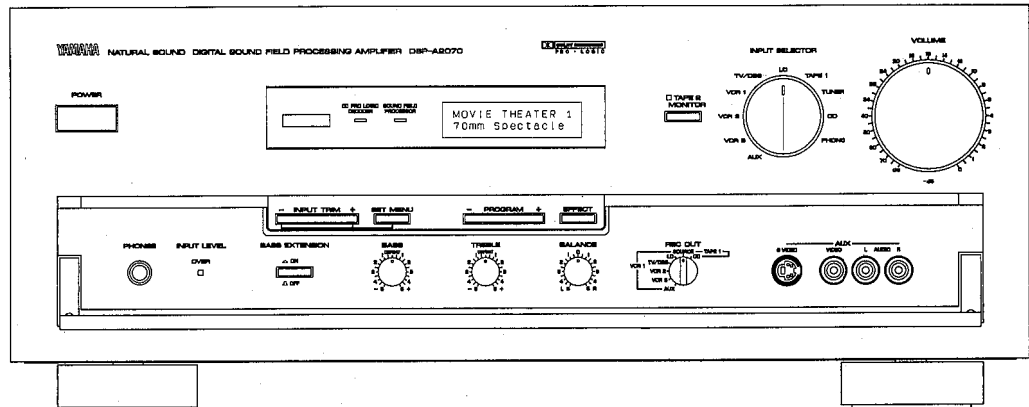
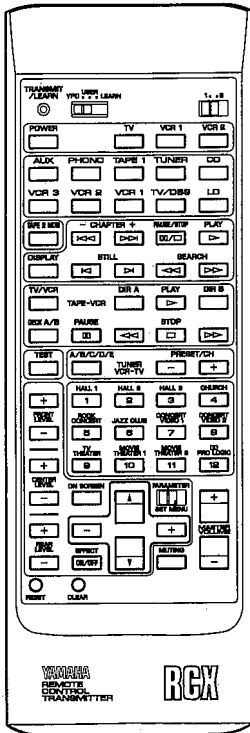


DIGITAL SOUND FIELD PROCESSING AMPLIFIER

DSP-A2070

SERVICE MANUAL

DSP-A2070



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 all 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 parts replacement. Recheck all work before you apply power to the unit.



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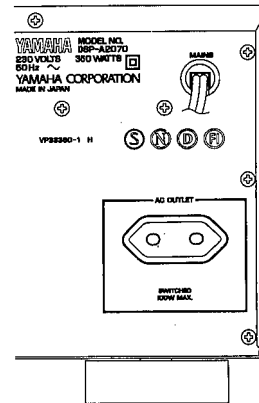
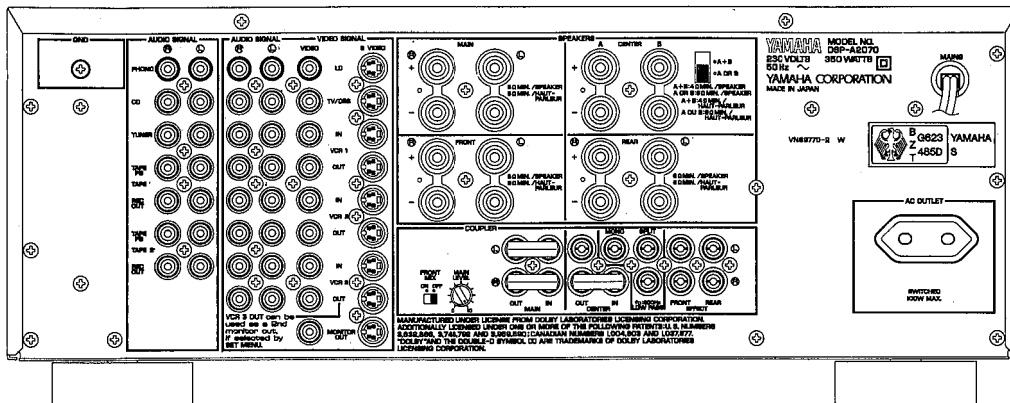
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100453

YAMAHA
YAMAHA CORPORATION
P.O.Box1, Hamamatsu, Japan

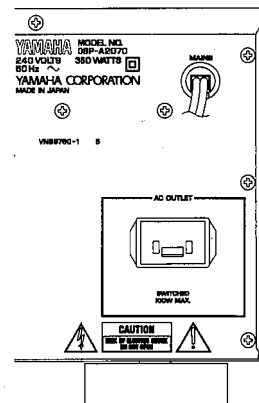
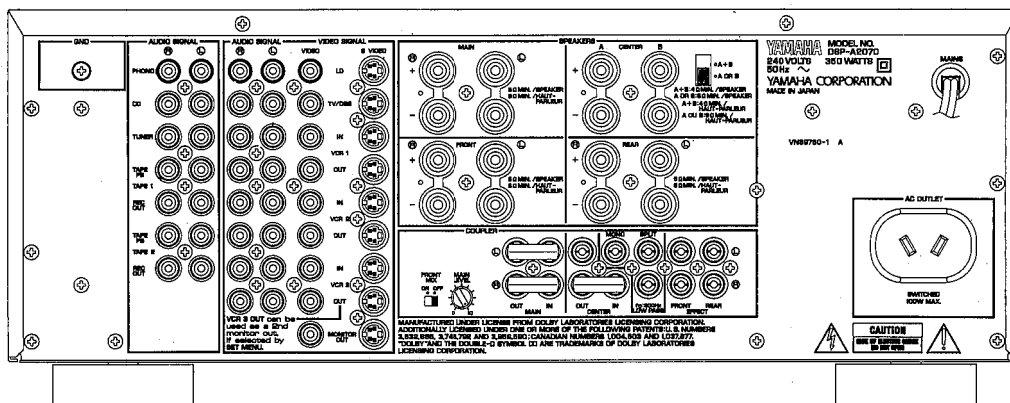
3.15K-044 Printed in Japan '93.2

▼ European & Germany models



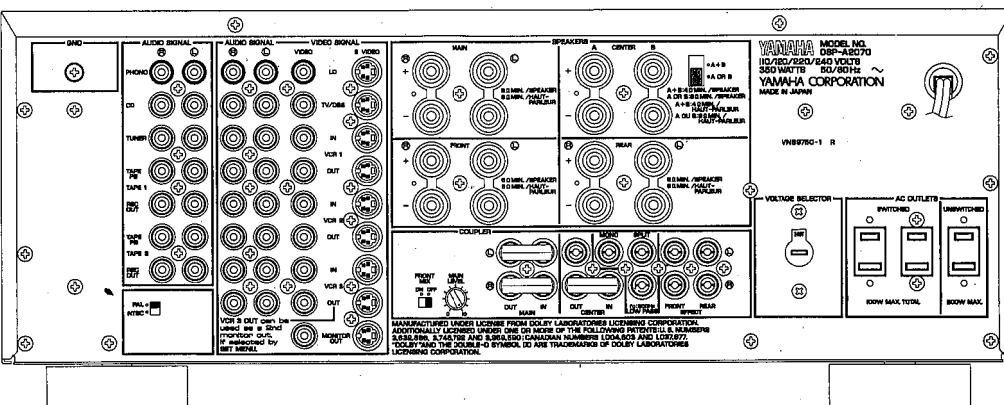
Germany model

▼ Australian & British models



British model

▼ General model



DSP-A2070

SPECIFICATIONS

Minimum RMS Output Power Per Channel	
Main (20Hz—20kHz 0.015% THD 8Ω/6Ω)	80W/100W
Center (20Hz—20kHz 0.015% THD 8Ω/6Ω)	80W/100W
Front, Rear Effect (20Hz—20kHz 0.05% THD 8Ω/6Ω)	
(U, C, R models)	25W/30W
(A, B, H, W models)	22W/26W
Dynamic Power Per Channel	
(by IHF Dynamic Headroom Measuring Method)	
(U, C, R models) Main (8Ω/6Ω/4Ω)	130W/160W/215W
DIN Standard Output Power Per Channel (H, W models)	
Main (1kHz 0.7% THD 4Ω)	130W
Dynamic Headroom (U, C, R models)	
Main (8Ω/6Ω)	2.1dB/2.0dB
IEC Power (H, W models)	
Main (1kHz 0.015% THD 8Ω/6Ω)	85W/105W
Damping Factor	
Main, Center (1kHz 8Ω)	120
Input Sensitivity/Impedance	
Phono MM	2.5mV/47kΩ
CD etc	150mV/47kΩ
MAIN IN/CENTER IN	1.0V/47kΩ
Maximum Input Signal (1kHz 0.05% THD)	
Phono MM	130mV
CD etc	2.3V
Output Level/Impedance	
REC OUT	150mV/1kΩ
PRE OUT (MAIN L, R, CENTER)	1V/1.2kΩ
PRE OUT (FRONT L, R, REAR L, R)	1V/1.2kΩ
PRE OUT (SPLIT L, R)	2.0V/1.2kΩ
PRE OUT (MONO)	4.0V/1.2kΩ
Maximum Voltage Output (20Hz—20kHz 1% THD)	
PRE OUT (MAIN L, R)	3V
Headphone Jack Rated Output/Impedance	
Input 50mV RL=8Ω	0.19V
Impedance	100Ω
Frequency Response (20Hz—20kHz)	
CD etc	0±1.0dB
MAIN IN	0±1.0dB
RIAA Equalization Deviation (20Hz—20kHz)	
Phono MM	0±0.5dB
Total Harmonic Distortion (20Hz—20kHz)	
Phono MM to REC OUT, 3V	0.01%
CD etc to PRE OUT (MAIN L, R), 1V	0.005%
MAIN IN to SP out (MAIN L, R, CENTER)	
40W/8Ω	0.005%
50W/6Ω	0.005%
Signal-to-Noise Ratio (IHF-A Network)	
Phono MM (Input Shorted)	More than 86dB
CD etc (Input Shorted)	More than 96dB
Residual Noise (IHF-A Network)	
MAIN L, R SP out	150μV
Channel Separation (Vol -30dB)	
Phono MM Input shorted	
1kHz/10kHz	More than 70dB/55dB
CD etc Input 5.1kΩ Terminated	
1kHz/10kHz	More than 60dB/45dB
Tone Control Characteristics	
Bass	
Boost/Cut	±10dB (50Hz)
Turnover frequency	350Hz
Treble	
Boost/Cut	±10dB (20kHz)
Turnover frequency	3.5kHz
Filter Characteristics (Super Woofer)	
High cut Filter	fc=200Hz, 12dB/oct
BASS EXTENSION (Main L, R)	
	+7dB (70Hz)
AUDIO MUTING	
	-20dB
Video	
Video Signal Type	
(U, C models)	NTSC
(A, B, H, W models)	PAL
(R model)	NTSC/PAL

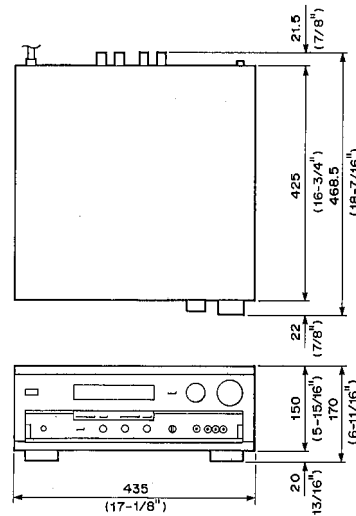
Video Signal Level	1Vp-p75Ω
S-Video Signal Level	
Y	1Vp-p75Ω
C	0.286Vp-p75Ω
Maximum Input Level	More than 1.5Vp-p
S/N	50dB
Monitor Out Frequency response	5—10MHz, -3dB
Power Supply	
U, C models	AC120V 60Hz
A, B models	AC240V 50Hz
H, W models	AC230V 50Hz
R model	AC110/120/220/240V 60/50Hz
Power Consumption	
U, C models	400W, 530VA
A, B, H, W, R models	350W
AC Outlets	
2 Switched Outlets	
(U, C models)	120W max. total
(R model)	100W max. total
1 Switched Outlets	
(A, B, H, W models)	100W max. total
1 Unswitched Outlets	
(U, C models)	180W max. total
(R model)	200W max. total
Dimensions (W x H x D)	
	435 x 170 x 468.5mm (17-1/8" x 6-11/16" x 18-7/16")
Weight	
	21.0kg (44 lbs. 0 oz)

*Specifications are subject to change without notice.

- U U. S. A. model
- C Canadian model
- B British model
- A Australian model
- H European model
- W Germany model
- R General model

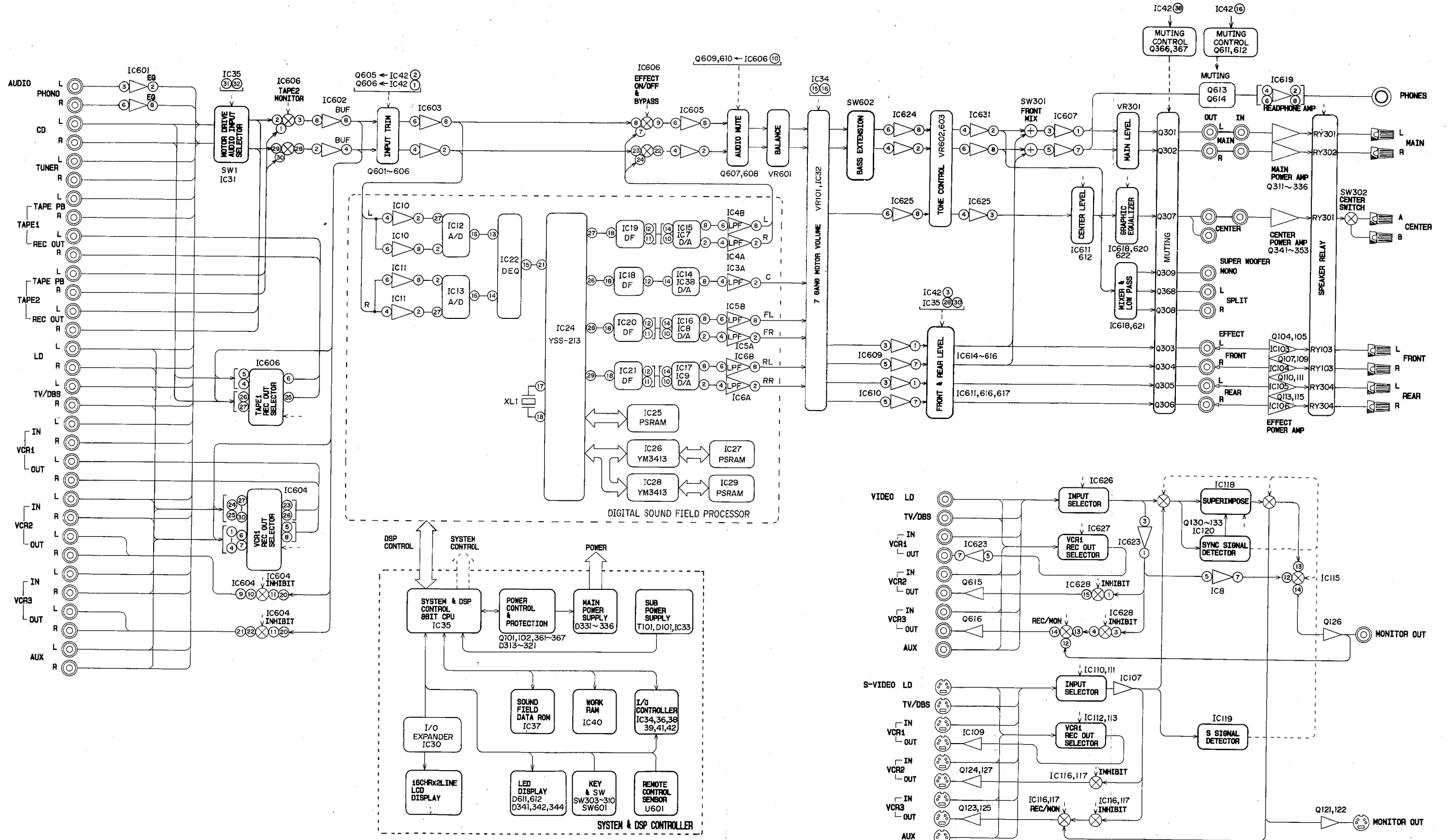
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● DIMENSIONS

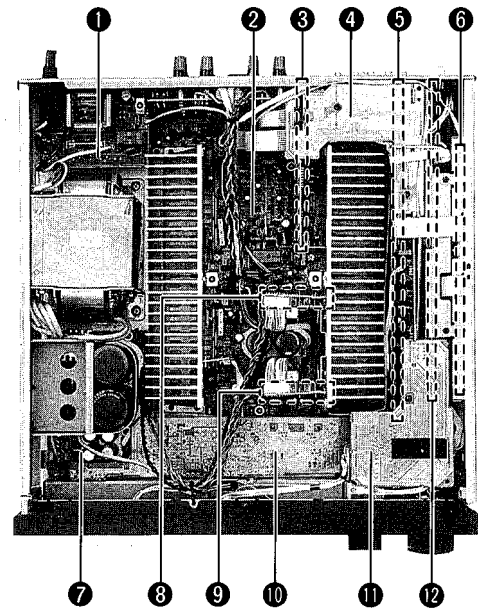


Unit : mm (Inch)

■ BLOCK DIAGRAM



INTERNAL VIEW



- ① EFFECT AMP P.C.B. ASS'Y (7)
- ② MAIN P.C.B. ASS'Y (1)
- ③ EFFECT AMP P.C.B. ASS'Y (6)
- ④ EFFECT AMP P.C.B. ASS'Y (2)
- ⑤ FUNCTION P.C.B. ASS'Y (1)
- ⑥ DSP P.C.B. ASS'Y (2)
- ⑦ MAIN P.C.B. ASS'Y (3)
- ⑧ EFFECT AMP P.C.B. ASS'Y (4)
- ⑨ EFFECT AMP P.C.B. ASS'Y (3)
- ⑩ FUNCTION P.C.B. ASS'Y (2)
- ⑪ EFFECT AMP P.C.B. ASS'Y (1)
- ⑫ DSP P.C.B. ASS'Y (1)

DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered.)

1. Removal of Top Cover

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

2. Removal of Bottom Cover

- a. Remove 12 screws (③) and then remove the Bottom Cover in Fig. 1.

3. Removal of Front Panel

- a. Remove 6 knobs in Fig. 1.
- b. Remove 3 screws (④) and then the remove the Front Panel in Fig. 1. For this removal, also remove connectors (#307 to #310, #316, #317) as necessary. (Refer to Fig. 2 Bottom Side Wire Connection Diagram.)

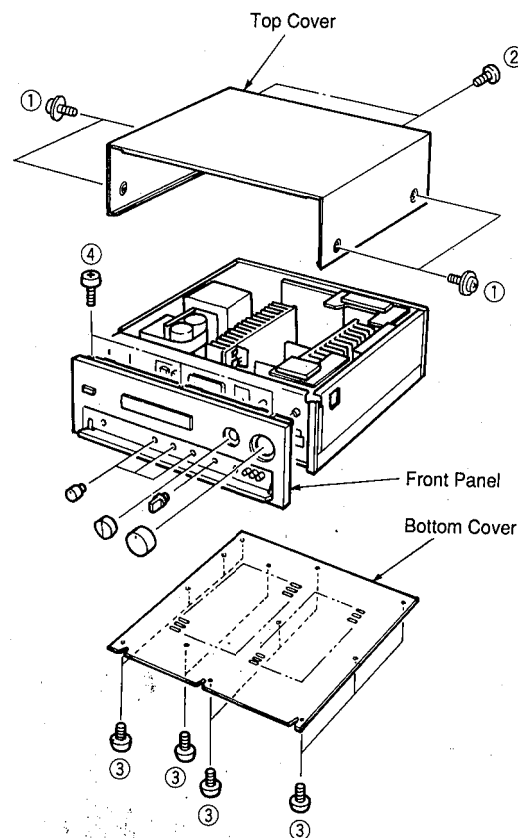


Fig. 1

Bottom Side Wire Connection Diagram

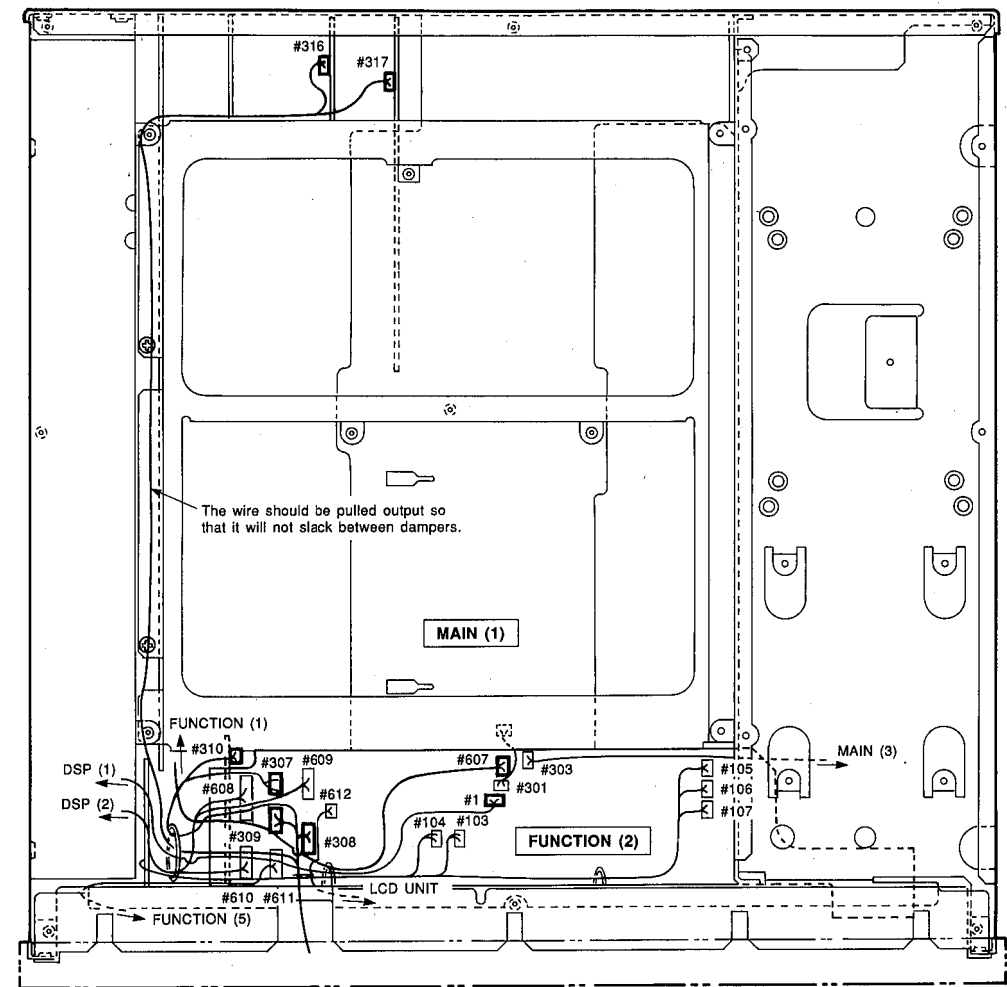


Fig. 2

4. Removal of DSP PCB (2)

- a. Remove 8 screws (⑤) and remove the right upper frame. (Fig. 3)
- b. Remove connectors #3 to #5, #101, #102, #108, #605 and #608 to #610. (Fig. 4 Right side wiring diagram)
- c. Remove 4 screws (⑥) and remove the shield case B (with DSP PCB (2)). (Fig. 3)

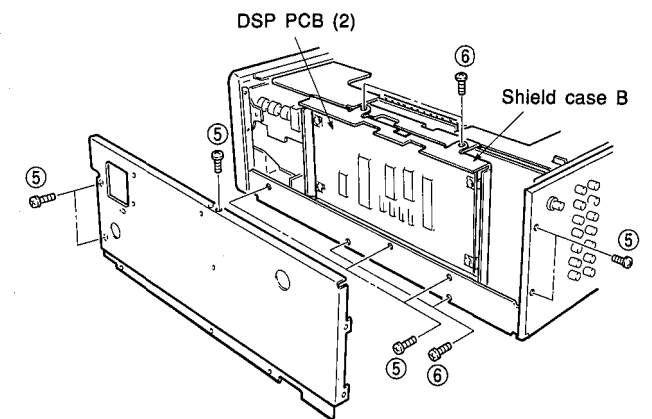


Fig. 3

● Right side wiring diagram

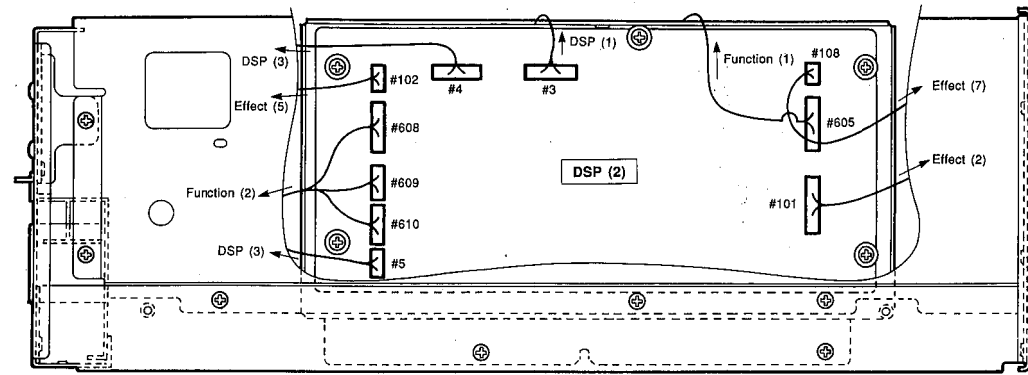


Fig. 4

5. Removal of DSP PCB (1)

- Remove connectors #204 to #206. (Fig. 6 Detail view of relay circuit board)
- Remove 1 screw ⑦ and remove the effect amplifier PCB (1) by lifting it gradually. (Fig. 5)
- Remove connectors #1, #2, #603 and #606. (Fig. 2, Fig. 5)
- Remove 4 screws ⑧ and remove the shield case A (with DSP PCB (1)). (Fig. 5)

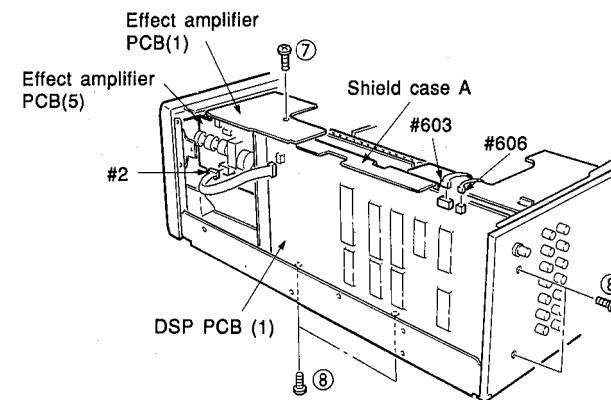


Fig. 5

● Detail view of relay circuit board (Effect amplifier PCB (1)/(2))

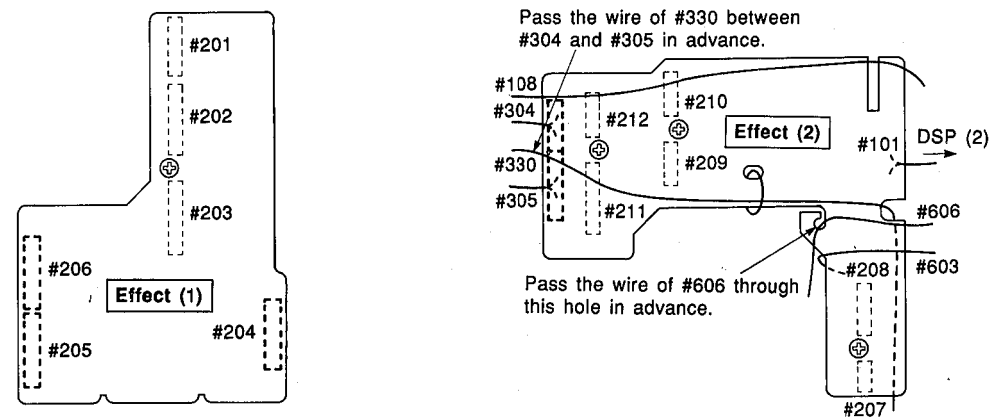


Fig. 6

6. Removal of Function PCB (1)

- Remove connectors #304 and #305. (Fig. 6 Detail view of relay circuit board)
- Remove 3 screws ⑨ and remove the effect amplifier PCB (2) by lifting it gradually. (Fig. 7)
- Remove 4 screws ⑩ and 2 plastic rivets 11 and then remove the function PCB (1). (Fig. 7) Remove connectors #601, #602, #607, #7 and #617 then (Fig. 8 and Fig. 2)

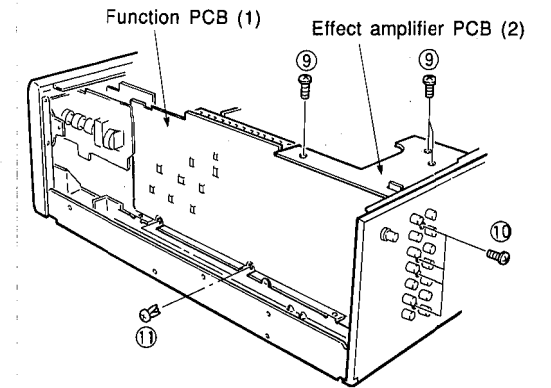


Fig. 7

● Top wiring diagram

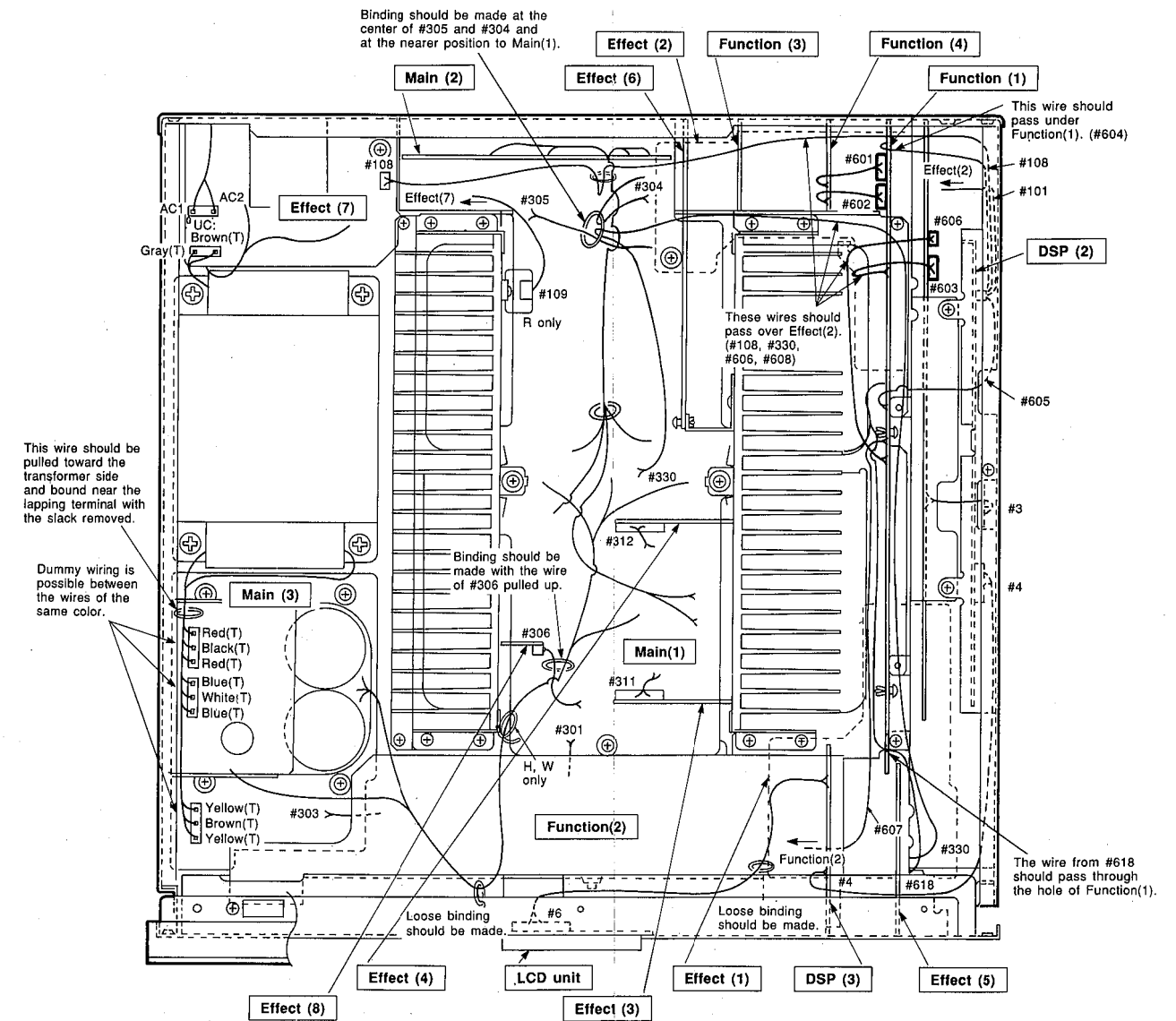


Fig. 8

ADJUSTMENTS

IDLING CURRENT ADJUSTMENT

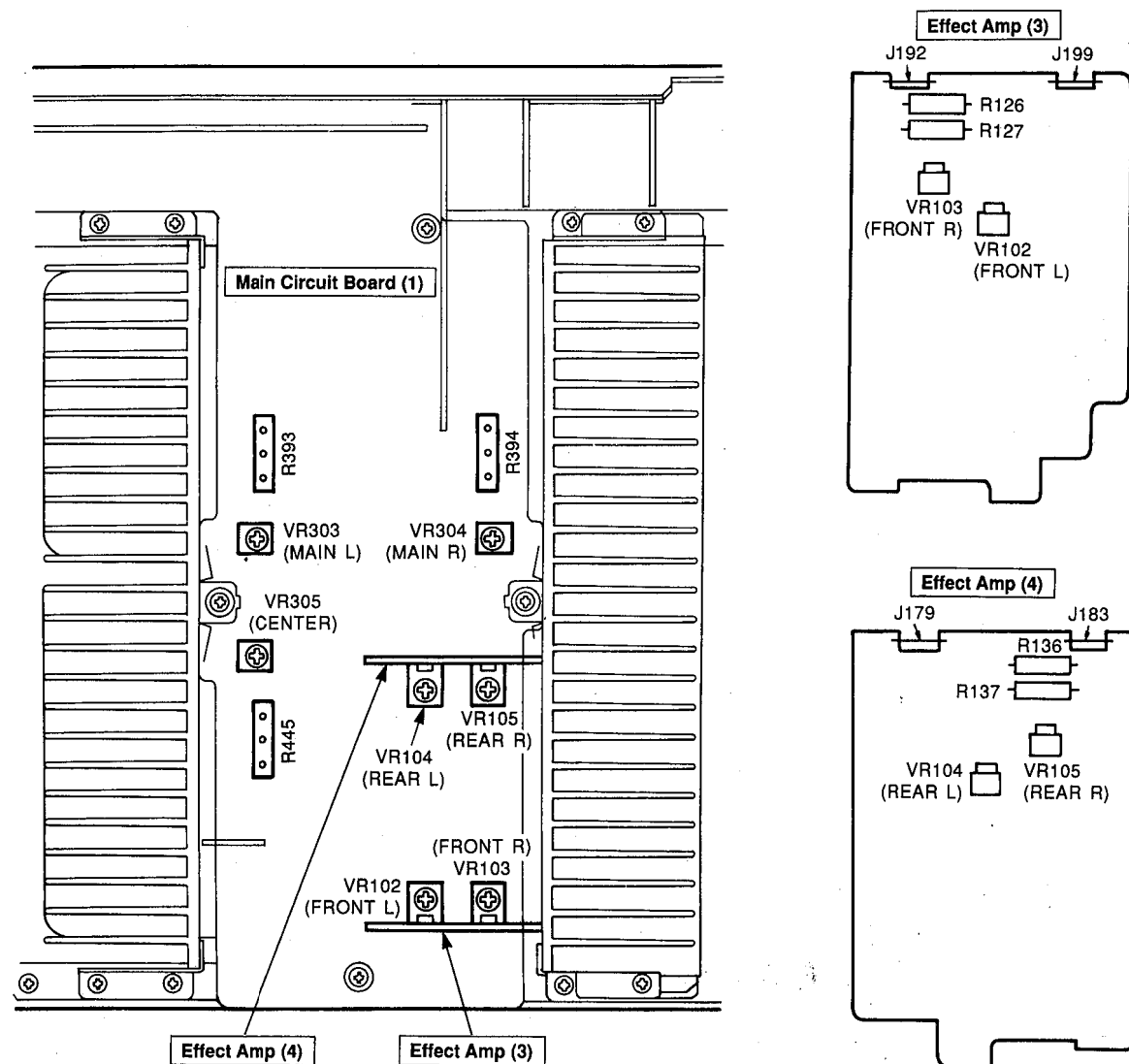
Before this adjustment, wait for 2 minutes with no signal applied after the power is turned ON.

Item	Test Point	Adjustment point	Rating (DC)
MAIN L	Between terminals of R393, at the center and one end	VR303	2.5mV~5mV
MAIN R	Between terminals of R394, at the center and one end	VR304	
CENTER	Between terminals of R445, at the center and one end	VR305	2.5mV~5mV
FRONT L	Between terminals of R126 or R127, at both ends	VR102	2.5mV~5mV
FRONT R		VR103	
REAR L	Between terminals of R136, or R137, at both ends	VR104	2.5mV~5mV
REAR R	Between J179 and J183	VR105	

Note :

- When the rear panel has been removed, the ground wire of the input/output pin jack becomes loose. Connect it to the chassis by using a lead wire.
- When the Effect Amp P.C.B. Ass'y (2) has been removed, protection operation becomes effective to prevent the power from coming ON.

Test Point



DIAGNOSTICS MODE

The DSP-A2070 is provided with a self-diagnosis program called "DIAGNOSTICS" mode which facilitates inspection and measurement. Described below are its operation procedure and diagnosis content.

How to Start Diagnosis

While pressing 3 keys, 'INPUT TRIM +', 'SET MENU' and 'PROGRAM -', on the main panel of the DSP-A2070 simultaneously, turn ON the power. This sets the unit in the "DIAGNOSTICS" mode and starts operation and then the following message appears on the LCD.

```
1. DSP RAM THR.
VOL. 0dB TYPE A
```

Operation Procedure and Content of Diagnosis

There are 13 menus (No.1 to No.13) in the "DIAGNOSTICS" mode and each of them has some sub-menus. Selection of these menus and sub-menus can be made as follows.

- Remote Control Program No.1 to No.12 keys and ON SCREEN key**
 Menus No.1 to No.13 can be selected directly. Also, pressing the same No. key a number of times will allow the sub-menu to be selected or the menu to be executed.
- Remote Control PARAMETER Δ/∇ key**
Main unit PROGRAM +/- key
 The menu can be shifted up and down among No.1 to No.13.
- Remote Control PARAMETER +/- key**
Main unit INPUT TRIM +/- key
 The sub-menu under each menu can be selected or each menu can be executed.

List of Diagnosis Menus

Diagnosis Menu	Remote Control Key
1. DSP RAM THR. (*1)	HALL 1
2. DSP RAM THR. (*1)	HALL 2
3. ANALOG THR.	HALL 3
4. ANALOG INPUT (*2)	CHURCH
5. DISPLAY CHECK	ROCK CONCERT
6. PRO LOGIC	JAZZ CLUB
7. MANUAL TEST	CONCERT VIDEO 1
8. FACTORY PRESET	CONCERT VIDEO 2
9. INPUT CHECK	TV THEATER 1
10. ACIA CHECK	MOVIE THEATER 1
11. EXIT	MOVIE THEATER 2
12. DAC CHECK	PRO LOGIC
13. CENTER GEQ	ON SCREEN

(*1) : DSP RAM THROUGH
 1. is when the electronic control is at 0dB and 2. is when it is at FULL.
 (*2) : INPUT LEVEL TRIM of the analog input system is confirmed.

Content of Diagnosis

- DSP RAM THR. (electronic control at 0dB)**
 All of L, C, R and Effect channels allow DSP-LSI and PS-RAM to pass through. All electronic controls are set to 0dB. As a sub-menu, the through path can be selected from among TYPE A to C. (Refer to pages 13 and 14.)
 Display example:

```
1. DSP RAM THR.
VOL. 0dB TYPE A
```
- DSP RAM THR. (electronic control at FULL)**
 The same as No.1 except that the electronic control is set to FULL.
 Display example:

```
2. DSP RAM THR.
VOL. FULL TYPE A
```
- ANALOG THR.**
 C and Effect channels allow DSP RAM to pass through and L and R channels by the analog bypass.
 Display example:

```
3. ANALOG THR.
MAIN L/R THROUGH
```
- ANALOG INPUT**
 As a sub-menu, the INPUT LEVEL TRIM value can be selected from among 0dB, +2dB and +4dB.
 Display example:

```
4. ANALOG INPUT
LEVEL TRIM 0dB
```

5. DISPLAY CHECK

The back light of the LCD turns off for about 0.5 seconds and then turns on in full dots. On the LED, INPUT LEVEL OVER → □□ PRO LOGIC DECODER → SOUND FIELD PROCESSOR → TAPE 2 MONITOR → VOLUME light in that order at about 0.5 seconds intervals and then after all of them light for about 1.5 seconds, they turn OFF (except VOLUME which remains ON).

Display example

```
5. DISPLAY CHECK
PRESS +/- KEY !
```

- To press the ROCK CONCERT key on the remote controller once again.
- To press the TRIM +/- key of the main unit.
- To press the PARAMETER +/- key on the remote controller.

Any of the following operations will start checking procedure.

6. PRO LOGIC

The same as usual DOLBY PRO LOGIC except that AUTO INPUT BALANCE and AUTO AZIMUTH are forced to turn OFF. As a sub-menu, either 3 choices, NORMAL/WIDE/PHANTOM, or 4 choices, NORMAL/WIDE/PHANTOM/EFFECT OFF, can be selected for the CENTER mode. EFFECT OFF as a sub-menu is the same as the normal EFFECT OFF, resulting in L/R 2ch output of the analog bypass.

Display example

```
6. PRO LOGIC
CENTER NORMAL
```

7. MANUAL TEST

The built-in test noise is output through the channels selected by the sub-menu. The output channels are LEFT, CENTER, RIGHT REAR EFFECT and FRONT EFFECT.

Display example

```
7. MANUAL TEST
LEFT
```

8. FACTORY PRESET

When the "DIAGNOSTICS" mode is cancelled, inhibition or reservation of the BACK UP RAM initialization can be selected.

Display example

```
8. FACTORY PRESET
INHIBITED
```

Note : Even after "RESERVED" has been set, re-selecting "INHIBITED" will prevent the RAM from being initialized. To execute initialization, select MENU No.8 in the "RESERVED" state or cancel the "DIAGNOSTICS" mode. (Selecting any other menu will not make initialization possible.)

9. INPUT CHECK

By using the sub-menu, the INPUT can be selected in the order of CD → TAPE 1 → LD → TV/DBS → VCR1 → VCR2 → VCR3 → AUX → TAPE 2 MONITOR → CD →

Display example

```
9. INPUT CHECK
CD
```

10. ACIA CHECK

The CPU asynchronous serial data line is checked. "GOOD!" appears on the display when the check result is satisfactory and "NG!" when unsatisfactory.

Display example

```
10. ACIA CHECK
GOOD !
```

11. EXIT

The "DIAGNOSTICS" mode is cancelled and the mode is set back to the normal operation mode. If PRESET has been set to "RESERVED" by MENU No.8 at this time, the RAM is initialized.

