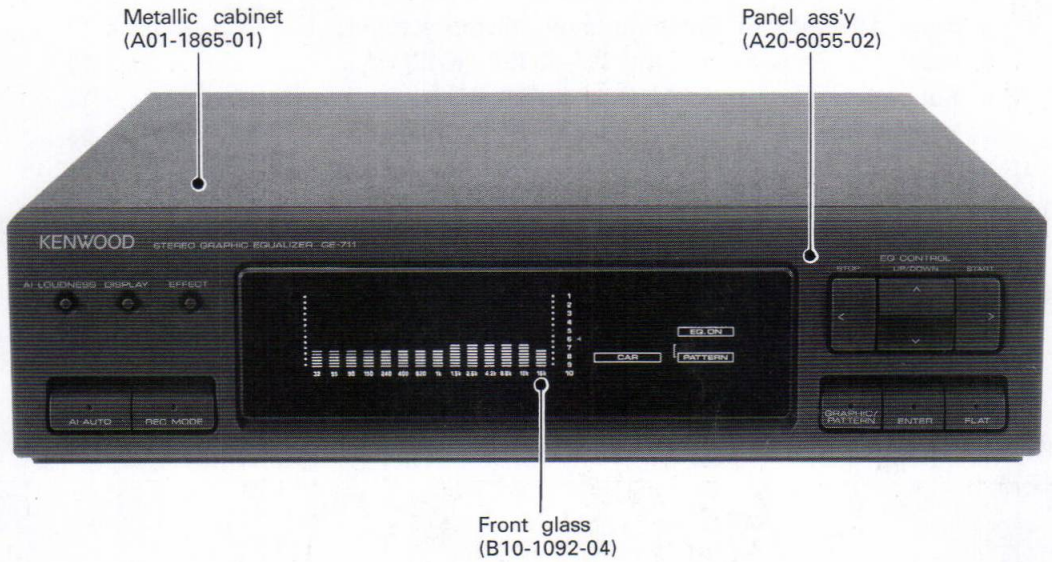
GRAPHIC EQUALIZER

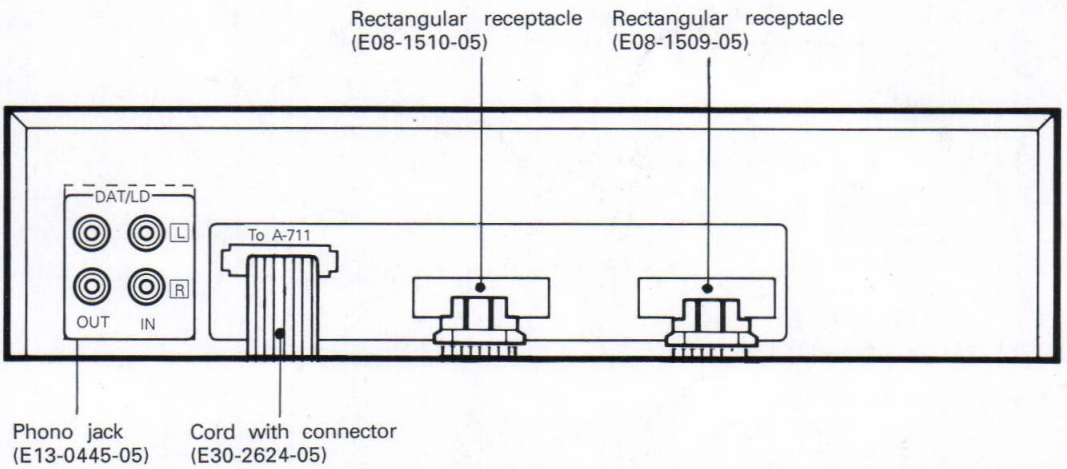
GE-711

SERVICE MANUAL

KENWOOD

B51-4168-00 (O) 3048





CAUTION

When doing repair of GE-711, be sure to have the customer bring the A-711, or supply to 9V AC to terminal Nos 6 and 7 on the X11-2890-00 PC board ass'y.

In case of operating GE-711, without CD player DP-711, short circuit TP4 and TP5 on GE-711's PC board.

If not get 9V AC, please order the A-848's power transformer (parts No. L-07-0038-05 / 120V / 220V / 240V).

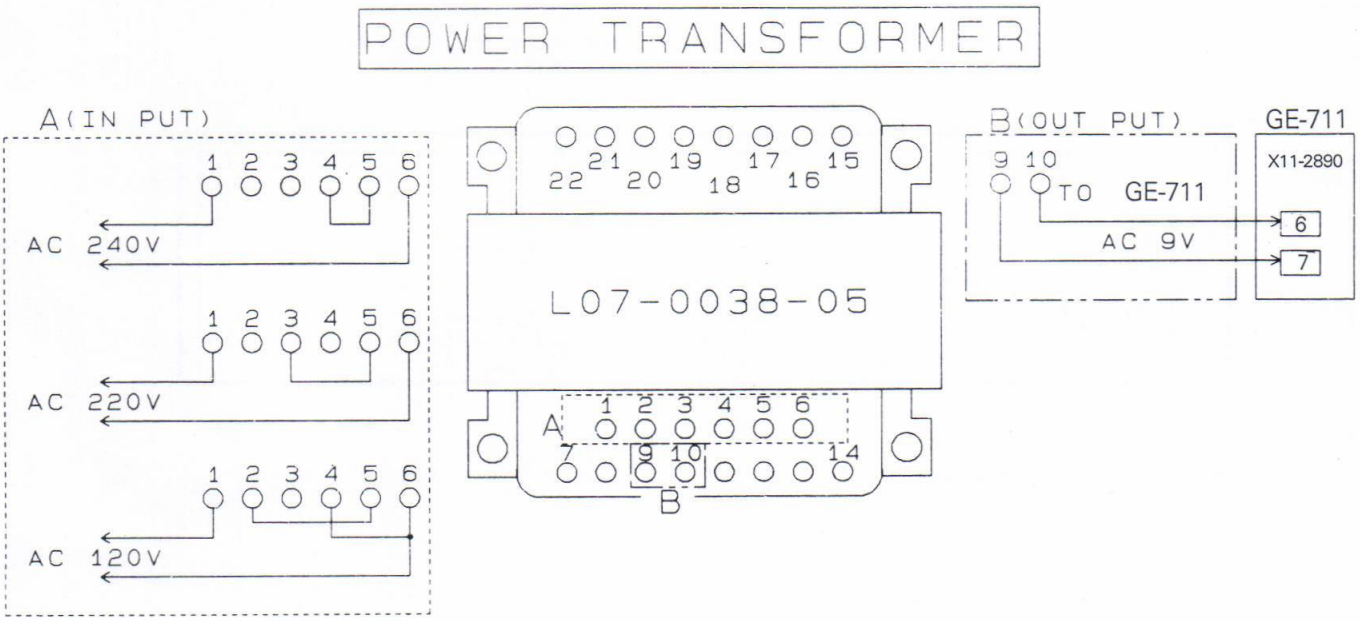
Don't use the "RHEOSTAT".

CONTENTS / CONNECTION

Contents

System mane	Receiver	Graphic equalizer	Cassette deck	CD player	Speaker	Outer packing case
UD7	A-711	GE-711	X-711	DP-711	LS-711	H03-1576-04

Connection



CAUTION

When doing repair of GE-711, be sure to have the customer bring the A-711, or supply to 9V AC to terminal Nos 6 and 7 on the X11-2890-00 PC board ass'y.

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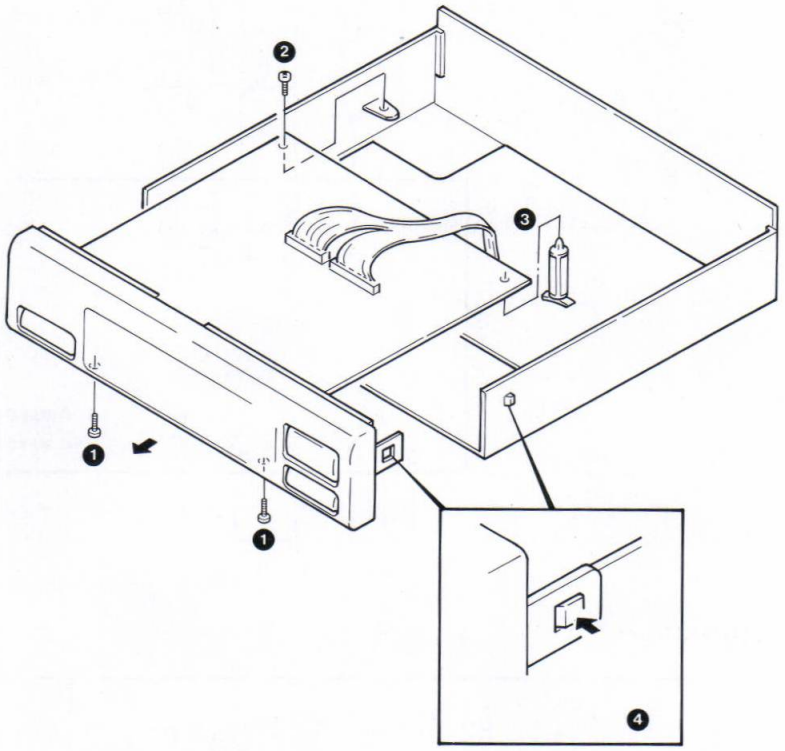
If not get 9V AC, please order the A-848's power transformer (parts No. L-07-0038-05 / 120V / 220V / 240V).

