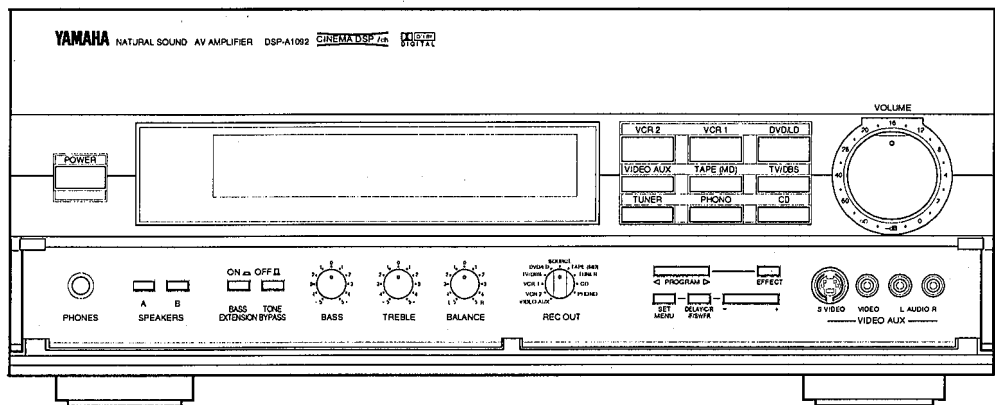
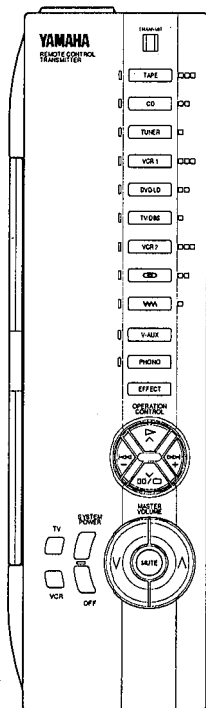


AV AMPLIFIER

DSP-A1092

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

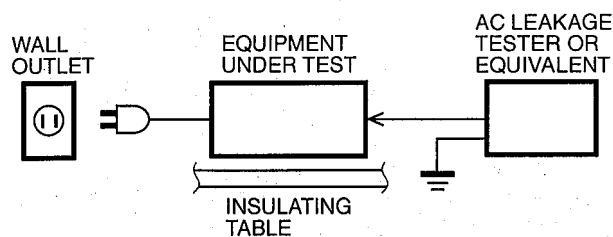
TO SERVICE PERSONNEL	1
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■ TO SERVICE PERSONNEL

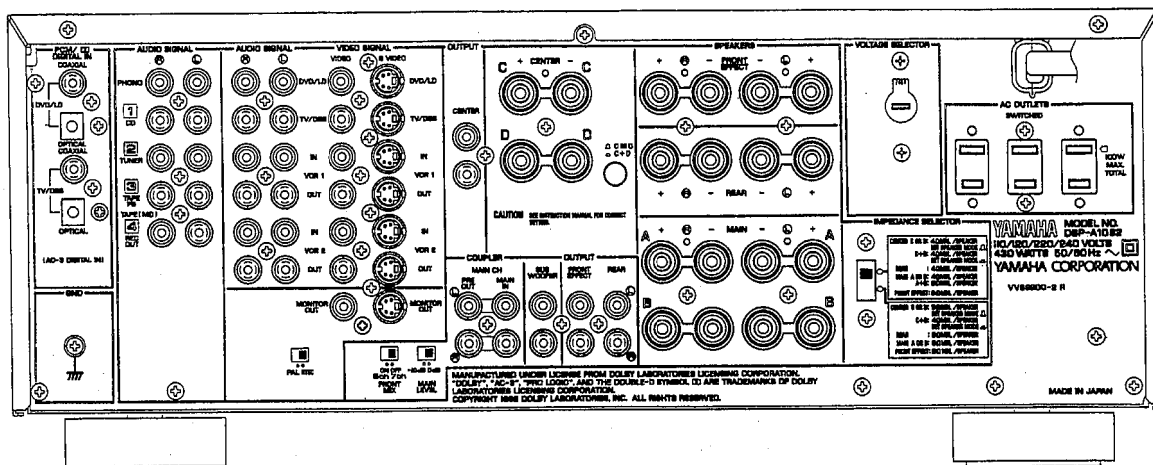
Critical Components Information.

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

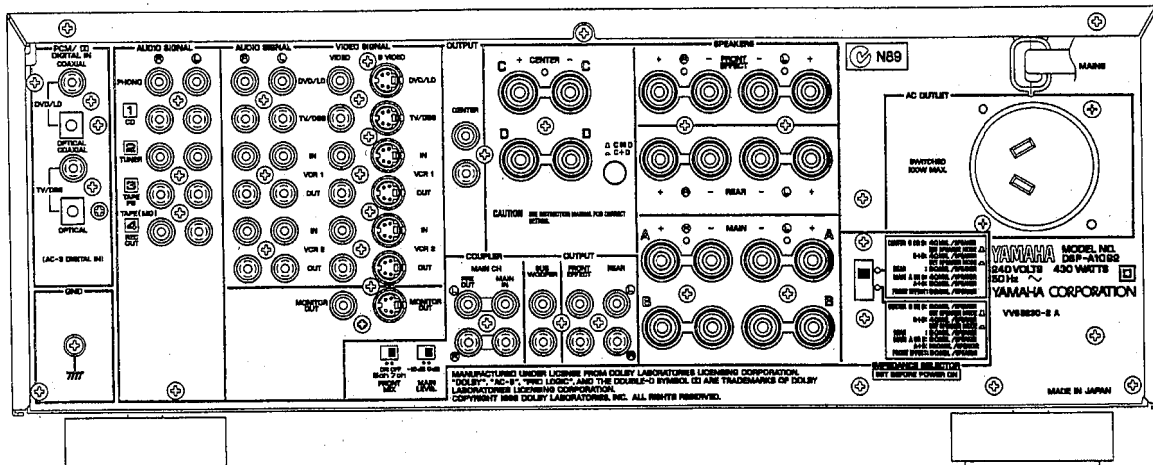


■ REAR PANELS

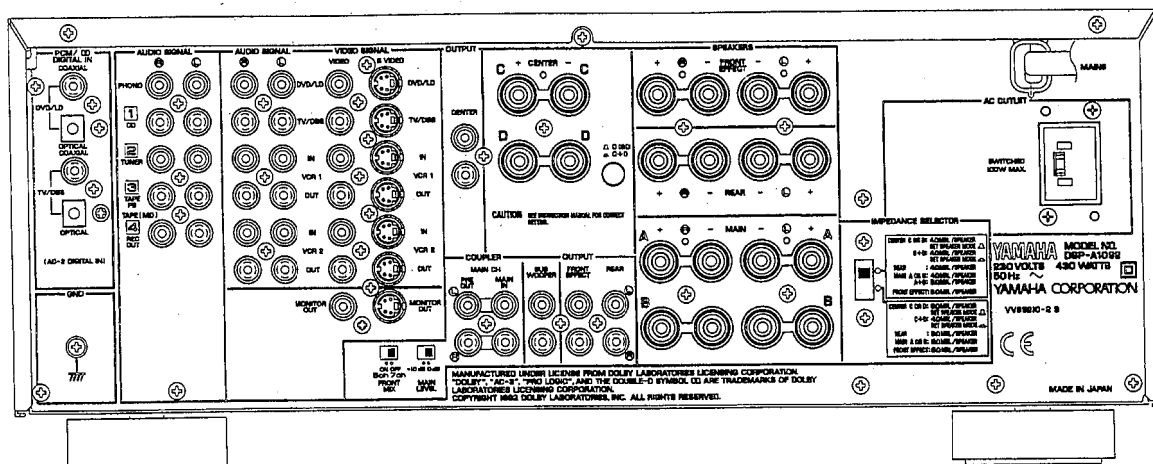
▼ R model



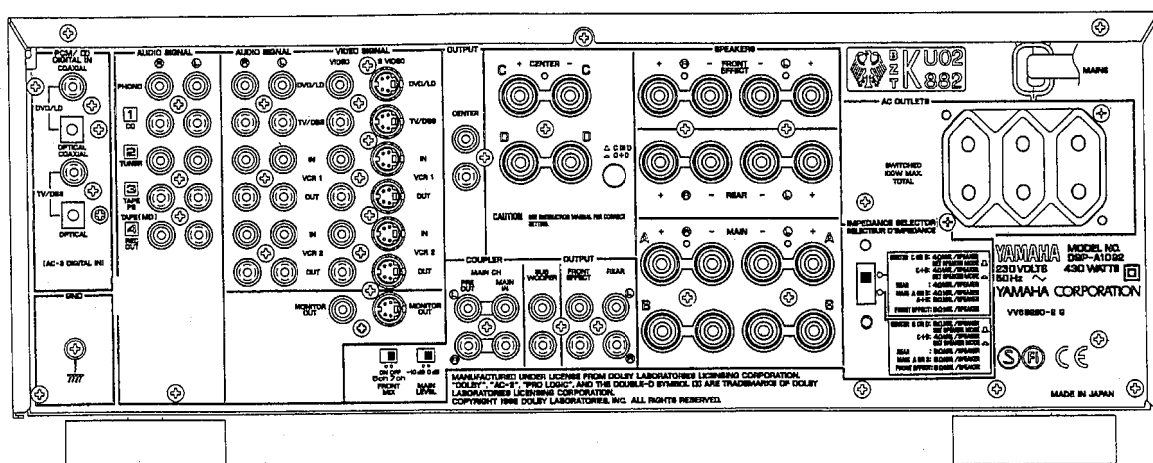
▼ A model



▼ B model

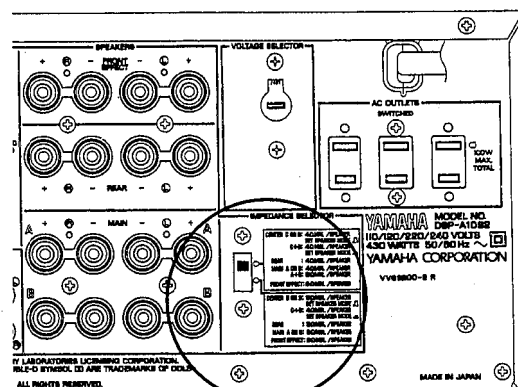


▼ G model



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	80W
CENTER, 20Hz to 20kHz, 0.02% THD, 8Ω	80W
REAR, 20Hz to 20kHz, 0.02% THD, 8Ω	80W
FRONT, 1kHz, 0.05% THD, 8Ω	25W

Maximum Power per Channel (R model only)

MAIN, 1kHz, EIAJ, 10% THD, 8Ω	128W
CENTER, 1kHz, EIAJ, 10% THD, 8Ω	128W
REAR, 1kHz, EIAJ, 10% THD, 8Ω	128W
FRONT, 1kHz, EIAJ, 10% THD, 8Ω	35W

Dynamic Power per Channel (IHF)

MAIN, 8/6/4/2Ω	130/160/200/240W
----------------	------------------

DIN Standard Output Power per Channel (G model only)

MAIN, 1kHz, 0.7% THD, 4Ω	128W
--------------------------	------

IEC Power (G model only)

MAIN, 1kHz, 0.015% THD, 8Ω	100W
----------------------------	------

Power Band Width

MAIN, 0.08% THD, 40W/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 (100W/8Ω)	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
SUB WOOFER (MAIN SP : SMALL)	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

ANALOG	
PHONO MM to REC OUT, 20Hz to 20kHz (1V)	0.01%
CD, etc to MAIN PRE OUT, 20Hz to 20kHz (1V)	0.005%
CD, etc to MAIN/CENTER SP OUT	
20Hz to 20kHz (40W/8Ω)	0.015%
CD, etc to REAR SP OUT, 1kHz (40W/8Ω)	0.3%
CD, etc to FRONT SP OUT, 1kHz (12.5W/8Ω)	0.3%
MAIN IN to MAIN SP OUT (40W/8Ω)	0.008%
DIGITAL	
DVD/LD to MAIN/CENTER/REAR	
SP OUT, 20Hz to 20kHz (40W/8Ω)	0.03%

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

PHONO MM, Input Shorted (5mV) REC OUT	
R model	86dB
A, B, G models	82dB
CD, etc, Input Shorted (5mV) SP OUT (Effect off)	96dB

Residual Noise (IHF-A-Network)

MAIN, SP OUT	170μV
--------------	-------

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

PHONO MM, Input Shorted, 1kHz/10kHz	60dB/55dB
CD, etc, Input 5.1kΩ Shorted, 1kHz/10kHz	60dB/45dB

Tone Control Characteristics

BASS : Boost/cut	±10dB (50Hz)
Turnover Frequency	350Hz
TREBLE : Boost/cut	±10dB (20kHz)
Turnover Frequency	3.5kHz

Filter Characteristics

MAIN, REAR SP SMALL : H.P.F.	fc = 90Hz, 12dB/oct.
SUB WOOFER : L.P.F.	fc = 90Hz, 24dB/oct.

Bass Extension +6dB (50Hz)

Muting - ∞

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

■ VIDEO SECTION

Video Signal Type

A, B, G 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

A model	AC 240V, 50Hz
B, G models	AC 230V, 50Hz
R model	AC 110/120/220/240V, 50/60Hz

Power Consumption 430W

Maximum Power Consumption (R model only) 720W

AC Outlets

G, R models, Switched x 3	100W max (Total)
A, B models, 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")

Weight 19.5 kg (42 lbs 15oz)

Accessories Remote Control Transmitter x 1 Battery (size "AA", "R06") x 2

* Specifications subject to change without notice.

A Australian model

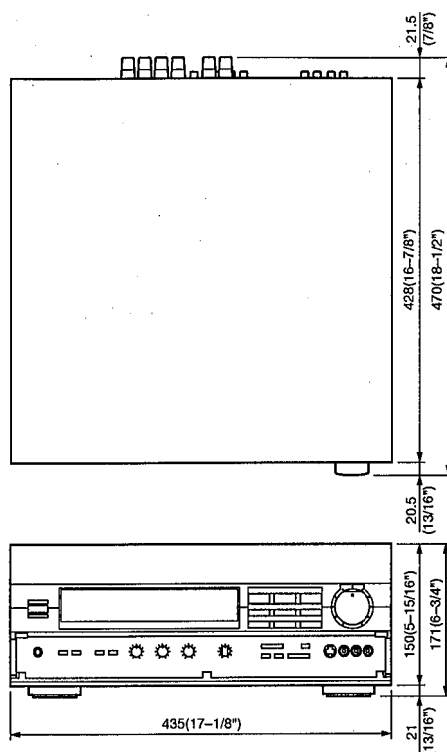
B British model

G European model

R General model

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● DIMENSIONS



Units : mm (inch)

■ FACTORY PRESET

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

● INPUT (VIDEO)

DVD/LD (DVD/LD)

● EFFECT LEVEL

EFFECT CHANNEL	PRESET VALUE	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

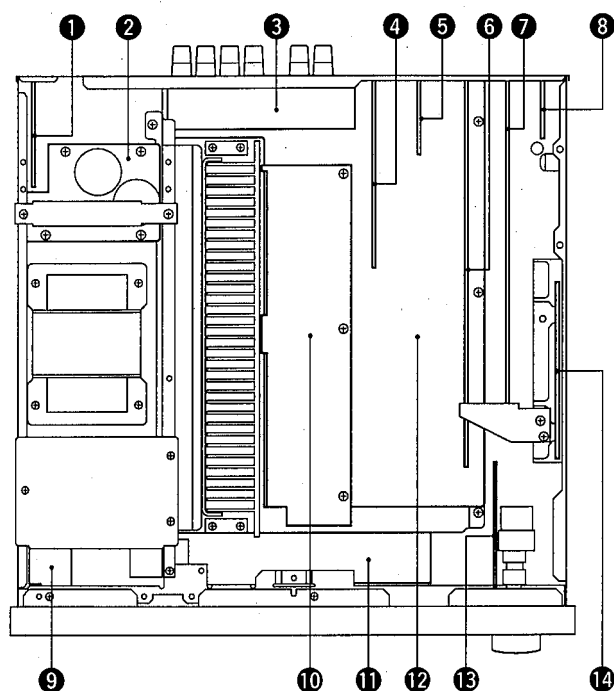
● DSP PROGRAM

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

INTERNAL VIEW



- ① P. C. B. VIDEO (5)
- ② P. C. B. MAIN (3)
- ③ P. C. B. MAIN (2)
- ④ P. C. B. VIDEO (4)
- ⑤ P. C. B. VIDEO (3)
- ⑥ P. C. B. FUNCTION (1)
- ⑦ P. C. B. FUNCTION (2)
- ⑧ P. C. B. FUNCTION (4)
- ⑨ P. C. B. OPERATION (9)
- ⑩ P. C. B. VIDEO (1)
- ⑪ P. C. B. OPERATION (6)
- ⑫ P. C. B. MAIN (1)
- ⑬ P. C. B. OPERATION (5)
- ⑭ P. C. B. DSP

DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)

1. Removal of Top Cover

- a. Remove 4 screws (①), 2 screws (②) and 2 screws (③) and then remove the Top Cover in Fig. 1.

2. Removal of Bottom Cover

- a. Remove 13 screws (④) and then remove the Bottom Cover in Fig. 1.

3. Removal of Front Panel

- a. Remove 5 knobs in Fig. 1.
- b. Remove 5 screws (⑤) and then remove the Front Panel in Fig. 1.

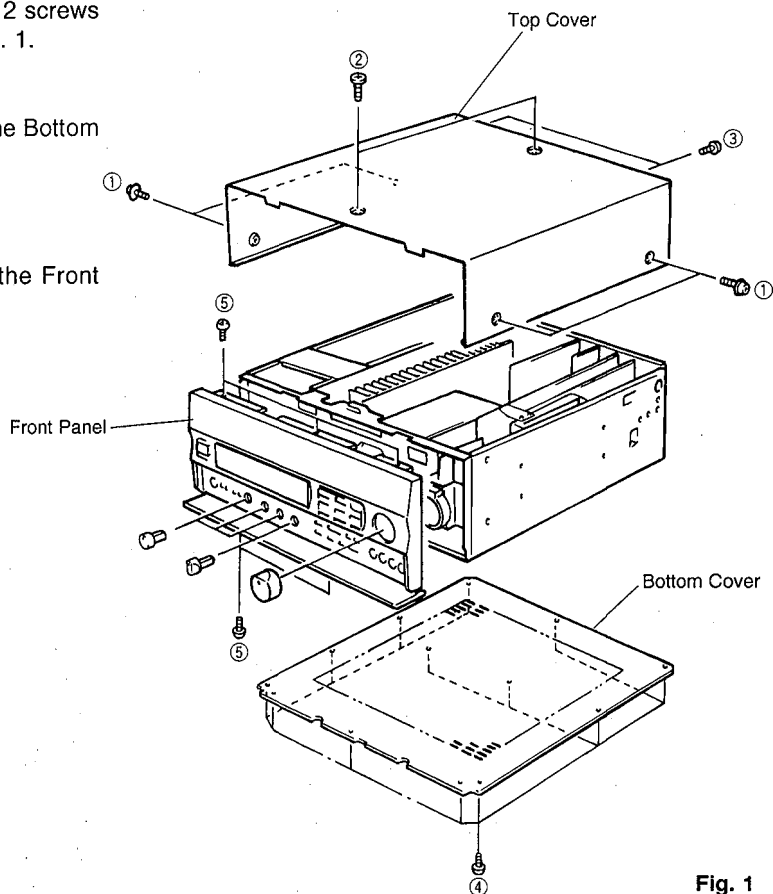


Fig. 1

■ SELF DIAGNOSIS FUNCTION

1. PURPOSE AND OPERATION

The DSP-A1092 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 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 INFORMATION	1. MODEL/MARKET 2. ROM(PROGRAM)	KEEP LAST CONDITION KEEP LAST CONDITION
10	MENU EXIT & DEMO	1->2 DEMO DISPLAY	---
11	DSP STATES	1. PORT/FS/AC3 MODE 2. SUB-CODE	KEEP LAST CONDITION KEEP LAST CONDITION
12	CENTER SPEAKER	1. CENTER WIDE 2. CENTER NORMAL 3. CENTER PHANTOM	KEEP LAST CONDITION KEEP LAST CONDITION KEEP LAST CONDITION
13	REAR SPEAKER	1. REAR LARGE 2. REAR SMALL	KEEP LAST CONDITION KEEP LAST CONDITION
14	MAIN SPEAKER	1. MAIN LARGE 2. MAIN SMALL	KEEP LAST CONDITION KEEP LAST CONDITION
15	LFE/BASS OUT	1. BASS SUB WOOFER 2. BASS MAIN 3. BASS BOTH	KEEP LAST CONDITION KEEP LAST CONDITION KEEP LAST CONDITION

2. 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

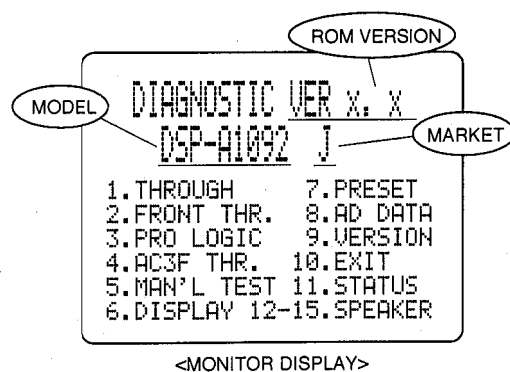
2. SPEAKER RELAY A/B : ON
3. MUTING : OFF
4. INPUT (VIDEO) : DVD/LD (DVD/LD)
5. CENTER SPEAKER : WIDE
6. REAR SPEAKER : LARGE
7. MAIN SPEAKER : LARGE
8. LFE/BASS OUT : SWFR

C. Start-up display

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

● Monitor display

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



● FL display at start-up of diagnostic program

When the diagnostic program has started, the history (*2) of the protection function (*1) is displayed. If the protection function has been activated in the past, the type and voltage value are displayed 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 "PROGRAM +/-" key to select the diagnostic menu and the "SET MENU" key to select the sub-menu.

● Selection by using the remote control unit

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

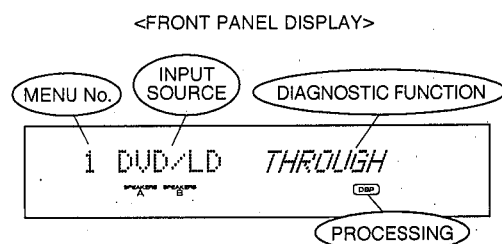
It is possible to call the sub-menu of other than the above diagnostic menu items. Refer to the table below for the key corresponding to each diagnostic menu item.

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

No.	MAIN MENU	SUB MENU	REMOTE CONTROL KEY
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 ▶▶ CD ◀◀
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.



(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

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.

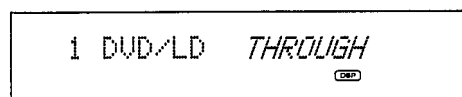
5. CONTENTS OF DIAGNOSIS FUNCTION

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.

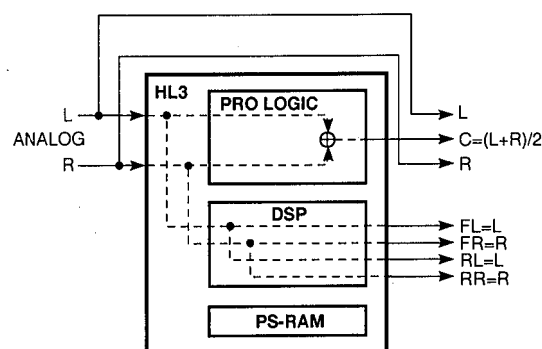
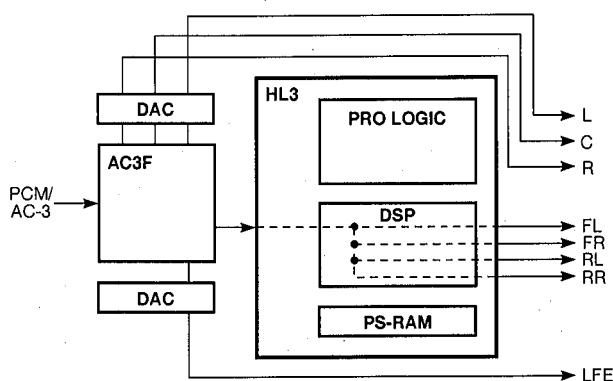
<PCM DIGITAL>

- 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.

