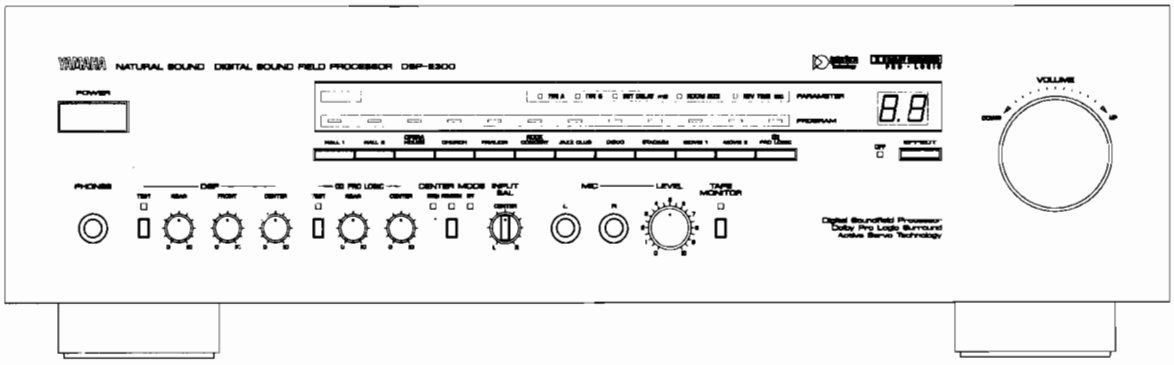
DIGITAL SOUND FIELD PROCESSOR

DSP-E300

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 reserch, 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.

■ CONTENTS

100319

YAMAHA

YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

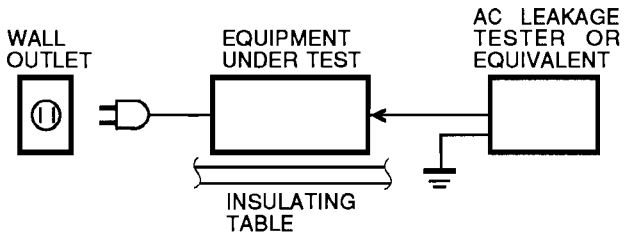
3.3K-934 Printed in Japan '90.3

■ 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 Model Only).
   When service has been completed, it is imperative that you 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.



- **POLARIZATION (U, C models only)**
  This processor product product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.

■ SPECIFICATIONS

■ EFFECT POWER AMP SECTION

- **Minimum RMS Output Power Per Channel**
  (YST switch off) 1kHz, 1%, 6Ω — 15W

■ PROCESSOR SECTION

- **A/D Convertor**
  Resolution — 16 bit linear
  Features — 2 ch A/D, 18-bit calibration
- **D/A Converter**
  Resolution — 16 bit linear
- **Preset Programs**
  DSP Sound Field Programs — 11 programs, 20 subprograms
  Dolby Pro Logic Surround
- **Input Sensitivity/Input Impedance**
  INPUT, TAPE PB — 150mv / 47kΩ
  MIC — 500μV/5.6kΩ
- **Frequency Response** (20Hz—20kHz)
  MAIN OUT — 0±1dB

■ GENERAL

- **Power Requirements**
  U. S. & Canada — AC 120V, 60Hz
  General — AC 110/120/220/240V, 50/60Hz
  U.K., Australia — AC 240V, 50Hz
  Europe — AC 220V, 50Hz
- **Power Consumption**
  U. S. & Canada — 170W
  Other Areas — 110W
- **AC Outlets** (U. S., Canada, General models only)
  SWITCHED x 2 — 100W max.
  UNSWITCHED x 1 — 200W max.
- **Dimensions** (WxHxD) — 435x130x375.4mm (17-1/8"x5-1/8"x14-3/4")
- **Weight** — 10kg (22 lb)

**Specifications are subject to change without notice.*

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

DOLBY SURROUND PRO · LOGIC

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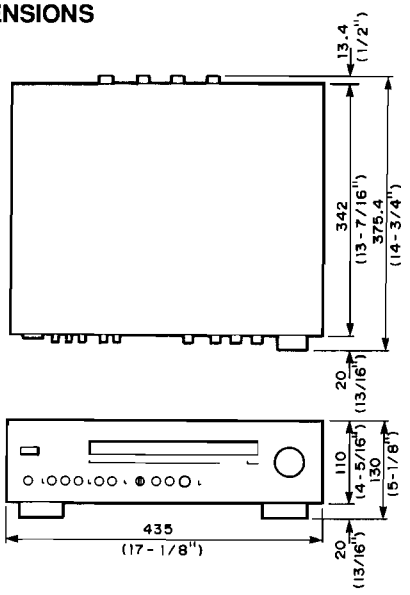
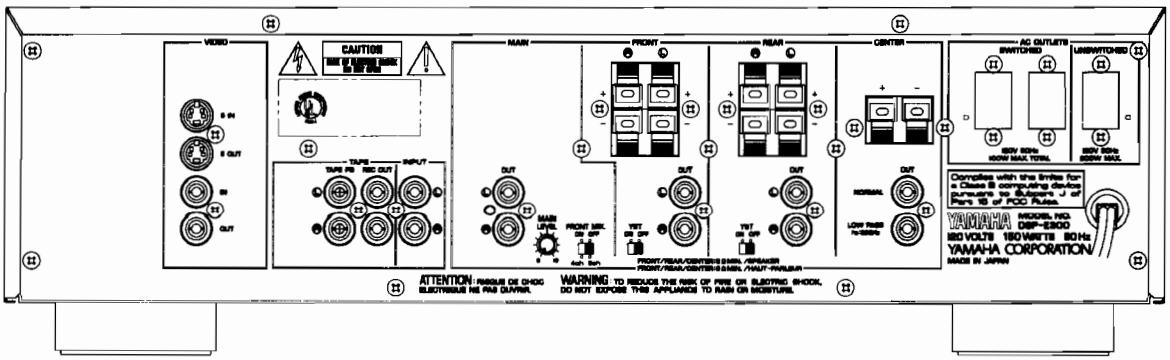
- **DIMENSIONS**



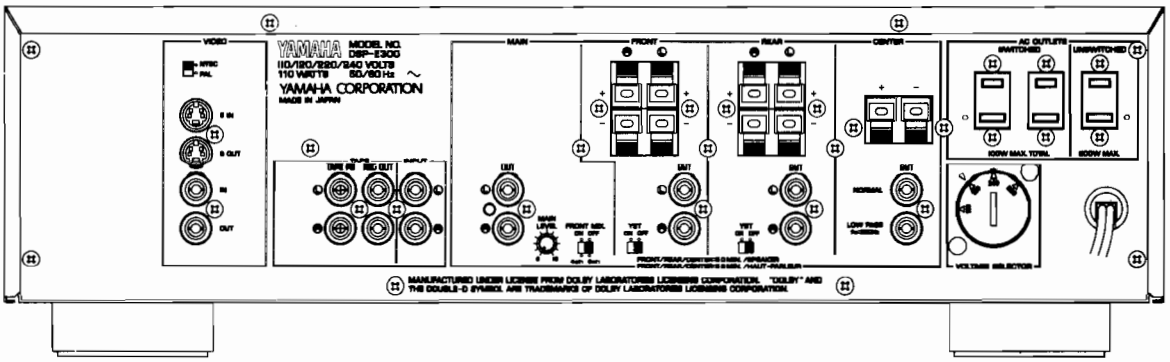
Unit : mm (inch)

■ REAR PANELS

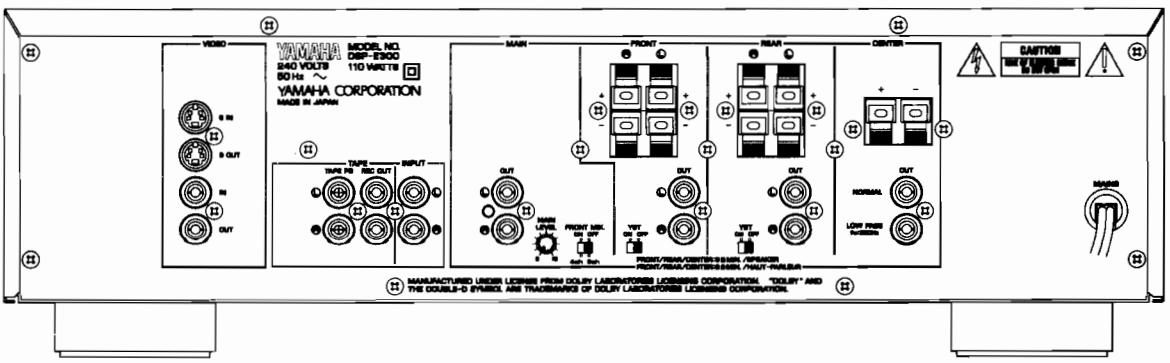
▼ U. C model



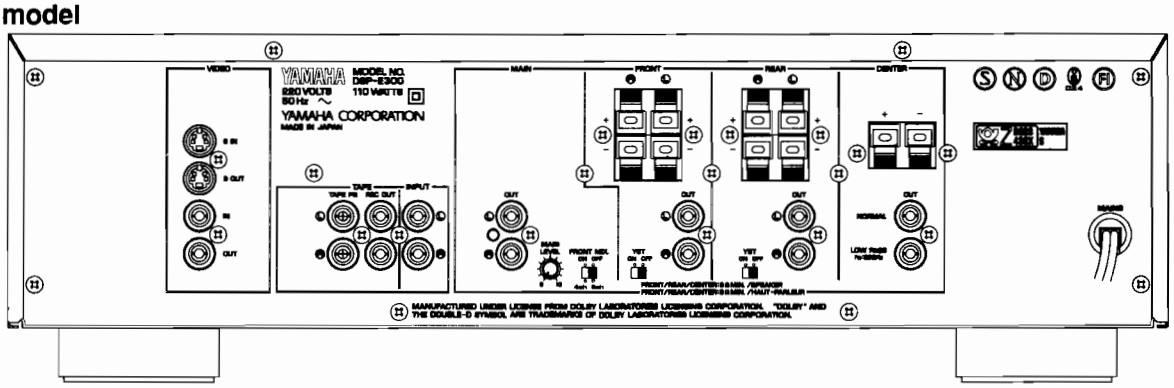
▼ R model



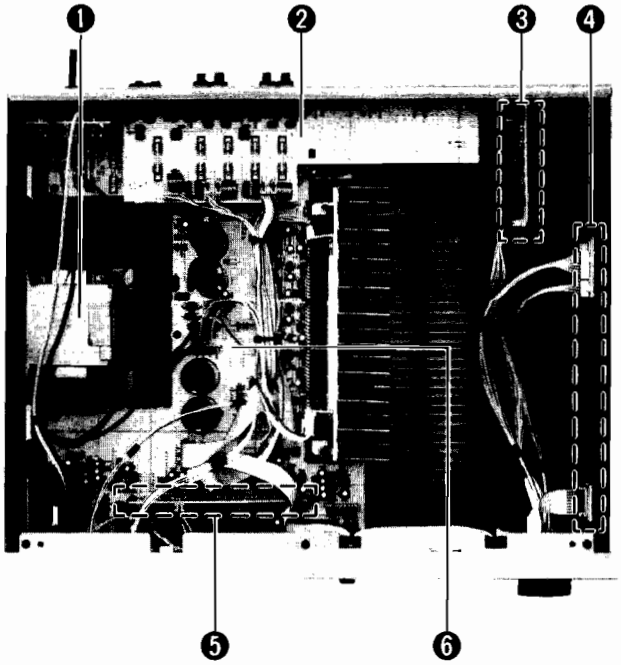
▼ A, B models



▼ G model



■ INTERNAL VIEW



❶ POWER TRANSFORMER
- U model : XG782B00
- R model : XG783B00
- A, B models : XG784B00
- G model : XG785B00
- C model : XH153B00

❷ OPERATION CIRCUIT BOARD (3)
❸ EFFECT AMP CIRCUIT BOARD (4) : S-VIDEO SECTION
❹ OPERATION CIRCUIT BOARD (2) : DSP SECTION
❺ OPERATION CIRCUIT BOARD (4) : DOLBY PRO-LOGIC SECTION
❻ EFFECT AMP CIRCUIT BOARD (1)

■ DISASSEMBLY PROCEDURES

(Remove parts in disassembly order as numbered.)

1. **Removal of Top Cover**
   a. Remove 4 screws (①) and 2 screws (②) in Fig. 1.
   b. Lift the Top Cover to the back side and move it rearward slantingly.

2. **Removal of Bottom Cover**
   Remove 10 screws (③) Fig. 1.

3. **Removal of Operation Circuit Board (2)**
   Remove 4 screws (④) in Fig. 1.

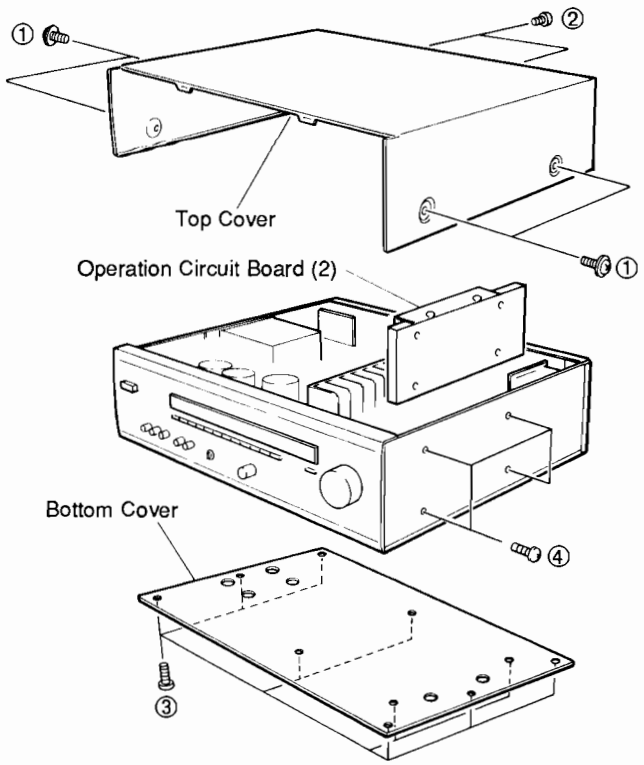


Fig. 1

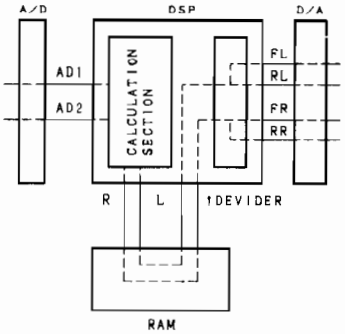
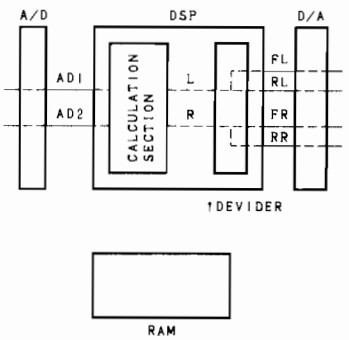
■ TEST PROGRAM

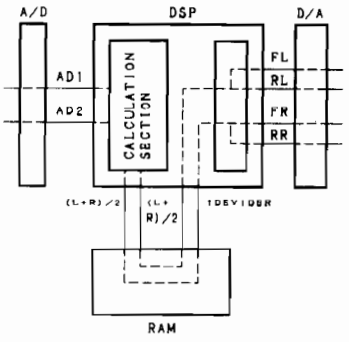
The DSP-E300 has a self-diagnosis function performed by using internal test programs. Be sure to verify all test programs.

● Starting Test Program

While holding down 3 program keys (HALL 1, HALL 2 and OPERA HOUSE) simultaneously, turn on the POWER switch.

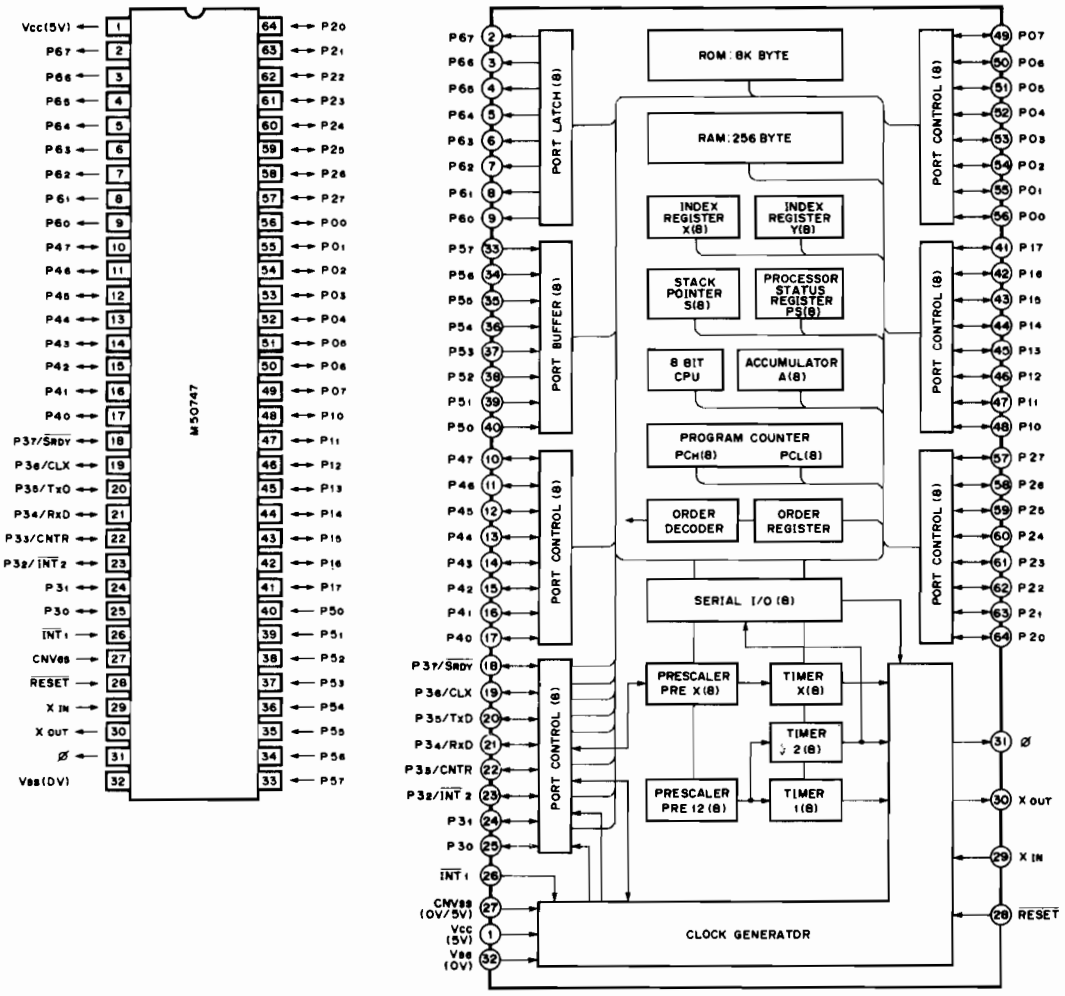
Content of Test Program

Program	Item	Operation
No. 1 (HALL 1)	EXIT DIAG	Sets back to the normal operation mode from the test program mode.
No. 2 (HALL 2)	TEST LED-1	1.LEDs light in the following order. 7seg LED 0.0 1 1 2.2 3 3 4.4 5 5 6.6 7 7 8.8 9 9 HALL 1 HALL 2 OPERA HOUSE CHURCH PAVILION ROCK CONCERT JAZZ CLUB DISCO STADIUM MOVIE 1 MOVIE 2 PRO LOGIC TYPE A TYPE B INIT DELAY ROOM SIZE REV TIME DSP TEST PRO LOGIC TEST NORMAL PHANTOM OFF TAPE MONITOR EFFECT OFF 2. Finally, all LEDs other than 7seg LED light and then the7seg LED indicates "2".
No.3 (OPERA-HOUSE)	TEST LED-2	All 7seg LEDs light. LEDs from HALL 1 to PRO LOGIC all light. LEDs from TYPE A to REV TIME all light. LEDs from DSP TEST to EFFECT OFF all light.
No.7 (JAZZ-CLUB)	RAM THROUGH L OUT R OUT	1. Sets to the RAM THROUGH mode.  As A/D input is in 2 channels, (L+R) /2 and (L-R), calculation done inside the DSP according to this program is as follows. Supposing AD1=(L+R) /2 and AD2=L-R, FL, RL=AD1+AD 2/2= (L+R) /2+(L-R) /2=L FR, RR=AD1-AD 2/2= (L+R) /2-(L-R) /2=R 2. The 7seg LED indicates "7".
No.8 (DISCO)	DSP THROUGH L OUT R OUT	1. Sets to the DSP THROUGH mode.  FL, RL=AD1+AD 2/2 = (L+R) /2+(L-R) /2=L FR, RR=AD1-AD 2/2= (L+R) /2+(L-R) /2=R 2. The 7seg LED indicates "8".

Program	Item	Operation
No.9 (STADIUM)	RAM THROUGH (L+R) /2 OUT	1. Sets to the RAM THROUGH mode.  FL, RL=AD1=(L+R) /2 FR, RR=AD1=(L+R) /2 2. The 7seg LED indicates "9".

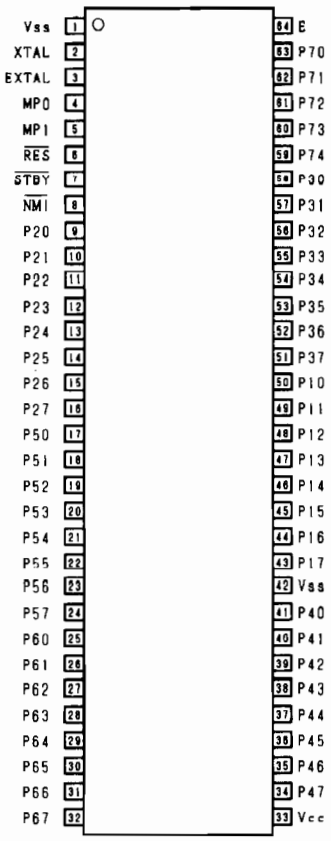
■ IC DATA

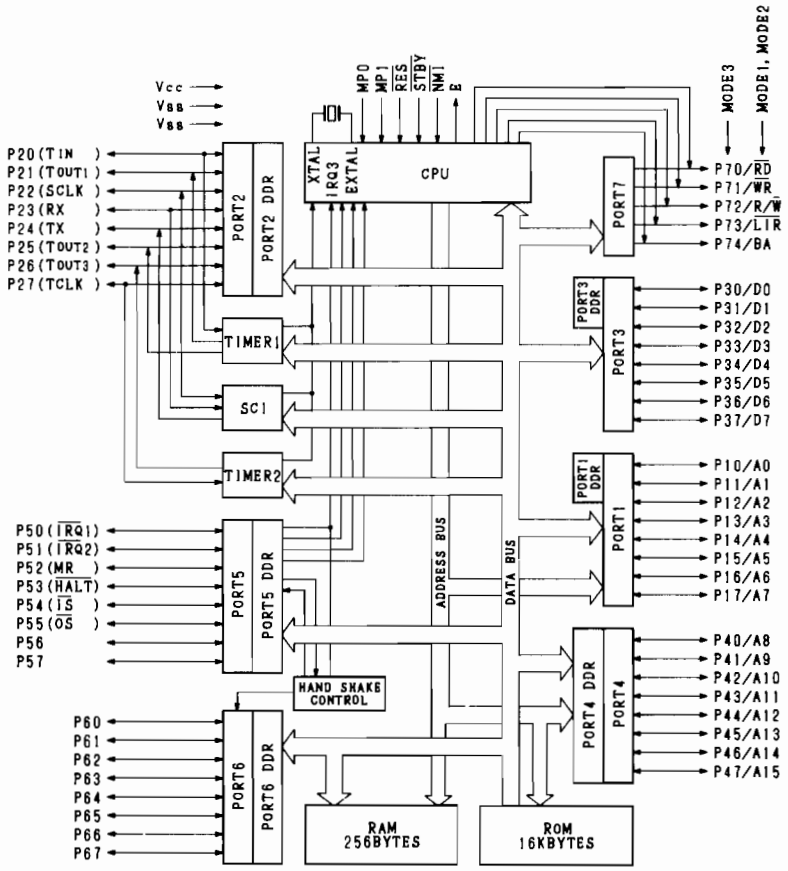
IC2 : M50747-B87
8bit μ-COM



Pin No.	Pin name	Function Name	I /O	Active	Description
1	Vcc	VDD	—		+5V
2	P67	SH	O	H	LED segment
3	P66	SG	O	H	
4	P65	SF	O	H	
5	P64	SE	O	H	
6	P63	SD	O	H	
7	P62	SC	O	H	
8	P61	SB	O	H	
9	P60	SA	O	H	
10	P47	DA7	O	L / H	Digital signal for VCA control (When DA0 (LSB) to DA7 (MSB) are all "L", VCA is - When ATTs are all "H", VCA is 0dB.)
11	P46	DA6	O	L / H	
12	P45	DA5	O	L / H	
13	P44	DA4	O	L / H	
14	P43	DA3	O	L / H	
15	P42	DA2	O	L / H	
16	P41	DA1	O	L / H	
17	P40	DA0	O	L / H	
18	P37/SRDY	X	O	—	Unused
19	P36/CLK	CLK1	I		Clock data for serial transmission of the superimpose IC.
20	P35/TXD	SO	O		
21	P34/RXD	CLK0	O		
22	P33/CNTR	CE	O	L	Chip select of the superimpose IC
23	P32/INT2	SY DET	I	L / H	Picture detect (External picture input available at "H")
24	P31	N/P	I	L	PAL/NTSC select (NTSC at "L")
25	P30	REM IN	I		Remote control beam reception signal input
26	INT1	REM IN	—		
27	CNVSS	CN Vss	—		GND
28	RESET	RESM	—		Reset
29	X IN	OSC1	—		Clock(8MHz)
30	X OUT	OSC0	—		
31	ϕ	ϕ	—		Unused
32	Vss	Vss	I		GND
33	P57	PDET	I	L / H	Power ON/OFF detect (OFF at "L")
34	P56	X	I		Unused
35	P55	ENCB	I		Rotary encoder input
36	P54	ENCA	I		
37	P53	K3	I	H	Key input (Key input available at "H")
38	P52	K2	I	H	
39	P51	K1	I	H	
40	P50	K0	I	H	
41	P17	D4	O	H	Digit line
42	P16	D3	O	H	
43	P15	D2	O	H	
44	P14	D1	O	H	
45	P13	D0	O	H	
46	P12	CMT	O	H	Center
47	P11	EMT	O	L	Effect mute signal
48	P10	MMT	O	H	Main
49	P07	CMD	O	L / H	DOLBY center mode select (Normal at "H")
50	P06	CCH	O	L / H	DOLBY center channel select (OFF at "H")
51	P05	DBY	O	L / H	DOLBY select (ON at "H")
52	P04	RES	—		
53	P03	TAPE	O	L / H	TAPE MONITOR select (Tape monitor ON at "H")
54	P02	CE1	O		Chip select of input select IC
55	P01	DACS	O		Unused
56	P00	DSPS	O		Interface with HD63BOIY
57	P27	DSP7	O		
58	P26	DSP6	O		
59	P25	DSP5	O		
60	P24	DSP4	O		
61	P23	DSP3	O		
62	P22	DSP2	O		
63	P21	DSP1	O		
64	P20	DSP0	O		

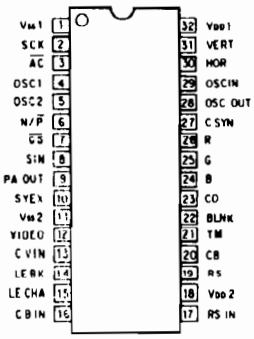
IC27 : HD63B01YORL37P
8bit μ-COM

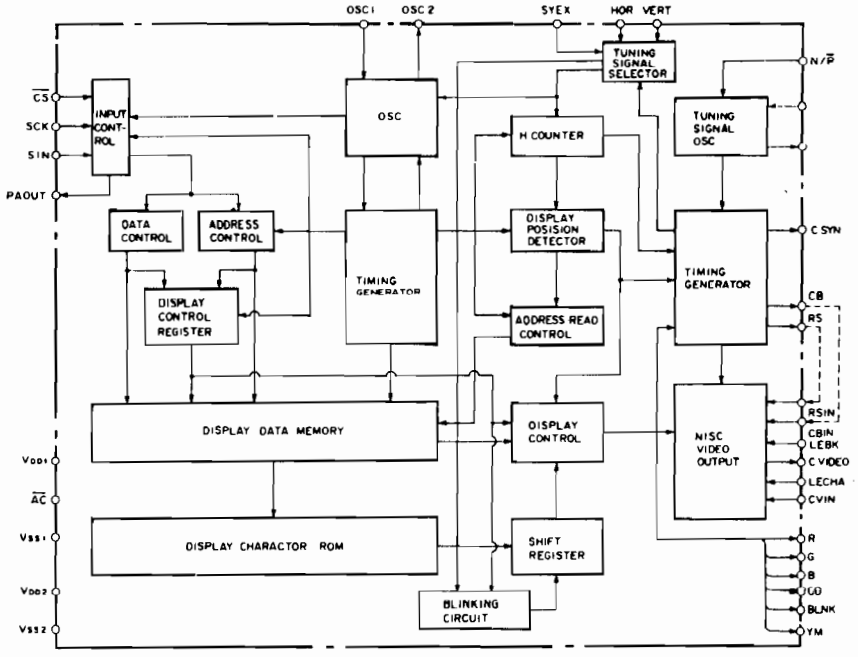




Pin No.	Pin name	Function Name	I/O	Description
1	Vss	Vss	—	GND
2	XTAL	XTAL	—	Unused
3	EXTAL	EXTAL	I	Clock input
4	MP0	MP0	I	"H" mode setting (with single chip mode fixed)
5	MP1	MP1	I	
6	$\overline{RES}$	$\overline{REX}$	I	Reset input
7	$\overline{STBY}$	$\overline{STBY}$	I	"H" unused
8	NMI	$\overline{NMI}$	I	
9	P20		O	Output port (unused)
10	P21		O	
11	P22	SCLK	O	Clock for transmitting serial data to DSP
12	P23	RX	I	Serial data input port (unused)
13	P24	TX	O	Serial data output port to DSP
14	P25		O	Output port (unused)
15	P26		O	
16	P27		O	
17	P50		I	"L" unused
18	P51		I	
19	P52		I	
20	P53		I	Command format select ("H")
21	P54	DSPS	I	Command input strobe signal
22	P55		I	"L" unused
23	P56	$\overline{CRS}$	O	DSP serial data input reset
24	P57	$\overline{DBY}$	O	Output port (unused)
25	P60	DSP0	I	Command input port
26	P61	DSP1	I	
27	P62	DSP2	I	
28	P63	DSP3	I	
29	P64	DSP4	I	
30	P65	DSP5	I	
31	P66	DSP6	I	
32	P67	DSP7	I	+5V
33	Vcc	Vcc	—	Output port (unused)
34	P47		O	
35	P46		O	
36	P45		O	
37	P45		O	
38	P43		O	
39	P42		O	
40	P41		O	
41	P40		O	
42	Vss	Vss	—	GND
43	P17		O	Output port (unused)
44	P16		O	
45	P15		O	
46	P14		O	
47	P13		O	
48	P12		O	
49	P11		O	
50	P10		O	
51	P37		O	
52	P36		O	
53	P35		O	
54	P34		O	
55	P33		O	
56	P32		O	
57	P31		O	
58	P30		O	
59	P74	$\overline{BA}$	O	
60	P73	$\overline{LIR}$	O	
61	P72	R/$\overline{W}$	O	
62	P71	$\overline{WR}$	O	
63	P70	$\overline{RD}$	O	
64	WE	E	O	System clock (unused)

IC703 : M50455-060SP
Supper Impose

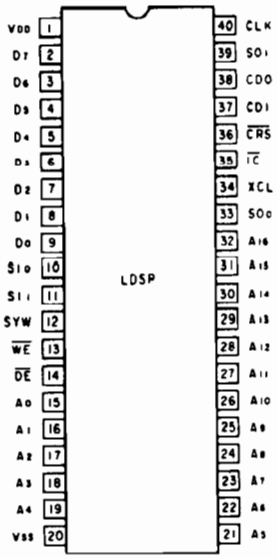




Pin No.	Pin Name	Pin Description	Function
1	VSS 1	Earth terminal	Connect with GND by digital system earth terminal.
2	SCX	Serial clock input	When it is SC terminal "L", serial data of S IN is taken in with the start-up of SCK. Histeresis input.
3	AC	Automatic clear input	Reset IC internal circuit with "L" status. Pull-up resistance has been contained. Hysteresis input.
4	OSC 1	Oscillation circuit external terminal	External terminal for oscillation circuit for indication use. The standard oscillation frequency is about 7MHz.
5	OSC 2		Display position toward horizontal direction of TV picture and letter width are determined by the oscillation frequency.
6	N/P	NISC/PAL switching input	It is NTSC or PAL system synchronized signal generation switching terminal.
7	CS	Chip selection input	Chip selection terminal. When serial data transfer is conducted, the chip selection terminal shall be "L" status.
8	S IN	Serial data input	Data and address of memory for use in the display resistor and display data are input by serial.
9	PA OUT	Parity output	It is odd number parity output, and it will detect 1 bit mistake in a word of S IN.
10	SYEX	Synchronized signal changeover input	Externally synchronized or internally synchronized signal switching terminal. Under "H" status, it becomes externally synchronized signal mode, and with "L" status, it becomes internally synchronized signal mode. SYEX composes or of priority of internal synchronization and EX. Resistor of address 243 in the display control resistor. Pull-up resistance is contained.
11	VSS 1	Earth terminal	Connect with GND by analog earth terminal.
12	VIDEO	Composite video output	It is composite video signal output terminal. Composite video signal of 2Vp-p is output. When it is super imposition, it will output increasing the volume of letter output to CV IN signal.
13	CV IN	Composite video input	It is composite video signal input terminal. When it is super impose, letter output etc. Will be increases for the composite video signal.
14	LEBK	Blanking level	It is input terminal to determine blanking level of video signal.
15	LECHA	Character level input	It is input terminal to determine the letter output level in the video signal. Color of letter is white.
16	CB IN	Color burst input	It will input transforming CB output to color burst level by external circuit.

