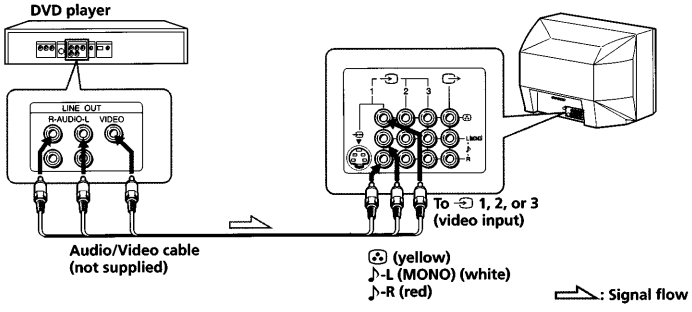


Note

- When connecting a monaural VCR, connect the yellow plug to (the yellow jack) and the black plug to ♪ -L (MONO) (the white jack).

Connecting a DVD player

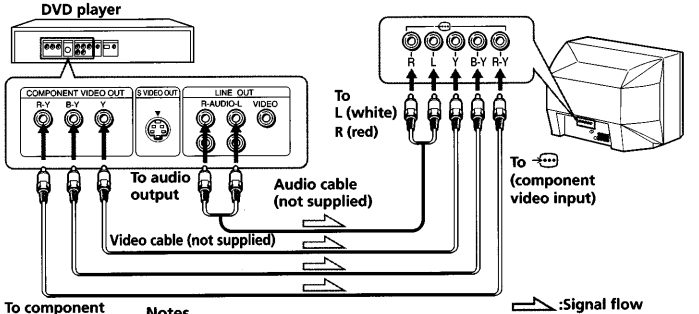
Using ♪/ (audio/video) connectors, connect ⇦ 1 (video input) on your TV to LINE OUT on your DVD player.



Connecting a DVD player with component video output connectors

1 Using audio connectors, connect L and R of (component video input) on your TV to the AUDIO L and R output connectors on your DVD player.

2 Using three yellow video cables, connect Y, B-Y, and R-Y of (component video input) on your TV to Y, B-Y, and R-Y output on your DVD player.



Notes

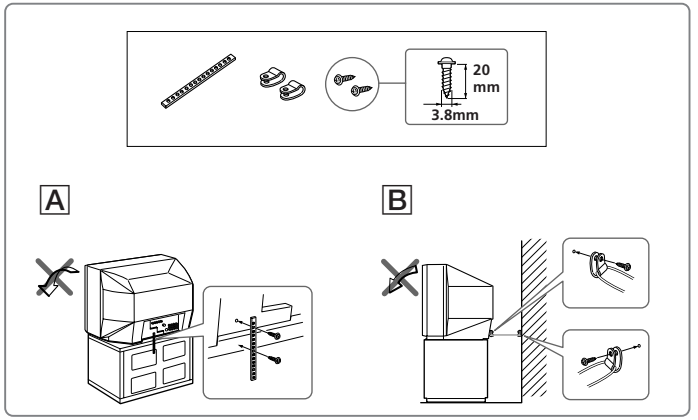
- Some DVD player terminals may be labeled Y, Cb, and Cr. If so, connect Y (green) to Y, B-Y (blue) to Cb, and R-Y (red) to Cr.
- Since the high quality pictures on a DVD disc contain a lot of information, picture noise may appear. In this case, adjust the sharpness ("SHARP") in the VIDEO ADJUST menu. (see page 28.)
- Connect your DVD player directly to your TV. Connecting the DVD player through other video equipment will cause unwanted picture noise.

Securing the TV

To prevent the TV from falling, secure the TV using one of the following methods:

A With the supplied screws, attach the band to the TV stand and to the rear of the TV using the provided hole.

B Put the cord or chain through the clamps to secure the TV against a wall or pillar.

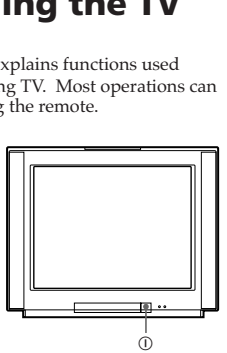


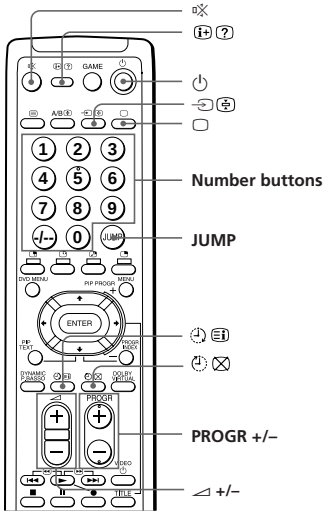
Note

- Use only the supplied screws. Use of other screws may damage the TV.

Watching the TV

This section explains functions used while watching TV. Most operations can be done using the remote.





1 Press ⏻ to turn on the TV.

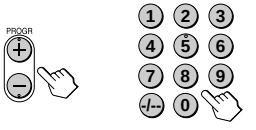
When the TV is in the standby mode (the ⏻ indicator on the TV is lit), press ⏻ on the remote or on the TV.

The PROGR +/–, +/–, and ⏎ indicators on the TV light up.



2 Press PROGR +/– or number buttons to select the TV program.

For double digit numbers, press -/--, then the number (e.g., for 25, press -/--, then 2 and 5).



continued

Additional tasks

To	Do this
Turn off temporarily	Press ⏻. The ⏻ indicator on the TV lights up.
Turn off completely	Press ⏻ on the TV.
Adjust the volume	Press +/–.
Mute the sound	Press 🔇.
Watch the video input	Press INPUT (or INPUT on the TV) to select "VIDEO 1," "VIDEO 2", "VIDEO 3" or "DVD." To go back to the TV program, press 📺 (or INPUT on the TV.)
Jump back to the previous channel	Press JUMP.
Display the on-screen information*	Press DISPLAY.
Change the on-screen language	See page 27.

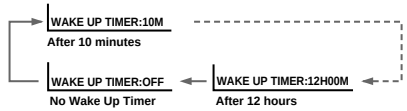
* The picture, sound, and either the program position or video mode are displayed. The on-screen display for the picture and sound information disappears after about 3 seconds.

Notes

- When you turn on the TV, you may hear a "boon" sound that is caused by the demagnetization of the TV. This does not indicate a malfunction.
- The picture color may become abnormal if you change the direction of your TV. To obtain the normal picture color, press ⏻ on the TV to turn off the TV for five minutes and then turn it on again.

To set the Wake Up timer

1 Press 🕒 until the desired period of time appears.
Every time you press this button, the period of time changes as follows:



2 Select the TV program or video mode you want to display when you wake up.

3 Press ⏻ or set the Sleep timer if you want the TV to turn off automatically.
To cancel the Wake Up timer, press 🕒 until "WAKE UP TIMER: OFF" appears or turn off the TV's main power.

Notes

- The Wake Up timer starts immediately after the on-screen display disappears.
- If no buttons or controls are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into the standby mode. To continue watching the TV, press any button or control on the TV or the remote.

To set the Sleep timer

Press 🕒 until the desired period of time appears.

Every time you press this button, the period of time changes as follows:

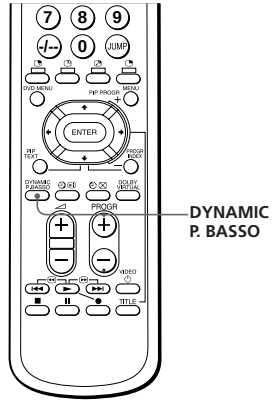


To cancel the Sleep timer, press 🕒 until "SLEEP TIMER: OFF" appears or turn the TV off.

Listening with dynamic sound

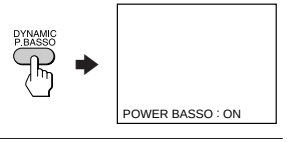
—DYNAMIC POWER BASSO

The DYNAMIC POWER BASSO sound mode enables you to enjoy high quality audio with the best combination of all types of sound. It reproduces dynamic and clear sounds and emphasizes low and high audio effects as well.



Press DYNAMIC P. BASSO.

The sound mode of the TV program or the video input changes to the DYNAMIC POWER BASSO sound.



To go back to the normal sound mode

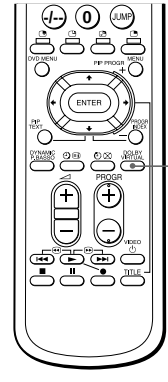
Press DYNAMIC P. BASSO again.

Tip

- Select any of the sound modes (“HYPER SURROUND” or “A/V CONTROL”–“DYNAMIC/STANDARD/SOFT/PERSONAL”) to cancel the DYNAMIC POWER BASSO sound.

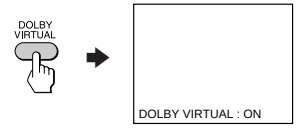
Listening with Virtual Dolby* Surround sound

The Virtual Dolby Surround sound mode enables you to enjoy Dolby ProLogic Surround without surround speakers.



Press DOLBY VIRTUAL.

The sound mode of the TV program or the video input changes to the Virtual Dolby Surround sound.



To go back to the normal sound mode

Press DOLBY VIRTUAL again.

* Manufactured under license from Dolby Laboratories Licensing Corporation.
DOLBY, the double-D symbol ◻◻ and “PRO LOGIC” are trademarks of Dolby Laboratories Licensing Corporation.

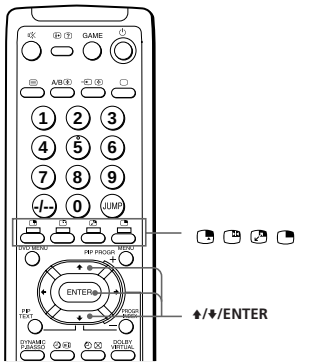
The Virtual Dolby Surround of this model consists of Dolby Pro Logic and TruSurround.

“ TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc.”

Watching two programs at the same time

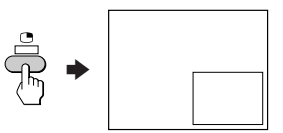
—PIP

With the Picture-in-Picture (PIP) feature, you can display a sub screen within the main picture of different TV programs or video inputs.



Displaying the PIP screen

Press .



To select a TV program in the PIP screen

Press ↑ or ↓, and press ENTER.

To select a video input in the PIP screen

Press (or on the TV).

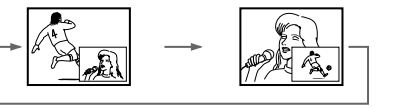
To go back to the normal screen

Press .

Tips

- You can also display the PIP screen using the menu (see "Adjusting the PIP setting" on page 30).
- You can change the position of the PIP screen (see "Adjusting the PIP setting" on page 30).

Additional PIP tasks

To	Press
swap pictures between the main and PIP screens	
freeze the PIP screen	To unfreeze the screen, press the button again.

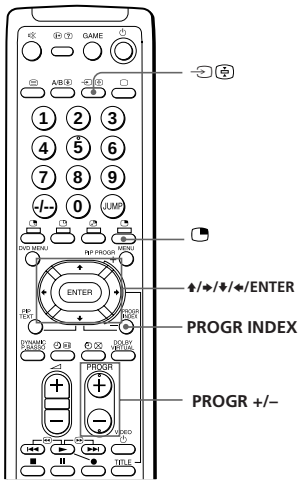
Notes

- When you display a video input on the PIP screen at a faster/slower speed, the picture may be disrupted depending on the VCR type.
- If you display different color systems on the main screen and the PIP screen, the size of the PIP screen may be different and the PIP picture may be disrupted. This does not indicate a malfunction of the TV.

Viewing multiple programs at the same time

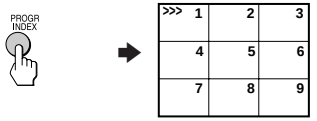
—PROGRAM INDEX

The PROGRAM INDEX feature allows you to view all of the preset TV programs and the video inputs on the nine sub screens at the same time.



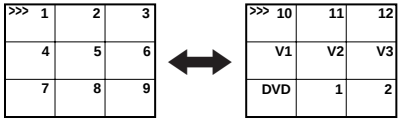
Press PROGR INDEX.

The first nine preset programs appear on the nine sub screens.



To view the next or the previous nine preset programs

Press PROGR +/– on the remote or the TV.



To select the desired program directly from the nine sub screens

Press the number buttons or .

You can also select the program you want to watch from the nine sub screens as follows:

1 Press /// to move the cursor (>>>) to the screen of the program you want to watch.
2 Press ENTER.

To go back to the normal screen

Press PROGR INDEX again or .

You can also go back to the normal screen as follows:

1 Select “PROGR INDEX” or “PIP : OFF” from the PIP menu.
2 Press ENTER.

Tips

- You can also view multiple programs on the nine sub screens using the menu (see “Adjusting the PIP setting” on page 30).
- You can change the position of the nine sub screens using the PIP menu (see “Adjusting the PIP setting” on page 30).

Notes

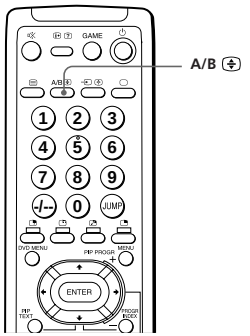
- You can use only the number buttons on the remote to change the program position of the main screen when you display the nine sub screens.
- You can only hear the sound of the main screen when viewing multiple programs on the nine sub screens.

– 10 –

Selecting a stereo or bilingual program

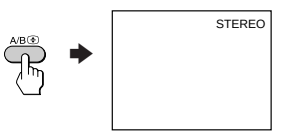
(KV-EF29M91 only)

You can enjoy stereo sound or bilingual programs of NICAM and A2 (German) stereo systems.



Press A/B ⇳ repeatedly until you receive the sound you want.

The on-screen display changes to show the selected sound and the ⏻/ ⏀/ ⏲ indicator lights up.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

When receiving an A2 (German) program

Broadcasting	On-screen display (Selected sound)
A2 (German) stereo	MONO (Regular sound) → STEREO (Stereo sound)
A2 (German) bilingual	MAIN (Main sound) → SUB (Sub sound)

Receiving area for NICAM and A2 (German) programs

System	Receiving area
NICAM	Hong Kong, Singapore, New Zealand, Malaysia, Thailand, etc.
A2 (German)	Australia, Malaysia, Thailand, etc.

Notes

- If the signal is very weak, the sound becomes monaural automatically.
- If the stereo sound is noisy when receiving a NICAM program, select "MONO". The sound becomes monaural, but the noise is reduced.

If the sound is distorted or noisy when receiving a monaural program through the ⅂ (antenna) terminal

Press A/B ⇳ repeatedly until "MONO" appears on the screen while the ⏻/⏀/⏲ indicator is off.

To cancel the monaural sound setting, press A/B ⇳ again until "AUTO" appears on the screen.

MONO → AUTO

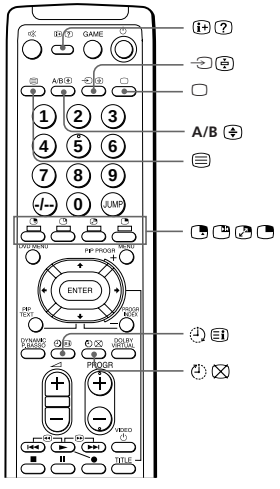
Notes

- The "MONO" or "AUTO" setting is memorized for each program position.
- You cannot receive stereo broadcast signal when the TV is in the "MONO" setting. Normally set the TV to "AUTO."

Viewing Teletext

(KV-EF29M91 only)

TV stations broadcast an information service called Teletext via some TV channels. Teletext allows you to receive various information, such as weather forecasts or news.

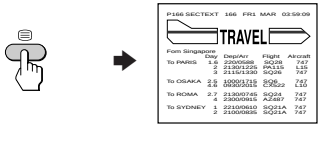


Displaying Teletext

1 Select a TV channel that carries the Teletext broadcast you want to watch.

2 Press ☰ to display the text.

A Teletext page (normally the index page) is displayed. If there is no Teletext broadcast, "100" is displayed at the top left corner of the screen.



To turn off Teletext

Press 🖵.

Additional Teletext tasks

To	Do this
display a Teletext page on the TV picture	Press ☰. Each time you press ☰, the screen changes as follows: Teletext → Teletext and TV → TV.
check the contents of a Teletext service	Press ? then ☰. An overview of the Teletext contents and page numbers appear on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page.* If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR□+/–.
hold a Teletext page (stop the page from scrolling)	Press ⏎ then ⊕ to display the symbol "⊕" at the top left corner of the screen. To resume normal Teletext operation, press ⏎ then ⊕ or ☰.
reveal concealed information (e.g., an answer to a quiz)	Press ? then ?. To conceal the information, press the button again.
enlarge the Teletext display	Press A/B ⊕. Each time you press A/B ⊕, the Teletext display changes as follows: Enlarge upper half → Enlarge lower half → Normal size.
wait for a Teletext page while watching a TV program	1 Enter the Teletext page number that you want to refer to, then press ⏱ then ⊠. 2 When the page number is displayed, press ☰ to show the text.

* You can also select a Teletext page of any page number that appears in the colored column at the bottom of the screen using the corresponding color-coded button on the remote.

Using FASTEXT

This feature allows you to quickly access a Teletext page that uses FASTEXT. When a FASTEXT program is broadcasted, the colored menus appear at the bottom of the screen. The colors of the menus correspond to the red (◔), green (◔), yellow (◔), and blue (◔) color-coded buttons on the remote.

To access a FASTEXT menu

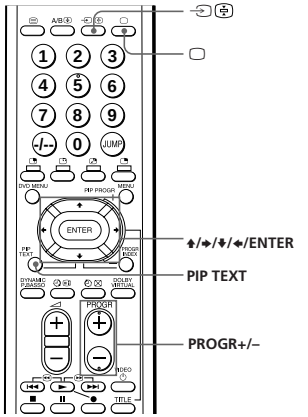
Press the color-coded button on the remote corresponding to the menu you want. The menu page appears on the screen after several seconds.

Displaying Teletext on the PIP screen

—PIP TEXT

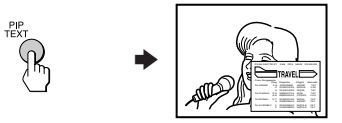
(KV-EF29M91 only)

The PIP TEXT feature enables you to display a Teletext page on the PIP screen while watching a TV program.



1 Select a TV channel that carries the Teletext broadcast you want to watch.

2 Press PIP TEXT.



To go back to the normal screen

Press PIP TEXT again, or press 🖵, –⊖ ⊕, or PROGR +/–.
You can also select "PIP : OFF" from the PIP menu, and press ENTER to go back to the normal screen.

Tips

- You can also display Teletext on the PIP screen using the menu (refer to "Adjusting the PIP setting" on page 30).
- You can also use the color-coded buttons (see page 21) to select pages in the PIP TEXT screen.
- You can change the position of a Teletext page on the PIP screen using the PIP menu (refer to "Adjusting the PIP setting" on page 30).

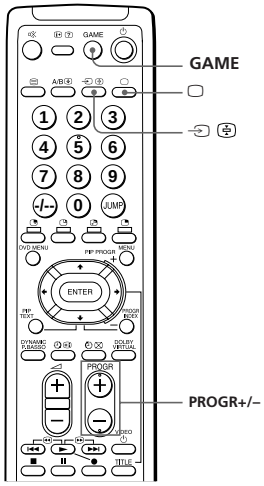
Note

- To select a Teletext page on the PIP screen, press / / / once only. If you press / / / continuously, the Teletext page numbers also change continuously at a fast speed.

Viewing a video game screen

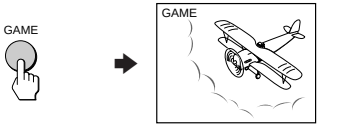
—GAME MODE

The GAME MODE feature optimizes the video game screen by giving a soft picture and dynamic sound effects.



Press GAME.

The picture and sound change to the mode that is suitable for video games.



To go back to the normal picture and sound modes

Press 🖵, –⊖ ⊕, or PROGR +/–.

Tips

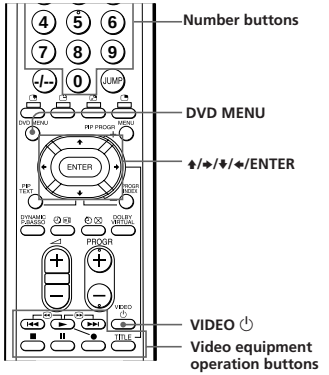
- You can also view the video game screen using the menu (see "Adjusting the FEATURES setting" on page 32).
- You can turn on the TV automatically and enter the GAME mode just by pressing the GAME button when the TV is in the standby mode.

Note

- To display a video game screen, connect the video game equipment to the –⊖ 3 (video input) jacks at the front or rear of the TV.

Operating optional components

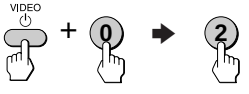
You can use the supplied remote to operate Sony video equipment such as Beta, 8mm, VHS, MDP, CD or DVD.



Setting the remote to the connected equipment

While holding down VIDEO ⏻, press the following number combinations to enter the equipment's code number (see the chart below).

For example, to operate a Sony 8 mm VCR:



Sony video equipment's code numbers

To control	Hold down VIDEO ⏻ and press
DVD	00
VTR1 (Beta)	01
VTR2 (8mm)	02
VTR3 (VHS)	03
MDP	04
CD	06
MD	07

Notes

- If your video equipment is furnished with a COMMAND MODE selector, set this selector to the same position as the setting code.
- If the equipment does not have a certain function, the corresponding button on the remote will not operate.
- When you remove the batteries, the code number may revert to the factory setting.

Operating a VCR using the remote

To	Press
turn on/off	VIDEO ⏻
record	● while pressing ►
play	►
stop	■
fast forward	►►
rewind the tape	◄◄
pause	❚❚ Press again to resume normal playback.
search the picture forward or backward	►► or ◄◄ during playback. Release to resume normal playback.

Operating a DVD player using the remote

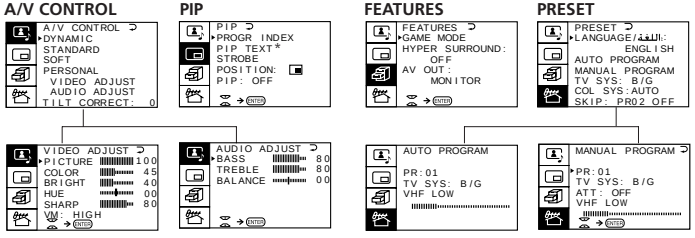
To	Press
turn on/off	VIDEO ⏻
play	►
stop	■
pause	❚❚ Press again to resume normal playback.
step through different tracks of an audio disc	►►I to step forward or I◄◄ to step backward
display the Title menu	TITLE
display the menu	DVD MENU
select the menu item	↑/→/↓/← while holding down ●

Operating an MDP using the remote

To	Press
turn on/off	VIDEO ⏻
play	►
stop	■
pause	❚❚ Press again to resume normal playback.
search the picture forward or backward	►► or ◄◄ during playback. Release to resume normal playback

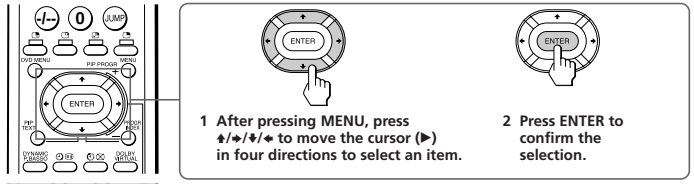
Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. Here's an overview of the menu system.



*KV-EF29M91 only

How to use the menu



To	Do this
go back to the previous menu	Press ↑ or ↓ to move the cursor (▶) to the first line (⮌) of each menu, then press ENTER.*
cancel the menu	Press MENU.
change the menu language	See next page.

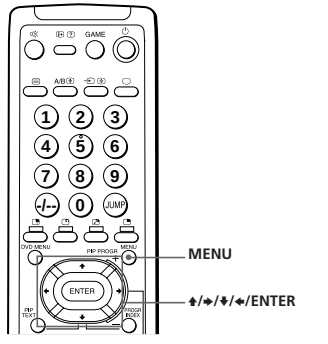
* Except for "AUTO PROGRAM"

Notes (except for AUTO PROGRAM)

- When you select a menu, the color of the menu and the menu symbol change and the cursor (▶) appears beside the first item of the menu.
- When an item on the menu is selected after pressing ENTER, the color of the item changes.
- If more than 60 seconds elapse between entries, the menu screen disappears.
- Some menu displays contain the symbol ↑↓→ ENTER at the bottom of the screen to indicate how to use the menu.

Changing the menu language

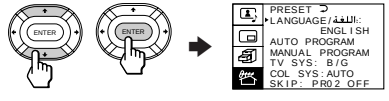
You can change the menu language as well as the on-screen language.



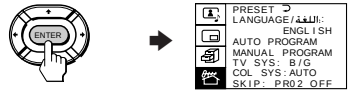
1 Press MENU.



2 Press ↑ or ↓ to move the cursor (▶) to the PRESET menu ( ), then press ENTER.

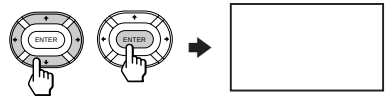


3 Make sure the cursor (▶) appears beside LANGUAGE/اللغة, then press ENTER.



4 Press ↑/→/↓/← to select عربي, then press ENTER.

The menu language changes to Arabic.

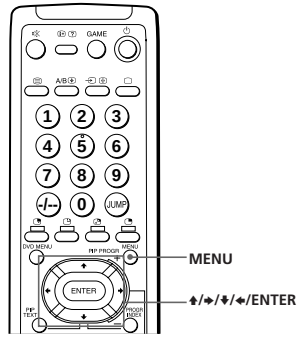


To go back to the normal screen

Press MENU.

Adjusting the A/V CONTROL setting

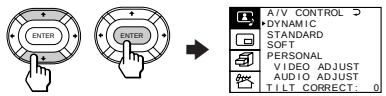
The A/V CONTROL menu allows you to adjust the picture and sound settings.



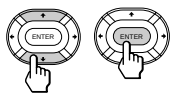
1 Press MENU.



2 Press ↑ or ↓ to move the cursor (▶) to , then press ENTER.



3 Press ↑ or ↓ to move the cursor (▶) to the desired option (see the table below), then press ENTER.

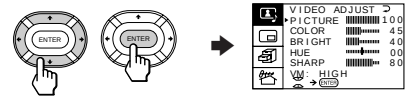


Select	To
DYNAMIC	receive high contrast pictures with powerful sound.
STANDARD	receive normal contrast pictures with medium listening sound.
SOFT	receive mild pictures with soft sound.
PERSONAL VIDEO ADJUST* AUDIO ADJUST*	receive the last picture/sound settings that are adjusted using "VIDEO ADJUST*" and "AUDIO ADJUST*".
TILT CORRECT	adjust the picture tilt when it is not aligned to the TV screen.

* When you select "VIDEO ADJUST" or "AUDIO ADJUST", options for your selection are displayed (see below).

Adjusting the VIDEO ADJUST settings

1 Press ↑/→/↓/← to adjust the selected item, then press ENTER.



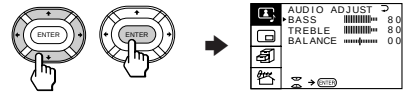
For	Press ↓/← to	Press ↑/→ to
PICTURE	decrease picture contrast	increase picture contrast
COLOR	decrease color intensity	increase color intensity
BRIGHT	darken the picture	brighten the picture
HUE*	make picture tones reddish	make picture tones greenish
SHARP	soften the picture	sharpen the picture
VM	decrease emphasis on picture edges	increase emphasis on picture edges

* You can adjust HUE for the NTSC color system only.

2 Repeat the above step to adjust other items.

Adjusting the AUDIO ADJUST settings

1 Press ↑/→/↓/← to adjust the selected item, then press ENTER.



For	Press ↓/← to	Press ↑/→ to
BASS	decrease the bass	increase the bass
TREBLE	decrease the treble	increase the treble
BALANCE	increase the left speaker's volume	increase the right speaker's volume

2 Repeat the above step to adjust other items.

To go back to the normal screen

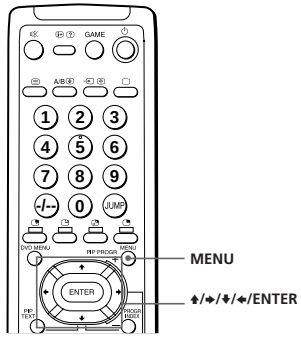
Press MENU.

Tip

- For details on the menu system and how to use the menu, refer to the "Introducing the menu system" section on page 26.

Adjusting the PIP setting

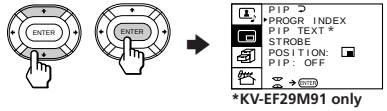
The PIP menu allows you to use the Picture-in-Picture (PIP) feature.



1 Press MENU.

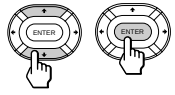


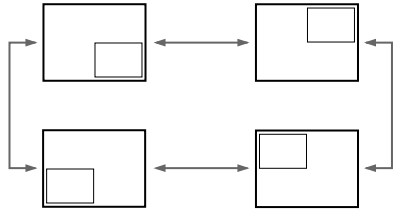
2 Press ↑ or ↓ to move the cursor (▶) to ( ), then press ENTER.



***KV-EF29M91 only**

3 Press ↑ or ↓ to move the cursor (▶) to the desired option (see the table below), then press ENTER.



Select	To
PROGR INDEX	view multiple programs on the nine sub-screens. To cancel, select "PROGR INDEX" or "PIP: OFF", then press ENTER. Or press PROGR INDEX or ◔ on the remote.
PIP TEXT*	display a Teletext page on the PIP screen. Press ↑/→/↓/← to select the desired Teletext page. To cancel, select "PIP: OFF", then press ENTER. Or press PIP TEXT, ▢, ⊖ ⊕, or PROGR +/– on the remote.
STROBE	view slow motion movement on the nine sub screens. To cancel, select "STROBE" again or "PIP: OFF", then press ENTER. Or press ▢, ⊖ ⊕, or PROGR +/–, or ◔ on the remote.
POSITION	change the position of the PIP screen. Press ↑/→/↓/← to select the desired position, then press ENTER.  To cancel, press MENU.
PIP	display a sub screen within the main picture. Press ↑/→/↓/← to select "ON", then press ENTER. To cancel, press ◔ or select "OFF", then press ENTER.

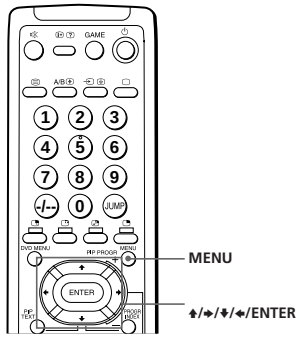
* KV-EF29M91 only.

Tip

- For details on the menu system and how to use the menu, see the "Introducing the menu system" section on page 26.

Adjusting the FEATURES setting

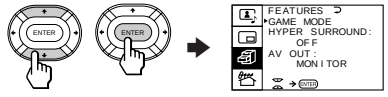
The FEATURES menu allows you to optimize the screen for video games, enjoy "surround" sound effects, and select the output signal of the TV broadcast or the connected equipment.



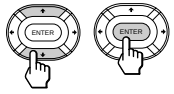
1 Press MENU.



2 Press ↑ or ↓ to move the cursor (▶) to (), then press ENTER.



3 Press ↑ or ↓ to move the cursor (▶) to the desired option (see the table below), then press ENTER.



Select	To
GAME MODE	view a video game screen
HYPER SURROUND	enjoy "surround" sound effects of a concert hall or movie theater. Press ↑/→/↓/← to select "DOLBY VIRTUAL", "MOVIE", "MUSIC", "NEWS<BBE[1)]>", "HALL<SRS[2)]>", or "SPACE[3)]" (see below for details on each item).
AV OUT (advanced rec-out)	select the signal output through the ⊃ (Monitor/TV output) terminal. Press ↑/→/↓/← to select "TV" (to output the TV broadcast signal) or "MONITOR" (to output the signal of the equipment connected to the TV).

Description of adjustable HYPER SURROUND items

Select	To
DOLBY VIRTUAL	listen to Dolby Surround encoded sound.
MOVIE	listen to sound that emphasizes the bass audio effect of a movie theater.
MUSIC	listen to dynamic and clear sound that emphasizes the low and high sound.
NEWS<BBE [1)]>	listen to sound that emphasizes voice.
HALL<SRS [2)]>	listen to sound that spreads out over a large area, giving the feeling of being at a concert hall.
SPACE [3)]	listen to monaural sound with a stereo-like effect.
OFF	turn off the "surround" sound.

[1)] The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

[2)] The (●) ® SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. The word "SRS" and the SRS symbol (●) are registered trademarks of SRS Labs, Inc.

[3)] SPACE uses SRS MONO.

To go back to the normal screen

Press MENU.

Notes

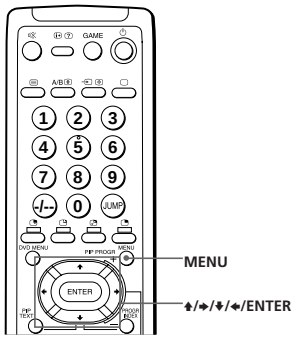
- Do not change the channel and the input selection while recording with a VCR through the ⊃ (Monitor/TV output) jacks. If you change the channel and the input selection, it also changes the channel and input selection that you are recording.
- The signals of the PROGRAM INDEX, STROBE, PIP modes, and the Teletext broadcast cannot be output even though "MONITOR" is selected.

Tip

- For details on the menu system and how to use the menu, see the "Introducing the menu system" section on page 26.

Adjusting the PRESET setting

The PRESET menu allows you to adjust the setup of your TV. For example, you can receive a channel with a weak signal that fails to be tuned in by automatic presetting. In addition, the PRESET menu offers other setup options, such as changing the menu language.

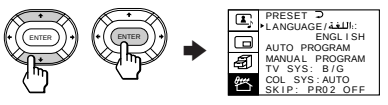


Presetting channels manually

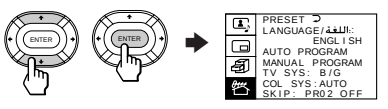
1 Press MENU.



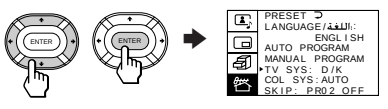
2 Press ↑ or ↓ to move the cursor (▶) to ( ), then press ENTER.



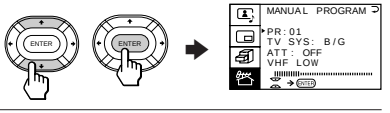
3 Press ↑ or ↓ to move the cursor (▶) to TV SYS, then press ENTER.



4 Press ↑/→/↓/← until your local TV system appears on the menu, then press ENTER.



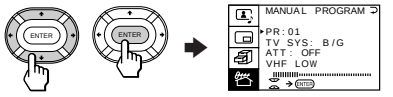
5 Press ↑ or ↓ to move the cursor (▶) to MANUAL PROGRAM, then press ENTER.



6 Select the program position to which you want to preset a channel.

(1) Make sure the cursor (▶) appears beside PR, then press ENTER.

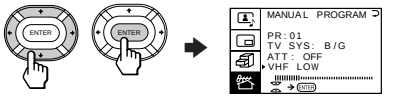
(2) Press ↑/→/↓/← until the program position you want appears on the menu, then press ENTER.



7 Select the desired channel.

(1) Make sure the cursor (▶) appears beside VHF LOW, then press ENTER.

(2) Press ↑/→/↓/← until the desired channel picture appears on the TV screen, then press ENTER.



To go back to the normal screen

Press MENU.

Notes

- If the TV signal is too strong and the picture is distorted, select "MANUAL PROGRAM" from the PRESET menu, then select "ATT (attenuator) ON".
- The TV system and the ATT (attenuator) settings are memorized for each program position.
- If you do not know your local TV system, consult your nearest Sony dealer or authorized service center.

continued

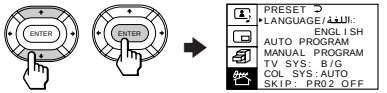
Adjusting the PRESET setting (continued)

Changing other PRESET menu options

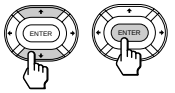
1 Press MENU.



2 Press ↑ or ↓ to move the cursor (▶) to ( ), then press ENTER.



3 Press ↑ or ↓ to move the cursor (▶) to the desired option, then press ENTER.



Select	To
LANGUAGE	change the menu language (page 27)
AUTO PROGRAM	preset channels automatically
MANUAL PROGRAM	preset channels manually. See "Presetting channels manually" on page 34.
TV SYS	select the TV system. See "Presetting channels manually" on page 34.
COL SYS	select the color system. Normally, set this to "AUTO".
SKIP	skip unwanted or unused program positions. 1 Press ↑/↓ until the unused or unwanted program position appears, then press ENTER. 2 Select "ON", then press ENTER. 3 To disable other program positions, repeat steps 1 and 2. To put the skipped program position back on, select "OFF" in step 2.

To go back to the normal screen

Press MENU.

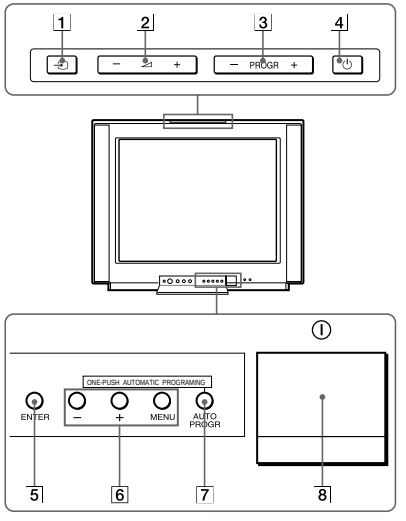
Tip

- For details on the menu system and how to use the menu, refer to the "Introducing the menu system" section on page 26.

Identifying parts and controls

Refer to the pages indicated in parentheses ( ) for details.

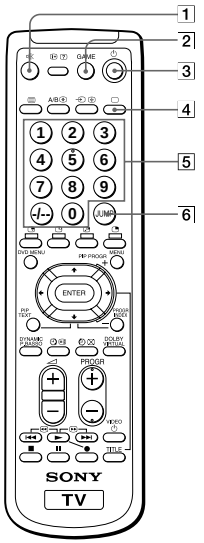
Front panel



1 ⊜ (TV/video) button (10)
2 ◿ +/– (volume) buttons (10)
3 PROGR +/– (program) buttons (9)
4 ⏻ (power) button (9)
5 ENTER button (26)
6 MENU +/– buttons (26)
7 AUTO PROGR (program) button (5)
8 ⏼ (main power) button (9)

continued

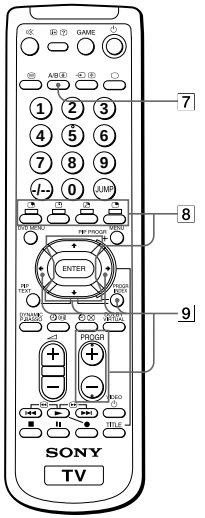
Remote



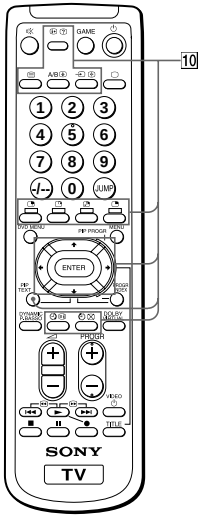
1 (muting) button (10)
2 GAME button (23)
3 (power) button (9)
4 (TV) button (10)
5 Number buttons (9)
6 JUMP button (10)

Names / symbols of buttons on the remote are indicated in different colors to represent the available functions.

