AV RECEIVER

RX-V2092

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.

■ CONTENTS

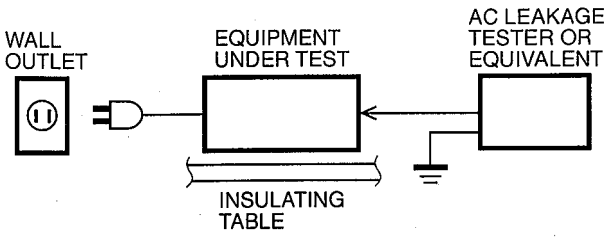
100582

YAMAHA
YAMAHA CORPORATION
P.O.Box1,Hamamatsu,Japan
1.73K-3541 Printed in Japan '97.6

■ TO SERVICE PERSONNEL

1. Critical Components Information.
   Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
2. Leakage Current Measurement (For 120V Models Only).
   When service has been completed, it is imperative to verify that all exposed conductive surfaces are properly insulated from supply circuits.

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



"CAUTION"
"F201, 202 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 6.0A, 125V FUSE."
"F801 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 10A, 250V FUSE."

CAUTION
F201, 202 : REPLACE WITH SAME TYPE 6.0A, 125V FUSE.
F801 : REPLACE WITH SAME TYPE 10A, 250V FUSE.

ATTENTION
F201, 202 : UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE DE 6.0A, 125V.
F801 : UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE DE 10A, 250V.

WARNING: CHEMICAL CONTENT NOTICE!

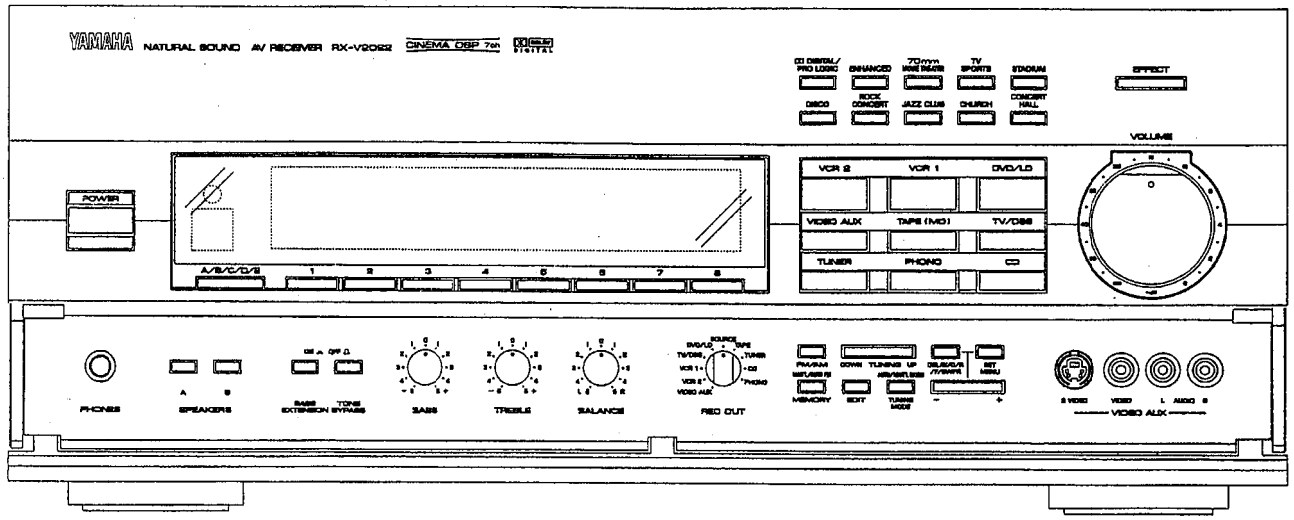
The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects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

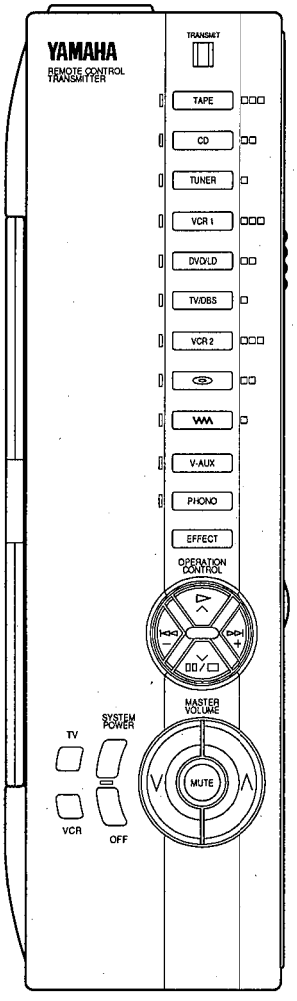
DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

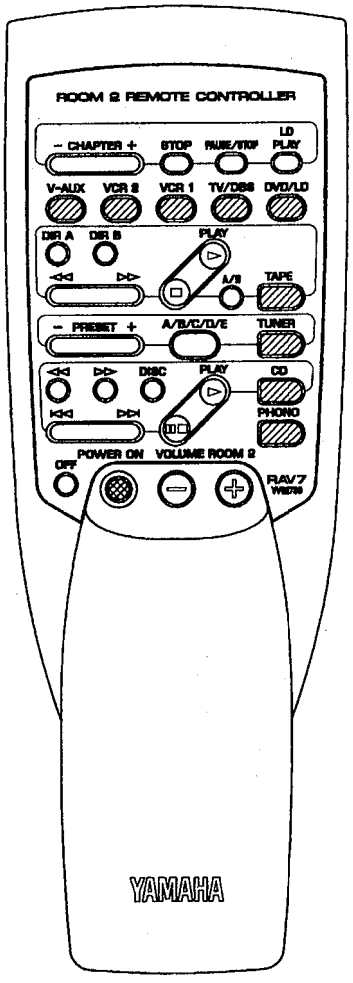
Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

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

■ FRONT PANELS

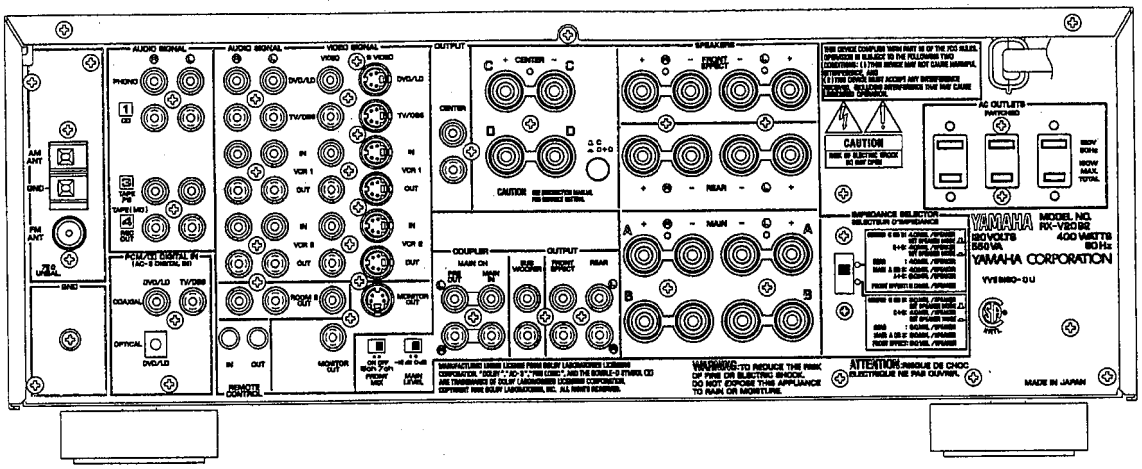




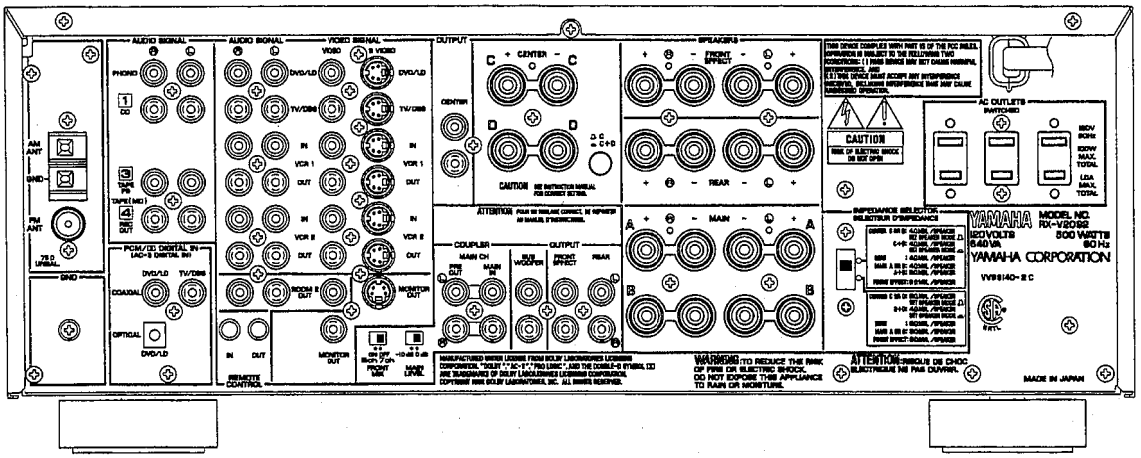


■ REAR PANELS

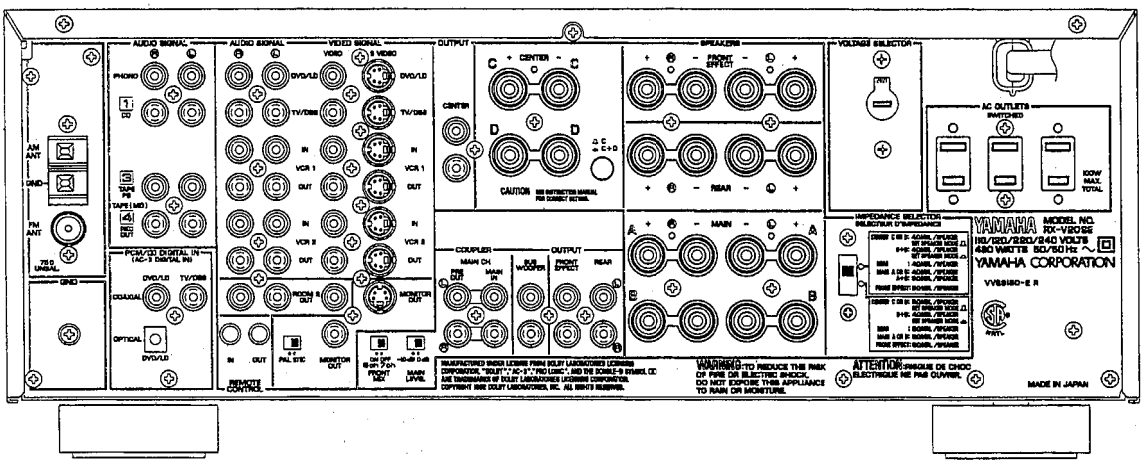
▼ U model



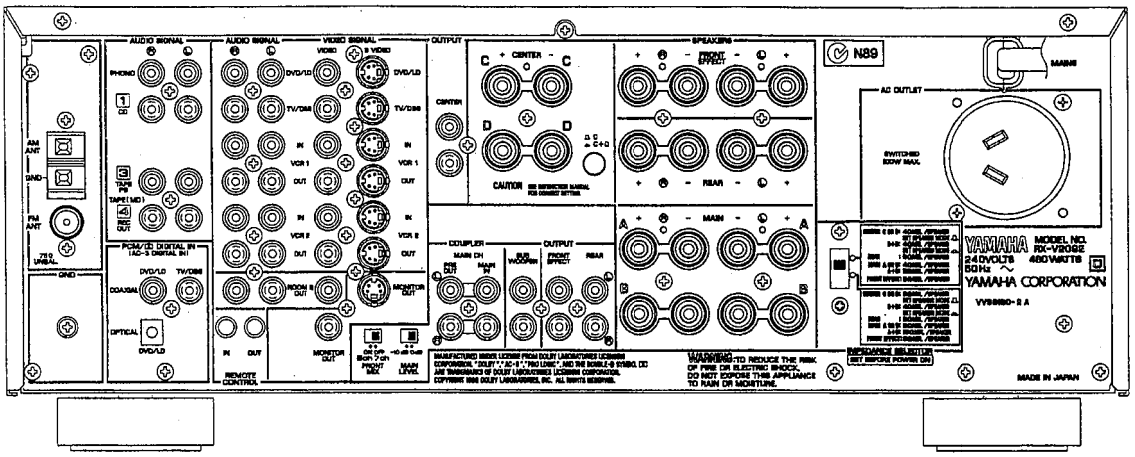
▼ C model



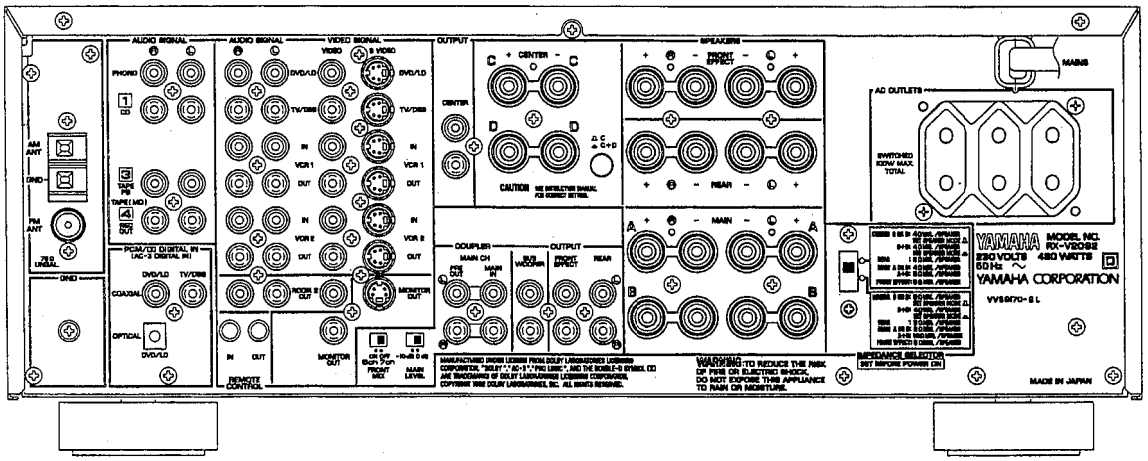
▼ R model



▼ A model

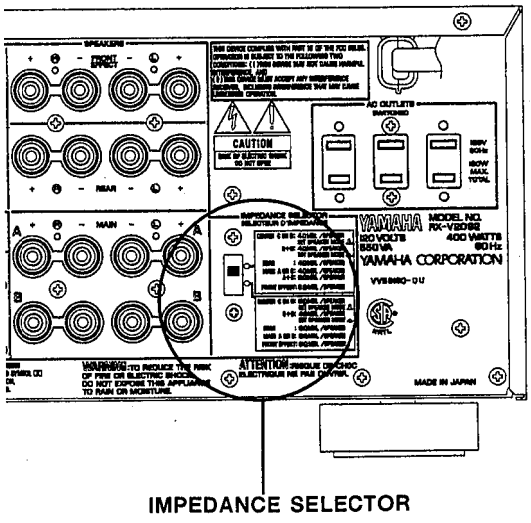


▼ L model



WARNING

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



IMPEDANCE SELECTOR

■ SPECIFICATIONS

■ AUDIO SECTION

Minimum RMS Output Power per Channel
MAIN, 20Hz to 20kHz, 0.02% THD, 8Ω 100W
CENTER, 20Hz to 20kHz, 0.02% THD, 8Ω 100W
REAR, 20Hz to 20kHz, 0.02% THD, 8Ω 100W
FRONT, 1kHz, 0.05% THD, 8Ω 25W
Maximum Power per Channel (R model only)
MAIN, 1kHz, EIAJ, 10% THD, 8Ω 135W
Dynamic Power per Channel (IHF)
MAIN, 8/6/4/2Ω 140/170/220/320W
DIN Standard Output Power per Channel (L model only)
MAIN, 1kHz, 0.7% THD, 4Ω 160W
Dynamic Headroom (U, C, models only)
8Ω 1.46dB
IEC Power (L model only)
MAIN, 1kHz, 0.015% THD, 8Ω 115W
Power Band Width
MAIN, 0.08% THD, 50W/8Ω ..... 10Hz to 50kHz
Damping Factor
MAIN, 20Hz to 20kHz, 8Ω ..... 200 or more
Input Sensitivity/Impedance
PHONO MM 2.5mV/47kΩ
CD, etc 150mV/47kΩ
MAIN IN 1V/47kΩ
Maximum Input Signal Level
PHONO MM, 1kHz, 0.04% THD 110mV
CD, etc, 1kHz, 0.5% THD (Effect on) 2.2V
Output Level/Impedance
REC OUT 150mV/2.7kΩ
PRE OUT (MAIN) 1V/1.2kΩ
ROOM 2 OUT 1V/1.5kΩ
SUB WOOFER (MAIN SP : SMALL) 3.4V/1.2kΩ
Headphone Jack Rated Output/Impedance
1kHz, 150mV, 8Ω 0.5V/440Ω
Frequency Response (20Hz to 20kHz)
CD, etc, MAIN ..... 0±0.5dB
RIAA Equalization Deviation (20Hz to 20kHz)
PHONO MM ..... 0±0.5dB
Total Harmonic Distortion (20Hz to 20kHz)
PHONO MM to REC OUT (1V) 0.01%
CD, etc to MAIN SP OUT (50W/8Ω) 0.015%
MAIN IN to MAIN SP OUT (50W/8Ω) 0.008%
Signal-to-Noise Ratio (IHF-A-Network)
PHONO MM, Input Shorted (5mV) REC OUT 86dB
CD, etc, Input Shorted, SP OUT (Effect off) 96dB
Residual Noise (IHF-A-Network)
MAIN, SP OUT 150μV
Channel Separation (Vol. –30dB, Effect off)
PHONO MM, Input Shorted, 1kHz/10kHz 60dB/55dB
CD, etc, Input 5.1kΩ Shorted, 1kHz/10kHz ... 60dB/45dB
Tone Control Characteristics
BASS : Boost/cut ..... ±10dB (50Hz)
Turnover Frequency 350Hz
TREBLE : Boost/cut ..... ±10dB (20kHz)
Turnover Frequency 3.5kHz
Filter Characteristics
MAIN, REAR SP SMALL : H.P.F. ... fc = 90Hz, 12dB/oct.
SUB WOOFER : L.P.F. ..... fc = 90Hz, 24dB/oct.
Bass Extension ..... +6dB (50Hz)
Muting ..... – ∞
Gain Tracking Error (0dB to –60dB) 3dB
Tuner Output Level/Impedance
FM (100% mod.)
1kHz U, C, R models 500mV/2.2kΩ
40kHz Dev. A, L models 400mV/2.2kΩ
AM (30% mod. 1kHz) 150mV/2.2kΩ

■ FM SECTION

Tuning Range
U, C models ..... 87.5 to 107.9MHz
A, L models ..... 87.50 to 108.00MHz
R model ..... 87.5 to 107.9/87.50 to 108.00MHz
50dB Quieting Sensitivity (IHF, 75 Ω)
Mono 1.55μV (15.1dBf)
Stereo 21μV (37.7dBf)
Image Response Ratio
U, C, R models 45dB
A, L models 80dB
IF Response Ratio
U, C, R models 70dB
A, L models 80dB
Spurious Response Ratio 70dB
AM Suppression Ratio 55dB
Capture Ratio 1.5dB
Alternate Channel Selectivity
U, C, R models 85dB
Selectivity (two signals, 40kHz Dev.)
A, L models 70dB
Signal-to-Noise Ratio
Mono/Stereo (IHF)
U, C, R models 80/75dB
Mono/Stereo (DIN-weighted, 40kHz Dev.)
A, L models 75/70dB
Harmonic Distortion
Mono/Stereo (1kHz) 0.1/0.2%
Stereo Separation
1kHz 50dB
Frequency Response
20Hz to 15kHz ..... 0±1.5dB

■ AM SECTION

Tuning Range
U, C models ..... 530 to 1,710kHz
A, L models ..... 531 to 1,611kHz
R model ..... 530 to 1,710/531 to 1,611kHz
Usable Sensitivity 100μV/m
Selectivity 32dB
Signal-to-Noise Ratio 50dB
Image Response Ratio 40dB
Spurious Response Ratio 50dB
Harmonic Distortion (1kHz) 0.3%

■ VIDEO SECTION

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

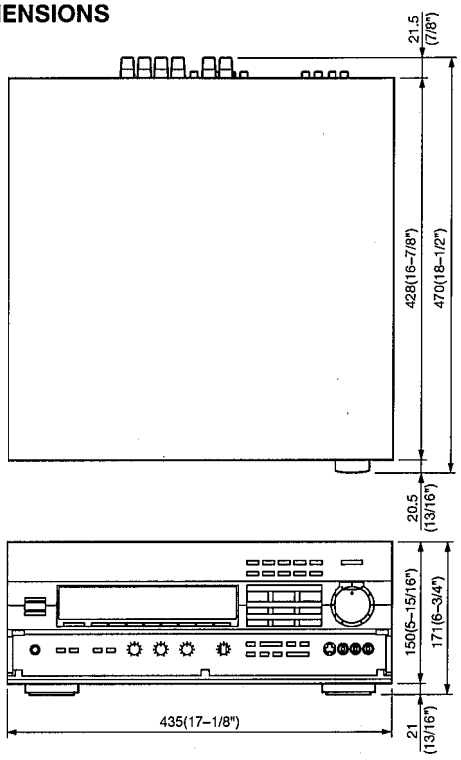
■ GENERAL

Power Supply
U, C models ..... AC 120V, 60Hz
A model ..... AC 240V, 50Hz
L model ..... AC 230V, 50Hz
R model ..... AC 110/120/220/240V, 50/60Hz
Power Consumption
U model 450W
C model 500W/640VA
A, L, R models 480W
Maximum Power Consumption (R model only) 770W
AC Outlets
U, C, L, R models, Switched x 3 ..... 100W max (Total)
A model, Switched x 1 ..... 100W max
Dimensions (W x H x D) .....435 x 171 x 470mm
(17-1/8" x 6-3/4" x 18-1/2")
Side Panel model (R only) ..... 473 x 171.5 x 470mm
(18-5/8" x 6-3/4" x 18-1/2")
Weight .....20.0 kg (44 lbs 1oz)
Side Panel model (R only) .....22.0 kg (48 lbs 8oz)
Accessories ..... AM loop antenna x 1
Indoor FM antenna x 1
Remote Control Transmitter x 2
Battery (size "AA", "R06") x 4

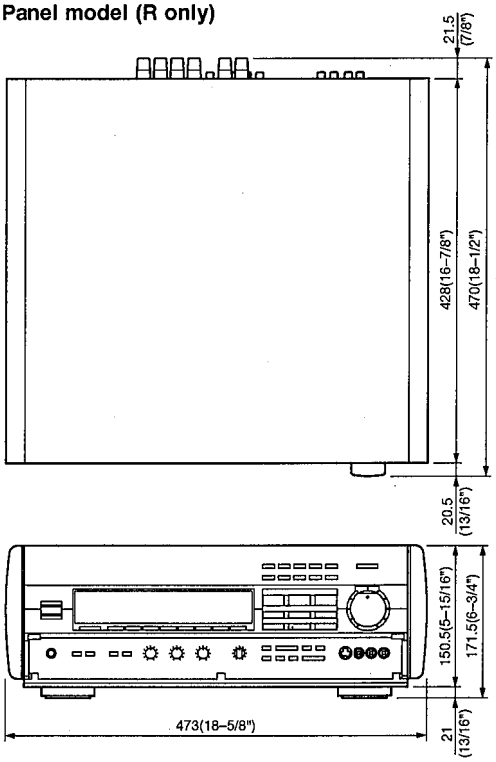
** Specifications subject to change without notice.*

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

● DIMENSIONS

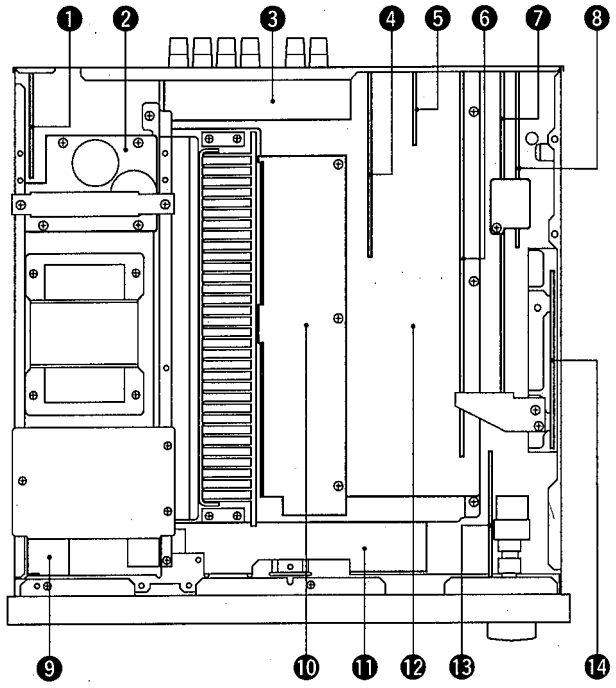


Side Panel model (R only)



Units : mm (inch)

■ INTERNAL VIEW



❶ P. C. B. VIDEO (5)
❷ P. C. B. MAIN (3)
❸ P. C. B. MAIN (2)
❹ P. C. B. VIDEO (4)
❺ P. C. B. VIDEO (3)
❻ P. C. B. FUNCTION (1)
❼ P. C. B. FUNCTION (2)
❽ P. C. B. TUNER
❾ P. C. B. OPERATION (9)
❿ P. C. B. VIDEO (1)
⓫ P. C. B. OPERATION (6)
⓬ P. C. B. MAIN (1)
⓭ P. C. B. OPERATION (5)
⓮ P. C. B. DSP

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

1. Removal of Top Cover
a. Remove 4 screws (①), 2 screws (②) and 2 screws (③) in Fig. 1.

2. Removal of Bottom Cover
a. Remove 13 screws (④) in Fig. 1.

3. Removal of Front Panel
a. Remove 5 knobs.
b. Remove 5 screws (⑤) in Fig. 1.

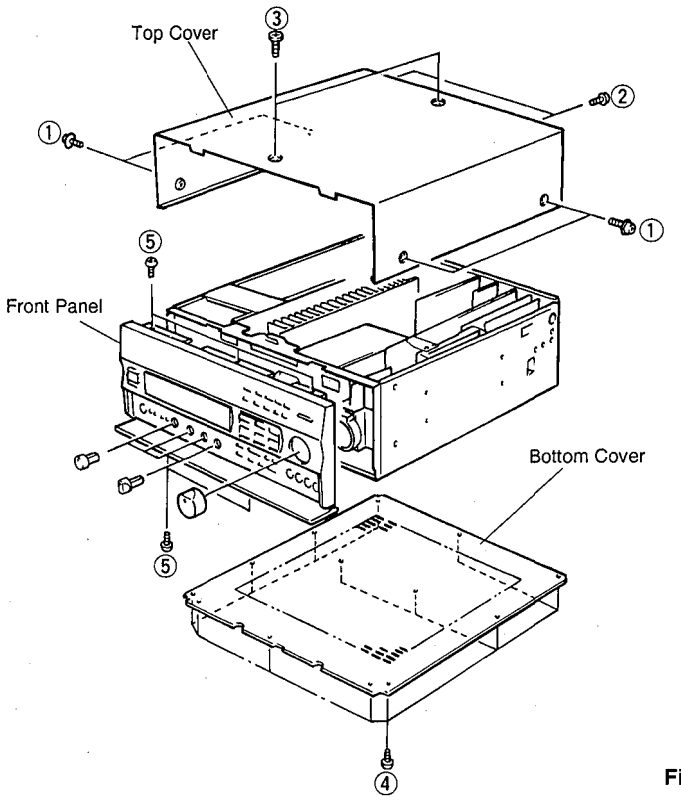
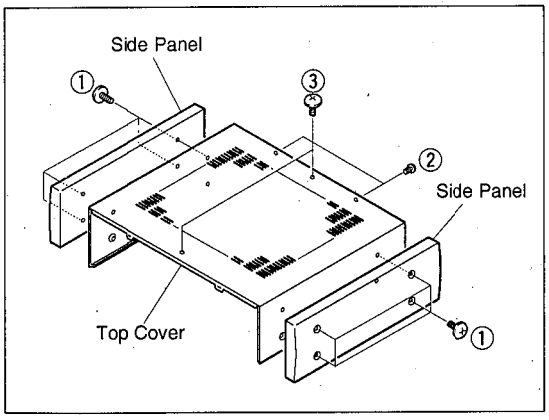


Fig. 1

Titanium model (R only)



■ SELF DIAGNOSIS FUNCTION

1. PURPOSE AND OPERATION

The RX-V2092 has a Self Diagnosis Function to locate a faulty part, if any, by inspecting and taking measurements.

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

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

2. STARTING DIAGNOSIS FUNCTION

(1) Starting diagnosis function

A. Starting the program

Turn on the power while pressing the "VCR2" key and "VIDEO AUX" key on the front panel of the main unit simultaneously, and the diagnostic program will start.
After the program has started, execute the diagnostic menu No.1.

B. Settings for start-up of diagnostic program

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

1. EFFECT LEVEL :

CHANNEL	FRONT	CENTER	REAR	SWFR	LFE
LEVEL (dB)	-10	0	0	0	0

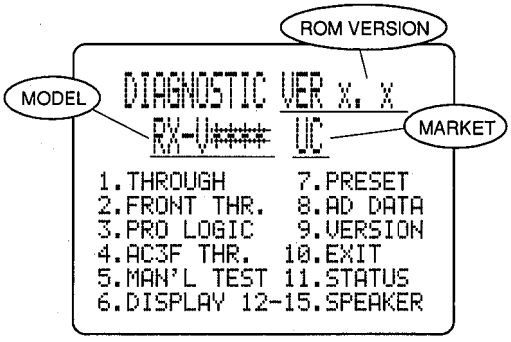
2. SPEAKER RELAY A/B : ON
3. MUTING : OFF
4. INPUT (VIDEO) : DVD/LD (DVD/LD)
5. CENTER SPEAKER : WIDE
6. REAR SPEAKER : LARGE
7. MAIN SPEAKER : LARGE
8. LFE/BASS OUT : SWFR
9. ROOM 2 INPUT (VIDEO) : DVD/LD (DVD/LD)
10. ROOM 2 VOLUME : -30dB

C. Start-up display

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

● **Monitor display**

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



<MONITOR DISPLAY>

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

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

(*1) If some faulty condition is detected in the excess current, the power source or the DC, the power will be turned off automatically.

(*2) To clear the history of the protection function, select "PRESET DAT" in the diagnosis menu No.7 as described later.

● **History of protection function**

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

1 DVD/LD NO PROTEC	The protection function has not been activated.
1 DVD/LD I PROTEC	The protection function has been activated due to an overcurrent. In this state, even if the power is turned on, it will turn off immediately.
1 DVD/LD PS PRT : 0	The protection function has been activated due to an abnormality in the power supply. In this state, even if the power is turned on, it will turn off after 0.5 second. The reduced level of the power is indicated in the AD value. For more information on this value, refer to 5. CONTENTS OF DIAGNOSIS FUNCTION in the later section.
1 DVD/LD DC PRT : 0	The protection function has been activated due to a cause in the DC. In this state, even if the power is turned on, it will turn off after 2 seconds. The reduced level of the power is indicated in the AD value. For more information on this value, refer to 5. CONTENTS OF DIAGNOSIS FUNCTION in the later section.
1 DVD/LD TMP PROTEC	The protection function has been activated due to an excessively high temperature of heat sink. As soon as such an abnormality is detected, the power is turned off.

3. OPERATION AND DISPLAY WHEN STARTING DIAGNOSIS FUNCTION

(1) Selection of diagnostic menu

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

● Selection by using the front panel keys

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

● Selection by using the remote control unit

The diagnostic menu items No.1 through No.10 correspond to the sound field program keys No. 1 through No.10 and No.11 to the "EFFECT" key. The sub-menu changes at every push of the same key.
It is possible to call the sub-menu of other than the above diagnostic menu items. Refer to the table below for the key corresponding to each diagnostic menu item.

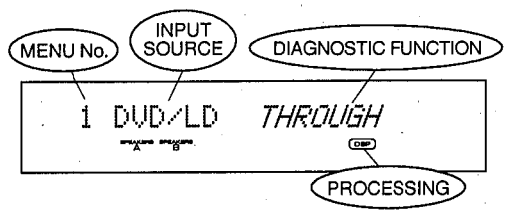
No.	MAIN MENU	REMOTE CONTROL KEYS
1	THROUGH	PRO LOGIC/DOLBY DIGITAL
2	FRONT THROUGH	ENHANCED
3	PRO LOGIC	MOVIE THEATER
4	AC3F THROUGH	TV SPORTS
5	MANUAL TEST	STADIUM
6	DISPLAY/EFFECT OFF	DISCO
7	FACTORY PRESET	ROCK CONCERT
8	AD DATA CHECK	JAZZ CLUB
9	VERSION INFOMATION	CHURCH
10	MENU EXIT & DEMO	CONCERT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

No.	MAIN MENU	SUB MENU	REMOTE CONTROL KEY
1	THROUGH	– – –	TAPE PLAY
2	FRONT THROUGH	– – –	TAPE ◄◄
3	PRO LOGIC	2. CENTER NORMAL	TAPE ►►
4	AC3F THROUGH	– – –	TAPE STOP
5	MANUAL TEST	9. TEST ALL	TAPE REC
6	DISPLAY/EFFECT OFF	2. VFD ALL/EFFECT OFF	TAPE A/B
12	CENTER SPEAKER	1. CENTER WIDE 2. CENTER NORMAL 3. CENTER PHANTOM	TAPE DIRA CD PLAY CD PAUSE
13	REAR SPEAKER	1. REAR LARGE 2. REAR SMALL	CD ►►I CD I◄◄
14	MAIN SPEAKER	1. MAIN LARGE 2. MAIN SMALL	CD ►► CD ◄◄
15	LFE/BASS OUT	1. BASS SUB WOOFER 2. BASS MAIN 3. BASS BOTH	PRESET + PRESET – A/B/C/D/E

(2) Menu display

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

<FRONT PANEL DISPLAY>



(3) Other functions available while diagnosis function at work

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

- Selecting input source
- Adjusting effect level
- Adjusting master volume
- Muting on/ off
- Turning power off
- Selecting input source of ROOM 2
- Adjusting master volume of ROOM 2

4. CANCELING DIAGNOSIS FUNCTION

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

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

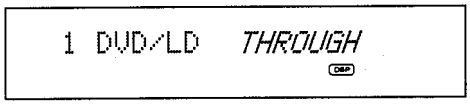
5. CONTENTS OF DIAGNOSIS FUNCTION

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

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

(1) THROUGH

<FRONT PANEL DISPLAY>



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

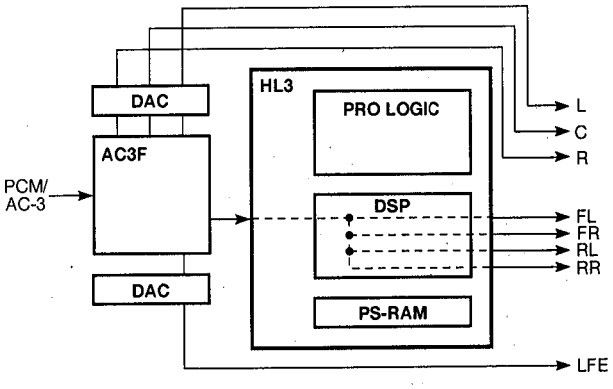
● **Digital signal passage**

<DOLBY DIGITAL>

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

<PCM DIGITAL>

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

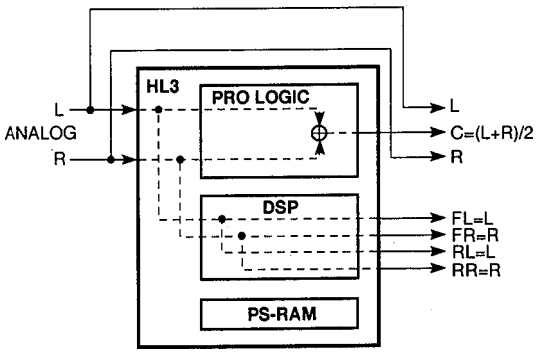


Automatic Selection

● **Analog signal passage**

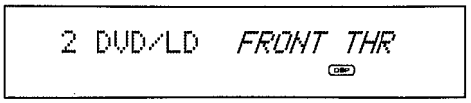
(when there is no digital signal input)

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



(2) FRONT THROUGH

<FRONT PANEL DISPLAY>



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

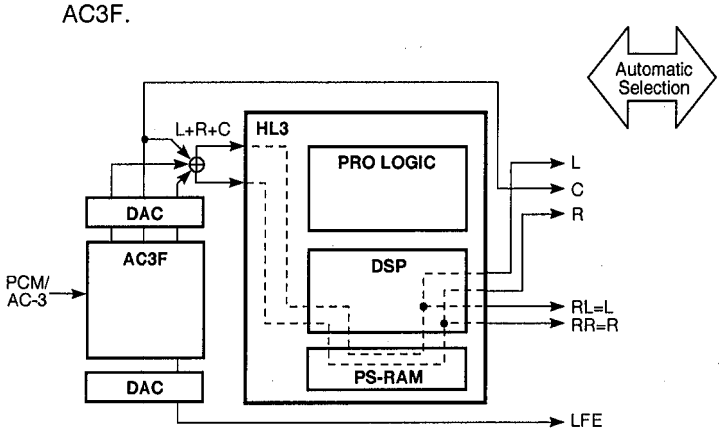
● Digital signal passage

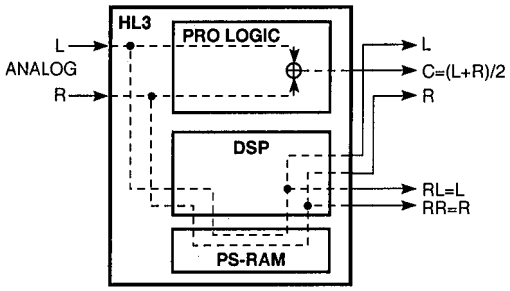
- The signals from L, R, RL and RR are output through the DSP section of AC3F to HL3 as the L+R+C signal respectively.
- The signals from C and LFE are output through the AC3F.

● Analog signal passage

(when there is no digital signal input)

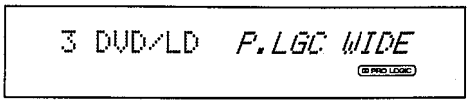
- The signals from L, R, RL and RR are output through the DSP section of HL3.
- The signals from C are output through the PRO LOGIC section of HL3 as (L+R)/2.





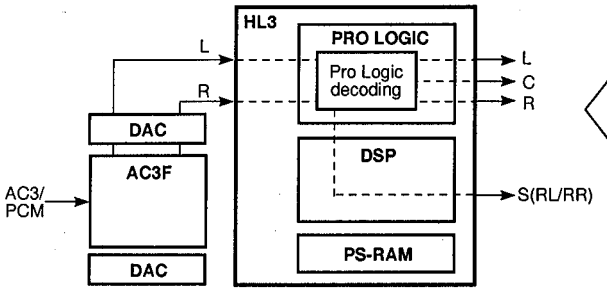
(3) PRO LOGIC

<FRONT PANEL DISPLAY>



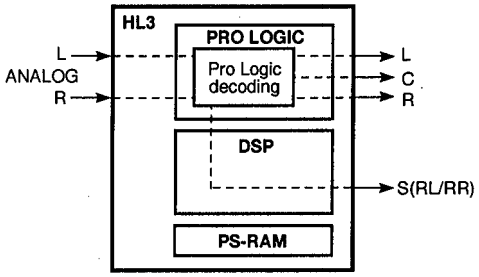
The PRO LOGIC function is activated when the AUTO INPUT BALANCE function is turned off. The digital and analog switching is available automatically with a priority placed for the digital signal over the analog signal. When digital signals are input, the digital optical input has a priority over the digital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

● **PRO LOGIC for digital signal**



Automatic Selection

● **PRO LOGIC for analog signal**

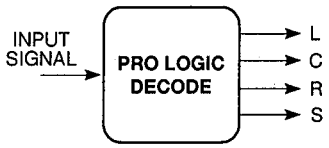


○ Sub-menu

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

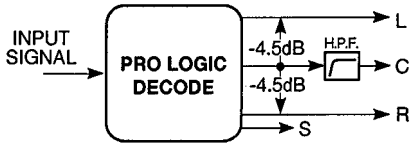
P.LGC WIDE

When the "Wide" setting is selected



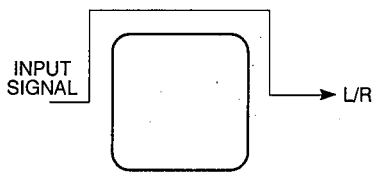
P.LGC NRML

When the "Normal" setting is selected



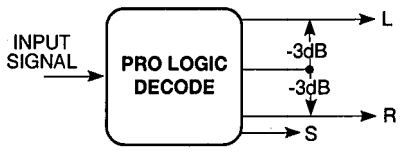
E.OFF ANLG

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



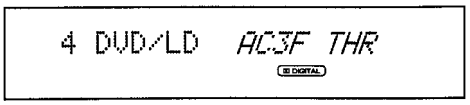
P.LGC PNTM

When the "Phantom" setting is selected



(4) AC3F THROUGH

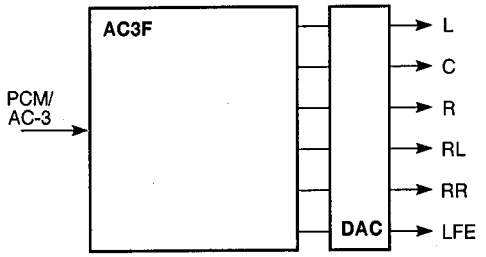
<FRONT PANEL DISPLAY>



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

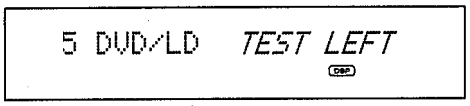
<DOLBY DIGITAL>
The Dolby digital signals from L, R, RL, RR, C and LFE are output through the AC3F.

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



(5) MANUAL TEST TONE

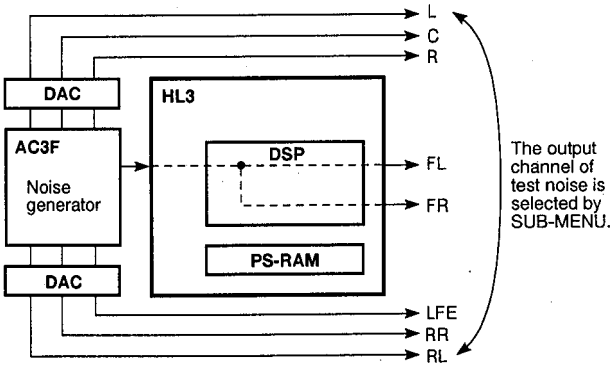
<FRONT PANEL DISPLAY>

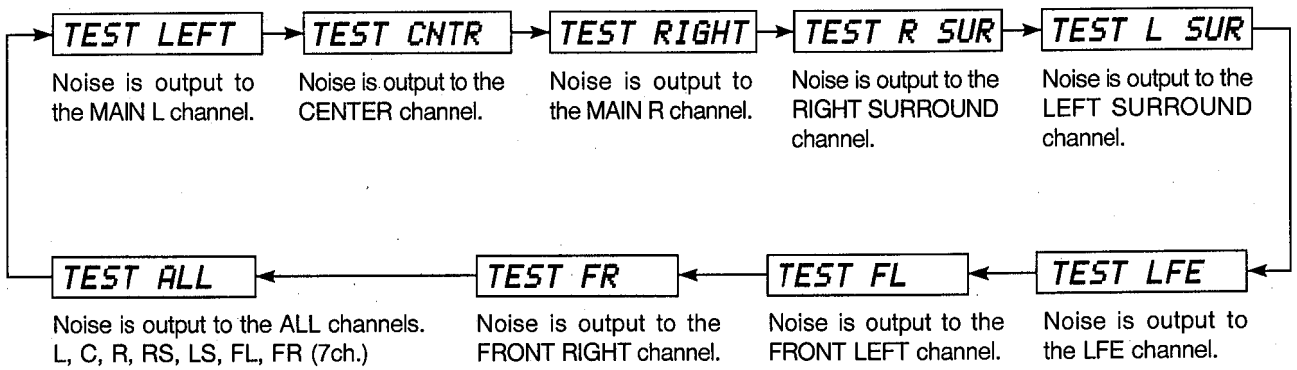


The test noise generated by the noise generator built into the DSP is output to the channel selected by the sub-menu.