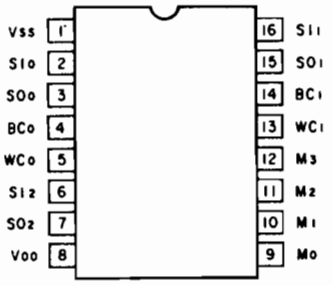
Pin No.	Pin Name	Pin Descrption	Function
17	RS IN	Lettering background carrier color signal input	Input is done transforming RS output to carrier color signal level of video signal by external circuit.
18	VDD 2	Power source terminal	Connect with +5V by analog system power source terminal.
19	RS	Lettering background carrier color signal output	It is carrier color signal output for the coloring background. It will output signal having phase angle for the color burst signal CB. Amplitude : 5V.
20	CB	Color burst output	When it is NTSC system, it will output color burst of 3.58MHz and 4.43MHz when it is PAL system. Amplitude : 5V.
21	YM	Brightness signal output	It is brightness signal output. Polarity selection can be done when lettering type ROM is determined.
22	BLNK	Lettering background output	It will output lettering background signal. POlarity selection can be done when lettering type ROM is decided.
23	CO	Lettering type output	Lettring type signal is output. POlarity selection can be done when lettering type is determined.
24	B	Blue output	It is blue output terminal. Polarity selection can be done when lettering type ROM is determined.
25	G	Green output	It is green output terminal. Polarity selection can be done when lettering type ROM is determined.
26	R	Red output	It is red output terminal. Polarity selection can be done when lettering type ROM is determined.
27	CSYN	Composite burst output	NTSC or PAL system composite burst is output. Polarity is negative polarity, and amplitude is 5V.
28	OSC OUT	Oscillation circuit for burst generation	It is external terminal of oscillation circuit for the generation of burst. When it is NTSC system, it is 14.32MHz.
29	OSC IN		When it is PAL system, oscillation frequency of 17.73MHz is used.
30	HOR	Horizontal burst	Horizontal burst is output. Histeresis input. Polarity selection can be done when lettering type ROM is determined.
31	VERT	Vertical burst	Vertical burst is input. Histeresis input. Polarity selection can be done when lettering type ROM is determined.
32	VDD2	Power source terminal	Connect with +5V by digital power source terminal.

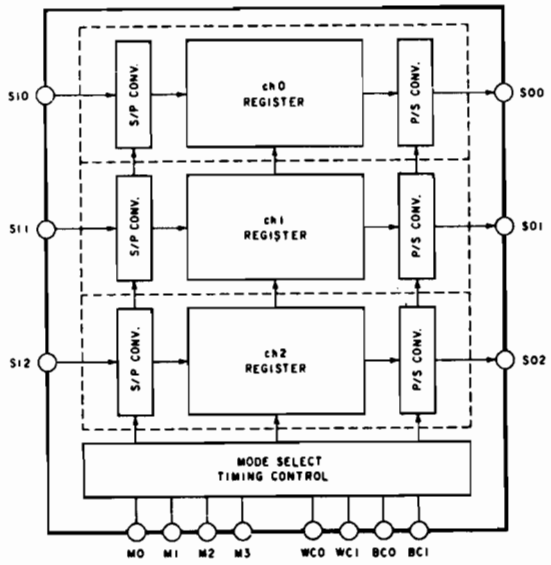
IC28 : YM3413
LDSP



Pin No.	Pin Name	I/O	Function	Pin No.	Pin Name	I/O	Function
1	VDD	—	+5V Voltage Supply	40	CLK	I	Master clock input
2	D7	I/O		39	SO1	O	Serial data output
3	D6	I/O		38	CD0	O	CD data output
4	D5	I/O		37	CD1	I	CD data input
5	D4	I/O	I/O pins connected to memory	36	CRS	I	CD data sync signal input
6	D3	I/O	data bus (8 bit)	35	IC	I	LDSP initial clear signal input
7	D2	I/O		34	XCLK	I	ACIA clock input
8	D1	I/O		33	SD0	O	Serial data output
9	D0	I/O		32	A16	O	
10	SI0	I	Serial data input	31	A15	O	
11	SI1	I		30	A14	O	
12	SYW	I	System sync signal input	29	A13	O	
13	WE	O	Read/write signal to memory input	28	A12	O	
14	OE	O	Pin connected to memory OE term	27	A11	O	Outputs connected to
15	A0	O		26	A10	O	
16	A1	O	Outputs connected to memory's	25	A9	O	
17	A2	O	address bus	24	A8	O	
18	A3	O		23	A7	O	
19	A4	O		22	A6	O	
20	VSS	O	GND	21	A5	O	

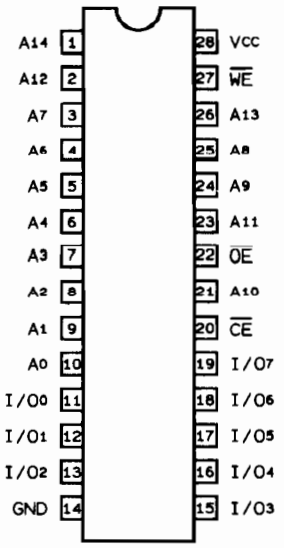
IC26 : YM3422
Digital Signal Format Converter

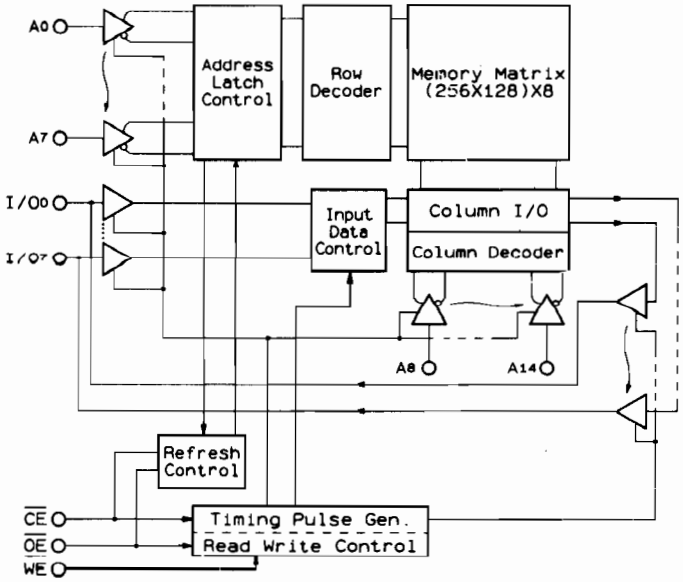




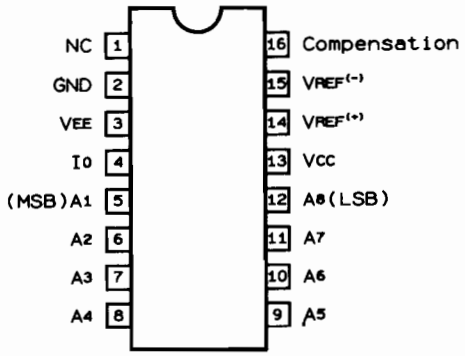
Pin No.	Pin Name	I/O	Function
1	VSS	—	GND terminal
2	SI0	IN	Serial data input (ch 0)
3	SO0	OUT	Serial data output (ch 0)
4	BC0	IN	Bit clock input
5	WC0	IN	System syncronized signal input
6	SI2	IN	Serial data input (ch 0)
7	SO2	OUT	Serial data output (ch 0)
8	VDD	—	Voltage supply (+5V)
9	M0	IN	Mode select signal
10	M1	IN	Mode select signal
11	M2	IN	Mode select signal
12	M3	IN	Mode select signal
13	WC1	IN	System syncronized signal input (Word clock)
14	BC1	IN	Bit clock input
15	SC1	IN	Serial data output (ch 1)
16	SI1	OUT	Serial data input (ch 1)

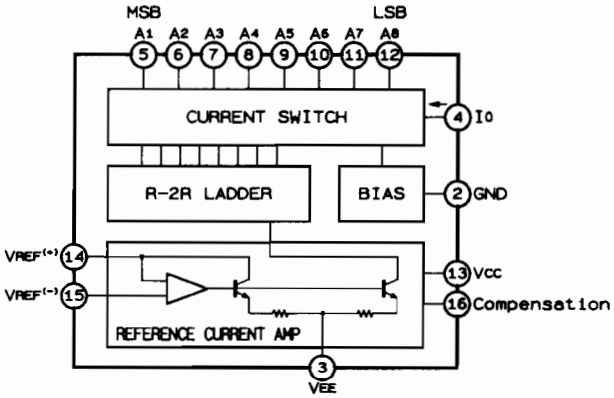
IC29 : HM65256BLP-10 or TC51832PL-10
32768-word x 8-bit High Speed Pseudo Static RAM



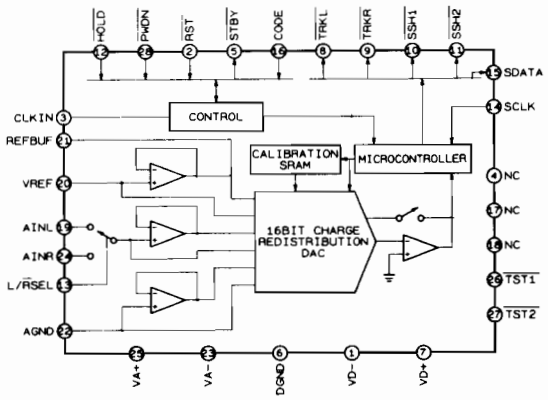


IC1 : HA17408P
8-bit Multiplying Digital - to - Analog Converter

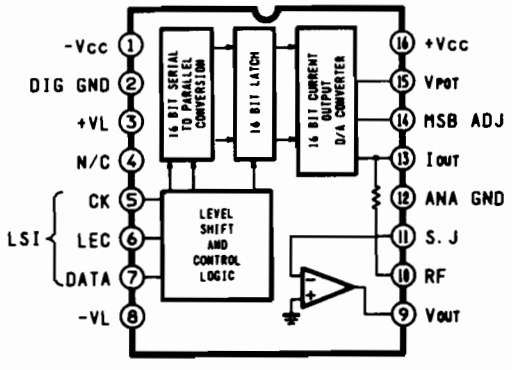




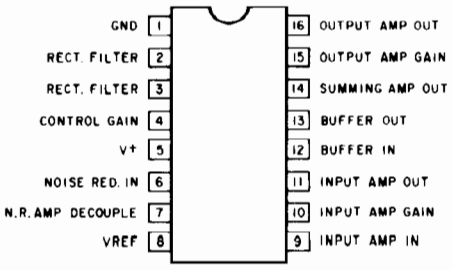
IC17 : AK9201A or AK9201
A/D Converter

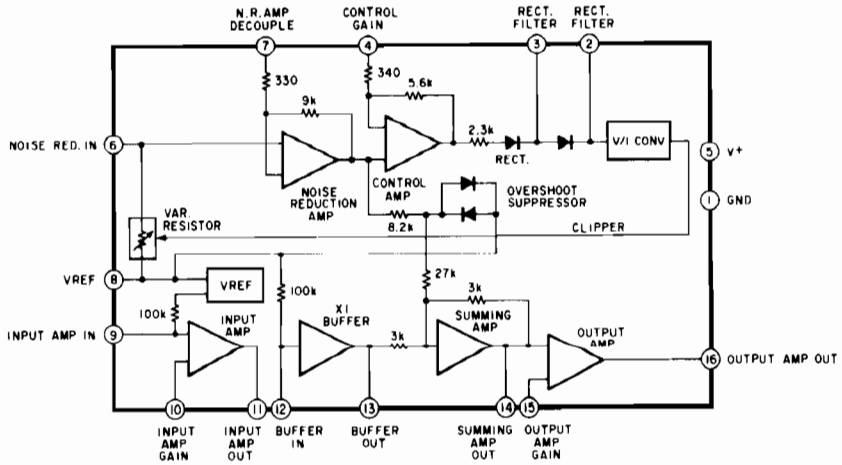


IC18, 19 : PCM56P
D/A Converter

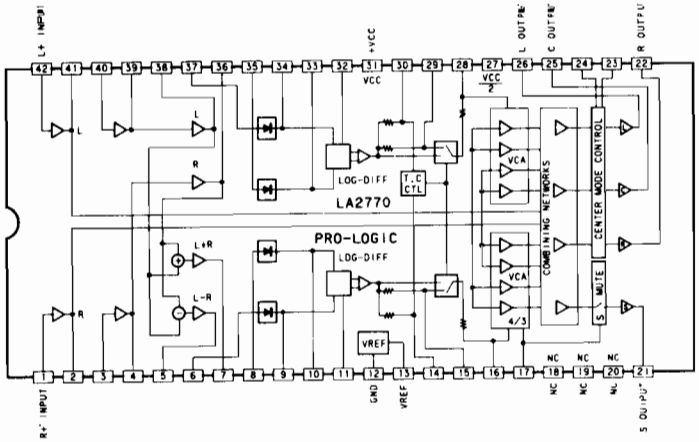


IC5 : LA2730
Dolby Encoder/Decoder

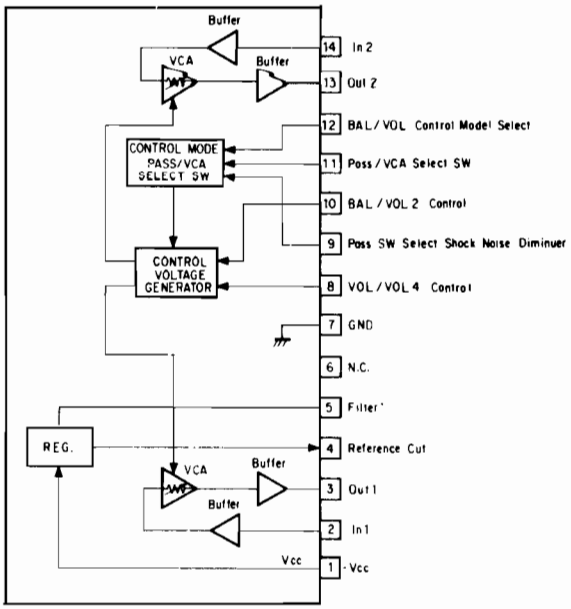




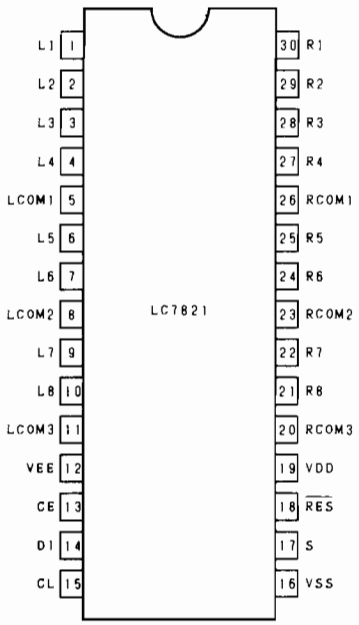
IC6 : LA2770
Dolby Pro Logic

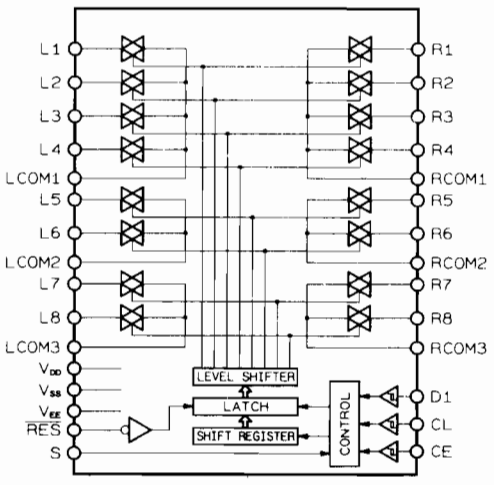


IC208, 210, 213, 216 : M51132L
2-Channel Volume/Balance Controller

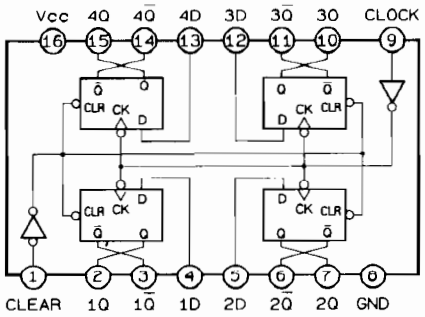


IC225 : LC7821N
Analog Function Switch

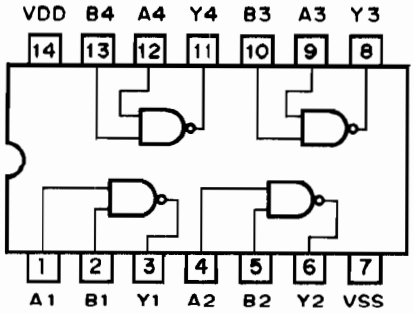




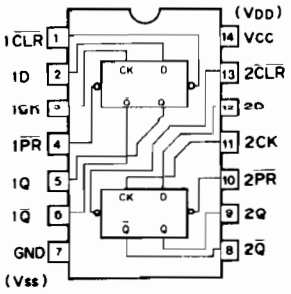
IC24 : μPD74HC175G-T1 or MN74HC175S
Quad D-FFs



IC25 : μPD74HC00G-T1
Quad 2-Input NAND Gate



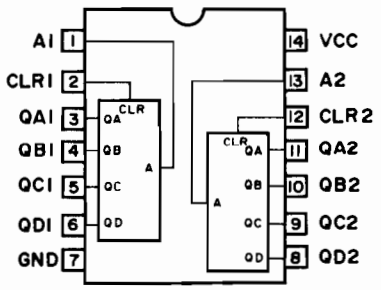
IC21, 22 : μPD74HC74G-T1
Dual D-FFs with Preset and Clear



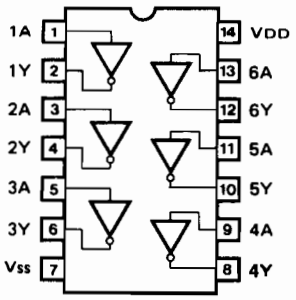
INPUTS				OUTPUTS	
PR	CLR	CLK	D	Q	$\overline{Q}$
L	H	X	X	H	L
H	L	X	X	L	H
L	L	X	X	H"	H"
H	H	↗	H	H	L
H	H	↗	L	L	H
H	H	L	X	Q0	$\overline{Q0}$

Note) 1. X : Either "H" or "L"
2. / : Rise in positive direction
3. Q0 : Q level before the input conditions in the table are established.
4. $\overline{Q0}$: Q level before the input conditions in the table are established.
5. H" : When the prest and clear are "L", Q and $\overline{Q}$ are "H" but when the prest and clear are made "H" simultaneously, the level of Q and Q can not be predicted.

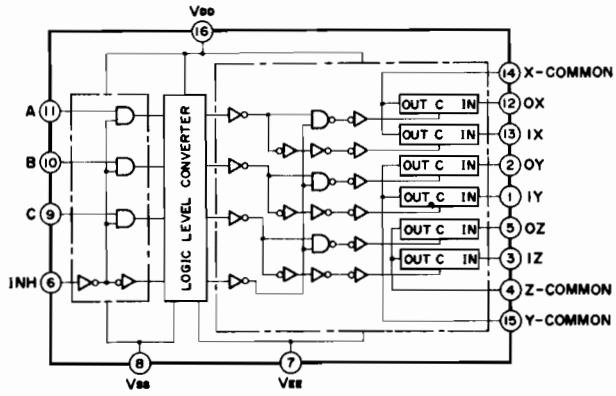
IC23 : μPD74HC393G-T1 or MN74HC393S
Dual 4-Bit Binary Counters



IC8 : TC4069UBP
IC20 : μPD74HCU04G-T1 or MN74HCU04S
IC701 : μPD74HCU04C
Hex Inverters

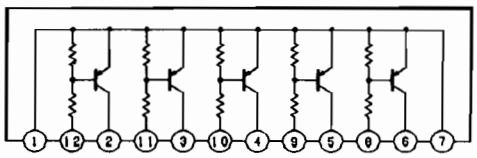


IC30, 31 : μPD4053BC
IC205 : μPD4053G-T1
IC215, 704 : TC4053BP
Triple-2 Channel Multiplexer/Demultiplexer

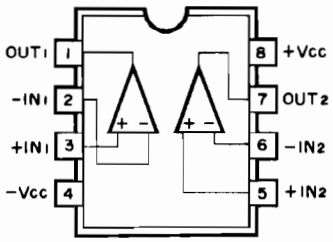


CONTROL INPUTS				"ON" CHANNEL
INHIBIT (Pin 6)	C (Pin 9)	B (Pin 10)	A (Pin 11)	0X (Pin 12), 0Y (Pin 2), 0Z (Pin 5) 1X (Pin 13), 1Y (Pin 1), 1Z (Pin 3)
L	L	L	L	0X, 0Y, 0Z
L	L	L	H	1X, 0Y, 0Z
L	L	H	L	0X, 1Y, 0Z
L	L	H	H	1X, 1Y, 0Z
L	H	L	L	0X, 0Y, 1Z
L	H	L	H	1X, 0Y, 1Z
L	H	H	L	0X, 1Y, 1Z
L	H	H	H	1X, 1Y, 1Z
H	*	*	*	NOTE
* Don't Care				

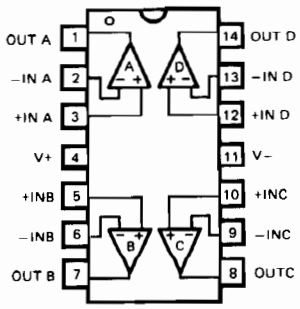
IC4 : DT5A143E
Transistor Array



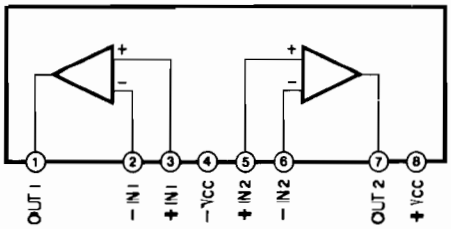
IC201 : μPC4570G2-T1
Dual Ope-amp



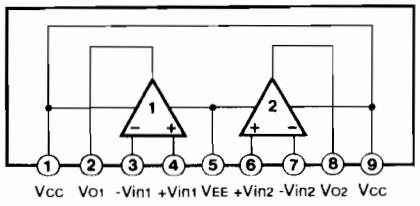
IC36, IC214 : μPC4574C
4-channel Ope-amp



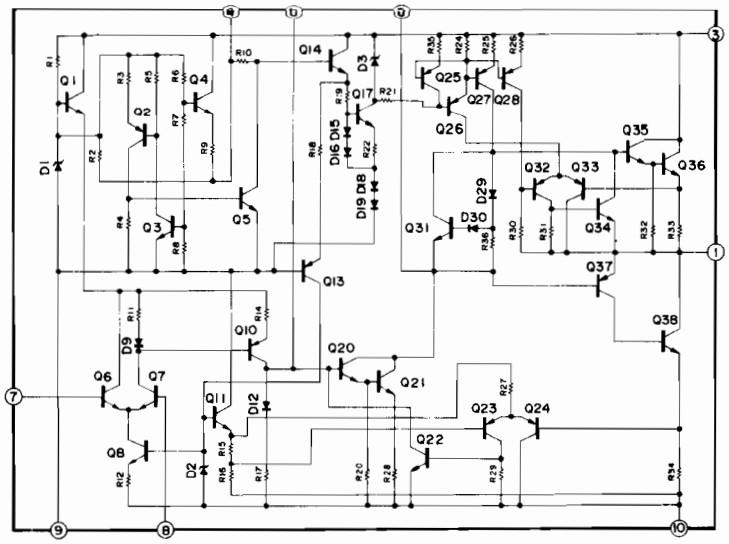
IC14, 16 : M5238L
Dual Ope-amp



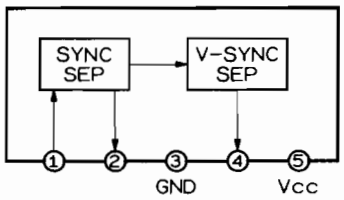
IC9~13, 15, 202, 204, 206, 207, 211, 212, 217, 218, 224 : μPC4570HA
IC203 : μPC4072HA
IC209 : NJM4556S
Dual Ope-amp



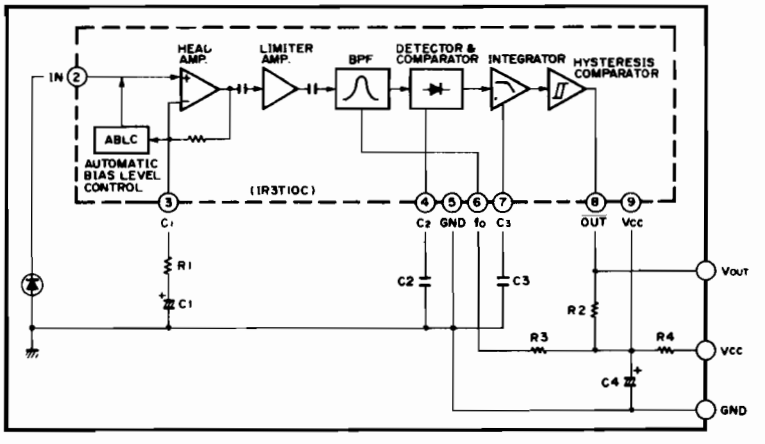
IC219~223 : μPC1188H
Power Amp



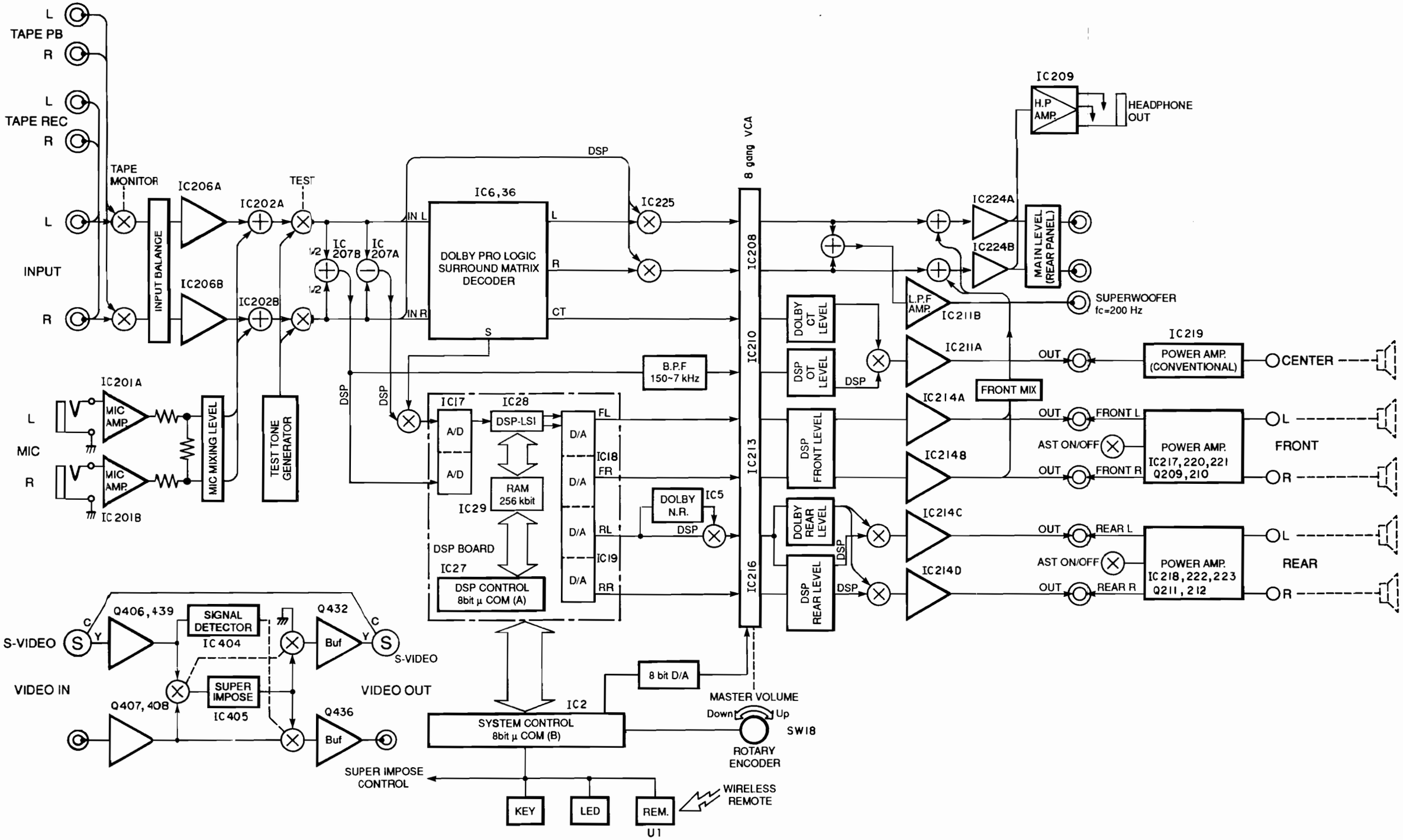
IC702 : LA7213
Video Sync. Sep.