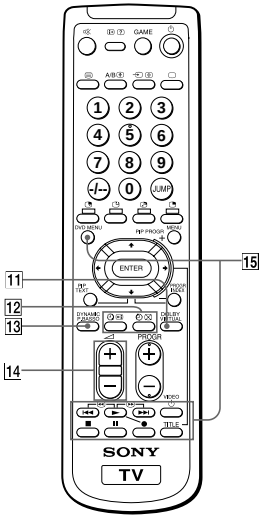
Label color	Button function
White	For general TV operations
Green	For Teletext operations
Yellow	For PIP and PROGRAM INDEX operations



7 A/B button (KV-EF29M91 only) (18)
8 PIP operation buttons (14 – 15)
(TV/video)
(freeze)
(swap)
(PIP)
/ /ENTER—for PIP PROGR
9 PROGRAM INDEX operation buttons (16 – 17)
PROGR INDEX
/ / / /ENTER
PROGR +/–



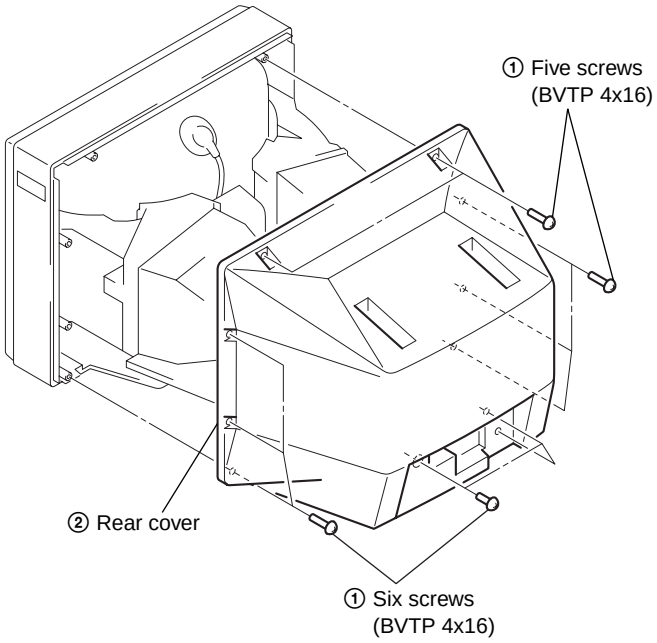
10 Teletext operation buttons (KV-EF29M91 only) (20– 22)
(text)
(enlarge)
(reveal)
(hold)
Red
Green
Yellow
Blue
(index)
(text clear)
PIP TEXT
/ / / /ENTER



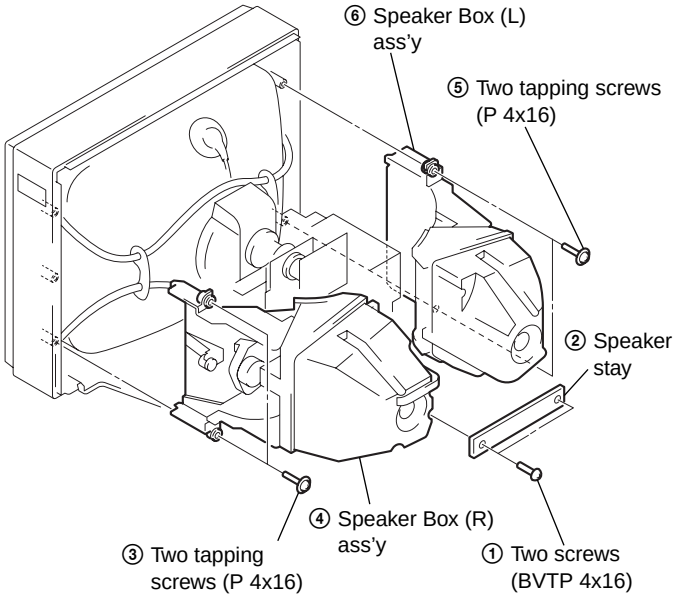
11 DOLBY VIRTUAL button (13)
12 Timer setting buttons (11)
(wake up timer)
(sleep timer)
13 DYNAMIC P(power). BASSO button (12)
14 (volume) +/– buttons (10)
15 DVD, VCR, MDP, CD, MD operation buttons (25)
DVD MENU
/ (fastforward/search forward)
(play)
/ (rewind/search backward)
● (record)
■ (stop)
❚❚ (pause)
VIDEO (power)
TITLE

SECTION 2
DISASSEMBLY

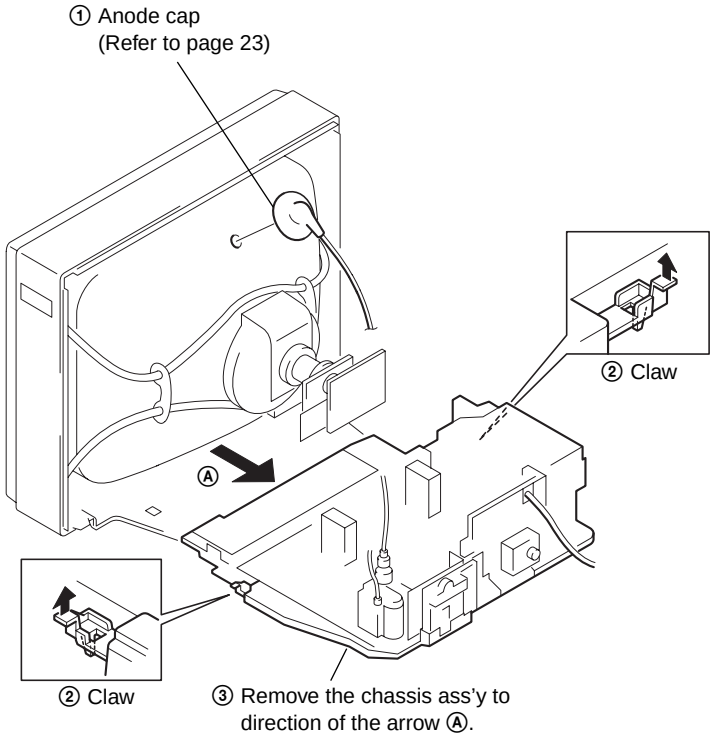
2-1. REAR COVER REMOVAL



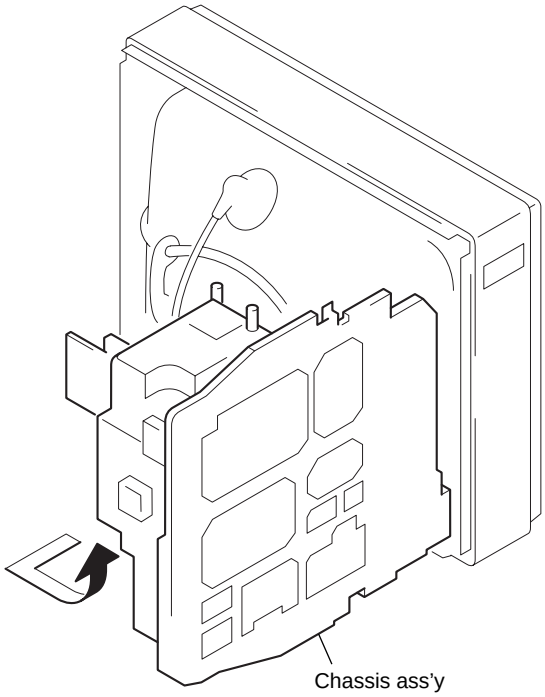
2-2. SPEAKER BOX ASS'Y REMOVAL



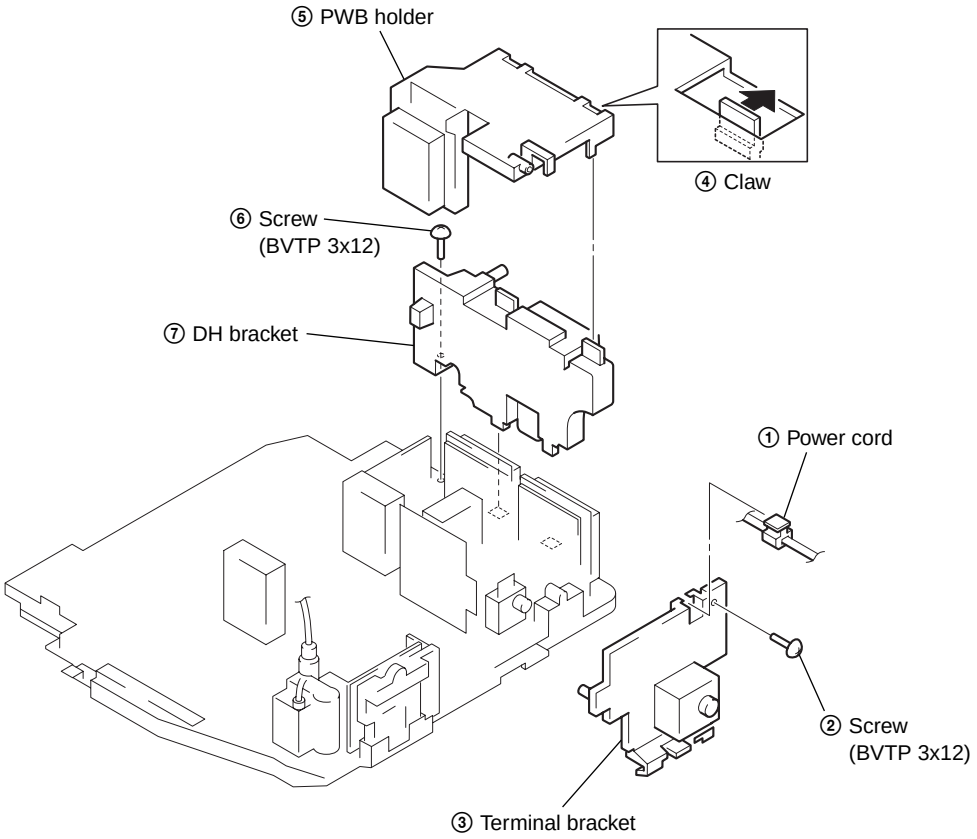
2-3. CHASSIS ASS'Y REMOVAL



2-4. SERVICE POSITION



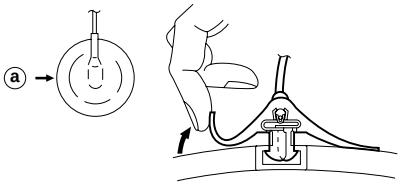
2-5. TERMINAL BRACKET, PWB HOLDER, DH BRACKET REMOVAL



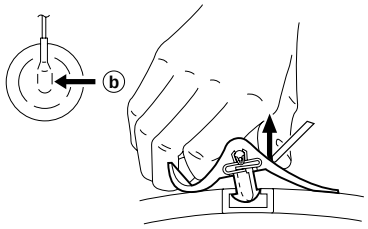
• REMOVAL OF ANODE-CAP

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

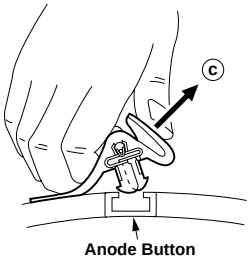
• REMOVING PROCEDURES



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



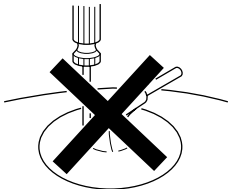
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

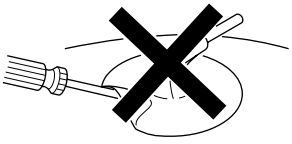


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

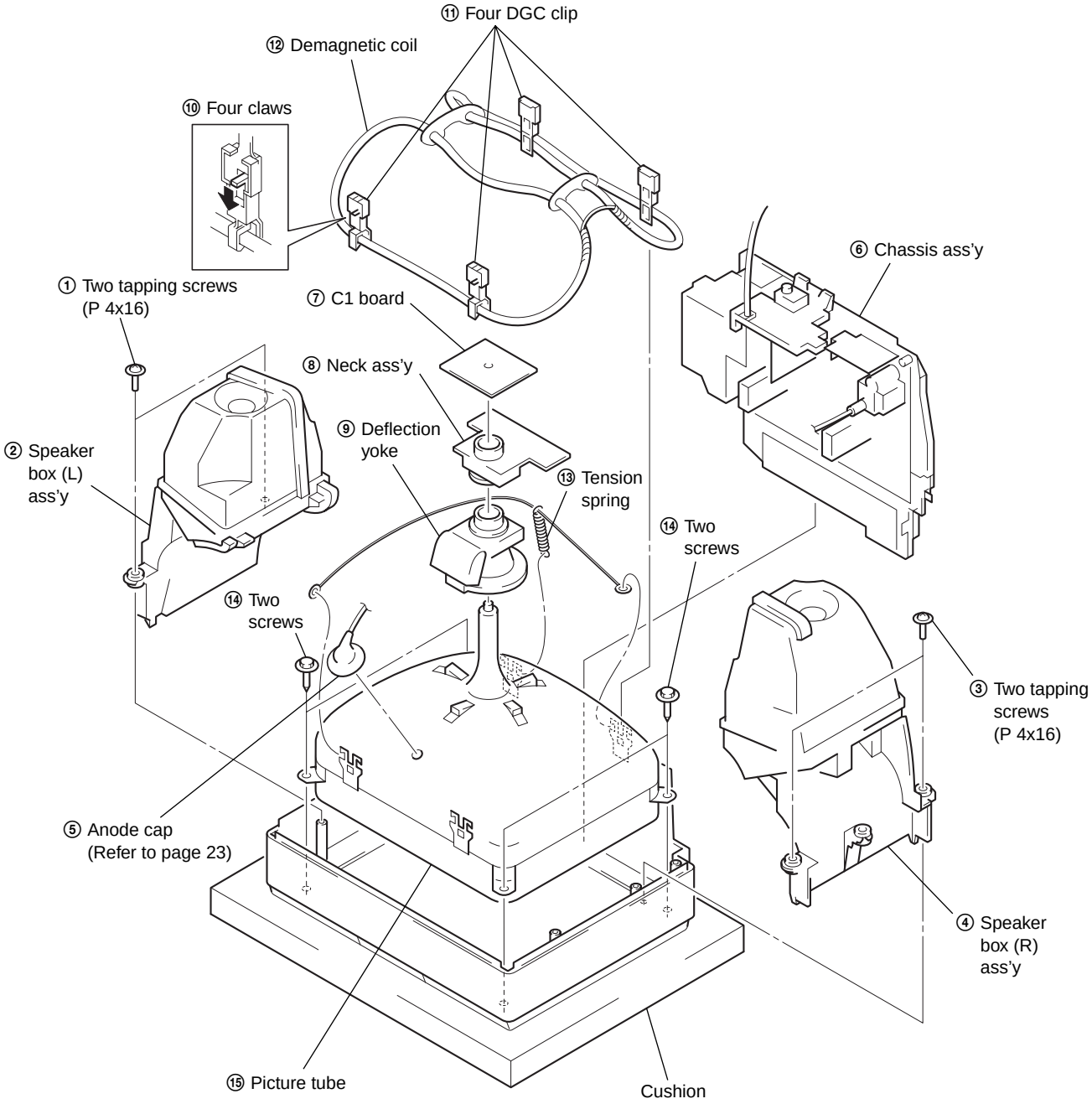
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with shartp shaped material!
② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.

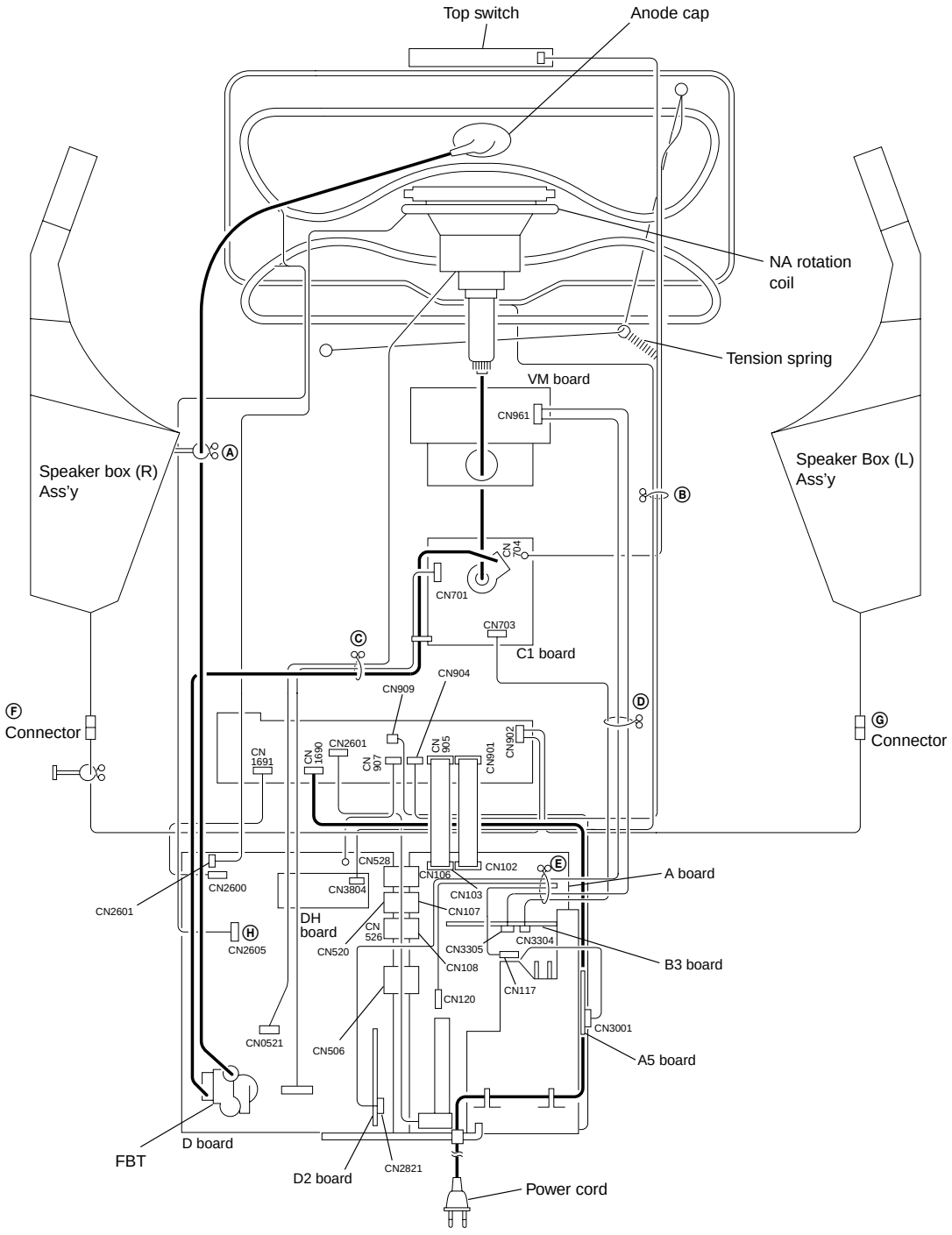




2-6. PICTURE TUBE REMOVAL



2-7. WIRING HARNESS LAYOUT



- **DISASSEMBLED IN THE ORDER SHOWN BELOW**

REAR COVER ..... 1) Eleven screws
↓
SPEAKER BOX (L), (R) ASS'Y ..... 1) Purse lock Ⓐ
2) Two connector Ⓕ, Ⓖ
3) Four screws
↓
CHASSIS SLIDE ..... 1) Purse lock Ⓑ
↓
CHASSIS SERVICE POSITION ..... 1) Three purse lock Ⓒ, Ⓓ, Ⓔ
2) Connector CN2605 Ⓗ

SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted:

PICTURE control ..... RESET
BRIGHTNESS control ..... CENTER

Perform the adjustments in order as follows :

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

Note : Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input a white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Position neck ass'y as shown in Fig3-2.
3. Set the pattern generator raster signal to a red raster.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
   (See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that the entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws and DY spacers.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (See Figure 3-4.)

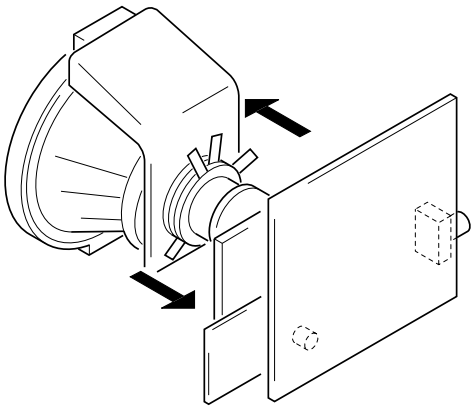


Fig. 3-1

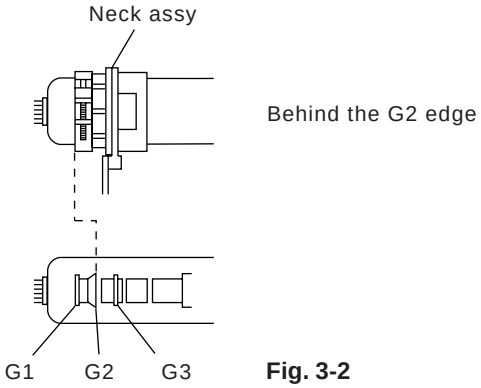


Fig. 3-2

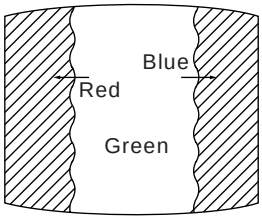


Fig. 3-3

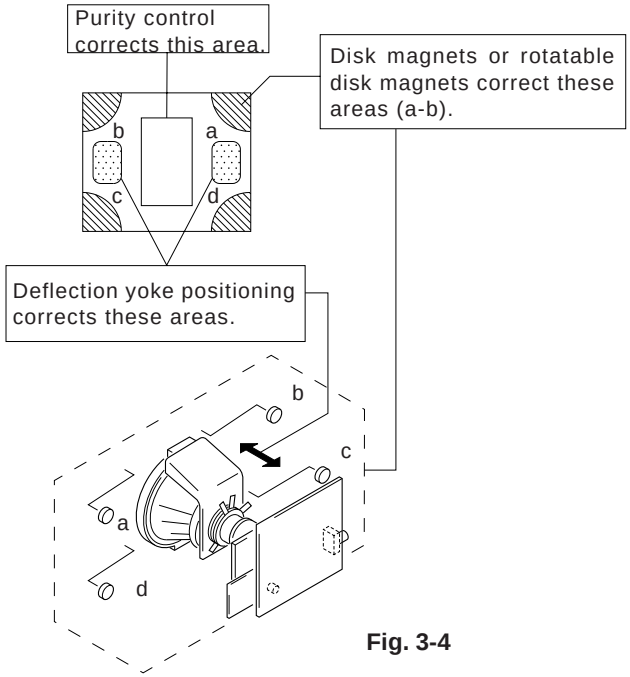


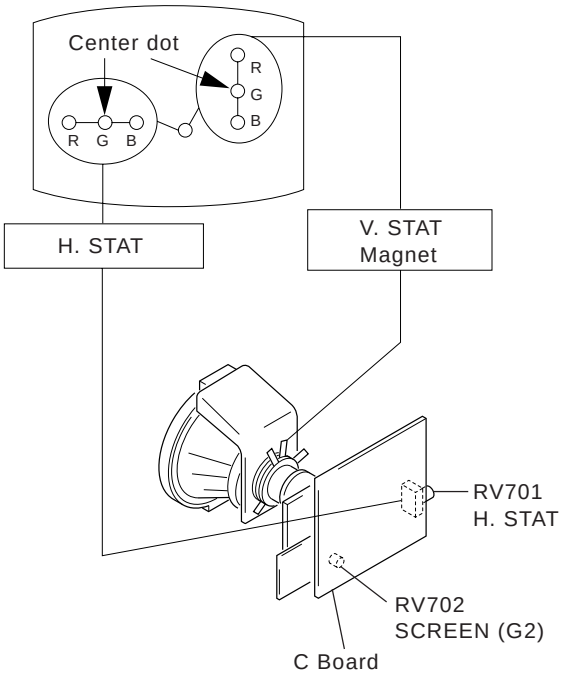
Fig. 3-4

3-2. CONVERGENCE

Preparations :

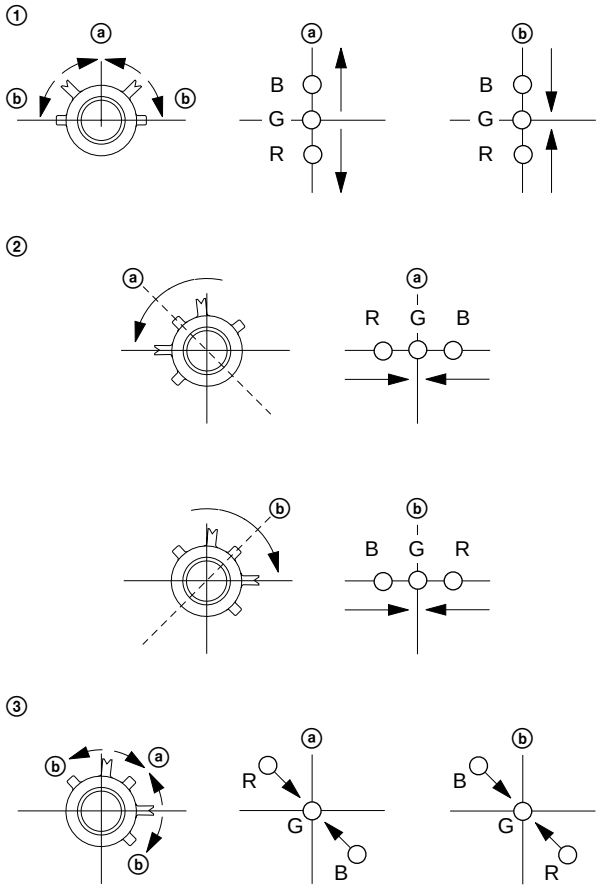
- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and Vertical Static Convergence

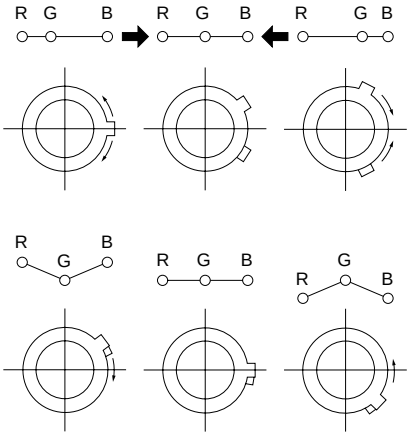


1. (Moving horizontally), adjust the H.STAT control so that the red, green and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other.)

- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.
  If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.

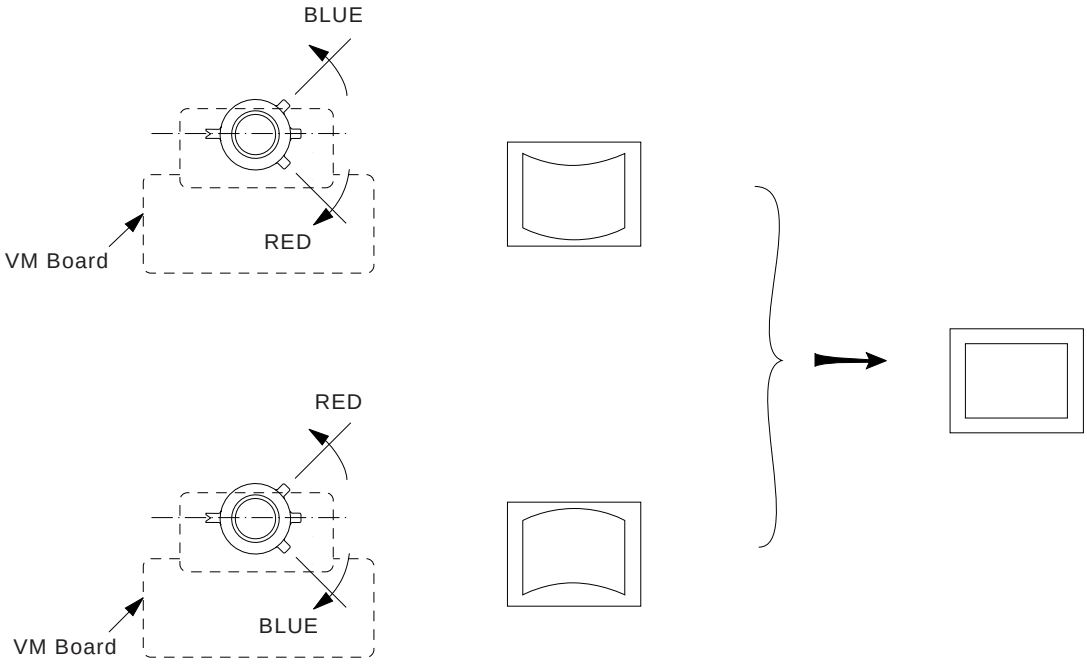


- Operation of BMC (Hexapole) Magnet
  If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.



1 Y separation axis correction magnet adjustment receive the cross-hatch signal and adjust [PICTURE] to [MIN] and [BRIGHTNESS] to [STANDARD] .

2 Adjust the Y separation axis correction magnet on the neck assembly so that the horizontal lines at the top and bottom of the screen are straight.



Note 1) The Red and Blue magnets should be equally far from the horizontal center line.
2) Do not seperate the Red and Blue magnets too far. (Less than 8 mm)

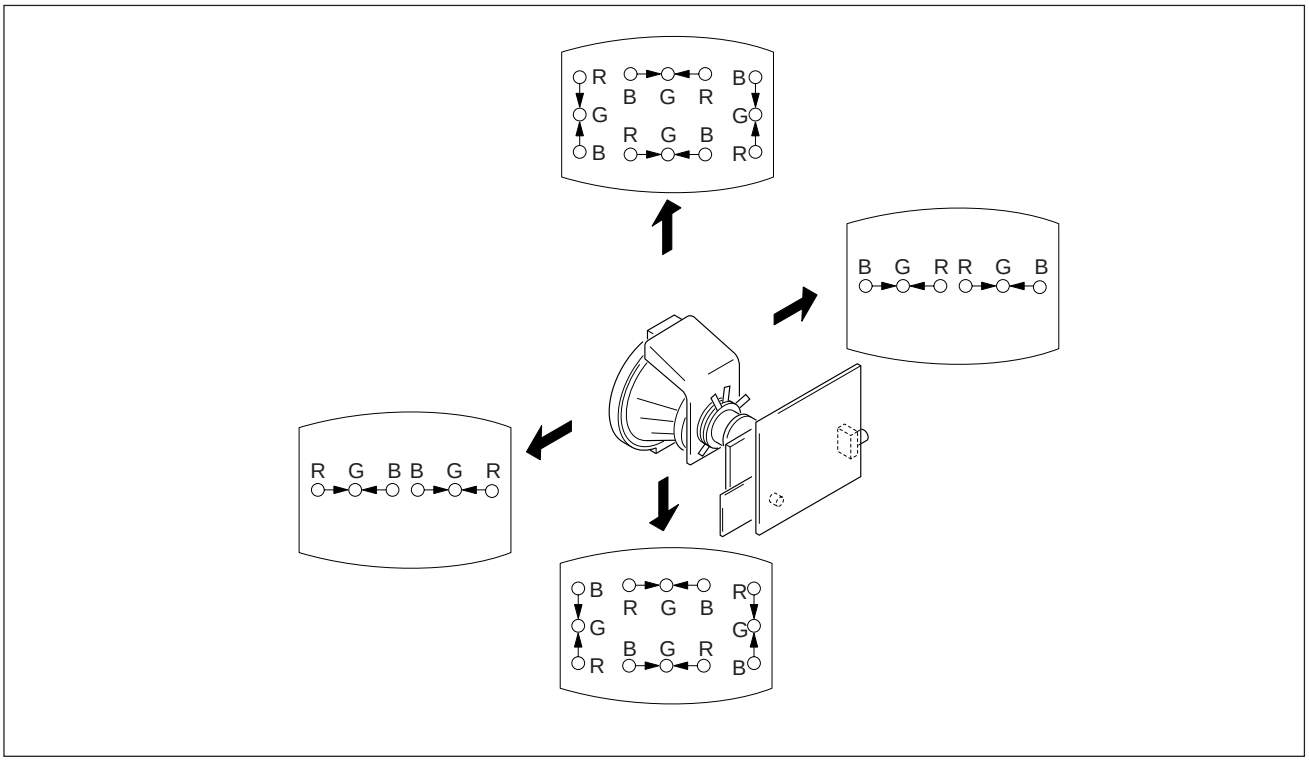
- Use the H.STAT VR to adjust the red, green, and blue dots so that they coincide at the center of screen.
  The respective dot position resulting from moving each magnet interact, so be sure to perform adjustment while tracking.

(2) Dynamic Convergence Adjustment

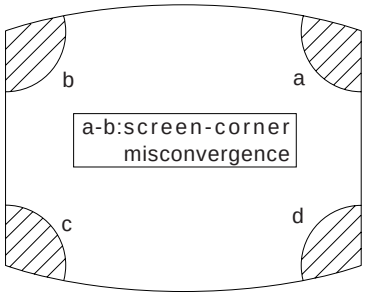
Preparation:

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence

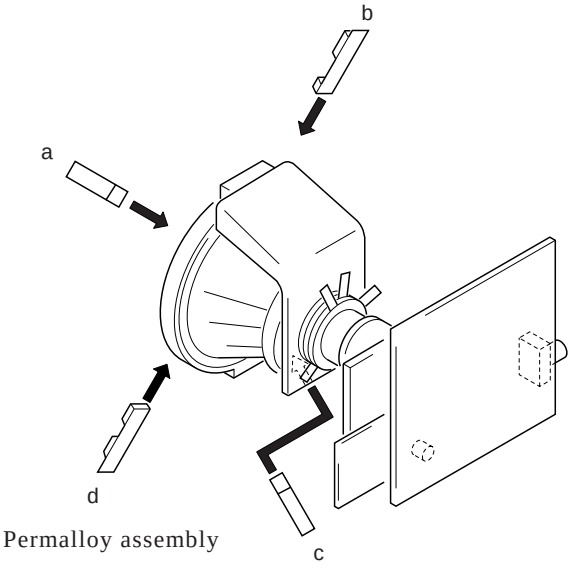
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.



(3) Screen-corner Convergence



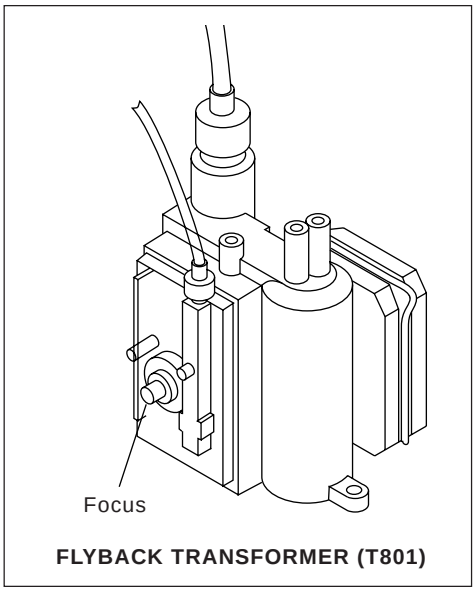
Affix a Permalloy assy corresponding to the misconverged areas.



Permalloy assembly

3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for the best focus.



FLYBACK TRANSFORMER (T801)

a. AN ITEM OF ADJUSTMENT

Item number	Adjustment item	Standard DATA	Note
39	SBR	24	SUB-BRIGHTNESS
3B	GDR	1D	G. Drive
3C	BDR	20	B. Drive
3D	GCF	07	G. CUT-OFF
3E	BCF	08	B. CUT-OFF

b. METHOD OF CANCELLATION FROM SERVICE MODE

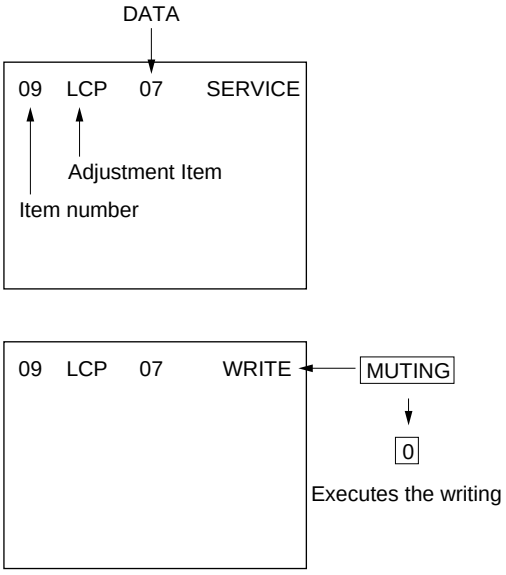
Set the standby condition (Press POWER button on the commander), then press POWER button again, hereupon it becomes TV mode.

c. METHOD OF WRITE FOR MEMORY

1) Set to Service Mode.
2) Press 1 (UP) and 4 (DOWN), select an item of adjustments.
3) Press MUTING button indicate WRITE (RED) on screen.
4) Press 0 button to write into memory.

d. MEMORY WRITE CONFIRMATION METHOD

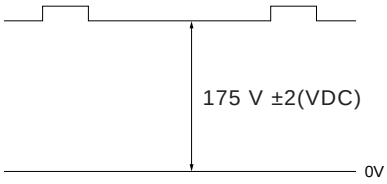
1) After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again to confirm adjustments were made.



3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT (RV701)

1) Set the PICTURE and BRIGHTNESS to normal.
2) Put to VIDEO input mode without signals.
3) Set to Service Mode.
4) Change BLU data of the item number [8E] from [01] to [00]. (To turn off Blue Back.)
5) Press [MUTING] , and [0] to write the data in the memory.
6) Connect R, G, and B of the C board cathode to the oscilloscope.
7) Adjust G2 (RV702) volume to the value below.



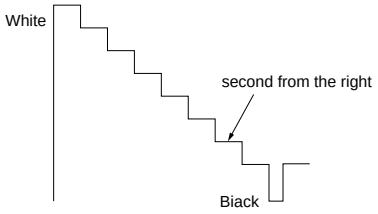
8) Re-set BLU data of the item number [8E] from [00] back to [01] .
9) Press [MUTING], and [0] to write the data in the memory.

2. WHITE BALANCE ADJUSTMENTS

1) Set to service Mode.
2) Input white raster signal.
3) Set the PICTURE to minimum.
4) Select SBR(39) with [1] and [4] , and then set the level to minimum with [3] and [6] .
5) Select GCF(3D) and BCF(3E) with [1] and [4]. And adjust the level with [3] and [6] for the best white balance.
6) Set the PICTURE to maximum.
7) Select GDR(3B) and BDR (3C) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
8) Write into the memory by pressing [MUTING] then [0].

3. SUB BRIGHT ADJUSTMENT

1) Set to service mode.
2) Input a staircase signal of black and white from the pattern generator.
3) BRIGHTNESS .... RESET.
   PICTURE ..... minimum
4) Select SBR(39) with [1] and [4] , and adjust SBR level with [3] and [6] so that the stripe second from the right is dimly lit.



SECTION 4
SELF DIAGNOSIS FUNCTION

If no acknowledgement is returned from a device which is turned "ON", the device has a problem.
In this case, one of the LED's responding to the problem device will flicker a defined number of times.

The flickering frequency responding to each failed device is shown below.

Board name	A Board	A Board	A Board	A Board
Ref. No.	IC003	IC1201	IC104	IC206
Device	NONVOLATILE MEMORY	AV SWITCH (CXA1855S)	MAIN Y/C (CXA2050S)	SURROUND PROCESSOR (TDA8424)
Flickering Frequency	1	2	3	6

All the devices are checked one after another from the left on the table.
If an error is found, the responding LED will start flickering.
So, if more than 2 devices are failed, the one on the left side will start flickering first.

SECTION 5
CIRCUIT ADJUSTMENTS

5-1. ADJUSTMENTS WITH COMMANDER

Service adjustments are made with the RM-881 that comes with this unit.

Entering service mode

With the unit on standby

↓

DISPLAY

↓

5

↓

VOL (+)

↓

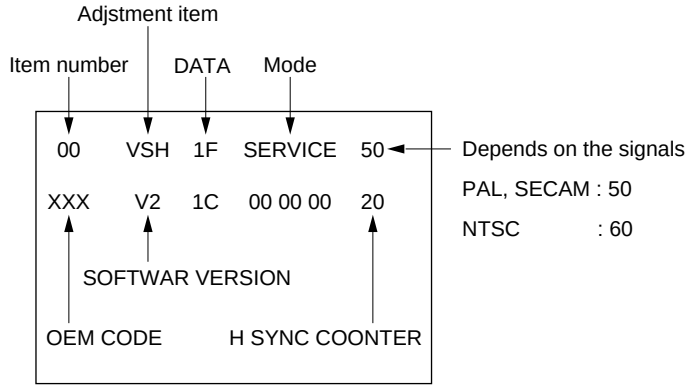
POWER

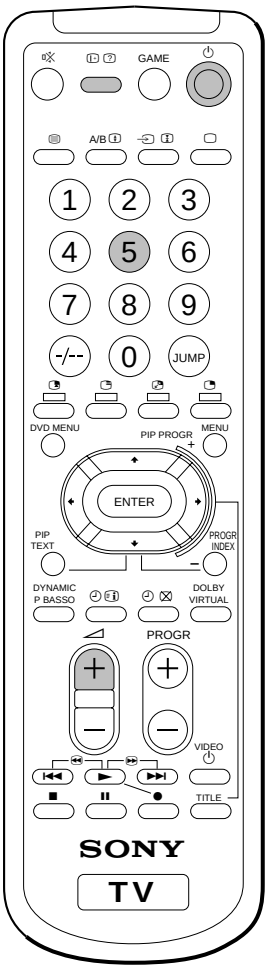
The operation sequence puts the unit into service mode.

1, 4	Select the adjustment item.
↓	
3, 6	Raise/lower the data value.
↓	
MUTING	Writes.
↓	
0	Executes the writing.

7, 0	All the data becomes the values in memory.
8, 0	All user control goes to the standard state.
5, 0	Service data initialization (Be sure not to use usually.)
2, 0	Write 50Hz adjustment data to 60Hz, or vice versa.

The screen display is :





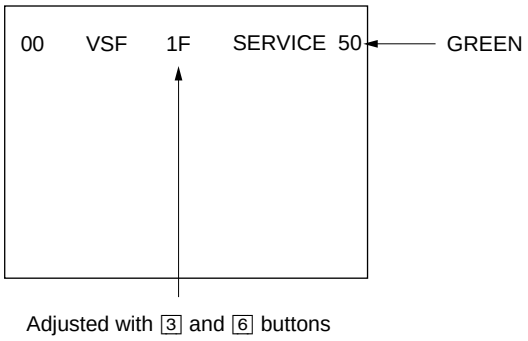
RM-881

5-2. ADJUSTMENT METHOD

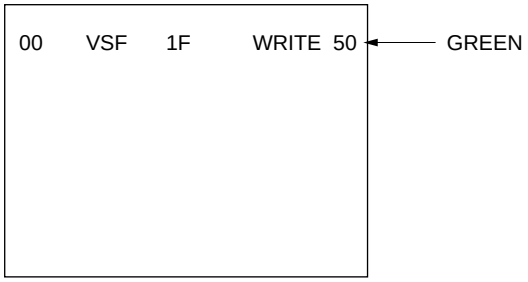
Item Number 00

This explanation uses V-Position as an example.

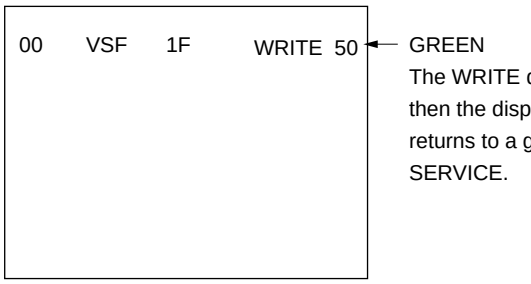
1. Select 00 VSH with the [1] and [4] buttons.
2. Raise/lower the data with the [3] and [6] buttons.
3. Select the optimum state. (The standard is IF for PAL reception.)
4. Write with the [MUTING] button. (The display changes to WRITE.)
5. Execute the writing with the [0] button. (The WRITE display will be changed back to SERVICE.)



Adjusted with [3] and [6] buttons



Written with [MUTING]



Write executed with [0]

Use the same method for Items Number 00-99. Use [1] and [4] to select the adjustment item, use [3] and [6] to adjust, write with [MUTING], then execute the write with [0].

Note : In [WRITE], the data of all items are into memory.

- As for V-FREQ, by searching the bolded screen V range with adjusting data.

Note : For adjustment Items that have differnt standard data between 50Hz or 60Hz and novwel or wid, be sure to use the respective input signal ather adjusting.

Adjustment Item Table

Item Display	Adj Item	Data Range	Std Values	Register Name	Device
00	VSH	00~3F	1B	V POSITION	CXA2050S
01	VSZ	00~3F	21	V SIZE	
02	HSH	00~0F	07	H POSITION	
03	HSZ	00~3F	12	H SIZE	
04	SCR	00~0F	06	S CORRECTION	
05	VLN	00~0F	08	V LINEARITY	
06	PAP	00~3F	OE	PIN COMP	
07	PPH	00~0F	05	PIN PHASE	
08	UCP	00~0F	05	UP CORNER PIN	
09	LCP	00~0F	05	LOW CORNER PIN	
0A	BOW	00~0F	05	AFC-BOW	
0B	ANG	00~0F	09	AFC-ANGLE	
0C	VAP	00~3F	2F	V ASPECT	
0D	VSC	00~3F	1F	V SCROLL	
0E	ULN	00~0F	00	UP V LINEARITY	
0F	LLN	00~0F	00	LOW V LINEARITY	
10	EHH	00~03	00	EHT-H	
			00		
11	EHV	00~03	01	EHT-V	
			01		
12	HBS	00~01	01	H BLK WID.ON/OFF	
13	LBK	00~0F	0F	L BLK WIDTH	
14	RBK	00~0F	0F	R BLK WIDTH	
15	JSW	00~01	00	JUMP ON/OFF SW	
16	VBW	00~03	02	V BLK WID.CON.	
17	AFC	00~03	01	AFC-MODE	
			03		
18	FHH	00~01	00	FH-HI	
19	VFQ	00~03	00	V-FREQ	
1A	VOF	00~01	00	V OFF	
1B	VMD	00~01	00	CD-MODE2	
1C	CMD	00~01	00	CD-MODE	
1D	TTL	00~03	00	INTERLACE	
1E	ZSW	00~01	00	ZOOM SW	
1F	POV	00~03	03	PRE-OVER	
20	CT1	00~01	01	C-TRAP(NTSC)	
21	CT2	00~01	01	C-TRAP(PAL)	
22	CFO	00~0F	07	C-TRAP fo ADJ	
23	SFO	00~01	00	SHARPNESS fo ADJ	
24	TOT	00~01	01	TOT FILTER SW	
25	CSW	00~03	00	COLOR SW	
26	XTL	00~03	00	XTAL	
			00		
27	CV1	00~01	01	CV/YC SEL(NTSC)	
28	CV2	00~01	01	CV/YC SEL(PAL)	
29	VM	00~01	01	VM ON/OFF	
2A	YVM	00~01	00	YS1/VM SW(0:YS1)	
2B	DPC	00~01	01	D-PIC ON/OFF	
2C	DCO	00~01	01	DYNAMIC COLOR	
2D	GMM	00~03	01	GAMMA	
2E	DTR	00~01	01	DC-TRANSIENT	
2F	DL1	00~07	03	DELAY CTRL(PAL)	
			03		
30	DL2	00~07	03	DELAY CTRL(NTSC)	
			03		
31	DL3	00~07	03	DELAY CTRL(SECAM)	
			03		

Note: Items are fixed data.

Adjustment Item Table

Item Display	Adj Item	Data Range	Std Values	Register Name	Device
32	DL4	00~07	07	DELAY AT DVD(50Hz)	
33	DL5	00~07	07	DELAY AT DVD(60Hz)	
34	SCN	00~0F	09	SUB-CONTRAST	
35	SC1	00~0F	0B	SUB-COLOR(OTHER)	
36	SC2	00~0F	0B	SUB-COLOR(NTSC)	
37	SH1	00~0F	04	SUB-HUE(TV)	
38	SH2	00~0F	07	SUB-HUE(VIDEO)	
39	SBR	00~3F	24	SUB-BRIGHT	
3A	SSH	00~07	04	SUB-SHARPNESS	
			02		
3B	GDR	00~3F	1D	G-DRIVE	
3C	BDR	00~3F	20	B-DRIVE	
3D	GCF	00~0F	07	G-CUTOFF	
3E	BCF	00~0F	08	B-CUTOFF	
3F	RPO	00~03	01	0F[0..1]	
			02		
40	PON	00~01	01	PIC-ON	
41	RON	00~01	01	R ON	
42	GON	00~01	01	G ON	
43	BON	00~01	01	B ON	
44	AKF	00~01	00	AKB ON/OFF SW	
45	ESY	00~01	00	EXT SYNC SEL	
			00		
46	AGG	00~01	00	AGING MODE ON/OFF	
47	ABL	00~01	00	ABL PIC/PICandBRT SW (1:PIC ONLY)	
48	LIM	00~01	00	RGB LIMIT ON/OFF (1:ON)	
49	PB	00~01	01	PICTURE BOOSTER	TDA9170
4A	BOF	00~01	01	BLACK OFFSET	
4B	UVG	00~3F	1F	USER VAR.GAMMA	
4C	ADG	00~3F	1F	ADAPTIVE GAMMA	
4D	NLA	00~3F	05	NON-LINEAR AMP	
4E	WDS	00~02	00	WINDOW SELECT	
4F	LST	00~0F	07	WINDOW LINE START	
50	LSP	00~0F	07	WINDOW LINE STOP	
51	FST	00~0F	07	WINDOW FIELD START	
52	FSP	00~0F	07	WINDOW FIELD STOP	
53	VA	00~01	01	V APERTURE ON/OFF	CXA1315
54	VAW	00~03	02	V APERTURE WHITE	
55	VAB	00~03	02	V APERTURE BLACK	
56	VAC	00~0F	02	V APERTURE CORE	
57	SHP	00~3F	25	SHARPNESS	CXA1315
			20		
58	VMH	00~3F	29	VM LIMITTER(HIGH)	
59	VML	00~3F	1C	VM LIMITTER(LOW)	
5A	COR	00~3F	1C	CORING	
			1C		
5B	DOF	00~3F	15	DSC OFFSET	
5C	DGA	00~3F	1F	DSC GAIN	
5D	DLT	00~01	01	DELAY TIME	
5E	SDL	00~0F	00	SEL PIN DELAY	SDA9189X
5F	POH	00~FF	14	H POSITION(MSB 8bit)	
60	POV	00~FF	27	V POSITION	
61	HDL	00~1F	0B	HSI DELAY	
62	AMS	00~01	00	DECIMATION FILTER	

Note: Items are fixed data.

