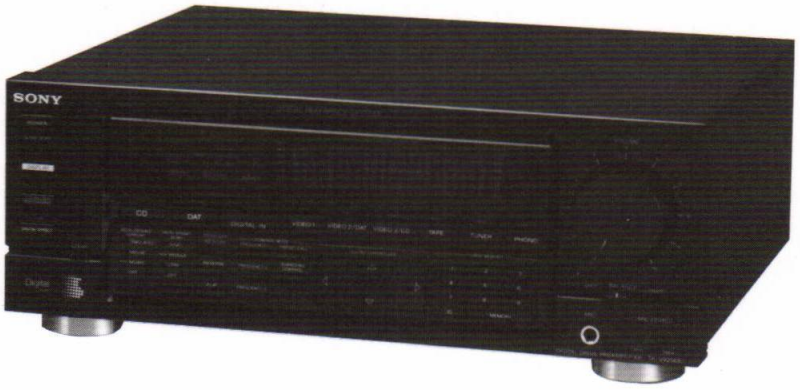
TA-V925EE

SERVICE MANUAL

AEP Model
UK Model



This set is the pre-amplifier section in LBT-V925CD.

SPECIFICATIONS

Inputs

	Jack type	Sensitivity	Impedance
PHONO IN	Phono	2.8 mV	50k ohms
TUNER, TAPE, VIDEO 1, VIDEO 2/DAT, VIDEO 3/CD, TAPE IN	Phono	200 mV	50k ohms
MIC	Phone	1 mV	10k ohms

Outputs

	Jack type	Voltage	Impedance
TAPE, DAT, VIDEO 1, VIDEO 2/DAT, LINE/MONITOR	Phono	200 mV	470 ohms

Power comsumption 20 W
Dimensions 355 × 132 × 320 mm (w/h/d)
(14 × 5 1/8 × 12 3/8 inches)
Weight Approx. 4.7 kg (10 lb 6 oz)

Features

Digital drive preamplifier for creating vibrant sound
The preamplifier features a Digital Parametric Equalizer, Digital Presence Surround, and Digital Dynamic Sound. Enabling you to mold the musical sound to your individual taste. Also, you can easily adjust the music to your taste by selecting from various patterns (up to 200) which combine these three functions and are stored in the preamplifier's preset memory.

Digital parametric equalizer for sound control
This function employs digital processing to enable you to adjust the quality of the sound by raising and lowering the levels of specific frequency ranges.

Digital presence surround which allows you to select the surround system to match the music genre
This function features three types of surround – music, movie, and simulated – to allow you to match the surround system with the genre of the sound source and reproduce the sound as if you were actually experiencing it in a concert hall or movie theater. In addition, the amount of reverberation can be varied in order to reproduce sound with a sense of presence as if it were being listened to in a concert hall.

Digital dynamic sound for providing low-volume sound with a feeling of power
When listening at low volume levels, this function raises the level of hard to hear sounds and provides the sound with a good overall balance.

Abundant input and output jacks for handling digital transmission and a wide variety of AV equipment
This preamplifier is provided with optical inputs for connecting up to 2 digital components such as CD players and DAT decks, and video inputs for connecting up to 3 video components such as VTRs and video disc players.

MICROFILM

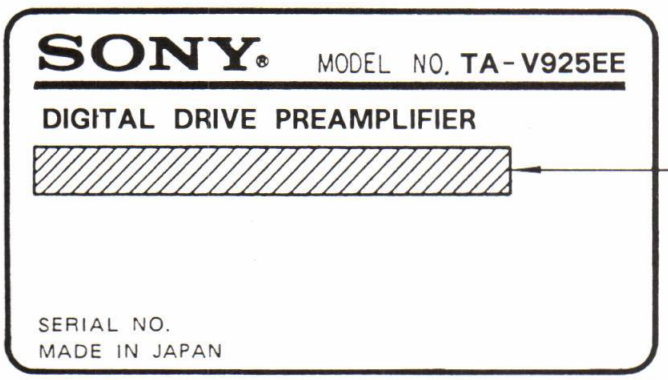
DIGITAL DRIVE PREAMPLIFIER

SONY®

TABLE OF CONTENTS

MODEL IDENTIFICATION

– Specification Label –



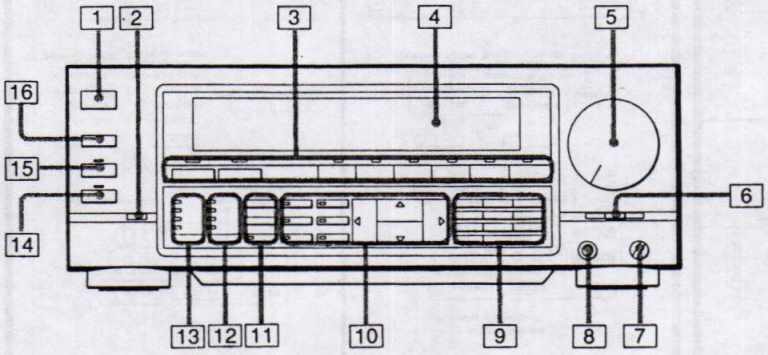
AEP Model : AC : 220 V ~ 50/60 Hz
UK Model : AC : 240 V ~ 50/60 Hz

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.

SECTION 1
GENERAL

Parts Identification



1 POWER switch
2 CLEAR button
3 Function buttons and indicators
4 Display window
5 VOLUME control
6 BALANCE control
7 MIC (microphone) LEVEL control
8 MIC (microphone) input jack
9 USER MEMORY buttons
10 Digital CONTROL MODE buttons
11 Digital Parametric EQUALIZER curve operation buttons
12 DIGITAL DYNAMIC SOUND selector and indicators
13 DIGITAL PRESENCE SURROUND selector and indicatos
14 DIGITAL EFFECT switch and indicator
15 EQUALIZER RECORDING switch and indicator
16 DISPLAY button

Using the Preamplifier's Sound Manipulation Features

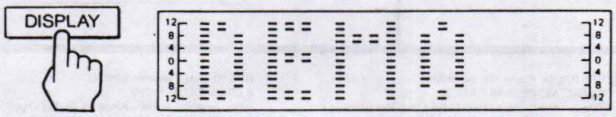
The preamplifier is equipped with three sound manipulation functions – an equalizer function, a surround function, and a dynamic sound function – for improving the sound in your listening environment.
The equalizer can be used to raise and lower the levels of specific frequency ranges. The surround function can be matched to the music genre or source to effectively reproduce a feeling of "being there". The dynamic sound function can be used to give a powerful feeling to music when listening at low volume levels.
Making full use of these three functions allows you to create a variety of different sounds and effects and to maximize your music listening enjoyment.

Demo Mode

This system is provided with a demo mode to allow you to get a taste of the rich variety of effects possible with the preamplifier functions. Before using the preamplifier to make adjustments to the sound, use the demo mode to experience the various effects while watching the changes on the display and listening to the differences in the quality of the sound produced by each effect. This mode demonstrates the effect of each of the following functions.

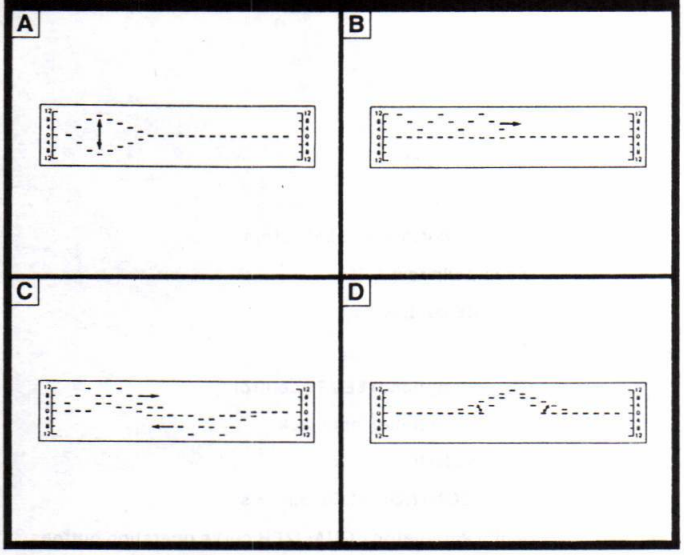
- DP EQ (Digital Parametric Equalizer) – Level adjustment of specific frequency ranges
- RUN – Equalizer curve movement
- CROSS – Equalizer curve synthesis
- SLOPE – Equalizer curve slope selection
- DPS – Digital Presence Surround
- DDS – Digital Dynamic Sound
- DISP (Display) – Spectrum analyzer/Peak value display
- DATA CALL – Preset memory
- USER CALL – User memory

1 **Play a compact disc or other program source.**
2 **Press the DISPLAY button a number of times until the DEMO indication appears on the display.**
After "DIGITAL" is displayed, demo mode begins.



Using the Preamplifier's Sound Manipulation Features

Demo Mode Contents



A DP EQ (Digital Parametric Equalizer)
(Frequency range level increase/decrease display)
This shows how the level of each of the three frequency ranges – low, middle, and high – can be raised and lowered. This operation is fundamental to creating equalizer curves to suit your individual taste and listening environment.

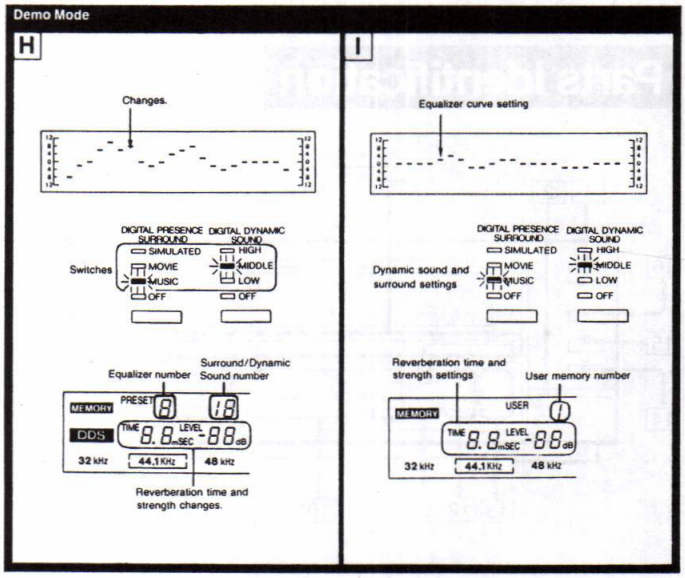
B RUN
(Equalizer curve movement display)
This shows how the equalizer curve can be moved to the left and right.
The sound changes as the curve moves.

C CROSS
(Equalizer curve synthesis display)
This shows what happens when two "hills" of an equalizer curve are moved toward each other and combined (synthesized) into one.

D SLOPE (EQ SLOPE)
(Equalizer curve slope selection display)
This shows how the attenuation (the rapidity with which the level is decreased) of the equalizer curve peak can be switched in two stages.
The difference in the quality of the sound can be heard when the EQ SLOPE button is switched.

Using the Preamplifier's Sound Manipulation Features

Demo Mode

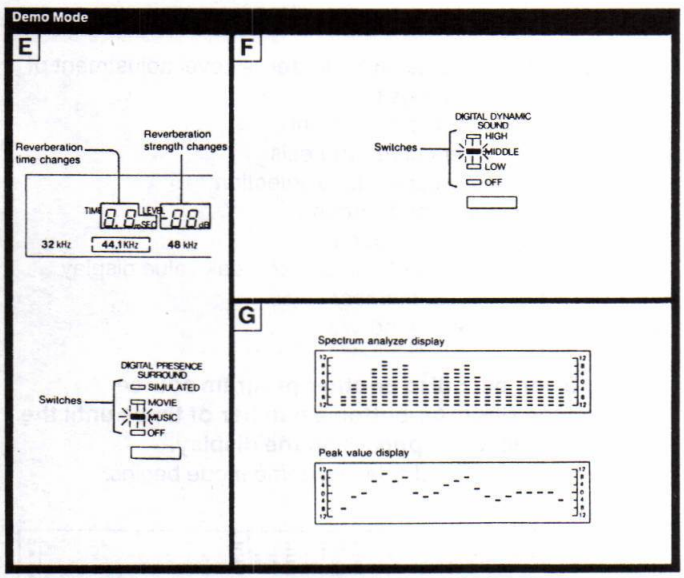


H DATA CALL
(Preset Memory)
Equalizer, dynamic sound, and surround settings have already been combined in various combinations and stored in the preamplifier's memory. You can choose from 200 different combinations (using the digital sound menu) according to the genre of the sound source and your individual taste.
Three types of digital sound menus are called up and displayed, enabling you to hear the difference between the different sound fields. Each of the equalizer curve, dynamic sound, surround, and reverberation time and level settings are varied.

I USER CALL
(User Memory)
With this feature, you can adjust the equalizer, dynamic sound, and surround settings according to your individual taste and store the settings in the preamplifier's user memory, enabling you to easily recall your settings at any time.
Three different hypothetical settings are recalled from user memory, allowing you to hear the differences between each of the sound fields. This shows how you can vary the equalizer curve, dynamic sound, and surround settings, as well as the surround reverberation time and strength settings.

Stopping Demo Mode and Making Sound Quality Adjustments
Press the equalizer, dynamic sound, or surround button you wish to adjust. Demo mode is automatically canceled.

Demo Mode



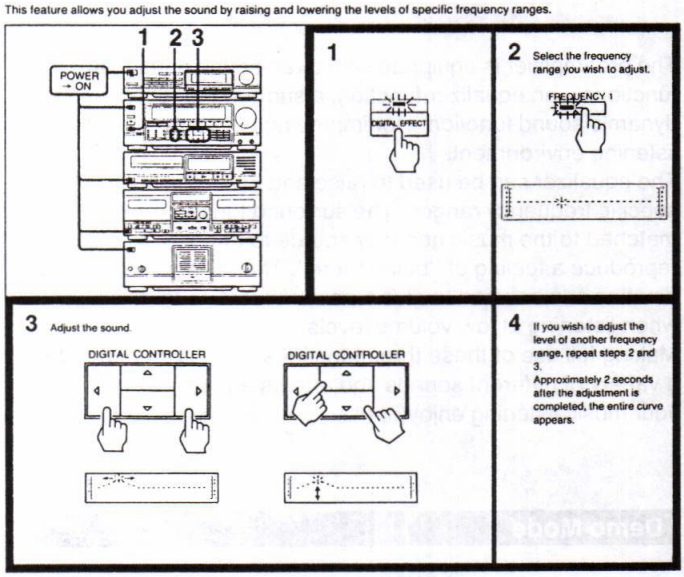
E DPS (Digital Presence Surround)
(MUSIC, MOVIE, SIMULATED)
You can select the surround effect to fit the genre of the music, and you can also set the reverberation time and strength. These functions allow you to create a sound that has a feeling of "being there".
This shows the difference between the three types of Digital Presence Surround (MUSIC, MOVIE, and SIMULATED).

F DDS (Digital Dynamic Sound)
(LOW, MIDDLE, HIGH)
When listening at low volume levels, the Digital Dynamic Sound function boosts hard to hear sounds to improve the overall balance of the sound.
This shows the difference between the three types of Digital Dynamic Sound (LOW, MIDDLE, and HIGH).

G DISP (Display)
This shows how the display can be switched between the spectrum analyzer display and the peak value display.

Adjusting the Sound Using the Digital Parametric Equalizer

This feature allows you adjust the sound by raising and lowering the levels of specific frequency ranges.



At step 2:

Button	Frequency range
FREQUENCY 1	Low range
FREQUENCY 2	Middle range
FREQUENCY 3	High range

When the unit is shipped from the factory, or after the CLEAR button has been pressed to erase the adjustment settings (see page 62), each of the three frequency buttons is defined for a specific frequency range as shown in the above table, so decide what your goal is before proceeding. The adjustable frequency range can be freely moved left and right (low ⟷ high) along the frequency scale as explained in the next step. This allows each of the frequency buttons (1 – 3) to be used for any frequency range. For example, the FREQUENCY 1 button does not have to be used to adjust a low-frequency range, but can be used instead to adjust a mid- or high-frequency range by moving it to the right along the scale.
Once the FREQUENCY 1 – 3 buttons are set, the frequency range represented by the buttons remain unchanged until the buttons are readjusted.

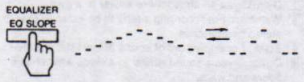
At step 3:
◁ or ▷: Shifts the frequency range to be adjusted to the left or right.
△ or ▽: Raises or lowers the level of the frequency range centering around the blinking dot.

Note:
If two "hills" on the equalizer curve are combined and the peak of the resulting "hill" exceeds 12 dB, the dots which represent levels higher than 12 dB blink.

Adjusting the Sound Using the Digital Parametric Equalizer

Changing the slope of the adjusted curve

1 **Check to make sure that one of the FREQUENCY 1 – 3 buttons is lit.**
If none are lit, press one of the FREQUENCY (1 – 3) buttons.
2 **Select the curve slope.**



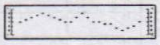
Switches between a gentle slope and a sharp slope.

Confirming the effect of the adjustment

Every time the button is pressed, the sound is switched between the pre-adjustment settings and the adjusted settings, allowing you to hear and compare the difference.

Changing the display
The display switches every time the button is pressed.

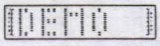
Equalizer curve shows how the sound you hear is adjusted.



Spectrum analyzer 1 shows the level of the music signal at each frequency band in real time.

Spectrum analyzer 2 shows the maximum level value (peak value) of the music signal at each frequency band in real time.

Demo mode (page 49) indicates the start of demo mode.



Remaking an equalizer curve

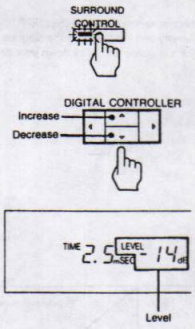
The equalizer curve becomes flat. You can now remake the equalizer curve from the beginning using the FREQUENCY 1 – 3 buttons and the DIGITAL CONTROLLER.

Reversing an equalizer curve
If you reverse the equalizer curve, you can hear sound adjusted with a pattern exactly the reverse of that of the original curve.

Press again and the curve reverts to its original shape.
When recording a program source, if you pre-adjust the equalizer curve so as to raise the level of the high frequency sound before recording, and then reverse the curve during playback by pressing the REVERSE button, you can reduce high frequency noise.

Using the Digital Presence Surround Effects

To vary the level of the reverberated sound

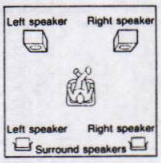


To confirm the surround effect

The sound is switched between the pre-adjustment settings and the adjusted settings, allowing you to hear and compare the difference.

When you do not want to apply the surround effect
Press so that the OFF indicator lights.

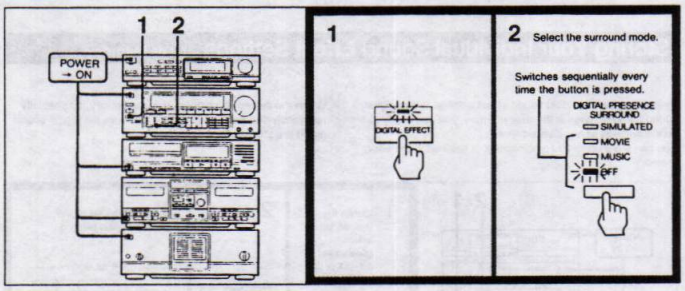
Typical speaker system layout
The example illustrated below is a typical speaker system layout. Vary the positioning and direction of the surround speakers to suit your listening environment and individual taste.



Note:
Even if the Digital Presence Surround selector is set to the OFF position, sound is output from the surround speakers. By connecting optionally available surround speakers to the surround speaker jacks, the sound field will be expanded to 360 degrees, enabling you to enjoy full-fledged surround sound.

Using the Digital Presence Surround Effects

By using this system's various surround effects, you can create a feeling of presence similar to being in a concert hall or movie theater.

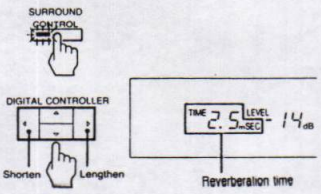


MUSIC	Switches to the music program
MOVIE	Switches to the movie program
SIMULATED	Gives monaural sources a stereo effect

Readjusting the surround effect

The surround function allows you to adjust the length of the reverberation time and the level of the reverberated sound, putting you in control of a wide range of effects and sounds. The surround effect adjustments should usually be set to match the size of the envisaged concert hall.
When you want to create the atmosphere of a small hall such as a live house or club, shorten the reverberation time.
When you want to create the atmosphere of a large hall such as a concert hall, lengthen the reverberation time.
If you want to add the feeling of being in a "live" hall where there is a lot of echo, increase the level (strength) of the reverberated sound. If you want to add the feeling of being in a "dead" hall where there is little echo, decrease the level of the reverberated sound.