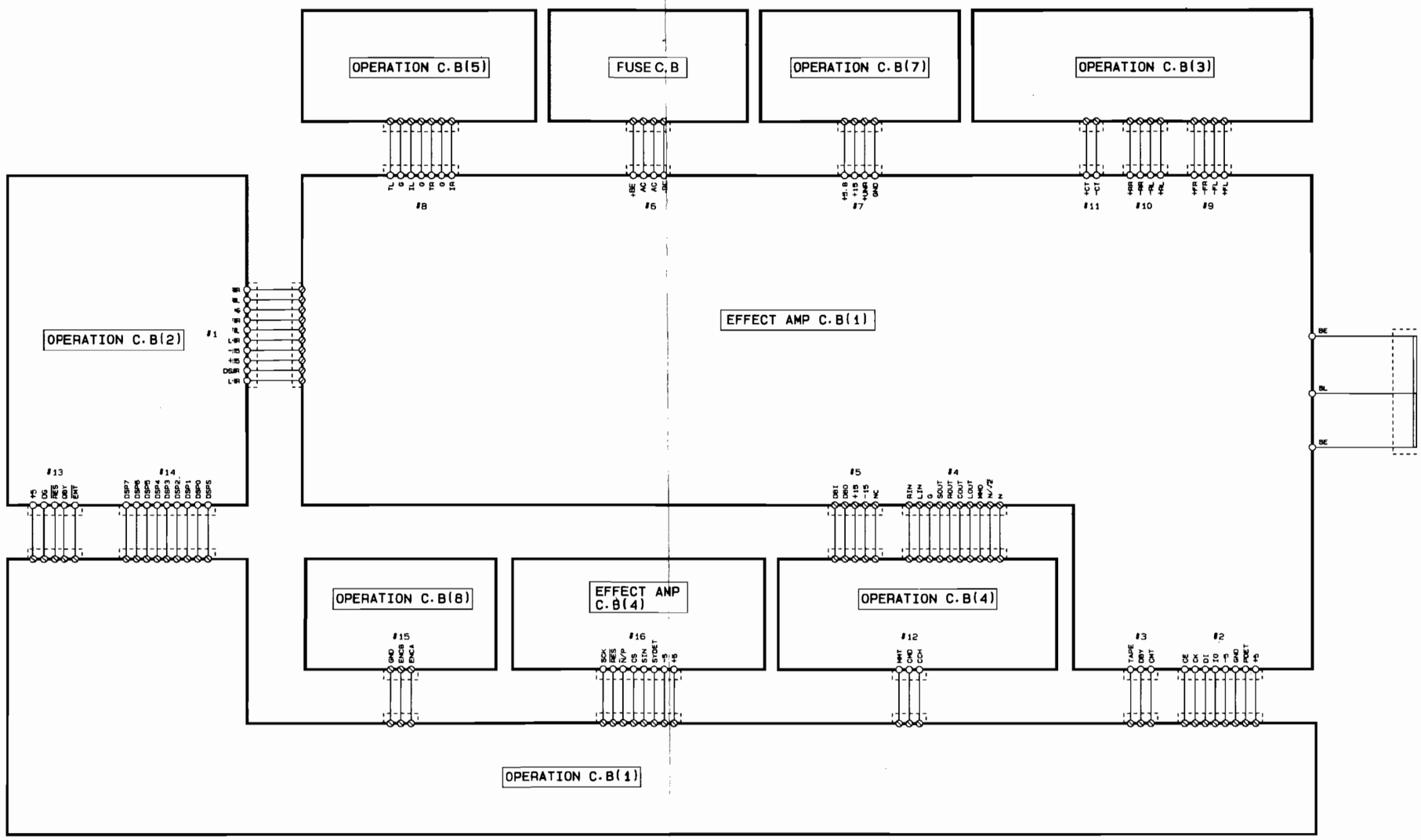
UI : GP1U501X
Remote Control Receptor



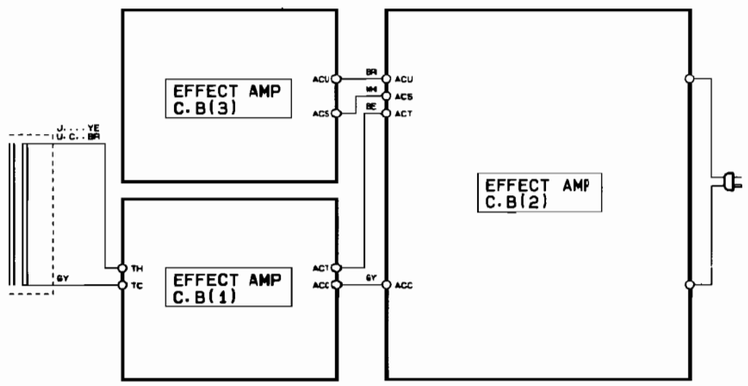
■ BLOCK DIAGRAM



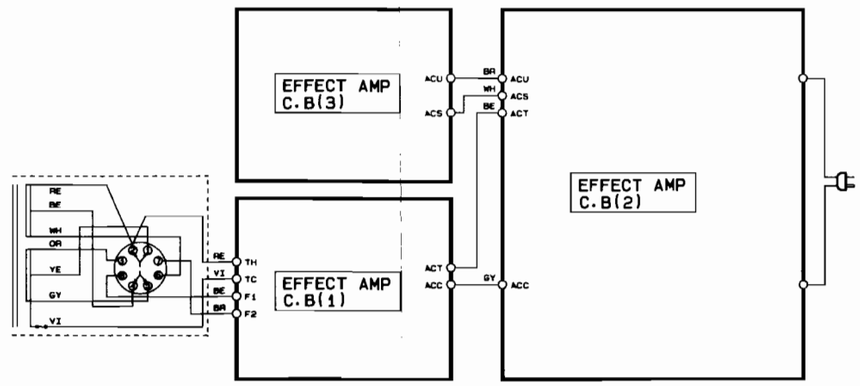
■ INTERCONNECT WIRING DIAGRAM



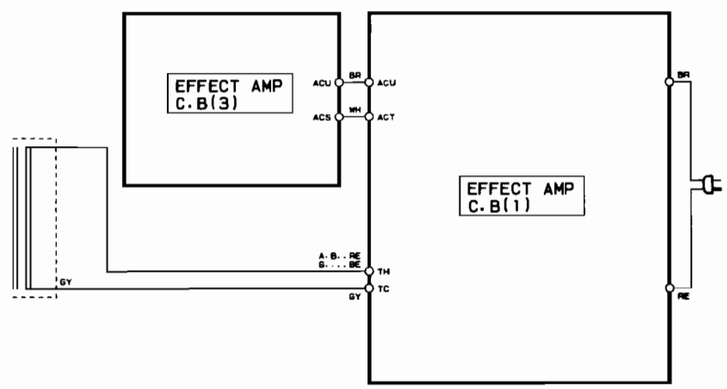
〈J, U, C〉



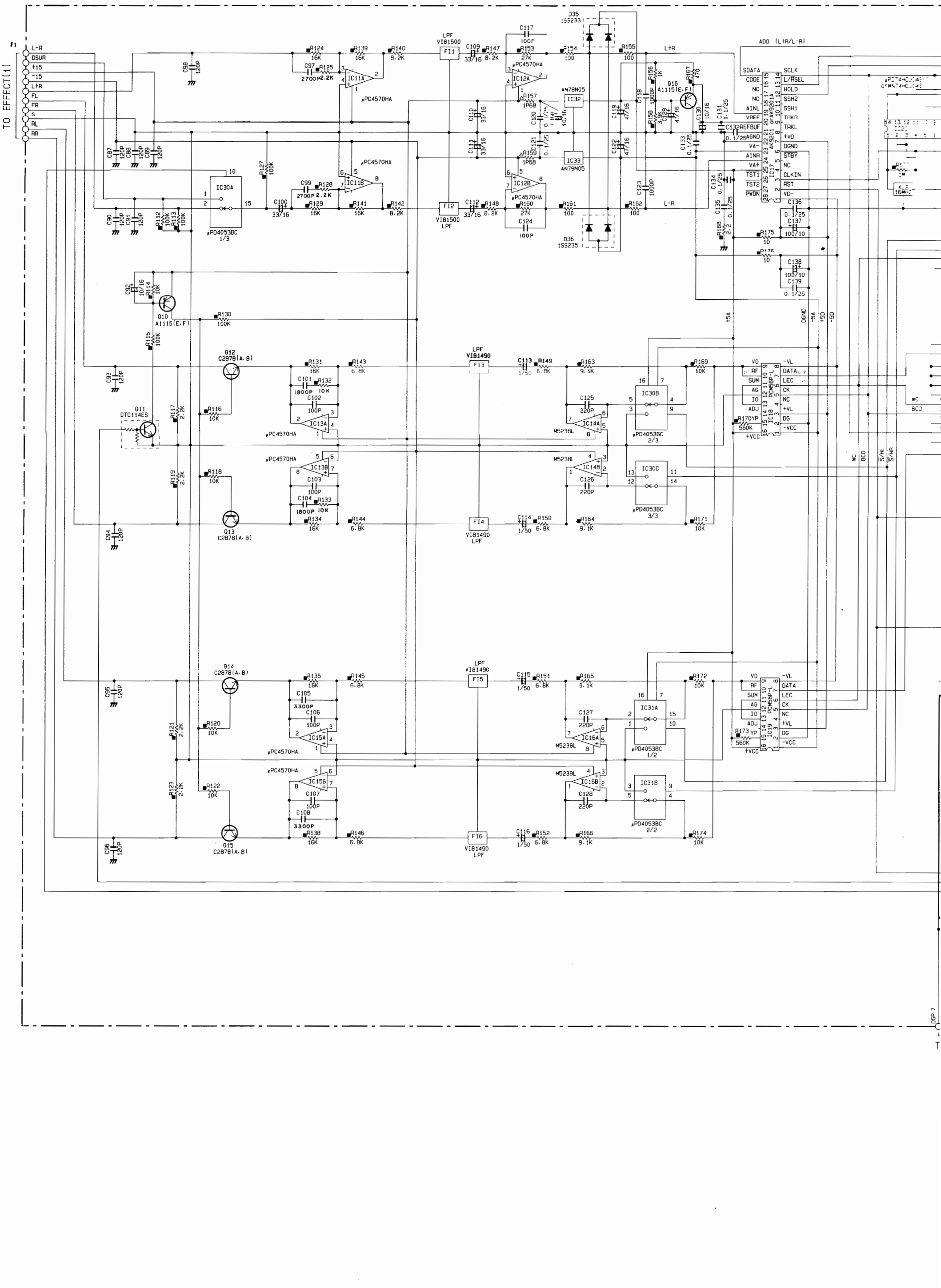
〈R〉

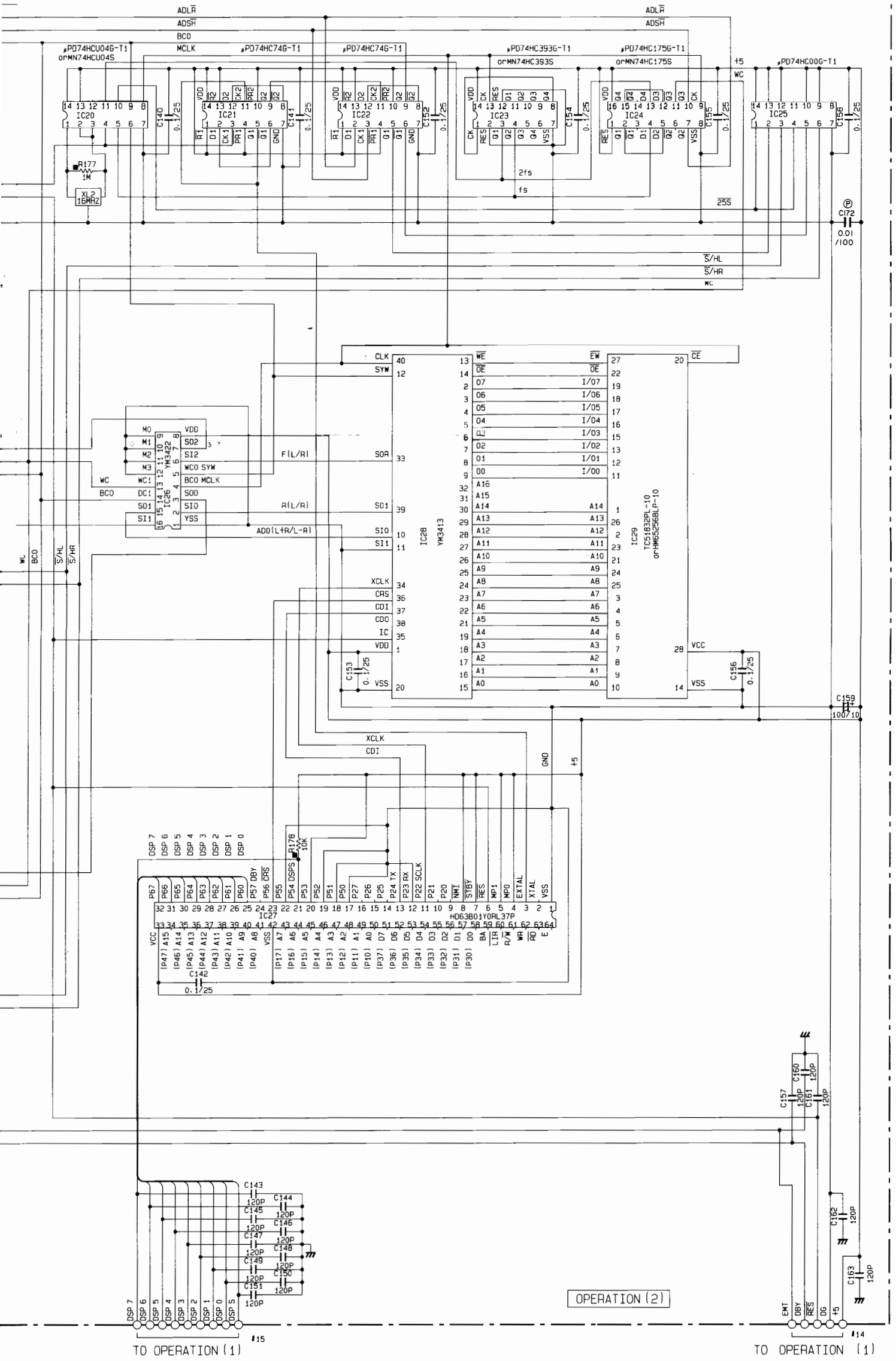


〈A, B, G〉



■ SCHEMATIC DIAGRAM (1/4) .....OPERATION C. B [B]





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

CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⫻
⊗	TANTALUM CAPACITOR	⫻
NO MARK	CERAMIC CAPACITOR	⫼
◎	POLYESTEL FILM CAPACITOR	⫼
○	POLYSTYRENE FILM CAPACITOR	⫼
Ⓘ	MICA CAPACITOR	⫼
Ⓟ	POLYPROPYLENE FILM CAPACITOR	⫼
●	SEMICONDUCTIVE CERAMIC CAPACITOR	•

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
⊘	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METEL FILM RESISTOR
⊠	METEL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

MAIN	MAIN AMP
EFFECT	EFFECT AMP

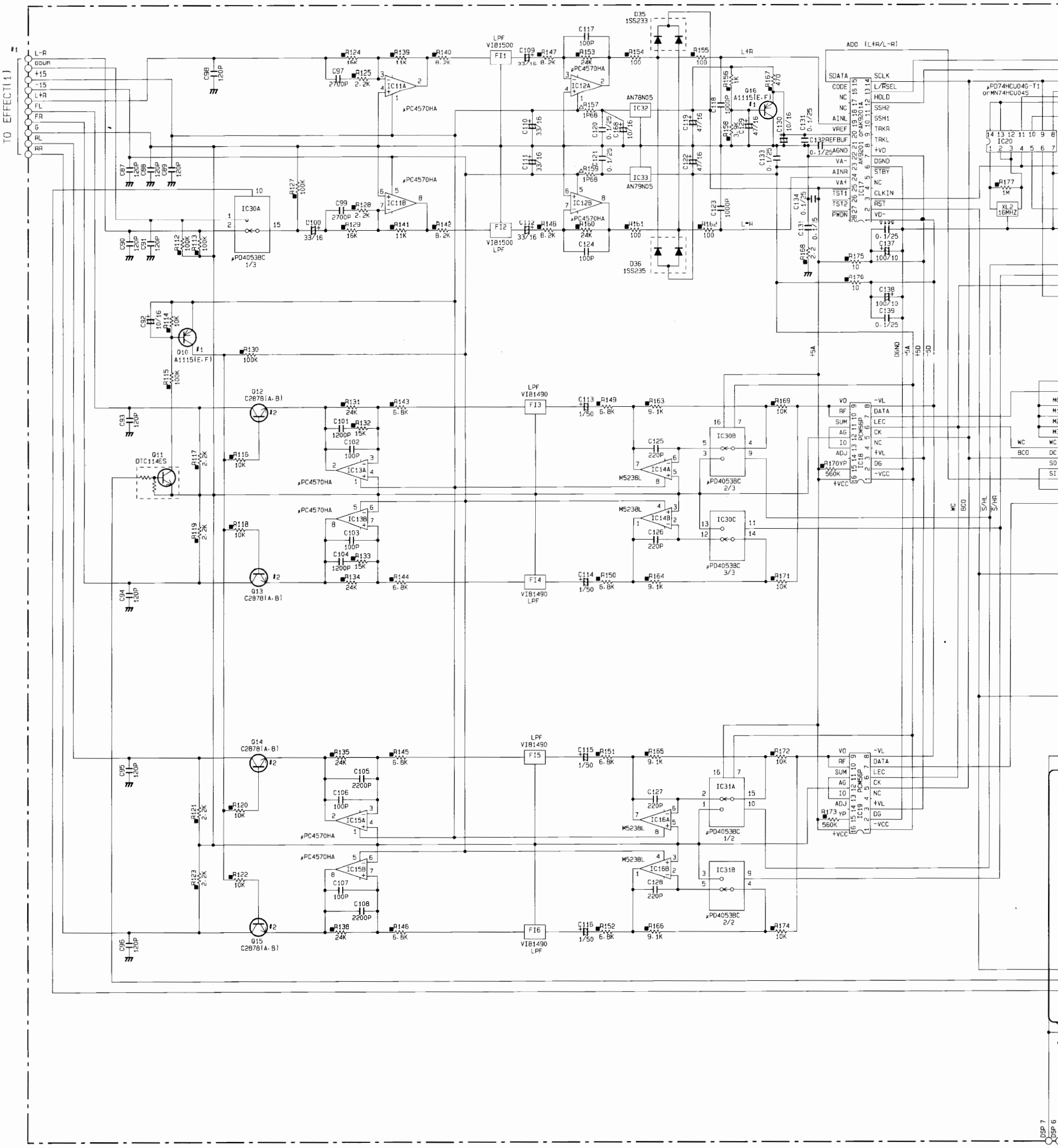
A1115(E,F)	orA933S(Q,R)orA1309A(Q,R,S)
C2878(A,B)	orC3327 orD1915(S,T)

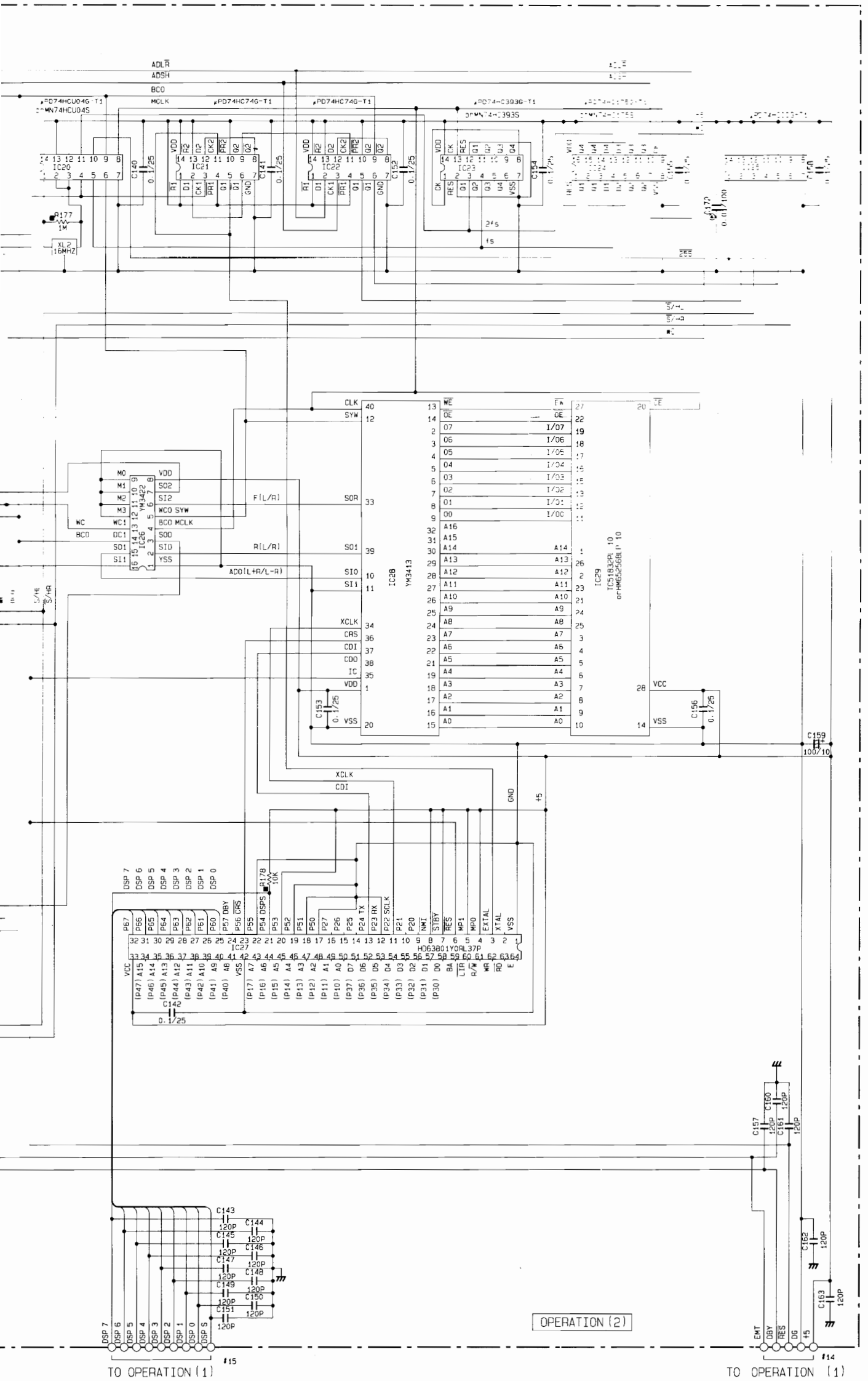
OPERATION

	LAST NO.	UN LISTED NO.
C	171	
R	184	
G	16	
D	37	
IC	35	

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

■ SCHEMATIC DIAGRAM (1/4) .....OPERATION C. B [C] / [D]





NOTICE
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(C)····· Canadian model
(A)····· Australian model
(G)····· European model
(B)····· British model
(R)····· General model
(P)····· RP model

CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	‖
	POLYESTEL FILM CAPACITOR	
	POLYSTYRENE FILM CAPACITOR	
	MICA CAPACITOR	
	POLYPROPYLENE FILM CAPACITOR	
	SEMICONDUCTIVE CERAMIC CAPACITOR	

RESISTOR

REMARKS	PARTS NAME	
NO MARK	CARBON FILM RESISTOR	(1/6W)
	CARBON FILM RESISTOR	(1/4W)
	METAL OXIDE FILM RESISTOR	
	METAL FILM RESISTOR	
	METAL PLATE RESISTOR	
	FIRE PROOF CARBON FILM RESISTOR	
	CEMENT MOLDED RESISTOR	
	SEMI VARIABLE RESISTOR	
	CHIP RESISTOR	

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
#1	Q10-16	2SA1115(E,F) 2SA933S(Q,R) 2SA1309A(Q,R,S)
#2	Q12-15	2SC2878(A,B) 2SC3327 2SD1915

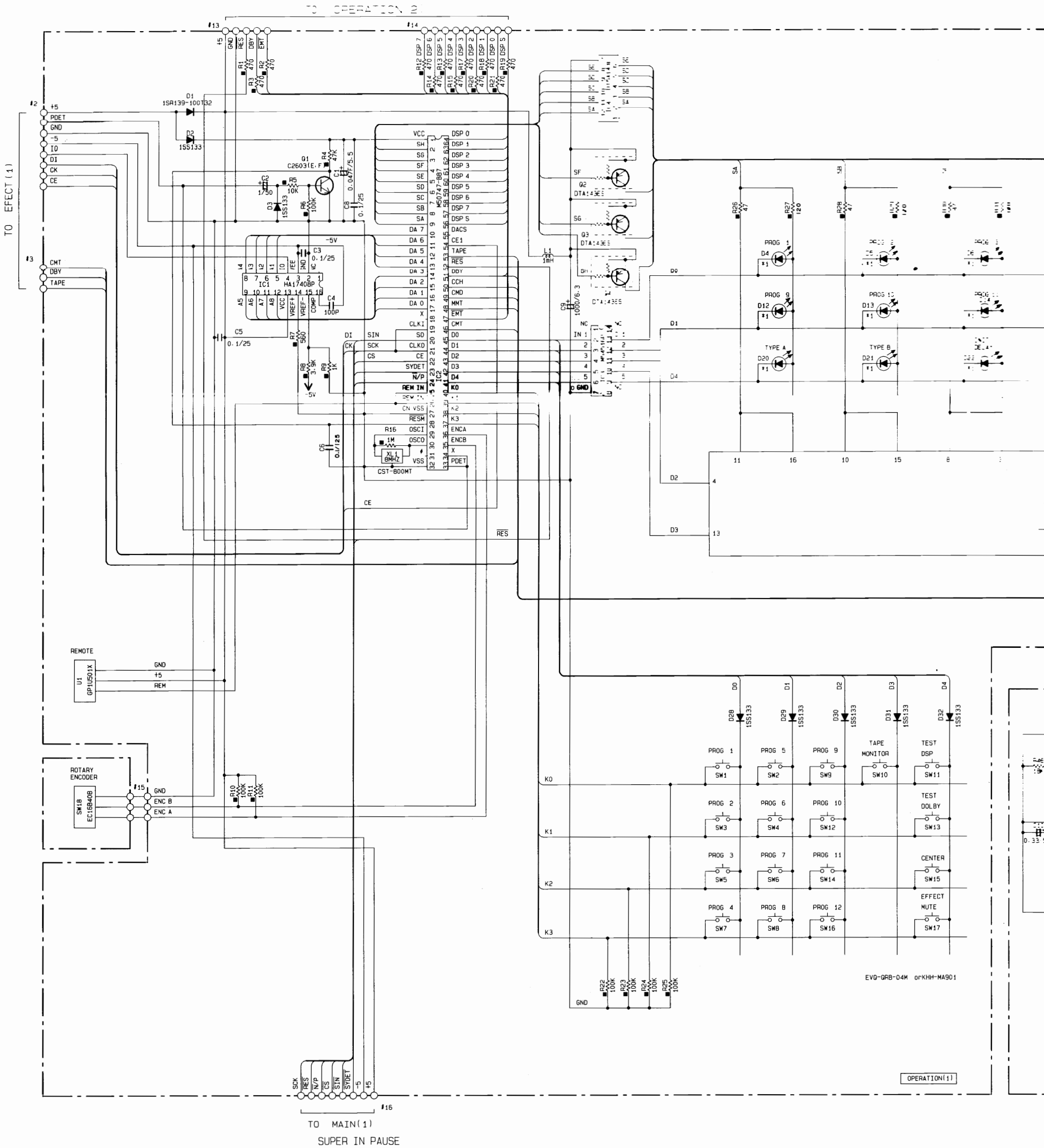
MAIN	MAIN AMP
EFFECT	EFFECT AMP

OPERATION

	LAST NO.	UN LISTED NO.
C	177	
R	201	
Q	16	
D	37	
IC	36	

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

■ SCHEMATIC DIAGRAM (2/4) .....OPERATION C. B [B]



MAIN	MAIN AMP
EFFECT	EFFECT AMP

A1115(E.F)	orA933S(Q.R) orA1309A(Q.R.S)
C2603(E.F)	orC1740S(S.R)orC3311A(Q.R.S)

OPERATION

	LAST NO.	UN LISTED NO.
C	171	
R	184	
Q	16	
D	37	
IC	35	

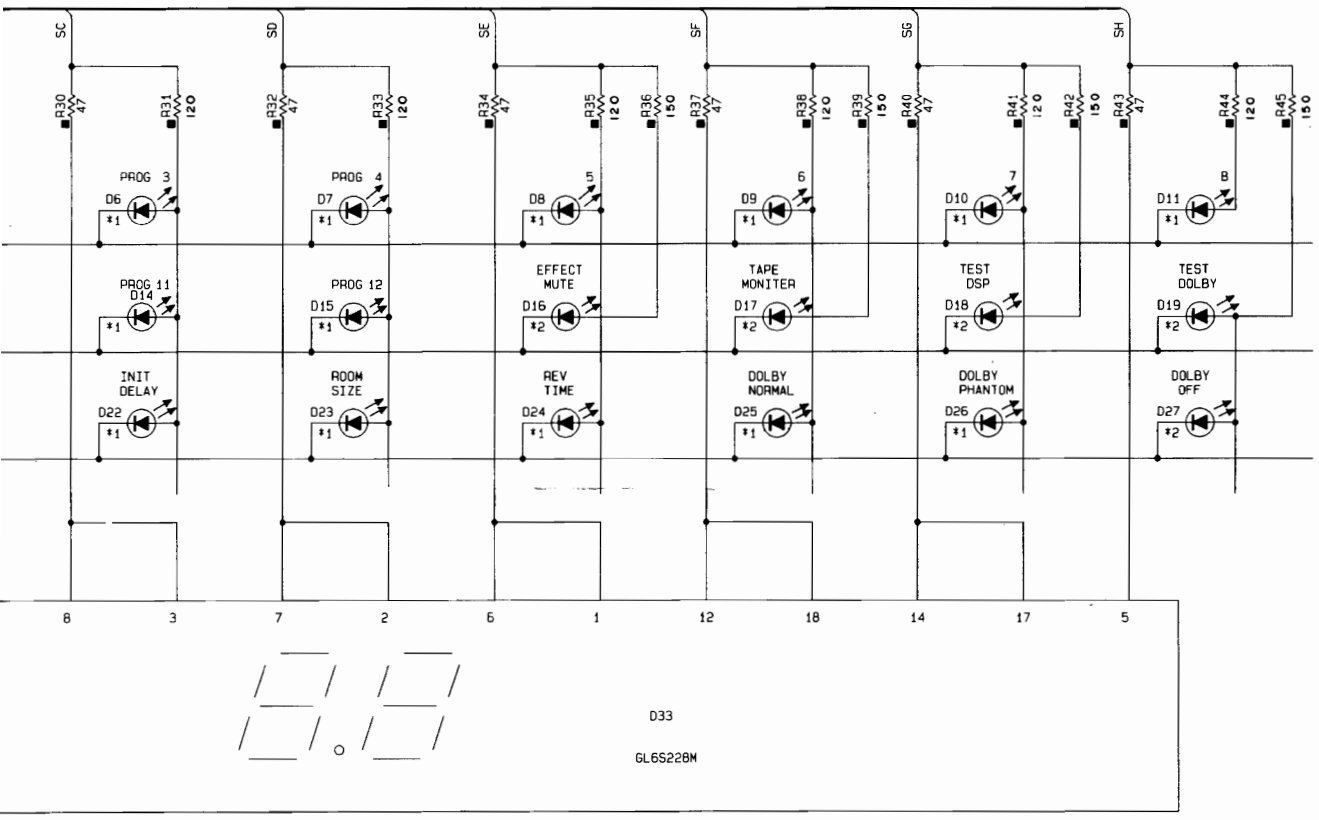
NOTICE
(J)····· Japanese model
(U)····· U.S.A model
(C)····· Canadian model
(A)····· Australian model
(G)····· European model
(B)····· British model
(R)····· General model
(P)····· PP model

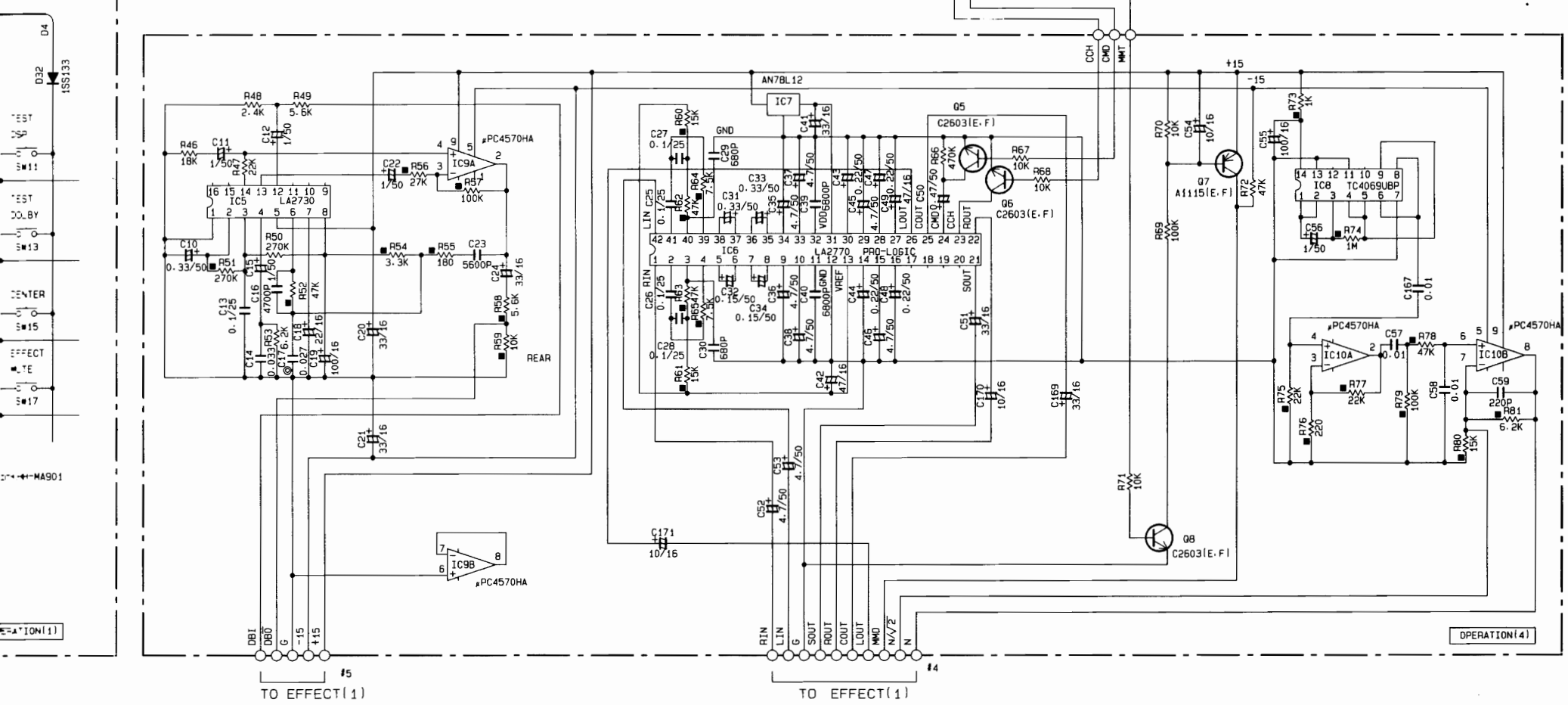
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
☑	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METEL FILM RESISTOR
⊠	METEL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

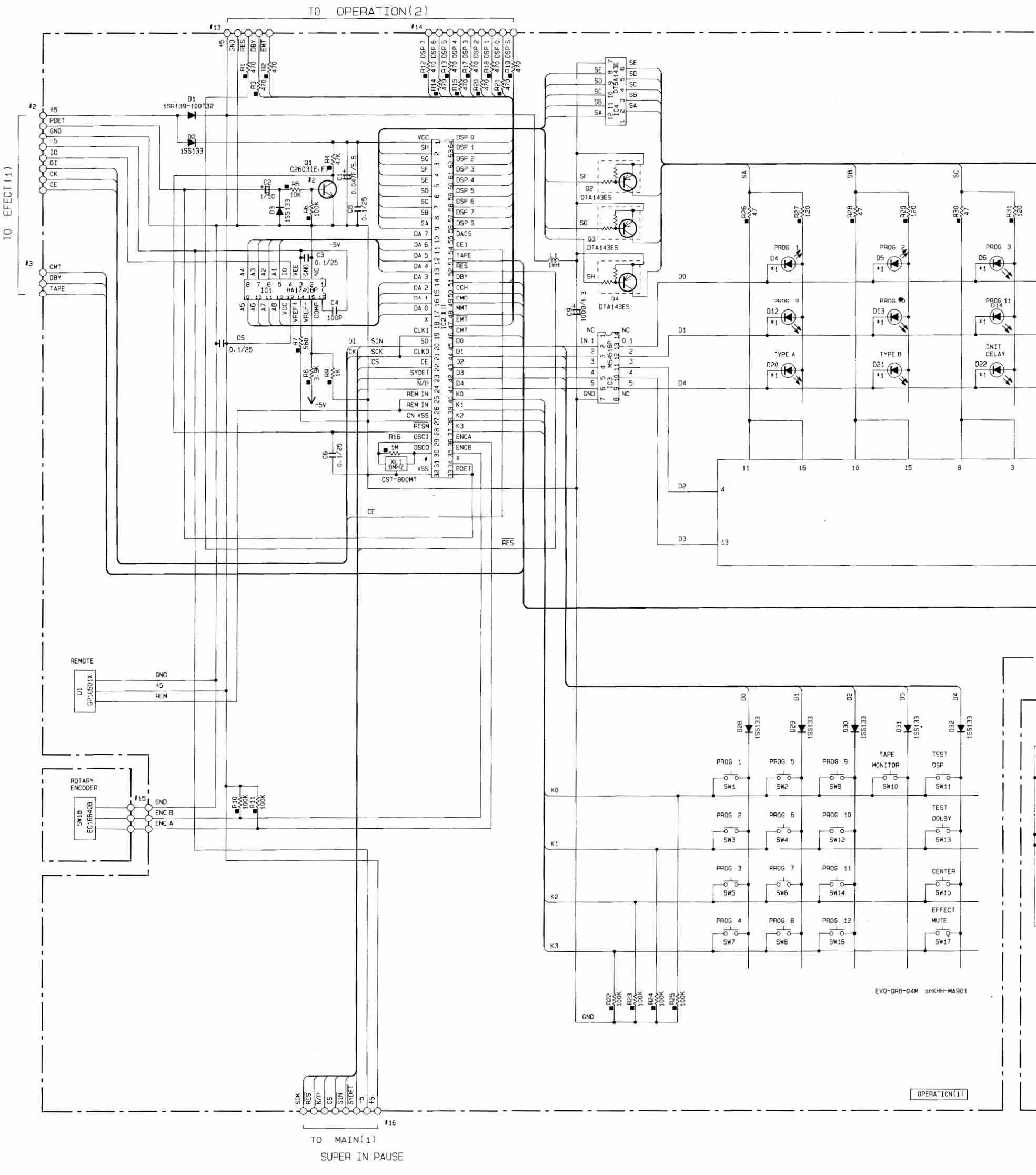
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⧺
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	⫪
◎	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
Ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	