○ Sub-menu

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





6) FRONT PANEL VFD (Vacuum Fluorescent Display) check

<FRONT PANEL DISPLAY>

6 DVD/LD DISP CHECK

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

❍ **Sub-menu**

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

All the segments of VFD turn on.

All the segments of VFD turn off.

(7) FACTORY PRESET

<FRONT PANEL DISPLAY>

7 DVD/LD KEEP DATA

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

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

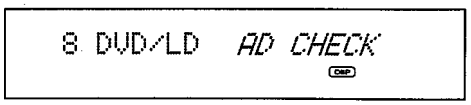
PRESET DAT
When the self diagnosis function is canceled, the back-up data is initialized to the factory preset state. For the contents of the initialization, refer to page 24.

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

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

(8) AD CONVERSION DATA

<FRONT PANEL DISPLAY>

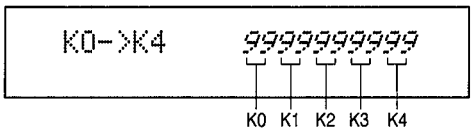


This menu is used to check the AD input port of the CPU and the resistance value to divide the voltage. The AD conversion data detected by the software is displayed in percentage in term of 5V as 100%. The signal processing content is the "THROUGH" passage of the diagnostic menu No.1.

* When the AD value deviates from the standard value by ±4%, normal operation will not be available. In such a case, check the partial pressure resistance constant, soldering condition, etc.

○ Sub-menu

Using this menu, it is possible to check the AD value of the Input, Rec Out, Protection, Temperature Detection (fan control), PAL/NTSC switch, Front Mix switch, Frequency select switch (R model) signal meter in the tuner section. While the AD value is displayed, only selection of the diagnosis menu, turning off the power and cancellation of the diagnosis function are available.



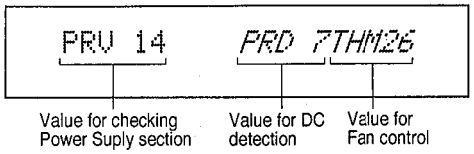
The AD value detected when the front panel key is pressed is displayed in percentage. The AD values are assigned to the keys at 10% intervals as shown in the tables below.

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

AD value	90% (4.5V)	80% (4.0V)	70% (3.5V)	60% (3.0V)	50% (2.5V)
K0	MEMORY	EDIT	TUNING MODE	FM/AM	TUNING DOWN
K1			SPEAKER A	SPEAKER B	A/B/C/D/E
K2				EFFECT	PRO LOGIC
K3		PRESET 6	PRESET 7	PRESET 8	TUNER
K4				ROCK CONCERT	JAZZ CLUB

AD value	40% (2.0V)	30% (1.5V)	20% (1.0V)	10% (0.5V)	0% (0.0V)
K0	TUNING UP	DLY/LVL	DLY/LVL –	DLY/LVL +	SET MENU
K1	PRESET 1	PRESET 2	PRESET 3	PRESET 4	PRESET 5
K2	ENHANCED	MOVIE THEATER	TV SPORTS	STADIUM	DISCO
K3	PHONO	CD	V-AUX	TV/DBS	TAPE
K4	CHURCH	CONCERT HALL	VCR2	VCR1	DVD/LD

PRESET : PRESET STATION
DLY/LVL : DELAY TIME / SP LEVEL



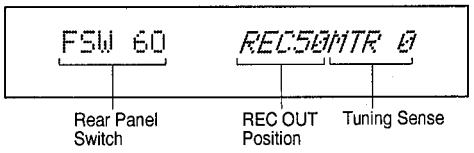
● **PRV** : The PRV value shows whether the supplied power voltage is correct or not. The voltage range for the normal operation is from 9 to 19. If the voltage exceeds this range, the protection function will be activated to turn off the power automatically.

● **PRD** : The PRD value shows whether there is an excessive DC output or not. The output range for the normal operation is from 2 to 13. If the voltage exceeds this range, the protection function will be activated to turn off the power automatically.

● **THM** : The THM value shows the detected heat sink temperature. It is used to control the air cooling fan. When the value drops less than 5, the protection function will be activated to turn off the power automatically.

Operation of air cooled fan

26 or more : The fan does not run.
23 ~ 25 : The fan may run at times.
24 ~ 6 : The fan runs in 3 steps.
5 or less : The protection function is activated.



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

FREQUENCT STEP	PAL/NTSC	FRONT MIX	VOLTAGE	AD VALUE
10kHz	NTSC	OFF (7ch)	0.0V	0%
10kHz	NTSC	ON (5ch)	0.5V	10%
10kHz	PAL	OFF (7ch)	1.0V	20%
10kHz	PAL	ON (5ch)	1.5V	30%
9kHz	NTSC	OFF (7ch)	2.0V	40%
9kHz	NTSC	ON (5ch)	2.5V	50%
9kHz	PAL	OFF (7ch)	3.0V	60%
9kHz	PAL	ON (5ch)	3.5V	70%

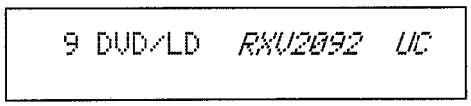
● **REC** : The REC value shows the REC OUT position in percentage at 10% intervals.

● **MTR** : The MTR value shows the signal sensitivity of the tuner in percentage.

REC OUT SELECTOR	VOLTAGE	AD VALUE
PHONO	4.5V	90%
CD	4.0V	80%
TUNER	3.5V	70%
TAPE	3.0V	60%
SOURCE	2.5V	50%
DVD/LD	2.0V	40%
TV/DBS	1.5V	30%
VCR 1	1.0V	20%
VCR 2	0.5V	10%
VIDEO AUX	0.0V	0%

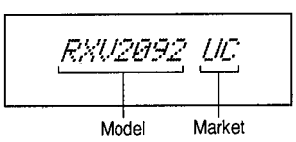
(9) VERSION

<FRONT PANEL DISPLAY>



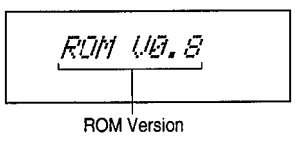
Shown on the display are the model, the market and the ROM version.

○ Sub-menu



● **Model :**
"RXV2092" = RX-V2092

● **Market :**
"UC" = USA & Canadian models
"AL" = Australian & Singapore models
"R" = General model
"J" = Japan model

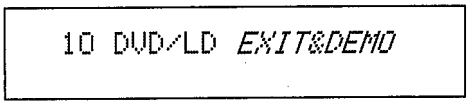


● **ROM Version :**
A version No. is given to the program to control the microprocessor, depending on the contents. The version is updated whenever any change is made to the contents.

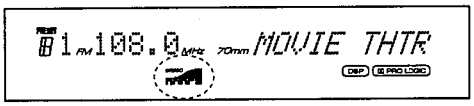
(10) CANCELING DIAGNOSIS FUNCTION & ENTERING DEMONSTRATION DISPLAY MODE

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

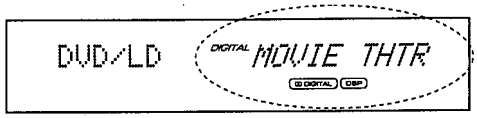
<FRONT PANEL DISPLAY>



DEMONSTRATION DISPLAY



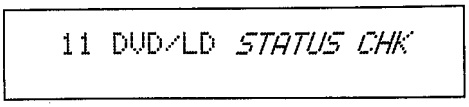
When the input selector is set to the TUNER position, all the segments of the tuning sensitivity meter turn on without any signal input. In addition, when the FM band is selected, the STEREO segment turns on.



When the input selector is set to the DVD/LD or TV/DBS position, the sound field program name and the DSP processing display are the same as those when the DOLBY DIGITAL signals are input without any signal input.

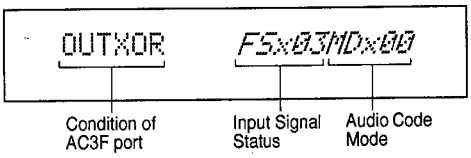
(11) STATUS DISPLAY

<FRONT PANEL DISPLAY>



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

○ Sub-menu



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

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

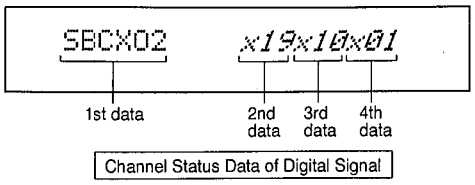
	OFF	32k	44.1k	48k
FS0	1	1	0	0
FS1	0	1	0	1

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

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

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

AUDIO CODE MODE	**LtRt**	**1/0**	**2/0**	**3/0**	**2/1**	**3/1**	**2/2**	**3/2**
DISPLAY DATA	x00	x01	x02	x03	x04	x05	x06	x07



Channel Status Data of Digital Signal

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

● **FIRST DATA**
This data shows the FORMAT data and the EMPHASIS information.
When the DOLBY digital signal is input, the bit #0 is "1" and it becomes "0" when the PCM digital signal is input. When the signal source has the emphasis effect, the bit #2 status becomes "1".

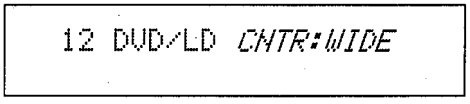
● **SECOND DATA**
This data shows the CATEGORY code of the digital signal.

● **THIRD DATA**
This data shows the source and the channel No. of the digital signal.

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

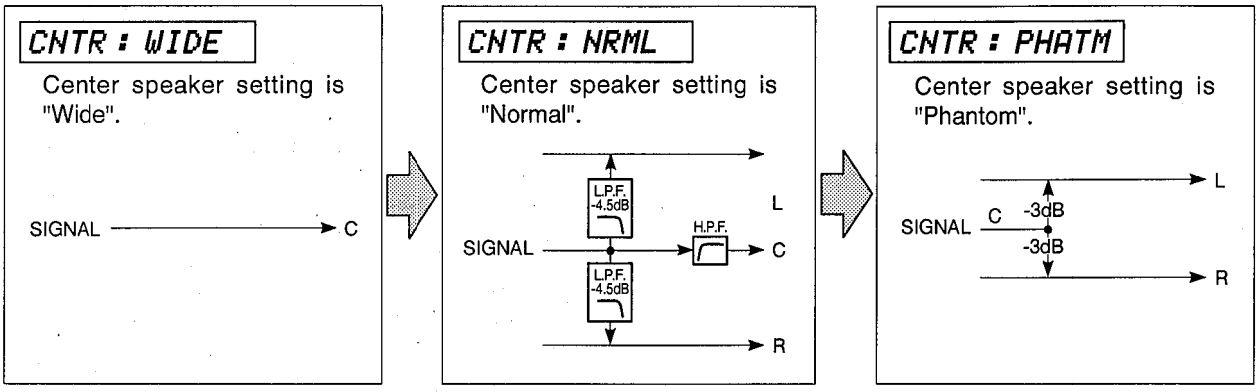
(12) CENTER SPEAKER

<FRONT PANEL DISPLAY>



The mode of the center speaker can be selected.

❍ **Sub-menu**
The center speaker setting can be selected among WIDE, NORMAL and PHANTOM.



(13) REAR SPEAKER

<FRONT PANEL DISPLAY>

13 DVD/LD *REAR:LARGE*

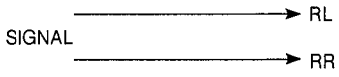
The mode of the rear speaker can be selected.

○ Sub-menu

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

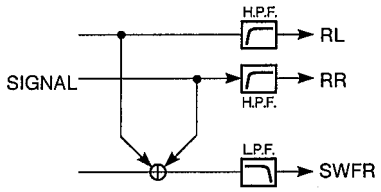
REAR : LARGE

The rear speaker setting is "Large".



REAR : SMALL

The rear speaker setting is "Small".



(14) MAIN SPEAKER

<FRONT PANEL DISPLAY>

14 DVD/LD *MAIN:LARGE*

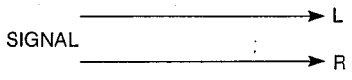
The mode of the main speaker can be selected.

○ Sub-menu

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

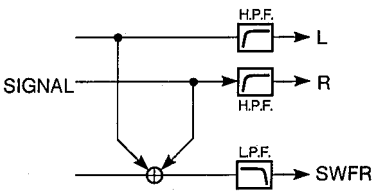
MAIN : LARGE

The main speaker setting is "Large".



MAIN : SMALL

The main speaker setting is "Small".



(15) BASS OUT

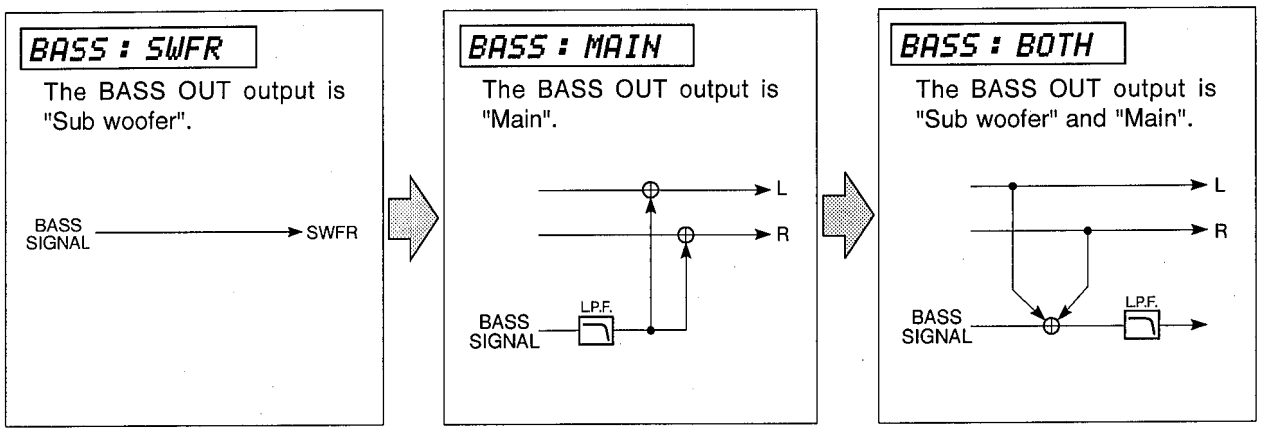
<FRONT PANEL DISPLAY>

```
15 DVD/LD BASS:SWFR
```

The mode of the BASS output can be selected.

○ **Sub-menu**

The BASS output setting can be selected among SWFR, MAIN and BOTH.
The bass signal in the figures below is the low range component of LFE and the rear.



■ AMP CHECK

● **Confirmation of Idling Current**

1) No signal applied.
2) Non-loaded condition.
3) Aging is 10 minutes.

See page 52 to 54 for check points.

Item	Test Point	Rating (DC)
MAIN L	Q168 Base~Emitter (P.C.B. MAIN [1])	100mV~300mV
MAIN R	Q171 Base~Emitter (P.C.B. MAIN [1])	
CENTER	Q180 Base~Emitter (P.C.B. MAIN [1])	
REAR L	Q174 Base~Emitter (P.C.B. MAIN [1])	
REAR R	Q177 Base~Emitter (P.C.B. MAIN [1])	
FRONT L	Q208 Base~Emitter (P.C.B. VIDEO [1])	100mV~350mV
FRONT R	Q214 Base~Emitter (P.C.B. VIDEO [1])	

■ FACTORY PRESET

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

● **INPUT (VIDEO)** DVD/LD (DVD/LD)

● **ROOM 2 INPUT (VIDEO)** DVD/LD (DVD/LD)

● **EFFECT LEVEL**

EFFECT CHANNEL	PRESET VALUE	CONTROL RANGES
FRONT	0 dB	MIN, –20dB — +10dB
CENTER	0 dB	MIN, –20dB — +10dB
RIGHT SURROUND	0 dB	MIN, –20dB — +10dB
LEFT SURROUND	0 dB	MIN, –20dB — +10dB
SUB WOOFER	0 dB	MIN, –20dB — 0dB

● **DSP PROGRAM**

INPUT	DSP PROGRAM
PHONO	CONCERT HALL
CD	ROCK CONCERT
TUNER	DISCO
TAPE	JAZZ CLUB
DVD/LD	70mm/DIGITAL MOVIE THEATER
TV/DBS	TV SPORTS
VCR 1	ENHANCED
VCR 2	PRO LOGIC
VIDEO AUX	ENHANCED

● **SET MENU**

No.	SET MENU	PRESET VALUE	SETTING RANGES
1.	CENTER DELAY	0 ms	0 ms — 5 ms
2.	DYNAMIC RANGE	MAX	MAX/STD/MIN
3.	LFE LEVEL	0 dB	–20dB — 0dB
4.	CENTER SPEAKER	NORMAL	NORMAL/WIDE/PHANTOM
5.	REAR SPEAKER	SMALL	SMALL/LARGE
6.	MAIN SPEAKER	LARGE	SMALL/LARGE
7.	LFE/BASS OUT	SWFR (SUB WOOFER)	MAIN/SWFR/BOTH
8.	INPUT MODE (TV/DBS)	AUTO	AUTO/LAST

● **PRESET STATIONS**

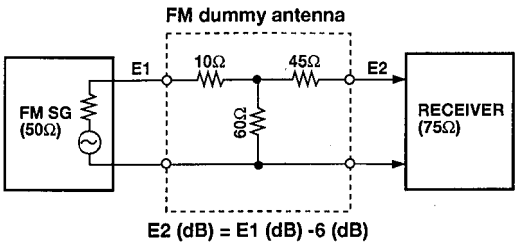
STATION		FM FACTORY PRESET DATA (MHz)			STATION		AM FACTORY PRESET DATA (kHz)	
PAGE	NO.	U, C, R	R, L, G, A, B	J	PAGE	NO.	U, C, R	R, L, G, A, B, J
A/C/E	1	87.5	87.5	76.0	B/D	1	630	630
	2	90.1	90.1	83.0		2	1080	1080
	3	95.1	95.1	84.0		3	1440	1440
	4	98.1	98.1	86.0		4	530	531
	5	107.9	108.0	90.0		5	1710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

■ TUNER ADJUSTMENTS

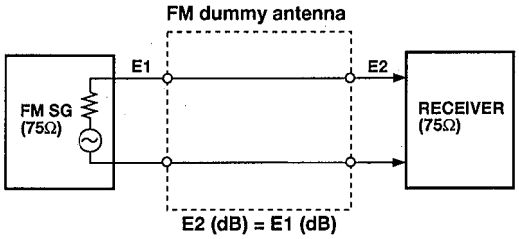
● Measuring Instruments

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, fc=15kHz)
Oscillator

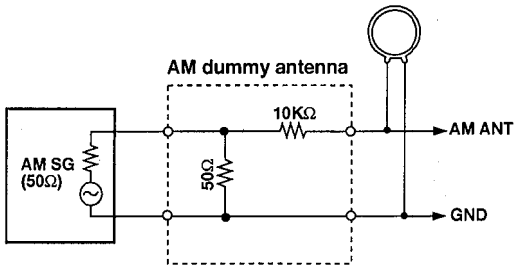
● Dummy antenna



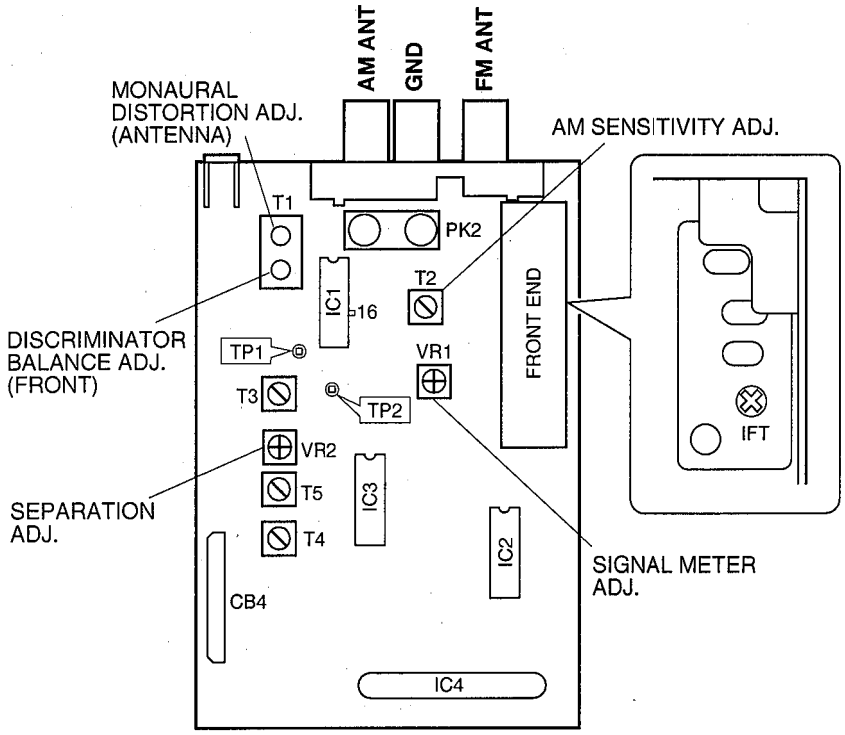
E2 (dB) = E1 (dB) -6 (dB)



E2 (dB) = E1 (dB)



● Test point



FM Adjustment

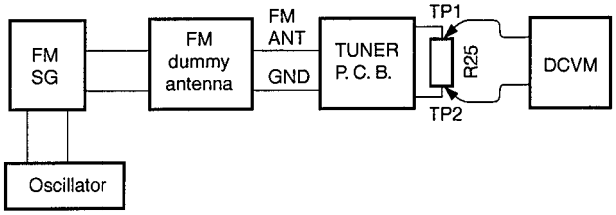
● Before Adjustment

1) For dB, 1μV=0dBμ
   Example : 60dBμ=1mV
2) 100% modulation means that the frequency deviation is ± 75kHz.
3) Install the Matching Transformer and connect FM SG.
4) Set each switch to the following position unless otherwise specified.

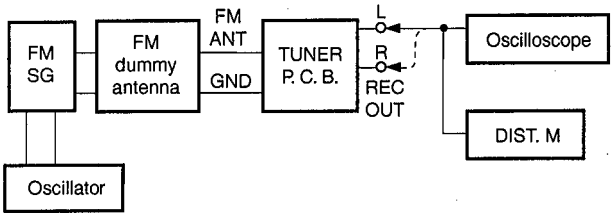
INPUT SELECTOR .....TUNER
TUNING MODE .....AUTO

● Connection diagram (Measuring instruments)

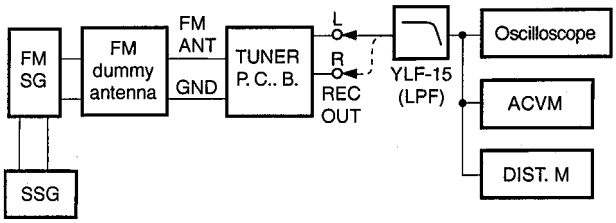
1) Discriminator balance adjustment



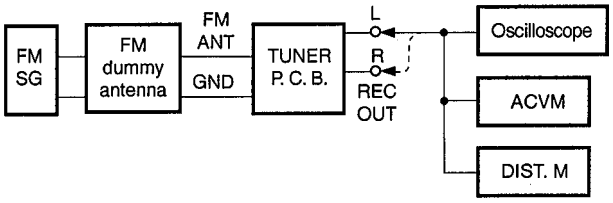
2) Monaural distortion adjustment



3) Stereo distortion adjustment/separation adjustment



4) Sensitivity Verification



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

* : Execution of FACTORY PRESET (Refer to page 16.) will facilitate setting reception frequency for adjustment.
** Must be 98.1MHz ± 5kHz

See page 25 for TP locations & adjustment points.

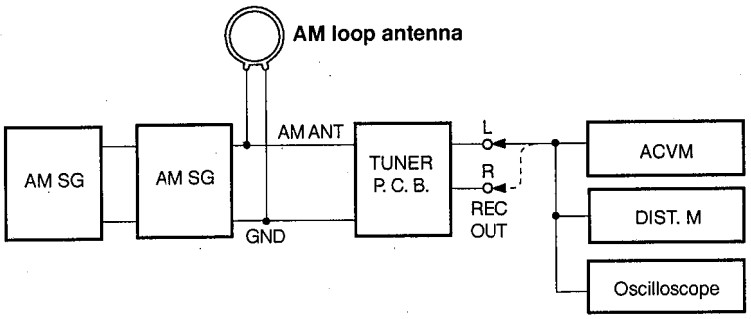
Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjusted point	Test point	Rating
6	Adjustment of front end IFT	FM ANT (75Ω) 98.1MHz 30dBμ MONO 1kHz, 100% modulation	98.1MHz * (A-4)	Front end IFT	Pin 16 of IC1	Adjust so that the DC voltage is maximum. **CAUTION :** Over-adjustment of the IFT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

* : Execution of FACTORY PRESET (Refer to page 16.) will facilitate setting reception frequency for adjustment.

AM Adjustment (This should be done after FM adjustment.)

● Connection Diagram (Measuring instruments)

1) Adjustment of sensitivity



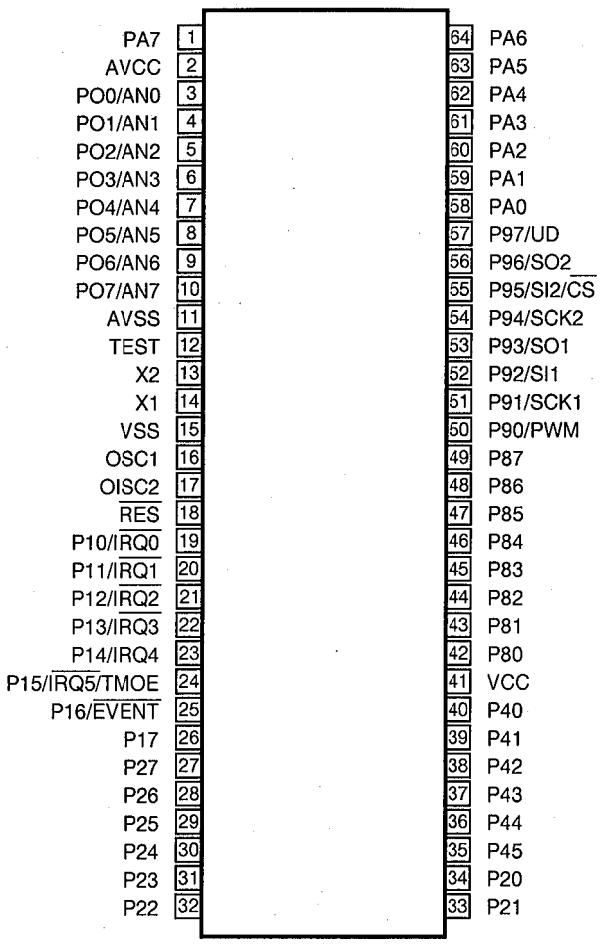
See page 25 for TP locations & adjustment points.

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

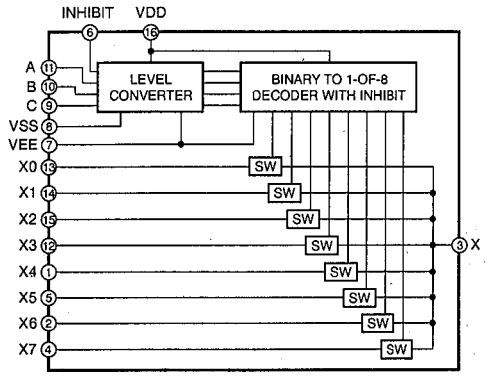
* : Execution of FACTORY PRESET (Refer to page 16.) will facilitate setting reception frequency for adjustment.

■ IC DATA

IC1 : HD6433614
8 bit μ-COM



IC2 : TC74HC4051AP (extended A/D input)
Analog Multiplexer/Demultiplexer



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

IC1 : HD6433614
8 bit μ-COM

No.	PORT	Name	Function	I/O	No.	PORT	Name	Function	I/O
1	PA7	/RMT	Mute control of ROOM 2	O	64	PA6	VRC	VIDEO REC. SEL. control C	O
2	AVCC	AVCC	Power supply for A/D	+5M	63	PA5	VRB	VIDEO REC. SEL. control B	O
3	AN0	4051	Extended A/D input	AD	62	PA4	VRA	VIDEO REC. SEL. control A	O
4	AN1	PRV	Power supply error detect	AD	61	PA3	VIC	VIDEO INPUT SEL. control C	O
5	AN2	PRD	Power amplifier output DC detect	AD	60	PA2	VIB	VIDEO INPUT SEL. control B	O
6	AN3	THM	Radiator temperature detect	AD	59	PA1	VIA	VIDEO INPUT SEL. control A	O
7	AN4	VER	Model & destination discrimination input	AD	58	PA0	CES	Chip enable for super impose	O
8	P05	PRI	Power amplifier excess current detect	I	57	P97	CEL	Chip enable for IC made by SANYO (LC....)	O
9	P06	/ST	TUNER stereo detect	I	56	SO2	SDT	Send data to each type of IC	O
10	P07	O/C	COAX/OPT detect	I	55	SI2	RDT	Receive data from TUNER	I
11	AVSS	AVSS	GND for A/D	G	54	SCK2	SCK	Serial clock for each type of IC	O
12	TEST	TEST	Test terminal (unusable)	G	53	SO1	TXD	Send data to AC3F, HL3	O
13	X2	X2	Sub-clock (unused)	open	52	SI1	RXD	Receive data from AC3F	I
14	X1	X1	Sub-clock (unused)	+5M	51	SCK1	XCK	Serial clock for AC3F, HL3	O
15	VSS	VSS	GND for system	G	50	PWM	FAN	PWM output for fan drive	PWM
16	OSC1	OSC1	Ceramic oscillator connected	8M	49	P87	/CRS	Chip select for HL3	O
17	OSC2	OSC2	Ceramic oscillator connected	8M	48	P86	/CS	Chip select for AC3F	O
18	/RES	/RES	System reset	RES	47	P85	CLD	Chip select for DIR	O
19	/IRQ0	PDT	Power detect	IRQ	46	P84	CCK	Serial clock for DIR	O
20	/IRQ1	/DER	DIR lock and error detect	IRQ	45	P83	/IC	AC3F, etc. reset	O
21	/IRQ2	REM	Remote control light receive signal input	IRQ	44	P82	/ICD	DIR and FL reset	O
22	/IRQ3	RM2	External remote terminal input (unused)	IRQ	43	P81	/TMT	Tuner mute	O
23	IRQ4	AC3ER	AC3F error detect	IRQ	42	P80	CET	Chip enable for IC made by TOSHIBA (TC....)	O
24	/IRQ5	VSY	Video vertical synchronous input	IRQ	41	VCC	VCC	Power supply for system	+5BU
25	P16	PSW	Power switch main unit key input	I	40	P40	ASA	Control A of extended A/D 4051	O
26	P17	CDO	Receive data from DIR	I	39	P41	ASB	Control B of extended A/D 4051	O
27	P27	I/E	Video synchronization discrimination output	O	38	P42	ASC	Control C of extended A/D 4051	O
28	P26	PRY	Power relay control	O	37	P43		GND	G
29	P25	SPB	Relay control of main speaker B	O	36	P44	/STBY	Standby discrimination and lighting output	I/O
30	P24	SPA	Relay control of main speaker A	O	35	P45	VIND	VOL. LED lighting output	O
31	P23	SPE	Relay control of other than SP. A/B	O	34	P20	VUP	VOL.UP control output	O
32	P22	/FMT	Full mute control	O	33	P21	VDN	VOL.DOWN control output	O

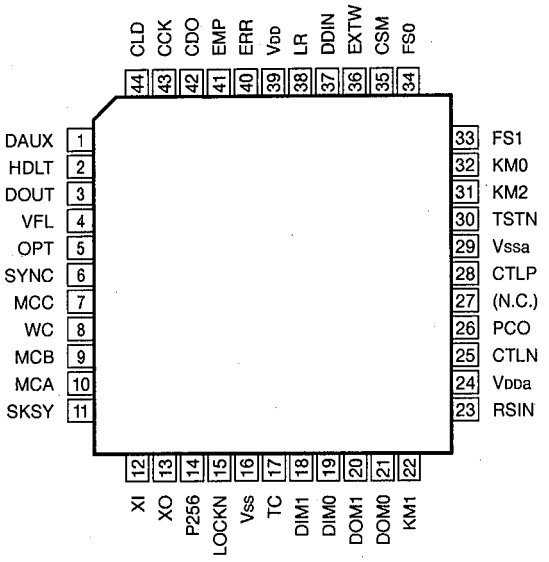
* P40 through P45 are PMOS open drain input/output ports.

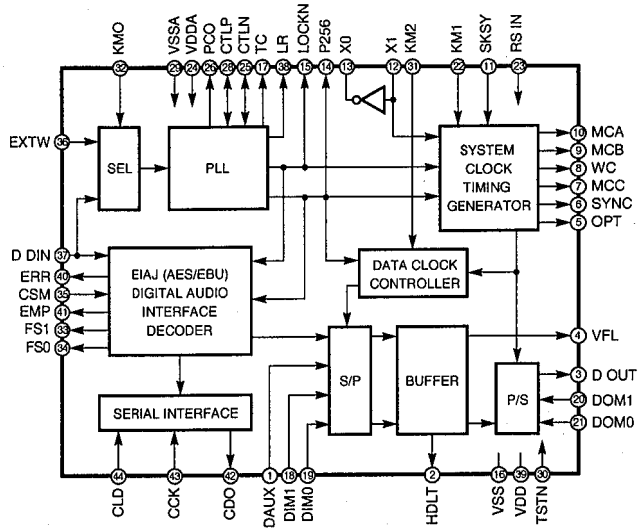
IC2 : TC74HC4051AP (extended A/D input)
Analog Multiplexer/Demultiplexer

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

* FSW = DEST(9kHz/10kHz) + P/N + FMX(5ch/7ch)

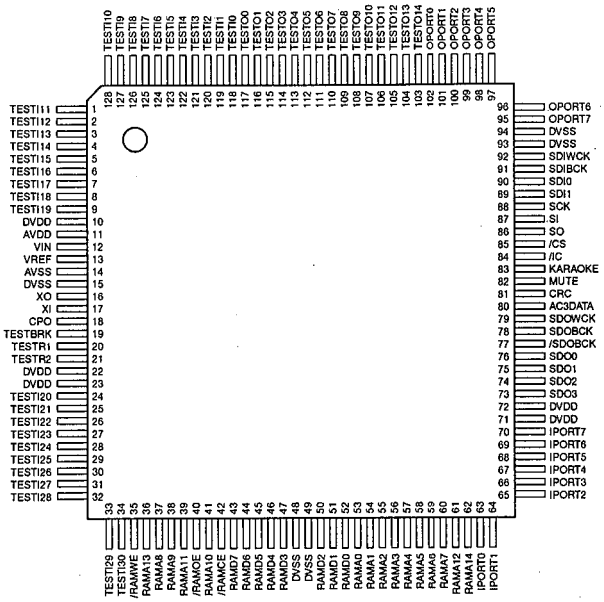
IC3 : YM3436DK
DIR (Digital Format Interface Receiver)

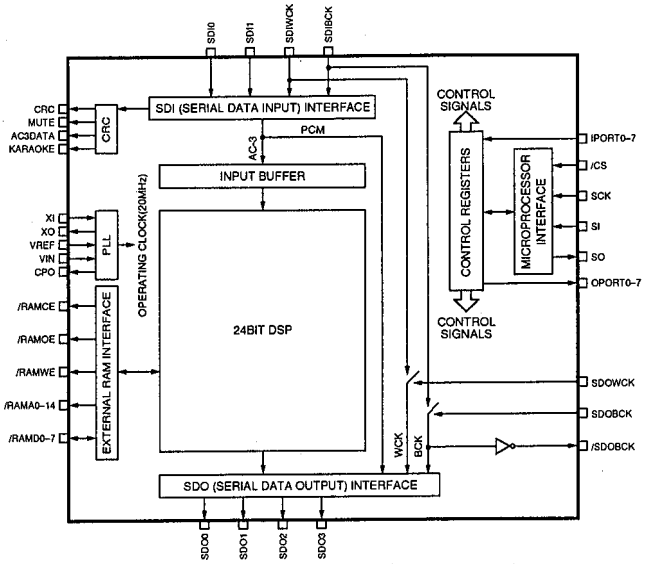




Pin No.	Pin Name	I/O	Function	Pin No.	Pin Name	I/O	Function
1	DAUX	I	Auxiliary input for audio data	26	PCO	O	PLL phase comparison output
2	HDLT	O	Asynchronous buffer operation flag	27	(NC)		
3	DOUT	O	Audio data output	28	CTLP	I	VCO control input P
4	VFL	O	Parity flag output	29	Vssa		VCO section power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

IC4 : YSS243B
AC3F (AC-3 5.1ch Full Decoder)





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

IC4 : YSS243B
AC3F (AC-3 5.1ch Full Decoder)

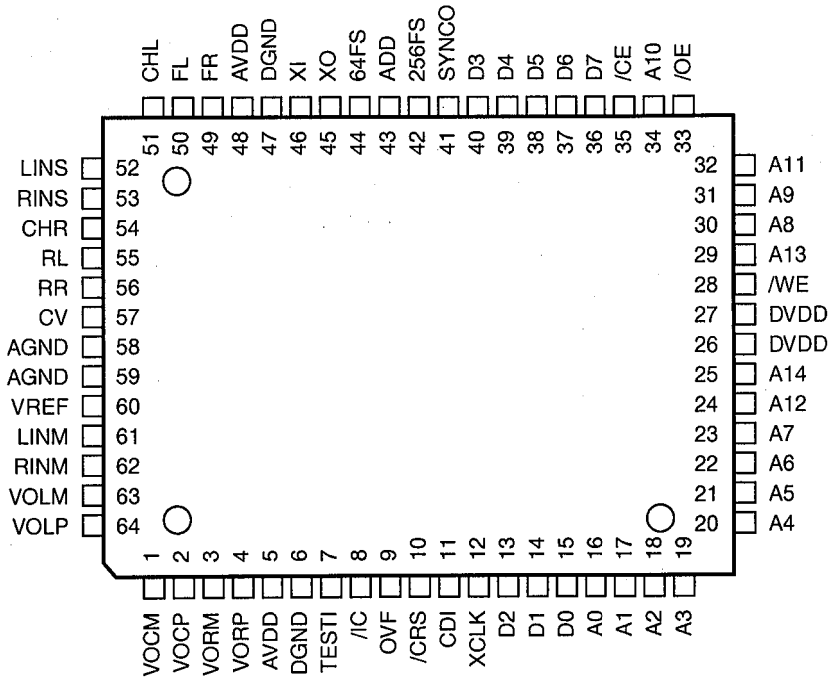
No.	Name	I/O	Function
31	TESTI27	I+	LSI test terminal (normally unconnected)
32	TESTI28	I+	LSI test terminal (normally unconnected)
33	TESTI29	I+	LSI test terminal (normally unconnected)
34	TESTI30	I+	LSI test terminal (normally unconnected)
35	/RAMWE	O	External SRAM write enable signal, "L" active
36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

IC4 : YSS243B
AC3F (AC-3 5.1ch Full Decoder)

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

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

IC7 : YSS245
HL3 (Dolby-Pro-Logic Decoder + DSP)



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

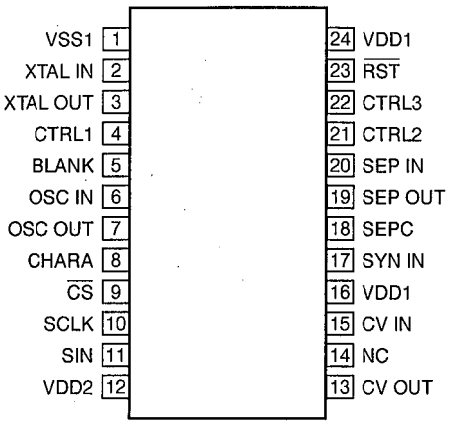
IC7 : YSS245
HL3 (Dolby-Pro-Logic Decoder + DSP)

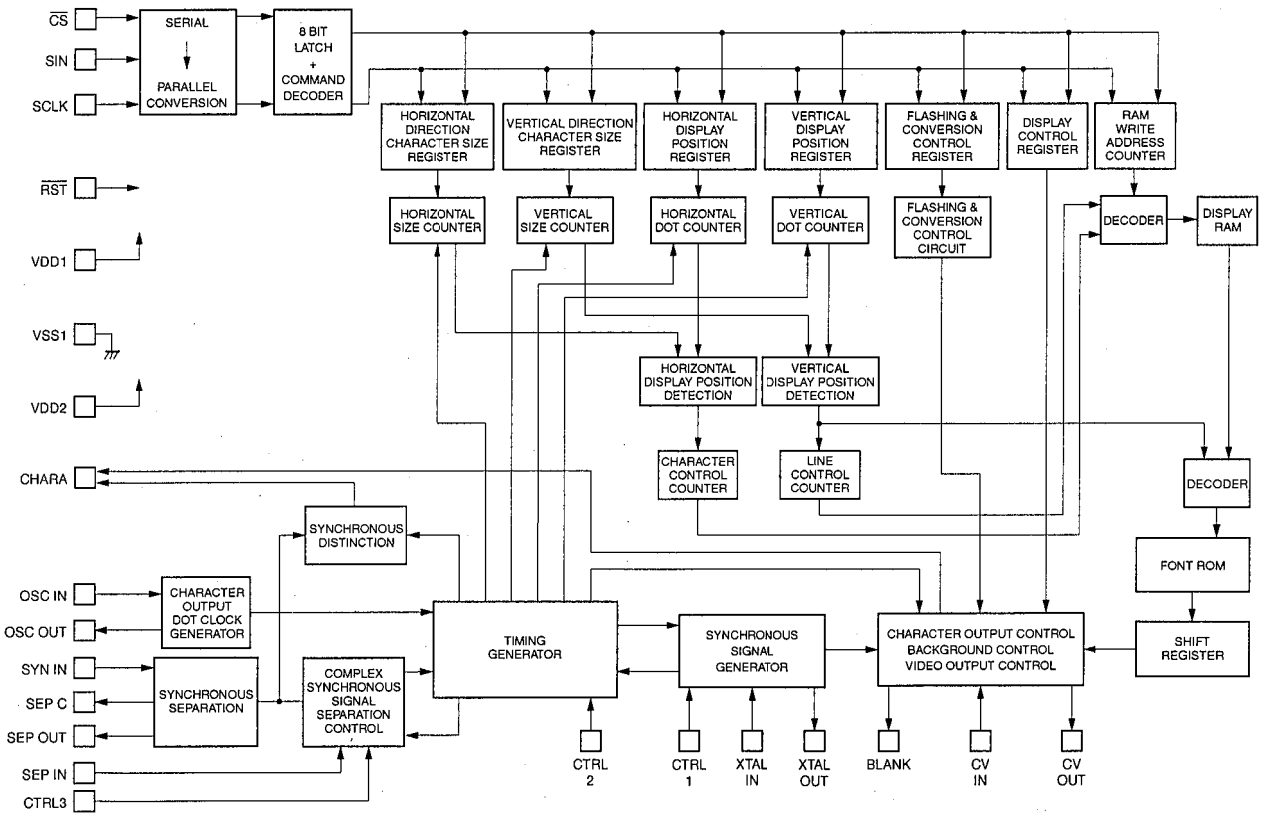
No.	Name	I/O	Function
27	DVDD		+5V terminal (digital section)
28	/WE	O	External PSRAM terminal, connected to external PSRAM /WE terminal
29	A13	O	External PSRAM terminal, connected to external PSRAM address terminal
30	A8	O	External PSRAM terminal, connected to external PSRAM address terminal
31	A9	O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

