

DSP/AV AMPLIFIER

DSP-A2

SERVICE MANUAL

DSP-A2

IMPORTANT NOTICE

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

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

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

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

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

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

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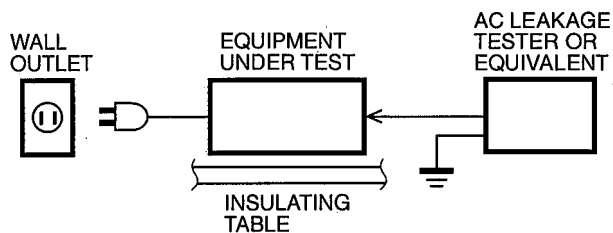
YAMAHA

YAMAHA CORPORATION
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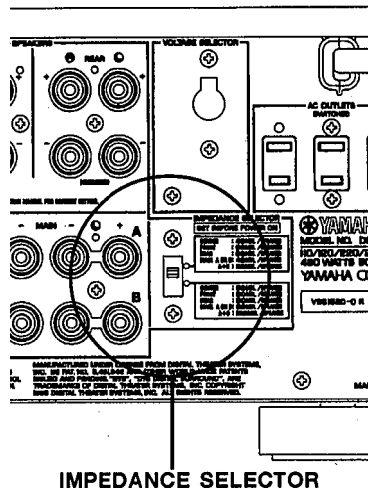
■ TO SERVICE PERSONNEL

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

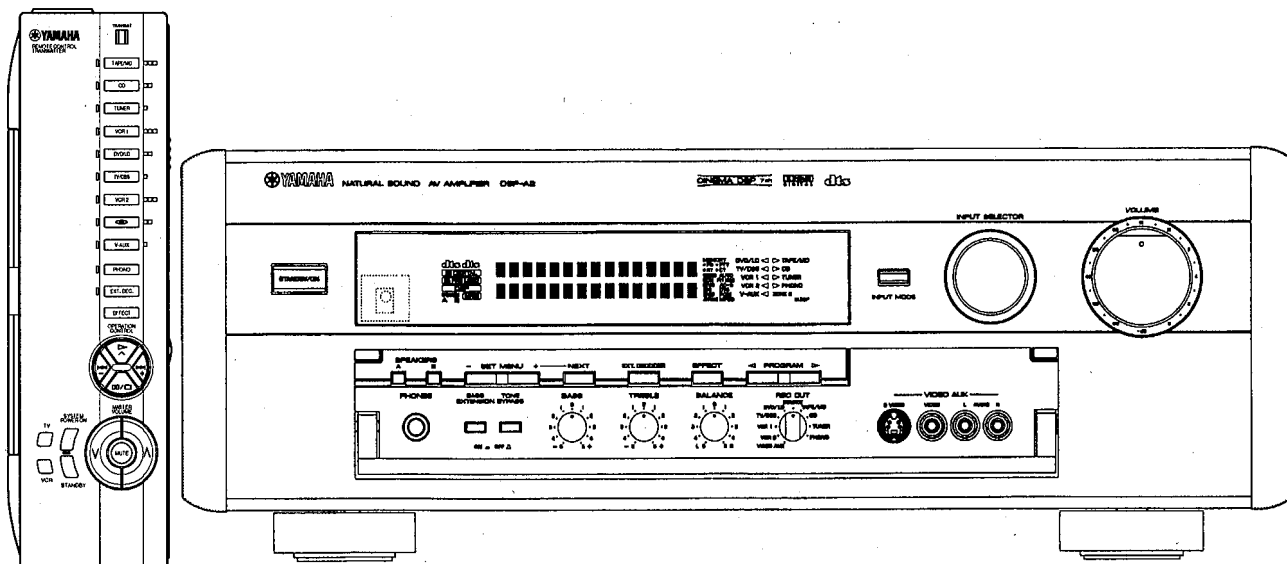


WARNING

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

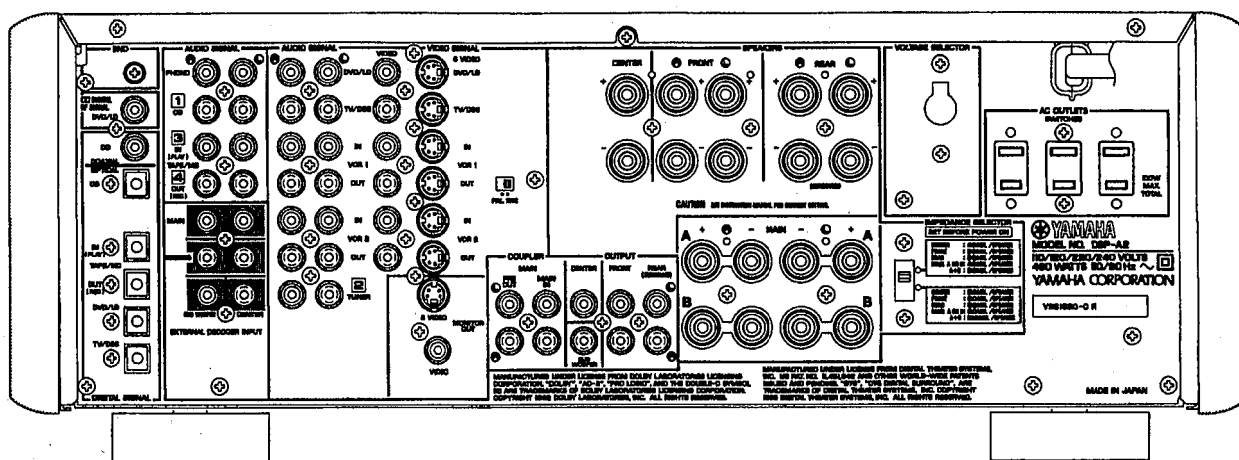


■ FRONT PANEL

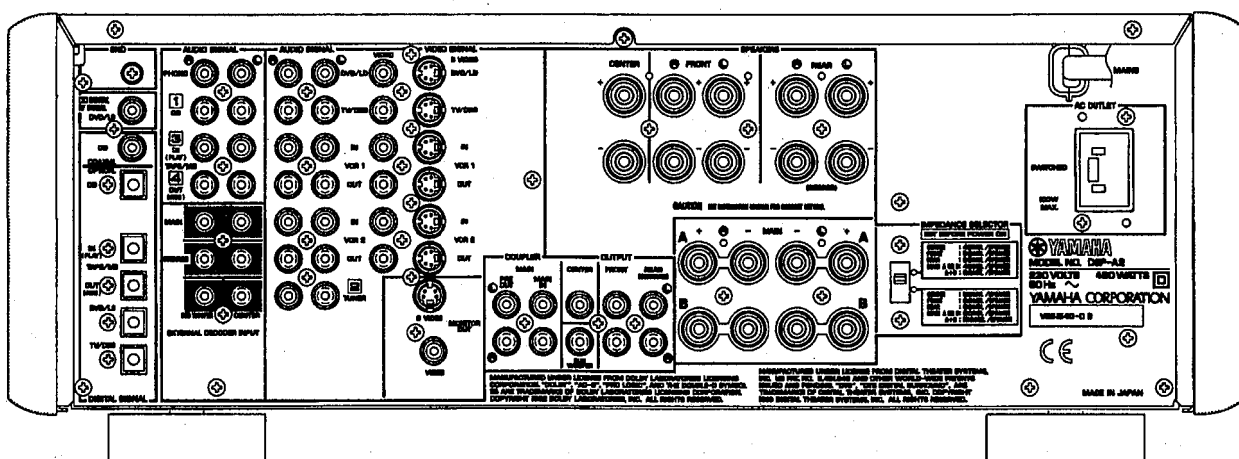


REAR PANELS

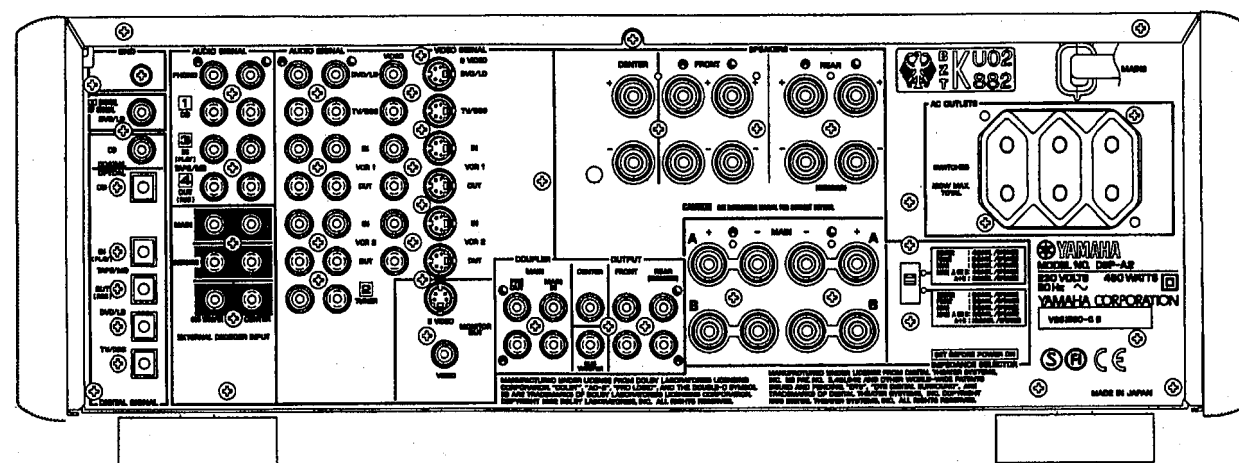
▼ R, T models



▼ B model



▼ G model



SPECIFICATIONS

Minimum RMS Output Power Per Channel	
Main (20Hz—20kHz, 0.02% THD, 8Ω)	100W + 100W
Center (20Hz—20kHz, 0.02% THD, 8Ω)	100W
Rear (20Hz—20kHz, 0.02% THD, 8Ω)	100W + 100W
Front (1kHz, 0.05% THD, 8Ω)	25W + 25W
Maximum Power Per Channel (R, T models only)	
Main (1kHz, 10% THD, 8Ω)	135W + 135W
Center (1kHz, 10% THD, 8Ω)	135W
Rear (1kHz, 10% THD, 8Ω)	135W + 135W
Front (1kHz, 10% THD, 8Ω)	35W + 35W
Dynamic Power Per Channel (R, T models only) (by IHF Dynamic Headroom Measuring Method)	
Main (8Ω/6Ω/4Ω/2Ω)	140W/170W/220W/320W
DIN Standard Output Power Per Channel (B, G models only)	
Main (1kHz, 0.7% THD, 4Ω)	160W
Dynamic Headroom (R, T models only)	
Main (8Ω)	1.46dB
IEC Power (B, G models only)	
Main (1kHz, 0.015% THD, 8Ω)	115W
Power Band Width	
Main (0.08% THD, 50W/8Ω)	10Hz to 50kHz
Damping Factor	
Main (20Hz—20kHz, 8Ω)	200
Input Sensitivity/Impedance	
Phono MM	2.5mV/47kΩ
CD etc	150mV/47kΩ
MAIN IN	1.0V/47kΩ
Maximum Input Signal (1kHz, 0.05% THD)	
Phono MM	110mV
CD etc	2.3V
Output Level/Impedance	
REC OUT	150mV/1kΩ
PRE OUT (MAIN, CENTER, REAR, FRONT)	1V/1.5kΩ
SW OUT (EFFECT OFF & MAIN SMALL)	4.0V/1.5kΩ
Maximum Voltage Output (20Hz—20kHz, 1% THD)	
PRE OUT (MAIN L/R)	3V
Headphone Jack Rated Output/Impedance	
Input CD etc, 1kHz, 150mV RL=8Ω	0.5V/440Ω
Frequency Response (20Hz—20kHz)	
CD etc	0±0.5dB
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%
CD etc to SP out (MAIN L/R), 50W/8Ω	0.015%
MAIN IN to SP out (MAIN L/R), 50W/8Ω	0.008%
Signal-to-Noise Ratio (IHF-A Network)	
Phono MM (Input Shorted, 5mV, EFFECT OFF)	
(R, T models)	More than 86dB
(B, G models)	More than 82dB
CD etc (Input Shorted, EFFECT OFF)	More than 96dB
Residual Noise (IHF-A Network)	
MAIN L/R SP out	170μV

Channel Separation (Vol -30dB)	
Phono MM (Input shorted)	
1kHz/10kHz	More than 60dB/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	
MAIN,CENTER,REAR (SP SMALL)	
H.P.F	fc=90Hz, 12dB/oct
SUB WOOFER	
L.P.F	fc=90Hz, 18dB/oct
BASS EXTENSION (Main L/R)	
	+6dB (50Hz)
Gain Tracking Error	
MAIN L/R (0 to -60dB)	3 dB
AUDIO MUTING	
	- ∞ dB
Video	
Video Signal Type	
(B, G models)	PAL
(R, T models)	NTSC/PAL
Video Signal Level	1Vp-p/75Ω
S-Video Signal Level	
Y	1Vp-p/75Ω
C	0.286Vp-p/75Ω
Maximum Input Level	1.5Vp-p
Video S/N	50dB
Monitor Out Frequency Response	5Hz—10MHz, -3dB
Power Supply	
B, G models	AC 230V, 50Hz
R, T models	AC 110/120/220/240V 60/50Hz
Power Consumption	
	480W
AC Outlets	
3 Switched Outlets	
(R, T, G models)	100W max. total
1 Switched Outlets	
(B model)	100W max.
Dimensions (W x H x D)	
Black & Titanium models	435 x 171 x 470mm (17-1/8" x 7-3/4" x 18-1/2")
Gold model	473 x 171.5 x 470mm (18-5/8" x 6-3/4" x 18-1/2")
Weight	
Black & Titanium models	19.5kg (42 lbs. 15 oz)
Gold model	21.0kg (46 lbs. 4 oz)

* Specifications subject to change without notice.

B British model
G European model
R General model
T China model

● PARAMETER TABLE

PARAMETER	P. INIT. DLY	P. ROOM SIZE	P. LIVENESS	S. DLY			S. INT. DLY			S. ROOM SIZE			S. LIVENESS			REV. TIME	REV. LVL
				PRO LOGIC	2CH	AC-3	AC-3	DTS	AC-3	DTS	2CH	AC-3	DTS	2CH	AC-3		
INPUT SIGNAL																	
MIN	1ms	0.1	0	15ms	15ms	0ms	0ms	1ms	1ms	0.1	0.1	0	0	0	1.0s	0%	
MAX	99ms	2.0	10	30ms	49ms	15ms	15ms	49ms	49ms	2.0	2.0	10	10	10	5.0s	100%	
STEP	1ms	0.1	1	1ms	1ms	1ms	1ms	1ms	1ms	0.1	0.1	1	1	1	0.1s	1%	
PROGRAM TYPE																	
CONCERT HALL 1	Europe Hall A	29ms	1.0	5		10ms	10ms										
	Europe Hall B	29ms	1.0	5		5ms	5ms										
	Europe Hall C	29ms	1.0	5		5ms	5ms										
	Live Concert	44ms	1.0	5		5ms	5ms										
CHURCH	Freiburg	95ms				15ms	15ms									4.0s	55%
	Royaumont	69ms				15ms	15ms									4.0s	52%
JAZZ CLUB	The Bottom Line	22ms	1.0	5		5ms	5ms										
	Village Gate	20ms	1.0	3		5ms	5ms										
ROCK CONCERT	The Roxy Theatre	15ms	1.0	5		7ms	7ms										
	Arena	15ms	1.0	7		8ms	8ms										
ENTERTAINMENT	Disco	26ms	1.0	5		12ms	12ms										
	Party	15ms	1.0	5		12ms	12ms										
STADIAM	Anaheim	15ms	1.0	7		8ms	8ms										
	Bowl	15ms	1.0	7		8ms	8ms										
CONCERT VIDEO	Classical/Opera	28ms	1.0			5ms	5ms	31ms	31ms	1.0	1.0	1.0	1.0				
	Pop/Rock	21ms	1.0			25ms	5ms	31ms	31ms	1.0	1.0	1.0	1.0				
TV THEATER	Mono Movie	49ms	1.0	2		8ms	8ms										
	Variety/Sports	10ms	1.0			30ms	8ms	12ms	12ms	1.0	1.0	1.0	1.0				
MOVIE THEATER1	70mm/DGTL/DTS Sci-Fi	16ms	1.0		20ms	15ms	15ms	1ms	1ms	1.0	1.0	1.0	1.0				
	70mm/DGTL/DTS Spectacle	15ms	1.0		23ms	15ms	15ms	32ms	32ms	1.0	1.0	1.0	1.0				
MOVIE THEATER2	70mm/DGTL/DTS Adventure	15ms	1.0		20ms	15ms	15ms	11ms	11ms	1.0	1.0	1.0	1.0				
	70mm/DGTL/DTS General	15ms	1.0		20ms	15ms	15ms	23ms	23ms	1.0	1.0	1.0	1.0				
DOLBY/DTS SUR.	Normal				20ms	5ms	5ms	19ms	19ms	1.0	1.0	1.0	1.0	4	4	4	
	Enhanced				20ms	5ms	5ms										

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● SET MENU TABLE

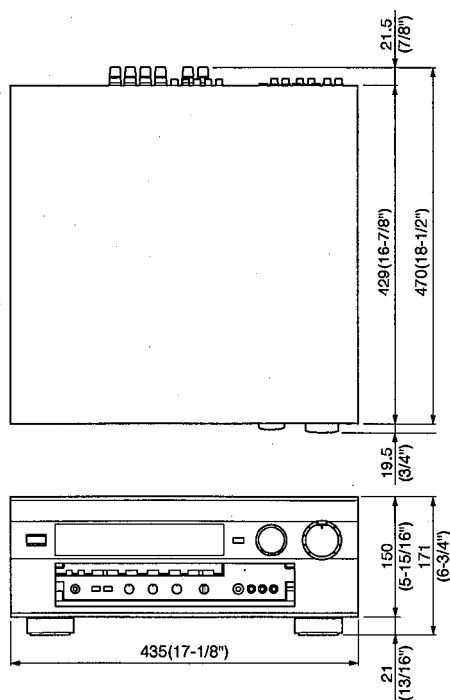
No.	SET MENU	PRESET VALUE	SETTING RANGES
1.	SPEAKER SET		
1A	CENTER SPEAKER	LARGE	LARGE/SMALL/NONE
1B	REAR SPEAKER	LARGE	LARGE/SMALL
1C	MAIN SPEAKER	LARGE	LARGE/SMALL
1D	LFE/BASS OUT	SUBWOOFER	SUBWOOFER/MAIN/BOTH
1E	SYSTEM SETUP	7ch	7ch/5ch
1F	MAIN LEVEL	NORMAL	NORMAL/-10dB
2.	DOLBY DIGITAL SET		
2A	LFE LEVEL	0dB	-20dB — 0dB
2B	DYNAMIC RANGE	MAX	MAX/STD/MIN
3.	DTS SET		
3A	LFE LEVEL	0dB	-10dB — +10dB
4.	CENTER DELAY	0ms	0ms — 5ms
5.	PARAMETER INITIALIZE	OFF	PROGRAM 1 — 12
6.	MEMORY GUARD	OFF	ON/OFF
7.	TV/DBS INPUT	AUTO	AUTO/LAST
8.	DIMMER	0	-4 — 0

● SUPERIMPOSING

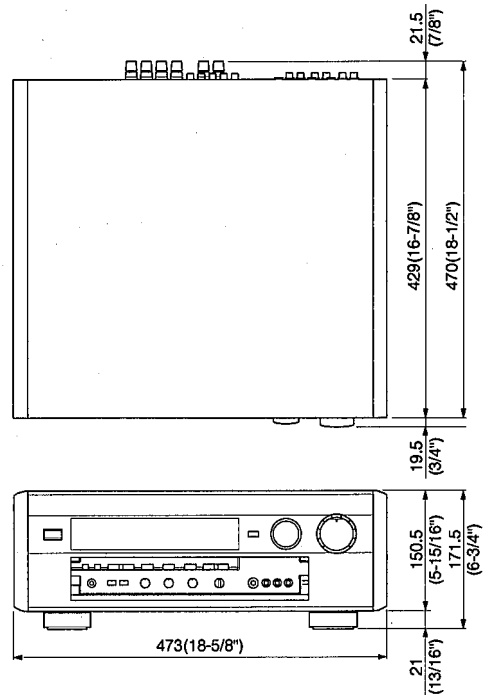
Input LD, etc.		Output	Superimposing
Terminal	Signal	Monitor connection	
S	O	O	O (On screen)
V	O	—	X
S	O	X	X
V	O	—	O (On screen)
S	O	O	O (On screen)
V	X	—	X
S	O	X	X
V	X	—	O (Blue back)
S	X	—	X
V	O	—	X (On screen)
S	X	—	O (Blue back)
V	X	—	O (Blue back)

S : S video signal
V : Composite video signal
O : YES
X : NO
— : NO CARE

● Black & Titanium models

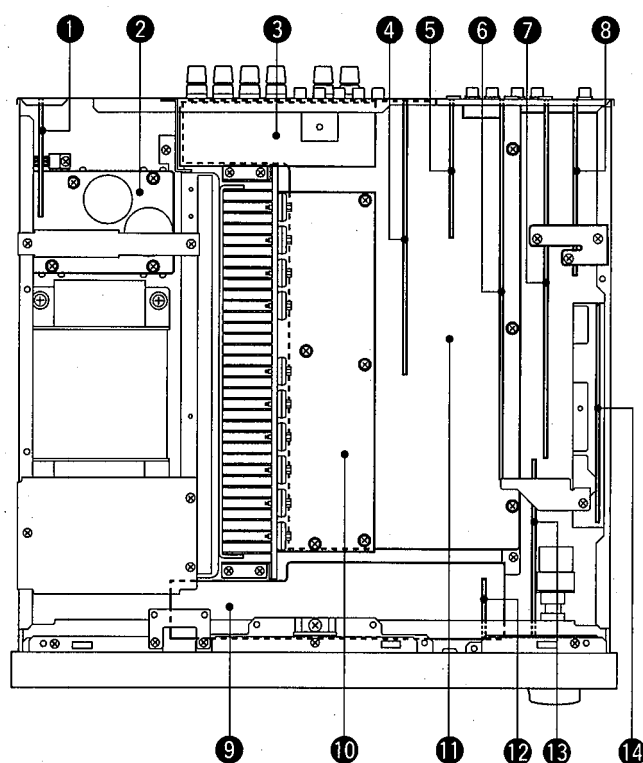


● Gold model



Units : mm (inch)

INTERNAL VIEW



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

DISASSEMBLY PROCEDURES (Remove parts in the order as numbered.)

1. Removal of Top Cover

- a. Remove 8 screws (①), 2 screws (②) and 2 screws (③) and then remove the Top Cover in Fig. 1.

2. Removal of Bottom Cover

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

3. Removal of Front Panel

- a. Remove 2 knobs in Fig. 1.
- b. Remove 4 screws (⑤) and then remove the Front Panel in Fig. 1.

Titanium model (G only) & Black model

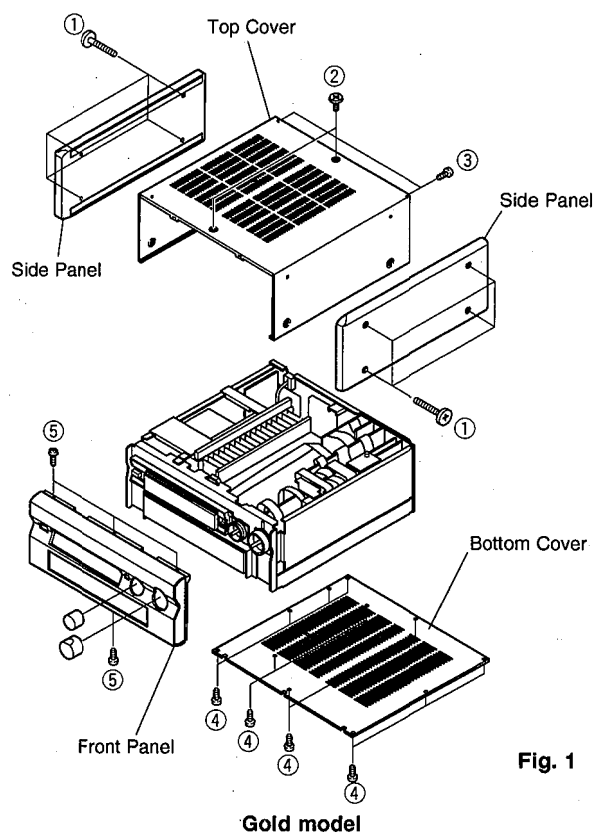
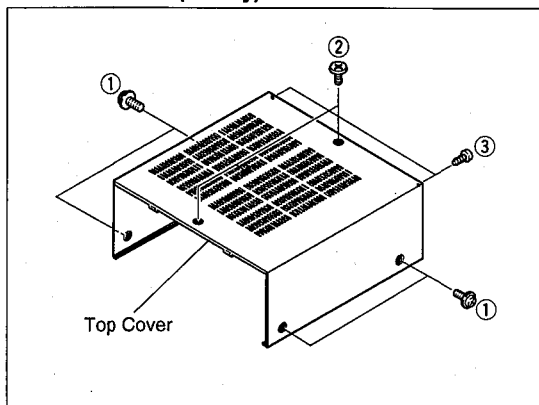


Fig. 1

■ SELF DIAGNOSIS FUNCTION

This product has a built-in self diagnosis function (DIAG) to facilitate inspection, measurement and determination of a faulty item.

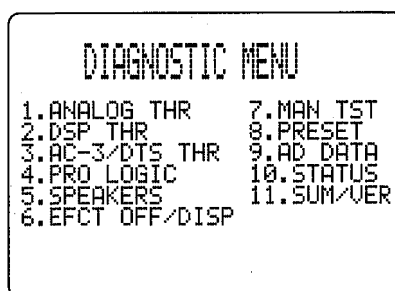
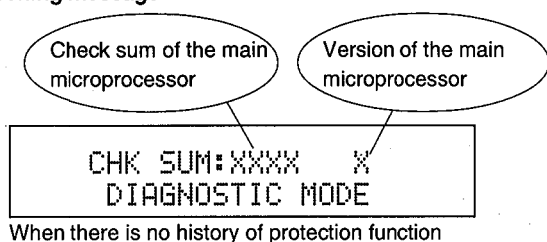
● Starting DIAG

Press the "POWER" (STANDBY/ON) key of the main unit while pressing the "SET MENU +" key and the "NEXT" key located in the sealing panel of the main unit, and DIAG will start to function.

● Display at the start of DIAG

The diagnostic menu appears on the monitor display. (It remains on display until it's canceled.) On the FL display of the main unit, an opening message (or the history of the protection) appears for 2 seconds before the diagnostic menu No.1 MAIN BYPASS.

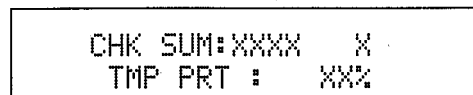
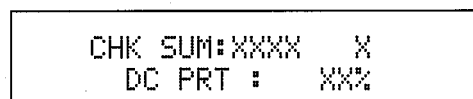
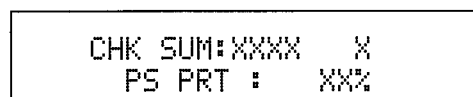
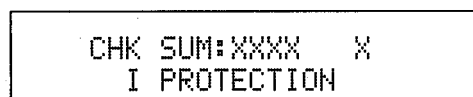
Opening message



If the protection function works after DIAG has been started and the power turns OFF

When the protection function (*1) works, the history of the protection appears on display and the power turns OFF. Repair the faulty parts according to the displayed history.

*1) When an excess current or any other faulty condition is found with the power source, amplifier, etc., the power is forced to turn OFF as a protection function.



I PROTECTION display

(The power turns OFF instantly, display is provided only to show the history.)

Cause: There is an abnormal current flow to the power amplifier.

Supplementary information: As the current of the power transistor is checked in each channel, it is possible to determine the abnormal channel by checking the transistor where a current is detected.

* If a speaker is shorted on purpose while using the DIAG function, I PROTECTION does not appear on display.

The history is stored in memory during the normal use of the unit.

PS PRT display

(The power turns OFF after 0.5 seconds. Display may not be provided, if there is an abnormality with the power supply for the display.)

Cause: There is an abnormality in the power supply section (voltage).

Supplementary information: As the power from following sources is detected, it is possible to determine where an abnormality exists.

Transformer secondary winding
VI X 2(CB405), OR x 2(CB408)
Stabilizing power source
±12, ±5V, +5D, +5M, VP

DC PRT display (The power turns OFF after about 2 seconds)

Cause: A DC output from the power amplifier is detected in the bad channel.

TMP PRT display

Cause: The temperature of the heat sink in the power amplifier is excessive. When the temperature rises and an abnormality is detected, the power supply will turn OFF.

Besides the above possible causes, the cause may exist in the connector which has come off or around CPU. PS PRT and DC PRT displays include the abnormal A/D value in %. For this value, refer to the DIAG menu No.9 AD DATA CHK (on page 16).

● Protection history

When the protection function works, its history will be stored in memory with a backup. Even when no abnormality is noted while the unit is being serviced, an abnormality which has occurred previously can be defined as long as the backup data has been stored. (For example, with I PROTECTION on display, it is also possible that an abnormality exists in the user's speaker or setting.) The protection history is cleared when DIAG is canceled by selecting "RESERVED" (to initialize the memory) from the setting items of the DIAG menu No.8 PRESET or when the backup data is erased.

● Canceling DIAG

Turn off the power by pressing the "POWER" key of the main unit or the "STANDBY" key of the remote controller.

CAUTION: When canceling this function, check the DIAG menu No.8 PRESET (for memory initialization inhibit/reserve). (To keep the user memory, be sure to select "INHIBIT" from the No.8 PRESET menu to inhibit initialization before canceling the diagnosis function.)

● Operation procedure of DIAG menu and SUB-MENU

There are No.1 to 11 MENU items and some SUB-MENU items as well.

DIAG menu selection

Main Unit: PROGRAM >/< (forward/reverse) key

SUB-MENU selection

Main Unit: SET MENU +/- (forward/reverse) key

● Functions during DIAG being set

In addition to the DIAG menu, functions as listed below are available.

- Input switching, external decoder
- Front / Center / Rear / Sub-woofer level adjustment
- Master volume
- Muting
- Speaker A/B
- Power ON•OFF operation

● Initial settings used to start DIAG function

Following initial settings are used when starting the DIAG function.

When the DIAG function is canceled, the settings before starting DIAG will be restored.

- Input : DVD/LD (external decoder OFF)
- Front level: -10dB
- Center /Rear / Sub woofer level: 0dB
- Audio mute: OFF
- Speaker A/B: ON

No. DIAG menu	SUB-MENU
1. ANALOG THR.	MAIN BYPASS DSP 0dB
2. DSP THROUGH	YSS918→SRAM YSS918 DSP FULL BIT
3. AC3/DTS THR.	STATUS (Binary)
4. PRO LOGIC	CENTER LARGE EFFECT OFF
5. SPEAKERS SET	MAIN:SMALL 0dB MAIN:LARGE 0dB MAIN:LARGE -10 B:M & C:N & F:5 LFE/BASS:MAIN LFE/BASS:SWFR CENTER:NONE C:SMALL & R:SMALL FRONT MIX:5CH FRONT MIX:7CH
6. DISPLAY CHK	Initial screen (EFFECT OFF) DISPLAY OFF DISPLAY ALL DISPLAY DIMMER CHECKED PATTERN
7. MANUAL TEST	ALL MAIN L CENTER MAIN R REAR R REAR L FRONT L FRONT R LFE
8. PRESET	INHIBIT (Memory initialization inhibited) RESERVED (Memory initialized)
9. AD DATA CHK	FAN CHECK KEY, REC OUT MTR, THM, PRD, PRV
10. IF STATUS	STATUS (0): DSP CPU status information STATUS (1): Channel status information STATUS (2): Version information STATUS (3): Checksum STATUS (4): BSI information 0 (AC3 / DTS) STATUS (5): BSI information 1 STATUS (6): BSI information 2 STATUS (7): BSI information 3 STATUS (8): BSI information 4 STATUS (9): BSI information 5
11. SUM/VER/EXIT	DSP CPU checksum & version Information communicated between CPUs Main CPU port setting information

Details of DIAG menu

In each menu, "SPEAKERS" is always set to "LARGE", D-RANGE to "MAX", LFE LEVEL to 0dB (-10dB at AC-3) and CENTER DELAY to 0ms unless otherwise specified.

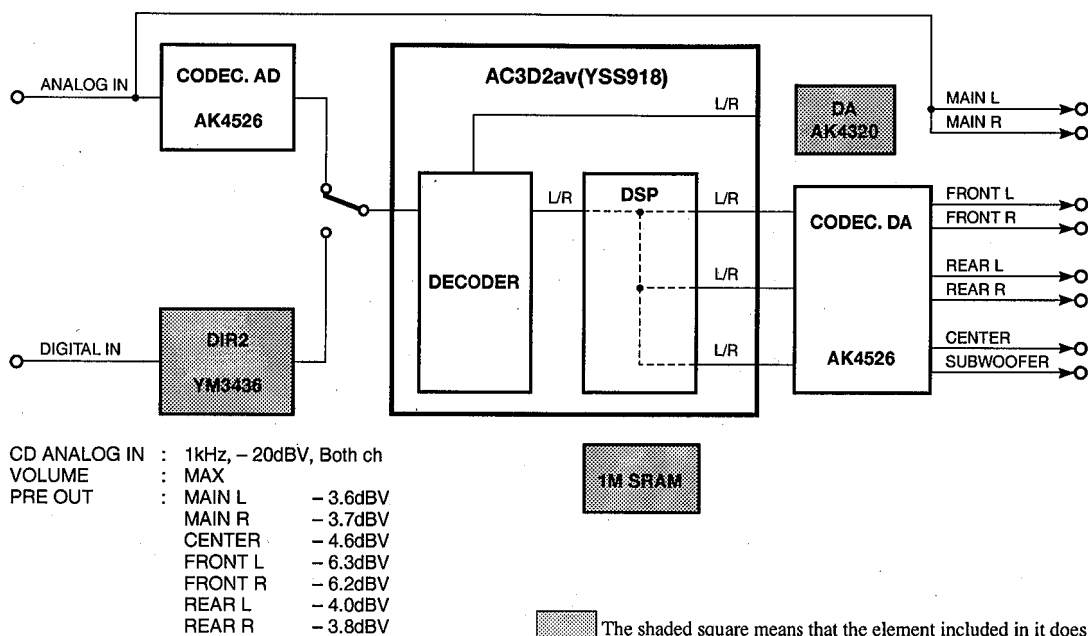
1. ANALOG THR. (Analog through)

The input is fixed to use the analog (A/D) system and has 2 sub-menu items.

1. ANALOG THR.
MAIN BYPASS

MAIN BYPASS

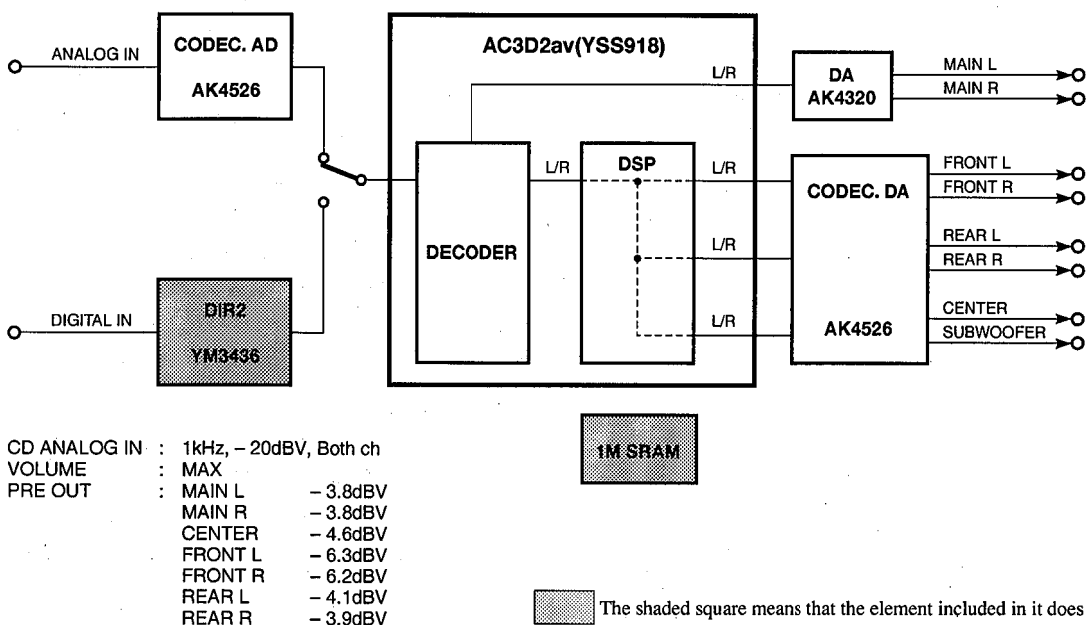
The main L/R signal is output through the analog bypass without passing the DSP section. The main L/R signal passing through the DSP is output through C/LFE, FL/FR and RL/RR.



1. ANALOG THR.
DSP 0dB

DSP 0dB

The main L/R, C/LFE, FL/FR, RL/RR signals pass through the DSP section.



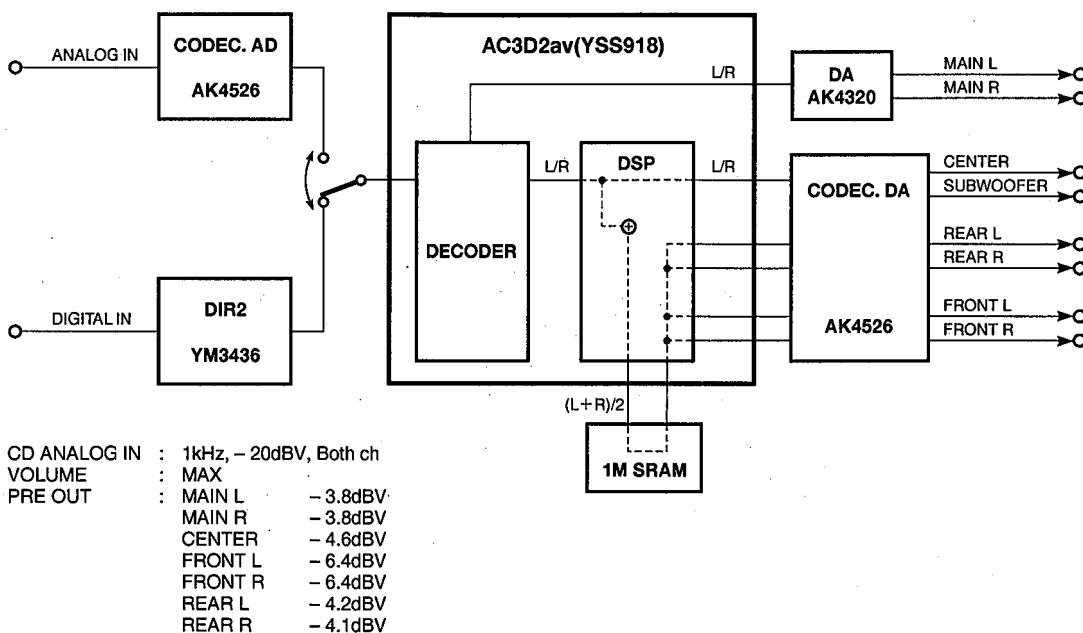
2. DSP THROUGH

The input data is automatically identified and switched in the priority order of AC3 → DTS → PCM AUDIO → ANALOG (A/D) according to the signal detection. There are 3 sub-menu items.

2. DSP THROUGH YSS918-SRAM

YSS918 → SRAM

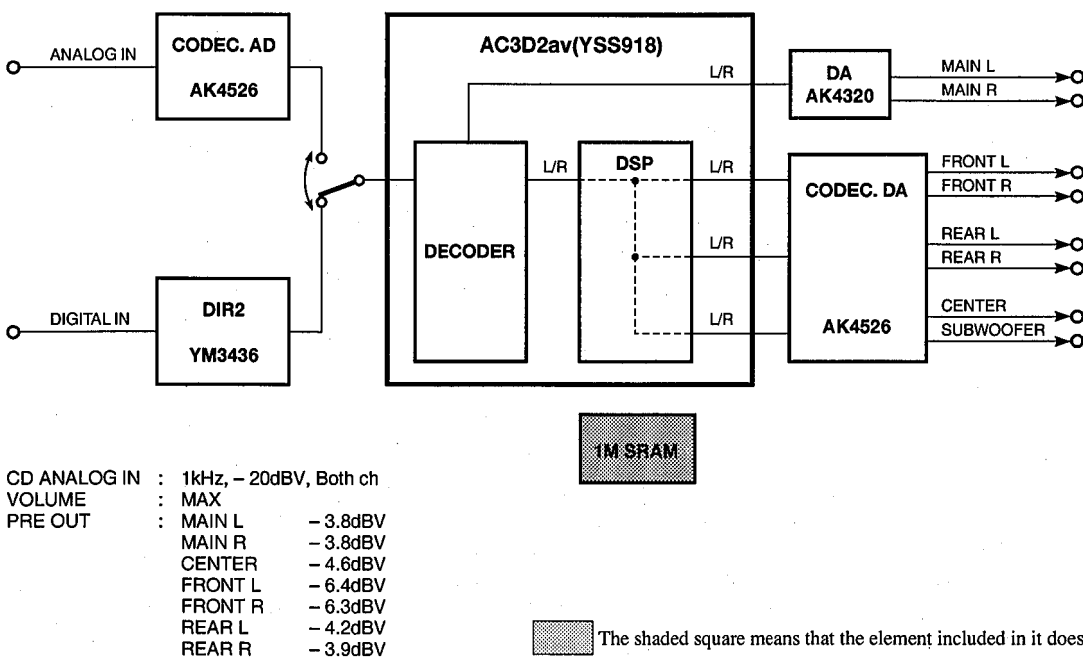
The main L/R signal is input through AC3D2av to DSP, and after passing SRAM and then output through the main L/R and C/LFE. The (L+R)/2 is output at FL/FR and RL/RR.



2. DSP THROUGH YSS918

YSS918

The main L/R signal is input through AC3D2av to DSP and then output through all channels. SRAM is bypassed.



2. DSP THROUGH DSP FULL BIT

DSP FULL BIT

The main L/R is input through AC3D2av to DSP and then output through all channels. The head margin is eliminated and the digital data is output in digital full bit. The same applies as "YSS918" except that the digital data is output in full bit at D/A.

CD ANALOG IN : 1kHz, -20dBV, Both ch
VOLUME : MAX
PRE OUT : MAIN L -3.8dBV
MAIN R -3.7dBV
CENTER -1.7dBV
FRONT L -2.5dBV
FRONT R -2.6dBV
REAR L -4.7dBV
REAR R -4.9dBV

Full bit: The digital data is normally output with a head margin of 6dB for each of C, FL/FR and RL/RR channels. In this menu, the head margin is not used and the digital data is output in full bit so as to obtain the A/D and D/A characteristics fully. Note that this means the analog gain after D/A is +6dB for L/R channels. Also, the LFE channel which is normally controlled by LFE MIX LEVEL of the set menu is also output in full bit.

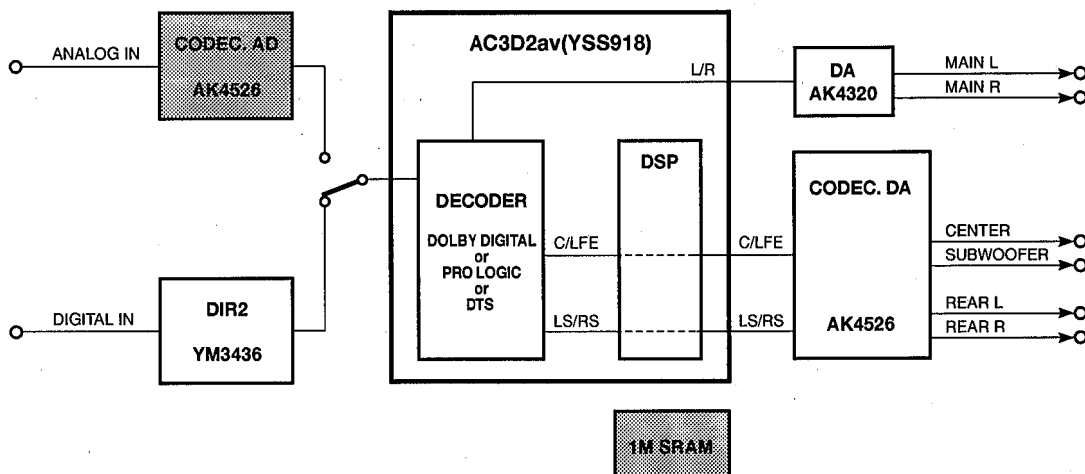
3. AC3/DTS THR.

Only the signal of the digital system is input. The AC3 or DTS signal is decoded and reproduced according to the input source.

3. AC3/DTS THR. STATUS:00000001

STATUS:

The AC-3 signal in each channel is decoded and output through AC3D2av → CDSP. The status information of the AC-3 signal is indicated in binary notation on the lower level of the FL display.



