

# AV RECEIVER

# RX-V393RDS

# RX-V493RDS

## 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.

RX-V393RDS  
RX-V493RDS

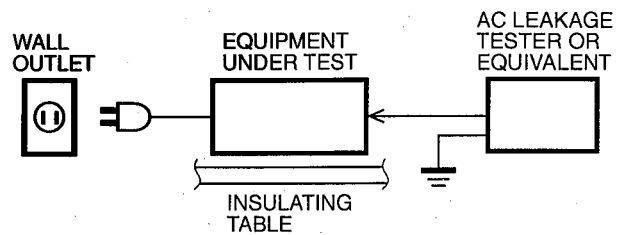
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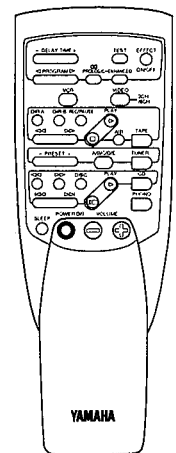
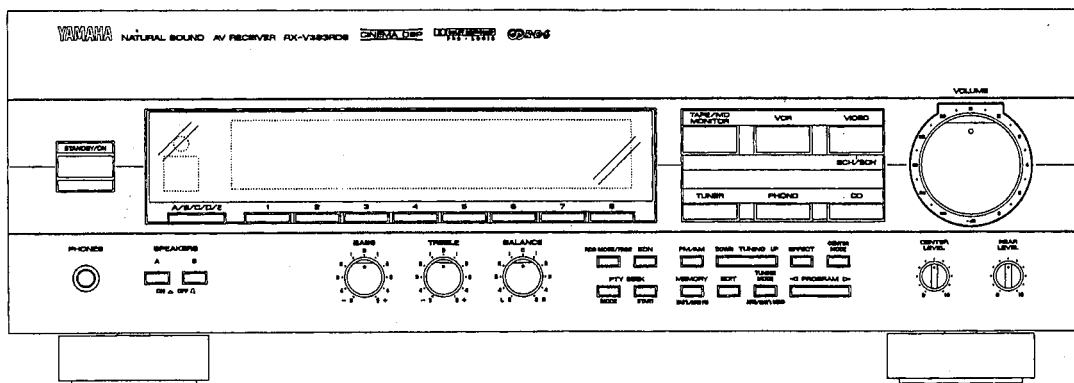
## ■ TO SERVICE PERSONNEL

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

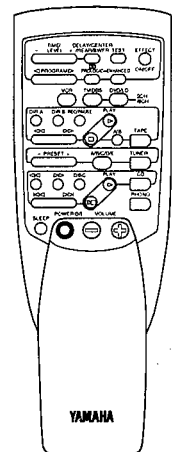
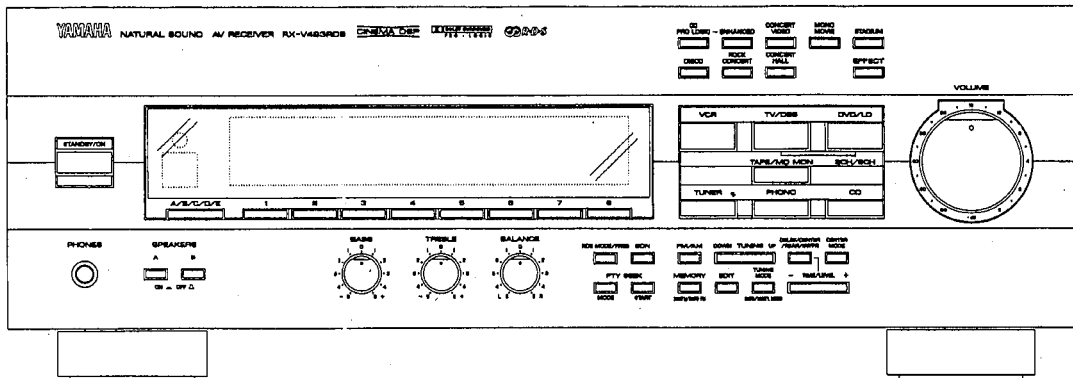


## ■ FRONT PANELS

### ▼ RX-V393RDS

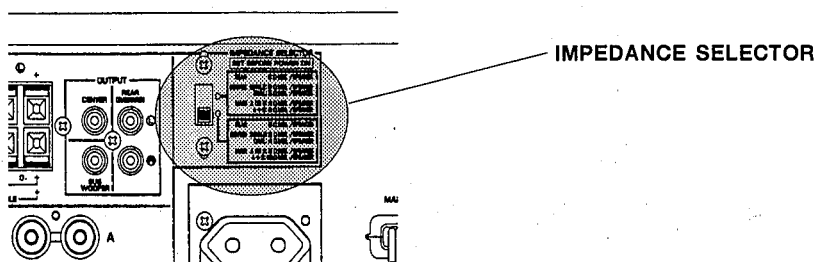


### ▼ RX-V493RDS



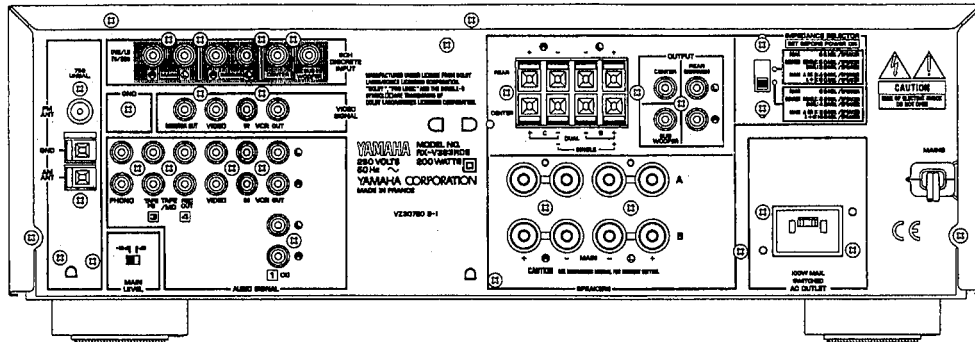
### WARNING

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

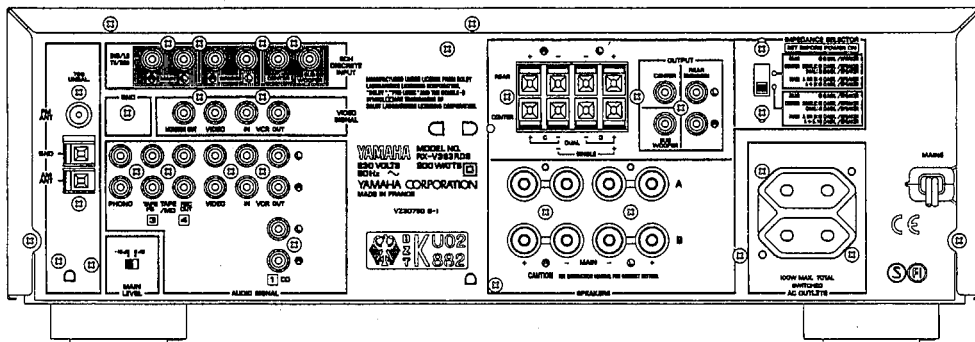


## REAR PANELS

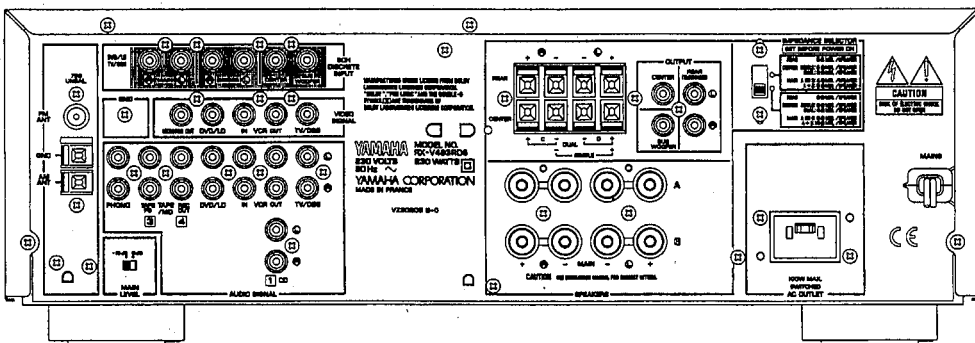
### ▼ RX-V393RDS B model



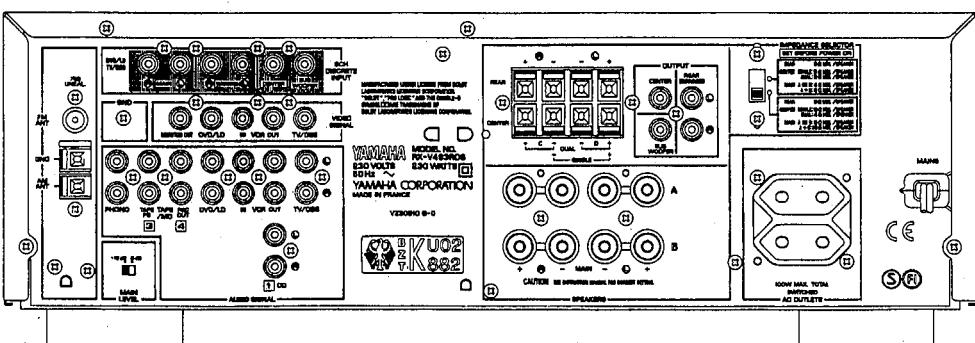
### ▼ RX-V393RDS G model



### ▼ RX-V493RDS B model



### ▼ RX-V493RDS G model



## SPECIFICATIONS

### AUDIO SECTION

#### Minimum RMS Output Power per Channel (Power Amp)

##### RX-V393RDS

MAIN, 20Hz to 20kHz, 0.04% THD, 8Ω ..... 50W + 50W

CENTER, 1kHz, 0.04% THD, 8Ω ..... 50W

REAR, 1kHz, 0.04% THD, 8Ω ..... 20W + 20W

##### RX-V493RDS

MAIN, 20Hz to 20kHz, 0.04% THD, 8Ω ..... 65W + 65W

CENTER, 1kHz, 0.04% THD, 8Ω ..... 65W

REAR, 1kHz, 0.04% THD, 8Ω ..... 20W + 20W

#### Dynamic Power per Channel (IHF)

##### RX-V393RDS

8/6/4/2Ω ..... 80/100/120/135W

##### RX-V493RDS

8/6/4/2Ω ..... 95/115/145/165W

#### DIN Standard Output Power per Channel

##### RX-V393RDS

1kHz, 0.7% THD, 4Ω ..... 75W

##### RX-V493RDS

1kHz, 0.7% THD, 4Ω ..... 95W

#### IEC Power

##### RX-V393RDS

1kHz, 0.1% THD, 8Ω ..... 60W

##### RX-V493RDS

1kHz, 0.1% THD, 8Ω ..... 80W

#### Power Band Width

##### RX-V393RDS

0.1% THD, 25W, 8Ω ..... 10Hz to 50kHz

##### RX-V493RDS

0.1% THD, 30W, 8Ω ..... 10Hz to 50kHz

#### Damping Factor

20Hz to 20kHz, 8Ω ..... 80 or more

#### Input Sensitivity/Impedance

##### RX-V393RDS

PHONO MM ..... 2.5mV/47kΩ

6 CH DISCRETE L/R ..... 170mV/56kΩ

6 CH DISCRETE C ..... 170mV/11kΩ

6 CH DISCRETE SW ..... 170mV/40kΩ

6 CH DISCRETE RL/RR ..... 100mV/11kΩ

CD, etc ..... 170mV/47kΩ

##### RX-V493RDS

PHONO MM ..... 2.5mV/47kΩ

6 CH DISCRETE L/R ..... 170mV/56kΩ

6 CH DISCRETE C/SW ..... 170mV/40kΩ

6 CH DISCRETE RL/RR ..... 100mV/40kΩ

CD, etc ..... 170mV/47kΩ

#### Maximum Input Signal Level (1kHz, 0.5% THD)

PHONO MM ..... 100mV

CD, etc (Effect off) ..... 2.5V

#### Output Level/Impedance

REC OUT ..... 170mV/2.5kΩ

CENTER ..... 2V/1.2kΩ

REAR L/R ..... 1.2V/1.2kΩ

SUB WOOFER (Effect off) ..... 4V/1.2kΩ

#### Headphone Jack Rated Output/Impedance

0.04% THD, 8Ω ..... 0.45V/330Ω

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

CD, etc ..... 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 (30W/8Ω) ..... 0.03%

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

PHONO MM, Input Shorted (5mV) ..... 80dB

CD, etc, Input Shorted ..... 93dB

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

MAIN, SP OUT ..... 140μV

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

PHONO MM, Input Shorted, 1kHz ..... 60dB

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

#### Tone Control Characteristics

BASS : Boost/cut ..... ±10dB (50Hz)

Turnover Frequency ..... 350Hz

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

Turnover Frequency ..... 3.5kHz

#### Gain Tracking Error (0dB to -60dB) ..... 3dB

### FM SECTION

Tuning Range ..... 87.50 to 108.00MHz

#### Usable Sensitivity (75 Ω)

DIN, Mono (S/N 26dB) ..... 0.9μV

DIN, Stereo (S/N 46dB) ..... 24μV

Selectivity (two signals, 40kHz Dev.) ..... 70dB

#### Signal-to-Noise Ratio

Mono/Stereo (DIN-weighted, 40kHz Dev.) ..... 75/70dB

#### Harmonic Distortion

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

#### Frequency Response

20Hz to 15kHz ..... 0 ± 1.5dB

Stereo Separation ..... 50dB

Output Level (40kHz Dev. 1kHz) ..... 400mV

### AM SECTION

Tuning Range ..... 531 to 1611kHz

Usable Sensitivity ..... 100μV/m

Selectivity ..... 32dB

Signal-to-Noise Ratio ..... 50dB

Image Response Ratio ..... 40dB

Spurious Response Ratio ..... 50dB

Harmonic Distortion (1kHz) ..... 0.3%

Output Level (30% mod., 1kHz) ..... 150mV



## VIDEO SECTION

|                                   |                 |
|-----------------------------------|-----------------|
| Video Signal Level                | 1Vp-p/75Ω       |
| Maximum Input Level               | 1.5Vp-p         |
| Signal-to-Noise Ratio             | 50dB            |
| Monitor Output Frequency Response | 5Hz~10MHz, -3dB |

## GENERAL

|                        |                                                                                                                  |
|------------------------|------------------------------------------------------------------------------------------------------------------|
| Power Supply           | AC 230V, 50Hz                                                                                                    |
| Power Consumption      |                                                                                                                  |
| RX-V393RDS             | 200W                                                                                                             |
| RX-V493RDS             | 230W                                                                                                             |
| AC Outlets             |                                                                                                                  |
| G models, Switched x 2 | 100W max (Total)                                                                                                 |
| B model, Switched x 1  | 100W max                                                                                                         |
| Dimensions (W x H x D) | 435 x 151 x 308.5mm<br>(17-1/8" x 5-15/16" x 12-1/8")                                                            |
| Weight                 |                                                                                                                  |
| RX-V393RDS             | 7.8 kg (17 lbs. 3 oz)                                                                                            |
| RX-V493RDS             | 8.7 kg (19 lbs. 3 oz)                                                                                            |
| Accessories            | AM loop antenna x 1<br>Indoor FM antenna x 1<br>Remote Control Transmitter x 1<br>Battery (size "AA", "R06") x 2 |

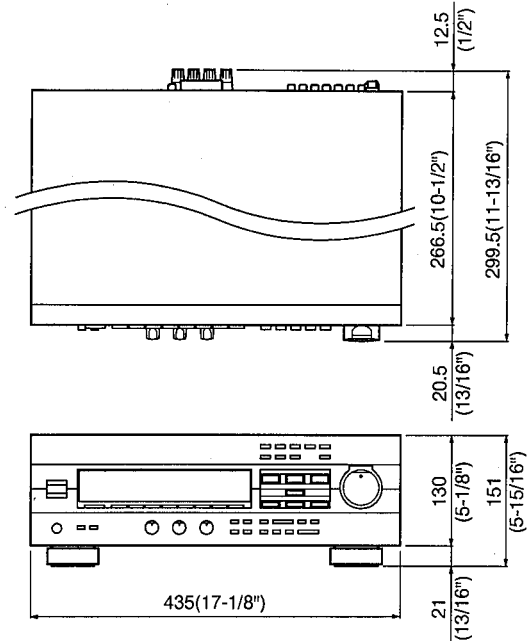
\* Specifications subject to change without notice.

B ..... British model

G ..... European model

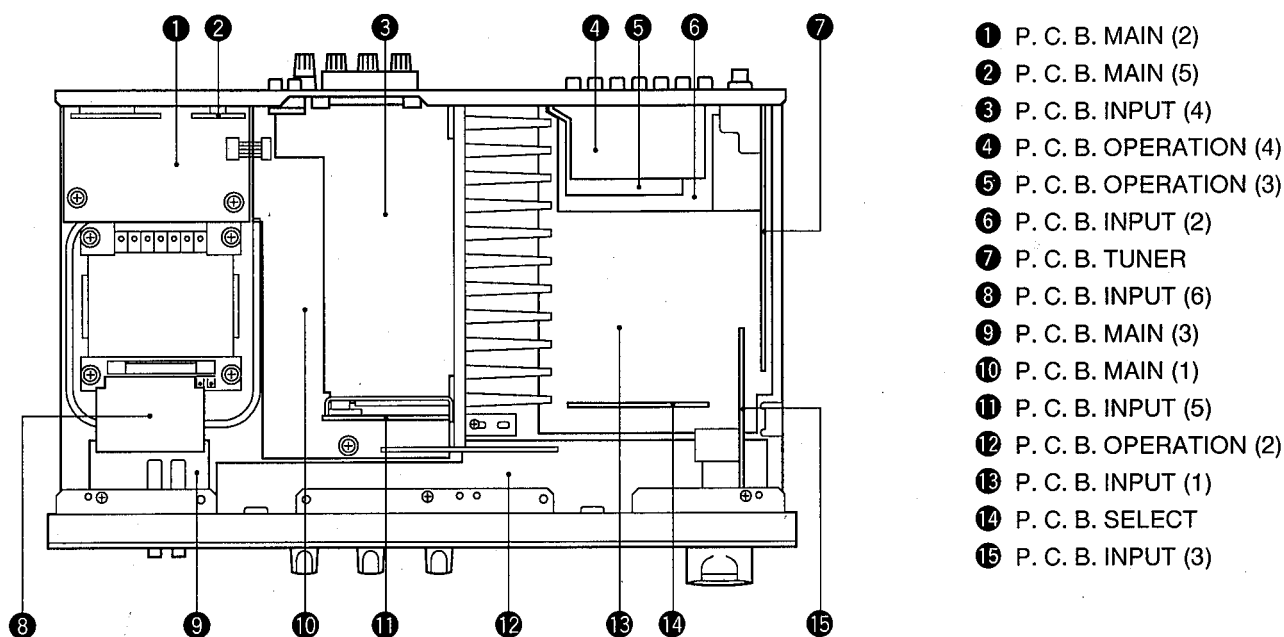
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## DIMENSIONS



Units : mm (inch)

## INTERNAL VIEW



## 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 Front Panel

- a. Remove the knobs.  
b. Remove 6 screws ( ③ ) in Fig. 1.

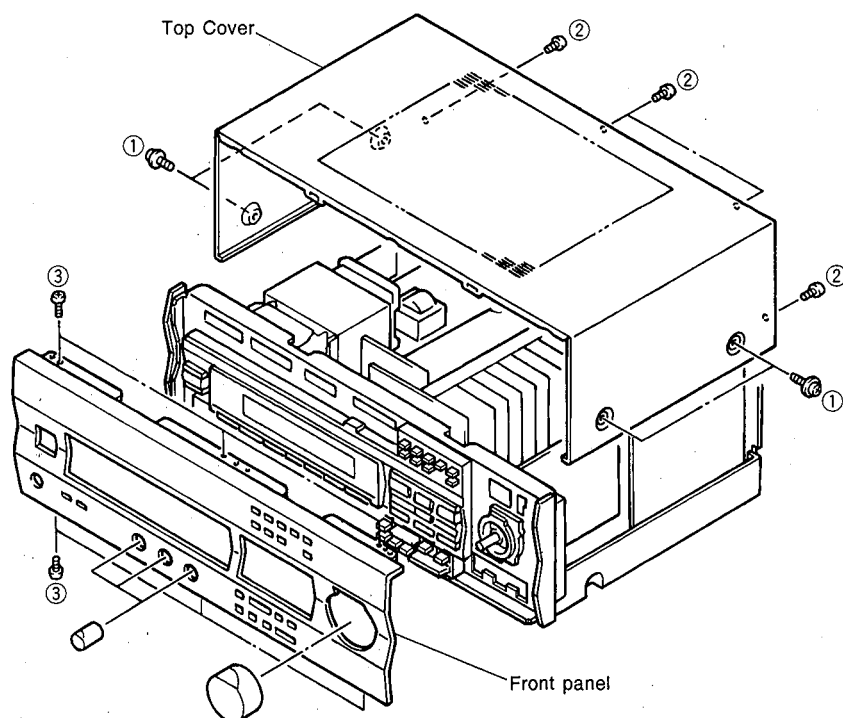


Fig. 1

### 3. Checking and Parts Replacement of Main Unit

- Disconnect the power cord from the AC outlet.
- Remove 2 screws (④) and 1 screw (⑤) in Fig. 2.
- Detach 1 connector terminal (CB103) in Fig. 2.
- Operating checks can be taken by shorting between following test points in Fig. 2.

| Short Point     |
|-----------------|
| TP101 and TP102 |
| TP103 and TP104 |
| TP105 and TP106 |

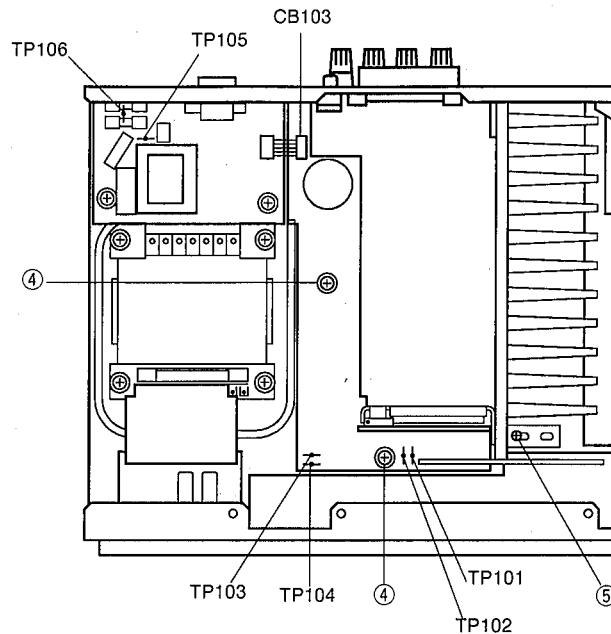


Fig. 2

- Remove 11 screws (⑥), 2 screws (⑦) and 2 screws (⑧) in Fig. 3.
- Cut 2 binding ties fixing the cable wire.
- Place the Main Unit on its side as shown in Fig. 4.
- Connect the power cord and turn ON the POWER switch.

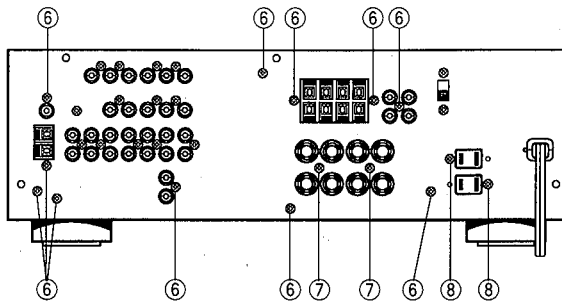


Fig. 3

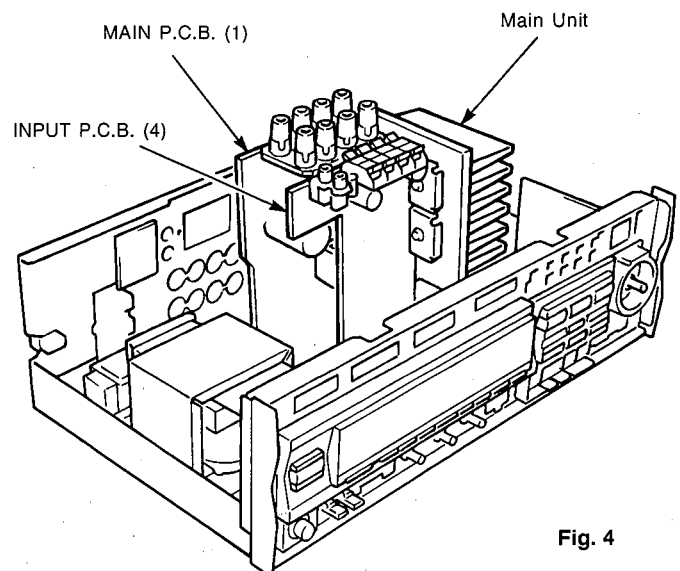


Fig. 4

## ■ SELF CHECK MODE

This machine has a SELF CHECK MODE (SELF) for facilitating inspection and measurement.

### HOW TO START & CANCEL

Turn the POWER switch ON while pressing the VIDEO(V393) DVD/LD(V493) and PRESET STATION No. 8 keys simultaneously, and then the unit enters the SELF CHECK MODE (SELF). FL displays "SELF 1" first.

(The INPUT is CD.)

If the sound field program key of the main unit is pressed, the mode is set to the CHECK mode of that number. It is possible to select the INPUT even during the self check (except for SELF 8). To cancel the SELF CHECK MODE, turn the POWER switch OFF or press the PRESET STATION No. 8 key. (The unit enters the normal mode.)

### HOW TO USE SELF CHECK MODE

In order to confirm characteristics (specifications) listed in the table below, use SELF NO. 1, 3 and 4. (For specifications, refer to page 5.)

| No. | Items                                                                                                                                                                                                                                                         |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | <ul style="list-style-type: none"> <li>• Output Level/Impedance</li> <li>• Frequency Response</li> <li>• Total Harmonic Distortion (Rec Out &amp; MAIN)</li> <li>• S/N</li> </ul>                                                                             |
| 3   | <ul style="list-style-type: none"> <li>• Minimum RMS Output Power Per Channel (Center &amp; Rear)</li> <li>• Total Harmonic Distortion (Rear)</li> </ul>                                                                                                      |
| 4   | <ul style="list-style-type: none"> <li>• Minimum RMS Output Power Per Channel (MAIN)</li> <li>• Input Sensitivity/Impedance</li> <li>• Headphone Jack Rated Output/Impedance</li> <li>• Channel Separation</li> <li>• Tone Control Characteristics</li> </ul> |

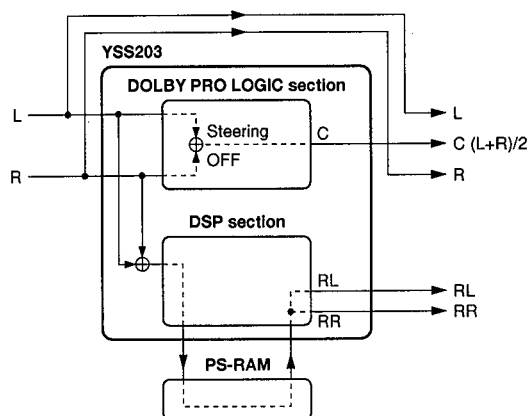
### CONTENTS OF SELF CHECK MODE

| No. | Menu                       | Select Key           |
|-----|----------------------------|----------------------|
| 1   | RAM THROUGH A              | PRESET STATION No. 1 |
| 2   | RAM THROUGH B              | PRESET STATION No. 2 |
| 3   | RAM THROUGH C              | PRESET STATION No. 3 |
| 4   | EFFECT OFF/DISCO/FL ALL ON | PRESET STATION No. 4 |
| 5   | MANUAL TEST                | PRESET STATION No. 5 |
| 6   | DOLBY PRO LOGIC            | PRESET STATION No. 6 |
| 7   | MAKER PRESET               | PRESET STATION No. 7 |
| 8   | EXIT                       | PRESET STATION No. 8 |

### DETAILS OF SELF CONTENT

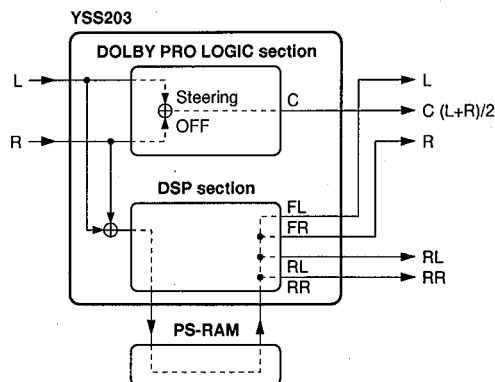
#### SELF 1 RAM THROUGH A

- MAIN L/R is output through the bypass.
- CENTER is output with the steering OFF and by (L+R)/2. (WIDE mode)
- RL/RR passes through the PS-RAM and is output through the DSP.
- The electronic volume (for CENTER/REAR) is -10dB.
- FL displays "SELF 1"

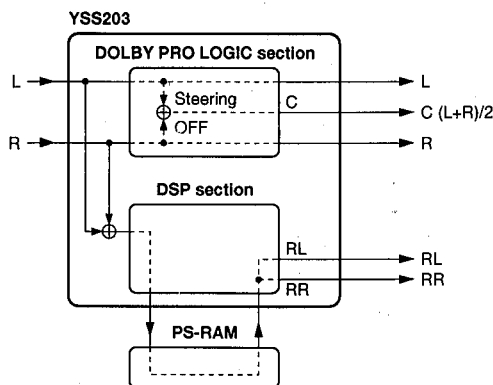


**SELF 2 RAM THROUGH B**

- L/R and RL/RR pass through the PS-RAM and are output through the DSP.
- CENTER is output with the steering OFF and by  $(L+R)/2$ . (WIDE mode)
- The electronic volume (for CENTER/REAR) is -10dB.
- FL displays "SELF 2"

**SELF 3 RAM THROUGH C**

- L/R is output with the steering OFF.
- CENTER is output with the steering OFF and by  $(L+R)/2$ . (WIDE mode)
- RL/RR passes through the PS-RAM and is output through the DSP.
- The electronic volume is +10dB for CENTER and +7dB for REAR.
- FL displays "SELF 3"

**SELF 4 EFFECT OFF/DISCO/FL ALL ON**

- Every time the PRESET STATION No. 4 key is pressed, the menu changes.
- 1: EFFECT OFF
- 2: DISCO (electronic volume is 0dB.)
- 3: FL displays all ON

**SELF 5 MANUAL TEST**

- Every time PRESET STATION No. 5 key is pressed, the TEST TONE shifts in the order of  $L \rightarrow C \rightarrow R \rightarrow S$  and is output.  
(The CENTER mode is WIDE)
- The electronic volume (for CENTER/REAR) is 0dB.

**SELF 6 DOLBY PRO LOGIC**

- The auto input balance which is ON in the normal mode is turned OFF.
- CENTER MODE is changed by pressing the PRESET STATION No. 6 key or the CENTER MODE key.
- The electronic volume (for CENTER/REAR) is 0dB.
- The FL displays "SELF 6" and the center mode.

**SELF 7 MAKER PRESET**

- Every time the PRESET STATION No. 7 key is pressed, the mode changes between the KEEP DATA and PRESET modes. Turning OFF the power in the "PRESET" mode will restore the FACTORY PRESET mode.

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

| Preset group | P1 | P2 | P3 | P4 |
|--------------|----|----|----|----|
| A            |    |    |    |    |
| B            |    |    |    |    |
| C            |    |    |    |    |
| D            |    |    |    |    |
| E            |    |    |    |    |

| Preset group | P5 | P6 | P7 | P8 |
|--------------|----|----|----|----|
| A            |    |    |    |    |
| B            |    |    |    |    |
| C            |    |    |    |    |
| D            |    |    |    |    |
| E            |    |    |    |    |

● **Factory Preset**1) **SURROUND section**

|              |                                      |      |
|--------------|--------------------------------------|------|
| DELAY TIME   | : <input type="checkbox"/> PRO LOGIC | 20ms |
|              | ENHANCED                             | 20ms |
|              | CONCERT VIDEO                        | 28ms |
|              | MONO MOVIE                           | 20ms |
|              | STADIUM                              | 45ms |
|              | DISCO                                | 14ms |
|              | ROCK CONCERT                         | 17ms |
|              | CONCERT HALL                         | 30ms |
| CENTER MODE  | : NORMAL                             |      |
| VOLUME LEVEL | : CENTER                             | 0dB  |
| (RX-V493RDS) | REAR                                 | 0dB  |

2) **SELECTOR section**

|             |                            |
|-------------|----------------------------|
| INPUT       | : CD                       |
| VIDEO (BGV) | : VIDEO(V393) DVD/LD(V493) |

3) **TUNER section**

| Preset group | P1       | P2       | P3       | P4       |
|--------------|----------|----------|----------|----------|
| A / C / E    | 87.50MHz | 90.10MHz | 95.10MHz | 98.10MHz |
| B / D        | 630kHz   | 1080kHz  | 1440kHz  | 531kHz   |

| Preset group | P5        | P6       | P7        | P8        |
|--------------|-----------|----------|-----------|-----------|
| A / C / E    | 108.00MHz | 88.10MHz | 106.10MHz | 108.00MHz |
| B / D        | 1611kHz   | 900kHz   | 1350kHz   | 1404kHz   |

For all the above, AUTO TUNING and AUTO STEREO are selected as the TUNING mode.

**SELF 8 EXIT**

- "MODEL" is displayed first.  
When the PRESET STATION No. 8 key is pressed again, the unit will exit the SELF CHECK mode.

1. Turn the POWER switch ON while pressing the TUNER and PRESET STATION No. 8 keys simultaneously, and the protection operation mode and the microprocessor AD input value are displayed for 3 seconds.

|                                  |            |                                                                                   |
|----------------------------------|------------|-----------------------------------------------------------------------------------|
| <b>Example :</b> PRT-DC<br>PRT-I | [AD value] | <b>[PRT-DC]</b> indicates detection of an abnormal DC value from the amplifier.   |
|                                  |            | <b>[PRT-I]</b> indicates detection of an abnormal overcurrent from the amplifier. |
|                                  |            | <b>[PRT-NON]</b> indicates no detection.                                          |

When the PRESET STATION No. 8 key is pressed during the above display, the input data are retained till they are cleared.  
(“PRT-NON” appears on display when the data are cleared.)

2. Turn the POWER switch ON while pressing the TUNER and the PRESET STATION No. 7 keys simultaneously, and the input value for detection of an abnormal amplifier DC will be displayed.

**Example :** P - [01]            D - [AD value]

**[P- 01]** is meaningless and therefore should be ignored.

**[DC- ]** indicates detection of an abnormal amplifier DC.

| Type of protection                    | Normal<br>(AD value) | Abnormal<br>(AD value) |
|---------------------------------------|----------------------|------------------------|
| Detection of an abnormal amplifier DC | 128 - 255            | 0 - 127                |

Press any key, and the display will be canceled.

## ■ AMP ADJUSTMENTS

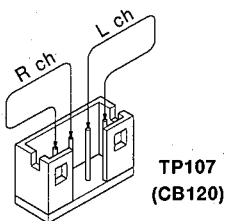
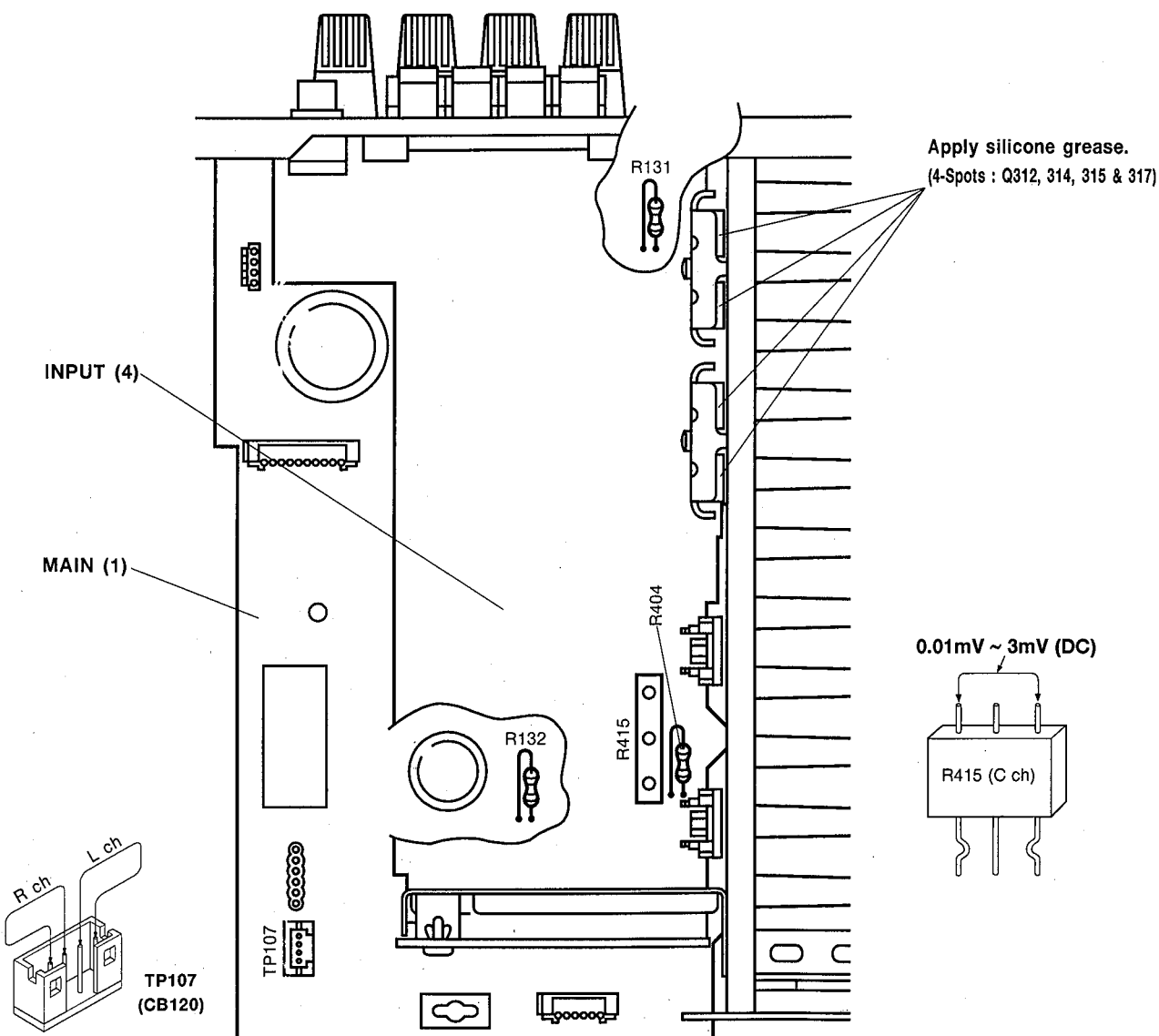
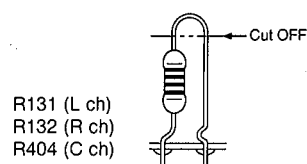
### ● Confirmation of Idling Current

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

| Item   | Test Point                 | Rating (DC)  | Note                                                                                                                                                   |
|--------|----------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAIN L | TP107<br>(CB120)           | 0.05mV~2.5mV | If the measured voltage exceeds 2.6mV, cut the lead wire of R131(L ch) or R132(R ch) and then check again if each measured value satisfies the rating. |
| MAIN R |                            |              |                                                                                                                                                        |
| CENTER | R415<br>(Between terminal) | 0.01mV~3mV   | If the measured voltage exceeds 3.1mV, cut the lead wire of R404(C ch) and then check again if each measured value satisfies the rating.               |

#### Note)

- If R131(L ch), R132(R ch) or R404(C ch) have already been cut off and idling current does not flow, reconnect R131(1kΩ), R132(1kΩ) or R404(8.2kΩ).
- Q107, Q108 and Q320 are transistors for temperature correction. Apply silicone grease to the contact surface with the heat sink.



