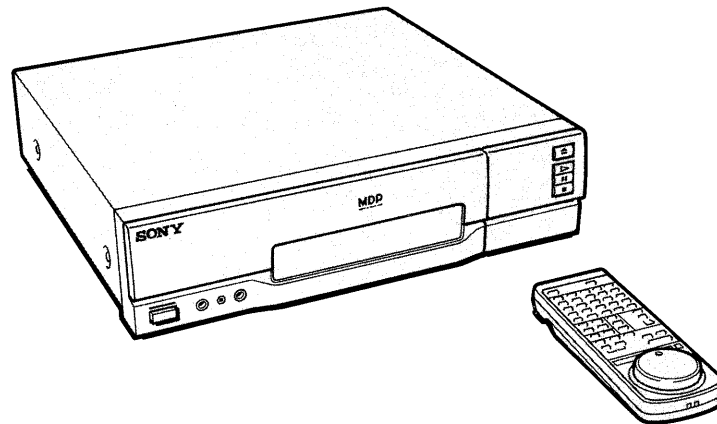


# MDP-K3

## RMT-K3E

# SERVICE MANUAL

*E Model*  
*Australian Model*



### SPECIFICATIONS

Type  
Signal readout  
Signal format

CD/CDV/LD Player  
Optical (Laser beam reflection)  
EIA standard, NTSC color  
system

Playing time

(minutes)

LD	CAV	30 cm (12 in) double-sided	60
		20 cm (8 in) double-sided	28
		20 cm (8 in) single-sided	14
	CLV	30 cm (12 in) double-sided	120
		20 cm (8 in) double-sided	40
		20 cm (8 in) single-sided	20
CD	12 cm (5 in) single-sided	74	
	8 cm (3 in) single-sided	20	
CDV	Audio portion	20	
	Video portion	5	

#### Digital audio specifications

Frequency response 4 Hz to 20kHz  
(+0.5 dB/-1.0 dB)  
Signal-to-noise ratio More than 100 dB (EIAJ)\*  
Dynamic range More than 98 dB (EIAJ)  
Total harmonic distortion 0.005% or less (at 1kHz, EIAJ)  
Channel separation More than 100 dB (EIAJ)  
Wow and flutter Below measurement limit  
(±0.001% W.PEAK) (EIAJ)  
Digital key control ±2 notes (17 steps)

#### Video specifications

Horizontal video 425 lines  
resolution  
Signal-to-noise ratio More than 48 dB

#### Input/output specifications

Video output 1.0 Vp-p, 75 ohms, unbalanced  
Audio output Stereo L, R  
Analog: 200 mVrms  
(1 kHz, 40% modulation)  
Digital: 200 mVrms  
(1 kHz, -20 dB)  
MIC 1/MIC 2 jack Standard jack  
1 mV (Impedance below  
1 kohms)  
MIC control jack Applicable to karaoke  
microphone (F-KM1, etc)

Remote commander RMT-K3E is supplied as a unit for service. Don't supply individual parts except for the battery case lid.



CD VIDEO CD/CDV/LD PLAYER  
**SONY**®

## Power requirements

Power requirements	MDP-K3: 100/120/220/240 V AC adjustable, 50/60 Hz MDP-K3 (tourist model): 120/220/240 V AC adjustable, 50/60 Hz
Power consumption	40 W
Weight	8.4 kg (18 lb 9 oz)
Dimensions	Approx. 430 × 115 × 410 mm (w/h/d) (17 × 4 <sup>5</sup> / <sub>8</sub> × 16 <sup>1</sup> / <sub>8</sub> inches)
Operating temperature	+5°C to +35°C
Ambient humidity	5 to 90%

\* Measured according to EIAJ (Electronic Industries Association of Japan) standards.

## Remote Commander RMT-K3E

Principle of operation	Infrared pulse
Power requirements	3 V DC (2 size AA batteries)
Dimensions	Approx. 62 × 44.5 × 185 mm (w/h/d) (2 <sup>1</sup> / <sub>2</sub> × 1 <sup>13</sup> / <sub>16</sub> × 7 <sup>3</sup> / <sub>8</sub> inches)
Weight	Approx. 160 g (including batteries), (6 oz)

## Supplied accessories

Remote Commander RMT-K3E (1)  
Size AA (R6) batteries (2)  
Video connecting cord (phono plug 1 ↔ phono plug 1) (1)  
Audio connecting cord (phono plug 2 ↔ phono plug 2) (1)  
Operating Instructions  
Spacer (1)  
AC plug adaptor 1

Design and specifications are subject to change without notice.

# Operating Voltage

Before operating the unit, be sure that the operating voltage of your unit is identical with that of your local power supply.

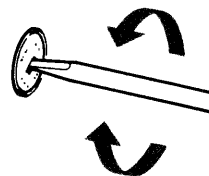
### MDP-K3 operating Voltage

100, 120, 220, 240 V AC, 50/60 Hz adjustable at the rear.

### MDP-K3 (tourist model) operating voltage

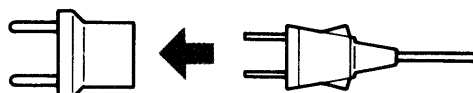
120, 220, 240 V AC, 50/60 Hz adjustable at the rear.

If the selector must be reset, **disconnect the AC power cord** and turn the selector with a minus screwdriver so that the arrow on the selector points to the appropriate voltage.



### How to use the AC power plug adaptor

If the AC plug of your unit does not fit the wall outlet, attach the supplied AC plug adaptor.





## SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS 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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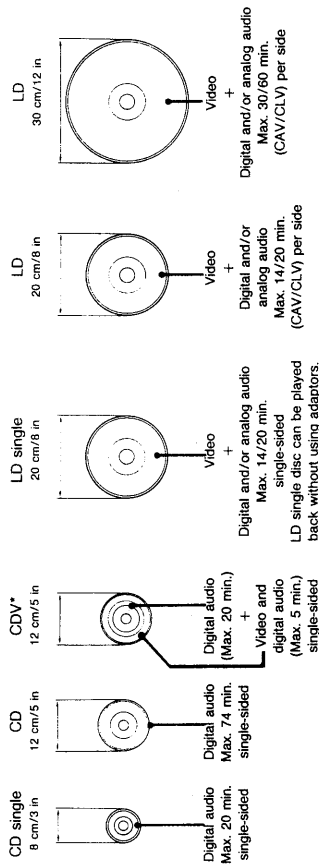
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# SECTION 1 GENERAL

This section is extracted from instruction of manual.

## CD/CDV/LD discs

This CD/CDV/LD Player can play all six types of optical discs currently available for home entertainment use:



This unit plays back discs with any of the following logos on the label.



\* It cannot play back CED or VHD discs or discs with PAL, SECAM, or video signals other than the NTSC standard.

## Features

The following functions are available with this unit. For the CDV disc, CD functions can be used on the audio portion and LD functions can be used on the video portion.

### Karaoke play functions

- **Automatic Karaoke mode**  
When the optional microphone is connected, the player will automatically enter the pause condition after the end of each track. This is a convenient feature which avoids the immediate start of the next track.
- **Karaoke microphone compatibility**  
When the optional Karaoke microphone is connected, repeat singing operations and key control operations can be conducted from the microphones.
- **Vocal duet**  
When two microphones are connected, vocal can be conducted by two individuals.
- **Easy-to-use large direct select buttons**  
Immediate playback will begin upon the selection of the track number with the direct select buttons.
- **Digital echo effect**  
By applying echo to the microphone, echo effect can be conducted to your singing.
- **VOCAL function**  
By pressing the VOCAL button, the pre-recorded singer's vocal can be heard. This is a convenient feature for practicing. (applicable to multiplex discs only)
- **Digital key control function**  
The tone can be changed for easy singing with the digital key control function.
- **Singing with non-Karaoke discs**  
You can sing with any desired stereo disc by pressing the KARAOKE PON button which erases the lead singer's voice. In addition, when a cassette deck, CD player, pre-amplifier output, etc., are connected to the external input jack, key control vocal can be conducted. (When the KARAOKE PON feature is utilized, do not press the VOCAL button.)
- **Reserve function**  
The next track can be reserved during current playback.

### LD/CD/CDV

- **Custom Index**  
Specify up to six index marks at any point on the disc, for convenient playback start at the push of a button.
- **Program play**  
Play back chapters or tracks in any desired order.
- **Shuffle play**  
Play all selections on a disc in a random order.
- **Auto disc protection**  
Prevents damage to the disc during stop.
- **AV calendar display**  
Shows the number of tracks (up to 20) on a disc and the total playing time at a glance.
- **Auto program**  
Play back chapters or tracks within a designated time.
- **INTRO scan**  
Play only the beginning (introduction) of the chapters or tracks on a disc in order.

### LD/CDV (Video Portion)

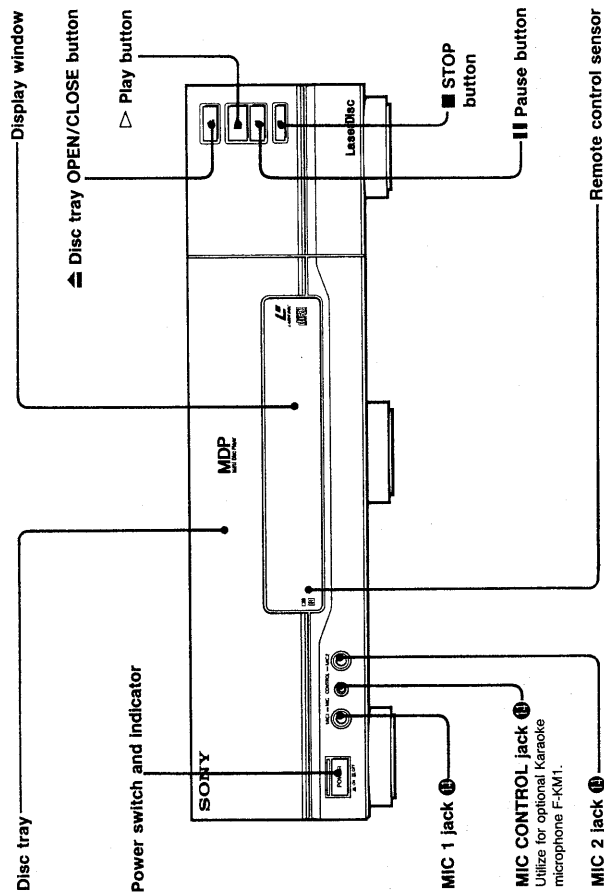
- **Variable speed playback (LD CAV only)**  
11 speed settings for normal and reverse playback, step (frame-by-frame) playback and high-quality freeze-frame.
- **Clear scan**  
Fast scan without picture distortion even on CLV discs.

### CDV

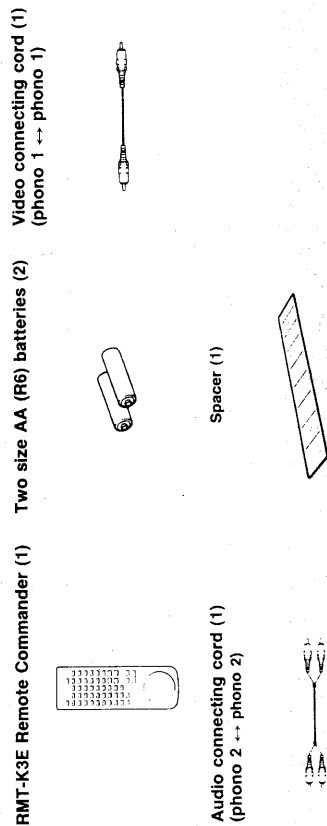
- **Video portion**  
All LD (CLV) functions are available.
- **Audio portion**  
All CD functions are available.

# Location and Function of Controls

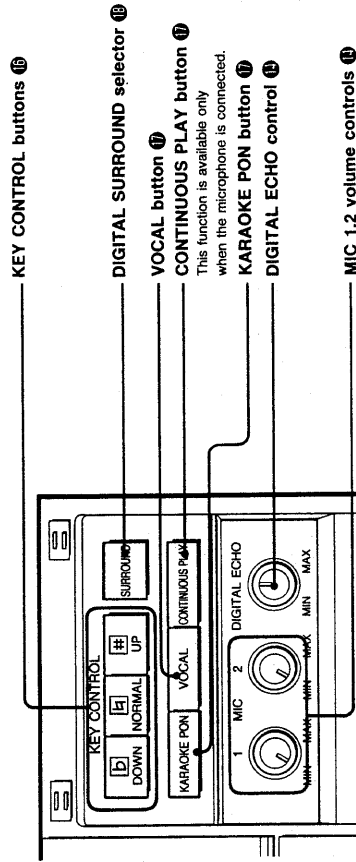
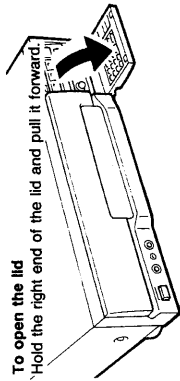
## Front panel



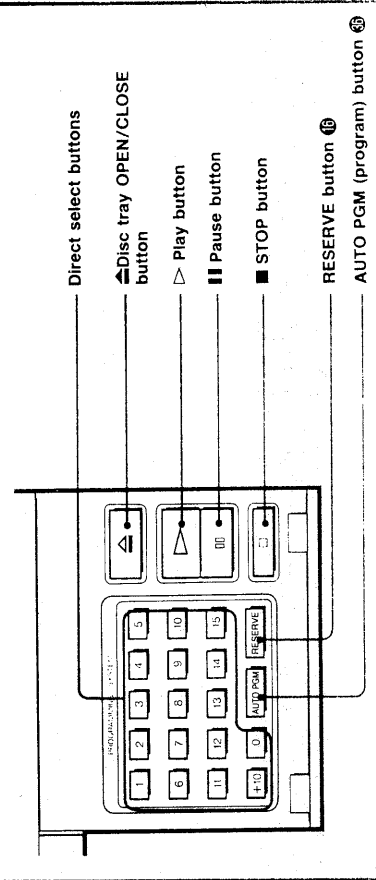
## Accessories The shipping box should contain the following accessories.



Karaoke function control panel  
(With Basic operation control panel opened.)

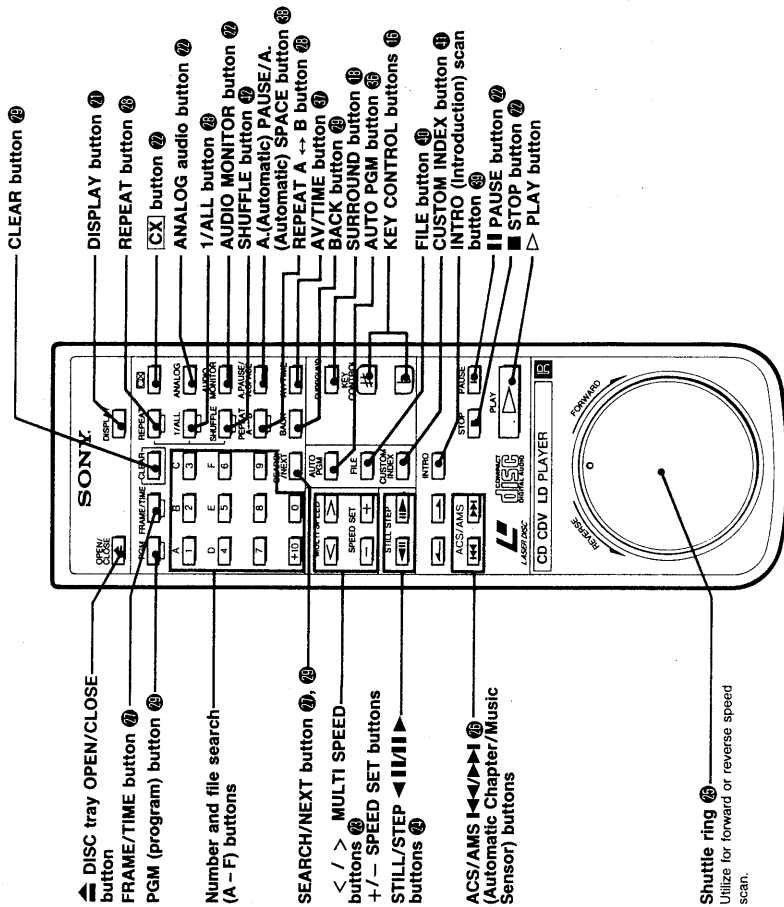


Number and file search control panel (With Basic operation control panel opened.)



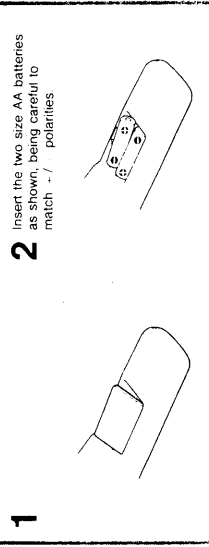
## Remote Commander

### LD Operation

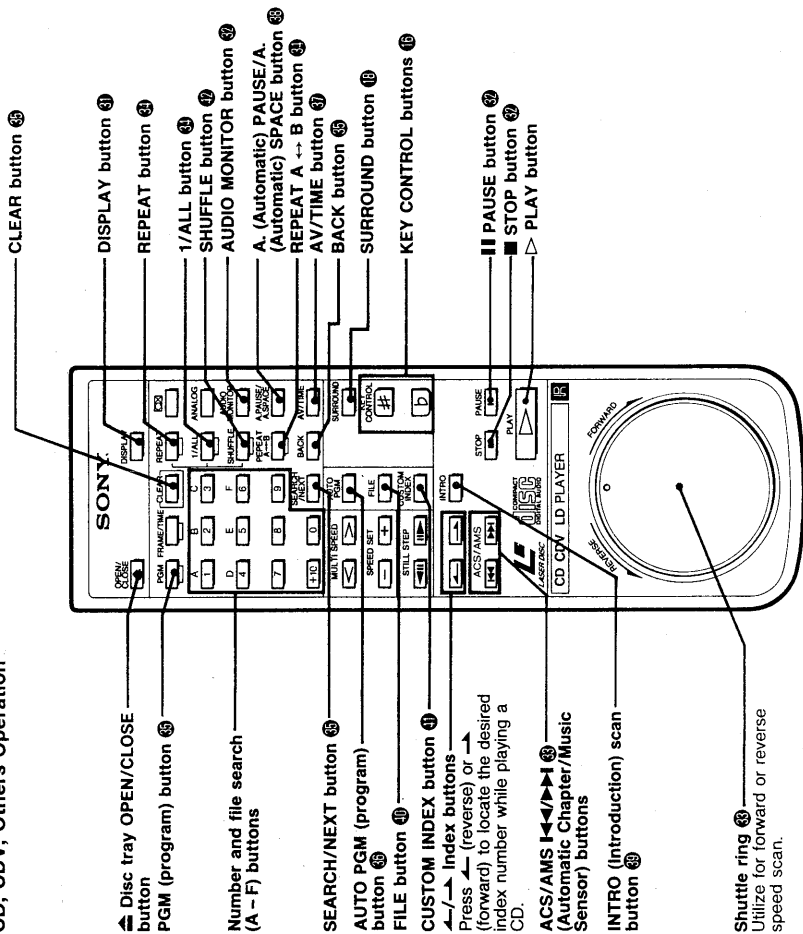


The yellow bar under a button indicates that the function of that button can be released by pressing the CLEAR button.

### Battery insertion



### CD, CDV, Others Operation



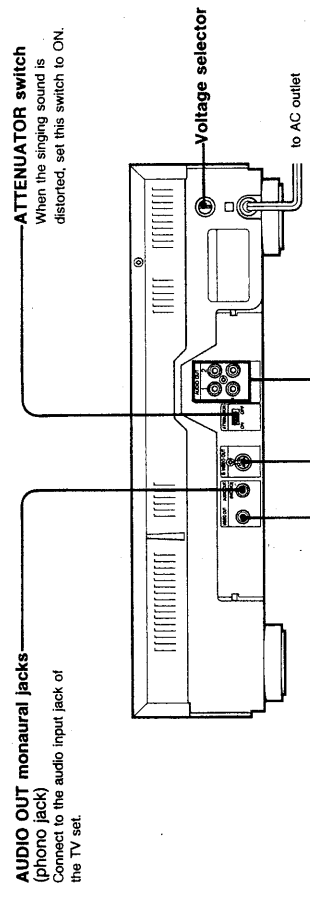
**Battery life**  
Under normal operations, the batteries will last for approximately six months. If the operating range of the Remote Commander becomes noticeably short, replace all the batteries with new ones. If the Remote Commander is not to be used for a long period of time, remove the batteries to avoid possible damage from battery leakage.

**Remote Commander Precautions**  
Do not let sunlight or light from a powerful artificial light source fall directly on the Remote Commander sensor on the front panel as it may interfere with operation or damage the sensor.

# Connections

Video and audio connection cord plug colors are indicated as yellow, white, and red. Make sure that the jacks of the equipment are properly connected to its corresponding colors.

## Rear panel



**AUDIO OUT monaural jacks** (phono jack)  
Connect to the audio input jack of the TV set.

**VIDEO OUT jack** (phono jack)  
Connect to the video input jack of a TV set or VCR.

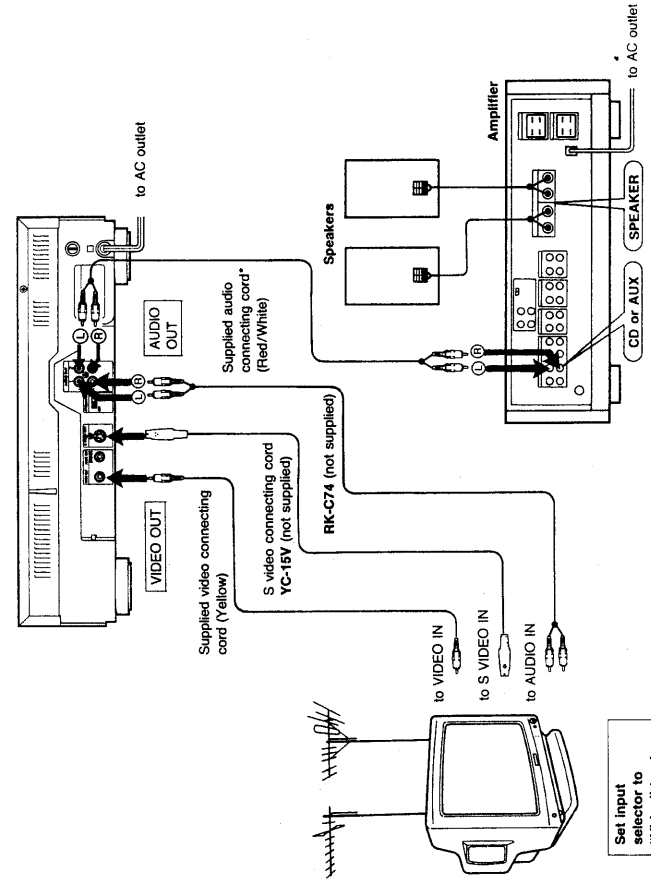
**S VIDEO OUT jack**  
Connect to the S video input jack of a TV set or VCR.

**ATTENUATOR switch**  
When the singing sound is distorted, set this switch to ON.

**Voltage selector**  
to AC outlet

**AUDIO OUT 1,2 jacks** (phono jacks)  
Connect to the audio input jacks of a TV set or the CD input jacks of an amplifier. The output signal will be the same - that is, digital or analog - depending on the signal recorded on the disc.

## To Connect to Audio System and to TV



\* You can connect the player's audio output to the TV instead of an audio system. If the TV set has only a monaural phono jack for audio, use the VMC-720M/730M connecting cord (not supplied).

Set input selector to "Video" to view videodiscs.

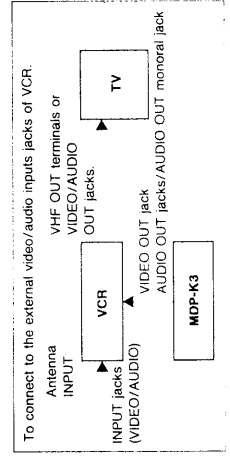
- Precautions on connecting**
- Make sure that all equipment is turned off before connecting or disconnecting any cables.
  - Firmly insert the plugs into the jacks. A loose connection can lead to noise.
  - When unplugging a cable, grasp the plug. Never pull the cable itself.
  - To prevent interference, turn off all equipment connected, but not currently in use.
  - If noise is emitted from the audio or video input, try moving the equipment further apart.

• Connection methods differ. When in doubt, consult the manufacturer's manual.

**To obtain a better picture**  
Always switch off the player when watching a TV program.

**During FM or AM reception**  
Turn off the power of the player to prevent the possibility of noise interference.

**If the player is turned on when viewing a TV broadcast**  
Noise bars may appear in the screen. This is not a trouble with the player or TV, and will be avoided by turning off the player.



To connect to the external video/audio inputs jacks of VCR.



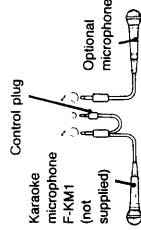
# To Karaoke play

## 1 Turn on the TV and audio system

Set the TV input to videodinput. (See page 10.)  
To emit sound from the audio system, turn on the amplifier and set the input selector to [CD] or [AUX] according to the proper source of the unit.

## 2 Connecting the microphone

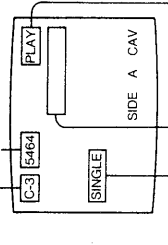
• Connect the microphone to the MIC 1 or MIC 2 jacks.  
• When conducting vocal duet, connect the two microphones to the MIC 1 and MIC 2 jacks. When the Karaoke microphone is connected, repeat singing and changes in tone can be conducted with the Karaoke microphones. When the two control microphones are utilized, insert the control plug of either MIC 1 or MIC 2 to the MIC CONTROL jack. (Control can be conducted with the microphone inserted to the control jack.)



## Display on the screen

Press DISPLAY button on the remote commander.

Current track number  
Current frame number or time number



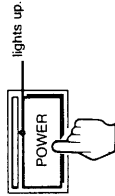
Set mode  
Playing mode

Sound effect (See the table below)

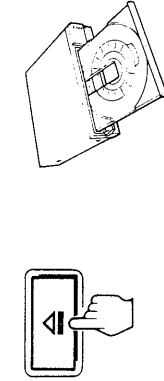
\* Disc without time data to the second will be indicated as "0:22".

Display	Action
VOCAL	Press Vocal button
KARAOKE PON	Press KARAOKE button
MOVIE	
KARAOKE BAR	Press SURROUND button
HALL	
NORMAL	

## 3 Turn on the player.



## 4 Open the disc tray.



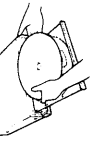
## 5 Place the disc on the tray.

Place the disc on the center of the tray. If the disc is not placed correctly, playback may not start.



Label faces up.

• Do not insert your hand or finger in the player while it is operating. Although the placement of two or more discs may lead to malfunction.  
• Insert only one disc at a time. Incorrect placement of two or more discs may lead to malfunction.  
• Do not insert your hand or finger in the player while it is operating. Although the placement of two or more discs may lead to malfunction.  
• Insert only one disc at a time. Incorrect placement of two or more discs may lead to malfunction.

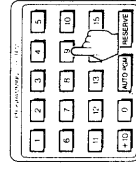


Desired side faces up.

• Do not insert your hand or finger in the player while it is operating. Although the placement of two or more discs may lead to malfunction.  
• Insert only one disc at a time. Incorrect placement of two or more discs may lead to malfunction.

## 6 Start playback.

To playback from the beginning of the disc  
Press the track number with the direct select buttons.



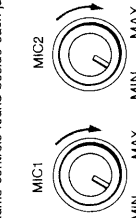
To playback from the beginning of the disc  
Press the track number with the direct select buttons.



• The disc tray compartment will automatically close and playback will begin.

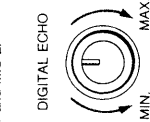
## 7 Adjust microphone volume.

Adjust the respective volume with the volume controls found beside each jack.



## 8 Adjust microphone echo.

Adjust the strength of the echo with the digital echo control. Echo will be applied to both MIC 1 and MIC 2.



Display window in KARAOKE playing (microphone is connected)  
Level display of key control



Track number  
AV calendar

Displayed only when LD with TOC is played back. (See page 11.)

When the sound is distorted

Sound distortion may occur when listening with the TV speakers. Set the attenuator switch on the rear panel to [ON] to reduce the distortion. (The volume may be reduced, therefore adjust the TV volume accordingly.)

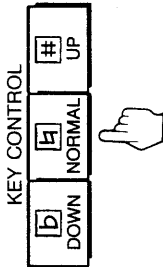
When the TV monitor flickers

The TV monitor may flicker while listening with the TV speakers when the volume of the microphone is too high. To avoid this, set the attenuator switch on the rear panel to [ON] or reduce the volume of the microphone.

# Useful Karaoke functions

## To change tone for easy singing (Key control)

To change playback tone to a lower tone, press the **DOWN** button. To change playback tone to a higher tone, press the **UP** button.

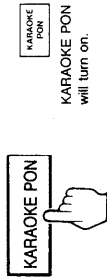


When one of the **KEY CONTROL** buttons is pressed, the key control level (-8 ~ +8) will appear in the display window on the unit and the TV screen. After about 5 seconds, the display on the TV screen will disappear.

### Note

- During playing back in MOVIE surround or HALL surround, KEY CONTROL is not available.
- Change tone for easy singing. Lower and higher tones can be applied through 8 steps. (total: 17 steps)
- To return to normal tone, press the **NORMAL** button.

## To sing with non-Karaoke discs (KARAOKE PON)



**Applicable to non-Karaoke discs.**

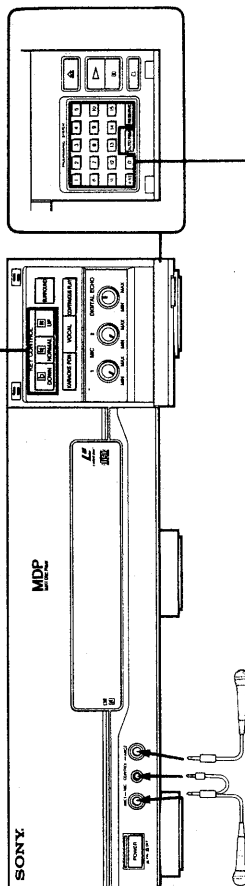
**Notes on the usage of KARAOKE PON buttons**

- When using the KARAOKE PON button, make sure to always utilize stereo recorded tracks. Not only would pre-recorded singer's voice be erased, but instrumentals may also be erased when utilizing monaural recorded tracks.
- The singer's voice may not be erased completely for the following, stereo recorded tracks containing only few instruments; duet tracks; tracks with strong echoes and chorus; tracks with singer's voice deviating from the center; and dubbed tapes.
- When the KARAOKE PON button is used, the playback sound will be monaural.

### Note

When the KARAOKE PON feature is utilized, do not press the **VOCAL** button.

- The singer's voice may not completely be erased depending on the discs.



## To reserve the next track (Single Reserve)

### 1 Press the RESERVE button.

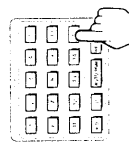


The RESERVE indicator will flash.



While conducting vocal, the next track can be reserved. The player can be operated only while the microphone(s) is connected.

### 2 Enter the next track with the direct select buttons.



By adjusting Key control, key level is displayed.

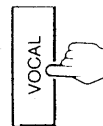


The designated track number blinks. The "RESERVE" indication turns on.

After the current track playing is over, the player will resume playback automatically at the beginning of the reserved track.

## Listening to the singer's voice to assist you in singing

Using the disc with "MULTIAUDIO" mark, you can listen to the voice of a singer recorded in the analog sound. It is convenient for correcting the melody you missed. (In this case, sound is played back in monaural.)

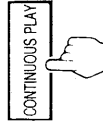


DIGITAL SOUND indicator disappears and VOCAL indicator turns on.



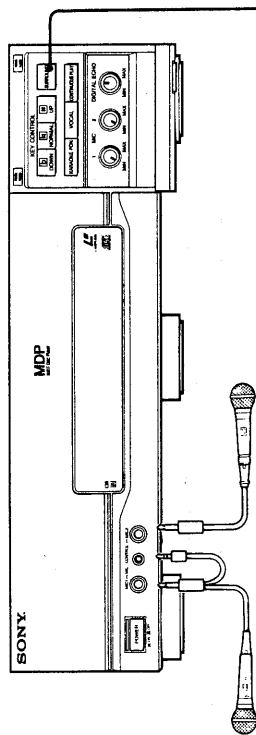
## To play continuously (Continuous Play)

The player can be operated only while the microphone(s) is connected.



AUTO PAUSE indicator will turn off

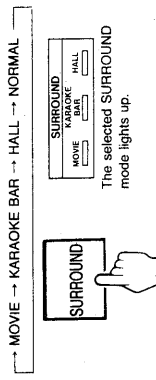
The player continuously plays without entering the pause mode.



### To Surround play

Select from the three available SURROUND mode to enhance the sound sweeping surround effect.

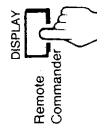
Each time the SURROUND button is pressed, the mode changes in the following order:



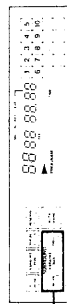
Select the appropriate mode according to its characteristic.

- MOVIE:** Surround effect appropriate for movie viewing. MOVIE will reinforce the low range and enhance the sound sweeping surround effect in the medium range.
- KARAOKE BAR:** Surround effect appropriate for Karaoke play with the use of the Key Control and Digital Echo features. KARAOKE BAR will enhance Karaoke play by creating depth and increasing the sound sweeping surround effect.
- HALL:** Surround effect appropriate for playing musical software. HALL will create a hall-like reverberation enhancing the sound sweeping surround effect.
- NORMAL:** Normal mode.

### To display on the screen



Press the button again to turn the display off.

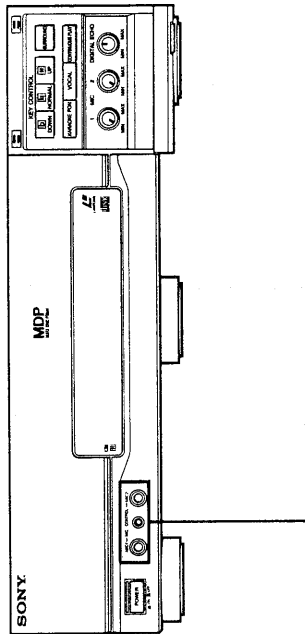


### Note

The Key Control and Digital Echo feature is not operational during the MOVIE and HALL Surround mode.

### Monaural audio output

Surround function is not available during monaural audio output.



### Using the Karaoke microphone

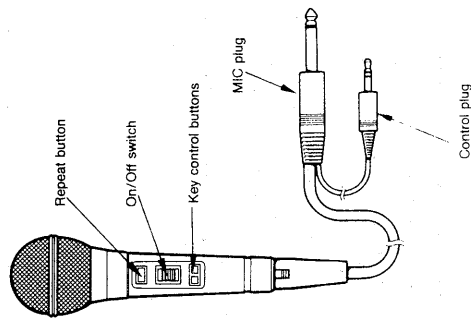
When using the optional Karaoke microphone (F-KM1), the following convenient operations can be conducted.

#### Repeat singing operation

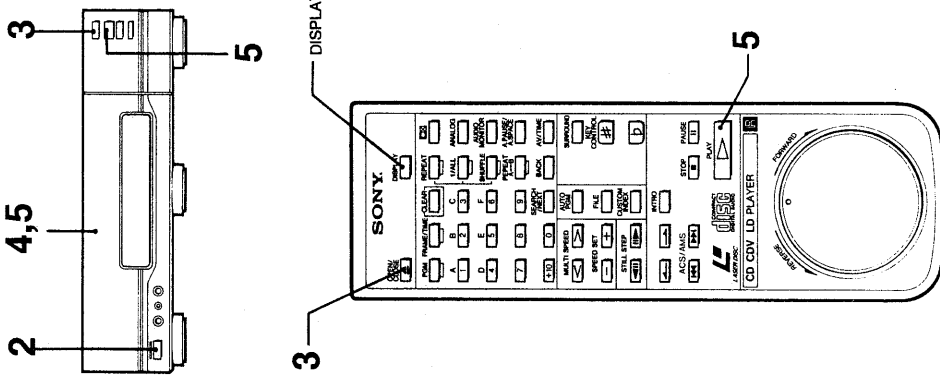
You can conduct repeat singing operations from the microphone at your finger tip if you make mistakes at the beginning of the song. Keep the Repeat button pressed and release at the desired point.

#### Key control

You can conduct key control operations from the microphone at your finger tip. (Key control operation identical to the player can be conducted from the microphone.)



# To Play an LD



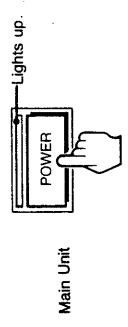
**Notes on disc tray**  
Do not insert a hand or finger in the player while it is operating. Although the player will stop automatically if an object is inserted while in play, serious injury may result. Be sure to place the unit out of the reach of your child.  
Insert only one disc at a time. Incorrect placement of two or more discs may lead to malfunction.

**Identical buttons on the main unit can also be used.**

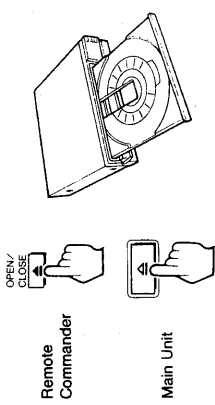
## 1 Turn on the TV and stereo system.

TV: Select the video input. (See page 6.)  
Stereo system:  
Turn on the amplifier or receiver and select the proper audio input [CD] or [AUX].

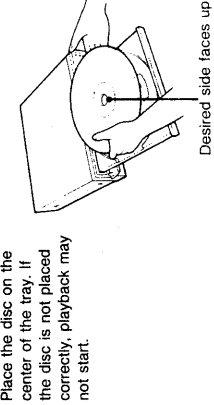
## 2 Turn on the player.



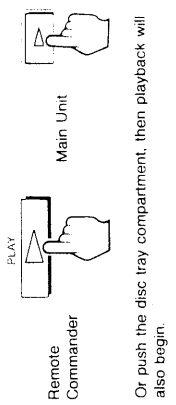
## 3 Open the disc tray.



## 4 Place the disc on the tray.



## 5 Start playback.



## Using an optional timer

To start playback with an optional timer automatically, leave the POWER switch of the disc player in the depressed position. When the timer supplies power at the preset time, the unit turns on and playback begins.

## To pause at the beginning of a disc

Press the **II** button on the player or the Remote Commander instead of conducting step 5. The tray closes, and the player pauses at the beginning of the disc.

## AV calendar

When playing an LD containing TOC (Table of Contents) data, the AV calendar shows information on the total number of selections. As selections are played, its corresponding number on the display disappears.

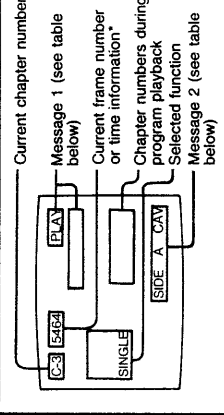
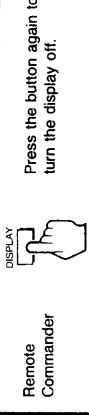
## To play surround effect

See p. 6.

## Screen Messages

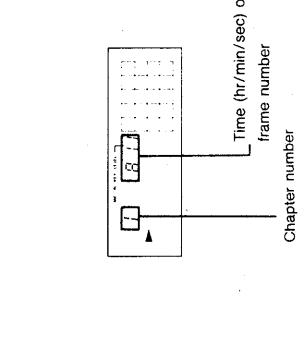
Information on the operating condition of the unit and chapter numbers can be superimposed on the TV or monitor screen. While no image is displayed, such as during search, information for LD is shown on a blue background.

## To show the on-screen display



\* Discs without time data to the second will be indicated as "0:22".

## Displays on playback messages



## Message 1 (Examples)

Display	Explanation
OPEN	Disc tray open
CLOSE	Disc tray closed
PLAY	Playback
STOP	Stop
PAUSE	Pause
(M) (S)	Manual search (forward/reverse speed scan)
SEARCH	Search
x1/2	1/2 speed display in forward direction
MOVIE	Surround (MOVIE) playback
KARAOKE BAR	Surround (KARAOKE BAR) playback
HALL	Surround (HALL) playback
KEY 1	Key control level
VOCAL	VOCAL button to on

## Message 2 (Examples)

Display	Explanation
SIDE A CAV	Standard-play disc side A
SIDE B CAV	Standard-play disc side B
SIDE A CLV	Long-play disc side A
SIDE B CLV	Long-play disc side B
1/L	Main soundtrack/left channel
2/R	Second soundtrack/right channel
DIGITAL	Digital sound
ANALOG	Analog sound

## Precaution on LD discs

Some discs do not contain the side A or B identification code. In this case, the disc side indication may not be correct.

**To Change Playback Speed and Direction – Speed Play (CAV standard-play)**

**Speed and Direction**  
 • To select the playback direction  
 Reverse → Forward

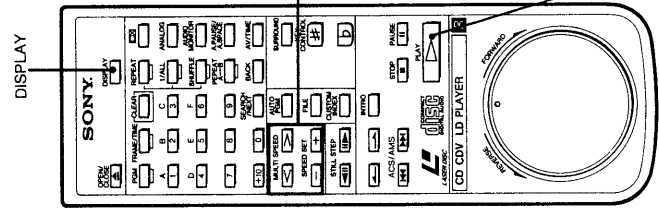
The direction can be changed regardless of playback speed.

**To display the speed and direction**  
 The playback speed and direction appear.

**To select the playback speed**  
 To reduce speed → To increase speed

Speed Indication	Speed (approx.)	Speed Indication	Speed (approx.)
Faster X10	10 times normal speed	X1/2	1/2 normal speed
X5	5 times normal speed	X1/4	1/4 normal speed
X3	3 times normal speed	X1/8	1/8 normal speed
X2	2 times normal speed	X1/16	1/16 normal speed
X1	Normal speed	X1/30	1/30 normal speed
		X1/90	1/90 normal speed

**To resume normal playback**



- **Sound during speed play**  
 Audio output occurs only during 1 (normal) speed play in the forward direction. There is no sound for other speed and direction combinations.
- **Extended-play discs (CLV)** (See p. 6)  
 Speed play, freeze frame and step playback are not possible with CLV discs.  
 When a multi speed button is pressed, the indication "SIDE A CLV" (or "SIDE B CLV") is shown for 3 seconds. When the **II** button is pressed, the screen becomes blue and the indication "SIDE A CLV" (or "SIDE B CLV") is shown.
- **Disc with automatic picture stop code**  
 When an automatic picture stop code is encountered during speed playback (at x 1, 1/2, 1/4, 1/8, 1/16, 1/30, 1/90), the unit automatically stops at that frame. To resume playback, press the **▷** button, **II** button, **◀** button, **▶** button, or the Shuttle ring.

**To stop playback and remove disc**

Remove the disc and press the OPEN/CLOSE button to close the empty tray.

**To play a stereo LD or a second audio program (SAP) LD**

Press the playback (**▷**) button, then continue to press the AUDIO MONITOR button to display the following information (DISPLAY button to on).

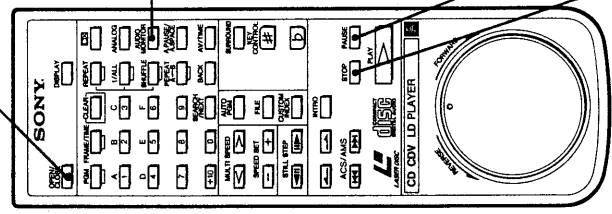
Reproduced sound	On-Screen display
Stereo disc	Stereo
SAP disc	Audio signal 1 (left channel) Audio signal 2 (right channel)
Press	Press
Left channel	1/L
Right channel	2/R

**To temporarily interrupt playback**

When playing CAV discs, the sound is cut off and a still picture is shown. When playing other discs, the unit enters the pause mode. To resume playback from the same point, press the **II** or **▷** button.

**To stop playback**

Press the **▷** button to restart playback from the beginning of the disc.

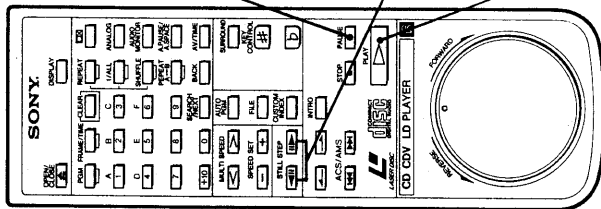


Identical buttons on the main unit can also be used.

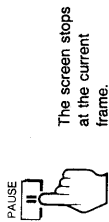
- **To switch between digital and analog sound on an LD**  
 If the LD contains a digital stereo sound signal, the player automatically sends that to the output jacks. Pressing the ANALOG button on the Remote Commander switches to the analog audio signal and turns the DIGITAL SOUND indicator off. Press the ANALOG button again to return to digital sound output.  
 With certain discs, there may be a difference in volume between the digital and the analog sound.

**Discs with [D] Label**  
 Discs bearing the [D] label are recorded with the [D] noise reduction system, which gives lower noise levels and higher dynamic range.

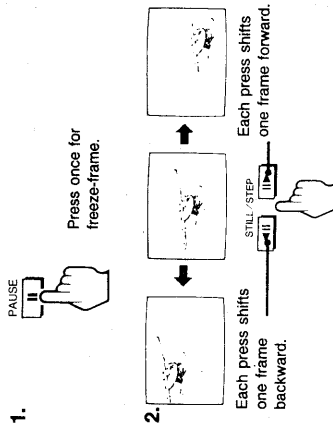
**To Play Frame by Frame – Freeze-frame, STEP playback (CAV standard play)**



**To view a still picture – Freeze-frame**

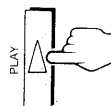


**To view a frame one by one – STEP playback**



Hold the button down for continuous step playback. It is available to press STILL/STEP buttons during playback operation.

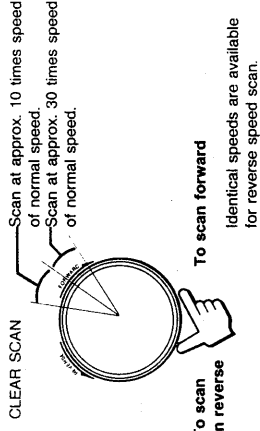
**To resume normal playback**



**To Search for a Particular Scene – Dual Speed Clear Scan**

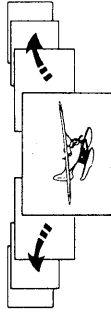
**To forward or reverse speed clear scan**

The playback speed can be changed depending on the degree of the shuttle ring.

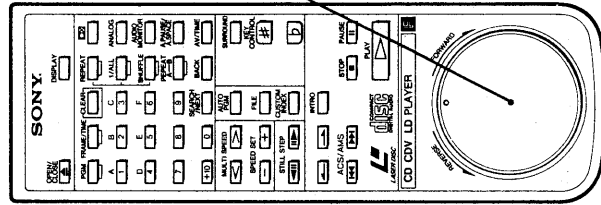


**To scan forward**

Identical speeds are available for reverse speed scan.



Scanning continues until the shuttle ring is released.

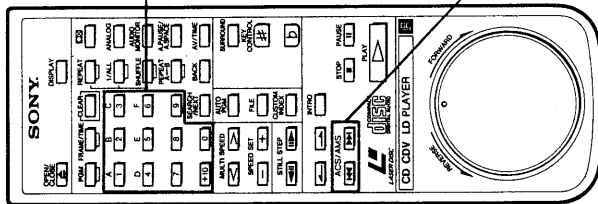


- During freeze-frame or step playback operation There is no sound.
- Extended-play (CLV) discs Speed play, freeze frame and step playback are not possible with CLV discs.
- When the PAUSE button is pressed, the screen becomes blue and the indication "SIDE A CLV" (or "SIDE B CLV") is shown

- While scanning in either direction
  - There is no sound.
  - Scanning speed varies as the laser beam moves away from the center of the CLV disc. In addition, the image during scanning with a CLV disc will contain some instability.
  - A certain amount of noise is inevitable with all scanning operations

## Searching by Chapter Number – Chapter Search

Chapters are contained in a disc. LDs are divided into sections called chapters. CD/CDVs are divided into track numbers which are assigned to each selection. Such discs usually have a list of chapters on the jacket or label.



### Direct chapter search

**Example:** Locate the beginning of chapter 8.  
Press the "8" button.



Searching for chapter 8.

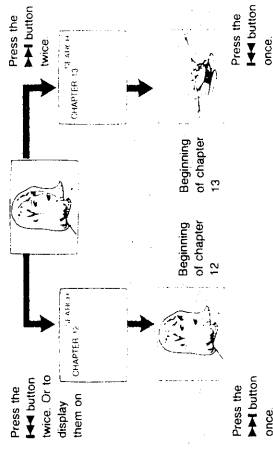
Finds Chapter 8, and playback starts.

- If you have pressed the wrong number, simply press the correct one.
- Search can be conducted while in freeze-frame, speed play, and pause condition as well as normal playback. When the desired chapter appears after search, playback will continue in the same mode.

### Skip chapter or track search

Press the **◀** button once to return to the beginning of the current chapter/track.  
Press the **◀** button twice – before the picture reappears – to return to the beginning of the previous chapter/track.  
Press the **▶** button to advance to the beginning of the next chapter/track.

**Example:** Current chapter = 12



**To check the current chapter and frame/time numbers**  
These numbers appear in the display window on the player. Or to display them on the screen, press the DISPLAY button on the Remote Commander.

**To enter a number greater than 10**

Use the +10 and 0 buttons.

Examples: 10: **+** **10** → 0

14: **+** **10** → **+** **4**

20: **+** **10** → **+** **10** → 0

**If the +10 button is pressed by mistake**

Press the +10 button repeatedly to revert to 0 or 1.

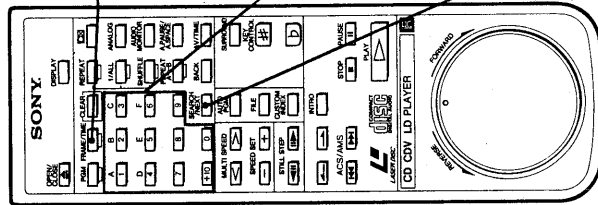
### Notes

- The chapter search feature will not function if the disc does not include chapter numbers. In this case, the screen message will give only frame or time numbers.
- As for a disc with TOC (see p. 4), if a chapter number not included in the disc is entered, the entry will be ignored.
- As for a disc without TOC, if a chapter number not included in the disc is entered, the last picture will be displayed and the player will stop.
- If the REPEAT function is pressed (see p. 4), playback will resume from the beginning of the disc.
- If the REPEAT function is not on, press **▶** to resume playback.

## Searching by Frame Number/Time – Frame/Time Search

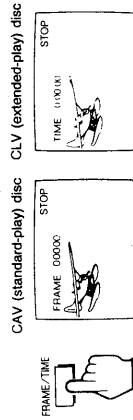
For CAV (standard-play) discs only (Frame search)  
Enter the frame number to search for a particular scene.  
• Each picture on a standard-play disc is called as a frame.

For CLV (extended-play) discs only (Time search)  
Enter the time to search for a particular scene.  
• Extended-play discs keep track of positions as elapsed time from the beginning of the disc.



DISPLAY

### 1 Press the FRAME/TIME button.



### 2 Enter the desired frame or time numerals.

• CAV (standard-play) disc

**Example:** Locate frame number 12340.

Press the number buttons in the following order.

**1** → **2** → **3** → **4** → **0**

• CLV (extended-play) disc

**Example:** Locate the 12 min 05 sec point.

Press the number buttons in the following order.

**1** → **2** → **0** → **5**

**If you make a mistake**

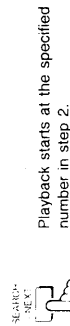
Press the FRAME/TIME button once more to return the display indication to zero, and then enter the correct numbers as follows.

For CAV – five digits

For CLV with seconds – four digits

For CLV without seconds – two digits

### 3 Press the SEARCH/NEXT button.



Search can be conducted while in freeze-frame, speed play, and pause condition as well as normal playback. When the desired frame or time appears after search, playback will continue in the same mode.

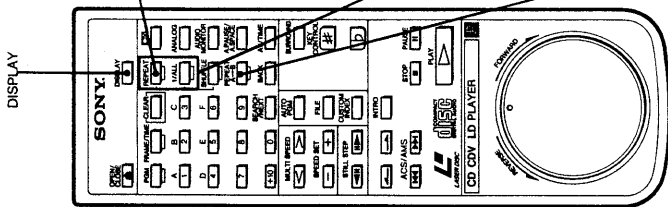
**To cancel frame/time search**  
Before pressing the SEARCH/NEXT button, press the CLEAR button. After pressing the SEARCH/NEXT button, press the **■** button.

**To check the current frame/time numbers**  
These numbers appear in the display window on the player. Or to display them on the screen, press the DISPLAY button on the Remote Commander.

### Notes

- If a frame/time number not contained on a disc is entered, the playback stops. If the REPEAT button is pressed and REPEAT is shown in the display window (see p. 4), playback will resume from the beginning of the disc.
- If the disc does not include seconds-unit time data, enter the time in minutes only.

## To Play Repeatedly - Repeat Playback



### To repeat the entire side of the disc

**Current chapter/track**

When the player reaches the end of the side, it automatically repeats the side.

(Shown on the screen when DISPLAY button is pressed) REPEAT lights up in the player's display window.

### To repeat the current chapter

**Current chapter**

When the player reaches the end of the current chapter/track, it automatically repeats that chapter/track.

(Shown on the screen when DISPLAY button is pressed) REPEAT lights up in the player's display window.

### To repeat a specific section of a disc

**At the beginning of desired section**

(Shown on the screen when DISPLAY button is pressed) A → B lights up in the player's display window.

**At the end of desired section**

Unit returns to the beginning of specified section and repeats playback.

**To cancel A → B repeat**  
Press the CLEAR button.

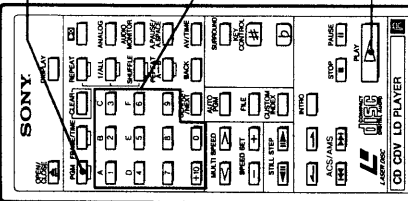
**To cancel repeat functions other than A → B**  
Press the REPEAT button again to cancel the REPEAT indication in the display window.

**To check the current status**  
Check the indicators in the display window on the player. Or to display them on the screen, press the DISPLAY button on the Remote Commander.

**To use custom repeat**  
To repeat playback between two predefined points on the disc, refer to page 49.

## To Play Only Certain Chapters - Program Playback

Example: Play LD chapters 5, 4, 2, 6 - in that order.



### 1 Press the PGM button.

PROGRAM indication lights in the player's display window.

### 2 Press the Number buttons 5 4 2 6.

For LDs containing TOC (Table of Contents) data, the total playback time of programmed chapters is shown.

### If you make a mistake

**To start over**  
Press the CLEAR and PGM button and enter the correct number.

**To change a number**  
Press the SEARCH/NEXT (to advance) or BACK (to back up) button until the incorrect number on the screen flashes.

### To enter chapter numbers over 10

Use the +10 and 0 buttons.  
Examples: To enter 10:  $\oplus 10 \rightarrow 0$   
To enter 14:  $\oplus 10 \rightarrow \oplus 4$   
To enter 20:  $\oplus 10 \rightarrow \oplus 10 \rightarrow 0$   
If the +10 button is pressed by mistake  
Press the +10 button repeatedly to revert to 0- or 1-

### 3 Press the $\blacktriangle$ button.

SEARCHING for the first programmed chapter.  
Playback starts from the beginning of chapter 5.  
After playing all programmed chapters 5, 4, 2, 6, in order, playback stops.

**To release or cancel program playback**  
Press the CLEAR button or the 1/ALL button. The unit resumes normal playback.

**To repeat program playback**  
Press the REPEAT button, then the REPEAT is displayed.

**To move to a preceding or following programmed chapter**  
Press the  $\leftarrow$  or  $\rightarrow$  button.

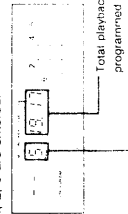
**To check the program contents during program playback**  
Press the PGM button. The program is displayed for about 3 seconds. The currently playing program number will flash.