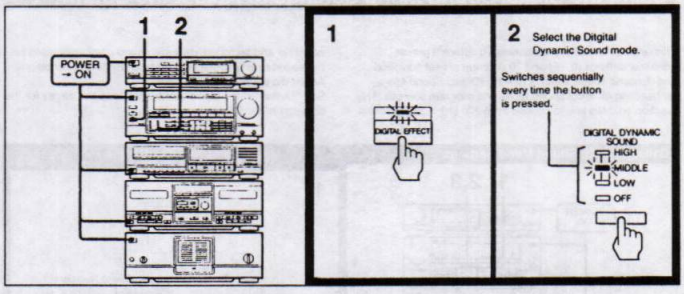
To vary the reverberation time



Providing Low-Volume Sound with a Feeling of Power
- Digital Dynamic Sound

Use the Digital Dynamic Sound function.
Although this function can be enjoyed at normal volume levels, it is especially effective for making low volume sound more powerful.

Also, since this function has the effect of making low-volume sound easier to hear over external noise, it is effective for use when recording tapes meant for playing in a Walkman or car stereo.



Position	Strength of the Digital Dynamic Sound effect
HIGH	Strong
MIDDLE	Medium
LOW	Weak
OFF	Not applied

To confirm the dynamic sound effect

The sound is switched between the pre-adjustment settings and the adjusted settings, allowing you to hear and compare the difference.
When the DIGITAL EFFECT switch is OFF (when the indicator is extinguished), the equalizer, surround, and dynamic sound functions can be operated, but the sound you hear does not change. The DIGITAL EFFECT switch must be ON for the adjusted sound to be heard.

Digital Sound Menu

See "Using the Digital Sound Menu Settings to Adjust the Sound" for operation.
To handle different sound types and program sources, 200 different combinations of equalizer, surround and dynamic sound settings can be obtained.

10 specially recommended settings (SELECT 10) are stored in the user memory and indicated on the diagram.
Use this diagram to name and write down your personal sound settings.

SELECT 10 user memory

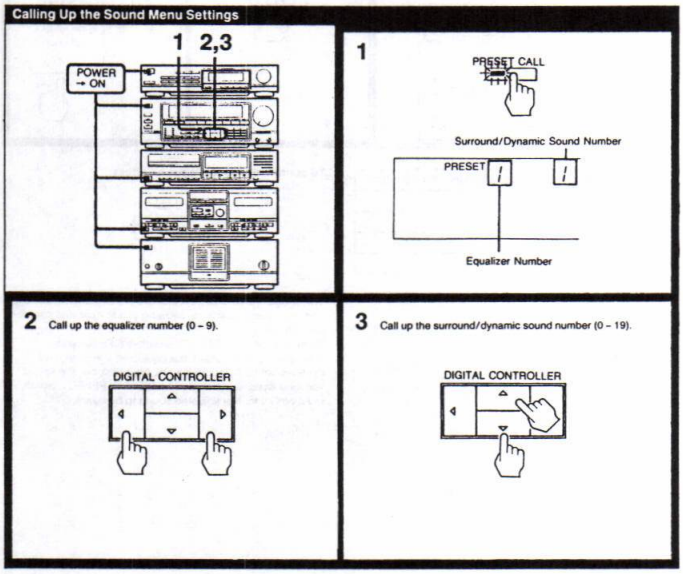
1. Large hall: Gives the atmosphere of a large hall which seats more than 2000 people.
2. Recital hall: Gives the atmosphere of a hall which seats less than 1000 people.
3. Orchestra: For a music such as classical music which is full of reverberation sound.
4. Movie surround: For a video program which is recorded with surround.
5. Simulated: Gives width to a monaural program source.
6. Jazz club: Gives an atmosphere similar to a jazz club in which the sound is heard brightly and heavily.
7. Gym: Gives an atmosphere similar to a gym.
8. Walkman: For recording a tape to be listened to with a stereo headphones.
9. BGM : For enjoyment of sound at low listening levels.
10. Disco: Gives a sound similar to a disco which has firm floors and walls.

	Digital Presence Surround			Digital Dynamic Sound	Equalizer curve / Sound field category		0 Flat	1 Lower frequency emphasized	2 Middle-low frequency emphasized	3 Sharp crisp sound	4 Conversation range emphasized	5 Middle range emphasized	6 Lower-middle range emphasized	7 Subsonic range cut	8 Lower frequency cut (Bright sound)	9 Strong bass
	Category	Reverberation Time	Level													
19	—	—	—	MIDDLE	Dynamic sound	Strong	0-19	1-19	2-19	3-19	4-19	5-19 [8]	6-19	7-19	8-19	9-19 [10]
18	—	—	—	LOW		Week	0-18	1-18	2-18	3-18	4-18	5-18	6-18	7-18	8-18	9-18
17	MUSIC	2.4s	−4dB	HIGH	Late night listening		0-17	1-17	2-17	3-17	4-17	5-17	6-17	7-17	8-17	9-17
16	MUSIC	2.4s	−3dB	LOW	Gym		0-16	1-16 [7]	2-16 [9]	3-16	4-16	5-16	6-16	7-16	8-16	9-16
15	MUSIC	2.4s	−6dB	MIDDLE	BGM		0-15	1-15	2-15	3-15	4-15	5-15	6-15	7-15	8-15	9-15
14	MUSIC	1.8s	−10dB	MIDDLE	Tape recording	Rock	0-14	1-14	2-14	3-14	4-14	5-14	6-14	7-14	8-14	9-14
13	MUSIC	1.8s	−20dB	MIDDLE		Pops	0-13	1-13	2-13	3-13	4-13	5-13	6-13	7-13	8-13	9-13
12	MUSIC	0.4s	−2dB	MIDDLE	Disco		0-12	1-12	2-12	3-12	4-12	5-12	6-12	7-12	8-12	9-12
11	SIMULATED	30ms	−10dB	LOW	TV drama		0-11	1-11	2-11	3-11	4-11	5-11	6-11	7-11	8-11	9-11
10	SIMULATED	25ms	−8dB	—	TV movie surround		0-10	1-10	2-10	3-10	4-10 [5]	5-10	6-10	7-10	8-10	9-10
9	MOVIE	60ms	−8dB	—	Orchestra		0-9 [3]	1-9	2-9	3-9	4-9	5-9	6-9	7-9	8-9	9-9
8	MOVIE	45ms	−14dB	—	Chamber music		0-8	1-8	2-8	3-8	4-8	5-8	6-8	7-8	8-8	9-8
7	MOVIE	40ms	−12dB	—			0-7	1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7
6	MOVIE	25ms	−4dB	—	Movie surround		0-6	1-6	2-6	3-6 [6]	4-6 [4]	5-6	6-6	7-6	8-6	9-6
5	MOVIE	5ms	−10dB	—	Expansive presence		0-5	1-5	2-5	3-5	4-5	5-5	6-5	7-5	8-5	9-5
4	MUSIC	3.2s	−10dB	—	Large hall		0-4	1-4	2-4 [1]	3-4	4-4	5-4	6-4	7-4	8-4	9-4
3	MUSIC	1.8s	−5dB	—	Recital Hall		0-3 [2]	1-3	2-3	3-3	4-3	5-3	6-3	7-3	8-3	9-3
2	MUSIC	1.8s	−10dB	—	Large room		0-2	1-2	2-2	3-2	4-2	5-2	6-2	7-2	8-2	9-2
1	MUSIC	0.4s	−4dB	—	Small room		0-1	1-1	2-1	3-1	4-1	5-1	6-1	7-1	8-1	9-1
0	OFF	—	—	—	—		0-0	1-0	2-0	3-0	4-0	5-0	6-0	7-0	8-0	9-0

Using the Digital Sound Menu Settings to Adjust the Sound

This unit has a memory containing 10 different preset equalizer settings (0 – 9) and 20 different preset surround and dynamic sound settings (0 – 19) (Digital Sound Menu) for handling different sound types and program sources. This function enables you to choose from 200 (10 × 20) different equalizer and surround/dynamic sound combinations to set the sound quality to suit your taste and listening conditions.
Adjust the sound to fit your taste.
See "Digital Sound Menu" on the previous two pages for the contents of the Digital Sound Menu.

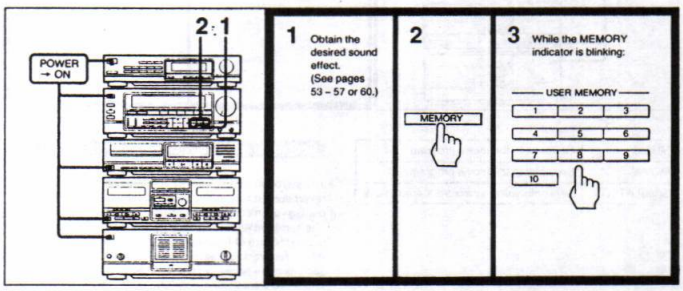
Calling Up the Sound Menu Settings



Storing Your Individual Sound Effect Settings – User Memory

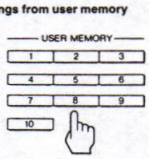
By storing your individual sound effect settings or the digital sound menu settings in the user memory, you can easily call up the settings at any desired time.
You can store up to 10 combinations of settings in the user memory.

When the system is shipped from the factory, 10 specially recommended settings (SELECT 10) from the digital sound menu are stored in the user memory.



At step 2:
The displayed equalizer curve, surround, and dynamic sound settings are stored in the user memory under the pressed button, and the number of the user memory location appears on the display. The settings previously stored at this memory location are erased and replaced by the new settings.

Calling up settings from user memory



Press the button corresponding to the number you wish to recall.

Storing Your Individual Sound Effect Settings – User Memory

Making use of the Digital Sound Menu to generate settings for storing in user memory

1 Call up the Digital Sound Menu settings you wish to utilize (page 60).
2 Modify the equalizer curve (page 53) and/or the surround/dynamic sound (page 55) to match your taste.
3 Store the modified settings in the user memory by following the procedure listed under "Storing Your Individual Sound Effect Settings-User Memory".

The utilized preset memory settings remain stored in preset memory in their original condition.

Storing Digital Sound Menu settings in user memory

1 Call up the Digital Sound Menu you wish to store in user memory. (page 60)
2 Store the settings in the user memory.

How do I restore the contents of the user memory to the initial (SELECT 10) settings?

1 Turn on the power.
2 Press the CLEAR button before the volume indicator stops blinking.

"M COPY" is displayed and the initial 10 sound menu settings are stored in user memory.

Erasing adjustments with a single touch of a button

1

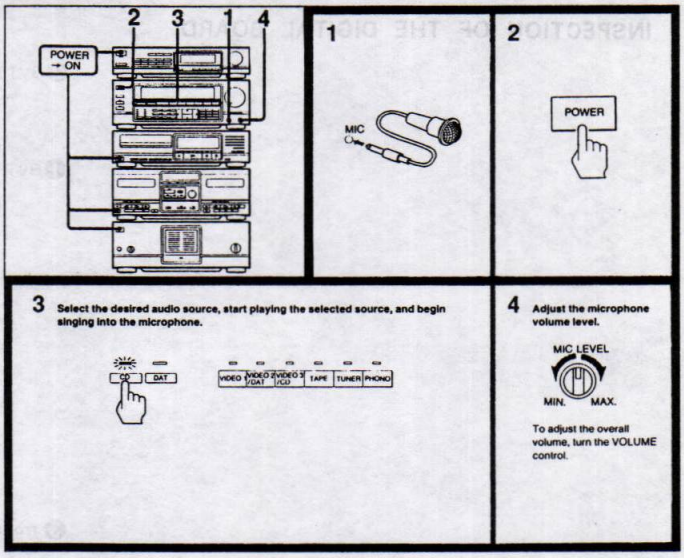
"OK?" appears on the display.

2 **Press the CLEAR button again and hold it depressed until "CLEAR" is displayed.**

All settings, including the FREQUENCY 1 – 3 positions and the surround reverberation time and level, return to their initial (factory) values. However, the settings stored in user memory remain as they were prior to the clear operation.

Microphone Mixing

This function allows you to use a microphone to sing along or "mix" your voice with a music source such as a compact disc.



To record the mixed sound

1 Load a recording tape into deck B.
2 Press the EQUALIZER RECORDING button.*
3 Start recording on deck B (see "Recording" on page 38.)

* It is not possible to adjust the microphone sound using the Digital Parametric Equalizer, the Digital Dynamic Sound, or the Digital Presence Surround.

If howling occurs

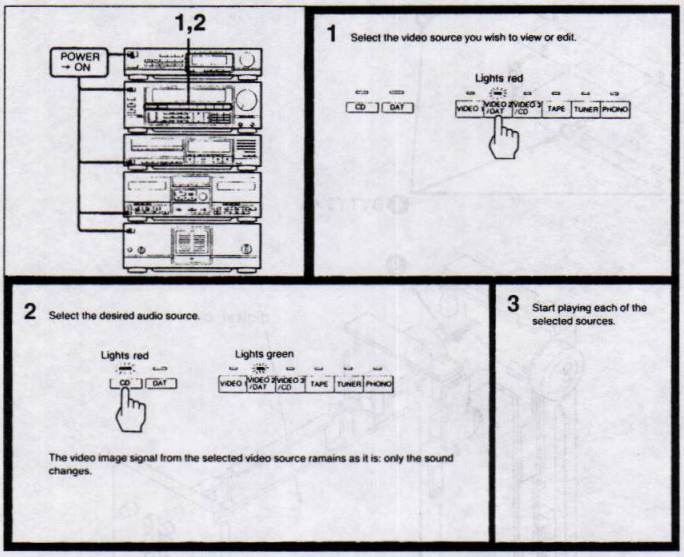
Turn the MIC LEVEL counterclockwise or separate the microphone away from the speakers.

When the microphone is not being used

Be sure to unplug the microphone from the MIC jack and set the MIC LEVEL control to the MIN position when the microphone is not being used.

Combining Video Images with Sounds from Other Sources and Performing Video Editing

While viewing a video on a VTR connected to this system, you can listen to music from another source such as a CD player or tape deck. You can also record a video image with the sound from another audio source. For example, this function enables you to edit a home-made video by recording music you like as the video's background music. The editing possibilities are limited only by your imagination.



To record the selected video and audio signals

Start recording on the VTR connected to the VIDEO 1 jacks. For details on how to operate connected components, refer to the components' instruction manuals.

To dub a videotape

1 Select the VIDEO 2 or VIDEO 3.
2 Start playing the VTR connected to the VIDEO 2/DAT or VIDEO 3/CD jacks.
3 Start recording on the VTR connected to the VIDEO 1 jacks.

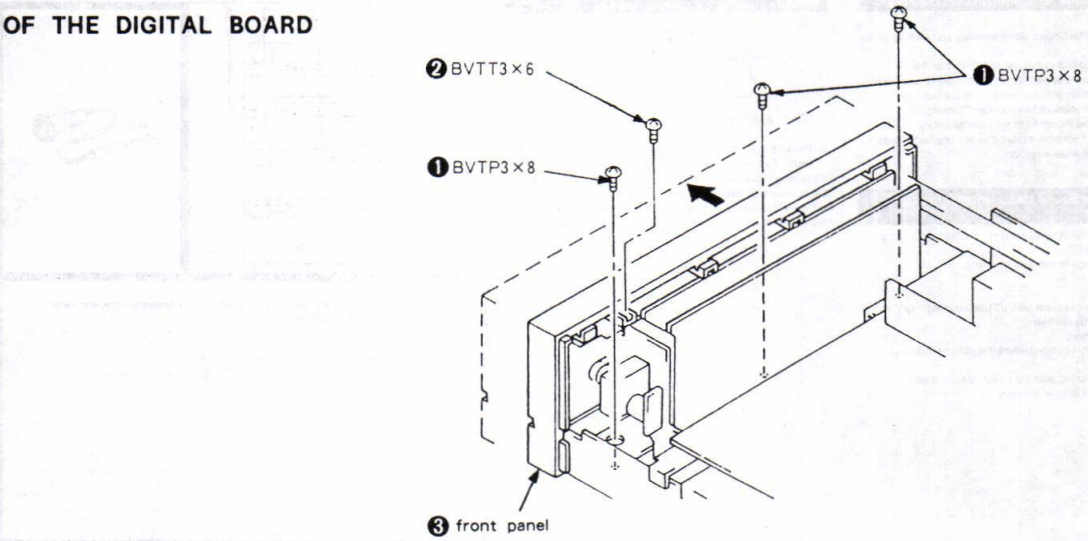
Note

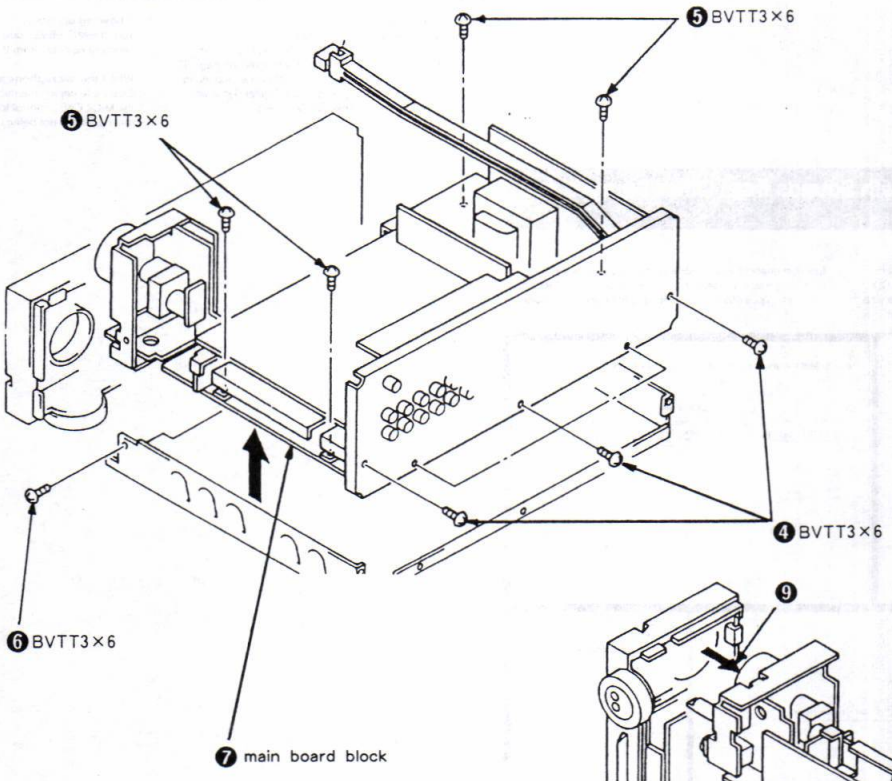
The only VTR that can be used for recording is the VTR connected to the VIDEO 1 jacks.
The VTRs connected to the VIDEO 2/DAT or VIDEO 3/CD jacks cannot be used for recording even if they are operated so as to begin recording.

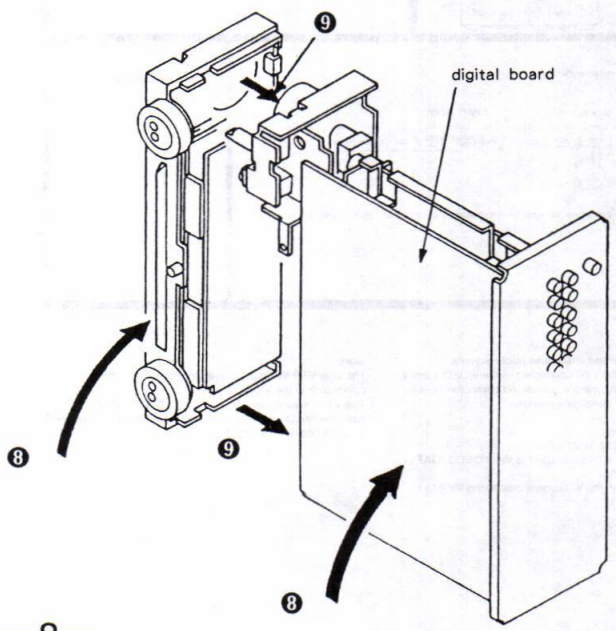
SECTION 2
DISASSEMBLY

NOTE : Follow the disassembly procedure in the numerical order given.

