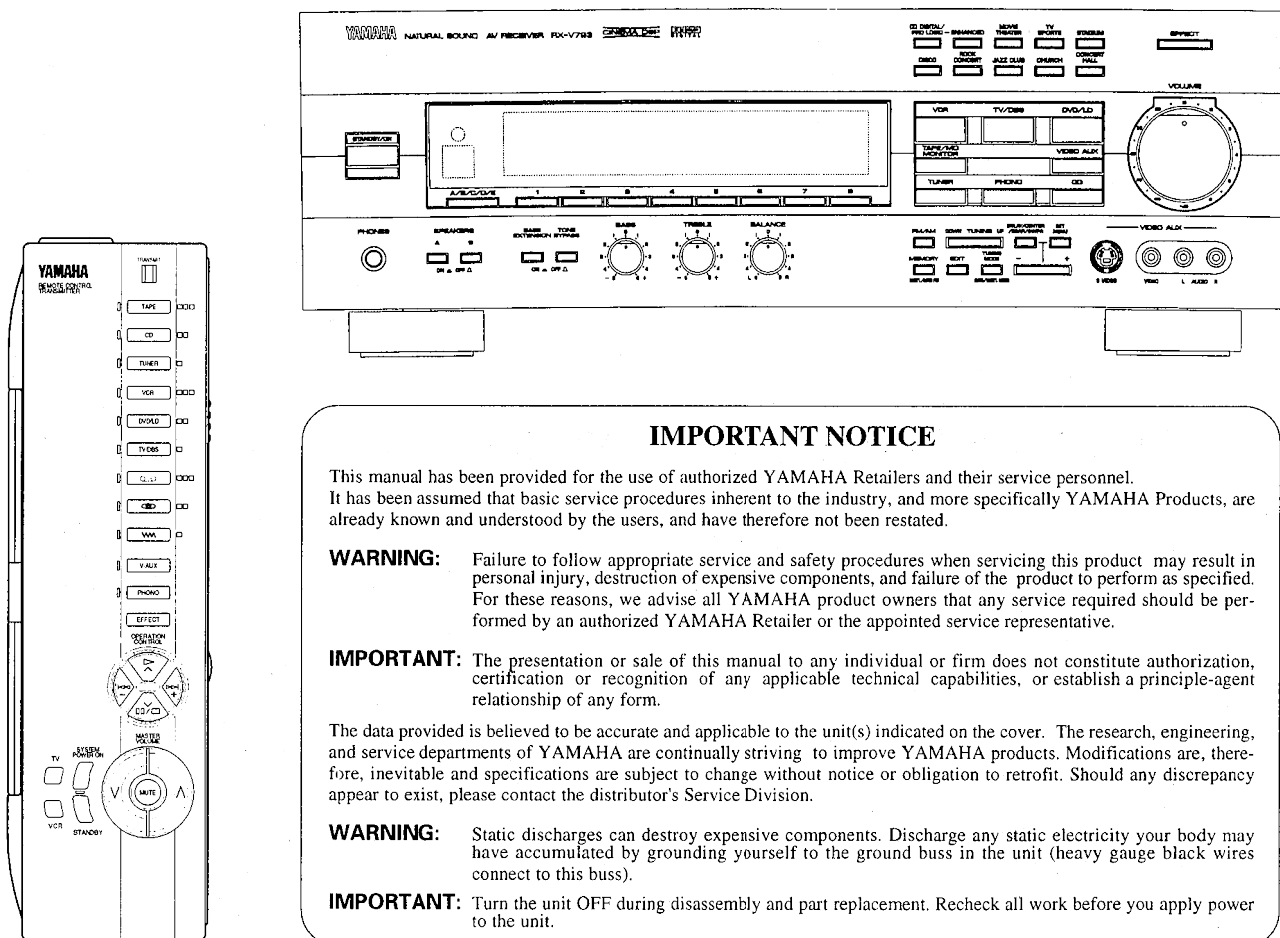


# AV RECEIVER

# RX-V793/R-V1103

## SERVICE MANUAL



### IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

**WARNING:** Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

**IMPORTANT:** The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

**WARNING:** Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

**IMPORTANT:** Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

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**YAMAHA**  
YAMAHA CORPORATION  
P.O.Box1, Hamamatsu, Japan  
1.8K-098 Printed in Japan '97.12

## ■ TO SERVICE PERSONNEL

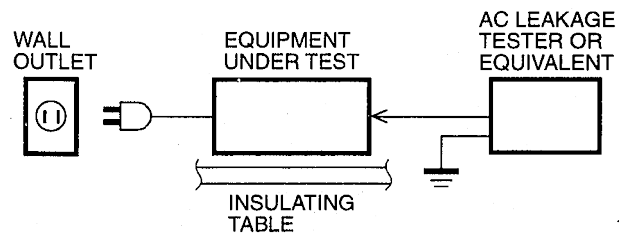
### 1. Critical Components Information.

Components having special characteristics are marked  $\triangle$  and must be replaced with parts having specifications equal to those originally installed.

### 2. Leakage Current Measurement (For 120V Models Only).

When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

- Meter impedance should be equivalent to 1500 ohm shunted by 0.15 $\mu$ F.
- Leakage current must not exceed 0.5mA.
- Be sure to test for leakage with the AC plug in both polarities.



## WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

**DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!**

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.



75Ω UNBAL

FM ANT

GND

AM ANT

REMOTE CONTROL IN OUT

DIGITAL IN (AC/DIGITAL IN)

COAXIAL

OPTICAL

ON SCREEN SELECTOR

MONITOR IN OUT

VIDEO SIGNAL IN OUT

AUDIO SIGNAL IN OUT

PHONO

CD

TAPE

REW

EJECT

DIV/D

TVDSBS

VCR IN OUT

MAIN LEVEL

CAUTION: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

YAMAHA MODEL NO. RX-V793 120 VOLTS 300 WATTS

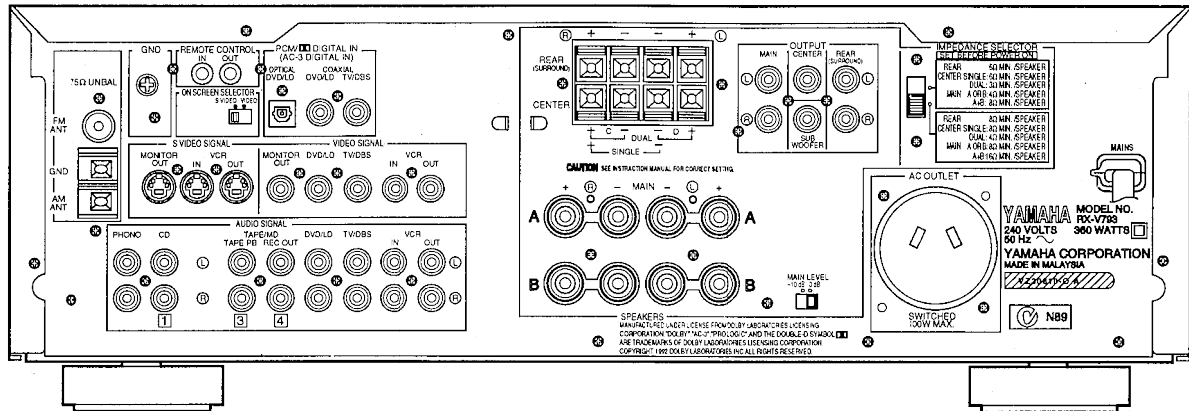
YAMAHA CORPORATION MADE IN MALAYSIA

**REAR PANEL CONNECTIONS:**

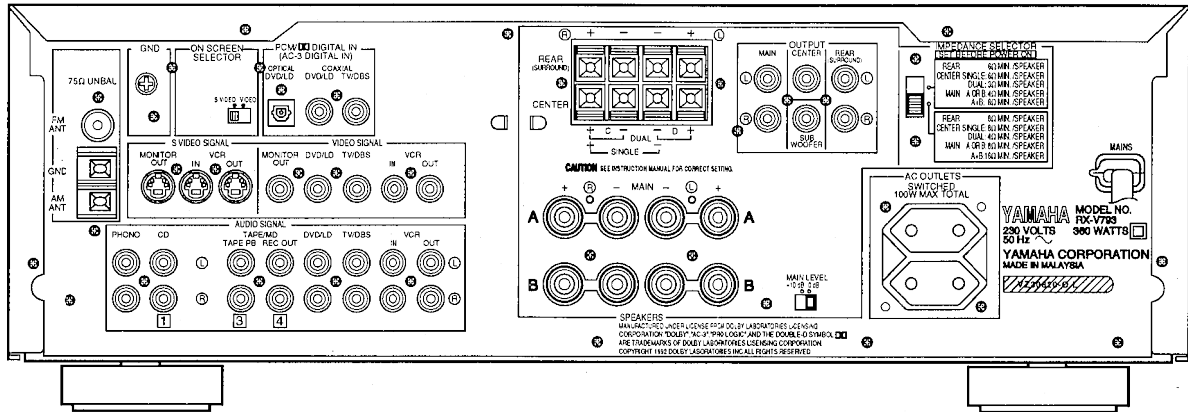
- 75Ω UNBAL:** FM ANT, GND
- VIDEO SIGNAL:** MONITOR OUT, MONITOR IN, VCR OUT, VCR IN, DIVD OUT, DIVD IN, TVD OUT, TVD IN
- AUDIO SIGNAL:** PHONO, CD, TAPE, DVD, DIVD, TVD, VCR, OUT, IN
- REMOTE CONTROL:** OUT
- ON SCREEN SELECTOR:** SWD, VCR
- DIGITAL IN:** OPTICAL DIVD, COAXIAL DIVD
- MAIN:** CENTER, REAR, SUB, SPEAKERS
- CAUTION:** SEE INSTRUCTION MANUAL FOR CORRECT SETTING. FOR UNUSUAL CONNECTIONS, SEE REPAIRER OR LOCAL DISTRIBUTORS.
- WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO PLAIN OR MOISTURE.

[illegible]

▼RX-V793/R-V1103 A model



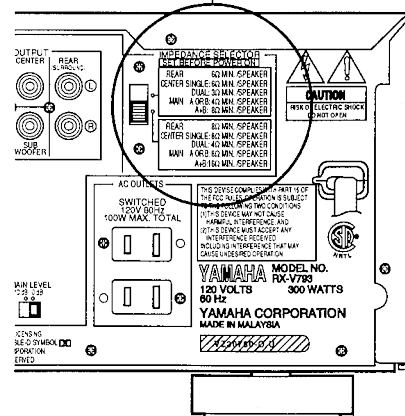
▼RX-V793 L model



**WARNING**

Do not change the IMPEDANCE SELECTOR switch setting while the power to this unit is on, otherwise this unit may be damaged.

IMPEDANCE SELECTOR



## ■ SPECIFICATIONS

### ■ AUDIO SECTION

#### Minimum RMS Output Power per Channel

##### RX-V793

MAIN, 20Hz to 20kHz, 0.04% THD, 8Ω ..... 80W+80W

CENTER, 20Hz to 20kHz, 0.07% THD, 8Ω ..... 80W

REAR, 20Hz to 20kHz, 0.07% THD, 8Ω ..... 80W+80W

##### R-V1103

MAIN, 1kHz, 0.07% THD, 8Ω ..... 100W+100W

CENTER, 1kHz, 0.07% THD, 8Ω ..... 100W

REAR, 1kHz, 0.07% THD, 8Ω ..... 100W+100W

#### Maximum Power per Channel (R, T models only)

MAIN, 1kHz, EIAJ, 10% THD, 8Ω ..... 125W+125W

CENTER, 1kHz, EIAJ, 10% THD, 8Ω ..... 125W

REAR, 1kHz, EIAJ, 10% THD, 8Ω ..... 125W+125W

#### Dynamic Power per Channel (IHF)

MAIN, 8/6/4/2Ω ..... 100/125/150/175W

#### Dynamic Headroom (U, C, models only)

8Ω ..... 0.96dB

#### IEC Power (L model only)

MAIN, 1kHz, 0.04% THD, 8Ω ..... 95W

#### Power Band Width

MAIN, 0.09% THD, 40W/8Ω ..... 10Hz to 50kHz

#### Damping Factor

MAIN, 20Hz to 20kHz, (SP.A) 8Ω ..... 80 or more

#### Input Sensitivity/Impedance

PHONO MM ..... 2.5mV/47kΩ

CD, etc ..... 150mV/47kΩ

#### Maximum Input Signal Level

PHONO MM, 1kHz, 0.04% THD ..... 110mV

CD, etc, 1kHz, 0.5% THD (Effect on) ..... 2.2V

#### Output Level/Impedance

REC OUT ..... 150mV/2.7kΩ

PRE OUT (MAIN) ..... 2.6V/1.1kΩ

SUB WOOFER (MAIN SP : SMALL) ..... 4.0V/1.2kΩ

#### Headphone Jack Rated Output/Impedance

1kHz, 150mV, 8Ω ..... 0.5V/390Ω

#### Frequency Response (20Hz to 20kHz)

CD, etc, MAIN ..... 0±0.5dB

#### RIAA Equalization Deviation (20Hz to 20kHz)

PHONO MM ..... 0±0.5dB

#### Total Harmonic Distortion (20Hz to 20kHz)

PHONO MM to REC OUT (1V) ..... 0.02%

CD, etc to MAIN SP OUT (40W/8Ω) ..... 0.025%

#### Signal-to-Noise Ratio (IHF-A-Network)

PHONO MM, Input Shorted (5mV) REC OUT ..... 86dB

CD, etc, Input Shorted, SP OUT (Effect off) ..... 96dB

#### Residual Noise (IHF-A-Network)

MAIN, SP OUT ..... 170μV

#### Channel Separation (Vol. -30dB, Effect off)

PHONO MM, Input Shorted, 1kHz/10kHz ..... 60dB/55dB

CD, etc, Input 5.1kΩ Shorted, 1kHz/10kHz ..... 60dB/45dB

#### Tone Control Characteristics

BASS : Boost/cut ..... ±10dB (50Hz)

Turnover Frequency ..... 350Hz

TREBLE : Boost/cut ..... ±10dB (20kHz)

Turnover Frequency ..... 3.5kHz

#### Filter Characteristics

MAIN, REAR SP SMALL : H.P.F. .... fc = 90Hz, 12dB/oct.

SUB WOOFER : L.P.F. .... fc = 90Hz, 18dB/oct.

#### Bass Extension

..... +6dB (50Hz)

#### Gain Tracking Error (0dB to -60dB)

..... 3dB

#### Tuner Output Level/Impedance

FM (100% mod.)

1kHz U, C, models ..... 500mV/2.2kΩ

40kHz Dev. R, T, A, L models ..... 400mV/2.2kΩ

AM (30% mod. 1kHz) ..... 150mV/2.2kΩ

### ■ FM SECTION

#### Tuning Range

U, C models ..... 87.5 to 107.9MHz

A, L models ..... 87.50 to 108.00MHz

R, T models ..... 87.5 to 108.0/87.50 to 108.00MHz

#### 50dB Quieting Sensitivity (IHF, 75 Ω)

Mono ..... 1.55μV (15.1dBf)

Stereo ..... 21μV (37.7dBf)

#### Image Response Ratio

U, C, R, T models ..... 45dB

A, L models ..... 80dB

#### IF Response Ratio

U, C, R, T models ..... 70dB

A, L models ..... 80dB

#### Spurious Response Ratio

..... 70dB

#### AM Suppression Ratio

..... 55dB

#### Capture Ratio

..... 1.5dB

#### Alternate Channel Selectivity

U, C, R, T models ..... 85dB

#### Selectivity (two signals, 40kHz Dev.)

A, L models ..... 70dB

#### Signal-to-Noise Ratio

Mono/Stereo (IHF)

U, C, R, T models ..... 80/75dB

Mono/Stereo (DIN-weighted, 40kHz Dev.)

A, L models ..... 75/70dB

#### Harmonic Distortion

Mono/Stereo (1kHz) ..... 0.1/0.2%

#### Stereo Separation

1kHz ..... 50dB

#### Frequency Response

20Hz to 15kHz ..... 0±1.5dB

### ■ AM SECTION

#### Tuning Range

U, C models ..... 530 to 1,710kHz

A, L models ..... 531 to 1,611kHz

R, T models ..... 530 to 1,710/531 to 1,611kHz

#### Usable Sensitivity

..... 100μV/m

#### Selectivity

..... 32dB

#### Signal-to-Noise Ratio

..... 50dB

#### Image Response Ratio

..... 40dB

#### Spurious Response Ratio

..... 50dB

#### Harmonic Distortion (1kHz)

..... 0.3%

## ■ VIDEO SECTION


<b>Video Signal Type</b>	
U, C models .....	NTSC
A, L models .....	PAL
R, T models .....	NTSC/PAL
<b>Video Signal Level</b> .....	1Vp-p/75Ω
<b>S-Video Signal Level</b>	
Y .....	1Vp-p/75Ω
C .....	0.286Vp-p/75Ω
<b>Maximum Input Level</b> .....	1.5Vp-p
<b>Signal-to-Noise Ratio</b> .....	50dB
<b>Monitor Output Frequency Response</b> .....	5Hz~10MHz, -3dB

## ■ GENERAL

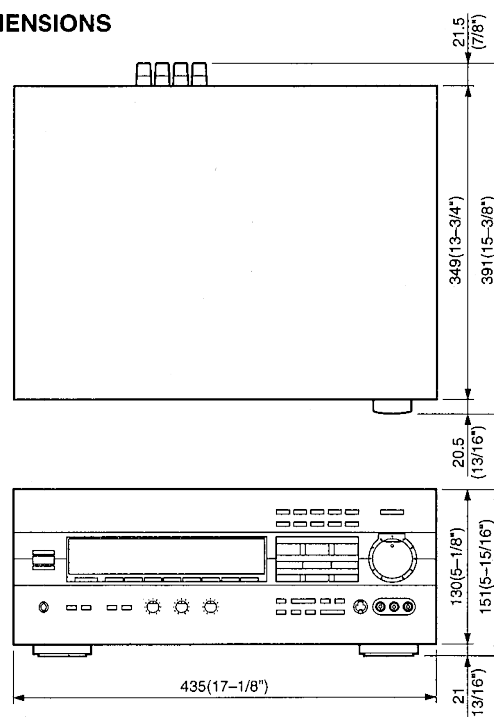
<b>Power Supply</b>	
U, C models .....	AC 120V, 60Hz
A model .....	AC 240V, 50Hz
L model .....	AC 230V, 50Hz
T model .....	AC 220V, 50Hz
R model .....	AC 110/120/220/240V, 50/60Hz
<b>Power Consumption</b>	
U model .....	300W
C model .....	350W/420VA
A, L, R, T models .....	350W
<b>Maximum Power Consumption (R model only)</b> .....	690W
<b>AC Outlets</b>	
U, C, L, R, T models, Switched x 2 .....	100W max (Total)
A model, Switched x 1 .....	100W max
<b>Dimensions (W x H x D)</b> .....	435 x 151 x 391mm (17-1/8" x 5-15/16" x 15-3/8")
<b>Weight</b>	
U, C models .....	12.0kg (26 lbs 7oz)
R, T, A, L models .....	13.0kg (28 lbs 11oz)
<b>Accessories</b> .....	AM loop antenna x 1 Indoor FM antenna x 1 Remote Control Transmitter x 1 Label, Remote Control x 1 Battery (size "AA", "R06") x 2

\* Specifications subject to change without notice.

U .....	USA model
C .....	Canadian model
A .....	Australian model
L .....	Singapore model
R .....	General model
T .....	China model

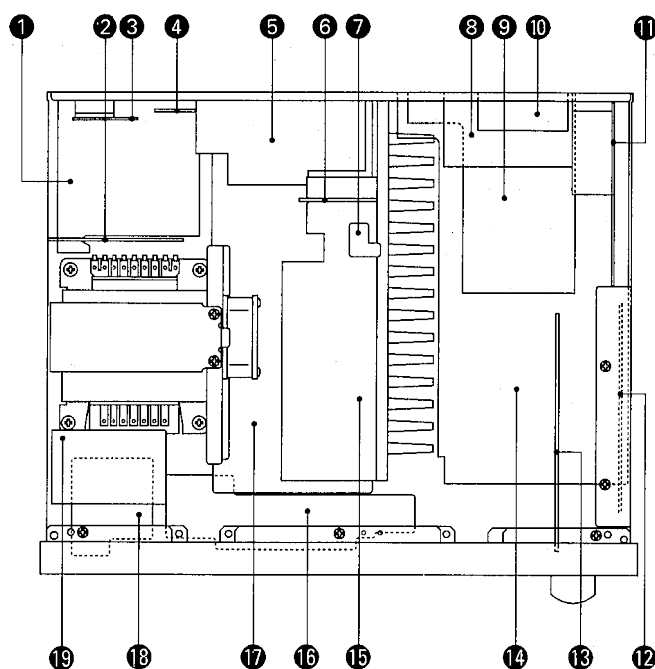
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## ● DIMENSIONS



Units : mm (inch)

## INTERNAL VIEW



- ① P. C. B. INPUT (3)
- ② P. C. B. OPERATION (6)
- ③ P. C. B. INPUT (4) (R model)
- ④ P. C. B. MAIN (7)
- ⑤ P. C. B. MAIN (4)
- ⑥ P. C. B. MAIN (5)
- ⑦ P. C. B. MAIN (8)
- ⑧ P. C. B. OPERATION (4)
- ⑨ P. C. B. INPUT (2)
- ⑩ P. C. B. OPERATION (8) (U,C,A models)
- ⑪ P. C. B. TUNER
- ⑫ P. C. B. DSP
- ⑬ P. C. B. OPERATION (7)
- ⑭ P. C. B. INPUT (1)
- ⑮ P. C. B. MAIN (3)
- ⑯ P. C. B. OPERATION (5)
- ⑰ P. C. B. MAIN (1)
- ⑱ P. C. B. MAIN (2)
- ⑲ P. C. B. MAIN (6)

## DISASSEMBLY PROCEDURES (Remove parts in disassembly order as numbered.)

### 1. Removal of Top Cover

- a. Remove 4 screws (①), and 4 screws (②) in Fig. 1.

### 2. Removal of Bottom Cover

- a. Remove 6 screws (③) in Fig. 1.

### 3. Removal of Front Panel

- a. Remove 4 knobs.  
b. Remove 6 screws (④) in Fig. 1.

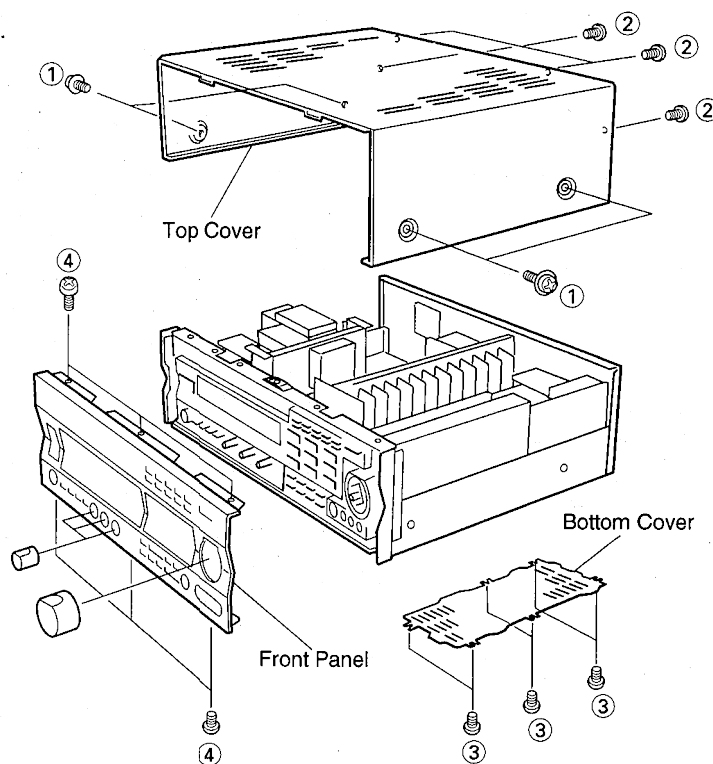


Fig. 1

## ■ SELF DIAGNOSIS FUNCTION

### 1. PURPOSE AND OPERATION

The RX-V793/R-V1103 has a Self Diagnosis Function to locate a faulty part, if any, by inspecting and taking measurements.

There are 15 main items in the diagnostic menu and some of them have sub-menu items as listed below.

No.	MAIN MENU	SUB MENU	CONTENTS
1	THROUGH	---	5ch. THROUGH
2	FRONT THROUGH	---	DIGITAL PS-RAM THR. FRONT MIX ON(5ch.)
3	PRO LOGIC	1. CENTER WIDE 2. CENTER NORMAL 3. CENTER PHANTOM 4. EFFECT OFF	PRO LOGIC PRO LOGIC PRO LOGIC ANALOG L/R THROUGH
4	AC3F THROUGH	---	
5	MANUAL TEST	1. TEST LEFT 2. TEST CENTER 3. TEST RIGHT 4. TEST RIGHT SUR. 5. TEST LEFT SUR. 6. TEST LFE 7. TEST FRONT LEFT 8. TEST FRONT RIGHT 9. TEST ALL	TEST NOISE TEST NOISE TEST NOISE TEST NOISE TEST NOISE TEST NOISE TEST NOISE TEST NOISE TEST NOISE 5ch. ALL
6	DISPLAY/EFFECT OFF	1. EFFECT OFF 2. VFD ALL 3. VFD OFF	ANALOG L/R THROUGH ANALOG L/R THROUGH ANALOG L/R THROUGH
7	FACTORY PRESET	1. KEEP DATA 2. FACTORY PRESET	KEEP LAST CONDITION KEEP LAST CONDITION
8	AD DATA CHECK	1. KEY(CH0 - CH4) 2. PROTECTION/THERMO 3. SW/REC OUT/METER	SAME as MENU No.1 SAME as MENU No.1 SAME as MENU No.1
9	VERSION INFORMATION	1. MODEL/MARKET 2. ROM(PROGRAM)	KEEP LAST CONDITION KEEP LAST CONDITION
10	MENU EXIT & DEMO	1->2 DEMO DISPLAY	---
11	DSP STATES	1. PORT/FS/AC3 MODE 2. SUB-CODE	KEEP LAST CONDITION KEEP LAST CONDITION
12	CENTER SPEAKER	1. CENTER WIDE 2. CENTER NORMAL 3. CENTER PHANTOM	KEEP LAST CONDITION KEEP LAST CONDITION KEEP LAST CONDITION
13	REAR SPEAKER	1. REAR LARGE 2. REAR SMALL	KEEP LAST CONDITION KEEP LAST CONDITION
14	MAIN SPEAKER	1. MAIN LARGE 2. MAIN SMALL	KEEP LAST CONDITION KEEP LAST CONDITION
15	LFE/BASS OUT	1. BASS SUB WOOFER 2. BASS MAIN 3. BASS BOTH	KEEP LAST CONDITION KEEP LAST CONDITION KEEP LAST CONDITION

## 2. BEGINNING AND CANCELLATION

### (1) STARTING UP THE FUNCTION AND THE DISPLAY

There are two ways to start up. One is by using the front panel keys, another is by using the remote control transmitter. After starting up, the menu No. 1 is worked.

#### A. How to start test mode

##### ● In case of using front panel keys

While pressing and hold both the "ROCK CONCERT" and "JAZZ CLUB" keys, press and hold power button for approx. 2 seconds.

#### B. Settings for start-up of diagnostic program

The settings used when starting the diagnostic program are as follows.

##### 1. EFFECT LEVEL :

CHANNEL	CENTER	REAR	SWFR	LFE
LEVEL (dB)	0	0	0	0

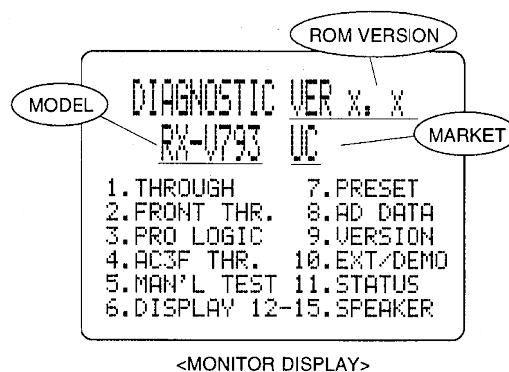
- 2. MUTING : OFF
- 3. INPUT (VIDEO) : DVD/LD (DVD/LD)
- 4. CENTER SPEAKER : WIDE
- 5. REAR SPEAKER : LARGE
- 6. MAIN SPEAKER : LARGE
- 7. LFE/BASS OUT : SWFR

#### C. Start-up display

The diagnostic menu list appears on the monitor screen and the information of the protection function appears on the front panel display of the main unit.

##### ● Monitor display

The version information including the list of diagnostic menu items, the model, the applicable market and the ROM version appear on the monitor display. For details of the version information, refer to (9) Version under 5. CONTENTS OF DIAGNOSIS FUNCTION.



### ● FL display at start-up of diagnostic program

When the diagnostic program has started, the history (\*2) of the protection function (\*1) is displayed. If the protection function has been activated in the past, the type and voltage value are displayed. After a few seconds the diagnosis function menu will appear.

- (\*1) If some faulty condition is detected in the excess current, the power source or the DC, the power will be turned off automatically.
- (\*2) To clear the history of the protection function, select "PRESET DAT" in the diagnosis menu No.7 as described later.

### ● History of protection function

Each case of the history of the protection function is displayed as shown below.

1 DVD/LD *NO PROTEC*

The protection function has not been activated.

1 DVD/LD *I PROTEC*

The protection function has been activated due to an overcurrent. If the power is turned on, it will turn off immediately until the overcurrent cause is removed.

1 DVD/LD *PS PRT : 0*

The protection function has been activated due to an abnormality in the power supply. In this state, even if the power is turned on, it will turn off after 0.5 second. The deviation from normal is indicated in the AD value. For more information on this value, refer to 5. CONTENTS OF DIAGNOSIS FUNCTION on pages 16 and 17.

1 DVD/LD *DC PRT : 0*

The protection function has been activated due to a DC voltage at the amplifier output. In this state, even if the power is turned on, it will turn off after 2 seconds. The deviation from normal is indicated in the AD value. For more information on this value, refer to 5. CONTENTS OF DIAGNOSIS FUNCTION on pages 16 and 17.

1 DVD/LD *TMP PROTEC*

If the protection function worked because of abnormal temperature of heatsink section, the power turns off instantly. For more information on this value, refer to 5. CONTENTS OF DIAGNOSIS FUNCTION on pages 16 and 17.



### 3. OPERATION AND DISPLAY WHEN STARTING DIAGNOSIS FUNCTION

#### (1) Selection of diagnostic menu

The diagnostic menu and the sub-menu can be selected by using the front panel keys of the main unit or the remote control unit.

##### ● Selection by using the front panel keys

Use the "TUNING UP DOWN" key to select the diagnostic menu and the "SET MENU" key to select the sub-menu.

##### ● Selection by using the remote control unit

The diagnostic menu items No.1 through No.10 correspond to the sound field program keys No. 1 through No.10 and No.11 to the "EFFECT" key. The sub-menu changes at every push of the same key.

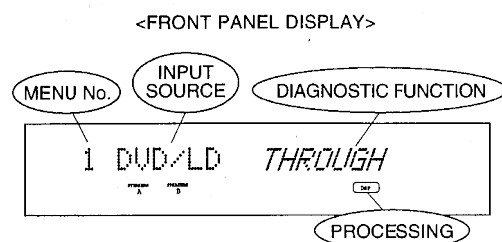
It is possible to call the sub-menu of other than the above diagnostic menu items. Refer to the table below for the key corresponding to each diagnostic menu item.

No.	MAIN MENU	REMOTE CONTROL KEYS
1	THROUGH	PRO LOGIC/DOLBY DIGITAL
2	FRONT THROUGH	ENHANCED
3	PRO LOGIC	MOVIE THEATER
4	AC3F THROUGH	TV SPORTS
5	MANUAL TEST	STADIUM
6	DISPLAY/EFFECT OFF	DISCO
7	FACTORY PRESET	ROCK CONCERT
8	AD DATA CHECK	JAZZ CLUB
9	VERSION INFORMATION	CHURCH
10	MENU EXIT & DEMO	CONCERT HALL
11	DSP STATES	EFFECT

No.	MAIN MENU	SUB MENU	REMOTE CONTROL KEY	REMOTE CODE
1	THROUGH	---	TAPE PLAY	7A-00
2	FRONT THROUGH	---	TAPE ◀◀	7A-01
3	PRO LOGIC	2. CENTER NORMAL	TAPE ▶▶	7A-02
4	AC3F THROUGH	---	TAPE STOP	7A-03
5	MANUAL TEST	9. TEST ALL	TAPE REC	7A-04
6	DISPLAY/EFFECT OFF	2. VFD ALL/EFFECT OFF	TAPE A/B	7A-06
12	CENTER SPEAKER	1. CENTER WIDE 2. CENTER NORMAL 3. CENTER PHANTOM	TAPE DIRA CD PLAY CD PAUSE	7A-07 7A-08 7A-09
13	REAR SPEAKER	1. REAR LARGE 2. REAR SMALL	CD ▶▶ CD ◀◀	7A-0A 7A-0B
14	MAIN SPEAKER	1. MAIN LARGE 2. MAIN SMALL	CD ▶▶ CD ◀◀	7A-0C 7A-0D
15	LFE/BASS OUT	1. BASS SUB WOOFER 2. BASS MAIN 3. BASS BOTH	PRESET + PRESET - A/B/C/D/E	7A-10 7A-11 7A-12

#### (2) Menu display

The contents of the diagnostic function are displayed on the display panel.



#### (3) Other functions available while diagnosis function is active.

Listed below are the other functions available while the diagnosis function is active.

- Selecting input source
- Adjusting effect level
- Adjusting master volume
- Muting on/ off
- Turning power off

#### 4. CANCELING DIAGNOSIS FUNCTION

To cancel the diagnosis function, turn off the power. When the power is turned on the next time, the normal mode will start.

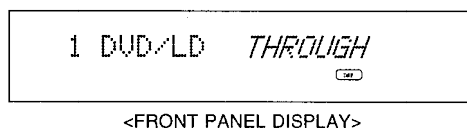
\* When the diagnosis mode is canceled by using the diagnostic menu No.10 and set back to the normal mode, the photographing mode will appear on the front panel display. When the input is set to the "TUNER", all the segments of the tuning meter will light up. Also, when it is set to DVD/LD or TV/DBS, the display will be the same as when an AC3 signal is input.

#### 5. CONTENTS OF DIAGNOSIS FUNCTION

This section describes the contents of the self diagnosis function in detail. Here the output channel names and the IC names are referred to as follows.

Main L	-> L	Main R	-> R	Center	-> C
Rear L/R	-> RL/RR	LFE	-> LFE		
YSS245F	-> HL3	YSS243F	-> AC3F		

##### (1) THROUGH



There are two signal passages, one is for the analog input signal and the other is for the digital input signal. They are switched from one to the other automatically with a priority placed for the digital signal over the analog signal. When digital signals are input, the digital optical input has a priority over the digital coaxial input.

##### ● Digital signal passage

###### <DOLBY DIGITAL>

- The signals from L, R, C and LFE are output through the AC3F.
- The signals from RL/RR are output through the AC3F and then the DSP section of HL3 as the L/R signals.

###### <PCM DIGITAL>

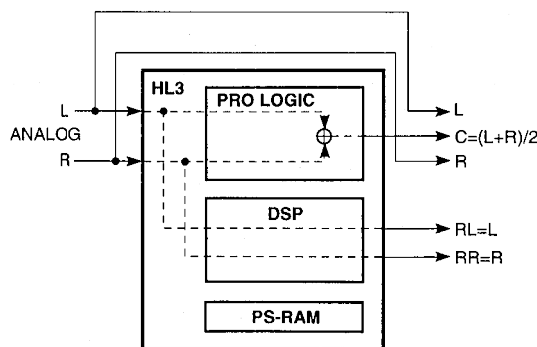
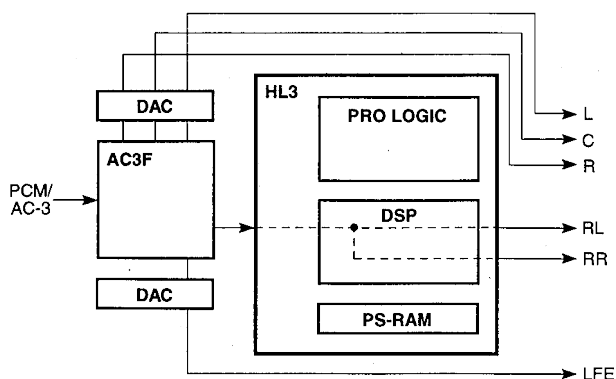
- The signals from L/R and C/LFE are output through the AC3F as the L/R signals.
- The signals from RL/RR are output through the AC3F and then the DSP section of HL3 as the L/R signals.



##### ● Analog signal passage

(when there is no digital signal input)

- The signals from L/R are output through the analog bypass.
- The signals from C are output through the PRO LOGIC section of HL3 as  $(L + R)/2$ .
- The signals from RL/RR are output through the DSP section of HL3 as the L/R signals.