Adjustment Item Table

Item Display	Adj Item	Data Range	Std Values	Register Name	Device
63	VDL	00~1F	0B	VSI DELAY	
64	VSP	00~1F	0D	VSP DELAY	
65	CON	00~0F	06	CONTRAST	
66	FRY	00~0F	09	FRAME Y	
67	FRV	00~0F	00	FRAME V	
68	FRU	00~0F	00	FRAME U	
69	INF	00~01	01	INNER FRAME	
6A	FWV	00~03	02	FRAME WIDTH V	
6B	FWH	00~07	07	FRAME WIDTH H	
6C	PLL	00~03	02	PLL LOOP FILTER	
6D	PDV	00~0F	00	PEDESTAL V	
6E	PDU	00~0F	00	PEDESTAL U	
6F	DAT	00~01	00	DAC STREAM CONTROL	
70	DAN	00~01	00	DAC CONTROL	
71	FAW	00~FF	08	NICAM FAW THRESH	MSP3410
72	CTM	00~FF	08	NICAM ERROR BIT(MONO)	
73	CTN	00~FF	50	NICAM ERROR BIT(NICAM)	
74	WCD	00~FF	0A	W.G.DATA CHANGE	
75	WST	00~FF	15	W.G.STEREO THRESHOLD	
76	WTM	00~FF	50	W.G.TIMER	
77	WBT	00~01	EA	W.G.BILINGUAL THRESHOLD	
78	AGC	00~01	01	AGC AUTO/CONST	
79	CDB	00~3F	28	AGC GAIN CONST	
7A	FGP	00~7F	24	FM(BG,I,DK)PRESCALE	
7B	EMP	00~7F	40	FM(M)PRESCALE	
7C	WGP	00~7F	3C	W.G PRESCALE	
7D	NIP	00~7F	7F	NICAM PRESCALE	
7E	CRM	00~01	00	CARRIER MUTE	
7F	CML	00~03	00	CARRIER MUTE LEVEL	
80	ACO	00~01	01	AUDIO CLOCK OUT	
81	WAC	00~0F	01	W.G.AGREEMENT COUNT	
82	DLY	00~FF	30	STEREO SEARCH DELAY	
83	DLG	00~FF	10	W.G.SEARCH DELAY	
84	TXP	00~0F	0E	TEXT PICTURE CONT	SAA5261
85	MXP	00~0F	0F	TEXT MIX MODE PIC	
86	TXH	00~03	00	TEXT DISPLAY POSITION(H)	
87	BB1	00~3F	1D	BBE CONTROL HIGH	CXA1315
88	BB2	00~3F	1D	BBE CONTROL MIDDLE	
89	BB3	00~3F	28	BBE CONTROL LOW	
8A	ATW	00~03	00	AUTO WIDE IDENTSPEED	CXP5068
8B	BKP	00~FF	00	BLK OFF PICTURE	CXP85340
8C	OSH	00~3F	0D	OSD POSITION H	
8D	ODL	00~FF	10	POWER ON DELAY	
8E	BLU	00~01	01	BLUE BACK ON/OFF	
8F	ROC	00~0F	0F	N/S CENTER VOL	
90	ROS	00~07	07	USER SET UP	
91	DKS	00~01	01	D/K STEREO SEARCH	
92	MUT	00~01	01	NO SYNC MUTE	
93	DID	00~01	00	DISABLE DEGAUSS	
94	DWZ	00~01	00	DISABLE WIDEZOOM	
95	BCS	00~01	00	BASS CENTER SHIFT	
96	RVS	00~01	00	BASS VOLUME SHIFT	
97	WBS	00~03	00	WOOFER OFF BASS SHIFT	
98	OP0	00~FF	C1	OPTION 0	
99	OP1	00~FF	3E	OPTION 1	

Note: Items are fixed data.

ITEM INFORMATION

• 50 ··· 50Hz data, 60 ··· 60Hz data
• Standard data listed on the Adjustment Item Table are reference values, therefore if is different for every mode.

OP 0

ITEM	—	—	—	—	—	—	—	FAS TEXT
M61,M80,M90,M91	1	1	0	0	0	0	0	1
M31	1	1	0	0	0	0	0	0

OP 1

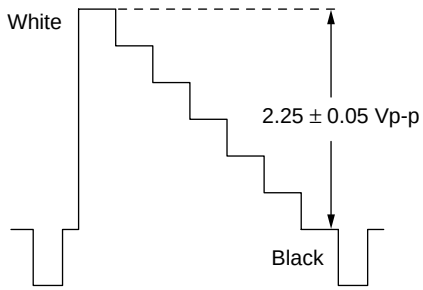
ITEM	WIDE	WOOFER	TILT	VM	COMB TYPE	COMB FILTER	SECAM	B/G ONLY
M61,M80,M90,M91	0	0	1	1	1	1	1	0
M31	0	0	1	1	1	1	1	0

• 98 OP0, 99 OP1
Fastext : 0 → Automatic mode, 1 → Fastext mode
B/G only : 0 → Multi system, 1 → B/G system only
Comb type : 0 → Glass comb filter, 1 → Digital comb filter
Wide : 0 → 4:3 model, 1 → 16:9 model

5-3. PICTURE QUALITY ADJUSTMENTS

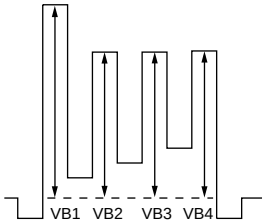
SUB CONTRAST ADJUSTMENT (SNC)

1. Receive a PAL color-bar.
2. Set service item 42 GON and 43 BON to data “00”. Set the PICTURE 100%, BRIGHTNESS 50% and COLOR MIN.
3. Connect an oscilloscope to the pin ⑥ (R OUT) of CN117, A board.
4. Set to Service Mode and select 34 SCN using [1] and [4] of the commander, then adjust to 2.25 ± 0.05 V using [3] and [6].
5. Press [MUTING] → [0] of the commander to write the data.
6. Receive a NTSC color-bar and adjust 34 SCN as step 2 to 5.
7. Set service item 42 GON and 43 BON to data ”01”.



SUB COLOR ADJUSTMENT (SCO)

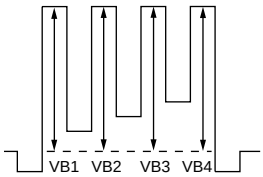
1. Input a PAL color-bar.
2. Set service item 4D NLA to data “00”.
   Set to the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
3. Connect an oscilloscope to the pin ④ (B OUT) of CN117, A board.
4. Set to Service Mode and select 35 SC1 with [1] and [4] of the commander then adjust to VB2=VB3=VB4 with [3] and [6].
5. Press [MUTING] → [0] of the commander to write the data.
6. Adjust 36 SC2 as step 2 to 5 when receiving NTSC color-bar.
7. Set service item 4D NLA to data “05” and write the data.



VB2 = VB3 = VB4

SUB HUE ADJUSTMENT (SH2)

1. Select Video 1.
2. Input a NTSC color-bar, video into video 1.
3. Set the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%.
4. Connect an oscilloscope to the pin ④ (B OUT) of CN117, A board.
5. Select 38 SH2 with [1] and [4] of the commander by setting to Service Mode and adjust to VB1=VB2=VB3=VB4 with [3] and [6].



VB1 = VB2 = VB3 = VB4

6. Press [MUTING] → [0] of the commander to write the data.

5-4. DISPLAY POSITION ADJUSTMENT

PIP POSITION (POH, POV)

1. Receive a PAL color-bar.
2. Set the PIP picture by pressing PIP button on the commander.
3. Set to Service Mode.
4. Select 5F POH with the [1] and [4] on the commander and set the data “14” with [3] and [6].
5. Select 60 POV to set the data “27”.
6. Press [MUTING] → [0] on the commander to write the data.
7. Check by changing the PIP position using the on-screen menu.

5-5. A BOARD ADJUSTMENT AFTER IC003 (MEMORY) REPLACEMENT

When replacing IC003 (MEMORY) be sure to change IC001 (µ-COM) to the following new IC at the same time.

IC001 (µ-COM)

- **GE, EM, E, HK model**
  CXP85452-090S
- **ME (Arabic) model**
  CXP85452-091S

1. Enter to Service Mode.

2. Press commander buttons [5] and [0] (Data Initialize), and [2] and [0] (Data Copy) to initialize the data.

3. Call each item number, and check if the respective screen shows the normal picture.
   In cases where items are not well adjusted, rectify the items with fine adjustment.
   Write the data per each item nubmer ([MUTING] + [0]).

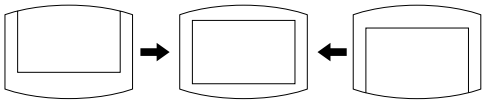
4. Select item numbers “98” (OP0) and “99” (OP1) and respectively set the bit per model with commander buttons [3] and [6].

5. Press commander buttons [8] and [0] (Test Normal) to return to the data that was set on the shipment from the factory. (This will also cancel Service Mode.)

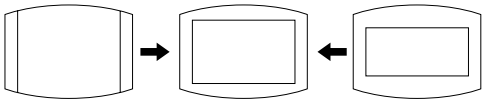
5-6. PICTURE DISTORTION ADJUSTMENT

Item Number 00 - 0B

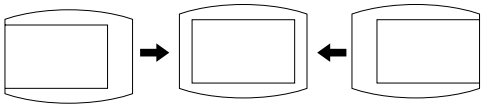
00 VSH(V POSITION)



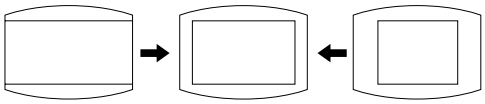
01 VSZ(V SIZE)



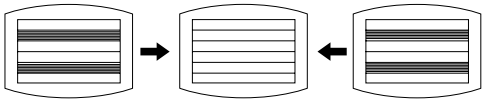
02 HSH(H POSITION)



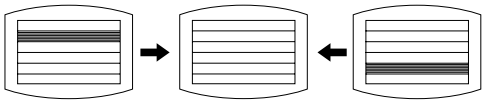
03 HSZ (H SIZE)



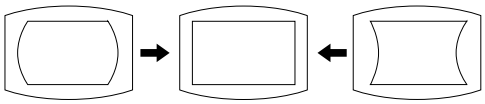
04 SCR(VERTICAL Scorrection)



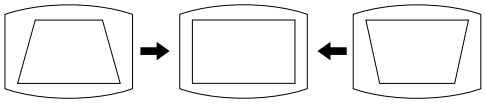
05 VLN(V LINEARITY)



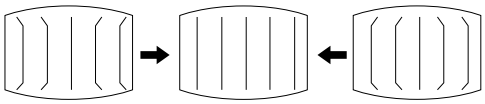
06 PAP (PIN AMP)



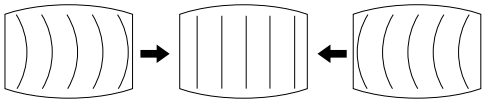
07 PPH(PIN PHASE)



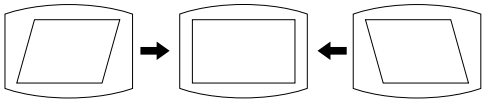
08 UCP(Upper Corner Pin)
09 LCP(Lower Corner Pin)



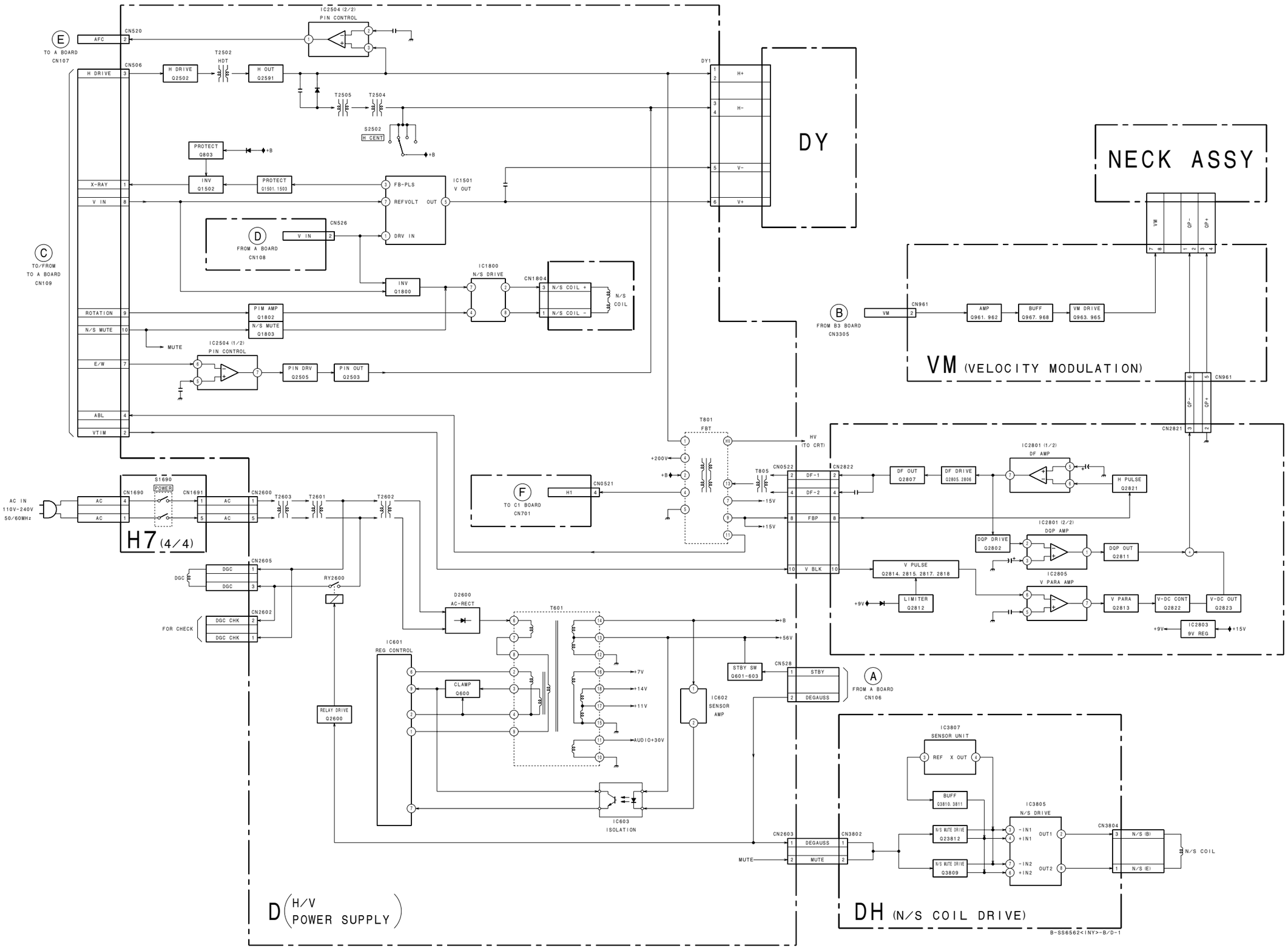
0A VBOW(AFC.BOW)



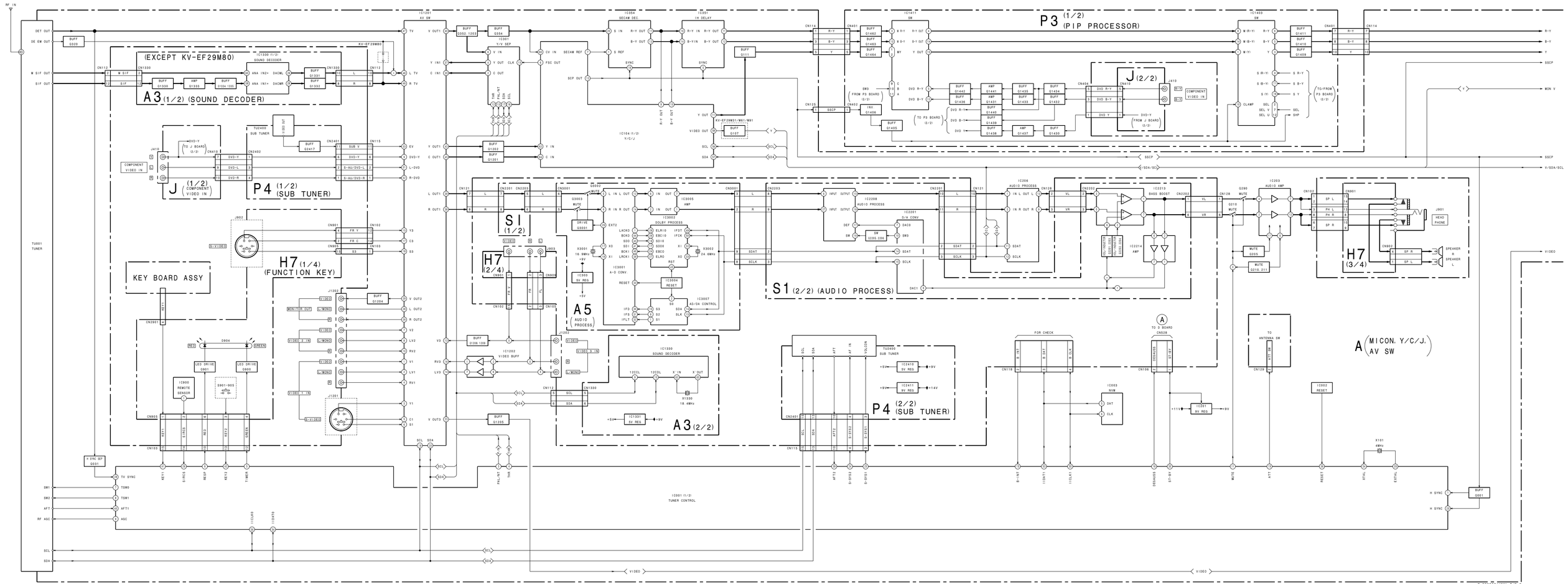
0B ANG(AFC.ANGLE)



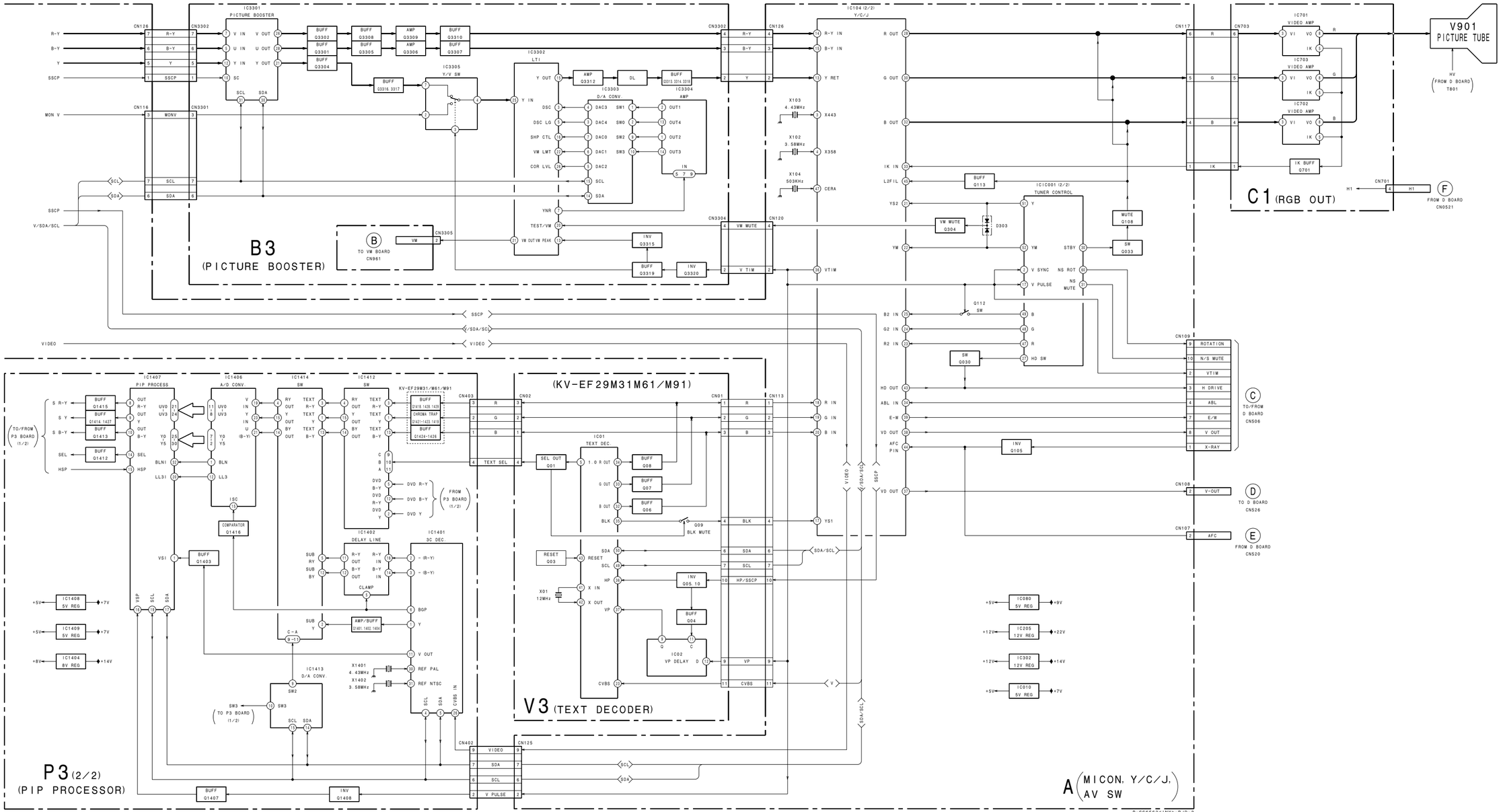
KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881



KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881
KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881
KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881



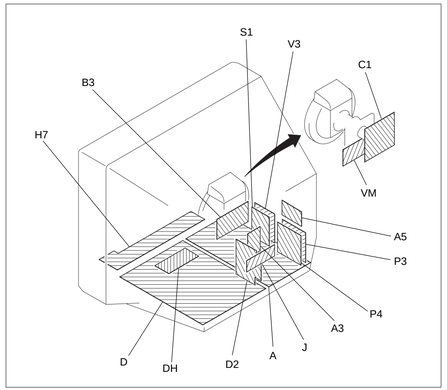
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EF29M90/EF29M91 RM-881
KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881



KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881

KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881

6-2. CIRCUIT BOARD LOCATION



6-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in µF unless otherwise noted. (pF: µµF) Capacitors without voltage indication are all 50 V.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4 W (CHIP : 1/10 W)

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- All voltages are in V.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ✱ : Can not be measured.
- NO MARK: PAL
- < > : SECAM
- ( ) : NTSC 3.58 MHz
- Circled numbers are waveform references.
- B + bus.
- B – bus.
- : Signal path.

Reference information

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

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Terminal name of semiconductors in silk screen printed circuit (✱)

	Device	Printed symbol	Terminal name	Circuit
①	Transistor		Collector Base Emitter	
②	Transistor		Collector Base Emitter	
③	Diode		Cathode Anode	
④	Diode		Cathode Anode (NC)	
⑤	Diode		Cathode Anode (NC)	
⑥	Diode		Common Anode Cathode	
⑦	Diode		Common Anode Cathode	
⑧	Diode		Common Anode Anode	
⑨	Diode		Common Anode Anode	
⑩	Diode		Common Cathode Cathode	
⑪	Diode		Common Cathode Cathode	
⑫	Diode		Anode Cathode Anode Anode Cathode Anode	
⑬	Transistor (FET)		Drain Source Gate	
⑭	Transistor (FET)		Drain Source Gate	
⑮	Transistor (FET)		D Source D Drain G Gate	
⑯	Transistor		E Emitter C Collector B Base	
⑰	Transistor		C1B2E1 E1B2C1	
⑱	Transistor		C1 B2 E1 E1 B2 C1	
⑲	Transistor		C1 B2 E2 E1 B1 C2	
⑳	Transistor		C1 B2 E2 C2 B1 E1	
㉑	Transistor		E2 B1 E1 C2 B2 C1	
㉒	Transistor		B2 B1 E2 C2 C1	
㉓	Transistor		B2 B1 C2 E2 E1	
--	Discrete semiconductot			

(Chip semiconductors that are not actually used are included.)

ver.1.0

• A BOARD SEMICONDUCTOR LOCATION

IC			DIODE		
					✱
IC001	B–9		D001	C–8	
IC002	C–8		D002	C–10	③
IC003	C–9		D005	E–9	
IC010	E–9		D101	A–7	
IC080	E–2		D102	A–7	
IC102	D–10		D103	A–3	②
IC104	C–6		D104	C–7	⑥
IC201	D–9		D105	C–7	⑤
IC203	E–6		D106	B–7	④
IC205	C–4		D107	C–6	①
IC206	B–5		D110	A–7	③
IC301	D–2		D111	B–7	
IC302	D–3		D112	D–6	④
IC351	B–6		D117	C–6	④
IC354	B–5		D118	C–7	
IC1201	C–3		D210	E–8	
IC1202	C–2		D211	E–6	①
			D212	E–7	⑤
			D218	E–6	⑥
TRANSISTOR			D220	E–7	
			D301	A–7	③
		✱	D303	B–7	⑥
Q001	A–8	①	D352	B–6	
Q030	C–10	⑤	D353	B–6	
Q031	A–7	⑤	D1201	C–1	
Q033	A–9	⑤	D1202	C–1	
Q105	E–6	⑤	D1203	C–1	
Q106	D–6	⑤	D1204	C–2	
Q107	D–5	⑤	D1205	C–1	
Q108	C–7	⑤	D1208	B–1	
Q111	C–6	⑤	D1209	B–1	
Q112	A–7	⑤	D1210	B–1	
Q113	C–6	⑤	D1211	C–1	
Q205	E–6	⑤	D1212	C–1	
Q208	E–6	⑤	D1213	C–1	
Q209	E–6	⑤	D1214	D–1	
Q210	E–6	⑤	D1215	D–1	
Q211	E–8	⑤	D1216	D–1	
Q302	D–3	⑤	D1217	D–1	
Q304	E–5	⑤	D1218	D–1	
Q320	E–3	⑤	D1219	D–1	
Q352	D–3	⑤	D1220	C–3	
Q354	C–3	⑤			
Q1201	B–3	⑤			
Q1202	B–3	⑤	CRYSTAL		
Q1203	C–3	⑤			
Q1204	B–2	⑤	X101	B–10	
Q1205	C–2	⑤	X102	C–5	
Q1206	C–2	⑤	X103	B–5	
Q1207	D–1	⑤	X104	D–6	
Q1208	D–2	⑤			
Q1209	D–2	⑤			

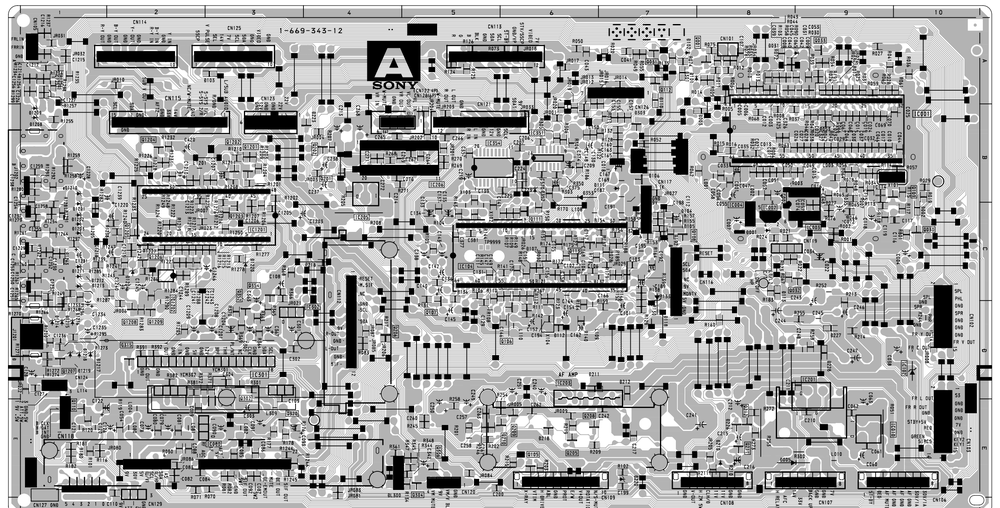
✱: **Refer to Terminal name of semiconductors in silk screen printed circuit (see page 55)**

KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881

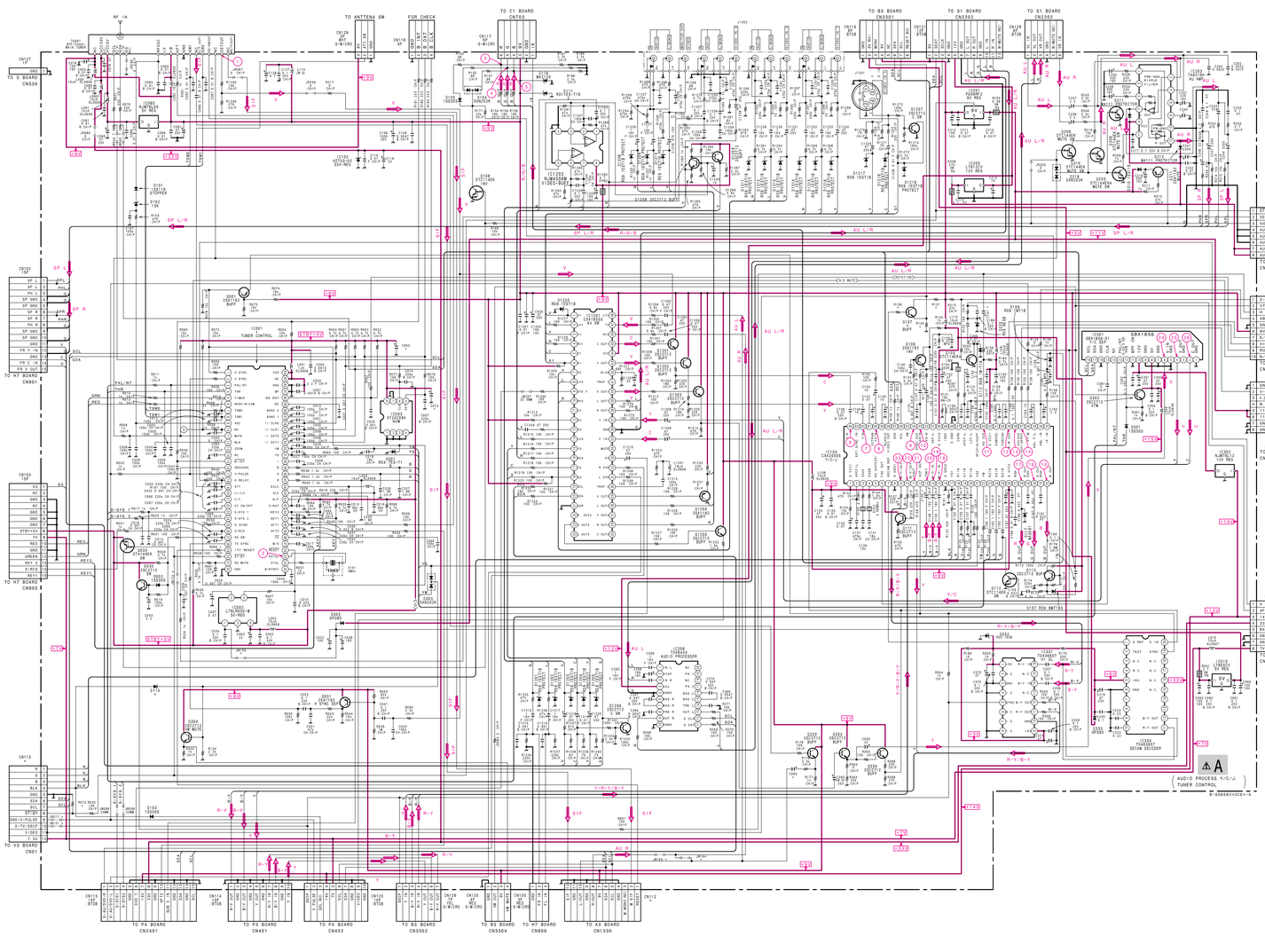
KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881

A MICON, YC/J, AV SW

— A BOARD —



(1) Schematic Diagram of A Board



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• A BOARD WAVEFORMS

① 2.4 Vp-p (H)	② 3.3 Vp-p (4MHz)	③ 3.1 Vp-p (H)	④ 2.8 Vp-p (H)	⑤ 2.7 Vp-p (H)	⑥ PAL 0.9 Vp-p (H)
⑥ SECAM 0.5 Vp-p (H)	⑥ NTSC 3.58 0.8 Vp-p (H)	⑦ 1.1 Vp-p (H)	⑧ PAL 1.5 Vp-p (H)	⑧ SECAM 1.2 Vp-p (H)	⑧ NTSC 3.58 1.2 Vp-p (H)
⑨ 2.2 Vp-p (H)	⑩ 1.8 Vp-p (H)	⑪ 2.8 Vp-p (H)	⑫ 0.6 Vp-p (V)	⑬ 1.2 Vp-p (V)	⑭ 1.2 Vp-p (V)
⑮ 2.7 Vp-p (H)	⑯ 2.8 Vp-p (H)	⑰ 3.1 Vp-p (H)	⑱ 1.9 Vp-p (H)	⑲ 1.5 Vp-p (H)	⑳ 1.1 Vp-p (H)
㉑ PAL SECAM 1.2 Vp-p (H)	㉑ NTSC 3.58 1.7 Vp-p (H)	㉒ PAL 1.1 Vp-p (H) SECAM 1.5 Vp-p (H)	㉒ NTSC 3.58 1.5 Vp-p (H)	㉓ PAL 0.8 Vp-p (H) SECAM 1.1 Vp-p (H)	㉓ NTSC 3.58 1.3 Vp-p (H)
㉔ PAL 2.3 Vp-p (H)	㉔ SECAM 2.2 Vp-p (H)	㉔ NTSC 3.58 2.1 Vp-p (H)	㉕ PAL SECAM 2.1 Vp-p (H)	㉖ PAL 1.7 Vp-p (H)	㉖ SECAM 1.0 Vp-p (H)
㉖ NTSC 3.58 0.6 Vp-p (H)					

• A BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC001	1	0.6		54	4.5		38	3.2		15	5.9		31	4.0		B	0
	2	0.8		55	4.9		39	4.3		16	5.8		32	4.0	Q208	C	11.6
	3	0<D>(4.9)		56	4.3		40	4.2					33	4.0		B	0
	4	0		57	1.3		41	4.9	IC301	2	6.6		35	4.0	Q209	C	0
	5	0		58	0		43	2.5		4	5.5		37	4.1		B	0
	6	0		59	0.4		44	3.6		6	4.7		38	4.1	Q210	C	0
	7	0		60	1.7		45	5.3		12	0.4		39	4.1		B	0
	8	0					46	4.4		13	0<4.8>(0)		40	3.9	Q211	E	10.9
	9	4.9	IC002	1	8.8		47	2.6		15	5.6		42	4.1		C	0
	10	0		2	5.8		49	1.9		17	4.8		43	4.0		B	10.7
	11	0		4	4.9		51	2.4		18	4.7		45	4.0	Q302	E	0.3
	12	4.8	IC003	5	4.8		52	4.4	IC302	I	15.9		46	4.0		B	0.8
	14	1.0		6	4.9		53	4.4		O	12.1		47	4.0	Q304	E	0
	15	4.9	IC010	I	7.0		54	5.0	IC351	5	0.7		48	4.1		B	0
	16	0		O	4.9		55	6.4		11	2.9	IC1202	1	4.8	Q320	E	2.2
	17	0.8	IC080	I	9.0		56	4.7		12	2.9		2	2.4		B	2.8
	18	4.8		O	5.0		57	4.7		13	2.9		3	2.4	Q352	E	2.6
	19	0	IC104	2	5.0		58	3.7		14	1.4		5	2.4		B	3.3
	20	0		3	2.7		59	4.2		16	1.4		6	2.4	Q354	E	2.0
	24	0		4	8.4		60	4.3	IC354	1	1.5		7	4.8		B	2.6
	25	0.6		6	5.6		61	5.5		9	3.2				Q1201	E	3.3
	26	4.8		7	1.5<5.2>(-1.0)		62	4.3		10	4.3	Q001	E	0.9		B	0
	27	0		9	5.7<3.2>(5.5)		63	4.7		11	5.7		C	0.6	Q330	E	4.0
	28	0.3		10	5.7<3.2>(5.5)		64	4.4		12	5.7		B	0.3		B	0
	29	4.8		11	4.0					19	0.8	Q030	E	8.8	Q1201	E	3.3
	30	4.6		12	0.9	IC201	I	10.3		20	1.1		B	9.0		B	4.0
	31	0		13	5.3		O	9.1	IC1201	1	4.1	Q033	C	0	Q1202	E	3.3
	33	1.2		14	5.8		SW	4.5		2	4.1		B	4.5		B	4.0
	34	*		15	5.8	IC203	1	1.4		3	4.0	Q105	C	3.5	Q1203	E	3.3
	35	2.1		17	0		4	0		4	4.0		B	0.4		B	3.9
	36	4.9		18	5.8		5	1.4		5	4.0	Q106	E	5.5	Q1204	E	4.6
	37	0		19	5.8		6	11.6		6	8.1		B	4.8		B	4.0
	38	4.9		20	5.8		7	16.4		8	4.1	Q108	C	3.0	Q1205	E	3.4
	39	3.7		21	0		8	5.1		9	4.0		B	0		B	4.0
	40	1.8		22	0		11	4.2		10	4.0	Q111	E	3.2	Q1206	C	8.1
	41	4.9		23	5.8		12	15.8		12	8.1		B	3.8		B	0
	42	4.9		24	5.8	IC205	I	16.0		13	4.0	Q112	C	0	Q1207	C	8.1
	43	4.9		25	5.8		O	11.8		14	4.0		B	0.8		B	0
	44	4.9		27	1.8	IC206	1	5.8		15	4.0	Q113	E	2.5	Q1208	E	1.7
	45	2.7		28	2.6		2	11.7		16	4.0		C	8.9		C	5.3
	46	2.7		29	1.8		3	5.8		17	4.0		B	2.8		B	2.4
	47	0		30	2.3		6	5.9		18	8.1	Q205	C	4.2	Q1209	E	4.7
	48	0		31	2.1		7	5.9		19	4.5					B	5.3
	49	0		32	2.1		8	5.9		20	4.5						
	50	0		33	5.6		9	5.8		23	3.9						
	51	0		34	1.4		11	4.0		26	4.1						
	52	0		35	8.2		12	4.6		29	3.9						
	53	4.9		36	0.9		13	5.9		30	4.0						
				37	3.1		14	5.9									

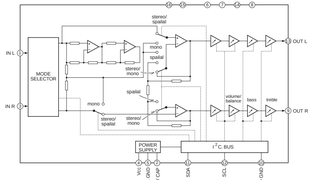
• A BOARD DESCRIPTION

REF. NO.		REF. NO.		REF. NO.		REF. NO.	
IC001	TUNER CONTROL	IC351	1H DELAY	Q112	SW	Q1201	BUFF
IC002	5V REG	IC354	SECAM DEC	Q113	BUFF	Q1202	BUFF
IC003	NVM	IC1201	AV SW	Q205	MUTE SW	Q1203	BUFF
IC010	5V REG	IC1202	VIDEO BUFF	Q208	MUTE SW	Q1204	BUFF
IC080	5V REG	Q001	BUFF	Q209	MUTE SW	Q1205	BUFF
IC104	Y/C JUNGLE	Q030	SW	Q210	MUTE SW	Q1206	CHROMA SW
IC201	9V REG	Q031	H SYNC SEP	Q211	MUTE	Q1207	CHROMA SW
IC203	AUDIO AMP	Q033	SW	Q302	V TIMING	Q1208	BUFF
IC205	12V REG	Q105	INVERTER	Q304	VM MUTE	Q1209	BUFF
IC206	AUDIO PROCESSOR	Q106	INVERTER	Q320	BUFF		
IC301	Y/C SEP	Q108	INVERTER	Q352	BUFF		
IC302	12V REG	Q111	BUFF	Q354	BUFF		

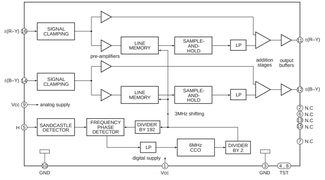
• A BOARD ✻ MARK PARTS LIST

Ref No.	KV-EF29M31	KV-EF29M61	KV-EF29M80(JE)	KV-EF29M80(ME)	KV-EF29M90	KV-EF29M91
C055	100 16V	100 16V	470 16V	470 16V	100 16V	100 16V
C072	330 16V	330 16V	470 16V	470 16V	330 16V	330 16V
C093	NOT USED	NOT USED	47 25V	47 25V	NOT USED	NOT USED
CN113	12P :BTOB	12P :BTOB	NOT USED	NOT USED	NOT USED	12P :BTOB
D110	1SS355	1SS355	NOT USED	NOT USED	NOT USED	1SS355
IC002	CXP85452-090S	CXP85452-090S	CXP85452-090S	CXP85452-091S	CXP85452-090S	CXP85452-091S
JR017	0 :CHIP	0 :CHIP	NOT USED	NOT USED	NOT USED	0 :CHIP
JW131	10MM	10MM	NOT USED	NOT USED	NOT USED	10MM
JW158	22 2W :RS	22 2W :RS	NOT USED	JW(17.5)	22 2W :RS	22 2W :RS
JW164	NOT USED	NOT USED	10MM	10MM	NOT USED	NOT USED
JW165	10MM	10MM	NOT USED	NOT USED	10MM	10MM
JW172	10MM	10MM	NOT USED	NOT USED	10MM	10MM
Q107	2SC2712	2SC2712	NOT USED	NOT USED	NOT USED	2SC2712
R060	100 :CHIP	100 :CHIP	NOT USED	NOT USED	100 :CHIP	100 :CHIP
R073	47k :CHIP	47k :CHIP	10k :CHIP	10k :CHIP	10k :CHIP	47k :CHIP
R131	0 :CHIP	0 :CHIP	NOT USED	NOT USED	NOT USED	0 :CHIP
R136	0 :CHIP	0 :CHIP	NOT USED	NOT USED	NOT USED	0 :CHIP
R140	470 :CHIP	470 :CHIP	NOT USED	NOT USED	NOT USED	470 :CHIP
R151	NOT USED	NOT USED	560 :CHIP	560 :CHIP	560 :CHIP	NOT USED