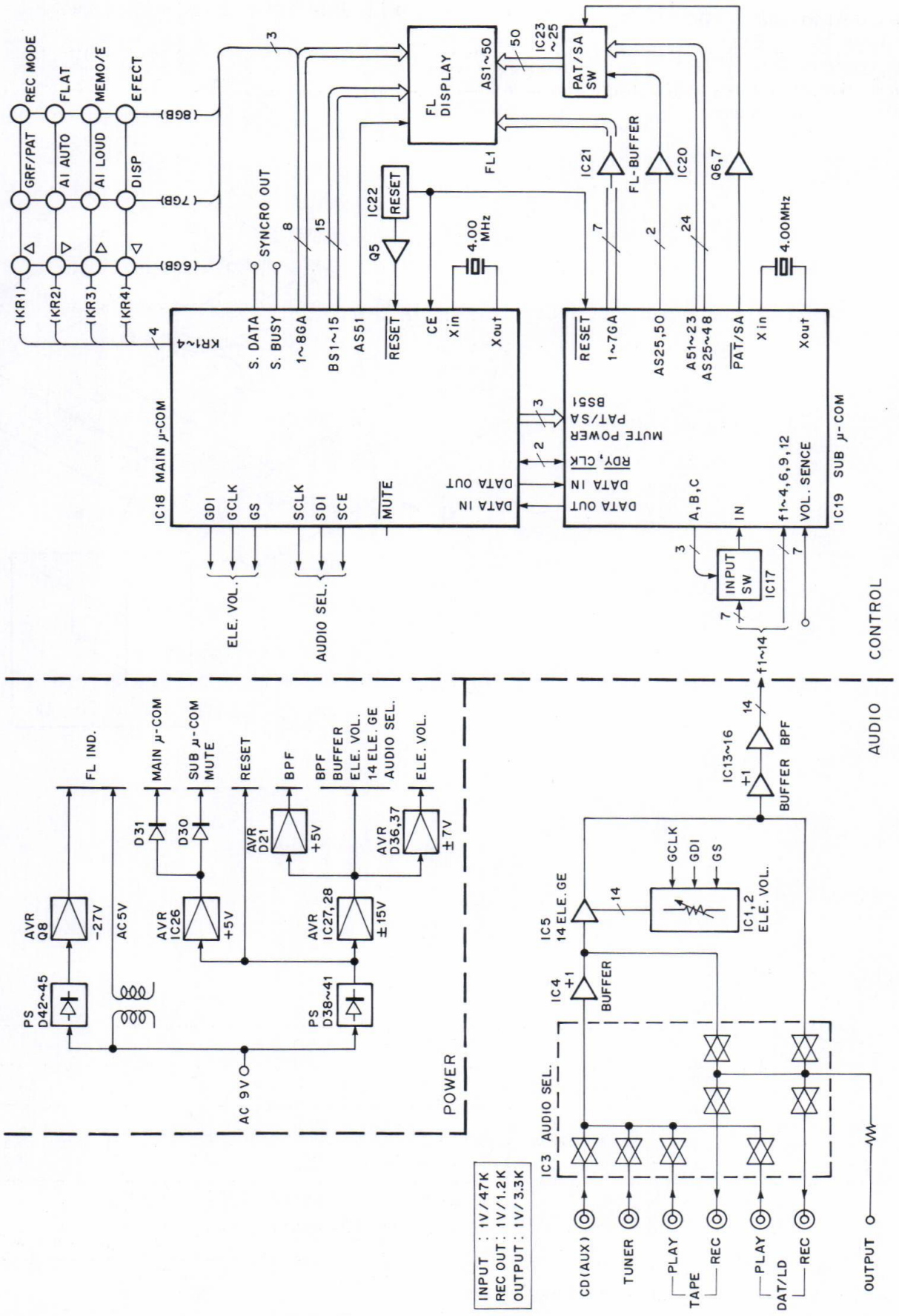
Don't use the "RHEOSTAT".

DISASSEMBLY FOR REPAIR

1. Remove two screws (❶).
2. Remove screw (❷).
3. Remove the PC board ass'y from unit holder (❸).
4. While pushing catches (❹) of chassis, slide the panel ass'y front-wards.



BLOCK DIAGRAM



CIRCUIT DESCRIPTION

1. Description of Components

1-1. CONTROL UNIT (X11-2890-00)

Ref. No.	Use/Function	Operation/Condition/Compatibility
IC1, 2	Electro-potentiometer for GE	Controlled by DGI/GCLK/GS signals of microprocessor
IC3	Electro-switch for selector	Controlled by SDI/SCLK/SCE signals of microprocessor
IC4	Input buffer	Low noise operation amplifier
IC5	GE amplifier	Low noise operation amplifier
IC6~12	GE curve amplifier	Low noise operation amplifier
IC13~16	Band pass filter for spectrum analyzer display	Low noise operation amplifier
IC17	Expand switch for analog input	Controlled by A/B/C signals of microprocessor (substitution : 4051 and same name)
IC18	Microprocessor	Main
IC19	Microprocessor	Sub
IC20, 21	Buffer amplifier	Buffer amplifier for grids of left part in display
IC22	Chip enable	Control for CE terminal of main microprocessor and RESET terminal of sub one
IC23~25	GE pattern /meter select	Control segments to bar indication when power is on under meter mode
IC26	+5V AVR	Power supply for microprocessor (1A type, note internal oscillation when use substitution)
IC27	+15V AVR	Power supply for analog circuit
IC28	–15V AVR	Power supply for analog circuit
Q4	Display driver (8GB)	
Q5	Reset	For main microprocessor
Q6	Pattern/Meter	Q6 is on and supply power to IC23~25 when meter mode
Q7	Pattern/Meter	Control Q6 to on when meter mode
Q8	–28V AVR	For display

CIRCUIT DESCRIPTION

2. Test Mode by Keying In

2-1. Outline of test mode

The test mode is classified into three as follows.

1. Graphic equalizer mode : Mode for testing the graphic equalizer
2. Memory clear : Mode for setting the initial memory of the graphic equalizer
3. Selector test mode : Mode for testing the selector

2-2. Graphic equalizer test mode

- **Setting method**

Pressing and holding the FLAT key, turn on the power. Press the FLAT key again.

- **Resetting method**

Turn on the power without pressing any key.

- **Contents**

All the indicator lamps are turned on at first, and they are returned to the normal indication when any key is pressed.

Set the contents of memories No. 6, 7, and 8 of EQ as follows.

No. 6 : FLAT
No. 7 : +12dB (ALL MAX)
No. 8 : –12dB (ALL MAX)

In all the range of frequency, the EQ level UP/DOWN key is used to set three points of +12 dB, 0, and –12 dB.

Other operation is the same as the normal mode.

2-3. Memory clear (Reset of microcomputer)

- **Setting method**

Pressing and holding the MEMO/ENTER key, turn on the power.

- **Contents**

The memory is set initially (to the reset state), then the normal operation is started.

2-4. Selector test mode

- **Setting method**

Pressing and holding the EFFECT key, turn on the power.

- **Resetting method**

Turn on the power without pressing any key.

- **Contents**

TUNER POSITION DAT OUT and TAPE OUT of the selector are turned ON, and TUNER is indicated by 14 seg.

The position is changed with EQ FREQUENCY START/STOP as follows, and the position is indicated with 14 seg.

CD, DAT OUT : ON, TAPE OUT : ON
↓
DAT, DAT OUT : OFF, TAPE OUT : ON
↓
TAPE, DAT OUT : ON, TAPE OUT : OFF
↓
TUNER, DAT OUT : ON, TAPE OUT : ON

Any other key is not accepted.

- When checking GE, press the EFFECT key in the graphic equalizer mode, and the input becomes TUNER.

Check the operation of GE by using the TUNER input → GE output of the TO AMP connector.

CIRCUIT DESCRIPTION

3. DEMO operation

"DEMO" Scrolling from right to left	AI LOUDNESS Turned off CAR Turned off
↓	
"PRODUCED BY KENWOOD" Scrolling from right to left	HEADPHONE ST Turned off
↓	
"AI AUTO" Scrolling from right to left	EQ ON Turned off AI AUTO Flashing
↓	
CD sampling performed five times at interval of 2 sec. Spectrum analyzer is indicated during this period. (This operation is performed in any position other than CD.)	
↓	
Average spectrum analyzer is indicated (for 2 sec).	
↓	
AI AUTO curve is indicated (2 sec). Pattern (1)	AI AUTO Turned on EQ ON Turned on
↓	
Spectrum analyzer is indicated (5 sec).	
↓	
"AI LOUDNESS" Scrolling from right to left	
↓	
EQ curve is indicated (Pattern (1) + LOUDNESS) (2 sec).	AI LOUDNESS Flashing
↓	
Spectrum analyzer is indicated (5 sec).	AI LOUDNESS Turned on
↓	
"REC MODE" Scrolling from right to left	AI LOUDNESS Turned off
↓	
EQ curve is indicated (Pattern (1) + CRA) (2 sec).	CAR Flashing
↓	
Spectrum analyzer is indicated (5 sec).	CAR Turned on
↓	
EQ curve is indicated (Pattern (1) + HEADPHONE ST) (2 sec).	CAR Turned off
↓	
Spectrum analyzer is indicated (5 sec).	HEADPHONE ST Flashing
↓	HEADPHONE ST Turned on
"MEMORY" Scrolling from right to left	HEADPHONE ST Turned off
↓	
MEMORY No. 1~10	
↓	
EQ curve is indicated (2 sec).	

CIRCUIT DESCRIPTION

3-1. AI LOUDNESS operation

- The following patterns are added to the EQ curve according the VOL position information of the amplifier.

		VOL SENCE voltage
VOL. low ↑	AI LOUDNESS 1	0V~0.136V
	AI LOUDNESS 2	0.137V~0.370V
	AI LOUDNESS 3	0.372V~0.468V
	AI LOUDNESS 4	0.469V~0.663V
VOL. HIGH ↓	AI LOUDNESS 5(FLAT)	0.664V~5V

- Indication made when the AI LOUDNESS pattern is changed

  The AI LOUDNESS pattern and EQ curve are indicated at the same time (for 1 sec).

  ↓ 2 sec

  The AI LOUDNESS pattern and EQ curve are combined together (The data is set to IC).

3-2. Operation of AI TIMER 1

After the power is turned on, the following operation is performed.

- Power is turned on.
  ↓ Last memory is output.
- AI TIMER 1 ON is received.
  ↓ Last memory → (AI LOUDNESS is turned off.)
- VOLUME 1 STOP is received.
  ↓ Pattern 1 of AI TIMER 1 is combined with last memory.
- VOLUME 2 STOP is received.
  ↓ Pattern 2 of AI TIMER 1 is combined with last memory.
- VOLUME 3 STOP is received.
  AI TIMER curve is turned off (AI LOUDNESS is kept turned off). (Return to last memory.)

3-3. AI AUTO operation (1)

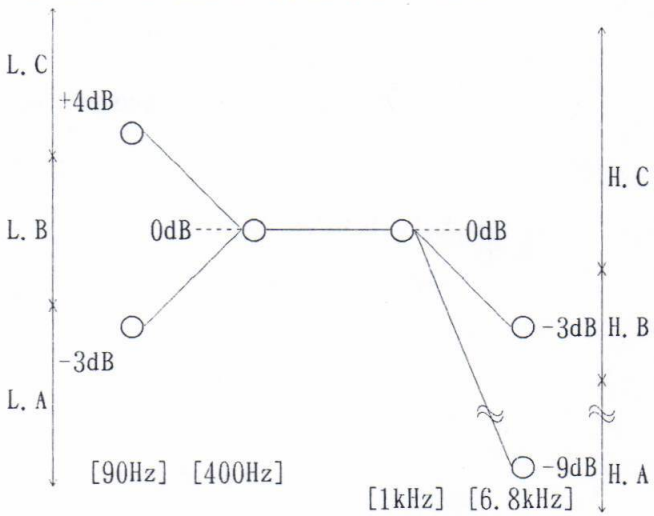
AI AUTO START is transmitted (EQ is turned off).
↓
CD SAMPLE START is received.
↓
2 sec after (1st time) — CD SAMPLING
↓
2 sec after (2nd time) — CD SAMPLING
↓
2 sec after (10th time) — CD SAMPLING

Spectrum analyzer is indicated.