INSPECTION OF THE DIGITAL BOARD





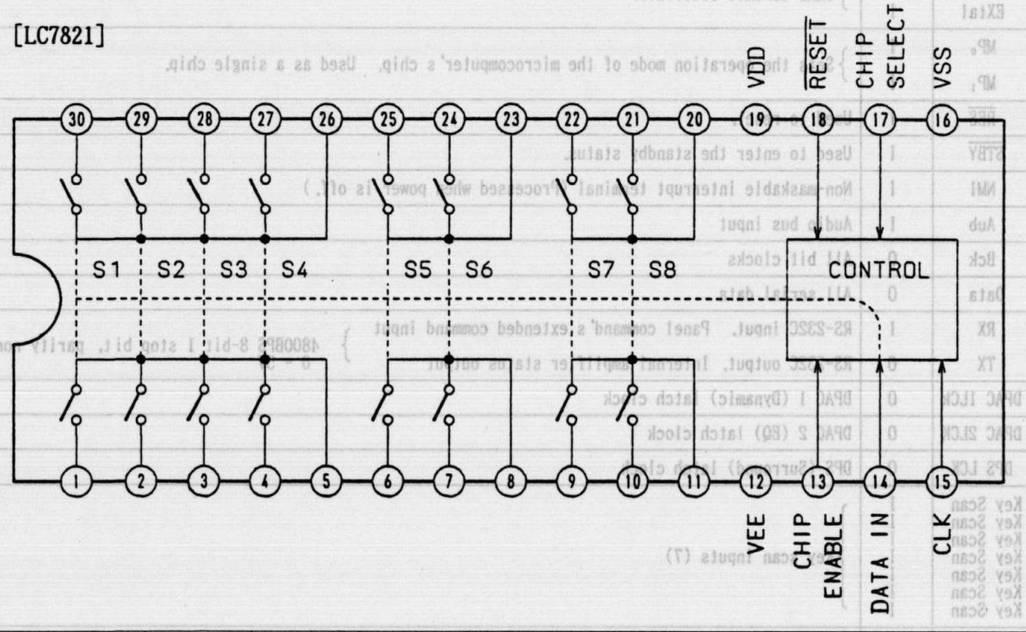


SECTION 3
DIAGRAMS

3-1. IC FUNCTION DESCRIPTION

◎ Analog function switches IC103 (LC7821), IC104 (IC7821) and IC201 (M40528BP) are described below. The block diagram and the table below show the open/close status of the switches. All switches are changed using the 12-bit serial data from system microcomputer.

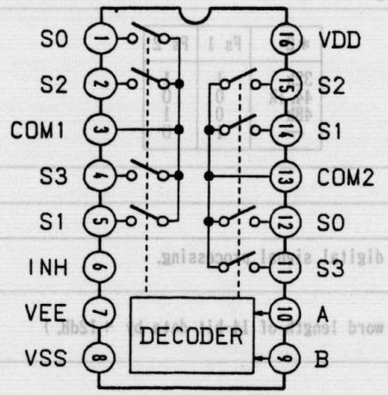
[LC7821]



		PHONO	TUNER	TAPE	VIDEO 1	VIDEO 2	VIDEO 3	CD	DAT	BS
IC104 FUNCTION	S1		ON							
	S2	ON								
	S3			ON						
	S4						ON			
	S5					ON				
	S6				ON					
	S7									
	S8									
IC103 REC OUT	S1	ON	ON		ON	ON	ON	ON	ON	ON
	S2	ON	ON	ON	ON	ON	ON	ON		ON
	S3	ON	ON	ON	ON		ON	ON	ON	ON
	S4	ON	ON	ON		ON	ON	ON	ON	ON
	S5	*	*	*	*	*	*	*	*	*
	S6	*	*	*	*	*	*	*	*	*
	S7	ON	ON	ON	ON	ON	ON			
	S8							ON	ON	ON

* S5 of IC103 is on when the EFFECT REC switch is on, S6 is on when it is off.

[M40528BP]



Function		BS	V1	V3	V2
B	A	S0	S1	S2	S3
L	L	ON			
L	H		ON		
H	L			ON	
H	H				ON

◎ IC301 (CXD1240) for digital signal input
This IC selects the digital audio input signal, transmits the format information for the input signal to the system microcomputer, or sends the clock signal to any peripheral devices.

Pin No.	Pin Name	I/O	Function
1	GD		Digital GND
2	$\overline{UREC}$	I	Background-recording mode. Low when active.
3	DIAN	I	Selects ADDT output. ANDT when low. RX when high.
4	S1	I	RX input select 1
5	S2	I	RX input select 2. RX input is selected using S1 and S2. RX1 is selected when S1S2 are 00, RX2 is selected when they are 01, RX3 is selected when they are 10, or OFF is selected when they are 11.
6	GA		Analog GND
7	R1		CR for VCO
8	VCOI	I	VCO input
9	R2		CR for VCO
10	C1		CR for VCO
11	C2		CR for VCO
12	VCOO	I/O	
13	PHCO	0	Phase comparator output
14	PLREF	I/O	
15	PLVAR	I/O	
16	VA		Analog 5V power supply
17	DRECO	O(10mA)	RX direct output
18	RX1	I	RX input 1
19	RX2	I	RX input 2
20	RX3	I	RX input 3
21	VD		Digital 5V power supply
22	TS1	I	Test select 1. Normally set to 0.
23	TS2	I	Test select 2. Normally set to 0.
24	$\overline{XCLR}$	I	Reset input. Active when low.
25	RECO	0	Audio data output 2
26	ADDT	0	Audio data output 1
27	LRCK	0	LR clock. 1FS
28	BCK	0	Bit clock. 64FS
29	MCK	0	Master clock. 384FS
30	ANDT	I	Audio data from the A/D converter
31	GD		Digital GND
32	XTLO	0	XTL output
33	XTLI	I	XTL input
34	XTLON	0	XTL oscillation control. Connected to XTLI.
35	MUTE	0	ADDT mute signal
36	RECM	0	RECO mute signal
37	FS1	0	FS information 1
38	FS2	0	FS information 2. FS information is determined by the values of FS1 and FS2. the FS information is 44.1 kHz when FS1 is 0 and FS2 is 0, 48.0 kHz when FS1 is combined 0 and FS2 is 1 or 32.0 kHz when FS1 is 1 and FS2 is 1.
39	EMP	0	EMPHASIS information. EMPHASIS ON when set to 1. EMPHASIS OFF wh
40	VD		Digital 5V power supply

◎ LSI IC405 (CXD1160P) and IC406 for digital audio signal processing

This LSI is a digital audio signal processing LSI which includes instruction RAM, factor RAM, data RAM, multiplier, and level shifter; serial I/O and delay I/O (Max: Stereo 1024 sample delay) when used for peripheral devices; and a microcomputer interface circuit.

Pin No.	Pin Name	I/O	Function
1	SDT	I	Serial data input receiving instruction, factor, and I/O control transmissions from the microcomputer
2	SCK	I	Serial clock input for SDT. Inputs data at leading edge.
3	XSLD	I	Latch signal input from system microcomputer to latch the serial data in IC. Active when low. (LCK for DPAC1)
4	SIO2	I	Input to set the clock number for the serial bit clock BCK contained in sampling time data for CH-1 or CH-2. 32 bit clock mode when connected to GND, 24 bit clock mode when connected to +5V. (This unit is 32 bit machine.)
5	DYSL	I	Mode select input of delay I/O. When it is connected to GND, serial mode is set and the operation is the same as serial I/O. When it is connected to +5V, delay mode is entered and DYSL is connected to the external DRAM (64 Kbit) and is configured as a two-channel delay line.
6	TST	I	Used for test. Normally connected to GND.
7	VSS		GND
8	MCK1		Master clock input 1. The frequency of the ACK signal of the master clock inside the IC is divided in half. When the master clock signal is input through MCK1, MCK2 is connected to+5V.
9	MCK2	I	Master clock input 2. The frequency of the ACK signal of the master master clock inside the IC is as same as this terminal. When the master clock signal is input through MCK2, MCK1 is connected to +5V or GND.
10	SI	I	Serial data input of one sampling for two channels
11	SO	O	Serial data output of one sampling for two channels
12	BCK	I	Serial bit clock input for SI and SO. Serial input data is received at the leading edge of BCK and serial output data is transmitted at the trailing edge. (64FS)
13	LRCK	I	I/O FS clock inpout (1FS)
14	XOVF	O	Adder/subtractor overflow detection output. low when the overflow is detected.
15	A6	O	External DRAM address output A6
16	A3	O	External DRAM address output A3
17	A4	O	External DRAM address output A4
18	A5	O	External DRAM address output A5
19	A7	O	External DRAM address output A7
20	XCLR	I	Used for test. Normally connected to +5V.
21	VDD	—	+5V power supply
22	A1	O	External DRAM address output A1
23	A2	O	External DRAM address output A2
24	A0	O	External DRAM address output A0
25	XRAS	O	Low address strobe output for external DRAM
26	XWSO	O	Serial data output when DYSL is low. Operation corresponds to mode of serial I/O. Write enable output for external DRAM when DYSL is high.
27	DIO	I/O	Serial data input when DYSL is low. Data is input according to the mode of serial I/O. Data I/O for external DRAM and is the common line for DRAM data input Din and data output Dout when DYSL is high.
28	XCAS	O	Column address strobe output for external DRAM

◎ System control microcomputer IC501 (HD-63B01Y0P) (8 bit, 16K ROM, 256 RAM)

This IC controls all the peripheral devices other than the display. A latch clock (LCK), a bit clock (BCK), and data (serial) are sent when each device is addressed. The BCK is also output to the two microcomputers of the display block so as to send data as required.

Pin No.	Pin Name	I/O	Function
1	Vss		GND potential
2	Xtal	O	} 8MHz ceramic oscillator
3	EXtal	I	
4	MP_0	I	} Sets the operation mode of the microcomputer's chip. Used as a single chip.
5	MP_1	I	
6	$\overline{RES}$	I	Used to reset.
7	$\overline{STBY}$	I	Used to enter the standby status.
8	NMI	I	Non-maskable interrupt terminal (Processed when power is off.)
9	Aub	I	Audio bus input
10	Bck	O	All bit clocks
11	Data	O	All serial data
12	RX	I	RS-232C input. Panel command's extended command input } 4800BPS 8-bit 1 stop bit, parity none, 0 - 5V
13	TX	O	RS-232C output. Internal amplifier status output }
14	DPAC 1LCk	O	DPAC 1 (Dynamic) latch clock
15	DPAC 2LCK	O	DPAC 2 (EQ) latch clock
16	DPS LCK	O	DPS (Surround) latch clock
17	Key Scan	I	} Key scan inputs (7)
18	Key Scan	I	
19	Key Scan	I	
20	Key Scan	I	
21	Key Scan	I	
22	Key Scan	I	
23	Key Scan	I	
24	No use	O	Not used.
25		O	} Key scan outputs (6) and volume position detection A/D outputs (4)
26	Key Scan	O	
27	&	O	
28	Vol A/D	O	
29		O	
30		O	
31	No use	O	Not used.
32	Vol ADin	I	Volume position detection A/D input (comparator input)
33	Vdd		5V±10% power supply (The battery should be backed up.)
34	DAT REC	O	DAT REC (Low when REC is off.)
35	D SEL 1	O	} Digital input select (*1)
36	D SEL 2	O	
37	D/$\overline{A}$	O	High during digital input. Low during analog (ADC) input.
38	Mute	I	Mutes the input when PLL is locked or released (high when active.)
39	Fs 1	I	} FS (sampling frequency) information input (*2)
40	Fs 2	I	
41	Emphasis	I	Emphasis information (high when active)
42	Vss	I	GND potential
43	14/$\overline{16}$	I	Selects the word length of internal data input in digital signal processing. (Usually, set to 16-bit.)
44	$\overline{8dB}$	O	} Analog gain select switch control (Fixed at the word length of 14-bit data by +12dB.)
45	$\overline{4dB}$	O	
46	$\overline{2dB}$	O	

*1	D SEL 1	D SEL 2
CD	1	0
DAT	0	1
BS	0	0
OFF	1	1

*2	Fs 1	Fs 2
32k	1	1
44.1k	0	0
48k	0	1
—	1	0

Pin No.	Pin Name	I/O	Function
47	ATT LCK	O	REC OUT DF off latch clock
48	LC7821	O	Input selector LC7821 latch clock
49	Disp 2	O	Display microcomputer ② (part of FLT and LED). Bit clock gate control
50	Disp 1	O	Display microcomputer ① (FLT's frequency response display and wipe display). Bit clock gate control
51	$\overline{\text{STBY IN}}$	O	Standby (backup) control
52	VOL LED	O	Volume LED
53	RESET OUT	O	Reset signal for peripheral devices
54	Mute OUT	O	Mute signal for peripheral devices
55	Video $\bar{B}$	O	} Video input selector (*3)
56	Video $\bar{A}$	O	

*3	A	B
Video 1	0	1
Video 2	0	0
Video 3	1	0
BS	1	1

57	Motor Vol	O	} Motor volume control (*4)
58	Motor Vol	O	

*4	up	down
up	0	1
down	1	0
stop	1	1
stop	0	0

59	No use	O	} Not used.
60	No use	O	
61	No use	O	
62	No use	O	
63	No use	O	
64	E	O	E clock output, 50% duty cycle, 2MHz output (ACIA clock)

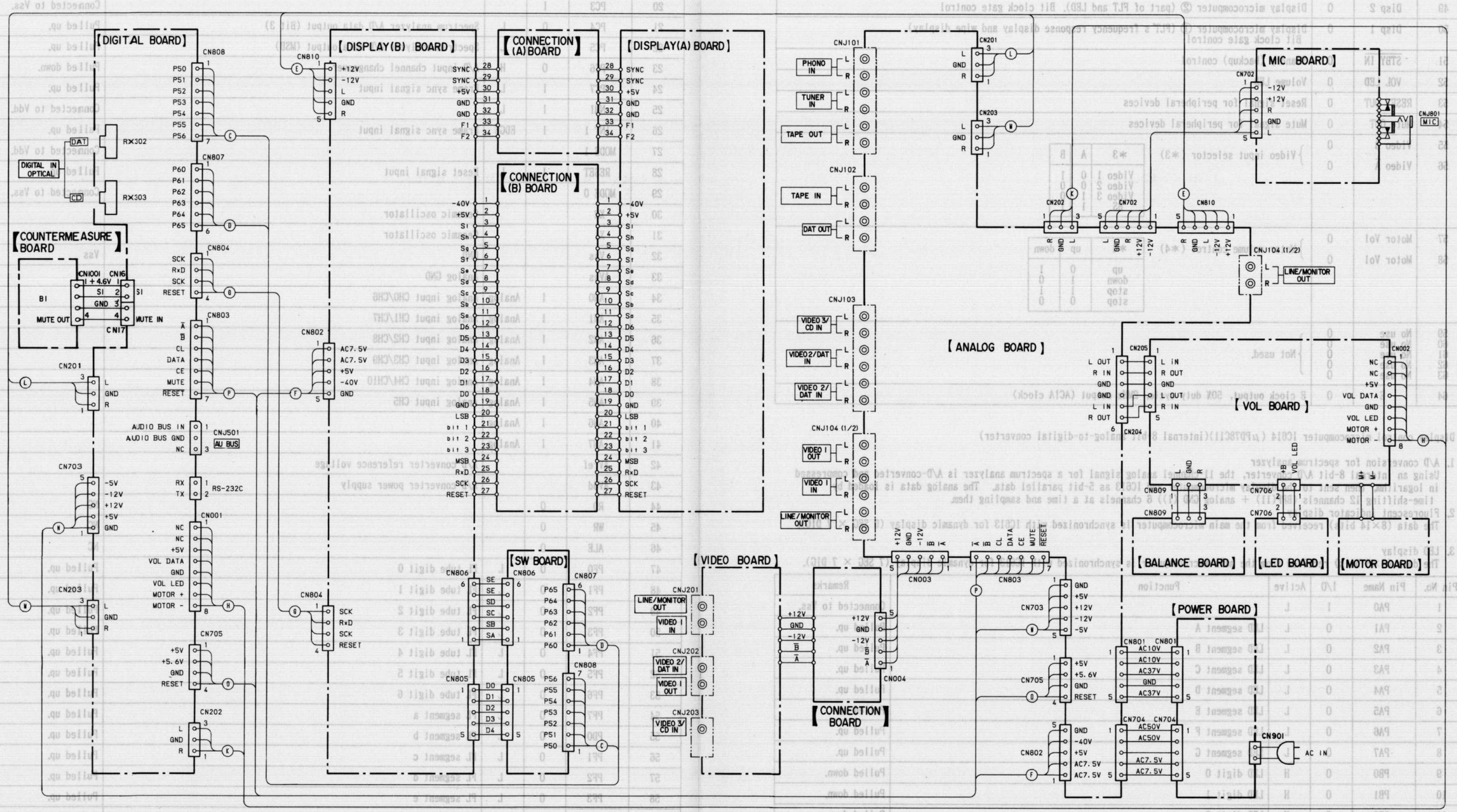
◎ Display control microcomputer IC614 (μPD78C11)(internal 8-bit analog-to-digital converter)

1. A/D conversion for spectrum analyzer
   Using an internal 8-bit A/D converter, the 11-channel analog signal for a spectrum analyzer is A/D-converted and compressed in logarithm, then sent to the display microcomputer and IC613 as 5-bit parallel data. The analog data is loaded by time-shifting 12 channels (BPF(11) + analog GND (1)) 6 channels at a time and sampling them.
2. Fluorescent indicator display
   The data (8×14 bits) received from the main microcomputer is synchronized with IC613 for dynamic display (9 SEG × 7 DIG).
3. LED display
   The data (8×5 bits) received from the main microcomputer is synchronized with IC613 for dynamic display (7 SEG × 7 DIG).

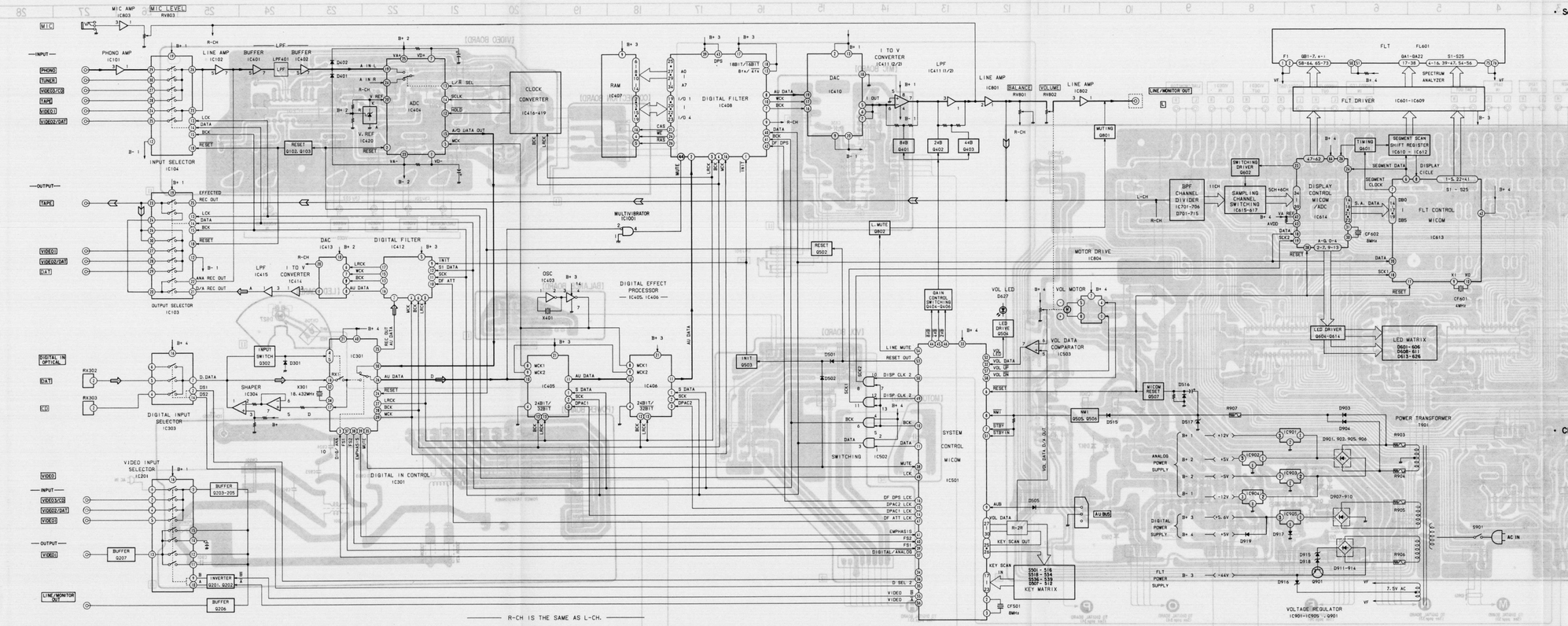
Pin No.	Pin Name	I/O	Active	Function	Remarks
1	PA0	I	L		Connected to Vss.
2	PA1	O	L	LED segment A	Pulled up.
3	PA2	O	L	LED segment B	Pulled up.
4	PA3	O	L	LED segment C	Pulled up.
5	PA4	O	L	LED segment D	Pulled up.
6	PA5	O	L	LED segment E	Pulled up.
7	PA6	O	L	LED segment F	Pulled up.
8	PA7	O	L	LED segment G	Pulled up.
9	PB0	O	H	LED digit 0	Pulled down.
10	PB1	O	H	LED digit 1	Pulled down.
11	PB2	O	H	LED digit 2	Pulled down.
12	PB3	O	H	LED digit 3	Pulled down.
13	PB4	O	H	LED digit 4	Pulled down.
14	PB5	O	L	Spectrum analyzer A/D data output (LSB)	Pulled up.
15	PB6	O	L	Spectrum analyzer A/D data output (Bit 1)	Pulled up.
16	PB7	O	L	Spectrum analyzer A/D data output (Bit 2)	Pulled up.
17	PC0	I			Connected to Vss.