Status information

The shaded square means that the element included in it does not operate.

bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	0	0	1
								IEC958 digital data bit
								IEC958 business equipment bit
								IEC958 Digital format error
								Demodulator MUTO (no RF signal)
								Other than when PCM linear voice : 1
								When FL red DTS ON : 1
								When DTS decode OK: 1
								When AC3 decode OK: 1

As signal identification is executed in normal AC-3 reproduction, the source (DAT, CD-ROM, etc.) without digital data bit of IEC958 cannot be reproduced even when it is AC-3 encoded. On the other hand, as this menu does not execute such digital data bit identification, these sources can be AC-3 reproduced. (To measure characteristics during AC-3 reproduction, use the AC-3 decoded sine wave.) However, note that with the sources that have not been AC-3 or DTS encoded, a decode error occurs and muting is applied. In addition, by displaying the status information indicating the operation of the AC-3 signal on the lower level of the FL display in binary notation, malfunction of the decoder can be detected.

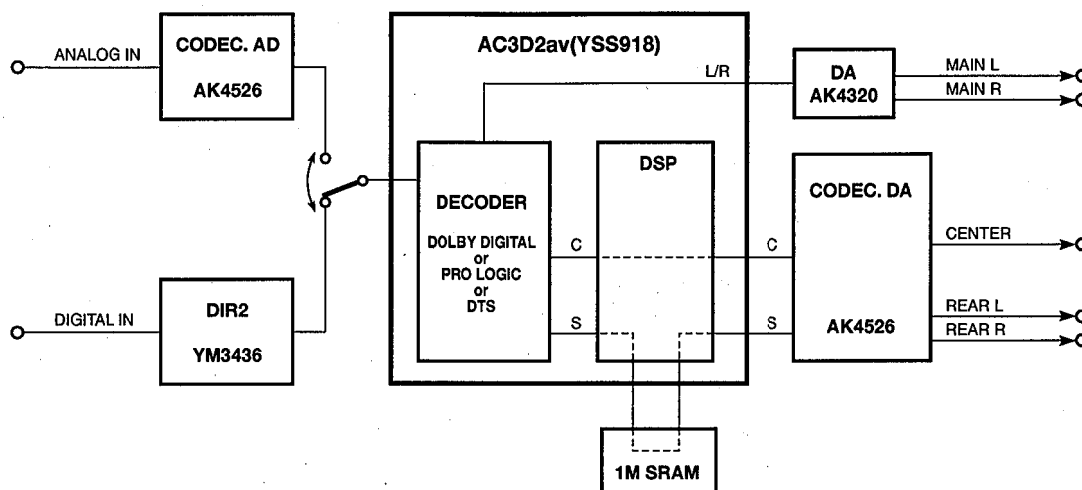
4. PRO LOGIC

The input data is automatically identified in the priority order of AC-3 → PCM → Analog. DTS is inhibited. The sub-menu items include selection of Pro-logic (The auto input balance is OFF) and EFFECT OFF.

4. PRO LOGIC CENTER LARGE

CENTER LARGE

When the center mode uses the analog, PCM audio or AC-3 2/0 mode, L, R, C, S signals are pro-logic decoded and output. When the AC-3 mode other than 2/0 is used, the pro logic function does not work and the signals are AC-3 reproduced.



CD ANALOG IN : 1kHz, -20dBV, Both ch
 VOLUME : MAX
 PRE OUT : MAIN L -45dBV
 MAIN R -37dBV
 CENTER -1.7dBV
 FRONT L -∞
 FRONT R -∞
 REAR L -38.5dBV (noise only)
 REAR R -38.5dBV (noise only)

CD ANALOG IN : 1kHz, -20dBV, L ch only
 VOLUME : MAX
 PRE OUT : MAIN L -4.0dBV
 MAIN R -52dBV (noise only)
 CENTER -40dBV (noise only)
 FRONT L -∞
 FRONT R -∞
 REAR L -38.0dBV (noise only)
 REAR R -38.0dBV (noise only)

4. PRO LOGIC EFFECT OFF

EFFECT OFF

The L/R signal is output through ANALOG MAIN BYPASS.

5. SPEAKERS SET

The input signal is automatically identified in the priority order of AC-3 → DTS → PCM → Analog. The input L/R signal is output through the specified channels according to the sub-menu.

5. SPEAKERS SET
MAIN: SMALL 0dB

There are 10 sub-menu items.

The signal output from the DSP section is normally in the EFFECT OFF state in the menus from 1 to 4. In the menus after that, the same signal as in the menu of 2. DSP THROUGH: YSS918. The analog switch settings in each sub-menu are as shown in the following table.

Sub menu		CENTER	REAR	MAIN SP	MAIN LVL	LFE/BASS	FRONT MIX	Output
1	MAIN : SMALL 0dB	LARGE	LARGE	SMALL	0dB	SWFR	7ch	MAIN L/R
2	MAIN : LARGE 0dB	LARGE	LARGE	LARGE	0dB	SWFR	7ch	MAIN L/R
3	MAIN : LARGE -10	LARGE	LARGE	LARGE	-10dB	SWFR	7ch	MAIN L/R
4	B : M & C : N & F : 5	NONE	LARGE	LARGE	0dB	MAIN	5ch	MAIN L/R
5	LFE/BASS : MAIN	LARGE	LARGE	LARGE	0dB	MAIN	7ch	LFE → L/R
6	LFE/BASS : SWFR	LARGE	LARGE	LARGE	0dB	SWFR	7ch	LFE → SWFR
7	CENTER : NONE	NONE	LARGE	LARGE	0dB	SWFR	7ch	CENTER → L/R
8	C : SMLL & R : SMLL	SMALL	SMALL	LARGE	0dB	SWFR	7ch	CENTER/REAR
9	FRONT MIX : 5CH	LARGE	LARGE	LARGE	0dB	SWFR	5ch	FRONT → L/R
10	FRONT MIX : 7CH	LARGE	LARGE	LARGE	0dB	SWFR	7ch	FRONT

* In Sub-menu 1, the lower range content of the MAIN L/R is output at SWFR as well.

* In Sub-menu 8, the lower range content of LFE, CENTER and REAR is output at SWFR as well.

LARGE : Signals are output in all bandwidths.

SMALL : Only signals lower than 90Hz are mixed in the channel specified by LFE/BASS.

NONE : The center contents are distributed to the MAIN L/R channels after -3dB.

M : MAIN

C : CENTER

R : REAR

SWFR : SUBWOOFER

B : BASS

F : FRONT MIX

N : NONE

Output : The signal before MASTER VOLUME is indicated.

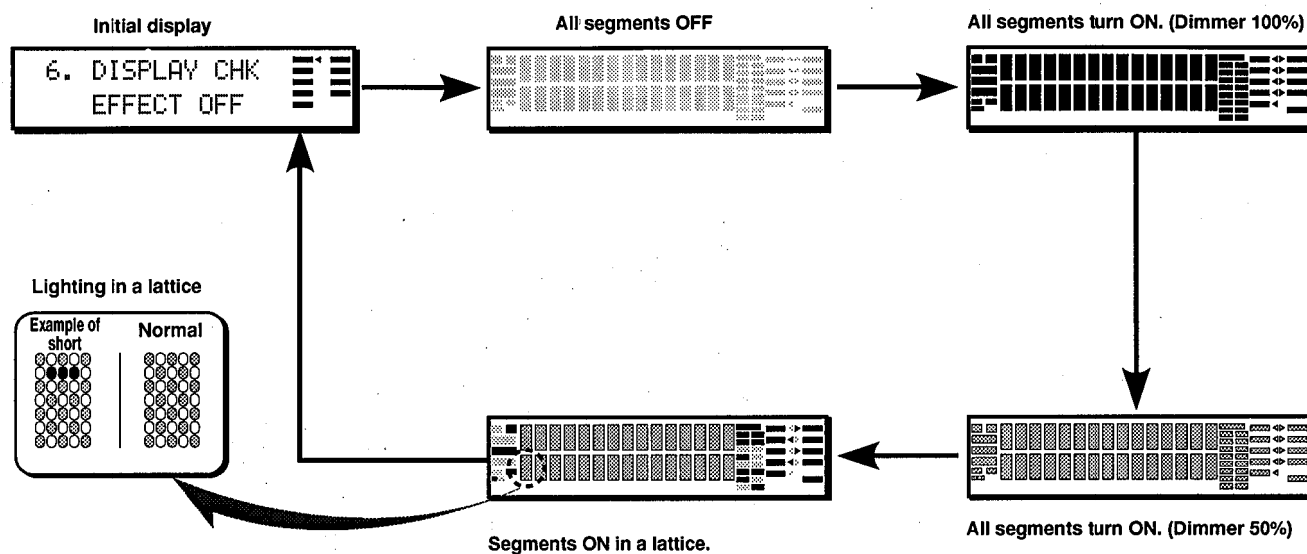
6. DISPLAY CHK

This is a program to check lighting of the FL display section.

The FL display changes as shown below according to operation of the sub-menu.

The input is fixed to use the analog system. The signals are processed in the same way as EFFECT OFF of No.4. (The L/R signal is output through ANALOG MAIN BYPASS.)

As for internal/external synchronization selection of the superimpose signals, forced external synchronization is selected by the microprocessor control.



Segment conditions of the FL driver (IC901, IC902) and the FL tube are checked by turning ON and OFF all segments. Next, the operation of the FL driver is checked by using the dimmer control. Then a short between segments next to each other is checked by turning ON and OFF all segments alternately (in a lattice). (In the above example, the center segment in the second row from the top is shorted.)

7. MANUAL TEST

The test noise is output by the noise generator with a built-in DSP through the channels specified by the sub-menu.

7. MANUAL TEST
ALL

ALL

Noise is output through all channels.

MAIN L

Noise is output through the MAIN L channel.

CENTER

Noise is output through the CENTER channel.

MAIN R

Noise is output through the MAIN R channel.

REAR R

Noise is output through the REAR R channel.

REAR L

Noise is output through the REAR L channel.

FRONT L

Noise is output through the FRONT L channel.

FRONT R

Noise is output through the FRONT R channel.

LFE

Noise is output through the LFE (sub-woofer) channel.

8. PRESET

This menu reserves and inhibits initialization of the back-up RAM (parameter, set menu contents, etc. for the sound field program). The input signals are automatically identified in the priority order of AC-3 → PCM → Analog. The signals are processed in the same way as EFFECT OFF of No.4.

8. PRESET
INHIBIT

INHIBIT (Initialization inhibited)

RAM initialization is not executed. Select INHIBIT to protect the values set by the user.

8. PRESET
RESERVED

RESERVED

Initialization of the back-up RAM is reserved. RESERVED should be selected when restoring the state before shipping out of the factory or resetting RAM.

In order to ensure that the back-up RAM is executed, select RESERVED first and then turn OFF and ON the POWER(STANDBY/ON) key. Initialization is executed at that point.

9. AD DATA CHK

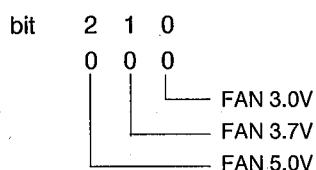
The A/D conversion value of the main CPU (IC3 of the function circuit board) detecting the REC OUT selector, the main unit key, protection, etc. is displayed in % by using the sub-menu. (5V as 100%).

While K0/K1/K2/REC pages are on display, the values of all the keys are detected. This prevents the keys of the main unit from being operated. To cancel this menu, turn the input selector of the main unit, and the next sub-menu will appear. Return to the input data being measured after cancellation. The signal process remains in the state before execution of this menu.

9. AD DATA CHK
000

FAN control based on detected temperature

With the voltage value detected from the temperature detection circuit read as a temperature data by the A/D function of the microprocessor, the FAN speed is controlled in 3 levels based on that data.



When there is drive history record : 1

* Selecting "RESERVED" from the Diag menu No.8 and using factory presetting will clear the history.

K0 K1 K2 REC
100 100 100 50

Detection of KEY scanning and REC OUT

K0/K1/K2 : Panel keys of main unit (10% step)

REC : Value at REC OUT position (10% step)

- REC and KEY A/Ds fail to operate properly if they are $\pm 4\%$ off from the standard value. In this case, check the constant of the partial pressure resistor, soldering condition, etc.

Standard value of KEY (main unit panel key)

K0	Standard value
-	0
-	10
-	20
-	30
-	40
-	50
-	60
-	70
-	80
KEY OFF state	100

K1	Standard value
INPUT MODE	0
PROGRAM +	10
PROGRAM -	20
-	30
-	40
-	50
-	60
-	70
-	80
KEY OFF state	100

K2	Standard value
EFFECT	0
-	10
DIAG	20
SET MENU +	30
NEXT	40
EXT. DECODER	50
SET MENU -	60
SPEAKERS B	70
SPEAKERS A	80
KEY OFF state	100

Standard value of REC OUT position

REC OUT	Standard value
PHONO	90
TUNER	80
CD	70
TAPE/MD	60
SOURCE	50
DVD/LD	40
TV/DBS	30
VCR1	20
VCR2	10
VIDEO AUX	0

MTR THM PRD PRV
0 28 7 10

Numerical values are examples for reference.

Detection of tuner sensitivity and protection

MTR : Signal sensitivity of tuner (Not used)

THM : Detection of heat sink temperature (Normal values 6 ~ 40)

PRD : Value of amplifier DC detection (Normal value 1 ~ 13)

PRV : Value of power supply voltage (Normal value 5 ~ 15)

- When THM becomes less than 5%, the protection function works to turn off the power. When it exceeds 40%, it is possible that there is an abnormality in the temperature detection system.
- When the PRD/PRV value becomes abnormal, the protection function works to turn off the power.

10. IF STATUS 0 ~ 9

Using this menu, the status data from the sub-microprocessor is displayed in the hexadecimal notation.

During signal processing, the status before execution of this menu is maintained.

As the input mode is fixed to analog in DIAG MENU No.9 before execution, operating the keys on the main unit only will fix this menu to the analog mode.

To change the input mode from analog to digital, use the following procedure.

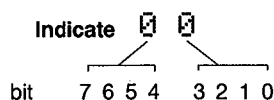
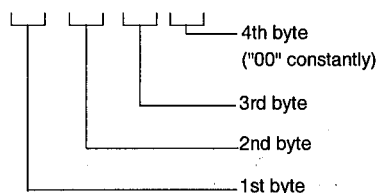
- 1) Select one of DIAG MENU No. from 2 to 5, and enter a digital signal.
- 2) Pressing TAPE PLAY key (7A-00) on the remote controller, select MENU No.10.
(Then the input mode is fixed to digital.)
- 3) Using SET MENU +/- keys on the main unit, select the sub-menu.
(The digital status data can be checked.)

There are 10 SUB-MENU items.

Operating SUB-MENU causes the following status data to be displayed in the hexadecimal notation.

```
10. IF STATUS 0
CPU 22 08 0B 00
```

STATUS 0 : Indicates the information communicated between microprocessors.



Indicate	bit			
	3	2	1	0
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

1st byte

bit 7	MUTE request		
bit 6	fs	000B : Analog	001B : 32kHz
bit 5		010B : 44.1kHz	011B : 48kHz
bit 4		Others : Undefined	
bit 3	acmod	0000B : 1+1	0001B : 1/0
bit 2		0010B : 2/0	0011B : 3/0
bit 1		0100B : 2/1	0101B : 3/1
bit 0		0110B : 2/2	0111B : 3/2 1000B : 7.1

In the case of acomod 1000B or more, the DSP section is muted at DTS 7.1ch signal.

2nd byte

bit 7	AC3 DECODE OK
bit 6	DTS DECODE OK
bit 5	History data of FL red DTS (flashing & lighting)
bit 4	"1" other than PCM linear sound
bit 3	DEM MUTO (no RF signal)
bit 2	IEC958 digital format error
bit 1	IEC958 business equipment bit
bit 0	IEC958 digital data bit

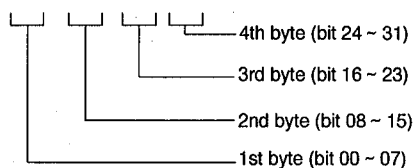
3rd byte

bit 7	AC3 KARAOKE
bit 6	DIR2 LOCKN
bit 5	DIR2 ERR
bit 4	AC3D MUTE
bit 3	On-board write mode
bit 2	Digital input number is 2.
bit 1	DSP is AC3D2. (DTS present)
bit 0	RF DEM present

IEC958 : This standard is used to identify what type of signal the PCM bit stream is. A digital format error means that the format is digital but the sampling frequency is undefined (not 44.1k, 32k or 48k). As operation of each device at an off-specification frequency cannot be assured, the sub-microprocessor handles it as forced analog (even when detected as "decode OK", it is ignored) and selects the signal from the analog input terminal. Thus, bits 4 to 6 in the upper byte transmits 000B (analog) signal to the main microprocessor as they should and the main microprocessor operates seemingly in the same way as in the digital unlock state.

```
10. IF STATUS 1
CHS 00 01 00 00
```

STATUS 1 : Indicates the channel status (bit 00~31) of IEC958 obtained from DIR2 by using 1st to 4th bytes.



```
10. IF STATUS 2
VER 5A 30 36 42
```

STATUS 2 : Version information of sub-CPU (ASCII code 4 bytes)

```
10. IF STATUS 3
SUM 44 39 43 33
```

STATUS 3 : Checksum in program area of sub-microprocessor (hexadecimal ASCII code 4 bytes)

```
10. IF STATUS 4
BI0 00 00 00 00
```

STATUS 4 : Indicates the bit stream information included in AC-3/DTS signal in order starting from the 1st byte.

```
10. IF STATUS 5
BI1 00 00 00 00
```

STATUS 5~9 : Indicates the bit stream information included in AC-3 signal in order starting from the 5th byte.

```
10. IF STATUS 9
BI5 00 00 00 00
```

11. SUM/VER/EXIT

There are 3 sub-menu items.

This menu indicates the checksum of the DSP microprocessor, the software version and interchange version of the main / DSP microprocessor and the port setting conditions of the main microprocessor. The signals are processed in the same way as EFFECT OFF of No.4.

When replacing the microprocessor, be sure to check its compatibility. Depending on compatibility of the communication format, the replacing microprocessor may not be suitable. Use of a microprocessor whose communication format is not compatible will result in failure in communication between microprocessors.

```
11. SUM/VER/EXIT
DSP SUM:XXXX X
```

Checksum and version of DSP microprocessor

Checksum of DSP microprocessor (4 figures of alphabets and numbers)

Version of DSP microprocessor (1 alphabet)

Checksum : The total of the codes in the entire program added by 1M bit at 1 octet intervals and expressed as a 4-figure hexadecimal data (For the range including no code description or codes other than ROM, 0xff is added.)

```
11. SUM/VER/EXIT
M:A00B S:A00B
```

Software version and compatibility version of main / DSP microprocessors

M: Indicates the main microprocessor (IC3 of function circuit board)

S: Indicates the DSP microprocessor (IC4 of DSP circuit board)

The alphabet at the end indicates compatibility of the communication format between main/DSP microprocessors. If the alphabet is the same, the communication format of the microprocessor is compatible. If the end alphabets differ, the microprocessor will not operate properly.

A 0 0 B

Software version of microprocessor (3 figures of alphabets and numbers)

Compatibility version of microprocessor (1 alphabet)

```
11. SUM/VER/EXIT
PORT: 01001101
```

Port settings of main microprocessor

7 6 5 4 3 2 1 0
0 1 0 0 1 1 0 1

- FREQUENCY STEP switch : absent (1)
- ZONE2 present (1) / absent (0)
- Tuner mode 0 (Note 1)
- Tuner mode 1 (Note 1)
- VIDEO format : PAL (1) / NTSC (0)
- RDS present (1) / absent (0)
- Model type 0 (Note 2)
- Model type 1 (Note 2)

(Note 1)

Tuner mode 1	Tuner mode 0	Market
0	0	J
0	1	U, C
1	0	G, B, A, L
1	1	R, T

(Note 2)

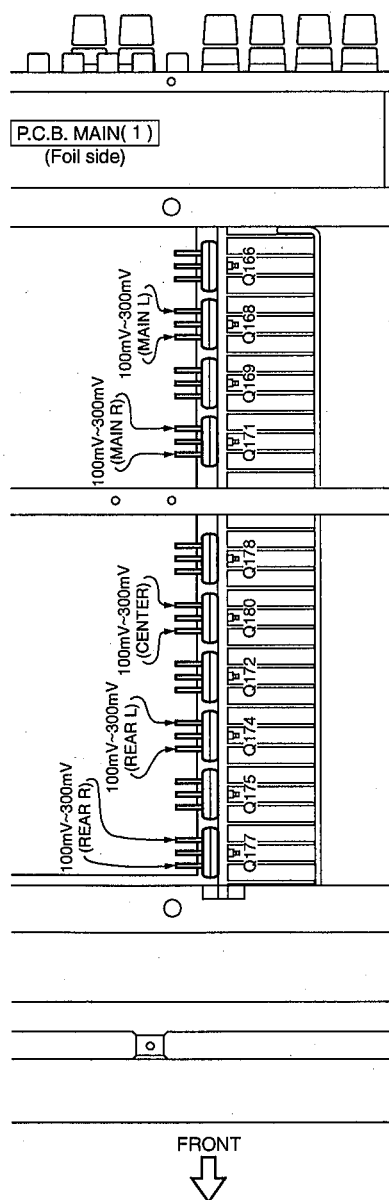
Model type 1	Model type 0	Model name
0	0	RX-V2095
0	1	DSP-A2
1	0	RX-V995
1	1	RX-V795

■ AMP CHECK

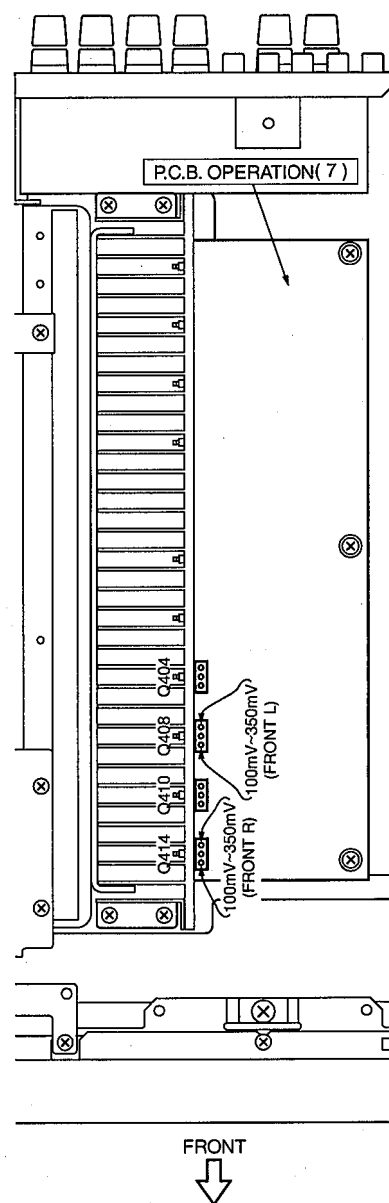
● Confirmation of Idling Current

- 1) No signal applied.
- 2) Non-loaded condition.

Item	Test Point	Rating (DC)
MAIN L	Q168 Base~Emitter (P.C.B. MAIN [1])	100mV~300mV
MAIN R	Q171 Base~Emitter (P.C.B. MAIN [1])	
CENTER	Q180 Base~Emitter (P.C.B. MAIN [1])	
REAR L	Q174 Base~Emitter (P.C.B. MAIN [1])	
REAR R	Q177 Base~Emitter (P.C.B. MAIN [1])	
FRONT L	Q408 Base~Emitter (P.C.B. OPERATION [7])	100mV~350mV
FRONT R	Q414 Base~Emitter (P.C.B. OPERATION [7])	



Viewed from the bottom



Viewed from the top.

■ IC DATA

IC3 : HD64F3337YF16 (P.C.B. FUNCTION)

8 bit μ -COM (Main CPU)

No.	Pin Name	Function	I/O	Detailed Function	Power On	Power Off	Backup
1	/RES	/RES	---	CPU Reset	---	---	---
2	XTAL	XTAL	---	Oscillator : 8MHz	---	---	---
3	EXTAL	EXTAL	---	Oscillator : 8MHz	---	---	---
4	MD1	MD1	---	Mode Set 1, Normal : +5M/Flush Write : +12V	---	---	---
5	MD0	MD0	---	Mode Set 0, Normal : +5M/Flush Write : +5M	---	---	---
6	/NMI	/NMI	---	+ 5V	---	---	---
7	/STBY/FVpp	/FVpp	---	Stand-by or Fvpp, Normal : +5M/Flush Write : +12V	---	---	---
8	Vcc	Vcc	---	Vcc	---	---	---
9	P52/SCK0	SCKN	O	SCK for Non Audio	O	OL	OL
10	P51/RXD0	RDTR/FSW	I	RXD for Non Audio (RDS)	I	I	OL
11	P50/TXD0	SDTN	O	SDT for Non Audio	O	OL	OL
12	Vss	GND	---	GND	---	---	---
13	P97	CER	O	CE for Non Audio (RDS)	O	OL	OL
14	P96/ $\emptyset$	/ST	I	Tuner Stereo	I	I	HiZ
15	P95	CES	O	CE for Non Audio (OSD)	O	OL	OL
16	P94	CEF1	O	CE for Non Audio (FL1)	O	OL	OL
17	P93	CEF0	O	CE for Non Audio (FL0)	O	OL	OL
18	P92//IRQ0	PDT	I	Power Detect (Low Level Detect)	I	I	I
19	P91//IRQ1	REM	I	Remote (Low Edge Detect)	I	I	OL
20	P90//IRQ2	VSY	I	Video Vertical Sync (Low Edge Detect)	I	I	OL
21	P60	SCKP	O	SCK for Tuner PLL	O	OL	OL
22	P61	SDTP	O	SDT for Tuner PLL	O	OL	OL
23	P62	RDTP	I	RDT for Tuner PLL	I	I	OL
24	P63	CEP	O	CE for Tuner PLL	O	OL	OL
25	P64	/TMT	O	Tuner Mute	O	OL	OL
26	P65	/FLR	O	FL Reset	O	OL	OL
27	P66//IRQ6	NC		N.C.	OL	OL	OL
28	P67//IRQ7	PSW	I	Power Switch	I	I	OL
29	Avcc	Avcc	---	Avcc	---	---	---
30	P77/AN7	MTR	I	Tuner Meter (open)	I	I	HiZ
31	P70/AN0	KEY0	I	Key State 0	I	I	HiZ
32	P71/AN1	KEY1	I	Key State 1	I	I	HiZ
33	P72/AN2	KEY2	I	Key State 2	I	I	HiZ
34	P73/AN3	REC	I	Rec out Selector	I	I	HiZ
35	P74/AN4	PRV	I	V Protection	I	I	HiZ
36	P75/AN5	PRD	I	DC Protection	I	I	HiZ
37	P76/AN6	THM	I	Thermal Detect	I	I	HiZ
38	Avss	GND	---	GND	---	---	---
39	P40	VIND	O	Volume Indicator	O	OL	OL
40	P41	VUP	O	Volume Up	O	OL	OL
41	P42	VDN	O	Volume Down	O	OL	OL
42	P43	IPA	I	Input Selector A	I	I	OL
43	P44	IPB	I	Input Selector B	I	I	OL
44	P45	PRI	I	I Protection	I	I	OL
45	P46/PW0	FAN	O	Fan Control (PWM)	O	OL	OL
46	P47/PW1	/FMT	O	Full Mute	O	OL	OL
47	Vcc	Vcc	---	Vcc	---	---	---
48	P27	/MLV	O	Main Level Att.	O	OL	OL
49	P26	SPA	O	Speaker Relay A	O	OL	OL
50	P25	SPB	O	Speaker Relay B	O	OL	OL
51	P24	SPE	O	Speaker Relay Ext	O	OL	OL
52	P23	CEL	O	CE Sanyo for Audio	O	OL	OL
53	P22	CET	O	CE Toshiba for Audio	O	OL	OL

IC3 : HD64F3337YF16 (P.C.B. FUNCTION)
8 bit μ -COM (Main CPU)

No.	Pin Name	Function	I/O	Detailed Function	Power On	Power Off	Backup
54	P21	SDTA	O	SDT for Audio	O	OL	OL
55	P20	SCKA	O	SCK for Audio	O	OL	OL
56	Vss	GND	---	GND	---	---	---
57	P17	/Z2MT	O	Zone 2 Mute (open)	O	OL	OL
58	P16	I/E	O	Video Internal/External	O	OL	OL
59	P15	VRC	O	Video Rec out Select C	O	OL	OL
60	P14	VRB	O	Video Rec out Select B	O	OL	OL
61	P13	VRA	O	Video Rec out Select A	O	OL	OL
62	P12	VIC	O	Video Input Select C	O	OL	OL
63	P11	VIB	O	Video Input Select B	O	OL	OL
64	P10	VIA	O	Video Input Select A	O	OL	OL
65	P30	PRY	O	Power Relay	O	OL	OL
66	P31	Z2DET	I	Zone 2 Detect	I	I	OL
67	P32	TUN0	I	Tuner Mode 0 (Note 1)	I	I	OL
68	P33	TUN1	I	Tuner Mode 0 (Note 1)	I	I	OL
69	P34	VID	I	Video Format (Note 2)	I	I	OL
70	P35	RDS	I	RDS Exist or Not (Note 3)	I	I	OL
71	P36	TYP0	I	Model Type 0 (Note 4)	I	I	OL
72	P37	TYP1	I	Model Type 1 (Note 4)	I	I	OL
73	Vss	GND	---	GND	---	---	---
74	P80	NC	O	Not used	OL	OL	OL
75	P81	/SBR	O	Sub CPU Reset	O	OL	OL
76	P82	TRQ	I	CPU I/F Transfer Request	I	I	OL
77	P83	RTN	I	CPU I/F Word Clock	I	I	OL
78	P84/TXD1	MTS/TXD1	O	Normal : CPU I/F Main to Sub Flush Write : TXD1	O	OL	OL
79	P85/RXD1	STM/RXD1	I	Normal : CPU I/F Sub to Main Flush Write : RXD1	I	I	OL
80	P86/SCK1	CKIF	O	CPU I/F Clock	O	OL	OL

(Note 1) Pin 67, 68 Tuner Mode 0 and 1

Tuner mode 1	Tuner mode 0	Market
0	0	J
0	1	U, C
1	0	G, B, A, L
1	1	R, T

(Note 2) Pin 69 Video Format

0	NTSC
1	PAL

(Note 3) Pin 70 RDS Exist or Not

0	Not Exist
1	Exist

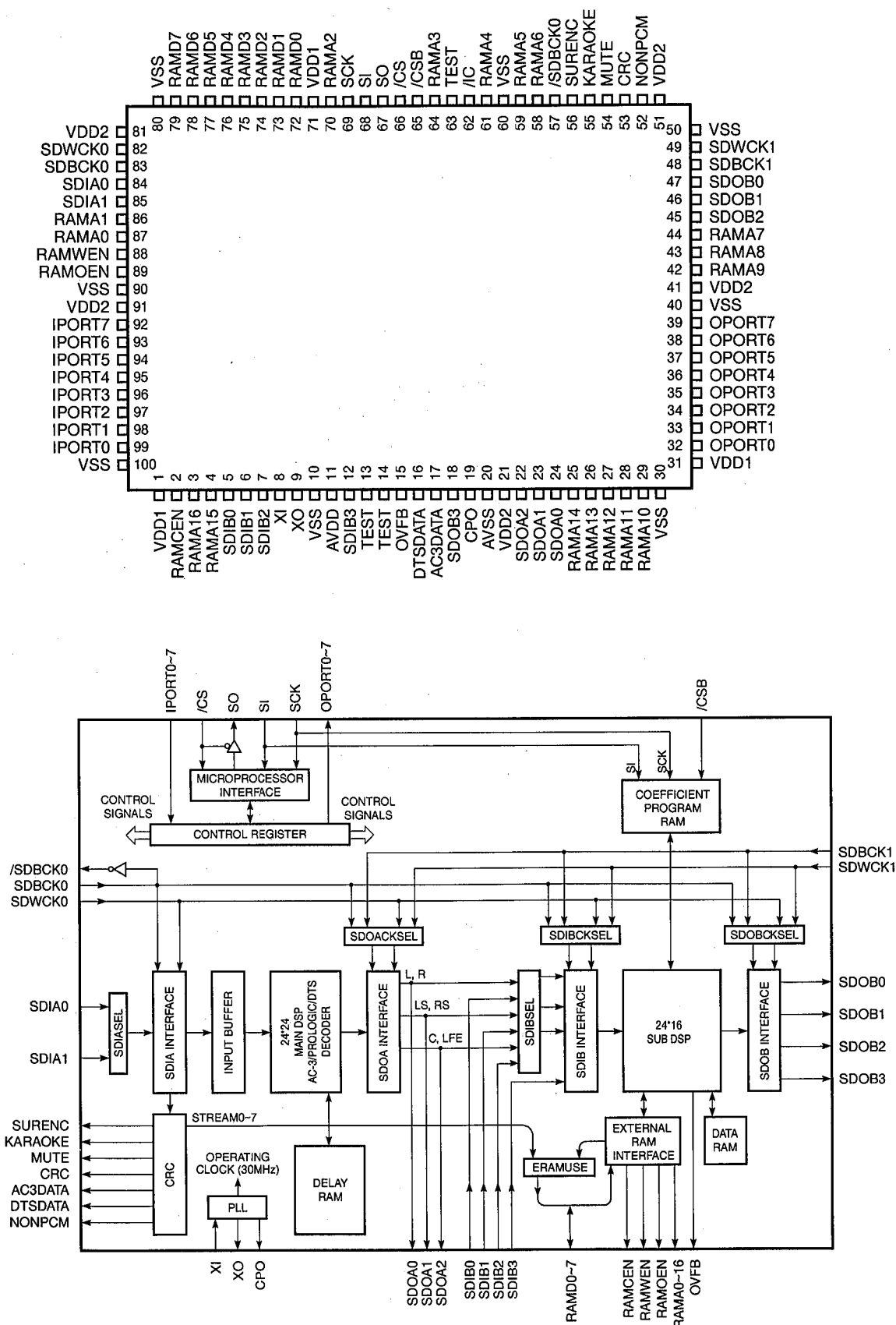
(Note 4) Pin 71, 72 Model Type 0 and 1

Model Type 1	Model Type 0	Model Name
0	0	RX-V2095
0	1	DSP-A2
1	0	RX-V995
1	1	RX-V795

IC14 : LC87F5164 (P.C.B. DSP)
8 bit μ -COM (Sub CPU)

No.	PORT	Name	Function	I/O	No.	PORT	Name	Function	I/O
1	PA3	CDO	DIR2 CDO	I	80	PA2	CCK	DIR2 CCK	O
2	PA4	/ICDI	/IC DIR2	O	79	PA1	CLD	DIR2 CLD	O
3	PA5	/KM1	Compulsion (analog) mode	O	78	PA0	DMT	L/R DAC MUTE	O
4	P70/INT0	LOCKN	DIR LOCKN	IRQ	77	PC0	DIA	DIGITAL INP SEL	O
5	P71/INT1	ERRD	DIR2 ERR	IRQ	76	PC1	DIB	DIGITAL INP SEL	O
6	P72/INT2	ERRA	AC3D MUTE	IRQ	75	PC2	DIC	DIGITAL INP SEL	O
7	P73/INT3	NONPCM	AC3D AC3DATA	IRQ	74	PC3	DRA	DIGITAL REC SEL	O
8	/RES	/RES	CPU RESET	-	73	PC4	DRB	DIGITAL REC SEL	O
9	XT1	XT1	VDD1	I	72	PC5	VER	OPEN	Ipu
10	XT2	XT2	OPEN	I	71	PC6	NC	-	I/O
11	VSS1	VSS1	GND	G	70	PC7	NC	-	I/O
12	CF1	CF1	10MHz	$\emptyset$	69	VDD3	VDD3	+5V	+5V
13	CF2	CF2	10MHz	$\emptyset$	68	VSS3	VSS3	GND	G
14	VDD1	VDD1	+5V	+5V	67	PB0	RF	H : present/L : absent	Ipu
15	P80/AN0	NC	-	O	66	PB1	CDC/O	CD OPT/COAX	I
16	P81/AN1	NC	-	O	65	PB2	LDC/O	LD/DVD OPT/COAX	I
17	P82/AN2	NC	-	O	64	PB3	MUTO	AC3RF MUTE OUT	Ipu
18	P83/AN3	NC	-	O	63	PB4	DSP	OPEN	Ipu
19	P84/AN4	NC	-	O	62	PB5	NC	-	I/O
20	P85/AN5	NC	-	O	61	PB6	NC	-	I/O
21	P86/AN6	NC	-	O	60	PB7	NC	-	I/O
22	P87/AN7	NC	-	O	59	P27	NC	-	I/O
23	P30	/ICAK	/IC AK4526	O	58	P26	NC	-	I/O
24	P31	CEAK	CE AK4526	O	57	P25	NC	-	I/O
25	P32	/ICAC	/IC AC3D	O	56	P24/INT5	NC	-	I/O
26	P33	CEAC2	CE2 AC3D	O	55	P23	NC	-	I/O
27	P34	CEAC1	CE1 AC3D	O	54	P22	NC	-	I/O
28	SO0	TXAC	TX AC3D/AK4526	TX	53	P21	NC	-	I/O
29	SI0	RXAC	RXD AC3D	RX	52	P20/INT4	NC	-	I/O
30	SCK0	CLKAC	CLK AC3D/AK4526	CLK	51	P07	NC	-	I/O
31	P13/SO1	RSRV	OPEN : normal/GND : on-board	Ipu	50	P06	NC	-	I/O
32	SI1	TRXOB	TX/RX for on-board	I/O	49	P05	NC	-	I/O
33	SCK1	CLKOB	CLK for on-board	I	48	P04	NC	-	I/O
34	P16/PWM	NC	-	I	47	P03	NC	-	I/O
35	P17/PWM	NC	-	I/O	46	P02	NC	-	I/O
36	SO2	STM	TX CPU I/F	TX	45	P01	NC	-	I/O
37	SI2	MTS	RX CPU I/F	RX	44	P00	NC	-	I/O
38	SCK2	CLKIF	RX CLK CPU I/F	RXCK	43	VSS2	VSS2	GND	G
39	SI2P3	WCIF	RETURN CPU I/F	O	42	VDD2	VDD2	+5V	+5V
40	PWM1	TRQ	TRANS REQUEST	O	41	PWM0	NC	OPEN	OL

IC4 : YSS918 (P.C.B. DSP)
AC3D2av



IC4 : YSS918 (P.C.B. DSP)
AC3D2av

No.	Name	I/O	Function
1	VDD		+5V power supply (for terminal section)
2	RAMCEN	O	External SRAM chip enable terminal
3	RAMA16	O	External SRAM address terminal 16
4	RAMA15	O	External SRAM address terminal 15
5	SDIB0	Itp	PCM input terminal 0 to Sub DSP
6	SDIB1	Itp	PCM input terminal 1 to Sub DSP
7	SDIB2	Itp	PCM input terminal 2 to Sub DSP
8	XI	Ic	Crystal oscillator connecting terminal (12.288MHz)
9	XO	O	Crystal oscillator connecting terminal
10	VSS		Ground terminal (for terminal section)
11	AVDD		+3.3V power terminal (for PLL circuit)
12	SDIB3	Itp	PCM input terminal 3 to Sub DSP
13	TEST		Test terminal (unconnected)
14	TEST		Test terminal (unconnected)
15	OVFB	O	Sub DSP overflow detect terminal
16	DTSDATA	O	DTS data detect terminal
17	AC3DATA	O	AC-3 data detect terminal
18	SDOB3	O	PCM output terminal from Sub DSP
19	CPO	A	PLL output terminal (connected to external analog filter circuit)
20	AVSS		Ground terminal (for PLL circuit)
21	VDD2		+3.3V power terminal (for internal circuit)
22	SDOA2	O	PCM output terminal from Main DSP (C/LFE output at AC-3/DTS, C/S output at Pro Logic)
23	SDOA1	O	PCM output terminal from Main DSP (LS/RS output at AC-3/DTS, Lt/Rt output at Pro Logic)
24	SDOA0	O	PCM output terminal from Main DSP (L/R output at both AC-3/DTS and Pro Logic)
25	RAMA14	O	External SRAM address terminal 14
26	RAMA13	O	External SRAM address terminal 13
27	RAMA12	O	External SRAM address terminal 12
28	RAMA11	O	External SRAM address terminal 11
29	RAMA10	O	External SRAM address terminal 10
30	VSS		Ground terminal (for internal circuit)
31	VDD1		+5V power terminal (for terminal section)
32	OPORT0	O	General purpose output terminal
33	OPORT1	O	General purpose output terminal
34	OPORT2	O	General purpose output terminal
35	OPORT3	O	General purpose output terminal
36	OPORT4	O	General purpose output terminal
37	OPORT5	O	General purpose output terminal
38	OPORT6	O	General purpose output terminal
39	OPORT7	O	General purpose output terminal
40	VSS		Ground terminal (for internal circuit)
41	VDD2		+3.3V power terminal (for internal circuit)
42	RAMA9	O	External SRAM address terminal 9
43	RAMA8	O	External SRAM address terminal 8
44	RAMA7	O	External SRAM address terminal 7
45	SDOB2	O	PCM output terminal from Sub DSP
46	SDOB1	O	PCM output terminal from Sub DSP
47	SDOB0	O	PCM output terminal from Sub DSP
48	SDBCK1	Itp	Bit clock input terminal for SDOA, SDIB, SDOB signals
49	SDWCK1	Itp	Word clock input terminal for SDOA, SDIB, SDOB signals
50	VSS		Ground terminal (for terminal section)
51	VDD2		+3.3V power terminal (for internal circuit)
52	NONPCM	O	Non-PCM data detect terminal

IC4 : YSS918 (P.C.B. DSP)
AC3D2av

No.	Name	I/O	Function
53	CRC	O	AC-3 CRC error detect terminal
54	MUTE	O	Auto mute detect terminal
55	KARAOKE	O	AC-3 KARAOKE data detect terminal
56	SURENC	O	AC-3 2/0 mode Dolby surround encode input detect terminal
57	/SDBCK0	O	SDBCK0 invert clock output terminal
58	RAMA6	O	External SRAM address terminal 6
59	RAMA5	O	External SRAM address terminal 5
60	VSS		Ground terminal (for internal circuit)
61	RAMA4	O	External SRAM address terminal 4
62	/IC	Ics	Initial clear terminal
63	TEST		Test terminal (unconnected)
64	RAMA3	O	External SRAM address terminal 3
65	/CSB	Itsp	Sub DSP chip select input terminal
66	/CS	Its	Microprocessor interface chip select input terminal
67	SO	O*	Microprocessor interface data output terminal
68	SI	Its	Microprocessor interface and Sub DSP data input terminal
69	SCK	Its	Microprocessor interface and Sub DSP clock input terminal
70	RAMA2	O	External SRAM address terminal 2
71	VDD1		+5V power terminal (for terminal section)
72	RAMD0	Itp/O	External SRAM data terminal (STREAM 0 output when external SRAM is not used)
73	RAMD1	Itp/O	External SRAM data terminal (STREAM 1 output when external SRAM is not used)
74	RAMD2	Itp/O	External SRAM data terminal (STREAM 2 output when external SRAM is not used)
75	RAMD3	Itp/O	External SRAM data terminal (STREAM 3 output when external SRAM is not used)
76	RAMD4	Itp/O	External SRAM data terminal (STREAM 4 output when external SRAM is not used)
77	RAMD5	Itp/O	External SRAM data terminal (STREAM 5 output when external SRAM is not used)
78	RAMD6	Itp/O	External SRAM data terminal (STREAM 6 output when external SRAM is not used)
79	RAMD7	Itp/O	External SRAM data terminal (STREAM 7 output when external SRAM is not used)
80	VSS		Ground terminal (for terminal section)
81	VDD2		+3.3V power terminal (for internal circuit)
82	SDWCK0	It	Word clock input terminal for SDIA, SDOA, SDIB and SDOB signals
83	SDBCK0	It	Bit clock input terminal for SDIA, SDOA, SDIB and SDOB signals
84	SDIA0	It	AC-3/DTS bit stream (or PCM) data input terminal to Main DSP
85	SDIA1	It	AC-3/DTS bit stream (or PCM) data input terminal to Main DSP
86	RAMA1	O	External SRAM address terminal 1
87	RAMA0	O	External SRAM address terminal 0
88	RAMWEN	O	External SRAM write enable terminal
89	RAMOEN	O	External SRAM output enable terminal
90	VSS		Ground terminal
91	VDD2		+3.3V power terminal (for internal circuit)
92	IPORT7	Itp	General purpose input terminal
93	IPORT6	Itp	General purpose input terminal
94	IPORT5	Itp	General purpose input terminal
95	IPORT4	Itp	General purpose input terminal
96	IPORT3	Itp	General purpose input terminal
97	IPORT2	Itp	General purpose input terminal
98	IPORT1	Itp	General purpose input terminal
99	IPORT0	Itp	General purpose input terminal
100	VSS		Ground terminal

Note) Listed below are symbols in the I/O column and their meanings.