Average spectrum analyzer is indicated (2 sec)
↓
(EQ ON)
EQ curve FLAT is indicated (2 sec)
(In AI LOUDNESS or REC MODE, its pattern is indicated at the same time.)
↓
AI AUTO EQ curve is indicated.
(AI AUTO STOP is output.)

Selecting method of EQ pattern

The average value of spectrum is divided and the EQ pattern is determined as shown right.

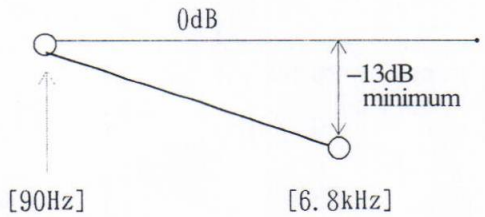


CIRCUIT DESCRIPTION

3-4. AI AUTO operation (2)

L	H	EQ pattern
C	C	AI AUTO 1
C	A	AI AUTO 2
A	C	AI AUTO 3
A	A	AI AUTO 4
B	C	AI AUTO 5
B	A	AI AUTO 6
C	B	AI AUTO 7
A	B	AI AUTO 8
B	B	AI AUTO 9

If the difference between the level of 6.8kHz and that of 90Hz is –13dB or larger, increase by 2dB above 6.8kHz.



ROM data (Original pattern)

Name	Normal	Double-speed	
MEMORY NO. 1	○	○	
MEMORY NO. 2	○	○	
MEMORY NO. 3	○	○	
MEMORY NO. 4	○	○	
MEMORY NO. 5	○ PLAY / REC ○	○	
MEMORY NO. 6	○	×	
MEMORY NO. 7	○	×	
MEMORY NO. 8	○	×	
MEMORY NO. 9	○	×	
MEMORY NO. 10	○	×	
AI AUTO 1	○	○	
AI AUTO 2	○	○	
AI AUTO 3	○	○	
AI AUTO 4	○	○	
AI AUTO 5	○	○	
AI AUTO 6	○	○	
AI AUTO 7	○	○	
AI AUTO 8	○	○	
AI AUTO 9	○	○	
AI TIMER 1 -1	○	×	See separate table. (P11)
AI TIMER 1 -2	○	×	
AI LOUDONESS 1	○	×	
AI LOUDONESS 2	○	×	
AI LOUDONESS 3	○	×	
AI LOUDONESS 4	○	×	
AI LOUDONESS 5	(FLAT)	×	
REC MODE CAR	○	○	See separate table. (P12)
REC MODE HEAD PHONE ST	○	○	

(44 patterns in total + FLAT)

CIRCUIT DESCRIPTION

3-5. EQ curve data

RAM data

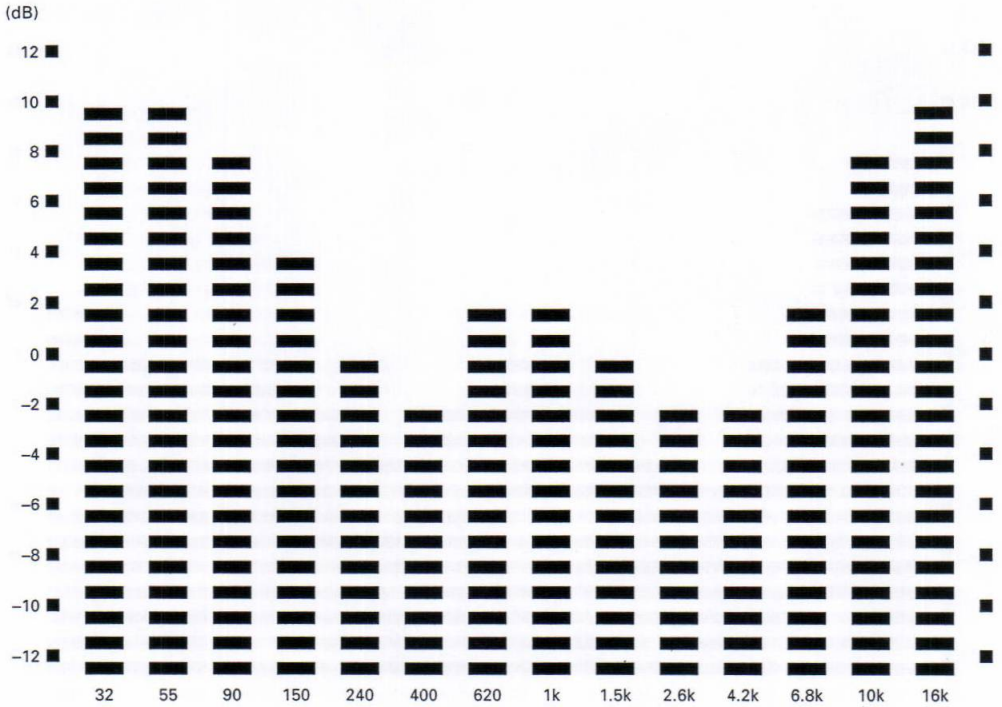
Name	EQ curve	MEMORY NO.	AI AUTO NO.	AI TIMER NO.	AI LOUDNESS NO.	REC MODE
Last memory	○	○	○	○	○	○
MEMORY NO. 1						
MEMORY NO. 2						
MEMORY NO. 3						
MEMORY NO. 4						
MEMORY NO. 5						
MEMORY NO. 6	○	*1				
MEMORY NO. 7	○					
MEMORY NO. 8	○					
MEMORY NO. 9	○					
MEMORY NO. 10	○					
Position CD		○	○			
Position TUNER		○	*2			
Position TAPE		○				
Position DAT		○				
DEMO	○	○	○		○	○

*1: If a new EQ curve is input to MEMORIES No. 6~10, the original pattern is hidden. To call the original pattern again, press and hold the ENTER key for more than 5 sec.

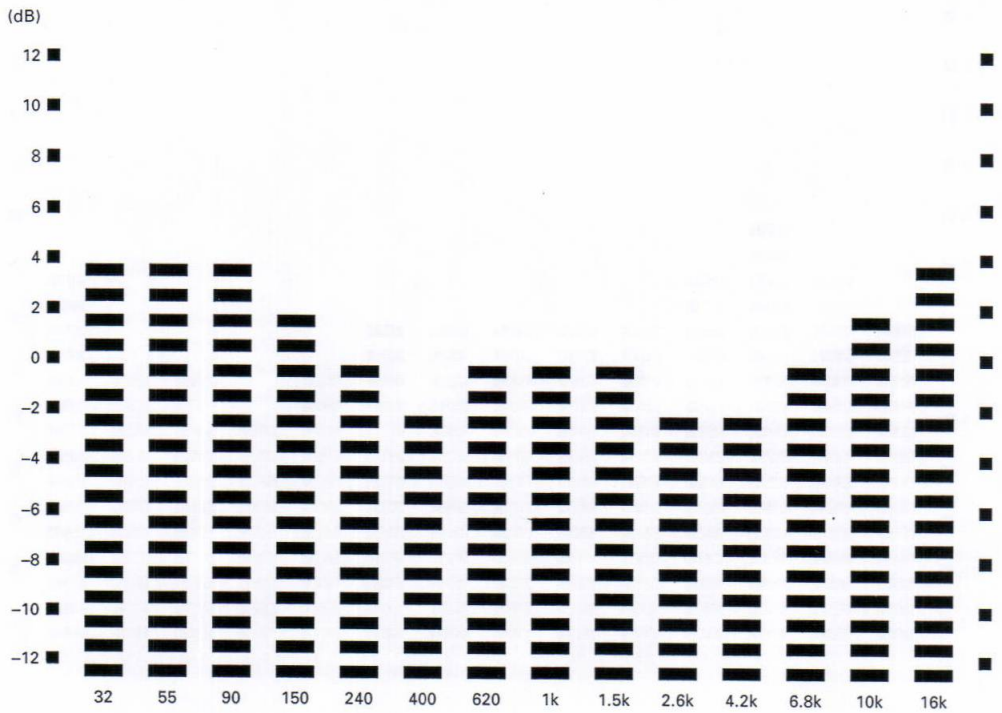
*2: One pattern for each selector position is stored. A pattern is selected by each selector from the patterns stored in the memory in advance.

CIRCUIT DESCRIPTION

3-6. AI TIMER 1 (Pattern 1)

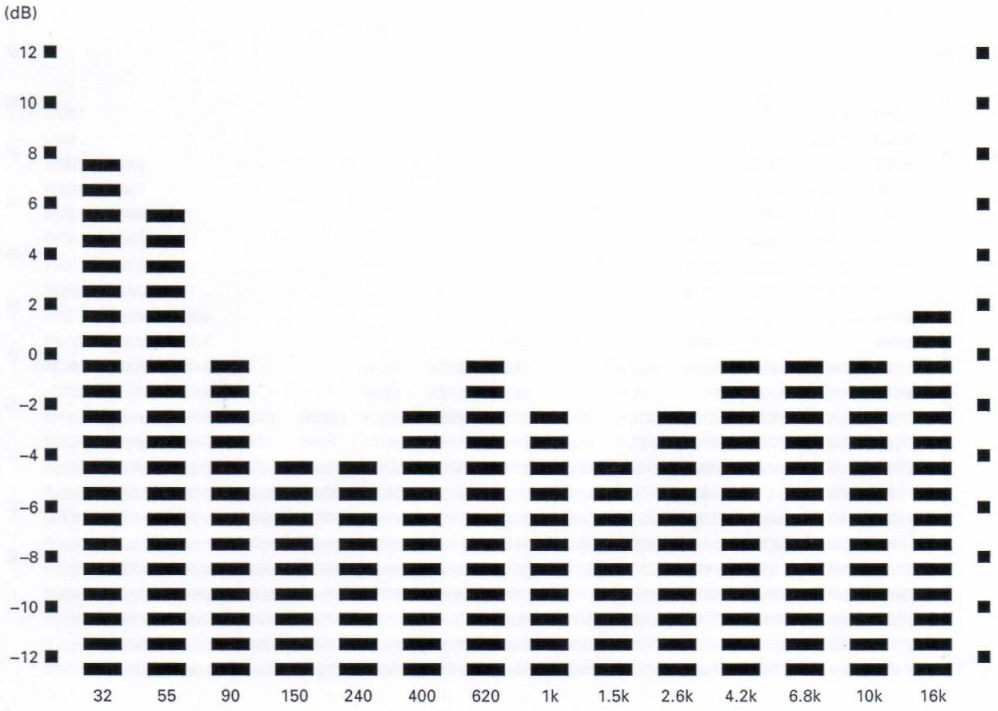


3-7. AI TIMER 1 (Pattern 2)

