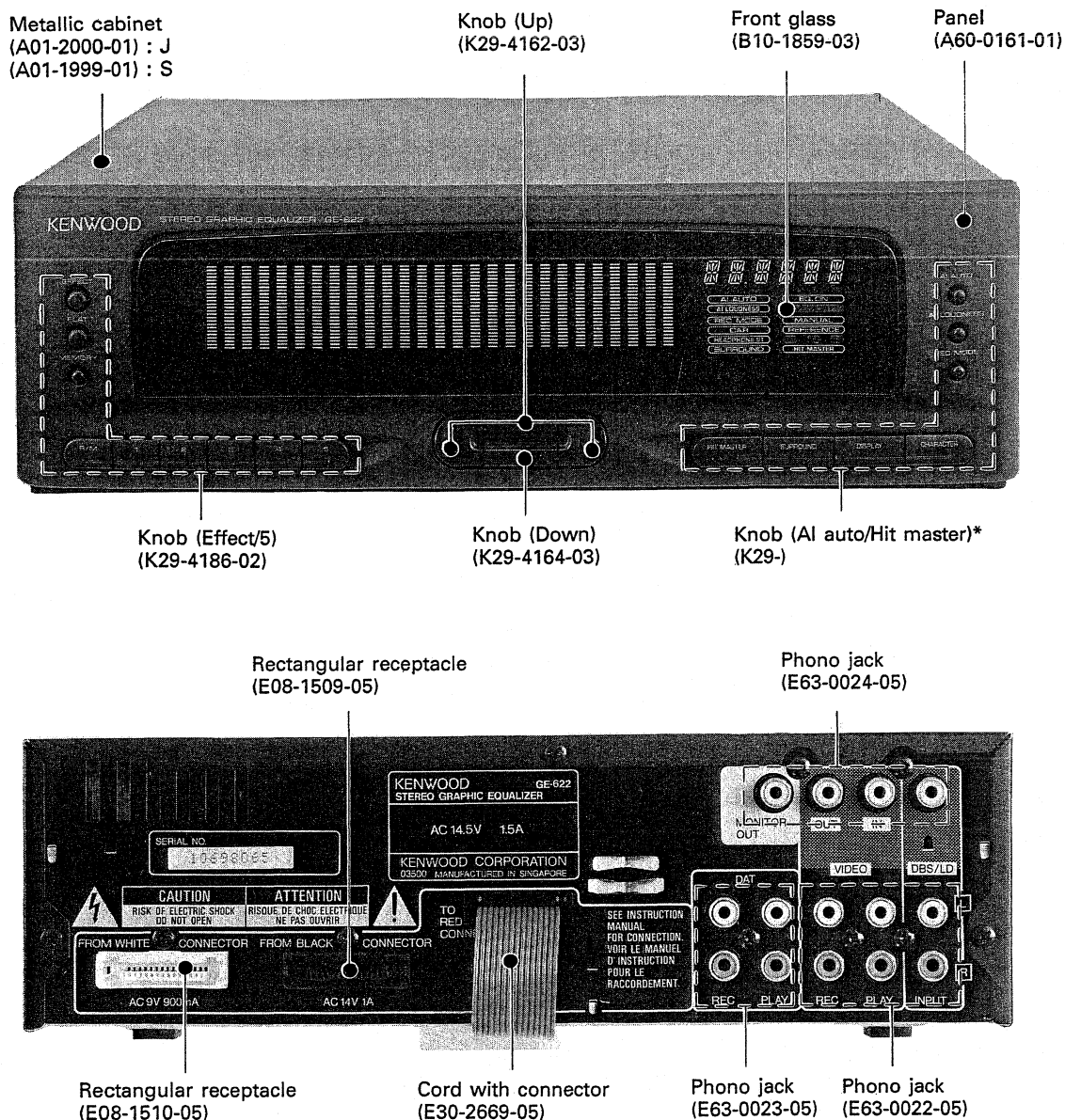




CAUTION : When doing repair of GE-622, be sure to have customer bring the A-522, or use power supply jig RM-90PS, or supply to 16V AC to terminal Nos 15 and 14 in CN1 on the X11-3090 PC board ass'y. If not get 16V AC, please order the A-848's power transformer (parts No. L07-0038-05 / 120V / 240V). Don't use the "RHEOSTAT".