**(2) FRONT THROUGH**

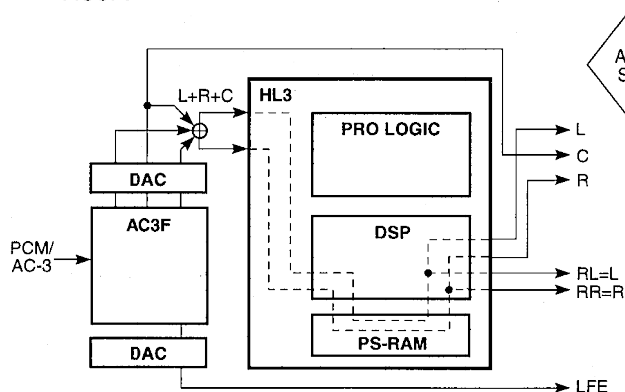
&lt;FRONT PANEL DISPLAY&gt;

2 DVD/LD FRONT THR

There are two signal passages, one is for the analog input signal and the other is for the digital input signal. They are switched from one to the other automatically with a priority placed for the digital signal over the analog signal. When digital signals are input, the digital optical input has a priority over the digital coaxial input.

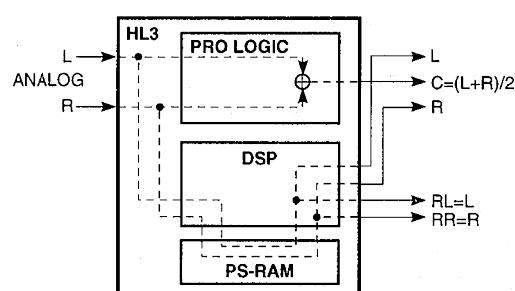
**● Digital signal passage**

- The signals from L, R, RL and RR are output through the DSP section of AC3F to HL3 as the L+R+C signal respectively.
- The signals from C and LFE are output through the AC3F.


**● Analog signal passage**

(when there is no digital signal input)

- The signals from L, R, RL and RR are output through the DSP section of HL3.
- The signals from C are output through the PRO LOGIC section of HL3 as (L+R)/2.

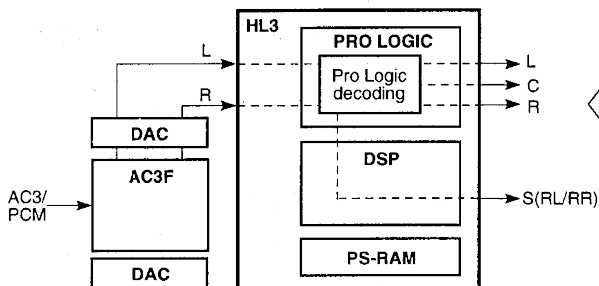
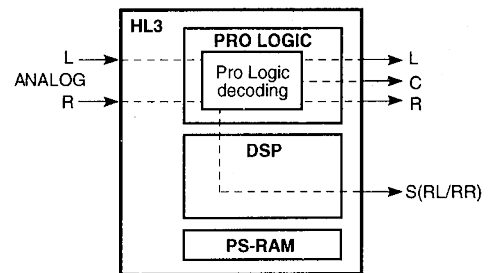


**(3) PRO LOGIC**

&lt;FRONT PANEL DISPLAY&gt;

3 DVD/LD P.LGC WIDE

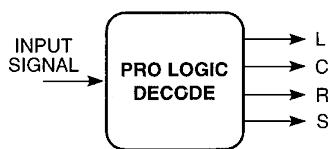
The PRO LOGIC function is activated when the AUTO INPUT BALANCE function is turned off. The digital and analog switching is available automatically with a priority placed for the digital signal over the analog signal. When digital signals are input, the digital optical input has a priority over the digital coaxial input.

**● PRO LOGIC for digital signal****● PRO LOGIC for analog signal****○ Sub-menu**

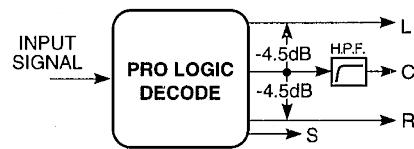
The following 4 settings are selectable; "Normal", "Wide" and "Phantom" for the center speaker and the "Effect off" (for the analog input only).

**P.LGC WIDE**

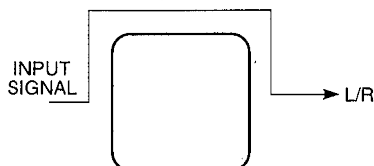
When the "Wide" setting is selected

**P.LGC NRML**

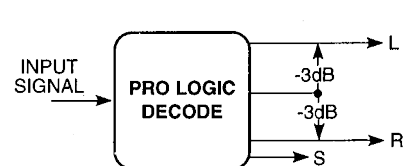
When the "Normal" setting is selected

**E.OFF ANLG**

When the analog L/R signals are output through the bypass

**P.LGC PNTM**

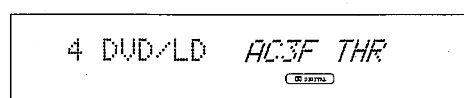
When the "Phantom" setting is selected



□ PRO LOGIC turn off.

**(4) AC3F THROUGH**

&lt;FRONT PANEL DISPLAY&gt;



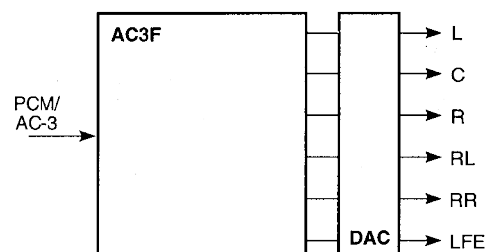
The signals from all the channels are output through the AC3F and the analog input signals are muted.

**<DOLBY DIGITAL>**

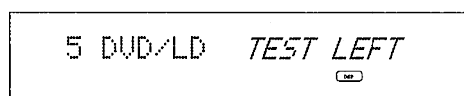
The Dolby digital signals from L, R, RL, RR, C and LFE are output through the AC3F.

**<PCM DIGITAL>**

The PCM digital signals input as L/R signals are output to L/R, C/LFE and RL/RR channels respectively.

**(5) MANUAL TEST TONE**

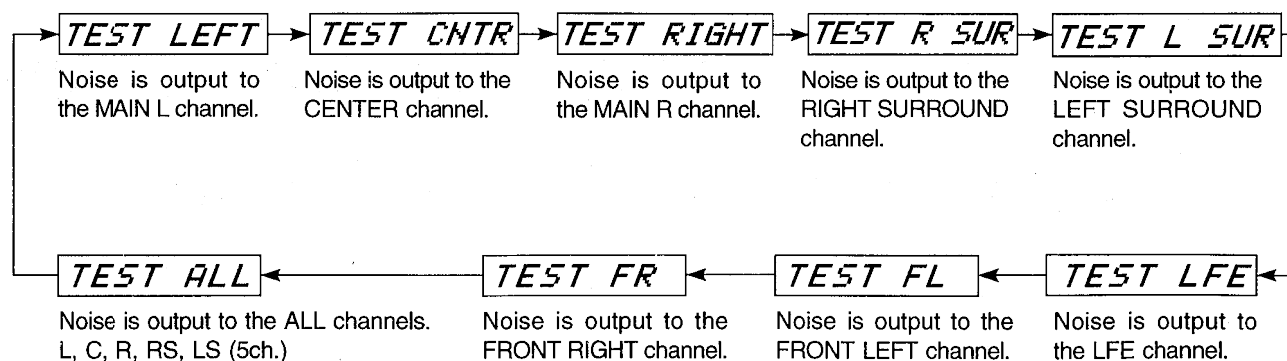
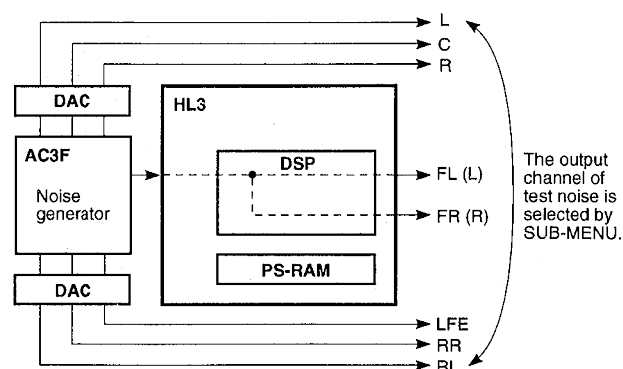
&lt;FRONT PANEL DISPLAY&gt;



The test noise generated by the noise generator built into the DSP is output to the channel selected by the sub-menu.

**○ Sub-menu**

Select the channel for the test noise output in the sequence order as shown below.



### (6) FRONT PANEL VFD (Vacuum Fluorescent Display) check

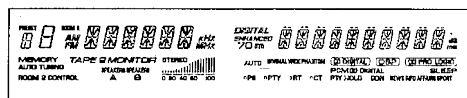
## <FRONT PANEL DISPLAY>

6 DVD/LD *DISP CHECK*

With the model that has VFD check and the standby functions, perform the standby LED check to check the VFD driver and segments for operation. At this time, the signals from the main L/R channels are output through the analog bypass and the effect channel is muted.

○ **Sub-menu**

Either all the segments of VFD on or off can be selected. With the model that has a standby function, the LED lights up while selecting a menu.



All the segments of VFD turn on.



All the segments of VFD turn off.

### (7) FACTORY PRESET

<FRONT PANEL DISPLAY>

```
7 DVD/LD  KEEP DATA
```

This menu is used to select whether or not to set the back-up data for the effect level, delay time and so on to the factory preset state.

**KEEP DATA**

The back-up data is not initialized. To keep the data set by the user, check that this mode has been selected and cancel the self diagnosis function.



**PRESET DAT**

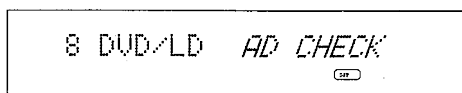
When the self diagnosis function is canceled, the back-up data is initialized to the factory preset state. For the contents of the initialization, refer to page 23.

**CAUTION :** Before setting to the PRESET DATA, write down the existing preset memory contents of the Tuner in a table as shown below. (This is because setting to the PRESET DATA will cause the memory contents to be as factory set, i.e., all the preset memory by the user will be erased.)

Page	P1	P2	P3	P4	P5	P6	P7	P8
A								
B								
C								
D								
E								

**(8) AD CONVERSION DATA**

&lt;FRONT PANEL DISPLAY&gt;

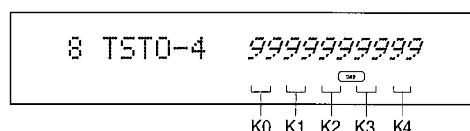


This menu is used to check the AD input port of the CPU and the resistance value to divide the voltage. The AD conversion data detected by the software is displayed in percentage in term of 5V as 100%. The signal processing content is the "THROUGH" passage of the diagnostic menu No.1.

\* When the AD value deviates from the standard value by  $\pm 4\%$ , normal operation will not be available. In such a case, check the resistance of the voltage divider constant, soldering condition, etc.

**○ Sub-menu**

Using this menu, it is possible to check the AD value of the Input, Rec Out, Protection, Temperature Detection (not used), PAL/NTSC switch, Frequency select switch (R model) signal meter in the tuner section. While the AD value is displayed, only selection of the diagnosis menu, turning off the power and cancellation of the diagnosis function are available.



The AD value detected when the front panel key is pressed is displayed in percentage. The AD values are assigned to the keys at 10% intervals as shown in the tables below.

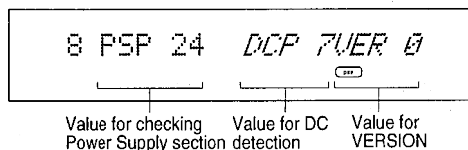
\* For the keys in the parentheses in the tables below, no AD values are assigned. They are used to select the sub menus.

AD value	90% (4.5V)	80% (4.0V)	70% (3.5V)	60% (3.0V)	50% (2.5V)
K0		A / B / C / D / E	PRESET 1	PRESET 2	PRESET 3
K1					
K2			CD	(SET MENU)	TIME/LVL +
K3		DVD/LD	TV/DBS	TAPE MONITOR	PHONO
K4		JAZZ CLUB	CHURCH	CONCERT HALL	STADIUM

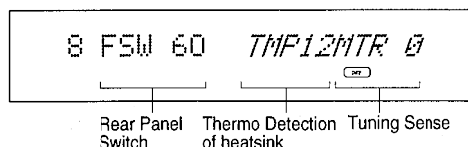
AD value	40% (2.0V)	30% (1.5V)	20% (1.0V)	10% (0.5V)	0% (0.0V)
K0	PRESET 4	PRESET 5	PRESET 6	PRESET 7	PRESET 8
K1			FM/AM	MEMORY	EDIT
K2	TIME/L VL -	DLY/LVL	TUNING MODE	TUNING UP	TUNING DOWN
K3	TUNER	VIDEO AUX	VCR	ROCK CONCERT	DISCO
K4	TV SPORTS	MOVIE THEATER	ENHANCED	PRO LOGIC	EFFECT

PRESET : PRESET STATION  
DLY/LVL : DELAY / C / R / F / SWR





- **PSP** : The PSP value shows whether the supplied power voltage is correct or not. The voltage range for the normal operation is from 22 to 32. If the voltage exceeds this range, the protection function will be activated to turn off the power automatically.
- **DCP** : The DCP value shows whether there is an excessive DC output or not. The output range for the normal operation is from 2 to 13. If the voltage exceeds this range, the protection function will be activated to turn off the power automatically.
- **VER** : UC (USA/CANADA) : 0, R (GENERAL/CHINA) : 10, A/L (AUSTRALIA/SINGAPORE) : 30, B/G (UK/GERMANY/EUROPE) : 40, J (JAPAN) : 50



- **FSW** : The FSW value shows the position of the rear panel switches such as the FREQUENCY STEP select switch, the PAL/NTSC select switch (for the R model).

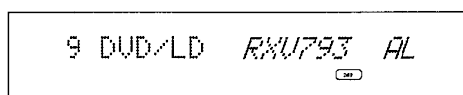
FREQUENCT STEP	PAL/NTSC	VOLTAGE	AD VALUE
9kHz	NTSC	2.0V	40%
10kHz	NTSC	2.5V	50%
9kHz	PAL	3.5V	70%
10kHz	PAL	5.0V	100%

- **TMP** : The THM value shows the temperature of heatsink thermostic control of the system.
- **MTR** : The MTR value shows the signal sensitivity of the tuner in percentage.

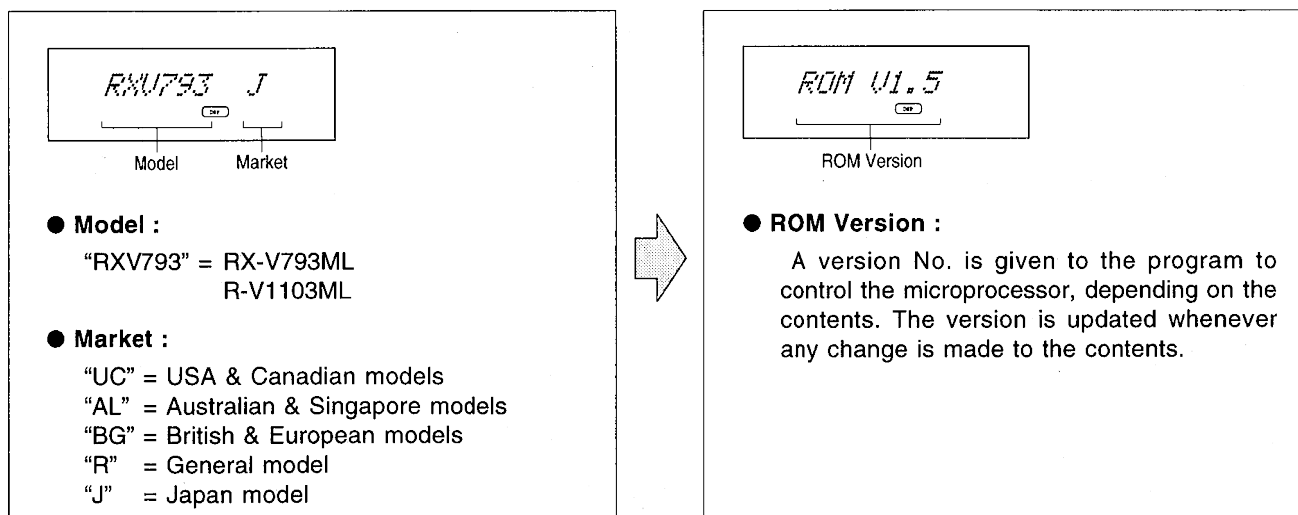


**(9) VERSION**

&lt;FRONT PANEL DISPLAY&gt;

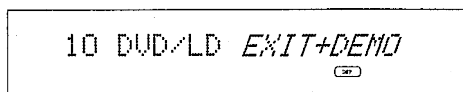


Shown on the display are the model, the market and the ROM version.

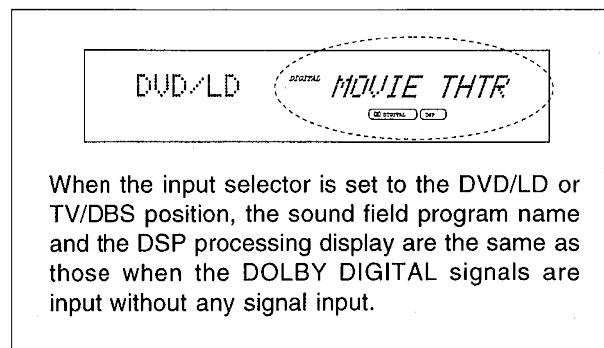
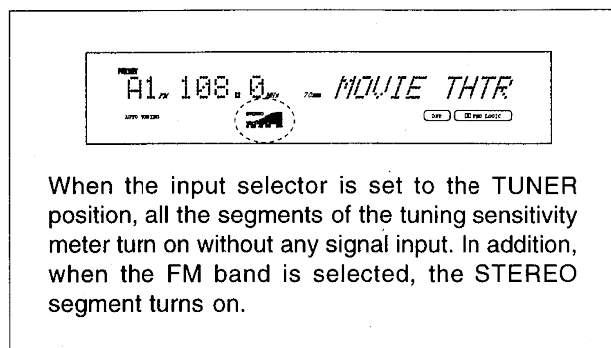
**○ Sub-menu****(10) CANCELING DIAGNOSIS FUNCTION & ENTERING DEMONSTRATION DISPLAY MODE**

When the diagnosis function is canceled by using the sub-menu, the program enters the demonstration display mode. For the signal processing contents, the menu before executing this menu will be valid.

&lt;FRONT PANEL DISPLAY&gt;



DEMONSTRATION  
DISPLAY



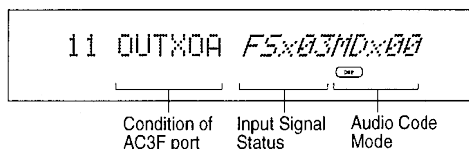
## (11) STATUS DISPLAY

&lt;FRONT PANEL DISPLAY&gt;

11 DVD/LD STATUS CHK

Shown on the display are the digital signal and the digital processing status.

## ○ Sub-menu



- **OUT** : The OUT value shows the output port condition of AC3F by using the hexadecimal number (8 bits). The bit #0, 1, 2, 3, 4 and 5 when expressed in the binary number correspond to the port Nos. 102, 101, 100, 99, 98 and 97 of AC3F respectively.

#0 P102	CLOCK SELECTOR	The status becomes "1" when the effect is off and "0" otherwise during "3-sound field processing".															
#1/#2 P101/ P100	FS0/1 for DE-EMPHASIS	<div>The status is set to match FS during reproduction of the software including PRE-EMPHASIS bit.</div> <table><tr><td></td><td>OFF</td><td>32k</td><td>44.1k</td><td>48k</td></tr><tr><td>FS0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr><tr><td>FS1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table>		OFF	32k	44.1k	48k	FS0	1	1	0	0	FS1	0	1	0	1
	OFF	32k	44.1k	48k													
FS0	1	1	0	0													
FS1	0	1	0	1													
#3 P99	DAC MUTE	The status becomes "0" when muted by DAC.															
#4 P98	DIR CLOCK SELECTOR	The status becomes "0" during analog reproduction and "1" otherwise when in the test mode.															
#5 P97	DIGITAL INPUT SELECTOR	The status becomes "0" when the DVD/LD input is selected and "1" when TV/DBS input is selected.															

- **FS** : Shown on the display are conditions of the input signal

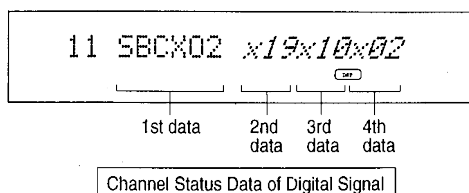
SIGNAL	DIGITAL			ANALOG
	32kHz	44.1kHz	48kHz	
DISPLAY DATA	x00	x01	x02	x03

- **MD** : Shown on the display are the audio codes for the Dolby digital signal. For the other signals, they become indefinite.

AUDIO CODE MODE	1+1(MONO)	1/0	2/0	3/0	2/1	3/1	2/2	3/2
DISPLAY DATA	x00	x01	x02	x03	x04	x05	x06	x07



○ Sub-menu



The channel status data of the digital signal is displayed in the 4 byte data of the hexadecimal number. When there is no digital signal input, the status becomes indefinite. In the description below, the hexadecimal number data is expressed in the LSB first binary number.

● FIRST DATA

This data shows the FORMAT data and the EMPHASIS information.

When the DOLBY digital signal is input, the bit #0 is "1" and it becomes "0" when the PCM digital signal is input. When the signal source has the emphasis effect, the bit #2 status becomes "1".

● SECOND DATA

This data shows the CATEGORY code of the digital signal.

● THIRD DATA

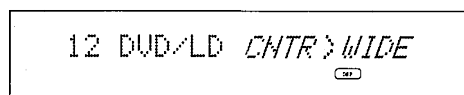
This data shows the source and the channel No. of the digital signal.

● FOURTH DATA

This data shows the sampling frequency of the digital signal. When it is 32kHz, the status of bit #0 and #1 is "1". When it is 44.1kHz, the status of bit #0 and #1 is "0". Also, when it is 48kHz, the status of bit #0 is "0" and that of #1 is "1".

## (12) CENTER SPEAKER

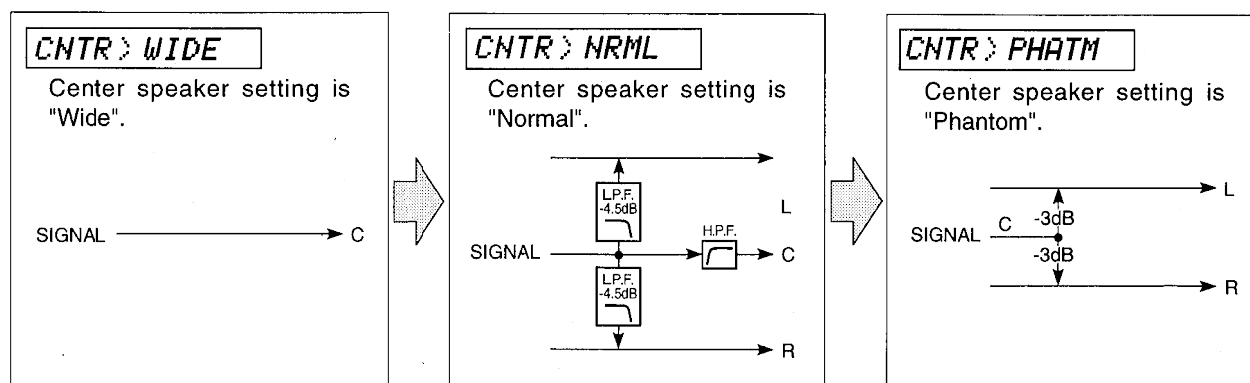
<FRONT PANEL DISPLAY>



The mode of the center speaker can be selected.

○ Sub-menu

The center speaker setting can be selected among WIDE, NORMAL and PHANTOM.



**(13) REAR SPEAKER**

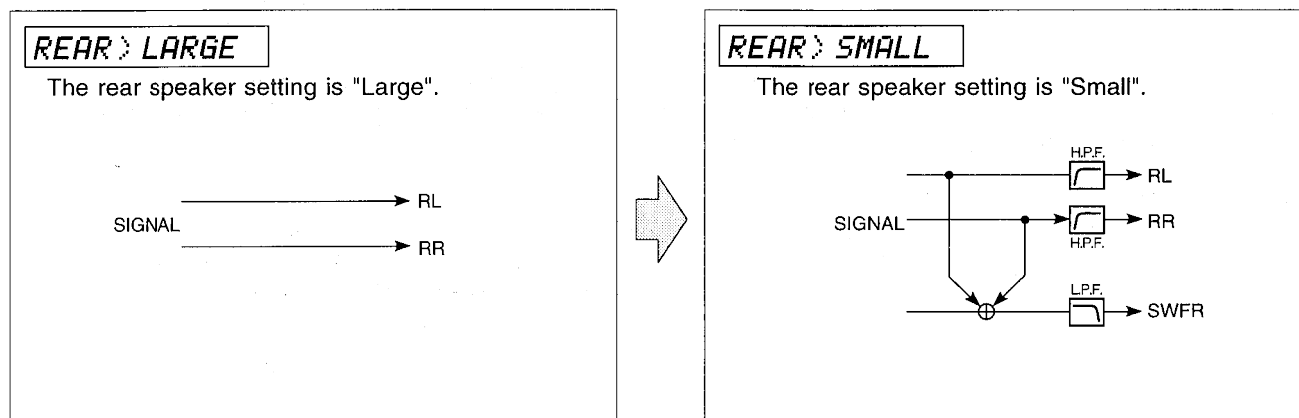
&lt;FRONT PANEL DISPLAY&gt;

13 DVD/LD REAR>LARGE

The mode of the rear speaker can be selected.

**○ Sub-menu**

The rear speaker setting can be selected between LARGE and SMALL.

**(14) MAIN SPEAKER**

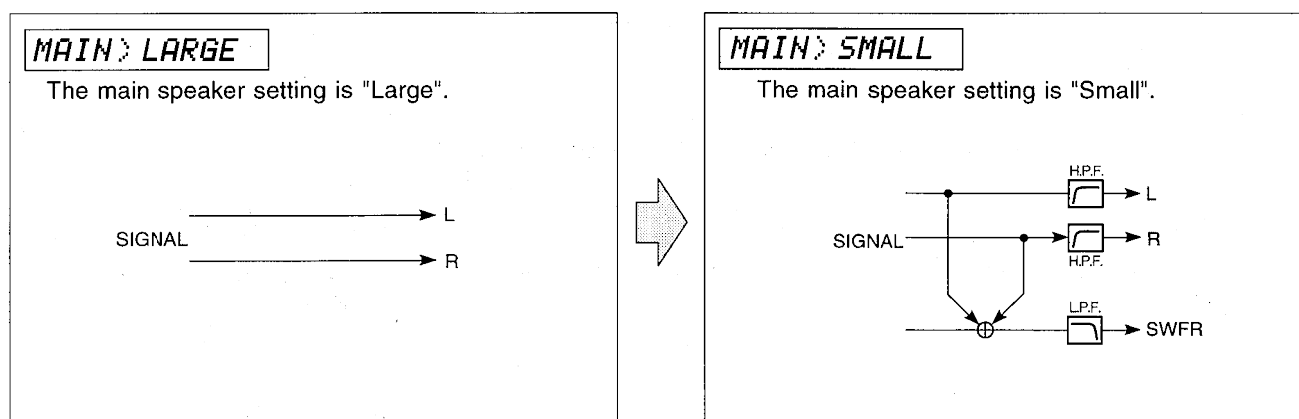
&lt;FRONT PANEL DISPLAY&gt;

14 DVD/LD MAIN>LARGE

The mode of the main speaker can be selected.

**○ Sub-menu**

The main speaker setting can be selected between LARGE and SMALL.



**(15) BASS OUT**

&lt;FRONT PANEL DISPLAY&gt;

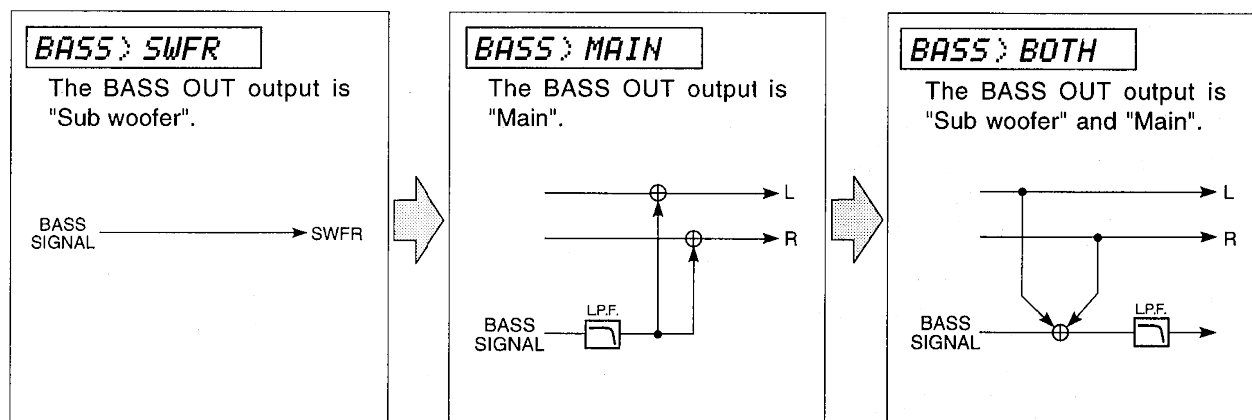
15 DVD/LD *BASS* > *SWFR*

The mode of the BASS output can be selected.

**○ Sub-menu**

The BASS output setting can be selected among SWFR, MAIN and BOTH.

The bass signal in the figures below is the low range component of LFE and the rear.



## ■ FACTORY PRESET

All the settings of the system are initialized on shipping. The settings are as follows.

### ● INPUT (VIDEO) DVD/LD (DVD/LD)

### ● EFFECT LEVEL

EFFECT CHANNEL	PRESET VALUE
CENTER	0 dB
RIGHT SURROUND	0 dB
LEFT SURROUND	0 dB
SUB WOOFER	0 dB

### ● DSP PROGRAM

INPUT	DSP PROGRAM
PHONO	CONCERT HALL
CD	ROCK CONCERT
TUNER	DISCO
TAPE MONITOR	JAZZ CLUB
DVD/LD	70mm/DIGITAL MOVIE THEATER
TV/DBS	TV SPORTS
VCR	ENHANCED
VIDEO AUX	PRO LOGIC

### ● SET MENU

No.	SET MENU	PRESET VALUE
1.	CENTER DELAY	0 ms
2.	DYNAMIC RANGE	MAX
3.	LFE LEVEL	0 dB
4.	CENTER SPEAKER	NORMAL
5.	REAR SPEAKER	SMALL
6.	MAIN SPEAKER	LARGE
7.	LFE/BASS OUT	SWFR
8.	INPUT MODE (TV/DBS)	AUTO

### ● PRESET STATIONS

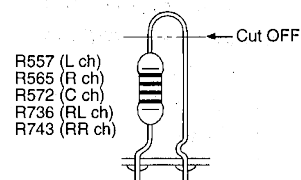
STATION		FM FACTORY PRESET DATA (MHz)			STATION		AM FACTORY PRESET DATA (kHz)	
PAGE	NO.	U, C	R, L, G, A, B	J	PAGE	NO.	U, C, R	R, L, G, A, B, J
A/C/E	1	87.5	87.5	76.0	B/D	1	630	630
	2	90.1	90.1	83.0		2	1080	1080
	3	95.1	95.1	84.0		3	1440	1440
	4	98.1	98.1	86.0		4	530	531
	5	107.9	108.0	90.0		5	1710	1611
	6	88.1	88.1	78.0		6	900	900
	7	106.1	106.1	88.0		7	1350	1350
	8	107.9	108.0	82.1		8	1400	1404

## ■ AMP ADJUSTMENTS

### ● Confirmation of Idling Current

- 1) No signal applied.
- 2) Non-loaded condition.
- 3) Aging is not necessary.

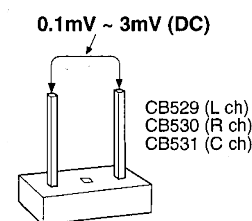
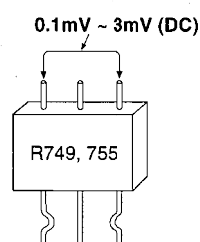
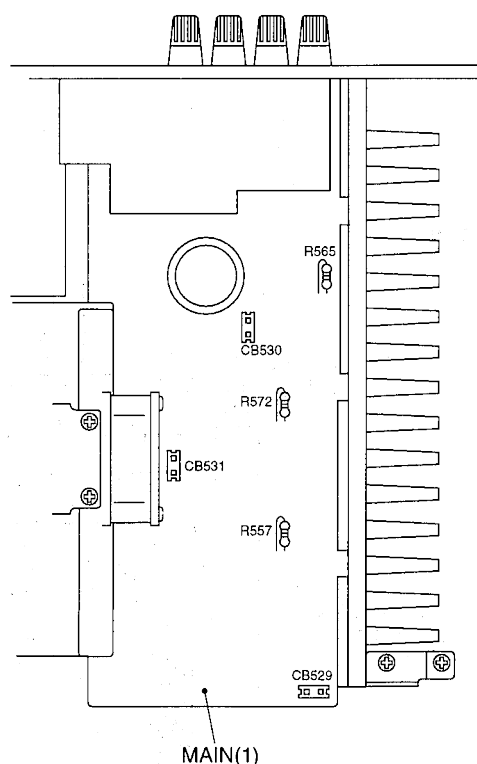
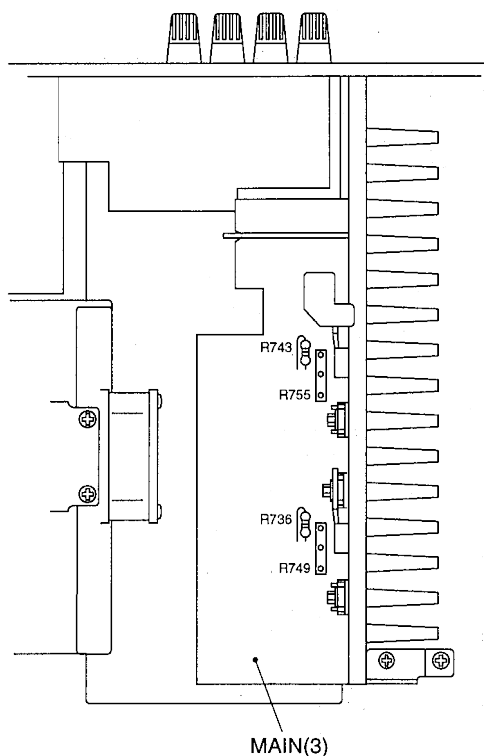
Item	Test Point	Rating (DC)	Note
MAIN L	CB529	0.1mV~3mV	If the measured voltage exceeds 3.1mV, cut the lead wire of R557(L ch), R565(R ch), R572(C ch), R736(RL ch) or R743(RR ch) and then check again if each measured value satisfies the rating.
MAIN R	CB530		
CENTER	CB531		
REAR L	R749		
REAR R	R755		



\* Confirm that the voltage at the test points is 0.25mV ~ 15mV after 60 minutes.

#### Note)

- If R557(L ch), R565(R ch), R572(C ch), R736(RL ch) or R743(RR ch) have already been cut off and idling current does not flow, reconnect R557(820Ω), R565(820Ω), R572(820Ω), R736(820Ω) or R743(820Ω).
- Q514, Q516, Q518, Q707 and Q710 are transistors for temperature correction. Apply silicone grease to the contact surface with the heat sink.

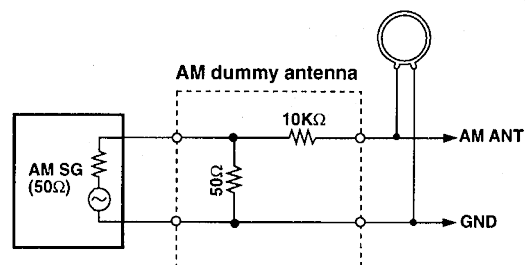
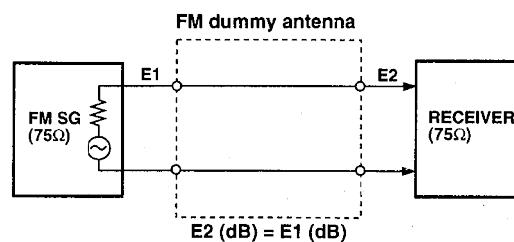
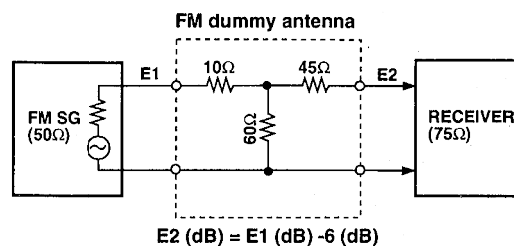


## ■ TUNER ADJUSTMENTS

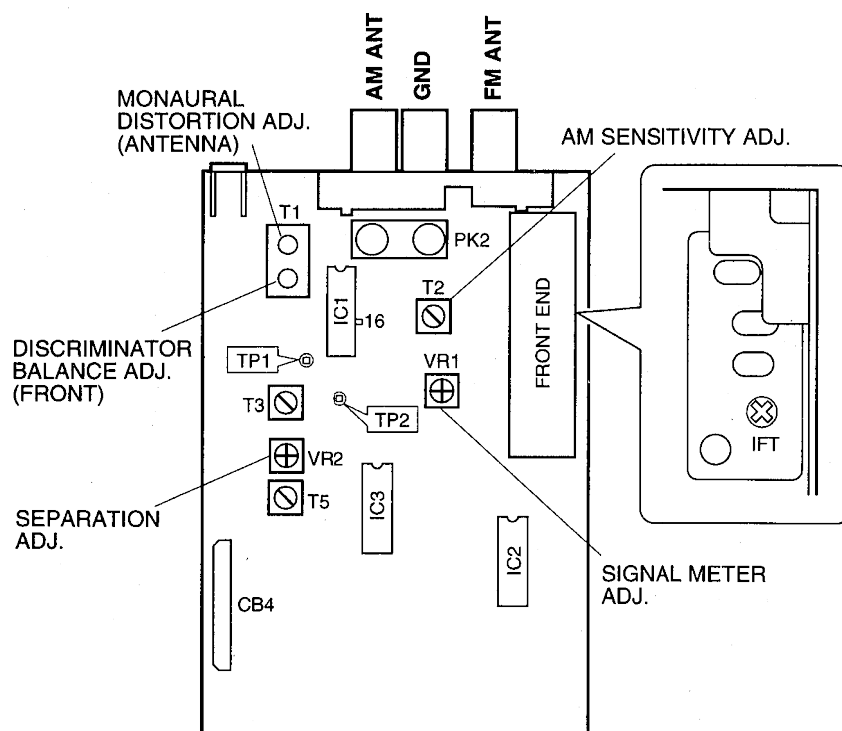
### ● Measuring Instruments

FM signal generator (FM SG)  
 Stereo signal generator (SSG)  
 AM signal generator (AM SG)  
 Distortion meter (DIST. M)  
 AC voltmeter (ACVM)  
 DC voltmeter (DCVM)  
 Oscilloscope  
 Low pass filter (YLF-15,  $f_c=15\text{kHz}$ )  
 Oscillator

### ● Dummy antenna



### ● Test point





## FM Adjustment

### ● Before Adjustment

- 1) For dB,  $1\mu V=0dB\mu$   
Example :  $60dB\mu=1mV$
- 2) 100% modulation means that the frequency deviation is  $\pm 75kHz$ .