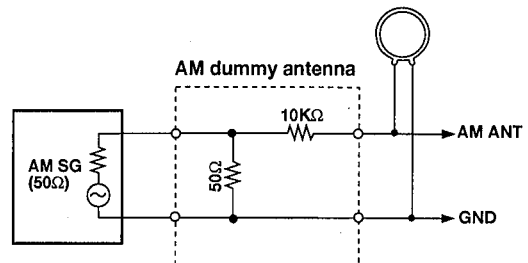
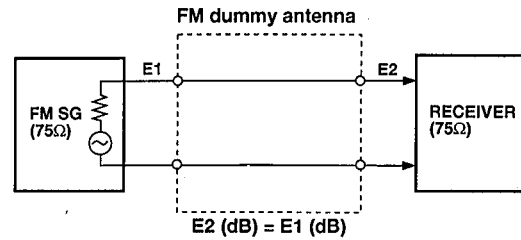
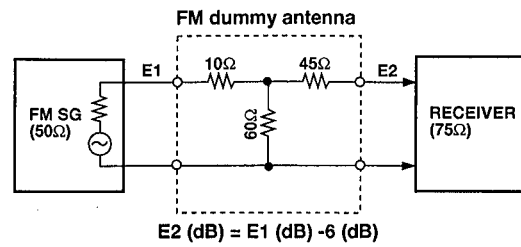


## ■ TUNER ADJUSTMENTS

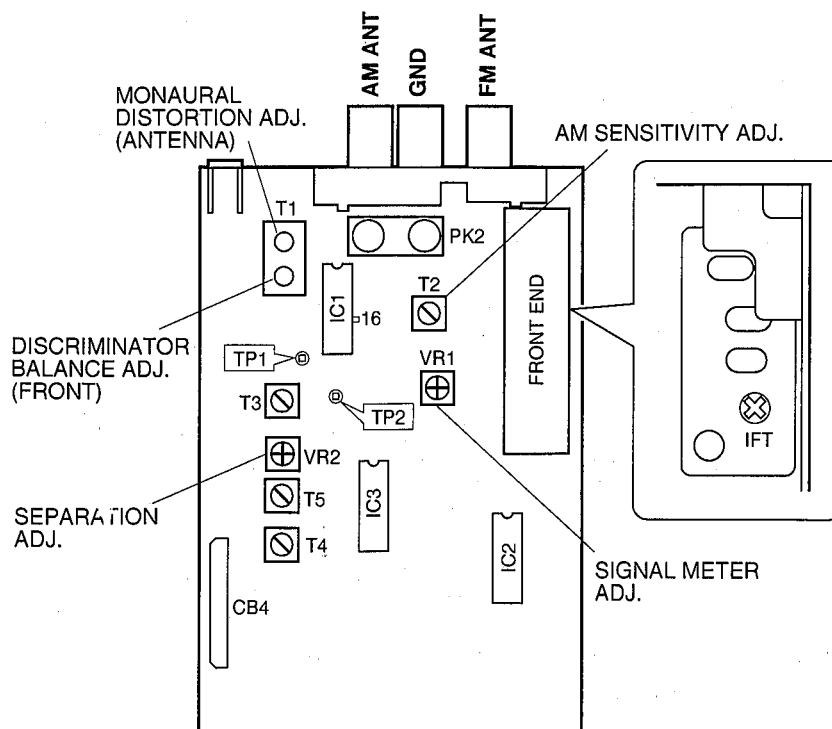
### ● Measuring Instruments

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

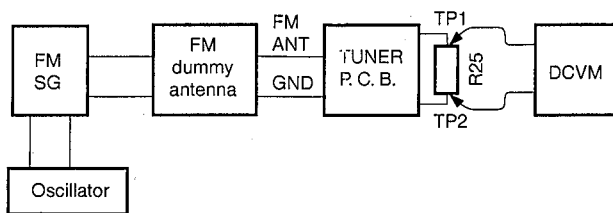
- 1) For dB,  $1\mu V=0dB\mu$   
**Example :**  $60dB\mu=1mV$
- 2) 100% modulation means that the frequency deviation is  $\pm 75kHz$ .

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

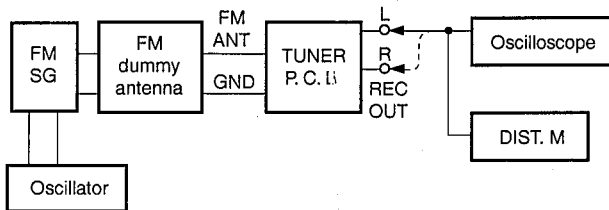
INPUT SELECTOR..... TUNER  
 TUNING MODE ..... AUTO

### ● Connection diagram (Measuring instruments)

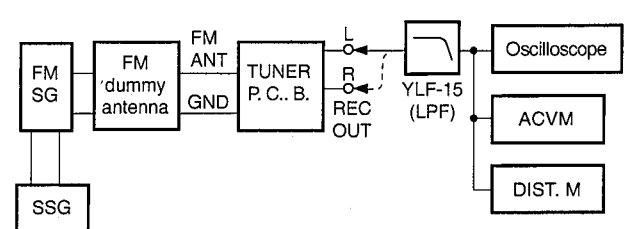
#### 1) Discriminator balance adjustment



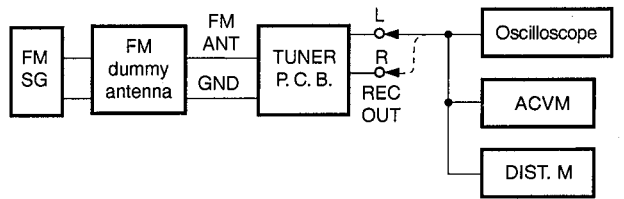
#### 2) Monaural distortion adjustment



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



#### 4) Sensitivity Verification



See page 12 for TP locations & adjustment points.

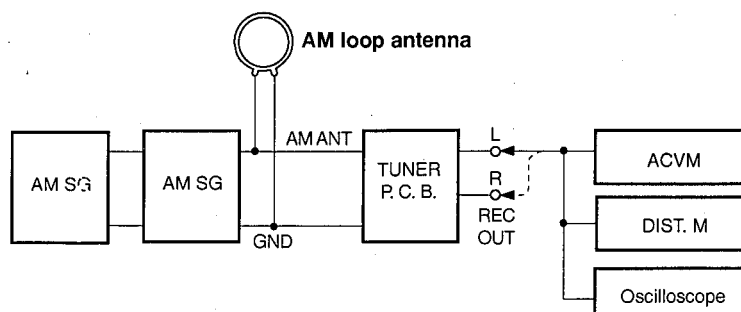
| Step | Adjustment item                           | Signal (ANT IN)                                                     | Reception frequency | Adjustment point          | Test point                                | Rating                                      |
|------|-------------------------------------------|-------------------------------------------------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

\* : Execution of FACTORY PRESET (Refer to page 9.) will facilitate setting reception frequency for adjustment.

\*\* Must be 98.1MHz ± 5kHz

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

\* : Execution of FACTORY PRESET (Refer to page 9.) will facilitate setting reception frequency for adjustment.

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


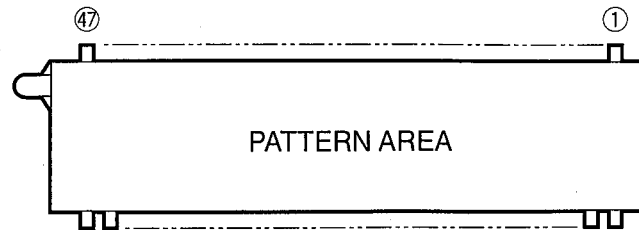
See page 12 for TP locations & adjustment points.

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

\* : Execution of FACTORY PRESET (Refer to page 9.) will facilitate setting reception frequency for adjustment.

## ■ DISPLAY DATA

### ● V1 : 13-BT-151GK (VV298800)



### ● PIN CONNECTION

| PIN NO.    | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21 |
|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|
| CONNECTION | F1 | F1 | NP | NP | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | P11 | P12 | P13 | P14 | P15 | P16 | NC |

| PIN NO.    | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31  | 32  | 33  | 34  | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |
|------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|
| CONNECTION | NC | NC | NC | NC | NC | NC | NC | NC | NC | 13G | 12G | 11G | 10G | 9G | 8G | 7G | 6G | 5G | 4G | 3G | 2G |

| PIN NO.    | 43 | 44 | 45 | 46 | 47 |
|------------|----|----|----|----|----|
| CONNECTION | 1G | NP | NP | F2 | F2 |

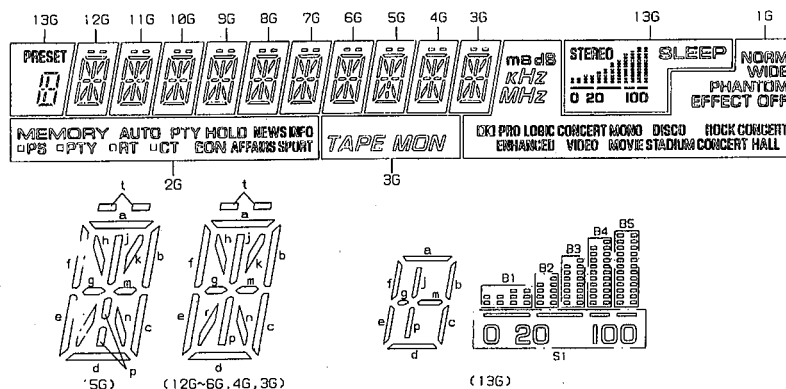
NOTE 1) F1, F2 ..... Filament  
2) NP ..... No pin  
3) NC ..... No connection

4) P1~P16 ... Datum  
5) 1G~13G .. Grid

NOTE 1) F1, F2 ..... Filament  
 2) NP ..... No pin  
 3) NC ..... No connection

4) P1~P16 ... Datum Line  
 5) 1G~13G .. Grid

### ● GRID ASSIGNMENT

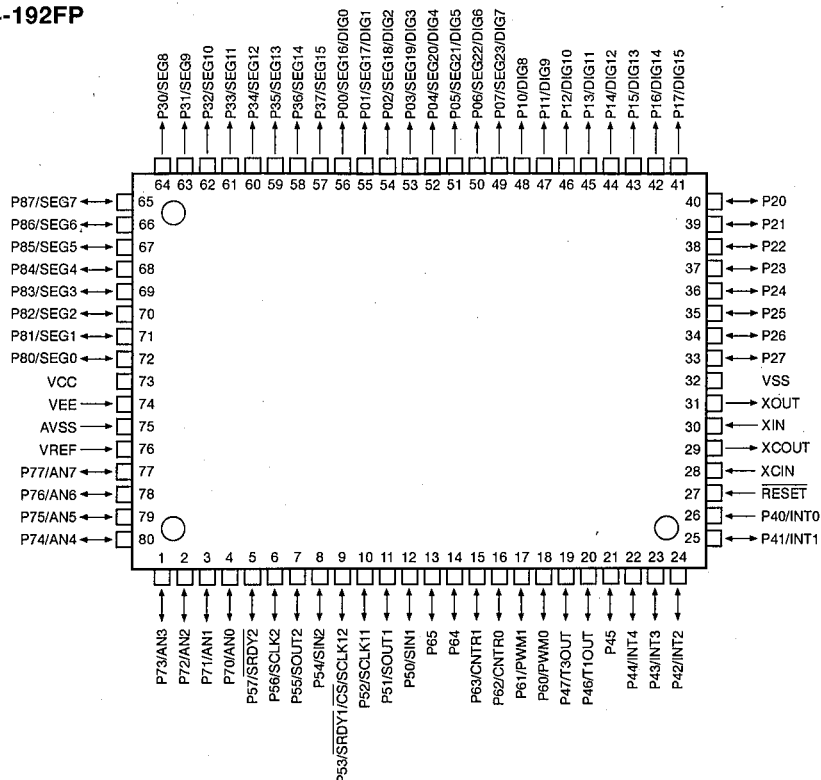


### ● ANODE CONNECTION

|     | 13G    | 12G~4G | 3G       | 2G       | 1G            |
|-----|--------|--------|----------|----------|---------------|
| P1  | a      | a      | a        | MEMORY   | NORM          |
| P2  | b, c   | b      | b        | AUTO     | WIDE          |
| P3  | d      | c      | c        | PTY HOLD | PHANTOM       |
| P4  | e, f   | d      | d        | SPORT    | EFFECT OFF    |
| P5  | g      | e      | e        | AFFAIRS  | ROCK CONCERT  |
| P6  | j, p   | f      | f        | INFO     | CONCERT HALL  |
| P7  | m      | g      | g        | NEWS     | DISCO         |
| P8  | PRESET | h      | h        | EDN      | STADIUM       |
| P9  | STEREO | j      | j        | CT       | MONO MOVIE    |
| P10 | B1     | k      | k        | □ (CT)   | CONCERT VIDEO |
| P11 | B2     | m      | m        | RT       | DIG PRO LOGIC |
| P12 | B3     | n      | n        | □ (RT)   | ENHANCED      |
| P13 | B4     | p      | p        | PTY      | dB            |
| P14 | B5     | r      | r        | □ (PTY)  | ms            |
| P15 | S1     | t      | t        | PS       | KHz           |
| P16 | SLEEP  | -      | TAPE MON | □ (PS)   | MHz           |

## IC DATA

IC4 : M38172M4-192FP  
8 bit  $\mu$ -COM



| Pin No. | Port | I/O | Function                             |
|---------|------|-----|--------------------------------------|
| 1       | P73  | I   | KEY AD IN 1 (A-D)                    |
| 2       | P72  | I   | METER IN (A-D)                       |
| 3       | P71  | I   | PROTECTION 1 DETECT (not used) (GND) |
| 4       | P70  | I   | PROTECTION 2 DETECT (A-D)            |
| 5       | P57  | I   | PROTECTION 3 DETECT                  |
| 6       | P56  | O   | SCLK 2                               |
| 7       | P55  | O   | SOUT 2                               |
| 8       | P54  | I   | DO IN for tuner                      |
| 9       | P53  | O   | Main mute [L : ON]                   |
| 10      | P52  | I   | SCLK IN RDS                          |
| 11      | P51  | I/O | V2 market / RES OUT RDS              |
| 12      | P50  | I/O | V1 market / SDATA IN RDS             |
| 13      | P65  | I   | RDS SELECT IN [H : RDS]              |
| 14      | P64  | I   | DSP-A SELECT IN [H : DSPA]           |
| 15      | P63  | I   | 493 SELECT IN [H : 493]              |
| 16      | P62  | I   | V393 SELECT IN [H : V393]            |
| 17      | P61  | O   | Center mute [L : ON]                 |
| 18      | P60  | O   | Rear mute [L : ON]                   |
| 19      | P47  | O   | CETUN for tuner                      |
| 20      | P46  | O   | TMUTE for tuner [L : ON]             |
| 21      | P45  | O   | Main mute [L : ON]                   |
| 22      | P44  | I   | /ST for tuner [L : STEREO]           |
| 23      | P43  | I   | Power switch in [H : ON]             |
| 24      | P42  | I   | Power down detect [L : DOWN]         |
| 25      | P41  | I   | REMOTE CONTROL IN (INT1)             |
| 26      | P40  | I   | START IN RDS (INT0)                  |
| 27      | RES  |     | RESET                                |

### Protection 2 (4 pin)

Detection of an abnormal amplifier DC. Normal when AD value (128 - 255)/256.  
Detection starts 2 seconds after the power is turned ON.

### Protection 3 (5 pin)

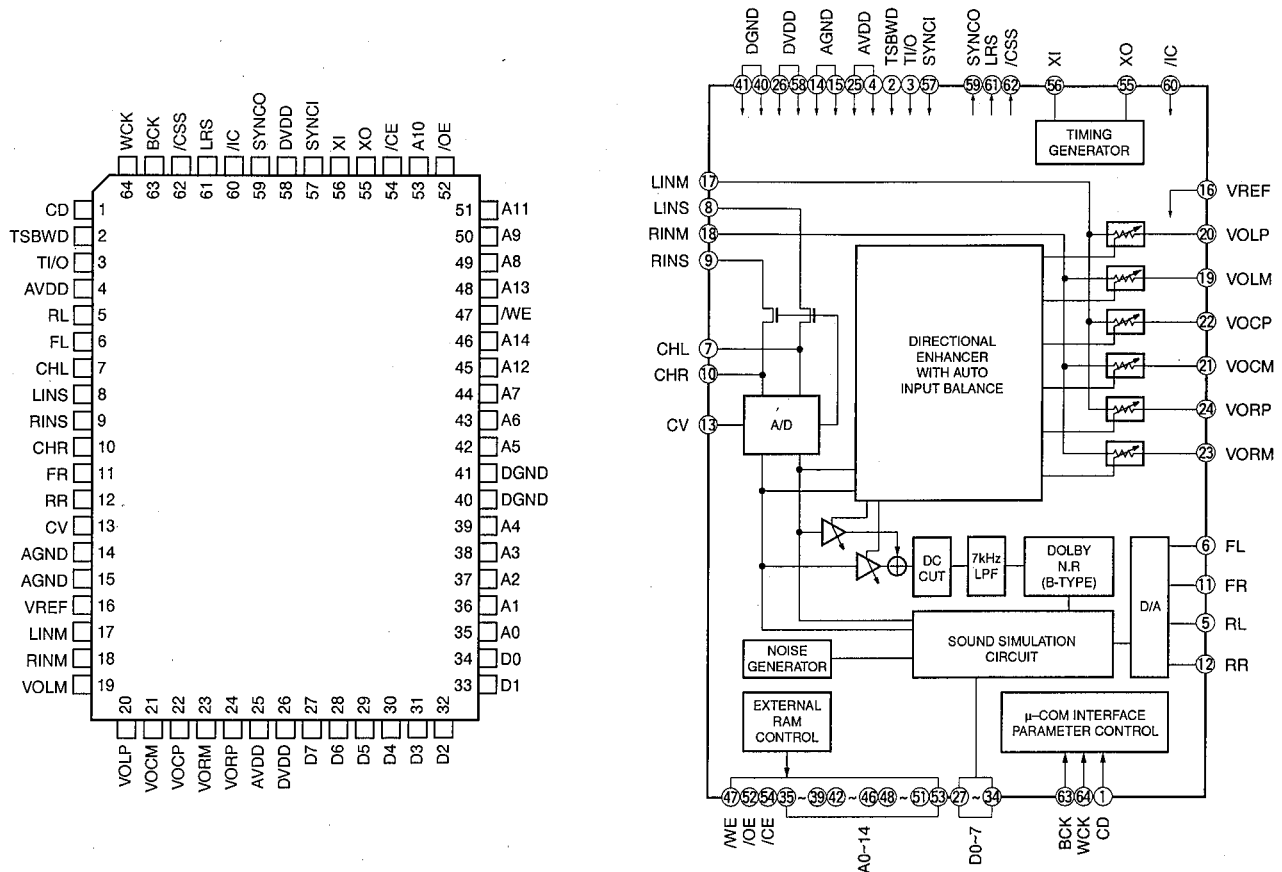
Detection of an abnormal amplifier overcurrent. Abnormality detected at H.  
Detection starts after the power is turned ON.

IC4 : M38172M4-192FP  
8 bit  $\mu$ -COM

| Pin No. | Port  | I/O | Function                          |
|---------|-------|-----|-----------------------------------|
| 28      | XCIN  |     | GND                               |
| 29      | XCOUT |     | OPEN                              |
| 30      | XIN   |     | 6.3 MHz IN (CLOCK)                |
| 31      | XOUT  |     | 6.3 MHz OUT (CLOCK)               |
| 32      | VSS   |     | GND                               |
| 33      | P27   | O   | VIDEO SELECTOR A (VSEL1)          |
| 34      | P26   | O   | VIDEO SELECTOR B (VSEL2)          |
| 35      | P25   | O   | NOT VCR SELECT [H : VCR]          |
| 36      | P24   | O   | CE VR                             |
| 37      | P23   | O   | CE SEL                            |
| 38      | P22   | O   | CE DSP                            |
| 39      | P21   | O   | VOL UP OUT                        |
| 40      | P20   | O   | VOL DOWN OUT                      |
| 41      | P17   | O   | DSP SERIAL SELECT [H : DSP]       |
| 42      | P16   | O   | POWER RELAY OUT [H : ON]          |
| 43      | P15   | O   | SPEAKER RELAY OUT (MAIN) [H : ON] |
| 44      | P14   | O   | FL DIGIT 1 [H : ON]               |
| 45      | P13   | O   | FL DIGIT 2 [H : ON]               |
| 46      | P12   | O   | FL DIGIT 3 [H : ON]               |
| 47      | P11   | O   | FL DIGIT 4 [H : ON]               |
| 48      | P10   | O   | FL DIGIT 5 [H : ON]               |
| 49      | P07   | O   | FL DIGIT 6 [H : ON]               |
| 50      | P06   | O   | FL DIGIT 7 [H : ON]               |
| 51      | P05   | O   | FL DIGIT 8 [H : ON]               |
| 52      | P04   | O   | FL DIGIT 9 [H : ON]               |
| 53      | P03   | O   | FL DIGIT 10 [H : ON]              |
| 54      | P02   | O   | FL DIGIT 11 [H : ON]              |
| 55      | P01   | O   | FL DIGIT 12 [H : ON]              |
| 56      | P00   | O   | FL DIGIT 13 [H : ON]              |
| 57      | P37   | O   | FL SEGMENT 16 [H : ON]            |
| 58      | P36   | O   | FL SEGMENT 15 [H : ON]            |
| 59      | P35   | O   | FL SEGMENT 14 [H : ON]            |
| 60      | P34   | O   | FL SEGMENT 13 [H : ON]            |
| 61      | P33   | O   | FL SEGMENT 12 [H : ON]            |
| 62      | P32   | O   | FL SEGMENT 11 [H : ON]            |
| 63      | P31   | O   | FL SEGMENT 10 [H : ON]            |
| 64      | P30   | O   | FL SEGMENT 9 [H : ON]             |
| 65      | P87   | O   | FL SEGMENT 8 [H : ON]             |
| 66      | P86   | O   | FL SEGMENT 6 [H : ON]             |
| 67      | P85   | O   | FL SEGMENT 5 [H : ON]             |
| 68      | P84   | O   | FL SEGMENT 4 [H : ON]             |
| 69      | P83   | O   | FL SEGMENT 3 [H : ON]             |
| 70      | P82   | O   | FL SEGMENT 2 [H : ON]             |
| 71      | P81   | O   | FL SEGMENT 1 [H : ON]             |
| 72      | P80   | O   | FL SEGMENT 0 [H : ON]             |
| 73      | VCC   |     | +5V                               |
| 74      | VEE   |     | -21V                              |
| 75      | AVSS  |     | GND                               |
| 76      | VREF  |     | A-D REFERENCE VOLTAGE IN (+5V)    |
| 77      | P77   | I   | KEY AD IN 5 (A-D)                 |
| 78      | P76   | I   | KEY AD IN 4 (A-D)                 |
| 79      | P75   | I   | KEY AD IN 3 (A-D)                 |
| 80      | P74   | I   | KEY AD IN 2 (A-D)                 |

## IC16 : YSS203B

## Digital Dolby Pro Logic Decoder with Auto Input Balance



| No. | Name  | I/O             | Function                                                 |
|-----|-------|-----------------|----------------------------------------------------------|
| 1   | CD    | I <sub>ts</sub> | Serial data of parameter data input                      |
| 2   | TSBWD | I <sub>c</sub>  | LSI test terminal Normally connected to DVDD terminal    |
| 3   | TI/O  | I <sub>c</sub>  | LSI test terminal Normally connected to DVDD terminal    |
| 4   | AVDD  | A—              | +5V power supply (D/A, A/D section)                      |
| 5   | RL    | AO              | RL channel D/A output                                    |
| 6   | FL    | AO              | FL channel D/A output                                    |
| 7   | CHL   | A—              | LINS input Sample/hold Capacitor external terminal       |
| 8   | LINS  | AI              | L channel A/D input                                      |
| 9   | RINS  | AI              | R channel A/D input                                      |
| 10  | CHR   | A—              | RINS input Sample/hold Capacitor external terminal       |
| 11  | FR    | AO              | FR channel D/A output                                    |
| 12  | RR    | AO              | RR channel D/A output                                    |
| 13  | CV    | AO              | A/D, multiplying DAC center voltage                      |
| 14  | AGND  | A—              | Ground (D/A, A/D section)                                |
| 15  | AGND  | A—              | Ground (Multiplying DAC section)                         |
| 16  | VREF  | AI              | Multiplying DAC reference voltage input                  |
| 17  | LINM  | AI              | L channel Multiplying DAC input                          |
| 18  | RINM  | AI              | R channel Multiplying DAC input                          |
| 19  | VOLM  | AO              | L channel operation amplifier, connected to (–) terminal |
| 20  | VOLP  | AO              | L channel operation amplifier, connected to (+) terminal |



## MEMO

## IC16 : YSS203B

## Digital Dolby Pro Logic Decoder with Auto Input Balance

| No. | Name  | I/O             | Function                                                             |
|-----|-------|-----------------|----------------------------------------------------------------------|
| 21  | VOCM  | AO              | C channel operation amplifier, connected to (–) terminal             |
| 22  | VOCP  | AO              | C channel operation amplifier, connected to (+) terminal             |
| 23  | VORM  | AO              | R channel operation amplifier, connected to (–) terminal             |
| 24  | VORP  | AO              | R channel operation amplifier, connected to (+) terminal             |
| 25  | AVDD  | A—              | +5V power supply (multiplying DAC section)                           |
| 26  | DVDD  | —               | +5V power supply (digital section)                                   |
| 27  | D7    | I/Ot            | External delay RAM data terminal                                     |
| 28  | D6    | I/Ot            | External delay RAM data terminal                                     |
| 29  | D5    | I/Ot            | External delay RAM data terminal                                     |
| 30  | D4    | I/Ot            | External delay RAM data terminal                                     |
| 31  | D3    | I/Ot            | External delay RAM data terminal                                     |
| 32  | D2    | I/Ot            | External delay RAM data terminal                                     |
| 33  | D1    | I/Ot            | External delay RAM data terminal                                     |
| 34  | D0    | I/Ot            | External delay RAM data terminal                                     |
| 35  | A0    | O               | External data RAM address terminal                                   |
| 36  | A1    | O               | External data RAM address terminal                                   |
| 37  | A2    | O               | External data RAM address terminal                                   |
| 38  | A3    | O               | External data RAM address terminal                                   |
| 39  | A4    | O               | External data RAM address terminal                                   |
| 40  | DGND  | —               | Ground (digital section)                                             |
| 41  | DGND  | —               | Ground (digital section)                                             |
| 42  | A5    | O               | External data RAM address terminal                                   |
| 43  | A6    | O               | External data RAM address terminal                                   |
| 44  | A7    | O               | External data RAM address terminal                                   |
| 45  | A12   | O               | External data RAM address terminal                                   |
| 46  | A14   | O               | External data RAM address terminal                                   |
| 47  | /WE   | O               | External delay RAM write enable terminal                             |
| 48  | A13   | O               | External delay RAM address terminal                                  |
| 49  | A8    | O               | External delay RAM address terminal                                  |
| 50  | A9    | O               | External delay RAM address terminal                                  |
| 51  | A11   | O               | External delay RAM address terminal                                  |
| 52  | /OE   | O               | External delay RAM output enable terminal                            |
| 53  | A10   | O               | External delay RAM address terminal                                  |
| 54  | /CE   | O               | External delay RAM chip enable terminal                              |
| 55  | XO    | O               | Crystal oscillator connecting terminal                               |
| 56  | XI    | I               | Crystal oscillator connecting terminal                               |
| 57  | SYNCl | It              | Test terminal for system synchronization, normally connected to DVDD |
| 58  | DVDD  | —               | +5V power supply (digital section)                                   |
| 59  | SYNCO | O               | Test terminal for system synchronization, normally unconnected       |
| 60  | /IC   | Ics             | Initial clear terminal (Power ON resetting is necessary)             |
| 61  | LRS   | O               | External automatic input balance terminal, normally unconnected      |
| 62  | /CSS  | O               | External automatic input balance terminal, normally unconnected      |
| 63  | BCK   | I <sub>ts</sub> | Bit clock for parameter data input                                   |
| 64  | WCK   | I <sub>ts</sub> | Word clock for parameter data input                                  |

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

I : Input terminal    O : Output terminal    t : TTL level  
c : CMOS level    s : Schmitt input    A : Analog terminal

## PIN CONNECTION DIAGRAM

### ICs

|                                     |                                            |                      |                    |
|-------------------------------------|--------------------------------------------|----------------------|--------------------|
| <b>AN78N05</b><br>                  | <b>M5220L</b><br>                          | <b>μPC4570HA</b><br> | <b>LB1641</b><br>  |
| <b>NJM79M15FA</b><br>               | <b>NJM2068L-D</b><br><b>NJM4558L-D</b><br> | <b>LA7956</b><br>    | <b>TC9299P</b><br> |
| <b>STK311-020B</b><br>              | <b>LC78213</b><br><b>LC78211</b><br>       |                      |                    |
| <b>LA3401</b><br><b>LC72131</b><br> | <b>YSS203B</b><br>                         |                      |                    |
| <b>LA1266</b><br>                   | <b>M38172M4-192FP</b><br>                  |                      |                    |
| <b>LH5P832D-10</b><br>              |                                            |                      |                    |

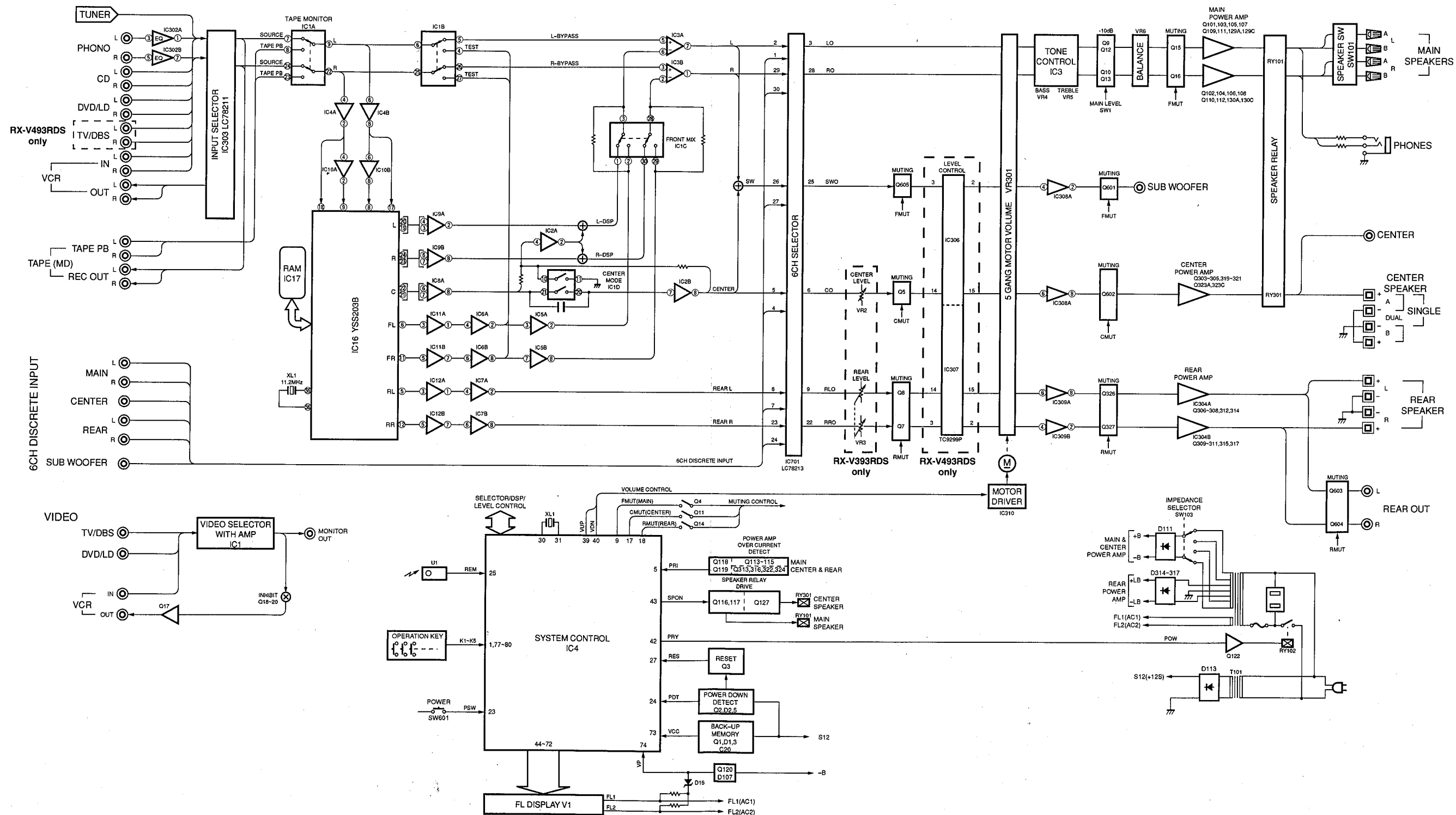
### Diodes

|                                                                                    |                                                                                                                                                                           |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1SS133</b><br><b>1SS355</b><br><b>1SS270A</b><br><b>1T2</b><br><b>2A02M</b><br> | <b>HZS5C2TD</b><br><b>HZS5B2TD</b><br><b>HZS6A2TD</b><br><b>HZS7A2TD</b><br><b>HZS12B2TD</b><br><b>HZS12A2TD</b><br><b>HZS152TD</b><br><b>HZS242TD</b><br><b>MA8056-H</b> |
| <b>S1NB20</b><br>                                                                  |                                                                                                                                                                           |
| <b>S4VB20</b><br>                                                                  |                                                                                                                                                                           |

