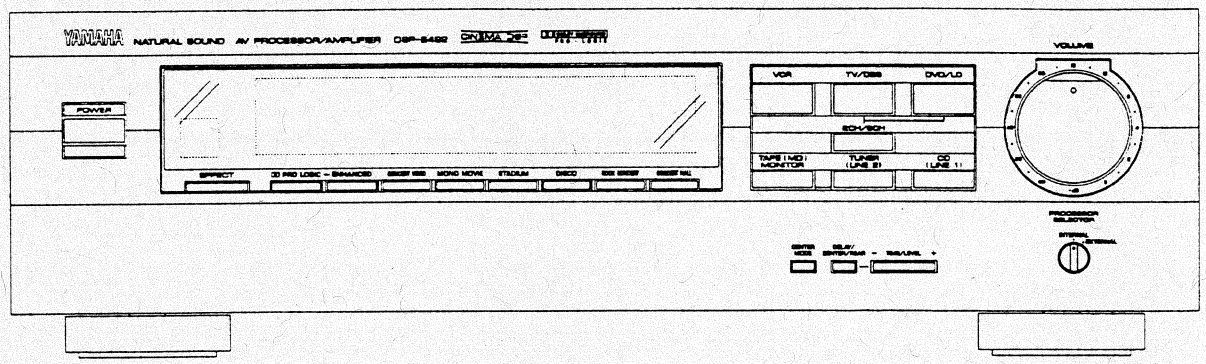
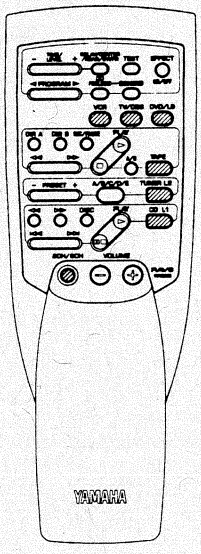
AV PROCESSOR/AMPLIFIER

DSP-E492

SERVICE MANUAL





IMPORTANT NOTICE

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

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

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

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

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

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

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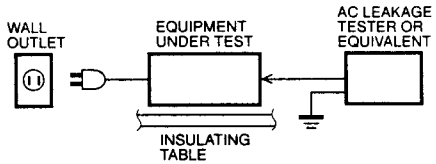
100596

YAMAHA
YAMAHA CORPORATION
P.O.Box1,Hamamatsu,Japan
3K-504 Printed in Japan '97.8

■ TO SERVICE PERSONNEL

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

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



"CAUTION"
"F501 : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE 5.0A, 125V FUSE."

CAUTION
F501 : REPLACE WITH SAME TYPE 5.0A, 125V FUSE.

ATTENTION
F501 : UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE DE 5.0A, 125V.

WARNING: CHEMICAL CONTENT NOTICE!

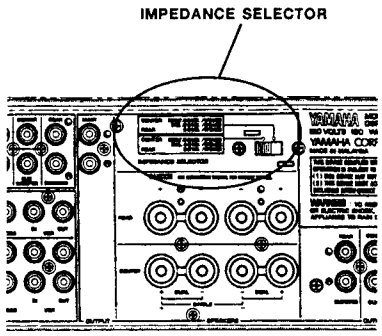
The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects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

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

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

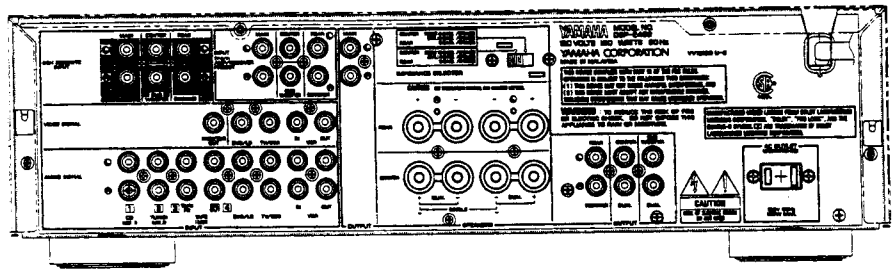
If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

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

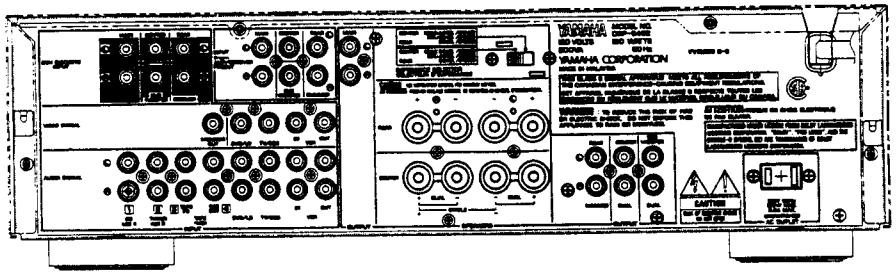


■ REAR PANELS

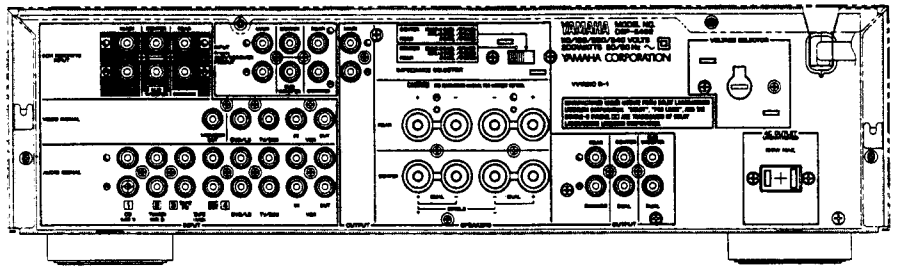
▼ U model



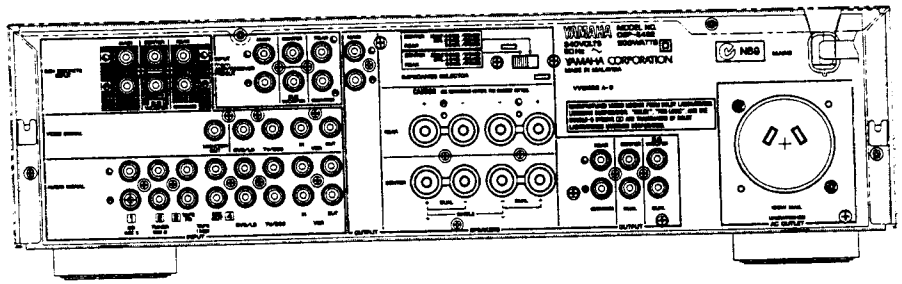
▼ C model



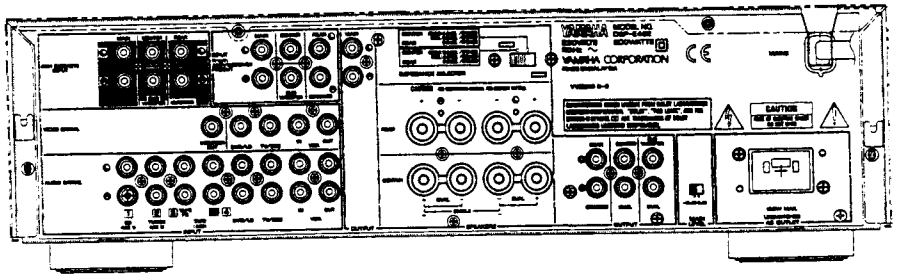
▼ R model



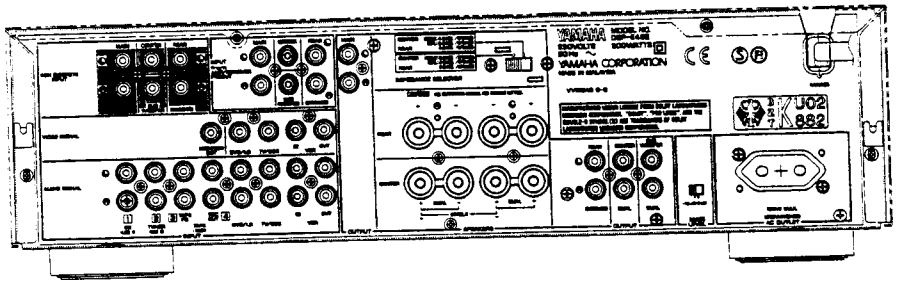
▼ A model



▼ B model



▼ G model



■ SPECIFICATIONS

■ AUDIO SECTION

Minimum RMS Output Power per Channel	
20Hz to 20kHz, 0.04% THD, 8Ω (When 3 channels are driven :)	
6 CH DISCRETE INPUT to CENTER	60W
6 CH DISCRETE INPUT to REAR	60W+60W
Dynamic Power per Channel (IHF)	
CENTER, REAR, 8/6/4/2Ω	
U, C, models	110/130/150/165W
R, A, B, G models	115/140/160/175W
DIN Standard Output Power per Channel (G model only)	
CENTER, REAR, 1kHz, 0.7% THD, 4Ω	70W
IEC Power (G model only)	
CENTER, REAR, 1kHz, 0.1% THD, 8Ω	75W
Power Band Width	
CENTER, REAR, 0.1% THD, 30W/8Ω	10Hz to 60kHz
Damping Factor	
CENTER, REAR, 1kHz, 8Ω	200 or more
Input Sensitivity/Impedance	
MAIN (PRE OUT 1V)	150mV/47kΩ
CENTER (SP OUT 60W)	150mV/47kΩ
REAR (SP OUT 60W)	150mV/47kΩ
SUB WOOFER (PRE OUT 3.5V)	100mV/30kΩ
Output Level/Impedance	
REC OUT	150mV/2.7kΩ
PRE OUT MAIN	1V/2.7kΩ
PRE OUT CENTER	2V/1.2kΩ
PRE OUT REAR	2V/1.2kΩ
PRE OUT SUB WOOFER	4V/1.2kΩ
Maximum Voltage Output	
20Hz to 20kHz, 0.01% THD, MAIN PRE OUT	1.6V
Frequency Response	
CENTER, REAR (20Hz to 20kHz)	0±0.5dB
MAIN PRE OUT (20Hz to 20kHz)	0±0.5dB
SUB WOOFER PRE OUT (150Hz)	- 3dB
Total Harmonic Distortion	
MAIN to PRE OUT (20Hz to 20kHz, 1V)	0.006%
CENTER to SP OUT (20Hz to 20kHz, 50W/8Ω)	0.015%
REAR to SP OUT (1kHz, 50W/8Ω)	0.015%
SUB WOOFER to PRE OUT (50Hz, 3.5V)	0.015%
Signal-to-Noise Ratio (IHF-A-Network)	
MAIN (Input Shorted) PRE OUT	95dB
CENTER (Input Shorted) SP OUT	90dB
REAR (Input Shorted) SP OUT	90dB
Residual Noise (IHF-A-Network)	
MAIN, PRE OUT	5μV
CENTER, SP OUT	270μV
REAR, SP OUT	270μV
Channel Separation (Vol. –30dB)	
MAIN PRE OUT (Input 5.1kΩ Shorted)	
1kHz/10kHz	70dB/50dB

■ VIDEO SECTION

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

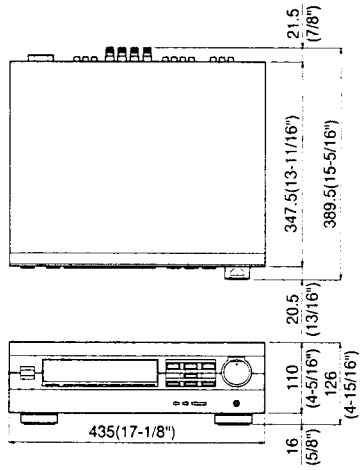
■ GENERAL

Power Supply	
U, C models	AC 120V, 60Hz
A model	AC 240V, 50Hz
B, G models	AC 230V, 50Hz
R model	AC 110/120/220/240V, 50/60Hz
Power Consumption	
U model	160W
C model	160W/200VA
R, A, B, G models	200W
AC Outlets	
Unswitched x 1	100W max
Dimensions (W x H x D)	435 x 126 x 389.5mm (17-1/8" x 4-15/16" x 15-5/16")
Weight	8.5 kg (18 lbs. 11 oz)
Accessories	Remote Control Transmitter x 1 Battery (size "AA", "R06") x 2

** Specifications subject to change without notice.*

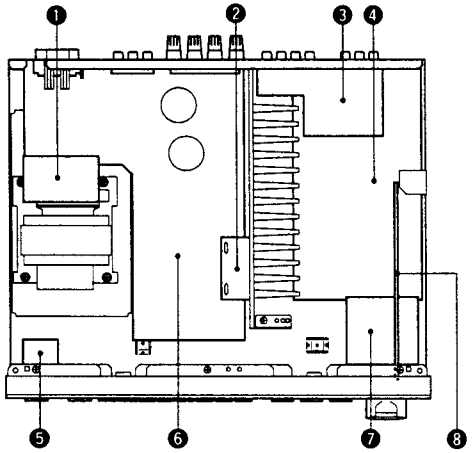
U** ..... **USA model ***B** ..... **British model***
C** ..... **Canadian model ***G** ..... **European model***
A** ..... **Australian model ***R** ..... **General model***

● DIMENSIONS



Units : mm (inch)

■ INTERNAL VIEW



❶ P. C. B. OPERATION (4)
❷ P. C. B. MAIN (2)
❸ P. C. B. OPERATION (2)
❹ P. C. B. INPUT (1)
❺ P. C. B. MAIN (5)
❻ P. C. B. MAIN (1)
❼ P. C. B. OPERATION (3)
❽ P. C. B. MAIN (6)

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

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

2. Removal of Bottom Cover
a. Remove 6 screws (③) in Fig. 1.

3. Removal of Front Panel
a. Remove the Volume knob.
b. Remove 6 screws (④) in Fig. 1.

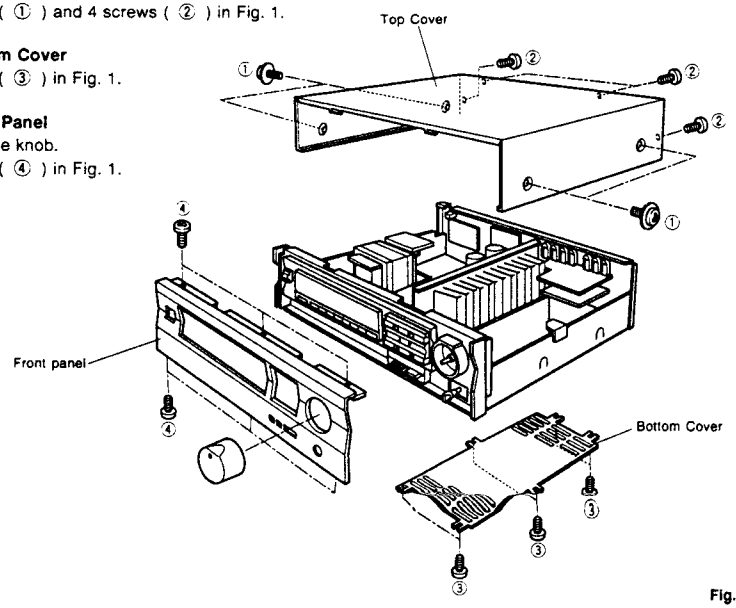


Fig. 1

■ SELF CHECK MODE (SELF)

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

HOW TO START & CANCEL

Turn the POWER switch ON while pressing the DVD/LD and CENTER MODE keys simultaneously, and then the unit enters the SELF CHECK MODE (SELF). FL displays "SELF 1" first.
(The INPUT CD and SW levels are 0dB.)
If the sound field program key of the main unit is pressed, the mode is set to the CHECK mode of that number. It is possible to select the INPUT even during the self check (except for SELF 7 and 8).
* Switching between 2CH and 6CH is possible when SELF1 is selected.

To cancel the SELF CHECK MODE, turn the POWER switch OFF or press the CONCERT HALL or ROCK CONCERT key. (The unit enters the normal mode.)