**Cautions**  
• When the shuttle ring is kept turned to the forward direction during program playback, and the playback comes to the end of the current selection, the next programmed chapter will be played back. When the shuttle ring is kept turned to the reverse direction, the unit will not go back to previous chapters.

• If not-existing chapter numbers on a disc are entered, the program cannot be conducted.  
• Programmed contents are stored until the disc is removed or the power is switched off.

### LD with TOC Data

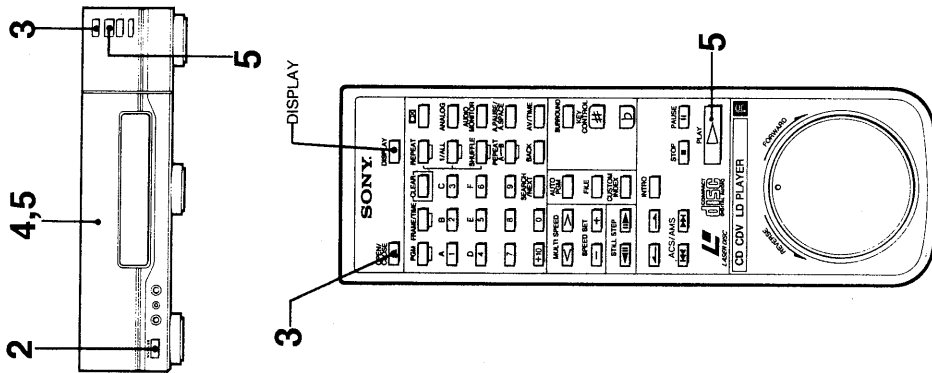
When you program for an LD with TOC data, the following display is shown.  
Example: 5, 4, 2, 6 are entered.



Order in which the currently playing chapter is programmed  
If the chapter number 0 or chapter numbers higher than 21 are entered, or if the total playback time exceeds 100 minutes, the total playback time will not be shown.



# To Play a CD



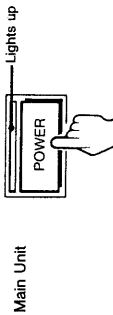
**Notes on disc tray**  
Do not insert a hand or finger in the player while it is operating. The player will stop automatically. If an object is inserted while in play, serious injury may result. Be sure to place the unit out of the reach of your child. Insert only one disc at a time. Incorrect placement of two or more discs may lead to malfunction.

**Identical buttons on the main unit can also be used.**

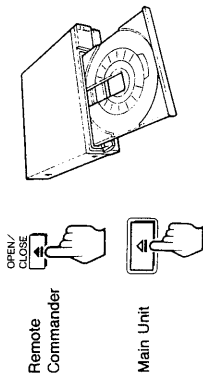
## 1 Turn on the stereo system.

Turn on the amplifier or receiver and select [CD] or the desired audio input.

## 2 Turn on the player.

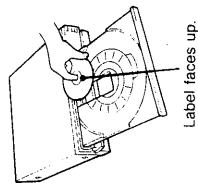


## 3 Open the disc tray.

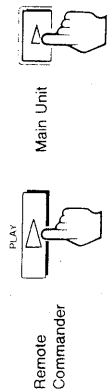


## 4 Place the disc on the tray.

Place the disc on the center of the tray. If the disc is not placed correctly, playback may not start.



## 5 Start playback.

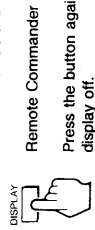


Or push the disc tray compartment, then playback will also begin.

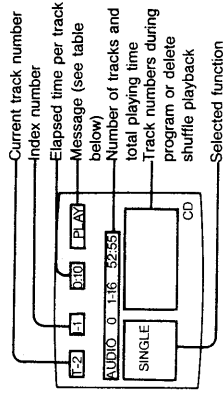
## Screen Messages

Information on the operating condition of the unit and track numbers can be superimposed on the TV or monitor screen. Information for CD is shown on a green background.

### To call up the on-screen display



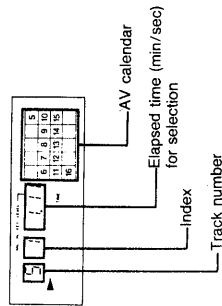
Press the button again to turn the display off.



### Message

Display	Explanation
OPEN	Disc tray open
CLOSE	Disc tray closed
PLAY	Playback
STOP	Stop
PAUSE	Pause
↔ / ↔	Manual search (Forward/reverse speed scan)
SEARCH	Search

### Playback display



### Using an optional timer

To start playback with an optional timer automatically, leave the POWER switch of the disc player in the depressed position. When the timer supplies power at the preset time, the unit turns on and playback begins.

### To pause at the beginning of a disc

Press the II button on the player or the Remote Commander. The tray closes, and the player pauses at the beginning of the disc.

### AV calendar

When playing a CD, the AV calendar shows information on the total number of selections. As selections are played, the corresponding numbers on the display disappear.

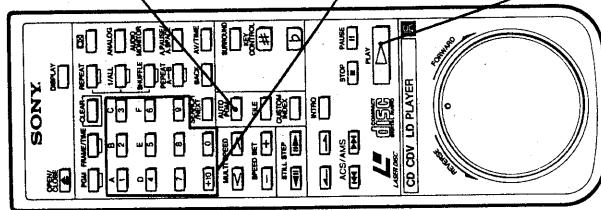
### To play surround effect

See p.18.

# LD/CD/CDV

## To Play Only Certain Selections Within a Designated Time - Auto Program Playback

You can designate a length of time and make 2 different programs of selections fitting within that period. When there is only minimal time left within the designated length of time, a selection with the longest playing time shorter than the left time will be entered. This section explains how to conduct Auto Program Playback on a CD, but the function can also be used for LDs with TOC, and CDVs.



- 1 Press the AUTO PGM button.**

PROGRAM blinks in the player display window.
- 2 Designate the time length for a single side of your tape.**

Example: For 30 minutes of playback

Program A (corresponding to Side A of tape)

Program B (corresponding to Side B of tape)

If you press the wrong number, simply press the correct one.
- 3 Press the  $\blacktriangle$  button.**

The selections for Program A will be played and then the unit will pause. The number of the selection that finishes its play disappears from the AV calendar display.
- 4 Press the  $\blacktriangle$  button to play back Program B.**

To resume normal playback Press the CLEAR button or the 1/ALL button.

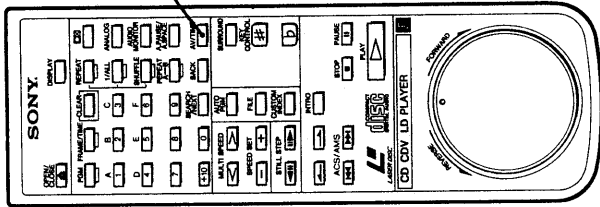
**AV calendar on the screen**  
The AV calendar shows information on the contents of two different programs: program A and program B, separated with a pause.

**Auto Program contents**  
Program contents are stored until the disc is removed or the power is turned off.

**If your disc contains more than 20 selections**  
Selection with numbers over 20 may not be programmed with the Auto Program function.

**Note**  
Auto Program will not be run if your selection is larger than the designated playing time.

## To Change Time Display - Time Counter



\* Do not display for track numbers above 21.  
\*\* For CDV discs, these figures refer only to the current portion (audio/video) displayed.

**Display on TV screen**

If the TV set or monitor connected to the player is on and the DISPLAY button is pressed, the track number, time, and other information recorded on the CD/CDV will appear on a green background on the monitor.

**Note on LD discs**

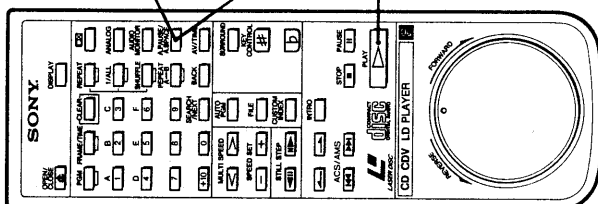
The time display function is available only with LDs containing TOC data. First, the elapsed time or the number of frames is displayed. Pressing the AV TIME button then changes the time display as shown above.

**AV TIME button**


Pressing the AV TIME button during the stop mode will display the total number of tracks and total playing time for CDs and LDs with TOC data. For CDVs, the total number of tracks and total playing time for both audio portion and video portion are displayed alternately in the display window on the player.

## To Pause After a Each Selection – Auto Pause To Insert a Blank Space Between Selections – Auto Space

**Auto Pause** – After a selection is played, the player enters the pause mode.  
**Auto Space** – A blank interval of 3 seconds is inserted between the playback of each selection.




**Auto Pause**  
 Press the A.PAUSE/A.SPACE button once.



Lights up

**To start playback of the next selection**  
 Press the ▷ button.

**Auto Space**  
 Press the A.PAUSE/A.SPACE button twice.



Lights up

**To resume normal playback**  
 Each time the A.PAUSE/A.SPACE button is pressed, the mode changes to give you in the following order.

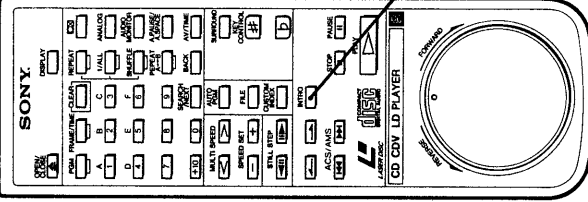
```

        Auto Pause
        ↓
        Auto Space
        ↓
        Normal playback
        
```

For the button of Auto Pause and Auto Space should use the same one.  
 If you playback in auto program, program, shuffle or delete shuffle mode, auto space may insert a space more than 3 seconds.


## To Playback an Introduction of Each Chapter/Track – INTRO Scan

The INTRO scan plays back only the beginning (introduction) of each chapter/track on a disc for approximately 8 seconds. The INTRO scan will also play back the scenes of the video chapter for LD and CDV.

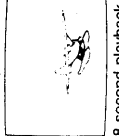


**LD**


Chapter 1  
 8-second playback



Chapter 2  
 8-second playback




Chapter 3  
 8-second playback




**CD/CDV**


Track 1  
 8-second playback



Track 2  
 8-second playback



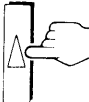
Track 3  
 8-second playback




After the playback of the last track, the player will be paused.

- Playback will begin from the video portion for CDV discs.

**To resume normal playback or stop**



or



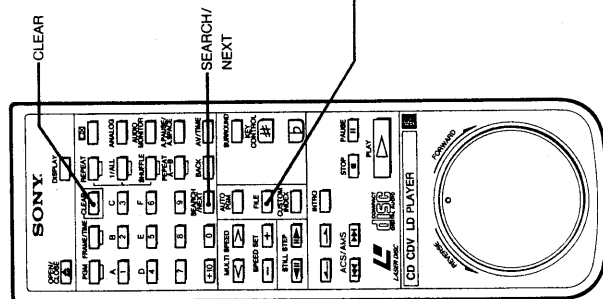
To resume normal playback, press the ▷ button. During search functions, normal playback will resume from the selection to be searched when the ▷ button is pressed.

Press the ■ button to stop.

## To Set an Index at a Desired Point – Custom Index

### What is the Custom Index?

The Custom Index function lets you set up to six index marks at any point on the disc. Playback can then be started from an index point at the push of a button, and repeat playback between index points is also possible. This section explains how to set custom index marks on an LDs, and the function can also be used for CDs and CDVs.



### To set a custom index mark

Press the FILE button during playback.

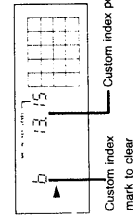


Set custom index mark. The custom index mark will be displayed for 3 seconds.

Up to six locations (A ~ F) anywhere on the disc can be marked.

### If you make a mistake

1 Use the SEARCH/NEXT button to cause the file indicator to flash.



Custom index mark to clear

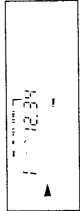
2 Press the CLEAR button and then press the FILE button at the correct location.



**Note**  
When the disc is removed or the player is turned off, the contents of the custom index are lost. While custom index search is performed, the A, B, C, ... file search indicators disappear one by one, but the indicator for the last index point remains.

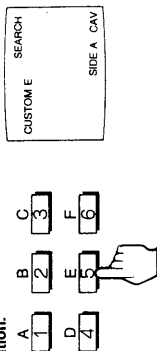
### Custom Index Search

1 Press the CUSTOM INDEX button.



The AV calendar disappears and the number buttons 1 - 6 function as file search buttons A - F.

2 Press the file search button for the desired location.



Playback starts from the specified index point and continues until the end of the disc.

### To skip to another index point

Press the corresponding file search button.

### To resume normal playback

Press the CUSTOM INDEX button or the CLEAR button.

### To play a section between custom index points once

Press the 1/ALL button, so that the indication SINGLE is shown on the display window. Then perform custom index search to the desired index start point. The section between this point and the next custom index point is played once.

### To play a section between custom index points repeatedly

Press the 1/ALL button, so that the indication SINGLE is shown on the display window and press the REPEAT button to activate the REPEAT display. Then perform custom index search to the desired index start point. The section between this point and the next custom index point is continuously repeated.

### Index point rearrangement

The custom index points are arranged on the disc not by the order in which they were input but by their relative location from the start of the disc. If a new index mark is set before an old one, the A, B, C, ... order is rearranged.

### Custom index with a CDV disc

Although playback begins from the video portion, files will be arranged from the audio portion in A, B, C, ... order.

### How is the custom index stored?

The custom index data are not actually recorded on the disc but stored in the memory of the player. Therefore, the custom index points set with one player cannot be used when the disc is played on another unit.

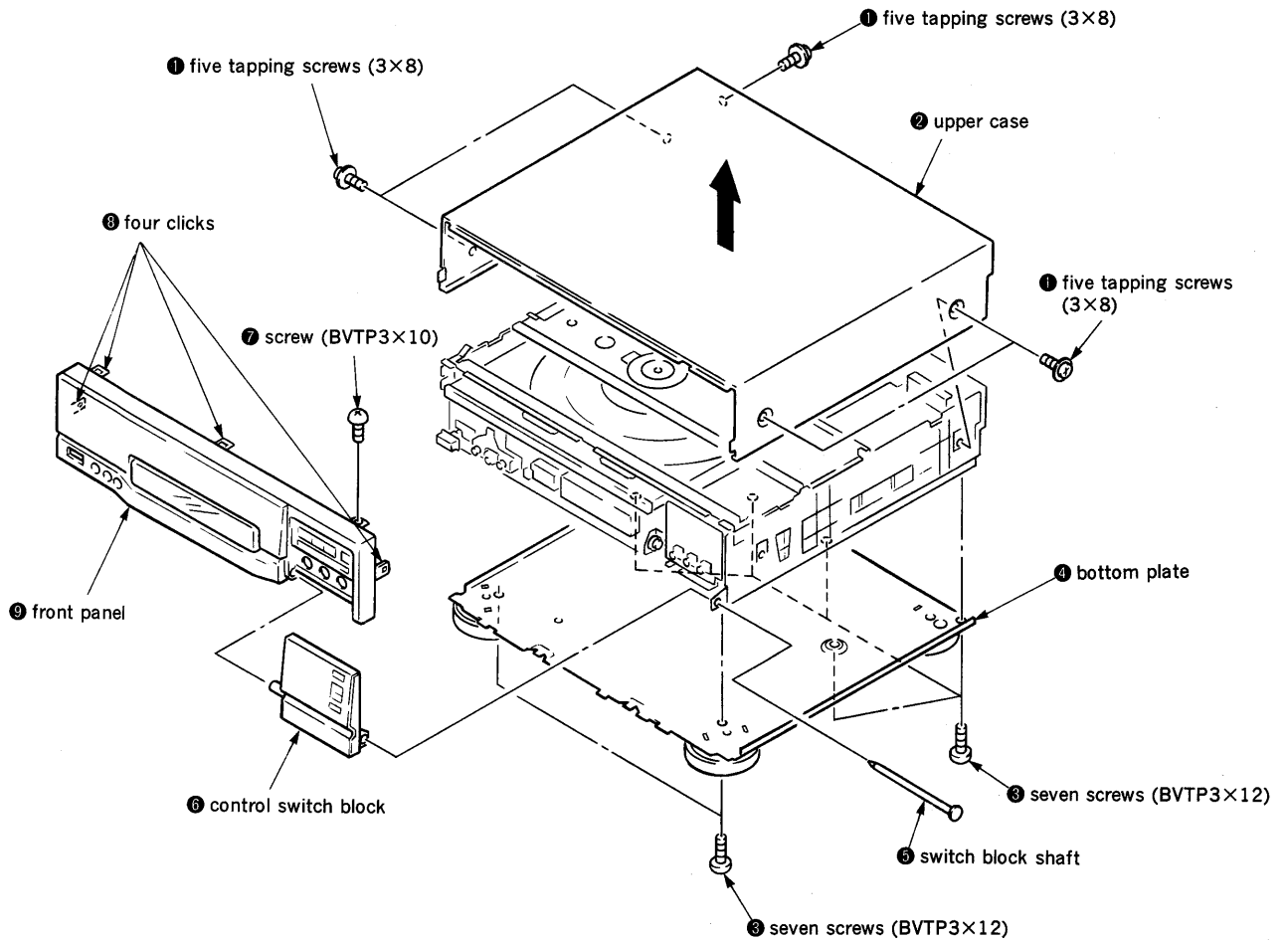
### To clear a custom index mark

Information on index marks is retained also when the player is switched to normal playback. To cancel a stored index mark, use the SEARCH/NEXT button to cause the corresponding file search indicator to flash, and then press the CLEAR button.

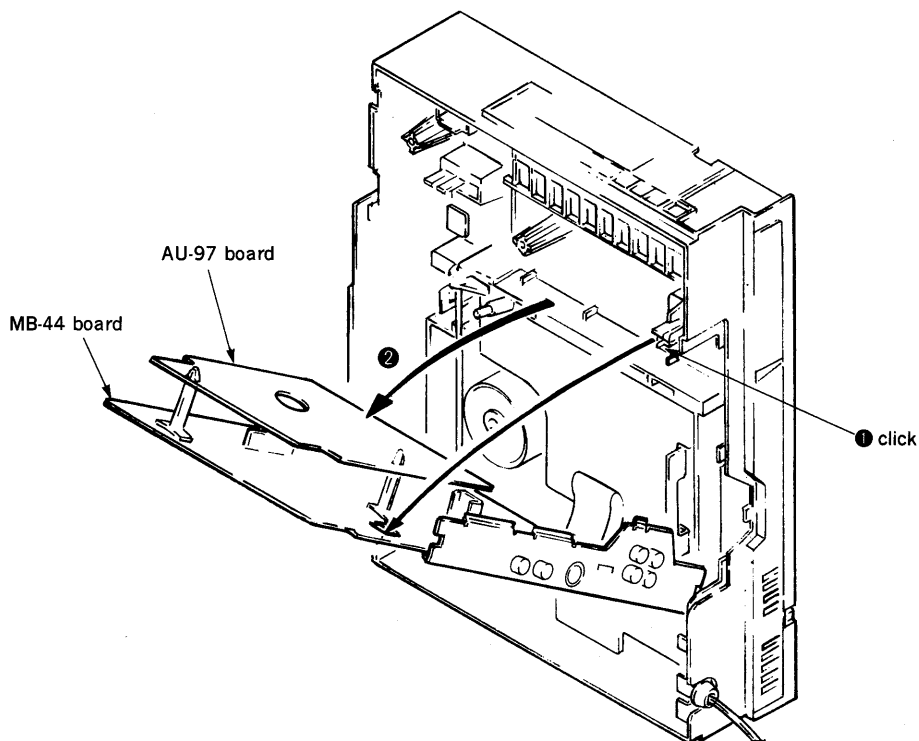
## SECTION 2 DISASSEMBLY

**Note :** Follow the disassembly procedure in the numerical order given.

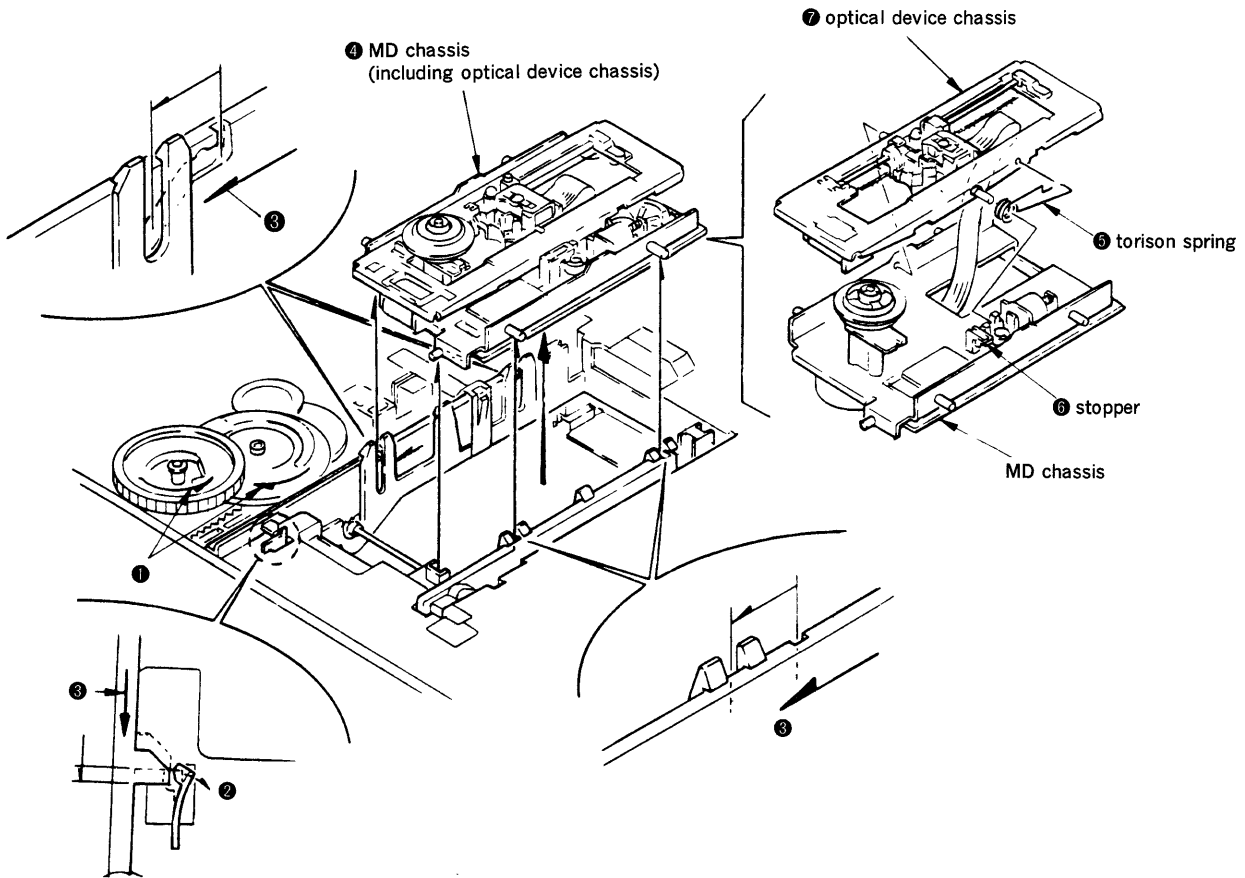
### 2-1. REMOVAL OF FRONT PANEL AND UPPER CASE



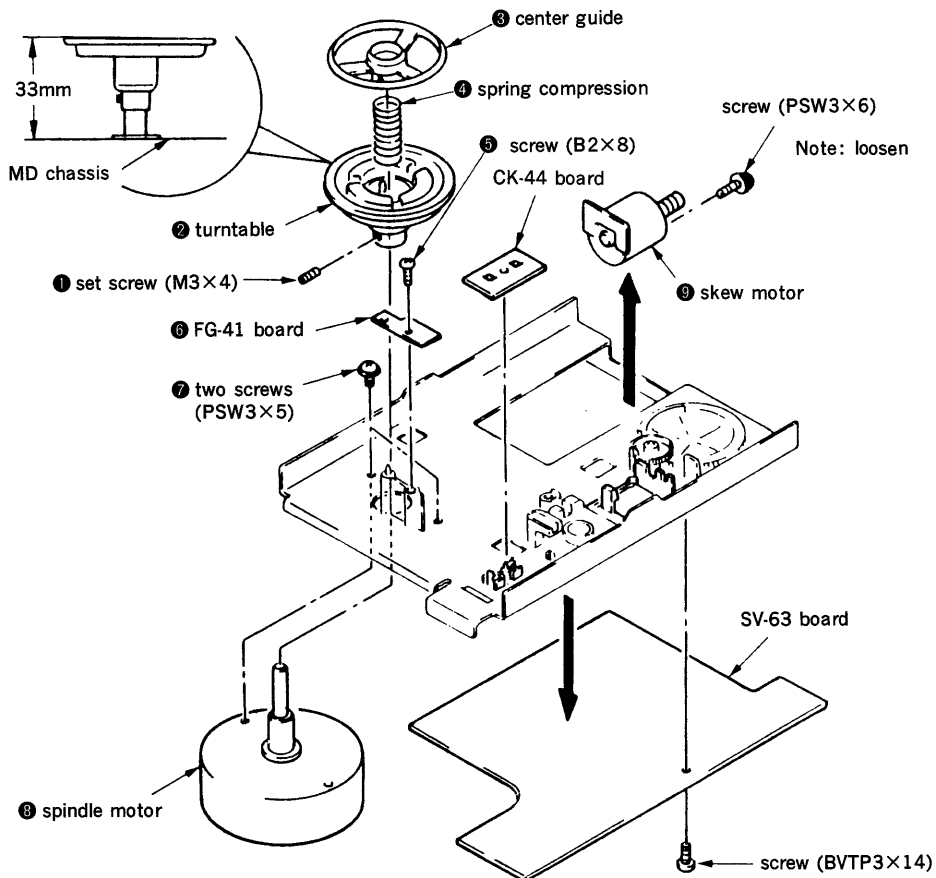
### 2-2. REMOVAL OF MB-44, AU-97 BOARD



### 2-3. REMOVAL OF MD CHASSIS AND OPTICAL DEVICE CHASSIS

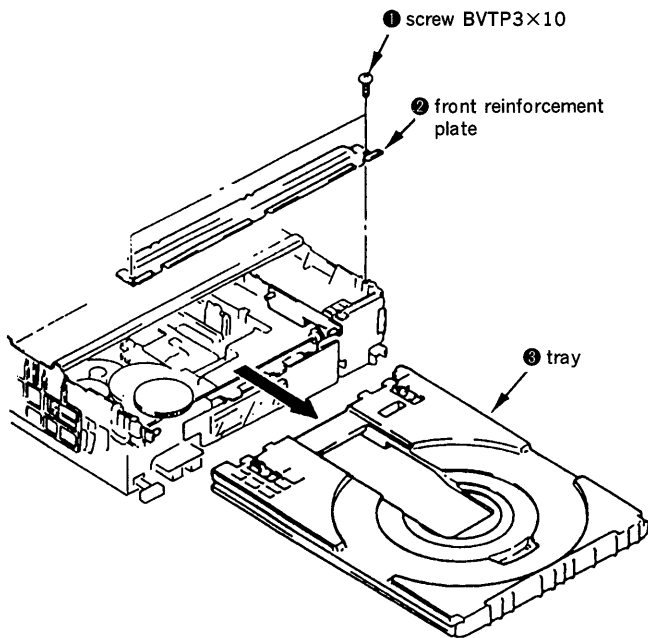


### 2-4. REMOVAL OF TURNTABLE AND SPINDLE MOTOR, SKEW MOTOR, SV-63, FG-41 BOARDS



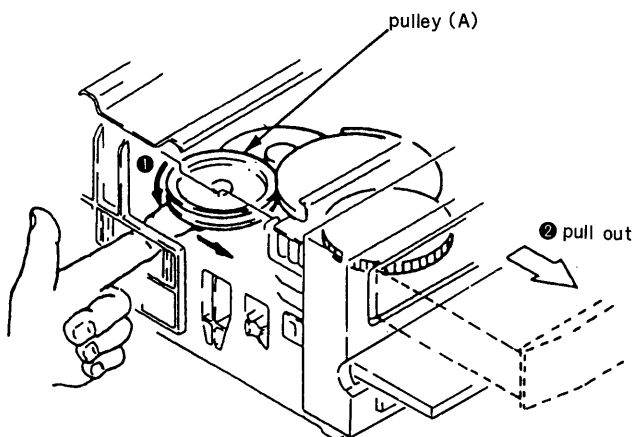
## 2-5. REMOVAL OF THE TRAY

**Note :** Make sure to remove the tray after having removed the front panel and the front reinforcement plate.



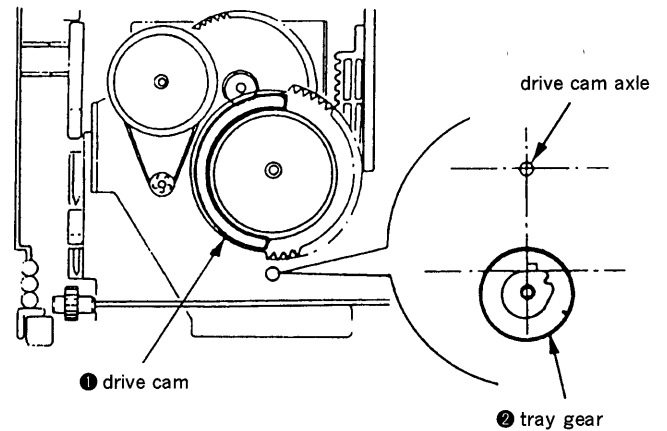
## 2-6. REMOVAL OF THE DISC WHEN A PROBLEM HAS OCCURRED WITH THE DISC LOADED.

- 1) Turn the pulley (A) in counter-clockwise direction until the tray starts moving.
- 2) Pull out the tray.



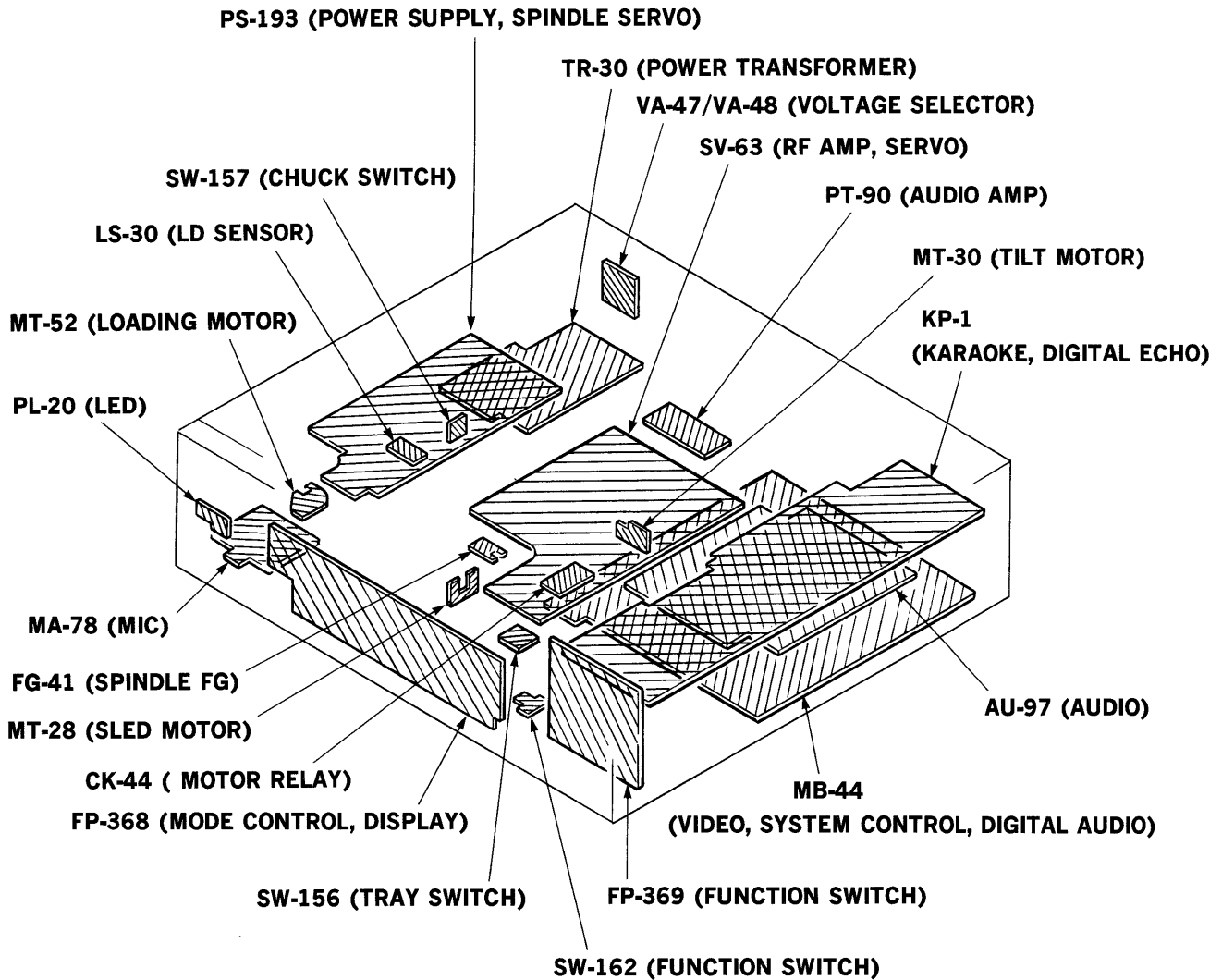
## 2-7. ALIGNMENT OF THE LOADING GEAR PHASE

- 1) Install the drive cam as shown in the illustration. At this time, make sure that the last tooth of gear is aligned with the line from the center of the tray gear axle and the drive gear axle.
- 2) Install the tray gear as shown in the illustration. At this time, make sure the flat surface of the cam is at a right angle with the drive cam.



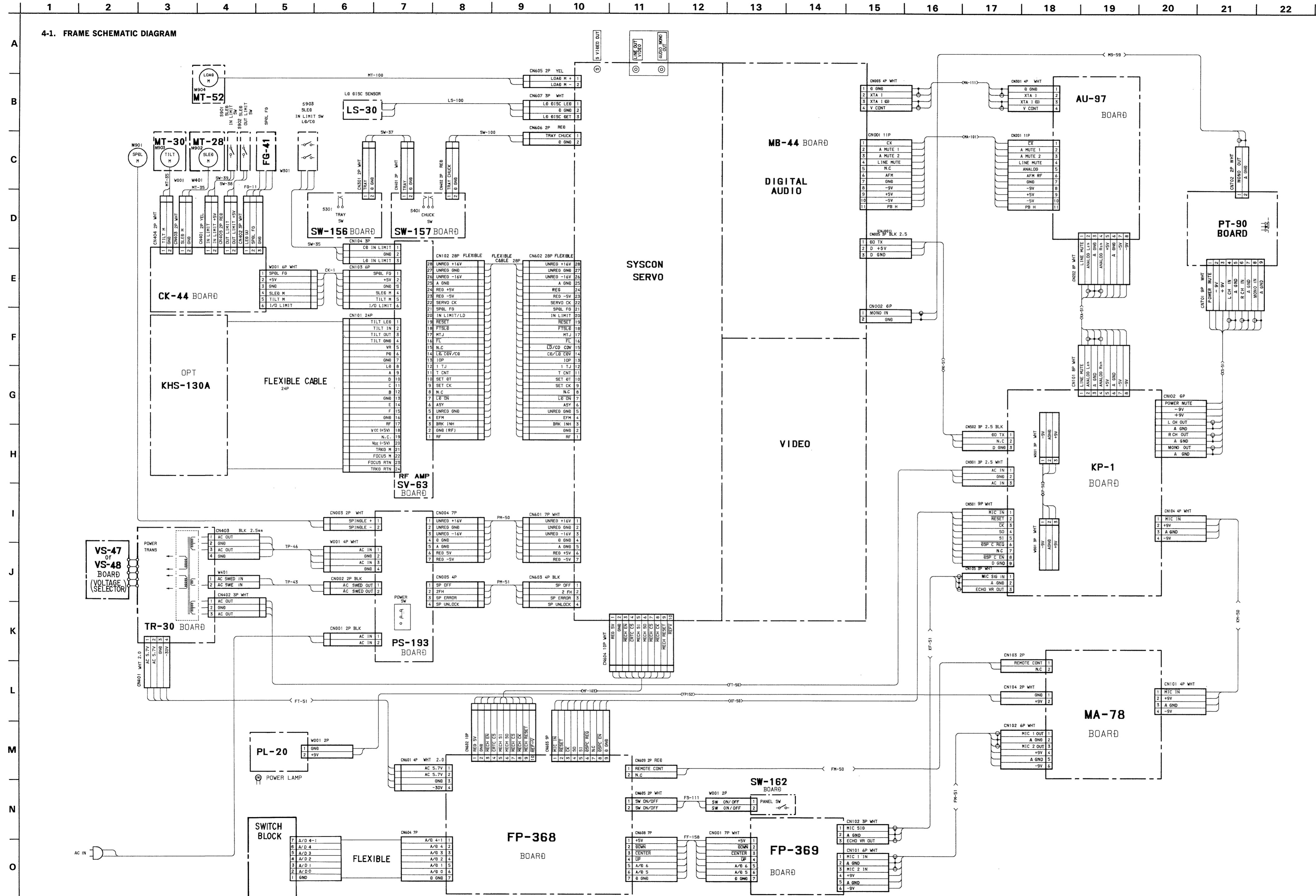
## SECTION 3 DIAGRAMS

### 3-1. CIRCUIT BOARDS LOCATION





SECTION 4  
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS



4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS. (In addition to this, the necessary note is printed in each block.)

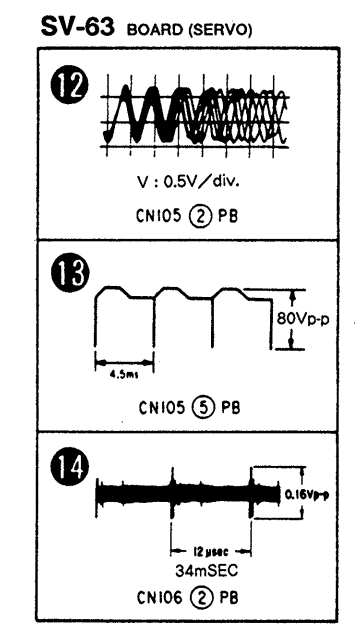
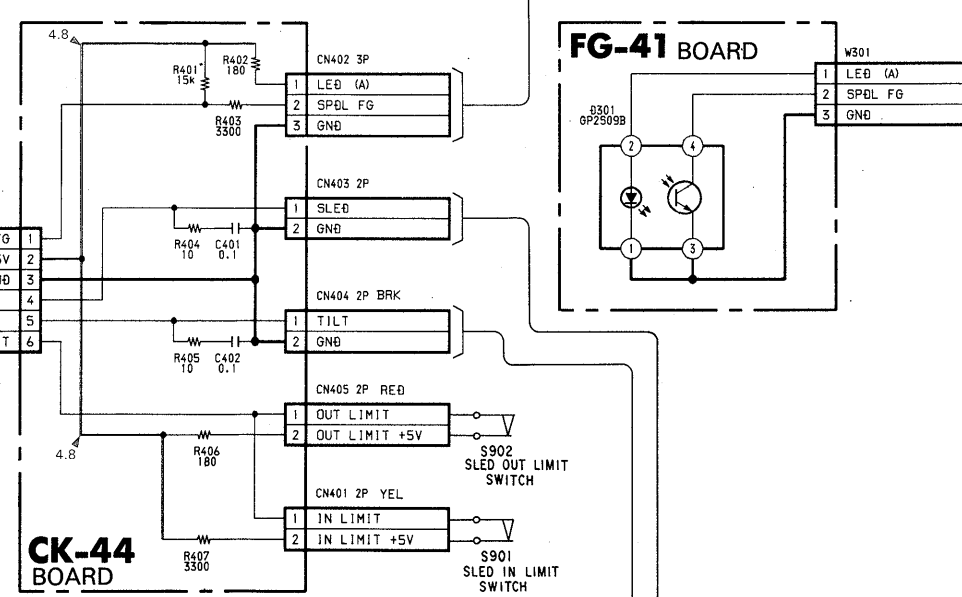
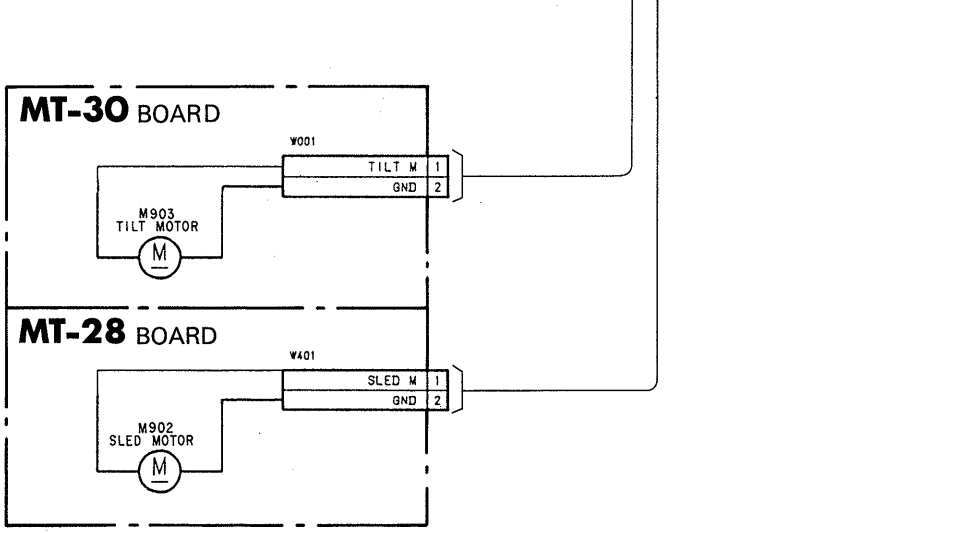
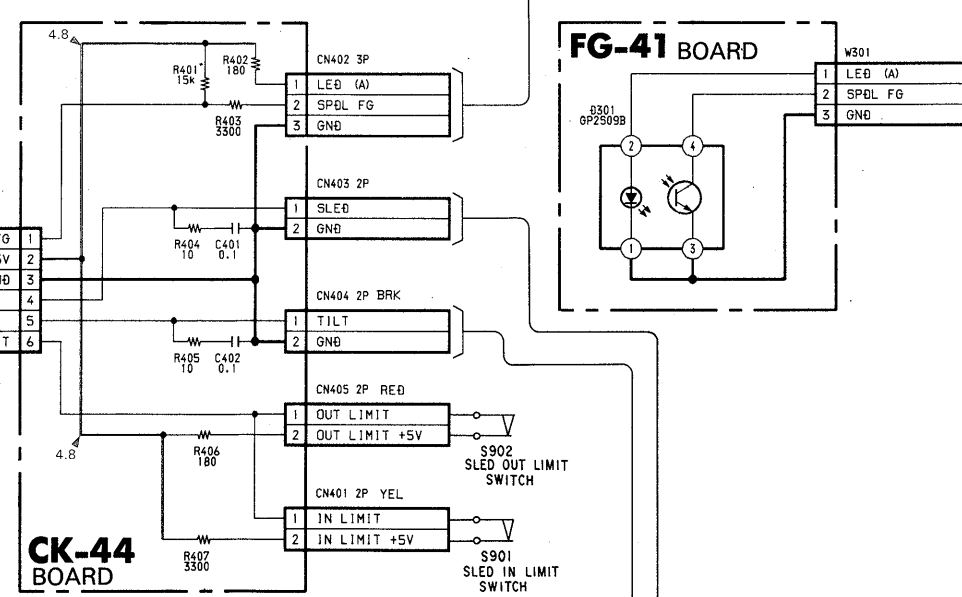
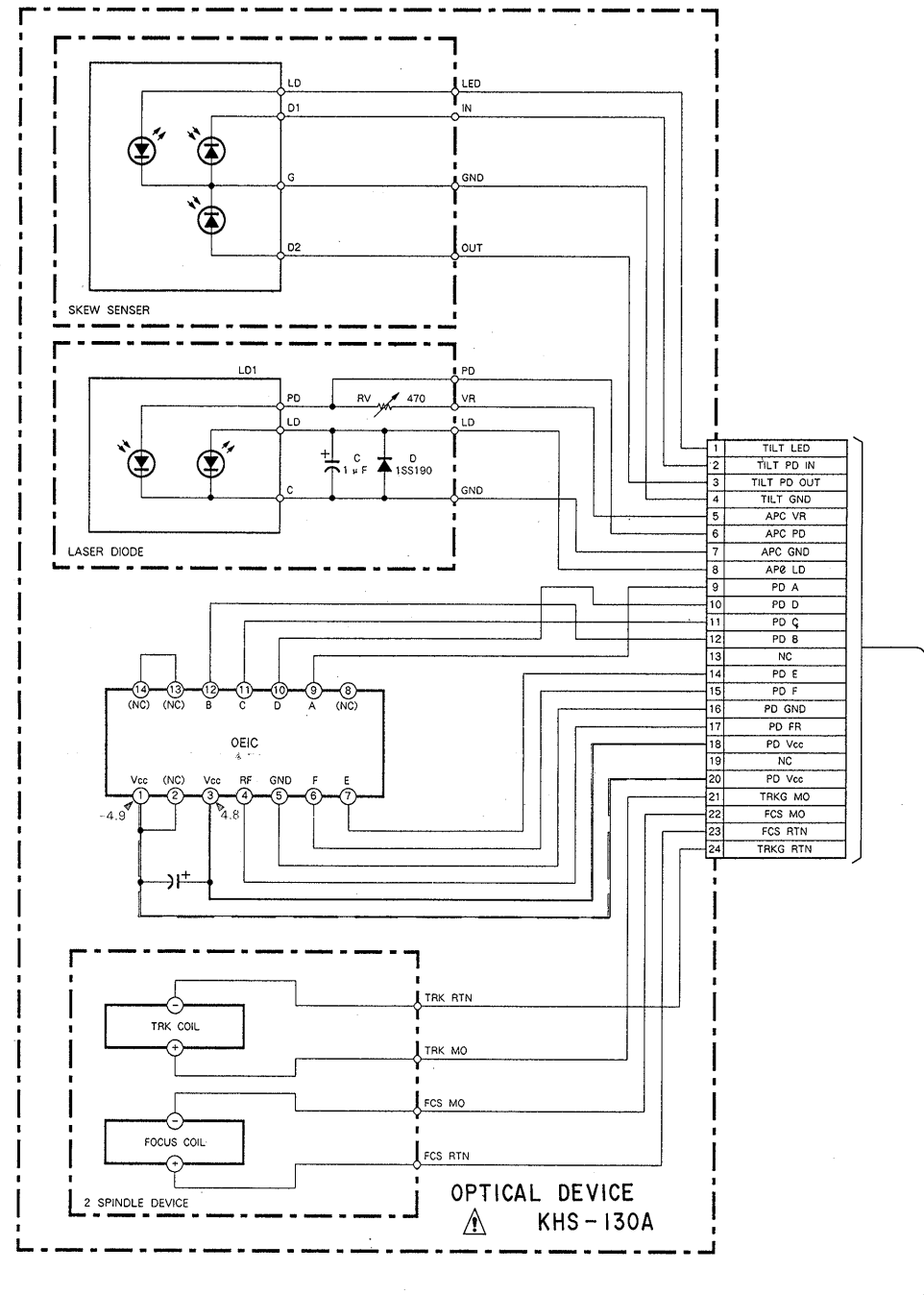
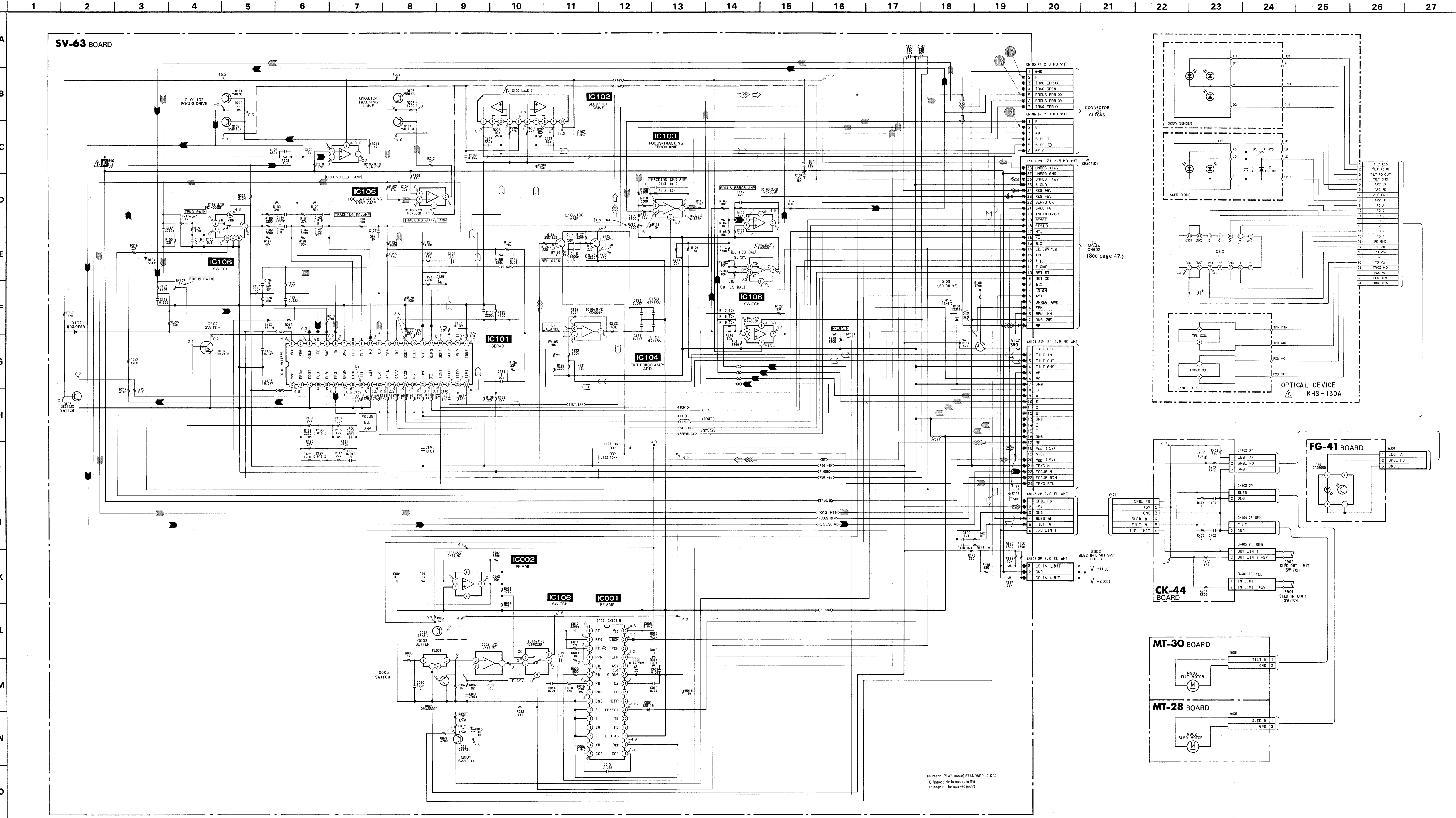
- For printed wiring boards:
- : indicates a lead wire mounted on the component side.
  - : indicates a lead wire mounted on the printed side.
  - : Through hole.
  - : indicates a lead.
  - ▨ : Pattern from the side which enables seeing.
  - ▩ : Pattern of the rear side.\*

- For schematic diagram:
- : Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
  - All resistors are in ohms, 1/4W (Chip resistors: 1/10W) unless otherwise noted. kΩ: 1000Ω, MΩ: 1000kΩ.
  - All capacitors are in μF unless otherwise noted. pF: μF/50V or less are not indicated except for electrolytics and tantalums.
  - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
  - ▨ : nonflammable resistor.
  - ▩ : fusible resistor.
  - : panel designation.
  - ▭ : internal component.
  - ▩ : adjustment for repair.\*
  - : B + Line.\*
  - : B - Line.\*
  - Voltagages are dc between measurement points and ground unless otherwise noted.\*
  - Readings are taken with a color-bar signal playback of standard disc.
  - Readings are taken with a digital multimeter (DC10MΩ).\*
  - Voltage variations may be noted due to normal production tolerances.
  - ↔ : IN/OUT direction of B line (+, -).\*
  - ⊙ : Circled numbers refer to waveforms.\*

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

Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

\* : indicated by the color red.