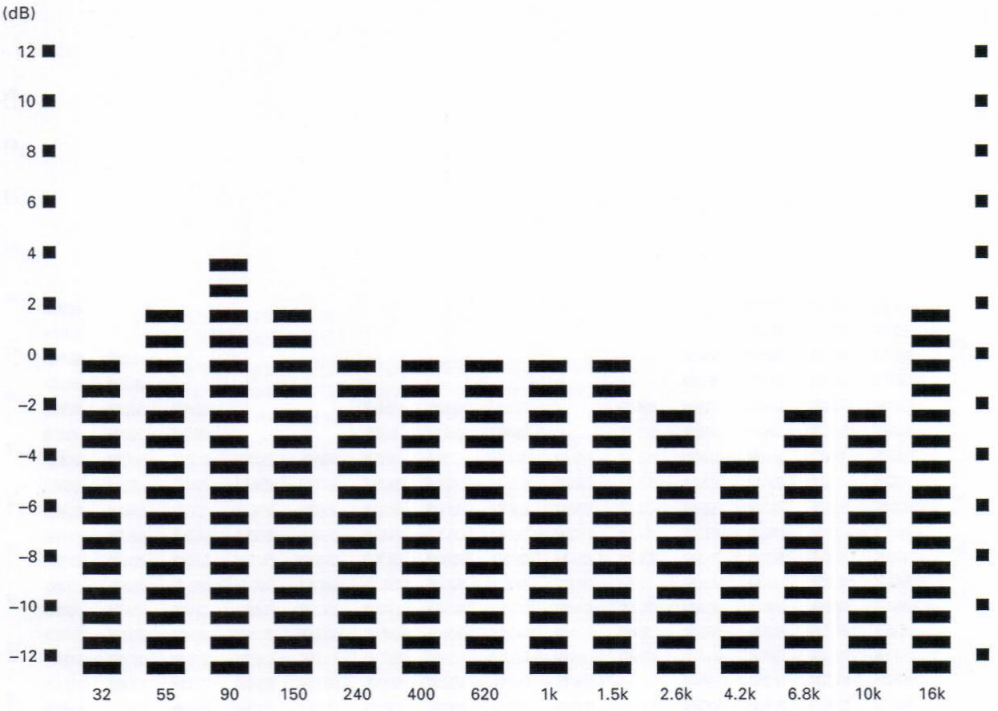


CIRCUIT DESCRIPTION

3-8. REC MODE CAR (Normal)

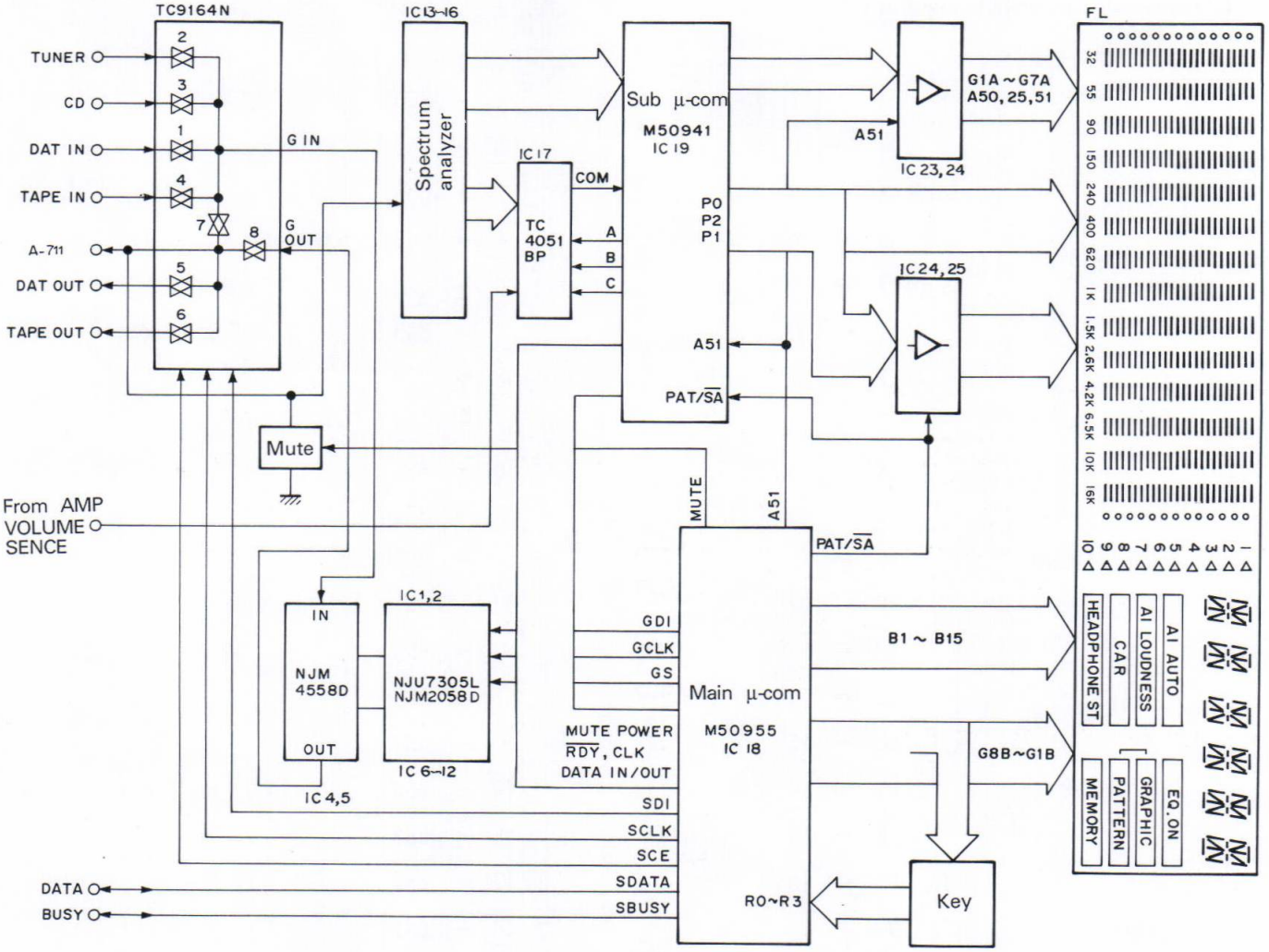


3-9. REC MODE HEADPHONE ST (Normal)



CIRCUIT DESCRIPTION

4. Block Diagram of Environmental Microprocessor



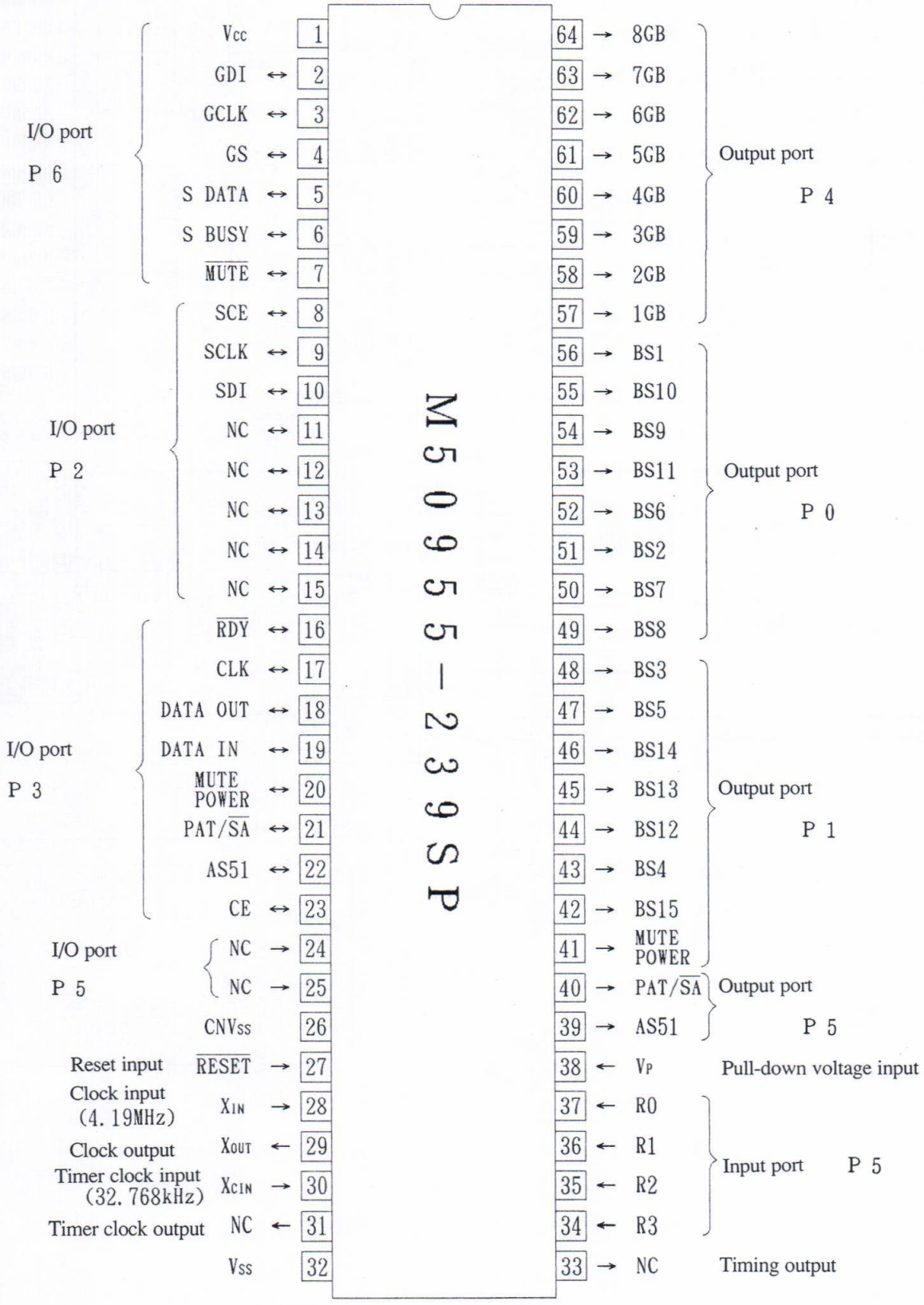
Key matrix

	6GB	7GB	8GB
R0	EQ. L. UP	GRAPHIC/ PATTERN	REC MODE
R1	EQ. L. DOWN	AI AUTO	FLAT
R2	EQ. F. UP	AI LOUDNESS	MEMO/ ENTER
R3	EQ. F. DOWN	DISP	EFFECT