Ic: CMOS level input terminal

It: TTL level input terminal

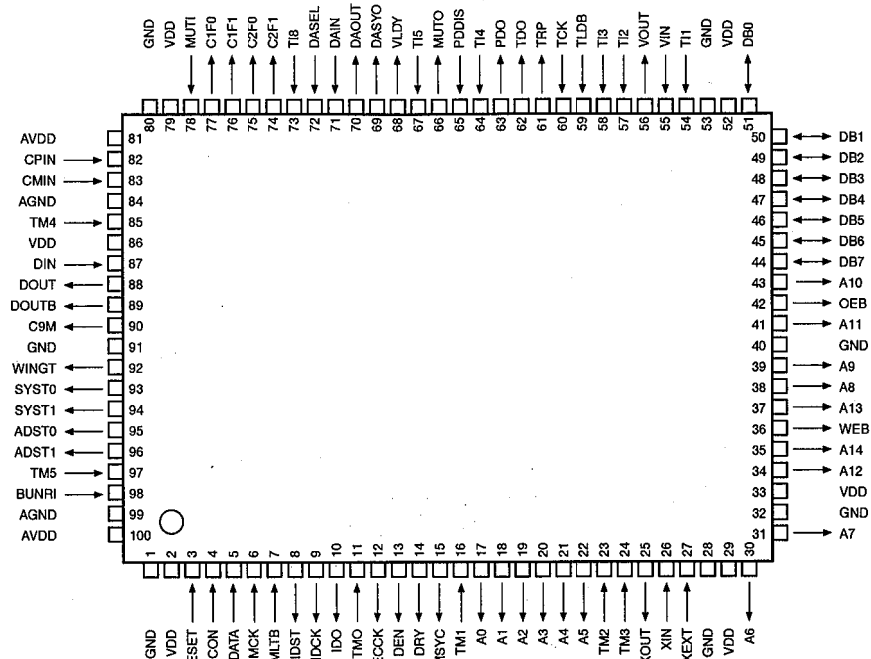
Is: Schmidt trigger input terminal

Ip: Input terminal with pull-up resistor

O: Digital output terminal

O*: Tri-state digital output terminal

A: Analog input terminal

IC10 : PM4007A (P.C.B. DIGITAL IN)
AC-3 RF Demodulator


No.	Name	I/O	Function
1	GND		Ground (0V)
2	VDD		+5V power supply
3	RESET	I	System resetting terminal (reset at "L")
4	OSCON	I	Oscillation control terminal. Oscillation ON at "H", set to "H" normally and to "L" when in standby state
5	DATA	I	IC test terminal, normally connected to ground (or unconnected)
6	MCK	I	IC test terminal, normally connected to ground (or unconnected)
7	MLTB	I	IC test terminal, normally connected to ground (or unconnected)
8	IDST	O	Output terminal for IC test
9	IDCK	O	Output terminal for IC test
10	IDO	O	Output terminal for IC test
11	TM0	I	IC test terminal, normally connected to ground (or unconnected)
12	ECCK	O	Output terminal for IC test
13	DEN	O	Output terminal for IC test
14	DRY	O	Output terminal for IC test
15	MSYC	O	Output terminal for IC test
16	TM1	I	IC test terminal, normally connected to ground (or unconnected)
17	A0	O	External RAM address output. Address 0 (LSB)
18	A1	O	External RAM address output. Address 1
19	A2	O	External RAM address output. Address 2
20	A3	O	External RAM address output. Address 3
21	A4	O	External RAM address output. Address 4
22	A5	O	External RAM address output. Address 5
23	TM2	I	IC test terminal, normally connected to ground (or unconnected)
24	TM3	I	IC test terminal, normally connected to ground (or unconnected)
25	XOUT	O	Output terminal for IC test
26	XIN	I	IC test terminal, normally connected to ground (or unconnected)
27	XEXT	I	IC test terminal, normally connected to ground (or unconnected)
28	GND		Ground terminal (0V)
29	VDD		+5V power supply

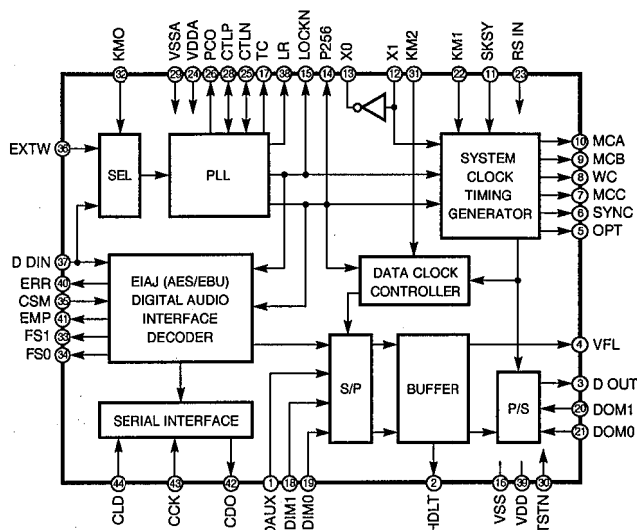
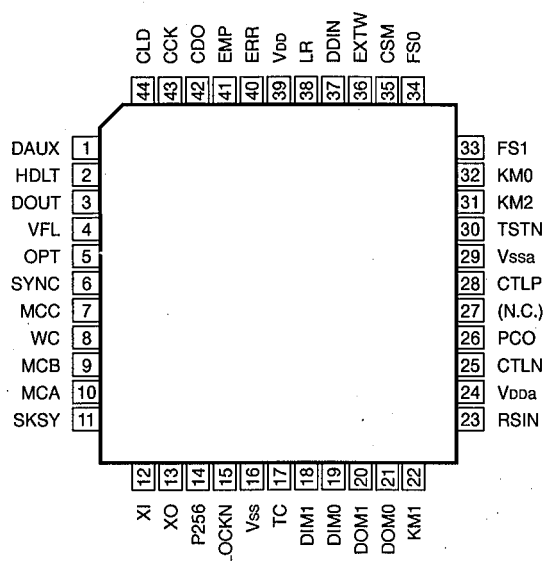
IC10 : PM4007A (P.C.B. DIGITAL IN)
AC-3 RF Demodulator

No.	Name	I/O	Function
30	A6	O	External RAM address output. Address 6
31	A7	O	External RAM address output. Address 7
32	GND		Ground terminal (0V)
33	VDD		+5V power supply
34	A12	O	External RAM address output. Address 12
35	A14	O	External RAM address output. Address 14 (MSB)
36	WEB	O	External RAM write enable signal, active at "L"
37	A13	O	External RAM address output. Address 13
38	A8	O	External RAM address output. Address 8
39	A9	O	External RAM address output. Address 9
40	GND		Ground terminal (0V)
41	A11	O	External RAM address output. Address 11
42	OEB	O	External RAM output enable signal, active at "L"
43	A10	O	External RAM address output. Address 10
44	DB7	I/O	External RAM data terminal. Data bus 7
45	DB6	I/O	External RAM data terminal. Data bus 6
46	DB5	I/O	External RAM data terminal. Data bus 5
47	DB4	I/O	External RAM data terminal. Data bus 4
48	DB3	I/O	External RAM data terminal. Data bus 3
49	DB2	I/O	External RAM data terminal. Data bus 2
50	DB1	I/O	External RAM data terminal. Data bus 1
51	DB0	I/O	External RAM data terminal. Data bus 0
52	VDD		+5V power supply
53	GND		Ground terminal (0V)
54	TI1	I	IC test terminal, normally connected to VDD
55	VIN	I	VCXO input
56	VOUT	O	VCXO output
57	TI2	I	IC test terminal, normally connected to GND (or unconnected)
58	TI3	I	IC test terminal, normally connected to GND (or unconnected)
59	TLDB	I	IC test terminal, normally connected to GND (or unconnected)
60	TCK	I	IC test terminal, normally connected to GND (or unconnected)
61	TRP	O	Output terminal for IC test
62	TDO	O	Output terminal for IC test
63	PDO	O	Output terminal for phase comparator (tri-state)
64	TI4	I	IC test terminal, normally connected to GND (or unconnected)
65	PDDIS	I	Input terminal to control PDO output. Output ON at "L"
66	MUTO	O	Muting output. Muting available at "H". Setting becomes "H" when "MUTI=H" or AC-3 is asynchronous.
67	TI5	I	IC test terminal, normally connected to GND (or unconnected)
68	VLDY	O	Output terminal for IC test
69	DASYO	O	Output terminal for IC test
70	DAOUT	O	Digital out output (serial data stream output)
71	DAIN	I	Digital external input, through to DAOUT when DASEL is "H".
72	DASEL	I	Digital out select
73	TI8	I	IC test terminal, normally connected to GND (or unconnected)
74	C2F1	O	Terminal used to indicate error condition after C2 correction, whether completely corrected or not.
75	C2F0	O	Terminal used to indicate error condition after C2 correction, number of errors at C2.
76	C1F1	O	Terminal used to indicate error condition after C1 correction, whether any error exists at C1 or not.
77	C1F0	O	Terminal used to indicate error condition after C1 correction, number of errors at C1.
78	MUTI	I	Muting input. Muting available at "H"
79	VDD		+5V power supply
80	GND		Ground terminal (0V)

IC10 : PM4007A (P.C.B. DIGITAL IN)
AC-3 RF Demodulator

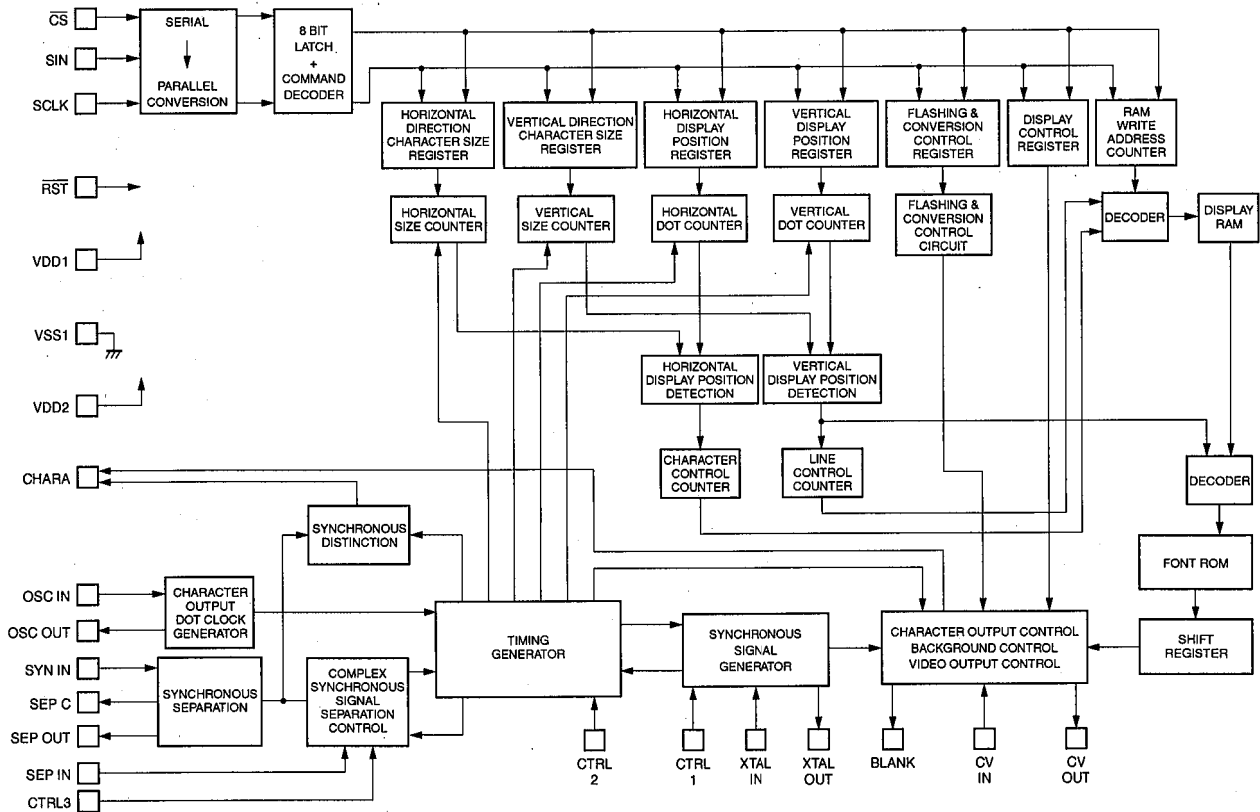
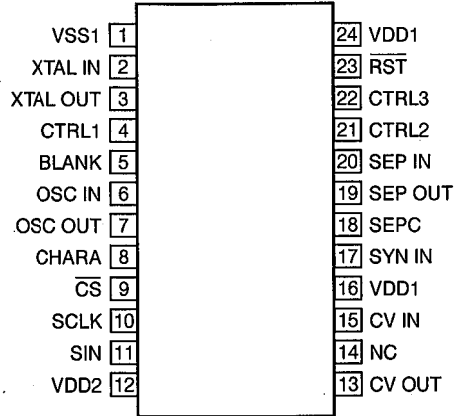
No.	Name	I/O	Function
81	AVDD		+5V power supply for analog comparator
82	CPIN	I	Analog comparator input, positive side (Non-reverse side: QPSK input)
83	CMIN	I	Analog comparator input, negative side (reverse side)
84	AGND		Ground terminal for analog comparator (0V)
85	TM4	I	IC test terminal, normally connected to GND (or unconnected)
86	VDD		+5V power supply
87	DIN	I	IC test terminal, normally connected to GND (or unconnected)
88	DOUT	O	Analog comparator result output
89	DOUTB	O	Analog comparator result reverse output
90	C9M	O	9.216MHz output, output divided into 2 at VIN (No.55 pin)
91	GND		Ground terminal (0V)
92	WINGT	O	Output for IC test
93	SYST0	O	Output for IC test
94	SYST1	O	Output for IC test
95	ADST0	O	Output for IC test
96	ADST1	O	Output for IC test
97	TM5	I	IC test terminal, normally connected to GND (or unconnected)
98	BUNRI	I	IC test terminal, normally connected to GND (or unconnected)
99	AGND		Ground terminal (0V) for 46.08MHz oscillator
100	AVDD		+5V power supply for 46.08MHz oscillator

IC3 : YM3436DK (P.C.B. DSP)
DIR (Digital Format Interface Receiver)



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

IC611 : LC74781-9626 (P.C.B. VIDEO)
Superimpose



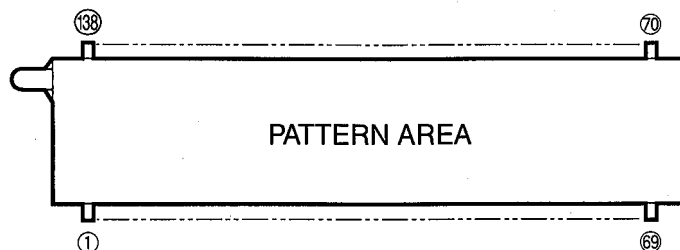
IC611 : LC74781-9626 (P.C.B. VIDEO)

Superimpose

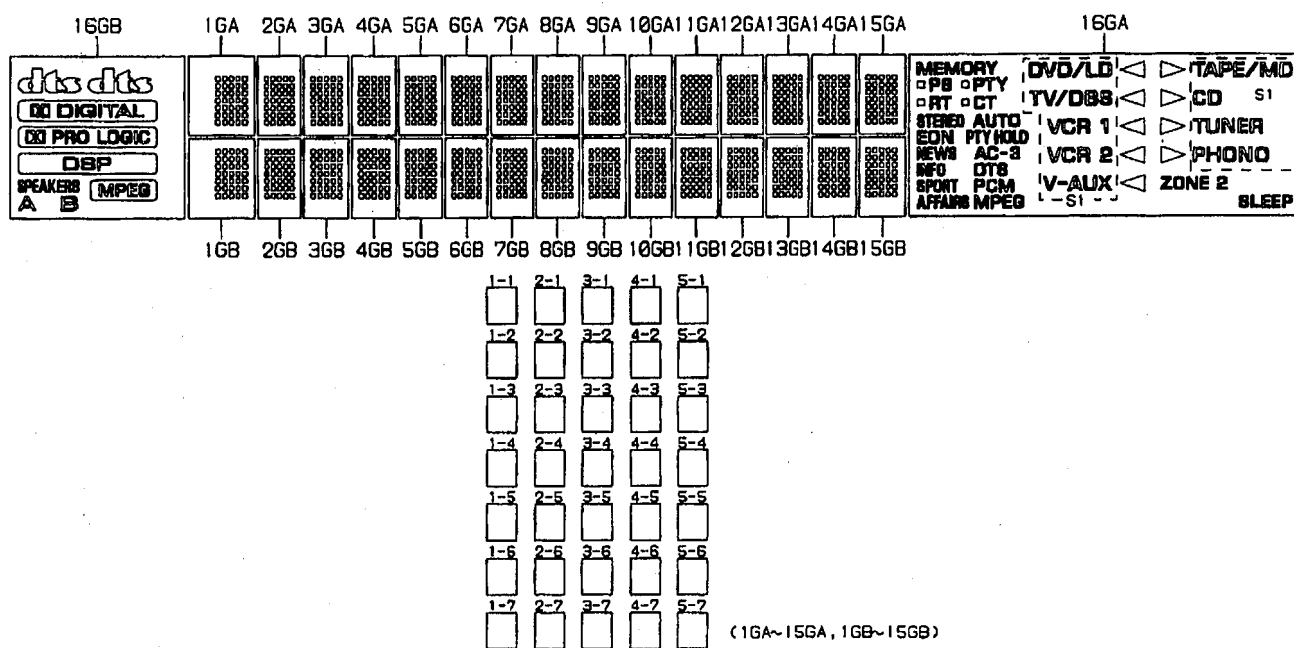
Pin No.	Symbol	Terminal name	Function
1	VSS1	Ground terminal	Connection to GND (Digital system ground terminal)
2	XTAL IN	Crystal oscillation terminal	Terminal to connect the crystal of the crystal oscillator for internal synchronous signal generation and a capacitor or to input an external clock. (2fsc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

■ DISPLAY DATA (V2763100)

● V901 : 32-BT-05G



GRID ASSIGNMENT



PIN CONNECTION

Pin No.	Connection	Pin No.	Connection	Pin No.	Connection	Pin No.	Connection	Pin No.	Connection	Pin No.	Connection	Pin No.	Connection
1	F1	21	P34B	41	P22B	61	P4B	81	P30A	101	16GA	121	P5A
2	F1	22	P35B	42	P21B	62	P3B	82	P29A	102	15GA	122	P6A
3	F1	23	1GB	43	P20B	63	P2B	83	NP	103	14GA	123	P7A
4	NP	24	2GB	44	P19B	64	P1B	84	P28A	104	13GA	124	IC
5	NP	25	3GB	45	P18B	65	NP	85	P27A	105	12GA	125	NP
6	P25B	26	4GB	46	P17B	66	NP	86	P26A	106	11GA	126	Fd
7	P26B	27	5GB	47	P16B	67	F2	87	P25A	107	10GA	127	Fd
8	P27B	28	6GB	48	P15B	68	F2	88	P24A	108	9GA	128	NP
9	P28B	29	7GB	49	P14B	69	F2	89	P23A	109	8GA	129	IC
10	IC	30	8GB	50	P13B	70	F2	90	P22A	110	7GA	130	P8A
11	NP	31	9GB	51	P12B	71	F2	91	P21A	111	6GA	131	P9A
12	Fd	32	10GB	52	P11B	72	F2	92	P20A	112	5GA	132	P10A
13	Fd	33	11GB	53	P10B	73	NP	93	P19A	113	4GA	133	P11A
14	NP	34	12GB	54	P9B	74	NP	94	P18A	114	3GA	134	NP
15	IC	35	13GB	55	P8B	75	P35A	95	P17A	115	2GA	135	NP
16	P29B	36	14GB	56	NP	76	P34A	96	P16A	116	1GA	136	F1
17	P30B	37	15GB	57	P7B	77	P33A	97	P15A	117	P1A	137	F1
18	P31B	38	16GB	58	P6B	78	P32A	98	P14A	118	P2A	138	F1
19	P32B	39	P24B	59	NP	79	P31A	99	P13A	119	P3A		
20	P33B	40	P23B	60	P5B	80	NP	100	P12A	120	P4A		

Note : F1, F2 : Filament NP : No Pin NC : No Connection IC : Internal Connection

P1A~P35A, P1B~P35B : Datum Line 1GA~16GA, 1GB~16GB : Grid

ANODE CONNECTION

	16GA	1GA~15GA		16GA	1GA~15GA		16GA	1GA~15GA		16GA	1GA~15GA
P1A	AC-3	1-1	P11A	◁ (VCR 1)	1-3	P21A	□ (PS)	1-5	P31A	NEWS	1-7
P2A	DTS	2-1	P12A	◁ (VCR 2)	2-3	P22A	PS	2-5	P32A	INFO	2-7
P3A	PCM	3-1	P13A	◁ (V-AUX)	3-3	P23A	□ (PTY)	3-5	P33A	AFFAIRS	3-7
P4A	MPEG	4-1	P14A	S1	4-3	P24A	PTY	4-5	P34A	SPORT	4-7
P5A	▷ (PHONO)	5-1	P15A	ZONE 2	5-3	P25A	□ (RT)	5-5	P35A	AUTO	5-7
P6A	▷ (TUNER)	1-2	P16A	SLEEP	1-4	P26A	RT	1-6			
P7A	▷ (CD)	2-2	P17A	-	2-4	P27A	□ (CT)	2-6			
P8A	▷ (TAPE/MD)	3-2	P18A	-	3-4	P28A	CT	3-6			
P9A	◁ (DVD/LD)	4-2	P19A	STEREO	4-4	P29A	PTY HOLD	4-6			
P10A	◁ (TV/DBS)	5-2	P20A	MEMORY	5-4	P30A	EON	5-6			

	16GB	1GB~15GB		16GB	1GB~15GB		16GB	1GB~15GB		16GB	1GB~15GB
P1B	dts (left)	1-1	P11B	-	1-3	P21B	-	1-5	P31B	-	1-7
P2B	dts (right)	2-1	P12B	-	2-3	P22B	-	2-5	P32B	-	2-7
P3B	□ DIGITAL	3-1	P13B	-	3-3	P23B	-	3-5	P33B	-	3-7
P4B	□ PRO LOGIC	4-1	P14B	-	4-3	P24B	-	4-5	P34B	-	4-7
P5B	DSP	5-1	P15B	-	5-3	P25B	-	5-5	P35B	-	5-7
P6B	MPEG	1-2	P16B	-	1-4	P26B	-	1-6			
P7B	SPEAKERS	2-2	P17B	-	2-4	P27B	-	2-6			
P8B	A	3-2	P18B	-	3-4	P28B	-	3-6			
P9B	B	4-2	P19B	-	4-4	P29B	-	4-6			
P10B	-	5-2	P20B	-	5-4	P30B	-	5-6			

PIN CONNECTION DIAGRAM

ICs

AN78N05	NJM79M05FA NJM79M12FA	NJM7805FA NJM7812FA	μPC29M33T-E1	NJM2068L-D M5220L	μPC4570HA	LB1641
MC14576CP MC14577CP NJM2068MD	TC74HC04AP TC74HC4066AP	LC7824 TC74HC4051AP TC74HC4053AP TC9299P	LC74781-9626	LC78211 LC78212 LC78213		
NJM2904M M5220FP μPC4570G2	TC74HC00AF TC74HC02AF-TP1 TC74HC04AF-TP1	TC74HC151AF TC74HC153AF	AK4320-VM-E1	UM61256FS-15Q		
M5M51288BKJ-20LTEL	AK4526VQ YM3436DK	LC75710NE	HD64F3337YF16 LC87F5164	PM4007A YSS918		

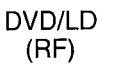
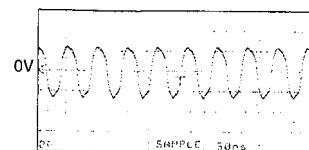
Transistors

2SA933S (Q, R) 2SC1740S (R, S) 2SD1915F (S, T) DTA143ES DTA144ES DTC114ES DTC123JS DTC143XS DTC143ZS DTC144ES	2SA1037K (Q, R, S) 2SC2412K (Q, R, S) 2SC3326 (A, B) DTA144EKA DTC144EKA	2SA970 (GR, BL) 2SA1015 (Y) 2SC535 (A, B, C) 2SC1145 (O, Y) 2SC1815 (Y) 2SC2240 (GR, BL) 2SC2705 (O, Y) 2SC2878 (A, B)	2SK246 (Y)
2SA1708 (S, T) 2SC4488 (S, T)	2SA1837 2SB941 (P, Q) 2SC4793 2SD2396 (J, K)	2SC4512 (O, P, Y)	2SC5200 (O, R)

Diodes

1SR139-400 1SS133 MA185 MTZJ5.1A MTZJ5.1B	MTZJ6.8A MTZJ6.8B MTZJ11.0B MTZJ12.0A MTZJ15.0B MTZJ24.0A MTZJ24.0C MTZJ27.0A MTZJ30.0D	1SS355	KV1851-TL	S1NB20	D3SBA20 RBV-602
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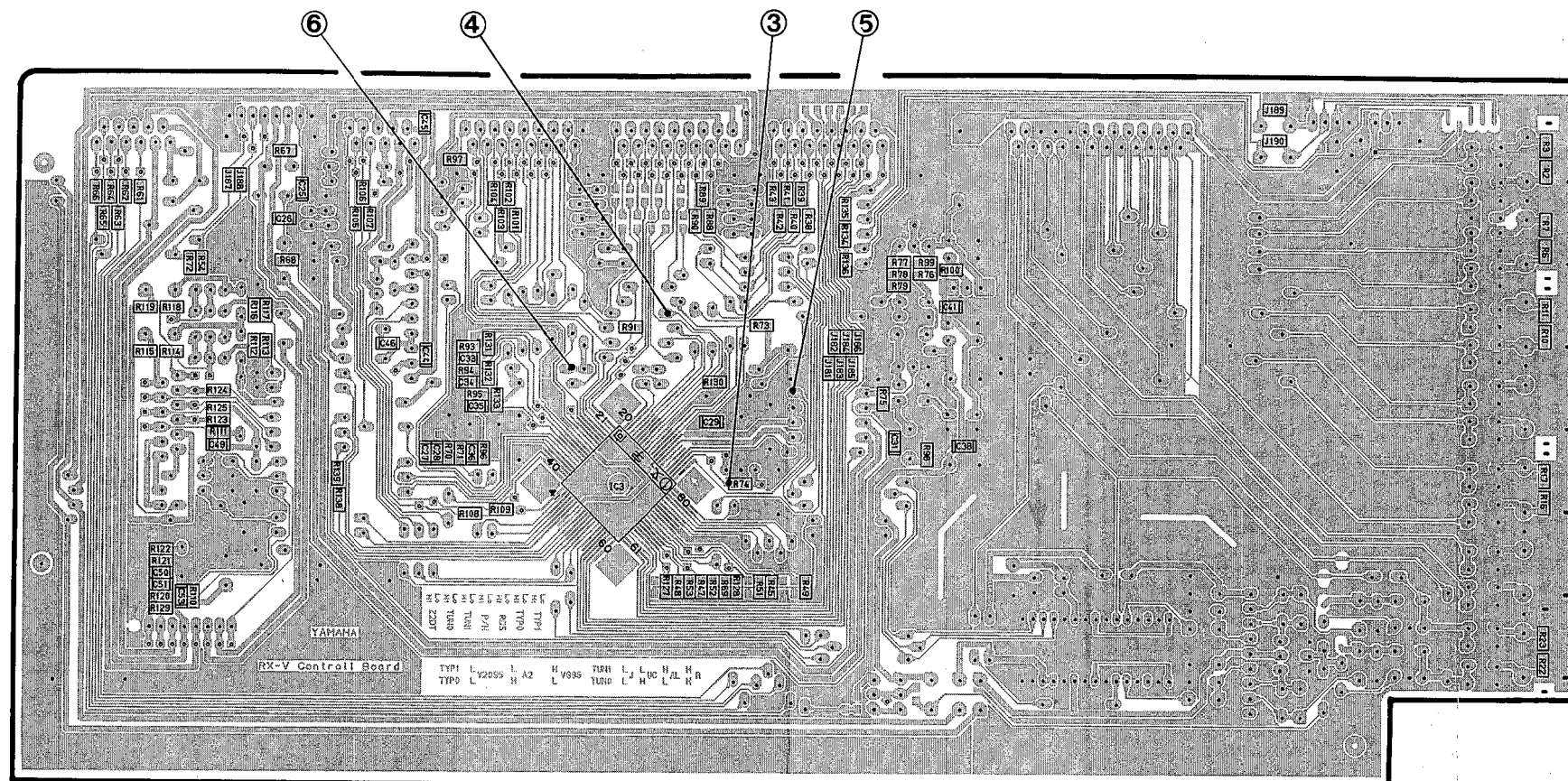
6



O : USED
X : NOT USED

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

P. C. B. FUNCTION (1) (Surface Mount Device)



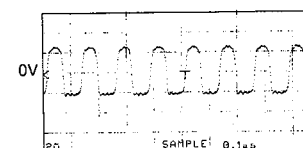
CIRCUIT CHANGES BY MARKET.

	J	R, T	B	G
R52, 128	O	X	X	X
R47, 69	X	O	O	O
R53	O	X	O	O
R48	X	O	X	X

O : USED
X : NOT USED

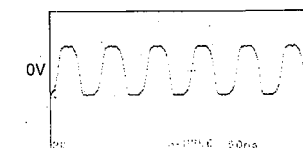
Point ③ (Pin2 of IC3)

V : 2V/div H : 0.1 μ sec/div
DC range 1 : 1 probe



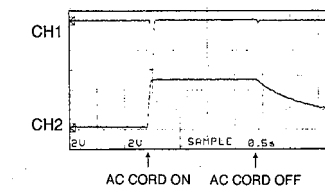
Point ④ (Pin13 of IC3)

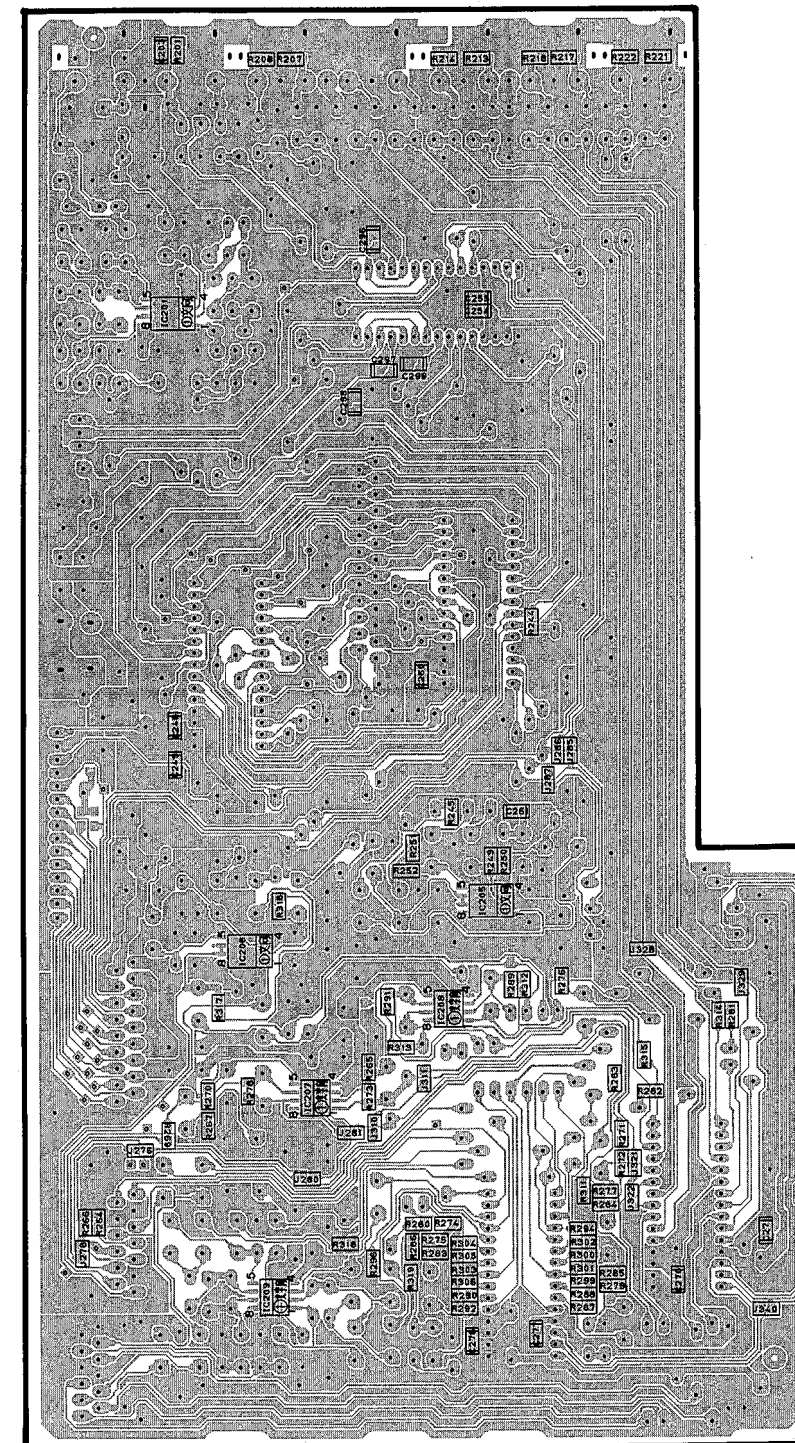
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



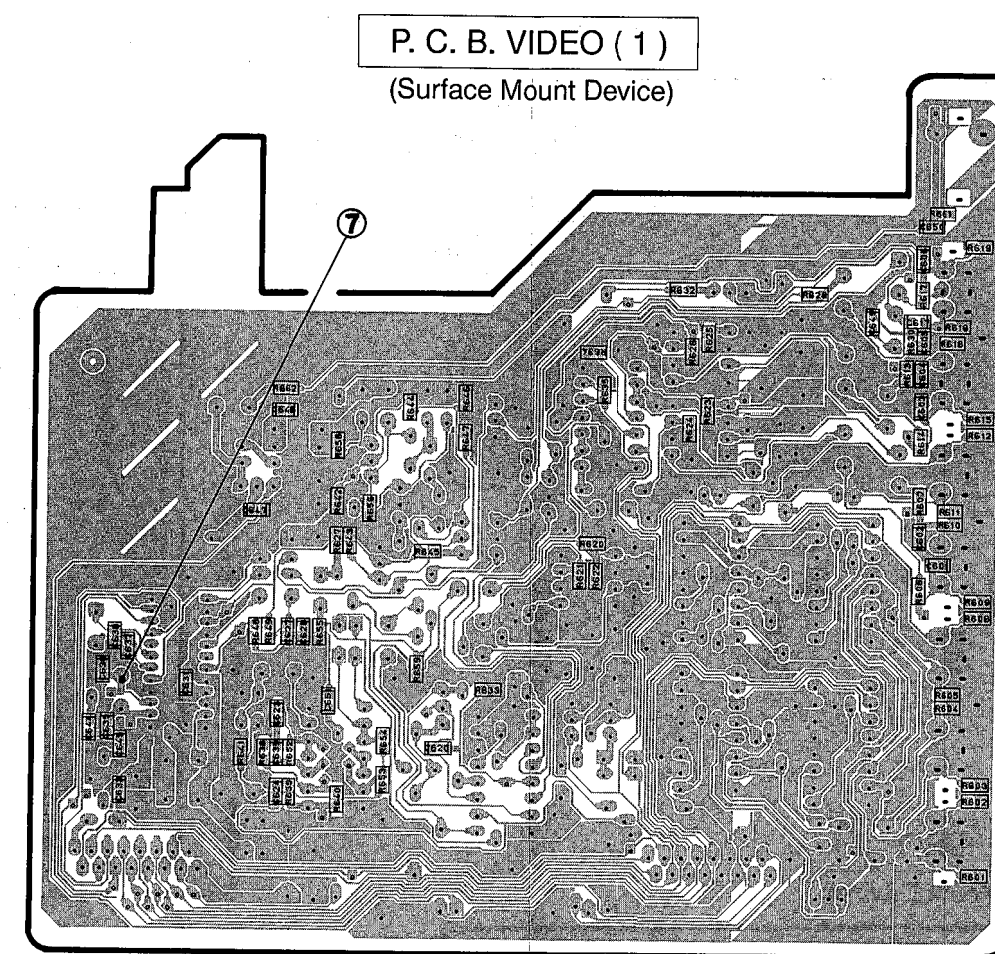
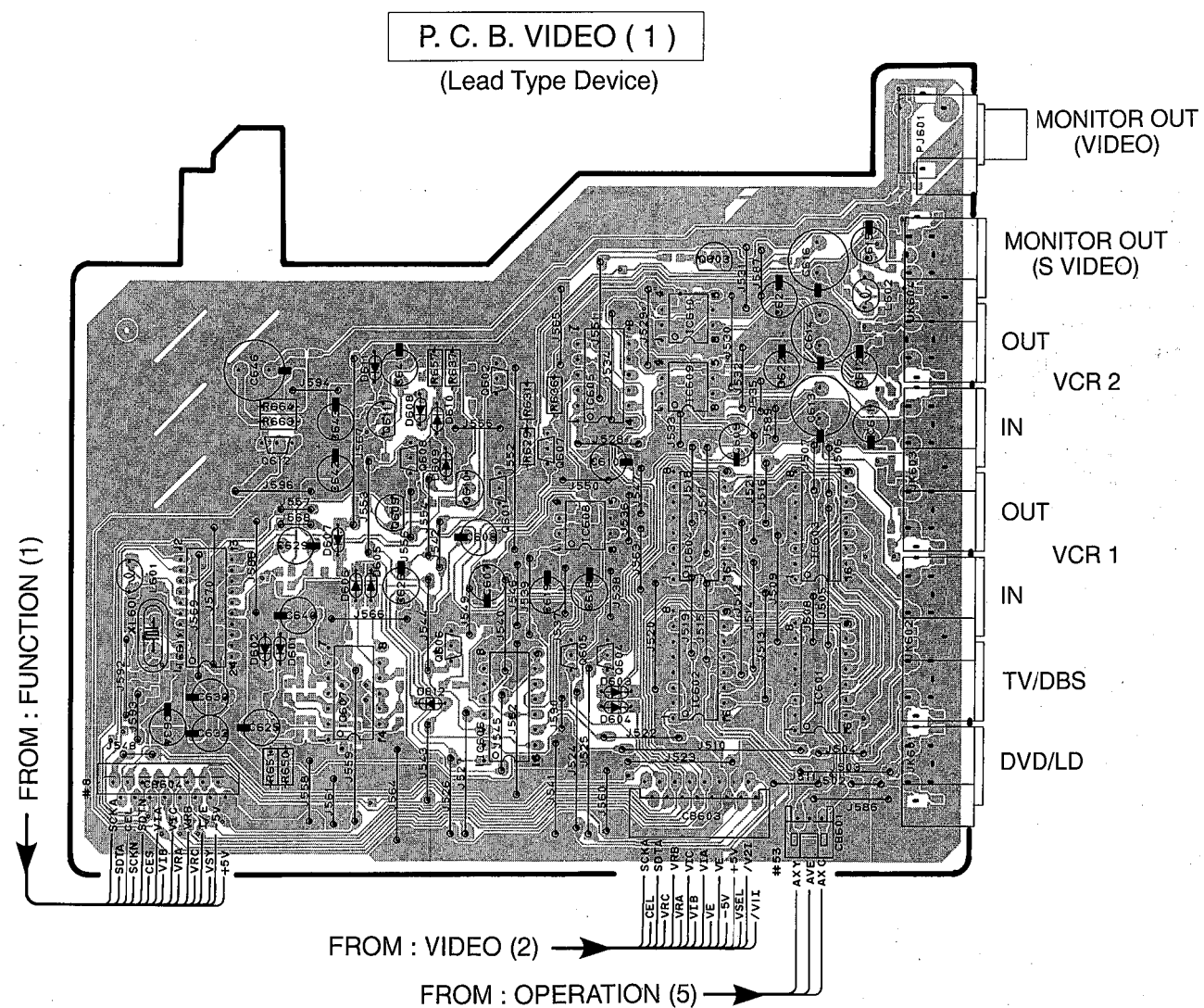
Point ⑤ (Pin1 of IC3 : CH1)

Point ⑥ (Pin29 of IC3 : CH2)
CH1 : 2V/div H : 0.5 sec/div
CH2 : 2V/div 1 : 1 probe DC range





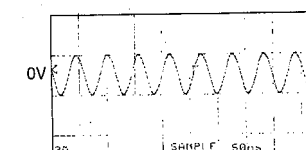
■ PRINTED CIRCUIT BOARD(Foil side)／シート図(パターン側)



Point ⑦ (Pin3 of IC611)

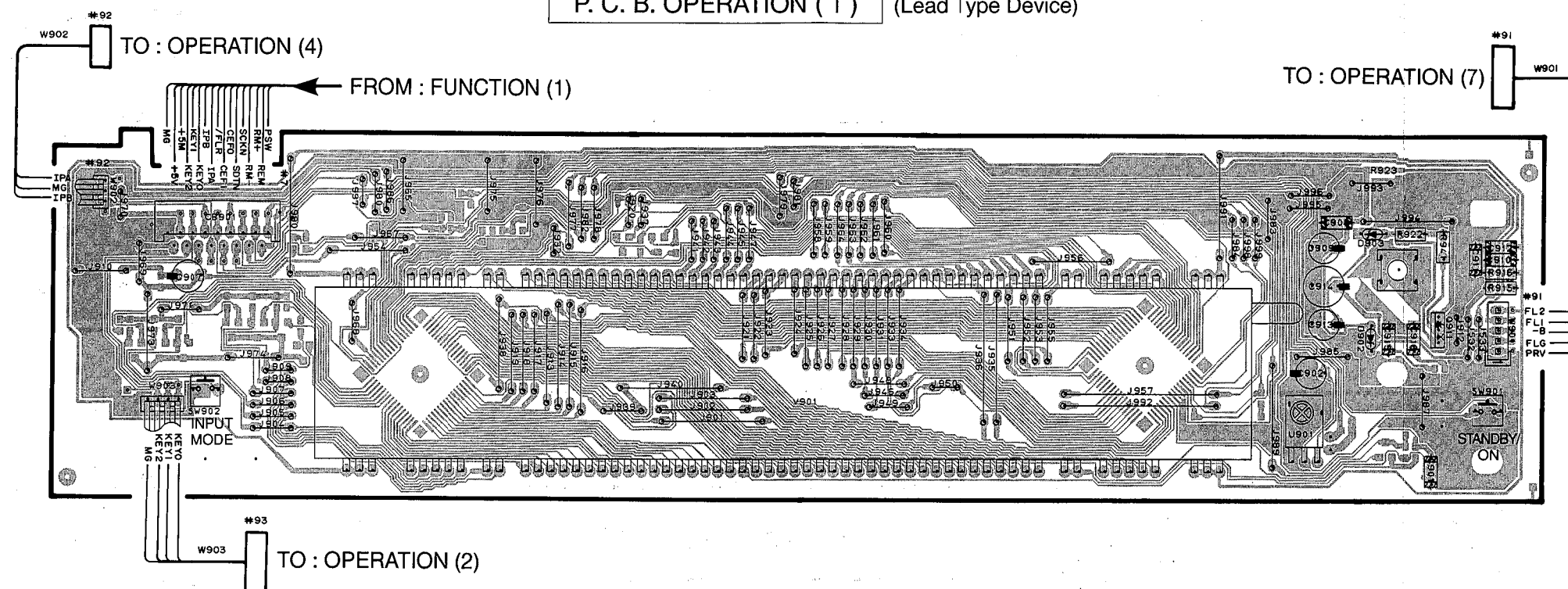
V : 2V/div H : 50 nsec/div

DC range 1 : 1 probe

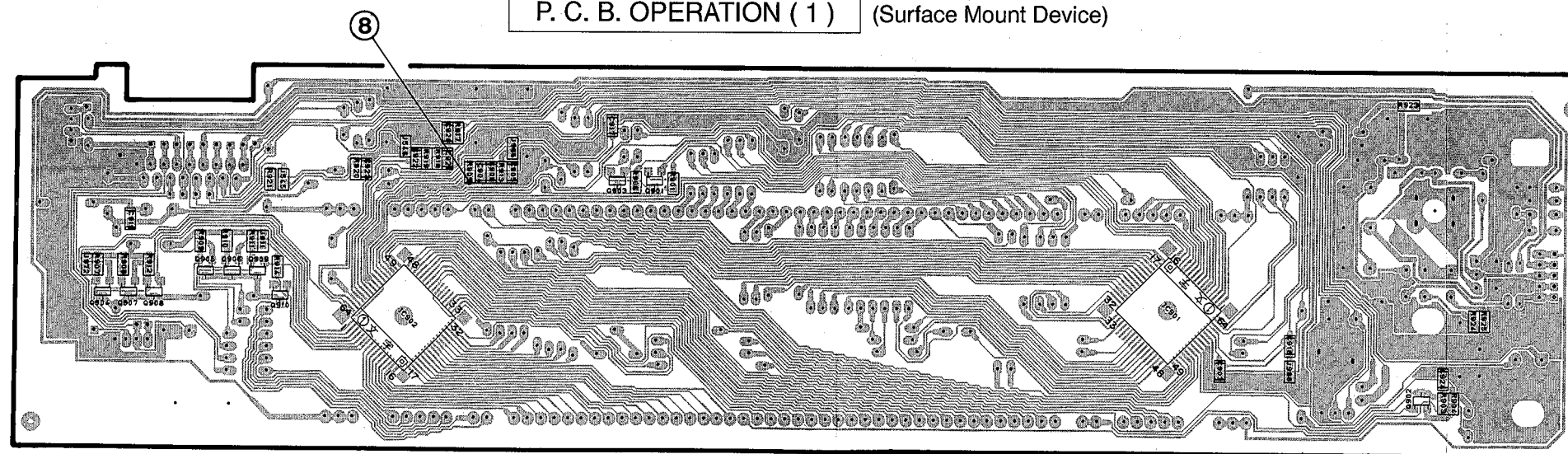


■ PRINTED CIRCUIT BOARD(Foil side)／シート図(パターン側)