Pin No.	Pin Name	I/O	Active	Function	Remarks
18	Rx D	I	H	Serial interface data	Pulled down.
19	SCK	I	H	Serial interface clock	Pulled down.
20	PC3	I			Connected to Vss.
21	PC4	O	L	Spectrum analyzer A/D data output (Bit 3)	Pulled up.
22	PC5	O	L	Spectrum analyzer A/D data output (MSB)	Pulled up.
23	PC6	O	H	A/D input channel changeover	Pulled down.
24	PC7	I	L	Frame sync signal input	Pulled up.
25	NMI	I	L		Connected to Vdd.
26	INT 1	I	EDGE	Frame sync signal input	Pulled up.
27	MODE 1				Connected to Vdd.
28	RESET	I	L	Reset signal input	Pulled up.
29	MODE 0				Connected to Vss.
30	X2			Ceramic oscillator	
31	X1			Ceramic oscillator	
32	Vss			GND	Vss
33	AVss			Analog GND	
34	AN0	I	Analog	Analog input CH0/CH6	
35	AN1	I	Analog	Analog input CH1/CH7	
36	AN2	I	Analog	Analog input CH2/CH8	
37	AN3	I	Analog	Analog input CH3/CH9	
38	AN4	I	Analog	Analog input CH4/CH10	
39	AN5	I	Analog	Analog input CH5	
40	AN6	I	Analog		
41	AN7	I	Analog		
42	AVref			A/D converter reference voltage	
43	AVdd			A/D converter power supply	
44	RD	O			NC
45	WR	O			NC
46	ALE	O			NC
47	PF0	O	L	FL tube digit 0	Pulled up.
48	PF1	O	L	FL tube digit 1	Pulled up.
49	PF2	O	L	FL tube digit 2	Pulled up.
50	PF3	O	L	FL tube digit 3	Pulled up.
51	PF4	O	L	FL tube digit 4	Pulled up.
52	PF5	O	L	FL tube digit 5	Pulled up.
53	PF6	O	L	FL tube digit 6	Pulled up.
54	PF7	O	L	FL segment a	Pulled up.
55	PD0	O	L	FL segment b	Pulled up.
56	PF1	O	L	FL segment c	Pulled up.
57	PF2	O	L	FL segment d	Pulled up.
58	PF3	O	L	FL segment e	Pulled up.
59	PF4	O	L	FL segment f	Pulled up.
60	PF5	O	L	FL segment g	Pulled up.
61	PF6	O	L	FL segment h	Pulled up.
62	PF7	O	L	FL segment i	Pulled up.
63	STOP	I	L		Connected to Vdd.
64	Vdd			Microcomputer power supply	

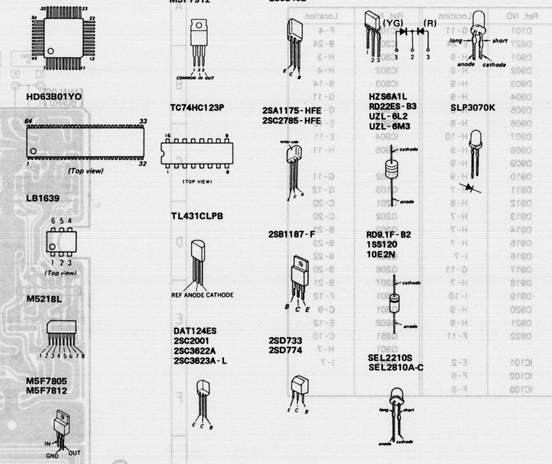
3-2. FRAME HARNESS



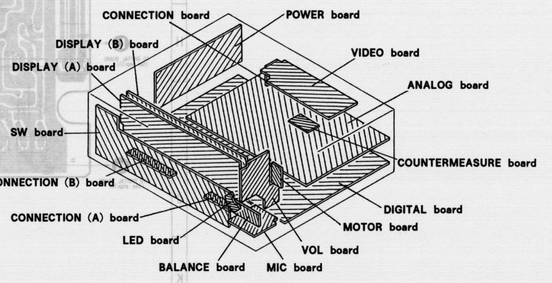
3-3. BLOCK DIAGRAM



• Semiconductor Lead Layouts



• CIRCUIT BOARD LOCATION



3-4. PRINTED WIRING BOARDS —ANALOG SECTION—

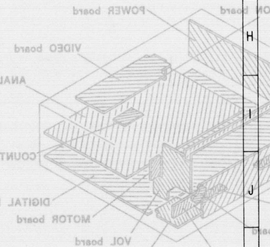
• See page 20 for Semiconductor Lead Layouts and Circuit Board Location.

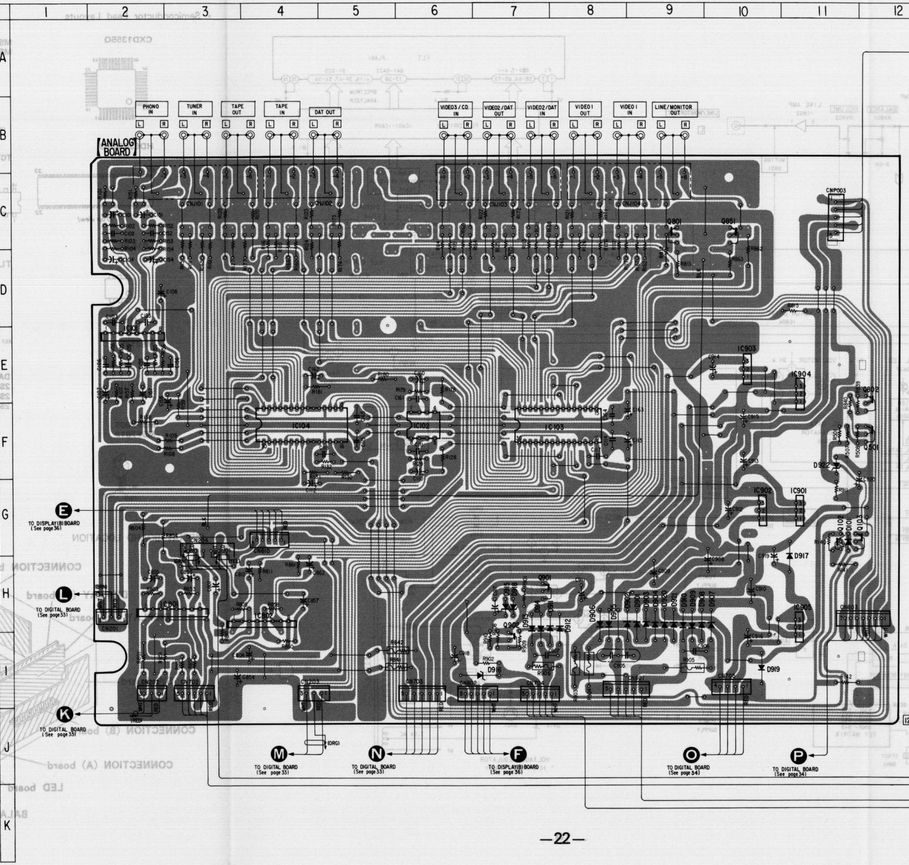
• Semiconductor Location

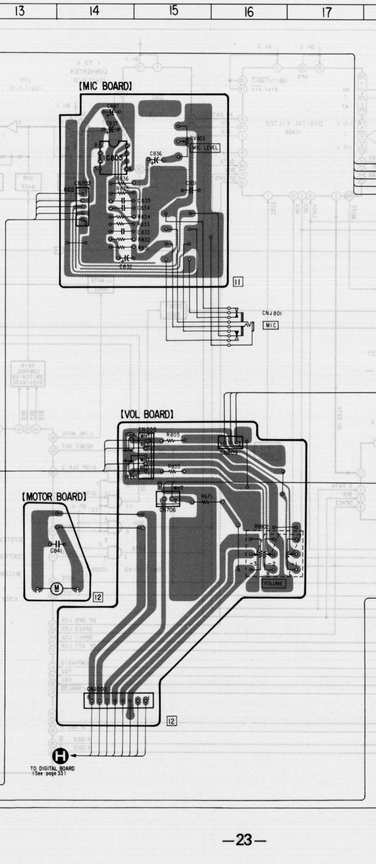
Ref. NO.	Location	Ref. No.	Location
D101	G-11	IC104	F-4
D627	E-24	IC201	B-24
D901	H-9	IC801	H-3
D902	H-8	IC802	H-4
D903	H-9	IC803	B-14
D904	H-9	IC901	G-11
D905	H-8	IC902	G-10
D906	H-8	IC903	E-10
D907	H-10	IC904	E-11
D908	H-9	IC905	H-11
D909	H-9		
D910	H-9	Q102	G-11
D911	H-7	Q103	G-12
D912	H-8	Q201	C-20
D913	H-7	Q202	C-20
D914	H-7	Q203	B-23
D915	H-7	Q204	B-23
D916	I-7	Q205	B-22
D917	G-11	Q206	B-20
D918	H-7	Q207	B-21
D919	I-10	Q501	F-12
D920	H-9	Q801	C-9
D921	H-9	Q802	E-12
D922	F-11	Q851	C-10
		Q901	H-7
IC101	E-2	Q902	I-7
IC102	F-6		
IC103	F-8		

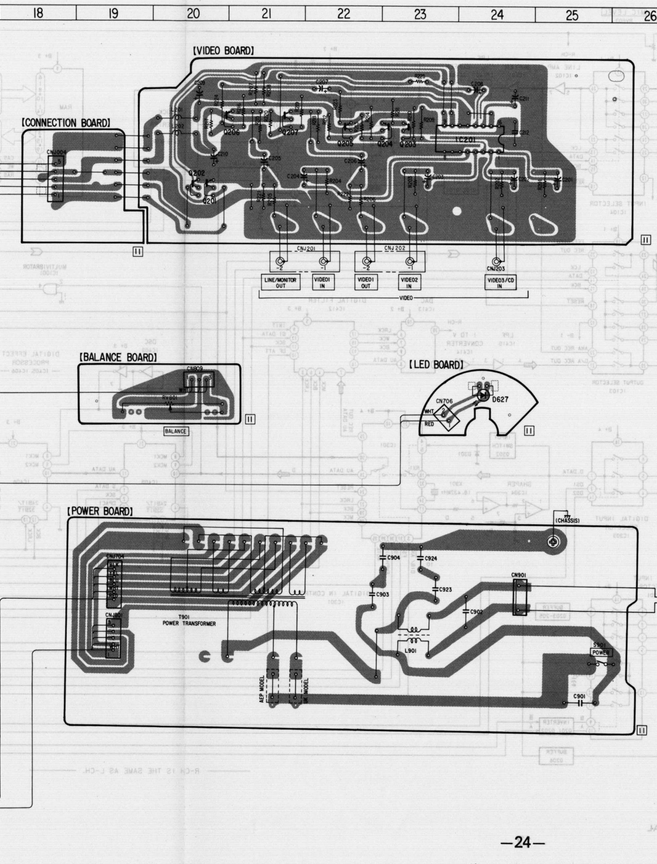
Note:

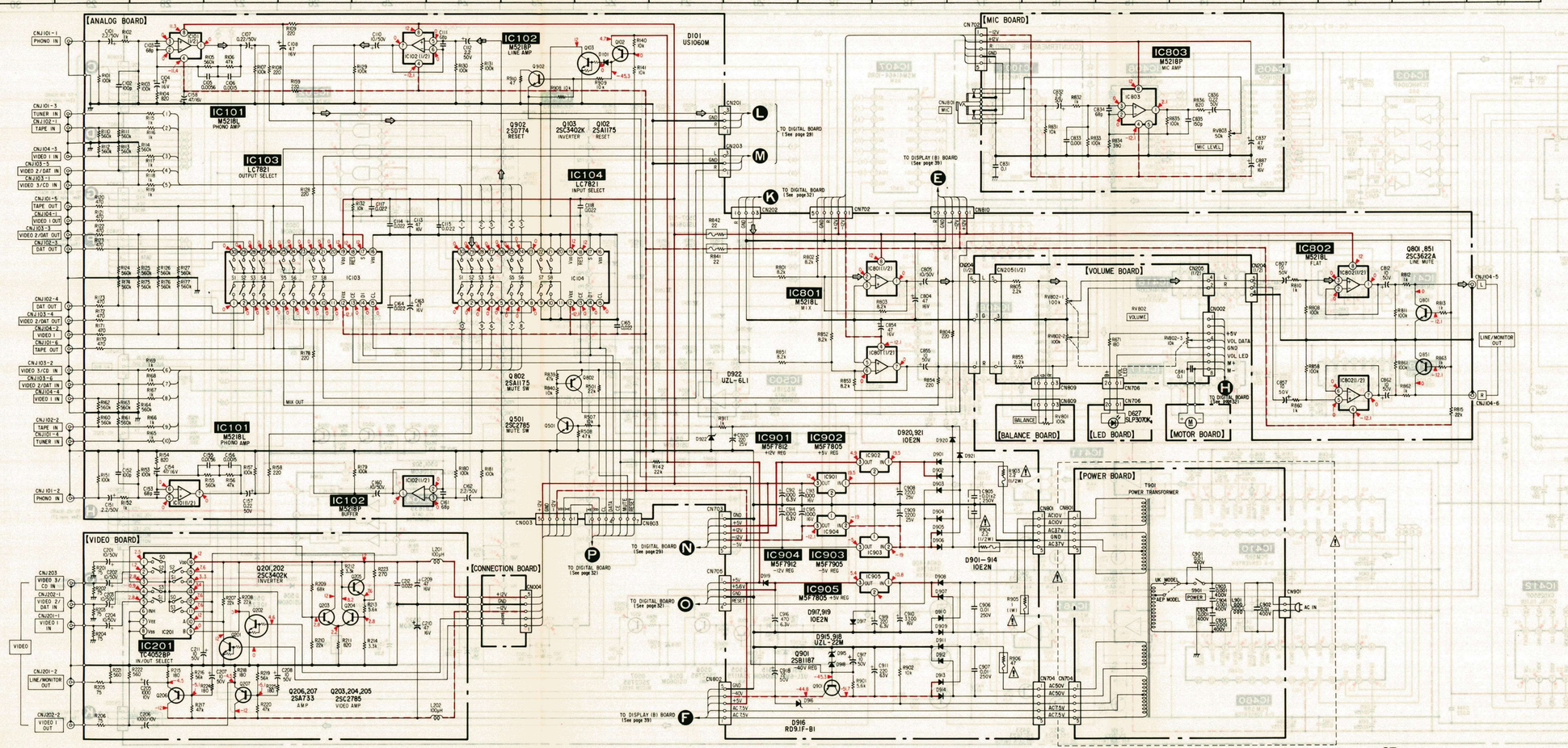
• o——: parts extracted from the component side.











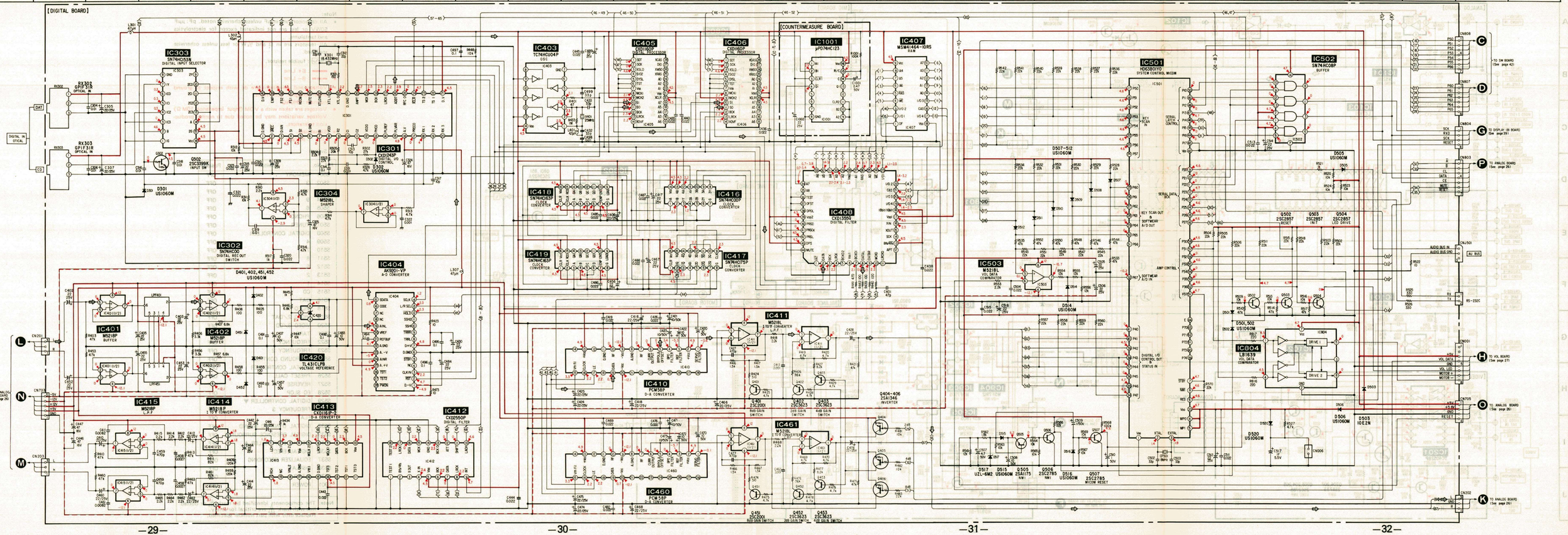
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- : fusible resistor.
- : B+ Line
- : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : PHONO
- Voltages are taken with a VOM (Input impedance 10M Ω)
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PHONO
- Switch

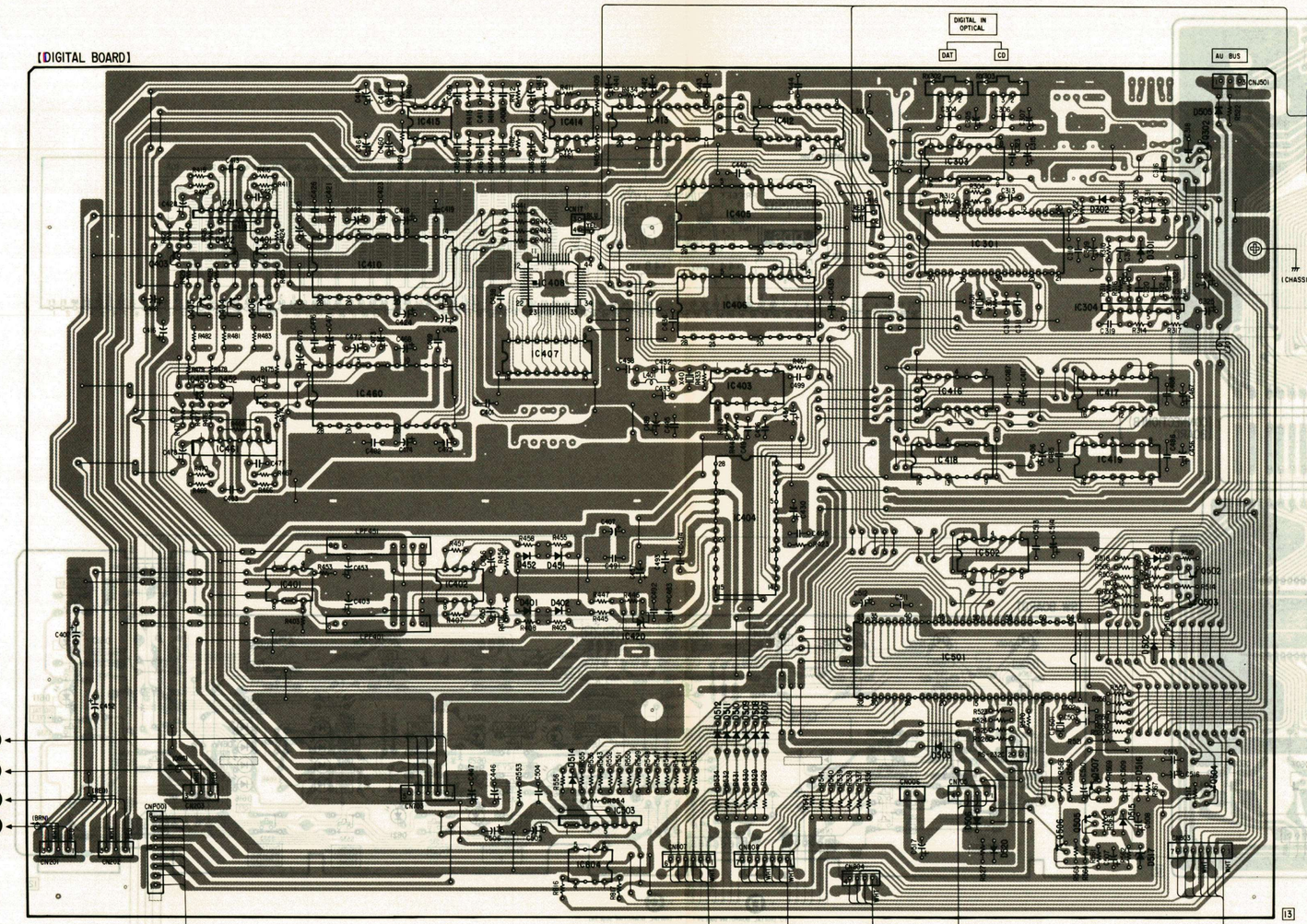
Ref. No.	Switch	Position
S501	MEMORY	OFF
S502	3	OFF
S503	10	OFF
S504	9	OFF
S505	6	OFF
S506	PHONO	OFF
S507	TUNER	OFF
S508	DIGITAL CONTROLLER	OFF
S509	4	OFF
S510	7	OFF
S511	8	OFF
S512	5	OFF
S513	2	OFF
S514	1	OFF
S515	CD	OFF
S516	DAT	OFF
S518	VIDEO 1	OFF
S519	VIDEO 2/DAT	OFF
S520	VIDEO 3/CD	OFF
S521	TAPE	OFF
S522	FREQUENCY 1	OFF
S523	FREQUENCY 2	OFF
S524	SURROUND CONTROL	OFF
S525	DIGITAL CONTROLLER	OFF
S526	PRESET CALL	OFF
S527	REVERSE	OFF
S528	EQ SLOP	OFF
S529	DIGITAL CONTROLLER ▼	OFF
S530	FREQUENCY 3	OFF
S531	FLAT	OFF
S532	DIGITAL DYNAMIC SOUND	OFF
S533	DIGITAL PRESENCE SURROUND	OFF
S534	DIGITAL CONTROLLER ▲	OFF
S536	DIGITAL EFECT	OFF
S537	EQUALIZER RECORDING	OFF
S538	DISPLAY	OFF
S539	CLEAR	OFF
S901	POWER	OFF

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

3-6. SCHEMATIC DIAGRAM —DIGITAL SECTION— • See page 28 for notes.