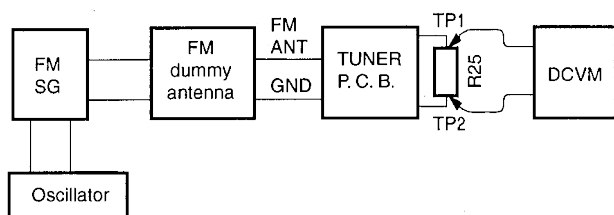
- 3) Install the Matching Transformer and connect FM SG.
- 4) Set each switch to the following position unless otherwise specified.

INPUT SELECTOR ..... TUNER

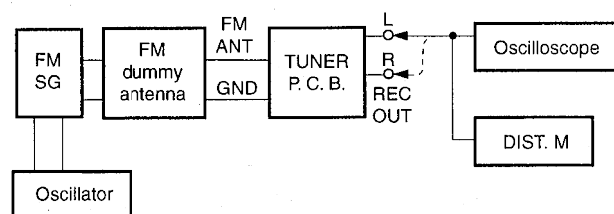
TUNING MODE ..... AUTO

### ● Connection diagram (Measuring instruments)

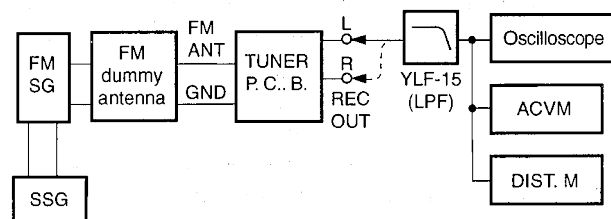
#### 1) Discriminator balance adjustment



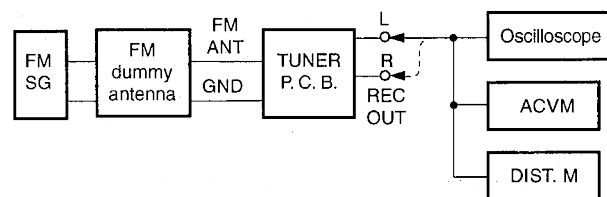
#### 2) Monaural distortion adjustment



#### 3) Stereo distortion adjustment/separation adjustment



#### 4) Sensitivity Verification



Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjustment point	Test point	Rating
1	Rough adjustment of discriminator balance	FM ANT (75Ω) 98.1MHz ** 70dBμ MONO 1kHz 100% modulation	98.1MHz * (A-4)	T1 (Front side core)	Both ends of R25 (Between TP1 and TP2)	DC 0V±100mV
2	Rough adjustment of monaural distortion	Same as Step 1.	98.1MHz * (A-4)	T1 (Antenna side core)	REC OUT L, R	Minimize the distortion.
3	Fine adjustment of discriminator balance	Same as Step 1.	98.1MHz * (A-4)	T1 (Front side core)	Both ends of R25 (Between TP1 and TP2)	DC 0V±50mV
4	Fine adjustment of monaural distortion	Same as Step 1.	98.1MHz * (A-4)	T1 (Antenna side core)	REC OUT L, R	Minimize the distortion (to 0.25% or less).
5	Verification of discriminator balance	Same as Step 1.	98.1MHz * (A-4)	T1 (Front side core)	Both ends of R25 (Between TP1 and TP2)	DC 0V±50mV

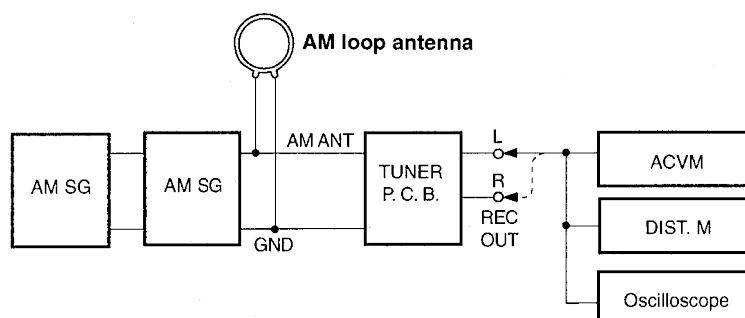
\* : Execution of FACTORY PRESET (Refer to page 15.) will facilitate setting reception frequency for adjustment.

\*\* Must be 98.1MHz ± 5kHz

See page 25 for TP locations &amp; adjustment points.

Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjusted point	Test point	Rating
6	Adjustment of front end IFT	FM ANT (75Ω) 98.1MHz 30dBμ MONO 1kHz, 100% modulation	98.1MHz * (A-4)	Front end IFT	Pin 16 of IC1	Adjust so that the DC voltage is maximum. <b>CAUTION</b> : Over-adjustment of the IFT core will reduce the sensitivity. Maximum ±90°
7	Verification of monaural distortion	FM ANT (75Ω) 98.1MHz 70dBμ MONO 1kHz, 100% modulation	98.1MHz * (A-4)		REC OUT L, R	0.4% or less
8	Verification of stereo distortion	FM ANT (75Ω) 98.1MHz 70dBμ Stereo L or R 1kHz, 100% modulation	98.1MHz * (A-4) * Tuning mode should be AUTO.		REC OUT L, R	1% or less • STEREO indicator should light.
9	Verification of sensitivity	FM ANT (75Ω) 88.1MHz 98.1MHz 106.1MHz MONO 1kHz Modulation off	88.1MHz * (A-6) 98.1MHz * (A-4) 106.1MHz * (A-7)		ANT (75Ω)	1) Set the tuning mode to MAN'L MONO. (Muting OFF) 2) S/N should be 30dB at each frequency of 88.1MHz, 98.1MHz, and 106.1MHz. 3) Check to ensure that the voltage at the ANT terminal is 3dBμ (14.25dBf) or less. (L only : 6dBμ or less)
10	Adjustment of Separation	FM ANT (75Ω) 98.1MHz 70dBμ Stereo L or R 1kHz, 100% modulation	98.1MHz * (A-4)	VR2	REC OUT L, R	With SSG output at L or R, the signal leakage level at the other channel should be minimized. 36dB or more
11	Adjustment of Signal meter	FM ANT (75Ω) 98.1MHz 45dBμ MONO 1kHz 30% modulation	98.1MHz * (A-4)	VR1		Adjust so that all segments light.
		-10dBμ or less				Check to ensure that all segments are OFF.
12	Verification of auto tuning	FM ANT (75Ω) 98.1MHz 23dBμ Stereo L or R 1kHz, 30% modulation	98.1MHz * (A-4)			• Automatic reception should be available when the tuning key is moved UP and DOWN. • The stereo indicator should light. • Audio muting should be applied during tuning.

\* : Execution of FACTORY PRESET (Refer to page 15.) will facilitate setting reception frequency for adjustment.

**AM Adjustment (This should be done after FM adjustment.)**
**● Connection Diagram (Measuring instruments)**
**1) Adjustment of sensitivity**


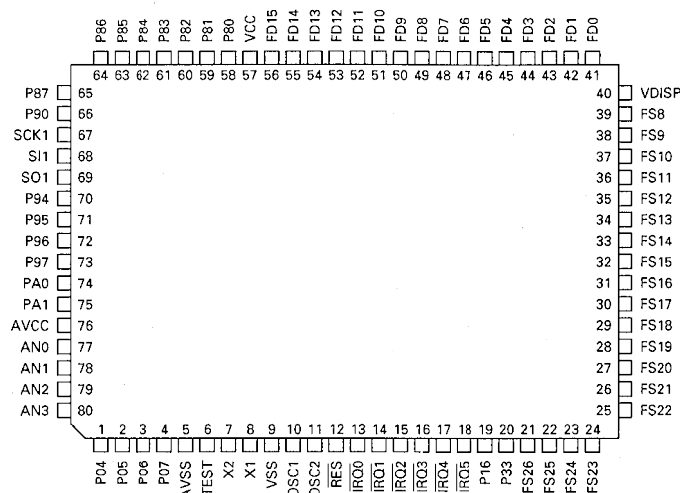
See page 25 for TP locations & adjustment points.

Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjustment point	Test point	Rating
1	Adjustment of sensitivity (1440Hz)	AM ANT 1440kHz 50dBμ 1kHz 30% modulation	1440kHz * (B-3)	T2	REC OUT	Audio output should be maximized.
2	Verification of sensitivity (630kHz)	AM ANT 630kHz 50dBμ 1kHz 30% modulation	630kHz * (B-1)	T2	REC OUT	Audio output should be maximized. Repeat the Step 1 and 2.
3	Verification of sensitivity	AM ANT 630kHz 1080kHz 1440kHz 30% modulation	630kHz * (B-1) 1080kHz * (B-2) 1440kHz * (B-3)		AM ANT	Distortion should be 10% or less at each frequency. Check to ensure that the voltage at the ANT terminal is 54dBμ or less.
4	Verification of auto tuning	AM ANT 60dBμ				Auto reception should be available when the tuning key is moved UP and DOWN.

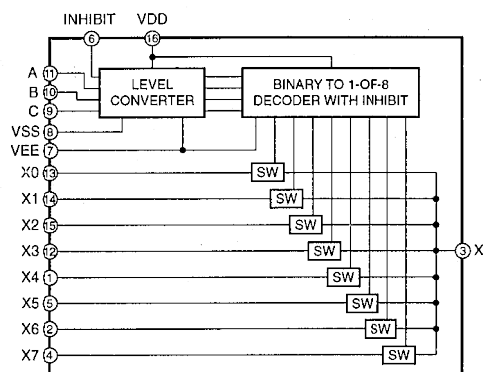
\* : Execution of FACTORY PRESET (Refer to page 15.) will facilitate setting reception frequency for adjustment.

# IC DATA

IC801 : HD6473726F  
8 bit  $\mu$ -COM



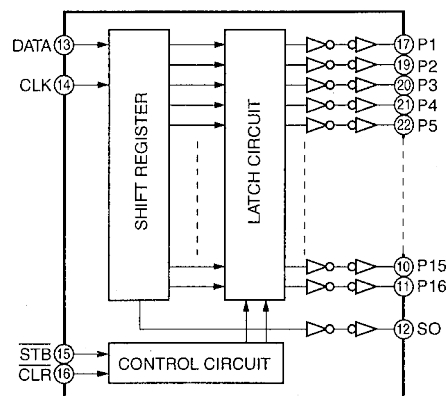
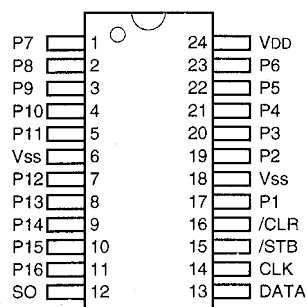
No.	Port	Name	Function	No.	Port	Name	Function
1	P04		N.C.	80	AN3	VERSION	Market select (A/D)
2	P05	/ST	TUNER stereo detect	79	AN2	PRD	Power amplifier output DC detect (A/D)
3	P06	PSW	Power switch main unit key input	78	AN1	PRV	Power supply error detect (A/D)
4	P07	PRI	Power amplifier excess current	77	AN0	EXTEND	Key & signal meter expansion input (A/D)
5	Avss	GROUND	GND for A/D current detect	76	AVcc	+5V	Power supply for A/D
6	TEST	TEST	N.C.	75	PA1	NJU3711	Strobe for expansion port control
7	X2	SUBCLK	N.C.	74	PA0	SCIX	Receive data from TUNER
8	X1	SUBCLK	N.C.	73	P97	SCIX	Send data to each type of IC
9	Vss	GROUND	GND for system	72	P96	NJU3711	Serial data to expansion port
10	OSC1	OSC1	Clock(8MHz)	71	P95		N.C.
11	OSC2	OSC2	Clock(8MHz)	70	P94		N.C.
12	/RES	RESET	System reset	69	SO1	SCI1	Send data to AC3F, HL3
13	/IRQ0	PDT	Power detect	68	SI1	SCI1	Receive data from AC3F
14	/IRQ1	DER	DIR lock and error detect	67	SCK1	SCI1	Serial clock for AC3F, HL3
15	/IRQ2	REM	Remote control light receive signal input	66	P90	SCIX	Serial clock for each type of IC
16	/IRQ3		N.C.	65	P87	CCK	Serial clock for DIR
17	IRQ4	AC3ER	AC3F error detect	64	P86	PRY	Power relay control
18	/IRQ5	VSYNC	Video vertical synchronous input	63	P85	VDOWN	VOL. DOWN control output
19	P16	CDO	Receive data from DIR	62	P84	VUP	VOL. UP control output
20	P33	/FMT	Full mute	61	P83	NJU3711	Serial clock to expansion port
21	FS26	SEGMENT	Fluorescent character display tube anode drive signal	60	P82	ASC	Control C of extended A/D4051
22	FS25	SEGMENT		59	P81	ASB	Control B of extended A/D4051
23	FS24	SEGMENT		58	P80	ASA	Control A of extended A/D4051
24	FS23	SEGMENT		57	Vcc	+5V	Power supply for system
25	FS22	SEGMENT		56	FD15	DIGIT	Fluorescent character display tube grid drive signal
26	FS21	SEGMENT		55	FD14	DIGIT	
27	FS20	SEGMENT		54	FD13	DIGIT	
28	FS19	SEGMENT		53	FD12	DIGIT	
29	FS18	SEGMENT		52	FD11	DIGIT	
30	FS17	SEGMENT		51	FD10	DIGIT	
31	FS16	SEGMENT		50	FD9	DIGIT	
32	FS15	SEGMENT		49	FD8	DIGIT	
33	FS14	SEGMENT		48	FD7	DIGIT	
34	FS13	SEGMENT		47	FD6	DIGIT	
35	FS12	SEGMENT		46	FD5	DIGIT	
36	FS11	SEGMENT		45	FD4	DIGIT	
37	FS10	SEGMENT		44	FD3	DIGIT	
38	FS9	SEGMENT		43	FD2	DIGIT	
39	FS8	SEGMENT		42	FD1	DIGIT	
40	Vdisp	Vdisp	Power supply for VFD drive	41	FD0	DIGIT	

**IC802 : TC74HC4051AP (extended A/D input)  
Analog Multiplexer/Demultiplexer**


INPUT STATES				"ON" CHANNEL (S)
INHIBIT	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	NONE

No.	PORT	Name	Function	I/O	No.	PORT	Name	Function	I/O
1	X4	K4	DSP key input	AD	16	VCC	VCC	(+) power supply	+5M
2	X6	THM	Radiator temperature detect	AD	15	X2	K2	TUNER LEVEL SET MENU etc. key input	AD
3	COM	COM	Feed port to microprocessor	O	14	X1	K1	TUNER key input	AD
4	X7	MTR	TUNER signal meter input	AD	13	X0	K0	TUNER key input	AD
5	X5	FSW *	Slide SW state input	AD	12	X3	K3	DSP& INPUT key input	AD
6	INH	INH	All channels open at Hi level	G	11	A	ASA	Control signal A from microprocessor	I
7	VEE	VEE	(-) power supply	G	10	B	ASB	Control signal B from microprocessor	I
8	GND	GND	GND	G	9	C	ASC	Control signal C from microprocessor	I

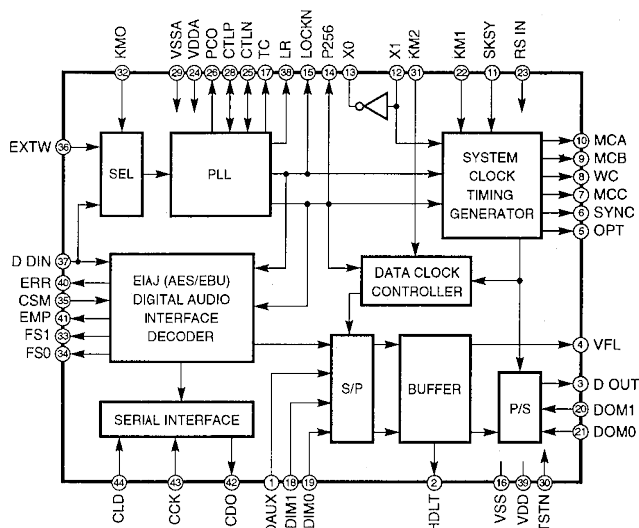
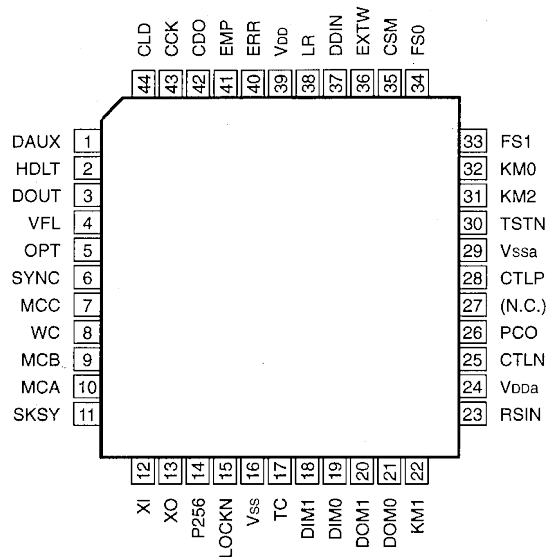
\* FSW = DEST(9kHz/10kHz) + P/N

**IC23 : NJU3716L  
16 bit Serial Parallel Conversion**


No.	Port	Name	Function	No.	Port	Name	Function
1	P7	/ICD	DIR and AC3 reset	24	VDD	—	
2	P8	/RMIX	BASS Mixing to MAIN	23	P6	CLD	Chip select for DIR
3	P9	SPM	Main speaker relay	22	P5	/CS	Chip select for AC3F
4	P10	/TMT	Tuner mute	21	P4	CET	Chip select for IC made by TOSHIBA
5	P11	SPE	Effect speaker relay	20	P3	CEL	Chip select for IC made by SANYO
6	Vss	—		19	P2	TES	Chip select for PLL
7	P12	VIND	Volume LED	18	Vss	—	
8	P13	VIA	Video input selector A	17	P1	CES	Superimpose chip select
9	P14	VIB	Video input selector B	16	/CLK	—	
10	P15	—		15	/STB	—	
11	P16	—		14	CLK	—	
12	SO	—		13	DATA	—	

## IC3 : YM3436DK

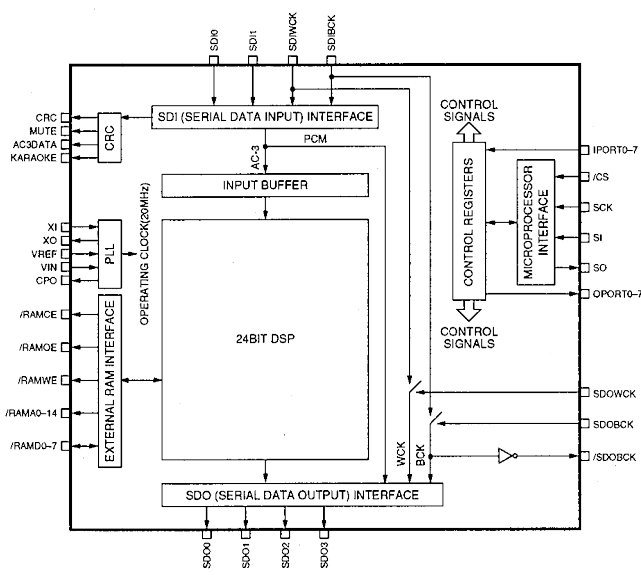
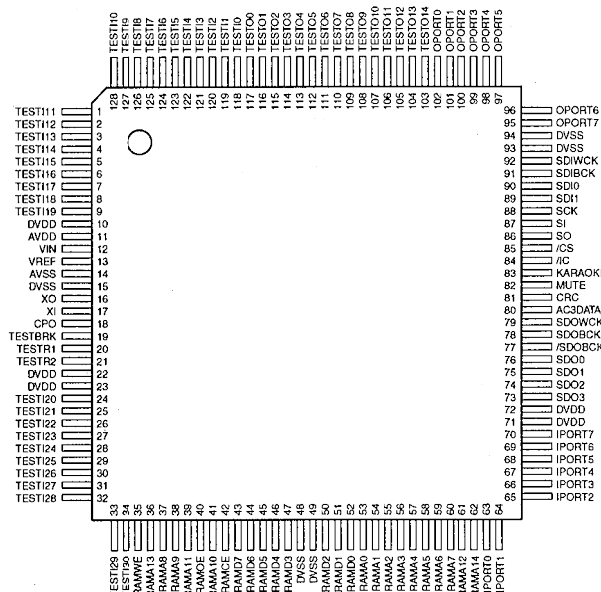
## DIR ( Digital Format Interface Receiver )



Pin No.	Pin Name	I/O	Function	Pin No.	Pin Name	I/O	Function
1	DAUX	I	Auxiliary input for audio data	26	PCO	O	PLL phase comparison output
2	HDLT	O	Asynchronous buffer operation flag	27	(NC)		
3	DOUT	O	Audio data output	28	CTLP	I	VCO control input P
4	VFL	O	Parity flag output	29	Vssa		VCO section power (GND)
5	OPT	O	Fs x 1 Synchronous output signal for DAC	30	TSTN	I	Test terminal. Open for normal use
6	SYNC	O	Fs x 1 Synchronous output signal for DSP	31	KM2	I	Clock mode switching input 2
7	MCC	O	Fs x 64Bit clock output	32	KM0	I	Clock mode switching input 0
8	WC	O	Fs x 1Word clock output	33	FS1	O	Channel status sampling frequency display output 1
9	MCB	O	Fs x 128Bit clock output	34	FS0	O	Channel status sampling frequency display output 0
10	MCA	O	Fs x 256Bit clock output	35	CSM	I	Channel status output method selection
11	SKSY	I	Clock synchronization control input	36	EXTW	I	External synchronous auxiliary input word clock
12	XI	I	Crystal oscillator connection or external clock input	37	DDIN	I	EIAJ (AES/EBU) data input
13	XO	O	Crystal oscillator connection	38	LR	O	PLL word clock output
14	P256	O	VCO oscillator clock connection	39	VDD		Logic section power (+5V)
15	LOCKN	O	PLL lock flag	40	ERR	O	Data error flag output
16	Vss		Logic section power (GND)	41	EMP	O	Channel status emphasis control code output
17	TC	O	PLL time constant switching output	42	CDO	O	3-wire type microcomputer interface data output
18	DIM1	I	Data input mode selection	43	CCK	I	3-wire type microcomputer interface clock output
19	DIM0	I	Data input mode selection	44	CLD	I	3-wire type microcomputer interface load input
20	DOM1	I	Data output mode selection				
21	DOM0	I	Data output mode selection				
22	KM1	I	Clock mode switching input 1				
23	RSTN	I	System reset input				
24	Vdda		VCO section power (+5V)				
25	CTLN	I	VCO control input N				

**IC4 : YSS243B-F**

**AC3F ( AC-3 5.1ch Full Decoder )**



No.	Name	I/O	Function
1	TESTI11	I+	LSI test terminal (normally unconnected)
2	TESTI12	I+	LSI test terminal (normally unconnected)
3	TESTI13	I+	LSI test terminal (normally unconnected)
4	TESTI14	I+	LSI test terminal (normally unconnected)
5	TESTI15	I+	LSI test terminal (normally unconnected)
6	TESTI16	I+	LSI test terminal (normally unconnected)
7	TESTI17	I+	LSI test terminal (normally unconnected)
8	TESTI18	I+	LSI test terminal (normally unconnected)
9	TESTI19	I+	LSI test terminal (normally unconnected)
10	DVDD		+5V power supply (digital section)
11	AVDD		+5V power supply (for analog circuit in PLL section)
12	VIN	AI	PLL input terminal, connected to CPO through external analog filter)
13	VREF	AI	PLL input terminal, connected to AVDD through external analog filter)
14	AVSS		Ground (for analog circuit in PLL section)
15	DVSS		Ground (digital section)
16	XO	O	Crystal oscillator connecting terminal
17	XI	I	Crystal oscillator connecting terminal or external clock input terminal (2.5MHz - 40.0MHz)
18	CPO	AO	PLL output terminal, connected to VIN through external analog filter)
19	TESTBRK	I+	LSI test terminal (normally unconnected)
20	TESTR1	I+	LSI test terminal (normally unconnected)
21	TESTR2	I+	LSI test terminal (normally unconnected)
22	DVDD		+5V power supply (digital section)
23	DVDD		+5V power supply (digital section)
24	TESTI20	I+	LSI test terminal (normally unconnected)
25	TESTI21	I+	LSI test terminal (normally unconnected)
26	TESTI22	I+	LSI test terminal (normally unconnected)
27	TESTI23	I+	LSI test terminal (normally unconnected)
28	TESTI24	I+	LSI test terminal (normally unconnected)
29	TESTI25	I+	LSI test terminal (normally unconnected)
30	TESTI26	I+	LSI test terminal (normally unconnected)

## IC4 : YSS243B-F

## AC3F ( AC-3 5.1ch Full Decoder )

No.	Name	I/O	Function
31	TESTI27	I+	LSI test terminal (normally unconnected)
32	TESTI28	I+	LSI test terminal (normally unconnected)
33	TESTI29	I+	LSI test terminal (normally unconnected)
34	TESTI30	I+	LSI test terminal (normally unconnected)
35	/RAMWE	O	External SRAM write enable signal, "L" active
36	RAMA13	O	External SRAM address output, address 13
37	RAMA8	O	External SRAM address output, address 8
38	RAMA9	O	External SRAM address output, address 9
39	RAMA11	O	External SRAM address output, address 11
40	/RAMOE	O	External SRAM output enable signal, "L" active
41	RAMA10	O	External SRAM address output, address 10
42	/RAMCE	O	External SRAM chip enable signal, "L" active
43	RAMD7	I/O	External SRAM data terminal, data bus 7
44	RAMD6	I/O	External SRAM data terminal, data bus 6
45	RAMD5	I/O	External SRAM data terminal, data bus 5
46	RAMD4	I/O	External SRAM data terminal, data bus 4
47	RAMD3	I/O	External SRAM data terminal, data bus 3
48	DVSS		Ground (digital section)
49	DVSS		Ground (digital section)
50	RAMD2	I/O	External SRAM data terminal, data bus 2
51	RAMD1	I/O	External SRAM data terminal, data bus 1
52	RAMD0	I/O	External SRAM data terminal, data bus 0
53	RAMA0	O	External SRAM address output, address 0
54	RAMA1	O	External SRAM address output, address 1
55	RAMA2	O	External SRAM address output, address 2
56	RAMA3	O	External SRAM address output, address 3
57	RAMA4	O	External SRAM address output, address 4
58	RAMA5	O	External SRAM address output, address 5
59	RAMA6	O	External SRAM address output, address 6
60	RAMA7	O	External SRAM address output, address 7
61	RAMA12	O	External SRAM address output, address 12
62	RAMA14	O	External SRAM address output, address 14
63	IPORT0	I+	DIR sampling frequency input 0 (FS0)
64	IPORT1	I+	DIR sampling frequency input 1 (FS1)
65	IPORT2	I+	Digital (optical/coaxial) signal detect (O/C)
66	IPORT3		Ground (digital section)
67	IPORT4	I+	DIR pre-emphasis detect (EMP)
68	IPORT5		Ground (digital section)
69	IPORT6		Ground (digital section)
70	IPORT7		Ground (digital section)
71	DVDD		+5V power supply (digital section)
72	DVDD		+5V power supply (digital section)
73	SDO3	O	PCM output terminal (MIX0, MIX1 output)
74	SDO2	O	PCM output terminal (C, LFE output)
75	SDO1	O	PCM output terminal (LS, RS output)
76	SDO0	O	PCM output terminal (L, R output)
77	/SDOBCK	O	Inverted signal of SDOBCK output
78	SDOBCK	I+	SDO output signal bit clock input terminal
79	SDOWCK	I+	SDO output signal word clock input terminal
80	AC3DATA	O	AC-3 bit stream data detect terminal
81	CRC	O	CRC error detect terminal (when decoding AC-3 bit stream data)



## IC4 : YSS243B-F

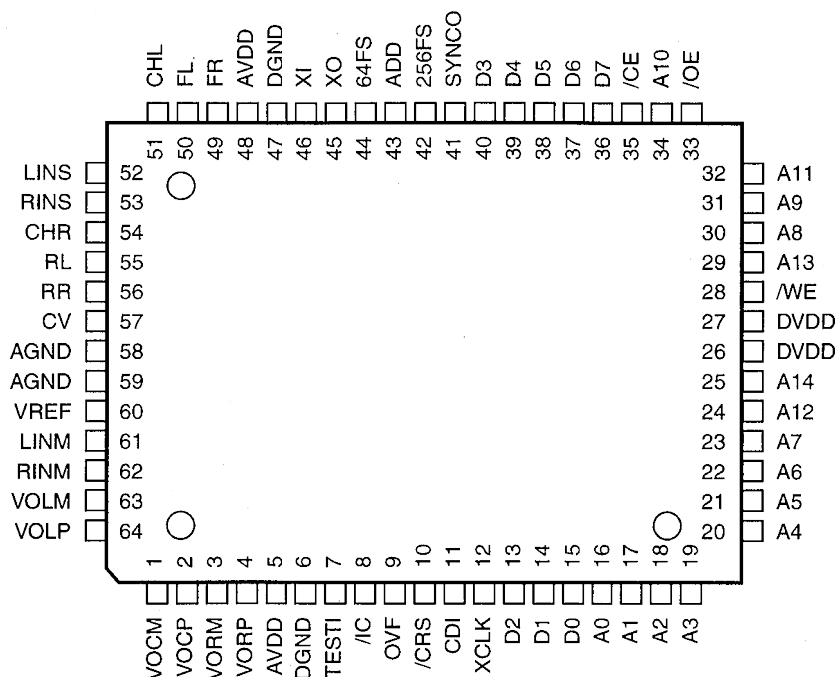
## AC3F ( AC-3 5.1ch Full Decoder )

No.	Name	I/O	Function
82	MUTE	O	Output data mute detect terminal
83	KARAOKE	O	AC-3 karaoke data detect terminal
84	/IC	Is	Initial clear terminal
85	/CS	Is	Microprocessor interface chip select input terminal
86	SO	O	Microprocessor interface serial data output terminal
87	SI	Is	Microprocessor interface serial data input terminal
88	SCK	Is	Microprocessor interface serial clock input terminal
89	SDI1	I	AC-3 bit stream (or PCM) data input terminal
90	SDI0	I	AC-3 bit stream (or PCM) data input terminal
91	SDIBCK	I	Bit clock input terminal for SDI input signal
92	SDIWCK	I	Word clock input terminal for SDI input signal
93	DVSS		Ground (digital section)
94	DVSS		Ground (digital section)
95	OPORT7	O	General purpose output terminal
96	OPORT6	O	Reset for YSS245-F (/IC)
97	OPORT5	O	DIGITAL INPUT SELECTOR control signal A (DIA)
98	OPORT4	O	Switching DIR forced internal synchronization (KM1)
99	OPORT3	O	DAC MUTE control signal (DMT)
100	OPORT2	O	De-emphasis control signal 1 to DAC (EMP1)
101	OPORT1	O	De-emphasis control signal 0 to DAC (EMP0)
102	OPORT0	O	Control signal to switch master clock of AC3F output master clock (CLKS)
103	TESTO14	O	LSI test terminal (normally unconnected)
104	TESTO13	O	LSI test terminal (normally unconnected)
105	TESTO12	O	LSI test terminal (normally unconnected)
106	TESTO11	O	LSI test terminal (normally unconnected)
107	TESTO10	O	LSI test terminal (normally unconnected)
108	TESTO9	O	LSI test terminal (normally unconnected)
109	TESTO8	O	LSI test terminal (normally unconnected)
110	TESTO7	O	LSI test terminal (normally unconnected)
111	TESTO6	O	LSI test terminal (normally unconnected)
112	TESTO5	O	LSI test terminal (normally unconnected)
113	TESTO4	O	LSI test terminal (normally unconnected)
114	TESTO3	O	LSI test terminal (normally unconnected)
115	TESTO2	O	LSI test terminal (normally unconnected)
116	TESTO1	O	LSI test terminal (normally unconnected)
117	TESTO0	O	LSI test terminal (normally unconnected)
118	TESTI0	I+	LSI test terminal (normally unconnected)
119	TESTI1	I+	LSI test terminal (normally unconnected)
120	TESTI2	I+	LSI test terminal (normally unconnected)
121	TESTI3	I+	LSI test terminal (normally unconnected)
122	TESTI4	I+	LSI test terminal (normally unconnected)
123	TESTI5	I+	LSI test terminal (normally unconnected)
124	TESTI6	I+	LSI test terminal (normally unconnected)
125	TESTI7	I+	LSI test terminal (normally unconnected)
126	TESTI8	I+	LSI test terminal (normally unconnected)
127	TESTI9	I+	LSI test terminal (normally unconnected)
128	TESTI10	I+	LSI test terminal (normally unconnected)

AI : Input    AO : Output    I+ : Built-in pull up resistance    Is : Schmidt input

## IC7 : YSS245-F

HL3 ( Dolby-Pro-Logic Decoder + DSP )



No.	Name	I/O	Function
1	VOCM	AO	Cch multiplying DAC (-) side output, connected to (-) terminal of Cch operation amplifier
2	VOCP	AO	Cch multiplying DAC (+) side output, connected to (+) terminal of Cch operation amplifier
3	VORM	AO	Rch multiplying DAC (-) side output, connected to (-) terminal of Rch operation amplifier
4	VORP	AO	Rch multiplying DAC (+) side output, connected to (+) terminal of Rch operation amplifier
5	AVDD		+5V power supply (analog section)
6	DGND		Ground (digital section)
7	TESTI	Ic	Test terminal, connected to DGND
8	/IC	Ics	Initial clear terminal
9	OVF	O	Input (LINS, RINS or ADD) overflow detect terminal
10	/CRS	Ics	Serial microprocessor interface reset terminal
11	CDI	Ics	Serial microprocessor interface data input terminal
12	XCLK	Ics	Serial microprocessor interface clock terminal
13	D2	It/O	External PSRAM terminal, connected to external PSRAM data terminal
14	D1	It/O	External PSRAM terminal, connected to external PSRAM data terminal
15	D0	It/O	External PSRAM terminal, connected to external PSRAM data terminal
16	A0	O	External PSRAM terminal, connected to external PSRAM address terminal
17	A1	O	External PSRAM terminal, connected to external PSRAM address terminal
18	A2	O	External PSRAM terminal, connected to external PSRAM address terminal
19	A3	O	External PSRAM terminal, connected to external PSRAM address terminal
20	A4	O	External PSRAM terminal, connected to external PSRAM address terminal
21	A5	O	External PSRAM terminal, connected to external PSRAM address terminal
22	A6	O	External PSRAM terminal, connected to external PSRAM address terminal
23	A7	O	External PSRAM terminal, connected to external PSRAM address terminal
24	A12	O	External PSRAM terminal, connected to external PSRAM address terminal
25	A14	O	External PSRAM terminal, connected to external PSRAM address terminal
26	DVDD		+5V terminal (digital section)

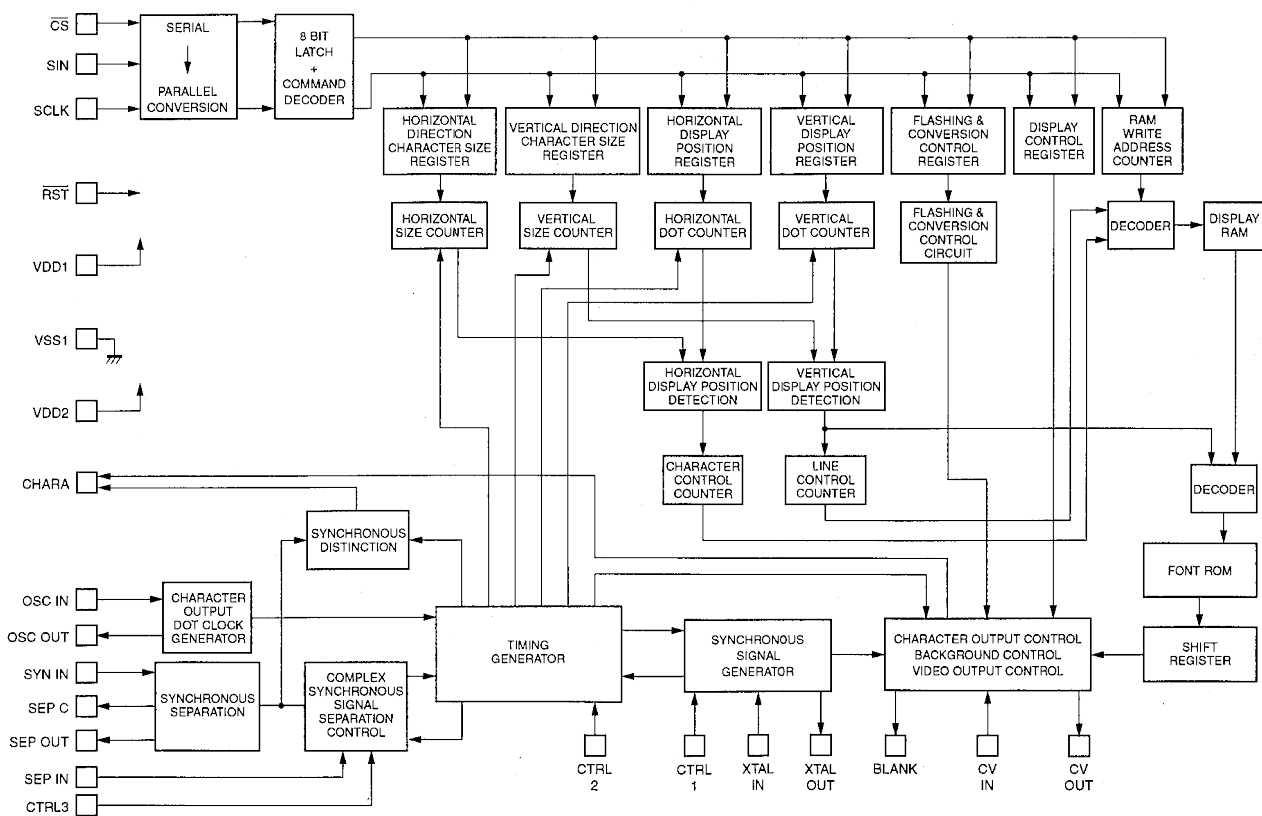
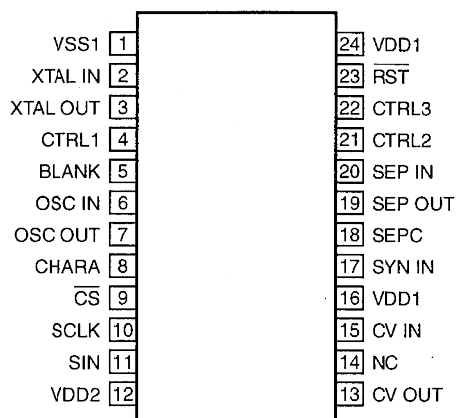
## IC7 : YSS245-F

## HL3 ( Dolby-Pro-Logic Decoder + DSP )

No.	Name	I/O	Function
27	DVDD		+5V terminal (digital section)
28	/WE	O	External PSRAM terminal, connected to external PSRAM /WE terminal
29	A13	O	External PSRAM terminal, connected to external PSRAM address terminal
30	A8	O	External PSRAM terminal, connected to external PSRAM address terminal
31	A9	O	External PSRAM terminal, connected to external PSRAM address terminal
32	A11	O	External PSRAM terminal, connected to external PSRAM address terminal
33	/OE	O	External PSRAM terminal, connected to external PSRAM /OE terminal
34	A10	O	External PSRAM terminal, connected to external PSRAM address terminal
35	/CE	O	External PSRAM terminal, connected to external PSRAM /CE terminal
36	D7	It/O	External PSRAM terminal, connected to external PSRAM data terminal
37	D6	It/O	External PSRAM terminal, connected to external PSRAM data terminal
38	D5	It/O	External PSRAM terminal, connected to external PSRAM data terminal
39	D4	It/O	External PSRAM terminal, connected to external PSRAM data terminal
40	D3	It/O	External PSRAM terminal, connected to external PSRAM data terminal
41	SYNCO	O	fs (word) clock output terminal for external A/D converter
42	256FS	O	256fs clock output terminal for external A/D converter
43	ADD	It	Data input terminal for external A/D converter
44	64FS	O	64fs clock output terminal for external A/D converter
45	XO	O	Crystal oscillator connecting terminal
46	XI	Ic	Crystal oscillator connecting terminal (11.2896MHz)
47	DGND		Ground (digital section)
48	AVDD		+5V terminal (analog section)
49	FR	AO	FRch D/A output terminal
50	FL	AO	FLch D/A output terminal
51	CHL	AI/O	Capacitor connecting terminal for LINS input sample/hold
52	LINS	AI	Lch built-in A/D input terminal
53	RINS	AI	Rch built-in A/D input terminal
54	CHR	AI/O	Capacitor connecting terminal for RINS input sample/hold
55	RL	AO	RLch built-in D/A output terminal
56	RR	AO	RRch built-in D/A output terminal
57	CV	AO	Built-in A/D, D/A center potential output terminal
58	AGND		Ground (analog section)
59	AGND		Ground (analog section)
60	VREF	AI	Built-in multiplying DAC reference potential input terminal
61	LINM	AI	Lch built-in multiplying DAC input terminal
62	RINM	AI	Rch built-in multiplying DAC input terminal
63	VOLM	AO	Lch multiplying DAC (-) side output, connected to Lch operation amplifier (-) terminal
64	VOLP	AO	Lch multiplying DAC (+) side output, connected to Lch operation amplifier (+) terminal

Note : Letters used in the above I/O column represent as follows.