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

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

IC611 : LC74781-9626
Superimpose

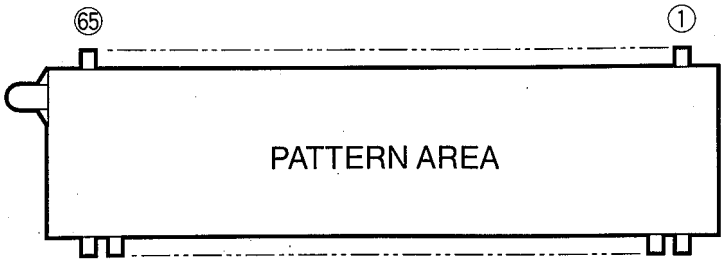




Pin No.	Symbol	Terminal name	Function
1	VSS1	Ground terminal	Connection to GND (Digital system ground terminal)
2	XTAL IN	Crystal oscillation terminal	Terminal to connect the crystal of the crystal oscillator for internal synchronous signal generation and a capacitor or to input an external clock. (2fsc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

■ DISPLAY DATA (VV261900)

● V901 : 15-BT-28GK



● PIN CONNECTION

Pin No.	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47
Connection	F2	F2	NP	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P22	P23	P24	P25	P26

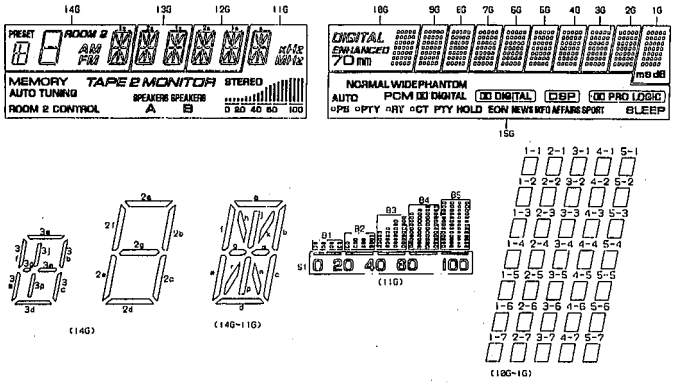
Pin No.	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
Connection	P27	P28	P29	P30	P31	P32	P33	P34	P35	IC	NP	Fd	Fd	Np	IC	P36	P37	P38	P1

Pin No.	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9
Connection	P2	P3	P4	P5	P6	P7	P8	P9	P10	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G

Pin No.	8	7	6	5	4	3	2	1
Connection	5G	4G	3G	2G	1G	NP	F1	F1

Note 1) F1, F2 ..... Filament
2) NP ..... No Pin
3) NC ..... No Connection
4) P1~P38 ..... Datum Line
5) 1G~15G ..... Grid
6) IC ..... Internal connection

● GRID ASSIGMENT

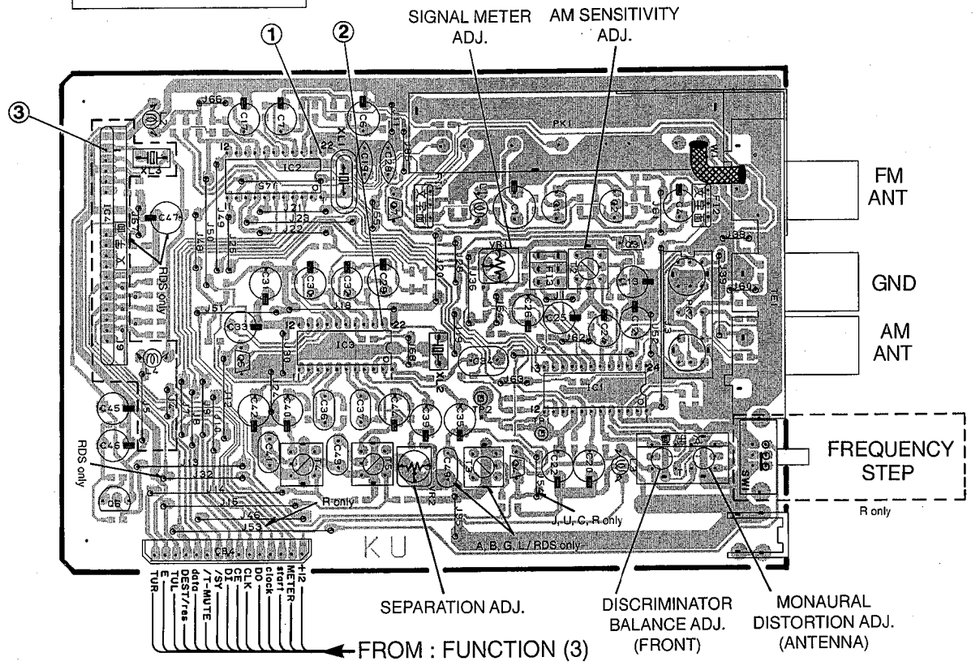


● ANODE CONNECTION

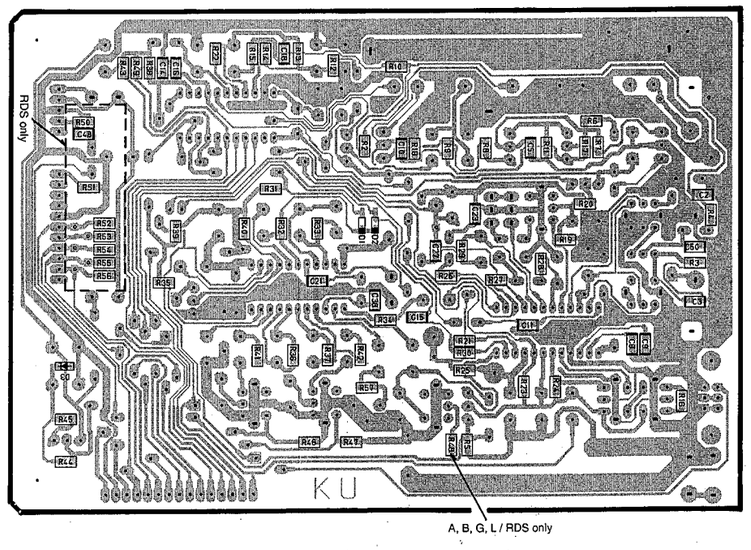
	15G	14G	13G,12G	11G	10G	9G~2G	1G
P1	–	1a	1e	a	1-1	1-1	1-1
P2	–	1h	1h	h	2-1	2-1	2-1
P3	–	1j	1j	j	3-1	3-1	3-1
P4	–	1k	1k	k	4-1	4-1	4-1
P5	–	1b	1b	b	5-1	5-1	5-1
P6	–	1f	1f	f	1-2	1-2	1-2
P7	–	1m	1m	m	2-2	2-2	2-2
P8	–	1g	1g	g	3-2	3-2	3-2
P9	–	1c	1c	c	4-2	4-2	4-2
P10	–	1e	1e	e	5-2	5-2	5-2
P11	–	1n	1n	n	1-3	1-3	1-3
P12	–	1p	1p	p	2-3	2-3	2-3
P13	NORMAL	1r	1r	r	3-3	3-3	3-3
P14	WIDE	1d	1d	d	4-3	4-3	4-3
P15	PHANTOM	ROOM 2	2a	kHz	5-3	5-3	5-3
P16	DIGITAL	AM	2h	MHz	1-4	1-4	1-4
P17	PCM	FM	2j	STEREO	2-4	2-4	2-4
P18	DIGITAL	2a	2k	B1	3-4	3-4	3-4
P19	DIGITAL	2b	2b	B2	4-4	4-4	4-4
P20	DSP	2f	2f	B3	5-4	5-4	5-4
P21	PRO LOGIC	2g	2m	B4	1-5	1-5	1-5
P22	AUTO	2c	2g	B5	2-5	2-5	2-5
P23	(PS)	2e	2c	S1	3-5	3-5	3-5
P24	PS	2d	2e	TAPE MONITOR	4-5	4-5	4-5
P25	(PTY)	PRESET	2n	2	5-5	5-5	5-5
P26	PTY	3a	2p	SPEAKERS A	1-6	1-6	1-6
P27	(RT)	3b,3c	2r	SPEAKERS B	2-6	2-6	2-6
P28	RT	3d	2d	MEMORY	3-6	3-6	3-6
P29	(CT)	3e,3f	–	AUTO TUNING	4-6	4-6	4-6
P30	CT	3g	–	ROOM 2 CONTROL	5-6	5-6	5-6
P31	PTY HOLD	3j,3p	–	–	1-7	1-7	1-7
P32	EON	3m	–	–	2-7	2-7	2-7
P33	NEWS	–	–	–	3-7	3-7	3-7
P34	INFO	–	–	–	4-7	4-7	4-7
P35	AFFAIRS	–	–	–	5-7	5-7	5-7
P36	SPORT	–	–	–	DIGITAL	–	dB
P37	SLEEP	–	–	–	ENHANCED	–	ms
P38	–	–	–	–	7.0mm	–	–

■ PRINTED CIRCUIT BOARD (Foil side)

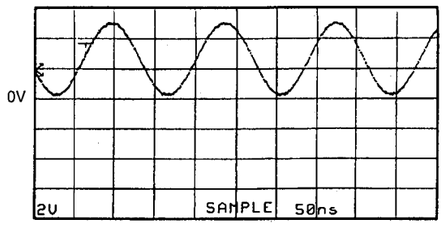
P. C. B. TUNER



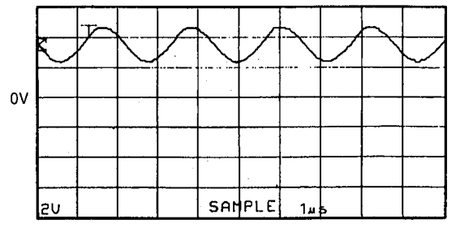
P. C. B. TUNER



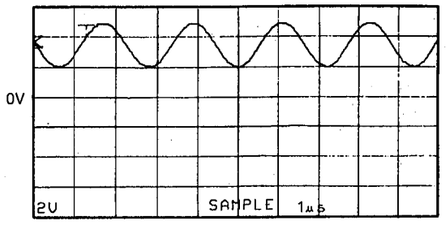
Point ① (Pin22 of IC2) FM reception
V : 2V/div H : 50nsec/div
DC range 1 : 1 probe



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

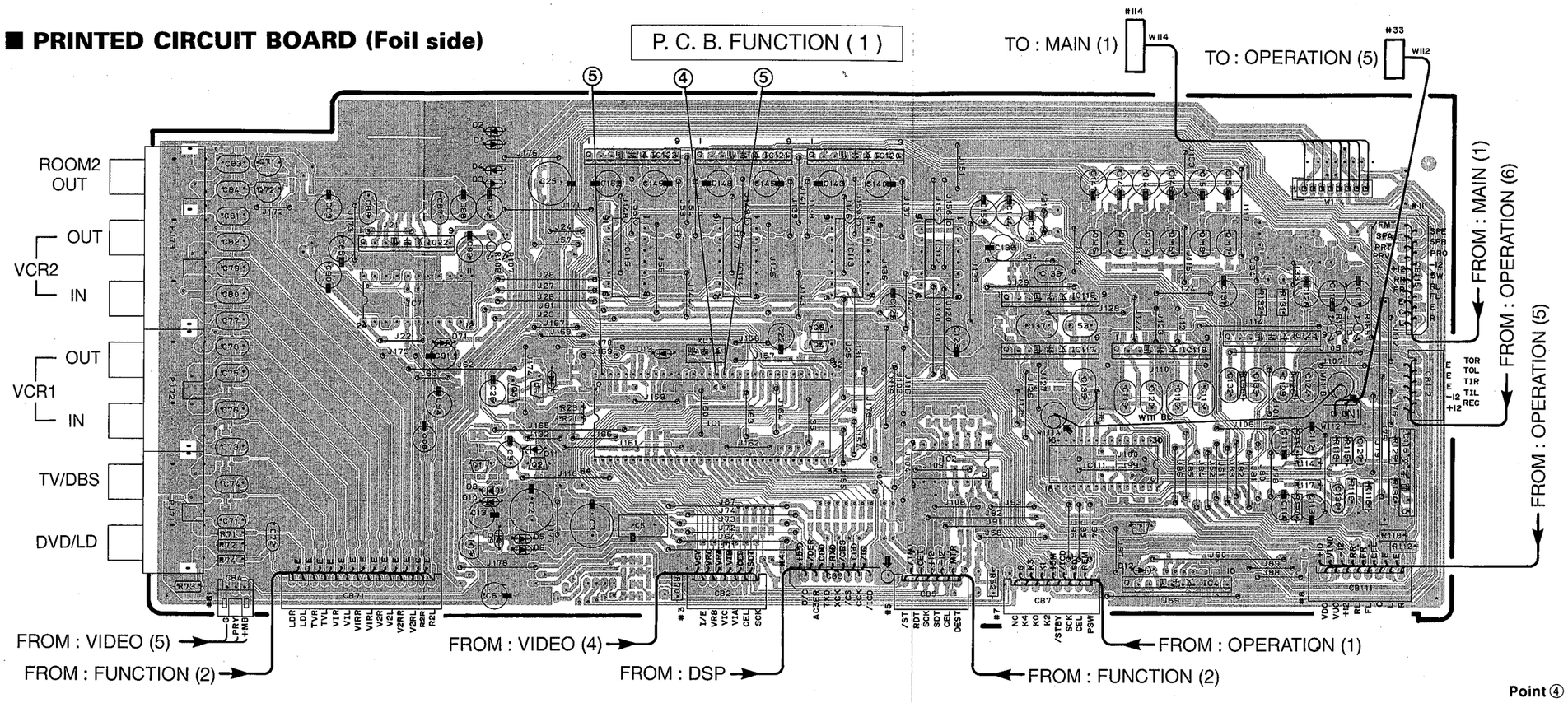


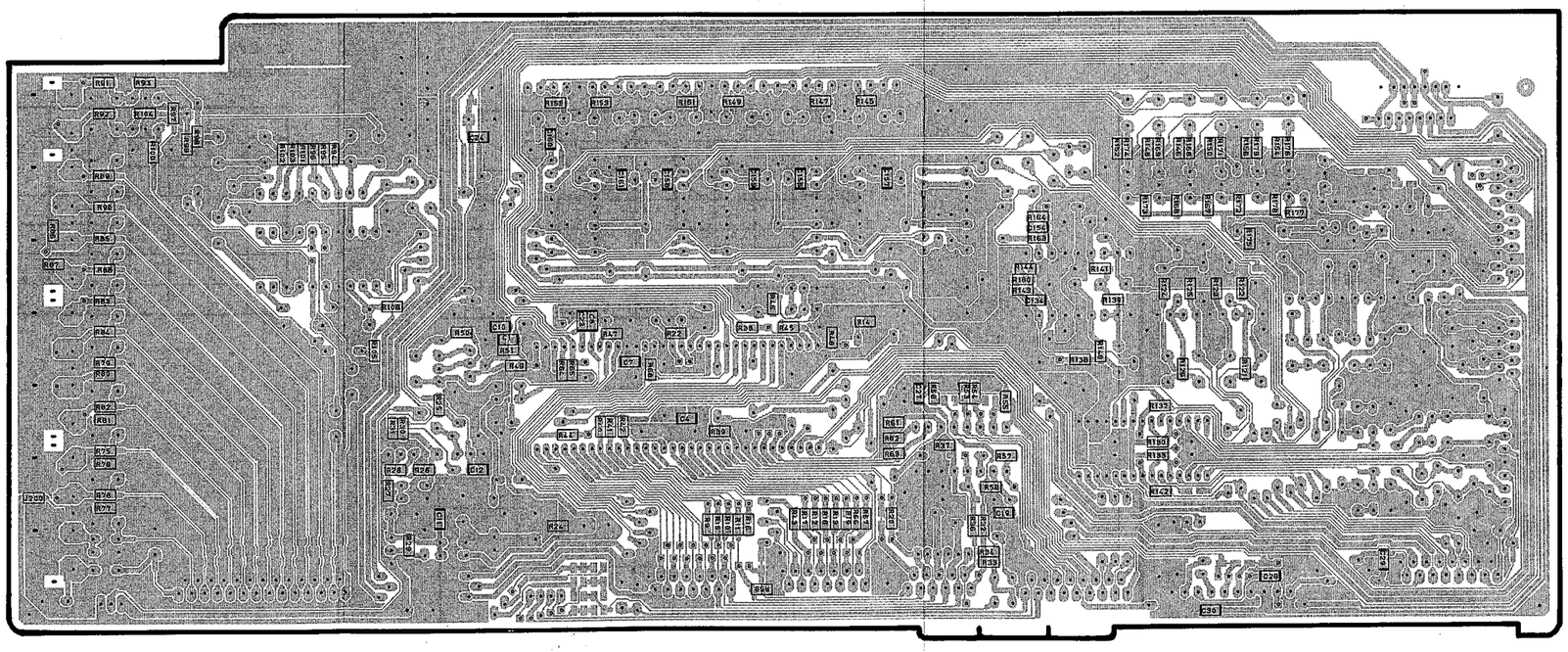
Point ③ (Pin1 of IC4)
V : 5V/div H : 1 µsec/div
DC range 1 : 1 probe



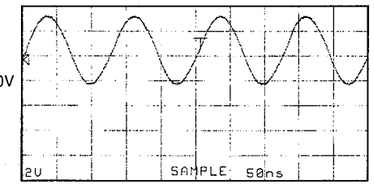
■ PRINTED CIRCUIT BOARD (Foil side)

P. C. B. FUNCTION (1)





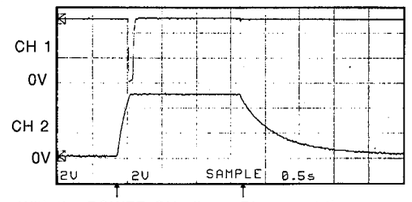
Point ④ (Pin17 of IC1)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



Point ⑤

CH1 : Pin18 of IC1 V : 2V/div (CH1)
CH2 : Pin2 of IC1 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.)

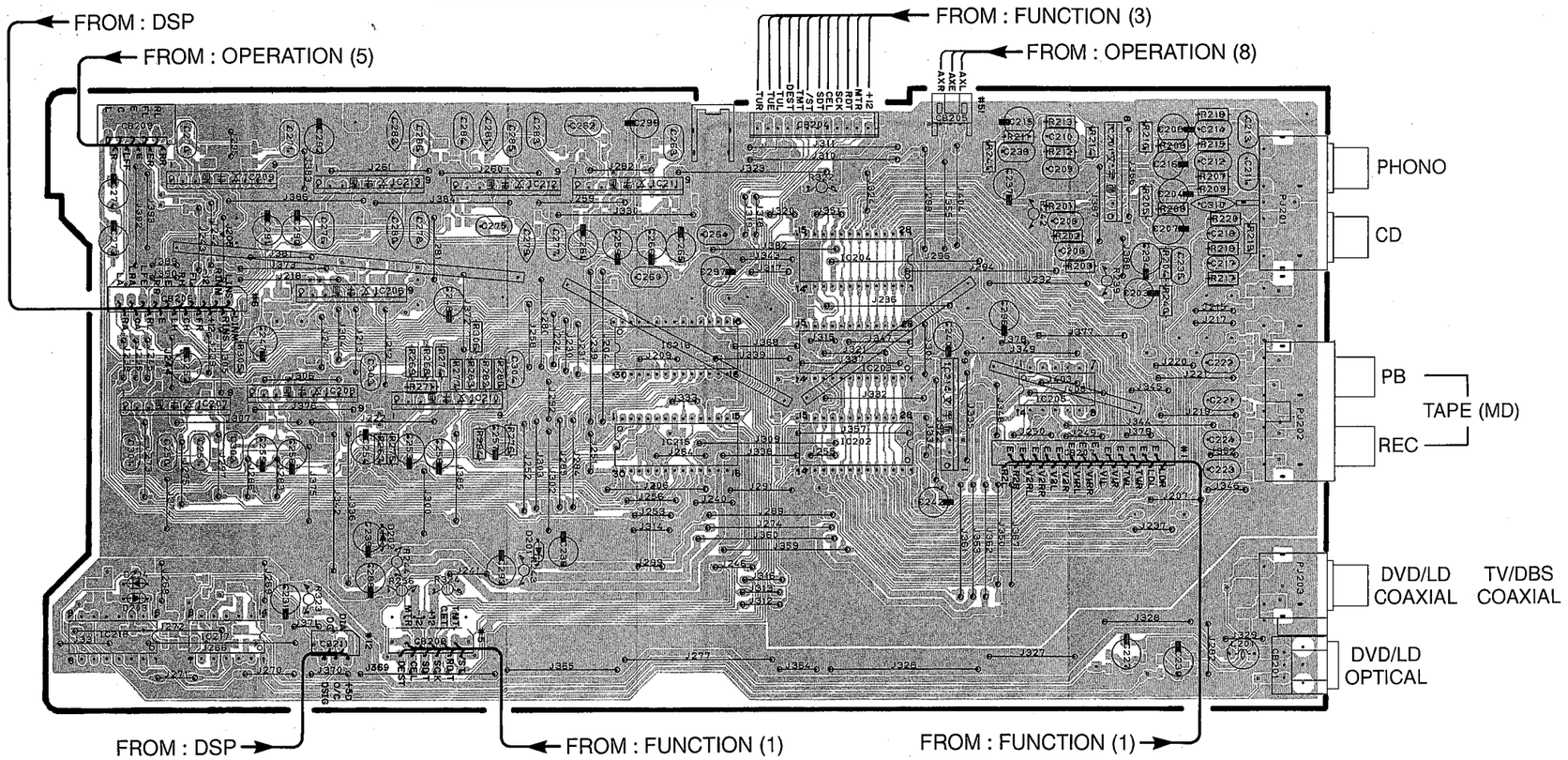


With the POWER ON, disconnect the A/C power cord. Reconnect the A/C power cord and the above waveforms will start.

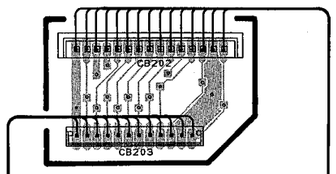
Disconnect the power cord from the AC outlet.

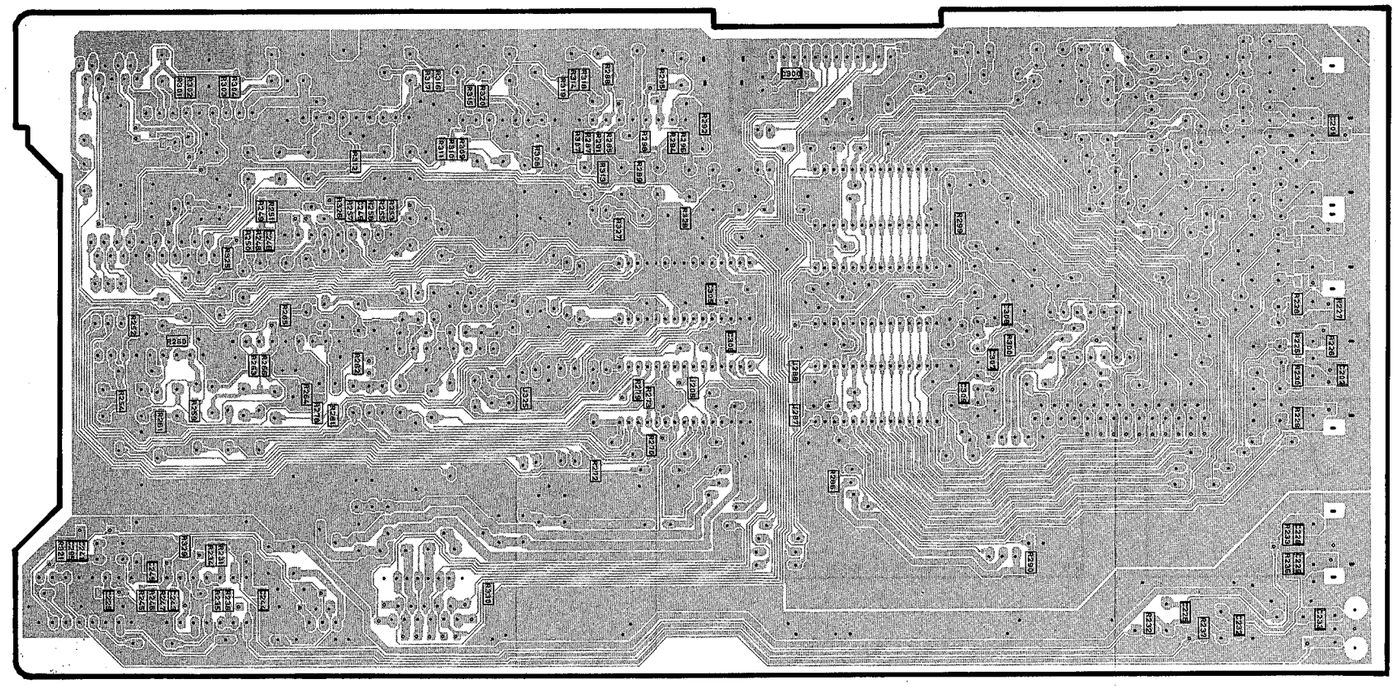
■ PRINTED CIRCUIT BOARD (Foil side)

P. C. B. FUNCTION (2)



P. C. B. FUNCTION (3)



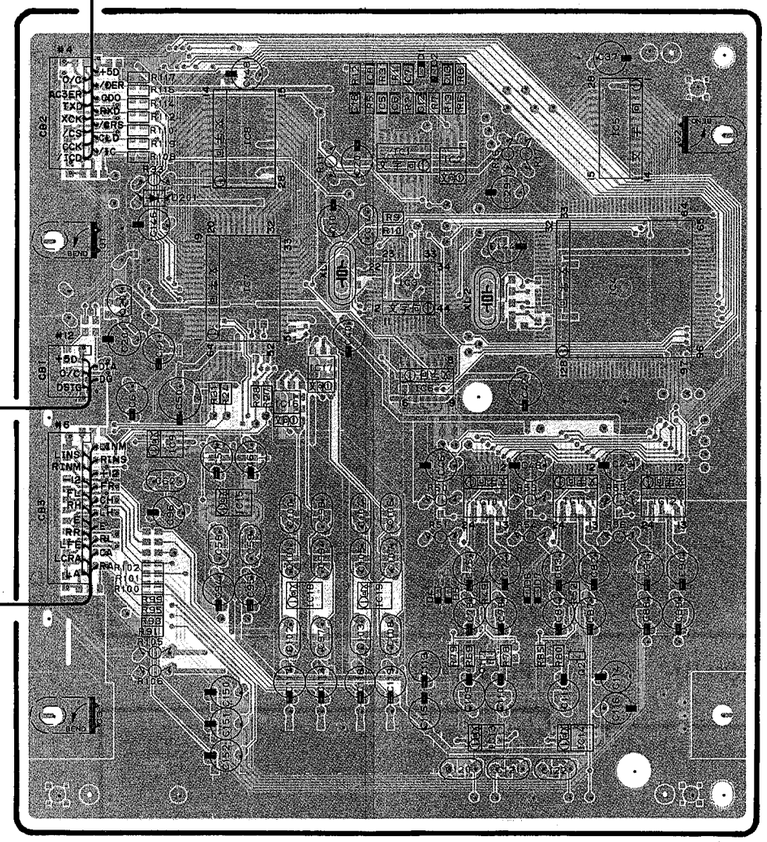


■ PRINTED CIRCUIT BOARD (Foil side)

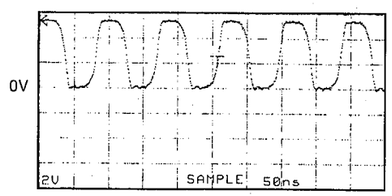
P. C. B. DSP

FROM : FUNCTION (1)

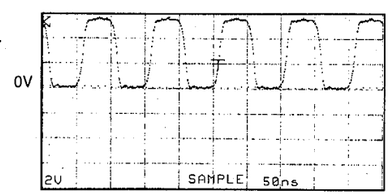
FROM : FUNCTION (2)



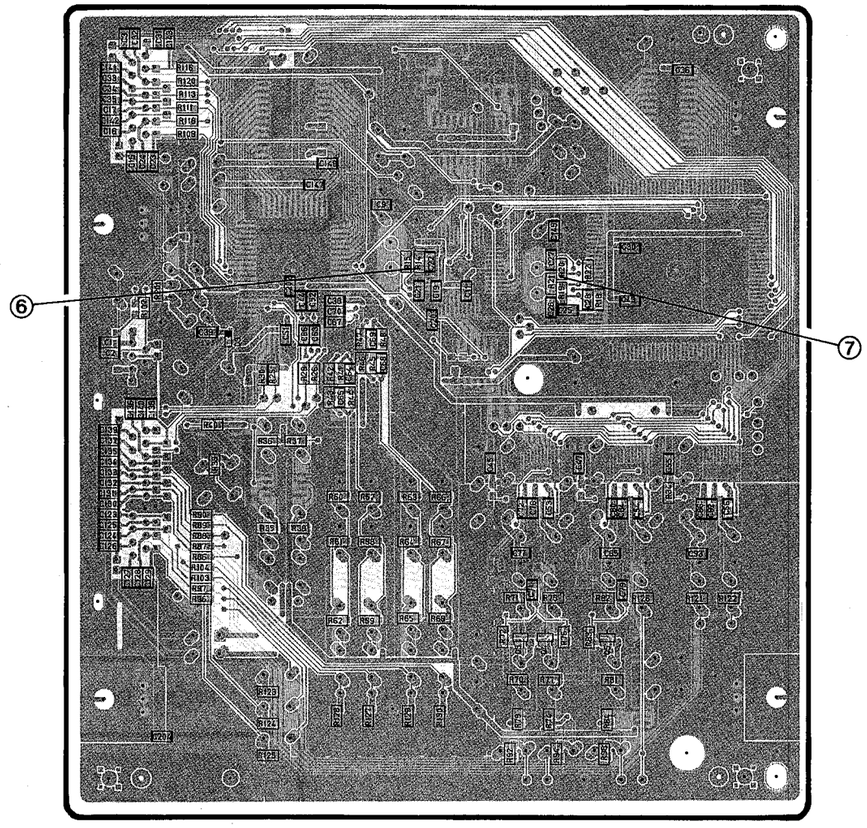
Point ⑥ (Pin13 of IC3)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



Point ⑦ (Pin16 of IC4)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe

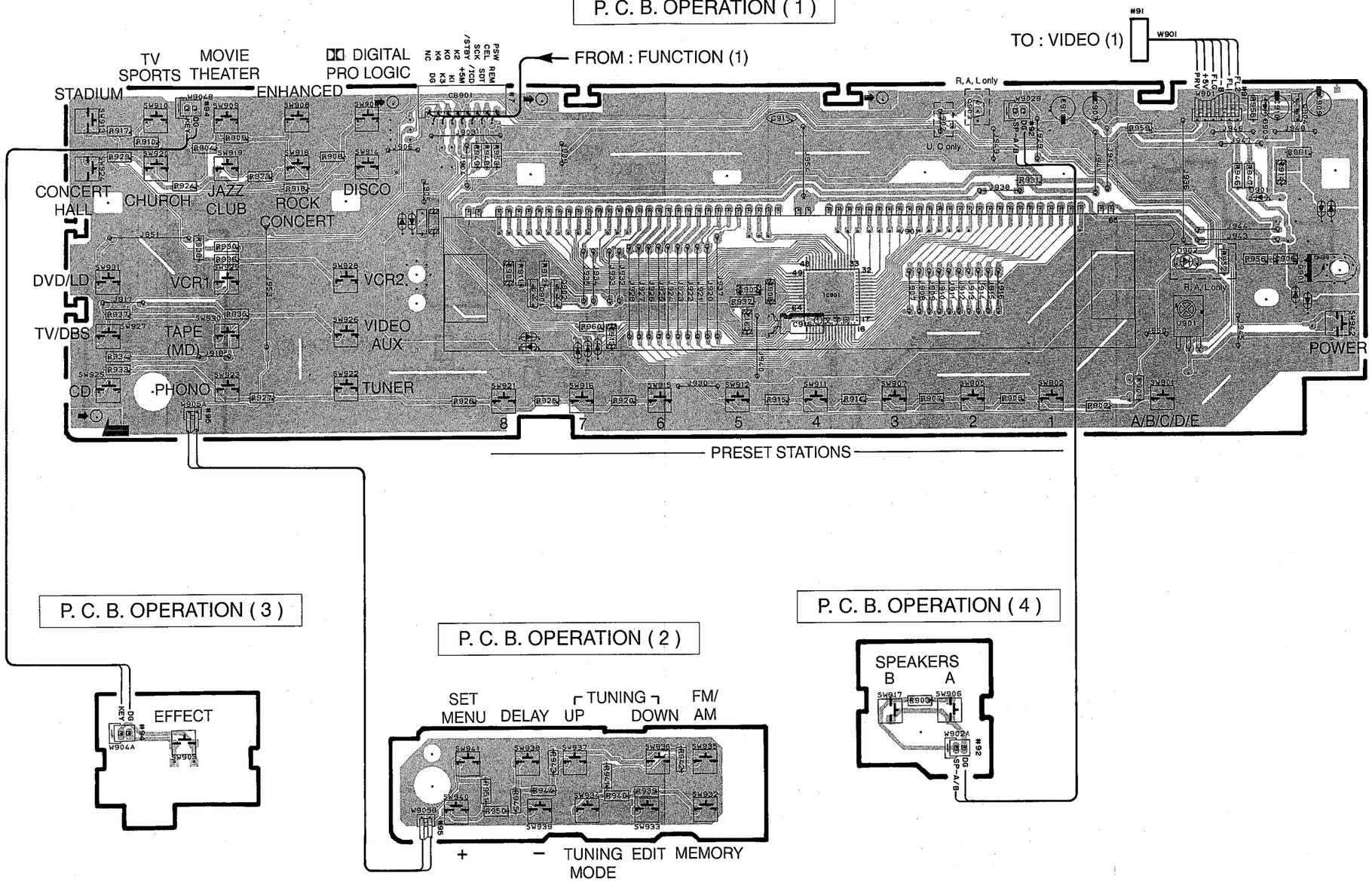


P. C. B. DSP



■ PRINTED CIRCUIT BOARD (Foil side)

P. C. B. OPERATION (1)



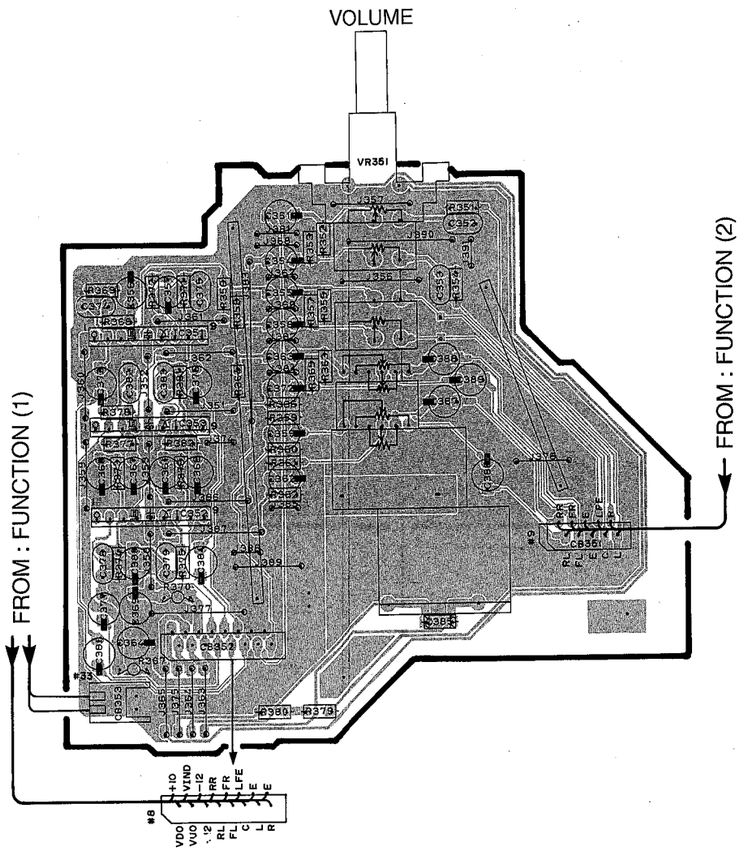
P. C. B. OPERATION (3)

P. C. B. OPERATION (2)

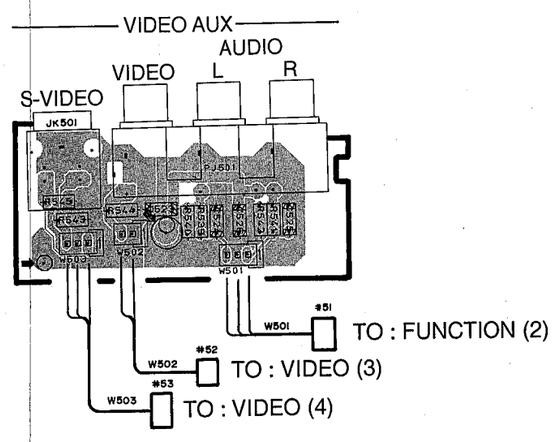
P. C. B. OPERATION (4)

■ PRINTED CIRCUIT BOARD (Foil side)

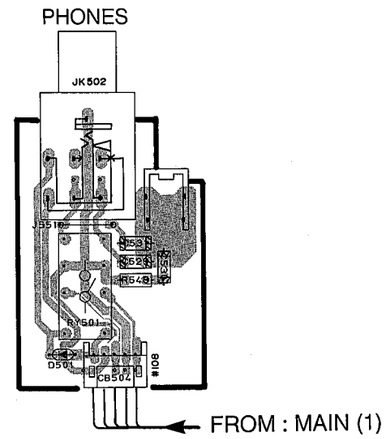
P. C. B. OPERATION (5)



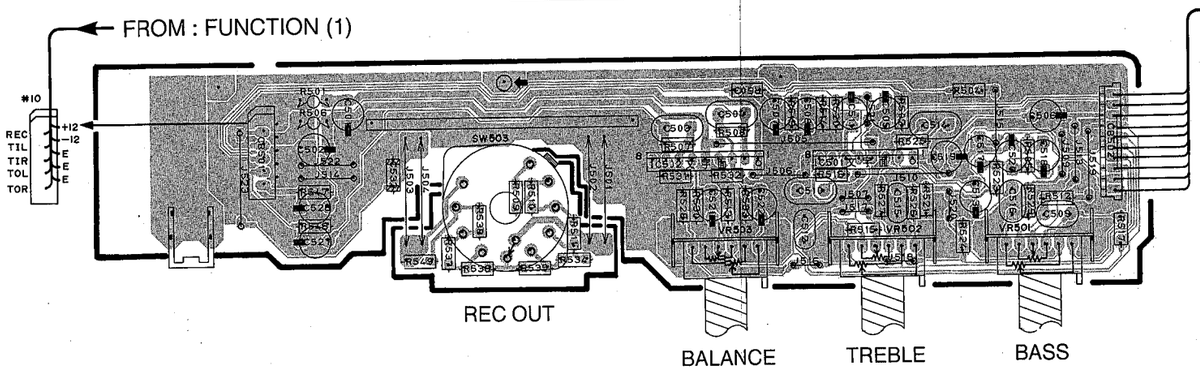
P. C. B. OPERATION (8)



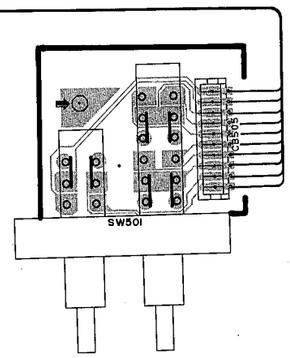
P. C. B. OPERATION (9)



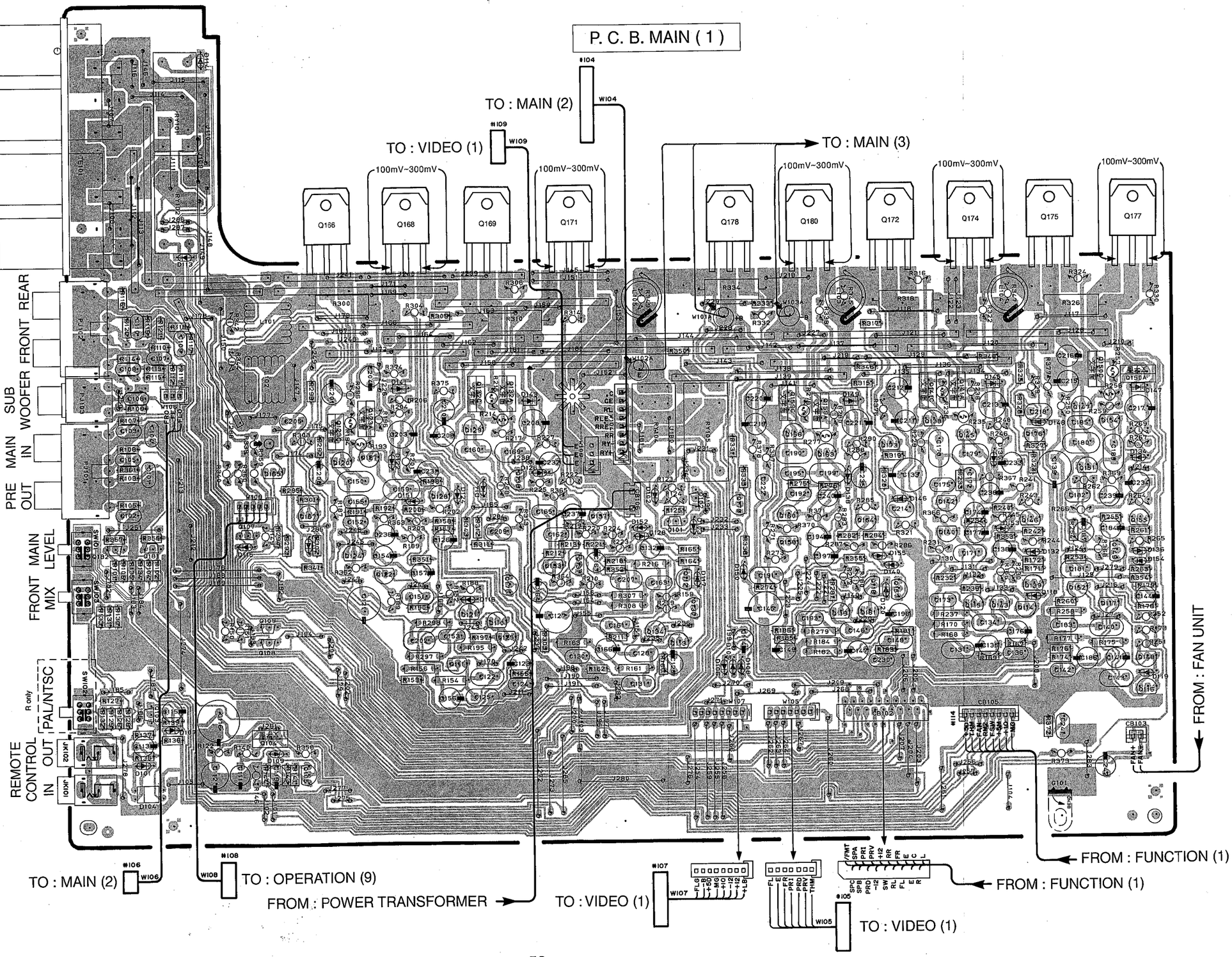
P. C. B. OPERATION (6)



P. C. B. OPERATION (7)

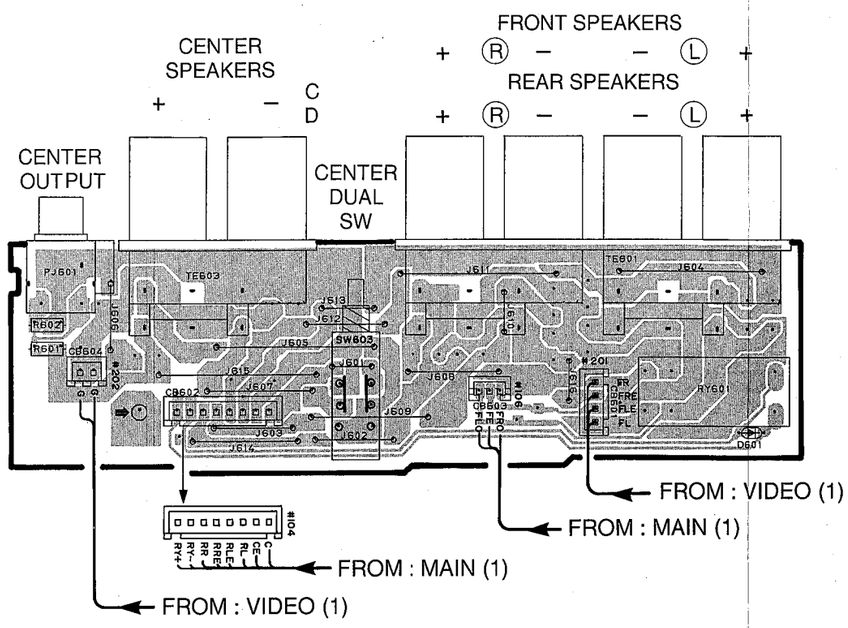


■ PRINTED CIRCUIT BOARD (Foil side)