● 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>

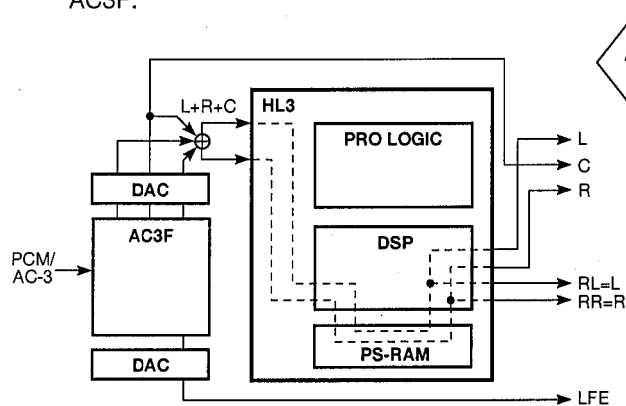
2 DVD/LD FRONT THR

CD

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

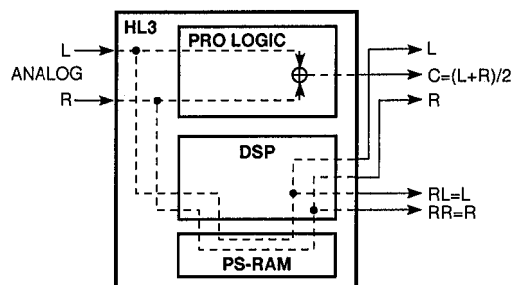
- The signals from L, R, RL and RR are output through the DSP section of AC3F to HL3 as the L+R+C signal respectively.
- The signals from C and LFE are output through the AC3F.



● Analog signal passage

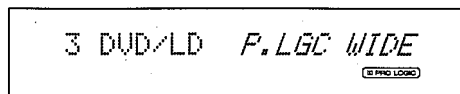
(when there is no digital signal input)

- 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 $(L+R)/2$.



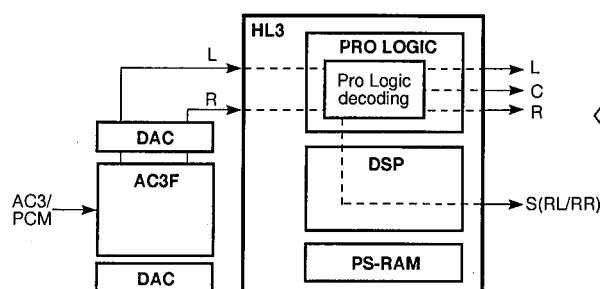
(3) PRO LOGIC

<FRONT PANEL DISPLAY>

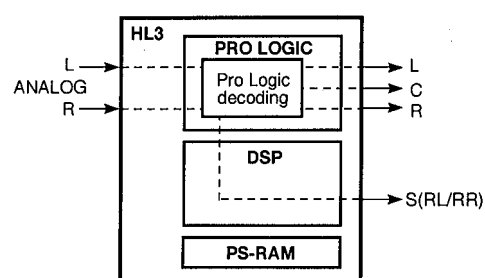


The PRO LOGIC function is activated when the AUTO INPUT BALANCE function is turned off. The digital and analog switching is available automatically with a priority placed for the digital signal over the analog signal. When digital signals are input, the digital optical input has a priority over the digital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

● PRO LOGIC for digital signal

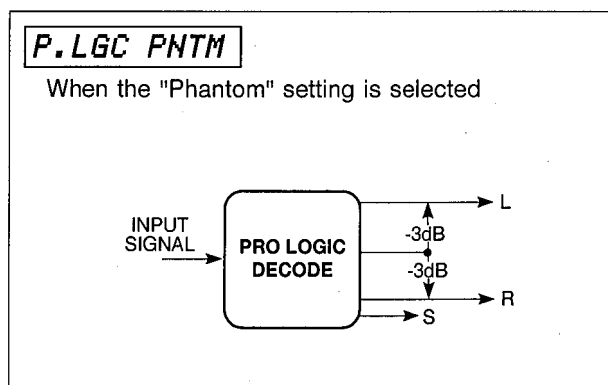
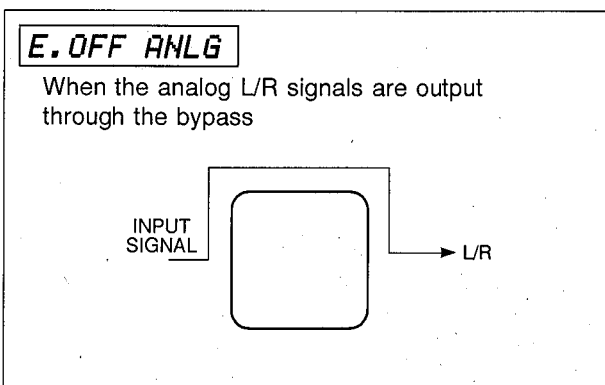
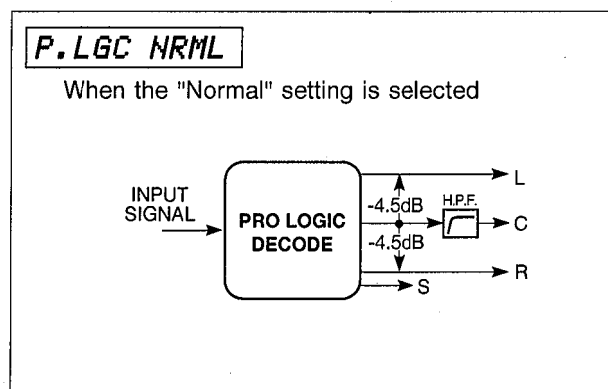
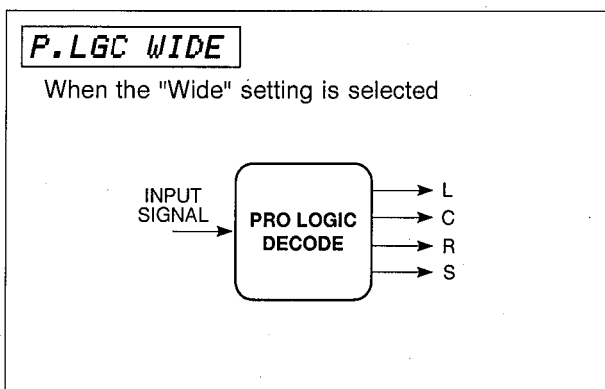


● PRO LOGIC for analog signal



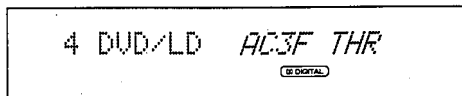
○ Sub-menu

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



(4) AC3F THROUGH

<FRONT PANEL DISPLAY>



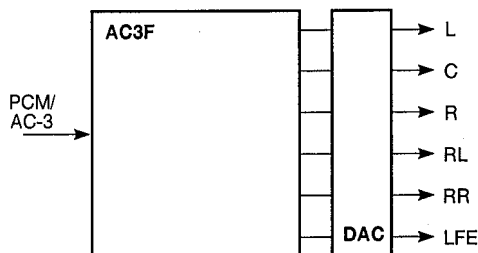
The signals from all the channels are output through the AC3F and the analog input signals are muted.

<DOLBY DIGITAL>

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

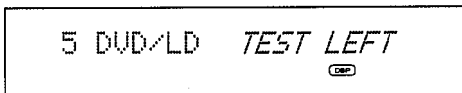
<PCM DIGITAL>

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

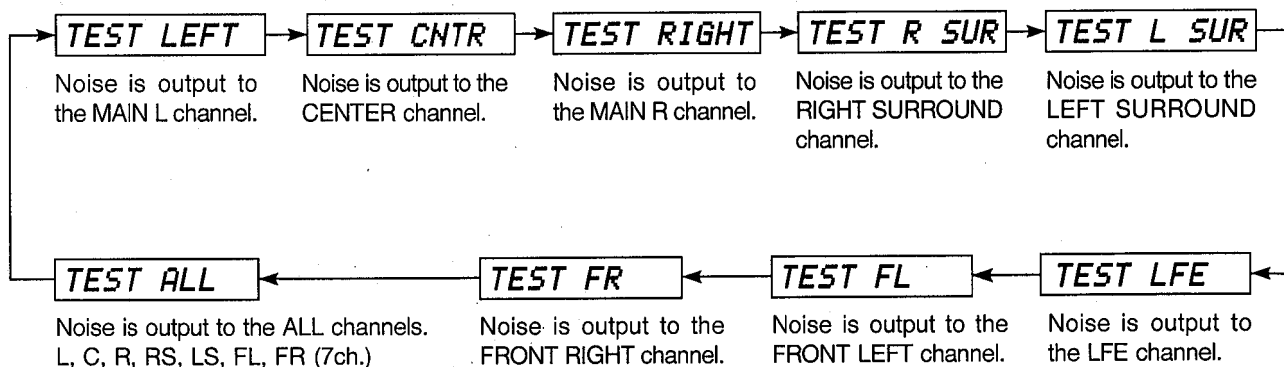
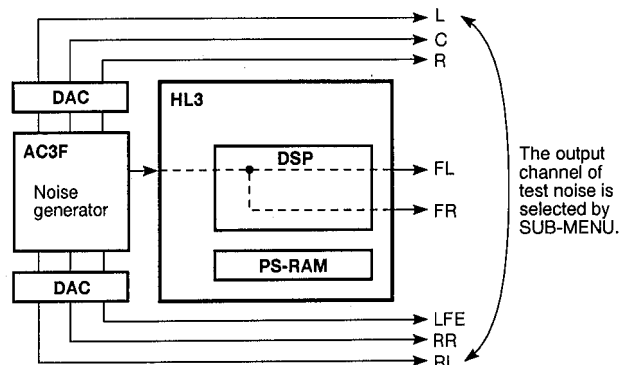
<FRONT PANEL DISPLAY>



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 order as shown below.



6) FRONT PANEL VFD (Vacuum Fluorescent Display) check

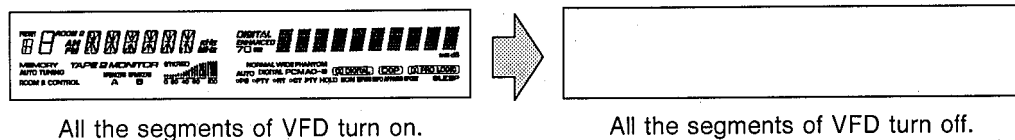
<FRONT PANEL DISPLAY>

6 DVD/LD *DISP CHECK*

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

○ Sub-menu

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

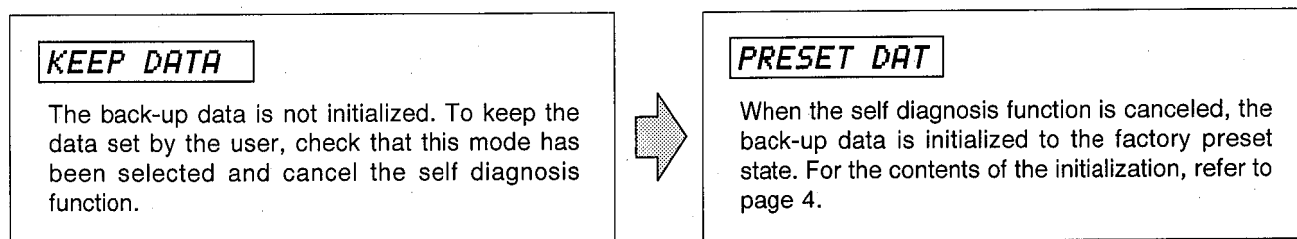


(7) FACTORY PRESET

<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.



(8) AD CONVERSION DATA

<FRONT PANEL DISPLAY>

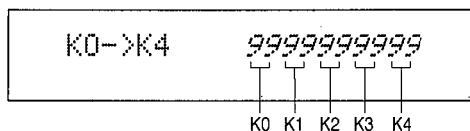
8 DVD/LD AD CHECK

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

* When the AD value deviates from the standard value by $\pm 4\%$, normal operation will not be available. In such a case, check the 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, signal meter in the tuner section (not used). While the AD value is displayed, only selection of the diagnosis menu, turning off the power and cancellation of the diagnosis function are available.



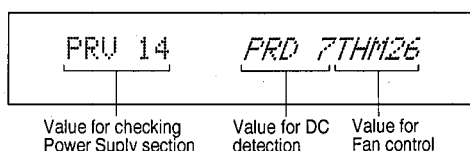
The AD value detected when the front panel key is pressed is displayed in percentage. The AD values are assigned to the keys at 10% intervals as shown in the tables below.

* 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		SET MENU	DLY/LVL		PROGRAM <
K1			SPEAKER A	SPEAKER B	
K2					
K3					TUNER
K4					

AD value	40% (2.0V)	30% (1.5V)	20% (1.0V)	10% (0.5V)	0% (0.0V)
K0	PROGRAM >		DLY/LVL -	DLY/LVL +	EFFECT
K1					
K2					
K3	PHONO	CD	V-AUX	TV/DBS	TAPE
K4			VCR2	VCR1	DVD/LD

DLY/LVL : DELAY TIME / SP LEVEL

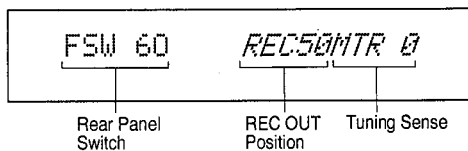


- **PRV** : The PRV value shows whether the supplied power voltage is correct or not. The voltage range for the normal operation is from 9 to 19. If the voltage exceeds this range, the protection function will be activated to turn off the power automatically.
- **PRD** : The PRD value shows whether there 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 PAL/NTSC select switch (for the R model) and the FRONT MIX switch.

PAL/NTSC	FRONT MIX	VOLTAGE	AD VALUE
NTSC	OFF (7ch)	2.0V	40%
NTSC	ON (5ch)	2.5V	50%
PAL	OFF (7ch)	3.0V	60%
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.
[MTR 0] is meaningless and therefore should be ignored.

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>

9 DVD/LD DSP1092 J

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

○ Sub-menu

DSP1092 J
Model Market

● Model :

"DSP1092" = DSP-A1092

● Market :

"BG" = Australian, British & European models
"R" = General model
"J" = Japan model



ROM V1.2

ROM Version

● 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>

10 DVD/LD EXIT&DEMO

DEMONSTRATION
DISPLAY



DVD/LD DIGITAL MOVIE THTR

(DIGITAL) (DSP)

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.

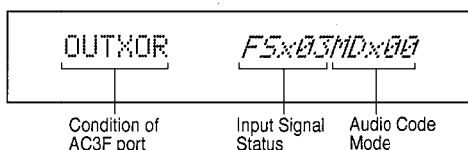
(11) STATUS DISPLAY

<FRONT PANEL DISPLAY>

11 DVD/LD STATUS CHK

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

○ Sub-menu



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

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

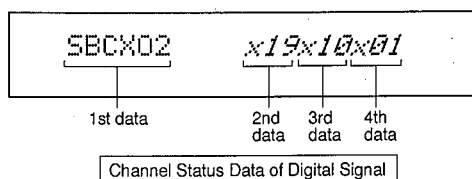
- **FS** : Shown on the display are conditions of the input signal

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

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

AUDIO CODE MODE	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





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

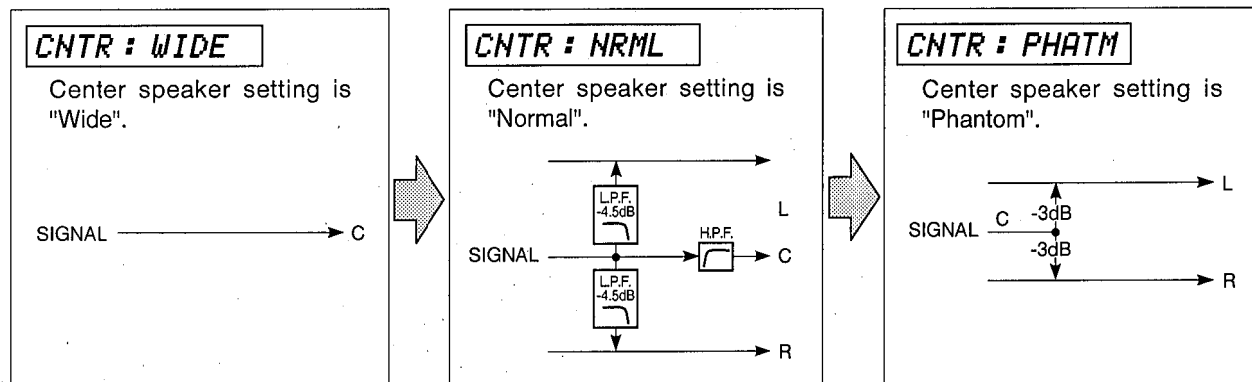
<FRONT PANEL DISPLAY>

12 DVD/LD CNTR:WIDE

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

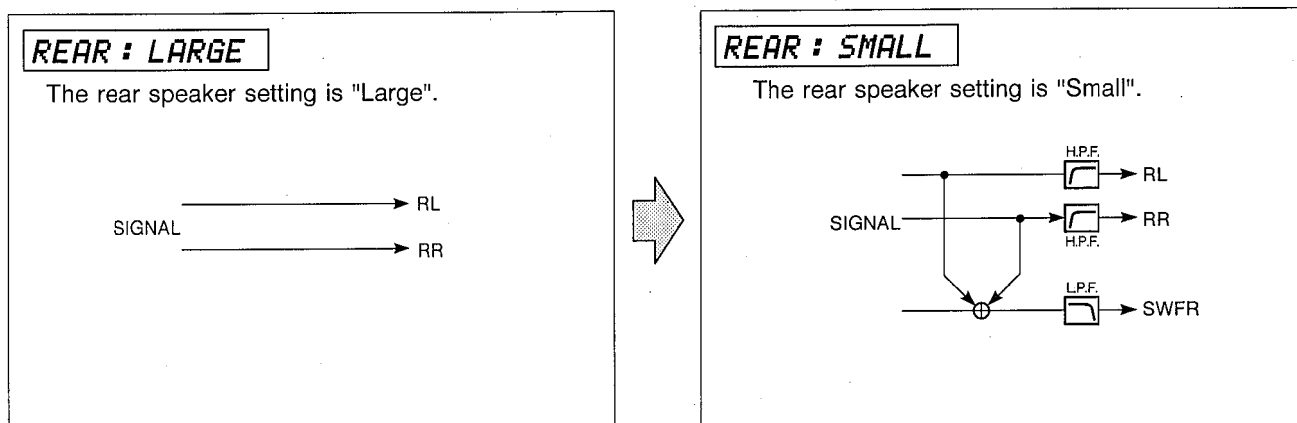
<FRONT PANEL DISPLAY>

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.



(14) MAIN SPEAKER

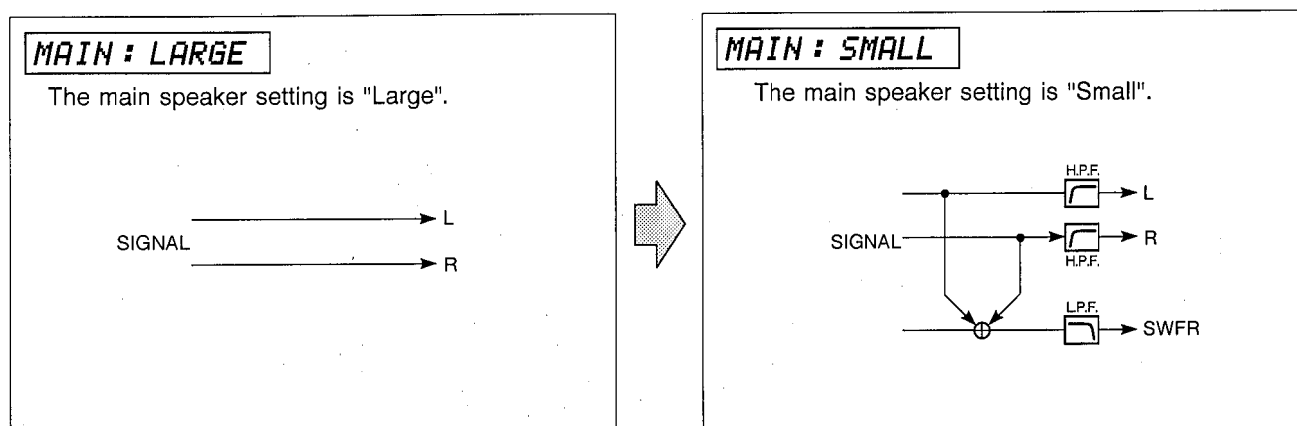
<FRONT PANEL DISPLAY>

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.



(15) BASS OUT

<FRONT PANEL DISPLAY>

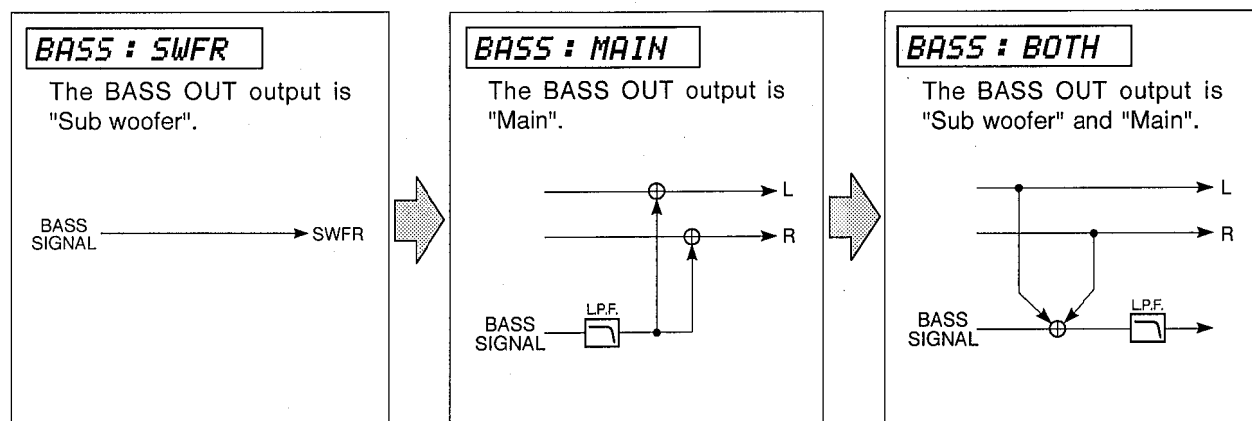
15 DVD/LD BASS:SWFR

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

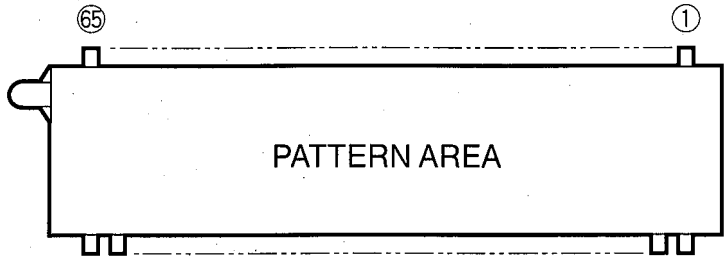
- 1) No signal applied.
- 2) Non-loaded condition.
- 3) Aging is 10 minutes.