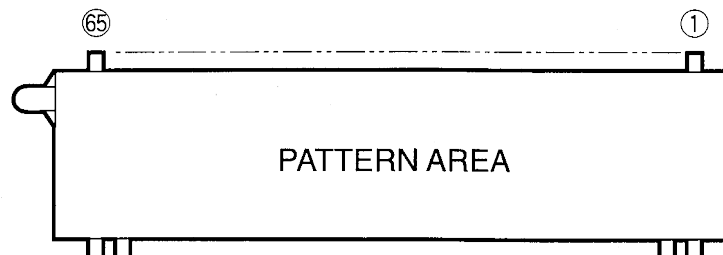
- Ic : CMOS level input terminal
- It : TTL level input terminal
- Is : Schmidt trigger input terminal
- O : Digital output terminal
- AI : Analog input terminal
- AO : Analog output terminal

**IC406 : LC74781-9626**  
**Superimpose**


Pin No.	Symbol	Terminal name	Function
1	VSS1	Ground terminal	Connection to GND (Digital system ground terminal)
2	XTAL IN	Crystal oscillation terminal	Terminal to connect the crystal of the crystal oscillator for internal synchronous signal generation and a capacitor or to input an external clock. (2fsc or 4fsc)
3	XTAL OUT		Switching terminal between the mode to input a clock externally and the mode for crystal oscillation. [L] = Crystal oscillation, [H] = External clock input
4	CTRL1	Crystal oscillation input switching terminal	
5	BLANK	Blank output terminal	Terminal to output the blank signal (character and bordering OR signal) (MOD0 : complex synchronous signal output at [H]). When resetting (RST terminal = [L]), a crystal oscillation clock is output (but not when resetting by the command).
6	OSC IN	LC oscillation terminal	Terminal to connect the coil of the oscillator for character output dot clock generation and a capacitor.
7	OSC OUT		
8	CHARA	Character output terminal	Terminal to output a character signal (MOD0 : It becomes an output terminal to judge the external synchronous signal at [H] and outputs the result after judging existence of the external synchronous signal. When a synchronous signal exists, [H] is output.) When resetting (RST terminal = [L]), a dot clock (LC oscillation) is output (but it is not output when reset by the command.)
9	/CS	Enable input terminal	Serial data input enable input terminal. The serial data input becomes enable at [L]. A pull-up resistor is built in (hysteresis input).
10	SCLK	Clock input terminal	Input terminal of clock for serial data input. A pull-up resistor is built in (hysteresis input).
11	SIN	Data input terminal	Serial data input terminal. A pull-up resistor is built in (hysteresis input).
12	VDD2	Power supply terminal	Power supply terminal for complex image signal level adjustment (Power supply for analog system)
13	CV OUT	Video signal output terminal	Output terminal for complex image signal.
14	NC		Connected to GND or unconnected.
15	CV IN	Video signal input terminal	Input terminal for complex image signal.
16	VDD1	Power supply terminal	Power supply terminal (+5V : power supply for digital system)
17	SYN IN	Synchronous separation circuit input terminal	Video signal input terminal of the built-in synchronous separation circuit (When the built-in synchronous separation circuit is not used, it becomes a horizontal synchronous signal input or a complex synchronous signal input.)
18	SEP C	Synchronous separation circuit bias voltage terminal	Terminal to monitor built-in synchronous separation circuit bias voltage.
19	SEP OUT	Complex synchronous signal output terminal	Terminal to output a complex synchronous signal of built-in synchronous separation circuit ([H] when internally synchronized at MOD1 : [H], [L] output when externally synchronized) (When the built-in synchronous separation circuit is not used, SYNIN input signal is output.)
20	SEP IN	Vertical synchronous signal input terminal	Terminal to input a vertical synchronous signal by integrating the output signal of SEPOUT terminal. Connect the integration circuit between SEPOUT terminals. Fix it to VDD1 when not used.
21	CTRL2	NTSC/PAL-M switching input terminal	Pin setting has a priority over switching of NTSC/PAL/PAL-M/PAL-N method. The NTSC method is selected after [L]= reset. NTSC/PAL/PAL-M/PAL-N method setting by a command is effective. [H] = PAL-M method.
22	CTRL3	SEPIN input control terminal	Terminal to control whether or not to input VSYNC signal into SEPIN input terminal. [L] = VSYNC inputted, [H] = VSYNC not inputted.
23	/RST	Reset input terminal	System reset input terminal. A pull-up resistor is built in (hysteresis input).
24	VDD1	Power supply terminal (+5V)	Power supply terminal (+5V : power supply for digital system)

## ■ DISPLAY DATA (VZ31050)

### ● V801 : 16-BT-53GK



### ● PIN CONNECTION

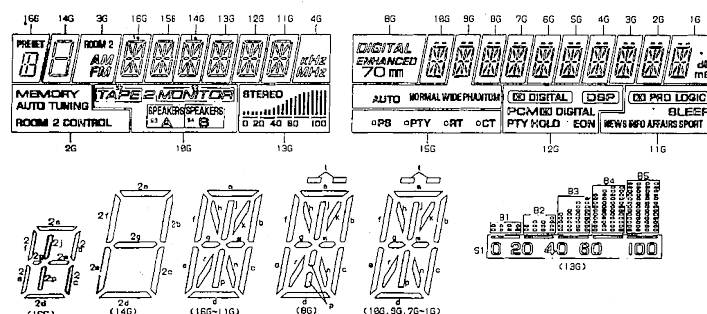
Pin No.	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47
Connection	F2	F2	NP	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4
Pin No.	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
Connection	P3	P2	P1	NC	NC	NC	NC	NC	NC	IC	NP	Fd	Fd	NP	IC	16G	15G	14G	13G
Pin No.	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9
Connection	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NC	NC	NC	NC	NC	NC	NC
Pin No.	8	7	6	5	4	3	2	1											
Connection	NC	NC	NC	NC	NC	NP	F1	F1											

Note 1) F1, F2 ..... Filament  
2) NP ..... No Pin

3) NC ..... No Connection  
4) P1~P19 ..... Datum Line

5) 1G~16G ..... Grid  
6) IC ..... Internal connection

### ● GRID ASSIGNMENT

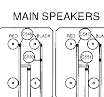


### ● ANODE CONNECTION

	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G ~5G	4G	3G	2G	1G
P1	1a	a	1a	a	a	a	a	a	a	a	a	a	a	a
P2	1b	b	1b	b	b	b	b	b	b	b	b	b	b	b
P3	1c	c	1c	c	c	c	c	c	c	c	c	c	c	c
P4	1d	d	1d	d	d	d	d	d	d	d	d	d	d	d
P5	1e	e	1e	e	e	e	e	e	e	e	e	e	e	e
P6	1f	f	1f	f	f	f	f	f	f	f	f	f	f	f
P7	1g	g	1g	g	g	g	g	g	g	g	g	g	g	g
P8	1m	m	1m	m	m	m	h	h	h	h	h	h	h	h
P9	1j, 1p	j, p	1j, 1p	j, p	j, p	j, p	j	j	j	j	j	j	j	j
P10	1k, 1r	k, r	1k, 1r	k, r	k, r	k, r	k	k	k	k	k	k	k	k
P11	1h, 1n	h, n	1h	h	h	h	m	m	m	m	m	m	m	m
P12	PRESET □ (PS)	1n	n	n	n	n	n	n	n	n	n	n	n	n
P13	2a	PS	2a	STEREO	DIGITAL	PRO LOGIC	p	p	p	p	p	p	p	p
P14	2b, 2c	□ (PTY)	2b	B1	DSP	SLEEP	r	r	r	r	r	r	r	r
P15	2d	PTY	2c	B2	PCM	NEWS	t	t	t	t	t	t	t	t
P16	2e, 2f	□ (RT)	2d	B3	DO	INFO	S2	AUTO	-	-	-	-	-	-
P17	2g	RT	2e	B4	DIGITAL	AFFAIRS	2	NORMAL	DIGITAL	-	KHz	ROOM 2	MEMORY	dB
P18	2j, 2p	□ (CT)	2f	B5	PTY HOLD	SPORT	S3	WIDE	ENHANCED	-	MHz	AM	AUTO TUNING	ms
P19	2m	CT	2g	S1	EON	-	S4	PHANTOM	70 mm	-	-	FM	ROOM 2 CONTROL	-

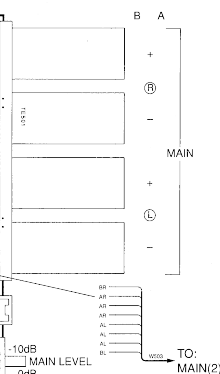
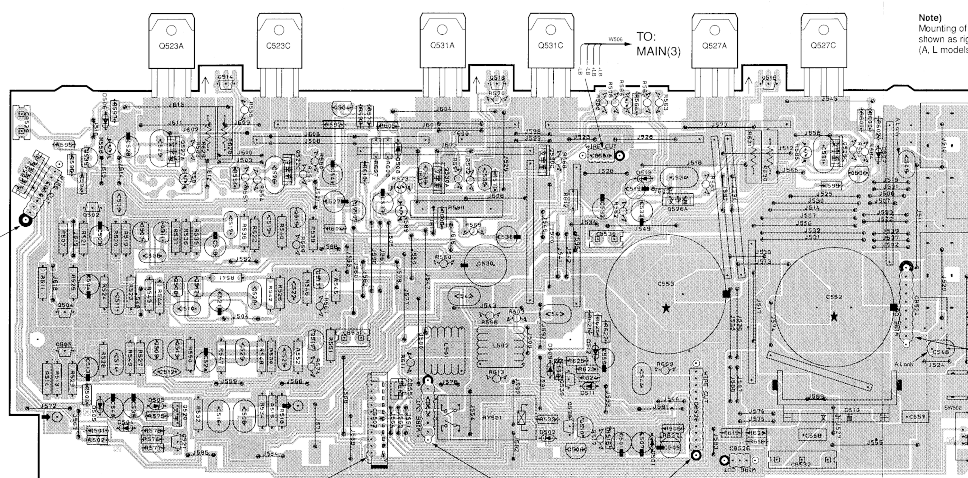
■PRINTED CIRCUIT BOARD (Foil side)/シート図 (パターン側)

MAIN P. C. B. (1)



Note)  
Mounting of C546,547,550,551  
shown as right.  
(A, L models only)

FROM:  
OPERATION(7)



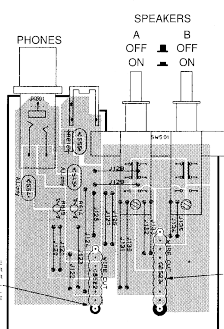
FROM:  
OPERATION(2)

TO:  
MAIN(2)

TO:  
MAIN(4)

TO:  
POWER TRANSFORMER  
TO:  
MAIN(7)(U, C, R, T, A models)  
TO:  
OPERATION(6)(J, L models)

MAIN P. C. B. (2)

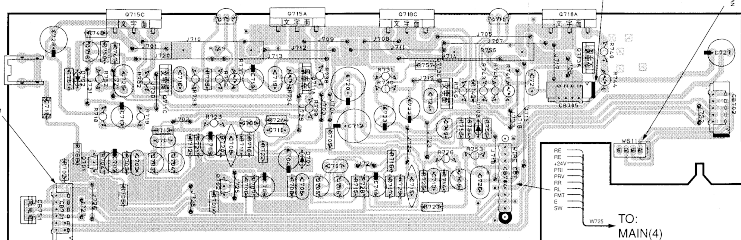


TO:  
MAIN(1)

FROM:  
INPUT(1)

TO:  
MAIN(1)

MAIN P. C. B. (3)



FROM:  
MAIN(1)

TO:  
OPERATION(6)

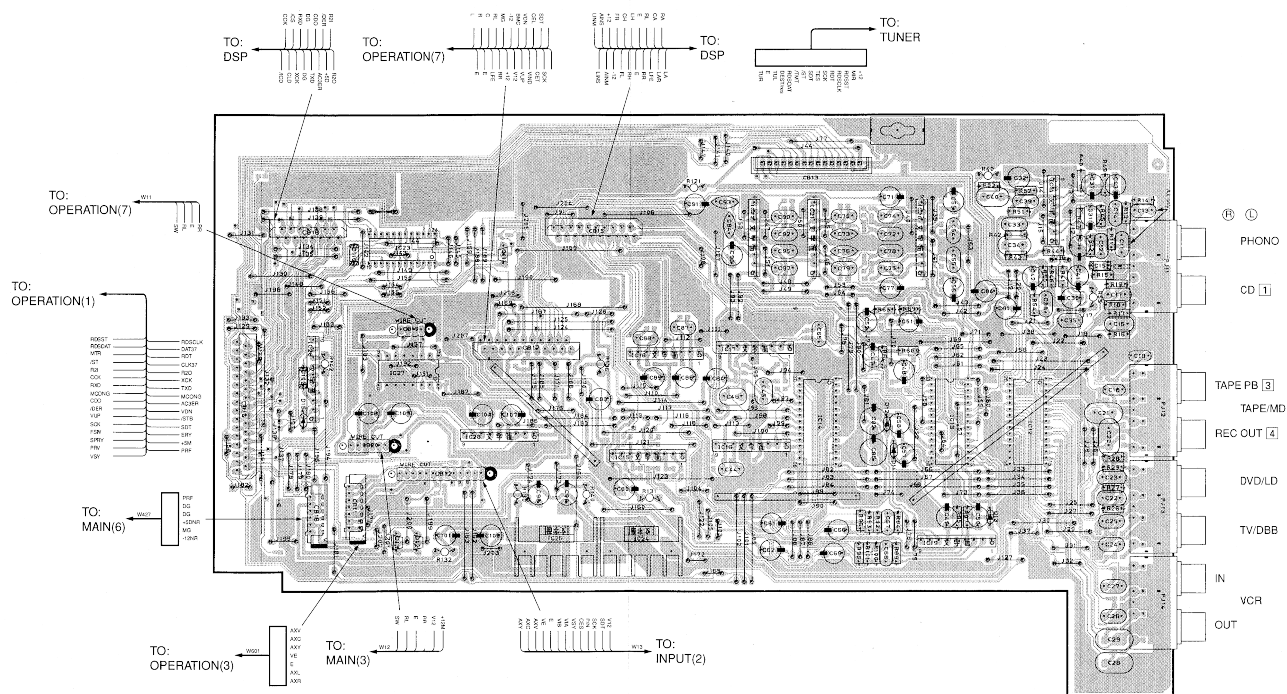
TO:  
MAIN(5)

TO:  
MAIN(4)

RX-V793/R-V1103/DSP-R793

■PRINTED CIRCUIT BOARD (Foil side)/シート図 (パターン側)

INPUT P. C. B. (1)





A

B

C

D

E

F

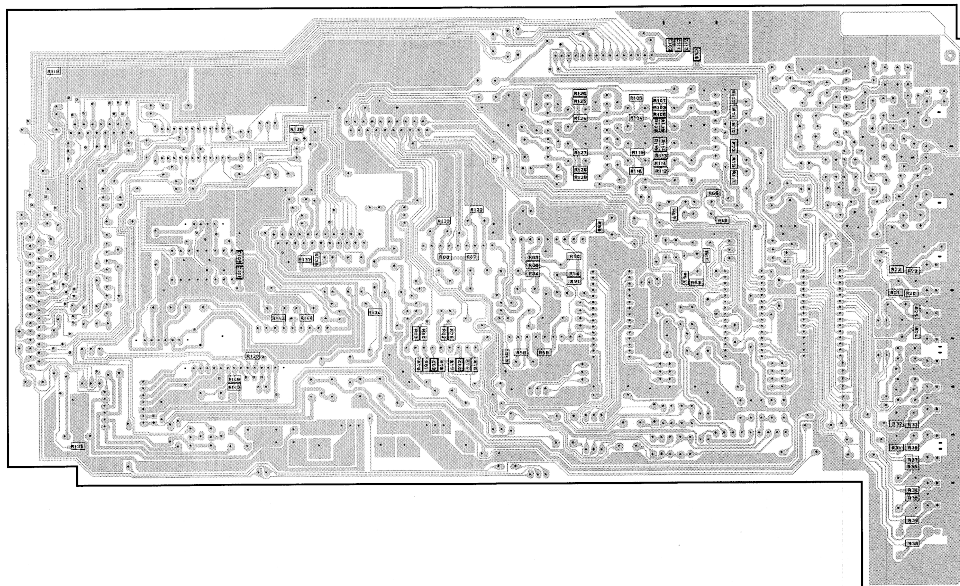
G

H

RX-V793/R-V1103/DSP-R793

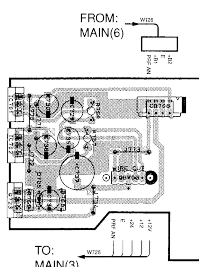
## ■PRINTED CIRCUIT BOARD (Foil side)/シート図 (パターン側)

INPUT P. C. B. (1)

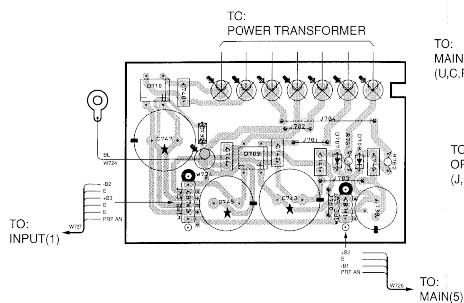


■PRINTED CIRCUIT BOARD (Foil side)/シート図 (パターン側)

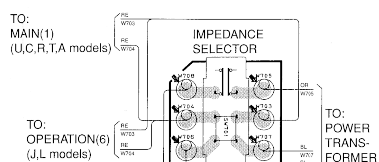
MAIN P. C. B. (5)



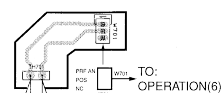
MAIN P. C. B. (6)



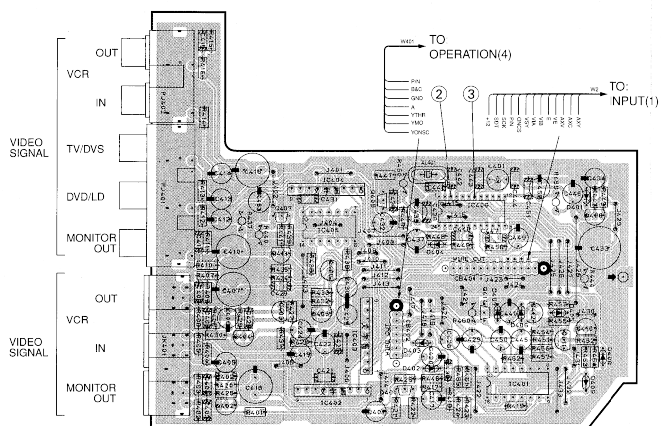
MAIN P. C. B. (7)



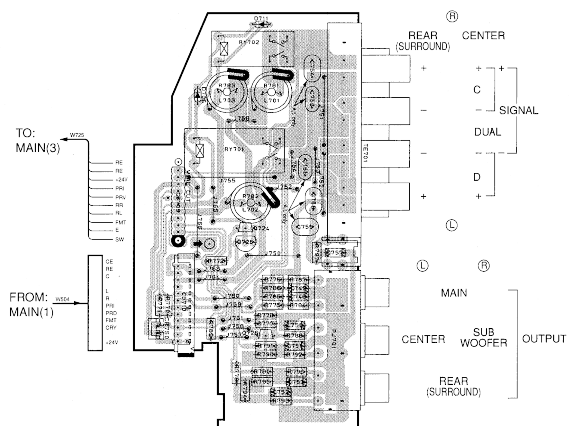
MAIN P. C. B. (8)



INPUT P. C. B. (2)



MAIN P. C. B. (4)





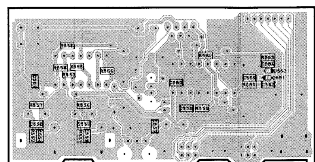
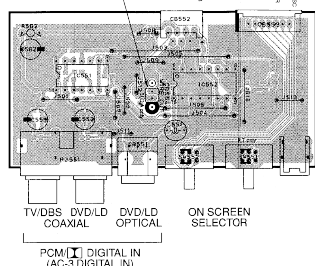
■PRINTED CIRCUIT BOARD (Foil side)／シート図 (パターン側)

OPERATION P. C. B. (4)

TO: OPERATION(9)  
(U.C.A models)

TO: DSP

FROM: INPUT(2)



OPERATION P. C. B. (7)

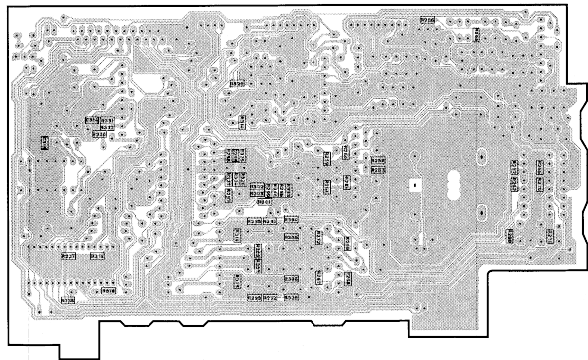
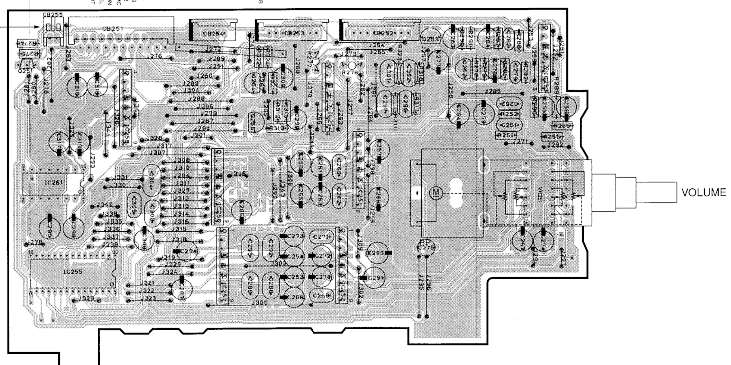
FROM: INPUT(1)

FROM: MAIN(1)

FROM: OPERATION(5)

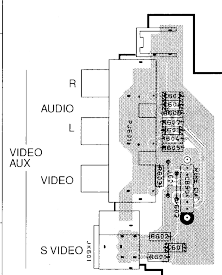
TO: INPUT(1)

FROM: INPUT(5)

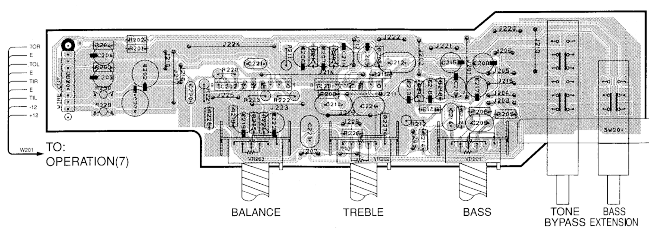


# ■PRINTED CIRCUIT BOARD (Foil side)/シート図 (パターン側)

OPERATION P. C. B. (3)

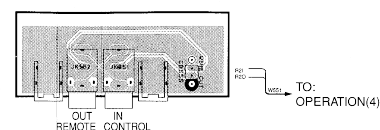


OPERATION P. C. B. (5)

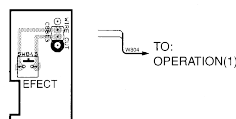


• U,C,A models only

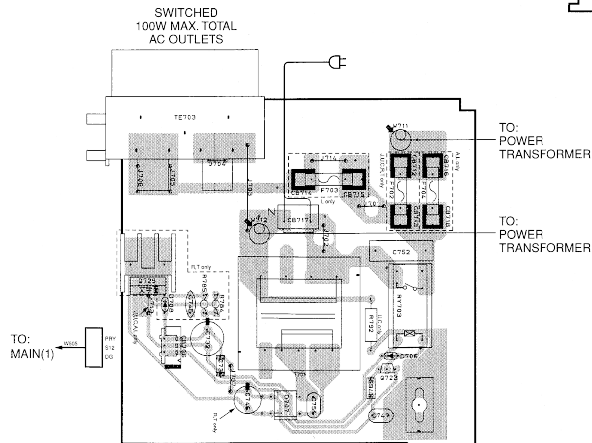
OPERATION P. C. B. (8)



OPERATION P. C. B. (2)

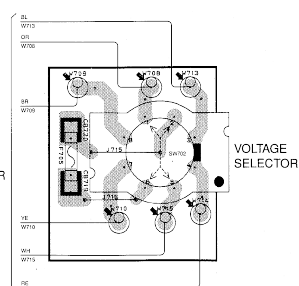


INPUT P. C. B. (3)

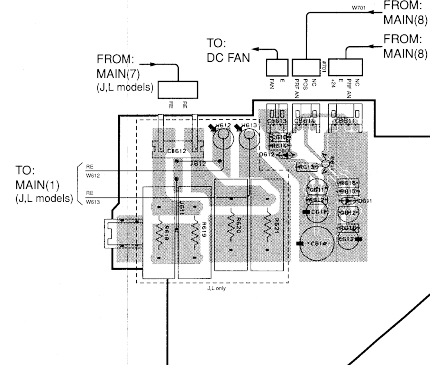


• R,T models only

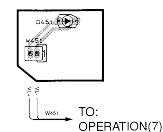
INPUT P. C. B. (4)



OPERATION P. C. B. (6)



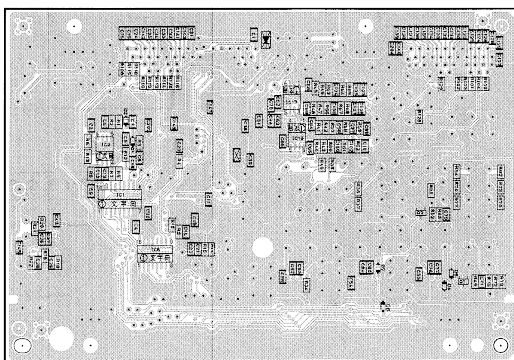
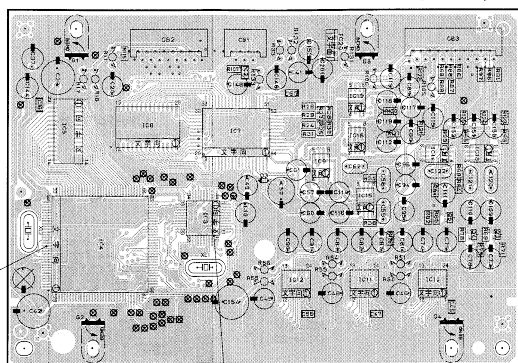
INPUT P. C. B. (5)



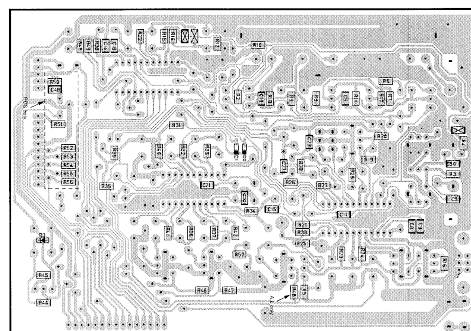
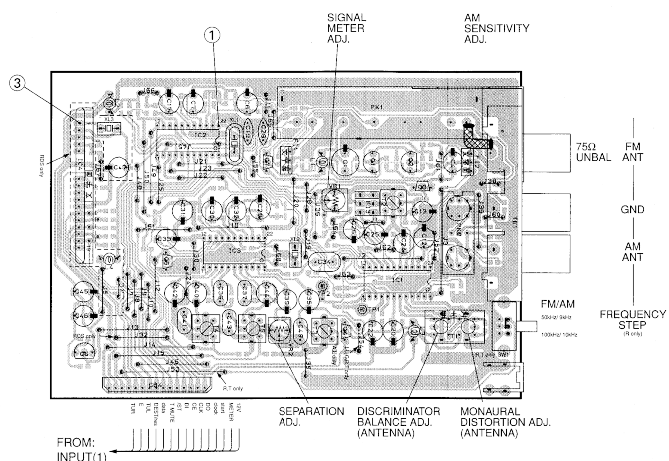
■PRINTED CIRCUIT BOARD (Foil side)／シート図 (パターン側)

DSP P. C. B.

TO: INPUT(1) TO: OPERATION(4) TO: INPUT(1)

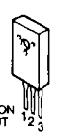

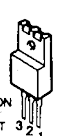



















TUNER P. C. B.