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

■ SCHEMATIC DIAGRAM (2/4) .....OPERATION C. B [C] / [D]



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

RESISTOR

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

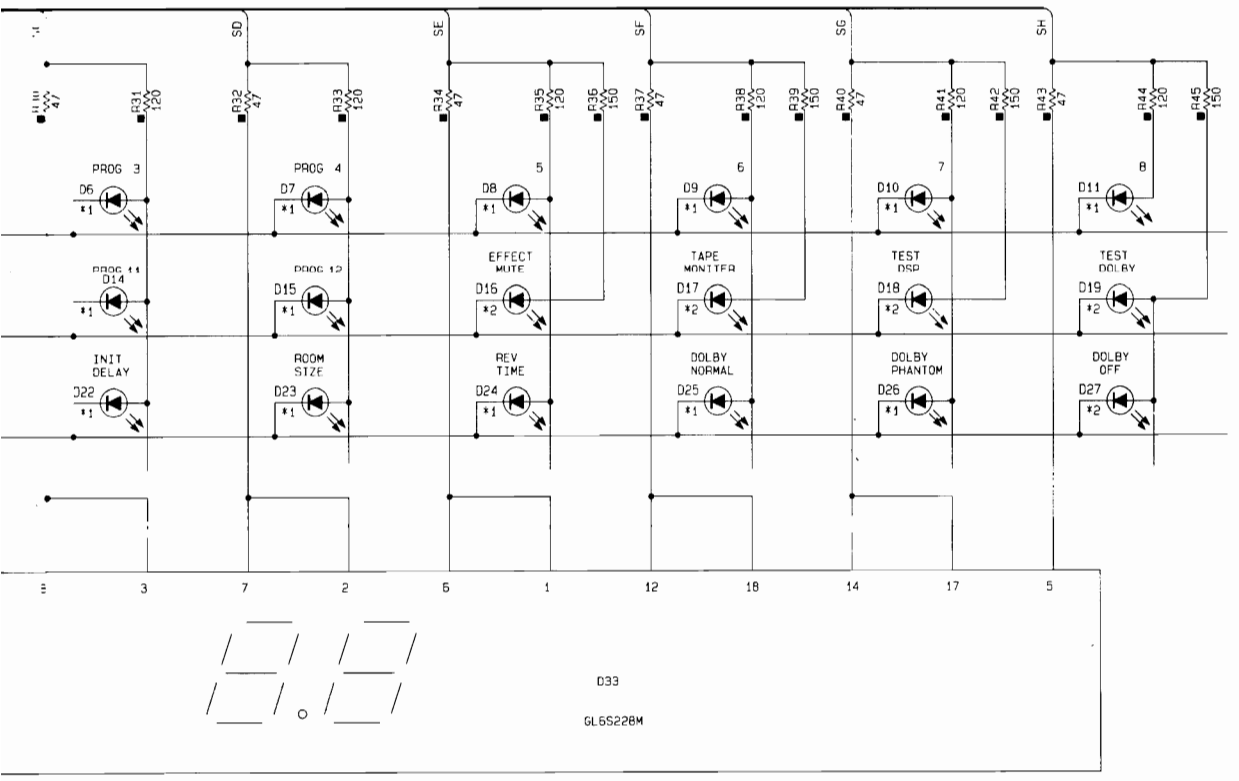
CAPACITOR

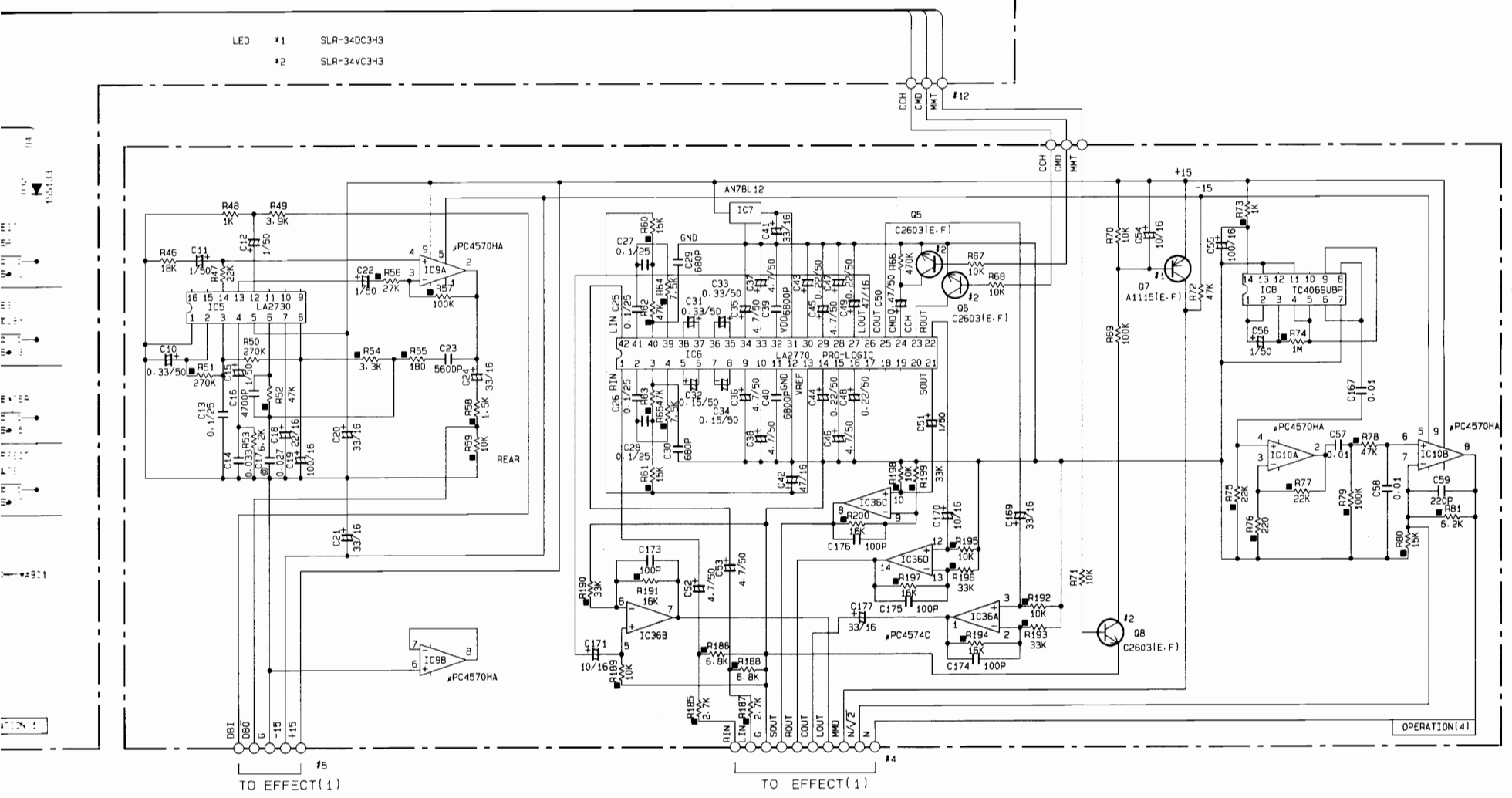
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⧺
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
◎	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	⧻
Ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
●	SEMICONDUCTIVE CERAMIC CAPACITOR	

MAIN	MAIN AMP
EFFECT	EFFECT AMP

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
#1	Q7	2SA1115(E,F) 2SA933S(Q,R) 2SA1309A(Q,R,S)
#2	Q1,5,6,8	2SC1740S(S,R) 2SC2603(E,F) 2SC3311A(Q,R,S)





X	J	U.C	R,A,B,G
IC IC2	M50747-887	M50747-C36	M50747-887

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** Schematic diagram is subject to change without notice.*

■ SCHEMATIC DIAGRAM (3/4) .....EFFECT AMP C. B C

RESISTOR

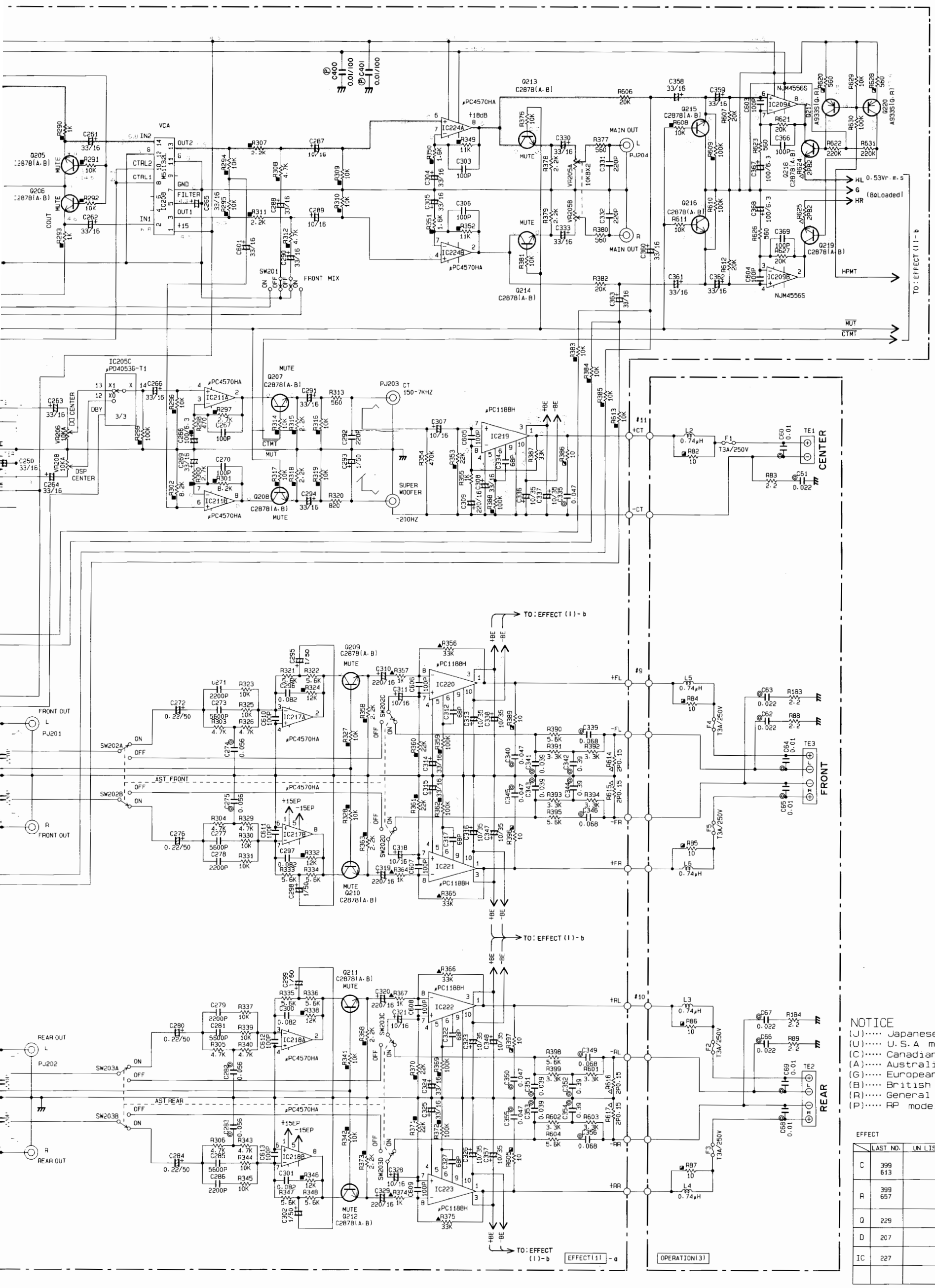
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
☑	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
▲	METEL FILM RESISTOR
☒	METEL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
⊗	TANTALUM CAPACITOR	#
NO MARK	CERAMIC CAPACITOR	II
◎	POLYESTEL FILM CAPACITOR	II
○	POLYSTYRENE FILM CAPACITOR	II
ⓘ	MICA CAPACITOR	II
Ⓟ	POLYPROPYLENE FILM CAPACITOR	II
◉	SEMICONDUCTIVE CERAMIC CAPACITOR	II

MAIN	MAIN AMP
EFFECT	EFFECT AMP

C2078(A.B)	orC3327 orD1915
A933S(Q.R)	orA1115(E.F) orA1309A(Q.R.S)



NOTICE
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EFFECT

	LAST NO.	UN LISTED NO.
C	399 613	
R	399 657	
Q	229	
D	207	
IC	227	

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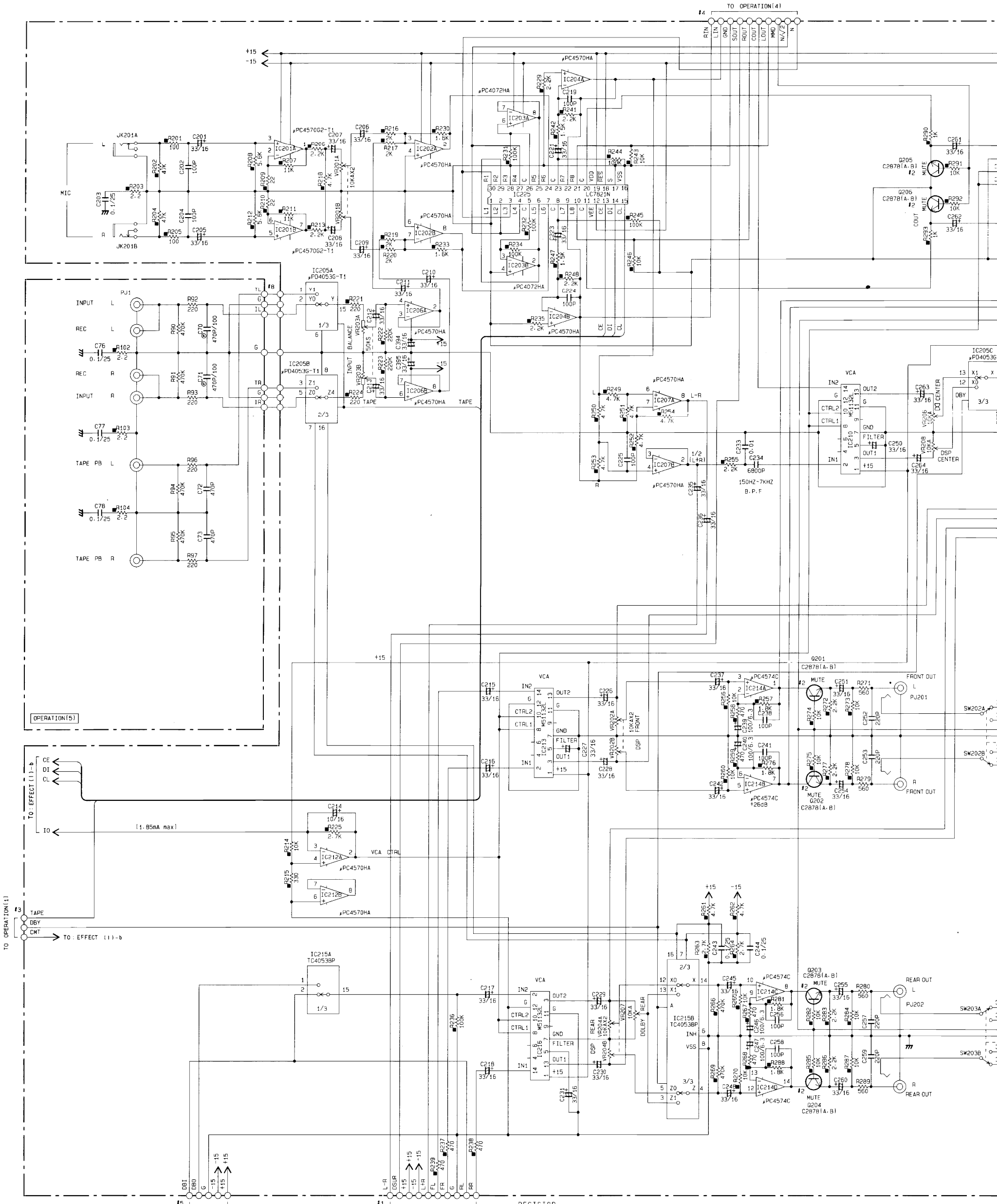
■ SCHEMATIC DIAGRAM (3/4) .....EFFECT AMP C. B D / E



Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
#1	Q217.220	2SA933S(Q,R) 2SA1115(E,F) 2SA1309A(Q,R,S)
#2	Q201~216.218.219	2SC2878(A,B) 2SC3327 2SD1915

MAIN	MAIN AMP
EFFECT	EFFECT AMP

		J	U.C	R	A.B.G
#1	F1~5	3A250V		T3.15A250V	
#2	C605~609	100P			220P
#3	C615~618	OPEN			68P
#4	C619~622	OPEN			22P
#5	C614	OPEN			22P
#6					

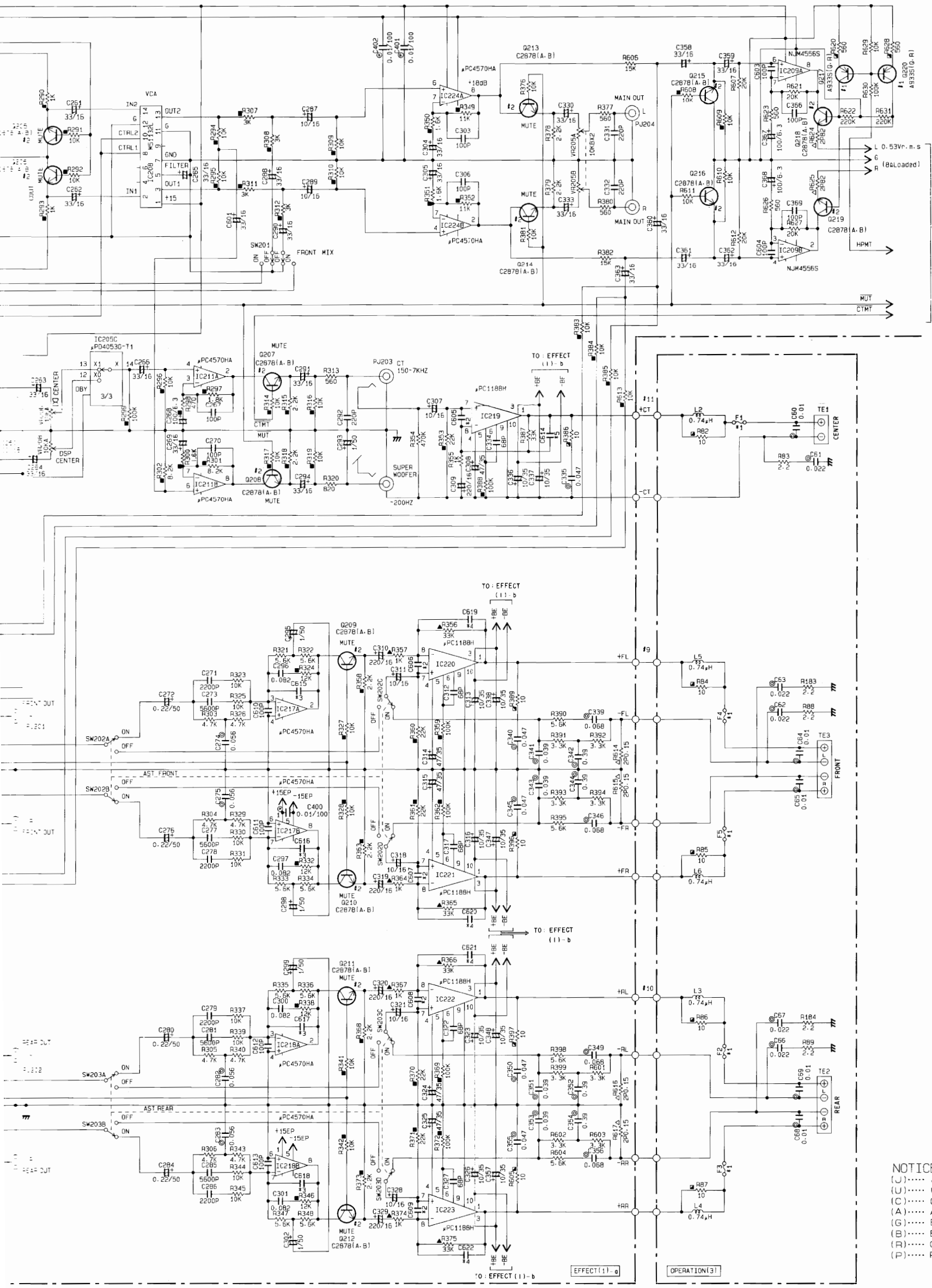
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
☒	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
△	METAL FILM RESISTOR
☒	METAL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
▤	CHIP RESISTOR

CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⫼
⊗	TANTALUM CAPACITOR	⫼
NO MARK	CERAMIC CAPACITOR	⫼
◎	POLYESTEL FILM CAPACITOR	⫼
○	POLYSTYRENE FILM CAPACITOR	⫼
Ⓘ	MICA CAPACITOR	⫼
Ⓟ	POLYPROPYLENE FILM CAPACITOR	⫼
⊜	SEMICONDUCTIVE CERAMIC CAPACITOR	⫼

F G H I J K



NOTICE
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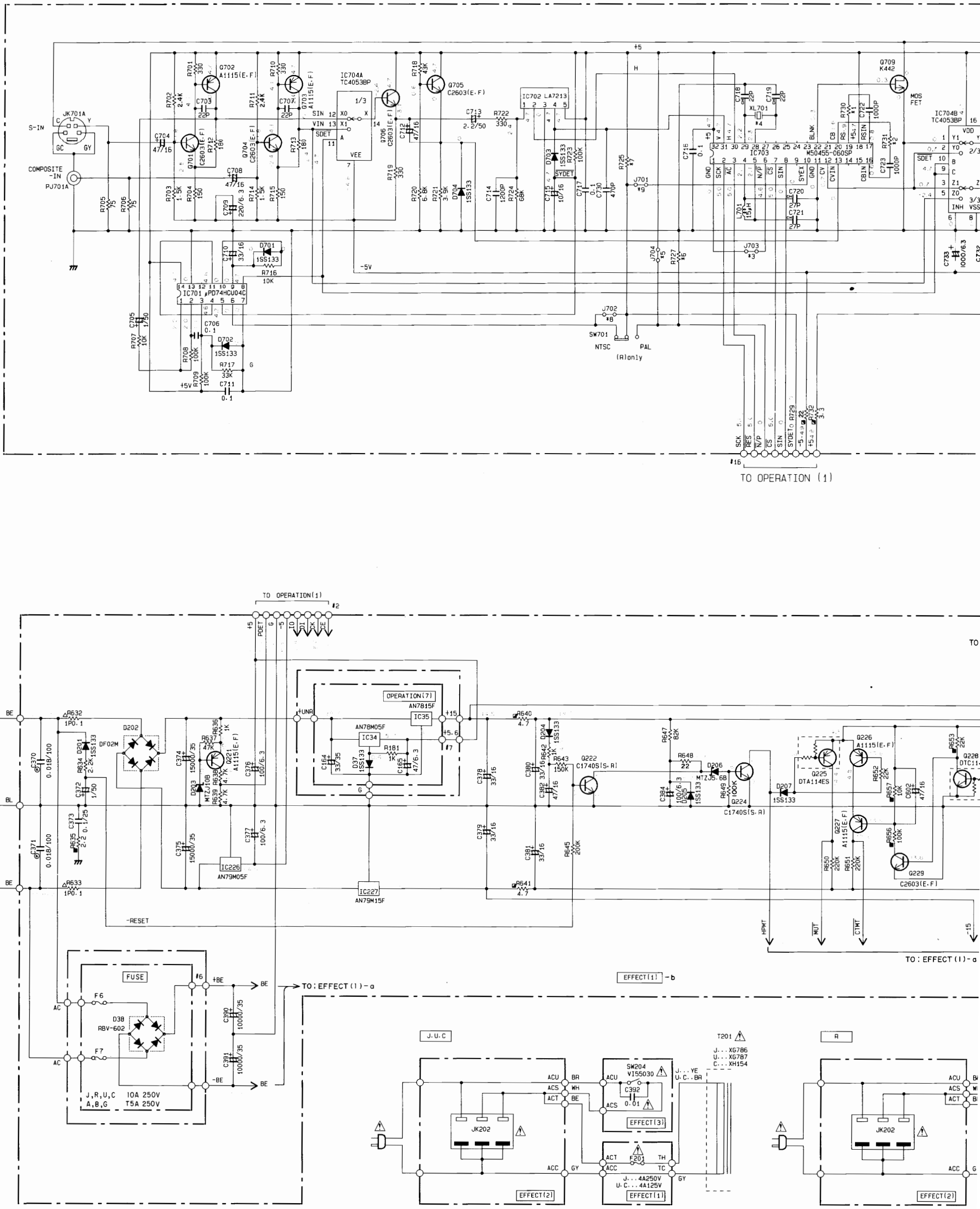
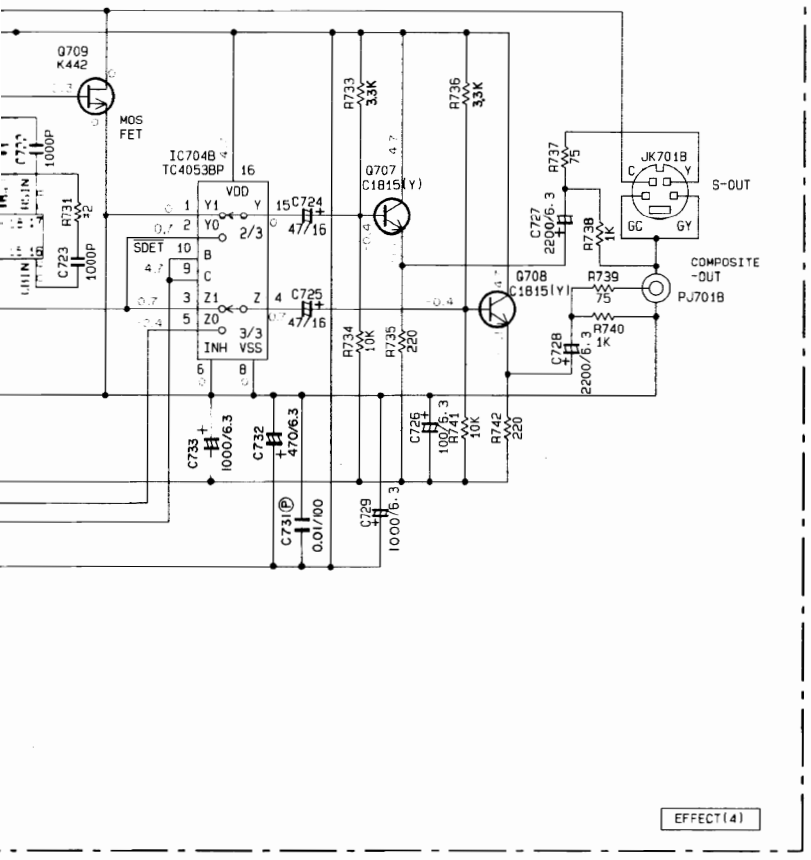
* Schematic diagram is subject to change without notice.

■ SCHEMATIC DIAGRAM (4/4) .....EFFECT AMP C. B C





MAIN	MAIN AMP
EFFECT	EFFECT AMP

A1115(E.F)	orA933S(Q.R) orA1309A(Q.R.S)
C2603(E.F)	orC1740S(S.R)orC3311A(Q.R.S)
C2878(A.B)	orC3327 orD1915

		J	U.C	R	A.B.G
*1	R730	10K			2.7K
*2	R731	10K			4.7K
*3	J703	OPEN			SHORT
*4	XL701	14.3MHZ			17.7MHZ
*5	J704	OPEN			SHORT
*6	R727	SHORT		100K	OPEN
*7	R725	OPEN		10K	OPEN
*8	J702	SHORT		OPEN	SHORT
*9	J701	SHORT		OPEN	SHORT

NOTICE
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(A)····· Australian model
(G)····· European model
(B)····· British model
(R)····· General model
(P)····· RP model

RESISTOR

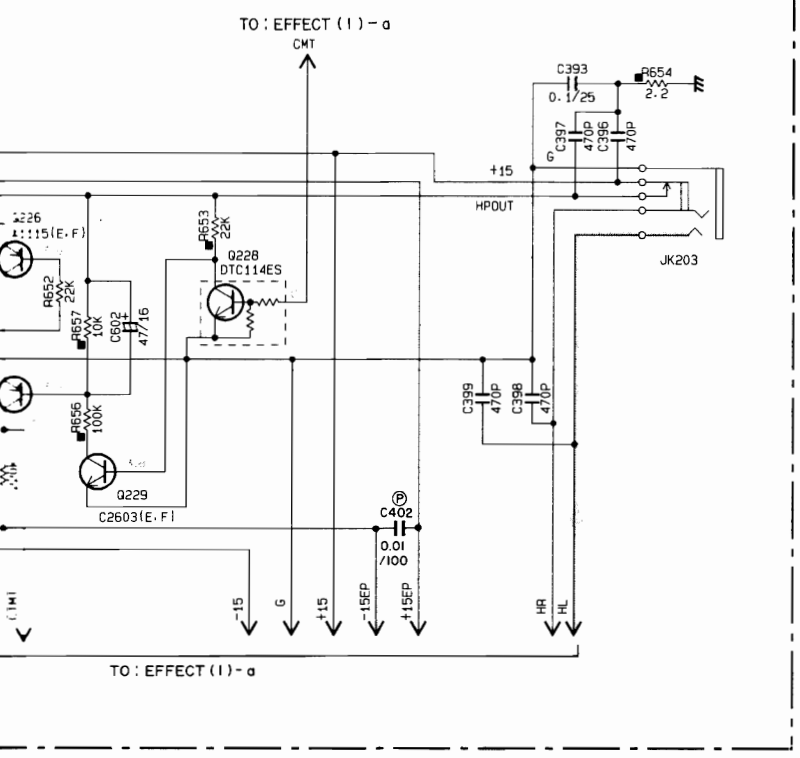
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (1/6W)
◪	CARBON FILM RESISTOR (1/4W)
△	METAL OXIDE FILM RESISTOR
⧋	METEL FILM RESISTOR
⊠	METEL PLATE RESISTOR
◪	FIRE PROOF CARBON FILM RESISTOR
□	SEMENT MOLDED RESISTOR
⊘	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

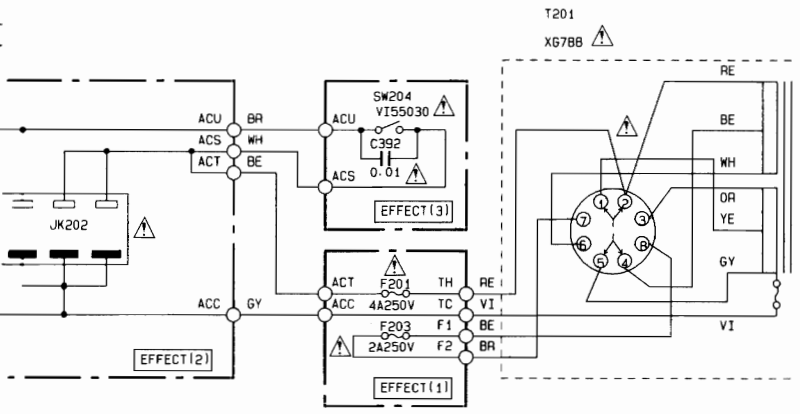
CAPACITOR

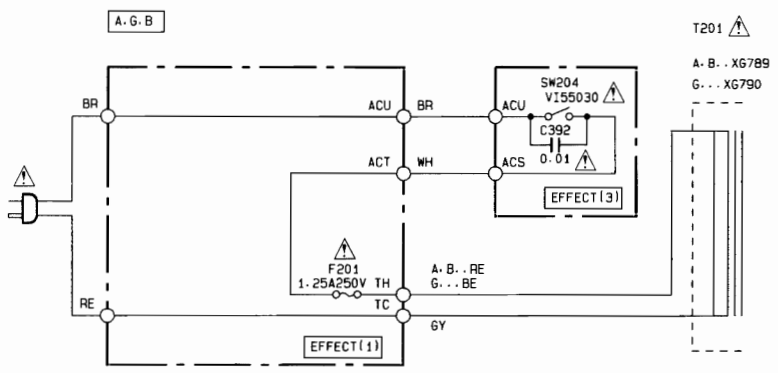
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	#
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	##
◎	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	
Ⓘ	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
⊜	SEMICONDUCTIVE CERAMIC CAPACITOR	

EFFECT

	LAST NO.	UN LISTED NO.
C	730	
R	742	
Q	709	
D	704	
IC	704	







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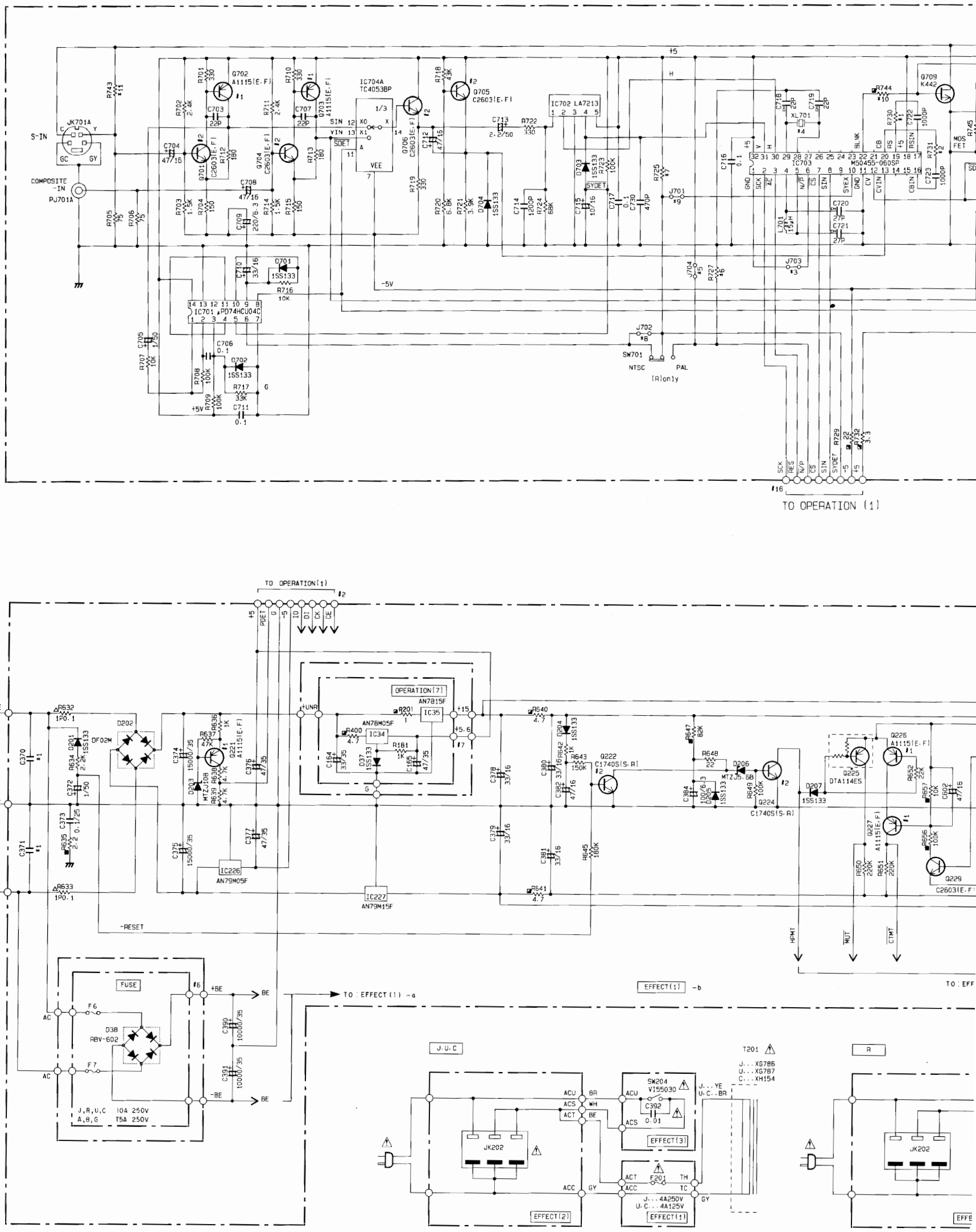
■ SCHEMATIC DIAGRAM (4/4) .....EFFECT AMP C. B D / E



		J	U.C	R	A.B.G
*1	C370・371	Ⓟ 0.018/100			BP 0.47/50
*2	C398・399	470P			4700P

PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICS.