J=JAPAN MADE
S=SINGAPORE MADE

* Refer to parts list on page 24.

CONTENTS/ACCESSORIES

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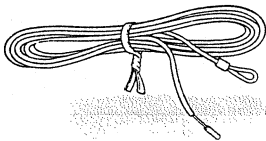
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JIG	3	: M50747-E68SP (X14-3210-01 : IC5)	9
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2. Main Microprocessor		EXPLODED VIEW	23
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		SPECIFICATIONS	BACK COVER

	U.S.A. (K)	CANADA (P)	PX (Y)	General Market (M)	Australia (X)	England (T)	Europe (E)
JAPAN MADE	X11-3090-01 / X14-3210-01				X11-3090-00 / X14-3210-00		
SINGAPORE MADE	X11-3210-01 / X14-3310-01				X11-3210-00 / X14-3310-00		

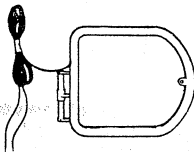
Note of the service manual :This model has 2 manufactures, JAPAN and SINGAPORE. PC board ass'y number is different, however, both of units are used the same circuitry.

Accessories

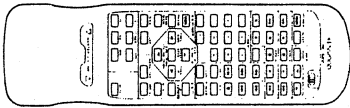
FM indoor antenna 1
(T90-0176-05 or T90-0175-05)



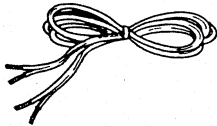
AM loop antenna 1
(T90-0173-05 or T90-0174-05)



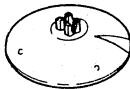
Remote control unit 1
(X92-1000-21)



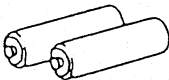
Speaker cords 2
(E30-1297-05)



Antenna stand 1
(J19-2815-04)



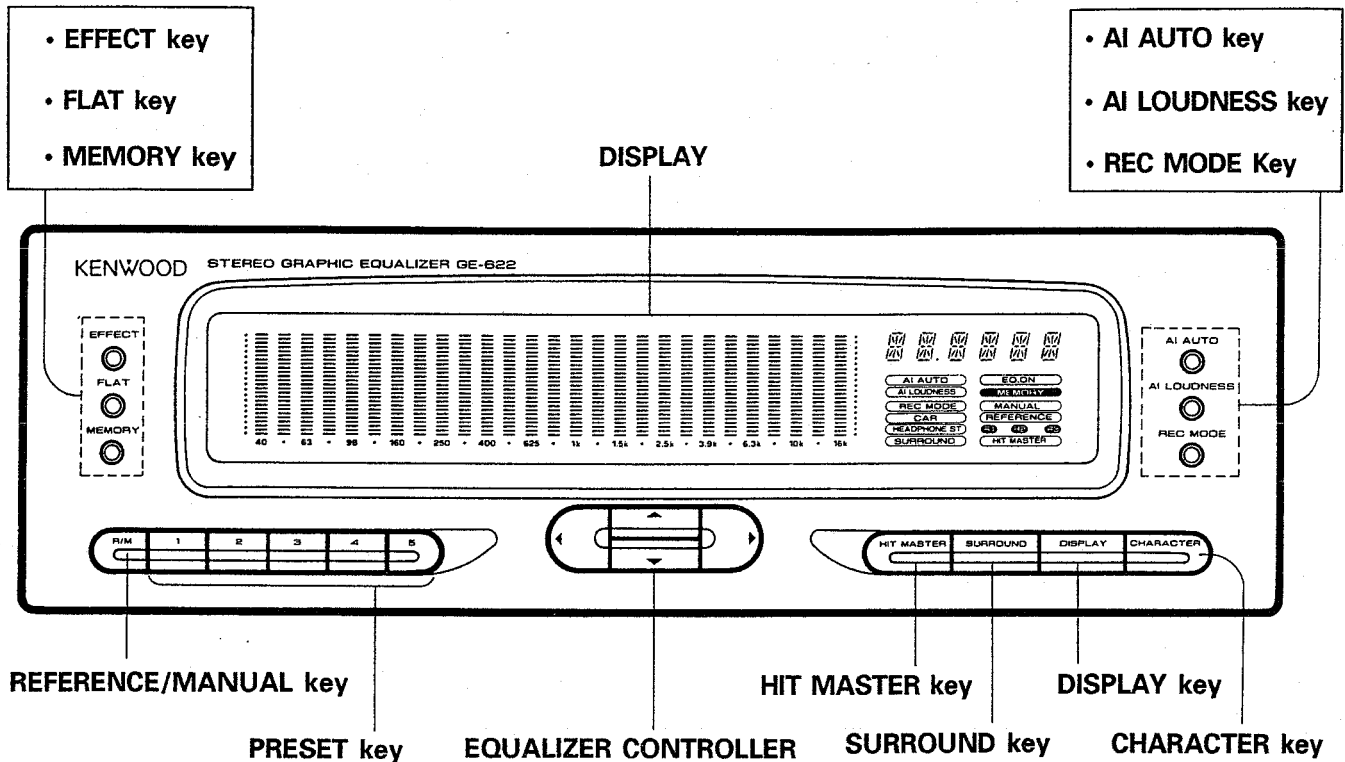
Battery (R06/AAA) 2
(-)