See page 44 to 46 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])	

■ 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

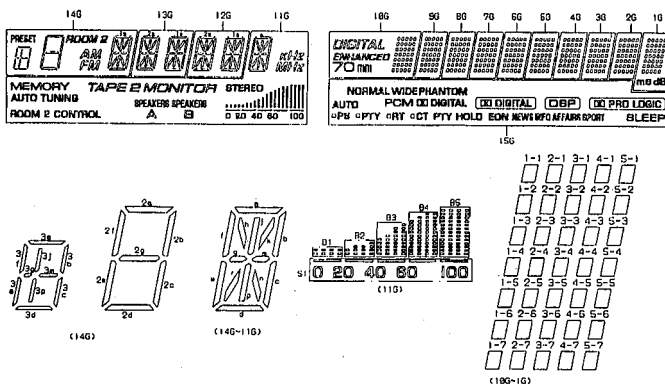
Pin No.	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
Connection	P27	P28	P29	P30	P31	P32	P33	P34	P35	IC	NP	Fd	Fd	Np	IC	P36	P37	P38	P1

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 3) NC No Connection 5) 1G~15G Grid
 2) NP No Pin 4) P1~P38 Datum Line 6) IC Internal connection

● GRID ASSIGNMENT



● ANODE CONNECTION

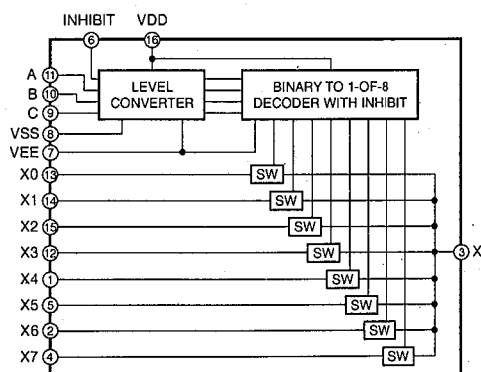
	15G	14G	13G, 12G	11G	10G	9G-2G	1G
P1	-	1a	1a	a	1-1	1-1	1-1
P2	-	1h	1h	h	2-1	2-1	2-1
P3	-	1j	1j	j	3-1	3-1	3-1
P4	-	1k	1k	k	4-1	4-1	4-1
P5	-	1b	1b	b	5-1	5-1	5-1
P6	-	1f	1f	f	1-2	1-2	1-2
P7	-	1m	1m	m	2-2	2-2	2-2
P8	-	1g	1g	g	3-2	3-2	3-2
P9	-	1c	1c	c	4-2	4-2	4-2
P10	-	1e	1e	e	5-2	5-2	5-2
P11	-	1n	1n	n	1-3	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	AM	2h	2h	KHz	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	CK DIGITAL	2b	2b	B2	4-4	4-4	4-4
P20	DBP	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	1-6	1-6	1-6
P27	□ (RT)	3b, 3c	2r	SPEAKERS	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	-	-	-	-	-	-
P37	SLEEP	-	-	-	DIGITAL ENHANCED	-	dB
P38	-	-	-	-	70 mm	-	ms

■ IC DATA

IC1 : HD6433614P
8 bit μ -COM

PA7	1	64	PA6
AVCC	2	63	PA5
PO0/AN0	3	62	PA4
PO1/AN1	4	61	PA3
PO2/AN2	5	60	PA2
PO3/AN3	6	59	PA1
PO4/AN4	7	58	PA0
PO5/AN5	8	57	P97/UD
PO6/AN6	9	56	P96/SO2
PO7/AN7	10	55	P95/SI2/CS
AVSS	11	54	P94/SCK2
TEST	12	53	P93/SO1
X2	13	52	P92/SI1
X1	14	51	P91/SCK1
VSS	15	50	P90/PWM
OSC1	16	49	P87
OISC2	17	48	P86
RES	18	47	P85
P10/IRQ0	19	46	P84
P11/IRQ1	20	45	P83
P12/IRQ2	21	44	P82
P13/IRQ3	22	43	P81
P14/IRQ4	23	42	P80
P15/IRQ5/TMOE	24	41	VCC
P16/EVENT	25	40	P40
P17	26	39	P41
P27	27	38	P42
P26	28	37	P43
P25	29	36	P44
P24	30	35	P45
P23	31	34	P20
P22	32	33	P21

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 : HD6433614P
8 bit μ -COM

No.	PORT	Name	Function	I/O	No.	PORT	Name	Function	I/O
1	PA7	/RMT	Mute control of ROOM 2 (unused)	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 (unused)	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 (unused)	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 (unused)	O
23	IRQ4	AC3ER	AC3F error detect	IRQ	42	P80	CET	Chip enable for IC made by TOSHIBA (TC....)	O
24	/IRQ5	VSX	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.

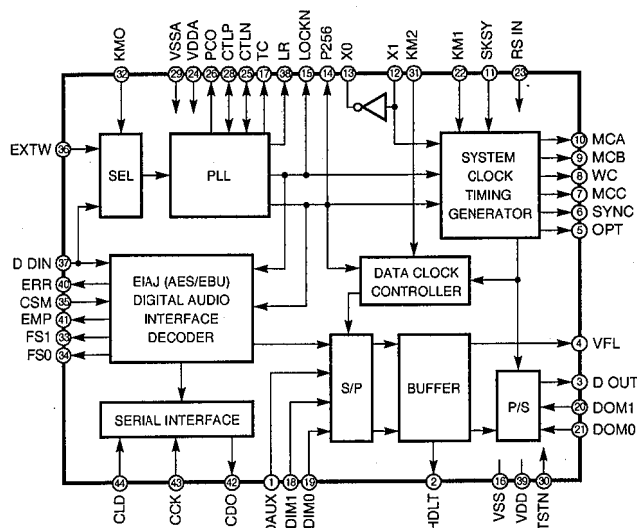
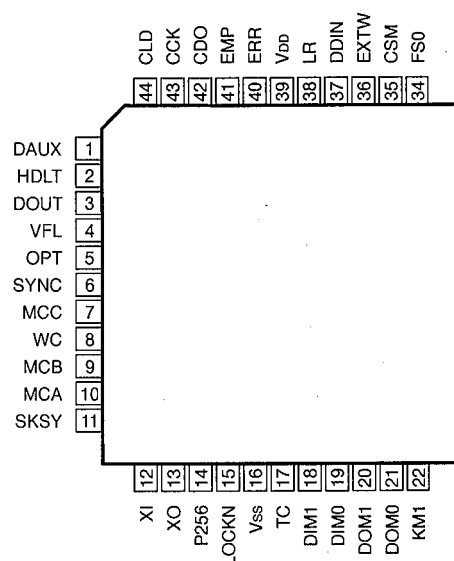
IC2 : TC74HC4051AP (extended A/D input)
Analog Multiplexer/Demultiplexer

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 = P/N + FMX(5ch/7ch)

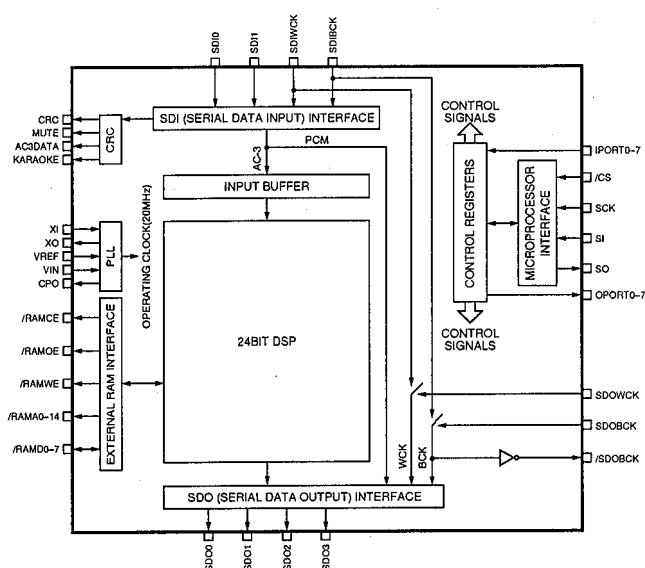
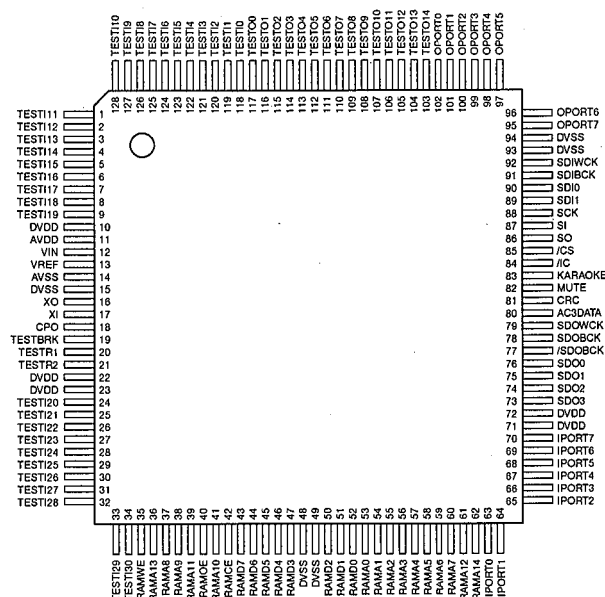
IC3 : YM3436DK

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	34	FS0	O	Channel status sampling frequency display output 0
10	MCA	O	Fs x 256Bit clock output	35	CSM	I	Channel status output method selection
11	SKSY	I	Clock synchronization control input	36	EXTW	I	External synchronous auxiliary input word clock
12	XI	I	Crystal oscillator connection or external clock input	37	DDIN	I	EIAJ (AES/EBU) data input
13	XO	O	Crystal oscillator connection	38	LR	O	PLL word clock output
14	P256	O	VCO oscillator clock connection	39	VDD		Logic section power (+5V)
15	LOCKN	O	PLL lock flag	40	ERR	O	Data error flag output
16	Vss		Logic section power (GND)	41	EMP	O	Channel status emphasis control code output
17	TC	O	PLL time constant switching output	42	CDO	O	3-wire type microcomputer interface data output
18	DIM1	I	Data input mode selection	43	CCK	I	3-wire type microcomputer interface clock output
19	DIM0	I	Data input mode selection	44	CLD	I	3-wire type microcomputer interface load input
20	DOM1	I	Data output mode selection				
21	DOM0	I	Data output mode selection				
22	KM1	I	Clock mode switching input 1				
23	RSTN	I	System reset input				
24	VDDA		VCO section power (+5V)				
25	CTLN	I	VCO control input N				

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

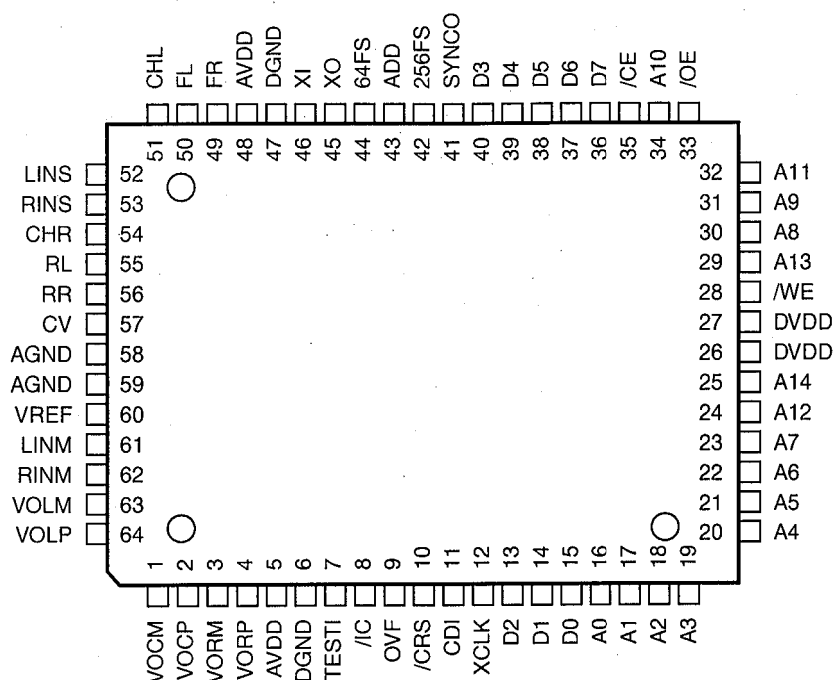
AC3F (AC-3 5.1ch Full Decoder)

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	Ics	Serial microprocessor interface reset terminal
11	CDI	Ics	Serial microprocessor interface data input terminal
12	XCLK	Ics	Serial microprocessor interface clock terminal
13	D2	It/O	External PSRAM terminal, connected to external PSRAM data terminal
14	D1	It/O	External PSRAM terminal, connected to external PSRAM data terminal
15	D0	It/O	External PSRAM terminal, connected to external PSRAM data terminal
16	A0	O	External PSRAM terminal, connected to external PSRAM address terminal
17	A1	O	External PSRAM terminal, connected to external PSRAM address terminal
18	A2	O	External PSRAM terminal, connected to external PSRAM address terminal
19	A3	O	External PSRAM terminal, connected to external PSRAM address terminal
20	A4	O	External PSRAM terminal, connected to external PSRAM address terminal
21	A5	O	External PSRAM terminal, connected to external PSRAM address terminal
22	A6	O	External PSRAM terminal, connected to external PSRAM address terminal
23	A7	O	External PSRAM terminal, connected to external PSRAM address terminal
24	A12	O	External PSRAM terminal, connected to external PSRAM address terminal
25	A14	O	External PSRAM terminal, connected to external PSRAM address terminal
26	DVDD		+5V terminal (digital section)

IC7 : YSS245

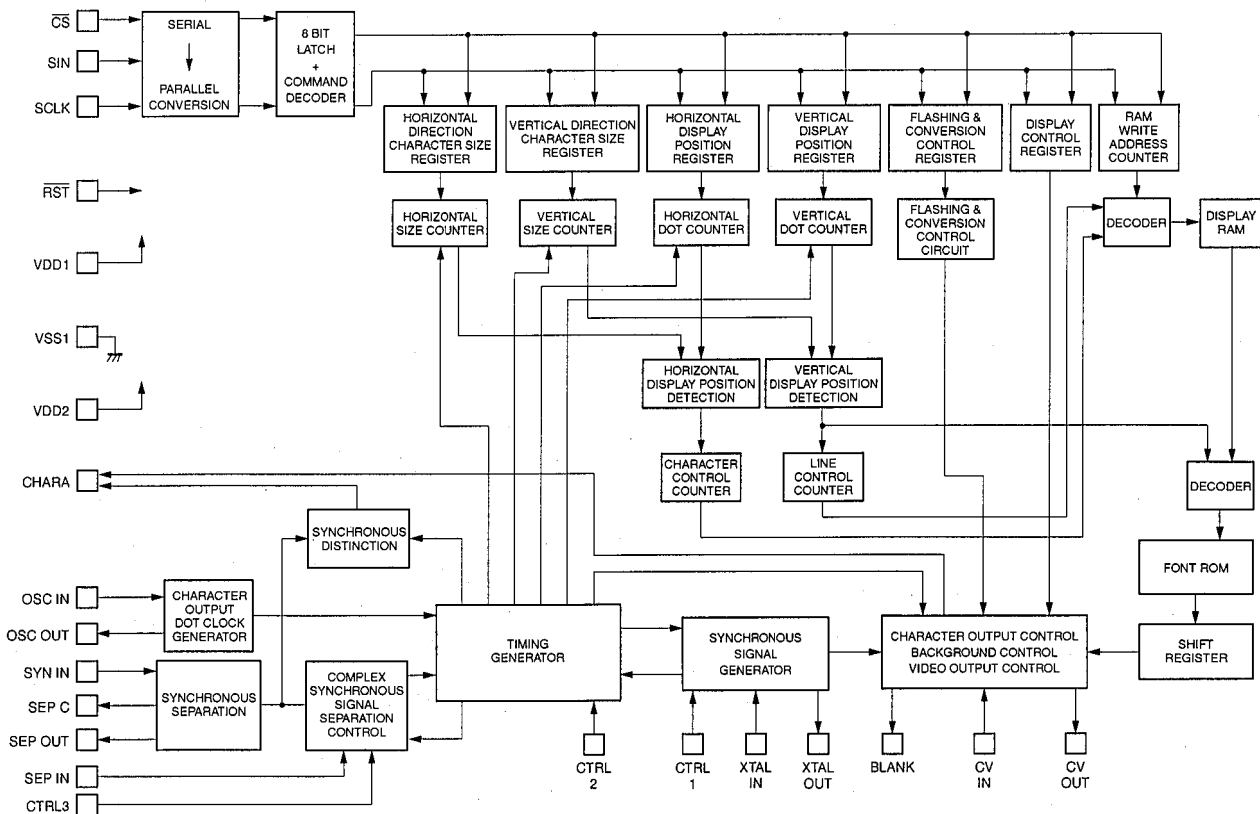
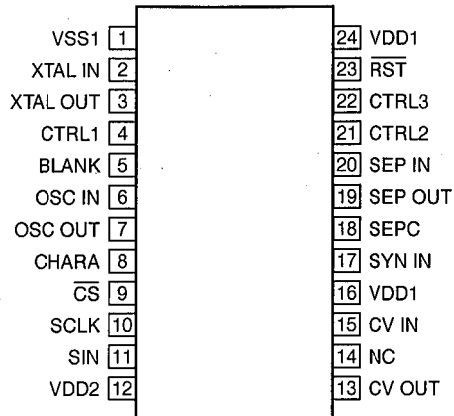
HL3 (Dolby-Pro-Logic Decoder + DSP)

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

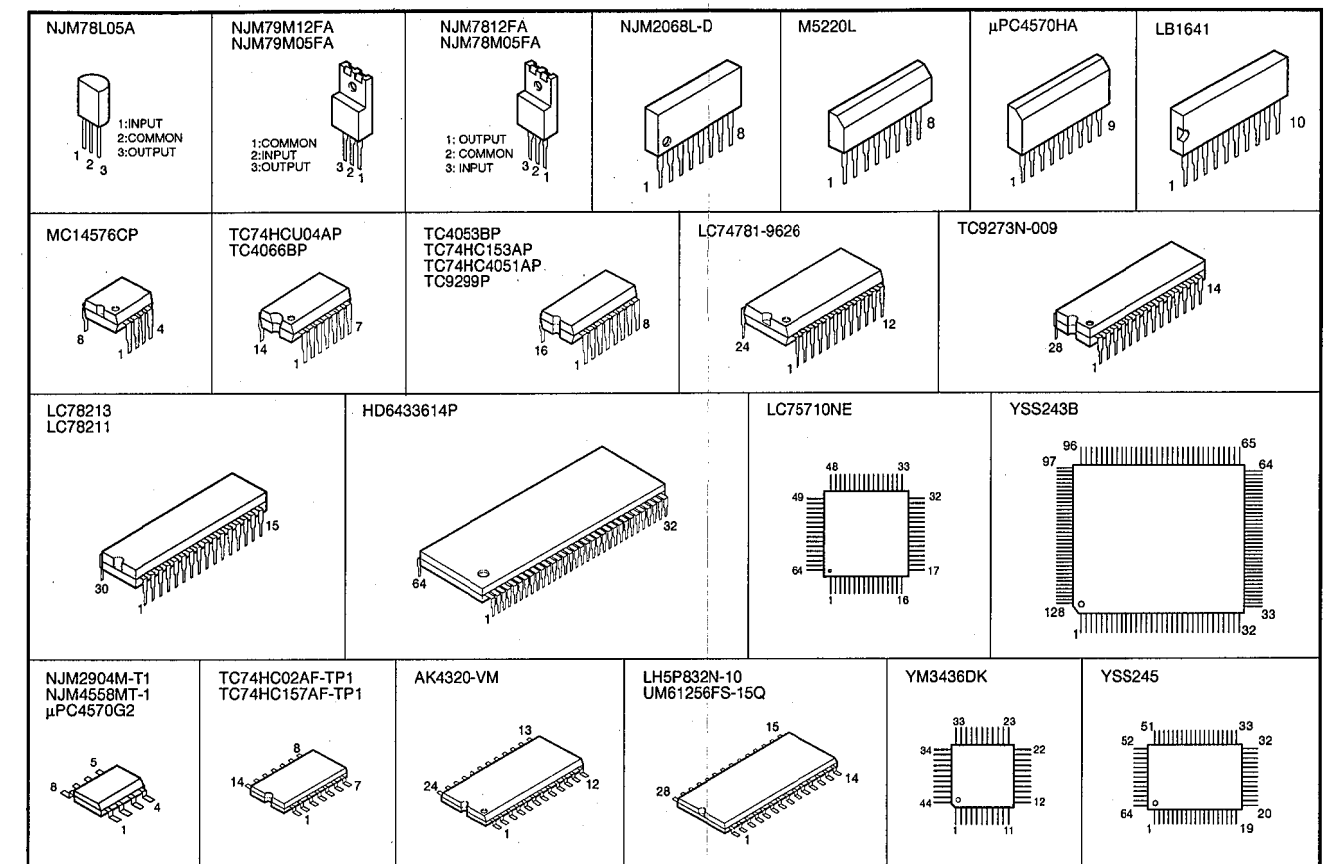
IC611 : LC74781-9626
Superimpose



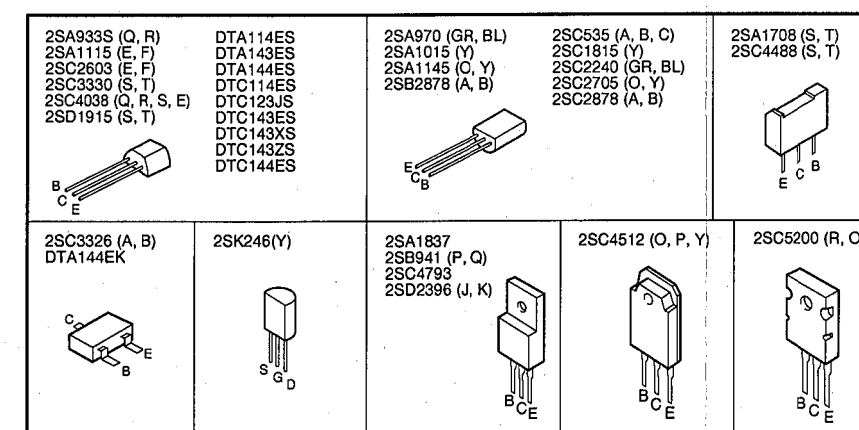
PIN CONNECTION DIAGRAM

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)

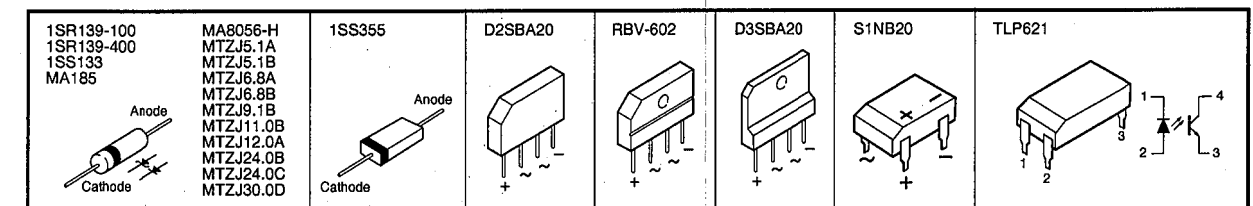
ICs



Transistors

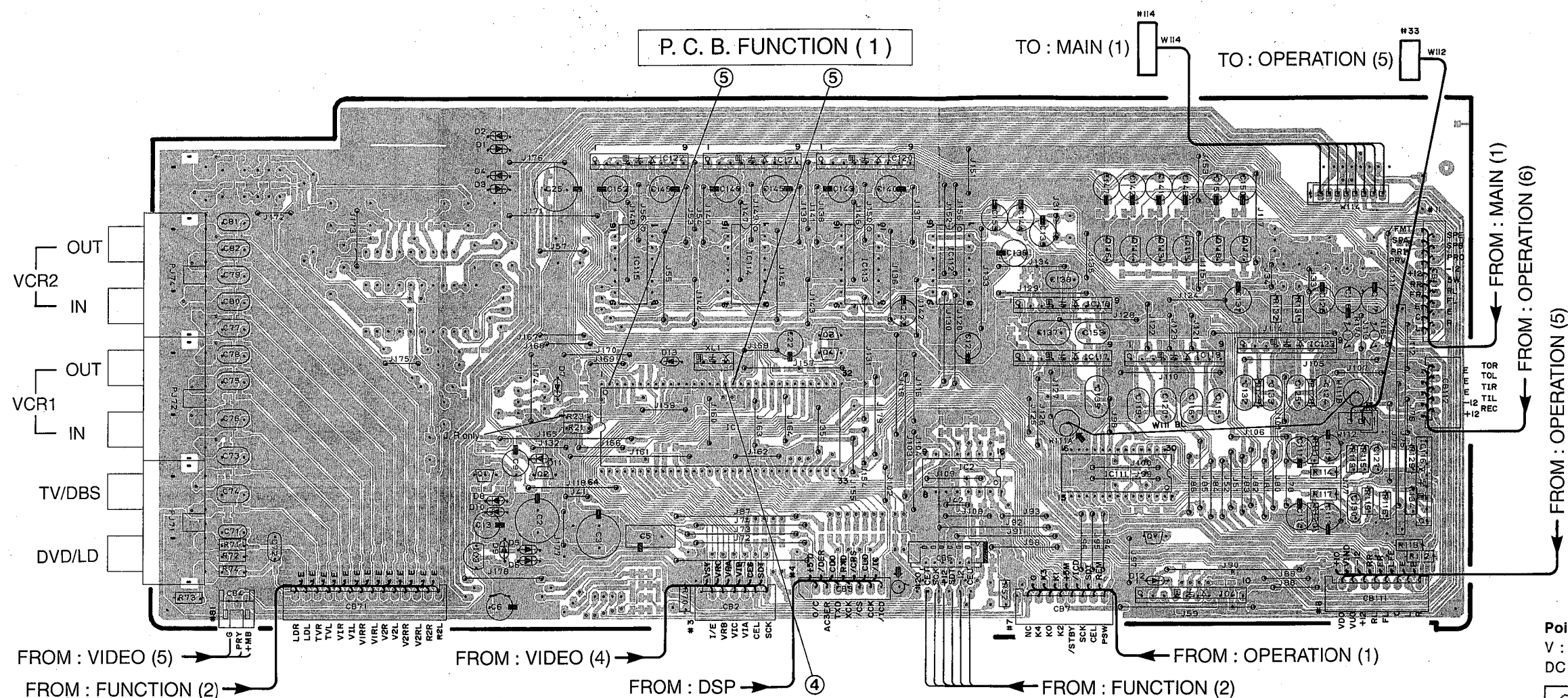


Diodes

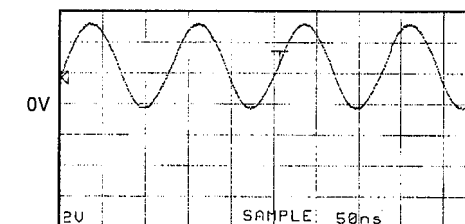


■ PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

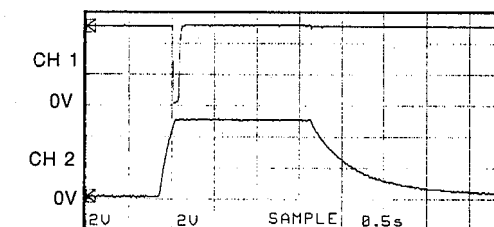
P. C. B. FUNCTION (1)



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.