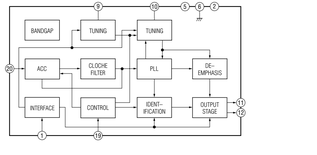
• A BOARD IC206 TDA8424



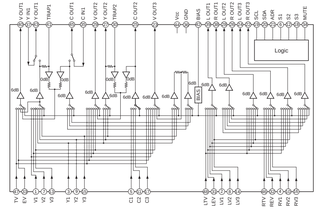
• A BOARD IC351 TDA4665T



• A BOARD IC354 TDA8395T



• A BOARD IC1201 CXA1855S



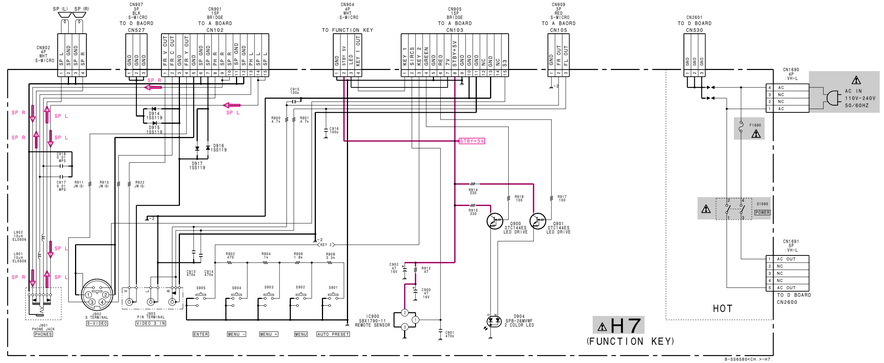
Schematic diagram ← A board

Schematic diagrams H7 J boards P3 P4 boards →

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– 63 –

(2) Schematic Diagram of H7, J, P3 and P4 Boards

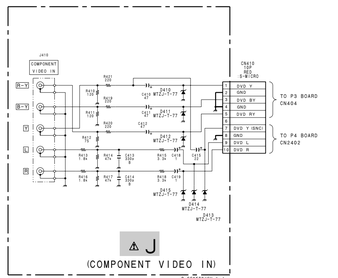


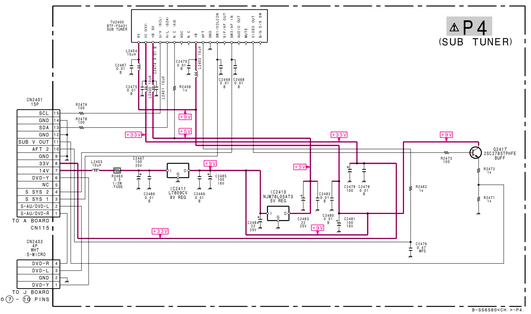
• **H7 BOARD DESCRIPTION**

REF. NO.	
IC900	REMOTE SENSOR
Q900	LED DRIVE
Q901	LED DRIVE

• **H7 BOARD VOLTAGE LIST**

Ref.	Pin No.	Voltage [V]
IC900	1	5.0
Q900	E	0
	C	5.0
	B	0
Q901	E	0
	C	5.0
	B	0



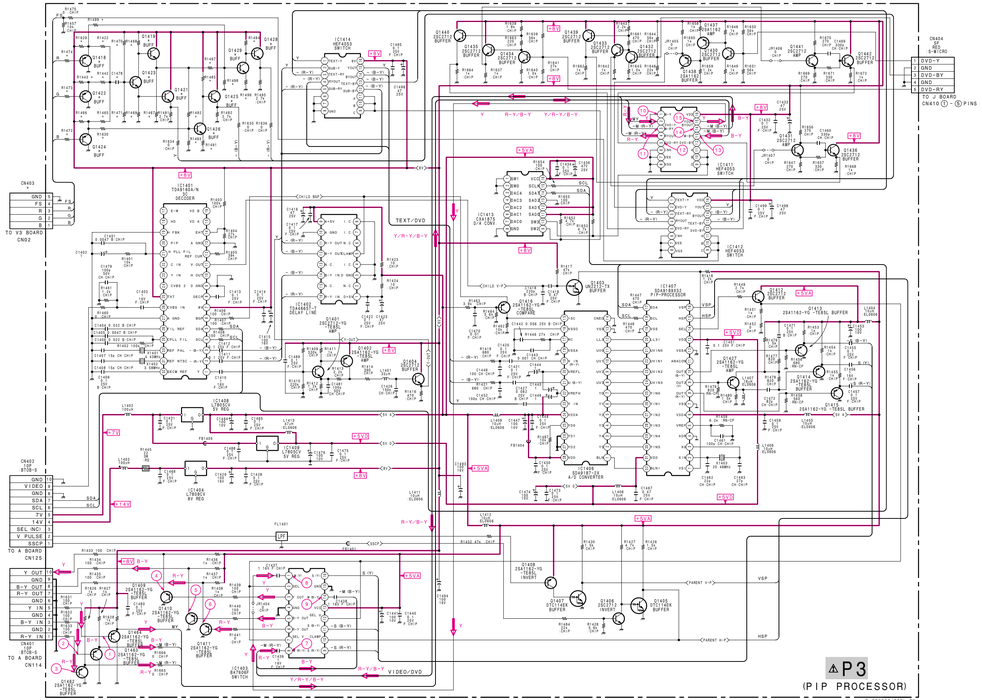


• **P4 BOARD VOLTAGE LIST**

Ref.	Pin No.	Voltage [V]
IC2410	I	8.9
	O	5.0
IC2411	I	14.9
	O	8.9
Q2417	E	2.7
	B	3.4

• **P4 BOARD DESCRIPTION**

REF. NO.	
IC2410	5V REG
IC2411	9V REG
Q2417	BUFF



• **P3 BOARD VOLTAGE LIST**

Ref.	Pin No.	Voltage [V]
IC1401	1	2.3
	2	2.2
	3	2.1
	4	4.3
	5	4.6
	6	0.4
	8	5.0
	11	6.6
	12	3.9
	14	1.7
	21	3.6
	26	3.3
	28	3.4
	29	4.4
	30	2.0
	31	1.9
	32	3.9
IC1402	5	0.4
	11	3.0
IC1403	1	3.2
	2	0.3
	3	1.8
	5	1.5
	6	1.5
	7	0.3
	8	2.9
IC1404	I	12.6
	O	7.9
IC1406	1	4.2
	2	0
	3	0
	4	0
	5	0
	6	0.4
	7	1.0
	8	0.4
	9	2.7
	10	1.0
	11	0.5
	12	2.6
	15	0.3
	17	2.0
	19	2.7
	20	1.0
	21	2.7
	22	2.0
	23	2.2
	25	5.0
IC1407	1	0.4
	2	2.5
	4	2.5
	5	3.1
	8	0.8
	9	0
IC1409	I	7.2
	O	5.0
IC1411	1	3.9
	2	3.9
	3	3.6
	4	3.6
	5	2.1
	8	5.0
	10	5.0
	11	5.0
	12	1.7
	13	3.7
	14	3.6
	15	3.9
IC1412	1	1.2
	2	7.9
	3	3.5
	4	3.8
	5	3.8
IC1408	I	7.2
	O	5.0
	9	0
	10	0
	11	0
	12	3.7
	13	3.7
	14	2.9
	15	4.5
Q1401	E	2.2
	C	7.3
	B	2.8
Q1402	C	4.7
	B	7.3
Q1403	C	0.4
	B	3.0
Q1404	E	4.0
	B	4.7
Q1405	C	0.4
	B	3.3
Q1406	C	3.3
Q1407	B	0.2
Q1408	C	4.6
	B	4.4
Q1409	E	2.5
	B	1.8
Q1410	E	2.2
	B	1.5
Q1411	E	2.2
	B	1.5
Q1412	E	0.3
	B	0
Q1413	E	1.6
	B	1.0
Q1414	E	1.4
	B	0.7
Q1415	E	1.4
	B	0.8
Q1416	E	0.4
	B	3.0
Q1427	E	0.7
	C	0
	B	0
Q1430	E	3.3
	C	6.4
	B	3.9
Q1431	E	2.3
	C	5.6
	B	3.0
Q1432	E	1.6
Q1433	C	3.6
	B	2.2
Q1434	E	3.0
	C	7.9
	B	3.6
Q1435	E	1.9
	C	4.0
	B	2.6
Q1436	E	3.4
	B	4.0
Q1437	E	1.7
	B	2.3
Q1438	E	7.2
	C	7.2
	B	6.4
Q1439	E	7.9
Q1440	C	3.6
	B	2.2
Q1441	E	3.7
	C	4.4
	B	3.8
	C	5.2
	B	4.5
Q1442	E	2.7
	C	5.2
	B	3.4
Q1462	E	2.1
	B	2.7
Q1463	E	3.6
	B	3.0
Q1464	E	3.6
	B	3.0
Q1465	C	3.9
	B	3.2

• **P3 BOARD WAVEFORMS**

① 1.1 Vp-p (H)	② 1.9 Vp-p (H)	③ 1.6 Vp-p (H)	④ 1.0 Vp-p (H)	⑤ 1.9 Vp-p (H)	⑥ 1.5 Vp-p (H)	⑦ 1.6 Vp-p (H)	⑧ 1.1 Vp-p (H)
⑨ 1.9Vp-p (H)	⑩ 1.1 Vp-p (H)	⑪ 1.6 Vp-p (H)	⑫ 1.6 Vp-p (H)	⑬ 1.9 Vp-p (H)	⑭ 1.9 Vp-p (H)	⑮ 1.1 Vp-p (H)	

• **P3 BOARD DESCRIPTION**

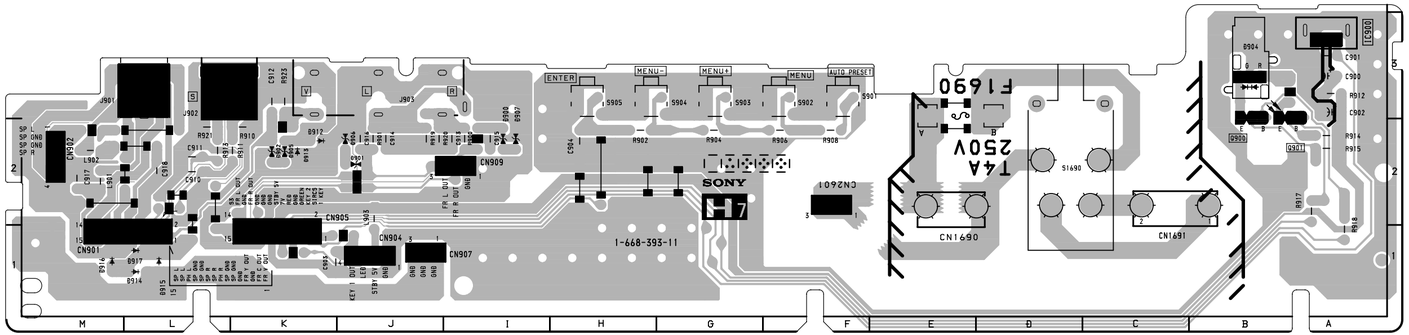
REF. NO.		REF. NO.		REF. NO.	
IC1401	3C DECODER	Q1408	INVERTER	Q1429	AMP
IC1402	DELAY LINE	Q1409	BUFF	Q1430	AMP
IC1403	SWITCH	Q1410	BUFF	Q1431	AMP
IC1404	8V REG	Q1411	BUFF	Q1432	BUFF
IC1406	A/D CONVERTER	Q1412	BUFF	Q1433	BUFF
IC1407	PIP PROCESSOR	Q1413	BUFF	Q1434	BUFF
IC1408	5V REG	Q1414	BUFF	Q1435	BUFF
IC1409	5V REG	Q1415	BUFF	Q1436	BUFF
IC1411	D/A CONVERTER	Q1416	COMPARATOR	Q1437	BUFF
IC1412	SWITCH	Q1418	R BUFF	Q1438	BUFF
IC1414	SWITCH	Q1421	Y BUFF	Q1439	BUFF
Q1401	AMP	Q1422	G BUFF	Q1440	BUFF
Q1402	AMP	Q1423	AMP	Q1441	AMP
Q1403	BUFF	Q1424	B BUFF	Q1442	BUFF
Q1404	BUFF	Q1425	-(B-Y) BUFF	Q1462	BUFF
Q1405	BUFF	Q1426	AMP	Q1463	BUFF
Q1406	INVERTER	Q1427	AMP	Q1464	BUFF
Q1407	BUFF	Q1428	-(R-Y) BUFF		

• **P3 BOARD ※ MARK PARTS LIST**

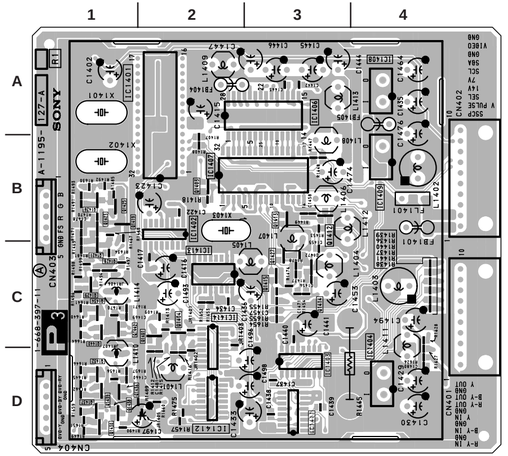
Ref No.	KV-EF29M31	KV-EF29M61	KV-EF29M80	KV-EF29M90	KV-EF29M91
C1478	1 16v F-CHIP	1 16v F-CHIP	NOT USED	NOT USED	1 16v F CHIP
CN403	5P WHT :S-MICRO	5P WHT :S-MICRO	NOT USED	NOT USED	5P WHT :S-MICRO
Q1418	2SA1162	2SA1162	NOT USED	NOT USED	2SA1162
Q1419	2SC2712	2SC2712	NOT USED	NOT USED	2SC2712
Q1421	2SC2712	2SC2712	NOT USED	NOT USED	2SC2712
Q1422	2SA1162	2SA1162	NOT USED	NOT USED	2SA1162
Q1423	2SC2712	2SC2712	NOT USED	NOT USED	2SC2712
Q1424	2SA1162	2SA1162	NOT USED	NOT USED	2SA1162
Q1425	2SC2712	2SC2712	NOT USED	NOT USED	2SC2712
Q1426	2SC2712	2SC2712	NOT USED	NOT USED	2SC2712
Q1428	2SC2712	2SC2712	NOT USED	NOT USED	2SC2712
Q1429	2SC2712	2SC2712	NOT USED	NOT USED	2SC2712
R1422	390 :CHIP	390 :CHIP	NOT USED	NOT USED	390 :CHIP
R1442	180 :CHIP	180 :CHIP	NOT USED	NOT USED	180 :CHIP
R1443	2.7k :CHIP	2.7k :CHIP	NOT USED	NOT USED	2.7k :CHIP
R1465	820 :CHIP	820 :CHIP	NOT USED	NOT USED	820 :CHIP
R1466	2.7k :CHIP	2.7k :CHIP	NOT USED	NOT USED	2.7k :CHIP
R1467	2.7k :CHIP	2.7k :CHIP	NOT USED	NOT USED	2.7k :CHIP
R1468	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP
R1469	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP
R1470	220k :CHIP	220k :CHIP	NOT USED	NOT USED	220k :CHIP
R1471	150k :CHIP	150k :CHIP	NOT USED	NOT USED	150k :CHIP
R1472	220 :CHIP	220 :CHIP	NOT USED	NOT USED	220 :CHIP
R1473	220 :CHIP	220 :CHIP	NOT USED	NOT USED	220 :CHIP
R1474	220 :CHIP	220 :CHIP	NOT USED	NOT USED	220 :CHIP
R1485	2.7k :CHIP	2.7k :CHIP	NOT USED	NOT USED	2.7k :CHIP
R1491	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP
R1492	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP
R1493	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP
R1494	2.7k :CHIP	2.7k :CHIP	NOT USED	NOT USED	2.7k :CHIP
R1496	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP
R1497	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP
R1498	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP
R1499	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP
R1629	2.7k :CHIP	2.7k :CHIP	NOT USED	NOT USED	2.7k :CHIP
R1630	1k :CHIP	1k :CHIP	NOT USED	NOT USED	1k :CHIP

H7 [FUNCTION KEY] P3 [PIP PROCESSOR]

— H7 BOARD —



— P3 BOARD (Component Side) —



- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

• P3 BOARD SEMICONDUCTOR LOCATION

IC

	(Conductor Side)	(Component Side)
IC1401	B–1	
IC1402		B–3
IC1403		C–1
IC1404	D–4	
IC1406		C–4
IC1407		B–3
IC1408	D–1	
IC1409	D–2	
IC1411		C–1
IC1412		B–1
IC1413		B–3
IC1414		B–2

TRANSISTOR

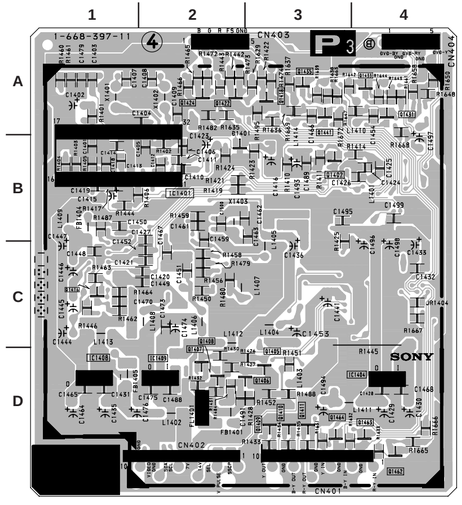
	(Conductor Side)	(Component Side)	✻
Q1401		B–2	②
Q1402	B–3		①
Q1403		B–3	②
Q1404		B–2	②
Q1405	D–3		①
Q1406	D–3		①
Q1407	D–2		①
Q1408	D–2		①
Q1409	D–3		①
Q1410	D–3		①
Q1411	D–3		①
Q1412		C–3	②
Q1413		C–3	②
Q1414		C–2	②
Q1415		C–2	②
Q1416	C–1		①
Q1418	A–3		①
Q1419		A–3	②
Q1421		A–2	②
Q1422	A–2		①
Q1423		A–3	②
Q1424	A–2		①
Q1425		A–3	②
Q1426		A–3	②
Q1427		C–2	②
Q1428		A–2	②
Q1429		A–2	②
Q1430		A–1	②
Q1431	A–4		①
Q1432		A–1	②
Q1433	A–4		①
Q1434		A–2	②
Q1433	A–4		①
Q1434		A–2	②
Q1435	A–3		①
Q1436		A–1	②
Q1437		A–1	②
Q1438		A–1	②
Q1439		A–1	②
Q1440		A–2	②
Q1441	A–3		①
Q1442		B–1	②
Q1462	D–4		①
Q1463	D–4		①
Q1464	D–3		①

CRYSTAL

	(Conductor Side)	(Component Side)
X1401	A–1	
X1402	A–2	
X1403	B–2	

✻: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 55)

— P3 BOARD (Conductor Side) —

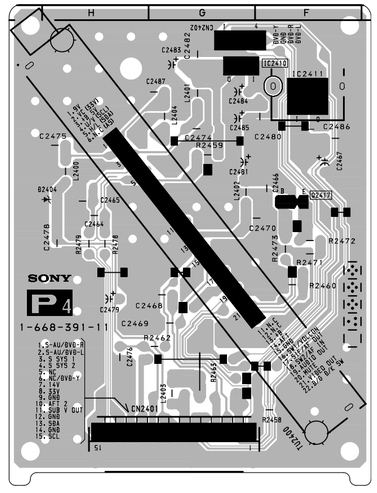


- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

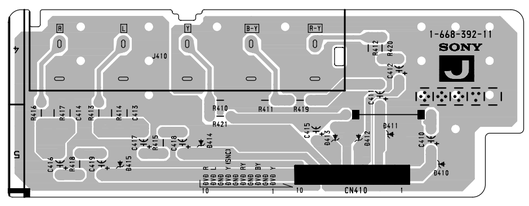
KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881

P4 [SUB TUNER] J [COMPONENT VIDEO IN]

— P4 BOARD —



— J BOARD —



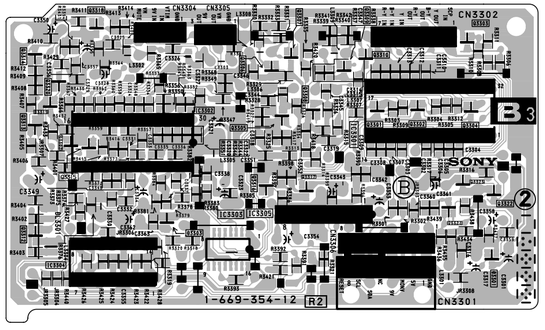
B3 [PICTURE BOOSTER] V3 [TEXT DECODER]

B3 BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

Ref.	∗
Q3301, Q3302, Q3304-Q3310, Q3312-Q3320	①
D3301, D3302	④

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 55)

— B3 BOARD —

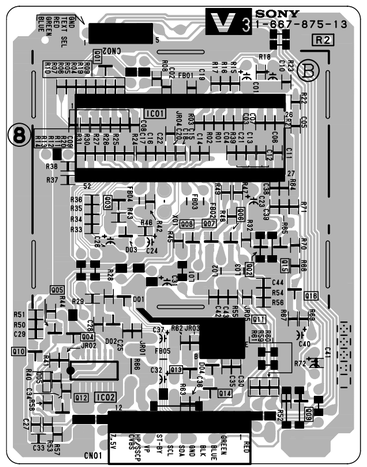


V3 BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

Ref.	∗
Q01, Q03-Q10, Q12	①
D02	⑩
D03, D04	④
D05	③

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 55)

— V3 BOARD —

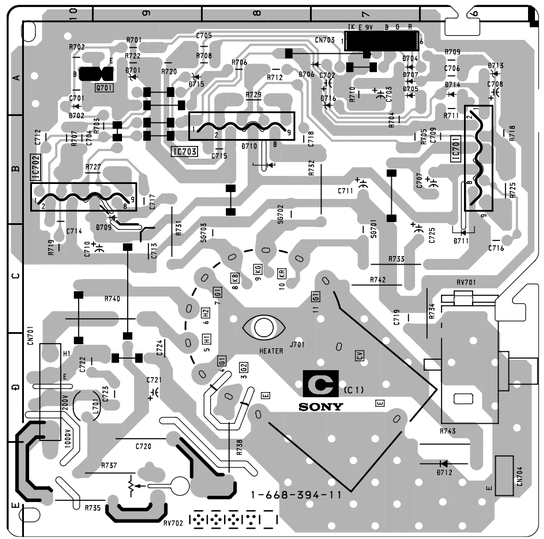


KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881

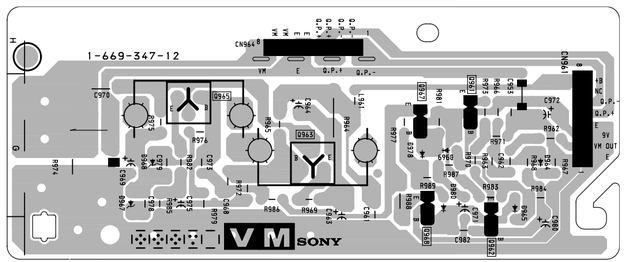
C1 [RGB OUTPUT] VM [VOLOCITY MODULATION]

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

— C1 BOARD —

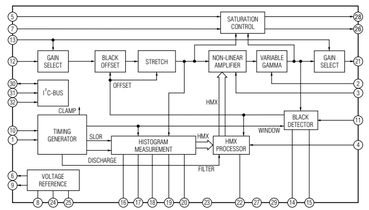


— VM BOARD —

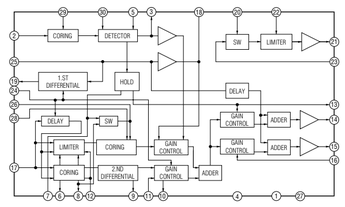


KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881

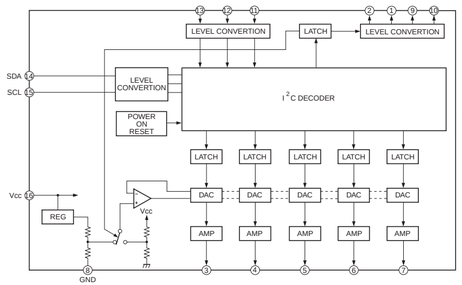
• **B3 BOARD IC3301 TDA9170**



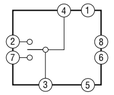
• **B3 BOARD IC3302 AN5342K**

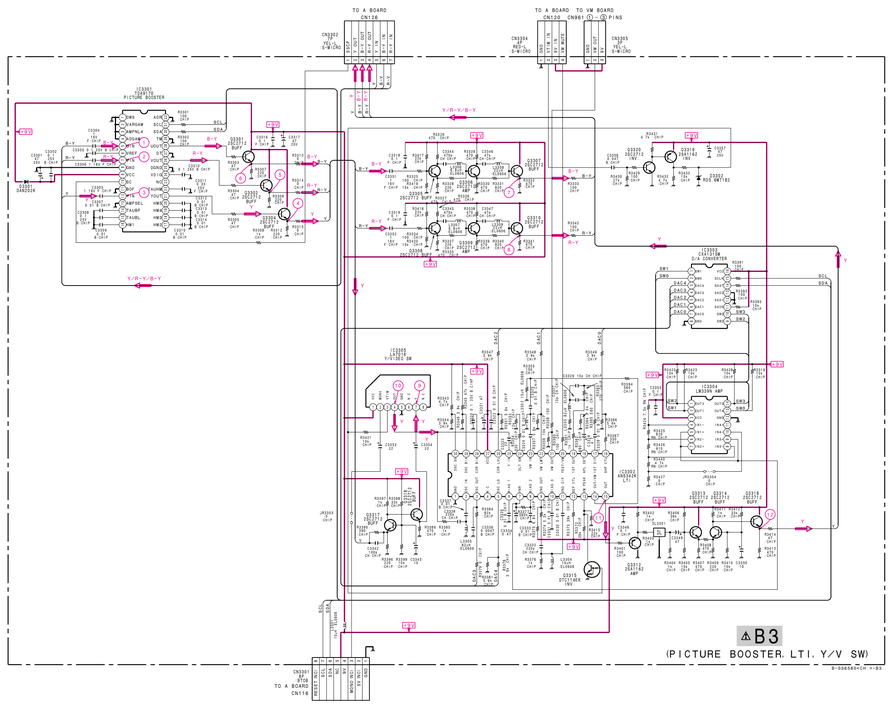


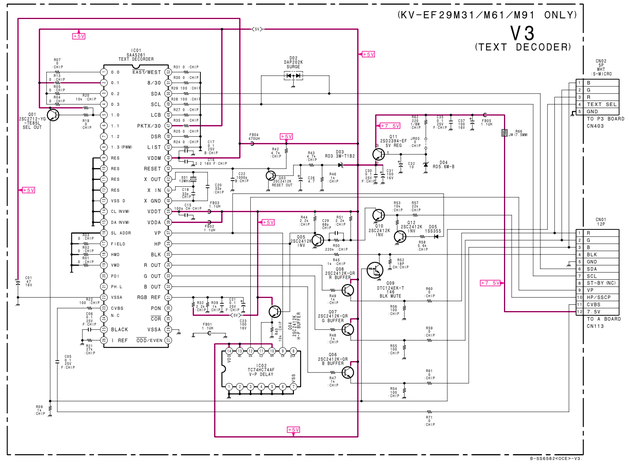
• **B3 BOARD IC3303 CXA1315M**

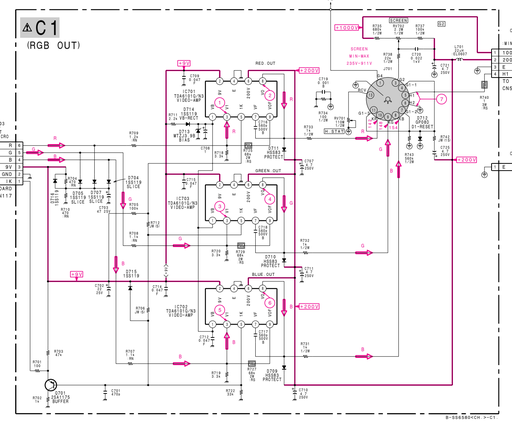


• **B3 BOARD IC3305 LA7016**









• C1 BOARD WAVEFORMS

① 0.8 Vp-p (H)	② 130 Vp-p (H)	③ 0.8 Vp-p (H)
④ 115 Vp-p (H)	⑤ 0.9 Vp-p (H)	⑥ 110 Vp-p (H)
⑦ 24.4 Vp-p (H)		

• V3 BOARD WAVEFORMS

① 4.5 Vp-p (12MHz)	② 4.6 Vp-p (V)	③ 4.4 Vp-p (H)

• V3 BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC01	1	0	IC02	9	0.3		B	0
	2	4.4		11	0.9	Q09	C	0
	3	0		12	0.9		B	0
	4	0	Q01	E	0	Q10	C	0
	5	0		B	0		B	0
	23	2.1	Q03	C	0	Q11	E	4.4
	25	1.8		B	0.7		C	5.8
	26	2.2	Q04	E	0.9		B	5.1
	31	1.4		B	1.1	Q12	C	0.3
	32	0	Q05	C	1.1		B	0
	33	0		B	0.3	Q13	E	5.1
	34	0	Q06	E	0		C	0
	35	0		B	0		B	0
	36	1.1	Q07	E	0	Q14	C	0
	37	0.3		B	0		B	4.1
	41	2.1	Q08	C	0			
	42	2.2						
	43	0						
	49	4.5						
	50	4.5						

• V3 BOARD DESCRIPTION

REF. NO.	
IC01	TEXT DECORDER
IC02	V-P DELAY
Q01	SEL OUT
Q03	RESET OUT
Q04	H-P BUFF
Q05	INVERTER
Q06	B BUFF
Q07	G BUFF
Q08	R BUFF
Q09	BLK MUTE
Q10	INVERTER
Q11	5V REG
Q12	INVERTER

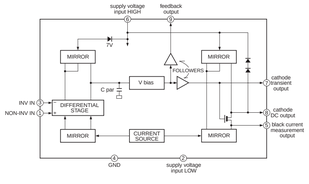
• C1 BOARD DESCRIPTION

REF. NO.	
IC701	VIDEO AMP
IC702	VIDEO AMP
IC703	VIDEO AMP
Q701	BUFF

• C1 BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC701	1	3.6	IC702	1	3.6	IC703	1	3.6	Q701	E	5.8
	3	3.5		3	3.5		3	3.5		C	0
	5	8.3		5	8.0		5	8.0		B	8.1
	7	140		7	152		7	146			
	8	141		8	154		8	148			
	9	138		9	151		9	144			

• C1 BOARD IC701-IC703 TDA6101Q/N3



• B3 BOARD VOLTAGE LIST

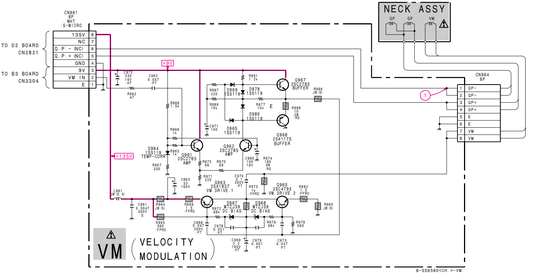
Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC3301	5	1.5		5	2.8		28	5.2		8	3.1	Q3306	E	2.1		C	4.2
	6	4.0		6	3.1		29	0.7		9	3.1		C	6.8		B	2.0
	7	1.6		7	3.1		30	4.1		10	0		B	2.8	Q3315	C	3.1
	10	0.7		8	3.1	IC3303	1	0		13	0.2	Q3307	E	1.5		B	0
	12	1.8		9	2.8		2	0	IC3305	14	9.1		B	2.1	Q3316	E	3.5
	14	0.7		10	3.5		3	4.5		2	5.6	Q3308	E	2.8		B	4.1
	15	1.7		11	2.7		4	3.2		3	0		C	6.2	Q3317	E	1.3
	16	0.4		12	4.6		5	3.4		4	4.9		B	3.4		C	4.1
	17	0.5		13	3.3		6	5.8		7	5.5	Q3309	E	2.1		B	1.9
	18	0.5		14	3.3		7	2.4	Q3301	E	1.8		C	6.9	Q3318	E	3.5
	19	0.3		15	4.1		9	0		B	2.5		B	2.7		B	4.2
	20	0		16	1.4		10	9.1	Q3302	E	1.8	Q3310	E	1.4	Q3319	C	0.2
	21	2.2		17	4.8		11	9.1		B	2.4		B	2.1		B	9.1
	22	1.6		18	3.2		14	4.5	Q3304	E	1.6	Q3312	E	4.8	Q3320	C	9.1
	24	5.0		19	6.2		15	4.5		B	2.2		B	4.8		B	–0.2
	26	2.4		20	0	IC3304	1	0	Q3305	E	2.8	Q3313	E	1.7			
	28	2.5		21	7.5		2	0		C	6.2		B	2.4			
	30	4.6		22	3.4		4	4.2		B	3.5	Q3314	E	1.3			
	31	4.5		23	2.3		5	3.1									
IC3302	2	2.7		24	0		6	3.7									
	3	5.1		25	5.4		7	3.1									
				26	1.6												

• B3 BOARD WAVEFORMS

① 1.9 Vp-p (H)	② 1.5 Vp-p (H)	③ 1.0 Vp-p (H)	④ 1.0 Vp-p (H)
⑤ 1.6 Vp-p (H)	⑥ 1.9 Vp-p (H)	⑦ 1.9 Vp-p (H)	⑧ 1.5 Vp-p (H)
⑨ 2.4 Vp-p (H)	⑩ 2.4 Vp-p (H)	⑪ 1.3 Vp-p (H)	⑫ 1.1 Vp-p (H)

• B3 BOARD DESCRIPTION

REF. NO.		REF. NO.	
IC3301	PICTURE BOOSTER	Q3309	AMP
IC3302	LTI	Q3310	BUFF
IC3303	D/A CONVERTER	Q3312	AMP
IC3304	AMP	Q3313	BUFF
IC3305	Y/VIDEO SW	Q3314	BUFF
Q3301	BUFF	Q3315	INVERTER
Q3302	BUFF	Q3316	BUFF
Q3304	BUFF	Q3317	BUFF
Q3305	BUFF	Q3318	BUFF
Q3306	AMP	QQ3319	INVERTER
Q3307	BUFF	Q3320	INVERTER
Q3308	BUFF		



• VM BOARD DESCRIPTION

REF. NO.	
Q961	AMP
Q962	AMP
Q963	VM DRIVE 1
Q965	VM DRIVE 2
Q967	BUFF
Q968	BUFF

• VM BOARD VOLTAGE LIST

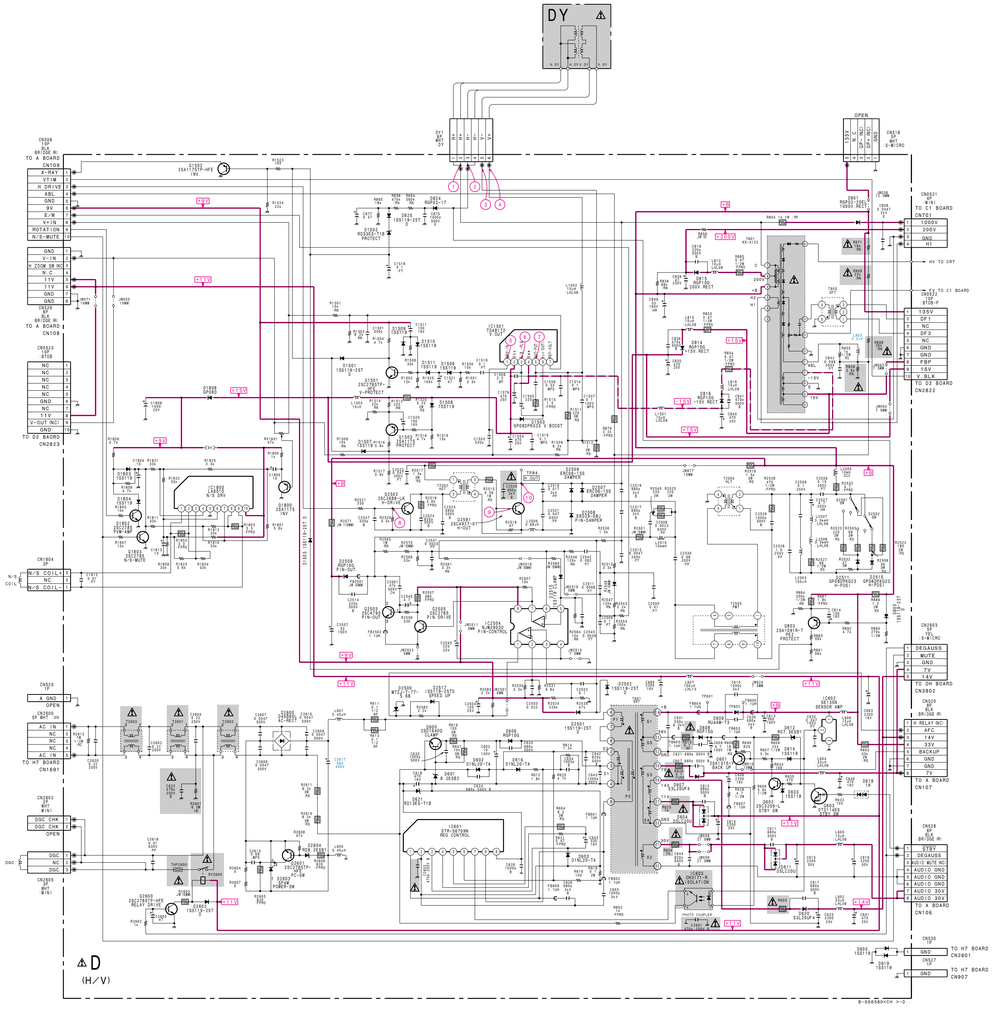
Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
Q961	E	1.6	Q965	E	0
	B	2.2		C	63.8
Q962	E	1.6		B	0.2
	C	4.3	Q967	E	4.9
	B	2.2		B	5.5
Q963	C	63.8	Q968	E	4.9
	B	134		B	4.3

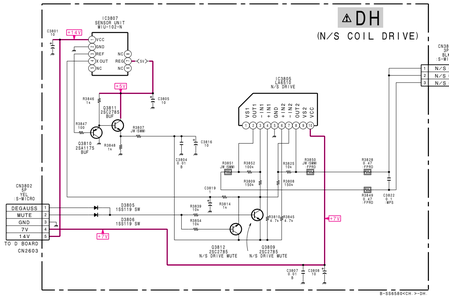
• VM BOARD WAVEFORM

① 35.6 Vp-p (H)

Schematic diagram
← (b3)(c1) (v3)(vm) boards

Schematic diagrams
D (d2)(dh) boards →





• D BOARD WAVEFORMS

① 950 Vp-p (H)	② 166 Vp-p (H)
③ 2.0 Vp-p (V)	④ 53.2 Vp-p (V)
⑤ 0.9 Vp-p (V)	⑥ 29.6 Vp-p (V)
⑦ 53.2 Vp-p (V)	⑧ 144 Vp-p (H)
⑨ 25.2 Vp-p (H)	⑩ 950 Vp-p (H)

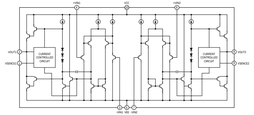
• D BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]
IC601	1	289
	2	0
	3	0
	4	0.8
	5	1.3
	6	0
	7	0.2
	8	1.6
	9	8.4
IC602	2	64.7
IC603	1	65.6
	2	64.6
	3	0.2
	4	8.2
IC1501	1	1.3
	3	−13.5
	5	0.4
	7	1.3
IC1800	1	6.4
	2	6.4
	3	6.4
	4	6.4
	6	6.4
	7	6.4
	8	6.3
	9	6.4
Q600	E	8.4
	C	84.0
	B	8.2
Q601	E	70.9
	C	10.2
	B	70.8
Q602	C	70.8
	B	0
Q603	C	0
	B	4.1
Q803	C	0
	B	134
Q1501	C	0
	B	0.6
Q1502	E	0.6
	B	0
Q1503	E	13.0
	C	0.2
	B	12.5
Q1800	E	4.1
	B	3.5
Q1802	C	4.1
	B	0.3
Q1803	C	6.4
	B	0
Q2502	C	68.6
	B	0
Q2503	C	19.3
	B	2.5
Q2505	C	2.5
	B	0
Q2591	C	137
	B	−0.2
Q2600	C	11.3
	B	0
Q2601	E	−0.3
	C	0
	B	−0.4

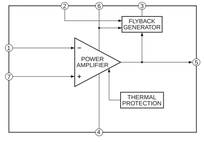
• D BOARD DESCRIPTION

REF. NO.	
IC601	REG CONTROL
IC602	SENSOR AMP
IC603	ISOLATION
IC1502	V.OUT
IC1800	N/S DRIVE
IC2504	PIN CONTROL
Q600	CLAMP
Q601	BACK UP
Q602	STBY SW
Q603	STBY SW
Q803	PROTECT
Q1501	V PROTECT
Q1502	INVERTER
Q1503	PROTECT
Q1800	INVERTER
Q1802	PVM AMP
Q1803	N/S MUTE
Q2502	H DRIVE
Q2503	PIN OUT
Q2505	PIN DRIVE
Q2591	H OUT
Q2600	RELAY DRIVE
Q2601	POWER CONTROL

• DH BOARD IC3805 LA6510

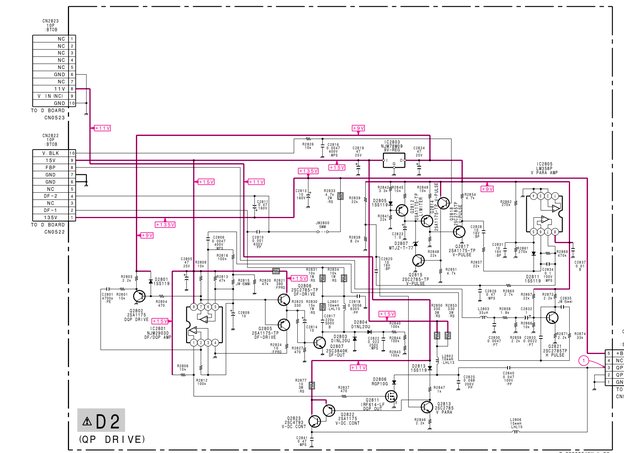


• D BOARD IC1501 TDA8172



• D2 BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]
IC2801	1	6.1
	2	6.5
	3	6.6
	5	6.6
	6	6.5
	7	1.5
IC2803	I	13.2
	O	9.0
IC2805	5	4.4
	6	4.5
	7	4.5
Q2802	E	2.1
	B	1.5
Q2805	E	1.5
	C	0
	B	1.5
Q2806	E	1.5
	C	8.3
	B	1.5
Q2807	C	42.6
	B	−0.2
Q2811	E	2.1
	C	7.3
	B	1.8
Q2812	E	8.2
	C	8.2
	B	7.6
Q2813	E	4.4
	C	8.1
	B	5.0
Q2814	E	8.7
	C	0.8
	B	8.2
Q2815	C	3.5
	B	0
Q2817	E	1.4
	B	0.8
Q2818	E	0
	B	−2.5
Q2821	E	2.1
	C	7.3
	B	1.8
Q2822	C	2.1
	B	8.1
Q2823	E	1.3
	B	2.1



• DH BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC3805	1	2.4		C	2.5
	2	2.7		B	1.0
	3	2.6			
	4	2.7	Q3810	E	3.2
	6	2.6		B	2.6
	7	2.6			
	8	2.5	Q3811	E	2.6
				B	3.2
IC3807	3	2.5			
	4	2.0	Q3812	E	2.5
				C	2.6
Q3809	E	2.6		B	0

• DH BOARD DESCRIPTION

REF. NO.	
IC3805	N/S DRIVE
IC3807	SENSOR UNIT
Q3809	N/S DRIVE MUTE
Q3810	BUFF
Q3811	BUFF
Q3812	N/S DRIVE MUTE

• D2 BOARD DESCRIPTION

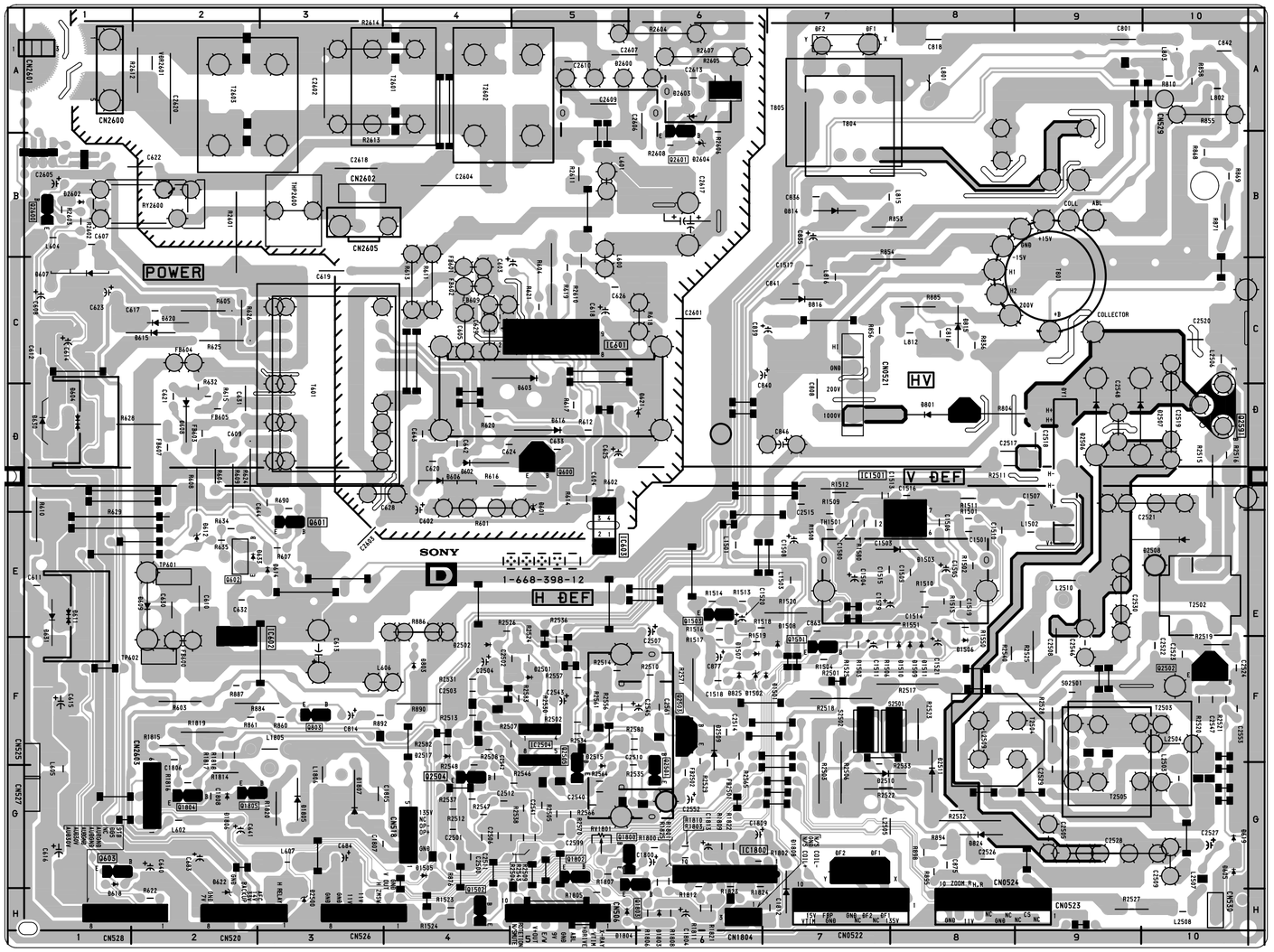
REF. NO.		REF. NO.		REF. NO.	
IC2801	DF/DQP AMP	Q2807	DF OUT	Q2817	V PULSE
IC2803	9V-REG	Q2811	DQP OUT	Q2818	V PULSE
IC2805	V PARA AMP	Q2812	LIMITTER	Q2821	H PULSE
Q2802	DQP DRIVE	Q2813	V PARA	Q2822	V-DC CONT
Q2805	DF DRIVE	Q2814	V PULSE	Q2823	V-DC CONT
Q2806	DF DRIVE	Q2815	V PULSE		