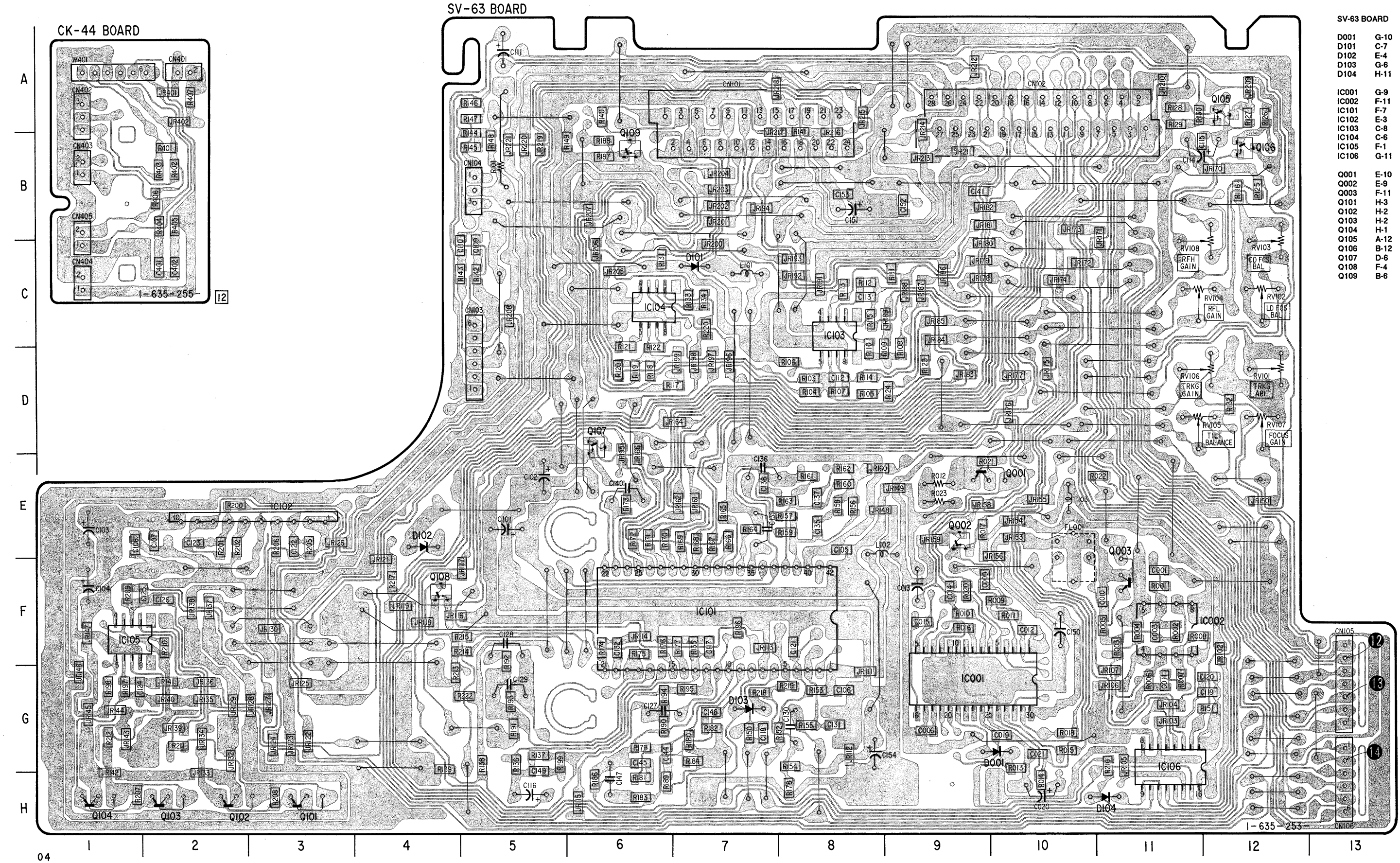


• Signal path

	VIDEO Signal	AUDIO Signal
CHROMA	↔	↔
Y	↔	↔
Y/CHROMA	↔	↔

• Signal path

Spindle phase servo	↔
Spindle servo(speed and phase)	↔
Tracking servo LD/CD/CDV	↔
Slids servo LD/CD	↔
Focus servo LD/CD	↔
Skew servo LD TILT	↔



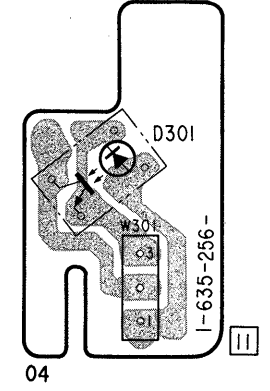
- SV-63 BOARD**
- |      |      |
|------|------|
| D001 | G-10 |
| D101 | C-7  |
| D102 | E-4  |
| D103 | G-6  |
| D104 | H-11 |
- 
- |       |      |
|-------|------|
| IC001 | G-9  |
| IC002 | F-11 |
| IC101 | F-7  |
| IC102 | E-3  |
| IC103 | C-8  |
| IC104 | C-6  |
| IC105 | F-1  |
| IC106 | G-11 |
- 
- |      |      |
|------|------|
| Q001 | E-10 |
| Q002 | E-9  |
| Q003 | F-11 |
| Q101 | H-3  |
| Q102 | H-2  |
| Q103 | H-2  |
| Q104 | H-1  |
| Q105 | A-12 |
| Q106 | B-12 |
| Q107 | D-6  |
| Q108 | F-4  |
| Q109 | B-6  |

- DIODE**
- |      |              |       |            |
|------|--------------|-------|------------|
| D001 | 8-719-911-19 | DIODE | 1SS119     |
| D101 | 8-719-911-19 | DIODE | 1SS119     |
| D102 | 8-719-109-72 | DIODE | RD3.9ES-B2 |
| D103 | 8-719-911-19 | DIODE | 1SS119     |
| D104 | 8-719-911-19 | DIODE | 1SS119     |

- IC**
- |       |              |    |           |
|-------|--------------|----|-----------|
| IC001 | 8-752-030-93 | IC | CXA1081M  |
| IC002 | 8-759-603-24 | IC | CX20197   |
| IC101 | 8-759-321-40 | IC | HA11529   |
| IC102 | 8-759-822-38 | IC | LA6510    |
| IC103 | 8-759-981-92 | IC | RC4558M   |
| IC104 | 8-759-981-92 | IC | RC4558M   |
| IC105 | 8-759-981-92 | IC | RC4558M   |
| IC106 | 8-759-009-07 | IC | MC14053BF |

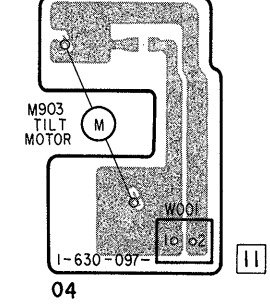
- TRANSISTOR**
- |      |              |            |           |
|------|--------------|------------|-----------|
| Q001 | 8-729-140-97 | TRANSISTOR | 2SB734-34 |
| Q002 | 8-729-216-22 | TRANSISTOR | 2SA1162   |
| Q003 | 8-729-303-37 | TRANSISTOR | 2SD655E   |
| Q101 | 8-729-107-26 | TRANSISTOR | 2SD1585-K |
| Q102 | 8-729-920-91 | TRANSISTOR | 2SB1187-F |
| Q103 | 8-729-107-26 | TRANSISTOR | 2SD1585-K |
| Q104 | 8-729-920-91 | TRANSISTOR | 2SB1187-F |
| Q105 | 8-729-100-66 | TRANSISTOR | 2SC1623   |
| Q106 | 8-729-100-66 | TRANSISTOR | 2SC1623   |
| Q107 | 8-729-901-00 | TRANSISTOR | DTC124EX  |
| Q108 | 8-729-100-66 | TRANSISTOR | 2SC1623   |
| Q109 | 8-729-216-22 | TRANSISTOR | 2SA1162   |

**FG-41 BOARD**

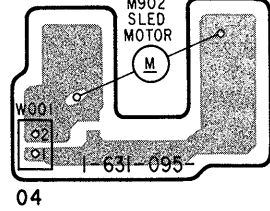


- DIODE**
- |      |              |       |          |
|------|--------------|-------|----------|
| D301 | 8-719-939-11 | DIODE | GP2S09-B |
|------|--------------|-------|----------|

**MT-28 BOARD**



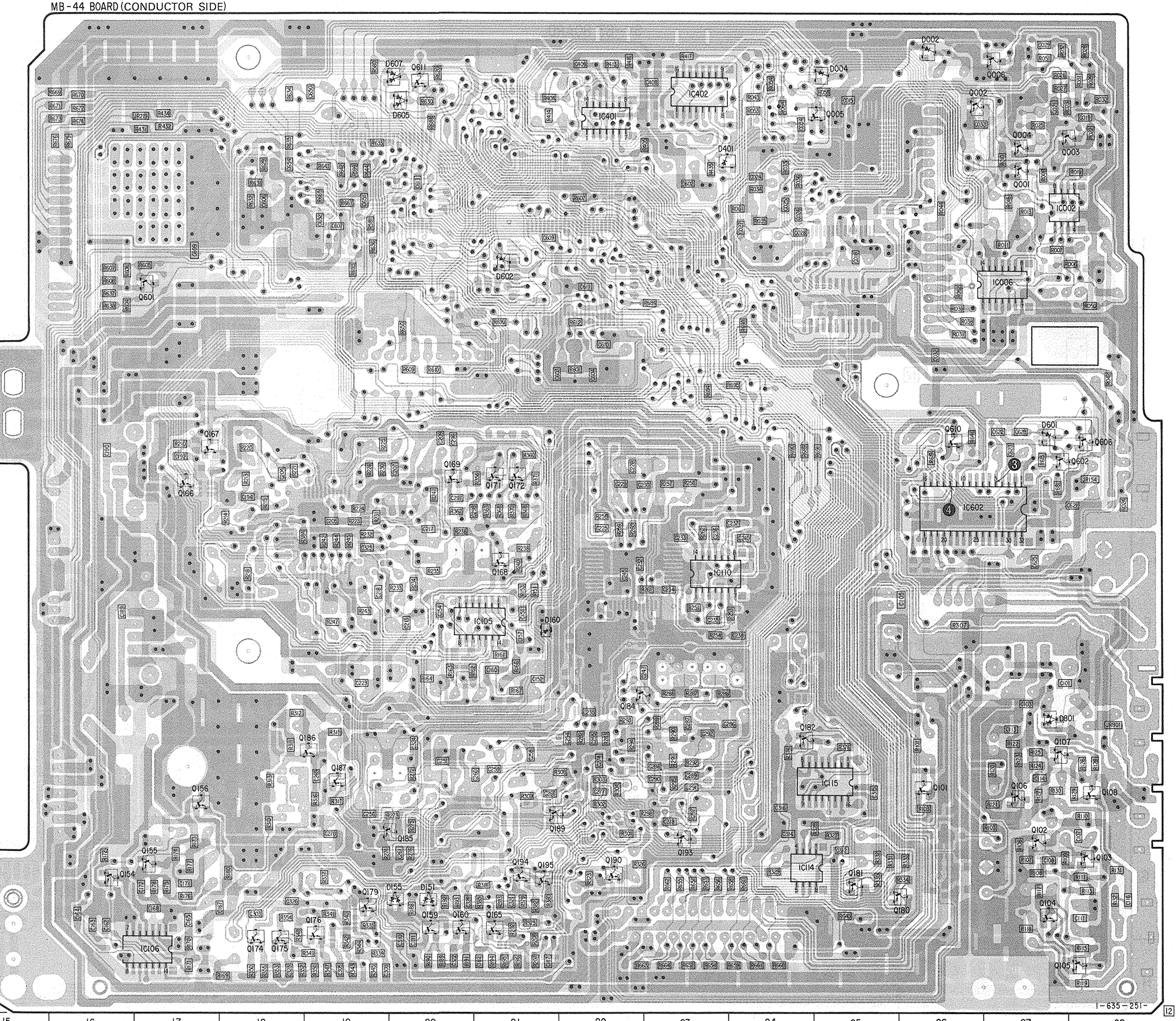
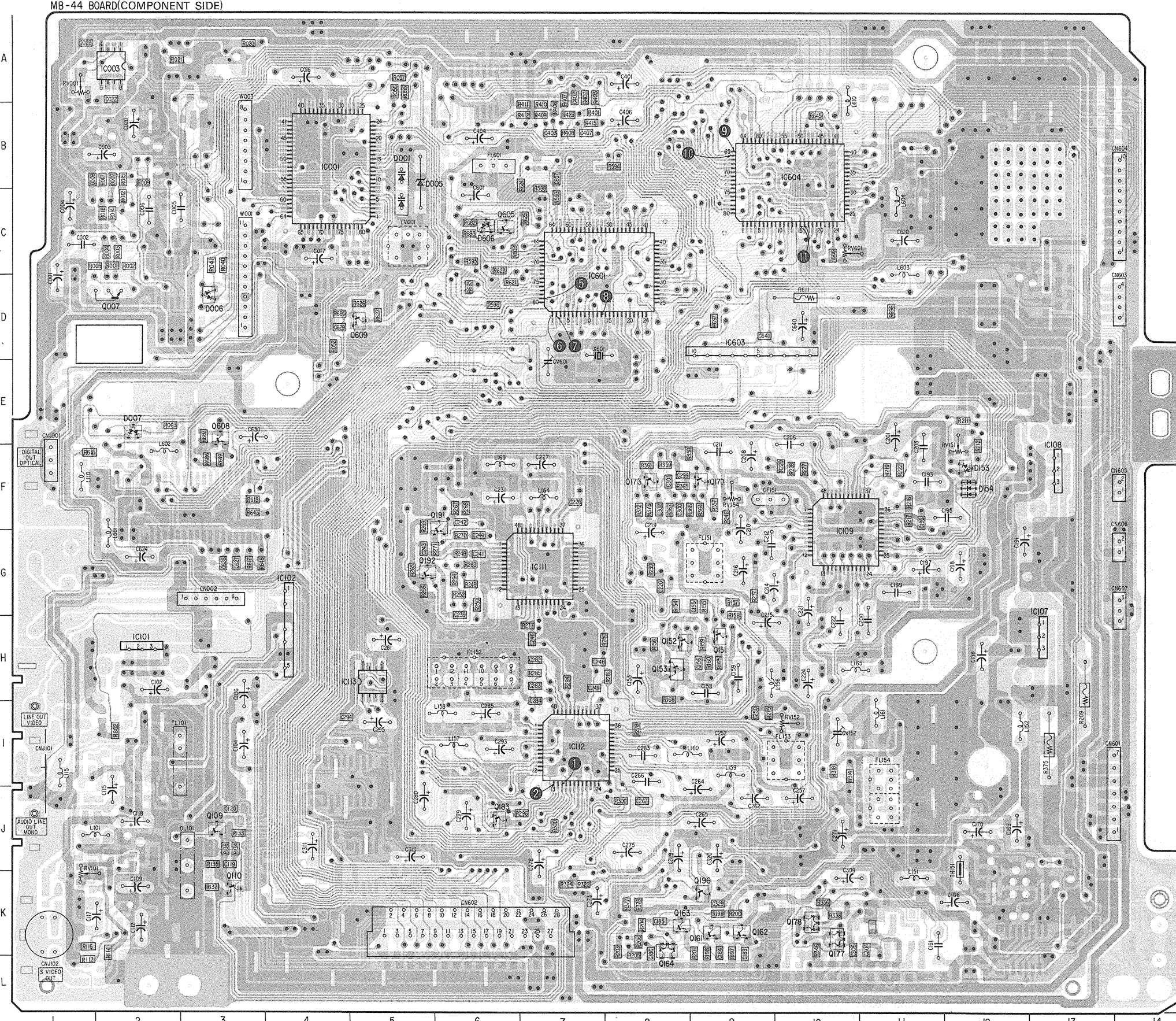
**MT-30 BOARD**

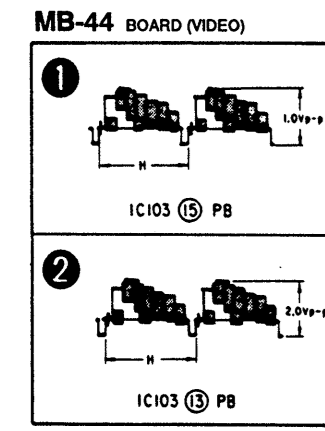
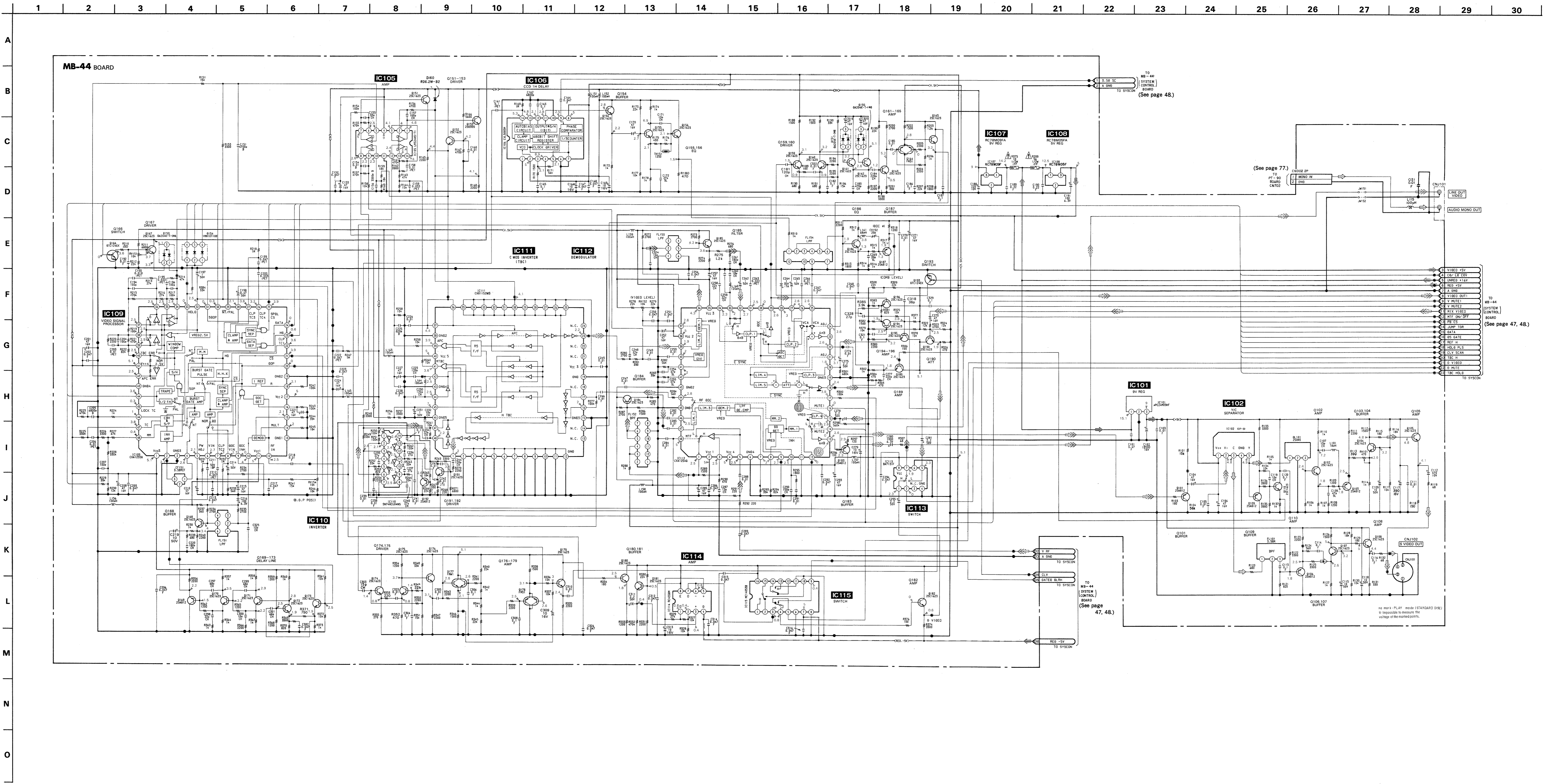


**MB-44 (VIDEO) PRINTED WIRING BOARD**  
 —Ref. No. MB-44 BOARD: 2000 series series—

DIODE		TRANSISTOR	
D001	8-719-923-64	D001	8-729-900-53
D002	8-719-400-18	D002	8-729-100-66
D004	8-719-400-18	D003	8-729-900-53
D005	8-719-109-85	D004	8-729-900-53
D006	8-719-400-18	D005	8-729-901-05
D007	8-719-400-18	D006	8-729-901-05
D151	8-719-800-76	Q101	8-729-216-22
D153	8-719-800-76	Q102	8-729-100-66
D154	8-719-951-22	Q103	8-729-216-22
D155	8-719-800-76		
D160	8-719-106-08	Q104	8-729-100-66
D401	8-719-400-18	Q105	8-729-100-66
D601	8-719-400-18	Q106	8-729-216-22
D602	8-719-400-18	Q107	8-729-100-66
D605	8-719-400-18	Q108	8-729-100-66
D606	8-719-104-34	Q109	8-729-216-22
D607	8-719-400-18	Q110	8-729-100-66
		Q111	8-729-100-66
		Q151	8-729-100-66
		Q152	8-729-100-66
		Q153	8-729-140-75
IC			
IC001	8-752-325-59	Q154	8-729-100-66
IC002	8-759-908-17	Q155	8-729-100-66
IC003	8-759-908-17	Q156	8-729-100-66
IC006	8-759-008-67	Q159	8-729-100-66
IC101	8-759-144-83	Q160	8-729-100-66
IC102	1-809-157-11	Q161	8-729-100-66
IC105	8-759-983-74	Q162	8-729-100-66
IC106	8-752-322-35	Q163	8-729-100-66
IC107	8-759-982-34	Q164	8-729-902-96
IC108	8-759-982-31	Q165	8-729-100-66
IC109	8-752-036-24	Q166	8-729-901-00
IC110	8-759-927-29	Q167	8-729-100-66
IC111	8-759-502-69	Q168	8-729-100-66
IC112	8-752-036-23	Q169	8-729-216-22
IC113	8-759-941-68	Q170	8-729-100-66
IC114	8-759-981-92	Q171	8-729-100-66
IC115	8-759-981-92	Q172	8-729-100-66
IC401	8-759-009-07	Q173	8-729-100-66
IC405	8-759-100-95	Q174	8-729-100-66
IC402	8-759-009-06	Q175	8-729-100-66
IC601	8-759-504-82	Q176	8-729-100-66
IC602	8-759-634-74	Q177	8-729-903-10
IC603	8-759-231-92	Q178	8-729-902-96
IC604	8-759-987-71	Q179	8-729-100-66
		Q180	8-729-100-66
		Q181	8-729-100-66
		Q182	8-729-100-66
		Q183	8-729-216-22
		Q184	8-729-100-66
		Q185	8-729-100-66
		Q186	8-729-100-66
		Q187	8-729-216-22
		Q188	8-729-100-66
		Q189	8-729-100-66
		Q190	8-729-100-66
		Q191	8-729-100-66
		Q192	8-729-216-22
		Q193	8-729-901-00
		Q194	8-729-100-66
		Q195	8-729-100-66
		Q196	8-729-100-66
		Q601	8-729-216-22
		Q602	8-729-901-00
		Q605	8-729-100-66
		Q606	8-729-901-00
		Q608	8-729-100-66
		Q609	8-729-100-66
		Q610	8-729-100-66
		Q611	8-729-901-00

MB-44 BOARD	
D001	A-5
D002	B-5
D004	A-25
D005	B-5
D006	B-3
D007	E-2
D151	K-20
D153	F-12
D154	F-12
D155	K-20
D160	H-21
D401	H-21
D601	E-27
D602	C-21
D605	B-20
D606	C-6
D607	A-20
D801	B-7
IC001	B-4
IC002	C-27
IC003	A-2
IC004	D-25
IC006	D-27
IC101	H-2
IC102	H-4
IC105	H-21
IC106	K-17
IC107	H-13
IC008	F-13
IC009	G-10
IC110	G-23
IC111	G-7
IC112	I-7
IC113	H-5
IC114	J-24
IC115	I-25
IC401	B-22
IC402	A-23
IC801	C-7
IC802	F-28
IC803	D-9
IC804	B-10
Q001	B-27
Q002	B-28
Q003	B-28
Q004	B-27
Q005	B-25
Q006	A-27
Q007	D-2
Q101	J-28
Q102	J-27
Q103	J-28
Q104	K-27
Q105	L-28
Q106	J-27
Q107	I-27
Q108	J-28
Q109	J-3
Q110	K-3
Q151	H-9
Q152	H-8
Q153	H-9
Q154	K-16
Q155	J-17
Q156	J-17
Q159	K-20
Q160	K-20
Q161	K-8
Q162	K-8
Q163	K-8
Q164	K-8
Q165	K-21
Q166	F-17
Q167	F-17
Q168	G-21
Q169	F-20
Q170	F-8
Q171	F-21
Q172	F-21
Q173	F-8
Q174	K-18
Q175	K-18
Q176	K-19
Q177	K-10
Q178	K-10
Q179	K-19
Q180	K-26
Q181	K-25
Q182	I-24
Q183	J-6
Q184	H-23
Q185	J-20



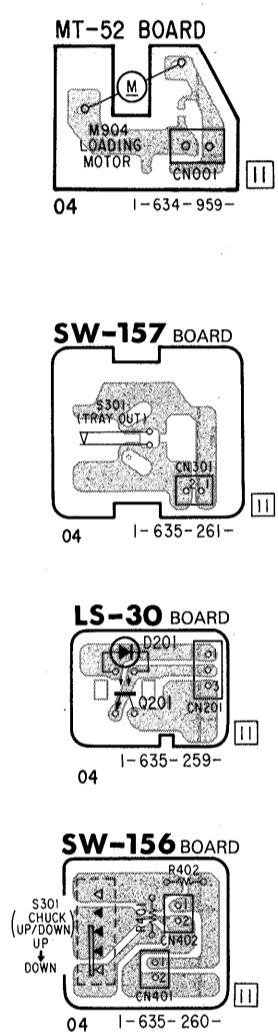
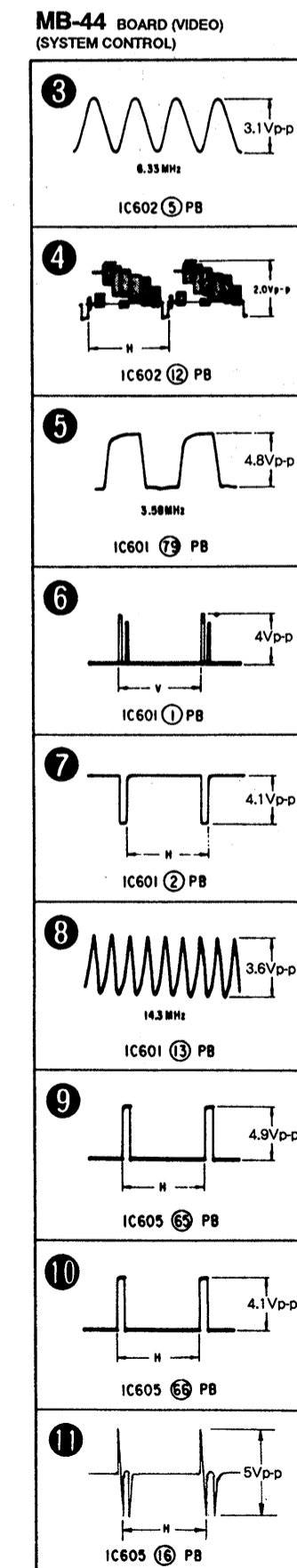
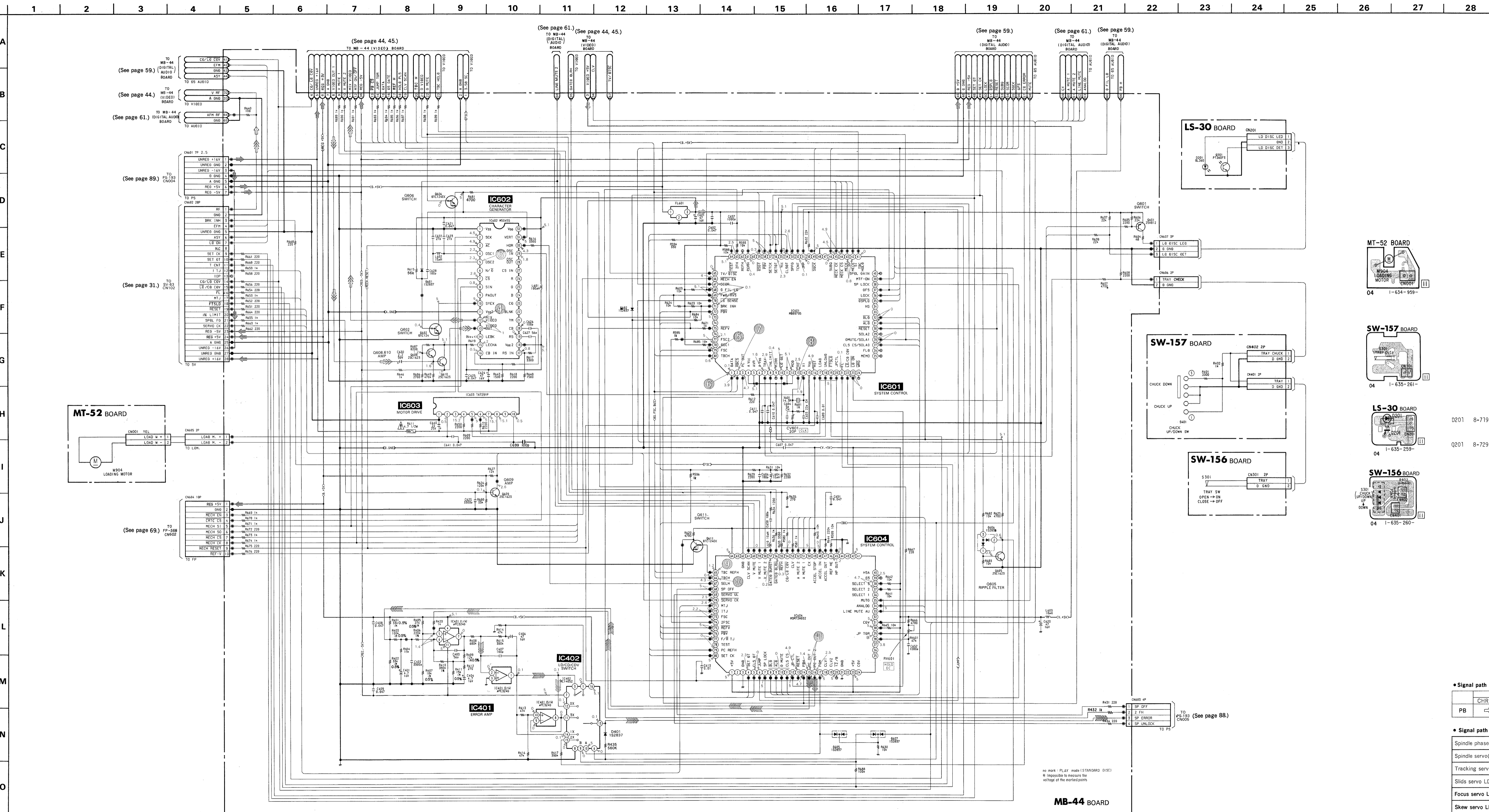


• Signal path

	VIDEO Signal		AUDIO Signal
	CHROMA	Y / CHROMA	
PB	⇒	⇒⇒	⇒

• Signal path

Spindle phase servo	⇒⇒
Spindle servo(speed and phase)	⇒⇒⇒
Tracking servo LD/CD/CDV	⇒⇒
Slids servo LD/CD	⇒
Focus servo LD/CD	⇒
Skew servo LD TILT	⇒



DIODE

D201 8-719-941-81 DIODE GL360

TRANSISTOR

Q201 8-729-904-10 TRANSISTOR PT360FS

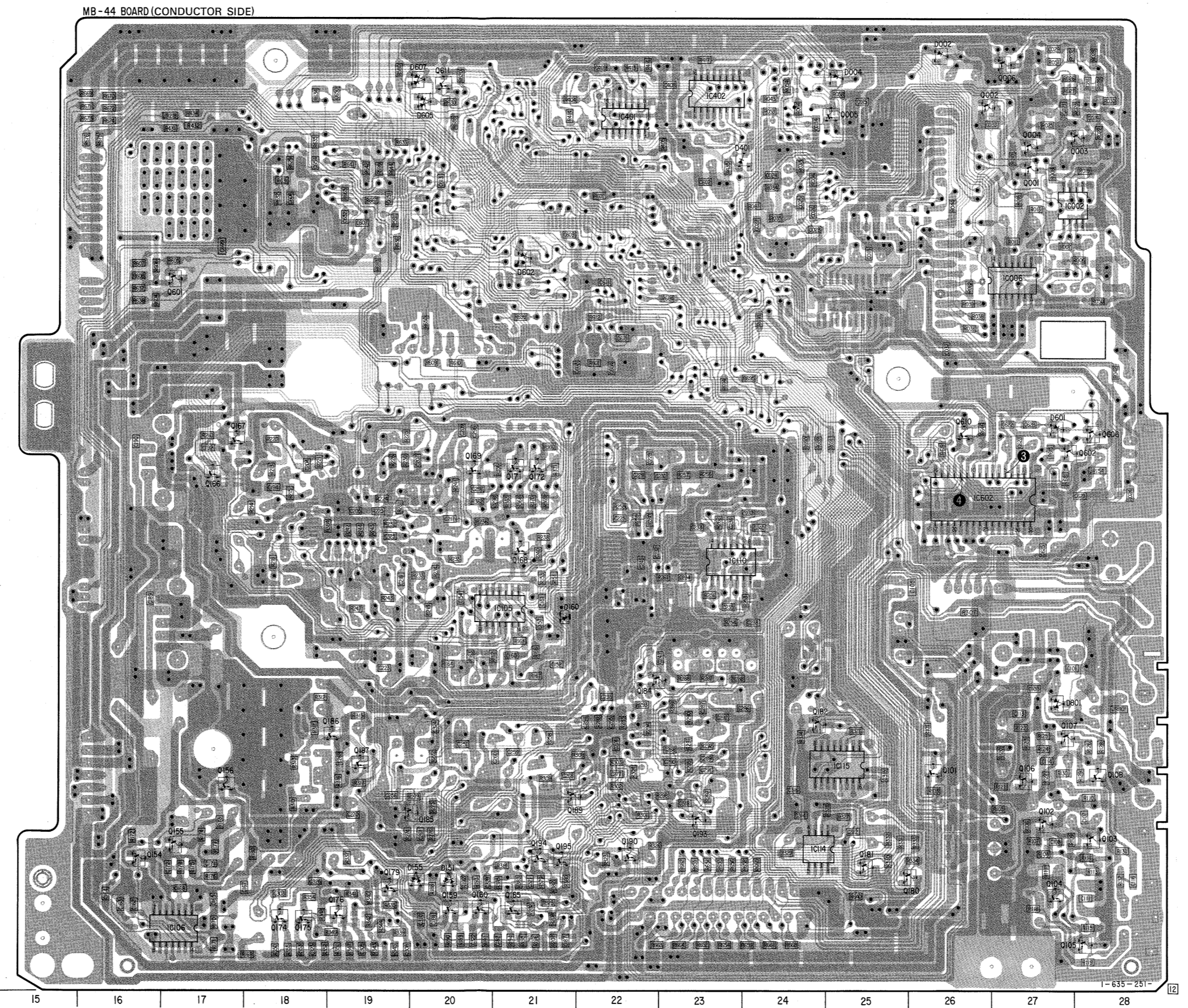
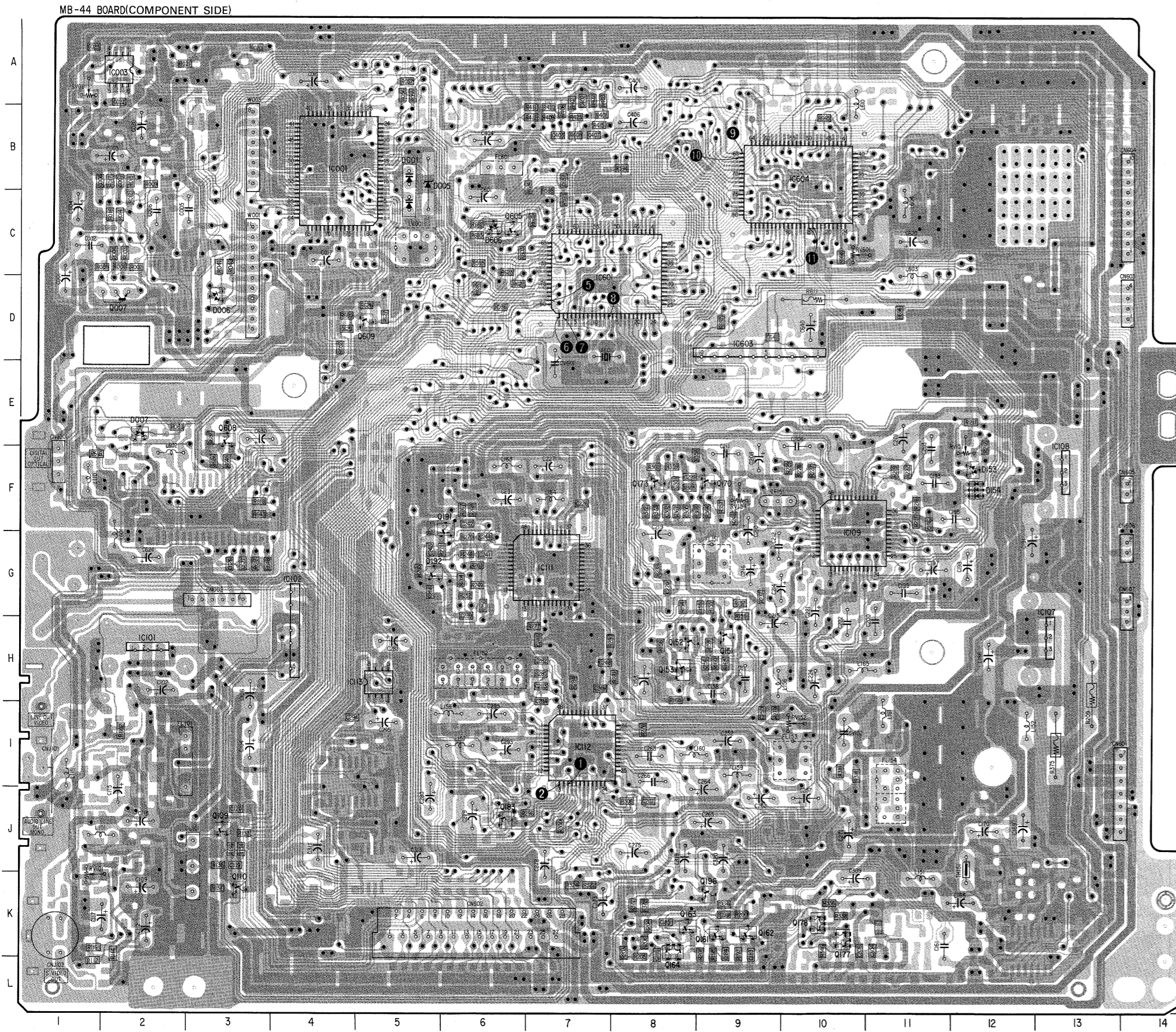
• Signal path

	VIDEO Signal	Y/CHROMA	AUDIO Signal
CHROMA	Y	Y	
PB	⇒	⇒	⇒

• Signal path

Spindle phase servo	⇒⇒
Spindle servo(speed and phase)	⇒⇒⇒
Tracking servo LD/CD/CDV	⇒⇒
Slits servo LD/CD	⇒
Focus servo LD/CD	⇒
Skew servo LD TILT	⇒

**MB-44 (SYSTEM CONTROL), LS-30 (LD SENSOR), MT-52 (LOADING MOTOR), SW-156 (CHUCK SWITCH), SW-157 (TRAY SWITCH) PRINTED WIRING BOARDS**  
 —Ref. No. MB-44 BOARD : 2000 series, LS-30, MT-52, SW-157 BOARDS : 3000 series—



**MB-44 BOARD**

IC001	B-4
IC002	C-27
IC003	A-2
IC004	D-25
IC006	D-27
IC010	H-2
IC102	H-4
IC105	H-21
IC106	K-17
IC107	H-13
IC008	F-12
IC009	H-10
IC110	G-23
IC111	G-7
IC112	I-7
IC113	H-5
IC114	J-24
IC115	I-25
IC401	B-22
IC402	A-23
IC601	C-7
IC602	D-9
IC603	D-8
IC604	B-10
Q001	B-27
Q002	B-28
Q003	B-28
Q004	B-27
Q005	B-25
Q006	A-27
Q007	D-2
Q101	J-26
Q102	J-27
Q103	J-28
Q104	K-27
Q105	L-28
Q106	J-27
Q107	I-27
Q108	J-28
Q109	J-3
Q110	K-3
Q151	H-8
Q152	H-8
Q153	H-8
Q154	K-16
Q155	J-17
Q156	J-17
Q159	K-20
Q160	K-20
Q161	K-9
Q162	K-9
Q163	K-8
Q164	K-8
Q165	K-21
Q166	F-17
Q167	F-17
Q168	G-21
Q169	F-20
Q170	F-9
Q171	F-21
Q172	F-21
Q173	F-8
Q174	K-18
Q175	K-18
Q176	K-19
Q177	K-10
Q178	K-10
Q179	K-10
Q180	K-26
Q181	K-25
Q182	I-24
Q183	J-6
Q184	H-23
Q185	J-20

**DIODE**

D001	8-719-923-64	DIODE KV1236D
D002	8-719-400-18	DIODE MA152WK
D004	8-719-400-18	DIODE MA152WK
D005	8-719-109-85	DIODE RD5.1ES-B2
D006	8-719-400-18	DIODE MA152WK
D007	8-719-400-18	DIODE MA152WK
D151	8-719-800-76	DIODE 1S226
D153	8-719-800-76	DIODE 1S226
D154	8-719-951-22	DIODE IMN10
D155	8-719-800-76	DIODE 1S226
D160	8-719-106-08	DIODE RD6.2M-B2
D401	8-719-400-18	DIODE MA152WK
D601	8-719-400-18	DIODE MA152WK
D602	8-719-400-18	DIODE MA152WK
D605	8-719-400-18	DIODE MA152WK
D606	8-719-104-34	DIODE 1S2836
D607	8-719-400-18	DIODE MA152WK

**IC**

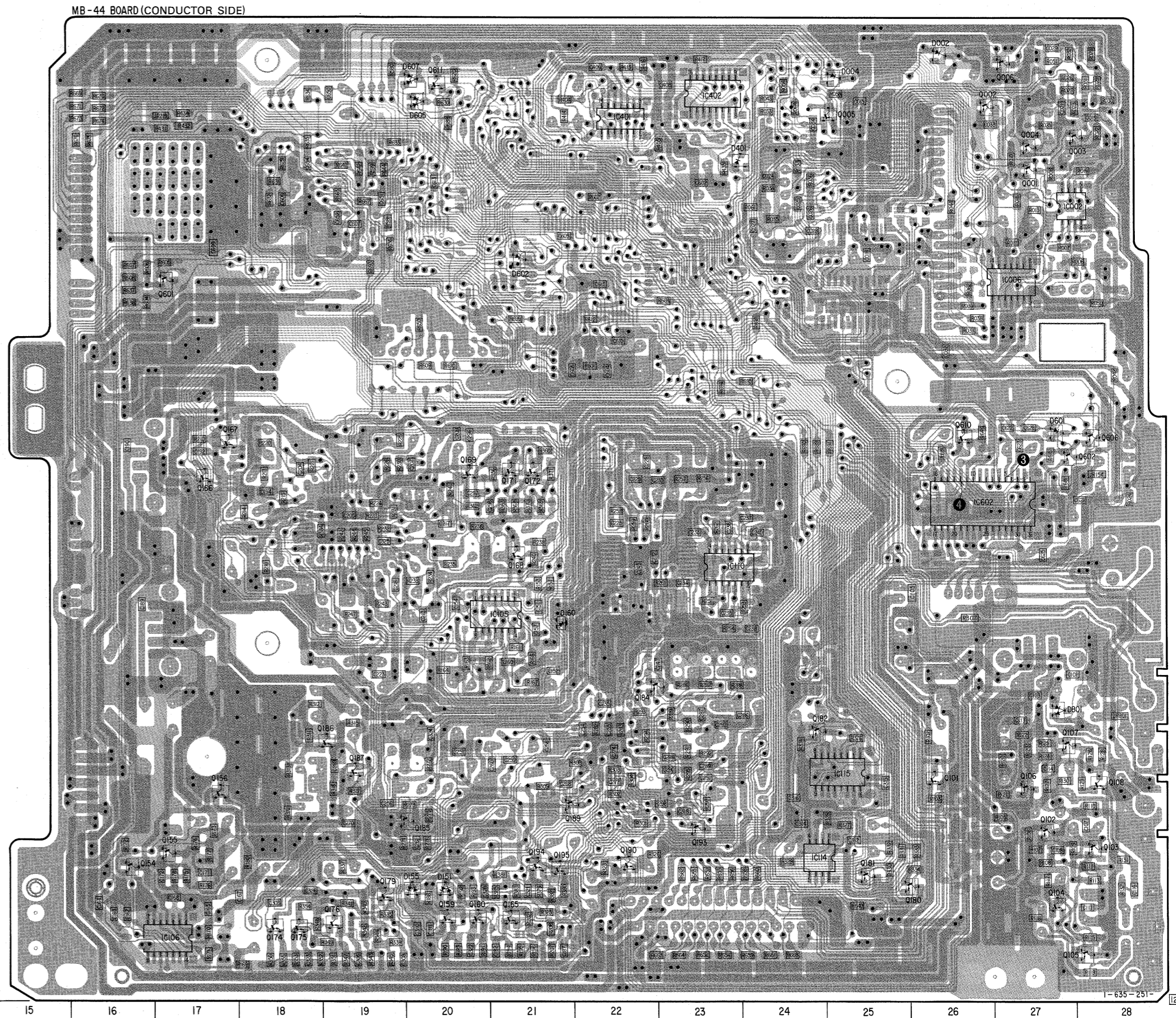
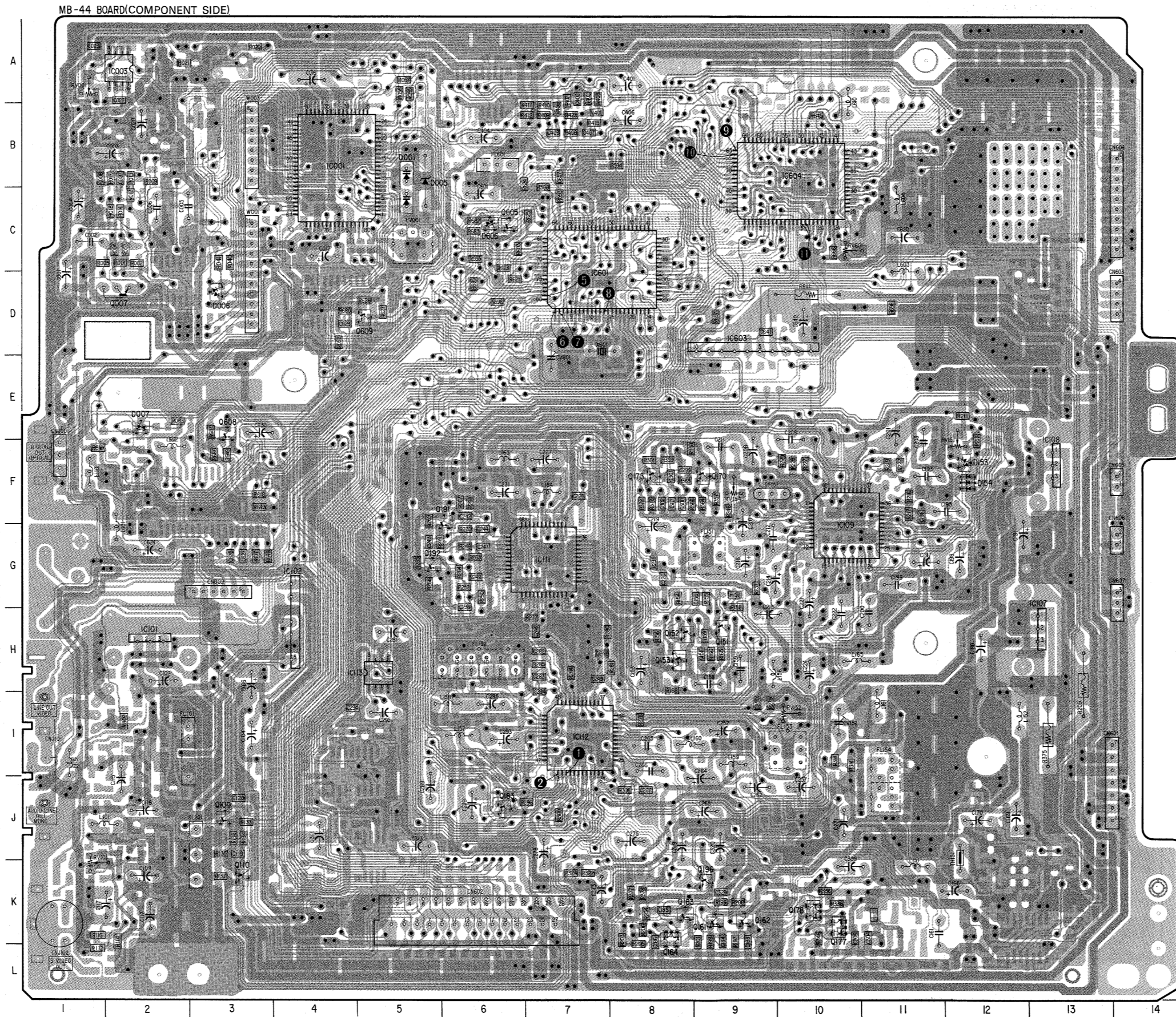
IC001	8-752-325-59	IC CXD1165Q
IC002	8-759-908-17	IC TL082CPS
IC003	8-759-908-17	IC TL082CPS
IC006	8-759-008-67	IC MC14066BF
IC101	8-759-144-83	IC UPC24M09HF
IC102	1-809-157-11	FILTER BLOCK, COM
IC105	8-759-983-74	IC LM324NS
IC106	8-752-322-35	IC CXL5005M
IC107	8-759-982-34	IC RC78M09FA
IC108	8-759-982-31	IC RC78M05FA
IC109	8-752-036-24	IC CXA1255Q
IC110	8-759-927-29	IC SN74HCU04NS
IC111	8-759-502-69	IC CXD1152-MS
IC112	8-752-036-23	IC CXA1254Q
IC113	8-759-941-68	IC BA7131F
IC114	8-759-981-92	IC RC4558M
IC115	8-759-009-07	IC MC14053BF
IC401	8-759-100-95	IC UPC324G2
IC402	8-759-009-06	IC MC14052BF
IC601	8-759-504-82	IC MB89795-126
IC602	8-759-634-74	IC M50455-196FP
IC603	8-759-231-92	IC TA7291P
IC604	8-759-987-71	IC MSM72H032GS-K

**TRANSISTOR**

Q001	8-729-900-53	TRANSISTOR DTC114EK
Q002	8-729-100-66	TRANSISTOR 2SA1162
Q003	8-729-900-53	TRANSISTOR DTC114EK
Q004	8-729-900-53	TRANSISTOR DTC114EK
Q005	8-729-901-05	TRANSISTOR DTA124EK
Q006	8-729-901-05	TRANSISTOR DTA124EK
Q101	8-729-216-22	TRANSISTOR 2SA1162
Q102	8-729-100-66	TRANSISTOR 2SC1623
Q103	8-729-216-22	TRANSISTOR 2SA1162
Q104	8-729-100-66	TRANSISTOR 2SC1623
Q105	8-729-100-66	TRANSISTOR 2SC1623
Q106	8-729-216-22	TRANSISTOR 2SA1162
Q107	8-729-100-66	TRANSISTOR 2SC1623
Q108	8-729-100-66	TRANSISTOR 2SC1623
Q109	8-729-216-22	TRANSISTOR 2SA1162
Q110	8-729-100-66	TRANSISTOR 2SC1623
Q151	8-729-100-66	TRANSISTOR 2SC1623
Q152	8-729-100-66	TRANSISTOR 2SC1623
Q153	8-729-140-75	TRANSISTOR 2SD999-CLCK
Q154	8-729-100-66	TRANSISTOR 2SC1623
Q155	8-729-100-66	TRANSISTOR 2SC1623
Q156	8-729-100-66	TRANSISTOR 2SC1623
Q159	8-729-100-66	TRANSISTOR 2SC1623
Q160	8-729-100-66	TRANSISTOR 2SC1623
Q161	8-729-100-66	TRANSISTOR 2SC1623
Q162	8-729-100-66	TRANSISTOR 2SC1623
Q163	8-729-100-66	TRANSISTOR 2SC1623
Q164	8-729-902-96	TRANSISTOR FMS1
Q165	8-729-100-66	TRANSISTOR 2SC1623
Q166	8-729-901-00	TRANSISTOR DTC124EK
Q167	8-729-100-66	TRANSISTOR 2SC1623
Q168	8-729-100-66	TRANSISTOR 2SC1623
Q169	8-729-216-22	TRANSISTOR 2SA1162
Q170	8-729-100-66	TRANSISTOR 2SC1623
Q171	8-729-100-66	TRANSISTOR 2SC1623
Q172	8-729-100-66	TRANSISTOR 2SC1623
Q173	8-729-100-66	TRANSISTOR 2SC1623
Q174	8-729-100-66	TRANSISTOR 2SC1623
Q175	8-729-100-66	TRANSISTOR 2SC1623
Q176	8-729-100-66	TRANSISTOR 2SC1623
Q177	8-729-903-10	TRANSISTOR FMW1
Q178	8-729-902-96	TRANSISTOR FMS1
Q179	8-729-100-66	TRANSISTOR 2SC1623
Q180	8-729-100-66	TRANSISTOR 2SC1623
Q181	8-729-100-66	TRANSISTOR 2SC1623
Q182	8-729-100-66	TRANSISTOR 2SC1623
Q183	8-729-216-22	TRANSISTOR 2SA1162
Q184	8-729-100-66	TRANSISTOR 2SC1623
Q185	8-729-100-66	TRANSISTOR 2SC1623
Q186	8-729-100-66	TRANSISTOR 2SC1623
Q187	8-729-216-22	TRANSISTOR 2SA1162
Q189	8-729-100-66	TRANSISTOR 2SC1623
Q190	8-729-100-66	TRANSISTOR 2SC1623
Q191	8-729-100-66	TRANSISTOR 2SC1623
Q192	8-729-216-22	TRANSISTOR 2SA1162
Q193	8-729-901-00	TRANSISTOR DTC124EK
Q194	8-729-100-66	TRANSISTOR 2SC1623
Q195	8-729-100-66	TRANSISTOR 2SC1623
Q196	8-729-100-66	TRANSISTOR 2SC1623
Q601	8-729-216-22	TRANSISTOR 2SA1162
Q602	8-729-901-00	TRANSISTOR DTC124EK
Q605	8-729-100-66	TRANSISTOR 2SC1623
Q606	8-729-901-00	TRANSISTOR DTC124EK
Q608	8-729-100-66	TRANSISTOR 2SC1623
Q609	8-729-100-66	TRANSISTOR 2SC1623
Q610	8-729-100-66	TRANSISTOR 2SC1623
Q611	8-729-901-00	TRANSISTOR DTC124EK