CONTENTS OF SELF CHECK MODE

No.	Menu	Select Key
1	MAIN BYPASS	PRO LOGIC
2	FRONT EFFECT	ENHANCED
3	MAIN DSP	CONCERT VIDEO
4	EFFECT OFF/DISCO/DISPLAY CHECK/CPU No. CHECK/ PROTECTION CHECK	MONO MOVIE
5	MANUAL TEST	STADIUM
6	DOLBY PRO LOGIC	DISCO
7	EXIT (FACTORY PRESET)	ROCK CONCERT
8	EXIT (KEEP DATA)	CONCERT HALL

HOW TO USE SELF CHECK MODE

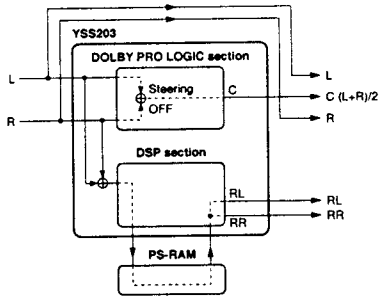
In order to confirm characteristics (specifications) listed in the table below, use SELF NO. 1, 3 and 4. (For specifications, refer to page 4.)

No.	Items
1	• Output Level/Impedance • Frequency Response • Total Harmonic Distortion • S/N
3	• Minimum RMS Output Power Per Channel • Total Harmonic Distortion
4	• Minimum RMS Output Power Per Channel • Input Sensitivity/Impedance • Channel Separation

DETAILS OF SELF CONTENT

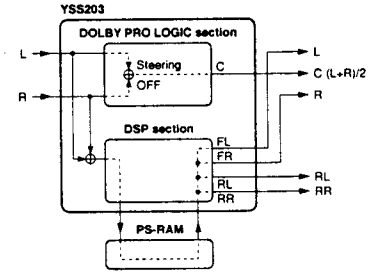
SELF 1 MAIN BYPASS

- MAIN L/R is output through the bypass.
- CENTER is output with the steering OFF and by (L+R)/2. (WIDE mode)
- RL/RR passes through the PS-RAM and is output through the DSP.
- The electronic volume is 0dB for CENTER and -2dB for REAR.
- 2ch/6ch is changed by pressing the PRO LOGIC key.
- FL displays "SELF_1 2ch"



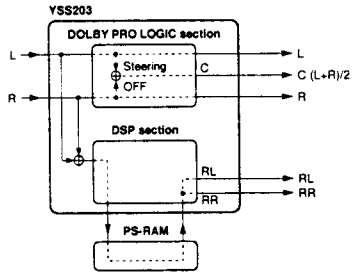
SELF 2 FRONT EFFECT

- L/R and RL/RR pass through the PS-RAM and are output through the DSP.
- CENTER is output with the steering OFF and by (L+R)/2. (WIDE mode)
- The electronic volume (for CENTER/REAR) is -10dB.
- FL displays "SELF NO_2"



SELF 3 MAIN DSP

- L/R is output with the steering OFF.
- CENTER is output with the steering OFF and by (L+R)/2. (WIDE mode)
- RL/RR passes through the PS-RAM and is output through the DSP.
- The electronic volume is +10dB for CENTER and +9dB for REAR.
- FL displays "SELF NO_3"



SELF 4 EFFECT OFF/DISCO/DISPLAY CHECK/CPU No. CHECK/PROTECTION CHECK

- Every time the MONO MOVIE key is pressed, the menu changes.

1: EFFECT OFF
L/R is output through the bypass.
2: DISCO
REAR electronic volume is 0dB.)
3: DISPLAY CHECK
All segments of the FL are displayed.
4: CPU No. CHECK
CPU version is displayed
5: To check cause of PROTECTION
FL displays cause of PROTECTION

Example : POWER DOWN
DC PRT
I PRT

[POWER DOWN] indicates no detection.

[DC PRT] indicates detection of an abnormal DC value from the amplifier.

[I PRT] indicates detection of an abnormal overcurrent from the amplifier.

SELF 5 MANUAL TEST

- Every time STADIUM key is pressed, the TEST TONE shifts in the order of →L→C→R→S→ and is output.
(The CENTER mode is WIDE)
- The electronic volume (for CENTER/REAR) is 0dB.

SELF 6 DOLBY PRO LOGIC

- The auto input balance which is ON in the normal mode is turned OFF.
- CENTER MODE is changed by pressing the DISCO key or the CENTER MODE key.
- The electronic volume (for CENTER/REAR) is 0dB.
- The FL displays "SELF NO_6" and the center mode.

CD INPUT	: 1kHz, -35dB	
VOLUME	: MAX	
PRE OUT	: MAIN	-30.7dB±1dB
	: REAR	-∞dB
	: CENTER	-8.2dB±1dB

SELF 7 TO EXIT THE SELF CHECK MODE (FACTORY PRESET)

- The SELF CHECK MODE is cancelled and returns the normal operation mode is restored by pressing the ROCK CONCERT key. Also, the FACTORY PRESET is restored.

- **Factory Preset**

1) SURROUND section

DELAY TIME	: DD PRO LOGIC	20ms
	ENHANCED	20ms
	CONCERT VIDEO	28ms
	MONO MOVIE	20ms
	STADIUM	45ms
	DISCO	14ms
	ROCK CONCERT	17ms
	CONCERT HALL	30ms
CENTER MODE	: NORMAL	
VOLUME LEVEL	: CENTER	0dB
	REAR	0dB
	SW	0dB

2) SELECTOR section

INPUT	: CD
VIDEO (BGV)	: DVD/LD

SELF 8 TO EXIT THE SELF CHECK MODE (KEEP DATA)

- The SELF CHECK MODE is cancelled and normal operation is restored by pressing the CONCERT HALL key.
The FACTORY PRESET is not restored.

■ ADJUSTMENTS

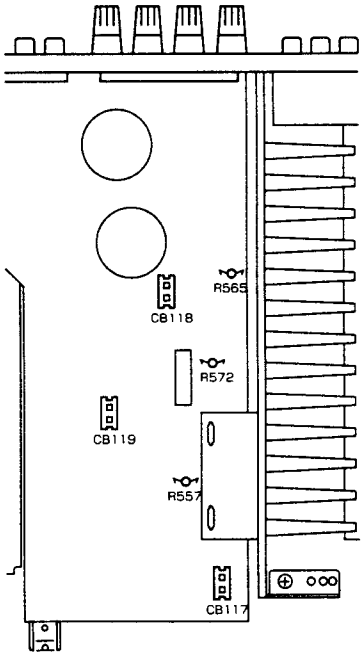
● Confirmation of Idling Current

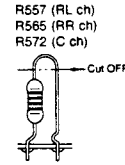
1) No signal applied.
2) Non-loaded condition.
3) Aging is not neccessary.

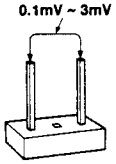
Item	Test Point	Rating (DC)	Note
REAR L	CB117	0.1mV~3mV	If the measured voltage exceeds 3.1mV, cut the lead wire of R557(RL ch), R565(RR ch) or R572(C ch) and then check again if each measured value satisfies the rating.
REAR R	CB118		
CENTER	CB119		

Note)

- If R557(RL ch), R565(RR ch) or R572(C ch) have already been cut off and idling current does not flow, reconnect R557(820Ω), R565(820Ω) or R572(820Ω).
- Q514, Q516 and Q518 are transistors for temperature correction. Apply silicone grease to the contact surface with the heat sink.

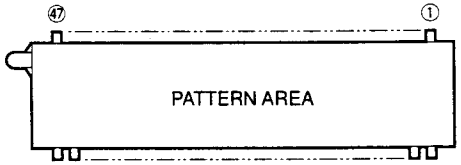






■ DISPLAY DATA

● V601 : 13-BT-151GK (VV298800)



● PIN CONNECTION

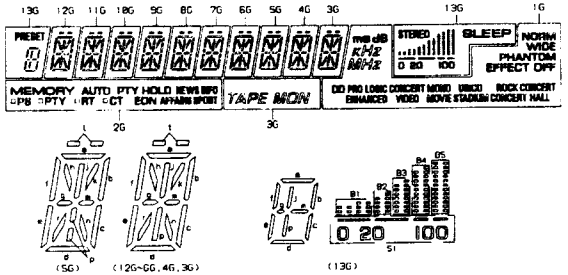
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
CONNECTION	F1	F1	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	NC

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

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

NOTE 1) F1, F2 ..... Filament
2) NP ..... No pin
3) NC ..... No connection
4) P1~P16 ... Datum Line
5) 1G~13G .. Grid

● GRID ASSIGNMENT

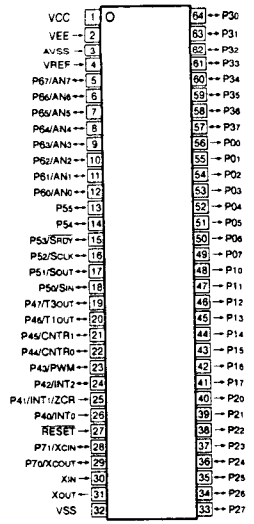


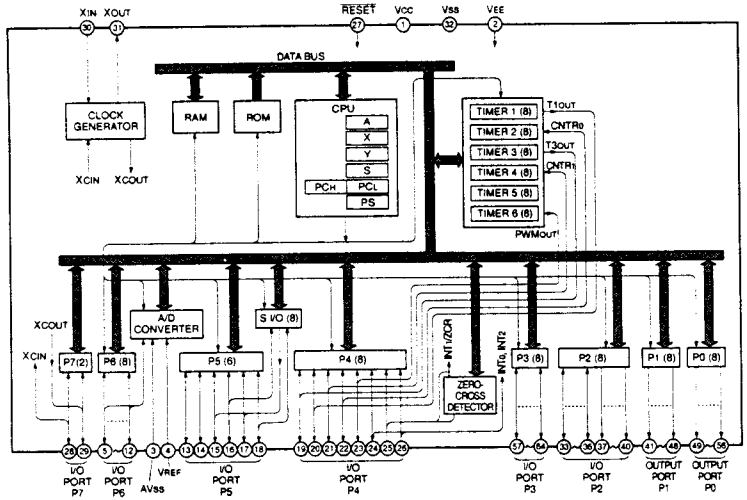
● ANODE CONNECTION

	13G	12G~4G	3G	2G	1G
P1	a	a	a	MEMORY	NORM
P2	b, c	b	b	AUTO	WIDE
P3	d	c	c	PTY HOLD	PHANTOM
P4	e, f	d	d	SPORT	EFFECT OFF
P5	g	e	e	AFFAIRS	ROCK CONCERT
P6	j, p	f	f	INFO	CONCERT HALL
P7	m	g	g	NEWS	DISCO
P8	PRESET	h	h	EON	STADIUM
P9	STEREO	j	j	CT	MONO MOVIE
P10	D1	k	k	▫ (CT)	CONCERT VIDEO
P11	B2	m	m	RT	DIO PRO LOGIC
P12	B3	n	n	▫ (RT)	ENHANCED
P13	B4	p	p	PTY	dB
P14	B5	r	r	▫ (PTY)	mS
P15	S1	t	t	P8	KHz
P16	SLEEP	-	TAPE MON	▫ (P8)	MHz

■ IC DATA

IC601 : M38122M2-168SP
8 bit μ-COM

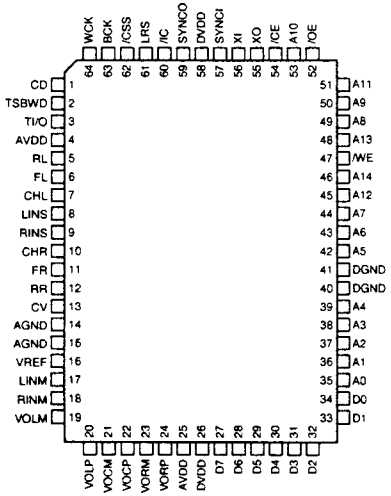


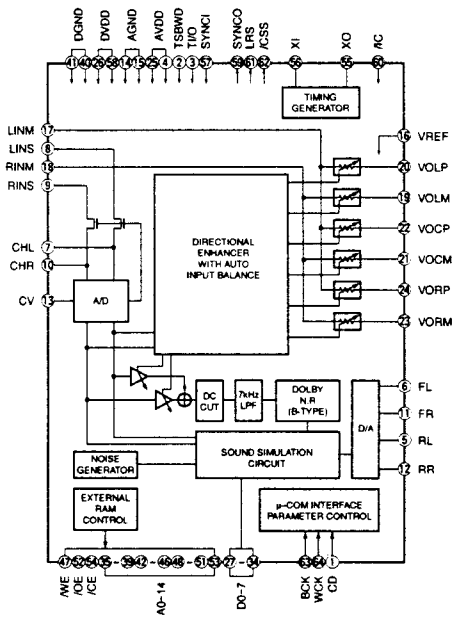


No.	Port	Name	I/O	Function
1	Vcc	VCC	—	+5V
2	Vee	-VEE	—	-25V
3	AVSS	GND	—	GND for A/D
4	VREF	ADREF	—	+5V for A/D
5	P67	DCPRO	ADI	Protection 2 (PRT-DC) detect
6	P66	CURPRO	I	Protection 1 (PRT-I) detect
7	P65	KEY3	ADI	Key A/D in
8	P64	KEY2	ADI	

No.	Port	Name	I/O	Function
9	P63	KEY1	ADI	Key A/D in
10	P62	/VCR	O	VCR INHIBIT
11	P61	VIDEO2	O	Video selector 2
12	P60	VIDEO1	O	Video selector 1
13	P55	FMUTE	O	Main mute
14	P54	CEINP	O	CE for Function selector
15	P53	CEVOL	O	CE for Electric volume
16	P52	CLK	O	Serial clock
17	P51	DAT	O	Serial data
18	P50	CED	O	CE for DSP (YSS203)
19	P47	SPRY	O	SP relay
20	P46	CMUT	O	Center mute
21	P45	RMUT	O	Rear mute
22	P44	EXMODE	I	External mode
23	P43	NC	—	N.C.
24	P42	NC	—	
25	P41	PDWN	I	Power down detect
26	P40	REM	I	Remote control signal input
27	RESET	RESET	—	Reset
28	P71	VOLD	O	Motor volume control
29	P70	VOLU	O	
30	XIN	XIN	—	Clock (4MHz)
31	XOUT	XOUT	—	
32	VSS	GND	—	GND
33	P27	NC	—	N.C.
34	P26	NC	—	
35	P25	NC	—	
36	P24	NC	—	
37	P23	G13	O	Fluorescent character display tube grid drive signal
38	P22	G12	O	
39	P21	G11	O	
40	P20	G10	O	
41	P17	G9	O	
42	P16	G8	O	
43	P15	G7	O	
44	P14	G6	O	
45	P13	G5	O	
46	P12	G4	O	
47	P11	G3	O	
48	P10	G1	O	
49	P07	S16	O	Fluorescent character display tube anode drive signal
50	P06	S15	O	
51	P05	S14	O	
52	P04	S13	O	
53	P03	S12	O	
54	P02	S11	O	
55	P01	S10	O	
56	P00	S9	O	
57	P37	S8	O	
58	P36	S7	O	
59	P35	S6	O	
60	P34	S5	O	
61	P33	S4	O	
62	P32	S3	O	
63	P31	S2	O	
64	P30	S1	O	

IC17 : YSS203B
Digital Dolby Pro Logic Decoder with Auto Input Balance





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

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

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

I : Input terminal **O** : Output terminal **t** : TTL level

c : CMOS level **s** : Schmidt input **A** : Analog terminal

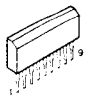
■ PIN CONNECTION DIAGRAM

● ICs

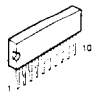
AN78N05

NJM78M12FA

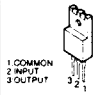
μPC4570HA



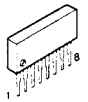
LB1641



NJM79M12FA



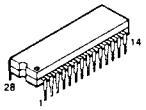
NJM2068L-D
NJM4558L-D



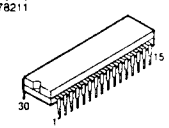
LA7956

TC9299P

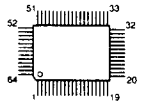
LH5P832D-10,



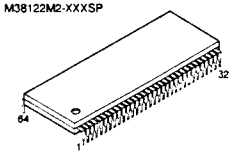
LC78213
LC78211



YSS203B



M38122M2-XXXSP



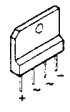
● Diodes

1SS133
1SS270A
1T2

HZS4B2TD
HZS5A2TD
HZS5B2TD
HZS6A2TD
HZS7A2TD
HZS12B2TD
HZS12C2TD
HZS242TD

S1NB20

D5SB20



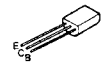
● Transistors

2SA933S (Q, R)
2SA1740S (R, S)
DTC144ES

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

2SA893A (D, E)
2SA970 (GR, BL)
2SA1015 (Y)
2SC1815 (Y)