• D2 BOARD WAVEFORM

① 35.2 Vp-p (H)

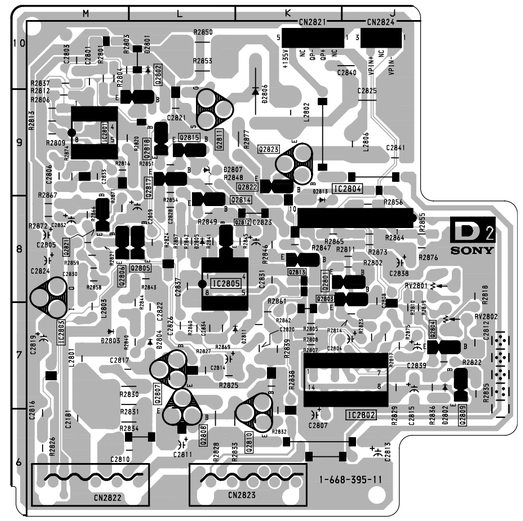
D [H/V]

— D BOARD —

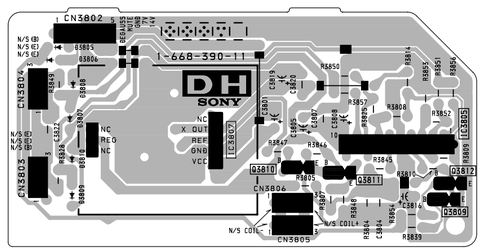


D2 [QP DRIVE] DH [N/S COIL DRIVE]

— D2 BOARD —



— DH BOARD —



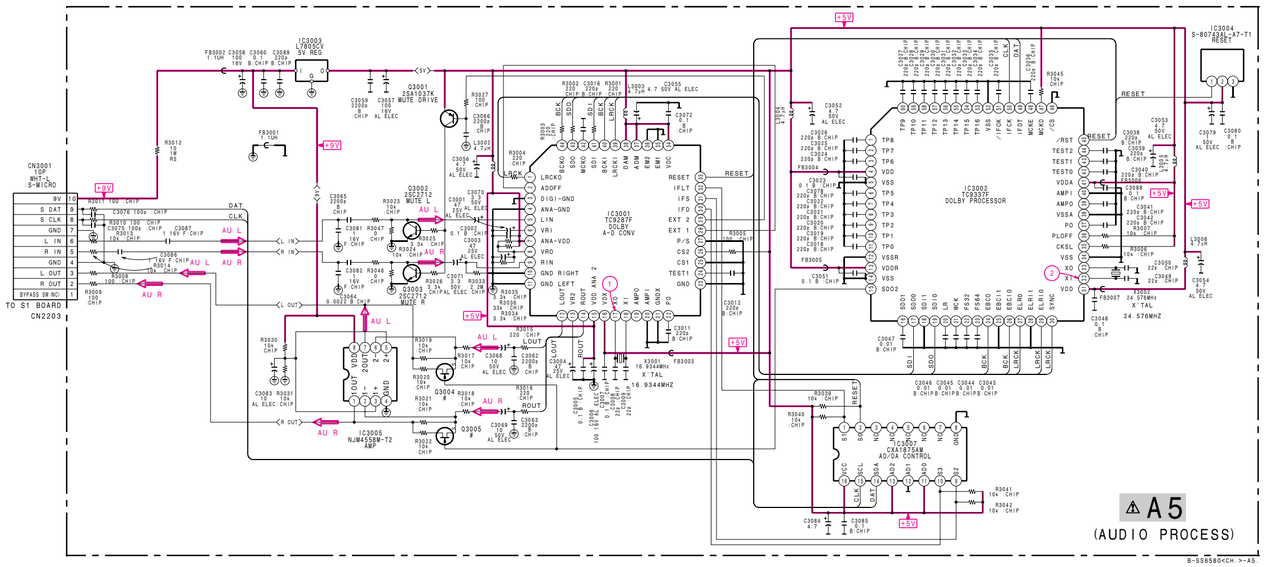
• D BOARD SEMICONDUCTOR LOCATION

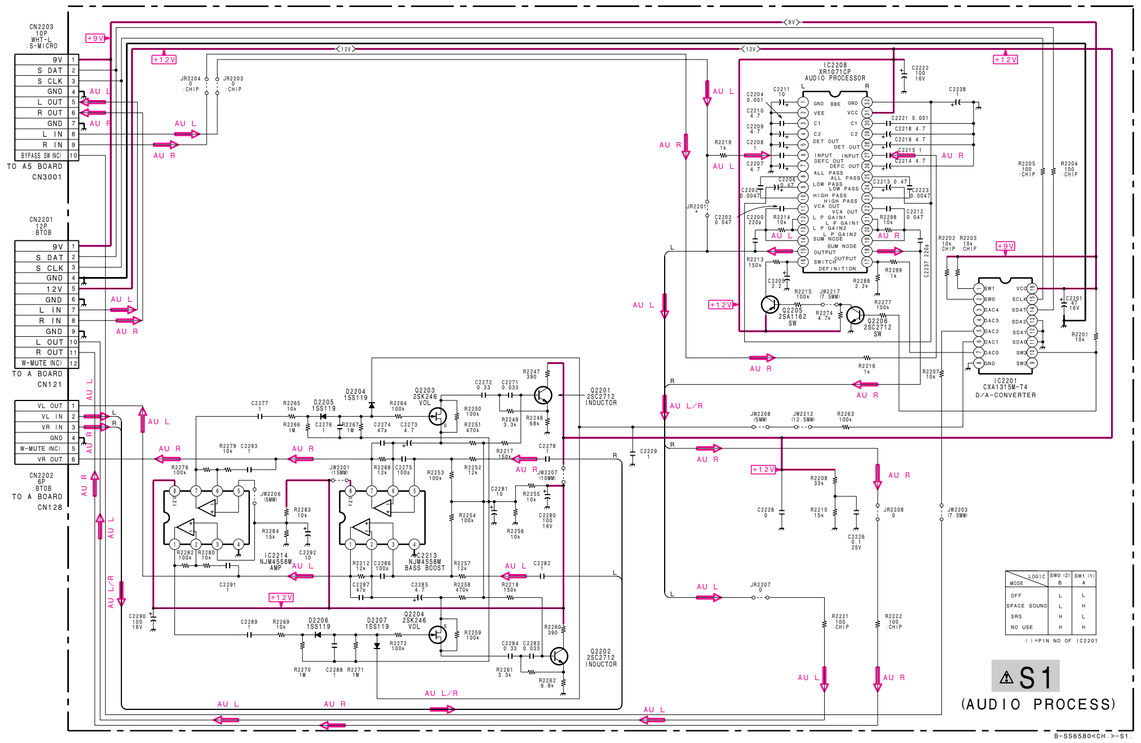
IC		DIODE		D1506	F–8
IC601	C–5	D601	D–5	D1507	F–6
IC602	E–2	D602	D–4	D1508	F–7
IC603	E–5	D603	C–5	D1509	F–8
IC1501	D–8	D604	D–1	D1510	F–8
IC1800	G–6	D605	G–10	D1511	F–8
IC2504	F–5	D606	D–4	D1803	H–6
		D607	C–1	D1804	H–5
TRANSISTOR		D608	D–2	D1808	H–7
Q600	D–5	D609	E–2	D2500	H–3
Q601	E–3	D611	E–1	D2501	F–5
Q602	E–2	D612	E–2	D2502	F–4
Q603	G–1	D614	E–3	D2506	D–9
Q803	F–3	D616	D–5	D2507	D–9
Q1501	F–7	D618	G–1	D2508	E–10
Q1502	H–4	D619	G–10	D2509	F–6
Q1503	E–6	D620	C–2	D2510	G–7
Q1800	G–5	D621	D–6	D2511	G–8
Q1802	G–5	D633	E–2	D2515	G–5
Q1803	G–5	D801	D–8	D2517	F–4
Q2502	F–10	D803	F–4	D2600	A–5
Q2503	F–6	D814	B–7	D2602	B–1
Q2505	F–5	D815	C–8	D2603	A–6
Q2591	D–10	D816	C–7	D2604	B–6
Q2600	B–1	D824	G–8		
Q2601	A–6	D825	F–6	VARIABLE RESISTOR	
		D1501	F–7		
		D1502	F–6	RV1801	G–5
		D1503	E–8		
		D1505	G–4		

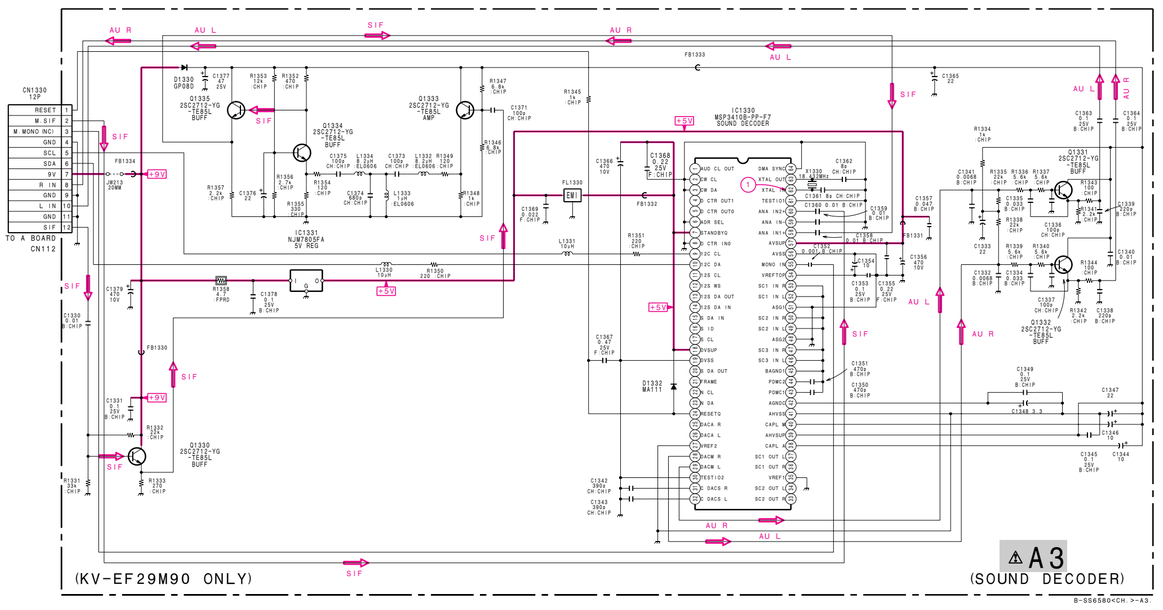
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

Schematic diagrams
A3 A5 S1 boards ➡

(5) Schematic Diagram of A3, A5 and S1 Boards







• A5 BOARD DESCRIPTION

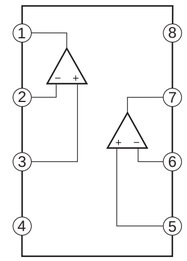
REF. NO.	
IC3001	A/D CONVERTER
IC3002	DOLBY PROCESSOR
IC3003	5V REG
IC3004	RESET
IC3005	AMP
IC3007	AD/DA CONTROL
Q3001	MUTE DRIVE
Q3002	MUTE L
Q3002	MUTE R

• A5 BOARD WAVEFORMS

① 6.0 Vp-p (16.9344MHz)

② 4.2 Vp-p (24.576MHz)

• A5 BOARD IC3005 NJM4558M-T2



• A5 BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC3001	1	2.5		31	5.0		16	3.5		45	5.0	IC3005	1	4.5
	2	0		32	5.0		17	3.0		47	0		2	4.5
	5	2.8		33	5.0		19	3.7		48	4.9		3	4.5
	6	2.5		39	2.5		20	2.5		49	4.3		5	4.5
	7	5.0		40	2.5		21	2.5		50	4.5		6	4.5
	8	3.2		41	2.8		22	2.5		51	4.9		7	4.7
	9	3.9		42	2.4		23	2.5		53	4.9	IC3007	1	5.0
	12	2.1		43	3.8		24	2.5		54	5.0		2	5.0
	13	2.5		44	2.5		25	2.5		55	4.9		9	5.0
	14	3.0	IC3002	1	5.0		27	2.5		56	5.0		10	0
	16	5.0		2	5.0		29	2.5		57	5.0		14	4.5
	17	2.4		3	5.0		30	2.5		58	5.0		15	4.5
	18	2.0		6	5.0		32	2.0		59	5.0	Q3001	C	–0.6
	19	5.0		7	5.0		33	2.3		60	5.0		B	5.0
	22	0		8	5.0		35	5.0	IC3003	I	9.0	Q3002	C	0
	24	5.0		9	5.0		36	5.0		O	5.0		B	–0.6
	26	5.0		10	5.0		37	0	IC3004	1	5.0	Q3003	C	0
	28	0		11	5.0		39	5.0		2	GND		B	–0.6
	29	5.0		15	5.0		42	5.0		3	5.0			
	30	0					43	4.9						
							44	4.9						

• S1 BOARD DESCRIPTION

REF. NO.	
IC2201	D/A CONVERTER
IC2208	AUDIO PROCESSOR
IC2213	BASS BOOST
IC2214	AMP
Q2201	INDUCTOR
Q2202	INDUCTORQ
Q2203	VOL
Q2204	VOL
Q2205	SW
Q2206	SW

• S1 BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC2201	1	0.2		15	4.5		10	5.7		20	5.7		30	5.7		3	7.0		C	11.5	Q2205	E	11.8
	2	0.2	IC2208	1	5.7		11	5.7		21	5.7	IC2213	1	5.8		5	7.0		B	5.3		C	11.8
	3	0.5		3	5.7		12	5.7		22	5.7		2	5.8		6	7.0	Q2203	S	5.6		B	11.2
	4	4.6		4	5.7		13	5.7		23	5.7		3	5.8		7	7.0		D	5.3	Q2206	C	0
	5	0.4		5	5.7		14	5.7		24	5.7		5	5.8	Q2201	E	4.7		G	0.8		B	0.7
	6	0.4		6	5.7		15	5.7		25	5.7		6	5.8		C	11.5	Q2204	S	5.7			
	7	8.6		7	5.7		16	6.4		26	5.7		7	5.8		B	5.2		D	5.2			
	9	3.7		8	5.7		17	6.0		27	5.7	IC2214	1	7.0	Q2202	E	4.7		G	0.8			
	10	8.3		9	5.7		18	5.7		28	5.7		2	7.0									
	14	4.5					19	5.7		29	5.7												

• A3 BOARD VOLTAGE LIST

Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]
IC1330	9	4.4		40	6.5		52	3.9		62	2.5	Q1331	E	2.0	Q1334	E	0.9
	10	4.5		42	3.8		53	3.9		63	2.4		B	2.6		C	7.1
	24	4.9		43	3.9		54	2.7	IC1331	I	8.4	Q1332	E	2.0		B	1.5
	28	2.7		44	3.9		55	3.9		O	5.1		B	2.6	Q1335	E	6.4
	29	2.7		45	3.9		57	5.1	Q1330	E	*	Q1333	E	3.5		B	7.1
	31	3.9		46	3.9		58	1.6		C	*		B	4.1			
	32	3.9		47	3.9		59	1.6		B	*						
	38	7.4		49	3.9		60	0									
	39	8.3		50	3.9												

• A3 BOARD DESCRIPTION

REF. NO.	
IC1330	SOUND DECODER
IC1331	5V REG
Q1330	BUFF
Q1331	BUFF
Q1332	BUFF
Q1333	AMP
Q1334	BUFF
Q1335	BUFF

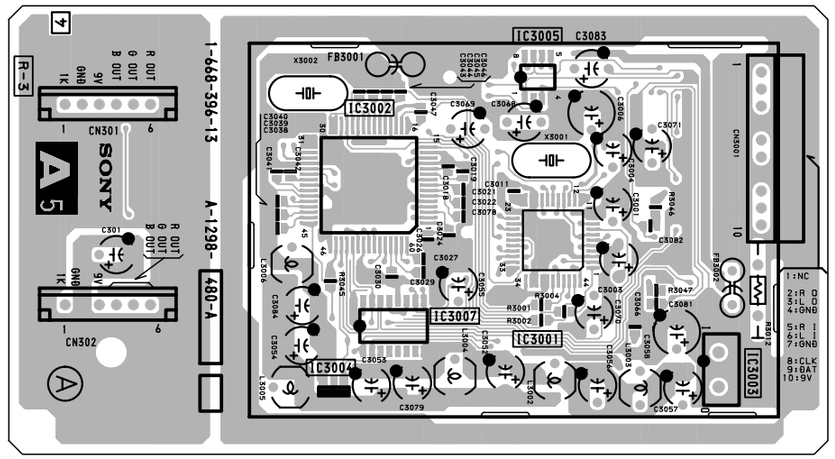
• A3 BOARD WAVEFORMS

① 3.2 Vp-p (18.432MHz)

KV-EF29M31/EF29M61/EF29M80/
EF29M90/EF29M91 RM-881

A5 ［AUDIO PROCESS］

— A5 BOARD (Component Side) —



— A5 BOARD (Conductor Side) —

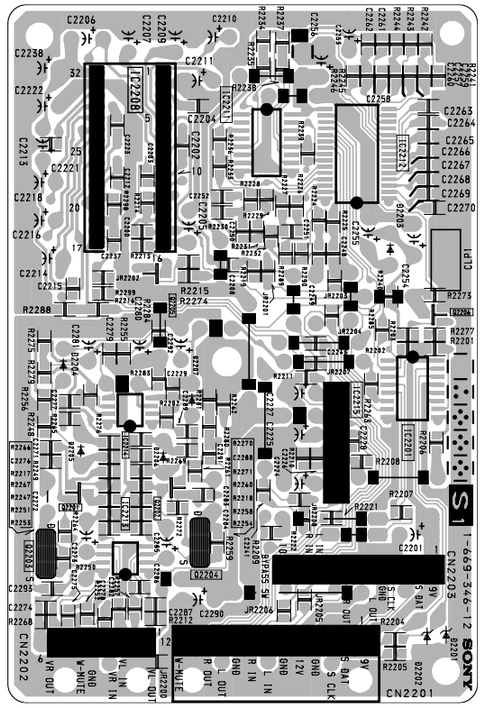
A5 BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

Ref.	∗
Q3001-Q3003	①

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 55)

S1 ［AUDIO PROCESSOR］

— S1 BOARD —



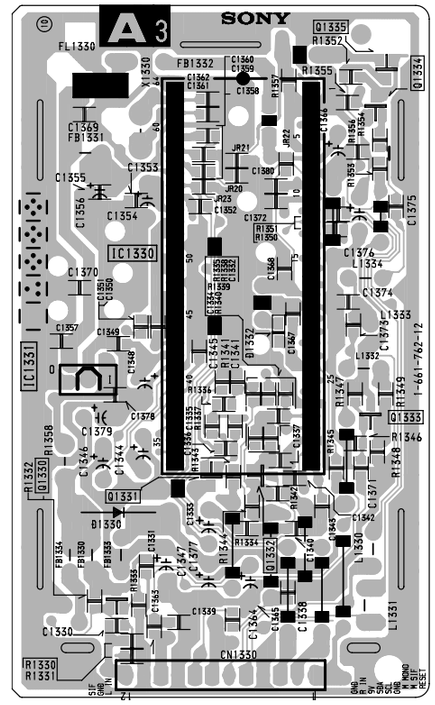
S1 BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

Ref.	∗
Q2201, Q2202, Q2205-Q2207	①

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 55)

A3 ［SOUND DECODER］

— A3 BOARD —



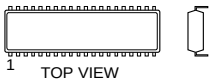
A3 BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

Ref.	∗
D1332	③
Q1330-Q1335	①

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 55)

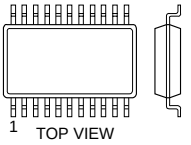
6-4. SEMICONDUCTORS

AN5342K



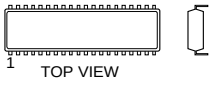
30pin DIP

BA7606F
CXA1315M
CXA1875AM-T4
HEF4053BT
TDA4665T-T



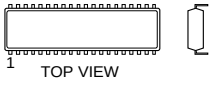
16pin SOP

CXA1855S



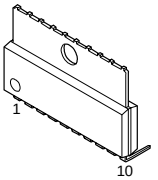
48pin DIP

CXA2050S
CXP85452-090S
CXP85452-091S
MSP3410B-PP-F7

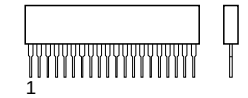


64pin DIP

LA6510

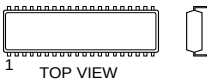


LA7016



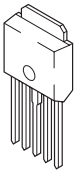
8pin SIP

LM339N

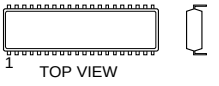


14pin DIP

L78LR05D-MA

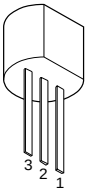


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ST24C08FB6
UPC358C
UPC393C

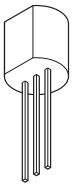


8pin DIP

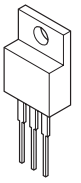
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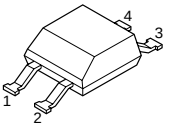
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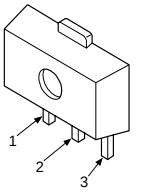
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NJM78M09FA
P009RF2
TA7805S
TA7808S
TA7812S



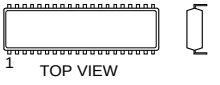
PC123F2



S-08743AL-A7-S

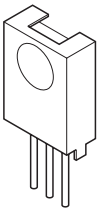


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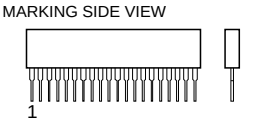


52pin DIP

SBX1790-11

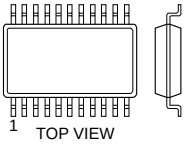


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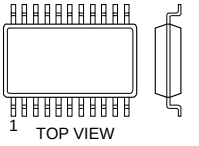
18pin SIP

SDA9187-2XGEG



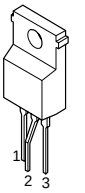
28pin SOP

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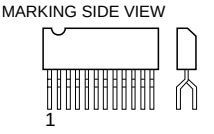


32pin SOP

SE-135N

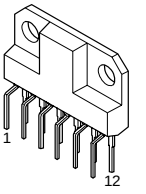


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STR-S6709N
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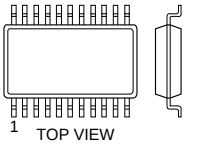


9pin ZIP

TA8200AH

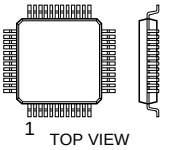


TC74HC74AF



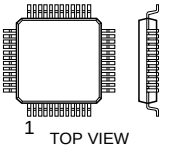
14pin SOP

TC9287AF



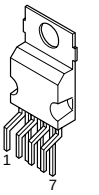
44pin QFP

TC9337F-XXX

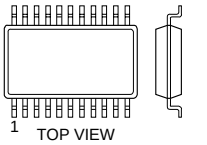


60pin QFP

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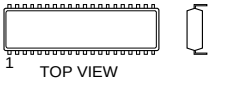


TDA8395T



20pin SOP

TDA8424



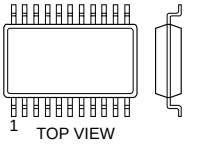
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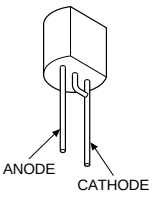
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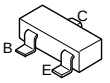


8pin SOP

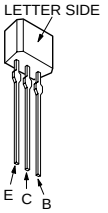
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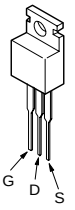
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DTA144EKA-T146
DTC114EK
DTC114EKA-T146
DTC124EK
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RN1402
RN1403
UN2211
UN2212
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2SC1623-L5L6
2SC2712-YG
2SD601A-Q



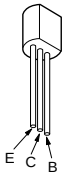
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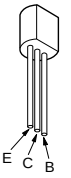
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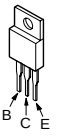
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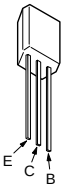
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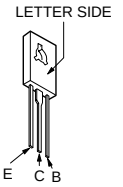
2SA1837
2SC4793



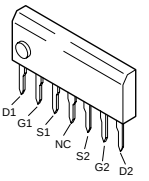
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2SC2458-YGR



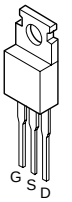
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2SC3601-E
2SC3840K



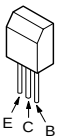
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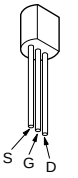
2SD2394-EF



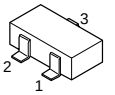
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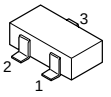
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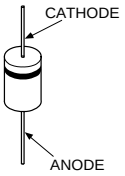
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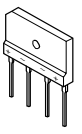
DAP202K



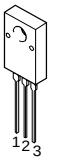
D1NL20
EGP20G
EL1Z
EU2A
GP08D
HSS83TD
MTZJ-T-77-9.1A
RD33E-B3T
RGP02-17EL-6433
RGP02-20EL-6394
RU4AM-T3



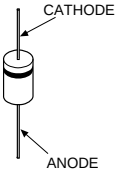
D4SB60L



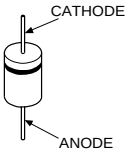
D5LC20U
FMX-12S



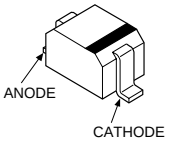
ERC06-15S
RU2AM
S2LA20F
S3L20UF4



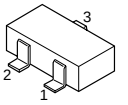
ERD29-08J



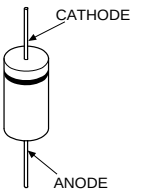
MA111
1SS355



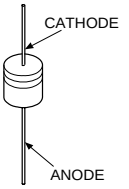
MA3091
RD3.3M-B2
RD5.6M-B2
RD6.8M-B3
RD9.1M-B1



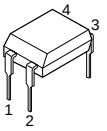
MA7120-TA



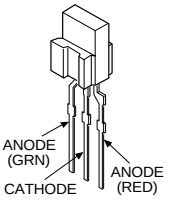
MTZJ-13
MTZJ-33B
RD11ES-B2
RD13ES-B2
RD3.9ES-B2
RD39ES-B2
RD4.7EBS2
RD5.1ES-B1
RD5.6ES-B1
RD5.6ESB2
RD6.8ES-B2
RD7.5ES-B1
RD7.5ESB2
RD8.2ES-B2
RD8.2ESB1
RD9.1ES-L
11EFS2
1SS119-25
1SS133T-77



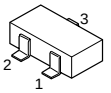
ON3171-R



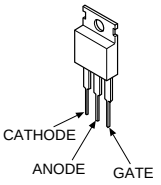
SPB-26MVWF



1SS226



5P-6M



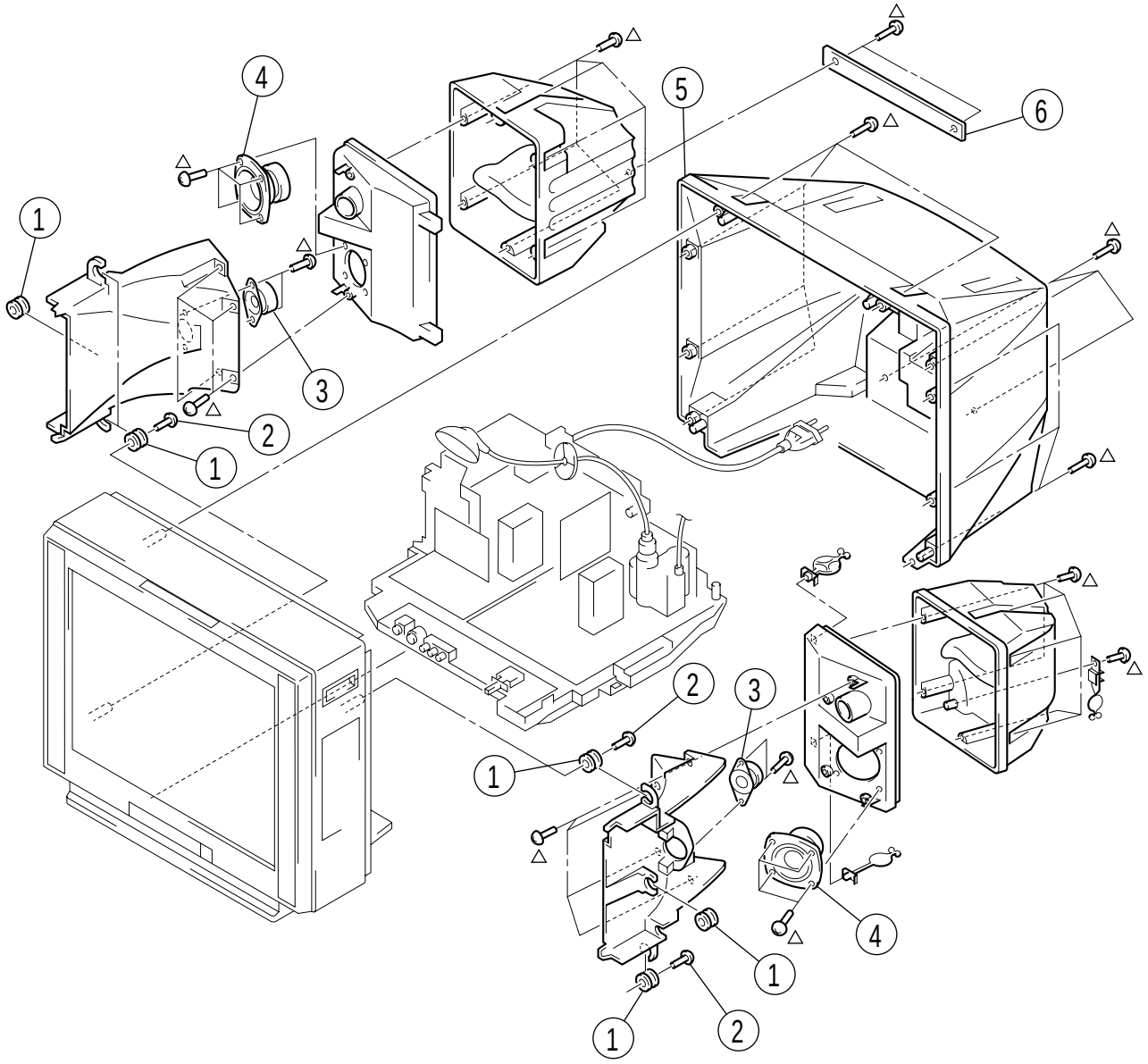
SECTION 7
EXPLODED VIEWS

- 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 remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

7-1. SPEAKER BOX

△ : 7-685-663-71 SCREW +BVTP 4X16

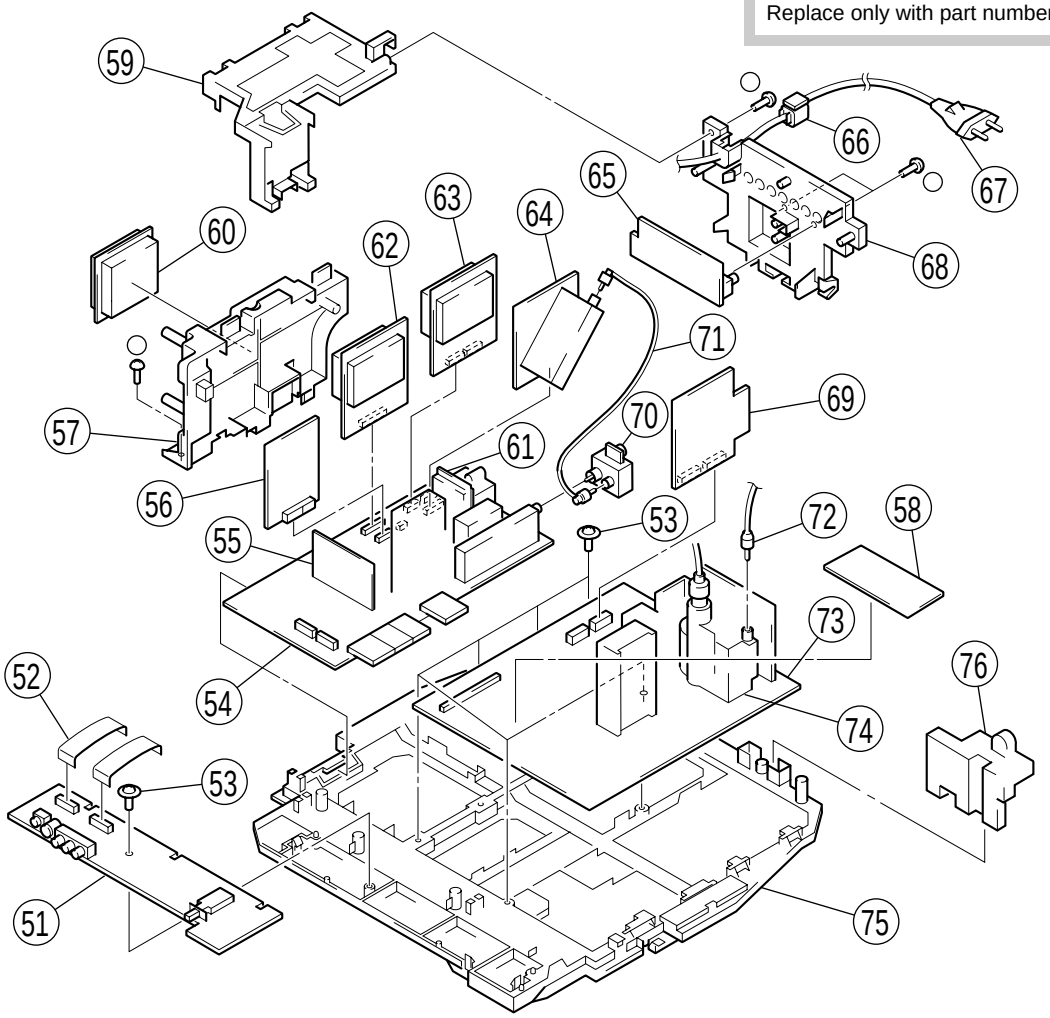


REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-374-745-11	CUSHION (A)	
2	4-384-076-01	SCREW (4X16), TAPPING, +P	
3	1-505-474-11	SPEAKER (5CM)	
4	1-505-473-11	SPEAKER (12CM)	
5	4-062-945-01	COVER, REAR	
6	* 4-057-639-01	STAY, SPEAKER	

7-2. CHASSIS

○ : 7-685-648-79 SCREW +BVTP 3X12

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

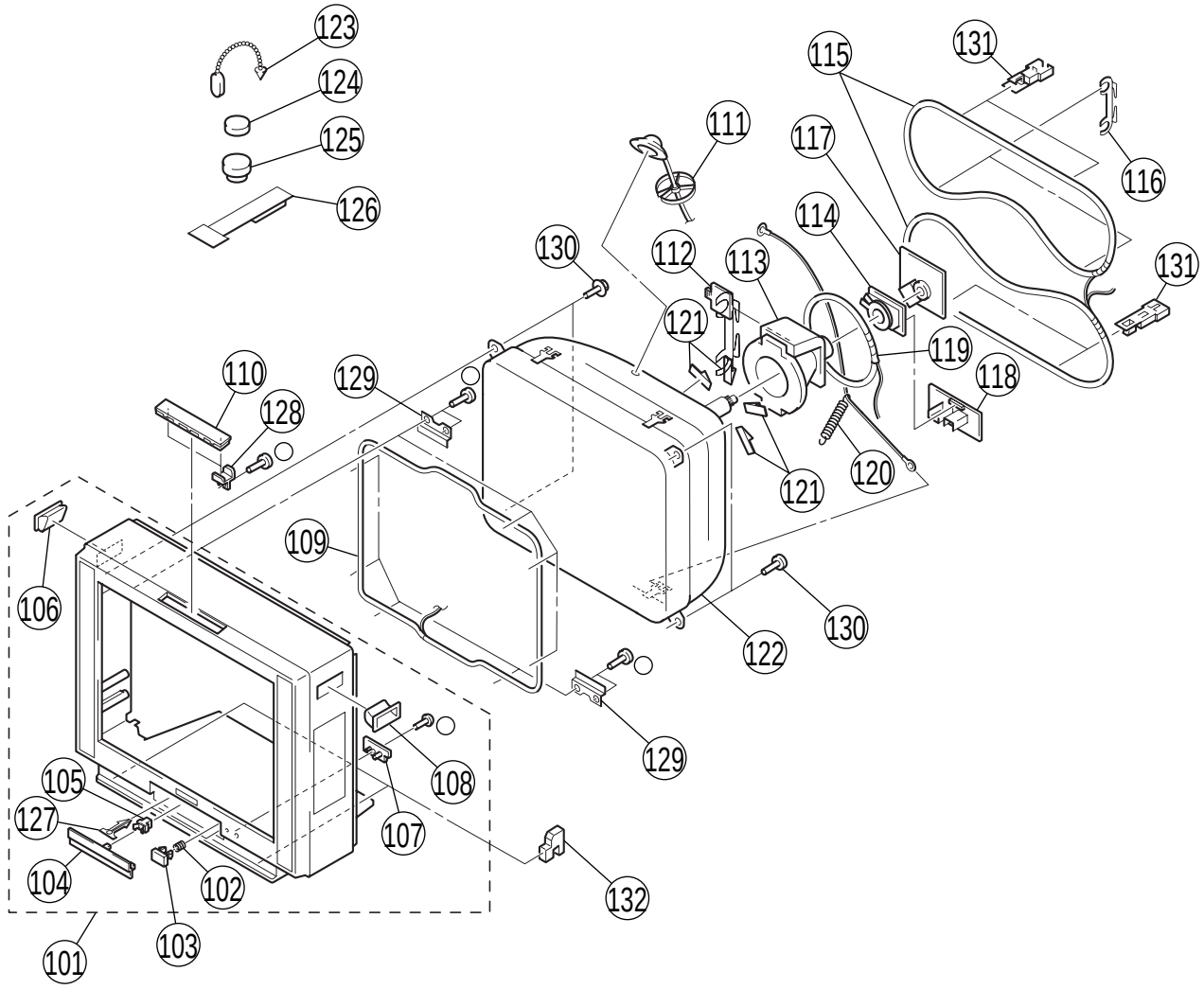


REF.NO.	PART NO.	DESCRIPTION	REMARK
51	*A-1372-427-A	H7 BOARD, COMPLETE	
52	1-777-353-11	CABLE, FLAT	
53	4-046-797-01	SCREW (3X12), (+) BVTAP	
54	*A-1298-339-A	A BOARD, COMPLETE	55, 61 (EF29M31/EFM61)
54	*A-1298-464-A	A BOARD, COMPLETE	55, 61 (EF29M80:ME)
54	*A-1298-491-A	A BOARD, COMPLETE	55, 61 (EF29M80:JE)
54	*A-1298-337-A	A BOARD, COMPLETE	55, 61 (EF29M90)
54	*A-1298-463-A	A BOARD, COMPLETE	55, 61 (EF29M91)
55	*A-1131-314-A	B3 BOARD, COMPLETE	
56	*A-1390-792-A	S1 BOARD, COMPLETE	
57	*4-062-951-01	BRACKET, DH	
58	*A-1343-417-A	DH BOARD, COMPLETE	
59	*4-062-953-01	HOLDER, PWB	
60	*A-1293-943-A	A5 BOARD, COMPLETE	
61	*A-1298-338-A	A3 BOARD, COMPLETE	
62	*A-1347-141-A	V3 BOARD, COMPLETE	
63	*A-1195-128-A	P3 BOARD, COMPLETE (EF29M31/EF29M61/EF29M61/EF29M91)	
63	*A-1195-127-A	P3 BOARD, COMPLETE (EF29M80/EF29M90)	
64	*A-1190-301-A	P4 BOARD, COMPLETE	
65	*A-1388-206-A	J BOARD, COMPLETE	
66	4-022-115-00	HOLDER, AC, CORD	
67	⚠1-574-062-11	CORD, POWER (WITH CONNECTOR) (EF29M61:EM/EF29M80/EF29M91)	
67	⚠1-574-358-11	CORD, POWER (WITH CONNECTOR) (EF29M31)	
67	⚠1-769-185-21	CORD, POWER (WITH CONNECTOR) (EF29M61:GE)	
67	⚠1-769-609-21	CORD, POWER (WITH CONNECTOR) (EF29M90)	
68	4-062-952-01	BRACKET, TERMINAL	
69	*A-1343-415-A	D2 BOARD, COMPLETE	
70	1-251-447-21	DISTRIBUTOR, RF	
71	*1-555-110-00	CABLE, P-P	
72	⚠1-900-235-68	LEAD ASSY, FOCUS	
73	*A-1346-685-A	D BOARD, COMPLETE	74
74	⚠1-453-226-41	FBT ASSY, NX-4122	
75	*4-062-946-01	BRACKET, MAIN	
76	*4-062-947-01	HOLDER, FBT	

7-3. PICTURE TUBE

○ : 7-685-648-79 SCREW +BVTP 3X12

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.