2SA933S(Q,R)
2SA1115(E,F)
2SA1309(Q,R,S)
2SC1740S(S,R)
2SC2603(E,F)
2SC3311A
2SC2878(A,B)
2SC3327
2SD1915(S,T)
2SA1349(GR,BL)
2SA970(GR,BL)
2SA1145(O,Y)
2SC2240(GR,BL)
2SC2705(O,Y)
DTA143ES
DTC114ES
2SC1815Y
DTA114ES

2SA1358
2SC3421

2SA1265(R,O)
2SC3182(R,O)

2SK105(H,F)

2SK442

AN78N05
AN7815F
AN78M05F
1: INPUT
2: COMMON
3: OUTPUT

AN79N05
AN79M05F
AN79M15F
1: COMMON
2: INPUT
3: OUTPUT

AN78L12
OUT
IN
COM

1SS133
1SR139-100T32
MTZJ5.6B
MTZJ10B
MTZJ24B
Anode
Cathode

1SS233
1SS235

DF02M

RBV-60

μPD74HC175G-T1
MN74HC175S

LA7213

M5238L

μPC4570HA
μPC4072HA
NJM4556S
NJM4558S-F

μPC1188H

DT5A143E

M51132L

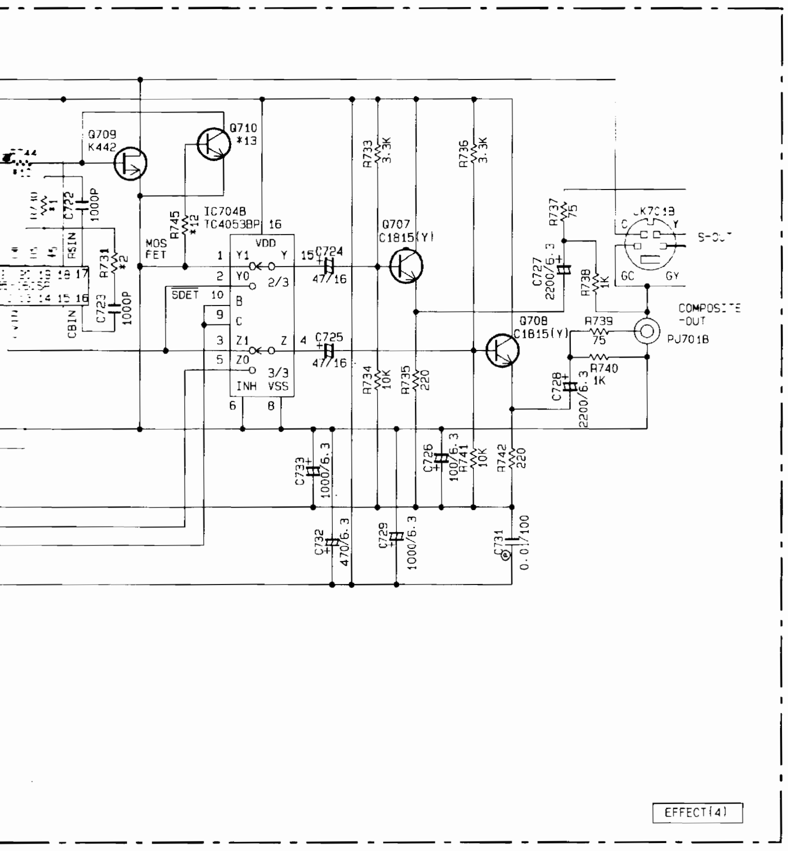
TC4069BP
M54516P
μPC4574C
μPD74HCU04C

μPD4053BC
TC4053BP
PCM56P-L
YM3422
HA17408P
LA2730

HM65256BLP-10
TC51832PL-10
AK9201A
AK9201

LC7821N

M50455-060SP



MAIN	MAIN AMP
EFFECT	EFFECT AMP

		[illegible]	U C	R	A.B.G
*1	R730	10K	→		2.7K
*2	R731	10K	→		4.7K
*3	L703	OPEN	→		SHORT
*4	X701	14.3MHZ	→		17.7MHZ
*5	L704	OPEN	→		SHORT
*6	R727	SHORT	→	100K	OPEN
*7	R728	OPEN	→	10K	OPEN
*8	L702	SHORT	→	OPEN	SHORT
*9	L701	SHORT	→	OPEN	SHORT
*10	R744	SHORT	→		100
*11	R743	OPEN	→		2.2K
*12	R745	OPEN	→		1K
*13	Q710	OPEN	→		C2603(E.F)

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
#1	Q702.703	2SA1115(E.F) 2SA933S(Q.R) 2SA1309A(Q.R)
#2	Q701.704~706	2SC2603(E.F) 2SC1740S(S.R) 2SC3311A(Q.R.S)

NOTICE
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(A)····· Australian model
(G)····· European model
(B)····· British model
(R)····· General model
(P)····· RP model

CAPACITOR

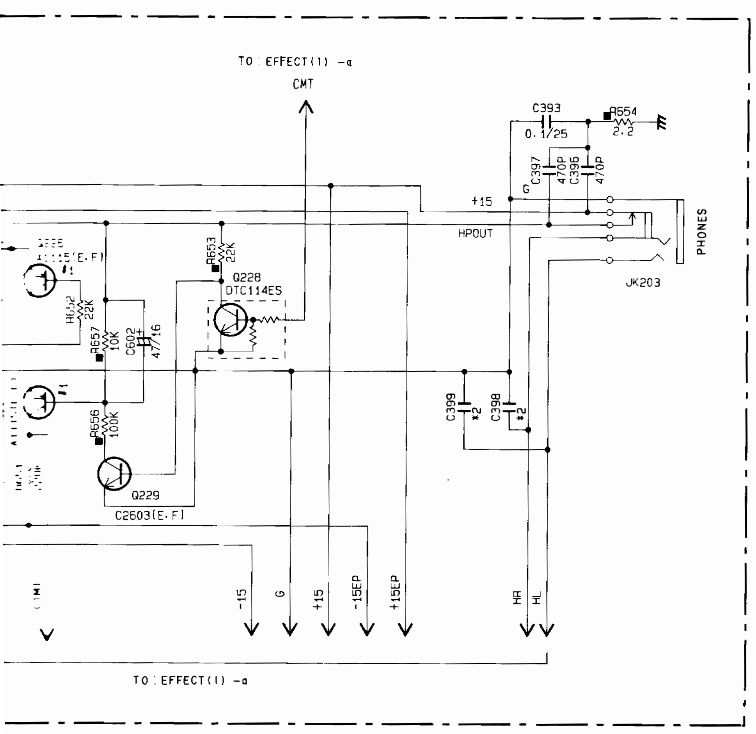
REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⧣
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
◎	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	⫞⫟
⦶	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
⊕	SEMICONDUCTIVE CERAMIC CAPACITOR	

EFFECT

	LAST NO.	UN LISTED NO.
C	733	
R	745	
Q	710	
D	704	
IC	704	

RESISTOR

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



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(R)····· General model
(P)····· RP model

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
#1	Q221.226.227	2SA1115(E.F) 2SA933S(Q.R) 2SA1309A(Q.R.S)
#2	Q222.224	2SC1740S(S.R) 2SC2603(E.F) 2SC3311A(Q.R.S)

RESISTOR

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

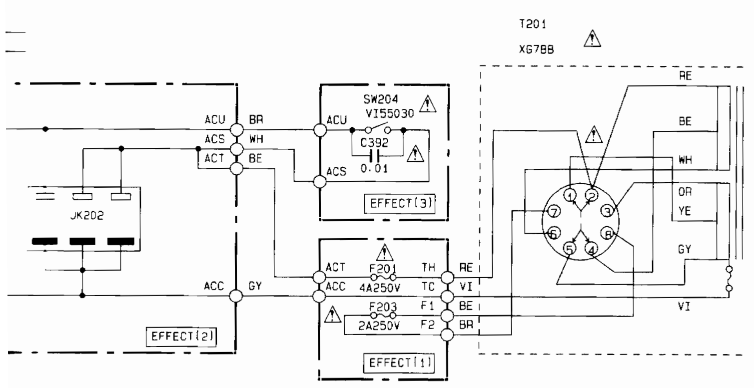
MAIN	MAIN AMP
EFFECT	EFFECT AMP

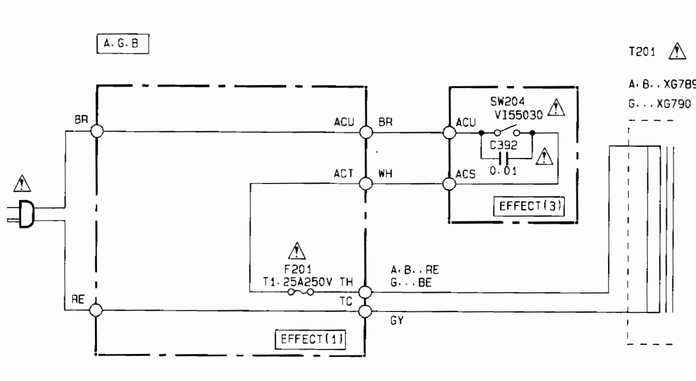
EFFECT

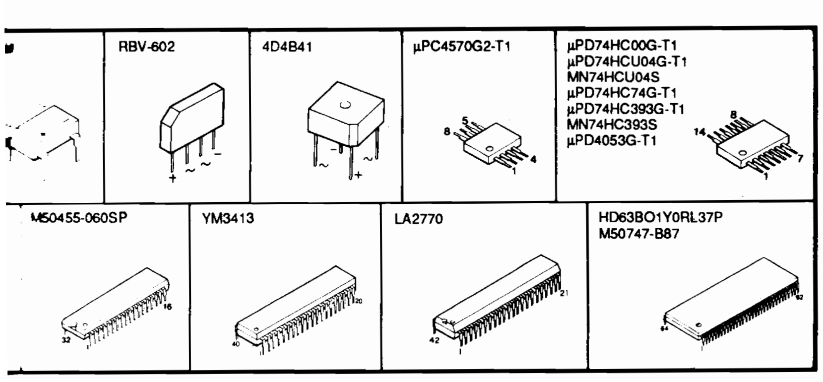
	LAST NO.	UN LISTED NO.
C	402 622	
R	400 657	
Q	229	
D	207	
IC	227	

CAPACITOR

REMARKS	PARTS NAME	
NO MARK	ELECTROLYTIC CAPACITOR	⧣
⊗	TANTALUM CAPACITOR	
NO MARK	CERAMIC CAPACITOR	
◎	POLYESTEL FILM CAPACITOR	
○	POLYSTYRENE FILM CAPACITOR	⫞⫟
⦶	MICA CAPACITOR	
Ⓟ	POLYPROPYLENE FILM CAPACITOR	
⊕	SEMICONDUCTIVE CERAMIC CAPACITOR	







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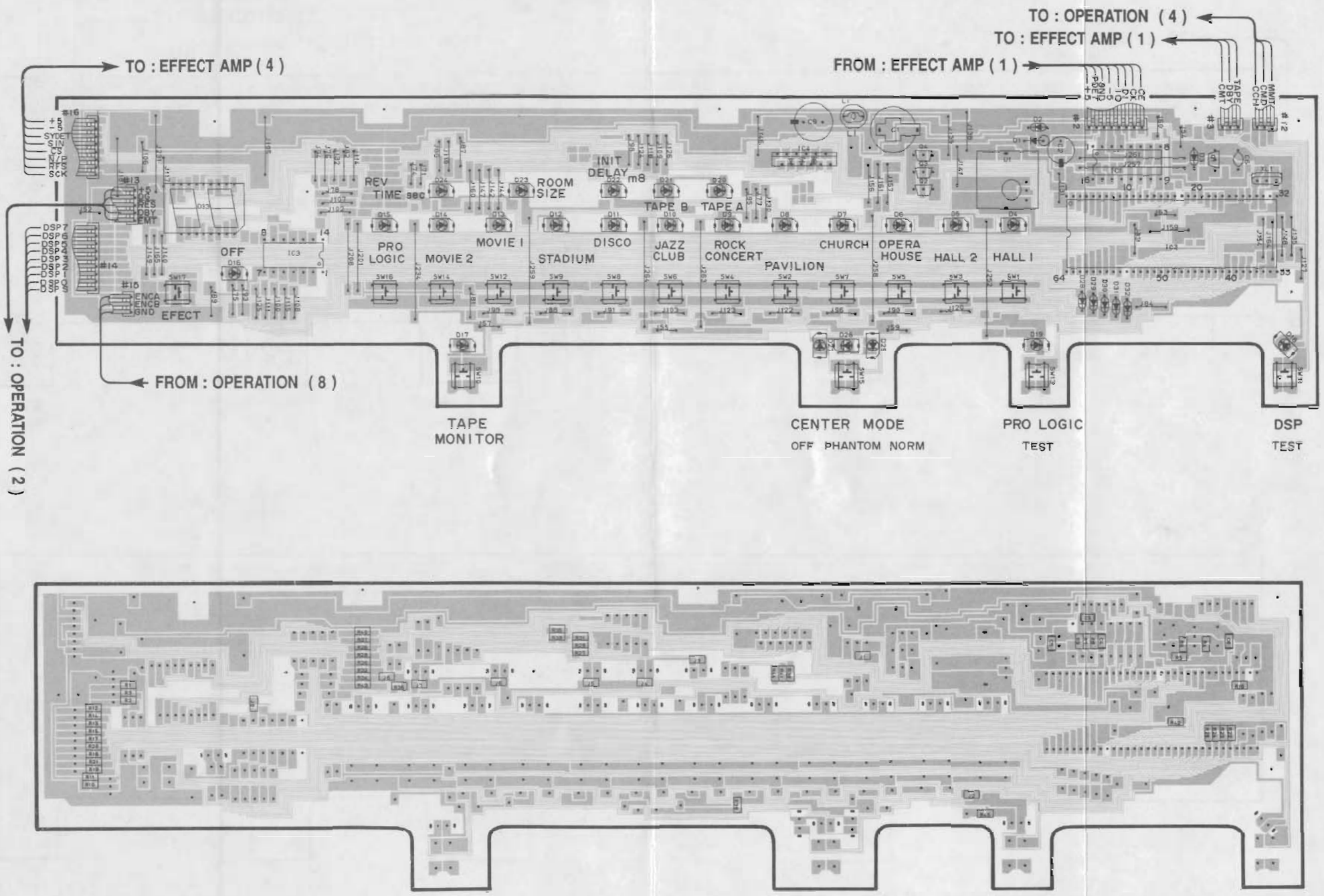
■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

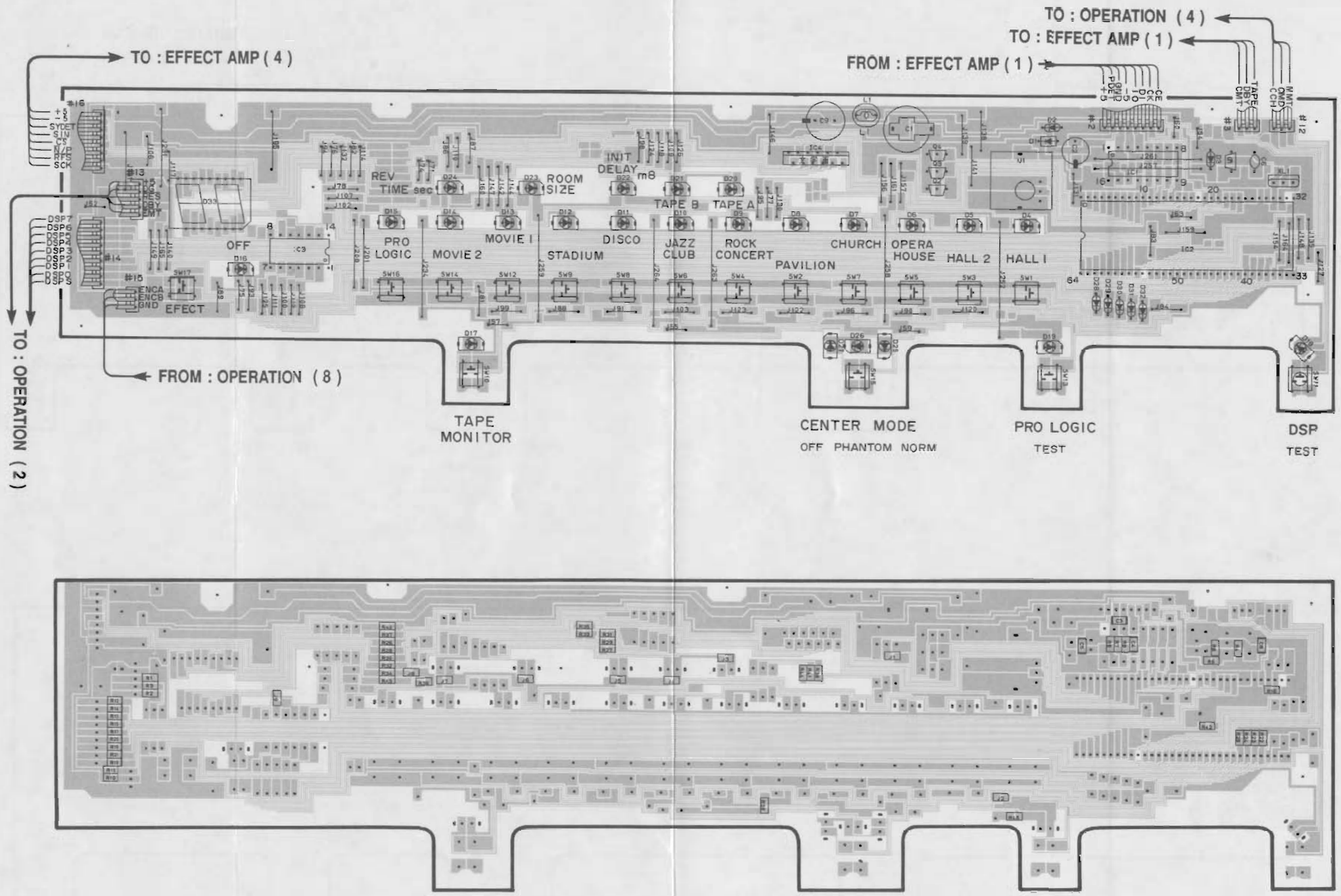
OPERATION C. B B (1)



■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

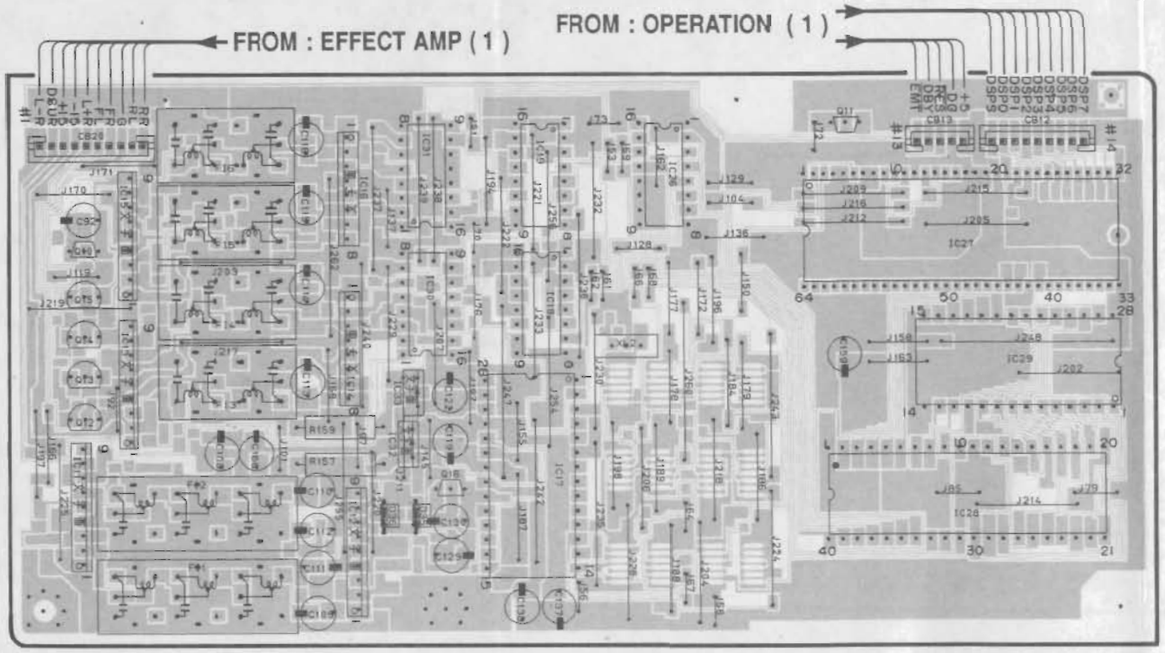
OPERATION C. B C / D (1)

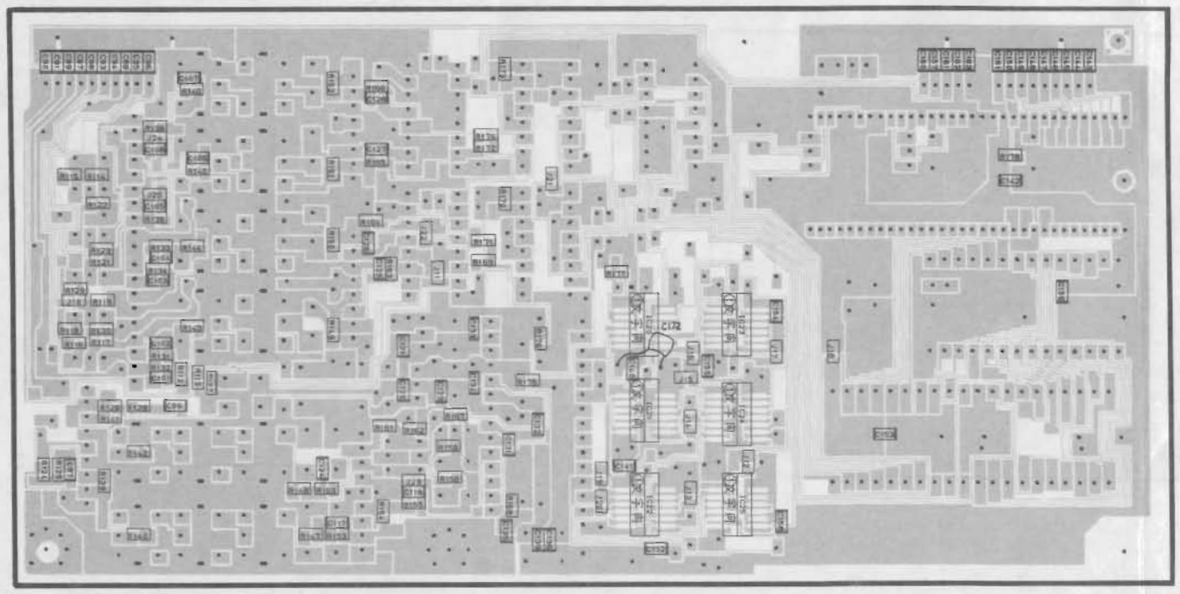


■ PRINTED CIRCUIT BOARD (Foil side)

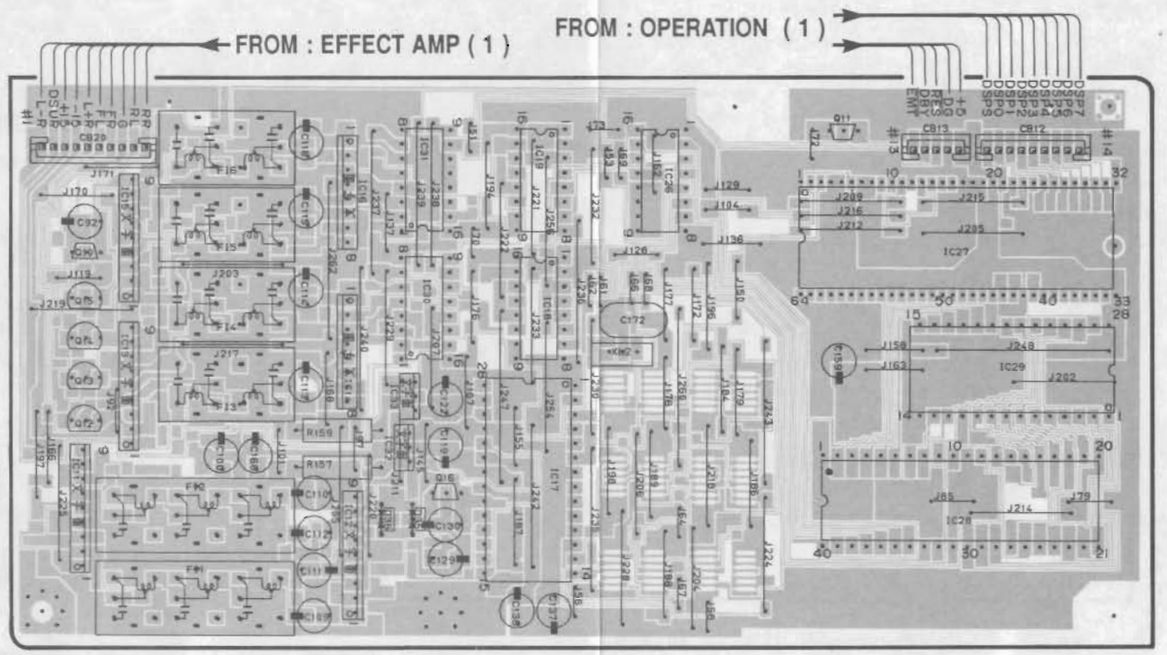
Note) 文字面 : Component side

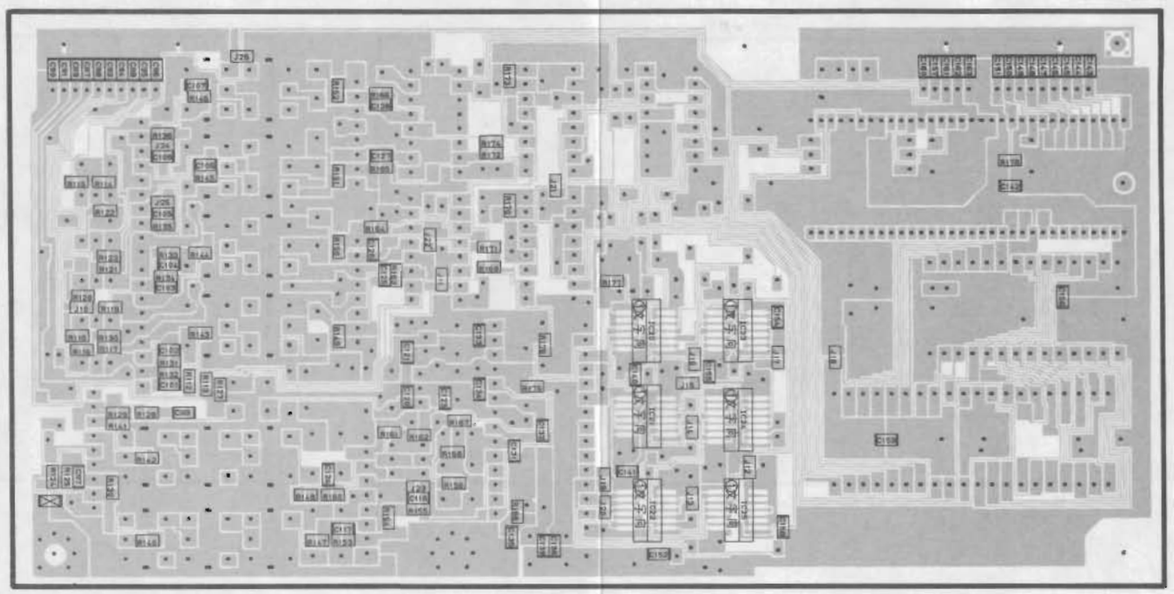
OPERATION C. B B (2)





OPERATION C. B C / D (2)

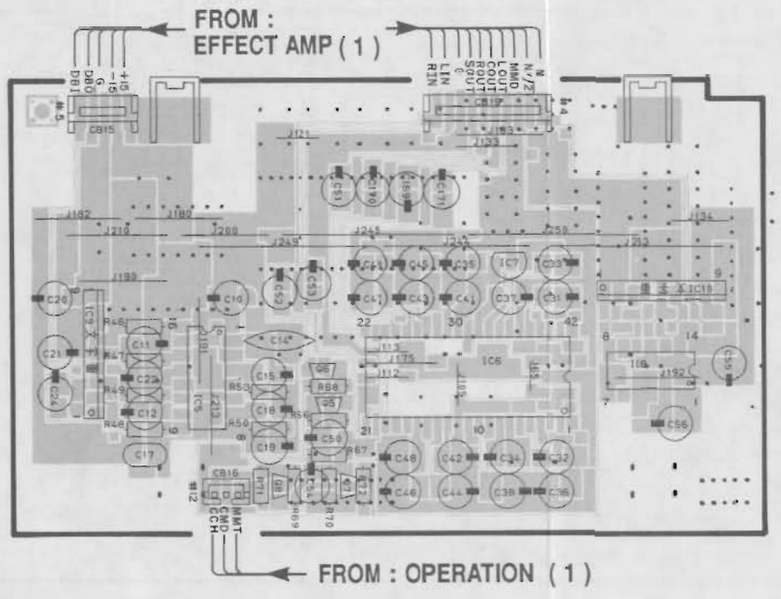




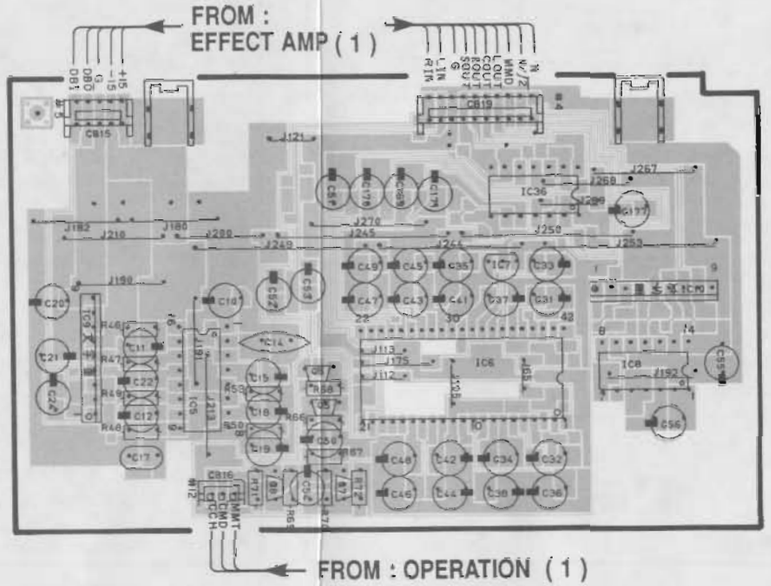
■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