Display example

```
11. EXIT
PRESS +/- KEY !
```

- To press the MOVIE THEATER 2 key on the remote controller once again.
- To press the TRIM +/- key of the main unit.
- To press the PARAMETER +/- key on the remote controller.

Any of the following operations will change the mode to the normal operation mode.

12. DAC CHECK (Power control at FULL)

The automatic gain adjusting function of the floating A/D converter is turned ON and OFF to switch between the automatic and fixed modes.

Display example

```
12. DAC CHECK
A/D AUTO GAIN
```

13. CENTER GEQ (Power control at 0dB)

Only one band of the center graphic equalizer is boosted at +6dB and others at 0dB. At first, all bands start at 0dB(FLAT) and the band boosted by the sub-menu changes from FLAT → 100Hz → 300Hz → 1kHz → 3kHz → 10kHz in that order. The signal path for output is RAM THROUGH TYPE A.

Display example

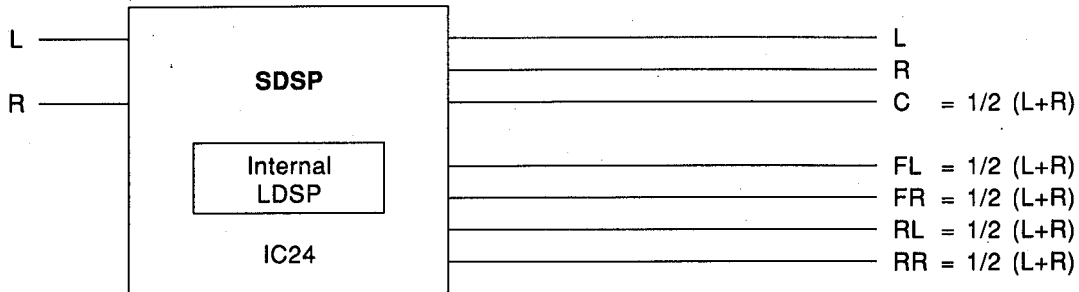
```
13. CENTER GEQ
ALL FLAT
```

Cancellation

The "DIAGNOSTICS" mode can be cancelled by using MENU No.11 and also by turning the power OFF.

DSP RAM THROUGH (DIAG.1,2) PATH DIAGRAM

● RAM THROUGH TYPE A

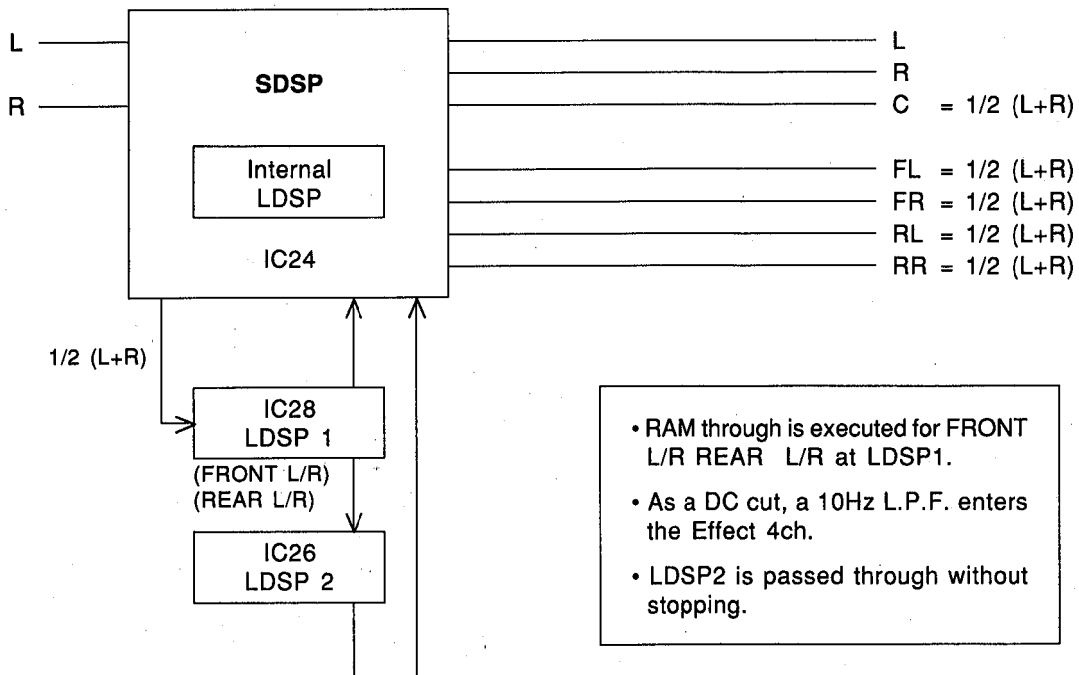


IC28
LDSP 1

IC26
LDSP 2

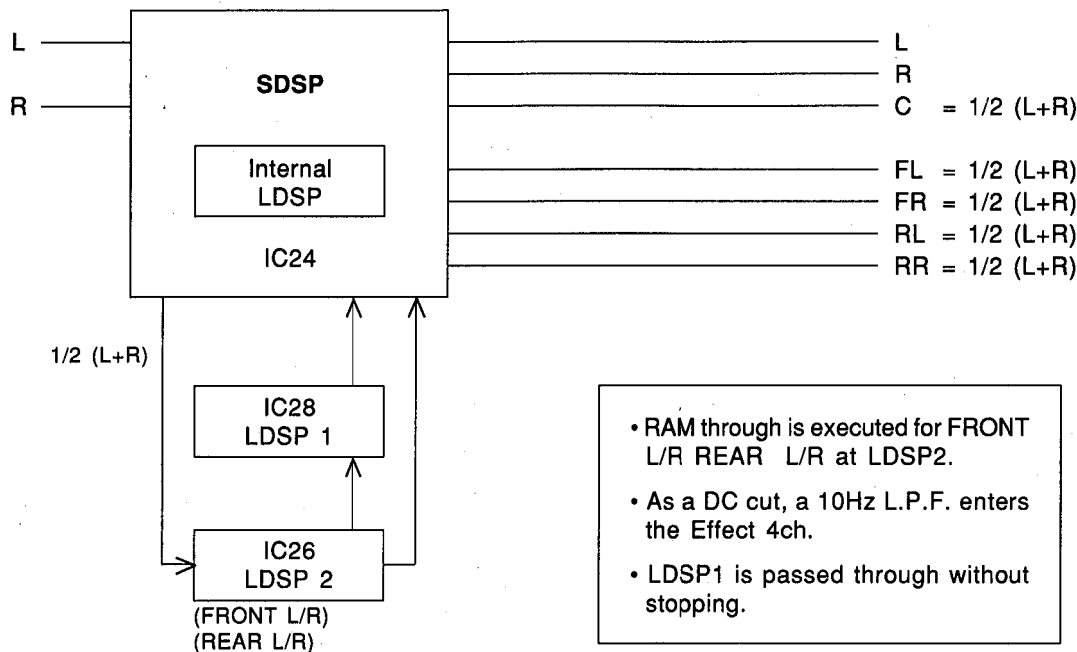
- The Effect 4ch is output by the LDSP in the SDSP only.
- As a DC cut, a 10Hz L.P.F. enters the Effect 4ch.

● RAM THROUGH TYPE B



- RAM through is executed for FRONT L/R REAR L/R at LDSP1.
- As a DC cut, a 10Hz L.P.F. enters the Effect 4ch.
- LDSP2 is passed through without stopping.

● RAM THROUGH TYPE B



- RAM through is executed for FRONT L/R REAR L/R at LDSP2.
- As a DC cut, a 10Hz L.P.F. enters the Effect 4ch.
- LDSP1 is passed through without stopping.

■ PROTECTION FUNCTION

The protection function is activated and the power turns OFF when :

1. DC occurs in the output the power amplifier
2. An abnormal current flows to the power amplifier due to such reason as short circuit in the speaker
3. ±15V is abnormal
4. ±5V is abnormal
5. ±B is abnormal

Also , there are cases when the power is turned OFF due to an error in detecting the above conditions or abnormality in the protection circuit itself.

The protection circuit consists of a microcomputer (IC35), an interface (IC42), Q364, 365 and a peripheral diode.

The function of each element is as follows.

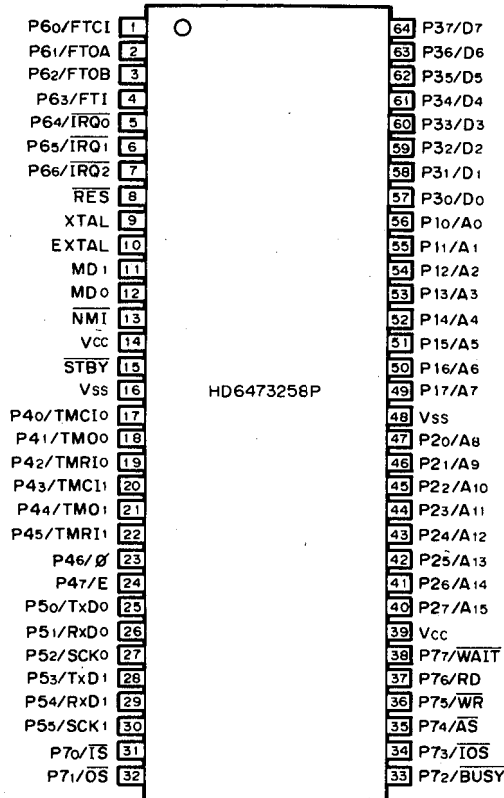
- a) Q364, 365 : Detecting abnormality and sending that signal to the interface (IC42)
- b) PRT (10) terminal of interface (IC42) : Input terminal of the signal from Q364, 365
- c) PRY (1) terminal of microcomputer (IC35) : Output terminal for the signal to the power ON/OFF relay
- d) SRY (40) terminal of interface (IC42) : Output terminal for the ON/OFF signal to the speaker protection relay

The microcomputer and interface does not detect abnormality for 3 or 4 seconds after the power is turned ON. During this time, abnormality can be located by checking the above listed conditions 1 to 5. Before this check, however, make sure to check that there or is no danger or smoke.

IC DATA

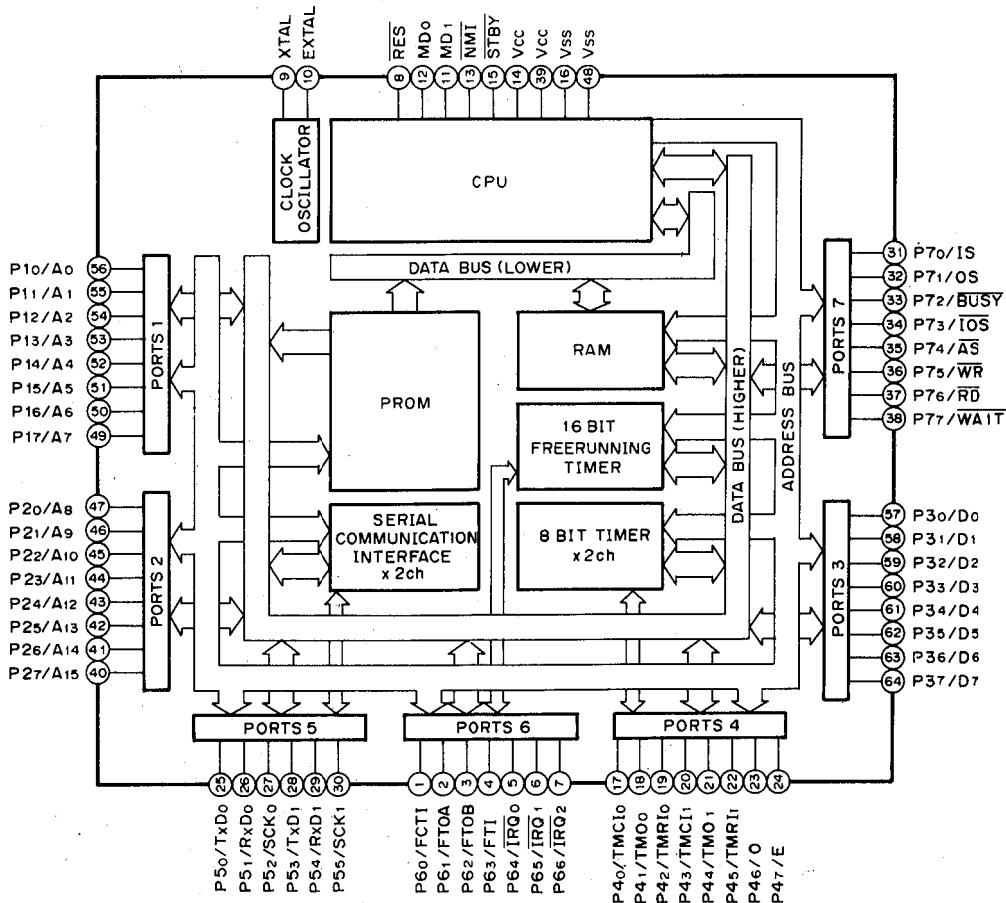
IC35 : HD6473258P10
8 bit μ -COM

DSP-A2070



REC OUT CODE (Table A)

	FUNCTION	K 210
0	CD	001
1	SOURCE	101
2	LD	111
3	TV/DBS	011
4	VCR 2	010
5	VCR 3	110
6	AUX	100

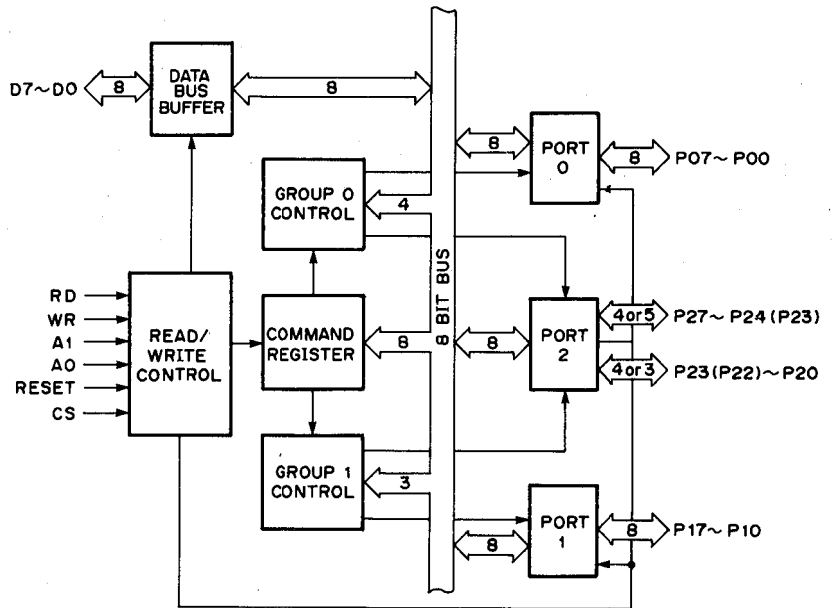
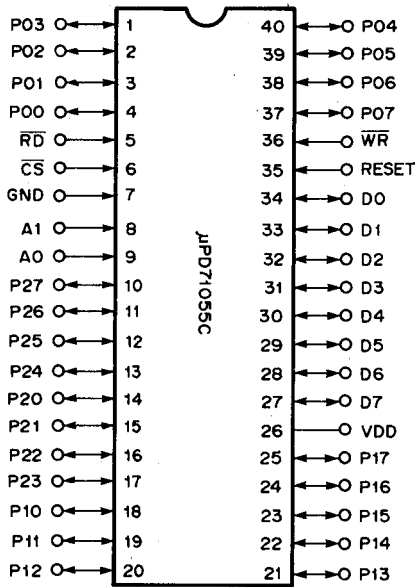


IC35 : CPU PORT

No.	Name	Description	POWER ON	POWER OFF	BACK UP	No.	Name	Description	POWER ON	POWER OFF	BACK UP
1	P60	POWER RELAY	OH	OL	OL	33	P72	\overline{IC}	OL→OH	OL	OL
2	P61	STANDBY IND	OH	OL(H:stby)	OL	34	/OS	I/O SELECT	* /IC=/S (CEP) /(/IC)=DPD, 71055RST		
3	P62	VOLUME IND	O	OL	OL	35	/AS	ADDR. SELECT	active O	OL	OL
4	P63	HP IN DET	I (pu)	OL	OL	36	/WR	WRIGHT	active O	OL	OL
5	P64//IRQ0	REM IN	I	I	I	37	/RD	READ	active O	OL	OL
6	P65//IRQ1	POWER SW	I	I	I	38	/WAIT	WAIT	active I	I	I
7	P66//IRQ2	PWR DET	I	I	I	39	VCC	+5V			
8	/RES	RESET				40	A15	ADDRESS BUS	active O	OL	OL
9	XTAL	20MHz				41	A14	ADDRESS BUS	active O	OL	OL
10	EXTAL	OSC				42	A13	ADDRESS BUS	active O	OL	OL
11	MD1	H				43	A12	ADDRESS BUS	active O	OL	OL
12	MD0	L				44	A11	ADDRESS BUS	active O	OL	OL
13	/NMI	H				45	A10	ADDRESS BUS	active O	OL	OL
14	VCC	+5V				46	A9	ADDRESS BUS	active O	OL	OL
15	/STBY	H				47	A8	ADDRESS BUS	active O	OL	OL
16	VSS	GND				48	VSS	GND			
17	P40	K2	I	I	I	49	A7	ADDRESS BUS	active O	OL	OL
18	P41	K1	Table A	I	I	50	A6	ADDRESS BUS	active O	OL	OL
19	P42	K0		I	I	51	A5	ADDRESS BUS	active O	OL	OL
20	P43	D2		O	OL	OL	52	A4	ADDRESS BUS	active O	OL
21	P44	D1	O	OL	OL	53	A3	ADDRESS BUS	active O	OL	OL
22	P45	D0	O	OL	OL	54	A2	ADDRESS BUS	active O	OL	OL
23	ϕ	ϕ clock				55	A1	ADDRESS BUS	active O	OL	OL
24	P47/E	TAPE 2 SW	I	I	I	56	A0	ADDRESS BUS	active O	OL	OL
25	P50/TXD0	CDO	serial O	OL	OL	57	D0	DATA BUS	active I/O	OL	OL
26	P51/RXD0	CDI	serial I	I	I	58	D1	DATA BUS	active I/O	OL	OL
27	P52/SCK0	XCLK	serial clk	OL	OL	59	D2	DATA BUS	active I/O	OL	OL
28	P53/TXD1	SDT	serial O	OL	OL	60	D3	DATA BUS	active I/O	OL	OL
29	P54/RXD1	CEP	O	OL	OL	61	D4	DATA BUS	active I/O	OL	OL
30	P55/SCK1	SCK	serial clk	OL	OL	62	D5	DATA BUS	active I/O	OL	OL
31	P70	TURN R	O	OL	OL	63	D6	DATA BUS	active I/O	OL	OL
32	P71	TURN L	O	OL	OL	64	D7	DATA BUS	active I/O	OL	OL

DSP-A2070

IC42 : μ PD71055C
Programmable Peripheral Interface



IC42 : Extension I/O Port

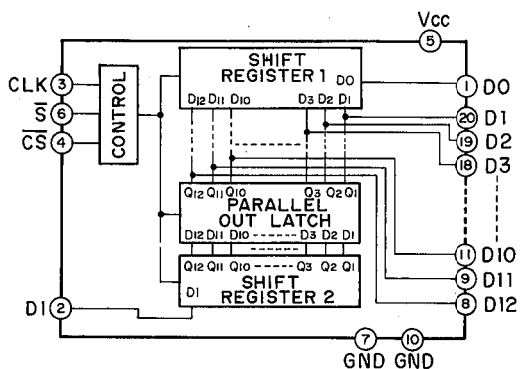
No.	Name	Description	POWER ON	Remark
4	P00	CE1	O	
3	P01	CE0	O	
2	P02	IT1	O	
1	P03	IT0	O	
40	P04	SP RELAY	OL→OH	
39	P05	CE SPI	O	
38	P06	FULL MUTE	O	
37	P07	CE LCD	O	
18	P10	POSITION	I	Table B
19	P11	SWITCH 4	I	
20	P12	SWITCH 3	I	
21	P13	SWITCH 2	I	
22	P14	SWITCH 1	I	
23	P15	SWITCH 0	I	
24	P16	OVER R	I	
25	P17	OVER L	I	
14	P20	GE CLK	O	
15	P21	GE DATA	O	
16	P22	HP MUTE	O	
17	P23/INT0	CRS	O	
13	P24//STB0	IN/EXT SYNC	I	
12	P25/IBF0	NTSC/PAL	I	
11	P26	G SEL (G : L)	I	
10	P27	PROTECTION	I	

INPUT SWITCH DETECT CODE (Table B)

	FUNCTION	S 43210
0	PHONO	10010
1		10110
2	CD	00110
3		01110
4	TUNER	01000
5		11001
6	TAPE 1	10001
7		10101
8	LD	00101
9		01101
A	TV/DBS	01001
B		11011
C	VCR 1	10011
D		10111
E	VCR 2	00111
F		01111
10	VCR 3	01100
11		11100
12	AUX	11000

Group 0 : Mode 0
Group 1 : Mode 0

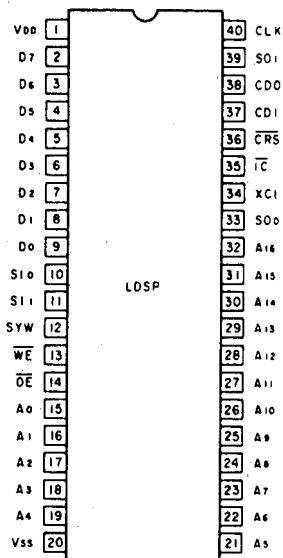
IC30, 34 : M66006P
12-Bit I/O Expander



IC30, 34 : Extension I/O Port

	IC34	IC30
D	CEP	CELCD
0	PRO LOGIC	RS
1	DSP	E
2	OVER	D0
3	---	D1
4	VOLUME UP	D2
5	VOLUME DN	D3
6	---	D4
7	BACK LIGHT	D5
8	TAPE 2: MON	D6
9	---	D7
10	---	---
11	---	---

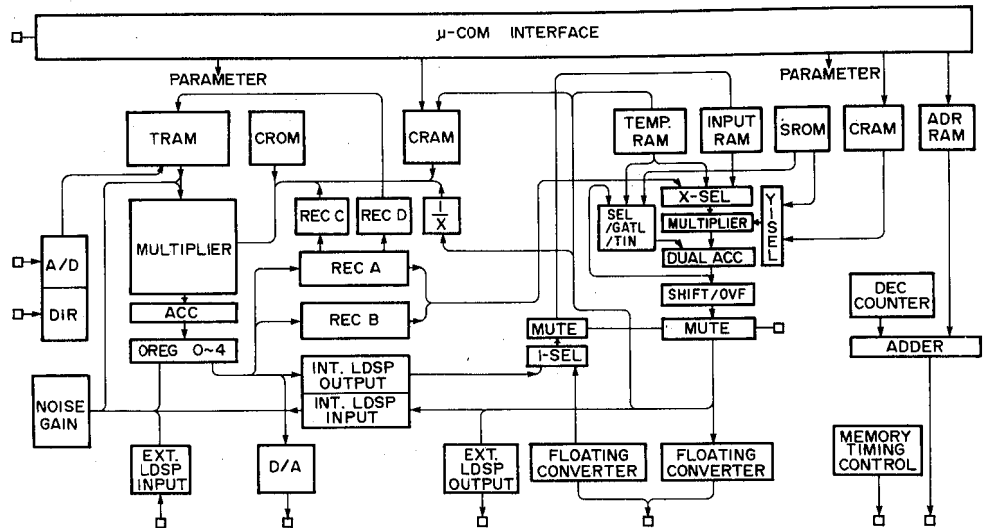
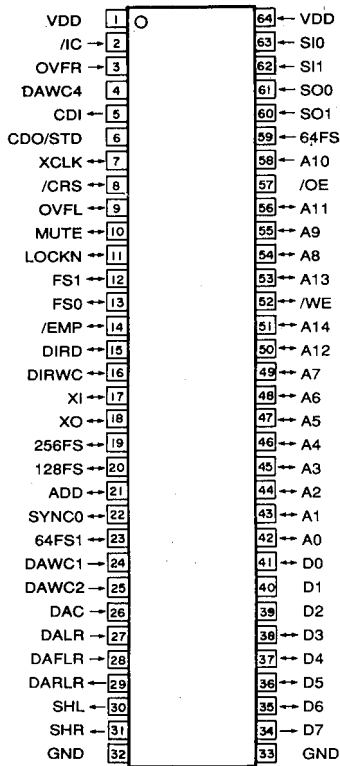
IC26, 28 : YM3413
LDSP



Pin No.	Pin Name	I/O	Function	Pin No.	Pin Name	I/O	Function
1	VDD	—	+5V voltage supply	40	CLK	I	Master clock input
2	D7	I/O	I/O pins connected to memory data bus (8bit)	39	SO1	O	Serial data output
3	D6	I/O		38	CDO	O	CD data output
4	D5	I/O		37	CDI	I	CD data input
5	D4	I/O		36	CRS	I	CD data sync signal input
6	D3	I/O		35	IC	I	LDSP initial clear signal input
7	D2	I/O		34	XCLK	I	ACIA clock input
8	D1	I/O		33	SDO	O	Serial data output
9	D0	I/O		32	A16	O	Outputs connected to memory address bus
10	S10	I		31	A15	O	
11	S11	I	30	A14	O		
12	SYW	I	29	A13	O		
13	WE	O	28	A12	O		
14	OE	O	27	A11	O		
15	A0	O	26	A10	O		
16	A1	O	25	A9	O		
17	A2	O	24	A8	O		
18	A3	O	23	A7	O		
19	A4	O	22	A6	O		
20	VSS	O	GND 0V	21	A5	O	

IC24 : YSS213-K
Dolby-Pro-Logic Decoder +LDSP (SDSP)

DSP-A2070



- The Dolby Pro Logic section has bi-directional emphasis circuit, noise sequencer, 7kHz low pass filter(variable), transformed B-type N.R. decoder, center mode control, automatic input balance and automatic phase control all built in.
- The front 3 channels have 5 bands of secondary IIR equalizer for the tone correction built in, 3 bands at the center and 1 band each at the right and left.
- The sampling frequency can be switched automatically among 32kHz, 44.1kHz and 48kHz. (It can also be fixed.)

No.	Name	I/O	Function
1	VDD	—	+5V power supply
2	IC	Ics	Initial clear input
3	OVFR	O	Rch input, Overflow detect terminal
4	DAWC4	O	L/R word clock for D/A converter (18 bit output)
5	CDI	Ics	Microprocessor interface data input
6	CDO/STD	O	Microprocessor interface data output
7	XCLK	Ics	Microprocessor interface clock input
8	CRS	Ics	Microprocessor interface reset terminal
9	OVFL	O	Lch input overflow detect terminal
10	MUTE	O	System mute detect terminal
11	LOCKN	Ics	DIR2 Lock detect terminal
12	FS1	Ics	Sampling frequency select terminal
13	FS0	Ics	Sampling frequency select terminal
14	EMP	Ics	De-emphasis select terminal
15	DIRD	I	DIR2 data input
16	DIRWC	Ics	DIR2 word clock input
17	XI	Ic	Crystal oscillation input terminal
18	XO	O	Crystal oscillation output terminal

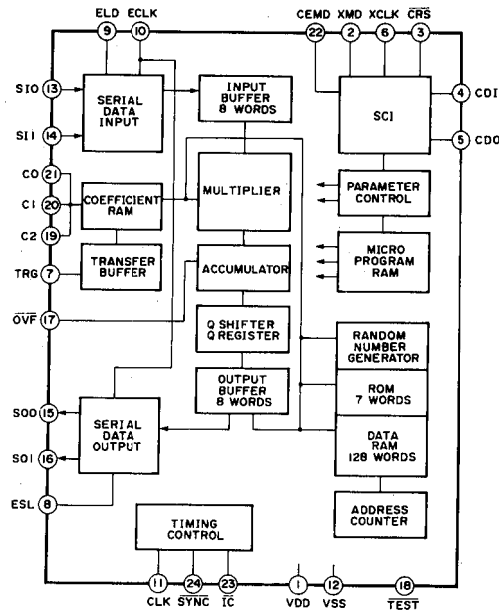
No.	Name	I/O	Function
19	256FS	O	256*FS clock output
20	128FS	O	128*FS clock output
21	ADD	It	A/D converter data input terminal
22	SYNCO	O	External LDSP system synchronous signal A/D converter word clock
23	64FS1	O	64*FS clock (for A/D, D/A converter)
24	DAWC1	O	D/A conversion clock (16 bit output)
25	DAWC2	O	D/A converter L/R word clock (16 bit output)
26	DAC	O	Center main channel D/A converter output
27	DALR	O	L, R main channel D/A converter output
28	DAFLR	O	Front L, R surround channel D/A converter output
29	DARLR	O	Rear L, R surround channel D/A converter output
30	SHL	O	D/A converter L channel sample/hold signal
31	SHR	O	D/A converter R channel sample/hold signal
32	GND	—	Ground
33	GND	—	Ground
34	D7	It/O	External delay PSRAM data terminal
35	D6	It/O	External delay PSRAM data terminal
36	D5	It/O	External delay PSRAM data terminal
37	D4	It/O	External delay PSRAM data terminal
38	D3	It/O	External delay PSRAM data terminal
39	D2	It/O	External delay PSRAM data terminal
40	D1	It/O	External delay PSRAM data terminal
41	D0	It/O	External delay PSRAM data terminal
42	A0	O	External delay PSRAM address terminal
43	A1	O	External delay PSRAM address terminal
44	A2	O	External delay PSRAM address terminal
45	A3	O	External delay PSRAM address terminal
46	A4	O	External delay PSRAM address terminal
47	A5	O	External delay PSRAM address terminal
48	A6	O	External delay PSRAM address terminal
49	A7	O	External delay PSRAM address terminal
50	A12	O	External delay PSRAM address terminal
51	A14	O	External delay PSRAM address terminal
52	$\overline{\text{WE}}$	O	External delay PSRAM write enable terminal
53	A13	O	External delay PSRAM address terminal
54	A8	O	External delay PSRAM address terminal
55	A9	O	External delay PSRAM address terminal
56	A11	O	External delay PSRAM address terminal
57	$\overline{\text{OE}}$	O	External delay PSRAM output enable terminal
58	A10	O	External delay PSRAM address terminal
59	64FS2	O	64*FS clock (/CE and LDSP master clock of PSRAM)
60	SO1	O	LDSP serial tone data output 1 channel
61	SO0	O	LDSP serial tone data output 0 channel
62	SI1	It	LDSP serial tone data input 1 channel
63	SI0	It	LDSP serial tone data input 0 channel
64	VDD	—	+5V power supply

Note) Symbols used in the I/O column mean as follows.

- I : Input terminal
- O : Output terminal
- t : TTL level
- c : CMOS level
- s : Shmidt input

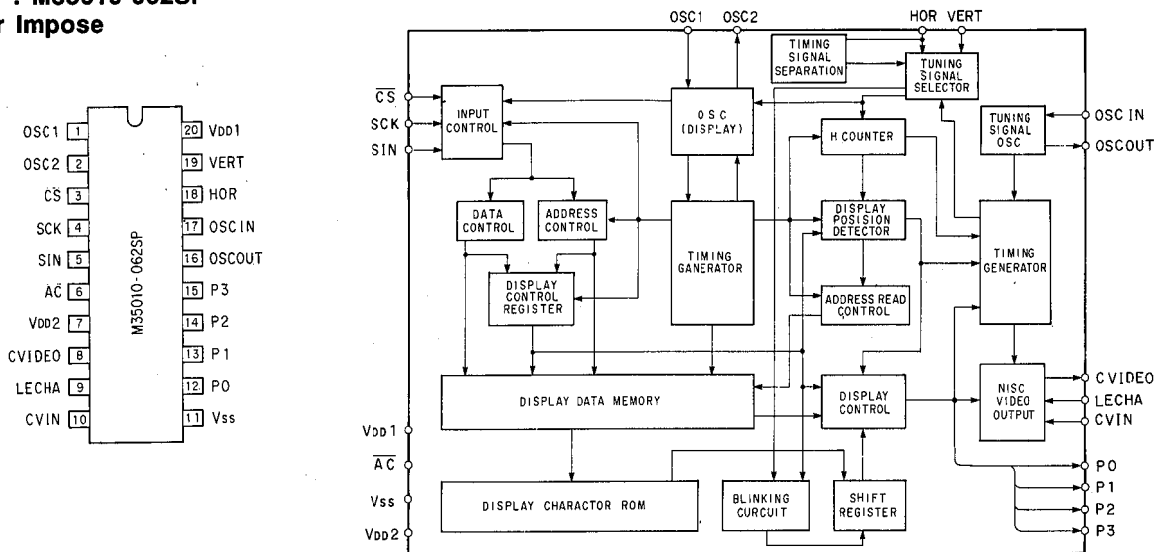
IC22 : YM6104
Digital Equalizer

DSP-A2070



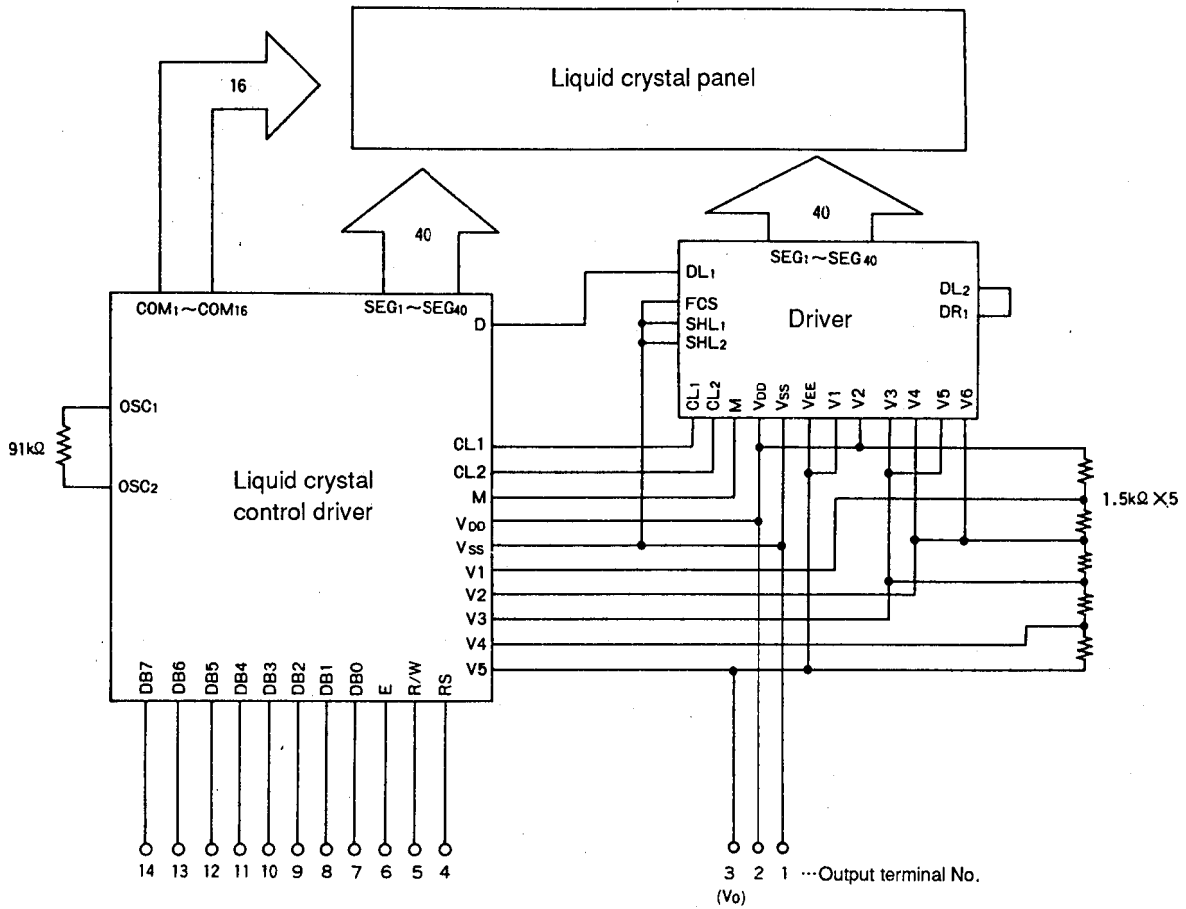
Pin No.	Pin Name	I/O	Function
1	VDD	I	+5V power supply
2	XMD	I	Switches CDI input to either synchronous mode (1 : 1) "L" or asynchronous mode (Start-stop synchronous system 16 : 1) "H"
3	CRS	I	Initializes SCI interface
4	CDI	I	SCI input for setting micro program, factor and control register
5	CDO	O	SCI output for setting micro program, factor and control register
6	XCLK	I	Input-output clock for CDI and CDO
7	TRG	I	Determines parameter transfer timing from transfer buffer to factor RAM when external trigger is selected
8	ESL	I	Enters output timing into SO0 and SO1 when EXT clock is selected
9	ELD	I	Enters input timing into SIO and SI1 when EXT clock is selected
10	ECLK	I	Enters input-output clock for SIO, SO0 and SO1 when EXT clock is selected
11	CLK	I	Master clock input
12	VSS	I	Ground
13, 14	SIO, SI1	I	16 bits serial input
15, 16	SO0, SO1	O	16 bits serial output
17	OVF	O	Over flow detect
18	TEST	I	Used for testing Usually connected to +5V
19	C2/Sign	O	Outputs bit 2 of factor RAM while delaying it by 1 bit. Used as a timing signal Monitors sign bit of accumulator by setting test Reg (When factor RAM is used as a timing signal, effective bit number of factor decreases)
20	C1/TESTM	O	Outputs bit 1 of factor RAM while delaying it by 1 bit. Used as a timing signal Switches to test output of multiplier by setting test Reg
21	CO	O	Outputs bit 2 of factor RAM while delaying it by 1 bit. Can be used as a timing signal
22	CEMD	I	Turns OFF CE of SCI input CE ON : "H" CE OFF : "L"
23	TC	I	Initializes DEQ operation
24	Sync	I	Synchronous signal of system

IC118 : M35010-062SP
Super Impose



Pin No.	Symbol	Terminal name	Function
1	OSC1	External terminal for oscillation circuit	External terminal of oscillation circuit for display. The standard oscillation frequency is about 7MHz.
2	OSC2	External terminal for oscillation circuit	The display position in the horizontal direction and width of characters on the TV screen are determined according to this oscillation frequency.
3	CS	Chip select input	Chip select terminal "L" is set when the serial data is transferred. Hysteresis input. A pull-up resistor is built in.
4	SCK	Serial clock input	When CS terminal is "L", the SIN serial data is taken in at the SCK rise. Hysteresis input. A pull-up resistor is built in.
5	SIN	Serial data input	The data and addresses for the display control register and display data memory are inputted in the serial form. Hysteresis input. A pull-up resistor is built in.
6	AC	Auto clear input	The IC internal circuit is reset when in "L" state. Hysteresis input. A pull-up resistor is built in.
7	VDD2	Power supply terminal	Analog type power supply terminal that should be connected to +5V.
8	CVIDEO	Composite video signal output	Output terminal for composite video signal 2Vp-p composite video signal is output. When making a superimposition, the character output and other features are superimposed on the composite video signals inputted through the CVIN terminal.
9	LECHA	Character level input	Input terminal to determine the output level for the characters in the composite video signals. The color of characters is white.
10	CVIN	Video input	Input terminal for external composite video signals. When making a superimposition, the character output and other features are superimposed on these composite video signals.
11	VSS	Ground terminal	Connection to GND is made by using this terminal.
12	P0	Port 0 output	Port terminal output or character background signals (BLNK1*) are output. The polarity can be selected when determining the font ROM.
13	P1	Port 1 output	Port terminal output or character background signals (CO1*) are output. The polarity can be selected when determining the font ROM.
14	P2	Port 2 output	Port terminal output or character background signals (BLNK2*) are output. The polarity can be selected when determining the font ROM.
15	P3	Port 3 output	Port terminal output or character background signals (CO2*) are output. The polarity can be selected when determining the font ROM.
16	OSCOUT	Oscillation circuit for generation of synchronous signals	External terminal of the oscillation circuit for generation of synchronous signals. The oscillation frequency is 14.32MHz when the NTSC system is used and 17.73MHz when the PAL system is used.
17	OSCIN	Oscillation circuit for generation of synchronous signals	External terminal of the oscillation circuit for generation of synchronous signals. The oscillation frequency is 14.32MHz when the NTSC system is used and 17.73MHz when the PAL system is used.
18	HOR*	Horizontal synchronous signal input	Horizontal synchronous signals are inputted. Hysteresis input The polarity can be selected when determining the font ROM.
19	VERT*	Vertical synchronous signal input	Vertical synchronous signals are inputted. Hysteresis input The polarity can be selected when determining the font ROM.
20	VDD1	Power supply terminal	Digital type power supply terminal that should be connected to +5V.

■ LCD UNIT DATA (VP332900)



Pin No.	Pin Name	Function
1	VSS	(-) side power supply terminal, 0V
2	VDD	(+) side power supply terminal, +5V
3	VO	LCD drive voltage application terminal
4	RS	Input terminal, HI = Data, LOW = Instruction
5	R/W	Input terminal, HI = Read, LOW = Write
6	E	Input terminal, enable signal
7	DB0	Data bus line
8	DB1	
9	DB2	
10	DB3	
11	DB4	
12	DB5	
13	DB6	
14	DB7	

* The IC's used for the LCD unit are as follows.

IX607280(LC7930)

IX607290 (HD44780A00)

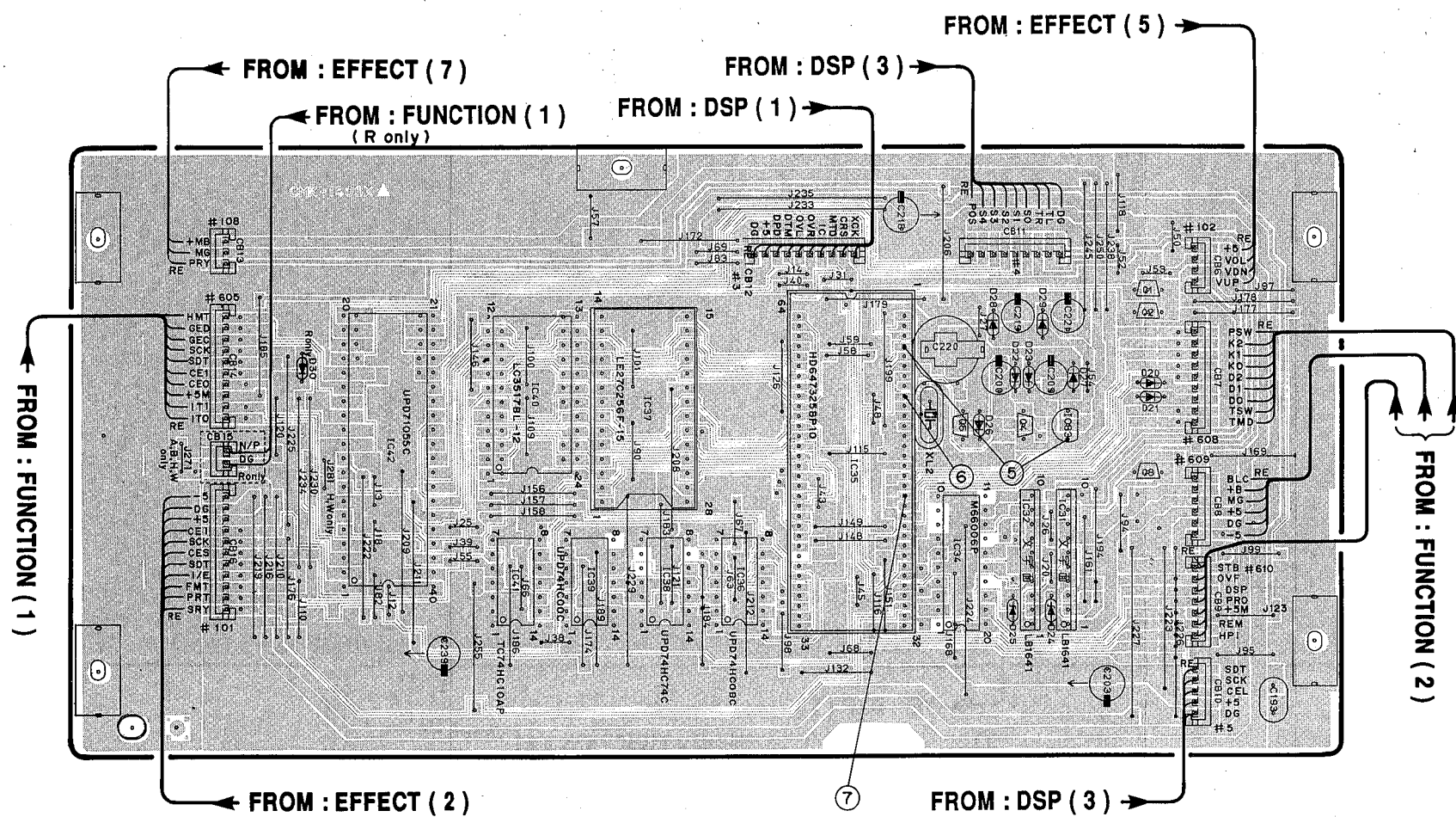
Any part other than IC can't be replaced individually. If replacement becomes necessary, be sure to replace as a whole unit.