A

B

C

D

E

F

G

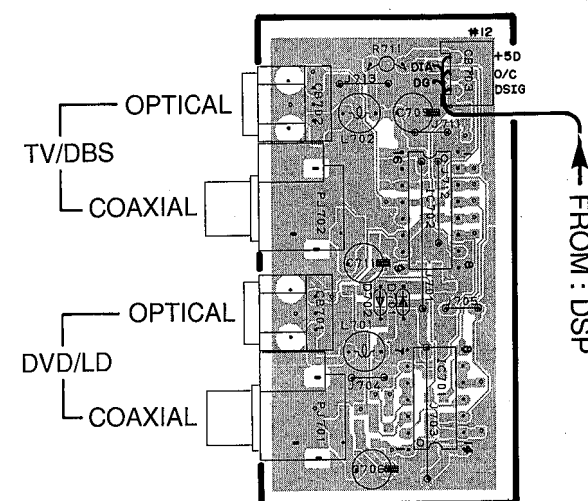
H

DSP-A1092

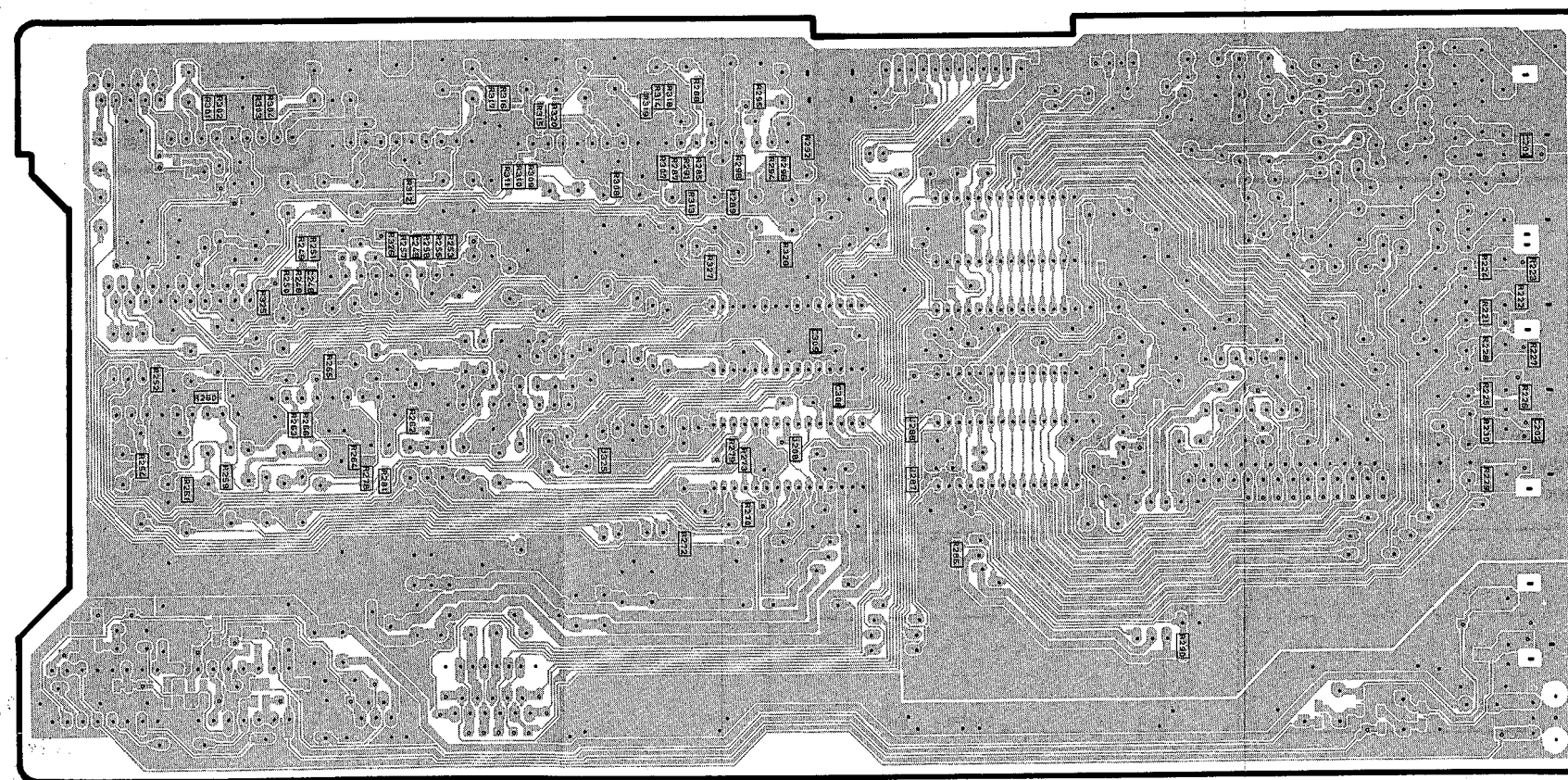
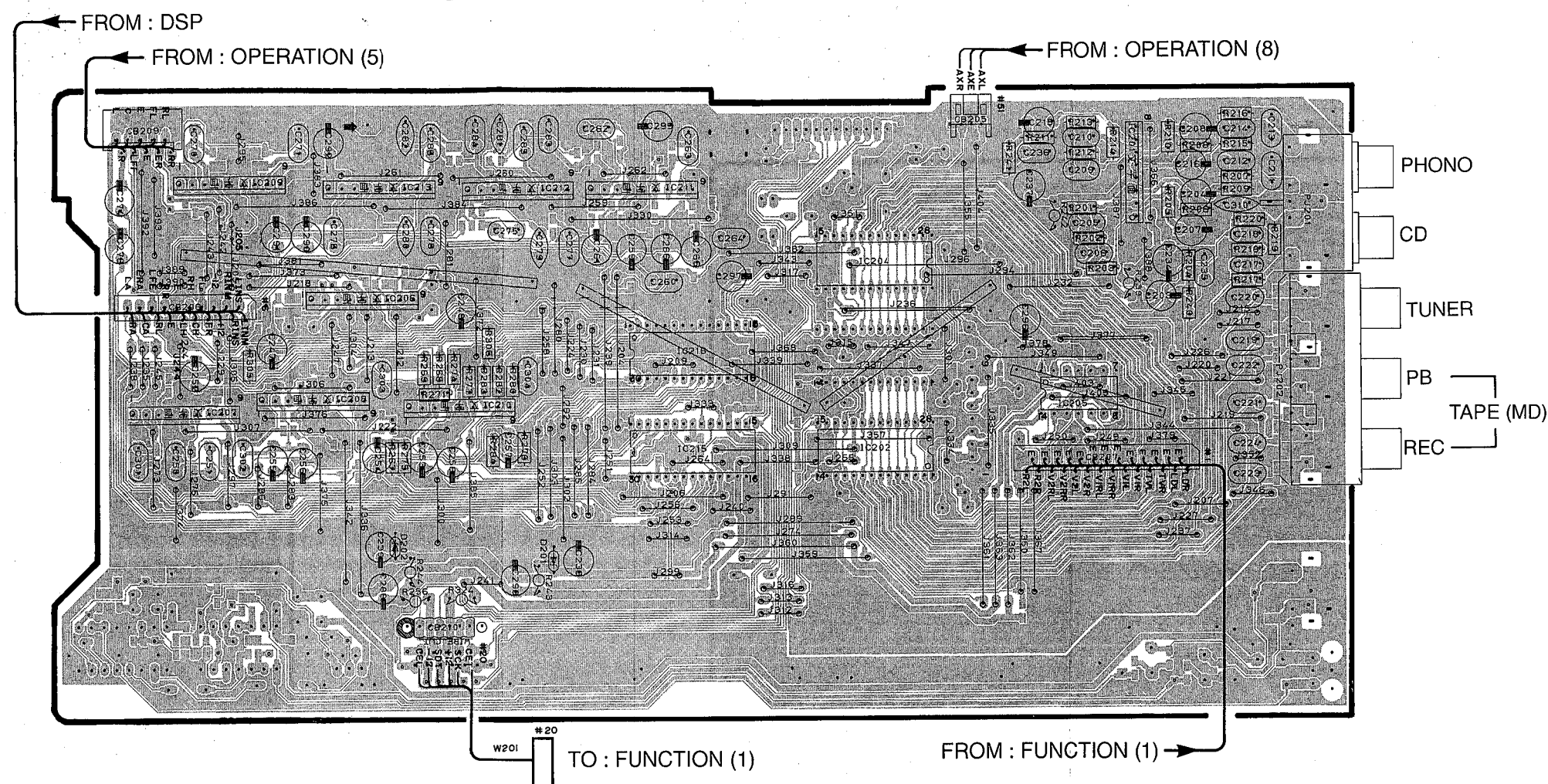
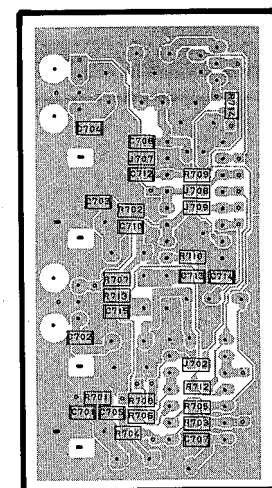
PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

P. C. B. FUNCTION (2)

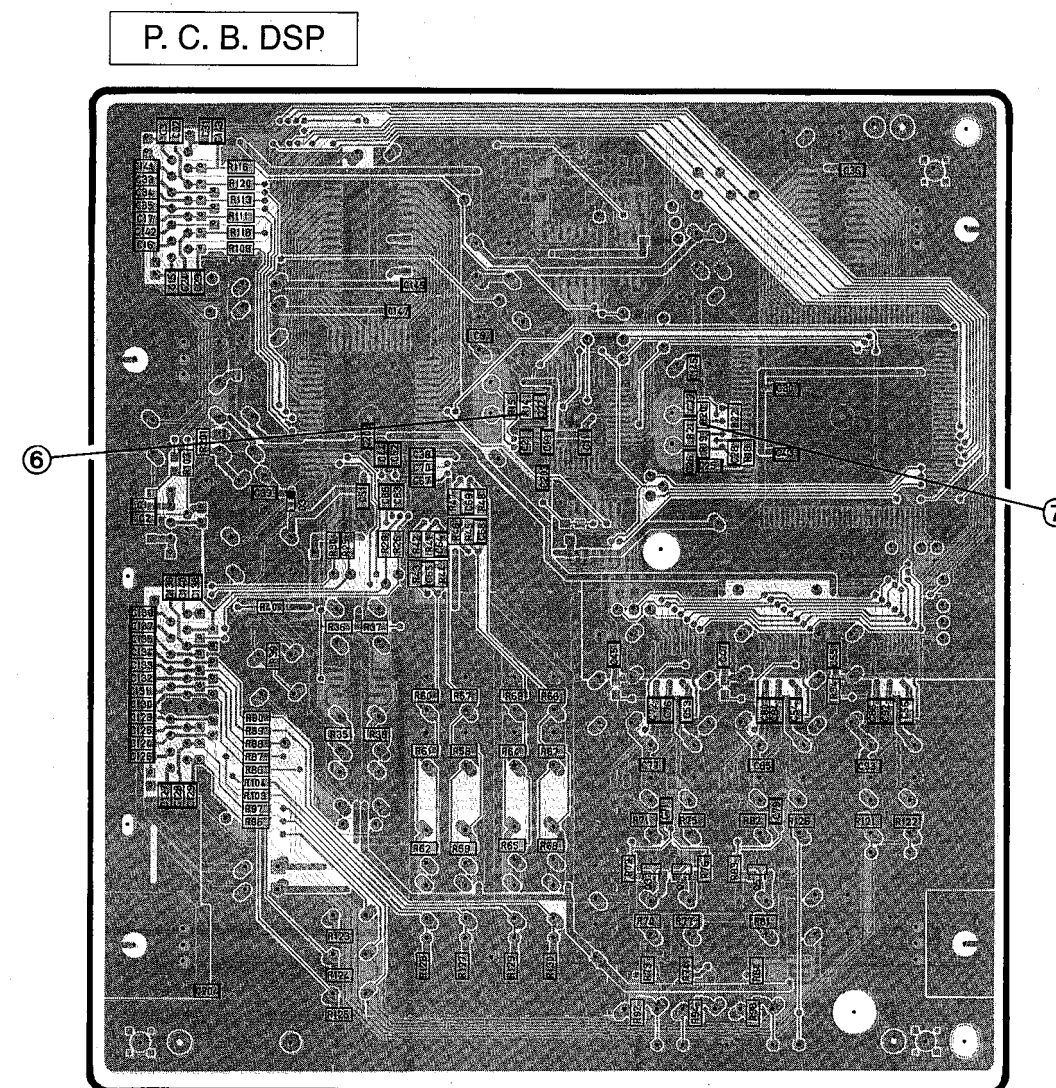
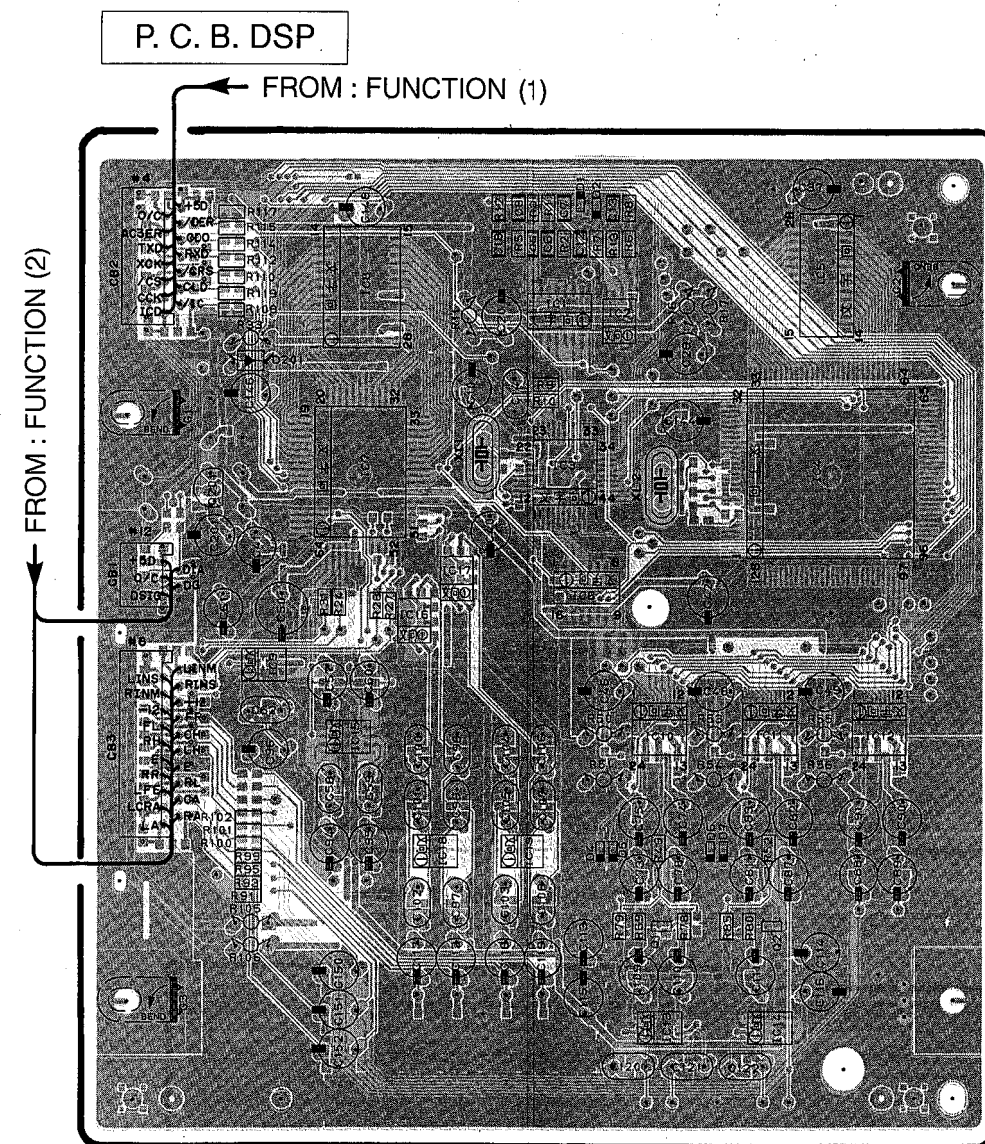
P. C. B. FUNCTION (4)



P. C. B. FUNCTION (4)

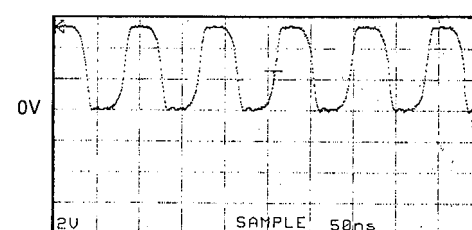


■ PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)



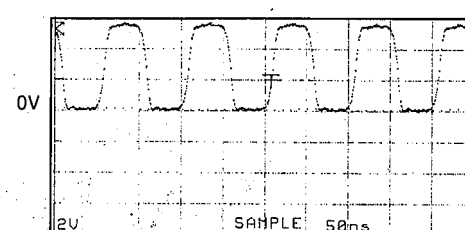
Point ⑥ (Pin13 of IC3)

V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



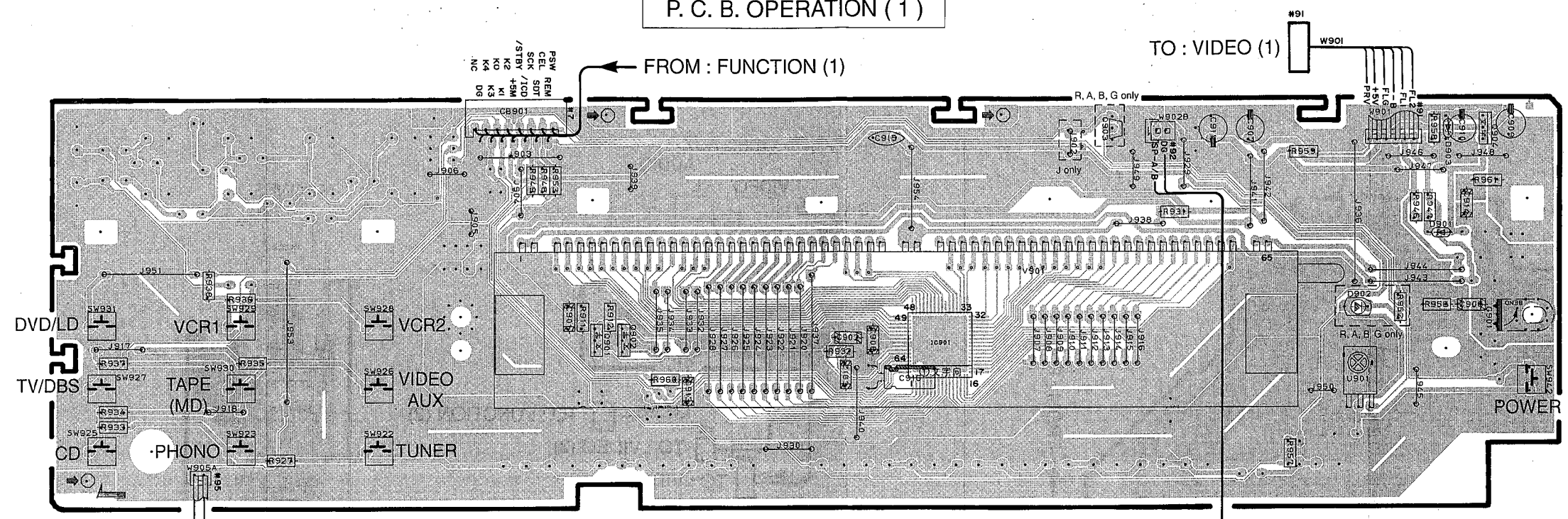
Point ⑦ (Pin16 of IC4)

V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe

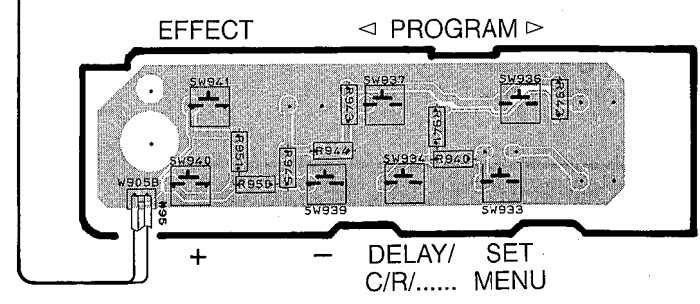


■ PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

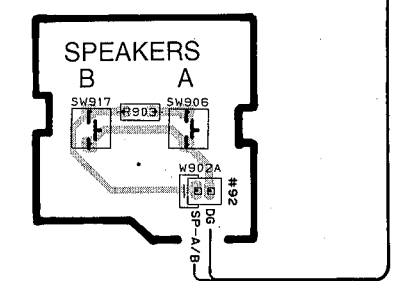
P. C. B. OPERATION (1)