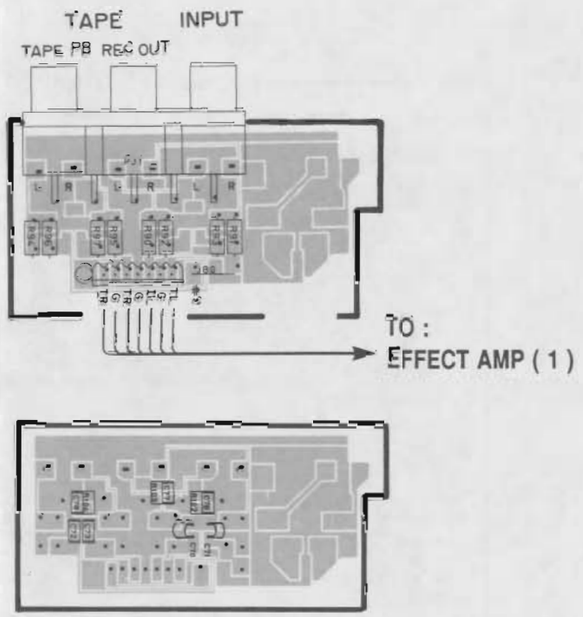
OPERATION C. B B (4)

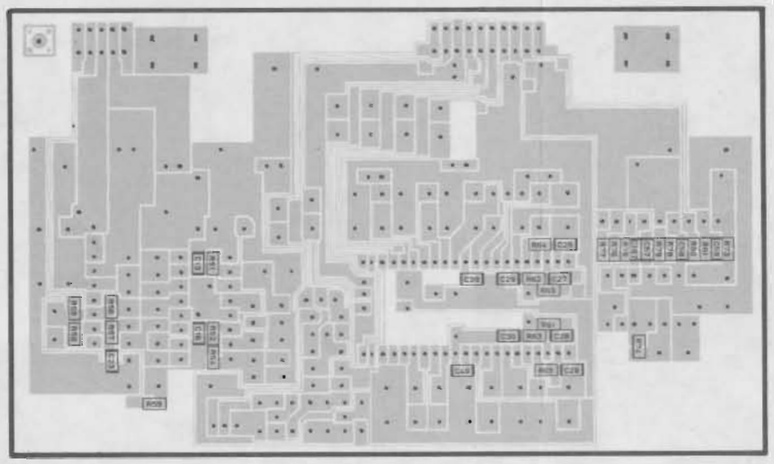


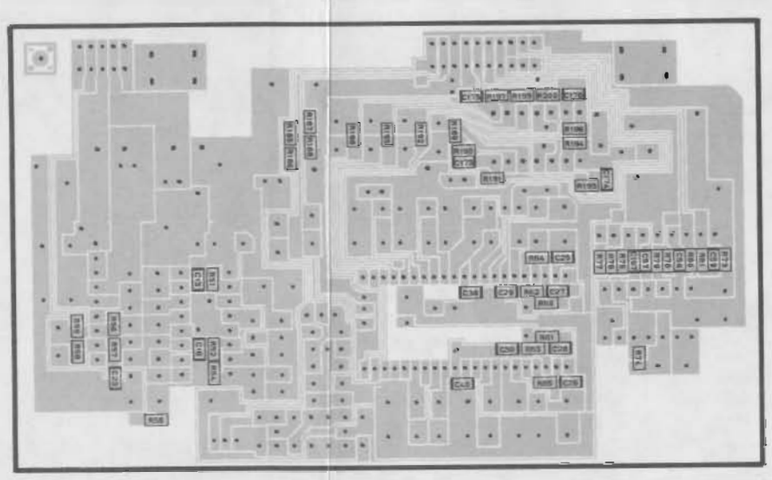
OPERATION C. B C / D (4)



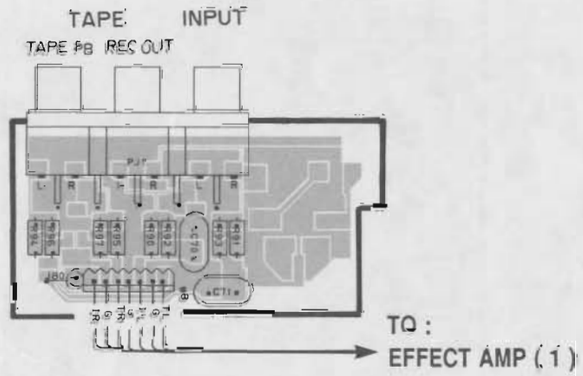
OPERATION C. B B (5)







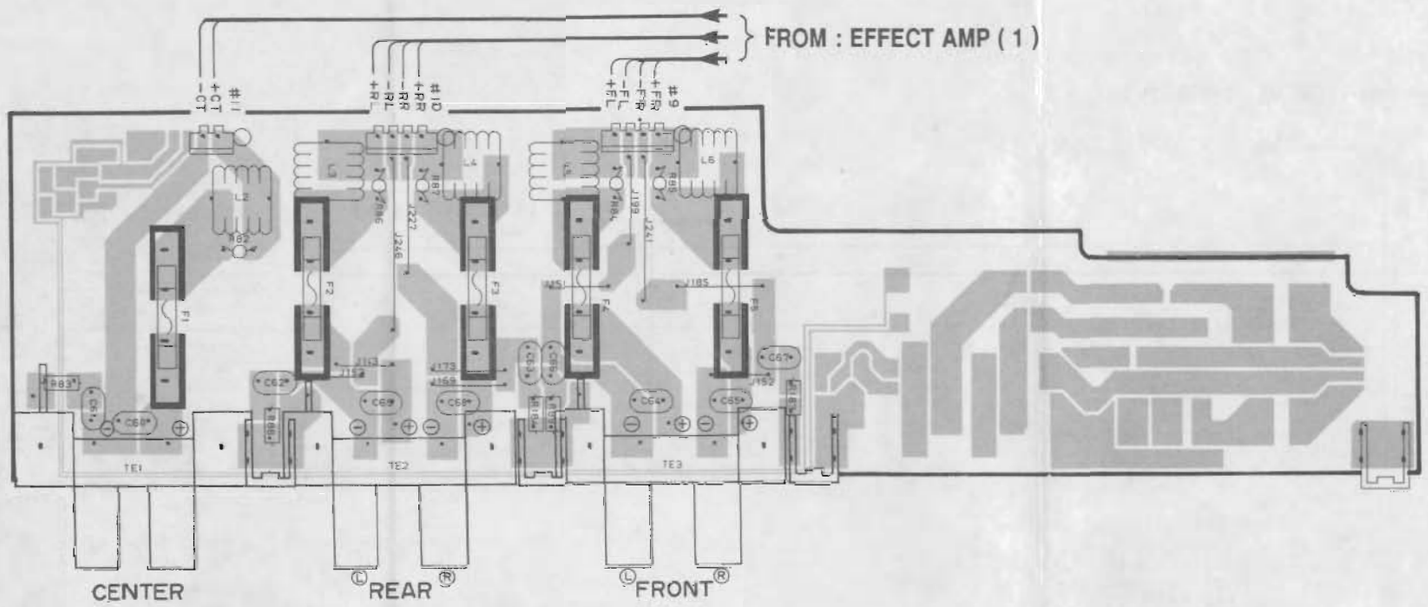
OPERATION C. B C / D (5)



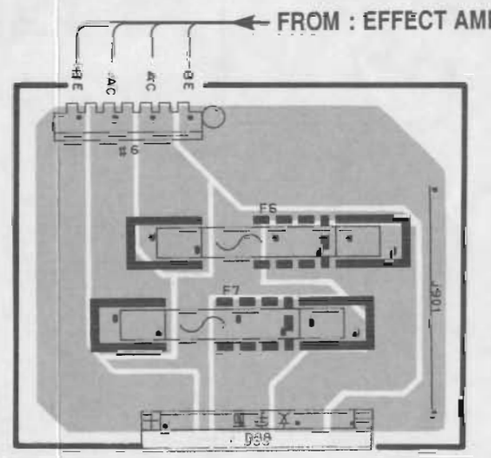
■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

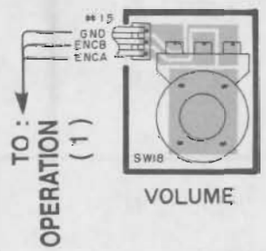
OPERATION C. B (3)

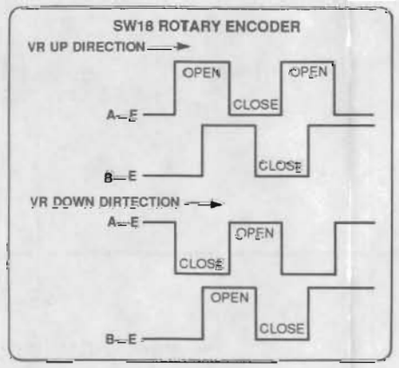


FUSE C. B

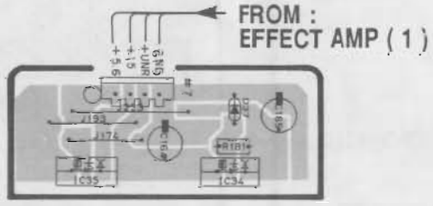


OPERATION C. B (8)

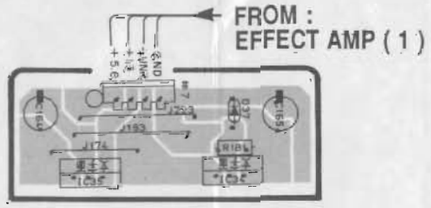




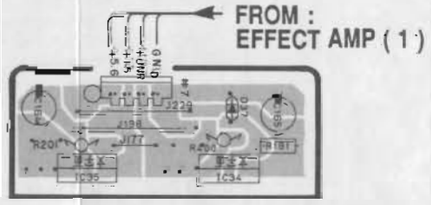
OPERATION C. B B (7)



OPERATION C. B C (7)

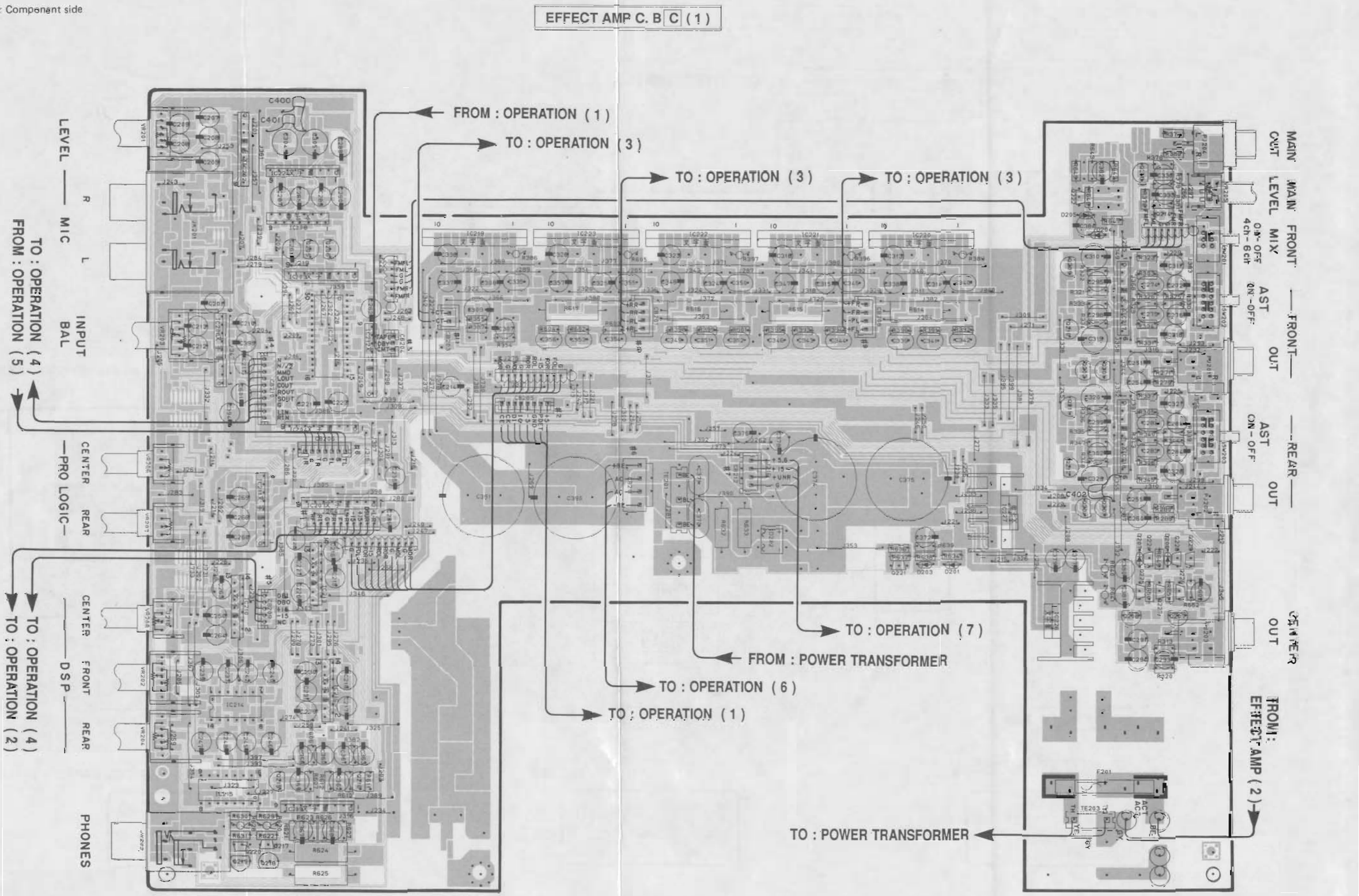


OPERATION C. B D (7)



■ PRINTED CIRCUIT BOARD (Foil side)

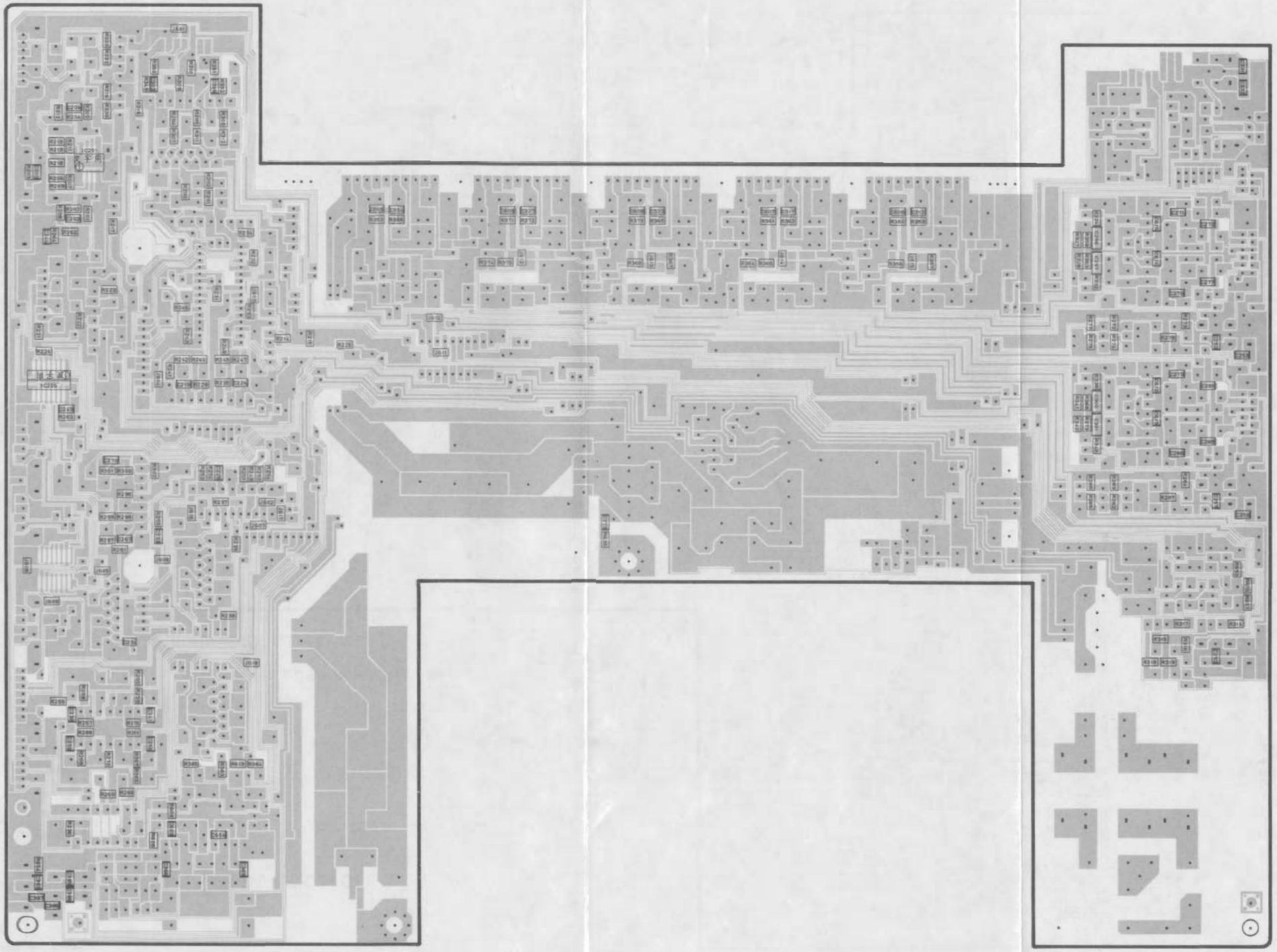
Note) 文字面 : Component side



■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

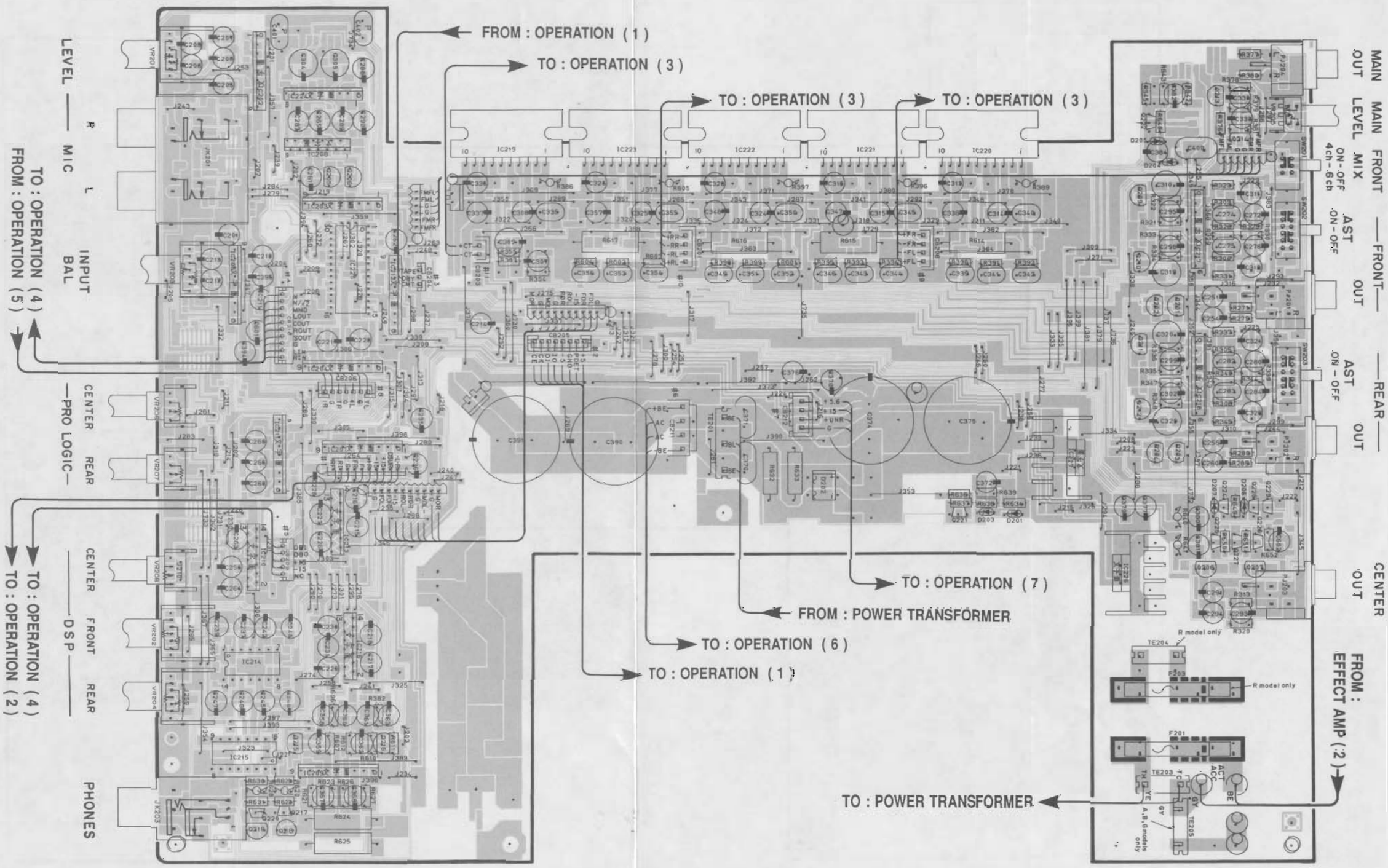
EFFECT AMP C. B C (1)



■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

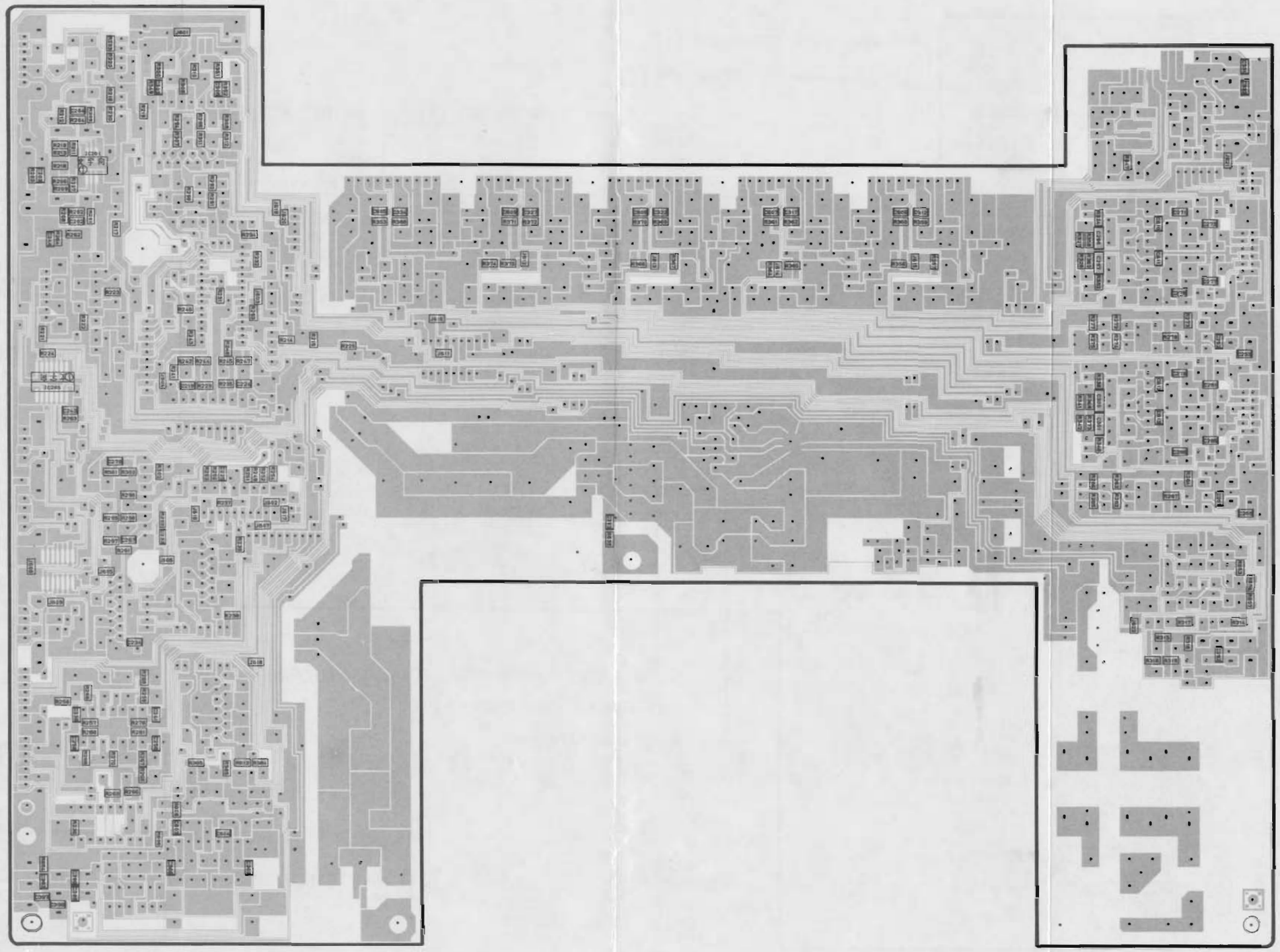
EFFECT AMP C. B D (1)



■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

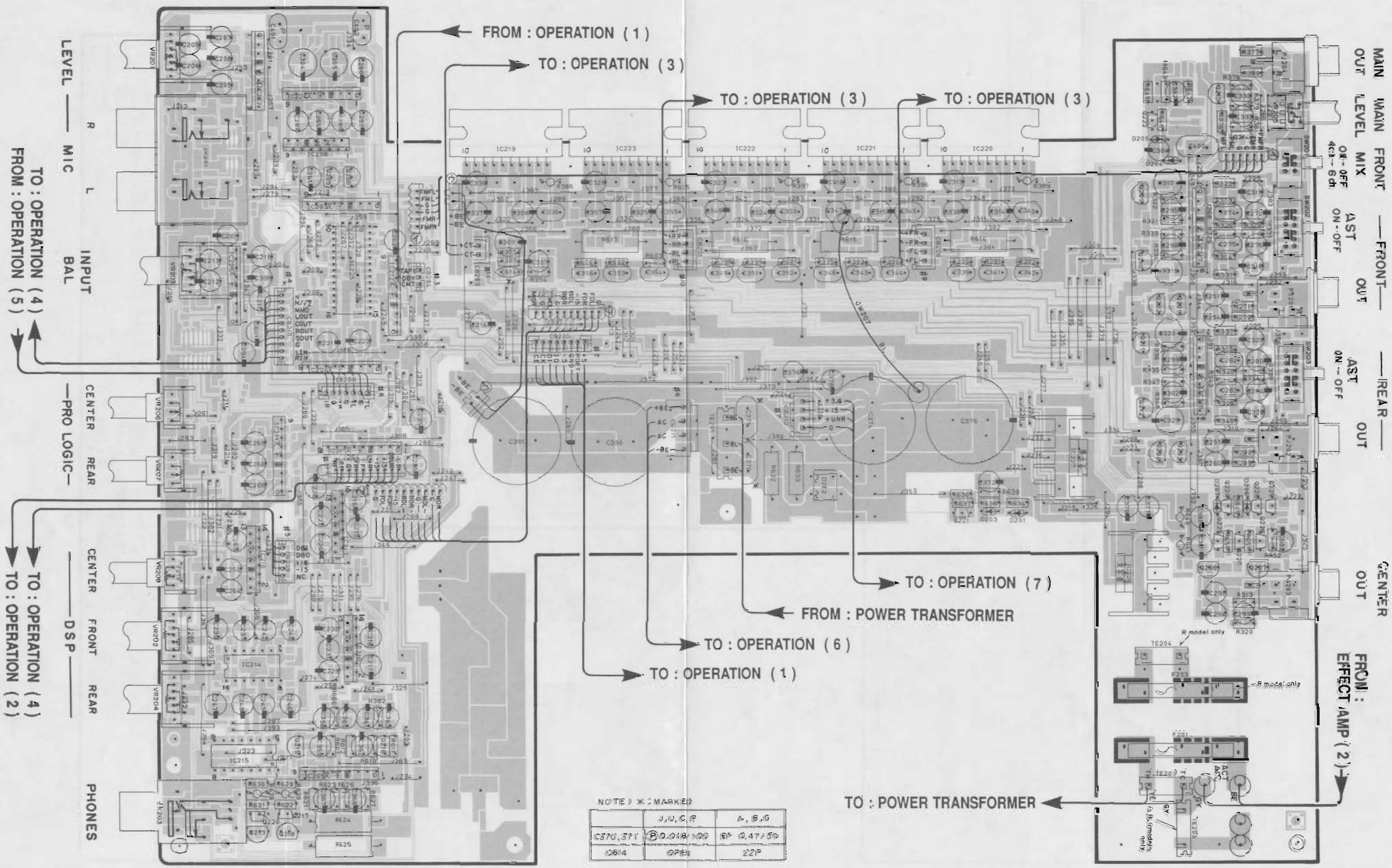
EFFECT AMP C. B D (1)



■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

EFFECT AMP C. B E (1)



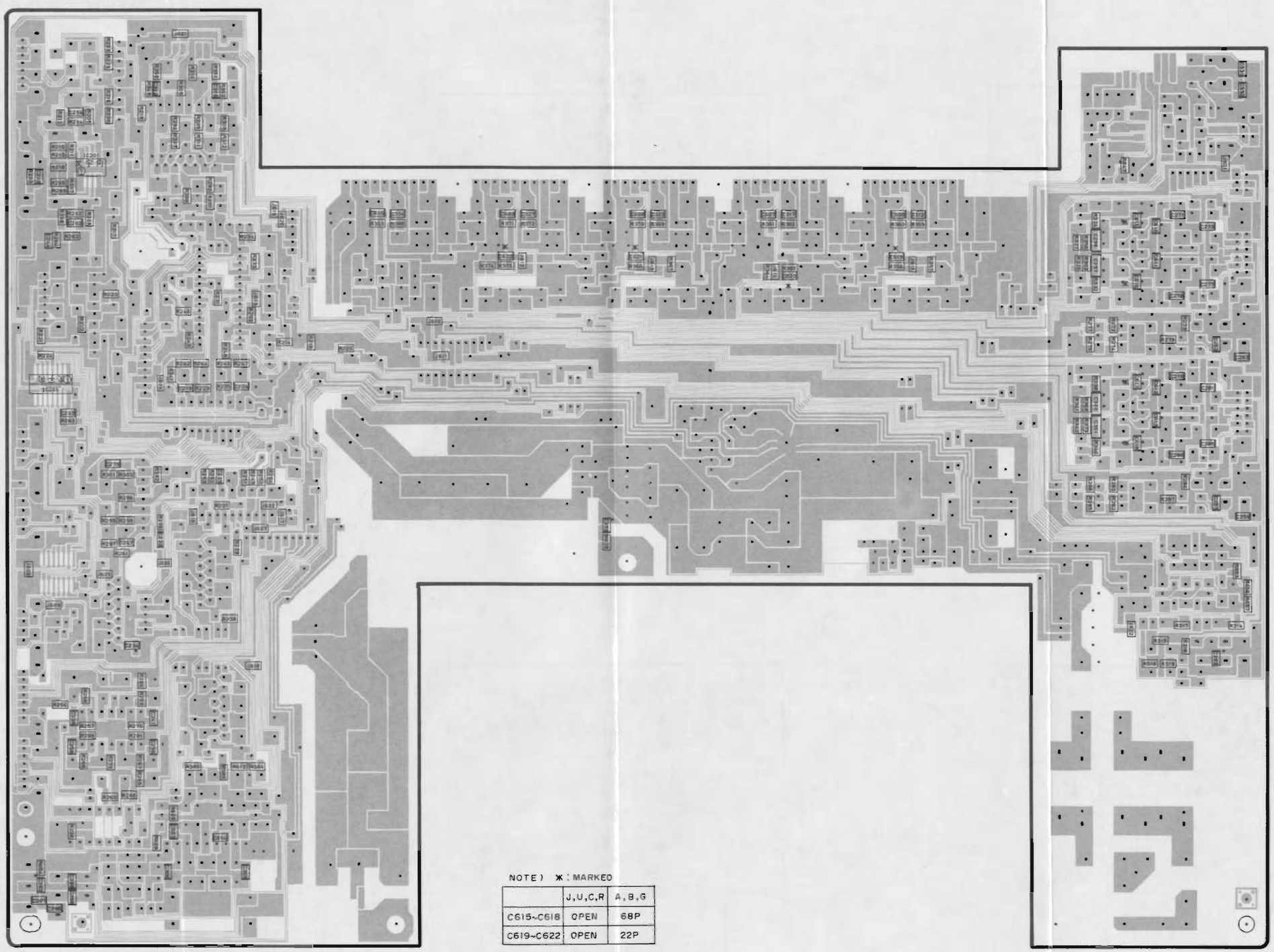
NOTE) ※ : MARKED

	J,U,C,R	A,B,G
C370,371	Ⓟ0.018/100	EF 0.47/50
C614	OPEN	22P

■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

EFFECT AMP C. B E (1)



NOTE) ✱ : MARKED

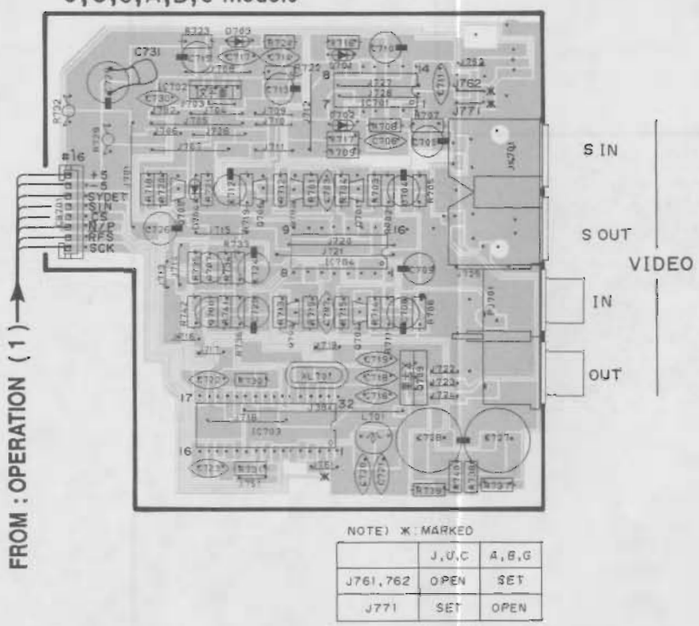
	J,U,C,R	A,B,G
C615~C618	OPEN	68P
C619~C622	OPEN	22P

■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

EFFECT AMP C. B C (4)