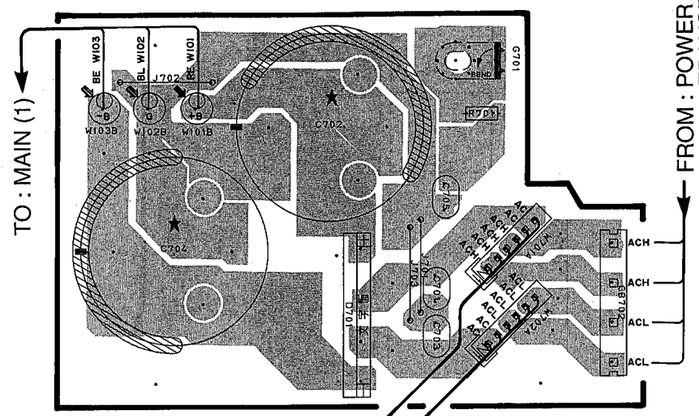


■ PRINTED CIRCUIT BOARD (Foil side)

P. C. B. MAIN (2)

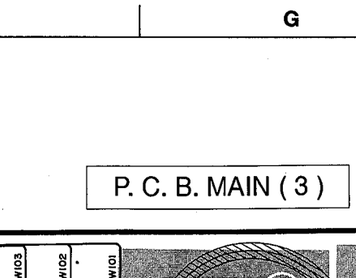


P. C. B. MAIN (3)

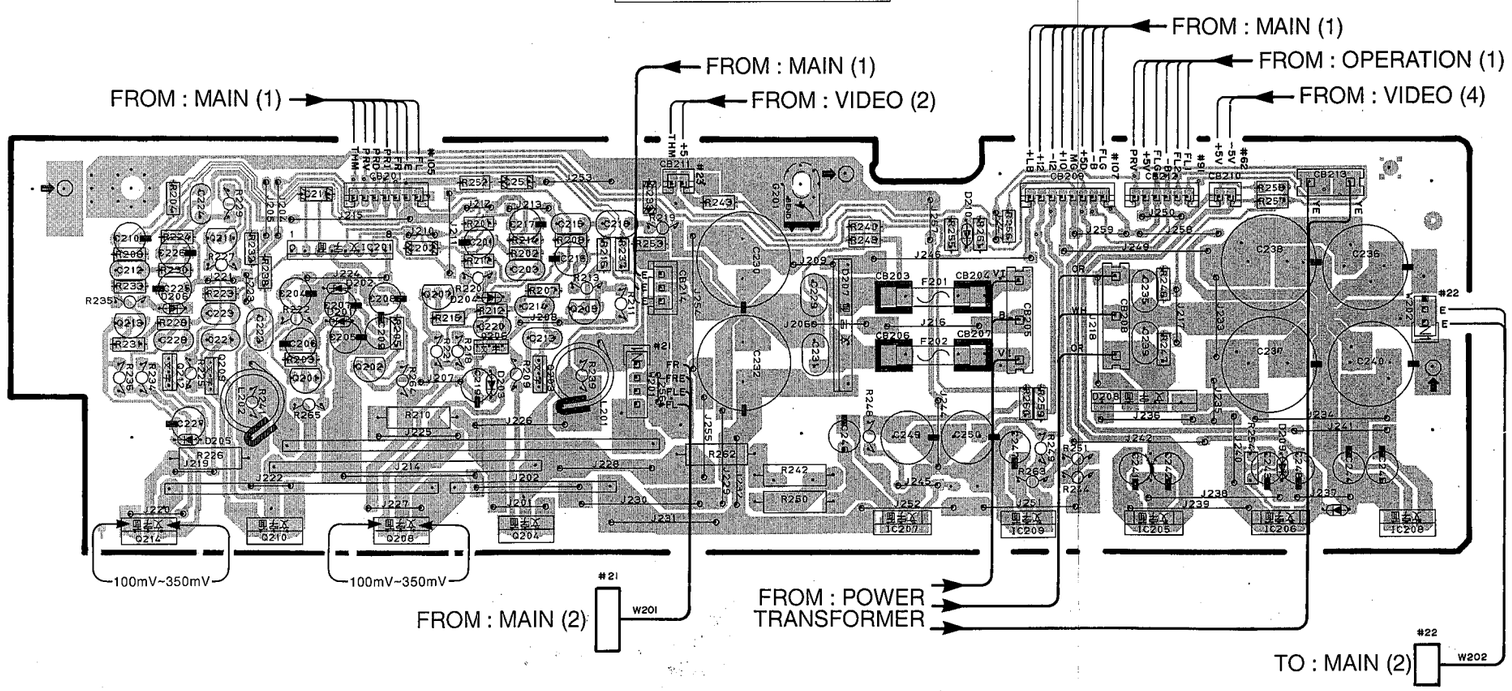


P. C. B. MAIN (4)

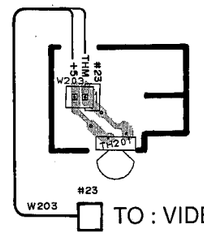
IMPEDANCE SELECTOR



P. C. B. VIDEO (1)

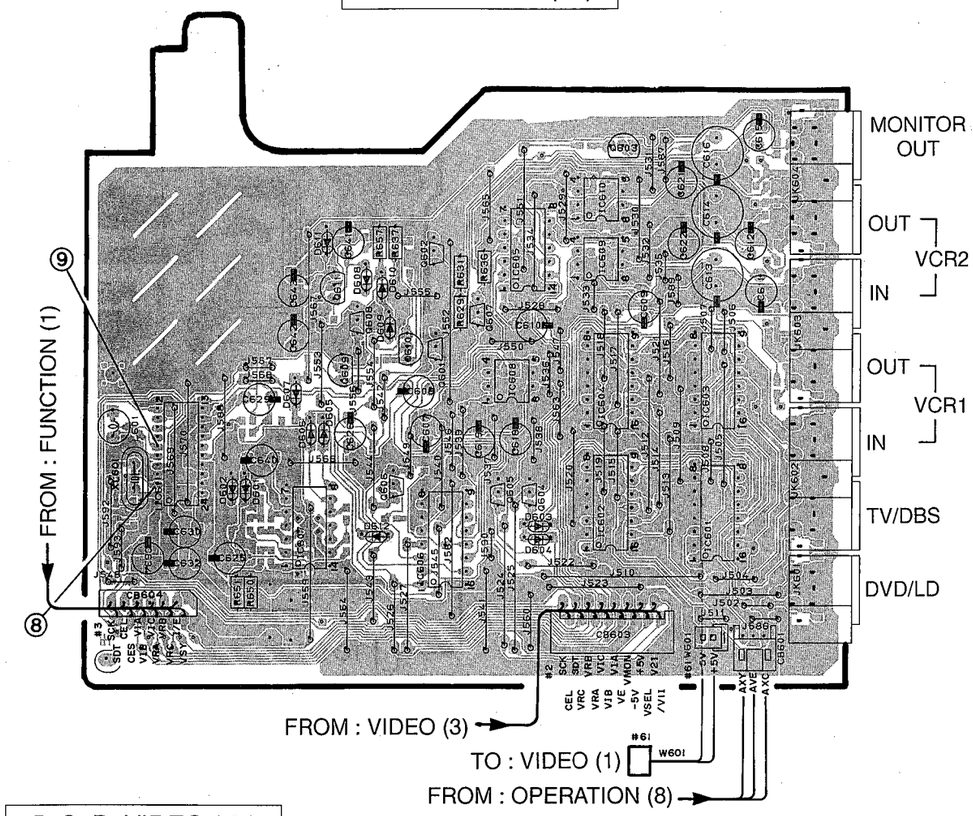


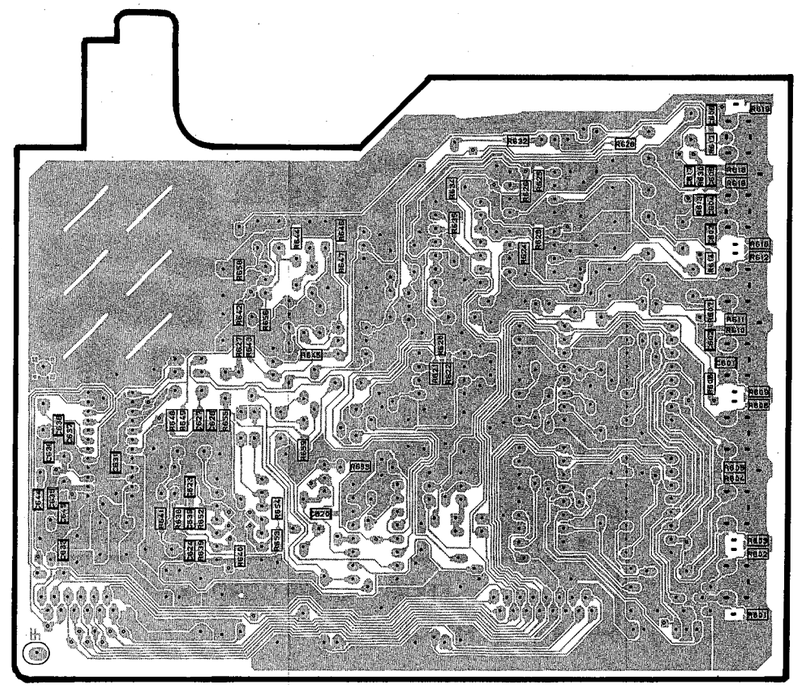
P. C. B. VIDEO (2)



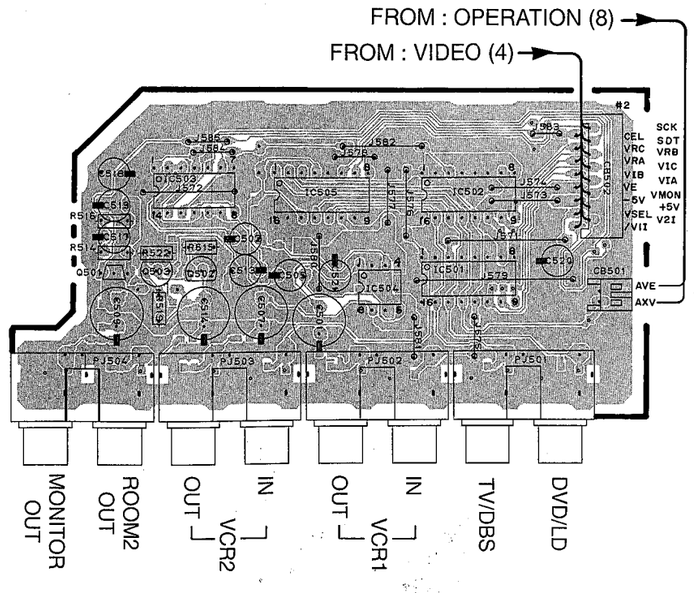
■ PRINTED CIRCUIT BOARD (Foil side)

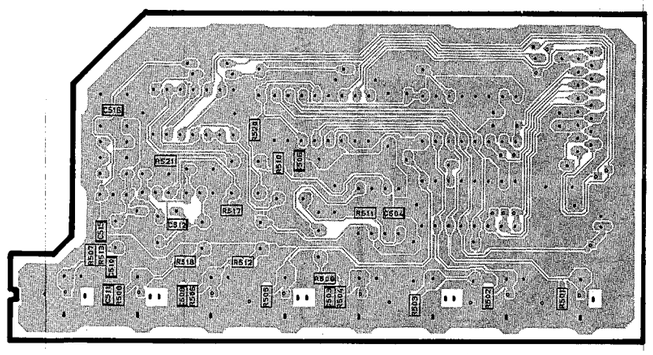
P. C. B. VIDEO (4)



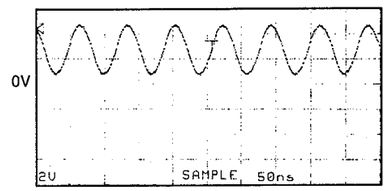


P. C. B. VIDEO (3)

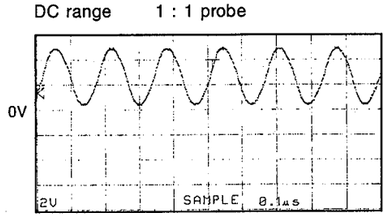




Point ⑧ (Pin3 of IC611)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



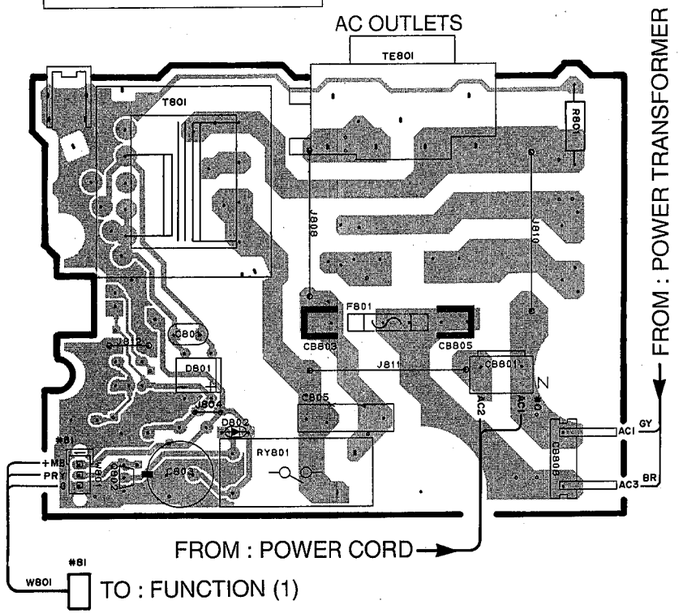
Point ⑨ (Pin7 of IC611)
V : 2V/div H : 0.1 µsec/div
DC range 1 : 1 probe



■ PRINTED CIRCUIT BOARD (Foil side)

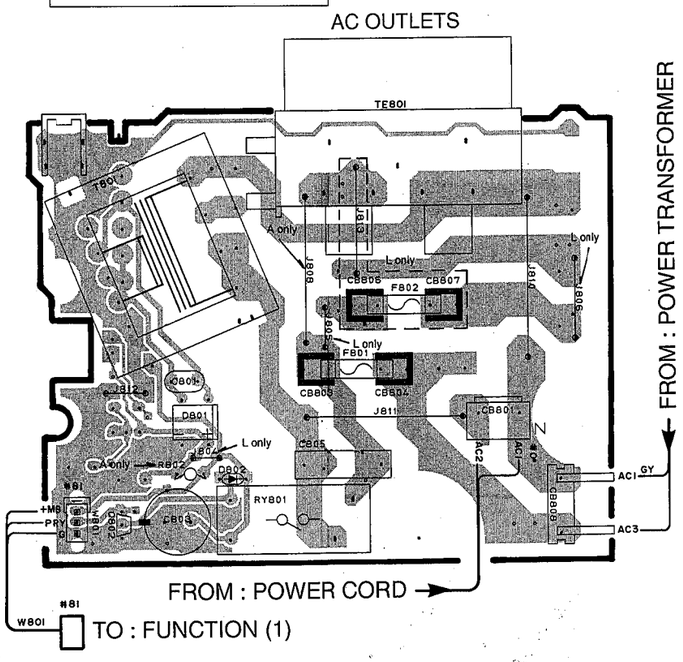
● U, C models

P. C. B. VIDEO (5)



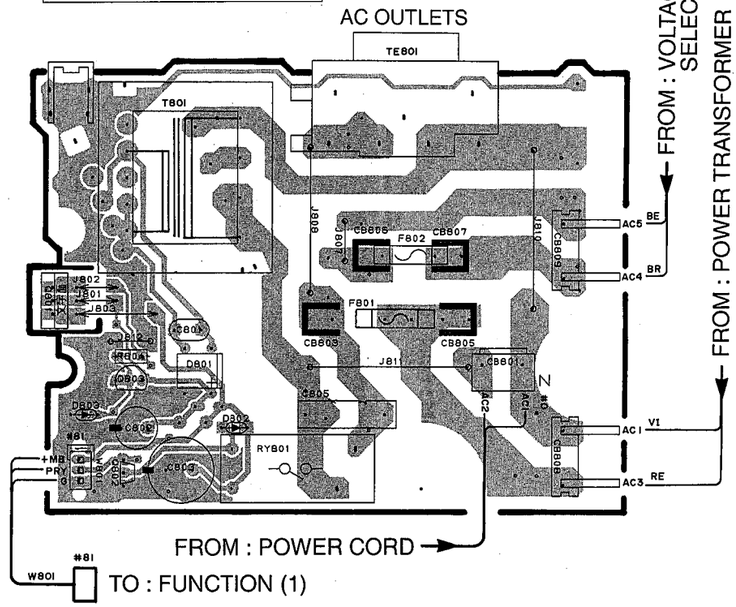
● A, L models

P. C. B. VIDEO (5)



● R model

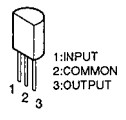
P. C. B. VIDEO (5)



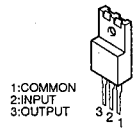
■ PIN CONNECTION DIAGRAM

● ICs

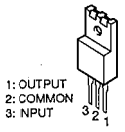
NJM78L05A



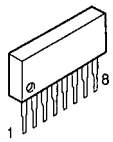
NJM79M12FA
NJM79M05FA



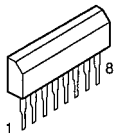
NJM7812FA
NJM78M05FA



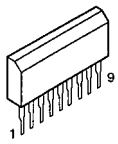
NJM2068L-D



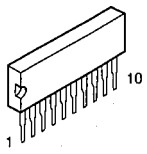
M5220L



μPC4570HA

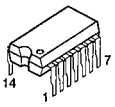


LB1641

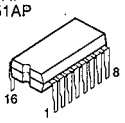


MC14576CP

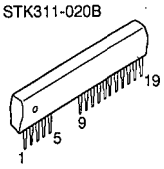
TC74HCU04AP
TC4066BP



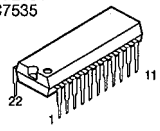
TC4053BP
TC74HC153AP
TC74HC4051AP
TC9299P
LC7824



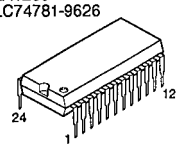
STK311-020B



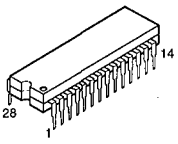
LA3401
LC72131
LC7535



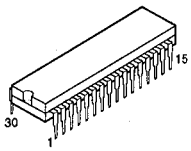
LA1266
LC74781-9626



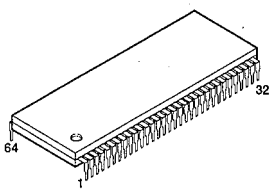
TC9273N-004
TC9273N-009



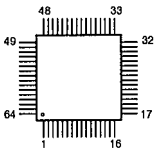
LC78213
LC78211



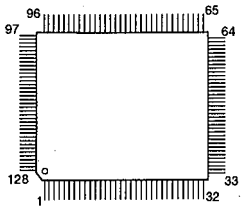
HD6433614-A49P



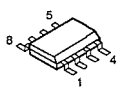
LC75710NE



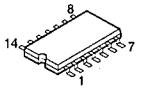
YSS243B



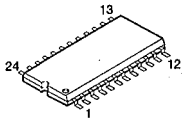
NJM2904M-T1
NJM4558MT-1
μPC4570G2



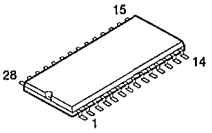
TC74HC02AF-TP1
TC74HC157AF-TP1



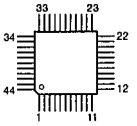
AK4320-VM



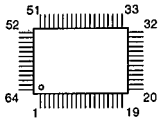
LH5P832N-10
UM61256FS-15Q



YM3436DK



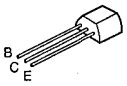
YSS245



● Transistors

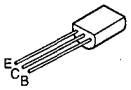
2SA933S (Q, R)
2SA1115 (E, F)
2SC2603 (E, F)
2SC3330 (S, T)
2SC4038 (Q, R, S, E)
2SD1915 (S, T)

DTA114ES
DTA143ES
DTA144ES
DTC114ES
DTC123JS
DTC143ES
DTC143XS
DTC143ZS
DTC144ES

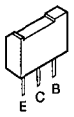


2SA970 (GR, BL)
2SA1015 (Y)
2SA1145 (O, Y)
2SB2878 (A, B)

2SC535 (A, B, C)
2SC1815 (Y)
2SC2240 (GR, BL)
2SC2705 (O, Y)
2SC2878 (A, B)

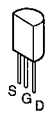


2SA1708 (S, T)
2SC4488 (S, T)

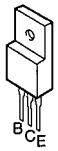


2SC3326 (A, B)
DTA144EK

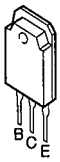
2SK246(Y)



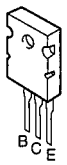
2SA1837
2SB941 (P, Q)
2SC4793
2SD2396 (J, K)



2SC4512 (O, P, Y)

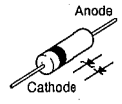


2SC5200 (R, O)



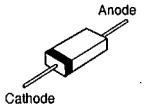
● Diodes

1SR139-100
1SR139-400
1SS133
MA185

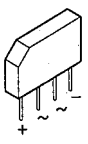


MA8056-H
MTZJ5.1A
MTZJ5.1B
MTZJ6.8A
MTZJ6.8B
MTZJ9.1B
MTZJ11.0B
MTZJ12.0A
MTZJ24.0B
MTZJ24.0C
MTZJ30.0D

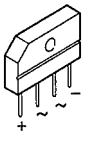
1SS355



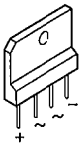
D2SBA20



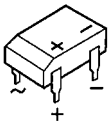
RBV-602



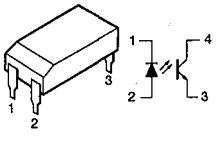
D3SBA20



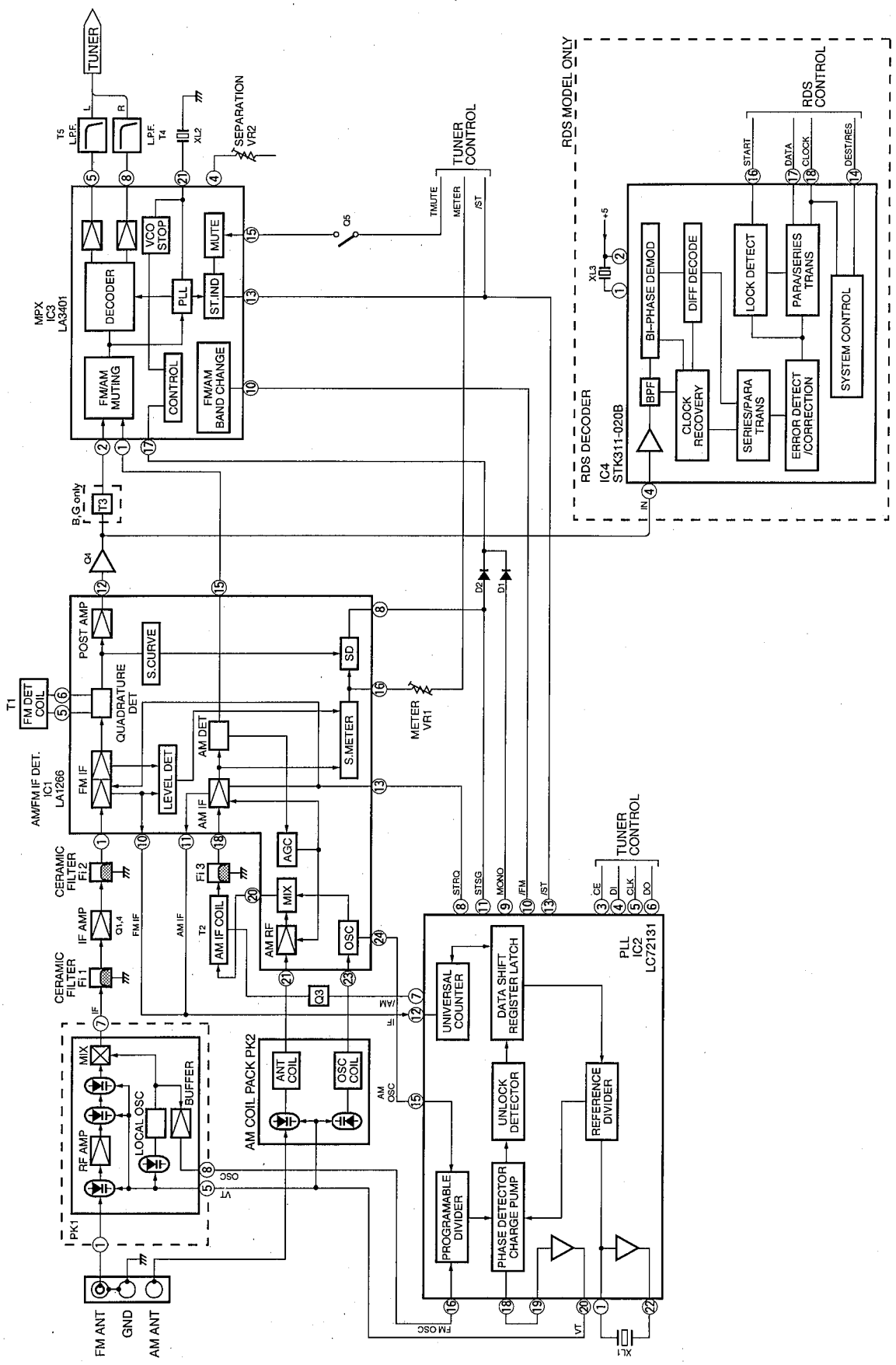
S1NB20



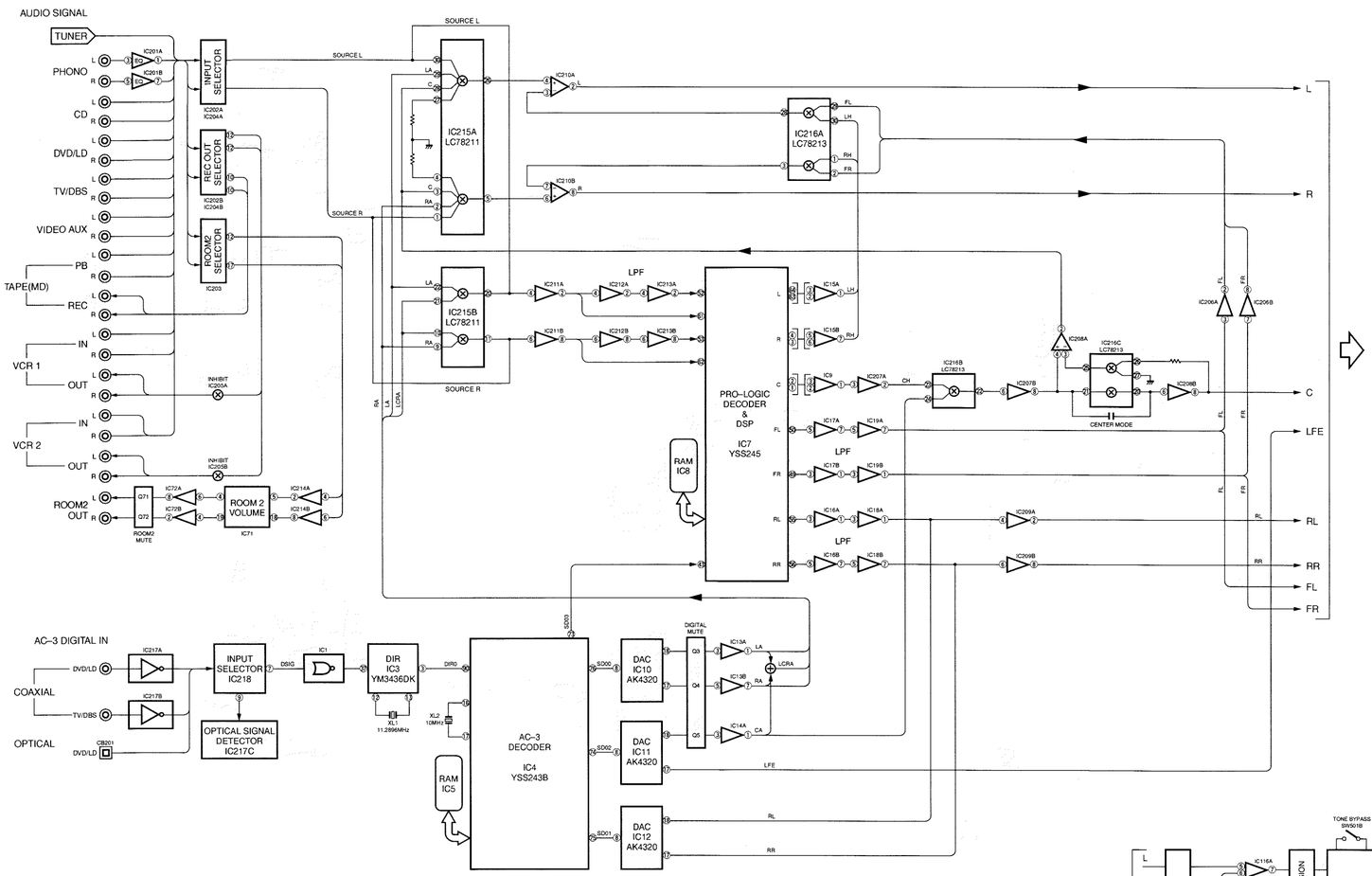
TLP621

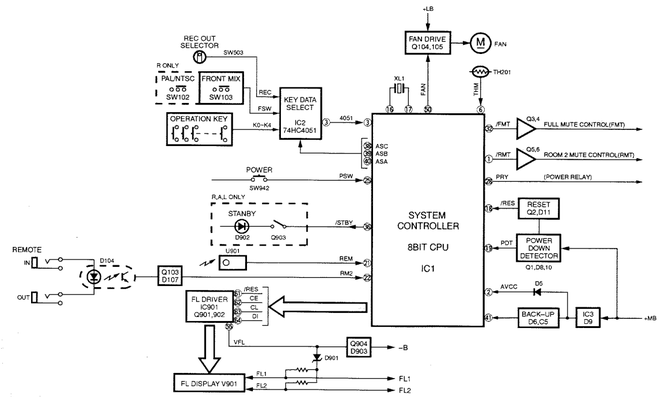


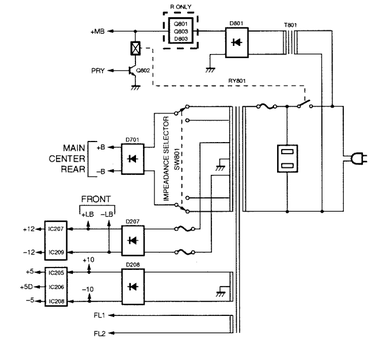
■ BLOCK DIAGRAM

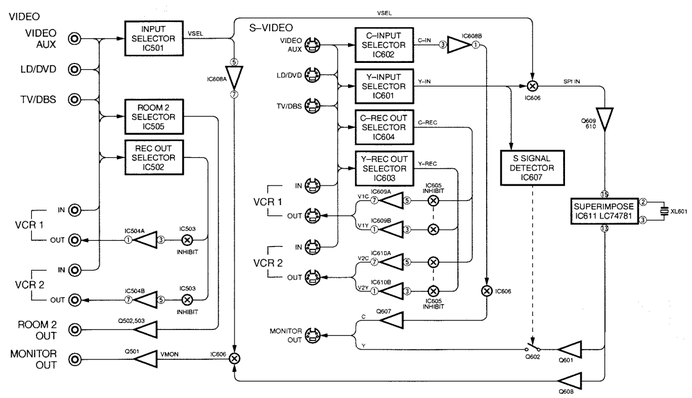


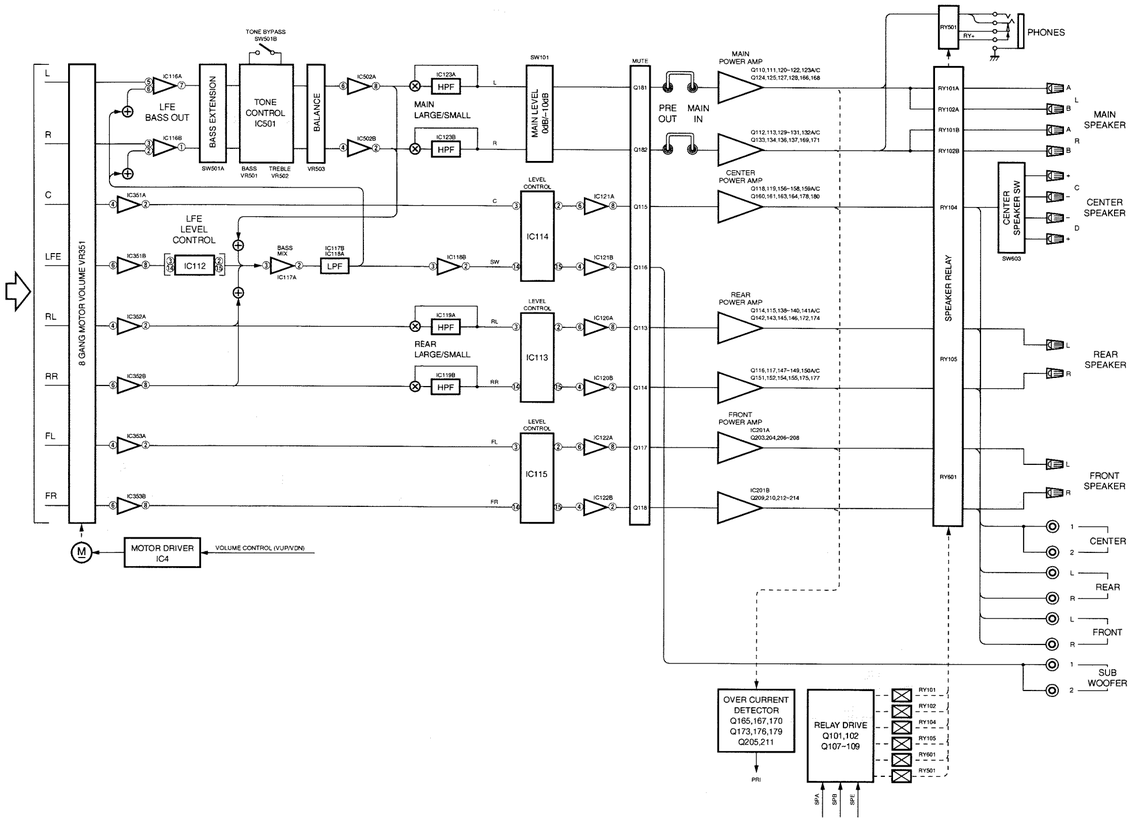
■ BLOCK DIAGRAM





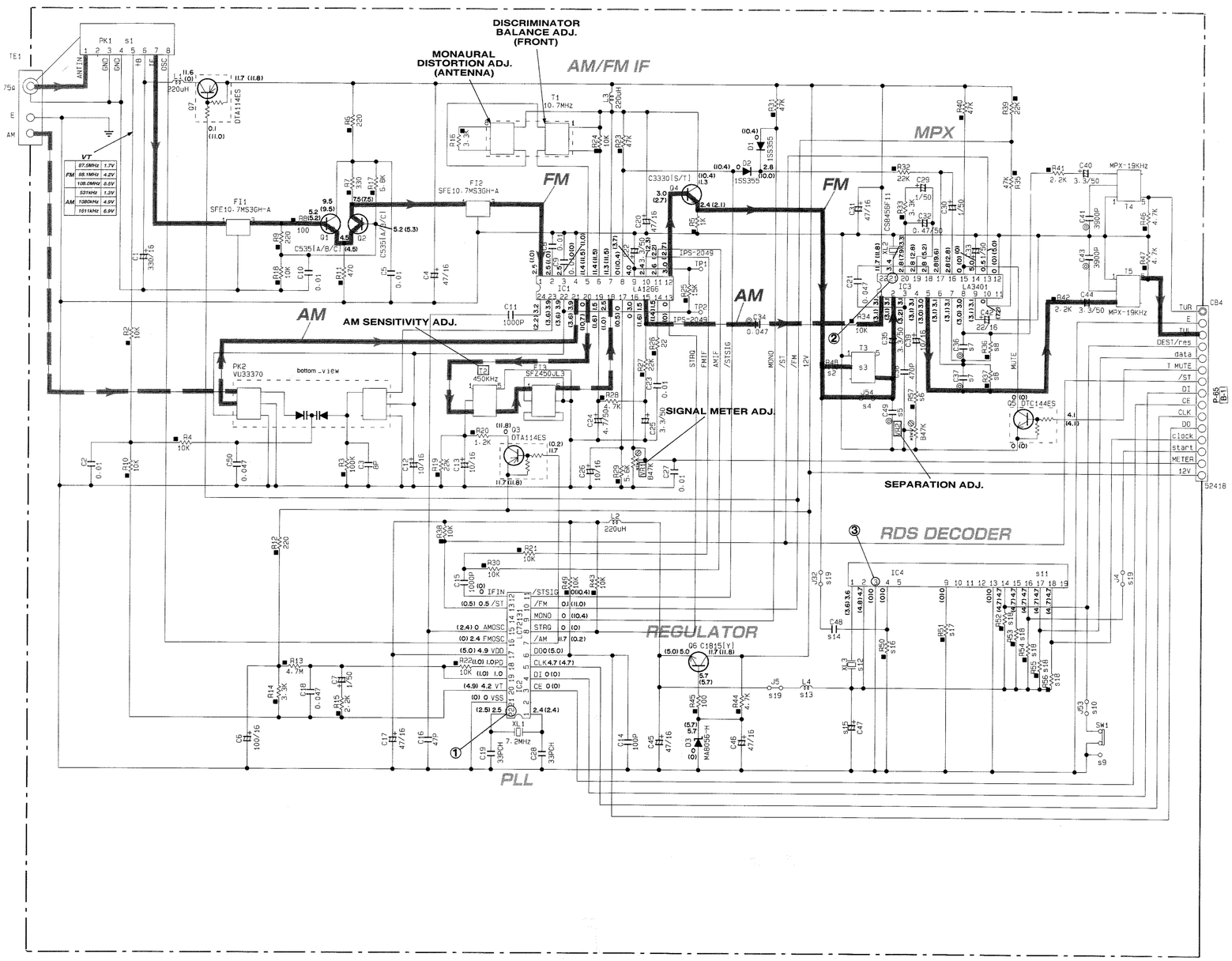






■ SCHEMATIC DIAGRAM (TUNER)

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.



CIRCUIT CHANGES BY MARKET.

: NOT USED
○ : USED

S		J	U. C	R	A. B. G. L	B. G/RDS
1	PK1	VR60440	VR24220	VR24220	VQ98760	VQ98760
2	R48				4.7K	4.7K
3	T3				XYA2	XYA2
4	J54	○	○	○		
5	C49				120P	120P
6	R57	22K	22K	22K	1K	1K
7	C36. 37	680P	1000P	1000P	470P	470P
8	R36. 37	75K	75K	75K	100K	100K
9	SW1			VS60260		
10	J53			○		
11	IC4					STK311-020B
12	XL3					CSB456F33
13	L4					220uH
14	C48					100P
15	C47					47/16
16	R50					47K
17	R51					33K
18	R52-56					10K
19	J4. 5. 32					○
20						

CAPACITOR

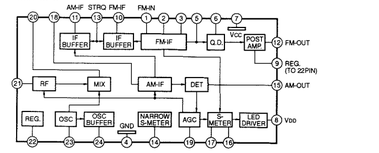
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
⊗	TANTALUM CAPACITOR	#
NO MARK	CERAMIC CAPACITOR	‖
◉	CERAMIC TUBULAR CAPACITOR	‖
◎	POLYESTER FILM CAPACITOR	‖
○	POLYSTYRENE FILM CAPACITOR	‖
Ⓜ	MICA CAPACITOR	‖
Ⓟ	POLYPROPYLENE FILM CAPACITOR	‖
▣	SEMICONDUCTIVE CERAMIC CAPACITOR	‖

RESISTOR

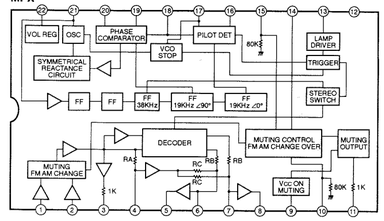
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
▨	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
▤	CHIP RESISTOR

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

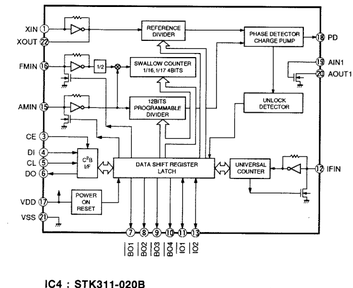
IC1 : LA1266
AM/FM IF



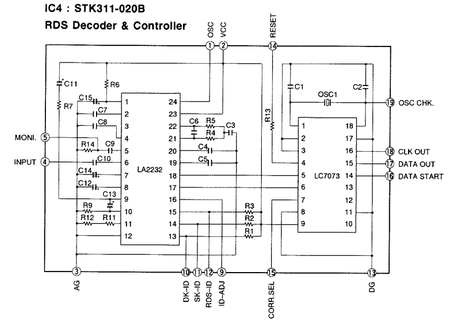
IC3 : LA3401
MPX



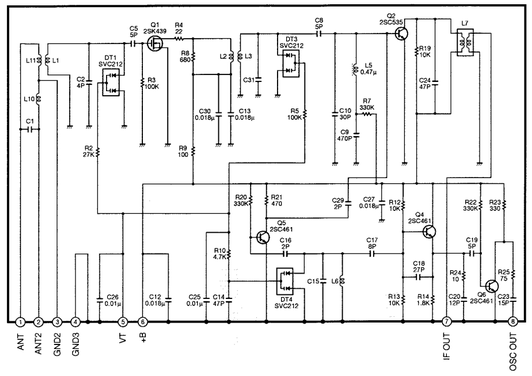
IC2 : LC72131
PLL Controller



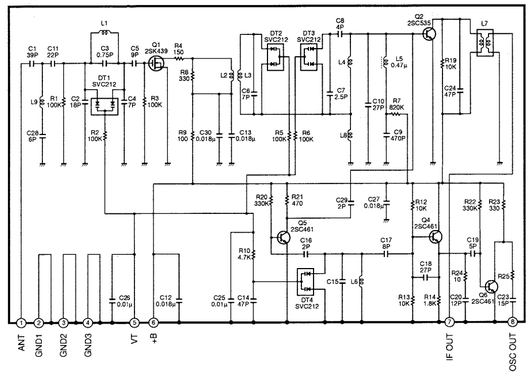
IC4 : STK311-020B
RDS Decoder & Controller



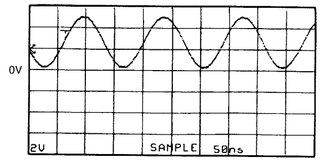
● **PK1 : ENV-17298G1 (VR242200) U, C, R models**



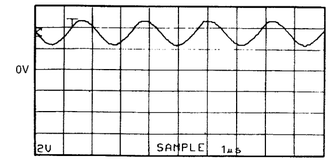
● **PK1 : ENV-17297G1 (VQ987600) A, L, B, G models**



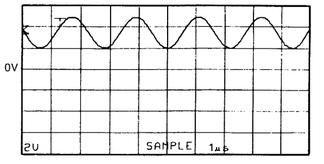
Point ① (Pin22 of IC2) FM reception
V : 2V/div H : 50nsec/div
DC range 1 : 1 probe



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 : 1 μsec/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.*

■ SCHEMATIC DIAGRAM (FUNCTION)

CAPACITOR	
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
◉	CERAMIC TUBULAR CAPACITOR
◎	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
①	MICA CAPACITOR
⊘	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

RESISTOR	
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
▽	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
■	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

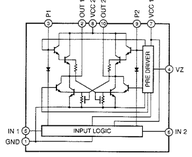
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
¥1	D1-6-8-9-11	1SS133 HSS184TD
¥2	IC3	NJM78L05A AN78L05-(TA)
¥3	Q1-3-6	2SA933S(Q/R) 2SA1115(E/F) 2SA1309A(Q/R/S)
¥4	Q7	DTC114ES UN5211
¥5	Q71-72-113-116	2SC2878(A/B) 2SD1915F(S/T)

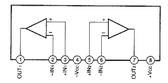
CIRCUIT CHANGES BY MARKET.