P. C. B. OPERATION (2)



P. C. B. OPERATION (4)



1

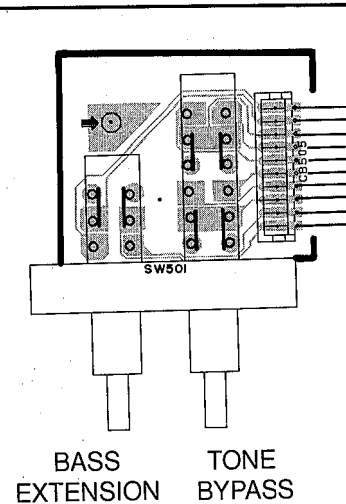
2



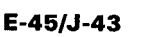
4



6

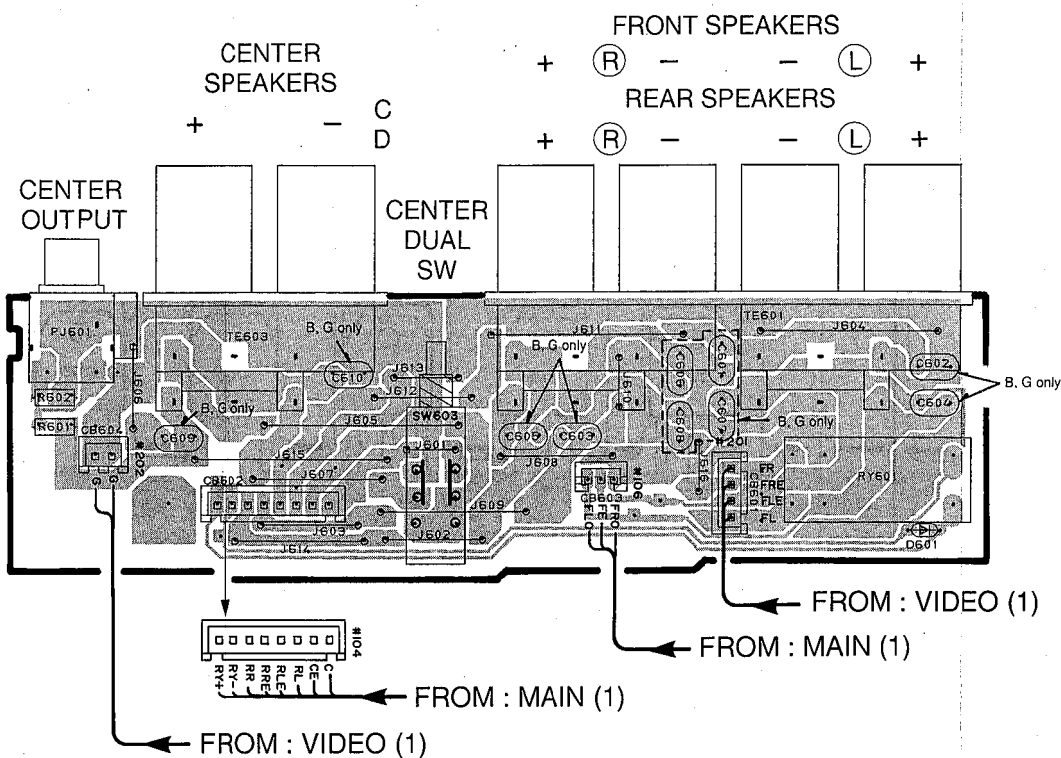


6

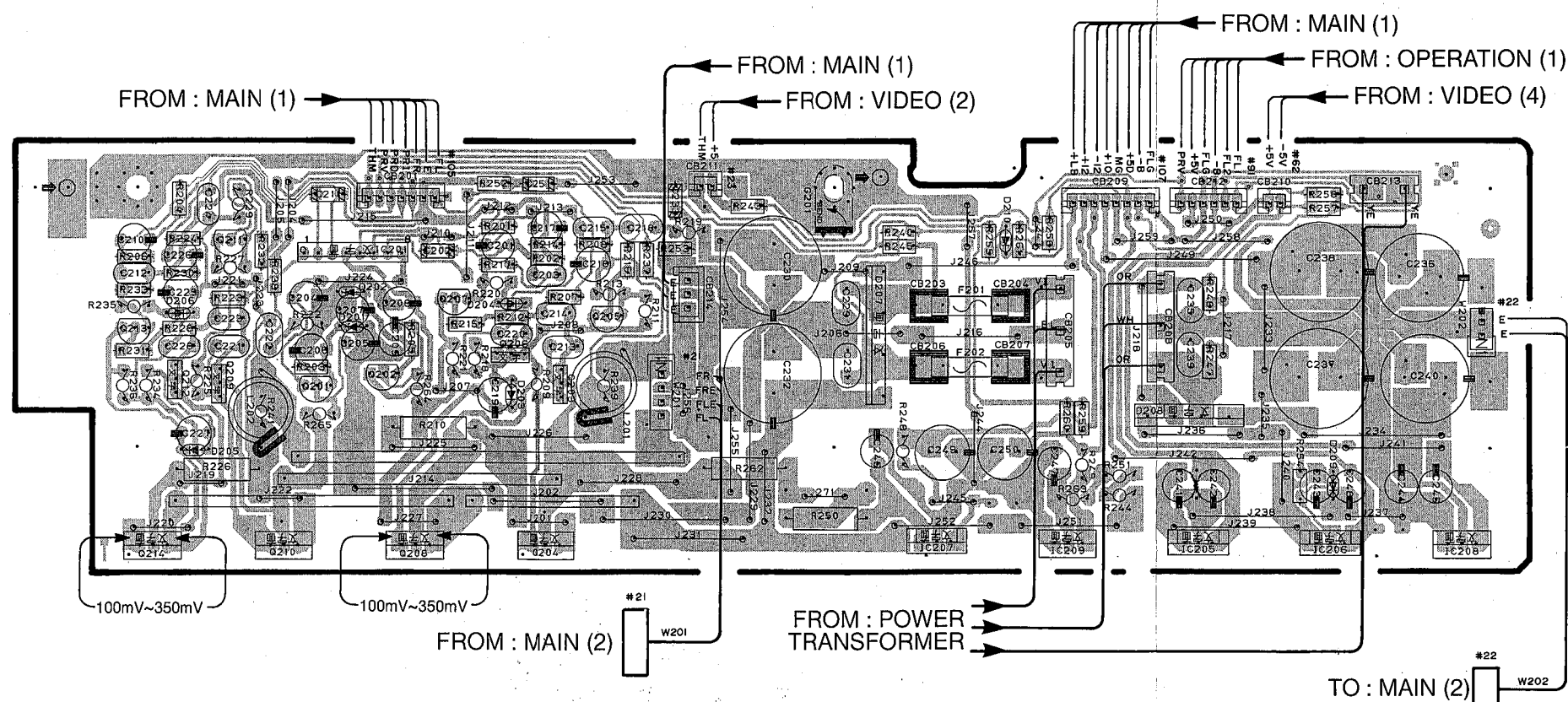


■ PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

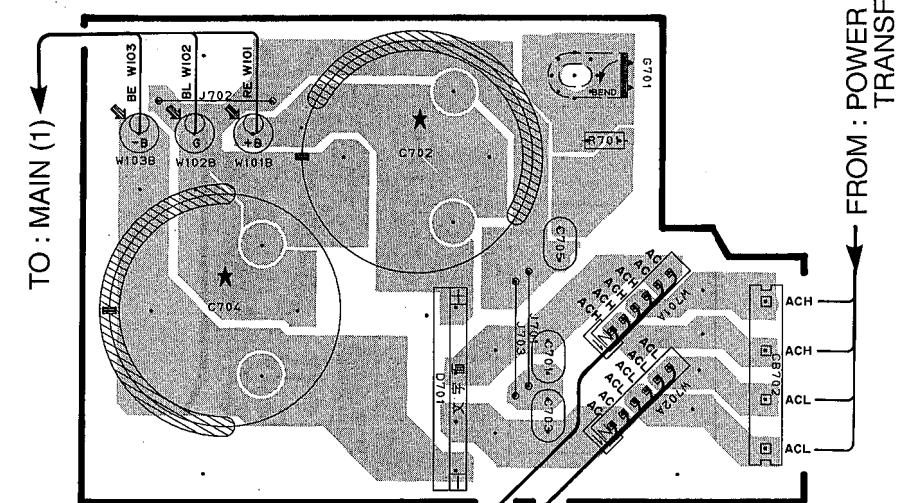
P. C. B. MAIN (2)



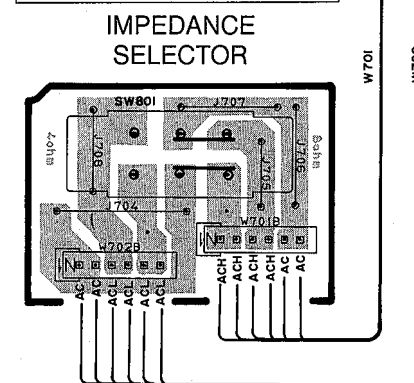
P. C. B. VIDEO (1)



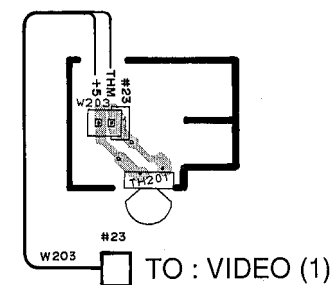
P. C. B. MAIN (3)



P. C. B. MAIN (4)

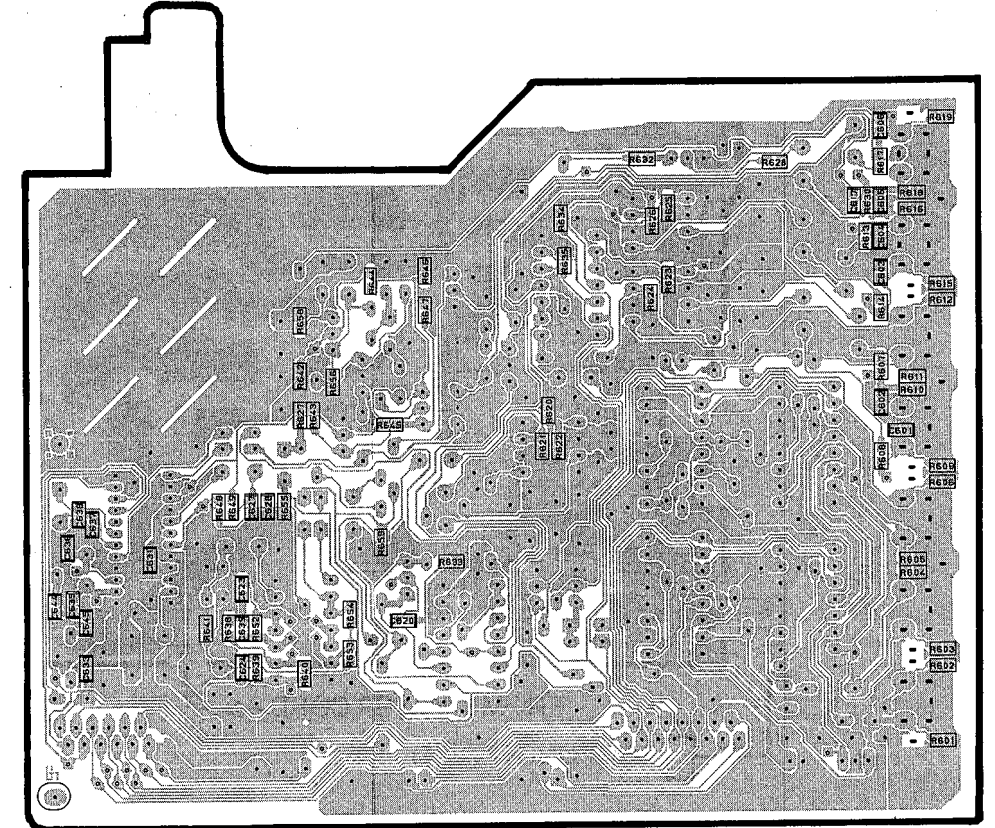
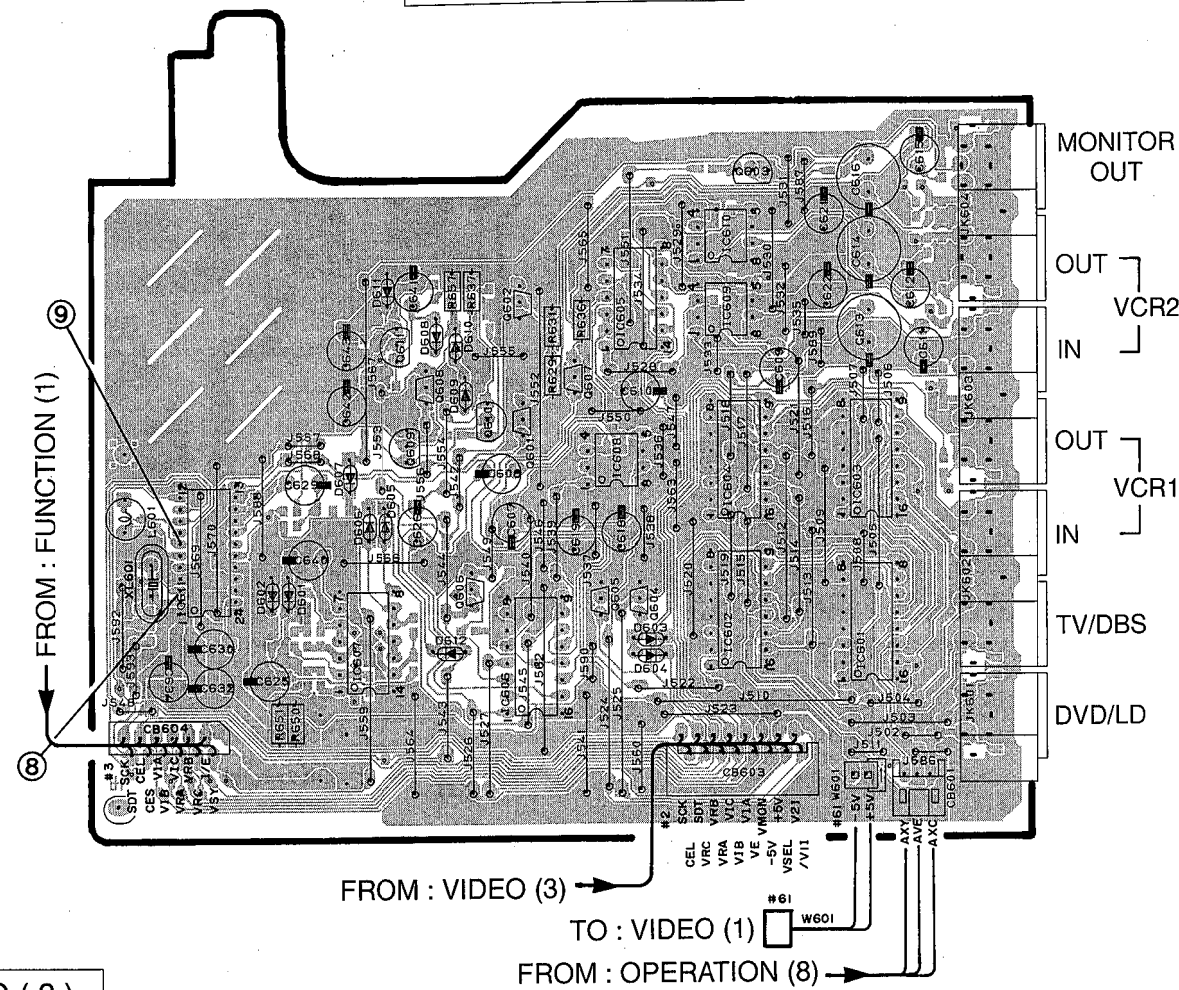


P. C. B. VIDEO (2)

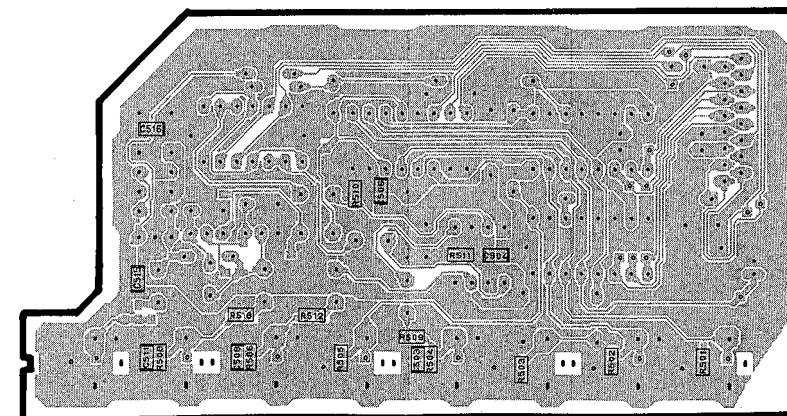
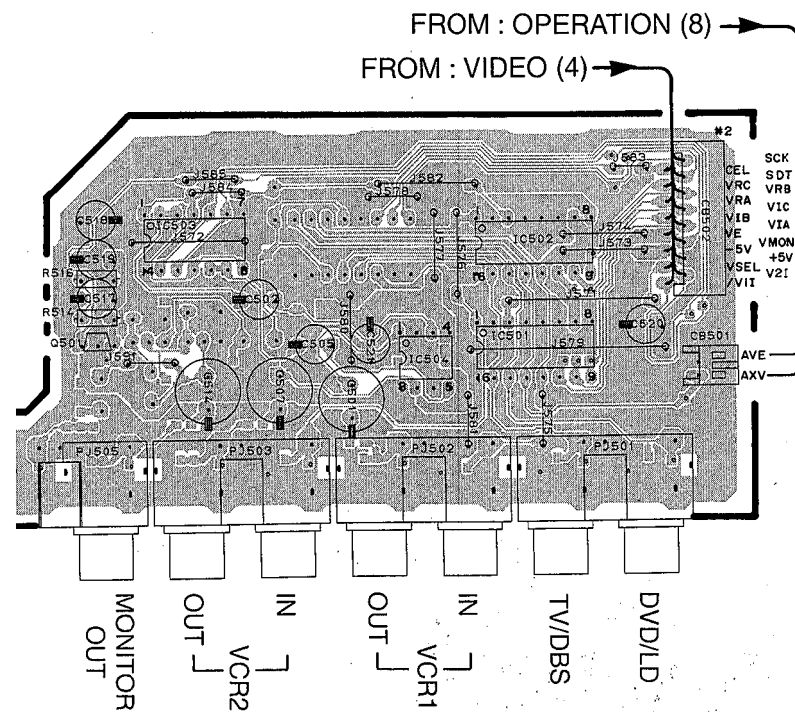


PRINTED CIRCUIT BOARD (Foil side) / シート図 (パターン側)

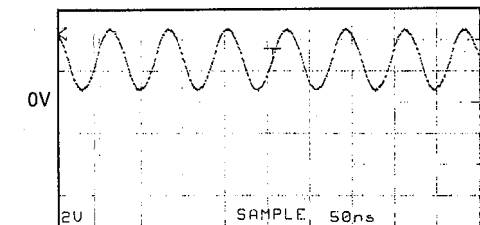
P. C. B. VIDEO (4)



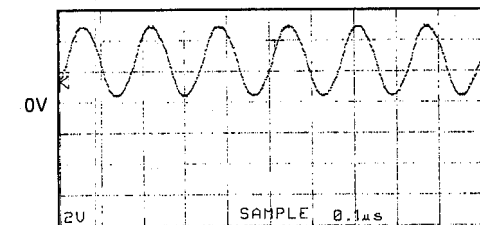
P. C. B. VIDEO (3)



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



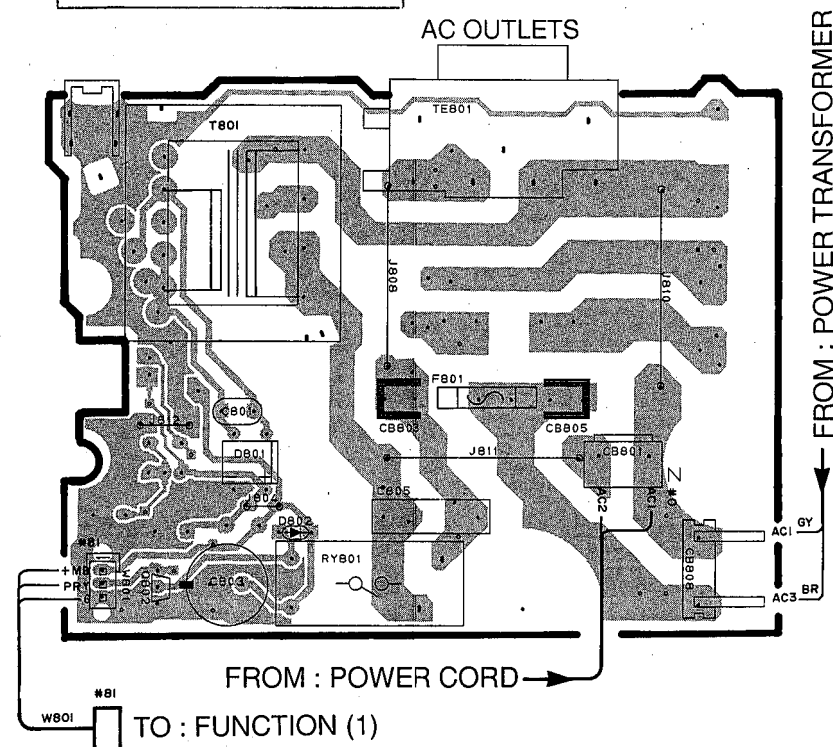
Point ⑨ (Pin7 of IC611)
V : 2V/div H : 0.1 μsec/div
DC range 1 : 1 probe