[DIGITAL BOARD]



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D301	C-13	IC410	D-5
D302	C-13	IC411	C-4
D401	G-7	IC412	B-10
D402	G-7	IC413	B-8
D451	G-7	IC414	B-7
D452	G-7	IC415	B-6
D501	G-14	IC416	E-11
D502	H-13	IC417	E-13
D503	I-11	IC418	F-11
D505	B-14	IC419	F-13
D506	J-12	IC420	G-8
D507	I-9	IC460	E-5
D508	I-9	IC461	E-4
D509	I-9	IC501	H-11
D510	I-9	IC502	G-12
D511	I-9	IC503	I-8
D512	I-9	IC804	J-8
D514	I-7	IC1001	B-16
D515	J-13		
D516	I-13	Q302	B-14
D517	J-13	Q401	C-4
D520	J-12	Q402	C-4
		Q403	D-3
IC301	C-12	Q404	D-4
IC303	B-11	Q405	D-3
IC304	D-13	Q406	D-4
IC401	G-4	Q451	E-4
IC402	G-6	Q452	E-4
IC403	E-9	Q453	E-3
IC404	F-9	Q502	G-14
IC405	C-9	Q503	G-14
IC406	D-9	Q504	I-14
IC407	E-7	Q505	J-13
IC408	D-7	Q506	J-12
		Q507	I-13

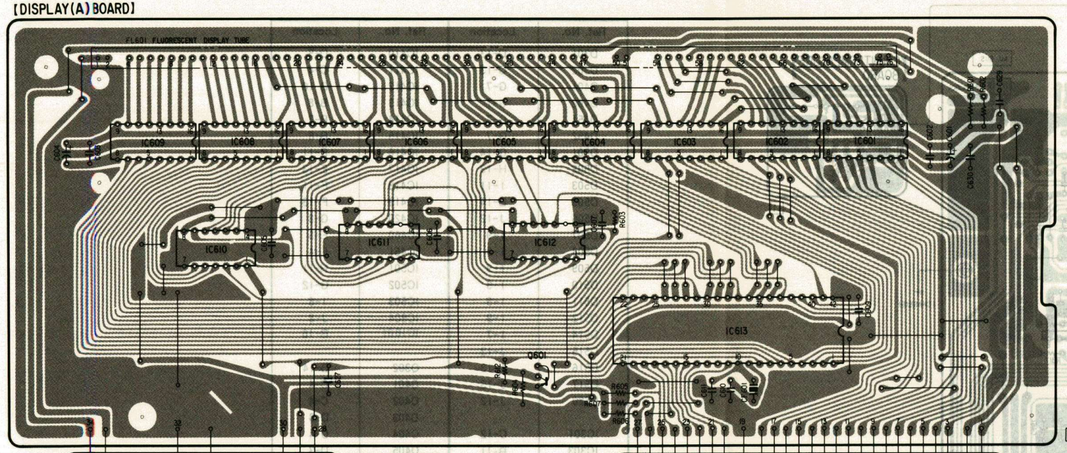
Note:

● ○—— : parts extracted from the component side.

3-8. PRINTED WIRING BOARDS —DISPLAY SECTION—

• See page 20 for Semiconductor Lead Layouts and Circuit Board Location.

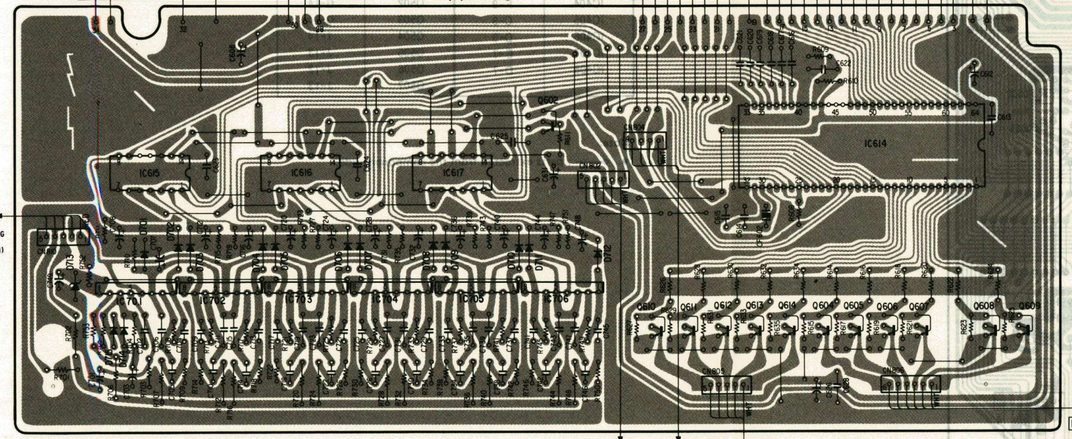
[DISPLAY(A) BOARD]



[CONNECTION(A) BOARD]

[CONNECTION(B) BOARD]

[DISPLAY(B) BOARD]

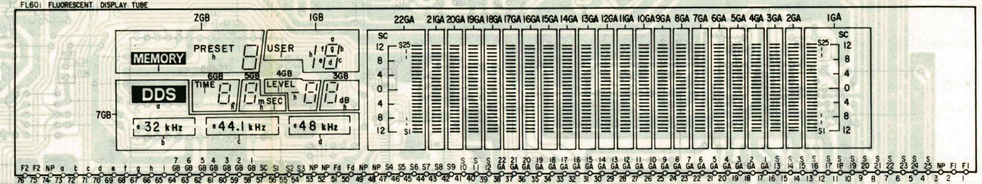


TO ANALOG BOARD (See page 21)

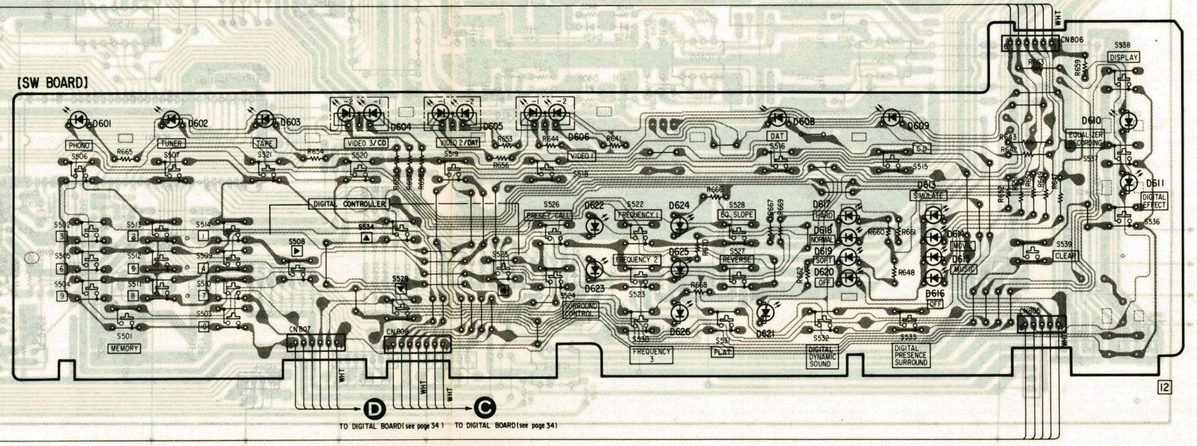
TO ANALOG BOARD (see page 22)

TO DIGITAL BOARD (see page 34)

FL601 FLUORESCENT DISPLAY TUBE



[SW BOARD]



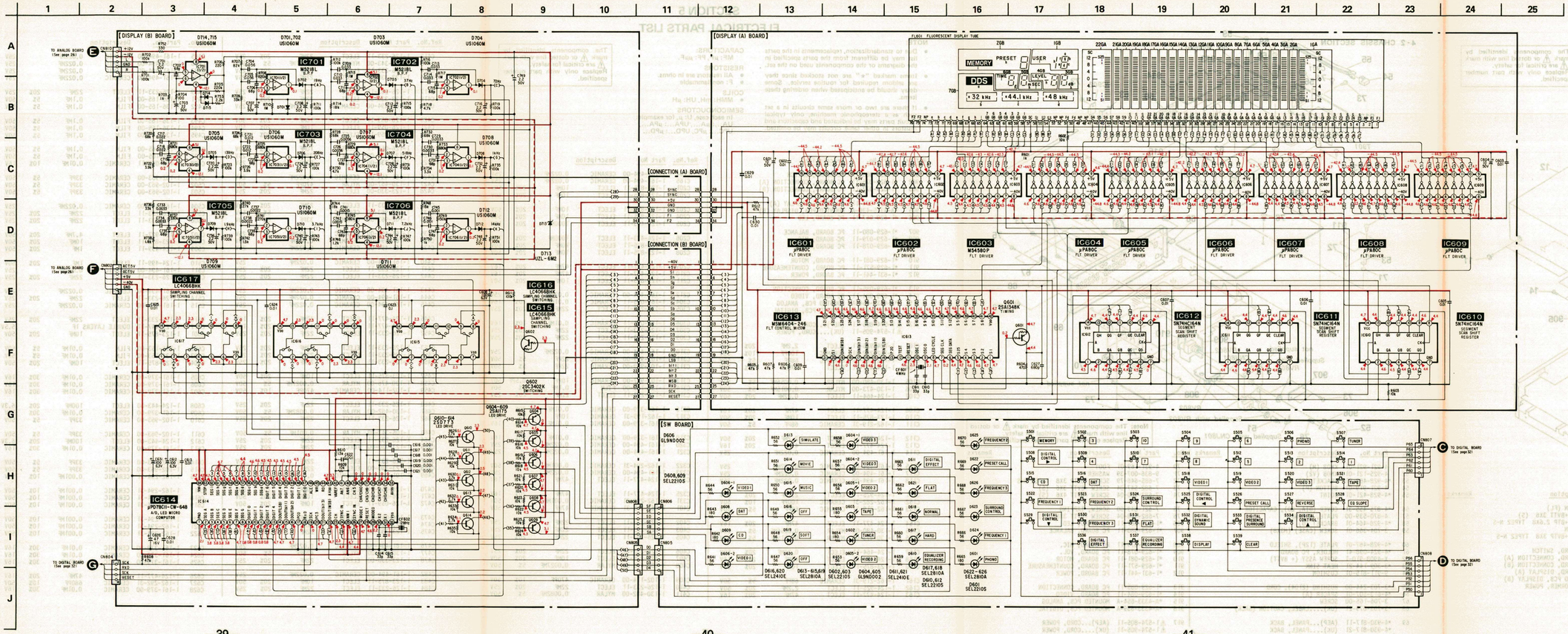
TO DIGITAL BOARD (see page 34)

TO DIGITAL BOARD (see page 34)

Note:

● o—— : parts extracted from the component side.

3-9. SCHEMATIC DIAGRAM —DISPLAY SECTION— • See page 28 for notes.



• Semiconductor Location

Ref. NO.	Location	Ref. No.	Location
D601	G-13	IC601	B-9
D602	G-13	IC602	B-9
D603	G-15	IC603	B-8
D604	G-16	IC604	B-7
D605	G-16	IC605	B-6
D606	G-17	IC606	B-5
D608	G-20	IC607	B-4
D609	G-21	IC608	B-3
D610	G-23	IC609	B-3
D611	H-23	IC610	C-3
D613	H-21	IC611	C-5
D614	I-21	IC612	C-6
D615	I-21	IC613	D-8
D616	I-21	IC614	C-9
D617	H-20	IC615	G-2
D618	I-20	IC616	G-4
D619	I-20	IC617	G-5
D620	I-20	IC701	I-2
D621	I-19	IC702	I-3
D622	H-18	IC703	I-4
D623	I-18	IC704	I-5
D624	H-19	IC705	I-6
D625	I-19	IC706	I-6
D626	I-19		
D701	H-2	Q601	D-6
D702	H-3	Q602	G-6
D703	H-3	Q604	I-9
D704	H-4	Q605	I-9
D705	H-4	Q606	I-10
D706	H-4	Q607	I-10
D707	H-4	Q608	I-11
D708	H-5	Q609	I-11
D709	H-5	Q610	I-7
D710	H-6	Q611	I-8
D711	H-6	Q612	I-8
D712	H-7	Q613	I-8
D713	H-2	Q614	I-9
D714	I-2		
D715	I-2		

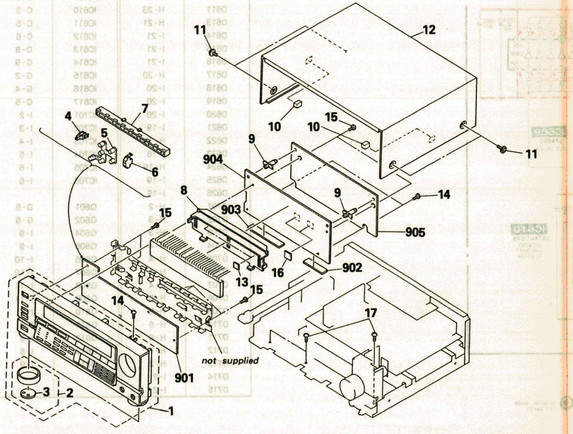
SECTION 4
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- 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.
- Color Indication of Appearance Parts
  Example:
  (RED)...KNOB, BALANCE (WHITE)
  ↑ ↑
  Cabinet's Color Parts Color

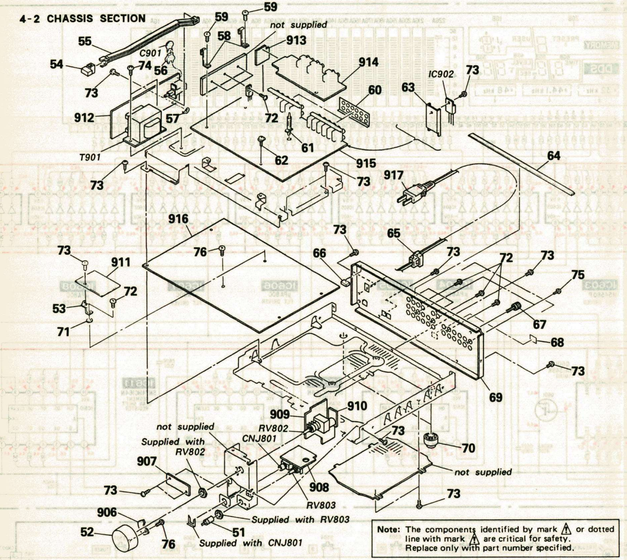
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

4-1 FRONT PANEL SECTION



No.	Part No.	Description	Remarks
1	X-4917-275-1	PANEL (EXP) ASSY, FRONT	
2	X-4917-252-1	PLATE (LEG) ASSY, ORNAMENTAL	
3	4-928-401-01	FELT	
4	*4-928-423-01	HOLDER (B), LED	
5	*4-928-475-01	HOLDER (6 GANG), LED	
6	*4-928-422-01	HOLDER (A), LED	
7	*4-928-424-01	HOLDER (C), LED	
8	*4-928-435-01	HOLDER, FL TUBE	
9	*4-928-098-31	HOLDER, PC BOARD	
10	*4-910-502-01	CUSHION, ANTENNA	
11	3-704-366-01	SCREW (CASE) (M3X8)	
12	4-919-379-02	CASE	
13	*4-921-941-01	CUSHION (FL)	
14	7-682-547-04	SCREW +BVTT 3X6 (S)	
15	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
16	9-911-841-XX	CUSHION	
17	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
901	*1-629-066-11	PC BOARD, SWITCH	
902	*1-629-076-11	PC BOARD, CONNECTION (A)	
903	*1-629-077-11	PC BOARD, CONNECTION (B)	
904	*1-629-074-11	PC BOARD, DISPLAY (A)	
905	*A-4375-430-A	MOUNTED PCB, DISPLAY (B)	
T901	⚠1-449-767-11	TRANSFORMER, POWER	

4-2 CHASSIS SECTION



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	Remarks
51	4-921-921-01	KNOB (M)	
52	4-925-121-01	KNOB (V2)	
53	*4-928-468-01	BRACKET (E)	
54	4-921-919-01	BUTTON (P)	
55	*4-928-421-01	JOINT	
56	*4-875-455-31	COVER (DIA. 20), CAPACITOR	
57	4-870-539-00	PLATE, GROUND	
58	*4-928-464-01	BRACKET (D)	
59	3-704-366-01	SCREW (CASE) (M3X8)	
60	*4-928-467-01	PLATE (12P), SHIELD	
61	*4-924-098-41	HOLDER, PC BOARD	
62	X-4908-910-1	SCREW ASSY (+ BVIT)	
63	*3-309-144-21	HEAT SINK	
64	9-911-815-01	CUSHION	
65	⚠*3-703-244-00	BUSHING (2104), CORD	
66	*4-613-507-01	SPACER (A)	
67	3-706-165-00	SCREW	
68	*3-703-079-21	(UK)....LABEL, CAUTION (BACK)	
69	*4-930-817-11	(AEP)...PANEL, BACK	
	*4-930-817-21	(UK)....PANEL, BACK	
70	4-931-169-01	FOOT	
71	9-836-007-39	WASHER	
72	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
73	7-682-547-04	SCREW +BVTT 3X6 (S)	
74	7-682-560-04	SCREW +BVTT 4X6 (S)	
75	7-621-849-00	SCREW, TAPPING	
76	7-682-548-04	SCREW +BVTT 3X8 (S)	
906	*1-629-067-11	PC BOARD, LED	
907	*1-629-080-11	PC BOARD, BALANCE	
908	*1-629-079-11	PC BOARD, MIC.	
909	*1-629-078-11	PC BOARD, VOL.	
910	*1-629-081-11	PC BOARD, MOTOR	
911	*1-629-571-11	PC BOARD, COUNTEMEASURE	
912	*1-631-441-11	PC BOARD, POWER	
913	*1-629-085-11	PC BOARD, CONNECTION	
914	*1-629-084-11	PC BOARD, VIDEO	
915	*A-4333-654-A	MOUNTED PCB, ANALOG	
916	*A-4333-659-A	MOUNTED PCB, DIGITAL	
917	⚠1-574-805-11	(AEP)...CORD, POWER	
	⚠1-574-905-11	(UK)....CORD, POWER	

SECTION 5
ELECTRICAL PARTS LIST

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: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