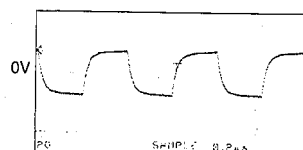
P. C. B. OPERATION (1) (Lead Type Device)



P. C. B. OPERATION (1) (Surface Mount Device)

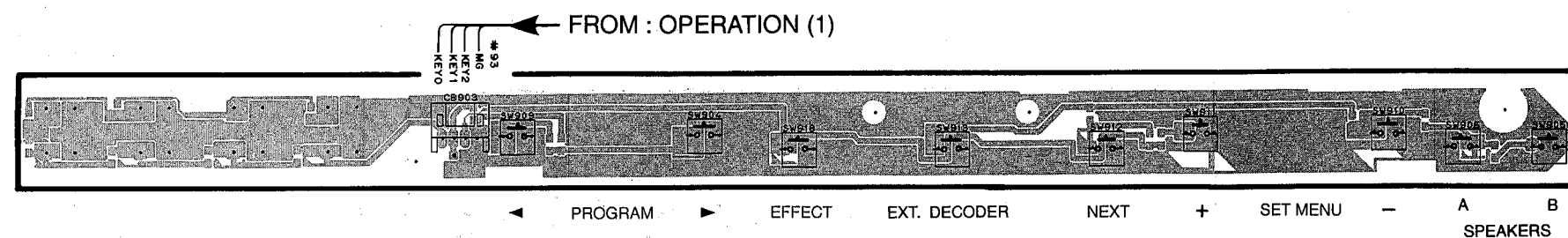


Point ⑧ (Pin58 of IC902)
V : 2V/div H : 0.2 μ sec/div
DC range 1 : 1 probe

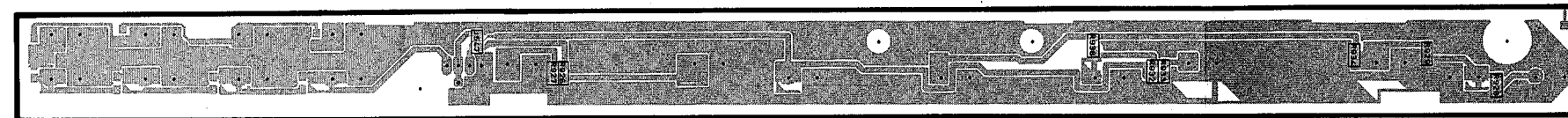


■ PRINTED CIRCUIT BOARD(Foil side)／シート図(パターン側)

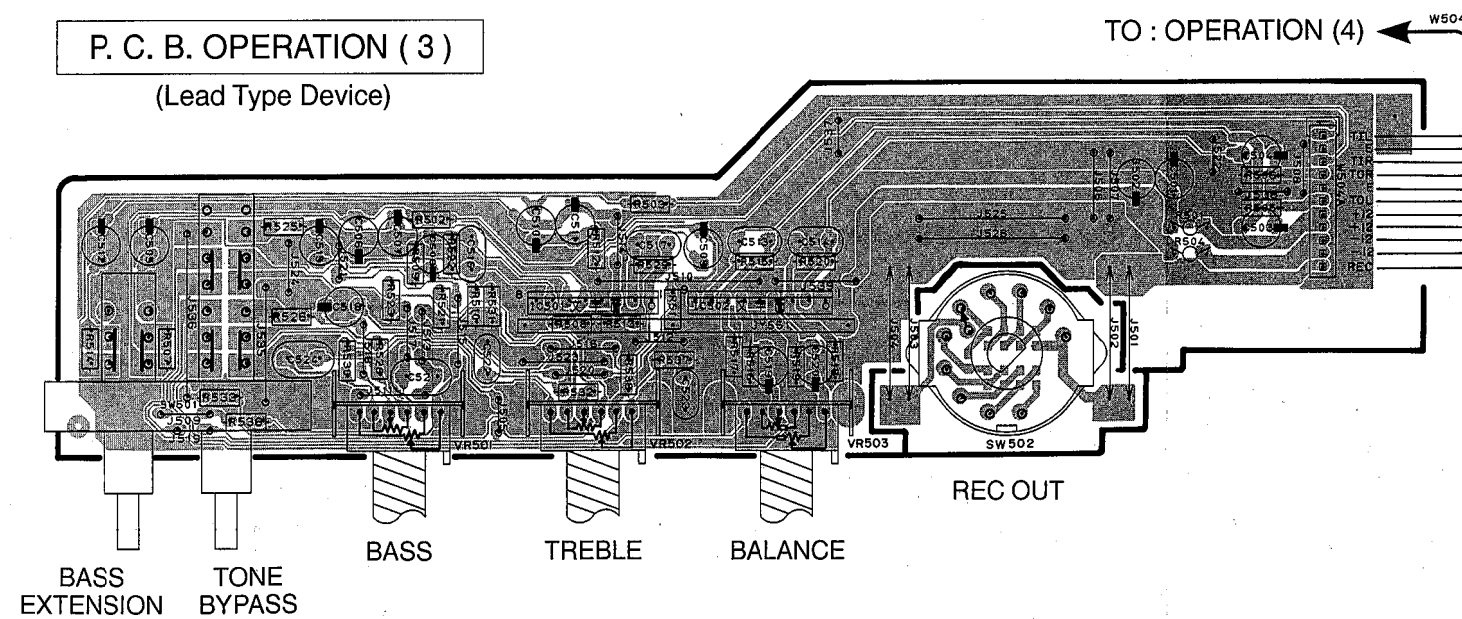
P. C. B. OPERATION (2)	(Lead Type Device)
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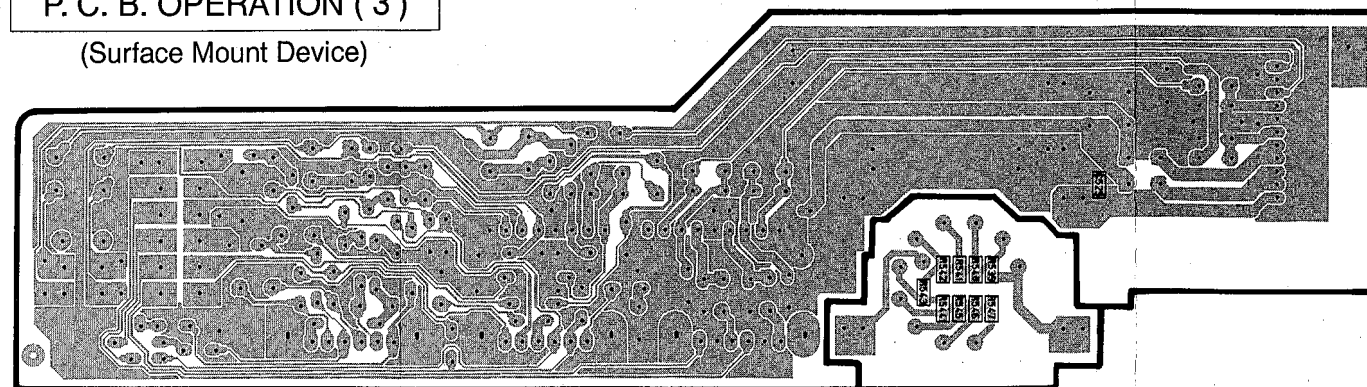
P. C. B. OPERATION (2)	(Surface Mount Device)
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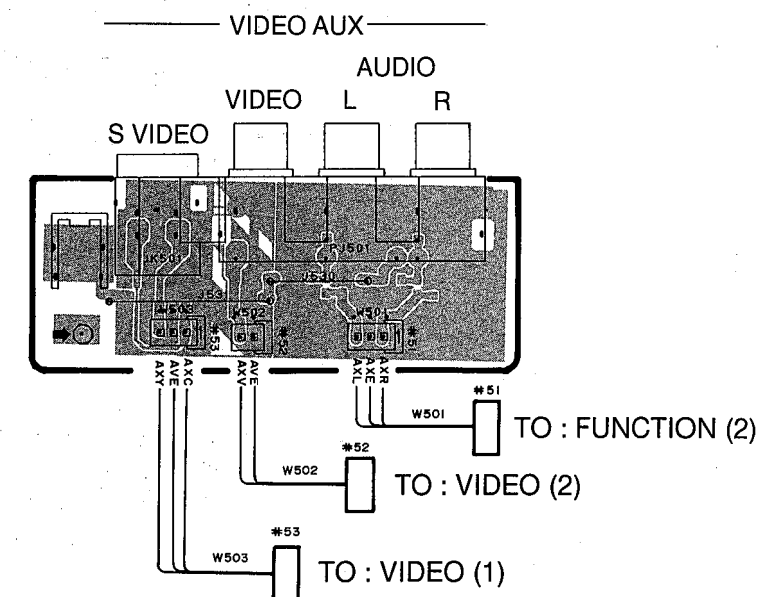
P. C. B. OPERATION (3)
(Lead Type Device)



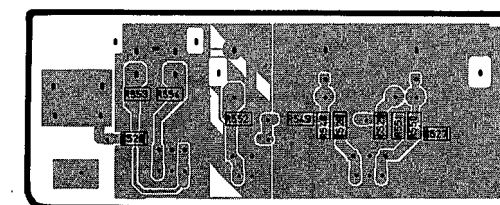
P. C. B. OPERATION (3)



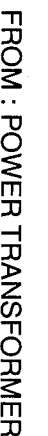
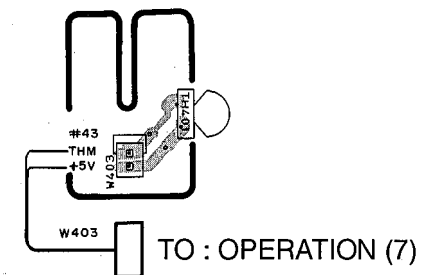
P. C. B. OPERATION (5)



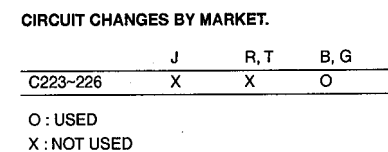
P. C. B. OPERATION (5)
(Surface Mount Device)



P. C. B. OPERATION (8)



1	
2	
3	
4	
5	
6	



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

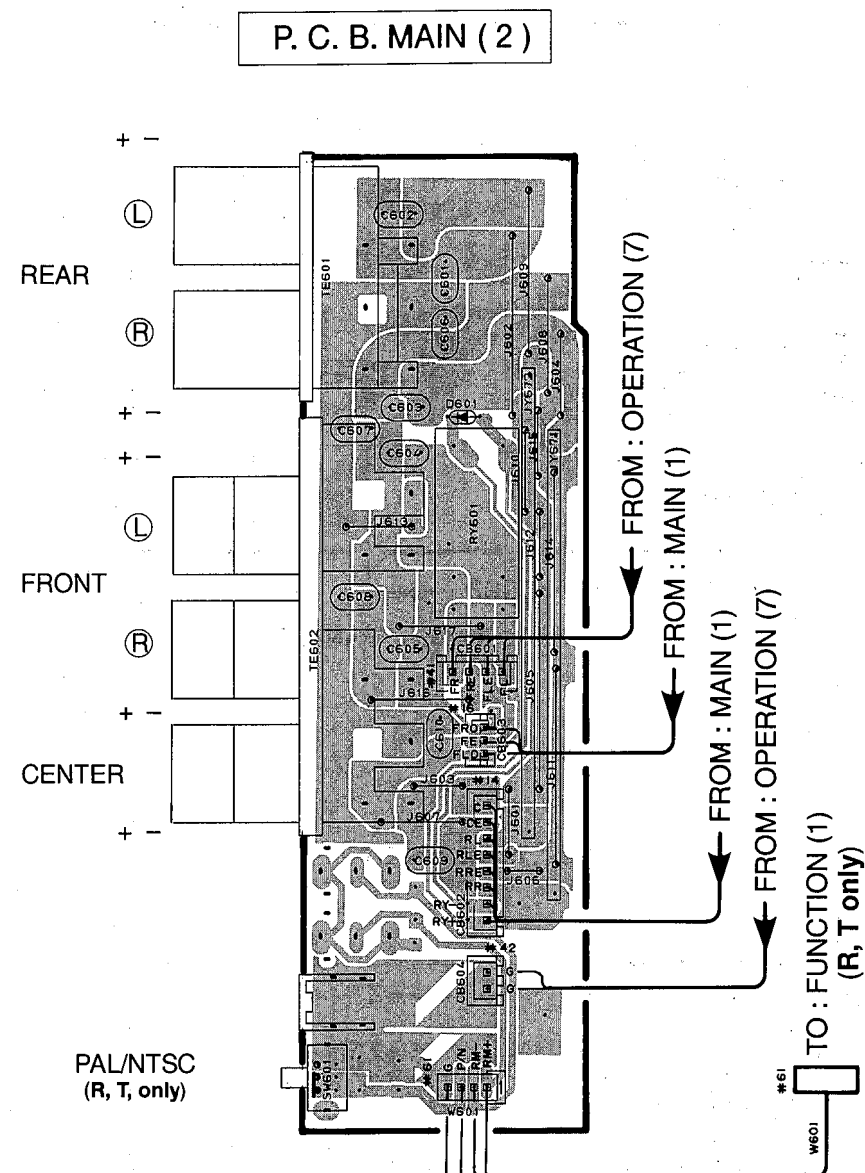
● R, T, B, G models

P. C. B. MAIN (3)

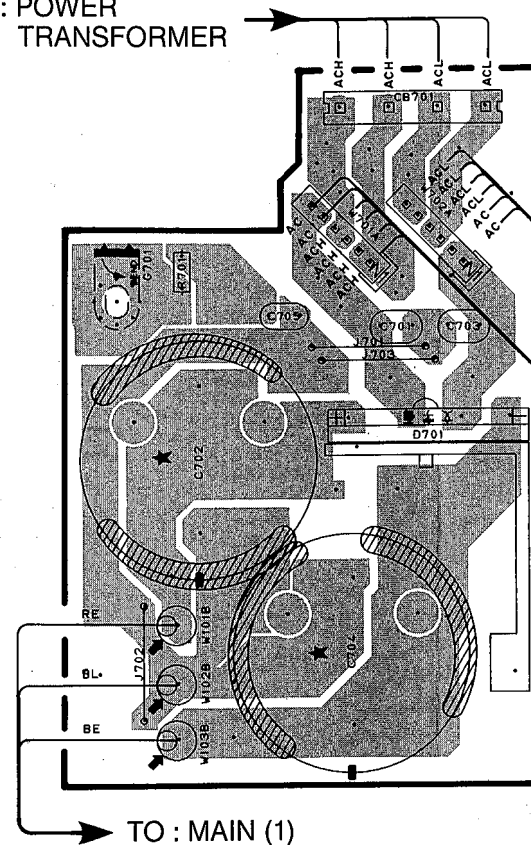
P. C. B. MAIN (4)

● J model

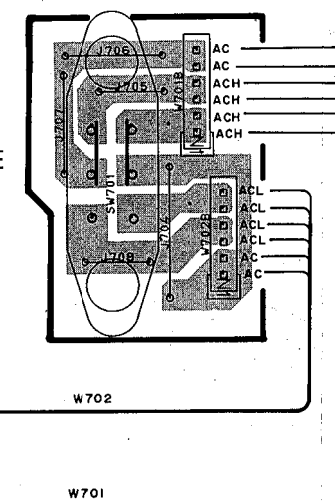
P. C. B. MAIN (3)



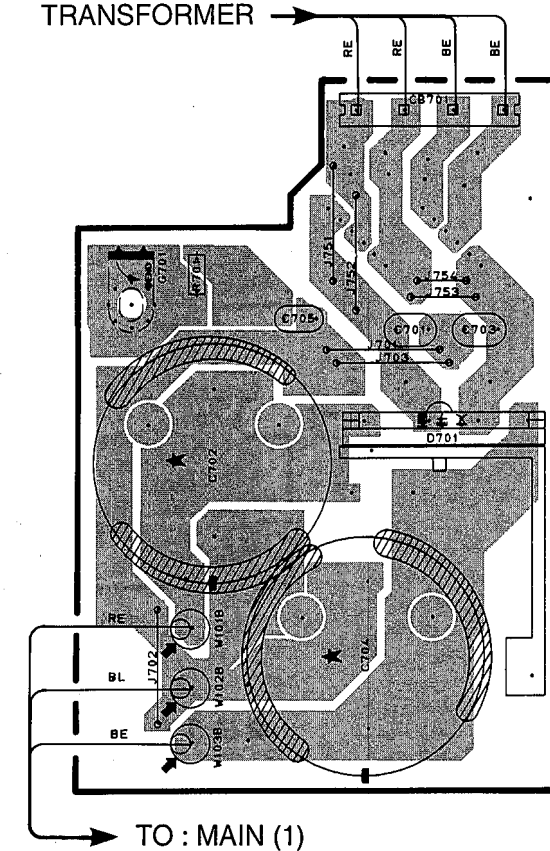
FROM : POWER
TRANSFORMER



IMPEDANCE
SELECTOR



FROM : POWER
TRANSFORMER



CIRCUIT CHANGES BY MARKET.

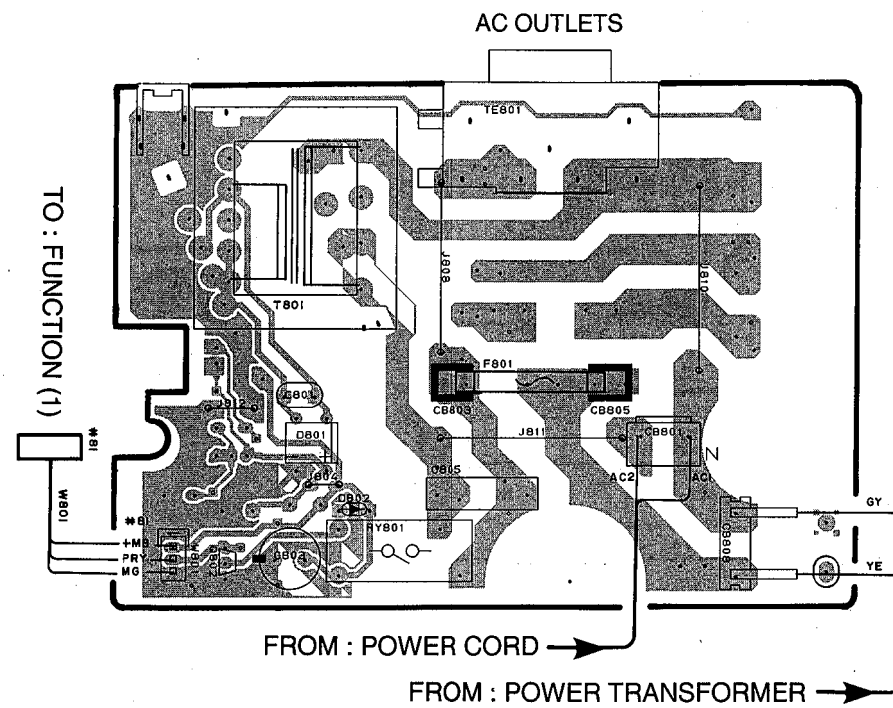
	J	R, T	B, G
C601-610	X	X	O
SW601	X	O	X
W601	X	O	X

O : USED
X : NOT USED

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

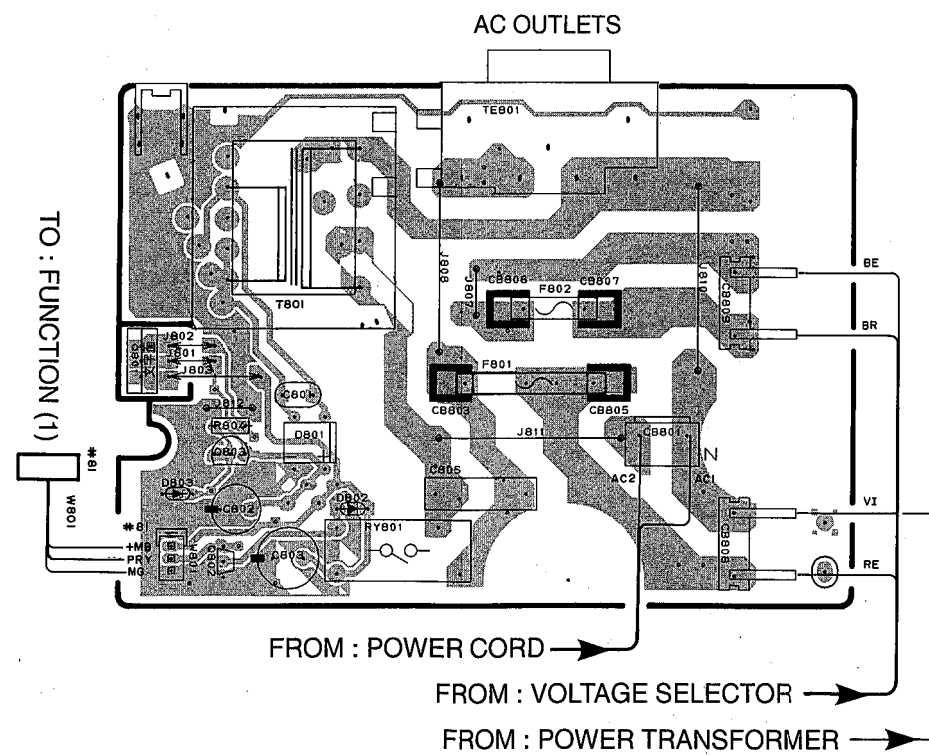
● J model

P. C. B. FUNCTION (3)



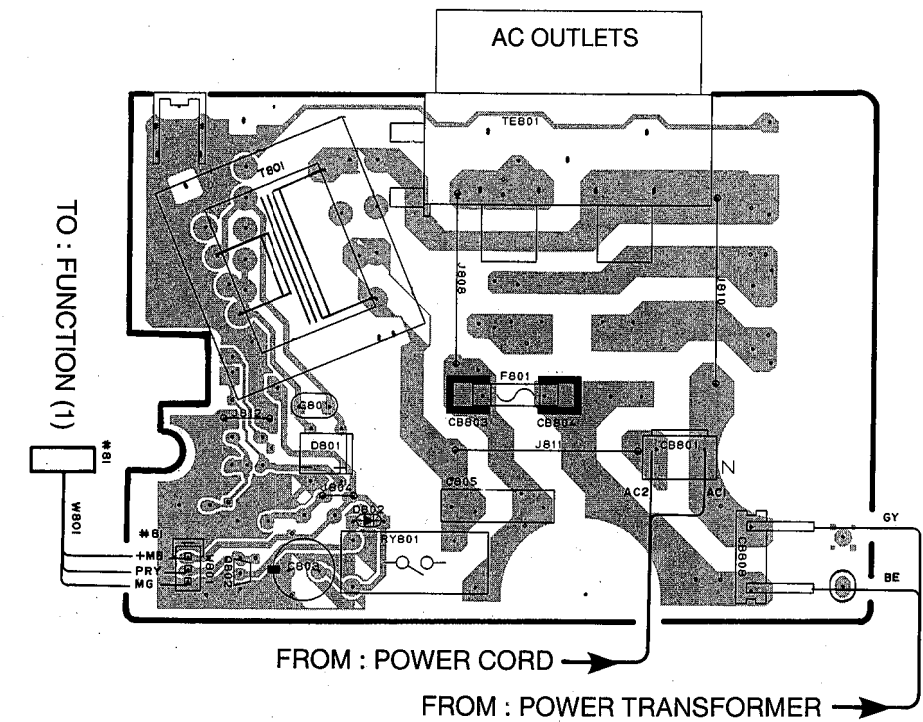
● R, T models

P. C. B. FUNCTION (3)



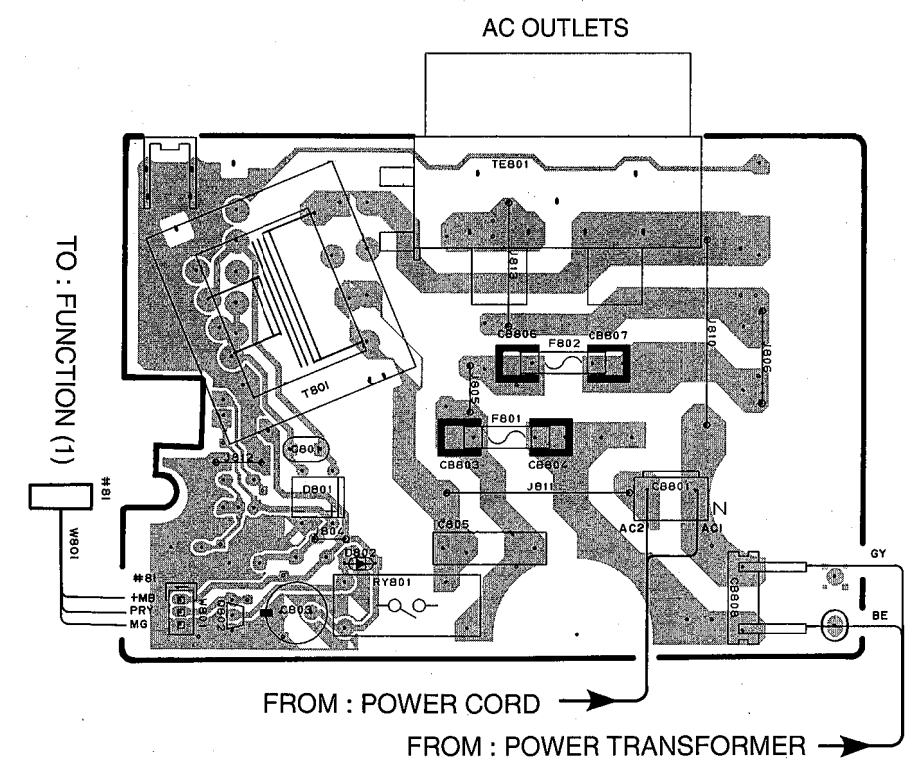
● B model

P. C. B. FUNCTION (3)



● G model

P. C. B. FUNCTION (3)



A

B

C

D

E

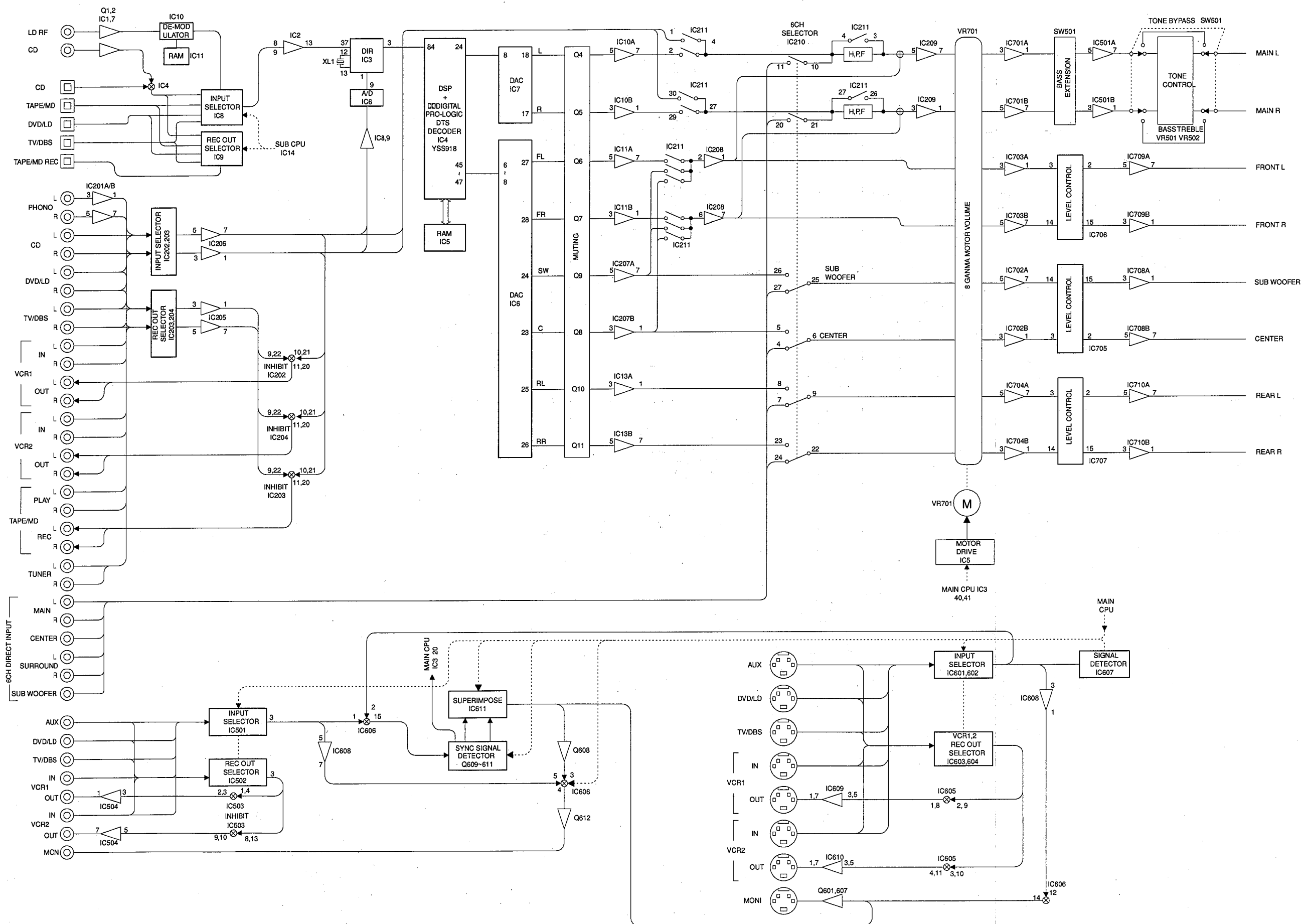
F

G

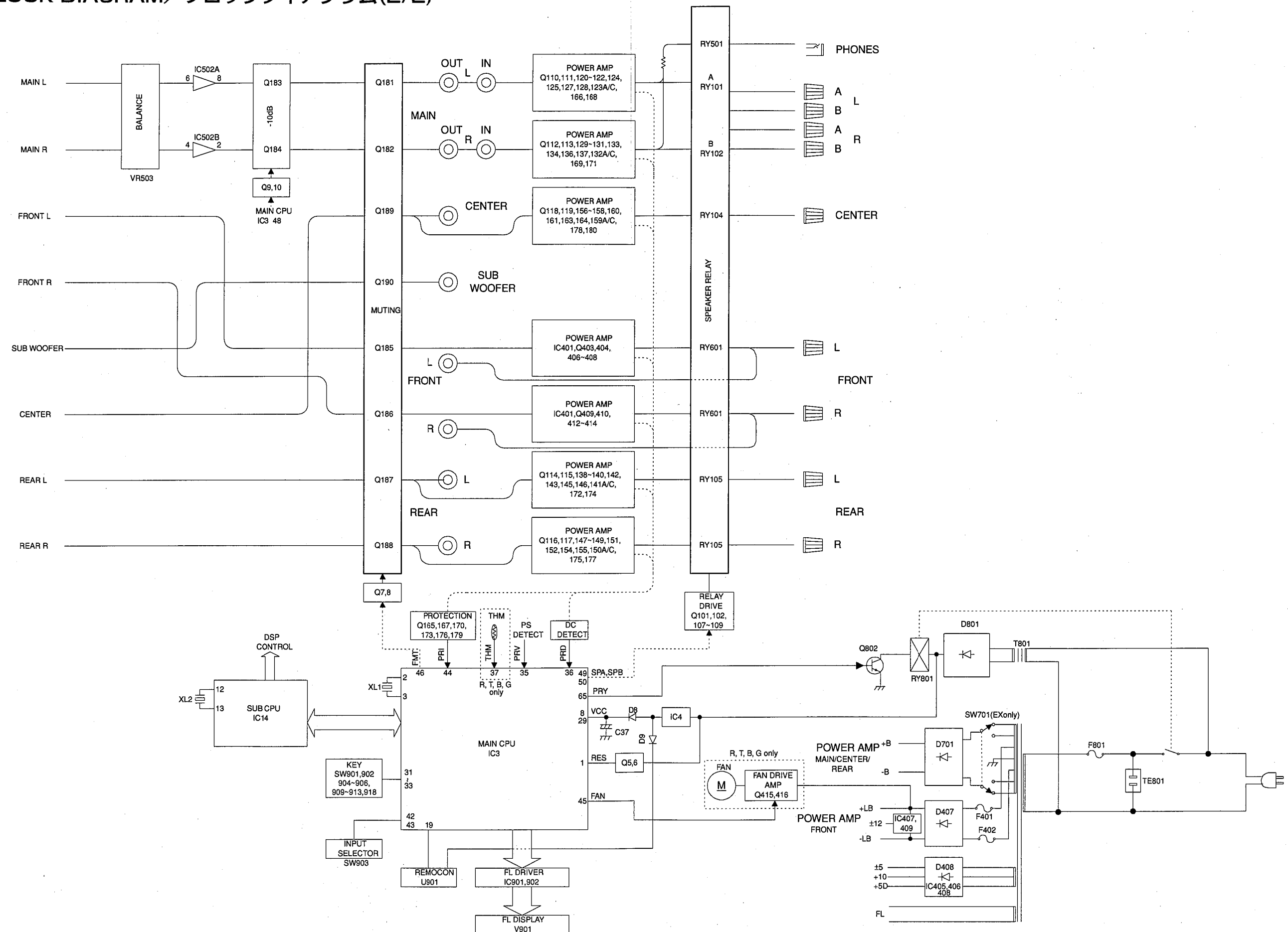
H

DSP-A2

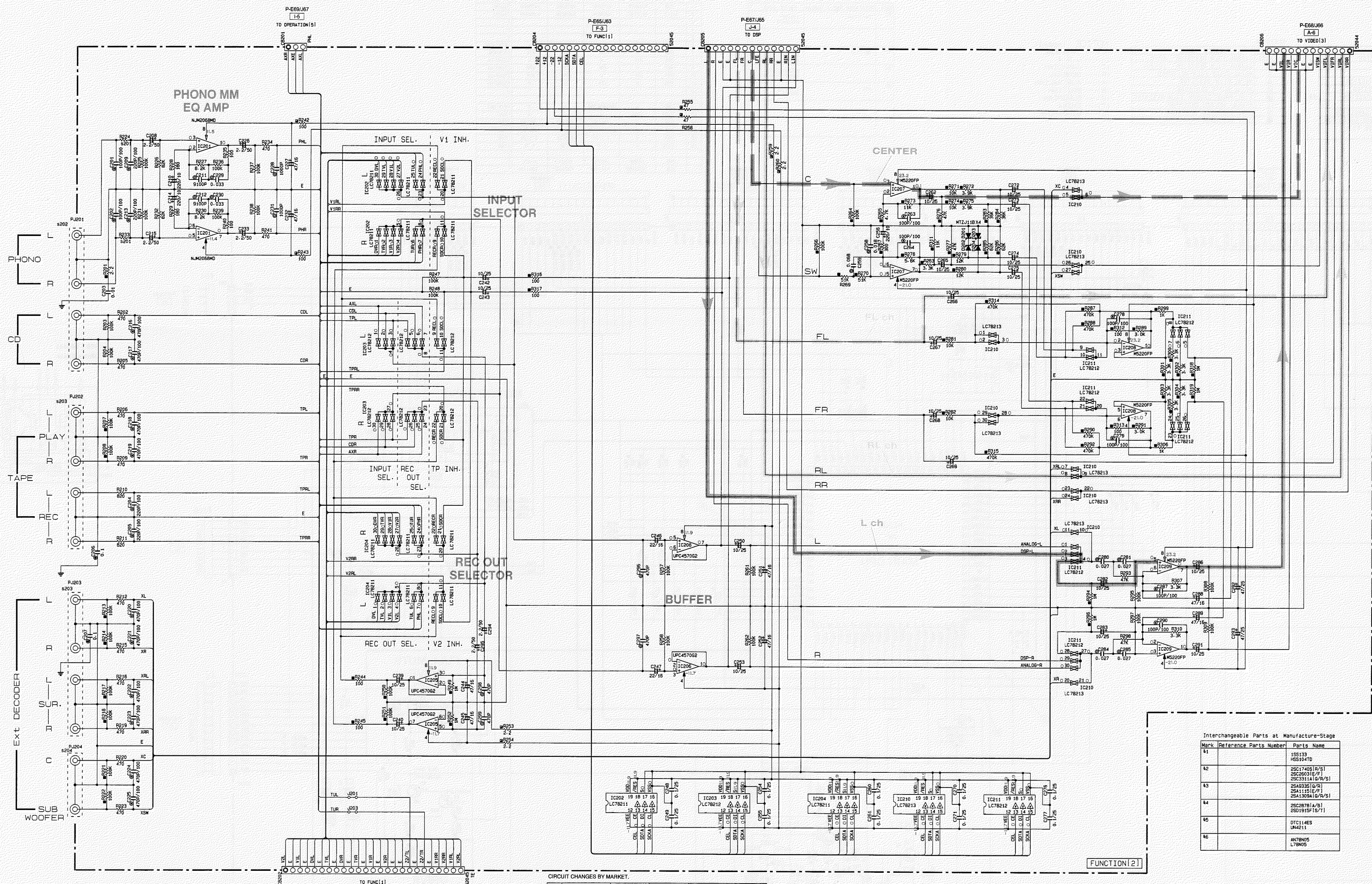
BLOCK DIAGRAM/ブロックダイアグラム(1/2)



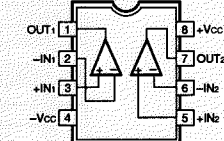
BLOCK DIAGRAM/ブロックダイアグラム(2/2)



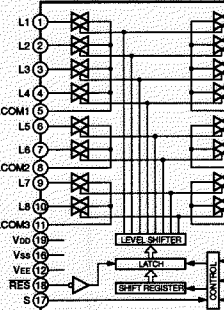
SCHEMATIC DIAGRAM(FUNCTION [2])／総回路図



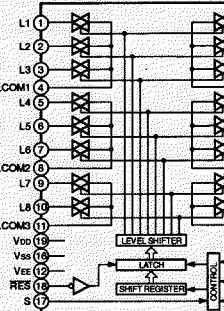
IC201 : NJM2068MD-T1
IC205, 206 : μ PC4570G2
IC207-209 : MS220FP
Dual OP-Amp



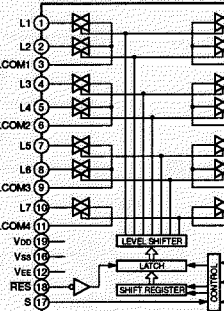
IC203, 204 : LC78211
Analog Function Switch



IC203, 211 : LC78212
Analog Function Switch



IC210 : LC78213
Analog Function Switch



Mark	Reference Parts Number	Parts Name
41	1S5133 H5S104T0	
42	2SC1745S(R/S) 2SC2503(E/F) 2SC3311A(G/R/S)	
43	2SA938S(I/R) 2SA1115(E/F) 2SA1305A(G/R/S)	
44	2SC2878A(R/S) 2SD1915(F/T)	
45	DT11MS LM4211	
46	4N78D5 L78N05	

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

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

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	CERAMIC TUBULAR CAPACITOR
⊖	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
○	MICA CAPACITOR
●	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR
⊙	POLYPHENYLENE SULFIDE FILM CAPACITOR

S	Ref No.	J	B-1	B	G
201	R224-223	47	47	47	1.8K
202	PJ201	YK21-3858 YK25550	YK21-3457 YK25090	YK21-3457 YK25090	YK21-3457 YK25090
203	PJ202-203	YK21-3108 YK17746	YK21-3049 YK25930	YK21-3049 YK25930	YK21-3049 YK25930
204	PJ204	YK21-3177 YK70450	YK21-3085 YK25610	YK21-3085 YK25610	YK21-3085 YK25610
205					
206					
207					
PWB	XY369	XY370	XY371	XY371	
PCB	V301060	V301080	V301120	V301130	

FUNCTION [2]

- All voltage are measured with a 10M Ω /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.
- 電圧は、内部抵抗10M Ω の電圧計で測定したものです。
- Δ 印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

SCHEMATIC DIAGRAM(FUNCTION [1])/総回路図

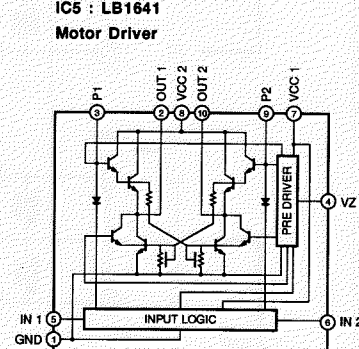
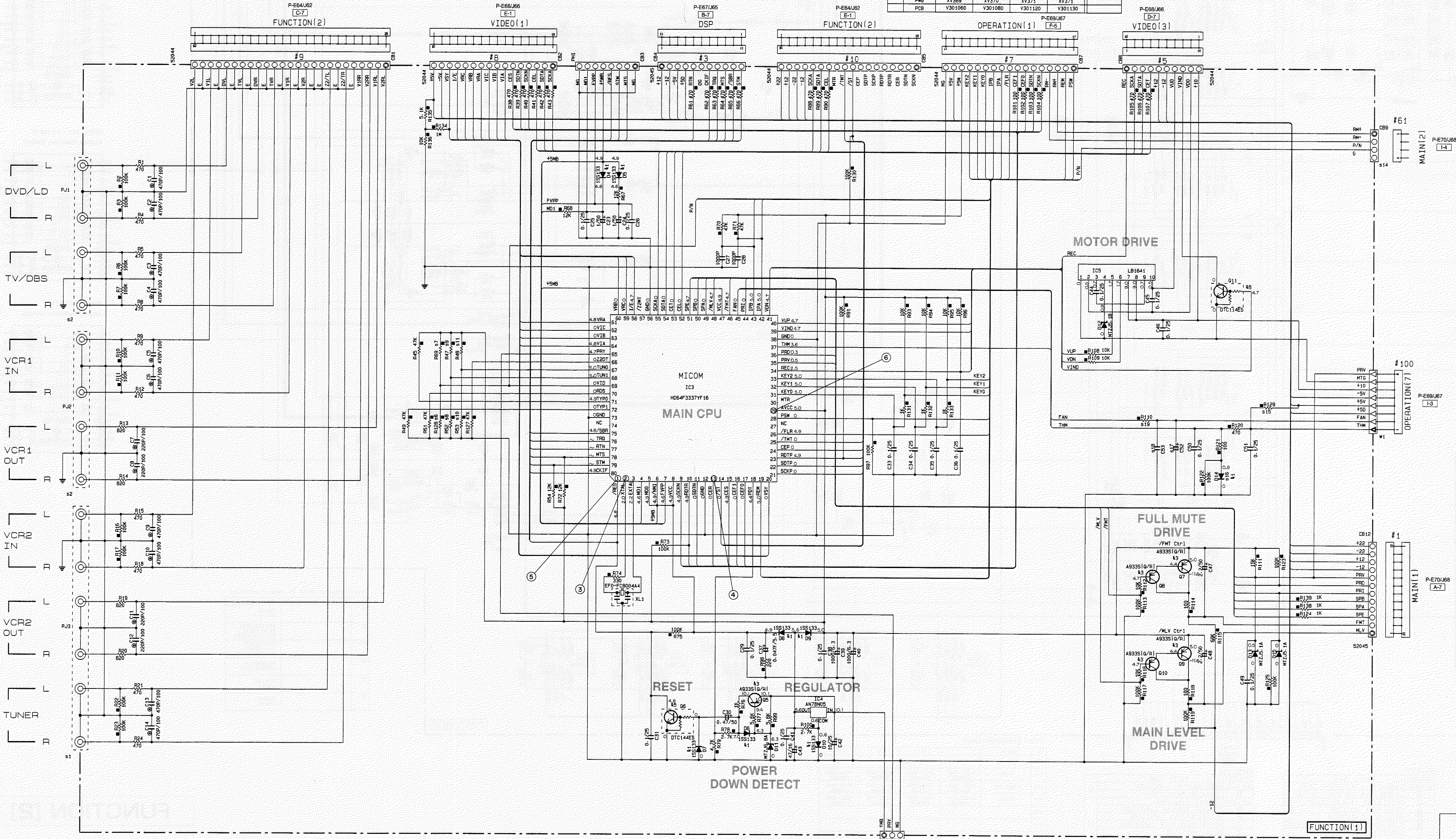
CAPACITOR	
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
⊙	CERAMIC CAPACITOR
⊖	CERAMIC TUBULAR CAPACITOR
⊕	POLYESTER FILM CAPACITOR
⊖	POLYSTYRENE FILM CAPACITOR
⊕	MICA CAPACITOR
⊖	POLYPROPYLENE FILM CAPACITOR
⊕	SEMICONDUCTIVE CERAMIC CAPACITOR
⊖	POLYPHENYLENE SULFIDE FILM CAPACITOR

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

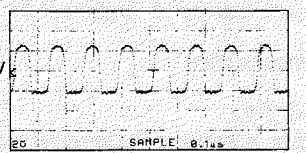
NOTICE (mode1)
(J)..... JAPANESE
(U)..... U.S.A
(C)..... CANADIAN
(R)..... GENERAL
(A)..... AUSTRALIAN
(B)..... BRITISH
(G)..... EUROPEAN
(T)..... CHINA
(L)..... SINGAPORE

Interchangeable Parts at Manufacture-Stage		
Mark	Reference Parts Number	Parts Name
A1	D4-10-14	ISS133 MS104TD
A3	05-7-10	2S49335(D/R) 2S41115(E/F) 2S43894(D/R/S)
A4		8SC2878(A/S) 2SD1819(F/S7)
A5	011	DTC114ES UN4211

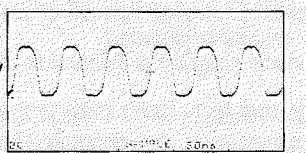
CIRCUIT CHANGES BY MARKET.				X: NOT USED		
	J	R.T	B	G	MEMO	
1	PJ3	VU14470	VW75060	VW75060	VW75060	AU/N1
2	PJ1-2	VK17740	VJ69630	VJ69630	VJ69630	AU/N1
3						
4						
5						
6	R12B	47K	x	x	x	P/N-NTSC
7	R69	x	47K	47K	47K	P/N-PAL
8	R53	47K	x	x	x	TUN1-L0
9	R47	x	47K	47K	47K	TUN1-H1
10	R53	47K	x	47K	47K	TUN0-L0
11	R48	x	47K	x	x	TUN0-H1
12						
13						
14	CB9	x	VB85630 (PHL)	x	x	P/N Se1
15	R129	100K	x	x	x	TH
16	D14	x	ISS133	ISS133	ISS133	TH
17	C52	x	1000/6.3	1000/6.3	1000/6.3	FAN
18	C53	x	0.1/25	0.1/25	0.1/25	FAN
19	R110	x	4.7K	4.7K	4.7K	FAN
PWB	XY369	XY370	XY371	XY371		
PCB	V301060	V301080	V301120	V301130		



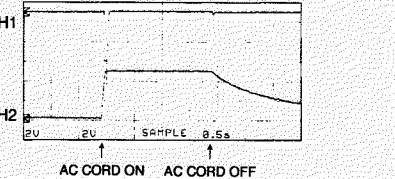
Point ③ (Pin2 of IC3)
V : 2V/div H : 0.1 μsec/div
DC range 1 : 1 probe



Point ④ (Pin13 of IC3)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



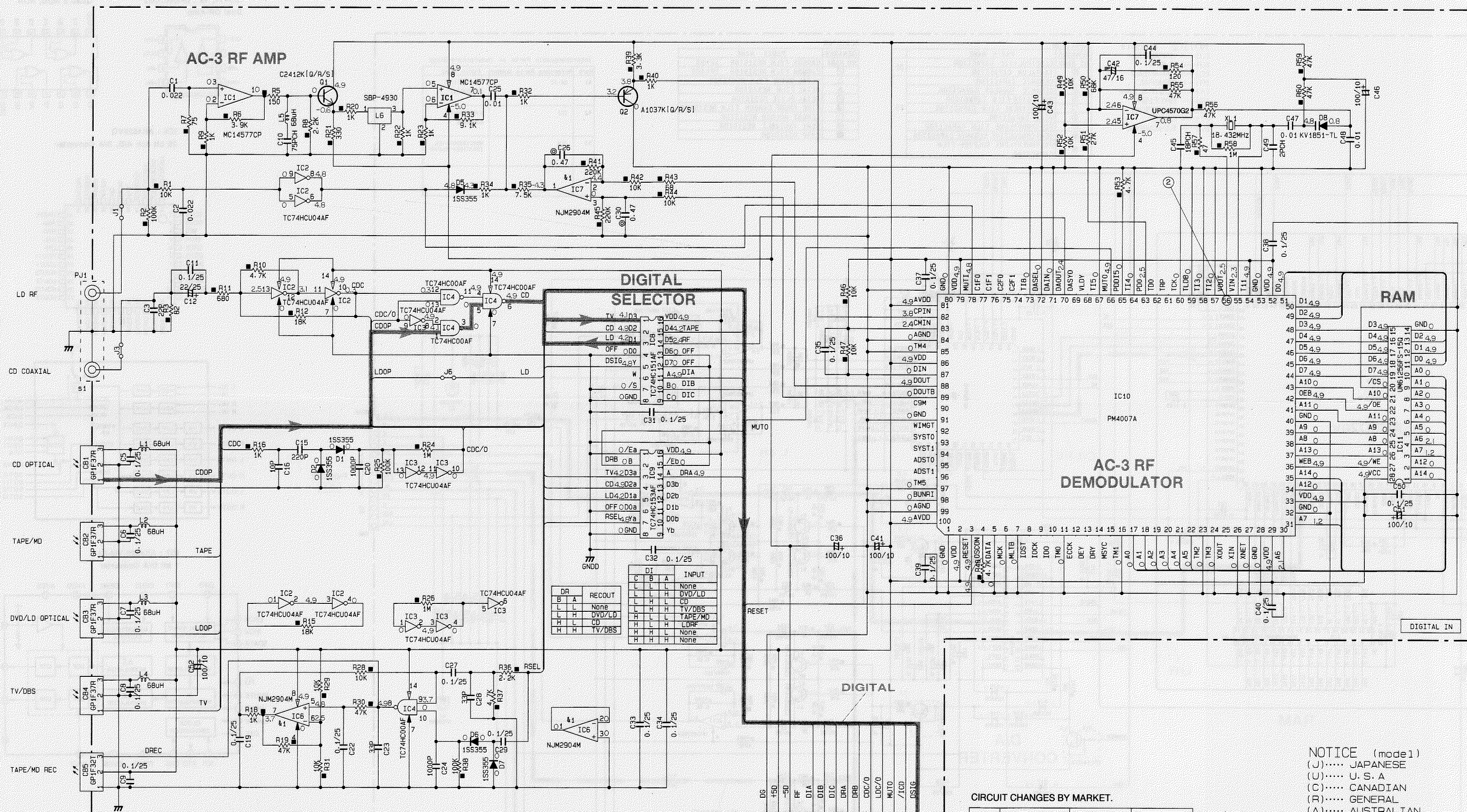
Point ⑤ (Pin1 of IC3 : CH1)
Point ⑥ (Pin29 of IC3 : CH2)
CH1 : 2V/div H : 0.5 sec/div
CH2 : 2V/div 1 : 1 probe DC range



* 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.