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

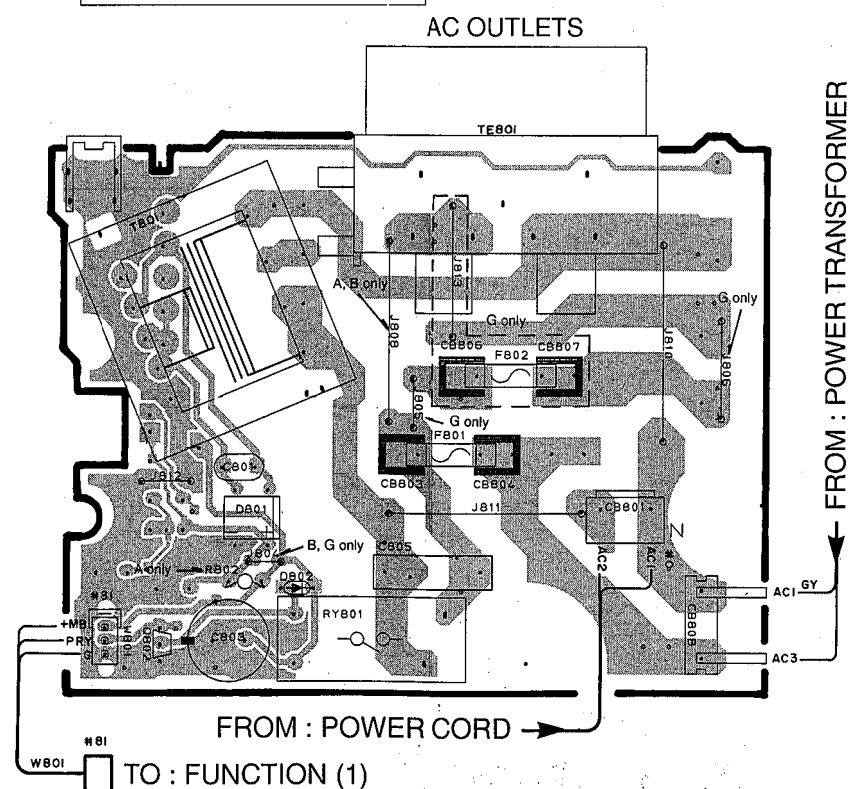
● J model

P. C. B. VIDEO (5)



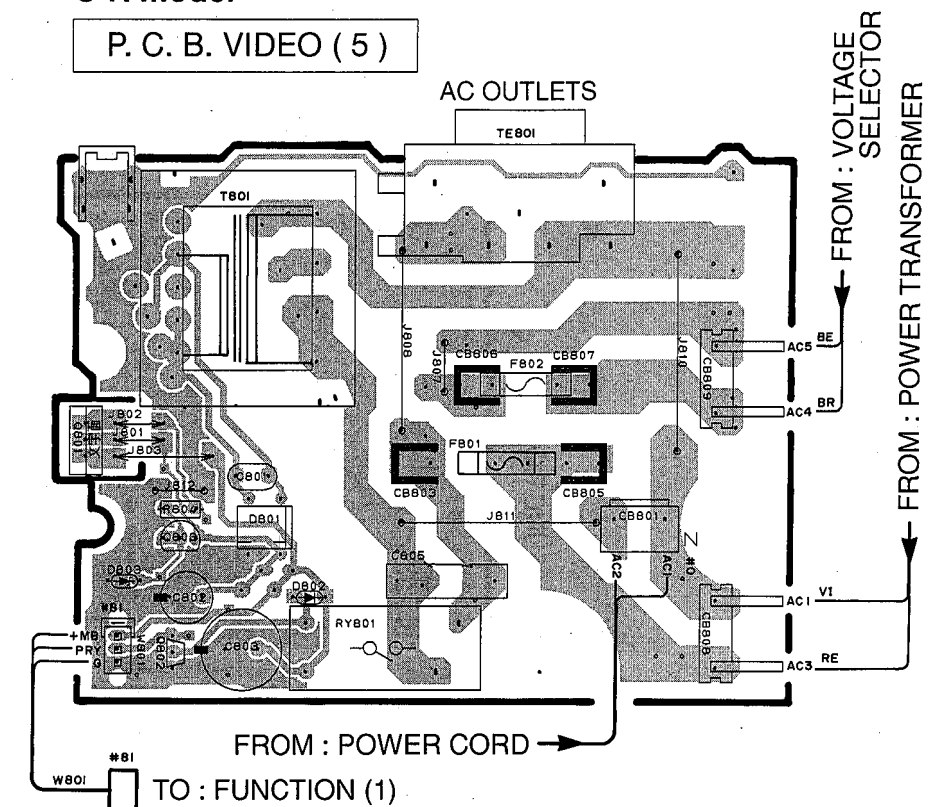
● A, B, G models

P. C. B. VIDEO (5)

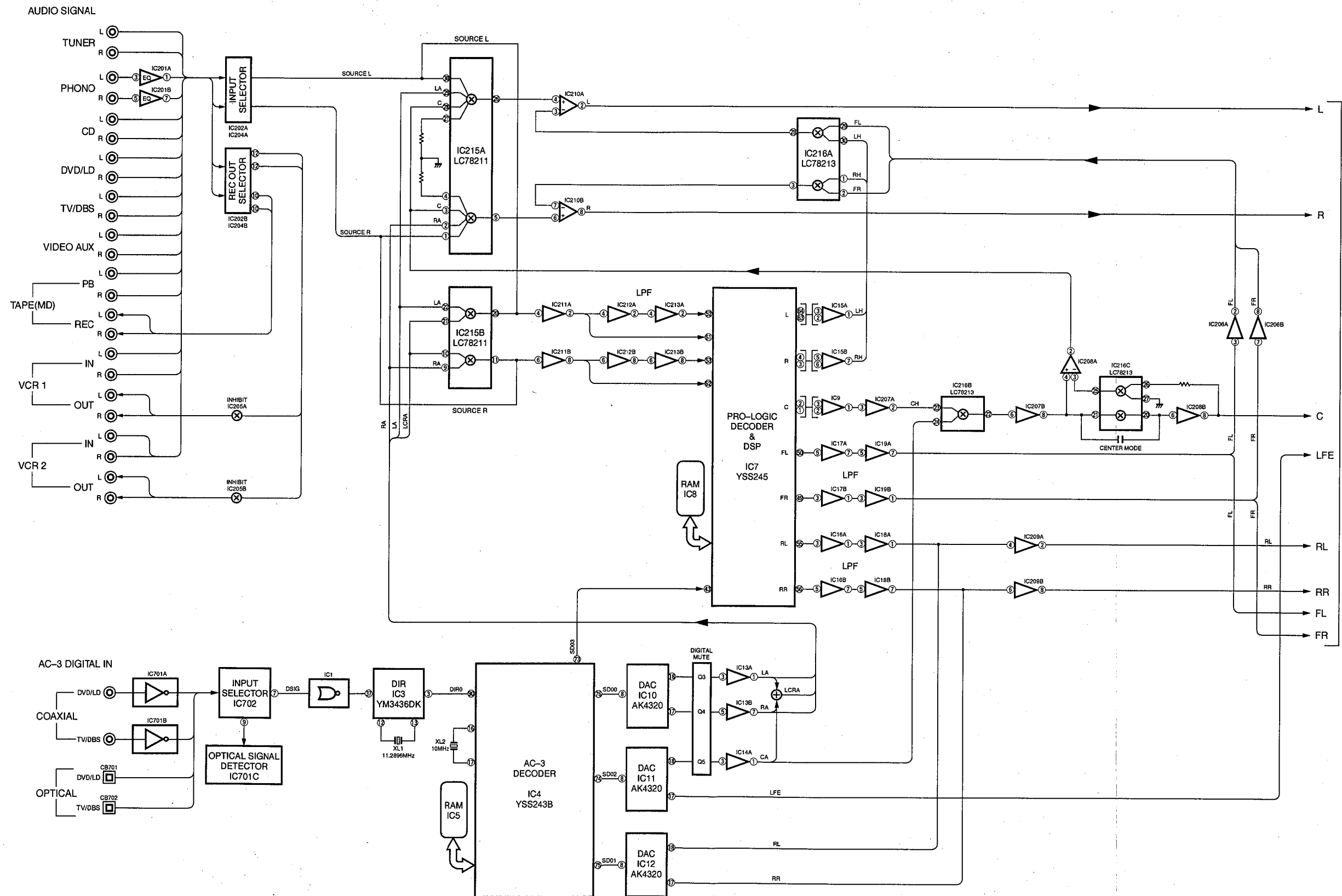


● R model

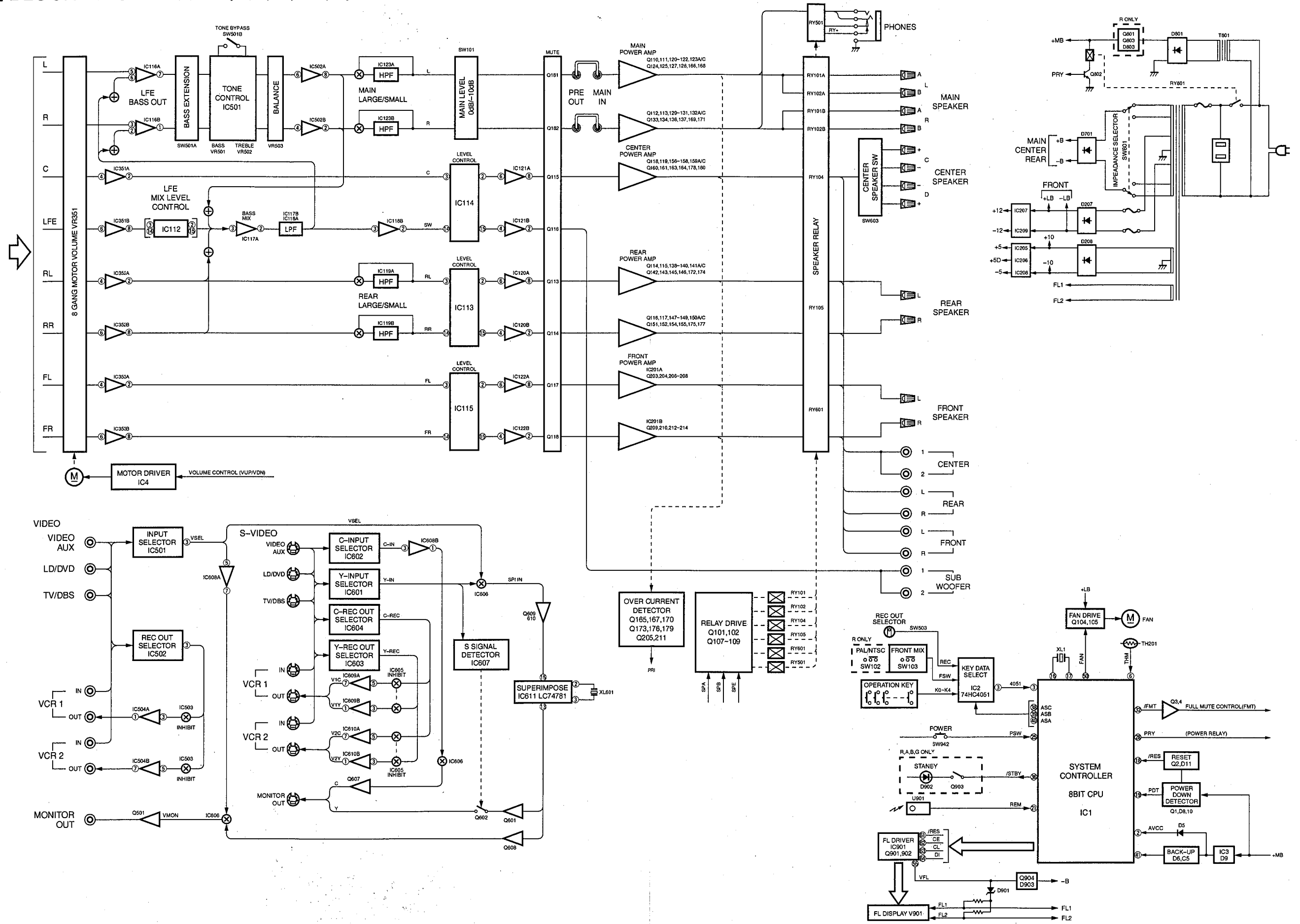
P. C. B. VIDEO (5)



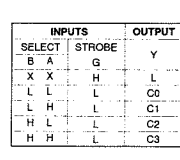
■ BLOCK DIAGRAM / ブロックダイアグラム



■ BLOCK DIAGRAM / ブロックダイアグラム



7/J-55

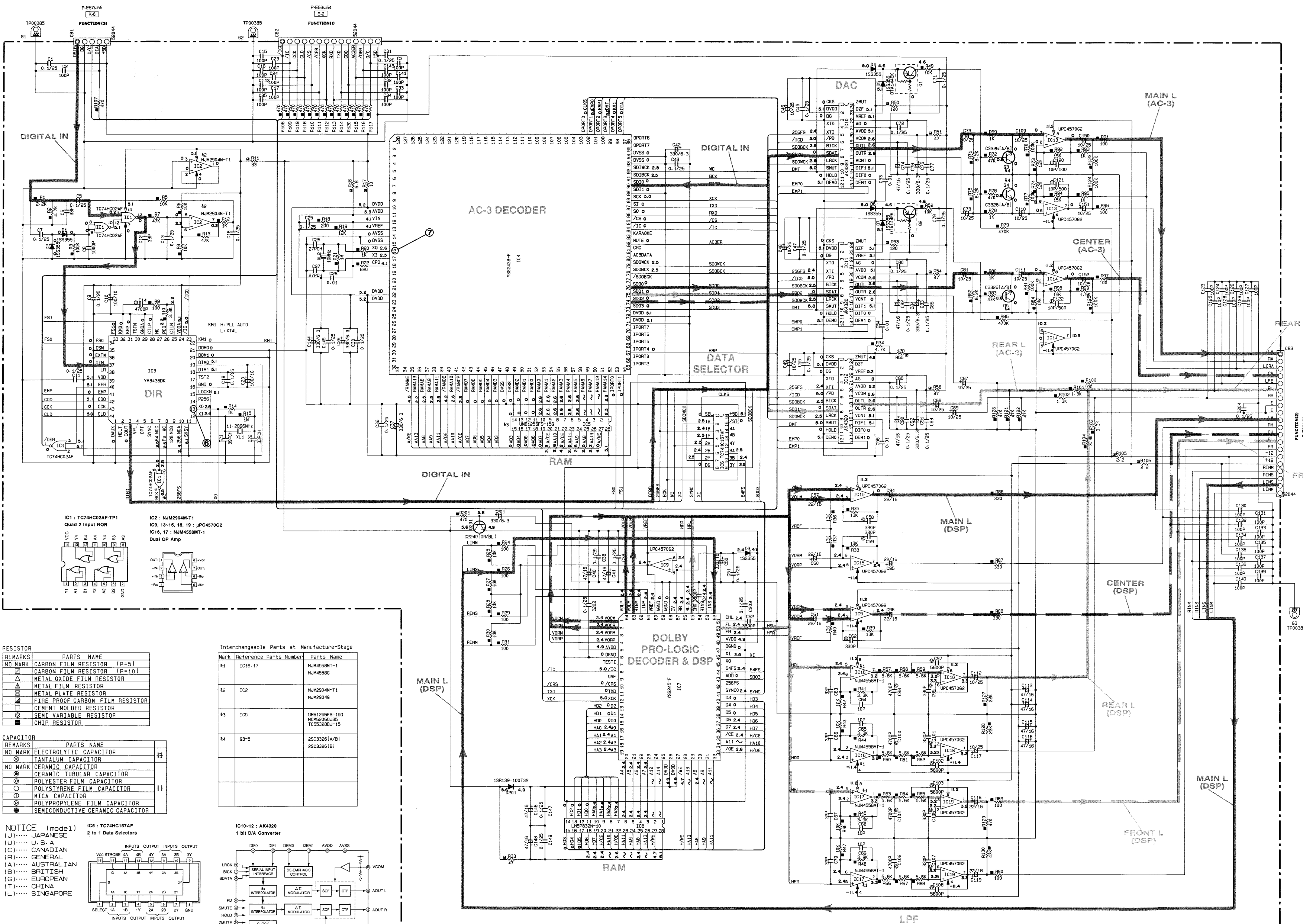


NOTICE (model 1)

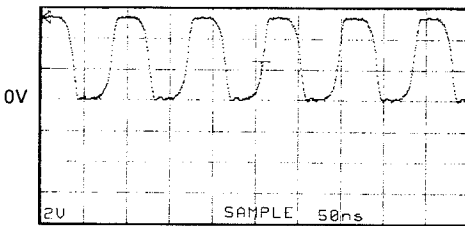
J)..... JAPANESE
U)..... U. S. A
C)..... CANADIAN
R)..... GENERAL
A)..... AUSTRALIAN
B)..... BRITISH
G)..... EUROPEAN
T)..... CHINA
L)..... SINGAPORE

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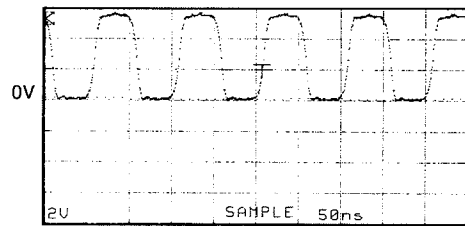
SCHEMATIC DIAGRAM (DSP) / 総回路図



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



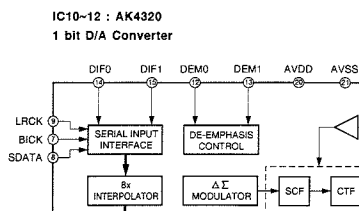
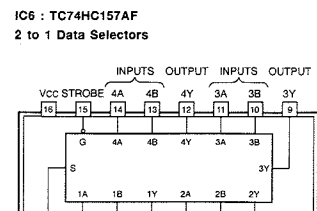
Point ⑦ (Pin16 of IC4)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



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

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
(A)..... AUSTRALIAN
(B)..... BRITISH
(G)..... EUROPEAN
(T)..... CHINA
(L)..... SINGAPORE

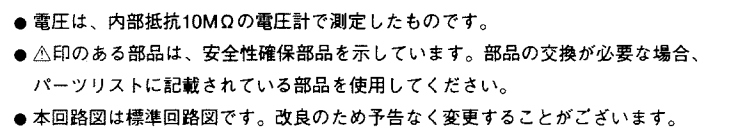
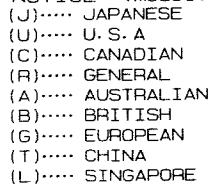


Mark	Reference Parts Number	Parts Name
41	IC16: 17	NUM4558MT-1 NUM4558B
42	IC2	NUM904M-T1 NUM9046
43	IC5	UM61208P5-150 UM61208J25 TC59328BJ-15
44	Q3-Q5	2SC33261A/B1 2SC33261B1

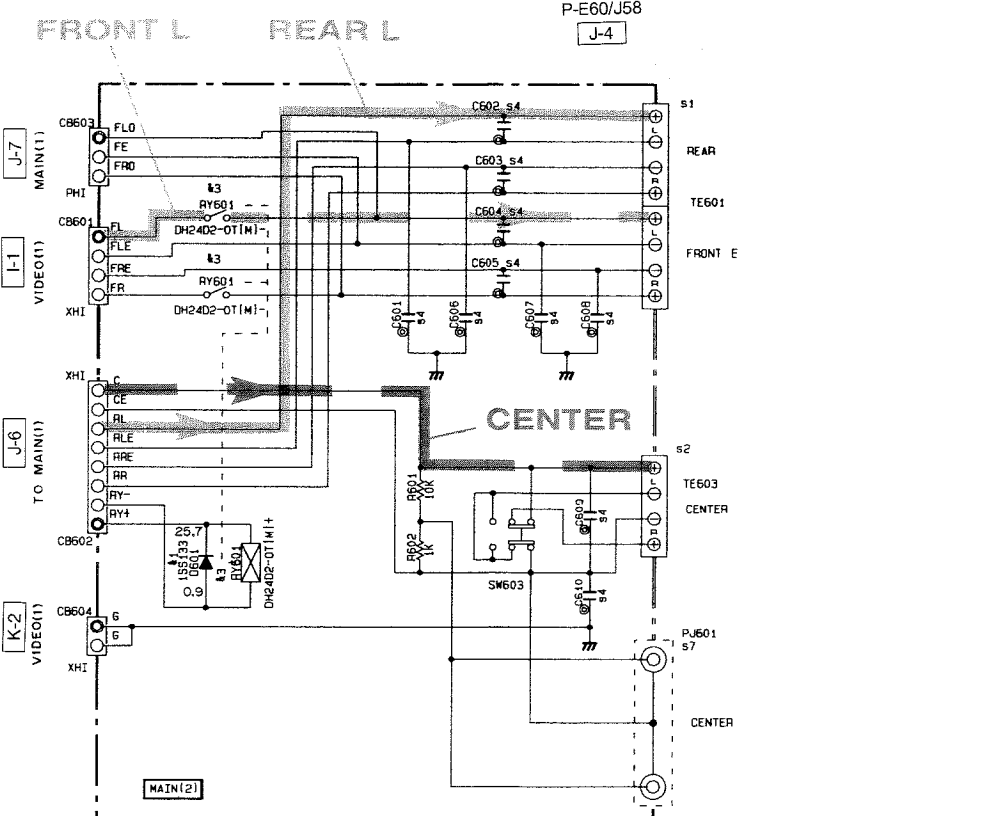
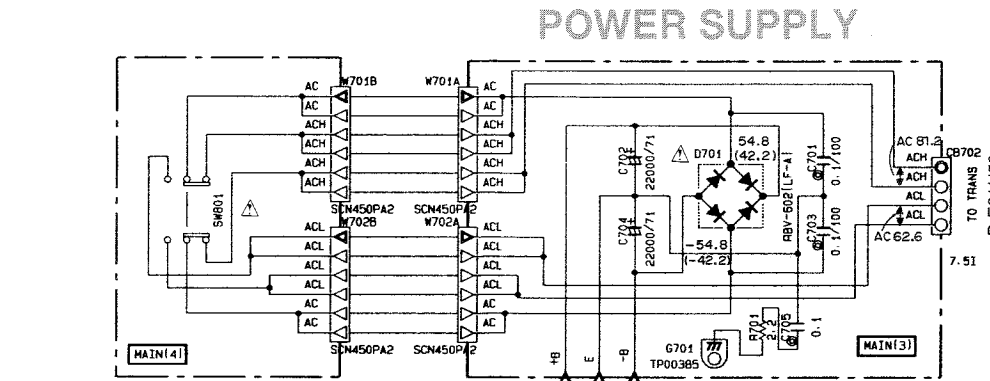
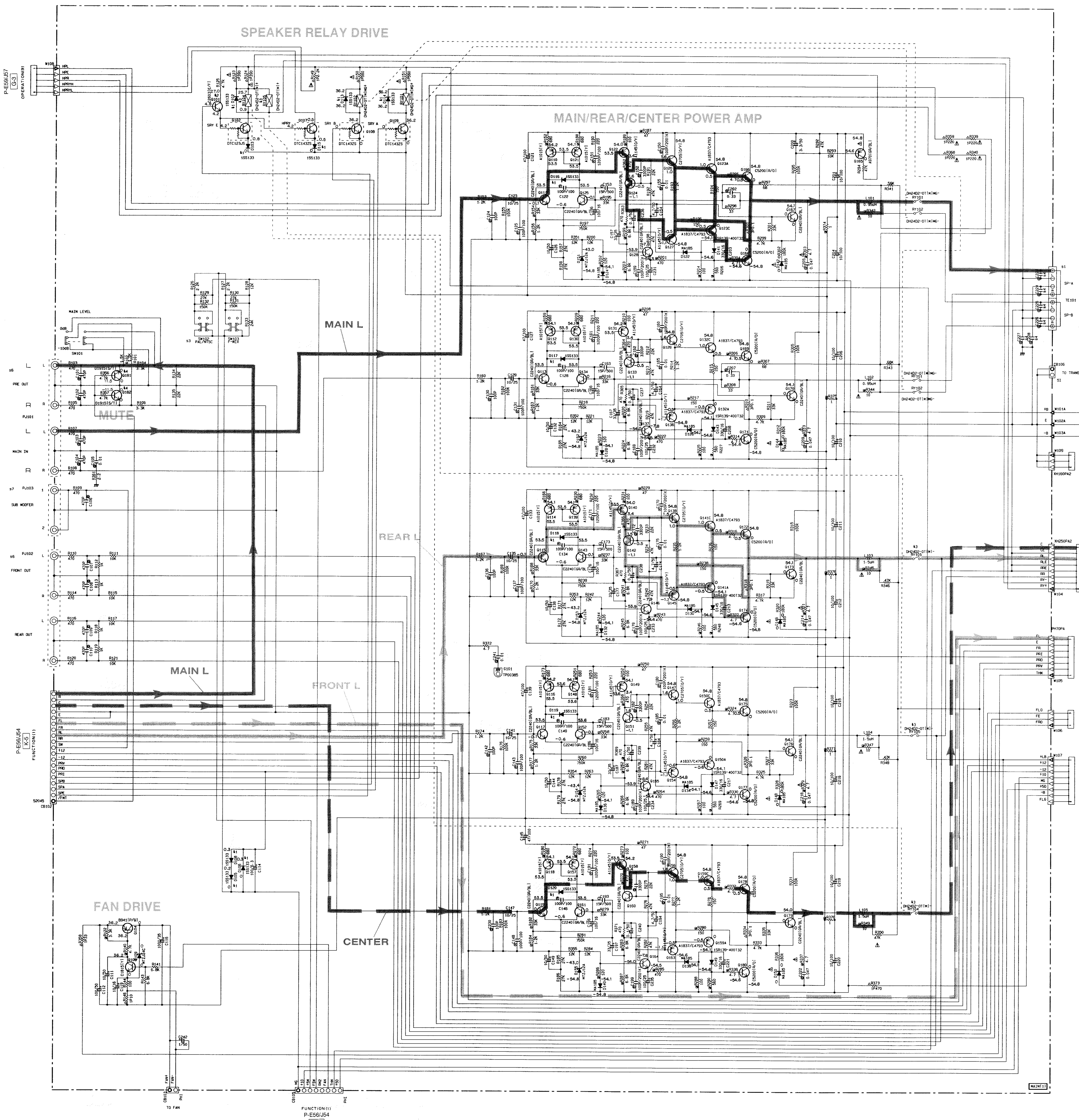
Other ICs
● IC3 : YM3436DK → See page E-25U-23
● IC4 : YSS243B → See page E-26U-24
● IC7 : YSS245 → See page E-29U-27

* All voltages are measured with a 10MΩ/V 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.

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■ SCHEMATIC DIAGRAM (MAIN) / 総回路図



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

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

Mark	Reference Parts Number	Parts Name
1	0100-103-100-108-113-120-001	1S133 V65001D
2	0101	2SC2931E/V1 2SC1740S/V3 2SC2314A/VW51
3	RY104-105-601	DH402-011H J6040-9C4V
4	0181-182	2SD1915F/V1 2SD1915F15/V1

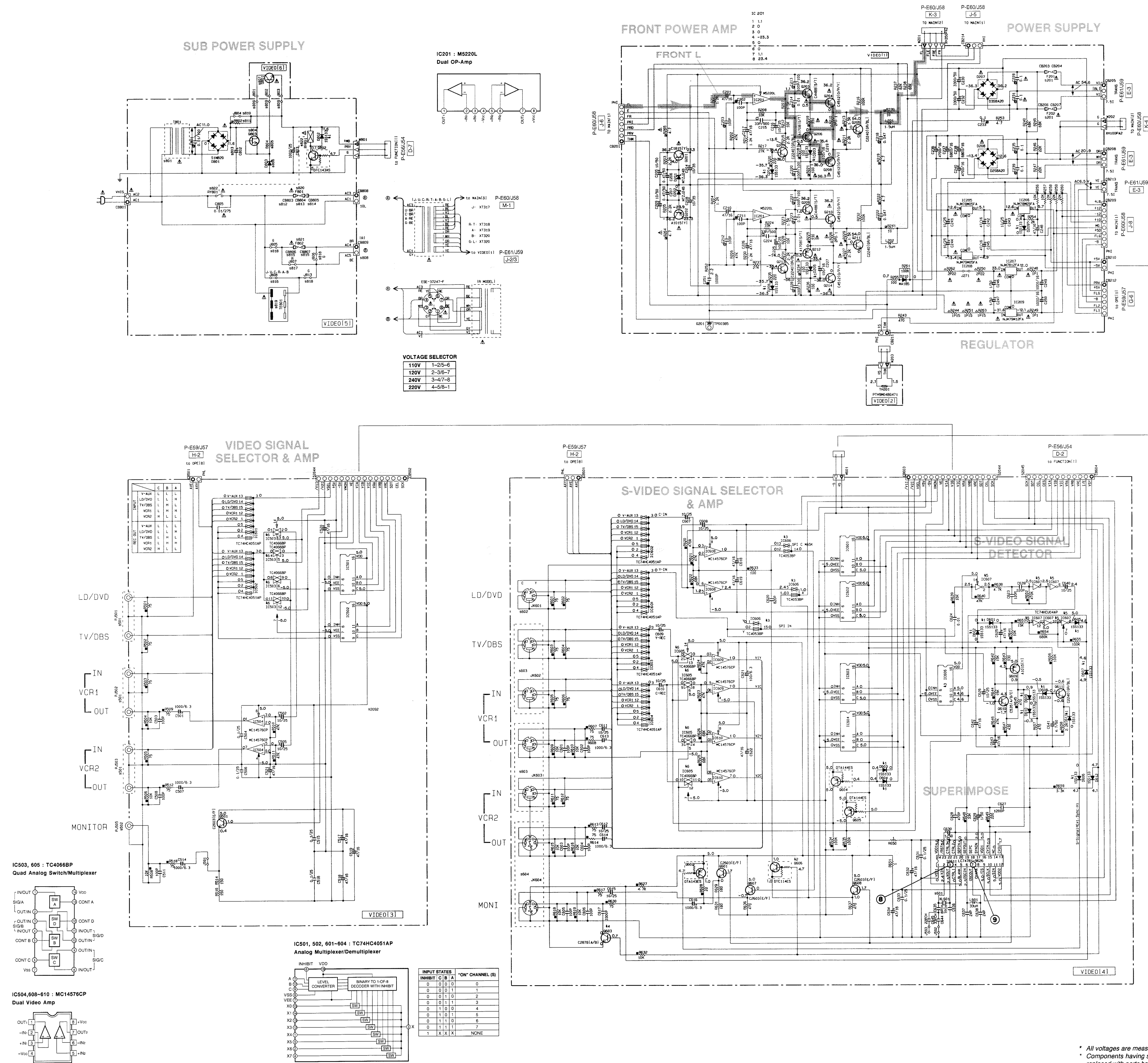
CIRCUIT CHANGES BY MARKET.				
	J	B	A	B-G
1	TE101-601	VC31370	VC31370	VK50620
2	T603	VC31380	VC31380	VZ23450
3	SW102	X	Y780380	X
4	C203-206-601-610	X	X	0-011U4654101 0-011U4654101
5				
6	PJ101-102	V61740	V60630	V60630
7	PJ601-103	VY91710	VY76800	VY76800

× : NOT USED

* All voltages are measured with a 10MΩ/V DC electric volt meter.
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* Schematic diagram is subject to change without notice.