### Transistors

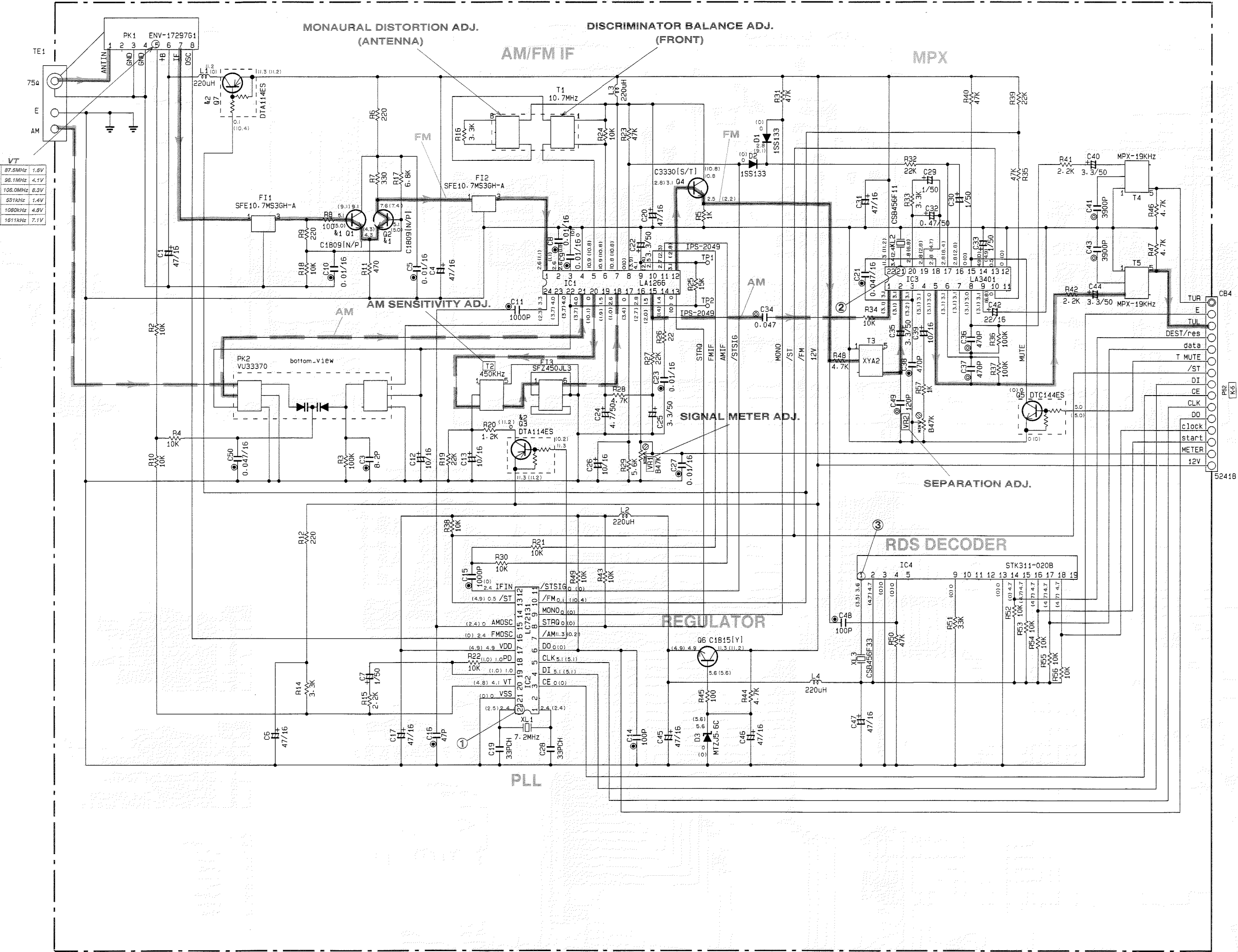
|                                                                                                                                              |                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2SA933S (Q, R)</b><br><b>2SA1740S (R, S)</b><br><b>2SC3330 (S, T)</b><br><b>2SD1915F (S, T)</b><br><b>DTA114ES</b><br><b>DTC144ES</b><br> | <b>2SA1708 (S, T)</b><br><b>2SC4488 (S, T)</b><br>                                                                                                                          |
| <b>2SA893A (D, E)</b><br><b>2SA1015 (Y)</b><br><b>2SB647 (C, D)</b><br>                                                                      | <b>2SC535 (A, B, C)</b><br><b>2SC1815 (Y)</b><br><b>2SC1890A (D, E)</b><br><b>2SC1890E</b><br><b>2SC2229 (O, Y)</b><br><b>2SC2240 (GR, BL)</b><br><b>2SC2878 (A, B)</b><br> |
| <b>2SA1694 (O, P, Y)</b><br><b>2SC4467 (O, P, Y)</b><br><b>2SA1695 (O, P, Y)</b><br><b>2SC4468 (O, P, Y)</b><br><b>2SC4466 (O, P, Y)</b><br> | <b>2SK30ATM (GR)</b><br>                                                                                                                                                    |
|                                                                                                                                              | <b>2SD856 (P, Q)</b><br><b>2SC4495</b><br>                                                                                                                                  |

■ BLOCK DIAGRAM



■ RX-V493RDS SCHEMATIC DIAGRAM (TUNER)

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

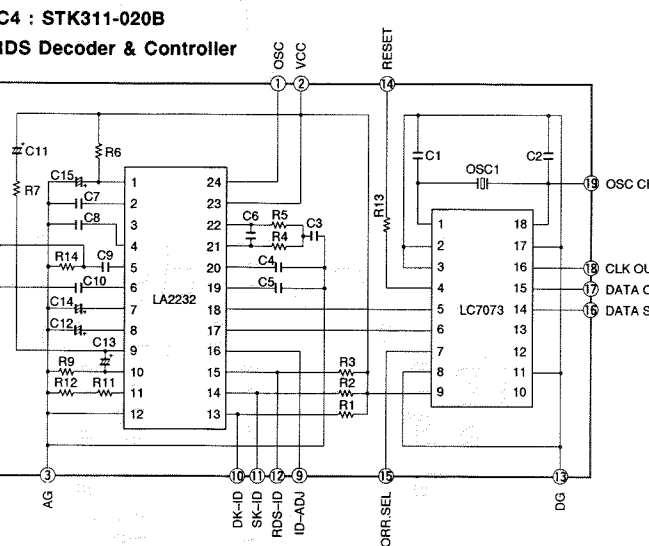
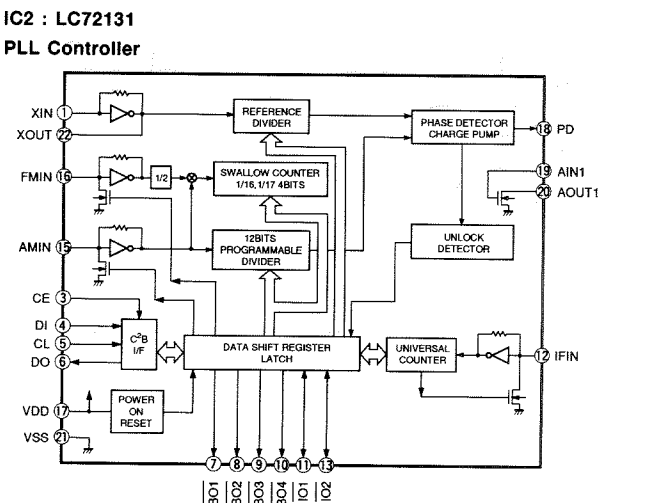
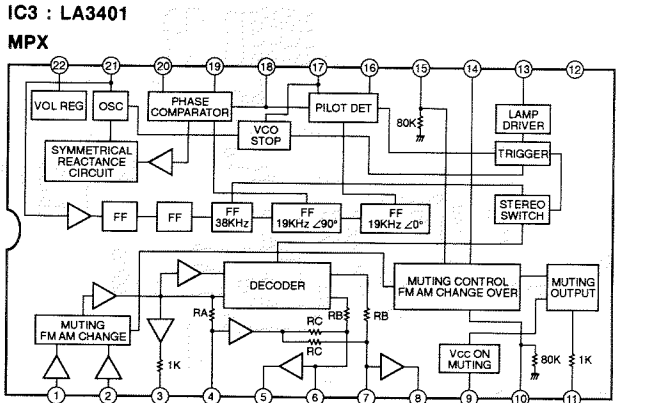
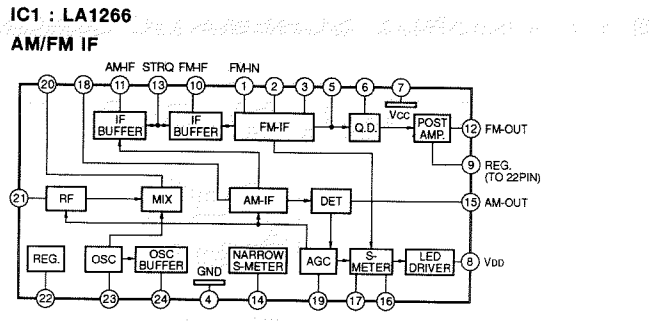


| REMARKS | PARTS NAME                       |    |
|---------|----------------------------------|----|
| NO MARK | ELECTROLYTIC CAPACITOR           | #  |
| ⊗       | TANTALUM CAPACITOR               |    |
| NO MARK | CERAMIC CAPACITOR                | 11 |
| ●       | CERAMIC TUBULAR CAPACITOR        |    |
| ⊙       | POLYESTER FILM CAPACITOR         |    |
| ○       | POLYSTYRENE FILM CAPACITOR       |    |
| ⊖       | MICA CAPACITOR                   |    |
| ⊕       | POLYPROPYLENE FILM CAPACITOR     |    |
| ⊗       | SEMICONDUCTIVE CERAMIC CAPACITOR |    |

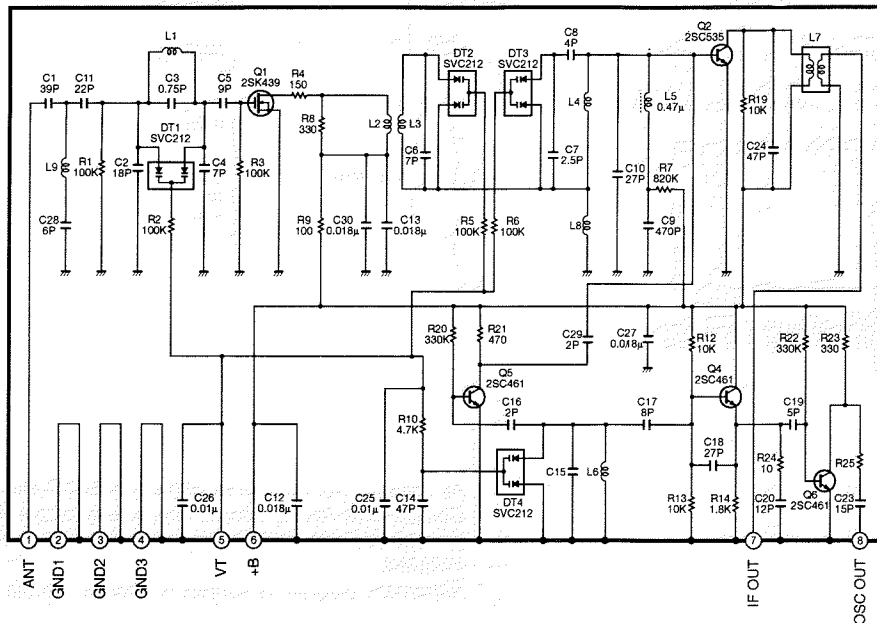
| REMARKS | PARTS NAME                      |  |
|---------|---------------------------------|--|
| NO MARK | CARBON FILM RESISTOR (P=5)      |  |
| ⊗       | CARBON FILM RESISTOR (P=10)     |  |
| △       | METAL OXIDE FILM RESISTOR       |  |
| ⊖       | METAL FILM RESISTOR             |  |
| ⊕       | METAL PLATE RESISTOR            |  |
| ⊗       | FIRE PROOF CARBON FILM RESISTOR |  |
| ⊖       | CEMENT MOLDED RESISTOR          |  |
| ⊕       | SEMI VARIABLE RESISTOR          |  |
| ⊗       | CHIP RESISTOR                   |  |

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

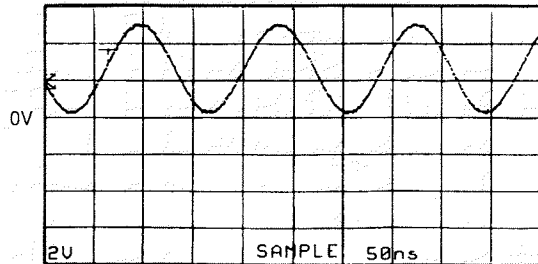
| Mark | Reference Parts Number | Parts Name                    |
|------|------------------------|-------------------------------|
| 41   | 01-2                   | 25C1809(N/P)<br>25C1809S(N/P) |
| 42   | 03-7                   | DTA114ES<br>UN4111            |



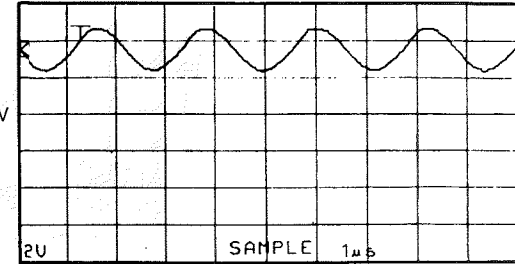
● PK1 : ENV-17297G1 (VQ987600)



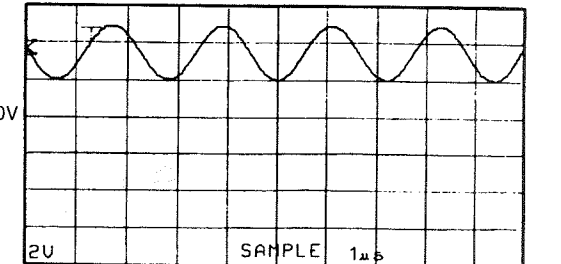
Point ① (Pin22 of IC2) FM reception  
V : 2V/div H : 50nsec/div  
DC range 1 : 1 probe



Point ② (Pin1 of IC3)  
V : 2V/div H : 1μsec/div  
DC range 1 : 1 probe



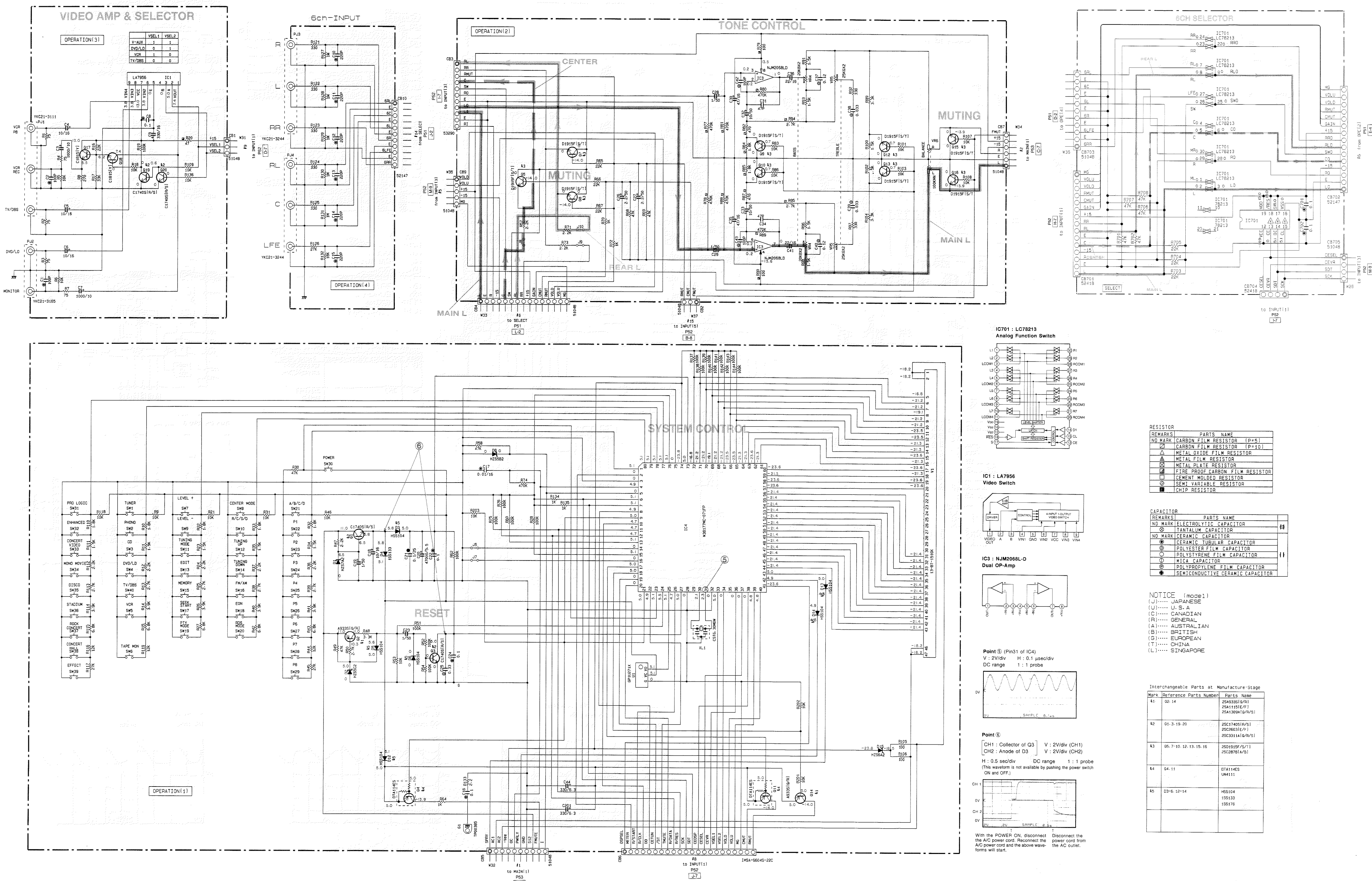
Point ③ (Pin1 of IC4)  
V : 5V/div H : 1μsec/div  
DC range 1 : 1 probe



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



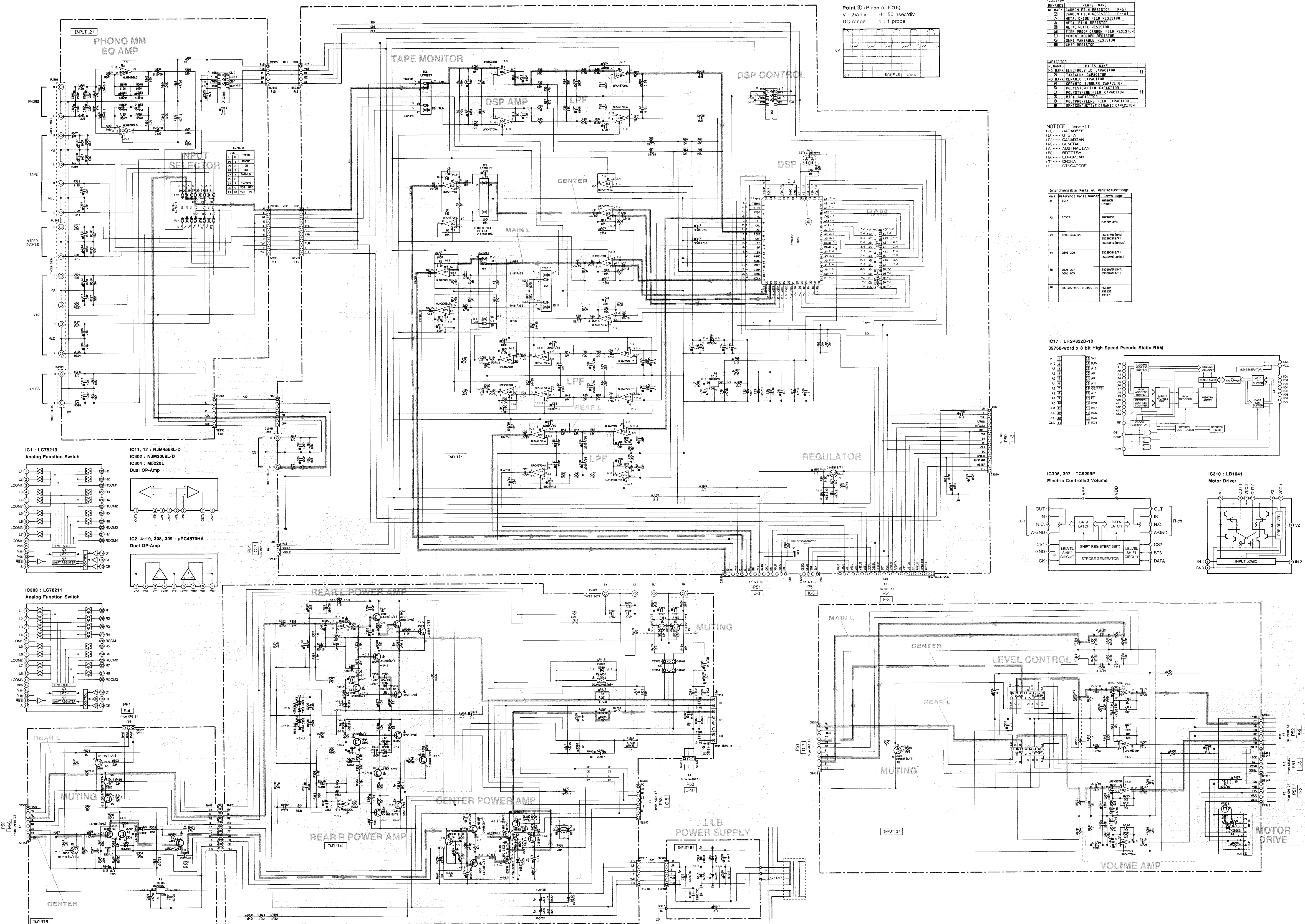
## ■ RX-V493RDS SCHEMATIC DIAGRAM (OPERATION &amp; SELECT)



- All voltages 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.

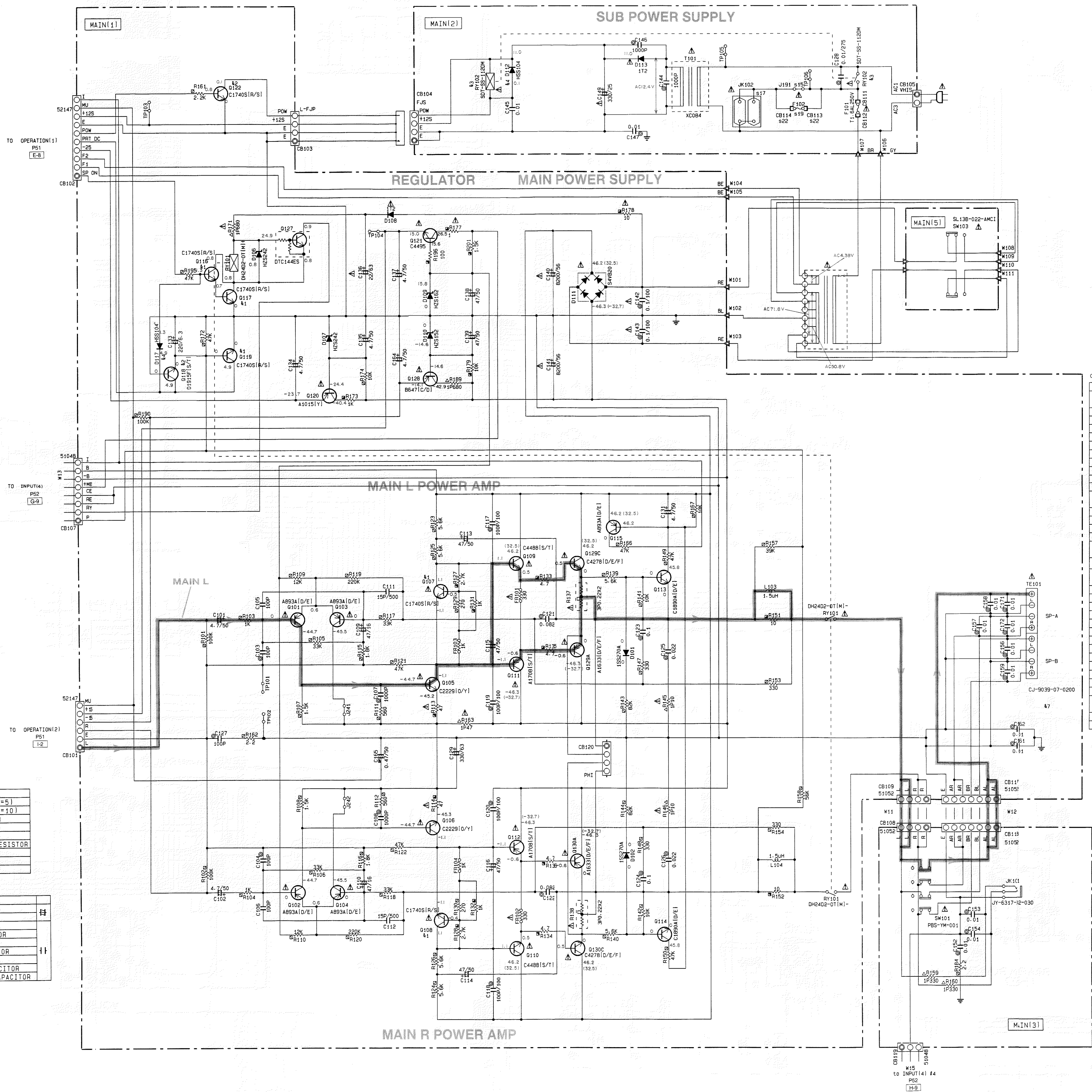


## ■ RX-V493RDS SCHEMATIC DIAGRAM (INPUT)



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

RX-V493RDS SCHEMATIC DIAGRAM (MAIN)



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

| 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            |
| ▣       | FIRE PROOF CARBON FILM RESISTOR |
| ▤       | CEMENT WOLDED RESISTOR          |
| ▥       | SEMI VARIABLE RESISTOR          |
| ■       | CHIP RESISTOR                   |

| REMARKS | 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 |

CIRCUIT CHANGES BY MARKET.

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O: USED

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Interchangeable Parts at Manufacture-Stage

| Mark | Reference Parts Number   | Parts Name                                       |
|------|--------------------------|--------------------------------------------------|
| 1    | Q107-108-116-117-119-122 | 2SC1740S(R/S)<br>2SC26931E(F)<br>2SC3311A(Q/R/S) |
| 2    | Q118                     | 2SD1915F(S/T)<br>2SC20781A(B)                    |
| 3    | RY102                    | SOT-SS-1120M<br>G5P-1-DC12V                      |
| 4    | D112-117                 | HS5104<br>1SS133<br>1SS176                       |
| 5    |                          |                                                  |
| 6    |                          |                                                  |
| 7    | TE101                    | VU81970<br>VU50620                               |

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



A

B

C

D

E

## RX-V393RDS/RX-V493RDS

## ■ BLOCK DIAGRAM

1

2

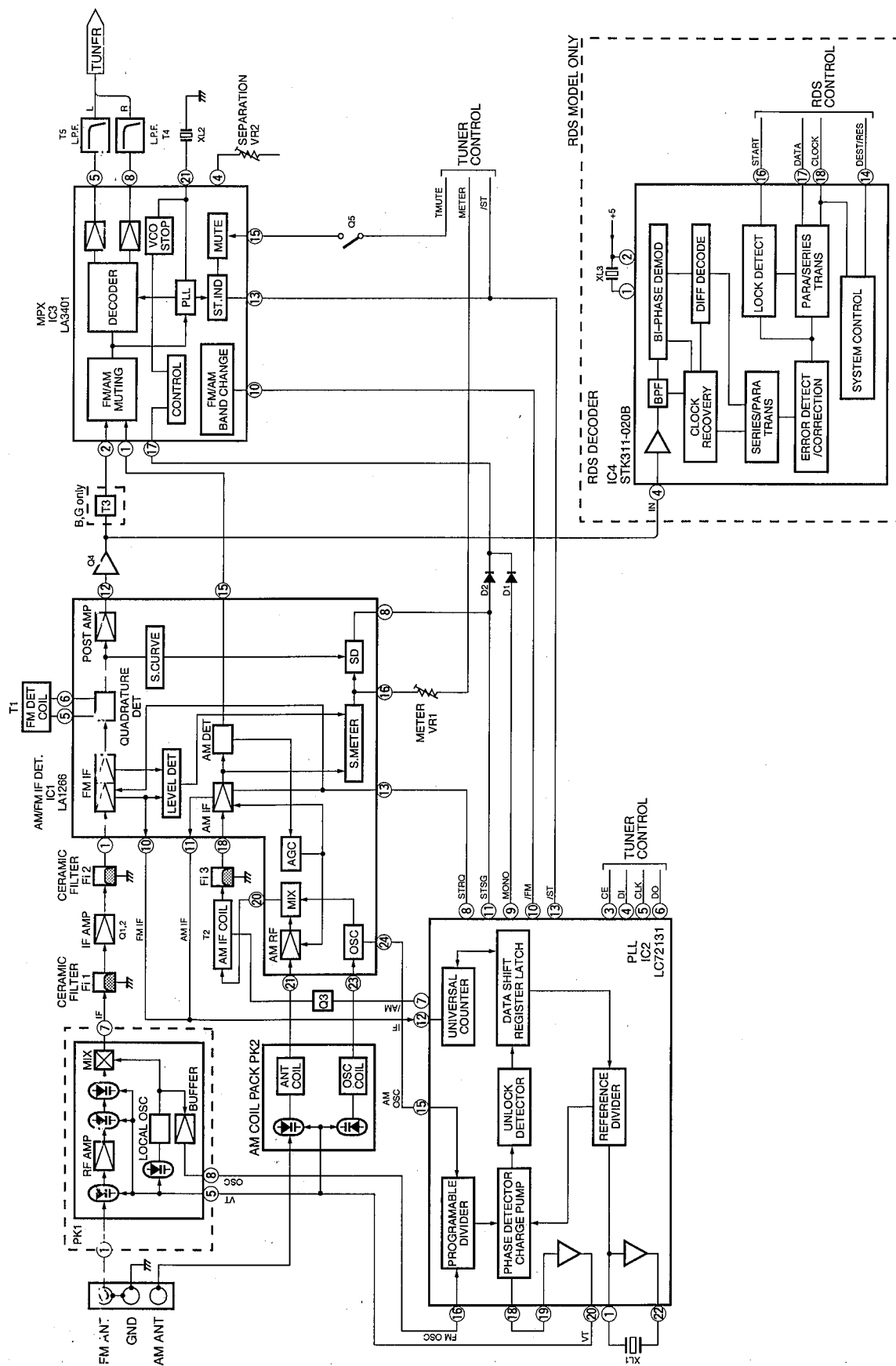
3

4

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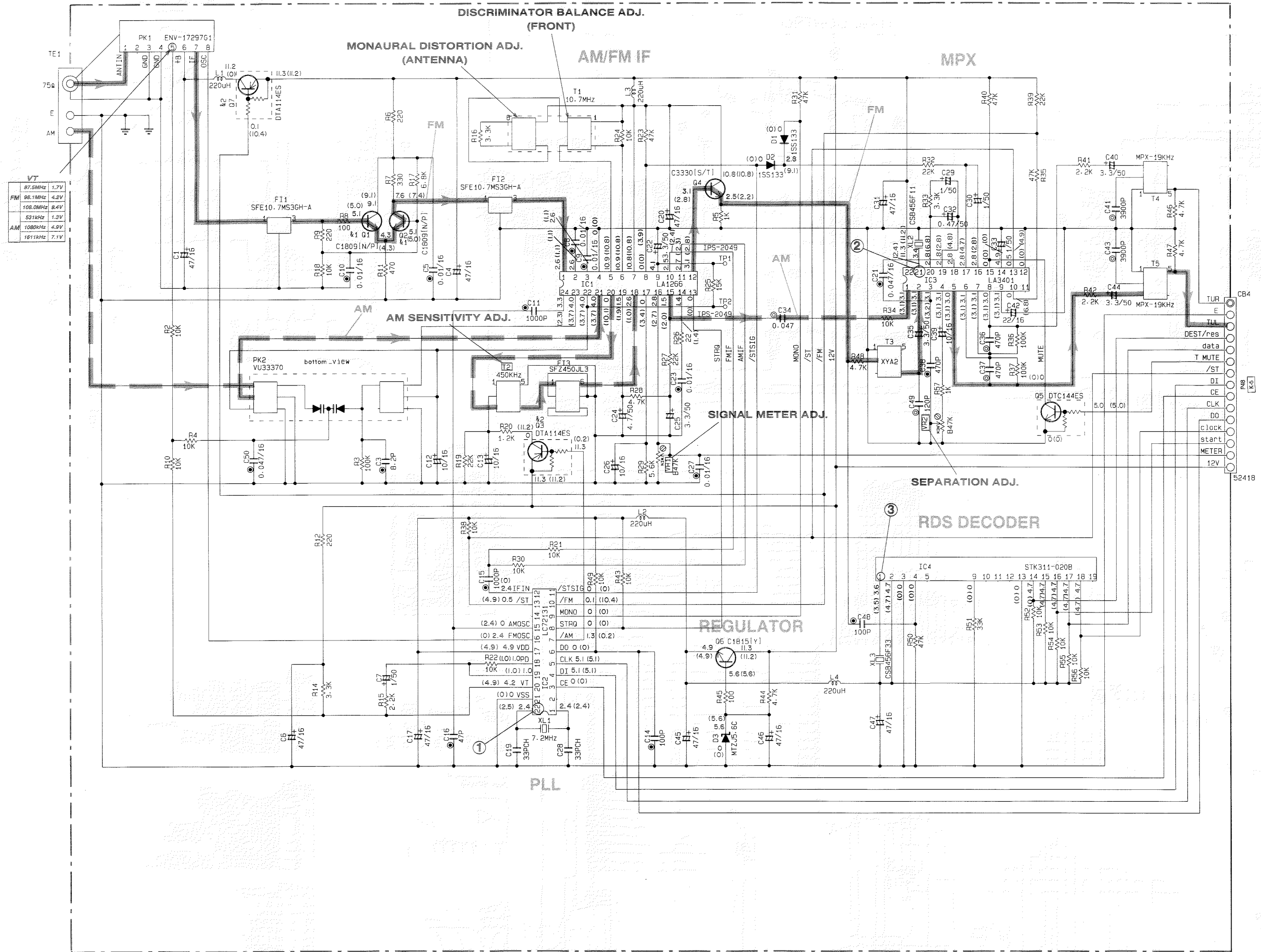
7





RX-V393RDS SCHEMATIC DIAGRAM (TUNER)

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



| REMARKS | 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 |

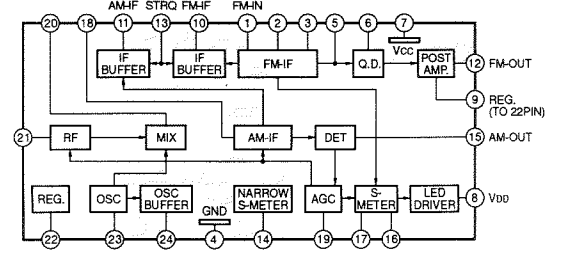
| REMARKS | PARTS NAME                      |
|---------|---------------------------------|
| NO MARK | CARBON FILM RESISTOR (P=5)      |
| ⊠       | CARBON FILM RESISTOR (P=10)     |
| △       | METAL OXIDE FILM RESISTOR       |
| ⊡       | METAL FILM RESISTOR             |
| Ⓜ       | METAL PLATE RESISTOR            |
| Ⓢ       | FIRE PROOF CARBON FILM RESISTOR |
| Ⓢ       | CEMENT MOLDED RESISTOR          |
| Ⓢ       | SEMI VARIABLE RESISTOR          |
| Ⓢ       | CHIP RESISTOR                   |

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

| Mark | Reference Parts Number | Parts Name                    |
|------|------------------------|-------------------------------|
| k1   | 01.2                   | 2SC1809(N/P)<br>2SC1809S(N/P) |
| k2   | 03.7                   | DTA114ES<br>UN4111            |

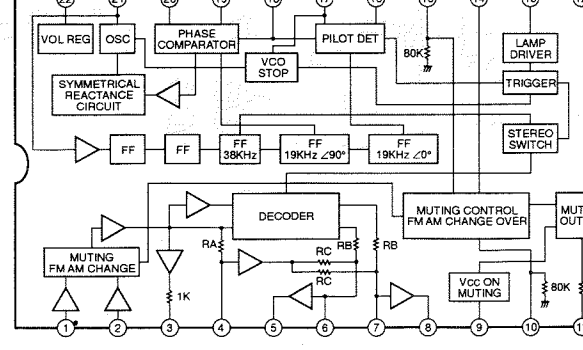
IC1 : LA1266

AM/FM IF



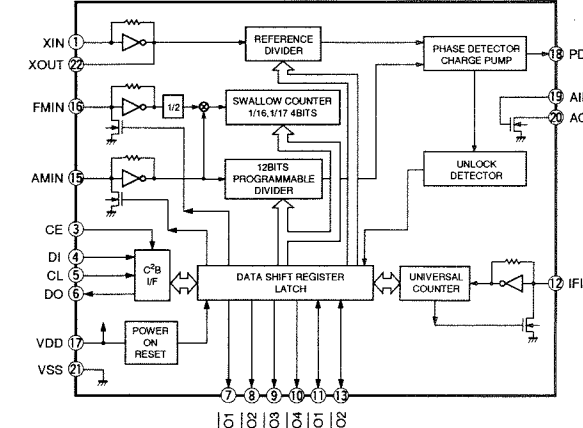
IC3 : LA3401

MPX



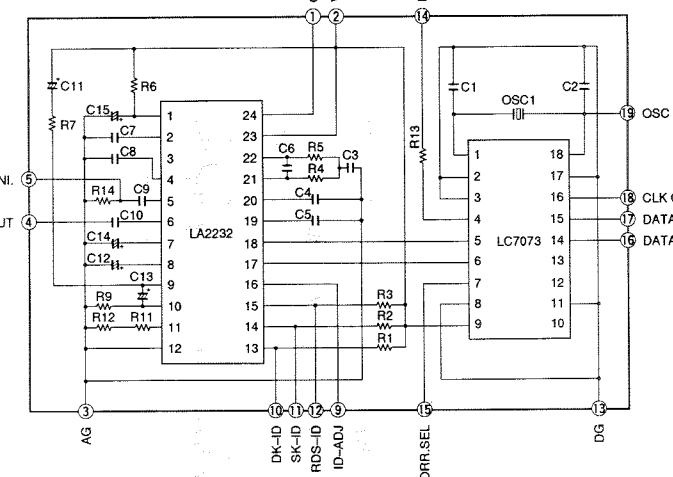
IC2 : LC72131

PLL Controller

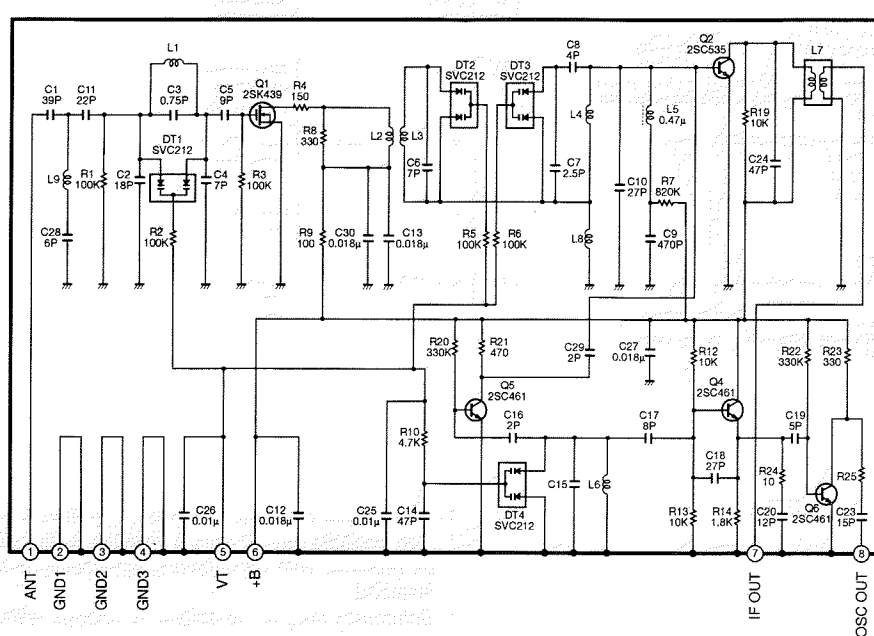


IC4 : STK311-020B

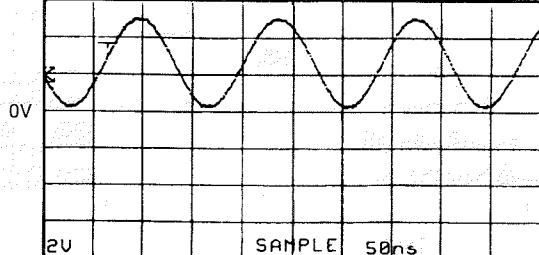
RDS Decoder & Controller



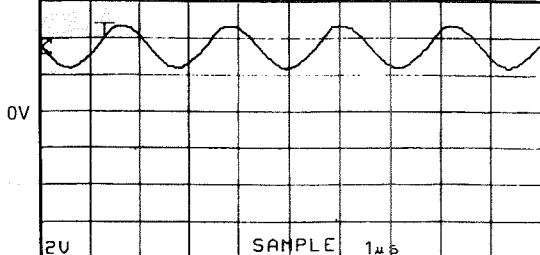
● PK1 : ENV-17297G1 (VQ987600)