●電圧は、内部抵抗10MΩの電圧計で測定したものです。
●△印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
●本回路図は、標準回路図です。改良のため予告なく変更することがございます。

SCHEMATIC DIAGRAM(DIGITAL IN)／総回路図



REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
△	CARBON FILM RESISTOR (P=10)
□	METAL OXIDE FILM RESISTOR
△	METAL FILM RESISTOR
△	METAL PLATE RESISTOR
△	FIRE-PROOF CARBON FILM RESISTOR
△	CEMENT MOUNTED RESISTOR
△	SEMI-VARIABLE RESISTOR
■	CHIP RESISTOR

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

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1	IC6	NJM2904M NJM2904G

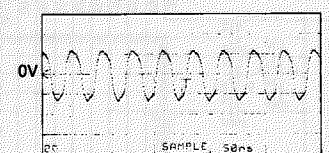
CIRCUIT CHANGES BY MARKET.

S	Ref#N	J	R.T.B.G
1	PJ1	YKC21-3934 V272630	YKC21-3935 V272620
2			
3			
4			
	PWB	XV375	XV375
	PCB	V301270	V301280

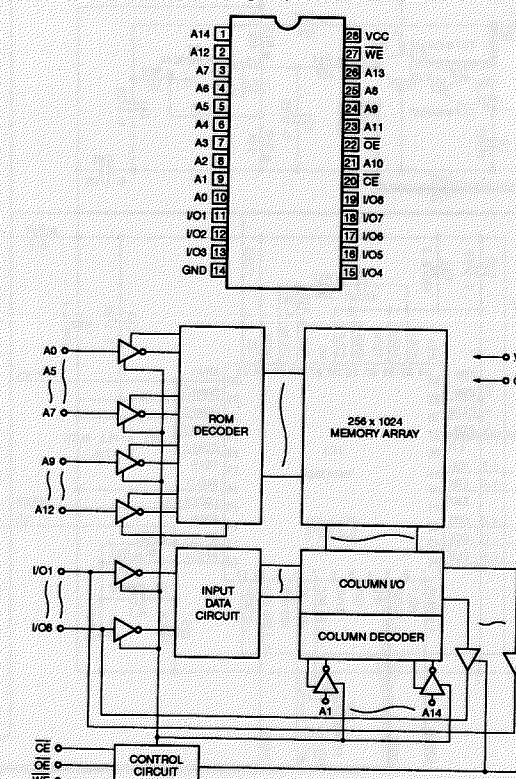
NOTICE (model)

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

Point ② (Pin56 of IC10)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



IC11 : UM61256FS-15Q
32K X 8 High Speed Static RAM

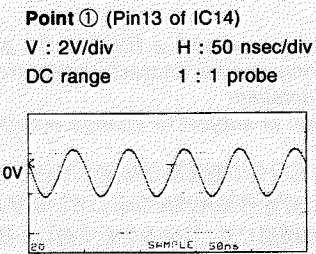
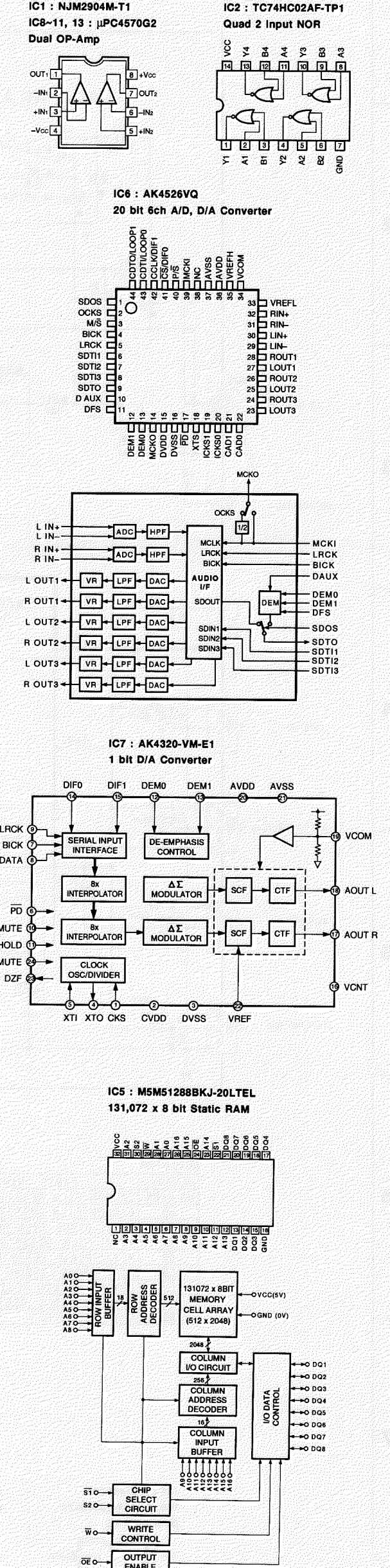
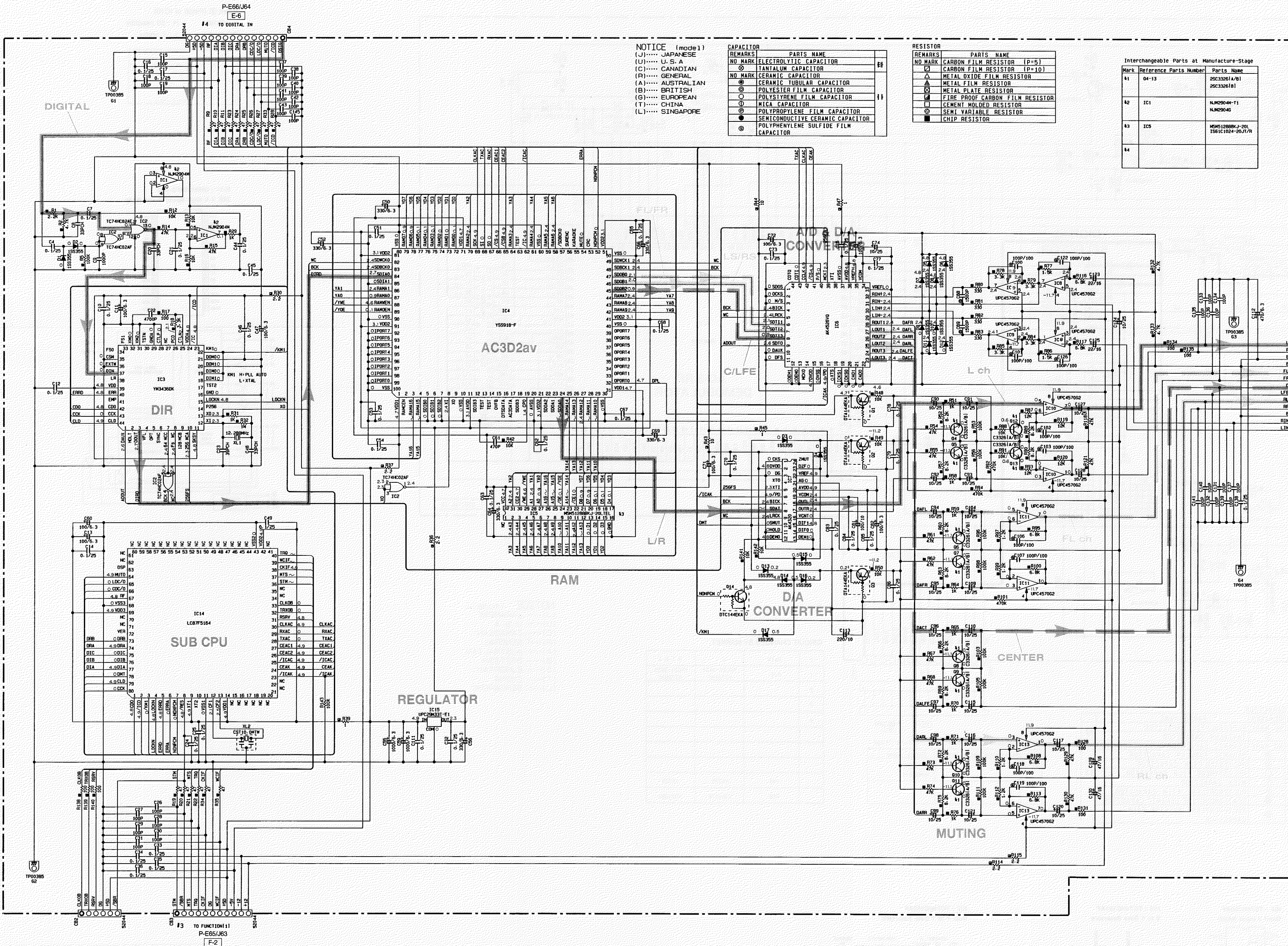


DIGITAL IN

- All voltage are measured with a 10MQ/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.

- 電圧は、内部抵抗10MQの電圧計で測定したものです。
- △印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

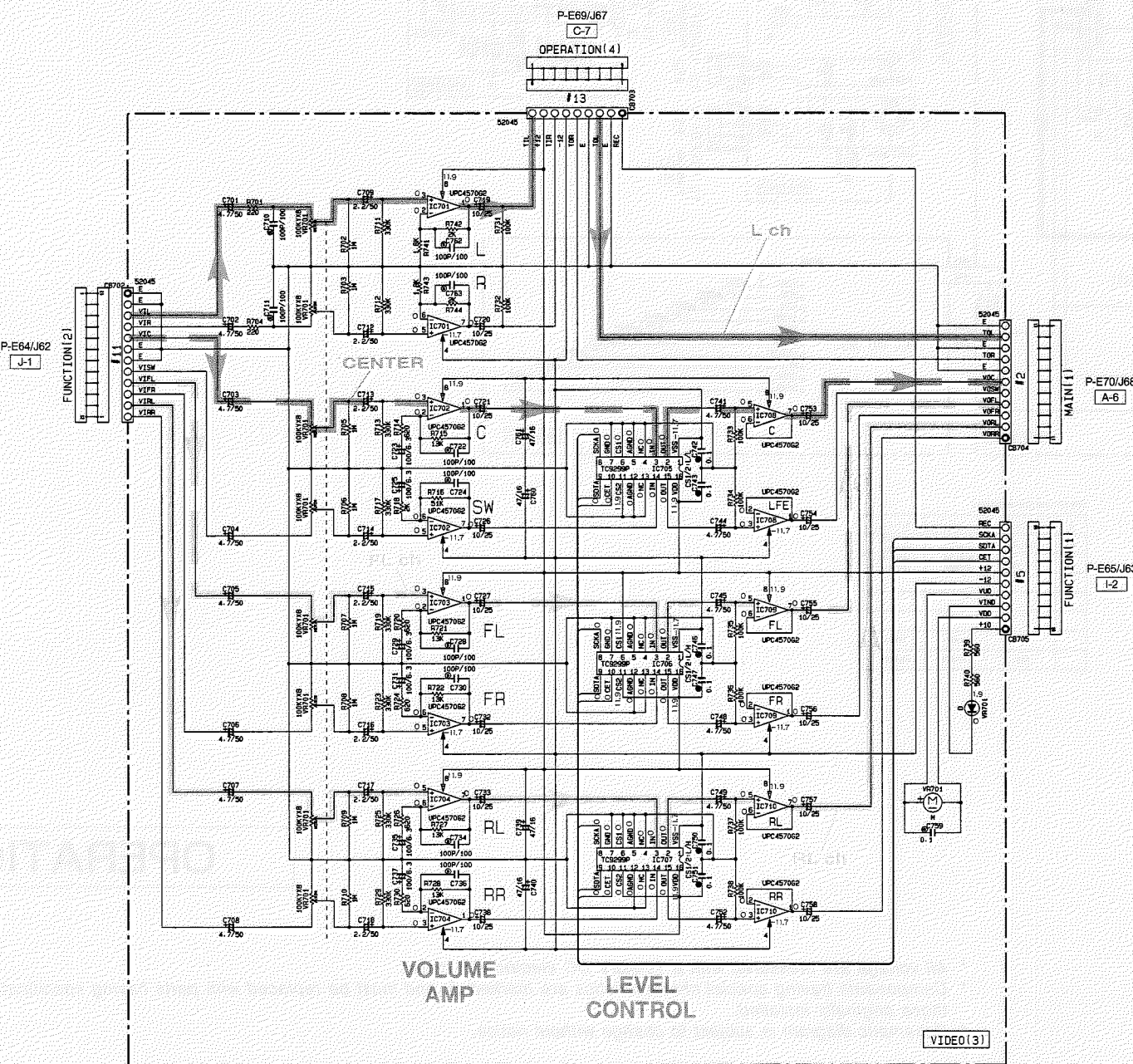
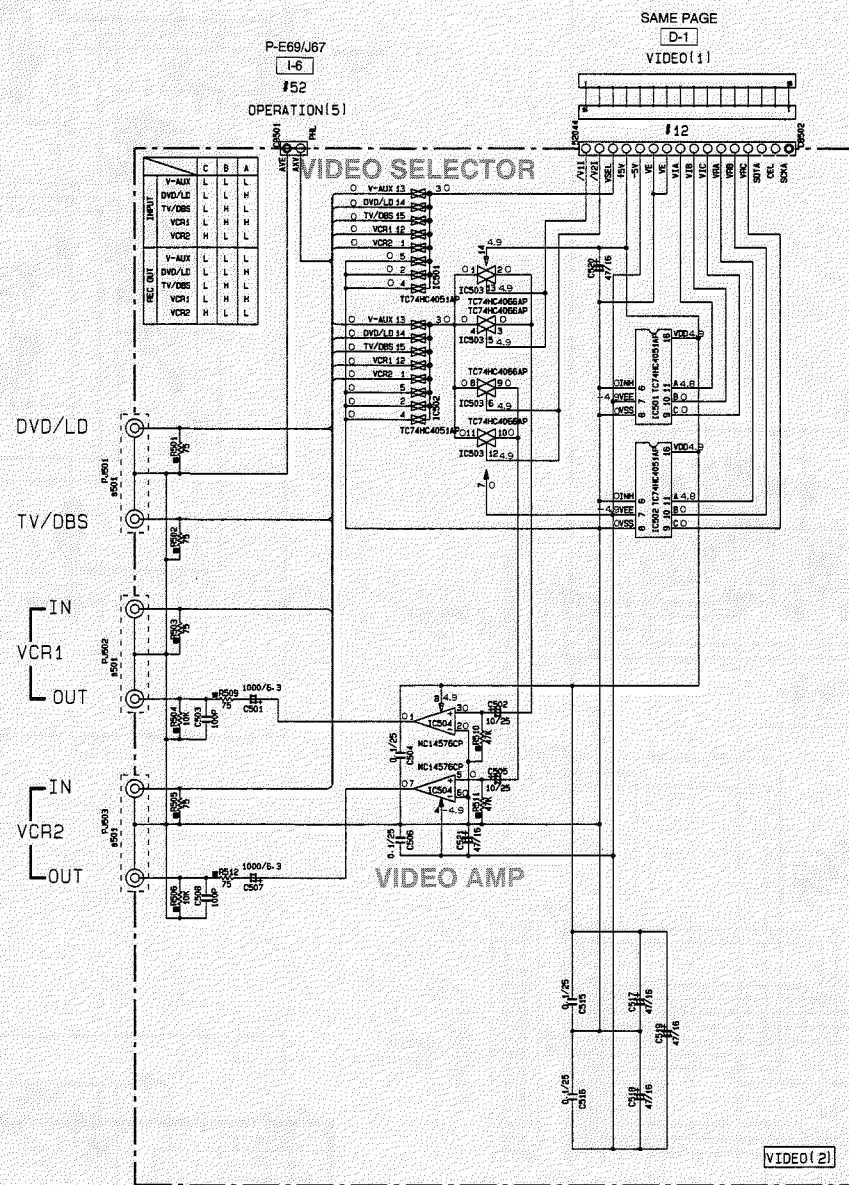
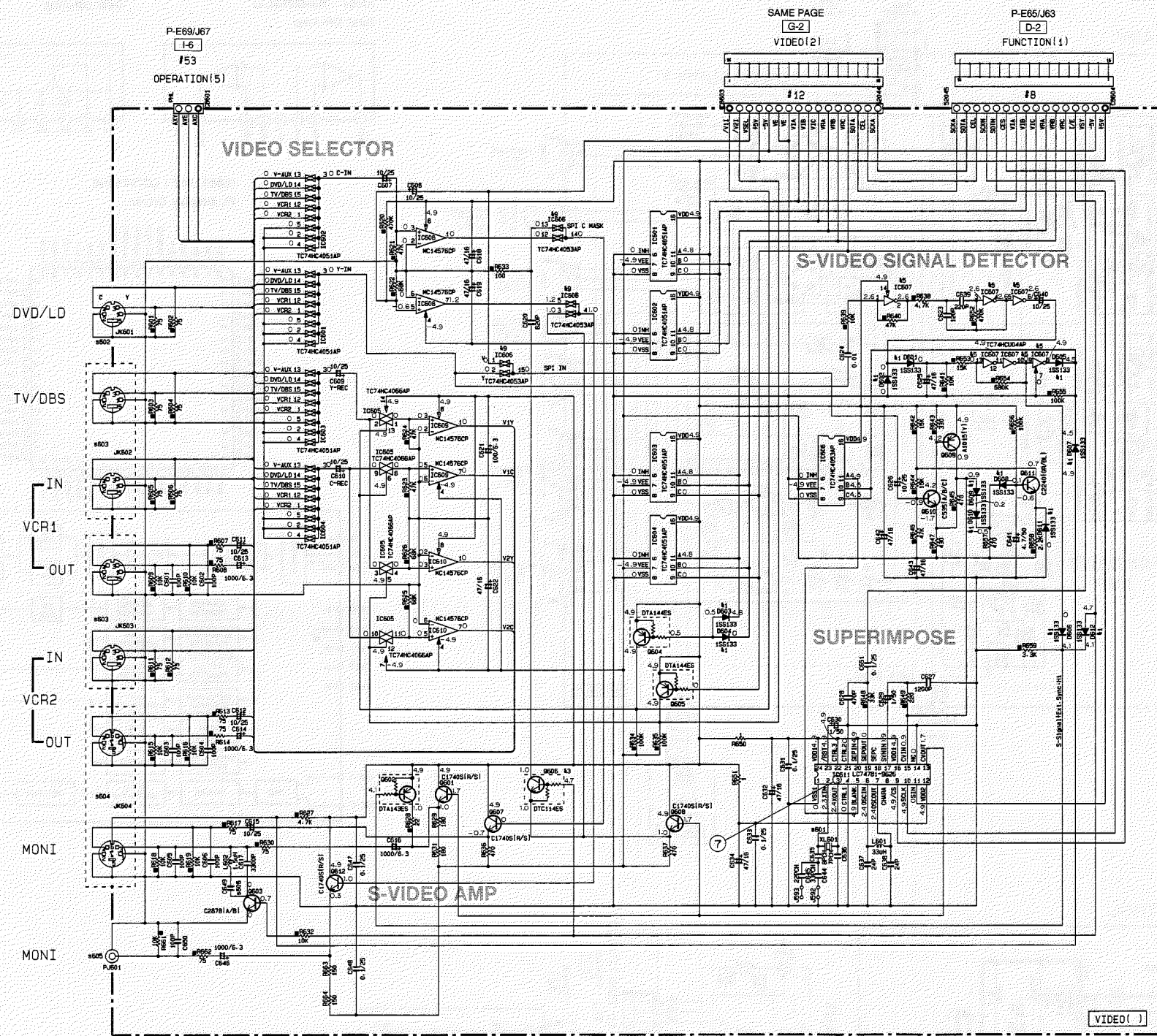
SCHEMATIC DIAGRAM(DSP)／総回路図



* All voltage are measured with a 10MQ/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.

● 電圧は、内部抵抗10MΩの電圧計で測定したものです。
 ● Δ 印のある部品は、安全性確保部を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
 ● 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

SCHEMATIC DIAGRAM(VIDEO)／総回路図



Interchangeable Parts at Manufacture Stage

Part Number	Part Name	Part Number	Part Name
1	0001-010	1001	0001-010
2	0002	1002	0002
3	0003	1003	0003
4	0004	1004	0004

CIRCUIT CHANGES BY MARK

Mark	Part Number	Part Name	Part Number	Part Name
1	0001-010	0001-010	0001-010	0001-010
2	0002	0002	0002	0002
3	0003	0003	0003	0003

NOTICE (model)

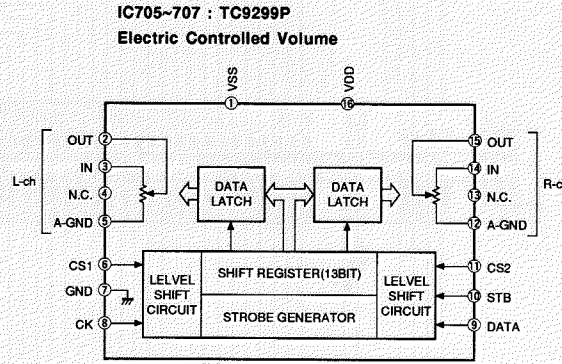
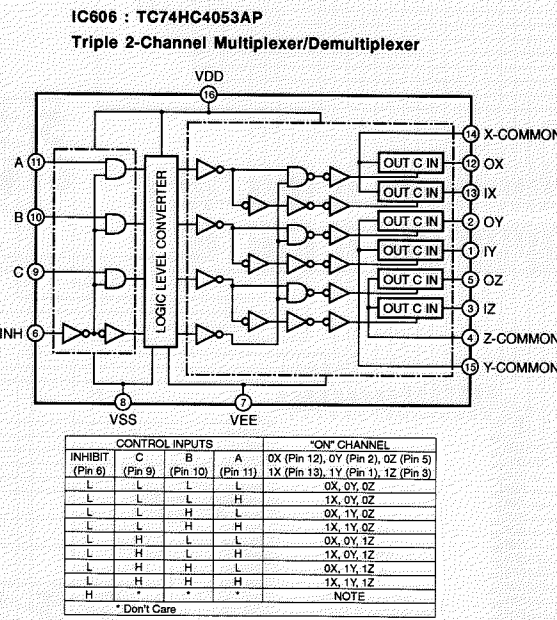
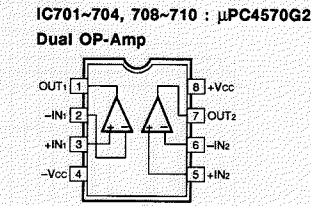
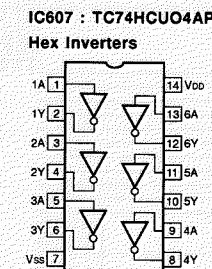
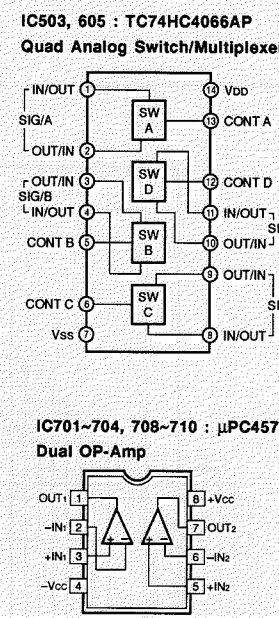
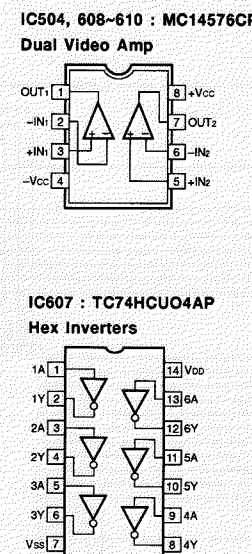
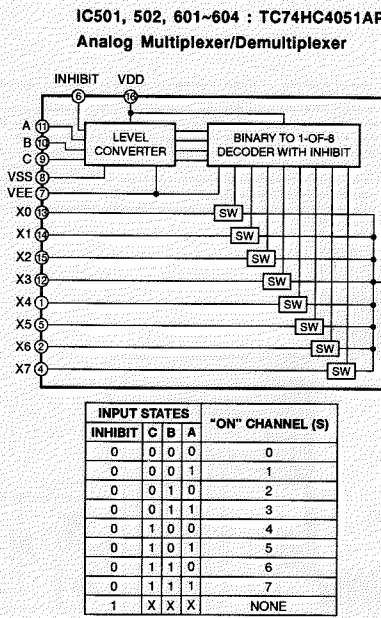
(U)..... JAPANESE
(U)..... U.S.A.
(C)..... CANADIAN
(P)..... GERMAN
(A)..... AUSTRALIAN
(B)..... BRITISH
(E)..... EUROPEAN
(T)..... CHINA
(L)..... SINGAPORE

RESISTOR

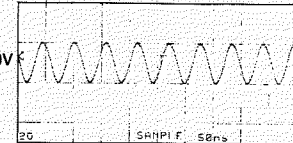
REMARKS	PARTS NAME
NE MARK	CARBON FILM RESISTOR (P=1)
NE MARK	CARBON FILM RESISTOR (P=10)
NE MARK	METAL OXIDE FILM RESISTOR
NE MARK	METAL FILM RESISTOR
NE MARK	METAL PLATE RESISTOR
NE MARK	FILM PRINT CARBON FILM RESISTOR
NE MARK	CEMENT MOUNTED RESISTOR
NE MARK	TRIMMABLE RESISTOR
NE MARK	TRIMMABLE RESISTOR

CAPACITOR

REMARKS	PARTS NAME
NE MARK	ELECTROLYTIC CAPACITOR
NE MARK	TANTALUM CAPACITOR
NE MARK	CERAMIC CAPACITOR
NE MARK	CERAMIC UNIGLASS CAPACITOR
NE MARK	POLYESTER FILM CAPACITOR
NE MARK	POLYSTYRENE FILM CAPACITOR
NE MARK	MICA CAPACITOR
NE MARK	POLYPROPYLENE FILM CAPACITOR
NE MARK	SEMICONDUCTIVE CERAMIC CAPACITOR
NE MARK	POLYPHENYLENE SULFIDE FILM CAPACITOR



Point ⑦ (Pin3 of IC611)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe

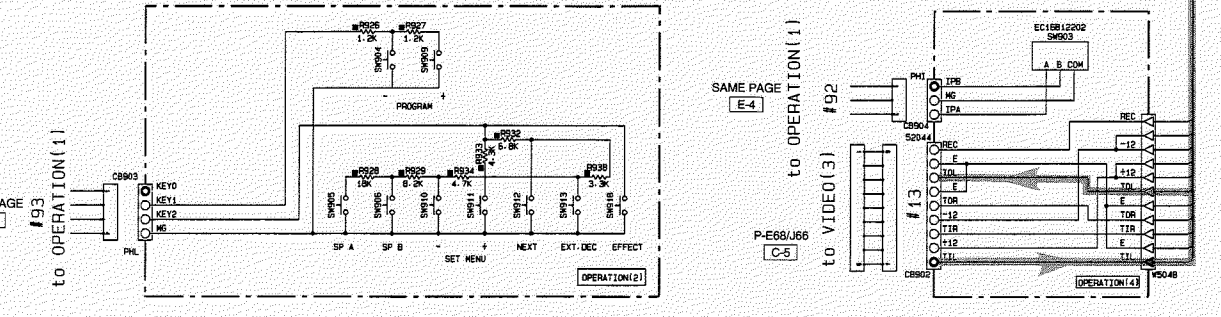
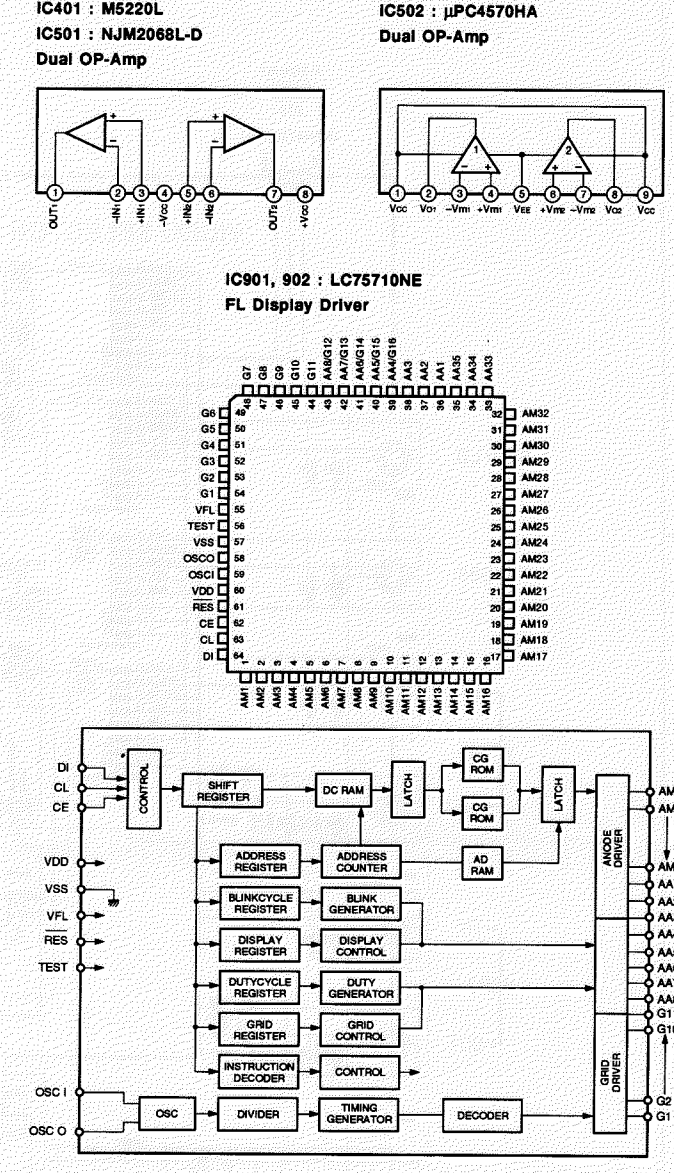
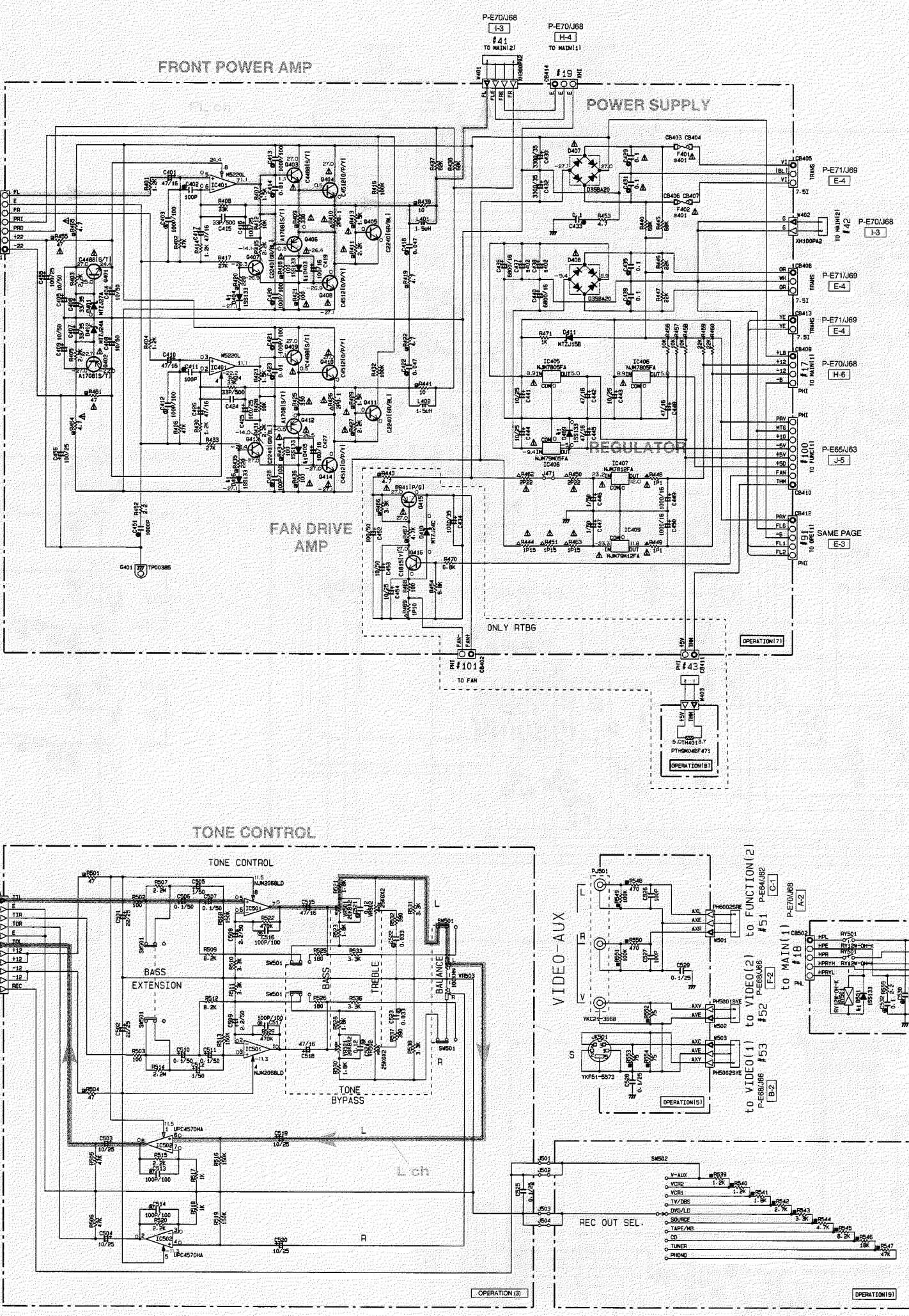
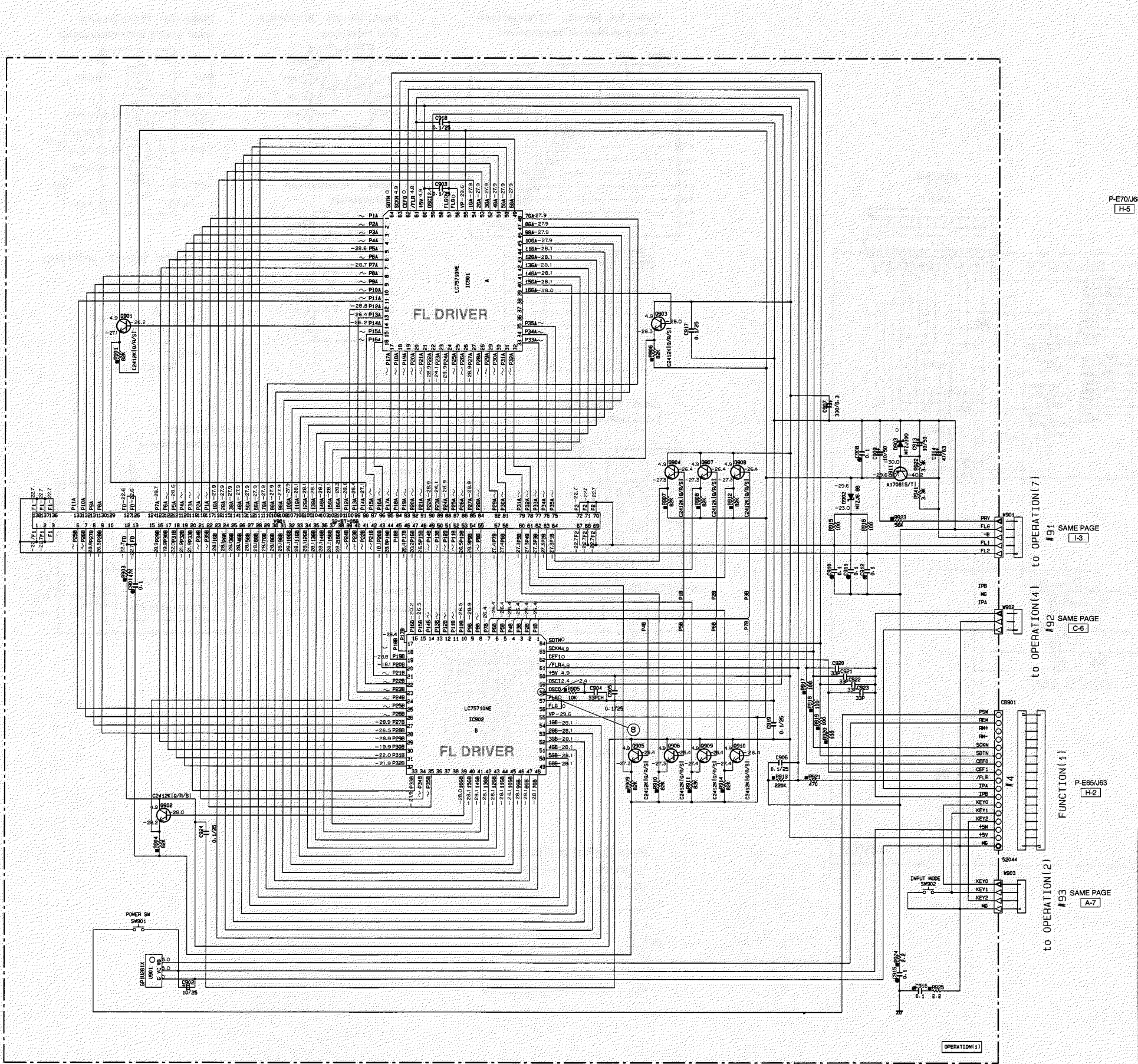


VIDEO

- 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.