2SC1890A (D, E)
2SC2061 (P, Q, R)
2SC2229 (O, Y)
2SC2878 (A, B)

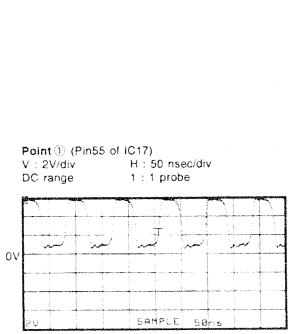


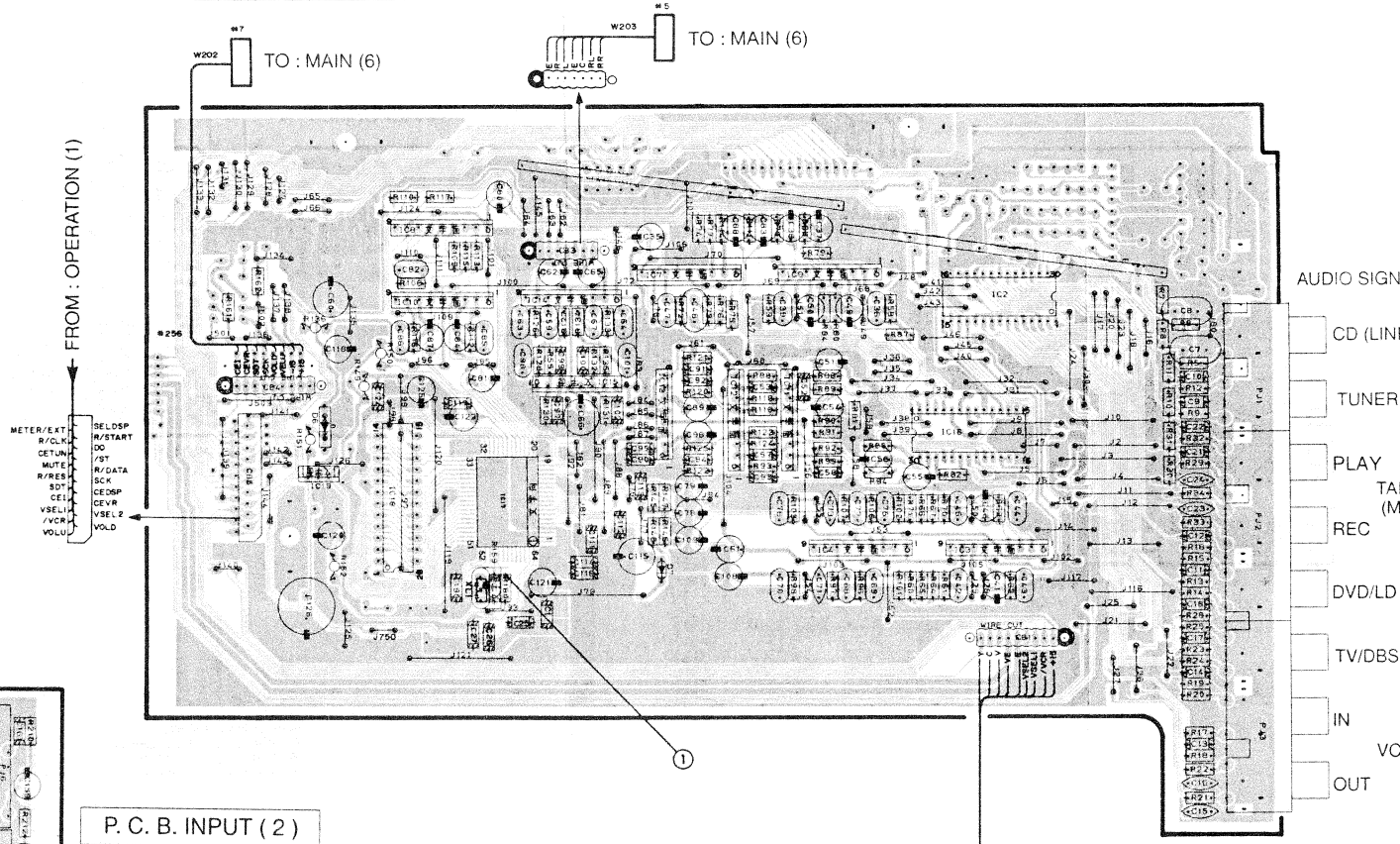
2SD856 (P, Q)

2SA1695 (O, P, Y)
2SC4468 (O, P, Y)

■ PRINTED CIRCUIT BOARD (Foil side)

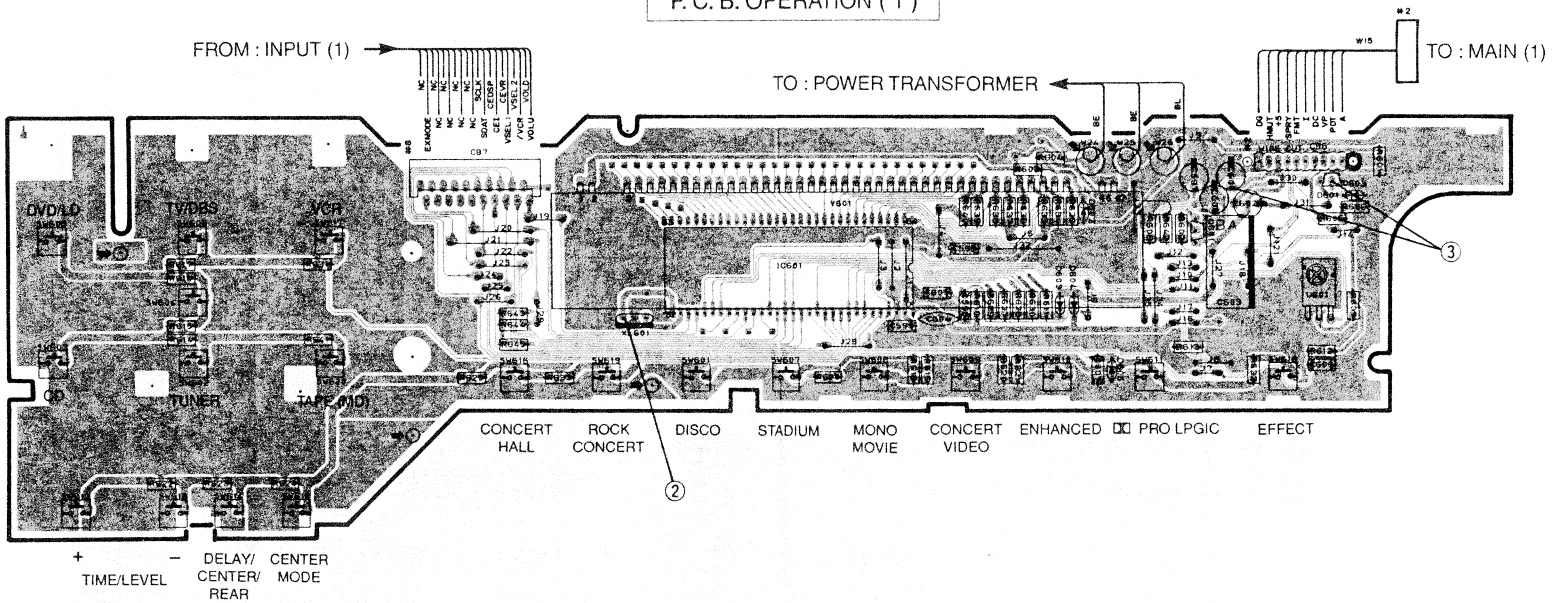
P. C. B. INPUT (1)



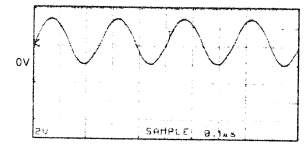


■ PRINTED CIRCUIT BOARD (Foil side)

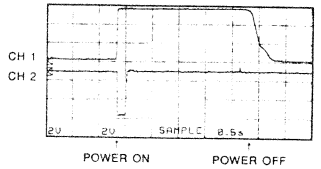
P. C. B. OPERATION (1)



Point ② (Pin31 of IC601)
V : 2V/div H : 0.1 µsec/div
DC range 1 : 1 probe

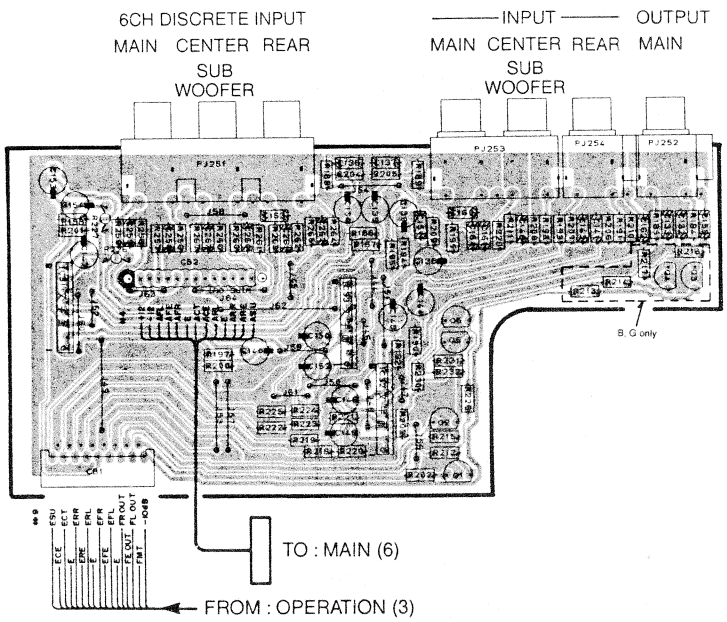


Point ③
CH1 : Anode of D604 V : 2V/div (CH1)
CH2 : Pin27 of IC601 V : 2V/div (CH2)
H : 0.5 sec/div DC range 1 : 1 probe

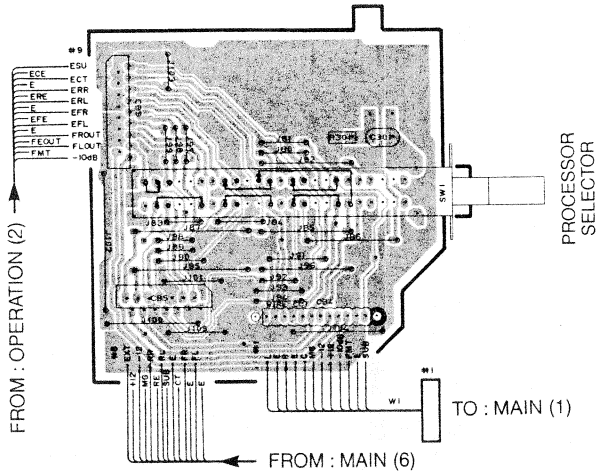


■ PRINTED CIRCUIT BOARD (Foil side)

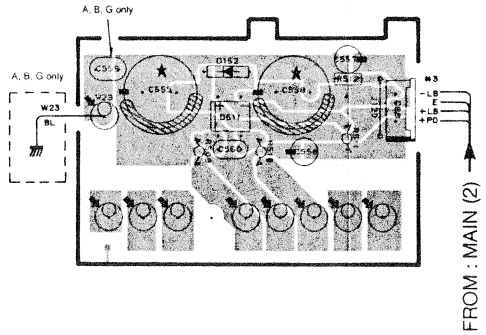
P. C. B. OPERATION (2)



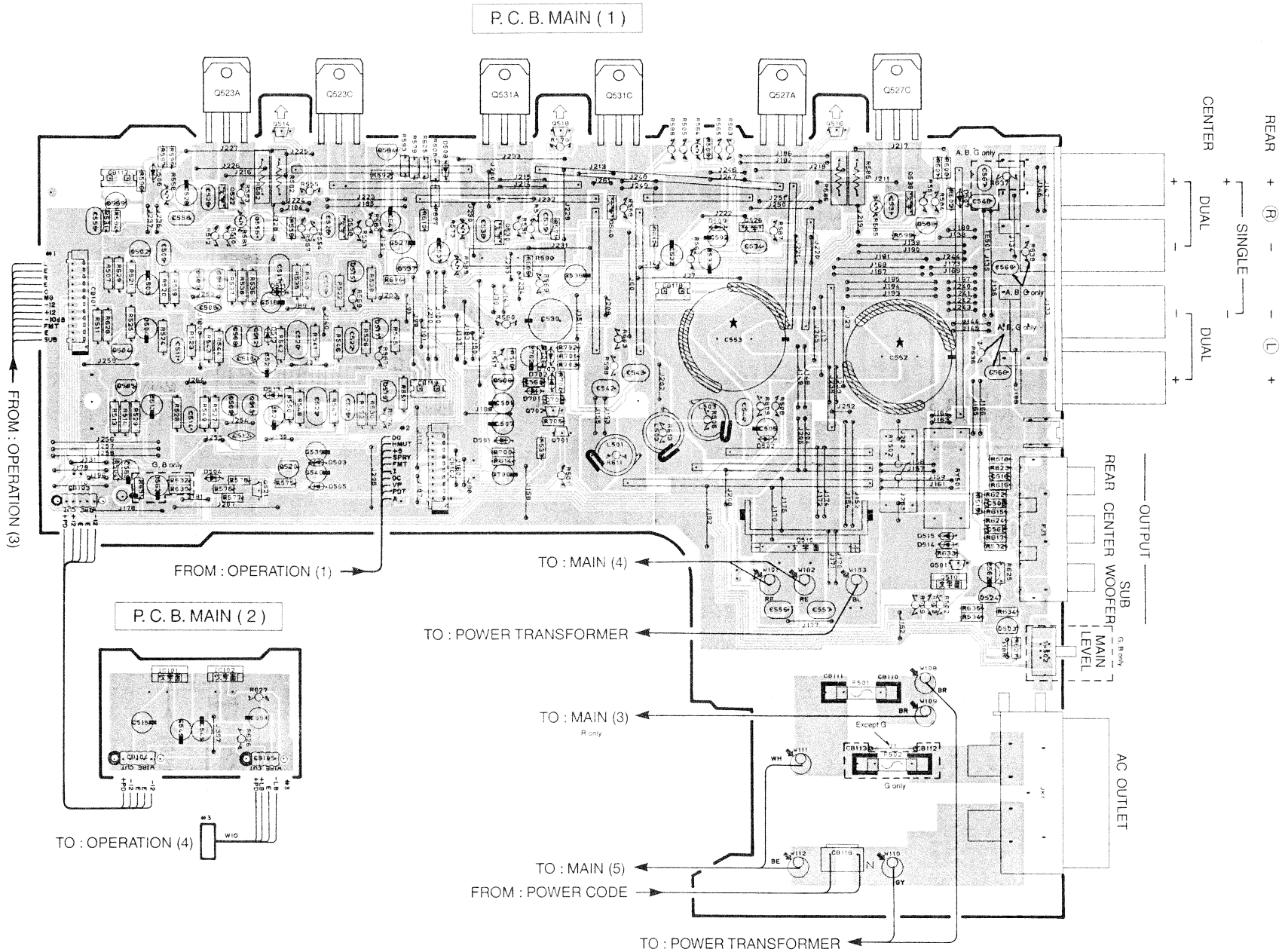
P. C. B. OPERATION (3)



P. C. B. OPERATION (4)



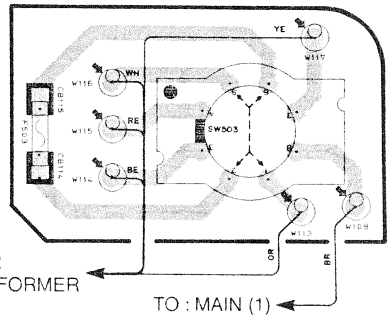
■ PRINTED CIRCUIT BOARD (Foil side)