**MB-44 (DIGITAL AUDIO) PRINTED WIRING BOARD**  
 —Ref. No. MB-44 BOARD: 2000 series—

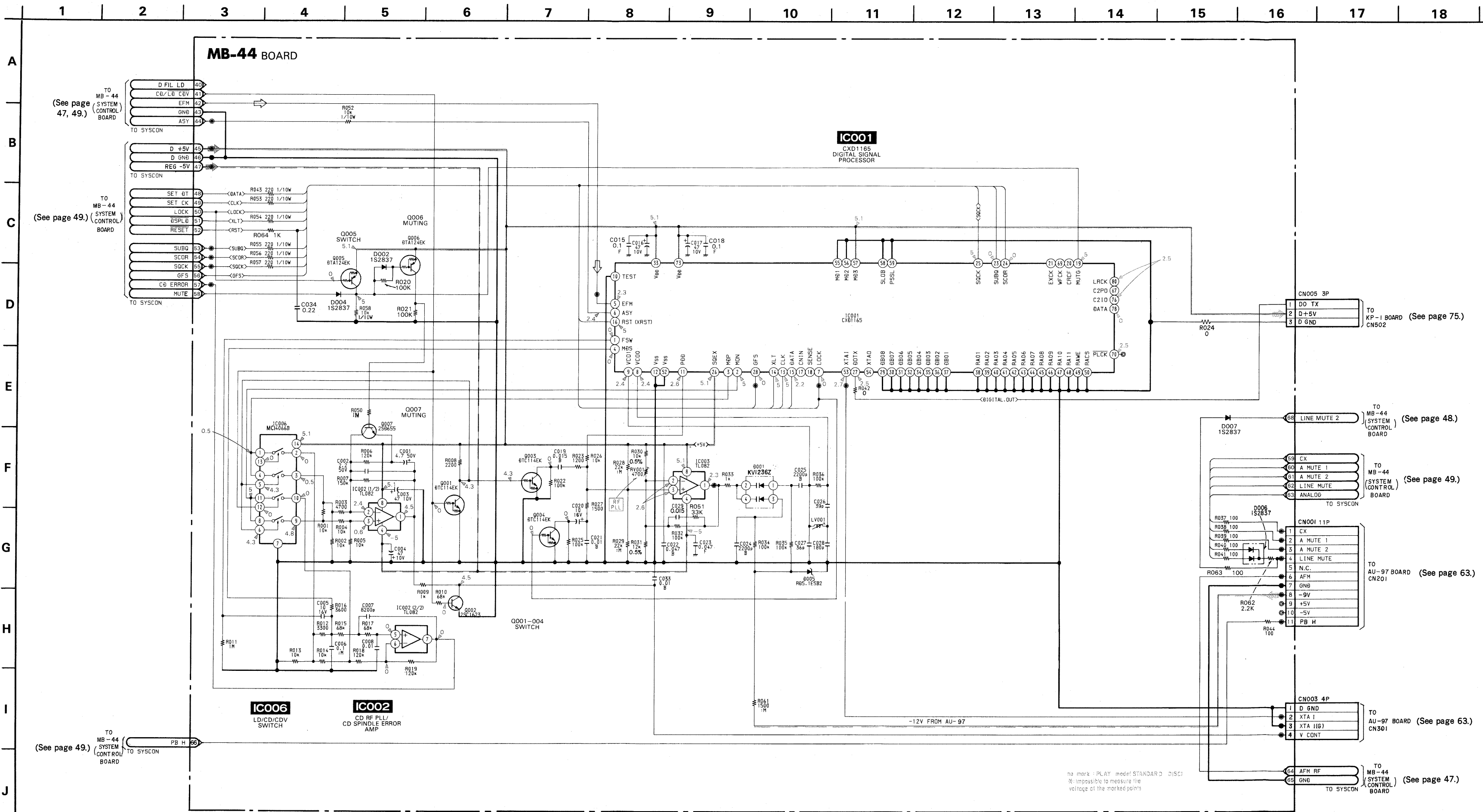
DIODE		TRANSISTOR		MB-44 BOARD	
D001	8-719-923-64	D10DE KV1236D	Q001	8-729-900-53	TRANSISTOR DTC114EK
D002	8-719-400-18	D10DE MA152WK	Q002	8-729-100-66	TRANSISTOR 2SC1623
D003	8-719-400-18	D10DE MA152WK	Q003	8-729-900-53	TRANSISTOR DTC114EK
D005	8-719-109-85	D10DE RD5.1ES-B2	Q004	8-729-900-53	TRANSISTOR DTC114EK
D006	8-719-400-18	D10DE MA152WK	Q005	8-729-901-05	TRANSISTOR DTA124EK
D007	8-719-400-18	D10DE MA152WK	Q006	8-729-901-05	TRANSISTOR DTA124EK
D151	8-719-800-76	D10DE 1SS226	Q101	8-729-216-22	TRANSISTOR 2SA1162
D153	8-719-800-76	D10DE 1SS226	Q102	8-729-100-66	TRANSISTOR 2SC1623
D154	8-719-951-22	D10DE 1MN10	Q103	8-729-216-22	TRANSISTOR 2SA1162
D155	8-719-800-76	D10DE 1SS226	Q104	8-729-100-66	TRANSISTOR 2SC1623
D160	8-719-106-08	D10DE RD6.2M-B2	Q105	8-729-100-66	TRANSISTOR 2SC1623
D401	8-719-400-18	D10DE MA152WK	Q106	8-729-216-22	TRANSISTOR 2SA1162
D601	8-719-400-18	D10DE MA152WK	Q107	8-729-100-66	TRANSISTOR 2SC1623
D602	8-719-400-18	D10DE MA152WK	Q108	8-729-100-66	TRANSISTOR 2SC1623
D605	8-719-400-18	D10DE MA152WK	Q109	8-729-216-22	TRANSISTOR 2SA1162
D606	8-719-104-34	D10DE 1S2836	Q110	8-729-100-66	TRANSISTOR 2SC1623
D607	8-719-400-18	D10DE MA152WK	Q151	8-729-100-66	TRANSISTOR 2SC1623
<b>IC</b>					
IC001	8-752-325-59	IC CXD1165Q	Q152	8-729-100-66	TRANSISTOR 2SC1623
IC002	8-759-908-17	IC TL082CPS	Q153	8-729-140-75	TRANSISTOR ZSD999-CLCK
IC003	8-759-908-17	IC TL082CPS	Q154	8-729-100-66	TRANSISTOR 2SC1623
IC006	8-759-008-67	IC MC14066BF	Q155	8-729-100-66	TRANSISTOR 2SC1623
IC101	8-759-144-83	IC UPC24M09HF	Q156	8-729-100-66	TRANSISTOR 2SC1623
IC102	1-809-157-11	FILTER BLOCK, COM	Q159	8-729-100-66	TRANSISTOR 2SC1623
IC105	8-759-983-74	IC LM324NS	Q160	8-729-100-66	TRANSISTOR 2SC1623
IC106	8-752-322-35	IC CXL5005M	Q161	8-729-100-66	TRANSISTOR 2SC1623
IC107	8-759-982-34	IC RC78M09FA	Q162	8-729-100-66	TRANSISTOR 2SC1623
IC108	8-759-982-31	IC RC78M05FA	Q163	8-729-100-66	TRANSISTOR 2SC1623
IC109	8-752-036-24	IC CXA1255Q	Q164	8-729-902-96	TRANSISTOR FMS1
IC110	8-759-927-29	IC SN74HC04NS	Q165	8-729-100-66	TRANSISTOR 2SC1623
IC111	8-759-502-69	IC CXD1152-MS	Q166	8-729-901-00	TRANSISTOR DTC124EK
IC112	8-752-036-23	IC CXA1254Q	Q167	8-729-100-66	TRANSISTOR 2SC1623
IC113	8-759-941-68	IC BA7131F	Q168	8-729-100-66	TRANSISTOR 2SC1623
IC114	8-759-981-92	IC RC4558M	Q169	8-729-216-22	TRANSISTOR 2SA1162
IC115	8-759-009-07	IC MC14053BF	Q170	8-729-100-66	TRANSISTOR 2SC1623
IC401	8-759-100-95	IC UPC32462	Q171	8-729-100-66	TRANSISTOR 2SC1623
IC402	8-759-009-06	IC MC14052BF	Q172	8-729-100-66	TRANSISTOR 2SC1623
IC601	8-759-504-82	IC MB89795-126	Q173	8-729-100-66	TRANSISTOR 2SC1623
IC602	8-759-634-74	IC M50455-196FP	Q174	8-729-100-66	TRANSISTOR 2SC1623
IC603	8-759-231-92	IC TA7291P	Q175	8-729-100-66	TRANSISTOR 2SC1623
IC604	8-759-987-71	IC MSM72H032G5-K	Q176	8-729-100-66	TRANSISTOR 2SC1623
Q176	8-729-100-66	TRANSISTOR 2SC1623	Q177	8-729-903-10	TRANSISTOR FMS1
Q177	8-729-903-10	TRANSISTOR FMS1	Q178	8-729-902-96	TRANSISTOR FMS1
Q178	8-729-902-96	TRANSISTOR FMS1	Q179	8-729-100-66	TRANSISTOR 2SC1623
Q179	8-729-100-66	TRANSISTOR 2SC1623	Q180	8-729-100-66	TRANSISTOR 2SC1623
Q180	8-729-100-66	TRANSISTOR 2SC1623	Q181	8-729-100-66	TRANSISTOR 2SC1623
Q181	8-729-100-66	TRANSISTOR 2SC1623	Q182	8-729-100-66	TRANSISTOR 2SC1623
Q182	8-729-100-66	TRANSISTOR 2SC1623	Q183	8-729-216-22	TRANSISTOR 2SA1162
Q183	8-729-216-22	TRANSISTOR 2SA1162	Q184	8-729-100-66	TRANSISTOR 2SC1623
Q184	8-729-100-66	TRANSISTOR 2SC1623	Q185	8-729-100-66	TRANSISTOR 2SC1623
Q185	8-729-100-66	TRANSISTOR 2SC1623	Q186	8-729-100-66	TRANSISTOR 2SC1623
Q186	8-729-100-66	TRANSISTOR 2SC1623	Q187	8-729-216-22	TRANSISTOR 2SA1162
Q187	8-729-216-22	TRANSISTOR 2SA1162	Q188	8-729-100-66	TRANSISTOR 2SC1623
Q188	8-729-100-66	TRANSISTOR 2SC1623	Q189	8-729-100-66	TRANSISTOR 2SC1623
Q189	8-729-100-66	TRANSISTOR 2SC1623	Q190	8-729-100-66	TRANSISTOR 2SC1623
Q190	8-729-100-66	TRANSISTOR 2SC1623	Q191	8-729-100-66	TRANSISTOR 2SC1623
Q191	8-729-100-66	TRANSISTOR 2SC1623	Q192	8-729-216-22	TRANSISTOR 2SA1162
Q192	8-729-216-22	TRANSISTOR 2SA1162	Q193	8-729-901-00	TRANSISTOR DTC124EK
Q193	8-729-901-00	TRANSISTOR DTC124EK	Q194	8-729-100-66	TRANSISTOR 2SC1623
Q194	8-729-100-66	TRANSISTOR 2SC1623	Q195	8-729-100-66	TRANSISTOR 2SC1623
Q195	8-729-100-66	TRANSISTOR 2SC1623	Q196	8-729-100-66	TRANSISTOR 2SC1623
Q196	8-729-100-66	TRANSISTOR 2SC1623	Q601	8-729-216-22	TRANSISTOR 2SA1162
Q601	8-729-216-22	TRANSISTOR 2SA1162	Q602	8-729-901-00	TRANSISTOR DTC124EK
Q602	8-729-901-00	TRANSISTOR DTC124EK	Q605	8-729-100-66	TRANSISTOR 2SC1623
Q605	8-729-100-66	TRANSISTOR 2SC1623	Q606	8-729-901-00	TRANSISTOR DTC124EK
Q606	8-729-901-00	TRANSISTOR DTC124EK	Q608	8-729-100-66	TRANSISTOR 2SC1623
Q608	8-729-100-66	TRANSISTOR 2SC1623	Q609	8-729-100-66	TRANSISTOR 2SC1623
Q609	8-729-100-66	TRANSISTOR 2SC1623	Q610	8-729-100-66	TRANSISTOR 2SC1623
Q610	8-729-100-66	TRANSISTOR 2SC1623	Q611	8-729-901-00	TRANSISTOR DTC124EK
Q611	8-729-901-00	TRANSISTOR DTC124EK			





**MB-44 (DIGITAL AUDIO) SCHEMATIC DIAGRAM**

—Ref. No. MB-44 BOARD: 2000 series—

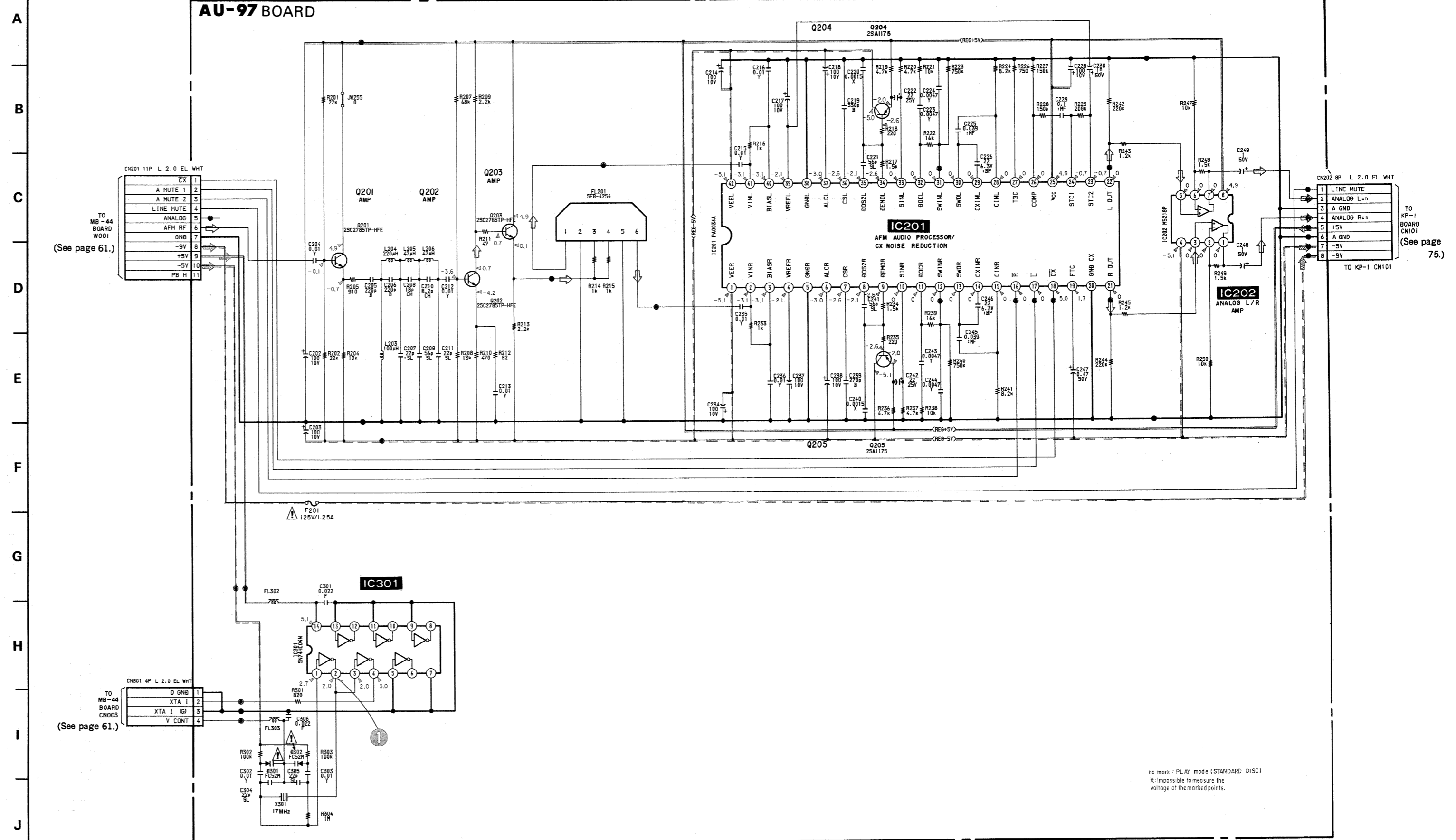


• Signal path

	CHROMA	VIDEO Signal	V/CHROMA	AUDIO Signal
PB	⇒	⇒	⇒	⇒

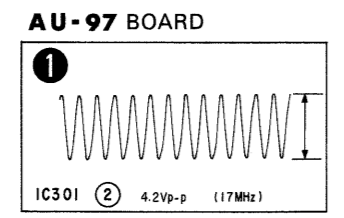
**AU-97 (AUDIO) SCHEMATIC DIAGRAM**  
 —Ref. No. AU-97 BOARD: 4000 series—

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



TO MB-44 BOARD W001  
 (See page 61.)

TO KP-1 BOARD CN101  
 (See page 75.)



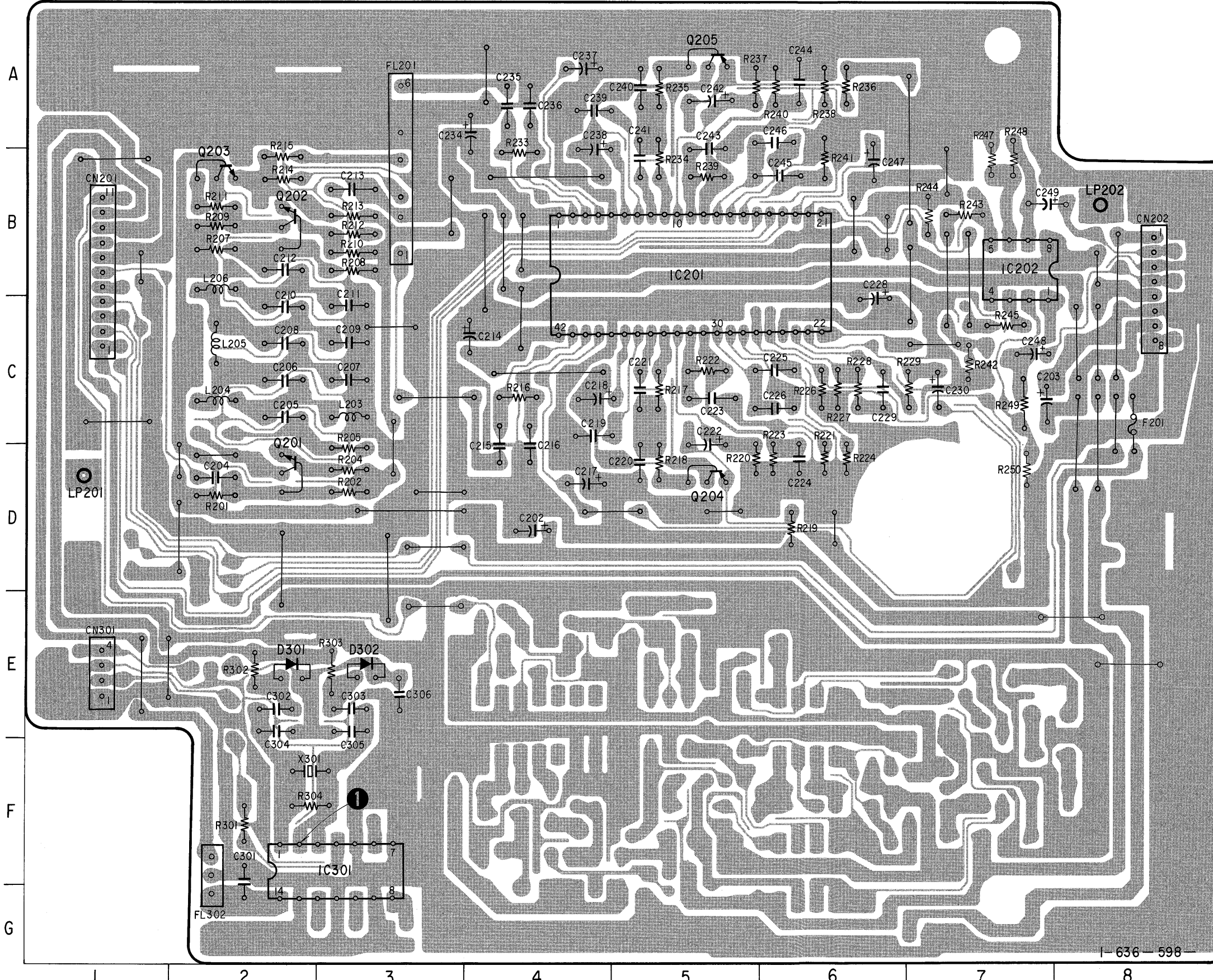
• Signal path

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
PB	⇒	⇒⇒	⇒⇒⇒	⇒

no mark : PL 4Y mode (STANDARD DISC)  
 \* Impossible to measure the voltage of the marked points.

**AU-97 (AUDIO) PRINTED WIRING BOARD**  
 —Ref. No. AU-97 BOARD: 4000 series—

**AU-97 BOARD**



AU-97 BOARD	
D301	E-2
D302	E-3
IC201	B-5
IC202	B-7
IC301	F-3
Q201	D-2
Q202	B-2
Q203	B-2
Q204	D-5
Q205	A-5

DIODE

D301	.8-719-907-19	DIODE FC52M-5
D302	.8-719-907-19	DIODE FC52M-5

IC

IC201	8-759-502-42	IC PA0034A
IC202	8-759-601-02	IC M5218P
IC301	8-759-916-14	IC SN74HC04N

TRANSISTOR

Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q202	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q203	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q204	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q205	8-729-119-76	TRANSISTOR 2SA1175-HFE

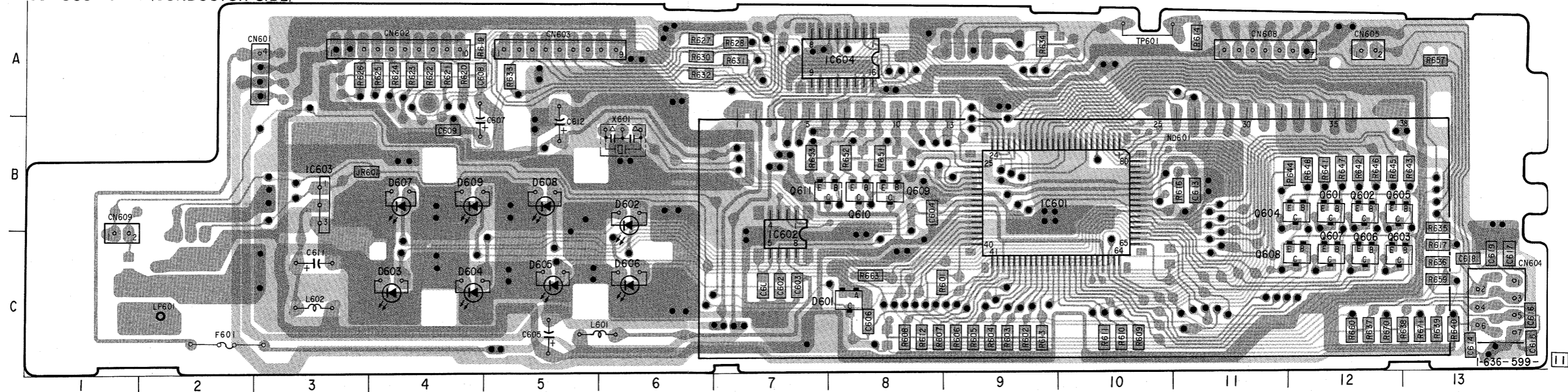
636-598

**FP-368 (MODE CONTROL, DISPLAY), FP-369 (FUNCTION SWITCH), SW-162 (FUNCTION SWITCH) PRINTED WIRING BOARDS**

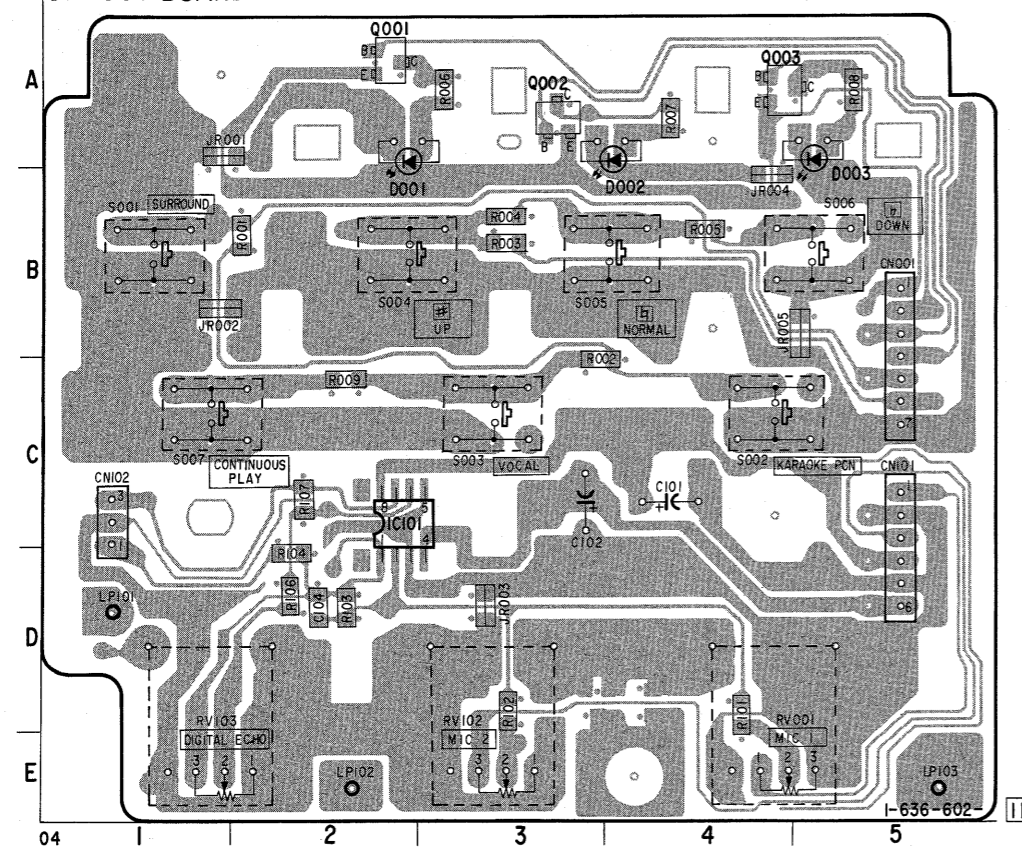
—Ref. No. FP-368, FP-369 BOARDS: 5000 series, SW-162 BOARD: 4000 series—

- FP-368 BOARD  
 D601 C-8  
 D602 B-6  
 D603 C-4  
 D604 C-4  
 D605 C-5  
 D606 C-6  
 D607 B-4  
 D608 B-5  
 D609 B-4  
  
 IC601 B-9  
 IC602 B-7  
 IC603 B-3  
 IC604 A-8  
  
 Q601 B-12  
 Q602 B-12  
 Q603 C-12  
 Q604 B-12  
 Q605 B-12  
 Q606 C-12  
 Q607 C-12  
 Q608 C-12  
 Q609 B-8  
 Q610 B-8  
 Q611 B-8

**FP-368 BOARD(CONDUCTOR SIDE)**

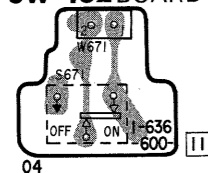


**FP-369 BOARD**

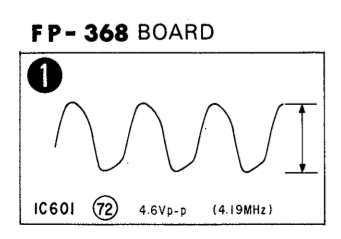
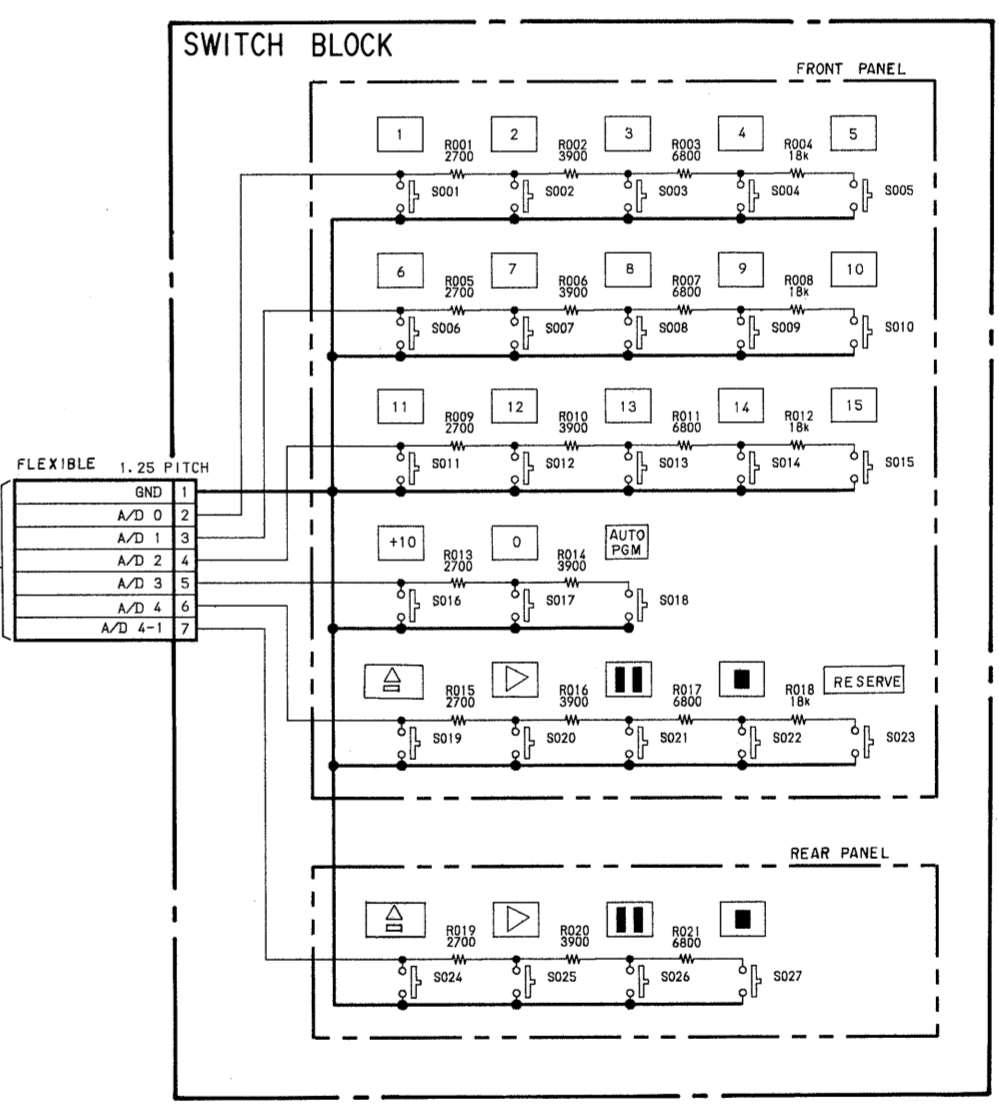
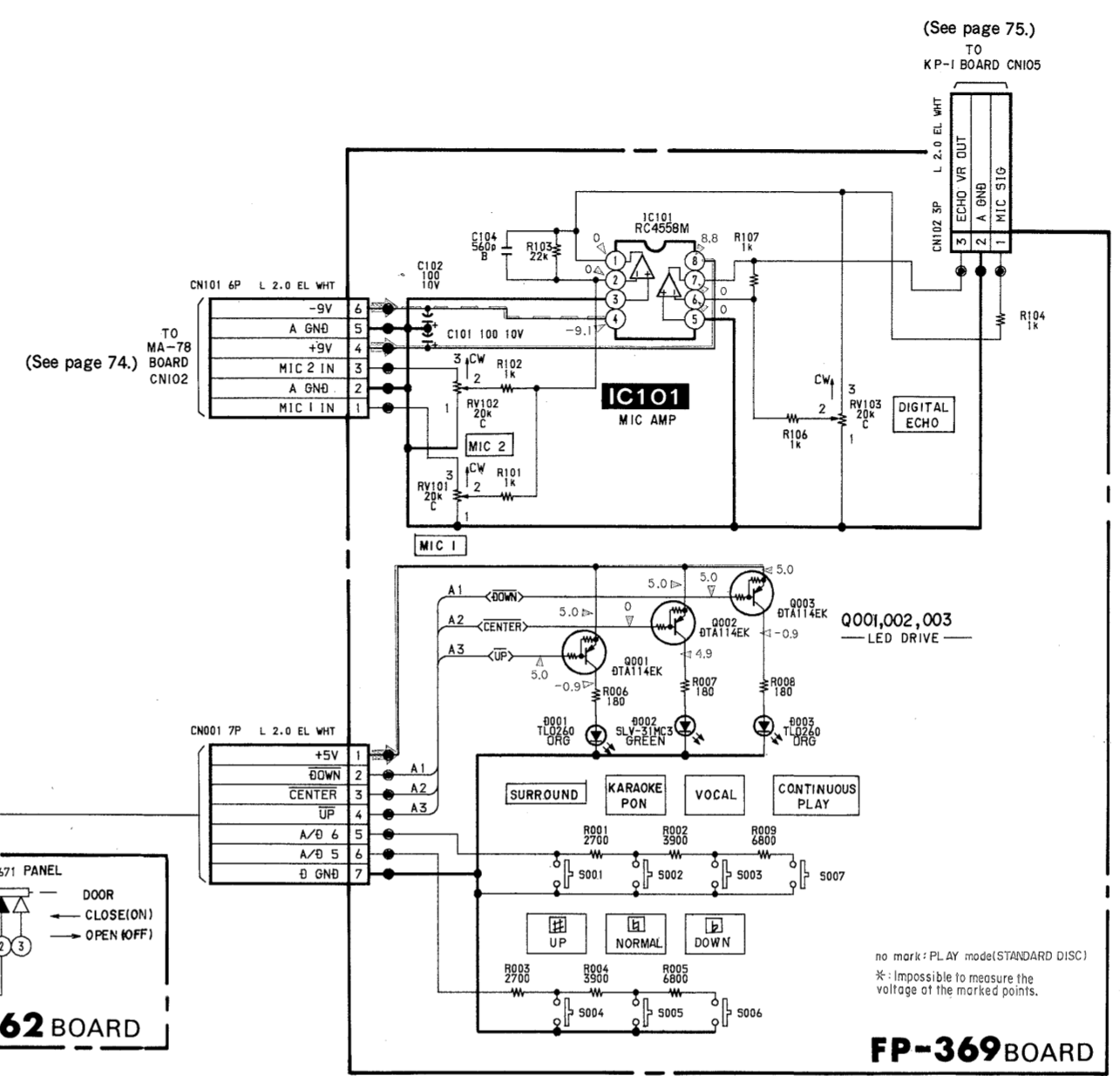
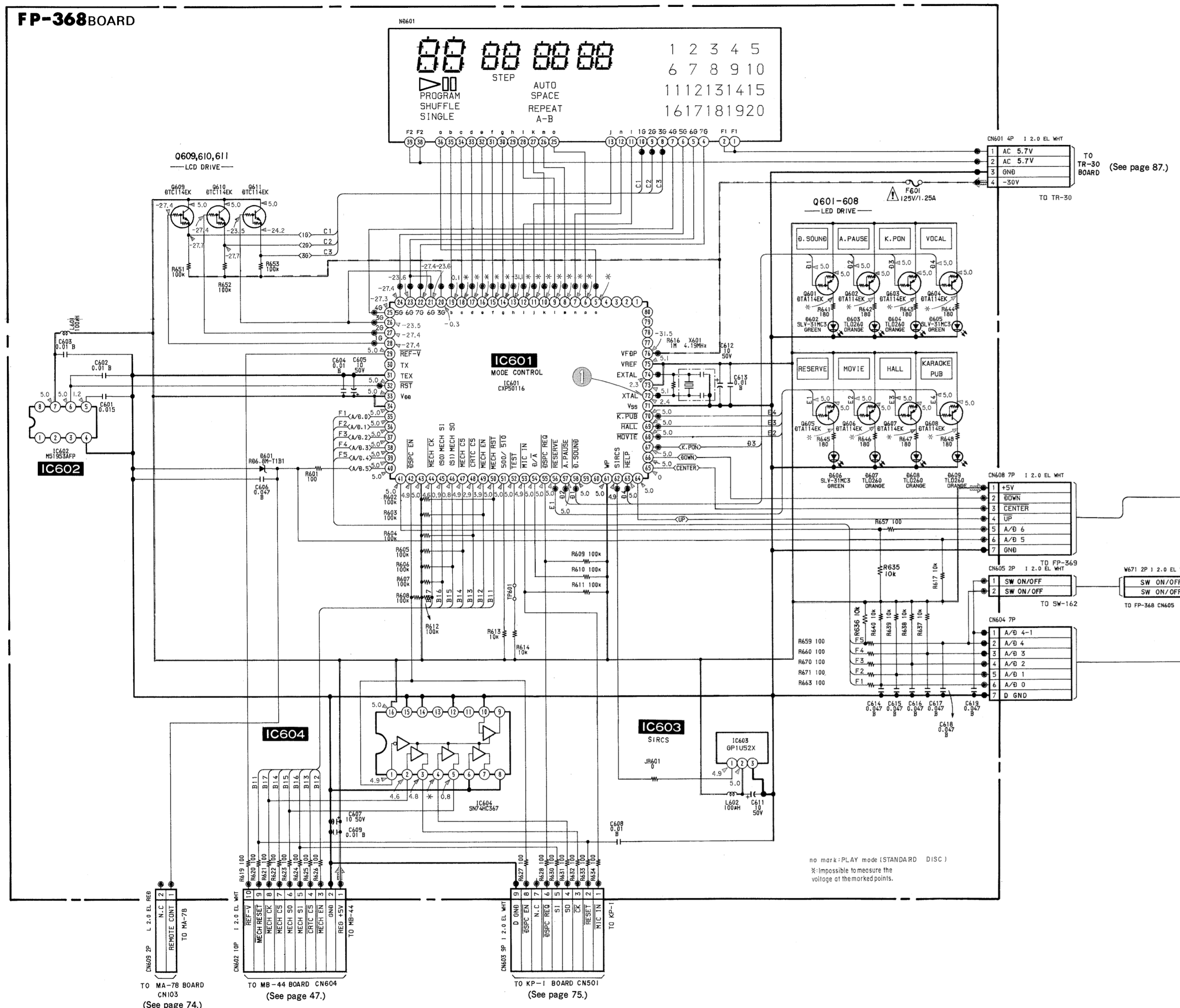


DIODE		
D001	8-719-820-29	DIODE TL0260
D002	8-719-951-35	DIODE SLV-31MC3
D003	8-719-820-29	DIODE TL0260
IC		
IC101	8-759-603-13	IC M5218FP
TRANSISTOR		
Q001	8-729-901-04	TRANSISTOR DTA114EK
Q002	8-729-901-04	TRANSISTOR DTA114EK
Q003	8-729-901-04	TRANSISTOR DTA114EK
DIODE		
D601	8-719-106-16	DIODE RD6.8M-B1
D602	8-719-951-35	DIODE SLV-31MC3
D603	8-719-820-29	DIODE TL0260
D604	8-719-820-29	DIODE TL0260
D605	8-719-951-35	DIODE SLV-31MC3
D606	8-719-951-35	DIODE SLV-31MC3
D607	8-719-820-29	DIODE TL0260
D608	8-719-820-29	DIODE TL0260
D609	8-719-820-29	DIODE TL0260
IC		
IC601	8-752-816-21	IC CXP50116-091Q
IC602	8-759-605-21	IC M51953AFP
IC603	1-466-131-21	IC GP1U52X
IC604	8-759-926-64	IC SN74HC367NS
TRANSISTOR		
Q601	8-729-901-04	TRANSISTOR DTA114EK
Q602	8-729-901-04	TRANSISTOR DTA114EK
Q603	8-729-901-04	TRANSISTOR DTA114EK
Q604	8-729-901-04	TRANSISTOR DTA114EK
Q605	8-729-901-04	TRANSISTOR DTA114EK
Q606	8-729-901-04	TRANSISTOR DTA114EK
Q607	8-729-901-04	TRANSISTOR DTA114EK
Q608	8-729-901-04	TRANSISTOR DTA114EK
Q609	8-729-900-53	TRANSISTOR DTC114EK
Q610	8-729-900-53	TRANSISTOR DTC114EK
Q611	8-729-900-53	TRANSISTOR DTC114EK

**SW-162 BOARD**



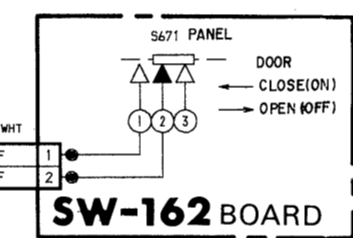
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O



(See page 87.)

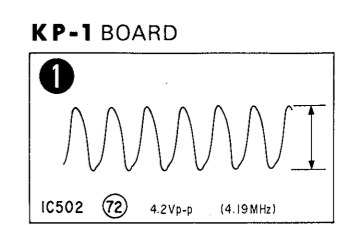
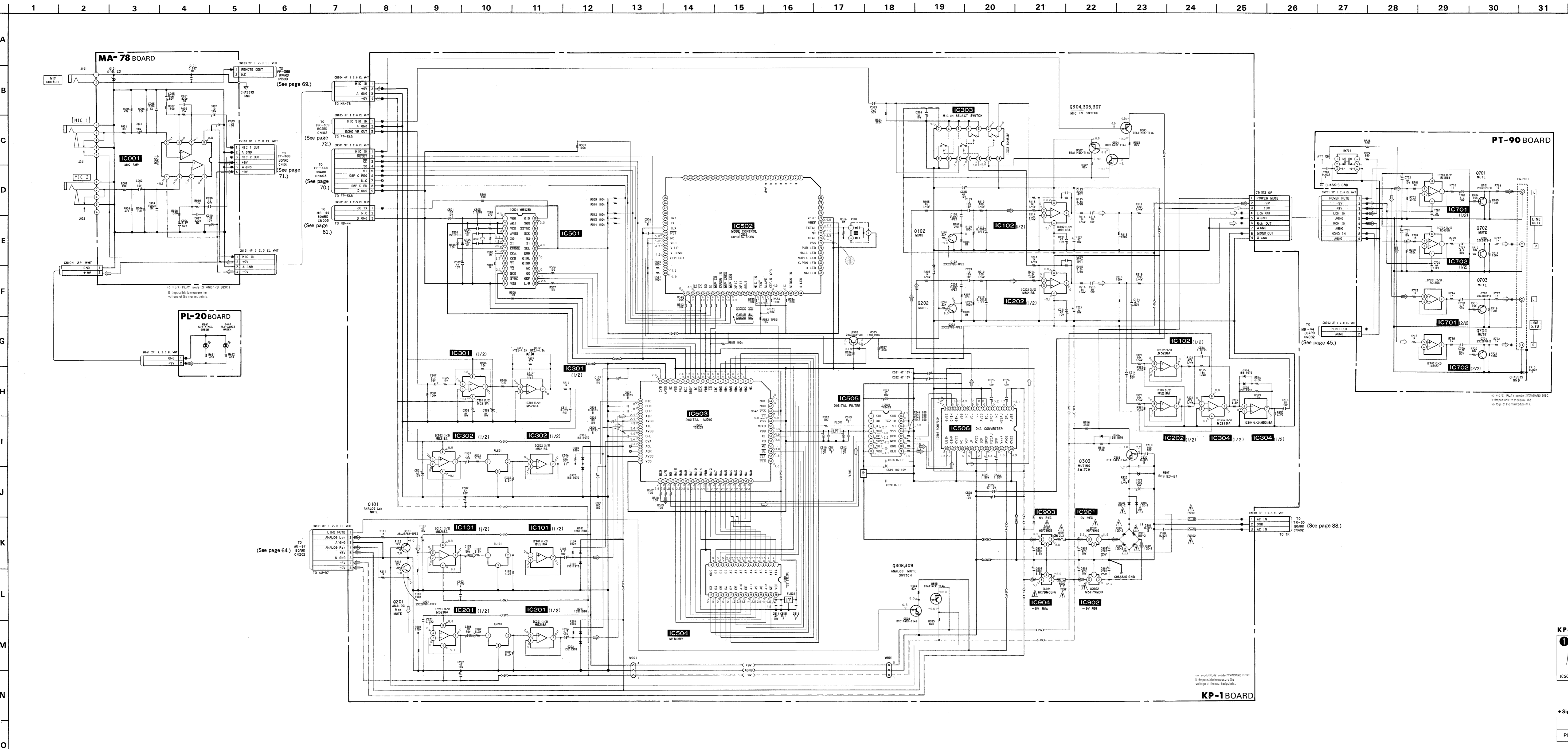
(See page 74.)

(See page 75.)



no mark: PLAY mode (STANDARD DISC)  
 \* Impossible to measure the voltage of the marked points.

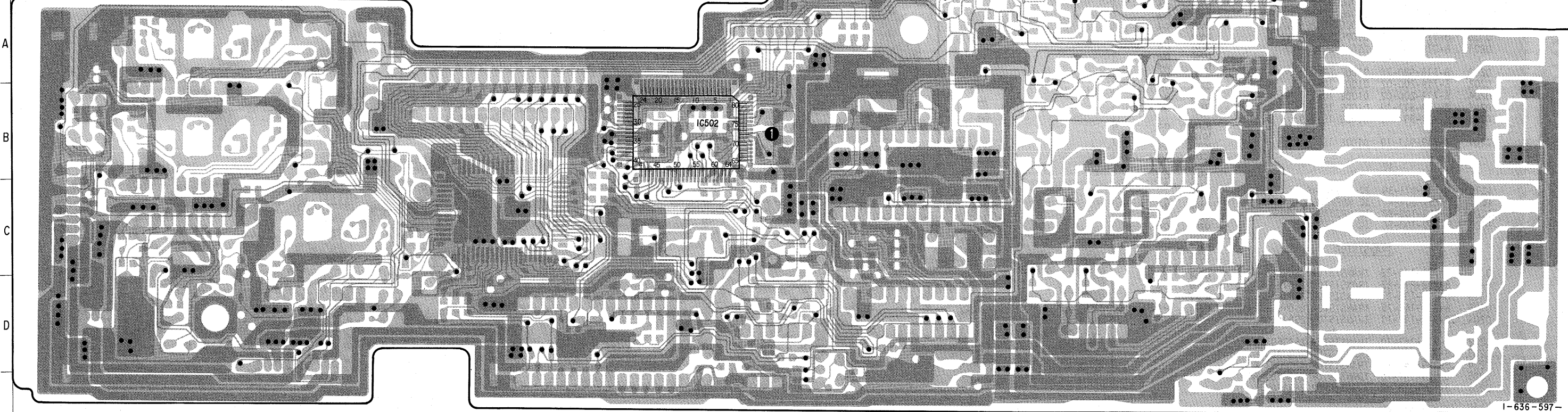
no mark: PLAY mode (STANDARD DISC)  
 \* Impossible to measure the voltage of the marked points.



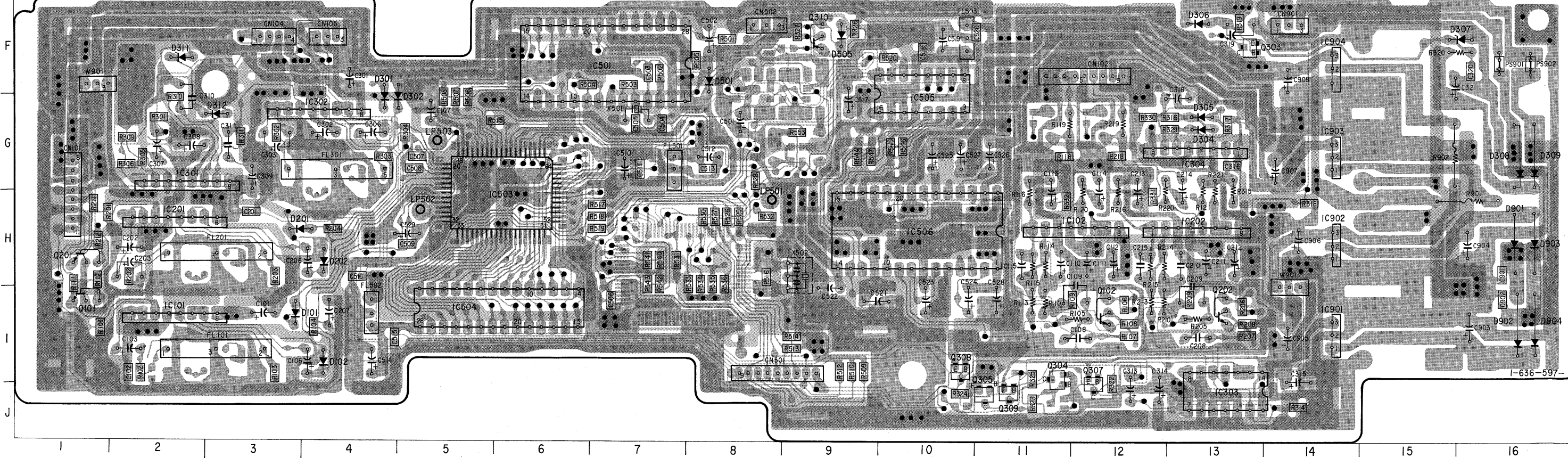
• Signal path

	CHROMA	Y	Y/CHROMA	AUDIO Signal
PB	→	→	→	→

KP-1 BOARD (COMPONENT SIDE)



KP-1 BOARD (CONDUCTOR SIDE)



KP-1 BOARD

- D101 H-3
- D102 H-4
- D201 H-3
- D202 H-4
- D301 G-4
- D302 G-4
- D304 G-13
- D305 G-13
- D308 F-13
- D308 G-16
- D307 F-15
- D309 G-16
- D311 F-2
- D312 G-3
- D501 F-8
- D505 F-9
- D901 H-16
- D902 H-16
- D903 H-16
- D904 H-16
- IC101 H-2
- IC102 H-12
- IC201 H-2
- IC202 H-13
- IC301 G-2
- IC302 G-4
- IC303 J-13
- IC304 G-13
- IC501 F-7
- IC502 G-7
- IC503 H-5
- IC504 H-5
- IC505 F-10
- IC506 H-10
- IC901 H-14
- IC902 H-14
- IC903 G-14
- IC904 F-14
- Q101 H-1
- Q102 H-12
- Q201 H-1
- Q303 F-13
- Q304 H-11
- Q305 J-11
- Q307 H-12
- Q308 H-10
- Q309 J-11
- Q310 F-9

DIODE

- D101 8-719-911-19 DIODE 1SS119
- D102 8-719-911-19 DIODE 1SS119
- D201 8-719-911-19 DIODE 1SS119
- D202 8-719-911-19 DIODE 1SS119
- D301 8-719-911-19 DIODE 1SS119
- D302 8-719-911-19 DIODE 1SS119
- D304 8-719-911-19 DIODE 1SS119
- D305 8-719-911-19 DIODE 1SS119
- D306 8-719-911-19 DIODE 1SS119
- D307 8-719-110-12 DIODE RD9.1ES-B1
- D308 8-719-200-02 DIODE 10E-2
- D309 8-719-200-02 DIODE 10E-2
- D311 8-719-109-75 DIODE RD4.3ES-B2
- D312 8-719-109-75 DIODE RD4.3ES-B2
- D501 8-719-911-19 DIODE 1SS119
- D505 8-719-911-19 DIODE 1SS119
- D901 8-719-200-02 DIODE 10E-2
- D902 8-719-200-02 DIODE 10E-2
- D903 8-719-200-02 DIODE 10E-2
- D904 8-719-200-02 DIODE 10E-2

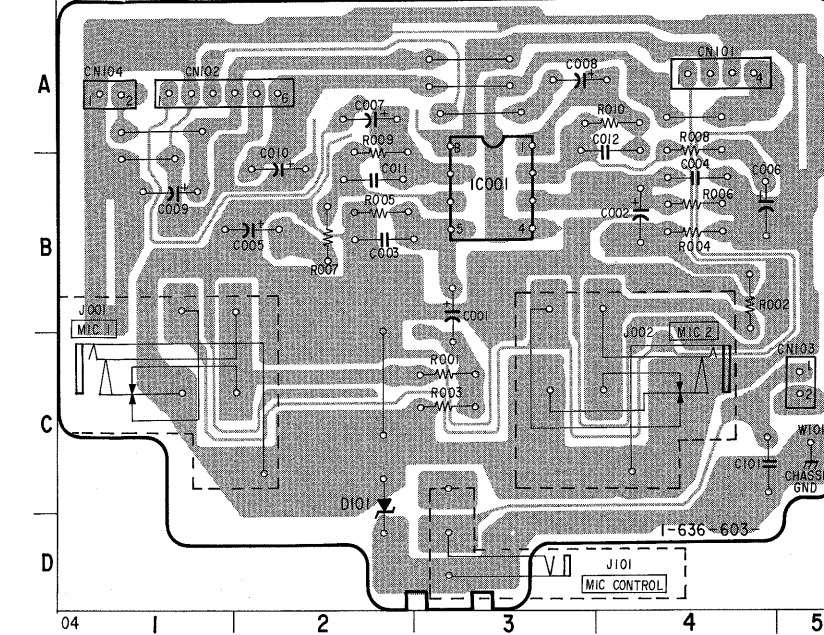
IC

- IC101 8-759-981-95 IC RC4558S
- IC102 8-759-981-95 IC RC4558S
- IC201 8-759-981-95 IC RC4558S
- IC202 8-759-981-95 IC RC4558S
- IC301 8-759-981-95 IC RC4558S
- IC302 8-759-981-95 IC RC4558S
- IC303 8-759-000-49 IC MC14066BCP
- IC304 8-759-981-95 IC RC4558S
- IC501 8-759-973-98 IC YM36238
- IC502 8-752-816-22 IC CXP50116-092Q
- IC503 8-759-504-52 IC YSS205
- IC504 8-759-243-37 IC TC51832SPL
- IC505 8-759-504-53 IC YM3433
- IC506 8-759-999-35 IC PCM1700P
- IC901 8-759-604-37 IC M5F78M09L
- IC902 8-759-604-43 IC M5F79M09L
- IC903 8-759-604-35 IC M5F78M05L
- IC904 8-759-982-52 IC RC79M05FA

TRANSISTOR

- Q101 8-729-201-05 TRANSISTOR 2SC2878-B
- Q102 8-729-201-05 TRANSISTOR 2SC2878-B
- Q201 8-729-201-05 TRANSISTOR 2SC2878-B
- Q202 8-729-201-05 TRANSISTOR 2SC2878-B
- Q303 8-729-901-04 TRANSISTOR DTA114EK
- Q304 8-729-900-53 TRANSISTOR DTC114EK
- Q305 8-729-901-04 TRANSISTOR DTA114EK
- Q307 8-729-901-04 TRANSISTOR DTA114EK
- Q308 8-729-900-53 TRANSISTOR DTC114EK
- Q309 8-729-901-04 TRANSISTOR DTA114EK
- Q310 8-729-920-68 TRANSISTOR 2SA933S-QR

MA-78 BOARD



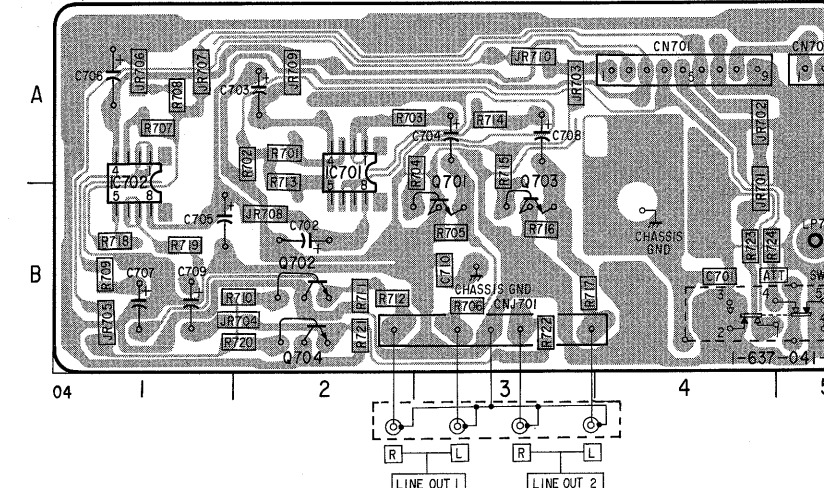
DIODE

- D101 8-719-111-84 DIODE RD5.1ES-B2

IC

- IC001 8-759-601-02 IC M5218P

PT-90 BOARD



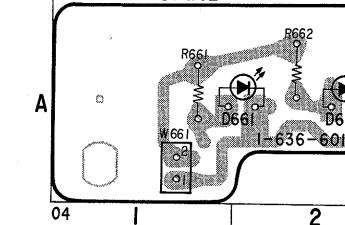
IC

- IC701 8-759-603-13 IC M5218FP
- IC702 8-759-603-13 IC M5218FP

TRANSISTOR

- Q701 8-729-201-05 TRANSISTOR 2SC2878-B
- Q702 8-729-201-05 TRANSISTOR 2SC2878-B
- Q703 8-729-201-05 TRANSISTOR 2SC2878-B
- Q704 8-729-201-05 TRANSISTOR 2SC2878-B

PL-20 BOARD



DIODE

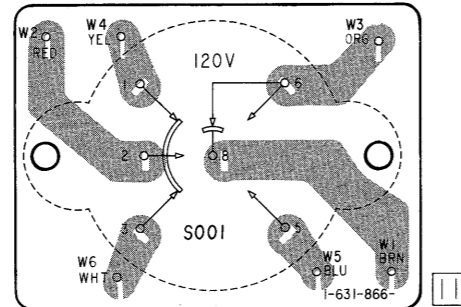
- D661 8-719-951-35 DIODE SLV-31MC3
- D662 8-719-951-35 DIODE SLV-31MC3

**PS-193 (POWER, SPINDLE SERVO), TR-30 (POWER), VS-47 (VOLTAGE SELECTOR TYPE 1), VS-48 (VOLTAGE SELECTOR TYPE2) PRINTED WIRING BOARDS**  
 —Ref. No. PS-193, TR-30, VS-47 BOARDS : 7000 series, VS-48 BOARD : 9000 series—

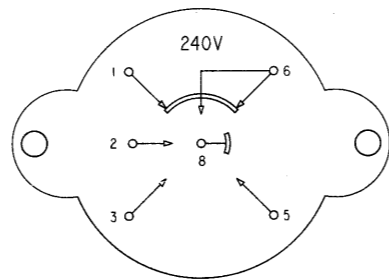
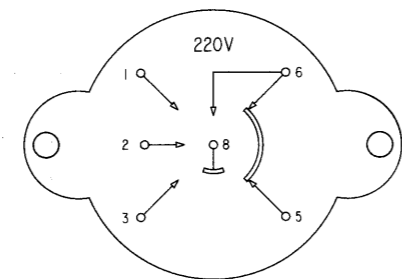
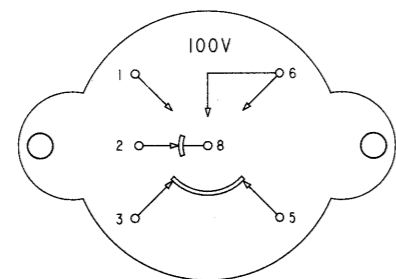
**TYPE 1**

**E/AUS Model.**

**VS-47 BOARD**



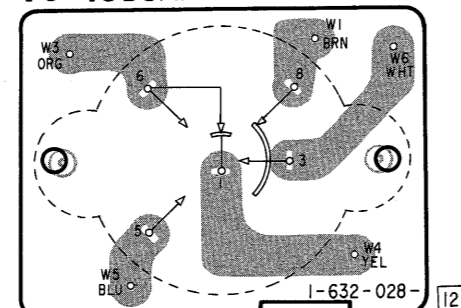
S001 VOLTAGE SELECTOR PIN CONNECTION



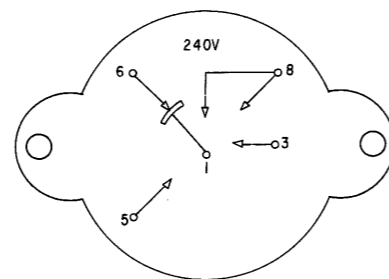
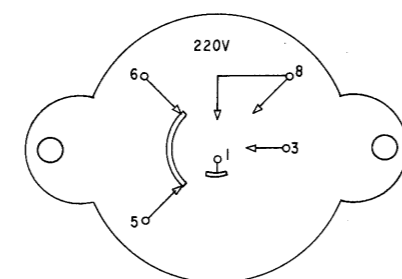
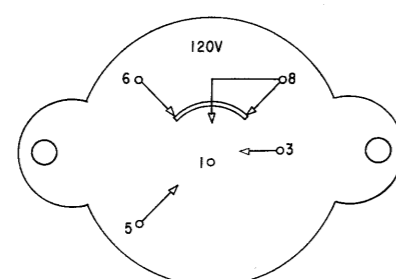
**TYPE 2**