- 電圧は、内部抵抗10MΩの電圧計で測定したものです。
- △印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

SCHEMATIC DIAGRAM(OPERATION)／総回路図



CAPACITOR	REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR	ALUMINUM CAPACITOR
NO MARK	CERAMIC CAPACITOR	CERAMIC CAPACITOR
NO MARK	POLYESTER FILM CAPACITOR	POLYESTER FILM CAPACITOR
NO MARK	POLYPROPYLENE FILM CAPACITOR	POLYPROPYLENE FILM CAPACITOR
NO MARK	SEMI-CONDUCTIVE CERAMIC CAPACITOR	SEMI-CONDUCTIVE CERAMIC CAPACITOR
NO MARK	POLYPHENYLENE SULFIDE FILM CAPACITOR	POLYPHENYLENE SULFIDE FILM CAPACITOR

RESISTOR	REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P-15)	CARBON FILM RESISTOR (P-15)
NO MARK	CARBON FILM RESISTOR (P-10)	CARBON FILM RESISTOR (P-10)
NO MARK	METAL FILM RESISTOR	METAL FILM RESISTOR
NO MARK	METAL PLATE RESISTOR	METAL PLATE RESISTOR
NO MARK	7500 OHM CARBON FILM RESISTOR	7500 OHM CARBON FILM RESISTOR
NO MARK	SEMI-CONDUCTIVE RESISTOR	SEMI-CONDUCTIVE RESISTOR
NO MARK	KOHM RESISTOR	KOHM RESISTOR

NOTICE (note1)
(J)..... JAPANESE
(U)..... U.S.A.
(C)..... CANADIAN
(R)..... GENERAL
(A)..... AUSTRALIAN
(B)..... BRITISH
(E)..... EUROPEAN
(T)..... OTHER
(L)..... SINGAPORE

Interchangeable Parts at Manufacture Stage
41 540-400-400-901 1000000
42 540-400-400-901 1000000

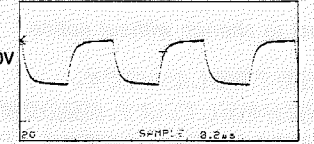
CIRCUIT CHANGES BY MARKET.			
S	REFN	J	R.T.B.S
401	F401-402	54 120V V300354	54 250V V300334
402	C437-438	8500/15 UR73958	10000/16 UR73A50
	P46	XY367	XV358
	PC8	V301010	V301030

OPERATION

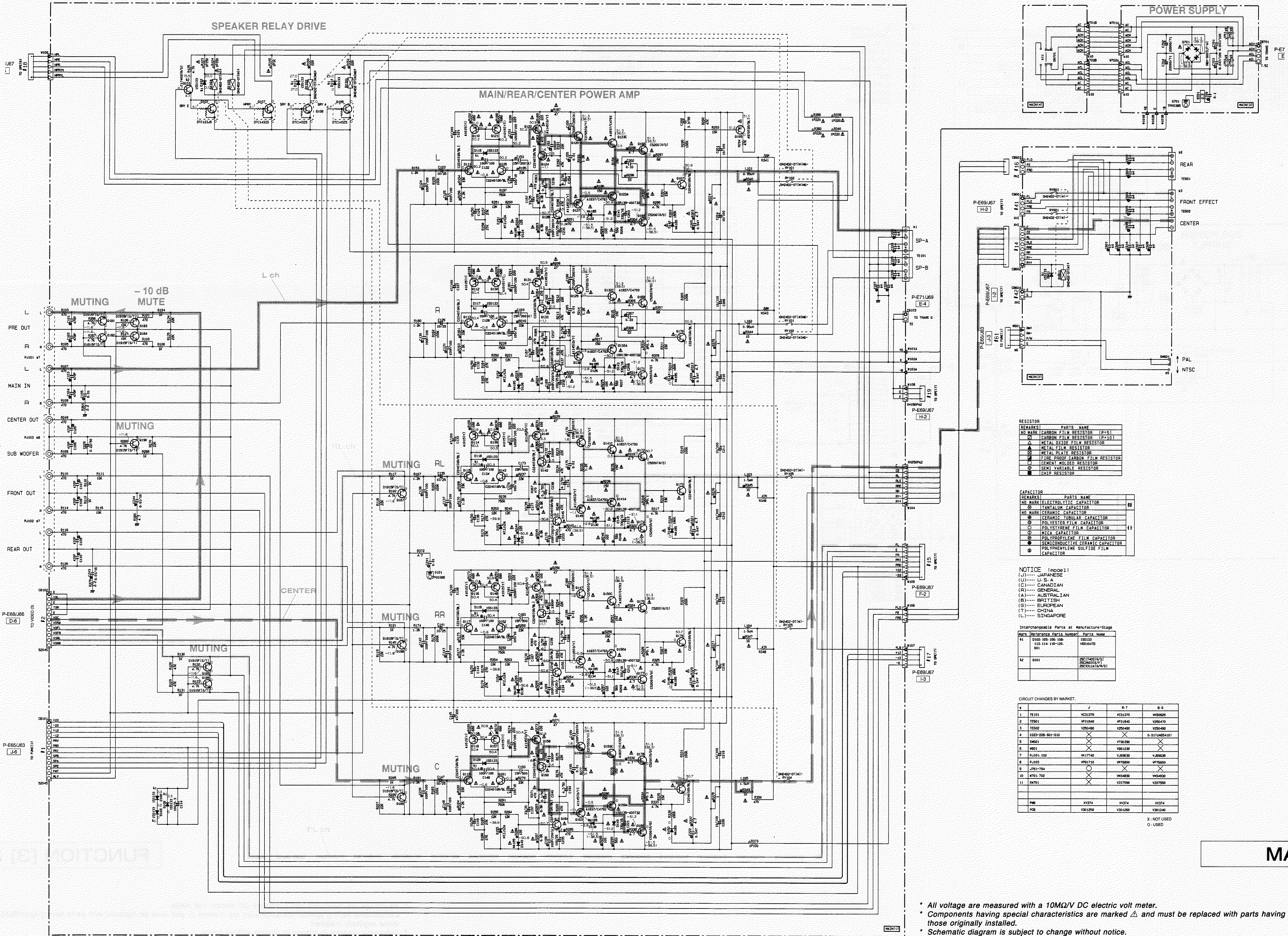
- All voltage are measured with a 10MΩ/V DC electric volt meter.
- Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.
- Schematic diagram is subject to change without notice.

- 電圧は、内部抵抗10MΩの電圧計で測定したものです。
- Δ印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

Point ⑧ (Pin58 of IC902)
V : 2V/div H : 0.2 μsec/div
DC range 1 : 1 probe



SCHEMATIC DIAGRAM(MAIN)／総回路図



* 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.

●電圧は、内部抵抗10MΩの電圧計で測定したものです。
●△印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
●本回路図は、標準回路図です。改良のため予告なく変更することがございます。