■ PRINTED CIRCUIT BOARD (Foil side)

● R ONLY

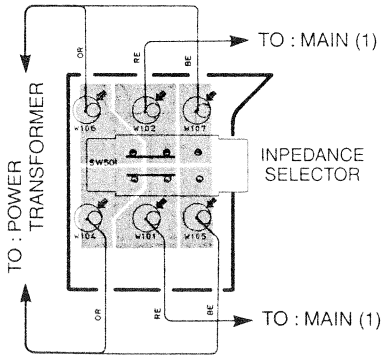
P. C. B. MAIN (3)



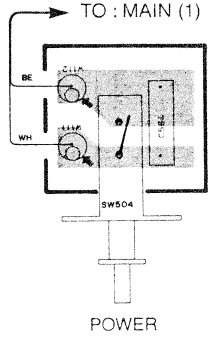
VOLTAGE SELECTOR

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

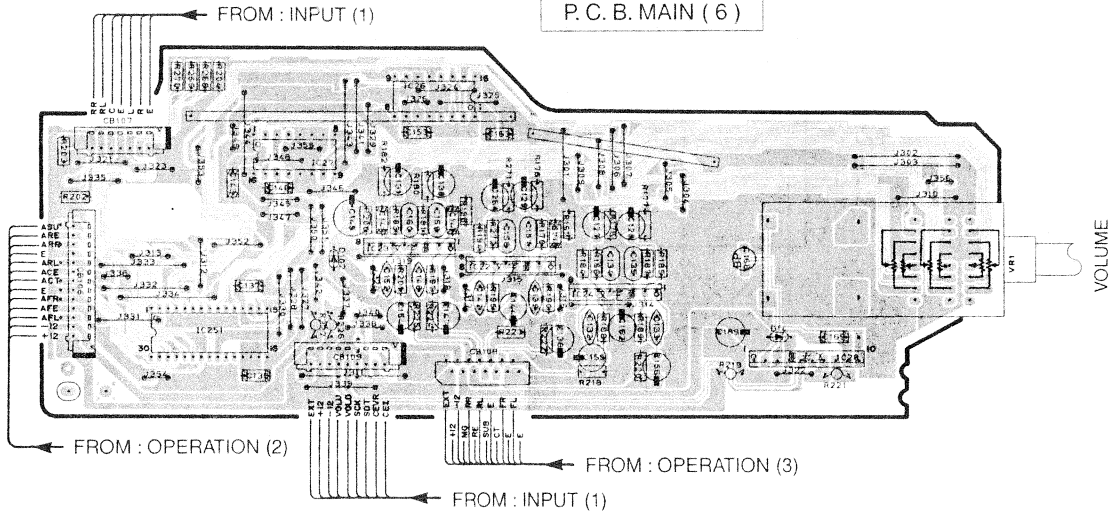
P. C. B. MAIN (4)



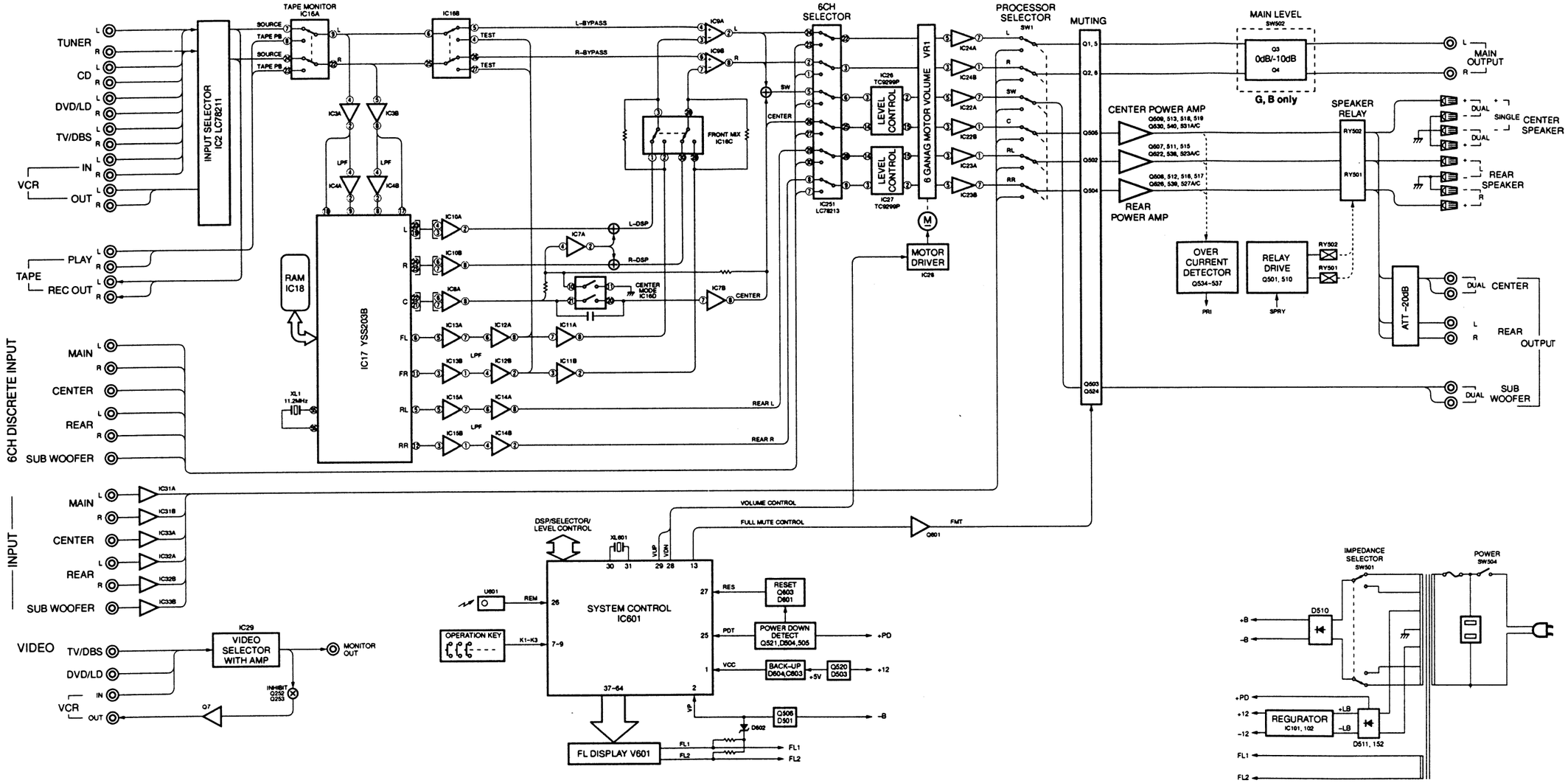
P. C. B. MAIN (5)



P. C. B. MAIN (6)

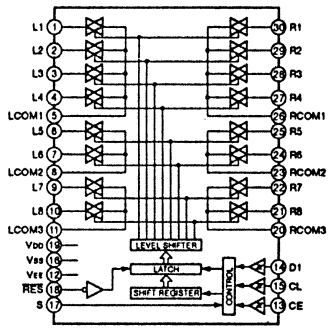


■ BLOCK DIAGRAM

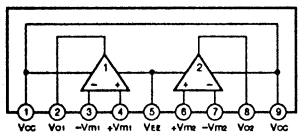


■ SCHEMATIC DIAGRAM (INPUT)

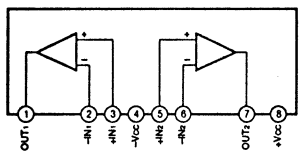
IC2 : LC78211
Analog Function Switch



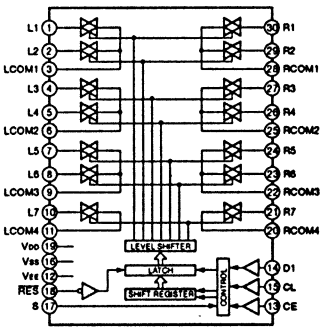
IC3, 4, 7~12, 14 : μPC4570HA
Dual OP-Amp



IC13 : NJM4558L-D
IC15 : NJM4558L
Dual OP-Amp



IC16 : LC78213
Analog Function Switch



LC78211

Pin L	Pin R	INPUT
1	30	PHONO
2	29	CD
3	28	TUNER
4	27	DVD/LD
6	25	V-AUX
7	24	TV/DBS
9	22	VCR REC
10	21	VCR PB

INPUT SELECTOR

TAPE MONITOR

DSP AMP

LPF

CENTER

MAIN

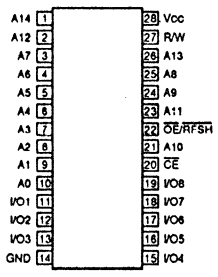
REGULA

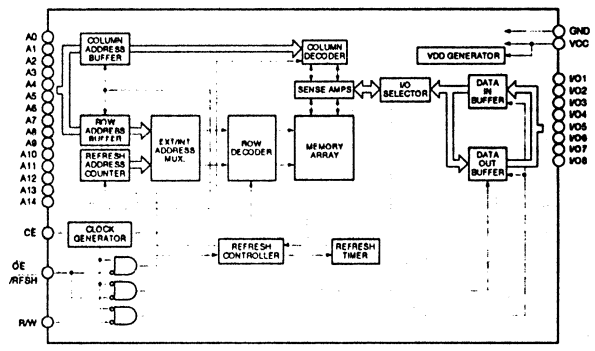
INPUT(1)

TO INPUT(2) P-28 K-6

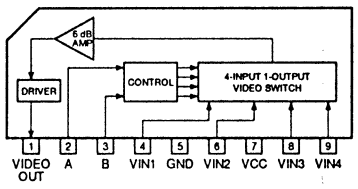
TO MAIN(6) P-30 G-6

IC18 : LH5P832D-10
32768-word x 8 bit High Speed Pseudo Static RAM

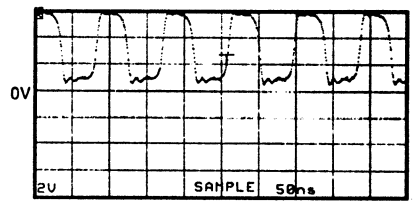




IC29 : LA7956
Video Switch



Point ① (Pin55 of IC17)
V : 2V/div H : 50 nsec/div
DC range 1 : 1 probe



Other ICs
● IC17 : YSS203B →See page 13

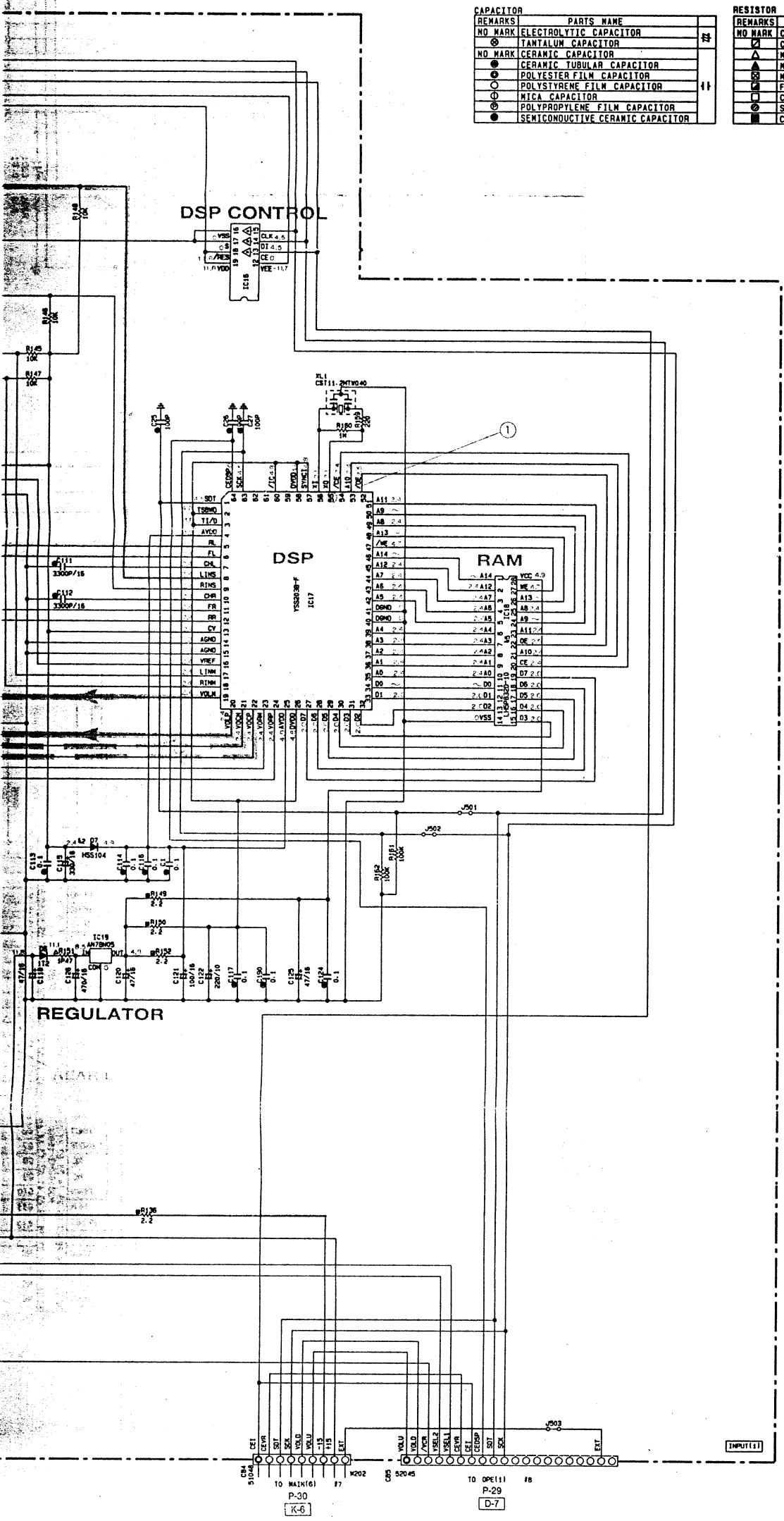
CAPACITOR

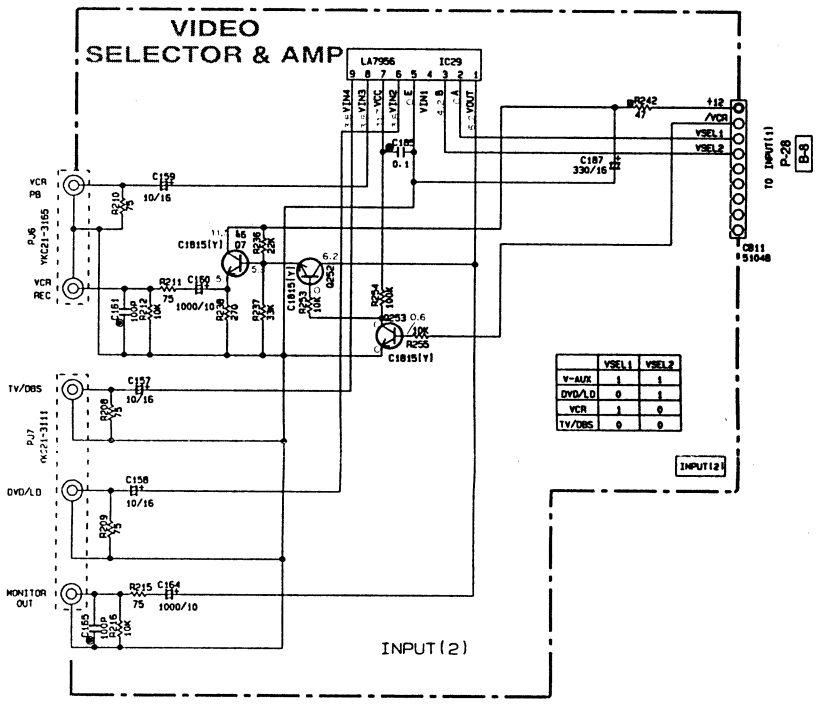
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
⊗	TANTALUM CAPACITOR	#
NO MARK	CERAMIC CAPACITOR	
●	CERAMIC TUBULAR CAPACITOR	
◐	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
Ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