S		U,C	R	A,L
1	R21	18K	10K	12K
2	R23	12K	10K	18K
	PWB	XT249	XT245	XT249
	PCB	VY75990	VY77000	VY77010

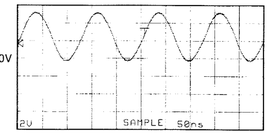
IC4 : LB1641
Motor Driver



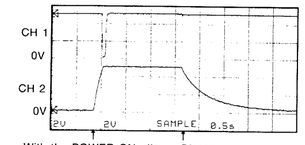
IC116 : NJM2068L
Dual OP-Amp



Point ④ (Pin17 of IC1)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe

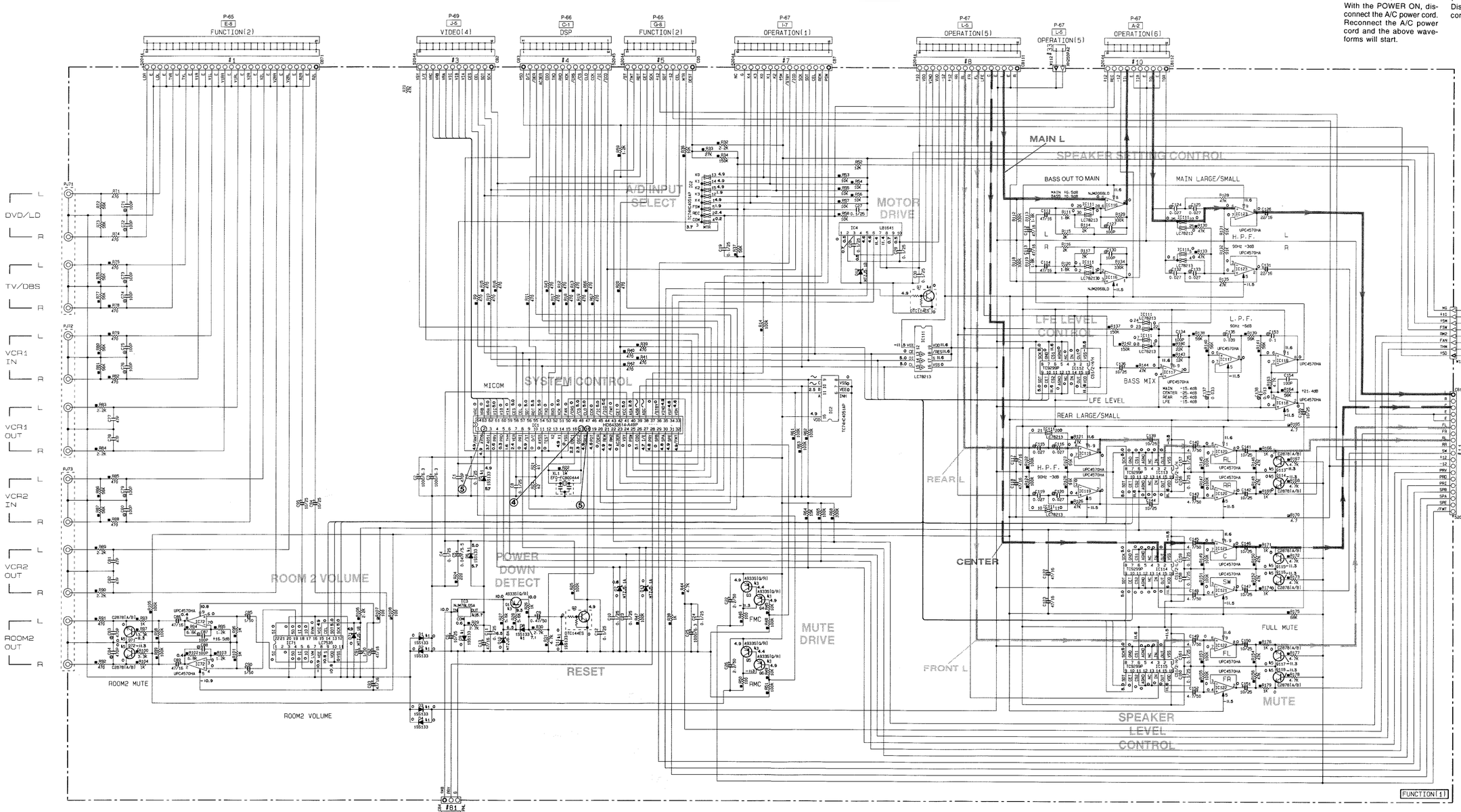


Point ⑤
[CH1 : Pin18 of IC1 / CH2 : Pin2 of IC1] V : 2V/div (CH1) V : 2V/div (CH2)
H : 0.5 sec/div DC range 1 : 1 probe
(This waveform is not available by pushing the power switch ON and OFF.)

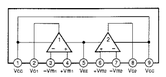


With the POWER ON, disconnect the A/C power cord. Reconnect the A/C power cord and the above waveforms will start.

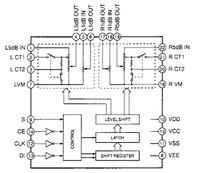
Disconnect the power cord from the AC outlet.



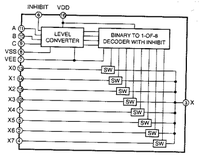
IC72, 117~123 : μPC4570HA
Dual OP-Amp



IC71 : LC7535
Electric Controlled Volume

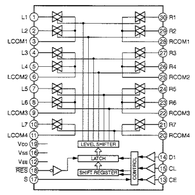


IC2 : TC74HC4051AP
Analog Multiplexer/Demultiplexer

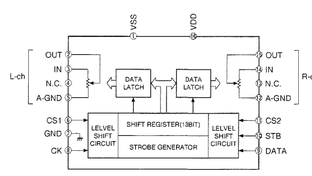


INPUT STATES				"ON" CHANNEL (S)
INHIBIT	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	NONE

IC111 : LC78213
Analog Function Switch



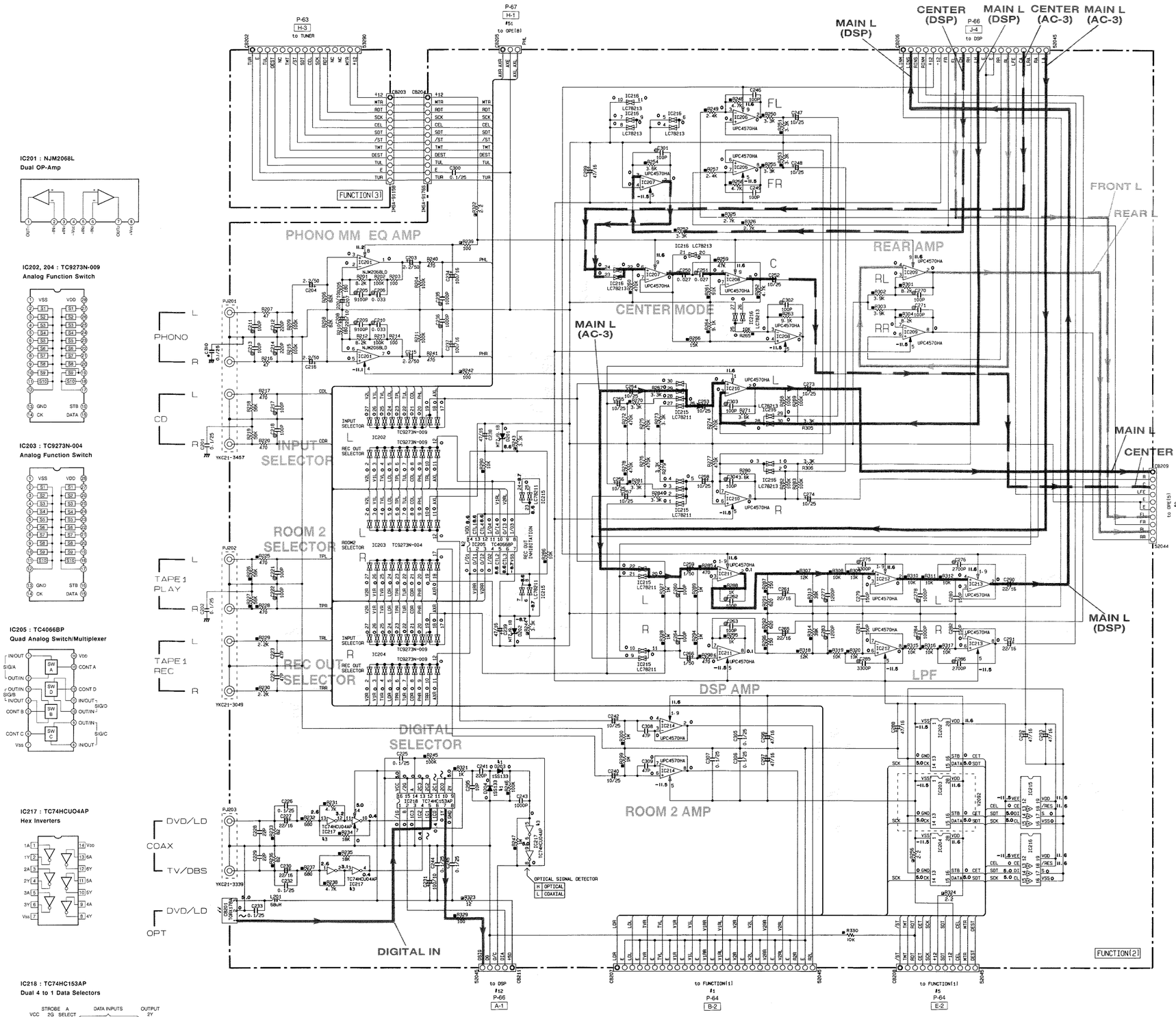
IC112~115 : TC9299P
Electric Controlled Volume



Other ICs
● IC1 : HD6473614P → See page 29

* 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.

■ SCHEMATIC DIAGRAM (FUNCTION)



IC201 : NJM2068L
Dual OP-Amp

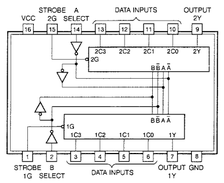
IC202, 204 : TC9273N-009
Analog Function Switch

IC203 : TC9273N-004
Analog Function Switch

IC205 : TC4066BP
Quad Analog Switch/Multiplexer

IC217 : TC74HCUO4AP
Hex Inverters

IC218 : TC74HC153AP
Dual 4 to 1 Data Selectors



INPUTS			OUTPUT
SELECT		STROBE	
B	A	G	Y
X	X	H	L
L	L	L	C0
L	H	L	C1
H	L	L	C2
H	H	L	C3

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☒	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

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

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

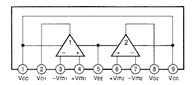
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1	D203-204	1SS133 HSS104TD
k2	IC205	TC4066BP UPD4066BC MC14066B
k3	IC217	TC74HCU04AP SN74HCU04N MC74HCU04N
k4		
k5		

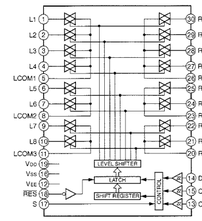
CIRCUIT CHANGES BY MARKET.

S		U.C	R	A.L
1				
2				
	PWB	XT249	XT249	XT249
	PCB	VY76990	VY77000	VY77010

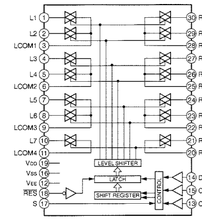
IC206-214 : μPC4570HA
Dual OP-Amp



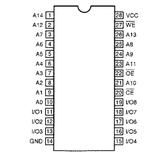
IC215 : LC78211
Analog Function Switch

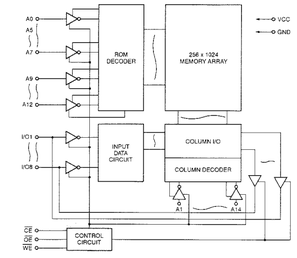


IC216 : LC78213
Analog Function Switch

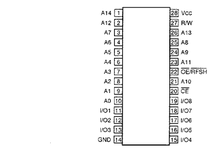


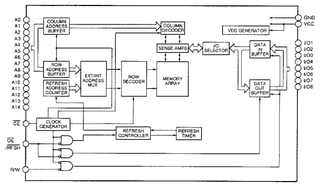
IC5 : UM61256FS-15Q
32K X 8 High Speed Static RAM



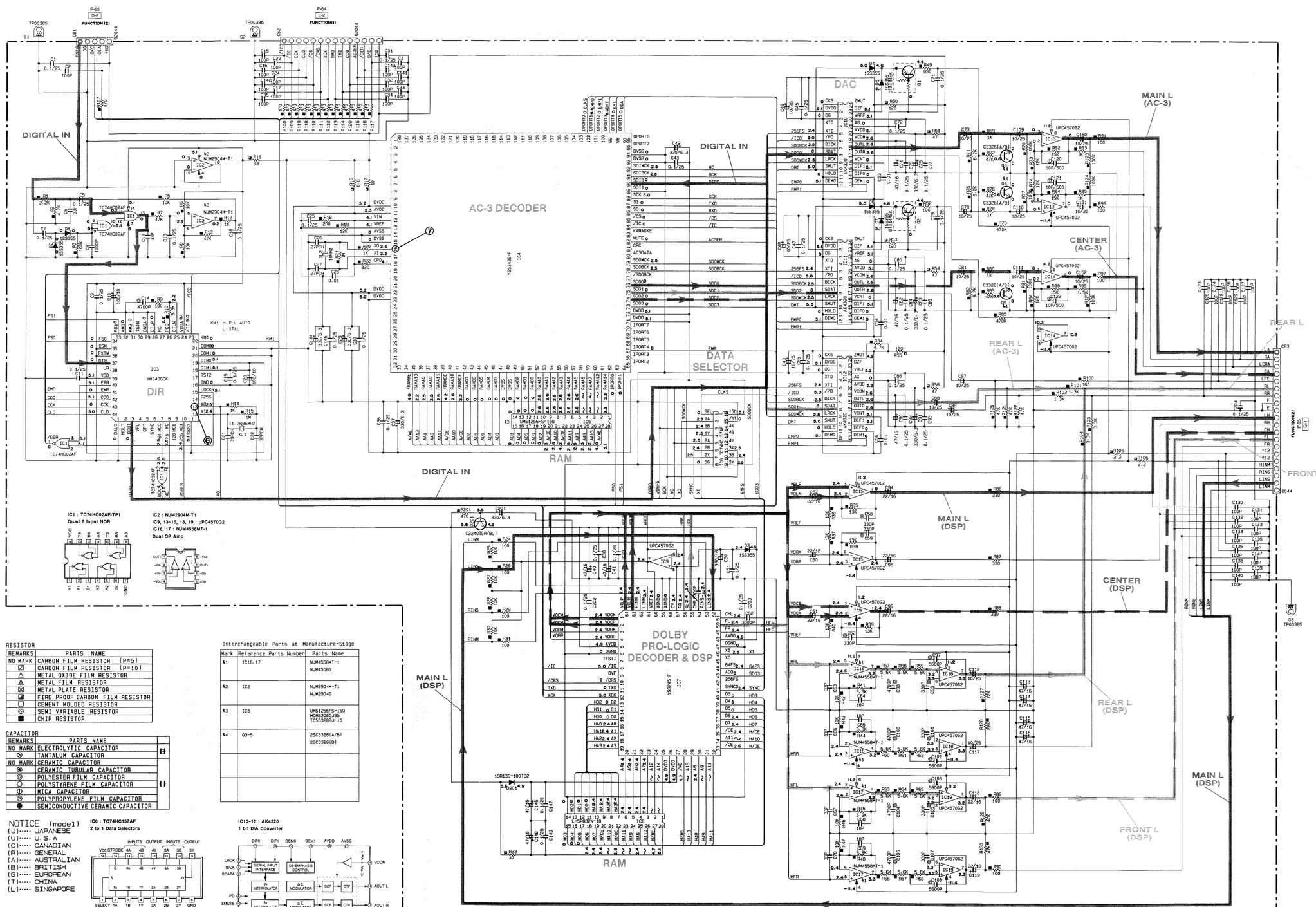


IC8 : LH5P832N-10
256K Pseudo Static RAM

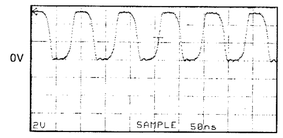




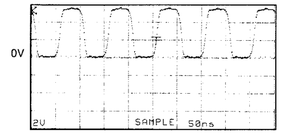
■ SCHEMATIC DIAGRAM (DSP)



Point ⑥ (Pin13 of IC3)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



Point ⑦ (Pin16 of IC4)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
☒	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

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

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
&1	IC16, 17	NJM4558M-T1 NJM4558D
&2	IC2	NJM2904M-T1 NJM2904G
&3	IC5	UM61256FS-15G MCM6206DJ35 TC55328BJ-15
&4	Q3~5	2SC3326(A/B) 2SC3326(B)

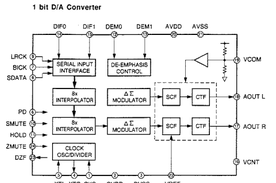
NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

IC5 : TC74HC157AF
2 to 1 Data Selectors

FUNCTION TABLE

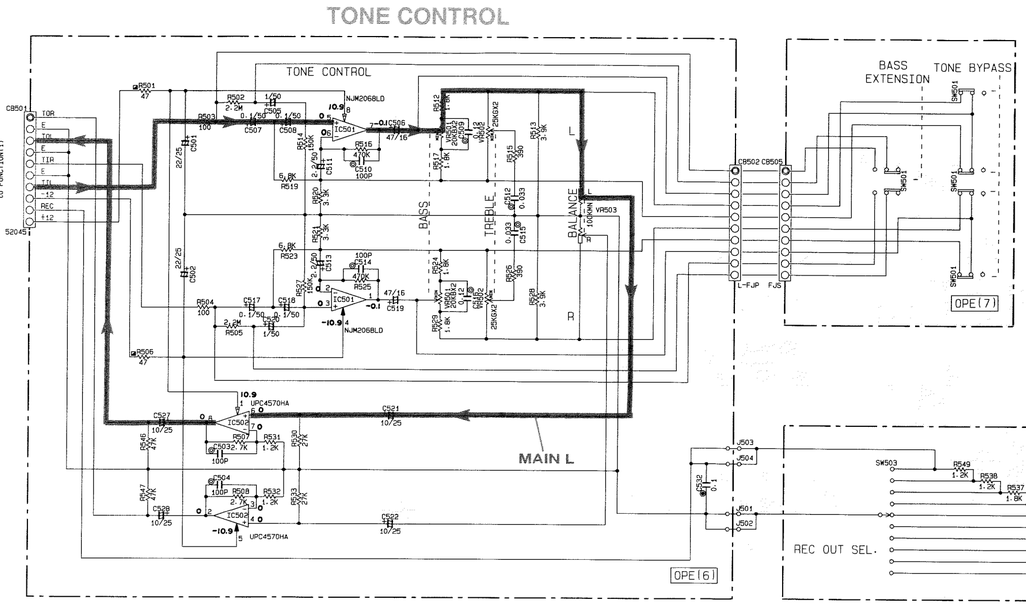
INPUTS SELECT	INPUTS STROBE	OUTPUT Y
X	H	L
L	L	A
H	L	B

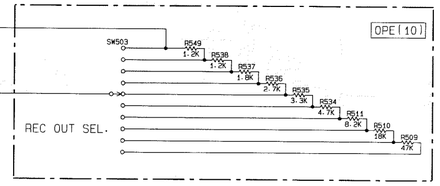
IC10~12 : AK4320
1 bit D/A Converter



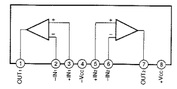
* All voltages are measured with a 10MΩ/DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (OPERATION)

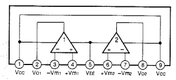


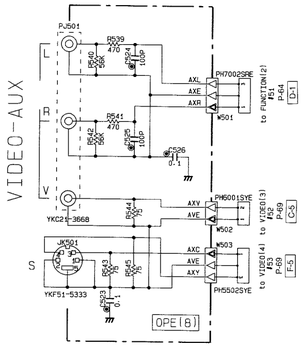


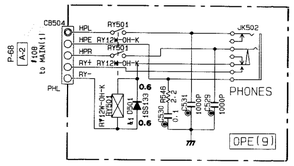
IC501 : NJM2068L-D
Dual OP-Amp



IC351-353, 502 : μPC4570HA
Dual OP-Amp







CAPACITOR

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

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
▨	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

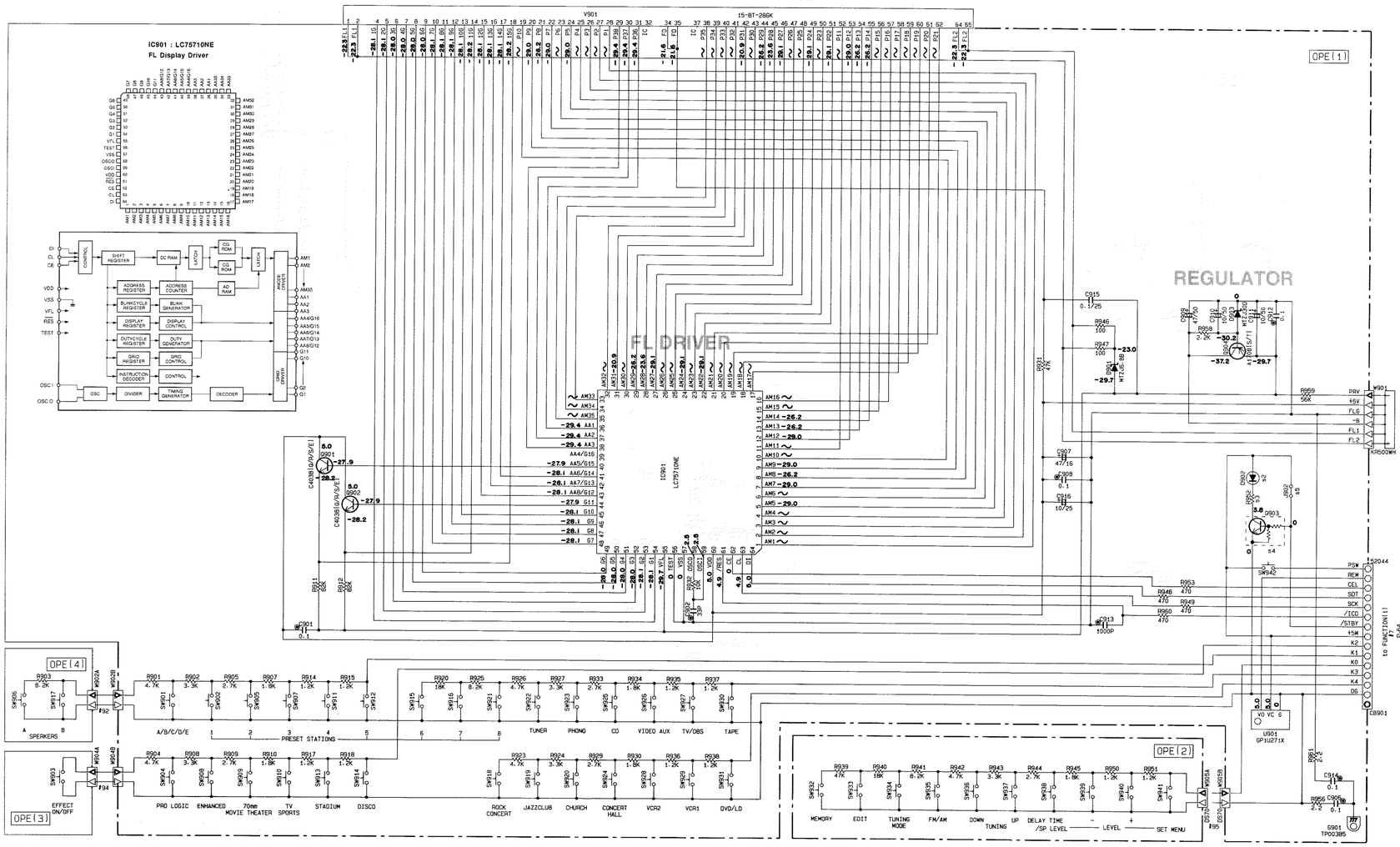
Interchangeable Parts at Manufacture-Stage

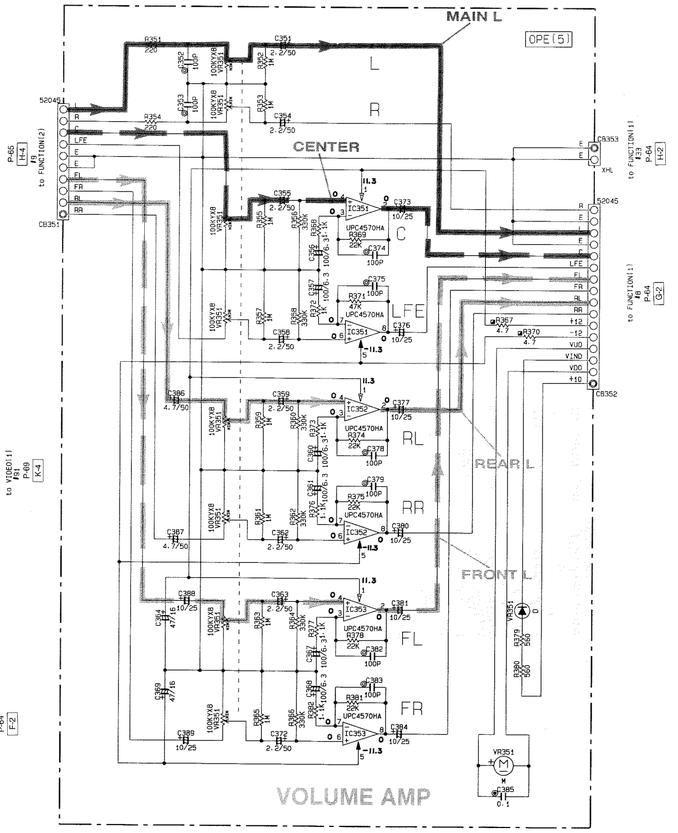
Mark	Reference Parts Number	Parts Name
&1	D501	1SS133 HSS104TD
&2		
&3		

CIRCUIT CHANGES BY MARKET.

S	Circuit No.	U.C	A.A.L
1	D902	x	SLR-325VC
2	R952	x	270
3	Q903	x	DTC114ES UN4211
4	J902	0	x
5			
6			
7			
8			
9			
10			
	PWB	XT248	XT248
	PCB	VY75970	VY75980

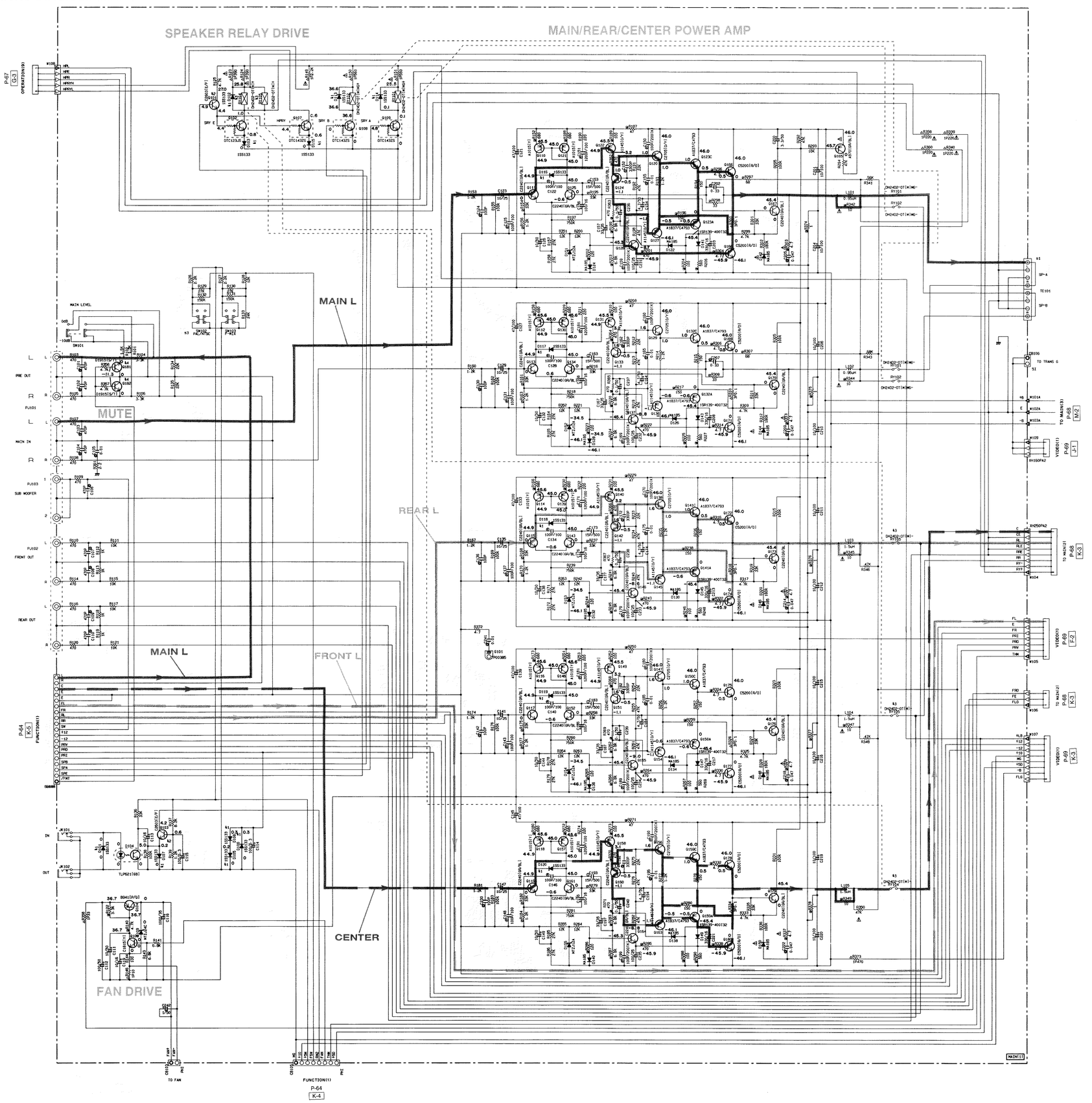
× : NOT USED ○ : USED

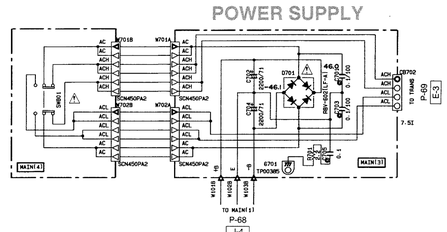


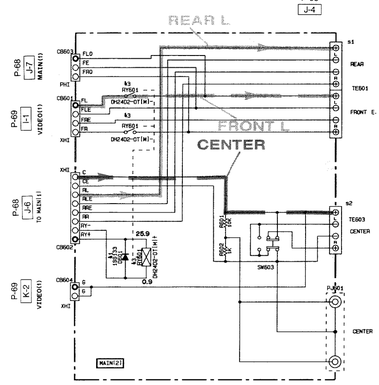


* All voltages are measured with a 10MΩ/DC electric volt meter.
* Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (MAIN)







RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
⊘	CARBON FILM RESISTOR (P=tC)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊗	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

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

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

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1	D101-103, 105-108, 113-130, 601	1SS133 HSS104TD
k2	Q101-103	2SC2603T(F/T) 2SC1740S(R/S) 2SC3311A(R/S)
k3	RY104, 105, 601	DHD402-DT(W) JR2AD-TC24V
k4	Q181, 182	2SD1915S(F/T) 2SD1915F(F/T)

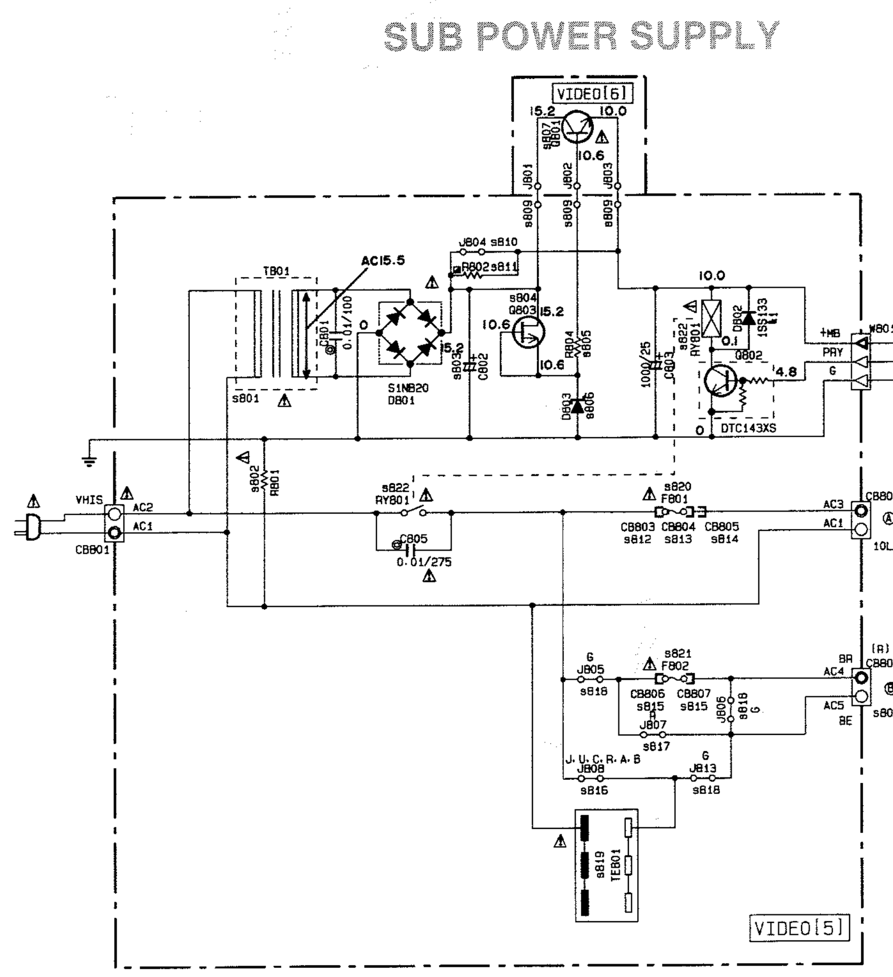
CIRCUIT CHANGES BY MARKET.

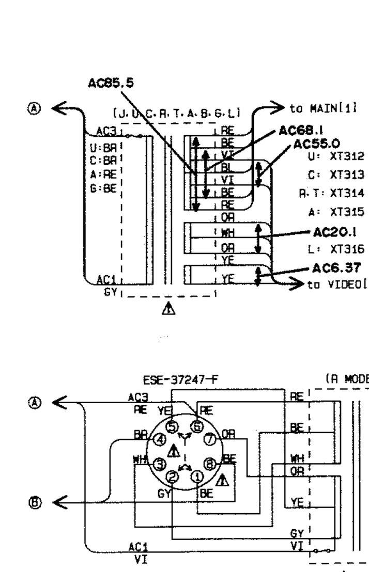
		U.C.A	R	L
1	TE101-501	VC31370	VC31370	VC72090
2	TE603	VC31390	VC31380	VC72100
3	SW102	X	VT00390	X

× : NOT USED

* 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.

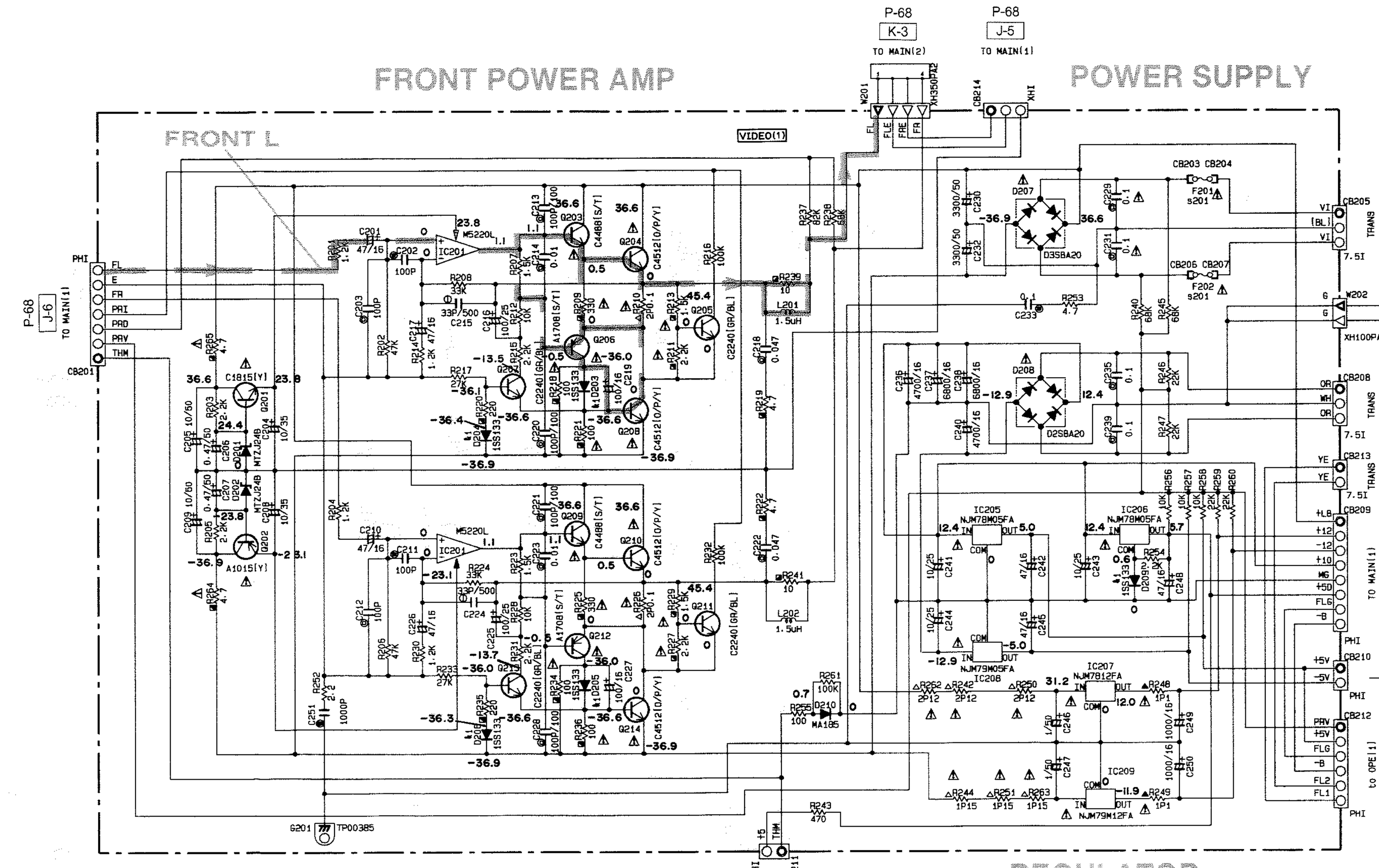
■ SCHEMATIC DIAGRAM (VIDEO)



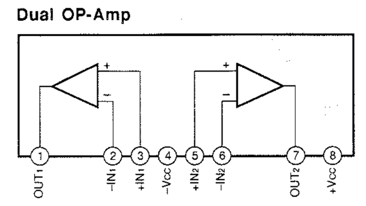


VOLTAGE SELECTOR

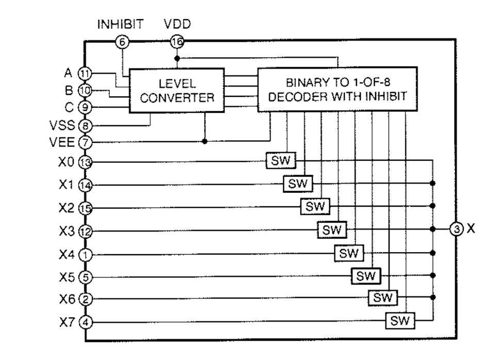
110V	1–2/5–6
120V	2–3/6–7
240V	3–4/7–8
220V	4–5/8–1



IC201 : M5220L
Dual OP-Amp

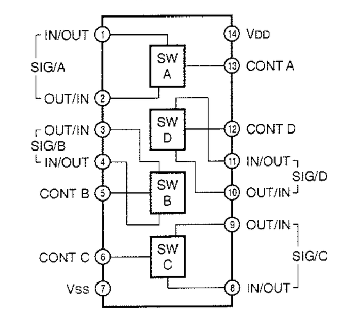


IC501, 502, 601–604 : TC74HC4051AP
Analog Multiplexer/Demultiplexer

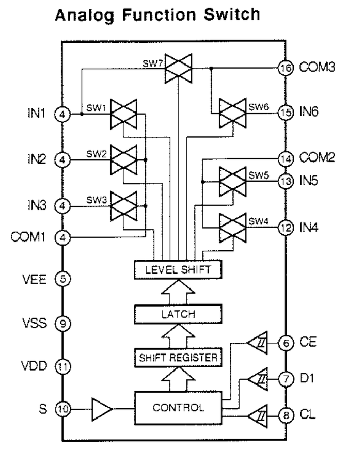


INPUT STATES				"ON" CHANNEL (S)
INHIBIT	C	B	A	
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	NONE

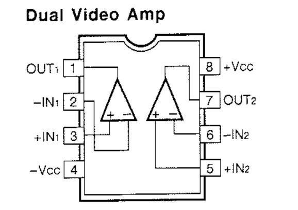
IC503, 605 : TC4066BP
Quad Analog Switch/Multiplexer

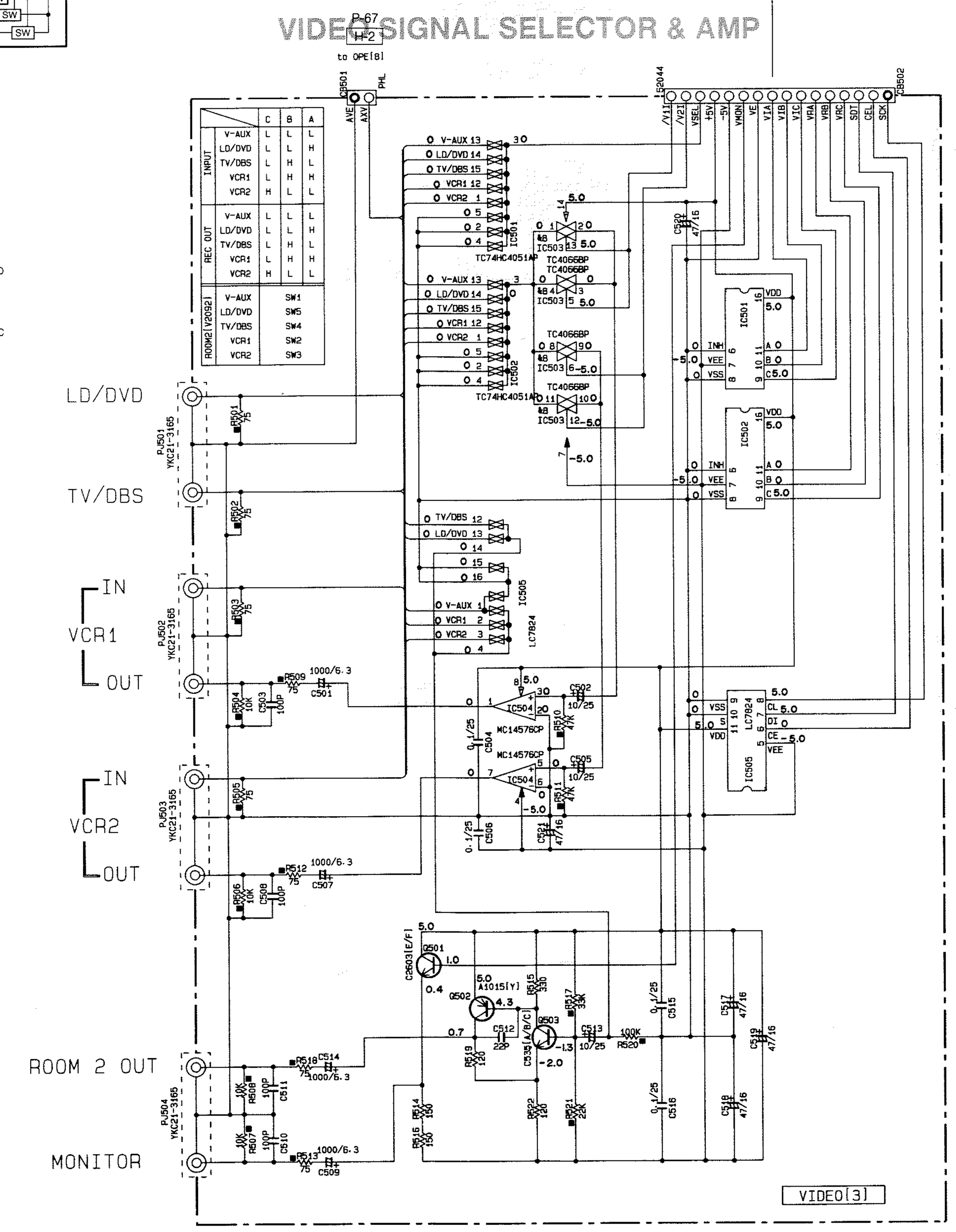


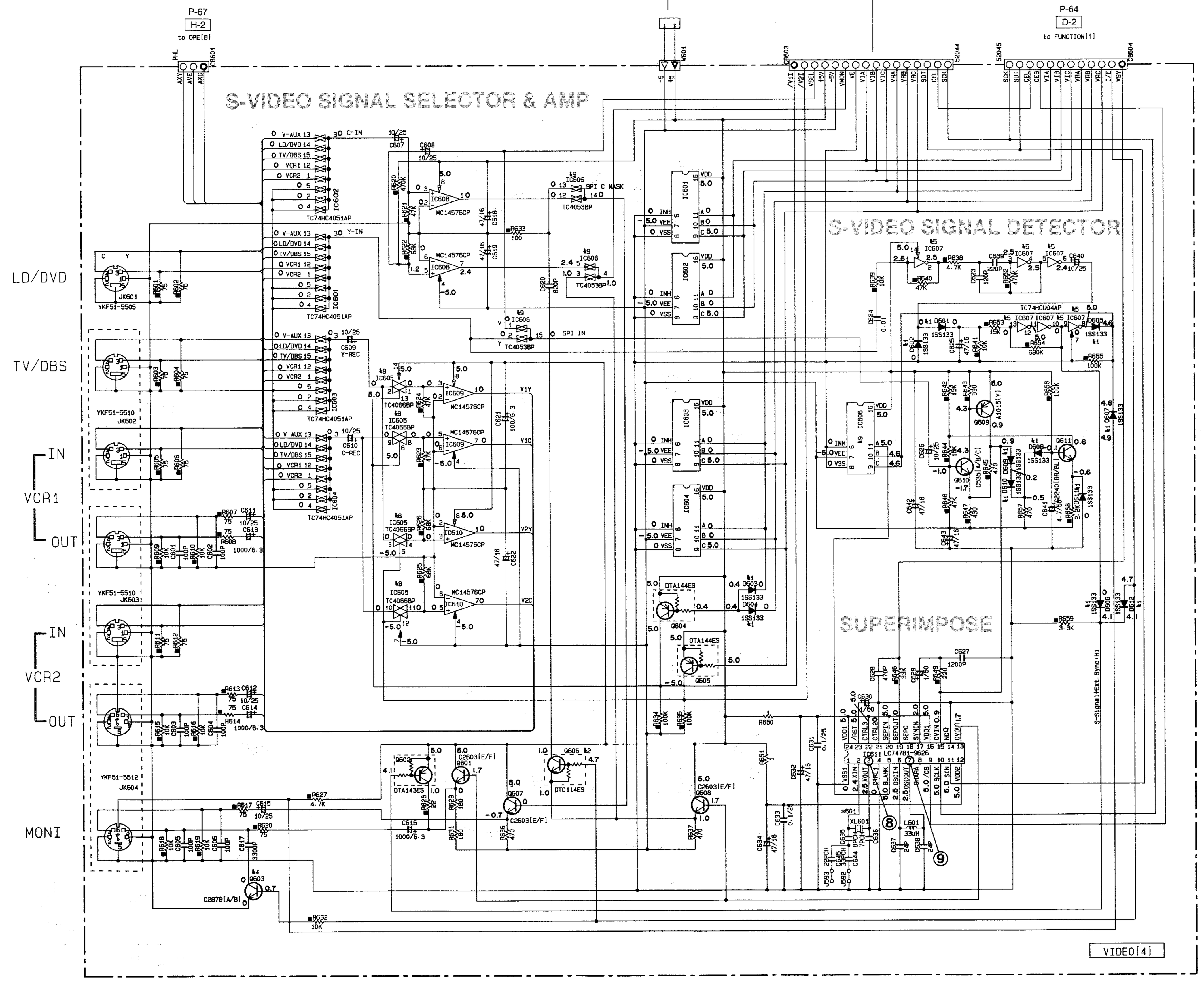
IC505 : LC7824
Analog Function Switch



IC504,608–610 : MC14576CP
Dual Video Amp





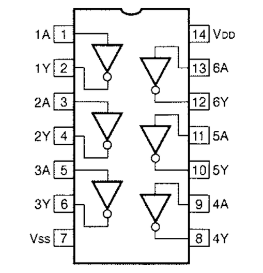


CIRCUIT CHANGES BY MARKET.