CIRCUIT DESCRIPTION

5. Main Microprocessor : M50955-239SP (IC18)

5-1. Terminal connection diagram



CIRCUIT DESCRIPTION

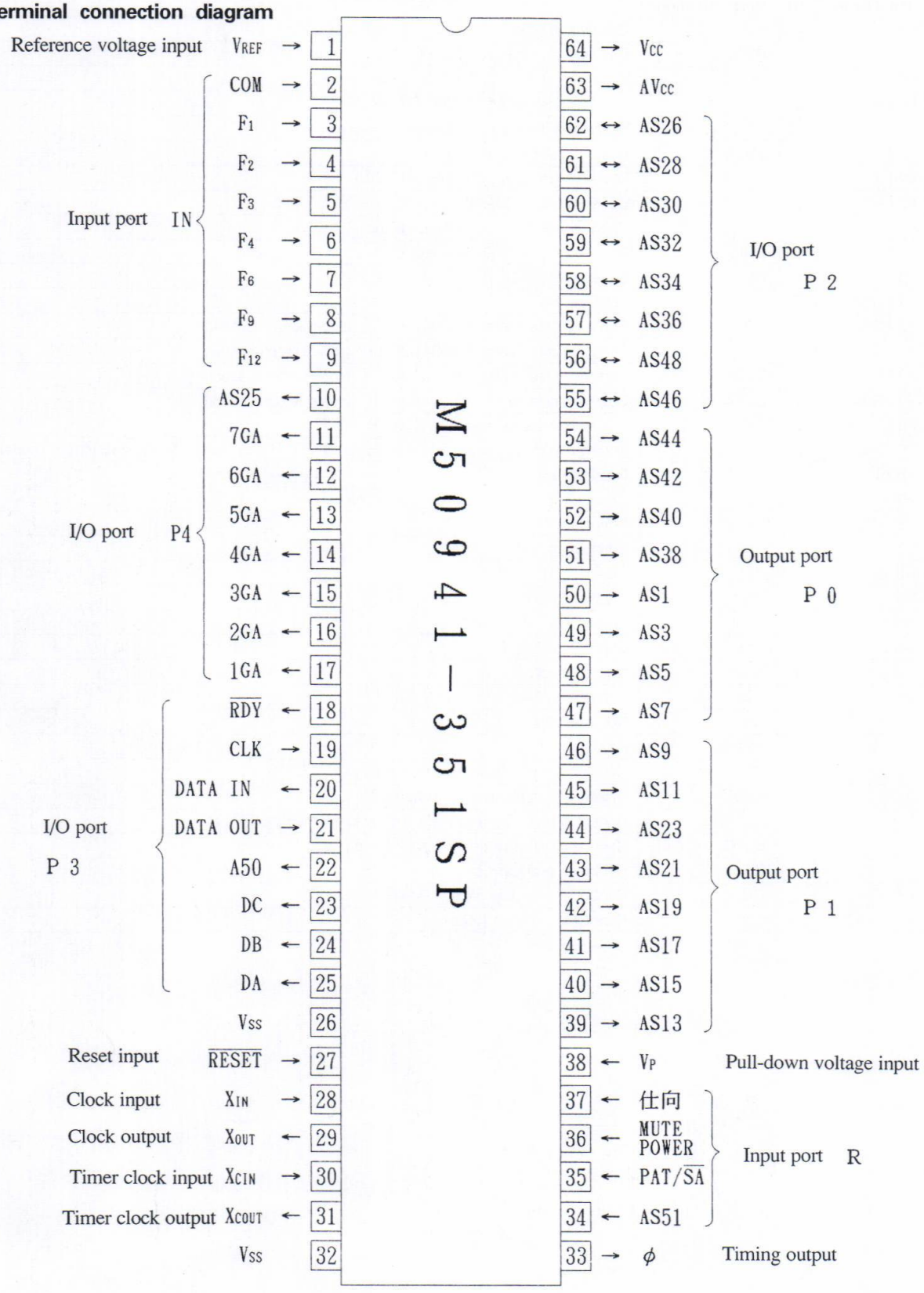
5-2. Explanation of terminals

Pin No.	Pin Name	I/O	Port Function	Description
1	Vcc	–	Vcc	Connect to Vcc
2	P65	O	GDI	Data signal for NJU7305 (EQ electro-pot.)
3	P64	O	GCLK	Clock signal for NJU7305 (EQ electro-pot.)
4	P63/PWM3	O	GS	Select signal for NJU7305 (EQ electro-pot.)
5	P33	I/O	SDATA	Serial data for system control
6	P32	I/O	SBUSY	Busy signal for system control
7	P24	O	MUTE	Mute control signal (L : OFF, H : ON)
8	P27	O	SCE	CE signal for TC9164N (selector)
9	P26	O	SCLK	Clock signal for TC9164N (selector)
10	P25	O	SDI	Data signal for TC9164N (selector)
11	P31	O	NC	Set L level
12~15	P23~P20	O	NC	Set L level
16	P37/$\overline{\text{SRDY}}$	I	$\overline{\text{RDY}}$	Communicate with M50941-351SP (sub-microprocessor)
17	P36/CLK	O	CLK	Communicate with M50941-351SP (sub-microprocessor)
18	P35/SOUT	O	DATA OUT	Communicate with M50941-351SP (sub-microprocessor)
19	P34/SIN	I	DATA IN	Communicate with M50941-351SP (sub-microprocessor)
20	P62/PWM2	O	MUTE POWER	Control for display-on/off (L : ON, H : OFF)
21	P61/PWM1	O	PAT/$\overline{\text{SA}}$	Control for display-segments (L : curve of EQ, H : spectrum mode and letters mode)
22	P60/T	O	AS51	Display-segments
23	P30	I	CE	Detection power off (L : OFF, H : ON)
24, 25	P53 ,P52	I	NC	Connect to Vss
26	CNVss	–	CNVss	Connect to Vss
27	$\overline{\text{RESET}}$	–	$\overline{\text{RESET}}$	Reset
28	XIN	–	XIN	Crystal oscillation (4MHz)
29	XOUT	–	XOUT	Crystal oscillation (4MHz)
30	XCIN	–	XCIN	Connect to Vss
31	XOUT	–	XOUT	Not connect
32	Vss	–	Vss	Connect to Vss
33	ø	–	NC	Not connect
34~37	P57~P54	I	R3~R0	Key input
38	Vp	–	Vp	Connect to pull-down power supply (–32V)
39	AS51	O	AS51	Display-segments (same timing with 7 pin)
40	P50	O	PAT/$\overline{\text{SA}}$	Control for display-segments (same timing with 6 pin)
41	F17	O	MUTE POWER	Control for display on/off (same timing with 5 pin)
42~56	P16~P00	O	BS	Control for display segments
57~61	P47~P43	O	GB	Control for display grids
62~64	P42~P40	O	GB	Control for display grids

CIRCUIT DESCRIPTION

6. Sub Microprocessor : M50941-351SP (IC19)

6-1. Terminal connection diagram



CIRCUIT DESCRIPTION

6-2. Explanation of terminals

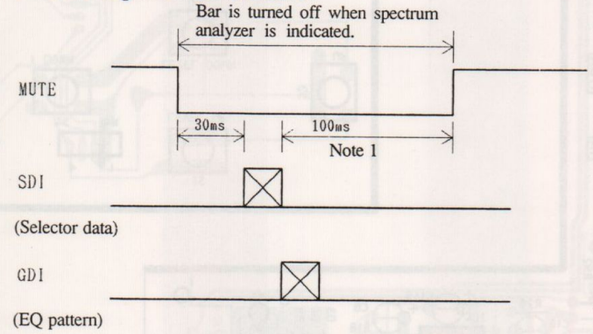
Pin No.	Pin Name	I/O	Port Name	Description
1	VREF	–	VREF	Reference voltage of A/D converter (connected to Vcc)
2	IN7	I	COM	Analog input for Spectrum analyzer (input of M4051BP COM)
3~9	IN6~IN0	I	F	Analog input for Spectrum analyzer (32Hz to 6.5kHz)
10	P47	O	AS25	Control for display segments
11~17	P46~P40	O	GA	Control for display grids
18	P37/$\overline{SRDY}$	O	$\overline{RDY}$	Communicate with main microprocessor (M50955-239SP)
19	P36/CLK	I	CLK	Communicate with main microprocessor (M50955-239SP)
20	P35/SOUT	O	DATA IN	Communicate with main microprocessor (M50955-239SP)
21	P34/SIN	I	DATA OUT	Communicate with main microprocessor (M50955-239SP)
22	P33/T1	O	AS50	Control for display segments
23	P32/T2	O	DC	Control for M4051BP
24	P31/$\overline{INT1}$	O	DB	Control for M4051BP
25	P30/$\overline{INT2}$	O	DA	Control for M4051BP
26	CNVss	–	CNVss	Connect to Vss
27	$\overline{RESET}$	–	$\overline{RESET}$	Reset
28	XIN	–	XIN	Crystal oscillation (4MHz)
29	XOUT	–	XOUT	Crystal oscillation (4MHz)
30	XCIN	–	XCIN	Connect to Vss
31	XOUT	–	XOUT	Not connect
32	Vss	–	Vss	Connect to Vss
33	ø	–	NC	Not connect
34	R3	I	AS51	AS51 signal of main microprocessor
35	R2	I	PAT/$\overline{SA}$	PAT/SA signal of main microprocessor
36	R1	I	MUTE POWER	MUT POWER signal of main microprocessor
37	R0	I	Desti	Destination (L : KENWOOD, H : AUREX)
38	Vp	–	Vp	Pull-down voltage for display (–32V)
39~62	P	O	AS	Control for display segments
63	AVcc	–	–	Connect to Vcc
64	Vcc	–	–	Connect to Vcc

GE-711

CIRCUIT DESCRIPTION

7. Timing Chart

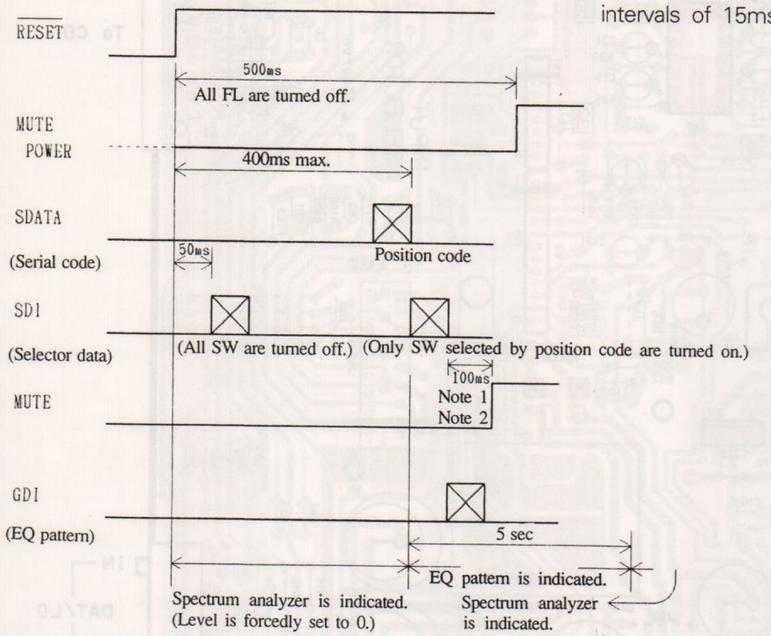
7-1. Changeover of selector



Note 1 : A position code or a selector code may be received on this serial code in this period. In this case, received position must be selected.

7-2. POWER ON

- **Normal state**



Note 2 : While MUTE POWER is L, MUTE is also set to L.