RESISTOR

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

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



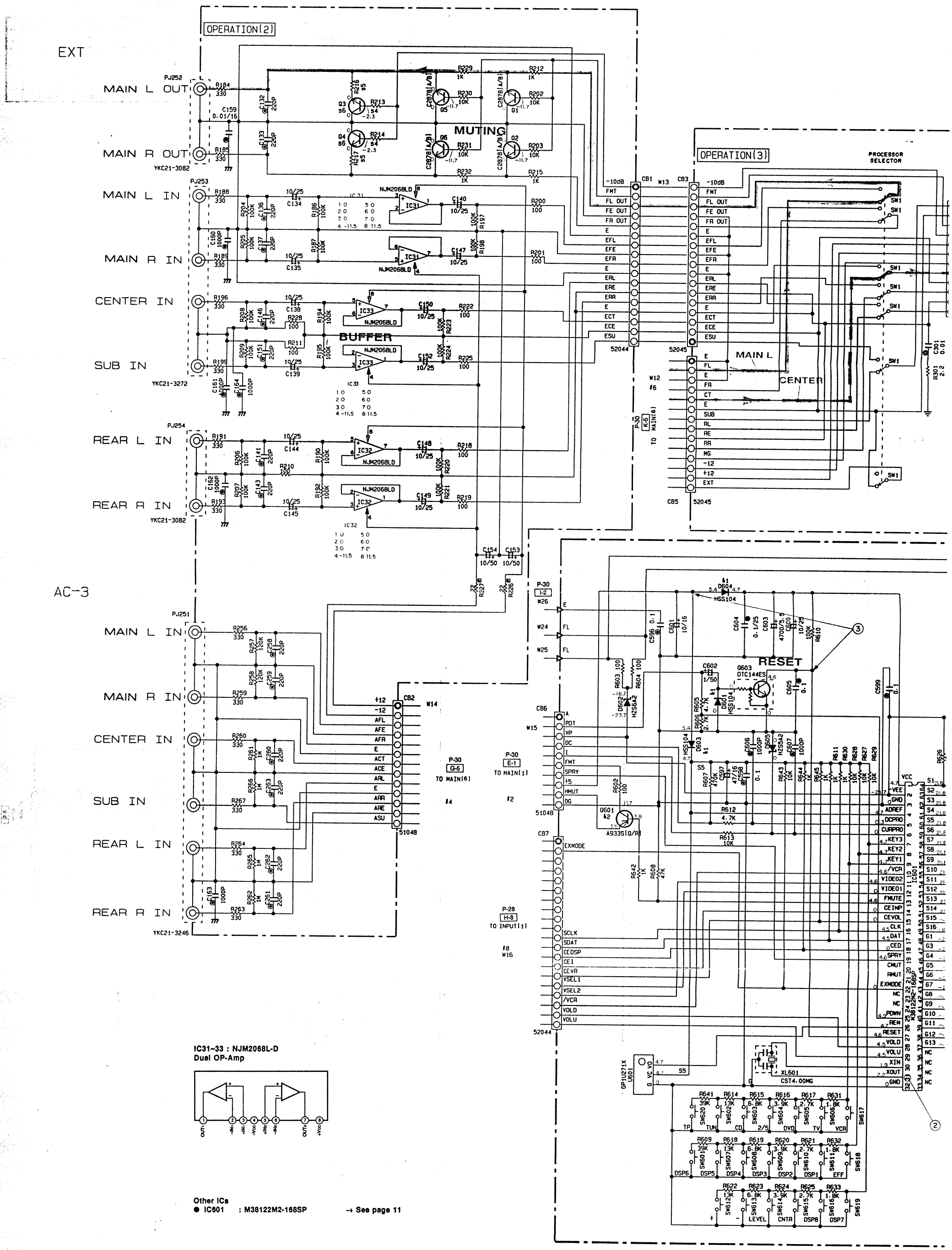


Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
▲1		
▲2	D7	HSS104 1SS133 1SS176
▲3		
▲4		
▲5		
▲6		

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

■ SCHEMATIC DIAGRAM (OPERATION)



IC31~33 : NJM2068L-D
Dual OP-Amp

Other ICs

● **IC601 : M38122M2-168SP** → See page 11

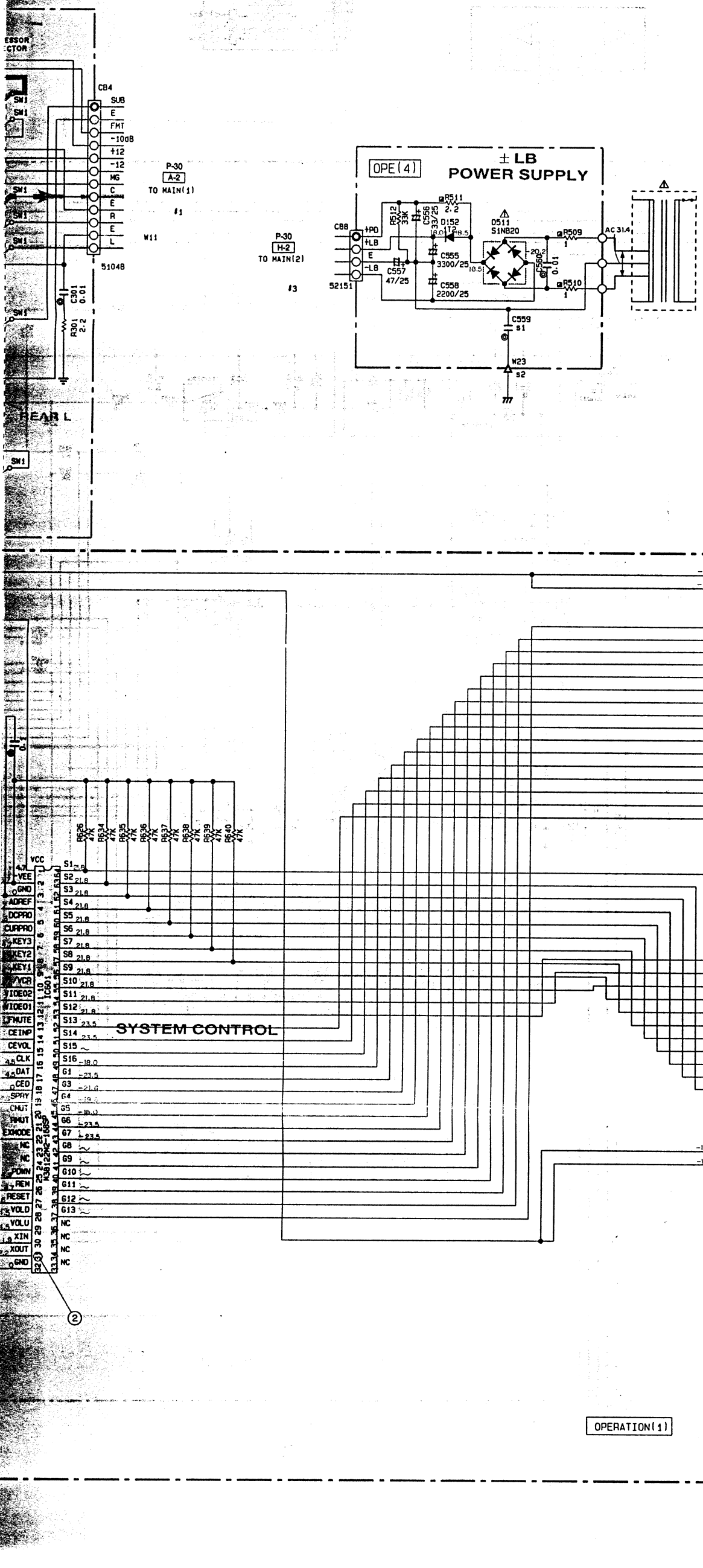
RESISTOR

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

CAPACITOR

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

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



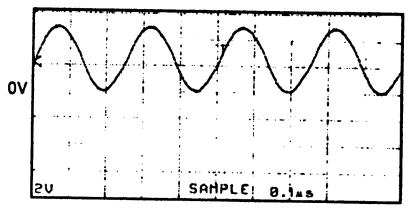
CIRCUIT CHANGES BY MARKET. × : NOT USED

		U·C	R	A	B	G
s1	C559	X	X	0.1 UA65510	0.1 UA65510	0.1 UA65510
s2	W23	X	X	MH20210	MH20210	MH20210
s4	R213·214	X	X	X	10K HF45710	10K HF45710
s5	R216·217	X	X	X	820 HF45582	820 HF45582
s6	Q3·4	X	X	X	C2878[A/B] IC28782	C2878[A/B] IC28782

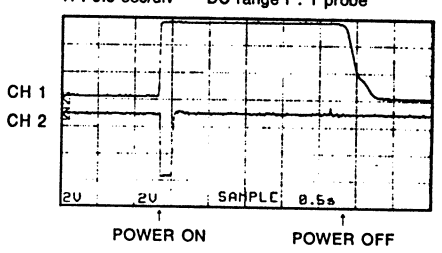
Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
&1	D601·603·604	HSS104 1SS133 1SS176
&2	Q601	2SA933S[Q/R] 2SA1115[E/F] 2SA1309A[Q/R/S]

Point ② (Pin31 of IC601)
V : 2V/div H : 0.1 µsec/div
DC range 1 : 1 probe



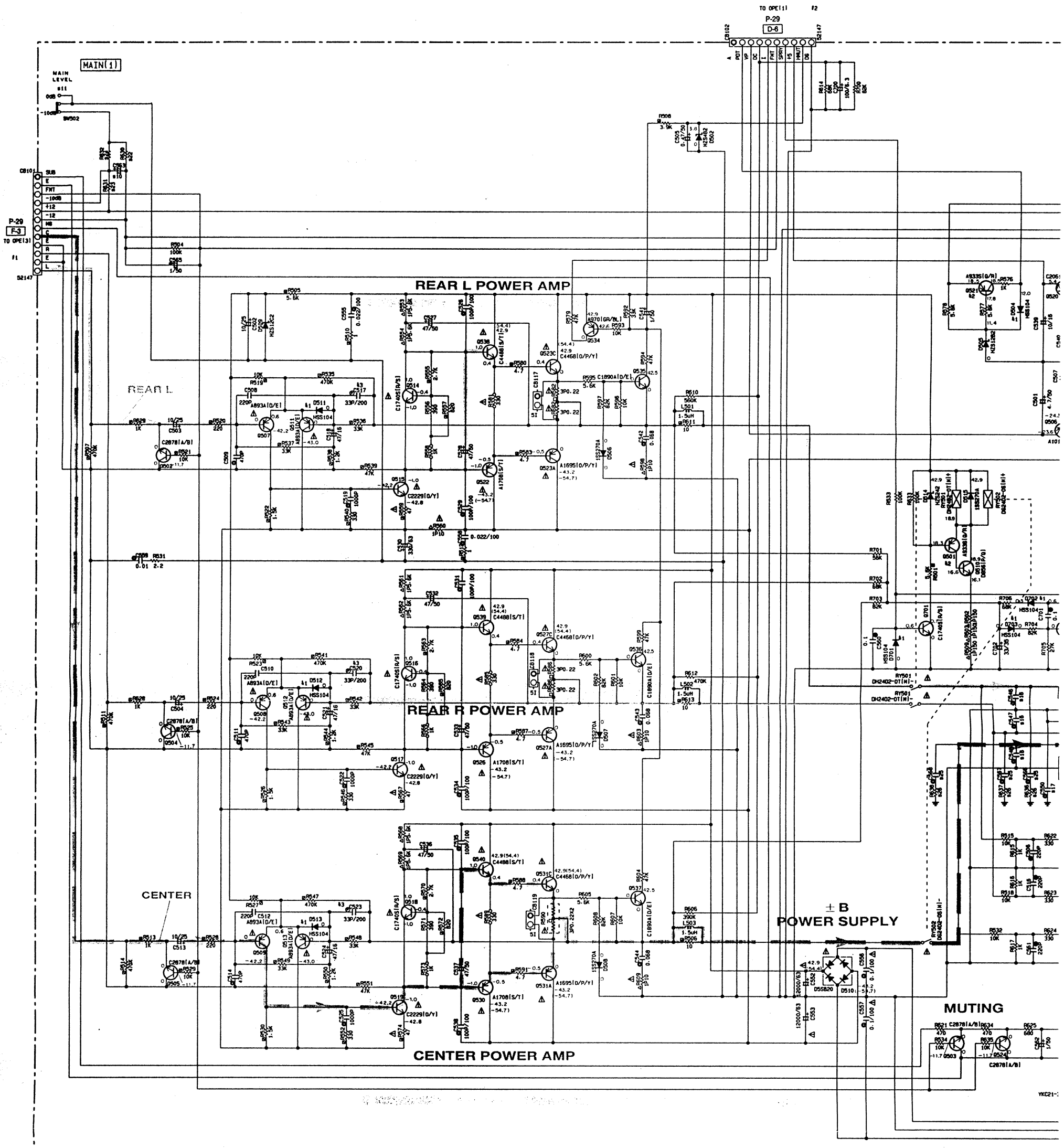
Point ③
CH1 : Anode of D604 V : 2V/div (CH1)
CH2 : Pin27 of IC601 V : 2V/div (CH2)
H : 0.5 sec/div DC range 1 : 1 probe



OPERATION(1)

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

■ SCHEMATIC DIAGRAM (MAIN)



RESISTOR

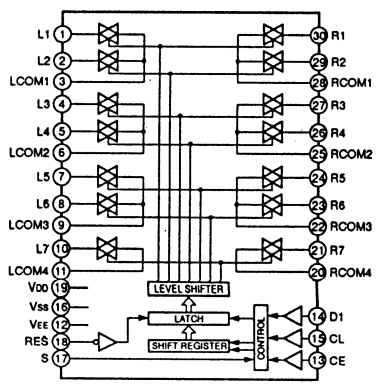
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
☑	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊠	METAL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

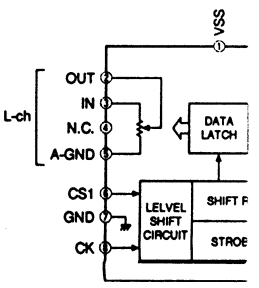
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	##
◉	CERAMIC TUBULAR CAPACITOR	
ⓟ	POLYESTER FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
Ⓜ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