MAIN

■ SCHEMATIC DIAGRAM(FUNCTION [3] & [4])／総回路図

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

CAPACITOR		
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	H
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	H
●	CERAMIC TUBULAR CAPACITOR	
◎	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
①	MICA CAPACITOR	
⊕	POLYPROPYLENE FILM CAPACITOR	
⊛	SEMICONDUCTIVE CERAMIC CAPACITOR	
Ⓢ	POLYPHENYLENE SULFIDE FILM CAPACITOR	

```

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

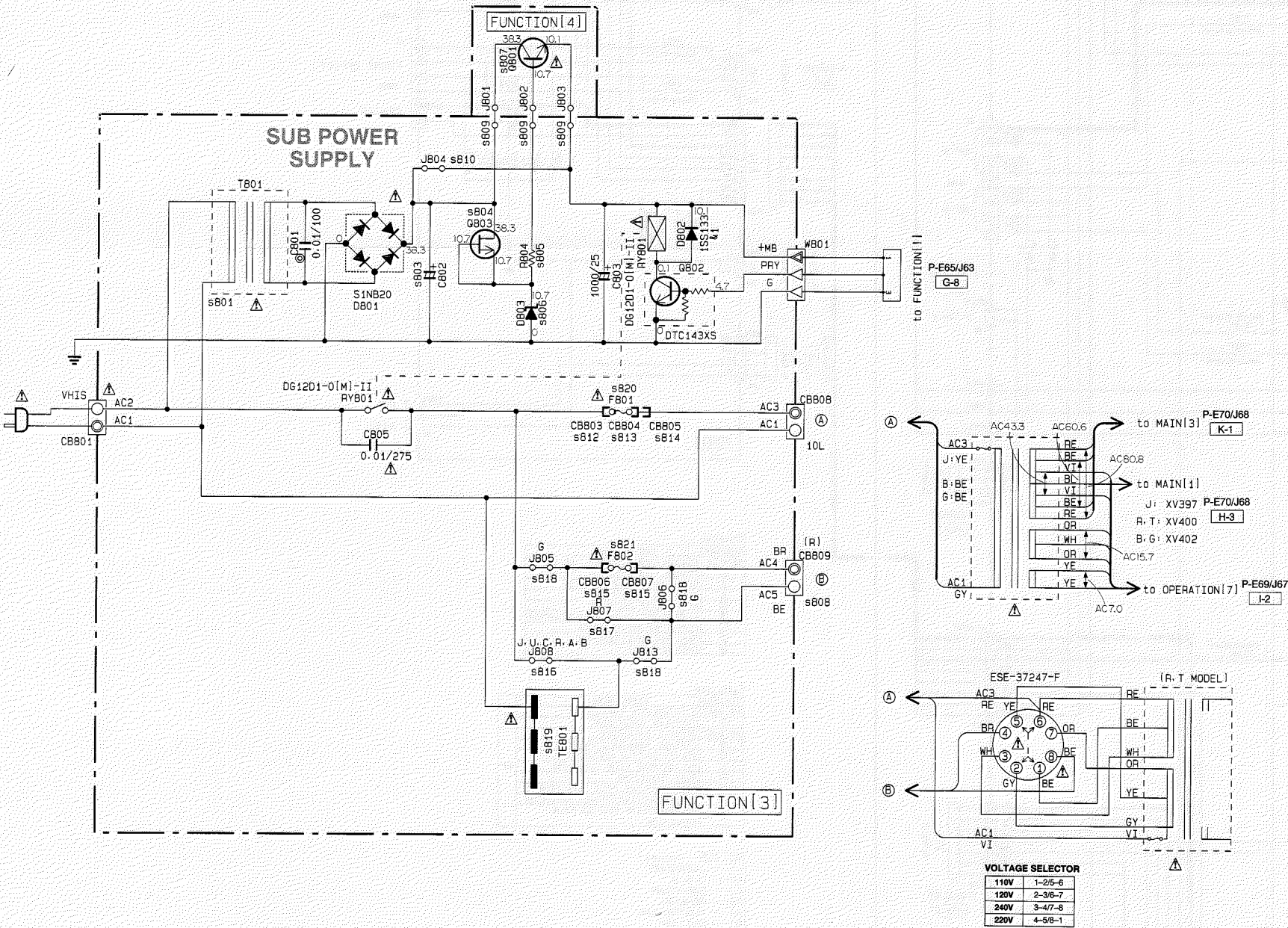
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[illegible]

CIRCUIT CHANGES BY MARKET

[illegible]

X : NOT USED
O : USED



FUNCTION [3] & [4]

- * All voltage are measured with a 10M Ω /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.

- 電圧は、内部抵抗10MΩの電圧計で測定したものです。
- △印のある部品は、安全性確保部分を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
- 本回路図は、標準回路図です。改良のため予告なく変更することがございます。

PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

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

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

- Chip resistors are listed on page 87.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS :

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

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

P.C.B. DSP

DSP-A2

Schm Ref.	PART NO.	Description
*	V3011400	P.C.B.
		DSP
CB2	VQ044200	CN.BS.PIN 6P
CB3	VQ044500	CN.BS.PIN 11P
CB4	VF982200	CN.BS.PIN 14P
CB6	VQ044600	CN.BS.PIN 13P
C4	UB245100	C.CE.M.CHP 0.1uF 25V
C7	UB245100	C.CE.M.CHP 0.1uF 25V
C8	VJ900700	C.CE.M.CHP 33pF 50V
C9	UB013100	C.CE.M.CHP 1000pF 50V
C10	UB245100	C.CE.M.CHP 0.1uF 25V
C11	Vi841800	C.EL 100uF 10V
C12	UB245100	C.CE.M.CHP 0.1uF 25V
C13	Vi841800	C.EL 100uF 10V
C14	UB245100	C.CE.M.CHP 0.1uF 25V
C15	UB052100	C.CE.M.CHP 100pF 50V
C16	UB245100	C.CE.M.CHP 0.1uF 25V
C17	UB245100	C.CE.M.CHP 0.1uF 25V
C18	UB052100	C.CE.M.CHP 100pF 50V
C19	UB052100	C.CE.M.CHP 100pF 50V
C20	VJ900700	C.CE.M.CHP 33pF 50V
C21	UB245100	C.CE.M.CHP 0.1uF 25V
C22	UB013470	C.CE.M.CHP 4700pF 50V
C23	VJ900900	C.CE.M.CHP 39pF 50V
C24	UB245100	C.CE.M.CHP 0.1uF 25V
C25	UB245100	C.CE.M.CHP 0.1uF 25V
C26	UB052100	C.CE.M.CHP 100pF 50V
C27	UB052100	C.CE.M.CHP 100pF 50V
C28	UB052100	C.CE.M.CHP 100pF 50V
C29	UB052100	C.CE.M.CHP 100pF 50V
C30	UB052100	C.CE.M.CHP 100pF 50V
C31	UB052100	C.CE.M.CHP 100pF 50V
C32	UB245100	C.CE.M.CHP 0.1uF 25V
C33	UB245100	C.CE.M.CHP 0.1uF 25V
C34	UB245100	C.CE.M.CHP 0.1uF 25V
C35	UB245100	C.CE.M.CHP 0.1uF 25V
C36	UB245100	C.CE.M.CHP 0.1uF 25V
C37	UB052100	C.CE.M.CHP 100pF 50V
C38	UB052100	C.CE.M.CHP 100pF 50V
C39	UB052100	C.CE.M.CHP 100pF 50V
C40	UB052100	C.CE.M.CHP 100pF 50V
C41	UB052100	C.CE.M.CHP 100pF 50V
C42	UB052100	C.CE.M.CHP 100pF 50V
C43	UB052100	C.CE.M.CHP 100pF 50V
C44	UB245100	C.CE.M.CHP 0.1uF 25V
C45	UB245100	C.CE.M.CHP 0.1uF 25V
C46	UB245100	C.CE.M.CHP 0.1uF 25V
C47	Vi841800	C.EL 100uF 10V
C48	VJ900700	C.CE.M.CHP 33pF 50V
C49	UB245100	C.CE.M.CHP 0.1uF 25V
C50	Vi841200	C.EL 330uF 6.3V
C51	UB245100	C.CE.M.CHP 0.1uF 25V
C52	Vi841200	C.EL 330uF 6.3V
C53	UB245100	C.CE.M.CHP 0.1uF 25V

* New Parts

Schm Ref.	PART NO.	Description
C54	UB245100	C.CE.M.CHP 0.1uF 25V
C55	Vi841400	C.EL 1000uF 6.3V
C56	Vi841200	C.EL 330uF 6.3V
C59	Vi841400	C.EL 1000uF 6.3V
C60	Vi841800	C.EL 100uF 10V
C61	UB012470	C.CE.M.CHP 470pF 50V
C62	UB245100	C.CE.M.CHP 0.1uF 25V
C63	UB245100	C.CE.M.CHP 0.1uF 25V
C64	Vi841200	C.EL 330uF 6.3V
C65	UB245100	C.CE.M.CHP 0.1uF 25V
C66	Vi841200	C.EL 330uF 6.3V
C67	UB245100	C.CE.M.CHP 0.1uF 25V
C68	UB245100	C.CE.M.CHP 0.1uF 25V
C69	Vi841200	C.EL 330uF 6.3V
C70	UB245100	C.CE.M.CHP 0.1uF 25V
C71	Vi841800	C.EL 100uF 10V
C72	Vi841800	C.EL 100uF 10V
C73	UB245100	C.CE.M.CHP 0.1uF 25V
C74	Vi845900	C.EL 10uF 63V
C75	UB245100	C.CE.M.CHP 0.1uF 25V
C76	Vi841800	C.EL 100uF 10V
C77	UB245100	C.CE.M.CHP 0.1uF 25V
C78	UB245100	C.CE.M.CHP 0.1uF 25V
C79	UB245100	C.CE.M.CHP 0.1uF 25V
C81	Vi841800	C.EL 100uF 10V
C82	Vi841800	C.EL 100uF 10V
C83	UB245100	C.CE.M.CHP 0.1uF 25V
C84	UB245100	C.CE.M.CHP 0.1uF 25V
C85	UB245100	C.CE.M.CHP 0.1uF 25V
C86	UB245100	C.CE.M.CHP 0.1uF 25V
C88	UA653150	C.MYLAR 1500pF 50V
C89	UA653150	C.MYLAR 1500pF 50V
C90	Vi845900	C.EL 10uF 63V
C91	Vi845900	C.EL 10uF 63V
C92	Vi845900	C.EL 10uF 63V
C93	Vi845900	C.EL 10uF 63V
C94	Vi845900	C.EL 10uF 63V
C95	Vi845900	C.EL 10uF 63V
C96	Vi845900	C.EL 10uF 63V
C97	Vi845900	C.EL 10uF 63V
C98	Vi845900	C.EL 10uF 63V
C99	Vi845900	C.EL 10uF 63V
C100	UP652100	C.POL 100pF 100V
C101	UP652100	C.POL 100pF 100V
C102	UP652100	C.POL 100pF 100V
C103	UP652100	C.POL 100pF 100V
C104	Vi845900	C.EL 10uF 63V
C106	UP652100	C.POL 100pF 100V
C107	UP652100	C.POL 100pF 100V
C109	Vi845900	C.EL 10uF 63V
C110	Vi845900	C.EL 10uF 63V
C111	UB245100	C.CE.M.CHP 0.1uF 25V
C112	Vi841300	C.EL 470uF 6.3V

* New Parts

P.C.B. DSP

DSP-A2

Schm Ref.	PART NO.	Description
C113	Vi841900	C. EL 220uF 10V
C115	Vi845900	C. EL 10uF 63V
C116	Vi845900	C. EL 10uF 63V
C117	Vi845900	C. EL 10uF 63V
C118	UP652100	C. POL 100pF 100V
C119	UP652100	C. POL 100pF 100V
C120	Vi845900	C. EL 10uF 63V
C121	Vi845900	C. EL 10uF 63V
C122	UP652100	C. POL 100pF 100V
C123	Vi846000	C. EL 22uF 63V
C124	Vi845900	C. EL 10uF 63V
C125	Vi846000	C. EL 22uF 63V
C126	UP652100	C. POL 100pF 100V
C127	Vi845900	C. EL 10uF 63V
C128	Vi845900	C. EL 10uF 63V
C129	Vi845600	C. EL 47uF 50V
C130	Vi845600	C. EL 47uF 50V
C131	UB052100	C. CE. M. CHP 100pF 50V
C132	UB052100	C. CE. M. CHP 100pF 50V
C133	UB052100	C. CE. M. CHP 100pF 50V
C134	UB052100	C. CE. M. CHP 100pF 50V
C135	UB052100	C. CE. M. CHP 100pF 50V
C136	UB052100	C. CE. M. CHP 100pF 50V
C137	UB052100	C. CE. M. CHP 100pF 50V
C138	UB245100	C. CE. M. CHP 0. 1uF 25V
C139	UB052100	C. CE. M. CHP 100pF 50V
C140	UB052100	C. CE. M. CHP 100pF 50V
C141	UB052100	C. CE. M. CHP 100pF 50V
C145	UB052100	C. CE. M. CHP 100pF 50V
D1	VT332900	DIODE 1SS355
D2	VT332900	DIODE 1SS355
D3	VT332900	DIODE 1SS355
D4	VT332900	DIODE 1SS355
D5	VT332900	DIODE 1SS355
D6	VT332900	DIODE 1SS355
D7	VT332900	DIODE 1SS355
D8	VT332900	DIODE 1SS355
D9	VT332900	DIODE 1SS355
D10	VT332900	DIODE 1SS355
D11	VT332900	DIODE 1SS355
D12	VT332900	DIODE 1SS355
D13	VT332900	DIODE 1SS355
D14	VT332900	DIODE 1SS355
D15	VT332900	DIODE 1SS355
D16	VT332900	DIODE 1SS355
D17	VT332900	DIODE 1SS355
G1	VR463400	TERM. GND D3. 5 TP00385
G2	VR463400	TERM. GND D3. 5 TP00385
G3	VR463400	TERM. GND D3. 5 TP00385
G4	VR463400	TERM. GND D3. 5 TP00385
IC1	XR038A00	IC NJM2904M OP AMP
IC2	XD600A00	IC TC74HC02AF-TP1 NOR
IC3	XG948E00	IC YM3436DK

* New Parts

Schm Ref.	PART NO.	Description
IC4	XV304A00	IC YSS918-F
IC5	XV457A00	IC M5M51288BKJ-20LTEL
IC6	XU722A00	IC AK4526
IC7	XR361A00	IC AK4320-VM-E1
IC8	XF291A00	IC uPC4570G2
IC9	XF291A00	IC uPC4570G2
IC10	XF291A00	IC uPC4570G2
IC11	XF291A00	IC uPC4570G2
IC13	XF291A00	IC uPC4570G2
IC14	XU929D00	IC LC87F5164A CPU
IC15	XU965A00	IC uPC29M33T-E1 3. 3V
Q1	VV655300	TR. DGT DTA144EKA
Q2	VV655300	TR. DGT DTA144EKA
Q3	VV655300	TR. DGT DTA144EKA
Q4	VD303700	TR 2SC3326 A, B
Q5	VD303700	TR 2SC3326 A, B
Q6	VD303700	TR 2SC3326 A, B
Q7	VD303700	TR 2SC3326 A, B
Q8	VD303700	TR 2SC3326 A, B
Q9	VD303700	TR 2SC3326 A, B
Q10	VD303700	TR 2SC3326 A, B
Q11	VD303700	TR 2SC3326 A, B
Q12	VD303700	TR 2SC3326 A, B
Q13	VD303700	TR 2SC3326 A, B
Q14	VV655700	TR. DGT DTC144EKA
R30	HV453220	R. CAR. FP 2. 2Ω 1/4W
R36	HV453220	R. CAR. FP 2. 2Ω 1/4W
R37	HV453220	R. CAR. FP 2. 2Ω 1/4W
R39	HV453100	R. CAR. FP 1Ω 1/4W
R43	HV454100	R. CAR. FP 10Ω 1/4W
R44	HV454100	R. CAR. FP 10Ω 1/4W
R45	HV453100	R. CAR. FP 1Ω 1/4W
R47	HV453100	R. CAR. FP 1Ω 1/4W
R114	HV453220	R. CAR. FP 2. 2Ω 1/4W
R115	HV453220	R. CAR. FP 2. 2Ω 1/4W
XL1	Vi552000	RSNR. CRY 12. 288MHz
XL2	VQ791000	RSNR. CE 10MHz

* New Parts

P.C.B. MAIN

DSP-A2

Schm Ref.	PART NO.	Description
* * *	V3012600	P.C.B. MAIN(RT)
* * *	V3404500	P.C.B. MAIN(BG)
CB101	VQ047300	CN. BS. PIN 12P
CB102	VM859500	CN. BS. PIN 11P
CB103	LA002110	TERM. WRAP 2P
CB601	VL844800	CN. BS. PIN 4P
CB602	VL845200	CN. BS. PIN 8P
CB603	VD004600	CN. BS. PIN 3P
CB604	LB918020	CN. BS. PIN 2P
CB701	LA002330	TERM. WRAP 4P
C101	UA652470	C. MYLAR 470pF 50V
C102	UA652470	C. MYLAR 470pF 50V
C103	UA652470	C. MYLAR 470pF 50V
C104	UA652470	C. MYLAR 470pF 50V
C105	UA654100	C. MYLAR 0.01uF 50V
C106	VF466900	C. CE. TUBLR 470pF 50V
C107	UA652470	C. MYLAR 470pF 50V
C108	UA652470	C. MYLAR 470pF 50V
C109	UA652470	C. MYLAR 470pF 50V
C110	UA652470	C. MYLAR 470pF 50V
C114	Vi841800	C. EL 100uF 10V
C120	UA652470	C. MYLAR 470pF 50V
C121	VK182800	C. EL 47uF 100V
C122	UP652100	C. POL 100pF 100V
C123	Vi845900	C. EL 10uF 63V
C124	UP652100	C. POL 100pF 100V
C125	UP652100	C. POL 100pF 100V
C126	Vi845900	C. EL 10uF 63V
C127	VK182800	C. EL 47uF 100V
C128	UP652100	C. POL 100pF 100V
C129	Vi845900	C. EL 10uF 63V
C130	UP652100	C. POL 100pF 100V
C131	UP652100	C. POL 100pF 100V
C132	Vi845900	C. EL 10uF 63V
C133	VK182800	C. EL 47uF 100V
C134	UP652100	C. POL 100pF 100V
C135	Vi845900	C. EL 10uF 63V
C136	UP652100	C. POL 100pF 100V
C137	UP652100	C. POL 100pF 100V
C138	Vi845900	C. EL 10uF 63V
C139	VK182800	C. EL 47uF 100V
C140	UP652100	C. POL 100pF 100V
C141	Vi845900	C. EL 10uF 63V
C142	UP652100	C. POL 100pF 100V
C143	UP652100	C. POL 100pF 100V
C144	Vi845900	C. EL 10uF 63V
C145	VK182800	C. EL 47uF 100V
C146	UP652100	C. POL 100pF 100V
C147	Vi845900	C. EL 10uF 63V
C148	UP652100	C. POL 100pF 100V
C149	Vi845900	C. EL 10uF 63V
C150	VK533900	C. PP 100pF 200V
* C151	UP653120	C. POL 1200pF 100V

* New Parts

Schm Ref.	PART NO.	Description
C152	UA653330	C. MYLAR 3300pF 50V
C153	VM645500	C. PP 15uF 200V
C154	Vi845200	C. EL 4.7uF 50V
C155	UA654100	C. MYLAR 0.01uF 50V
C156	Vi842600	C. EL 100uF 16V
C157	Vi844100	C. EL 33uF 35V
C159	VK533900	C. PP 100pF 200V
C160	VK533900	C. PP 100pF 200V
* C161	UP653120	C. POL 1200pF 100V
C162	UA653330	C. MYLAR 3300pF 50V
C163	VM645500	C. PP 15uF 200V
C164	Vi845200	C. EL 4.7uF 50V
C165	UA654100	C. MYLAR 0.01uF 50V
C166	Vi842600	C. EL 100uF 16V
C167	Vi844100	C. EL 33uF 35V
C169	VK533900	C. PP 100pF 200V
C170	VK533900	C. PP 100pF 200V
* C171	UP653120	C. POL 1200pF 100V
C172	UA653330	C. MYLAR 3300pF 50V
C173	VR516400	C. CE 15pF 500V
C174	Vi845200	C. EL 4.7uF 50V
C175	UA654100	C. MYLAR 0.01uF 50V
C176	Vi842600	C. EL 100uF 16V
C177	Vi844100	C. EL 33uF 35V
C179	VK533900	C. PP 100pF 200V
C180	VK533900	C. PP 100pF 200V
* C181	UP653120	C. POL 1200pF 100V
C182	UA653330	C. MYLAR 3300pF 50V
C183	VR516400	C. CE 15pF 500V
C184	Vi845200	C. EL 4.7uF 50V
C185	UA654100	C. MYLAR 0.01uF 50V
C186	Vi842600	C. EL 100uF 16V
C187	Vi844100	C. EL 33uF 35V
C189	VK533900	C. PP 100pF 200V
C190	VK533900	C. PP 100pF 200V
* C191	UP653120	C. POL 1200pF 100V
C192	UA653330	C. MYLAR 3300pF 50V
C193	VR516400	C. CE 15pF 500V
C194	Vi845200	C. EL 4.7uF 50V
C195	UA654100	C. MYLAR 0.01uF 50V
C196	Vi842600	C. EL 100uF 16V
C197	Vi844100	C. EL 33uF 35V
C199	VK533900	C. PP 100pF 200V
C200	Vi845100	C. EL 3.3uF 50V
C201	Vi846900	C. EL 10uF 100V
C202	VR169000	C. MYLAR. ML ECQ-V1H334JL3
C203	Vi842800	C. EL 330uF 16V
C204	Vi846900	C. EL 10uF 100V
C205	UA654470	C. MYLAR 0.047uF 50V
C206	Vi846900	C. EL 10uF 100V
C207	VR169000	C. MYLAR. ML ECQ-V1H334JL3
C208	Vi842800	C. EL 330uF 16V
C209	UA654470	C. MYLAR 0.047uF 50V

* New Parts

P.C.B. MAIN

Schm Ref.	PART NO.	Description
C210	Vi846900	C. EL 10uF 100V
C211	Vi846900	C. EL 10uF 100V
C212	Vi846900	C. EL 10uF 100V
C213	Vi842800	C. EL 330uF 16V
C214	UA654470	C. MYLAR 0.047uF 50V
C215	Vi846900	C. EL 10uF 100V
C216	Vi846900	C. EL 10uF 100V
C217	Vi842800	C. EL 330uF 16V
C218	UA654470	C. MYLAR 0.047uF 50V
C219	Vi846900	C. EL 10uF 100V
C220	Vi846900	C. EL 10uF 100V
C221	Vi842800	C. EL 330uF 16V
C222	UA654470	C. MYLAR 0.047uF 50V
C223	UA654100	C. MYLAR 0.01uF 50V(BG)
C224	UA654100	C. MYLAR 0.01uF 50V(BG)
C225	UA654100	C. MYLAR 0.01uF 50V(BG)
C226	UA654100	C. MYLAR 0.01uF 50V(BG)
C227	UA654100	C. MYLAR 0.01uF 50V(BG)
C228	UA654100	C. MYLAR 0.01uF 50V(BG)
C229	Vi844600	C. EL 0.22uF 50V
C230	UP652100	C. POL 100pF 100V
C231	Vi843500	C. EL 100uF 25V
C232	Vi843500	C. EL 100uF 25V
C233	Vi843500	C. EL 100uF 25V
C234	Vi843500	C. EL 100uF 25V
C235	Vi843500	C. EL 100uF 25V
C236	Vi844500	C. EL 0.1uF 50V
C237	Vi844500	C. EL 0.1uF 50V
C238	Vi844500	C. EL 0.1uF 50V
C239	Vi844500	C. EL 0.1uF 50V
C240	Vi844500	C. EL 0.1uF 50V
C241	UA654100	C. MYLAR 0.01uF 50V
C243	VF467300	C. CE. TUBLR 0.01uF 16V
C244	VF467300	C. CE. TUBLR 0.01uF 16V
C601	UA654100	C. MYLAR 0.01uF 50V(BG)
C602	UA654100	C. MYLAR 0.01uF 50V(BG)
C603	UA654100	C. MYLAR 0.01uF 50V(BG)
C604	UA654100	C. MYLAR 0.01uF 50V(BG)
C605	UA654100	C. MYLAR 0.01uF 50V(BG)
C606	UA654100	C. MYLAR 0.01uF 50V(BG)
C607	UA654100	C. MYLAR 0.01uF 50V(BG)
C608	UA654100	C. MYLAR 0.01uF 50V(BG)
C609	UA654100	C. MYLAR 0.01uF 50V(BG)
C610	UA654100	C. MYLAR 0.01uF 50V(BG)
C701	UT454470	C. PP 0.047uF 100V
C702	VY818300	C. EL 22000uF 71V
C703	UT454470	C. PP 0.047uF 100V
C704	VY818300	C. EL 22000uF 71V
C705	VR168300	C. MYLAR. ML ECQ-V1H104JL3
D102	iF004600	DIODE 1SS133
D105	iF004600	DIODE 1SS133
D106	iF004600	DIODE 1SS133
D108	iF004600	DIODE 1SS133

* New Parts

Schm Ref.	PART NO.	Description
D113	iF004600	DIODE 1SS133
D114	iF004600	DIODE 1SS133
D116	iF004600	DIODE 1SS133
D117	iF004600	DIODE 1SS133
D118	iF004600	DIODE 1SS133
D119	iF004600	DIODE 1SS133
D120	iF004600	DIODE 1SS133
△ D122	VC398400	DIODE MA185
△ D124	VC398400	DIODE MA185
△ D126	VC398400	DIODE MA185
△ D128	VC398400	DIODE MA185
△ D130	VC398400	DIODE MA185
△ D132	VC398400	DIODE MA185
△ D134	VC398400	DIODE MA185
△ D136	VC398400	DIODE MA185
△ D138	VC398400	DIODE MA185
△ D140	VC398400	DIODE MA185
△ D141	VU264100	DIODE 1SR139-400
△ D142	VC398400	DIODE MA185
△ D143	VU264100	DIODE 1SR139-400
△ D144	VC398400	DIODE MA185
△ D145	VU264100	DIODE 1SR139-400
△ D146	VC398400	DIODE MA185
△ D147	VU264100	DIODE 1SR139-400
△ D148	VC398400	DIODE MA185
△ D149	VU264100	DIODE 1SR139-400
△ D150	VC398400	DIODE MA185
D151	VG440100	DIODE. ZENR MTZJ12A 12V
D152	VG440100	DIODE. ZENR MTZJ12A 12V
D153	VG440100	DIODE. ZENR MTZJ12A 12V
D154	VG440100	DIODE. ZENR MTZJ12A 12V
D155	VG440100	DIODE. ZENR MTZJ12A 12V
D601	iF004600	DIODE 1SS133
△ D701	Vi711600	DIODE. BRG RBV-602 LF-A
G101	VR463400	TERM. GND D3.5 TP00385
G701	VR463400	TERM. GND D3.5 TP00385
L101	VC664100	COIL 0.95uH
L102	VC664100	COIL 0.95uH
L103	GD900470	COIL 1.5uH
L104	GD900470	COIL 1.5uH
L105	GD900470	COIL 1.5uH
PJ101	VJ696300	JACK. PIN 4P
PJ102	VJ696300	JACK. PIN 4P
PJ103	VP768000	JACK. PIN 2P
Q101	iC174020	TR 2SC1740S R, S
Q102	VK165500	TR. DGT DTC123JS TP
Q107	VT254500	TR. DGT DTC143ZS
Q108	VT254500	TR. DGT DTC143ZS
Q109	VT254500	TR. DGT DTC143ZS
△ Q110	iA101521	TR 2SA1015 Y
△ Q111	iC224030	TR 2SC2240 GR, BL
△ Q112	iA101521	TR 2SA1015 Y
△ Q113	iC224030	TR 2SC2240 GR, BL

* New Parts

P.C.B. MAIN

DSP-A2

Schm Ref.	PART NO.	Description
△ Q114	iA101521	TR 2SA1015 Y
△ Q115	iC224030	TR 2SC2240 GR, BL
△ Q116	iA101521	TR 2SA1015 Y
△ Q117	iC224030	TR 2SC2240 GR, BL
△ Q118	iA101521	TR 2SA1015 Y
△ Q119	iC224030	TR 2SC2240 GR, BL
△ Q120	VE198800	TR 2SC2705 O, Y
△ Q121	iA101521	TR 2SA1015 Y
△ Q122	VE198700	TR 2SA1145 O, Y
△ Q123A	iX632610	TR 2SA1837 O, Y
△ Q123C	iX632620	TR 2SC4793 O, Y
△ Q124	iC224030	TR 2SC2240 GR, BL
△ Q125	iC224030	TR 2SC2240 GR, BL
△ Q127	VE198700	TR 2SA1145 O, Y
△ Q128	iC224030	TR 2SC2240 GR, BL
△ Q129	VE198800	TR 2SC2705 O, Y
△ Q130	iA101521	TR 2SA1015 Y
△ Q131	VE198700	TR 2SA1145 O, Y
△ Q132A	iX632610	TR 2SA1837 O, Y
△ Q132C	iX632620	TR 2SC4793 O, Y
△ Q133	iC224030	TR 2SC2240 GR, BL
△ Q134	iC224030	TR 2SC2240 GR, BL
△ Q136	VE198700	TR 2SA1145 O, Y
△ Q137	iC224030	TR 2SC2240 GR, BL
△ Q138	VE198800	TR 2SC2705 O, Y
△ Q139	iA101521	TR 2SA1015 Y
△ Q140	VE198700	TR 2SA1145 O, Y
△ Q141A	iX632610	TR 2SA1837 O, Y
△ Q141C	iX632620	TR 2SC4793 O, Y
△ Q142	iC224030	TR 2SC2240 GR, BL
△ Q143	iC224030	TR 2SC2240 GR, BL
△ Q145	VE198700	TR 2SA1145 O, Y
△ Q146	iC224030	TR 2SC2240 GR, BL
△ Q147	VE198800	TR 2SC2705 O, Y
△ Q148	iA101521	TR 2SA1015 Y
△ Q149	VE198700	TR 2SA1145 O, Y
△ Q150A	iX632610	TR 2SA1837 O, Y
△ Q150C	iX632620	TR 2SC4793 O, Y
△ Q151	iC224030	TR 2SC2240 GR, BL
△ Q152	iC224030	TR 2SC2240 GR, BL
△ Q154	VE198700	TR 2SA1145 O, Y
△ Q155	iC224030	TR 2SC2240 GR, BL
△ Q156	VE198800	TR 2SC2705 O, Y
△ Q157	iA101521	TR 2SA1015 Y
△ Q158	VE198700	TR 2SA1145 O, Y
△ Q159A	iX632610	TR 2SA1837 O, Y
△ Q159C	iX632620	TR 2SC4793 O, Y
△ Q160	iC224030	TR 2SC2240 GR, BL
△ Q161	iC224030	TR 2SC2240 GR, BL
△ Q163	VE198700	TR 2SA1145 O, Y
△ Q164	iC224030	TR 2SC2240 GR, BL
△ Q165	iA097000	TR 2SA970 GR, BL
△# Q166	VY705000	TR 2SC5200 R, O

* New Parts

Schm Ref.	PART NO.	Description
△ Q167	iC224030	TR 2SC2240 GR, BL
△# Q168	VY705000	TR 2SC5200 R, O
△# Q169	VY705000	TR 2SC5200 R, O
△ Q170	iC224030	TR 2SC2240 GR, BL
△# Q171	VY705000	TR 2SC5200 R, O
△# Q172	VY705000	TR 2SC5200 R, O
△ Q173	iC224030	TR 2SC2240 GR, BL
△# Q174	VY705000	TR 2SC5200 R, O
△# Q175	VY705000	TR 2SC5200 R, O
△ Q176	iC224030	TR 2SC2240 GR, BL
△# Q177	VY705000	TR 2SC5200 R, O
△# Q178	VY705000	TR 2SC5200 R, O
△ Q179	iC224030	TR 2SC2240 GR, BL
△# Q180	VY705000	TR 2SC5200 R, O
Q181	VK432900	TR 2SD1915F S, T
Q182	VK432900	TR 2SD1915F S, T
Q183	VK432900	TR 2SD1915F S, T
Q184	VK432900	TR 2SD1915F S, T
Q185	VK432900	TR 2SD1915F S, T
Q186	VK432900	TR 2SD1915F S, T
Q187	VK432900	TR 2SD1915F S, T
Q188	VK432900	TR 2SD1915F S, T
Q189	VK432900	TR 2SD1915F S, T
Q190	VK432900	TR 2SD1915F S, T
△ R123	HL315150	R. MIL. OXD 150 Ω 1W
△ R124	HL315150	R. MIL. OXD 150 Ω 1W
△ R149	HL316100	R. MIL. OXD 1K Ω 1W
△ R150	HV455220	R. CAR. FP 220 Ω 1/4W
△ R151	HV455220	R. CAR. FP 220 Ω 1/4W
△ R152	HV455680	R. CAR. FP 680 Ω 1/4W
△ R159	HV455680	R. CAR. FP 680 Ω 1/4W
△ R166	HV455680	R. CAR. FP 680 Ω 1/4W
△ R173	HV455680	R. CAR. FP 680 Ω 1/4W
△ R180	HV455680	R. CAR. FP 680 Ω 1/4W
△ R187	HV454470	R. CAR. FP 47 Ω 1/4W
△ R188	HV455680	R. CAR. FP 680 Ω 1/4W
△ R189	HV455100	R. CAR. FP 100 Ω 1/4W
△ R193	VK189100	R. FUS 1.2K Ω 1/4W
△ R194	VK188000	R. FUS 150 Ω 1/4W
△ R196	HV455150	R. CAR. FP 150 Ω 1/4W
△ R199	HV456680	R. CAR. FP 6.8K Ω 1/4W
△ R201	HV455470	R. CAR. FP 470 Ω 1/4W
△ R202	HV455120	R. CAR. FP 120 Ω 1/4W
△ R203	HV456680	R. CAR. FP 6.8K Ω 1/4W
△ R204	HV455100	R. CAR. FP 100 Ω 1/4W
△ R206	HV455560	R. CAR. FP 560 Ω 1/4W
△ R208	HV454470	R. CAR. FP 47 Ω 1/4W
△ R209	HV455680	R. CAR. FP 680 Ω 1/4W
△ R210	HV455100	R. CAR. FP 100 Ω 1/4W
△ R214	VK189100	R. FUS 1.2K Ω 1/4W
△ R215	VK188000	R. FUS 150 Ω 1/4W
△ R217	HV455150	R. CAR. FP 150 Ω 1/4W
△ R220	HV456680	R. CAR. FP 6.8K Ω 1/4W

* New Parts

P.C.B. MAIN

Schm Ref.	PART NO.	Description
△ R222	HV455470	R. CAR. FP 470 Ω 1/4W
△ R223	HV455120	R. CAR. FP 120 Ω 1/4W
△ R224	HV456680	R. CAR. FP 6.8K Ω 1/4W
△ R225	HV455100	R. CAR. FP 100 Ω 1/4W
△ R227	HV455560	R. CAR. FP 560 Ω 1/4W
△ R229	HV454470	R. CAR. FP 47 Ω 1/4W
△ R230	HV455680	R. CAR. FP 680 Ω 1/4W
△ R231	HV455100	R. CAR. FP 100 Ω 1/4W
△ R235	VK189100	R. FUS 1.2K Ω 1/4W
△ R236	VK188000	R. FUS 150 Ω 1/4W
△ R238	HV455150	R. CAR. FP 150 Ω 1/4W
△ R241	HV456680	R. CAR. FP 6.8K Ω 1/4W
△ R243	HV455470	R. CAR. FP 470 Ω 1/4W
△ R244	HV455120	R. CAR. FP 120 Ω 1/4W
△ R245	HV456680	R. CAR. FP 6.8K Ω 1/4W
△ R246	HV455100	R. CAR. FP 100 Ω 1/4W
△ R248	HV455560	R. CAR. FP 560 Ω 1/4W
△ R250	HV454470	R. CAR. FP 47 Ω 1/4W
△ R251	HV455680	R. CAR. FP 680 Ω 1/4W
△ R252	HV455100	R. CAR. FP 100 Ω 1/4W
△ R256	VK189100	R. FUS 1.2K Ω 1/4W
△ R257	VK188000	R. FUS 150 Ω 1/4W
△ R259	HV455150	R. CAR. FP 150 Ω 1/4W
△ R262	HV456680	R. CAR. FP 6.8K Ω 1/4W
△ R264	HV455470	R. CAR. FP 470 Ω 1/4W
△ R265	HV455120	R. CAR. FP 120 Ω 1/4W
△ R266	HV456680	R. CAR. FP 6.8K Ω 1/4W
△ R267	HV455100	R. CAR. FP 100 Ω 1/4W
△ R269	HV455560	R. CAR. FP 560 Ω 1/4W
△ R271	HV454470	R. CAR. FP 47 Ω 1/4W
△ R272	HV455680	R. CAR. FP 680 Ω 1/4W
△ R273	HV455100	R. CAR. FP 100 Ω 1/4W
△ R277	VK189100	R. FUS 1.2K Ω 1/4W
△ R278	VK188000	R. FUS 150 Ω 1/4W
△ R280	HV455150	R. CAR. FP 150 Ω 1/4W
△ R283	HV456680	R. CAR. FP 6.8K Ω 1/4W
△ R285	HV455470	R. CAR. FP 470 Ω 1/4W
△ R286	HV455120	R. CAR. FP 120 Ω 1/4W
△ R287	HV456680	R. CAR. FP 6.8K Ω 1/4W
△ R288	HV455100	R. CAR. FP 100 Ω 1/4W
△ R290	HV455560	R. CAR. FP 560 Ω 1/4W
△ R296	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R300	VR412900	R. MIL. OXD 0.1 Ω 3W
△ R303	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R304	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R306	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R310	VR412900	R. MIL. OXD 0.1 Ω 3W
△ R313	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R314	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R316	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R318	VR412900	R. MIL. OXD 0.1 Ω 3W
△ R321	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R322	HV453470	R. CAR. FP 4.7 Ω 1/4W

* New Parts

Schm Ref.	PART NO.	Description
△ R324	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R326	VR412900	R. MIL. OXD 0.1 Ω 3W
△ R329	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R330	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R332	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R334	VR412900	R. MIL. OXD 0.1 Ω 3W
△ R337	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R338	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R339	HL315220	R. MIL. OXD 220 Ω 1W
△ R340	HL315220	R. MIL. OXD 220 Ω 1W
△ R342	HV454100	R. CAR. FP 10 Ω 1/4W
△ R344	HV454100	R. CAR. FP 10 Ω 1/4W
△ R345	HV454100	R. CAR. FP 10 Ω 1/4W
△ R347	HV454100	R. CAR. FP 10 Ω 1/4W
△ R349	HV454100	R. CAR. FP 10 Ω 1/4W
△ R359	HL315220	R. MIL. OXD 220 Ω 1W
△ R360	HL315220	R. MIL. OXD 220 Ω 1W
△ R362	HV455470	R. CAR. FP 470 Ω 1/4W
△ R363	HV455470	R. CAR. FP 470 Ω 1/4W
△ R364	HV455470	R. CAR. FP 470 Ω 1/4W
△ R365	HV455470	R. CAR. FP 470 Ω 1/4W
△ R366	HV455470	R. CAR. FP 470 Ω 1/4W
△ R367	HV455470	R. CAR. FP 470 Ω 1/4W
△ R368	HV455470	R. CAR. FP 470 Ω 1/4W
△ R369	HV455470	R. CAR. FP 470 Ω 1/4W
△ R370	HV455470	R. CAR. FP 470 Ω 1/4W
△ R371	HV455470	R. CAR. FP 470 Ω 1/4W
△ R373	HL315100	R. MIL. OXD 100 Ω 1W
△ R374	HV453100	R. CAR. FP 1 Ω 1/4W
△ R375	HV453100	R. CAR. FP 1 Ω 1/4W
△ R376	HV453100	R. CAR. FP 1 Ω 1/4W
△ R377	HV453100	R. CAR. FP 1 Ω 1/4W
△ R378	HV453100	R. CAR. FP 1 Ω 1/4W
△ RY101	KC002020	RELAY DH24D2-OT/M
△ RY102	KC002020	RELAY DH24D2-OT/M
△ RY104	VK438300	RELAY DH24D2-OT/M2
△ RY105	VK438300	RELAY DH24D2-OT/M2
△ RY601	VK438300	RELAY DH24D2-OT/M2
△ SW601	VT903900	SW. SLIDE SSAA22 (RT)
△ SW701	VZ075500	SW. SLIDE SL14-22AM5F
△ TE101	VC313700	TERM. SP 8P (RT)
△ TE101	VK506200	TERM. SP 8P (BG)
* TE601	V2504700	TERM. SP 4P (BG)
* TE601	VF018400	TERM. SP 4P (RT)
* TE602	V2504800	TERM. SP 6P (RT)
* TE602	V2504900	TERM. SP 6P (BG)
	VJ828000	PIN IMSA-6024-03E
	BB071360	SCR. TERM 8.3x13
	BB070700	GND. MIL
	VY843300	HEAT. SINK
	VK697600	SCR. BND. HD 3x10 SP ZMC2-Y

* New Parts

P.C.B. OPERATION

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Schm Ref.	PART NO.	Description
* V3010300	P.C.B.	OPERATION
CB401	VD005000	CN. BS. PIN 7P
CB402	VD004500	CN. BS. PIN 2P
CB403	VP206500	HOLDER. FUS EYF-52BC
CB404	VP206500	HOLDER. FUS EYF-52BC
CB405	LA002320	TERM. WRAP 3P
CB406	VP206500	HOLDER. FUS EYF-52BC
CB407	VP206500	HOLDER. FUS EYF-52BC
CB408	LA002320	TERM. WRAP 3P
CB409	VD004700	CN. BS. PIN 4P
CB410	VD005100	CN. BS. PIN 8P
CB411	VD004500	CN. BS. PIN 2P
CB412	VD004800	CN. BS. PIN 5P
CB413	LA002000	TERM. WRAP 2P
CB414	VL844700	CN. BS. PIN 3P
CB502	VB858400	CN. BS. PIN 5P
CB901	VF982300	CN. BS. PIN 17P
CB902	VQ044400	CN. BS. PIN 9P
CB903	VB858300	CN. BS. PIN 4P
CB904	VD004600	CN. BS. PIN 3P
C401	Vi845600	C. EL 47uF 50V
C402	VF466800	C. CE. TUBLR 100pF 50V
C403	UP652100	C. POL 100pF 100V
C404	Vi845900	C. EL 10uF 63V
C405	Vi845900	C. EL 10uF 63V
C406	Vi844100	C. EL 33uF 35V
C407	Vi844100	C. EL 33uF 35V
C408	Vi845900	C. EL 10uF 63V
C409	Vi845900	C. EL 10uF 63V
C410	Vi845600	C. EL 47uF 50V
C411	VF466800	C. CE. TUBLR 100pF 50V
C412	UP652100	C. POL 100pF 100V
C413	VR325000	C. MYLAR 100pF 100V
C414	UA654100	C. MYLAR 0.01uF 50V
C415	VS696700	C. CE 33pF 500V
C416	Vi843500	C. EL 100uF 25V
C417	Vi845600	C. EL 47uF 50V
C418	UA654470	C. MYLAR 0.047uF 50V
C419	Vi842600	C. EL 100uF 16V
C420	VR325000	C. MYLAR 100pF 100V
C421	VR325000	C. MYLAR 100pF 100V
C422	UA654470	C. MYLAR 0.047uF 50V
C423	UA654100	C. MYLAR 0.01uF 50V
C424	VS696700	C. CE 33pF 500V
C425	Vi843500	C. EL 100uF 25V
C426	Vi845600	C. EL 47uF 50V
C427	Vi842600	C. EL 100uF 16V
C428	VR325000	C. MYLAR 100pF 100V
△ C429	VR168300	C. MYLAR. ML ECQ-V1H104JL3
* C430	V2864800	C. EL 3300uF 35V
△ C431	VR168300	C. MYLAR. ML ECQ-V1H104JL3
* C432	V2864800	C. EL 3300uF 35V
C433	VH053100	C. CE. TUBLR 0.1uF 50V

* New Parts

Schm Ref.	PART NO.	Description
C434	VH520500	C. EL 1000uF 35V
C435	VR168300	C. MYLAR. ML ECQ-V1H104JL3
C436	UR739680	C. EL 6800uF 16V
* C437	UR73A100	C. EL 10000uF 16V
* C438	UR73A100	C. EL 10000uF 16V
C439	VR168300	C. MYLAR. ML ECQ-V1H104JL3
C440	UR739680	C. EL 6800uF 16V
C441	Vi845900	C. EL 10uF 63V
C442	Vi845600	C. EL 47uF 50V
C443	Vi845900	C. EL 10uF 63V
C444	Vi845900	C. EL 10uF 63V
C445	Vi845600	C. EL 47uF 50V
C446	Vi844900	C. EL 1uF 50V
C447	Vi844900	C. EL 1uF 50V
C448	Vi845600	C. EL 47uF 50V
C449	VK180400	C. EL 1000uF 16V
C450	VK180400	C. EL 1000uF 16V
C451	VF467000	C. CE. TUBLR 1000pF 50V
C452	Vi845700	C. EL 100uF 50V
C453	Vi845900	C. EL 10uF 63V
C454	Vi845900	C. EL 10uF 63V
C455	Vi843500	C. EL 100uF 25V
C456	Vi843500	C. EL 100uF 25V
C501	Vi846000	C. EL 22uF 63V
C502	Vi846000	C. EL 22uF 63V
C503	Vi845900	C. EL 10uF 63V
C504	Vi845900	C. EL 10uF 63V
C505	Vi844900	C. EL 1uF 50V
C506	Vi844500	C. EL 0.1uF 50V
C507	Vi844500	C. EL 0.1uF 50V
C508	Vi845000	C. EL 2.2uF 50V
C509	Vi845000	C. EL 2.2uF 50V
C510	Vi844500	C. EL 0.1uF 50V
C511	Vi844500	C. EL 0.1uF 50V
C512	Vi844900	C. EL 1uF 50V
C513	UP652100	C. POL 100pF 100V
C514	UP652100	C. POL 100pF 100V
C515	Vi845600	C. EL 47uF 50V
C516	UP652100	C. POL 100pF 100V
C517	UP652100	C. POL 100pF 100V
C518	Vi845600	C. EL 47uF 50V
C519	Vi845900	C. EL 10uF 63V
C520	Vi845900	C. EL 10uF 63V
C521	VR168400	C. MYLAR. ML ECQ-V1H124JL3
C522	UA654330	C. MYLAR 0.033uF 50V
C523	UA654330	C. MYLAR 0.033uF 50V
C524	VR168400	C. MYLAR. ML ECQ-V1H124JL3
C525	UB245100	C. CE. M. CHP 0.1uF 25V
C526	UB052100	C. CE. M. CHP 100pF 50V
C527	UB052100	C. CE. M. CHP 100pF 50V
C528	UB245100	C. CE. M. CHP 0.1uF 25V
C529	UB245100	C. CE. M. CHP 0.1uF 25V
C530	VF467000	C. CE. TUBLR 1000pF 50V

* New Parts

P.C.B. OPERATION

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Schm Ref.	PART NO.	Description
C531	VF467000	C. CE. TUBLR 1000pF 50V
C532	VH053100	C. CE. TUBLR 0.1uF 50V
C901	VH053100	C. CE. TUBLR 0.1uF 50V
C902	Vi845900	C. EL 10uF 63V
C903	UB245100	C. CE. M. CHP 0.1uF 25V
C904	VJ900700	C. CE. M. CHP 33pF 50V
C905	UB245100	C. CE. M. CHP 0.1uF 25V
C906	UB245100	C. CE. M. CHP 0.1uF 25V
C907	Vi841200	C. EL 330uF 6.3V
C908	VH053100	C. CE. TUBLR 0.1uF 50V
C909	Vi845900	C. EL 10uF 63V
C910	VH053100	C. CE. TUBLR 0.1uF 50V
C911	VH053100	C. CE. TUBLR 0.1uF 50V
C912	VH053100	C. CE. TUBLR 0.1uF 50V
C913	Vi845900	C. EL 10uF 63V
C914	Vi846200	C. EL 47uF 63V
C915	VH053100	C. CE. TUBLR 0.1uF 50V
C916	VH053100	C. CE. TUBLR 0.1uF 50V
C917	UB245100	C. CE. M. CHP 0.1uF 25V
C918	UB245100	C. CE. M. CHP 0.1uF 25V
C919	UB245100	C. CE. M. CHP 0.1uF 25V
C920	UB051330	C. CE. M. CHP 33pF 50V
C921	UB051330	C. CE. M. CHP 33pF 50V
C922	UB051330	C. CE. M. CHP 33pF 50V
C923	UB051330	C. CE. M. CHP 33pF 50V
C924	UB245100	C. CE. M. CHP 0.1uF 25V
D401	VG442800	DIODE. ZENR MTZJ27A 27V
D402	VG442400	DIODE. ZENR MTZJ24A 24V
D403	iF004600	DIODE 1SS133
D404	iF004600	DIODE 1SS133
D405	iF004600	DIODE 1SS133
D406	iF004600	DIODE 1SS133
△ D407	VT359600	DIODE. BRG D3SBA20 4A 200V
△ D408	VT359600	DIODE. BRG D3SBA20 4A 200V
D409	iF004600	DIODE 1SS133
D410	VG442600	DIODE. ZENR MTZJ24C 24V
D411	VG440800	DIODE. ZENR MTZJ15B 15V
D501	iF004600	DIODE 1SS133
D902	VG438300	DIODE. ZENR MTZJ6.8B 6.8V
D903	VG443500	DIODE. ZENR MTZJ30D 30V
△ F401	KB003240	FUSE T5.0A 250V
△ F402	KB003240	FUSE T5.0A 250V
G401	VR463400	TERM. GND D3.5 TP00385
IC401	iG092000	IC M5220L
△ IC405	XJ607A00	IC NJM7805FA 5V
△ IC406	XJ607A00	IC NJM7805FA 5V
△ IC407	XJ608A00	IC NJM7812FA
△ IC408	XE436A00	IC NJM79M05FA
△ IC409	XD343A00	IC NJM79M12FA
IC501	XM356A00	IC NJM2068LD
IC502	XB247301	IC uPC4570HA
IC901	XR188A00	IC LC75710NE FLD
IC902	XR188A00	IC LC75710NE FLD

* New Parts

Schm Ref.	PART NO.	Description
* JK501	V2589500	CN 1P
JK502	VT749200	JACK. PHONE HLJ5307
L401	GD900470	COIL 1.5uH
L402	GD900470	COIL 1.5uH
PJ501	VS868400	JACK. PIN 3P
△ Q401	VP872700	TR 2SC4488 S, T
△ Q402	VP872600	TR 2SA1708 S, T
△ Q403	VP872700	TR 2SC4488 S, T
△ Q404	VK174800	TR 2SC4512 O, P, Y
Q405	iC224030	TR 2SC2240 GR, BL
△ Q406	VP872600	TR 2SA1708 S, T
Q407	iC224030	TR 2SC2240 GR, BL
△ Q408	VK174800	TR 2SC4512 O, P, Y
△ Q409	VP872700	TR 2SC4488 S, T
△ Q410	VK174800	TR 2SC4512 O, P, Y
Q411	iC224030	TR 2SC2240 GR, BL
△ Q412	VP872600	TR 2SA1708 S, T
Q413	iC224030	TR 2SC2240 GR, BL
△ Q414	VK174800	TR 2SC4512 O, P, Y
△ Q415	VC141900	TR 2SB941 P, Q
Q416	iC1815C0	TR 2SC1815 Y
Q901	iC241200	TR. CHP 2SC2412K Q, R, S
Q902	iC241200	TR. CHP 2SC2412K Q, R, S
Q903	iC241200	TR. CHP 2SC2412K Q, R, S
Q904	iC241200	TR. CHP 2SC2412K Q, R, S
Q905	iC241200	TR. CHP 2SC2412K Q, R, S
Q906	iC241200	TR. CHP 2SC2412K Q, R, S
Q907	iC241200	TR. CHP 2SC2412K Q, R, S
Q908	iC241200	TR. CHP 2SC2412K Q, R, S
Q909	iC241200	TR. CHP 2SC2412K Q, R, S
Q910	iC241200	TR. CHP 2SC2412K Q, R, S
Q911	VP872600	TR 2SA1708 S, T
△ R409	HV455330	R. CAR. FP 330 Ω 1/4W
△ R410	VE869300	R. MIL. OXD 0.1 Ω 2W
△ R411	HV456220	R. CAR. FP 2.2K Ω 1/4W
△ R413	HV456150	R. CAR. FP 1.5K Ω 1/4W
△ R418	HV455100	R. CAR. FP 100 Ω 1/4W
R419	HV453470	R. CAR. FP 4.7 Ω 1/4W
R420	HV455220	R. CAR. FP 220 Ω 1/4W
△ R421	HV455100	R. CAR. FP 100 Ω 1/4W
R422	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R425	HV455330	R. CAR. FP 330 Ω 1/4W
△ R426	VE869300	R. MIL. OXD 0.1 Ω 2W
△ R427	HV456220	R. CAR. FP 2.2K Ω 1/4W
△ R429	HV456150	R. CAR. FP 1.5K Ω 1/4W
△ R434	HV455100	R. CAR. FP 100 Ω 1/4W
R435	HV455220	R. CAR. FP 220 Ω 1/4W
△ R436	HV455100	R. CAR. FP 100 Ω 1/4W
R439	HV454100	R. CAR. FP 10 Ω 1/4W
R441	HV454100	R. CAR. FP 10 Ω 1/4W
△ R443	HV453470	R. CAR. FP 4.7 Ω 1/4W
△ R444	VP939900	R. MIL. OXD 15 Ω 1W
△ R448	VP939500	R. MIL. FLM 1 Ω 1W

* New Parts

P.C.B. OPERATION & VIDEO

DSP-A2

Schm Ref.	PART NO.	Description
△ R449	VP939500	R. MTL. FLM 1Ω 1W
△ R450	HL324220	R. MTL. OXD 22Ω 2W
△ R451	VP939900	R. MTL. OXD 15Ω 1W
△ R455	HV454470	R. CAR. FP 47Ω 1/4W
△ R461	HV454470	R. CAR. FP 47Ω 1/4W
△ R462	HL324220	R. MTL. OXD 22Ω 2W
△ R463	VP939900	R. MTL. OXD 15Ω 1W
△ R464	HV453470	R. CAR. FP 4.7Ω 1/4W
△ R465	HV453470	R. CAR. FP 4.7Ω 1/4W
R466	HV456330	R. CAR. FP 3.3KΩ 1/4W
R467	HV456470	R. CAR. FP 4.7KΩ 1/4W
R469	HL314100	R. MTL. OXD 10Ω 1W
R501	HV454470	R. CAR. FP 47Ω 1/4W
R504	HV454470	R. CAR. FP 47Ω 1/4W
RY501	VM640200	RELAY RY12W-OH-K-DC12V
* SW501	V2643900	SW. PUSH SPUN22 2
* SW502	V2790200	SW. RT SRRM1A
SW901	VG392900	SW. TACT SKHVAA
SW902	VG392900	SW. TACT SKHVAA
SW903	VZ630900	SW. RT. ENC EC16B12202
SW904	VG392900	SW. TACT SKHVAA
SW905	VG392900	SW. TACT SKHVAA
SW906	VG392900	SW. TACT SKHVAA
SW909	VG392900	SW. TACT SKHVAA
SW910	VG392900	SW. TACT SKHVAA
SW911	VG392900	SW. TACT SKHVAA
SW912	VG392900	SW. TACT SKHVAA
SW913	VG392900	SW. TACT SKHVAA
SW918	VG392900	SW. TACT SKHVAA
TH401	VM842300	POSISTOR PTH9M04 BF/80°C
U901	VZ411100	L. DTCT GP1U281X
* V901	V2763100	FL. DSPLY 32-BT-05G
* VR501	V2859800	VR B20KΩ
* VR502	V2859900	VR G25KΩ
* VR503	V2860000	VR MN100KΩ
	VJ828000	PIN IMSA-6024-03E
	BB071360	SCR. TERM 8.3x13
	VP750600	SCR. TERM MEP1700
	VZ628400	SUPRT
	VZ628500	SHEET

* New Parts

Schm Ref.	PART NO.	Description
* V3011900	P. C. B.	VIDEO(RT)
* V3256800	P. C. B.	VIDEO(BG)
CB501	VB858100	CN. BS. PIN 2P
CB502	VQ044700	CN. BS. PIN 16P
CB601	VB858200	CN. BS. PIN 3P
CB603	VQ044700	CN. BS. PIN 16P
CB604	VM859700	CN. BS. PIN 16P
CB702	VQ047300	CN. BS. PIN 12P
CB703	VQ047200	CN. BS. PIN 9P
CB704	VM859500	CN. BS. PIN 11P
CB705	VM688900	CN. BS. PIN 10P
C501	Vi841400	C. EL 1000uF 6.3V
C502	Vi845900	C. EL 10uF 63V
C503	UB052100	C. CE. M. CHP 100pF 50V
C504	UB245100	C. CE. M. CHP 0.1uF 25V
C505	Vi845900	C. EL 10uF 63V
C506	UB245100	C. CE. M. CHP 0.1uF 25V
C507	Vi841400	C. EL 1000uF 6.3V
C508	UB052100	C. CE. M. CHP 100pF 50V
C515	UB245100	C. CE. M. CHP 0.1uF 25V
C516	UB245100	C. CE. M. CHP 0.1uF 25V
C517	Vi845600	C. EL 47uF 50V
C518	Vi845600	C. EL 47uF 50V
C519	Vi845600	C. EL 47uF 50V
C520	Vi845600	C. EL 47uF 50V
C521	Vi845600	C. EL 47uF 50V
C601	UB052100	C. CE. M. CHP 100pF 50V
C602	UB052100	C. CE. M. CHP 100pF 50V
C603	UB052100	C. CE. M. CHP 100pF 50V
C604	UB052100	C. CE. M. CHP 100pF 50V
C605	UB052100	C. CE. M. CHP 100pF 50V
C606	UB052100	C. CE. M. CHP 100pF 50V
C607	Vi845900	C. EL 10uF 63V
C608	Vi845900	C. EL 10uF 63V
C609	Vi845900	C. EL 10uF 63V
C610	Vi845900	C. EL 10uF 63V
C611	Vi845900	C. EL 10uF 63V
C612	Vi845900	C. EL 10uF 63V
C613	Vi841400	C. EL 1000uF 6.3V
C614	Vi841400	C. EL 1000uF 6.3V
C615	Vi845900	C. EL 10uF 63V
C616	Vi841400	C. EL 1000uF 6.3V
C617	UB013330	C. CE. M. CHP 3300pF 50V
C618	Vi845600	C. EL 47uF 50V
C619	Vi845600	C. EL 47uF 50V
C620	UB012820	C. CE. M. CHP 820pF 50V
C621	Vi841800	C. EL 100uF 10V
C622	Vi845600	C. EL 47uF 50V
C623	UB052120	C. CE. M. CHP 120pF 50V
C624	UB044100	C. CE. M. CHP 0.01uF 50V
C625	Vi845600	C. EL 47uF 50V
C626	Vi845900	C. EL 10uF 63V
C627	UB013120	C. CE. M. CHP 1200pF 50V

* New Parts

P.C.B. VIDEO

Schm Ref.	PART NO.	Description
C628	UB012470	C. CE. M. CHP 470pF 50V
C629	Vi844900	C. EL 1uF 50V
C630	Vi844900	C. EL 1uF 50V
C631	UB245100	C. CE. M. CHP 0.1uF 25V
C632	Vi845600	C. EL 47uF 50V
C633	UB245100	C. CE. M. CHP 0.1uF 25V
C634	Vi845600	C. EL 47uF 50V
C635	VJ899300	C. CE. M. CHP 8pF 50V
C636	VJ899200	C. CE. M. CHP 7pF 50V
C637	UB051240	C. CE. M. CHP 24pF 50V
C638	UB051240	C. CE. M. CHP 24pF 50V
C639	UB012220	C. CE. M. CHP 220pF 50V
C640	Vi845900	C. EL 10uF 63V
C641	Vi845200	C. EL 4.7uF 50V
C642	Vi845600	C. EL 47uF 50V
C643	Vi845600	C. EL 47uF 50V
C644	VJ900700	C. CE. M. CHP 33pF 50V
C645	VJ900300	C. CE. M. CHP 22pF 50V
C646	Vi841400	C. EL 1000uF 6.3V
C647	UB245100	C. CE. M. CHP 0.1uF 25V
C648	UB245100	C. CE. M. CHP 0.1uF 25V
C649	UB012820	C. CE. M. CHP 820pF 50V (BG)
C649	UB013150	C. CE. M. CHP 1500pF 50V (RT)
C650	UB052100	C. CE. M. CHP 100pF 50V
C651	UB245100	C. CE. M. CHP 0.1uF 25V
C701	Vi845200	C. EL 4.7uF 50V
C702	Vi845200	C. EL 4.7uF 50V
C703	Vi845200	C. EL 4.7uF 50V
C704	Vi845200	C. EL 4.7uF 50V
C705	Vi845200	C. EL 4.7uF 50V