× : NOT USED
○ : USED

s	RefN	U.C	R	A	L
201	F201.202	6A 125V KB00364	5A250V KB00324	5A250V KB00324	5A250V KB00324
601	XL601	14.31818MHz VV94980	14.31818MHz VV94980	17.734475MHz VV94990	17.734475MHz VV94990
801	T801	XQ485A0 XQ485B0 ALTERNATE USE	XC082A0 XS589A0 ALTERNATE USE	XQ486A0 XQ486B0 ALTERNATE USE	XQ486A0 XQ486B0 ALTERNATE USE
802	R801	1/2P 2.2M	X	X	X
803	C802	X	47/63	X	X
804	Q803	X	2SK246[Y] IE10262	X	X
805	R804	X	100	X	X
806	D803	X	MTZJ11B VG43990	X	X
807	Q801	X	2SD2396[J/K] VR51080	X	X
808	CB809	X	LA00241	X	X
809	J801–803	X	○	X	X
810	J804	○	X	X	○
811	R802	X	X	8.2	X
812	CB803	VS99610	VS99610	VP20650	VP20650
813	CB804	X	X	VP20650	VP20650
814	CB805	VS99610	VS99610	X	X
815	CB806.807	X	VP20650	X	VP20650
816	J808	○	○	○	X
817	J807	X	○	X	X
818	J805.806.813	X	X	X	○
819	TE801	S2-765T-212 VV11880	S2-765T-212 VV11880	S2-773T-210 VT91580	S2-763T-212 VV11900
820	F801	10A 250V KB00139	10A 250V KB00139	T5AL 250V KB00078	T5AL 250V KB00078
821	F802	X	T5AL 250V KB00078	X	T2.5AL 250V KB00308
822	RY801	VS-12MB-NR VV95000	DH12D1-O[M] VK53920	VS-12MB-NR VV95000	VS-12MB-NR VV95000
	PWB	XT251	XT252	XT253	XT253
	PCB	VY77030	VY77040	VY77050	VY77060

IC607 : TC74HCUO4AP
Hex Inverters



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

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
※1	D203–206.209.601–612 802	1SS133 HSS104TD
※2	Q606	DTC114ES UN4211
※3		
※4	Q603	2SC2878[A/B] 2SD1915F[S/T]
※5	IC607	TC74HCU04AP SN74HCU04N MC74HCU04N
※6		
※7		
※8	IC503.605	TC4066BP UPD4066BC MC14066B
※9	IC606	TC4053BP UPD4053BC
※10		

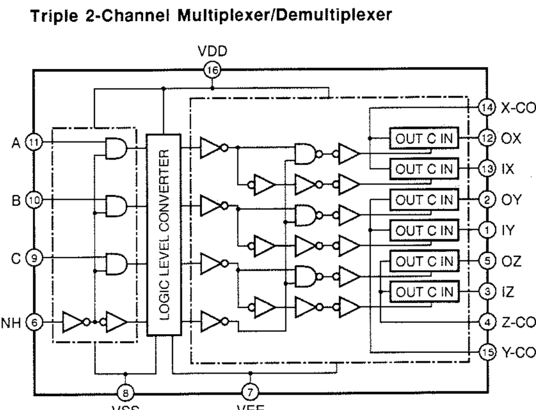
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
◪	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◩	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

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

IC606 : TC4053BP
Triple 2-Channel Multiplexer/Demultiplexer



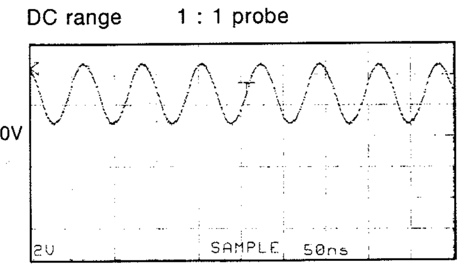
CONTROL INPUTS				"ON" CHANNEL
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	0X (Pin 12), 0Y (Pin 2), 0Z (Pin 5) 1X (Pin 13), 1Y (Pin 1), 1Z (Pin 3)
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y, 0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE

* Don't Care

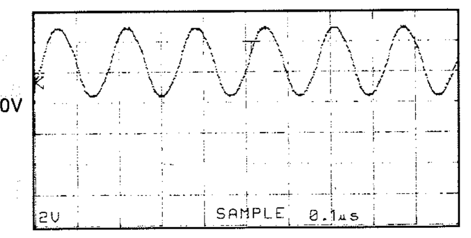
Other ICs

● **IC611 : LC74781-9626**→See page 37

Point ⑧ (Pin3 of IC611)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



Point ⑨ (Pin7 of IC611)
V : 2V/div H : 0.1 µsec/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.*

PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

Components having special characteristics are marked ⚠ 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.
- Flame proof carbon resistors and chip resistors are listed on page 84.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

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

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

P.C.B. TUNER & FUNCTION

Schm Ref.	PART NO.	Description		
	VV610200	P.C.B.	TUNER(UC)	
	VV610300	P.C.B.	TUNER(R)	
	VV610400	P.C.B.	TUNER(AL)	
CB4	VQ961800	CN.BS.PIN	15P	
C1	VG287800	C.EL	330uF	16V
C2	UB044100	C.CE.M.CHP	0.01uF	50V
C3	UB050800	C.CE.M.CHP	8pF	50V
C4	VG291200	C.EL	47uF	50V
C5	UB044100	C.CE.M.CHP	0.01uF	50V
C6	VG288900	C.EL	100uF	25V
C7	VJ839100	C.EL	1uF	50V
C8	UB044100	C.CE.M.CHP	0.01uF	50V
C9	UB044100	C.CE.M.CHP	0.01uF	50V
C10	UB044100	C.CE.M.CHP	0.01uF	50V
C11	UB013100	C.CE.M.CHP	1000pF	50V
C12	VJ836900	C.EL	10uF	16V
C13	VJ836900	C.EL	10uF	16V
C14	UB052100	C.CE.M.CHP	100pF	50V
C15	UB013100	C.CE.M.CHP	1000pF	50V
C16	UB051470	C.CE.M.CHP	47pF	50V
C17	VG291200	C.EL	47uF	50V
C18	UB044470	C.CE.M.CHP	0.047uF	50V
C19	VA761200	C.CE	33pF	50V
C20	VG291200	C.EL	47uF	50V
C21	UB044470	C.CE.M.CHP	0.047uF	50V
C22	UM216330	C.EL	3.3uF	50V
C23	UB044100	C.CE.M.CHP	0.01uF	50V
C24	UM416470	C.EL	4.7uF	50V
C25	UM216330	C.EL	3.3uF	50V
C26	VJ836900	C.EL	10uF	16V
C27	UB044100	C.CE.M.CHP	0.01uF	50V
C28	VA761200	C.CE	33pF	50V
C29	VJ839100	C.EL	1uF	50V
C30	VJ839100	C.EL	1uF	50V
C31	VG291200	C.EL	47uF	50V
C32	VJ839000	C.EL	0.47uF	50V
C33	VJ839100	C.EL	1uF	50V
C34	UA654470	C.MYLAR	0.047uF	50V
C35	UM216330	C.EL	3.3uF	50V
C36	UA652470	C.MYLAR	470pF	50V(AL)
C36	UA653100	C.MYLAR	1000pF	50V(UCR)
C37	UA652470	C.MYLAR	470pF	50V(AL)
C37	UA653100	C.MYLAR	1000pF	50V(UCR)
C38	UB012470	C.CE.M.CHP	470pF	50V
C39	VJ836900	C.EL	10uF	16V
C40	UM216330	C.EL	3.3uF	50V
C41	UA653390	C.MYLAR	3900pF	50V
C42	UM407220	C.EL	22uF	16V
C43	UA653390	C.MYLAR	3900pF	50V
C44	UM216330	C.EL	3.3uF	50V
C45	VG291200	C.EL	47uF	50V
C46	VG291200	C.EL	47uF	50V
C49	UA652120	C.MYLAR	120pF	50V(AL)

*New Parts

Schm Ref.	PART NO.	Description	
C50	UB044470	C.CE.M.CHP	0.047uF 50V
D1	VT332900	DIODE	1SS355
D2	VT332900	DIODE	1SS355
D3	VU993100	DIODE.ZENR	MA8056-H 5.8V
Fi1	GG000560	FLTR.CE	SFE10.7MS3GHY-A
Fi2	GG000560	FLTR.CE	SFE10.7MS3GHY-A
Fi3	VC219000	FLTR.CE	SFZ450JL3
IC1	XB760A00	IC	LA1266
IC2	XQ944A00	IC	LC72131
IC3	iG158100	IC	LA3401
L1	VU889500	COIL	220uH
L2	VU889500	COIL	220uH
L3	VU889500	COIL	220uH
PK1	VQ987600	TUNER.PK	EXV-17296G1(AL)
PK1	VR242200	TUNER.PK	EXV-17296G1(UCR)
PK2	VU333700	COIL.RF.AM	940536051A
Q1	iC053540	TR	2SC535 A,B,C
Q2	iC053540	TR	2SC535 A,B,C
Q3	VD678500	TR.DGT	DTA114ES
Q4	VC218900	TR	2SC3330 R,S,T
Q5	VG722000	TR.DGT	DTC144ES
Q6	iC1815C0	TR	2SC1815 Y
Q7	VD678500	TR.DGT	DTA114ES
SW1	VS602600	SW.SLIDE	SS070-P022 A(R)
T1	VC218600	COIL.DT.FM	10.7MHz
T2	VR895700	COIL.IF	450KHz
T3	VT486800	COIL	XYA2(AL)
T4	VQ138200	FLTR.LC	19KHz
T5	VQ138200	FLTR.LC	19KHz
TE1	VU477800	TERM.ANT	AJ-2038-040
TP1	VT969000	PIN.TEST	IRS-2049
TP2	VT969000	PIN.TEST	IRS-2049
VR1	VJ694000	VR.TRIM	B47KΩ
VR2	VJ694000	VR.TRIM	B47KΩ
XL1	QU003800	RSNR.CRYS	7.2MHz
XL2	GG000750	RSNR.CE	18.95MHz
	BB071360	SCR.TERM	8.3x13
	VR282500	PLATE	ANT.
*	VY769900	P.C.B.	FUNCTION(UC)
*	VY770000	P.C.B.	FUNCTION(R)
*	VY770100	P.C.B.	FUNCTION(AL)
CB2	VN066500	CN.BS.PIN	12P
CB3	VN394900	CN.BS.PIN	14P
CB4	VB858200	CN.BS.PIN	3P
CB5	VQ044500	CN.BS.PIN	11P
CB7	VM929900	CN.BS.PIN	15P
CB71	VQ045600	CN.BS.PIN	27P
* CB111	VQ044700	CN.BS.PIN	16P
CB112	VP113500	CN.BS.PIN	10P
CB115	VQ047400	CN.BS.PIN	19P

*New Parts

P.C.B. FUNCTION

Schm Ref.	PART NO.	Description		
CB201	VT620100	L.DTCT	1P TORX178A	
CB202	VQ963600	CN.BS.PIN	15P	
* CB203	VV073000	CN.BS.PIN	12P	
* CB204	VV074800	SOCKET	12P	
CB205	VB858200	CN.BS.PIN	3P	
CB206	VQ047500	CN.BS.PIN	20P	
CB207	VQ047800	CN.BS.PIN	27P	
CB208	VM859500	CN.BS.PIN	11P	
CB209	VP113500	CN.BS.PIN	10P	
CB211	VQ046900	CN.BS.PIN	5P	
C1	UB012470	C.CE.M.CHP	470pF	50V
C2	VF637900	C.EL	1000uF	10V
C3	VF637900	C.EL	1000uF	10V
C4	UB245100	C.CE.M.CHP	0.1uF	25V
C5	VT740700	C.EL	4700uF	5.5V
C6	UM417100	C.EL	10uF	50V
C7	UB245100	C.CE.M.CHP	0.1uF	25V
C8	UB245100	C.CE.M.CHP	0.1uF	25V
C9	VJ839000	C.EL	0.47uF	50V
C10	UB245100	C.CE.M.CHP	0.1uF	25V
C11	UB245100	C.CE.M.CHP	0.1uF	25V
C12	UB245100	C.CE.M.CHP	0.1uF	25V
C13	VJ837200	C.EL	47uF	16V
C19	UB245100	C.CE.M.CHP	0.1uF	25V
C22	VJ839200	C.EL	2.2uF	50V
C23	UB245100	C.CE.M.CHP	0.1uF	25V
C24	UB245100	C.CE.M.CHP	0.1uF	25V
C25	VF637900	C.EL	1000uF	10V
C26	VJ839200	C.EL	2.2uF	50V
C27	UB245100	C.CE.M.CHP	0.1uF	25V
C28	UB245100	C.CE.M.CHP	0.1uF	25V
C29	UB245100	C.CE.M.CHP	0.1uF	25V
C30	UB245100	C.CE.M.CHP	0.1uF	25V
C71	VQ645600	C.MYLAR	100pF	50V
C72	VQ645600	C.MYLAR	100pF	50V
C73	UA652100	C.MYLAR	100pF	50V
C74	UA652100	C.MYLAR	100pF	50V
C75	UA652100	C.MYLAR	100pF	50V
C76	UA652100	C.MYLAR	100pF	50V
C77	FG211470	C.CE	47pF	50V
C78	FG211470	C.CE	47pF	50V
C79	UA652100	C.MYLAR	100pF	50V
C80	UA652100	C.MYLAR	100pF	50V
C81	FG211470	C.CE	47pF	50V
C82	FG211470	C.CE	47pF	50V
C83	UA652470	C.MYLAR	470pF	50V
C84	UA652470	C.MYLAR	470pF	50V
C85	VJ839100	C.EL	1uF	50V
C86	VJ837200	C.EL	47uF	16V
C87	UA652100	C.MYLAR	100pF	50V
C88	UA652100	C.MYLAR	100pF	50V
C89	VJ837200	C.EL	47uF	16V
C90	VJ839100	C.EL	1uF	50V

*New Parts

Schm Ref.	PART NO.	Description		
C91	VJ839100	C.EL	1uF	50V
C92	VJ837200	C.EL	47uF	16V
C93	VJ837200	C.EL	47uF	16V
C94	UM417100	C.EL	10uF	50V
C95	UM417100	C.EL	10uF	50V
C111	VJ837200	C.EL	47uF	16V
C112	VJ837200	C.EL	47uF	16V
C113	VJ837200	C.EL	47uF	16V
C114	VJ837200	C.EL	47uF	16V
C115	UA654270	C.MYLAR	0.027uF	50V
C116	UA654270	C.MYLAR	0.027uF	50V
C117	VJ837200	C.EL	47uF	16V
C118	VJ837200	C.EL	47uF	16V
C119	UA654270	C.MYLAR	0.027uF	50V
C120	UA654270	C.MYLAR	0.027uF	50V
C122	VJ837200	C.EL	47uF	16V
C123	VJ837200	C.EL	47uF	16V
C124	UA654270	C.MYLAR	0.027uF	50V
C125	UA654270	C.MYLAR	0.027uF	50V
C126	UM407220	C.EL	22uF	16V
C127	VQ645600	C.MYLAR	100pF	50V
C130	VQ645600	C.MYLAR	100pF	50V
C131	UM407220	C.EL	22uF	16V
C132	UA654270	C.MYLAR	0.027uF	50V
C133	UA654270	C.MYLAR	0.027uF	50V
C134	UB052100	C.CE.M.CHP	100pF	50V
C135	UA654390	C.MYLAR	0.039uF	50V
C136	UM417100	C.EL	10uF	50V
C137	UA654330	C.MYLAR	0.033uF	50V
C138	UA654130	C.MYLAR	0.013uF	50V
C139	UM417100	C.EL	10uF	50V
C140	UM416470	C.EL	4.7uF	50V
C141	UM417100	C.EL	10uF	50V
C142	UM417100	C.EL	10uF	50V
C143	UM416470	C.EL	4.7uF	50V
C144	UM417100	C.EL	10uF	50V
C145	UM416470	C.EL	4.7uF	50V
C146	UM417100	C.EL	10uF	50V
C147	UM417100	C.EL	10uF	50V
C148	UM416470	C.EL	4.7uF	50V
C149	UM416470	C.EL	4.7uF	50V
C150	UM417100	C.EL	10uF	50V
C151	UM417100	C.EL	10uF	50V
C152	UM416470	C.EL	4.7uF	50V
C153	UA655100	C.MYLAR	0.1uF	50V
C154	UB052100	C.CE.M.CHP	100pF	50V
C155	UM417100	C.EL	10uF	50V
C156	UB245100	C.CE.M.CHP	0.1uF	25V
C157	UB245100	C.CE.M.CHP	0.1uF	25V
C158	UB245100	C.CE.M.CHP	0.1uF	25V
C159	UB245100	C.CE.M.CHP	0.1uF	25V
C160	UB245100	C.CE.M.CHP	0.1uF	25V
C161	UB245100	C.CE.M.CHP	0.1uF	25V

*New Parts

P.C.B. FUNCTION

Schm Ref.	PART NO.	Description		
C201	UB245100	C.CE.M.CHP	0.1uF	25V
C202	UB245100	C.CE.M.CHP	0.1uF	25V
C203	VJ839200	C.EL	2.2uF	50V
C204	VJ839200	C.EL	2.2uF	50V
C205	UA653910	C.MYLAR	9100pF	50V
C206	UA654330	C.MYLAR	0.033uF	50V
C207	VE117600	C.EL	220uF	10V
C208	VE117600	C.EL	220uF	10V
C209	UA653910	C.MYLAR	9100pF	50V
C210	UA654330	C.MYLAR	0.033uF	50V
C211	UA652100	C.MYLAR	100pF	50V
C212	UA652220	C.MYLAR	220pF	50V
C213	UA652100	C.MYLAR	100pF	50V
C214	UA652220	C.MYLAR	220pF	50V
C215	VJ839200	C.EL	2.2uF	50V
C216	VJ839200	C.EL	2.2uF	50V
C217	VQ645600	C.MYLAR	100pF	50V
C218	VQ645600	C.MYLAR	100pF	50V
C221	UA652100	C.MYLAR	100pF	50V
C222	UA652100	C.MYLAR	100pF	50V
C223	FG211470	C.CE	47pF	50V
C224	FG211470	C.CE	47pF	50V
C225	UB245100	C.CE.M.CHP	0.1uF	25V
C226	UB245100	C.CE.M.CHP	0.1uF	25V
C227	UM407220	C.EL	22uF	16V
C228	UB051220	C.CE.M.CHP	22pF	50V
C229	UB051220	C.CE.M.CHP	22pF	50V
C230	UM407220	C.EL	22uF	16V
C231	VF760000	C.EL	100uF	10V
C232	UB245100	C.CE.M.CHP	0.1uF	25V
C233	UB245100	C.CE.M.CHP	0.1uF	25V
C234	VF964800	C.EL	100uF	16V
C235	UA653100	C.MYLAR	1000pF	50V
C236	UA653100	C.MYLAR	1000pF	50V
C237	VF964800	C.EL	100uF	16V
C238	VJ837200	C.EL	47uF	16V
C239	VJ837200	C.EL	47uF	16V
C240	UM417100	C.EL	10uF	50V
C241	UB012220	C.CE.M.CHP	220pF	50V
C242	UM417100	C.EL	10uF	50V
C243	UB013100	C.CE.M.CHP	1000pF	50V
C244	UB245100	C.CE.M.CHP	0.1uF	25V
C245	UB245100	C.CE.M.CHP	0.1uF	25V
C246	UB052100	C.CE.M.CHP	100pF	50V
C247	UM417100	C.EL	10uF	50V
C248	UM417100	C.EL	10uF	50V
C249	UB052100	C.CE.M.CHP	100pF	50V
C250	UA654270	C.MYLAR	0.027uF	50V
C251	UA654270	C.MYLAR	0.027uF	50V
C252	UM417100	C.EL	10uF	50V
C253	UM417100	C.EL	10uF	50V
C254	UM417100	C.EL	10uF	50V
C255	UM417100	C.EL	10uF	50V

*New Parts

Schm Ref.	PART NO.	Description		
C256	UM417100	C.EL	10uF	50V
C257	UM417100	C.EL	10uF	50V
C258	UM417100	C.EL	10uF	50V
C259	VJ839100	C.EL	1uF	50V
C260	UA652100	C.MYLAR	100pF	50V
C261	UM407220	C.EL	22uF	16V
C262	UA652100	C.MYLAR	100pF	50V
C263	UA652100	C.MYLAR	100pF	50V
C264	UA652100	C.MYLAR	100pF	50V
C265	UM407220	C.EL	22uF	16V
C266	VJ839100	C.EL	1uF	50V
C270	UA652100	C.MYLAR	100pF	50V
C271	UA652100	C.MYLAR	100pF	50V
C273	UM417100	C.EL	10uF	50V
C274	UM417100	C.EL	10uF	50V
C275	UA653330	C.MYLAR	3300pF	50V
C276	UA653270	C.MYLAR	2700pF	50V
C277	UA653120	C.MYLAR	1200pF	50V
C278	UA653100	C.MYLAR	1000pF	50V
C279	FG212150	C.CE	150pF	50V
C280	FG212150	C.CE	150pF	50V
C281	FG212150	C.CE	150pF	50V
C282	FG212150	C.CE	150pF	50V
C283	UA653120	C.MYLAR	1200pF	50V
C284	UA653100	C.MYLAR	1000pF	50V
C285	UA653330	C.MYLAR	3300pF	50V
C286	UA653270	C.MYLAR	2700pF	50V
C288	VJ837200	C.EL	47uF	16V
C290	UM407220	C.EL	22uF	16V
C291	UM407220	C.EL	22uF	16V
C292	VJ837200	C.EL	47uF	16V
C293	VJ837200	C.EL	47uF	16V
C295	UB051100	C.CE.M.CHP	10pF	50V
C296	VJ837200	C.EL	47uF	16V
C297	VJ837200	C.EL	47uF	16V
C299	VJ837200	C.EL	47uF	16V
C300	UB245100	C.CE.M.CHP	0.1uF	25V
C301	UA652100	C.MYLAR	100pF	50V
C302	UA652100	C.MYLAR	100pF	50V
C303	UA652100	C.MYLAR	100pF	50V
C304	UA652100	C.MYLAR	100pF	50V
C305	UB245100	C.CE.M.CHP	0.1uF	25V
C306	UB245100	C.CE.M.CHP	0.1uF	25V
C307	UB245100	C.CE.M.CHP	0.1uF	25V
C308	UB051470	C.CE.M.CHP	47pF	50V
C309	UB051470	C.CE.M.CHP	47pF	50V
C310	VD930900	C.CE.SMI	0.1uF	25V
D1	iF004600	DIODE	1SS133	
D2	iF004600	DIODE	1SS133	
D3	iF004600	DIODE	1SS133	
D4	iF004600	DIODE	1SS133	
D5	iF004600	DIODE	1SS133	
D6	iF004600	DIODE	1SS133	

*New Parts

P.C.B. FUNCTION & DSP

	Schm Ref.	PART NO.	Description	
	D7	VG437300	DIODE.ZENR	MTZJ5.1A 5.1V
	D8	iF004600	DIODE	1SS133
	D9	iF004600	DIODE	1SS133
	D10	VG438200	DIODE.ZENR	MTZJ6.8A 6.8V
	D11	iF004600	DIODE	1SS133
	D12	VG437400	DIODE.ZENR	MTZJ5.1B 5.1V
	D13	VG437300	DIODE.ZENR	MTZJ5.1A 5.1V
	D71	VG437400	DIODE.ZENR	MTZJ5.1B 5.1V
	D201	VG439200	DIODE.ZENR	MTZJ9.1B 9.1V
	D202	VG439200	DIODE.ZENR	MTZJ9.1B 9.1V
	D203	iF004600	DIODE	1SS133
	D204	iF004600	DIODE	1SS133
*	IC1	XS670C00	IC	HD6433614P-XXX CPU
	IC2	XL493A00	IC	TC74HC4051AP
	IC3	XJ757A00	IC	NJM78L05A-T3
	IC4	XF494A00	IC	LB1641
	IC71	XE536001	IC	LC7535
	IC72	XB247301	IC	uPC4570HA
	IC111	XP896A00	IC	LC78213
	IC112	XR040A00	IC	TC9299P
	IC113	XR040A00	IC	TC9299P
	IC114	XR040A00	IC	TC9299P
	IC115	XR040A00	IC	TC9299P
	IC116	XM356A00	IC	NJM2068LD
	IC117	XB247301	IC	uPC4570HA
	IC118	XB247301	IC	uPC4570HA
	IC119	XB247301	IC	uPC4570HA
	IC120	XB247301	IC	uPC4570HA
	IC121	XB247301	IC	uPC4570HA
	IC122	XB247301	IC	uPC4570HA
	IC123	XB247301	IC	uPC4570HA
	IC201	XM356A00	IC	NJM2068LD
	IC202	XP581A00	IC	TC9273N-009
	IC203	XP580A00	IC	TC9273N-004
	IC204	XP581A00	IC	TC9273N-009
	IC205	iG001270	IC	TC4066BP
	IC206	XB247301	IC	uPC4570HA
	IC207	XB247301	IC	uPC4570HA
	IC208	XB247301	IC	uPC4570HA
	IC209	XB247301	IC	uPC4570HA
	IC210	XB247301	IC	uPC4570HA
	IC211	XB247301	IC	uPC4570HA
	IC212	XB247301	IC	uPC4570HA
	IC213	XB247301	IC	uPC4570HA
	IC214	XB247301	IC	uPC4570HA
	IC215	XP894A00	IC	LC78211
	IC216	XP896A00	IC	LC78213
	IC217	iG142200	IC	TC74HCU04AP
	IC218	iR015300	IC	TC74HC153AP MPX
	L201	GE901970	COIL	68uH
	PJ71	VJ696300	JACK.PIN	4P
	PJ72	VJ696300	JACK.PIN	4P
	PJ73	VM750600	JACK.PIN	6P

*New Parts

	Schm Ref.	PART NO.	Description	
	PJ201	VQ260900	JACK.PIN	4P
	PJ202	VJ696300	JACK.PIN	4P
*	PJ203	VY667900	JACK.PIN	2P
	Q1	iA093320	TR	2SA933S Q,R
	Q2	VG722000	TR.DGT	DTC144ES
	Q3	iA093320	TR	2SA933S Q,R
	Q4	iA093320	TR	2SA933S Q,R
	Q5	iA093320	TR	2SA933S Q,R
	Q6	iA093320	TR	2SA933S Q,R
	Q7	VD678700	TR.DGT	DTC114ES
	Q71	iC287820	TR	2SC2878 A,B
	Q72	iC287820	TR	2SC2878 A,B
	Q113	iC287820	TR	2SC2878 A,B
	Q114	iC287820	TR	2SC2878 A,B
	Q115	iC287820	TR	2SC2878 A,B
	Q116	iC287820	TR	2SC2878 A,B
	Q117	iC287820	TR	2SC2878 A,B
	Q118	iC287820	TR	2SC2878 A,B
	XL1	VE222400	RSNR.CE	8MHz
		VJ828000	PIN	IMSA-6024-03E
		BB071360	SCR.TERM	8.3x13
*		VY770200	P.C.B.	DSP(UC)
		VZ051100	P.C.B.	DSP(RAL)
	CB1	VQ044100	CN.BS.PIN	5P
	CB2	VF982200	CN.BS.PIN	14P
	CB3	VQ045000	CN.BS.PIN	20P
	C1	UB245100	C.CE.M.CHP	0.1uF 25V
	C2	UB052100	C.CE.M.CHP	100pF 50V
	C3	UB052100	C.CE.M.CHP	100pF 50V
	C5	UB245100	C.CE.M.CHP	0.1uF 25V
	C6	UB051330	C.CE.M.CHP	33pF 50V
	C7	UB245100	C.CE.M.CHP	0.1uF 25V
	C8	UB013100	C.CE.M.CHP	1000pF 50V
	C9	UB245100	C.CE.M.CHP	0.1uF 25V
	C10	VF760000	C.EL	100uF 10V
	C11	UB245100	C.CE.M.CHP	0.1uF 25V
	C12	UB051330	C.CE.M.CHP	33pF 50V
	C13	UB245100	C.CE.M.CHP	0.1uF 25V
	C14	UA653470	C.MYLAR	4700pF 50V
	C15	UB052100	C.CE.M.CHP	100pF 50V
	C16	UB052100	C.CE.M.CHP	100pF 50V
	C17	UB052100	C.CE.M.CHP	100pF 50V
	C18	UB245100	C.CE.M.CHP	0.1uF 25V
	C19	UB245100	C.CE.M.CHP	0.1uF 25V
	C20	VF760000	C.EL	100uF 10V
	C21	VJ900900	C.CE.M.CHP	39pF 50V
	C22	VJ900700	C.CE.M.CHP	33pF 50V
	C23	UB052100	C.CE.M.CHP	100pF 50V
	C24	UB052100	C.CE.M.CHP	100pF 50V
	C25	UB245100	C.CE.M.CHP	0.1uF 25V

*New Parts

P.C.B. DSP

Schm Ref.	PART NO.	Description		
C26	VJ900500	C.CE.M.CHP	27pF	50V
C27	VJ900500	C.CE.M.CHP	27pF	50V
C28	UB044100	C.CE.M.CHP	0.01uF	50V
C29	VJ836300	C.EL	330uF	6.3V
C30	UB245100	C.CE.M.CHP	0.1uF	25V
C31	UB245100	C.CE.M.CHP	0.1uF	25V
C32	UB052100	C.CE.M.CHP	100pF	50V
C33	UB052100	C.CE.M.CHP	100pF	50V
C34	UB052100	C.CE.M.CHP	100pF	50V
C35	UB052100	C.CE.M.CHP	100pF	50V
C36	UB245100	C.CE.M.CHP	0.1uF	25V
C37	VJ836300	C.EL	330uF	6.3V
C38	UB245100	C.CE.M.CHP	0.1uF	25V
C39	UB245100	C.CE.M.CHP	0.1uF	25V
C40	VJ837200	C.EL	47uF	16V
C41	VJ837200	C.EL	47uF	16V
C42	VJ836300	C.EL	330uF	6.3V
C43	UB245100	C.CE.M.CHP	0.1uF	25V
C44	UB013330	C.CE.M.CHP	3300pF	50V
C45	UB245100	C.CE.M.CHP	0.1uF	25V
C46	UM417100	C.EL	10uF	50V
C47	UB245100	C.CE.M.CHP	0.1uF	25V
C48	UM417100	C.EL	10uF	50V
C49	UM417100	C.EL	10uF	50V
C50	UJ638330	C.EL	330uF	16V
C51	UB245100	C.CE.M.CHP	0.1uF	25V
C52	UB013330	C.CE.M.CHP	3300pF	50V
C53	UB044100	C.CE.M.CHP	0.01uF	50V
C54	UB044100	C.CE.M.CHP	0.01uF	50V
C55	UB245100	C.CE.M.CHP	0.1uF	25V
C56	UB044100	C.CE.M.CHP	0.01uF	50V
C57	UM407220	C.EL	22uF	16V
C58	UA652330	C.MYLAR	330pF	50V
C59	UA652330	C.MYLAR	330pF	50V
C60	UM407220	C.EL	22uF	16V
C61	UM407220	C.EL	22uF	16V
C62	UA652330	C.MYLAR	330pF	50V
C63	UB051330	C.CE.M.CHP	33pF	50V
C64	UB051100	C.CE.M.CHP	10pF	50V
C65	UB051100	C.CE.M.CHP	10pF	50V
C66	UB051330	C.CE.M.CHP	33pF	50V
C67	UB051330	C.CE.M.CHP	33pF	50V
C68	UB051100	C.CE.M.CHP	10pF	50V
C69	UB051100	C.CE.M.CHP	10pF	50V
C70	UB051330	C.CE.M.CHP	33pF	50V
C71	UB245100	C.CE.M.CHP	0.1uF	25V
C72	UB245100	C.CE.M.CHP	0.1uF	25V
C73	UM417100	C.EL	10uF	50V
C74	VJ837200	C.EL	47uF	16V
C75	VJ836300	C.EL	330uF	6.3V
C76	UB245100	C.CE.M.CHP	0.1uF	25V
C77	UB245100	C.CE.M.CHP	0.1uF	25V
C78	UM417100	C.EL	10uF	50V

*New Parts

Schm Ref.	PART NO.	Description		
C79	UB245100	C.CE.M.CHP	0.1uF	25V
C80	UB245100	C.CE.M.CHP	0.1uF	25V
C81	UM417100	C.EL	10uF	50V
C82	VJ837200	C.EL	47uF	16V
C83	VJ836300	C.EL	330uF	6.3V
C84	UB245100	C.CE.M.CHP	0.1uF	25V
C85	UB245100	C.CE.M.CHP	0.1uF	25V
C86	UB245100	C.CE.M.CHP	0.1uF	25V
C87	UM417100	C.EL	10uF	50V
C88	UM417100	C.EL	10uF	50V
C89	UM417100	C.EL	10uF	50V
C90	VJ837200	C.EL	47uF	16V
C91	VJ836300	C.EL	330uF	6.3V
C92	UB245100	C.CE.M.CHP	0.1uF	25V
C93	UB245100	C.CE.M.CHP	0.1uF	25V
C94	UM407220	C.EL	22uF	16V
C95	UM407220	C.EL	22uF	16V
C96	UM407220	C.EL	22uF	16V
C97	UA653560	C.MYLAR	5600pF	50V
C98	UA653470	C.MYLAR	4700pF	50V
C99	UA652330	C.MYLAR	330pF	50V
C100	UA653470	C.MYLAR	4700pF	50V
C101	UA652330	C.MYLAR	330pF	50V
C102	UA653560	C.MYLAR	5600pF	50V
C103	UA653560	C.MYLAR	5600pF	50V
C104	UA653470	C.MYLAR	4700pF	50V
C105	UA652330	C.MYLAR	330pF	50V
C106	UA653470	C.MYLAR	4700pF	50V
C107	UA652330	C.MYLAR	330pF	50V
C108	UA653560	C.MYLAR	5600pF	50V
C109	UM417100	C.EL	10uF	50V
C110	UM417100	C.EL	10uF	50V
C111	UM417100	C.EL	10uF	50V
C112	UM417100	C.EL	10uF	50V
C113	VJ837200	C.EL	47uF	16V
C114	VJ837200	C.EL	47uF	16V
C115	VJ837200	C.EL	47uF	16V
C116	VJ837200	C.EL	47uF	16V
C117	UM417100	C.EL	10uF	50V
C118	UM407220	C.EL	22uF	16V
C119	UM407220	C.EL	22uF	16V
C120	FU451100	C.MICA	10pF	500V
C121	FU451100	C.MICA	10pF	500V
C122	FU451100	C.MICA	10pF	500V
C123	UB052100	C.CE.M.CHP	100pF	50V
C124	UB052100	C.CE.M.CHP	100pF	50V
C125	UB052100	C.CE.M.CHP	100pF	50V
C126	UB052100	C.CE.M.CHP	100pF	50V
C127	UB052100	C.CE.M.CHP	100pF	50V
C128	UB052100	C.CE.M.CHP	100pF	50V
C129	UB052100	C.CE.M.CHP	100pF	50V
C130	UB052100	C.CE.M.CHP	100pF	50V
C131	UB052100	C.CE.M.CHP	100pF	50V

*New Parts

P.C.B. DSP & VIDEO

Schm Ref.	PART NO.	Description		
C132	UB052100	C.CE.M.CHP	100pF	50V
C133	UB052100	C.CE.M.CHP	100pF	50V
C134	UB052100	C.CE.M.CHP	100pF	50V
C135	UB052100	C.CE.M.CHP	100pF	50V
C136	UB052100	C.CE.M.CHP	100pF	50V
C137	UB052100	C.CE.M.CHP	100pF	50V
C138	UB052100	C.CE.M.CHP	100pF	50V
C139	UB052100	C.CE.M.CHP	100pF	50V
C140	UB052100	C.CE.M.CHP	100pF	50V
C141	UB052100	C.CE.M.CHP	100pF	50V
C142	UB052100	C.CE.M.CHP	100pF	50V
C143	UB052100	C.CE.M.CHP	100pF	50V
C144	VJ836300	C.EL	330uF	6.3V
C145	UB245100	C.CE.M.CHP	0.1uF	25V
C146	VJ837200	C.EL	47uF	16V
C147	UB245100	C.CE.M.CHP	0.1uF	25V
C148	VJ837200	C.EL	47uF	16V
C149	UB245100	C.CE.M.CHP	0.1uF	25V
C150	UM417100	C.EL	10uF	50V
C151	UM417100	C.EL	10uF	50V
C152	UM417100	C.EL	10uF	50V
C201	VJ836300	C.EL	330uF	6.3V
C202	UB245100	C.CE.M.CHP	0.1uF	25V
C203	UB245100	C.CE.M.CHP	0.1uF	25V
C204	UB245100	C.CE.M.CHP	0.1uF	25V
D1	VT332900	DIODE	1SS355	
D2	VT332900	DIODE	1SS355	
D3	VT332900	DIODE	1SS355	
D4	VT332900	DIODE	1SS355	
D5	VT332900	DIODE	1SS355	
D6	VT332900	DIODE	1SS355	
D7	VT332900	DIODE	1SS355	
D201	VH801600	DIODE	1SR139-100	
G1	VR463400	TERM.GND	D3.5 TP00385	
G2	VR463400	TERM.GND	D3.5 TP00385	
G3	VR463400	TERM.GND	D3.5 TP00385	
IC1	XD600A00	IC	TC74HC02AF-TP1 NOR	
IC2	XR038A00	IC	NJM2904M OP AMP	
IC3	XG948E00	IC	YM3436DK	
IC4	XS462B00	IC	YSS243B-F:AC3F	
* IC5	XS282A00	IC	UM61256FS-15Q SRAM	
IC6	XH603A00	IC	TC74HC157AF-TP1	
* IC7	XS463A00	IC	YSS245-F:HLDSP3	
IC8	XQ545A00	IC	LH5P832N-10 PS-RAM	
IC9	XF291A00	IC	uPC4570G2	
IC10	XR361A00	IC	AK4320-VM-E1	
IC11	XR361A00	IC	AK4320-VM-E1	
IC12	XR361A00	IC	AK4320-VM-E1	
IC13	XF291A00	IC	uPC4570G2	
IC14	XF291A00	IC	uPC4570G2	
IC15	XF291A00	IC	uPC4570G2	
IC16	iG103520	IC	NJM4558MT-1	
IC17	iG103520	IC	NJM4558MT-1	