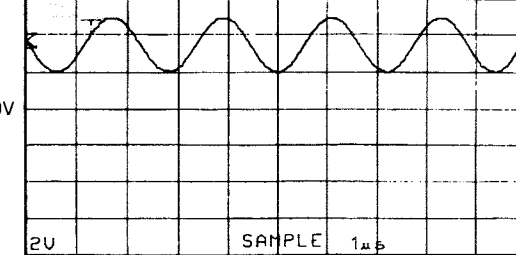
Point ① (Pin22 of IC2) FM reception  
V : 2V/div H : 50nsec/div  
DC range 1 : 1 probe



Point ② (Pin21 of IC3)  
V : 2V/div H : 1μsec/div  
DC range 1 : 1 probe



Point ③ (Pin1 of IC4)  
V : 5V/div H : 1μsec/div  
DC range 1 : 1 probe



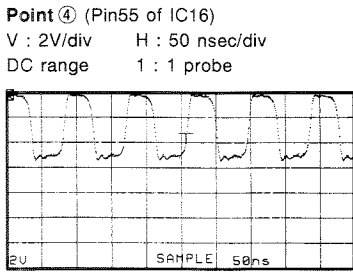
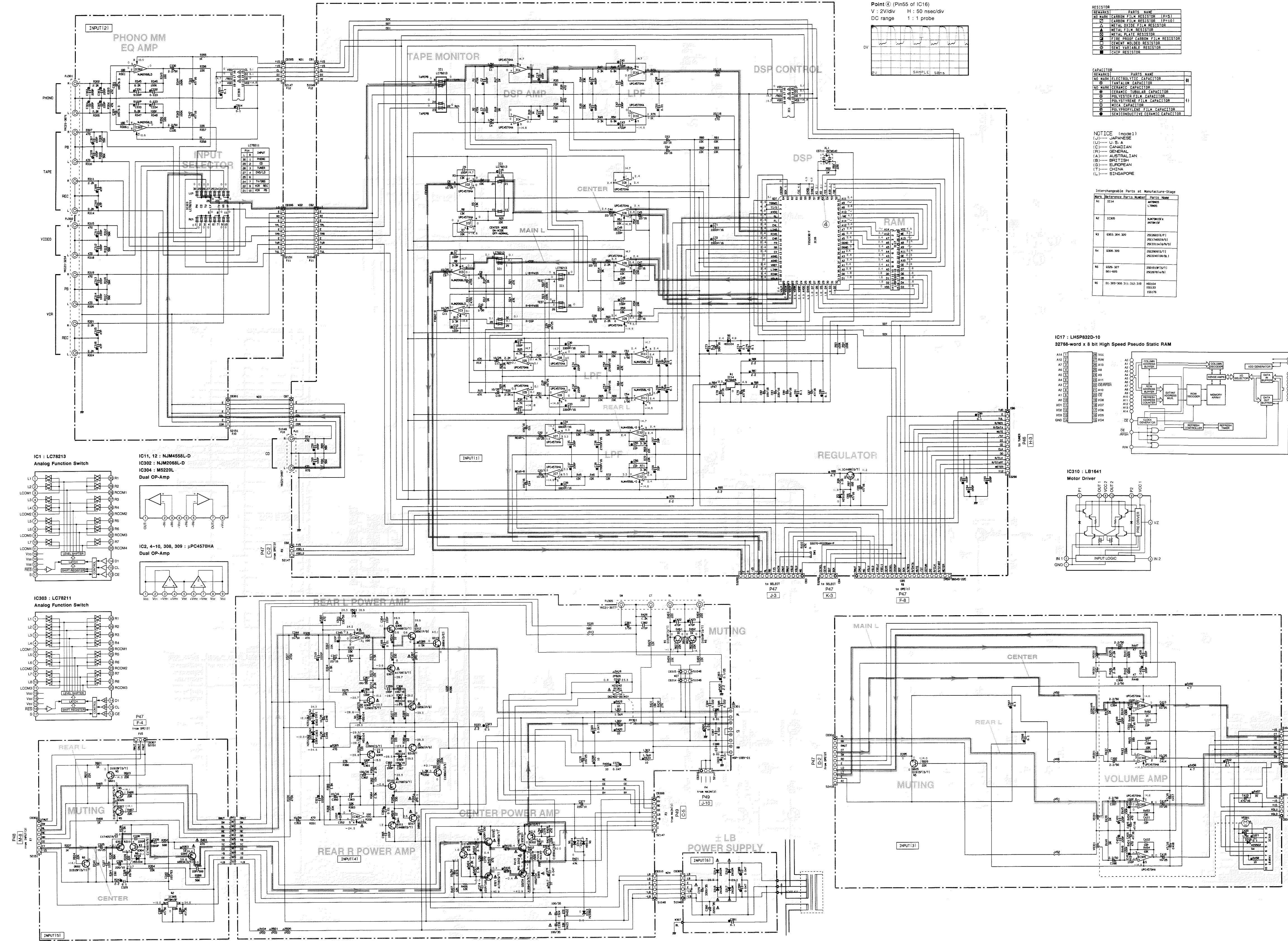
\* All voltages are measured with a 10MΩ/DC electric volt meter.  
\* Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.  
\* Schematic diagram is subject to change without notice.





RX-V393RDS SCHEMATIC DIAGRAM (INPUT)

1  
2  
3  
4  
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10



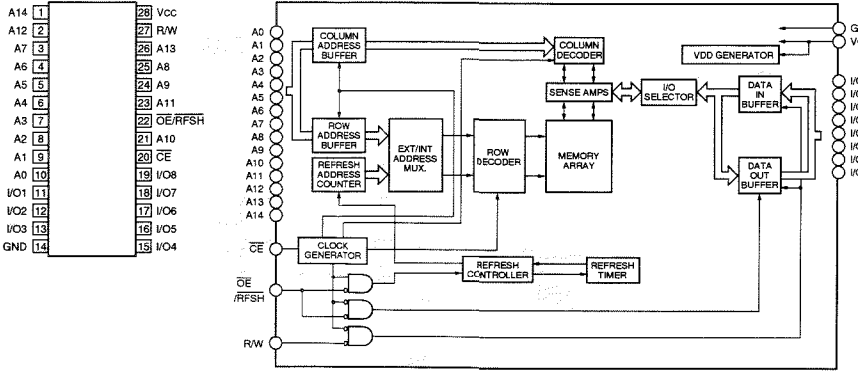
| RESISTOR                           | PARTS NAME |
|------------------------------------|------------|
| NO MARK CARBON FILM RESISTOR (P45) |            |
| NO MARK CARBON FILM RESISTOR (P45) |            |
| NO MARK CARBON FILM RESISTOR (P45) |            |
| NO MARK CARBON FILM RESISTOR (P45) |            |
| NO MARK CARBON FILM RESISTOR (P45) |            |
| NO MARK CARBON FILM RESISTOR (P45) |            |
| NO MARK CARBON FILM RESISTOR (P45) |            |
| NO MARK CARBON FILM RESISTOR (P45) |            |
| NO MARK CARBON FILM RESISTOR (P45) |            |
| NO MARK CARBON FILM RESISTOR (P45) |            |

| CAPACITOR                      | PARTS NAME |
|--------------------------------|------------|
| NO MARK ELECTROLYTIC CAPACITOR |            |
| NO MARK ELECTROLYTIC CAPACITOR |            |
| NO MARK ELECTROLYTIC CAPACITOR |            |
| NO MARK ELECTROLYTIC CAPACITOR |            |
| NO MARK ELECTROLYTIC CAPACITOR |            |
| NO MARK ELECTROLYTIC CAPACITOR |            |
| NO MARK ELECTROLYTIC CAPACITOR |            |
| NO MARK ELECTROLYTIC CAPACITOR |            |
| NO MARK ELECTROLYTIC CAPACITOR |            |
| NO MARK ELECTROLYTIC CAPACITOR |            |

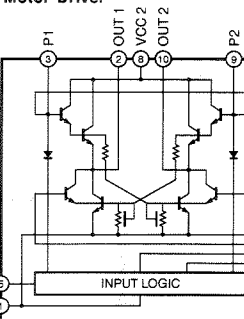
NOTICE (mode 1)  
(J)..... JAPANESE  
(U)..... U.S.A.  
(C)..... CANADIAN  
(R)..... GENERAL  
(A)..... AUSTRALIAN  
(B)..... BRITISH  
(E)..... EUROPEAN  
(T)..... CHINA  
(L)..... SINGAPORE

| Interchangeable Parts | Part No. | Part Name    |
|-----------------------|----------|--------------|
| IC14                  | IC14     | ANALOG LINES |
| IC305                 | IC305    | ANALOG LINES |
| IC306                 | IC306    | ANALOG LINES |
| IC307                 | IC307    | ANALOG LINES |
| IC308                 | IC308    | ANALOG LINES |
| IC309                 | IC309    | ANALOG LINES |
| IC310                 | IC310    | ANALOG LINES |
| IC311                 | IC311    | ANALOG LINES |
| IC312                 | IC312    | ANALOG LINES |
| IC313                 | IC313    | ANALOG LINES |

IC17 : LH5932D-10  
32768-word x 8 bit High Speed Pseudo Static RAM

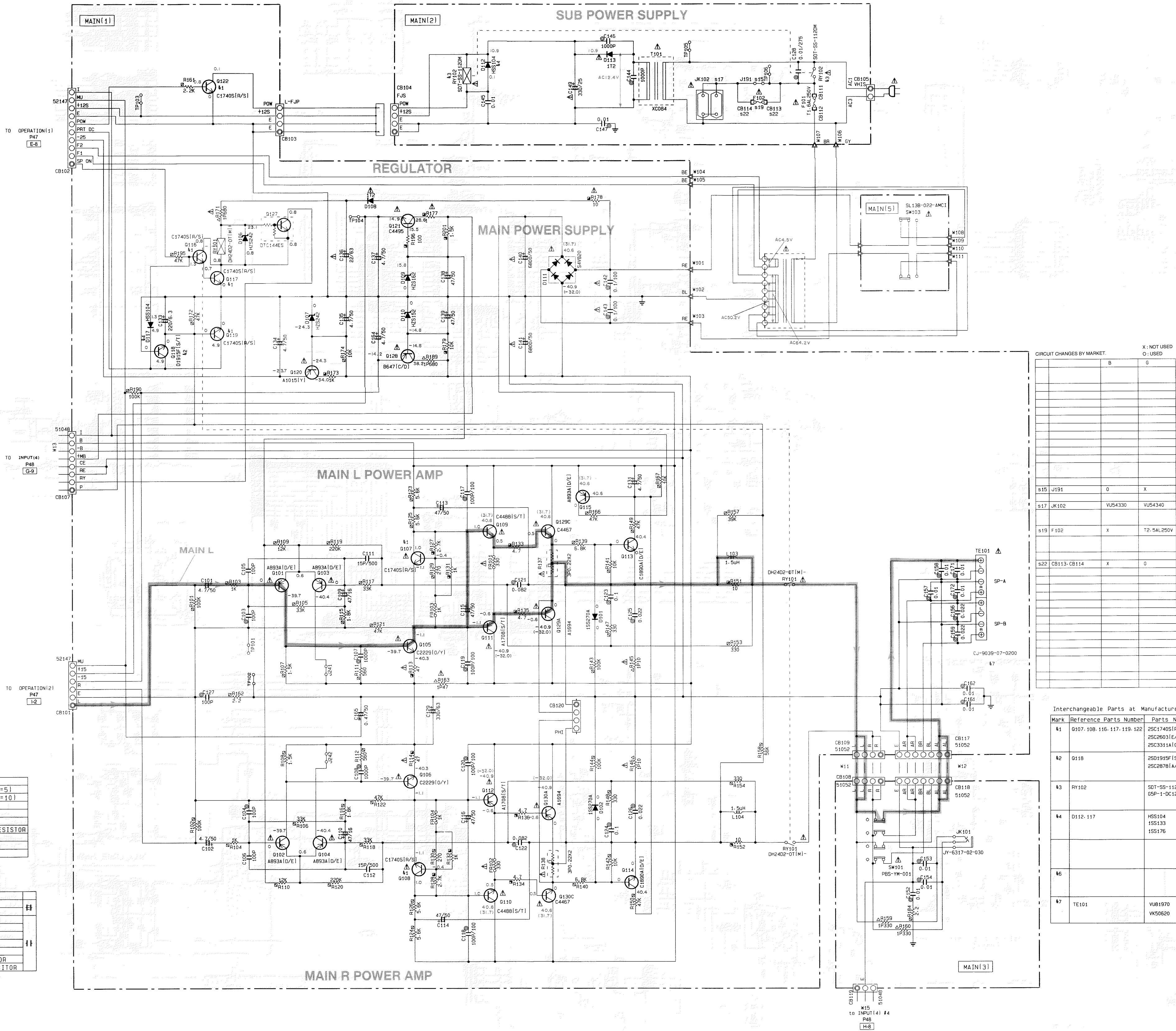


IC310 : LB1641



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

■ RX-V393RDS SCHEMATIC DIAGRAM (MAIN)



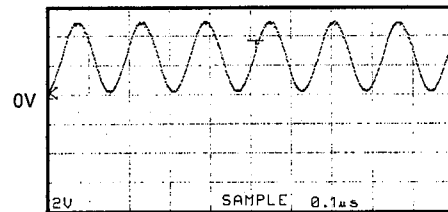
\* All voltages are measured with a 10MΩ/DC electric volt meter.  
\* Components having special characteristics are marked △, and must be replaced with parts having specifications equal to those originally installed.  
\* Schematic diagram is subject to change without notice.



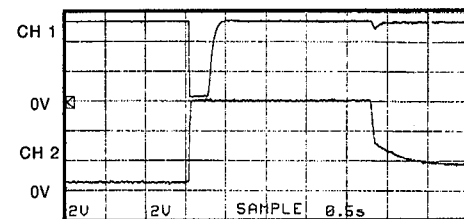
**RX-V393RDS PRINTED CIRCUIT BOARD (Foil side)**

P.C.B. OPERATION (1)

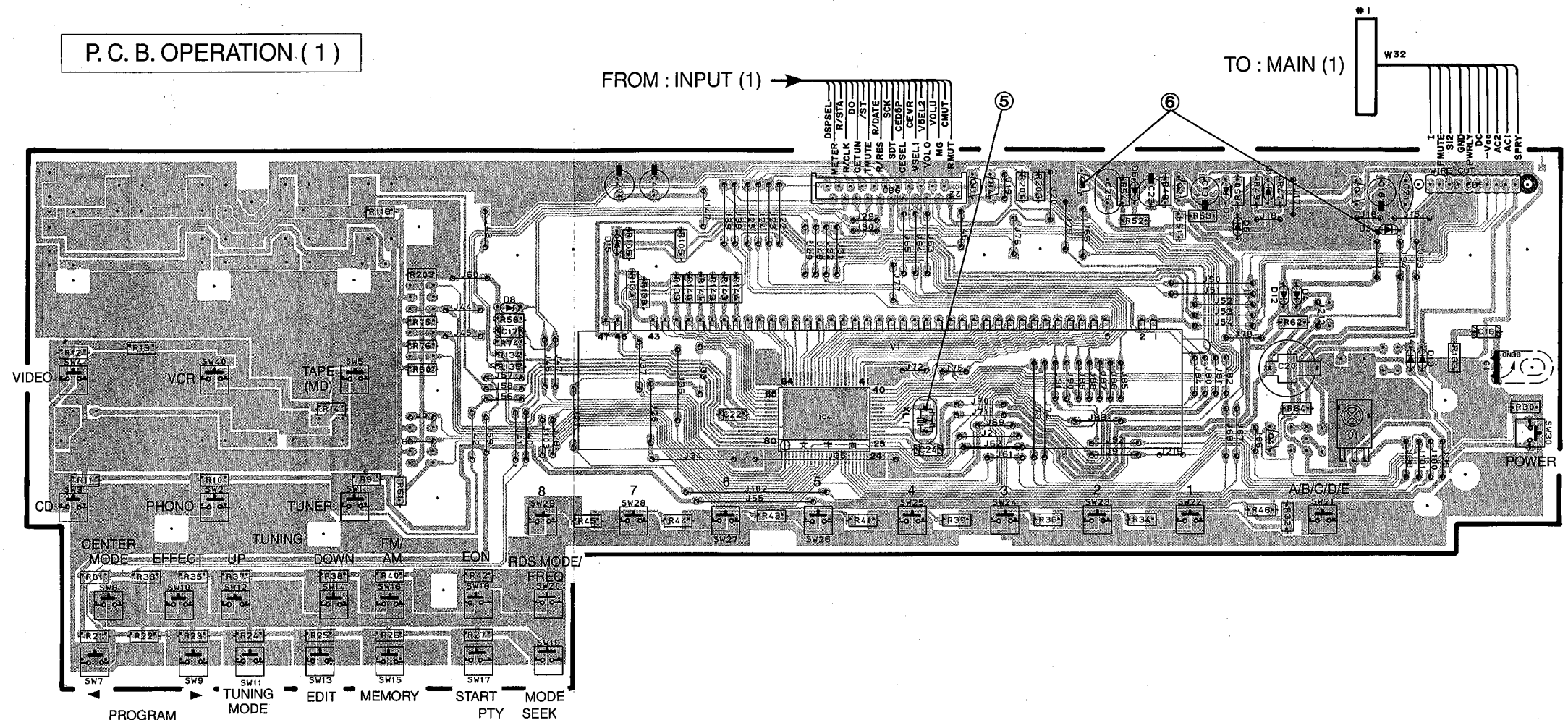
Point ⑤ (Pin31 of IC4)  
V : 2V/div H : 0.1  $\mu$ sec/div  
DC range 1 : 1 probe



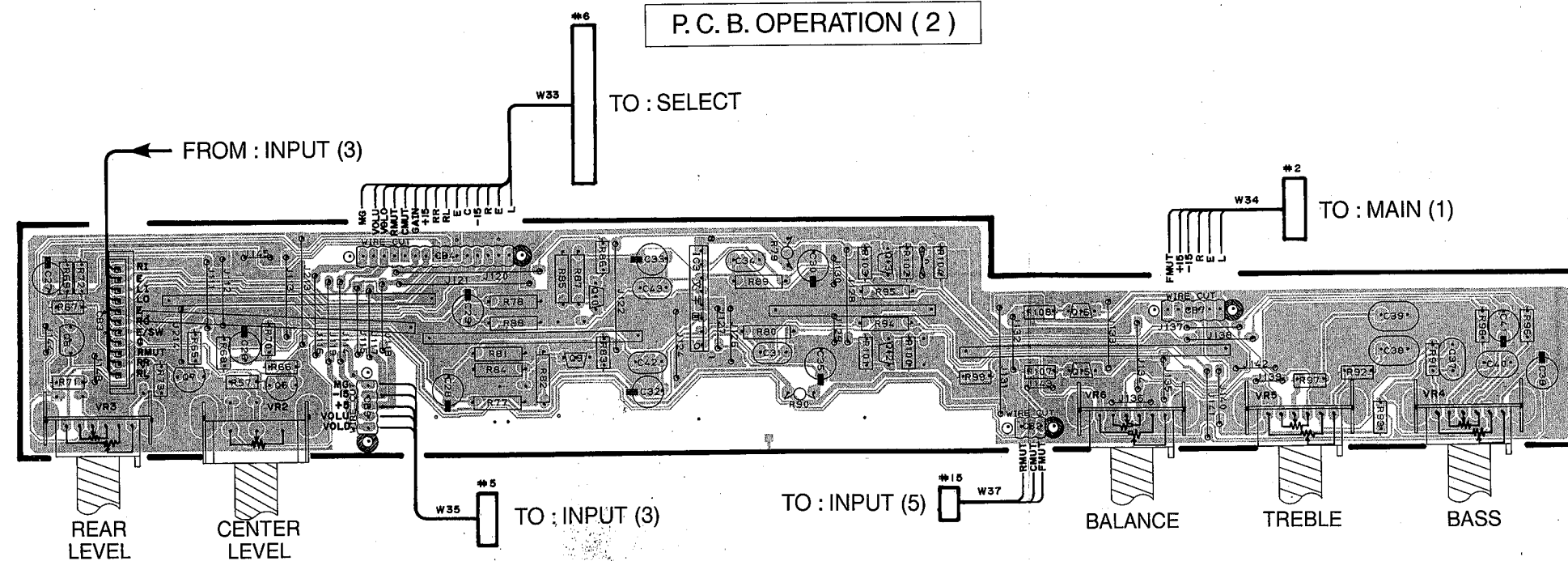
Point ⑥  
CH1 : Collector of Q3 V : 2V/div (CH1)  
CH2 : Anode of D3 V : 2V/div (CH2)  
H : 0.5 sec/div DC range 1 : 1 probe  
(This waveform is not available by pushing the power switch ON and OFF.)



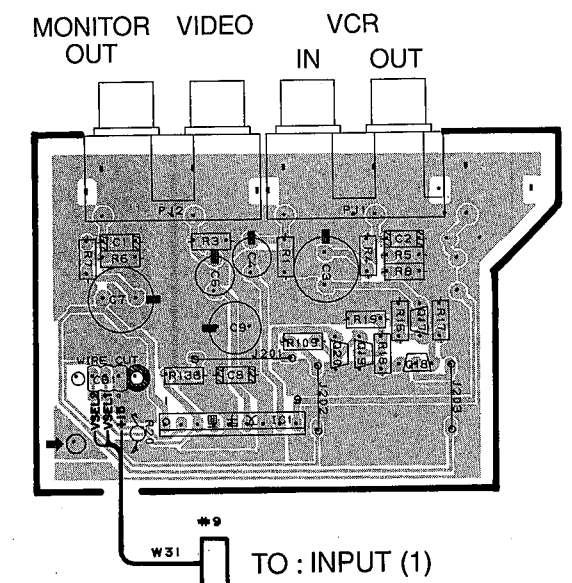
With the POWER ON, disconnect the A/C power cord. Reconnect the A/C power cord and the above waveforms will start.



P.C.B. OPERATION (2)



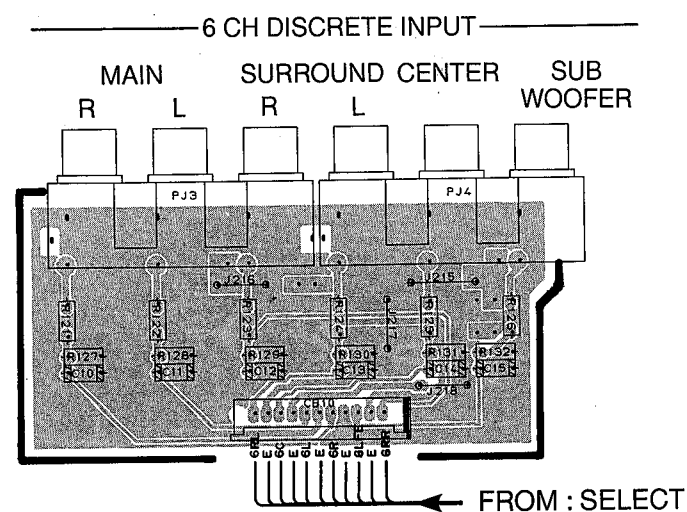
P.C.B. OPERATION (3)



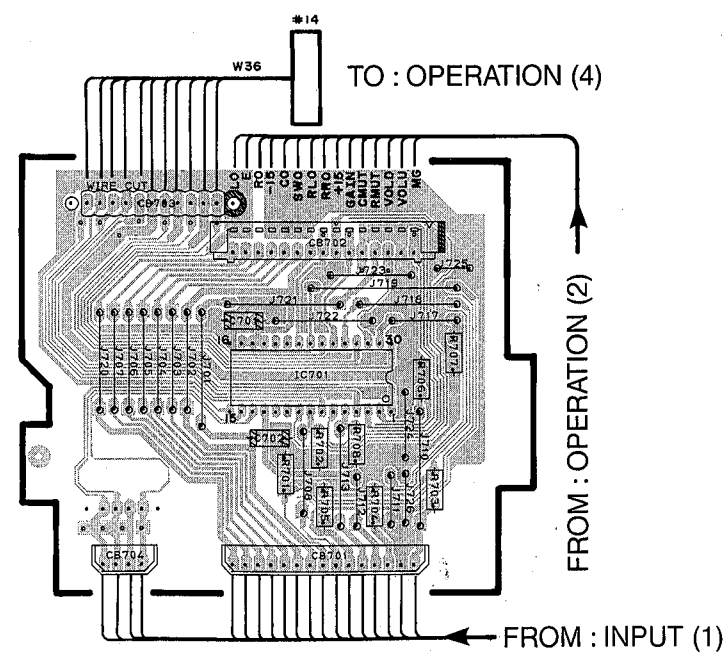
**RX-V393RDS/RX-V493RDS**

### ■ RX-V393RDS PRINTED CIRCUIT BOARD (Foil side)

### P. C. B. OPERATION ( 4 )

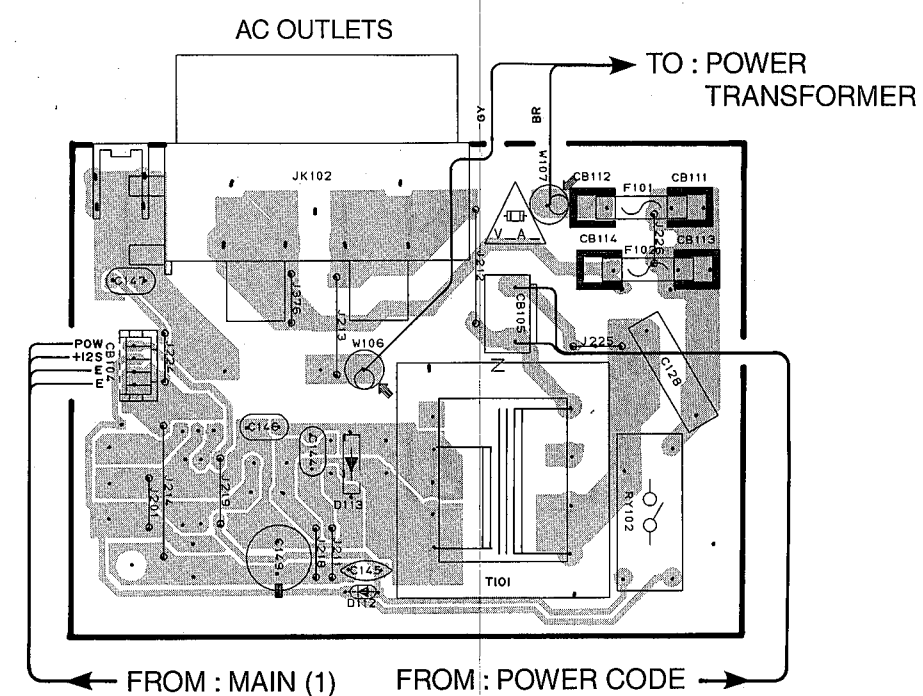


P. C. B. SELECT



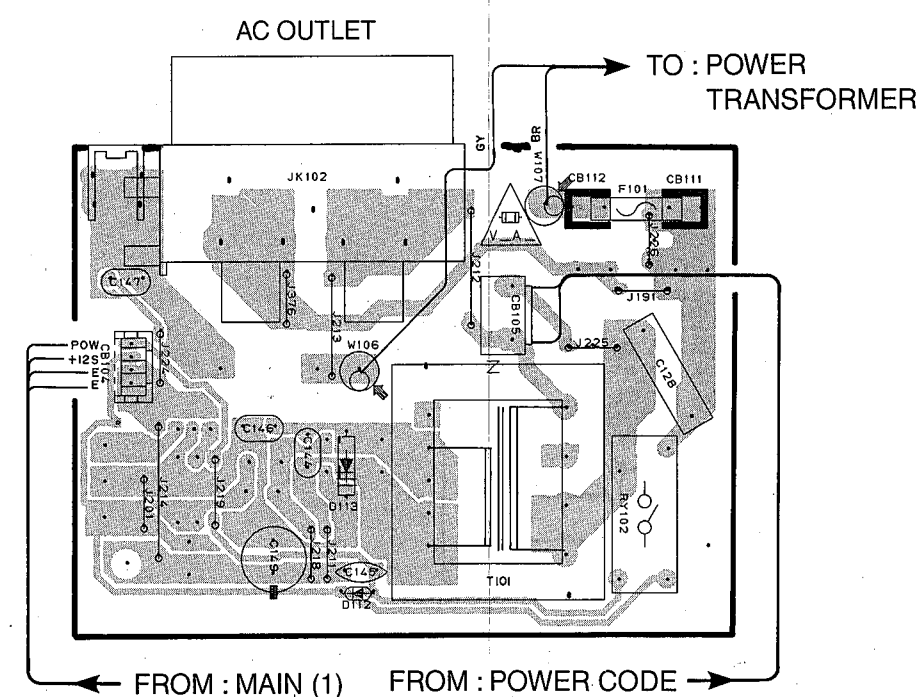
- **G model**

P. C. B. MAIN ( 2 )

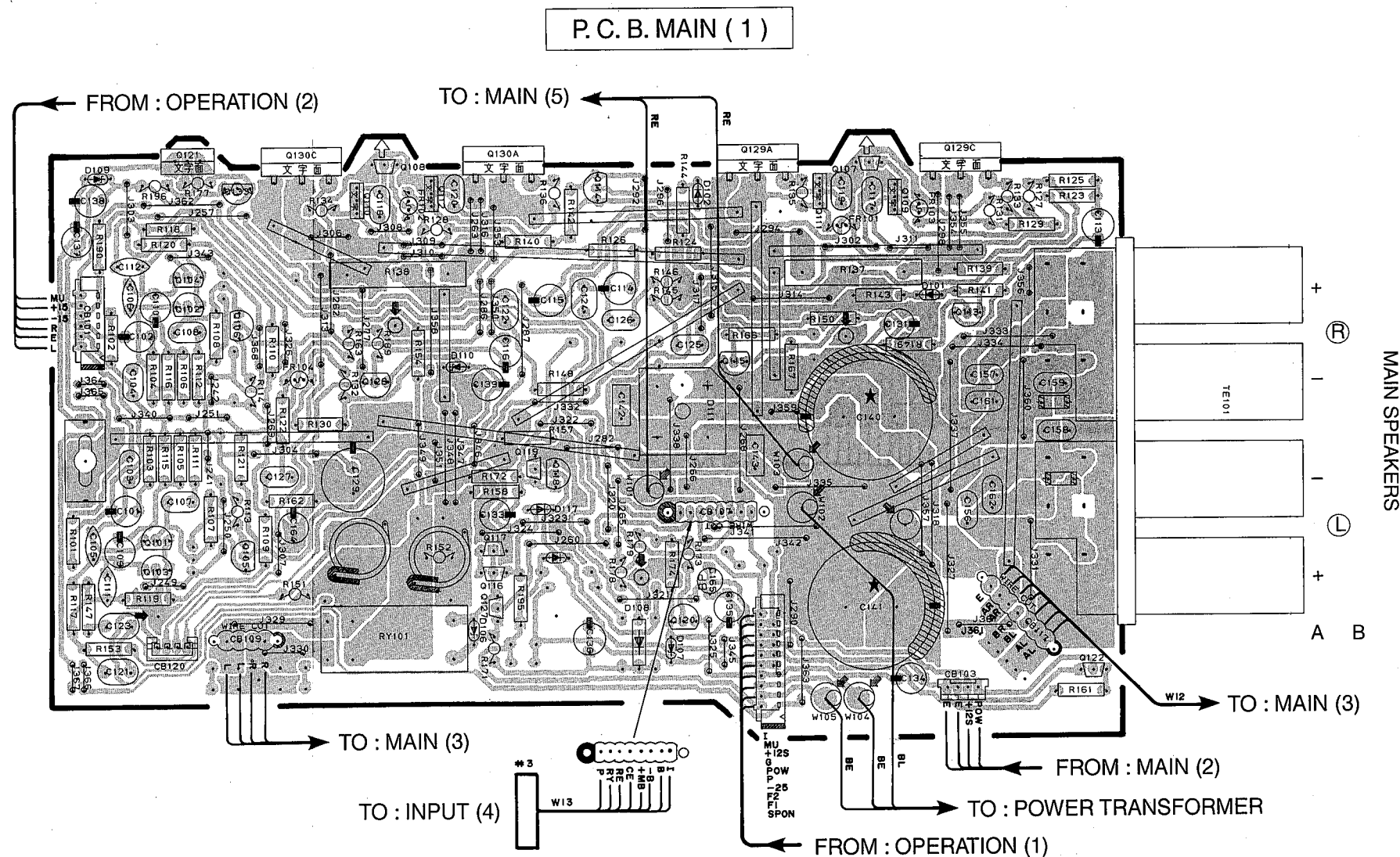
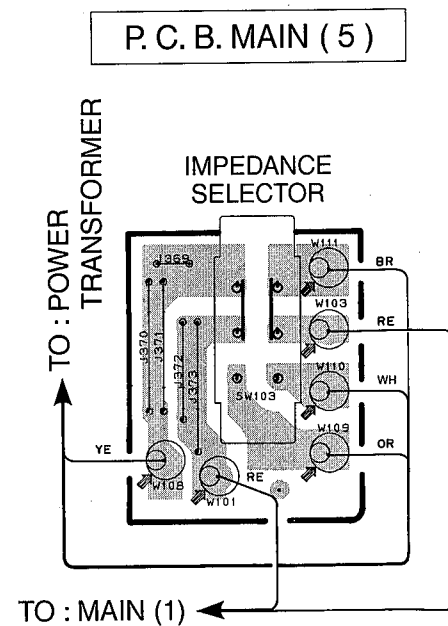
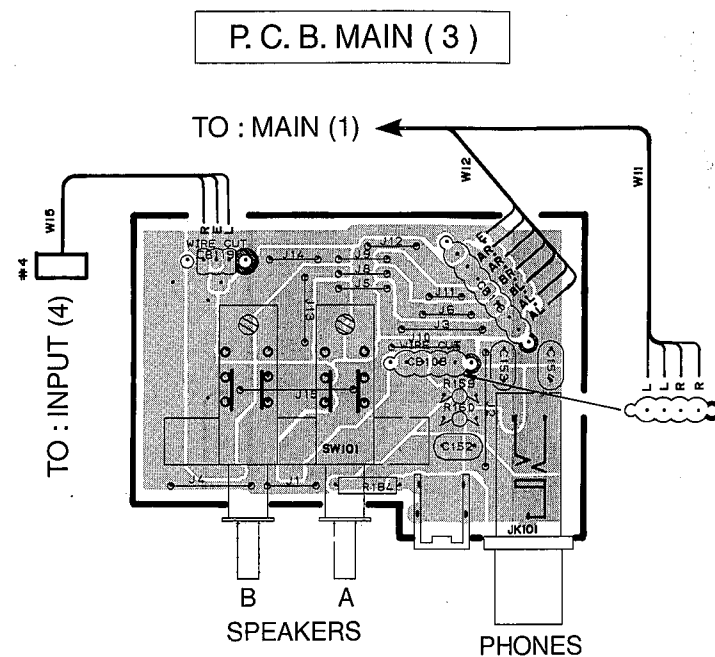


- **B model**

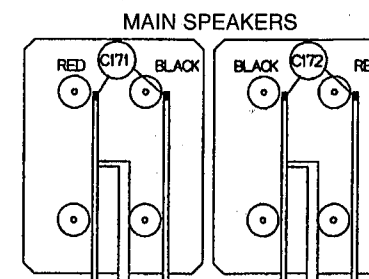
P. C. B. MAIN ( 2 )



■ RX-V393RDS PRINTED CIRCUIT BOARD (Foil side)

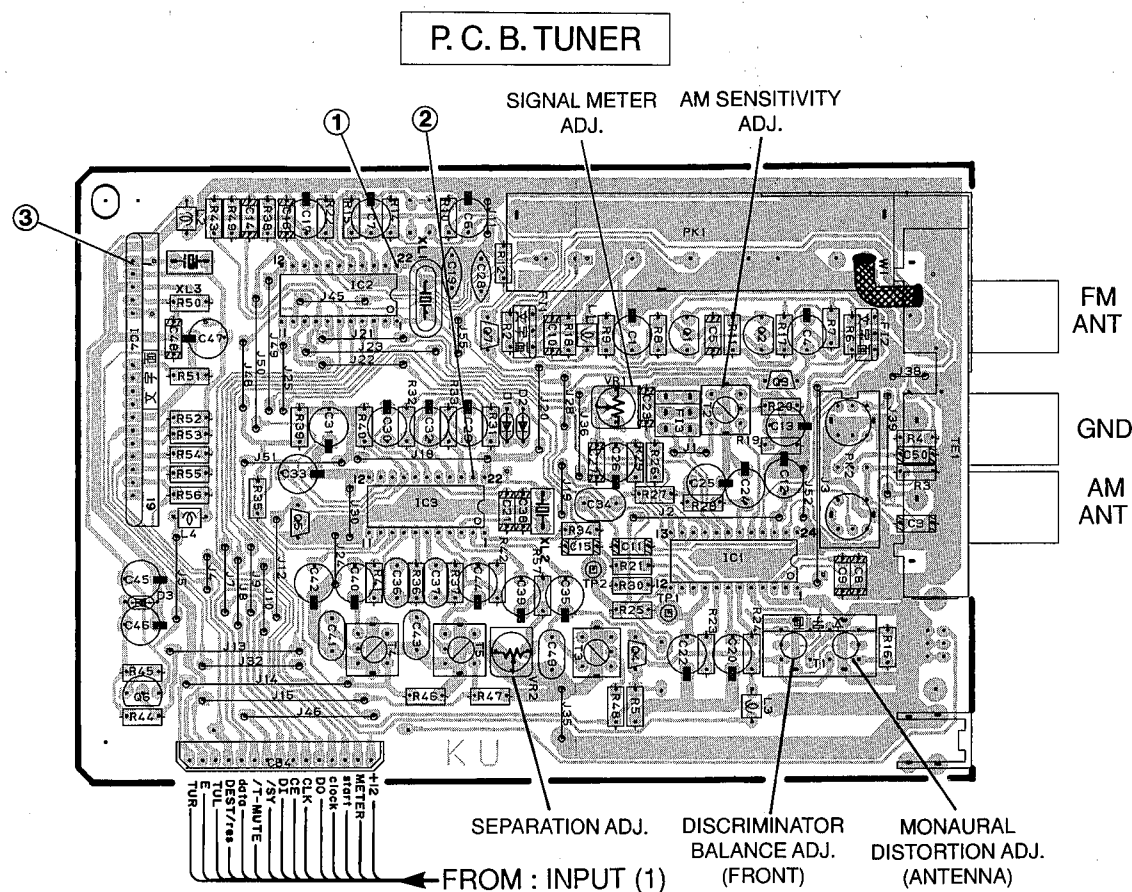


Note) Mounting of C171 and C172 shown as below.