DSP-A2070

PRINTED CIRCUIT BOARD (Foil side)

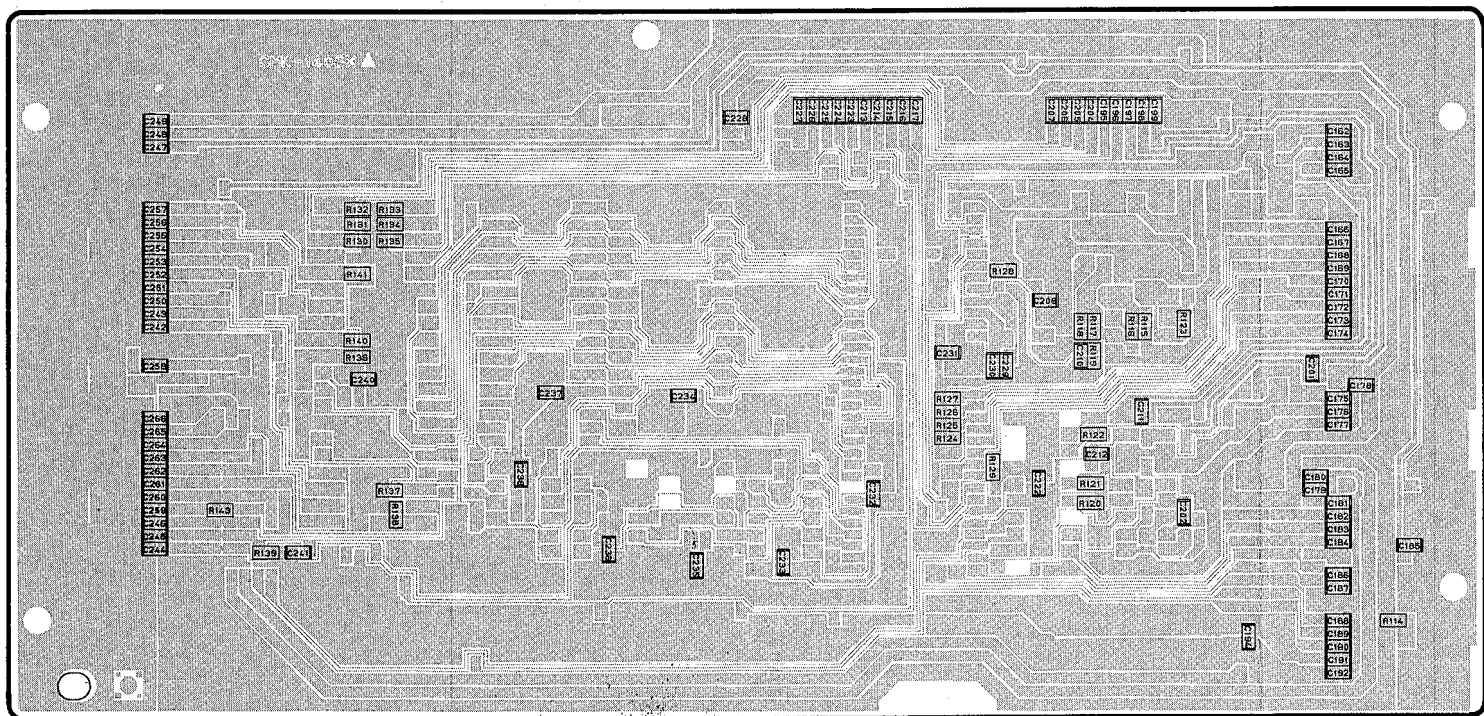
⑤ to ⑦ : WAVEFORM OF TEST POINT (See page 46)

DSP P. C. B. (2)



FROM : FUNCTION (1)

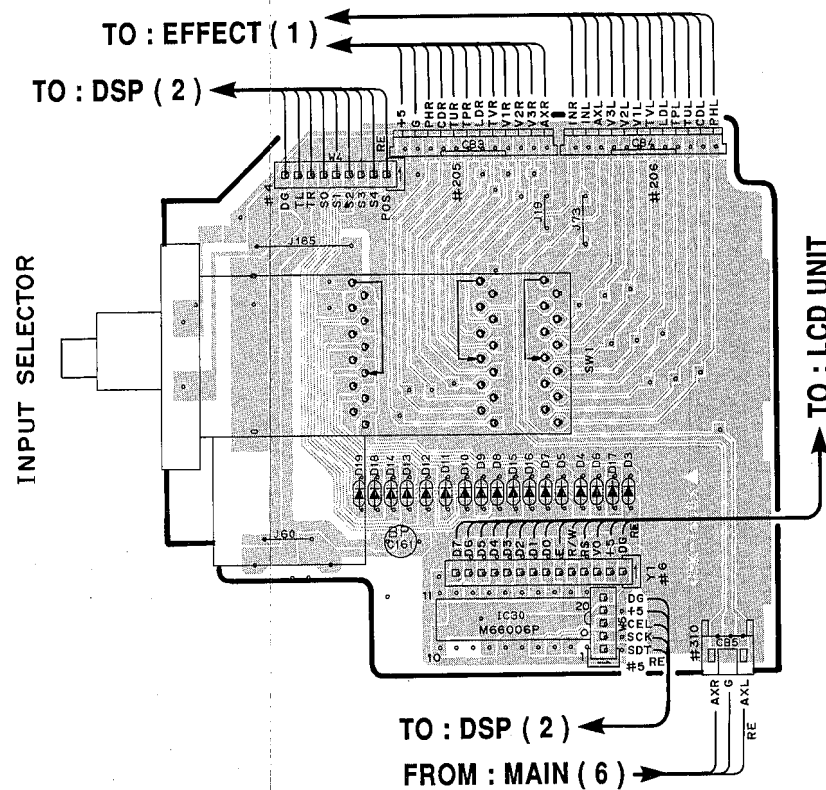
FROM : FUNCTION (2)



● Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D 20	D2	IC 31	D3	Q 1	D2
D 21	D3	IC 32	D3	Q 2	D2
D 22	D2	IC 33	D3	Q 3	D3
D 23	D2	IC 34	D3	Q 4	D3
D 24	D3	IC 35	C3	Q 5	D3
D 25	D3	IC 36	C3		
D 26	D3	IC 37	C3		
D 27	D2	IC 38	C3		
D 28	D2	IC 39	C3		
D 29	D2	IC 40	B2		
D 30	B2	IC 41	B3		
		IC 42	B3		

DSP P. C. B. (3)



INPUT SELECTOR

TO : LCD UNIT

TO : DSP (2)
FROM : MAIN (6)

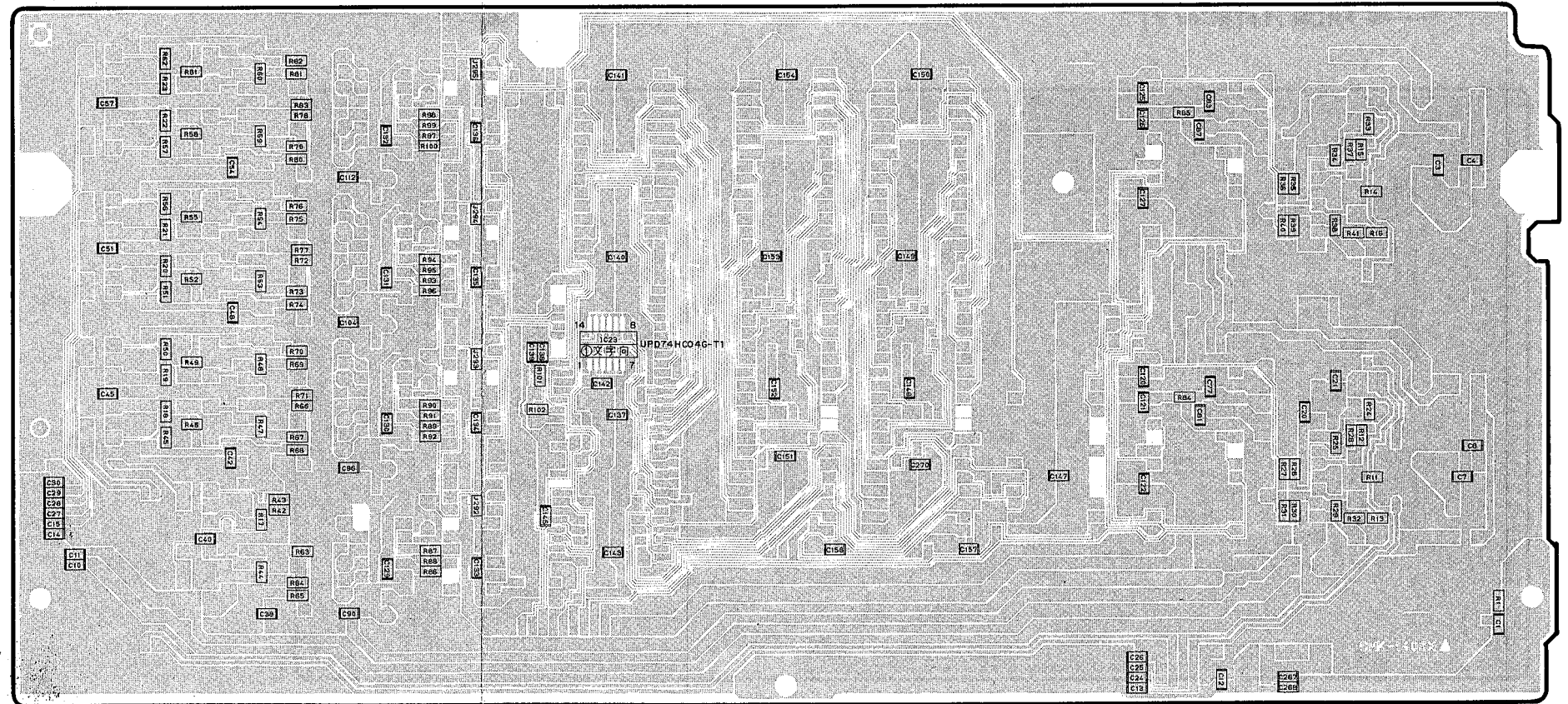
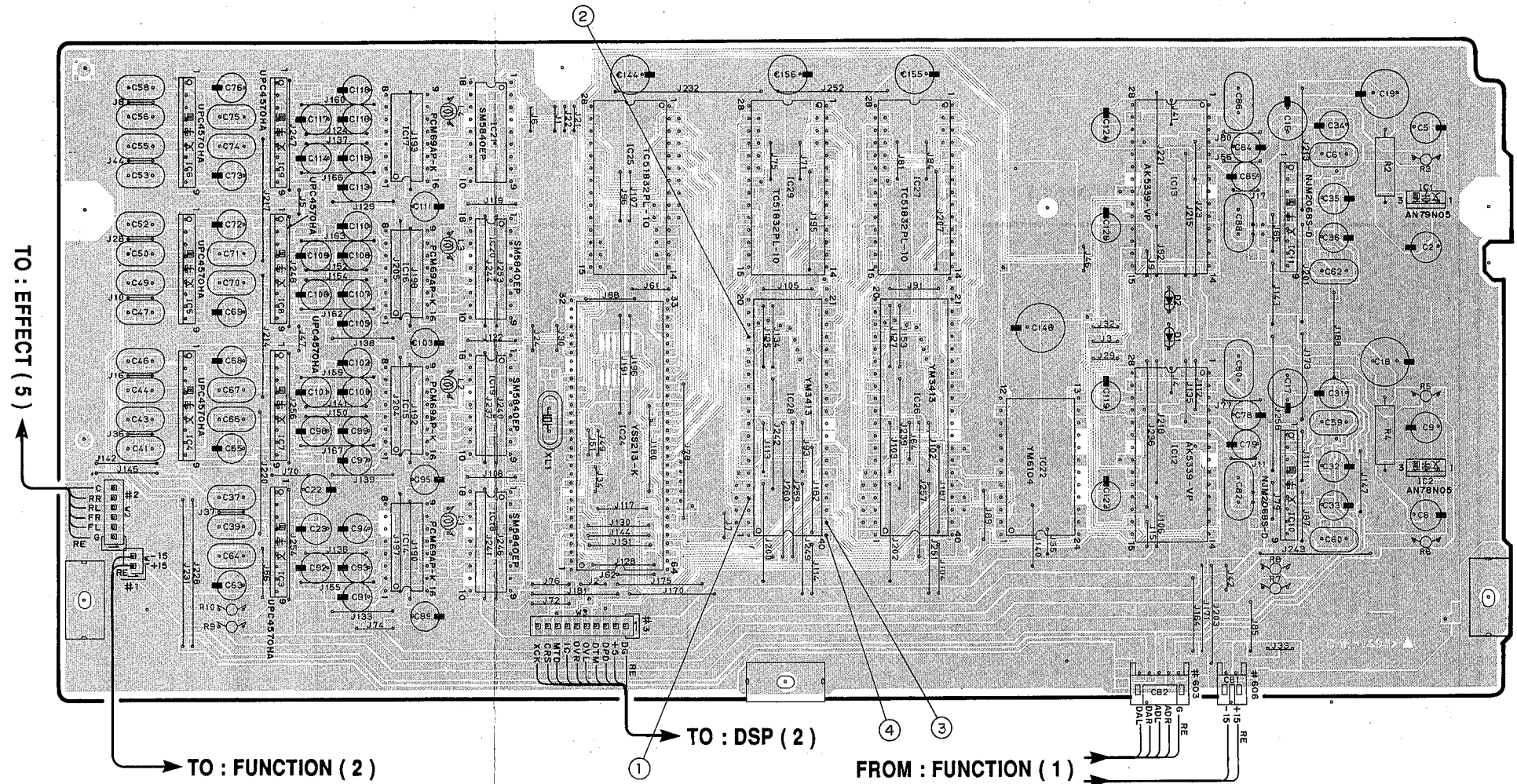
■ PRINTED CIRCUIT BOARD (Foil side)

① to ④ : WAVEFORM OF TEST POINT (See page 46)

● Semiconductor Location

Ref. No.	Location
D 1	G2
D 2	G2
IC 1	H2
IC 2	H2
IC 3	D3
IC 4	C2
IC 5	C2
IC 6	C1
IC 7	D2
IC 8	D2
IC 9	D1
IC 10	G3
IC 11	G2
IC 12	G2
IC 13	G2
IC 14	D3
IC 15	D2
IC 16	D2
IC 17	D1
IC 18	D3
IC 19	D2
IC 20	D2
IC 21	D1
IC 22	F2
IC 23	E5
IC 24	E2
IC 25	E2
IC 26	F2
IC 27	F2
IC 28	E2
IC 29	E2

DSP P. C. B. (1)



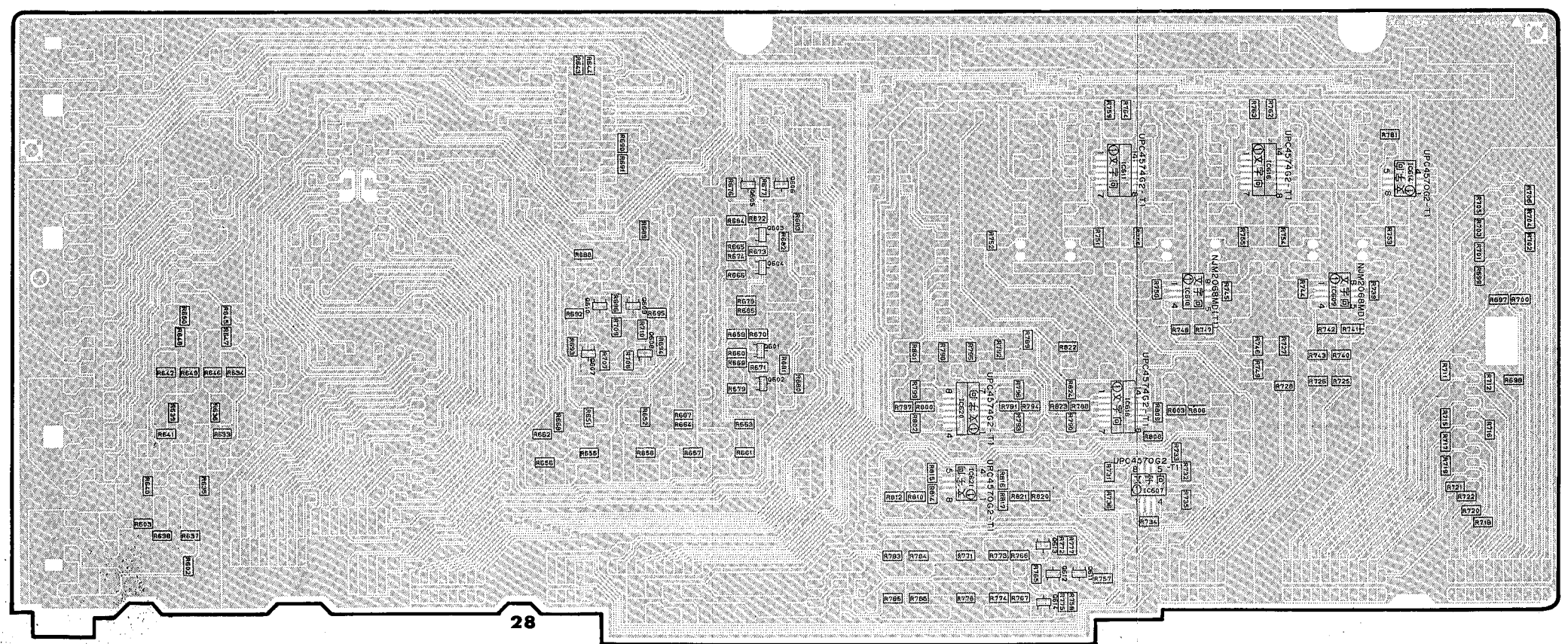
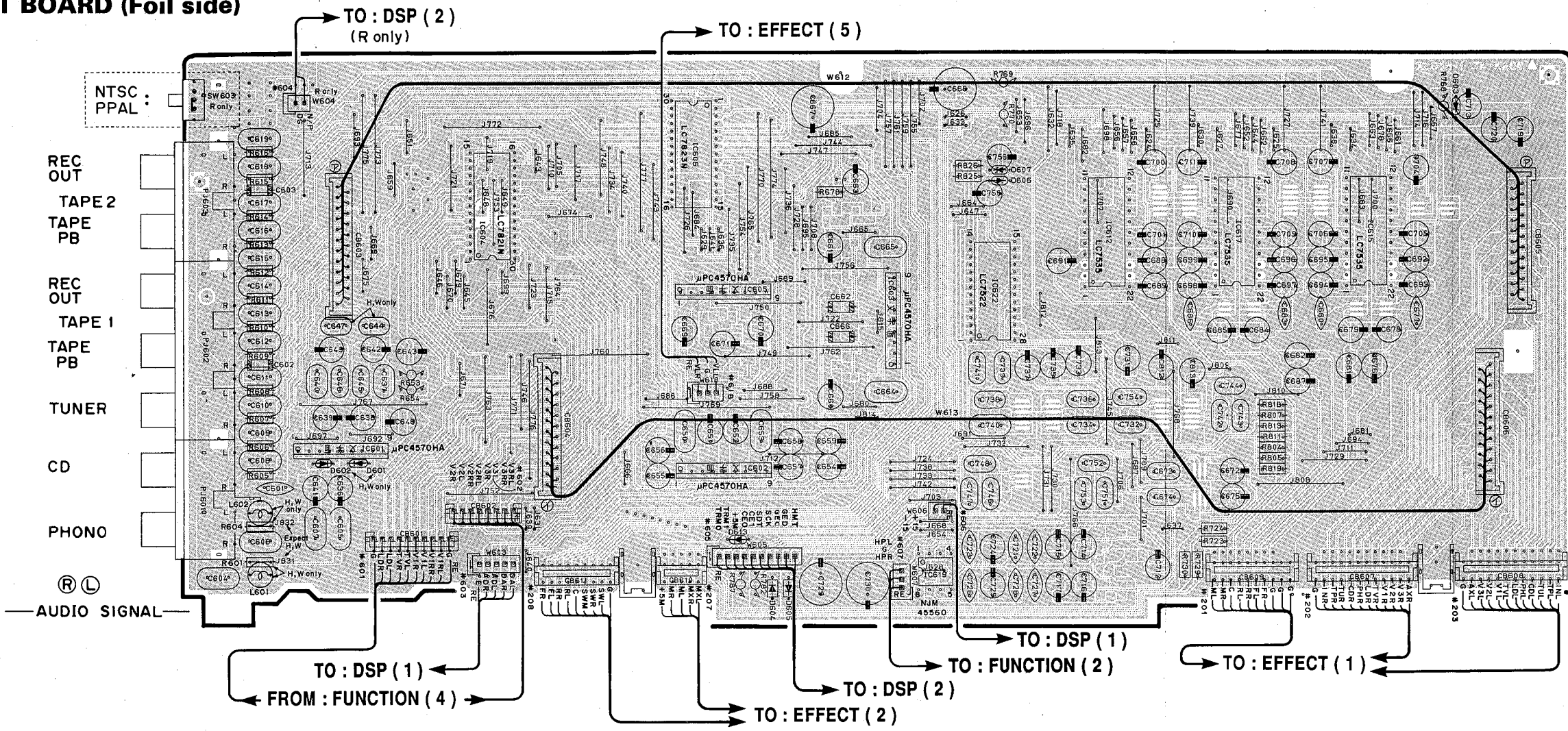
1
2
3
4
5
6

FUNCTION P. C. B. (1)

PRINTED CIRCUIT BOARD (Foil side)

Semiconductor Location

Ref. No.	Location
D 601	C3
D 602	C3
D 603	G1
D 604	E3
D 605	E3
D 606	F2
D 607	F2
D 613	E3
IC601	C3
IC602	D3
IC603	E2
IC604	D2
IC605	D2
IC606	D2
IC607	F5
IC609	G5
IC610	F5
IC611	F4
IC612	F2
IC614	G4
IC615	G2
IC616	G4
IC617	F2
IC618	F5
IC619	E3
IC620	F5
IC621	F5
IC622	F2
Q 601	E5
Q 602	E5
Q 603	E5
Q 604	E6
Q 605	E4
Q 606	E5
Q 607	D5
Q 608	E5
Q 609	E5
Q 610	D5
Q 611	F6
Q 612	F6
Q 613	F6
Q 614	F6

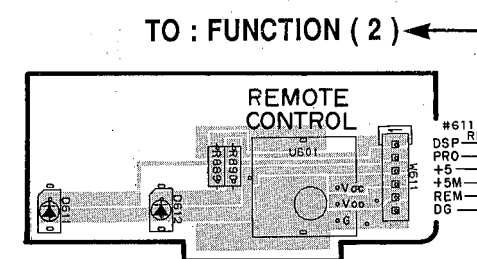


PRINTED CIRCUIT BOARD (Foil side)

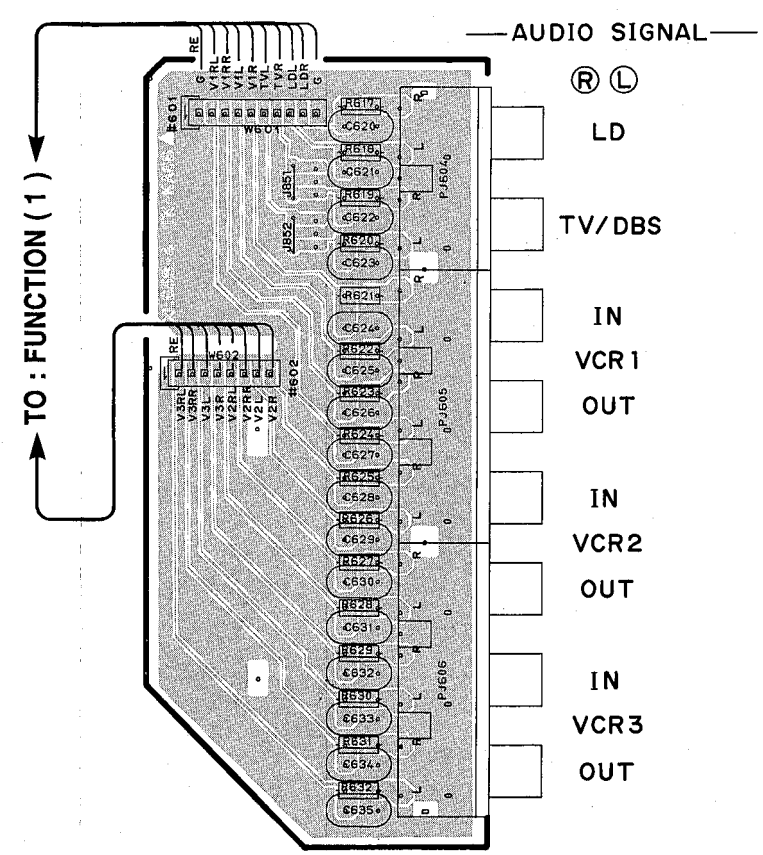
● Semiconductor Location

Ref. No.	Location
D 608	E5
D 609	E5
D 610	E5
D 614	E5
D 615	E5
IC623	G2
IC624	C5
IC625	C5
IC626	G3
IC627	G3
IC628	G2
IC629	D4
IC630	E4
IC631	D5
Q 615	G2
Q 616	G2
Q 617	E5

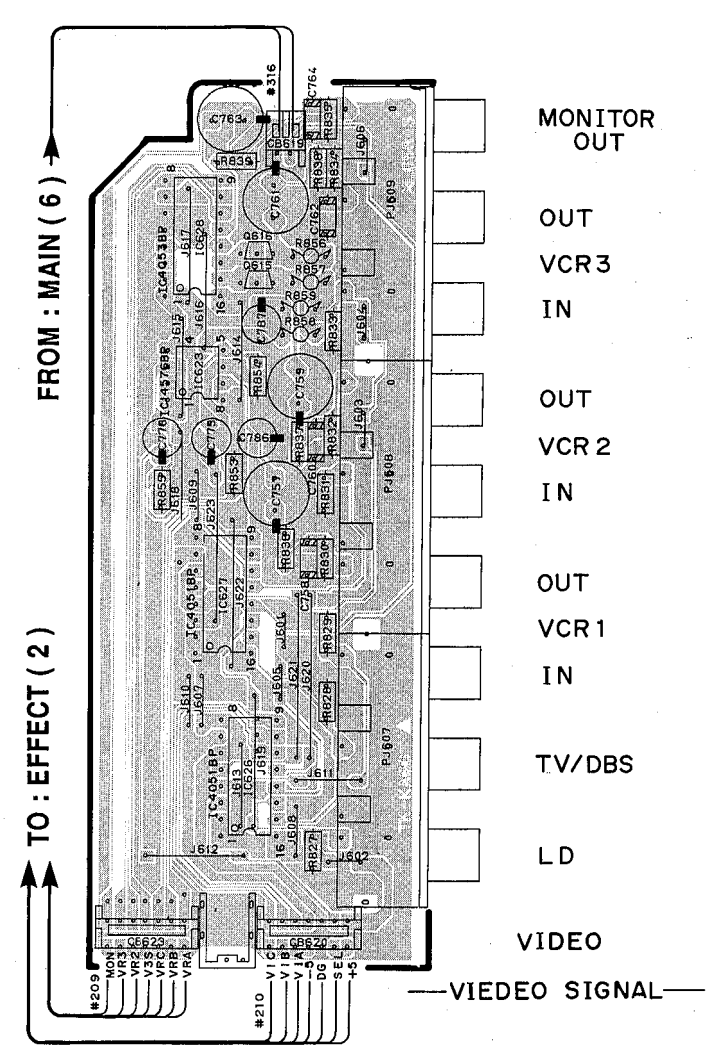
FUNCTION P. C. B. (5)



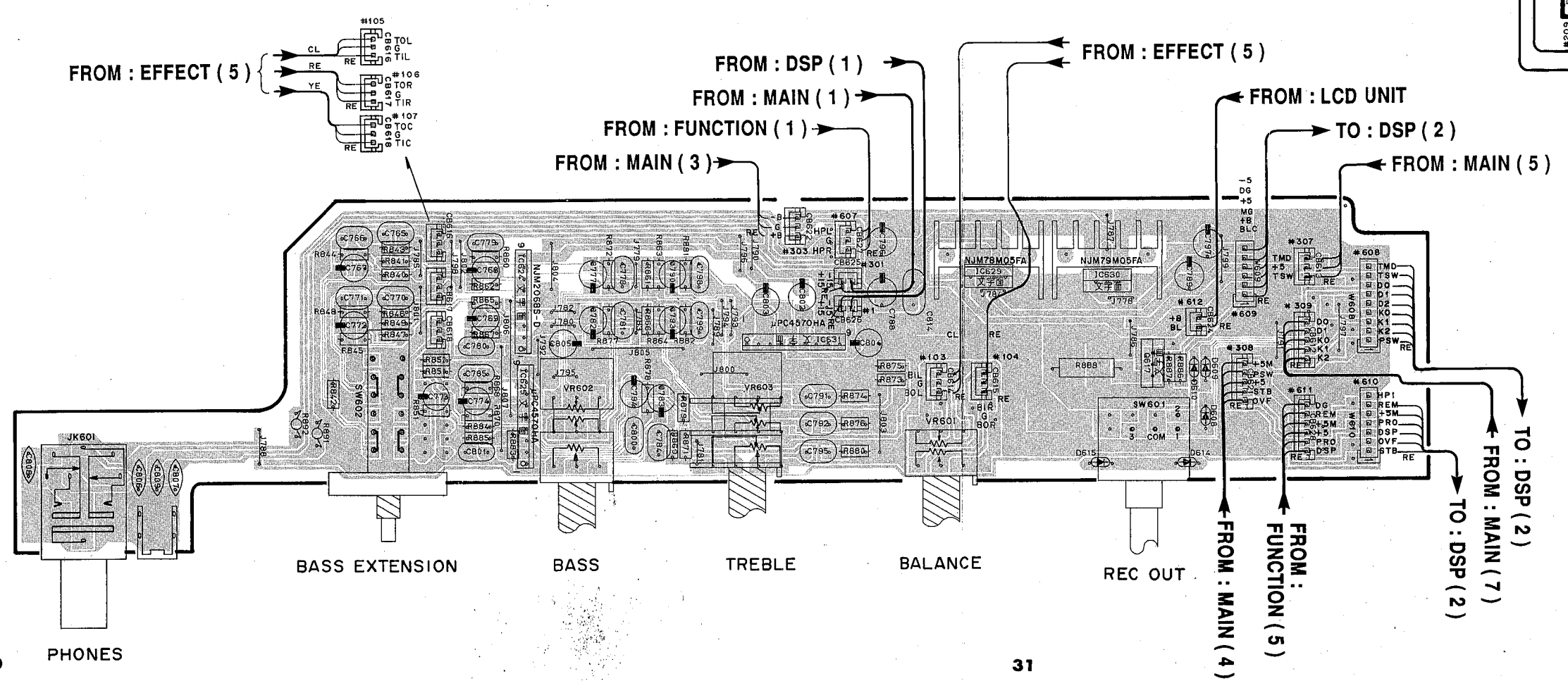
FUNCTION P. C. B. (4)



FUNCTION P. C. B. (3)



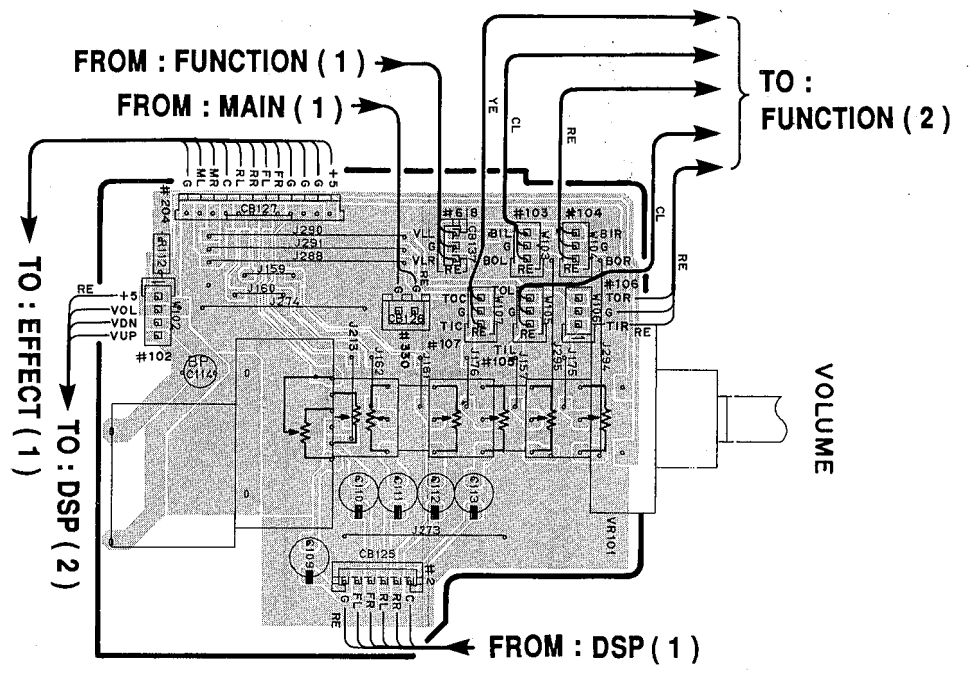
FUNCTION P. C. B. (2)



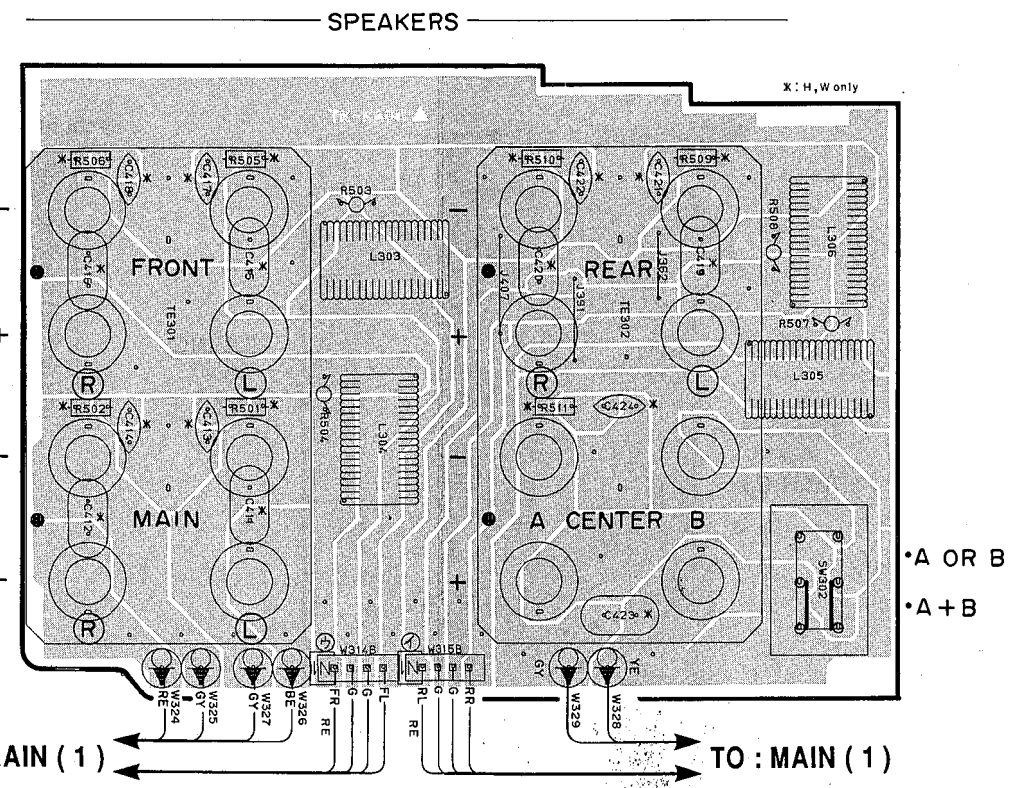
■ PRINTED CIRCUIT BOARD (Foil side)

1
2
3
4
5
6

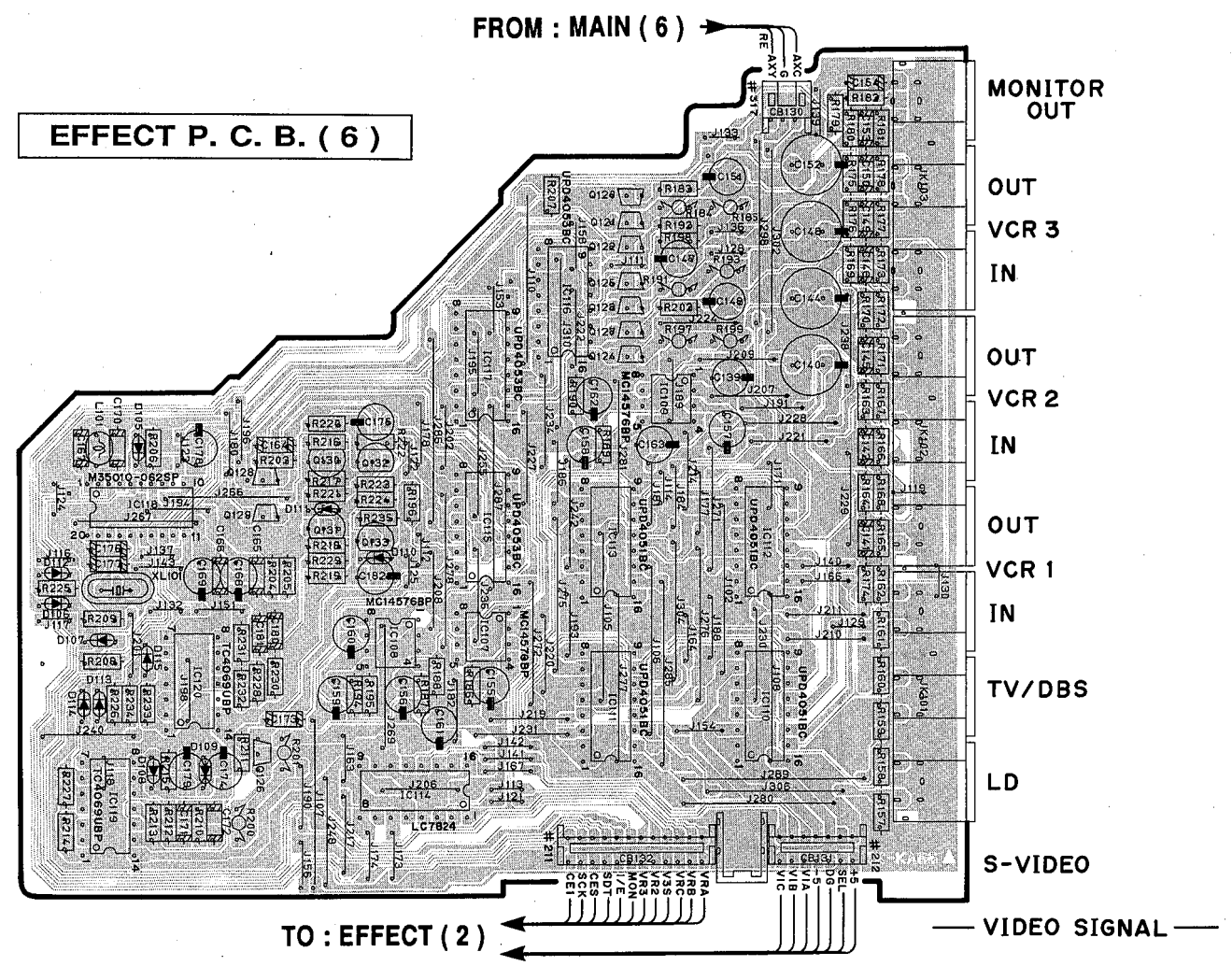
EFFECT P. C. B. (5)



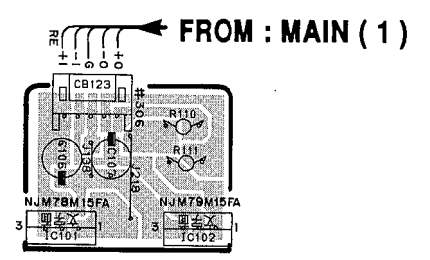
MAIN P. C. B. (2)



EFFECT P. C. B. (6)



EFFECT P. C. B. (8)