*New Parts

Schm Ref.	PART NO.	Description		
IC18	XF291A00	IC	uPC4570G2	
IC19	XF291A00	IC	uPC4570G2	
Q1	VC124000	TR.DGT	DTA144EK	
Q2	VC124000	TR.DGT	DTA144EK	
Q3	VD303700	TR	2SC3326 A,B	
Q4	VD303700	TR	2SC3326 A,B	
Q5	VD303700	TR	2SC3326 A,B	
Q201	iC224030	TR	2SC2240 GR,BL	
XL1	Vi551900	RSNR.CRYS	11.2896MHz	
XL2	VM651900	RSNR.CRYS	10.0MHz	
	VZ037100	PLATE.GND	(UC)	
*	VY770300	P.C.B.	VIDEO(UC)	
*	VY770400	P.C.B.	VIDEO(R)	
*	VY770500	P.C.B.	VIDEO(A)	
*	VY770600	P.C.B.	VIDEO(L)	
CB201	VD005000	CN.BS.PIN	7P	
CB203	VP206500	HOLDER.FUS	EYF-52BC	
CB204	VP206500	HOLDER.FUS	EYF-52BC	
CB205	LA002320	TERM.WRAP	3P	
CB206	VP206500	HOLDER.FUS	EYF-52BC	
CB207	VP206500	HOLDER.FUS	EYF-52BC	
CB208	LA002320	TERM.WRAP	3P	
CB209	VD005100	CN.BS.PIN	8P	
CB210	VD004500	CN.BS.PIN	2P	
CB211	VD004500	CN.BS.PIN	2P	
CB212	VD004900	CN.BS.PIN	6P	
CB213	LA002000	TERM.WRAP	2P	
CB214	VL844700	CN.BS.PIN	3P	
CB501	VB858100	CN.BS.PIN	2P	
* CB502	VQ044700	CN.BS.PIN	16P	
CB601	VB858200	CN.BS.PIN	3P	
* CB603	VQ044700	CN.BS.PIN	16P	
CB604	VQ047300	CN.BS.PIN	12P	
⚠ CB801	VG879900	CN.BS.PIN	2P	
CB803	VP206500	HOLDER.FUS	EYF-52BC(AL)	
CB803	VS996100	CLIP.FUSE	EYF64BC(UCR)	
CB804	VP206500	HOLDER.FUS	EYF-52BC(AL)	
CB805	VS996100	CLIP.FUSE	EYF64BC(UCR)	
CB806	VP206500	HOLDER.FUS	EYF-52BC(RL)	
CB807	VP206500	HOLDER.FUS	EYF-52BC(RL)	
CB808	LA002410	TERM.WRAP	2P	
CB809	LA002410	TERM.WRAP	2P(R)	
C201	VJ837200	C.EL	47uF	16V
C202	VF466800	C.CE.TUBLR	100pF	50V
C203	UA652100	C.MYLAR	100pF	50V
C204	UM417100	C.EL	10uF	50V
C205	UM417100	C.EL	10uF	50V
C206	VJ839000	C.EL	0.47uF	50V
C207	VJ839000	C.EL	0.47uF	50V
C208	UM417100	C.EL	10uF	50V

*New Parts

P.C.B. VIDEO

Schm Ref.	PART NO.	Description		
C209	UM417100	C.EL	10uF	50V
C210	VJ837200	C.EL	47uF	16V
C211	VF466800	C.CE.TUBLR	100pF	50V
C212	UA652100	C.MYLAR	100pF	50V
C213	VR325000	C.MYLAR	100pF	100V
C214	UA654100	C.MYLAR	0.01uF	50V
C215	FU451330	C.MICA	33pF	500V
C216	UJ648100	C.EL	100uF	25V
C217	VJ837200	C.EL	47uF	16V
C218	UA654470	C.MYLAR	0.047uF	50V
C219	VF964800	C.EL	100uF	16V
C220	VR325000	C.MYLAR	100pF	100V
C221	VR325000	C.MYLAR	100pF	100V
C222	UA654470	C.MYLAR	0.047uF	50V
C223	UA654100	C.MYLAR	0.01uF	50V
C224	FU451330	C.MICA	33pF	500V
C225	UJ648100	C.EL	100uF	25V
C226	VJ837200	C.EL	47uF	16V
C227	VF964800	C.EL	100uF	16V
C228	VR325000	C.MYLAR	100pF	100V
⚠ C229	UA655100	C.MYLAR	0.1uF	50V
* C230	VY841300	C.EL	3300uF	50V(UCA)
C230	VN126700	C.EL	3300uF	50V(RL)
⚠ C231	UA655100	C.MYLAR	0.1uF	50V
* C232	VY841300	C.EL	3300uF	50V(UCA)
C232	VN126700	C.EL	3300uF	50V(RL)
C233	VH053100	C.CE.TUBLR	0.1uF	50V
C235	UA655100	C.MYLAR	0.1uF	50V
C236	VH520900	C.EL	4700uF	16V
C237	VH507200	C.EL	6800uF	16V
C238	VH507200	C.EL	6800uF	16V
C239	UA655100	C.MYLAR	0.1uF	50V
C240	VH520900	C.EL	4700uF	16V
C241	UM417100	C.EL	10uF	50V
C242	VJ837200	C.EL	47uF	16V
C243	UM417100	C.EL	10uF	50V
C244	UM417100	C.EL	10uF	50V
C245	VJ837200	C.EL	47uF	16V
C246	VJ839100	C.EL	1uF	50V
C247	VJ839100	C.EL	1uF	50V
C248	VJ837200	C.EL	47uF	16V
C249	VJ651100	C.EL	1000uF	16V
C250	VJ651100	C.EL	1000uF	16V
C251	VF467000	C.CE.TUBLR	1000pF	50V
C501	VF637900	C.EL	1000uF	10V
C502	UM417100	C.EL	10uF	50V
C503	UB052100	C.CE.M.CHP	100pF	50V
C504	UB245100	C.CE.M.CHP	0.1uF	25V
C505	UM417100	C.EL	10uF	50V
C506	UB245100	C.CE.M.CHP	0.1uF	25V
C507	VF637900	C.EL	1000uF	10V
C508	UB052100	C.CE.M.CHP	100pF	50V
C509	VF637900	C.EL	1000uF	10V

*New Parts

Schm Ref.	PART NO.	Description		
C510	UB052100	C.CE.M.CHP	100pF	50V
C511	UB052100	C.CE.M.CHP	100pF	50V
C512	UB051220	C.CE.M.CHP	22pF	50V
C513	UM417100	C.EL	10uF	50V
C514	VF637900	C.EL	1000uF	10V
C515	UB245100	C.CE.M.CHP	0.1uF	25V
C516	UB245100	C.CE.M.CHP	0.1uF	25V
C517	VJ837200	C.EL	47uF	16V
C518	VJ837200	C.EL	47uF	16V
C519	VJ837200	C.EL	47uF	16V
C520	VJ837200	C.EL	47uF	16V
C521	VJ837200	C.EL	47uF	16V
C601	UB052100	C.CE.M.CHP	100pF	50V
C602	UB052100	C.CE.M.CHP	100pF	50V
C603	UB052100	C.CE.M.CHP	100pF	50V
C604	UB052100	C.CE.M.CHP	100pF	50V
C605	UB052100	C.CE.M.CHP	100pF	50V
C606	UB052100	C.CE.M.CHP	100pF	50V
C607	UM417100	C.EL	10uF	50V
C608	UM417100	C.EL	10uF	50V
C609	UM417100	C.EL	10uF	50V
C610	UM417100	C.EL	10uF	50V
C611	UM417100	C.EL	10uF	50V
C612	UM417100	C.EL	10uF	50V
C613	VF637900	C.EL	1000uF	10V
C614	VF637900	C.EL	1000uF	10V
C615	UM417100	C.EL	10uF	50V
C616	VF637900	C.EL	1000uF	10V
C617	UB013330	C.CE.M.CHP	3300pF	50V
C618	VJ837200	C.EL	47uF	16V
C619	VJ837200	C.EL	47uF	16V
C620	UB012820	C.CE.M.CHP	820pF	50V
C621	VF760000	C.EL	100uF	10V
C622	VJ837200	C.EL	47uF	16V
C623	UB052120	C.CE.M.CHP	120pF	50V
C624	UB044100	C.CE.M.CHP	0.01uF	50V
C625	VJ837200	C.EL	47uF	16V
C626	UM417100	C.EL	10uF	50V
C627	UB013120	C.CE.M.CHP	1200pF	50V
C628	UB012470	C.CE.M.CHP	470pF	50V
C629	VJ839100	C.EL	1uF	50V
C630	VJ839100	C.EL	1uF	50V
C631	UB245100	C.CE.M.CHP	0.1uF	25V
C632	VJ837200	C.EL	47uF	16V
C633	UB245100	C.CE.M.CHP	0.1uF	25V
C634	VJ837200	C.EL	47uF	16V
C635	VJ899300	C.CE.M.CHP	8pF	50V
C636	VJ899200	C.CE.M.CHP	7pF	50V
* C637	UB051240	C.CE.M.CHP	24pF	50V
* C638	UB051240	C.CE.M.CHP	24pF	50V
C639	UB012220	C.CE.M.CHP	220pF	50V
C640	UM417100	C.EL	10uF	50V
C641	UM416470	C.EL	4.7uF	50V

*New Parts

P.C.B. VIDEO

Schm Ref.	PART NO.	Description		
C642	VJ837200	C.EL	47uF	16V
C643	VJ837200	C.EL	47uF	16V
C644	VJ900700	C.CE.M.CHP	33pF	50V
C645	VJ900300	C.CE.M.CHP	22pF	50V
C801	VR324600	C.MYLAR	0.01uF	100V
C802	Ui377470	C.EL	47uF	63V(R)
C803	VF606700	C.EL	1000uF	25V
⚠* C805	VV975400	C.CE	0.01uF	275V
D201	VG442500	DIODE.ZENR	MTZJ24B	24V
D202	VG442500	DIODE.ZENR	MTZJ24B	24V
D203	iF004600	DIODE	1SS133	
D204	iF004600	DIODE	1SS133	
D205	iF004600	DIODE	1SS133	
D206	iF004600	DIODE	1SS133	
⚠ D207	VT359600	DIODE.BRG	D3SBA20	4A 200V
⚠ D208	VP344100	DIODE.BRG	D2SBA20	1.5A 200V
D209	iF004600	DIODE	1SS133	
D210	VC398400	DIODE	MA185	
D601	iF004600	DIODE	1SS133	
D602	iF004600	DIODE	1SS133	
D603	iF004600	DIODE	1SS133	
D604	iF004600	DIODE	1SS133	
D605	iF004600	DIODE	1SS133	
D606	iF004600	DIODE	1SS133	
D607	iF004600	DIODE	1SS133	
D608	iF004600	DIODE	1SS133	
D609	iF004600	DIODE	1SS133	
D610	iF004600	DIODE	1SS133	
D611	iF004600	DIODE	1SS133	
D612	iF004600	DIODE	1SS133	
⚠ D801	VR253700	DIODE.BRG	S1NB20	1.0A 200V
D802	iF004600	DIODE	1SS133	
D803	VG439900	DIODE.ZENR	MTZJ11B	11V(R)
⚠ F201	KB003240	FUSE	T5.0A	250V(RAL)
⚠ F201	KB003640	FUSE	T6.0A	125V(UC)
⚠ F202	KB003240	FUSE	T5.0A	250V(RAL)
⚠ F202	KB003640	FUSE	T6.0A	125V(UC)
⚠ F801	KB000780	FUSE	T5.0A	250V(AL)
⚠ F801	KB001390	FUSE	10A	250V(UCR)
⚠ F802	KB000780	FUSE	T5.0A	250V(R)
⚠ F802	KB002980	FUSE	T2.5A	250V(L)
G201	VR463400	TERM.GND	D3.5	TP00385
IC201	iG092000	IC	M5220L	
⚠ IC205	XJ604A00	IC	NJM78M05FA	
⚠ IC206	XJ604A00	IC	NJM78M05FA	
⚠ IC207	XJ608A00	IC	NJM7812FA	
⚠ IC208	XE436A00	IC	NJM79M05FA	
⚠ IC209	XD343A00	IC	NJM79M12FA	
IC501	XL493A00	IC	TC74HC4051AP	
IC502	XL493A00	IC	TC74HC4051AP	
IC503	iG001270	IC	TC4066BP	
IC504	Xi109D00	IC	MC14576CP	
IC505	XK313A00	IC	LC7824	

*New Parts

Schm Ref.	PART NO.	Description	
IC601	XL493A00	IC	TC74HC4051AP
IC602	XL493A00	IC	TC74HC4051AP
IC603	XL493A00	IC	TC74HC4051AP
IC604	XL493A00	IC	TC74HC4051AP
IC605	iG001270	IC	TC4066BP
IC606	iG055100	IC	TC4053BP
IC607	iG142200	IC	TC74HCU04AP
IC608	Xi109D00	IC	MC14576CP
IC609	Xi109D00	IC	MC14576CP
IC610	Xi109D00	IC	MC14576CP
IC611	XS502A00	IC	LC74781-9626
JK601	VU245200	CN.DIN	1P
JK602	VP113600	CN.DIN	2P
JK603	VP113600	CN.DIN	2P
JK604	VT973000	CN.DIN	2P
L201	GD900470	COIL	1.5uH
L202	GD900470	COIL	1.5uH
L601	VG668700	COIL	33uH
PJ501	VR110100	JACK.PIN	2P
PJ502	VR110100	JACK.PIN	2P
PJ503	VR110100	JACK.PIN	2P
PJ504	VR110100	JACK.PIN	2P
⚠ Q201	iC1815C0	TR	2SC1815 Y
⚠ Q202	iA101521	TR	2SA1015 Y
⚠ Q203	VP872700	TR	2SC4488 S,T
⚠ Q204	VK174800	TR	2SC4512 O,P,Y
Q205	iC224030	TR	2SC2240 GR,BL
⚠ Q206	VP872600	TR	2SA1708 S,T
Q207	iC224030	TR	2SC2240 GR,BL
⚠ Q208	VK174800	TR	2SC4512 O,P,Y
⚠ Q209	VP872700	TR	2SC4488 S,T
⚠ Q210	VK174800	TR	2SC4512 O,P,Y
Q211	iC224030	TR	2SC2240 GR,BL
⚠ Q212	VP872600	TR	2SA1708 S,T
Q213	iC224030	TR	2SC2240 GR,BL
⚠ Q214	VK174800	TR	2SC4512 O,P,Y
Q501	iC260320	TR	2SC2603 E,F
Q502	iA101521	TR	2SA1015 Y
Q503	iC053540	TR	2SC535 A,B,C
Q601	iC260320	TR	2SC2603 E,F
Q602	VH964100	TR.DGT	DTA143ES
Q603	iC287820	TR	2SC2878 A,B
Q604	VG721700	TR.DGT	DTA144ES
Q605	VG721700	TR.DGT	DTA144ES
Q606	VD678700	TR.DGT	DTC114ES
Q607	iC260320	TR	2SC2603 E,F
Q608	iC260320	TR	2SC2603 E,F
Q609	iA101521	TR	2SA1015 Y
Q610	iC053540	TR	2SC535 A,B,C
Q611	iC224030	TR	2SC2240 GR,BL
⚠ Q801	VR510800	TR	2SD2396 J,K(R)
Q802	VD488500	TR.DGT	DTC143XS
Q803	iE102620	FET	2SK246 Y(R)

*New Parts

P.C.B. VIDEO & MAIN

	Schm Ref.	PART NO.	Description		
⚠	R210	VE869300	R.MTL.OXD	0.1Ω	2W
⚠	R226	VE869300	R.MTL.OXD	0.1Ω	2W
⚠	R242	HL324120	R.MTL.OXD	12Ω	2W
⚠	R244	VP939900	R.MTL.OXD	15Ω	1W
⚠	R248	VP939500	R.MTL.FLM	1Ω	1W
⚠	R249	VP939500	R.MTL.FLM	1Ω	1W
⚠	R250	HL324120	R.MTL.OXD	12Ω	2W
⚠	R251	VP939900	R.MTL.OXD	15Ω	1W
⚠	R262	HL324120	R.MTL.OXD	12Ω	2W
⚠	R263	VP939900	R.MTL.OXD	15Ω	1W
⚠	RY801	VK539200	RELAY	DC DH12D1-O/M(R)	
⚠*	RY801	VV950000	RELAY	VS-12MB-NR (UCAL)	
⚠	T801	XC082A00	TRANS.PWR	(R)	
⚠	T801	XQ485A00	TRANS.PWR	(UC)	
⚠	T801	XQ486A00	TRANS.PWR	(AL)	
⚠	TE801	VT915000	OUTLET.AC	2P(A)	
⚠	TE801	VV118800	OUTLET.AC	3P(UCL)	
⚠	TE801	VV119000	OUTLET.AC	3P(L)	
*	TH201	VM842300	POSISTOR	PTH9M04 BF :80°C	
	XL601	VV949800	RSNR.CRYS	14.31818MHz(UCR)	
	XL601	VV949900	RSNR.CRYS	17.734475MHz(AL)	
		VJ828000	PIN	IMSA-6024-03E	
		BB071360	SCR.TERM	8.3x13	
*		VY770700	P.C.B.	MAIN(UCA)	
*		VY770800	P.C.B.	MAIN(R)	
*		VY809000	P.C.B.	MAIN(L)	
	CB102	VQ047400	CN.BS.PIN	19P	
	CB103	VD004500	CN.BS.PIN	2P	
	CB105	VD005100	CN.BS.PIN	8P	
	CB106	LA002110	TERM.WRAP	2P	
	CB601	VL844800	CN.BS.PIN	4P	
	CB602	VL845200	CN.BS.PIN	8P	
	CB603	VD004600	CN.BS.PIN	3P	
	CB604	LB918020	CN.BS.PIN	2P	
*	CB702	LA002330	TERM.WRAP	4P	
	C101	UA652470	C.MYLAR	470pF	50V
	C102	UA652470	C.MYLAR	470pF	50V
	C103	UA652470	C.MYLAR	470pF	50V
	C104	UA652470	C.MYLAR	470pF	50V
	C105	UA654100	C.MYLAR	0.01uF	50V
	C106	UA652470	C.MYLAR	470pF	50V
	C107	UA652470	C.MYLAR	470pF	50V
	C108	UA652470	C.MYLAR	470pF	50V
	C109	UA652470	C.MYLAR	470pF	50V
	C110	UA652470	C.MYLAR	470pF	50V
	C111	UM417100	C.EL	10uF	50V
	C112	UJ668100	C.EL	100uF	50V
	C113	VJ836900	C.EL	10uF	16V
	C114	VF760000	C.EL	100uF	10V
	C115	VF760000	C.EL	100uF	10V

* New Parts

Schm Ref.	PART NO.	Description		
C116	VH520500	C.EL	1000uF	35V
C119	VJ836900	C.EL	10uF	16V
C121	VH574800	C.EL	47uF	100V
C122	UT452100	C.PP	100pF	100V
C123	UM417100	C.EL	10uF	50V
C124	UA652100	C.MYLAR	100pF	50V
C125	UT452100	C.PP	100pF	100V
C126	UM417100	C.EL	10uF	50V
C127	VH574800	C.EL	47uF	100V
C128	UT452100	C.PP	100pF	100V
C129	UM417100	C.EL	10uF	50V
C130	UA652100	C.MYLAR	100pF	50V
C131	UT452100	C.PP	100pF	100V
C132	UM417100	C.EL	10uF	50V
C133	VH574800	C.EL	47uF	100V
C134	UT452100	C.PP	100pF	100V
C135	UM417100	C.EL	10uF	50V
C136	UA652100	C.MYLAR	100pF	50V
C137	UT452100	C.PP	100pF	100V
C138	UM417100	C.EL	10uF	50V
C139	VH574800	C.EL	47uF	100V
C140	UT452100	C.PP	100pF	100V
C141	UM417100	C.EL	10uF	50V
C142	UA652100	C.MYLAR	100pF	50V
C143	UT452100	C.PP	100pF	100V
C144	UM417100	C.EL	10uF	50V
C145	VH574800	C.EL	47uF	100V
C146	UT452100	C.PP	100pF	100V
C147	UM417100	C.EL	10uF	50V
C148	UT452100	C.PP	100pF	100V
C149	UM417100	C.EL	10uF	50V
C150	VK533900	C.PP	100pF	200V
C151	UT453120	C.PP	1200pF	100V
C152	UA653330	C.MYLAR	3300pF	50V
C153	FU451150	C.MICA	15pF	500V
C154	UM416470	C.EL	4.7uF	50V
C155	UA654100	C.MYLAR	0.01uF	50V
C156	VF964800	C.EL	100uF	16V
C157	UJ167330	C.EL	33uF	50V
C159	VK533900	C.PP	100pF	200V
C160	VK533900	C.PP	100pF	200V
C161	UT453120	C.PP	1200pF	100V
C162	UA653330	C.MYLAR	3300pF	50V
C163	FU451150	C.MICA	15pF	500V
C164	UM416470	C.EL	4.7uF	50V
C165	UA654100	C.MYLAR	0.01uF	50V
C166	VF964800	C.EL	100uF	16V
C167	UJ167330	C.EL	33uF	50V
C169	VK533900	C.PP	100pF	200V
C170	VK533900	C.PP	100pF	200V
C171	UT453120	C.PP	1200pF	100V
C172	UA653330	C.MYLAR	3300pF	50V
C173	FU451150	C.MICA	15pF	500V

* New Parts

P.C.B. MAIN

Schm Ref.	PART NO.	Description		
C174	UM416470	C.EL	4.7uF	50V
C175	UA654100	C.MYLAR	0.01uF	50V
C176	VF964800	C.EL	100uF	16V
C177	UJ167330	C.EL	33uF	50V
C179	VK533900	C.PP	100pF	200V
C180	VK533900	C.PP	100pF	200V
C181	UT453120	C.PP	1200pF	100V
C182	UA653330	C.MYLAR	3300pF	50V
C183	FU451150	C.MICA	15pF	500V
C184	UM416470	C.EL	4.7uF	50V
C185	UA654100	C.MYLAR	0.01uF	50V
C186	VF964800	C.EL	100uF	16V
C187	UJ167330	C.EL	33uF	50V
C189	VK533900	C.PP	100pF	200V
C190	VK533900	C.PP	100pF	200V
C191	UT453120	C.PP	1200pF	100V
C192	UA653330	C.MYLAR	3300pF	50V
C193	FU451150	C.MICA	15pF	500V
C194	UM416470	C.EL	4.7uF	50V
C195	UA654100	C.MYLAR	0.01uF	50V
C196	VF964800	C.EL	100uF	16V
C197	UJ167330	C.EL	33uF	50V
C199	VK533900	C.PP	100pF	200V
C200	UM216330	C.EL	3.3uF	50V
C201	UJ897100	C.EL	10uF	100V
C202	UA655330	C.MYLAR	0.33uF	50V
C203	UJ638330	C.EL	330uF	16V
C204	UJ897100	C.EL	10uF	100V
C205	UA654470	C.MYLAR	0.047uF	50V
C206	UJ897100	C.EL	10uF	100V
C207	UA655330	C.MYLAR	0.33uF	50V
C208	UJ638330	C.EL	330uF	16V
C209	UA654470	C.MYLAR	0.047uF	50V
C210	UJ897100	C.EL	10uF	100V
C211	UJ897100	C.EL	10uF	100V
C212	UJ897100	C.EL	10uF	100V
C213	UJ638330	C.EL	330uF	16V
C214	UA654470	C.MYLAR	0.047uF	50V
C215	UJ897100	C.EL	10uF	100V
C216	UJ897100	C.EL	10uF	100V
C217	UJ638330	C.EL	330uF	16V
C218	UA654470	C.MYLAR	0.047uF	50V
C219	UJ897100	C.EL	10uF	100V
C220	UJ897100	C.EL	10uF	100V
C221	UJ638330	C.EL	330uF	16V
C222	UA654470	C.MYLAR	0.047uF	50V
C230	UA652100	C.MYLAR	100pF	50V
C231	UJ648100	C.EL	100uF	25V
C232	UJ648100	C.EL	100uF	25V
C233	UJ648100	C.EL	100uF	25V
C234	UJ648100	C.EL	100uF	25V
C235	UJ648100	C.EL	100uF	25V
C236	UM215100	C.EL	0.1uF	50V

*New Parts

Schm Ref.	PART NO.	Description		
C237	UM215100	C.EL	0.1uF	50V
C238	UM215100	C.EL	0.1uF	50V
C239	UM215100	C.EL	0.1uF	50V
C240	UM215100	C.EL	0.1uF	50V
C241	UA654100	C.MYLAR	0.01uF	50V
C242	VJ839100	C.EL	1uF	50V
C243	VF467300	C.CE.TUBLR	0.01uF	16V(UCA)
C701	VR325400	C.MYLAR	0.1uF	100V
* C702	VY818300	C.EL	22000uF	71V
C703	VR325400	C.MYLAR	0.1uF	100V
* C704	VY818300	C.EL	22000uF	71V
C705	UA655100	C.MYLAR	0.1uF	50V
D101	iF004600	DIODE	1SS133	
D102	iF004600	DIODE	1SS133	
D103	iF004600	DIODE	1SS133	
D104	VQ250500	PHOT.CPL	TLP621	
D105	iF004600	DIODE	1SS133	
D106	iF004600	DIODE	1SS133	
D107	iF004600	DIODE	1SS133	
D108	iF004600	DIODE	1SS133	
D109	VG442600	DIODE.ZENR	MTZJ24C	24V
D113	iF004600	DIODE	1SS133	
D114	iF004600	DIODE	1SS133	
D115	iF004600	DIODE	1SS133	
D116	iF004600	DIODE	1SS133	
D117	iF004600	DIODE	1SS133	
D118	iF004600	DIODE	1SS133	
D119	iF004600	DIODE	1SS133	
D120	iF004600	DIODE	1SS133	
D122	VC398400	DIODE	MA185	
D124	VC398400	DIODE	MA185	
D126	VC398400	DIODE	MA185	
D128	VC398400	DIODE	MA185	
D130	VC398400	DIODE	MA185	
D132	VC398400	DIODE	MA185	
D134	VC398400	DIODE	MA185	
D136	VC398400	DIODE	MA185	
D138	VC398400	DIODE	MA185	
D140	VC398400	DIODE	MA185	
D141	VU264100	DIODE	1SR139-400	
⚠ D142	VC398400	DIODE	MA185	
D143	VU264100	DIODE	1SR139-400	
⚠ D144	VC398400	DIODE	MA185	
D145	VU264100	DIODE	1SR139-400	
⚠ D146	VC398400	DIODE	MA185	
D147	VU264100	DIODE	1SR139-400	
⚠ D148	VC398400	DIODE	MA185	
D149	VU264100	DIODE	1SR139-400	
⚠ D150	VC398400	DIODE	MA185	
D151	VG440100	DIODE.ZENR	MTZJ12A	12V
D152	VG440100	DIODE.ZENR	MTZJ12A	12V
D153	VG440100	DIODE.ZENR	MTZJ12A	12V
D154	VG440100	DIODE.ZENR	MTZJ12A	12V

*New Parts

P.C.B. MAIN

	Schm Ref.	PART NO.	Description	
	D155	VG440100	DIODE. ZENR	MTZJ12A 12V
	D601	iF004600	DIODE	1SS133
⚠	D701	Vi711600	DIODE. BRG	RBV-602 LF-A
	G101	VR463400	TERM. GND	D3.5 TP00385
	G701	VR463400	TERM. GND	D3.5 TP00385
	JK101	VJ726800	JACK. MNI	
	JK102	VJ726800	JACK. MNI	
	L101	VC664100	COIL	0.95uH
	L102	VC664100	COIL	0.95uH
	L103	GD900470	COIL	1.5uH
	L104	GD900470	COIL	1.5uH
	L105	GD900470	COIL	1.5uH
	PJ101	VJ696300	JACK. PIN	4P
	PJ102	VJ696300	JACK. PIN	4P
	PJ103	VP768000	JACK. PIN	2P
	PJ601	VP768000	JACK. PIN	2P
	Q101	iC260320	TR	2SC2603 E, F
	Q102	VK165500	TR. DGT	DTC123JS TP
	Q103	iC260320	TR	2SC2603 E, F
	Q104	VC141900	TR	2SB941 P, Q
	Q105	iC1815C0	TR	2SC1815 Y
	Q107	VT254500	TR. DGT	DTC143ZS
	Q108	VT254500	TR. DGT	DTC143ZS
	Q109	VT254500	TR. DGT	DTC143ZS
	Q110	iA101521	TR	2SA1015 Y
	Q111	iC224030	TR	2SC2240 GR, BL
	Q112	iA101521	TR	2SA1015 Y
	Q113	iC224030	TR	2SC2240 GR, BL
	Q114	iA101521	TR	2SA1015 Y
	Q115	iC224030	TR	2SC2240 GR, BL
	Q116	iA101521	TR	2SA1015 Y
	Q117	iC224030	TR	2SC2240 GR, BL
	Q118	iA101521	TR	2SA1015 Y
	Q119	iC224030	TR	2SC2240 GR, BL
	Q120	VE198800	TR	2SC2705 O, Y
	Q121	iA101521	TR	2SA1015 Y
	Q122	VE198700	TR	2SA1145 O, Y
	Q123A	iX632610	TR	2SA1837 O, Y
	Q123C	iX632620	TR	2SC4793 O, Y
	Q124	iC224030	TR	2SC2240 GR, BL
	Q125	iC224030	TR	2SC2240 GR, BL
	Q127	VE198700	TR	2SA1145 O, Y
	Q128	iC224030	TR	2SC2240 GR, BL
	Q129	VE198800	TR	2SC2705 O, Y
	Q130	iA101521	TR	2SA1015 Y
	Q131	VE198700	TR	2SA1145 O, Y
	Q132A	iX632610	TR	2SA1837 O, Y
	Q132C	iX632620	TR	2SC4793 O, Y
	Q133	iC224030	TR	2SC2240 GR, BL
	Q134	iC224030	TR	2SC2240 GR, BL
	Q136	VE198700	TR	2SA1145 O, Y
	Q137	iC224030	TR	2SC2240 GR, BL
	Q138	VE198800	TR	2SC2705 O, Y

* New Parts

	Schm Ref.	PART NO.	Description	
	Q139	iA101521	TR	2SA1015 Y
	Q140	VE198700	TR	2SA1145 O, Y
	Q141A	iX632610	TR	2SA1837 O, Y
	Q141C	iX632620	TR	2SC4793 O, Y
	Q142	iC224030	TR	2SC2240 GR, BL
	Q143	iC224030	TR	2SC2240 GR, BL
	Q145	VE198700	TR	2SA1145 O, Y
	Q146	iC224030	TR	2SC2240 GR, BL
	Q147	VE198800	TR	2SC2705 O, Y
	Q148	iA101521	TR	2SA1015 Y
	Q149	VE198700	TR	2SA1145 O, Y
	Q150A	iX632610	TR	2SA1837 O, Y
	Q150C	iX632620	TR	2SC4793 O, Y
	Q151	iC224030	TR	2SC2240 GR, BL
	Q152	iC224030	TR	2SC2240 GR, BL
	Q154	VE198700	TR	2SA1145 O, Y
	Q155	iC224030	TR	2SC2240 GR, BL
	Q156	VE198800	TR	2SC2705 O, Y
	Q157	iA101521	TR	2SA1015 Y
	Q158	VE198700	TR	2SA1145 O, Y
	Q159A	iX632610	TR	2SA1837 O, Y
	Q159C	iX632620	TR	2SC4793 O, Y
	Q160	iC224030	TR	2SC2240 GR, BL
	Q161	iC224030	TR	2SC2240 GR, BL
	Q163	VE198700	TR	2SA1145 O, Y
	Q164	iC224030	TR	2SC2240 GR, BL
⚠	Q165	iA097000	TR	2SA970 GR, BL
#	Q166	VY705000	TR	2SC5200 R, O
	Q167	iC224030	TR	2SC2240 GR, BL
#	Q168	VY705000	TR	2SC5200 R, O
#	Q169	VY705000	TR	2SC5200 R, O
	Q170	iC224030	TR	2SC2240 GR, BL
#	Q171	VY705000	TR	2SC5200 R, O
#	Q172	VY705000	TR	2SC5200 R, O
	Q173	iC224030	TR	2SC2240 GR, BL
#	Q174	VY705000	TR	2SC5200 R, O
#	Q175	VY705000	TR	2SC5200 R, O
	Q176	iC224030	TR	2SC2240 GR, BL
#	Q177	VY705000	TR	2SC5200 R, O
#	Q178	VY705000	TR	2SC5200 R, O
	Q179	iC224030	TR	2SC2240 GR, BL
#	Q180	VY705000	TR	2SC5200 R, O
	Q181	VC502100	TR	2SD1915 S, T
	Q182	VC502100	TR	2SD1915 S, T
⚠	R123	VP944500	R. MTL. OXD	390Ω 1W
⚠	R124	VP944500	R. MTL. OXD	390Ω 1W
	R146	HL314100	R. MTL. OXD	10Ω 1W
⚠	R149	HL416220	R. MTL. OXD	2.2KΩ 1W
⚠	R150	HL315560	R. MTL. OXD	560Ω 1W
⚠	R151	HL315560	R. MTL. OXD	560Ω 1W
	R193	VK189100	R. FUS	1.2KΩ 1/4W
	R194	VK188000	R. FUS	150Ω 1/4W
	R214	VK189100	R. FUS	1.2KΩ 1/4W

* New Parts

P.C.B. MAIN & OPERATION

	Schm Ref.	PART NO.	Description		
	R215	VK188000	R.FUS	150Ω	1/4W
	R235	VK189100	R.FUS	1.2KΩ	1/4W
	R236	VK188000	R.FUS	150Ω	1/4W
	R256	VK189100	R.FUS	1.2KΩ	1/4W
	R257	VK188000	R.FUS	150Ω	1/4W
	R277	VK189100	R.FUS	1.2KΩ	1/4W
	R278	VK188000	R.FUS	150Ω	1/4W
	R300	VR412900	R.MTL.OXD	0.1Ω	3W
	R310	VR412900	R.MTL.OXD	0.1Ω	3W
	R318	VR412900	R.MTL.OXD	0.1Ω	3W
	R326	VR412900	R.MTL.OXD	0.1Ω	3W
	R334	VR412900	R.MTL.OXD	0.1Ω	3W
⚠	R339	HL315220	R.MTL.OXD	220Ω	1W
⚠	R340	HL315220	R.MTL.OXD	220Ω	1W
	R358	HL314330	R.MTL.OXD	33Ω	1W
⚠	R359	HL315220	R.MTL.OXD	220Ω	1W
⚠	R360	HL315220	R.MTL.OXD	220Ω	1W
	R373	HL315470	R.MTL.OXD	470Ω	1W
	RY101	KC002020	RELAY	DH24D2-OT/M	
	RY102	KC002020	RELAY	DH24D2-OT/M	
	RY104	VK438300	RELAY	DH24D2-OT/M2	
	RY105	VK438300	RELAY	DH24D2-OT/M2	
	RY601	VK438300	RELAY	DH24D2-OT/M2	
	SW101	VT903900	SW.SLIDE	SSAA22	
	SW102	VT903900	SW.SLIDE	SSAA22(R)	
	SW103	VT903900	SW.SLIDE	SSAA22	
*	SW603	VV489000	SW.PUSH	PBS-22H01L-F14	
⚠	SW801	VV523800	SW.SLIDE	SL13B-022-BMC1	
	TE101	VC313700	TERM.SP	8P(UCAR)	
	TE101	VK506200	TERM.SP	8P(L)	
	TE601	VC313700	TERM.SP	8P(UCAR)	
	TE601	VK506200	TERM.SP	8P(L)	
	TE603	VC313800	TERM.SP	LTS0410-2002(UCAR)	
*	TE603	VZ234500	TERM.SP	LTS0420-3003(L)	
		VJ828000	PIN	IMSA-6024-03E	
		BB070700	GND.MTL		
*		VY843300	HEAT.SINK		
		VK697600	SCR.BND.HD	3x10 SP ZMC2-Y	
*		VY769700	P.C.B.	OPERATION(UC)	
*		VY769800	P.C.B.	OPERATION(RAL)	
	CB351	VM688900	CN.BS.PIN	10P	
	CB352	VM859700	CN.BS.PIN	16P	
	CB353	LB918020	CN.BS.PIN	2P	
	CB501	VM688900	CN.BS.PIN	10P	
	CB502	VK216500	CN	10P	
	CB504	VB858400	CN.BS.PIN	5P	
	CB505	VK217300	CN	10P	
	CB901	VM929900	CN.BS.PIN	15P	
	C351	VJ839200	C.EL	2.2uF	50V
	C352	UA652100	C.MYLAR	100pF	50V

*New Parts

Schm Ref.	PART NO.	Description		
C353	UA652100	C.MYLAR	100pF	50V
C354	VJ839200	C.EL	2.2uF	50V
C355	VJ839200	C.EL	2.2uF	50V
C356	VF760000	C.EL	100uF	10V
C357	VF760000	C.EL	100uF	10V
C358	VJ839200	C.EL	2.2uF	50V
C359	VJ839200	C.EL	2.2uF	50V
C360	VF760000	C.EL	100uF	10V
C361	VF760000	C.EL	100uF	10V
C362	VJ839200	C.EL	2.2uF	50V
C363	VJ839200	C.EL	2.2uF	50V
C364	VJ837200	C.EL	47uF	16V
C367	VF760000	C.EL	100uF	10V
C368	VF760000	C.EL	100uF	10V
C369	VJ837200	C.EL	47uF	16V
C372	VJ839200	C.EL	2.2uF	50V
C373	UM417100	C.EL	10uF	50V
C374	UA652100	C.MYLAR	100pF	50V
C375	UA652100	C.MYLAR	100pF	50V
C376	UM417100	C.EL	10uF	50V
C377	UM417100	C.EL	10uF	50V
C378	UA652100	C.MYLAR	100pF	50V
C379	UA652100	C.MYLAR	100pF	50V
C380	UM417100	C.EL	10uF	50V
C381	UM417100	C.EL	10uF	50V
C382	UA652100	C.MYLAR	100pF	50V
C383	UA652100	C.MYLAR	100pF	50V
C384	UM417100	C.EL	10uF	50V
C385	VH053100	C.CE.TUBLR	0.1uF	50V
C386	UM416470	C.EL	4.7uF	50V
C387	UM416470	C.EL	4.7uF	50V
C388	UM417100	C.EL	10uF	50V
C389	UM417100	C.EL	10uF	50V
C501	UM407220	C.EL	22uF	16V
C502	UM407220	C.EL	22uF	16V
C503	UA652100	C.MYLAR	100pF	50V
C504	UA652100	C.MYLAR	100pF	50V
C505	VJ839100	C.EL	1uF	50V
C506	VJ837200	C.EL	47uF	16V
C507	UM215100	C.EL	0.1uF	50V
C508	UM215100	C.EL	0.1uF	50V
C509	UA655120	C.MYLAR	0.12uF	50V
C510	UA652100	C.MYLAR	100pF	50V
C511	VJ839200	C.EL	2.2uF	50V
C512	UA654330	C.MYLAR	0.033uF	50V
C513	VJ839200	C.EL	2.2uF	50V
C514	UA652100	C.MYLAR	100pF	50V
C515	UA654330	C.MYLAR	0.033uF	50V
C516	UA655120	C.MYLAR	0.12uF	50V
C517	UM215100	C.EL	0.1uF	50V
C518	UM215100	C.EL	0.1uF	50V
C519	VJ837200	C.EL	47uF	16V
C520	VJ839100	C.EL	1uF	50V

*New Parts

P.C.B. OPERATION

Schm Ref.	PART NO.	Description	
C521	UM417100	C.EL	10uF 50V
C522	UM417100	C.EL	10uF 50V
C523	VH053100	C.CE.TUBLR	0.1uF 50V
C524	VF466800	C.CE.TUBLR	100pF 50V
C525	VF466800	C.CE.TUBLR	100pF 50V
C526	VH053100	C.CE.TUBLR	0.1uF 50V
C527	UM417100	C.EL	10uF 50V
C528	UM417100	C.EL	10uF 50V
C529	VF467000	C.CE.TUBLR	1000pF 50V
C530	VH053100	C.CE.TUBLR	0.1uF 50V
C531	VF467000	C.CE.TUBLR	1000pF 50V
C532	VH053100	C.CE.TUBLR	0.1uF 50V
C901	VH053100	C.CE.TUBLR	0.1uF 50V
C902	VG277000	C.CE.TUBLR	33pF 50V
C906	VH053100	C.CE.TUBLR	0.1uF 50V
C907	VJ837200	C.EL	47uF 16V
C908	VH053100	C.CE.TUBLR	0.1uF 50V
C909	UJ667470	C.EL	47uF 50V
C910	UM417100	C.EL	10uF 50V
C911	UM417100	C.EL	10uF 50V
C912	VH053100	C.CE.TUBLR	0.1uF 50V
C913	VF467000	C.CE.TUBLR	1000pF 50V
C914	VH053100	C.CE.TUBLR	0.1uF 50V
C915	FZ005880	C.CE.ML	0.1uF 25V
C916	UM417100	C.EL	10uF 50V
D501	iF004600	DIODE	1SS133
D901	VG438300	DIODE.ZENR	MTZJ6.8B 6.8V
D902	VS132300	LED(re)	SLR-325VCT31(RAL)
D903	VG443500	DIODE.ZENR	MTZJ30D 30V
G901	VR463400	TERM.GND	D3.5 TP00385
IC351	XB247301	IC	uPC4570HA
IC352	XB247301	IC	uPC4570HA
IC353	XB247301	IC	uPC4570HA
IC501	XM356A00	IC	NJM2068LD
IC502	XB247301	IC	uPC4570HA
IC901	XR188A00	IC	LC75710NE FLD
JK501	VT034300	JACK	1P
JK502	VT749200	JACK.PHONE	HLJ5307
PJ501	VS868400	JACK.PIN	3P
Q901	VP602400	TR	2SC4038 Q,R,S,E
Q902	VP602400	TR	2SC4038 Q,R,S,E
Q903	VD678700	TR.DGT	DTC114ES(RAL)
Q904	VP872600	TR	2SA1708 S,T
RY501	VM640200	RELAY	RY12W-OH-K-DC12V
* SW501	VY667600	SW.PUSH	SPUN22 2
* SW503	VV425400	SW.RT	SRRM1A
SW901	VG392900	SW.TACT	SKHVAA
SW902	VG392900	SW.TACT	SKHVAA
SW903	VG392900	SW.TACT	SKHVAA
SW904	VG392900	SW.TACT	SKHVAA
SW905	VG392900	SW.TACT	SKHVAA
SW906	VG392900	SW.TACT	SKHVAA
SW907	VG392900	SW.TACT	SKHVAA

* New Parts

Schm Ref.	PART NO.	Description	
SW908	VG392900	SW.TACT	SKHVAA
SW909	VG392900	SW.TACT	SKHVAA
SW910	VG392900	SW.TACT	SKHVAA
SW911	VG392900	SW.TACT	SKHVAA
SW912	VG392900	SW.TACT	SKHVAA
SW913	VG392900	SW.TACT	SKHVAA
SW914	VG392900	SW.TACT	SKHVAA
SW915	VG392900	SW.TACT	SKHVAA
SW916	VG392900	SW.TACT	SKHVAA
SW917	VG392900	SW.TACT	SKHVAA
SW918	VG392900	SW.TACT	SKHVAA
SW919	VG392900	SW.TACT	SKHVAA
SW920	VG392900	SW.TACT	SKHVAA
SW921	VG392900	SW.TACT	SKHVAA
SW922	VG392900	SW.TACT	SKHVAA
SW923	VG392900	SW.TACT	SKHVAA
SW924	VG392900	SW.TACT	SKHVAA
SW925	VG392900	SW.TACT	SKHVAA
SW926	VG392900	SW.TACT	SKHVAA
SW927	VG392900	SW.TACT	SKHVAA
SW928	VG392900	SW.TACT	SKHVAA
SW929	VG392900	SW.TACT	SKHVAA
SW930	VG392900	SW.TACT	SKHVAA
SW931	VG392900	SW.TACT	SKHVAA
SW932	VG392900	SW.TACT	SKHVAA
SW933	VG392900	SW.TACT	SKHVAA
SW934	VG392900	SW.TACT	SKHVAA
SW935	VG392900	SW.TACT	SKHVAA
SW936	VG392900	SW.TACT	SKHVAA
SW937	VG392900	SW.TACT	SKHVAA
SW938	VG392900	SW.TACT	SKHVAA
SW939	VG392900	SW.TACT	SKHVAA
SW940	VG392900	SW.TACT	SKHVAA
SW941	VG392900	SW.TACT	SKHVAA
SW942	VG392900	SW.TACT	SKHVAA
U901	VU591000	L.DTCT	GP1U271X
* V901	VV261900	FL.DSPLY	15-BT-28GK
* VR351	VY689400	VR.MTR	Y100KΩ
VR501	VP741800	VR	B20KΩ
VR502	VP741900	VR	G25KΩ
VR503	VP742000	VR	MN100KΩ
	VJ828000	PIN	IMSA-6024-03E
	VS588900	SHEET	
*	VY830700	SPACER	FL-T7.5
	BB071360	SCR.TERM	8.3x13