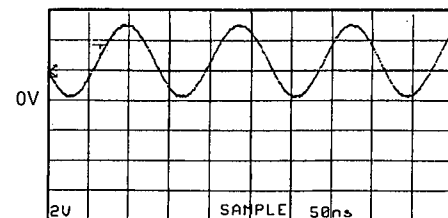




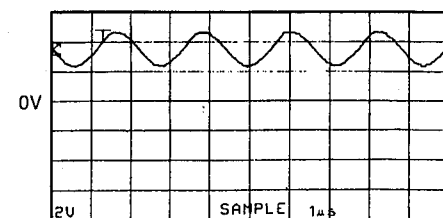
## ■ RX-V393RDS PRINTED CIRCUIT BOARD (Foil side)



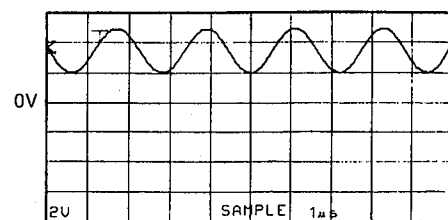
Point ① (Pin22 of IC2) FM reception  
V : 2V/div H : 50 nsec/div  
DC range 1 : 1 probe



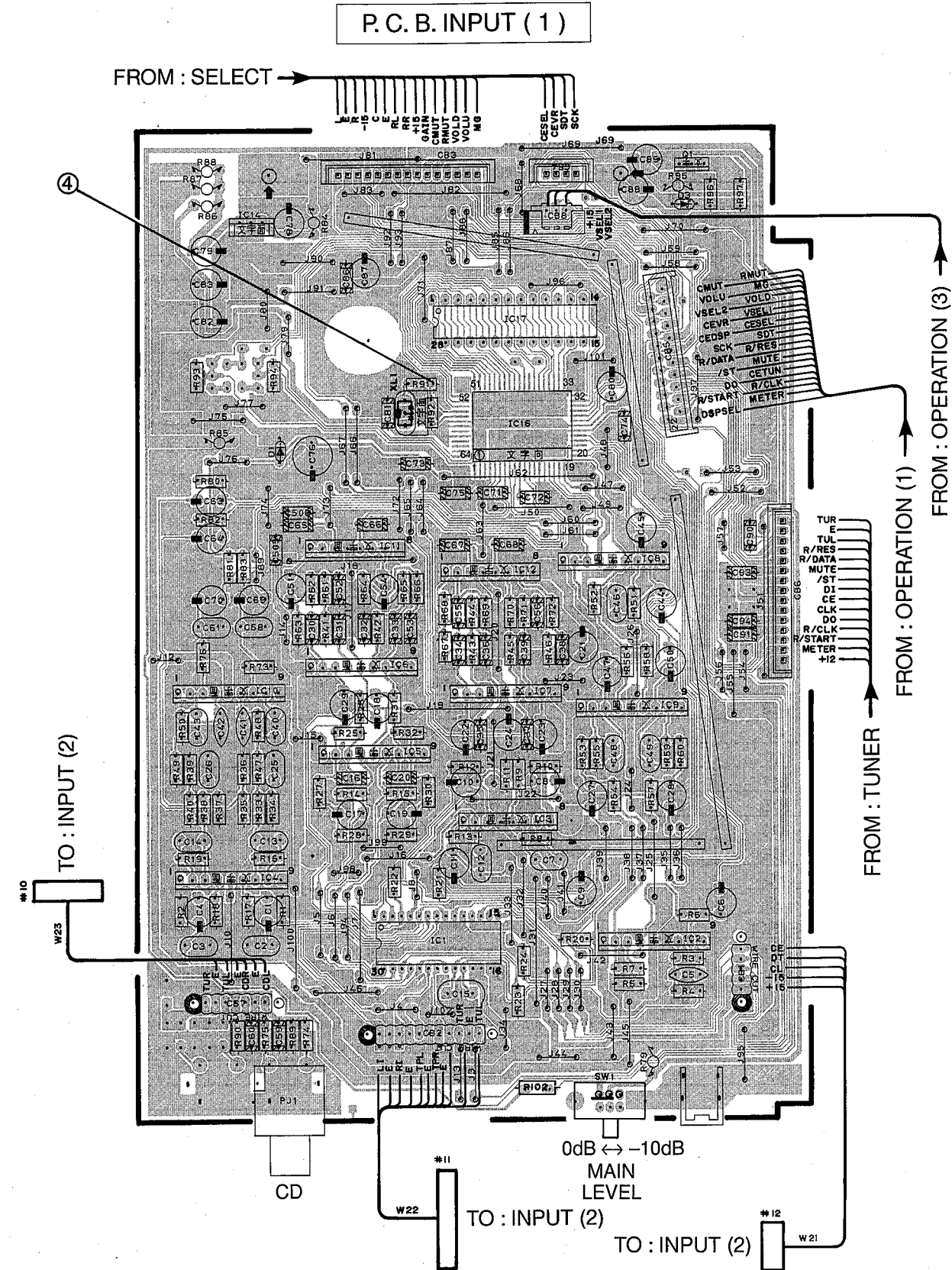
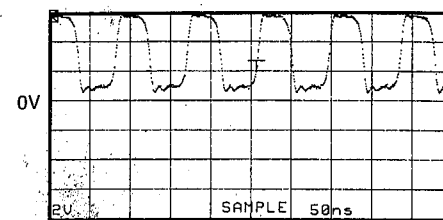
Point ② (Pin21 of IC3)  
V : 2V/div H : 1 μsec/div  
DC range 1 : 1 probe



Point ③ (Pin1 of IC4)  
V : 5V/div H : 1 μsec/div  
DC range 1 : 1 probe

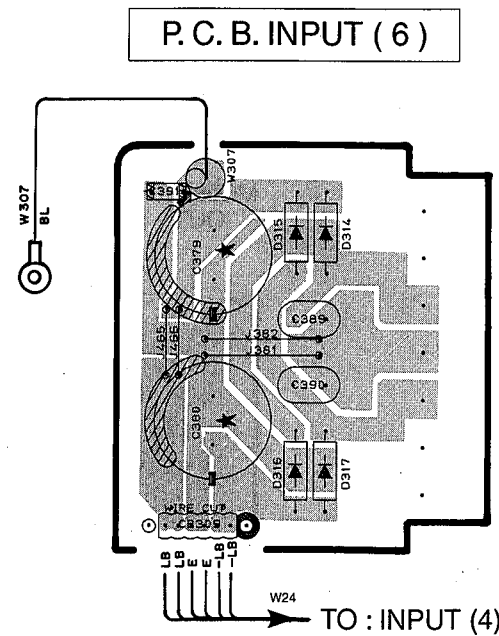
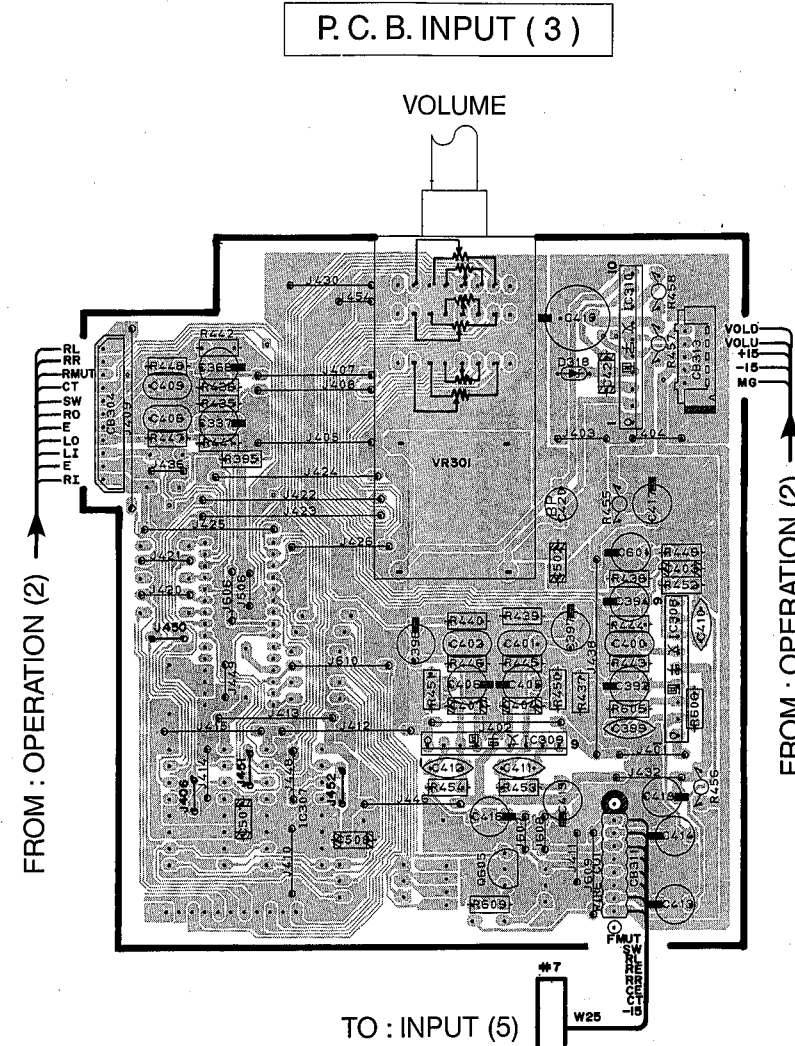
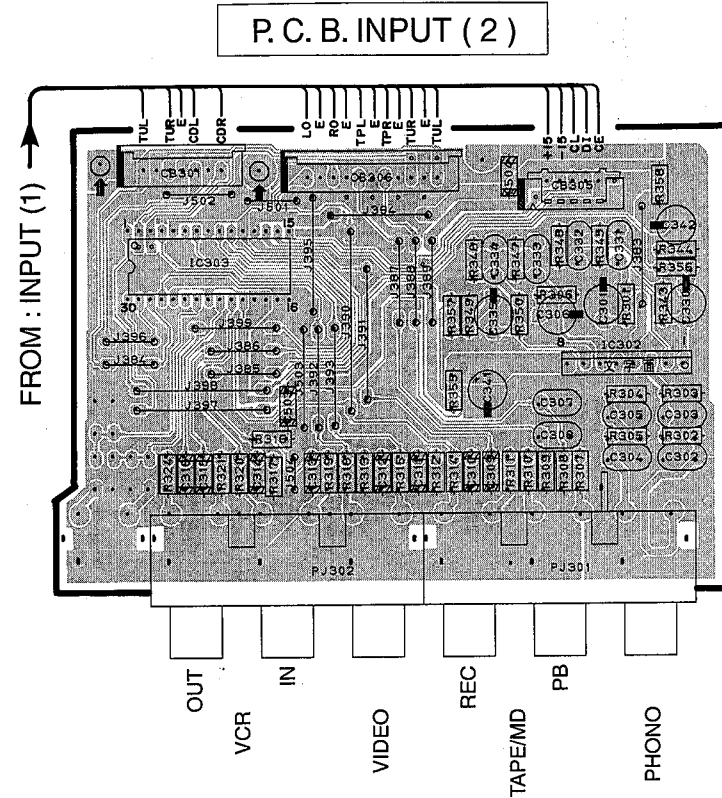


Point ④ (Pin55 of IC16)  
V : 2V/div H : 50 nsec/div  
DC range 1 : 1 probe

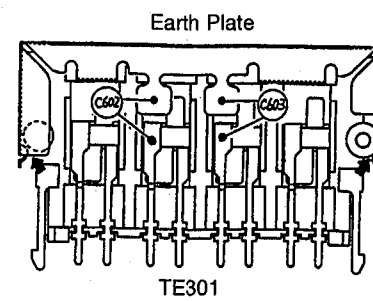




# ■ RX-V393RDS PRINTED CIRCUIT BOARD (Foil side)



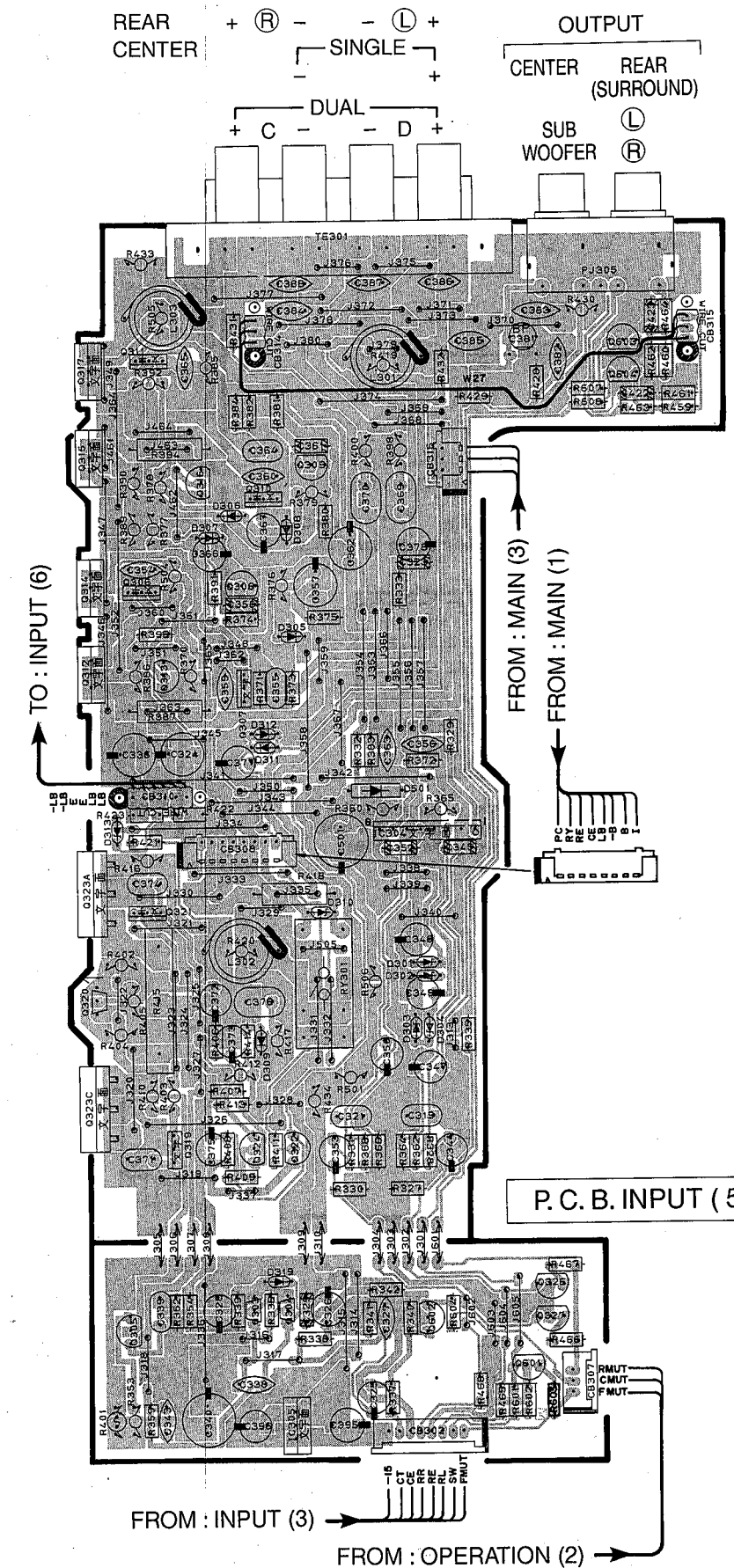
Note) Mounting of C602, C603 and the Earth Plate shown as below.



\* Insert TE301 in the Earth Plate until point is caught securely.

RX-V393RDS/RX-V493RDS

P.C.B. INPUT (4)



# PARTS LIST

## ■ ELECTRICAL PARTS

### ■ WARNING

Components having special characteristics are marked  $\triangle$  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 the last page.

### 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.PRTCT | : 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.PRTCT   | : 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.

## RX-V393RDS P.C.B. OPERATION

| Schm Ref. | PART NO. | Description |              |
|-----------|----------|-------------|--------------|
| *         | VZ497800 | P.C.B.      | OPERATION    |
| CB1       | Vi878100 | CN.BS. PIN  | 3P           |
| CB2       | Vi878100 | CN.BS. PIN  | 3P           |
| CB3       | VQ963200 | CN.BS. PIN  | 11P          |
| CB4       | Vi879300 | CN.BS. PIN  | 15P          |
| CB5       | Vi878800 | CN.BS. PIN  | 10P          |
| CB6       | VU272200 | CN          | 22P          |
| CB7       | Vi878400 | CN.BS. PIN  | 6P           |
| CB9       | Vi878300 | CN.BS. PIN  | 5P           |
| CB10      | VK027000 | CN.BS. PIN  | 11P          |
| C1        | VF466800 | C.CE. TUBLR | 100pF 50V    |
| C2        | VF466800 | C.CE. TUBLR | 100pF 50V    |
| C3        | VF637900 | C.EL        | 1000uF 10V   |
| C4        | VJ836900 | C.EL        | 10uF 16V     |
| C6        | VJ836900 | C.EL        | 10uF 16V     |
| C7        | VF637900 | C.EL        | 1000uF 10V   |
| C8        | VH053100 | C.CE. TUBLR | 0.1uF 50V    |
| C9        | UJ638330 | C.EL        | 330uF 16V    |
| C10       | VG278400 | C.CE. TUBLR | 220pF 50V    |
| C11       | VG278400 | C.CE. TUBLR | 220pF 50V    |
| C12       | VG278400 | C.CE. TUBLR | 220pF 50V    |
| C13       | VG278400 | C.CE. TUBLR | 220pF 50V    |
| C14       | VG278400 | C.CE. TUBLR | 220pF 50V    |
| C15       | VG278400 | C.CE. TUBLR | 220pF 50V    |
| C16       | VH053100 | C.CE. TUBLR | 0.1uF 50V    |
| C17       | VF467300 | C.CE. TUBLR | 0.01uF 16V   |
| C18       | VJ836900 | C.EL        | 10uF 16V     |
| C19       | VJ839100 | C.EL        | 1uF 50V      |
| C20       | VU545000 | C.EL        | 47000uF 5.5V |
| C21       | VD930900 | C.CE. SMI   | 0.1uF 25V    |
| C22       | VH053100 | C.CE. TUBLR | 0.1uF 50V    |
| C23       | VJ839100 | C.EL        | 1uF 50V      |
| C24       | VH053100 | C.CE. TUBLR | 0.1uF 50V    |
| C25       | UA655330 | C.MYLAR     | 0.33uF 50V   |
| C26       | VJ839200 | C.EL        | 2.2uF 50V    |
| C27       | VJ839200 | C.EL        | 2.2uF 50V    |
| C28       | VJ839100 | C.EL        | 1uF 50V      |
| C29       | VJ839100 | C.EL        | 1uF 50V      |
| C30       | VJ837200 | C.EL        | 47uF 16V     |
| C31       | FG211470 | C.CE        | 47pF 50V     |
| C32       | UM417100 | C.EL        | 10uF 50V     |
| C33       | UM417100 | C.EL        | 10uF 50V     |
| C34       | FG211470 | C.CE        | 47pF 50V     |
| C35       | VJ837200 | C.EL        | 47uF 16V     |
| C36       | UM407220 | C.EL        | 22uF 25V     |
| C37       | UA655120 | C.MYLAR     | 0.12uF 50V   |
| C38       | UA654330 | C.MYLAR     | 0.033uF 50V  |
| C39       | UA654330 | C.MYLAR     | 0.033uF 50V  |
| C40       | UA655120 | C.MYLAR     | 0.12uF 50V   |
| C41       | UM407220 | C.EL        | 22uF 25V     |
| C42       | UA652100 | C.MYLAR     | 100pF 50V    |
| C43       | UA652100 | C.MYLAR     | 100pF 50V    |
| C44       | VJ836300 | C.EL        | 330uF 6.3V   |

\* New Parts

| Schm Ref. | PART NO. | Description |                     |
|-----------|----------|-------------|---------------------|
| C201      | VJ836300 | C.EL        | 330uF 6.3V          |
| D1        | VM974600 | DIODE. ZENR | HZS7A2TD 7.0V       |
| D2        | VM974200 | DIODE. ZENR | HZS5C2TD 5.0V       |
| D3        | VD631600 | DIODE       | 1SS133, 176, HSS104 |
| D4        | VD631600 | DIODE       | 1SS133, 176, HSS104 |
| D5        | VD631600 | DIODE       | 1SS133, 176, HSS104 |
| D6        | VD631600 | DIODE       | 1SS133, 176, HSS104 |
| D8        | VM974100 | DIODE. ZENR | HZS5B2TD 5.0V       |
| D12       | VD631600 | DIODE       | 1SS133, 176, HSS104 |
| D13       | VD631600 | DIODE       | 1SS133, 176, HSS104 |
| D14       | VD631600 | DIODE       | 1SS133, 176, HSS104 |
| D15       | VM974300 | DIODE. ZENR | HZS6A2TD 6.0V       |
| G1        | VR463400 | TERM. GND   | D3.5 TP00385        |
| IC1       | XH436A00 | IC          | LA7956              |
| IC3       | XM356A00 | IC          | NJM2068LD           |
| IC4       | XT819A00 | IC          | M38177MC-071FP CPU  |
| PJ1       | VR110100 | JACK. PIN   | 2P                  |
| PJ2       | VR110100 | JACK. PIN   | 2P                  |
| PJ3       | VV031700 | JACK. PIN   | 3P                  |
| PJ4       | VV031700 | JACK. PIN   | 3P                  |
| Q1        | iC174020 | TR          | 2SC1740S R, S       |
| Q2        | iA093320 | TR          | 2SA933S Q, R        |
| Q3        | iC174020 | TR          | 2SC1740S R, S       |
| Q4        | VD678500 | TR. DGT     | DTA114ES            |
| Q5        | VK432900 | TR          | 2SD1915F S, T       |
| Q7        | VK432900 | TR          | 2SD1915F S, T       |
| Q8        | VK432900 | TR          | 2SD1915F S, T       |
| Q9        | VK432900 | TR          | 2SD1915F S, T       |
| Q10       | VK432900 | TR          | 2SD1915F S, T       |
| Q11       | VD678500 | TR. DGT     | DTA114ES            |
| Q12       | VK432900 | TR          | 2SD1915F S, T       |
| Q13       | VK432900 | TR          | 2SD1915F S, T       |
| Q14       | iA093320 | TR          | 2SA933S Q, R        |
| Q15       | VK432900 | TR          | 2SD1915F S, T       |
| Q16       | VK432900 | TR          | 2SD1915F S, T       |
| Q17       | iC1815C0 | TR          | 2SC1815 Y           |
| Q18       | iC1815C0 | TR          | 2SC1815 Y           |
| Q19       | iC174020 | TR          | 2SC1740S R, S       |
| Q20       | iC174020 | TR          | 2SC1740S R, S       |
| R20       | HV454470 | R. CAR. FP  | 47 $\Omega$ 1/4W    |
| R79       | HV455100 | R. CAR. FP  | 100 $\Omega$ 1/4W   |
| R90       | HV455100 | R. CAR. FP  | 100 $\Omega$ 1/4W   |
| SW1       | VG392900 | SW. TACT    | SKHVAA              |
| SW2       | VG392900 | SW. TACT    | SKHVAA              |
| SW3       | VG392900 | SW. TACT    | SKHVAA              |
| SW4       | VG392900 | SW. TACT    | SKHVAA              |
| SW5       | VG392900 | SW. TACT    | SKHVAA              |
| SW7       | VG392900 | SW. TACT    | SKHVAA              |
| SW8       | VG392900 | SW. TACT    | SKHVAA              |
| SW9       | VG392900 | SW. TACT    | SKHVAA              |
| SW10      | VG392900 | SW. TACT    | SKHVAA              |
| SW11      | VG392900 | SW. TACT    | SKHVAA              |
| SW12      | VG392900 | SW. TACT    | SKHVAA              |

\* New Parts

## RX-V393RDS P.C.B. OPERATION &amp; MAIN

| Schm Ref. | PART NO. | Description           |
|-----------|----------|-----------------------|
| SW13      | VG392900 | SW. TACT SKHVAA       |
| SW14      | VG392900 | SW. TACT SKHVAA       |
| SW15      | VG392900 | SW. TACT SKHVAA       |
| SW16      | VG392900 | SW. TACT SKHVAA       |
| SW17      | VG392900 | SW. TACT SKHVAA       |
| SW18      | VG392900 | SW. TACT SKHVAA       |
| SW19      | VG392900 | SW. TACT SKHVAA       |
| SW20      | VG392900 | SW. TACT SKHVAA       |
| SW21      | VG392900 | SW. TACT SKHVAA       |
| SW22      | VG392900 | SW. TACT SKHVAA       |
| SW23      | VG392900 | SW. TACT SKHVAA       |
| SW24      | VG392900 | SW. TACT SKHVAA       |
| SW25      | VG392900 | SW. TACT SKHVAA       |
| SW26      | VG392900 | SW. TACT SKHVAA       |
| SW27      | VG392900 | SW. TACT SKHVAA       |
| SW28      | VG392900 | SW. TACT SKHVAA       |
| SW29      | VG392900 | SW. TACT SKHVAA       |
| SW30      | VG392900 | SW. TACT SKHVAA       |
| SW40      | VG392900 | SW. TACT SKHVAA       |
| U1        | VU591000 | L. DTCT GP1U271X      |
| V1        | VV298800 | FL. DSPLY 13-BT-151GK |
| VR2       | VR043900 | VR A10K $\Omega$      |
| VR3       | VR058000 | VR A10K $\Omega$      |
| VR4       | VP741800 | VR B20K $\Omega$      |
| VR5       | VP741900 | VR G25K $\Omega$      |
| VR6       | VP742000 | VR MN100K $\Omega$    |
| XL1       | VR891500 | RSNR. CE 6.30MHz      |
|           | VJ828000 | PIN IMSA-6024-03E     |
|           | VQ859800 | SHEET. FL             |
|           | VV499900 | SPACER FL-T7.5        |

\* New Parts

| Schm Ref.  | PART NO. | Description              |
|------------|----------|--------------------------|
| * VZ417500 | P. C. B. | MAIN(B)                  |
| * VZ417600 | P. C. B. | MAIN(G)                  |
| CB101      | VF728300 | CN 6P                    |
| CB102      | VF728200 | CN. BS. PIN 10P          |
| CB103      | VS839400 | CN. BS. PIN 4P           |
| CB104      | VS839500 | CN 4P                    |
| CB105      | VG879900 | CN. BS. PIN 2P           |
| CB107      | Vi878600 | CN. BS. PIN 8P           |
| CB108      | VR428900 | CN. BS. PIN 4P           |
| CB109      | VR428900 | CN. BS. PIN 4P           |
| CB111      | VP206500 | HOLDER. FUS EYF-52BC     |
| CB112      | VP206500 | HOLDER. FUS EYF-52BC     |
| CB113      | VP206500 | HOLDER. FUS EYF-52BC(G)  |
| CB114      | VP206500 | HOLDER. FUS EYF-52BC(G)  |
| CB117      | VQ584900 | CN. BS. PIN 7P           |
| CB118      | VQ584900 | CN. BS. PIN 7P           |
| CB119      | Vi878100 | CN. BS. PIN 3P           |
| CB120      | VD004700 | CN. BS. PIN 4P           |
| C101       | UM416470 | C. EL 4.7uF 50V          |
| C102       | UM416470 | C. EL 4.7uF 50V          |
| C103       | UA652100 | C. MYLAR 100pF 50V       |
| C104       | UA652100 | C. MYLAR 100pF 50V       |
| C105       | FG212100 | C. CE 100pF 50V          |
| C106       | FG212100 | C. CE 100pF 50V          |
| C107       | UA653100 | C. MYLAR 1000pF 50V      |
| C108       | UA653100 | C. MYLAR 1000pF 50V      |
| C109       | VJ837200 | C. EL 47uF 16V           |
| C110       | VJ837200 | C. EL 47uF 16V           |
| C111       | VR516400 | C. CE 15p 500V           |
| C112       | VR516400 | C. CE 15p 500V           |
| C113       | UJ667470 | C. EL 47uF 50V           |
| C114       | UJ667470 | C. EL 47uF 50V           |
| C115       | VG291200 | C. EL 47uF 50V           |
| C116       | VG291200 | C. EL 47uF 50V           |
| C117       | VR325000 | C. MYLAR 100pF 100V      |
| C118       | VR325000 | C. MYLAR 100pF 100V      |
| C119       | VR325000 | C. MYLAR 100pF 100V      |
| C120       | VR325000 | C. MYLAR 100pF 100V      |
| C121       | UA654820 | C. MYLAR 0.082uF 50V     |
| C122       | UA654820 | C. MYLAR 0.082uF 50V     |
| C123       | UA655100 | C. MYLAR 0.1uF 50V       |
| C124       | UA655100 | C. MYLAR 0.1uF 50V       |
| C125       | UA654220 | C. MYLAR 0.022uF 50V     |
| C126       | UA654220 | C. MYLAR 0.022uF 50V     |
| C127       | UA652100 | C. MYLAR 100pF 50V       |
| C128       | VS741700 | C. CE. SAFTY 0.01uF 275V |
| C129       | VK182500 | C. EL 330uF 63V          |
| C131       | UM416470 | C. EL 4.7uF 50V          |
| C133       | VC815000 | C. EL 220uF 6.3V         |
| C134       | UM416470 | C. EL 4.7uF 50V          |
| C135       | UM416470 | C. EL 4.7uF 50V          |
| C136       | Vi846000 | C. EL 22uF 63V           |
| C137       | UM416470 | C. EL 4.7uF 50V          |

△

\* New Parts

## RX-V393RDS P.C.B. MAIN

| Schm Ref. | PART NO. | Description                    |
|-----------|----------|--------------------------------|
| C138      | UJ667470 | C. EL 47uF 50V                 |
| C139      | UJ667470 | C. EL 47uF 50V                 |
| △ C140    | VV951700 | C. EL 6800uF 50V               |
| △ C141    | VV951700 | C. EL 6800uF 50V               |
| △ C142    | VR325400 | C. MYLAR 0.1uF 100V            |
| △ C143    | VR325400 | C. MYLAR 0.1uF 100V            |
| C144      | UA653100 | C. MYLAR 1000pF 50V            |
| C145      | FG214100 | C. CE 0.01uF 50V               |
| C146      | UA653100 | C. MYLAR 1000pF 50V            |
| C147      | UA654100 | C. MYLAR 0.01uF 50V            |
| △ C149    | VK457600 | C. EL 330uF 25V                |
| C152      | UA654100 | C. MYLAR 0.01uF 50V            |
| C153      | UA654100 | C. MYLAR 0.01uF 50V            |
| C154      | UA654100 | C. MYLAR 0.01uF 50V            |
| C156      | UA654220 | C. MYLAR 0.022uF 50V           |
| C157      | UA654100 | C. MYLAR 0.01uF 50V            |
| C158      | UA654100 | C. MYLAR 0.01uF 50V            |
| C159      | UA654220 | C. MYLAR 0.022uF 50V           |
| C161      | UA654100 | C. MYLAR 0.01uF 50V            |
| C162      | UA654100 | C. MYLAR 0.01uF 50V            |
| C164      | UM416470 | C. EL 4.7uF 50V                |
| C165      | UK665470 | C. EL 0.47uF 50V               |
| C171      | UA654100 | C. MYLAR 0.01uF 50V            |
| C172      | UA654100 | C. MYLAR 0.01uF 50V            |
| D101      | VN008700 | DIODE 1SS270A                  |
| D102      | VN008700 | DIODE 1SS270A                  |
| D106      | VM976300 | DIODE, ZENR HZS242TD 24V       |
| D107      | VM976300 | DIODE, ZENR HZS242TD 24V       |
| △ D108    | VS997800 | DIODE 1T2                      |
| D109      | VM975900 | DIODE, ZENR HZS162TD 16V       |
| D110      | VM975800 | DIODE, ZENR HZS152TD 15V       |
| △ D111    | iH001090 | DIODE, BRG S4VB20 2.6A 200V    |
| D112      | VD631600 | DIODE 1SS133, 176, HSS104      |
| △ D113    | VS997800 | DIODE 1T2                      |
| D117      | VD631600 | DIODE 1SS133, 176, HSS104      |
| △ F101    | KB001660 | FUSE T1.60A 250V               |
| △ F102    | KB000690 | FUSE T2.5A 250V(G)             |
| △ FR101   | VK188400 | R. FUS 330Ω 1/4W               |
| △ FR102   | VK188400 | R. FUS 330Ω 1/4W               |
| FR103     | VK189000 | R. FUS 1KΩ 1/4W                |
| FR104     | VK189000 | R. FUS 1KΩ 1/4W                |
| △ JK101   | VY687200 | JACK. PHONE JY-6317-02-030 NUT |
| △ JK102   | VU543300 | OUTLET. AC 1P(B)               |
| △ JK102   | VU543400 | OUTLET. AC 2P(G)               |
| L103      | VP575600 | COIL 1.5uH                     |
| L104      | VP575600 | COIL 1.5uH                     |
| △ Q101    | VP883000 | TR 2SA893A D, E                |
| △ Q102    | VP883000 | TR 2SA893A D, E                |
| △ Q103    | VP883000 | TR 2SA893A D, E                |
| △ Q104    | VP883000 | TR 2SA893A D, E                |
| △ Q105    | VR325600 | TR 2SC2229 O, Y                |
| △ Q106    | VR325600 | TR 2SC2229 O, Y                |
| △ Q107    | iC174020 | TR 2SC1740S R, S               |

\* New Parts

| Schm Ref. | PART NO. | Description                |
|-----------|----------|----------------------------|
| △ Q108    | iC174020 | TR 2SC1740S R, S           |
| △ Q109    | VP872700 | TR 2SC4488 S, T            |
| △ Q110    | VP872700 | TR 2SC4488 S, T            |
| △ Q111    | VP872600 | TR 2SA1708 S, T            |
| △ Q112    | VP872600 | TR 2SA1708 S, T            |
| Q113      | VP883100 | TR 2SC1890A D, E           |
| Q114      | VP883100 | TR 2SC1890A D, E           |
| Q115      | VP883000 | TR 2SA893A D, E            |
| Q116      | iC174020 | TR 2SC1740S R, S           |
| Q117      | iC174020 | TR 2SC1740S R, S           |
| Q118      | VK432900 | TR 2SD1915F S, T           |
| Q119      | iC174020 | TR 2SC1740S R, S           |
| △ Q120    | iA101521 | TR 2SA1015 Y               |
| △ Q121    | VN996900 | TR 2SC4495                 |
| Q122      | iC174020 | TR 2SC1740S R, S           |
| Q127      | VG722000 | TR. DGT DTC144ES           |
| △ Q128    | VR402300 | TR 2SB647 C, D             |
| △ Q129A   | iX615750 | TR 2SA1694 O, P, Y         |
| △ Q129C   | iX615760 | TR 2SC4467 O, P, Y         |
| △ Q130A   | iX615750 | TR 2SA1694 O, P, Y         |
| △ Q130C   | iX615760 | TR 2SC4467 O, P, Y         |
| △ R113    | HV454470 | R. CAR. FP 47Ω 1/4W        |
| △ R114    | HV454470 | R. CAR. FP 47Ω 1/4W        |
| R127      | HV456270 | R. CAR. FP 2.7KΩ 1/4W      |
| R128      | HV456270 | R. CAR. FP 2.7KΩ 1/4W      |
| R131      | HV456100 | R. CAR. FP 1KΩ 1/4W        |
| R132      | HV456100 | R. CAR. FP 1KΩ 1/4W        |
| R133      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R134      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R135      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R136      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| △ R137    | VU981700 | R. MIL. PLAT 0.22Ω+0.22 3W |
| △ R138    | VU981700 | R. MIL. PLAT 0.22Ω+0.22 3W |
| △ R145    | HL314100 | R. MIL. OXD 10Ω 1W         |
| △ R146    | HL314100 | R. MIL. OXD 10Ω 1W         |
| R151      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R152      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R159      | HL315330 | R. MIL. OXD 330Ω 1W        |
| R160      | HL315330 | R. MIL. OXD 330Ω 1W        |
| △ R163    | HL314470 | R. MIL. OXD 47Ω 1W         |
| △ R171    | HL315680 | R. MIL. OXD 680Ω 1W        |
| R173      | HV456100 | R. CAR. FP 1KΩ 1/4W        |
| △ R177    | HV453100 | R. CAR. FP 1Ω 1/4W         |
| △ R178    | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R179      | HV457100 | R. CAR. FP 10KΩ 1/4W       |
| R189      | HL315680 | R. MIL. OXD 680Ω 1W        |
| R196      | HV455100 | R. CAR. FP 100Ω 1/4W       |
| R201      | HV456150 | R. CAR. FP 1.5KΩ 1/4W      |
| △ RY101   | VK438300 | RELAY DH24D2-OT/M2         |
| △ RY102   | VU349800 | RELAY DC SDT-SS-112DM      |
| △ SW101   | VV523900 | SW. PUSH PBS-YM-001        |
| △ SW103   | VZ361100 | SW. SLIDE SL13B-022-AMC1   |
| △ T101    | XC084A00 | TRANS. PWR                 |