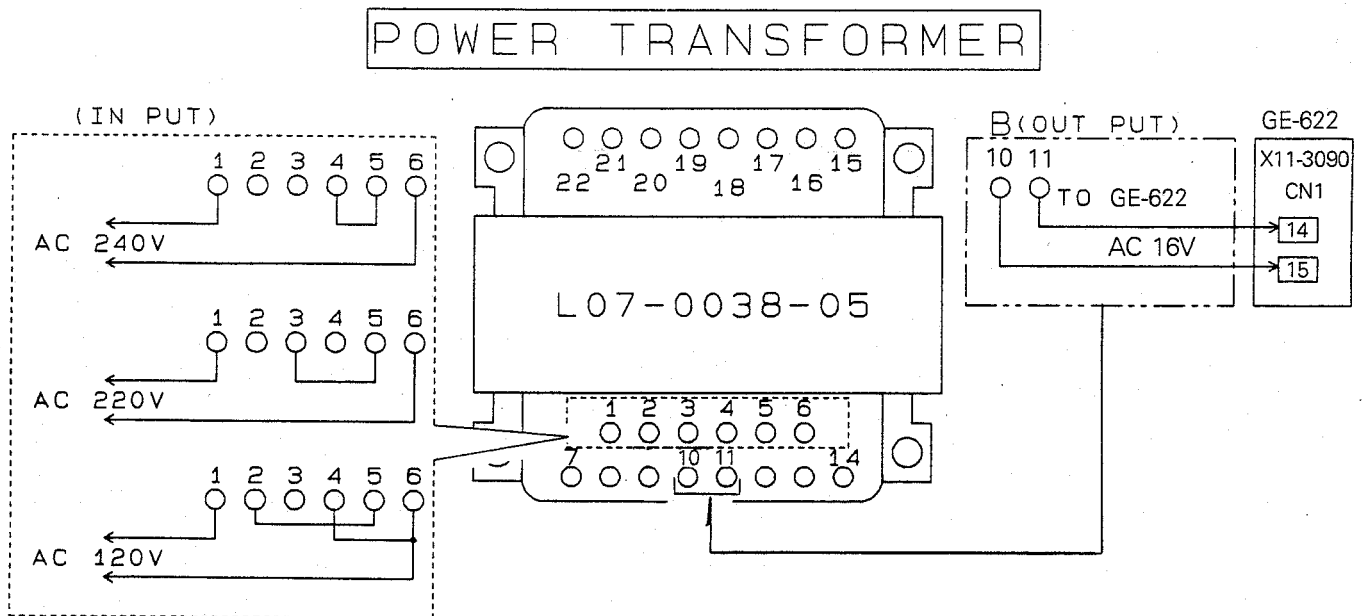
Note : GE-622 has only 2 accessories, Remote control unit and battery.