**TOURIST Model.**

**VS-48 BOARD**



S001 VOLTAGE SELECTOR PIN CONNECTION



**DIODE**

D101	8-719-500-55	DIODE D3SBA10
D105	8-719-980-78	DIODE ERA83-006
D106	8-719-110-31	DIODE RD12ES-B2
D108	8-719-105-82	DIODE RD5, 1M-B2
D201	8-719-980-78	DIODE ERA83-006
D202	8-719-980-78	DIODE ERA83-006
D203	8-719-200-02	DIODE 10E2
D204	8-719-200-02	DIODE 10E2
D205	8-719-911-19	DIODE 1SS119
D206	8-719-911-19	DIODE 1SS119
D207	8-719-911-19	DIODE 1SS119

**IC**

IC101	8-759-971-39	IC BA9700AF
IC102	8-759-604-47	IC M5F7905L
IC201	8-759-100-97	IC UPC339G2
IC202	8-759-100-96	IC UPC455RG2

**TRANSISTOR**

Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q102	8-729-216-22	TRANSISTOR 2SA1162
Q103	8-729-113-31	TRANSISTOR 2SB733-2
Q105	8-729-141-75	TRANSISTOR 2SD596-DV345
Q201	8-729-117-11	TRANSISTOR 2SB1151-L
Q202	8-729-143-30	TRANSISTOR 2SD1691-K
Q203	8-729-117-11	TRANSISTOR 2SB1151-L
Q204	8-729-143-30	TRANSISTOR 2SD1691-K
Q205	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q206	8-729-216-22	TRANSISTOR 2SA1162
Q208	8-729-900-53	TRANSISTOR DTC114EK
Q209	8-729-901-04	TRANSISTOR DTA114EK
Q210	8-729-100-66	TRANSISTOR 2SC1623
Q211	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q212	8-729-901-04	TRANSISTOR DTA114EK

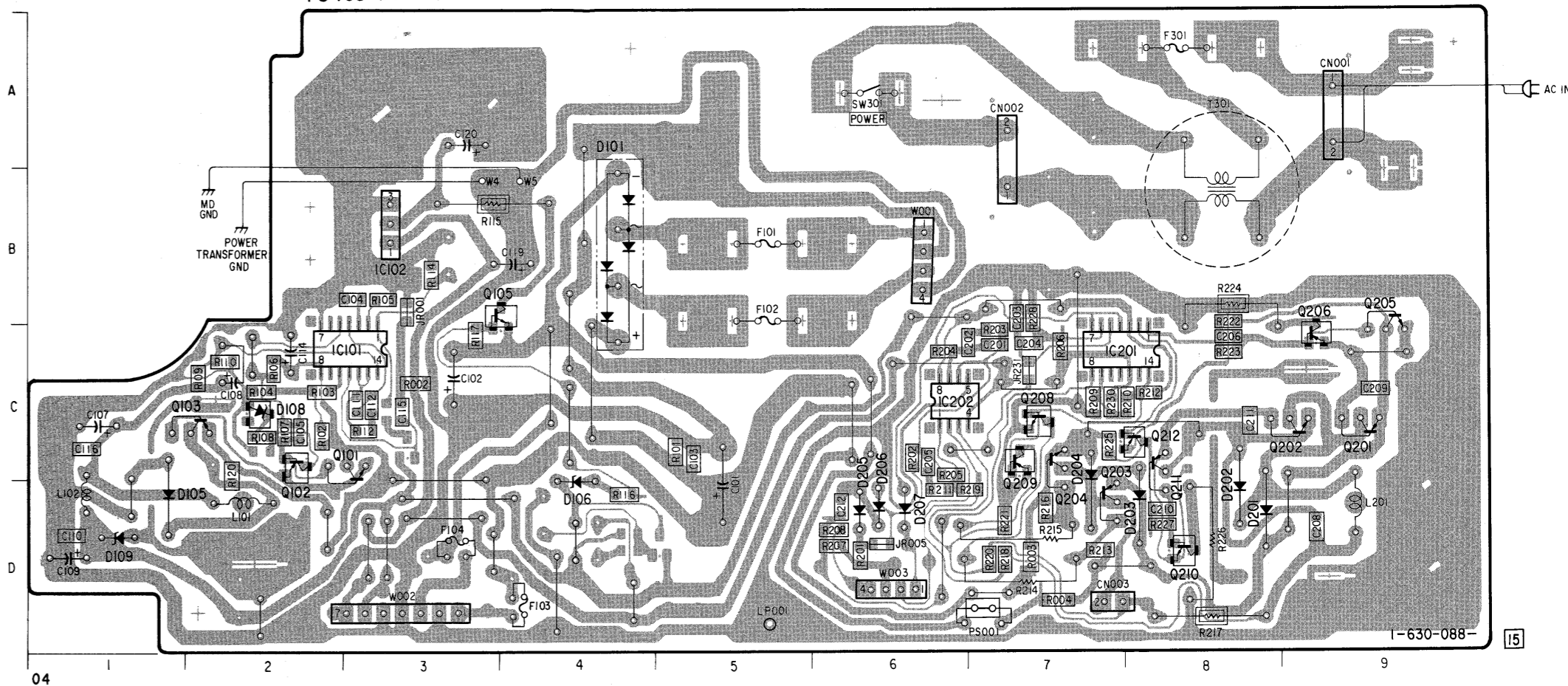
**DIODE**

D406	8-719-200-02	DIODE 10E2
D407	8-719-110-78	DIODE RD33ES-B2
D408	8-719-110-88	DIODE RD39ES-B2
D409	8-719-110-17	DIODE RD10ES-B2

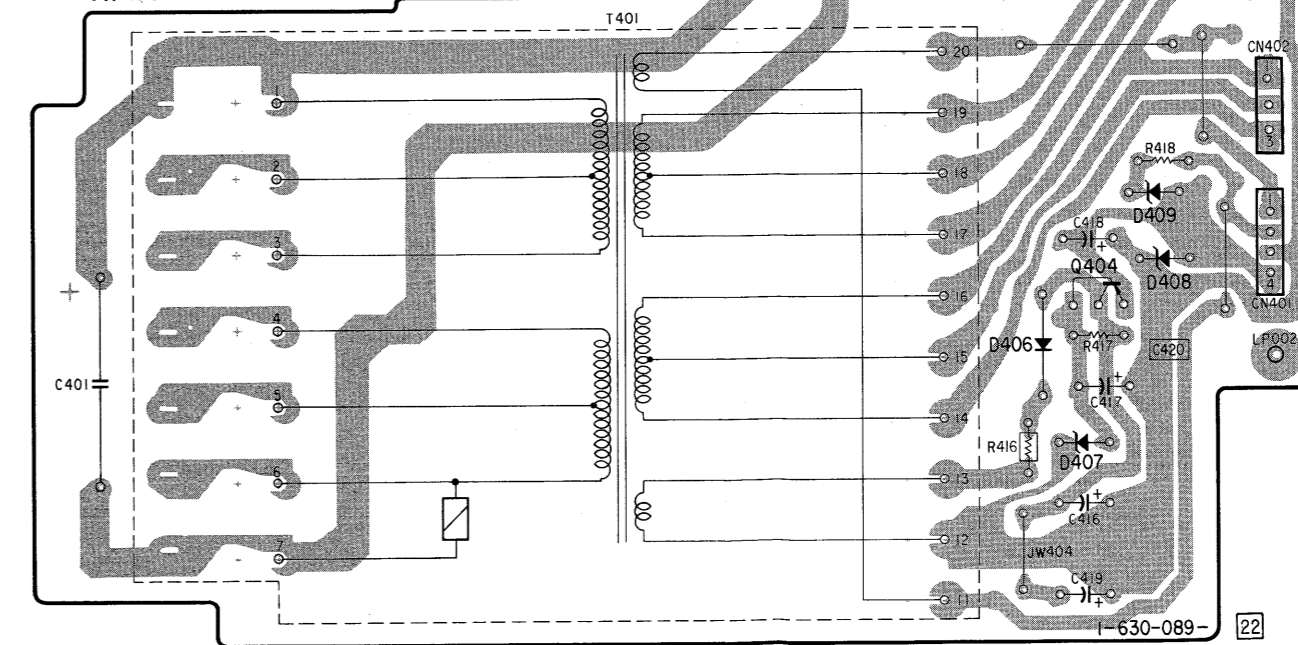
**TRANSISTOR**

Q404	8-729-113-33	TRANSISTOR 2SB733-4
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**PS-193 BOARD**



**TR-30 BOARD**



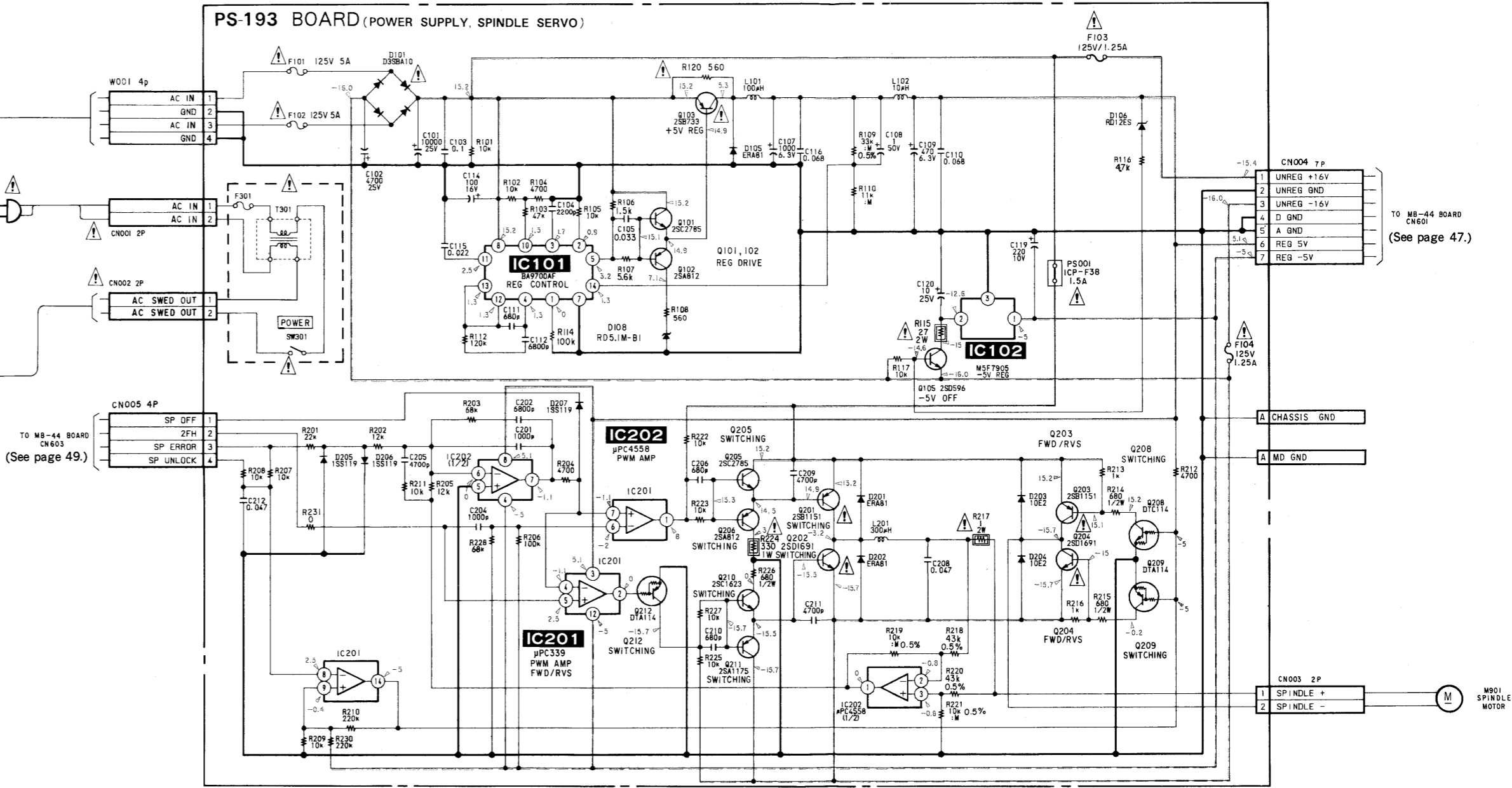
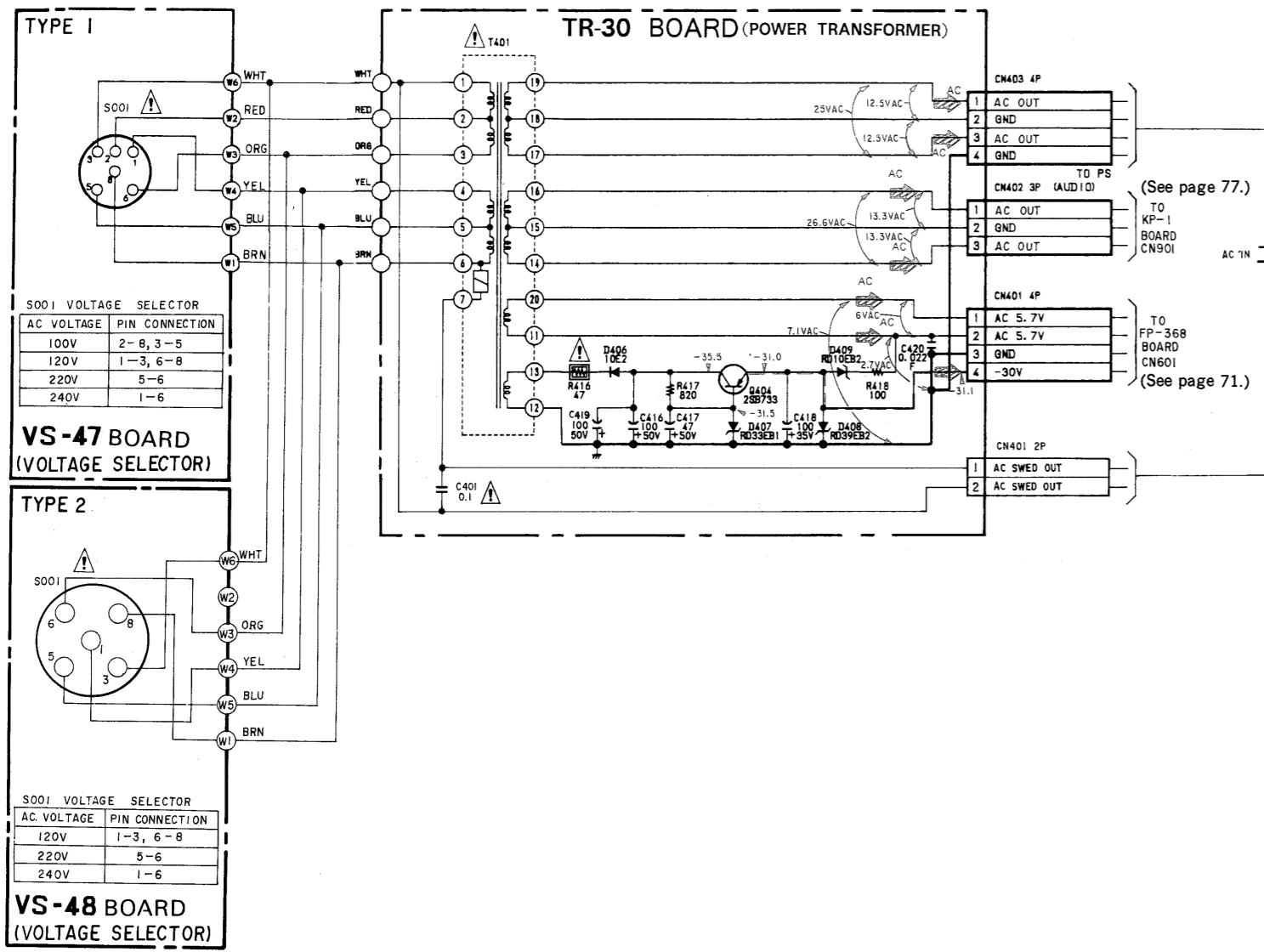


PS-193 (POWER, SPINDLE SERVO), TR-30 (POWER), VS-47 (VOLTAGE SELECTOR TYPE 1), VS-48 (VOLTAGE SELECTOR TYPE2) SCHEMATIC DIAGRAM

—Ref. No. PS-193, TR-30, VS-47 BOARDS: 7000 series, VS-48 BOARD: 9000 series—

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

A  
B  
C  
D  
E  
F  
G  
H  
I

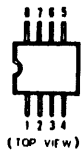


• Signal path

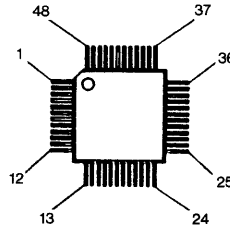
Spindle phase servo	➡➡
Spindle servo(speed and phase)	➡➡➡
Tracking servo LD/CD/CDV	➡
Slids servo LD/CD	⊃
Focus servo LD/CD	➡
Skew servo LD TILT	⊃

4-3. SEMICONDUCTORS

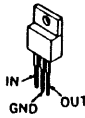
BA7131F  
LM324NS  
M51953AFP  
RC4558M  
TL082CPS  
μPC4558G2



CXA1254Q  
CXA1255Q  
CXD1152Q



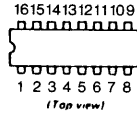
M5F7805L  
M5F78M09L  
M5F7812  
RC78M05FA  
RC78M09FA  
μPC24M09HF



MC14052BF  
MC14053BF  
MSM72H032GS-K



SN74HC367NS  
TC74HC175AP



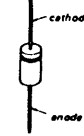
DTA124ES  
DTA144ES  
DTC114ES  
DTC124ES



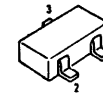
2SB740-3  
2SD655-E



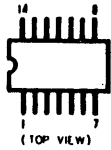
ERA81-006  
10E2



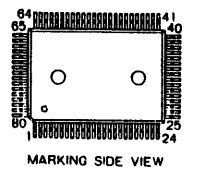
RD5.1M-B2



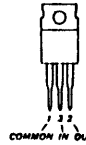
BA9700AF  
CXL5005M  
MC14066BF  
SN74HCU04NS  
TC74HC74F  
TC74HCU04AF  
μPC324G2  
μPC339G2



CXD1165Q

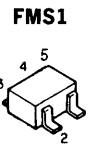
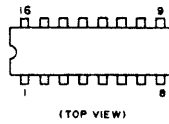


M5F7905  
M5F7912  
M5F79M09L  
RC79M05FA



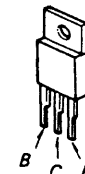
NJM4560S-D

YM3433

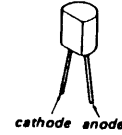


FMS1

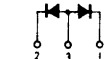
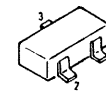
2SB1187-F  
2SD1585-K



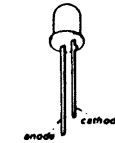
FC52M-5



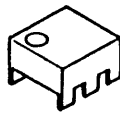
1S2836



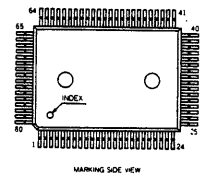
GL-360  
TL0260



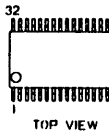
BX-1453



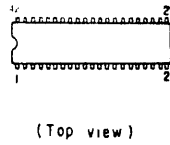
CXP50116-092Q



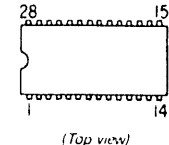
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PA0034A

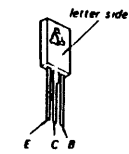


PCM1700P  
YM3623B

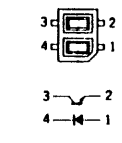


5: O1  
4: O1  
3: O2

2SB1151-L  
2SD1691-K



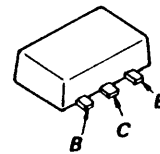
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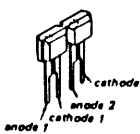
FMW1



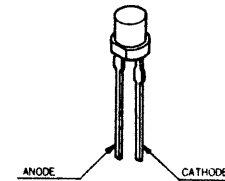
2SD999CLCK



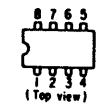
KV1236-D



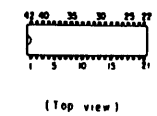
SLV-31MC3



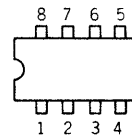
CX20197  
NJM5534D-4  
RC5532D-D



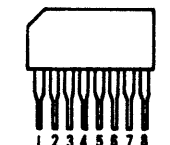
HA11529



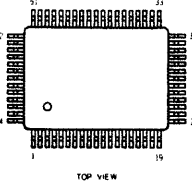
M5218P



RC4558S



YSS205

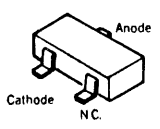


1 Tr1 : Collector 1  
2 Tr2 : Collector 2  
3 Tr2 : Base 2  
4 Tr1, 2 : Emitter  
5 Tr1 : Base 1

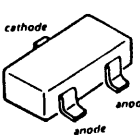
PT-360FS



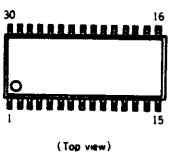
DA204U



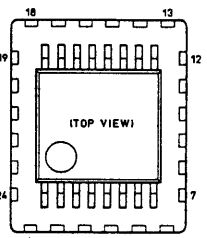
MA152WK



CXA1081M



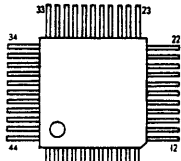
IMN10



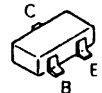
M5218FP



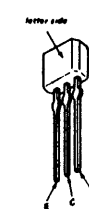
SM5862CF



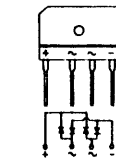
DTA114EK  
DTC114EK  
DTC124EK  
2SA1162  
2SC1623  
2SC1623-L7  
2SD596



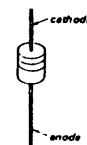
2SA1175-HFE  
2SA933S-QR  
2SC2785-HFE



D3SBA10



RD3.9ES-B2  
RD4.3ES-B2  
RD5.1ES-B2  
RD6.2ES-B1  
RD6.2ES-B2  
RD8.2ES-B1  
RD10ES-B2  
RD12ES-B2  
RD33ES-B2  
RD39ES-B2  
1SS119





2SB733-4  
2SB734-34



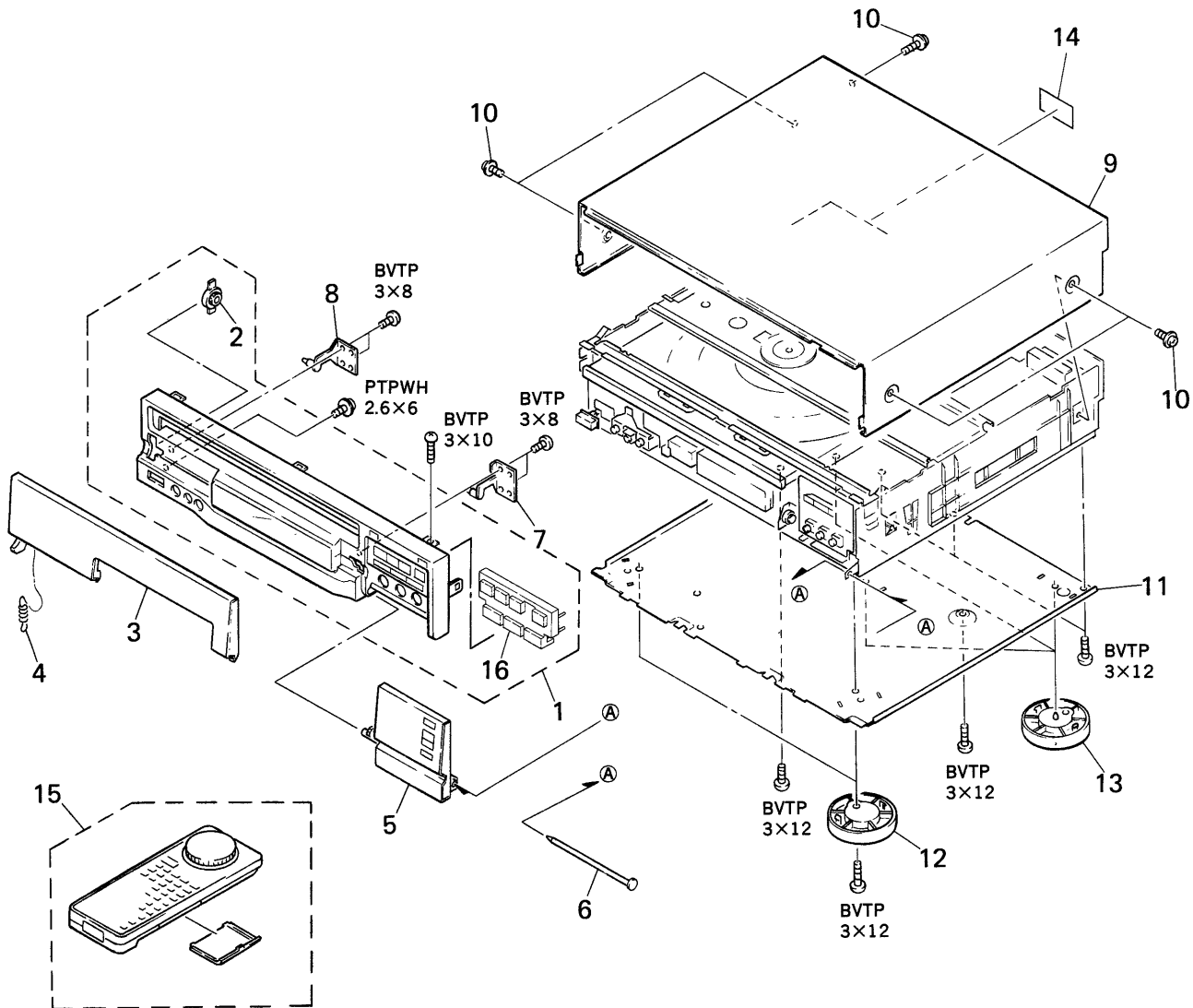
## SECTION 5 EXPLODED VIEWS

### NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- The construction parts of an assembled part are indicated with a collation number in the remark column.



The components identified by mark  or dotted line with mark  are Critical for safety. Replace only with part number specified.

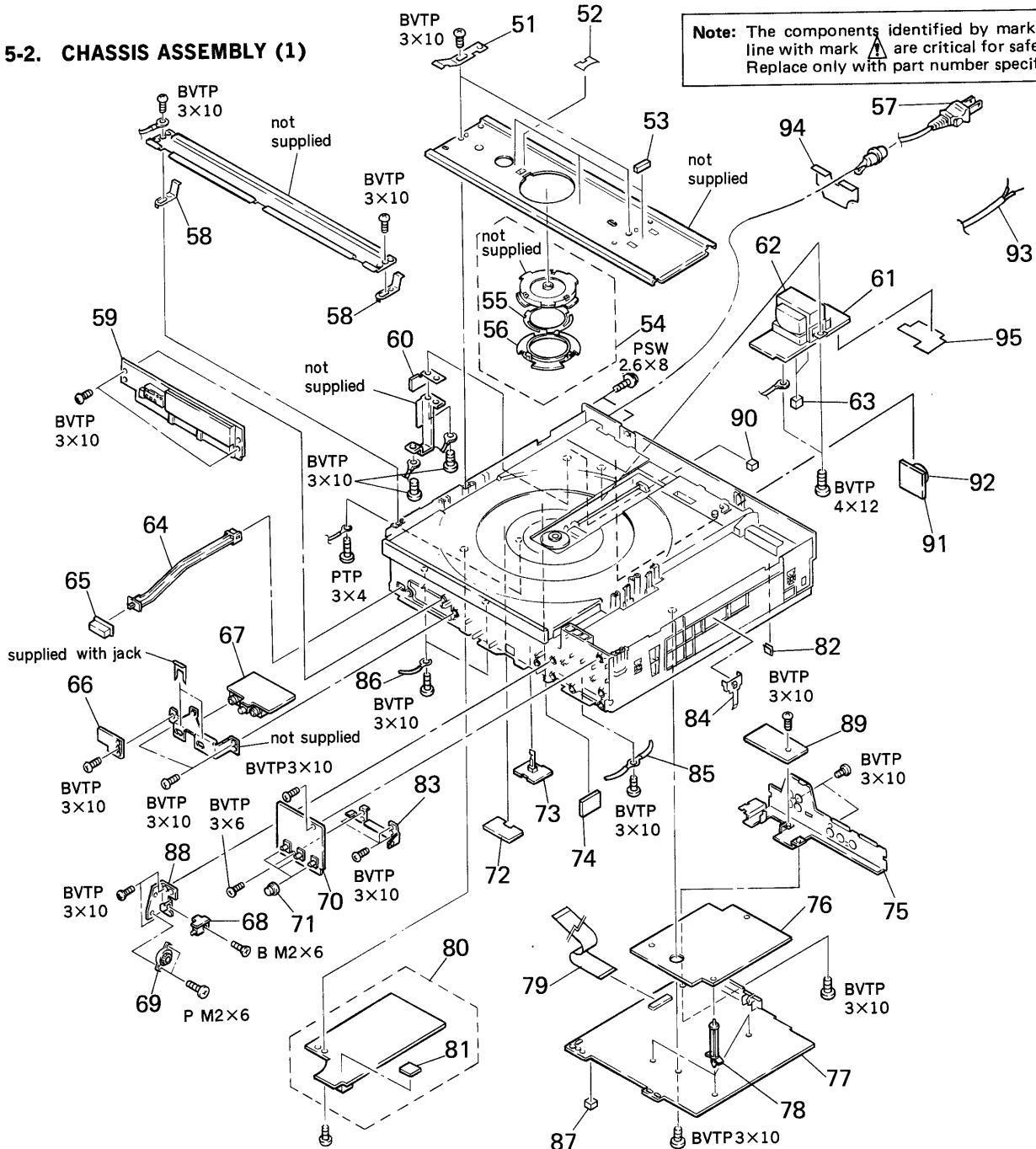
### 5-1. UPPER CASE AND FRONT PANEL ASSEMBLIES








No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
1	X-3940-196-1	PANEL ASSY, FRONT	2, 16	10	3-710-901-11	SCREW (3X8), TAPPING	
2	3-712-786-21	DUMPER, OIL		11	*3-735-075-21	PLATE, BOTTOM	
3	X-3749-218-1	DOOR ASSY		12	X-3735-057-1	FOOT ASSY	
4	3-940-307-01	SPRING, TENSION		13	X-3735-056-1	FOOT ASSY	
5	1-466-407-21	SWITCH BLOCK		14	*3-941-132-01	LABEL, MODEL NUMBER (TYPE 1)	
6	3-749-916-01	SHAFT, SWITCH BLOCK			*3-941-328-01	LABEL, MODEL NUMBER (TYPE 2)	
7	*X-3749-216-1	PLATE (RIGHT) ASSY, FIXED, DOOR		15	1-465-496-81	REMOTE CONTROLLER (RMT-K3)	
8	*X-3749-215-1	PLATE (LEFT) ASSY, FIXED, DOOR		16	X-3940-197-1	KEY ASSY	
9	*3-735-065-11	CASE, UPPER					

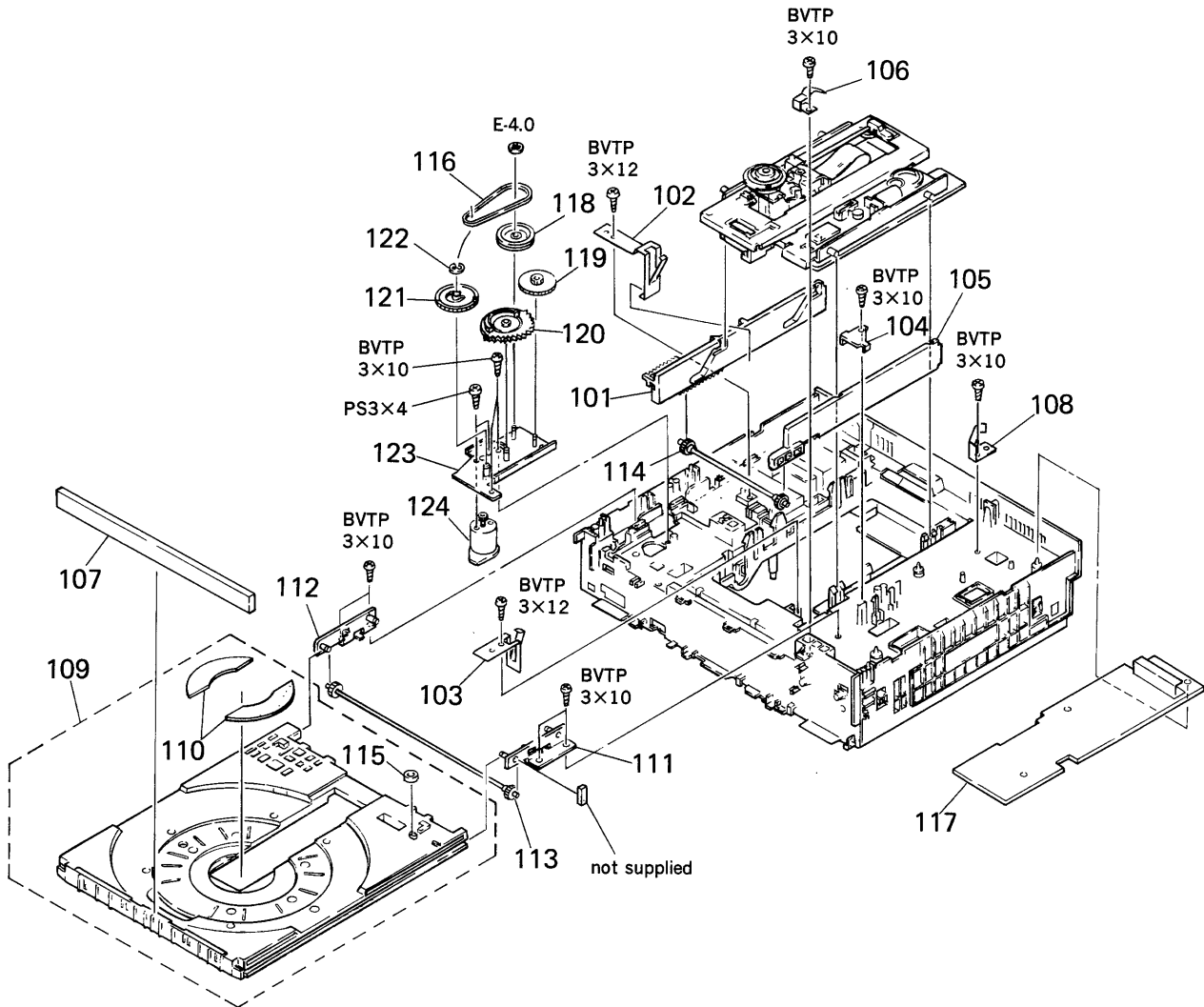
## 5-2. CHASSIS ASSEMBLY (1)

**Note:** The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.



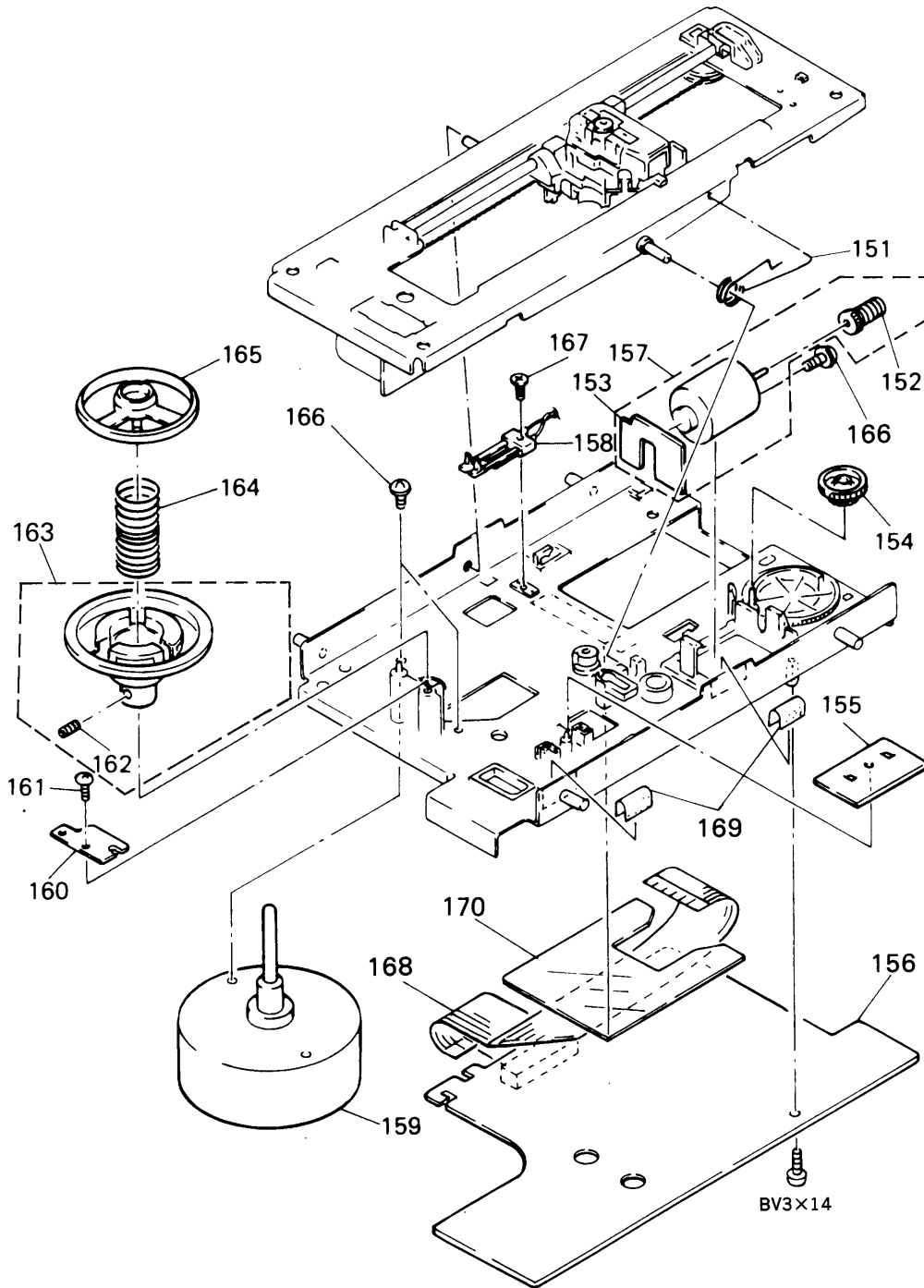
No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
51	3-735-089-01	SPRING		75	*3-746-503-51	PLATE, JACK	
52	*3-737-454-01	SHEET, HOLDER		76	*A-6421-515-A	AU-97 BOARD, COMPLETE	
53	*9-911-842-XX	CUSHION		77	*A-6421-562-A	MB-44 BOARD, COMPLETE	
54	X-3735-006-1	PLATE ASSY, PRESS	55, 56	78	*3-703-353-12	SUPPORTER, PC BOARD	
55	3-735-011-01	SPRING		79	*1-575-813-11	CABLE, FLAT (FLEXIBLE) (28 CORE)	
56	3-735-010-01	PLATE (1), PRESS		80	*A-6421-564-A	PS-193 BOARD, COMPLETE	81
57	 1-559-627-41	CORD, POWER (E MODEL)		81	X-3735-019-1	SHIELD ASSY, PS LID	
58	3-735-090-01	SPRING		82	*3-749-949-01	CLIP, GROUND	
59	*A-6421-506-A	FP-368 BOARD, COMPLETE		83	*3-749-923-01	PLATE(RIGHT), FIXED, SWITCHBLOCK	
60	3-735-091-01	SPRING		84	*3-749-913-02	SPRING (R), GROUND	
61	*1-630-089-22	TR-30 BOARD		85	*2-367-032-01	CLAMP	
62	 1-450-345-11	TRANSFORMER, POWER		86	*3-701-822-00	HOLDER, WIRE	
63	9-911-843-XX	CUSHION		87	*3-354-631-01	CUSHION (RF)	
64	3-749-933-01	LEVER, POWER SW		88	*3-749-919-01	PLATE(LEFT), FIXED, SWITCH BLOCK	
65	3-735-051-21	BUTTON, POWER		89	*A-6421-532-A	PT-90 BOARD, COMPLETE	
66	*1-636-601-11	PL-20 BOARD		90	4-604-358-01	CUSHION (H9), RUBBER	
67	*1-636-603-11	MA-78 BOARD		91	*1-631-866-11	VS-47 BOARD (TYPE 1)	
68	*1-636-600-11	SW-162 BOARD			*1-632-028-12	VS-48 BOARD (TYPE 2)	
69	3-712-786-11	DAMPER, OIL		92	 1-554-933-11	SELECTOR, VOLTAGE (TYPE 1)	
70	*1-636-602-11	FP-369 BOARD			 1-570-615-11	SELECTOR, POWER VOLTAGE (TYPE 2)	
71	3-749-922-01	KNOB		93	 1-590-448-11	CORD, POWER (AUS MODEL)	
72	*1-635-259-11	LS-30 BOARD		94	*3-737-438-01	BRACKET, AC CORD	
73	*1-635-260-11	SW-156 BOARD		95	3-746-543-01	COVER, TRANSFORMER	
74	*1-635-261-11	SW-157 BOARD					

### 5-3. CHASSIS ASSEMBLY (2)



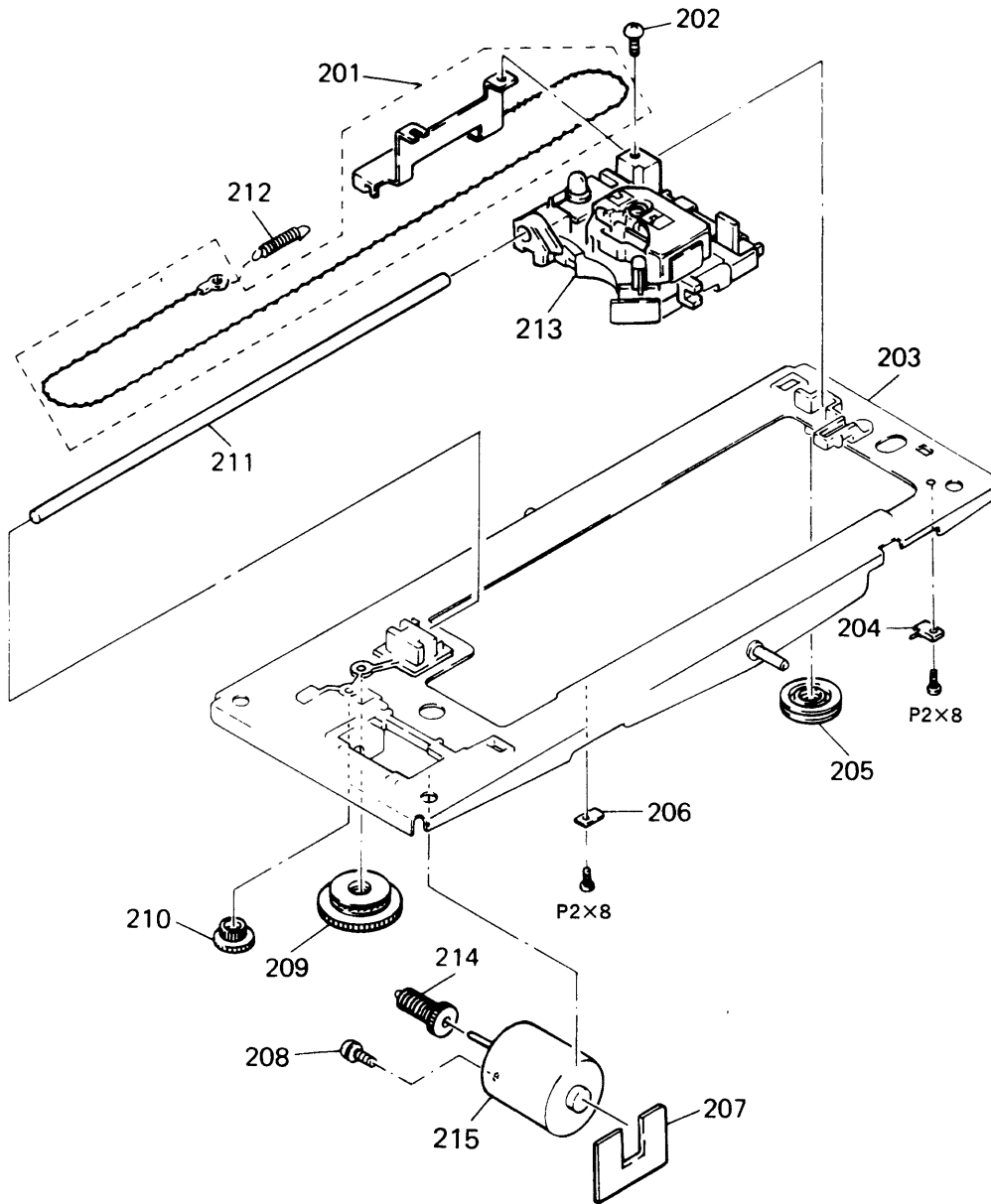
No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
101	3-735-053-01	RACK (LEFT)		113	X-3735-069-1	GEAR ASSY, PHASE	
102	3-737-401-01	SPRING (1)		114	X-3735-008-1	GEAR ASSY, MD PHASE	
103	3-737-402-01	SPRING (2)		115	*4-914-248-01	STOPPER, RUBBER	
104	*3-749-912-01	RETAINER (B), RACK		116	3-545-601-XX	BELT, MIDWAY PULLEY	
105	3-735-052-01	RACK (RIGHT)		117	*A-6421-509-A	KP-1 BOARD, COMPLETE	
106	3-737-448-01	SPRING, LEAF		118	3-735-036-01	PULLEY (A)	
107	3-746-506-01	COVER, TRAY		119	3-735-037-01	GEAR, MIDWAY	
108	3-746-525-01	SPRING, TRAY		120	3-735-056-01	CAM, DRIVING	
109	X-3735-032-2	TRAY ASSY	110, 115	121	3-735-035-01	GEAR, TRAY	
110	3-735-039-03	SHEET, CD		122	3-669-595-00	WASHER (2), STOPPER	
111	X-3735-070-1	GUIDE ASSY (R), TRAY		123	*X-3735-002-1	BASE ASSY, THREADING	
112	X-3735-071-1	GUIDE ASSY (L), TRAY		124	A-6415-359-A	MOTOR BLOCK ASSY (X), THREADING (M904)	

5-4. MD CHASSIS ASSEMBLY



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
151	3-735-021-01	SPRING, TORSION		161	3-719-845-11	SCREW (B2X8), TAPPING	
152	3-735-038-01	GEAR, WORM		162	3-701-506-01	SET SCREW, DOUBLE POINT 3X4	
153	*1-631-095-11	MT-30 BOARD		163	X-3735-003-1	TURNTABLE ASSY	162
154	3-735-025-01	GEAR, SKEW		164	*3-735-026-01	SPRING, COMPRESSION	
155	*1-635-255-11	CK-44 BOARD		165	X-3735-004-1	GUIDE ASSY, CENTER	
156	*A-6421-465-A	SV-63 BOARD, COMPLETE		166	4-606-833-01	SCREW (3X5), + PSW	
157	A-6415-290-A	MOTOR BLOCK ASSY, SKEW (M903)	152, 153	167	3-719-845-11	SCREW (B2X8), TAPPING	
158	1-554-468-00	SWITCH, LEAF (SLED IN LIMIT LD/CD)		168	1-574-648-11	CABLE, FLEXIBLE FLAT (24 CORE)	
159	1-541-776-11	MOTOR, LD SPINDLE (M901)		169	*3-737-413-01	SHEET, TEFLON	
160	*1-635-256-11	FG-41 BOARD		170	*3-735-099-01	SHEET, FLEXIBLE RETAINER	

## 5-5. OPTICAL BLOCK ASSEMBLY



**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
201	X-3735-001-1	WIRE ASSY		209	3-735-016-01	PULLEY, DRIVING	
202	3-899-248-01	SCREW (M3X6)		210	3-735-015-01	GEAR, CARRIAGE	
203	*X-3735-014-1	CHASSIS ASSY		211	*3-735-020-01	SHAFT, CARRIAGE	
204	1-570-771-21	SWITCH (SLED OUT LIMIT) (S902)		212	3-672-430-00	SPRING, TENSION	
205	3-735-017-01	PULLEY, RETURN		213	⚠8-848-138-11	DEVICE, OPTICAL KHS-130A	
206	1-571-435-11	SWITCH (SLED IN LIMIT) (S901)		214	3-735-038-01	GEAR, WORM	
207	*1-630-097-11	MT-28 BOARD		215	1-541-659-11	MOTOR, DC (SLED) (M902)	
208	3-899-248-01	SCREW (M3X6)					

## SECTION 6 ELECTRICAL PARTS LIST

### SV-63

**NOTE:**

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

**CAPACITORS:**

MF:  $\mu$ F, PF:  $\mu$  $\mu$ F.

**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

**COILS**

- MMH: mH, UH:  $\mu$ H

**SEMICONDUCTORS**

In each case, U:  $\mu$ , for example:

UA...:  $\mu$ A..., UPA...:  $\mu$ PA...,

UPC...:  $\mu$ PC, UPD...:  $\mu$ PD...