\* New Parts

## RX-V393RDS P.C.B. MAIN &amp; INPUT

| Schm Ref. | PART NO. | Description  |               |
|-----------|----------|--------------|---------------|
| △ TE101   | VU819700 | TERM. SP     | 8P            |
|           | VJ828000 | PIN          | IMSA-6024-03E |
|           | BB071360 | SCR. TERM    | 8.3x13        |
|           | VR264300 | PLATE. GND   |               |
|           | VP753100 | HEAT. SINK   | IC-1625-MML   |
|           | Ei330166 | SCR. BND. HD | 3x16 FCRM3-BL |
|           | VY834500 | SUPRT        |               |
| *         | VZ497600 | P.C.B.       | INPUT         |
| CB1       | Vi878300 | CN. BS. PIN  | 5P            |
| CB2       | Vi878900 | CN. BS. PIN  | 11P           |
| CB3       | VQ963600 | CN. BS. PIN  | 15P           |
| CB4       | VQ962500 | CN. BS. PIN  | 4P            |
| CB5       | VU272200 | CN           | 22P           |
| CB6       | VQ963600 | CN. BS. PIN  | 15P           |
| CB7       | Vi878500 | CN. BS. PIN  | 7P            |
| CB8       | VK024700 | CN. BS. PIN  | 3P            |
| CB301     | VK026600 | CN. BS. PIN  | 7P            |
| CB302     | VK026700 | CN. BS. PIN  | 8P            |
| CB304     | VQ961400 | CN. BS. PIN  | 11P           |
| CB305     | VK024900 | CN. BS. PIN  | 5P            |
| CB306     | VK027000 | CN. BS. PIN  | 11P           |
| CB307     | VK026200 | CN. BS. PIN  | 3P            |
| CB308     | VK025200 | CN. BS. PIN  | 8P            |
| CB309     | Vi878400 | CN. BS. PIN  | 6P            |
| CB310     | Vi878400 | CN. BS. PIN  | 6P            |
| CB311     | Vi878600 | CN. BS. PIN  | 8P            |
| CB313     | VK024900 | CN. BS. PIN  | 5P            |
| CB314     | Vi878100 | CN. BS. PIN  | 3P            |
| CB315     | Vi878100 | CN. BS. PIN  | 3P            |
| CB316     | VK024700 | CN. BS. PIN  | 3P            |
| C1        | VJ839100 | C. EL        | 1uF 50V       |
| C2        | UA652100 | C. MYLAR     | 100pF 50V     |
| C3        | UA652100 | C. MYLAR     | 100pF 50V     |
| C4        | VJ839100 | C. EL        | 1uF 50V       |
| C5        | FG212100 | C. CE        | 100pF 50V     |
| C6        | UM417100 | C. EL        | 10uF 50V      |
| C7        | UA652100 | C. MYLAR     | 100pF 50V     |
| C8        | VJ839100 | C. EL        | 1uF 50V       |
| C9        | UM417100 | C. EL        | 10uF 50V      |
| C10       | VJ839100 | C. EL        | 1uF 50V       |
| C11       | UM417100 | C. EL        | 10uF 50V      |
| C12       | UA652100 | C. MYLAR     | 100pF 50V     |
| C13       | UA652100 | C. MYLAR     | 100pF 50V     |
| C14       | UA652100 | C. MYLAR     | 100pF 50V     |
| C15       | UA655150 | C. MYLAR     | 0.15uF 50V    |
| C16       | VF466800 | C. CE. TUBLR | 100pF 50V     |
| C17       | UM417100 | C. EL        | 10uF 50V      |
| C18       | UM417100 | C. EL        | 10uF 50V      |
| C19       | UM417100 | C. EL        | 10uF 50V      |
| C20       | VF466800 | C. CE. TUBLR | 100pF 50V     |

\* New Parts

| Schm Ref. | PART NO. | Description  |            |
|-----------|----------|--------------|------------|
| C21       | VF964800 | C. EL        | 100uF 16V  |
| C22       | UM417100 | C. EL        | 10uF 50V   |
| C23       | UM417100 | C. EL        | 10uF 50V   |
| C24       | VF964800 | C. EL        | 100uF 16V  |
| C25       | UA652680 | C. MYLAR     | 680pF 50V  |
| C26       | UA652680 | C. MYLAR     | 680pF 50V  |
| C27       | UM407220 | C. EL        | 22uF 25V   |
| C28       | UM407220 | C. EL        | 22uF 25V   |
| C29       | UM417100 | C. EL        | 10uF 50V   |
| C30       | VG279600 | C. CE. TUBLR | 3300pF 16V |
| C31       | VG278400 | C. CE. TUBLR | 220pF 50V  |
| C32       | VG278400 | C. CE. TUBLR | 220pF 50V  |
| C33       | VG279600 | C. CE. TUBLR | 3300pF 16V |
| C34       | VG279900 | C. CE. TUBLR | 6800pF 16V |
| C35       | VG278600 | C. CE. TUBLR | 330pF 50V  |
| C36       | VG279500 | C. CE. TUBLR | 2700pF 16V |
| C37       | VG278600 | C. CE. TUBLR | 330pF 50V  |
| C38       | VG279500 | C. CE. TUBLR | 2700pF 16V |
| C39       | VG279900 | C. CE. TUBLR | 6800pF 16V |
| C40       | UA653470 | C. MYLAR     | 4700pF 50V |
| C41       | FG212330 | C. CE        | 330pF 50V  |
| C42       | FG212330 | C. CE        | 330pF 50V  |
| C43       | UA653470 | C. MYLAR     | 4700pF 50V |
| C44       | UM407220 | C. EL        | 22uF 25V   |
| C45       | UM407220 | C. EL        | 22uF 25V   |
| C46       | UA652330 | C. MYLAR     | 330pF 50V  |
| C47       | UM407220 | C. EL        | 22uF 25V   |
| C48       | UA652330 | C. MYLAR     | 330pF 50V  |
| C49       | UA652330 | C. MYLAR     | 330pF 50V  |
| C50       | UM407220 | C. EL        | 22uF 25V   |
| C51       | VJ839100 | C. EL        | 1uF 50V    |
| C52       | VG279500 | C. CE. TUBLR | 2700pF 16V |
| C53       | VG279500 | C. CE. TUBLR | 2700pF 16V |
| C54       | VJ839100 | C. EL        | 1uF 50V    |
| C55       | VF466600 | C. CE. TUBLR | 10pF 50V   |
| C56       | VF466600 | C. CE. TUBLR | 10pF 50V   |
| C58       | UA654100 | C. MYLAR     | 0.01uF 50V |
| C59       | VF466800 | C. CE. TUBLR | 100pF 50V  |
| C60       | VF466800 | C. CE. TUBLR | 100pF 50V  |
| C61       | UA654100 | C. MYLAR     | 0.01uF 50V |
| C63       | UM407220 | C. EL        | 22uF 25V   |
| C64       | UM407220 | C. EL        | 22uF 25V   |
| C65       | VG277000 | C. CE. TUBLR | 33pF 50V   |
| C66       | VG277000 | C. CE. TUBLR | 33pF 50V   |
| C67       | VG277000 | C. CE. TUBLR | 33pF 50V   |
| C68       | VG277000 | C. CE. TUBLR | 33pF 50V   |
| C69       | UM407220 | C. EL        | 22uF 25V   |
| C70       | UM407220 | C. EL        | 22uF 25V   |
| C71       | VG279600 | C. CE. TUBLR | 3300pF 16V |
| C72       | VG279600 | C. CE. TUBLR | 3300pF 16V |
| C73       | VH053100 | C. CE. TUBLR | 0.1uF 50V  |
| C74       | VH053100 | C. CE. TUBLR | 0.1uF 50V  |
| C75       | VH053100 | C. CE. TUBLR | 0.1uF 50V  |

\* New Parts



## RX-V393RDS P.C.B. INPUT

| Schm Ref. | PART NO. | Description            |
|-----------|----------|------------------------|
| C76       | UJ638330 | C. EL 330uF 16V        |
| C78       | VJ837200 | C. EL 47uF 16V         |
| C79       | VJ837200 | C. EL 47uF 16V         |
| C80       | VF760000 | C. EL 100uF 10V        |
| C81       | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C82       | VF964800 | C. EL 100uF 16V        |
| C83       | VE117600 | C. EL 220uF 10V        |
| C86       | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C87       | VJ837200 | C. EL 47uF 16V         |
| C88       | VJ837200 | C. EL 47uF 16V         |
| C89       | VJ837200 | C. EL 47uF 16V         |
| C90       | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C91       | VF466800 | C. CE. TUBLR 100pF 50V |
| C93       | VF466800 | C. CE. TUBLR 100pF 50V |
| C94       | VF466800 | C. CE. TUBLR 100pF 50V |
| C301      | VF760000 | C. EL 100uF 10V        |
| C302      | UA652220 | C. MYLAR 220pF 50V     |
| C303      | UA652220 | C. MYLAR 220pF 50V     |
| C304      | UA652220 | C. MYLAR 220pF 50V     |
| C305      | UA652220 | C. MYLAR 220pF 50V     |
| C306      | VF760000 | C. EL 100uF 10V        |
| C307      | UA652100 | C. MYLAR 100pF 50V     |
| C308      | UA652100 | C. MYLAR 100pF 50V     |
| C309      | VF466700 | C. CE. TUBLR 47pF 50V  |
| C310      | VF466700 | C. CE. TUBLR 47pF 50V  |
| C311      | VF466800 | C. CE. TUBLR 100pF 50V |
| C312      | VF466800 | C. CE. TUBLR 100pF 50V |
| C313      | VF466800 | C. CE. TUBLR 100pF 50V |
| C314      | VF466800 | C. CE. TUBLR 100pF 50V |
| C315      | VF466700 | C. CE. TUBLR 47pF 50V  |
| C316      | VF466700 | C. CE. TUBLR 47pF 50V  |
| C319      | UA653100 | C. MYLAR 1000pF 50V    |
| C321      | UA653100 | C. MYLAR 1000pF 50V    |
| C323      | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C324      | UJ668100 | C. EL 100uF 50V        |
| C325      | UM417100 | C. EL 10uF 50V         |
| C326      | VE117600 | C. EL 220uF 10V        |
| C327      | FG212100 | C. CE 100pF 50V        |
| C328      | Ui367220 | C. EL 22uF 50V         |
| C329      | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C330      | VJ839200 | C. EL 2.2uF 50V        |
| C331      | UA653910 | C. MYLAR 9100pF 50V    |
| C332      | UA654330 | C. MYLAR 0.033uF 50V   |
| C333      | UA653910 | C. MYLAR 9100pF 50V    |
| C334      | UA654330 | C. MYLAR 0.033uF 50V   |
| C335      | VJ839200 | C. EL 2.2uF 50V        |
| C336      | UJ668100 | C. EL 100uF 50V        |
| C337      | VJ839200 | C. EL 2.2uF 50V        |
| C338      | FG212220 | C. CE 220pF 50V        |
| C339      | UA653330 | C. MYLAR 3300pF 50V    |
| C340      | UH178100 | C. EL 100uF 63V        |
| C341      | VJ837200 | C. EL 47uF 16V         |
| C342      | VJ837200 | C. EL 47uF 16V         |

\* New Parts

| Schm Ref. | PART NO. | Description            |
|-----------|----------|------------------------|
| C343      | FH611220 | C. CE 22pF 500V        |
| C344      | UM417100 | C. EL 10uF 50V         |
| C345      | VF466800 | C. CE. TUBLR 100pF 50V |
| C347      | UM407220 | C. EL 22uF 25V         |
| C348      | UM417100 | C. EL 10uF 50V         |
| C349      | UM417100 | C. EL 10uF 50V         |
| C350      | UM407220 | C. EL 22uF 25V         |
| C352      | VF466800 | C. CE. TUBLR 100pF 50V |
| C353      | UM417100 | C. EL 10uF 50V         |
| C354      | FG212100 | C. CE 100pF 50V        |
| C355      | UA654100 | C. MYLAR 0.01uF 50V    |
| C356      | FG211100 | C. CE 10pF 50V         |
| C357      | UJ668100 | C. EL 100uF 50V        |
| C358      | VF466800 | C. CE. TUBLR 100pF 50V |
| C359      | FG212100 | C. CE 100pF 50V        |
| C360      | FG212100 | C. CE 100pF 50V        |
| C361      | VF466800 | C. CE. TUBLR 100pF 50V |
| C362      | UJ668100 | C. EL 100uF 50V        |
| C363      | FG211100 | C. CE 10pF 50V         |
| C364      | UA654100 | C. MYLAR 0.01uF 50V    |
| C365      | FG212100 | C. CE 100pF 50V        |
| C366      | VF964800 | C. EL 100uF 16V        |
| C367      | VF964800 | C. EL 100uF 16V        |
| C368      | VJ839200 | C. EL 2.2uF 50V        |
| C369      | UA654470 | C. MYLAR 0.047uF 50V   |
| C370      | UA654470 | C. MYLAR 0.047uF 50V   |
| C371      | VR325000 | C. MYLAR 100pF 100V    |
| C372      | VJ839100 | C. EL 1uF 50V          |
| C373      | Ui367220 | C. EL 22uF 50V         |
| C374      | VR325000 | C. MYLAR 100pF 100V    |
| C375      | VJ839100 | C. EL 1uF 50V          |
| C376      | UA654470 | C. MYLAR 0.047uF 50V   |
| C377      | VE117600 | C. EL 220uF 10V        |
| C378      | UJ648100 | C. EL 100uF 25V        |
| C379      | VL544800 | C. EL 3300uF 35V       |
| C380      | VG289900 | C. EL 2200uF 35V       |
| C381      | VG722100 | C. EL 1uF 50V          |
| C382      | FG212470 | C. CE 470pF 50V        |
| C383      | VD930900 | C. CE. SMI 0.1uF 25V   |
| C384      | FG244220 | C. CE 0.022uF 50V      |
| C385      | FG244220 | C. CE 0.022uF 50V      |
| C386      | FG214100 | C. CE 0.01uF 50V       |
| C387      | FG244220 | C. CE 0.022uF 50V      |
| C388      | FG214100 | C. CE 0.01uF 50V       |
| C389      | UA654470 | C. MYLAR 0.047uF 50V   |
| C390      | UA654470 | C. MYLAR 0.047uF 50V   |
| C391      | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C392      | VJ839200 | C. EL 2.2uF 50V        |
| C394      | VJ839200 | C. EL 2.2uF 50V        |
| C395      | UJ667470 | C. EL 47uF 50V         |
| C396      | VZ410500 | C. EL 47uF 35V         |
| C397      | VJ839200 | C. EL 2.2uF 50V        |
| C398      | VJ839200 | C. EL 2.2uF 50V        |

\* New Parts

## RX-V393RDS P.C.B. INPUT

| Schm Ref. | PART NO. | Description               |
|-----------|----------|---------------------------|
| C399      | FG212100 | C. CE 100pF 50V           |
| C400      | UA652220 | C. MYLAR 220pF 50V        |
| C401      | UA652220 | C. MYLAR 220pF 50V        |
| C402      | UA652220 | C. MYLAR 220pF 50V        |
| C403      | VF466800 | C. CE. TUBLR 100pF 50V    |
| C404      | VF466800 | C. CE. TUBLR 100pF 50V    |
| C405      | VJ837200 | C. EL 47uF 16V            |
| C406      | VJ837200 | C. EL 47uF 16V            |
| C407      | VF466800 | C. CE. TUBLR 100pF 50V    |
| C408      | UA652100 | C. MYLAR 100pF 50V        |
| C409      | UA652100 | C. MYLAR 100pF 50V        |
| C410      | FG211100 | C. CE 10pF 50V            |
| C411      | FG211100 | C. CE 10pF 50V            |
| C412      | FG211100 | C. CE 10pF 50V            |
| C413      | UM417100 | C. EL 10uF 50V            |
| C414      | UM417100 | C. EL 10uF 50V            |
| C415      | UM417100 | C. EL 10uF 50V            |
| C416      | UM417100 | C. EL 10uF 50V            |
| C417      | VJ837200 | C. FL 47uF 16V            |
| C418      | VJ837200 | C. EL 47uF 16V            |
| C419      | UJ638470 | C. FL 470uF 16V           |
| C420      | VG722100 | C. EL 1uF 50V             |
| C421      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C422      | VF466900 | C. CE. TUBLR 470pF 50V    |
| C423      | VF466900 | C. CE. TUBLR 470pF 50V    |
| C501      | UJ638330 | C. EL 330uF 16V           |
| C502      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C503      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C504      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C505      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C506      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C507      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C508      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C601      | VJ837200 | C. EL 47uF 16V            |
| C602      | UA654100 | C. MYLAR 0.01uF 50V       |
| C603      | UA654100 | C. MYLAR 0.01uF 50V       |
| D1        | VD631600 | DIODE 1SS133, 176, HSS104 |
| D3        | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D301      | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D302      | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D303      | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D304      | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D305      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D306      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D307      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D308      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D309      | VN008700 | DIODE 1SS270A             |
| D310      | VM976300 | DIODE. ZENR HZS242TD 24V  |
| D311      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D312      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D313      | VM974100 | DIODE. ZENR HZS5B2TD 5.0V |
| D314      | VV731400 | DIODE 2A02M               |
| D315      | VV731400 | DIODE 2A02M               |

\* New Parts

| Schm Ref. | PART NO. | Description               |
|-----------|----------|---------------------------|
| D316      | VV731400 | DIODE 2A02M               |
| D317      | VV731400 | DIODE 2A02M               |
| D318      | VM974200 | DIODE. ZENR HZS5C2TD 5.0V |
| D319      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D501      | VS997800 | DIODE 1T2                 |
| IC1       | XP896A00 | IC LC78213                |
| IC2       | XB247301 | IC uPC4570HA              |
| IC3       | XM356A00 | IC NJM2068LD              |
| IC4       | XB247301 | IC uPC4570HA              |
| IC5       | XB247301 | IC uPC4570HA              |
| IC6       | XB247301 | IC uPC4570HA              |
| IC7       | XB247301 | IC uPC4570HA              |
| IC8       | XB247301 | IC uPC4570HA              |
| IC9       | XB247301 | IC uPC4570HA              |
| IC10      | XB247301 | IC uPC4570HA              |
| IC11      | XQ212A00 | IC NJM4558LD              |
| IC12      | XQ212A00 | IC NJM4558LD              |
| IC14      | XA507A00 | IC AN78N05                |
| IC16      | Xi022B00 | IC YSS203B-F              |
| IC17      | XS881A00 | IC LH5P832D-10 PSRAM      |
| IC302     | XM356A00 | IC NJM2068LD              |
| IC303     | XP894A00 | IC LC78211                |
| IC304     | iG092000 | IC M5220L                 |
| IC305     | XB467001 | IC AN79M15F               |
| IC308     | XB247301 | IC uPC4570HA              |
| IC309     | XB247301 | IC uPC4570HA              |
| IC310     | XF494A00 | IC LB1641                 |
| L301      | VP575600 | COIL 1.5uH                |
| L302      | VP575600 | COIL 1.5uH                |
| L303      | VP575600 | COIL 1.5uH                |
| PJ1       | VR765100 | JACK. PIN 2P              |
| PJ301     | VZ410600 | JACK. PIN 6P              |
| PJ302     | VU857800 | JACK. PIN 6P              |
| PJ305     | VJ249500 | JACK. PIN 4P              |
| Q1        | VP872700 | TR 2SC4488 S, T           |
| Q303      | iC174020 | TR 2SC1740S R, S          |
| Q304      | iC174020 | TR 2SC1740S R, S          |
| Q305      | VP883000 | TR 2SA893A D, E           |
| Q306      | VP872700 | TR 2SC4488 S, T           |
| Q307      | VP872600 | TR 2SA1708 S, T           |
| Q308      | VC276100 | TR 2SC2909 S, T           |
| Q309      | VC276100 | TR 2SC2909 S, T           |
| Q310      | VP872600 | TR 2SA1708 S, T           |
| Q311      | VP872700 | TR 2SC4488 S, T           |
| Q312      | VV855300 | TR 2SD856 Q, P            |
| Q313      | VP883100 | TR 2SC1890A D, E          |
| Q314      | VV855300 | TR 2SD856 Q, P            |
| Q315      | VV855300 | TR 2SD856 Q, P            |
| Q316      | VP883100 | TR 2SC1890A D, E          |
| Q317      | VV855300 | TR 2SD856 Q, P            |
| Q319      | VP872700 | TR 2SC4488 S, T           |
| Q320      | iC174020 | TR 2SC1740S R, S          |
| Q321      | VP872600 | TR 2SA1708 S, T           |

\* New Parts

## RX-V393RDS P.C.B. INPUT &amp; SELECT

| Schm Ref. | PART NO. | Description                |
|-----------|----------|----------------------------|
| Q322      | VP883000 | TR 2SA893A D, E            |
| Q323A     | iX615750 | TR 2SA1694 O, P, Y         |
| Q323C     | iX615760 | TR 2SC4467 O, P, Y         |
| Q324      | VP883100 | TR 2SC1890A D, E           |
| Q326      | VK432900 | TR 2SD1915F S, T           |
| Q327      | VK432900 | TR 2SD1915F S, T           |
| Q601      | VK432900 | TR 2SD1915F S, T           |
| Q602      | VK432900 | TR 2SD1915F S, T           |
| Q603      | VK432900 | TR 2SD1915F S, T           |
| Q604      | VK432900 | TR 2SD1915F S, T           |
| Q605      | VK432900 | TR 2SD1915F S, T           |
| R79       | HV453220 | R. CAR. FP 2.2Ω 1/4W       |
| R84       | HL314470 | R. MIL. OXD 47Ω 1W         |
| R85       | HV453220 | R. CAR. FP 2.2Ω 1/4W       |
| R86       | HV453220 | R. CAR. FP 2.2Ω 1/4W       |
| R87       | HV453220 | R. CAR. FP 2.2Ω 1/4W       |
| R88       | HV453220 | R. CAR. FP 2.2Ω 1/4W       |
| R95       | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R353      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R360      | HV455470 | R. CAR. FP 470Ω 1/4W       |
| R365      | HV455470 | R. CAR. FP 470Ω 1/4W       |
| R370      | HV455330 | R. CAR. FP 330Ω 1/4W       |
| R376      | HV455120 | R. CAR. FP 120Ω 1/4W       |
| R377      | HV455100 | R. CAR. FP 100Ω 1/4W       |
| R378      | HV455100 | R. CAR. FP 100Ω 1/4W       |
| R379      | HV455120 | R. CAR. FP 120Ω 1/4W       |
| R385      | HV455330 | R. CAR. FP 330Ω 1/4W       |
| R386      | HV456150 | R. CAR. FP 1.5KΩ 1/4W      |
| R387      | VE869300 | R. MIL. OXD 0.1Ω 2W        |
| R389      | HV454220 | R. CAR. FP 22Ω 1/4W        |
| R390      | HV454220 | R. CAR. FP 22Ω 1/4W        |
| R392      | HV456150 | R. CAR. FP 1.5KΩ 1/4W      |
| R394      | VE869300 | R. MIL. OXD 0.1Ω 2W        |
| R398      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R400      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R401      | VK188600 | R. FUS 470Ω 1/4W           |
| R402      | HV456270 | R. CAR. FP 2.7KΩ 1/4W      |
| R403      | HV455470 | R. CAR. FP 470Ω 1/4W       |
| R404      | HV456820 | R. CAR. FP 8.2KΩ 1/4W      |
| R405      | HV456150 | R. CAR. FP 1.5KΩ 1/4W      |
| R410      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R412      | HV457100 | R. CAR. FP 10KΩ 1/4W       |
| R415      | VU981700 | R. MIL. PLAT 0.22Ω+0.22 3W |
| R416      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R417      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R418      | HL425820 | R. MIL. OXD 820Ω 2W        |
| R419      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R420      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R430      | HV453220 | R. CAR. FP 2.2Ω 1/4W       |
| R433      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R434      | HL314220 | R. MIL. OXD 22Ω 1W         |
| R455      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R456      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |

\* New Parts

| Schm Ref. | PART NO. | Description            |
|-----------|----------|------------------------|
| R457      | HV454100 | R. CAR. FP 10Ω 1/4W    |
| R458      | HV454100 | R. CAR. FP 10Ω 1/4W    |
| R501      | HL314220 | R. MIL. OXD 22Ω 1W     |
| R504      | HV454100 | R. CAR. FP 10Ω 1/4W    |
| R505      | HV454100 | R. CAR. FP 10Ω 1/4W    |
| R506      | HL314220 | R. MIL. OXD 22Ω 1W     |
| RY301     | VU566700 | RELAY DG24D2-OS/M      |
| SW1       | VS602600 | SW. SLIDE SS070-P022 A |
| TE301     | VS578600 | TERM. SP 8P            |
| VR301     | VV135100 | VR. MTR A100KΩ         |
| XL1       | VK175200 | RSNR. CE 11.28MHz      |
|           | VJ828000 | PIN IMSA-6024-03E      |
|           | BB071360 | SCR. TERM 8.3x13       |
|           | V2227700 | PLATE. GND REAR SP.    |
|           | V2342700 | SPACER EFFECT/PCB      |
|           | VZ864400 | P. C. B. SELECT        |
| CB701     | VQ961800 | CN. BS. PIN 15P        |
| CB702     | VF667600 | CN. BS. PIN 15P        |
| CB703     | Vi878900 | CN. BS. PIN 11P        |
| CB704     | VQ960700 | CN 4P                  |
| C701      | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C702      | VH053100 | C. CE. TUBLR 0.1uF 50V |
| IC701     | XP896A00 | IC LC78213             |

\* New Parts

## RX-V393RDS P.C.B. TUNER

| Schm Ref. | PART NO. | Description               |
|-----------|----------|---------------------------|
|           | VV173600 | P.C.B. TUNER              |
| CB4       | VQ961800 | CN. BS. PIN 15P           |
| C1        | VG291200 | C. EL 47uF 50V            |
| C3        | VG275800 | C. CE. TUBLR 8.2pF 50V    |
| C4        | VG291200 | C. EL 47uF 50V            |
| C5        | VF467300 | C. CE. TUBLR 0.01uF 16V   |
| C6        | VG291200 | C. EL 47uF 50V            |
| C7        | VJ839100 | C. EL 1uF 50V             |
| C8        | VF467300 | C. CE. TUBLR 0.01uF 16V   |
| C9        | VF467300 | C. CE. TUBLR 0.01uF 16V   |
| C10       | VF467300 | C. CE. TUBLR 0.01uF 16V   |
| C11       | VF467000 | C. CE. TUBLR 1000pF 50V   |
| C12       | VJ836900 | C. EL 10uF 16V            |
| C13       | VJ836900 | C. EL 10uF 16V            |
| C14       | VF466800 | C. CE. TUBLR 100pF 50V    |
| C15       | VF467000 | C. CE. TUBLR 1000pF 50V   |
| C16       | VF466700 | C. CE. TUBLR 47pF 50V     |
| C17       | VG291200 | C. EL 47uF 50V            |
| C19       | VA761200 | C. CE 33pF 50V            |
| C20       | VG291200 | C. EL 47uF 50V            |
| C21       | VJ599000 | C. CE. TUBLR 0.047uF 16V  |
| C22       | UM216330 | C. FL 3.3uF 50V           |
| C23       | VF467300 | C. CE. TUBLR 0.01uF 16V   |
| C24       | UM416470 | C. FL 4.7uF 50V           |
| C25       | UM216330 | C. EL 3.3uF 50V           |
| C26       | VJ836900 | C. EL 10uF 16V            |
| C27       | VF467300 | C. CE. TUBLR 0.01uF 16V   |
| 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        |
| C37       | UA652470 | C. MYLAR 470pF 50V        |
| C38       | VF466900 | C. CE. TUBLR 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            |
| C47       | VG291200 | C. EL 47uF 50V            |
| C48       | VF466800 | C. CE. TUBLR 100pF 50V    |
| C49       | UA652120 | C. MYLAR 120pF 50V        |
| C50       | VJ599000 | C. CE. TUBLR 0.047uF 16V  |
| D1        | IF004600 | DIODE 1SS133              |
| D2        | IF004600 | DIODE 1SS133              |
| D3        | VG437800 | DIODE. ZENR MTZJ5.6C 5.6V |

\* New Parts

| Schm Ref. | PART NO. | Description              |
|-----------|----------|--------------------------|
| 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                |
| IC4       | XQ359A00 | IC STK311-020B           |
| L1        | Vi546100 | COIL 220uH               |
| L2        | Vi546100 | COIL 220uH               |
| L3        | Vi546100 | COIL 220uH               |
| L4        | Vi546100 | COIL 220uH               |
| PK1       | VQ987600 | TUNER. PK EXV-17296G1    |
| PK2       | VU333700 | COIL. RF. AM 940536051A  |
| Q1        | VB433300 | TR 2SC1809 M, N, P       |
| Q2        | VB433300 | TR 2SC1809 M, N, P       |
| 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         |
| T1        | VC218600 | COIL. DT. FM 10.7MHz     |
| T2        | GE100470 | COIL. IF. AM 450KHz      |
| T3        | VT486800 | COIL XYA2                |
| 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 B47K $\Omega$   |
| VR2       | VJ694000 | VR. TRIM B47K $\Omega$   |
| XL1       | VC219100 | RSNR. CRYST 7.2MHz       |
| XL2       | GG000750 | RSNR. CE 18.95KHz        |
| XL3       | VS860100 | RSNR. CE 19KHz           |
|           | BB071360 | SCR. TERM 8.3x13         |
|           | VR282500 | PLATE ANT.               |
|           | iX615760 | TR 2SC4467 O, P, Y       |

\* New Parts

## RX-V493RDS P.C.B. OPERATION

| Schm Ref. | PART NO. | Description             |
|-----------|----------|-------------------------|
| *         | VZ497700 | P. C. B.                |
| CB1       | Vi878100 | CN. BS. PIN 3P          |
| CB2       | Vi878100 | CN. BS. PIN 3P          |
| CB3       | VQ963200 | CN. BS. PIN 11P         |
| CB4       | Vi879300 | CN. BS. PIN 15P         |
| CB5       | Vi878800 | CN. BS. PIN 10P         |
| CB6       | VU272200 | CN 22P                  |
| CB7       | Vi878400 | CN. BS. PIN 6P          |
| CB9       | Vi878300 | CN. BS. PIN 5P          |
| CB10      | VK027000 | CN. BS. PIN 11P         |
| C1        | VF466800 | C. CE. TUBLR 100pF 50V  |
| C2        | VF466800 | C. CE. TUBLR 100pF 50V  |
| C3        | VF637900 | C. EL 1000uF 10V        |
| C4        | VJ836900 | C. EL 10uF 16V          |
| C5        | VJ836900 | C. EL 10uF 16V          |
| C6        | VJ836900 | C. EL 10uF 16V          |
| C7        | VF637900 | C. EL 1000uF 10V        |
| C8        | VH053100 | C. CE. TUBLR 0.1uF 50V  |
| C9        | UJ638330 | C. EL 330uF 16V         |
| C10       | VG278400 | C. CE. TUBLR 220pF 50V  |
| C11       | VG278400 | C. CE. TUBLR 220pF 50V  |
| C12       | VG278400 | C. CE. TUBLR 220pF 50V  |
| C13       | VG278400 | C. CE. TUBLR 220pF 50V  |
| C14       | VG278400 | C. CE. TUBLR 220pF 50V  |
| C15       | VG278400 | C. CE. TUBLR 220pF 50V  |
| C16       | VH053100 | C. CE. TUBLR 0.1uF 50V  |
| C17       | VF467300 | C. CE. TUBLR 0.01uF 16V |
| C18       | VJ836900 | C. EL 10uF 16V          |
| C19       | VJ839100 | C. EL 1uF 50V           |
| C20       | VU545000 | C. EL 47000uF 5.5V      |
| C21       | VD930900 | C. CE. SMI 0.1uF 25V    |
| C22       | VH053100 | C. CE. TUBLR 0.1uF 50V  |
| C23       | VJ839100 | C. EL 1uF 50V           |
| C24       | VH053100 | C. CE. TUBLR 0.1uF 50V  |
| C25       | UA655330 | C. MYLAR 0.33uF 50V     |
| C26       | VJ839200 | C. EL 2.2uF 50V         |
| C27       | VJ839200 | C. EL 2.2uF 50V         |
| C28       | VJ839100 | C. EL 1uF 50V           |
| C29       | VJ839100 | C. EL 1uF 50V           |
| C30       | VJ837200 | C. EL 47uF 16V          |
| C31       | FG211470 | C. CE 47pF 50V          |
| C32       | UM417100 | C. EL 10uF 50V          |
| C33       | UM417100 | C. EL 10uF 50V          |
| C34       | FG211470 | C. CE 47pF 50V          |
| C35       | VJ837200 | C. EL 47uF 16V          |
| C36       | UM407220 | C. EL 22uF 25V          |
| C37       | UA655120 | C. MYLAR 0.12uF 50V     |
| C38       | UA654330 | C. MYLAR 0.033uF 50V    |
| C39       | UA654330 | C. MYLAR 0.033uF 50V    |
| C40       | UA655120 | C. MYLAR 0.12uF 50V     |
| C41       | UM407220 | C. EL 22uF 25V          |
| C42       | UA652100 | C. MYLAR 100pF 50V      |
| C43       | UA652100 | C. MYLAR 100pF 50V      |

\* New Parts

| Schm Ref. | PART NO. | Description                  |
|-----------|----------|------------------------------|
| C44       | VJ836300 | C. EL 330uF 6.3V             |
| C201      | VJ836300 | C. EL 330uF 6.3V             |
| D1        | VM974600 | DIODE. ZENR HZS7A2TD 7.0V    |
| D2        | VM974200 | DIODE. ZENR HZS5C2TD 5.0V    |
| D3        | VD631600 | DIODE 1SS133, 176, HSS104    |
| D4        | VD631600 | DIODE 1SS133, 176, HSS104    |
| D5        | VD631600 | DIODE 1SS133, 176, HSS104    |
| D6        | VD631600 | DIODE 1SS133, 176, HSS104    |
| D8        | VM974100 | DIODE. ZENR HZS5B2TD 5.0V    |
| D12       | VD631600 | DIODE 1SS133, 176, HSS104    |
| D13       | VD631600 | DIODE 1SS133, 176, HSS104    |
| D14       | VD631600 | DIODE 1SS133, 176, HSS104    |
| D15       | VM974300 | DIODE. ZENR HZS6A2TD 6.0V    |
| G1        | VR463400 | TERM. GND D3.5 TP00385       |
| IC1       | XH436A00 | IC LA7956                    |
| IC3       | XM356A00 | IC NJM2068LD                 |
| IC4       | XT819A00 | IC M38177MC-071FP CPU        |
| PJ1       | VJ695900 | JACK. PIN 3P                 |
| PJ2       | VR110100 | JACK. PIN 2P                 |
| PJ3       | VV031700 | JACK. PIN 3P                 |
| PJ4       | VV031700 | JACK. PIN 3P                 |
| Q1        | iC174020 | TR 2SC1740S R, S             |
| Q2        | iA093320 | TR 2SA933S Q, R              |
| Q3        | iC174020 | TR 2SC1740S R, S             |
| Q4        | VD678500 | TR. DGT DTA114ES             |
| Q5        | VK432900 | TR 2SD1915F S, T             |
| Q7        | VK432900 | TR 2SD1915F S, T             |
| Q8        | VK432900 | TR 2SD1915F S, T             |
| Q9        | VK432900 | TR 2SD1915F S, T             |
| Q10       | VK432900 | TR 2SD1915F S, T             |
| Q11       | VD678500 | TR. DGT DTA114ES             |
| Q12       | VK432900 | TR 2SD1915F S, T             |
| Q13       | VK432900 | TR 2SD1915F S, T             |
| Q14       | iA093320 | TR 2SA933S Q, R              |
| Q15       | VK432900 | TR 2SD1915F S, T             |
| Q16       | VK432900 | TR 2SD1915F S, T             |
| Q17       | iC1815C0 | TR 2SC1815 Y                 |
| Q18       | iC1815C0 | TR 2SC1815 Y                 |
| Q19       | iC174020 | TR 2SC1740S R, S             |
| Q20       | iC174020 | TR 2SC1740S R, S             |
| R20       | HV454470 | R. CAR. FP 47 $\Omega$ 1/4W  |
| R79       | HV455100 | R. CAR. FP 100 $\Omega$ 1/4W |
| R90       | HV455100 | R. CAR. FP 100 $\Omega$ 1/4W |
| SW1       | VG392900 | SW. TACT SKHVAA              |
| SW2       | VG392900 | SW. TACT SKHVAA              |
| SW3       | VG392900 | SW. TACT SKHVAA              |
| SW4       | VG392900 | SW. TACT SKHVAA              |
| SW5       | VG392900 | SW. TACT SKHVAA              |
| SW6       | VG392900 | SW. TACT SKHVAA              |
| SW7       | VG392900 | SW. TACT SKHVAA              |
| SW8       | VG392900 | SW. TACT SKHVAA              |
| SW9       | VG392900 | SW. TACT SKHVAA              |
| SW10      | VG392900 | SW. TACT SKHVAA              |