8. Sensitivity of Input for Turning On Spectrum Analyzer

Same conditions for all of F1~F14
VCC = VREF = 5.0V, 0dB = 267mV

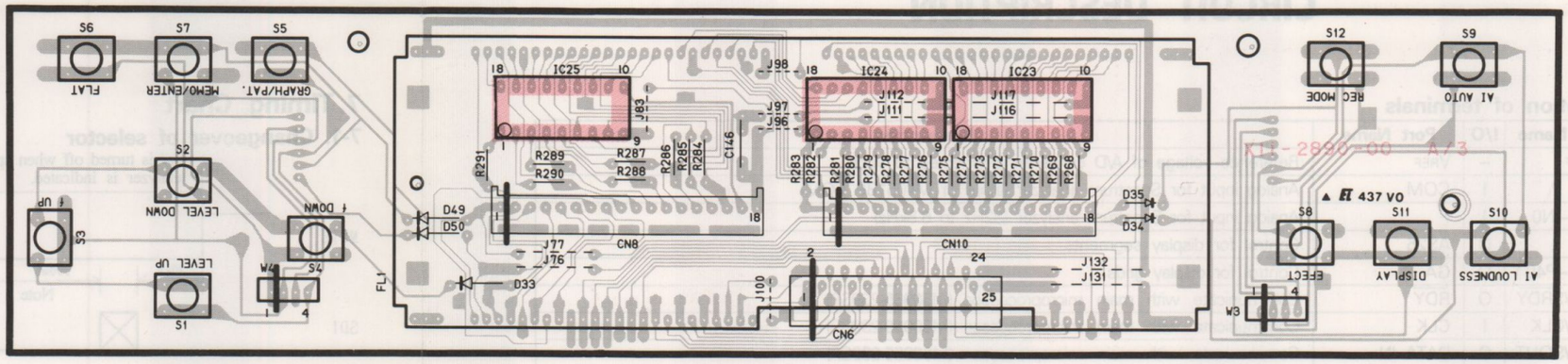
Segment turned on	Typ input (dB)	Typ input voltage (mV)	Value of A/D register (10 values)
+12	24	4272.0	219
+10	22	3361.0	172
+8	20	2670.0	137
+6	18	2136.0	109
+4	16	1692.7	86
+2	14	1344.5	69
0	12	1068.0	55
–2	10	846.3	43
–4	8	672.3	34
–6	6	534.0	27
–8	4	423.2	22
–10	2	336.0	17
–12	0	267.0	13

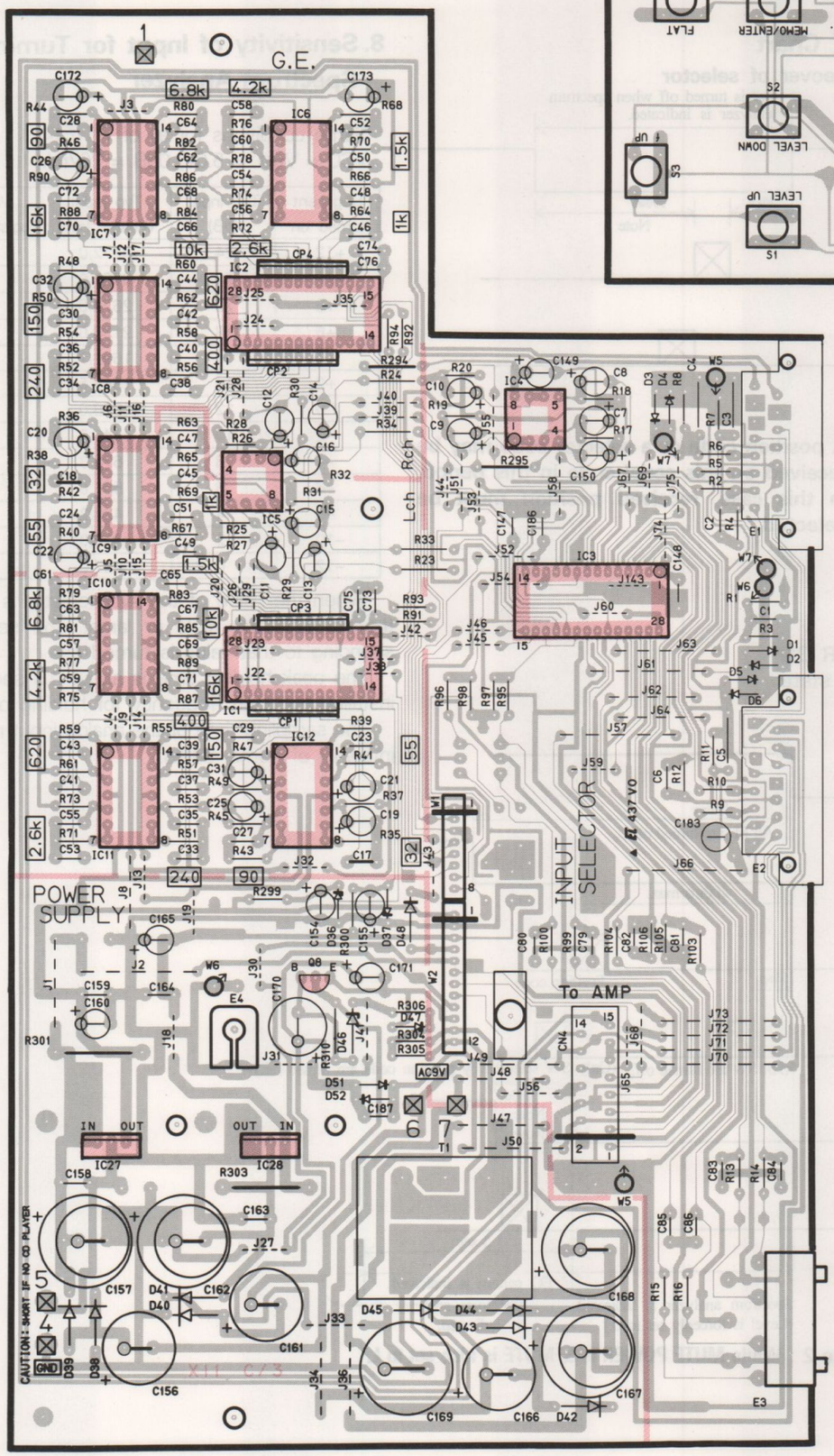
When the value of the A/D register is the same as the value in the table or larger, the segment corresponding to that value is turned on.

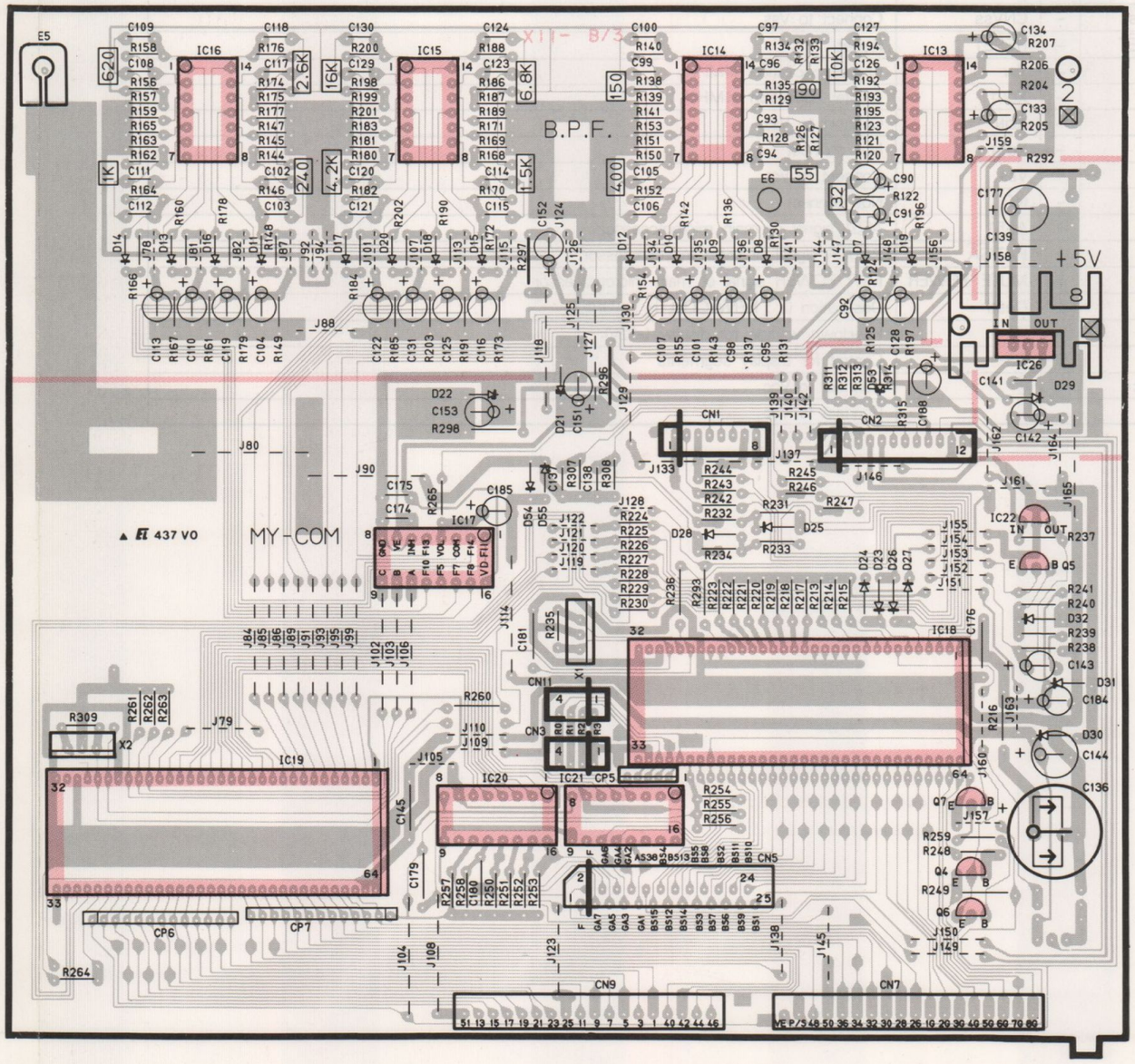
The peak holding time is about 0.5 sec. A timer is installed for each frequency for holding peak.

The sampling time of the analog input may be set at intervals of 15ms~30ms.