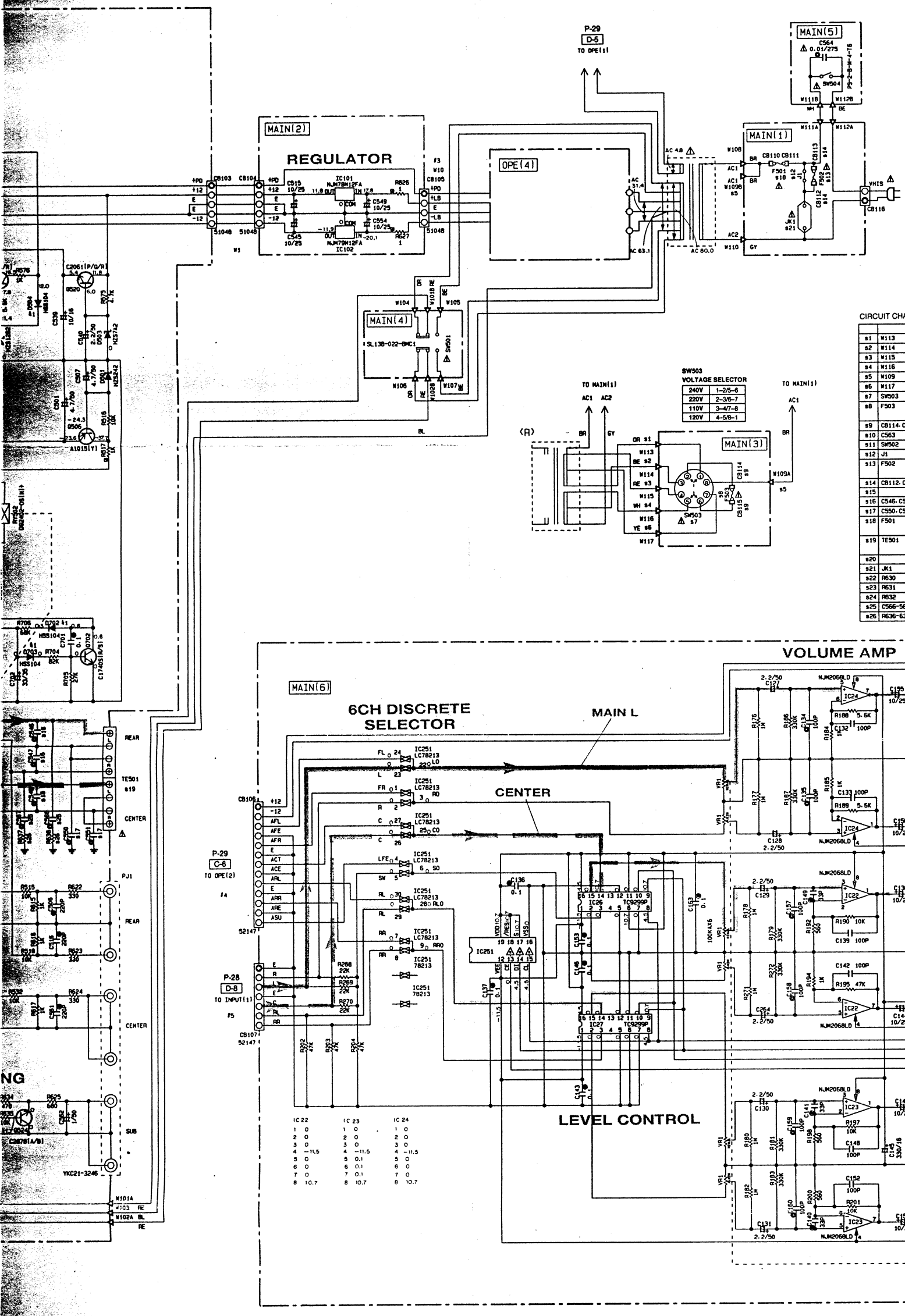
NOTICE (model)
(J)····· JAPANESE
(U)····· U.S.A
(C)····· CANADIAN
(R)····· GENERAL
(A)····· AUSTRALIAN
(B)····· BRITISH
(G)····· EUROPEAN
(T)····· CHINA
(L)····· SINGAPORE

IC251 : LC78213
Analog Function Switch



IC26, 27 : TC9
Electric Contr





Interchangeable Parts at Manufacture-Stage

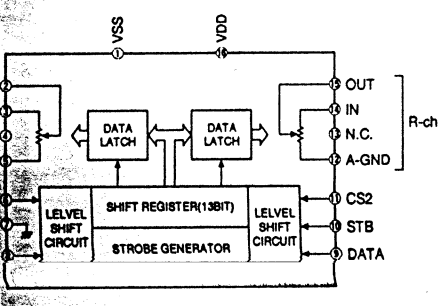
Mark	Reference Parts Number	Parts Name
&1	D102.504.511~513 701~703	HSS104 1SS133 1SS176
&2	Q501.521	2SA933S(Q/R) 2SA1115(E/F) 2SA1309A(Q/R/S)
&3	C517.520.523	33P/200 33P/500

× : NOT USED
○ : USED

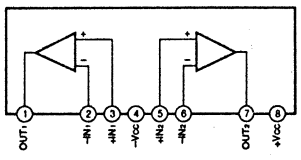
CIRCUIT CHANGES BY MARKET.

		U.C	R	A	B	G
s1	W113	X	MH03235	X	X	X
s2	W114	X	MH06235	X	X	X
s3	W115	X	MH02240	X	X	X
s4	W116	X	MH09235	X	X	X
s5	W109	X	MH01012	X	X	X
s6	W117	X	MH04235	X	X	X
s7	SW503	X	VA96180	X	X	X
s8	F503	X	T1.6AL250V KB00166	X	X	X
s9	CB114·CB115	X	VP20650	X	X	X
s10	C563	X	X	X	1/50	1/50
s11	SW502	X	X	X	VS60260	VS60260
s12	J1	0	0	0	0	X
s13	F502	X	X	X	X	T2.5AL250V KB00069
s14	CB112·CB113	X	X	X	X	VP20650
s15						
s16	C546·C547·C548	X	X	0.022	0.022	0.022
s17	C550·C551	X	X	0.01	0.01	0.01
s18	F501	5A125V VS82300	5A125V VS82300	T2.5AL250V KB00069	T2.5AL250V KB00069	T2.5AL250V KB00069
s19	TE501	VC31370	VC31370	VC31370	VU81970 VK50620	VU81970 VK50620
s20						
s21	JK1	VV53780	VV53780	VT91500	VU54330	VV53740
s22	R630	X	X	X	15K	15K
s23	R631	X	X	X	47K	47K
s24	R632	X	X	X	4.7K	4.7K
s25	C566~568	X	X	680P	680P	680P
s26	R636~638	X	X	2.2	2.2	2.2

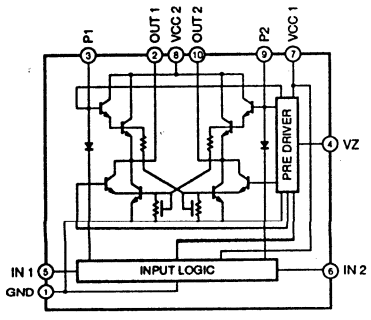
IC26, 27 : TC9299P
Electric Controlled Volume



IC22~24 : NJM2068L-D
Dual OP-Amp



IC28 : LB1641
Motor Driver



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

PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

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

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

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. INPUT

Schm Ref.	PART NO.	Description		
*	VY713800	P.C.B.	INPUT	
CB1	Vi878700	CN.BS.PIN	9P	
CB3	Vi878500	CN.BS.PIN	7P	
CB4	Vi878700	CN.BS.PIN	9P	
CB5	VQ047500	CN.BS.PIN	20P	
CB11	Vi878700	CN.BS.PIN	9P	
C1	VH053100	C.CE.TUBLR	0.1uF	50V
C7	VK533900	C.PP	100pF	200V
C8	VK533900	C.PP	100pF	200V
C9~14	VF466800	C.CE.TUBLR	100pF	50V
C15	FG211470	C.CE	47pF	50V
C16	FG211470	C.CE	47pF	50V
C17	VF466800	C.CE.TUBLR	100pF	50V
C18	VF466800	C.CE.TUBLR	100pF	50V
C21	VF466800	C.CE.TUBLR	100pF	50V
C22	VF466800	C.CE.TUBLR	100pF	50V
C23	FG211470	C.CE	47pF	50V
C24	FG211470	C.CE	47pF	50V
C25	VF466800	C.CE.TUBLR	100pF	50V
~27	VF466800	C.CE.TUBLR	100pF	50V
C35	UM417100	C.EL	10uF	50V
C36	UA652100	C.MYLAR	100pF	50V
C37	UM417100	C.EL	10uF	50V
C38	UM417100	C.EL	10uF	50V
C39	UA652100	C.MYLAR	100pF	50V
C41	VJ839100	C.EL	1uF	50V
C42	UA652100	C.MYLAR	100pF	50V
~45	UA652100	C.MYLAR	100pF	50V
C46	VJ839100	C.EL	1uF	50V
C47	UA652100	C.MYLAR	100pF	50V
C48	UA655150	C.MYLAR	0.15uF	50V
C49	VJ839100	C.EL	1uF	50V
C50	VJ839100	C.EL	1uF	50V
C51	UM417100	C.EL	10uF	50V
C52	VF466800	C.CE.TUBLR	100pF	50V
C53	VG279600	C.CE.TUBLR	3300pF	16V
C54	UM417100	C.EL	10uF	50V
~56	UM417100	C.EL	10uF	50V
C57	VG279600	C.CE.TUBLR	3300pF	16V
C58	VF466800	C.CE.TUBLR	100pF	50V
C59	UA653680	C.MYLAR	6800pF	50V
C60	VJ837200	C.EL	47uF	16V
C61	VJ837200	C.EL	47uF	16V
C62	UM417100	C.EL	10uF	50V
C63	UA652220	C.MYLAR	220pF	50V
C64	UA652220	C.MYLAR	220pF	50V
C65	UM417100	C.EL	10uF	50V
C66	VF964800	C.EL	100uF	16V
C67	UA653680	C.MYLAR	6800pF	50V
C68	UA653470	C.MYLAR	4700pF	50V
C69	UA653120	C.MYLAR	1200pF	50V
C70	UA654180	C.MYLAR	0.018uF	50V
C71	FG612390	C.CE	390pF	50V

*New Parts

Schm Ref.	PART NO.	Description		
C73	FG612390	C.CE	390pF	50V
C75	UA653120	C.MYLAR	1200pF	50V
C76	UA654180	C.MYLAR	0.018uF	50V
C77	UA653470	C.MYLAR	4700pF	50V
C78	UM407220	C.EL	22uF	25V
~81	UM407220	C.EL	22uF	25V
C82	UA652330	C.MYLAR	330pF	50V
C83	UM407220	C.EL	22uF	25V
C84	UM407220	C.EL	22uF	25V
C85	UA652330	C.MYLAR	330pF	50V
C86	UA652330	C.MYLAR	330pF	50V
C87	UM407220	C.EL	22uF	25V
C88	UM407220	C.EL	22uF	25V
C89	VJ839100	C.EL	1uF	50V
C90	VG277000	C.CE.TUBLR	33pF	50V
C91	VG278400	C.CE.TUBLR	220pF	50V
C92	VG279500	C.CE.TUBLR	2700pF	16V
C93	VG278400	C.CE.TUBLR	220pF	50V
C94	VG279500	C.CE.TUBLR	2700pF	16V
C95	VG277000	C.CE.TUBLR	33pF	50V
C96	VJ839100	C.EL	1uF	50V
C97	VG277000	C.CE.TUBLR	33pF	50V
C98	UA653270	C.MYLAR	2700pF	50V
C99	VF466600	C.CE.TUBLR	10pF	50V
C100	VF466600	C.CE.TUBLR	10pF	50V
C101	UA653270	C.MYLAR	2700pF	50V
C102	VG277000	C.CE.TUBLR	33pF	50V
C108	UM407220	C.EL	22uF	25V
C109	UM407220	C.EL	22uF	25V
C111	VG279600	C.CE.TUBLR	3300pF	16V
C112	VG279600	C.CE.TUBLR	3300pF	16V
C113	VH053100	C.CE.TUBLR	0.1uF	50V
C114	VH053100	C.CE.TUBLR	0.1uF	50V
C115	UJ638330	C.EL	330uF	16V
C116	VH053100	C.CE.TUBLR	0.1uF	50V
C117	VH053100	C.CE.TUBLR	0.1uF	50V
C118	VJ837200	C.EL	47uF	16V
C120	VJ837200	C.EL	47uF	16V
C121	VF964800	C.EL	100uF	16V
C122	VE117600	C.EL	220uF	10V
C124	VH053100	C.CE.TUBLR	0.1uF	50V
C125	VJ837200	C.EL	47uF	16V
C126	UJ638470	C.EL	470uF	16V
C157	VJ836900	C.EL	10uF	16V
C158	VJ836900	C.EL	10uF	16V
C159	VJ836900	C.EL	10uF	16V
C160	VF637900	C.EL	1000uF	10V
C161	VF466800	C.CE.TUBLR	100pF	50V
C164	VF637900	C.EL	1000uF	10V
C165	VF466800	C.CE.TUBLR	100pF	50V
C185	VH053100	C.CE.TUBLR	0.1uF	50V
C187	UJ638330	C.EL	330uF	16V
C190	VH053100	C.CE.TUBLR	0.1uF	50V

*New Parts

P.C.B. INPUT & MAIN

Schm Ref.	PART NO.	Description		
D6	VS997800	DIODE	1T2	
D7	VD631600	DIODE	1SS133,176,HSS104	
IC2~4	XP894A00	IC	LC78211	
IC7	XB247301	IC	uPC4570HA	
~12	XB247301	IC	uPC4570HA	
IC13	XQ212A00	IC	NJM4558LD	
IC14	XB247301	IC	uPC4570HA	
IC15	XM922A00	IC	NJM4558L	
IC16	XP896A00	IC	LC78213	
IC17	Xi022B00	IC	YSS203B-F	
IC18	XS881A00	IC	LH5P832D-10 PSRAM	
IC19	XA507A00	IC	AN78N05	
IC29	XH436A00	IC	LA7956	
PJ1	VU857800	JACK.PIN	6P	
PJ2	VU857800	JACK.PIN	6P	
PJ3	VJ696300	JACK.PIN	4P	
PJ6	VR110100	JACK.PIN	2P	
PJ7	VJ695900	JACK.PIN	3P	
Q7	iC1815C0	TR	2SC1815 Y	
Q252	iC1815C0	TR	2SC1815 Y	
Q253	iC1815C0	TR	2SC1815 Y	
R136	HV453220	R.CAR.FP	2.2Ω	1/4W
R149	HV453220	R.CAR.FP	2.2Ω	1/4W
R150	HV45322C	R.CAR.FP	2.2Ω	1/4W
R151	HL314470	R.MTL.OXD	47Ω	1W
R152	HV453220	R.CAR.FP	2.2Ω	1/4W
R242	HV454470	R.CAR.FP	47Ω	1/4W
XL1	VK175200	RSNR.CE	11.28MHz	
	VJ828000	PIN	IMSA-6024-03E	
*	VY713900	P.C.B.	MAIN(UC)	
*	VY714000	P.C.B.	MAIN(RT)	
*	VY714100	P.C.B.	MAIN(A)	
*	VY714200	P.C.B.	MAIN(B)	
*	VY714300	P.C.B.	MAIN(G)	
CB101	VK025600	CN.BS.PIN	12P	
CB102	VF728200	CN.BS.PIN	10P	
CB103	Vi878300	CN.BS.PIN	5P	
CB104	Vi878300	CN.BS.PIN	5P	
CB105	Vi878200	CN.BS.PIN	4P	
CB106	VK025700	CN.BS.PIN	13P	
CB107	VK025100	CN.BS.PIN	7P	
CB108	VN394900	CN.BS.PIN	14P	
CB109	VK025300	CN.BS.PIN	9P	
CB110	VP206500	HOLDER.FUS	EYF-52BC	
CB111	VP206500	HOLDER.FUS	EYF-52BC	
CB112	VP206500	HOLDER.FUS	EYF-52BC(G)	
CB113	VP206500	HOLDER.FUS	EYF-52BC(G)	
CB114	VP206500	HOLDER.FUS	EYF-52BC(RT)	
CB115	VP206500	HOLDER.FUS	EYF-52BC(RT)	
CB116	VG879900	CN.BS.PIN	2P	