# **PIN CONNECTION DIAGRAM / 半導体外形図**








## **● ICs**

AN78N05 	NJM7812FA 	NJM79M12FA NJM79M05FA 	NJM2068L-D 	LA7956 	μPC4570HA 	LB1641 
TC74HCU04AP μPD4066C 	TC4053BP HD74HC153P HD74HC4051P TC9299P 	LA3401 LC72131 	LA1266 LC74781-9626 NJU3716L 			
LC78213 LC78211 	HD6473726F 	YSS243B-F 				
NJM2904M-T1 NJM4558MT-1 μPC4570G2 	TC74HC02AF-TP1 TC74HC157AF-TP1 	AK4320-VM 	LH5P832N-10 UM61256FS-15Q 	YM3436DK 	YSS245-F 	

## **● Transistors**

<b>2SA933S (Q, R)</b> <b>2SC1740S (R, S)</b> <b>2SC3330 (S, T)</b> <b>2SD1915F (S, T)</b> 	<b>DTA114ES</b> <b>DTA144ES</b> <b>DTC114ES</b> <b>DTC144ES</b> 	<b>2SA893A (D, E)</b> <b>2SA970 (GR, BL)</b> <b>2SA1015 (Y)</b> <b>2SB647 (C, D)</b> 	<b>2SC535 (A, B, C)</b> <b>2SC1815 (Y)</b> <b>2SC1890A (D, E)</b> <b>2SC2229 (O, Y)</b> <b>2SC2240 (GR, BL)</b> <b>2SC2878 (A, B)</b> 	<b>2SC4488 (S, T)</b> 
<b>2SC3326 (A, B)</b> <b>DTA144EK</b> 	<b>2SA1358 (O, Y)</b> <b>2SC3421 (O, Y)</b> 	<b>2SC4495</b> <b>2SD2396 (J, K)</b> 	<b>2SA1492 (O, P, Y)</b> <b>2SC3856 (O, P, Y)</b> <b>2SA1962 (R, O)</b> <b>2SC5242 (R, O)</b> 	

## **● Diodes**

<b>1SR139-400</b> <b>1SS133</b> <b>1SS270A</b> 	<b>MA8056-H</b> <b>HZS5B2TD</b> <b>HZS6B2TD</b> <b>HZS6C2TD</b> <b>HZS7B2TD</b> <b>HZS12B2TD</b> <b>HZS12C2TD</b> <b>HZS152TD</b> <b>HZS242TD</b> <b>HZS302TD</b> 	<b>1SS355</b> 	<b>SIM-22SI</b> 	<b>SLR-325DC</b> 	<b>D5SBA20</b> 	<b>S1NB20</b> 
---	---	--	--	---	---	--

A

B

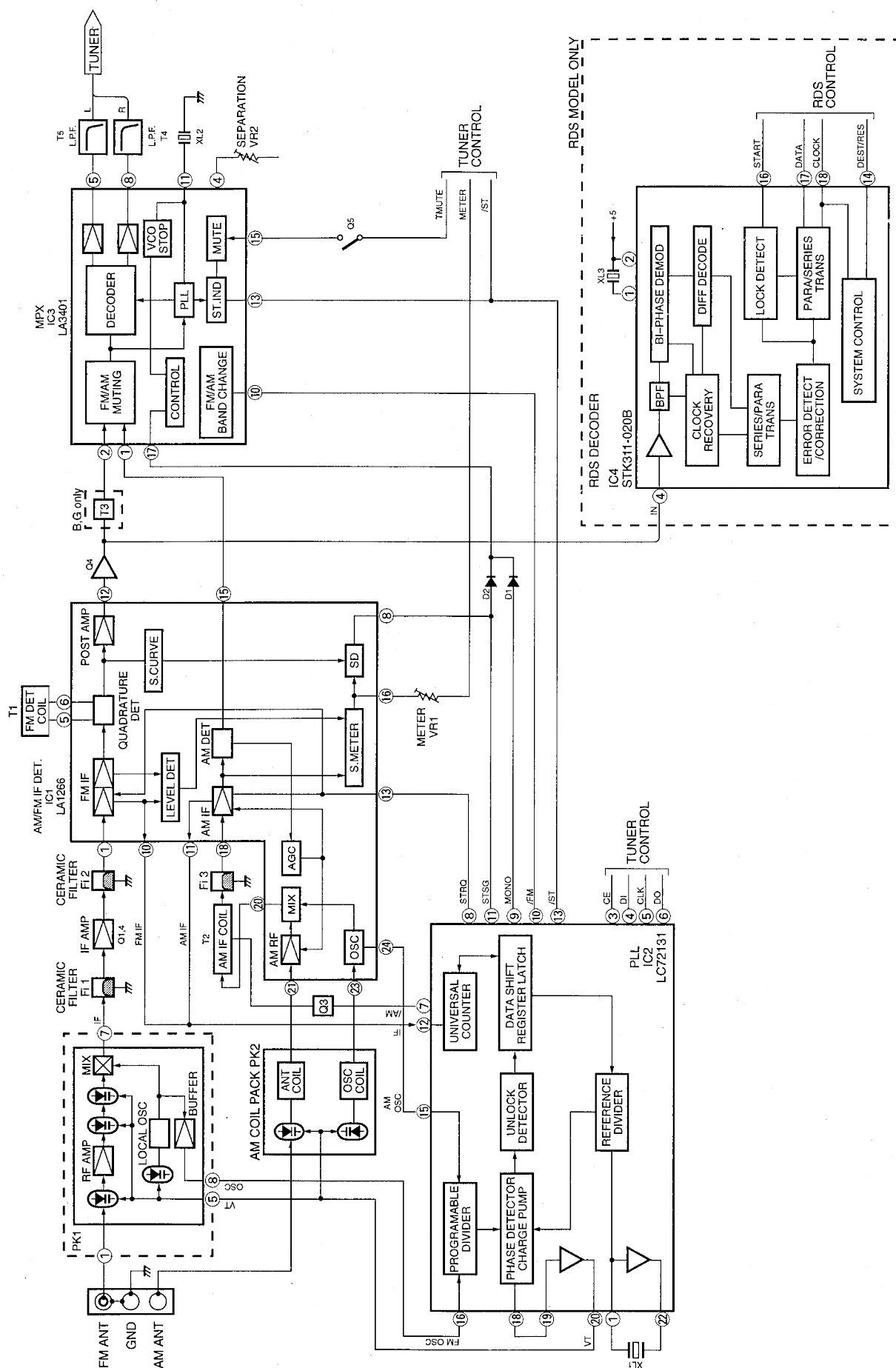
C

D

E

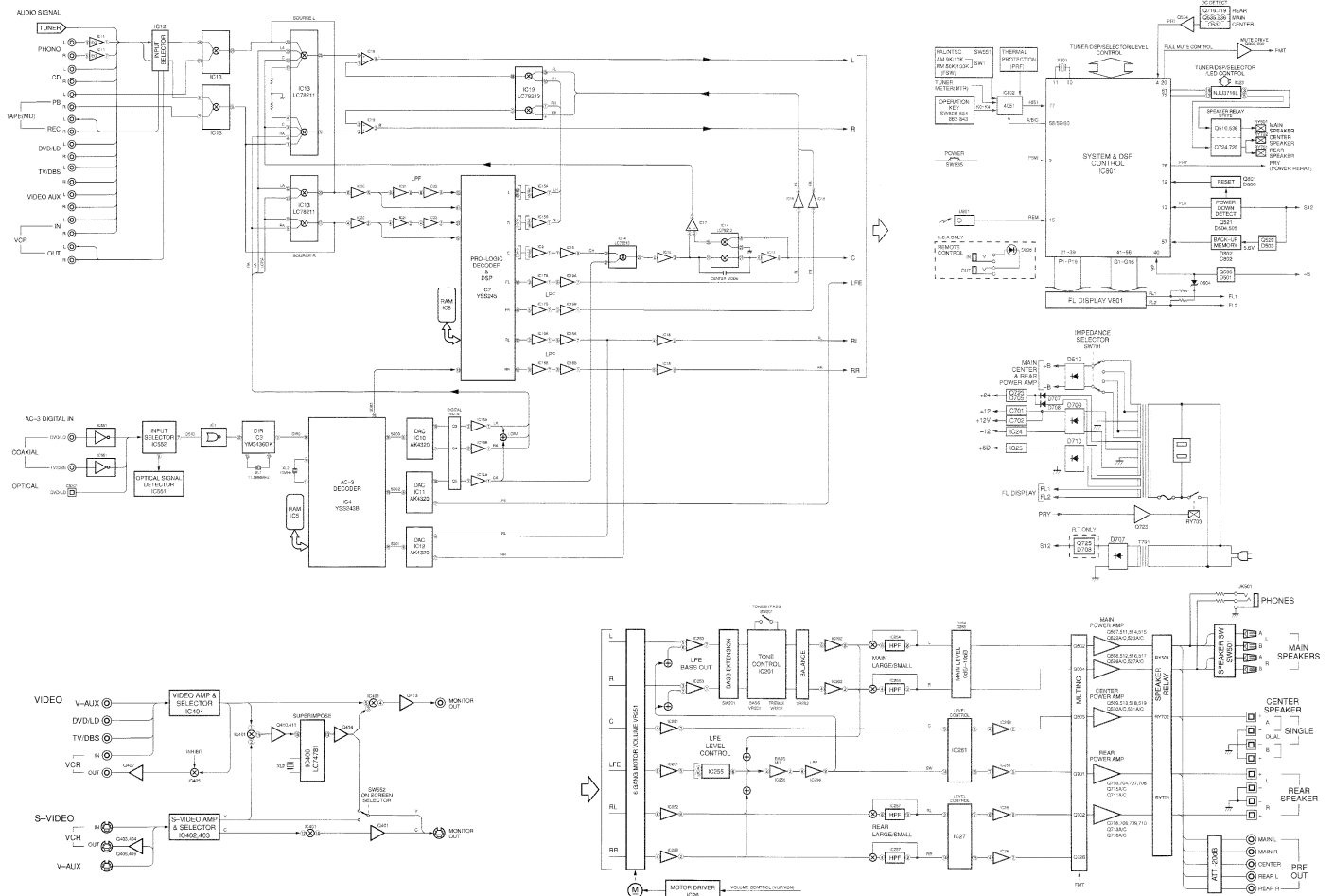
RX-V793/R-V1103/DSP-R793

# ■ BLOCK DIAGRAM / ブロックダイアグラム



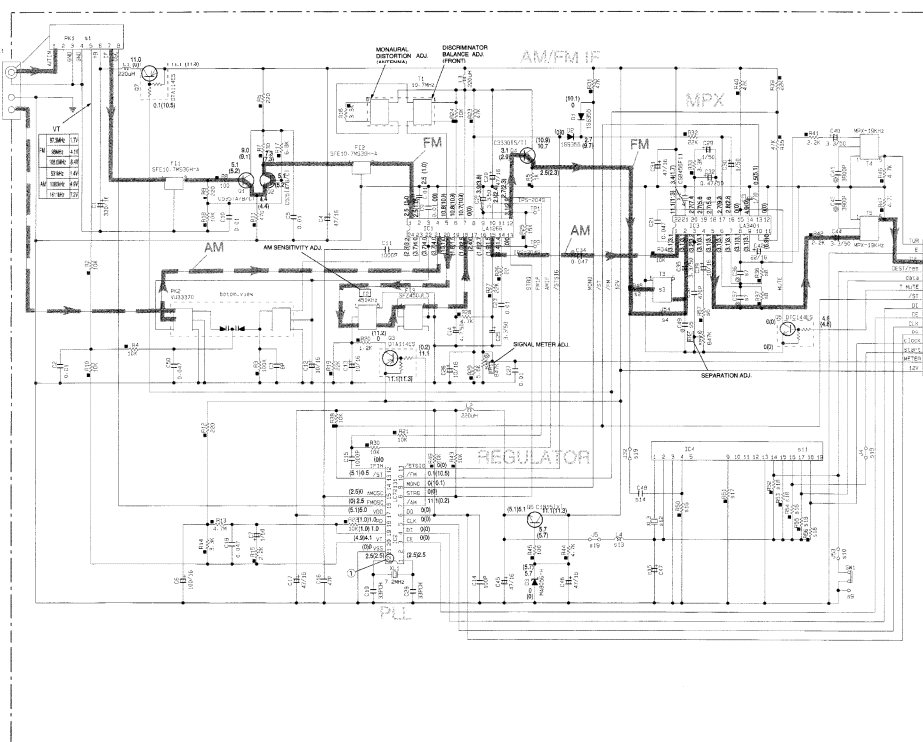


## ■ BLOCK DIAGRAM / ブロックダイアグラム



BLOCK DIAGRAM

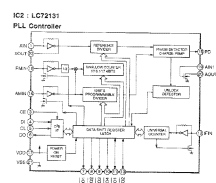
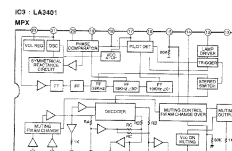
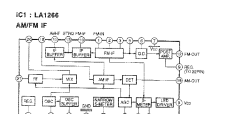
Each voltage given here represents that in the FM (98.1MHz, STEREO) reception mode but the one in the parentheses ( ) is that in the AM (1080kHz, MAN'L) reception mode.

[illegible]

CAPACITOR	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊗	CERAMIC TUBULAR CAPACITOR
⊗	POLYESTER FILM CAPACITOR
⊗	POLYSTYRENE FILM CAPACITOR
⊗	MICA CAPACITOR
⊗	POLYPROPYLENE FILM CAPACITOR
⊗	SEMICONDUCTIVE CERAMIC CAPACITOR

RESISTOR	
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
⊗	CARBON FILM RESISTOR (P=10)
⊗	METAL OXIDE FILM RESISTOR
⊗	METAL FILM RESISTOR
⊗	METAL PLATE RESISTOR
⊗	FINE PITCH CARBON FILM RESISTOR
⊗	CEMENT WOLED RESISTOR
⊗	SEMI VARIABLE RESISTOR

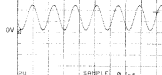
NOTICE (model  
(J)..... JAPANESE  
(U)..... U. S. A  
(C)..... CANADIAN  
(R)..... GENERAL  
(A)..... AUSTRALIAN  
(B)..... BRITISH  
(G)..... EUROPEAN  
(T)..... CHINA  
(L)..... SINGAPORE



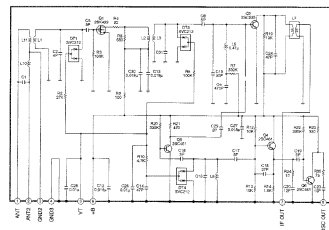
**Point ①** (Pin22 of IC2) FM reception  
 $V = 20\text{Vdc}$        $I_d = 0.4\text{mA}$

V : 2V/div      H : 0.1μsec/div  
DC range      1 : 1 probe

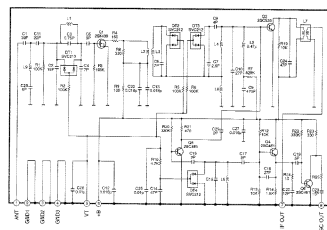
2017-1-8 10:11:11 192.168.1.100



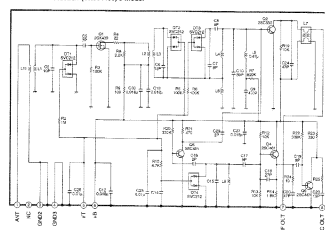
● PK1 : EXV-17295G1 (VR242200) U, C, R, T models



● PK1 : EXV-17296G1 (VQ887600) A. L model



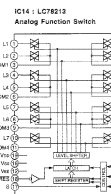
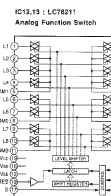
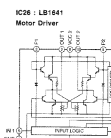
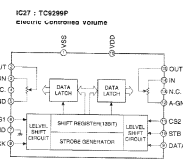
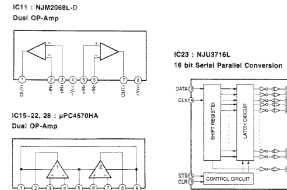
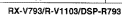
● PK1 : ENV-14292G1 (VR804400) J model



- \* All voltage are measured with a 10MΩ/DC electric volt meter.
- \* Components having special characteristics are marked  $\Delta$  and must be replaced with parts having specifications equal to those originally installed.
- \* Schematic diagram is subject to change without notice.

- 電圧は、内部抵抗10MΩの電圧計で測定したものです。
- △印のある部品は、安全性確保部品を示しています。部品の交換が必要をパーツリストに記載されている部品を使用してください。
- ※開閉装置は標準規格です。改良のため予告なく変更することがございます。

## 1



\* All voltage are measured with a 10M $\Omega$ /DC electric volt meter.  
 \* Components having special characteristics are marked  $\frac{1}{2}$  and must be replaced with parts having specifications equal to those originally installed.  
 \* Schematic diagram is subject to change without notice.

●電圧は、内装抵抗10M $\Omega$ の電圧計で測定したものです。  
 ●大1印のある部品は、特殊な特性部品を使用しています。部品の交換が必要な場合は、必ず同等の部品で交換してください。  
 ●本図は図は標準回路図です。改良のため予告なく変更することがございます。

\* Schematic diagram is subject to change without notice.

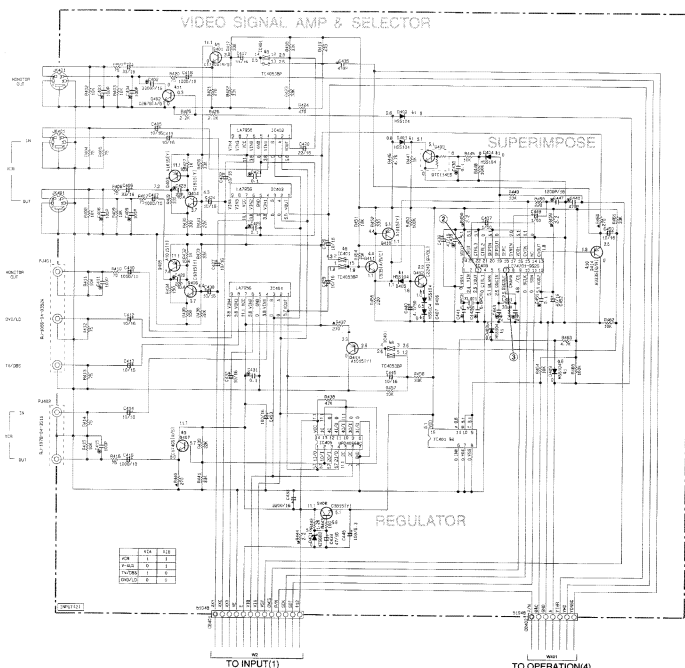
**INPUT**

## ■SCHEMATIC DIAGRAM (INPUT)/総回路図

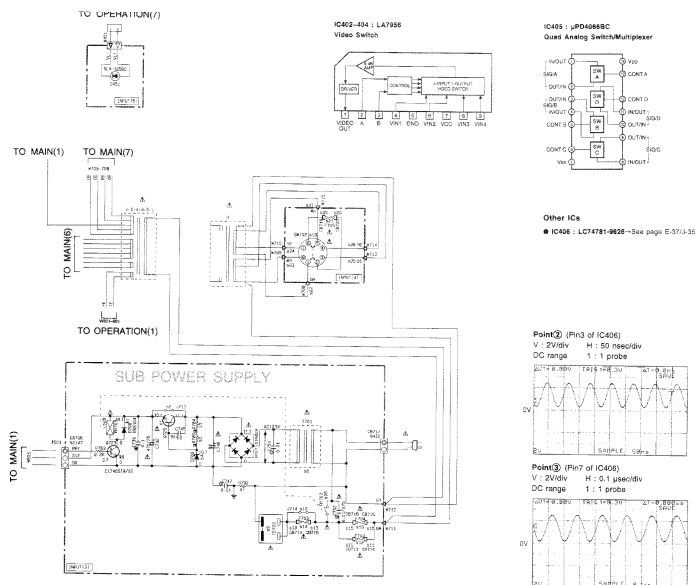
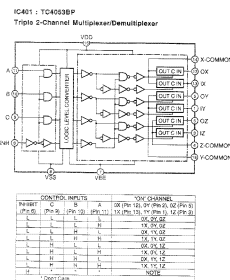
REF. MARK	PARTS NAME	IC
IC1	VIDEO AMP & SELECTOR	LA7931
IC2	VIDEO AMP & SELECTOR	LA7931
IC3	VIDEO AMP & SELECTOR	LA7931
IC4	VIDEO AMP & SELECTOR	LA7931
IC5	VIDEO AMP & SELECTOR	LA7931
IC6	VIDEO AMP & SELECTOR	LA7931
IC7	VIDEO AMP & SELECTOR	LA7931
IC8	VIDEO AMP & SELECTOR	LA7931
IC9	VIDEO AMP & SELECTOR	LA7931
IC10	VIDEO AMP & SELECTOR	LA7931

REF. MARK	PARTS NAME	IC
IC11	VIDEO AMP & SELECTOR	LA7931
IC12	VIDEO AMP & SELECTOR	LA7931
IC13	VIDEO AMP & SELECTOR	LA7931
IC14	VIDEO AMP & SELECTOR	LA7931
IC15	VIDEO AMP & SELECTOR	LA7931
IC16	VIDEO AMP & SELECTOR	LA7931
IC17	VIDEO AMP & SELECTOR	LA7931
IC18	VIDEO AMP & SELECTOR	LA7931
IC19	VIDEO AMP & SELECTOR	LA7931
IC20	VIDEO AMP & SELECTOR	LA7931

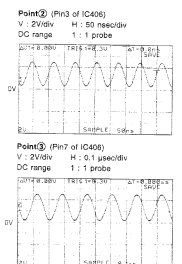
REF. MARK	PARTS NAME	IC
IC21	VIDEO AMP & SELECTOR	LA7931
IC22	VIDEO AMP & SELECTOR	LA7931
IC23	VIDEO AMP & SELECTOR	LA7931
IC24	VIDEO AMP & SELECTOR	LA7931
IC25	VIDEO AMP & SELECTOR	LA7931
IC26	VIDEO AMP & SELECTOR	LA7931
IC27	VIDEO AMP & SELECTOR	LA7931
IC28	VIDEO AMP & SELECTOR	LA7931
IC29	VIDEO AMP & SELECTOR	LA7931
IC30	VIDEO AMP & SELECTOR	LA7931



REF. MARK	PARTS NAME	IC
IC31	VIDEO AMP & SELECTOR	LA7931
IC32	VIDEO AMP & SELECTOR	LA7931
IC33	VIDEO AMP & SELECTOR	LA7931
IC34	VIDEO AMP & SELECTOR	LA7931
IC35	VIDEO AMP & SELECTOR	LA7931
IC36	VIDEO AMP & SELECTOR	LA7931
IC37	VIDEO AMP & SELECTOR	LA7931
IC38	VIDEO AMP & SELECTOR	LA7931
IC39	VIDEO AMP & SELECTOR	LA7931
IC40	VIDEO AMP & SELECTOR	LA7931



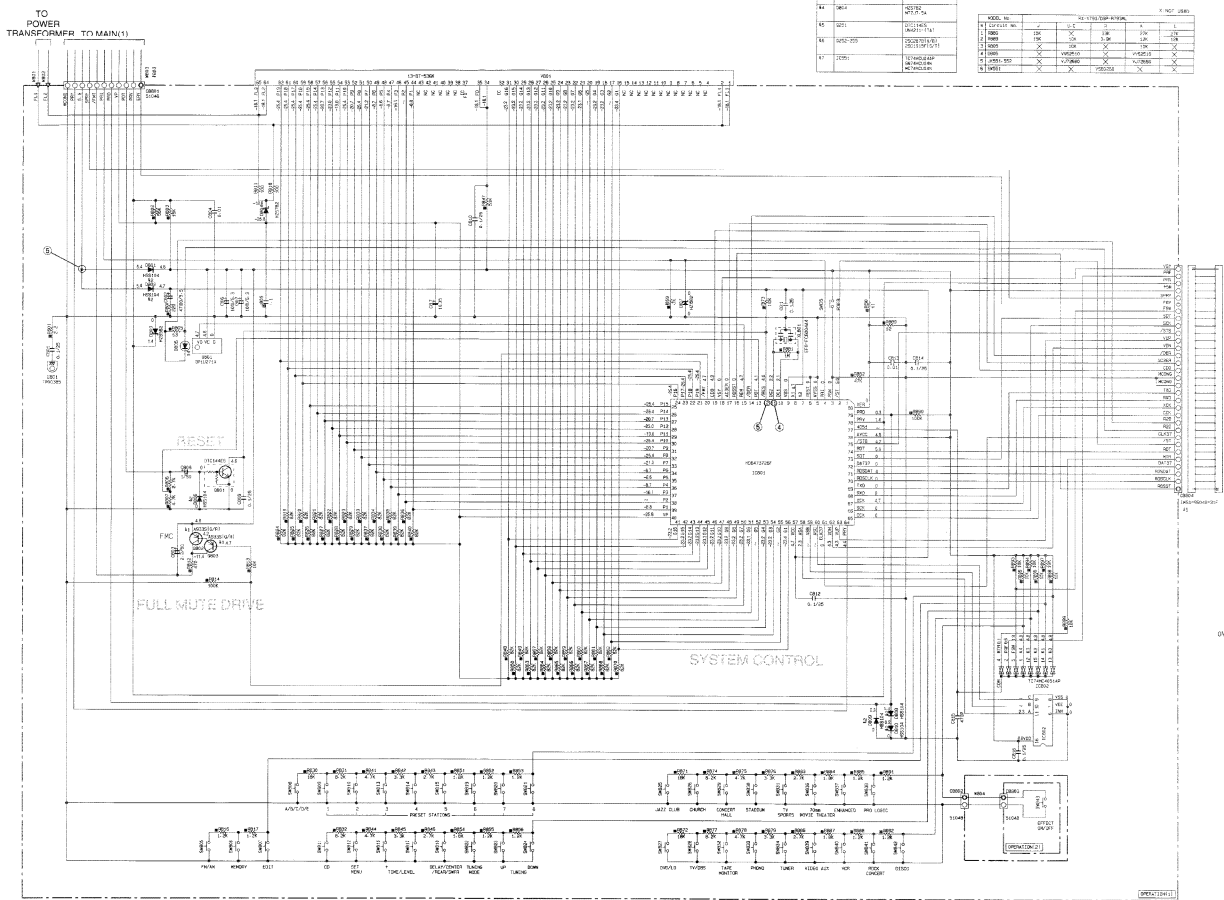
Other ICs  
● IC406 : LC74781-9228--See page E-973-35



- \* All voltage are measured with a 10M $\Omega$ DC electric volt meter.
- \* Components having special characteristics are marked  $\phi$ , and must be replaced with parts having specifications equal to those originally installed.
- \* Schematic diagram is subject to change without notice.
- \* 電圧は、内部抵抗10M $\Omega$ の電圧計で測定したものです。
- \*  $\phi$ は、特殊な性能を有する部品を示しています。部品交換の際は必ず適合品を交換してください。
- \* 本回路図は仕様書と一致するものではありません。

INPUT

## ■SCHEMATIC DIAGRAM (OPERATION)／総回路図



REVISIONS

REV.	DESCRIPTION	DATE	BY	CHKD.
1	INITIAL DESIGN	2001.10.10	Y. K.	T. K.
2	REVISION	2002.03.10	Y. K.	T. K.
3	REVISION	2002.03.10	Y. K.	T. K.
4	REVISION	2002.03.10	Y. K.	T. K.
5	REVISION	2002.03.10	Y. K.	T. K.
6	REVISION	2002.03.10	Y. K.	T. K.
7	REVISION	2002.03.10	Y. K.	T. K.
8	REVISION	2002.03.10	Y. K.	T. K.
9	REVISION	2002.03.10	Y. K.	T. K.
10	REVISION	2002.03.10	Y. K.	T. K.

REVISIONS

REV.	DESCRIPTION	DATE	BY	CHKD.
1	INITIAL DESIGN	2001.10.10	Y. K.	T. K.
2	REVISION	2002.03.10	Y. K.	T. K.
3	REVISION	2002.03.10	Y. K.	T. K.
4	REVISION	2002.03.10	Y. K.	T. K.
5	REVISION	2002.03.10	Y. K.	T. K.
6	REVISION	2002.03.10	Y. K.	T. K.
7	REVISION	2002.03.10	Y. K.	T. K.
8	REVISION	2002.03.10	Y. K.	T. K.
9	REVISION	2002.03.10	Y. K.	T. K.
10	REVISION	2002.03.10	Y. K.	T. K.

CAPACITORS

NO.	VALUE	TYPE	NAME
1	1000µF	ALUMINUM ELECTROLYTIC	1000µF
2	1000µF	ALUMINUM ELECTROLYTIC	1000µF
3	1000µF	ALUMINUM ELECTROLYTIC	1000µF
4	1000µF	ALUMINUM ELECTROLYTIC	1000µF
5	1000µF	ALUMINUM ELECTROLYTIC	1000µF
6	1000µF	ALUMINUM ELECTROLYTIC	1000µF
7	1000µF	ALUMINUM ELECTROLYTIC	1000µF
8	1000µF	ALUMINUM ELECTROLYTIC	1000µF
9	1000µF	ALUMINUM ELECTROLYTIC	1000µF
10	1000µF	ALUMINUM ELECTROLYTIC	1000µF

RESISTORS

NO.	VALUE	TYPE	NAME
1	100k	FIXED	100k
2	100k	FIXED	100k
3	100k	FIXED	100k
4	100k	FIXED	100k
5	100k	FIXED	100k
6	100k	FIXED	100k
7	100k	FIXED	100k
8	100k	FIXED	100k
9	100k	FIXED	100k
10	100k	FIXED	100k

NOTICE (note 1)

(1) U.S.A. (U.S.A.)

(2) JAPAN (JAPAN)

(3) EUROPE (EUROPE)

(4) AUSTRALIA (AUSTRALIA)

(5) CANADA (CANADA)

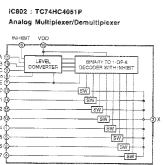
(6) MEXICO (MEXICO)

(7) SOUTH AMERICA (SOUTH AMERICA)

(8) AFRICA (AFRICA)

(9) ASIA (ASIA)

(10) OCEANIA (OCEANIA)

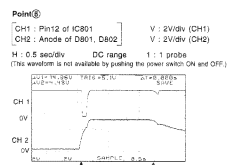
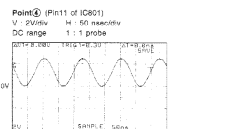


INPUT STATES

INPUT	STATE	NAME
1	0	0
2	1	1
3	0	0
4	1	1
5	0	0
6	1	1
7	0	0
8	1	1
9	0	0
10	1	1
11	0	0
12	1	1
13	0	0
14	1	1
15	0	0
16	1	1
17	0	0
18	1	1
19	0	0
20	1	1
21	0	0
22	1	1
23	0	0
24	1	1
25	0	0
26	1	1
27	0	0
28	1	1
29	0	0
30	1	1
31	0	0
32	1	1
33	0	0
34	1	1
35	0	0
36	1	1
37	0	0
38	1	1
39	0	0
40	1	1
41	0	0
42	1	1
43	0	0
44	1	1
45	0	0
46	1	1
47	0	0
48	1	1
49	0	0
50	1	1
51	0	0
52	1	1
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54	1	1
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63	0	0
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74	1	1
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79	0	0
80	1	1
81	0	0
82	1	1
83	0	0
84	1	1
85	0	0
86	1	1
87	0	0
88	1	1
89	0	0
90	1	1
91	0	0
92	1	1
93	0	0
94	1	1
95	0	0
96	1	1
97	0	0
98	1	1
99	0	0
100	1	1

Other IC

IC801: HD647325P (see page E-28) 27

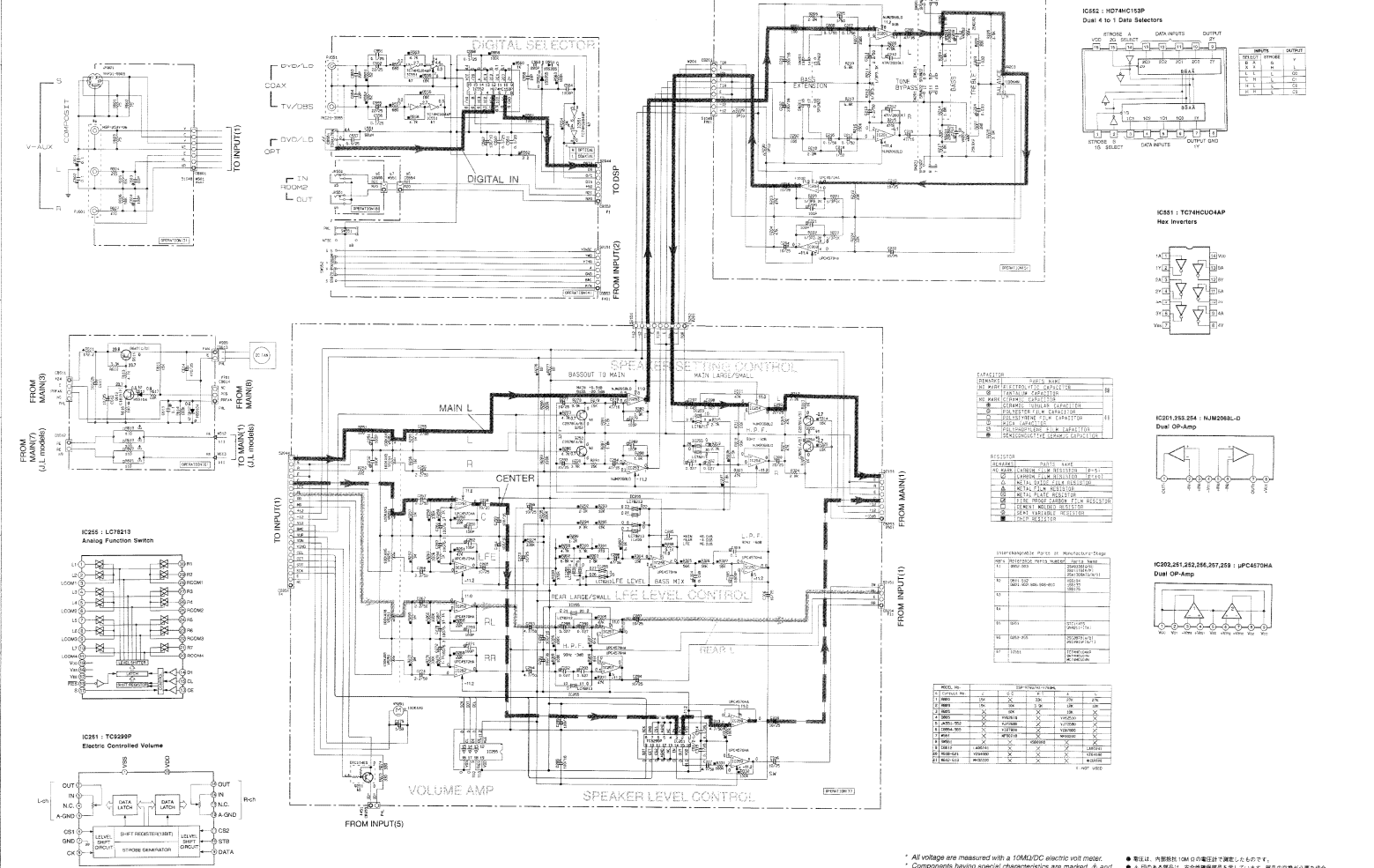


With the POWER ON, disconnect the AC power cord from the AC outlet. Disconnect the power cord from the AC outlet. Reconnect the AC power cord and the above waveforms will start.

- \* All voltage are measured with a 10M $\Omega$  DC electric volt meter.
- \* Components having special characteristics are marked with a triangle and must be replaced with parts having specifications equal to those originally installed.
- \* Schematic diagram is subject to change without notice.
- 電圧は、内部抵抗10M $\Omega$ の電圧計で測定してください。
- 特殊な特性を有する部品は、三角形のマークを付し、同等の規格の部品で交換してください。
- 本図面は、仕様書と同等の効力を持ちます。変更がある場合は、必ずお知らせいたします。

## OPERATION

■SCHEMATIC DIAGRAM (OPERATION)／総回路図

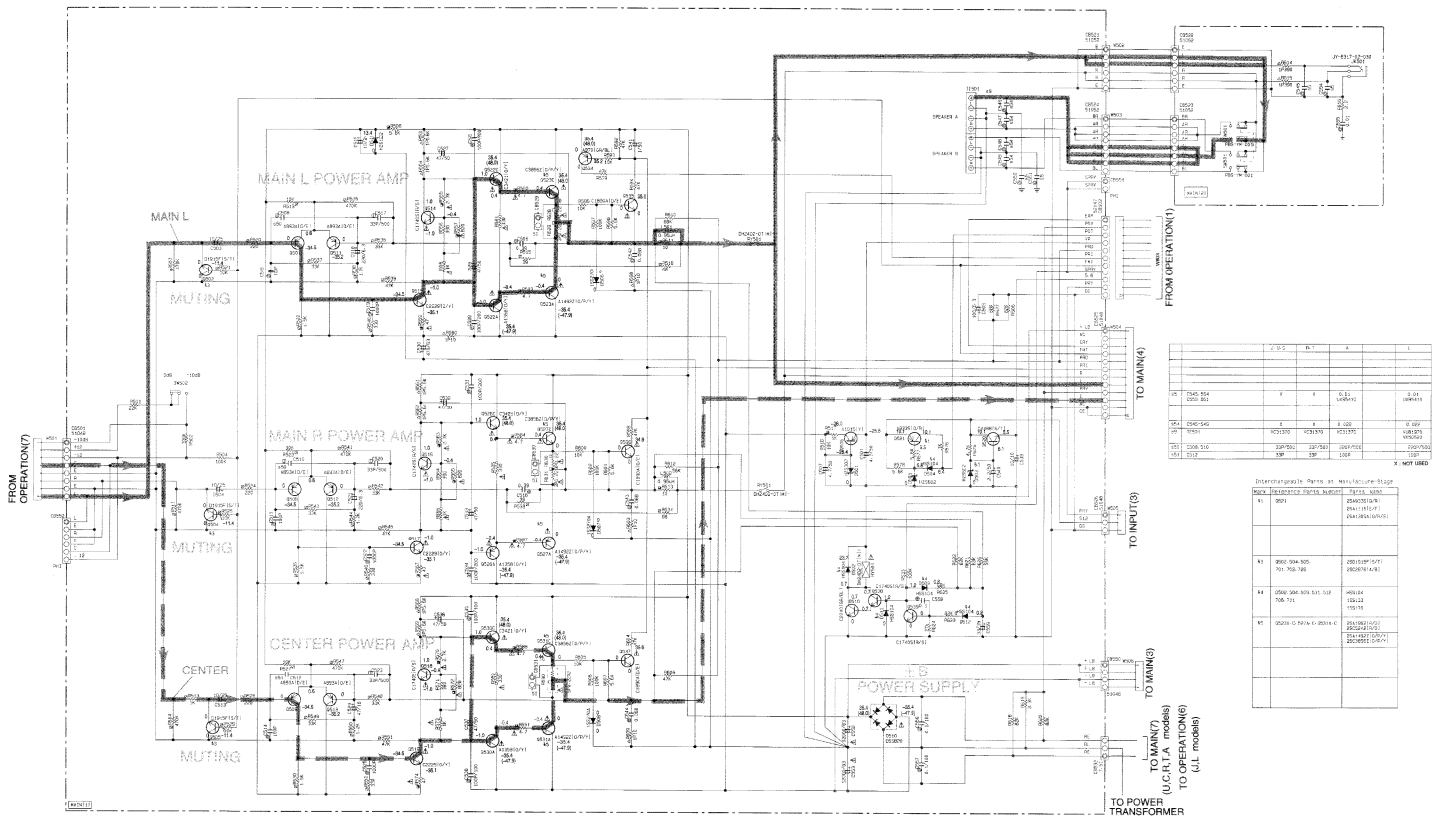


\* All voltage are measured with a 10MΩ/DC electric volt meter.  
 \* Components having special characteristics are marked with \* and must be replaced with parts having specifications equal to those originally installed.  
 \* Schematic diagram is subject to change without notice.

OPERATION

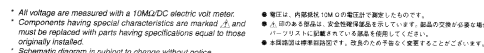
■SCHEMATIC DIAGRAM (MAIN)/総回路図

Each voltage given here represents that in the top side of IMPEDANCE SELECTOR, but the one in the parentheses ( ) is that in the bottom side.