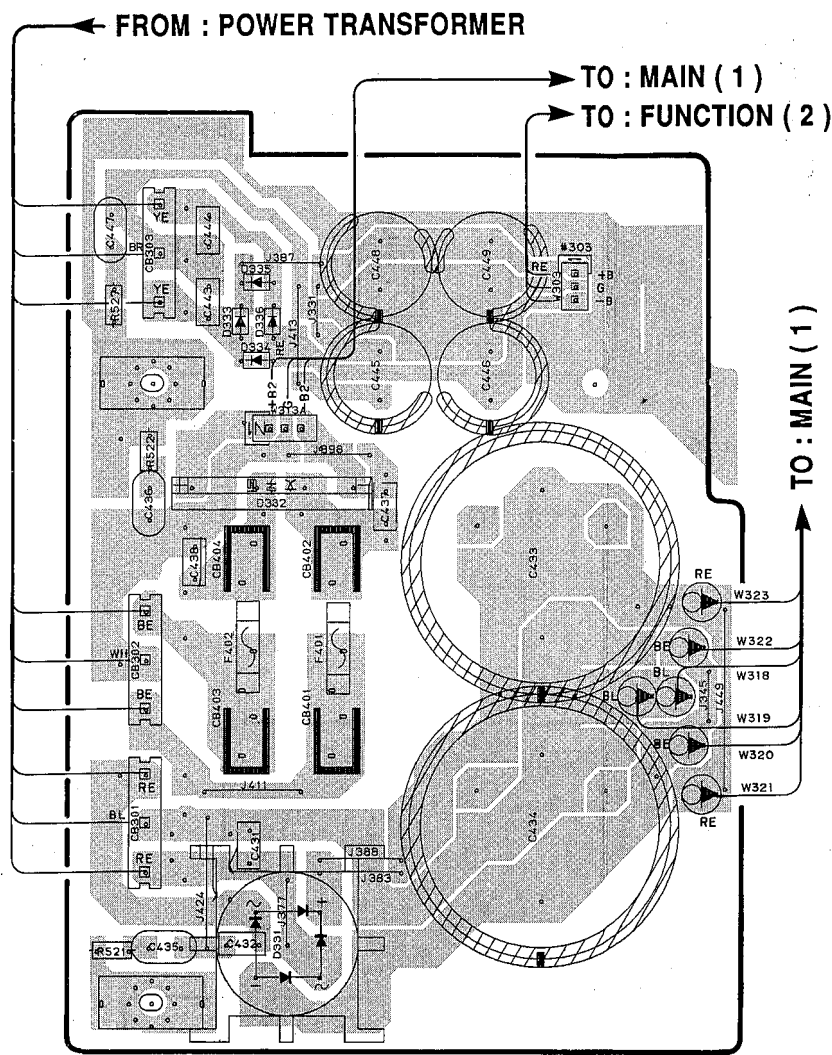


● Semiconductor Location

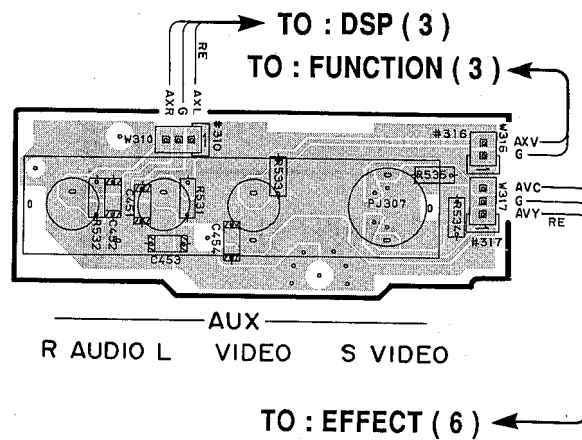
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D 105	E2	IC 101	G5	Q 120	F2
D 106	E3	IC 102	H5	Q 121	F2
D 107	E3	IC 107	F3	Q 122	F2
D 108	E3	IC 108	F3	Q 123	F2
D 109	E3	IC 109	G2	Q 124	F2
D 110	F3	IC 110	G3	Q 125	F2
D 111	F2	IC 111	F3	Q 126	E3
D 112	E3	IC 112	G3	Q 127	F2
D 113	E3	IC 113	F3	Q 128	E2
D 114	E3	IC 114	F3	Q 129	E2
D 115	E3	IC 115	F2	Q 130	F2
		IC 116	F2	Q 131	F2
		IC 117	F2	Q 132	F2
		IC 118	E2	Q 133	F3
		IC 119	E3		
		IC 120	E3		

PRINTED CIRCUIT BOARD (Foil side)

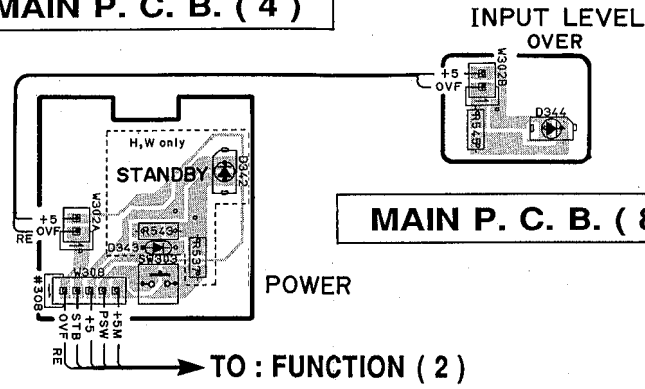
MAIN P. C. B. (3)



MAIN P. C. B. (6)

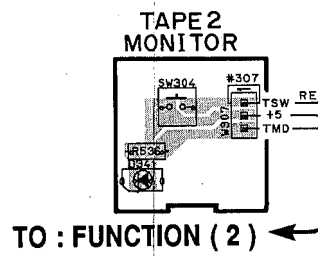


MAIN P. C. B. (4)

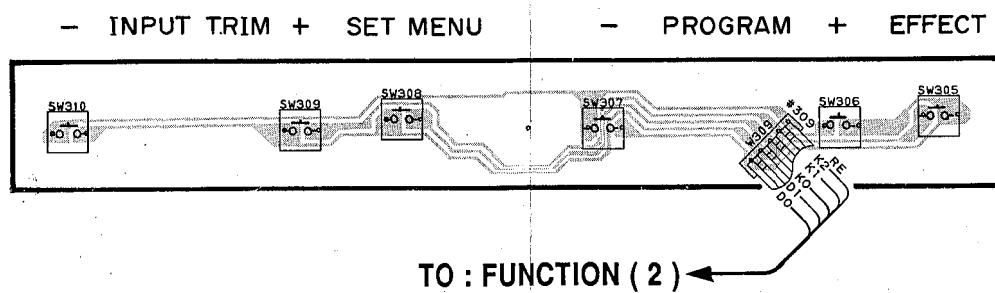


MAIN P. C. B. (8)

MAIN P. C. B. (5)

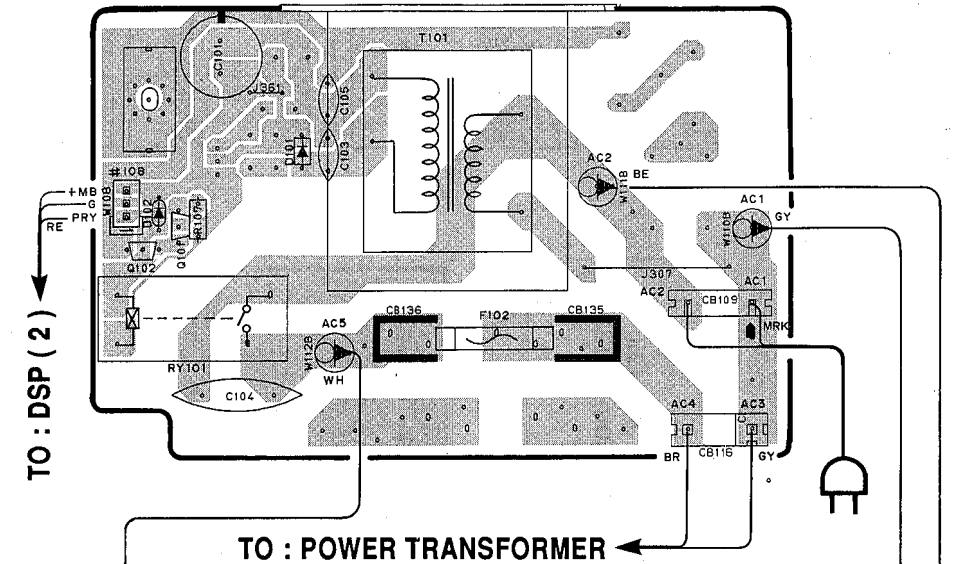


MAIN P. C. B. (7)



U, C models

EFFECT P. C. B. (7)



AC OUTLETS SWITCHED UNSWITCHED

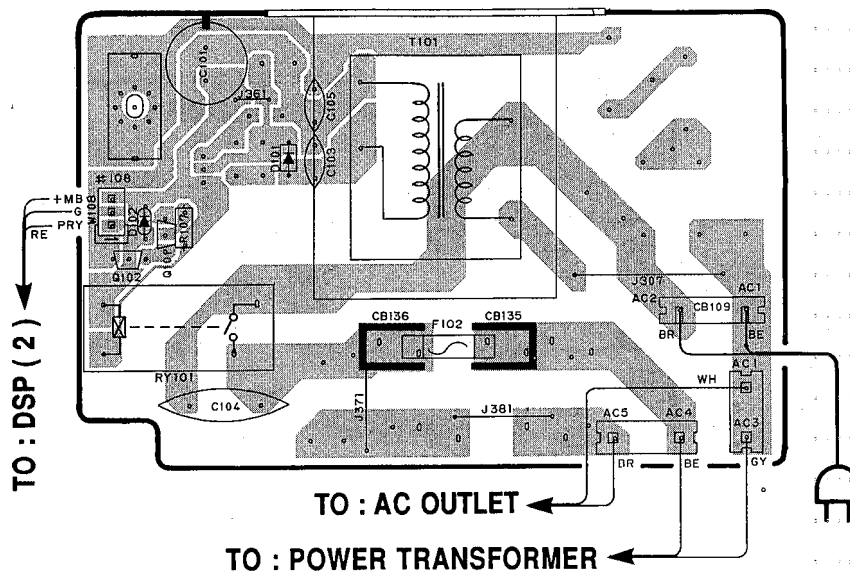
100W MAX. TOTAL 200W MAX.

EFFECT P. C. B. (9)

1 ■ PRINTED CIRCUIT BOARD (Foil side)

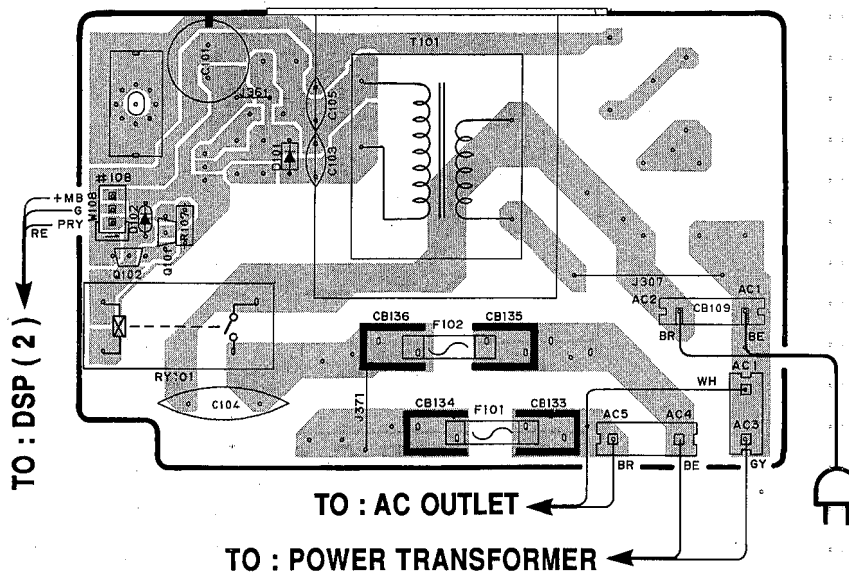
● A, B models

EFFECT P. C. B. (7)



● H, W models

EFFECT P. C. B. (7)



A

B

C

D

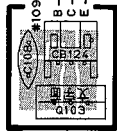
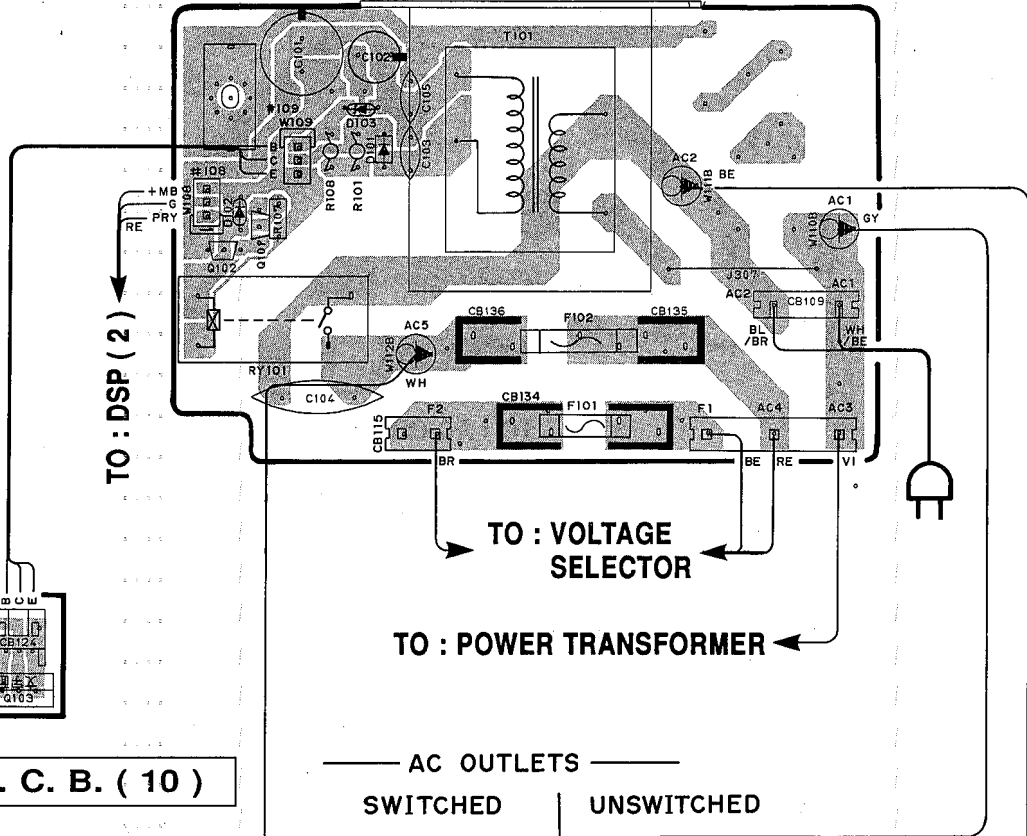
E

DSP-A2070

■ PRINTED CIRCUIT BOARD (Foil side)

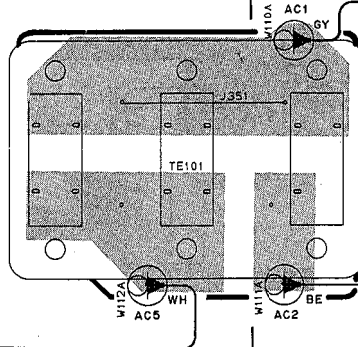
● R model

EFFECT P. C. B. (7)



EFFECT P. C. B. (10)

AC OUTLETS
SWITCHED | UNSWITCHED



100W MAX. TOTAL | 200W MAX.

EFFECT P. C. B. (9)

1

2

3

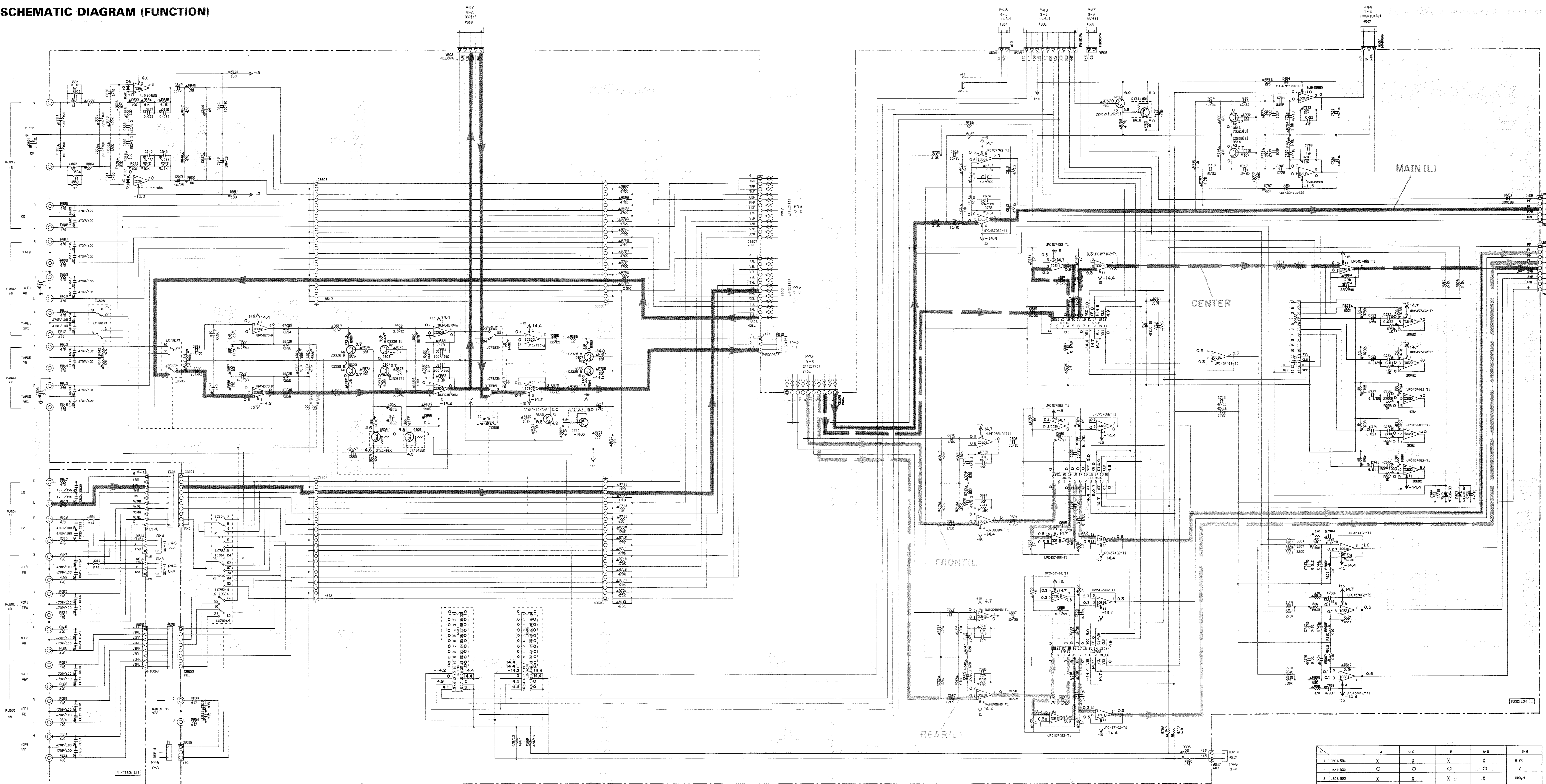
4

5

6

7

SCHEMATIC DIAGRAM (FUNCTION)



RESISTOR	PARTS NAME	CAPACITOR	PARTS NAME
RES	RESISTOR	VAR	VARIABLE CAPACITOR
TR	TRIMMER	TR	THERMISTOR
...

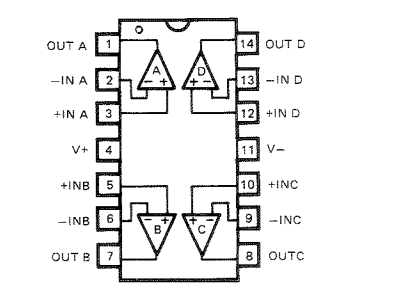
NOTICE

- (J)..... Japanese mode
- (U)..... U.S.A. mode
- (C)..... Canadian mode
- (A)..... Australian mode
- (E)..... European mode
- (B)..... British mode
- (R)..... General mode
- (P)..... IP mode

IC619 : NJM4556D
 IC607, 614, 621 : μ PC4570G2
 IC609, 610 : NJM2068MD-T1
 Dual OP-Amp



IC611, 616, 618, 620 : μ CA574G2
 4-Channel OP-Amp

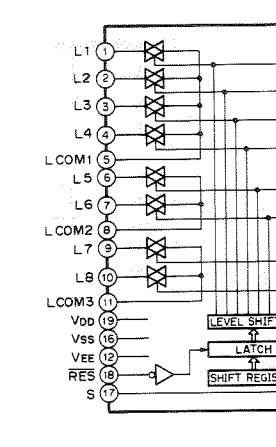


- Conditions
- INPUT \rightarrow LD
 - INPUT TRIM \rightarrow 0dB
 - REC OUT \rightarrow SOURCE
 - VCR3 VIDEO OUT \rightarrow REC OUT
 - PROGRAM \rightarrow No.7 CONCERT VIDEO 1 (Classical/Opera)

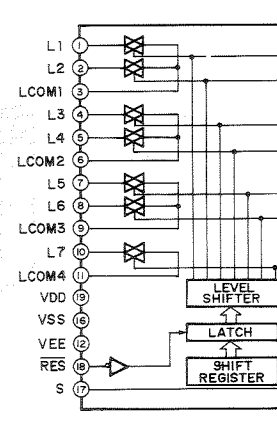
Interchangeable Parts at Manufacture Stage

Part No.	Part Name	Part No.	Part Name
11	8001-554	X	X
12	8001-552	O	O
13	8001-550	X	X
14	8001-547	X	X
15	8001-542	X	X
16	8001-538	X	X
17	8001-534	X	X
18	8001-530	X	X
19	8001-526	X	X
20	8001-522	X	X
21	8001-518	X	X
22	8001-514	X	X
23	8001-510	X	X

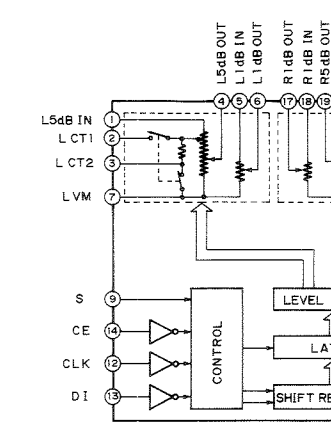
IC604 : LC7821N
 Analog Function Switch



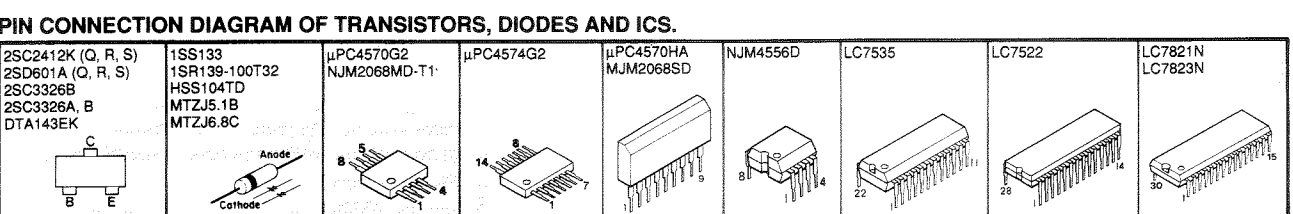
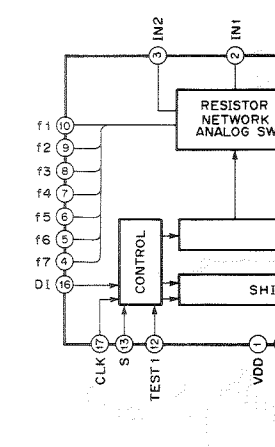
IC606 : LC7823N
 Analog Function Switch



IC612, 615, 617 : LC7535
 Electric Controlled Volume

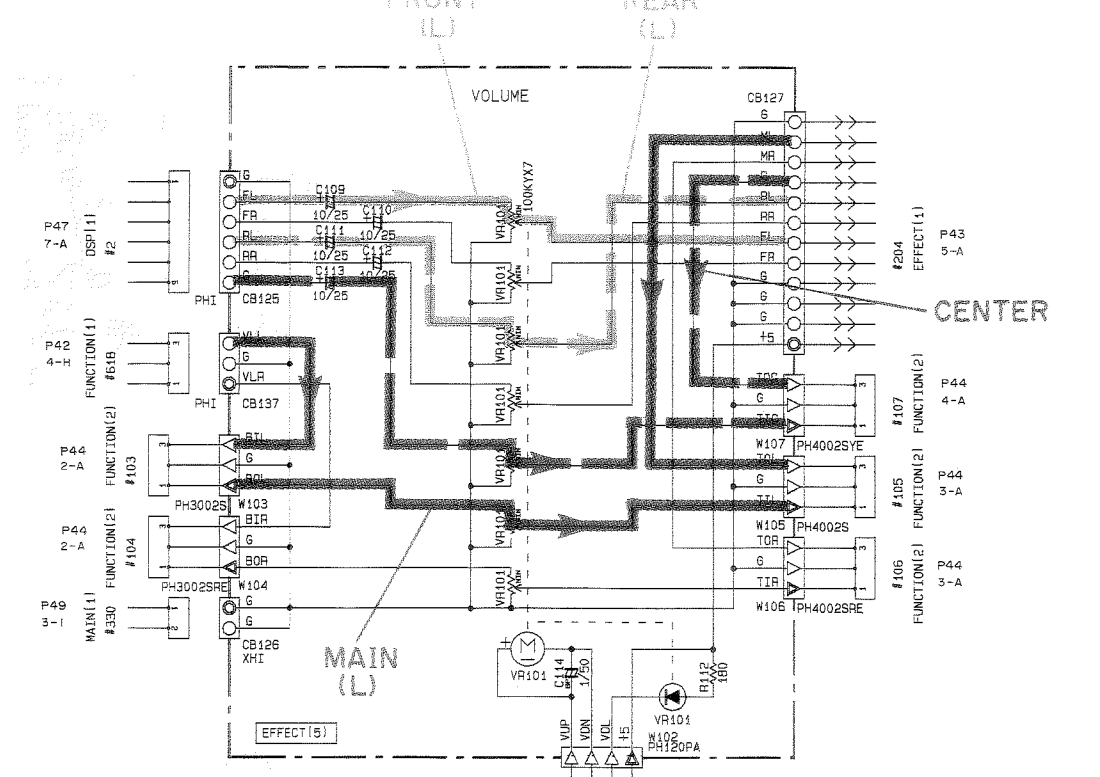
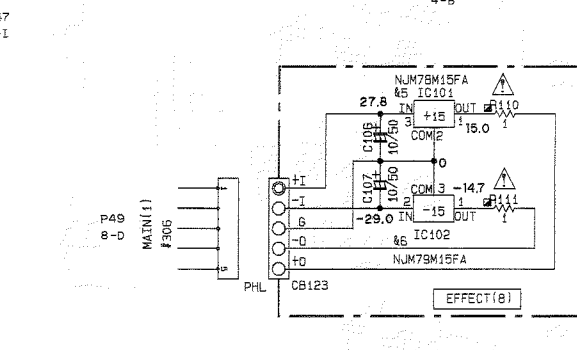
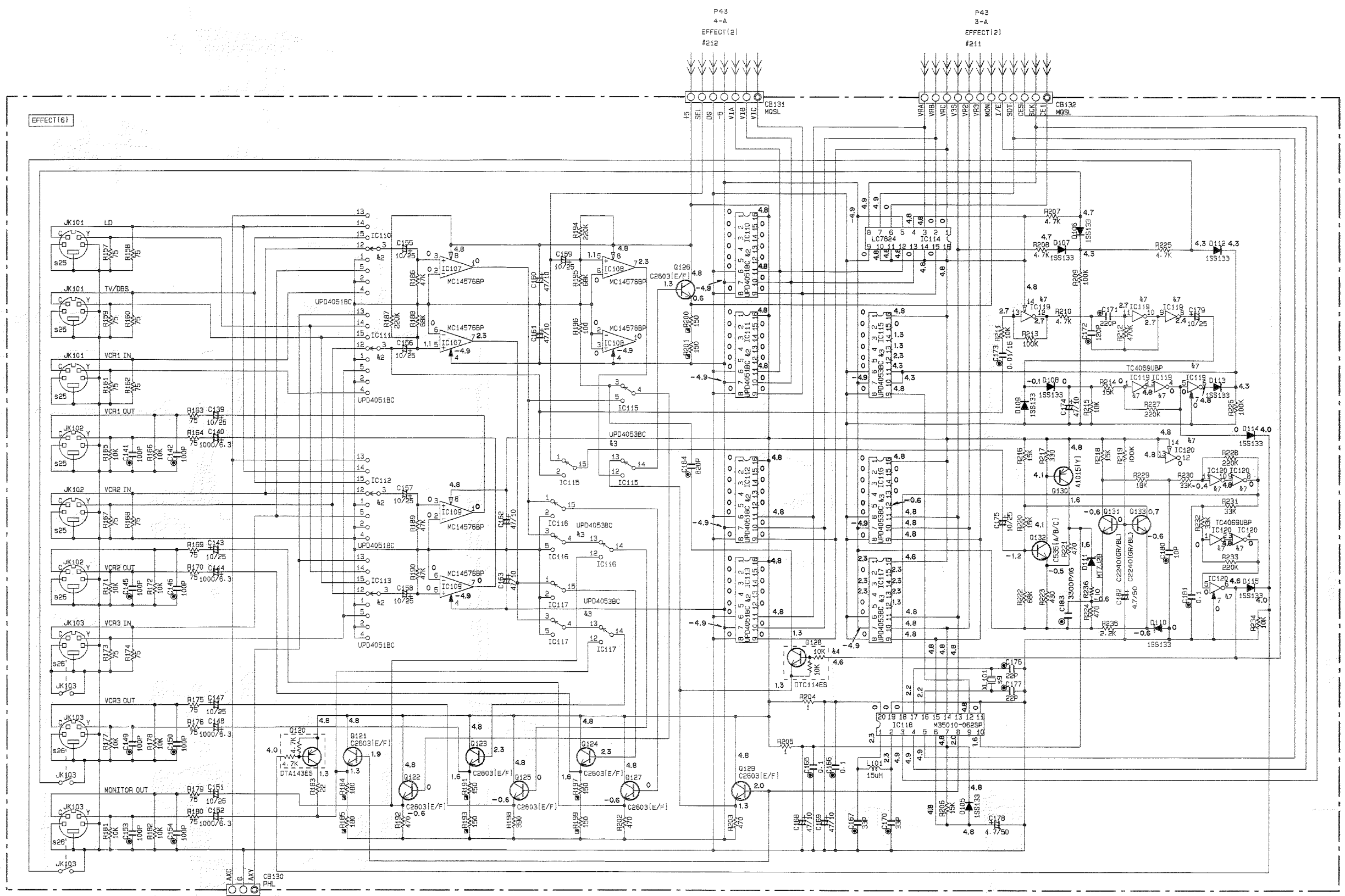
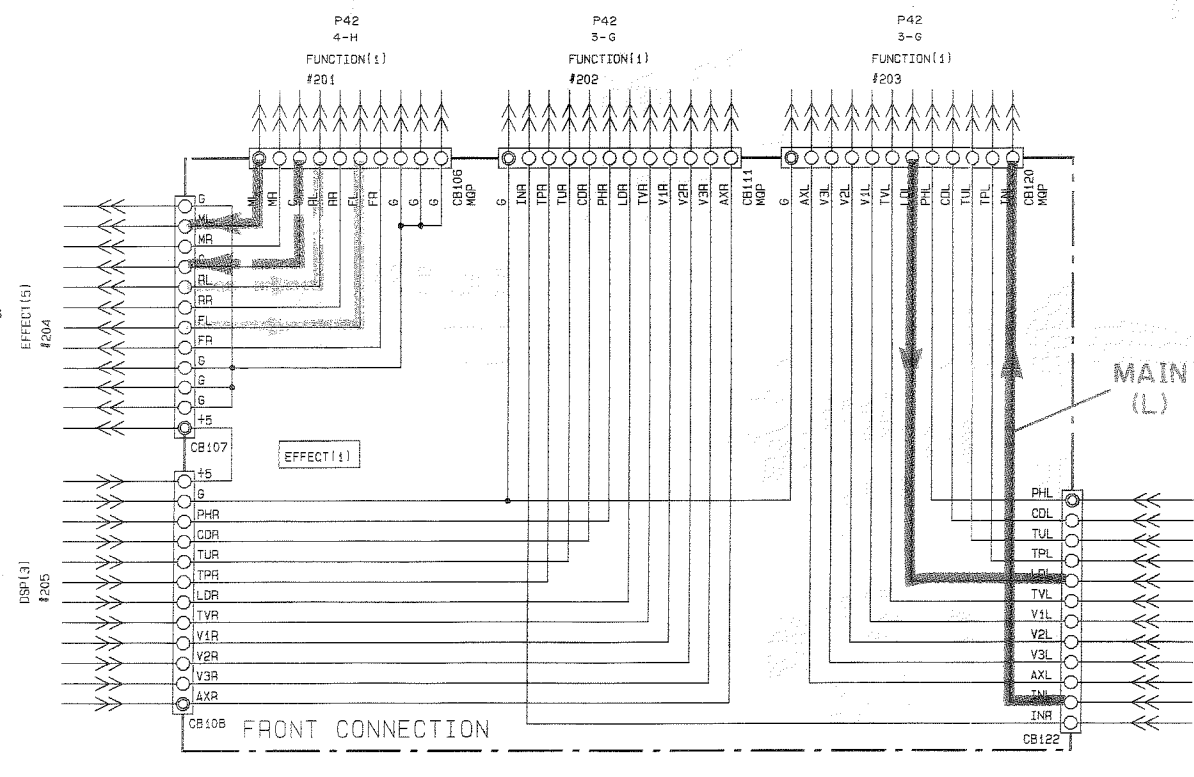
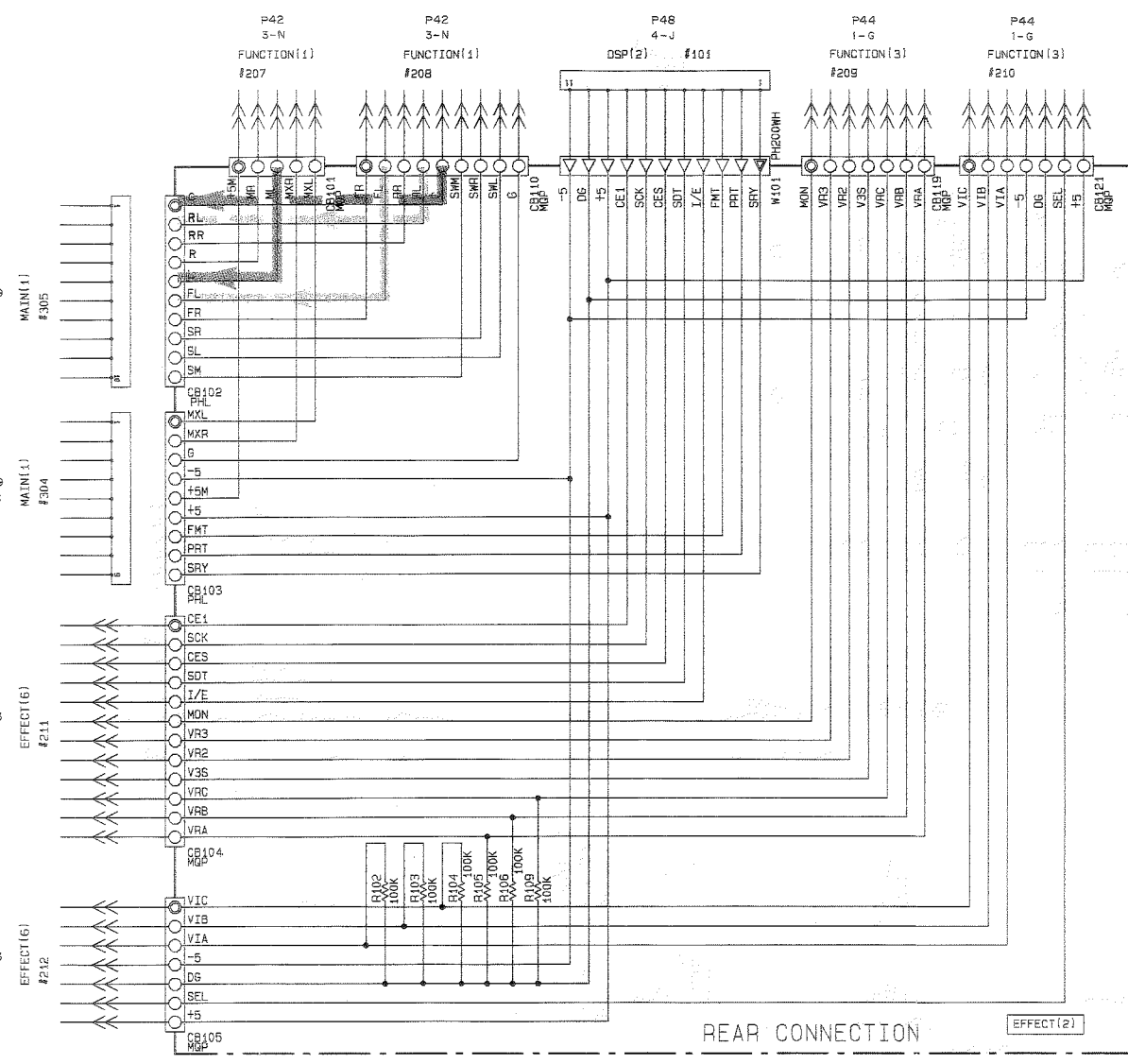


IC622 : LC7522
 Graphic Equalizer



All voltage are measured with a 10M Ω /V DC electric voltmeter.
 Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
 Schematic diagram is subject to change without notice.

SCHEMATIC DIAGRAM (EFFECT)



Conditions
• INPUT → LD
• REC OUT → SOURCE
• VCR3 VIDEO OUT → REC OUT

Table with 5 columns: Part No., Remarks, Part Name, and other specifications. It lists various components used in the circuit.

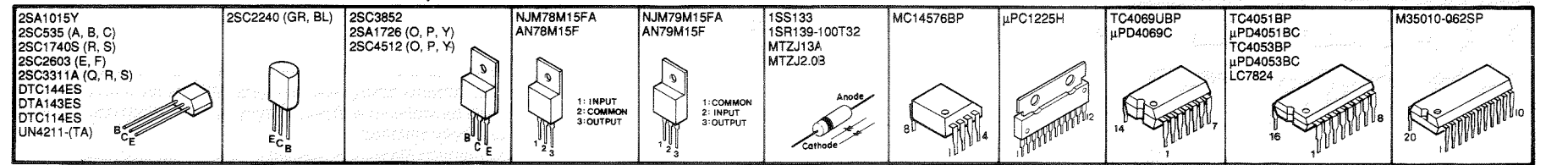
REMARKS PARTS NAME
NO MARK ELECTROLYTIC CAPACITOR
NO MARK CERAMIC CAPACITOR
AXIAL LEAD CERAMIC CAPACITOR
POLYESTER FILM CAPACITOR
POLYSTYRENE FILM CAPACITOR
MICA CAPACITOR
SEMICONDUCTIVE CERAMIC CAPACITOR

REMARKS PARTS NAME
NO MARK CARBON FILM RESISTOR (1/8W)
CARBON FILM RESISTOR (1/4W)
METAL FILM RESISTOR
METAL PLATE RESISTOR
FIRE PROOF CARBON FILM RESISTOR
CEMENT MOLDED RESISTOR
SEM. VARIABLE RESISTOR
CHIP RESISTOR

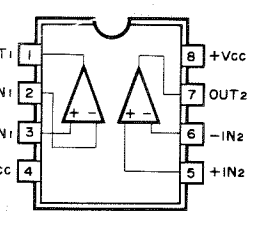
NOTICE
(J)..... Japanese model
(U)..... U.S.A. model
(C)..... Canadian model
(A)..... Australian model
(G)..... European model
(B)..... British model
(S)..... German model
(P)..... JFP model

Table with 2 columns: C, R, G, D, TC, CB. It lists component values and part numbers.