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			
901	*1-629-066-11	PC BOARD, SWITCH			
902	*1-629-076-11	PC BOARD, CONNECTION (A)			
903	*1-629-077-11	PC BOARD, CONNECTION (B)			
904	*1-629-074-11	PC BOARD, DISPLAY (A)			
905	*A-4375-430-A	MOUNTED PCB, DISPLAY (B)			
906	*1-629-067-11	PC BOARD, LED			
907	*1-629-080-11	PC BOARD, BALANCE			
908	*1-629-079-11	PC BOARD, MIC.			
909	*1-629-078-11	PC BOARD, VOL.			
910	*1-629-081-11	PC BOARD, MOTOR			
911	*1-629-571-11	PC BOARD, COUNTEMEASURE			
912	*1-631-441-11	PC BOARD, POWER			
913	*1-629-085-11	PC BOARD, CONNECTION			
914	*1-629-084-11	PC BOARD, VIDEO			
915	*A-4333-654-A	MOUNTED PCB, ANALOG			
916	*A-4333-659-A	MOUNTED PCB, DIGITAL			
917	⚠1-574-805-11	(AEP)...CORD, POWER			
	⚠1-574-905-11	(UK)....CORD, POWER			
C101	1-124-925-11	ELECT 2.2MF	20%	50V	
C102	1-162-282-31	CERAMIC 100PF	10%	50V	
C103	1-162-219-31	CERAMIC 68PF	5%	50V	
C104	1-124-477-11	ELECT 47MF	20%	16V	
C105	1-130-480-00	MYLAR 0.0056MF	5%	50V	
C106	1-130-473-00	MYLAR 0.0015MF	5%	50V	
C107	1-124-464-11	ELECT 0.22MF	20%	50V	
C108	1-124-477-11	ELECT 47MF	20%	16V	
C110	1-123-875-11	ELECT 10MF	20%	50V	
C111	1-162-219-31	CERAMIC 68PF	5%	50V	
C112	1-124-925-11	ELECT 2.2MF	20%	50V	
C113	1-124-477-11	ELECT 47MF	20%	16V	
C114	1-161-494-00	CERAMIC 0.022MF		25V	
C115	1-161-494-00	CERAMIC 0.022MF		25V	
C117	1-161-494-00	CERAMIC 0.022MF		25V	
C118	1-161-494-00	CERAMIC 0.022MF		25V	
C151	1-124-925-11	ELECT 2.2MF	20%	50V	
C152	1-162-282-31	CERAMIC 100PF	10%	50V	
C153	1-162-219-31	CERAMIC 68PF	5%	50V	
C154	1-124-477-11	ELECT 47MF	20%	16V	
C155	1-130-480-00	MYLAR 0.0056MF	5%	50V	
C156	1-130-473-00	MYLAR 0.0015MF	5%	50V	
C157	1-124-464-11	ELECT 0.22MF	20%	50V	
C158	1-124-477-11	ELECT 47MF	20%	16V	
C160	1-123-875-11	ELECT 10MF	20%	50V	
C161	1-162-219-31	CERAMIC 68PF	5%	50V	
C162	1-124-925-11	ELECT 2.2MF	20%	50V	
C163	1-124-477-11	ELECT 47MF	20%	16V	
C164	1-161-494-00	CERAMIC 0.022MF		25V	
C165	1-161-494-00	CERAMIC 0.022MF		25V	
C201	1-123-875-11	ELECT 10MF	20%	50V	
C202	1-123-875-11	ELECT 10MF	20%	50V	
C203	1-123-875-11	ELECT 10MF	20%	50V	
C204	1-123-875-11	ELECT 10MF	20%	50V	
C205	1-124-473-11	ELECT 1000MF	20%	10V	
C206	1-124-473-11	ELECT 1000MF	20%	10V	
C207	1-123-875-11	ELECT 10MF	20%	50V	
C208	1-123-875-11	ELECT 10MF	20%	50V	
C209	1-124-477-11	ELECT 47MF	20%	16V	
C210	1-124-477-11	ELECT 47MF	20%	16V	
C211	1-123-875-11	ELECT 10MF	20%	50V	
C212	1-161-494-00	CERAMIC 0.022MF		25V	
C304	1-164-095-11	CERAMIC 0.01MF	10%	16V	
C305	1-126-233-11	ELECT 22MF	20%	25V	
C306	1-164-095-11	CERAMIC 0.01MF	10%	16V	
C307	1-126-233-11	ELECT 22MF	20%	25V	
C309	1-126-233-11	ELECT 22MF	20%	25V	
C310	1-161-494-00	CERAMIC 0.022MF		25V	
C311	1-102-959-00	CERAMIC 22PF	5%	50V	
C312	1-102-959-00	CERAMIC 22PF	5%	50V	
C313	1-102-947-00	CERAMIC 10PF	0.5PF	50V	
C314	1-136-165-00	FILM 0.1MF	5%	50V	
C315	1-126-233-11	ELECT 22MF	20%	25V	
C316	1-161-379-00	CERAMIC 0.01MF	20%	16V	
C317	1-162-199-31	CERAMIC 10PF	5%	50V	
C318	1-161-379-00	CERAMIC 0.01MF	20%	16V	
C319	1-161-379-00	CERAMIC 0.01MF	20%	16V	
C320	1-161-494-00	CERAMIC 0.022MF		25V	
C321	1-161-494-00	CERAMIC 0.022MF		25V	
C322	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C323	1-161-494-00	CERAMIC 0.022MF		25V	
C324	1-124-477-11	ELECT 47MF	20%	16V	
C325	1-124-477-11	ELECT 47MF	20%	16V	
C331	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C401	1-162-215-31	CERAMIC 47PF	5%	50V	
C402	1-126-233-11	ELECT 22MF	20%	25V	
C403	1-126-233-11	ELECT 22MF	20%	25V	
C405	1-126-233-11	ELECT 22MF	20%	25V	
C406	1-126-233-11	ELECT 22MF	20%	25V	
C407	1-123-875-11	ELECT 10MF	20%	50V	
C408	1-130-476-00	MYLAR 0.0027MF	5%	50V	
C409	1-102-114-00	CERAMIC 470PF	10%	50V	
C410	1-126-233-11	ELECT 22MF	20%	25V	
C411	1-130-482-00	MYLAR 0.0082MF	5%	50V	

Ref.No.	Part No.	Description			
C412	1-126-233-11	ELECT 22MF	20%	25V	
C413	1-106-343-00	MYLAR 0.001MF	5%	50V	
C414	1-126-233-11	ELECT 22MF	20%	25V	
C416	1-123-330-00	ELECT 22MF	20%	25V	
C417	1-126-233-11	ELECT 22MF	20%	25V	
C418	1-123-330-00	ELECT 22MF	20%	25V	
C419	1-161-494-00	CERAMIC 0.022MF		25V	
C420	1-126-059-11	ELECT 10MF	20%	50V	
C421	1-126-059-11	ELECT 10MF	20%	50V	
C422	1-126-059-11	ELECT 10MF	20%	50V	
C423	1-126-059-11	ELECT 10MF	20%	50V	
C424	1-123-330-00	ELECT 22MF	20%	25V	
C425	1-123-330-00	ELECT 22MF	20%	25V	
C426	1-161-494-00	CERAMIC 0.022MF		25V	
C427	1-130-467-00	MYLAR 470PF	5%	50V	
C428	1-123-330-00	ELECT 22MF	20%	25V	
C430	1-126-233-11	ELECT 22MF	20%	25V	
C432	1-102-963-00	CERAMIC 33PF	5%	50V	
C433	1-102-963-00	CERAMIC 33PF	5%	50V	
C435	1-161-494-00	CERAMIC 0.022MF		25V	
C436	1-161-494-00	CERAMIC 0.022MF		25V	
C438	1-161-494-00	CERAMIC 0.022MF		25V	
C440	1-161-494-00	CERAMIC 0.022MF		25V	
C441	1-126-233-11	ELECT 22MF	20%	25V	
C442	1-126-233-11	ELECT 22MF	20%	25V	
C443	1-161-494-00	CERAMIC 0.022MF		25V	
C444	1-161-494-00	CERAMIC 0.022MF		25V	
C445	1-161-494-00	CERAMIC 0.022MF		25V	
C446	1-124-477-11	ELECT 47MF	20%	16V	
C447	1-124-477-11	ELECT 47MF	20%	16V	
C452	1-126-233-11	ELECT 22MF	20%	25V	
C453	1-126-233-11	ELECT 22MF	20%	25V	
C455	1-126-233-11	ELECT 22MF	20%	25V	
C456	1-126-233-11	ELECT 22MF	20%	25V	
C457	1-123-875-11	ELECT 10MF	20%	50V	
C458	1-130-476-00	MYLAR 0.0027MF	5%	50V	
C459	1-102-114-00	CERAMIC 470PF	10%	50V	
C460	1-126-233-11	ELECT 22MF	20%	25V	
C461	1-130-482-00	MYLAR 0.0082MF	5%	50V	
C462	1-126-233-11	ELECT 22MF	20%	25V	
C463	1-106-343-00	MYLAR 0.001MF	5%	50V	
C464	1-126-233-11	ELECT 22MF	20%	25V	
C466	1-123-330-00	ELECT 22MF	20%	25V	
C467	1-126-233-11	ELECT 22MF	20%	25V	
C468	1-123-330-00	ELECT 22MF	20%	25V	
C469	1-101-005-00	CERAMIC 0.022MF		50V	
C470	1-126-059-11	ELECT 10MF	20%	50V	
C471	1-126-059-11	ELECT 10MF	20%	50V	
C472	1-126-059-11	ELECT 10MF	20%	50V	
C473	1-126-059-11	ELECT 10MF	20%	50V	
C474	1-123-330-00	ELECT 22MF	20%	25V	
C475	1-123-330-00	ELECT 22MF	20%	25V	
C476	1-161-494-00	CERAMIC 0.022MF		25V	
C477	1-130-467-00	MYLAR 470PF	5%	50V	
C478	1-123-330-00	ELECT 22MF	20%	25V	
C482	1-161-494-00	CERAMIC 0.022MF		25V	
C483	1-123-875-11	ELECT 10MF	20%	50V	
C484	1-126-233-11	ELECT 22MF	20%	25V	
C485	1-161-494-00	CERAMIC 0.022MF		25V	
C486	1-161-494-00	CERAMIC 0.022MF		25V	
C487	1-161-494-00	CERAMIC 0.022MF		25V	
C488	1-161-494-00	CERAMIC 0.022MF		25V	
C489	1-126-233-11	ELECT 22MF	20%	25V	
C491	1-136-165-00	FILM 0.1MF	5%	50V	
C492	1-136-165-00	FILM 0.1MF	5%	50V	
C493	1-136-165-00	FILM 0.1MF	5%	50V	
C494	1-136-165-00	FILM 0.1MF	5%	50V	
C495	1-136-165-00	FILM 0.1MF	5%	50V	
C496	1-136-165-00	FILM 0.1MF	5%	50V	
C497	1-136-165-00	FILM 0.1MF	5%	50V	
C498	1-164-095-11	CERAMIC 0.01MF	10%	16V	
C499	1-102-963-00	CERAMIC 33PF	5%	50V	
C502	1-102-963-00	CERAMIC 33PF	5%	50V	
C503	1-102-963-00	CERAMIC 33PF	5%	50V	
C504	1-161-494-00	CERAMIC 0.022MF		25V	
C505	1-126-233-11	ELECT 22MF	20%	25V	
C506	1-126-233-11	ELECT 22MF	20%	25V	
C507	1-124-927-11	ELECT 4.7MF	20%	50V	
C508	1-123-875-11	ELECT 10MF	20%	50V	
C509	1-124-499-11	ELECT 1MF	20%	50V	
C510	1-124-499-11	ELECT 1MF	20%	50V	
C511	1-161-494-00	CERAMIC 0.022MF		25V	
C512	1-126-233-11	ELECT 22MF	20%	25V	
C513	1-161-494-00	CERAMIC 0.022MF		25V	
C514	1-126-233-11	ELECT 22MF	20%	25V	
C515	1-161-494-00	CERAMIC 0.022MF		25V	
C516	1-126-233-11	ELECT 22MF	20%	25V	
C517	1-125-447-11	DOUBLE LAYERS 1F		5.5V	
C601	1-123-875-11	ELECT 10MF	20%	50V	
C602	1-136-153-00	FILM 0.01MF	5%	50V	
C603	1-136-153-00	FILM 0.01MF	5%	50V	
C604	1-123-875-11	ELECT 10MF	20%	50V	
C605	1-161-379-00	CERAMIC 0.01MF	30%	16V	
C606	1-161-379-00	CERAMIC 0.01MF	30%	16V	
C607	1-161-379-00	CERAMIC 0.01MF	30%	16V	
C608	1-124-443-00	ELECT 100MF	20%	6.3V	
C609	1-161-379-00	CERAMIC 0.01MF	30%	16V	
C610	1-102-963-00	CERAMIC 33PF	5%	50V	
C611	1-102-963-00	CERAMIC 33PF	5%	50V	
C612	1-124-443-00	ELECT 100MF	20%	6.3V	
C613	1-161-379-00	CERAMIC 0.01MF	30%	16V	
C614	1-102-963-00	CERAMIC 33PF	5%	50V	
C615	1-102-963-00	CERAMIC 33PF	5%	50V	
C616	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C617	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C618	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C619	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C620	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C621	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C622	1-162-294-31	CERAMIC 0.001MF	10%	50V	
C623	1-161-379-00	CERAMIC 0.01MF	30%	16V	
C624	1-161-379-00	CERAMIC 0.01MF	30%	16V	
C625	1-161-379-00	CERAMIC 0.01MF	30%	16V	
C626	1-124-477-11	ELECT 47MF	20%	16V	
C627	1-162-292-31	CERAMIC 680PF	10%	50V	
C628	1-161-379-00	CERAMIC 0.01MF	30%	16V	

Ref.No.	Part No.	Description			
C629	1-161-379-00	CERAMIC	0.01MF	30%	16V
C630	1-136-153-00	FILM	0.01MF	5%	50V
C631	1-124-443-00	ELECT	100MF	20%	6.3V
C701	1-124-925-11	ELECT	2.2MF	20%	50V
C702	1-162-219-31	CERAMIC	68PF	5%	50V
C703	1-126-233-11	ELECT	22MF	20%	50V
C704	1-136-162-00	FILM	0.056MF	5%	50V
C705	1-136-162-00	FILM	0.056MF	5%	50V
C706	1-162-219-31	CERAMIC	68PF	5%	50V
C707	1-126-233-11	ELECT	22MF	20%	50V
C708	1-124-925-11	ELECT	2.2MF	20%	50V
C709	1-136-159-00	FILM	0.033MF	5%	50V
C710	1-136-159-00	FILM	0.033MF	5%	50V
C711	1-162-219-31	CERAMIC	68PF	5%	50V
C712	1-124-925-11	ELECT	2.2MF	20%	50V
C713	1-136-159-00	FILM	0.033MF	5%	50V
C714	1-136-159-00	FILM	0.033MF	5%	50V
C715	1-162-219-31	CERAMIC	68PF	5%	50V
C716	1-124-925-11	ELECT	2.2MF	20%	50V
C717	1-136-157-00	FILM	0.022MF	5%	50V
C718	1-136-157-00	FILM	0.022MF	5%	50V
C719	1-162-219-31	CERAMIC	68PF	5%	50V
C720	1-124-925-11	ELECT	2.2MF	20%	50V
C721	1-136-154-00	FILM	0.012MF	5%	50V
C722	1-136-154-00	FILM	0.012MF	5%	50V
C723	1-162-219-31	CERAMIC	68PF	5%	50V
C724	1-124-925-11	ELECT	2.2MF	20%	50V
C725	1-130-480-00	MYLAR	0.0056MF	5%	50V
C726	1-130-480-00	MYLAR	0.0056MF	5%	50V
C727	1-162-219-31	CERAMIC	68PF	5%	50V
C728	1-124-925-11	ELECT	2.2MF	20%	50V
C729	1-130-477-00	MYLAR	0.0033MF	5%	50V
C730	1-130-477-00	MYLAR	0.0033MF	5%	50V
C731	1-162-219-31	CERAMIC	68PF	5%	50V
C732	1-124-925-11	ELECT	2.2MF	20%	50V
C733	1-130-477-00	MYLAR	0.0033MF	5%	50V
C734	1-130-477-00	MYLAR	0.0033MF	5%	50V
C735	1-162-219-31	CERAMIC	68PF	5%	50V
C736	1-124-925-11	ELECT	2.2MF	20%	50V
C737	1-130-475-00	MYLAR	0.0022MF	5%	50V
C738	1-130-475-00	MYLAR	0.0022MF	5%	50V
C739	1-162-219-31	CERAMIC	68PF	5%	50V
C740	1-124-925-11	ELECT	2.2MF	20%	50V
C741	1-130-473-00	MYLAR	0.0015MF	5%	50V
C742	1-130-473-00	MYLAR	0.0015MF	5%	50V
C743	1-162-219-31	CERAMIC	68PF	5%	50V
C744	1-124-925-11	ELECT	2.2MF	20%	50V
C745	1-130-471-00	MYLAR	0.001MF	5%	50V
C746	1-130-471-00	MYLAR	0.001MF	5%	50V
C747	1-162-219-31	CERAMIC	68PF	5%	50V
C748	1-124-925-11	ELECT	2.2MF	20%	50V
C749	1-124-925-11	ELECT	2.2MF	20%	50V
C804	1-123-332-00	ELECT	47MF	20%	16V
C805	1-126-059-11	ELECT	10MF	20%	50V
C807	1-126-059-11	ELECT	10MF	20%	50V
C812	1-126-059-11	ELECT	10MF	20%	50V
C831	1-136-165-00	FILM	0.1MF	5%	50V

Ref.No.	Part No.	Description			
C832	1-124-925-11	ELECT	2.2MF	20%	50V
C833	1-162-294-31	CERAMIC	0.001MF	10%	50V
C834	1-162-219-31	CERAMIC	68PF	5%	50V
C835	1-162-284-31	CERAMIC	150PF	10%	50V
C836	1-124-464-11	ELECT	0.22MF	20%	50V
C837	1-124-477-11	ELECT	47MF	20%	16V
C841	1-136-165-00	FILM	0.1MF	5%	50V
C854	1-123-332-00	ELECT	47MF	20%	16V
C855	1-126-059-11	ELECT	10MF	20%	50V
C857	1-126-059-11	ELECT	10MF	20%	50V
C862	1-126-059-11	ELECT	10MF	20%	50V
C887	1-124-477-11	ELECT	47MF	20%	16V
C901	⚠1-161-744-00	CERAMIC	0.01MF		400V
C902	⚠1-161-744-00	CERAMIC	0.01MF		400V
C903	⚠1-161-741-00	CERAMIC	0.001MF	10%	400V
C904	⚠1-161-741-00	CERAMIC	0.001MF	10%	400V
C905	1-102-394-11	CERAMIC	0.01MF		250V
C906	1-161-744-00	CERAMIC	0.01MF		250V
C907	1-161-744-00	CERAMIC	0.01MF		250V
C908	1-124-563-11	ELECT	2200MF	20%	25V
C909	1-124-563-11	ELECT	2200MF	20%	25V
C910	1-124-887-00	ELECT	3300MF	20%	16V
C911	1-124-919-11	ELECT	220MF	20%	63V
C912	1-124-471-00	ELECT	1000MF	20%	6.3V
C913	1-124-360-00	ELECT	1000MF	20%	16V
C914	1-124-471-00	ELECT	1000MF	20%	6.3V
C915	1-124-360-00	ELECT	1000MF	20%	16V
C916	1-124-472-11	ELECT	470MF	20%	6.3V
C917	1-123-875-11	ELECT	10MF	20%	50V
C918	1-126-233-11	ELECT	22MF	20%	50V
C919	1-126-176-11	ELECT	220MF	20%	6.3V
C920	1-124-120-11	ELECT	220MF	20%	25V
C923	⚠1-161-741-00	CERAMIC	0.001MF	10%	400V
C924	⚠1-161-741-00	CERAMIC	0.001MF	10%	400V
C1001	1-124-465-00	ELECT	0.47MF	20%	50V
C1002	1-126-233-11	ELECT	22MF	20%	25V
CF501	1-567-132-00	VIBLATOR, CERAMIC			
CF601	1-567-192-11	OSCILLATOR, CERAMIC			
CF602	1-567-797-11	VIBRATOR, CERAMIC			
CN006	*1-560-060-00	PIN, CONNECTOR 2P			
CN201	*1-564-506-11	PLUG, CONNECTOR 3P			
CN202	*1-564-506-11	PLUG, CONNECTOR 3P			
CN203	*1-564-506-11	PLUG, CONNECTOR 3P			
CN205	*1-564-508-11	PLUG, CONNECTOR 5P			
CN702	*1-564-339-61	PIN, CONNECTOR 5P			
CN703	*1-564-508-11	PLUG, CONNECTOR 5P			
CN704	*1-564-339-00	PIN, CONNECTOR 5P			
CN705	*1-564-507-11	PLUG, CONNECTOR 4P			
CN706	*1-564-505-11	PLUG, CONNECTOR 2P			
CN801	*1-564-508-11	PLUG, CONNECTOR 5P			
CN802	*1-564-339-81	PIN, CONNECTOR 5P			
CN803	*1-564-341-11	PIN, CONNECTOR 7P			
CN804	*1-564-338-00	PIN, CONNECTOR 4P			
CN805	*1-564-339-61	PIN, CONNECTOR 5P			
CN806	*1-564-340-00	PIN, CONNECTOR 6P			
CN807	*1-564-340-71	PIN, CONNECTOR 6P			
CN808	*1-564-341-71	PIN, CONNECTOR 7P			