\* New Parts

## RX-V493RDS P.C.B. OPERATION &amp; MAIN

| Schm Ref. | PART NO. | Description           |
|-----------|----------|-----------------------|
| SW11      | VG392900 | SW. TACT SKHVAA       |
| SW12      | VG392900 | SW. TACT SKHVAA       |
| SW13      | VG392900 | SW. TACT SKHVAA       |
| SW14      | VG392900 | SW. TACT SKHVAA       |
| SW15      | VG392900 | SW. TACT SKHVAA       |
| SW16      | VG392900 | SW. TACT SKHVAA       |
| SW17      | VG392900 | SW. TACT SKHVAA       |
| SW18      | VG392900 | SW. TACT SKHVAA       |
| SW19      | VG392900 | SW. TACT SKHVAA       |
| SW20      | VG392900 | SW. TACT SKHVAA       |
| SW21      | VG392900 | SW. TACT SKHVAA       |
| SW22      | VG392900 | SW. TACT SKHVAA       |
| SW23      | VG392900 | SW. TACT SKHVAA       |
| SW24      | VG392900 | SW. TACT SKHVAA       |
| SW25      | VG392900 | SW. TACT SKHVAA       |
| SW26      | VG392900 | SW. TACT SKHVAA       |
| SW27      | VG392900 | SW. TACT SKHVAA       |
| SW28      | VG392900 | SW. TACT SKHVAA       |
| SW29      | VG392900 | SW. TACT SKHVAA       |
| SW30      | VG392900 | SW. TACT SKHVAA       |
| SW31      | VG392900 | SW. TACT SKHVAA       |
| SW32      | VG392900 | SW. TACT SKHVAA       |
| SW33      | VG392900 | SW. TACT SKHVAA       |
| SW34      | VG392900 | SW. TACT SKHVAA       |
| SW35      | VG392900 | SW. TACT SKHVAA       |
| SW36      | VG392900 | SW. TACT SKHVAA       |
| SW37      | VG392900 | SW. TACT SKHVAA       |
| SW38      | VG392900 | SW. TACT SKHVAA       |
| SW39      | VG392900 | SW. TACT SKHVAA       |
| SW40      | VG392900 | SW. TACT SKHVAA       |
| U1        | VU591000 | L. DTCT GPIU271X      |
| V1        | VV298800 | FL. DSPLY 13-BT-151GK |
| VR4       | VP741800 | VR B20K $\Omega$      |
| VR5       | VP741900 | VR G25K $\Omega$      |
| VR6       | VP742000 | VR MN100K $\Omega$    |
| XL1       | VR891500 | RSNR. CE 6. 30MHz     |
|           | VJ828000 | PIN IMSA-6024-03E     |
|           | VQ859800 | SHEET. FL             |
|           | VV499900 | SPACER FL-T7.5        |

\* New Parts

| Schm Ref.  | PART NO. | Description               |
|------------|----------|---------------------------|
| * VZ416900 | P. C. B. | MAIN(B)                   |
| * VZ417000 | P. C. B. | MAIN(G)                   |
| CB101      | VF728300 | CN 6P                     |
| CB102      | VF728200 | CN. BS. PIN 10P           |
| CB103      | VS839400 | CN. BS. PIN 4P            |
| CB104      | VS839500 | CN 4P                     |
| CB105      | VG879900 | CN. BS. PIN 2P            |
| CB107      | Vi878600 | CN. BS. PIN 8P            |
| CB108      | VR428900 | CN. BS. PIN 4P            |
| CB109      | VR428900 | CN. BS. PIN 4P            |
| CB111      | VP206500 | HOLDER. FUS EYF-52BC      |
| CB112      | VP206500 | HOLDER. FUS EYF-52BC      |
| CB113      | VP206500 | HOLDER. FUS EYF-52BC(G)   |
| CB114      | VP206500 | HOLDER. FUS EYF-52BC(G)   |
| CB117      | VQ584900 | CN. BS. PIN 7P            |
| CB118      | VQ584900 | CN. BS. PIN 7P            |
| CB119      | Vi878100 | CN. BS. PIN 3P            |
| CB120      | VD004700 | CN. BS. PIN 4P            |
| C101       | UM416470 | C. EL 4. 7uF 50V          |
| C102       | UM416470 | C. EL 4. 7uF 50V          |
| C103       | UA652100 | C. MYLAR 100pF 50V        |
| C104       | UA652100 | C. MYLAR 100pF 50V        |
| C105       | FG212100 | C. CE 100pF 50V           |
| C106       | FG212100 | C. CE 100pF 50V           |
| C107       | UA653100 | C. MYLAR 1000pF 50V       |
| C108       | UA653100 | C. MYLAR 1000pF 50V       |
| C109       | VJ837200 | C. EL 47uF 16V            |
| C110       | VJ837200 | C. EL 47uF 16V            |
| C111       | VR516400 | C. CE 15p 500V            |
| C112       | VR516400 | C. CE 15p 500V            |
| C113       | UJ667470 | C. EL 47uF 50V            |
| C114       | UJ667470 | C. EL 47uF 50V            |
| C115       | VG291200 | C. EL 47uF 50V            |
| C116       | VG291200 | C. EL 47uF 50V            |
| C117       | VR325000 | C. MYLAR 100pF 100V       |
| C118       | VR325000 | C. MYLAR 100pF 100V       |
| C119       | VR325000 | C. MYLAR 100pF 100V       |
| C120       | VR325000 | C. MYLAR 100pF 100V       |
| C121       | UA654820 | C. MYLAR 0. 082uF 50V     |
| C122       | UA654820 | C. MYLAR 0. 082uF 50V     |
| C123       | UA655100 | C. MYLAR 0. 1uF 50V       |
| C124       | UA655100 | C. MYLAR 0. 1uF 50V       |
| C125       | UA654220 | C. MYLAR 0. 022uF 50V     |
| C126       | UA654220 | C. MYLAR 0. 022uF 50V     |
| C127       | UA652100 | C. MYLAR 100pF 50V        |
| C128       | VS741700 | C. CE. SAFTY 0. 01uF 275V |
| C129       | VK182500 | C. EL 330uF 63V           |
| C131       | UM416470 | C. EL 4. 7uF 50V          |
| C133       | VC815000 | C. EL 220uF 6. 3V         |
| C134       | UM416470 | C. EL 4. 7uF 50V          |
| C135       | UM416470 | C. EL 4. 7uF 50V          |
| C136       | Vi846000 | C. EL 22uF 63V            |
| C137       | UM416470 | C. EL 4. 7uF 50V          |

△

\* New Parts



## RX-V493RDS P.C.B. MAIN

| Schm Ref. | PART NO. | Description                    |
|-----------|----------|--------------------------------|
| △ C138    | UJ667470 | C. EL 47uF 50V                 |
| △ C139    | UJ667470 | C. EL 47uF 50V                 |
| △ C140    | VV951800 | C. EL 8200uF 56V               |
| △ C141    | VV951800 | C. EL 8200uF 56V               |
| △ C142    | VR325400 | C. MYLAR 0.1uF 100V            |
| △ C143    | VR325400 | C. MYLAR 0.1uF 100V            |
| C144      | UA653100 | C. MYLAR 1000pF 50V            |
| C145      | FG214100 | C. CE 0.01uF 50V               |
| C146      | UA653100 | C. MYLAR 1000pF 50V            |
| C147      | UA654100 | C. MYLAR 0.01uF 50V            |
| △ C149    | VK457600 | C. EL 330uF 25V                |
| C152      | UA654100 | C. MYLAR 0.01uF 50V            |
| C153      | UA654100 | C. MYLAR 0.01uF 50V            |
| C154      | UA654100 | C. MYLAR 0.01uF 50V            |
| C156      | UA654100 | C. MYLAR 0.01uF 50V            |
| C157      | UA654100 | C. MYLAR 0.01uF 50V            |
| C158      | UA654100 | C. MYLAR 0.01uF 50V            |
| C159      | UA654100 | C. MYLAR 0.01uF 50V            |
| C161      | UA654100 | C. MYLAR 0.01uF 50V            |
| C162      | UA654100 | C. MYLAR 0.01uF 50V            |
| C164      | UM416470 | C. EL 4.7uF 50V                |
| C165      | UK665470 | C. EL 0.47uF 50V               |
| C171      | UA654100 | C. MYLAR 0.01uF 50V            |
| C172      | UA654100 | C. MYLAR 0.01uF 50V            |
| D101      | VN008700 | DIODE 1SS270A                  |
| D102      | VN008700 | DIODE 1SS270A                  |
| D106      | VM976300 | DIODE. ZENR HZS242TD 24V       |
| D107      | VM976300 | DIODE. ZENR HZS242TD 24V       |
| △ D108    | VS997800 | DIODE 1T2                      |
| D109      | VM975900 | DIODE. ZENR HZS162TD 16V       |
| D110      | VM975800 | DIODE. ZENR HZS152TD 15V       |
| △ D111    | iH001090 | DIODE. BRG S4VB20 2.6A 200V    |
| △ D112    | VD631600 | DIODE 1SS133, 176, HSS104      |
| △ D113    | VS997800 | DIODE 1T2                      |
| △ D117    | VD631600 | DIODE 1SS133, 176, HSS104      |
| △ F101    | KB001660 | FUSE T1.60A 250V               |
| △ F102    | KB000690 | FUSE T2.5A 250V(G)             |
| △ FR101   | VK188400 | R. FUS 330Ω 1/4W               |
| △ FR102   | VK188400 | R. FUS 330Ω 1/4W               |
| FR103     | VK189000 | R. FUS 1KΩ 1/4W                |
| FR104     | VK189000 | R. FUS 1KΩ 1/4W                |
| △ JK101   | VY687200 | JACK. PHONE JY-6317-02-030 NUT |
| △ JK102   | VU543300 | OUTLET. AC 1P(B)               |
| △ JK102   | VU543400 | OUTLET. AC 2P(G)               |
| L103      | VP575600 | COIL 1.5uH                     |
| L104      | VP575600 | COIL 1.5uH                     |
| △ Q101    | VP883000 | TR 2SA893A D, E                |
| △ Q102    | VP883000 | TR 2SA893A D, E                |
| △ Q103    | VP883000 | TR 2SA893A D, E                |
| △ Q104    | VP883000 | TR 2SA893A D, E                |
| △ Q105    | VR325600 | TR 2SC2229 O, Y                |
| △ Q106    | VR325600 | TR 2SC2229 O, Y                |
| △ Q107    | iC174020 | TR 2SC1740S R, S               |

\* New Parts

| Schm Ref. | PART NO. | Description                |
|-----------|----------|----------------------------|
| △ Q108    | iC174020 | TR 2SC1740S R, S           |
| △ Q109    | VP872700 | TR 2SC4488 S, T            |
| △ Q110    | VP872700 | TR 2SC4488 S, T            |
| △ Q111    | VP872600 | TR 2SA1708 S, T            |
| △ Q112    | VP872600 | TR 2SA1708 S, T            |
| Q113      | VP883100 | TR 2SC1890A D, E           |
| Q114      | VP883100 | TR 2SC1890A D, E           |
| Q115      | VP883000 | TR 2SA893A D, E            |
| Q116      | iC174020 | TR 2SC1740S R, S           |
| Q117      | iC174020 | TR 2SC1740S R, S           |
| Q118      | VK432900 | TR 2SD1915F S, T           |
| Q119      | iC174020 | TR 2SC1740S R, S           |
| △ Q120    | iA101521 | TR 2SA1015 Y               |
| △ Q121    | VN996900 | TR 2SC4495                 |
| Q122      | iC174020 | TR 2SC1740S R, S           |
| Q127      | VG722000 | TR. DGT DTC144ES           |
| △ Q128    | VR402300 | TR 2SB647 C, D             |
| △ Q129A   | iX632650 | TR 2SA1633 D, E, F         |
| △ Q129C   | iX632660 | TR 2SC4278 D, E, F         |
| △ Q130A   | iX632650 | TR 2SA1633 D, E, F         |
| △ Q130C   | iX632660 | TR 2SC4278 D, E, F         |
| △ R113    | HV454470 | R. CAR. FP 47Ω 1/4W        |
| △ R114    | HV454470 | R. CAR. FP 47Ω 1/4W        |
| R127      | HV456270 | R. CAR. FP 2.7KΩ 1/4W      |
| R128      | HV456270 | R. CAR. FP 2.7KΩ 1/4W      |
| R131      | HV456100 | R. CAR. FP 1KΩ 1/4W        |
| R132      | HV456100 | R. CAR. FP 1KΩ 1/4W        |
| R133      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R134      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R135      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| R136      | HV453470 | R. CAR. FP 4.7Ω 1/4W       |
| △ R137    | VU981700 | R. MIL. PLAT 0.22Ω+0.22 3W |
| △ R138    | VU981700 | R. MIL. PLAT 0.22Ω+0.22 3W |
| △ R145    | HL314100 | R. MIL. OXD 10Ω 1W         |
| △ R146    | HL314100 | R. MIL. OXD 10Ω 1W         |
| R151      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R152      | HV454100 | R. CAR. FP 10Ω 1/4W        |
| R159      | HL315330 | R. MIL. OXD 330Ω 1W        |
| R160      | HL315330 | R. MIL. OXD 330Ω 1W        |
| △ R163    | HL314470 | R. MIL. OXD 47Ω 1W         |
| △ R171    | HL315680 | R. MIL. OXD 680Ω 1W        |
| R173      | HV456100 | R. CAR. FP 1KΩ 1/4W        |
| △ R177    | HV453100 | R. CAR. FP 1Ω 1/4W         |
| △ R178    | HV454100 | R. CAR. FP 10Ω 1/4W        |
| △ R179    | HV457100 | R. CAR. FP 10KΩ 1/4W       |
| R189      | HL315680 | R. MIL. OXD 680Ω 1W        |
| R196      | HV455100 | R. CAR. FP 100Ω 1/4W       |
| R201      | HV456150 | R. CAR. FP 1.5KΩ 1/4W      |
| △ RY101   | VK438300 | RELAY DH24D2-OT/M2         |
| △ RY102   | VU349800 | RELAY DC SDT-SS-112DM      |
| △ SW101   | VV523900 | SW. PUSH PBS-YM-001        |
| △ SW103   | VZ361100 | SW. SLIDE SL13B-022-AMC1   |
| △ T101    | XC084A00 | TRANS. PWR                 |

\* New Parts

## RX-V493RDS P.C.B. MAIN &amp; INPUT

| Schm Ref. | PART NO. | Description  |               |
|-----------|----------|--------------|---------------|
| TE101     | VU819700 | TERM. SP     | 8P            |
|           | VJ828000 | PIN          | IMSA-6024-03E |
|           | BB071360 | SCR. TERM    | 8. 3x13       |
|           | VR264300 | PLATE. GND   |               |
|           | VP753100 | HEAT. SINK   | IC-1625-MML   |
|           | Ei330166 | SCR. BND. HD | 3x16 FCRM3-BL |
|           | VY834500 | SUPRT        |               |
| *         | VZ497500 | P. C. B.     | INPUT         |
| CB1       | Vi878300 | CN. BS. PIN  | 5P            |
| CB2       | Vi878900 | CN. BS. PIN  | 11P           |
| CB3       | VQ963600 | CN. BS. PIN  | 15P           |
| CB4       | VQ962500 | CN. BS. PIN  | 4P            |
| CB5       | VU272200 | CN           | 22P           |
| CB6       | VQ963600 | CN. BS. PIN  | 15P           |
| CB7       | Vi878500 | CN. BS. PIN  | 7P            |
| CB8       | VK024700 | CN. BS. PIN  | 3P            |
| CB301     | VK026600 | CN. BS. PIN  | 7P            |
| CB302     | VK026700 | CN. BS. PIN  | 8P            |
| CB304     | VQ961400 | CN. BS. PIN  | 11P           |
| CB305     | VK024900 | CN. BS. PIN  | 5P            |
| CB306     | VK027000 | CN. BS. PIN  | 11P           |
| CB307     | VK026200 | CN. BS. PIN  | 3P            |
| CB308     | VK025200 | CN. BS. PIN  | 8P            |
| CB309     | Vi878400 | CN. BS. PIN  | 6P            |
| CB310     | Vi878400 | CN. BS. PIN  | 6P            |
| CB311     | Vi878600 | CN. BS. PIN  | 8P            |
| CB312     | VK024800 | CN. BS. PIN  | 4P            |
| CB313     | VK024900 | CN. BS. PIN  | 5P            |
| CB314     | Vi878100 | CN. BS. PIN  | 3P            |
| CB315     | Vi878100 | CN. BS. PIN  | 3P            |
| CB316     | VK024700 | CN. BS. PIN  | 3P            |
| C1        | VJ839100 | C. EL        | 1uF 50V       |
| C2        | UA652100 | C. MYLAR     | 100pF 50V     |
| C3        | UA652100 | C. MYLAR     | 100pF 50V     |
| C4        | VJ839100 | C. EL        | 1uF 50V       |
| C5        | FG212100 | C. CE        | 100pF 50V     |
| C6        | UM417100 | C. EL        | 10uF 50V      |
| C7        | UA652100 | C. MYLAR     | 100pF 50V     |
| C8        | VJ839100 | C. EL        | 1uF 50V       |
| C9        | UM417100 | C. EL        | 10uF 50V      |
| C10       | VJ839100 | C. EL        | 1uF 50V       |
| C11       | UM417100 | C. EL        | 10uF 50V      |
| C12       | UA652100 | C. MYLAR     | 100pF 50V     |
| C13       | UA652100 | C. MYLAR     | 100pF 50V     |
| C14       | UA652100 | C. MYLAR     | 100pF 50V     |
| C15       | UA655150 | C. MYLAR     | 0. 15uF 50V   |
| C16       | VF466800 | C. CE. TUBLR | 100pF 50V     |
| C17       | UM417100 | C. EL        | 10uF 50V      |
| C18       | UM417100 | C. EL        | 10uF 50V      |
| C19       | UM417100 | C. EL        | 10uF 50V      |

\* New Parts

| Schm Ref. | PART NO. | Description  |             |
|-----------|----------|--------------|-------------|
| C20       | VF466800 | C. CE. TUBLR | 100pF 50V   |
| C21       | VF964800 | C. EL        | 100uF 16V   |
| C22       | UM417100 | C. EL        | 10uF 50V    |
| C23       | UM417100 | C. EL        | 10uF 50V    |
| C24       | VF964800 | C. EL        | 100uF 16V   |
| C25       | UA652680 | C. MYLAR     | 680pF 50V   |
| C26       | UA652680 | C. MYLAR     | 680pF 50V   |
| C27       | UM407220 | C. EL        | 22uF 25V    |
| C28       | UM407220 | C. EL        | 22uF 25V    |
| C29       | UM417100 | C. EL        | 10uF 50V    |
| C30       | VG279600 | C. CE. TUBLR | 3300pF 16V  |
| C31       | VG278400 | C. CE. TUBLR | 220pF 50V   |
| C32       | VG278400 | C. CE. TUBLR | 220pF 50V   |
| C33       | VG279600 | C. CE. TUBLR | 3300pF 16V  |
| C34       | VG279900 | C. CE. TUBLR | 6800pF 16V  |
| C35       | VG278600 | C. CE. TUBLR | 330pF 50V   |
| C36       | VG279500 | C. CE. TUBLR | 2700pF 16V  |
| C37       | VG278600 | C. CE. TUBLR | 330pF 50V   |
| C38       | VG279500 | C. CE. TUBLR | 2700pF 16V  |
| C39       | VG279900 | C. CE. TUBLR | 6800pF 16V  |
| C40       | UA653470 | C. MYLAR     | 4700pF 50V  |
| C41       | FG212330 | C. CE        | 330pF 50V   |
| C42       | FG212330 | C. CE        | 330pF 50V   |
| C43       | UA653470 | C. MYLAR     | 4700pF 50V  |
| C44       | UM407220 | C. EL        | 22uF 25V    |
| C45       | UM407220 | C. EL        | 22uF 25V    |
| C46       | UA652330 | C. MYLAR     | 330pF 50V   |
| C47       | UM407220 | C. EL        | 22uF 25V    |
| C48       | UA652330 | C. MYLAR     | 330pF 50V   |
| C49       | UA652330 | C. MYLAR     | 330pF 50V   |
| C50       | UM407220 | C. EL        | 22uF 25V    |
| C51       | VJ839100 | C. EL        | 1uF 50V     |
| C52       | VG279500 | C. CE. TUBLR | 2700pF 16V  |
| C53       | VG279500 | C. CE. TUBLR | 2700pF 16V  |
| C54       | VJ839100 | C. EL        | 1uF 50V     |
| C55       | VF466600 | C. CE. TUBLR | 10pF 50V    |
| C56       | VF466600 | C. CE. TUBLR | 10pF 50V    |
| C58       | UA654100 | C. MYLAR     | 0. 01uF 50V |
| C59       | VF466800 | C. CE. TUBLR | 100pF 50V   |
| C60       | VF466800 | C. CE. TUBLR | 100pF 50V   |
| C61       | UA654100 | C. MYLAR     | 0. 01uF 50V |
| C63       | UM407220 | C. EL        | 22uF 25V    |
| C64       | UM407220 | C. EL        | 22uF 25V    |
| C65       | VG277000 | C. CE. TUBLR | 33pF 50V    |
| C66       | VG277000 | C. CE. TUBLR | 33pF 50V    |
| C67       | VG277000 | C. CE. TUBLR | 33pF 50V    |
| C68       | VG277000 | C. CE. TUBLR | 33pF 50V    |
| C69       | UM407220 | C. EL        | 22uF 25V    |
| C70       | UM407220 | C. EL        | 22uF 25V    |
| C71       | VG279600 | C. CE. TUBLR | 3300pF 16V  |
| C72       | VG279600 | C. CE. TUBLR | 3300pF 16V  |
| C73       | VH053100 | C. CE. TUBLR | 0. 1uF 50V  |
| C74       | VH053100 | C. CE. TUBLR | 0. 1uF 50V  |

\* New Parts

## RX-V493RDS P.C.B. INPUT

| Schm Ref. | PART NO. | Description            |
|-----------|----------|------------------------|
| C75       | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C76       | UJ638330 | C. EL 330uF 16V        |
| C78       | VJ837200 | C. EL 47uF 16V         |
| C79       | VJ837200 | C. EL 47uF 16V         |
| C80       | VF760000 | C. EL 100uF 10V        |
| C81       | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C82       | VF964800 | C. EL 100uF 16V        |
| C83       | VE117600 | C. EL 220uF 10V        |
| C86       | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C87       | VJ837200 | C. EL 47uF 16V         |
| C88       | VJ837200 | C. EL 47uF 16V         |
| C89       | VJ837200 | C. EL 47uF 16V         |
| C90       | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C91       | VF466800 | C. CE. TUBLR 100pF 50V |
| C93       | VF466800 | C. CE. TUBLR 100pF 50V |
| C94       | VF466800 | C. CE. TUBLR 100pF 50V |
| C301      | VF760000 | C. EL 100uF 10V        |
| C302      | UA652220 | C. MYLAR 220pF 50V     |
| C303      | UA652220 | C. MYLAR 220pF 50V     |
| C304      | UA652220 | C. MYLAR 220pF 50V     |
| C305      | UA652220 | C. MYLAR 220pF 50V     |
| C306      | VF760000 | C. EL 100uF 10V        |
| C307      | UA652100 | C. MYLAR 100pF 50V     |
| C308      | UA652100 | C. MYLAR 100pF 50V     |
| C309      | VF466700 | C. CE. TUBLR 47pF 50V  |
| C310      | VF466700 | C. CE. TUBLR 47pF 50V  |
| C311      | VF466800 | C. CE. TUBLR 100pF 50V |
| C312      | VF466800 | C. CE. TUBLR 100pF 50V |
| C313      | VF466800 | C. CE. TUBLR 100pF 50V |
| C314      | VF466800 | C. CE. TUBLR 100pF 50V |
| C315      | VF466700 | C. CE. TUBLR 47pF 50V  |
| C316      | VF466700 | C. CE. TUBLR 47pF 50V  |
| C317      | VF466800 | C. CE. TUBLR 100pF 50V |
| C318      | VF466800 | C. CE. TUBLR 100pF 50V |
| C319      | UA653100 | C. MYLAR 1000pF 50V    |
| C321      | UA653100 | C. MYLAR 1000pF 50V    |
| C323      | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C324      | UJ668100 | C. EL 100uF 50V        |
| C325      | UM417100 | C. EL 10uF 50V         |
| C326      | VE117600 | C. EL 220uF 10V        |
| C327      | FG212100 | C. CE 100pF 50V        |
| C328      | Ui367220 | C. EL 22uF 50V         |
| C329      | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C330      | VJ839200 | C. EL 2.2uF 50V        |
| C331      | UA653910 | C. MYLAR 9100pF 50V    |
| C332      | UA654330 | C. MYLAR 0.033uF 50V   |
| C333      | UA653910 | C. MYLAR 9100pF 50V    |
| C334      | UA654330 | C. MYLAR 0.033uF 50V   |
| C335      | VJ839200 | C. EL 2.2uF 50V        |
| C336      | UJ668100 | C. EL 100uF 50V        |
| C337      | VJ839200 | C. EL 2.2uF 50V        |
| C338      | FG212220 | C. CE 220pF 50V        |
| C339      | UA653330 | C. MYLAR 3300pF 50V    |

\* New Parts

| Schm Ref. | PART NO. | Description            |
|-----------|----------|------------------------|
| C340      | UH178100 | C. EL 100uF 63V        |
| C341      | VJ837200 | C. EL 47uF 16V         |
| C342      | VJ837200 | C. EL 47uF 16V         |
| C343      | FH611220 | C. CE 22pF 500V        |
| C344      | UM417100 | C. EL 10uF 50V         |
| C345      | VF466800 | C. CE. TUBLR 100pF 50V |
| C347      | UM407220 | C. EL 22uF 25V         |
| C348      | UM417100 | C. EL 10uF 50V         |
| C349      | UM417100 | C. EL 10uF 50V         |
| C350      | UM407220 | C. EL 22uF 25V         |
| C352      | VF466800 | C. CE. TUBLR 100pF 50V |
| C353      | UM417100 | C. EL 10uF 50V         |
| C354      | FG212100 | C. CE 100pF 50V        |
| C355      | UA654100 | C. MYLAR 0.01uF 50V    |
| C356      | FG211100 | C. CE 10pF 50V         |
| C357      | UJ668100 | C. EL 100uF 50V        |
| C358      | VF466800 | C. CE. TUBLR 100pF 50V |
| C359      | FG212100 | C. CE 100pF 50V        |
| C360      | FG212100 | C. CE 100pF 50V        |
| C361      | VF466800 | C. CE. TUBLR 100pF 50V |
| C362      | UJ668100 | C. EL 100uF 50V        |
| C363      | FG211100 | C. CE 10pF 50V         |
| C364      | UA654100 | C. MYLAR 0.01uF 50V    |
| C365      | FG212100 | C. CE 100pF 50V        |
| C366      | VF964800 | C. EL 100uF 16V        |
| C367      | VF964800 | C. EL 100uF 16V        |
| C368      | VJ839200 | C. EL 2.2uF 50V        |
| C369      | UA654470 | C. MYLAR 0.047uF 50V   |
| C370      | UA654470 | C. MYLAR 0.047uF 50V   |
| C371      | VR325000 | C. MYLAR 100pF 100V    |
| C372      | VJ839100 | C. EL 1uF 50V          |
| C373      | Ui367220 | C. EL 22uF 50V         |
| C374      | VR325000 | C. MYLAR 100pF 100V    |
| C375      | VJ839100 | C. EL 1uF 50V          |
| C376      | UA654470 | C. MYLAR 0.047uF 50V   |
| C377      | VE117600 | C. EL 220uF 10V        |
| C378      | UJ648100 | C. EL 100uF 25V        |
| C379      | VL544800 | C. EL 3300uF 35V       |
| C380      | VG289900 | C. EL 2200uF 35V       |
| C381      | VG722100 | C. EL 1uF 50V          |
| C382      | FG212470 | C. CE 470pF 50V        |
| C383      | VD930900 | C. CE. SMI 0.1uF 25V   |
| C384      | FG244220 | C. CE 0.022uF 50V      |
| C385      | FG244220 | C. CE 0.022uF 50V      |
| C386      | FG214100 | C. CE 0.01uF 50V       |
| C387      | FG244220 | C. CE 0.022uF 50V      |
| C388      | FG214100 | C. CE 0.01uF 50V       |
| C389      | UA654470 | C. MYLAR 0.047uF 50V   |
| C390      | UA654470 | C. MYLAR 0.047uF 50V   |
| C391      | VH053100 | C. CE. TUBLR 0.1uF 50V |
| C392      | VJ839200 | C. EL 2.2uF 50V        |
| C394      | VJ839200 | C. EL 2.2uF 50V        |
| C395      | UJ667470 | C. EL 47uF 50V         |

\* New Parts

## RX-V493RDS P.C.B. INPUT

| Schm Ref. | PART NO. | Description               |
|-----------|----------|---------------------------|
| C396      | VZ410500 | C. EL 47uF 35V            |
| C397      | VJ839200 | C. EL 2.2uF 50V           |
| C398      | VJ839200 | C. EL 2.2uF 50V           |
| C399      | FG212100 | C. CE 100pF 50V           |
| C400      | UA652220 | C. MYLAR 220pF 50V        |
| C401      | UA652220 | C. MYLAR 220pF 50V        |
| C402      | UA652220 | C. MYLAR 220pF 50V        |
| C403      | VF466800 | C. CE. TUBLR 100pF 50V    |
| C404      | VF466800 | C. CE. TUBLR 100pF 50V    |
| C405      | VJ837200 | C. EL 47uF 16V            |
| C406      | VJ837200 | C. EL 47uF 16V            |
| C407      | VF466800 | C. CE. TUBLR 100pF 50V    |
| C408      | UA652100 | C. MYLAR 100pF 50V        |
| C409      | UA652100 | C. MYLAR 100pF 50V        |
| C410      | FG211100 | C. CE 10pF 50V            |
| C411      | FG211100 | C. CE 10pF 50V            |
| C412      | FG211100 | C. CE 10pF 50V            |
| C413      | UM417100 | C. EL 10uF 50V            |
| C414      | UM417100 | C. EL 10uF 50V            |
| C415      | UM417100 | C. EL 10uF 50V            |
| C416      | UM417100 | C. EL 10uF 50V            |
| C417      | VJ837200 | C. EL 47uF 16V            |
| C418      | VJ837200 | C. EL 47uF 16V            |
| C419      | UJ638470 | C. EL 470uF 16V           |
| C420      | VG722100 | C. EL 1uF 50V             |
| C421      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C422      | VF466900 | C. CE. TUBLR 470pF 50V    |
| C423      | VF466900 | C. CE. TUBLR 470pF 50V    |
| C501      | UJ638330 | C. EL 330uF 16V           |
| C502      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C503      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C504      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C505      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C506      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C507      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C508      | VH053100 | C. CE. TUBLR 0.1uF 50V    |
| C601      | VJ837200 | C. EL 47uF 16V            |
| C602      | UA654100 | C. MYLAR 0.01uF 50V       |
| C603      | UA654100 | C. MYLAR 0.01uF 50V       |
| D1        | VD631600 | DIODE 1SS133, 176, HSS104 |
| D3        | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D301      | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D302      | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D303      | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D304      | VM975500 | DIODE. ZENR HZS12A2TD 12V |
| D305      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D306      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D307      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D308      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D309      | VN008700 | DIODE 1SS270A             |
| D310      | VM976300 | DIODE. ZENR HZS242TD 24V  |
| D311      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D312      | VD631600 | DIODE 1SS133, 176, HSS104 |

\* New Parts

| Schm Ref. | PART NO. | Description               |
|-----------|----------|---------------------------|
| D313      | VM974100 | DIODE. ZENR HZS5B2TD 5.0V |
| D314      | VV731400 | DIODE 2A02M               |
| D315      | VV731400 | DIODE 2A02M               |
| D316      | VV731400 | DIODE 2A02M               |
| D317      | VV731400 | DIODE 2A02M               |
| D318      | VM974200 | DIODE. ZENR HZS5C2TD 5.0V |
| D319      | VD631600 | DIODE 1SS133, 176, HSS104 |
| D501      | VS997800 | DIODE 1T2                 |
| IC1       | XP896A00 | IC LC78213                |
| IC2       | XB247301 | IC uPC4570HA              |
| IC3       | XM356A00 | IC NJM2068LD              |
| IC4       | XB247301 | IC uPC4570HA              |
| IC5       | XB247301 | IC uPC4570HA              |
| IC6       | XB247301 | IC uPC4570HA              |
| IC7       | XB247301 | IC uPC4570HA              |
| IC8       | XB247301 | IC uPC4570HA              |
| IC9       | XB247301 | IC uPC4570HA              |
| IC10      | XB247301 | IC uPC4570HA              |
| IC11      | XQ212A00 | IC NJM4558LD              |
| IC12      | XQ212A00 | IC NJM4558LD              |
| IC14      | XA507A00 | IC AN78N05                |
| IC16      | Xi022B00 | IC YSS203B-F              |
| IC17      | XS881A00 | IC LH5P832D-10 PSRAM      |
| IC302     | XM356A00 | IC NJM2068LD              |
| IC303     | XP894A00 | IC LC78211                |
| IC304     | iG092000 | IC M5220L                 |
| IC305     | XB467001 | IC AN79M15F               |
| IC306     | XR040A00 | IC TC9299P                |
| IC307     | XR040A00 | IC TC9299P                |
| IC308     | XB247301 | IC uPC4570HA              |
| IC309     | XB247301 | IC uPC4570HA              |
| IC310     | XF494A00 | IC LB1641                 |
| L301      | VP575600 | COIL 1.5uH                |
| L302      | VP575600 | COIL 1.5uH                |
| L303      | VP575600 | COIL 1.5uH                |
| PJ1       | VR765100 | JACK. PIN 2P              |
| PJ301     | VZ410600 | JACK. PIN 6P              |
| PJ302     | VU857800 | JACK. PIN 6P              |
| PJ303     | VJ695600 | JACK. PIN 2P              |
| PJ305     | VJ249500 | JACK. PIN 4P              |
| Q1        | VP872700 | TR 2SC4488 S, T           |
| Q303      | iC174020 | TR 2SC1740S R, S          |
| Q304      | iC174020 | TR 2SC1740S R, S          |
| Q305      | VP883000 | TR 2SA893A D, E           |
| Q306      | VP872700 | TR 2SC4488 S, T           |
| Q307      | VP872600 | TR 2SA1708 S, T           |
| Q308      | VC276100 | TR 2SC2909 S, T           |
| Q309      | VC276100 | TR 2SC2909 S, T           |
| Q310      | VP872600 | TR 2SA1708 S, T           |
| Q311      | VP872700 | TR 2SC4488 S, T           |
| Q312      | VV855300 | TR 2SD856 Q, P            |
| Q313      | VP883100 | TR 2SC1890A D, E          |
| Q314      | VV855300 | TR 2SD856 Q, P            |

\* New Parts

RX-V393RDS  
RX-V493RDS



## RX-V493RDS P.C.B. TUNER

| Schm Ref. | PART NO. | Description              |
|-----------|----------|--------------------------|
|           | VV173600 | P.C.B. TUNER             |
| CB4       | VQ961800 | CN.BS.PIN 15P            |
| C1        | VG291200 | C.FL 47uF 50V            |
| C3        | VG275800 | C.CE.TUBLR 8.2pF 50V     |
| C4        | VG291200 | C.EL 47uF 50V            |
| C5        | VF467300 | C.CE.TUBLR 0.01uF 16V    |
| C6        | VG291200 | C.EL 47uF 50V            |
| C7        | VJ839100 | C.EL 1uF 50V             |
| C8        | VF467300 | C.CE.TUBLR 0.01uF 16V    |
| C9        | VF467300 | C.CE.TUBLR 0.01uF 16V    |
| C10       | VF467300 | C.CE.TUBLR 0.01uF 16V    |
| C11       | VF467000 | C.CE.TUBLR 1000pF 50V    |
| C12       | VJ836900 | C.EL 10uF 16V            |
| C13       | VJ836900 | C.EL 10uF 16V            |
| C14       | VF466800 | C.CE.TUBLR 100pF 50V     |
| C15       | VF467000 | C.CE.TUBLR 1000pF 50V    |
| C16       | VF466700 | C.CE.TUBLR 47pF 50V      |
| C17       | VG291200 | C.FL 47uF 50V            |
| C19       | VA761200 | C.CE 33pF 50V            |
| C20       | VG291200 | C.EL 47uF 50V            |
| C21       | VJ599000 | C.CE.TUBLR 0.047uF 16V   |
| C22       | UM216330 | C.EL 3.3uF 50V           |
| C23       | VF467300 | C.CE.TUBLR 0.01uF 16V    |
| C24       | UM416470 | C.FL 4.7uF 50V           |
| C25       | UM216330 | C.EL 3.3uF 50V           |
| C26       | VJ836900 | C.EL 10uF 16V            |
| C27       | VF467300 | C.CE.TUBLR 0.01uF 16V    |
| 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.FL 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        |
| C37       | UA652470 | C.MYLAR 470pF 50V        |
| C38       | VF466900 | C.CE.TUBLR 470pF 50V     |
| C39       | VJ836900 | C.EL 10uF 16V            |
| C40       | UM216330 | C.EL 3.3uF 50V           |
| C41       | UA653390 | C.MYLAR 3900pF 50V       |
| C42       | UM407220 | C.FL 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            |
| C47       | VG291200 | C.EL 47uF 50V            |
| C48       | VF466800 | C.CE.TUBLR 100pF 50V     |
| C49       | UA652120 | C.MYLAR 120pF 50V        |
| C50       | VJ599000 | C.CE.TUBLR 0.047uF 16V   |
| D1        | iF004600 | DIODE 1SS133             |
| D2        | iF004600 | DIODE 1SS133             |
| D3        | VG437800 | DIODE.ZENR MTZJ5.6C 5.6V |