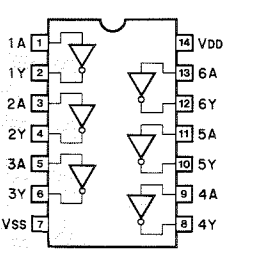
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



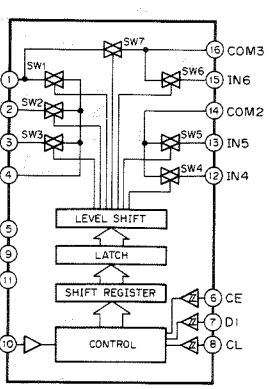
IC107~109 : MC14576BP Dual Video Amp



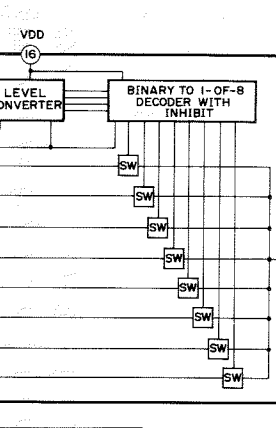
IC119, 120 : TC4069BP or μPD4069C Hex Inverters



IC114 : LC7824 Analog Function Switch



IC110~113 : μPC4051BC or TC4051BP Single 8-Channel Multiplexer/Demultiplexer



IC115~117 : μPD4053BC or TC4053BP Triple 2-Channel Multiplexer/Demultiplexer

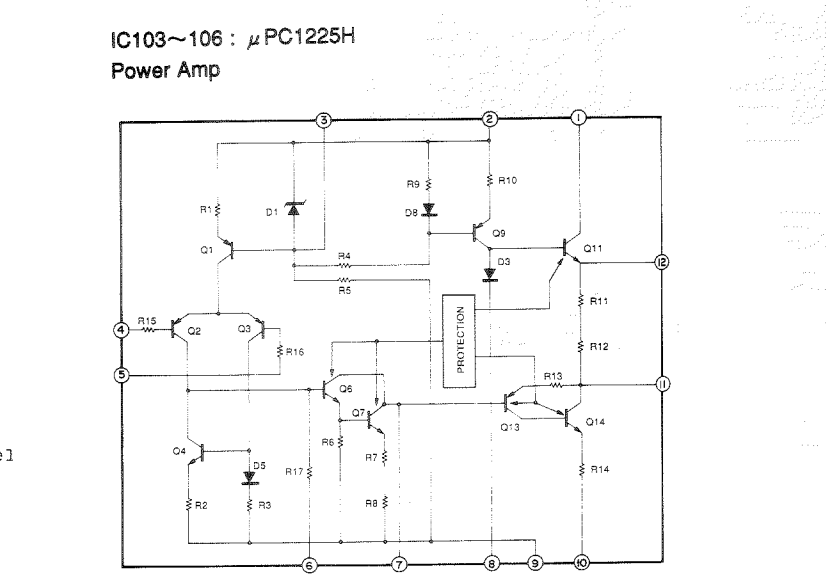
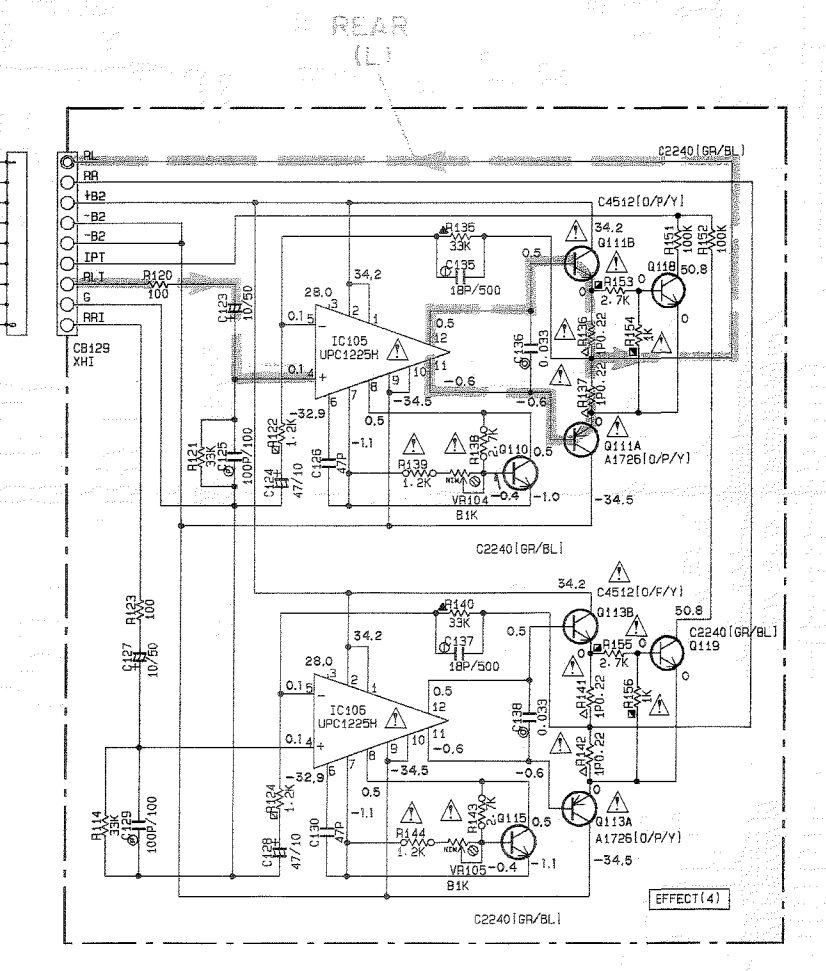
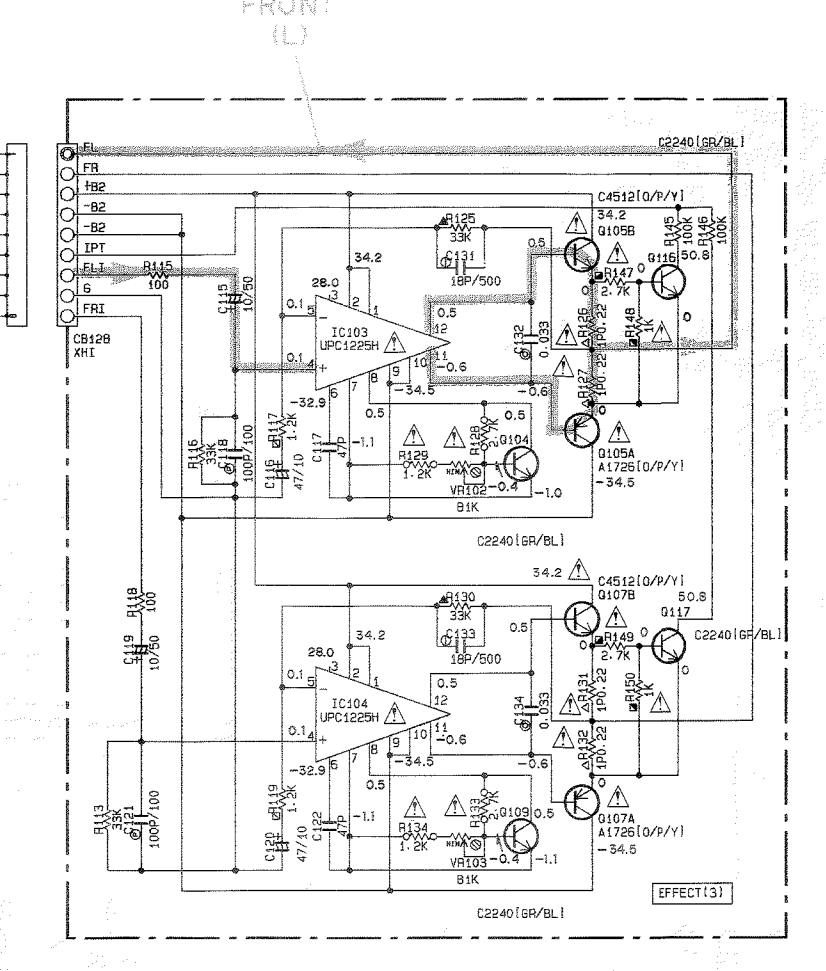
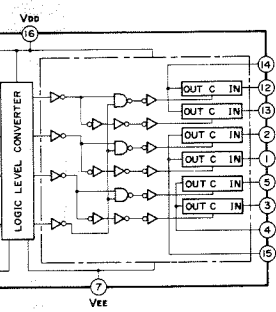
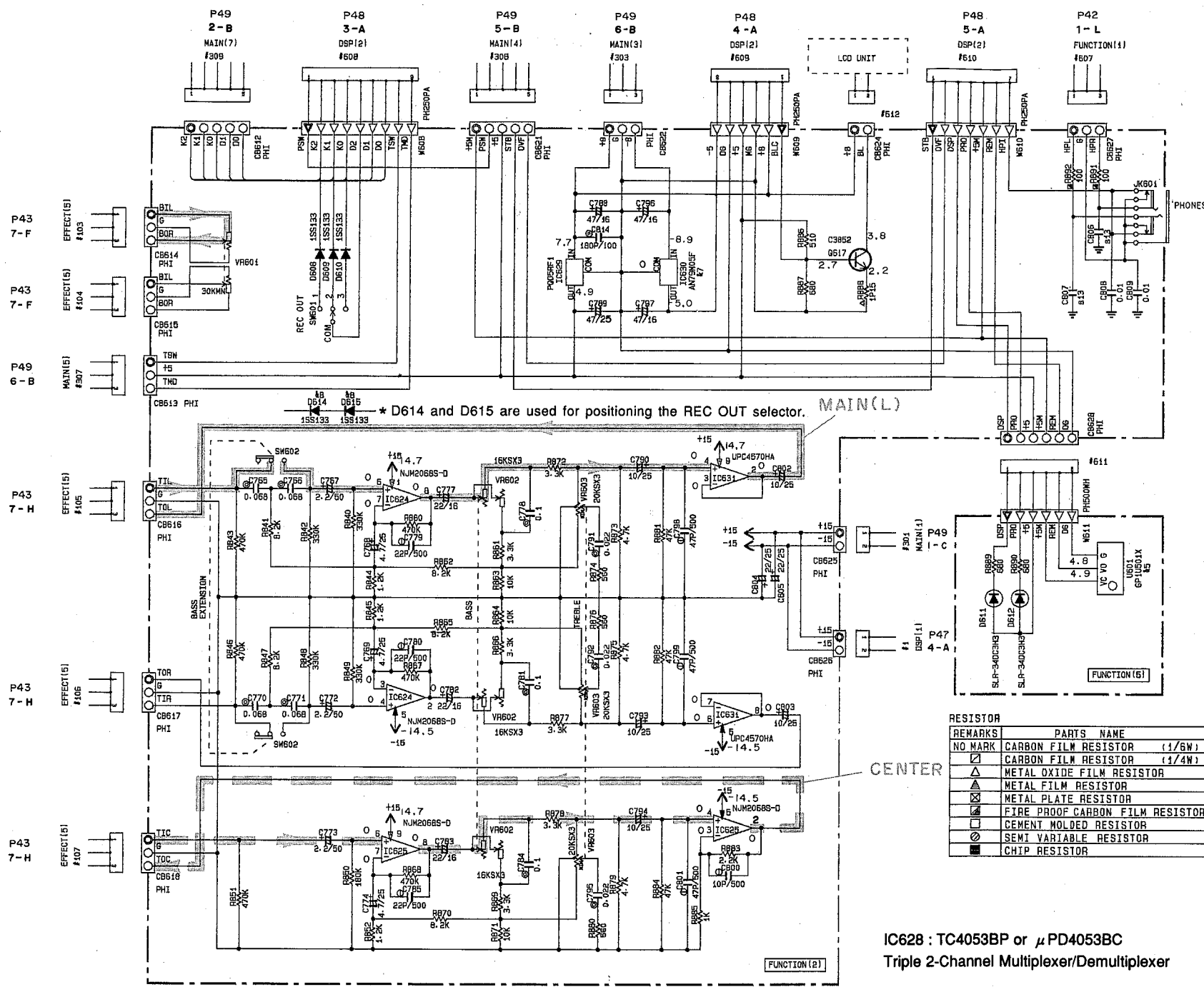


Table with 2 columns: INHIBIT, ON CHANNEL. It lists control inputs and channel specifications.

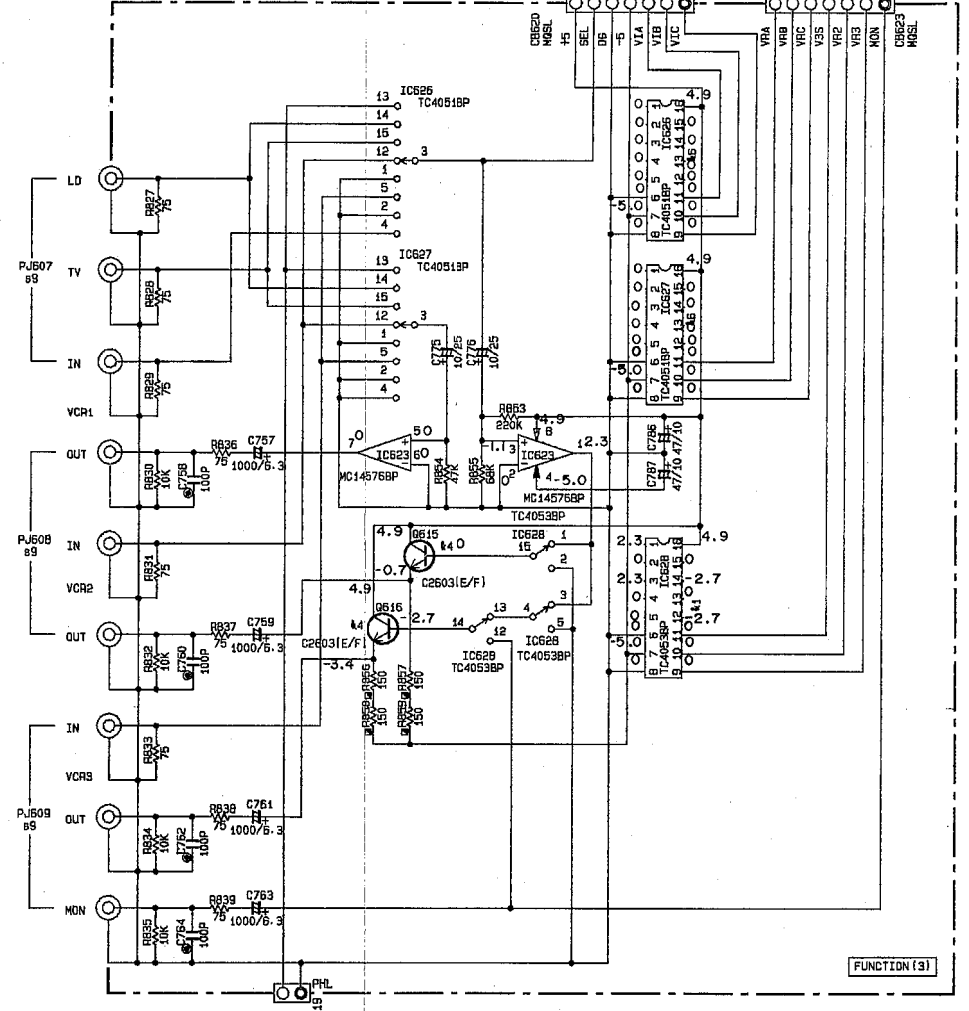
All voltage are measured with a 10MΩ V.D.C electric volt meter. Components having special characteristics are marked Δ, and must be replaced with parts having specifications equal to those originally installed. Schematic diagram is subject to change without notice.

SCHEMATIC DIAGRAM (FUNCTION)



CAPACITOR

REMARKS	PARTS NAME	UNIT
NO MARK	ELECTROLYTIC CAPACITOR	μF
NO MARK	TANTALUM CAPACITOR	μF
NO MARK	CERAMIC CAPACITOR	PF
⊗	AXIAL LEAD CERAMIC CAPACITOR	PF
⊙	POLYESTER FILM CAPACITOR	PF
○	POLYSTYRENE FILM CAPACITOR	PF
○	MICA CAPACITOR	PF
○	POLYPROPYLENE FILM CAPACITOR	PF
●	SEMICONDUCTIVE CERAMIC CAPACITOR	PF



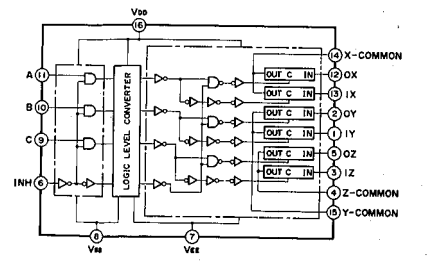
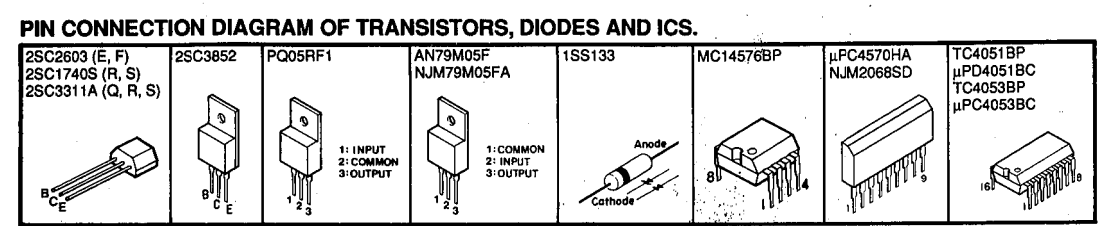
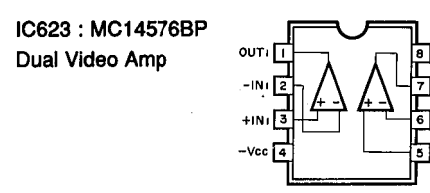
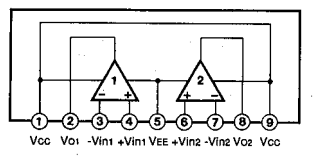
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
□	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
■	METAL PLATE RESISTOR
⊗	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊙	SEMI VARIABLE RESISTOR
●	CHIP RESISTOR

Conditions

- INPUT → LD
- REC OUT → SOURCE
- VCR3 VIDEO OUT → REC OUT

IC631 : μPC4570HA
IC624, 625 : NJM2068S-D
Dual OP-Amp

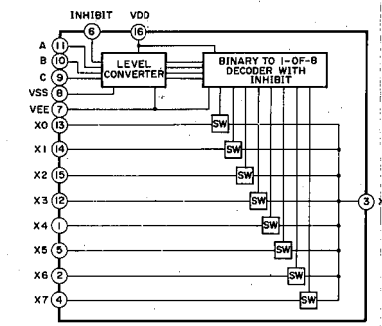


CONTROL INPUTS

INHIBIT (Pin 9)	C (Pin 8)	B (Pin 10)	A (Pin 11)	0X (Pin 12), 0Y (Pin 2), 0Z (Pin 5)	1X (Pin 13), 1Y (Pin 1), 1Z (Pin 3)
L	L	L	L	0X, 0Y, 0Z	1X, 1Y, 1Z
L	L	L	H	1X, 0Y, 0Z	0X, 1Y, 0Z
L	L	H	L	1X, 1Y, 0Z	0X, 0Y, 1Z
L	H	L	L	1X, 0Y, 1Z	0X, 1Y, 1Z
L	H	L	H	0X, 1Y, 1Z	1X, 1Y, 1Z
L	H	H	L	0X, 1Y, 1Z	1X, 0Y, 1Z
L	H	H	H	1X, 1Y, 1Z	1X, 1Y, 1Z
H	H	H	H	1X, 1Y, 1Z	1X, 1Y, 1Z

* Don't Care

IC626, 627 : TC4051BP or μPD4051BC
Single 8-Channel Multiplexer/Demultiplexer



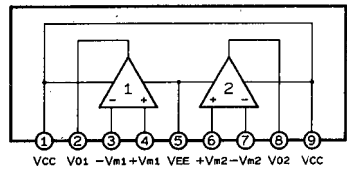
REC OUT (SW601) Code Table
Connection with COM (○ = ON)

CD	1	2	3
SOURCE	○	○	○
LD	○	○	○
TV/DBS	○	○	○
VCR2	○	○	○
VCR3	○	○	○
AUX	○	○	○

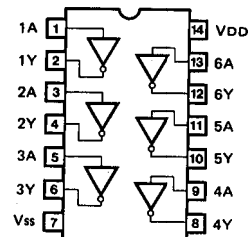
* All voltage are measured with a 10MΩ/V DC electric volt meter.
* Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.
* Schematic diagram is subject to change without notice.

IC BLOCK

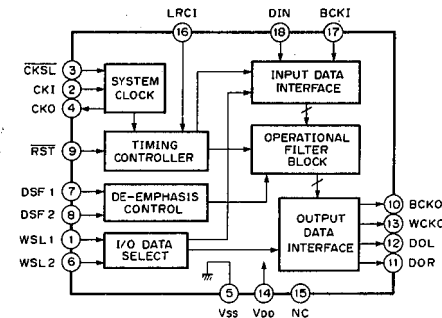
IC3~9 : μ PC4570HA
 IC10, 11 : NJM2068S-D
 Dual OP-Amp



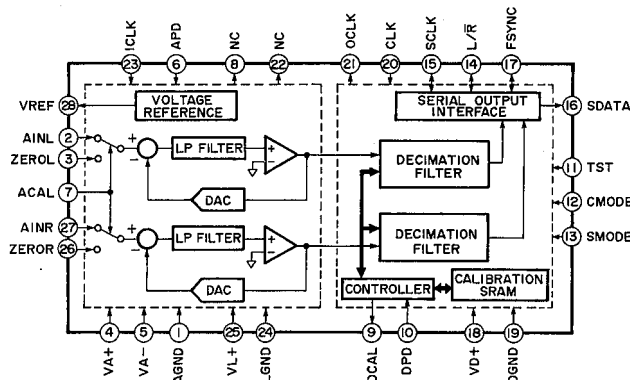
IC23 : μ PD74HC04G
 Hex Inverters



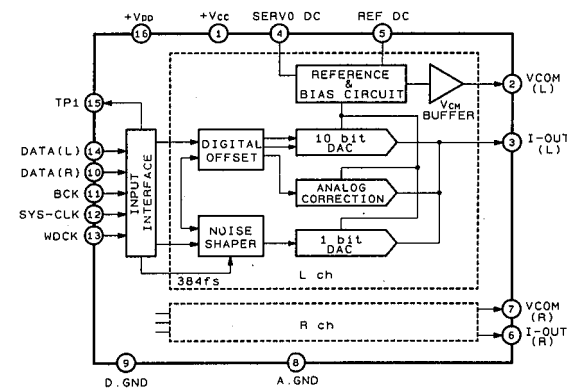
IC18~21 : SM5840EP
 Digital Filter



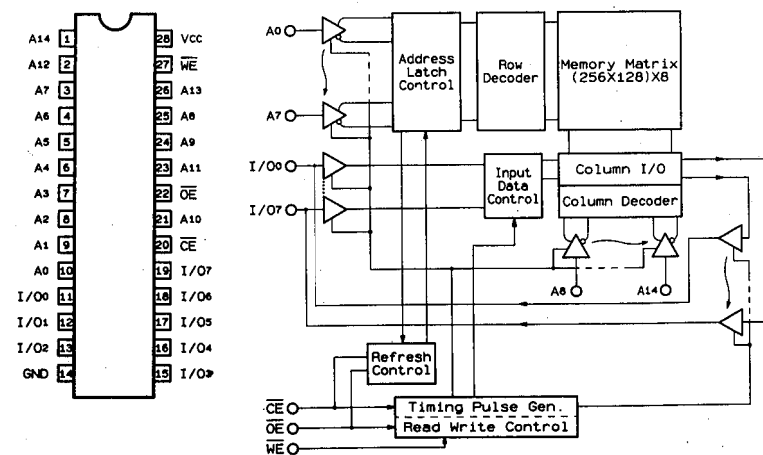
IC12, 13 : AK5339-VP
 16 bit 2-Channel A/D Converter



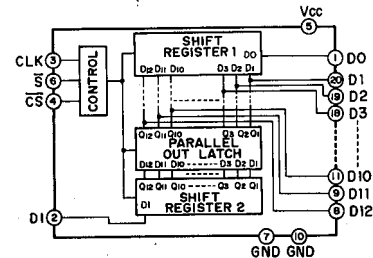
IC14~17 : PCM69AP-K
 18 bit D/A Converter



IC25, 27, 29 : TC51832PL-10, TC51832APL-10 or HM65256BLP-10
 32768-word x 8 bit High Speed Pseudo Static RAM

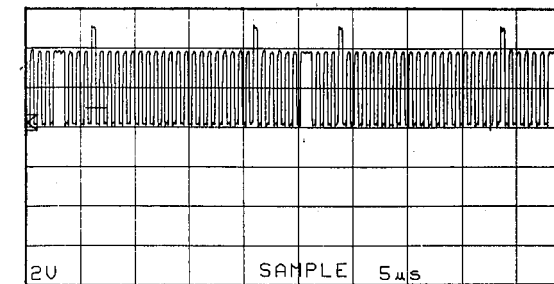


IC30 : M66006P
 12-Bit I/O Expander

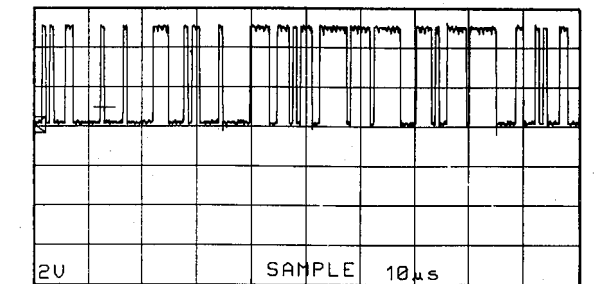


WAVEFORM OF TEST POINT

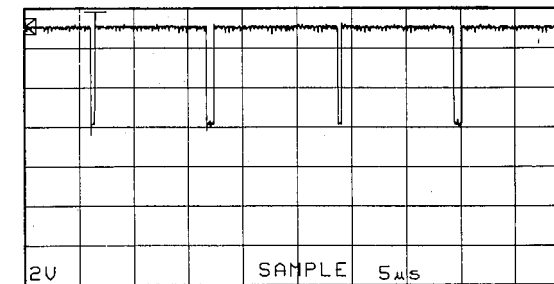
Point ① (Pin 4 of IC 28)
 V : 2V/div H : 5 μ sec/div
 DC range 1 : 1 probe



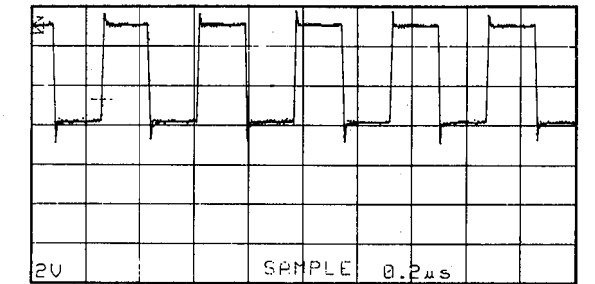
Point ② (Pin 17 of IC 28)
 V : 2V/div H : 10 μ sec/div
 DC range 1 : 1 probe



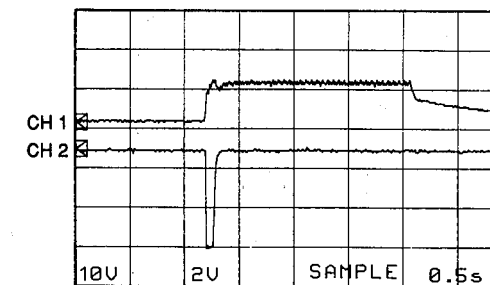
Point ③ (Pin 39 of IC 28)
 V : 2V/div H : 5 μ sec/div
 DC range 1 : 1 probe



Point ④ (Pin 40 of IC 28)
 V : 2V/div H : 0.2 μ sec/div
 DC range 1 : 1 probe



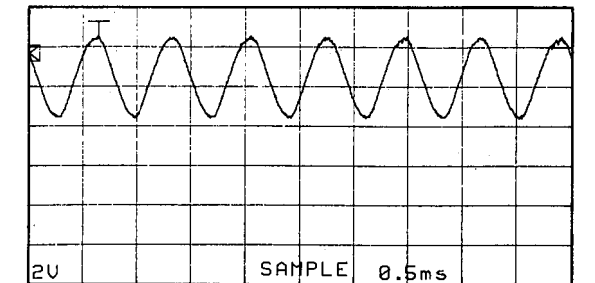
Point ⑤
 (CH1 : IN terminal of IC33)
 (CH2 : Pin 8 of IC35)
 CH1 V : 10V/div
 CH2 V : 2V/div
 H : 0.5 sec/div
 DC range 1 : 1 probe



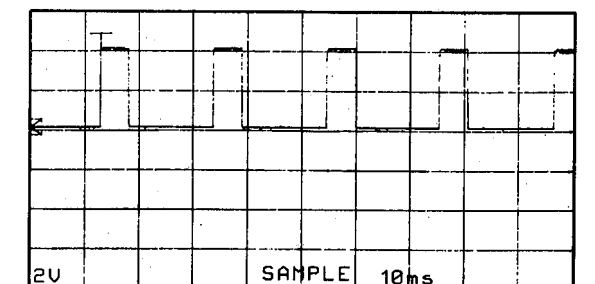
With the POWER switch turned ON, connect the power cord to the AC outlet.
 Disconnect the power cord from the AC outlet.

(This waveform is not available by pushing the power switch ON and OFF.)

Point ⑥ (Pin 9 of IC 35)
 V : 2V/div H : 0.5msec/div
 DC range 1 : 1 probe

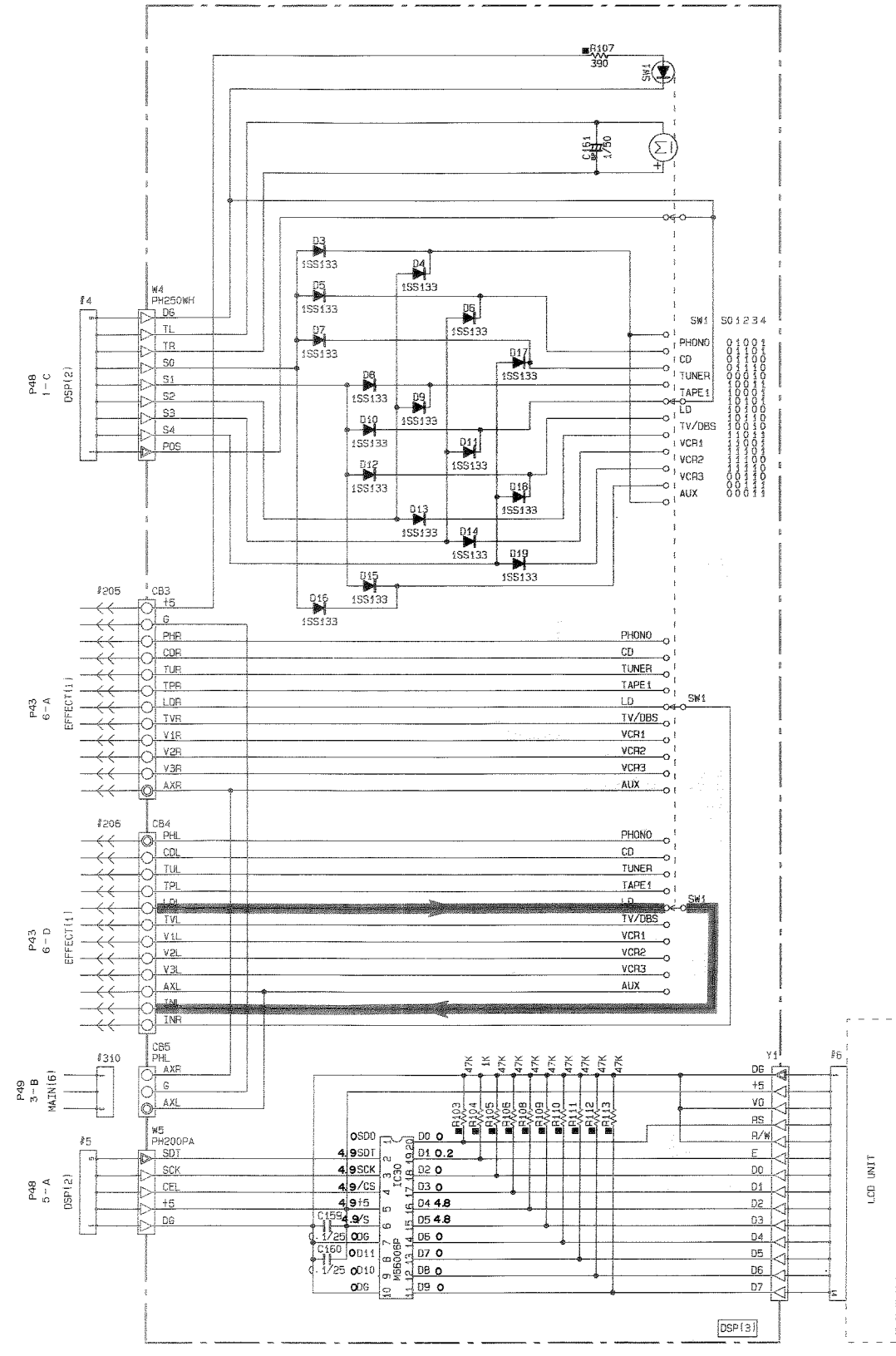
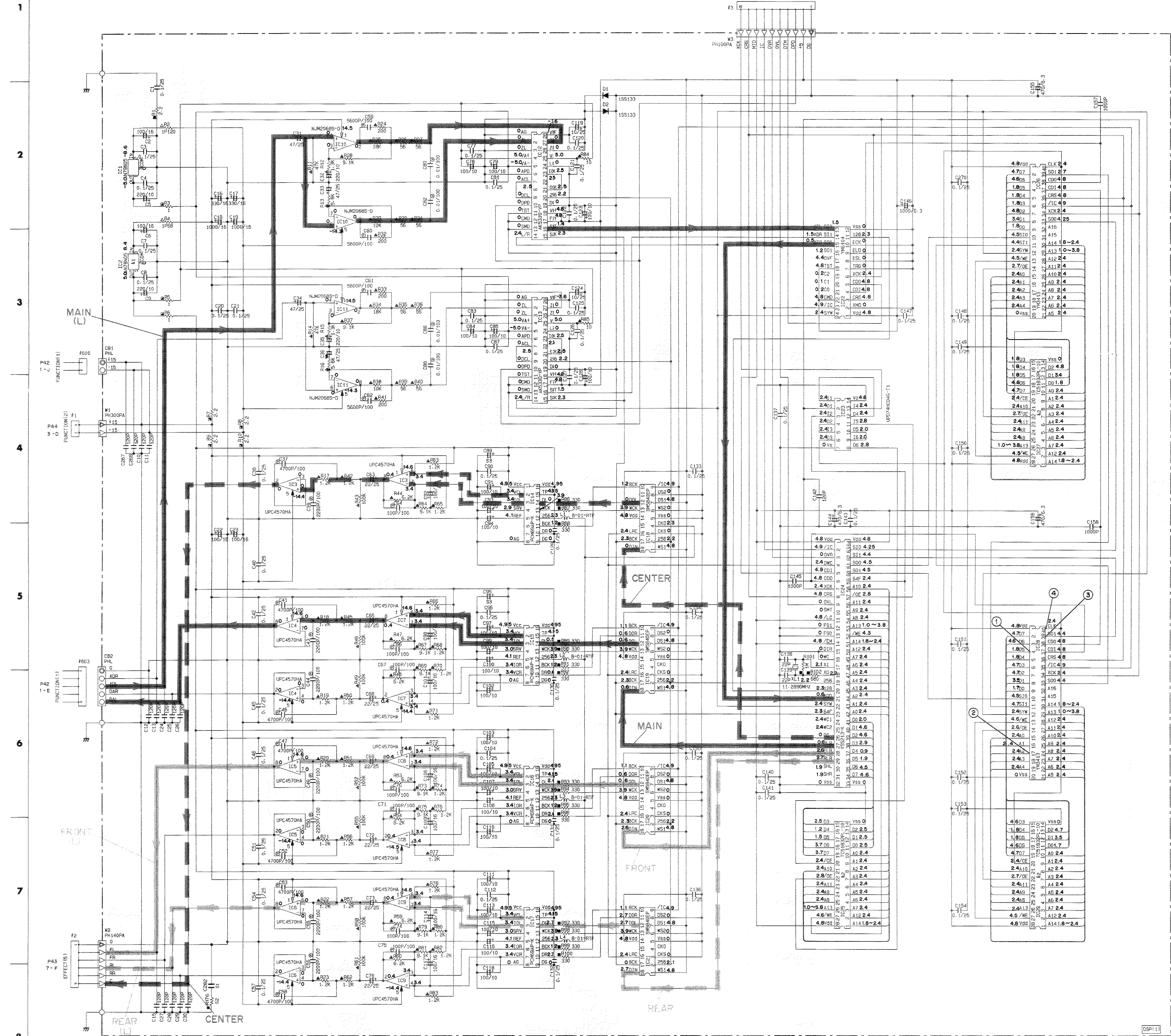


Point ⑦ (Pin 19 of IC 35)
 V : 2V/div H : 10msec/div
 DC range 1 : 1 probe



SCHEMATIC DIAGRAM (DSP)

① to ④ : WAVEFORM OF TEST POINT (See page 46)



NO	MARK	J	U, C	R	A, B	H, W
1	C282	X	0.1/25	0.1/25	0.1/25	0.1/25
2	R176	X	2.2	2.2	2.2	2.2
3	C89, 95	100/10	47/16	47/16	47/16	47/16

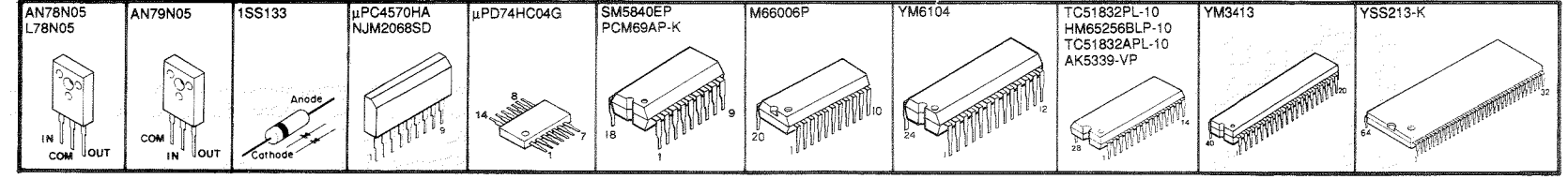
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/4W)
⊠	CARBON FILM RESISTOR (1/4W)
⊡	METAL FILM RESISTOR
⊢	METAL PLATE RESISTOR
⊣	FIRE PROOF CARBON FILM RESISTOR
⊤	CEMENT MOLDED RESISTOR
⊥	SEMI VARIABLE RESISTOR
⊦	CHIP RESISTOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊘	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	AXIAL LEAD CERAMIC CAPACITOR
⊚	POLYESTER FILM CAPACITOR
⊛	POLYSTYRENE FILM CAPACITOR
⊜	MICA CAPACITOR
⊝	POLYPROPYLENE FILM CAPACITOR
⊞	SEMICONDUCTIVE CERAMIC CAPACITOR

LAST NO.	UNLISTED NO.
C 260	269
R 175	142
D 30	
IC 44	
C8 26	

Mark	Reference Parts Number	Parts Name
k1	1G2	AN78N05 1.78W5
k2	1G25-27-29	TC51832PL-10 HM65256BLP-10 TC51832APL-10 TC51832APL-10

PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



Conditions

- INPUT → LD
- PROGRAM → No.7 CONCERT VIDEO 1 (Classical/Opera)

All voltage 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.

SCHEMATIC DIAGRAM (DSP)

⑤ to ⑦ : WAVEFORM OF TEST POINT (See page 46)

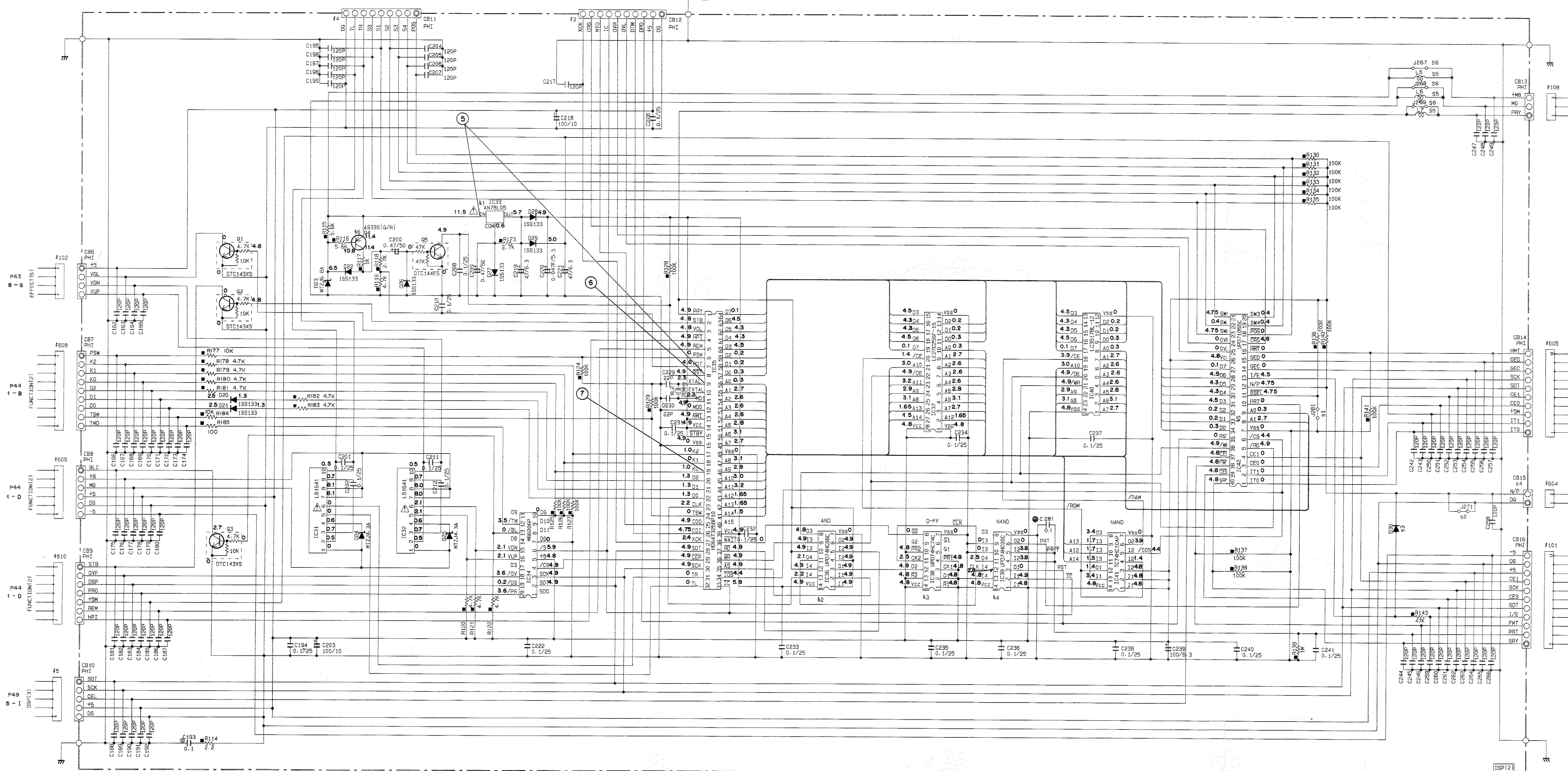


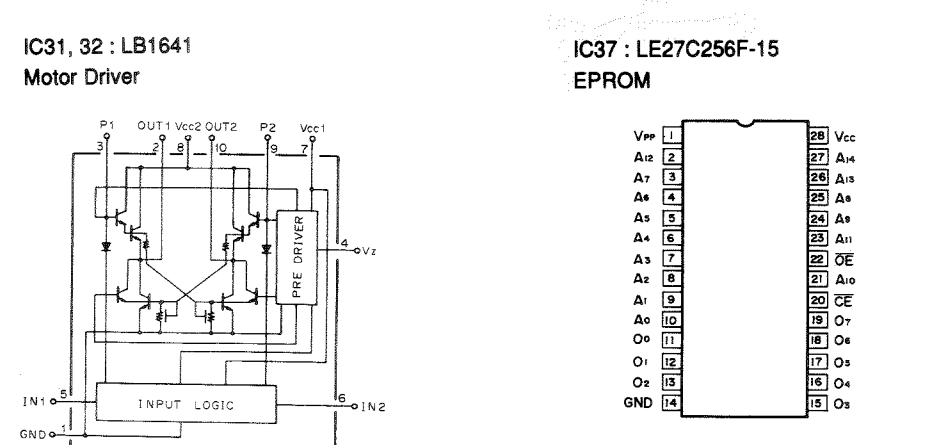
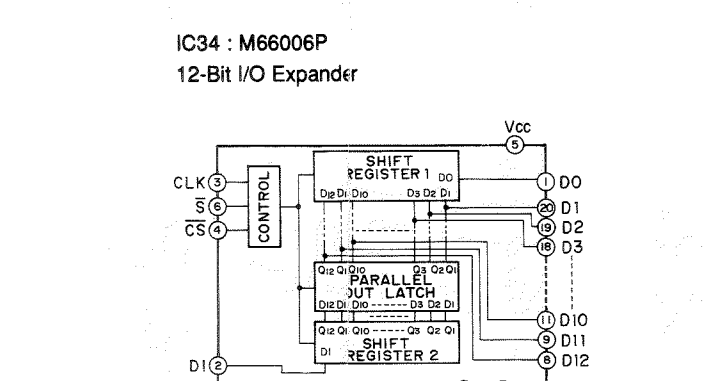
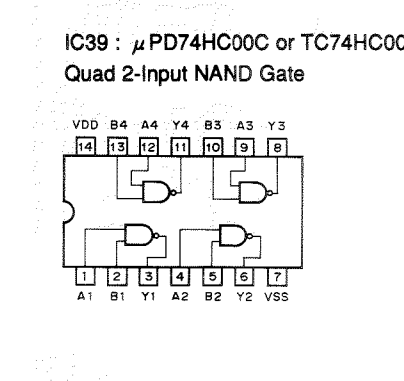
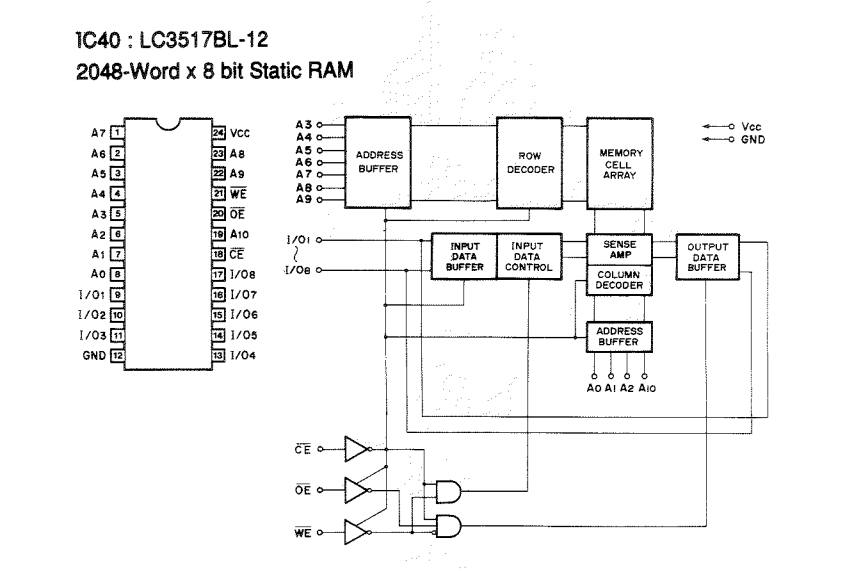
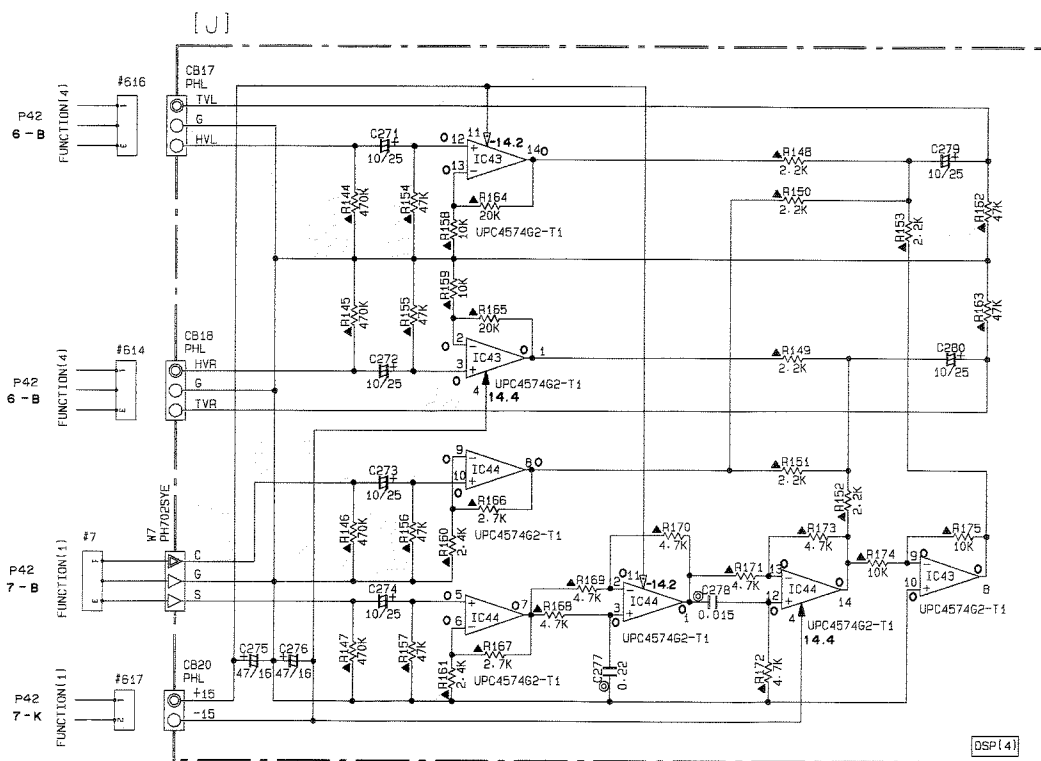
Table with 2 columns: REMARKS and PARTS NAME. Lists resistor types such as Carbon Film Resistor, Axial Lead Ceramic Capacitor, etc.