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

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

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
*A-6421-465-A	SV-63 BOARD, COMPLETE	(Ref.No 1,000 Series)		C138	1-163-022-00	CERAMIC CHIP 0.012MF	10% 50V
	*****			C139	1-124-285-91	ELECT 22MF	20% 16V
				C140	1-124-279-11	ELECT 3.3MF	20% 25V
				C141	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C144	1-163-016-00	CERAMIC CHIP 0.0039MF	10% 50V
				C145	1-163-024-00	CERAMIC CHIP 0.018MF	10% 50V
				C146	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C147	1-136-744-11	FILM 0.22MF	5% 50V
				C149	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C150	1-124-589-11	ELECT 47MF	20% 16V
				C151	1-124-477-11	ELECT 47MF	20% 16V
				C152	1-163-035-00	CERAMIC CHIP 0.047MF	50V
				C153	1-163-035-00	CERAMIC CHIP 0.047MF	50V
						<b>CONNECTOR</b>	
				CN101	1-566-939-11	CONNECTOR, F.P.C 24P	
				CN102	1-563-493-11	CONNECTOR, F.P.C 28P	
				CN103	1-506-471-11	PIN, CONNECTOR 6P	
				CN104	1-506-468-11	PIN, CONNECTOR 3P	
				CN105	*1-566-969-11	HOUSING, CONNECTOR (PC BOARD) 7P	
				CN106	*1-566-968-11	HOUSING, CONNECTOR (PC BOARD) 6P	
						<b>DIODE</b>	
				D001	8-719-911-19	DIODE 1SS119	
				D101	8-719-911-19	DIODE 1SS119	
				D102	8-719-109-72	DIODE RD3.9ES-B2	
				D103	8-719-911-19	DIODE 1SS119	
				D104	8-719-911-19	DIODE 1SS119	
						<b>FILTER</b>	
				FL001	1-235-922-11	FILTER, LOW PASS (1.7MHZ)	
						<b>IC</b>	
				IC001	8-752-030-93	IC CXA1081M	
				IC002	8-759-603-24	IC CX20197	
				IC101	8-759-321-40	IC HA11529	
				IC102	8-759-822-38	IC LA6510	
				IC103	8-759-981-92	IC RC4558M	
				IC104	8-759-981-92	IC RC4558M	
				IC105	8-759-981-92	IC RC4558M	
				IC106	8-759-009-07	IC MC14053BF	
						<b>JUMPER RESISTOR</b>	
				JR102	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR103	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR104	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR105	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR106	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR107	1-216-295-00	METAL GLAZE 0 5% 1/10W	
				JR111	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR112	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR113	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR114	1-216-295-00	METAL GLAZE 0 5% 1/10W	



# SV-63

Ref.No	Part No.	Description	Remark			Ref.No	Part No.	Description	Remark		
JR115	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR178	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR116	1-216-295-00	METAL GLAZE	0	5%	1/10W	JR179	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR117	1-216-295-00	METAL GLAZE	0	5%	1/10W	JR180	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR118	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR181	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR119	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR182	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR121	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR183	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR122	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR184	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR123	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR185	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR124	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR186	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR125	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR187	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR126	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR188	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR127	1-216-295-00	METAL GLAZE	0	5%	1/10W	JR189	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR128	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR191	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR129	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR192	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR130	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR193	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR132	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR194	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR133	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR195	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR134	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR196	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR135	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR197	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR136	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR198	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR137	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR199	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR138	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR200	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR139	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR201	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR140	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR202	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR141	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR203	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR142	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR204	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR143	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR205	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR144	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR206	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR145	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR207	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR146	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR208	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR147	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR209	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR148	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR210	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR149	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR211	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR150	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR212	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR153	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR213	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR154	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR214	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR155	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR215	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR156	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR216	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR158	1-216-295-00	METAL GLAZE	0	5%	1/10W	JR217	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR159	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR218	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR160	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR219	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR161	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR220	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR162	1-216-296-00	METAL GLAZE	0	5%	1/8W	JR221	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR164	1-216-296-00	METAL GLAZE	0	5%	1/8W	<u>COIL</u>					
JR166	1-216-295-00	METAL GLAZE	0	5%	1/10W	L101	1-410-509-11	INDUCTOR			10UH
JR170	1-216-296-00	METAL GLAZE	0	5%	1/8W	L102	1-410-509-11	INDUCTOR			10UH
JR171	1-216-295-00	METAL GLAZE	0	5%	1/10W	L103	1-410-509-11	INDUCTOR			10UH
JR172	1-216-296-00	METAL GLAZE	0	5%	1/8W	<u>TRANSISTOR</u>					
JR173	1-216-296-00	METAL GLAZE	0	5%	1/8W	Q001	8-729-140-97	TRANSISTOR	2SB734-34		
JR174	1-216-296-00	METAL GLAZE	0	5%	1/8W	Q002	8-729-216-22	TRANSISTOR	2SA1162		
JR175	1-216-295-00	METAL GLAZE	0	5%	1/10W	Q003	8-729-303-37	TRANSISTOR	2SD655E		
JR176	1-216-296-00	METAL GLAZE	0	5%	1/8W						
JR177	1-216-296-00	METAL GLAZE	0	5%	1/8W						

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

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
Q101	8-729-107-26	TRANSISTOR 2SD1585-K		R122	1-216-085-00	METAL GLAZE 33K 5%	1/10W
Q102	8-729-920-91	TRANSISTOR 2SB1187-F		R123	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
Q103	8-729-107-26	TRANSISTOR 2SD1585-K		R124	1-216-079-00	METAL GLAZE 18K 5%	1/10W
Q104	8-729-920-91	TRANSISTOR 2SB1187-F		R125	1-216-081-00	METAL GLAZE 22K 5%	1/10W
Q105	8-729-100-66	TRANSISTOR 2SC1623		R126	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q106	8-729-100-66	TRANSISTOR 2SC1623		R127	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q107	8-729-901-00	TRANSISTOR DTC124EK		R128	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
Q108	8-729-100-66	TRANSISTOR 2SC1623		R129	1-216-041-00	METAL GLAZE 470 5%	1/10W
Q109	8-729-216-22	TRANSISTOR 2SA1162		R130	1-216-017-00	METAL GLAZE 47 5%	1/10W
				R131	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R132	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
				R133	1-216-097-00	METAL GLAZE 100K 5%	1/10W
				R134	1-216-097-00	METAL GLAZE 100K 5%	1/10W
				R135	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R136	1-216-081-00	METAL GLAZE 22K 5%	1/10W
				R137	1-216-099-00	METAL GLAZE 120K 5%	1/10W
				R138	1-216-081-00	METAL GLAZE 22K 5%	1/10W
				R139	1-216-081-00	METAL GLAZE 22K 5%	1/10W
				R140	1-216-037-00	METAL GLAZE 330 5%	1/10W
				R141	1-216-024-00	METAL GLAZE 91 5%	1/10W
				R142	1-216-001-00	METAL GLAZE 10 5%	1/10W
				R143	1-216-001-00	METAL GLAZE 10 5%	1/10W
				R144	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
				R145	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
				R146	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R147	1-216-081-00	METAL GLAZE 22K 5%	1/10W
				R148	1-216-037-00	METAL GLAZE 330 5%	1/10W
				R149	1-216-033-00	METAL GLAZE 220 5%	1/10W
				R150	1-216-085-00	METAL GLAZE 33K 5%	1/10W
				R151	1-216-113-00	METAL GLAZE 470K 5%	1/10W
				R152	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
				R153	1-216-085-00	METAL GLAZE 33K 5%	1/10W
				R154	1-216-101-00	METAL GLAZE 150K 5%	1/10W
				R155	1-216-089-00	METAL GLAZE 47K 5%	1/10W
				R156	1-216-083-00	METAL GLAZE 27K 5%	1/10W
				R157	1-216-101-00	METAL GLAZE 150K 5%	1/10W
				R158	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
				R159	1-216-075-00	METAL GLAZE 12K 5%	1/10W
				R160	1-216-083-00	METAL GLAZE 27K 5%	1/10W
				R161	1-216-113-00	METAL GLAZE 470K 5%	1/10W
				R162	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
				R163	1-216-083-00	METAL GLAZE 27K 5%	1/10W
				R164	1-216-035-00	METAL GLAZE 270 5%	1/10W
				R165	1-216-089-00	METAL GLAZE 47K 5%	1/10W
				R166	1-216-041-00	METAL GLAZE 470 5%	1/10W
				R167	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R168	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R169	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R170	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R171	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R172	1-216-049-00	METAL GLAZE 1K 5%	1/10W
				R173	1-216-085-00	METAL GLAZE 33K 5%	1/10W
				R174	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R001	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R002	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W				
R003	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R004	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W				
R005	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R006	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R007	1-216-023-00	METAL GLAZE 82 5%	1/10W				
R008	1-216-043-00	METAL GLAZE 560 5%	1/10W				
R009	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R010	1-216-095-00	METAL GLAZE 82K 5%	1/10W				
R011	1-216-081-00	METAL GLAZE 22K 5%	1/10W				
R012	1-249-394-11	CARBON 12 5%	1/4W				
R013	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R014	1-216-097-00	METAL GLAZE 100K 5%	1/10W				
R015	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R016	1-216-101-00	METAL GLAZE 150K 5%	1/10W				
R017	1-216-041-00	METAL GLAZE 470 5%	1/10W				
R018	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R020	1-216-049-00	METAL GLAZE 1K 5%	1/10W				
R021	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W				
R022	1-216-081-00	METAL GLAZE 22K 5%	1/10W				
R023	1-249-394-11	CARBON 12 5%	1/4W				
R101	△ 1-216-373-11	METAL OXIDE 2.2 5%	2W F				
R103	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R104	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R105	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R106	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W				
R107	1-216-089-00	METAL GLAZE 47K 5%	1/10W				
R108	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W				
R109	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W				
R110	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W				
R111	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R112	1-216-101-00	METAL GLAZE 150K 5%	1/10W				
R113	1-216-077-00	METAL GLAZE 15K 5%	1/10W				
R114	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R115	1-216-025-00	METAL GLAZE 100 5%	1/10W				
R116	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W				
R117	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R118	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R119	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R120	1-216-073-00	METAL GLAZE 10K 5%	1/10W				
R121	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W				

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

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

**SV-63**

**CK-44**

**LS-30**

**SW-156**

Ref.No	Part No.	Description	Remark
R175	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R176	1-216-748-11	METAL GLAZE 39K 5%	1/10W
R177	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R178	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R179	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R180	1-216-748-11	METAL GLAZE 39K 5%	1/10W
R181	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R182	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R183	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R184	1-216-089-00	METAL GLAZE 4.7K 5%	1/10W
R186	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R187	1-216-089-00	METAL GLAZE 4.7K 5%	1/10W
R188	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R189	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R190	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R191	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R192	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R193	1-216-105-00	METAL GLAZE 220K 5%	1/10W
R194	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R195	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R196	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R197	1-216-089-00	METAL GLAZE 4.7K 5%	1/10W
R198	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R199	1-216-099-00	METAL GLAZE 120K 5%	1/10W
R200	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R201	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R202	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R205	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R206	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R207	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R208	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R209	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R210	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R211	1-216-017-00	METAL GLAZE 47 5%	1/10W
R212	1-216-017-00	METAL GLAZE 47 5%	1/10W
R213	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R214	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R215	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R216	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R217	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R218	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R219	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R220	1-216-079-00	METAL GLAZE 18K 5%	1/10W
R222	1-216-129-00	METAL GLAZE 2.2M 5%	1/10W
<u>VARIABLE RESISTOR</u>			
RV101	1-228-993-00	RES, ADJ, CARBON 4.7K	
RV102	1-228-994-00	RES, ADJ, CARBON 10K	
RV103	1-228-994-00	RES, ADJ, CARBON 10K	
RV104	1-228-993-00	RES, ADJ, CARBON 4.7K	
RV105	1-228-994-00	RES, ADJ, CARBON 10K	
RV106	1-228-990-00	RES, ADJ, CARBON 1K	
RV107	1-228-990-00	RES, ADJ, CARBON 1K	

Ref.No	Part No.	Description	Remark
RV108	1-228-990-00	RES, ADJ, CARBON 1K	
*****			
*1-635-255-11 CK-44 BOARD (Ref.No 1,000 Series)			
*****			
<u>CAPACITOR</u>			
C401	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C402	1-163-038-00	CERAMIC CHIP 0.1MF	25V
<u>CONNECTOR</u>			
CN401	1-506-467-11	PIN, CONNECTOR 2P	
CN402	1-506-468-11	PIN, CONNECTOR 3P	
CN403	1-506-467-11	PIN, CONNECTOR 2P	
CN404	1-506-467-11	PIN, CONNECTOR 2P	
CN405	1-506-467-11	PIN, CONNECTOR 2P	
<u>JUMPER RESISTOR</u>			
JR401	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR402	1-216-296-00	METAL GLAZE 0 5%	1/8W
<u>RESISTOR</u>			
R401	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R402	1-216-031-00	METAL GLAZE 180 5%	1/10W
R403	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R404	1-216-001-00	METAL GLAZE 10 5%	1/10W
R405	1-216-001-00	METAL GLAZE 10 5%	1/10W
R406	1-216-031-00	METAL GLAZE 180 5%	1/10W
R407	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
*****			
*1-635-259-11 LS-30 BOARD (Ref.No 3,000 Series)			
*****			
3-735-054-01 HOLDER, SENSOR			
<u>CONNECTOR</u>			
CN201	1-506-468-11	PIN, CONNECTOR 3P	
<u>DIODE</u>			
D201	8-719-941-81	DIODE GL360	
<u>TRANSISTOR</u>			
Q201	8-729-904-10	TRANSISTOR PT360FS	
*****			
*1-635-260-11 SW-156 BOARD (Ref.No 3,000 Series)			
*****			
<u>CONNECTOR</u>			
CN301	1-506-467-11	PIN, CONNECTOR 2P	

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

**SW-156****FG-41****FP-368**

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
<u>SWITCH</u>							
S301	1-554-655-00	SWITCH, LEAF (TRAY SW)		D605	8-719-951-35	DIODE SLV-31MC3	
*****				D606	8-719-951-35	DIODE SLV-31MC3	
	*1-635-256-11	FG-41 BOARD (Ref.No 1,000 Series)		D607	8-719-820-29	DIODE TL0260	
*****				D608	8-719-820-29	DIODE TL0260	
				D609	8-719-820-29	DIODE TL0260	
<u>DIODE</u>				<u>FUSE</u>			
D301	8-719-939-11	DIODE GP2S09-B		F601	▲1-532-777-21	FUSE, MICRO (SECONDARY) (125V/1.25A)	
*****				<u>IC</u>			
	*A-6421-506-A	FP-368 BOARD, COMPLETE (Ref.No 5,000 Series)		IC601	8-752-816-21	IC CXP50116-091Q	
*****				IC602	8-759-605-21	IC M51953AFP	
	*3-749-932-01	REFLECTOR, FP		IC603	1-466-131-21	IC GP1U52X	
	*3-749-935-01	HOLDER, FLD		IC604	8-759-926-64	IC SN74HC367NS	
	*3-940-630-01	SPACER, FLD		<u>JUMPER RESISTOR</u>			
<u>CAPACITOR</u>				JR601	1-216-295-00	METAL GLAZE 0 5% 1/10W	
C601	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V	<u>COIL</u>			
C602	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	L601	1-408-421-00	INDUCTOR 100UH	
C603	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	L602	1-408-421-00	INDUCTOR 100UH	
C604	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	<u>INDICATOR TUBE</u>			
C605	1-123-875-11	ELECT 10MF	20% 50V	ND601	1-519-475-11	INDICATOR TUBE, FLUORESCENT	
C606	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	<u>TRANSISTOR</u>			
C607	1-123-875-11	ELECT 10MF	20% 50V	Q601	8-729-901-04	TRANSISTOR DTA114EK	
C608	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q602	8-729-901-04	TRANSISTOR DTA114EK	
C609	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q603	8-729-901-04	TRANSISTOR DTA114EK	
C611	1-123-875-11	ELECT 10MF	20% 50V	Q604	8-729-901-04	TRANSISTOR DTA114EK	
C612	1-123-875-11	ELECT 10MF	20% 50V	Q605	8-729-901-04	TRANSISTOR DTA114EK	
C613	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	Q606	8-729-901-04	TRANSISTOR DTA114EK	
C614	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	Q607	8-729-901-04	TRANSISTOR DTA114EK	
C615	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	Q608	8-729-901-04	TRANSISTOR DTA114EK	
C616	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	Q609	8-729-900-53	TRANSISTOR DTC114EK	
C617	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	Q610	8-729-900-53	TRANSISTOR DTC114EK	
C618	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	Q611	8-729-900-53	TRANSISTOR DTC114EK	
C619	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	<u>RESISTOR</u>			
<u>CONNECTOR</u>				R601	1-216-025-00	METAL GLAZE 100 5% 1/10W	
CN601	1-506-469-11	PIN, CONNECTOR 4P		R602	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
CN602	*1-568-787-11	PIN, CONNECTOR 10P		R603	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
CN603	*1-568-786-11	PIN, CONNECTOR 9P		R604	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
CN604	*1-563-969-11	CONNECTOR, F.P.C 7P		R605	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
CN605	*1-568-779-11	PIN, CONNECTOR 2P		R606	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
CN608	1-506-472-11	PIN, CONNECTOR 7P		R607	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
CN609	1-506-481-11	PIN, CONNECTOR 2P		R608	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
<u>DIODE</u>				R609	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
D601	8-719-106-16	DIODE RD6.8M-B1		R610	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
D602	8-719-951-35	DIODE SLV-31MC3		R611	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
D603	8-719-820-29	DIODE TL0260		R612	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
D604	8-719-820-29	DIODE TL0260		R613	1-216-073-00	METAL GLAZE 10K 5% 1/10W	

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

Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

# FP-368

# KP-1

Ref.No	Part No.	Description	Remark
R614	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R616	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R617	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R619	1-216-025-00	METAL GLAZE	100 5% 1/10W
R620	1-216-025-00	METAL GLAZE	100 5% 1/10W
R621	1-216-025-00	METAL GLAZE	100 5% 1/10W
R622	1-216-025-00	METAL GLAZE	100 5% 1/10W
R623	1-216-025-00	METAL GLAZE	100 5% 1/10W
R624	1-216-025-00	METAL GLAZE	100 5% 1/10W
R625	1-216-025-00	METAL GLAZE	100 5% 1/10W
R626	1-216-025-00	METAL GLAZE	100 5% 1/10W
R627	1-216-025-00	METAL GLAZE	100 5% 1/10W
R628	1-216-025-00	METAL GLAZE	100 5% 1/10W
R630	1-216-025-00	METAL GLAZE	100 5% 1/10W
R631	1-216-025-00	METAL GLAZE	100 5% 1/10W
R632	1-216-025-00	METAL GLAZE	100 5% 1/10W
R633	1-216-025-00	METAL GLAZE	100 5% 1/10W
R634	1-216-025-00	METAL GLAZE	100 5% 1/10W
R635	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R636	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R637	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R638	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R639	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R640	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R641	1-216-031-00	METAL GLAZE	180 5% 1/10W
R642	1-216-031-00	METAL GLAZE	180 5% 1/10W
R643	1-216-031-00	METAL GLAZE	180 5% 1/10W
R644	1-216-031-00	METAL GLAZE	180 5% 1/10W
R645	1-216-031-00	METAL GLAZE	180 5% 1/10W
R646	1-216-031-00	METAL GLAZE	180 5% 1/10W
R647	1-216-031-00	METAL GLAZE	180 5% 1/10W
R648	1-216-031-00	METAL GLAZE	180 5% 1/10W
R651	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R652	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R653	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R657	1-216-025-00	METAL GLAZE	100 5% 1/10W
R659	1-216-025-00	METAL GLAZE	100 5% 1/10W
R660	1-216-025-00	METAL GLAZE	100 5% 1/10W
R663	1-216-025-00	METAL GLAZE	100 5% 1/10W
R670	1-216-025-00	METAL GLAZE	100 5% 1/10W
R671	1-216-025-00	METAL GLAZE	100 5% 1/10W

CRYSTAL

X601 1-577-359-21 VIBRATOR, CERAMIC (4.19MHz)

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Ref.No	Part No.	Description	Remark
*A-6421-509-A	KP-1 BOARD, COMPLETE	(Ref.No 6,000 Series)	
	*****		
7-685-647-79	SCREW +BVTP	3X10 TYPE2 IT-3	
<u>CAPACITOR</u>			
C101	1-124-126-00	ELECT	47MF 20% 10V
C102	1-163-033-00	CERAMIC CHIP	0.022MF 50V
C103	1-123-875-11	ELECT	10MF 20% 50V
C106	1-124-927-11	ELECT	4.7MF 20% 50V
C107	1-124-443-00	ELECT	100MF 20% 10V
C108	1-136-161-00	MYLAR	0.047MF 10% 50V
C109	1-124-287-00	ELECT	10MF 20% 10V
C110	1-130-472-00	MYLAR	0.0012MF 10% 50V
C111	1-124-126-00	ELECT	47MF 20% 10V
C112	1-124-126-00	ELECT	47MF 20% 10V
C113	1-123-875-11	ELECT	10MF 20% 50V
C114	1-124-927-11	ELECT	4.7MF 20% 50V
C115	1-130-470-00	MYLAR	820PF 5% 50V
C201	1-163-033-00	CERAMIC CHIP	0.022MF 50V
C202	1-124-126-00	ELECT	47MF 20% 10V
C203	1-123-875-11	ELECT	10MF 20% 50V
C206	1-124-927-11	ELECT	4.7MF 20% 50V
C207	1-124-443-00	ELECT	100MF 20% 10V
C208	1-136-161-00	MYLAR	0.047MF 10% 50V
C209	1-124-287-00	ELECT	10MF 20% 10V
C210	1-130-472-00	MYLAR	0.0012MF 10% 50V
C211	1-124-126-00	ELECT	47MF 20% 10V
C212	1-124-126-00	ELECT	47MF 20% 10V
C213	1-123-875-11	ELECT	10MF 20% 50V
C214	1-124-927-11	ELECT	4.7MF 20% 50V
C215	1-130-470-00	MYLAR	820PF 5% 50V
C301	1-124-126-00	ELECT	47MF 20% 10V
C302	1-124-126-00	ELECT	47MF 20% 10V
C303	1-123-875-11	ELECT	10MF 20% 50V
C306	1-124-927-11	ELECT	4.7MF 20% 50V
C307	1-124-927-11	ELECT	4.7MF 20% 50V
C308	1-124-126-00	ELECT	47MF 20% 10V
C309	1-124-126-00	ELECT	47MF 20% 10V
C310	1-130-468-00	MYLAR	560PF 5% 50V
C311	1-136-157-00	MYLAR	0.022MF 10% 50V
C313	1-124-927-11	ELECT	4.7MF 20% 50V
C314	1-124-126-00	ELECT	47MF 20% 10V
C315	1-124-126-00	ELECT	47MF 20% 10V
C316	1-164-182-11	CERAMIC CHIP	0.0033MF 10% 50V
C318	1-123-875-11	ELECT	10MF 20% 50V
C319	1-124-443-00	ELECT	100MF 20% 10V
C320	1-163-037-11	CERAMIC CHIP	0.022MF 10% 25V
C321	1-124-360-00	ELECT	1000MF 20% 16V
C501	1-124-443-00	ELECT	100MF 20% 10V
C502	1-124-126-00	ELECT	47MF 20% 10V
C503	1-163-020-00	CERAMIC CHIP	0.0082MF 10% 50V
C504	1-163-101-00	CERAMIC CHIP	22PF 5% 50V

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

Ref.No	Part No.	Description	Remark
C505	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C506	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C507	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C508	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C509	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C510	1-124-443-00	ELECT 100MF	20% 10V
C511	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C512	1-124-443-00	ELECT 100MF	20% 10V
C513	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C514	1-124-126-00	ELECT 47MF	20% 10V
C515	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C516	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C517	1-124-126-00	ELECT 47MF	20% 10V
C518	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C519	1-124-443-00	ELECT 100MF	20% 10V
C520	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C521	1-124-126-00	ELECT 47MF	20% 10V
C522	1-124-126-00	ELECT 47MF	20% 10V
C523	1-124-791-11	ELECT 1MF	20% 50V
C524	1-124-791-11	ELECT 1MF	20% 50V
C525	1-124-791-11	ELECT 1MF	20% 50V
C526	1-124-791-11	ELECT 1MF	20% 50V
C527	1-124-126-00	ELECT 47MF	20% 10V
C528	1-124-126-00	ELECT 47MF	20% 10V
C529	1-124-443-00	ELECT 100MF	20% 10V
C901	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
C902	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V
C903	1-126-943-51	ELECT 2200MF	20% 16V
C904	1-126-943-51	ELECT 2200MF	20% 25V
C905	1-124-472-11	ELECT 470MF	20% 25V
C906	1-124-472-11	ELECT 470MF	20% 10V
C907	1-124-471-00	ELECT 1000MF	20% 6.3V
C908	1-124-471-00	ELECT 1000MF	20% 6.3V
<u>CONNECTOR</u>			
CN101	1-506-473-11	PIN, CONNECTOR 8P	
CN102	*1-568-786-11	PIN, CONNECTOR 9P	
CN104	1-506-469-11	PIN, CONNECTOR 4P	
CN105	1-506-468-11	PIN, CONNECTOR 3P	
CN501	*1-568-786-11	PIN, CONNECTOR 9P	
CN502	*1-560-891-00	PIN, CONNECTOR 3P	
CN901	*1-560-891-00	PIN, CONNECTOR 3P	
<u>DIODE</u>			
D101	8-719-911-19	DIODE 1SS119	
D102	8-719-911-19	DIODE 1SS119	
D201	8-719-911-19	DIODE 1SS119	
D202	8-719-911-19	DIODE 1SS119	
D301	8-719-911-19	DIODE 1SS119	
D302	8-719-911-19	DIODE 1SS119	
D304	8-719-911-19	DIODE 1SS119	
D305	8-719-911-19	DIODE 1SS119	
D306	8-719-911-19	DIODE 1SS119	

Ref.No	Part No.	Description	Remark
D307	8-719-110-12	DIODE RD9.1ES-B1	
D308	▲8-719-200-02	DIODE 10E-2	
D309	▲8-719-200-02	DIODE 10E-2	
D311	8-719-109-75	DIODE RD4.3ES-B2	
D312	8-719-109-75	DIODE RD4.3ES-B2	
D501	8-719-911-19	DIODE 1SS119	
D505	8-719-911-19	DIODE 1SS119	
D901	▲8-719-200-02	DIODE 10E-2	
D902	▲8-719-200-02	DIODE 10E-2	
D903	▲8-719-200-02	DIODE 10E-2	
D904	▲8-719-200-02	DIODE 10E-2	
<u>FILTER</u>			
FL101	1-236-930-11	FILTER, LOW PASS	
FL201	1-236-930-11	FILTER, LOW PASS	
FL301	1-236-930-11	FILTER, LOW PASS	
FL501	1-236-071-11	ENCAPSULATED COMPONENT	
FL502	1-236-071-11	ENCAPSULATED COMPONENT	
FL503	1-236-071-11	ENCAPSULATED COMPONENT	
<u>IC</u>			
IC101	8-759-981-95	IC RC4558S	
IC102	8-759-981-95	IC RC4558S	
IC201	8-759-981-95	IC RC4558S	
IC202	8-759-981-95	IC RC4558S	
IC301	8-759-981-95	IC RC4558S	
IC302	8-759-981-95	IC RC4558S	
IC303	8-759-000-49	IC MC14066BCP	
IC304	8-759-981-95	IC RC4558S	
IC501	8-759-973-98	IC YM3623B	
IC502	8-752-816-22	IC CXP50116-092Q	
IC503	8-759-504-52	IC YSS205	
IC504	8-759-243-37	IC TC51832SPL	
IC505	8-759-504-53	IC YM3433	
IC506	8-759-999-35	IC PCM1700P	
IC901	▲8-759-604-37	IC M5F78M09L	
IC902	▲8-759-604-43	IC M5F79M09L	
IC903	▲8-759-604-35	IC M5F78M05L	
IC904	▲8-759-982-52	IC RC79M05FA	
<u>TRANSISTOR</u>			
Q101	8-729-201-05	TRANSISTOR 2SC2878-B	
Q102	8-729-201-05	TRANSISTOR 2SC2878-B	
Q201	8-729-201-05	TRANSISTOR 2SC2878-B	
Q202	8-729-201-05	TRANSISTOR 2SC2878-B	
Q303	8-729-901-04	TRANSISTOR DTA114EK	
Q304	8-729-900-53	TRANSISTOR DTC114EK	
Q305	8-729-901-04	TRANSISTOR DTA114EK	
Q307	8-729-901-04	TRANSISTOR DTA114EK	
Q308	8-729-900-53	TRANSISTOR DTC114EK	
Q309	8-729-901-04	TRANSISTOR DTA114EK	
Q310	8-729-920-68	TRANSISTOR 2SA933S-QR	

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

**Note:** The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

# KP-1

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
<b>RESISTOR</b>							
R101	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R316	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R102	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R317	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R103	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R318	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R104	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R319	1-216-109-00	METAL GLAZE	330K 5% 1/10W
R105	1-249-417-11	CARBON	1K 5% 1/4W	R320	1-249-417-11	CARBON	1K 5% 1/4W
R106	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R322	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R107	1-216-035-00	METAL GLAZE	270 5% 1/10W	R323	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R108	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R324	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R109	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R325	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R110	1-249-405-11	CARBON	100 5% 1/4W	R326	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R111	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R327	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R112	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R329	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R113	1-249-417-11	CARBON	1K 5% 1/4W	R330	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R114	1-249-421-11	CARBON	2.2K 5% 1/4W	R331	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R115	1-249-423-11	CARBON	3.3K 5% 1/4W	R332	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R116	1-249-417-11	CARBON	1K 5% 1/4W	R501	1-216-025-00	METAL GLAZE	100 5% 1/10W
R118	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R502	1-216-035-00	METAL GLAZE	270 5% 1/10W
R119	1-249-416-11	CARBON	820 5% 1/4W	R503	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R120	1-249-429-11	CARBON	10K 5% 1/4W	R504	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R121	1-249-437-11	CARBON	47K 5% 1/4W	R505	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R201	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R506	1-216-025-00	METAL GLAZE	100 5% 1/10W
R202	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R507	1-216-025-00	METAL GLAZE	100 5% 1/10W
R203	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R508	1-216-025-00	METAL GLAZE	100 5% 1/10W
R204	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R509	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R205	1-249-417-11	CARBON	1K 5% 1/4W	R510	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R206	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R512	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R207	1-216-035-00	METAL GLAZE	270 5% 1/10W	R513	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R208	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R514	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R209	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R515	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R210	1-249-405-11	CARBON	100 5% 1/4W	R516	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R211	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R517	1-216-025-00	METAL GLAZE	100 5% 1/10W
R212	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R518	1-216-025-00	METAL GLAZE	100 5% 1/10W
R213	1-249-417-11	CARBON	1K 5% 1/4W	R519	1-216-025-00	METAL GLAZE	100 5% 1/10W
R214	1-249-421-11	CARBON	2.2K 5% 1/4W	R520	1-216-025-00	METAL GLAZE	100 5% 1/10W
R215	1-249-423-11	CARBON	3.3K 5% 1/4W	R525	1-216-025-00	METAL GLAZE	100 5% 1/10W
R216	1-249-417-11	CARBON	1K 5% 1/4W	R526	1-216-025-00	METAL GLAZE	100 5% 1/10W
R218	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R527	1-216-025-00	METAL GLAZE	100 5% 1/10W
R219	1-249-416-11	CARBON	820 5% 1/4W	R528	1-216-025-00	METAL GLAZE	100 5% 1/10W
R220	1-249-429-11	CARBON	10K 5% 1/4W	R530	1-216-025-00	METAL GLAZE	100 5% 1/10W
R221	1-249-437-11	CARBON	47K 5% 1/4W	R531	1-216-025-00	METAL GLAZE	100 5% 1/10W
R301	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R532	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R302	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R533	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R303	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R534	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R304	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R535	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R305	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R536	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R306	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R540	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R309	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R541	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R310	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R542	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R311	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R543	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R314	1-216-105-00	METAL GLAZE	220K 5% 1/10W	R544	1-216-025-00	METAL GLAZE	100 5% 1/10W
R315	1-249-431-11	CARBON	15K 5% 1/4W	R545	1-216-025-00	METAL GLAZE	100 5% 1/10W
				R546	1-216-025-00	METAL GLAZE	100 5% 1/10W
				R547	1-216-025-00	METAL GLAZE	100 5% 1/10W

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

**KP-1****PL-20****SW-162****MA-78****FP-369**

Ref.No	Part No.	Description	Remark
R553	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R901	▲ 1-212-942-00	FUSIBLE	2.2 5% 1/2W F
R902	▲ 1-212-942-00	FUSIBLE	2.2 5% 1/2W F
<u>CRYSTAL</u>			
X501	1-567-515-11	VIBRATOR, VARIABLE CRYSTAL	
X502	1-577-359-21	VIBRATOR, CERAMIC (4.19MHz)	

\*\*\*\*\*  
 \*1-636-601-11 PL-20 BOARD (Ref.No 8,000 Series)  
 \*\*\*\*\*

<u>DIODE</u>			
D661	8-719-951-35	DIODE SLV-31MC3	
D662	8-719-951-35	DIODE SLV-31MC3	

<u>RESISTOR</u>			
R661	1-249-411-11	CARBON	330 5% 1/4W
R662	1-249-411-11	CARBON	330 5% 1/4W

\*\*\*\*\*  
 \*1-636-600-11 SW-162 BOARD (Ref.No 4,000 Series)  
 \*\*\*\*\*

<u>SWITCH</u>			
S671	1-571-471-11	SWITCH, PUSH (1 KEY)	

\*\*\*\*\*  
 \*1-636-603-11 MA-78 BOARD (Ref.No 8,000 Series)  
 \*\*\*\*\*

<u>CAPACITOR</u>					
C001	1-124-791-11	ELECT	1MF	20%	50V
C002	1-124-791-11	ELECT	1MF	20%	50V
C003	1-162-294-31	CERAMIC	0.001MF	10%	50V
C004	1-162-294-31	CERAMIC	0.001MF	10%	50V
C005	1-124-902-00	ELECT	0.47MF	20%	50V
C006	1-124-902-00	ELECT	0.47MF	20%	50V
C007	1-123-875-11	ELECT	10MF	20%	50V
C008	1-123-875-11	ELECT	10MF	20%	50V
C009	1-124-443-00	ELECT	100MF	20%	10V
C010	1-124-443-00	ELECT	100MF	20%	10V
C011	1-162-293-31	CERAMIC	820PF	10%	50V
C012	1-162-293-31	CERAMIC	820PF	10%	50V
C101	1-161-021-11	CERAMIC	0.047MF	10%	25V

<u>CONNECTOR</u>			
CN101	1-506-469-11	PIN, CONNECTOR 4P	
CN102	*1-568-783-11	PIN, CONNECTOR 6P	
CN104	*1-568-779-11	PIN, CONNECTOR 2P	

Ref.No	Part No.	Description	Remark
<u>DIODE</u>			
D101	8-719-111-84	DIODE RD5.1ES-B2	
<u>IC</u>			
IC001	8-759-601-02	IC M5218P	
<u>JACK</u>			
J001	1-507-932-11	JACK, LARGE TYPE (MIC 1)	
J002	1-507-932-11	JACK, LARGE TYPE (MIC 2)	
J101	1-507-678-00	JACK (MIC CONTROL)	

<u>RESISTOR</u>					
R001	1-249-405-11	CARBON	100	5%	1/4W
R002	1-249-405-11	CARBON	100	5%	1/4W
R003	1-249-437-11	CARBON	47K	5%	1/4W
R004	1-249-437-11	CARBON	47K	5%	1/4W
R005	1-249-429-11	CARBON	10K	5%	1/4W
R006	1-249-429-11	CARBON	10K	5%	1/4W
R007	1-249-419-11	CARBON	1.5K	5%	1/4W
R008	1-249-419-11	CARBON	1.5K	5%	1/4W
R009	1-249-431-11	CARBON	15K	5%	1/4W
R010	1-249-431-11	CARBON	15K	5%	1/4W

\*\*\*\*\*  
 \*1-636-602-11 FP-369 BOARD (Ref.No 5,000 Series)  
 \*\*\*\*\*  
 \*3-749-931-01 REFLECTOR

<u>CAPACITOR</u>					
C101	1-124-584-00	ELECT	100MF	20%	10V
C102	1-124-584-00	ELECT	100MF	20%	10V
C104	1-163-006-11	CERAMIC CHIP	560PF	10%	50V

<u>CONNECTOR</u>			
CN001	1-506-486-11	PIN, CONNECTOR 7P	
CN101	1-506-485-11	PIN, CONNECTOR 6P	
CN102	1-506-482-11	PIN, CONNECTOR 3P	

<u>DIODE</u>			
D001	8-719-820-29	DIODE TL0260	
D002	8-719-951-35	DIODE SLV-31MC3	
D003	8-719-820-29	DIODE TL0260	

<u>IC</u>			
IC101	8-759-603-13	IC M5218FP	

<u>JUMPER RESISTOR</u>					
JR001	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR002	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR003	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR004	1-216-295-00	METAL GLAZE	0	5%	1/10W

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

Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.



**FP-369****AU-97**

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
JR005	1-216-296-00	METAL GLAZE 0 5% 1/8W		C212	1-161-379-00	CERAMIC 0.01MF 30% 16V	
<u>TRANSISTOR</u>				C213	1-161-379-00	CERAMIC 0.01MF 30% 16V	
Q001	8-729-901-04	TRANSISTOR DTA114EK		C214	1-124-443-00	ELECT 100MF 20% 10V	
Q002	8-729-901-04	TRANSISTOR DTA114EK		C215	1-161-379-00	CERAMIC 0.01MF 30% 16V	
Q003	8-729-901-04	TRANSISTOR DTA114EK		C216	1-161-379-00	CERAMIC 0.01MF 30% 16V	
<u>RESISTOR</u>				C217	1-124-443-00	ELECT 100MF 20% 10V	
R001	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W		C218	1-124-443-00	ELECT 100MF 20% 10V	
R002	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W		C219	1-162-288-31	CERAMIC 330PF 10% 50V	
R003	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W		C220	1-161-374-11	CERAMIC 0.0015MF 30% 16V	
R004	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W		C221	1-162-217-31	CERAMIC 56PF 5% 50V	
R005	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W		C222	1-126-233-11	ELECT 22MF 20% 25V	
R006	1-216-031-00	METAL GLAZE 180 5% 1/10W		C223	1-161-377-00	CERAMIC 0.0047MF 30% 16V	
R007	1-216-031-00	METAL GLAZE 180 5% 1/10W		C224	1-161-377-00	CERAMIC 0.0047MF 30% 16V	
R008	1-216-031-00	METAL GLAZE 180 5% 1/10W		C225	1-136-833-11	FILM 0.039MF 5% 50V	
R009	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W		C226	1-124-288-00	ELECT 22MF 20% 6.3V	
R101	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C228	1-124-443-00	ELECT 100MF 20% 10V	
R102	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C229	1-136-742-11	FILM 0.1MF 5% 50V	
R103	1-216-081-00	METAL GLAZE 22K 5% 1/10W		C230	1-123-875-11	ELECT 10MF 20% 50V	
R104	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C234	1-124-443-00	ELECT 100MF 20% 10V	
R106	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C235	1-161-379-00	CERAMIC 0.01MF 30% 16V	
R107	1-216-049-00	METAL GLAZE 1K 5% 1/10W		C236	1-161-379-00	CERAMIC 0.01MF 30% 16V	
<u>VARIABLE RESISTOR</u>				C237	1-124-443-00	ELECT 100MF 20% 10V	
RV101	1-241-238-21	RES, VAR, CARBON 20K (MIC 1)		C238	1-124-443-00	ELECT 100MF 20% 10V	
RV102	1-241-238-21	RES, VAR, CARBON 20K (MIC 2)		C239	1-162-287-31	CERAMIC 270PF 10% 50V	
RV103	1-241-238-21	RES, VAR, CARBON 20K (DIGITAL ECHO)		C240	1-161-374-11	CERAMIC 0.0015MF 30% 16V	
<u>SWITCH</u>				C241	1-162-217-31	CERAMIC 56PF 5% 50V	
S001	1-571-977-11	SWITCH, TACTIL (SURROUND)		C242	1-126-233-11	ELECT 22MF 20% 25V	
S002	1-571-977-11	SWITCH, TACTIL (KARAOKE PON)		C243	1-161-377-00	CERAMIC 0.0047MF 30% 16V	
S003	1-571-977-11	SWITCH, TACTIL (VOCAL)		C244	1-161-377-00	CERAMIC 0.0047MF 30% 16V	
S004	1-571-977-11	SWITCH, TACTIL (UP)		C245	1-136-833-11	FILM 0.039MF 5% 50V	
S005	1-571-977-11	SWITCH, TACTIL (NORMAL)		C246	1-124-288-00	ELECT 22MF 20% 6.3V	
S006	1-571-977-11	SWITCH, TACTIL (DOWN)		C247	1-124-902-00	ELECT 0.47MF 20% 50V	
S007	1-571-977-11	SWITCH, TACTIL (CONTINUOUS PLAY)		C248	1-124-791-11	ELECT 1MF 20% 50V	
*****				C249	1-124-791-11	ELECT 1MF 20% 50V	
*A-6421-515-A AU-97 BOARD, COMPLETE (Ref.No 4,000 Series)				C301	1-161-494-00	CERAMIC 0.022MF 25V	
*****				C302	1-161-379-00	CERAMIC 0.01MF 30% 16V	
<u>CAPACITOR</u>				C303	1-161-379-00	CERAMIC 0.01MF 30% 16V	
C202	1-124-443-00	ELECT 100MF 20% 10V		C304	1-162-207-31	CERAMIC 22PF 5% 50V	
C203	1-124-443-00	ELECT 100MF 20% 10V		C305	1-162-207-31	CERAMIC 22PF 5% 50V	
C204	1-161-379-00	CERAMIC 0.01MF 30% 16V		C306	1-161-494-00	CERAMIC 0.022MF 25V	
C205	1-162-286-31	CERAMIC 220PF 10% 50V		<u>CONNECTOR</u>			
C206	1-162-286-31	CERAMIC 220PF 10% 50V		CN201	*1-568-788-21	PIN, CONNECTOR 11P	
C207	1-162-207-31	CERAMIC 22PF 5% 50V		CN202	1-506-473-11	PIN, CONNECTOR 8P	
C208	1-162-205-31	CERAMIC 18PF 5% 50V		CN301	1-506-469-11	PIN, CONNECTOR 4P	
C209	1-162-217-31	CERAMIC 56PF 5% 50V		<u>DIODE</u>			
C210	1-162-198-31	CERAMIC 8.2PF 10% 50V		D301	▲.8-719-907-19	DIODE FC52M-5	
C211	1-162-207-31	CERAMIC 22PF 5% 50V		D302	▲.8-719-907-19	DIODE FC52M-5	
				<u>FUSE</u>			
				F201	▲.1-532-777-21	FUSE, MICRO (SECONDARY) (125V/1.25A)	

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

Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

**AU-97**

**PT-90**

Ref.No	Part No.	Description	Remark
<u>FILTER</u>			
FL201	1-236-840-11	FILTER, BAND PASS	
FL302	1-424-033-21	FILTER, NOISE	
FL303	1-424-033-21	FILTER, NOISE	
<u>IC</u>			
IC201	8-759-502-42	IC PA0034A	
IC202	8-759-601-02	IC M5218P	
IC301	8-759-916-14	IC SN74HCO4N	
<u>COIL</u>			
L203	1-408-421-00	INDUCTOR 100UH	
L204	1-408-425-00	INDUCTOR 220UH	
L205	1-408-417-00	INDUCTOR 47UH	
L206	1-408-417-00	INDUCTOR 47UH	
<u>TRANSISTOR</u>			
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q202	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q203	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q204	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q205	8-729-119-76	TRANSISTOR 2SA1175-HFE	
<u>RESISTOR</u>			
R201	1-249-433-11	CARBON 22K 5% 1/4W	
R202	1-249-433-11	CARBON 22K 5% 1/4W	
R204	1-249-429-11	CARBON 10K 5% 1/4W	
R205	1-247-830-11	CARBON 910 5% 1/4W	
R207	1-249-439-11	CARBON 68K 5% 1/4W	
R208	1-247-858-11	CARBON 13K 5% 1/4W	
R209	1-249-421-11	CARBON 2.2K 5% 1/4W	
R210	1-249-413-11	CARBON 470 5% 1/4W	
R211	1-249-401-11	CARBON 47 5% 1/4W	
R212	1-249-404-00	CARBON 82 5% 1/4W	
R213	1-249-421-11	CARBON 2.2K 5% 1/4W	
R214	1-249-417-11	CARBON 1K 5% 1/4W	
R215	1-249-417-11	CARBON 1K 5% 1/4W	
R216	1-249-417-11	CARBON 1K 5% 1/4W	
R217	1-249-419-11	CARBON 1.5K 5% 1/4W	
R218	1-249-409-11	CARBON 220 5% 1/4W	
R219	1-249-425-11	CARBON 4.7K 5% 1/4W	
R220	1-249-425-11	CARBON 4.7K 5% 1/4W	
R221	1-249-429-11	CARBON 10K 5% 1/4W	
R222	1-247-860-11	CARBON 16K 5% 1/4W	
R223	1-247-900-11	CARBON 750K 5% 1/4W	
R224	1-249-428-11	CARBON 8.2K 5% 1/4W	
R226	1-247-828-11	CARBON 750 5% 1/4W	
R227	1-247-883-00	CARBON 150K 5% 1/4W	
R228	1-247-883-00	CARBON 150K 5% 1/4W	
R229	1-247-886-11	CARBON 200K 5% 1/4W	
R233	1-249-417-11	CARBON 1K 5% 1/4W	
R234	1-249-419-11	CARBON 1.5K 5% 1/4W	
R235	1-249-409-11	CARBON 220 5% 1/4W	

Ref.No	Part No.	Description	Remark
R236	1-249-425-11	CARBON 4.7K 5% 1/4W	
R237	1-249-425-11	CARBON 4.7K 5% 1/4W	
R238	1-249-429-11	CARBON 10K 5% 1/4W	
R239	1-247-860-11	CARBON 16K 5% 1/4W	
R240	1-247-900-11	CARBON 750K 5% 1/4W	
R241	1-249-428-11	CARBON 8.2K 5% 1/4W	
R242	1-247-887-00	CARBON 220K 5% 1/4W	
R243	1-249-418-11	CARBON 1.2K 5% 1/4W	
R244	1-247-887-00	CARBON 220K 5% 1/4W	
R245	1-249-418-11	CARBON 1.2K 5% 1/4W	
R247	1-249-429-11	CARBON 10K 5% 1/4W	
R248	1-249-419-11	CARBON 1.5K 5% 1/4W	
R249	1-249-419-11	CARBON 1.5K 5% 1/4W	
R250	1-249-429-11	CARBON 10K 5% 1/4W	
R301	1-249-416-11	CARBON 820 5% 1/4W	
R302	1-249-441-11	CARBON 100K 5% 1/4W	
R303	1-249-441-11	CARBON 100K 5% 1/4W	
R304	1-247-903-00	CARBON 1M 5% 1/4W	
<u>CRYSTAL</u>			
X301	1-567-515-11	VIBRATOR, VARIABLE CRYSTAL (17MHz)	
*****			
*A-6421-532-A PT-90 BOARD, COMPLETE (Ref.No 8,000 Series)			
*****			
<u>CAPACITOR</u>			
C701	1-163-033-00	CERAMIC CHIP 0.022MF 50V	
C702	1-124-589-11	ELECT 47MF 20% 10V	
C703	1-124-589-11	ELECT 47MF 20% 10V	
C704	1-126-163-11	ELECT 4.7MF 20% 50V	
C705	1-124-589-11	ELECT 47MF 20% 10V	
C706	1-124-589-11	ELECT 47MF 20% 10V	
C707	1-126-163-11	ELECT 4.7MF 20% 50V	
C708	1-126-163-11	ELECT 4.7MF 20% 50V	
C709	1-126-163-11	ELECT 4.7MF 20% 50V	
C710	1-163-033-00	CERAMIC CHIP 0.022MF 50V	
<u>CONNECTOR</u>			
CN701	*1-568-786-11	PIN, CONNECTOR 9P	
CN702	*1-568-779-11	PIN, CONNECTOR 2P	
<u>JACK</u>			
CNJ701	1-568-069-11	JACK, PIN 4P (LINE OUT 1(L,R)/LINE OUT 2(L,R))	
<u>IC</u>			
IC701	8-759-603-13	IC M5218FP	
IC702	8-759-603-13	IC M5218FP	
<u>JUMPER RESISTOR</u>			
JR701	1-216-296-00	METAL GLAZE 0 5% 1/8W	

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

**PT-90**

**MB-44**

Ref.No	Part No.	Description				
JR702	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR703	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR704	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR705	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR706	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR707	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR708	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR709	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR710	1-216-296-00	METAL GLAZE	0	5%	1/8W	

TRANSISTOR

Q701	8-729-201-05	TRANSISTOR 2SC2878-B				
Q702	8-729-201-05	TRANSISTOR 2SC2878-B				
Q703	8-729-201-05	TRANSISTOR 2SC2878-B				
Q704	8-729-201-05	TRANSISTOR 2SC2878-B				

RESISTOR

R701	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R702	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R703	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R704	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R705	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R706	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R707	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R708	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R709	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R710	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R711	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R712	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R713	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R714	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R715	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R716	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R717	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R718	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R719	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R720	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R721	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R722	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R723	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R724	1-216-045-00	METAL GLAZE	680	5%	1/10W	

SWITCH

SW701	1-553-725-00	SWITCH, SLIDE (ATT)				
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Ref.No	Part No.	Description	Remark
*A-6421-562-A	MB-44	BOARD, COMPLETE	(Ref.No 2,000 Series)
*****			
*3-309-144-21	HEAT SINK		
*3-746-524-01	PLATE, GROUND		
3-831-441-XX	CUSHION (5)		
7-682-547-04	SCREW +BVTT 3X6 (S)		
<u>CAPACITOR</u>			
C001	1-124-768-11	ELECT	4.7MF 20% 50V
C002	1-124-767-00	ELECT	2.2MF 20% 50V
C003	1-124-126-00	ELECT	47MF 20% 10V
C004	1-124-126-00	ELECT	47MF 20% 10V
C005	1-126-320-11	ELECT	10MF 20% 16V
C006	1-136-165-00	FILM	0.1MF 5% 50V
C007	1-163-020-00	CERAMIC CHIP	0.0082MF 10% 50V
C008	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
C015	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C016	1-124-126-00	ELECT	47MF 20% 10V
C017	1-124-126-00	ELECT	47MF 20% 10V
C018	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C019	1-163-023-00	CERAMIC CHIP	0.015MF 10% 50V
C020	1-126-157-11	ELECT	10MF 20% 16V
C021	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
C022	1-163-035-00	CERAMIC CHIP	0.047MF 50V
C023	1-163-035-00	CERAMIC CHIP	0.047MF 50V
C024	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V
C025	1-164-161-11	CERAMIC CHIP	0.0022MF 10% 50V
C026	1-163-241-11	CERAMIC CHIP	39PF 5% 50V
C027	1-163-106-00	CERAMIC CHIP	36PF 5% 50V
C028	1-163-123-00	CERAMIC CHIP	180PF 5% 50V
C029	1-163-023-00	CERAMIC CHIP	0.015MF 10% 50V
C033	1-164-232-11	CERAMIC CHIP	0.01MF 10% 50V
C034	1-164-222-11	CERAMIC CHIP	0.22MF 25V
C101	1-164-005-11	CERAMIC CHIP	0.47MF 25V
C102	1-128-102-11	ELECT	1200MF 20% 16V
C103	1-164-232-11	CERAMIC CHIP	0.01MF 50V
C104	1-124-477-11	ELECT	47MF 20% 16V
C105	1-164-232-11	CERAMIC CHIP	0.01MF 50V
C106	1-124-477-11	ELECT	47MF 20% 16V
C107	1-163-097-00	CERAMIC CHIP	15PF 5% 50V
C108	1-163-109-00	CERAMIC CHIP	47PF 5% 50V
C109	1-123-875-11	ELECT	10MF 20% 50V
C111	1-164-232-11	CERAMIC CHIP	0.01MF 50V
C112	1-124-472-11	ELECT	470MF 20% 10V
C113	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C114	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C115	1-123-875-11	ELECT	10MF 20% 50V
C116	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C117	1-126-385-11	ELECT	390MF 20% 16V
C118	1-123-875-11	ELECT	10MF 20% 50V
C119	1-163-093-00	CERAMIC CHIP	10PF 5% 50V
C120	1-163-038-00	CERAMIC CHIP	0.1MF 25V
C131	1-164-232-11	CERAMIC CHIP	0.01MF 50V

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

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C151	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	C212	1-136-161-00	MYLAR 0.047MF	10% 50V
C152	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C213	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C153	1-124-477-11	ELECT 47MF	20% 16V	C214	1-124-791-11	ELECT 1MF	20% 50V
C154	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C215	1-124-477-11	ELECT 47MF	20% 16V
C155	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C216	1-124-443-00	ELECT 100MF	20% 6.3V
C156	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V	C217	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C157	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C218	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C158	1-136-153-00	MYLAR 0.01MF	10% 50V	C219	1-123-875-11	ELECT 10MF	20% 50V
C159	1-136-159-00	MYLAR 0.033MF	10% 50V	C220	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C160	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C221	1-124-477-11	ELECT 47MF	20% 16V
C161	1-136-742-11	FILM 0.1MF	5% 50V	C222	1-136-161-00	MYLAR 0.047MF	10% 50V
C162	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V	C223	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C163	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C224	1-124-477-11	ELECT 47MF	20% 16V
C164	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C225	1-163-139-00	CERAMIC CHIP 820PF	10% 50V
C165	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C226	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C166	1-126-157-11	ELECT 10MF	20% 16V	C227	1-124-477-11	ELECT 47MF	20% 16V
C167	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C228	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C168	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C229	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
C169	1-126-157-11	ELECT 10MF	20% 16V	C230	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
C170	1-124-589-11	ELECT 47MF	20% 16V	C231	1-124-791-11	ELECT 1MF	20% 50V
C171	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	C232	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C172	1-163-103-00	CERAMIC CHIP 27PF	5% 50V	C233	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C181	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	C234	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C182	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C235	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C183	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	C236	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C184	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C237	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C185	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C238	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C186	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C239	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C187	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C240	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C188	1-126-176-11	ELECT 220MF	20% 10V	C241	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C189	1-164-222-11	CERAMIC CHIP 0.22MF	25V	C242	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C190	1-164-222-11	CERAMIC CHIP 0.22MF	25V	C243	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C191	1-124-443-00	ELECT 100MF	20% 6.3V	C244	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
C192	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C245	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C193	1-130-486-00	MYLAR 0.018MF	10% 50V	C246	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C194	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C247	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C195	1-136-159-00	MYLAR 0.033MF	10% 50V	C248	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C196	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C249	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C197	1-124-791-11	ELECT 1MF	20% 50V	C250	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C198	1-124-902-00	ELECT 0.47MF	20% 50V	C251	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C199	1-136-161-00	MYLAR 0.047MF	10% 50V	C252	1-124-477-11	ELECT 47MF	20% 16V
C200	1-136-159-00	MYLAR 0.033MF	10% 50V	C253	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C201	1-124-589-11	ELECT 47MF	20% 16V	C254	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C202	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C255	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C203	1-136-153-00	MYLAR 0.01MF	10% 50V	C256	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C204	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C257	1-124-477-11	ELECT 47MF	20% 16V
C205	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V	C258	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C206	1-136-153-00	MYLAR 0.01MF	10% 50V	C259	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C207	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C260	1-163-099-00	CERAMIC CHIP 18PF	5% 50V
C208	1-124-477-11	ELECT 47MF	20% 16V	C261	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C209	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C262	1-126-160-11	ELECT 1MF	20% 50V
C210	1-124-477-11	ELECT 47MF	20% 16V	C263	1-136-157-00	MYLAR 0.022MF	10% 50V
C211	1-124-499-11	ELECT 1MF	20% 50V	C264	1-131-347-00	TANTALUM 1MF	10% 35V

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

# MB-44

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
C265	1-126-160-11	ELECT 1MF	20% 50V	C322	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C266	1-136-153-00	MYLAR 0.01MF	10% 50V	C323	1-164-232-11	CERAMIC CHIP 0.01MF	50V
C267	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C324	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C268	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C325	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
C269	1-163-107-00	CERAMIC CHIP 39PF	5% 50V	C326	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C270	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C328	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C271	1-124-589-11	ELECT 47MF	20% 16V	C329	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C273	1-124-589-11	ELECT 47MF	20% 16V	C401	1-126-163-11	ELECT 4.7MF	20% 16V
C274	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C402	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C275	1-124-257-00	ELECT 2.2MF	20% 50V	C403	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
C277	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C404	1-126-163-11	ELECT 4.7MF	20% 16V
C278	1-124-257-00	ELECT 2.2MF	20% 50V	C406	1-124-589-11	ELECT 47MF	20% 16V
C279	1-126-157-11	ELECT 10MF	20% 16V	C407	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C280	1-124-471-00	ELECT 1000MF	20% 6.3V	C408	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C281	1-124-257-00	ELECT 2.2MF	20% 50V	C409	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C282	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C601	1-124-589-11	ELECT 47MF	20% 16V
C283	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C602	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C284	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C603	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C285	1-124-477-11	ELECT 47MF	20% 16V	C604	1-163-088-00	CERAMIC CHIP 5PF	0.25PF 50V
C286	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C606	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C287	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	C607	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C288	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C609	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C289	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C610	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C290	1-163-121-00	CERAMIC CHIP 150PF	5% 50V	C611	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C291	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C613	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C292	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C620	1-124-589-11	ELECT 47MF	20% 16V
C293	1-124-477-11	ELECT 47MF	20% 16V	C621	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C294	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C622	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C295	1-124-257-00	ELECT 2.2MF	20% 50V	C623	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
C296	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C624	1-124-589-11	ELECT 47MF	20% 16V
C297	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	C625	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C298	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	C626	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C299	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	C627	1-163-111-00	CERAMIC CHIP 56PF	5% 50V
C300	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	C628	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C301	1-163-113-00	CERAMIC CHIP 68PF	5% 50V	C629	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C302	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C630	1-124-257-00	ELECT 2.2MF	20% 50V
C303	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	C640	1-124-248-00	ELECT 22MF	20% 25V
C304	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C641	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C305	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C650	1-163-123-00	CERAMIC CHIP 180PF	5% 50V
C306	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C651	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C308	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C652	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C309	1-126-157-11	ELECT 10MF	20% 16V	C657	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C310	1-164-232-11	CERAMIC CHIP 0.01MF	50V	C699	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C311	1-124-257-00	ELECT 2.2MF	20% 50V			<b>FILTER</b>	
C312	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CF151	1-527-831-00	FILTER, CERAMIC	
C313	1-126-157-11	ELECT 10MF	20% 16V			<b>CONNECTOR</b>	
C314	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN002	1-506-467-11	PIN, CONNECTOR 2P	
C315	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN005	*1-560-891-00	PIN, CONNECTOR 3P	
C316	1-163-035-00	CERAMIC CHIP 0.047MF	50V	CN601	*1-564-032-00	PIN, CONNECTOR 7P	
C318	1-163-106-00	CERAMIC CHIP 36PF	5% 50V	CN602	1-563-493-11	CONNECTOR, F.P.C 28P	
C319	1-124-589-11	ELECT 47MF	20% 16V	CN603	1-506-483-21	PIN, CONNECTOR 4P	
C320	1-124-589-11	ELECT 47MF	20% 16V				
C321	1-163-038-00	CERAMIC CHIP 0.1MF	25V				