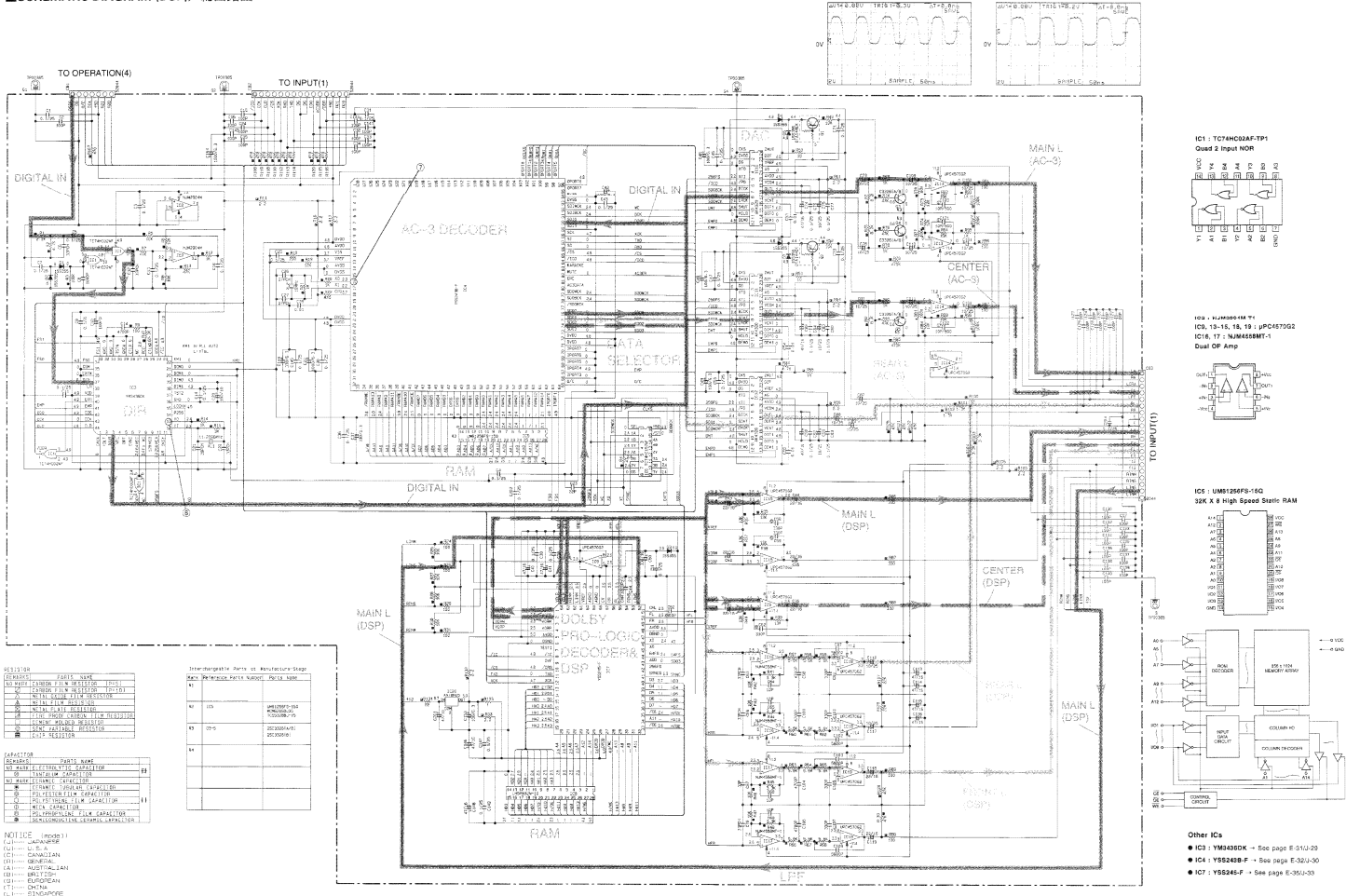
\* All voltage are measured with a 10MΩDC electric volt meter.  
\* Components having special characteristics are marked with (S) and must be replaced with parts having specifications equal to those originally installed.  
\* Schematic diagram is subject to change without notice.

●電圧は、内部抵抗10MΩの電圧計で測定したものです。  
●(S)印のある部品は、特殊な特性を有しています。部品交換の際は必ず同等品、同等仕様に記載されている部品を交換してください。  
●回路図は標準仕様図です。改良のため予告なく変更することがあります。





# ■SCHEMATIC DIAGRAM (DSP)/総回路図



\* All voltage are measured with a 10MΩ/DC electric voltmeter.  
 \* Components having special characteristics are marked with a dot (•) and must be replaced with parts having specifications equal to those originally installed.  
 \* Schematic diagram is subject to change without notice.

●電圧は、内蔵抵抗10MΩの電圧計で測定したものです。  
 ●特殊な性能を有する部品は、半導体符号に点記号を付しています。取替の際は同等品を必ず使用してください。  
 ●回路図は、無断で複製・改訂を禁じます。変更のため予告なく変更することがあります。

DSP

# PARTS LIST

## ■ ELECTRICAL PARTS

### ■ WARNING

Components having special characteristics are marked  $\Delta$  and must be replaced with parts having specifications equal to those originally installed.

- Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the part Nos. of the carbon resistors refer to page 80.
- Chip resistors are listed on page 79.

### ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

C.A.EL.CHP	: CHIP ALUMI. ELECTROLYTIC CAP	L.EMIT	: LIGHT EMITTING MODULE
C.CE	: CERAMIC CAP	LED.DSPLY	: LED DISPLAY
C.CE.ARRAY	: CERAMIC CAP ARRAY	LED.INFRD	: LED, INFRARED
C.CE.CHP	: CHIP CERAMIC CAP	MODUL.RF	: MODULATOR, RF
C.CE.ML	: MULTILAYER CERAMIC CAP	PHOT.CPL	: PHOTO COUPLER
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP	PHOT.INTR	: PHOTO INTERRUPTER
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP	PHOT.RFLCT	: PHOTO REFLECTOR
C.CE.TUBLR	: CERAMIC TUBULAR CAP	PIN.TEST	: PIN, TEST POINT
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP	PLST.RIVET	: PLASTIC RIVET
C.EL	: ELECTROLYTIC CAP	R.ARRAY	: RESISTOR ARRAY
C.MICA	: MICA CAP	R.CAR	: CARBON RESISTOR
C.ML.FLM	: MULTILAYER FILM CAP	R.CAR.CHP	: CHIP RESISTOR
C.MP	: METALLIZED PAPER CAP	R.CAR.FP	: FLAME PROOF CARBON RESISTOR
C.MYLAR	: MYLAR FILM CAP	R.FUS	: FUSABLE RESISTOR
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP	R.MTL.CHP	: CHIP METAL FILM RESISTOR
C.PAPER	: PAPER CAPACITOR	R.MTL.FLM	: METAL FILM RESISTOR
C.PLS	: POLYSTYRENE FILM CAP	R.MTL.OXD	: METAL OXIDE FILM RESISTOR
C.POL	: POLYESTER FILM CAP	R.MTL.PLAT	: METAL PLATE RESISTOR
C.POLY	: POLYETHYLENE FILM CAP	RSNR.CE	: CERAMIC RESONATOR
C.PP	: POLYPROPYLENE FILM CAP	RSNR.CRYS	: CRYSTAL RESONATOR
C.TNTL	: TANTALUM CAP	R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
C.TNTL.CHP	: CHIP TANTALUM CAP	R.WW	: WIRE WOUND RESISTOR
C.TRIM	: TRIMMER CAP	SCR.BND.HD	: BIND HEAD B-TITE SCREW
CN	: CONNECTOR	SCR.BW.HD	: BW HEAD TAPPING SCREW
CN.BS.PIN	: CONNECTOR, BASE PIN	SCR.CUP	: CUP TITE SCREW
CN.CANNON	: CONNECTOR, CANNON	SCR.TERM	: SCREW TERMINAL
CN.DIN	: CONNECTOR, DIN	SCR.TR	: SCREW, TRANSISTOR
CN.FLAT	: CONNECTOR, FLAT CABLE	SUPRT.PCB	: SUPPORT, P.C.B.
CN.POST	: CONNECTOR, BASE POST	SURG.PRCT	: SURGE PROTECTOR
COIL.MX.AM	: COIL, AM MIX	SW.TACT	: TACT SWITCH
COIL.AT.FM	: COIL, FM ANTENNA	SW.LEAF	: LEAF SWITCH
COIL.DT.FM	: COIL, FM DETECT	SW.LEVER	: LEVER SWITCH
COIL.MX.FM	: COIL, FM MIX	SW.MICRO	: MICRO SWITCH
COIL.OUTPT	: OUTPUT COIL	SW.PUSH	: PUSH SWITCH
DIOD.ARRAY	: DIODE ARRAY	SW.RT.ENC	: ROTARY ENCODER
DIODE.BRG	: DIODE BRIDGE	SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
DIODE.CHP	: CHIP DIODE	SW.RT	: ROTARY SWITCH
DIODE.VAR	: VARACTOR DIODE	SW.SLIDE	: SLIDE SWITCH
DIOD.Z.CHP	: CHIP ZENER DIODE	TERM.SP	: SPEAKER TERMINAL
DIODE.ZENR	: ZENER DIODE	TERM.WRAP	: WRAPPING TERMINAL
DSCR.CE	: CERAMIC DISCRIMINATOR	THRMST.CHP	: CHIP THERMISTOR
FER.BEAD	: FERRITE BEADS	TR.CHP	: CHIP TRANSISTOR
FER.CORE	: FERRITE CORE	TR.DGT	: DIGITAL TRANSISTOR
FET.CHP	: CHIP FET	TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
FL.DSPLY	: FLUORESCENT DISPLAY	TRANS	: TRANSFORMER
FLTR.CE	: CERAMIC FILTER	TRANS.PULS	: PULSE TRANSFORMER
FLTR.COMB	: COMB FILTER MODULE	TRANS.PWR	: POWER TRANSFORMER ASS'y
FLTR.LC.RF	: LC FILTER, EMI	TUNER.AM	: TUNER PACK, AM
GND.MTL	: GROUND PLATE	TUNER.FM	: TUNER PACK, FM
GND.TERM	: GROUND TERMINAL	TUNER.PK	: FRONT-END TUNER PACK
HOLDER.FUS	: FUSE HOLDER	VR	: ROTARY POTENTIOMETER
IC.PRCT	: IC PROTECTOR	VR.MTR	: POTENTIOMETER WITH MOTOR
JUMPER.CN	: JUMPER CONNECTOR	VR.SW	: POTENTIOMETER WITH ROTARY SW
JUMPER.TST	: JUMPER, TEST POINT	VR.SLIDE	: SLIDE POTENTIOMETER
L.DTCT	: LIGHT DETECTING MODULE	VR.TRIM	: TRIMMER POTENTIOMETER

Note) Those parts marked with "#" are not included in the P.C.B. ass'y.

DSP P.C.B.
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Schm Ref.	PART NO.	Description	
* CB1	VZ506800	P.C.B.	DSP
CB2	VQ044300	CN.BS.PIN	7P
CB3	VM929900	CN.BS.PIN	15P
CB3	VQ045000	CN.BS.PIN	20P
C1	UB245100	C.CE.M.CHP	0.1uF 25V
C2	UB052100	C.CE.M.CHP	100pF 50V
C3	UB245100	C.CE.M.CHP	0.1uF 25V
C4	UB245100	C.CE.M.CHP	0.1uF 25V
C5	UB245100	C.CE.M.CHP	0.1uF 25V
C6	VJ900700	C.CE.M.CHP	33pF 50V
C7	UB245100	C.CE.M.CHP	0.1uF 25V
C8	UB013100	C.CE.M.CHP	1000pF 50V
C9	UB245100	C.CE.M.CHP	0.1uF 25V
C10	VF760000	C.EL	100uF 10V
C11	UB245100	C.CE.M.CHP	0.1uF 25V
C12	VJ900700	C.CE.M.CHP	33pF 50V
C13	UB245100	C.CE.M.CHP	0.1uF 25V
C14	UB013470	C.CE.M.CHP	4700pF 50V
C15	UB052100	C.CE.M.CHP	100pF 50V
C16	UB052100	C.CE.M.CHP	100pF 50V
C18	UB245100	C.CE.M.CHP	0.1uF 25V
C19	UB245100	C.CE.M.CHP	0.1uF 25V
C20	VF760000	C.EL	100uF 10V
C21	VJ900900	C.CE.M.CHP	39pF 50V
C22	VJ900700	C.CE.M.CHP	33pF 50V
C23	UB051220	C.CE.M.CHP	22pF 50V
C24	UB052100	C.CE.M.CHP	100pF 50V
C25	UB245100	C.CE.M.CHP	0.1uF 25V
C26	VJ900500	C.CE.M.CHP	27pF 50V
C27	VJ900500	C.CE.M.CHP	27pF 50V
C28	UB044100	C.CE.M.CHP	0.01uF 50V
C29	VF637900	C.EL	1000uF 10V
C30	UB245100	C.CE.M.CHP	0.1uF 25V
C31	UB245100	C.CE.M.CHP	0.1uF 25V
C32	UB052100	C.CE.M.CHP	100pF 50V
C33	UB052100	C.CE.M.CHP	100pF 50V
C34	UB052100	C.CE.M.CHP	100pF 50V
C35	UB052100	C.CE.M.CHP	100pF 50V
C36	UB245100	C.CE.M.CHP	0.1uF 25V
C37	VJ836300	C.EL	330uF 6.3V
C38	UB245100	C.CE.M.CHP	0.1uF 25V
C39	UB245100	C.CE.M.CHP	0.1uF 25V
C40	VJ837200	C.EL	47uF 16V
C41	VJ837200	C.EL	47uF 16V
C42	VF637900	C.EL	1000uF 10V
C43	UB245100	C.CE.M.CHP	0.1uF 25V
C44	UB013330	C.CE.M.CHP	3300pF 50V
C45	UB245100	C.CE.M.CHP	0.1uF 25V
C46	VF760000	C.EL	100uF 10V
C47	UB245100	C.CE.M.CHP	0.1uF 25V
C48	VF760000	C.EL	100uF 10V
C49	VF760000	C.EL	100uF 10V
C50	UJ638330	C.EL	330uF 16V

\* New Parts

Schm Ref.	PART NO.	Description	
C51	UB245100	C.CE.M.CHP	0.1uF 25V
C52	UB013330	C.CE.M.CHP	3300pF 50V
C53	UB044100	C.CE.M.CHP	0.01uF 50V
C54	UB044100	C.CE.M.CHP	0.01uF 50V
C55	UB245100	C.CE.M.CHP	0.1uF 25V
C56	UB044100	C.CE.M.CHP	0.01uF 50V
C57	UM407220	C.EL	22uF 25V
C58	UA652330	C.MYLAR	330pF 50V
C59	UA652330	C.MYLAR	330pF 50V
C60	UM407220	C.EL	22uF 25V
C61	UM407220	C.EL	22uF 25V
C62	UA652330	C.MYLAR	330pF 50V
C63	VJ900700	C.CE.M.CHP	33pF 50V
C64	UB051100	C.CE.M.CHP	10pF 50V
C65	UB051100	C.CE.M.CHP	10pF 50V
C66	VJ900700	C.CE.M.CHP	33pF 50V
C67	UB051330	C.CE.M.CHP	33pF 50V
C68	UB051100	C.CE.M.CHP	10pF 50V
C69	UB051100	C.CE.M.CHP	10pF 50V
C70	VJ900700	C.CE.M.CHP	33pF 50V
C71	UB245100	C.CE.M.CHP	0.1uF 25V
C73	UM417100	C.EL	10uF 50V
C74	VJ837200	C.EL	47uF 16V
C75	UM417100	C.EL	10uF 50V
C76	UB245100	C.CE.M.CHP	0.1uF 25V
C77	UB245100	C.CE.M.CHP	0.1uF 25V
C78	UM417100	C.EL	10uF 50V
C79	UB245100	C.CE.M.CHP	0.1uF 25V
C80	UB245100	C.CE.M.CHP	0.1uF 25V
C81	UM417100	C.EL	10uF 50V
C82	VJ837200	C.EL	47uF 16V
C83	UM417100	C.EL	10uF 50V
C84	UB245100	C.CE.M.CHP	0.1uF 25V
C87	UM417100	C.EL	10uF 50V
C88	UM417100	C.EL	10uF 50V
C89	UM417100	C.EL	10uF 50V
C90	VJ837200	C.EL	47uF 16V
C91	UM417100	C.EL	10uF 50V
C92	UB245100	C.CE.M.CHP	0.1uF 25V
C93	UB245100	C.CE.M.CHP	0.1uF 25V
C94	UM407220	C.EL	22uF 25V
C95	UM407220	C.EL	22uF 25V
C96	UM407220	C.EL	22uF 25V
C97	UB013560	C.CE.M.CHP	5600P 50V
C98	UB013470	C.CE.M.CHP	4700pF 50V
C99	UB012330	C.CE.M.CHP	330pF 50V
C100	UB013470	C.CE.M.CHP	4700pF 50V
C101	UB012330	C.CE.M.CHP	330pF 50V
C102	UB013560	C.CE.M.CHP	5600P 50V
C103	UB013560	C.CE.M.CHP	5600P 50V
C104	UB013470	C.CE.M.CHP	4700pF 50V
C105	UB012330	C.CE.M.CHP	330pF 50V
C106	UB013470	C.CE.M.CHP	4700pF 50V

\* New Parts

DSP P.C.B.
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Schm Ref.	PART NO.	Description			
C107	UB012330	C.CE.M.CHP	330pF	50V	
C108	UB013560	C.CE.M.CHP	5600P	50V	
C109	UM417100	C.EL	10uF	50V	
C110	UM417100	C.EL	10uF	50V	
C111	UM417100	C.EL	10uF	50V	
C112	UM417100	C.EL	10uF	50V	
C113	VJ837200	C.EL	47uF	16V	
C114	VJ837200	C.EL	47uF	16V	
C115	VJ837200	C.EL	47uF	16V	
C116	VJ837200	C.EL	47uF	16V	
C117	UM417100	C.EL	10uF	50V	
C118	UM407220	C.EL	22uF	25V	
C119	UM407220	C.EL	22uF	25V	
C120	FU451100	C.MICA	10pF	500V	
C121	FU451100	C.MICA	10pF	500V	
C122	FU451100	C.MICA	10pF	500V	
C123	UB052100	C.CE.M.CHP	100pF	50V	
C124	UB052100	C.CE.M.CHP	100pF	50V	
C125	UB052100	C.CE.M.CHP	100pF	50V	
C126	UB052100	C.CE.M.CHP	100pF	50V	
C127	UB052100	C.CE.M.CHP	100pF	50V	
C128	UB052100	C.CE.M.CHP	100pF	50V	
C129	UB052100	C.CE.M.CHP	100pF	50V	
C130	UB052100	C.CE.M.CHP	100pF	50V	
C131	UB052100	C.CE.M.CHP	100pF	50V	
C132	UB052100	C.CE.M.CHP	100pF	50V	
C133	UB052100	C.CE.M.CHP	100pF	50V	
C134	UB052100	C.CE.M.CHP	100pF	50V	
C135	UB052100	C.CE.M.CHP	100pF	50V	
C136	UB052100	C.CE.M.CHP	100pF	50V	
C137	UB052100	C.CE.M.CHP	100pF	50V	
C138	UB052100	C.CE.M.CHP	100pF	50V	
C139	UB052100	C.CE.M.CHP	100pF	50V	
C140	UB052100	C.CE.M.CHP	100pF	50V	
C141	UB052100	C.CE.M.CHP	100pF	50V	
C142	UB052100	C.CE.M.CHP	100pF	50V	
C143	UB052100	C.CE.M.CHP	100pF	50V	
C144	VJ836300	C.EL	330uF	6.3V	
C145	UB245100	C.CE.M.CHP	0.1uF	25V	
C146	VJ837200	C.EL	47uF	16V	
C147	UB245100	C.CE.M.CHP	0.1uF	25V	
C148	VJ837200	C.EL	47uF	16V	
C149	UB245100	C.CE.M.CHP	0.1uF	25V	
C150	UM417100	C.EL	10uF	50V	
C151	UM417100	C.EL	10uF	50V	
C152	UM417100	C.EL	10uF	50V	
C153	VF760000	C.EL	100uF	10V	
C154	VF637900	C.EL	1000uF	10V	
C201	VJ837200	C.EL	47uF	16V	
C202	UB245100	C.CE.M.CHP	0.1uF	25V	
C204	UB245100	C.CE.M.CHP	0.1uF	25V	
D1	VT332900	DIODE	1SS355		
D2	VT332900	DIODE	1SS355		

\* New Parts

Schm Ref.	PART NO.	Description	
D3	VT332900	DIODE	1SS355
D4	VT332900	DIODE	1SS355
D5	VT332900	DIODE	1SS355
D6	VT332900	DIODE	1SS355
D7	VT332900	DIODE	1SS355
G1	VR463400	TERM.GND	D3.5 TP00385
G2	VR463400	TERM.GND	D3.5 TP00385
G3	VR463400	TERM.GND	D3.5 TP00385
G4	VR463400	TERM.GND	D3.5 TP00385
IC1	XD600A00	IC	TC74HC02AF-TP1 NOR
IC2	XR038A00	IC	NJM2904M OP AMP
IC3	XG948E00	IC	YM3436DK
IC4	XS462B00	IC	YSS243B-F/AC3F
IC5	XS282A00	IC	UM61256FS-15Q SRAM
IC6	XH603A00	IC	TC74HC157AF-TP1
IC7	XS463A00	IC	YSS245-F/HLDSP3
IC8	XQ545A00	IC	LH5P832N-10 PS-RAM
IC9	XF291A00	IC	uPC4570G2
IC10	XR361A00	IC	AK4320-VM-E1
IC11	XR361A00	IC	AK4320-VM-E1
IC12	XR361A00	IC	AK4320-VM-E1
IC13	XF291A00	IC	uPC4570G2
IC14	XF291A00	IC	uPC4570G2
IC15	XF291A00	IC	uPC4570G2
IC16	iG103520	IC	NJM4558MT-1
IC17	iG103520	IC	NJM4558MT-1
IC18	XF291A00	IC	uPC4570G2
IC19	XF291A00	IC	uPC4570G2
IC20	XA507A00	IC	AN78N05
Q1	VC124000	TR.DGT	DTA144EK
Q2	VC124000	TR.DGT	DTA144EK
Q3	VD303700	TR	2SC3326 A,B
Q4	VD303700	TR	2SC3326 A,B
Q5	VD303700	TR	2SC3326 A,B
R11	HV453220	R.CAR.FP	2.2Ω 1/4W
R16	HV453220	R.CAR.FP	2.2Ω 1/4W
R17	HV453220	R.CAR.FP	2.2Ω 1/4W
R33	HV453220	R.CAR.FP	2.2Ω 1/4W
R50	HV454100	R.CAR.FP	10Ω 1/4W
R51	HV453220	R.CAR.FP	2.2Ω 1/4W
R53	HV454100	R.CAR.FP	10Ω 1/4W
R54	HV453220	R.CAR.FP	2.2Ω 1/4W
R55	HV454100	R.CAR.FP	10Ω 1/4W
R56	HV453220	R.CAR.FP	2.2Ω 1/4W
R105	HV453220	R.CAR.FP	2.2Ω 1/4W
R106	HV453220	R.CAR.FP	2.2Ω 1/4W
R131	HV454220	R.CAR.FP	22Ω 1/4W
R132	HV453220	R.CAR.FP	2.2Ω 1/4W
R133	HV453100	R.CAR.FP	1Ω 1/4W
XL1	Vi551900	RSNR.CRYS	11.2896MHz
XL2	VM651900	RSNR.CRYS	10.0MHz

\* New Parts

## INPUT P.C.B.

Schm Ref.	PART NO.	Description	
**	VZ507700	P.C.B.	INPUT(UC)
	VZ507800	P.C.B.	INPUT(RT)
	VZ507900	P.C.B.	INPUT(A)
	VZ508000	P.C.B.	INPUT(L)
CB11	VK025100	CN.BS.PIN	7P
CB12	Vi879100	CN.BS.PIN	13P
CB13	VQ963600	CN.BS.PIN	15P
CB14	VQ048000	CN.BS.PIN	31P
CB15	VQ047500	CN.BS.PIN	20P
CB16	VF728300	CN	6P
CB17	VQ047700	CN.BS.PIN	22P
CB18	VU271500	CN.BS.PIN	15P
CB19	Vi878200	CN.BS.PIN	4P
CB20	Vi878400	CN.BS.PIN	6P
CB401	Vi879100	CN.BS.PIN	13P
CB402	Vi878500	CN.BS.PIN	7P
CB706	VK024700	CN.BS.PIN	3P
CB712	VP206500	HOLDER.FUS	EYF-52BC(UCRT)
CB713	VP206500	HOLDER.FUS	EYF-52BC(UCRT)
CB714	VP206500	HOLDER.FUS	EYF-52BC(L)
CB715	VP206500	HOLDER.FUS	EYF-52BC(L)
CB716	VP206500	HOLDER.FUS	EYF-52BC(AL)
CB717	VG879900	CN.BS.PIN	2P
CB718	VP206500	HOLDER.FUS	EYF-52BC(AL)
CB719	VP206500	HOLDER.FUS	EYF-52BC(RT)
CB720	VP206500	HOLDER.FUS	EYF-52BC(RT)
C11	UA652100	C.MYLAR	100pF 50V(AL)
C12	UA652220	C.MYLAR	220pF 50V
C13	UA652100	C.MYLAR	100pF 50V(AL)
C14	UA652220	C.MYLAR	220pF 50V
C15	VF467300	C.CE.TUBLR	0.01uF 16V
C16	VK512500	C.MYLAR	100pF 50V
C17	VK512500	C.MYLAR	100pF 50V
C18	UA652100	C.MYLAR	100pF 50V
C19	UA652100	C.MYLAR	100pF 50V
C20	VK533900	C.PP	100pF 200V
C21	VK533900	C.PP	100pF 200V
C22	VK512500	C.MYLAR	100pF 50V
C23	VK512500	C.MYLAR	100pF 50V
C24	UA652100	C.MYLAR	100pF 50V
C25	UA652100	C.MYLAR	100pF 50V
C26	UA652100	C.MYLAR	100pF 50V
C27	UA652100	C.MYLAR	100pF 50V
C28	VK533900	C.PP	100pF 200V
C29	VK533900	C.PP	100pF 200V
C30	VJ839200	C.EL	2.2uF 50V
C31	VJ839200	C.EL	2.2uF 50V
C32	VF964800	C.EL	100uF 16V
C33	UA653910	C.MYLAR	9100pF 50V
C34	UA654330	C.MYLAR	0.033uF 50V
C35	UA653100	C.MYLAR	1000pF 50V
C36	VE117600	C.EL	220uF 10V
C37	VE117600	C.EL	220uF 10V

\* New Parts

Schm Ref.	PART NO.	Description	
C38	UA653100	C.MYLAR	1000pF 50V
C39	UA653910	C.MYLAR	9100pF 50V
C40	UA654330	C.MYLAR	0.033uF 50V
C41	VF964800	C.EL	100uF 16V
C42	VJ839200	C.EL	2.2uF 50V
C43	VJ839200	C.EL	2.2uF 50V
C44	UA652100	C.MYLAR	100pF 50V
C45	UA654270	C.MYLAR	0.027uF 50V
C46	UA654270	C.MYLAR	0.027uF 50V
C47	UM417100	C.EL	10uF 50V
C48	UM417100	C.EL	10uF 50V
C49	UM417100	C.EL	10uF 50V
C50	UM417100	C.EL	10uF 50V
C51	UM417100	C.EL	10uF 50V
C52	UM417100	C.EL	10uF 50V
C53	VJ839100	C.EL	1uF 50V
C54	UA652100	C.MYLAR	100pF 50V
C55	UA652100	C.MYLAR	100pF 50V
C56	VJ839100	C.EL	1uF 50V
C57	VJ837200	C.EL	47uF 16V
C58	VJ837200	C.EL	47uF 16V
C59	UB245100	C.CE.M.CHP	0.1uF 25V
C60	UB052100	C.CE.M.CHP	100pF 50V
C61	UM417100	C.EL	10uF 50V
C62	UM417100	C.EL	10uF 50V
C63	UB052100	C.CE.M.CHP	100pF 50V
C64	UM417100	C.EL	10uF 50V
C65	UA652100	C.MYLAR	100pF 50V
C66	VQ082700	C.EL	10uF 16V
C67	UA652100	C.MYLAR	100pF 50V
C68	UA652100	C.MYLAR	100pF 50V
C69	VQ082700	C.EL	10uF 16V
C70	UA653330	C.MYLAR	3300pF 50V
C71	UM407220	C.EL	22uF 25V
C72	UA653120	C.MYLAR	1200pF 50V
C73	FG212150	C.CE	150pF 50V
C74	UA652100	C.MYLAR	100pF 50V
C75	UA652100	C.MYLAR	100pF 50V
C76	FG212150	C.CE	150pF 50V
C77	UM407220	C.EL	22uF 25V
C78	UA653120	C.MYLAR	1200pF 50V
C79	UA653330	C.MYLAR	3300pF 50V
C80	VG288900	C.EL	100uF 25V
C81	VG288900	C.EL	100uF 25V
C82	VQ083100	C.EL	100uF 16V
C83	VG288900	C.EL	100uF 25V
C84	VG288900	C.EL	100uF 25V
C85	VQ083100	C.EL	100uF 16V
C86	UM416470	C.EL	4.7uF 50V
C87	UA652100	C.MYLAR	100pF 50V
C88	UA652100	C.MYLAR	100pF 50V
C89	UM416470	C.EL	4.7uF 50V
C90	UA653270	C.MYLAR	2700pF 50V

\* New Parts

## INPUT P.C.B.

Schm Ref.	PART NO.	Description
C91	UM407220	C.EL 22uF 25V
C92	UA653100	C.MYLAR 1000pF 50V
C93	FG212150	C.CE 150pF 50V
C94	FG212150	C.CE 150pF 50V
C95	UA653100	C.MYLAR 1000pF 50V
C96	UM407220	C.EL 22uF 25V
C97	UA653270	C.MYLAR 2700pF 50V
C98	UJ667470	C.EL 47uF 50V
C99	VF964800	C.EL 100uF 16V
C100	VF964800	C.EL 100uF 16V
C101	UJ667470	C.EL 47uF 50V
C102	UB052100	C.CE.M.CHP 100pF 50V
C103	VH053100	C.CE.TUBLR 0.1uF 50V
C104	UM416470	C.EL 4.7uF 50V
C105	UB245100	C.CE.M.CHP 0.1uF 25V
C106	UB245100	C.CE.M.CHP 0.1uF 25V
C107	UM416470	C.EL 4.7uF 50V
C108	UM417100	C.EL 10uF 50V
C109	UM417100	C.EL 10uF 50V
C110	VH053100	C.CE.TUBLR 0.1uF 50V
C111	UB044100	C.CE.M.CHP 0.01uF 50V
C112	UB013100	C.CE.M.CHP 1000pF 50V
C401	UM397330	C.EL 33uF 16V
C402	VG279600	C.CE.TUBLR 3300pF 16V
C403	VF466800	C.CE.TUBLR 100pF 50V
C404	VF466800	C.CE.TUBLR 100pF 50V
C405	VJ836900	C.EL 10uF 16V
C406	UM397330	C.EL 33uF 16V
* C407	UR829100	C.EL 1000uF 10V
C408	VF466800	C.CE.TUBLR 100pF 50V
C409	VF466800	C.CE.TUBLR 100pF 50V
* C410	UR829100	C.EL 1000uF 10V
C411	VF466800	C.CE.TUBLR 100pF 50V
C412	VJ836900	C.EL 10uF 16V
C413	VJ836900	C.EL 10uF 16V
C414	VJ836900	C.EL 10uF 16V
C415	VF466800	C.CE.TUBLR 100pF 50V
* C416	UR829100	C.EL 1000uF 10V
C417	UM397330	C.EL 33uF 16V
* C418	UR829100	C.EL 1000uF 10V
C419	VJ836900	C.EL 10uF 16V
C420	UM407220	C.EL 22uF 25V
C421	VH053100	C.CE.TUBLR 0.1uF 50V
C422	VJ836900	C.EL 10uF 16V
C423	VG276600	C.CE.TUBLR 22pF 50V
C424	VJ836900	C.EL 10uF 16V
C425	VH053100	C.CE.TUBLR 0.1uF 50V
C426	VJ836900	C.EL 10uF 16V
C427	VJ836900	C.EL 10uF 16V
C428	VG276600	C.CE.TUBLR 22pF 50V
C429	VJ836900	C.EL 10uF 16V
C430	VJ836900	C.EL 10uF 16V
C431	VH053100	C.CE.TUBLR 0.1uF 50V

\* New Parts

Schm Ref.	PART NO.	Description
C432	VJ836900	C.EL 10uF 16V
C433	VF904800	C.EL 2200uF 16V
C434	VJ837200	C.EL 47uF 16V
C435	VF466900	C.CE.TUBLR 470pF 50V
C436	VH053100	C.CE.TUBLR 0.1uF 50V
C437	VJ839100	C.EL 1uF 50V
C438	VH053100	C.CE.TUBLR 0.1uF 50V
C439	VJ837200	C.EL 47uF 16V
C440	UM416470	C.EL 4.7uF 50V
C441	VG273100	C.CE.TUBLR 6.8pF 50V
C442	VG273100	C.CE.TUBLR 6.8pF 50V
C443	VG276700	C.CE.TUBLR 24pF 50V
C444	VG276700	C.CE.TUBLR 24pF 50V
C445	VJ836900	C.EL 10uF 16V
C446	VF760000	C.EL 100uF 10V
C447	VG279100	C.CE.TUBLR 1200pF 16V
C448	VF466900	C.CE.TUBLR 470pF 50V
C449	VJ839100	C.EL 1uF 50V
C450	VJ836900	C.EL 10uF 16V
C451	VH053100	C.CE.TUBLR 0.1uF 50V
C452	VJ837200	C.EL 47uF 16V
C453	VF964800	C.EL 100uF 16V
C731	VH053100	C.CE.TUBLR 0.1uF 50V
C732	UJ638470	C.EL 470uF 16V
C745	FG213100	C.CE 1000pF 50V(RT)
C746	Ui377470	C.EL 47uF 63V(RT)
C747	Vi716700	C.MYLAR 0.01uF 50V
C751	UA654100	C.MYLAR 0.01uF 50V
C752	VS741700	C.CE.SAFTY 0.01uF 275V
D11	VD631600	DIODE 1SS133,176,HSS104
D12	VD631600	DIODE 1SS133,176,HSS104
D13	VD631600	DIODE 1SS133,176,HSS104
D15	VM974200	DIODE.ZENR HZS5C2TD 5.0V
D401	VM974400	DIODE.ZENR HZS6B2TD 6.0V
D402	VD631600	DIODE 1SS133,176,HSS104
D403	VD631600	DIODE 1SS133,176,HSS104
D404	VD631600	DIODE 1SS133,176,HSS104
D405	VD631600	DIODE 1SS133,176,HSS104
D406	VD631600	DIODE 1SS133,176,HSS104
D407	VD631600	DIODE 1SS133,176,HSS104
D408	VD631600	DIODE 1SS133,176,HSS104
D409	VD631600	DIODE 1SS133,176,HSS104
D451	VR711500	LED(or) SLR-325DC
D706	VD631600	DIODE 1SS133,176,HSS104
D707	VR253700	DIODE.BRG S1NB20 1.0A 200V
D708	VM975600	DIODE.ZENR HZS12B2TD 12V(RT)
F702	VS823300	FUSE T8.0A 125V(UCRT)
F703	KB002980	FUSE T2.5A 250V(L)
F704	KB000790	FUSE T4.0A 250V(AL)
F705	KB000790	FUSE T4.0A 250V(RT)
IC11	XM356A00	IC NJM2068LD
IC12	XP894A00	IC LC78211
IC13	XP894A00	IC LC78211

\* New Parts

INPUT P.C.B. & OPERATION P.C.B.
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Schm Ref.	PART NO.	Description	
IC14	XP896A00	IC	LC78213
IC15	XB247301	IC	uPC4570HA
IC16	XB247301	IC	uPC4570HA
IC17	XB247301	IC	uPC4570HA
IC18	XB247301	IC	uPC4570HA
IC19	XB247301	IC	uPC4570HA
IC20	XB247301	IC	uPC4570HA
IC21	XB247301	IC	uPC4570HA
IC22	XB247301	IC	uPC4570HA
* IC23	XT787A00	IC	NJU3716L
IC24	XD343A00	IC	NJM79M12FA
IC25	XJ604A00	IC	NJM78M05FA
IC26	XF494A00	IC	LB1641
IC27	XR040A00	IC	TC9299P
IC28	XB247301	IC	uPC4570HA
IC401	iG055100	IC	TC4053BP
IC402	XH436A00	IC	LA7956
IC403	XH436A00	IC	LA7956
IC404	XH436A00	IC	LA7956
IC405	iG037400	IC	uPD4066BC
IC406	XS502A00	IC	LC74781-9626
JK401	VN938100	CN.DIN	3P S
L401	VG668700	COIL	33uH
PJ11	VQ260900	JACK.PIN	4P
PJ12	VV306900	JACK.PIN	4P
PJ13	VV306900	JACK.PIN	4P
PJ14	VV306900	JACK.PIN	4P
PJ401	VV852500	JACK.PIN	3P
PJ402	VV325000	JACK.PIN	2P
Q11	VG721700	TR.DGT	DTA144ES
Q12	VG722000	TR.DGT	DTC144ES
Q13	VG722000	TR.DGT	DTC144ES
Q401	iC174020	TR	2SC1740S R,S
Q402	iC287820	TR	2SC2878 A,B
Q403	iA101521	TR	2SA1015 Y
Q404	iC1815C0	TR	2SC1815 Y
Q405	iA101521	TR	2SA1015 Y
Q406	iC1815C0	TR	2SC1815 Y
Q407	iC174020	TR	2SC1740S R,S
Q408	iC1815C0	TR	2SC1815 Y
Q409	VD678700	TR.DGT	DTC114ES
Q410	iA101521	TR	2SA1015 Y
Q411	iC053540	TR	2SC535 A,B,C
Q412	iC224030	TR	2SC2240 GR,BL
Q413	iA101521	TR	2SA1015 Y
Q414	iA093320	TR	2SA933S Q,R
Q723	iC174020	TR	2SC1740S R,S
Q725	VR510800	TR	2SD2396 J,K(RT)
R40	HV455100	R.CAR.FP	100Ω 1/4W
R55	HV455100	R.CAR.FP	100Ω 1/4W
R121	HV453220	R.CAR.FP	2.2Ω 1/4W
R130	HV453100	R.CAR.FP	1Ω 1/4W
R131	HV454100	R.CAR.FP	10Ω 1/4W