Table with 2 columns: REMARKS and PARTS NAME. Lists capacitor types such as Electrolytic Capacitor, Tantalum Capacitor, etc.

Table titled 'Interchangeable Parts at Manufacture-Stage' with columns: Mark, Reference Parts Number, and Parts Name. Lists specific component part numbers.

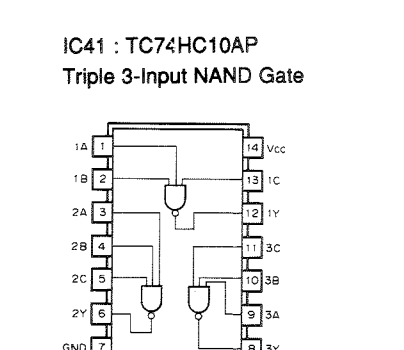
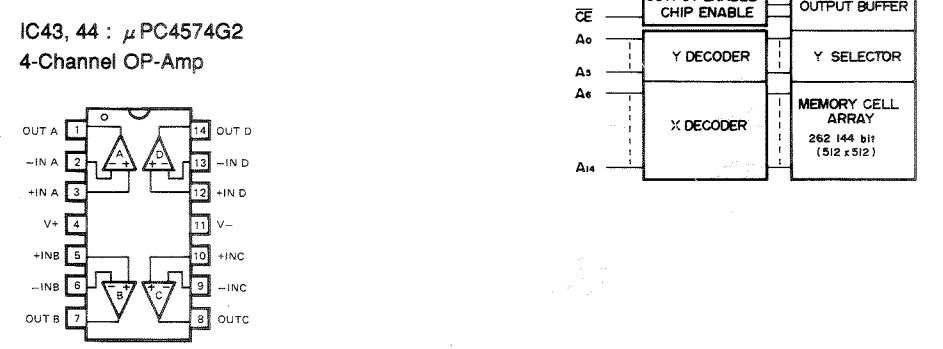
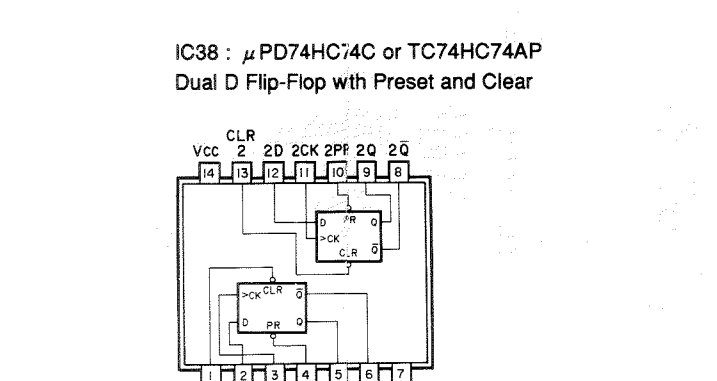
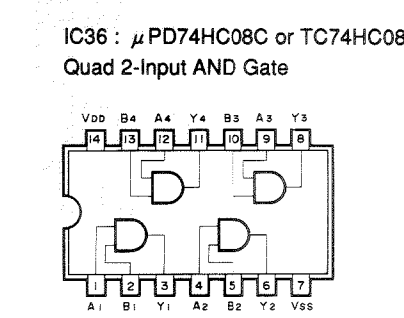
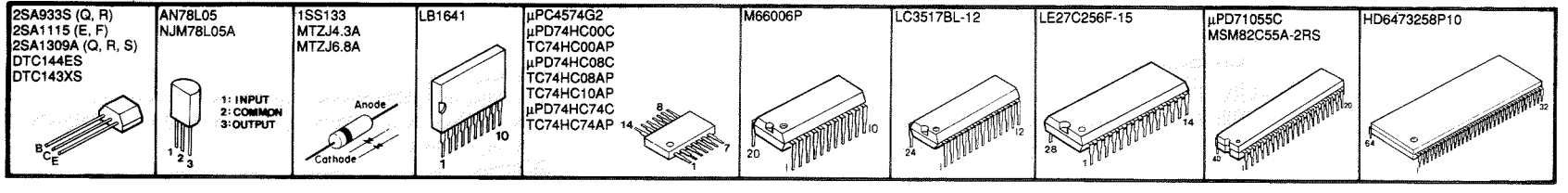
Table with 6 columns: Part's Number, J-U-C, R, A-B, H-K. Shows compatibility or interchangeability between different part numbers.

- Conditions
• INPUT -> LD
• INPUT TRIM -> 0dB
• REC OUT -> SOURCE
• VCR3 VIDEO OUT -> REC OUT
• PROGRAM -> No.7 CONCERT VIDEO 1 (Classical/Opera)



NOTICE
(J)..... Japanese model
(U)..... U.S.A model
(C)..... Canadian model
(A)..... Australian model
(G)..... European model
(B)..... British model
(R)..... General model
(P)..... PP model

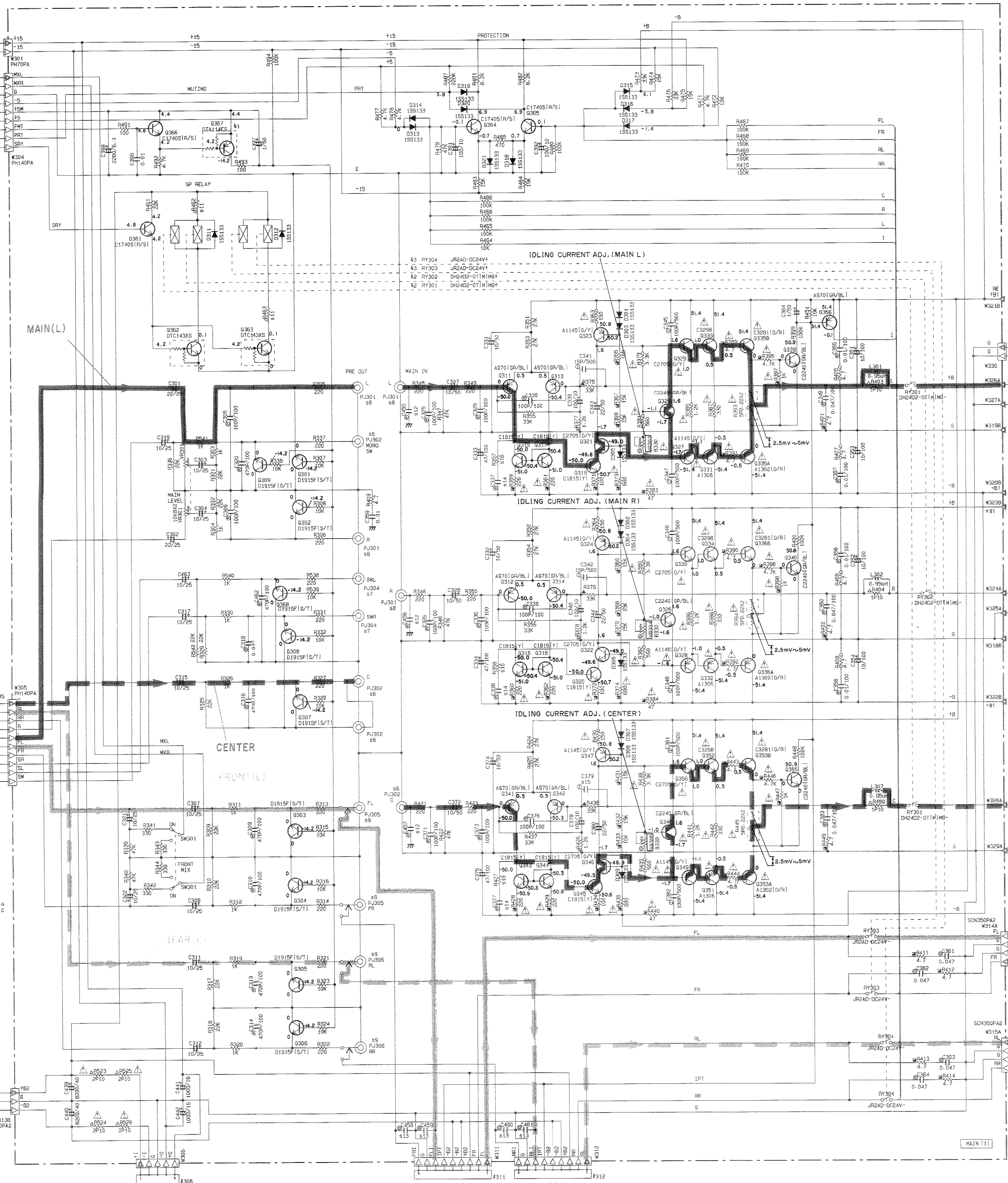
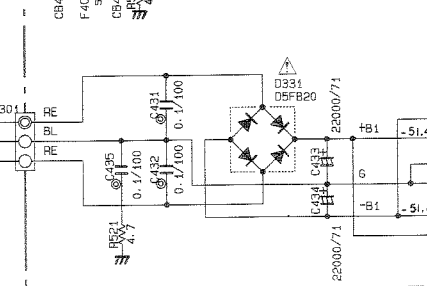
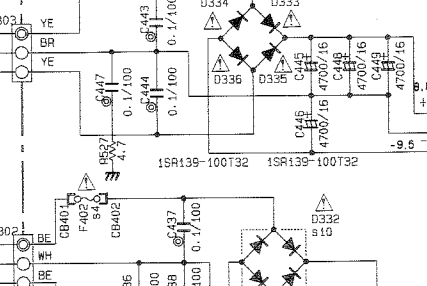
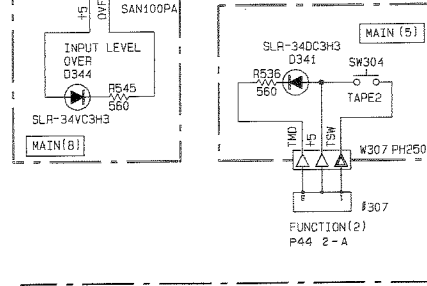
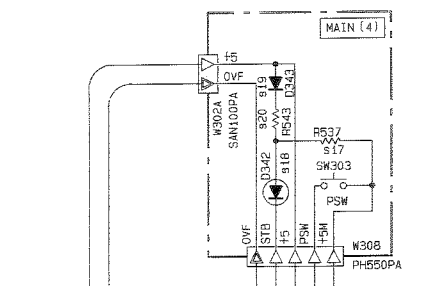
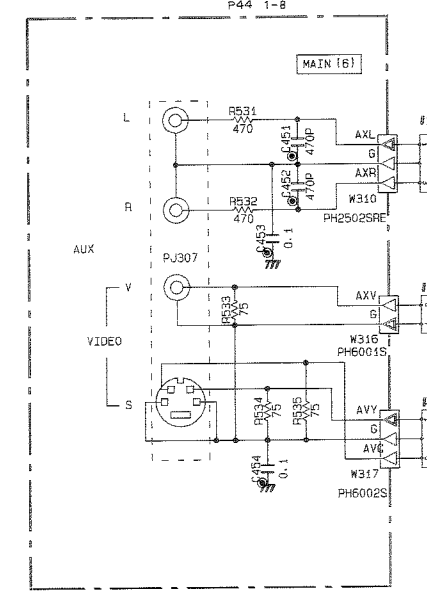
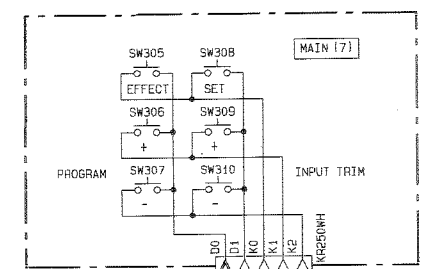
PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



Truth table for IC41 (Triple 3-Input NAND Gate) with columns for INPUT (PR, CLR, CLK, D) and OUTPUT (Q).

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

SCHEMATIC DIAGRAM (MAIN)



Q	J	U-C-R	A-B	H	W
C411-412-415-416	X	X	X	0.01/100	0.01/100
C413-414-417-418	X	X	X	0.022	0.022
C421-422-424	X	X	X	2.2	2.2
R501-502-505-506	X	X	X	2.2	2.2
508-511	X	X	X	2.2	2.2
F401-402	7A250V	7A125V	T6-3A250V	T6-3A250V	T6-3A250V
TE301-302	VK17560	VJ75260	VJ75260	VK17560	VJ75260
PJ302	VN93020	VN93060	VN93060	VN93060	VN93060
PJ304	VN93050	VN93070	VN93070	VN93070	VN93070
PJ301	VK17560	VJ71540	VJ71540	VJ71540	VJ71540
PJ305-306	VK17700	VJ13360	VJ13360	VJ13360	VJ13360
D332	RBV502F-A or D35840	RBV502F-A or D35840	RBV502F-A or D35840	RBV502F-A or D35840	RBV502F-A or D35840
D452-453	1P270	1P270	1P150	1P150	1P150
C456-457	X	X	X	220P/100	220P/100
C458-461	X	X	X	470P	470P
C337-338-377	1000P/100	1000P/100	1000P/100	1200P/100	1200P/100
C379	15P/500	15P/500	15P/500	22P/500	22P/500
R357-358-427	390	390	330	330	330
R637	X	X	X	2.2K	2.2K
D342	X	X	X	5LR-34VC3H3	5LR-34VC3H3
D343	X	X	X	1S5133	1S5133
R543	X	X	X	1K	1K

NOTICE

(J)..... Japanese model
 (U)..... U.S.A. model
 (C)..... Canadian model
 (A)..... Australian model
 (G)..... European model
 (B)..... British model
 (P)..... General model
 (P)..... PP model

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/4W)
NO MARK	CARBON FILM RESISTOR (1/4W)
NO MARK	METAL OXIDE FILM RESISTOR
NO MARK	METAL FILM RESISTOR
NO MARK	METAL PLATE RESISTOR
NO MARK	FILM PROOF CARBON FILM RESISTOR
NO MARK	CEMENT MOLDED RESISTOR
NO MARK	SEMI VARIABLE RESISTOR
NO MARK	CHIP RESISTOR

CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
NO MARK	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
NO MARK	AXIAL LEAD CERAMIC CAPACITOR
NO MARK	POLYESTER FILM CAPACITOR
NO MARK	POLYSTYRENE FILM CAPACITOR
NO MARK	MICA CAPACITOR
NO MARK	POLYPROPYLENE FILM CAPACITOR
NO MARK	SEMICONDUCTIVE CERAMIC CAPACITOR

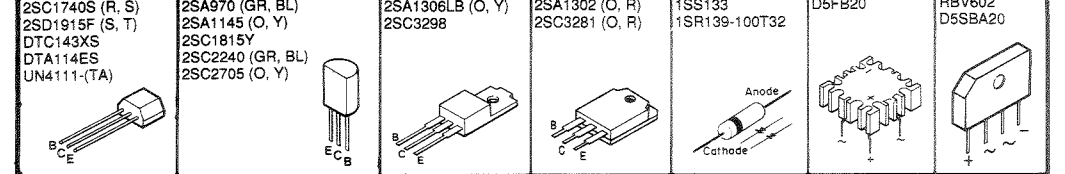
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Part's Name
41	9367	07A14ES UN4111TA1
42	RY301-302	DH402-01MHS JRD40-DC24V
43	RY303-304	JR240-DC24V DH402-01MHS

LAST NO. UN LISTED NO.

Mark	LAST NO.	UN LISTED NO.
C	463	363-324-350-355-370-385-390-393-395-399-410-425-430-450
R	545	333-335-410-415-420-452-450-488-490-495-500-510-520-525-530-544
D	358	310-337-338-354-357-360
D	344	310-322-330-337-340
IC		

PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



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

PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

- Components having special characteristics are marked \triangle and must be replaced with parts having specifications equal to those originally installed.
- Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the parts No. of the carbon resistors, refer to last page.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

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

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

DSP P. C. B.

DSP-A2070

Schm Ref.	PART NO.	Description		
*	VP419100	P. C. B.	DSP (R)	
*	VP419200	P. C. B.	DSP (AB)	
*	VP419300	P. C. B.	DSP (HW)	
*	VP691500	P. C. B.	DSP (UC)	
CB1	VB858100	CN. POST	PH	2P SE
CB2	VB858400	CN. BS. PIN	PH L-TYPE	5P SE
CB5	VB858200	CN. BS. PIN	PH L-TYPE	3P SE
CB6	VD004700	CN. BS. PIN	PH i-TYPE	4P TE
CB7	VD005200	CN. BS. PIN	PH i-TYPE	9P TE
CB8	VD004900	CN. BS. PIN	PH i-TYPE	6P TE
CB9	VD005000	CN. BS. PIN	PH i-TYPE	7P TE
CB10	VD004800	CN. BS. PIN	PH i-TYPE	5P TE
CB11	VD005200	CN. BS. PIN	PH i-TYPE	9P TE
CB12	VD005300	CN. BS. PIN	PH i-TYPE	10P TE
CB13	VD004600	CN. BS. PIN	PH i-TYPE	3P TE
CB14	VD005300	CN. BS. PIN	PH i-TYPE	10P TE
CB15	VD004500	CN. BS. PIN	PH i-TYPE	2P TE (R)
CB16	VG699700	CN. BS. PIN	PH	11P TE
C1	UB245100	C. CE. M. CHP	0.1uF	25V
C2	Vi842600	C. EL	100uF	16V
C3	UB245100	C. CE. M. CHP	0.1uF	25V
C4	UB245100	C. CE. M. CHP	0.1uF	25V
C5	Vi841900	C. EL	220uF	10V
C6	Vi842600	C. EL	100uF	16V
C7	UB245100	C. CE. M. CHP	0.1uF	25V
C8	UB245100	C. CE. M. CHP	0.1uF	25V
C9	Vi841900	C. EL	220uF	10V
C10	UB052120	C. CE. M. CHP	120pF	50V
C11	UB052120	C. CE. M. CHP	120pF	50V
C12	UB052120	C. CE. M. CHP	120pF	50V
C13	UB052120	C. CE. M. CHP	120pF	50V
C15	UB052120	C. CE. M. CHP	120pF	50V
C16	Vi842800	C. EL	330uF	16V
C17	Vi842800	C. EL	330uF	16V
C18	VK180400	C. EL	1000uF	16V
C19	VK180400	C. EL	1000uF	16V
C20	UB245100	C. CE. M. CHP	0.1uF	25V
C21	UB245100	C. CE. M. CHP	0.1uF	25V
C22	Vi842600	C. EL	100uF	16V
C23	Vi842600	C. EL	100uF	16V
C24	UB052120	C. CE. M. CHP	120pF	50V
C25	UB052120	C. CE. M. CHP	120pF	50V
C26	UB052120	C. CE. M. CHP	120pF	50V
C27	UB052120	C. CE. M. CHP	120pF	50V
C28	UB052120	C. CE. M. CHP	120pF	50V
C29	UB052120	C. CE. M. CHP	120pF	50V
C30	UB052120	C. CE. M. CHP	120pF	50V
C31	Vi845600	C. EL	47uF	50V
C32	Vi841900	C. EL	220uF	10V
C33	Vi845600	C. EL	47uF	50V
C34	Vi845600	C. EL	47uF	50V
C35	Vi841900	C. EL	220uF	10V
C36	Vi845600	C. EL	47uF	50V

* New Parts

Schm Ref.	PART NO.	Description		
C37	UT453470	C. PP	4700pF	100V
C38	UB245100	C. CE. M. CHP	0.1uF	25V
C39	UT453220	C. PP	2200pF	100V
C40	UB245100	C. CE. M. CHP	0.1uF	25V
C41	UT453470	C. PP	4700pF	100V
C42	UB245100	C. CE. M. CHP	0.1uF	25V
C43	UT453220	C. PP	2200pF	100V
C44	UT453220	C. PP	2200pF	100V
C45	UB245100	C. CE. M. CHP	0.1uF	25V
C46	UT453470	C. PP	4700pF	100V
C47	UT453470	C. PP	4700pF	100V
C48	UB245100	C. CE. M. CHP	0.1uF	25V
C49	UT453220	C. PP	2200pF	100V
C50	UT453220	C. PP	2200pF	100V
C51	UB245100	C. CE. M. CHP	0.1uF	25V
C52	UT453470	C. PP	4700pF	100V
C53	UT453470	C. PP	4700pF	100V
C54	UB245100	C. CE. M. CHP	0.1uF	25V
C55	UT453220	C. PP	2200pF	100V
C56	UT453220	C. PP	2200pF	100V
C57	UB245100	C. CE. M. CHP	0.1uF	25V
C58	UT453470	C. PP	4700pF	100V
C59	UT653560	C. PP	5600pF	100V
C60	UT653560	C. PP	5600pF	100V
C61	UT653560	C. PP	5600pF	100V
C62	UT653560	C. PP	5600pF	100V
C63	VH622200	C. EL	22uF	50V
C64	UT452100	C. PP	100pF	100V
C65	VH622200	C. EL	22uF	50V
C66	UT452100	C. PP	100pF	100V
C67	UT452100	C. PP	100pF	100V
C68	VH622200	C. EL	22uF	50V
C69	VH622200	C. EL	22uF	50V
C70	UT452100	C. PP	100pF	100V
C71	UT452100	C. PP	100pF	100V
C72	VH622200	C. EL	22uF	50V
C73	VH622200	C. EL	22uF	50V
C74	UT452100	C. PP	100pF	100V
C75	UT452100	C. PP	100pF	100V
C76	VH622200	C. EL	22uF	50V
C77	UB245100	C. CE. M. CHP	0.1uF	25V
C78	Vi841800	C. EL	100uF	10V
C79	Vi841800	C. EL	100uF	10V
C80	UT454100	C. PP	0.01uF	100V
C81	UB245100	C. CE. M. CHP	0.1uF	25V
C82	UT454100	C. PP	0.01uF	100V
C83	UB245100	C. CE. M. CHP	0.1uF	25V
C84	Vi841800	C. EL	100uF	10V
C85	Vi841800	C. EL	100uF	10V
C86	UT454100	C. PP	0.01uF	100V
C87	UB245100	C. CE. M. CHP	0.1uF	25V
C88	UT454100	C. PP	0.01uF	100V
C89	Vi845600	C. EL	47uF	50V

* New Parts

DSP P. C. B.

Schm Ref.	PART NO.	Description		
C90	UB245100	C.CE.M.CHP	0.1uF	25V
C91	Vi841800	C.EL	100uF	10V
C92	Vi842600	C.EL	100uF	16V
C93	Vi841800	C.EL	100uF	10V
C94	Vi841800	C.EL	100uF	10V
C95	Vi845600	C.EL	47uF	50V
C96	UB245100	C.CE.M.CHP	0.1uF	25V
C97	Vi841800	C.EL	100uF	10V
C98	Vi842600	C.EL	100uF	16V
C99	Vi841800	C.EL	100uF	10V
C100	Vi841800	C.EL	100uF	10V
C101	Vi842600	C.EL	100uF	16V
C102	Vi841800	C.EL	100uF	10V
C103	Vi841800	C.EL	100uF	10V
C104	UB245100	C.CE.M.CHP	0.1uF	25V
C105	Vi841800	C.EL	100uF	10V
C106	Vi842600	C.EL	100uF	16V
C107	Vi841800	C.EL	100uF	10V
C108	Vi841800	C.EL	100uF	10V
C109	Vi842600	C.EL	100uF	16V
C110	Vi841800	C.EL	100uF	10V
C111	Vi841800	C.EL	100uF	10V
C112	UB245100	C.CE.M.CHP	0.1uF	25V
C113	Vi841800	C.EL	100uF	10V
C114	Vi842600	C.EL	100uF	16V
C115	Vi841800	C.EL	100uF	10V
C116	Vi841800	C.EL	100uF	10V
C117	Vi842600	C.EL	100uF	16V
C118	Vi841800	C.EL	100uF	10V
C119	Vi845900	C.EL	10uF	63V
C120	UB245100	C.CE.M.CHP	0.1uF	25V
C121	UB245100	C.CE.M.CHP	0.1uF	25V
C122	UB245100	C.CE.M.CHP	0.1uF	25V
C123	Vi841800	C.EL	100uF	10V
C124	Vi845900	C.EL	10uF	63V
C125	UB245100	C.CE.M.CHP	0.1uF	25V
C126	UB245100	C.CE.M.CHP	0.1uF	25V
C127	UB245100	C.CE.M.CHP	0.1uF	25V
C128	Vi841800	C.EL	100uF	10V
C129	UB245100	C.CE.M.CHP	0.1uF	25V
C130	UB245100	C.CE.M.CHP	0.1uF	25V
C131	UB245100	C.CE.M.CHP	0.1uF	25V
C132	UB245100	C.CE.M.CHP	0.1uF	25V
C133	UB245100	C.CE.M.CHP	0.1uF	25V
C134	UB245100	C.CE.M.CHP	0.1uF	25V
C135	UB245100	C.CE.M.CHP	0.1uF	25V
C136	UB245100	C.CE.M.CHP	0.1uF	25V
C137	UB245100	C.CE.M.CHP	0.1uF	25V
C138	UB051220	C.CE.M.CHP	22pF	50V
C139	UB051220	C.CE.M.CHP	22pF	50V
C140	UB245100	C.CE.M.CHP	0.1uF	25V
C141	UB245100	C.CE.M.CHP	0.1uF	25V
C142	UB052120	C.CE.M.CHP	120pF	50V

* New Parts

Schm Ref.	PART NO.	Description		
C143	UB245100	C.CE.M.CHP	0.1uF	25V
C144	Vi841300	C.EL	470uF	6.3V
C145	UB013100	C.CE.M.CHP	1000pF	50V
C146	Vi841400	C.EL	1000uF	6.3V
C147	UB245100	C.CE.M.CHP	0.1uF	25V
C148	UB245100	C.CE.M.CHP	0.1uF	25V
C149	UB245100	C.CE.M.CHP	0.1uF	25V
C150	UB245100	C.CE.M.CHP	0.1uF	25V
C151	UB245100	C.CE.M.CHP	0.1uF	25V
C152	UB245100	C.CE.M.CHP	0.1uF	25V
C153	UB245100	C.CE.M.CHP	0.1uF	25V
C154	UB245100	C.CE.M.CHP	0.1uF	25V
C155	Vi841300	C.EL	470uF	6.3V
C156	Vi841300	C.EL	470uF	6.3V
C157	UB013100	C.CE.M.CHP	1000pF	50V
C158	UB013100	C.CE.M.CHP	1000pF	50V
C159	UB245100	C.CE.M.CHP	0.1uF	25V
C160	UB245100	C.CE.M.CHP	0.1uF	25V
C161	VG722100	C.EL	1uF	50V
C162	UB052120	C.CE.M.CHP	120pF	50V
C163	UB052120	C.CE.M.CHP	120pF	50V
C164	UB052120	C.CE.M.CHP	120pF	50V
C165	UB052120	C.CE.M.CHP	120pF	50V
C166	UB052120	C.CE.M.CHP	120pF	50V
C167	UB052120	C.CE.M.CHP	120pF	50V
C168	UB052120	C.CE.M.CHP	120pF	50V
C169	UB052120	C.CE.M.CHP	120pF	50V
C170	UB052120	C.CE.M.CHP	120pF	50V
C171	UB052120	C.CE.M.CHP	120pF	50V
C172	UB052120	C.CE.M.CHP	120pF	50V
C173	UB052120	C.CE.M.CHP	120pF	50V
C174	UB052120	C.CE.M.CHP	120pF	50V
C175	UB052120	C.CE.M.CHP	120pF	50V
C176	UB052120	C.CE.M.CHP	120pF	50V
C177	UB052120	C.CE.M.CHP	120pF	50V
C178	UB052120	C.CE.M.CHP	120pF	50V
C179	UB052120	C.CE.M.CHP	120pF	50V
C180	UB052120	C.CE.M.CHP	120pF	50V
C181	UB052120	C.CE.M.CHP	120pF	50V
C182	UB052120	C.CE.M.CHP	120pF	50V
C183	UB052120	C.CE.M.CHP	120pF	50V
C184	UB052120	C.CE.M.CHP	120pF	50V
C185	UB052120	C.CE.M.CHP	120pF	50V
C186	UB052120	C.CE.M.CHP	120pF	50V
C187	UB052120	C.CE.M.CHP	120pF	50V
C188	UB052120	C.CE.M.CHP	120pF	50V
C189	UB052120	C.CE.M.CHP	120pF	50V
C190	UB052120	C.CE.M.CHP	120pF	50V
C191	UB052120	C.CE.M.CHP	120pF	50V
C192	UB052120	C.CE.M.CHP	120pF	50V
C193	UA655100	C.MYLAR	0.1uF	50V
C194	UB245100	C.CE.M.CHP	0.1uF	25V
C195	UB052120	C.CE.M.CHP	120pF	50V

* New Parts

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Schm Ref.	PART NO.	Description		
C196	UB052120	C.CE.M.CHP	120pF	50V
C197	UB052120	C.CE.M.CHP	120pF	50V
C198	UB052120	C.CE.M.CHP	120pF	50V
C199	UB052120	C.CE.M.CHP	120pF	50V
C200	VJ839000	C.EL	0.47uF	50V
C201	UB245100	C.CE.M.CHP	0.1uF	25V
C202	UB245100	C.CE.M.CHP	0.1uF	25V
C203	Vi841800	C.EL	100uF	10V
C204	UB052120	C.CE.M.CHP	120pF	50V
C205	UB052120	C.CE.M.CHP	120pF	50V
C206	UB052120	C.CE.M.CHP	120pF	50V
C207	UB052120	C.CE.M.CHP	120pF	50V
C208	UB245100	C.CE.M.CHP	0.1uF	25V
C209	VJ839000	C.EL	0.47uF	50V
C210	UB245100	C.CE.M.CHP	0.1uF	25V
C211	UB245100	C.CE.M.CHP	0.1uF	25V
C212	UB245100	C.CE.M.CHP	0.1uF	25V
C217	UB052120	C.CE.M.CHP	120pF	50V
C218	Vi841800	C.EL	100uF	10V
C219	VJ837200	C.EL	47uF	16V
C220	VE632800	C.EL	0.047F	5.5V
C221	VJ837200	C.EL	47uF	16V
C222	UB245100	C.CE.M.CHP	0.1uF	25V
C228	UB245100	C.CE.M.CHP	0.1uF	25V
C229	UB051220	C.CE.M.CHP	22pF	50V
C230	UB051220	C.CE.M.CHP	22pF	50V
C231	UB245100	C.CE.M.CHP	0.1uF	25V
C232	UB245100	C.CE.M.CHP	0.1uF	25V
C233	UB245100	C.CE.M.CHP	0.1uF	25V
C234	UB245100	C.CE.M.CHP	0.1uF	25V
C235	UB245100	C.CE.M.CHP	0.1uF	25V
C236	UB245100	C.CE.M.CHP	0.1uF	25V
C237	UB245100	C.CE.M.CHP	0.1uF	25V
C238	UB245100	C.CE.M.CHP	0.1uF	25V
C239	Vi841800	C.EL	100uF	10V
C240	UB245100	C.CE.M.CHP	0.1uF	25V
C241	UB245100	C.CE.M.CHP	0.1uF	25V
C242	UB052120	C.CE.M.CHP	120pF	50V
C243	UB052120	C.CE.M.CHP	120pF	50V
C244	UB052120	C.CE.M.CHP	120pF	50V
C245	UB052120	C.CE.M.CHP	120pF	50V
C246	UB052120	C.CE.M.CHP	120pF	50V
C247	UB052120	C.CE.M.CHP	120pF	50V
C248	UB052120	C.CE.M.CHP	120pF	50V
C249	UB052120	C.CE.M.CHP	120pF	50V
C250	UB052120	C.CE.M.CHP	120pF	50V
C251	UB052120	C.CE.M.CHP	120pF	50V
C252	UB052120	C.CE.M.CHP	120pF	50V
C253	UB052120	C.CE.M.CHP	120pF	50V
C254	UB052120	C.CE.M.CHP	120pF	50V
C255	UB052120	C.CE.M.CHP	120pF	50V
C256	UB052120	C.CE.M.CHP	120pF	50V
C257	UB052120	C.CE.M.CHP	120pF	50V

* New Parts

Schm Ref.	PART NO.	Description		
C258	UB052120	C.CE.M.CHP	120pF	50V
C259	UB052120	C.CE.M.CHP	120pF	50V
C260	UB052120	C.CE.M.CHP	120pF	50V
C261	UB052120	C.CE.M.CHP	120pF	50V
C262	UB052120	C.CE.M.CHP	120pF	50V
C263	UB052120	C.CE.M.CHP	120pF	50V
C264	UB052120	C.CE.M.CHP	120pF	50V
C265	UB052120	C.CE.M.CHP	120pF	50V
C266	UB052120	C.CE.M.CHP	120pF	50V
C267	UB052120	C.CE.M.CHP	120pF	50V
C268	UB052120	C.CE.M.CHP	120pF	50V
C270	UB245100	C.CE.M.CHP	0.1uF	25V
C281	VJ599100	C.CE.TUBLR	0.1uF	50V
C282	UB245100	C.CE.M.CHP	0.1uF	25V
D1	iF004600	DIODE	1SS133	
D2	iF004600	DIODE	1SS133	
D3	iF004600	DIODE	1SS133	
D4	iF004600	DIODE	1SS133	
D5	iF004600	DIODE	1SS133	
D6	iF004600	DIODE	1SS133	
D7	iF004600	DIODE	1SS133	
D8	iF004600	DIODE	1SS133	
D9	iF004600	DIODE	1SS133	
D10	iF004600	DIODE	1SS133	
D11	iF004600	DIODE	1SS133	
D12	iF004600	DIODE	1SS133	
D13	iF004600	DIODE	1SS133	
D14	iF004600	DIODE	1SS133	
D15	iF004600	DIODE	1SS133	
D16	iF004600	DIODE	1SS133	
D17	iF004600	DIODE	1SS133	
D18	iF004600	DIODE	1SS133	
D19	iF004600	DIODE	1SS133	
D20	iF004600	DIODE	1SS133	
D21	iF004600	DIODE	1SS133	
D22	iF004600	DIODE	1SS133	
D23	VG438200	DIODE.ZENR	MTZJ6.8A	6.8V
D24	VG436700	DIODE.ZENR	MTZJ4.3A	4.3V
D25	VG436700	DIODE.ZENR	MTZJ4.3A	4.3V
D26	iF004600	DIODE	1SS133	
D27	iF004600	DIODE	1SS133	
D28	iF004600	DIODE	1SS133	
D29	iF004600	DIODE	1SS133	
D30	iF004600	DIODE	1SS133 (R)	
IC1	XG780A00	IC	AN79N05	
IC2	XA507A00	IC	AN78N05	
IC3	XB247301	IC	uPC4570HA	
IC4	XB247301	IC	uPC4570HA	
IC5	XB247301	IC	uPC4570HA	
IC6	XB247301	IC	uPC4570HA	
IC7	XB247301	IC	uPC4570HA	
IC8	XB247301	IC	uPC4570HA	
IC9	XB247301	IC	uPC4570HA	

* New Parts

DSP P. C. B.

Schm Ref.	PART NO.	Description
IC10	XE322001	IC NJM2068S-D
IC11	XE322001	IC NJM2068S-D
IC12	Xi112A00	IC AK5339
IC13	Xi112A00	IC AK5339
* IC14	XL619A00	IC PCM69AP-K
* IC15	XL619A00	IC PCM69AP-K
* IC16	XL619A00	IC PCM69AP-K
* IC17	XL619A00	IC PCM69AP-K
IC18	XK298A00	IC SM5840EP
IC19	XK298A00	IC SM5840EP
IC20	XK298A00	IC SM5840EP
IC21	XK298A00	IC SM5840EP
IC22	XE788A00	IC YM6104
IC23	XE819A00	IC uPD74HC04G-T1
IC24	XK299A00	IC YSS213-K
IC25	XC628A00	IC TC51832PL-10
IC26	XE449A00	IC YM3413
IC27	XC628A00	IC TC51832PL-10
IC28	XE449A00	IC YM3413
IC29	XC628A00	IC TC51832PL-10
* IC30	XL501A00	IC M66006P
IC31	XF494A00	IC LB1641
IC32	XF494A00	IC LB1641
IC33	XJ757A00	IC NJM78L05A-T3
* IC34	XL501A00	IC M66006P
* IC35	XL503B00	IC HD6473258P10
IC36	iR000820	IC uPD74HC08C
* IC37	XL504A00	IC LE27C256F-15
IC38	iR007420	IC uPD74HC74C
IC39	iR000020	IC uPD74HC00C
IC40	XE605A00	IC LC3517BL-12
IC41	iR001000	IC TC74HC10AP
IC42	XB361A00	IC uPD71055C
J291	RD250000	R.CAR.CHP 0Ω 1/10W
J292	RD250000	R.CAR.CHP 0Ω 1/10W
J293	RD250000	R.CAR.CHP 0Ω 1/10W
J294	RD250000	R.CAR.CHP 0Ω 1/10W
J295	RD250000	R.CAR.CHP 0Ω 1/10W
L1	VE795500	FER.BEAD B-01-RTF
L2	VE795500	FER.BEAD B-01-RTF
L3	VE795500	FER.BEAD B-01-RTF
L4	VE795500	FER.BEAD B-01-RTF
L5	VD473700	COIL 60uH
L6	VD473700	COIL 60uH
L7	VD473700	COIL 60uH
Q1	VD488500	TR.DGT DTC143XS
Q2	VD488500	TR.DGT DTC143XS
Q3	VD488500	TR.DGT DTC143XS
Q4	ia093320	TR 2SA933S Q,R
Q5	VG722000	TR.DGT DTC144ES
R1	RD253220	R.CAR.CHP 2.2Ω 1/10W
R2	HL315120	R.MTL.OXD 120Ω 1W
R3	HV453100	R.CAR.FP 1Ω 1/4W

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Schm Ref.	PART NO.	Description
R4	HL314680	R.MTL.OXD 68Ω 1W
R5	HV453100	R.CAR.FP 1Ω 1/4W
R6	HV453100	R.CAR.FP 1Ω 1/4W
R7	HV453220	R.CAR.FP 2.2Ω 1/4W
R8	HV453220	R.CAR.FP 2.2Ω 1/4W
R9	HV453220	R.CAR.FP 2.2Ω 1/4W
R10	HV453220	R.CAR.FP 2.2Ω 1/4W
R11	Vi199000	R.MTL.CHP 47KΩ 1/10W
R12	Vi195200	R.MTL.CHP 1.3KΩ 1/10W
R13	Vi196800	R.MTL.CHP 5.6KΩ 1/10W
R14	Vi199000	R.MTL.CHP 47KΩ 1/10W
R15	Vi195200	R.MTL.CHP 1.3KΩ 1/10W
R16	Vi196800	R.MTL.CHP 5.6KΩ 1/10W
R17	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R18	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R19	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R20	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R21	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R22	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R23	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R24	Vi193200	R.MTL.CHP 200Ω 1/10W
R25	Vi198000	R.MTL.CHP 18KΩ 1/10W
R26	Vi191900	R.MTL.CHP 56Ω 1/10W
R27	Vi191900	R.MTL.CHP 56Ω 1/10W
R28	Vi197300	R.MTL.CHP 9.1KΩ 1/10W
R29	Vi197400	R.MTL.CHP 10KΩ 1/10W
R30	Vi191900	R.MTL.CHP 56Ω 1/10W
R31	Vi191900	R.MTL.CHP 56Ω 1/10W
R32	Vi193200	R.MTL.CHP 200Ω 1/10W
R33	Vi193200	R.MTL.CHP 200Ω 1/10W
R34	Vi198000	R.MTL.CHP 18KΩ 1/10W
R35	Vi191900	R.MTL.CHP 56Ω 1/10W
R36	Vi191900	R.MTL.CHP 56Ω 1/10W
R37	Vi197300	R.MTL.CHP 9.1KΩ 1/10W
R38	Vi197400	R.MTL.CHP 10KΩ 1/10W
R39	Vi191900	R.MTL.CHP 56Ω 1/10W
R40	Vi191900	R.MTL.CHP 56Ω 1/10W
R41	Vi193200	R.MTL.CHP 200Ω 1/10W
R42	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R43	Vi200000	R.MTL.CHP 100KΩ 1/10W
R44	Vi196900	R.MTL.CHP 6.2KΩ 1/10W
R45	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R46	Vi200000	R.MTL.CHP 100KΩ 1/10W
R47	Vi196900	R.MTL.CHP 6.2KΩ 1/10W
R48	Vi196900	R.MTL.CHP 6.2KΩ 1/10W
R49	Vi200000	R.MTL.CHP 100KΩ 1/10W
R50	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R51	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R52	Vi200000	R.MTL.CHP 100KΩ 1/10W
R53	Vi196900	R.MTL.CHP 6.2KΩ 1/10W
R54	Vi196900	R.MTL.CHP 6.2KΩ 1/10W
R55	Vi200000	R.MTL.CHP 100KΩ 1/10W
R56	Vi195100	R.MTL.CHP 1.2KΩ 1/10W

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* New Parts

* New Parts

DSP P. C. B.