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
CN809	*1-564-337-00	PIN, CONNECTOR 3P
CN810	*1-564-339-71	PIN, CONNECTOR 5P
CN901	*1-564-321-00	PIN, CONNECTOR 2P
CN1001	*1-564-507-11	PLUG, CONNECTOR 4P
CNJ002	*1-562-368-11	CONNECTOR, BOARD TO BOARD 8P
CNJ101	1-565-320-11	JACK, PIN 6P (PHONO/TUNER IN,TAPE OUT)
CNJ102	1-565-258-11	JACK, PIN 4P (TAPE IN,DAT OUT)
CNJ103	1-565-320-11	JACK, PIN 6P (VIDEO,DAT IN/OUT)
CNJ104	1-565-320-11	JACK, PIN 6P (VIDEO 1 IN,LINE/MONITOR OUT)
CNJ201	1-565-319-11	JACK, PIN 2P (VIDEO 1 IN,LINE/MONITOR OUT)
CNJ202	1-565-319-11	JACK, PIN 2P (VIDEO 1 OUT,VIDEO 2 IN)
CNJ203	1-565-406-11	JACK, PIN 1P (VIDEO 3/CD IN)
CNJ404	*1-562-516-11	CONNECTOR, BOARD TO BOARD 5P
CNJ501	*1-565-561-11	PIN, CONNECTOR 3P
CNJ801	1-563-347-11	JACK
CNP001	*1-564-344-11	CONNECTOR, BOARD TO BOARD 8P
CNP003	*1-564-529-11	CONNECTOR, BOARD TO BOARD 5P
D101	8-719-912-20	DIODE 1SS120
D301	8-719-912-20	DIODE 1SS120
D302	8-719-912-20	DIODE 1SS120
D401	8-719-912-20	DIODE 1SS120
D402	8-719-912-20	DIODE 1SS120
D451	8-719-912-20	DIODE 1SS120
D452	8-719-912-20	DIODE 1SS120
D501	8-719-912-20	DIODE 1SS120
D502	8-719-912-20	DIODE 1SS120
D503	8-719-200-77	DIODE 10E2N
D505	8-719-912-20	DIODE 1SS120
D506	8-719-912-20	DIODE 1SS120
D507	8-719-912-20	DIODE 1SS120
D508	8-719-912-20	DIODE 1SS120
D509	8-719-912-20	DIODE 1SS120
D510	8-719-912-20	DIODE 1SS120
D511	8-719-912-20	DIODE 1SS120
D512	8-719-912-20	DIODE 1SS120
D514	8-719-912-20	DIODE 1SS120
D515	8-719-912-20	DIODE 1SS120
D516	8-719-912-20	DIODE 1SS120
D517	8-719-000-63	DIODE UZL-6M3
D520	8-719-912-20	DIODE 1SS120
D601	8-719-301-39	DIODE SEL2210S-D
D602	8-719-301-39	DIODE SEL2210S-D
D603	8-719-301-39	DIODE SEL2210S-D
D604	8-719-974-93	DIODE GL-9ED2
D605	8-719-974-93	DIODE GL-9ED2
D606	8-719-974-93	DIODE GL-9ED2
D608	8-719-301-39	DIODE SEL2210S-D
D609	8-719-301-39	DIODE SEL2210S-D
D610	8-719-301-39	DIODE SEL2210S-D
D611	8-719-301-43	DIODE SEL2410E-C
D613	8-719-301-52	DIODE SEL2810A-C
D614	8-719-301-52	DIODE SEL2810A-C
D615	8-719-301-52	DIODE SEL2810A-C
D616	8-719-301-43	DIODE SEL2410E-C
D617	8-719-301-52	DIODE SEL2810A-C
D618	8-719-301-52	DIODE SEL2810A-C
D619	8-719-301-52	DIODE SEL2810A-C

Ref.No.	Part No.	Description
D620	8-719-301-43	DIODE SEL2410E-C
D621	8-719-301-43	DIODE SEL2410E-C
D622	8-719-301-52	DIODE SEL2810A-C
D623	8-719-301-52	DIODE SEL2810A-C
D624	8-719-301-52	DIODE SEL2810A-C
D625	8-719-301-52	DIODE SEL2810A-C
D626	8-719-301-52	DIODE SEL2810A-C
D627	8-719-969-90	DIODE SLP3070K
D701	8-719-912-20	DIODE 1SS120
D702	8-719-912-20	DIODE 1SS120
D703	8-719-912-20	DIODE 1SS120
D704	8-719-912-20	DIODE 1SS120
D705	8-719-912-20	DIODE 1SS120
D706	8-719-912-20	DIODE 1SS120
D707	8-719-912-20	DIODE 1SS120
D708	8-719-912-20	DIODE 1SS120
D709	8-719-912-20	DIODE 1SS120
D710	8-719-912-20	DIODE 1SS120
D711	8-719-912-20	DIODE 1SS120
D712	8-719-912-20	DIODE 1SS120
D713	8-719-000-63	DIODE UZL-6M3
D714	8-719-912-20	DIODE 1SS120
D715	8-719-912-20	DIODE 1SS120
D901	8-719-200-77	DIODE 10E2N
D902	8-719-200-77	DIODE 10E2N
D903	8-719-200-77	DIODE 10E2N
D904	8-719-200-77	DIODE 10E2N
D905	8-719-200-77	DIODE 10E2N
D906	8-719-200-77	DIODE 10E2N
D907	8-719-200-77	DIODE 10E2N
D908	8-719-200-77	DIODE 10E2N
D909	8-719-200-77	DIODE 10E2N
D910	8-719-200-77	DIODE 10E2N
D911	8-719-200-77	DIODE 10E2N
D912	8-719-200-77	DIODE 10E2N
D913	8-719-200-77	DIODE 10E2N
D914	8-719-200-77	DIODE 10E2N
D915	8-719-110-58	DIODE RD22ES-B3
D916	8-719-160-43	DIODE RD9.1F-B2
D917	8-719-200-77	DIODE 10E2N
D918	8-719-110-58	DIODE RD22ES-B3
D919	8-719-200-77	DIODE 10E2N
D920	8-719-200-77	DIODE 10E2N
D921	8-719-200-77	DIODE 10E2N
D922	8-719-933-33	DIODE HZS6A1L
FL601	1-519-492-11	INDICATOR TUBE, FLUORESCENT
IC101	8-759-600-02	IC M5218L
IC102	8-759-601-02	IC M5218P
IC103	8-759-805-13	IC LC7821
IC104	8-759-805-13	IC LC7821
IC201	8-759-208-08	IC TC4052BPHB
IC301	8-752-329-95	IC CXD1243P
IC303	8-759-202-93	IC TC74HC153P
IC304	8-759-600-02	IC M5218L
IC401	8-759-601-02	IC M5218P

Ref.No.	Part No.	Description
IC402	8-759-601-02	IC M5218P
IC403	8-759-202-13	IC SN74HCU04P
IC404	8-759-982-96	IC AK9201-VP
IC405	8-752-331-87	IC CXD1160AP
IC406	8-752-331-87	IC CXD1160AP
IC407	8-759-973-04	IC MSM41464-10RS-K
IC408	8-759-979-94	IC CXD1355Q
IC410	8-759-979-09	IC PCM58P
IC411	8-759-710-73	IC NJM4580L
IC412	8-752-328-72	IC CXD2550P
IC413	8-759-805-35	IC CXD1161P-2
IC414	8-759-601-02	IC M5218P
IC415	8-759-601-02	IC M5218P
IC416	8-759-202-11	IC TC74HC00P
IC417	8-759-203-01	IC TC74HC175P
IC418	8-759-202-32	IC TC74HC163P
IC419	8-759-202-32	IC TC74HC163P
IC420	8-759-908-15	IC TL431CLPB
IC460	8-759-979-09	IC PCM58P
IC461	8-759-710-73	IC NJM4580L
IC501	8-759-321-11	IC HD63B01Y0
IC502	8-759-202-14	IC TC74HC08P
IC503	8-759-600-02	IC M5218L
IC601	1-807-133-11	IC UPA80C
IC602	1-807-133-11	IC UPA80C
IC603	1-759-631-82	IC M54580P
IC604	1-807-133-11	IC UPA80C
IC605	1-807-133-11	IC UPA80C
IC606	1-807-133-11	IC UPA80C
IC607	1-807-133-11	IC UPA80C
IC608	1-807-133-11	IC UPA80C
IC609	1-807-133-11	IC UPA80C
IC610	8-759-001-39	IC MC74HC164N
IC611	8-759-001-39	IC MC74HC164N
IC612	8-759-001-39	IC MC74HC164N
IC613	8-759-979-99	IC MSM6404-246
IC614	8-759-143-53	IC UPD78C11CW-648
IC615	8-759-800-37	IC LC4066BH
IC616	8-759-800-37	IC LC4066BH
IC617	8-759-800-37	IC LC4066BH
IC701	8-759-600-02	IC M5218L
IC702	8-759-600-02	IC M5218L
IC703	8-759-600-02	IC M5218L
IC704	8-759-600-02	IC M5218L
IC705	8-759-600-02	IC M5218L
IC706	8-759-600-02	IC M5218L
IC801	8-759-710-73	IC NJM4580L
IC802	8-759-710-73	IC NJM4580L
IC803	8-759-601-02	IC M5218P
IC804	8-759-820-62	IC LB1639
IC901	8-759-604-33	IC M5F7812
IC902	8-759-604-29	IC M5F7805
IC903	8-759-604-47	IC M5F7905
IC904	8-759-604-51	IC M5F7912
IC905	8-759-604-29	IC M5F7805
IC1001	8-759-202-86	IC TC74HC123P

Ref.No.	Part No.	Description
L201	1-408-080-00	INDUCTOR 100UH
L202	1-408-080-00	INDUCTOR 100UH
L301	1-410-517-11	INDUCTOR 47UH
L302	1-410-517-11	INDUCTOR 47UH
L307	1-410-517-11	INDUCTOR 47UH
L401	1-410-324-11	INDUCTOR 4.7UH
L901	⚠1-424-117-11	FILTER, LINE
LPF401	1-464-869-11	FILTER UNIT, LOW PASS
LPF451	1-464-869-11	FILTER UNIT, LOW PASS
Q102	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q103	8-729-806-28	TRANSISTOR 2SC3402
Q201	8-729-806-28	TRANSISTOR 2SC3402
Q202	8-729-806-28	TRANSISTOR 2SC3402
Q203	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q204	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q205	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q206	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q207	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q302	8-729-900-89	TRANSISTOR DTC144ES
Q401	8-729-100-13	TRANSISTOR 2SC2001
Q402	8-729-107-77	TRANSISTOR 2SC3623-L
Q403	8-729-107-77	TRANSISTOR 2SC3623-L
Q404	8-729-900-63	TRANSISTOR DTA124ES
Q405	8-729-900-63	TRANSISTOR DTA124ES
Q406	8-729-900-63	TRANSISTOR DTA124ES
Q451	8-729-100-13	TRANSISTOR 2SC2001
Q452	8-729-107-77	TRANSISTOR 2SC3623-L
Q453	8-729-107-77	TRANSISTOR 2SC3623-L
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q502	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q503	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q505	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q506	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q507	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q601	8-729-806-10	TRANSISTOR 2SA1348
Q602	8-729-806-28	TRANSISTOR 2SC3402
Q604	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q605	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q606	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q607	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q608	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q609	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q610	8-729-177-32	TRANSISTOR 2SD773
Q611	8-729-177-32	TRANSISTOR 2SD773
Q612	8-729-177-32	TRANSISTOR 2SD773
Q613	8-729-177-32	TRANSISTOR 2SD773
Q614	8-729-177-32	TRANSISTOR 2SD773
Q801	8-729-107-98	TRANSISTOR 2SC3622A-L
Q802	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q851	8-729-107-98	TRANSISTOR 2SC3622A-L
Q901	8-729-920-91	TRANSISTOR 2SB1187-F
Q902	8-729-140-96	TRANSISTOR 2SD774
R101	1-249-441-11	CARBON 100K 5% 1/4W
R102	1-249-417-11	CARBON 1K 5% 1/4W
R103	1-249-441-11	CARBON 100K 5% 1/4W

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			
R104	1-249-416-11	CARBON	820	5%	1/4W
R105	1-247-897-11	CARBON	560K	5%	1/4W
R106	1-249-437-11	CARBON	47K	5%	1/4W
R107	1-249-441-11	CARBON	100K	5%	1/4W
R108	1-249-409-11	CARBON	220	5%	1/4W
R109	1-249-409-11	CARBON	220	5%	1/4W
R110	1-247-897-11	CARBON	560K	5%	1/4W
R111	1-247-897-11	CARBON	560K	5%	1/4W
R112	1-247-897-11	CARBON	560K	5%	1/4W
R113	1-247-897-11	CARBON	560K	5%	1/4W
R114	1-247-897-11	CARBON	560K	5%	1/4W
R115	1-249-417-11	CARBON	1K	5%	1/4W
R116	1-249-417-11	CARBON	1K	5%	1/4W
R117	1-249-417-11	CARBON	1K	5%	1/4W
R118	1-249-417-11	CARBON	1K	5%	1/4W
R119	1-249-417-11	CARBON	1K	5%	1/4W
R120	1-249-413-11	CARBON	470	5%	1/4W
R121	1-249-413-11	CARBON	470	5%	1/4W
R122	1-249-413-11	CARBON	470	5%	1/4W
R123	1-249-413-11	CARBON	470	5%	1/4W
R124	1-247-897-11	CARBON	560K	5%	1/4W
R125	1-247-897-11	CARBON	560K	5%	1/4W
R126	1-247-897-11	CARBON	560K	5%	1/4W
R127	1-247-897-11	CARBON	560K	5%	1/4W
R128	1-249-409-11	CARBON	220	5%	1/4W
R129	1-249-441-11	CARBON	100K	5%	1/4W
R130	1-249-441-11	CARBON	100K	5%	1/4W
R131	1-249-441-11	CARBON	100K	5%	1/4W
R132	1-249-429-11	CARBON	10K	5%	1/4W
R140	1-249-429-11	CARBON	10K	5%	1/4W
R141	1-249-429-11	CARBON	10K	5%	1/4W
R142	1-249-433-11	CARBON	22K	5%	1/4W
R151	1-249-441-11	CARBON	100K	5%	1/4W
R152	1-249-417-11	CARBON	1K	5%	1/4W
R153	1-249-441-11	CARBON	100K	5%	1/4W
R154	1-249-416-11	CARBON	820	5%	1/4W
R155	1-247-897-11	CARBON	560K	5%	1/4W
R156	1-249-437-11	CARBON	47K	5%	1/4W
R157	1-249-441-11	CARBON	100K	5%	1/4W
R158	1-249-409-11	CARBON	220	5%	1/4W
R159	1-249-409-11	CARBON	220	5%	1/4W
R160	1-247-897-11	CARBON	560K	5%	1/4W
R161	1-247-897-11	CARBON	560K	5%	1/4W
R162	1-247-897-11	CARBON	560K	5%	1/4W
R163	1-247-897-11	CARBON	560K	5%	1/4W
R164	1-247-897-11	CARBON	560K	5%	1/4W
R165	1-249-417-11	CARBON	1K	5%	1/4W
R166	1-249-417-11	CARBON	1K	5%	1/4W
R167	1-249-417-11	CARBON	1K	5%	1/4W
R168	1-249-417-11	CARBON	1K	5%	1/4W
R169	1-249-417-11	CARBON	1K	5%	1/4W
R170	1-249-413-11	CARBON	470	5%	1/4W
R171	1-249-413-11	CARBON	470	5%	1/4W
R172	1-249-413-11	CARBON	470	5%	1/4W
R173	1-249-413-11	CARBON	470	5%	1/4W
R174	1-247-897-11	CARBON	560K	5%	1/4W
R175	1-247-897-11	CARBON	560K	5%	1/4W
R176	1-247-897-11	CARBON	560K	5%	1/4W
R177	1-247-897-11	CARBON	560K	5%	1/4W
R178	1-249-409-11	CARBON	220	5%	1/4W
R179	1-249-441-11	CARBON	100K	5%	1/4W
R180	1-249-441-11	CARBON	100K	5%	1/4W
R181	1-249-441-11	CARBON	100K	5%	1/4W
R201	1-247-804-11	CARBON	75	5%	1/4W
R202	1-247-804-11	CARBON	75	5%	1/4W
R203	1-247-804-11	CARBON	75	5%	1/4W
R204	1-247-804-11	CARBON	75	5%	1/4W
R205	1-247-804-11	CARBON	75	5%	1/4W
R206	1-247-804-11	CARBON	75	5%	1/4W
R207	1-249-433-11	CARBON	22K	5%	1/4W
R208	1-249-433-11	CARBON	22K	5%	1/4W
R209	1-249-439-11	CARBON	68K	5%	1/4W
R210	1-249-433-11	CARBON	22K	5%	1/4W
R211	1-249-416-11	CARBON	820	5%	1/4W
R212	1-249-423-11	CARBON	3.3K	5%	1/4W
R213	1-249-426-11	CARBON	5.6K	5%	1/4W
R214	1-249-423-11	CARBON	3.3K	5%	1/4W
R215	1-249-408-11	CARBON	180	5%	1/4W
R216	1-249-438-11	CARBON	56K	5%	1/4W
R217	1-249-437-11	CARBON	47K	5%	1/4W
R218	1-249-408-11	CARBON	180	5%	1/4W
R219	1-249-438-11	CARBON	56K	5%	1/4W
R220	1-249-437-11	CARBON	47K	5%	1/4W
R221	1-249-414-11	CARBON	560	5%	1/4W
R222	1-249-414-11	CARBON	560	5%	1/4W
R223	1-249-410-11	CARBON	270	5%	1/4W
R224	1-249-408-11	CARBON	180	5%	1/4W
R225	1-249-408-11	CARBON	180	5%	1/4W
R301	1-249-407-11	CARBON	150	5%	1/4W
R302	1-249-434-11	CARBON	27K	5%	1/4W
R303	1-249-422-11	CARBON	2.7K	5%	1/4W
R304	1-249-421-11	CARBON	2.2K	5%	1/4W
R305	1-247-862-11	CARBON	20K	5%	1/4W
R310	1-249-421-11	CARBON	2.2K	5%	1/4W
R311	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-249-425-11	CARBON	4.7K	5%	1/4W
R314	1-249-425-11	CARBON	4.7K	5%	1/4W
R315	1-249-425-11	CARBON	4.7K	5%	1/4W
R316	1-249-425-11	CARBON	4.7K	5%	1/4W
R317	1-249-417-11	CARBON	1K	5%	1/4W
R326	1-249-425-11	CARBON	4.7K	5%	1/4W
R401	1-249-401-11	CARBON	47	5%	1/4W
R403	1-249-437-11	CARBON	47K	5%	1/4W
R405	1-249-405-11	CARBON	100	5%	1/4W
R406	1-249-423-11	CARBON	3.3K	5%	1/4W
R407	1-249-427-11	CARBON	6.8K	5%	1/4W
R408	1-249-405-11	CARBON	100	5%	1/4W
R409	1-247-881-00	CARBON	120K	5%	1/4W
R410	1-249-437-11	CARBON	47K	5%	1/4W
R411	1-249-440-11	CARBON	82K	5%	1/4W
R412	1-249-421-11	CARBON	2.2K	5%	1/4W
R413	1-249-437-11	CARBON	47K	5%	1/4W
R414	1-249-421-11	CARBON	2.2K	5%	1/4W