\* New Parts

Schm Ref.	PART NO.	Description	
R132	HL313220	R.MTL.FLM	2.2Ω 1W
R136	HV454100	R.CAR.FP	10Ω 1/4W
R140	HV453100	R.CAR.FP	1Ω 1/4W
R142	HV454100	R.CAR.FP	10Ω 1/4W
R437	VY716000	R.MTL.OXD	270Ω 1W
R440	VY716000	R.MTL.OXD	270Ω 1W
R444	HV453220	R.CAR.FP	2.2Ω 1/4W
R450	HV453220	R.CAR.FP	2.2Ω 1/4W
R459	HV453220	R.CAR.FP	2.2Ω 1/4W
R460	VY716000	R.MTL.OXD	270Ω 1W
R784	HV456560	R.CAR.FP	5.6KΩ 1/4W(RT)
R785	HV456560	R.CAR.FP	5.6KΩ 1/4W(RT)
RY703	VU398500	RELAY	DC LK1AF-12V(AL)
RY703	VV884000	RELAY	DC OSZSH112DM8(UC)
RY703	VY735300	RELAY	DC G5P-1(RT)
SW702	VA961800	VOLT.SELCT	ESE-37247-F(RT)
T701	XC083A00	TRANS.PWR	(UC)
T701	XC084A00	TRANS.PWR	(AL)
T701	XT331A00	TRANS.PWR	(RT)
TE703	VT915000	OUTLET.AC	2P(A)
TE703	VU543100	OUTLET.AC	2P(UCRT)
TE703	VU543400	OUTLET.AC	2P(L)
XL401	VV949800	RSNR.CRYS	14.31818MHz(UCRT)
XL401	VV949900	RSNR.CRYS	17.734475MHz(AL)
	VJ828000	PIN	IMSA-6024-03E
	VL391100	RADIATOR	OSH-2440-SPL
	VR506800	HEAT.SINK	PUH16-25(RT)
	VR264300	PLATE.GND	
	ED330066	SCR.BND.HD	3x6 FCRM3-BL
*	VZ506300	P.C.B.	OPERATION(UC)
*	VZ506400	P.C.B.	OPERATION(RT)
*	VZ506500	P.C.B.	OPERATION(A)
*	VZ506600	P.C.B.	OPERATION(L)
	CB201	Vi878700	CN.BS.PIN 9P
	CB251	VQ045200	CN.BS.PIN 22P
*	CB252	VK026800	CN.BS.PIN 9P
	CB253	VK026700	CN.BS.PIN 8P
	CB254	VK026300	CN.BS.PIN 4P
	CB255	VB858100	CN.BS.PIN 2P
	CB551	VT620100	L.DTCT 1P TORX178A
*	CB552	VQ044300	CN.BS.PIN 7P
	CB553	VK026600	CN.BS.PIN 7P
	CB554	Vi878000	CN.BS.PIN 2P(UCA)
	CB555	Vi878000	CN.BS.PIN 2P(UCA)
	CB601	Vi878500	CN.BS.PIN 7P
	CB611	VB858300	CN.BS.PIN 4P
	CB612	LA002410	TERM.WRAP 2P(L)
	CB613	VB858100	CN.BS.PIN 2P
	CB614	VB858200	CN.BS.PIN 3P
	CB801	Vi878900	CN.BS.PIN 11P

\* New Parts

OPERATION P.C.B.
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Schm Ref.	PART NO.	Description			
CB802	Vi878000	CN.BS.PIN	2P		
CB803	Vi878000	CN.BS.PIN	2P		
CB804	VU283100	CN	31P		
C201	VG287800	C.EL	330uF	16V	
C202	VG287800	C.EL	330uF	16V	
C203	UM417100	C.EL	10uF	50V	
C204	UM417100	C.EL	10uF	50V	
C205	VJ839100	C.EL	1uF	50V	
C206	UM215100	C.EL	0.1uF	50V	
C207	UM215100	C.EL	0.1uF	50V	
C208	VJ837200	C.EL	47uF	16V	
C209	UA655120	C.MYLAR	0.12uF	50V	
C210	VK533800	C.PP	47pF	200V	
C211	VJ839200	C.EL	2.2uF	50V	
C212	VK533800	C.PP	47pF	200V	
C213	VJ839200	C.EL	2.2uF	50V	
C214	UA655120	C.MYLAR	0.12uF	50V	
C215	VJ837200	C.EL	47uF	16V	
C216	UM215100	C.EL	0.1uF	50V	
C217	UM215100	C.EL	0.1uF	50V	
C218	VJ839100	C.EL	1uF	50V	
C219	UM417100	C.EL	10uF	50V	
C220	VQ645600	C.MYLAR	100pF	50V	
C221	VQ645600	C.MYLAR	100pF	50V	
C222	UM417100	C.EL	10uF	50V	
C223	UA654330	C.MYLAR	0.033uF	50V	
C224	UA654330	C.MYLAR	0.033uF	50V	
C251	UA652100	C.MYLAR	100pF	50V	
C252	UA652100	C.MYLAR	100pF	50V	
C253	UM416470	C.EL	4.7uF	50V	
C254	UM416470	C.EL	4.7uF	50V	
C255	VJ839200	C.EL	2.2uF	50V	
C256	VJ839200	C.EL	2.2uF	50V	
C257	VJ839200	C.EL	2.2uF	50V	
C258	UM417100	C.EL	10uF	50V	
C259	VG288900	C.EL	100uF	25V	
C260	UA652100	C.MYLAR	100pF	50V	
C261	VF760000	C.EL	100uF	10V	
C262	UA652100	C.MYLAR	100pF	50V	
C263	VF760000	C.EL	100uF	10V	
C264	VG288900	C.EL	100uF	25V	
C265	UM417100	C.EL	10uF	50V	
C266	VJ839200	C.EL	2.2uF	50V	
C267	VJ839200	C.EL	2.2uF	50V	
C268	UM417100	C.EL	10uF	50V	
C269	UA652100	C.MYLAR	100pF	50V	
C270	VF760000	C.EL	100uF	10V	
C271	UA652100	C.MYLAR	100pF	50V	
C272	VF760000	C.EL	100uF	10V	
C273	UM417100	C.EL	10uF	50V	
C274	VJ839200	C.EL	2.2uF	50V	
C275	VG722100	C.EL	1uF	50V	
C277	UM417100	C.EL	10uF	50V	

\* New Parts

Schm Ref.	PART NO.	Description			
C278	VJ837200	C.EL	47uF	16V	
C279	UA652100	C.MYLAR	100pF	50V	
C282	UA652100	C.MYLAR	100pF	50V	
C283	UM417100	C.EL	10uF	50V	
C284	VJ837200	C.EL	47uF	16V	
C285	UB052100	C.CE.M.CHP	100pF	50V	
C286	VJ837200	C.EL	47uF	16V	
C287	UM417100	C.EL	10uF	50V	
C288	UA654270	C.MYLAR	0.027uF	50V	
C289	UA654270	C.MYLAR	0.027uF	50V	
C290	VG288900	C.EL	100uF	25V	
C291	VG288900	C.EL	100uF	25V	
C292	UA654270	C.MYLAR	0.027uF	50V	
C293	UA654270	C.MYLAR	0.027uF	50V	
C294	UM417100	C.EL	10uF	50V	
C295	VG288900	C.EL	100uF	25V	
C296	VG288900	C.EL	100uF	25V	
C297	UA654270	C.MYLAR	0.027uF	50V	
C298	UA654270	C.MYLAR	0.027uF	50V	
C299	UM407220	C.EL	22uF	25V	
C300	UM407220	C.EL	22uF	25V	
C301	UA654270	C.MYLAR	0.027uF	50V	
C302	UA654270	C.MYLAR	0.027uF	50V	
C303	UA655100	C.MYLAR	0.1uF	50V	
C304	UA654390	C.MYLAR	0.039uF	50V	
C305	UA653680	C.MYLAR	6800pF	50V	
C306	UM417100	C.EL	10uF	50V	
C313	UM416470	C.EL	4.7uF	50V	
C314	UB245100	C.CE.M.CHP	0.1uF	25V	
C315	UB245100	C.CE.M.CHP	0.1uF	25V	
C316	UM417100	C.EL	10uF	50V	
C317	UM416470	C.EL	4.7uF	50V	
C318	UM417100	C.EL	10uF	50V	
C551	UB245100	C.CE.M.CHP	0.1uF	25V	
C552	UM407220	C.EL	22uF	25V	
C553	UB051220	C.CE.M.CHP	22pF	50V	
C554	UB051220	C.CE.M.CHP	22pF	50V	
C555	UM407220	C.EL	22uF	25V	
C556	UB245100	C.CE.M.CHP	0.1uF	25V	
C557	UB245100	C.CE.M.CHP	0.1uF	25V	
C558	UB245100	C.CE.M.CHP	0.1uF	25V	
C559	UB051100	C.CE.M.CHP	10pF	50V	
C560	UB245100	C.CE.M.CHP	0.1uF	25V	
C561	UB245100	C.CE.M.CHP	0.1uF	25V	
C562	VF760000	C.EL	100uF	10V	
C563	UB012220	C.CE.M.CHP	220pF	50V	
C564	UB013100	C.CE.M.CHP	1000pF	50V	
C601	VH053100	C.CE.TUBLR	0.1uF	50V	
C602	VH053100	C.CE.TUBLR	0.1uF	50V	
C603	VF466800	C.CE.TUBLR	100pF	50V	
C604	VF466800	C.CE.TUBLR	100pF	50V	
C611	UJ648100	C.EL	100uF	25V	
C612	UM417100	C.EL	10uF	50V	

\* New Parts



OPERATION P.C.B.
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Schm Ref.	PART NO.	Description
C613	VH053100	C.CE.TUBLR 0.1uF 50V
C614	UJ638470	C.EL 470uF 16V
C801	UB245100	C.CE.M.CHP 0.1uF 25V
C802	VU545000	C.EL 47000uF 5.5V
C803	VJ839200	C.EL 2.2uF 50V
C804	UB044100	C.CE.M.CHP 0.01uF 50V
C805	VH053100	C.CE.TUBLR 0.1uF 50V
C806	VF637900	C.EL 1000uF 10V
C807	VF637900	C.EL 1000uF 10V
C808	VJ839100	C.EL 1uF 50V
C809	UB245100	C.CE.M.CHP 0.1uF 25V
C810	UB245100	C.CE.M.CHP 0.1uF 25V
C811	UB245100	C.CE.M.CHP 0.1uF 25V
C812	UB245100	C.CE.M.CHP 0.1uF 25V
C813	UB044100	C.CE.M.CHP 0.01uF 50V
C814	UB245100	C.CE.M.CHP 0.1uF 25V
C815	UB012470	C.CE.M.CHP 470pF 50V
C816	UB245100	C.CE.M.CHP 0.1uF 25V
C817	UM417100	C.EL 10uF 50V
C818	UB052100	C.CE.M.CHP 100pF 50V
D551	VT332900	DIODE 1SS355
D552	VT332900	DIODE 1SS355
D611	VD631600	DIODE 1SS133,176,HSS104
D612	VD631600	DIODE 1SS133,176,HSS104
D801	VD631600	DIODE 1SS133,176,HSS104
D802	VD631600	DIODE 1SS133,176,HSS104
D803	VM974100	DIODE.ZENR HZS5B2TD 5.0V
D804	VM974700	DIODE.ZENR HZS7B2TD 7.0V
D805	VV625100	LED(re) SIM-22ST(UCA)
D806	VD631600	DIODE 1SS133,176,HSS104
D807	VM974100	DIODE.ZENR HZS5B2TD 5.0V
D808	VD631600	DIODE 1SS133,176,HSS104
D809	VD631600	DIODE 1SS133,176,HSS104
D810	VD631600	DIODE 1SS133,176,HSS104
G801	VR463400	TERM.GND D3.5 TP00385
IC201	XM356A00	IC NJM2068LD
IC202	XB247301	IC uPC4570HA
IC251	XB247301	IC uPC4570HA
IC252	XB247301	IC uPC4570HA
IC253	XM356A00	IC NJM2068LD
IC254	XM356A00	IC NJM2068LD
IC255	XP896A00	IC LC78213
IC256	XB247301	IC uPC4570HA
IC257	XB247301	IC uPC4570HA
IC259	XB247301	IC uPC4570HA
IC261	XR040A00	IC TC9299P
IC551	IG142200	IC TC74HCU04AP
IC552	XT208A00	IC HD74HC153P
IC801	XU347A00	IC HD6433726SD66F
IC802	XL493A00	IC TC74HC4051AP
JK551	VJ726800	JACK.MNI (UCA)
JK552	VJ726800	JACK.MNI (UCA)
JK601	VU245200	CN.DIN 1P

\* New Parts

Schm Ref.	PART NO.	Description
L551	GE901970	COIL 68uH
* PJ551	VZ537500	JACK.PIN 2P
PJ601	VV325100	JACK.PIN 3P
Q251	VD678700	TR.DGT DTC114ES
Q252	iC287820	TR 2SC2878 A,B
Q253	iC287820	TR 2SC2878 A,B
Q254	iC287820	TR 2SC2878 A,B
Q255	iC287820	TR 2SC2878 A,B
Q611	VR402300	TR 2SB647 C,D
Q612	iC1815C0	TR 2SC1815 Y
Q801	VG722000	TR.DGT DTC144ES
Q802	iA093320	TR 2SA933S Q,R
Q803	iA093320	TR 2SA933S Q,R
R229	HL314100	R.MTL.OXD 10Ω 1W
R230	HL314100	R.MTL.OXD 10Ω 1W
R276	HV454100	R.CAR.FP 10Ω 1/4W
R277	HV454100	R.CAR.FP 10Ω 1/4W
R562	HV453220	R.CAR.FP 2.2Ω 1/4W
R611	HL313220	R.MTL.FLM 2.2Ω 1W
* R618	VZ640800	R.WW 0.1Ω 5W(L)
* R619	VZ640800	R.WW 0.1Ω 5W(L)
* R620	VZ640800	R.WW 0.1Ω 5W(L)
* R621	VZ640800	R.WW 0.1Ω 5W(L)
SW201	VV885000	SW.PUSH SPUN22 2
SW551	VS602600	SW.SLIDE SS070-P022 A(RT)
SW552	VS602600	SW.SLIDE SS070-P022 A
SW805	VG392900	SW.TACT SKHVAA
SW806	VG392900	SW.TACT SKHVAA
SW807	VG392900	SW.TACT SKHVAA
SW808	VG392900	SW.TACT SKHVAA
SW809	VG392900	SW.TACT SKHVAA
SW810	VG392900	SW.TACT SKHVAA
SW811	VG392900	SW.TACT SKHVAA
SW812	VG392900	SW.TACT SKHVAA
SW813	VG392900	SW.TACT SKHVAA
SW814	VG392900	SW.TACT SKHVAA
SW815	VG392900	SW.TACT SKHVAA
SW816	VG392900	SW.TACT SKHVAA
SW817	VG392900	SW.TACT SKHVAA
SW818	VG392900	SW.TACT SKHVAA
SW819	VG392900	SW.TACT SKHVAA
SW820	VG392900	SW.TACT SKHVAA
SW821	VG392900	SW.TACT SKHVAA
SW822	VG392900	SW.TACT SKHVAA
SW823	VG392900	SW.TACT SKHVAA
SW824	VG392900	SW.TACT SKHVAA
SW825	VG392900	SW.TACT SKHVAA
SW826	VG392900	SW.TACT SKHVAA
SW827	VG392900	SW.TACT SKHVAA
SW828	VG392900	SW.TACT SKHVAA
SW829	VG392900	SW.TACT SKHVAA
SW830	VG392900	SW.TACT SKHVAA
SW831	VG392900	SW.TACT SKHVAA

\* New Parts

OPERATION P.C.B. & MAIN P.C.B.
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Schm Ref.	PART NO.	Description	
SW832	VG392900	SW.TACT	SKHVAA
SW833	VG392900	SW.TACT	SKHVAA
SW834	VG392900	SW.TACT	SKHVAA
SW835	VG392900	SW.TACT	SKHVAA
SW836	VG392900	SW.TACT	SKHVAA
SW837	VG392900	SW.TACT	SKHVAA
SW838	VG392900	SW.TACT	SKHVAA
SW839	VG392900	SW.TACT	SKHVAA
SW840	VG392900	SW.TACT	SKHVAA
SW841	VG392900	SW.TACT	SKHVAA
SW842	VG392900	SW.TACT	SKHVAA
SW843	VG392900	SW.TACT	SKHVAA
U801	VU591000	L.DTCT	GP1U271X
* V801	VZ310500	FL.DSPLY	16-BT-53GK
VR201	VP741800	VR	B20KΩ
VR202	VP741900	VR	G25KΩ
VR203	VP742000	VR	MN100KΩ
VR251	VV613500	VR	A100KΩ
XL801	VE222400	RSNR.CE	8MHz
	BB071360	SCR.TERM	8.3x13
	VS588900	SHEET	
	VV499900	SPACER	FL-T7.5
	VY760000	SPACER	(UCA)
* * *	VZ507200	P.C.B.	MAIN(UCRT)
	VZ507300	P.C.B.	MAIN(A)
	VZ507400	P.C.B.	MAIN(L)
CB501	Vi878600	CN.BS.PIN	8P
CB502	VK025500	CN.BS.PIN	11P
CB521	VQ584800	CN.BS.PIN	6P
CB522	VQ584800	CN.BS.PIN	6P
CB523	VQ585000	CN.BS.PIN	8P
CB524	VQ585000	CN.BS.PIN	8P
CB525	Vi879000	CN.BS.PIN	12P
CB526	Vi878100	CN.BS.PIN	3P
CB529	LA002110	TERM.WRAP	2P
CB530	LA002110	TERM.WRAP	2P
CB531	LA002110	TERM.WRAP	2P
CB532	LA002320	TERM.WRAP	3P
CB550	Vi878200	CN.BS.PIN	4P
CB551	VD004500	CN.BS.PIN	2P
CB552	VD004900	CN.BS.PIN	6P
CB701	VF728300	CN	6P
CB702	VK024900	CN.BS.PIN	5P
CB703	Vi878300	CN.BS.PIN	5P
CB704	Vi878800	CN.BS.PIN	10P
CB705	VK024800	CN.BS.PIN	4P
CB708	VK024800	CN.BS.PIN	4P
CB709	Vi878800	CN.BS.PIN	10P
CB710	VK025600	CN.BS.PIN	12P
CB711	Vi878200	CN.BS.PIN	4P

\* New Parts

Schm Ref.	PART NO.	Description	
CB712	Vi878400	CN.BS.PIN	6P
CB750	VD004500	CN.BS.PIN	2P
CB751	VD004600	CN.BS.PIN	3P
C501	UM416470	C.EL	4.7uF 50V
C503	UM417100	C.EL	10uF 50V
C504	UM417100	C.EL	10uF 50V
C505	VF760000	C.EL	100uF 10V
C506	VK399200	C.MYLAR.ML	0.39uF 50V
C507	UM416470	C.EL	4.7uF 50V
C508	FU451330	C.MICA	33pF 500V(UCR)
C508	FU452220	C.MICA	220pF 500V(AL)
C509	VQ645600	C.MYLAR	100pF 50V
C510	FU451330	C.MICA	33pF 500V(UCR)
C510	FU452220	C.MICA	220pF 500V(AL)
C511	VQ645600	C.MYLAR	100pF 50V
C512	FG212100	C.CE	100pF 50V(AL)
C512	FG251330	C.CE	33pF 50V(UCRT)
C513	UM417100	C.EL	10uF 50V
C514	UA652100	C.MYLAR	100pF 50V
C515	UM417100	C.EL	10uF 50V
C516	VK399200	C.MYLAR.ML	0.39uF 50V
C517	FU451330	C.MICA	33pF 500V
C518	VJ837200	C.EL	47uF 16V
C519	UA653100	C.MYLAR	1000pF 50V
C520	FU451330	C.MICA	33pF 500V
C521	VJ837200	C.EL	47uF 16V
C522	UA653100	C.MYLAR	1000pF 50V
C523	FU451330	C.MICA	33pF 500V
C524	VJ837200	C.EL	47uF 16V
C525	UA653100	C.MYLAR	1000pF 50V
C526	VK533900	C.PP	100pF 200V
C527	UJ667470	C.EL	47uF 50V
C528	UJ667470	C.EL	47uF 50V
C529	VK533900	C.PP	100pF 200V
C530	VK347900	C.EL	470uF 63V
C531	VK533900	C.PP	100pF 200V
C532	UJ667470	C.EL	47uF 50V
C533	UJ667470	C.EL	47uF 50V
C534	VK533900	C.PP	100pF 200V
C535	VR325000	C.MYLAR	100pF 100V
C536	UJ667470	C.EL	47uF 50V
C537	UJ667470	C.EL	47uF 50V
C538	VR325000	C.MYLAR	100pF 100V
C539	VJ836900	C.EL	10uF 16V
C540	VJ839200	C.EL	2.2uF 50V
C541	VJ839100	C.EL	1uF 50V
C542	UA654680	C.MYLAR	0.068uF 50V
C543	UA654680	C.MYLAR	0.068uF 50V
C544	UA654680	C.MYLAR	0.068uF 50V
C545	UA654100	C.MYLAR	0.01uF 50V(AL)
C546	UA654220	C.MYLAR	0.022uF 50V(AL)
C547	UA654220	C.MYLAR	0.022uF 50V(AL)
C548	UA654220	C.MYLAR	0.022uF 50V(AL)

\* New Parts

## MAIN P.C.B.

Schm Ref.	PART NO.	Description	
C549	UA654220	C.MYLAR	0.022uF 50V(AL)
C550	UA654100	C.MYLAR	0.01uF 50V(AL)
C551	UA654100	C.MYLAR	0.01uF 50V(AL)
* C552	VZ500600	C.EL	12000uF 63V
* C553	VZ500600	C.EL	12000uF 63V
C554	UA654100	C.MYLAR	0.01uF 50V(AL)
C555	UA654100	C.MYLAR	0.01uF 50V
C556	VS745400	C.POL.MTL	0.1uF 100V
C557	VS745400	C.POL.MTL	0.1uF 100V
C558	VH053100	C.CE.TUBLR	0.1uF 50V
C559	UJ167330	C.EL	33uF 50V
C701	UA652100	C.MYLAR	100pF 50V
C702	UM416470	C.EL	4.7uF 50V
C703	UA652470	C.MYLAR	470pF 50V
C704	VJ837200	C.EL	47uF 16V
C705	UA652470	C.MYLAR	470pF 50V
C706	UM416470	C.EL	4.7uF 50V
C707	UA652100	C.MYLAR	100pF 50V
C708	VR516400	C.CE	15p 500V
C709	VJ837200	C.EL	47uF 16V
C710	UA653100	C.MYLAR	1000pF 50V
C711	VH053100	C.CE.TUBLR	0.1uF 50V
C712	UH178100	C.EL	100uF 63V
C713	UA653100	C.MYLAR	1000pF 50V
C714	VJ837200	C.EL	47uF 16V
C715	VR516400	C.CE	15p 500V
C716	VR325000	C.MYLAR	100pF 100V
C717	UJ667470	C.EL	47uF 50V
C718	UJ667470	C.EL	47uF 50V
C719	VR325000	C.MYLAR	100pF 100V
C720	UH178100	C.EL	100uF 63V
C721	VR325000	C.MYLAR	100pF 100V
C722	UJ667470	C.EL	47uF 50V
C723	UJ667470	C.EL	47uF 50V
C724	VR325000	C.MYLAR	100pF 100V
C725	UA654680	C.MYLAR	0.068uF 50V
C726	UA654680	C.MYLAR	0.068uF 50V
C727	Ui377470	C.EL	47uF 63V
C728	Ui377470	C.EL	47uF 63V
C729	UJ667470	C.EL	47uF 50V
C730	VJ839000	C.EL	0.47uF 50V
C732	VH053100	C.CE.TUBLR	0.1uF 50V
C735	UJ667470	C.EL	47uF 50V
C736	VJ839000	C.EL	0.47uF 50V
C737	UJ638470	C.EL	470uF 16V
C738	UM417100	C.EL	10uF 50V
C739	UJ768470	C.EL	470uF 50V
C740	VS745400	C.POL.MTL	0.1uF 100V
C741	VS745400	C.POL.MTL	0.1uF 100V
C742	VS745400	C.POL.MTL	0.1uF 100V
* C743	UR749680	C.EL	6800uF 25V
C744	VS745400	C.POL.MTL	0.1uF 100V
* C745	UJ649220	C.EL	2200uF 25V

\* New Parts

Schm Ref.	PART NO.	Description	
C746	VS745400	C.POL.MTL	0.1uF 100V
C747	UJ749470	C.EL	4700uF 25V
C748	VF466900	C.CE.TUBLR	470pF 50V
C749	VF466900	C.CE.TUBLR	470pF 50V
C750	VF466900	C.CE.TUBLR	470pF 50V
C751	VF466900	C.CE.TUBLR	470pF 50V
C752	VF466900	C.CE.TUBLR	470pF 50V
C753	VF466900	C.CE.TUBLR	470pF 50V
C754	UA654220	C.MYLAR	0.022uF 50V(AL)
C755	UA654100	C.MYLAR	0.01uF 50V(AL)
C756	UA654100	C.MYLAR	0.01uF 50V(AL)
C757	VH053100	C.CE.TUBLR	0.1uF 50V
C758	UA654220	C.MYLAR	0.022uF 50V(AL)
C759	UA654220	C.MYLAR	0.022uF 50V(AL)
D501	VM976500	DIODE.ZENR	HZS302TD 30V
D502	VD631600	DIODE	1SS133,176,HSS104
D503	VM974500	DIODE.ZENR	HZS6C2TD 6.0V
D504	VD631600	DIODE	1SS133,176,HSS104
D505	VM974400	DIODE.ZENR	HZS6B2TD 6.0V
D506	VN008700	DIODE	1SS270A
D507	VN008700	DIODE	1SS270A
D508	VN008700	DIODE	1SS270A
D509	VD631600	DIODE	1SS133,176,HSS104
D510	VN011400	DIODE.BRG	D5SB20 5A 200V
D511	VD631600	DIODE	1SS133,176,HSS104
D512	VD631600	DIODE	1SS133,176,HSS104
D513	VM975700	DIODE.ZENR	HZS12C2TD 12V
D701	VM975700	DIODE.ZENR	HZS12C2TD 12V
D702	VN008700	DIODE	1SS270A
D703	VN008700	DIODE	1SS270A
D705	VM976300	DIODE.ZENR	HZS242TD 24V
D706	VD631600	DIODE	1SS133,176,HSS104
D707	VU264100	DIODE	1SR139-400
D708	VU264100	DIODE	1SR139-400
D709	VR253700	DIODE.BRG	S1NB20 1.0A 200V
D710	VR253700	DIODE.BRG	S1NB20 1.0A 200V
D711	VD631600	DIODE	1SS133,176,HSS104
IC701	XJ608A00	IC	NJM7812FA
IC702	XJ608A00	IC	NJM7812FA
JK501	VY687200	JACK.PHONE	JY-6317-02-030 NUT
L501	VR906600	COIL	0.95uH
L502	VR906600	COIL	0.95uH
L701	VP575600	COIL	1.5uH
L702	VP575600	COIL	1.5uH
L703	VP575600	COIL	1.5uH
PJ701	VR245000	JACK.PIN	6P
Q502	VK432900	TR	2SD1915F S,T
Q504	VK432900	TR	2SD1915F S,T
Q505	VK432900	TR	2SD1915F S,T
Q506	iA101521	TR	2SA1015 Y
Q507	VP883000	TR	2SA893A D,E
Q508	VP883000	TR	2SA893A D,E
Q509	VP883000	TR	2SA893A D,E

\* New Parts

## MAIN P.C.B.

Schm Ref.	PART NO.	Description
Q510	iC224030	TR 2SC2240 GR,BL
Q511	VP883000	TR 2SA893A D,E
Q512	VP883000	TR 2SA893A D,E
Q513	VP883000	TR 2SA893A D,E
Q514	iC174020	TR 2SC1740S R,S
Q515	VR325600	TR 2SC2229 O,Y
Q516	iC174020	TR 2SC1740S R,S
Q517	VR325600	TR 2SC2229 O,Y
Q518	iC174020	TR 2SC1740S R,S
Q519	VR325600	TR 2SC2229 O,Y
Q520	VP872700	TR 2SC4488 S,T
Q521	iA093320	TR 2SA933S Q,R
Q522	iX603580	TR 2SA1358
Q522	iX603580	TR 2SA1358
Q523A	iX636490	TR 2SA1962 R,O
Q523C	iX636500	TR 2SC5242 R,O
Q526A	iX603580	TR 2SA1358
Q526C	iX603590	TR 2SC3421
Q527A	iX636490	TR 2SA1962 R,O
Q527C	iX636500	TR 2SC5242 R,O
Q530A	iX603580	TR 2SA1358
Q530C	iX603590	TR 2SC3421
Q531A	iX636490	TR 2SA1962 R,O
Q531C	iX636500	TR 2SC5242 R,O
Q534	iA097000	TR 2SA970 GR,BL
Q535	VP883100	TR 2SC1890A D,E
Q536	VP883100	TR 2SC1890A D,E
Q537	VP883100	TR 2SC1890A D,E
Q538	iC174020	TR 2SC1740S R,S
Q539	iC174020	TR 2SC1740S R,S
Q701	VK432900	TR 2SD1915F S,T
Q702	VK432900	TR 2SD1915F S,T
Q703	VP883000	TR 2SA893A D,E
Q704	VP883000	TR 2SA893A D,E
Q705	VP883000	TR 2SA893A D,E
Q706	VP883000	TR 2SA893A D,E
Q707	iC224030	TR 2SC2240 GR,BL
Q708	VR325600	TR 2SC2229 O,Y
Q709	VR325600	TR 2SC2229 O,Y
Q710	iC224030	TR 2SC2240 GR,BL
Q711A	iX603580	TR 2SA1358
Q711C	iX603590	TR 2SC3421
Q713A	iX603580	TR 2SA1358
Q713C	iX603590	TR 2SC3421
Q715A	iX606460	TR 2SA1492 O,P,Y
Q715C	iX606470	TR 2SC3856 O,P,Y
Q716	VP883100	TR 2SC1890A D,E
Q718A	iX606460	TR 2SA1492 O,P,Y
Q718C	iX606470	TR 2SC3856 O,P,Y
Q719	VP883100	TR 2SC1890A D,E
Q723	VN996900	TR 2SC4495
Q724	iC174020	TR 2SC1740S R,S
Q725	iC224030	TR 2SC2240 GR,BL

\* New Parts

Schm Ref.	PART NO.	Description
Q726	VK432900	TR 2SD1915F S,T
R508	HV456560	R.CAR.FP 5.6KΩ 1/4W
R517	HV456100	R.CAR.FP 1KΩ 1/4W
R553	HL316560	R.MTL.OXD 5.6KΩ 1W
R554	HL316560	R.MTL.OXD 5.6KΩ 1W
R555	HV456270	R.CAR.FP 2.7KΩ 1/4W
R557	HV455820	R.CAR.FP 820Ω 1/4W
R558	VK189000	R.FUS 1KΩ 1/4W
R559	HV454470	R.CAR.FP 47Ω 1/4W
R560	HL314100	R.MTL.OXD 10Ω 1W
R561	HL316560	R.MTL.OXD 5.6KΩ 1W
R562	HL316560	R.MTL.OXD 5.6KΩ 1W
R563	HV456270	R.CAR.FP 2.7KΩ 1/4W
R565	HV455820	R.CAR.FP 820Ω 1/4W
R566	VK189000	R.FUS 1KΩ 1/4W
R567	HV454470	R.CAR.FP 47Ω 1/4W
R568	HL316560	R.MTL.OXD 5.6KΩ 1W
R569	HL316560	R.MTL.OXD 5.6KΩ 1W
R570	HV456270	R.CAR.FP 2.7KΩ 1/4W
R572	HV455820	R.CAR.FP 820Ω 1/4W
R573	VK189000	R.FUS 1KΩ 1/4W
R574	HV454470	R.CAR.FP 47Ω 1/4W
R580	HV453470	R.CAR.FP 4.7Ω 1/4W
R581	VK188400	R.FUS 330Ω 1/4W
R583	HV453470	R.CAR.FP 4.7Ω 1/4W
R584	HV453470	R.CAR.FP 4.7Ω 1/4W
R585	VK188400	R.FUS 330Ω 1/4W
R587	HV453470	R.CAR.FP 4.7Ω 1/4W
R588	HV453470	R.CAR.FP 4.7Ω 1/4W
R589	VK188400	R.FUS 330Ω 1/4W
R590	HZ003780	R.MTL.PLAT 0.22Ω+0.22 5W
R591	HV453470	R.CAR.FP 4.7Ω 1/4W
R598	HL314100	R.MTL.OXD 10Ω 1W
R603	HL314100	R.MTL.OXD 10Ω 1W
R609	HL314100	R.MTL.OXD 10Ω 1W
R611	HV454100	R.CAR.FP 10Ω 1/4W
R613	HV454100	R.CAR.FP 10Ω 1/4W
R614	VP944500	R.MTL.OXD 390Ω 1W
R615	VP944500	R.MTL.OXD 390Ω 1W
R628	VY689500	R.WW 0.22Ω 3W
R629	VY689500	R.WW 0.22Ω 3W
R630	VY689500	R.WW 0.22Ω 3W
R631	VY689500	R.WW 0.22Ω 3W
R718	HL316560	R.MTL.OXD 5.6KΩ 1W
R719	HL316560	R.MTL.OXD 5.6KΩ 1W
R723	HV454470	R.CAR.FP 47Ω 1/4W
R726	HV454470	R.CAR.FP 47Ω 1/4W
R730	HL316560	R.MTL.OXD 5.6KΩ 1W
R731	HL316560	R.MTL.OXD 5.6KΩ 1W
R732	HV453470	R.CAR.FP 4.7Ω 1/4W
R733	HV456270	R.CAR.FP 2.7KΩ 1/4W
R734	VK188400	R.FUS 330Ω 1/4W
R736	HV455820	R.CAR.FP 820Ω 1/4W

\* New Parts

MAIN P.C.B. & TUNER P.C.B.
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Schm Ref.	PART NO.	Description
⚠ R737	VK189000	R.FUS 1KΩ 1/4W
⚠ R738	HV453470	R.CAR.FP 4.7Ω 1/4W
⚠ R739	HL314100	R.MTL.OXD 10Ω 1W
⚠ R740	HV453470	R.CAR.FP 4.7Ω 1/4W
⚠ R741	VK189000	R.FUS 1KΩ 1/4W
⚠ R743	HV455820	R.CAR.FP 820Ω 1/4W
⚠ R744	VK188400	R.FUS 330Ω 1/4W
⚠ R745	HV456270	R.CAR.FP 2.7KΩ 1/4W
⚠ R746	HV453470	R.CAR.FP 4.7Ω 1/4W
⚠ R749	VU981700	R.MTL.PLAT 0.22Ω+0.22 3W
⚠ R752	HL314100	R.MTL.OXD 10Ω 1W
⚠ R753	HL314100	R.MTL.OXD 10Ω 1W
⚠ R755	VU981700	R.MTL.PLAT 0.22Ω+0.22 3W
⚠ R759	HV453220	R.CAR.FP 2.2Ω 1/4W
⚠ R761	HV453100	R.CAR.FP 1Ω 1/4W
⚠ R762	HV453100	R.CAR.FP 1Ω 1/4W
⚠ R767	HV453220	R.CAR.FP 2.2Ω 1/4W
⚠ R781	HV454100	R.CAR.FP 10Ω 1/4W
⚠ R782	HV454100	R.CAR.FP 10Ω 1/4W
⚠ R783	HV454100	R.CAR.FP 10Ω 1/4W
⚠ RY501	VK438300	RELAY DH24D2-OT/M2
⚠ RY701	VK438300	RELAY DH24D2-OT/M2
⚠ RY702	VU566700	RELAY DG24D2-OS/M
⚠ SW501	VV523900	SW.PUSH PBS-YM-001
⚠ SW502	VS602600	SW.SLIDE SS070-P022 A
⚠ SW701	VZ361100	SW.SLIDE SL13B-022-AMC1
⚠ TE501	VC313700	TERM.SP 8P(UCRTA)
⚠ TE501	VU819700	TERM.SP 8P(L)
⚠ TE701	VS578600	TERM.SP 8P
	VJ828000	PIN IMSA-6024-03E
	BB071360	SCR.TERM 8.3x13
	VS606000	HEAT.SINK DPS35-45
	EP600140	SCR.BND.HD 3x10 MFZN2-BL
	VV610200	P.C.B. TUNER(UC)
	VV610300	P.C.B. TUNER(RT)
	VV610400	P.C.B. TUNER(AL)
CB4	VQ961800	CN.BS.PIN 15P
C1	VG287800	C.EL 330uF 16V
C3	UB050800	C.CE.M.CHP 8pF 50V
C4	VG291200	C.EL 47uF 50V
C5	UB044100	C.CE.M.CHP 0.01uF 50V
C6	VG288900	C.EL 100uF 25V
C7	VJ839100	C.EL 1uF 50V
C8	UB044100	C.CE.M.CHP 0.01uF 50V
C9	UB044100	C.CE.M.CHP 0.01uF 50V
C10	UB044100	C.CE.M.CHP 0.01uF 50V
C11	UB013100	C.CE.M.CHP 1000pF 50V
C12	VJ836900	C.EL 10uF 16V
C13	VJ836900	C.EL 10uF 16V
C14	UB052100	C.CE.M.CHP 100pF 50V

\* New Parts

Schm Ref.	PART NO.	Description
C15	UB013100	C.CE.M.CHP 1000pF 50V
C16	UB051470	C.CE.M.CHP 47pF 50V
C17	VG291200	C.EL 47uF 50V
C19	VA761200	C.CE 33pF 50V
C20	VG291200	C.EL 47uF 50V
C21	UB044470	C.CE.M.CHP 0.047uF 50V
C22	UM216330	C.EL 3.3uF 50V
C23	UB044100	C.CE.M.CHP 0.01uF 50V
C24	UM416470	C.EL 4.7uF 50V
C25	UM216330	C.EL 3.3uF 50V
C26	VJ836900	C.EL 10uF 16V
C27	UB044100	C.CE.M.CHP 0.01uF 50V
C28	VA761200	C.CE 33pF 50V
C29	VJ839100	C.EL 1uF 50V
C30	VJ839100	C.EL 1uF 50V
C31	VG291200	C.EL 47uF 50V
C32	VJ839000	C.EL 0.47uF 50V
C33	VJ839100	C.EL 1uF 50V
C34	UA654470	C.MYLAR 0.047uF 50V
C35	UM216330	C.EL 3.3uF 50V
C36	UA652470	C.MYLAR 470pF 50V(AL)
C36	UA653100	C.MYLAR 1000pF 50V(UCRT)
C37	UA652470	C.MYLAR 470pF 50V(AL)
C37	UA653100	C.MYLAR 1000pF 50V(UCRT)
C38	UB012470	C.CE.M.CHP 470pF 50V
C39	VJ836900	C.EL 10uF 16V
C40	UM216330	C.EL 3.3uF 50V
C41	UA653390	C.MYLAR 3900pF 50V
C42	UM407220	C.EL 22uF 25V
C43	UA653390	C.MYLAR 3900pF 50V
C44	UM216330	C.EL 3.3uF 50V
C45	VG291200	C.EL 47uF 50V
C46	VG291200	C.EL 47uF 50V
C49	UA652120	C.MYLAR 120pF 50V(AL)
C49	UA652470	C.MYLAR 470pF 50V(UCRT)
C50	UB044470	C.CE.M.CHP 0.047uF 50V
D1	VT332900	DIODE 1SS355
D2	VT332900	DIODE 1SS355
D3	VU993100	DIODE.ZENR MA8056-H 5.8V
Fi1	GG000560	FLTR.CE SFE10.7MS3GHY-A
Fi2	GG000560	FLTR.CE SFE10.7MS3GHY-A
Fi3	VC219000	FLTR.CE SFZ450JL3
IC1	XB760A00	IC LA1266
IC2	XQ944A00	IC LC72131
IC3	iG158100	IC LA3401
L1	VU889500	COIL 220uH
L2	VU889500	COIL 220uH
L3	VU889500	COIL 220uH
PK1	VQ987600	TUNER.PK EXV-17296G1(AL)
PK1	VR242200	TUNER.PK EXV-17296G1(UCRT)
PK2	VU333700	COIL.RF.AM 940536051A
Q1	iC053540	TR 2SC535 A,B,C
Q2	iC053540	TR 2SC535 A,B,C

\* New Parts

## TUNER P.C.B.

Schm Ref.	PART NO.	Description
Q3	VD678500	TR.DGT DTA114ES
Q4	VC218900	TR 2SC3330 R.S.T
Q5	VG722000	TR.DGT DTC144ES
Q6	IC1815C0	TR 2SC1815 Y
Q7	VD678500	TR.DGT DTA114ES
SW1	VS602600	SW.SLIDE SS070-P022 A(RT)
T1	VC218600	COIL.DT.FM 10.7MHz
T2	VR895700	COIL.IF 450KHz
T3	VT486800	COIL.XYA2(AL)
T4	VQ138200	FLTR.LC 19KHz
T5	VQ138200	FLTR.LC 19KHz
TE1	VU477800	TERM.ANT AJ-2038-040
TP1	VT969000	PIN.TEST IRS-2049
TP2	VT969000	PIN.TEST IRS-2049
VR1	VJ694000	VR.TRIM B47KΩ
VR2	VJ694000	VR.TRIM B47KΩ
XL1	QU003800	RSNR.CRYS 7.2MHz
XL2	GG000750	RSNR.CE 18.95KHz
	BB071360	SCR.TERM 8.3x13
	VR282500	PLATE ANT.