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Schm Ref.	PART NO.	Description
R57	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R58	Vi200000	R.MTL.CHP 100KΩ 1/10W
R59	Vi196900	R.MTL.CHP 6.2KΩ 1/10W
R60	Vi196900	R.MTL.CHP 6.2KΩ 1/10W
R61	Vi200000	R.MTL.CHP 100KΩ 1/10W
R62	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R63	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R64	Vi197300	R.MTL.CHP 9.1KΩ 1/10W
R65	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R66	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R67	Vi197300	R.MTL.CHP 9.1KΩ 1/10W
R68	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R69	Vi197300	R.MTL.CHP 9.1KΩ 1/10W
R70	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R71	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R72	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R73	Vi197300	R.MTL.CHP 9.1KΩ 1/10W
R74	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R75	Vi197300	R.MTL.CHP 9.1KΩ 1/10W
R76	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R77	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R78	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R79	Vi197300	R.MTL.CHP 9.1KΩ 1/10W
R80	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R81	Vi197300	R.MTL.CHP 9.1KΩ 1/10W
R82	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R83	Vi195100	R.MTL.CHP 1.2KΩ 1/10W
R84	Vi190100	R.MTL.CHP 10Ω 1/10W
R85	Vi190100	R.MTL.CHP 10Ω 1/10W
R86	RD255330	R.CAR.CHP 330Ω 1/10W
R87	RD255330	R.CAR.CHP 330Ω 1/10W
R88	RD255330	R.CAR.CHP 330Ω 1/10W
R89	RD255330	R.CAR.CHP 330Ω 1/10W
R90	RD255330	R.CAR.CHP 330Ω 1/10W
R91	RD255330	R.CAR.CHP 330Ω 1/10W
R92	RD255330	R.CAR.CHP 330Ω 1/10W
R93	RD255330	R.CAR.CHP 330Ω 1/10W
R94	RD255330	R.CAR.CHP 330Ω 1/10W
R95	RD255330	R.CAR.CHP 330Ω 1/10W
R96	RD255330	R.CAR.CHP 330Ω 1/10W
R97	RD255330	R.CAR.CHP 330Ω 1/10W
R98	RD255330	R.CAR.CHP 330Ω 1/10W
R99	RD255330	R.CAR.CHP 330Ω 1/10W
R100	RD255330	R.CAR.CHP 330Ω 1/10W
R101	RD259100	R.CAR.CHP 1MΩ 1/10W
R102	RD255680	R.CAR.CHP 680Ω 1/10W
R103	RD257470	R.CAR.CHP 47KΩ 1/10W
R104	RD256100	R.CAR.CHP 1KΩ 1/10W
R105	RD257470	R.CAR.CHP 47KΩ 1/10W
R106	RD257470	R.CAR.CHP 47KΩ 1/10W
R107	RD255390	R.CAR.CHP 390Ω 1/10W
R108	RD257470	R.CAR.CHP 47KΩ 1/10W
R109	RD257470	R.CAR.CHP 47KΩ 1/10W

* New Parts

Schm Ref.	PART NO.	Description
R110	RD257470	R.CAR.CHP 47KΩ 1/10W
R111	RD257470	R.CAR.CHP 47KΩ 1/10W
R112	RD257470	R.CAR.CHP 47KΩ 1/10W
R113	RD257470	R.CAR.CHP 47KΩ 1/10W
R114	RD253220	R.CAR.CHP 2.2Ω 1/10W
R115	RD256560	R.CAR.CHP 5.6KΩ 1/10W
R116	RD256560	R.CAR.CHP 5.6KΩ 1/10W
R117	RD256100	R.CAR.CHP 1KΩ 1/10W
R118	RD256270	R.CAR.CHP 2.7KΩ 1/10W
R119	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R120	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R121	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R122	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R123	RD256270	R.CAR.CHP 2.7KΩ 1/10W
R124	RD258100	R.CAR.CHP 100KΩ 1/10W
R125	RD258100	R.CAR.CHP 100KΩ 1/10W
R126	RD258100	R.CAR.CHP 100KΩ 1/10W
R127	RD258100	R.CAR.CHP 100KΩ 1/10W
R128	RD258100	R.CAR.CHP 100KΩ 1/10W
R129	RD258100	R.CAR.CHP 100KΩ 1/10W
R130	RD258100	R.CAR.CHP 100KΩ 1/10W
R131	RD258100	R.CAR.CHP 100KΩ 1/10W
R132	RD258100	R.CAR.CHP 100KΩ 1/10W
R133	RD258100	R.CAR.CHP 100KΩ 1/10W
R134	RD258100	R.CAR.CHP 100KΩ 1/10W
R135	RD258100	R.CAR.CHP 100KΩ 1/10W
R136	RD258100	R.CAR.CHP 100KΩ 1/10W
R137	RD258100	R.CAR.CHP 100KΩ 1/10W
R138	RD258100	R.CAR.CHP 100KΩ 1/10W
R139	RD259100	R.CAR.CHP 1MΩ 1/10W
R140	RD258100	R.CAR.CHP 100KΩ 1/10W
R141	RD258100	R.CAR.CHP 100KΩ 1/10W
R143	RD257470	R.CAR.CHP 47KΩ 1/10W
R176	RD253220	R.CAR.CHP 2.2Ω 1/10W
R177	RD257100	R.CAR.CHP 10KΩ 1/10W
R178	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R179	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R180	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R181	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R182	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R183	RD256470	R.CAR.CHP 4.7KΩ 1/10W
R184	RD257100	R.CAR.CHP 10KΩ 1/10W
R185	RD255100	R.CAR.CHP 100Ω 1/10W
*	SW1	VN931000 SW.RT SRBAA4A
	XL1	VK705900 RSNR.CRYS 11.2896MHz
	XL2	Vi927300 RSNR.CRYS 20MHz
		VB825000 SOCKET.IC CLC1028
		VG904000 SOCKET.IC CLC3064-0101
		BB069510 GND.MTL No.6951

* New Parts

EFFECT P. C. B.

Schm Ref.	PART NO.	Description
*	VP372300	P. C. B. EFFECT (UC)
*	VP372400	P. C. B. EFFECT (R)
*	VP372500	P. C. B. EFFECT (AB)
*	VP372600	P. C. B. EFFECT (HW)
CB101	VA252300	CN MQ 5P
CB102	VB858900	CN.BS.PIN PH L-TYPE 10P SE
CB103	VB858800	CN.BS.PIN PH L-TYPE 9P SE
CB104	VA252400	CN MQ 12P
CB105	VB994800	CN MQ 7P
CB106	Vi378000	CN.BS.PIN MQ 10P TE
CB109	LA003870	TERM.WRAP 2P L-TYPE P=10
CB110	VB994900	CN MQ 9P
CB111	VA252400	CN MQ 12P
CB114	LA002140	TERM.WRAP 2P P=10 (ABHW)
CB115	LA002110	TERM.WRAP 2P P=5 (R)
CB116	LA002140	TERM.WRAP 2P P=10 (UC)
CB117	LA002150	TERM.WRAP 3P P=10 (R)
CB118	LA002000	TERM.WRAP 2P P=7.5 (ABHW)
CB119	VB994800	CN MQ 7P
CB120	VA252400	CN MQ 12P
CB121	VB994800	CN MQ 7P
CB123	VB858400	CN.BS.PIN PH L-TYPE 5P SE
CB124	VB858200	CN.BS.PIN PH L-TYPE 3P SE (R)
CB125	VD004900	CN.BS.PIN PH i-TYPE 6P TE
CB126	LB918020	CN.BS.PIN XH i-TYPE 2P TE
CB128	VL845300	CN.BS.PIN XH 9P TE
CB129	VL845300	CN.BS.PIN XH 9P TE
CB130	VB858200	CN.BS.PIN PH L-TYPE 3P SE
CB133	LB201880	HOLDER.FUS PC-FH1 (RHW)
CB134	LB201880	HOLDER.FUS PC-FH1 (RHW)
CB135	LB201880	HOLDER.FUS PC-FH1
CB136	LB201880	HOLDER.FUS PC-FH1
CB137	VD004600	CN.BS.PIN PH i-TYPE 3P TE
C101	VK181000	C.EL 1000uF 25V
C102	Vi846200	C.EL 47uF 63V (R)
C103	Vi862100	C.POL.MTL 0.047uF 100V
C104	Fi414100	C.CE.SAFTY 0.01uF VA-1
C105	Fi554150	C.CE 0.015uF 50V
C106	VH622100	C.EL 10uF 50V
C107	VH622100	C.EL 10uF 50V
C108	FG213100	C.CE 1000pF 50V (R)
C109	Vi845900	C.EL 10uF 63V
C110	Vi845900	C.EL 10uF 63V
C111	Vi845900	C.EL 10uF 63V
C112	Vi845900	C.EL 10uF 63V
C113	Vi845900	C.EL 10uF 63V
C114	VG722100	C.EL 1uF 50V
C115	Vi845900	C.EL 10uF 63V
C116	VH620800	C.EL 47uF 25V
C117	VE551500	C.CE 47pF 50V
C118	UT452100	C.PP 100pF 100V
C119	Vi845900	C.EL 10uF 63V
C120	VH620800	C.EL 47uF 25V

* New Parts

Schm Ref.	PART NO.	Description
C121	UT452100	C.PP 100pF 100V
C122	VE551500	C.CE 47pF 50V
C123	Vi845900	C.EL 10uF 63V
C124	VH620800	C.EL 47uF 25V
C125	UT452100	C.PP 100pF 100V
C126	VE551500	C.CE 47pF 50V
C127	Vi845900	C.EL 10uF 63V
C128	VH620800	C.EL 47uF 25V
C129	UT452100	C.PP 100pF 100V
C130	VE551500	C.CE 47pF 50V
C131	FU451180	C.MICA 18pF 500V
C132	UA654330	C.MYLAR 0.033uF 50V
C133	FU451180	C.MICA 18pF 500V
C134	UA654330	C.MYLAR 0.033uF 50V
C135	FU451180	C.MICA 18pF 500V
C136	UA654330	C.MYLAR 0.033uF 50V
C137	FU451180	C.MICA 18pF 500V
C138	UA654330	C.MYLAR 0.033uF 50V
C139	Vi845900	C.EL 10uF 63V
C140	Vi841400	C.EL 1000uF 6.3V
C141	VF466800	C.CE.TUBLR 100pF 50V
C142	VF466800	C.CE.TUBLR 100pF 50V
C143	Vi845900	C.EL 10uF 63V
C144	Vi841400	C.EL 1000uF 6.3V
C145	VF466800	C.CE.TUBLR 100pF 50V
C146	VF466800	C.CE.TUBLR 100pF 50V
C147	Vi845900	C.EL 10uF 63V
C148	Vi841400	C.EL 1000uF 6.3V
C149	VF466800	C.CE.TUBLR 100pF 50V
C150	VF466800	C.CE.TUBLR 100pF 50V
C151	Vi845900	C.EL 10uF 63V
C152	Vi841400	C.EL 1000uF 6.3V
C153	VF466800	C.CE.TUBLR 100pF 50V
C154	VF466800	C.CE.TUBLR 100pF 50V
C155	Vi845900	C.EL 10uF 63V
C156	Vi845900	C.EL 10uF 63V
C157	Vi845900	C.EL 10uF 63V
C158	Vi845900	C.EL 10uF 63V
C159	Vi845900	C.EL 10uF 63V
C160	Vi845600	C.EL 47uF 50V
C161	Vi845600	C.EL 47uF 50V
C162	Vi845600	C.EL 47uF 50V
C163	Vi845600	C.EL 47uF 50V
C164	VG279000	C.CE.TUBLR 820pF 50V
C165	VJ599100	C.CE.TUBLR 0.1uF 50V
C166	VJ599100	C.CE.TUBLR 0.1uF 50V
C167	VG277000	C.CE.TUBLR 33pF 50V
C168	Vi845600	C.EL 47uF 50V
C169	Vi845600	C.EL 47uF 50V
C170	VG277000	C.CE.TUBLR 33pF 50V
C171	VG278400	C.CE.TUBLR 220pF 50V
C172	VG278100	C.CE.TUBLR 120pF 50V
C173	VF467300	C.CE.TUBLR 0.01uF 16V

* New Parts

DSP-A2070

EFFECT P. C. B.

DSP-A2070

Schm Ref.	PART NO.	Description		
C174	Vi845600	C.EL	47uF	50V
C175	Vi845900	C.EL	10uF	63V
C176	VG276600	C.CE.TUBLR	22pF	50V
C177	VG276600	C.CE.TUBLR	22pF	50V
C178	Vi845200	C.EL	4.7uF	50V
C179	Vi845900	C.EL	10uF	63V
C180	VF466600	C.CE.TUBLR	10pF	50V
C181	VJ599100	C.CE.TUBLR	0.1uF	50V
C182	Vi845200	C.EL	4.7uF	50V
C183	VG279600	C.CE.TUBLR	3300pF	16V
D101	VH770800	DIODE	1SR139-100	T-32
D102	iF004600	DIODE	1SS133	
D103	VG440400	DIODE.ZENR	MTZJ13A	13V(R)
D105	iF004600	DIODE	1SS133	
D106	iF004600	DIODE	1SS133	
D107	iF004600	DIODE	1SS133	
D108	iF004600	DIODE	1SS133	
D109	iF004600	DIODE	1SS133	
D110	iF004600	DIODE	1SS133	
D111	VG435100	DIODE.ZENR	MTZJ2B	2.0V
D112	iF004600	DIODE	1SS133	
D113	iF004600	DIODE	1SS133	
D114	iF004600	DIODE	1SS133	
D115	iF004600	DIODE	1SS133	
F101	KB003080	FUSE	T2.5A	250V(HW)
F101	VD213900	FUSE	5A	250V(R)
F102	KB000790	FUSE	T4A	250V(ABHW)
F102	KB001490	FUSE	10A	250V(R)
F102	VD370900	FUSE	10A	250V(UC)
IC101	XJ603A00	IC	NJM78M15FA	
IC102	XG505A00	IC	NJM79M15FA	
IC103	iG067100	IC	uPC1225H	
IC104	iG067100	IC	uPC1225E	
IC105	iG067100	IC	uPC1225H	
IC106	iG067100	IC	uPC1225H	
IC107	Xi109C00	IC	MC14576BP	
IC108	Xi109C00	IC	MC14576BP	
IC109	Xi109C00	IC	MC14576BP	
IC110	iG105800	IC	uPD4051EC	
IC111	iG105800	IC	uPD4051EC	
IC112	iG105800	IC	uPD4051EC	
IC113	iG105800	IC	uPD4051EC	
IC114	XK313A00	IC	LC7824	
IC115	iG105900	IC	uPD4053BC	
IC116	iG105900	IC	uPD4053BC	
IC117	iG105900	IC	uPD4053BC	
* IC118	XL314A00	IC	M35010-062SP	
IC119	iG001720	IC	TC4069UBP	
IC120	iG001720	IC	TC4069UBP	
JK101	VN938100	CN.DIN	3P	
JK102	VN938100	CN.DIN	3P	
JK103	VN938200	JACK.DIN	3P	
L101	VM703900	COIL	15uH	

* New Parts

Schm Ref.	PART NO.	Description		
Q101	VG722000	TR.DGT	DTC144ES	
Q102	iC174020	TR	2SC1740S R,S	
Q103	VC938500	TR	2SC3852(R)	
Q104	iC224000	TR	2SC2240 GR,BL	
Q105A	iX619590	TR	2SA1726 O,P,Y	△
Q105B	iX619600	TR	2SC4512 O,P,Y	△
Q107A	iX619590	TR	2SA1726 O,P,Y	△
Q107B	iX619600	TR	2SC4512 O,P,Y	△
Q109	iC224000	TR	2SC2240 GR,BL	
Q110	iC224000	TR	2SC2240 GR,BL	
Q111A	iX619590	TR	2SA1726 O,P,Y	△
Q111B	iX619600	TR	2SC4512 O,P,Y	△
Q113A	iX619590	TR	2SA1726 O,P,Y	△
Q113B	iX619600	TR	2SC4512 O,P,Y	△
Q115	iC224000	TR	2SC2240 GR,BL	
Q116	iC224030	TR	2SC2240 GR,BL	
Q117	iC224030	TR	2SC2240 GR,BL	
Q118	iC224030	TR	2SC2240 GR,BL	
Q119	iC224030	TR	2SC2240 GR,BL	
Q120	VH964100	TR.DGT	DTA143ES	
Q121	iC260320	TR	2SC2603 E,F	
Q122	iC260320	TR	2SC2603 E,F	
Q123	iC260320	TR	2SC2603 E,F	
Q124	iC260320	TR	2SC2603 E,F	
Q125	iC260320	TR	2SC2603 E,F	
Q126	iC260320	TR	2SC2603 E,F	
Q127	iC260320	TR	2SC2603 E,F	
Q128	VD678700	TR.DGT	DTC114ES	
Q129	iC260320	TR	2SC2603 E,F	
Q130	iA101521	TR	2SA1015 Y	
Q131	iC224030	TR	2SC2240 GR,BL	
Q132	iC053540	TR	2SC535 A,B,C	
Q133	iC224030	TR	2SC2240 GR,BL	
R101	HV456560	R.CAR.FP	5.6KΩ 1/4W(R)	
R108	HV456560	R.CAR.FP	5.6KΩ 1/4W(R)	
R110	HV453100	R.CAR.FP	1Ω 1/4W	△
R111	HV453100	R.CAR.FP	1Ω 1/4W	△
R125	HU577330	R.MTL.FLM	33KΩ 1/4W	
R126	HL312220	R.MTL.OXD	0.22Ω 1W	△
R127	HL312220	R.MTL.OXD	0.22Ω 1W	△
R128	VK189400	R.FUS	2.7KΩ 1/4W	△
R129	VK189100	R.FUS	1.2KΩ 1/4W	△
R130	HU577330	R.MTL.FLM	33KΩ 1/4W	
R131	HL312220	R.MTL.OXD	0.22Ω 1W	△
R132	HL312220	R.MTL.OXD	0.22Ω 1W	△
R133	VK189400	R.FUS	2.7KΩ 1/4W	△
R134	VK189100	R.FUS	1.2KΩ 1/4W	△
R135	HU577330	R.MTL.FLM	33KΩ 1/4W	
R136	HL312220	R.MTL.OXD	0.22Ω 1W	△
R137	HL312220	R.MTL.OXD	0.22Ω 1W	△
R138	VK189400	R.FUS	2.7KΩ 1/4W	△
R139	VK189100	R.FUS	1.2KΩ 1/4W	△
R140	HU577330	R.MTL.FLM	33KΩ 1/4W	

* New Parts

EFFECT & FUNCTION P. C. B.

Schm Ref.	PART NO.	Description		
R141	HL312220	R.MTL.OXD	0.22Ω	1W
R142	HL312220	R.MTL.OXD	0.22Ω	1W
R143	VK189400	R.FUS	2.7KΩ	1/4W
R144	VK189100	R.FUS	1.2KΩ	1/4W
R147	HV456270	R.CAR.FP	2.7KΩ	1/4W
R148	HV456100	R.CAR.FP	1KΩ	1/4W
R149	HV456270	R.CAR.FP	2.7KΩ	1/4W
R150	HV456100	R.CAR.FP	1KΩ	1/4W
R153	HV456270	R.CAR.FP	2.7KΩ	1/4W
R154	HV456100	R.CAR.FP	1KΩ	1/4W
R155	HV456270	R.CAR.FP	2.7KΩ	1/4W
R156	HV456100	R.CAR.FP	1KΩ	1/4W
R184	HV455180	R.CAR.FP	180Ω	1/4W
R185	HV455180	R.CAR.FP	180Ω	1/4W
R191	HV455150	R.CAR.FP	150Ω	1/4W
R193	HV455150	R.CAR.FP	150Ω	1/4W
R197	HV455150	R.CAR.FP	150Ω	1/4W
R199	HV455150	R.CAR.FP	150Ω	1/4W
R200	HV455150	R.CAR.FP	150Ω	1/4W
R201	HV455150	R.CAR.FP	150Ω	1/4W
RY101	VE568900	RELAY	DH12D1-OM (ABHW)	
RY101	VK539200	RELAY	DC DH12D1-OM (UCR)	
T101	Xi481A00	TRANS.PWR	(UC)	
T101	Xi482A00	TRANS.PWR	(AB)	
T101	Xi483A00	TRANS.PWR	(G)	
T101	Xi790A00	TRANS.PWR	(R)	
TE101	LB608160	AC OUTLET	3P (UCR)	
VR101	VJ781500	VR.MTR	Y100KΩx7	
VR102	VJ808500	VR.TRIM	B1KΩ	
VR103	VJ808500	VR.TRIM	B1KΩ	
VR104	VJ808500	VR.TRIM	B1KΩ	
VR105	VJ808500	VR.TRIM	B1KΩ	
XL101	VD980900	RSNR.CRYS	14.3181MHz (UCR)	
XL101	VF066800	RSNR.CRYS	17.7344MHz (ABHW)	
	BB071360	SCR.TERM	8.3x13	
	BB069510	GND.MTL	No.6951	
	EP600130	SCR.BND.HD	3x6 ZMC2-Y	
	VM551100	RADIATOR		
	VP371800	P.C.B.	FUNCTION (UCAB)	
	VP371900	P.C.B.	FUNCTION (R)	
	VP372000	P.C.B.	FUNCTION (HW)	
CB601	VD005300	CN.BS.PIN	PH	i-TYPE 10P TE
CB602	VD005100	CN.BS.PIN	PH	i-TYPE 8P TE
CB603	VN924400	CN	FE	23P TE
CB604	VN924400	CN	FE	23P TE
CB605	VN924400	CN	FE	23P TE
CB606	VN924400	CN	FE	23P TE
CB612	VD004800	CN.BS.PIN	PH	i-TYPE 5P TE
CB613	VD004600	CN.BS.PIN	PH	i-TYPE 3P TE
CB614	VD004600	CN.BS.PIN	PH	i-TYPE 3P TE

* New Parts

Schm Ref.	PART NO.	Description		
CB615	VD004600	CN.BS.PIN	PH	i-TYPE 3P TE
CB616	VD004600	CN.BS.PIN	PH	i-TYPE 3P TE
CB617	VD004600	CN.BS.PIN	PH	i-TYPE 3P TE
CB618	VD004600	CN.BS.PIN	PH	i-TYPE 3P TE
CB619	VB858100	CN.POST	PH	2P SE
CB621	VD004800	CN.BS.PIN	PH	i-TYPE 5P TE
CB622	VD004600	CN.BS.PIN	PH	i-TYPE 3P TE
CB624	VD004500	CN.BS.PIN	PH	i-TYPE 2P TE
CB625	VD004500	CN.BS.PIN	PH	i-TYPE 2P TE
CB626	VD004500	CN.BS.PIN	PH	i-TYPE 2P TE
CB627	VD004600	CN.BS.PIN	PH	i-TYPE 3P TE
CB628	VD004900	CN.BS.PIN	PH	i-TYPE 6P TE
C601	VD930900	C.CE.SMI	0.1uF	25V
C602	VJ599100	C.CE.TUBLR	0.1uF	50V
C603	VJ599100	C.CE.TUBLR	0.1uF	50V
C604	UT452100	C.PP	100pF	100V
C605	UT452220	C.PP	220pF	100V
C606	UT452100	C.PP	100pF	100V
C607	UT452220	C.PP	220pF	100V
C608	UT452470	C.PP	470pF	100V
C609	UT452470	C.PP	470pF	100V
C610	UT452470	C.PP	470pF	100V
C611	UT452470	C.PP	470pF	100V
C612	UT452470	C.PP	470pF	100V
C613	UT452470	C.PP	470pF	100V
C614	UT452470	C.PP	470pF	100V
C615	UT452470	C.PP	470pF	100V
C616	UT452470	C.PP	470pF	100V
C617	UT452470	C.PP	470pF	100V
C618	UT452470	C.PP	470pF	100V
C619	UT452470	C.PP	470pF	100V
C620	UT452470	C.PP	470pF	100V
C621	UT452470	C.PP	470pF	100V
C622	UT452470	C.PP	470pF	100V
C623	UT452470	C.PP	470pF	100V
C624	UT452470	C.PP	470pF	100V
C625	UT452470	C.PP	470pF	100V
C626	UT452470	C.PP	470pF	100V
C627	UT452470	C.PP	470pF	100V
C628	UT452470	C.PP	470pF	100V
C629	UT452470	C.PP	470pF	100V
C630	UT452470	C.PP	470pF	100V
C631	UT452470	C.PP	470pF	100V
C632	UT452470	C.PP	470pF	100V
C633	UT452470	C.PP	470pF	100V
C634	UT452470	C.PP	470pF	100V
C635	UT452470	C.PP	470pF	100V
C636	Vi844900	C.EL	1uF	50V
C637	UA654390	C.MYLAR	0.039uF	50V
C638	Vi841100	C.EL	220uF	6.3V
C639	Vi841100	C.EL	220uF	6.3V
C640	UA654390	C.MYLAR	0.039uF	50V
C641	Vi844900	C.EL	1uF	50V

* New Parts

DSP-A2070

FUNCTION P. C. B.

DSP-A2070

Schm Ref.	PART NO.	Description
C642	Vi845900	C.EL 10uF 63V
C643	Vi842600	C.EL 100uF 16V
C644	UA653100	C.MYLAR 1000pF 50V (HW)
C645	UA654110	C.MYLAR 0.011uF 50V
C646	UA654110	C.MYLAR 0.011uF 50V
C647	UA653100	C.MYLAR 1000pF 50V (HW)
C648	Vi842600	C.EL 100uF 16V
C649	Vi845900	C.EL 10uF 63V
C650	UT452100	C.PP 100pF 100V (UCRAB)
C650	UT452220	C.PP 220pF 100V (HW)
C651	Vi845200	C.EL 4.7uF 50V
C652	Vi845200	C.EL 4.7uF 50V
C653	UT452100	C.PP 100pF 100V (UCRAB)
C653	UT452220	C.PP 220pF 100V (HW)
C654	Vi845600	C.EL 47uF 50V
C655	Vi845200	C.EL 4.7uF 50V
C656	Vi845900	C.EL 10uF 63V
C657	Vi845200	C.EL 4.7uF 50V
C658	Vi845900	C.EL 10uF 63V
C659	Vi845600	C.EL 47uF 50V
C660	Vi845000	C.EL 2.2uF 50V
C661	Vi845000	C.EL 2.2uF 50V
C662	VJ599100	C.CE.TUBLR 0.1uF 50V
C663	Vi841800	C.EL 100uF 10V
C664	UT452100	C.PP 100pF 100V
C665	UT452100	C.PP 100pF 100V
C666	VJ599100	C.CE.TUBLR 0.1uF 50V
C667	Vi842900	C.EL 470uF 16V
C668	Vi842900	C.EL 470uF 16V
C669	Vi846000	C.EL 22uF 63V
C670	Vi846000	C.EL 22uF 63V
C671	Vi844900	C.EL 1uF 50V
C672	Vi845900	C.EL 10uF 63V
C673	FU451100	C.MICA 10pF 500V
C674	FU451100	C.MICA 10pF 500V
C675	Vi845900	C.EL 10uF 63V
C676	Vi844900	C.EL 1uF 50V
C677	F1551100	C.CE 10pF 50V
C678	Vi845600	C.EL 47uF 50V
C679	Vi845600	C.EL 47uF 50V
C680	F1551100	C.CE 10pF 50V
C681	Vi844900	C.EL 1uF 50V
C682	Vi844900	C.EL 1uF 50V
C683	F1551100	C.CE 10pF 50V
C684	Vi845600	C.EL 47uF 50V
C685	Vi845600	C.EL 47uF 50V
C686	F1551100	C.CE 10pF 50V
C687	Vi844900	C.EL 1uF 50V
C688	Vi844500	C.EL 0.1uF 50V
C689	Vi845900	C.EL 10uF 63V
C691	Vi844500	C.EL 0.1uF 50V
C692	Vi844500	C.EL 0.1uF 50V
C693	Vi845900	C.EL 10uF 63V

* New Parts

Schm Ref.	PART NO.	Description
C694	Vi845900	C.EL 10uF 63V
C695	Vi844500	C.EL 0.1uF 50V
C696	Vi844500	C.EL 0.1uF 50V
C697	Vi845900	C.EL 10uF 63V
C698	Vi845900	C.EL 10uF 63V
C699	Vi844500	C.EL 0.1uF 50V
C700	Vi844500	C.EL 0.1uF 50V
C701	Vi845900	C.EL 10uF 63V
C704	Vi844500	C.EL 0.1uF 50V
C705	Vi845900	C.EL 10uF 63V
C706	Vi845900	C.EL 10uF 63V
C707	Vi844500	C.EL 0.1uF 50V
C708	Vi844500	C.EL 0.1uF 50V
C709	Vi845900	C.EL 10uF 63V
C710	Vi845900	C.EL 10uF 63V
C711	Vi844500	C.EL 0.1uF 50V
C712	Vi844900	C.EL 1uF 50V
C713	Vi845600	C.EL 47uF 50V
C714	Vi845900	C.EL 10uF 63V
C715	Vi845900	C.EL 10uF 63V
C716	Vi845900	C.EL 10uF 63V
C717	Vi845900	C.EL 10uF 63V
C719	Vi845600	C.EL 47uF 50V
C720	Vi845600	C.EL 47uF 50V
C721	FG212220	C.CE 220pF 50V
C722	VE551900	C.CE 100pF 50V
C723	VE551500	C.CE 47pF 50V
C724	Vi845600	C.EL 47uF 50V
C725	Vi845600	C.EL 47uF 50V
C726	VE551500	C.CE 47pF 50V
C727	VE551900	C.CE 100pF 50V
C728	FG212220	C.CE 220pF 50V
C729	Vi842900	C.EL 470uF 16V
C730	Vi842900	C.EL 470uF 16V
C731	Vi845900	C.EL 10uF 63V
C732	UA654330	C.MYLAR 0.033uF 50V
C733	Vi844900	C.EL 1uF 50V
C734	UA654100	C.MYLAR 0.01uF 50V
C735	Vi844700	C.EL 0.33uF 50V
C736	UA653270	C.MYLAR 2700pF 50V
C737	Vi844500	C.EL 0.1uF 50V
C738	UA652820	C.MYLAR 820pF 50V
C739	UA654330	C.MYLAR 0.033uF 50V
C740	UT452180	C.PP 180pF 100V
C741	UA654100	C.MYLAR 0.01uF 50V
C742	UA653270	C.MYLAR 2700pF 50V
C743	UA654120	C.MYLAR 0.012uF 50V
C744	UA653680	C.MYLAR 6800pF 50V
C746	UA653470	C.MYLAR 4700pF 50V
C747	UA654100	C.MYLAR 0.01uF 50V
C748	UA653680	C.MYLAR 6800pF 50V
C751	UA654100	C.MYLAR 0.01uF 50V
C752	UA653680	C.MYLAR 6800pF 50V

* New Parts

FUNCTION P. C. B.

Schm Ref.	PART NO.	Description
C753	UA653470	C.MYLAR 4700pF 50V
C754	FU451330	C.MICA 33pF 500V
C755	Vi845600	C.EL 47uF 50V
C756	Vi845600	C.EL 47uF 50V
C757	Vi841400	C.EL 1000uF 6.3V
C758	VF466800	C.CE.TUBLR 100pF 50V
C759	Vi841400	C.EL 1000uF 6.3V
C760	VF466800	C.CE.TUBLR 100pF 50V
C761	Vi841400	C.EL 1000uF 6.3V
C762	VF466800	C.CE.TUBLR 100pF 50V
C763	Vi841400	C.EL 1000uF 6.3V
C764	VF466800	C.CE.TUBLR 100pF 50V
C765	UA654680	C.MYLAR 0.068uF 50V
C766	UA654680	C.MYLAR 0.068uF 50V
C767	Vi845000	C.EL 2.2uF 50V
C768	Vi845200	C.EL 4.7uF 50V
C769	Vi845200	C.EL 4.7uF 50V
C770	UA654680	C.MYLAR 0.068uF 50V
C771	UA654680	C.MYLAR 0.068uF 50V
C772	Vi845000	C.EL 2.2uF 50V
C773	Vi845000	C.EL 2.2uF 50V
C774	Vi845200	C.EL 4.7uF 50V
C775	Vi845900	C.EL 10uF 63V
C776	Vi845900	C.EL 10uF 63V
C777	Vi846000	C.EL 22uF 63V
C778	UA655100	C.MYLAR 0.1uF 50V
C779	FU351220	C.MICA 22pF 500V
C780	FU351220	C.MICA 22pF 500V
C781	UA655100	C.MYLAR 0.1uF 50V
C782	Vi846000	C.EL 22uF 63V
C783	Vi846000	C.EL 22uF 63V
C784	UA655100	C.MYLAR 0.1uF 50V
C785	FU351220	C.MICA 22pF 500V
C786	Vi845600	C.EL 47uF 50V
C787	Vi845600	C.EL 47uF 50V
C788	Vi845600	C.EL 47uF 50V
C789	VH620800	C.EL 47uF 25V
C790	Vi845900	C.EL 10uF 63V
C791	UA654220	C.MYLAR 0.022uF 50V
C792	UA654220	C.MYLAR 0.022uF 50V
C793	Vi845900	C.EL 10uF 63V
C794	Vi845900	C.EL 10uF 63V
C795	UA654220	C.MYLAR 0.022uF 50V
C796	Vi845600	C.EL 47uF 50V
C797	VH620800	C.EL 47uF 25V
C798	FU451470	C.MICA 47pF 500V
C799	FU451470	C.MICA 47pF 500V
C800	FU451100	C.MICA 10pF 500V
C801	FU451470	C.MICA 47pF 500V
C802	Vi845900	C.EL 10uF 63V
C803	Vi845900	C.EL 10uF 63V
C804	Vi846000	C.EL 22uF 63V
C805	Vi846000	C.EL 22uF 63V

* New Parts

Schm Ref.	PART NO.	Description
C806	FG213100	C.CE 1000pF 50V (UCRAB)
C806	FG213470	C.CE 4700pF 50V (HW)
C807	FG213100	C.CE 1000pF 50V (UCRAB)
C807	FG213470	C.CE 4700pF 50V (HW)
C808	UG444100	C.CE 0.01uF 50V
C809	UG444100	C.CE 0.01uF 50V
C812	Vi845600	C.EL 47uF 50V
C813	Vi845600	C.EL 47uF 50V
C814	UT452180	C.PP 180pF 100V
D601	iF004600	DIODE 1SS133 (HW)
D602	iF004600	DIODE 1SS133 (HW)
D603	VG437400	DIODE.ZENR MTZJ5.1B 5.1V
D604	VH770800	DIODE 1SR139-100 T-32
D605	VH770800	DIODE 1SR139-100 T-32
D606	VG438400	DIODE.ZENR MTZJ6.8C 6.8V
D607	VG438400	DIODE.ZENR MTZJ6.8C 6.8V
D608	iF004600	DIODE 1SS133
D609	iF004600	DIODE 1SS133
D610	iF004600	DIODE 1SS133
D611	VF402500	LED SLR-34DC3H3 (or)
D612	VF402500	LED SLR-34DC3H3 (or)
D613	iF004600	DIODE 1SS133
D614	iF004600	DIODE 1SS133
D615	iF004600	DIODE 1SS133
IC601	XE322001	IC NJM2068S-D
IC602	XB247301	IC uPC4570HA
IC603	XB247301	IC uPC4570HA
IC604	XG732A00	IC LC7821N
IC605	XB247301	IC uPC4570HA
IC606	XG758A00	IC LC7823N
IC607	XF291A00	IC uPC4570G2
IC609	XJ553A00	IC NJM2068MD
IC610	XJ553A00	IC NJM2068MD
IC611	XE518A00	IC uPC4574G2
IC612	XE536001	IC LC7535
IC614	XF291A00	IC uPC4570G2
IC615	XE536001	IC LC7535
IC616	XE518A00	IC uPC4574G2
IC617	XE536001	IC LC7535
IC618	XE518A00	IC uPC4574G2
IC619	iG042500	IC NJM4556D
IC620	XE518A00	IC uPC4574G2
IC621	XF291A00	IC uPC4570G2
IC622	Xi113A00	IC LC7522
IC623	Xi109C00	IC MC14576BP
IC624	XE322001	IC NJM2068S-D
IC625	XE322001	IC NJM2068S-D
IC626	iG001770	IC TC4051BP
IC627	iG001770	IC TC4051BP
IC628	iG055100	IC TC4053BP
IC629	Xi124A00	IC PQ05RF1 5V1A
IC630	XF612A00	IC AN79M05F
IC631	XB247301	IC uPC4570HA

* New Parts

FUNCTION P. C. B.

DSP-A2070

Schm Ref.	PART NO.	Description
JK601	VK175300	JACK.PHONE
L601	VA983600	COIL 220uH (HW)
L602	VA983600	COIL 220uH (HW)
PJ601	VK421600	JACK.PIN 4P
PJ602	VJ794600	JACK.PIN 6P
PJ603	VJ696300	JACK.PIN 4P
PJ604	VJ696300	JACK.PIN 4P
PJ605	VJ794600	JACK.PIN 6P
PJ606	VJ794600	JACK.PIN 6P
PJ607	VJ695900	JACK.PIN 3P
PJ608	VJ695900	JACK.PIN 3P
PJ609	VJ695900	JACK.PIN 3P
Q601	VG730700	TR.CHP 2SC3326 B
Q602	VG730700	TR.CHP 2SC3326 B
Q603	VG730700	TR.CHP 2SC3326 B
Q604	VG730700	TR.CHP 2SC3326 B
Q605	VC123900	TR.DGT DTA143EK
Q606	VC123900	TR.DGT DTA143EK
Q607	VG730700	TR.CHP 2SC3326 B
Q608	VG730700	TR.CHP 2SC3326 B
Q609	iC241200	TR.CHP 2SC2412K Q,R,S
Q610	VC123900	TR.DGT DTA143EK
Q611	iC241200	TR.CHP 2SC2412K Q,R,S
Q612	VC123900	TR.DGT DTA143EK
Q613	VG730700	TR.CHP 2SC3326 B
Q614	VG730700	TR.CHP 2SC3326 B
Q615	iC260320	TR 2SC2603 E,F
Q616	iC260320	TR 2SC2603 E,F
Q617	VC938500	TR 2SC3852
R602	Vi191700	R.MTL.CHP 47Ω 1/10W
R603	Vi191700	R.MTL.CHP 47Ω 1/10W
R633	Vi192500	R.MTL.CHP 100Ω 1/10W
R634	Vi199600	R.MTL.CHP 82KΩ 1/10W
R635	Vi199600	R.MTL.CHP 82KΩ 1/10W
R636	Vi192900	R.MTL.CHP 150Ω 1/10W
R637	VK581200	R.MTL.CHP 120KΩ 1/10W
R638	VK581200	R.MTL.CHP 120KΩ 1/10W
R639	Vi192900	R.MTL.CHP 150Ω 1/10W
R640	Vi199600	R.MTL.CHP 82KΩ 1/10W
R641	Vi192500	R.MTL.CHP 100Ω 1/10W
R642	Vi199600	R.MTL.CHP 82KΩ 1/10W
R643	Vi199000	R.MTL.CHP 47KΩ 1/10W
R644	Vi199000	R.MTL.CHP 47KΩ 1/10W
R645	Vi192500	R.MTL.CHP 100Ω 1/10W
R646	Vi197000	R.MTL.CHP 6.8KΩ 1/10W
R647	Vi199000	R.MTL.CHP 47KΩ 1/10W
R648	Vi199000	R.MTL.CHP 47KΩ 1/10W
R649	Vi197000	R.MTL.CHP 6.8KΩ 1/10W
R650	Vi192500	R.MTL.CHP 100Ω 1/10W
R651	VK583400	R.MTL.CHP 1MΩ 1/10W
R652	VK583400	R.MTL.CHP 1MΩ 1/10W
R653	HV455100	R.CAR.FP 100Ω 1/4W
R654	HV455100	R.CAR.FP 100Ω 1/4W

* New Parts

Schm Ref.	PART NO.	Description
R655	Vi199000	R.MTL.CHP 47KΩ 1/10W
R656	Vi197400	R.MTL.CHP 10KΩ 1/10W
R657	Vi197400	R.MTL.CHP 10KΩ 1/10W
R658	Vi199000	R.MTL.CHP 47KΩ 1/10W
R659	Vi195700	R.MTL.CHP 2.2KΩ 1/10W
R660	Vi196100	R.MTL.CHP 3.3KΩ 1/10W
R661	Vi200000	R.MTL.CHP 100KΩ 1/10W
R662	Vi200000	R.MTL.CHP 100KΩ 1/10W
R663	Vi200000	R.MTL.CHP 100KΩ 1/10W
R664	Vi200000	R.MTL.CHP 100KΩ 1/10W
R665	Vi196100	R.MTL.CHP 3.3KΩ 1/10W
R666	Vi195700	R.MTL.CHP 2.2KΩ 1/10W
R667	Vi194100	R.MTL.CHP 470Ω 1/10W
R668	Vi194100	R.MTL.CHP 470Ω 1/10W
R669	Vi197000	R.MTL.CHP 6.8KΩ 1/10W
R670	Vi197400	R.MTL.CHP 10KΩ 1/10W
R671	Vi197400	R.MTL.CHP 10KΩ 1/10W
R672	Vi197400	R.MTL.CHP 10KΩ 1/10W
R673	Vi197400	R.MTL.CHP 10KΩ 1/10W
R674	Vi197000	R.MTL.CHP 6.8KΩ 1/10W
R675	Vi200000	R.MTL.CHP 100KΩ 1/10W
R676	Vi192500	R.MTL.CHP 100Ω 1/10W
R677	Vi192500	R.MTL.CHP 100Ω 1/10W
R679	Vi200000	R.MTL.CHP 100KΩ 1/10W
R680	Vi195700	R.MTL.CHP 2.2KΩ 1/10W
R681	Vi195700	R.MTL.CHP 2.2KΩ 1/10W
R682	Vi195700	R.MTL.CHP 2.2KΩ 1/10W
R683	Vi195700	R.MTL.CHP 2.2KΩ 1/10W
R684	Vi200000	R.MTL.CHP 100KΩ 1/10W
R685	Vi200000	R.MTL.CHP 100KΩ 1/10W
R688	VK583400	R.MTL.CHP 1MΩ 1/10W
R689	VK583400	R.MTL.CHP 1MΩ 1/10W
R690	Vi197200	R.MTL.CHP 8.2KΩ 1/10W
R691	Vi196700	R.MTL.CHP 5.1KΩ 1/10W
R692	Vi194900	R.MTL.CHP 1KΩ 1/10W
R693	Vi192600	R.MTL.CHP 110Ω 1/10W
R694	Vi192600	R.MTL.CHP 110Ω 1/10W
R695	Vi194900	R.MTL.CHP 1KΩ 1/10W
R696	Vi196600	R.MTL.CHP 4.7KΩ 1/10W
R697	VK582600	R.MTL.CHP 470KΩ 1/10W
R698	VK582600	R.MTL.CHP 470KΩ 1/10W
R699	VK582600	R.MTL.CHP 470KΩ 1/10W
R700	VK582600	R.MTL.CHP 470KΩ 1/10W
R701	VK582600	R.MTL.CHP 470KΩ 1/10W
R702	VK582600	R.MTL.CHP 470KΩ 1/10W
R703	VK582600	R.MTL.CHP 470KΩ 1/10W
R704	VK582600	R.MTL.CHP 470KΩ 1/10W
R705	Vi199200	R.MTL.CHP 56KΩ 1/10W
R706	Vi199200	R.MTL.CHP 56KΩ 1/10W
R707	Vi197400	R.MTL.CHP 10KΩ 1/10W
R708	Vi197400	R.MTL.CHP 10KΩ 1/10W
R709	Vi192500	R.MTL.CHP 100Ω 1/10W
R710	Vi200000	R.MTL.CHP 100KΩ 1/10W

* New Parts

FUNCTION P. C. B.