\* New Parts

| Schm Ref. | PART NO. | Description             |
|-----------|----------|-------------------------|
| 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               |
| IC4       | XQ359A00 | IC STK311-020B          |
| L1        | Vi546100 | COIL 220uH              |
| L2        | Vi546100 | COIL 220uH              |
| L3        | Vi546100 | COIL 220uH              |
| L4        | Vi546100 | COIL 220uH              |
| PK1       | VQ987600 | TUNER.PK EXV-17296G1    |
| PK2       | VU333700 | COIL.RF.AM 940536051A   |
| Q1        | VB433300 | TR 2SC1809 M,N,P        |
| Q2        | VB433300 | TR 2SC1809 M,N,P        |
| 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         |
| T1        | VC218600 | COIL.DT.FM 10.7MHz      |
| T2        | GE100470 | COIL.IF.AM 450KHz       |
| T3        | VT486800 | COIL XYA2               |
| 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       | VC219100 | RSNR.CRYS 7.2MHz        |
| XL2       | GG000750 | RSNR.CE 18.95KHz        |
| XL3       | VS860100 | RSNR.CE 19KHz           |
|           | BB071360 | SCR.TERM 8.3x13         |
|           | VR282500 | PLATE ANT.              |

\* New Parts



A

B

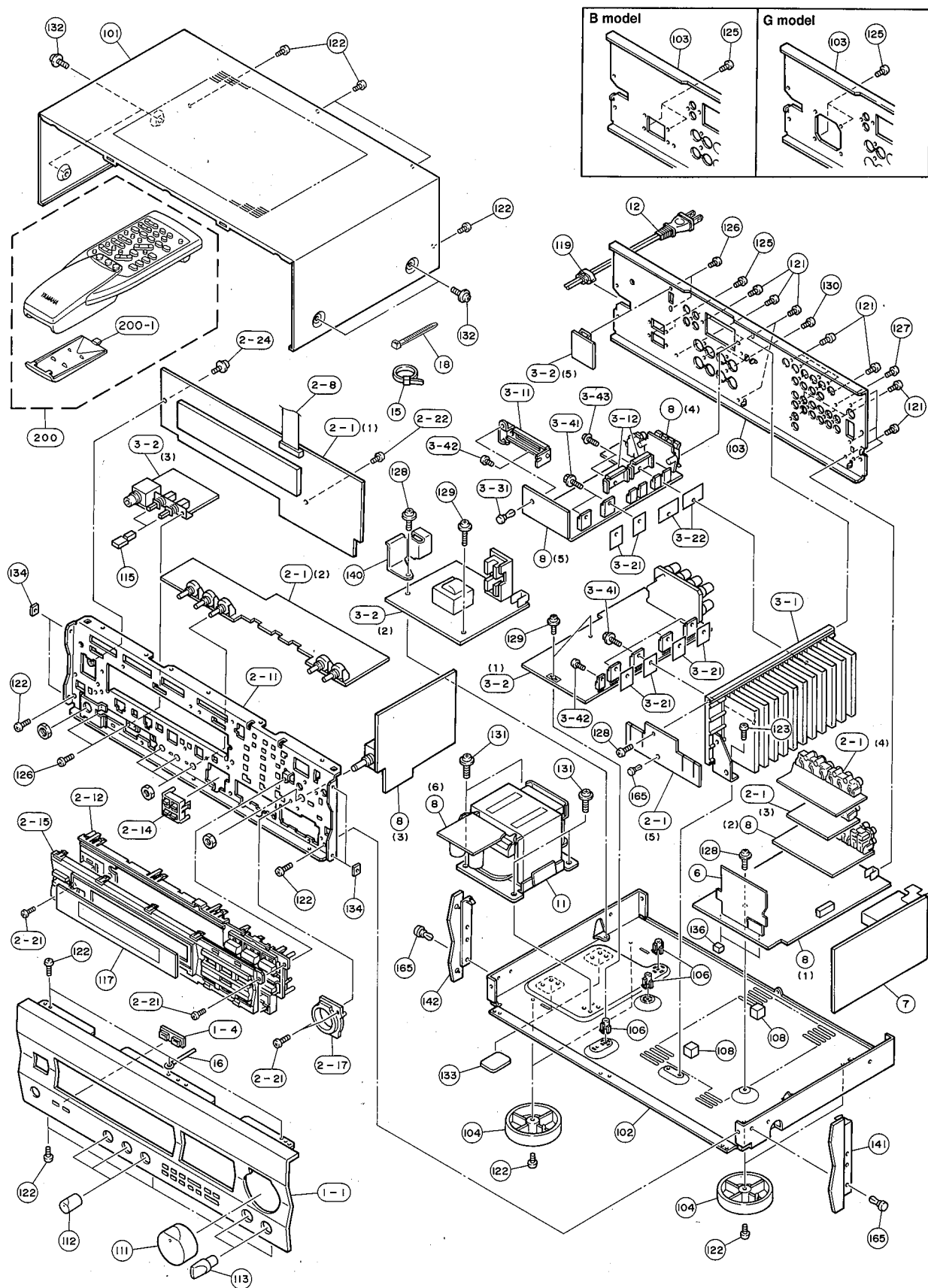
C

D

E

RX-V393RDS/RX-V493RDS

## ■ RX-V393RDS EXPLODED VIEW



## ■ RX-V393RDS MECHANICAL PARTS

| Ref. No. | PART NO. | Description             | Remarks      | Markets |
|----------|----------|-------------------------|--------------|---------|
| * 1- 1   | VZ305200 | FRONT PANEL             | BL           |         |
| * 1- 1   | VZ305300 | FRONT PANEL             | TI           |         |
| 1- 4     | VV123700 | ESCUTCHEON, 3/8         | BL           |         |
| 1- 4     | VV123800 | ESCUTCHEON, 3/8         | TI           |         |
| * 2- 1   | VZ497800 | P.C.B. ASS'Y            | OPERATION    |         |
| 2- 8     | MF122400 | FLEXIBLE FLAT CABLE C&C | 22P 400mm    |         |
| 2-11     | VV140800 | SUB CHASSIS             | 130          |         |
| 2-12     | VV136700 | BUTTON CASE             | BL           |         |
| 2-12     | VV136800 | BUTTON CASE             | TI           |         |
| 2-14     | VV137900 | BUTTON, RDS             | BL           |         |
| 2-14     | VV138000 | BUTTON, RDS             | TI           |         |
| * 2-15   | VZ309300 | CASE, SUB PANEL         | BL           |         |
| * 2-15   | VZ309400 | CASE, SUB PANEL         | TI           |         |
| 2-17     | VV149500 | ESCUTCHEON, VOL         | BL           |         |
| 2-17     | VV149600 | ESCUTCHEON, VOL         | TI           |         |
| 2-21     | Ei330086 | BIND HEAD B-TITE SCREW  | 3x8 FCRM3-BL |         |
| 2-22     | EP630220 | BIND HEAD P-TITE SCREW  | 3x8 ZMC2-BL  |         |
| 2-24     | VT669300 | PW HEAD B-TITE SCREW    | 3x8-8 MFC2   |         |
| 3- 1     | VV899700 | HEAT SINK ASS'Y         |              |         |
| * 3- 2   | VZ417500 | P.C.B. ASS'Y            | MAIN         | (B)     |
| * 3- 2   | VZ417600 | P.C.B. ASS'Y            | MAIN         | (G)     |
| 3-11     | VV491300 | SUPPORT, PCB            |              |         |
| 3-12     | VV901900 | SUPPORT, TR             |              |         |
| 3-21     | VK195900 | SHEET                   | 19x24        |         |
| 3-22     | VV901800 | RADIATION SHEET         |              |         |
| 3-31     | VQ368500 | PUSH RIVET              | P3545-B      |         |
| 3-41     | VK173200 | SCREW, TRANSISTOR       | 3x15 SP FCM3 |         |
| 3-42     | Ei330086 | BIND HEAD B-TITE SCREW  | 3x8 FCRM3-BL |         |
| 3-43     | VT669400 | PW HEAD B-TITE SCREW    | 3x15-8 MFC2  |         |
| * 6      | VZ864400 | P.C.B. ASS'Y            | SELECT       |         |
| 7        | VV173600 | P.C.B. ASS'Y            | TUNER        |         |
| * 8      | VZ497600 | P.C.B. ASS'Y            | INPUT        |         |
| △ 11     | XT087B00 | POWER TRANSFORMER       |              |         |
| △ 12     | VN363700 | POWER CORD ASS'Y        |              | (G)     |
| △ 12     | VS680700 | POWER CORD ASS'Y        |              | (B)     |
| 15       | VU590000 | BINDING TIE             | CBTD001B     |         |
| 16       | CB502030 | BINDING TIE             | S-75B        |         |
| * 18     | VZ625600 | BINDING TIE             | SE140 L=140  |         |
| 101      | VV140400 | TOP COVER               | BL           |         |
| 101      | VV140500 | TOP COVER               | TI           |         |
| 102      | VQ794000 | CHASSIS                 |              |         |
| * 103    | VZ307200 | REAR PANEL              |              | (B)     |
| * 103    | VZ307300 | REAR PANEL              |              | (G)     |
| 104      | VS025000 | LEG                     | D60xH21      |         |
| 106      | VR264400 | SPACER                  | H8           |         |
| 108      | VQ366100 | DAMPER, PCB             |              |         |
| 111      | VV148800 | KNOB                    | D40          | BL      |
| 111      | VV148900 | KNOB                    | D40          | TI      |
| 112      | VV311000 | KNOB                    | D14          | BL      |
| 112      | VV311400 | KNOB                    | D14          | TI      |
| 113      | VR308400 | KNOB, VR                | D10          | BL      |
| 113      | VU114800 | KNOB, VR                | D10          | TI      |
| 115      | VV123500 | BUTTON, 3/8             | BL           |         |

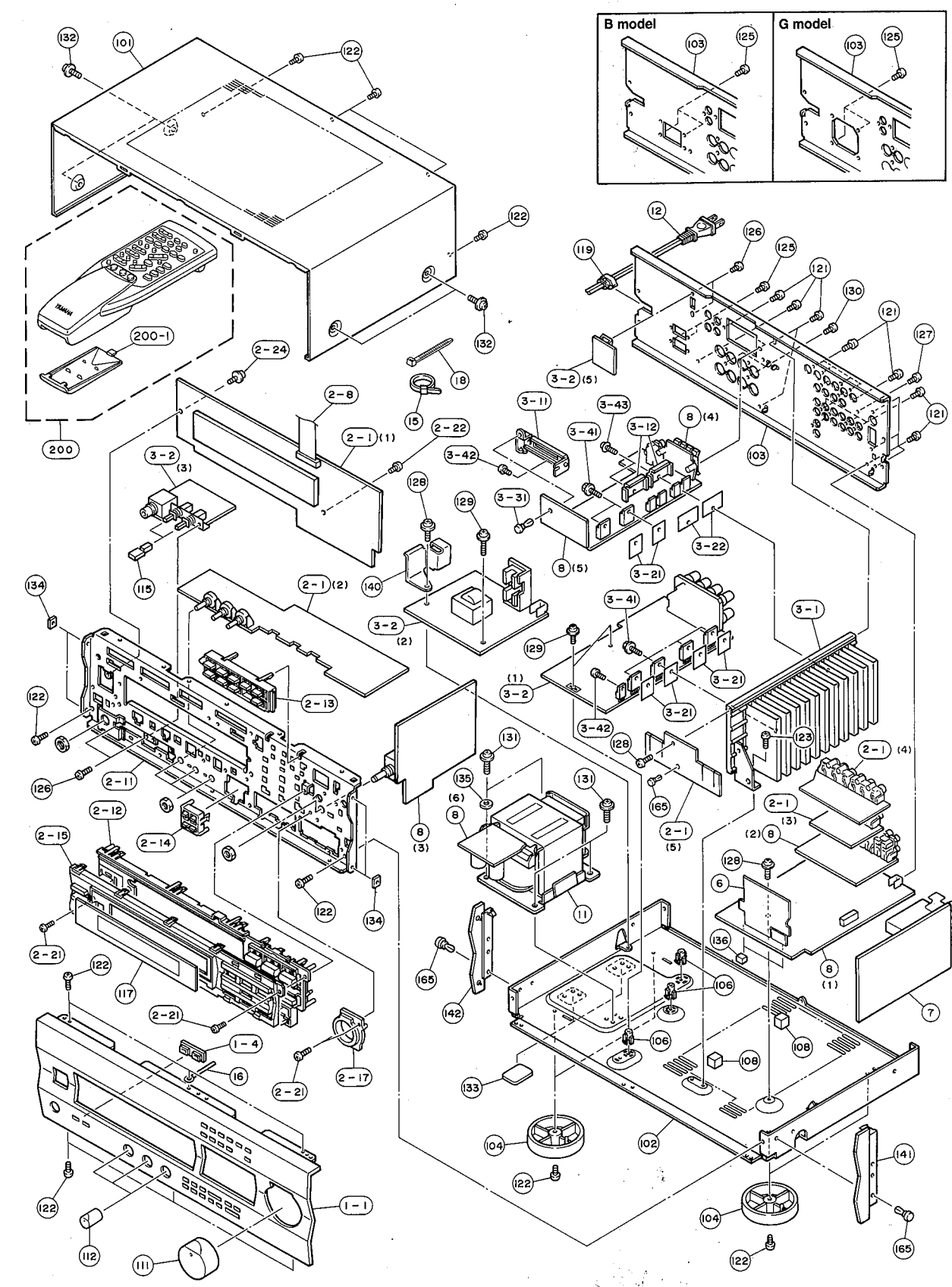
\* New Parts

| Ref. No. | PART NO. | Description                  | Remarks         | Markets |
|----------|----------|------------------------------|-----------------|---------|
| 115      | VV123600 | BUTTON, 3/8                  | TI              |         |
| 117      | VV139900 | SHEET, WINDOW PANEL          |                 |         |
| 119      | VN158600 | CORD STOPPER                 | No.2104         |         |
| 121      | EN301010 | BIND HEAD BONDING TAP. SCREW | 3x8 FCRM3-BL    |         |
| 122      | Ei330086 | BIND HEAD B-TITE SCREW       | 3x8 FCRM3-BL    |         |
| 123      | EiC30046 | BIND HEAD TAPPING SCREW      | 3x4 ZMC2-Y      |         |
| 125      | EiC30086 | BIND HEAD B-TITE SCREW       | 3x8 ZMC2-Y      |         |
| 126      | ED530066 | BIND HEAD SCREW              | 3x6 FCRM3-BL    |         |
| 127      | VS997700 | BIND HEAD S-TITE SCREW       | 3x10 MFNI33     |         |
| 128      | VT669300 | PW HEAD B-TITE SCREW         | 3x8-8 MFC2      |         |
| 129      | VT669400 | PW HEAD B-TITE SCREW         | 3x15-8 MFC2     |         |
| 130      | VY731200 | BONDING HEAD TAPPING SCREW   | 3x10 MFNI33     |         |
| 131      | EK365090 | PW HEAD S-TITE SCREW         | 4x8-10 FCRM3-BL |         |
| 132      | EK365090 | PW HEAD S-TITE SCREW         | 4x8-10 FCRM3-BL | BL      |
| 132      | EX601150 | BW HEAD S-TITE SCREW         | 4x8-10 FNM3-BL  | TI      |
| 133      | VY731400 | DAMPER                       | HOLE            |         |
| 134      | VY989400 | DAMPER                       | SIDE            |         |
| * 136    | VZ679700 | DAMPER                       | T8/PCB          |         |
| 140      | VZ319700 | STOPPER                      | SCREW           |         |
| 141      | VV124500 | PLATE SIDE R                 | 130             | BL      |
| 141      | VV124600 | PLATE SIDE R                 | 130             | TI      |
| 142      | VV124300 | PLATE SIDE L                 | 130             | BL      |
| 142      | VV124400 | PLATE SIDE L                 | 130             | TI      |
| 165      | VQ368600 | PUSH RIVET                   | P3555-B         |         |
|          |          | ACCESSORIES                  |                 |         |
| 200      | VZ538100 | REMOTE CONTROL TRANSMITTER   | SBGH20029A RAV8 |         |
| 200-1    | CX679050 | LID                          | 74x34BLALPS     |         |
|          | VQ147100 | ANTENNA, FM                  | 1P 1.4m         |         |
|          | VR248500 | ANTENNA, AM LOOP             | 1P 1.0m         |         |
|          | VE364900 | ANTENNA ADAPTER              | PAL 75-300Ω     |         |
|          |          | BATTERY, MANGANESE           | SUM-3, AA, R06  |         |

\* New Parts

RX-V393RDS/RX-V493RDS

■ RX-V493RDS EXPLODED VIEW



■ RX-V493RDS MECHANICAL PARTS

| Ref. No. | PART NO. | Description             | Remarks      | Markets |
|----------|----------|-------------------------|--------------|---------|
| * 1- 1   | VZ304700 | FRONT PANEL             | BL           |         |
| * 1- 1   | VZ304800 | FRONT PANEL             | TI           |         |
| 1- 4     | VV123700 | ESCUTCHEON, 3/8         | 2P           |         |
| 1- 4     | VV123800 | ESCUTCHEON, 3/8         | 2P           |         |
| * 2- 1   | VZ497700 | P.C.B. ASS'Y            | OPERATION    |         |
| 2- 8     | MF122400 | FLEXIBLE FLAT CABLE C&C | 22P 400mm    |         |
| 2-11     | VV140700 | SUB CHASSIS             | 130          |         |
| 2-12     | VV136500 | BUTTON CASE             | BL           |         |
| 2-12     | VV136600 | BUTTON CASE             | TI           |         |
| 2-13     | VV137700 | BUTTON, DSP             | BL           |         |
| 2-13     | VV137800 | BUTTON, DSP             | TI           |         |
| 2-14     | VV137900 | BUTTON, RDS             | BL           |         |
| 2-14     | VV138000 | BUTTON, RDS             | TI           |         |
| 2-15     | VZ309000 | SUB PANEL CASE          | 7            |         |
| 2-15     | VZ309100 | SUB PANEL CASE          | 7            |         |
| 2-17     | VV149500 | ESCUTCHEON, VOL         | BL           |         |
| 2-17     | VV149600 | ESCUTCHEON, VOL         | TI           |         |
| 2-21     | Ei330086 | BIND HEAD B-TITE SCREW  | 3x8 FCRM3-BL |         |
| 2-22     | EP630220 | BIND HEAD P-TITE SCREW  | 3x8 ZMC2-BL  |         |
| 2-24     | VT669300 | PW HEAD B-TITE SCREW    | 3x8-8 MFC2   |         |
| 2-31     | VZ092400 | DAMPER                  | 6x5x10       |         |
| 3- 1     | VV143200 | HEAT SINK ASS'Y         |              |         |
| * 3- 2   | VZ416900 | P.C.B. ASS'Y            | MAIN         | (B)     |
| * 3- 2   | VZ417000 | P.C.B. ASS'Y            | MAIN         | (G)     |
| 3-11     | VV491300 | SUPPORT, PCB            |              |         |
| 3-12     | VV901900 | SUPPORT, TR             |              |         |
| 3-21     | VK195900 | SHEET                   | 19x24        |         |
| 3-22     | VV901800 | RADIATION SHEET         |              |         |
| 3-31     | VQ368500 | PUSH RIVET              | P3545-B      |         |
| 3-41     | VK173200 | SCREW, TRANSISTOR       | 3x15 SP FCM3 |         |
| 3-42     | Ei330086 | BIND HEAD B-TITE SCREW  | 3x8 FCRM3-BL |         |
| 3-43     | VT669400 | PW HEAD B-TITE SCREW    | 3x15-8 MFC2  |         |
| * 6      | VZ864300 | P.C.B. ASS'Y            | SELECT       |         |
| * 7      | VV173600 | P.C.B. ASS'Y            | TUNER        |         |
| * 8      | VZ497500 | P.C.B. ASS'Y            | INPUT        |         |
| △ 11     | XT073A00 | POWER TRANSFORMER       |              |         |
| △ 12     | VN363700 | POWER CORD ASS'Y        |              | (G)     |
| △ 12     | VS680700 | POWER CORD ASS'Y        |              | (B)     |
| 15       | VU590000 | BINDING TIE             | CBTD001B     |         |
| 16       | CB502030 | BINDING TIE             | S-75B        |         |
| * 18     | VZ625600 | BINDING TIE             | SE140 L=140  |         |
| 101      | VV140400 | TOP COVER               | BL           |         |
| 101      | VV140500 | TOP COVER               | TI           |         |
| 102      | VQ794000 | CHASSIS                 |              |         |
| * 103    | VZ306000 | REAR PANEL              |              | (B)     |
| * 103    | VZ306100 | REAR PANEL              |              | (G)     |
| 104      | VS025000 | LEG                     | D60xH21      |         |
| 106      | VR264400 | SPACER                  | H8           |         |
| 108      | VQ366100 | DAMPER, PCB             |              |         |
| 111      | VV148800 | KNOB                    | D40          | BL      |
| 111      | VV148900 | KNOB                    | D40          | TI      |
| 112      | VV311400 | KNOB                    | D14          |         |
| 115      | VV123500 | BUTTON, 3/8             | BL           |         |

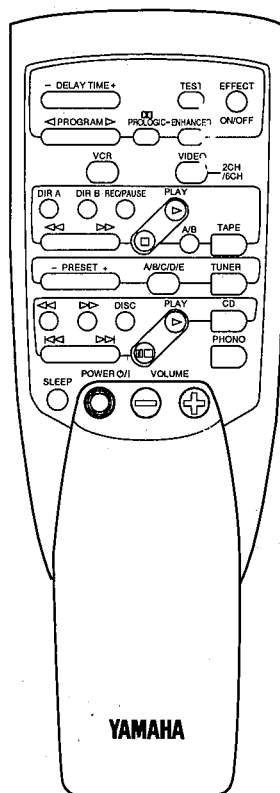
\* New Parts

| Ref.<br>No. | PART NO. | Description                  | Remarks         | Markets |
|-------------|----------|------------------------------|-----------------|---------|
| 115         | VV123600 | BUTTON, 3/8                  | TI              |         |
| 117         | VV139900 | SHEET, WINDOW PANEL          |                 |         |
| 119         | VN158600 | CORD STOPPER                 | No. 2104        |         |
| 121         | EN301010 | BIND HEAD BONDING TAP. SCREW | 3x8 FCRM3-BL    |         |
| 122         | Ei330086 | BIND HEAD B-TITE SCREW       | 3x8 FCRM3-BL    |         |
| 123         | Ei030046 | BIND HEAD TAPPING SCREW      | 3x4 ZMC2-Y      |         |
| 125         | Ei030086 | BIND HEAD B-TITE SCREW       | 3x8 ZMC2-Y      |         |
| 126         | ED330066 | BIND HEAD SCREW              | 3x6 FCRM3-BL    |         |
| 127         | VS997700 | BIND HEAD S-TITE SCREW       | 3x10 MFNI33     |         |
| 128         | VT669300 | PW HEAD B-TITE SCREW         | 3x8-8 MFC2      |         |
| 129         | VT669400 | PW HEAD B-TITE SCREW         | 3x15-8 MFC2     |         |
| 130         | VY731200 | BONDING HEAD TAPPING SCREW   | 3x10 MFNI33     |         |
| 131         | EK365090 | PW HEAD S-TITE SCREW         | 4x8-10 FCRM3-BL |         |
| 132         | EK365090 | PW HEAD S-TITE SCREW         | 4x8-10 FCRM3-BL | BL      |
| 132         | EX601150 | BW HEAD S-TITE SCREW         | 4x8-10 FNM3-BL  | TI      |
| 133         | VY731400 | DAMPER                       | HOLE            |         |
| 134         | VY989400 | DAMPER                       | SIDE            |         |
| 135         | VZ234000 | SPACER                       |                 |         |
| * 136       | VZ679700 | DAMPER                       | T8/PCB          |         |
| 140         | VZ319700 | STOPPER                      | SCREW           |         |
| 141         | VV124500 | PLATE SIDE R                 | 130             | BL      |
| 141         | VV124600 | PLATE SIDE R                 | 130             | TI      |
| 142         | VV124300 | PLATE SIDE L                 | 130             | BL      |
| 142         | VV124400 | PLATE SIDE L                 | 130             | TI      |
| 165         | VQ368600 | PUSH RIVET                   | P3555-B         |         |
|             |          | ACCESSORIES                  |                 |         |
| 200         | VZ338200 | REMOTE CONTROL TRANSMITTER   | SBGH20030A RAV9 |         |
| 200-1       | CX679050 | LID                          | 74x34BLALPS     |         |
|             | VQ147100 | ANTENNA, FM                  | 1P 1.4m         |         |
|             | VR248500 | ANTENNA, AM LOOP             | 1P 1.0m         |         |
|             | VE364900 | ANTENNA ADAPTER              | PAL 75-300Ω     |         |
|             |          | BATTERY, MANGANESE           | SUM-3, AA, R06  |         |

\* New Parts

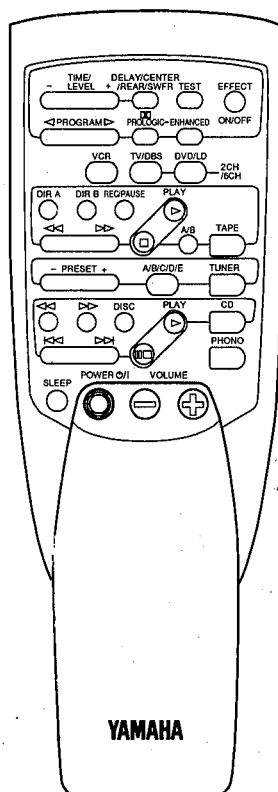
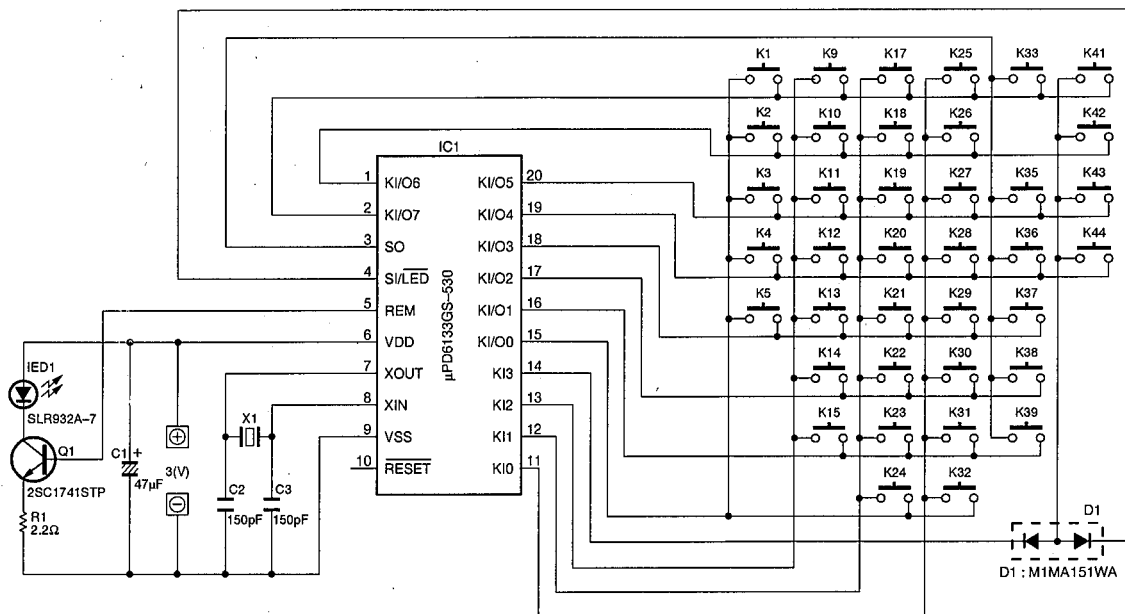
# RX-V393RDS

## REMOTE CONTROL TRANSMITTER

[illegible]77

# RX-V493RDS REMOTE CONTROL TRANSMITTER

## ■ SCHEMATIC DIAGRAM



| Key No. | FUNCTION          | CUSTOM (HEX) | DATA (HEX) |
|---------|-------------------|--------------|------------|
| 1       | EFFECT ON/OFF     | 7A           | 56         |
| 2       | PROGRAM ◀         | 7A           | 59         |
| 3       | PROGRAM ▶         | 7A           | 58         |
| 4       | PROLOGIC          | 7A           | 88         |
| 5       | ENHANCED          | 7A           | 89         |
| 9       | VCR               | 7A           | 0F         |
| 10      | TV/DBS            | 7A           | 54         |
| 11      | DVD/LD            | 7A           | 17         |
| 12      | DIR A             | 7A           | 07         |
| 13      | DIR B             | 7A           | 40         |
| 14      | REC/PAUSE         | 7A           | 04         |
| 15      | PLAY (TAPE)       | 7A           | 00         |
| 17      | ◀◀ (TAPE)         | 7A           | 01         |
| 18      | ▶▶ (TAPE)         | 7A           | 02         |
| 19      | □ (TAPE)          | 7A           | 03         |
| 20      | DECK A/B          | 7A           | 06         |
| 21      | TAPE              | 7A           | 18         |
| 22      | PRESET -          | 7A           | 11         |
| 23      | PRESET +          | 7A           | 10         |
| 24      | A/B/C/D/E         | 7A           | 12         |
| 25      | TUNER             | 7A           | 16         |
| 26      | ◀◀ (CD)           | 7A           | 0D         |
| 27      | ▶▶ (CD)           | 7A           | 0C         |
| 28      | DISC              | 7A           | 4F         |
| 29      | PLAY (CD)         | 7A           | 08         |
| 30      | CD                | 7A           | 15         |
| 31      | ◀◀ (CD)           | 7A           | 0B         |
| 32      | ▶▶ (CD)           | 7A           | 0A         |
| 33      | □ (CD)            | 7A           | 09         |
| 35      | PHONO             | 7A           | 14         |
| 36      | SLEEP             | 7A           | 57         |
| 37      | POWER             | 7A           | 1F         |
| 38      | VOLUME -          | 7A           | 1B         |
| 39      | VOLUME +          | 7A           | 1A         |
| 41      | TIME/LEVEL -      | 7A           | 53         |
| 42      | TIME/LEVEL +      | 7A           | 52         |
| 43      | DELAY/CENTER/REAR | 7A           | 86         |
| 44      | TEST              | 7A           | 85         |



# 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 $\Omega$   | HJ35 3100          | HF85 3100          | 10 k $\Omega$  | HF45 7100          | HF45 7100          |
| 1.8 $\Omega$   | HJ35 3180          | *                  | 11 k $\Omega$  | HF45 7110          | HF45 7110          |
| 2.2 $\Omega$   | HJ35 3220          | HF85 3220          | 12 k $\Omega$  | HJ35 7120          | HF85 7120          |
| 3.3 $\Omega$   | HJ35 3330          | HF85 3330          | 13 k $\Omega$  | HF45 7130          | HF45 7130          |
| 4.7 $\Omega$   | HJ35 3470          | HF85 3470          | 15 k $\Omega$  | HF45 7150          | HF45 7150          |
| 5.6 $\Omega$   | HJ35 3560          | HF85 3560          | 18 k $\Omega$  | HF45 7180          | HF45 7180          |
| 10 $\Omega$    | HF45 4100          | HF45 4100          | 22 k $\Omega$  | HF45 7220          | HF45 7220          |
| 15 $\Omega$    | HJ35 4150          | HF85 4150          | 24 k $\Omega$  | HF45 7240          | HF45 7240          |
| 22 $\Omega$    | HF45 4220          | HF45 4220          | 27 k $\Omega$  | HJ35 7270          | HF85 7270          |
| 27 $\Omega$    | HJ35 4270          | HF85 4270          | 30 k $\Omega$  | HF45 7300          | HF45 7300          |
| 33 $\Omega$    | HF45 4330          | HF45 4330          | 33 k $\Omega$  | HF45 7330          | HF45 7330          |
| 39 $\Omega$    | HJ35 4470          | HF85 4390          | 36 k $\Omega$  | HF45 7360          | HF45 7360          |
| 47 $\Omega$    | HF45 4470          | HF45 4470          | 39 k $\Omega$  | HF45 7390          | HF45 7390          |
| 56 $\Omega$    | HF45 4560          | HF45 4560          | 47 k $\Omega$  | HF45 7470          | HF45 7470          |
| 68 $\Omega$    | HF45 4680          | HF45 4680          | 51 k $\Omega$  | HF45 7510          | HF45 7510          |
| 75 $\Omega$    | HF45 4750          | HF45 4750          | 56 k $\Omega$  | HF45 7560          | HF45 7560          |
| 82 $\Omega$    | HF45 4820          | HF45 4820          | 62 k $\Omega$  | HF45 7620          | HF45 7620          |
| 91 $\Omega$    | HF45 4910          | HF45 4910          | 68 k $\Omega$  | HF45 7680          | HF45 7680          |
| 100 $\Omega$   | HF45 5100          | HF45 5100          | 82 k $\Omega$  | HF45 7820          | HF45 7820          |
| 110 $\Omega$   | HJ35 5110          | HF85 5110          | 91 k $\Omega$  | HF45 7910          | HF45 7910          |
| 120 $\Omega$   | HF45 5120          | HF45 5120          | 100 k $\Omega$ | HF45 8100          | HF45 8100          |
| 150 $\Omega$   | HF45 5150          | HF45 5150          | 110 k $\Omega$ | HF45 8110          | HF45 8110          |
| 160 $\Omega$   | HJ35 5160          | *                  | 120 k $\Omega$ | HF45 8120          | HF45 8120          |
| 180 $\Omega$   | HF45 5180          | HF45 5180          | 150 k $\Omega$ | HF45 8150          | HF45 8150          |
| 200 $\Omega$   | HF45 5200          | HF45 5200          | 180 k $\Omega$ | HF45 8180          | HF45 8180          |
| 220 $\Omega$   | HF45 5220          | HF45 5220          | 220 k $\Omega$ | HJ35 8220          | HF85 8220          |
| 270 $\Omega$   | HF45 5270          | HF45 5270          | 270 k $\Omega$ | HF45 8270          | HF45 8270          |
| 330 $\Omega$   | HF45 5330          | HF45 5330          | 300 k $\Omega$ | HF45 8300          | HF45 8300          |
| 390 $\Omega$   | HF45 5390          | HF45 5390          | 330 k $\Omega$ | HF45 8330          | HF45 8330          |
| 430 $\Omega$   | HF45 5430          | HF45 5430          | 390 k $\Omega$ | HJ35 8390          | HF85 8390          |
| 470 $\Omega$   | HF45 5470          | HF45 5470          | 470 k $\Omega$ | HF45 8470          | HF45 8470          |
| 510 $\Omega$   | HF45 5510          | HF45 5510          | 560 k $\Omega$ | HJ35 8560          | HF85 8560          |
| 560 $\Omega$   | HF45 5560          | HF45 5560          | 680 k $\Omega$ | HJ35 8680          | HF85 8680          |
| 680 $\Omega$   | HF45 5680          | HF45 5680          | 820 k $\Omega$ | HJ35 8820          | HF85 8820          |
| 820 $\Omega$   | HF45 5820          | HF45 5820          | 1.0 M $\Omega$ | HF45 9100          | HF45 9100          |
| 910 $\Omega$   | HF45 5910          | HF45 5910          | 1.2 M $\Omega$ | HJ35 9120          | *                  |
| 1.0 k $\Omega$ | HF45 6100          | HF45 6100          | 1.5 M $\Omega$ | HJ35 9150          | HF85 9150          |
| 1.2 k $\Omega$ | HF45 6120          | HF45 6120          | 1.8 M $\Omega$ | HJ35 9180          | HF85 9180          |
| 1.5 k $\Omega$ | HF45 6150          | HF45 6150          | 2.2 M $\Omega$ | HJ35 9220          | HF85 9220          |
| 1.8 k $\Omega$ | HF45 6180          | HF45 6180          | 3.3 M $\Omega$ | HJ35 9330          | HF85 9330          |
| 2.0 k $\Omega$ | HJ35 6200          | HF85 6200          | 3.9 M $\Omega$ | HJ35 9390          | *                  |
| 2.2 k $\Omega$ | HF45 6220          | HF45 6220          | 4.7 M $\Omega$ | HJ35 9470          | HF85 9470          |
| 2.4 k $\Omega$ | HJ35 6240          | HF85 6240          |                |                    |                    |
| 2.7 k $\Omega$ | HF45 6270          | HF45 6270          |                |                    |                    |
| 3.0 k $\Omega$ | HF45 6300          | HF45 6300          |                |                    |                    |
| 3.3 k $\Omega$ | HF45 6330          | HF45 6330          |                |                    |                    |
| 3.6 k $\Omega$ | HJ35 6360          | HF85 6360          |                |                    |                    |
| 3.9 k $\Omega$ | HF45 6390          | HF45 6390          |                |                    |                    |
| 4.7 k $\Omega$ | HF45 6470          | HF45 6470          |                |                    |                    |
| 5.1 k $\Omega$ | HF45 6510          | HF45 6510          |                |                    |                    |
| 5.6 k $\Omega$ | HF45 6560          | HF45 6560          |                |                    |                    |
| 6.8 k $\Omega$ | HF45 6680          | HF45 6680          |                |                    |                    |
| 8.2 k $\Omega$ | HF45 6820          | HF45 6820          |                |                    |                    |
| 9.1 k $\Omega$ | HF45 6910          | HF45 6910          |                |                    |                    |