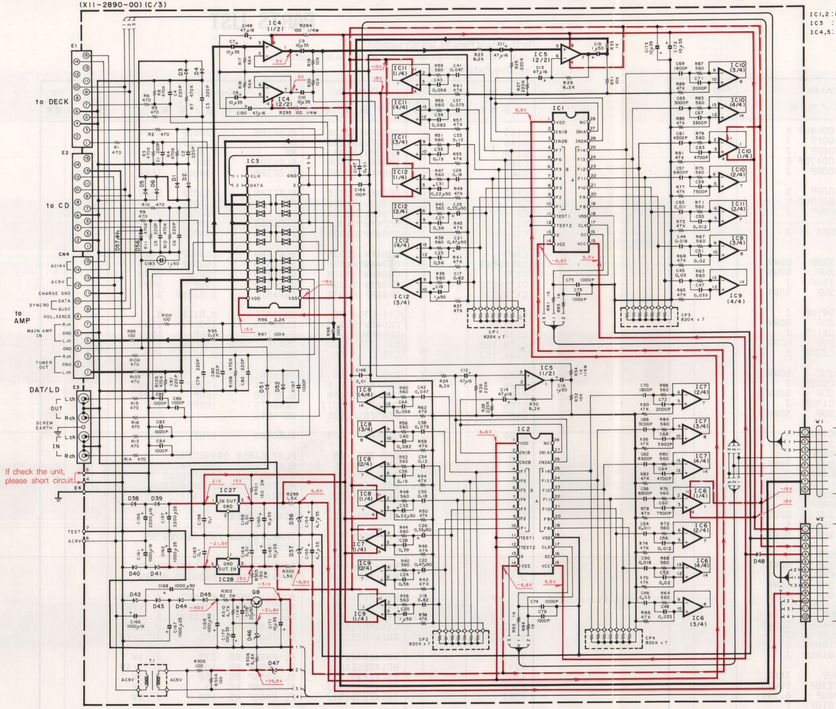
PC BOARD (COMPONENT SIDE VIEW)

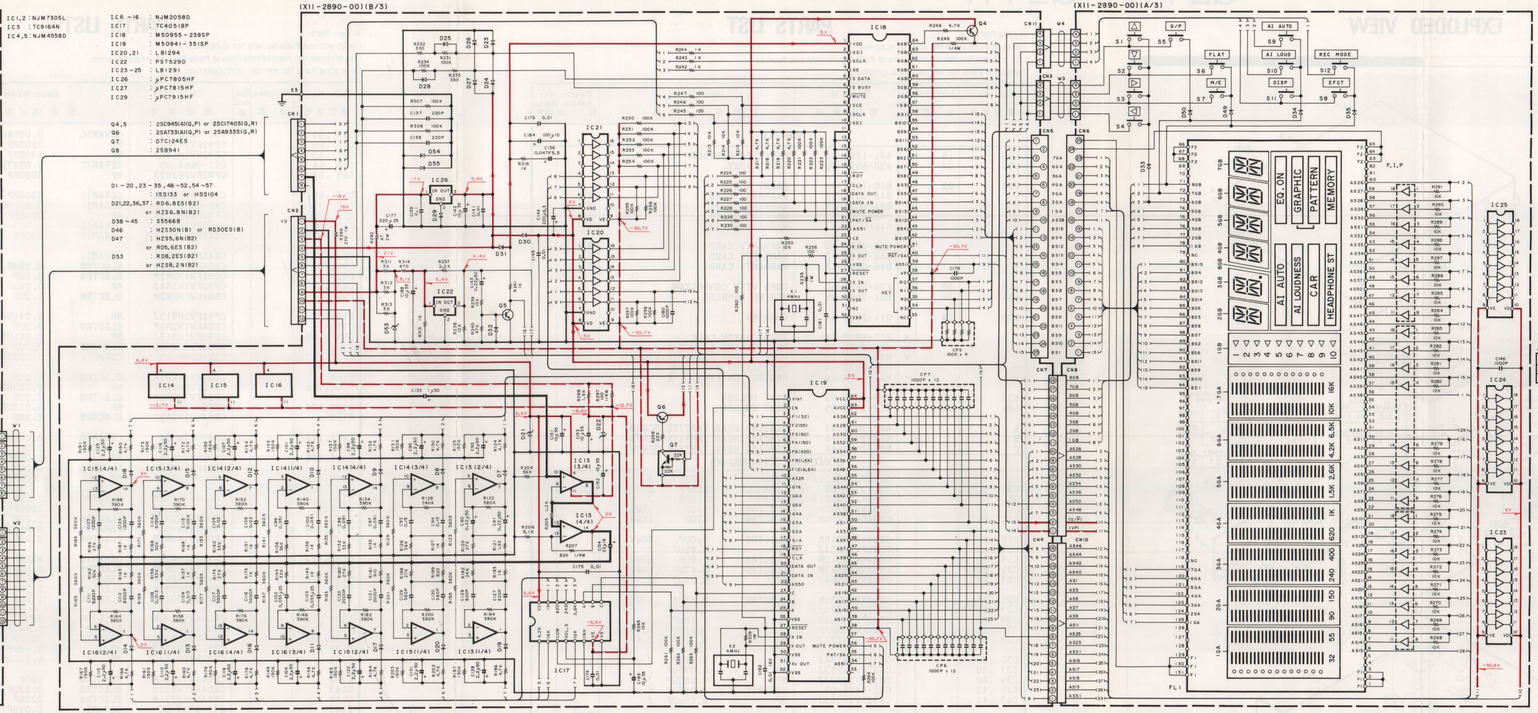




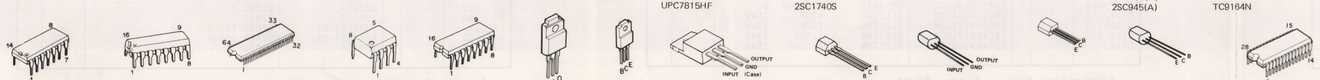


Refer to the schematic diagram for the values of resistors and capacitors.





NJM2058D LB1294 M50941-351SP NJM4558D TC4051BP UPC7915HF 2SB941 UPC7805HF UPC7815HF 2SA933S 2SC1740S PST529D DTC124ES 2SA733(A) 2SC945(A) NJU7305L TC9164N



CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). (!) Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

(208~768)

(1GA~76A)

ANODE CONNECTION

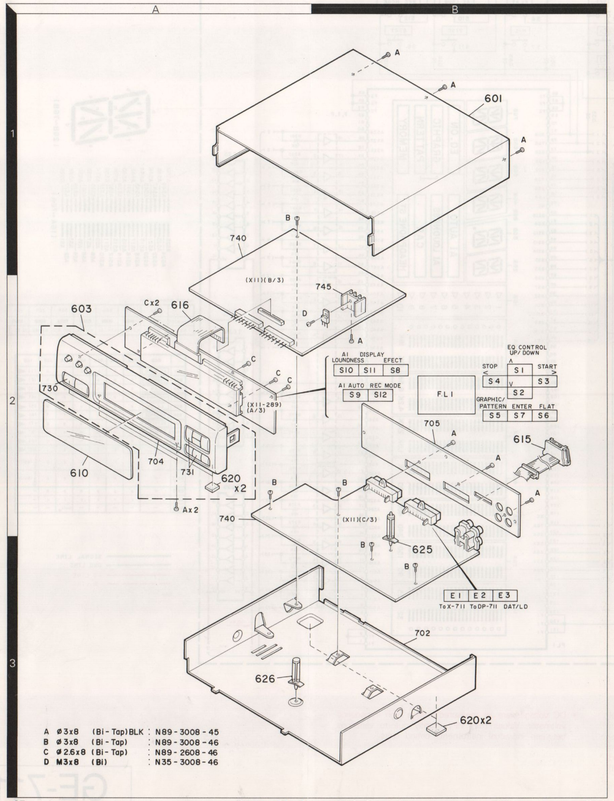
	76A	66A	56A	46A	36A	26A	16A
A11~A200	10K	10K	8.2K	6.8K	5.6K	3.9K	2.2K
A51~A151	10K	10K	8.2K	6.8K	5.6K	3.9K	2.2K

	91B	71B	61B	51B	41B	31B	21B	11B
B51	AI AUTO	x	x	x	x	x	x	11
B52	AI LOUDNESS	x	x	x	x	x	x	12
B53	CAR	x	x	x	x	x	x	13
B54	HEADPHONE ST	x	x	x	x	x	x	14
B55	EQ. ON	x	x	x	x	x	x	15
B56	GRAPHIC	x	x	x	x	x	x	16
B57	PATTERN	x	x	x	x	x	x	17
B58	MEMORY	x	x	x	x	x	x	18
B59	—	1B5W	x	x	x	x	x	19
B510	—	—	x	x	x	x	x	1B(S1)
B511	—	—	—	x	x	x	x	1B(S2)
B512	—	—	—	—	x	x	x	1B(S3)
B513	—	—	—	—	—	x	x	—
B514	—	—	—	—	—	—	x	—
B515	—	—	—	—	—	—	—	—

SIGNAL LINE
GND LINE
+B LINE
−B LINE

GE-711
KENWOOD

EXPLODED VIEW



A ø3x8 (Bi-Top)BLK : N89-3008-45
B ø3x8 (Bi-Top) : N89-3008-46
C ø2.6x8 (Bi-Top) : N89-2608-46
D M3x8 (Bi) : N35-3008-46

Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名/規格	Destination 仕向	Remarks 備考
			GE-711			
601	1B		A01-1865-01	METALLIC CABINET		
603	2A	×	A20-6055-02	PANEL ASSY		
610	2A	×	B10-1092-04	FRONT GLASS		
-			B46-0092-03	WARRANTY CARD	K	
-			B46-0094-03	WARRANTY CARD	Y	
-			B46-0095-03	WARRANTY CARD	Y	
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0121-03	WARRANTY CARD	P	
-			B46-0122-13	WARRANTY CARD	E	
-			B46-0143-13	WARRANTY CARD	T	
615	2B	×	E30-2624-05	CORD WITH CONNECTOR		
616	2A	×	E31-7680-05	WIRING HARNESS		
620	2A		G11-2017-04	CUSHION		
-		×	H01-8817-04	ITEM CARTON CASE		
-		×	H10-5021-02	POLYSTYRENE FOAMED FIXTURE		
-		×	H10-5022-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0232-04	PROTECTION BAG (235X350X0.03)	Y	
-		×	H25-0400-04	PROTECTION BAG		
625	3B		J19-0517-05	UNIT HOLDER		
626	3A		J19-3078-05	UNIT HOLDER		
A			N89-3008-45	BINDING HEAD TAPTITE SCREW		
B			N89-3008-46	BINDING HEAD TAPTITE SCREW		
C			N89-2608-46	BINDING HEAD TAPTITE SCREW		
			CONTROL (X11-2890-00)			
C1 ,2			CC45FSL1H221J	CERAMIC 220PF J		
C3 -5			C91-0749-05	CERAMIC 220PF K		
C6			CC45FSL1H221J	CERAMIC 220PF J		
C7 -10			CE04KW1V100M	ELECTRO 10UF 35WV		
C11 -14			CE04KW1C470M	ELECTRO 47UF 16WV		
C15 ,16			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C17 ,18			CF92FV1H824J	MF 0.82UF J		
C19 ,20			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C21 ,22			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C23 ,24			CF92FV1H564J	MF 0.56UF J		
C25 ,26			CE04KW1HR33M	ELECTRO 0.33UF 50WV		
C27 ,28			CF92FV1H394J	MF 0.39UF J		
C29 ,30			CF92FV1H184J	MF 0.18UF J		
C31 ,32			CE04KW1HR22M	ELECTRO 0.22UF 50WV		
C33 ,34			CF92FV1H124J	MF 0.12UF J		
C35 ,36			CF92FV1H154J	MF 0.15UF J		
C37 ,38			CF92FV1H753J	MF 0.075UF J		
C39 ,40			CF92FV1H823J	MF 0.082UF J		
C41 ,42			C91-0692-05	CERAMIC 0.047UF K		
C43 ,44			CF92FV1H563J	MF 0.056UF J		
C45 ,46			CF92FV1H303J	MF 0.030UF J		
C47 ,48			C91-0688-05	CERAMIC 0.033UF K		
C49 ,50			C91-0682-05	CERAMIC 0.018UF K		
C51 ,52			CF92FV1H203J	MF 0.020UF J		
C53 ,54			CF92FV1H113J	MF 0.011UF J		
C55 ,56			C91-0678-05	CERAMIC 0.012UF K		