Schm Ref.	PART NO.	Description		
R711	VK582600	R.MTL.CHP	470K Ω	1/10W
R712	VK582600	R.MTL.CHP	470K Ω	1/10W
R713	VK582600	R.MTL.CHP	470K Ω	1/10W
R714	VK582600	R.MTL.CHP	470K Ω	1/10W
R715	VK582600	R.MTL.CHP	470K Ω	1/10W
R716	VK582600	R.MTL.CHP	470K Ω	1/10W
R717	VK582600	R.MTL.CHP	470K Ω	1/10W
R718	VK582600	R.MTL.CHP	470K Ω	1/10W
R719	VK582600	R.MTL.CHP	470K Ω	1/10W
R720	VK582600	R.MTL.CHP	470K Ω	1/10W
R721	VK582600	R.MTL.CHP	470K Ω	1/10W
R722	VK582600	R.MTL.CHP	470K Ω	1/10W
R725	VK582600	R.MTL.CHP	470K Ω	1/10W
R726	VK582600	R.MTL.CHP	470K Ω	1/10W
R727	VK582600	R.MTL.CHP	470K Ω	1/10W
R728	VK582600	R.MTL.CHP	470K Ω	1/10W
R731	Vi196100	R.MTL.CHP	3.3K Ω	1/10W
R732	Vi199000	R.MTL.CHP	47K Ω	1/10W
R733	Vi196100	R.MTL.CHP	3.3K Ω	1/10W
R734	Vi196100	R.MTL.CHP	3.3K Ω	1/10W
R735	Vi199000	R.MTL.CHP	47K Ω	1/10W
R736	Vi196100	R.MTL.CHP	3.3K Ω	1/10W
R739	Vi198000	R.MTL.CHP	18K Ω	1/10W
R740	VK581600	R.MTL.CHP	180K Ω	1/10W
R741	Vi194400	R.MTL.CHP	620 Ω	1/10W
R742	Vi194400	R.MTL.CHP	620 Ω	1/10W
R743	VK581600	R.MTL.CHP	180K Ω	1/10W
R744	Vi198000	R.MTL.CHP	18K Ω	1/10W
R745	Vi198000	R.MTL.CHP	18K Ω	1/10W
R746	VK581600	R.MTL.CHP	180K Ω	1/10W
R747	Vi194400	R.MTL.CHP	620 Ω	1/10W
R748	Vi194400	R.MTL.CHP	620 Ω	1/10W
R749	VK581600	R.MTL.CHP	180K Ω	1/10W
R750	Vi198000	R.MTL.CHP	18K Ω	1/10W
R751	VK583400	R.MTL.CHP	1M Ω	1/10W
R752	VK583400	R.MTL.CHP	1M Ω	1/10W
R753	VK583400	R.MTL.CHP	1M Ω	1/10W
R754	VK583400	R.MTL.CHP	1M Ω	1/10W
R755	VK583400	R.MTL.CHP	1M Ω	1/10W
R756	VK583400	R.MTL.CHP	1M Ω	1/10W
R757	Vi192500	R.MTL.CHP	100 Ω	1/10W
R758	Vi196600	R.MTL.CHP	4.7K Ω	1/10W
R759	VK583400	R.MTL.CHP	1M Ω	1/10W
R761	VK583400	R.MTL.CHP	1M Ω	1/10W
R762	VK583400	R.MTL.CHP	1M Ω	1/10W
R763	VK583400	R.MTL.CHP	1M Ω	1/10W
R764	VK583400	R.MTL.CHP	1M Ω	1/10W
R765	Vi194900	R.MTL.CHP	1K Ω	1/10W
R766	Vi196600	R.MTL.CHP	4.7K Ω	1/10W
R767	Vi196600	R.MTL.CHP	4.7K Ω	1/10W
R768	HV456270	R.CAR.FP	2.7K Ω	1/4W
R769	HV453680	R.CAR.FP	6.8 Ω	1/4W
R770	HV453680	R.CAR.FP	6.8 Ω	1/4W

* New Parts

Schm Ref.	PART NO.	Description		
R771	Vi199000	R.MTL.CHP	47K Ω	1/10W
R772	Vi197400	R.MTL.CHP	10K Ω	1/10W
R773	Vi199000	R.MTL.CHP	47K Ω	1/10W
R774	Vi199000	R.MTL.CHP	47K Ω	1/10W
R775	Vi197400	R.MTL.CHP	10K Ω	1/10W
R776	Vi199000	R.MTL.CHP	47K Ω	1/10W
R777	Vi200000	R.MTL.CHP	100K Ω	1/10W
R782	HV455220	R.CAR.FP	220 Ω	1/4W
R783	Vi197800	R.MTL.CHP	15K Ω	1/10W
R784	Vi195500	R.MTL.CHP	1.8K Ω	1/10W
R785	Vi195500	R.MTL.CHP	1.8K Ω	1/10W
R786	Vi197800	R.MTL.CHP	15K Ω	1/10W
R787	HV455220	R.CAR.FP	220 Ω	1/4W
R788	Vi199500	R.MTL.CHP	75K Ω	1/10W
R789	VK583400	R.MTL.CHP	1M Ω	1/10W
R790	Vi194900	R.MTL.CHP	1K Ω	1/10W
R791	Vi199500	R.MTL.CHP	75K Ω	1/10W
R792	VK583400	R.MTL.CHP	1M Ω	1/10W
R793	Vi194900	R.MTL.CHP	1K Ω	1/10W
R794	Vi199500	R.MTL.CHP	75K Ω	1/10W
R795	VK583400	R.MTL.CHP	1M Ω	1/10W
R796	Vi194900	R.MTL.CHP	1K Ω	1/10W
R797	Vi199900	R.MTL.CHP	91K Ω	1/10W
R798	VK583400	R.MTL.CHP	1M Ω	1/10W
R799	Vi194900	R.MTL.CHP	1K Ω	1/10W
R800	VK581100	R.MTL.CHP	110K Ω	1/10W
R801	VK583400	R.MTL.CHP	1M Ω	1/10W
R802	Vi194900	R.MTL.CHP	1K Ω	1/10W
R803	Vi194100	R.MTL.CHP	470 Ω	1/10W
R806	Vi199600	R.MTL.CHP	82K Ω	1/10W
R808	Vi197400	R.MTL.CHP	10K Ω	1/10W
R809	Vi195600	R.MTL.CHP	2K Ω	1/10W
R810	Vi194100	R.MTL.CHP	470 Ω	1/10W
R812	Vi199600	R.MTL.CHP	82K Ω	1/10W
R814	Vi195700	R.MTL.CHP	2.2K Ω	1/10W
R815	Vi194800	R.MTL.CHP	910 Ω	1/10W
R816	Vi194800	R.MTL.CHP	910 Ω	1/10W
R817	Vi195700	R.MTL.CHP	2.2K Ω	1/10W
R820	Vi199600	R.MTL.CHP	82K Ω	1/10W
R821	Vi194100	R.MTL.CHP	470 Ω	1/10W
R822	Vi195900	R.MTL.CHP	2.7K Ω	1/10W
R823	Vi200000	R.MTL.CHP	100K Ω	1/10W
R824	Vi195900	R.MTL.CHP	2.7K Ω	1/10W
R856	HV455150	R.CAR.FP	150 Ω	1/4W
R857	HV455150	R.CAR.FP	150 Ω	1/4W
R858	HV455150	R.CAR.FP	150 Ω	1/4W
R859	HV455150	R.CAR.FP	150 Ω	1/4W
R888	HL314150	R.MTL.OXD	15 Ω	1W
R891	HV455100	R.CAR.FP	100 Ω	1/4W
R892	HV455100	R.CAR.FP	100 Ω	1/4W
SW601	VM704300	SW.RT	SRRS17	
SW602	KA805170	SW.PUSH	SUN4-2NS	
SW603	KA401690	SW.SLIDE	SSJ-312 (R)	

* New Parts

FUNCTION & MAIN P. C. B.

DSP-A2070

Schm Ref.	PART NO.	Description		
U601	VF926500	L.DTCT	GP1U501X	
VR601	VK174600	VR	MN30KΩ	
VR602	VJ801400	VR	16KΩx3	
VR603	VK176700	VR	20KΩx3	
W612	VP391000	CN.FLAT	23P	290mm
W613	VP390900	CN.FLAT	23P	230mm
	BB071360	SCR.TERM	8.3x13	
	VL391100	RADIATOR	OSH-2440-SPL	
	ED330086	SCR.BND.HD	3x8	FCRM3-BL
*	VP371300	P.C.B.	MAIN (UCR)	
*	VP371400	P.C.B.	MAIN (AF)	
*	VP371500	P.C.B.	MAIN (H)	
*	VP371600	P.C.B.	MAIN (W)	
CB301	LA002320	TERM.WRAP	3P i-TYPE	P=7.5
CB302	LA002320	TERM.WRAP	3P i-TYPE	P=7.5
CB303	LA002320	TERM.WRAP	3P i-TYPE	P=7.5
CB401	LB201880	HOLDER.FUS	PC-FH1	
CB402	LB201880	HOLDER.FUS	PC-FH1	
CB403	LB201880	HOLDER.FUS	PC-FH1	
CB404	LB201880	HOLDER.FUS	PC-FH1	
C301	Vi846000	C.EL	22uF	63V
C302	Vi846000	C.EL	22uF	63V
C303	Vi845900	C.EL	10uF	63V
C304	Vi845900	C.EL	10uF	63V
C305	UT452100	C.PP	100pF	100V
C306	UT452100	C.PP	100pF	100V
C307	Vi845900	C.EL	10uF	63V
C308	Vi845900	C.EL	10uF	63V
C309	UT452470	C.PP	470pF	100V
C310	UT452470	C.PP	470pF	100V
C311	Vi845900	C.EL	10uF	63V
C312	Vi845900	C.EL	10uF	63V
C313	UT452470	C.PP	470pF	100V
C314	UT452470	C.PP	470pF	100V
C315	Vi845900	C.EL	10uF	63V
C316	UT452470	C.PP	470pF	100V
C317	Vi845900	C.EL	10uF	63V
C318	UA654470	C.MYLAR	0.047uF	50V
C319	Vi845900	C.EL	10uF	63V
C320	UT452470	C.PP	470pF	100V
C321	Vi845900	C.EL	10uF	63V
C322	Vi845900	C.EL	10uF	63V
C325	UT452100	C.PP	100pF	100V
C326	UT452100	C.PP	100pF	100V
C327	VH622100	C.EL	10uF	50V
C328	VH622100	C.EL	10uF	50V
C329	UT452100	C.PP	100pF	100V
C330	UT452100	C.PP	100pF	100V
C331	VH622100	C.EL	10uF	50V
C332	VH622100	C.EL	10uF	50V

* New Parts

Schm Ref.	PART NO.	Description		
C333	VH574800	C.EL	47uF	100V
C334	VH574800	C.EL	47uF	100V
C335	UT452100	C.PP	100pF	100V
C336	UT452100	C.PP	100pF	100V
C337	UT453100	C.PP	1000pF	100V (UCRAB)
C337	UT453120	C.PP	1200pF	100V (HW)
C338	UT453100	C.PP	1000pF	100V (UCRAB)
C338	UT453120	C.PP	1200pF	100V (HW)
C339	Vi841800	C.EL	100uF	10V
C340	Vi841800	C.EL	100uF	10V
C341	FU451150	C.MICA	15pF	500V
C342	FU451150	C.MICA	15pF	500V
C343	VH622200	C.EL	22uF	50V
C344	VH622200	C.EL	22uF	50V
C345	FU452100	C.MICA	100pF	500V
C346	FU452100	C.MICA	100pF	500V
C347	FU452100	C.MICA	100pF	500V
C348	FU452100	C.MICA	100pF	500V
C349	UT454470	C.PP	0.047uF	100V
C350	UT454470	C.PP	0.047uF	100V
C351	Vi846900	C.EL	10uF	100V
C352	Vi846900	C.EL	10uF	100V
C353	Vi846900	C.EL	10uF	100V
C354	Vi846900	C.EL	10uF	100V
C355	UT454100	C.PP	0.01uF	100V
C356	UT454100	C.PP	0.01uF	100V
C357	UT454100	C.PP	0.01uF	100V
C358	UT454100	C.PP	0.01uF	100V
C359	UG444100	C.CE	0.01uF	50V
C361	UA654470	C.MYLAR	0.047uF	50V
C362	UA654470	C.MYLAR	0.047uF	50V
C363	UA654470	C.MYLAR	0.047uF	50V
C364	UA654470	C.MYLAR	0.047uF	50V
C371	UT452100	C.PP	100pF	100V
C372	VH622100	C.EL	10uF	50V
C373	UT452100	C.PP	100pF	100V
C374	VH622100	C.EL	10uF	50V
C375	VH574800	C.EL	47uF	100V
C376	UT452100	C.PP	100pF	100V
C377	UT453100	C.PP	1000pF	100V (UCRAB)
C377	UT453120	C.PP	1200pF	100V (HW)
C378	Vi841800	C.EL	100uF	10V
C379	FU351220	C.MICA	22pF	500V (HW)
C379	FU451150	C.MICA	15pF	500V (UCRAB)
C380	VH622200	C.EL	22uF	50V
C381	FU452100	C.MICA	100pF	500V
C382	FU452100	C.MICA	100pF	500V
C383	UT454470	C.PP	0.047uF	100V
C384	Vi844900	C.EL	1uF	50V
C391	Vi841800	C.EL	100uF	10V
C392	Vi841800	C.EL	100uF	10V
C396	UG444100	C.CE	0.01uF	50V
C397	Vi844900	C.EL	1uF	50V

* New Parts

MAIN P. C. B.

DSP-A2070

Schm Ref.	PART NO.	Description	
Q314	iA097000	TR	2SA970 GR,BL
Q315	iC1815C0	TR	2SC1815 Y
Q316	iC1815C0	TR	2SC1815 Y
Q317	iC1815C0	TR	2SC1815 Y
Q318	iC1815C0	TR	2SC1815 Y
Q319	iC1815C0	TR	2SC1815 Y
Q320	iC1815C0	TR	2SC1815 Y
Q321	VE198800	TR	2SC2705 O,Y
Q322	VE198800	TR	2SC2705 O,Y
Q323	VE198700	TR	2SA1145 O,Y
Q324	VE198700	TR	2SA1145 O,Y
Q325	iC224000	TR	2SC2240 GR,BL
Q326	iC224000	TR	2SC2240 GR,BL
Q327	VE198700	TR	2SA1145 O,Y
Q328	VE198700	TR	2SA1145 O,Y
Q329	VE198800	TR	2SC2705 O,Y
Q330	VE198800	TR	2SC2705 O,Y
Q331	iA130640	TR	2SA1306 O,Y
Q332	iA130640	TR	2SA1306 O,Y
Q333	iC329840	TR	2SC3298
Q334	iC329840	TR	2SC3298
# Q335A	iX801420		2SA1302 O,R
# Q335B	iX801430		2SC3281 O,R
# Q336A	iX801420		2SA1302 O,R
# Q336B	iX801430		2SC3281 O,R
Q339	iC224030	TR	2SC2240 GR,BL
Q340	iC224030	TR	2SC2240 GR,BL
Q341	iA097000	TR	2SA970 GR,BL
Q342	iA097000	TR	2SA970 GR,BL
Q343	iC1815C0	TR	2SC1815 Y
Q344	iC1815C0	TR	2SC1815 Y
Q345	iC1815C0	TR	2SC1815 Y
Q346	VE198800	TR	2SC2705 O,Y
Q347	VE198700	TR	2SA1145 O,Y
Q348	iC224000	TR	2SC2240 GR,BL
Q349	VE198700	TR	2SA1145 O,Y
Q350	VE198800	TR	2SC2705 O,Y
Q351	iA130640	TR	2SA1306 O,Y
Q352	iC329840	TR	2SC3298
# Q353A	iX801420		2SA1302 O,R
# Q353B	iX801430		2SC3281 O,R
Q355	iC224030	TR	2SC2240 GR,BL
Q356	iA097000	TR	2SA970 GR,BL
Q361	iC174020	TR	2SC1740S R,S
Q362	VD488500	TR.DGT	DTC143XS
Q363	VD488500	TR.DGT	DTC143XS
Q364	iC174020	TR	2SC1740S R,S
Q365	iC174020	TR	2SC1740S R,S
Q366	iC174020	TR	2SC1740S R,S
Q367	VD678500	TR.DGT	DTA114ES
Q368	VK432900	TR	2SD1915F S,T
R359	HV455220	R.CAR.FP	220Ω 1/4W
R360	HV455220	R.CAR.FP	220Ω 1/4W

* New Parts

Schm Ref.	PART NO.	Description	
R361	HV455220	R.CAR.FP	220Ω 1/4W
R362	HV455220	R.CAR.FP	220Ω 1/4W
R363	VK188000	R.FUS	150Ω 1/4W
R364	VK188000	R.FUS	150Ω 1/4W
R365	HV457150	R.CAR.FP	15KΩ 1/4W
R366	HV457150	R.CAR.FP	15KΩ 1/4W
R367	HV457150	R.CAR.FP	15KΩ 1/4W
R368	HV457150	R.CAR.FP	15KΩ 1/4W
R369	HV457150	R.CAR.FP	15KΩ 1/4W
R370	HV457150	R.CAR.FP	15KΩ 1/4W
R371	HV455100	R.CAR.FP	100Ω 1/4W
R372	HV455100	R.CAR.FP	100Ω 1/4W
R373	HV455680	R.CAR.FP	680Ω 1/4W
R374	HV455680	R.CAR.FP	680Ω 1/4W
R375	HU577330	R.MTL.FLM	33KΩ 1/4W
R376	HU577330	R.MTL.FLM	33KΩ 1/4W
R379	VK189500	R.FUS	3.3KΩ 1/4W
R380	VK189500	R.FUS	3.3KΩ 1/4W
R381	VK188700	R.FUS	560Ω 1/4W
R382	VK188700	R.FUS	560Ω 1/4W
R383	HV454470	R.CAR.FP	47Ω 1/4W
R384	HV454470	R.CAR.FP	47Ω 1/4W
R385	VK189100	R.FUS	1.2KΩ 1/4W
R386	VK189100	R.FUS	1.2KΩ 1/4W
R387	VK188400	R.FUS	330Ω 1/4W
R388	VK188400	R.FUS	330Ω 1/4W
R389	HV453470	R.CAR.FP	4.7Ω 1/4W
R390	HV453470	R.CAR.FP	4.7Ω 1/4W
R391	HV453470	R.CAR.FP	4.7Ω 1/4W
R392	HV453470	R.CAR.FP	4.7Ω 1/4W
R393	VJ787600	R.MTL.PLAT	0.22Ω+0.22 5W
R394	VJ787600	R.MTL.PLAT	0.22Ω+0.22 5W
R395	HV456470	R.CAR.FP	4.7KΩ 1/4W
R396	HV456470	R.CAR.FP	4.7KΩ 1/4W
R397	HV456100	R.CAR.FP	1KΩ 1/4W
R398	HV456100	R.CAR.FP	1KΩ 1/4W
R401	HV453470	R.CAR.FP	4.7Ω 1/4W
R402	HV453470	R.CAR.FP	4.7Ω 1/4W
R403	HL314100	R.MTL.OXD	10Ω 1W
R404	HL314100	R.MTL.OXD	10Ω 1W
R405	VE009700	R.FUS	4.7Ω 1/4W
R406	VE009700	R.FUS	4.7Ω 1/4W
R407	VE009700	R.FUS	4.7Ω 1/4W
R408	VE009700	R.FUS	4.7Ω 1/4W
R411	HV453470	R.CAR.FP	4.7Ω 1/4W
R412	HV453470	R.CAR.FP	4.7Ω 1/4W
R413	HV453470	R.CAR.FP	4.7Ω 1/4W
R414	HV453470	R.CAR.FP	4.7Ω 1/4W
R428	HV455220	R.CAR.FP	220Ω 1/4W
R429	HV455220	R.CAR.FP	220Ω 1/4W
R430	VK188000	R.FUS	150Ω 1/4W
R431	HV457150	R.CAR.FP	15KΩ 1/4W
R432	HV457150	R.CAR.FP	15KΩ 1/4W

* New Parts

MAIN P. C. B.

Schm Ref.	PART NO.	Description			
R433	HV457150	R.CAR.FP	15KΩ	1/4W	△
R434	HV455100	R.CAR.FP	100Ω	1/4W	△
R435	HV455680	R.CAR.FP	680Ω	1/4W	△
R436	HU577330	R.MTL.FLM	33KΩ	1/4W	
R438	VK189500	R.FUS	3.3KΩ	1/4W	△
R439	VK188700	R.FUS	560Ω	1/4W	△
R440	HV454470	R.CAR.FP	47Ω	1/4W	△
R441	VK189100	R.FUS	1.2KΩ	1/4W	△
R442	VK188400	R.FUS	330Ω	1/4W	△
R443	HV453470	R.CAR.FP	4.7Ω	1/4W	△
R444	HV453470	R.CAR.FP	4.7Ω	1/4W	△
R445	VJ787600	R.MTL.PLAT	0.22Ω+0.22	5W	△
R446	HV456470	R.CAR.FP	4.7KΩ	1/4W	△
R447	HV456100	R.CAR.FP	1KΩ	1/4W	△
R449	HV453470	R.CAR.FP	4.7Ω	1/4W	△
R450	HL314100	R.MTL.OXD	10Ω	1W	
R462	HL315150	R.MTL.OXD	150Ω	1W(HW)	
R462	HL315120	R.MTL.OXD	120Ω	1W(AB)	
R462	HL315270	R.MTL.OXD	270Ω	1W(UCR)	
R463	HL315150	R.MTL.OXD	150Ω	1W(HW)	
R463	HL315120	R.MTL.OXD	120Ω	1W(AB)	
R463	HL315270	R.MTL.OXD	270Ω	1W(UCR)	
R503	HV454100	R.CAR.FP	10Ω	1/4W	
R504	HV454100	R.CAR.FP	10Ω	1/4W	
R507	HV454100	R.CAR.FP	10Ω	1/4W	
R508	HV454100	R.CAR.FP	10Ω	1/4W	
R523	HL324100	R.MTL.OXD	10Ω	2W	
R524	HL324100	R.MTL.OXD	10Ω	2W	
R525	HL324100	R.MTL.OXD	10Ω	2W	
R526	HL324100	R.MTL.OXD	10Ω	2W	
RY301	KC002020	RELAY	DH24D2-OTM		
RY302	KC002020	RELAY	DH24D2-OTM		
RY303	KC002000	RELAY	JR2A-DC24V		
RY304	KC002000	RELAY	JR2A-DC24V		
SW301	VJ787100	SW.SLIDE	SSSF12175A		
SW302	VJ769200	SW.SLIDE	ESD-2764		
SW303	VG392900	SW	SKHVAA		
SW304	VG392900	SW	SKHVAA		
SW305	VG392900	SW	SKHVAA		
SW306	VG392900	SW	SKHVAA		
SW307	VG392900	SW	SKHVAA		
SW308	VG392900	SW	SKHVAA		
SW309	VG392900	SW	SKHVAA		
SW310	VG392900	SW	SKHVAA		
TE301	VJ792600	TERM.SP	8P(UCRABW)		
TE301	VK178900	TERM.SP	8P(H)		
TE302	VJ792600	TERM.SP	8P(UCRABW)		
TE302	VK178900	TERM.SP	8P(H)		
VR301	VM619800	VR	B10KΩ		
VR303	VJ692700	VR.TRIM	B330Ω		
VR304	VJ692700	VR.TRIM	B330Ω		
VR305	VJ692700	VR.TRIM	B330Ω		
	BB069510	GND.MTL	No.6951		

* New Parts

MECHANICAL PARTS Note) Ø : Diameter

Ref. No.	PART NO.	Description	Remarks	Markets
* 2-5	VP332900	LCD	DM061Y-7DL3	
2-11	VJ896700	SUB CHASSIS		
2-12	VL370000	PAD	LED L	
2-13	CB040540	BINDING TIE	S-72B	
2-14	CB605620	PLASTIC RIVET	No.1781	
2-16	EX602700	BIND HEAD S-TITE SCREW	3x4 FCRM3-BL	
2-17	VC298900	BIND HEAD B-TITE SCREW	2.6x6 +/- FCRM3-BL	
2-18	EX601890	BIND HEAD BONDING SCREW	3x6 FCRM3-BL	
3-3	IX801420	TRANSISTOR	2SA1302 O,R	Q335A, 336A, 353A
3-4	IX801430	TRANSISTOR	2SC3281 O,R	Q335B, 336B, 353B
3-11	VJ892300	SUPPORT	R	
3-12	VJ892400	SUPPORT	L	
3-13	CB040540	BINDING TIE	S-72B	
3-14	VK706700	DAMPER	FIN	
3-15	VJ892100	RADIATOR	L=90	
3-17	VK196000	SHEET	22x29	
3-18	EX600250	CUP B-TITE SCREW	3x10 FCRM3-BL	
3-19	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3	
* 6	VP371300	P.C.B. ASSY, MAIN AMP		UCR
* 6	VP371400	P.C.B. ASSY, MAIN AMP		AB
* 6	VP371500	P.C.B. ASSY, MAIN AMP		H
* 6	VP371600	P.C.B. ASSY, MAIN AMP		W
* 7	VP371800	P.C.B. ASSY, FUNCTION		UCAB
* 7	VP371900	P.C.B. ASSY, FUNCTION		R
* 7	VP372000	P.C.B. ASSY, FUNCTION		HW
* 8	VP372300	P.C.B. ASSY, EFFECT		UC
* 8	VP372400	P.C.B. ASSY, EFFECT		R
* 8	VP372500	P.C.B. ASSY, EFFECT		AB
* 8	VP372600	P.C.B. ASSY, EFFECT		HW
* 9	VP419100	P.C.B. ASSY, DSP		R
* 9	VP419200	P.C.B. ASSY, DSP		AB
* 9	VP419300	P.C.B. ASSY, DSP		HW
* 9	VP691500	P.C.B. ASSY, DSP		UC
11	Xi128A00	POWER TRANSFORMER		U
11	Xi129A00	POWER TRANSFORMER		C
11	Xi130A00	POWER TRANSFORMER ASSY		R
11	Xi131B00	POWER TRANSFORMER		AB
11	Xi132A00	POWER TRANSFORMER		G
11-1	Vi449800	VOLTAGE SELECTOR	ESE-37284-F	R
12	VJ775000	AC OUTLET	2P	B
12	VJ775100	AC OUTLET	S2-729T	HW
* 12	VP418700	AC OUTLET	2P	A
13	VL948500	POWER CORD	7A 250V 2.0m	R
13	MG002220	POWER CORD	10A 125V 2.0m	UC
13	MG002320	POWER CORD	2.5A 250V 2.0m	HW
13	VK815400	POWER CORD	6A 250V	B
* 13	VP417900	POWER CORD	7.5A 250V 2.0m	A
14	CB620190	CORD STOPPER	CM-22B	RABHW
14	CB620200	CORD STOPPER	CM-22C	UC
16	LB101890	SHORT PLUG		
19	CB069250	BINDING TIE	BK-1	
51	VJ895100	TOP COVER		BL
51	VJ895200	TOP COVER		TI

* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
52	VK706800	DAMPER		TOP
53	VJ892600	FRAME		L
54	VK380200	FRAME		
55	VK380300	FRAME		
56	VK380400	FRAME		
* 57	VN898000	FRAME, CENTER		
58	VJ892500	SUPPORT		TR
* 59	VN897800	SHIELD CASE		A
* 60	VN897900	SHIELD CASE		B
61	VJ893400	BOTTOM COVER		
62	VK391000	SUPPORT		
* 63	VN897400	REAR PANEL		UC
* 63	VN897500	REAR PANEL		R
* 63	VN897600	REAR PANEL		AB
* 63	VN897700	REAR PANEL		W
* 63	VP333800	REAR PANEL		H
64	VK390900	SUPPORT		
65	VJ895500	FRAME		A
66	VJ895600	FRAME		B
67	VK434000	SHIELD CASE		B
68	VK434100	TR. PUSHER		
69	VK839200	TR. PUSHER		
72	VK492200	DAMPER		A
* 73	VP205300	SUPPORT, P.C.B.		
74	VK015100	KNOB, LED	Ø45	BL VOLUME
74	VL864400	KNOB, LED	Ø45	TI VOLUME
* 76	VP559100	KNOB	RO/D12	BL BALANCE
* 76	VP559700	KNOB	RO/D12	TI BALANCE
* 78	VP564300	KNOB	RO/D12	BL REC_OUT
* 78	VP564400	KNOB	RO/D12	TI REC_OUT
79	VK395100	KNOB	TONE	MAIN LEVEL
80	VM736600	BUTTON	3x14	BL BASS_EX.
* 80	VP564500	BUTTON	3x14	TI BASS_EX.
82	VK724100	LEG ASSY		
84	VK219900	KNOB, LED	Ø32	BL INPUT
84	VM726800	KNOB, LED	Ø32	TI INPUT
85	VL126500	DAMPER	L	
86	VL055600	DAMPER		
87	Vi707300	DAMPER		HW
88	CB605620	PLASTIC RIVET	No.1781	
89	VK493300	DAMPER	C	
90	VL127900	DAMPER		
105	VK195900	SHEET	19x24	
106	VK065100	SHEET	20x86	
108	VP664800	DAMPER		
109	VP664700	DAMPER		
110	VP665700	CUSHION		
114	EK365090	BW HEAD SCREW	4x8 ZMC2-BL	BL
114	EX601150	BW HEAD S-TITE SCREW	4x8-10 FNM3-BL	TI
115	EK336010	BW HEAD TAPPING SCREW	3x8 FCRM3-BL	
116	EN301010	BIND HEAD BONDING TAP. SCREW	3x8 FCRM3-BL	
117	Ei330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	PACK
118	VK625000	CUP S-TITE SCREW	5x10-12 ZMC2-Y	

* New Parts

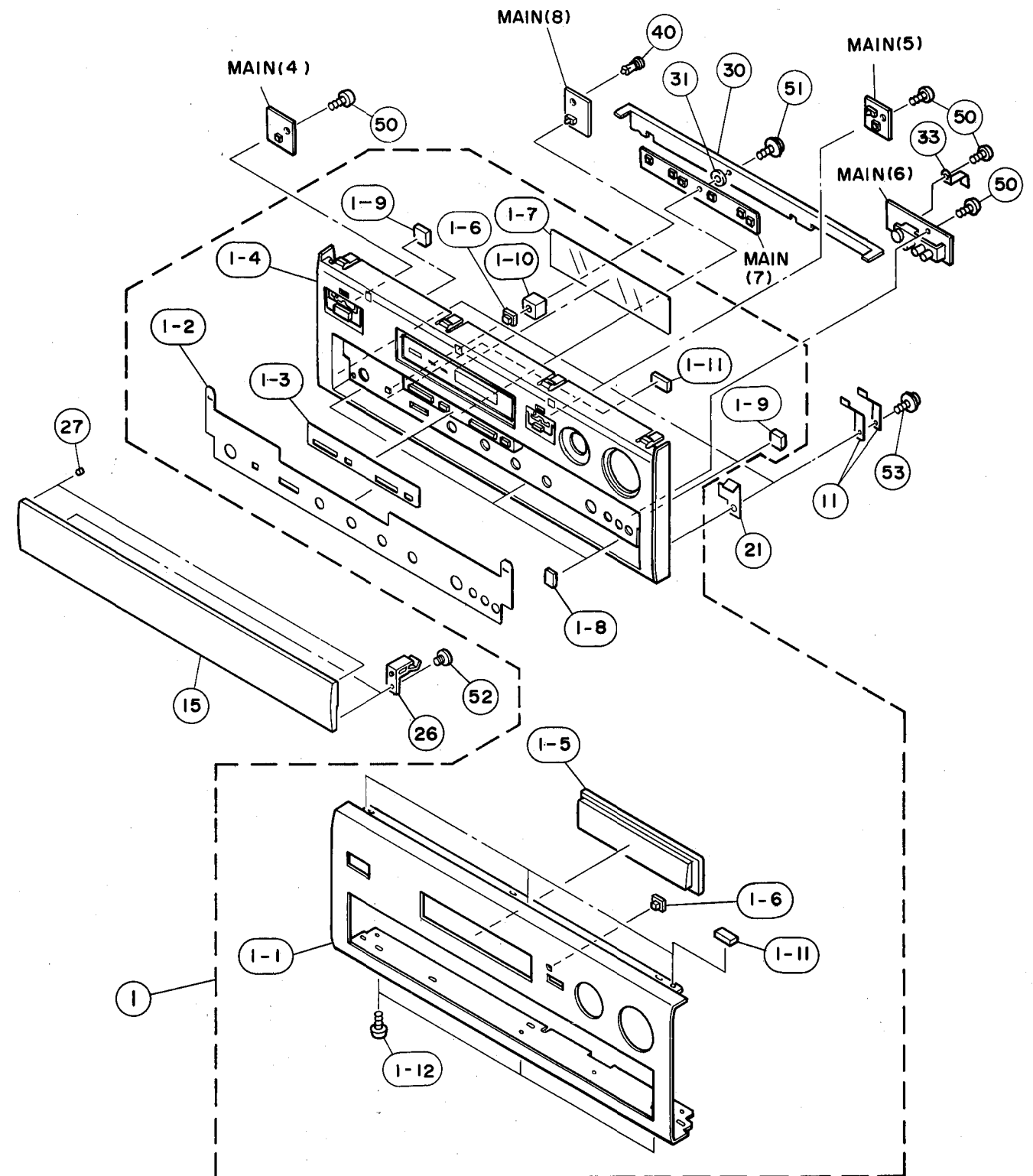
Ref. No.	PART NO.	Description	Remarks	Markets
119	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL	PACK
122	AA627310	GROUND TERMINAL		
123	EV265560	PLAIN WASHER	3.6x10x0.8FNM3-3G	
124	EN335030	BIND HEAD BONDING TAP. SCREW	3x10 FCRM3-BL	
125	EX600250	CUP B-TITE SCREW	3x10 FCRM3-BL	
* 200	VP373100	ACCESSORIES		
200-1	CX674400	REMOTE CONTROL TRANSMITTER		
		LID	103RRC-031-02R	
		BATTERY, ALKALINE MANGANESE	LR6, AA	

* New Parts

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■ EXPLODED VIEW (Panel Unit)



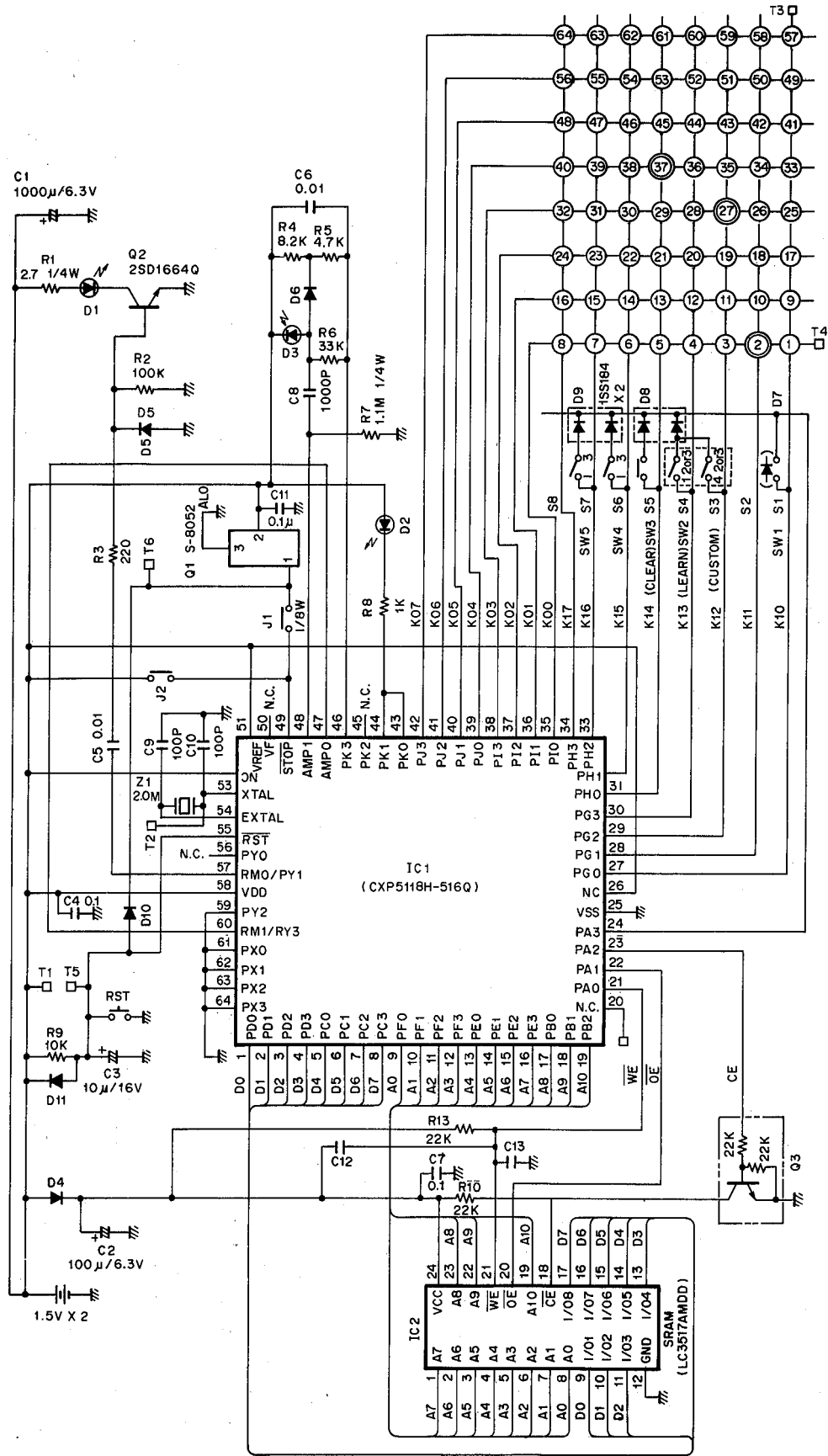
■ MECHANICAL PARTS (Panel Unit) Note) Ø : Diameter

Ref. No.	PART NO.	Description	Remarks	Markets
* 1	VP427600	FRONT PANEL ASSy	BL	UCRAB
* 1	VP427700	FRONT PANEL ASSy	BL	HW
* 1	VP433900	FRONT PANEL ASSy	TI	UCRAB
* 1	VP434000	FRONT PANEL ASSy	TI	HW
* 1- 1	VN896300	FRONT PANEL	BL	UCRAB
* 1- 1	VN896400	FRONT PANEL	TI	UCRAB
* 1- 1	VN896500	FRONT PANEL	BL	HW
* 1- 1	VN896600	FRONT PANEL	TI	HW
* 1- 2	VN896900	PLATE L	BL	
* 1- 2	VN897000	PLATE L	TI	
1- 3	VJ897000	PLATE S	BL	
1- 3	VJ897100	PLATE S	TI	
1- 4	VJ896800	SUB PANEL	BL	
* 1- 4	VP558600	SUB PANEL	TI	
1- 5	VK769600	WINDOW PANEL		
1- 6	VH897700	LENS		
1- 7	VJ897400	SHEET, WINDOW		
1- 8	VE798200	CUSHION		
1- 9	VK421400	DAMPER		
* 1-10	VN003300	PAD	LED	
1-11	VE222600	CUSHION		
1-12	EP630290	BIND HEAD P-TITE SCREW	3x6 FCRM3-BL	
11	VJ888200	SPRING		
* 15	VN896700	SUB PANEL	LID	BL
* 15	VN896800	SUB PANEL	LID	TI
21	VK689800	GROUND PLATE	R	
26	VJ888000	STOPPER		TI
26	VJ888100	STOPPER		BL
27	CB621930	DAMPER		BL
27	VE798100	DAMPER		TI
30	VK896900	FRAME, PANEL		
31	Vi867800	SPACER	PCB	
33	VK015300	GROUND PLATE		
40	CB605620	PLASTIC RIVET	No.1781	
50	EP630290	BIND HEAD P-TITE SCREW	3x6 FCRM3-BL	
* 51	EX602280	BW HEAD P-TITE SCREW	3x12-10 FCRM3-BL	
52	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL	PACK
53	EX601280	BW HEAD P-TITE SCREW	3x8-8 FCRM3-BL	

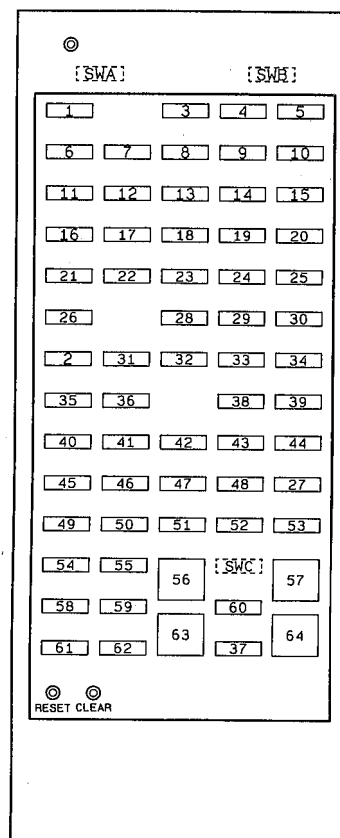
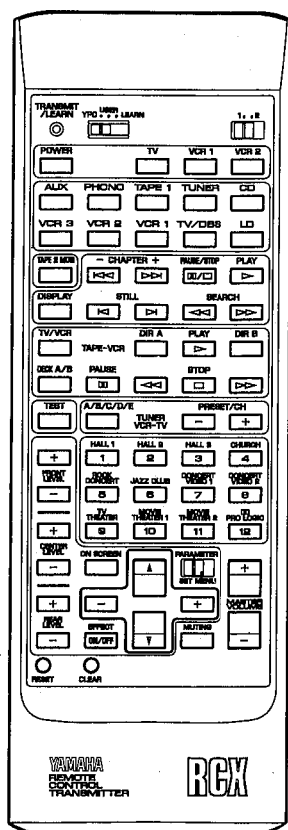
* New Parts

DSP-A2070

SCHEMATIC DIAGRAM



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KEY No.	CONTROL CODE		FUNCTION
SW B	1	2	
1	7D-8F	←	POWER
2	7A-06	←	DECK A/B
3	—	←	TV
4	—	←	VCR 1
5	—	←	VCR 2
6	7D-8A	←	INPUT AUX
7	7D-88	←	PHONO
8	7D-8B	←	TAPE 1
9	7D-89	←	TUNER
10	7D-87	←	CD
11	7D-85	←	VCR 3
12	7D-82	←	VCR 2
13	7D-81	←	VCR 1
14	7D-84	←	TV/DBS
15	7D-83	←	LD
16	7D-8C	←	TAPE 2 MON
17	7A-0B	7C-02	SKIP/CHAPTER -
18	7A-0A	7C-03	SKIP/CHAPTER +
19	7A-09	7C-04	PAUSE/STOP
20	7A-08	7C-05	PLAY

KEY No.	CONTROL CODE		FUNCTION
SW B	1	2	
21	7A-0A	7C-13	DISPLAY
22	—	7C-0A	STILL ◀
23	—	7C-0B	STILL ▶
24	7A-0D	7C-06	SEARCH ◀◀
25	7A-0C	7C-07	SEARCH ▶▶
26	—	←	TV/VCR
27	7D-07	←	PROGRAM 8
28	7A-07	←	DIR A
29	7A-00	←	PLAY
30	7A-40	←	TAPE DIR B
31	—	←	PAUSE
32	7A-01	←	◀◀
33	7A-03	←	STOP
34	7A-02	←	▶▶
35	7D-CA	←	TEST
36	7A-12	←	TUNER A/B/C/D/E
37	7D-94	←	MUTING -20dB
38	7A-11	←	PRESET -
39	7A-10	←	PRESET +
40	7D-CD	←	FRONT LEVEL +

KEY No.	CONTROL CODE		FUNCTION
SW B	1	2	
41	7D-D0	←	PROGRAM 1
42	7D-D1	←	PROGRAM 2
43	7D-D2	←	PROGRAM 3
44	7D-D3	←	PROGRAM 4
45	7D-CE	←	FRONT LEVEL -
46	7D-D4	←	PROGRAM 5
47	7D-D5	←	PROGRAM 6
48	7D-D6	←	PROGRAM 7
49	7D-CB	←	CENTER LEVEL +
50	7D-D8	←	PROGRAM 9
51	7D-D9	←	PROGRAM 10
52	7D-DA	←	PROGRAM 11
53	7D-DB	←	PROGRAM 12
54	7D-CC	←	CENTER LEVEL -
55	7D-C2	←	ON SCREEN
57	7D-8D	←	MASTER VOLUME +
58	7D-C8	←	REAR LEVEL +
61	7D-C9	←	REAR LEVEL -
62	7D-C1	←	EFFECT ON/OFF
64	7D-8E	←	MASTER VOLUME -

KEY No.	CONTROL CODE		FUNCTION
SW C	PARAMETER	SET MODE	
56	7D-C5	7D-9D	PARAMETER/SET MENU ↑
59	7D-C7	7D-9F	PARAMETER/SET MENU -
60	7D-C6	7D-9E	PARAMETER/SET MENU +
63	7D-C4	7D-9C	PARAMETER/SET MENU ↓

Parts List for Carbon Resistors

DSP-A2070

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			