* New Parts

■ CHIP RESISTORS & FLAME PROOF CARBON RESISTOR

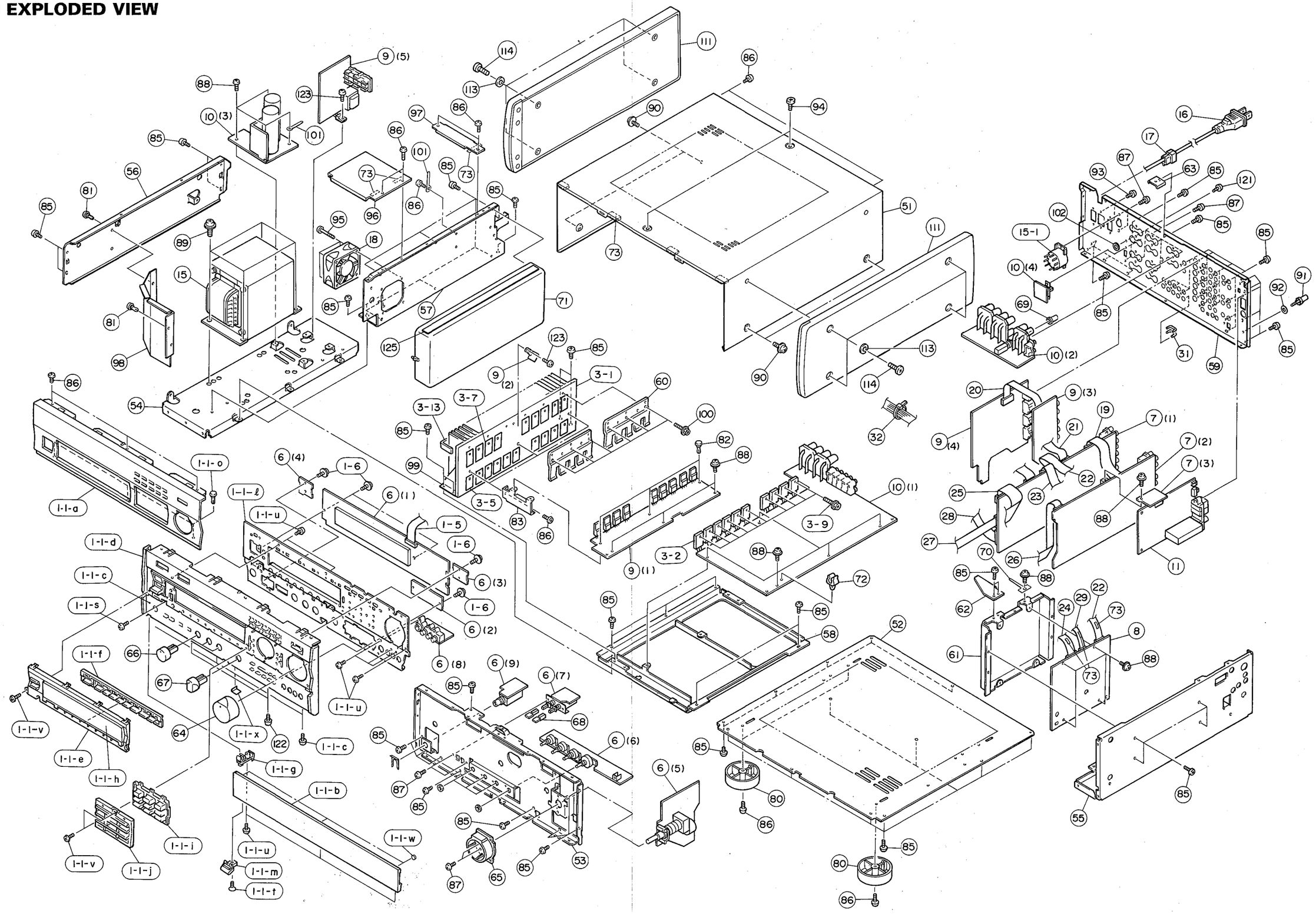
Schm Ref.	PART NO.	Description		
	RD250000	R.CAR.CHP	0Ω	1/10W
	RD254220	R.CAR.CHP	22Ω	1/10W
⚠	RD254750	R.CAR.CHP	75Ω	1/10W
	RD254820	R.CAR.CHP	82Ω	1/10W
	RD255100	R.CAR.CHP	100Ω	1/10W
⚠	RD255150	R.CAR.CHP	150Ω	1/10W
	RD255200	R.CAR.CHP	200Ω	1/10W
	RD255220	R.CAR.CHP	220Ω	1/10W
	RD255330	R.CAR.CHP	330Ω	1/10W
⚠	RD255430	R.CAR.CHP	430Ω	1/10W
	RD255470	R.CAR.CHP	470Ω	1/10W
	RD255620	R.CAR.CHP	620Ω	1/10W
	RD255680	R.CAR.CHP	680Ω	1/10W
⚠	RD255820	R.CAR.CHP	820Ω	1/10W
	RD256100	R.CAR.CHP	1KΩ	1/10W
	RD256120	R.CAR.CHP	1.2KΩ	1/10W
	RD256130	R.CAR.CHP	1.3KΩ	1/10W
⚠	RD256150	R.CAR.CHP	1.5KΩ	1/10W
⚠	RD256220	R.CAR.CHP	2.2KΩ	1/10W
	RD256240	R.CAR.CHP	2.4KΩ	1/10W
	RD256270	R.CAR.CHP	2.7KΩ	1/10W
	RD256330	R.CAR.CHP	3.3KΩ	1/10W
	RD256360	R.CAR.CHP	3.6KΩ	1/10W
	RD256390	R.CAR.CHP	3.9KΩ	1/10W
	RD256470	R.CAR.CHP	4.7KΩ	1/10W
	RD256560	R.CAR.CHP	5.6KΩ	1/10W
	RD256680	R.CAR.CHP	6.8KΩ	1/10W
	RD256820	R.CAR.CHP	8.2KΩ	1/10W
	RD256910	R.CAR.CHP	9.1KΩ	1/10W
	RD257100	R.CAR.CHP	10KΩ	1/10W
	RD257120	R.CAR.CHP	12KΩ	1/10W
	RD257130	R.CAR.CHP	13KΩ	1/10W
	RD257150	R.CAR.CHP	15KΩ	1/10W
	RD257180	R.CAR.CHP	18KΩ	1/10W
	RD257220	R.CAR.CHP	22KΩ	1/10W
	RD257270	R.CAR.CHP	27KΩ	1/10W
	RD257330	R.CAR.CHP	33KΩ	1/10W
	RD257390	R.CAR.CHP	39KΩ	1/10W
	RD257470	R.CAR.CHP	47KΩ	1/10W
	RD257560	R.CAR.CHP	56KΩ	1/10W
	RD257680	R.CAR.CHP	68KΩ	1/10W
	RD257750	R.CAR.CHP	75KΩ	1/10W
	RD257910	R.CAR.CHP	91KΩ	1/10W
	RD258100	R.CAR.CHP	100KΩ	1/10W
	RD258150	R.CAR.CHP	150KΩ	1/10W
	RD258330	R.CAR.CHP	330KΩ	1/10W
	RD258470	R.CAR.CHP	470KΩ	1/10W
	RD258680	R.CAR.CHP	680KΩ	1/10W
	RD259100	R.CAR.CHP	1MΩ	1/10W
	RD259470	R.CAR.CHP	4.7MΩ	1/10W

*New Parts

Schm Ref.	PART NO.	Description		
	HV453100	R.CAR.FP	1Ω	1/4W
	HV453220	R.CAR.FP	2.2Ω	1/4W
	HV453470	R.CAR.FP	4.7Ω	1/4W
	HV453680	R.CAR.FP	6.8Ω	1/4W
	HV456820	R.CAR.FP	8.2Ω	1/4W
	HV454100	R.CAR.FP	10Ω	1/4W
	HV454120	R.CAR.FP	12Ω	1/4W
	HV454330	R.CAR.FP	33Ω	1/4W
	HV454470	R.CAR.FP	47Ω	1/4W
	HV455100	R.CAR.FP	100Ω	1/4W
	HV455120	R.CAR.FP	120Ω	1/4W
	HV455150	R.CAR.FP	150Ω	1/4W
	HV455220	R.CAR.FP	220Ω	1/4W
	HV455330	R.CAR.FP	330Ω	1/4W
	HV455470	R.CAR.FP	470Ω	1/4W
	HV455560	R.CAR.FP	560Ω	1/4W
	HV455680	R.CAR.FP	680Ω	1/4W
	HV456150	R.CAR.FP	1.5KΩ	1/4W
	HV456220	R.CAR.FP	2.2KΩ	1/4W
	HV456330	R.CAR.FP	3.3KΩ	1/4W
	HV456470	R.CAR.FP	4.7KΩ	1/4W
	HV456680	R.CAR.FP	6.8KΩ	1/4W

*New Parts

■ EXPLODED VIEW



■ MECHANICAL PARTS

	Ref. No.	PART NO.	Description		Remarks	Markets
*	1-1-a	VV692600	FRONT PANEL		BL	
*	1-1-a	VY730900	FRONT PANEL		TI	
*	1-1-b	VV692900	PANEL, LID		BL	
	1-1-b	VY980500	PANEL, LID		TI	
*	1-1-c	VV693100	PLATE		BL	
*	1-1-c	VY732700	PLATE		TI	
*	1-1-d	VV693700	SUB PANEL CASE		BL	
*	1-1-d	VV693800	SUB PANEL CASE		TI	
*	1-1-e	VV849400	SUB PANEL		BL	
*	1-1-e	VV849500	SUB PANEL		TI	
*	1-1-f	VV849600	BUTTON	T	BL	
*	1-1-f	VV849700	BUTTON	T	TI	
*	1-1-g	VV694800	HINGE, LID		BL	
*	1-1-g	VV695000	HINGE, LID		TI	
*	1-1-h	VV695200	WINDOW PANEL, LID			(UC)
*	1-1-h	VY680600	WINDOW PANEL, LID			(RAL)
*	1-1-i	VV850700	BUTTON	I	BL	
*	1-1-i	VV850800	BUTTON	I	TI	
*	1-1-j	VV851000	SUB PANEL		BL	
*	1-1-j	VV851200	SUB PANEL		TI	
*	1-1-l	VV850600	SUPPORT	FRONT		
	1-1-m	VY980700	POST, LID			
	1-1-o	CB068880	PLASTIC RIVET	No.1027		
	1-1-s	VN413300	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2-BL		
	1-1-t	EC030030	FLAT HEAD SCREW	3x6 MFZN2-BL		
	1-1-u	EP600190	BIND HEAD B-TITE SCREW	3x8 ZMC2-BL		
	1-1-v	EP600140	BIND HEAD B-TITE SCREW	3x10 MFZN2-BL		
*	1-1-w	VY822200	CUSHION, LID		BL	
*	1-1-w	VY822400	CUSHION, LID		TI	
	1-1-x	VZ177700	SHEET, GND	UC-3E0690		
*	1-5	VY839000	CONNECTOR, FLAT CABLE	15P 300mm		
	1-6	EK930010	PW HEAD B-TITE SCREW	3x8-8 FCRM3-BL		
*	3- 1	VV693500	HEAT SINK	40BS300-L110		
#	3- 2	VY705000	TRANSISTOR	2SC5200 R,O		
	3- 5	VK196000	SHEET	22x29		
	3- 7	VK195900	SHEET	19x24		
	3- 9	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3		
	3-13	VU195800	DAMPER, FIN			
*	6	VY769700	P.C.B. ASS'Y	OPERATION		(UC)
*	6	VY769800	P.C.B. ASS'Y	OPERATION		(RAL)
*	7	VY769900	P.C.B. ASS'Y	FUNCTION		(UC)
*	7	VY770000	P.C.B. ASS'Y	FUNCTION		(R)
*	7	VY770100	P.C.B. ASS'Y	FUNCTION		(AL)
*	8	VY770200	P.C.B. ASS'Y	DSP		(UC)
	8	VZ051100	P.C.B. ASS'Y	DSP		(RAL)
*	9	VY770300	P.C.B. ASS'Y	VIDEO		(UC)
*	9	VY770400	P.C.B. ASS'Y	VIDEO		(R)
*	9	VY770500	P.C.B. ASS'Y	VIDEO		(A)
*	9	VY770600	P.C.B. ASS'Y	VIDEO		(L)
*	10	VY770700	P.C.B. ASS'Y	MAIN		(UCA)
*	10	VY770800	P.C.B. ASS'Y	MAIN		(R)
*	10	VY809000	P.C.B. ASS'Y	MAIN		(L)
	11	VV610200	P.C.B. ASS'Y	TUNER		(UC)

*New Parts

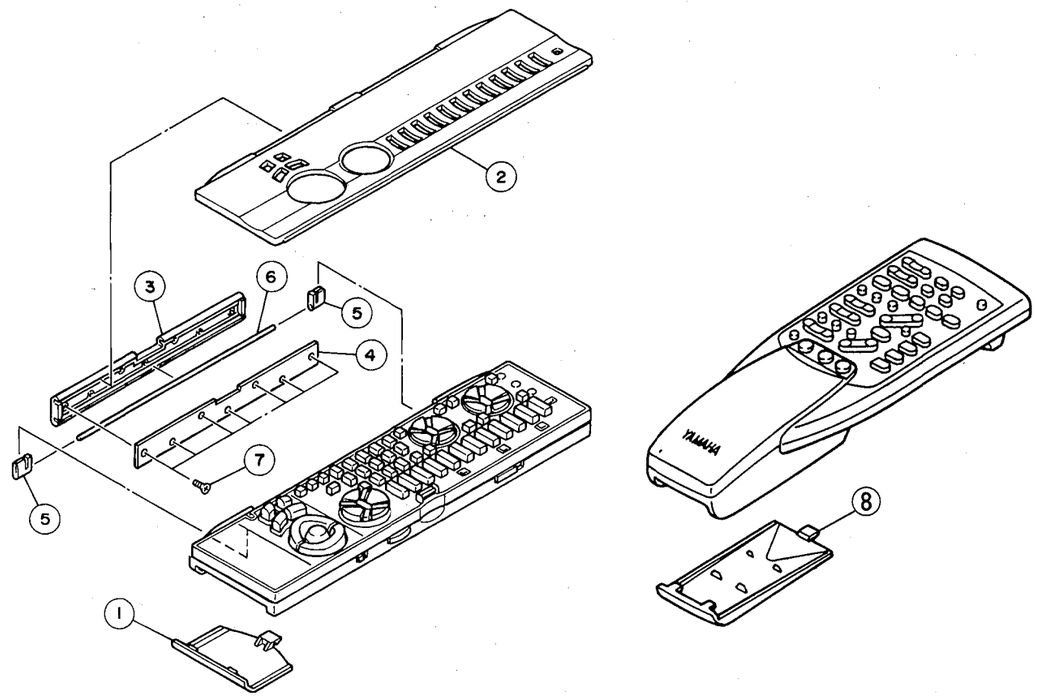
	Ref. No.	PART NO.	Description		Remarks	Markets
	11	VV610300	P.C.B. ASS'Y	TUNER		(R)
	11	VV610400	P.C.B. ASS'Y	TUNER		(AL)
⚠*	15	XT312A00	POWER TRANSFORMER			(U)
⚠*	15	XT313A00	POWER TRANSFORMER			(C)
⚠*	15	XT315A00	POWER TRANSFORMER			(A)
⚠*	15	XT316B00	POWER TRANSFORMER			(L)
⚠*	15	VY770900	POWER TRANSFORMER ASS'Y			(R)
⚠*	15	XT314A00	POWER TRANSFORMER			(R)
⚠	15-1	Vi449800	VOLTAGE SELECTOR	ESE-37284-F		(R)
⚠	16	VP418300	POWER CORD ASS'Y			(A)
⚠	16	VQ458400	POWER CORD ASS'Y			(R)
⚠	16	VS759300	POWER CORD ASS'Y			(L)
⚠	16	VU122900	POWER CORD ASS'Y			(UC)
	17	VN158600	CORD STOPPER	No.2104		
	18	VV272500	DC FAN MOTOR	2410ML-05W-B20-L00		
*	19	VY839400	CONNECTOR, FLAT CABLE	27P 120mm		
	20	VQ157200	CONNECTOR, FLAT CABLE	16P 60mm		
*	21	VY838800	CONNECTOR, FLAT CABLE	12P 80mm		
*	22	VY838900	CONNECTOR, FLAT CABLE	14P 120mm		
*	23	VY838700	CONNECTOR, FLAT CABLE	11p 160mm		
*	24	VY839300	CONNECTOR, FLAT CABLE	20P 120mm		
*	25	VY839100	CONNECTOR, FLAT CABLE	16P 120mm		
*	26	VY838600	CONNECTOR, FLAT CABLE	10P 220mm		
*	27	VY838500	CONNECTOR, FLAT CABLE	10P 200mm		
*	28	VY839200	CONNECTOR, FLAT CABLE	19P 100mm		
	29	VY952000	CONNECTOR, FLAT CABLE	5P 180mm		
	31	VQ194100	SHORT PLUG	CNT31-0		
	32	CB069250	BINDING TIE	BK-1		
*	51	VV690300	TOP COVER		BL	
*	51	VV690500	TOP COVER		TI	
*	52	VV690600	BOTTOM COVER			
*	53	VV690700	SUB CHASSIS			
*	54	VV690800	FRAME	L		
*	55	VV690900	FRAME	R		
*	56	VV691000	FRAME	SL		
*	57	VV691100	FRAME	SF		
*	58	VV691200	FRAME	C		
*	59	VV691300	REAR PANEL			(U)
*	59	VV691400	REAR PANEL			(C)
*	59	VV691500	REAR PANEL			(R)
*	59	VV691600	REAR PANEL			(A)
*	59	VV691700	REAR PANEL			(L)
*	60	VV826100	SUPPORT	TR		
*	61	VV306300	SHIELD CASE			
*	62	VV850500	SUPPORT	D/PCB		
	63	VV306200	SSUPPORT, TOP			
	64	VV268600	KNOB, LED	D40	BL	
	64	VV268700	KNOB, LED	D40	TI	
	65	VV149500	ESCUTCHEON, VOL		BL	
	65	VV149600	ESCUTCHEON, VOL		TI	
	66	VS757200	KNOB, P	D12	BL	
	66	VS757300	KNOB, P	D12	TI	
	67	VT275100	KNOB	D12R	BL	

*New Parts

	Ref. No.	PART NO.	Description		Remarks	Markets
	67	VT275200	KNOB	D12R	TI	
	68	VV123500	BUTTON, 3/8		BL	
	68	VV123600	BUTTON, 3/8		TI	
	69	VS048300	BUTTON	D7		
	70	VN806000	GROUND PLATE			(UC)
*	71	VV713600	BRACKET	F		
*	72	VY707200	PCB HOLDER	A-1 3R48		
	73	VE222600	CUSHION			
	80	VS025000	LEG	D60xH21		
	81	CB068880	PLASTIC RIVET	No.1027		
	82	CB605620	PLASTIC RIVET	No.1781		
	83	VV692400	SUPPORT	H/PCB		
	85	VN413300	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2-BL		
	86	EP600190	BIND HEAD B-TITE SCREW	3x8 ZMC2-BL		
	87	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL		
	88	EK930010	PW HEAD B-TITE SCREW	3x8-8 FCRM3-BL		
	89	VK625000	CUP S-TITE SCREW	5x10-12 ZMC2-Y		
	90	EK365090	PW HEAD S-TITE SCREW	4x8-10 FCRM3-BL		
	91	AA627310	GROUND TERMINAL			
	92	EV265560	PLAIN WASHER	3.6x10x0.8 FNM3-3G		
	93	EP600220	BIND HEAD B-TITE SCREW	3x10 ZMC2-Y		
	94	EX601850	SPECIAL SCREW S-TITE	4x8-10 FCRM3-BL	BL	
	94	EX601860	SPECIAL SCREW S-TITE	4x8-10 FNM3-BL	TI	
	95	VV220300	BIND HEAD B-TITE SCREW	3x30 MFZN2-BL		
	96	VY979800	SUPPORT, FAN COVER			
	97	VY980000	SUPPORT	R		
	98	VY980100	PLATE, FAN COVER			
	99	VY980200	PLATE, HEATSINK	H		
	100	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3		
	101	CB502030	BINDING TIE	S-75B		
	102	VZ180200	SPACER			
*	111	VY835600	SIDE PANEL	PAIR		
	113	EX602690	SPRING WASHER	D5 FCRM3-BL		
	114	VC077200	FLAT FILLISTER HEAD SCREW	4x27 FCRM3-BR		
	121	VY731200	BONDING HEAD TAPPING SCREW	3x10 MFNI33		
	122	EX602240	BW HEAD TAPPING SCREW	3x10		
	123	VK697600	BIND HEAD B-TITE SCREW	3x10 SP ZMC2-Y		
	125	VZ012900	CUSHION, FAN			
			ACCESSORIES			
*		VV627100	REMOTE CONTROL TRANSMITTER	RRC4000-5401R		
*		VV627300	REMOTE CONTROL TRANSMITTER			
*		VY731700	LABEL, REMOTE CONTROL			
		VE366200	LOOP ANTENNA	AM		
		VG850700	ANTENNA, FM	1.4m		
		VT948000	ANTENNA ADAPTER			(UC)
		VH214900	BATTERY	SUM-3, AA, R06		

*New Parts

■ EXPLODED VIEW

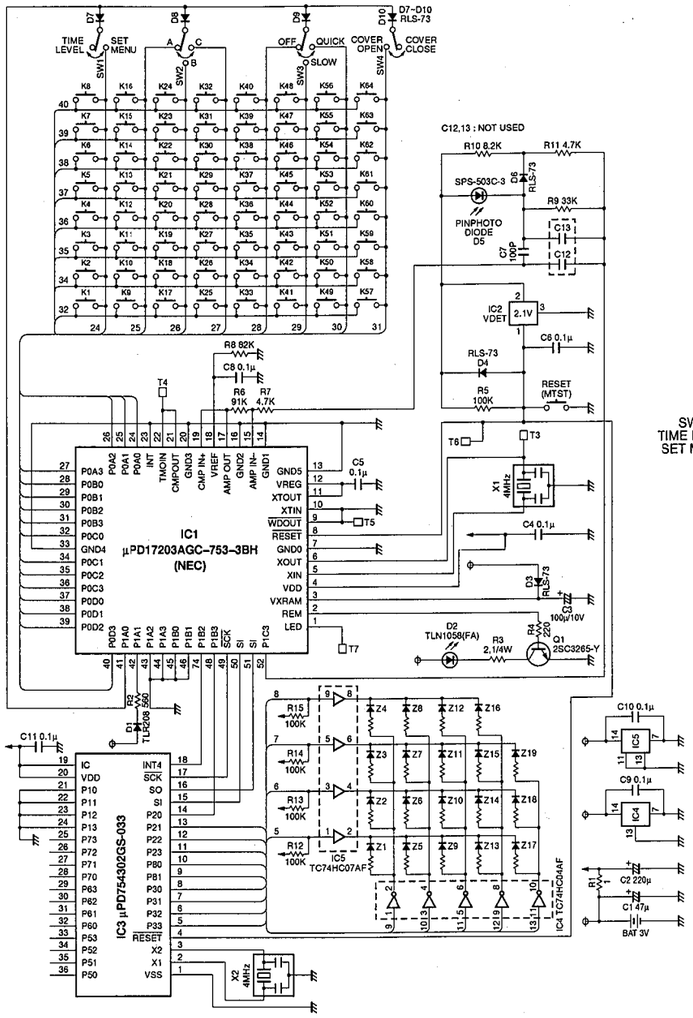


	Ref. No.	PART NO.	Description		Remarks	Markets
*		VV627100	REMOTE CONTROL TRANSMITTER	RRC4000-5401R	RRC40005401R	
*	1	CX680040	COVER, BATTERY		103RRC11101R	
*	2	CX680050	LID		103RRC11201R	
*	3	CX680060	BRACKET	A	503RRC00401R	
*	4	CX680070	BRACKET	B	503RRC00501R	
*	5	CX680080	GUIDE PIN		522RRC00101R	
*	6	CX680090	PIN		524RRC00101R	
*	7	EX603910	SCREW	M1.7x13.5	ABB1703321001	
*		VV627300	REMOTE CONTROL TRANSMITTER			
	8	CX679050	LID			

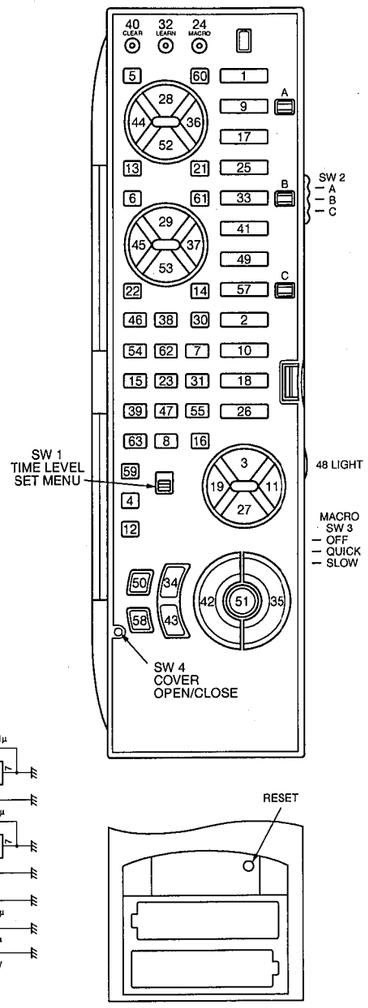
*New Parts

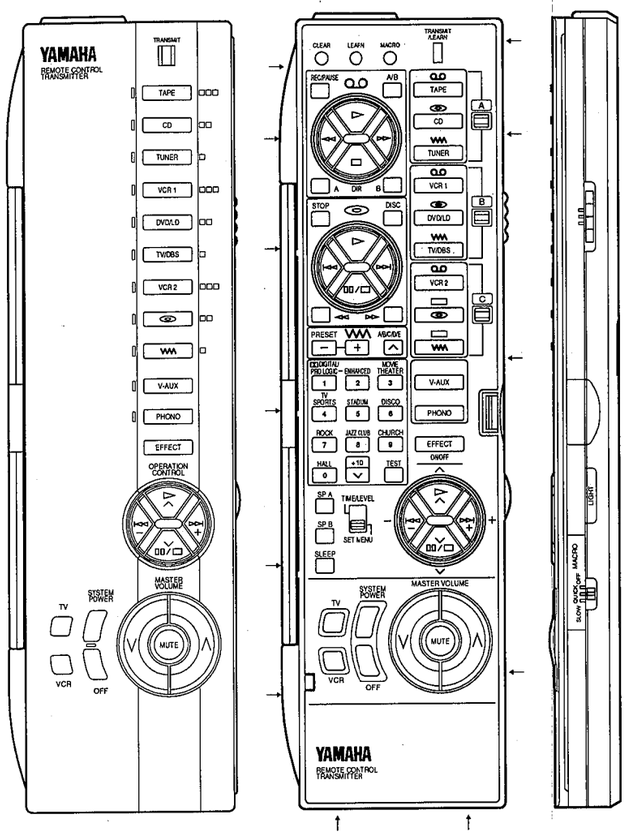
REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM



Key arrangement





MACRO transmission
Transmission code of initial setting shows under the below. (key No.)
Each transmission code is the fixed or learning code.

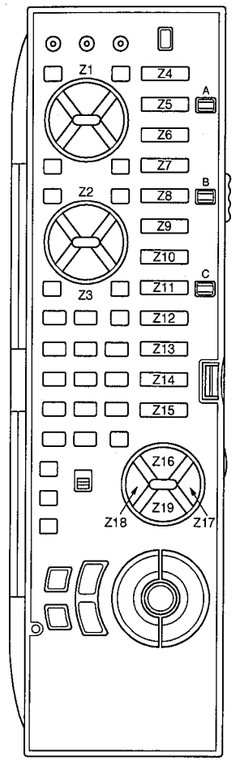
Key No.	COVER	CLOSE						
	SW 1	Don't care.						
	SW 2	Don't care.						
	SW 3	QUICK or SLOW						
	MACRO order	1	2	3	4	5	6	7
1	TAPE	K34	K1	K28-A	–	–	–	–
2	∿∿	K34	K2	–	–	–	–	–
9	CD	K34	K9	K29-A	–	–	–	–
10	V–AUX	K34	K10	–	–	–	–	–
17	TUNER	K34	K17	–	–	–	–	–
18	PHONO	K34	K18	–	–	–	–	–
25	VCR	K34	K25	K28-B	–	–	–	–
33	DVD/LD	K34	K33	K29-B	–	–	–	–
34	SYSTEM POWER	K34	K50	K58	–	–	–	–
41	TV/DBS	K34	K41	–	–	–	–	–
43	SYSTEM POWER OFF	K43	–	–	–	–	–	–
49	VCR 2	K34	K49	K28-A	–	–	–	–
57	⬭	K34	K57	K29-B	–	–	–	–

Detail : K××–○
Key No. The position of SW2

List of the fixed code

Key No.	SW 1 / SW 2	SET MENU A	SET MENU B	SET MENU C	TIME/LEVEL A	TIME/LEVEL B	TIME/LEVEL C
1	TAPE	7A–85–18	7A–85–18	7A–85–18	7A–85–18	7A–85–18	7A–85–18
2	∿∿	——	——	——	——	——	——
3	∧▷∧	7A–85–9D	7A–85–9D	7A–85–9D	7A–85–98	7A–85–98	7A–85–98
4	SP B	7A–85–9B	7A–85–9B	7A–85–9B	7A–85–9B	7A–85–9B	7A–85–9B
5	REC/PAUSE	7A–85–04	——	——	7A–85–04	——	——
6	STOP	——	——	7C–83–5B	——	——	7C–83–5B
7	3	7A–85–8A	7A–85–8A	7A–85–8A	7A–85–8A	7A–85–8A	7A–85–8A
8	+10	——	——	——	——	——	——
9	CD	7A–85–15	7A–85–15	7A–85–15	7A–85–15	7A–85–15	7A–85–15
10	V–AUX	7A–85–55	7A–85–55	7A–85–55	7A–85–55	7A–85–55	7A–85–55
11	+▷▷|+	7A–85–9E	7A–85–9E	7A–85–9E	7A–85–52	7A–85–52	7A–85–52
12	SLEEP	7A–85–57	7A–85–57	7A–85–57	7A–85–57	7A–85–57	7A–85–57
13	DIR A	7A–85–07	——	——	7A–85–07	——	——
14	▷▷	7A–85–0C	——	7C–83–07	7A–85–0C	——	7C–83–07
15	4	7A–85–8B	7A–85–8B	7A–85–8B	7A–85–8B	7A–85–8B	7A–85–8B
16	TEST	7A–85–85	7A–85–85	7A–85–85	7A–85–85	7A–85–85	7A–85–85
17	TUNER	7A–85–16	7A–85–16	7A–85–16	7A–85–16	7A–85–16	7A–85–16
18	PHONO	7A–85–14	7A–85–14	7A–85–14	7A–85–14	7A–85–14	7A–85–14
19	–|◁◁–	7A–85–9F	7A–85–9F	7A–85–9F	7A–85–53	7A–85–53	7A–85–53
20	NOT USED	7A–85–87	7A–85–87	7A–85–87	7A–85–87	7A–85–87	7A–85–87
21	DIR B	7A–85–40	——	——	7A–85–40	——	——
22	◁◁	7A–85–0D	——	7C–83–06	7A–85–0D	——	7C–83–06
23	5	7A–85–8E	7A–85–8E	7A–85–8E	7A–85–8E	7A–85–8E	7A–85–8E
25	VCR	7A–85–0F	7A–85–0F	7A–85–0F	7A–85–0F	7A–85–0F	7A–85–0F
26	EFFECT	7A–85–56	7A–85–56	7A–85–56	7A–85–56	7A–85–56	7A–85–56
27	∨ ⊡/□ ∨	7A–85–9C	7A–85–9C	7A–85–9C	7A–85–99	7A–85–99	7A–85–99
28	▷ (TAPE)	7A–85–00	——	——	7A–85–00	——	——
29	▷ (CD)	7A–85–08	——	7C–83–05	7A–85–08	——	7C–83–05
30	A/B/C/D/E	7A–85–12	——	——	7A–85–12	——	——
31	6	7A–85–8F	7A–85–8F	7A–85–8F	7A–85–8F	7A–85–8F	7A–85–8F

Key No.	SW 1 / SW 2	SET MENU A	SET MENU B	SET MENU C	TIME/LEVEL A	TIME/LEVEL B	TIME/LEVEL C
33	DVD/LD	7A–85–17	7A–85–17	7A–85–17	7A–85–17	7A–85–17	7A–85–17
34	SYSTEM POWER	7A–85–1D	7A–85–1D	7A–85–1D	7A–85–1D	7A–85–1D	7A–85–1D
35	MASTER VOL +	7A–85–1A	7A–85–1A	7A–85–1A	7A–85–1A	7A–85–1A	7A–85–1A
36	▷▷	7A–85–02	——	——	7A–85–02	——	——
37	▷▷|	7A–85–0A	——	7C–83–03	7A–85–0A	——	7C–83–03
38	PRESET +	7A–85–10	——	——	7A–85–10	——	——
39	7	7A–85–8C	7A–85–8C	7A–85–8C	7A–85–8C	7A–85–8C	7A–85–8C
41	TV/DBS	7A–85–54	7A–85–54	7A–85–54	7A–85–54	7A–85–54	7A–85–54
42	MASTER VOL –	7A–85–1B	7A–85–1B	7A–85–1B	7A–85–1B	7A–85–1B	7A–85–1B
43	SYSTEM POWER OFF	7A–85–1E	7A–85–1E	7A–85–1E	7A–85–1E	7A–85–1E	7A–85–1E
44	◁◁	7A–85–01	——	——	7A–85–01	——	——
45	|◁◁	7A–85–0B	——	7C–83–02	7A–85–0B	——	7C–83–02
46	PRESET –	7A–85–11	——	——	7A–85–11	——	——
47	8	7A–85–8D	7A–85–8D	7A–85–8D	7A–85–8D	7A–85–8D	7A–85–8D
49	VTR2	7A–85–13	7A–85–13	7A–85–13	7A–85–13	7A–85–13	7A–85–13
50	SYSTEM POWER TV	——	——	——	——	——	——
51	MUTE	7A–85–1C	7A–85–1C	7A–85–1C	7A–85–1C	7A–85–1C	7A–85–1C
52	□	7A–85–03	——	——	7A–85–03	——	——
53	00/□	7A–85–09	——	7C–83–04	7A–85–09	——	7C–83–04
54	1	7A–85–88	7A–85–88	7A–85–88	7A–85–88	7A–85–88	7A–85–88
55	9	7A–85–90	7A–85–90	7A–85–90	7A–85–90	7A–85–90	7A–85–90
57	⬭	——	——	——	——	——	——
58	SYSTEM POWER VCR	——	——	——	——	——	——
59	SP A	7A–85–9A	7A–85–9A	7A–85–9A	7A–85–9A	7A–85–9A	7A–85–9A
60	A/B	7A–85–06	——	——	7A–85–06	——	——
61	DISC	7A–85–4F	——	——	7A–85–4F	——	——
62	2	7A–85–89	7A–85–89	7A–85–89	7A–85–89	7A–85–89	7A–85–89
63	0	7A–85–91	7A–85–91	7A–85–91	7A–85–91	7A–85–91	7A–85–91



Lighting point

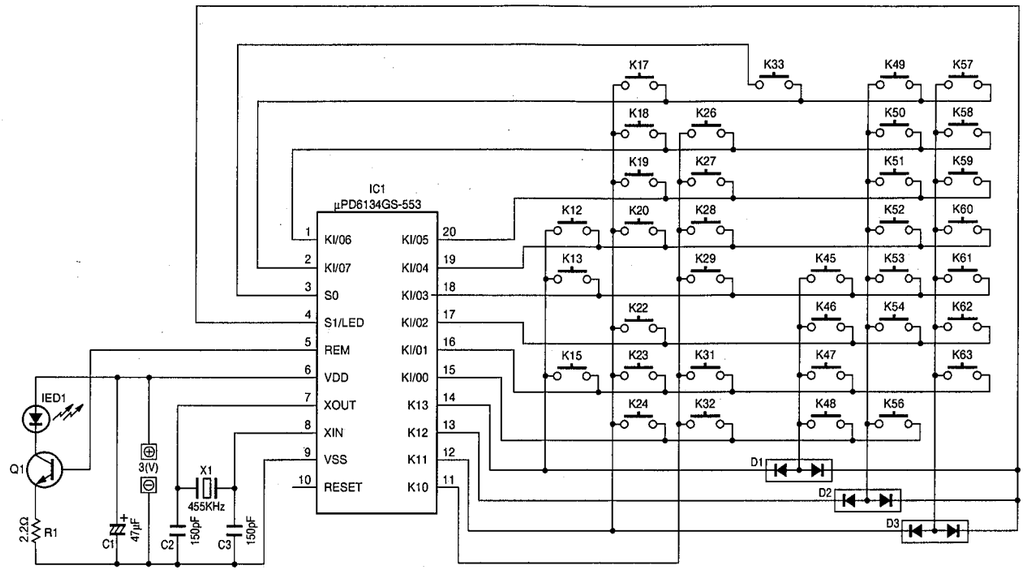
Key No.	COVER / SW 1 / SW 3 / SW 2	OPEN / Don't care. / Don't care.		
		A	B	C
1	TAPE	Z1,Z4	Z4	Z4
2	⋀⋀	Z12	Z12	Z3,Z12
5	REC/PAUSE	Z1,Z4	Z1,Z7	Z1,Z10
6	STOP	Z2,Z5	Z2,Z8	Z2,Z11
9	CD	Z2,Z5	Z5	Z5
10	V-AUX	Z13	Z13	Z13
13	DIR A	Z1,Z4	Z1,Z7	Z1,Z10
14	▷▷ (CD)	Z2,Z5	Z2,Z8	Z2,Z11
17	TUNER	Z3,Z6	Z6	Z6
18	PHONO	Z14	Z14	Z14
21	DIR B	Z1,Z4	Z1,Z7	Z1,Z10
22	◁◁ (CD)	Z2,Z5	Z2,Z8	Z2,Z11
25	VCR	Z7	Z1,Z7	Z7
26	EFFECT	Z15	Z15	Z15
28	▷ (TAPE)	Z1,Z4	Z1,Z7	Z1,Z10
29	▷ (CD)	Z2,Z5	Z2,Z8	Z2,Z11
30	A/B/C/D/E	Z3,Z6	Z3,Z9	Z3,Z12
33	DVD/LD	Z8	Z2,Z8	Z8
36	▷▷ (TAPE)	Z1,Z4	Z1,Z7	Z1,Z10
37	▷▷I	Z2,Z5	Z2,Z8	Z2,Z11
38	PRESET +	Z3,Z6	Z3,Z9	Z3,Z12
41	TV/DBS	Z9	Z3,Z9	Z9
44	◁◁ (TAPE)	Z1,Z4	Z1,Z7	Z1,Z10
45	I◁◁	Z2,Z5	Z2,Z8	Z2,Z11
46	PRESET –	Z3,Z6	Z3,Z9	Z3,Z12
49	VCR 2	Z10	Z10	Z1,Z10
52	□	Z1,Z4	Z1,Z7	Z1,Z10
53	▯▯/□	Z2,Z5	Z2,Z8	Z2,Z11
57	⬭	Z11	Z11	Z2,Z11
60	A/B	Z1,Z4	Z1,Z7	Z1,Z10
61	DISC	Z2,Z5	Z2,Z8	Z2,Z11

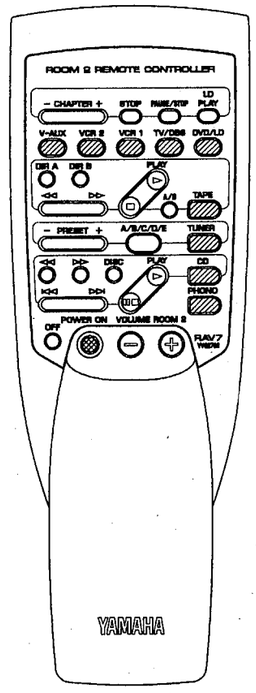
Key No.	COVER / SW 1 / SW 3 / SW 2	CLOSE / Don't care. / Don't care.
1	TAPE	Z4 : ○, Z16 : ○, Z17 : ○, Z18 : ○, Z19 : ○
2	⋀⋀	Z12 : ○, Z16 : K22-C, Z17 : K30-C, Z18 : K33-C, Z19 : K8-C
9	CD	Z5 : ○, Z16 : ○, Z17 : ○, Z18 : ○, Z19 : ○
10	V-AUX	Z13 : ○
17	TUNER	Z6 : ○, Z16 : ○, Z17 : ○, Z18 : ○
18	PHONO	Z14 : ○
25	VCR	Z7 : ○, Z16 : K28-B, Z17 : K36-B, Z18 : K44-B, Z19 : K52-B
26	EFFECT	Z15 : ○
33	DVD/LD	Z8 : ○, Z16 : K29-B, Z17 : K37-B, Z18 : K45-B, Z19 : K53-B
41	TV/DBS	Z9 : ○, Z16 : K22-B, Z17 : K30-B, Z18 : K38-B, Z19 : K8-B
49	VCR 2	Z10 : ○, Z16 : K28-C, Z17 : K36-C, Z18 : K44-C, Z19 : K52-C
57	⬭	Z11 : ○, Z16 : ○, Z17 : ○, Z18 : ○, Z19 : ○
3	∧ ▷ ∧	Same as the case of pushing the mode key of current mode. (In case of having set the mode TAPE , the lighting is same as the case of pushing TAPE key.)
11	+ ▷▷I +	
19	– I◁◁ –	
27	∨ ▯▯/□ ∨	

Detail : ○ ---------- Lighting On.
× × – Y ------- Lighting on if the key, that is key No. × × and SW2–Y, has been learned.

REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM

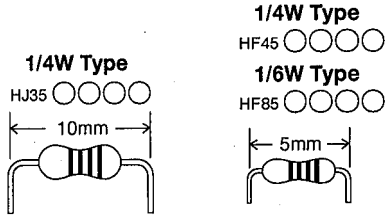




Key No.	Function	HEX CUSTOM	HEX DATA
12	DIR A	7A	07
13	DIR B	7A	40
14	————	——	——
15	PLAY ▷ (TAPE)	7A	00
17	◁◁ (TAPE)	7A	01
18	▷▷ (TAPE)	7A	02
19	□ (TAPE)	7A	03
20	A/B	7A	06
22	PRESET –	7A	11
23	PRESET +	7A	10
24	A/B/C/D/E	7A	12
26	◁◁ (CD)	7A	0D
27	▷▷ (CD)	7A	0C
28	DISC	7A	4F
29	PLAY ▷ (CD)	7A	08
31	I◁◁	7A	0B
32	▷▷I	7A	0A
33	▯▯/□	7A	09
34	————	——	——
45	CHAPTER –	7C	02
46	CHAPTER +	7C	03
47	STOP	7C	5B
48	PAUSE/STOP	7C	04
49	LD PLAY	7C	05
50	V-AUX	7A	D8
51	VCR 2	7A	D7
52	VCR 1	7A	D6
53	TV/DBS	7A	D9
54	DVD/LD	7A	D5
55	————	——	——
56	TAPE	7A	D3
57	TUNER	7A	D2
58	CD	7A	D1
59	PHONO	7A	D0
60	POWER OFF	7A	1E
61	POWER ON	7A	1D
62	VOLUME ROOM2 –	7A	DB
63	VOLUME ROOM2 +	7A	DA
64	————	——	——

Parts List for Carbon Resistors

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



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YAMAHA