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

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
CN604	1-506-489-11	PIN, CONNECTOR 10P		IC107	8-759-982-34	IC RC78M09FA	
CN605	1-506-481-11	PIN, CONNECTOR 2P		IC108	8-759-982-31	IC RC78M05FA	
CN606	1-506-481-11	PIN, CONNECTOR 2P		IC109	8-752-036-24	IC CXA1255Q	
CN607	1-506-482-11	PIN, CONNECTOR 3P		IC110	8-759-927-29	IC SN74HCU04NS	
				IC111	8-759-502-69	IC CXD1152-MS	
		<u>JACK</u>					
CNJ101	1-537-005-21	JACK BOARD (AUDIO MONO OUT)		IC112	8-752-036-23	IC CXA1254Q	
CNJ102	1-566-847-31	CONNECTOR, (S) TERMINAL 4P (S VIDEO OUT)		IC113	8-759-941-68	IC BA7131F	
				IC114	8-759-981-92	IC RC4558M	
		<u>CERAMIC</u>		IC115	8-759-009-07	IC MC14053BF	
CV152	1-141-227-00	CAP, CERAMIC TRIMMER		IC401	8-759-100-95	IC UPC324G2	
CV601	1-141-227-00	CAP, CERAMIC TRIMMER					
				IC402	8-759-009-06	IC MC14052BF	
		<u>DIODE</u>		IC601	8-759-504-82	IC MB89795-126	
D001	8-719-923-64	DIODE KV1236D		IC602	8-759-634-74	IC M50455-196FP	
D002	8-719-400-18	DIODE MA152WK		IC603	8-759-231-92	IC TA7291P	
D004	8-719-400-18	DIODE MA152WK		IC604	8-759-987-71	IC MSM72H032GS-K	
D005	8-719-109-85	DIODE RD5.1ES-B2					
D006	8-719-400-18	DIODE MA152WK				<u>JUMPER RESISTOR</u>	
				JR219	1-216-295-00	METAL GLAZE 0 5% 1/10W	
						<u>COIL</u>	
D007	8-719-400-18	DIODE MA152WK		L101	1-408-412-00	INDUCTOR 18UH	
D151	8-719-800-76	DIODE 1S226		L113	1-410-397-21	FERRITE BEAD INDUCTOR	
D153	8-719-800-76	DIODE 1S226		L115	1-408-421-00	INDUCTOR 100UH	
D154	8-719-951-22	DIODE 1MN10		L151	1-408-421-00	INDUCTOR 100UH	
D155	8-719-800-76	DIODE 1S226		L152	1-408-421-00	INDUCTOR 100UH	
D160	8-719-106-08	DIODE RD6.2M-B2		L156	1-408-421-00	INDUCTOR 100UH	
D401	8-719-400-18	DIODE MA152WK		L157	1-408-421-00	INDUCTOR 100UH	
D601	8-719-400-18	DIODE MA152WK		L158	1-408-421-00	INDUCTOR 100UH	
D602	8-719-400-18	DIODE MA152WK		L159	1-408-421-00	INDUCTOR 100UH	
D605	8-719-400-18	DIODE MA152WK		L160	1-408-422-00	INDUCTOR 120UH	
D606	8-719-104-34	DIODE 1S2836		L161	1-408-419-00	INDUCTOR 68UH	
D607	8-719-400-18	DIODE MA152WK		L163	1-408-421-00	INDUCTOR 100UH	
				L164	1-408-424-00	INDUCTOR 180UH	
		<u>DELAY LINE</u>		L165	1-408-421-00	INDUCTOR 100UH	
DL101	1-415-694-11	DELAY LINE, LC		L601	1-408-421-00	INDUCTOR 100UH	
		<u>FILTER</u>		L602	1-408-411-00	INDUCTOR 15UH	
FL101	1-235-896-11	FILTER, BAND PASS		L603	1-408-409-00	INDUCTOR 10UH	
FL151	1-236-478-11	FILTER, LOW PASS		L604	1-408-409-00	INDUCTOR 10UH	
FL152	1-236-843-11	FILTER, BAND PASS		L610	1-408-409-00	INDUCTOR 10UH	
FL153	1-236-478-11	FILTER, LOW PASS				<u>VARIABLE COIL</u>	
FL154	1-235-901-11	FILTER, LOW PASS					
FL601	1-424-031-11	FILTER, NOISE		LV001	1-426-212-11	COIL (RF)	
		<u>IC</u>				<u>TRANSISTOR</u>	
IC001	8-752-325-59	IC CXD1165Q		Q001	8-729-900-53	TRANSISTOR DTC114EK	
IC002	8-759-908-17	IC TL082CPS		Q002	8-729-100-66	TRANSISTOR 2SC1623	
IC003	8-759-908-17	IC TL082CPS		Q003	8-729-900-53	TRANSISTOR DTC114EK	
IC006	8-759-008-67	IC MC14066BF		Q004	8-729-900-53	TRANSISTOR DTC114EK	
IC101	8-759-144-83	IC UPC24M09HF		Q005	8-729-901-05	TRANSISTOR DTA124EK	
IC102	1-809-157-11	FILTER BLOCK, COM		Q006	8-729-901-05	TRANSISTOR DTA124EK	
IC105	8-759-983-74	IC LM324NS		Q101	8-729-216-22	TRANSISTOR 2SA1162	
IC106	8-752-322-35	IC CXL5005M		Q102	8-729-100-66	TRANSISTOR 2SC1623	
				Q103	8-729-216-22	TRANSISTOR 2SA1162	

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

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Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
Q104	8-729-100-66	TRANSISTOR 2SC1623		Q606	8-729-901-00	TRANSISTOR DTC124EK	
Q105	8-729-100-66	TRANSISTOR 2SC1623		Q608	8-729-100-66	TRANSISTOR 2SC1623	
Q106	8-729-216-22	TRANSISTOR 2SA1162		Q609	8-729-100-66	TRANSISTOR 2SC1623	
Q107	8-729-100-66	TRANSISTOR 2SC1623		Q610	8-729-100-66	TRANSISTOR 2SC1623	
Q108	8-729-100-66	TRANSISTOR 2SC1623		Q611	8-729-901-00	TRANSISTOR DTC124EK	
Q109	8-729-216-22	TRANSISTOR 2SA1162		<u>RESISTOR</u>			
Q110	8-729-100-66	TRANSISTOR 2SC1623		R001	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q151	8-729-100-66	TRANSISTOR 2SC1623		R002	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q152	8-729-100-66	TRANSISTOR 2SC1623		R003	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q153	8-729-140-75	TRANSISTOR 2SD999-CLCK		R004	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q154	8-729-100-66	TRANSISTOR 2SC1623		R005	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q155	8-729-100-66	TRANSISTOR 2SC1623		R006	1-216-099-00	METAL GLAZE 120K 5%	1/10W
Q156	8-729-100-66	TRANSISTOR 2SC1623		RQ07	1-216-101-00	METAL GLAZE 150K 5%	1/10W
Q159	8-729-100-66	TRANSISTOR 2SC1623		R008	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q160	8-729-100-66	TRANSISTOR 2SC1623		R009	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q161	8-729-100-66	TRANSISTOR 2SC1623		R010	1-216-093-00	METAL GLAZE 68K 5%	1/10W
Q162	8-729-100-66	TRANSISTOR 2SC1623		R011	1-216-121-00	METAL GLAZE 1M 5%	1/10W
Q163	8-729-100-66	TRANSISTOR 2SC1623		R012	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
Q164	8-729-902-96	TRANSISTOR FMS1		R013	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q165	8-729-100-66	TRANSISTOR 2SC1623		R014	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q166	8-729-901-00	TRANSISTOR DTC124EK		R015	1-216-093-00	METAL GLAZE 68K 5%	1/10W
Q167	8-729-100-66	TRANSISTOR 2SC1623		R016	1-216-062-00	METAL GLAZE 3.6K 5%	1/10W
Q168	8-729-100-66	TRANSISTOR 2SC1623		R017	1-216-093-00	METAL GLAZE 68K 5%	1/10W
Q169	8-729-216-22	TRANSISTOR 2SA1162		R018	1-216-099-00	METAL GLAZE 120K 5%	1/10W
Q170	8-729-100-66	TRANSISTOR 2SC1623		R019	1-216-099-00	METAL GLAZE 120K 5%	1/10W
Q171	8-729-100-66	TRANSISTOR 2SC1623		R020	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q172	8-729-100-66	TRANSISTOR 2SC1623		R021	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q173	8-729-100-66	TRANSISTOR 2SC1623		R022	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q174	8-729-100-66	TRANSISTOR 2SC1623		R023	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
Q175	8-729-100-66	TRANSISTOR 2SC1623		R024	1-216-295-00	METAL GLAZE 0 5%	1/10W
Q176	8-729-100-66	TRANSISTOR 2SC1623		R025	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q177	8-729-903-10	TRANSISTOR FMW1		R026	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q178	8-729-902-96	TRANSISTOR FMS1		R027	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
Q179	8-729-100-66	TRANSISTOR 2SC1623		R028	1-216-334-11	METAL GLAZE 22K 1%	1/10W
Q180	8-729-100-66	TRANSISTOR 2SC1623		R029	1-216-334-11	METAL GLAZE 22K 1%	1/10W
Q181	8-729-100-66	TRANSISTOR 2SC1623		R030	1-216-675-11	METAL CHIP 10K 0.50%	1/10W
Q182	8-729-100-66	TRANSISTOR 2SC1623		R031	1-216-677-11	METAL CHIP 12K 0.50%	1/10W
Q183	8-729-216-22	TRANSISTOR 2SA1162		R032	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q184	8-729-100-66	TRANSISTOR 2SC1623		R033	1-216-049-00	METAL GLAZE 1K 5%	1/10W
Q185	8-729-100-66	TRANSISTOR 2SC1623		R034	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q186	8-729-100-66	TRANSISTOR 2SC1623		R035	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q187	8-729-216-22	TRANSISTOR 2SA1162		R036	1-216-097-00	METAL GLAZE 100K 5%	1/10W
Q189	8-729-100-66	TRANSISTOR 2SC1623		R037	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q190	8-729-100-66	TRANSISTOR 2SC1623		R038	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q191	8-729-100-66	TRANSISTOR 2SC1623		R039	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q192	8-729-216-22	TRANSISTOR 2SA1162		R040	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q193	8-729-901-00	TRANSISTOR DTC124EK		R041	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q194	8-729-100-66	TRANSISTOR 2SC1623		R042	1-216-295-00	METAL GLAZE 0 5%	1/10W
Q195	8-729-100-66	TRANSISTOR 2SC1623		R043	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q196	8-729-100-66	TRANSISTOR 2SC1623		R044	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q601	8-729-216-22	TRANSISTOR 2SA1162		R050	1-216-121-00	METAL GLAZE 1M 5%	1/10W
Q602	8-729-901-00	TRANSISTOR DTC124EK		R051	1-216-085-00	METAL GLAZE 33K 5%	1/10W
Q605	8-729-100-66	TRANSISTOR 2SC1623					

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

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Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R052	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R158	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R053	1-216-033-00	METAL GLAZE 220 5%	1/10W	R159	1-216-079-00	METAL GLAZE 18K 5%	1/10W
R054	1-216-033-00	METAL GLAZE 220 5%	1/10W	R160	1-216-079-00	METAL GLAZE 18K 5%	1/10W
R055	1-216-033-00	METAL GLAZE 220 5%	1/10W	R161	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R056	1-216-033-00	METAL GLAZE 220 5%	1/10W	R162	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R057	1-216-033-00	METAL GLAZE 220 5%	1/10W	R163	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R058	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R164	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R061	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	R165	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R062	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R166	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R063	1-216-025-00	METAL GLAZE 100 5%	1/10W	R167	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R064	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R168	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R101	1-216-077-00	METAL GLAZE 15K 5%	1/10W	R169	1-216-121-00	METAL GLAZE 1M 5%	1/10W
R103	1-216-031-00	METAL GLAZE 180 5%	1/10W	R170	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R104	1-216-091-00	METAL GLAZE 56K 5%	1/10W	R171	1-216-091-00	METAL GLAZE 56K 5%	1/10W
R105	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R172	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R106	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R173	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R107	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R174	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R108	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W	R175	1-216-040-00	METAL GLAZE 430 5%	1/10W
R109	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W	R176	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R110	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R177	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R111	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R178	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R112	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	R180	1-216-041-00	METAL GLAZE 470 5%	1/10W
R113	1-216-039-00	METAL GLAZE 390 5%	1/10W	R188	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R114	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R189	1-216-025-00	METAL GLAZE 100 5%	1/10W
R115	1-216-031-00	METAL GLAZE 180 5%	1/10W	R190	1-216-045-00	METAL GLAZE 680 5%	1/10W
R116	1-216-079-00	METAL GLAZE 18K 5%	1/10W	R191	1-216-045-00	METAL GLAZE 680 5%	1/10W
R117	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R192	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R118	1-216-029-00	METAL GLAZE 150 5%	1/10W	R193	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R119	1-216-021-00	METAL GLAZE 68 5%	1/10W	R194	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R120	1-216-045-00	METAL GLAZE 680 5%	1/10W	R195	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R121	1-216-047-00	METAL GLAZE 820 5%	1/10W	R196	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R122	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R197	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R123	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W	R198	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R124	1-216-043-00	METAL GLAZE 560 5%	1/10W	R199	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R125	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R200	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R126	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W	R201	1-216-039-00	METAL GLAZE 390 5%	1/10W
R127	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R202	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R128	1-216-079-00	METAL GLAZE 18K 5%	1/10W	R203	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R129	1-216-031-00	METAL GLAZE 180 5%	1/10W	R204	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R130	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R205	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R131	1-216-037-00	METAL GLAZE 330 5%	1/10W	R206	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R132	1-216-021-00	METAL GLAZE 68 5%	1/10W	R207	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R133	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R208	1-216-055-00	METAL GLAZE 1.8K 5%	1/10W
R134	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R209	1-212-976-00	FUSIBLE 56 5%	1/2W F
R135	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W	R210	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R136	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W	R211	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R137	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R212	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R151	1-216-077-00	METAL GLAZE 15K 5%	1/10W	R213	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R153	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W	R214	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R154	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R215	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R155	1-216-113-00	METAL GLAZE 470K 5%	1/10W	R216	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R156	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R217	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R157	1-216-113-00	METAL GLAZE 470K 5%	1/10W	R218	1-216-121-00	METAL GLAZE 1M 5%	1/10W

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

**Note:** The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.



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Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R219	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R273	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R220	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R274	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R221	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R275	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R222	1-216-095-00	METAL GLAZE	82K 5% 1/10W	R276	1-216-045-00	METAL GLAZE	680 5% 1/10W
R223	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R277	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R224	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R278	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R225	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R279	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R226	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R280	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R227	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R281	1-216-039-00	METAL GLAZE	390 5% 1/10W
R228	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R282	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R229	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R283	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R230	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R284	1-216-043-00	METAL GLAZE	560 5% 1/10W
R231	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R285	1-216-041-00	METAL GLAZE	470 5% 1/10W
R232	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R286	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R233	1-216-043-00	METAL GLAZE	560 5% 1/10W	R287	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R234	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R288	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R235	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R289	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R236	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R290	1-216-041-00	METAL GLAZE	470 5% 1/10W
R237	1-216-043-00	METAL GLAZE	560 5% 1/10W	R291	1-216-033-00	METAL GLAZE	220 5% 1/10W
R238	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R292	1-216-033-00	METAL GLAZE	220 5% 1/10W
R239	1-216-045-00	METAL GLAZE	680 5% 1/10W	R293	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R240	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R294	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R241	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R295	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R242	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R296	1-216-025-00	METAL GLAZE	100 5% 1/10W
R243	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R297	1-216-027-00	METAL GLAZE	120 5% 1/10W
R244	1-216-748-11	METAL GLAZE	39K 5% 1/10W	R298	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R245	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R300	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R246	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R301	1-216-117-00	METAL GLAZE	680K 5% 1/10W
R247	1-216-121-00	METAL GLAZE	1M 5% 1/10W	R302	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R248	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R303	1-216-041-00	METAL GLAZE	470 5% 1/10W
R249	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R304	1-216-041-00	METAL GLAZE	470 5% 1/10W
R250	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R306	1-216-025-00	METAL GLAZE	100 5% 1/10W
R251	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R307	1-216-021-00	METAL GLAZE	68 5% 1/10W
R252	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R308	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R253	1-216-047-00	METAL GLAZE	820 5% 1/10W	R309	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R254	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R310	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R256	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R311	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R257	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R312	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R258	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R313	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R259	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R314	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R260	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R315	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R261	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R316	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R262	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R317	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R263	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R318	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R264	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R322	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R265	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R323	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R266	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R324	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R267	1-216-037-00	METAL GLAZE	330 5% 1/10W	R325	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R268	1-216-033-00	METAL GLAZE	220 5% 1/10W	R326	1-216-041-00	METAL GLAZE	470 5% 1/10W
R269	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R327	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R270	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R328	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R271	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R329	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R272	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R330	1-216-081-00	METAL GLAZE	22K 5% 1/10W

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

# MB-44

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R331	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R384	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R332	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R385	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R333	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R401	1-216-687-11	METAL CHIP	33K 0.50% 1/10W
R334	1-216-031-00	METAL GLAZE	180 5% 1/10W	R402	1-216-687-11	METAL CHIP	33K 0.50% 1/10W
R335	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R403	1-216-699-11	METAL CHIP	100K 0.50% 1/10W
R336	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R404	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R337	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R405	1-216-685-11	METAL CHIP	27K 0.50% 1/10W
R338	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R406	1-218-165-11	METAL GLAZE	220K 1% 1/10W
R339	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R407	1-216-675-11	METAL CHIP	10K 0.50% 1/10W
R340	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R408	1-216-117-00	METAL GLAZE	680K 5% 1/10W
R341	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R409	1-216-677-11	METAL CHIP	12K 0.50% 1/10W
R342	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R410	1-216-530-00	METAL GLAZE	390K 1% 1/10W
R343	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R411	1-216-679-11	METAL CHIP	15K 0.50% 1/10W
R344	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R412	1-216-035-00	METAL GLAZE	270 5% 1/10W
R345	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R413	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R346	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R414	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R347	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R415	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R348	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R416	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R349	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R417	1-216-111-00	METAL GLAZE	390K 5% 1/10W
R350	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R423	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R351	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R431	1-216-033-00	METAL GLAZE	220 5% 1/10W
R352	1-216-041-00	METAL GLAZE	470 5% 1/10W	R432	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R353	1-216-033-00	METAL GLAZE	220 5% 1/10W	R434	1-216-033-00	METAL GLAZE	220 5% 1/10W
R354	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R435	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R355	1-216-035-00	METAL GLAZE	270 5% 1/10W	R580	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R356	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R581	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R357	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R588	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R358	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R593	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R359	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R594	1-216-037-00	METAL GLAZE	330 5% 1/10W
R360	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R595	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R361	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R596	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R362	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R599	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R363	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R601	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R364	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R602	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R365	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R603	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R366	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R604	1-216-021-00	METAL GLAZE	68 5% 1/10W
R367	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R605	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R368	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R606	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R369	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R607	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R370	1-216-047-00	METAL GLAZE	820 5% 1/10W	R608	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R371	1-216-046-00	METAL GLAZE	750 5% 1/10W	R609	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R372	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R610	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R373	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R611	△ 1-212-950-00	FUSIBLE	4.7 5% 1/2W F
R374	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R612	1-216-033-00	METAL GLAZE	220 5% 1/10W
R375	△ 1-212-958-00	FUSIBLE	10 5% 1/2W F	R615	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R376	1-216-025-00	METAL GLAZE	100 5% 1/10W	R616	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R377	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R617	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R378	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R618	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R379	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R620	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R380	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R621	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R381	1-216-047-00	METAL GLAZE	820 5% 1/10W	R623	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R382	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R624	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R383	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R625	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W

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

**Note:** The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

**MB-44**

**TR-30**

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
R626	1-216-099-00	METAL GLAZE	120K 5% 1/10W	R686	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R627	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R687	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
R629	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R688	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R630	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R689	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R631	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R690	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R632	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R691	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R633	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R693	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R634	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	R694	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R635	1-216-035-00	METAL GLAZE	270 5% 1/10W	R695	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R636	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R696	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R637	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R697	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R638	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R698	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R640	1-216-025-00	METAL GLAZE	100 5% 1/10W	R699	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R641	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R802	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R642	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R643	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W			<u>VARIABLE RESISTOR</u>	
R644	1-216-105-00	METAL GLAZE	220K 5% 1/10W	RV001	1-230-869-11	RES, ADJ, METAL GLAZE 4.7K	
R645	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RV101	1-230-866-11	RES, ADJ, METAL GLAZE 470	
R646	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RV151	1-230-870-11	RES, ADJ, METAL GLAZE 10K	
R648	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	RV152	1-230-870-11	RES, ADJ, METAL GLAZE 10K	
R649	1-216-113-00	METAL GLAZE	470K 5% 1/10W	RV154	1-230-870-11	RES, ADJ, METAL GLAZE 10K	
R650	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	RV601	1-230-873-11	RES, ADJ, METAL GLAZE 47K	
R651	1-216-033-00	METAL GLAZE	220 5% 1/10W			<u>THERMISTOR</u>	
R652	1-216-033-00	METAL GLAZE	220 5% 1/10W	TH151	1-800-199-00	THERMISTOR	
R653	1-216-049-00	METAL GLAZE	1K 5% 1/10W			<u>CRYSTAL</u>	
R654	1-216-033-00	METAL GLAZE	220 5% 1/10W	X601	1-567-900-11	VIBRATOR, CRYSTAL (14.3MHz)	
R655	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*****			
R656	1-216-033-00	METAL GLAZE	220 5% 1/10W	*1-630-089-22	TR-30 BOARD (Ref.No 7,000 Series)		
R658	1-216-033-00	METAL GLAZE	220 5% 1/10W	*****			
R659	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*3-354-631-01	CUSHION (RF)		
R660	1-216-033-00	METAL GLAZE	220 5% 1/10W			<u>CAPACITOR</u>	
R661	1-216-033-00	METAL GLAZE	220 5% 1/10W	C401	1-136-472-11	FILM 0.1MF	250V
R662	1-216-033-00	METAL GLAZE	220 5% 1/10W	C416	1-124-122-11	ELECT 100MF	50V
R663	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C417	1-124-910-11	ELECT 47MF	50V
R664	1-216-033-00	METAL GLAZE	220 5% 1/10W	C418	1-124-122-11	ELECT 100MF	35V
R665	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C419	1-124-122-11	ELECT 100MF	50V
R666	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C420	1-163-033-00	CERAMIC CHIP 0.022MF	50V
R667	1-216-033-00	METAL GLAZE	220 5% 1/10W			<u>CONNECTOR</u>	
R668	1-216-033-00	METAL GLAZE	220 5% 1/10W	CN401	1-506-483-21	PIN, CONNECTOR 4P	
R669	1-216-049-00	METAL GLAZE	1K 5% 1/10W	CN402	*1-564-028-00	PIN, CONNECTOR 3P	
R670	1-216-049-00	METAL GLAZE	1K 5% 1/10W	CN403	*1-564-029-00	PIN, CONNECTOR 4P	
R671	1-216-049-00	METAL GLAZE	1K 5% 1/10W			<u>DIODE</u>	
R672	1-216-033-00	METAL GLAZE	220 5% 1/10W	D406	8-719-200-02	DIODE 10E2	
R673	1-216-049-00	METAL GLAZE	1K 5% 1/10W	D407	8-719-110-78	DIODE RD33ES-B2	
R674	1-216-049-00	METAL GLAZE	1K 5% 1/10W	D408	8-719-110-88	DIODE RD39ES-B2	
R675	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R676	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R680	1-216-085-00	METAL GLAZE	33K 5% 1/10W				
R681	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
R682	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R683	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R684	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R685	1-216-073-00	METAL GLAZE	10K 5% 1/10W				

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

Note: The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

<b>TR-30</b>	<b>VS-48</b>	<b>VS-47</b>	<b>RS-193</b>
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Ref.No	Part No.	Description	Remark
D409	8-719-110-17	DIODE RD10ES-B2	
		<u>TRANSISTOR</u>	
Q404	8-729-113-33	TRANSISTOR 2SB733-4	
		<u>RESISTOR</u>	
R416	▲ 1-249-401-11	CARBON 47 5% 1/4W F	
R417	1-249-416-11	CARBON 820 5% 1/4W	
R418	1-249-405-11	CARBON 100 5% 1/4W	
*****			
	*1-632-028-12	VS-48 BOARD (Ref.No 9,000 Series)	
		***** (TOURIST MODEL)	
		<u>SELECTOR</u>	
S001	▲ 1-570-615-11	SELECTOR, VOLTAGE	
*****			
	*1-631-866-11	VS-47 BOARD (Ref.No 7,000 Series)	
		***** (E/AUS MODEL)	
		<u>SELECTOR</u>	
S001	▲ 1-554-933-11	SELECTOR, VOLTAGE	
*****			
	*A-6421-564-A	PS-193 BOARD, COMPLETE (Ref.No 7,000 Series)	
		*****	
	▲ 1-533-189-11	HOLDER, FUSE	
	*3-309-144-21	HEAT SINK	
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	
		<u>CAPACITOR</u>	
C101	1-125-298-00	ELECT(BLOCK) 10000MF 20% 25V	
C102	1-124-314-00	ELECT 4700MF 20% 25V	
C103	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C104	1-164-161-11	CERAMIC CHIP 0.0022MF 10% 50V	
C105	1-163-989-11	CERAMIC CHIP 0.033MF 10% 25V	
C107	1-124-471-00	ELECT 1000MF 20% 6.3V	
C108	1-124-791-11	ELECT 1MF 20% 50V	
C109	1-124-472-11	ELECT 470MF 20% 6.3V	
C110	1-163-833-00	CERAMIC CHIP 0.068MF 25V	
C111	1-163-007-11	CERAMIC CHIP 680PF 10% 50V	
C112	1-163-019-00	CERAMIC CHIP 0.0068MF 10% 50V	
C114	1-126-101-11	ELECT 100MF 20% 16V	
C115	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V	
C116	1-163-833-00	CERAMIC CHIP 0.068MF 25V	
C119	1-126-176-11	ELECT 220MF 20% 10V	
C120	1-126-096-11	ELECT 10MF 20% 25V	
C201	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
C202	1-163-019-00	CERAMIC CHIP 0.0068MF 10% 50V	

Ref.No	Part No.	Description	Remark
C204	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
C205	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	
C206	1-163-007-11	CERAMIC CHIP 680PF 10% 50V	
C207	1-124-910-11	ELECT 47MF 20% 35V	
C208	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C209	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	
C210	1-163-007-11	CERAMIC CHIP 680PF 10% 50V	
C211	1-163-017-00	CERAMIC CHIP 0.0047MF 10% 50V	
C212	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
		<u>CONNECTOR</u>	
CN001	▲ 1-564-419-11	HEADER, SPRING (POWER) 2P	
CN002	▲ 1-564-419-11	HEADER, SPRING (POWER) 2P	
CN003	*1-560-890-00	PIN, CONNECTOR 2P	
CN004	*1-560-895-00	PIN, CONNECTOR 7P	
CN005	1-506-469-11	PIN, CONNECTOR 4P	
		<u>DIODE</u>	
D101	▲ 8-719-500-55	DIODE D3SBA10	
D105	8-719-980-78	DIODE ERA83-006	
D106	8-719-110-31	DIODE RD12ES-B2	
D108	8-719-105-82	DIODE RD5.1M-B2	
D201	8-719-980-78	DIODE ERA83-006	
D202	8-719-980-78	DIODE ERA83-006	
D203	8-719-200-02	DIODE 10E2	
D204	8-719-200-02	DIODE 10E2	
D205	8-719-911-19	DIODE 1SS119	
D206	8-719-911-19	DIODE 1SS119	
D207	8-719-911-19	DIODE 1SS119	
		<u>FUSE</u>	
F101	▲ 1-532-747-11	FUSE, GLASS TUBE (125V/5A)	
F102	▲ 1-532-747-11	FUSE, GLASS TUBE (125V/5A)	
F103	▲ 1-532-960-11	FUSE, MICRO (125V/1.25A)	
F104	▲ 1-532-960-11	FUSE, MICRO (125V/1.25A)	
F301	▲ 1-532-825-11	FUSE, GLASS TUBE (250V/2A)	
		<u>IC</u>	
IC101	8-759-971-39	IC BA9700AF	
IC102	8-759-604-47	IC M5F7905L	
IC201	8-759-100-97	IC UPC339G2	
IC202	8-759-100-96	IC UPC4558G2	
		<u>JUMPER RESISTOR</u>	
JR001	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR005	1-216-295-00	METAL GLAZE 0 5% 1/10W	
		<u>COIL</u>	
L101	1-412-012-11	INDUCTOR 100UH	
L102	1-410-339-11	COIL, CHOKE 10UH	
L201	1-424-219-11	COIL, CHOKE 300UH	

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

**Note:** The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark
<u>IC LINK</u>			
PS001	△.1-532-675-00	LINK, IC (ICP-F38 1.5A)	
<u>TRANSISTOR</u>			
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q102	8-729-216-22	TRANSISTOR 2SA1162	
Q103	△.8-729-113-31	TRANSISTOR 2SB733-2	
Q105	8-729-141-75	TRANSISTOR 2SD596-DV345	
Q201	△.8-729-117-11	TRANSISTOR 2SB1151-L	
Q202	△.8-729-143-30	TRANSISTOR 2SD1691-K	
Q203	△.8-729-117-11	TRANSISTOR 2SB1151-L	
Q204	△.8-729-143-30	TRANSISTOR 2SD1691-K	
Q205	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q206	8-729-216-22	TRANSISTOR 2SA1162	
Q208	8-729-900-53	TRANSISTOR DTC114EK	
Q209	8-729-901-04	TRANSISTOR DTA114EK	
Q210	8-729-100-66	TRANSISTOR 2SC1623	
Q211	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q212	8-729-901-04	TRANSISTOR DTA114EK	
<u>RESISTOR</u>			
R002	1-216-296-00	METAL GLAZE 0 5%	1/8W
R003	1-216-296-00	METAL GLAZE 0 5%	1/8W
R004	1-216-296-00	METAL GLAZE 0 5%	1/8W
R101	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R102	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R103	1-216-089-00	METAL GLAZE 4.7K 5%	1/10W
R104	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R105	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R106	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R107	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W
R108	1-216-043-00	METAL GLAZE 560 5%	1/10W
R109	1-216-687-11	METAL CHIP 33K 0.50%	1/10W
R110	1-216-676-11	METAL CHIP 11K 0.50%	1/10W
R112	1-216-099-00	METAL GLAZE 120K 5%	1/10W
R114	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R115	△.1-216-447-00	METAL OXIDE 27 5%	2W F
R116	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R117	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R120	△.1-216-043-00	METAL GLAZE 560 5%	1/10W
R201	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R202	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R203	1-216-093-00	METAL GLAZE 68K 5%	1/10W
R204	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R205	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R206	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R207	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R208	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R209	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R210	1-216-105-00	METAL GLAZE 220K 5%	1/10W
R211	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R212	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W

Ref.No	Part No.	Description	Remark
R213	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R214	1-247-750-11	CARBON 680 5%	1/2W
R215	1-247-750-11	CARBON 680 5%	1/2W
R216	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R217	△.1-216-369-00	METAL OXIDE 1 5%	2W F
R218	1-216-690-11	METAL CHIP 43K 0.50%	1/10W
R219	1-216-675-11	METAL CHIP 10K 0.50%	1/10W
R220	1-216-690-11	METAL CHIP 43K 0.50%	1/10W
R221	1-216-675-11	METAL CHIP 10K 0.50%	1/10W
R222	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R223	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R224	△.1-215-866-11	METAL OXIDE 330 5%	1W F
R225	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R226	1-247-750-11	CARBON 680 5%	1/2W
R227	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R228	1-216-093-00	METAL GLAZE 68K 5%	1/10W
R230	1-216-105-00	METAL GLAZE 220K 5%	1/10W
R231	1-216-295-00	METAL GLAZE 0 5%	1/10W
<u>SWITCH</u>			
SW301	△.1-570-156-11	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)	
<u>FILTER</u>			
T301	△.1-421-771-11	FILTER, LINE (2A)	
*****			
*1-635-261-11 SW-157 BOARD (Ref.No 3,000 Series) *****			
<u>CONNECTOR</u>			
CN401	1-506-481-11	PIN, CONNECTOR 2P	
CN402	1-506-481-11	PIN, CONNECTOR 2P	
<u>RESISTOR</u>			
R401	1-249-423-11	CARBON 3.3K 5%	1/4W
R402	1-249-417-11	CARBON 1K 5%	1/4W
<u>SWITCH</u>			
S401	1-571-300-11	SWITCH, ROTARY (CHUCK UP/DOWN)	
*****			

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

**Note:** The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark
MISCELLANEOUS *****			
	1-161-063-00	CAP, CERAMIC 0.1MF X	
	1-466-407-21	SWITCH BLOCK	
	1-506-481-11	PIN, CONNECTOR 2P	
	▲.1-559-627-41	CORD, POWER (E MODEL)	
	1-574-648-11	CABLE, FLEXIBLE FLAT (24 CORE)	
	*1-575-813-11	CABLE, FLAT (FLEXIBLE) (28 CORE)	
	▲.1-590-448-11	CORD, POWER (AUS MODEL)	
	*1-630-097-11	MT-28 BOARD	
	*1-631-095-11	MT-30 BOARD	
	▲.8-848-138-11	DEVICE, OPTICAL KHS-130A	
M901	1-541-776-11	MOTOR, LD SPINDLE	
M902	1-541-659-11	MOTOR, DC (SLED)	
M903	A-6415-290-A	MOTOR BLOCK ASSY, SKEW	
M904	A-6415-359-A	MOTOR BLOCK ASSY (X), THREADING	
S901	1-571-435-11	SWITCH (SLED IN LIMIT)	
S902	1-570-771-21	SWITCH (SLED OUT LIMIT)	
S903	1-554-468-00	SWITCH, LEAF (SLED IN LIMIT LD/CD)	
T401	▲.1-450-345-11	TRANSFORMER, POWER	

\*\*\*\*\*

ACCESSORIES AND PACKING MATERIALS  
\*\*\*\*\*

Part No.	Description	Remark
1-417-102-21	MATCHING TRANSFORMER, ANTENNA (E MODEL)	
1-465-496-81	REMOTE CONTROLLER	
1-526-565-00	AC PLUG ADAPTOR (E MODEL)	
1-551-086-31	CORD, CONNECTION	
1-559-533-11	CORD, CONNECTION	
3-752-423-11	MANUAL, INSTRUCTION (ENGLISH)	
3-752-424-11	MANUAL, INSTANT INFORMATION	
*3-940-341-01	CUSHION (UPPER)	
*3-940-342-01	CUSHION (LOWER)	
*3-941-217-01	INDIVIDUAL CARTON	
4-908-883-01	SPACER	

\*\*\*\*\*

Ref.No	Part No.	Description	Remark
HARDWARE LIST *****			
SCREW			
	7-621-255-45	SCREW +P 2X6	
	7-621-255-55	SCREW +P 2X8	
	7-628-254-20	+PSW, 2.6X8	
	7-621-772-30	SCREW +B 2X6	
	7-682-545-04	SCREW (3X4) (G), TAPPING, (+) P	
	7-682-645-01	SCREW +PS 3X4	
	7-685-645-79	SCREW +BVTP 3X6 TYPE2	
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
	7-685-647-79	SCREW +BVTP 3X10 TYPE2	
	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
	7-685-649-79	SCREW +BVTP 3X14 TYPE2 IT-3	
	7-685-661-79	SCREW +BVTP 4X12 TYPE2 SLIT	
	7-687-233-11	SCREW (+ PTPWH) (2.6X6)	

STOP RING

7-624-108-04	STOP RING 4.0, TYPE -E
7-624-190-81	STOP RING 2, TYPE-CS

\*\*\*\*\*

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

**Note:** The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

## SECTION 7 ELECTRICAL ADJUSTMENT

During these adjustment, see the parts arrangement diagram for adjustments on page from 132.

### 7-1. LIST OF SERVICING JIGS

- Oscilloscope
- Color monitor TV
- Digital voltmeter
- Audio level meter
- Frequency counter
- Remote commander (RMT-K3)
- LD alignment disc REF7C-8AL (8-597-901-03)
- CD alignment disc YEDS-18 (3-702-101-01)
- MD adjustment cable (J-6082-059-B)
- Audio oscillator

### 7-2. CAUTIONS ON ADJUSTMENT

- Disc load/unload operation must not be performed when servicing with the unit laying down sideways. (Never press the OPEN and CLOSE buttons.)
- When laying the unit down sideways, perform adjustment with the left side down and turn the power on.
- When adjusting the servo system, be sure to set up the unit horizontally..

### 7-3. MD ADJUSTMENT CABLE (J-6082-059-B)

MD adjustment cable is used to adjust the servo system with connecting to the SV-63 board. Remove it except when adjusting the servo system.

#### 7-4. POWER SUPPLY CHECK (PS-193 BOARD)

Mode	Stop
Measuring Equipment	Digital voltmeter
UN REG +16V check	
Measurement Point	Pin ① of W002 (Pin ②, GND)
Specified Value	14.5±1V
UN REG -16V check	
Measurement Point	Pin ③ of W002 (Pin ②, GND)
Specified Value	-14.5±1V
REG +5V check	
Measurement Point	Pin ⑥ of W002 (Pin ⑤, GND)
Specified Value	5.1±0.2V
REG -5V check	
Measurement Point	Pin ⑦ of W002 (Pin ⑤, GND)
Specified Value	-5±0.5V

- Confirm that the power supply voltages satisfy the respective specified values.

#### 7-5. SYSTEM CONTROL SYSTEM ADJUSTMENT

##### 7-5-1. Microprocessor Clock Adjustment (MB-44 Board)

Mode	Stop
Measurement Point	Pin ⑨ of IC601
Measuring Equipment	Frequency counter
Adjusting Element	CV601
Specified Value	3,579,545±10Hz

Adjustment method :

- 1) Adjust CV601 to 3,579,545±10Hz.

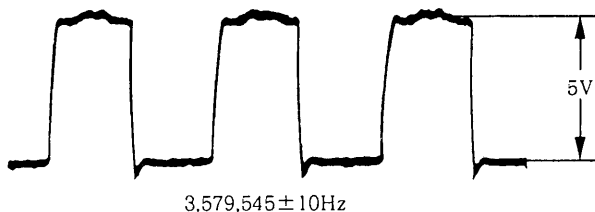


Fig. 7-1.

#### 7-6. SERVO SYSTEM ADJUSTMENT

When adjusting the servo system, look out for the following items :

- Use the MD adjustment cable (J-6082-059-B).
- Adjust the CD servo system after the digital audio system adjustment is completed.
- When setting the tracking servo to the open state, set to the STOP state once and proceed to the next step.
- When the optical block is replaced, perform the adjustment in the following order.

**Note :** Start adjustment at maximum CD RF H level (RV108 fully counterclockwise direction).

1. LD Tracking Balance Adjustment
  - 1) Focus balance adjustment
  - 2) Tracking balance adjustment
2. LD Focus Gain Adjustment
3. LD Cross Talk Balance Adjustment
  - 1) TAN cam adjustment
  - 2) RAD-TILT adjustment
  - 3) Focus balance adjustment
4. LD Tracking Gain Adjustment
5. RD Adjustment
6. CD Focus Balance Adjustment
7. CD RF H Level Adjustment
8. CD RF L Level Adjustment



## 7-6-1. LD Servo System Adjustment

### 1. LD Tracking Balance Adjustment (SV-63 Board)

#### 1) Focus balance adjustment

**Note :** Perform successively 1) and 2) adjustment in this order.

Mode	Still
Signal	Frame 2201 (GRAY)
Measurement Point	MD adjustment cable [TRKG ERR (X)] (Pin ③ of CN105)
Measuring Equipment	Oscilloscope
Adjusting Element	RV102
Specified Value	Maximum amplitude

#### Adjustment method :

- 1) Select STILL (M) mode.
- 2) Search the frame 2201 (GRAY).
- 3) Turn the thread servo off. (MD adjustment cable SLED SW OFF)
- 4) Turn the tracking servo off. (MD adjustment cable TRKG SW OFF)
- 5) Adjust RV102 so as to maximize the signal level.

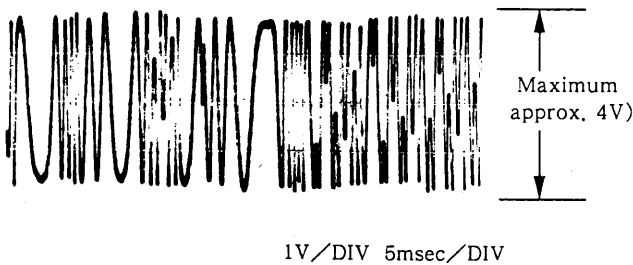


Fig. 7-2.

#### 2) Tracking balance adjustment

Mode	Still
Signal	Frame 2201 (GRAY)
Measurement Point	MD adjustment cable [TRKG ERR (X)] (Pin ③ of CN105)
Measuring Equipment	Oscilloscope
Adjusting Element	RV101
Specified Value	$A - B = 0 \pm 0.1V$

#### Adjustment method :

**Note :** Perform successively this adjustment after "1) Focus balance adjustment" is completed.

- 6) Adjust RV101 so that the center voltage of the tracking error signal becomes  $0 \pm 0.1Vdc$ .
- 7) Select STOP mode.
- 8) Turn the tracking servo on.
- 9) Turn the thread servo on.

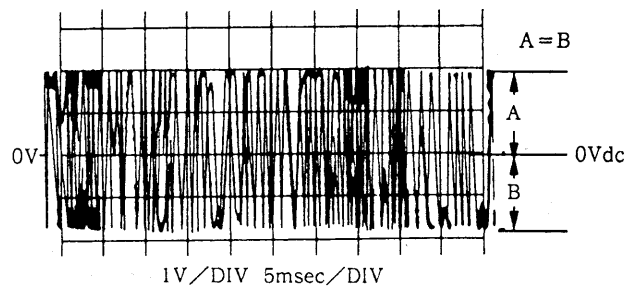
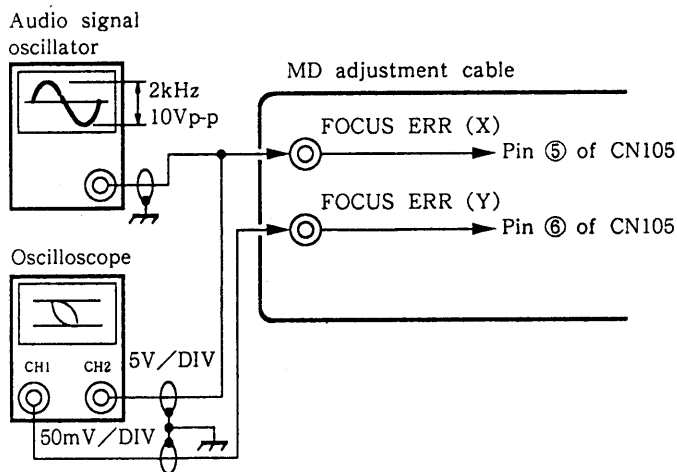


Fig. 7-3.

## 2. LD Focus Gain Adjustment (SV-63 Board)

Mode	Playback
Signal	Frame 2201 (GRAY)
Measurement Point	MD adjustment cable CH1 : [FOCUS ERR (X)] (Pin ⑥ of CN105) CH2 : [FOCUS ERR (Y)] (Pin ⑤ of CN105)
Measuring Equipment	Oscilloscope (X-Y mode)
Adjusting Element	RV107
Specified Value	See figure below

### Connections :



### Adjustment method :

- 1) Search the frame 2201.
- 2) Adjust the waveform as shown in the figure below with RV107.

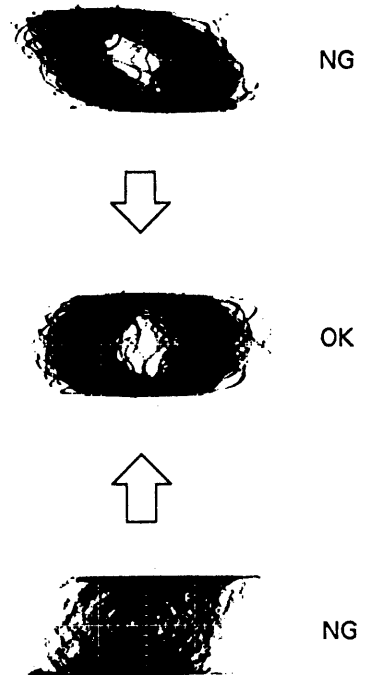


Fig. 7-4.

### 3. LD Cross Talk Balance Adjustment

#### 1) TAN cam adjustment (MD)

The cam is always set to the initial position. When replacing the optical block and so on, set the cam to the mechanical center.\*

\*Mechanical center :

Marked with the notch of the cam located at the opposite side of the optical block chassis shaft.

#### Adjustment method :

- 1) Turn the TAN cam on the bottom (See Fig. 7-10.) with a hexagonal wrench.

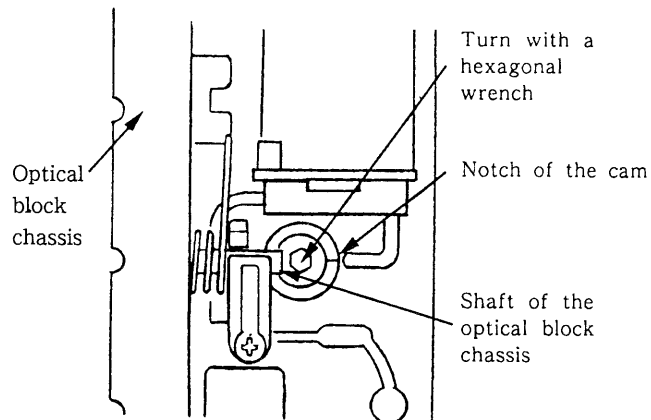


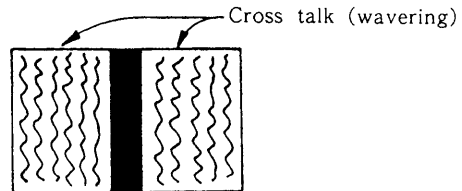
Fig. 7-5.

#### 2) RAD TILT adjustment (SV-63 board)

Mode	Still
Signal	Frame 770 (V BAR)
Measurement Point	Monitor TV
Measuring Equipment	Monitor TV
Adjusting Element	RV105
Specified Value	Cross talk (wavering) with minimum as well as the same level.

#### Adjustment method :

- 1) Select STILL (⏸) mode.
- 2) Search the frame 770 and apply a vertical bar signal.
- 3) Adjust RV105 so that the right and left cross talks (wavering) become minimum as well as the same level.



Adjust so that cross talks appeared on the both sides on the monitor display become minimum as well as the same level.

Fig. 7-6.

#### 3) Focus balance adjustment (SV-63 board)

Mode	Still
Signal	Frame 770 (V BAR)
Measurement Point	Monitor TV
Measuring Equipment	Monitor TV
Adjusting Element	RV102
Specified Value	Cross talk (wavering) with minimum as well as the same level.

#### Adjustment method :

- 1) Select STILL (⏸) mode.
- 2) Search the frame 770 and apply a vertical bar signal.
- 3) Adjust RV102 to minimize the right and left cross talks (wavering) level.

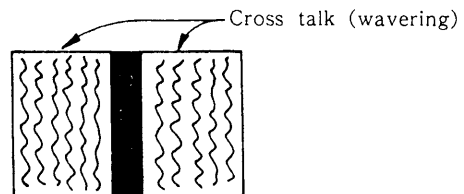
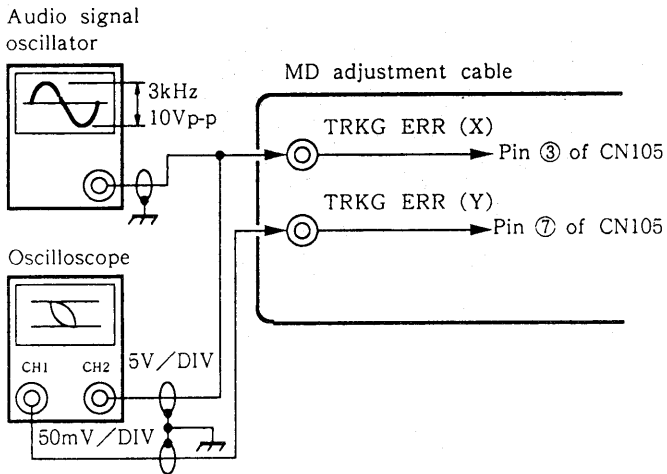


Fig. 7-7.

#### 4. LD Tracing Gain Adjustment (SV-63 board)

Mode	Still
Signal	Frame 2201 (GRAY)
Measurement Point	MD adjustment cable CH1 : [TRKG (Y)] (Pin ⑦ of CN105) CH2 : [TRKG (X)] (Pin ③ of CN105)
Measuring Equipment	Oscilloscope (X-Y mode)
Adjusting Element	RV106 (TR GAIN)
Specified Value	See figure below

#### Connections :



#### Adjustment method :

- 1) Search the frame 2201.
- 2) Adjust the waveform as shown in the figure below with RV107.

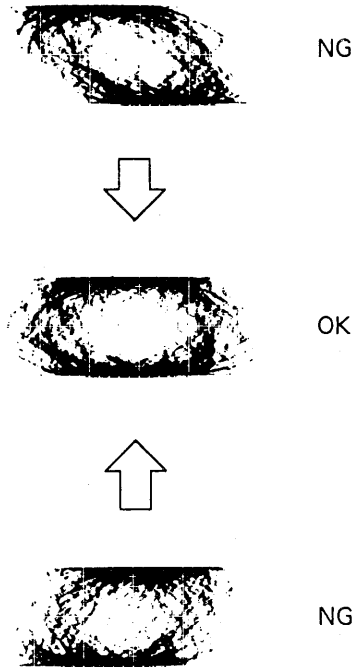


Fig. 7-8.

## 7-6-2. CD Servo System Adjustment

### 1. RD Adjustment

Mode	Pause
Signal	Track No. 1, YEDS-18
Measurement Point	MD adjustment cable CH1 : [E terminal] CH2 : [F terminal]
Measuring Equipment	Oscilloscope
Adjusting Element	RD Cam (MD)
Specified Value	A : B ≤ 10 : 1

**Note :** 1) Turn off the monitor TV switch to prevent a noise.

**Note :** 2) Long continuation of the TRKG servo off state causes the spindle motor to stop.

#### Adjustment method :

- 1) Play back the track No. 1 and select PAUSE mode.
- 2) Turn the thread servo off. (MD adjustment cable SLED SW OFF).
- 3) Turn the tracking servo off. (MD adjustment cable TRKG SW OFF)
- 4) Turn RD cam on the MD and adjust so that it becomes as a straight line as possible.

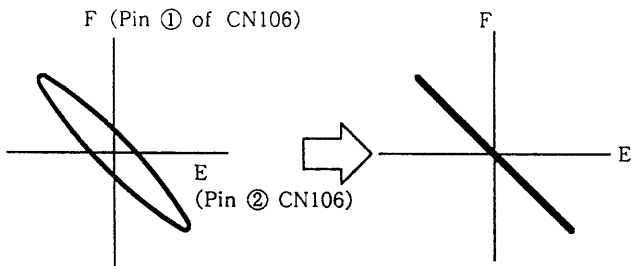


Fig. 7-9.

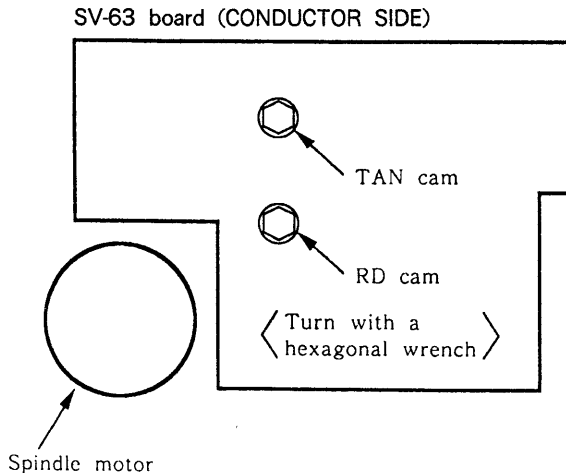


Fig. 7-10.

### 2. CD Focus Balance Adjustment (SV-63 Board)

Mode	Playback
Signal	Track No. 1, YEDS-18
Measurement Point	MD adjustment cable [RF (CD) OUT] (Pin ⑥ of CN106)
Measuring Equipment	Oscilloscope
Adjusting Element	RV103
Specified Value	Maximum amplitude

#### Adjustment method :

- 1) Play back the track No. 1.
- 2) Adjust RV103 for maximum level.

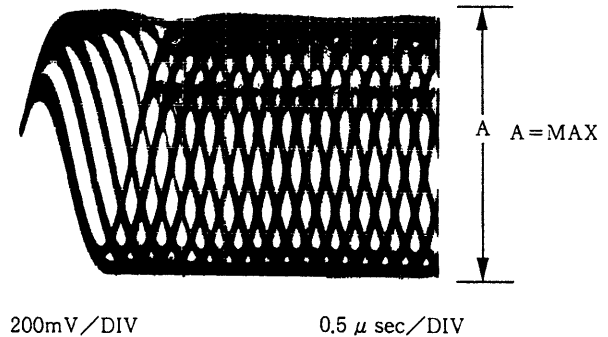


Fig. 7-11.

### 3. CD RF H Level Adjustment (SV-63 Board)

Mode	Playback
Signal	Track No. 1, YEDS-18
Measurement Point	MD adjustment cable [RF (CD) OUT] (Pin ⑥ of CN106)
Measuring Equipment	Oscilloscope
Adjusting Element	RV108
Specified Value	$1.2 \pm 0.1V_{p-p}$

#### Adjustment method :

- 1) Play back the track No. 1.
- 2) Adjust RV108 for  $1.2 \pm 0.1V_{p-p}$ .

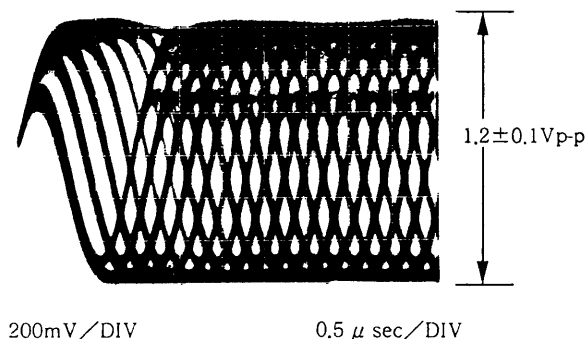


Fig. 7-12.

### 4. CD RF L Level Adjustment (SV-63 Board)

Mode	Playback
Signal	Track No. 1, YEDS-18
Measurement Point	MD adjustment cable [RF (CD) OUT] (Pin ⑥ of CN106)
Measuring Equipment	Oscilloscope
Adjusting Element	RV104
Specified Value	Clear-cut waveform

#### Adjustment method :

- 1) Play back the track No. 1.
- 2) Adjust RV104 so that the waveform of lozenge-shaped portions becomes clear-cut and the waveform slant disappear from the rising edge portion.

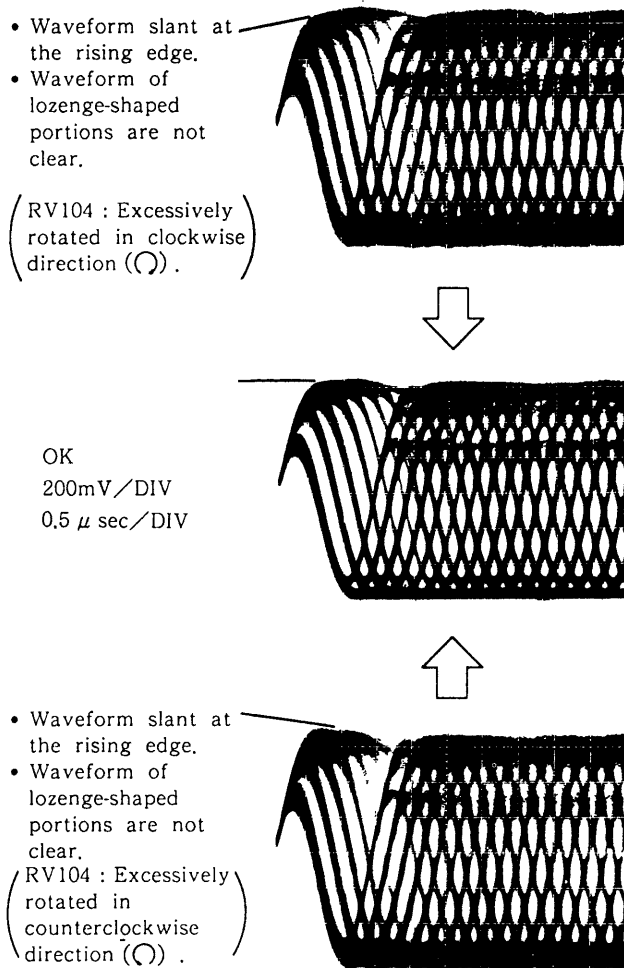


Fig. 7-13.

## 7-7. VIDEO SYSTEM ADJUSTMENT

### 7-7-1. Video Output Level Adjustment (MB-44 Board)

Mode	Still
Signal	Frame 4100 (color bar)
Measurement Point	CNJ101 (VIDEO OUT terminal) (Terminated to 75 Ω)
Measuring Equipment	Oscilloscope
Adjusting Element	RV103
Specified Value	$1.00 \pm 0.03$ V <sub>p-p</sub>

#### Adjustment method :

- 1) Select STILL (▶◀) mode.
- 2) Search the frame 4100 and apply a color bar signal.
- 3) Adjust RV103 for  $1.00 \pm 0.03$  V<sub>p-p</sub>.



Fig. 7-14.

### 7-7-2. Comb Type Fiter Y Output Level Adjustment (MB-44 Board)

Mode	Still
Signal	Frame 4100 (Color bar)
Measurement Point	CNJ102 pin ③ (Y OUT) 75 Ω terminated
Measuring Equipment	Oscilloscope
Adjusting Element	RV101
Specified Value	$1.00 \pm 0.03$ V <sub>p-p</sub>

#### Adjustment method :

- 1) Select STILL (▶◀) mode.
- 2) Search the frame 4100.
- 3) Adjust RV101 for  $1.00 \pm 0.03$  V<sub>p-p</sub>.