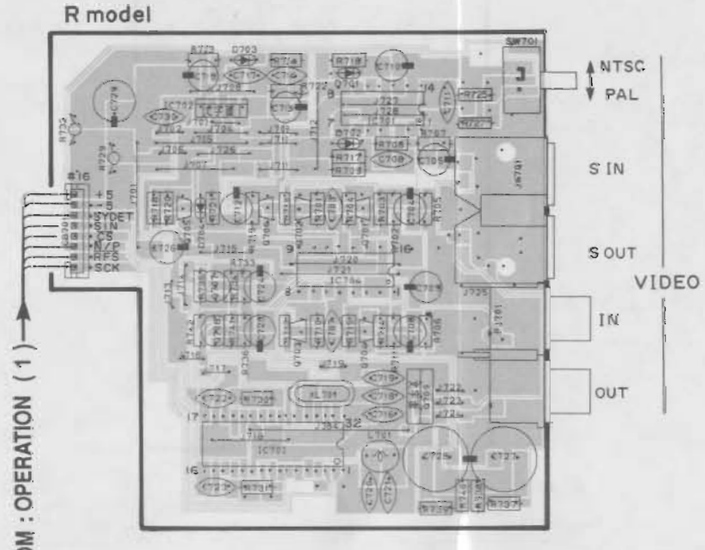
J,U,C,A,B,G models



NOTE) ※ : MARKED

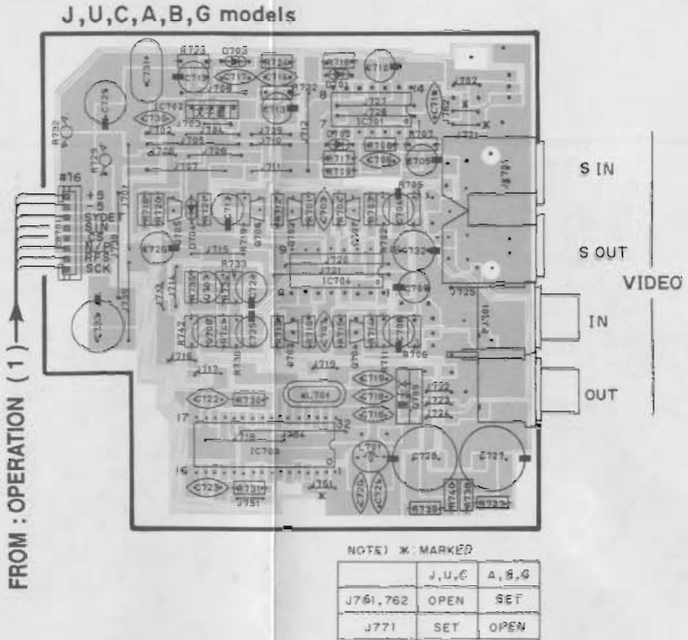
	J,U,C	A,B,G
J761,762	OPEN	SET
J771	SET	OPEN

R model



EFFECT AMP C. B D (4)

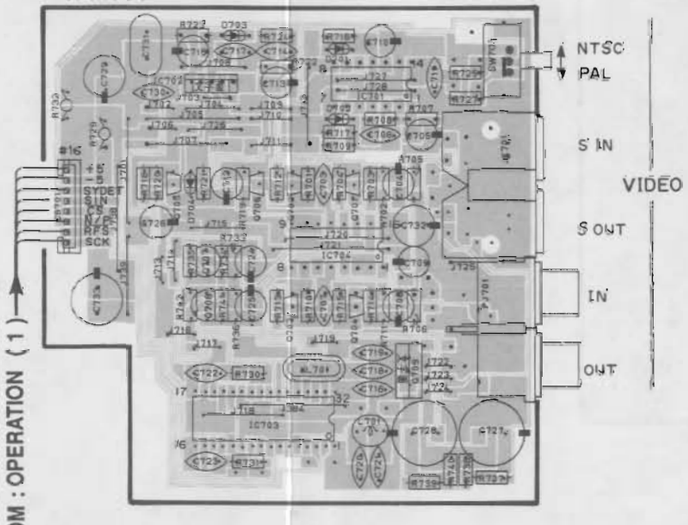
J,U,C,A,B,G models



NOTE) ※ : MARKED

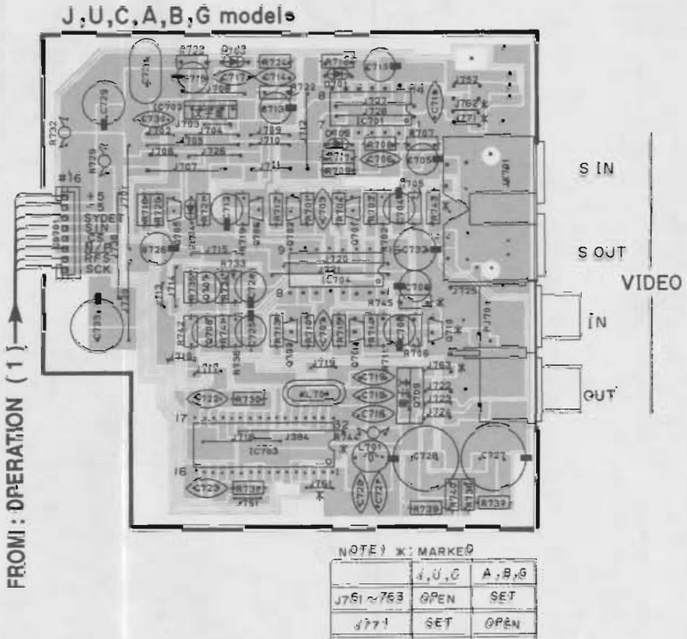
	J,U,C	A,B,G
J761,762	OPEN	SET
J771	SET	OPEN

R model



EFFECT AMP C. B E (4)

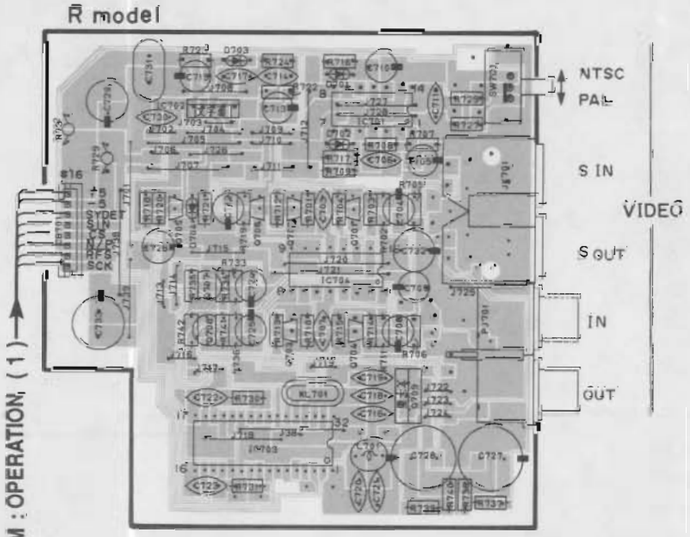
J,U,C,A,B,G models



NOTE) ※ : MARKED

	J,U,C	A,B,G
J761~763	OPEN	SET
J771	SET	OPEN
R743	OPEN	2.2K
R744	OPEN	100
R745	OPEN	1K
Q710	OPEN	SET

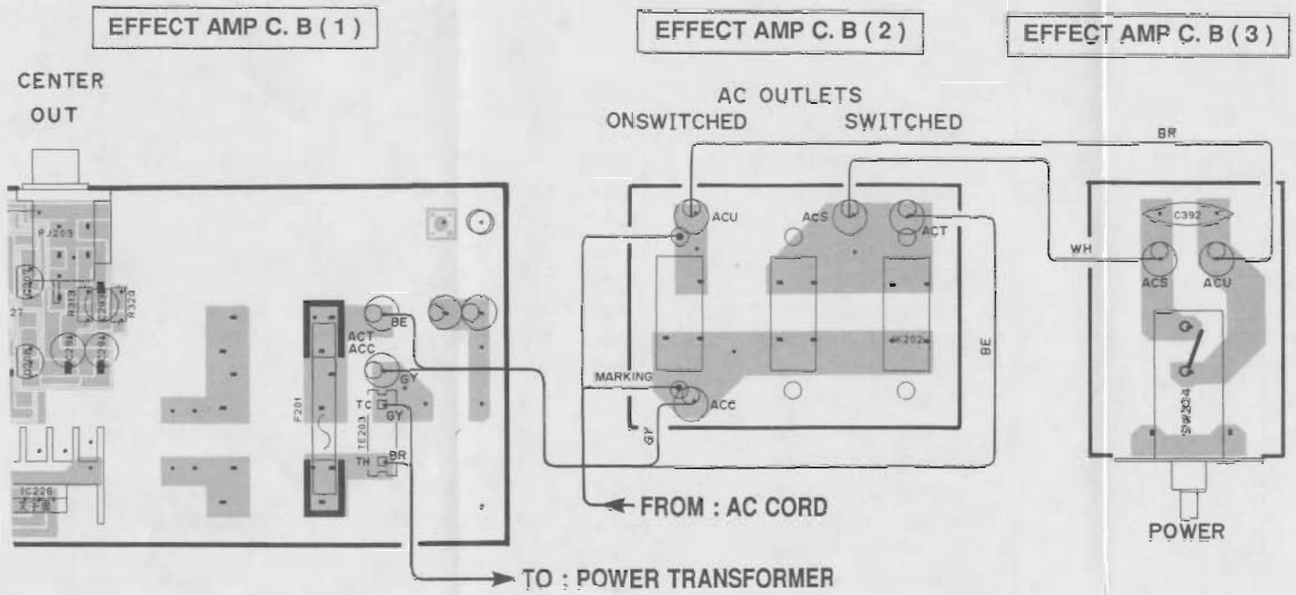
R model



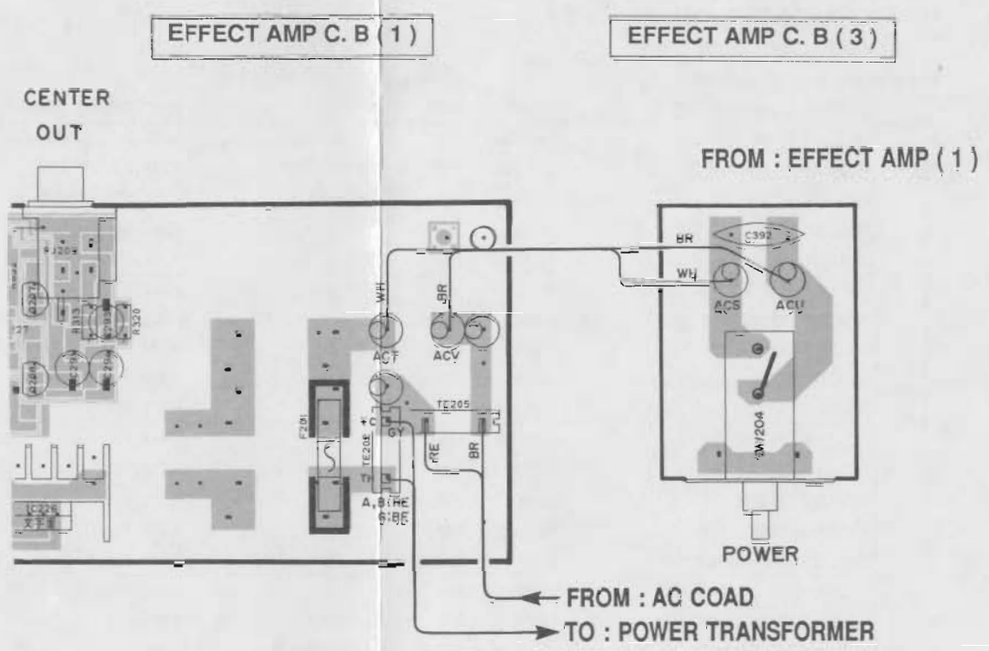
■ PRINTED CIRCUIT BOARD (Foil side)

Note) 文字面 : Component side

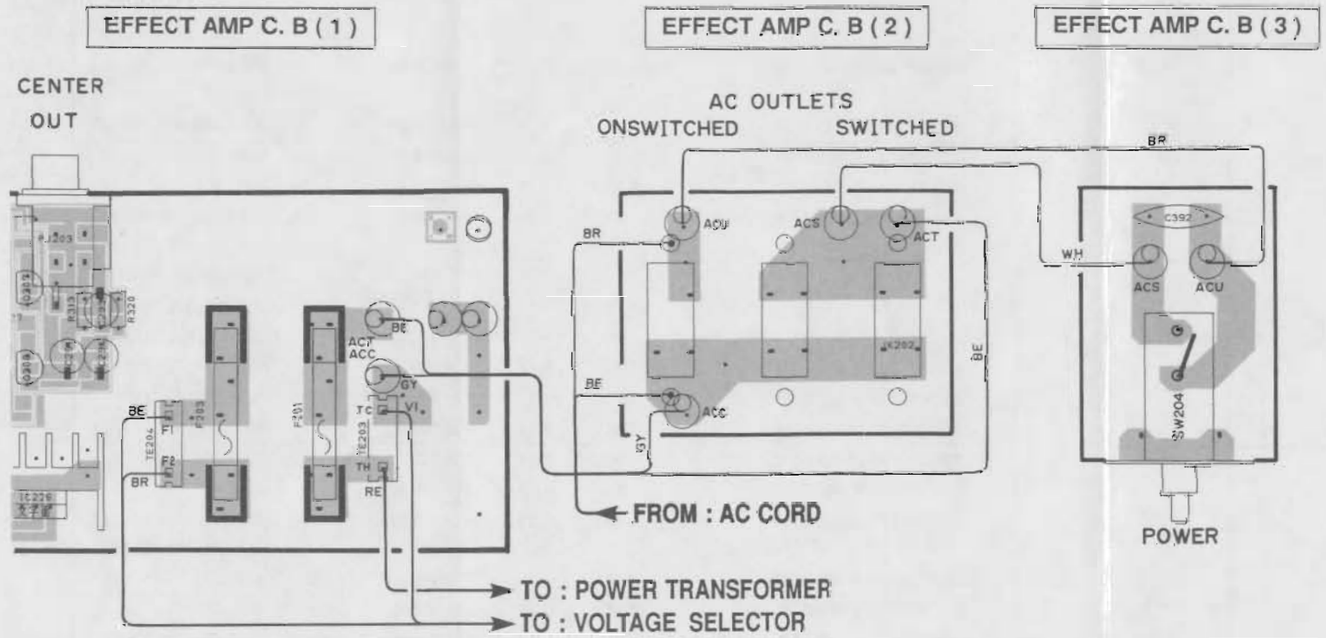
● U, C models



● A, B, G models



● R model



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 parts No. of the carbon resistors, refer to P. 66.

	Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
※		Vi184300	EFFECT CIRCUIT BOARD		エフェクトシート		U,C	
※		Vi184600	EFFECT CIRCUIT BOARD		エフェクトシート		A,B,G	
※		Vi608800	EFFECT CIRCUIT BOARD		エフェクトシート		J	
※		Vi184500	EFFECT CIRCUIT BOARD		エフェクトシート		R	
		UA254390	MYLAR FILM CAP	0.039μF 50V	マイラーコン	C341,343,351,353		
		UA254470	MYLAR FILM CAP	0.047μF 50V	マイラーコン	C335,340,345,350,355		
		UA254560	MYLAR FILM CAP	0.056μF 50V	マイラーコン	C274,275,282,283		
		UA254680	MYLAR FILM CAP	0.068μF 50V	マイラーコン	C339,346,349,356		
		UA555390	MYLAR FILM CAP	0.39μF 50V	マイラーコン	C342,344,352,354		
		UT654180	POLYPROPYLEN CAP	0.018μF 100V	PPコン	C370,371	J,U,C,R	
		UK565470	ELECTROLYTIC CAP	0.47μF 50V	BPケミコン	C370,371	A,B,G	
		FG211220	CERAMIC CAP	22PF 50V	セラコン	C703,707		
		FG211220	CERAMIC CAP	22PF 50V	セラコン	C614	A,B,G	
		FG212470	CERAMIC CAP	470PF 50V	セラコン	C730		
		FG213100	CERAMIC CAP	1000PF 50V	セラコン	C722,723		
		FG713120	CERAMIC CAP	1200PF 50V	セラコン	C714		
		VA761000	CERAMIC CAP	22PF 50V	セラコン	C718,719		
		VA761100	CERAMIC CAP	27P 50V	セラコン	C720,721		
		VF611200	CERAMIC CAP	0.1μF 50V	積層セラコン	C711,716,717		
		UD111220	CHIP CERAMIC CAP	22PF 50V	チップセラコン	C619-622	A,B,G	
※		Vi226400	CHIP CERAMIC CAP	68PF 50V	チップセラコン	C312,317,322,327,334		
※		Vi226400	CHIP CERAMIC CAP	68PF 50V	チップセラコン	C615-618	A,B,G	
※		VH531900	CHIP CERAMIC CAP	100PF 50V	チップ積層セラコン	C202,204,219,224,225,256,258,267,303,306,270,603,604,610-613	238,241,366,369,	
※		VH531900	CHIP CERAMIC CAP	100PF 50V	チップ積層セラコン	C605-609	J,U,C,R	
※		Vi227600	CHIP CERAMIC CAP	220PF 50V	チップセラコン	C605-609	A,B,G	
※		Vi227600	CHIP CERAMIC CAP	220PF 50V	チップセラコン	C252,253,257,259,292,	331,332	
		VH058000	CHIP CERAMIC CAP	470PF 50V	チップ積層セラコン	C369-397		
		VH058000	CHI CERAMIC CAP	470PF 50V	チップ積層セラコン	C398,399	J,U,C,R	
		Vi230900	CHIP CERAMIC CAP	4700PF 50V	積層チップセラコン	C398,399	A,B,G	
		Vi230100	CHIP CERAMIC CAP	2200PF 50V	積層チップセラコン	C271,278,279,286		
※		Vi231100	CHIP CERAMIC CAP	5600PF 50V	積層チップセラコン	C273,277,281,285		
※		Vi231300	CHIP CERAMIC CAP	6800PF 50V	積層チップセラコン	C234		
※		Vi231700	CHIP CERAMIC CAP	0.01μF 50V	積層チップセラコン	C233		
※		VD499400	CHIP CERAMIC CAP	0.1μF 25V	チップ積層セラコン	C203,243,244,373,393		
		UD114820	CHIP CERAMIC CAP	0.082μF 50V	チップ積層セラコン	C296,297,300,301		
	⚠	Fi414100	CERAMIC CAP	0.01μF	スパークキラーコン	C392		
		UH157100	ELECTROLYTIC CAP	10μF 35V	ケミコン	C313,316,323,326,347,336-338,348,357		
		VG286200	ELECTROLYTIC CAP	100μF 6.3V	ケミコン	C239,240,246,247,268,367,368,384,726		
		Vi844200	ELECTROLYTIC CAP	47μF 35V	ケミコン	C308,314,315,324,325,376,377		
		VG286300	ELECTROLYTIC CAP	220μF 6.3V	ケミコン	C709		
		VG286500	ELECTROLYTIC CAP	470μF 6.3V	ケミコン	C732		
		VG286600	ELECTROLYTIC CAP	1000μF 6.3V	ケミコン	C729,733		
		VG287200	ELECTROLYTIC CAP	10μF 16V	ケミコン	C287,289,307,311,318,321,328,715,214		
		VG287400	ELECTROLYTIC CAP	33μF 16V	ケミコン	C201,205-213,215-218,	221,223,	

※New Parts (新規部品)　　ランク : Japan only

	Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
		VG287400	ELECTROLYTIC CAP	33μF 16V	ケミコン	226-231,235-273,242,251,254,255,260-266,284,290,291,294,304,330,333,358-363,394,378-381,395,601,710	245,250,269,288,305,	
		VG287500	ELECTROLYTIC CAP	47μF 16V	ケミコン	C382,704,708,712,724,	725,602	
		VG287700	ELECTROLYTIC CAP	220μF 16V	ケミコン	C309,310,319,320,329		
		VG290100	ELECTROLYTIC CAP	0.22μF 50V	ケミコン	C272,276,280,284		
		VG290500	ELECTROLYTIC CAP	1μF 50V	ケミコン	C372,705,293,295,298,	299,302	
		VG290600	ELECTROLYTIC CAP	2.2μF 50V	ケミコン	C713		
		UH119220	ELECTROLYTIC CAP	2200μF 6.3V	ケミコン	C727,728		
※		Vi349000	ELECTROLYTIC CAP	10000μF 35V	ブロックケミコン	C390,391		
※		Vi349100	ELECTROLYTIC CAP	15000μF 35V	ブロックケミコン	C374,375		
		VB115600	COIL	EL0606RA 15μH	固定コイル	L701		
		RD250000	CHIP RESISTOR	0Ω 0.1W	チップ抵抗	J601-616,617,618		
		RD253220	CHIP RESISTOR	2.2Ω 0.1W	チップ抵抗	R203,635,634		
※		RD254220	CHIP RESISTOR	22Ω 0.1W	チップ抵抗	R209,210		
※		RD255100	CHIP RESISTOR	100Ω 0.1W	チップ抵抗	R201,205		
		RD255220	CHIP RESISTOR	220Ω 0.1W	チップ抵抗	R221,224		
		RD255330	CHIP RESISTOR	330Ω 0.1W	チップ抵抗	R215		
※		RD255470	CHIP RESISTOR	470Ω 0.1W	チップ抵抗	R237-239,258,259,267,	268,298	
		RD256100	CHIP RESISTOR	1KΩ 0.1W	チップ抵抗	R290,293		
※		RD256160	CHIP RESISTOR	1.6KΩ 0.1W	チップ抵抗	R230,233,350,351		
※		RD256200	CHIP RESISTOR	2KΩ 0.1W	チップ抵抗	R216,217,219,220,242,	247	
		RD256220	CHIP RESISTOR	2.2KΩ 0.1W	チップ抵抗	R206,213,229,235,241,	248,255,	
		RD256270	CHIP RESISTOR	2.7KΩ 0.1W	チップ抵抗	272,277,283,286,315,363,368,373,307,311 / R225,263,264,300,257,288,297	318,358, / 276,281,	
		RD256470	CHIP RESISTOR	4.7KΩ 0.1W	チップ抵抗	R218,249-254,261,262,	308,312	
		RD256560	CHIP RESISTOR	5.6KΩ 0.1W	チップ抵抗	R208,212		
		RD256820	CHIP RESISTOR	8.2KΩ 0.1W	チップ抵抗	R301,302		
		RD257100	CHIP RESISTOR	10KΩ 0.1W	チップ抵抗	R214,256,260,265,270,278,282,284,285,287,294-296,309,310,314,319,327,328,341,342,383-385,613,243,246,	273-275,291,292,316,317,657,608,609	
※		RD257110	CHIP RESISTOR	11KΩ 0.1W	チップ抵抗	R207,211,349,352		
		RD257120	CHIP RESISTOR	12KΩ 0.1W	チップ抵抗	R324,332,338,346		
※		RD257220	CHIP RESISTOR	22KΩ 0.1W	チップ抵抗	R353,360,361,370,371,	653	
		RD257470	CHIP RESISTOR	47KΩ 0.1W	チップ抵抗	R202,204		
		RD257820	CHIP RESISTOR	82KΩ 0.1W	チップ抵抗	R647		
		RD258100	CHIP RESISTOR	100KΩ 0.1W	チップ抵抗	R231,232,234,236,244,362,369,372,388,609,	299,359,245,656	
		RD258220	CHIP RESISTOR	220KΩ 0.1W	チップ抵抗	R222,223		
		RD258470	CHIP RESISTOR	470KΩ 0.1W	チップ抵抗	R266,269		
※		VH256800	CHIP RESISTOR	1KΩ	チップ抵抗	R357,364,367,374		
※		Vi198600	CHIP METAL FILM RESISTOR	33KΩ 1/16W	チップ金被抵抗	R356,365,366,375		
		HV453100	FLAME PROOF RESISTOR	1Ω 1/4W	不燃化カーボン抵抗	R729		
		HV753470	FLAME PROOF RESISTOR	4.7Ω 1/4W	不燃化カーボン抵抗	R640,641		

※New Parts (新規部品)　　ランク : Japan only

Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
	HV455560	FLAME PROOF RESISTOR	560Ω 1/4W	不燃化カーボン抵抗	R620,628		
	HV454100	FLAME PROOF RESISTOR	10Ω 1/4W	不燃化カーボン抵抗	R386,389,396,397,605		
	HV455100	FLAME PROOF RESISTOR	100Ω 1/4W	不燃化カーボン抵抗	R744	A,B,G	
	HV453330	FLAME PROOF RESISTOR	3.3Ω 1/4W	不燃化カーボン抵抗	R732		
#	Vi435900	METAL OXIDE RESISTOR	0.1Ω 1W	酸化金属被膜抵抗	R632,633		
	HL324820	METAL OXIDE RESISTOR	82Ω 2W	酸化金属被膜抵抗	R624,625		
#	Vi294900	METAL OXIDE RESISTOR	0.15Ω 2W	酸化金属被膜抵抗	R614-617		
	XB247301	IC	UPC4570HA	IC	IC202,204,206,207,211,218,224	212,217,	
	XE472001	IC	UPC4072HA	IC	IC203		
	XF291A00	IC	UPC4570G2	IC	IC201		
#	XF971A00	IC	UPC4574C	IC	IC214		
	XE470001	IC	M51132L	IC	IC208,210,213,216		
	iG077400	IC	NJM4556S	IC	IC209,		
	iG102700	IC	UPC1188H	IC	IC219-223		
	XF612A00	IC	AN79M05F	IC	IC226		
	XB467001	IC	AN79M15F	IC	IC227		
#	XG732A00	IC	LC7821N	IC	IC225		
#	XG502A00	IC	LA7213	IC	IC702		
	XB736001	IC	UPD4053BG	IC	IC205		
	iG142220	IC	UPD74HCU04C	IC	IC701		
	iG055100	IC	TC4053BP	IC	IC215,704		
	XD132001	IC	M50455-060SP	IC	IC703		
#	Vi550300	PUSH SWITCH	ESB82104V	プッシュSW	SW204		⚠
#	VH731800	SLIDE SWITCH	SSSF12	スライドSW	SW201		
#	VH731900	SLIDE SWITCH	SSSF14	スライドSW	SW202,203		
	VF541200	SLIDE SWITCH	SSSF11	スライドSW	SW701	R	
#	KB002020	FUSE	4A 125V	ヒューズ	F201	U,C	⚠
	KB000380	FUSE	4A 250V	ヒューズ	F201	J,R	⚠
	KB000680	FUSE	1.25A 250V	ヒューズ	F201	A,G,B	⚠
	KB000350	FUSE	2A 250V	ヒューズ	F203	R	⚠
	LA002140	LAPPING TERMINAL	2P I-102NA	ラッピング端子	TE203		
	LA002140	LAPPING TERMINAL	2P I-102NA	ラッピング端子	TE204	R	
	LA002320	LAPPING TERMINAL	3P I-753NA	ラッピング端子	TE201		
#	LA003870	LAPPING TERMINAL	2P L-102NE	ラッピング端子	TE205	A,G,B	
#	Vi217200	PIN JACK	T6180-AAAF	ピンジャック 2P	PJ701		
#	VH733900	PIN JACK	T6419-AABB	ピンジャック 2P	PJ204		
#	Vi205900	PIN JACK		ピンジャック 2P	PJ203		
#	VJ133600	PIN JACK		ピンジャック	PJ201,202		
#	Vi185800	PHONES JACK	HLJ2317	ホーンジャック	JK203		
#	Vi185900	MICROPHONE JACK	HLJ0347	2連マイクジャック	JK201		
	LB608170	AC OUTLET	M7032D	ACソケット	JK202	J,U,C,R	⚠
#	Vi234500	CONNECTOR	4P M1821-B	2連DNコネクター	JK701		
	LB918040	BASE PIN	XH 4P TE	ベースツキポスト	CB201,208,212		
	LB918020	BASE PIN	XH 2P TE	ベースツキポスト	CB203		
	LB932040	BASE PIN	VH 4P TE	ベースポスト	CB211		
	VD004600	BASE PIN	PH 3P TE	ベースピン	CB204		
	VD005000	BASE PIN	PH 7P TE	ベースピン	CB206		
	VD005100	BASE PIN	PH 8P TE	ベースピン	CB205,701		
	Vi377500	BASE PIN	MQ 5P TE	MQ ベースピン	CB209		

※New Parts (新規部品)

ランク : Japan only

Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
*	Vi378000	BASE PIN	MQ 10P TE	MQ ベースピン	CB210		
	VD980900	QUARTZ CRYSTAL	14.3181M AD0978CFA	水晶振動子	XL701	J,U,C,R	
	VF066800	QUARTZ CRYSTAL	17.7344M AT-49	水晶振動子	XL701	A,G,B	
*	VH732000	POTENTIOMETER	A10KΩ RK11K112	ロータリーVR	VR206-208		
*	Vi233600	POTENTIOMETER	A10KΩ RK14K12B	二連ロータリーVR	VR202,204		
*	VH746600	POTENTIOMETER	B10KΩ RK09K12A	二連ロータリーVR	VR205		
*	Vi233700	POTENTIOMETER	50KΩ RK14K122	二連ロータリーVR	VR203		
*	Vi809100	POTENTIOMETER	A10KΩ RK14K12B	二連ロータリーVR	VR201		
	iA093370	TRANSISTOR	2SA933S Q,R	トランジスタ	Q217,220,221,226,227,	702,703	
	iC174070	TRANSISTOR	2SC1740S R,S	トランジスタ	Q222,224,229,701,	704-706	
	iC174070	TRANSISTOR	2SC1740S R,S	トランジスタ	Q710	A,B,G	
	iC1815C0	TRANSISTOR	2SC1815 Y	トランジスタ	Q707,708		
	VC502100	TRANSISTOR	2SD1915 S,T	トランジスタ	Q201-216,218,219		
	VE170300	FET	2SK442	FET	Q709		
	VD678500	DIGITAL TRANSISTOR	DTA114ES	デジタルトランジスタ	Q225		
	VD678700	DIGITAL TRANSISTOR	DTC114ES	デジタルトランジスタ	Q228		
	iF004600	DIODE	1SS133	ダイオード	D201.204.205.207.	701-704	
	VE367900	DIODE BRIDGE	DF02M 1A 200V	Diブリッジ	D202		
	VG437700	ZENER DIODE	MTZJ5.6B 5.6V	ツェナーダイオード	D206		
*	VG439500	ZENER DIODE	MTZJ10B 10V	ツェナーダイオード	D203		
	LB201880	FUSE HOLDER PIN	PC-FH1	ヒューズホルダピン			
*	VB698800	CONNECTOR ASSY	300MM 6P	PHコネクタASSY			
*	VB705000	CONNECTOR ASSY	120MM 10P	PHコネクタASSY			
	VB721100	CONNECTOR ASSY	400MM 10P	PHコネクタASSY			
	BA092970	RADIATOR		放熱器			
*	Vi233500	SHEILD COVER		シルドカバー			
	RD256150	CHIP RESISTOR	1.5KΩ 0.1W	チップ抵抗	R242,247		
	RD256160	CHIP RESISTOR	1.6KΩ 0.1W	チップ抵抗	R300		
	RD256180	CHIP RESISTOR	1.8KΩ 0.1W	チップ抵抗	R257,276,281,288,297		
	RD256300	CHIP RESISTOR	3KΩ 0.1W	チップ抵抗	R307,308,311,312		
	Vi184700	OPERATION CIRCUIT BOARD		オペレーションシート		U,C	
	VJ191200	OPERATION CIRCUIT BOARD		オペレーションシート		J	
	VJ070300	OPERATION CIRCUIT BOARD		オペレーションシート		R,A,B,G	
	UA254220	MYLAR FILM CAP	0.022μF 50V	マイラーコン	C61-63,66,67		
	UA254270	MYLAR FILM CAP	0.027μF 50V	マイラーコン	C17		
	UA254100	MYLAR FILM CAP	0.01μF 50V	マイラーコン	C60,64,65,68,69		
	FG144330	CERAMIC CAP	0.033μF 50V	セラコン	C14		
	FZ005880	CERAMIC CAP	0.1μF 25V	積層セラコン	C6		
*	VH531900	CHIP CERAMIC CAP	100PF 50V	チップ積層セラコン	C4,102,103,106,107,117	,124	
*	Vi227000	CHIP CERAMIC CAP	120PF 50V	チップセラコン	C87-91,93-96,98, 157,160-163	143-151,	
*	Vi227600	CHIP CERAMIC CAP	220PF 50V	チップセラコン	C59,125-128		
*	VH058000	CHIP CERAMIC CAP	470PF 50V	チップ積層セラコン	C72.73		
	UT454100	POLYPROPYLEN FILM CAP	0.01μF 100V	PPコン	C172		