Ref.No.	Part No.	Description			
R415	1-249-421-11	CARBON	2.2K	5%	1/4W
R416	1-259-432-11	CARBON	1.5K	5%	1/6W
R417	1-259-432-11	CARBON	1.5K	5%	1/6W
R418	1-259-436-11	CARBON	2.2K	5%	1/6W
R419	1-259-444-11	CARBON	4.7K	5%	1/6W
R420	1-259-444-11	CARBON	4.7K	5%	1/6W
R421	1-259-468-11	CARBON	47K	5%	1/6W
R423	1-249-393-11	CARBON	10	5%	1/4W
R424	1-259-421-11	CARBON	510	5%	1/6W
R425	1-249-425-11	CARBON	4.7K	5%	1/4W
R426	1-259-465-11	CARBON	36K	5%	1/6W
R427	1-259-450-11	CARBON	8.2K	5%	1/6W
R428	1-249-425-11	CARBON	4.7K	5%	1/4W
R429	1-249-425-11	CARBON	4.7K	5%	1/4W
R433	1-247-903-00	CARBON	1M	5%	1/4W
R434	1-249-417-11	CARBON	1K	5%	1/4W
R439	1-249-405-11	CARBON	100	5%	1/4W
R440	1-249-405-11	CARBON	100	5%	1/4W
R441	1-249-413-11	CARBON	470	5%	1/4W
R442	1-249-405-11	CARBON	100	5%	1/4W
R445	1-249-417-11	CARBON	1K	5%	1/4W
R446	1-249-427-11	CARBON	6.8K	5%	1/4W
R447	1-249-429-11	CARBON	10K	5%	1/4W
R448	1-249-429-11	CARBON	10K	5%	1/4W
R453	1-249-437-11	CARBON	47K	5%	1/4W
R455	1-249-405-11	CARBON	100	5%	1/4W
R456	1-249-423-11	CARBON	3.3K	5%	1/4W
R457	1-249-427-11	CARBON	6.8K	5%	1/4W
R458	1-249-405-11	CARBON	100	5%	1/4W
R459	1-247-881-00	CARBON	120K	5%	1/4W
R460	1-249-437-11	CARBON	47K	5%	1/4W
R461	1-249-440-11	CARBON	82K	5%	1/4W
R462	1-249-421-11	CARBON	2.2K	5%	1/4W
R463	1-249-437-11	CARBON	47K	5%	1/4W
R464	1-249-421-11	CARBON	2.2K	5%	1/4W
R465	1-249-421-11	CARBON	2.2K	5%	1/4W
R466	1-259-432-11	CARBON	1.5K	5%	1/6W
R467	1-259-432-11	CARBON	1.5K	5%	1/6W
R468	1-259-436-11	CARBON	2.2K	5%	1/6W
R469	1-259-444-11	CARBON	4.7K	5%	1/6W
R470	1-259-444-11	CARBON	4.7K	5%	1/6W
R471	1-259-468-11	CARBON	47K	5%	1/6W
R473	1-249-393-11	CARBON	10	5%	1/4W
R474	1-259-421-11	CARBON	510	5%	1/6W
R475	1-249-425-11	CARBON	4.7K	5%	1/4W
R476	1-259-465-11	CARBON	36K	5%	1/6W
R477	1-259-450-11	CARBON	8.2K	5%	1/6W
R478	1-249-425-11	CARBON	4.7K	5%	1/4W
R479	1-249-425-11	CARBON	4.7K	5%	1/4W
R481	1-249-429-11	CARBON	10K	5%	1/4W
R482	1-249-429-11	CARBON	10K	5%	1/4W
R483	1-249-433-11	CARBON	22K	5%	1/4W
R501	1-249-433-11	CARBON	22K	5%	1/4W
R502	1-249-433-11	CARBON	22K	5%	1/4W
R503	1-249-433-11	CARBON	22K	5%	1/4W
R504	1-249-433-11	CARBON	22K	5%	1/4W
R505	1-249-433-11	CARBON	22K	5%	1/4W

Ref.No.	Part No.	Description			
R506	1-249-433-11	CARBON	22K	5%	1/4W
R507	1-249-429-11	CARBON	10K	5%	1/4W
R508	1-249-437-11	CARBON	47K	5%	1/4W
R509	1-249-429-11	CARBON	10K	5%	1/4W
R510	1-249-437-11	CARBON	47K	5%	1/4W
R511	1-249-433-11	CARBON	22K	5%	1/4W
R513	1-249-429-11	CARBON	10K	5%	1/4W
R514	1-249-437-11	CARBON	47K	5%	1/4W
R515	1-249-433-11	CARBON	22K	5%	1/4W
R516	1-249-429-11	CARBON	10K	5%	1/4W
R517	1-249-437-11	CARBON	47K	5%	1/4W
R518	1-249-433-11	CARBON	22K	5%	1/4W
R520	1-249-429-11	CARBON	10K	5%	1/4W
R521	1-249-417-11	CARBON	1K	5%	1/4W
R522	1-249-393-11	CARBON	10	5%	1/4W
R523	1-249-429-11	CARBON	10K	5%	1/4W
R524	1-249-429-11	CARBON	10K	5%	1/4W
R525	1-249-411-11	CARBON	330	5%	1/4W
R526	1-249-411-11	CARBON	330	5%	1/4W
R527	1-249-425-11	CARBON	4.7K	5%	1/4W
R528	1-249-433-11	CARBON	22K	5%	1/4W
R529	1-249-433-11	CARBON	22K	5%	1/4W
R530	1-249-433-11	CARBON	22K	5%	1/4W
R531	1-249-433-11	CARBON	22K	5%	1/4W
R532	1-249-433-11	CARBON	22K	5%	1/4W
R533	1-249-437-11	CARBON	47K	5%	1/4W
R534	1-249-433-11	CARBON	22K	5%	1/4W
R535	1-249-437-11	CARBON	47K	5%	1/4W
R536	1-249-433-11	CARBON	22K	5%	1/4W
R537	1-249-433-11	CARBON	22K	5%	1/4W
R538	1-249-433-11	CARBON	22K	5%	1/4W
R539	1-249-433-11	CARBON	22K	5%	1/4W
R540	1-249-433-11	CARBON	22K	5%	1/4W
R541	1-249-433-11	CARBON	22K	5%	1/4W
R542	1-249-433-11	CARBON	22K	5%	1/4W
R543	1-249-433-11	CARBON	22K	5%	1/4W
R544	1-249-437-11	CARBON	47K	5%	1/4W
R545	1-249-433-11	CARBON	22K	5%	1/4W
R546	1-249-437-11	CARBON	47K	5%	1/4W
R547	1-249-433-11	CARBON	22K	5%	1/4W
R548	1-249-437-11	CARBON	47K	5%	1/4W
R549	1-249-433-11	CARBON	22K	5%	1/4W
R550	1-249-437-11	CARBON	47K	5%	1/4W
R551	1-249-433-11	CARBON	22K	5%	1/4W
R552	1-249-437-11	CARBON	47K	5%	1/4W
R553	1-249-421-11	CARBON	2.2K	5%	1/4W
R554	1-249-430-11	CARBON	12K	5%	1/4W
R555	1-249-430-11	CARBON	12K	5%	1/4W
R556	1-249-430-11	CARBON	12K	5%	1/4W
R557	1-249-433-11	CARBON	22K	5%	1/4W
R558	1-249-433-11	CARBON	22K	5%	1/4W
R559	1-249-433-11	CARBON	22K	5%	1/4W
R560	1-249-433-11	CARBON	22K	5%	1/4W
R561	1-249-430-11	CARBON	12K	5%	1/4W
R562	1-249-420-11	CARBON	1.8K	5%	1/4W
R563	1-249-429-11	CARBON	10K	5%	1/4W
R564	1-249-429-11	CARBON	10K	5%	1/4W

Ref.No.	Part No.	Description			
R565	1-249-429-11	CARBON	10K	5%	1/4W
R566	1-249-433-11	CARBON	22K	5%	1/4W
R567	1-249-429-11	CARBON	10K	5%	1/4W
R568	1-249-441-11	CARBON	100K	5%	1/4W
R569	1-249-429-11	CARBON	10K	5%	1/4W
R570	1-249-433-11	CARBON	22K	5%	1/4W
R601	1-249-417-11	CARBON	1K	5%	1/4W
R602	1-249-429-11	CARBON	10K	5%	1/4W
R603	1-249-429-11	CARBON	10K	5%	1/4W
R604	1-249-413-11	CARBON	470	5%	1/4W
R605	1-249-437-11	CARBON	47K	5%	1/4W
R606	1-249-437-11	CARBON	47K	5%	1/4W
R607	1-249-437-11	CARBON	47K	5%	1/4W
R608	1-249-437-11	CARBON	47K	5%	1/4W
R609	1-249-429-11	CARBON	10K	5%	1/4W
R610	1-249-419-11	CARBON	1.5K	5%	1/4W
R611	1-249-441-11	CARBON	100K	5%	1/4W
R612	1-249-437-11	CARBON	47K	5%	1/4W
R614	1-249-429-11	CARBON	10K	5%	1/4W
R615	1-249-429-11	CARBON	10K	5%	1/4W
R616	1-249-429-11	CARBON	10K	5%	1/4W
R617	1-249-429-11	CARBON	10K	5%	1/4W
R618	1-249-429-11	CARBON	10K	5%	1/4W
R619	1-249-429-11	CARBON	10K	5%	1/4W
R620	1-249-429-11	CARBON	10K	5%	1/4W
R621	1-249-429-11	CARBON	10K	5%	1/4W
R622	1-249-429-11	CARBON	10K	5%	1/4W
R623	1-249-429-11	CARBON	10K	5%	1/4W
R624	1-249-429-11	CARBON	10K	5%	1/4W
R625	1-249-429-11	CARBON	10K	5%	1/4W
R626	1-249-422-11	CARBON	2.7K	5%	1/4W
R627	1-249-429-11	CARBON	10K	5%	1/4W
R628	1-249-422-11	CARBON	2.7K	5%	1/4W
R629	1-249-429-11	CARBON	10K	5%	1/4W
R630	1-249-422-11	CARBON	2.7K	5%	1/4W
R631	1-249-429-11	CARBON	10K	5%	1/4W
R632	1-249-422-11	CARBON	2.7K	5%	1/4W
R633	1-249-429-11	CARBON	10K	5%	1/4W
R634	1-249-422-11	CARBON	2.7K	5%	1/4W
R635	1-249-429-11	CARBON	10K	5%	1/4W
R641	1-249-402-11	CARBON	56	5%	1/4W
R642	1-249-408-11	CARBON	180	5%	1/4W
R643	1-249-408-11	CARBON	180	5%	1/4W
R644	1-249-402-11	CARBON	56	5%	1/4W
R647	1-249-402-11	CARBON	56	5%	1/4W
R648	1-249-402-11	CARBON	56	5%	1/4W
R649	1-249-402-11	CARBON	56	5%	1/4W
R650	1-249-402-11	CARBON	56	5%	1/4W
R651	1-249-402-11	CARBON	56	5%	1/4W
R652	1-249-402-11	CARBON	56	5%	1/4W
R653	1-249-402-11	CARBON	56	5%	1/4W
R654	1-249-408-11	CARBON	180	5%	1/4W
R655	1-249-408-11	CARBON	180	5%	1/4W
R656	1-249-402-11	CARBON	56	5%	1/4W
R657	1-249-402-11	CARBON	56	5%	1/4W
R658	1-249-402-11	CARBON	56	5%	1/4W
R659	1-249-402-11	CARBON	56	5%	1/4W

Ref.No.	Part No.	Description			
R660	1-249-402-11	CARBON	56	5%	1/4W
R661	1-249-402-11	CARBON	56	5%	1/4W
R662	1-249-402-11	CARBON	56	5%	1/4W
R663	1-249-402-11	CARBON	56	5%	1/4W
R665	1-249-408-11	CARBON	180	5%	1/4W
R666	1-249-402-11	CARBON	56	5%	1/4W
R667	1-249-402-11	CARBON	56	5%	1/4W
R668	1-249-402-11	CARBON	56	5%	1/4W
R669	1-249-402-11	CARBON	56	5%	1/4W
R670	1-249-402-11	CARBON	56	5%	1/4W
R671	1-249-408-11	CARBON	180	5%	1/4W
R701	1-249-441-11	CARBON	100K	5%	1/4W
R702	1-249-441-11	CARBON	100K	5%	1/4W
R703	1-249-417-11	CARBON	1K	5%	1/4W
R704	1-249-405-11	CARBON	100	5%	1/4W
R705	1-247-887-00	CARBON	220K	5%	1/4W
R706	1-249-409-11	CARBON	220	5%	1/4W
R707	1-249-440-11	CARBON	82K	5%	1/4W
R708	1-247-901-11	CARBON	820K	5%	1/4W
R709	1-249-435-11	CARBON	33K	5%	1/4W
R710	1-247-903-00	CARBON	1M	5%	1/4W
R711	1-249-441-11	CARBON	100K	5%	1/4W
R712	1-249-441-11	CARBON	100K	5%	1/4W
R713	1-247-903-00	CARBON	1M	5%	1/4W
R714	1-249-432-11	CARBON	18K	5%	1/4W
R715	1-249-441-11	CARBON	100K	5%	1/4W
R716	1-249-441-11	CARBON	100K	5%	1/4W
R717	1-247-903-00	CARBON	1M	5%	1/4W
R718	1-249-425-11	CARBON	4.7K	5%	1/4W
R719	1-249-441-11	CARBON	100K	5%	1/4W
R720	1-249-439-11	CARBON	68K	5%	1/4W
R721	1-247-899-11	CARBON	680K	5%	1/4W
R722	1-249-424-11	CARBON	3.9K	5%	1/4W
R723	1-249-441-11	CARBON	100K	5%	1/4W
R724	1-249-439-11	CARBON	68K	5%	1/4W
R725	1-247-899-11	CARBON	680K	5%	1/4W
R726	1-249-424-11	CARBON	3.9K	5%	1/4W
R727	1-249-441-11	CARBON	100K	5%	1/4W
R728	1-249-439-11	CARBON	68K	5%	1/4W
R729	1-247-899-11	CARBON	680K	5%	1/4W
R730	1-249-425-11	CARBON	4.7K	5%	1/4W
R731	1-249-441-11	CARBON	100K	5%	1/4W
R732	1-249-439-11	CARBON	68K	5%	1/4W
R733	1-247-899-11	CARBON	680K	5%	1/4W
R734	1-249-423-11	CARBON	3.3K	5%	1/4W
R735	1-249-441-11	CARBON	100K	5%	1/4W
R736	1-249-435-11	CARBON	33K	5%	1/4W
R737	1-247-891-00	CARBON	330K	5%	1/4W
R738	1-249-420-11	CARBON	1.8K	5%	1/4W
R739	1-249-441-11	CARBON	100K	5%	1/4W
R740	1-249-434-11	CARBON	27K	5%	1/4W
R741	1-247-889-00	CARBON	270K	5%	1/4W
R742	1-249-419-11	CARBON	1.5K	5%	1/4W
R743	1-249-441-11	CARBON	100K	5%	1/4W
R744	1-249-432-11	CARBON	18K	5%	1/4W
R745	1-247-885-00	CARBON	180K	5%	1/4W
R746	1-249-418-11	CARBON	1.2K	5%	1/4W

Ref.No.	Part No.	Description				
R747	1-249-441-11	CARBON	100K	5%	1/4W	
R748	1-249-431-11	CARBON	15K	5%	1/4W	
R749	1-247-883-00	CARBON	150K	5%	1/4W	
R750	1-249-417-11	CARBON	1K	5%	1/4W	
R751	1-249-441-11	CARBON	100K	5%	1/4W	
R752	1-249-411-11	CARBON	330	5%	1/4W	
R753	1-249-421-11	CARBON	2.2K	5%	1/4W	
R801	1-259-450-11	CARBON	8.2K	5%	1/6W	
R802	1-259-450-11	CARBON	8.2K	5%	1/6W	
R803	1-259-450-11	CARBON	8.2K	5%	1/6W	
R804	1-249-409-11	CARBON	220	5%	1/4W	
R805	1-259-436-11	CARBON	2.2K	5%	1/6W	
R808	1-259-476-11	CARBON	100K	5%	1/6W	
R810	1-259-428-11	CARBON	1K	5%	1/6W	
R811	1-259-476-11	CARBON	100K	5%	1/6W	
R812	1-259-428-11	CARBON	1K	5%	1/6W	
R813	1-249-417-11	CARBON	1K	5%	1/4W	
R815	1-249-433-11	CARBON	22K	5%	1/4W	
R816	1-249-409-11	CARBON	220	5%	1/4W	
R817	1-249-409-11	CARBON	220	5%	1/4W	
R831	1-249-429-11	CARBON	10K	5%	1/4W	
R832	1-249-417-11	CARBON	1K	5%	1/4W	
R833	1-249-441-11	CARBON	100K	5%	1/4W	
R834	1-249-412-11	CARBON	390	5%	1/4W	
R835	1-249-441-11	CARBON	100K	5%	1/4W	
R836	1-249-416-11	CARBON	820	5%	1/4W	
R839	1-249-437-11	CARBON	47K	5%	1/4W	
R840	1-249-429-11	CARBON	10K	5%	1/4W	
R841	⚠1-212-865-00	FUSIBLE	22	5%	1/4W	F
R842	⚠1-212-865-00	FUSIBLE	22	5%	1/4W	F
R851	1-259-450-11	CARBON	8.2K	5%	1/6W	
R852	1-259-450-11	CARBON	8.2K	5%	1/6W	
R853	1-259-450-11	CARBON	8.2K	5%	1/6W	
R854	1-249-409-11	CARBON	220	5%	1/4W	
R855	1-259-436-11	CARBON	2.2K	5%	1/6W	
R858	1-259-476-11	CARBON	100K	5%	1/6W	
R860	1-259-428-11	CARBON	1K	5%	1/6W	
R861	1-259-476-11	CARBON	100K	5%	1/6W	
R862	1-259-428-11	CARBON	1K	5%	1/6W	
R863	1-249-417-11	CARBON	1K	5%	1/4W	
R901	1-249-426-11	CARBON	5.6K	5%	1/4W	
R902	1-249-429-11	CARBON	10K	5%	1/4W	
R903	⚠1-212-942-00	FUSIBLE	2.2	5%	1/2W	F
R904	⚠1-212-942-00	FUSIBLE	2.2	5%	1/2W	F
R905	⚠1-217-469-00	FUSIBLE	1	5%	1W	F
R906	⚠1-212-873-11	FUSIBLE	47	5%	1/4W	F
R908	1-249-429-11	CARBON	10K	5%	1/4W	
R909	1-249-429-11	CARBON	10K	5%	1/4W	
R910	1-249-401-11	CARBON	47	5%	1/4W	
R911	1-249-417-11	CARBON	1K	5%	1/4W	
R1001	1-249-441-11	CARBON	100K	5%	1/4W	
RV801	1-238-101-41	RES, VAR, SLIDE 100K				
RV802	1-238-423-11	RES, VAR, CARBON 100K/100K/10K				
RV803	1-237-883-11	RES, VAR, CARBON 50K				
RX302	8-759-977-72	GP1F31R				
RX303	8-759-977-72	GP1F31R				

Ref.No.	Part No.	Description
S501	1-554-303-21	SWITCH, KEY BOARD (MEMORY)
S502	1-554-303-21	SWITCH, KEY BOARD (3)
S503	1-554-303-21	SWITCH, KEY BOARD (10)
S504	1-554-303-21	SWITCH, KEY BOARD (9)
S505	1-554-303-21	SWITCH, KEY BOARD (6)
S506	1-554-303-21	SWITCH, KEY BOARD (PHONO)
S507	1-554-303-21	SWITCH, KEY BOARD (TUNER)
S508	1-554-303-21	SWITCH, KEY BOARD (▶)
S509	1-554-303-21	SWITCH, KEY BOARD (4)
S510	1-554-303-21	SWITCH, KEY BOARD (7)
S511	1-554-303-21	SWITCH, KEY BOARD (8)
S512	1-554-303-21	SWITCH, KEY BOARD (5)
S513	1-554-303-21	SWITCH, KEY BOARD (2)
S514	1-554-303-21	SWITCH, KEY BOARD (1)
S515	1-554-303-21	SWITCH, KEY BOARD (CD)
S516	1-554-303-21	SWITCH, KEY BOARD (DAT)
S518	1-554-303-21	SWITCH, KEY BOARD (VIDEO 1)
S519	1-554-303-21	SWITCH, KEY BOARD (VIDEO 2/DAT)
S520	1-554-303-21	SWITCH, KEY BOARD (VIDEO 3/CD)
S521	1-554-303-21	SWITCH, KEY BOARD (TAPE)
S522	1-554-303-21	SWITCH, KEY BOARD (FREQUENCY 1)
S523	1-554-303-21	SWITCH, KEY BOARD (FREQUENCY 2)
S524	1-554-303-21	SWITCH, KEY BOARD (SURROUND CONTROL)
S525	1-554-303-21	SWITCH, KEY BOARD (◀)
S526	1-554-303-21	SWITCH, KEY BOARD (PRESET CALL)
S527	1-554-303-21	SWITCH, KEY BOARD (REVERSE)
S528	1-554-303-21	SWITCH, KEY BOARD (EQ SLOPE)
S529	1-554-303-21	SWITCH, KEY BOARD (▼)
S530	1-554-303-21	SWITCH, KEY BOARD (FREQUENCY 3)
S531	1-554-303-21	SWITCH, KEY BOARD (FLAT)
S532	1-554-303-21	SWITCH, KEY BOARD (DIGITAL DYNAMIC SOUND)
S533	1-554-303-21	SWITCH, KEY BOARD (DIGITAL PRESENCE SURROUND)
S534	1-554-303-21	SWITCH, KEY BOARD (▲)
S536	1-554-303-21	SWITCH, KEY BOARD (DIGITAL EFECT)
S537	1-554-303-21	SWITCH, KEY BOARD (EQUALIZER RECORDING)
S538	1-554-303-21	SWITCH, KEY BOARD (DISPLAY)
S539	1-554-303-21	SWITCH, KEY BOARD (CLEAR)
S901	⚠1-554-920-11	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)
T901	⚠1-449-767-11	TRANSFORMER, POWER
X301	1-577-269-11	VIBRATOR, CRYSTAL
X401	1-577-305-11	VIBRATOR, CRYSTAL

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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