CONTROLS/JIG

Controls



Jig

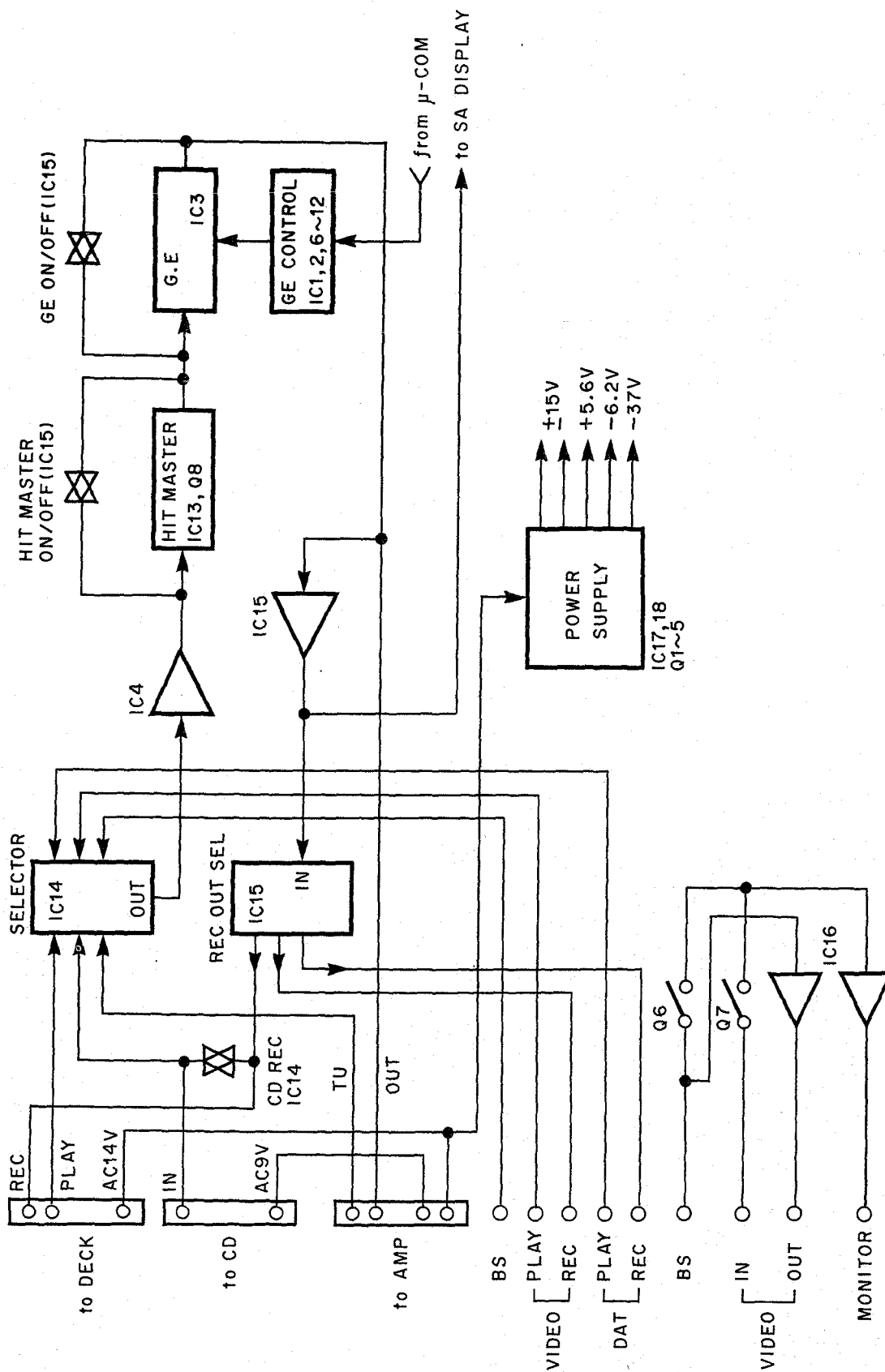


CAUTION : When doing repair of GE-622, be sure to have customer bring the A-522, or use power supply jig RM-90PS, or supply to 16V AC to terminal Nos 15 and 14 in CN1 on the X11-3090 PC board ass'y. If not get 16V AC, please order the A-848's power transformer (parts No. L07-0038-05 / 120V / 240V). Don't use the "RHEOSTAT".