※New Parts (新規部品)　　ランク : Japan only

	Ref. NO.	PART NO.	Description			部品名	Remarks	Markets	ランク
		UT452470	POLYPROPYLEN FILM CAP	470pF	100V	PPコン	C70,71		03
*		Vi228800	CHIP CERAMIC CAP	680PF	50V	チップセラコン	C29,30		
*		Vi229300	CHIP CERAMIC CAP	1000PF	50V	積層チップセラコン	C118,123		
*		Vi230900	CHIP CERAMIC CAP	4700PF	50V	積層チップセラコン	C16		
*		Vi231100	CHIP CERAMIC CAP	5600PF	50V	積層チップセラコン	C23		
*		Vi231300	CHIP CERAMIC CAP	6800PF	50V	積層チップセラコン	C39,40		
*		Vi231700	CHIP CERAMIC CAP	0.01μF	50V	積層チップセラコン	C57,58,167		
*		Vi229900	CHIP CERAMIC CAP	1800PF	50V	積層チップセラコン	C101,104		
*		Vi230300	CHIP CERAMIC CAP	2700PF	50V	積層チップセラコン	C97,99		
*		Vi230500	CHIP CERAMIC CAP	3300PF	50V	積層チップセラコン	C105,108		
*		VD499400	CHIP CERAMIC CAP	0.1μF	25V	チップ積層セラコン	C3,5,8,25-28,76-78,120	,121,	
							131-136,139-142,158,	152-156	
		VG286800	ELECTROLYTIC CAP	100μF	10V	ケミコン	C137,138,159		
		VG287200	ELECTROLYTIC CAP	10μF	16V	ケミコン	C54,92,130,168,170,171		
		VG287300	ELECTROLYTIC CAP	22μF	16V	ケミコン	C18		
		VG287400	ELECTROLYTIC CAP	33μF	16V	ケミコン	C20,21,24,41,51,100,	109-112,	
							109		
		VG287500	ELECTROLYTIC CAP	47μF	16V	ケミコン	C42,49,119,122,129		
		VG287600	ELECTROLYTIC CAP	100μF	16V	ケミコン	C19,55		
		VG290500	ELECTROLYTIC CAP	1μF	50V	ケミコン	C11,12,15,22,56,	113-116	
		VG290800	ELECTROLYTIC CAP	4.7μF	50V	ケミコン	C35-38,45,46,52,53		
		VG286600	ELECTROLYTIC CAP	1000μF	6.3V	ケミコン	C9		
		VG290100	ELECTROLYTIC CAP	0.22μF	50V	ケミコン	C43,44,47,48		
		VG290200	ELECTROLYTIC CAP	0.33μF	50V	ケミコン	C10,31,33		
		VG290300	ELECTROLYTIC CAP	0.47μF	50V	ケミコン	C50		
		VE832800	ELECTROLYTIC CAP	0.047F	5.5V	スーパーキャパシタ	C1		
		UH157470	ELECTROLYTIC CAP	47μF	35V	ケミコン	C165		
		UJ157330	ELECTROLYTIC CAP	33μF	35V	ケミコン	C164		
		UW565150	ELECTROLYTIC CAP	0.15μF	50V	ケミコン	C32,34		
		UH166100	ELECTROLYTIC CAP	1μF	50V	ケミコン	C2		
		GD900680	COIL	SM-5752	10x5	空芯コイル	L2-6		
		VC362000	COIL	EL0606	1mH	コイル	L1		
		RD250000	CHIP RESISTOR	0Ω	0.1W	チップ抵抗	J1-25		
*		RD253220	CHIP RESISTOR	2.2Ω	0.1W	チップ抵抗	R102-104,168		
*		RD254100	CHIP RESISTOR	10Ω	0.1W	チップ抵抗	R175,176		
		RD254330	CHIP RESISTOR	33Ω	0.1W	チップ抵抗	R27,29,31,33,35,38,41,	44	
		RD254470	CHIP RESISTOR	47Ω	0.1W	チップ抵抗	R26,28,30,32,34,37,40,	43	
*		RD254820	CHIP RESISTOR	82Ω	0.1W	チップ抵抗	R36,39,42,45		
*		RD255100	CHIP RESISTOR	100Ω	0.1W	チップ抵抗	R154,155,161,162		
		RD255180	CHIP RESISTOR	180Ω	0.1W	チップ抵抗	R155		
		RD255220	CHIP RESISTOR	220Ω	0.1W	チップ抵抗	R76		
*		RD255470	CHIP RESISTOR	470Ω	0.1W	チップ抵抗	R1-3,12-15,17-21,167		
*		RD255560	CHIP RESISTOR	560Ω	0.1W	チップ抵抗	R7		
		RD256100	CHIP RESISTOR	1KΩ	0.1W	チップ抵抗	R9,73,156		
		RD256220	CHIP RESISTOR	2.2KΩ	0.1W	チップ抵抗	R117,119,121,123,125,	128	
		RD256330	CHIP RESISTOR	3.3KΩ	0.1W	チップ抵抗	R54		
*		RD256390	CHIP RESISTOR	3.9KΩ	0.1W	チップ抵抗	R8,158		
		RD256560	CHIP RESISTOR	5.6KΩ	0.1W	チップ抵抗	R58		
*		RD256620	CHIP RESISTOR	6.2KΩ	0.1W	チップ抵抗	R81		
		RD256680	CHIP RESISTOR	6.8KΩ	0.1W	チップ抵抗	R143-146,149-152		

※New Parts（新規部品）

ランク：Japan only

	Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
*		RD256750	CHIP RESISTOR	7.5KΩ 0.1W	チップ抵抗	R64,65		
		RD256820	CHIP RESISTOR	8.2KΩ 0.1W	チップ抵抗	R140,142,147,148		
*		RD256910	CHIP RESISTOR	9.1KΩ 0.1W	チップ抵抗	R163-166		
		RD257100	CHIP RESISTOR	10KΩ 0.1W	チップ抵抗	R5,59,114,116,118,120, 133,169,171,172,174,	122,132, 178	
		RD257150	CHIP RESISTOR	15KΩ 0.1W	チップ抵抗	R60,61,80		
*		RD257160	CHIP RESISTOR	16KΩ 0.1W	チップ抵抗	R124,129,131,134,135, 141	138,139,	
		RD257220	CHIP RESISTOR	22KΩ 0.1W	チップ抵抗	R75,77		
		RD257270	CHIP RESISTOR	27KΩ 0.1W	チップ抵抗	R56,153,160		
		RD257470	CHIP RESISTOR	47KΩ 0.1W	チップ抵抗	R4,52,62,63,78		
		RD258100	CHIP RESISTOR	100KΩ 0.1W	チップ抵抗	R6,10,11,22-25,57,79, 115,127,130	112,113,	
*		RD258270	CHIP RESISTOR	270KΩ 0.1W	チップ抵抗	R51		
		RD258560	CHIP RESISTOR	560KΩ 0.1W	チップ抵抗	R170,173		
		RD259100	CHIP RESISTOR	1MΩ 0.1W	チップ抵抗	R16,74,177		
		HV753100	FLAME PROOF RESISTOR	1Ω 1/4W	不燃化カーボン抵抗	R201		
		HV454100	FLAME PROOF RESISTOR	10Ω 1/4W	不燃化カーボン抵抗	R82,84-87		
		HL314680	METAL OXIDE RESISTOR	68Ω 1W	酸化金属被膜抵抗	R157,159		
		XB247301	IC	UPC4570HA	IC	IC9-13		
		XB248001	IC	M5238L	IC	IC14,16		
		XD386001	IC	LA2730	IC	IC5		
		XA507001	IC	AN78N05	IC	IC32		
		XF982A00	IC	AN78L12	IC	IC7		
*		XG780A00	IC	AN79N05	IC	IC33		
		XB449A00	IC	AN7815F	IC	IC35		
		XB646001	IC	AN78M05F	IC	IC34		
		XG497A00	IC	LA2770	IC	IC6		
		iG105900	IC	UPD4053BC	IC	IC30,31		
*		XE520A00	IC	UPD74HC00G-T1	IC	IC25		
*		XG535A00	IC	UPD74HCU04G	IC	IC20		
*		XE821A00	IC	UPD74HC74G	IC	IC21,22		
*		XG536A00	IC	UPD74HC175G	IC	IC24		
*		XG534A00	IC	UPD74HC393G	IC	IC23		
		iG001720	IC	TC4069UBP	IC	IC8		
*		XG700A00	IC	HD63B01YORL37P	IC	IC27		
*		XG701A00	IC	M50747-B87	IC	IC2	J,R,A,B,G	
*		XG701B00	IC	M50747-C36	IC	IC2	U,C	
		XC628A00	IC	TC51832PL-10	IC	IC29		
*		iG081900	IC	HA17408P	IC	IC1		
*		XG499A00	IC	AK9201	IC	IC17		
		XD898001	IC	PCM56P-L	IC	IC18,19		
		XE449A00	IC	YM3413	IC	IC28		
		XE862001	IC	YM3422	IC	IC26		
		VF926500	RECEIVE UNIT	GP1U501X	リモコン受光ユニット	U1		
		VE327300	PUSH SWITCH		プッシュSW	SW1-17		
*		Vi032300	ROTARY ENCODOR	EC16B40B	ロータリーエンコーダ	SW18		
*		KB003160	FUSE	3A 250V	ヒューズ	F1-5	J,U,C	⚠
		KB000760	FUSE	3.15A 250V	ヒューズ	F1-5	R,A,B,G	⚠

*New Parts (新規部品)

ランク : Japan only

	Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
※		Vi234400	PIN JACK	T6365-AACB 6P	ピンジャック	PJ1		
※		Vi072400	TERMINAL	T6448-B 2P	ターミナル	TE1		
※		Vi072500	TERMINAL	T6466 4P	ターミナル	TE2,3		
※		Vi378300	CONNECTOR SOCKET	MQ 5P	MQコネクタソケット	CB15		
※		Vi378800	CONNECTOR SOCKET	MQ 10P	MQコネクタソケット	CB19		
		VD004600	BASE PIN	PH 3P TE	ベースピン	CB16		
		VD004800	BASE PIN	PH 5P TE	ベースピン	CB13		
		VD005200	BASE PIN	PH 9P TE	ベースピン	CB12		
		VD005300	BASE PIN	PH 10P TE	ベースピン	CB20		
※		Vi814900	FILTER		LCフィルター	FI3-6		
※		Vi815000	FILTER		LCフィルター	FI1,2		
		VB657100	CERAMIC RESONATER	8MHz CST8MT	セラミック振動子	XL1		
※		Vi231800	CERAMIC RESONATER	16M CST16M	セラミック振動子	XL2		
		iA093370	TRANSISTOR	2SA933S Q,R	トランジスタ	Q7,10,16		
		iC174070	TRANSISTOR	2SC1740S R,S	トランジスタ	Q1,5,6,8		
		VC502100	TRANSISTOR	2SD1915 S,T	トランジスタ	Q12-15		
		iG031100	TRANSISTOR ARRAY	M54516	トランジスタアレイ	IC3		
		VD938100	DIGITAL TRANSISTOR ARRAY	DT5A143E	デジトラアレイ	IC4		
		VH964100	DIGITAL TRANSISTOR	DTA143ES	デジタルトランジスタ	Q2-4		
		VD678700	DIGITAL TRANSISTOR	DTC114ES	デジタルトランジスタ	Q11		
		iF004600	DIODE	1SS133	ダイオード	D2,3,28-32,37		
		VH770800	DIODE	1SR139-100	ダイオード	D1		
		VD450400	DIODE ARRAY	1SS233 0.3Ax2	ダイオードアレイ	D35		
		VD450500	DIODE ARRAY	1SS235 0.3Ax2	ダイオードアレイ	D36		
		Vi013600	LED	SLR-34VC3H3	LED	D16-19,27		
		VF402500	LED	SLR-34DC3H3	LED	D4-15,20-26		
※		Vi217600	LED DISPLAY	GL6S228M	LEDディスプレイ	D33		
		LB201060	FUSE HOLDER PIN	YSH403T	ヒューズホルダピン			
※		VB716000	CONNECTOR ASSY	400MM	PHコネクタASSY			
		BB071360	TERMINAL,SCR	8.3x13	ネジ端子			
※		Vi233400	SPACER	20/12	スペーサ			
※		Vi435400	GROUND PLATE		アースプレート			
		RD256150	CHIP RESISTOR	1.5KΩ 0.1W	チップ抵抗	R58		
		RD256270	CHIP RESISTOR	2.7KΩ 0.1W	チップ抵抗	R185,187		
		RD256680	CHIP RESISTOR	6.8KΩ 0.1W	チップ抵抗	R186,188		
		RD257100	CHIP RESISTOR	10KΩ 0.1W	チップ抵抗	R189,192,195,198		
		RD257110	CHIP RESISTOR	11KΩ 0.1W	チップ抵抗	R139,141		
		RD257150	CHIP RESISTOR	15KΩ 0.1W	チップ抵抗	R132,133		
		RD257160	CHIP RESISTOR	16KΩ 0.1W	チップ抵抗	R191,194,197,200		
		RD257240	CHIP RESISTOR	24KΩ 0.1W	チップ抵抗	R131,134,135,138		
		RD257330	CHIP RESISTOR	33KΩ 0.1W	チップ抵抗	R190,193,196,199		
		VH531900	CHIP CERAMIC CAP	100PF 50V	チップセラコン	C173-176		
		Vi229500	CHIP CERAMIC CAP	1200PF 50V	チップセラコン	C101,104		
		Vi230100	CHIP CERAMIC CAP	2200PF 50V	チップセラコン	C105,108		
		Vi842400	ELECTROLYTIC CAP	33μF 16V	ケミコン	C177		
		XF971A00	IC	uPC4574C	IC	IC36		

※New Parts（新規部品）

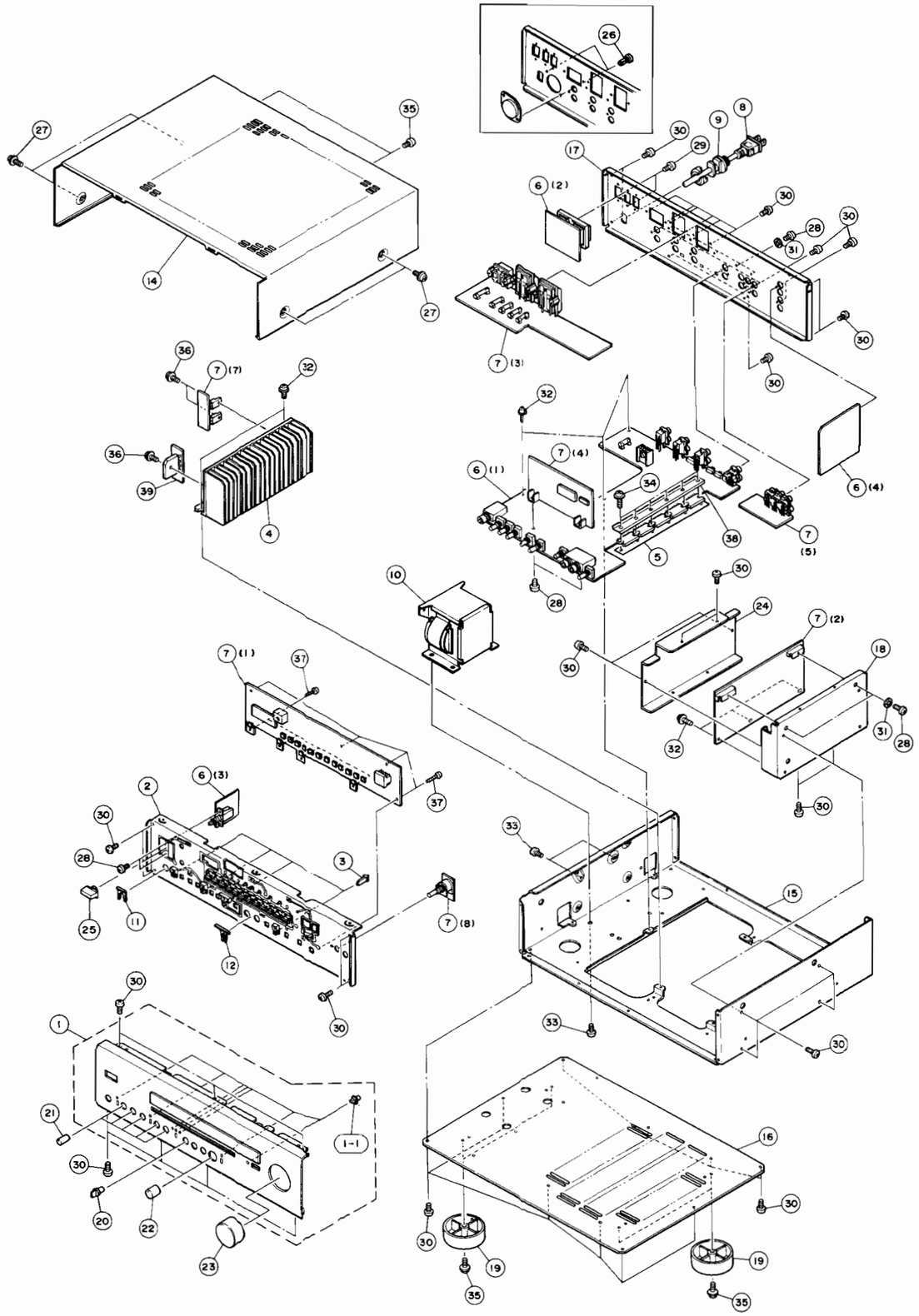
ランク：Japan only

	Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
※		VJ341200	FUSE CIRCUIT BOARD		ヒューズシート		J,R	
※		VJ341300	FUSE CIRCUIT BOARD		ヒューズシート		A,B,G	
※		VJ355200	FUSE CIRCUIT BOARD		ヒューズシート		U,C	
※		Vi234100	DIODE BRIDGE	RBV-602	ダイオードブリッジ	D38		
		KB001490	FUSE	10A 250V	ヒューズ	F6,7	J,R	⚠
		VD370900	FUSE	10A 250V	ヒューズ	F6,7	U,C	⚠
		KB000780	FUSE	T5A 250V	ヒューズ	F6,7	A,B,G	⚠
		LB201880	FUSE HOLDER PIN		ヒューズホルダーピン			

※New Parts（新規部品）

ランク：Japan only

■ EXPLODED VIEW



■ MECHANICAL PARTS Note) ϕ : Diameter

	Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ﾗﾝｸ	
※	01	Vi183700	FRONT PANEL UNIT		フロントパネルユニット	BL	J		
※	01	Vi183800	FRONT PANEL UNIT		フロントパネルユニット	BL	UCRABG		
※	01	Vi183900	FRONT PANEL UNIT		フロントパネルユニット	T	J		
※	01	Vi184000	FRONT PANEL UNIT		フロントパネルユニット	T	UCRABG		
	01-1	VH897700	LENS		レンズ				
※	02	NX605530	SUB CHASSIS		サブシャーシ	BL			
※	02	NX605340	SUB CHASSIS		サブシャーシ	T			
※	03	VH920100	BUTTON	1/6/3	ボタン	BL			
※	03	VH920200	BUTTON	1/6/3	ボタン	T			
※	04	VH955700	RADIATOR		ラジエータ				
※	05	Vi202100	SHEET		シート				
※	06	Vi608800	EFFECT CIRCUIT BOARD		エフェクトシート		J		
※	06	Vi184300	EFFECT CIRCUIT BOARD		エフェクトシート		U,C		
※	06	Vi184600	EFFECT CIRCUIT BOARD		エフェクトシート		A,B,G		
※	06	Vi184500	EFFECT CIRCUIT BOARD		エフェクトシート		R		
※	07	Vi184700	OPERATION CIRCUIT BOARD		オペレーションシート		U,C		
※	07	VJ191200	OPERATION CIRCUIT BOARD		オペレーションシート		J		
	07	VJ070300	OPERATION CIRCUIT BOARD		オペレーションシート		R,A,B,G		
	08	VC614400	POWER CORD	12A 2M	電源コード		J		⚠
	08	MG002220	POWER CORD	10A SPT-2	電源コード		U,C		⚠
	08	VE371000	POWER CORD	6A 2M	電源コード		R		⚠
	08	MG002310	POWER CORD	7.5A 250V	電源コード		A		⚠
	08	MG002330	POWER CORD	6A 250V	電源コード		B		⚠
	08	MG002320	POWER CORD	2.5A 250V	電源コード		G		⚠
	09	CB620200	CORD STOPPER	CM-22C	コードストッパー		U,C		
	09	CB620190	CORD STOPPER	CM-22B	コードストッパー		R,A,B,G		
※	10	XG786A00	POWER TRANSFORMER		電源トランス		J		⚠
※	10	XG787B00	POWER TRANSFORMER		電源トランス		U		⚠
※	10	XH154B00	POWER TRANSFORMER		電源トランス		C		⚠
※	10	XG788A00	POWER TRANSFORMER ASS'Y		電源トランスＡＳＳＹ		R		⚠
		LB201480	VOLTAGE SELECTOR		電圧切替器		R		⚠
※	10	XG789A00	POWER TRANSFORMER		電源トランス		A,B		⚠
※	10	XG790B00	POWER TRANSFORMER		電源トランス		G		⚠
※	11	LB301910	METAL FITTINGS,U-TYPE	HLJ0999-01-480	U字金具				
※	12	LB302220	ANGLE,BRACKT,T	HLJ0999-01-490	T字金具				
※	14	VH953600	TOP COVER		トップカバー	BL			
※	14	VH953700	TOP COVER		トップカバー	T			
※	15	VH953800	CHASSIS		シャーシ				
※	16	VH953900	BOTTOM COVER		ボトムカバー				
※	17	VH958400	REAR PANEL		リヤパネル		J		
※	17	VH958500	REAR PANEL		リヤパネル		U,C		
※	17	VH958700	REAR PANEL		リヤパネル		R		
※	17	VH958800	REAR PANEL		リヤパネル		A,B		
※	17	VH958900	REAR PANEL		リヤパネル		G		
※	18	VH956400	SHEILD BOX		シールドボックス				
※	19	Vi615200	LEG		レッグ		J		
	19	CB660950	LEG		レッグ	BL	UCRABG		
※	19	Vi175700	LEG		レッグ	T	UCRABG		
※	20	VH888800	KNOB	D10	ノブ	BL			
※	20	VH888900	KNOB	D10	ノブ	T			

※New Parts（新規部品）　　ランク：Japan only

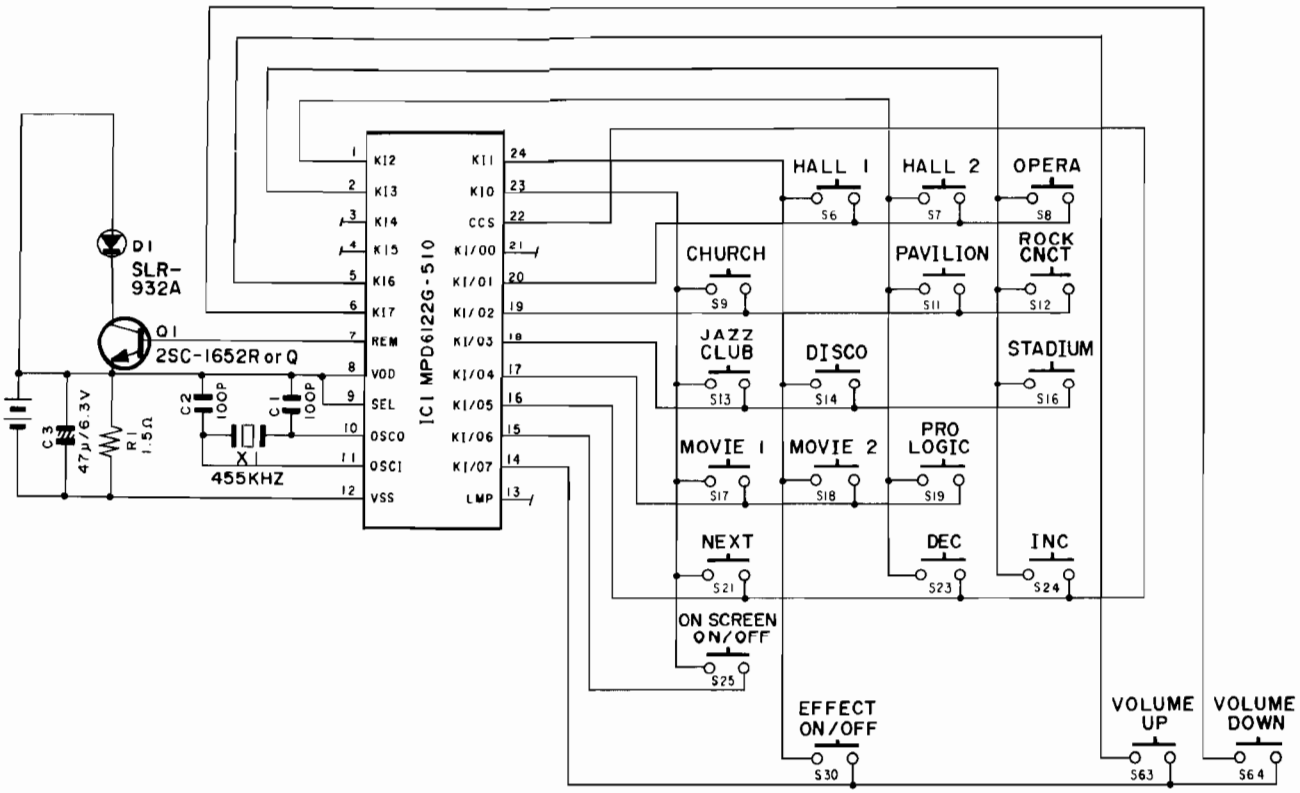
	Ref. NO.	PART NO.	Description		部品名	Remarks	Markets	ランク
*	21	VH889000	KNOB	D9	ノブ	BL		
*	21	VH889100	KNOB	D9	ノブ	T		
*	22	VH889200	KNOB	D14	ノブ	BL		
*	22	VH889300	KNOB	D14	ノブ	T		
*	23	VH953300	KNOB	D40	ノブ	BL		
*	23	VH953400	KNOB	D40	ノブ	T		
*	24	Vi435300	SHEILD PLATE		シールドプレート			
*	25	VH841900	BUTTON	10/25	ボタン	BL		
*	25	VH842000	BUTTON	10/25	ボタン	T		
	26	CB068880	PLASTIC RIVET	#1027	プラスチックリベット		R	
	27	EK365040	BW HEAD SCREW	4x8-10 FCM3-BL	BWヘッド小ネジ	BL		
	27	EX601150	BW HEAD S-TYTE SCREW	4X8-10 FNM3-BL	BWヘッドSタイトネジ	T		
	28	ED330066	BINDING HEAD SCREW	3x6 FCM3-BL	バインド小ネジ			
	29	EX600310	BINDING HEAD SCREW	3x8 FCRM3-BL	バインドPタイト		J,U,C,R	
	30	EN301010	BIND HEAD BONDING SCREW	3x8 FCM3-BL	ボンディングBタイト			
	31	EV413036	TOOTHED LOCK WASHER	φ3 FCM3-BL	歯付座金			
	32	EX600240	BW HEAD TAPPING SCREW	3x8 FCM3-BL	BWヘッドタッピングネジ			
	33	Ei340086	BINDING HEAD SCREW	4x8 FCM3-BL	バインドタッピングネジ			
	34	EX601090	BW HEAD TAPPING SCREW	3x12 FCM3-BL	BWヘッドタッピングネジ			
	35	Ei330086	BINDING HEAD SCREW	3x8 FCRM3-BL	バインドタッピングネジ			
	36	EX600920	CUP SCREW B-TYTE	3x12 FCM3-BL	カップBタイトネジ			
	37	EJ326086	PAN HEAD TAPPING SCREW	2.6x8 ZMC3-BL	ナベタッピングネジ	BL		
		CB069251	BINDING TIE	BK-1	束線止め	PACK		
	38	Vi924900	FRAME IC		フレームIC			
*	39	VJ341200	FUSE CIRCUIT BOARD		ヒューズシート		J,R	
*	39	VJ341300	FUSE CIRCUIT BOARD		ヒューズシート		A,B,G	
*	39	VJ355200	FUSE CIRCUIT BOARD		ヒューズシート		U,C	
			ACCESSORIES		付属品			
*		Vi054000	REMOTE CONTROL TRANSMITTER		トランスミッター			
*		CX611300	LID		電池ケース			
			DRY CELL	UM-4,R03,AAA	マンガン電池			
*		Vi182200	ACCESSORIES ASS'Y		付属品ASSY		J	
		VJ069800	ACCESSORIES ASS'Y		付属品ASSY		UCRABG	
*		VJ068900	PIN CORD		PPコード OFC		J	
*		VJ068800	PIN CORD		PPコードキイ OFC		J	
*		VJ069000	S CONNECTION CABLE		S接続ケーブル		J	
		Mi088790	PIN CORD	1M	PPコード アカ,シロ		UCRABG	
		VB308200	PIN CORD	2M	PPコード キイ		UCRABG	

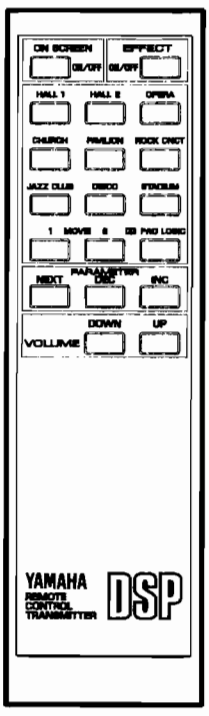
※New Parts (新規部品)

ランク : Japan only

REMOTE CONTROL TRANSMITTER

■ EXPLODED VIEW





CUSTOM CODE

C0 C1 C2 C3 C4 C5 C6 C7
1 0 1 1 1 1 1 0

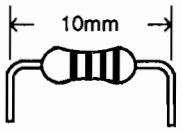
KEY No.	DATA CODE								FUNCTION
	D0	D1	D2	D3	D4	D5	D6	D7	
6	1	0	1	0	0	0	0	0	HALL 1
7	0	1	1	0	0	0	0	0	HALL 2
8	1	1	1	0	0	0	0	0	OPERA
9	0	0	0	1	0	0	0	0	CHURCH
11	0	1	0	1	0	0	0	0	PAVILION
12	1	1	0	1	0	0	0	0	ROCK CNCT
13	0	0	1	1	0	0	0	0	JAZZ CLUB
14	1	0	1	1	0	0	0	0	DISCO
16	1	1	1	1	0	0	0	0	STADIUM
17	0	0	0	0	1	0	0	0	MOVIE 1
18	1	0	0	0	1	0	0	0	MOVIE 2
19	0	1	0	0	1	0	0	0	□□PRO LOGIC
21	0	0	1	0	1	0	0	0	PARAMETER NEXT
23	0	1	1	0	1	0	0	0	PARAMETER DEC
24	1	1	1	0	1	0	0	0	PARAMETER INC
25	0	0	0	1	1	0	0	0	ON SCREEN ON/OFF
30	1	0	1	1	1	0	0	0	EFFECT ON/OFF
63	0	1	1	1	1	0	1	0	VOLUME UP
64	1	1	1	1	1	0	1	0	VOLUME DOWN

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	12 KΩ	HJ35 7120	HF85 7120
1.8 Ω	HJ35 3180	*	15 KΩ	HJ35 7150	HF85 7150
2.2 Ω	HJ35 3220	HF85 3220	18 KΩ	HJ35 7180	HF85 7180
3.3 Ω	HJ35 3330	HF85 3330	22 KΩ	HJ35 7220	HF85 7220
4.7 Ω	HJ35 3470	HF85 3470	27 KΩ	HJ35 7270	HF85 7270
5.6 Ω	HJ35 3560	HF85 3560	33 KΩ	HJ35 7330	HF85 7330
10 Ω	HJ35 4100	HF85 4100	39 KΩ	HJ35 7390	HF85 7390
15 Ω	HJ35 4150	HF85 4150	47 KΩ	HJ35 7470	HF85 7470
22 Ω	HJ35 4220	HF85 4220	56 KΩ	HJ35 7560	HF85 7560
27 Ω	HJ35 4270	HF85 4270	68 KΩ	HJ35 7680	HF85 7680
33 Ω	HJ35 4330	HF85 4330	82 KΩ	HJ35 7820	HF85 7820
39 Ω	HJ35 4390	HF85 4390	91 KΩ	HJ35 7910	HF85 7910
47 Ω	HJ35 4470	HF85 4470	100 KΩ	HJ35 8100	HF85 8100
56 Ω	HJ35 4560	HF85 4560	120 KΩ	HJ35 8120	HF85 8120
68 Ω	HJ35 4680	HF85 4680	150 KΩ	HJ35 8150	HF85 8150
82 Ω	HJ35 4820	HF85 4820	180 KΩ	HJ35 8180	HF85 8180
100 Ω	HJ35 5100	HF85 5100	220 KΩ	HJ35 8220	HF85 8220
110 Ω	HJ35 5110	HF85 5110	270 KΩ	HJ35 8270	HF85 8270
120 Ω	HJ35 5120	HF85 5120	330 KΩ	HJ35 8330	HF85 8330
150 Ω	HJ35 5150	HF85 5150	390 KΩ	HJ35 8390	HF85 8390
160 Ω	HJ35 5160	*	470 KΩ	HJ35 8470	HF85 8470
180 Ω	HJ35 5180	HF85 5180	560 KΩ	HJ35 8560	HF85 8560
220 Ω	HJ35 5220	HF85 5220	680 KΩ	HJ35 8680	HF85 8680
270 Ω	HJ35 5270	HF85 5270	820 KΩ	HJ35 8820	HF85 8820
330 Ω	HJ35 5330	HF85 5330	1.0 MΩ	HJ35 9100	HF85 9100
390 Ω	HJ35 5390	HF85 5390	1.2 MΩ	HJ35 9120	*
470 Ω	HJ35 5470	HF85 5470	1.5 MΩ	HJ35 9150	HF85 9150
510 Ω	*	HF85 5510	1.8 MΩ	HJ35 9180	HF85 9180
560 Ω	HJ35 5560	HF85 5560	2.2 MΩ	HJ35 9220	HF85 9220
680 Ω	HJ35 5680	HF85 5680	3.3 MΩ	HJ35 9330	HF85 9330
820 Ω	HJ35 5820	HF85 5820	3.9 MΩ	HJ35 9390	*
910 Ω	HJ35 5910	HF85 5910	4.7 MΩ	HJ35 9470	HF85 9470
1.0 KΩ	HJ35 6100	HF85 6100			
1.2 KΩ	HJ35 6120	HF85 6120			
1.5 KΩ	HJ35 6150	HF85 6150			
1.8 KΩ	HJ35 6180	HF85 6180			
2.0 KΩ	HJ35 6200	HF85 6200			
2.2 KΩ	HJ35 6220	HF85 6220			
2.4 KΩ	HJ35 6240	HF85 6240			
2.7 KΩ	HJ35 6270	HF85 6270			
3.0 KΩ	HJ35 6300	HF85 6300			
3.3 KΩ	HJ35 6330	HF85 6330			
3.6 KΩ	HJ35 6360	HF85 6360			
3.9 KΩ	HJ35 6390	HF85 6390			
4.7 KΩ	HJ35 6470	HF85 6470			
5.1 KΩ	HJ35 6510	HF85 6510			
5.6 KΩ	HJ35 6560	HF85 6560			
6.8 KΩ	HJ35 6680	HF85 6680			
8.2 KΩ	HJ35 6820	HF85 6820			
9.1 KΩ	HJ35 6910	HF85 6910			
10 KΩ	HJ35 7100	HF85 7100			

1/4W Type

HJ35○○○○



1/6W Type

HF85○○○○