REF.NO.		PART NO.	DESCRIPTION	REMARK
101		X-4035-294-1	BEZNET ASSY (EF29M61)	102-108, 127
101		X-4035-316-1	BEZNET ASSY (EF29M80)	102-108, 127
101		X-4035-317-1	BEZNET ASSY (EF29M31)	102-108, 127
101		X-4035-293-1	BEZNET ASSY (EF29M90)	102-108, 127
101		X-4035-315-1	BEZNET ASSY (EF29M91)	102-108, 127
102		4-036-405-01	SPRING, COMPRESSION	
103		4-062-942-01	BUTTON, POWER	
104		4-062-948-01	DOOR, CONTROL	
105		4-047-464-01	CATCHER, PUSH	
106		X-4033-023-2	HANDLE ASSY (LEFT)	
107	*	4-062-939-01	GUIDE, LIGHT	
108		X-4033-024-2	HANDLE ASSY (RIGHT)	
109		1-416-542-11	COIL, MAGUNETIC CORRECTION	
110		1-771-360-11	SWITCH, TOP	
111		3-704-372-01	HOLDER, HV CABLE	
112		2-163-920-01	PLATE, TLH CORRECTION	
113	⚠	8-451-494-11	DEFLECTION YOKE (Y29RSA-M)	
114	⚠	8-453-011-11	NECK ASSY (NA299-M)	
115	⚠	1-416-495-11	COIL, DEMAGNETIC	
116	*	4-054-297-01	HOLDER, DGC	
117	*	A-1331-745-A	C1 BOARD, COMPLETE	
118	*	A-1342-375-A	VM BOARD, COMPLETE	
119	⚠	1-452-896-11	COIL, NA ROTATION (RT200)	
120		4-369-318-00	SPRING, TENSION	
121		3-703-961-01	SPACER, DY	
122	⚠	8-735-041-05	PICTURE TUBE (M68LNH010X) (Except KV-E29M80)	
	⚠	8-735-042-05	PICTURE TUBE (M68LNH010X) (KV-EF29M80(JE) only)	
123		4-308-870-00	CLIP, LEAD WIRE	
124		1-452-032-00	MAGNET, DISC:10mmϕ	
125		1-452-094-00	CIRCULAR DISC MAGNET B(120)	
126		4-051-734-21	PIECE B(120), CONV. CORRECT	
127		4-045-250-01	DAMPER (EF29M31/EF29M80/EF29M91)	
128	*	4-062-943-01	HOLDER, TOP SWITCH	
129	*	4-062-941-01	HOLDER, COIL	
130		4-046-765-01	SCREW, TAPPING	
131	*	4-062-970-01	CLIP, DGC	
132	*	4-062-938-01	SUPPORTER, CRT	

SECTION 8

ELECTRICAL PARTS LIST

P4 P3

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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

- 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

REF.NO.	PART NO.	DESCRIPTION			REMARK
	* A-1190-301-A	P4 BOARD,COMPLETE			
		**********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C2466	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2467	1-104-665-11	ELECT	100MF	20%	25V
C2468	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2469	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2470	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2474	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2475	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2476	1-136-173-00	FILM	0.47MF	5%	50V
C2478	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2479	1-126-968-11	ELECT	100MF	20%	50V
C2480	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2481	1-126-933-11	ELECT	100MF	20%	16V
C2482	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2483	1-128-551-11	ELECT	22MF	20%	25V
C2484	1-128-551-11	ELECT	22MF	20%	25V
C2485	1-126-933-11	ELECT	100MF	20%	16V
C2486	1-102-129-00	CERAMIC	0.01MF	10%	50V
C2487	1-102-129-00	CERAMIC	0.01MF	10%	50V
		<CONNECTOR>			
CN2401	*1-779-966-11	CONNECTOR, BOARD TO BOARD 15P			
CN2402	*1-564-507-11	PLUG, CONNECTOR 4P			
		<IC>			
IC2410	8-759-708-05	IC NJM78L05A			
IC2411	8-759-701-59	IC NJM78M09FA			
		<COIL>			
L2400	1-408-409-00	INDUCTOR	10UH		
L2401	1-408-409-00	INDUCTOR	10UH		
L2402	1-408-409-00	INDUCTOR	10UH		
L2403	1-408-409-00	INDUCTOR	10UH		
L2404	1-408-409-00	INDUCTOR	10UH		
		<TRANSISTOR>			
Q2417	8-729-119-78	TRANSISTOR	2SC2785-HFE		
		<RESISTOR>			
R2459	1-249-417-11	CARBON	1K	5%	1/4W
R2462	1-249-417-11	CARBON	1K	5%	1/4W
R2463	1-212-946-11	FUSIBLE	3.3	5%	1/2W F
R2471	1-249-417-11	CARBON	1K	5%	1/4W
R2472	1-249-417-11	CARBON	1K	5%	1/4W
R2473	1-247-807-31	CARBON	100	5%	1/4W
R2478	1-247-807-31	CARBON	100	5%	1/4W
R2479	1-247-807-31	CARBON	100	5%	1/4W
		<TUNER>			
TU2400	8-598-373-10	TUNER, FSS BTF-FG431			
		**********			
	* A-1195-127-A	P3 BOARD,COMPLETE (KV-EF29M80/M90)			
		**********			
	* A-1195-128-A	P3 BOARD,COMPLETE (KV-EF29M31/M61/M91)			
		**********			
	4-055-113-02	CASE (UPPER LID), SHIELD			
	4-055-114-01	CASE (BOTTOM LID), SHIELD			
	4-063-364-01	SHEET (P3), INSULATING			
		<CAPACITOR>			
C1401	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C1402	1-126-960-11	ELECT	1MF	20%	50V
C1403	1-164-346-11	CERAMIC CHIP	1MF		16V
C1404	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C1405	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C1406	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C1407	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C1408	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C1409	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1410	1-164-346-11	CERAMIC CHIP	1MF		16V
C1411	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C1412	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C1413	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C1414	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C1415	1-126-933-11	ELECT	100MF	20%	16V
C1416	1-104-664-11	ELECT	47MF	20%	25V
C1417	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C1418	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C1419	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1420	1-163-038-91	CERAMIC CHIP	0.1MF		25V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1421	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1422	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1423	1-104-664-11	ELECT	47MF	20%	25V
C1426	1-163-121-00	CERAMIC CHIP 150PF		5%	50V
C1427	1-164-345-11	CERAMIC CHIP 0.082MF		10%	25V
C1428	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1429	1-126-933-11	ELECT	100MF	20%	16V
C1431	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1432	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1433	1-104-664-11	ELECT	47MF	20%	25V
C1434	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1436	1-104-664-11	ELECT	47MF	20%	25V
C1437	1-164-346-11	CERAMIC CHIP 1MF			16V
C1438	1-164-346-11	CERAMIC CHIP 1MF			16V
C1439	1-164-346-11	CERAMIC CHIP 1MF			16V
C1440	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1441	1-126-933-11	ELECT	100MF	20%	10V
C1442	1-164-343-11	CERAMIC CHIP 0.056MF		10%	25V
C1443	1-163-275-11	CERAMIC CHIP 0.001MF		5%	50V
C1444	1-126-960-11	ELECT	1MF	20%	50V
C1445	1-126-960-11	ELECT	1MF	20%	50V
C1446	1-126-960-11	ELECT	1MF	20%	50V
C1447	1-126-933-11	ELECT	100MF	20%	10V
C1448	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1449	1-163-251-11	CERAMIC CHIP 100PF		5%	50V
C1450	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1451	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1452	1-163-251-11	CERAMIC CHIP 100PF		5%	50V
C1453	1-126-933-11	ELECT	100MF	20%	10V
C1455	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1456	1-164-346-11	CERAMIC CHIP 1MF			16V
C1457	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1459	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1460	1-163-263-11	CERAMIC CHIP 330PF		5%	50V
C1461	1-163-251-11	CERAMIC CHIP 100PF		5%	50V
C1462	1-163-235-11	CERAMIC CHIP 22PF		5%	50V
C1463	1-163-237-11	CERAMIC CHIP 27PF		5%	50V
C1464	1-126-933-11	ELECT	100MF	20%	10V
C1465	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1467	1-164-005-11	CERAMIC CHIP 0.47MF			25V
C1468	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1469	1-163-263-11	CERAMIC CHIP 330PF		5%	50V
C1470	1-163-031-11	CERAMIC CHIP 0.01MF			50V
C1471	1-164-004-11	CERAMIC CHIP 0.1MF		10%	25V
C1472	1-163-249-11	CERAMIC CHIP 82PF		5%	50V
C1473	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1474	1-126-933-11	ELECT	100MF	20%	10V
C1475	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1476	1-126-933-11	ELECT	100MF	20%	10V
C1478	1-164-346-11	CERAMIC CHIP 1MF			16V
			(KV-EF29M31/M60/M91)		
C1479	1-163-251-11	CERAMIC CHIP 100PF		5%	50V
C1480	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1481	1-163-251-11	CERAMIC CHIP 100PF		5%	50V
C1488	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1489	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1493	1-126-933-11	ELECT	100MF	20%	16V
C1494	1-126-933-11	ELECT	100MF	20%	16V
C1495	1-163-038-91	CERAMIC CHIP 0.1MF			25V
C1496	1-104-664-11	ELECT	47MF	20%	25V
C1498	1-104-664-11	ELECT	47MF	20%	25V
C1499	1-163-038-91	CERAMIC CHIP 0.1MF			25V

<CONNECTOR>

CN401	1-766-924-11	CONNECTOR, BOARD TO BOARD 10P	
CN402	1-766-924-11	CONNECTOR, BOARD TO BOARD 10P	
CN403*	1-564-508-11	PLUG, CONNECTOR 5P	(KV-EF29M31/M61/M91)
CN404*	1-564-508-11	PLUG, CONNECTOR 5P	

<FERRITE BEAD>

FB1401	1-412-911-11	FERRITE	0UH
FB1404	1-412-911-11	FERRITE	0UH
FB1405	1-412-911-11	FERRITE	0UH

<FILTER>

FL1401	1-236-728-41	ENCAPSULATED COMPONENT

<IC>

IC1401	8-759-183-35	IC TDA9160A
IC1402	8-759-288-85	IC TDA4665T-T
IC1403	8-759-278-95	IC BA7606F
IC1404	8-759-231-55	IC TA7808S
IC1406	8-759-248-15	IC SDA9187-2XGEG
IC1407	8-759-468-94	IC SDA9189XGEGA132
IC1408	8-759-231-53	IC TA7805S
IC1409	8-759-231-53	IC TA7805S
IC1411	8-759-439-64	IC HEF4053BT
IC1412	8-759-439-64	IC HEF4053BT
IC1413	8-752-072-94	IC CXA1875AM-T4
IC1414	8-759-439-64	IC HEF4053BT

<CHIP CONDUCTOR>

JR1404	1-216-295-91	SHORT	0
JR1405	1-216-295-91	SHORT	0
JR1406	1-216-295-91	SHORT	0
JR1407	1-216-295-91	SHORT	0

<COIL>

L1401	1-408-609-41	INDUCTOR	33UH
L1402	1-412-537-31	INDUCTOR	100UH
L1403	1-412-537-31	INDUCTOR	100UH
L1404	1-408-409-00	INDUCTOR	10UH
L1405	1-408-409-00	INDUCTOR	10UH
L1406	1-408-409-00	INDUCTOR	10UH
L1407	1-408-412-00	INDUCTOR	18UH
L1408	1-408-409-00	INDUCTOR	10UH

REF.NO.	PART NO.	DESCRIPTION	REMARK
L1409	1-408-409-00	INDUCTOR 10UH	
L1411	1-408-409-00	INDUCTOR 10UH	
L1412	1-408-409-00	INDUCTOR 10UH	
L1413	1-408-417-00	INDUCTOR 47UH	
		<TRANSISTOR>	
Q1401	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1402	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1403	8-729-424-59	TRANSISTOR UN2212	
Q1404	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1405	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q1406	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1407	8-729-900-53	TRANSISTOR DTC114EK	
Q1408	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1409	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1410	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1411	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1412	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1413	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1414	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1415	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1416	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1418	8-729-216-22	TRANSISTOR 2SA1162-G	(KV-EF29M31/M61/M91)
Q1419	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	(KV-EF29M31/M61/M91)
Q1421	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	(KV-EF29M31/M61/M91)
Q1422	8-729-216-22	TRANSISTOR 2SA1162-G	(KV-EF29M31/M61/M91)
Q1423	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	(KV-EF29M31/M61/M91)
Q1424	8-729-216-22	TRANSISTOR 2SA1162-G	(KV-EF29M31/M61/M91)
Q1425	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	(KV-EF29M31/M61/M91)
Q1426	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	(KV-EF29M31/M61/M91)
Q1427	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1428	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	(KV-EF29M31/M61/M91)
Q1429	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	(KV-EF29M31/M61/M91)
Q1430	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1431	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1432	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1433	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1434	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1435	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1436	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1437	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1438	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1439	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1440	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1441	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1442	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1462	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1463	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1464	8-729-216-22	TRANSISTOR 2SA1162-G	
		<RESISTOR>	
R1401	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R1402	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R1403	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R1404	1-216-083-00	RES,CHIP 27K 5% 1/10W	
R1405	1-216-689-11	RES,CHIP 39K 5% 1/10W	
R1406	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1407	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1408	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1409	1-216-109-00	RES,CHIP 330K 5% 1/10W	
R1410	1-216-105-91	RES,CHIP 220K 5% 1/10W	
R1411	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1412	1-216-051-00	RES,CHIP 1.2K 5% 1/10W	
R1413	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R1414	1-216-039-00	RES,CHIP 390 5% 1/10W	
R1416	1-216-041-00	RES,CHIP 470 5% 1/10W	
R1417	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R1418	1-216-051-00	RES,CHIP 1.2K 5% 1/10W	
R1419	1-216-045-00	RES,CHIP 680 5% 1/10W	
R1421	1-216-045-00	RES,CHIP 680 5% 1/10W	
R1422	1-216-039-00	RES,CHIP 390 5% 1/10W	(KV-EF29M31/M61/M91)
R1423	1-216-001-00	RES,CHIP 10 5% 1/10W	
R1424	1-216-001-00	RES,CHIP 10 5% 1/10W	
R1426	1-216-053-00	RES,CHIP 1.5K 5% 1/10W	
R1427	1-216-065-00	RES,CHIP 4.7K 5% 1/10W	
R1428	1-216-067-00	RES,CHIP 5.6K 5% 1/10W	
R1430	1-216-053-00	RES,CHIP 1.5K 5% 1/10W	
R1432	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R1433	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1434	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1435	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1436	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1437	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1438	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1439	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1440	1-216-025-91	RES,CHIP 100 5% 1/10W	
R1441	1-216-295-91	SHORT 0	
R1442	1-216-031-00	RES,CHIP 180 5% 1/10W	(KV-EF29M31/M61/M91)
R1443	1-216-059-00	RES,CHIP 2.7K 5% 1/10W	(KV-EF29M31/M61/M91)
R1445	1-215-907-11	METAL OXIDE 22 5% 3W F	
R1446	1-216-083-00	RES,CHIP 27K 5% 1/10W	
R1447	1-216-041-00	RES,CHIP 470 5% 1/10W	
R1448	1-216-041-00	RES,CHIP 470 5% 1/10W	
R1449	1-216-059-00	RES,CHIP 2.7K 5% 1/10W	
R1451	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1452	1-216-295-91	SHORT 0	
R1453	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1454	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R1455	1-216-049-91	RES,CHIP 1K 5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION			REMARK
R1456	1-208-778-11	RES,CHIP	680	0.50%	1/10W
R1457	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1458	1-208-776-11	RES,CHIP	560	0.50%	1/10W
R1459	1-208-801-11	RES,CHIP	6.2K	0.50%	1/10W
R1460	1-216-295-91	SHORT	0		
R1461	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R1462	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1463	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R1464	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1465	1-216-047-91	RES,CHIP	820	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1466	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1467	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1468	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1469	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1470	1-216-105-91	RES,CHIP	220K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1471	1-216-101-00	RES,CHIP	150K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1472	1-216-033-00	RES,CHIP	220	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1473	1-216-033-00	RES,CHIP	220	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1474	1-216-033-00	RES,CHIP	220	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1475	1-216-295-91	SHORT	0		
R1476	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R1477	1-216-047-91	RES,CHIP	820	5%	1/10W
R1478	1-216-047-91	RES,CHIP	820	5%	1/10W
R1479	1-208-780-11	RES,CHIP	820	0.50%	1/10W
R1480	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R1481	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R1482	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R1484	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1485	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1487	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1491	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1492	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1493	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1494	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1495	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R1496	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1497	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1498	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1499	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1626	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1627	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1628	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1629	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1630	1-216-049-91	RES,CHIP	1K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R1631	1-216-025-91	RES,CHIP	100	5%	1/10W
R1632	1-216-025-91	RES,CHIP	100	5%	1/10W
R1633	1-216-025-91	RES,CHIP	100	5%	1/10W
R1634	1-216-295-91	SHORT	0		
R1635	1-216-295-91	SHORT	0		
R1636	1-216-295-91	SHORT	0		
R1637	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1638	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
R1639	1-216-091-00	RES,CHIP	56K	5%	1/10W
R1640	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1641	1-216-083-00	RES,CHIP	27K	5%	1/10W
R1642	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1643	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1644	1-216-091-00	RES,CHIP	56K	5%	1/10W
R1645	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1646	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1647	1-216-035-00	RES,CHIP	270	5%	1/10W
R1648	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1649	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1650	1-216-091-00	RES,CHIP	56K	5%	1/10W
R1651	1-216-091-00	RES,CHIP	56K	5%	1/10W
R1652	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R1653	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R1654	1-216-025-91	RES,CHIP	100	5%	1/10W
R1655	1-216-025-91	RES,CHIP	100	5%	1/10W
R1656	1-216-035-00	RES,CHIP	270	5%	1/10W
R1657	1-216-037-00	RES,CHIP	330	5%	1/10W
R1658	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1659	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R1660	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1661	1-216-041-00	RES,CHIP	470	5%	1/10W
R1662	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1663	1-216-033-00	RES,CHIP	220	5%	1/10W
R1664	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1665	1-216-295-91	SHORT	0		
R1666	1-216-295-91	SHORT	0		
R1668	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1669	1-216-035-00	RES,CHIP	270	5%	1/10W
R1670	1-216-035-00	RES,CHIP	270	5%	1/10W
R1671	1-216-037-00	RES,CHIP	330	5%	1/10W
R1672	1-216-049-91	RES,CHIP	1K	5%	1/10W

<CRYSTAL>

X1401	1-767-881-11	VIBRATOR, CRYSTAL(4.43MHz)
X1402	1-767-880-11	VIBRATOR, CRYSTAL(3.58MHz)
X1403	1-760-095-21	VIBRATOR, CRYSTAL(20.48MHz)

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A

REF.NO.	PART NO.	DESCRIPTION			REMARK
*	A-1298-337-A	A BOARD,COMPLETE (KV-EF29M90)			
		**********			
*	A-1298-339-A	A BOARD,COMPLETE (KV-EF29M31/M61)			
		**********			
*	A-1298-463-A	A BOARD,COMPLETE (KV-EF29M91)			
		**********			
*	A-1298-464-A	A BOARD,COMPLETE (KV-EF29M80(ME))			
		**********			
*	A-1298-491-A	A BOARD,COMPLETE (KV-EF29M80(JE))			
		**********			
*	4-049-131-01	CASE (A), SHIELD			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C001	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C002	1-126-965-11	ELECT	22MF	20%	50V
C003	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C004	1-126-961-11	ELECT	2.2MF	20%	50V
C005	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C006	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C007	1-126-959-11	ELECT	0.47MF	20%	50V
C008	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C009	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C010	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C011	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C012	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C013	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C014	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C015	1-101-884-00	CERAMIC	56PF	5%	50V
C016	1-101-884-00	CERAMIC	56PF	5%	50V
C017	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C018	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C019	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C020	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C021	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C022	1-126-968-11	ELECT	100MF	20%	50V
C023	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C024	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C025	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C026	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C027	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C028	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C029	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C030	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C031	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C032	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C033	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C034	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C035	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C037	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C038	1-126-968-11	ELECT	100MF	20%	50V
C039	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C040	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C041	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C042	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C043	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C044	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C045	1-216-295-91	SHORT	0		
C046	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C048	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C049	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C050	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C051	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C052	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C053	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C054	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C055	1-126-933-11	ELECT	100MF	20%	16V (KV-EF29M31/M61/M90/M91)
C055	1-126-941-11	ELECT	470MF	20%	16V (KV-EF29M80)
C056	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C057	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C060	1-126-933-11	ELECT	100MF	20%	16V
C061	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C062	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C063	1-126-933-11	ELECT	100MF	20%	16V
C064	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C065	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C066	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C067	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C068	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C069	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C072	1-124-119-00	ELECT	330MF	20%	16V (KV-EF29M31/M61/M90/M91)
C055	1-126-941-11	ELECT	470MF	20%	16V (KV-EF29M80)
C074	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C078	1-126-933-11	ELECT	100MF	20%	16V
C079	1-126-967-11	ELECT	47MF	20%	50V
C080	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C081	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C084	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C085	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C086	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C087	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C088	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C089	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C090	1-104-664-11	ELECT	47MF	20%	25V
C091	1-104-664-11	ELECT	47MF	20%	25V
C092	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C093	1-104-664-11	ELECT	47MF	20%	25V (KV-EF29M80)
C101	1-126-960-11	ELECT	1MF	20%	50V
C102	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C105	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C106	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C107	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C108	1-126-942-61	ELECT	1000MF	20%	25V
C109	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C118	1-126-965-11	ELECT	22MF	20%	50V
C119	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C127	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C128	1-126-963-11	ELECT	4.7MF	20%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C129	1-136-173-00	FILM	0.47MF	5%	50V
C130	1-126-960-11	ELECT	1MF	20%	50V
C133	1-104-664-11	ELECT	47MF	20%	25V
C134	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C135	1-126-959-11	ELECT	0.47MF	20%	50V
C136	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C137	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C138	1-126-964-11	ELECT	10MF	20%	50V
C139	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C140	1-126-964-11	ELECT	10MF	20%	50V
C141	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C142	1-126-959-11	ELECT	0.47MF	20%	50V
C143	1-126-964-11	ELECT	10MF	20%	50V
C145	1-126-964-11	ELECT	10MF	20%	50V
C146	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C147	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C148	1-164-346-11	CERAMIC CHIP	1MF		16V
C149	1-164-346-11	CERAMIC CHIP	1MF		16V
C150	1-164-346-11	CERAMIC CHIP	1MF		16V
C151	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C152	1-104-664-11	ELECT	47MF	20%	25V
C153	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C154	1-126-961-11	ELECT	2.2MF	20%	50V
C155	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C156	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C157	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C158	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C159	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C160	1-164-346-11	CERAMIC CHIP	1MF		16V
C162	1-126-934-11	ELECT	220MF	20%	16V
C163	1-164-346-11	CERAMIC CHIP	1MF		16V
C164	1-137-581-11	FILM	0.1MF	5%	100V
C165	1-164-346-11	CERAMIC CHIP	1MF		16V
C166	1-137-581-11	FILM	0.1MF	5%	100V
C167	1-104-664-11	ELECT	47MF	20%	25V
C168	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C169	1-137-372-11	FILM	0.022MF	5%	50V
C170	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C187	1-137-372-11	FILM	0.022MF	5%	50V
C189	1-126-964-11	ELECT	10MF	20%	50V
C191	1-137-372-11	FILM	0.022MF	5%	50V
C192	1-126-961-11	ELECT	2.2MF	20%	50V
C195	1-136-173-00	FILM	0.47MF	5%	50V
C198	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C199	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C200	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C206	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C207	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C209	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C210	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C211	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C212	1-126-933-11	ELECT	100MF	20%	16V
C213	1-126-964-11	ELECT	10MF	20%	50V
C214	1-130-495-00	MYLAR	0.1MF	5%	50V
C216	1-104-661-91	ELECT	330MF	20%	16V
C217	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C219	1-104-664-11	ELECT	47MF	20%	25V
C220	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C223	1-164-161-11	CERAMIC CHIP	0.22MF	10%	25V
C224	1-164-161-11	CERAMIC CHIP	0.22MF	10%	25V
C237	1-126-961-11	ELECT	2.2MF	20%	50V
C238	1-126-961-11	ELECT	2.2MF	20%	50V
C240	1-126-960-11	ELECT	1MF	20%	50V
C241	1-128-550-11	ELECT	2200MF	20%	50V
C242	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C243	1-126-965-11	ELECT	22MF	20%	50V
C244	1-128-550-11	ELECT	2200MF	20%	50V
C245	1-130-495-00	MYLAR	0.1MF	5%	50V
C246	1-126-965-11	ELECT	22MF	20%	50V
C247	1-128-550-11	ELECT	2200MF	20%	50V
C248	1-130-495-00	MYLAR	0.1MF	5%	50V
C249	1-104-661-91	ELECT	330MF	20%	16V
C250	1-104-661-91	ELECT	330MF	20%	16V
C251	1-126-934-11	ELECT	220MF	20%	16V
C262	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C263	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C264	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C265	1-164-346-11	CERAMIC CHIP	1MF		16V
C266	1-164-346-11	CERAMIC CHIP	1MF		16V
C267	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C268	1-126-933-11	ELECT	100MF	20%	16V
C269	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C270	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C301	1-104-664-11	ELECT	47MF	20%	25V
C302	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C303	1-104-664-11	ELECT	47MF	20%	25V
C304	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C305	1-126-965-11	ELECT	22MF	20%	50V
C325	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
C326	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
C327	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
C370	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C374	1-126-967-11	ELECT	47MF	20%	50V
C375	1-126-967-11	ELECT	47MF	20%	50V
C381	1-216-295-91	SHORT	0		
C420	1-104-664-11	ELECT	47MF	20%	25V
C1201	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C1203	1-104-664-11	ELECT	47MF	20%	25V
C1204	1-126-933-11	ELECT	100MF	20%	16V
C1205	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1206	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1207	1-126-966-11	ELECT	33MF	20%	50V
C1208	1-104-664-11	ELECT	47MF	20%	25V
C1209	1-104-664-11	ELECT	47MF	20%	25V
C1210	1-104-664-11	ELECT	47MF	20%	25V
C1213	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1214	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1215	1-164-346-11	CERAMIC CHIP	1MF		16V
C1216	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1217	1-164-346-11	CERAMIC CHIP	1MF		16V
C1218	1-104-664-11	ELECT	47MF	20%	25V
C1219	1-163-031-11	CERAMIC CHIP	0.01MF		50V

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REF.NO.	PART NO.	DESCRIPTION	REMARK
C1220	1-104-664-11	ELECT 47MF 20% 25V	
C1226	1-164-346-11	CERAMIC CHIP 1MF 16V	
C1227	1-164-346-11	CERAMIC CHIP 1MF 16V	
C1228	1-126-935-11	ELECT 470MF 20% 16V	
C1229	1-164-346-11	CERAMIC CHIP 1MF 16V	
C1230	1-164-346-11	CERAMIC CHIP 1MF 16V	
C1231	1-104-664-11	ELECT 47MF 20% 25V	
C1232	1-164-346-11	CERAMIC CHIP 1MF 16V	
C1233	1-164-346-11	CERAMIC CHIP 1MF 16V	
C1234	1-104-664-11	ELECT 47MF 20% 25V	
C1235	1-104-664-11	ELECT 47MF 20% 25V	
C1236	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C1237	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C1238	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C1239	1-104-664-11	ELECT 47MF 20% 25V	
C1240	1-126-964-11	ELECT 10MF 20% 50V	
C1241	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C1242	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C1243	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C1244	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C1245	1-126-933-11	ELECT 100MF 20% 16V	
C1246	1-104-664-11	ELECT 47MF 20% 25V	
C1250	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C1251	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C1252	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C1253	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C1254	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C1255	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C1256	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C1257	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C1258	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C1259	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
		<CONNECTOR>	
CN102	1-569-321-11	SOCKET, CONNECTOR 15P	
CN103	1-569-321-11	SOCKET, CONNECTOR 15P	
CN105*	1-564-506-11	PLUG, CONNECTOR 3P	
CN106*	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P	
CN107*	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P	
CN108*	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P	
CN109*	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P	
CN113*	1-770-747-11	CONNECTOR, BOARD TO BOARD 12P	(KV-EF29M31/M61/M91)
CN114	1-766-921-11	CONNECTOR, BOARD TO BOARD 10P	
CN115	1-766-956-11	CONNECTOR, BOARD TO BOARD 15P	
CN116*	1-770-723-11	CONNECTOR, BOARD TO BOARD 8P	
CN117*	1-564-509-11	PLUG, CONNECTOR 6P	
CN118*	1-560-278-21	PLUG, CONNECTOR 4P	
CN120*	1-564-507-11	PLUG, CONNECTOR 4P	
CN121*	1-770-747-11	CONNECTOR, BOARD TO BOARD 12P	
CN125	1-766-921-11	CONNECTOR, BOARD TO BOARD 10P	
CN126*	1-564-510-11	PLUG, CONNECTOR 7P	
CN127	1-695-915-11	TAB (CONTACT)	
CN128	1-770-722-11	CONNECTOR, BOARD TO BOARD 6P	
CN129*	1-564-506-11	PLUG, CONNECTOR 3P	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<DIODE>	
D001	8-719-109-81	DIODE RD4.7ESB2	
D002	8-719-988-62	DIODE 1SS355	
D005	8-719-908-03	DIODE GP08D	
D101	8-719-911-19	DIODE 1SS119-25	
D102	1-249-431-11	CARBON 15K 5% 1/4W	
D103	8-719-988-62	DIODE 1SS355	
D104	8-719-914-43	DIODE DAN202K	
D105	8-719-988-62	DIODE 1SS355	
D106	8-719-106-43	DIODE RD9.1M-B1	
D107	8-719-106-18	DIODE RD6.8M-B3	
D110	8-719-988-62	DIODE 1SS355 (KV-EF29M31/M61/M91)	
D111	8-719-110-22	DIODE RD11ESB2	
D112	8-719-106-43	DIODE RD9.1M-B1	
D117	8-719-400-75	DIODE MA3091	
D118	8-719-051-66	DIODE MA7120-TA	
D210	8-719-911-19	DIODE 1SS119-25	
D211	8-719-404-49	DIODE MA111	
D212	8-719-404-49	DIODE MA111	
D218	8-719-914-43	DIODE DAN202K	
D220	8-719-109-88	DIODE RD5.6ESB1	
D301	8-719-988-62	DIODE 1SS355	
D303	8-719-914-43	DIODE DAN202K	
D352	8-719-109-84	DIODE RD5.1ESB1	
D353	8-719-908-03	DIODE GP08D	
D1201	8-719-121-24	DIODE RD9.1ESL	
D1202	8-719-121-24	DIODE RD9.1ESL	
D1203	8-719-121-24	DIODE RD9.1ESL	
D1204	8-719-121-24	DIODE RD9.1ESL	
D1205	8-719-121-24	DIODE RD9.1ESL	
D1208	8-719-121-24	DIODE RD9.1ESL	
D1209	8-719-121-24	DIODE RD9.1ESL	
D1210	8-719-121-24	DIODE RD9.1ESL	
D1211	8-719-121-24	DIODE RD9.1ESL	
D1212	8-719-121-24	DIODE RD9.1ESL	
D1213	8-719-121-24	DIODE RD9.1ESL	
D1214	8-719-121-24	DIODE RD9.1ESL	
D1215	8-719-121-24	DIODE RD9.1ESL	
D1216	8-719-121-24	DIODE RD9.1ESL	
D1217	8-719-121-24	DIODE RD9.1ESL	
D1218	8-719-121-24	DIODE RD9.1ESL	
D1219	8-719-121-24	DIODE RD9.1ESL	
D1220	8-719-121-24	DIODE RD9.1ESL	
		<IC>	
IC001	8-752-886-17	IC CXP85452-090S	(KV-EF29M31/M61/M80(JE)/M90)
IC001	8-752-894-62	IC CXP85452-091S	(KV-EF29M80(ME)/M91)
IC002	8-759-805-37	IC L78LR05D-MA	
IC003	8-759-370-34	IC ST24C08FB6	
IC010	8-759-231-53	IC TA7805S	
IC080	8-759-708-05	IC NJM78L05A	
IC102	8-759-157-40	IC UPC574J	
IC104	8-752-076-87	IC CXA2050S	

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC201	8-759-095-63	IC PQ09RF2	
IC203	8-759-168-24	IC TA8200AH	
IC205	8-759-231-58	IC TA7812S	
IC206	8-759-090-21	IC TDA8424	
IC301	8-742-040-00	MODULE HIC SBX1856-01	
IC302	8-759-708-12	IC NJM78L12A	
IC351	8-759-288-85	IC TDA4665T-T	
IC354	8-759-251-56	IC TDA8395T	
IC1201	8-752-068-46	IC CXA1855S	
IC1202	8-759-100-96	IC UPC4558G2	
		<JACK>	
J1201	1-778-045-11	TERMINAL, S	
J1202	1-778-387-11	JACK BLOCK, PIN 12P	
		<CHIP CONDUCTOR>	
JR20	1-216-295-91	SHORT 0	
JR21	1-216-295-91	SHORT 0	
JR22	1-216-295-91	SHORT 0	
JR23	1-216-295-91	SHORT 0	
JR001	1-216-295-91	SHORT 0	
JR005	1-216-295-91	SHORT 0	
JR007	1-216-295-91	SHORT 0	
JR008	1-216-295-91	SHORT 0	
JR009	1-216-295-91	SHORT 0	
JR010	1-216-295-91	SHORT 0	
JR017	1-216-295-91	SHORT 0	(KV-EF29M31/M61/M91)
JR024	1-216-295-91	SHORT 0	
JR025	1-216-295-91	SHORT 0	
JR027	1-216-295-91	SHORT 0	
JR028	1-216-295-91	SHORT 0	
JR029	1-216-295-91	SHORT 0	
JR030	1-216-295-91	SHORT 0	
JR033	1-216-295-91	SHORT 0	
JR080	1-216-295-91	SHORT 0	
JR084	1-216-295-91	SHORT 0	
JR086	1-216-295-91	SHORT 0	
JR087	1-216-295-91	SHORT 0	
JR205	1-216-295-91	SHORT 0	
JR206	1-216-295-91	SHORT 0	
		<JUMPER>	
JW158	1-215-882-00	METAL OXIDE 22 5% 2W F	(KV-EF29M31/M61/M90/M91)
		<COIL>	
L001	1-408-397-00	INDUCTOR 1UH	
L002	1-408-409-00	INDUCTOR 10UH	
L003	1-408-605-31	INDUCTOR 15UH	
L004	1-408-409-00	INDUCTOR 10UH	
L010	1-410-663-31	INDUCTOR 10UH	
L080	1-408-409-00	INDUCTOR 10UH	
L081	1-408-409-00	INDUCTOR 10UH	
L082	1-408-409-00	INDUCTOR 10UH	
L108	1-408-409-00	INDUCTOR 10UH	
L109	1-408-421-00	INDUCTOR 100UH	
L110	1-408-409-00	INDUCTOR 10UH	
L309	1-408-409-00	INDUCTOR 10UH	
L1201	1-408-412-00	INDUCTOR 18UH	
		<TRANSISTOR>	
Q001	8-729-216-22	TRANSISTOR 2SA1162-G	
Q030	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q031	8-729-216-22	TRANSISTOR 2SA1162-G	
Q033	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q105	8-729-900-53	TRANSISTOR DTC114EK	
Q106	8-729-216-22	TRANSISTOR 2SA1162-G	
Q107	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	(KV-EF29M31/M61/M91)
Q108	8-729-900-53	TRANSISTOR DTC114EK	
Q111	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q112	8-729-900-53	TRANSISTOR DTC114EK	
Q113	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q205	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q208	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q209	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q210	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q211	8-729-216-22	TRANSISTOR 2SA1162-G	
Q302	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q304	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q320	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q352	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q354	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1201	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1202	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1203	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1204	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1205	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1206	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1207	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1208	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1209	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
		<RESISTOR>	
R001	1-216-065-00	RES,CHIP 4.7K 5% 1/10W	
R002	1-216-065-00	RES,CHIP 4.7K 5% 1/10W	
R003	1-216-065-00	RES,CHIP 4.7K 5% 1/10W	
R004	1-216-065-00	RES,CHIP 4.7K 5% 1/10W	
R005	1-216-025-91	RES,CHIP 100 5% 1/10W	
R006	1-216-025-91	RES,CHIP 100 5% 1/10W	
R007	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R008	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R009	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R010	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R011	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R013	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R014	1-216-049-91	RES,CHIP 1K 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R017	1-216-049-91	RES,CHIP	1K	5%	1/10W
R018	1-216-033-00	RES,CHIP	220	5%	1/10W
R019	1-216-101-00	RES,CHIP	150K	5%	1/10W
R020	1-216-025-91	RES,CHIP	100	5%	1/10W
R025	1-216-049-91	RES,CHIP	1K	5%	1/10W
R026	1-216-049-91	RES,CHIP	1K	5%	1/10W
R028	1-216-025-91	RES,CHIP	100	5%	1/10W
R029	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R030	1-216-097-91	RES,CHIP	100K	5%	1/10W
R031	1-216-049-91	RES,CHIP	1K	5%	1/10W
R032	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R033	1-216-049-91	RES,CHIP	1K	5%	1/10W
R034	1-216-025-91	RES,CHIP	100	5%	1/10W
R035	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R036	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R038	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R039	1-216-025-91	RES,CHIP	100	5%	1/10W
R040	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R041	1-216-025-91	RES,CHIP	100	5%	1/10W
R042	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R043	1-216-081-00	RES,CHIP	22K	5%	1/10W
R044	1-216-073-00	RES,CHIP	10K	5%	1/10W
R046	1-216-025-91	RES,CHIP	100	5%	1/10W
R047	1-216-025-91	RES,CHIP	100	5%	1/10W
R048	1-216-025-91	RES,CHIP	100	5%	1/10W
R049	1-216-121-91	RES,CHIP	1M	5%	1/10W
R050	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R051	1-216-394-00	METAL OXIDE	2.7	5%	3W F
R053	1-216-025-91	RES,CHIP	100	5%	1/10W
R054	1-216-073-00	RES,CHIP	10K	5%	1/10W
R055	1-216-095-00	RES,CHIP	82K	5%	1/10W
R056	1-216-025-91	RES,CHIP	100	5%	1/10W
R057	1-216-049-91	RES,CHIP	1K	5%	1/10W
R058	1-216-049-91	RES,CHIP	1K	5%	1/10W
R059	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R060	1-216-025-91	RES,CHIP	100	5%	1/10W
			(KV-EF29M31/M61/M90/M91)		
R061	1-216-025-91	RES,CHIP	100	5%	1/10W
R062	1-216-025-91	RES,CHIP	100	5%	1/10W
R063	1-216-025-91	RES,CHIP	100	5%	1/10W
R064	1-216-025-91	RES,CHIP	100	5%	1/10W
R065	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R066	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R069	1-216-049-91	RES,CHIP	1K	5%	1/10W
R070	1-216-033-00	RES,CHIP	220	5%	1/10W
R071	1-216-033-00	RES,CHIP	220	5%	1/10W
R072	1-216-073-00	RES,CHIP	10K	5%	1/10W
R073	1-216-089-91	RES,CHIP	47K	5%	1/10W
			(KV-EF29M31/M61/M91)		
R073	1-216-073-00	RES,CHIP	10K	5%	1/10W
			(KV-EF29M80/M90)		
R074	1-216-079-00	RES,CHIP	18K	5%	1/10W
R075	1-216-073-00	RES,CHIP	10K	5%	1/10W
R076	1-216-025-91	RES,CHIP	100	5%	1/10W
R077	1-216-025-91	RES,CHIP	100	5%	1/10W
R078	1-216-073-00	RES,CHIP	10K	5%	1/10W
R081	1-216-049-91	RES,CHIP	1K	5%	1/10W
R090	1-216-073-00	RES,CHIP	10K	5%	1/10W
R102	1-216-025-91	RES,CHIP	100	5%	1/10W
R103	1-216-041-00	RES,CHIP	470	5%	1/10W
R104	1-216-077-00	RES,CHIP	15K	5%	1/10W
R105	1-216-025-91	RES,CHIP	100	5%	1/10W
R106	1-216-049-91	RES,CHIP	1K	5%	1/10W
R107	1-216-033-00	RES,CHIP	220	5%	1/10W
R108	1-216-049-91	RES,CHIP	1K	5%	1/10W
R109	1-216-033-00	RES,CHIP	220	5%	1/10W
R111	1-216-033-00	RES,CHIP	220	5%	1/10W
R112	1-216-025-91	RES,CHIP	100	5%	1/10W
R121	1-208-806-11	RES,CHIP	10K	0.50%	1/10W
R122	1-216-033-00	RES,CHIP	220	5%	1/10W
R123	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R124	1-216-025-91	RES,CHIP	100	5%	1/10W
R125	1-216-025-91	RES,CHIP	100	5%	1/10W
R126	1-216-025-91	RES,CHIP	100	5%	1/10W
R128	1-216-033-00	RES,CHIP	220	5%	1/10W
R129	1-216-025-91	RES,CHIP	100	5%	1/10W
R130	1-216-025-91	RES,CHIP	100	5%	1/10W
R131	1-216-295-91	SHORT	0		
			(KV-EF29M31/M61/M91)		
R132	1-216-033-00	RES,CHIP	220	5%	1/10W
R133	1-216-025-91	RES,CHIP	100	5%	1/10W
R134	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R135	1-216-295-91	SHORT	0		
R136	1-216-295-91	SHORT	0		
			(KV-EF29M31/M61/M91)		
R138	1-216-025-91	RES,CHIP	100	5%	1/10W
R139	1-216-049-91	RES,CHIP	1K	5%	1/10W
R140	1-216-041-00	RES,CHIP	470	5%	1/10W
			(KV-EF29M31/M61/M91)		
R142	1-216-049-91	RES,CHIP	1K	5%	1/10W
R143	1-216-041-00	RES,CHIP	470	5%	1/10W
R144	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R145	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R146	1-216-025-91	RES,CHIP	100	5%	1/10W
R148	1-216-105-91	RES,CHIP	220K	5%	1/10W
R149	1-216-041-00	RES,CHIP	470	5%	1/10W
R150	1-216-041-00	RES,CHIP	470	5%	1/10W
R151	1-216-043-91	RES,CHIP	560	5%	1/10W
				(KV-EF29M80/M90)	
R153	1-216-021-00	RES,CHIP	68	5%	1/10W
R154	1-216-031-00	RES,CHIP	180	5%	1/10W
R155	1-216-021-00	RES,CHIP	68	5%	1/10W
R156	1-216-031-00	RES,CHIP	180	5%	1/10W
R157	1-216-021-00	RES,CHIP	68	5%	1/10W
R158	1-216-031-00	RES,CHIP	180	5%	1/10W
R159	1-216-033-00	RES,CHIP	220	5%	1/10W
R160	1-216-073-00	RES,CHIP	10K	5%	1/10W
R170	1-216-037-00	RES,CHIP	330	5%	1/10W
R171	1-216-081-00	RES,CHIP	22K	5%	1/10W
R172	1-216-097-91	RES,CHIP	100K	5%	1/10W
R173	1-216-081-00	RES,CHIP	22K	5%	1/10W
R174	1-216-105-91	RES,CHIP	220K	5%	1/10W
R175	1-216-071-00	RES,CHIP	8.2K	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R176	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R177	1-216-049-91	RES,CHIP	1K	5%	1/10W
R178	1-216-025-91	RES,CHIP	100	5%	1/10W
R179	1-216-127-11	RES,CHIP	1.8M	5%	1/10W
R180	1-216-033-00	RES,CHIP	220	5%	1/10W
R181	1-216-033-00	RES,CHIP	220	5%	1/10W
R182	1-216-033-00	RES,CHIP	220	5%	1/10W
R184	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R186	1-216-001-00	RES,CHIP	10	5%	1/10W
R187	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R188	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R189	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R191	1-216-025-91	RES,CHIP	100	5%	1/10W
R203	1-216-073-00	RES,CHIP	10K	5%	1/10W
R208	1-216-477-11	METAL OXIDE	270	5%	3W F
R209	1-216-049-91	RES,CHIP	1K	5%	1/10W
R210	1-216-089-91	RES,CHIP	47K	5%	1/10W
R211	1-216-049-91	RES,CHIP	1K	5%	1/10W
R213	1-216-073-00	RES,CHIP	10K	5%	1/10W
R214	1-216-073-00	RES,CHIP	10K	5%	1/10W
R215	1-216-089-91	RES,CHIP	47K	5%	1/10W
R217	1-216-295-91	SHORT	0		
R219	1-216-077-00	RES,CHIP	15K	5%	1/10W
R244	1-249-413-11	CARBON	470	5%	1/4W
R245	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R246	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R252	1-249-413-11	CARBON	470	5%	1/4W
R253	1-216-386-11	METAL OXIDE	0.56	5%	3W F
R254	1-216-033-00	RES,CHIP	220	5%	1/10W
R255	1-216-308-00	RES,CHIP	4.7	5%	1/10W
R258	1-216-033-00	RES,CHIP	220	5%	1/10W
R259	1-216-308-00	RES,CHIP	4.7	5%	1/10W
R267	1-216-041-00	RES,CHIP	470	5%	1/10W
R268	1-216-025-91	RES,CHIP	100	5%	1/10W
R269	1-216-025-91	RES,CHIP	100	5%	1/10W
R270	1-216-025-91	RES,CHIP	100	5%	1/10W
R271	1-216-025-91	RES,CHIP	100	5%	1/10W
R301	1-216-049-91	RES,CHIP	1K	5%	1/10W
R303	1-216-001-00	RES,CHIP	10	5%	1/10W
R304	1-216-049-91	RES,CHIP	1K	5%	1/10W
R305	1-216-025-91	RES,CHIP	100	5%	1/10W
R306	1-216-025-91	RES,CHIP	100	5%	1/10W
R344	1-216-049-91	RES,CHIP	1K	5%	1/10W
R363	1-216-295-91	SHORT	0		
R364	1-216-033-00	RES,CHIP	220	5%	1/10W
R365	1-216-025-91	RES,CHIP	100	5%	1/10W
R366	1-216-033-00	RES,CHIP	220	5%	1/10W
R368	1-216-035-00	RES,CHIP	270	5%	1/10W
R801	1-216-025-91	RES,CHIP	100	5%	1/10W
R1200	1-216-033-00	RES,CHIP	220	5%	1/10W
R1201	1-216-025-91	RES,CHIP	100	5%	1/10W
R1202	1-216-025-91	RES,CHIP	100	5%	1/10W
R1203	1-216-033-00	RES,CHIP	220	5%	1/10W
R1204	1-216-031-00	RES,CHIP	180	5%	1/10W
R1205	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1206	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1207	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1208	1-216-025-91	RES,CHIP	100	5%	1/10W
R1209	1-216-033-00	RES,CHIP	220	5%	1/10W
R1210	1-216-031-00	RES,CHIP	180	5%	1/10W
R1211	1-216-093-00	RES,CHIP	68K	5%	1/10W
R1212	1-216-025-91	RES,CHIP	100	5%	1/10W
R1213	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1214	1-216-041-00	RES,CHIP	470	5%	1/10W
R1215	1-216-025-91	RES,CHIP	100	5%	1/10W
R1216	1-216-025-91	RES,CHIP	100	5%	1/10W
R1217	1-216-025-91	RES,CHIP	100	5%	1/10W
R1218	1-216-025-91	RES,CHIP	100	5%	1/10W
R1219	1-216-025-91	RES,CHIP	100	5%	1/10W
R1220	1-216-025-91	RES,CHIP	100	5%	1/10W
R1221	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1222	1-216-025-91	RES,CHIP	100	5%	1/10W
R1223	1-216-041-00	RES,CHIP	470	5%	1/10W
R1224	1-216-025-91	RES,CHIP	100	5%	1/10W
R1225	1-216-025-91	RES,CHIP	100	5%	1/10W
R1226	1-216-025-91	RES,CHIP	100	5%	1/10W
R1227	1-216-025-91	RES,CHIP	100	5%	1/10W
R1228	1-216-025-91	RES,CHIP	100	5%	1/10W
R1231	1-216-295-91	SHORT	0		
R1232	1-216-033-00	RES,CHIP	220	5%	1/10W
R1233	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R1234	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1235	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1236	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1237	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1238	1-216-023-00	RES,CHIP	82	5%	1/10W
R1239	1-216-022-00	RES,CHIP	75	5%	1/10W
R1240	1-216-022-00	RES,CHIP	75	5%	1/10W
R1241	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1242	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1243	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1245	1-216-025-91	RES,CHIP	100	5%	1/10W
R1246	1-216-035-00	RES,CHIP	270	5%	1/10W
R1247	1-216-048-00	RES,CHIP	910	5%	1/10W
R1248	1-216-025-91	RES,CHIP	100	5%	1/10W
R1249	1-216-025-91	RES,CHIP	100	5%	1/10W
R1250	1-216-025-91	RES,CHIP	100	5%	1/10W
R1254	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1255	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1256	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1257	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1258	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1259	1-216-021-00	RES,CHIP	68	5%	1/10W
R1260	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1261	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R1262	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1263	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R1264	1-216-022-00	RES,CHIP	75	5%	1/10W
R1265	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1266	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R1267	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1268	1-216-065-00	RES,CHIP	4.7K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R1269	1-216-022-00	RES,CHIP	75	5%	1/10W
R1270	1-216-022-00	RES,CHIP	75	5%	1/10W
R1271	1-216-022-00	RES,CHIP	75	5%	1/10W
R1272	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1273	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1274	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1275	1-216-025-91	RES,CHIP	100	5%	1/10W
R1276	1-216-025-91	RES,CHIP	100	5%	1/10W
R1277	1-216-025-91	RES,CHIP	100	5%	1/10W
R1278	1-216-025-91	RES,CHIP	100	5%	1/10W
R1279	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R1280	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R1281	1-216-023-00	RES,CHIP	82	5%	1/10W
R1282	1-216-048-00	RES,CHIP	910	5%	1/10W
R1283	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1284	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1285	1-216-041-00	RES,CHIP	470	5%	1/10W
R1286	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R1287	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1288	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1289	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1290	1-249-389-11	CARBON	4.7	5%	1/4W F
R1291	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1292	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1293	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1294	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1295	1-216-033-00	RES,CHIP	220	5%	1/10W
R1296	1-216-295-91	SHORT	0		
R1297	1-216-295-91	SHORT	0		
R1298	1-216-041-00	RES,CHIP	470	5%	1/10W
R1299	1-216-041-00	RES,CHIP	470	5%	1/10W