*New Parts

Schm Ref.	PART NO.	Description		
CB117	LA002110	TERM.WRAP	2P	
CB118	LA002110	TERM.WRAP	2P	
CB119	LA002110	TERM.WRAP	2P	
C127	VJ839200	C.EL	2.2uF	50V
~131	VJ839200	C.EL	2.2uF	50V
C132	FG212100	C.CE	100pF	50V
C133	FG212100	C.CE	100pF	50V
C134	UA652100	C.MYLAR	100pF	50V
C135	UA652100	C.MYLAR	100pF	50V
C136	VH053100	C.CE.TUBLR	0.1uF	50V
C137	VH053100	C.CE.TUBLR	0.1uF	50V
C138	UM417100	C.EL	10uF	50V
C139	FG212100	C.CE	100pF	50V
C140	VG277000	C.CE.TUBLR	33pF	50V
C141	VG277000	C.CE.TUBLR	33pF	50V
C142	FG212100	C.CE	100pF	50V
C143	VH053100	C.CE.TUBLR	0.1uF	50V
C144	UM417100	C.EL	10uF	50V
C145	UJ638330	C.EL	330uF	16V
C146	VH053100	C.CE.TUBLR	0.1uF	50V
C147	UM417100	C.EL	10uF	50V
C148	FG212100	C.CE	100pF	50V
C149	VG277000	C.CE.TUBLR	33pF	50V
C152	FG212100	C.CE	100pF	50V
C153	VH053100	C.CE.TUBLR	0.1uF	50V
C154	UM417100	C.EL	10uF	50V
~156	UM417100	C.EL	10uF	50V
C157	UA652100	C.MYLAR	100pF	50V
~160	UA652100	C.MYLAR	100pF	50V
C162	VJ837200	C.EL	47uF	16V
C163	VH053100	C.CE.TUBLR	0.1uF	50V
C168	VG722100	C.EL	1uF	50V
C169	VH053100	C.CE.TUBLR	0.1uF	50V
C189	UJ648100	C.EL	100uF	25V
C264	VJ839200	C.EL	2.2uF	50V
C501	UM416470	C.EL	4.7uF	50V
C502	UM417100	C.EL	10uF	50V
~504	UM417100	C.EL	10uF	50V
C505	VJ839000	C.EL	0.47uF	50V
C506	VG278400	C.CE.TUBLR	220pF	50V
C507	UM416470	C.EL	4.7uF	50V
C508	FG212220	C.CE	220pF	50V
C509	UA652470	C.MYLAR	470pF	50V
C510	FG212220	C.CE	220pF	50V
C511	UA652470	C.MYLAR	470pF	50V
C512	FG212220	C.CE	220pF	50V
C513	UM417100	C.EL	10uF	50V
C514	UA652470	C.MYLAR	470pF	50V
C515	UM417100	C.EL	10uF	50V
C516	VG278400	C.CE.TUBLR	220pF	50V
C517	VQ245400	C.PP	33pF	200V
C518	VJ837200	C.EL	47uF	16V
C519	UA653100	C.MYLAR	1000pF	50V

*New Parts

P.C.B. MAIN

Schm Ref.	PART NO.	Description		
C520	VQ245400	C. PP	33pF	200V
C521	VJ837200	C. EL	47uF	16V
C522	UA653100	C. MYLAR	1000pF	50V
C523	VQ245400	C. PP	33pF	200V
C524	VJ837200	C. EL	47uF	16V
C525	UA653100	C. MYLAR	1000pF	50V
C526	VR325000	C. MYLAR	100pF	100V
C527	UJ667470	C. EL	47uF	50V
C528	UJ667470	C. EL	47uF	50V
C529	VR325000	C. MYLAR	100pF	100V
C530	VK699400	C. EL	330uF	63V
C531	VR325000	C. MYLAR	100pF	100V
C532	UJ667470	C. EL	47uF	50V
C533	UJ667470	C. EL	47uF	50V
C534	VR325000	C. MYLAR	100pF	100V
C535	VR325000	C. MYLAR	100pF	100V
C536	UJ667470	C. EL	47uF	50V
C537	UJ667470	C. EL	47uF	50V
C538	VR325000	C. MYLAR	100pF	100V
C539	VJ836900	C. EL	10uF	16V
C540	VJ839200	C. EL	2.2uF	50V
C541	VJ839100	C. EL	1uF	50V
C542	UA654680	C. MYLAR	0.068uF	50V
~544	UA654680	C. MYLAR	0.068uF	50V
C545	UM417100	C. EL	10uF	50V
C546	UA654220	C. MYLAR	0.022uF	50V(ABG)
~548	UA654220	C. MYLAR	0.022uF	50V(ABG)
C549	UM417100	C. EL	10uF	50V
C550	UA654100	C. MYLAR	0.01uF	50V(ABG)
C551	UA654100	C. MYLAR	0.01uF	50V(ABG)
C552	VV887100	C. EL	12000uF	63V
C553	VV887100	C. EL	12000uF	63V
C554	UM417100	C. EL	10uF	50V
C555	VR325200	C. MYLAR	0.022uF	100V
C556	VR325400	C. MYLAR	0.1uF	100V
C557	VR325400	C. MYLAR	0.1uF	100V
C558	VR325200	C. MYLAR	0.022uF	100V
C559	UA654100	C. MYLAR	0.01uF	50V
C560	VH053100	C. CE. TUBLR	0.1uF	50V
C561	VG278400	C. CE. TUBLR	220pF	50V
C562	VJ839100	C. EL	1uF	50V
C563	VJ839100	C. EL	1uF	50V(BG)
C564	VS741700	C. CE. SAFTY	0.01uF	275V
C565	VJ839100	C. EL	1uF	50V
C566	UA652680	C. MYLAR	680pF	50V(ABG)
~568	UA652680	C. MYLAR	680pF	50V(ABG)
C569	VG278800	C. CE. TUBLR	560pF	50V(ABG)
C700	VF760000	C. EL	100uF	10V
C701	VH053100	C. CE. TUBLR	0.1uF	50V
C702	UJ167330	C. EL	33uF	50V
D14	VM974200	DIODE. ZENR	HZS5C2TD	5.0V
D102	*VD631600*	*DIODE*	*1SS133, 176, HSS104*	
D501	VM976300	DIODE. ZENR	HZS242TD	24V

Schm Ref.	PART NO.	Description		
D502	VM973800	DIODE. ZENR	HZS4B2TD	4.0V
D503	VM974600	DIODE. ZENR	HZS7A2TD	7.0V
D504	VD631600	DIODE	1SS133, 176, HSS104	
D505	VM975600	DIODE. ZENR	HZS12B2TD	12V
D506	VN008700	DIODE	1SS270A	
D507	VN008700	DIODE	1SS270A	
D508	VN008700	DIODE	1SS270A	
D509	VM975700	DIODE. ZENR	HZS12C2TD	12V
D510	VN011400	DIODE. BRG	D5SB20	5A 200V
D511	VD631600	DIODE	1SS133, 176, HSS104	
~513	VD631600	DIODE	1SS133, 176, HSS104	
D514	VM976300	DIODE. ZENR	HZS242TD	24V
D515	VN008700	DIODE	1SS270A	
D701	VD631600	DIODE	1SS133, 176, HSS104	
~703	VD631600	DIODE	1SS133, 176, HSS104	
F501	KB000750	FUSE. MNI	T2.0A	250V(ABG)
F501	VS823000	FUSE	T5.0A	125V(UCRT)
F502	KB000750	FUSE. MNI	T2.0A	250V(G)
F503	KB001660	FUSE	T1.60A	250V(RT)
IC22	XM356A00	IC	NJM2068LD	
~24	XM356A00	IC	NJM2068LD	
IC26	XR040A00	IC	TC9299P	
IC27	XR040A00	IC	TC9299P	
IC28	XF494A00	IC	LB1641	
IC101	XJ602A00	IC	NJM78M12FA	
IC102	XD343A00	IC	NJM79M12FA	
IC251	XP896A00	IC	LC78213	
JK1	VT915000	OUTLET. AC	2P(A)	
JK1	VU543300	OUTLET. AC	1P(B)	
JK1	VV537400	OUTLET. AC	1P(G)	
JK1	VV537800	OUTLET. AC	1P(UCRT)	
L501	VP575600	COIL	1.5uH	
L502	VP575600	COIL	1.5uH	
L503	VP575600	COIL	1.5uH	
PJ1	VY834300	JACK. PIN	6P	
Q501	iA093320	TR	2SA933S Q, R	
Q502	iC287820	TR	2SC2878 A, B	
~505	iC287820	TR	2SC2878 A, B	
Q506	iA101521	TR	2SA1015 Y	
Q507	VP883000	TR	2SA893A D, E	
~509	VP883000	TR	2SA893A D, E	
Q510	VV855300	TR	2SD856 Q, P	
Q511	VP883000	TR	2SA893A D, E	
~513	VP883000	TR	2SA893A D, E	
Q514	iC174020	TR	2SC1740S R, S	
Q515	VR325600	TR	2SC2229 O, Y	
Q516	iC174020	TR	2SC1740S R, S	
Q517	VR325600	TR	2SC2229 O, Y	
Q518	iC174020	TR	2SC1740S R, S	
Q519	VR325600	TR	2SC2229 O, Y	
Q520	iC206110	TR	2SC2061 P, Q, R	
Q521	iA093320	TR	2SA933S Q, R	
Q522	VP872600	TR	2SA1708 S, T	

* New Parts

P.C.B. MAIN & OPERATION

Schm Ref.	PART NO.	Description		
Q523A	iX633340	TR	2SA1695 O, P, Y	
Q523C	iX633350	TR	2SC4468 O, P, Y	
Q524	iC287820	TR	2SC2878 A, B	
Q526	VP872600	TR	2SA1708 S, T	
Q527A	iX633340	TR	2SA1695 O, P, Y	
Q527C	iX633350	TR	2SC4468 O, P, Y	
Q530	VP872600	TR	2SA1708 S, T	
Q531A	iX633340	TR	2SA1695 O, P, Y	
Q531C	iX633350	TR	2SC4468 O, P, Y	
Q534	iA097000	TR	2SA970 GR, BL	
Q535	VP883100	TR	2SC1890A D, E	
~537	VP883100	TR	2SC1890A D, E	
Q538	VP872700	TR	2SC4488 S, T	
~540	VP872700	TR	2SC4488 S, T	
Q701	iC174020	TR	2SC1740S R, S	
Q702	iC174020	TR	2SC1740S R, S	
R219	HV454820	R. CAR. FP	82Ω	1/4W
R221	HV454100	R. CAR. FP	10Ω	1/4W
R226	HV454220	R. CAR. FP	22Ω	1/4W
R227	HV454220	R. CAR. FP	22Ω	1/4W
R501	HV456560	R. CAR. FP	5.6KΩ	1/4W
R502	HL315150	R. MTL. OXD	150Ω	1W
R503	HL315150	R. MTL. OXD	150Ω	1W
R505	HV456560	R. CAR. FP	5.6KΩ	1/4W
R506	HV454100	R. CAR. FP	10Ω	1/4W
R508	HV756390	R. CAR. FP	3.9KΩ	1/4W
R509	HL315150	R. MTL. OXD	150Ω	1W
R510	HV453100	R. CAR. FP	1Ω	1/4W
R512	HV453100	R. CAR. FP	1Ω	1/4W
R517	HV456100	R. CAR. FP	1KΩ	1/4W
R553	HL316560	R. MTL. OXD	5.6KΩ	1W
R554	HL316560	R. MTL. OXD	5.6KΩ	1W
R555	HV456270	R. CAR. FP	2.7KΩ	1/4W
R557	HV455820	R. CAR. FP	820Ω	1/4W
R558	VK189000	R. FUS	1KΩ	1/4W
R559	HV454470	R. CAR. FP	47Ω	1/4W
R560	HL314100	R. MTL. OXD	10Ω	1W
R561	HL316560	R. MTL. OXD	5.6KΩ	1W
R562	HL316560	R. MTL. OXD	5.6KΩ	1W
R563	HV456270	R. CAR. FP	2.7KΩ	1/4W
R565	HV455820	R. CAR. FP	820Ω	1/4W
R566	VK189000	R. FUS	1KΩ	1/4W
R567	HV454470	R. CAR. FP	47Ω	1/4W
R568	HL316560	R. MTL. OXD	5.6KΩ	1W
R569	HL316560	R. MTL. OXD	5.6KΩ	1W
R570	HV456270	R. CAR. FP	2.7KΩ	1/4W
R572	HV455820	R. CAR. FP	820Ω	1/4W
R573	VK189000	R. FUS	1KΩ	1/4W
R574	HV454470	R. CAR. FP	47Ω	1/4W
R580	HV453470	R. CAR. FP	4.7Ω	1/4W
R581	VK188400	R. FUS	330Ω	1/4W
R582	VY689500	R. WW	0.22Ω	3W
R583	HV453470	R. CAR. FP	4.7Ω	1/4W

Schm Ref.	PART NO.	Description		
R584	HV453470	R. CAR. FP	4.7Ω	1/4W
R585	VK188400	R. FUS	330Ω	1/4W
R586	VY689500	R. WW	0.22Ω	3W
R587	HV453470	R. CAR. FP	4.7Ω	1/4W
R588	HV453470	R. CAR. FP	4.7Ω	1/4W
R589	VK188400	R. FUS	330Ω	1/4W
R590	VU981700	R. MTL. PLAT	0.22Ω+0.22	3W
R591	HV453470	R. CAR. FP	4.7Ω	1/4W
R598	HL314100	R. MTL. OXD	10Ω	1W
R603	HL314100	R. MTL. OXD	10Ω	1W
R609	HL314100	R. MTL. OXD	10Ω	1W
R611	HV454100	R. CAR. FP	10Ω	1/4W
R613	HV454100	R. CAR. FP	10Ω	1/4W
R626	HV453100	R. CAR. FP	1Ω	1/4W
R627	HV453100	R. CAR. FP	1Ω	1/4W
R636	HV453220	R. CAR. FP	2.2Ω	1/4W(ABG)
R637	HV453220	R. CAR. FP	2.2Ω	1/4W(ABG)
R638	HV453220	R. CAR. FP	2.2Ω	1/4W(ABG)
R682	VY689500	R. WW	0.22Ω	3W
R686	VY689500	R. WW	0.22Ω	3W
RY501	VK438300	RELAY	DH24D2-OT/M2	
RY502	VU566700	RELAY	DG24D2-OS/M	
SW501	VV523800	SW. SLIDE	SL13B-022-BMC1	
SW502	VS602600	SW. SLIDE	SS070-P022 A(BG)	
SW503	VA961800	VOLT. SELCT	ESE-37247-F(RT)	
SW504	VV524000	SW	PS-2-B-M-4-T6	
TE501	VC313700	TERM. SP	8P(UCRTA)	
TE501	VU819700	TERM. SP	8P(BG)	
VR1	VV135100	VR. MTR	A100KΩ	
	VJ828000	PIN	IMSA-6024-03E	
	BB071360	SCR. TERM	8.3x13	
	VS606000	HEAT. SINK	DPS35-45	
	EP630280	SCR. BND. HD	3x10	FCRM3-BL
	VY713600	P. C. B.	OPERATION(UCRT)	
	VY713700	P. C. B.	OPERATION(A)	
	VZ132300	P. C. B.	OPERATION(BG)	
CB1	VF982300	CN. BS. PIN	17P	
CB2	Vi879100	CN. BS. PIN	13P	
CB3	VM973500	CN. BS. PIN	17P	
CB4	Vi879000	CN. BS. PIN	12P	
CB5	VN394900	CN. BS. PIN	14P	
CB6	Vi878800	CN. BS. PIN	10P	
CB7	VQ045000	CN. BS. PIN	20P	
CB8	VK026300	CN. BS. PIN	4P	
C132	VG278400	C. CE. TUBLR	220pF	50V
C133	VG278400	C. CE. TUBLR	220pF	50V
C134	UM417100	C. EL	10uF	50V
C135	UM417100	C. EL	10uF	50V
C136	VG278400	C. CE. TUBLR	220pF	50V
C137	VG278400	C. CE. TUBLR	220pF	50V