\* New Parts

## ■ Chip Resistor

Schm Ref.	PART NO.	Description
	RD253220	R.CAR.CHP 2.2Ω 1/10W
	RD254220	R.CAR.CHP 22Ω 1/10W
	RD254470	R.CAR.CHP 47Ω 1/10W
	RD254820	R.CAR.CHP 82Ω 1/10W
	RD255100	R.CAR.CHP 100Ω 1/10W
	RD255150	R.CAR.CHP 150Ω 1/10W
	RD255200	R.CAR.CHP 200Ω 1/10W
	RD255220	R.CAR.CHP 220Ω 1/10W
	RD255270	R.CAR.CHP 270Ω 1/10W
	RD255330	R.CAR.CHP 330Ω 1/10W
	RD255470	R.CAR.CHP 470Ω 1/10W
	RD255620	R.CAR.CHP 620Ω 1/10W
	RD255680	R.CAR.CHP 680Ω 1/10W
	RD255820	R.CAR.CHP 820Ω 1/10W
	RD256100	R.CAR.CHP 1KΩ 1/10W
	RD256110	R.CAR.CHP 1.1KΩ 1/10W
	RD256120	R.CAR.CHP 1.2KΩ 1/10W
	RD256130	R.CAR.CHP 1.3KΩ 1/10W
	RD256150	R.CAR.CHP 1.5KΩ 1/10W
	RD256180	R.CAR.CHP 1.8KΩ 1/10W
	RD256220	R.CAR.CHP 2.2KΩ 1/10W
	RD256240	R.CAR.CHP 2.4KΩ 1/10W
	RD256270	R.CAR.CHP 2.7KΩ 1/10W
	RD256330	R.CAR.CHP 3.3KΩ 1/10W
	RD256360	R.CAR.CHP 3.6KΩ 1/10W
	RD256390	R.CAR.CHP 3.9KΩ 1/10W
	RD256470	R.CAR.CHP 4.7KΩ 1/10W
	RD256510	R.CAR.CHP 5.1KΩ 1/10W
	RD256560	R.CAR.CHP 5.6KΩ 1/10W
	RD256680	R.CAR.CHP 6.8KΩ 1/10W
	RD256820	R.CAR.CHP 8.2KΩ 1/10W
	RD256910	R.CAR.CHP 9.1KΩ 1/10W
	RD257100	R.CAR.CHP 10KΩ 1/10W
	RD257120	R.CAR.CHP 12KΩ 1/10W
	RD257130	R.CAR.CHP 13KΩ 1/10W
	RD257150	R.CAR.CHP 15KΩ 1/10W
	RD257180	R.CAR.CHP 18KΩ 1/10W
	RD257220	R.CAR.CHP 22KΩ 1/10W
	RD257270	R.CAR.CHP 27KΩ 1/10W
	RD257330	R.CAR.CHP 33KΩ 1/10W
	RD257390	R.CAR.CHP 39KΩ 1/10W
	RD257470	R.CAR.CHP 47KΩ 1/10W
	RD257510	R.CAR.CHP 51KΩ 1/10W
	RD257560	R.CAR.CHP 56KΩ 1/10W
	RD257750	R.CAR.CHP 75KΩ 1/10W
	RD257820	R.CAR.CHP 82KΩ 1/10W
	RD257910	R.CAR.CHP 91KΩ 1/10W
	RD258100	R.CAR.CHP 100KΩ 1/10W
	RD258330	R.CAR.CHP 330KΩ 1/10W
	RD258470	R.CAR.CHP 470KΩ 1/10W
	RD259100	R.CAR.CHP 1MΩ 1/10W

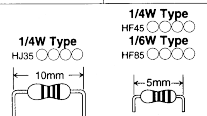
\* New Parts

## Parts List for Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0 Ω	HJ35 3100	HF85 3100	10 kΩ	HF45 7100	HF45 7100
1.8 Ω	HJ35 3180	*	11 kΩ	HF45 7110	HF45 7110
2.2 Ω	HJ35 3220	HF85 3220	12 kΩ	HJ35 7120	HF85 7120
3.3 Ω	HJ35 3330	HF85 3330	13 kΩ	HF45 7130	HF45 7130
4.7 Ω	HJ35 3470	HF85 3470	15 kΩ	HF45 7150	HF45 7150
5.6 Ω	HJ35 3560	HF85 3560	18 kΩ	HF45 7180	HF45 7180
10 Ω	HF45 4100	HF45 4100	22 kΩ	HF45 7220	HF45 7220
15 Ω	HJ35 4150	HF85 4150	24 kΩ	HF45 7240	HF45 7240
22 Ω	HF45 4220	HF45 4220	27 kΩ	HJ35 7270	HF85 7270
27 Ω	HJ35 4270	HF85 4270	30 kΩ	HF45 7300	HF45 7300
33 Ω	HF45 4330	HF45 4330	33 kΩ	HF45 7330	HF45 7330
39 Ω	HJ35 4390	HF85 4390	36 kΩ	HF45 7360	HF45 7360
47 Ω	HF45 4470	HF45 4470	39 kΩ	HF45 7390	HF45 7390
56 Ω	HF45 4560	HF45 4560	47 kΩ	HF45 7470	HF45 7470
68 Ω	HF45 4680	HF45 4680	51 kΩ	HF45 7510	HF45 7510
75 Ω	HF45 4750	HF45 4750	56 kΩ	HF45 7560	HF45 7560
82 Ω	HF45 4820	HF45 4820	62 kΩ	HF45 7620	HF45 7620
91 Ω	HF45 4910	HF45 4910	68 kΩ	HF45 7680	HF45 7680
100 Ω	HF45 5100	HF45 5100	82 kΩ	HF45 7820	HF45 7820
110 Ω	HJ35 5110	HF85 5110	91 kΩ	HF45 7910	HF45 7910
120 Ω	HF45 5120	HF45 5120	100 kΩ	HF45 8100	HF45 8100
150 Ω	HF45 5150	HF45 5150	110 kΩ	HF45 8110	HF45 8110
160 Ω	HJ35 5160	*	120 kΩ	HF45 8120	HF45 8120
180 Ω	HF45 5180	HF45 5180	150 kΩ	HF45 8150	HF45 8150
200 Ω	HF45 5200	HF45 5200	180 kΩ	HF45 8180	HF45 8180
220 Ω	HF45 5220	HF45 5220	220 kΩ	HJ35 8220	HF85 8220
270 Ω	HF45 5270	HF45 5270	270 kΩ	HF45 8270	HF45 8270
330 Ω	HF45 5330	HF45 5330	300 kΩ	HF45 8300	HF45 8300
390 Ω	HF45 5390	HF45 5390	330 kΩ	HF45 8330	HF45 8330
430 Ω	HF45 5430	HF45 5430	390 kΩ	HJ35 8390	HF85 8390
470 Ω	HF45 5470	HF45 5470	470 kΩ	HF45 8470	HF45 8470
510 Ω	HF45 5510	HF45 5510	560 kΩ	HJ35 8560	HF85 8560
560 Ω	HF45 5560	HF45 5560	680 kΩ	HJ35 8680	HF85 8680
680 Ω	HF45 5680	HF45 5680	820 kΩ	HJ35 8820	HF85 8820
820 Ω	HF45 5820	HF45 5820	1.0 MΩ	HF45 9100	HF45 9100
910 Ω	HF45 5910	HF45 5910	1.2 MΩ	HJ35 9120	*
1.0 kΩ	HF45 6100	HF45 6100	1.5 MΩ	HJ35 9150	HF85 9150
1.2 kΩ	HF45 6120	HF45 6120	1.8 MΩ	HJ35 9180	HF85 9180
1.5 kΩ	HF45 6150	HF45 6150	2.2 MΩ	HJ35 9220	HF85 9220
1.8 kΩ	HF45 6180	HF45 6180	3.3 MΩ	HJ35 9330	HF85 9330
2.0 kΩ	HJ35 6200	HF85 6200	3.9 MΩ	HJ35 9390	*
2.2 kΩ	HF45 6220	HF45 6220	4.7 MΩ	HJ35 9470	HF85 9470
2.4 kΩ	HJ35 6240	HF85 6240			
2.7 kΩ	HF45 6270	HF45 6270			
3.0 kΩ	HF45 6300	HF45 6300			
3.3 kΩ	HF45 6330	HF45 6330			
3.6 kΩ	HJ35 6360	HF85 6360			
3.9 kΩ	HF45 6390	HF45 6390			
4.7 kΩ	HF45 6470	HF45 6470			
5.1 kΩ	HF45 6510	HF45 6510			
5.6 kΩ	HF45 6560	HF45 6560			
6.8 kΩ	HF45 6680	HF45 6680			
8.2 kΩ	HF45 6820	HF45 6820			
9.1 kΩ	HF45 6910	HF45 6910			

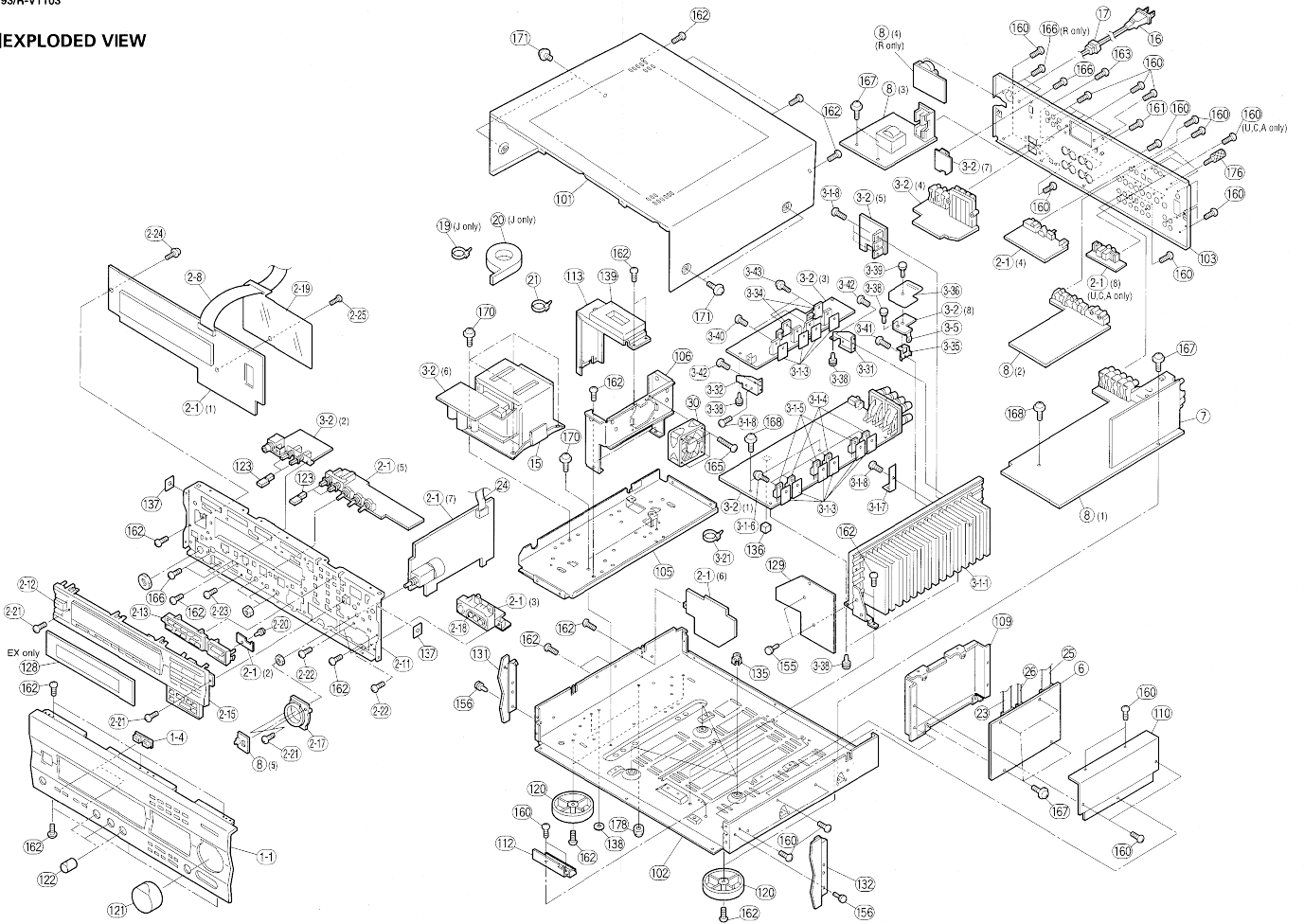
\*: Not available

1992



RX-V793/R-V1103

EXPLODED VIEW



## MECHANICAL PARTS

Ref. No.	PART NO.	Description	Remarks	Markets
* 1-1	VZ304100	FRONT PANEL	RX-V793 BL	
* 1-1	VZ304500	FRONT PANEL	R-V1103	
* 1-1	VZ892100	FRONT PANEL	RX-V793 GD	
* 1-4	VV123700	ESCUTCHEON, 3/8	2P	
* 2-1	VZ506300	P.C.B. ASSY	OPERATION	(UC)
* 2-1	VZ506400	P.C.B. ASSY	OPERATION	(RT)
* 2-1	VZ506500	P.C.B. ASSY	OPERATION	(A)
* 2-1	VZ506600	P.C.B. ASSY	OPERATION	(L)
* 2-8	MF231250	FLEXIBLE FLAT CABLE, S	31P 250mm	
2-11	VV140700	SUB CHASSIS	130	
* 2-12	VZ531400	BUTTON CASE	8	BL
* 2-12	VZ991100	BUTTON CASE	8	GD
* 2-13	V0016800	BUTTON, DSP	BL	
* 2-13	VV137500	BUTTON, DSP	BL	
* 2-15	VZ283900	SUB PANEL CASE	8	RX-V793 BL
* 2-15	VZ284100	SUB PANEL CASE	8	R-V1103
* 2-15	VZ890900	SUB PANEL CASE	8	RX-V793 GD
* 2-17	V0017000	ESCUTCHEON, VOL	RX-V793 GD	
2-17	VV149500	ESCUTCHEON, VOL	RX-V793 BL	
2-17	VV626400	ESCUTCHEON, VOL	R-V1103	(UCA)
2-17	VZ031500	ESCUTCHEON, VOL	R-V1103	(RT)
2-18	VV149800	ESCUTCHEON, PJ	BL	
* 2-18	VZ891500	ESCUTCHEON, PJ	GD	
2-19	VZ531700	SHEET, PROTECTOR		
2-20	VQ368500	PUSH RIVET	P3545-B	
2-21	EI330086	BIND HEAD B-TITE SCREW	3x8 FORM3-BL	
2-22	VN413300	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2-BL	
2-23	ED330066	BIND HEAD SCREW	3x6 FORM3-BL	
2-24	VT689300	PW HEAD B-TITE SCREW	3x8-8 MFC2	
2-25	EP630220	BIND HEAD P-TITE SCREW	3x8 ZMC2-BL	
* 3-1-1	VZ333200	HEAT SINK ASSY		
3-1-3	VK195900	SHEET	19x24	
3-1-4	X636490	TRANSISTOR	2SA1962 R.O	Q523A,527A,531A
3-1-5	X636500	TRANSISTOR	2SC5242 R.O	Q523C,527C,531C
3-1-6	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3	
3-1-7	VV518700	SUPPORT, HEAT SINK	L	
3-1-8	EI330086	BIND HEAD B-TITE SCREW	3x8 FORM3-BL	
* 3-2	VZ507200	P.C.B. ASSY	MAIN	(UCRT)
* 3-2	VZ507300	P.C.B. ASSY	MAIN	(A)
* 3-2	VZ507400	P.C.B. ASSY	MAIN	(L)
* 3-5	VM842300	THERMISTOR	PTH8M04 BF (80°C)	TH701
3-21	VU590000	BINDING TIE	CBTD001B	
3-31	VV517000	SUPPORT	RA-L	
3-32	VV517100	SUPPORT	RA-R	
3-34	VR724200	SUPPORT, TR		
3-35	VY934600	SUPPORT, PS		
3-36	VZ763500	SHEET, PS		
3-38	VQ368500	PUSH RIVET	P3545-B	
3-39	VQ368600	PUSH RIVET	P3555-B	
3-40	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3	
3-41	EI330086	BIND HEAD B-TITE SCREW	3x8 FORM3-BL	
3-42	ED330066	BIND HEAD SCREW	3x6 FORM3-BL	
3-43	VK865300	HEX. HEAD TAP. SCREW WITH WS	3x18 FORM3-BL	

\* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
* 6	VZ506800	P.C.B. ASSY	DSP	
7	VV610200	P.C.B. ASSY	TUNER	(UC)
7	VV610300	P.C.B. ASSY	TUNER	(RT)
7	VV610400	P.C.B. ASSY	TUNER	(AL)
* 8	VZ507700	P.C.B. ASSY	INPUT	(UC)
* 8	VZ507800	P.C.B. ASSY	INPUT	(RT)
* 8	VZ507900	P.C.B. ASSY	INPUT	(A)
* 8	VZ508000	P.C.B. ASSY	INPUT	(L)
* 15	XT967A00	POWER TRANSFORMER		(J)
* 15	XT968A00	POWER TRANSFORMER		(C)
* 15	XT969A00	POWER TRANSFORMER		(RT)
* 15	XT970A00	POWER TRANSFORMER		(A)
* 15	XT971A00	POWER TRANSFORMER		(L)
* 16	VL238100	POWER CORD ASSY		(R)
* 16	VN363700	POWER CORD ASSY		(L)
* 16	VO508600	POWER CORD ASSY		(A)
* 16	VV437200	POWER CORD ASSY		(UC)
* 16	VZ542500	POWER CORD ASSY		(T)
17	VN158600	CORD STOPPER	No.2104	
* 20	V0039300	FERRITE CORE	ESD-R-38D-B	(J)
21	VU590000	BINDING TIE	CBTD001B	
* 23	MF215140	FLEXIBLE FLAT CABLE, S	15P 140mm	
* 24	MF122140	FLEXIBLE FLAT CABLE	22P 140mm	
* 25	MF120140	FLEXIBLE FLAT CABLE	20P 140mm	
* 26	MF107250	FLEXIBLE FLAT CABLE	7P 250mm	
30	VV272500	DC FAN MOTOR	2410ML-05W-B20-L00	
101	VV121300	TOP COVER		BL
* 101	VZ894500	TOP COVER		GD
* 102	VY758300	CHASSIS		
* 103	VZ307800	REAR PANEL		RX-V793 (U)
* 103	VZ307900	REAR PANEL		RX-V793 (C)
* 103	VZ308000	REAR PANEL		RX-V793 (RT)
* 103	VZ308100	REAR PANEL		RX-V793 (A)
* 103	VZ308200	REAR PANEL		RX-V793 (L)
* 103	VZ308500	REAR PANEL		R-V1103 (U)
* 103	VZ308700	REAR PANEL		R-V1103 (C)
* 103	VZ308800	REAR PANEL		R-V1103 (RT)
* 103	VZ308900	REAR PANEL		R-V1103 (A)
105	VV123100	FRAME, TRANS		
* 106	VZ332900	FRAME, FAN		
* 109	VZ332700	SHIELD CASE		
* 110	VZ332800	SHIELD CASE COVER		
* 112	VZ333000	SUPPORT, PCB		
* 113	VZ333100	SUPPORT, TRANS		
120	VV544300	LEG	D60xH21	R-V1103 (UCA)
120	VV544600	LEG	D60xH21	R-V1103 (RT)
121	VV150100	KNOB, LED	D40	BL
121	VZ911700	KNOB, LED	D40	GD
* 122	V0016700	KNOB	D14	GD
122	VV123300	KNOB	D14	BL
* 123	V0016900	BUTTON, 3/8		GD
123	VV123500	BUTTON, 3/8		BL
128	VV259400	SHEET, WINDOW PANEL		

\* New Parts



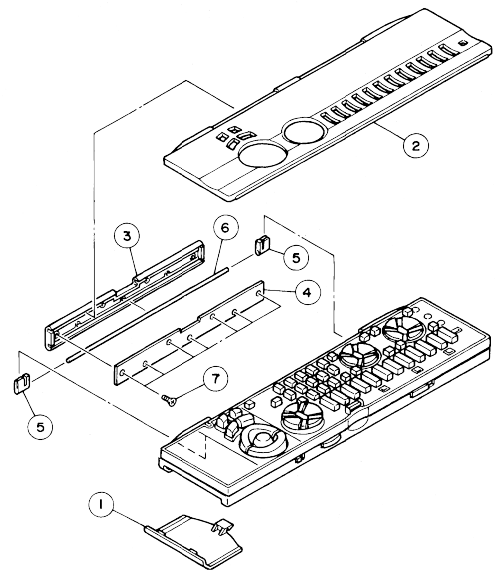
RX-V793/R-V1103

Ref. No.	PART NO.	Description	Remarks	Markets
129	VZ531600	SHHET		
131	VV124300	PLATE SIDE L	130	BL
131	VZ891600	PLATE SIDE L	130	GD
132	VV124500	PLATE SIDE R	130	BL
132	VZ891700	PLATE SIDE R	130	GD
135	VR264400	SPACER	H8	
136	VQ366100	DAMPER, PCB		
137	VY989400	DAMPER	SIDE	
138	V2064200	DAMPER		
139	VP922800	DAMPER	10x50x80	
155	VQ368500	PUSH RIVET	P3545-B	
156	VQ368600	PUSH RIVET	P3555-B	
160	VN413300	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2-BL	
161	VY731200	BONDING HEAD TAPPING SCREW	3x10 MFNI33	
162	EI330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	
163	EI330086	BIND HEAD B-TITE SCREW	3x8 ZMC2-Y	
165	VV220300	BIND HEAD B-TITE SCREW	3x30 MFZN2-BL	
166	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL	
167	VT669300	PW HEAD B-TITE SCREW	3x8-8 MFC2	
168	VT669400	PW HEAD B-TITE SCREW	3x15-8 MFC2	
170	EK365090	PW HEAD S-TITE SCREW	4x8-10 FCRM3-BL	
171	EK365090	PW HEAD S-TITE SCREW	4x8-10 FCRM3-BL	BL
171	VD069600	PW HEAD S-TITE SCREW	4x8-10 MFNI-33	GD
176	AA627310	GROUND TERMINAL		
178	EX604260	HEXAGONAL CAP NUT	4.0 MFNI33	
		ACCESSORIES		
	VZ338300	REMOTE CONTROL TRANSMITTER	RRC4000	
	VQ147100	ANTENNA, FM	1P 1.4m	
	VR248500	ANTENNA, AM LOOP	1P 1.0m	
	VT948000	ANTENNA ADAPTER		
	VY731700	LABEL, REMOTE CONTROL		
		BATTERY, MANGANESE	SUM-3,AA,R06	(UC)

\* New Parts

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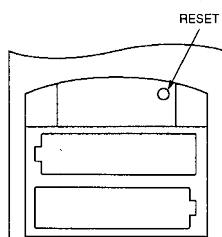
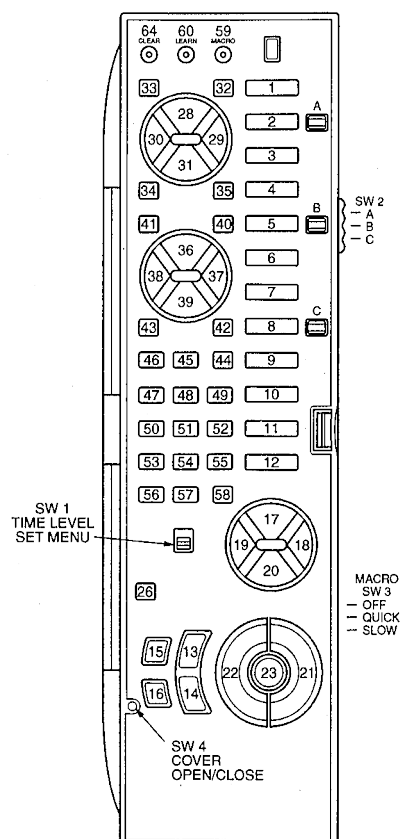
# EXPLODED VIEW (Remote Control Transmitter)

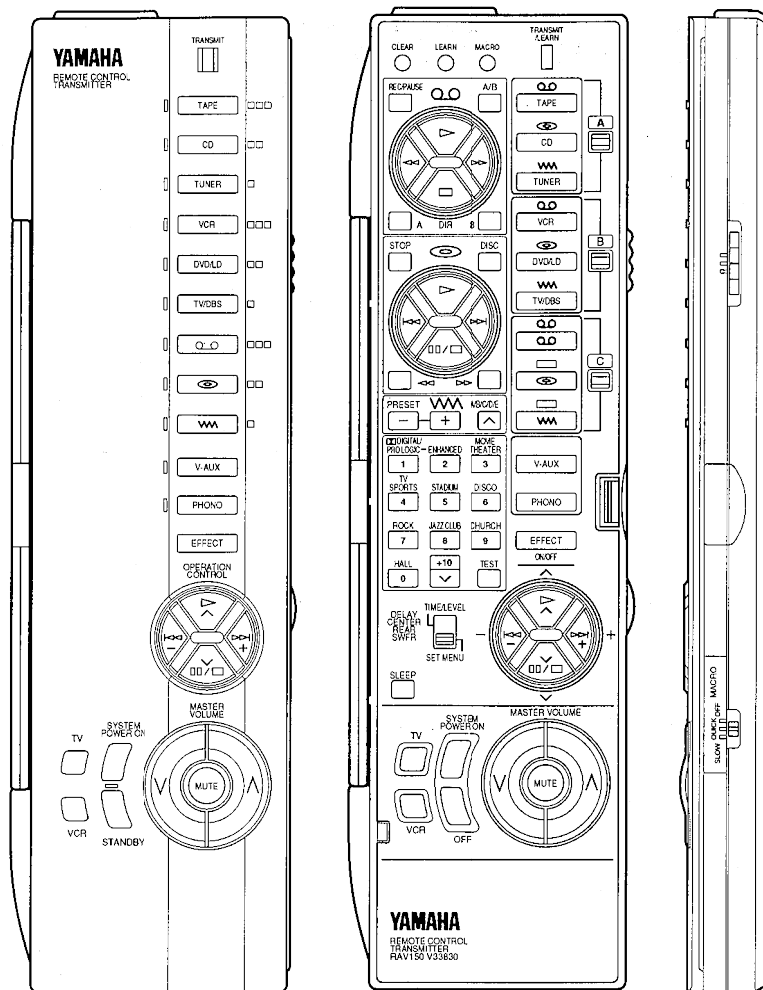


Ref. No.	PART NO.	Description	Remarks	Markets
1	VZ338300	REMOTE CONTROL TRANSMITTER	RRC4000	
2	CX680040	COVER, BATTERY		103RRC11101R
3	CX680060	LID		103RRC11203R
4	CX680070	BRACKET	A	503RRC00401R
5	CX680080	BRACKET	B	503RRC00501R
6	CX680090	GUIDE PIN		522RRC00101R
7	CX680090	PIN		524RRC00101R
	EX603910	SCREW	M1.7x13.5	ABB1703321001

\* New Parts

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### MACRO transmission

Transmission code of initial setting shows under the below. (key No.)

Each transmission code is the fixed or learning code.

Key No.	COVER		CLOSE						
	SW 2		Don't care.						
	SW 3		QUICK or SLOW						
	MACRO order		1	2	3	4	5	6	7
1	TAPE		K13	K1	K28-A	-	-	-	-
2	CD		K13	K2	K36-A	-	-	-	-
3	TUNER		K13	K3	-	-	-	-	-
4	VCR		K13	K4	K28-B	-	-	-	-
5	DVD/LD		K13	K5	K36-B	-	-	-	-
6	TV/DBS		K13	K6	-	-	-	-	-
7	Q.D		K13	K7	K28-C	-	-	-	-
8	Q.D		K13	K8	K36-C	-	-	-	-
9	W.W		K13	K9	-	-	-	-	-
10	V-AUX		K13	K10	-	-	-	-	-
11	PHONO		K13	K11	-	-	-	-	-
13	SYSTEM POWER		K13	K15	K16	-	-	-	-
14	SYSTEM POWER OFF		K14	-	-	-	-	-	-

Detail : K × × - ○

Key No. The position of SW2

### List of the fixed code

Key No.	SW 1 SW 2	SET MENU			TIME/LEVEL		
		A	B	C	A	B	C
1	TAPE	7A-85-18	7A-85-18	7A-85-18	7A-85-18	7A-85-18	7A-85-18
2	CD	7A-85-15	7A-85-15	7A-85-15	7A-85-15	7A-85-15	7A-85-15
3	TUNER	7A-85-16	7A-85-16	7A-85-16	7A-85-16	7A-85-16	7A-85-16
4	VCR	7A-85-0F	7A-85-0F	7A-85-0F	7A-85-0F	7A-85-0F	7A-85-0F
5	DVD/LD	7A-85-17	7A-85-17	7A-85-17	7A-85-17	7A-85-17	7A-85-17
6	TV/DBS	7A-85-54	7A-85-54	7A-85-54	7A-85-54	7A-85-54	7A-85-54
7	Q.D						
8	Q.D						
9	W.W						
10	V-AUX	7A-85-55	7A-85-55	7A-85-55	7A-85-55	7A-85-55	7A-85-55
11	PHONO	7A-85-14	7A-85-14	7A-85-14	7A-85-14	7A-85-14	7A-85-14
12	EFFECT	7A-85-56	7A-85-56	7A-85-56	7A-85-56	7A-85-56	7A-85-56
13	SYSTEM POWER	7A-85-1D	7A-85-1D	7A-85-1D	7A-85-1D	7A-85-1D	7A-85-1D
14	SYSTEM POWER OFF	7A-85-1E	7A-85-1E	7A-85-1E	7A-85-1E	7A-85-1E	7A-85-1E
15	SYSTEM POWER TV						
16	SYSTEM POWER VCR						
17	▲▶▶	7A-85-9D	7A-85-9D	7A-85-9D	7A-85-98	7A-85-98	7A-85-98
18	▶▶▶	7A-85-9E	7A-85-9E	7A-85-9E	7A-85-52	7A-85-52	7A-85-52
19	▶▶▶	7A-85-9F	7A-85-9F	7A-85-9F	7A-85-53	7A-85-53	7A-85-53
20	▶▶▶	7A-85-9C	7A-85-9C	7A-85-9C	7A-85-99	7A-85-99	7A-85-99
21	MASTER VOL +	7A-85-1A	7A-85-1A	7A-85-1A	7A-85-1A	7A-85-1A	7A-85-1A
22	MASTER VOL -	7A-85-1B	7A-85-1B	7A-85-1B	7A-85-1B	7A-85-1B	7A-85-1B
23	MUTE	7A-85-1C	7A-85-1C	7A-85-1C	7A-85-1C	7A-85-1C	7A-85-1C
		7A-85-9A	7A-85-9A	7A-85-9A	7A-85-9A	7A-85-9A	7A-85-9A
		7A-85-9B	7A-85-9B	7A-85-9B	7A-85-9B	7A-85-9B	7A-85-9B
26	SLEEP	7A-85-57	7A-85-57	7A-85-57	7A-85-57	7A-85-57	7A-85-57
		7A-85-87	7A-85-87	7A-85-87	7A-85-87	7A-85-87	7A-85-87

Key No.	SW 1 SW 2	SET MENU			TIME/LEVEL		
		A	B	C	A	B	C
28	▶▶	7A-85-00			7A-85-00		
29	▶▶	7A-85-02			7A-85-02		
30	▶▶	7A-85-01			7A-85-01		
31	▶▶	7A-85-03			7A-85-03		
32	A/B	7A-85-06			7A-85-06		
33	REC/PAUSE	7A-85-04			7A-85-04		
34	DIR A	7A-85-07			7A-85-07		
35	DIR B	7A-85-40			7A-85-40		
36	▶▶	7A-85-08		7C-83-05	7A-85-08		7C-83-05
37	▶▶	7A-85-0A		7C-83-03	7A-85-0A		7C-83-03
38	▶▶	7A-85-0B		7C-83-02	7A-85-0B		7C-83-02
39	▶▶	7A-85-09		7C-83-04	7A-85-09		7C-83-04
40	DISC	7A-85-4F			7A-85-4F		
41	STOP			7C-83-5B			
42	▶▶	7A-85-0C		7C-83-07	7A-85-0C		7C-83-07
43	▶▶	7A-85-0D		7C-83-06	7A-85-0D		7C-83-06
44	A/B/C/D/E	7A-85-12			7A-85-12		
45	PRESET +	7A-85-10			7A-85-10		
46	PRESET -	7A-85-11			7A-85-11		
47	1	7A-85-88	7A-85-88	7A-85-88	7A-85-88	7A-85-88	7A-85-88
48	2	7A-85-89	7A-85-89	7A-85-89	7A-85-89	7A-85-89	7A-85-89
49	3	7A-85-8A	7A-85-8A	7A-85-8A	7A-85-8A	7A-85-8A	7A-85-8A
50	4	7A-85-8B	7A-85-8B	7A-85-8B	7A-85-8B	7A-85-8B	7A-85-8B
51	5	7A-85-8E	7A-85-8E	7A-85-8E	7A-85-8E	7A-85-8E	7A-85-8E
52	6	7A-85-8F	7A-85-8F	7A-85-8F	7A-85-8F	7A-85-8F	7A-85-8F
53	7	7A-85-8C	7A-85-8C	7A-85-8C	7A-85-8C	7A-85-8C	7A-85-8C
54	8	7A-85-8D	7A-85-8D	7A-85-8D	7A-85-8D	7A-85-8D	7A-85-8D
55	9	7A-85-90	7A-85-90	7A-85-90	7A-85-90	7A-85-90	7A-85-90
56	0	7A-85-91	7A-85-91	7A-85-91	7A-85-91	7A-85-91	7A-85-91
57	+ 10						
58	TEST	7A-85-85	7A-85-85	7A-85-85	7A-85-85	7A-85-85	7A-85-85