<TUNER>

TU001	8-598-372-10	TUNER, FSS BTF-FG441

<CRYSTAL>

X101	1-577-358-21	VIBRATOR, CERAMIC(4MHz)
X102	1-567-505-11	OSCILLATOR, CRYSTAL(3.58MHz)
X103	1-567-504-11	OSCILLATOR, CRYSTAL(4.43MHz)
X104	1-577-611-11	OSCILALTOR, CERAMIC(503kHz)

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* A-1298-338-A A3 BOARD,COMPLETE (EXCEPT KV-EF29M80)
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<CAPACITOR>

C1330	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1331	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1332	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C1333	1-126-965-11	ELECT	22MF	20%	50V
C1334	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C1335	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C1336	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1337	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1338	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C1339	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C1340	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1341	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C1342	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C1343	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C1344	1-124-907-11	ELECT	10MF	20%	50V
C1345	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1346	1-124-907-11	ELECT	10MF	20%	50V
C1347	1-126-965-11	ELECT	22MF	20%	50V
C1348	1-107-904-11	ELECT	3.3MF	20%	50V
C1349	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1350	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C1351	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C1352	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1353	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1354	1-107-906-11	ELECT	10MF	20%	50V
C1355	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C1356	1-104-652-11	ELECT	470MF	20%	10V
C1357	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C1358	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1359	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1360	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1361	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V
C1362	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V
C1363	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1364	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1365	1-126-965-11	ELECT	22MF	20%	50V
C1366	1-104-652-11	ELECT	470MF	20%	10V
C1367	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1368	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C1369	1-163-033-91	CERAMIC CHIP	0.022MF		50V
C1371	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1373	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1374	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C1375	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1376	1-126-965-11	ELECT	22MF	20%	50V
C1377	1-104-664-11	ELECT	47MF	20%	25V
C1378	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1379	1-104-652-11	ELECT	470MF	20%	10V

<CONNECTOR>

CN1330	1-691-109-11	PLUG (L TYPE) 12P

<DIODE>

D1330	8-719-908-03	DIODE GP08D
D1332	8-719-404-49	DIODE MA111

<FERRITE BEAD>

FB1330	1-412-911-11	FERRITE	0UH

REF.NO.	PART NO.	DESCRIPTION			REMARK
FB1331	1-412-911-11	FERRITE 0UH			
FB1332	1-412-911-11	FERRITE 0UH			
FB1333	1-412-911-11	FERRITE 0UH			
FB1334	1-412-911-11	FERRITE 0UH			
		<FILTER>			
FL1330	1-239-803-11	ENCAPSULATED COMPONENT			
		<IC>			
IC1330	8-759-429-98	IC MSP3410B-PP-F7			
IC1331	8-759-701-75	IC NJM7805FA			
		<COIL>			
L1330	1-410-470-11	INDUCTOR	10UH		
L1331	1-410-470-11	INDUCTOR	10UH		
L1332	1-408-408-00	INDUCTOR	8.2UH		
L1333	1-408-397-00	INDUCTOR	1UH		
L1334	1-408-408-00	INDUCTOR	8.2UH		
		<TRANSISTOR>			
Q1330	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q1331	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q1332	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q1333	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q1334	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q1335	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
		<RESISTOR>			
R1331	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1332	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1333	1-216-035-00	RES,CHIP	270	5%	1/10W
R1334	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1335	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1336	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1337	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1338	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1339	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1340	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1341	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1342	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1343	1-216-025-91	RES,CHIP	100	5%	1/10W
R1344	1-216-025-91	RES,CHIP	100	5%	1/10W
R1345	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1346	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R1347	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R1348	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1349	1-216-027-00	RES,CHIP	120	5%	1/10W
R1350	1-216-033-00	RES,CHIP	220	5%	1/10W
R1351	1-216-033-00	RES,CHIP	220	5%	1/10W
R1352	1-216-041-00	RES,CHIP	470	5%	1/10W
R1353	1-216-075-00	RES,CHIP	12K	5%	1/10W
R1354	1-216-027-00	RES,CHIP	120	5%	1/10W
R1355	1-216-037-00	RES,CHIP	330	5%	1/10W
R1356	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R1357	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1358	1-249-389-11	CARBON	4.7	5%	1/4W F
		<CRYSTAL>			
X1330	1-760-094-11	VIBRATOR, CRYSTAL(18.432MHz)			

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* A-1293-943-A A5 BOARD,COMPLETE
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	4-049-406-01	CASE (BOTTOM LID), SHIELD			
	4-049-407-01	CASE (UPPER LID), SHIELD			
		<CAPACITOR>			
C3001	1-104-664-11	ELECT	47MF	20%	25V
C3002	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3003	1-104-664-11	ELECT	47MF	20%	25V
C3004	1-104-664-11	ELECT	47MF	20%	25V
C3005	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3006	1-126-933-11	ELECT	100MF	20%	16V
C3007	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3008	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C3009	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C3011	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3012	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3016	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3018	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3019	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3020	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3021	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3022	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3023	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3023	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3024	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3025	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3026	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3027	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3028	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3029	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3030	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3031	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3032	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3033	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3034	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3035	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3036	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3038	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3039	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C3040	1-163-001-11	CERAMIC CHIP	220PF	10%	50V

A5

REF.NO.	PART NO.	DESCRIPTION			REMARK
C3041	1-163-001-11	CERAMIC CHIP 220PF	10%	50V	
C3042	1-163-001-11	CERAMIC CHIP 220PF	10%	50V	
C3043	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3044	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3045	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3046	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3047	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	
C3048	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
C3049	1-163-235-11	CERAMIC CHIP 22PF	5%	50V	
C3050	1-163-235-11	CERAMIC CHIP 22PF	5%	50V	
C3051	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
C3052	1-126-963-11	ELECT 4.7MF	20%	50V	
C3053	1-126-963-11	ELECT 4.7MF	20%	50V	
C3054	1-126-963-11	ELECT 4.7MF	20%	50V	
C3055	1-126-963-11	ELECT 4.7MF	20%	50V	
C3056	1-126-963-11	ELECT 4.7MF	20%	50V	
C3057	1-126-933-11	ELECT 100MF	20%	16V	
C3058	1-126-933-11	ELECT 100MF	20%	16V	
C3059	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C3060	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
C3062	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C3063	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C3064	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C3065	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C3066	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V	
C3068	1-126-964-11	ELECT 10MF	20%	50V	
C3069	1-126-964-11	ELECT 10MF	20%	50V	
C3070	1-126-962-11	ELECT 3.3MF	20%	50V	
C3071	1-126-962-11	ELECT 3.3MF	20%	50V	
C3072	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
C3075	1-163-251-11	CERAMIC CHIP 100PF	5%	50V	
C3076	1-163-251-11	CERAMIC CHIP 100PF	5%	50V	
C3078	1-163-001-11	CERAMIC CHIP 220PF	10%	50V	
C3079	1-126-960-11	ELECT 1MF	20%	50V	
C3080	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
C3081	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3082	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3083	1-126-964-11	ELECT 10MF	20%	50V	
C3084	1-126-963-11	ELECT 4.7MF	20%	50V	
C3085	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
C3086	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3087	1-164-346-11	CERAMIC CHIP 1MF		16V	
C3088	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V	
C3089	1-163-001-11	CERAMIC CHIP 220PF	10%	50V	

<CONNECTOR>

CN3001*1-564-525-11 PLUG, CONNECTOR 10P

<FERRITE BEAD>

FB3001	1-410-397-21	FERRITE	1.1UH
FB3002	1-410-397-21	FERRITE	1.1UH
FB3003	1-412-928-21	INDUCTOR	0.12UH
FB3004	1-412-928-21	INDUCTOR	0.12UH
FB3005	1-412-928-21	INDUCTOR	0.12UH
FB3006	1-412-928-21	INDUCTOR	0.12UH
FB3007	1-412-928-21	INDUCTOR	0.12UH

<IC>

IC3001	8-759-522-25	IC TC9287AF	
IC3002	8-759-522-24	IC TC9337F-XXX	
IC3003	8-759-231-53	IC TA7805S	
IC3004	8-759-042-02	IC S-80743AL-A7-S	
IC3005	8-759-100-96	IC UPC4558G2	
IC3007	8-752-072-94	IC CXA1875AM-T4	

<COIL>

L3002	1-408-405-00	INDUCTOR	4.7UH
L3003	1-408-405-00	INDUCTOR	4.7UH
L3004	1-408-405-00	INDUCTOR	4.7UH
L3005	1-408-405-00	INDUCTOR	4.7UH
L3006	1-408-405-00	INDUCTOR	4.7UH

<TRANSISTOR>

Q3001	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L
Q3002	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L
Q3003	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L

<RESISTOR>

R3001	1-216-033-00	RES,CHIP	220	5%	1/10W
R3002	1-216-033-00	RES,CHIP	220	5%	1/10W
R3003	1-216-033-00	RES,CHIP	220	5%	1/10W
R3004	1-216-033-00	RES,CHIP	220	5%	1/10W
R3005	1-216-025-91	RES,CHIP	100	5%	1/10W
R3006	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3007	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3008	1-216-025-91	RES,CHIP	100	5%	1/10W
R3009	1-216-025-91	RES,CHIP	100	5%	1/10W
R3010	1-216-025-91	RES,CHIP	100	5%	1/10W
R3011	1-216-025-91	RES,CHIP	100	5%	1/10W
R3012	1-215-857-11	METAL OXIDE	10	5%	1W F
R3013	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3014	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3015	1-216-033-00	RES,CHIP	220	5%	1/10W
R3016	1-216-033-00	RES,CHIP	220	5%	1/10W
R3017	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3018	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3019	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3020	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3021	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3022	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3023	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3024	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3025	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R3026	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R3027	1-216-025-91	RES,CHIP	100	5%	1/10W
R3030	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3031	1-216-073-00	RES,CHIP	10K	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R3032	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3033	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R3034	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R3035	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R3036	1-216-085-00	RES,CHIP	33K	5%	1/10W
R3039	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3040	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3041	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3042	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3045	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3046	1-216-295-91	SHORT	0		
R3047	1-216-295-91	SHORT	0		

<CRYSTAL>

X3001	1-579-280-11	VIBRATOR, CRYSTAL(16.9344MHz)
X3002	1-767-639-21	VIBRATOR, CRYSTAL(24.576MHz)

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* A-1131-314-A B3 BOARD,COMPLETE

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<CAPACITOR>

C3301	1-104-664-11	ELECT	47MF	20%	25V
C3302	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3303	1-164-346-11	CERAMIC CHIP	1MF		16V
C3304	1-164-346-11	CERAMIC CHIP	1MF		16V
C3305	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3306	1-164-346-11	CERAMIC CHIP	1MF		16V
C3307	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3308	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3309	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3310	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3311	1-164-336-11	CERAMIC CHIP	0.33MF		25V
C3312	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3313	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3314	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3315	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3316	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3317	1-104-664-11	ELECT	47MF	20%	25V
C3318	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3319	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3320	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3321	1-126-967-11	ELECT	47MF	20%	50V
C3322	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3323	1-126-965-11	ELECT	22MF	20%	50V
C3324	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3325	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3326	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3327	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C3328	1-126-963-11	ELECT	4.7MF	20%	50V
C3329	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3330	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3331	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3332	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C3333	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3334	1-126-959-11	ELECT	0.47MF	20%	50V
C3335	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3336	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C3337	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3338	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C3342	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3343	1-126-964-11	ELECT	10MF	20%	50V
C3344	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3345	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3346	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C3347	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C3348	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3349	1-126-967-11	ELECT	47MF	20%	50V
C3350	1-126-964-11	ELECT	10MF	20%	50V
C3351	1-164-346-11	CERAMIC CHIP	1MF		16V
C3352	1-164-346-11	CERAMIC CHIP	1MF		16V
C3353	1-126-965-11	ELECT	22MF	20%	50V
C3354	1-126-796-11	ELECT	22MF	20%	50V
C3355	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3356	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C3357	1-104-664-11	ELECT	47MF	20%	25V

<CONNECTOR>

CN3301*	1-778-770-11	CONNECTOR,BOARD TO BOARD(PLUG)
CN3302*	1-564-522-11	PLUG, CONNECTOR 7P
CN3304*	1-564-519-11	PLUG, CONNECTOR 4P
CN3305*	1-564-518-11	PLUG, CONNECTOR 3P

<DIODE>

D3301	8-719-914-43	DIODE DAN202K
D3302	8-719-105-91	DIODE RD5.6M-B2

<DELAY LINE>

DL3301	1-411-137-11	DELAY LINE LC

<IC>

IC3301	8-759-437-37	IC TDA9170/N1
IC3302	8-759-437-36	IC AN5342K
IC3303	8-752-058-68	IC CXA1315M
IC3304	8-759-984-03	IC LM339N
IC3305	8-759-800-81	IC LA7016

<CHIP CONDUCTOR>

JR3303	1-216-295-91	SHORT	0
JR3304	1-216-295-91	SHORT	0
JR3307	1-216-295-91	SHORT	0
JR3308	1-216-295-91	SHORT	0

B3

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<COIL>			
L3301	1-408-409-00	INDUCTOR	10UH		
L3302	1-408-605-31	INDUCTOR	15UH		
L3303	1-408-420-00	INDUCTOR	82UH		
L3304	1-408-409-00	INDUCTOR	10UH		
L3305	1-408-420-00	INDUCTOR	82UH		
L3306	1-408-601-31	INDUCTOR	6.8UH		
L3307	1-408-601-31	INDUCTOR	6.8UH		
L3308	1-408-607-31	INDUCTOR	22UH		
L3309	1-408-607-31	INDUCTOR	22UH		
		<TRANSISTOR>			
Q3301	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3302	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3304	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3305	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3306	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3307	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3308	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3309	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3310	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3312	8-729-216-22	TRANSISTOR 2SA1162-G			
Q3313	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3314	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3315	8-729-900-53	TRANSISTOR DTC114EK			
Q3316	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3317	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3318	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q3319	8-729-216-22	TRANSISTOR 2SA1162-G			
Q3320	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
		<RESISTOR>			
R3301	1-216-025-91	RES,CHIP	100	5%	1/10W
R3302	1-216-025-91	RES,CHIP	100	5%	1/10W
R3303	1-216-017-91	RES,CHIP	47	5%	1/10W
R3304	1-216-017-91	RES,CHIP	47	5%	1/10W
R3305	1-216-017-91	RES,CHIP	47	5%	1/10W
R3307	1-216-033-00	RES,CHIP	220	5%	1/10W
R3308	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3309	1-216-033-00	RES,CHIP	220	5%	1/10W
R3312	1-216-033-00	RES,CHIP	220	5%	1/10W
R3313	1-216-295-91	SHORT	0		
R3314	1-216-295-91	SHORT	0		
R3315	1-216-295-91	SHORT	0		
R3319	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3325	1-216-025-91	RES,CHIP	100	5%	1/10W
R3326	1-216-041-00	RES,CHIP	470	5%	1/10W
R3327	1-216-041-00	RES,CHIP	470	5%	1/10W
R3328	1-216-033-00	RES,CHIP	220	5%	1/10W
R3329	1-216-041-00	RES,CHIP	470	5%	1/10W
R3330	1-216-041-00	RES,CHIP	470	5%	1/10W
R3331	1-216-047-91	RES,CHIP	820	5%	1/10W
R3332	1-216-041-00	RES,CHIP	470	5%	1/10W
R3333	1-216-025-91	RES,CHIP	100	5%	1/10W
R3334	1-216-025-91	RES,CHIP	100	5%	1/10W
R3335	1-216-041-00	RES,CHIP	470	5%	1/10W
R3336	1-216-041-00	RES,CHIP	470	5%	1/10W
R3337	1-216-033-00	RES,CHIP	220	5%	1/10W
R3338	1-216-041-00	RES,CHIP	470	5%	1/10W
R3339	1-216-041-00	RES,CHIP	470	5%	1/10W
R3340	1-216-047-91	RES,CHIP	820	5%	1/10W
R3341	1-216-041-00	RES,CHIP	470	5%	1/10W
R3342	1-216-025-91	RES,CHIP	100	5%	1/10W
R3343	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R3344	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R3345	1-216-089-91	RES,CHIP	47K	5%	1/10W
R3346	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R3347	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R3348	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R3349	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R3351	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R3353	1-216-075-00	RES,CHIP	12K	5%	1/10W
R3354	1-216-037-00	RES,CHIP	330	5%	1/10W
R3355	1-216-029-00	RES,CHIP	150	5%	1/10W
R3357	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R3358	1-216-029-00	RES,CHIP	150	5%	1/10W
R3359	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3360	1-216-025-91	RES,CHIP	100	5%	1/10W
R3361	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3362	1-216-045-00	RES,CHIP	680	5%	1/10W
R3363	1-216-035-00	RES,CHIP	270	5%	1/10W
R3364	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R3365	1-216-043-91	RES,CHIP	560	5%	1/10W
R3366	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R3367	1-216-037-00	RES,CHIP	330	5%	1/10W
R3372	1-216-689-11	RES,CHIP	39K	5%	1/10W
R3373	1-216-689-11	RES,CHIP	39K	5%	1/10W
R3374	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R3375	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R3376	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3377	1-216-115-00	RES,CHIP	560K	5%	1/10W
R3378	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R3379	1-216-295-91	SHORT	0		
R3381	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R3384	1-216-095-00	RES,CHIP	82K	5%	1/10W
R3385	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3386	1-216-041-00	RES,CHIP	470	5%	1/10W
R3390	1-216-039-00	RES,CHIP	390	5%	1/10W
R3391	1-216-025-91	RES,CHIP	100	5%	1/10W
R3392	1-216-025-91	RES,CHIP	100	5%	1/10W
R3393	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3394	1-216-043-91	RES,CHIP	560	5%	1/10W
R3396	1-216-033-00	RES,CHIP	220	5%	1/10W
R3397	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3398	1-216-085-00	RES,CHIP	33K	5%	1/10W
R3399	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3401	1-216-025-91	RES,CHIP	100	5%	1/10W
R3402	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3403	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3404	1-216-049-91	RES,CHIP	1K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R3405	1-216-077-00	RES,CHIP	15K	5%	1/10W
R3406	1-216-689-11	RES,CHIP	39K	5%	1/10W
R3407	1-216-041-00	RES,CHIP	470	5%	1/10W
R3408	1-216-041-00	RES,CHIP	470	5%	1/10W
R3409	1-216-033-00	RES,CHIP	220	5%	1/10W
R3410	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3411	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3412	1-216-085-00	RES,CHIP	33K	5%	1/10W
R3413	1-216-041-00	RES,CHIP	470	5%	1/10W
R3414	1-216-017-91	RES,CHIP	47	5%	1/10W
R3415	1-216-081-00	RES,CHIP	22K	5%	1/10W
R3417	1-216-081-00	RES,CHIP	22K	5%	1/10W
R3418	1-216-081-00	RES,CHIP	22K	5%	1/10W
R3419	1-216-077-00	RES,CHIP	15K	5%	1/10W
R3420	1-216-077-00	RES,CHIP	15K	5%	1/10W
R3421	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3422	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3423	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3424	1-208-803-11	RES,CHIP	7.5K	0.50%	1/10W
R3425	1-208-780-11	RES,CHIP	820	0.50%	1/10W
R3426	1-208-781-11	RES,CHIP	910	0.50%	1/10W
R3427	1-216-295-91	SHORT	0		
R3428	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3429	1-216-025-91	RES,CHIP	100	5%	1/10W
R3430	1-216-083-00	RES,CHIP	27K	5%	1/10W
R3431	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R3432	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R3433	1-216-077-00	RES,CHIP	15K	5%	1/10W
R3440	1-208-798-11	RES,CHIP	4.7K	0.50%	1/10W

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* A-1331-745-A C1 BOARD,COMPLETE
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<CAPACITOR>

C701	1-102-114-00	CERAMIC	470PF	10%	50V
C702	1-128-551-11	ELECT	22MF	20%	25V
C703	1-104-664-11	ELECT	47MF	20%	25V
C707	1-107-651-11	ELECT	4.7MF	20%	250V
C708	1-124-903-11	ELECT	1MF	20%	50V
C709	1-101-006-00	CERAMIC	0.047MF		50V
C710	1-107-651-11	ELECT	4.7MF	20%	250V
C711	1-107-651-11	ELECT	4.7MF	20%	250V
C712	1-101-006-00	CERAMIC	0.047MF		50V
C714	1-101-006-00	CERAMIC	0.047MF		50V
C715	1-101-006-00	CERAMIC	0.047MF		50V
C716	1-102-157-00	CERAMIC	560PF	10%	500V
C717	1-102-157-00	CERAMIC	560PF	10%	500V
C718	1-102-157-00	CERAMIC	560PF	10%	500V
C719	1-102-074-00	CERAMIC	0.001MF	10%	50V
C720	1-136-627-11	FILM	0.022MF	3%	1KV
C721	1-107-651-11	ELECT	4.7MF	20%	250V
C725	1-107-651-11	ELECT	4.7MF	20%	250V

<CONNECTOR>

CN701*	1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P	
CN703*	1-564-509-11	PLUG, CONNECTOR 6P	
CN704	1-695-915-11	TAB (CONTACT)	

<DIODE>

D704	8-719-911-19	DIODE	1SS119-25
D705	8-719-911-19	DIODE	1SS119-25
D707	8-719-911-19	DIODE	1SS119-25
D709	8-719-051-85	DIODE	HSS83TD
D710	8-719-051-85	DIODE	HSS83TD
D711	8-719-051-85	DIODE	HSS83TD
D712	8-719-908-03	DIODE	GP08D
D713	8-719-109-72	DIODE	RD3.9ESB2
D714	8-719-911-19	DIODE	1SS119-25
D715	8-719-911-19	DIODE	1SS119-25
D716	8-719-911-19	DIODE	1SS119-25

<IC>

IC701	8-759-346-42	IC	TDA6101Q/N3
IC702	8-759-346-42	IC	TDA6101Q/N3
IC703	8-759-346-42	IC	TDA6101Q/N3

<JACK>

J701 ⚠	1-540-071-22	SOCKET, CRT	

<COIL>

L701	1-410-667-31	INDUCTOR	22UH

<TRANSISTOR>

Q701	8-729-119-76	TRANSISTOR	2SA1175-HFE

<RESISTOR>

R701	1-247-807-31	CARBON	100	5%	1/4W
R702	1-249-417-11	CARBON	1K	5%	1/4W
R703	1-249-437-11	CARBON	47K	5%	1/4W
R704	1-215-413-00	METAL	470	1%	1/4W
R705	1-249-441-11	CARBON	100K	5%	1/4W
R707	1-215-422-00	METAL	1.1K	1%	1/4W
R708	1-215-422-00	METAL	1.1K	1%	1/4W
R709	1-215-423-00	METAL	1.2K	1%	1/4W
R710	1-215-413-00	METAL	470	1%	1/4W
R711	1-249-421-11	CARBON	2.2K	5%	1/4W
R718	1-247-843-11	CARBON	3.3K	5%	1/4W
R719	1-247-843-11	CARBON	3.3K	5%	1/4W
R720	1-247-843-11	CARBON	3.3K	5%	1/4W
R722	1-249-435-11	CARBON	33K	5%	1/4W

C1 VM D2

REF.NO.	PART NO.	DESCRIPTION			REMARK
R725	1-215-903-11	METAL OXIDE	68K	5% 2W	F
R727	1-215-903-11	METAL OXIDE	68K	5% 2W	F
R729	1-215-903-11	METAL OXIDE	68K	5% 2W	F
R731	1-247-752-11	CARBON	1K	5% 1/2W	
R732	1-247-752-11	CARBON	1K	5% 1/2W	
R733	1-247-752-11	CARBON	1K	5% 1/2W	
R734	1-247-739-11	CARBON	100	5% 1/2W	
R735	1-244-941-00	CARBON	680K	5% 1/2W	
R737	1-249-496-11	CARBON	100K	5% 1/2W	
R738	1-249-489-11	CARBON	22K	5% 1/2W	
R740	1-216-389-11	METAL OXIDE	1	5% 3W	F
R743	1-214-931-00	CARBON	560K	5% 1/2W	

<VARIABLE RESISTOR>

RV701	1-241-656-21	RES, ADJ, METAL FILM	110M	
RV702	1-230-641-11	RES, ADJ, METAL GLAZE	2.2M	

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* A-1342-375-A VM BOARD,COMPLETE
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4-382-854-11 SCREW (M3X10), P, SW (+)

<CAPACITOR>

C961	1-161-830-00	CERAMIC	0.0047MF		500V
C962	1-130-491-00	MYLAR	0.047MF	5%	50V
C963	1-107-638-11	ELECT	33MF	20%	160V
C968	1-106-383-00	MYLAR	0.047MF	10%	200V
C969	1-107-949-11	ELECT	2.2MF	20%	160V
C970	1-104-999-11	MYLAR	0.1MF	10%	200V
C971	1-126-968-11	ELECT	100MF	20%	50V
C972	1-107-883-11	ELECT	330MF	20%	16V
C973	1-130-491-00	MYLAR	0.047MF	5%	50V
C978	1-130-471-00	MYLAR	0.001MF	5%	50V
C979	1-130-471-00	MYLAR	0.001MF	5%	50V
C980	1-126-933-11	ELECT	100MF	20%	16V

<CONNECTOR>

CN961*	1-564-511-11	PLUG, CONNECTOR 8P
CN964*	1-770-723-11	CONNECTOR, BOARD TO BOARD 8P

<DIODE>

D964	8-719-911-19	DIODE 1SS119-25
D965	8-719-911-19	DIODE 1SS119-25
D967	8-719-110-88	DIODE RD39ESB2
D968	8-719-110-88	DIODE RD39ESB2
D969	8-719-911-19	DIODE 1SS119-25
D978	8-719-911-19	DIODE 1SS119-25
D980	8-719-911-19	DIODE 1SS119-25

<TRANSISTOR>

Q961	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q962	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q963	8-729-017-05	TRANSISTOR 2SA1837
Q965	8-729-017-06	TRANSISTOR 2SC4793
Q967	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q968	8-729-119-76	TRANSISTOR 2SA1175-HFE

<RESISTOR>

R962	1-249-401-11	CARBON	47	5% 1/4W	
R963	1-249-417-11	CARBON	1K	5% 1/4W	
R965	1-249-414-11	CARBON	560	5% 1/4W	F
R966	1-249-419-11	CARBON	1.5K	5% 1/4W	
R967	1-249-411-11	CARBON	330	5% 1/4W	
R968	1-249-417-11	CARBON	1K	5% 1/4W	
R969	1-249-383-11	CARBON	1.5	5% 1/4W	F
R970	1-249-403-11	CARBON	68	5% 1/4W	
R971	1-247-815-91	CARBON	220	5% 1/4W	
R972	1-249-439-11	CARBON	68K	5% 1/4W	
R973	1-249-403-11	CARBON	68	5% 1/4W	
R974	1-216-476-11	METAL OXIDE	180	5% 3W	F
R975	1-249-417-11	CARBON	1K	5% 1/4W	F
R976	1-249-439-11	CARBON	68K	5% 1/4W	
R977	1-249-429-11	CARBON	10K	5% 1/4W	
R979	1-249-414-11	CARBON	560	5% 1/4W	
R981	1-249-418-11	CARBON	1.2K	5% 1/4W	
R982	1-249-383-11	CARBON	1.5	5% 1/4W	F
R987	1-247-815-91	CARBON	220	5% 1/4W	
R988	1-215-880-00	METAL OXIDE	10	5% 2W	F
R989	1-249-429-11	CARBON	10K	5% 1/4W	

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* A-1343-415-A D2 BOARD,COMPLETE
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<CAPACITOR>

C2801	1-130-479-00	MYLAR	0.0047MF	5%	50V
C2805	1-104-664-11	ELECT	47MF	20%	25V
C2806	1-136-559-11	MYLAR	0.0047MF	10%	400V
C2809	1-126-964-11	ELECT	10MF	20%	50V
C2810	1-129-702-00	FILM	0.001MF	5%	630V
C2811	1-107-938-11	ELECT	0.47MF	20%	160V
C2813	1-107-636-11	ELECT	10MF	20%	160V
C2814	1-126-964-11	ELECT	10MF	20%	50V
C2816	1-136-559-11	MYLAR	0.0047MF	10%	400V
C2817	1-102-244-00	CERAMIC	220PF	10%	500V
C2818	1-107-633-91	FILM	0.0056MF	10%	630V
C2819	1-104-664-11	ELECT	47MF	20%	25V
C2820	1-107-714-11	ELECT	10MF	20%	16V
C2822	1-106-375-12	MYLAR	0.022MF	10%	250V
C2823	1-126-960-11	ELECT	1MF	20%	50V

REF.NO.	PART NO.	DESCRIPTION				REMARK
C2824	1-104-664-11	ELECT	47MF	20%	25V	
C2825	1-129-767-91	FILM	0.068MF	5%	200V	
C2826	1-136-173-00	FILM	0.47MF	5%	50V	
C2828	1-107-714-11	ELECT	10MF	20%	16V	
C2830	1-137-368-11	FILM	0.0047MF	5%	50V	
C2831	1-107-714-11	ELECT	10MF	20%	16V	
C2832	1-126-960-11	ELECT	1MF	20%	50V	
C2833	1-137-366-11	FILM	0.0022MF	5%	50V	
C2834	1-106-220-00	MYLAR	0.1MF	10%	100V	
C2837	1-102-129-00	CERAMIC	0.01MF	10%	50V	
C2840	1-137-353-11	FILM	0.047MF	5%	100V	
C2841	1-136-173-00	FILM	0.47MF	5%	50V	
		<CONNECTOR>				
CN2821*	1-564-507-11	PLUG, CONNECTOR 4P				
CN2822	1-764-612-11	CONNECTOR, BOARD TO BOARD 10P				
CN2823	1-764-612-11	CONNECTOR, BOARD TO BOARD 10P				
		<DIODE>				
D2801	8-719-911-19	DIODE 1SS119-25				
D2803	8-719-510-64	DIODE S2LA20F				
D2804	8-719-510-64	DIODE S2LA20F				
D2805	8-719-911-19	DIODE 1SS119-25				
D2806	8-719-302-43	DIODE EL1Z				
D2807	8-719-109-97	DIODE RD6.8ESB2				
D2811	8-719-911-19	DIODE 1SS119-25				
D2813	8-719-911-19	DIODE 1SS119-25				
		<IC>				
IC2801	8-759-729-03	IC NJM2903D				
IC2803	8-759-701-59	IC NJM78M09FA				
IC2805	8-759-135-80	IC UPC358C				
		<COIL>				
L2801	1-406-677-11	COIL, CHOKE	10MMH			
L2802	1-406-989-21	COIL, CHOKE	10MMH			
L2803	1-410-093-11	INDUCTOR	33MMH			
L2806	1-406-678-11	COIL, CHOKE	15MMH			
		<TRANSISTOR>				
Q2802	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q2805	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q2806	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q2807	8-729-011-06	TRANSISTOR	2SC3840K			
Q2811	8-729-931-45	TRANSISTOR	IRF614			
Q2812	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q2813	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q2813	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q2814	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q2815	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q2817	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q2818	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q2821	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q2822	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q2823	8-729-017-06	TRANSISTOR	2SC4793			
		<RESISTOR>				
R2801	1-249-431-11	CARBON	15K	5%	1/4W	
R2803	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2804	1-249-413-11	CARBON	470	5%	1/4W	
R2806	1-249-429-11	CARBON	10K	5%	1/4W	
R2809	1-249-429-11	CARBON	10K	5%	1/4W	
R2812	1-249-441-11	CARBON	100K	5%	1/4W	
R2813	1-249-437-11	CARBON	47K	5%	1/4W	
R2816	1-249-441-11	CARBON	100K	5%	1/4W	
R2820	1-249-437-11	CARBON	47K	5%	1/4W	
R2821	1-249-412-11	CARBON	390	5%	1/4W	F
R2824	1-249-393-11	CARBON	10	5%	1/4W	F
R2825	1-249-411-11	CARBON	330	5%	1/4W	
R2826	1-249-429-11	CARBON	10K	5%	1/4W	
R2827	1-249-413-11	CARBON	470	5%	1/4W	
R2830	1-215-876-00	METAL OXIDE	15K	5%	1W	F
R2831	1-215-875-11	METAL OXIDE	10K	5%	1W	F
R2833	1-215-896-00	METAL OXIDE	4.7K	5%	2W	F
R2834	1-215-875-11	METAL OXIDE	10K	5%	1W	F
R2837	1-249-413-11	CARBON	470	5%	1/4W	
R2838	1-249-428-11	CARBON	8.2K	5%	1/4W	
R2839	1-247-863-91	CARBON	22K	5%	1/4W	
R2840	1-249-441-11	CARBON	100K	5%	1/4W	
R2841	1-247-863-91	CARBON	22K	5%	1/4W	
R2842	1-247-843-11	CARBON	3.3K	5%	1/4W	
R2843	1-249-441-11	CARBON	100K	5%	1/4W	
R2844	1-249-441-11	CARBON	100K	5%	1/4W	
R2845	1-249-429-11	CARBON	10K	5%	1/4W	
R2846	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2847	1-249-417-11	CARBON	1K	5%	1/4W	
R2848	1-247-863-91	CARBON	22K	5%	1/4W	
R2849	1-249-429-11	CARBON	10K	5%	1/4W	
R2850	1-215-914-11	METAL OXIDE	330	5%	3W	F
R2851	1-249-425-11	CARBON	4.7K	5%	1/4W	
R2853	1-215-914-11	METAL OXIDE	330	5%	3W	F
R2854	1-249-425-11	CARBON	4.7K	5%	1/4W	
R2857	1-247-863-91	CARBON	22K	5%	1/4W	
R2858	1-249-420-11	CARBON	1.8K	5%	1/4W	
R2859	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2860	1-249-422-11	CARBON	2.7K	5%	1/4W	
R2861	1-247-889-00	CARBON	270K	5%	1/4W	
R2862	1-247-889-00	CARBON	270K	5%	1/4W	
R2866	1-249-429-11	CARBON	10K	5%	1/4W	
R2867	1-247-863-91	CARBON	22K	5%	1/4W	
R2869	1-247-895-91	CARBON	470K	5%	1/4W	
R2871	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2872	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2874	1-249-435-11	CARBON	33K	5%	1/4W	
R2877	1-215-905-11	METAL OXIDE	10	5%	3W	F

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DH D

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
	* A-1343-417-A	DH BOARD,COMPLETE			
		**********			
		<CAPACITOR>			
C3801	1-126-964-11	ELECT	10MF	20%	50V
C3804	1-102-129-00	CERAMIC	0.01MF	10%	50V
C3805	1-126-964-11	ELECT	10MF	20%	50V
C3807	1-102-129-00	CERAMIC	0.01MF	10%	50V
C3808	1-126-964-11	ELECT	10MF	20%	50V
C3816	1-126-964-11	ELECT	10MF	20%	50V
C3819	1-126-960-11	ELECT	1MF	20%	50V
C3822	1-136-165-00	FILM	0.1MF	5%	50V
		<CONNECTOR>			
CN3802*	1-564-508-11	PLUG, CONNECTOR 5P			
CN3804*	1-564-506-11	PLUG, CONNECTOR 3P			
		<DIODE>			
D305	8-719-911-19	DIODE 1SS119-25			
D3806	8-719-911-19	DIODE 1SS119-25			
		<IC>			
IC3805	8-759-822-38	IC LA6510			
IC3807	1-475-556-11	SENSOR UNIT, MAGNETIC			
		<TRANSISTOR>			
Q3809	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q3810	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q3811	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q3812	8-729-119-78	TRANSISTOR	2SC2785-HFE		
		<RESISTOR>			
R3804	1-215-444-00	METAL	9.1K	1%	1/4W
R3807	1-215-421-00	METAL	1K	1%	1/4W
R3808	1-247-883-00	CARBON	150K	5%	1/4W
R3809	1-247-883-00	CARBON	150K	5%	1/4W
R3810	1-249-425-11	CARBON	4.7K	5%	1/4W
R3814	1-249-417-11	CARBON	1K	5%	1/4W
R3825	1-249-429-11	CARBON	10K	5%	1/4W
R3828	1-249-377-11	CARBON	0.47	5%	1/4W F
R3839	1-249-429-11	CARBON	10K	5%	1/4W
R3845	1-249-425-11	CARBON	4.7K	5%	1/4W
R3846	1-249-417-11	CARBON	1K	5%	1/4W
R3847	1-247-807-31	CARBON	100	5%	1/4W
R3848	1-249-417-11	CARBON	1K	5%	1/4W
R3849	1-249-377-11	CARBON	0.47	5%	1/4W F
R3852	1-249-441-11	CARBON	100K	5%	1/4W
R3854	1-249-429-11	CARBON	10K	5%	1/4W

REF.NO.	PART NO.	DESCRIPTION			REMARK
	* A-1346-685-A	D BOARD,COMPLETE			
		**********			
	1-923-512-57	WIRE UL1007 AWG22 230MM BLK			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C602	1-107-929-11	ELECT	10MF	20%	100V
C603	1-107-883-11	ELECT	330MF	20%	16V
C604	1-102-074-00	CERAMIC	0.001MF	10%	50V
C605	1-161-754-00	CERAMIC	0.001MF	10%	3KV
C607	1-102-002-00	CERAMIC	680PF	10%	500V
C608	1-128-339-11	ELECT	2200MF	20%	16V
C609	1-107-928-11	ELECT	4.7MF	20%	100V
C610	1-128-489-11	CERAMIC	0.001MF	10%	3KV
C611	1-102-002-00	CERAMIC	680PF	10%	500V
C612	1-102-002-00	CERAMIC	680PF	10%	500V
C613	1-125-494-11	ELECT(BLOCK)	560MF	20%	160V
C614	1-107-890-11	ELECT	2200MF	20%	25V
C615	1-128-550-11	ELECT	2200MF	20%	50V
C616	1-128-550-11	ELECT	2200MF	20%	50V
C617	1-102-002-00	CERAMIC	680PF	10%	500V
C618	1-128-528-11	ELECT	470MF	20%	16V
C620	1-164-625-11	CERAMIC	680PF	10%	500V
C621	1-102-002-00	CERAMIC	680PF	10%	500V
C622 ⚠	1-113-900-11	CERAMIC	470PF	10%	250V
C623	1-126-943-11	ELECT	2200MF	20%	25V
C624	1-102-002-00	CERAMIC	680PF	10%	500V
C626	1-102-074-00	CERAMIC	0.001MF	10%	50V
C629	1-162-116-00	CERAMIC	680PF	10%	2KV
C630	1-162-116-00	CERAMIC	680PF	10%	2KV
C631	1-162-622-11	CERAMIC	330PF	10%	6.3KV
C632	1-137-353-11	MYLAR	0.047MF	10%	100V
C633	1-162-318-11	CERAMIC	0.001MF	10%	500V
C640	1-126-935-11	ELECT	470MF	20%	16V
C641	1-126-941-11	ELECT	470MF	20%	25V
C642	1-102-212-00	CERAMIC	820PF	10%	500V
C643	1-164-645-11	CERAMIC	1000PF	10%	500V
C644	1-102-212-00	CERAMIC	820PF	10%	500V
C683	1-126-768-11	ELECT	2200MF	20%	16V
C684	1-126-768-11	ELECT	2200MF	20%	16V
C808	1-162-114-00	CERAMIC	0.0047MF		2KV
C814	1-126-933-11	ELECT	100MF	20%	16V
C816	1-102-244-00	CERAMIC	220PF	10%	500V
C835	1-126-941-11	ELECT	470MF	20%	25V
C836	1-102-228-00	CERAMIC	470PF	10%	500V
C839	1-107-655-11	ELECT	47MF	20%	250V
C840	1-126-941-11	ELECT	470MF	20%	25V
C841	1-102-228-00	CERAMIC	470PF	10%	500V
C842	1-106-387-00	MYLAR	0.068MF	10%	200V
C846	1-123-024-21	ELECT	33MF		160V
C875	1-102-038-00	CERAMIC	0.001MF		500V
C877	1-126-959-11	ELECT	0.47MF	20%	50V
C1501	1-102-820-00	CERAMIC	330PF	5%	50V
C1503	1-102-820-00	CERAMIC	330PF	5%	50V
C1504	1-126-941-11	ELECT	470MF	20%	25V

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1505	1-126-969-11	ELECT	220MF	20%	50V
C1506	1-136-171-00	FILM	0.33MF	5%	50V
C1507	1-106-220-00	MYLAR	0.1MF	10%	100V
C1509	1-109-953-11	ELECT	2.2MF	20%	50V
C1511	1-126-933-11	ELECT	100MF	20%	16V
C1514	1-136-165-00	FILM	0.1MF	5%	50V
C1515	1-136-165-00	FILM	0.1MF	5%	50V
C1518	1-130-495-00	MYLAR	0.1MF	5%	50V
C1519	1-130-495-00	MYLAR	0.1MF	5%	50V
C1520	1-126-933-11	ELECT	100MF	20%	16V
C1521	1-126-967-11	ELECT	47MF	20%	50V
C1579	1-126-941-11	ELECT	470MF	20%	25V
C1800	1-126-964-11	ELECT	10MF	20%	50V
C1804	1-126-964-11	ELECT	10MF	20%	50V
C1809	1-126-942-61	ELECT	1000MF	20%	25V
C1812	1-130-483-00	MYLAR	0.01MF	5%	50V
C1813	1-126-964-11	ELECT	10MF	20%	50V
C2500	1-130-483-00	MYLAR	0.01MF	5%	50V
C2502	1-137-399-11	FILM	0.1MF	5%	50V
C2503	1-137-372-11	FILM	0.022MF	5%	50V
C2504	1-104-665-11	ELECT	100MF	20%	25V
C2506	1-130-495-00	MYLAR	0.1MF	5%	50V
C2507	1-107-638-11	ELECT	33MF	20%	160V
C2508	1-129-898-00	FILM	0.0022MF	10%	630V
C2509	1-107-846-11	FILM	0.1MF	5%	250V
C2511	1-130-481-00	FILM	0.0068MF	5%	50V
C2514	1-102-244-00	CERAMIC	220PF	10%	500V
C2515	1-137-417-11	MYLAR	0.0047MF	10%	200V
C2517	1-162-116-00	CERAMIC	680PF	10%	2KV
C2518	1-162-116-00	CERAMIC	680PF	10%	2KV
C2519⚠	1-113-582-11	FILM	0.017MF	3%	2KV
C2520	1-162-116-00	CERAMIC	680PF	10%	2KV
C2521	1-129-722-00	FILM	0.047MF	5%	630V
C2522	1-106-383-00	MYLAR	0.047MF	10%	200V
C2523	1-102-002-00	CERAMIC	680PF	10%	500V
C2524	1-102-212-00	CERAMIC	820PF	10%	500V
C2526	1-106-395-00	MYLAR	0.15MF	10%	200V
C2527	1-107-651-11	ELECT	4.7MF	20%	250V
C2528	1-115-522-11	FILM	1MF	5%	250V
C2529	1-162-318-11	CERAMIC	0.001MF	10%	500V
C2530	1-107-804-11	FILM	0.68MF	5%	200V
C2540	1-130-478-00	MYLAR	0.0039MF	5%	50V
C2541	1-130-477-00	FILM	0.0033MF	5%	50V
C2542	1-130-494-11	MYLAR	0.082MF	5%	50V
C2543	1-104-666-11	ELECT	220MF	20%	25V
C2545	1-126-963-11	ELECT	4.7MF	20%	50V
C2547	1-102-112-00	CERAMIC	330PF	10%	50V
C2561	1-162-815-11	CERAMIC	47PF	5%	500V
C2601⚠	1-113-900-11	CERAMIC	470PF	10%	250V
C2602⚠	1-130-711-00	FILM	0.22MF	20%	250V
C2603⚠	1-113-900-11	CERAMIC	470PF	10%	250V
C2604⚠	1-130-711-00	FILM	0.22MF	20%	250V
C2605	1-107-909-11	ELECT	47MF	20%	50V
C2606	1-161-830-00	CERAMIC	4700PF	10%	500V
C2607	1-161-830-00	CERAMIC	4700PF	10%	500V
C2609	1-161-830-00	CERAMIC	4700PF	10%	500V
C2610	1-161-830-00	CERAMIC	4700PF	10%	500V
C2613	1-136-175-00	FILM	0.68MF	5%	50V
C2617	1-125-905-11	ELECT	560MF	20%	450V
C2618	1-136-601-11	FILM	0.01MF	10%	630V
C2620⚠	1-130-711-00	FILM	0.22MF	20%	250V