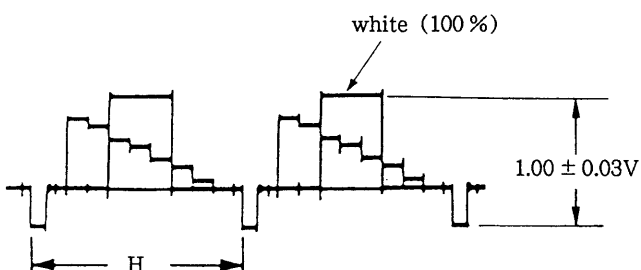


Fig. 7-15.

### 7-7-3. Burst Gate Position Adjustment (MB-44 Board)

Mode	Still
Signal	Frame 4100 (color bar)
Measurement Point	Pin ② of IC107
Adjusting Element	RV104
Specified Value	$8.6 \pm 0.3$ μsec

#### Adjustment method :

- 1) Select STILL (▶◀) mode.
- 2) Search the frame 4100.
- 3) Adjust RV104 so that  $t_w$  becomes  $8.6 \pm 0.3$  μsec.

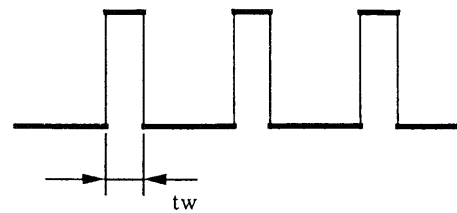


Fig. 7-16.

### 7-7-4. REF H Adjustment (1) (MB-44 Board)

Mode	Still
Signal	Frame 4100 (Color bar)
Measuring Equipment	Oscilloscope
Adjusting Element	RV601
Measurement Point	Pin ⑤-⑥ of IC111.
Specified Value	$4.2 \pm 0.1$ V

**Note :** Perform 7-7-5 REF H Adjustment (2) Adjustment continuously.

#### Adjustment method :

- 1) Adjust with RV001 so that the voltage values at Pin ⑤-⑥ become  $4.2 \pm 0.1$  V.

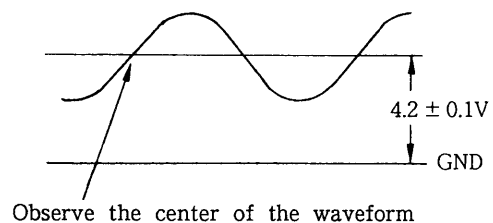


Fig. 7-17.

### 7-7-5. REF H Adjustment (2) (MB-44 Board)

Mode	Still
Signal	Frame 4100 (Color bar)
Measuring Equipment	Oscilloscope
Adjusting Element	RV601
Measurement Point	CH1 : PIN ③ of IC604 CH2 : PIN ④ of IC604
Specified Value	Adjust the timing of the falling edges of waveforms.

#### Adjustment method :

- 1) Adjust timing in the nearest portion between the falling edge of Pin ④ of IC604 and the falling edge of Pin ③ of IC604.

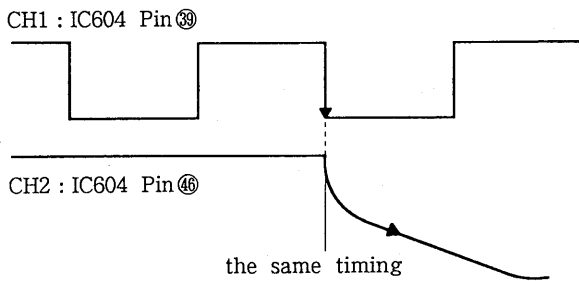


Fig. 7-18.

### 7-7-6. TBC Range Adjustment (MB-44 Board)

Mode	Still
Signal	Frame 4100 (Color bar)
Measuring Equipment	Oscilloscope
Adjusting Element	RV151
Measurement Point	CH1 : PIN ② of IC109 External trigger : PIN ⑤ of IC109
Specified Value	$22 \pm 1 \mu \text{sec}$

#### Connection :

- Apply 5.0Vdc to Pin ④ of IC109.

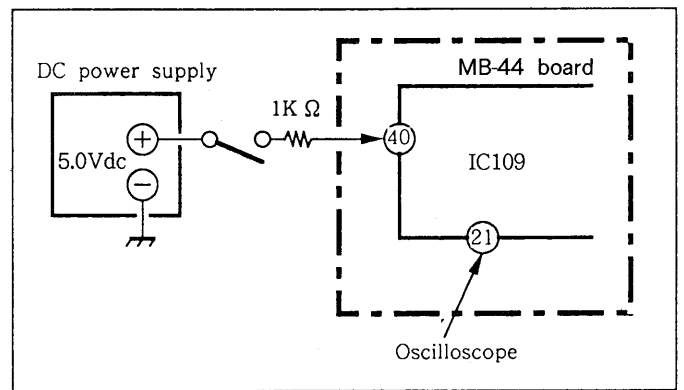


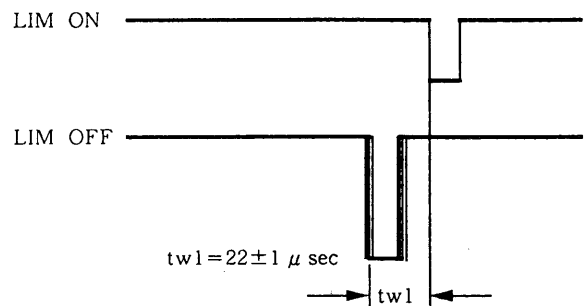
Fig. 7-19.

#### Adjustment method :

- 1) Select STILL (⏸) mode.
- 2) Search the frame 4100.
- 3) Connect the DC power supply (5.0Vdc) to Pin ④ of IC109.
- 4) Adjust so that rising time difference between when the power (5.0Vdc) is on (LIM ON) and when the power off (LIM OFF) is  $22 \pm 1 \mu \text{sec}$ .

**Note :** Since the waveform of LIM OFF is wavering, adjust at fits center position.

- Pin ② of IC109 (CH1)



- Pin ⑤ of IC109 (Trigger pulse)



Fig. 7-20.

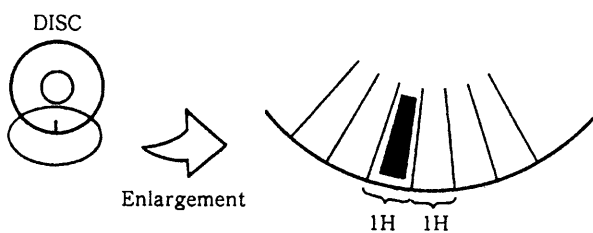


### 7-7-7. Color DOC Adjustment (MB-44 Board)

Mode	Still
Signal	Frame 23500 (Yellow Green)
Measuring Equipment	Monitor display
Adjusting Element	CV152
Specified Value	Drop out portion and its peripherals are the same color

#### Preparations :

Stick a black adhesive tape (approx. 10mm length) on the outer track 1H period of the alignment disc (REF7C-8AL).



#### Adjustment method :

- 1) Select STILL (M) mode.
- 2) Search the frame 23500.
- 3) Adjust CV152 so that the drop out portion and its peripherals on the monitor picture are the same color.

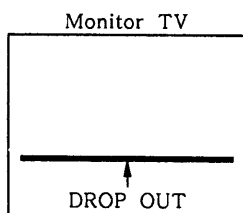


Fig. 7-21.

### 7-8. AUDIO SYSTEM ADJUSTMENT

#### 7-8-1. Digital audio System Adjustment

##### 1. RF PLL Offset Adjustment (MB-44 board)

Mode	Stop
Measurement Point	Pin ① of IC003
Measuring Equipment	Digital voltmeter
Adjusting Element	RV001
Specified Value	$0 \pm 0.2V_{dc}$

#### Connections :

Connect the chemical capacitor ( $1 \mu F$  or more) in between Pin ⑤ of IC001 (EFM) and GND.

#### Adjustment method :

- 1) Adjust RV001 so that the voltage at Pin ① of IC003 becomes  $0 \pm 0.2V_{dc}$ .

##### 7-8-2. RF PLL Free-Run Adjustment (MB-44 Board)

Mode	Stop
Measurement Point	Pin ⑩ of IC001
Measuring Equipment	Frequency counter
Adjusting Element	LV001
Specified Value	$4.58 \pm 0.005MHz$

#### Connections :

Connect the chemical capacitor ( $1 \mu F$  or more) in between Pin ⑤ (EFM) of IC001 and GND.

#### Adjustment method :

- 1) Adjust LV001 for the  $4.58 \pm 0.005MHz$ .

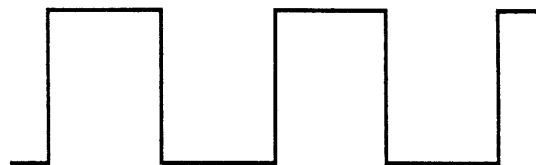


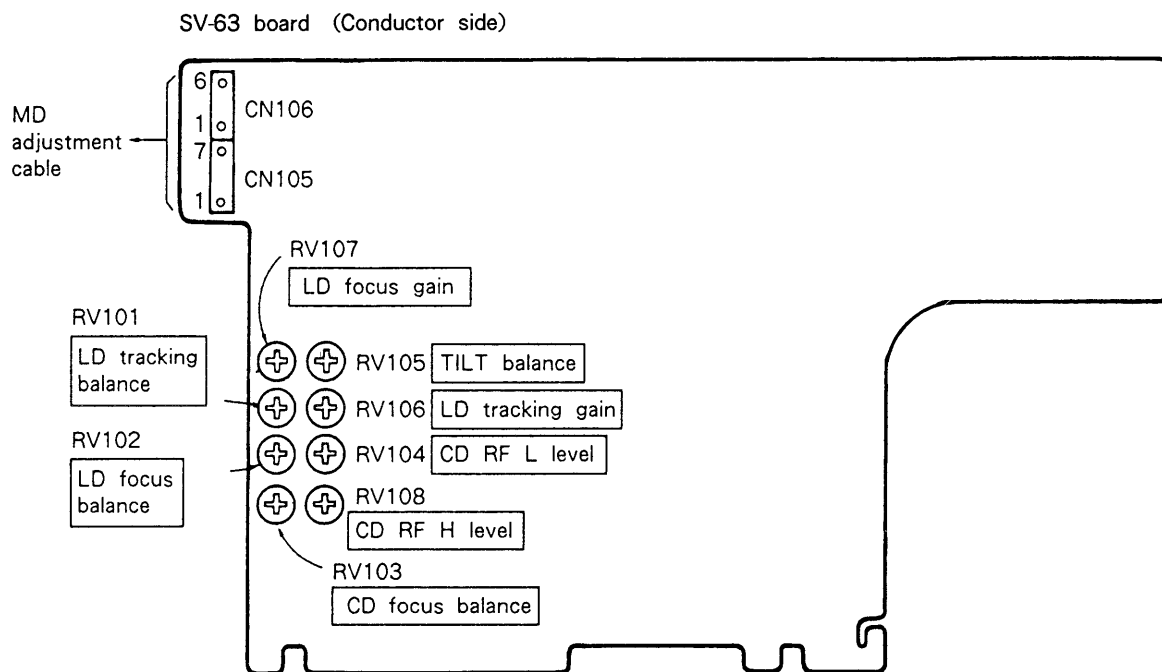
Fig. 7-22.

**Note 1 :** Turn LV001 after shifting AU-97 board by removing from MB-44 board.

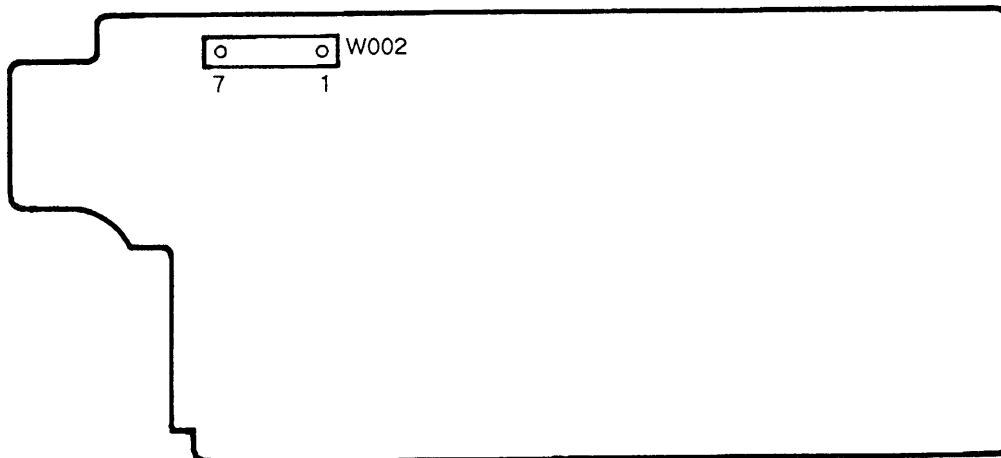
- 2 : If adjusting with a metallic screwdriver, a reading value may be altered. So use a ceramic screwdriver.



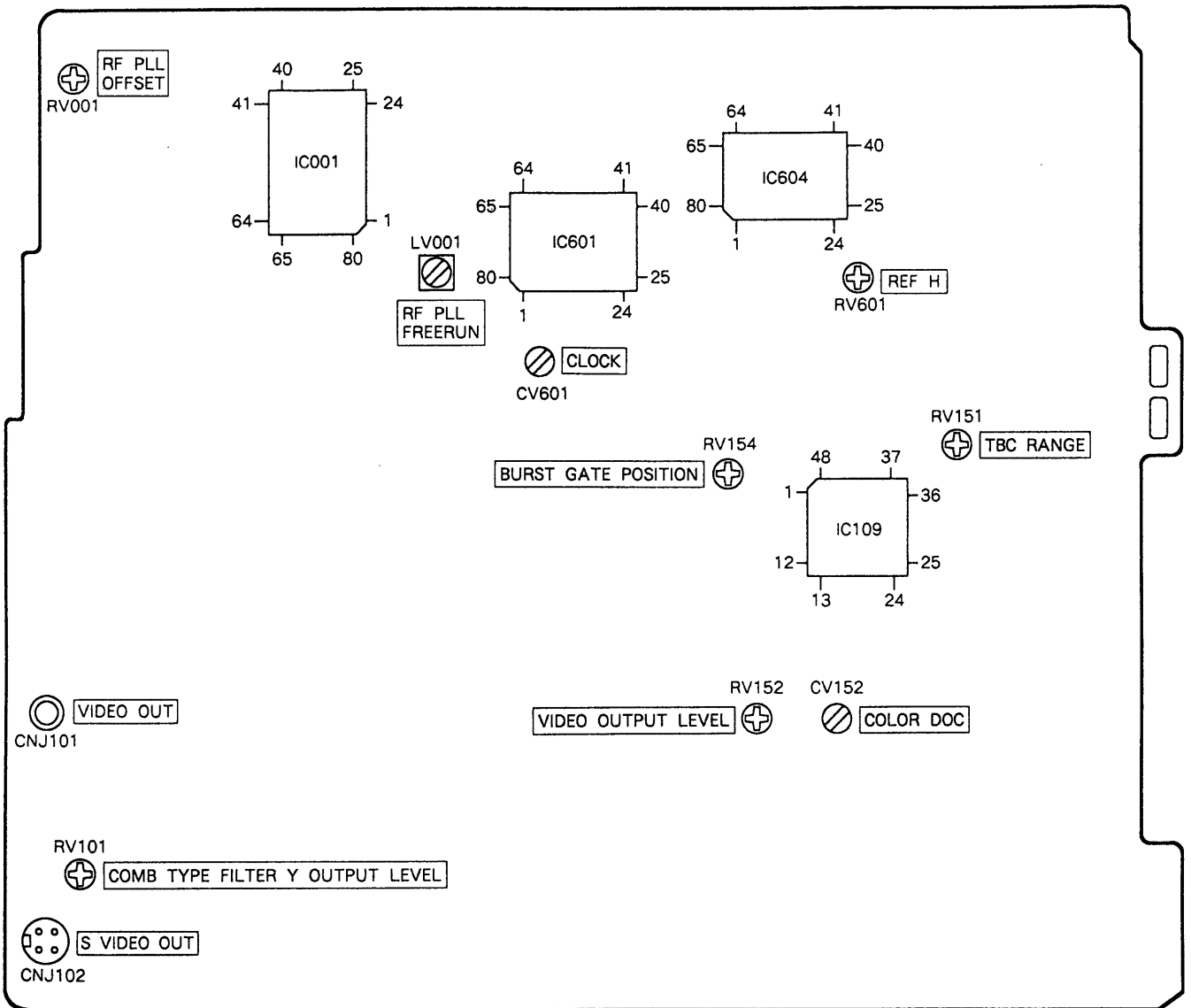
### 7-9. ADJUSTMENT PART LOCATION DIAGRAM



PS-193 board (Component side)



MB-44 board (Component Side)







## SUPPLEMENT-1

### BLOCK DIAGRAM

File this supplement-1 with the service manual.

### CORRECTION

This supplement-1 correct because any mistakes to Electrical Adjustments and Schematic Diagram.

 : corrected portion

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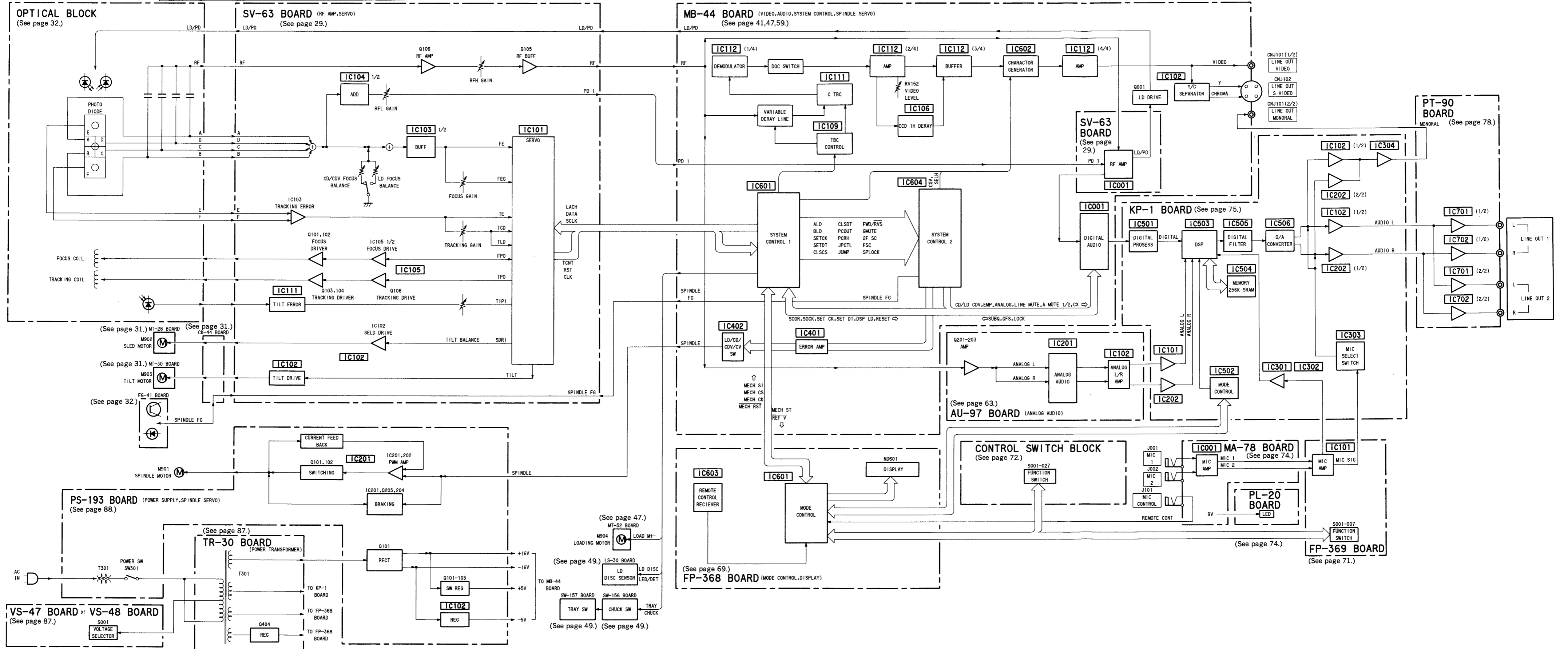
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# SECTION 1 DIAGRAMS

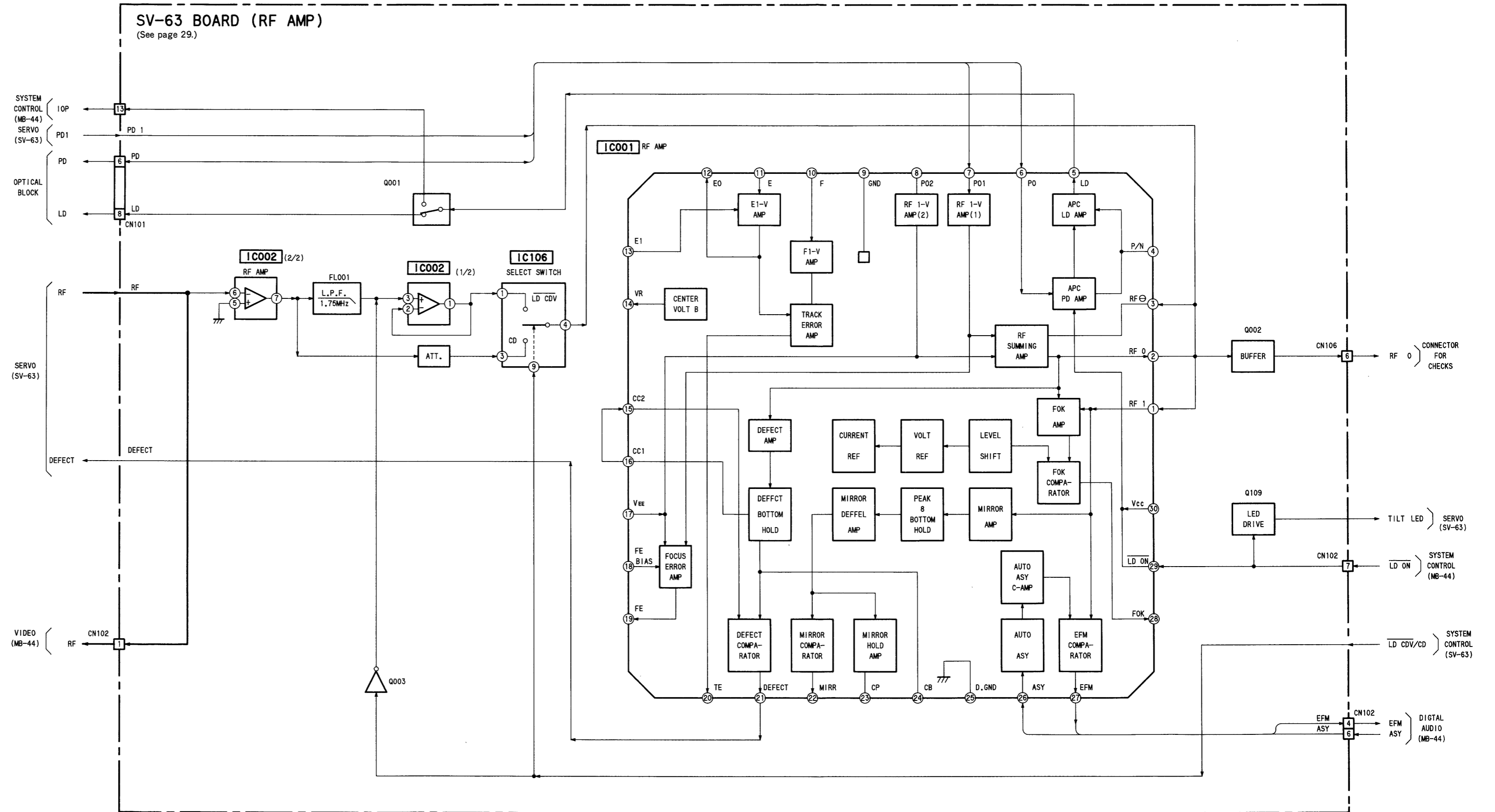
## 1-1. OVERALL BLOCK DIAGRAM

In case of page reference, pay attention to the following.  
( ): Page of SERVICE MANUAL unit.



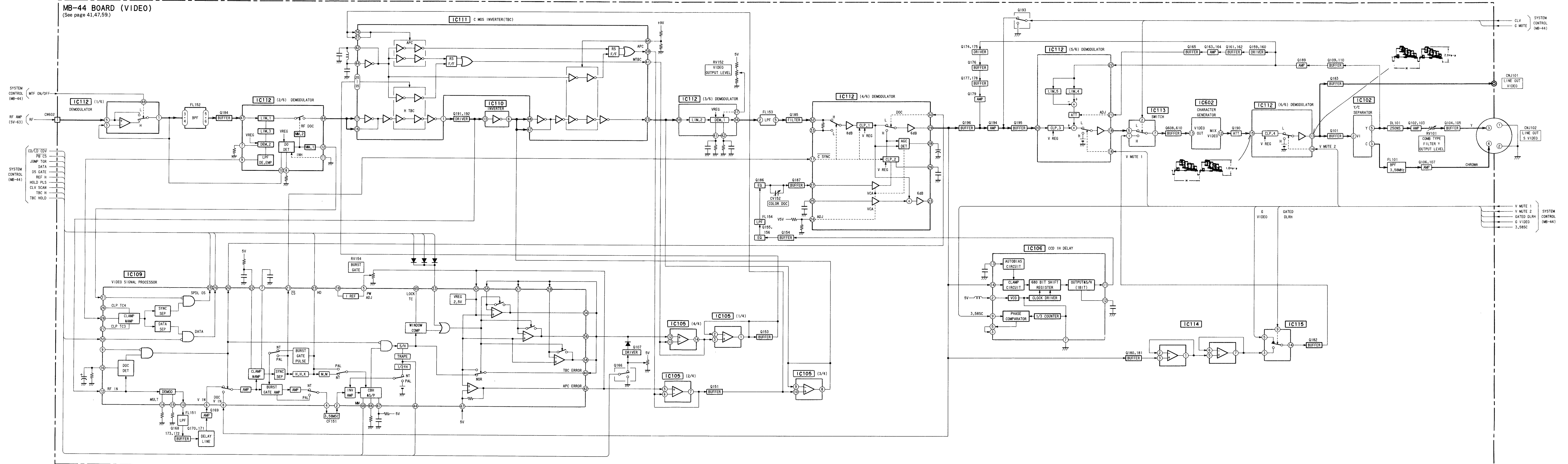
1-2. RF AMP BLOCK DIAGRAM

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 ( ) : Page of SERVICE MANUAL unit.



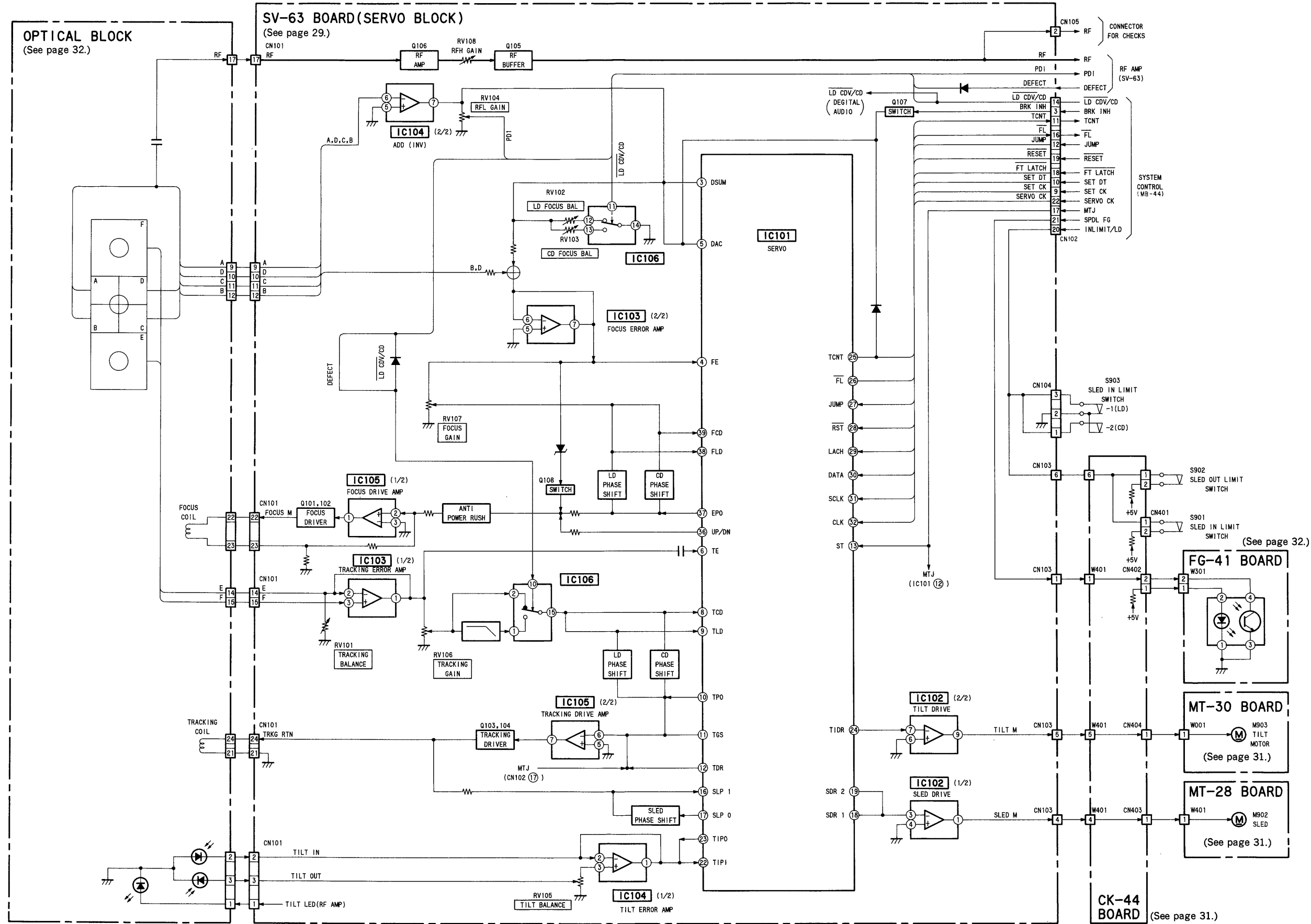
1-3. VIDEO BLOCK DIAGRAM

In case of page reference, pay attention to the following.  
 ( ): Page of SERVICE MANUAL unit.



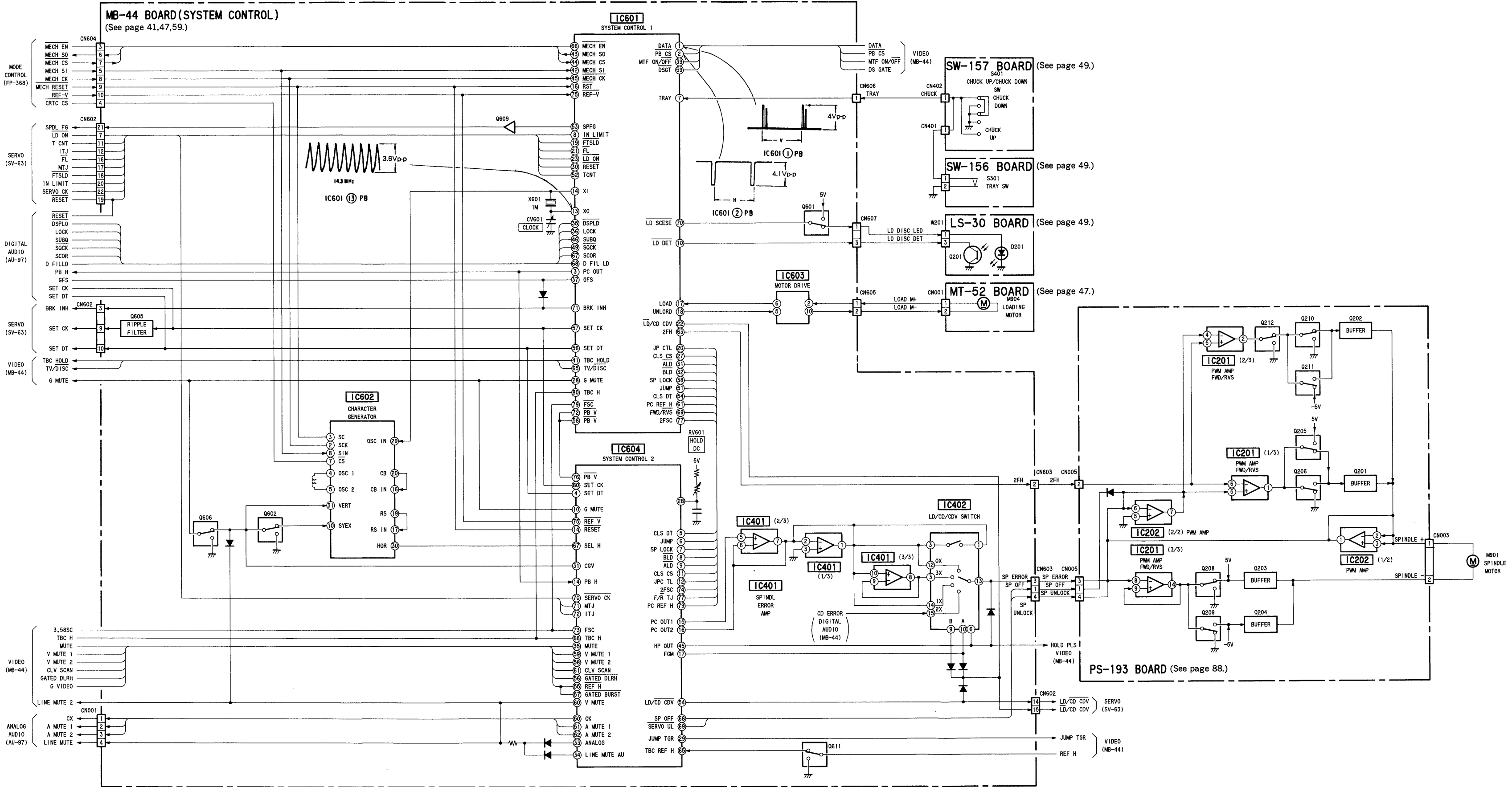
1-4. SERVO BLOCK DIAGRAM

In case of page reference, pay attention to the following.  
( ): Page of SERVICE MANUAL unit.



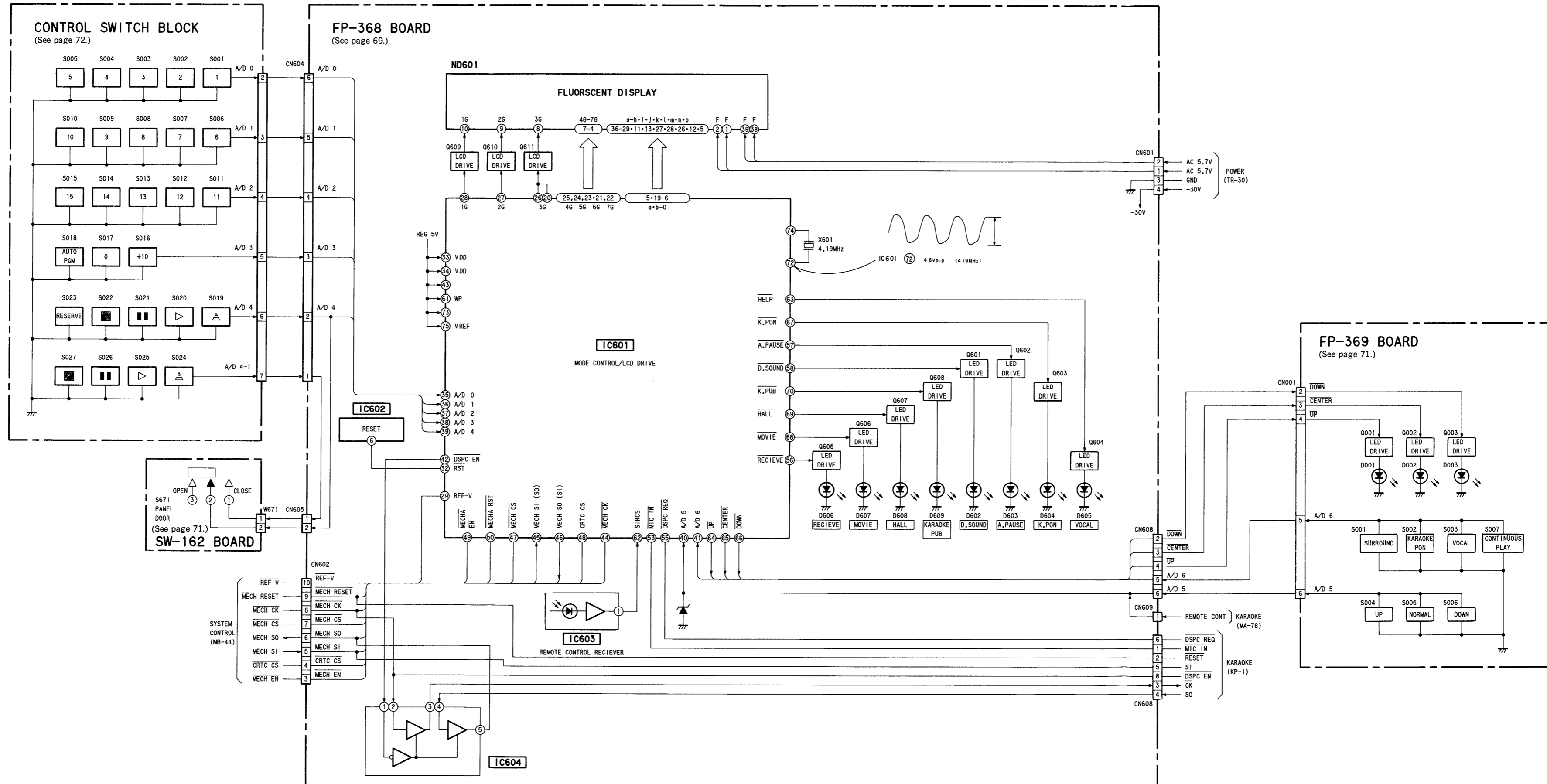
1-5. SYSTEM CONTROL BLOCK DIAGRAM

In case of page reference, pay attention to the following.  
( ): Page of SERVICE MANUAL unit.



1-6. MODE CONTROL BLOCK DIAGRAM

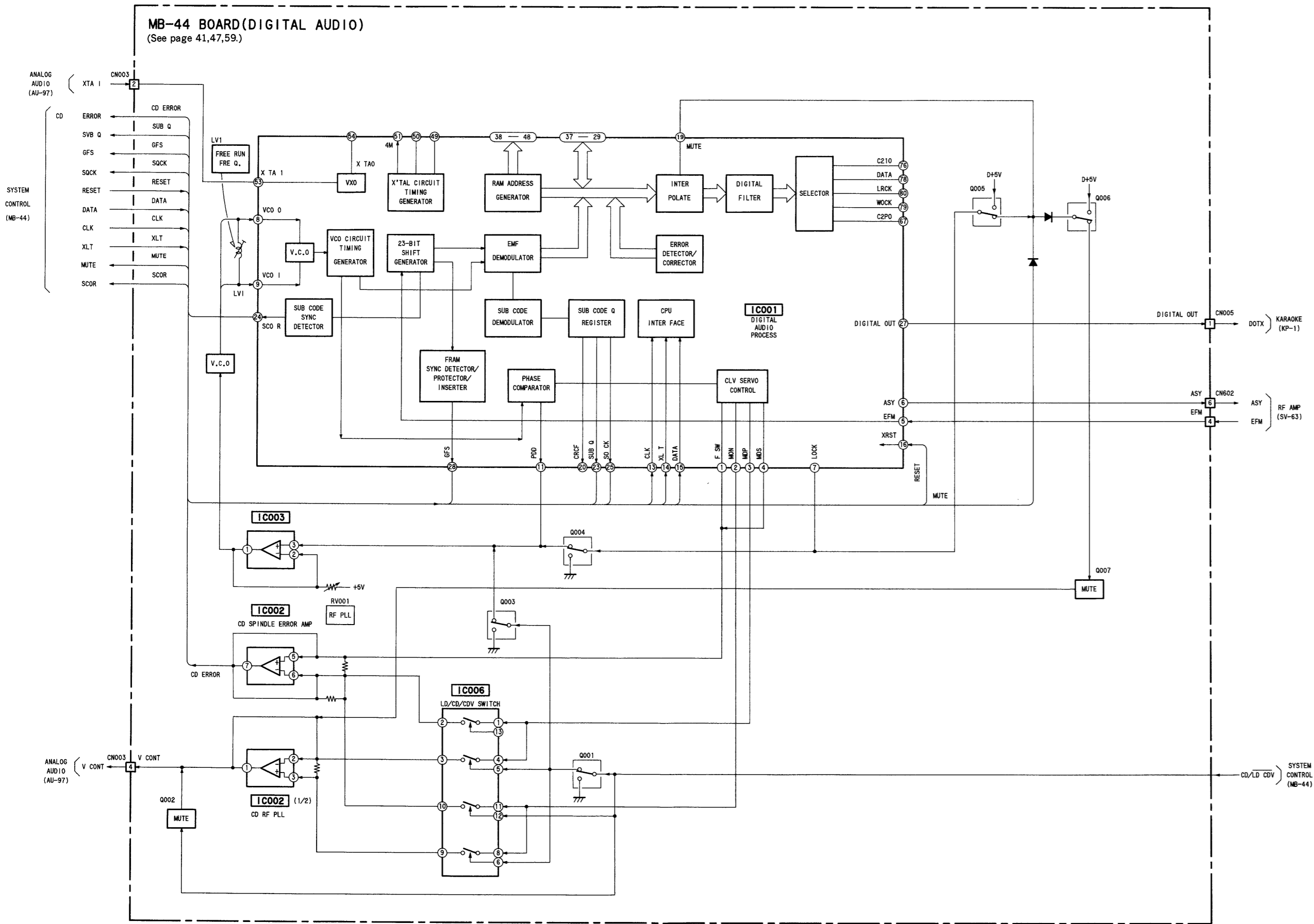
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 ( ): Page of SERVICE MANUAL unit.





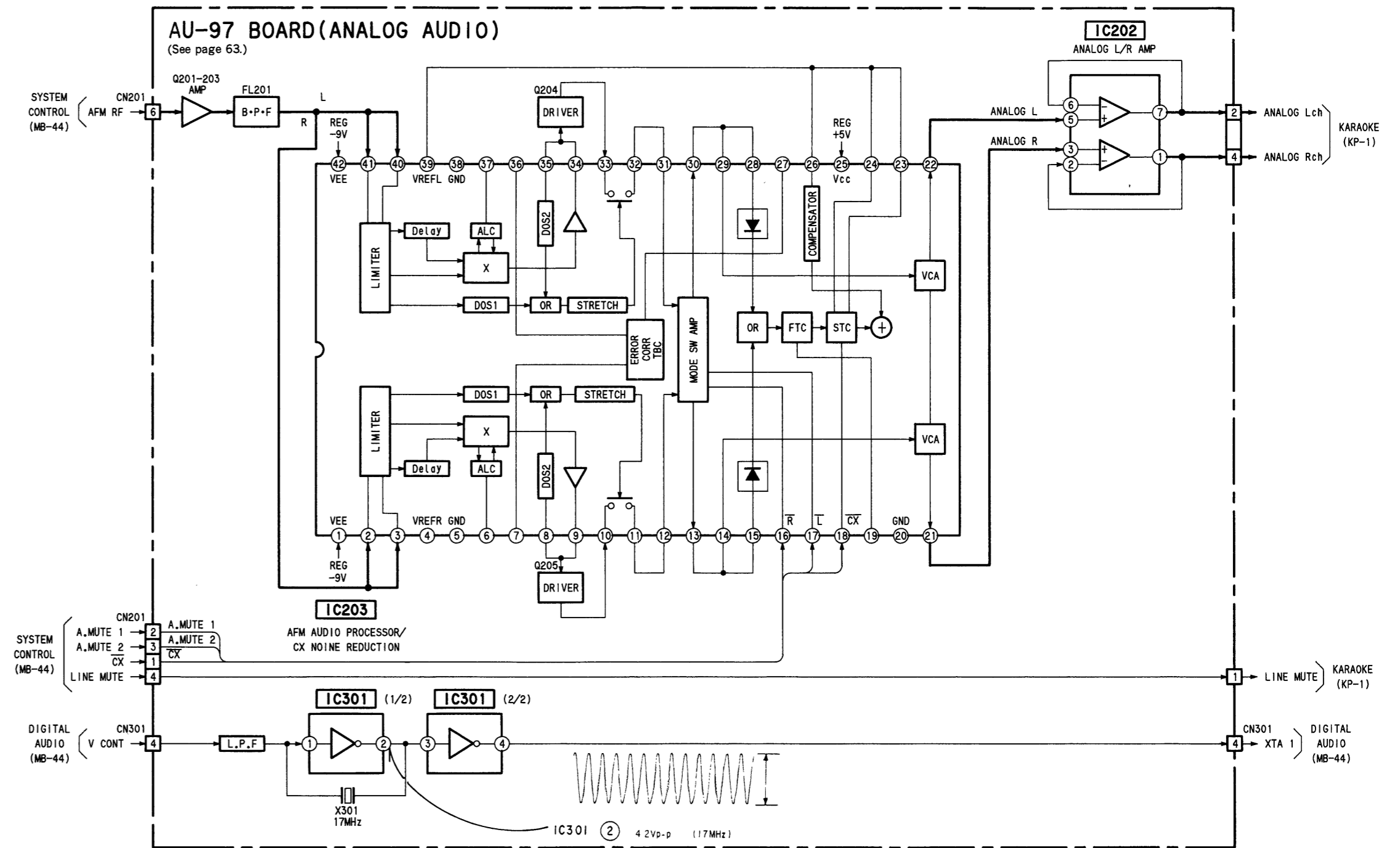
1-7. DIGITAL AUDIO BLOCK DIAGRAM

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( ): Page of SERVICE MANUAL unit.



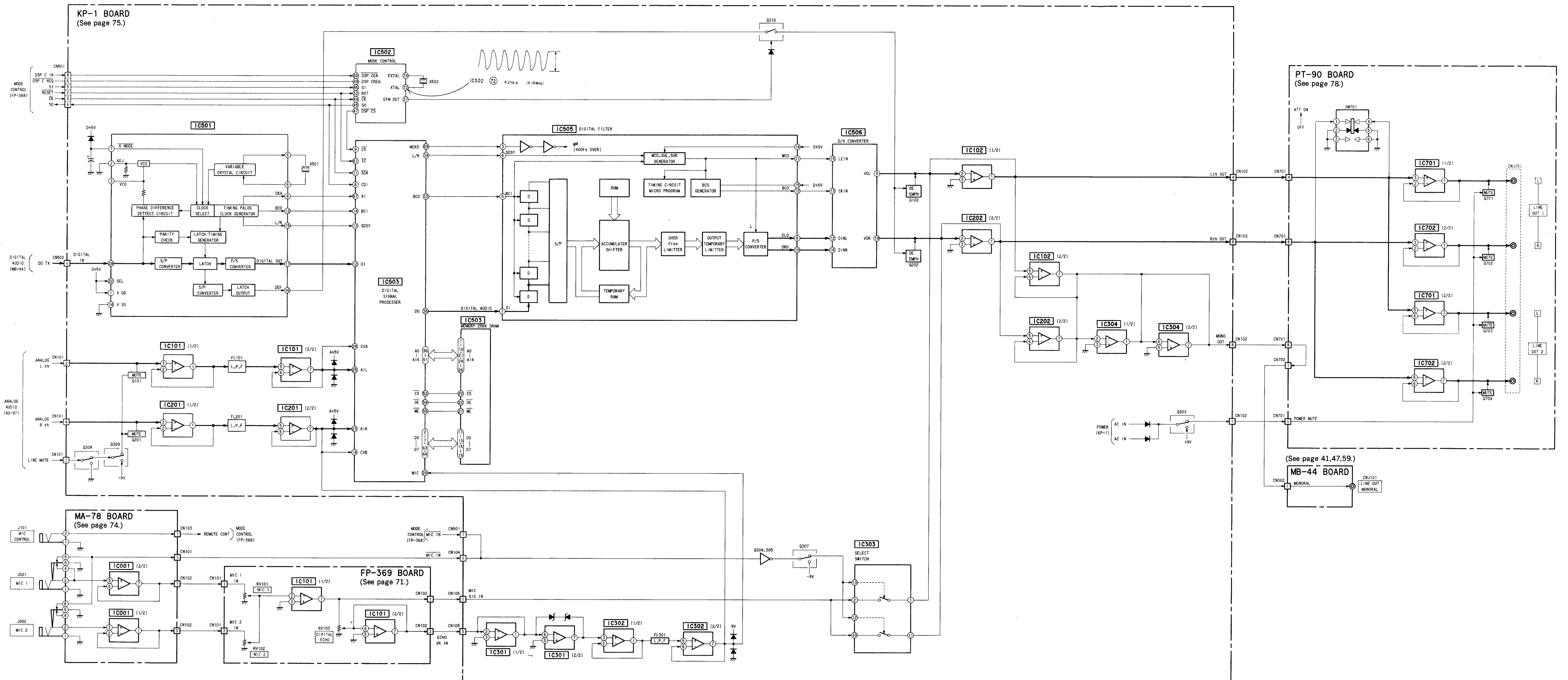
1-8. ANALOG AUDIO BLOCK DIAGRAM

In case of page reference, pay attention to the following.  
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1-9. KARAOKE BLOCK DIAGRAM

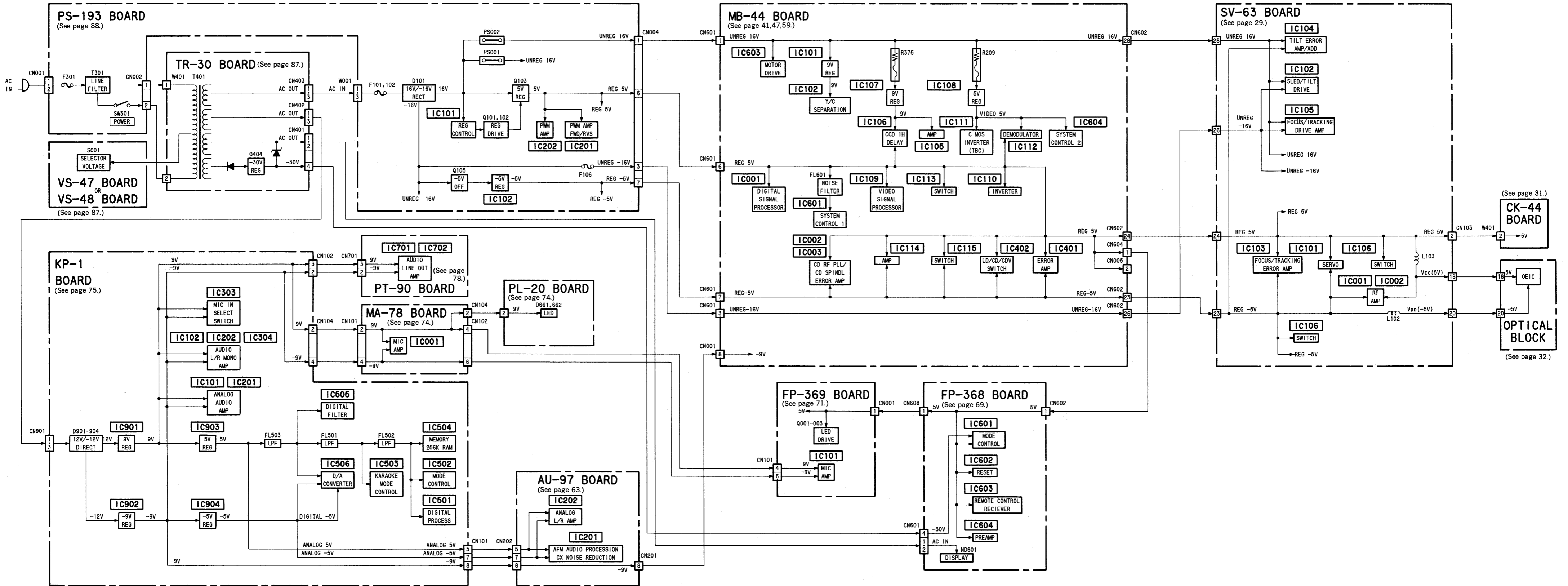
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1-10. POWER BLOCK DIAGRAM

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## CORRECTION

Page 128

### 7-7. VIDEO SYSTEM ADJUSTMENT

#### 7-7-1. Video Output Level Adjustment (MB-44 Board)

Mode	Still
Signal	Frame 4100 (color bar)
Measurement Point	CNJ101 (VIDEO OUT terminal) (Terminated to 75 Ω)
Measuring Equipment	Oscilloscope
Adjusting Element	RV152
Specified Value	$1.00 \pm 0.03$ Vp-p

##### Adjustment method :

- 1) Select STILL (▶◀) mode.
- 2) Search the frame 4100 and apply a color bar signal.
- 3) Adjust RV152 for  $1.00 \pm 0.03$  Vp-p.



Fig. 7-14.

#### 7-7-2. Comb Type Filter Y Output Level Adjustment (MB-44 Board)

Mode	Still
Signal	Frame 4100 (Color bar)
Measurement Point	CNJ102 pin ③ (Y OUT) 75 Ω terminated
Measuring Equipment	Oscilloscope
Adjusting Element	RV101
Specified Value	$1.00 \pm 0.03$ Vp-p

##### Adjustment method :

- 1) Select STILL (▶◀) mode.
- 2) Search the frame 4100.
- 3) Adjust RV101 for  $1.00 \pm 0.03$  Vp-p.

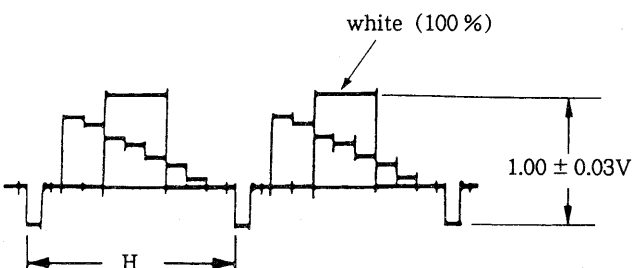


Fig. 7-15.

#### 7-7-3. Burst Gate Position Adjustment (MB-44 Board)

Mode	Still
Signal	Frame 4100 (color bar)
Measurement Point	Pin ② of IC107
Adjusting Element	RV154
Specified Value	$8.6 \pm 0.3$ μsec

##### Adjustment method :

- 1) Select STILL (▶◀) mode.
- 2) Search the frame 4100.
- 3) Adjust RV154 so that  $t_w$  becomes  $8.6 \pm 0.3$  μsec.

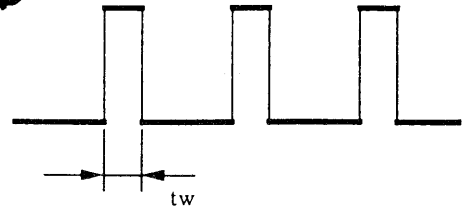


Fig. 7-16.

#### 7-7-4. REF H Adjustment (1) (MB-44 Board)

Mode	Still
Signal	Frame 4100 (Color bar)
Measuring Equipment	Oscilloscope
Adjusting Element	RV601
Measurement Point	Pin ②-③ of IC111.
Specified Value	$4.2 \pm 0.1$ V

**Note :** Perform 7-7-5 REF H Adjustment (2) Adjustment continuously.

##### Adjustment method :

- 1) Adjust with RV001 so that the voltage values at Pin ②-③ become  $4.2 \pm 0.1$  V.

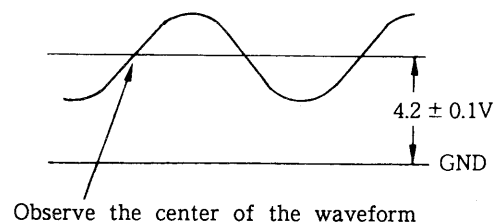


Fig. 7-17.