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PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名/規格	Destination 仕向	Remarks 備考
C57 ,58			C91-0672-05	CERAMIC 0.0068UF K		
C59 ,60			CF92FV1H752J	MF 7500PF J		
C61 ,62			CF92FV1H432J	MF 4300PF J		
C63 ,64			C91-0668-05	CERAMIC 0.0047UF K		
C65 ,66			CF92FV1H302J	MF 3000PF J		
C67 ,68			CK45FB1H332K	CERAMIC 3300PF K		
C69 ,70			C91-0658-05	CERAMIC 0.0018UF K		
C71 ,72			CF92FV1H202J	MF 2000PF J		
C73 -76			CK45FB1H102K	CERAMIC		
C79 -82			CC45FSL1H221J	CERAMIC 220PF J		
C83 -86			CK45FB1H102K	CERAMIC		
C90 ,91			CE04KW1HR22M	ELECTRO 0.22UF 50WV		
C92			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C93 ,94			CF92FV1H154J	MF 0.15UF J		
C95			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C96 ,97			CF92FV1H913J	MF 0.091UF J		
C98			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C99 ,100			CF92FV1H513J	MF 0.051UF J		
C101			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C102,103			C91-0688-05	CERAMIC 0.033UF K		
C104			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C105,106			CF92FV1H203J	MF 0.020UF J		
C107			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C108,109			CF92FV1H133J	MF 0.013UF J		
C110			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C111,112			C91-0674-05	CERAMIC 0.0082UF K		
C113			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C114,115			CF92FV1H512J	MF 5100PF J		
C116			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C117,118			CF92FV1H302J	MF 3000PF J		
C119			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C120,121			CF92FV1H202J	MF 2000PF J		
C122			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C123,124			C91-0654-05	CERAMIC 0.0012UF K		
C125			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C126,127			CK45FB1H821K	CERAMIC 820PF K		
C128			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C129,130			CK45FB1H561K	CERAMIC 560PF K		
C131			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C133			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C134			CE04KW1C220M	ELECTRO 22UF 16WV		
C136		×	C90-1826-05	BACKUP 0.047F 5.5WV		
C137,138			CC45FSL1H221J	CERAMIC 220PF J		
C139			CF92FV1H104J	MF 0.10UF J		
C141			CF92FV1H103J	MF 0.010UF J		
C142			CE04KW1V100M	ELECTRO 10UF 35WV		
C143			CE04KW1HR22M	ELECTRO 0.22UF 50WV		
C144			CE04KW0J221M	ELECTRO 220UF 6.3WV		
C145			C91-0769-05	CERAMIC 0.01UF K		
C146			C91-0757-05	CERAMIC 1000PF K		
C147,148			CK45FF1H103Z	CERAMIC 0.010UF Z		
C149,150			CE04KW1C470M	ELECTRO 47UF 16WV		
C151-153			CE04KW1V100M	ELECTRO 10UF 35WV		
C154,155			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C156			CE04KW1C222M	ELECTRO 2200UF 16WV		

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C157			CE04KW1E222M	ELECTRO 2200UF 25WV		
C158			CF92FV1H104J	MF 0.10UF J		
C159			CF92FV1H103J	MF 0.010UF J		
C160			CE04KW1V100M	ELECTRO 10UF 35WV		
C161			CE04KW1C102M	ELECTRO 1000UF 16WV		
C162			CE04KW1E102M	ELECTRO 1000UF 25WV		
C163			CF92FV1H104J	MF 0.10UF J		
C164			CF92FV1H103J	MF 0.010UF J		
C165			CE04KW1V100M	ELECTRO 10UF 35WV		
C166			CE04KW1C102M	ELECTRO 1000UF 16WV		
C167			CE04KW1E102M	ELECTRO 1000UF 25WV		
C168,169			CE04KW1H102M	ELECTRO 1000UF 50WV		
C170			CE04KW1V101M	ELECTRO 100UF 35WV		
C171-173			CE04KW1V100M	ELECTRO 10UF 35WV		
C174,175			CK45FF1H103Z	CERAMIC 0.010UF Z		
C176			C91-0769-05	CERAMIC 0.01UF K		
C177			CE04KW1E221M	ELECTRO 220UF 25WV		
C178			CE04KW1H220M	ELECTRO 22UF 50WV		
C179,180			C91-0757-05	CERAMIC 1000PF K		
C181,182			C91-0769-05	CERAMIC 0.01UF K		
C183			C90-1349-05	NP-ELEC 1UF 50WV		
C184			CE04KW1A101M	ELECTRO 100UF 10WV		
C185			CE04KW1V100M	ELECTRO 10UF 35WV		
C186			CC45FSL1H101J	CERAMIC 100PF J		
C187			CK45FB1H102K	CERAMIC		
C188			CE04KW1V100M	ELECTRO 10UF 35WV		
CN5			E10-2503-05	FLAT CABLE CONNECTOR		
CN6			E10-2504-05	FLAT CABLE CONNECTOR		
E1		×	B08-1509-05	RECTANGULAR RECEPTACLE		
E2		×	B08-1510-05	RECTANGULAR RECEPTACLE		
E3			E13-0445-05	PHONO JACK (4P)		
E6			J11-0098-05	WIRE CLAMPER		
T1			L19-0068-05	TRANSFORMER FOR CONVERTER		
X1 ,2			L78-0244-05	RESONATOR		
A			N89-3008-45	BINDING HEAD TAPTITE SCREW		
D			N35-3008-46	BINDING HEAD MACHINE SCREW		
CP1 -4			R90-0491-05	MULTI-COMP 820KX7 J 1/6W		
CP5			R90-0482-05	MULTI-COMP 100KX4 J 1/6W		
CP6 ,7		×	R90-0861-05	MULTI-COMP 1000PX1 2		
R292			RS14KB3D470J	FL-PROOF RS 47 J 2W		
R294,295			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
R296			RS14KB3A271J	FL-PROOF RS 270 J 1W		
R297			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
R301			RS14KB3D151J	FL-PROOF RS 150 J 2W		
R302			RS14KB3D820J	FL-PROOF RS 82 J 2W		
R303			RS14KB3D151J	FL-PROOF RS 150 J 2W		
S1 -12			S40-1064-05	PUSH SWITCH		
D1 -20			HSS104	DIODE		
D1 -20			1SS133	DIODE		
D21 ,22			HZ5.6N(B2)	ZENER DIODE		
D21 ,22			RD6.8ES(B2)	ZENER DIODE		
D23 -35			HSS104	DIODE		

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D23 -35			1SS133	DI0DE		
D36 ,37			HZS6.8N(B2)	ZENER DI0DE		
D36 ,37			RD6.8ES(B2)	ZENER DI0DE		
D38 -45			S5566B	DI0DE		
D46			HZS30N(B)	ZENER DI0DE		
D46			RD30ES(B)	ZENER DI0DE		
D47			HZS5.6N(B2)	ZENER DI0DE		
D47			RD5.6ES(B2)	ZENER DI0DE		
D48 -52			HSS104	DI0DE		
D48 -52			1SS133	DI0DE		
D53			HZS8.2N(B2)	ZENER DI0DE		
D53			RD8.2ES(B2)	ZENER DI0DE		
D54 -57			HSS104	DI0DE		
D54 -57			1SS133	DI0DE		
FL1		*	BG-805G	FLU0RESCENT INDICAT0R TUBE		
IC1 ,2			NJU7305L	IC(DUAL 4-CHANNEL MULTIPLEXER)		
IC3			TC9164N	IC(16CH BILATERAL SELECT0R SW)		
IC4 ,5			NJM4558D	IC(0P AMP X2)		
IC6 -16			NJM2058D	IC(0P AMP X4)		
IC17			TC4051BP	IC(8CH MPX/ DE-MPX)		
IC18		*	M50955-239SP	IC		
IC19		*	M50941-351SP	IC(MICR0PR0CESS0R)		
IC20,21			LB1294	IC(6CH DARLINGT0N DRIVER)		
IC22			PST529D	IC		
IC23-25		*	LB1291	IC		
IC26			UPC7805HF	IC(V0LTAGE REGULAT0R/ +5V)		
IC27			UPC7815HF	IC(V0LTAGE REGULAT0R/ +15V)		
IC28			UPC7915HF	IC(V0LTAGE REGULAT0R/ -15V)		
Q4 ,5			2SC1740S(Q,R)	TRANSIST0R		
Q4 ,5			2SC945(A)(Q,P)	TRANSIST0R		
Q6			2SA733(A)(Q,P)	TRANSIST0R		
Q6			2SA933S(Q,R)	TRANSIST0R		
Q7			DTC124ES	DIGITAL TRANSIST0R		
Q8			2SB941	TRANSIST0R		

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GE-711

SPECIFICATIONS

Equalizer characteristic	
Variable range	±12dB
Center frequencies	32Hz, 55Hz, 90Hz, 150Hz, 240Hz, 400Hz, 620Hz, 1kHz, 1.5kHz, 2.6kHz, 4.2kHz, 6.8kHz, 10kHz, 16kHz
Dimensions	270 W x 70 H x 258 D (mm)
Weight	1.8kg

Note : KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note :
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

KENWOOD CORPORATION
Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD U.S.A. CORPORATION
2201 East Dominguez Street, Long Beach, CA 90810;
550 Clark Drive, Mount Olive, NJ 07828, U.S.A.

KENWOOD ELECTRONICS CANADA INC.
P.O. BOX 1075, 959 Gana Court, Mississauga, Ontario, Canada L4T 4C2

TRIO-KENWOOD U.K. LTD.
KENWOOD HOUSE, Dwight Road, Watford, Herts., WD1 8EB United Kingdom

KENWOOD ELECTRONICS BENELUX N.V.
Mechelsesteenweg 418 B-1930 Zaventem, Belgium

KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrücker-Str. 15, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.
13 Boulevard Ney, 75018 Paris, France

KENWOOD LINEAR S.p.A.
20125, MILANO-VIA ARBE, 50, ITALY

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (INCORPORATED IN N.S.W.)
4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

KENWOOD & LEE ELECTRONICS, LTD.
Wang Kee Building, 4th Floor, 34-37, Connaught Road, Central, Hong Kong