* New Parts

P.C.B. OPERATION

Schm Ref.	PART NO.	Description		
C138	UM417100	C.EL	10uF	50V
~140	UM417100	C.EL	10uF	50V
C141	VG278400	C.CE.TUBLR	220pF	50V
C143	VG278400	C.CE.TUBLR	220pF	50V
C144	UM417100	C.EL	10uF	50V
C145	UM417100	C.EL	10uF	50V
C146	VG278400	C.CE.TUBLR	220pF	50V
C147	UM417100	C.EL	10uF	50V
~150	UM417100	C.EL	10uF	50V
C151	VG278400	C.CE.TUBLR	220pF	50V
C152	UM417100	C.EL	10uF	50V
~154	UM417100	C.EL	10uF	50V
C159	VF467300	C.CE.TUBLR	0.01uF	16V
C160	VF467000	C.CE.TUBLR	1000pF	50V
~164	VF467000	C.CE.TUBLR	1000pF	50V
C258	VG278400	C.CE.TUBLR	220pF	50V
~263	VG278400	C.CE.TUBLR	220pF	50V
C301	UA654100	C.MYLAR	0.01uF	50V
C555	UJ649330	C.EL	3300uF	25V
C556	UJ167330	C.EL	33uF	50V
C557	UJ667470	C.EL	47uF	50V
C558	UJ649220	C.EL	2200uF	25V
C559	UA655100	C.MYLAR	0.1uF	50V(ABG)
C559	UA655100	C.MYLAR	0.1uF	50V
C560	UA654100	C.MYLAR	0.01uF	50V
C596	VH053100	C.CE.TUBLR	0.1uF	50V
C597	VJ837200	C.EL	47uF	16V
C598	VH053100	C.CE.TUBLR	0.1uF	50V
C599	VH053100	C.CE.TUBLR	0.1uF	50V
C600	UM417100	C.EL	10uF	50V
C601	VJ836900	C.EL	10uF	16V
C602	VJ839100	C.EL	1uF	50V
C603	VS672200	C.EL	4700uF	5.5V
C604	VD930900	C.CE.SMI	0.1uF	25V
C605	VH053100	C.CE.TUBLR	0.1uF	50V
C606	VF467000	C.CE.TUBLR	1000pF	50V
C607	VF467000	C.CE.TUBLR	1000pF	50V
D152	VS997800	DIODE	1T2	
⚠ D511	VR253700	DIODE.BRG	S1NB20	1.0A 200V
D601	VD631600	DIODE	1SS133,176,HSS104	
D602	VM974300	DIODE.ZENR	HZS6A2TD	6.0V
D603	VD631600	DIODE	1SS133,176,HSS104	
D604	VD631600	DIODE	1SS133,176,HSS104	
D605	VM974000	DIODE.ZENR	HZS5A2TD	5.0V
IC31	XM356A00	IC	NJM2068LD	
IC32	XM356A00	IC	NJM2068LD	
IC33	XM356A00	IC	NJM2068LD	
IC601	XT290A00	IC	M38122M2-168SP CPU	
* PJ251	VY834300	JACK.PIN	6P	
PJ252	VP768000	JACK.PIN	2P	
PJ253	VY952300	JACK.PIN	ｱｰｽｯｷ YKC21-3272	
PJ254	VP768000	JACK.PIN	2P	
Q1	iC287820	TR	2SC2878 A,B	

* New Parts

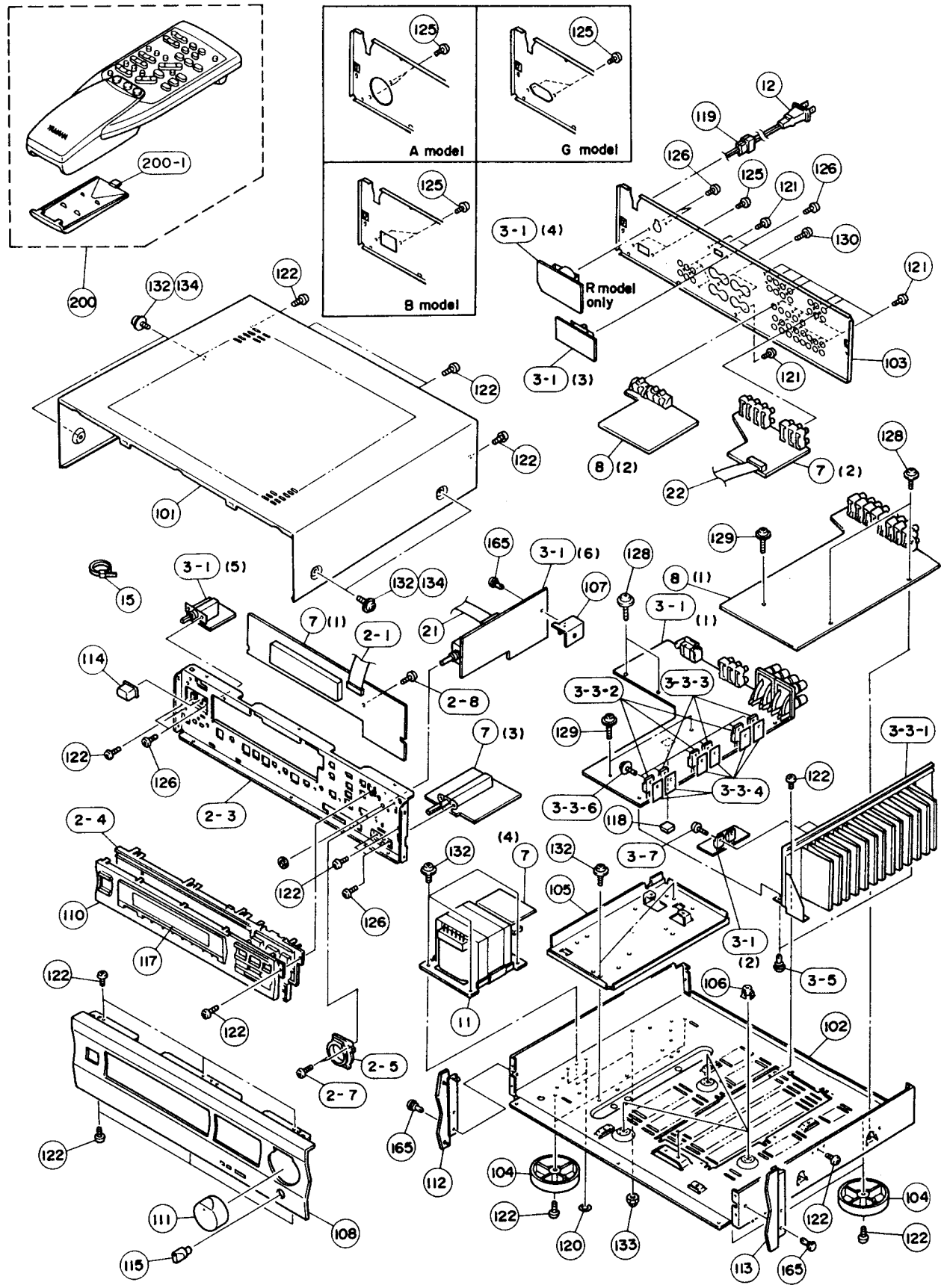
Schm Ref.	PART NO.	Description	
Q2	iC287820	TR	2SC2878 A,B
Q3	iC287820	TR	2SC2878 A,B(BG)
Q4	iC287820	TR	2SC2878 A,B(BG)
Q5	iC287820	TR	2SC2878 A,B
Q6	iC287820	TR	2SC2878 A,B
Q601	iA093320	TR	2SA933S Q,R
Q603	VG722000	TR.DGT	DTC144ES
R226	HV454220	R.CAR.FP	22Ω 1/4W
R227	HV454220	R.CAR.FP	22Ω 1/4W
R509	HV453100	R.CAR.FP	1Ω 1/4W
R510	HV453100	R.CAR.FP	1Ω 1/4W
R511	HV453220	R.CAR.FP	2.2Ω 1/4W
SW1	VZ249500	SW.RT	RS003-A082BJN-15F5
SW601	VG392900	SW.TACT	SKHVAA
~620	VG392900	SW.TACT	SKHVAA
U601	VU591000	L.DTCT	GP1U271X
V601	VV298800	FL.DSPLY	13-BT-151GK
XL601	VE906000	RSNR.CE	4MHz
	VJ828000	PIN	IMSA-6024-03E
	VQ859800	SHEET.FL	
	VV499900	SPACER	FL-T7.5

* New Parts

MEMO

DSP-E492

■ EXPLODED VIEW



■ MECHANICAL PARTS

	Ref. No.	PART NO.	Description		Remarks	Markets
	2-1	MF120250	FLEXIBLE FLAT CABLE	20P 250mm		
*	2-3	VV121600	SUB CHASSIS			
*	2-4	VV137300	BUTTON CASE		BL	
*	2-4	VV137400	BUTTON CASE		TI	
	2-5	VV149500	ESCUTCHEON, VOL		BL	
	2-5	VV149600	ESCUTCHEON, VOL		TI	
	2-7	Ei330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL		
	2-8	EP630220	BIND HEAD P-TITE SCREW	3x8 ZMC2-BL		
*	3-1	VY713900	P.C.B. ASS'Y	MAIN		(UC)
*	3-1	VY714000	P.C.B. ASS'Y	MAIN		(RT)
*	3-1	VY714100	P.C.B. ASS'Y	MAIN		(A)
*	3-1	VY714200	P.C.B. ASS'Y	MAIN		(B)
*	3-1	VY714300	P.C.B. ASS'Y	MAIN		(G)
*	3-3-1	VV122900	HEAT SINK ASS'Y			
⚠#	3-3-2	iX633340	TRANSISTOR	2SA1695 O,P,Y	Q523A,527A,531A	
⚠#	3-3-3	iX633350	TRANSISTOR	2SC4468 O,P,Y	Q523C,527C,531C	
	3-3-4	VK195900	SHEET	19x24		
	3-3-6	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3		
	3-5	VQ368500	PUSH RIVET	P3545-B		
	3-7	Ei330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL		
*	7	VY713600	P.C.B. ASS'Y	OPERATION		(UCRT)
*	7	VY713700	P.C.B. ASS'Y	OPERATION		(A)
	7	VZ132300	P.C.B. ASS'Y	OPERATION		(BG)
*	8	VY713800	P.C.B. ASS'Y	INPUT		
⚠*	11	XT298A00	POWER TRANSFORMER			(U)
⚠*	11	XT299A00	POWER TRANSFORMER			(C)
⚠*	11	XT300A00	POWER TRANSFORMER			(RT)
⚠*	11	XT301A00	POWER TRANSFORMER			(A)
⚠*	11	XT302A00	POWER TRANSFORMER			(BG)
⚠	12	VL238100	POWER CORD ASS'Y			(R)
⚠	12	VN363700	POWER CORD ASS'Y			(G)
⚠	12	VQ508600	POWER CORD ASS'Y			(A)
⚠	12	VV437200	POWER CORD ASS'Y			(UC)
⚠	12	VV437300	POWER CORD ASS'Y			(B)
⚠	12	VZ542500	POWER CORD ASS'Y			(T)
	15	VU590000	BINDING TIE	CBTD001B		
*	21	MF114160	FLEXIBLE FLAT CABLE	14P 160mm		
	22	MF117250	FLEXIBLE FLAT CABLE	17P 250mm		
*	101	VV121100	TOP COVER		BL	
*	101	VV121200	TOP COVER		TI	
	102	VS001400	CHASSIS			
*	103	VV121800	REAR PANEL			(U)
*	103	VV122000	REAR PANEL			(C)
*	103	VV122100	REAR PANEL			(RT)
*	103	VV122200	REAR PANEL			(A)
*	103	VV122300	REAR PANEL			(B)
*	103	VV122400	REAR PANEL			(G)
	104	VQ780300	LEG	D60xH16		
*	105	VV141000	FRAME, TRANSFORMER			
	106	VR264400	SPACER	H8		
*	107	VY827100	SUPPORT	VR		
*	108	VV122700	FRONT PANEL		BL	
*	108	VV122800	FRONT PANEL		TI	

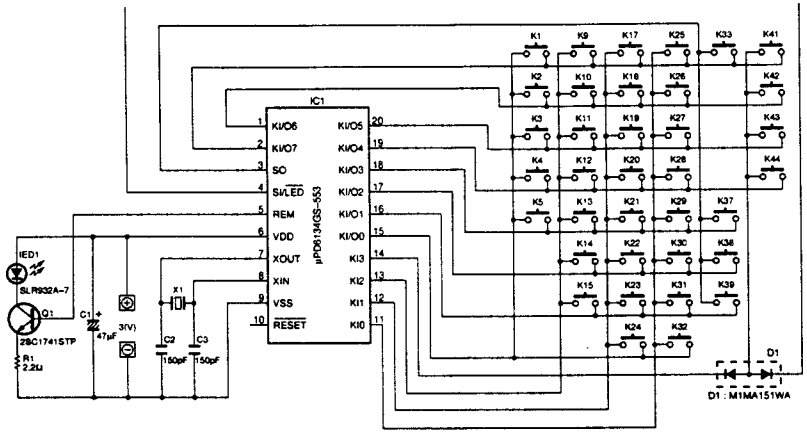
*New Parts

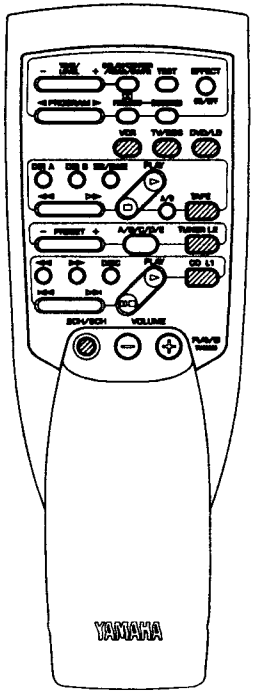
	Ref. No.	PART NO.	Description		Remarks	Markets
*	110	VV309900	SUB PANEL CASE	7	BL	
*	110	VV310000	SUB PANEL CASE	7	TI	
	111	VV148800	KNOB	D40	BL	
	111	VV148900	KNOB	D40	TI	
*	112	VV123900	PLATE SIDE	L	BL	
*	112	VV124000	PLATE SIDE	L	TI	
*	113	VV124100	PLATE SIDE	R	BL	
*	113	VV124200	PLATE SIDE	R	TI	
	114	VU875100	BUTTON	9.5x22	BL	
	114	VU875200	BUTTON	9.5x22	TI	
	115	VR308400	KNOB, VR	D10	BL	
	115	VU114800	KNOB, VR	D10	TI	
	117	VV139600	SHEET, WINDOW			
	118	VQ366100	DAMPER, PCB			
	119	VN158600	CORD STOPPER	No.2104		
	120	VU984400	RING	D14		
	121	EN301010	BIND HEAD BONDING TAP. SCREW	3x8 FCRM3-BL		
	122	Ei330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL		
	125	Ei030086	BIND HEAD B-TITE SCREW	3x8 ZMC2-Y		
	126	ED330066	BIND HEAD SCREW	3x6 FCRM3-BL		
	128	VT669300	PW HEAD B-TITE SCREW	3x8-8 MFC2		
	129	VT669400	PW HEAD B-TITE SCREW	3x15-8 MFC2		
	130	VY731200	BONDING HEAD TAPPING SCREW	3x10 MFNI33		
	132	EK365090	PW HEAD S-TITE SCREW	4x8-10 FCRM3-BL		
	133	VK002600	HEXAGONAL CAP NUT	4mm		
	134	EX601150	BW HEAD S-TITE SCREW	4x8-10 FNM3-BL		
	165	VQ368600	PUSH RIVET	P3555-B		
			ACCESSORIES			
*	200	VV486600	REMOTE CONTROL TRANSMITTER			
	200-1	CX679050	LID	74x34BLALPS		
			BATTERY, MANGANESE	SUM-3,AA,R06		

*New Parts

REMOTE CONTROL TRANSMITTER

■ SCHEMATIC DIAGRAM

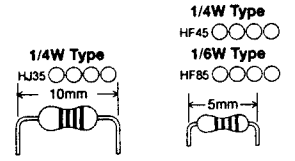




Key No.	FUNCTION		CUSTOM (BIN)	DATA (HEX)
1	EFFECT ON/OFF		7D	ID
2	PROGRAM ◁		7D	03
3	PROGRAM ▷		7D	02
4	DD PROLOGIC		7D	04
5	ENHANCED		7D	05
9	VCR		7D	42
10	TV/DBS		7D	41
11	DVD/LD		7D	40
12	DIR A		7A	07
13	DIR B		7A	40
14	REC/PAUSE		7A	04
15	PLAY	(TAPE)	7A	00
17	◁◁	(TAPE)	7A	01
18	▷▷	(TAPE)	7A	02
19	▭	(TAPE)	7A	03
20	DECK A/B		7A	06
21	TAPE		7D	47
22	PRESET –		7A	11
23	PRESET +		7A	10
24	A/B/C/D/E		7A	12
25	TUNER		7D	46
26	◁◁	(CD)	7A	0D
27	▷▷	(CD)	7A	0C
28	DISC		7A	4F
29	PLAY	(CD)	7A	08
30	CD		7D	45
31	◁◁	(CD)	7A	0B
32	▷▷	(CD)	7A	0A
33	▪/▬		7A	09
37	2CH/6CH		7D	50
38	VOLUME –		7D	5F
39	VOLUME +		7D	5E
41	TIME/LEVEL –		7D	1F
42	TIME/LEVEL +		7D	1E
43	DELAY/CENTER/REAR/SWFR		7D	1B
44	TEST		7D	1A

Parts List for Carbon Resistors

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



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