<CONNECTOR>

CN506*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P	
CN518*	1-564-508-11	PLUG, CONNECTOR 5P	
CN520*	1-779-889-11	CONNECTOR, BOARD TO BOARD 8P	
CN525	1-695-915-11	TAB (CONTACT)	
CN526*	1-779-889-11	CONNECTOR, BOARD TO BOARD 8P	
CN527	1-695-915-11	TAB (CONTACT)	
CN528*	1-779-889-11	CONNECTOR, BOARD TO BOARD 8P	
CN530	1-695-915-11	TAB (CONTACT)	
CN0521*	1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P	
CN0522	1-764-610-11	CONNECTOR, BOARD TO BOARD 10P	
CN0523	1-764-610-11	CONNECTOR, BOARD TO BOARD 10P	
CN1804	1-900-235-77	CONNECTOR ASSY 3P	
CN2600*	1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
CN2602	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN2603*	1-564-508-11	PLUG, CONNECTOR 5P	
CN2605*	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	

<DIODE>

D601	8-719-110-08	DIODE RD8.2ESB2			
D602	8-719-510-26	DIODE D1NL20-TA			
D603	8-719-510-26	DIODE D1NL20-TA			
D604	8-719-510-37	DIODE D5LC20U			
D605	8-719-911-19	DIODE 1SS119-25			
D606	8-719-302-43	DIODE EL1Z			
D607	8-719-510-73	DIODE S3L20UF4			
D608	8-719-979-85	DIODE EGP20G			
D609	8-719-312-10	DIODE RU4AM-T3			
D611	8-719-510-37	DIODE D5LC20U			
D612	8-719-110-02	DIODE RD7.5ESB1			
D614	8-719-911-19	DIODE 1SS119-25			
D616	8-719-510-26	DIODE D1NL20-TA			
D618	1-249-417-11	CARBON	1K	5%	1/4W
D619	8-719-911-19	DIODE 1SS119-25			
D620	8-719-510-73	DIODE S3L20UF4			
D621	8-719-110-36	DIODE RD13ESB2			
D633	8-719-911-19	DIODE 1SS119-25			
D801	8-719-018-82	DIODE RGP02-20EL-6394			
D803	8-719-911-19	DIODE 1SS119-25			
D814	8-719-302-43	DIODE EL1Z			
D815	8-719-302-43	DIODE EL1Z			
D816	8-719-302-43	DIODE EL1Z			
D824	8-719-028-72	DIODE RGP02-17EL-6433			
D825	8-719-911-19	DIODE 1SS119-25			
D1501	8-719-911-19	DIODE 1SS119-25			
D1502	8-719-150-92	DIODE RD33EB3T			
D1503	8-719-908-03	DIODE GP08D			
D1505	8-719-911-19	DIODE 1SS119-25			
D1506	8-719-911-19	DIODE 1SS119-25			

D

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1507	8-719-911-19	DIODE 1SS119-25	
D1508	8-719-911-19	DIODE 1SS119-25	
D1509	8-719-911-19	DIODE 1SS119-25	
D1510	8-719-911-19	DIODE 1SS119-25	
D1511	8-719-911-19	DIODE 1SS119-25	
D1803	8-719-911-19	DIODE 1SS119-25	
D1804	8-719-911-19	DIODE 1SS119-25	
D1808	8-719-908-03	DIODE GP08D	
D2500	8-719-923-38	DIODE MTZJ-T-77-5.6B	
D2501	8-719-911-19	DIODE 1SS119-25	
D2502	8-719-911-19	DIODE 1SS119-25	
D2506	8-719-945-80	DIODE ERC06-15S	
D2507	8-719-945-80	DIODE ERC06-15S	
D2508	8-719-900-26	DIODE ERD29-08J	
D2509	8-719-302-43	DIODE EL1Z	
D2510	8-719-908-03	DIODE GP08D	
D2511	8-719-908-03	DIODE GP08D	
D2515	8-719-911-19	DIODE 1SS119-25	
D2517	8-719-911-19	DIODE 1SS119-25	
D2600	8-719-510-53	DIODE D4SB60L	
D2602	8-719-911-19	DIODE 1SS119-25	
D2603	8-719-108-18	THYRISTOR 5P6M	
D2604	8-719-110-06	DIODE RD8.2ESB1	
		<CONNECTOR>	
DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P	
		<FERRITE BEAD>	
FB600	1-410-397-21	FERRITE 1.1UH	
FB601	1-410-397-21	FERRITE 1.1UH	
FB602	1-410-397-21	FERRITE 1.1UH	
FB603	1-410-397-21	FERRITE 1.1UH	
FB604	1-410-397-21	FERRITE 1.1UH	
FB605	1-410-397-21	FERRITE 1.1UH	
FB607	1-410-397-21	FERRITE 1.1UH	
FB609	1-410-397-21	FERRITE 1.1UH	
FB2502	1-410-397-21	FERRITE 1.1UH	
		<IC>	
IC601	8-749-013-99	IC STR-S6709N	
IC602	8-749-920-61	IC SE-135N	
IC603⚠	8-749-924-35	PHOTO COUPLER ON3171-R	
IC1501	8-759-980-58	IC TDA8172	
IC1800	8-759-822-38	IC LA6510	
IC2504	8-759-729-03	IC NJM2903D	
		<COIL>	
L600	1-410-396-41	FERRITE 0.45UH	
L601	1-410-396-41	FERRITE 0.45UH	
L602	1-412-531-31	INDUCTOR 33UH	
L604	1-412-531-31	INDUCTOR 33UH	
L605	1-412-527-11	INDUCTOR 15UH	
L606	1-412-527-11	INDUCTOR 15UH	
L607	1-406-978-11	COIL, CHOKE 150UH	
L802	1-249-437-11	CARBON 47K 5% 1/4W	
L812	1-412-525-31	INDUCTOR 10UH	
L815	1-412-525-31	INDUCTOR 10UH	
L816	1-412-525-31	INDUCTOR 10UH	
L1501	1-412-525-31	INDUCTOR 10UH	
L1502	1-412-525-31	INDUCTOR 10UH	
L1503	1-412-525-31	INDUCTOR 10UH	
L2503	1-406-978-11	COIL, CHOKE 150UH	
L2505	1-459-104-00	COIL, WITH CORE	
L2506	1-422-613-11	COIL, AIR CORE	
L2507	1-412-553-11	INDUCTOR 3.3MMH	
L2508	1-412-553-11	INDUCTOR 3.3MMH	
L2510	1-459-111-00	COIL, DRAM CORE (CDI)	
		<TRANSISTOR>	
Q600	8-729-028-34	TRANSISTOR 2SD1640Q,R	
Q601	8-729-012-62	TRANSISTOR 2SA1507	
Q602	8-729-140-96	TRANSISTOR 2SD774-34	
Q603	8-729-920-24	TRANSISTOR DTD114ES	
Q803	8-729-200-17	TRANSISTOR 2SA1091-O	
Q1501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1502	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1503	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1800	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1802	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1803	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q2502	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q2503	8-729-017-06	TRANSISTOR 2SC4793	
Q2505	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q2591	8-729-016-32	TRANSISTOR 2SC4927-01	
Q2600	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q2601	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		<RESISTOR>	
R601	1-215-923-00	METAL OXIDE 10K 5% 3W F	
R602	1-249-417-11	CARBON 1K 5% 1/4W F	
R603	1-215-901-00	METAL OXIDE 33K 5% 2W F	
R604	1-216-400-11	METAL OXIDE 8.2 5% 3W F	
R605⚠	1-533-790-31	LINK, IC	
R606	1-216-422-11	METAL OXIDE 18 5% 1W F	
R607	1-247-843-11	CARBON 3.3K 5% 1/4W	
R608	1-260-115-11	CARBON 22K 5% 1/2W	
R609	1-260-108-11	CARBON 5.6K 5% 1/2W	
R611	1-202-933-61	FUSIBLE 0.1 10% 1/2W F	
R612	1-249-420-11	CARBON 1.8K 5% 1/4W	
R613	1-202-933-61	FUSIBLE 0.1 10% 1/2W F	
R614	1-249-418-11	CARBON 1.2K 5% 1/4W	
R615⚠	1-219-134-11	FUSIBLE 0.1 10% 1/4W	
R616	1-215-886-11	METAL OXIDE 100 5% 2W F	
R618	1-207-612-00	METAL 0.1 10% 2W	
R619	1-247-807-31	CARBON 100 5% 1/4W	
R620	1-249-425-11	CARBON 4.7K 5% 1/4W	
R621	1-249-377-11	CARBON 0.47 5% 1/4W F	

REF.NO.	PART NO.	DESCRIPTION			REMARK
R622	1-247-807-31	CARBON	100	5%	1/4W
R624⚠	1-533-790-31	LINK, IC			
R625⚠	1-533-790-31	LINK, IC			
R626⚠	1-219-134-11	FUSIBLE	0.1	10%	1/4W
R628	1-260-072-11	CARBON	4.7	5%	1/2W
R634	1-247-807-31	CARBON	100	5%	1/4W
R635	1-249-413-11	CARBON	470	5%	1/4W
R690	1-249-416-11	CARBON	820	5%	1/4W
R804	1-217-778-11	FUSIBLE	1K	5%	1W F
R836	1-215-465-00	METAL	68K	1%	1/4W
R853	1-249-470-11	CARBON	0.47	5%	1/2W F
R854	1-249-470-11	CARBON	0.47	5%	1/2W F
R855	1-202-818-00	SOLID	1K	20%	1/2W
R858⚠	1-215-435-00	METAL	3.9K	1%	1/4W
R860	1-249-438-11	CARBON	56K	5%	1/4W
R861	1-249-438-11	CARBON	56K	5%	1/4W
R868⚠	1-215-452-00	METAL	20K	1%	1/4W
R869⚠	1-215-453-00	METAL	22K	1%	1/4W
R871⚠	1-215-451-00	METAL	18K	1%	1/4W
R876	1-249-421-11	CARBON	2.2K	5%	1/4W F
R884	1-260-199-11	CARBON	200K	5%	1/2W
R885	1-249-470-11	CARBON	0.47	5%	1/2W F
R886	1-216-370-11	METAL OXIDE	1.2	5%	2W F
R887	1-249-420-11	CARBON	1.8K	5%	1/4W F
R890	1-260-128-11	CARBON	270K	5%	1/2W
R892	1-249-425-11	CARBON	4.7K	5%	1/4W
R894	1-215-487-00	METAL	560K	1%	1/4W
R895	1-249-432-11	CARBON	18K	5%	1/4W
R898	1-215-485-00	METAL	470K	1%	1/4W
R1501	1-215-445-00	METAL	10K	1%	1/4W
R1502	1-215-443-00	METAL	8.2K	1%	1/4W
R1503	1-249-431-11	CARBON	15K	5%	1/4W
R1504	1-249-425-11	CARBON	4.7K	5%	1/4W
R1506	1-249-435-11	CARBON	33K	5%	1/4W
R1508	1-215-445-00	METAL	10K	1%	1/4W
R1509	1-215-443-00	METAL	8.2K	1%	1/4W
R1511	1-215-913-11	METAL OXIDE	220	5%	3W F
R1512	1-216-369-00	METAL OXIDE	1	5%	2W F
R1513	1-215-405-00	METAL	220	1%	1/4W
R1514	1-215-453-00	METAL	22K	1%	1/4W
R1515	1-249-383-11	CARBON	1.5	5%	1/4W F
R1516	1-249-426-11	CARBON	5.6K	5%	1/4W
R1517	1-249-426-11	CARBON	5.6K	5%	1/4W
R1518	1-249-425-11	CARBON	4.7K	5%	1/4W
R1519	1-249-431-11	CARBON	15K	5%	1/4W
R1520	1-216-361-00	METAL OXIDE	0.22	5%	2W F
R1523	1-247-807-31	CARBON	100	5%	1/4W
R1524	1-247-863-91	CARBON	22K	5%	1/4W
R1525	1-249-441-11	CARBON	100K	5%	1/4W
R1550	1-249-429-11	CARBON	10K	5%	1/4W
R1551	1-247-843-11	CARBON	3.3K	5%	1/4W
R1800	1-249-417-11	CARBON	1K	5%	1/4W
R1801	1-249-426-11	CARBON	5.6K	5%	1/4W
R1802	1-249-387-11	CARBON	3.3	5%	1/4W F
R1803	1-249-387-11	CARBON	3.3	5%	1/4W F
R1805	1-249-429-11	CARBON	10K	5%	1/4W
R1806	1-249-425-11	CARBON	4.7K	5%	1/4W
R1807	1-249-429-11	CARBON	10K	5%	1/4W
R1808	1-249-425-11	CARBON	4.7K	5%	1/4W
R1809	1-249-435-11	CARBON	33K	5%	1/4W
R1810	1-249-435-11	CARBON	33K	5%	1/4W
R1811	1-249-435-11	CARBON	33K	5%	1/4W
R1812	1-249-435-11	CARBON	33K	5%	1/4W
R1821	1-249-435-11	CARBON	33K	5%	1/4W
R1822	1-249-435-11	CARBON	33K	5%	1/4W
R1823	1-249-426-11	CARBON	5.6K	5%	1/4W
R1824	1-249-435-11	CARBON	33K	5%	1/4W
R1825	1-247-843-11	CARBON	3.3K	5%	1/4W
R2503	1-215-910-00	METAL OXIDE	68	5%	3W F
R2504	1-215-469-00	METAL	100K	1%	1/4W
R2506	1-216-473-11	METAL OXIDE	56	5%	3W F
R2507	1-249-429-11	CARBON	10K	5%	1/4W
R2512	1-247-843-11	CARBON	3.3K	5%	1/4W
R2515	1-216-346-00	METAL OXIDE	0.56	5%	1W F
R2516	1-249-401-11	CARBON	47	5%	1/4W
R2517	1-215-918-00	METAL OXIDE	1.5K	5%	3W F
R2518	1-215-918-00	METAL OXIDE	1.5K	5%	3W F
R2519	1-247-722-11	CARBON	5.6K	5%	1/4W F
R2520	1-247-843-11	CARBON	3.3K	5%	1/4W
R2521	1-249-411-11	CARBON	330	5%	1/4W
R2522	1-216-452-11	METAL OXIDE	180	5%	2W F
R2523	1-215-888-00	METAL OXIDE	220	5%	2W F
R2524	1-247-887-00	CARBON	220K	5%	1/4W
R2525	1-215-888-00	METAL OXIDE	220	5%	2W F
R2526	1-249-437-11	CARBON	47K	5%	1/4W
R2527	1-260-314-11	CARBON	68	5%	1/2W
R2528	1-247-747-11	CARBON	470	5%	1/2W F
R2530	1-247-843-11	CARBON	3.3K	5%	1/4W
R2531	1-249-427-11	CARBON	6.8K	5%	1/4W
R2532	1-215-909-11	METAL OXIDE	47	5%	3W F
R2533	1-249-389-11	CARBON	4.7	5%	1/4W F
R2536	1-249-419-11	CARBON	1.5K	5%	1/4W
R2540	1-215-888-00	METAL OXIDE	220	5%	2W F
R2543	1-215-429-00	METAL	2.2K	1%	1/4W
R2546	1-215-471-00	METAL	120K	1%	1/4W
R2547	1-215-471-00	METAL	120K	1%	1/4W
R2556	1-249-411-11	CARBON	330	5%	1/4W
R2557	1-249-415-11	CARBON	680	5%	1/4W F
R2561	1-215-433-00	METAL	3.3K	1%	1/4W
R2564	1-215-445-00	METAL	10K	1%	1/4W
R2565	1-215-493-00	METAL	1M	1%	1/4W
R2566	1-249-435-11	CARBON	33K	5%	1/4W
R2582	1-249-421-11	CARBON	2.2K	5%	1/4W
R2583	1-249-421-11	CARBON	2.2K	5%	1/4W
R2601⚠	1-218-265-11	METAL	8.2M	5%	1W
R2602	1-249-417-11	CARBON	1K	5%	1/4W
R2604	1-240-005-11	METAL	0		
R2605	1-249-416-11	CARBON	820	5%	1/4W F
R2606	1-249-416-11	CARBON	820	5%	1/4W F
R2607	1-240-005-11	METAL	0		
R2608	1-249-437-11	CARBON	47K	5%	1/4W
R2610	1-216-486-00	METAL OXIDE	8.2K	5%	3W F

D V3

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R2611	1-216-486-00	METAL OXIDE	8.2K	5%	3W F
R2612⚠	1-202-719-00	SOLID	1M	10%	1/2W
		<VARIABLE RESISTOR>			
RV1801	1-223-241-11	RES, ADJ, CARBON	47K		
		<RELAY>			
RY2600⚠	1-515-684-31	RELAY			
		<SWITCH>			
S2501	1-572-707-11	SWITCH, LEVER			
S2502	1-572-707-11	SWITCH, LEVER			
		<TRANSFORMER>			
T601 ⚠	1-431-724-11	TRANSFORMER, CONVERTER			
T801 ⚠	8-598-977-00	FBT ASSY, NX-4122			
T801	8-598-977-20	FBT ASSY, NX-4122			
T805	1-424-584-11	TRANSFORMER, DYNAMIC FOCUS			
T2502	1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE			
T2504	1-431-693-11	TRANSFORMER, HORIZONTAL LINEAR			
T2505	1-426-981-11	TRANSFORMER, FERRITE (PMT)			
T2601⚠	1-431-182-11	TRANSFORMER, LINE FILTER			
T2602⚠	1-431-536-11	TRANSFORMER, LINE FILTER			
T2603⚠	1-431-536-11	TRANSFORMER, LINE FILTER			
		<THERMISTOR>			
THP2600⚠	1-809-827-11	THERMISTOR, POSITIVE			
		<TEST PIN>			
TP601	1-695-915-11	TAB (CONTACT)			
TP602	1-695-915-11	TAB (CONTACT)			

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* A-1347-141-A V3 BOARD,COMPLETE (KV-EF29M31/M61/M91)

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	4-049-406-01	CASE (BOTTOM LID), SHIELD			
	4-049-407-01	CASE (UPPER LID), SHIELD			
	4-063-363-01	SHEET (V3), INSULATING			
		<CAPACITOR>			
C01	1-126-967-11	ELECT	47MF	20%	16V
C05	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C06	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C15	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C16	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C17	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C18	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C20	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C21	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C22	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C23	1-126-933-11	ELECT	100MF	20%	16V
C26	1-126-963-11	ELECT	4.7MF	20%	50V
C29	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C30	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C31	1-126-933-11	ELECT	100MF	20%	16V
C32	1-126-964-11	ELECT	10MF	20%	50V
C35	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C37	1-126-933-11	ELECT	100MF	20%	16V
		<CONNECTOR>			
CN01 *	1-695-862-11	PIN, CONNECTOR (PC BOARD) 12P			
CN02 *	1-564-508-11	PLUG, CONNECTOR 5P			
		<DIODE>			
D02	8-719-914-44	DIODE DAP202K			
D03	8-719-105-46	DIODE RD3.3M-B2			
D04	8-719-105-91	DIODE RD5.6M-B2			
D05	8-719-988-62	DIODE 1SS355			
		<FERRITE BEAD>			
FB01	1-410-397-21	FERRITE	1.1UH		
FB02	1-410-397-21	FERRITE	1.1UH		
FB03	1-410-397-21	FERRITE	1.1UH		
FB04	1-408-429-00	INDUCTOR	470UH		
FB05	1-410-397-21	FERRITE	1.1UH		
		<IC>			
IC01	8-759-476-87	IC SAA5261			
IC02	8-759-232-32	IC TC74HC74AF			
		<CHIP CONDUCTOR>			
JR01	1-216-295-91	SHORT	0		
JR02	1-216-295-91	SHORT	0		
JR03	1-216-295-91	SHORT	0		
		<TRANSISTOR>			
Q01	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q03	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q04	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q05	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q06	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q07	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q08	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q09	8-729-027-52	TRANSISTOR DTC124EKA-T146			
Q10	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q11	8-729-019-01	TRANSISTOR 2SD2394-EF			
Q12	8-729-120-28	TRANSISTOR 2SC1623-L5L6			

The components identified by shading and mark ⚠ are critical for safety.
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REF.NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R01	1-216-295-91	SHORT	0		
R02	1-216-295-91	SHORT	0		
R03	1-216-295-91	SHORT	0		
R04	1-216-295-91	SHORT	0		
R05	1-216-295-91	SHORT	0		
R07	1-216-295-91	SHORT	0		
R09	1-216-049-91	RES,CHIP	1K	5%	1/10W
R13	1-216-295-91	SHORT	0		
R19	1-216-295-91	SHORT	0		
R20	1-216-073-00	RES,CHIP	10K	5%	1/10W
R21	1-216-083-00	RES,CHIP	27K	5%	1/10W
R22	1-216-025-91	RES,CHIP	100	5%	1/10W
R24	1-216-295-91	SHORT	0		
R25	1-216-295-91	SHORT	0		
R27	1-216-295-91	SHORT	0		
R28	1-216-025-91	RES,CHIP	100	5%	1/10W
R29	1-216-025-91	RES,CHIP	100	5%	1/10W
R30	1-216-295-91	SHORT	0		
R31	1-216-295-91	SHORT	0		
R32	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R35	1-216-295-91	SHORT	0		
R39	1-216-049-91	RES,CHIP	1K	5%	1/10W
R40	1-216-073-00	RES,CHIP	10K	5%	1/10W
R42	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R43	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R44	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R45	1-216-049-91	RES,CHIP	1K	5%	1/10W
R46	1-216-049-91	RES,CHIP	1K	5%	1/10W
R47	1-216-049-91	RES,CHIP	1K	5%	1/10W
R48	1-216-049-91	RES,CHIP	1K	5%	1/10W
R49	1-216-049-91	RES,CHIP	1K	5%	1/10W
R50	1-216-105-91	RES,CHIP	220K	5%	1/10W
R51	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R52	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
R53	1-216-073-00	RES,CHIP	10K	5%	1/10W
R54	1-216-025-91	RES,CHIP	100	5%	1/10W
R55	1-216-025-91	RES,CHIP	100	5%	1/10W
R56	1-216-025-91	RES,CHIP	100	5%	1/10W
R57	1-216-081-00	RES,CHIP	22K	5%	1/10W
R58	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R59	1-216-295-91	SHORT	0		
R60	1-216-295-91	SHORT	0		
R61	1-216-295-91	SHORT	0		
R62	1-216-182-00	RES,CHIP	220	5%	1/8W
R71	1-216-295-91	SHORT	0		
		<CRYSTAL>			
X01	1-578-774-11	VIBRATOR, CRYSTAL(12MHz)			

****

REF.NO.	PART NO.	DESCRIPTION			REMARK
	* A-1372-427-A	H7 BOARD,COMPLETE			
		**********			
	1-533-223-11	HOLDER, FUSE			
	* 4-055-304-01	HOLDER, LED			
		<CAPACITOR>			
C900	1-126-967-11	ELECT	47MF	20%	16V
C901	1-102-824-00	CERAMIC	470PF	5%	50V
C902	1-126-967-11	ELECT	47MF	20%	16V
C913	1-102-114-00	CERAMIC	470PF	10%	50V
C914	1-102-114-00	CERAMIC	470PF	10%	50V
C915	1-102-973-00	CERAMIC	100PF	5%	50V
C916	1-102-973-00	CERAMIC	100PF	5%	50V
C917	1-136-153-00	FILM	0.01MF	5%	50V
C918	1-136-153-00	FILM	0.01MF	5%	50V
		<CONNECTOR>			
CN901	1-569-321-11	SOCKET, CONNECTOR 15P			
CN902*	1-564-507-11	PLUG, CONNECTOR 4P			
CN904*	1-564-507-11	PLUG, CONNECTOR 4P			
CN905	1-569-321-11	SOCKET, CONNECTOR 15P			
CN907*	1-564-506-11	PLUG, CONNECTOR 3P			
CN909*	1-564-506-11	PLUG, CONNECTOR 3P			
CN1690*	1-580-844-11	PIN, CONNECTOR (POWER)			
CN1691*	1-695-292-11	PIN, CONNECTOR (POWER)			
CN2601*	1-564-506-11	PLUG, CONNECTOR 3P			
		<DIODE>			
D904	8-719-045-19	DIODE SPB-26MVWF			
D914	8-719-911-19	DIODE 1SS119-25			
D915	8-719-911-19	DIODE 1SS119-25			
D916	8-719-911-19	DIODE 1SS119-25			
D917	8-719-911-19	DIODE 1SS119-25			
		<FUSE>			
F1690⚠	1-532-350-00	FUSE, TIME-LAG 4A/250V			
		<IC>			
IC900	8-741-790-11	HYB IC SBX1790-11			
		<JACK>			
J901	1-770-786-11	JACK			
J902	1-784-646-11	TERMINAL, S			
J903	1-695-585-11	JACK BLOCK, PIN (L TYPE) 3P			
		<COIL>			
L901	1-408-409-00	INDUCTOR	10UH		
L902	1-408-409-00	INDUCTOR	10UH		

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<TRANSISTOR>			
Q900	8-729-030-02	TRANSISTOR DTC144ESA			
Q901	8-729-030-02	TRANSISTOR DTC144ESA			
		<RESISTOR>			
R900	1-249-425-11	CARBON	4.7K	5%	1/4W
R901	1-249-425-11	CARBON	4.7K	5%	1/4W
R902	1-249-413-11	CARBON	470	5%	1/4W
R904	1-249-417-11	CARBON	1K	5%	1/4W
R906	1-249-420-11	CARBON	1.8K	5%	1/4W
R908	1-247-843-11	CARBON	3.3K	5%	1/4W
R912	1-249-401-11	CARBON	47	5%	1/4W
R914	1-249-411-11	CARBON	330	5%	1/4W
R915	1-249-411-11	CARBON	330	5%	1/4W
R917	1-247-807-31	CARBON	100	5%	1/4W
R918	1-247-807-31	CARBON	100	5%	1/4W
		<SWITCH>			
S901	1-571-532-21	SWITCH, TACTIL			
S902	1-571-532-21	SWITCH, TACTIL			
S903	1-571-532-21	SWITCH, TACTIL			
S904	1-571-532-21	SWITCH, TACTIL			
S905	1-571-532-21	SWITCH, TACTIL			
S1690	⚠1-571-433-21	SWITCH, PUSH (AC POWER)			

****

* A-1388-206-A J BOARD,COMPLETE

****

		<CAPACITOR>			
C410	1-126-967-11	ELECT	47MF	20%	50V
C411	1-126-967-11	ELECT	47MF	20%	50V
C412	1-126-967-11	ELECT	47MF	20%	50V
C413	1-102-112-00	CERAMIC	330PF	10%	50V
C414	1-102-112-00	CERAMIC	330PF	10%	50V
C415	1-126-965-11	ELECT	22MF	20%	50V
C418	1-126-960-11	ELECT	1MF	20%	50V
C419	1-126-960-11	ELECT	1MF	20%	50V
		<CONNECTOR>			
CN410*	1-564-513-11	PLUG, CONNECTOR 10P			
		<DIODE>			
D410	8-719-923-60	DIODE MTZJ-T-77-9.1A			
D411	8-719-923-60	DIODE MTZJ-T-77-9.1A			
D412	8-719-923-60	DIODE MTZJ-T-77-9.1A			
D413	8-719-923-60	DIODE MTZJ-T-77-9.1A			
D414	8-719-923-60	DIODE MTZJ-T-77-9.1A			
D415	8-719-923-60	DIODE MTZJ-T-77-9.1A			
		<JACK>			
J410	1-784-623-11	BLOCK, PIN JACK 5P			
		<RESISTOR>			
R410	1-215-399-00	METAL	120	1%	1/4W
R411	1-215-399-00	METAL	120	1%	1/4W
R412	1-247-804-11	CARBON	75	5%	1/4W
R413	1-249-420-11	CARBON	1.8K	5%	1/4W
R414	1-249-437-11	CARBON	47K	5%	1/4W
R415	1-247-843-11	CARBON	3.3K	5%	1/4W
R416	1-249-420-11	CARBON	1.8K	5%	1/4W
R417	1-249-437-11	CARBON	47K	5%	1/4W
R418	1-247-843-11	CARBON	3.3K	5%	1/4W
R419	1-247-815-91	CARBON	220	5%	1/4W
R420	1-247-815-91	CARBON	220	5%	1/4W
R421	1-247-815-91	CARBON	220	5%	1/4W

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* A-1390-792-A S1 BOARD,COMPLETE

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		<CAPACITOR>			
C2200	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C2201	1-126-967-11	ELECT	47MF	20%	16V
C2202	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C2203	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C2204	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C2205	1-126-961-11	ELECT	2.2MF	20%	50V
C2206	1-126-959-11	ELECT	0.47MF	20%	50V
C2207	1-126-963-11	ELECT	4.7MF	20%	50V
C2208	1-164-346-11	CERAMIC CHIP	1MF		16V
C2209	1-126-963-11	ELECT	4.7MF	20%	50V
C2210	1-126-963-11	ELECT	4.7MF	20%	50V
C2211	1-126-964-11	ELECT	10MF	20%	50V
C2212	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C2213	1-126-959-11	ELECT	0.47MF	20%	50V
C2214	1-126-963-11	ELECT	4.7MF	20%	50V
C2215	1-164-346-11	CERAMIC CHIP	1MF		16V
C2216	1-126-963-11	ELECT	4.7MF	20%	50V
C2218	1-126-963-11	ELECT	4.7MF	20%	50V
C2221	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C2222	1-126-933-11	ELECT	100MF	20%	16V
C2223	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C2229	1-164-346-11	CERAMIC CHIP	1MF		16V
C2237	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C2238	1-126-960-11	ELECT	1MF	20%	50V
C2271	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C2272	1-136-171-00	FILM	0.33MF	5%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C2273	1-126-963-11	ELECT	4.7MF	20%	50V
C2274	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C2275	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C2276	1-164-346-11	CERAMIC CHIP	1MF		16V
C2277	1-164-346-11	CERAMIC CHIP	1MF		16V
C2278	1-164-346-11	CERAMIC CHIP	1MF		16V
C2280	1-126-933-11	ELECT	100MF	20%	16V
C2281	1-126-964-11	ELECT	10MF	20%	50V
C2282	1-164-346-11	CERAMIC CHIP	1MF		16V
C2283	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C2284	1-136-171-00	FILM	0.33MF	5%	50V
C2285	1-126-963-11	ELECT	4.7MF	20%	50V
C2286	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C2287	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C2288	1-164-346-11	CERAMIC CHIP	1MF		16V
C2289	1-164-346-11	CERAMIC CHIP	1MF		16V
C2290	1-126-933-11	ELECT	100MF	20%	16V
C2291	1-164-346-11	CERAMIC CHIP	1MF		16V
C2292	1-126-964-11	ELECT	10MF	20%	50V
C2293	1-164-346-11	CERAMIC CHIP	1MF		16V

<CONNECTOR>

CN2201*1-770-748-11 CONNECTOR, BOARD TO BOARD 12P
CN2202*1-778-959-11 CONNECTOR,BOARD TO BOARD 6P
CN2203 1-564-513-11 PLUG, CONNECTOR 10P

<DIODE>

D2204	8-719-911-19	DIODE 1SS119-25
D2205	8-719-911-19	DIODE 1SS119-25
D2206	8-719-911-19	DIODE 1SS119-25
D2207	8-719-911-19	DIODE 1SS119-25

<IC>

IC2201	8-752-058-68	IC CXA1315M
IC2208	8-759-253-06	IC XR1071CP
IC2213	8-759-100-96	IC UPC4558G2
IC2214	8-759-100-96	IC UPC4558G2

<CHIP CONDUCTOR>

JR2203	1-216-295-91	SHORT	0
JR2204	1-216-295-91	SHORT	0
JR2207	1-216-295-91	SHORT	0
JR2208	1-216-295-91	SHORT	0

<TRANSISTOR>

Q2201	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L
Q2202	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L
Q2203	8-729-224-61	TRANSISTOR 2SK246-Y
Q2204	8-729-224-61	TRANSISTOR 2SK246-Y
Q2205	8-729-216-22	TRANSISTOR 2SA1162-G
Q2206	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L

REF.NO.	PART NO.	DESCRIPTION			REMARK

<RESISTOR>

R2201	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2202	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2203	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2204	1-216-025-91	RES,CHIP	100	5%	1/10W
R2205	1-216-025-91	RES,CHIP	100	5%	1/10W
R2207	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2212	1-216-075-00	RES,CHIP	12K	5%	1/10W
R2213	1-216-101-00	RES,CHIP	150K	5%	1/10W
R2214	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2215	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2216	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2217	1-216-101-00	RES,CHIP	150K	5%	1/10W
R2218	1-216-101-00	RES,CHIP	150K	5%	1/10W
R2219	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2221	1-216-025-91	RES,CHIP	100	5%	1/10W
R2222	1-216-025-91	RES,CHIP	100	5%	1/10W
R2247	1-216-039-00	RES,CHIP	390	5%	1/10W
R2248	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R2249	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R2250	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2251	1-216-113-00	RES,CHIP	470K	5%	1/10W
R2252	1-216-075-00	RES,CHIP	12K	5%	1/10W
R2253	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2254	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2255	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2256	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2257	1-216-075-00	RES,CHIP	12K	5%	1/10W
R2258	1-216-113-00	RES,CHIP	470K	5%	1/10W
R2259	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2260	1-216-039-00	RES,CHIP	390	5%	1/10W
R2261	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R2262	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R2263	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2264	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2265	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2266	1-216-121-91	RES,CHIP	1M	5%	1/10W
R2267	1-216-121-91	RES,CHIP	1M	5%	1/10W
R2268	1-216-075-00	RES,CHIP	12K	5%	1/10W
R2269	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2270	1-216-121-91	RES,CHIP	1M	5%	1/10W
R2271	1-216-121-91	RES,CHIP	1M	5%	1/10W
R2272	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2274	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R2276	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2277	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2279	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2280	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2282	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2283	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2284	1-216-077-00	RES,CHIP	15K	5%	1/10W
R2288	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2298	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2299	1-216-049-91	RES,CHIP	1K	5%	1/10W

****

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		**********	
	1-251-447-21	DISTRIBUTOR,RF	
⚠	1-416-495-11	COIL, DEMAGNETIC	
	1-416-542-11	COIL, MAGUNETIC CORRECTION	
	1-452-094-00	CIRCULAR DISC MAGNET B(120)	
	1-452-032-00	MAGNET,DISC:10mmϕ	
⚠	1-452-896-11	COIL, NA ROTATION (RT200)	
	1-505-473-11	SPEAKER (12CM)	
	1-505-474-11	SPEAKER (5CM)	
*	1-555-110-00	CABLE,P-P	
⚠	1-574-062-11	CORD,POWER (WITH CONNECTOR)	(EF29M61:EM/EF29M80/EF29M91)
⚠	1-574-358-11	CORD,POWER (WITH CONNECTOR)	(EF29M31)
⚠	1-769-185-21	CORD,POWER (WITH CONNECTOR)	(EF29M61:GE)
⚠	1-769-609-21	CORD,POWER (WITH CONNECTOR)	(EF29M90)
	1-771-360-11	SWITCH, TOP	
	1-777-353-11	CABLE,FLAT	
⚠	1-900-235-68	LEAD ASSY, FOCUS	
⚠	8-451-494-11	DEFLECTION YOKE (Y29RSA-M)	
⚠	8-453-011-11	NECK ASSY (NA299-M)	
⚠	8-735-041-05	PICTURE TUBE (M68LNH010X)	

****

REF.NO.	PART NO.	DESCRIPTION	REMARK
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-475-683-11	REMOTE COMMANDER (RM-881)	
⚠	1-569-008-11	ADAPTOR, CONVERSION 2P	(EF29M61:EM/EF29M80/EF29M91)
	3-701-910-00	SCREW, SPECIAL (DIA. 3.8X20)	
	3-861-921-11	MANUAL, INSTRUCTION	(ENGLISH, CHINESE) (EF29M61/EF29M80:JE/EF29M90)
	3-861-921-21	MANUAL, INSTRUCTION	(ENGLISH, FRENCH, PERUSSIAN, ARABIC) (EF29M80:ME/EF29M91)
	3-861-921-41	MANUAL, INSTRUCTION (ENGLISH)	(EF29M31)
	3-861-921-61	MANUAL, INSTRUCTION	(FRENCH, PERUSSIAN, ARABIC) (EF29M80:JE)
*	4-062-480-01	INDIVIDUAL CARTON	
*	4-062-481-01	CUSHION (UPPER)(ASSY)	
*	4-062-482-01	CUSHION (LOWER)(ASSY)	
*	4-062-487-01	TRAY	
*	4-388-135-01	BAG, PROTECTION	
	4-392-003-01	BAND, HOLD	
	4-392-004-01	CLIP	
*	4-396-077-01	JOINT	
	4-978-977-01	LID, BATTERY CASE (for RM-881)	

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Quality Assurance Division

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SONY®
SERVICE MANUAL

BG-1L CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-EF29M31	RM-881	OCE	SCC-U08C-A
KV-EF29M61	RM-881	EM	SCC-K58E-A
KV-EF29M61	RM-881	GE	SCC-K52Q-A
KV-EF29M80	RM-881	ME	SCC-K57V-A
KV-EF29M80	RM-881	JE	SCC-K66U-A
KV-EF29M90	RM-881	HK	SCC-K56K-A
KV-EF29M91	RM-881	ME	SCC-K57U-A

CORRECTION -1

SUBJECT: CHANGE OF PARTS No.
AND ADD OF PICTURE TUBE

File this Correction with Supplement and Service manual.

☛ : Indicate additional portion

[CHANGE]

7-2. CHASSIS (See page 96)

INCORRECT	CORRECT
74 ⚠ 1-453-226-31 FBT ASSY, NX-4122	74 ⚠ 1-453-226-41 FBT ASSY, NX-4122

[ADD]

7-3. PICTURE TUBE (See page 97)

REF. NO.	PART NO.	DESCRIPTION	REMARK
122	⚠ 8-735-042-05	PICTURE TUBE (M68LNH010X)	(KV-EF29M80 (JE) only)

MICROFILM

※ **Please file according to model size. .....**

9-965-199-91

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SONY

SERVICE MANUAL

BG-1L CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-EF29M31	RM-881	OCE	SCC-U08C-A
KV-EF29M61	RM-881	EM	SCC-K58E-A
KV-EF29M61	RM-881	GE	SCC-K52Q-A
KV-EF29M80	RM-881	ME	SCC-K57V-A
KV-EF29M80	RM-881	JE	SCC-K66U-A
KV-EF29M90	RM-881	HK	SCC-K58K-A
KV-EF29M91	RM-881	ME	SCC-K52U-A

CORRECTION-2

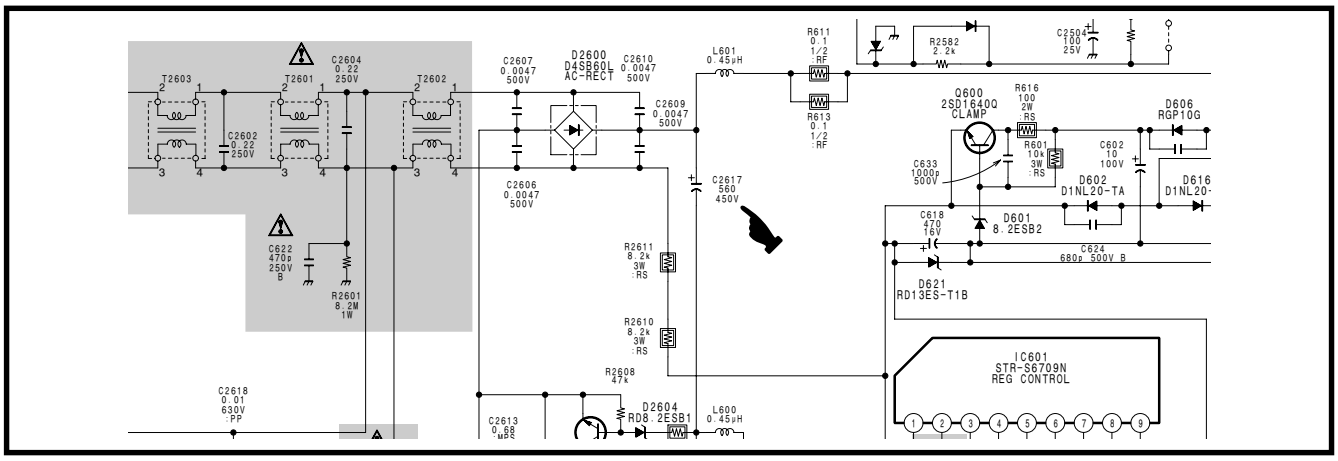
File this correction with the Supplement and Service manual.

SUBJECT : PART CHANGE

☛ : Indicates corrected portion

SECTION 6. DIAGRAMS

(4) Schematic Diagrams of D, D2 and DH Boards (D Board) (See page81)



SECTION 8. ELECTRICAL PARTS LIST

(D Board) (See page 117)

INCORRECT				CORRECT			
REF NO.	PART NO.	DESCRIPTION		REF NO.	PART NO.	DESCRIPTION	
C2617	1-109-841-11	ELECT (BLOCK) 560MF	20% 400V	C2617	1-125-905-11	ELECT 560MF	20% 450V

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※ **Please file according to model size. .....**

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SONY

SERVICE MANUAL

BG-1L CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-EF29M31	RM-881	OCE	SCC-U08C-A
KV-EF29M61	RM-881	EM	SCC-K58E-A
KV-EF29M61	RM-881	GE	SCC-K52Q-A
KV-EF29M80	RM-881	ME	SCC-K57V-A
KV-EF29M80	RM-881	JE	SCC-K66U-A
KV-EF29M90	RM-881	HK	SCC-K56K-A
KV-EF29M91	RM-881	ME	SCC-K57U-A

CORRECTION -3

File this Correction with Supplement and Service manual.

SUBJECT: CHANGE OF PARTS.

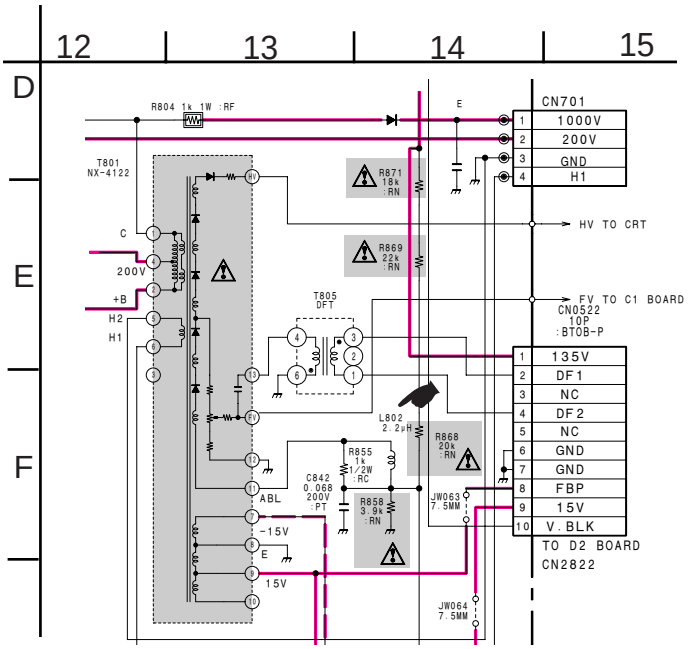
☛ : Indicate additional portion

SECTION 6.DIAGRAMS

6-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

(4) Schematic Diagrams of D, D2 and DH Boards(See page 82)

-D Board-



SECTION 8. ELECTRICAL PARTS LIST

D Board (See page 118)

INCORRECT			CORRECT		
REF NO.	PART NO.	DESCRIPTION	REF NO.	PART NO.	DESCRIPTION
L802	1-249-437-11	CARBON 47K 5% 1/4W	L802	1-408-947-21	INDUCTOR 2.2MMH ☛

※ **Please file according to model size. .....**

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