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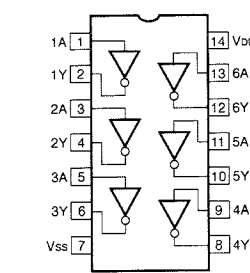
SCHEMATIC DIAGRAM (VIDEO) / 総回路図



CIRCUIT CHANGES BY MARKET.

S	R	J	R	A	B	G
1	FRN1-202	6A 125V K800304	5.0A20V K800304	5.0A20V K800304	5.0A20V K800304	5.0A20V K800304
501	PJ601-503	VC21-3150 V11010	VC21-3150 V11010	VC21-3150 V11010	VC21-3150 V11010	VC21-3150 V11010
502	PJ605	VC21-3150 V11010	VC21-3150 V11010	VC21-3150 V11010	VC21-3150 V11010	VC21-3150 V11010
601	AL601	4.310A00004 V15000	4.310A00004 V15000	4.310A00004 V15000	4.310A00004 V15000	4.310A00004 V15000
602	JN601	VF51-5517 V15000	VF51-5517 V15000	VF51-5517 V15000	VF51-5517 V15000	VF51-5517 V15000
603	JN602-603	VF51-5517 V15000	VF51-5517 V15000	VF51-5517 V15000	VF51-5517 V15000	VF51-5517 V15000
604	JN604	VF51-5517 V15000	VF51-5517 V15000	VF51-5517 V15000	VF51-5517 V15000	VF51-5517 V15000
801	TR01	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
802	TR02	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
803	TR03	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
804	TR04	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
805	TR05	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
806	TR06	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
807	TR07	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
808	TR08	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
809	TR09	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
810	TR10	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
811	TR11	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
812	TR12	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
813	TR13	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
814	TR14	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
815	TR15	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
816	TR16	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
817	TR17	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
818	TR18	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
819	TR19	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
820	TR20	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
821	TR21	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
822	TR22	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
823	TR23	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
824	TR24	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
825	TR25	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
826	TR26	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
827	TR27	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
828	TR28	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
829	TR29	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000
830	TR30	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000	VC4000 V15000

IC607 : TC74HC04AP
Hex Inverters



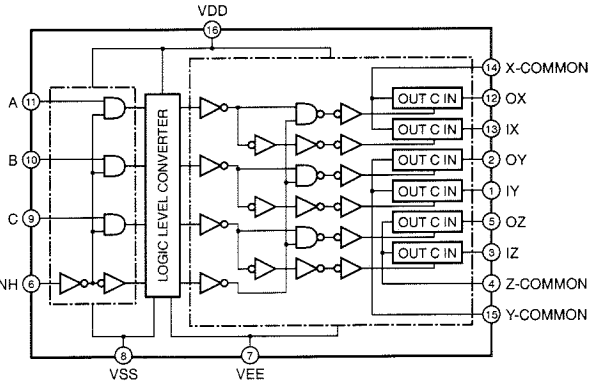
Mark	Reference Parts Number	Parts Name
41	0003-006-209-601-612-602	155133
42	9606	01C114E5
43	12009	TC4053BP
44	6603	25C2874A/91
45	12007	TC74HC04AP
46	12003-605	TC4053BP
47		TC4053BP
48		TC4053BP
49		TC4053BP
50		TC4053BP

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
◇	SMI VARIABLE RESISTOR
■	CHIP RESISTOR

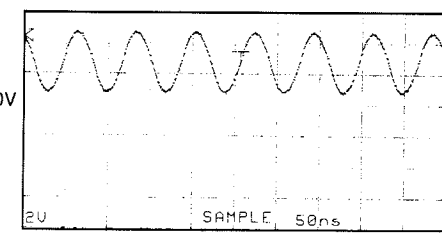
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
△	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
●	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
○	MICA CAPACITOR
●	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

NOTICE (model)
(J)..... JAPANESE
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(T)..... CHINA
(L)..... SINGAPORE

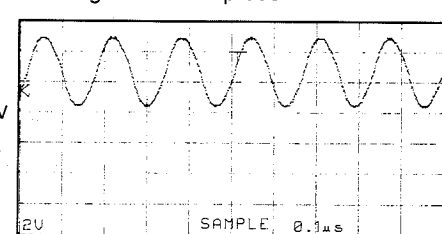
IC606 : TC4053BP
Triple 2-Channel Multiplexer/Demultiplexer



Point ⑧ (Pin3 of IC611)
V : 2V/div H : 0.1 nsec/div
DC range 1 : 1 probe



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



CONTROL INPUTS	ON CHANNEL
INHIBIT C B A	0X (Pin 10), 0Y (Pin 11), 0Z (Pin 12), 0V (Pin 13), 0W (Pin 14), 0X (Pin 15), 0Y (Pin 16), 0Z (Pin 17), 0V (Pin 18), 0W (Pin 19), 0X (Pin 20), 0Y (Pin 21), 0Z (Pin 22), 0V (Pin 23), 0W (Pin 24), 0X (Pin 25), 0Y (Pin 26), 0Z (Pin 27), 0V (Pin 28), 0W (Pin 29), 0X (Pin 30), 0Y (Pin 31), 0Z (Pin 32), 0V (Pin 33), 0W (Pin 34), 0X (Pin 35), 0Y (Pin 36), 0Z (Pin 37), 0V (Pin 38), 0W (Pin 39), 0X (Pin 40), 0Y (Pin 41), 0Z (Pin 42), 0V (Pin 43), 0W (Pin 44), 0X (Pin 45), 0Y (Pin 46), 0Z (Pin 47), 0V (Pin 48), 0W (Pin 49), 0X (Pin 50), 0Y (Pin 51), 0Z (Pin 52), 0V (Pin 53), 0W (Pin 54), 0X (Pin 55), 0Y (Pin 56), 0Z (Pin 57), 0V (Pin 58), 0W (Pin 59), 0X (Pin 60), 0Y (Pin 61), 0Z (Pin 62), 0V (Pin 63), 0W (Pin 64), 0X (Pin 65), 0Y (Pin 66), 0Z (Pin 67), 0V (Pin 68), 0W (Pin 69), 0X (Pin 70), 0Y (Pin 71), 0Z (Pin 72), 0V (Pin 73), 0W (Pin 74), 0X (Pin 75), 0Y (Pin 76), 0Z (Pin 77), 0V (Pin 78), 0W (Pin 79), 0X (Pin 80), 0Y (Pin 81), 0Z (Pin 82), 0V (Pin 83), 0W (Pin 84), 0X (Pin 85), 0Y (Pin 86), 0Z (Pin 87), 0V (Pin 88), 0W (Pin 89), 0X (Pin 90), 0Y (Pin 91), 0Z (Pin 92), 0V (Pin 93), 0W (Pin 94), 0X (Pin 95), 0Y (Pin 96), 0Z (Pin 97), 0V (Pin 98), 0W (Pin 99), 0X (Pin 100), 0Y (Pin 101), 0Z (Pin 102), 0V (Pin 103), 0W (Pin 104), 0X (Pin 105), 0Y (Pin 106), 0Z (Pin 107), 0V (Pin 108), 0W (Pin 109), 0X (Pin 110), 0Y (Pin 111), 0Z (Pin 112), 0V (Pin 113), 0W (Pin 114), 0X (Pin 115), 0Y (Pin 116), 0Z (Pin 117), 0V (Pin 118), 0W (Pin 119), 0X (Pin 120), 0Y (Pin 121), 0Z (Pin 122), 0V (Pin 123), 0W (Pin 124), 0X (Pin 125), 0Y (Pin 126), 0Z (Pin 127), 0V (Pin 128), 0W (Pin 129), 0X (Pin 130), 0Y (Pin 131), 0Z (Pin 132), 0V (Pin 133), 0W (Pin 134), 0X (Pin 135), 0Y (Pin 136), 0Z (Pin 137), 0V (Pin 138), 0W (Pin 139), 0X (Pin 140), 0Y (Pin 141), 0Z (Pin 142), 0V (Pin 143), 0W (Pin 144), 0X (Pin 145), 0Y (Pin 146), 0Z (Pin 147), 0V (Pin 148), 0W (Pin 149), 0X (Pin 150), 0Y (Pin 151), 0Z (Pin 152), 0V (Pin 153), 0W (Pin 154), 0X (Pin 155), 0Y (Pin 156), 0Z (Pin 157), 0V (Pin 158), 0W (Pin 159), 0X (Pin 160), 0Y (Pin 161), 0Z (Pin 162), 0V (Pin 163), 0W (Pin 164), 0X (Pin 165), 0Y (Pin 166), 0Z (Pin 167), 0V (Pin 168), 0W (Pin 169), 0X (Pin 170), 0Y (Pin 171), 0Z (Pin 172), 0V (Pin 173), 0W (Pin 174), 0X (Pin 175), 0Y (Pin 176), 0Z (Pin 177), 0V (Pin 178), 0W (Pin 179), 0X (Pin 180), 0Y (Pin 181), 0Z (Pin 182), 0V (Pin 183), 0W (Pin 184), 0X (Pin 185), 0Y (Pin 186), 0Z (Pin 187), 0V (Pin 188), 0W (Pin 189), 0X (Pin 190), 0Y (Pin 191), 0Z (Pin 192), 0V (Pin 193), 0W (Pin 194), 0X (Pin 195), 0Y (Pin 196), 0Z (Pin 197), 0V (Pin 198), 0W (Pin 199), 0X (Pin 200), 0Y (Pin 201), 0Z (Pin 202), 0V (Pin 203), 0W (Pin 204), 0X (Pin 205), 0Y (Pin 206), 0Z (Pin 207), 0V (Pin 208), 0W (Pin 209), 0X (Pin 210), 0Y (Pin 211), 0Z (Pin 212), 0V (Pin 213), 0W (Pin 214), 0X (Pin 215), 0Y (Pin 216), 0Z (Pin 217), 0V (Pin 218), 0W (Pin 219), 0X (Pin 220), 0Y (Pin 221), 0Z (Pin 222), 0V (Pin 223), 0W (Pin 224), 0X (Pin 225), 0Y (Pin 226), 0Z (Pin 227), 0V (Pin 228), 0W (Pin 229), 0X (Pin 230), 0Y (Pin 231), 0Z (Pin 232), 0V (Pin 233), 0W (Pin 234), 0X (Pin 235), 0Y (Pin 236), 0Z (Pin 237), 0V (Pin 238), 0W (Pin 239), 0X (Pin 240), 0Y (Pin 241), 0Z (Pin 242), 0V (Pin 243), 0W (Pin 244), 0X (Pin 245), 0Y (Pin 246), 0Z (Pin 247), 0V (Pin 248), 0W (Pin 249), 0X (Pin 250), 0Y (Pin 251), 0Z (Pin 252), 0V (Pin 253), 0W (Pin 254), 0X (Pin 255), 0Y (Pin 256), 0Z (Pin 257), 0V (Pin 258), 0W (Pin 259), 0X (Pin 260), 0Y (Pin 261), 0Z (Pin 262), 0V (Pin 263), 0W (Pin 264), 0X (Pin 265), 0Y (Pin 266), 0Z (Pin 267), 0V (Pin 268), 0W (Pin 269), 0X (Pin 270), 0Y (Pin 271), 0Z (Pin 272), 0V (Pin 273), 0W (Pin 274), 0X (Pin 275), 0Y (Pin 276), 0Z (Pin 277), 0V (Pin 278), 0W (Pin 279), 0X (Pin 280), 0Y (Pin 281), 0Z (Pin 282), 0V (Pin 283), 0W (Pin 284), 0X (Pin 285), 0Y (Pin 286), 0Z (Pin 287), 0V (Pin 288), 0W (Pin 289), 0X (Pin 290), 0Y (Pin 291), 0Z (Pin 292), 0V (Pin 293), 0W (Pin 294), 0X (Pin 295), 0Y (Pin 296), 0Z (Pin 297), 0V (Pin 298), 0W (Pin 299), 0X (Pin 300), 0Y (Pin 301), 0Z (Pin 302), 0V (Pin 303), 0W (Pin 304), 0X (Pin 305), 0Y (Pin 306), 0Z (Pin 307), 0V (Pin 308), 0W (Pin 309), 0X (Pin 310), 0Y (Pin 311), 0Z (Pin 312), 0V (Pin 313), 0W (Pin 314), 0X (Pin 315), 0Y (Pin 316), 0Z (Pin 317), 0V (Pin 318), 0W (Pin 319), 0X (Pin 320), 0Y (Pin 321), 0Z (Pin 322), 0V (Pin 323), 0W (Pin 324), 0X (Pin 325), 0Y (Pin 326), 0Z (Pin 327), 0V (Pin 328), 0W (Pin 329), 0X (Pin 330), 0Y (Pin 331), 0Z (Pin 332), 0V (Pin 333), 0W (Pin 334), 0X (Pin 335), 0Y (Pin 336), 0Z (Pin 337), 0V (Pin 338), 0W (Pin 339), 0X (Pin 340), 0Y (Pin 341), 0Z (Pin 342), 0V (Pin 343), 0W (Pin 344), 0X (Pin 345), 0Y (Pin 346), 0Z (Pin 347), 0V (Pin 348), 0W (Pin 349), 0X (Pin 350), 0Y (Pin 351), 0Z (Pin 352), 0V (Pin 353), 0W (Pin 354), 0X (Pin 355), 0Y (Pin 356), 0Z (Pin 357), 0V (Pin 358), 0W (Pin 359), 0X (Pin 360), 0Y (Pin 361), 0Z (Pin 362), 0V (Pin 363), 0W (Pin 364), 0X (Pin 365), 0Y (Pin 366), 0Z (Pin 367), 0V (Pin 368), 0W (Pin 369), 0X (Pin 370), 0Y (Pin 371), 0Z (Pin 372), 0V (Pin 373), 0W (Pin 374), 0X (Pin 375), 0Y (Pin 376), 0Z (Pin 377), 0V (Pin 378), 0W (Pin 379), 0X (Pin 380), 0Y (Pin 381), 0Z (Pin 382), 0V (Pin 383), 0W (Pin 384), 0X (Pin 385), 0Y (Pin 386), 0Z (Pin 387), 0V (Pin 388), 0W (Pin 389), 0X (Pin 390), 0Y (Pin 391), 0Z (Pin 392), 0V (Pin 393), 0W (Pin 394), 0X (Pin 395), 0Y (Pin 396), 0Z (Pin 397), 0V (Pin 398), 0W (Pin 399), 0X (Pin 400), 0Y (Pin 401), 0Z (Pin 402), 0V (Pin 403), 0W (Pin 404), 0X (Pin 405), 0Y (Pin 406), 0Z (Pin 407), 0V (Pin 408), 0W (Pin 409), 0X (Pin 410), 0Y (Pin 411), 0Z (Pin 412), 0V (Pin 413), 0W (Pin 414), 0X (Pin 415), 0Y (Pin 416), 0Z (Pin 417), 0V (Pin 418), 0W (Pin 419), 0X (Pin 420), 0Y (Pin 421), 0Z (Pin 422), 0V (Pin 423), 0W (Pin 424), 0X (Pin 425), 0Y (Pin 426), 0Z (Pin 427), 0V (Pin 428), 0W (Pin 429), 0X (Pin 430), 0Y (Pin 431), 0Z (Pin 432), 0V (Pin 433), 0W (Pin 434), 0X (Pin 435), 0Y (Pin 436), 0Z (Pin 437), 0V (Pin 438), 0W (Pin 439), 0X (Pin 440), 0Y (Pin 441), 0Z (Pin 442), 0V 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514), 0X (Pin 515), 0Y (Pin 516), 0Z (Pin 517), 0V (Pin 518), 0W (Pin 519), 0X (Pin 520), 0Y (Pin 521), 0Z (Pin 522), 0V (Pin 523), 0W (Pin 524), 0X (Pin 525), 0Y (Pin 526), 0Z (Pin 527), 0V (Pin 528), 0W (Pin 529), 0X (Pin 530), 0Y (Pin 531), 0Z (Pin 532), 0V (Pin 533), 0W (Pin 534), 0X (Pin 535), 0Y (Pin 536), 0Z (Pin 537), 0V (Pin 538), 0W (Pin 539), 0X (Pin 540), 0Y (Pin 541), 0Z (Pin 542), 0V (Pin 543), 0W (Pin 544), 0X (Pin 545), 0Y (Pin 546), 0Z (Pin 547), 0V (Pin 548), 0W (Pin 549), 0X (Pin 550), 0Y (Pin 551), 0Z (Pin 552), 0V (Pin 553), 0W (Pin 554), 0X (Pin 555), 0Y (Pin 556), 0Z (Pin 557), 0V (Pin 558), 0W (Pin 559), 0X (Pin 560), 0Y (Pin 561), 0Z (Pin 562), 0V (Pin 563), 0W (Pin 564), 0X (Pin 565), 0Y (Pin 566), 0Z (Pin 567), 0V (Pin 568), 0W (Pin 569), 0X (Pin 570), 0Y (Pin 571), 0Z (Pin 572), 0V (Pin 573), 0W (Pin 574), 0X (Pin 575), 0Y (Pin 576), 0Z (Pin 577), 0V (Pin 578), 0W (Pin 579), 0X (Pin 580), 0Y (Pin 581), 0Z (Pin 582), 0V (Pin 583), 0W (Pin 584), 0X (Pin 585), 0Y (Pin 586), 0Z (Pin 587), 0V (Pin 588), 0W (Pin 589), 0X (Pin 590), 0Y (Pin 5

PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

Components having special characteristics are marked Δ 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 75.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

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

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

P.C.B. MAIN

Schm Ref.	PART NO.	Description		
* VY777600	P. C. B.	MAIN(R)		
* VY777700	P. C. B.	MAIN(A)		
* VY809100	P. C. B.	MAIN(BG)		
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
C114	VF760000	C. EL	100uF	10V
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

* New Parts

Schm Ref.	PART NO.	Description		
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
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

* New Parts

P.C.B. MAIN

Schm Ref.	PART NO.	Description
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
C223	UA654100	C. MYLAR 0.01uF 50V (ABG)
C224	UA654100	C. MYLAR 0.01uF 50V (ABG)
C225	UA654100	C. MYLAR 0.01uF 50V (ABG)
C226	UA654100	C. MYLAR 0.01uF 50V (ABG)
C227	UA654100	C. MYLAR 0.01uF 50V (ABG)
C228	UA654100	C. MYLAR 0.01uF 50V (ABG)
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
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 (ABG)
C244	VF467300	C. CE. TUBLR 0.01uF 16V (ABG)
C601	UA654100	C. MYLAR 0.01uF 50V (ABG)
C602	UA654100	C. MYLAR 0.01uF 50V (ABG)
C603	UA654100	C. MYLAR 0.01uF 50V (ABG)
C604	UA654100	C. MYLAR 0.01uF 50V (ABG)
C605	UA654100	C. MYLAR 0.01uF 50V (ABG)
C606	UA654100	C. MYLAR 0.01uF 50V (ABG)
C607	UA654100	C. MYLAR 0.01uF 50V (ABG)
C608	UA654100	C. MYLAR 0.01uF 50V (ABG)
C609	UA654100	C. MYLAR 0.01uF 50V (ABG)
C610	UA654100	C. MYLAR 0.01uF 50V (ABG)
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

* New Parts

Schm Ref.	PART NO.	Description
C705	UA655100	C. MYLAR 0.1uF 50V
D102	iF004600	DIODE 1SS133
D103	iF004600	DIODE 1SS133
D105	iF004600	DIODE 1SS133
D106	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
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
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

* New Parts

P.C.B. MAIN

Schm Ref.	PART NO.	Description
Q101	iC260320	TR 2SC2603 E, F
Q102	VK165500	TR. DGT DTC123JS TP
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
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

* New Parts

Schm Ref.	PART NO.	Description
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
Q179	iC224030	TR 2SC2240 GR, BL
Q180	VY705000	TR 2SC5200 R, O
Q181	VC502100	TR 2SD1915 S, T
Q182	VC502100	TR 2SD1915 S, T
Q188	VY705000	TR 2SC5200 R, O
R123	VP944500	R. MTL. OXD 390 Ω 1W
R124	VP944500	R. MTL. OXD 390 Ω 1W
R146	HL314100	R. MTL. OXD 10 Ω 1W
R149	HL416220	R. MTL. OXD 2.2K Ω 1W
R150	HL315560	R. MTL. OXD 560 Ω 1W
R151	HL315560	R. MTL. OXD 560 Ω 1W
R193	VK189100	R. FUS 1.2K Ω 1/4W
R194	VK188000	R. FUS 150 Ω 1/4W
R214	VK189100	R. FUS 1.2K Ω 1/4W
R215	VK188000	R. FUS 150 Ω 1/4W
R235	VK189100	R. FUS 1.2K Ω 1/4W
R236	VK188000	R. FUS 150 Ω 1/4W
R256	VK189100	R. FUS 1.2K Ω 1/4W
R257	VK188000	R. FUS 150 Ω 1/4W
R277	VK189100	R. FUS 1.2K Ω 1/4W
R278	VK188000	R. FUS 150 Ω 1/4W
R300	VR412900	R. MTL. OXD 0.1 Ω 3W
R310	VR412900	R. MTL. OXD 0.1 Ω 3W
R318	VR412900	R. MTL. OXD 0.1 Ω 3W
R326	VR412900	R. MTL. OXD 0.1 Ω 3W
R334	VR412900	R. MTL. OXD 0.1 Ω 3W
R339	HL315220	R. MTL. OXD 220 Ω 1W
R340	HL315220	R. MTL. OXD 220 Ω 1W
R358	HL314330	R. MTL. OXD 33 Ω 1W
R359	HL315220	R. MTL. OXD 220 Ω 1W
R360	HL315220	R. MTL. OXD 220 Ω 1W

* New Parts

P.C.B. MAIN & DSP

Schm Ref.	PART NO.	Description
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(RA)
TE101	VK506200	TERM. SP 8P(BG)
TE601	VC313700	TERM. SP 8P(RA)
TE601	VK506200	TERM. SP 8P(BG)
TE603	VC313800	TERM. SP LTS0410-2002(RA)
TE603	VZ234500	TERM. SP LTS0420-3003(BG)
	VJ828000	PIN IMSA-6024-03E
	BB070700	GND. MTL
	VY843300	HEAT. SINK
	VK697600	SCR. BND. HD 3x10 SP ZMC2-Y
	VZ051100	P. C. B. DSP
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
C26	VJ900500	C. CE. M. CHP 27pF 50V