C706	Vi845200	C. EL 4.7uF 50V
C707	Vi845200	C. EL 4.7uF 50V
C708	Vi845200	C. EL 4.7uF 50V
C709	Vi845000	C. EL 2.2uF 50V
C710	UP652100	C. POL 100pF 100V
C711	UP652100	C. POL 100pF 100V
C712	Vi845000	C. EL 2.2uF 50V
C713	Vi845000	C. EL 2.2uF 50V
C714	Vi845000	C. EL 2.2uF 50V
C715	Vi845000	C. EL 2.2uF 50V
C716	Vi845000	C. EL 2.2uF 50V
C717	Vi845000	C. EL 2.2uF 50V
C718	Vi845000	C. EL 2.2uF 50V
C719	Vi845900	C. EL 10uF 63V
C720	Vi845900	C. EL 10uF 63V
C721	Vi845900	C. EL 10uF 63V
C722	UP652100	C. POL 100pF 100V
C723	Vi841800	C. EL 100uF 10V
C724	UP652100	C. POL 100pF 100V
C725	Vi841800	C. EL 100uF 10V
C726	Vi845900	C. EL 10uF 63V
C727	Vi845900	C. EL 10uF 63V
C728	UP652100	C. POL 100pF 100V

* New Parts

Schm Ref.	PART NO.	Description
C729	Vi841800	C. EL 100uF 10V
C730	UP652100	C. POL 100pF 100V
C731	Vi841800	C. EL 100uF 10V
C732	Vi845900	C. EL 10uF 63V
C733	Vi845900	C. EL 10uF 63V
C734	UP652100	C. POL 100pF 100V
C735	Vi841800	C. EL 100uF 10V
C736	UP652100	C. POL 100pF 100V
C737	Vi841800	C. EL 100uF 10V
C738	Vi845900	C. EL 10uF 63V
C739	Vi845600	C. EL 47uF 50V
C740	Vi845600	C. EL 47uF 50V
C741	Vi845200	C. EL 4.7uF 50V
C742	VH053100	C. CE. TUBLR 0.1uF 50V
C743	VH053100	C. CE. TUBLR 0.1uF 50V
C744	Vi845200	C. EL 4.7uF 50V
C745	Vi845200	C. EL 4.7uF 50V
C746	VH053100	C. CE. TUBLR 0.1uF 50V
C747	VH053100	C. CE. TUBLR 0.1uF 50V
C748	Vi845200	C. EL 4.7uF 50V
C749	Vi845200	C. EL 4.7uF 50V
C750	VH053100	C. CE. TUBLR 0.1uF 50V
C751	VH053100	C. CE. TUBLR 0.1uF 50V
C752	Vi845200	C. EL 4.7uF 50V
C753	Vi845900	C. EL 10uF 63V
C754	Vi845900	C. EL 10uF 63V
C755	Vi845900	C. EL 10uF 63V
C756	Vi845900	C. EL 10uF 63V
C757	Vi845900	C. EL 10uF 63V
C758	Vi845900	C. EL 10uF 63V
C759	VH053100	C. CE. TUBLR 0.1uF 50V
C760	Vi845600	C. EL 47uF 50V
C761	Vi845600	C. EL 47uF 50V
C762	UP652100	C. POL 100pF 100V
C763	UP652100	C. POL 100pF 100V
D601	iF004600	DIODE 1SS133
D602	iF004600	DIODE 1SS133
D603	iF004600	DIODE 1SS133
D604	iF004600	DIODE 1SS133
D605	iF004600	DIODE 1SS133
D606	iF004600	DIODE 1SS133
D607	iF004600	DIODE 1SS133
D608	iF004600	DIODE 1SS133
D609	iF004600	DIODE 1SS133
D610	iF004600	DIODE 1SS133
D611	iF004600	DIODE 1SS133
D612	iF004600	DIODE 1SS133
IC501	XL493A00	IC TC74HC4051AP
IC502	XL493A00	IC TC74HC4051AP
IC503	iR406600	IC TC74HC4066AP AN-SW
IC504	Xi109D00	IC MC14576CP
IC601	XL493A00	IC TC74HC4051AP
IC602	XL493A00	IC TC74HC4051AP

* New Parts

P.C.B. VIDEO & FUNCTION

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Schm Ref.	PART NO.	Description
IC603	XL493A00	IC TC74HC4051AP
IC604	XL493A00	IC TC74HC4051AP
IC605	iR406600	IC TC74HC4066AP AN-SW
IC606	iR405300	IC TC74HC4053AP
IC607	iG142200	IC TC74HCU04AP
IC608	Xi109D00	IC MC14576CP
IC609	Xi109D00	IC MC14576CP
IC610	Xi109D00	IC MC14576CP
IC611	XS502A00	IC LC74781-9626
IC701	XF291A00	IC uPC4570G2
IC702	XF291A00	IC uPC4570G2
IC703	XF291A00	IC uPC4570G2
IC704	XF291A00	IC uPC4570G2
IC705	XR040A00	IC TC9299P
IC706	XR040A00	IC TC9299P
IC707	XR040A00	IC TC9299P
IC708	XF291A00	IC uPC4570G2
IC709	XF291A00	IC uPC4570G2
IC710	XF291A00	IC uPC4570G2
JK601	VU245200	CN. DIN 1P
JK602	VP113600	CN. DIN 2P
JK603	VP113600	CN. DIN 2P
JK604	VT973000	CN. DIN 2P
* L601	V2726100	COIL 33uH
* L602	V3233700	COIL 1.5uH
PJ501	VR110100	JACK. PIN 2P
PJ502	VR110100	JACK. PIN 2P
PJ503	VR110100	JACK. PIN 2P
PJ601	VN134600	JACK. PIN 1P
Q601	iC174020	TR 2SC1740S R, S
Q602	VH964100	TR. DGT DTA143ES
Q603	iC287820	TR 2SC2878 A, B
Q604	VG721700	TR. DGT DTA144ES
Q605	VG721700	TR. DGT DTA144ES
Q606	VD678700	TR. DGT DTC114ES
Q607	iC174020	TR 2SC1740S R, S
Q608	iC174020	TR 2SC1740S R, S
Q609	iA101521	TR 2SA1015 Y
Q610	iC053540	TR 2SC535 A, B, C
Q611	iC224030	TR 2SC2240 GR, BL
Q612	iC174020	TR 2SC1740S R, S
VR701	VY689400	VR. MTR Y100K Ω
XL601	VV949800	RSNR. CRYST 14.31818MHz (RT)
XL601	VV949900	RSNR. CRYST 17.734475MHz (BG)
	BB071360	SCR. TERM 8.3x13

* New Parts

Schm Ref.	PART NO.	Description
* V3010800	P. C. B.	FUNCTION (RT)
* V3011200	P. C. B.	FUNCTION (B)
* V3011300	P. C. B.	FUNCTION (G)
CB1	VQ045400	CN. BS. PIN 25P
CB2	VQ044700	CN. BS. PIN 16P
CB3	VD005100	CN. BS. PIN 8P
CB4	VM859500	CN. BS. PIN 11P
CB5	VQ044800	CN. BS. PIN 18P
CB6	VB858200	CN. BS. PIN 3P
CB7	VF982300	CN. BS. PIN 17P
CB8	VP113500	CN. BS. PIN 10P
CB9	VB858300	CN. BS. PIN 4P (RT)
CB12	VQ047300	CN. BS. PIN 12P
CB201	VB858200	CN. BS. PIN 3P
CB202	VP082900	CN. BS. PIN 25P
CB204	VP573800	CN. BS. PIN 18P
CB205	VM923600	CN. BS. PIN 13P
CB206	VN066500	CN. BS. PIN 12P
CB801	VG879900	CN. BS. PIN 2P
CB803	VP206500	HOLDER. FUS EYF-52BC (BG)
CB803	VS996100	HOLDER. FUS EYF64BC (RT)
CB804	VP206500	HOLDER. FUS EYF-52BC (BG)
CB805	VS996100	HOLDER. FUS EYF64BC (RT)
CB806	VP206500	HOLDER. FUS EYF-52BC (RTG)
CB807	VP206500	HOLDER. FUS EYF-52BC (RTG)
CB808	LA002410	TERM. WRAP 2P
CB809	LA002410	TERM. WRAP 2P (RT)
C1	UP652470	C. POL 470pF 100V
C2	UP652470	C. POL 470pF 100V
C3	UP652470	C. POL 470pF 100V
C4	UP652470	C. POL 470pF 100V
C5	UP652470	C. POL 470pF 100V
C6	UP652470	C. POL 470pF 100V
C7	UP652220	C. POL 220pF 100V
C8	UP652220	C. POL 220pF 100V
C9	UP652470	C. POL 470pF 100V
C10	UP652470	C. POL 470pF 100V
C11	UP652220	C. POL 220pF 100V
C12	UP652220	C. POL 220pF 100V
C13	UP652470	C. POL 470pF 100V
C14	UP652470	C. POL 470pF 100V
C23	Vi844900	C. EL 1uF 50V
C24	Vi844900	C. EL 1uF 50V
C25	UB245100	C. CE. M. CHP 0.1uF 25V
C26	UB245100	C. CE. M. CHP 0.1uF 25V
C27	UB013100	C. CE. M. CHP 1000pF 50V
C28	UB013100	C. CE. M. CHP 1000pF 50V
C29	UB245100	C. CE. M. CHP 0.1uF 25V
C30	Vi844800	C. EL 0.47uF 50V
C31	UB245100	C. CE. M. CHP 0.1uF 25V
C33	UB245100	C. CE. M. CHP 0.1uF 25V
C34	UB245100	C. CE. M. CHP 0.1uF 25V
C35	UB245100	C. CE. M. CHP 0.1uF 25V

* New Parts

P.C.B. FUNCTION

Schm Ref.	PART NO.	Description
C36	UB245100	C. CE. M. CHP 0.1uF 25V
C37	VT740700	C. EL 4700uF 5.5V
C38	UB245100	C. CE. M. CHP 0.1uF 25V
C39	Vi841400	C. EL 1000uF 6.3V
C40	Vi841400	C. EL 1000uF 6.3V
C41	UB245100	C. CE. M. CHP 0.1uF 25V
C42	Vi845900	C. EL 10uF 63V
C43	Vi845600	C. EL 47uF 50V
C44	UB245100	C. CE. M. CHP 0.1uF 25V
C45	UB245100	C. CE. M. CHP 0.1uF 25V
C46	UB245100	C. CE. M. CHP 0.1uF 25V
C47	Vi845000	C. EL 2.2uF 50V
C48	Vi845000	C. EL 2.2uF 50V
C49	UB245100	C. CE. M. CHP 0.1uF 25V
C50	UB245100	C. CE. M. CHP 0.1uF 25V
C51	UB245100	C. CE. M. CHP 0.1uF 25V
C52	Vi841400	C. EL 1000uF 6.3V
C53	UB245100	C. CE. M. CHP 0.1uF 25V
C201	UP652100	C. POL 100pF 100V
C202	UP652100	C. POL 100pF 100V
C203	UB044100	C. CE. M. CHP 0.01uF 50V
C204	UP652220	C. POL 220pF 100V
C205	UP652220	C. POL 220pF 100V
C206	VH053100	C. CE. TUBLR 0.1uF 50V
C207	VH053100	C. CE. TUBLR 0.1uF 50V
C208	Vi845000	C. EL 2.2uF 50V
C209	UP652220	C. POL 220pF 100V
C210	Vi841900	C. EL 220uF 10V
C211	UA653910	C. MYLAR 9100pF 50V
C212	UA653910	C. MYLAR 9100pF 50V
C213	UP652220	C. POL 220pF 100V
C214	Vi841900	C. EL 220uF 10V
C215	Vi845000	C. EL 2.2uF 50V
C216	UP652470	C. POL 470pF 100V
C217	UP652470	C. POL 470pF 100V
C218	UP652470	C. POL 470pF 100V
C219	UP652470	C. POL 470pF 100V
C220	UP652470	C. POL 470pF 100V
C221	UP652470	C. POL 470pF 100V
C222	UP652470	C. POL 470pF 100V
C223	UP652470	C. POL 470pF 100V
C224	UP652470	C. POL 470pF 100V
C225	UP652470	C. POL 470pF 100V
C226	Vi845000	C. EL 2.2uF 50V
C227	Vi845600	C. EL 47uF 50V
C228	UA653100	C. MYLAR 1000pF 50V
C229	UA654330	C. MYLAR 0.033uF 50V
C230	UA654330	C. MYLAR 0.033uF 50V
C231	UA653100	C. MYLAR 1000pF 50V
C232	Vi845600	C. EL 47uF 50V
C233	Vi845000	C. EL 2.2uF 50V
C239	Vi845900	C. EL 10uF 63V
C240	Vi845900	C. EL 10uF 63V

* New Parts

Schm Ref.	PART NO.	Description
C242	Vi845900	C. EL 10uF 63V
C243	Vi845900	C. EL 10uF 63V
C244	Vi845600	C. EL 47uF 50V
C245	Vi845600	C. EL 47uF 50V
C246	Vi846000	C. EL 22uF 63V
C247	Vi846000	C. EL 22uF 63V
C248	UB245100	C. CE. M. CHP 0.1uF 25V
C249	UB245100	C. CE. M. CHP 0.1uF 25V
C250	Vi845900	C. EL 10uF 63V
C251	Vi845600	C. EL 47uF 50V
C252	Vi845600	C. EL 47uF 50V
C253	Vi845900	C. EL 10uF 63V
C254	UB245100	C. CE. M. CHP 0.1uF 25V
C255	UB245100	C. CE. M. CHP 0.1uF 25V
C256	Vi841900	C. EL 220uF 10V
C258	UA654180	C. MYLAR 0.018uF 50V
C259	UA654680	C. MYLAR 0.068uF 50V
C260	UB245100	C. CE. M. CHP 0.1uF 25V
C261	UB245100	C. CE. M. CHP 0.1uF 25V
C262	Vi845900	C. EL 10uF 63V
C263	UP652100	C. POL 100pF 100V
C264	UP652100	C. POL 100pF 100V
C265	Vi845900	C. EL 10uF 63V
C266	Vi845900	C. EL 10uF 63V
C267	Vi845900	C. EL 10uF 63V
C268	Vi845900	C. EL 10uF 63V
C269	Vi845900	C. EL 10uF 63V
C270	UB245100	C. CE. M. CHP 0.1uF 25V
C271	UB245100	C. CE. M. CHP 0.1uF 25V
C272	Vi845900	C. EL 10uF 63V
C273	Vi845900	C. EL 10uF 63V
C274	Vi845900	C. EL 10uF 63V
C275	Vi845900	C. EL 10uF 63V
C276	UB245100	C. CE. M. CHP 0.1uF 25V
C277	UB245100	C. CE. M. CHP 0.1uF 25V
C278	UP652100	C. POL 100pF 100V
C279	UP652100	C. POL 100pF 100V
C280	UA654270	C. MYLAR 0.027uF 50V
C281	UA654270	C. MYLAR 0.027uF 50V
C282	Vi845900	C. EL 10uF 63V
C283	Vi845900	C. EL 10uF 63V
C284	UA654270	C. MYLAR 0.027uF 50V
C285	UA654270	C. MYLAR 0.027uF 50V
C286	Vi845900	C. EL 10uF 63V
C287	UP652100	C. POL 100pF 100V
C288	Vi845600	C. EL 47uF 50V
C289	Vi845600	C. EL 47uF 50V
C290	UP652100	C. POL 100pF 100V
C291	Vi845900	C. EL 10uF 63V
C292	Vi845600	C. EL 47uF 50V
C293	Vi845600	C. EL 47uF 50V
C294	Vi845000	C. EL 2.2uF 50V
C295	Vi845000	C. EL 2.2uF 50V

* New Parts

P.C.B. FUNCTION

DSP-A2

Schm Ref.	PART NO.	Description
* C296	VS029500	C. MYLA. CHP 0.00047uF 50V
* C297	VS029500	C. MYLA. CHP 0.00047uF 50V
* C298	VS029500	C. MYLA. CHP 0.00047uF 50V
* C299	VS029500	C. MYLA. CHP 0.00047uF 50V
C801	VR324600	C. MYLAR 0.01uF 100V
C802	Vi846200	C. EL 47uF 63V(RT)
C803	VF606700	C. EL 1000uF 25V
△ C805	VV975400	C. CE 0.01uF 275V
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	VG438200	DIODE. ZENR MTZJ6.8A 6.8V
D12	VG437400	DIODE. ZENR MTZJ5.1B 5.1V
D13	VG437300	DIODE. ZENR MTZJ5.1A 5.1V
D14	iF004600	DIODE 1SS133
D15	VG437300	DIODE. ZENR MTZJ5.1A 5.1V
D201	VG439900	DIODE. ZENR MTZJ11B 11V
D202	VG439900	DIODE. ZENR MTZJ11B 11V
D203	VG439900	DIODE. ZENR MTZJ11B 11V
D204	VG439900	DIODE. ZENR MTZJ11B 11V
△ D801	VR253700	DIODE. BRG S1NB20 1.0A 200V
D802	iF004600	DIODE 1SS133
D803	VG439900	DIODE. ZENR MTZJ11B 11V(RT)
△ F801	KB000780	FUSE T5.0A 250V(BG)
△ F801	KB001390	FUSE 10A 250V(RT)
△ F802	KB000780	FUSE T5.0A 250V(RT)
△ F802	VT942900	FUSE TH2.5A 250V(G)
* IC3	XV284G00	IC HD6433397F-XXX CPU
IC4	XA507A00	IC AN78N05
IC5	XF494A00	IC LB1641
IC201	XJ553A00	IC NJM2068MD
IC202	XP894A00	IC LC78211
IC203	XP895A00	IC LC78212
IC204	XP894A00	IC LC78211
IC205	XF291A00	IC uPC4570G2
IC206	XF291A00	IC uPC4570G2
IC207	XV039A00	IC M5220FP OP AMP
IC208	XV039A00	IC M5220FP OP AMP
IC209	XV039A00	IC M5220FP OP AMP
IC210	XP896A00	IC LC78213
IC211	XP895A00	IC LC78212
PJ1	VJ696300	JACK. PIN 4P
PJ2	VJ696300	JACK. PIN 4P
PJ3	VM750600	JACK. PIN 6P
PJ201	VQ260900	JACK. PIN 4P
PJ202	VJ696300	JACK. PIN 4P
PJ203	VJ696300	JACK. PIN 4P
PJ204	VT666100	JACK. PIN 2P
Q5	iA093320	TR 2SA933S Q,R

* New Parts

Schm Ref.	PART NO.	Description
Q6	VG722000	TR. DGT DTC144ES
Q7	iA093320	TR 2SA933S Q,R
Q8	iA093320	TR 2SA933S Q,R
Q9	iA093320	TR 2SA933S Q,R
Q10	iA093320	TR 2SA933S Q,R
Q11	VD678700	TR. DGT DTC114ES
△ Q801	VR510800	TR 2SD2396 J,K(RT)
Q802	VD488500	TR. DGT DTC143XS
Q803	iE102620	FET 2SK246 Y(RT)
R242	HV455100	R. CAR. FP 100Ω 1/4W
R243	HV455100	R. CAR. FP 100Ω 1/4W
R253	HV453220	R. CAR. FP 2.2Ω 1/4W
R254	HV453220	R. CAR. FP 2.2Ω 1/4W
R255	HV454470	R. CAR. FP 47Ω 1/4W
R256	HV454470	R. CAR. FP 47Ω 1/4W
R259	HV453220	R. CAR. FP 2.2Ω 1/4W
R260	HV453220	R. CAR. FP 2.2Ω 1/4W
R271	Vi197400	R. MIL. CHP 10KΩ 1/10W
R272	Vi196400	R. MIL. CHP 3.9KΩ 1/10W
R274	Vi197400	R. MIL. CHP 10KΩ 1/10W
R275	Vi196400	R. MIL. CHP 3.9KΩ 1/10W
R279	Vi197600	R. MIL. CHP 12KΩ 1/10W
R280	Vi197600	R. MIL. CHP 12KΩ 1/10W
R281	Vi197400	R. MIL. CHP 10KΩ 1/10W
R282	Vi197400	R. MIL. CHP 10KΩ 1/10W
R289	Vi196000	R. MIL. CHP 3KΩ 1/10W
R291	Vi196000	R. MIL. CHP 3KΩ 1/10W
R299	Vi194900	R. MIL. CHP 1KΩ 1/10W
R300	Vi196100	R. MIL. CHP 3.3KΩ 1/10W
R301	Vi196100	R. MIL. CHP 3.3KΩ 1/10W
R302	Vi196100	R. MIL. CHP 3.3KΩ 1/10W
R303	Vi196100	R. MIL. CHP 3.3KΩ 1/10W
R304	Vi196100	R. MIL. CHP 3.3KΩ 1/10W
R305	Vi196100	R. MIL. CHP 3.3KΩ 1/10W
R306	Vi194900	R. MIL. CHP 1KΩ 1/10W
△ * RY801	V2695300	RELAY DC DG12D1-0/M-II
△ T801	XC082A00	TRANS. PWR (RT)
△ T801	XQ486A00	TRANS. PWR (BG)
△ TE801	VU543300	OUTLET. AC 1P(B)
△ TE801	VV118800	OUTLET. AC 3P(RT)
△ TE801	VV119000	OUTLET. AC 3P(G)
XL1	VE222400	RSNR. CE 8MHz
	BB071360	SCR. TERM 8.3x13

* New Parts

P.C.B. DIGITAL IN

Schm Ref.	PART NO.	Description
* CB1	V2508700	CN. PHOT. SN 1P GP1F37R
* CB2	V2508700	CN. PHOT. SN 1P GP1F37R
* CB3	V2508700	CN. PHOT. SN 1P GP1F37R
* CB4	V2508700	CN. PHOT. SN 1P GP1F37R
* CB5	V2508600	CN. PHOT. DT GP1F32T
CB6	VF982200	CN. BS. PIN 14P
C1	UB044220	C. CE. M. CHP 0.022uF 50V
C2	UB044220	C. CE. M. CHP 0.022uF 50V
C3	UB051220	C. CE. M. CHP 22pF 50V
C5	UB245100	C. CE. M. CHP 0.1uF 25V
C6	UB245100	C. CE. M. CHP 0.1uF 25V
C7	UB245100	C. CE. M. CHP 0.1uF 25V
C8	UB245100	C. CE. M. CHP 0.1uF 25V
C9	UB245100	C. CE. M. CHP 0.1uF 25V
C10	VJ901600	C. CE. M. CHP 75pF 50V
C11	UB245100	C. CE. M. CHP 0.1uF 25V
C12	Vi846000	C. EL 22uF 63V
C15	UB012220	C. CE. M. CHP 220pF 50V
C16	UB051100	C. CE. M. CHP 10pF 50V
C19	UB245100	C. CE. M. CHP 0.1uF 25V
C20	UB013100	C. CE. M. CHP 1000pF 50V
C22	UB245100	C. CE. M. CHP 0.1uF 25V
C23	UB051330	C. CE. M. CHP 33pF 50V
C24	UB013100	C. CE. M. CHP 1000pF 50V
C25	UB044100	C. CE. M. CHP 0.01uF 50V
C26	VR169200	C. MYLAR. ML ECQ-V1H474JL3
C27	UB245100	C. CE. M. CHP 0.1uF 25V
C28	UB051330	C. CE. M. CHP 33pF 50V
C29	UB245100	C. CE. M. CHP 0.1uF 25V
C30	VR169200	C. MYLAR. ML ECQ-V1H474JL3
C31	UB245100	C. CE. M. CHP 0.1uF 25V
C32	UB245100	C. CE. M. CHP 0.1uF 25V
C33	UB245100	C. CE. M. CHP 0.1uF 25V
C34	UB245100	C. CE. M. CHP 0.1uF 25V
C35	UB245100	C. CE. M. CHP 0.1uF 25V
C36	Vi841800	C. EL 100uF 10V
C37	UB245100	C. CE. M. CHP 0.1uF 25V
C38	UB245100	C. CE. M. CHP 0.1uF 25V
C39	UB245100	C. CE. M. CHP 0.1uF 25V
C40	UB245100	C. CE. M. CHP 0.1uF 25V
C41	Vi841800	C. EL 100uF 10V
C42	UN837470	C. EL 47uF 16V
C43	Vi841800	C. EL 100uF 10V
C44	UB245100	C. CE. M. CHP 0.1uF 25V
C45	VJ900100	C. CE. M. CHP 18pF 50V
C46	Vi841800	C. EL 100uF 10V
C47	UB044100	C. CE. M. CHP 0.01uF 50V
C48	UB044100	C. CE. M. CHP 0.01uF 50V
C49	VJ898700	C. CE. M. CHP 2pF 50V
C50	UB245100	C. CE. M. CHP 0.1uF 25V
C51	Vi841800	C. EL 100uF 10V
C52	Vi841800	C. EL 100uF 10V

* New Parts

Schm Ref.	PART NO.	Description
D1	VT332900	DIODE 1SS355
D2	VT332900	DIODE 1SS355
D5	VT332900	DIODE 1SS355
D6	VT332900	DIODE 1SS355
D7	VT332900	DIODE 1SS355
D8	VT707700	C. TRIM KV1851-TL
IC1	Xi110D00	IC MC14577CP
IC2	XD660A00	IC TC74HC04AF-TP1
IC3	XD660A00	IC TC74HC04AF-TP1
IC4	XD655A00	IC TC74HC00AF NAND
IC6	XR038A00	IC NJM2904M OP AMP
IC7	XF291A00	IC uPC4570G2
IC8	XR041A00	IC TC74HC151AF
IC9	XR042A00	IC TC74HC153AF
IC10	XT958A00	IC PM4007A
IC11	XS282A00	IC UM61256FS-15Q SRAM
* L1	V2726500	COIL 68uH
* L2	V2726500	COIL 68uH
* L3	V2726500	COIL 68uH
* L4	V2726500	COIL 68uH
* L5	V2726500	COIL 68uH
L6	VT623200	FLTR. LC SBP-4930
PJ1	VZ726200	JACK. PIN 2P
Q1	iC241200	TR. CHP 2SC2412K Q, R, S
Q2	iA103700	TR. CHP 2SA1037 Q, R, S
XL1	VT928600	RSNR. CRYST 18.432MHz
	BB071360	SCR. TERM 8.3x13

* New Parts

CHIP RESISTOR

Schm Ref.	PART NO.	Description
	RD250000	R. CAR. CHP 0Ω 1/10W
	RD253220	R. CAR. CHP 2.2Ω 1/10W
	RD254220	R. CAR. CHP 22Ω 1/10W
	RD254470	R. CAR. CHP 47Ω 1/10W
	RD254680	R. CAR. CHP 68Ω 1/10W
	RD254750	R. CAR. CHP 75Ω 1/10W
	RD254820	R. CAR. CHP 82Ω 1/10W
	RD255100	R. CAR. CHP 100Ω 1/10W
	RD255120	R. CAR. CHP 120Ω 1/10W
	RD255150	R. CAR. CHP 150Ω 1/10W
	RD255220	R. CAR. CHP 220Ω 1/10W
	RD255300	R. CAR. CHP 300Ω 1/10W
	RD255330	R. CAR. CHP 330Ω 1/10W
	RD255430	R. CAR. CHP 430Ω 1/10W
	RD255470	R. CAR. CHP 470Ω 1/10W
	RD255680	R. CAR. CHP 680Ω 1/10W
	RD256100	R. CAR. CHP 1KΩ 1/10W
	RD256120	R. CAR. CHP 1.2KΩ 1/10W
	RD256150	R. CAR. CHP 1.5KΩ 1/10W
	RD256180	R. CAR. CHP 1.8KΩ 1/10W
	RD256220	R. CAR. CHP 2.2KΩ 1/10W
	RD256270	R. CAR. CHP 2.7KΩ 1/10W
	RD256330	R. CAR. CHP 3.3KΩ 1/10W
	RD256390	R. CAR. CHP 3.9KΩ 1/10W
	RD256430	R. CAR. CHP 4.3KΩ 1/10W
	RD256470	R. CAR. CHP 4.7KΩ 1/10W
	RD256510	R. CAR. CHP 5.1KΩ 1/10W
	RD256560	R. CAR. CHP 5.6KΩ 1/10W
	RD256680	R. CAR. CHP 6.8KΩ 1/10W
	RD256750	R. CAR. CHP 7.5KΩ 1/10W
	RD256820	R. CAR. CHP 8.2KΩ 1/10W
	RD256910	R. CAR. CHP 9.1KΩ 1/10W
	RD257100	R. CAR. CHP 10KΩ 1/10W
	RD257110	R. CAR. CHP 11KΩ 1/10W
	RD257120	R. CAR. CHP 12KΩ 1/10W
	RD257150	R. CAR. CHP 15KΩ 1/10W
	RD257180	R. CAR. CHP 18KΩ 1/10W
	RD257270	R. CAR. CHP 27KΩ 1/10W
	RD257330	R. CAR. CHP 33KΩ 1/10W
	RD257360	R. CAR. CHP 36KΩ 1/10W
	RD257470	R. CAR. CHP 47KΩ 1/10W
	RD257510	R. CAR. CHP 51KΩ 1/10W
	RD257560	R. CAR. CHP 56KΩ 1/10W
	RD257620	R. CAR. CHP 62KΩ 1/10W
	RD257680	R. CAR. CHP 68KΩ 1/10W
	RD257820	R. CAR. CHP 82KΩ 1/10W
	RD258100	R. CAR. CHP 100KΩ 1/10W
	RD258220	R. CAR. CHP 220KΩ 1/10W
	RD258470	R. CAR. CHP 470KΩ 1/10W
	RD258680	R. CAR. CHP 680KΩ 1/10W
	RD259100	R. CAR. CHP 1MΩ 1/10W

* New Parts

Schm Ref.	PART NO.	Description
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* New Parts

A

B

C

D

E

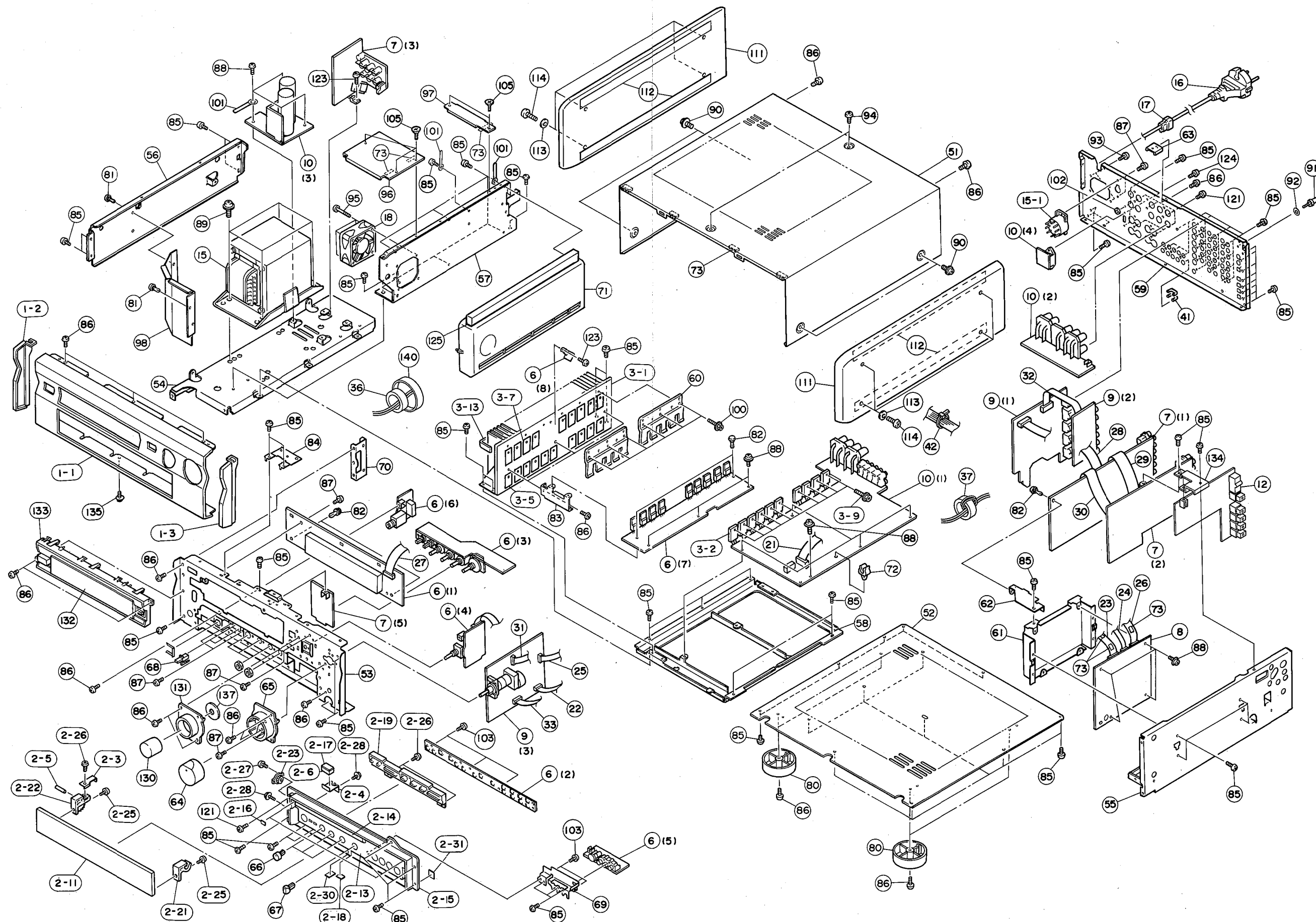
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G

H

DSP-A2

■ EXPLODED VIEW



MECHANICAL PARTS

Ref. No.	PART NO.	Description	Remarks	Markets
* 1- 1	V2643400	FRONT PANEL	BL	
* 1- 1	V2643500	FRONT PANEL	TI	
* 1- 1	V2643600	FRONT PANEL	GD	
* 1- 2	V2619600	PLATE, SIDE L	BL	
* 1- 2	V2619700	PLATE, SIDE L	TI	
* 1- 2	V2619800	PLATE, SIDE L	GD	
* 1- 3	V2619900	PLATE, SIDE R	BL	
* 1- 3	V2620100	PLATE, SIDE R	GD	
* 2- 3	V2620000	PLATE, SIDE R	TI	
2- 3	VZ619800	SUPPORT	HINGE	
2- 4	VZ830500	SUPPORT	MG	
2- 5	VZ621800	SHAFT	AA	
2- 6	VZ621900	MAGNET		
* 2-11	V2616500	PANEL, LID	BL	
* 2-11	V2616600	PANEL, LID	TI	
* 2-11	V2616700	PANEL, LID	GD	
* 2-13	V2617400	PLATE, L	BL	
* 2-13	V2617500	PLATE, L	TI	
* 2-13	V2617600	PLATE, L	GD	
* 2-14	V2638000	PLATE, SP	BL	
* 2-14	V2638100	PLATE, SP	TI	
* 2-14	V2638200	PLATE, SP	GD	
* 2-15	V2618900	CASE, SUB PANEL	BL	
* 2-15	V2619000	CASE, SUB PANEL	TI	
* 2-15	V2619100	CASE, SUB PANEL	GD	
2-16	V2048500	CUSHION, LID	GD	
2-16	VT062900	CUSHION, LID	BL	
2-16	VU182300	CUSHION, LID	TI	
2-17	VZ875000	SPACER	MG	
2-18	VH625500	DAMPER		
* 2-19	V2637300	BUTTON	PG	BL
* 2-19	V2637400	BUTTON	PG	TI
* 2-19	V2637500	BUTTON	PG	GD
2-21	V0050300	STOPPER	HINGE	GD
2-21	VJ888100	STOPPER	HINGE	BL
2-21	VZ830400	STOPPER	HINGE	TI
2-22	V0047400	HINDGE		GD
2-22	VZ629400	HINDGE		BL
2-22	VZ629500	HINDGE		TI
2-23	VZ830300	DAMPER, GEAR	15G	
2-25	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL	
2-26	EP600190	BIND HEAD B-TITE SCREW	3x8 ZMC2-BL	
2-27	VG893800	BIND HEAD P-TITE SCREW	2x6 ZMC2-BL	
2-28	VE529700	PW HEAD B-TITE SCREW	3x6-8 FCRM3-BL	
2-30	V3217600	PLATE, GROUND		
2-31	V3281300	PLATE, GROUND		
3- 1	VV693500	HEAT SINK	40BS300-L110	
△# 3- 2	VY705000	TRANSISTOR	2SC5200 R,0	Q166, 168, 169,
△# 3- 2	VY705000	TRANSISTOR	2SC5200 R,0	171, 172, 174, 175
△# 3- 2	VY705000	TRANSISTOR	2SC5200 R,0	, 177, 178, 180
3- 5	VK196000	SHEET	22x29	
3- 7	VK195900	SHEET	19x24	
3- 9	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3	

* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
3-13	VU195800	DAMPER, FIN		
* 6	V3010300	P.C.B. ASS'Y	OPERATION	
* 7	V3010800	P.C.B. ASS'Y	FUNCTION	(RT)
* 7	V3011200	P.C.B. ASS'Y	FUNCTION	(B)
* 7	V3011300	P.C.B. ASS'Y	FUNCTION	(G)
* 8	V3011400	P.C.B. ASS'Y	DSP	
* 9	V3011900	P.C.B. ASS'Y	VIDEO	(RT)
9	V3256800	P.C.B. ASS'Y	VIDEO	(BG)
* 10	V3012600	P.C.B. ASS'Y	MAIN	(RT)
10	V3404500	P.C.B. ASS'Y	MAIN	(BG)
* 12	V3013000	P.C.B. ASS'Y	DIGITAL-IN	
△ * 15	XV400A00	POWER TRANSFORMER		(RT)
△ * 15	XV402A00	POWER TRANSFORMER		(BG)
△ 15-1	Vi449800	VOLTAGE SELECTOR	ESE-37284-F	(RT)
△ 16	VS759300	POWER CORD ASS'Y		(G)
△ 16	VU411300	POWER CORD ASS'Y		(B)
△ 16	VZ542500	POWER CORD ASS'Y		(RT)
17	V2438700	CORD STOPPER	#10P1	
18	V2063800	DC FAN MOTOR	DC MMS-06D24DU-ROE	
21	VQ120600	CONNECTOR, FLAT CABLE	12P 70mm	
* 22	V2853800	CONNECTOR, FLAT CABLE	11P 250mm	
23	VZ869000	CONNECTOR, FLAT CABLE	11P 100mm	
* 24	V2991300	CONNECTOR, FLAT CABLE	14P 200mm	
* 25	V2853700	CONNECTOR, FLAT CABLE	10P 160mm	
* 26	V2854000	CONNECTOR, FLAT CABLE	13P 80mm	
* 27	V2854400	CONNECTOR, FLAT CABLE	17P 300mm	
* 28	V2854300	CONNECTOR, FLAT CABLE	16P 80mm	
* 29	V2854600	CONNECTOR, FLAT CABLE	25P 100mm	
* 30	V2854500	CONNECTOR, FLAT CABLE	18P 60mm	
* 31	V2853900	CONNECTOR, FLAT CABLE	12P 160mm	
32	VQ157200	CONNECTOR, FLAT CABLE	16P 60mm	
* 33	V3122700	CONNECTOR, FLAT CABLE	9P 180mm	
36	VB933800	FERRITE CORE	BP53RB310190NOA	(BG)
37	V3311500	FERRITE CORE	FSOB140RN	(BG)
41	VQ194100	SHORT PLUG	CNT31-0	
42	CB069250	BINDING TIE	BK-1	
51	V0051300	TOP COVER		GD
51	VV690300	TOP COVER		BL
51	VV690400	TOP COVER		TI
52	VJ893400	BOTTOM COVER		
* 53	V2614200	SUB CHASSIS		
* 54	V2614300	FRAME	L	
* 55	V2614400	FRAME	R	
* 56	V2614500	FRAME	SL	
57	VV691100	FRAME	SF	
58	VV691200	FRAME	C	
* 59	V2615200	REAR PANEL		(RT)
* 59	V2615400	REAR PANEL		(B)
* 59	V2615500	REAR PANEL		(G)
60	VV826100	SUPPORT	TR	
* 61	V2615600	SHIELD CASE		
* 62	V2825300	SUPPORT	D/PCB	
63	VV306200	SUPPORT, TOP		

* New Parts

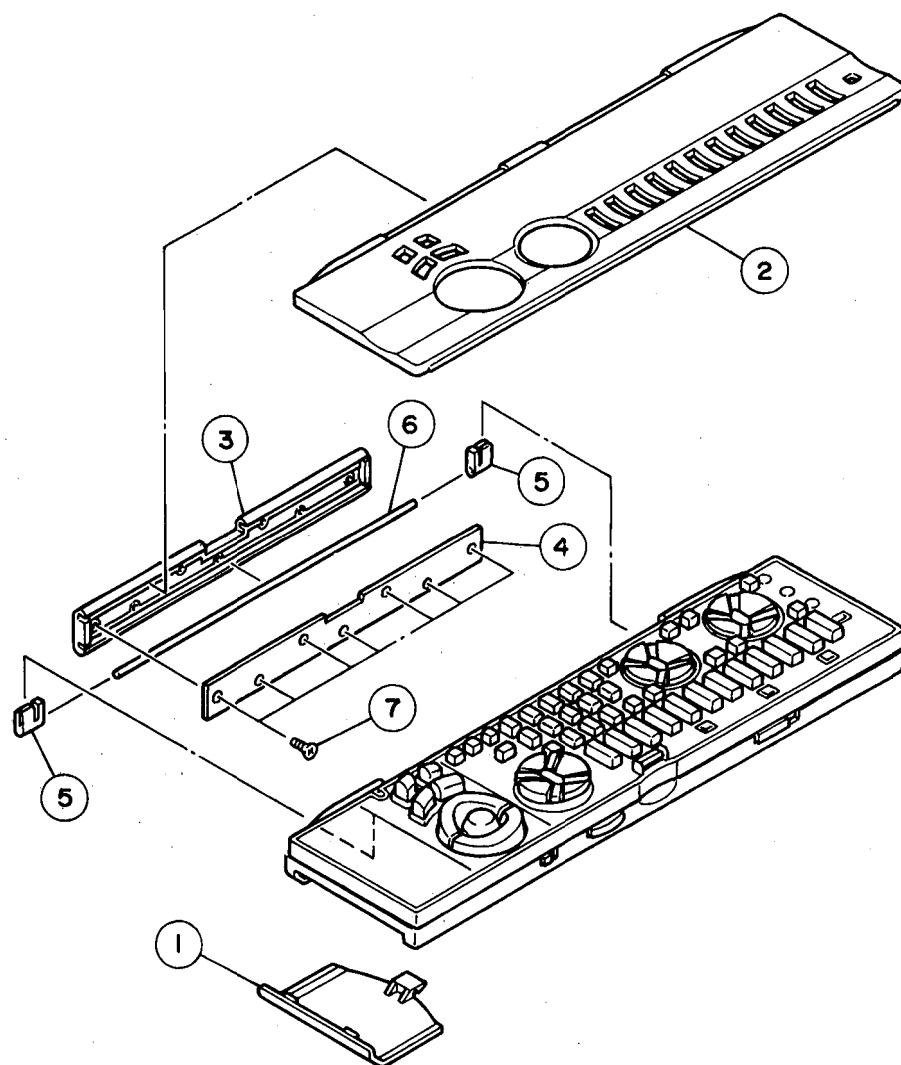
Ref. No.	PART NO.	Description	Remarks	Markets
64	V2048600	KNOB, LED	D40	GD
64	VV268600	KNOB, LED	D40	BL
64	VV268700	KNOB, LED	D40	TI
65	V2467900	ESCUTCHEON, VOL		BL
65	V2468000	ESCUTCHEON, VOL		TI
65	V2468100	ESCUTCHEON, VOL		GD
66	VS757200	KNOB	D12P	BL
66	VS757300	KNOB	D12P	TI
66	VZ891300	KNOB	D12P	GD
67	VT275100	KNOB	D12R	BL
67	VT275200	KNOB	D12R	TI
67	VZ891400	KNOB	D12R	GD
68	V2467300	BUTTON, 3/8		BL
68	V2467400	BUTTON, 3/8		TI
68	V2467500	BUTTON, 3/8		GD
* 69	V2642700	SUPPORT	PJ	
70	VJ895500	FRAME	A	
71	VV713600	BRACKET	F	BL
72	VY707200	HOLDER, PCB	A-1 3R48	
73	VE222600	CUSHION		
80	V0042500	LEG	D60xH21	GD
80	VS025000	LEG	D60xH21	
81	CB068880	PLASTIC RIVET	No. 1027	
82	CB605620	PLASTIC RIVET	No. 1781	
83	VV692400	SUPPORT	H/PCB	
* 84	V2643000	SUPPORT	SF	
85	VN413300	BIND HEAD BONDING B-T. SCREW	3x8 MFZN2-BL	
86	EP600190	BIND HEAD B-TITE SCREW	3x8 ZMC2-BL	
87	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL	
88	EK930010	PW HEAD B-TITE SCREW	3x8-8 FCRM3-BL	
89	VK625000	CUP S-TITE SCREW	5x10-12 ZMC2-Y	
90	EK365090	PW HEAD S-TITE SCREW	4x8-10 FCRM3-BL	BL
90	EX601150	BW HEAD S-TITE SCREW	4x8-10 FNM3-BL	TI
91	AA627310	GROUND TERMINAL		
92	EV265560	PLAIN WASHER	3.6x10x0.8 FNM3-3G	
93	EP600220	BIND HEAD B-TITE SCREW	3x10 ZMC2-Y	
94	EX601850	SPECIAL SCREW S-TITE	4x8-10 FCRM3-BL	BL
94	EX601860	SPECIAL SCREW S-TITE	4x8-10 FNM3-BL	TI
94	VZ893000	DECORATED SCREW S-TIGHT	4x8-10 MFNI-33	GD
95	VV220300	BIND HEAD B-TITE SCREW	3x30 MFZN2-BL	
96	VY979800	SUPPORT, FAN COVER		
97	VY980000	SUPPORT	R	
98	VY980100	PLATE, FAN COVER		
100	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3	
101	CB502030	BINDING TIE	S-75B	
102	VZ180200	SPACER		
103	EP630220	BIND HEAD P-TITE SCREW	3x8 ZMC2-BL	
105	EP600790	FLAT HEAD B-TITE SCREW	3x8 MFZN2-BL	
* 111	V2620300	SIDE PANEL		
112	VK492400	SPACER		
* 113	V2961800	RING	/WOOD	
114	VC077200	FLAT FILLISTER HEAD SCREW	4x27 FCRM3-BR	
121	VY731200	BONDING HEAD TAPPING SCREW	3x10 MFNI33	

* New Parts

Ref. No.	PART NO.	Description	Remarks	Markets
123	VK697600	BIND HEAD B-TITE SCREW	3x10 SP ZMC2-Y	
124	EP600530	BIND HEAD S-TITE SCREW	3x8 ZMC2-BL	
125	VZ012900	CUSHION, FAN		
* 130	V2618300	KNOB	D30	BL
* 130	V2618400	KNOB	D30	TI
* 130	V2618500	KNOB	D30	GD
* 131	V2619200	ESCUTCHEON, SEL		BL
* 131	V2619300	ESCUTCHEON, SEL		TI
* 131	V2619400	ESCUTCHEON, SEL		GD
* 132	V2620200	WINDOW PANEL, LID		
* 133	V2618600	BUTTON CASE, UPPER		BL
* 133	V2618700	BUTTON CASE, UPPER		TI
* 133	V2618800	BUTTON CASE, UPPER		GD
* 134	V2849500	SUPPORT	I/PCB	
135	V3317100	PW HEAD P-TITE SCREW	3x6-8 MFZN2-BL	
* 137	V3188700	SPACER	T=0.2	
140	VQ625400	DAMPER	H. SINK	(BG)
		ACCESSORIES		
* V2686700		REMOTE CONTROL TRANSMITTER	RAV180	
VY814500		LABEL, REMOTE CONTROL		
		BATTERY, ALKALINE MANGANESE	LR6, AA	

* New Parts

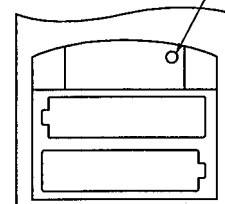
EXPLODED VIEW



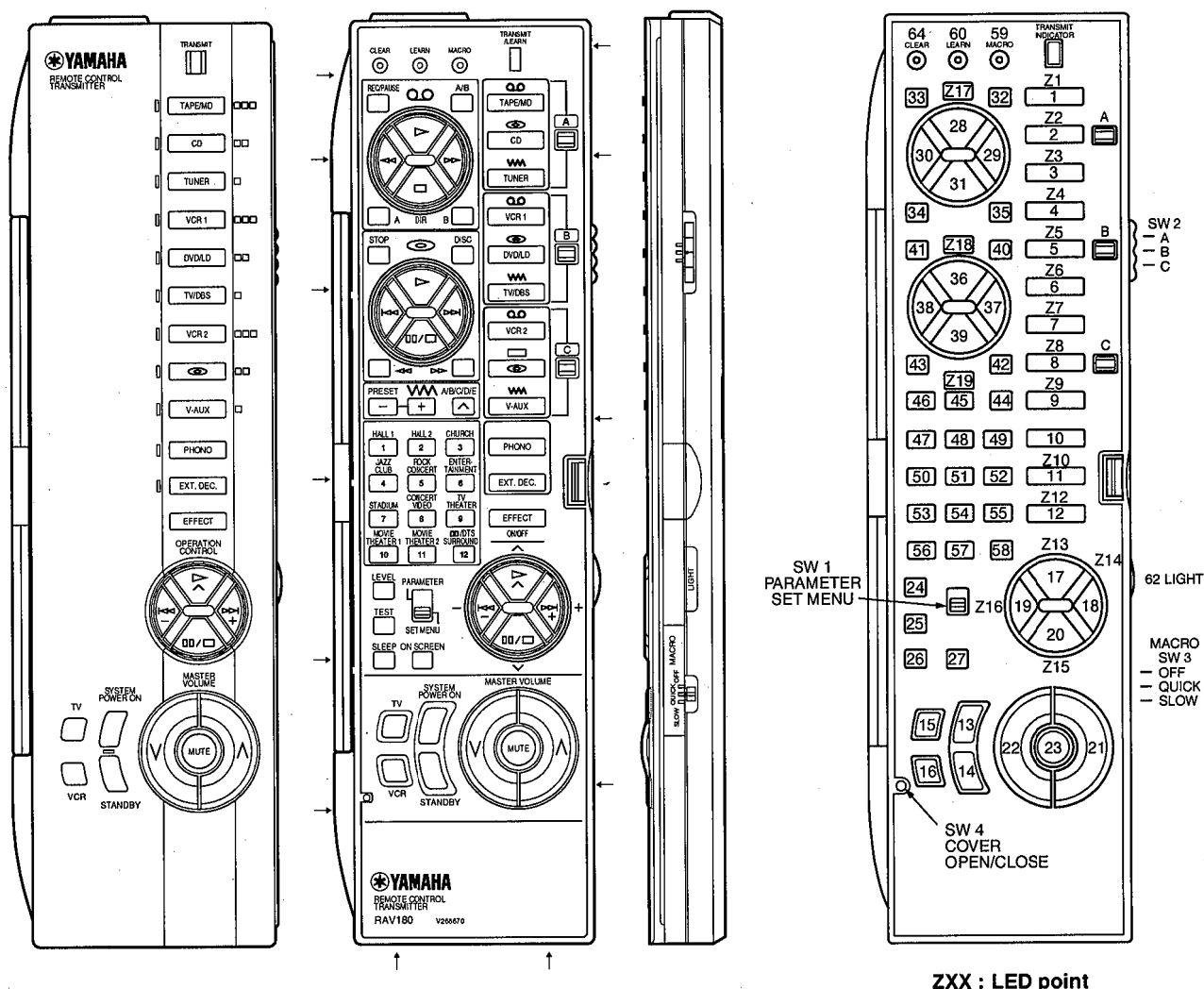
Ref. No.	PART NO.	Description	Remarks	Markets
* 1	V2686700	REMOTE CONTROL TRANSMITTER	RRC4000-5453R	
* 2	CX680040	COVER, BATTERY		
3	XX710680	LID		
4	CX680060	BRACKET	A	
5	CX680070	BRACKET	B	
6	CX680080	GUIDE PIN		
7	CX680090	PIN		
	EX603910	SCREW	M1.7x13.5	

* New Parts

■ SCHEMATIC DIAGRAM



Key arrangement



ZXX : LED point

List of the fixed code

Key No.	SW 1 SW 2	SET MENU			PARAMETER		
		A	B	C	A	B	C
1	TAPE/MD	7A-85-18	7A-85-18	7A-85-18	7A-85-18	7A-85-18	7A-85-18
2	CD	7A-85-15	7A-85-15	7A-85-15	7A-85-15	7A-85-15	7A-85-15
3	TUNER	7A-85-16	7A-85-16	7A-85-16	7A-85-16	7A-85-16	7A-85-16
4	VCR 1	7A-85-0F	7A-85-0F	7A-85-0F	7A-85-0F	7A-85-0F	7A-85-0F
5	DVD/D	7A-85-17	7A-85-17	7A-85-17	7A-85-17	7A-85-17	7A-85-17
6	TV/DBS	7A-85-54	7A-85-54	7A-85-54	7A-85-54	7A-85-54	7A-85-54
7	VCR 2	7A-85-13	7A-85-13	7A-85-13	7A-85-13	7A-85-13	7A-85-13
8		—	—	—	—	—	—
9	V-AUX	7A-85-55	7A-85-55	7A-85-55	7A-85-55	7A-85-55	7A-85-55
10	PHONO	7A-85-14	7A-85-14	7A-85-14	7A-85-14	7A-85-14	7A-85-14
11	EXT. DECODER	7A-85-87	7A-85-87	7A-85-87	7A-85-87	7A-85-87	7A-85-87
12	EFFECT	7A-85-56	7A-85-56	7A-85-56	7A-85-56	7A-85-56	7A-85-56
13	SYSTEM POWER	7A-85-1D	7A-85-1D	7A-85-1D	7A-85-1D	7A-85-1D	7A-85-1D
14	POWER STANDBY	7A-85-1E	7A-85-1E	7A-85-1E	7A-85-1E	7A-85-1E	7A-85-1E
15	TV POWER	—	—	—	—	—	—
16	VCR POWER	—	—	—	—	—	—
17	△ PLAY △	7A-85-9D	7A-85-9D	7A-85-9D	7A-85-C5	7A-85-C5	7A-85-C5
18	+ >>> +	7A-85-9E	7A-85-9E	7A-85-9E	7A-85-C6	7A-85-C6	7A-85-C6
19	- <<< -	7A-85-9F	7A-85-9F	7A-85-9F	7A-85-C7	7A-85-C7	7A-85-C7
20	∇ PAUSE/STOP ∇	7A-85-9C	7A-85-9C	7A-85-9C	7A-85-C4	7A-85-C4	7A-85-C4
21	VOLUME +	7A-85-1A	7A-85-1A	7A-85-1A	7A-85-1A	7A-85-1A	7A-85-1A
22	VOLUME -	7A-85-1B	7A-85-1B	7A-85-1B	7A-85-1B	7A-85-1B	7A-85-1B
23	MUTE	7A-85-1C	7A-85-1C	7A-85-1C	7A-85-1C	7A-85-1C	7A-85-1C
24	LEVEL	7A-85-86	7A-85-86	7A-85-86	7A-85-86	7A-85-86	7A-85-86
25	TEST	7A-85-85	7A-85-85	7A-85-85	7A-85-85	7A-85-85	7A-85-85
26	SLEEP	7A-85-57	7A-85-57	7A-85-57	7A-85-57	7A-85-57	7A-85-57
27	ON SCREEN	7A-85-C2	7A-85-C2	7A-85-C2	7A-85-C2	7A-85-C2	7A-85-C2
28	PLAY	7A-85-00	—	79-86-A8	7A-85-00	—	79-86-A8
29	>>>	7A-85-02	—	79-86-AE	7A-85-02	—	79-86-AE
30	<<<	7A-85-01	—	79-86-AB	7A-85-01	—	79-86-AB

Key No.	SW 1 SW 2	SET MENU			PARAMETER		
		A	B	C	A	B	C
31	STOP	7A-85-03	—	79-86-AA	7A-85-03	—	79-86-AA
32	A/B	7A-85-06	—	7A-85-06	—	—	—
33	REC/PAUSE	7A-85-04	—	79-86-AF	7A-85-04	—	79-86-AF
34	DIR A	7A-85-07	—	—	7A-85-07	—	—
35	DIR B	7A-85-40	—	—	7A-85-40	—	—
36	PLAY	7A-85-08	7C-83-B2	7C-83-05	7A-85-08	7C-83-B2	7C-83-05
37	>>>	7A-85-0A	7C-83-BA	7C-83-03	7A-85-0A	7C-83-BA	7C-83-03
38	<<<	7A-85-0B	7C-83-B9	7C-83-02	7A-85-0B	7C-83-B9	7C-83-02
39	PAUSE/STOP	7A-85-09	7C-83-84	7C-83-04	7A-85-09	7C-83-84	7C-83-04
40	DISC	7A-85-4F	7C-83-8B	—	7A-85-4F	7C-83-8B	—
41	STOP	—	7C-83-85	7C-83-5B	—	7C-83-85	7C-83-5B
42	>>>	7A-85-0C	7C-83-87	7C-83-07	7A-85-0C	7C-83-87	7C-83-07
43	<<<	7A-85-0D	7C-83-86	7C-83-06	7A-85-0D	7C-83-86	7C-83-06
44	A/B/C/D/E	7A-85-12	—	—	7A-85-12	—	—
45	PRESET +	7A-85-10	—	—	7A-85-10	—	—
46	PRESET -	7A-85-11	—	—	7A-85-11	—	—
47	1	7A-85-88	7A-85-88	7A-85-88	7A-85-88	7A-85-88	7A-85-88
48	2	7A-85-89	7A-85-89	7A-85-89	7A-85-89	7A-85-89	7A-85-89
49	3	7A-85-8A	7A-85-8A	7A-85-8A	7A-85-8A	7A-85-8A	7A-85-8A
50	4	7A-85-8B	7A-85-8B	7A-85-8B	7A-85-8B	7A-85-8B	7A-85-8B
51	5	7A-85-8C	7A-85-8C	7A-85-8C	7A-85-8C	7A-85-8C	7A-85-8C
52	6	7A-85-8D	7A-85-8D	7A-85-8D	7A-85-8D	7A-85-8D	7A-85-8D
53	7	7A-85-8E	7A-85-8E	7A-85-8E	7A-85-8E	7A-85-8E	7A-85-8E
54	8	7A-85-8F	7A-85-8F	7A-85-8F	7A-85-8F	7A-85-8F	7A-85-8F
55	9	7A-85-90	7A-85-90	7A-85-90	7A-85-90	7A-85-90	7A-85-90
56	10	7A-85-91	7A-85-91	7A-85-91	7A-85-91	7A-85-91	7A-85-91
57	11	7A-85-92	7A-85-92	7A-85-92	7A-85-92	7A-85-92	7A-85-92
58	12	7A-85-93	7A-85-93	7A-85-93	7A-85-93	7A-85-93	7A-85-93

Learning and macro key

Key No.	NAME	LEARN	MACRO	Key No.	NAME	LEARN	MACRO
1	TAPE/MD	X	O	31	STOP	●	X
2	CD	X	O	32	A/B	●	X
3	TUNER	X	O	33	REC/PAUSE	●	X
4	VCR 1	X	O	34	DIR A	●	X
5	DVD/LD	X	O	35	DIR B	●	X
6	TV/DBS	X	O	36	PLAY	●	X
7	VCR 2	X	O	37	⏮	●	X
8	⏮	O	O	38	⏪	●	X
9	V-AUX	X	O	39	PAUSE/STOP	●	X
10	PHONO	X	O	40	DISC	●	X
11	EXT. DECODER	X	O	41	STOP	●	X
12	EFFECT	X	X	42	⏩	●	X
13	SYSTEM POWER	X	O	43	⏭	●	X
14	POWER STANDBY	X	O	44	A/B/C/D/E	●	X
15	TV POWER	O	X	45	PRESET +	●	X
16	VCR POWER	O	X	46	PRESET -	●	X
17	⏮ PLAY ⏭	X	X	47	1	●	X
18	+ ⏮ +	X	X	48	2	●	X
19	- ⏭ -	X	X	49	3	●	X
20	⏮ PAUSE/STOP ⏭	X	X	50	4	●	X
21	VOLUME +	X	X	51	5	●	X
22	VOLUME -	X	X	52	6	●	X
23	MUTE	X	X	53	7	●	X
24	LEVEL	X	X	54	8	●	X
25	TEST	X	X	55	9	●	X
26	SLEEP	X	X	56	10	●	X
27	ON SCREEN	X	X	57	11	●	X
28	PLAY	●	X	58	12	●	X
29	⏩	●	X				
30	⏭	●	X				

LEARN

O : Learning key A (The key of learning 1 position (Don't care every SW).)

● : Learning key B (The key of learning 2 position of SW3-B and SW3-C. in case of SW3-A, non-learning key, without regard to the positions of other SW.)

X : Non-learning key (The key of non-learning without regard to positions of every SW.)

MACRO

O : The key of macro setting

X : The key of macro non-setting

The list of action when each key is pushed.

Key No.	SW 1 SW 2 SW 3	Cover OPEN Don't care			Cover CLOSE Don't care		
		A	B	C	Don't care		
		Don't care	Don't care	Don't care	OFF	QUICK	SLOW
1	TAPE/MD	AS	AS	AS	AS	MS	MS
2	CD	AS	AS	AS	AS	MS	MS
3	TUNER	AS	AS	AS	AS	MS	MS
4	VCR 1	AS	AS	AS	AS	MS	MS
5	DVD/LD	AS	AS	AS	AS	MS	MS
6	TV/DBS	AS	AS	AS	AS	MS	MS
7	VCR 2	AS	AS	AS	AS	MS	MS
8	⏮	GS	GS	GS	GS	MS	MS
9	V-AUX	AS	AS	AS	AS	MS	MS
10	PHONO	AS	AS	AS	AS	MS	MS
11	EXT. DECODER	AS	AS	AS	AS	MS	MS
12	EFFECT	AS	AS	AS	AS	AS	AS
13	SYSTEM POWER	A	A	A	A	M	M
14	POWER STANDBY	A	A	A	A	M	M
15	TV POWER	G	G	G	G	G	G
16	VCR POWER	G	G	G	G	G	G
17	⏮ PLAY ⏭	A	A	A	CS	CS	CS
18	+ ⏮ +	A	A	A	CS	CS	CS
19	- ⏭ -	A	A	A	CS	CS	CS
20	⏮ PAUSE/STOP ⏭	A	A	A	CS	CS	CS
21	VOLUME +	A	A	A	A	A	A
22	VOLUME -	A	A	A	A	A	A
23	MUTE	A	A	A	A	A	A
24	LEVEL	A	A	A	—	—	—
25	TEST	A	A	A	—	—	—
26	SLEEP	A	A	A	—	—	—
27	ON SCREEN	A	A	A	—	—	—
28	PLAY	AS	GS	BS	—	—	—
29	⏩	AS	GS	BS	—	—	—
30	⏭	AS	GS	BS	—	—	—

Key No.	SW 1 SW 2 SW 3	Cover OPEN Don't care			Cover CLOSE Don't care		
		A	B	C	Don't care		
		Don't care	Don't care	Don't care	OFF	QUICK	SLOW
31	STOP	AS	GS	BS	—	—	—
32	A/B	AS	GS	GS	—	—	—
33	REC/PAUSE	AS	GS	BS	—	—	—
34	DIR A	AS	GS	GS	—	—	—
35	DIR B	AS	GS	GS	—	—	—
36	PLAY	AS	BS	BS	—	—	—
37	⏮	AS	BS	BS	—	—	—
38	⏪	AS	BS	BS	—	—	—
39	PAUSE/STOP	AS	BS	BS	—	—	—
40	DISC	AS	BS	BS	—	—	—
41	STOP	NS	BS	BS	—	—	—
42	⏩	AS	BS	BS	—	—	—
43	⏭	AS	BS	BS	—	—	—
44	A/B/C/D/E	AS	GS	GS	—	—	—
45	PRESET +	AS	GS	GS	—	—	—
46	PRESET -	AS	GS	GS	—	—	—
47	1	A	B	B	—	—	—
48	2	A	B	B	—	—	—
49	3	A	B	B	—	—	—
50	4	A	B	B	—	—	—
51	5	A	B	B	—	—	—
52	6	A	B	B	—	—	—
53	7	A	B	B	—	—	—
54	8	A	B	B	—	—	—
55	9	A	B	B	—	—	—
56	10	A	B	B	—	—	—
57	11	A	B	B	—	—	—
58	12	A	B	B	—	—	—

A : Transmit the fixed code (non-learning key)

B : Transmit the fixed code or learn code

AS : Transmit the fixed code (non-learning key) + lighting

BS : Transmit the fixed code or learn code + lighting

CS : Transmit the code of control mode + lighting

G : Transmit the learn code (in case of the non-learning, transmits no code)

GS : Transmit the learn code (in case of the non-learning, transmits no code) + lighting

M : MACRO transmission

MS : MACRO transmission + lighting

NS : Lighting only

Lighting point

Key No.	COVER		OPEN		
	SW 1		Don't care.		
	SW 3		Don't care.		
	SW 2		A	B	C
1	TAPE/MD		Z1,Z17	Z1	Z1
2	CD		Z2,Z18	Z2	Z2
3	TUNER		Z3,Z19	Z3	Z3
4	VCR 1		Z4	Z4,Z17	Z4
5	DVD/LD		Z5	Z5,Z18	Z5
6	TV/DBS		Z6	Z6,Z19	Z6
7	VCR 2		Z7	Z7	Z7,Z17
8			Z8	Z8	Z8,Z18
9	V-AUX		Z9	Z9	Z9,Z19
10	PHONO		Z10	Z10	Z10
11	EXT. DEC.		Z11	Z11	Z11
12	EFFECT		Z12	Z12	Z12
28	PLAY		Z1,Z17	Z4,Z17	Z7,Z17
29	▷▷		Z1,Z17	Z4,Z17	Z7,Z17
30	◁◁		Z1,Z17	Z4,Z17	Z7,Z17
31	STOP		Z1,Z17	Z4,Z17	Z7,Z17
32	A/B		Z1,Z17	Z4,Z17	Z7,Z17
33	REC/PAUSE		Z1,Z17	Z4,Z17	Z7,Z17
34	DIR A		Z1,Z17	Z4,Z17	Z7,Z17
35	DIR B		Z1,Z17	Z4,Z17	Z7,Z17
36	PLAY		Z2,Z18	Z5,Z18	Z8,Z18
37	▷▷		Z2,Z18	Z5,Z18	Z8,Z18
38	◁◁		Z2,Z18	Z5,Z18	Z8,Z18
39	PAUSE/STOP		Z2,Z18	Z5,Z18	Z8,Z18
40	DISC		Z2,Z18	Z5,Z18	Z8,Z18
41	STOP		Z2,Z18	Z5,Z18	Z8,Z18
42	▷▷		Z2,Z18	Z5,Z18	Z8,Z18
43	◁◁		Z2,Z18	Z5,Z18	Z8,Z18
44	A/B/C/D/E		Z3,Z19	Z6,Z19	Z9,Z19
45	PRESET +		Z3,Z19	Z6,Z19	Z9,Z19
46	PRESET -		Z3,Z19	Z6,Z19	Z9,Z19

Key No.	COVER		CLOSE		
	SW 1		Don't care.		
	SW 3		Don't care.		
	SW 2		Don't care.		
1	TAPE/MD		Z1 : ○, Z13 : ○, Z14 : ○, Z16 : ○, Z15 : ○		
2	CD		Z1 : ○, Z13 : ○, Z14 : ○, Z16 : ○, Z15 : ○		
3	TUNER		Z3 : ○, Z13 : ○, Z14 : ○, Z16 : ○		
4	VCR 1		Z4 : ○, Z13 : K28-B, Z14 : K29-B, Z16 : K30-B, Z15 : K31-B		
5	DVD/LD		Z5 : ○, Z13 : ○, Z14 : ○, Z16 : ○, Z15 : ○		
6	TV/DBS		Z6 : ○, Z13 : K44-B, Z14 : K45-B, Z16 : K46-B		
7	VCR 2		Z7 : ○, Z13 : ○, Z14 : ○, Z16 : ○, Z15 : ○		
8			Z8 : ○, Z13 : ○, Z14 : ○, Z16 : ○, Z15 : ○		
9	V-AUX		Z9 : ○, Z13 : K44-C, Z14 : K45-C, Z16 : K46-C		
10	PHONO		Z10 : ○		
11	EXT. DEC.		Z11 : ○		
12	EFFECT		Z12 : ○		
17	△ PLAY △		Same as the case of pushing the mode key of current mode.		
18	+ ▷▷ +		(In case of having set the mode TAPE, the lighting is same as the case of pushing TAPE key.)		
19	- ◁◁ -				
20	▽ PAUSE/STOP ▽				

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

Control transmission

The unit transmits the code of the mode set by pushing one of 4 keys (OPERATION CONTROL keys) shown below.

The codes of every mode are the code setting key No. shown below.

(The code is fixed code or learned signal in case of finishing learning. If the key has no code and no learning, the unit transmits no code.)

Key No.	NAME	TAPE	CD	TUNER	VCR 1	DVD/LD	TV/DBS	VCR 2		V-AUX
17	△ PLAY △	K28-A	K36-A	K44-A	K28-B	K36-B	K44-B	K28-C	K36-C	K44-C
18	+ ▷▷ +	K29-A	K37-A	K45-A	K29-B	K37-B	K45-B	K29-C	K37-C	K45-C
19	- ◁◁ -	K30-A	K38-A	K46-A	K30-B	K38-B	K46-B	K30-C	K38-C	K46-C
20	▽ PAUSE/STOP ▽	K31-A	K39-A	—	K31-B	K39-B	—	K31-C	K39-C	—

Detail : K × X - Y
 Key No. The position of SW2

All key lighting

If the LIGHT key (Key No. 62) is pushed, the LED lights as shown below.

If the LIGHT key (Key No. 62) is pushed again during lighting of the LED, the LED turns off.

COVER	OPEN	CLOSE
Lighting LED	Z1 ~ Z19	Z1 ~ Z16

MACRO transmission

Transmission code of initial setting is shown below. (key No.)

Each transmission code is the fixed or learning code.

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

Detail : K × X - Y
 Key No. The position of SW2

Parts List for Carbon Resistors

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

1/4W Type

HJ35 ○○○○

10mm

1/6W Type

HF85 ○○○○

5mm