*New Parts

Schm Ref.	PART NO.	Description
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
C79	UB245100	C. CE. M. CHP 0.1uF 25V

*New Parts

P.C.B. DSP

Schm Ref.	PART NO.	Description
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
C132	UB052100	C. CE. M. CHP 100pF 50V

* New Parts

Schm Ref.	PART NO.	Description
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
IC18	XF291A00	IC uPC4570G2

* New Parts

P.C.B. DSP & FUNCTION

Schm Ref.	PART NO.	Description
IC19	XF291A00	IC uPC4570G2
Q1	VC124000	TR. DGT DTA144EK
Q2	VC124000	TR. DGT DTA144EK
Q3	VD303700	TR 2SC3326 A, B TE85R
Q4	VD303700	TR 2SC3326 A, B TE85R
Q5	VD303700	TR 2SC3326 A, B TE85R
Q201	iC224030	TR 2SC2240 GR, BL
XL1	Vi551900	RSNR. CRY5 11.2896MHz
XL2	VM651900	RSNR. CRY5 10.0MHz
* * * * *		
	VY776800	P. C. B. FUNCTION(R)
	VY776900	P. C. B. FUNCTION(ABG)
CB2	VN066500	CN. BS. PIN 12P
CB3	VN394900	CN. BS. PIN 14P
CB4	VB858200	CN. BS. PIN 3P
CB6	VF728300	CN 6P
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
CB205	VB858200	CN. BS. PIN 3P
CB206	VQ047500	CN. BS. PIN 20P
CB207	VQ047800	CN. BS. PIN 27P
CB209	VP113500	CN. BS. PIN 10P
CB210	Vi878400	CN. BS. PIN 6P
CB701	VT620100	L. DTCT 1P TORX178A
CB702	VT620100	L. DTCT 1P TORX178A
CB703	VQ044100	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
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

* New Parts

Schm Ref.	PART NO.	Description
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
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

* New Parts

P.C.B. FUNCTION

Schm Ref.	PART NO.	Description
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
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
C219	UA652100	C. MYLAR 100pF 50V
C220	UA652100	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
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
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
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

* New Parts

Schm Ref.	PART NO.	Description
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
C296	VJ837200	C. EL 47uF 16V
C297	VJ837200	C. EL 47uF 16V
C299	VJ837200	C. EL 47uF 16V
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
C310	VD930900	C. CE. SMI 0.1uF 25V
C701	UB051220	C. CE. M. CHP 22pF 50V
C702	UB245100	C. CE. M. CHP 0.1uF 25V
C703	UB051220	C. CE. M. CHP 22pF 50V
C704	UB245100	C. CE. M. CHP 0.1uF 25V
C705	UB245100	C. CE. M. CHP 0.1uF 25V
C706	Vi846000	C. EL 22uF 63V
C707	UB245100	C. CE. M. CHP 0.1uF 25V
C708	UB245100	C. CE. M. CHP 0.1uF 25V
C709	VF760000	C. EL 100uF 10V
C710	UB245100	C. CE. M. CHP 0.1uF 25V
C711	Vi846000	C. EL 22uF 63V
C712	UB245100	C. CE. M. CHP 0.1uF 25V
C713	UB012220	C. CE. M. CHP 220pF 50V
C714	UB051100	C. CE. M. CHP 10pF 50V
C715	UB013100	C. CE. M. CHP 1000pF 50V
D1	iF004600	DIODE 1SS133
D2	iF004600	DIODE 1SS133

* New Parts

P.C.B. FUNCTION & VIDEO

Schm Ref.	PART NO.	Description
D3	iF004600	DIODE 1SS133
D4	iF004600	DIODE 1SS133
D5	iF004600	DIODE 1SS133
D6	iF004600	DIODE 1SS133
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
D201	VG439200	DIODE.ZENR MTZJ9.1B 9.1V
D202	VG439200	DIODE.ZENR MTZJ9.1B 9.1V
D701	iF004600	DIODE 1SS133
D702	iF004600	DIODE 1SS133
IC1	XS670C00	IC HD6433614P-XXX CPU
IC2	XL493A00	IC TC74HC4051AP
IC3	XJ757A00	IC NJM78L05A-T3
IC4	XF494A00	IC LB1641
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
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
IC215	XP894A00	IC LC78211
IC216	XP896A00	IC LC78213
IC701	iG142200	IC TC74HCU04AP
IC702	iR015300	IC TC74HC153AP MPX
L701	GE901970	COIL 68uH
L702	GE901970	COIL 68uH
PJ71	VJ696300	JACK. PIN 4P
PJ72	VJ696300	JACK. PIN 4P
PJ74	VJ696300	JACK. PIN 4P

* New Parts

Schm Ref.	PART NO.	Description
PJ201	VQ260900	JACK. PIN 4P
PJ202	VM750600	JACK. PIN 6P
* PJ701	VY667700	JACK. PIN 1P
* PJ702	VY667700	JACK. PIN 1P
Q1	iA093320	TR 2SA933S Q, R
Q2	VG722000	TR. DGT DTC144ES
Q3	iA093320	TR 2SA933S Q, R
Q4	iA093320	TR 2SA933S Q, R
Q7	VD678700	TR. DGT DTC114ES
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
* * * *	VY777100	P. C. B. VIDEO(R)
	VY777200	P. C. B. VIDEO(A)
	VY777300	P. C. B. VIDEO(B)
	VY777400	P. C. B. VIDEO(G)
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 (ABG)
CB803	VS996100	CLIP. FUSE EYF64BC (R)
CB804	VP206500	HOLDER. FUS EYF-52BC (ABG)
CB805	VS996100	CLIP. FUSE EYF64BC (R)
CB806	VP206500	HOLDER. FUS EYF-52BC (RG)
CB807	VP206500	HOLDER. FUS EYF-52BC (RG)
CB808	LA002410	TERM. WRAP 2P
CB809	LA002410	TERM. WRAP 2P (R)
C201	VJ837200	C. EL 47uF 16V
C202	VF466800	C. CE. TUBLR 100pF 50V

* New Parts

P.C.B. VIDEO

Schm Ref.	PART NO.	Description
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
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
C231	UA655100	C. MYLAR 0.1uF 50V
C232	VY841300	C. EL 3300uF 50V
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

* New Parts

Schm Ref.	PART NO.	Description
C506	UB245100	C. CE. M. CHP 0.1uF 25V
C507	VF637900	C. EL 1000uF 10V
C508	UB052100	C. CE. M. CHP 100pF 50V
C511	UB052100	C. CE. M. CHP 100pF 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 SINB20 1.0A 200V
D802	iF004600	DIODE 1SS133
△ F201	KB003240	FUSE T5.0A 250V
△ F202	KB003240	FUSE T5.0A 250V
△ F801	KB000780	FUSE T5.0A 250V (ABG)
△ F801	KB001390	FUSE 10A 250V (R)
△ F802	KB000780	FUSE T5.0A 250V (R)
△ F802	KB002980	FUSE T2.5A 250V (G)
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
IC601	XL493A00	IC TC74HC4051AP
IC602	XL493A00	IC TC74HC4051AP
IC603	XL493A00	IC TC74HC4051AP
IC604	XL493A00	IC TC74HC4051AP

* New Parts

Schm Ref.	PART NO.	Description
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
PJ505	VN134600	JACK. PIN 1P
△ 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
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)
△ R210	VE869300	R. MIL. OXD 0.1Ω 2W
△ R226	VE869300	R. MIL. OXD 0.1Ω 2W
△ R244	VP939900	R. MIL. OXD 15Ω 1W
△ R248	VP939500	R. MIL. FLN 1Ω 1W
△ R249	VP939500	R. MIL. FLN 1Ω 1W
△ R250	HL324220	R. MIL. OXD 22Ω 2W

* New Parts

P.C.B. VIDEO & OPERATION

Schm Ref.	PART NO.	Description
△ R251	VP939900	R. MTL. OXD 15Ω 1W
△ R262	HL324220	R. MTL. OXD 22Ω 2W
△ R263	VP939900	R. MTL. OXD 15Ω 1W
△ RY801	VK539200	RELAY DC DH12D1-0/M(R)
△* RY801	VV950000	RELAY VS-12MB-NRTV8 (ABG)
△ T801	XC082A00	TRANS. PWR (R)
△ T801	XQ486A00	TRANS. PWR (ABG)
△ TE801	VT915000	OUTLET. AC 2P(A)
△ TE801	VU543300	OUTLET. AC 1P(B)
△ TE801	VV118800	OUTLET. AC 3P(R)
△ TE801	VV119000	OUTLET. AC 3P(G)
△ TH201	VM842200	POSISTOR PTH9M04 BG/70°C
△ XL601	VV949800	RSNR. CRYST 14.31818MHz (R)
△ XL601	VV949900	RSNR. CRYST 17.734475MHz (ABG)
	VJ828000	PIN IMSA-6024-03E
	BB071360	SCR. TERM 8.3x13
* VY776600 P. C. B. OPERATION		
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
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

* New Parts

Schm Ref.	PART NO.	Description
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
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

* New Parts

P.C.B. OPERATION

Schm Ref.	PART NO.	Description
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
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
Q904	VP872600	TR 2SA1708 S, T
RY501	VM640200	RELAY RY12W-OH-K-DC12V
* SW501	VY667600	SW. PUSH SPUN22 2
* SW503	VV425400	SW. RT SRRM1A
SW906	VG392900	SW. TACT SKHVAA
SW917	VG392900	SW. TACT SKHVAA
SW922	VG392900	SW. TACT SKHVAA
SW923	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
SW933	VG392900	SW. TACT SKHVAA
SW934	VG392900	SW. TACT SKHVAA
SW936	VG392900	SW. TACT SKHVAA
SW937	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

■ FLAME PROOF CARBON RESISTOR & CHIP RESISTOR

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
△	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
	HV753820	R. CAR. FP 8.2Ω 1/4W
	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
	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
	RD256820	R. CAR. CHP 8.2KΩ 1/10W
	RD256910	R. CAR. CHP 9.1KΩ 1/10W
	RD257100	R. CAR. CHP 10KΩ 1/10W

* New Parts

Schm Ref.	PART NO.	Description
	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
	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

* New Parts

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MECHANICAL PARTS

Ref. No.	PART NO.	Description	Remarks	Markets
* 1-1-a	VV692700	FRONT PANEL	BL	
* 1-1-a	VV692800	FRONT PANEL	TI	
* 1-1-b	VV692900	PANEL, LID	BL	
* 1-1-b	VV693000	PANEL, LID	TI	
* 1-1-c	VV693200	PLATE	BL	
* 1-1-c	VV693300	PLATE	TI	
* 1-1-d	VV693700	SUB PANEL CASE	BL	
* 1-1-d	VV693800	SUB PANEL CASE	TI	
* 1-1-e	VV851400	SUB PANEL	BL	
* 1-1-e	VV851600	SUB PANEL	TI	
* 1-1-g	VV694800	HINGE, LID	BL	
* 1-1-g	VV695000	HINGE, LID	TI	
* 1-1-h	VV660000	WINDOW PANEL, LID		
* 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-o	CB068880	PLASTIC RIVET	No. 1027	
1-1-s	VN413300	BIND HEAD BONDING B-T. SCREW	3x8 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, 0	
3- 5	VK196000	SHEET	22x29	
3- 7	VK195900	SHEET	19x24	
3- 9	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3	
3-13	VU195800	DAMPER, FIN		
* 6	VY776600	P.C.B. ASS'Y	OPERATION	
* 7	VY776800	P.C.B. ASS'Y	FUNCTION	(R)
* 7	VY776900	P.C.B. ASS'Y	FUNCTION	(ABG)
8	VZ051100	P.C.B. ASS'Y	DSP	
* 9	VY777100	P.C.B. ASS'Y	VIDEO	(R)
* 9	VY777200	P.C.B. ASS'Y	VIDEO	(A)
* 9	VY777300	P.C.B. ASS'Y	VIDEO	(B)
* 9	VY777400	P.C.B. ASS'Y	VIDEO	(G)
* 10	VY777600	P.C.B. ASS'Y	MAIN	(R)
* 10	VY777700	P.C.B. ASS'Y	MAIN	(A)
* 10	VY809100	P.C.B. ASS'Y	MAIN	(BG)
△ 15	XT319B00	POWER TRANSFORMER		(A)
△ 15	XT320B00	POWER TRANSFORMER		(BG)
△* 15	VY778200	POWER TRANSFORMER ASS'Y		(R)
△ 15	XT318B00	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		(G)
△ 16	VU411300	POWER CORD ASS'Y		(B)

* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
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	
* 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	
30	VY952100	CONNECTOR, FLAT CABLE	5P 250mm	
31	VQ194100	SHORT PLUG	CNT31-0	
32	CB069250	BINDING TIE	BK-1	
* 51	VV690300	TOP COVER		BL
* 51	VV690400	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	VV692000	REAR PANEL		(R)
* 59	VV692100	REAR PANEL		(B)
* 59	VV692200	REAR PANEL		(G)
* 59	VV692300	REAR PANEL		(A)
* 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
67	VT275200	KNOB	D12R	TI
68	VV123500	BUTTON, 3/8		BL
68	VV123600	BUTTON, 3/8		TI
69	VS048300	BUTTON	D7	BL
* 71	VV713600	BRACKET	F	BL
* 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	

* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
89	VK625000	CUP S-TITE SCREW	5x10-12 ZMC2-Y	
90	EK365090	PW HEAD S-TITE SCREW	4x8-10 FCRM3-BL BL	
90	EX601150	BW HEAD S-TITE SCREW	4x8-10 FNM3-BL TI	
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		
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	
124	VZ012900	CUSHION, FAN		
		ACCESSORIES		
	VV627100	REMOTE CONTROL TRANSMITTER	RRC4000-5401R	
	VY731700	LABEL, REMOTE CONTROL		
		BATTERY, ALKALINE MANGANESE	LR6, AA	

* New Parts

A

B

C

D

E

1

2

3

4

5

6

7

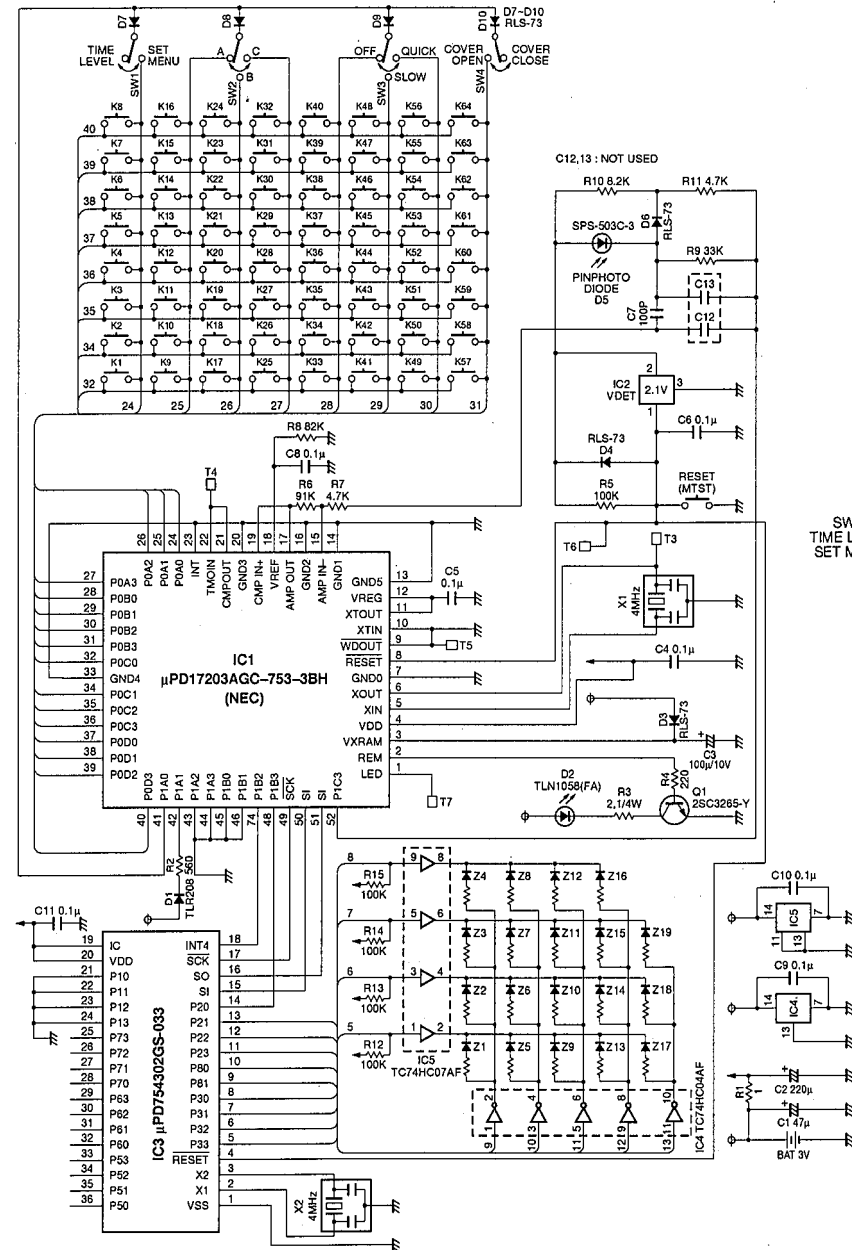
EXPLODED VIEW

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

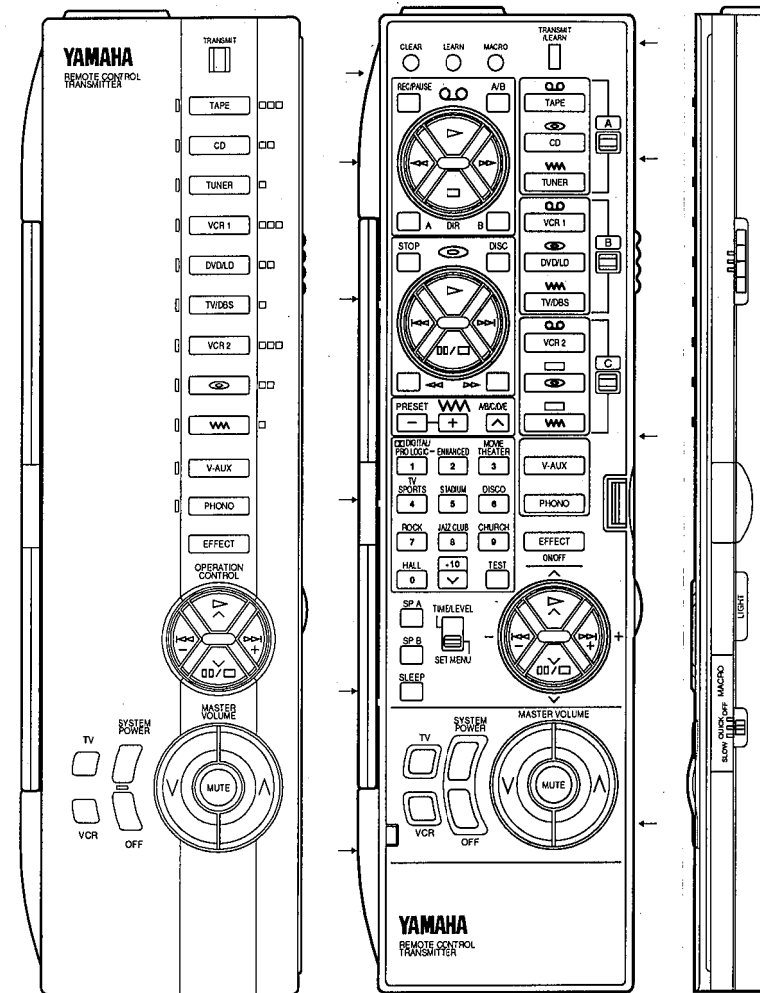
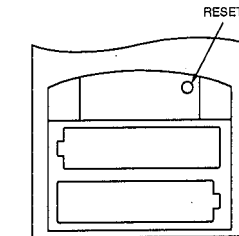
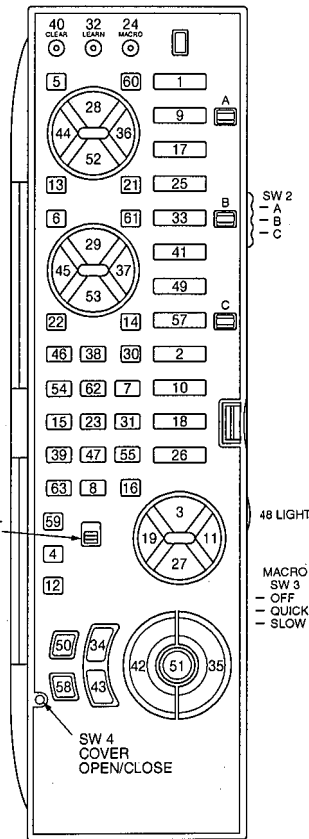
* New Parts

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	SW 2	Don't care.						
SW 3			Don't care.						
MACRO order			QUICK or SLOW						
			1	2	3	4	5	6	7
1	TAPE		K34	K1	K28-A	-	-	-	-
2	CD		K34	K2	-	-	-	-	-
9	CD		K34	K9	K28-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	K28-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	K28-B	-	-	-	-

Detail : K X X -

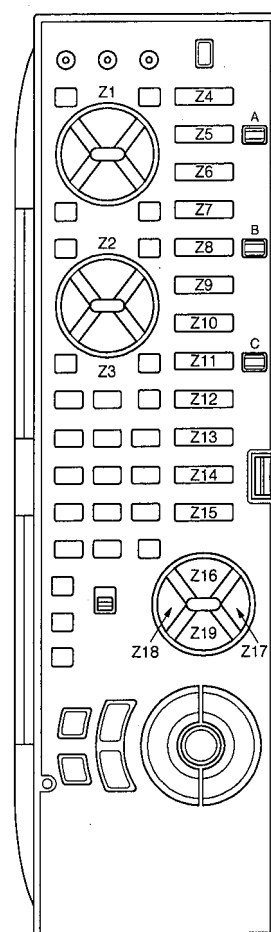
Key No. The position of SW2

List of the fixed code

Key No.	SW 1		SET MENU			TIME/LEVEL		
	SW 2		A	B	C	A	B	C
1	TAPE		7A-85-18	7A-85-18	7A-85-18	7A-85-18	7A-85-18	7A-85-18
2	CD		7A-85-18	7A-85-18	7A-85-18	7A-85-18	7A-85-18	7A-85-18
3	CD		7A-85-9D	7A-85-9D	7A-85-9D	7A-85-9D	7A-85-9D	7A-85-9D
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-85-9E	7A-85-9E	7A-85-9E
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			7A-85-0C		
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-85-9F	7A-85-9F	7A-85-9F
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	<<<				7C-83-06			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	VOLUME		7A-85-9C	7A-85-9C	7A-85-9C	7A-85-9C	7A-85-9C	7A-85-9C
28	>	(TAPE)				7A-85-00		
29	>	(CD)				7A-85-08		
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		SET MENU			TIME/LEVEL		
	SW 2		A	B	C	A	B	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			7A-85-0A		
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			7A-85-0B		
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	<<<		7A-85-09			7A-85-09		
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		OPEN	
	SW 1	Don't care.	Don't care.	
	SW 3	Don't care.	Don't care.	
	SW 2	A	B	C
1	TAPE	Z1,Z4	Z4	Z4
2	W	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	>>> (TAPE)	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	<<< (TAPE)	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		CLOSE	
	SW 1	Don't care.	Don't care.	
	SW 3	Don't care.	Don't care.	
	SW 2	Don't care.	Don't care.	
1	TAPE	Z4:○, Z16:○, Z17:○, Z18:○, Z19:○		
2	W	Z12:○, Z16:○, Z22-C, Z17:○, Z30-C, Z18:○, Z33-C, Z19:○, Z8-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:○, Z28-B, Z17:○, Z36-B, Z18:○, Z44-B, Z19:○, Z52-B		
26	EFFECT	Z15:○		
33	DVD/LD	Z8:○, Z16:○, Z29-B, Z17:○, Z37-B, Z18:○, Z45-B, Z19:○, Z53-B		
41	TV/DBS	Z9:○, Z16:○, Z22-B, Z17:○, Z30-B, Z18:○, Z38-B, Z19:○, Z8-B		
49	VCR 2	Z10:○, Z16:○, Z28-C, Z17:○, Z36-C, Z18:○, Z44-C, Z19:○, Z52-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	+ > +			
19	- < -			
27	V □ □ V			

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

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			