CIRCUIT DESCRIPTION

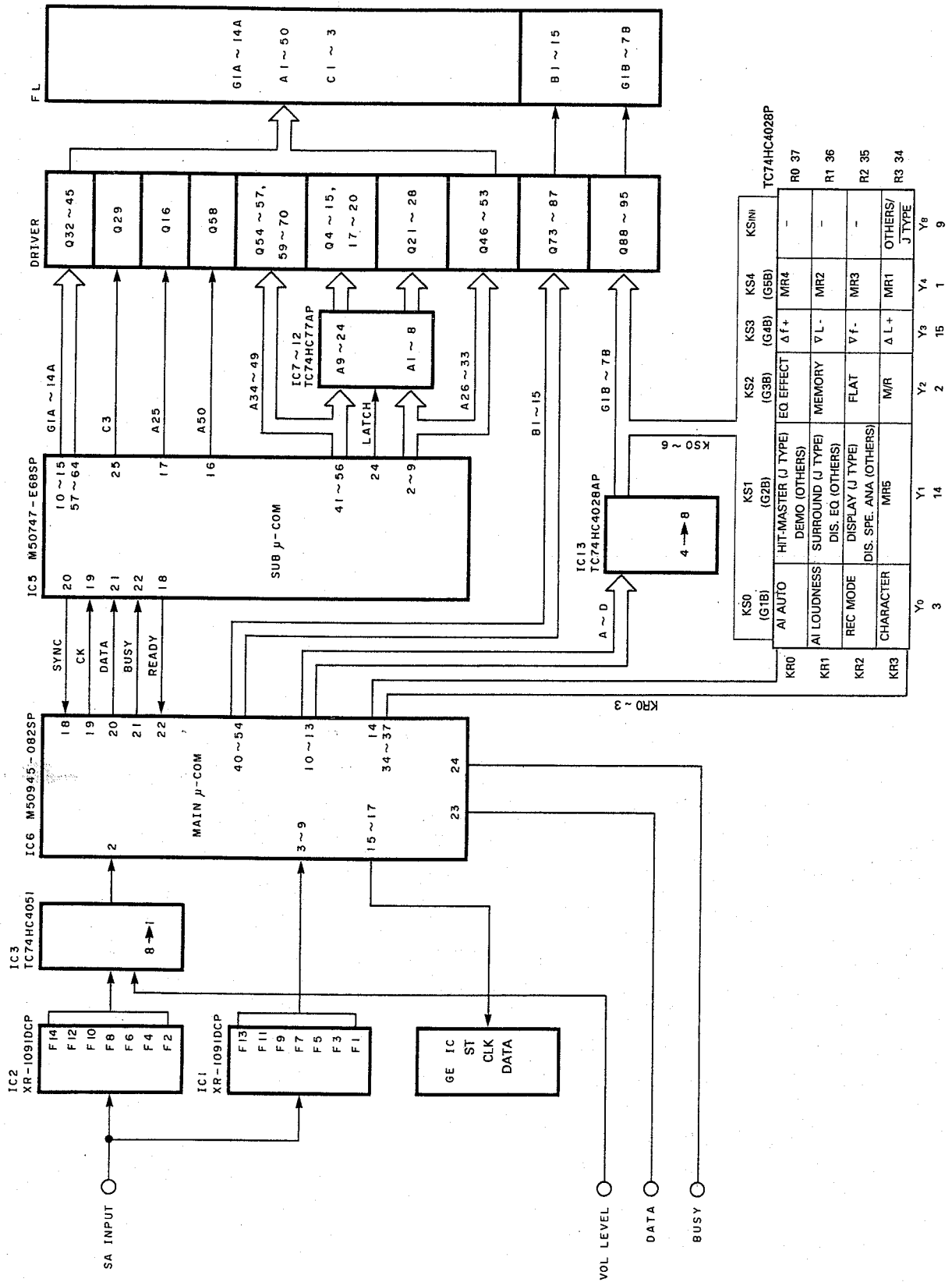
1. Block Diagram

1-1. Audio Line



CIRCUIT DESCRIPTION

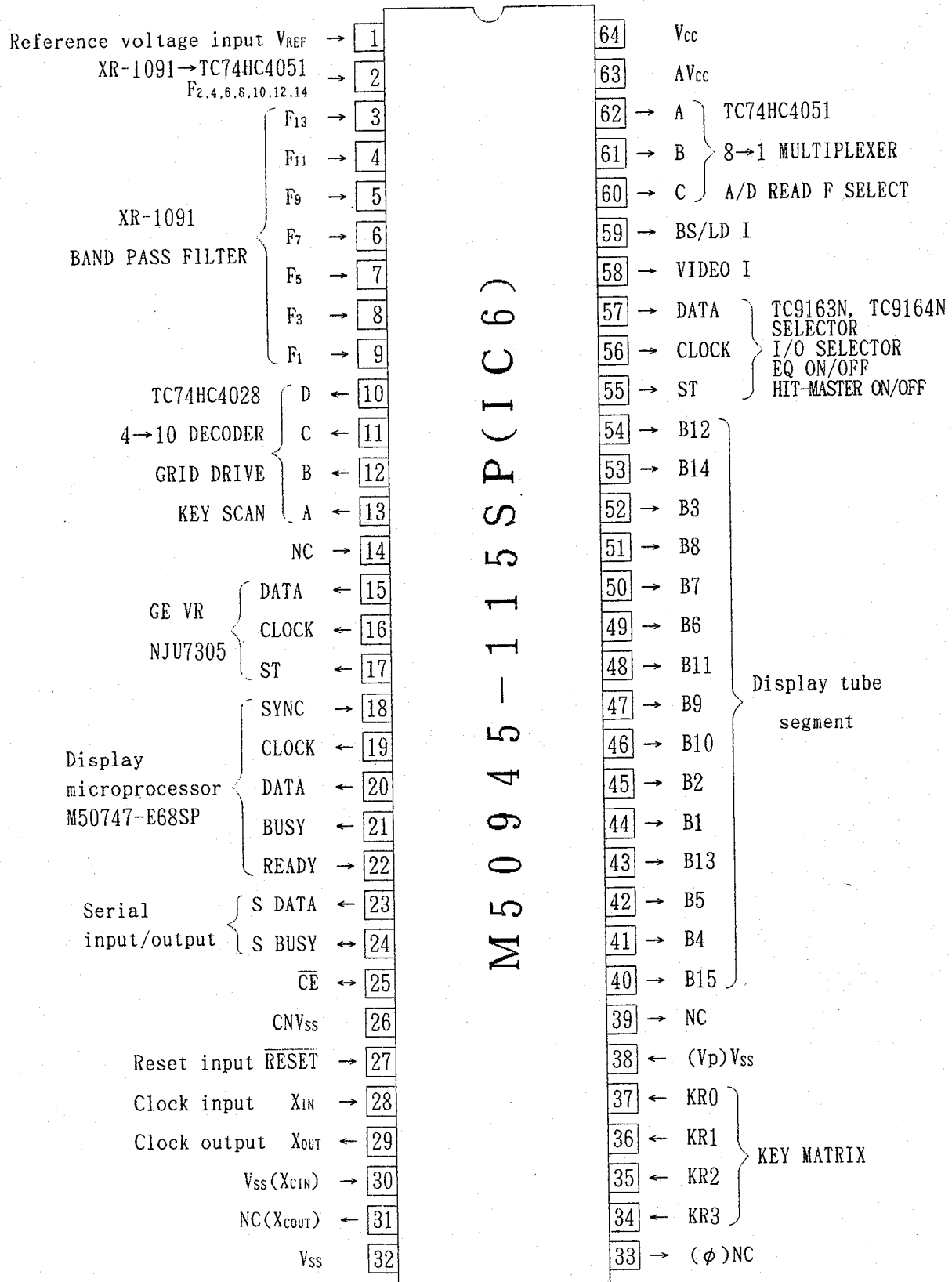
1-2. Display Control Diagram (X14-3210-01)



CIRCUIT DESCRIPTION

2. Main Microprocessor : M50945-115SP (X14-3210-01 : IC6)

2-1. Terminal connection diagram



CIRCUIT DESCRIPTION

2-2. Description of terminals

Pin No.	Pin Name	I/O	Name	Description
1	VREF	—	VREF	Reference voltage input for A/D converter.
2	IN7	I	F8~F14 AMP VR	Analog signal input for 1kHz~16kHz and AMP VR position detection. (For inputting signal coming in by way of Multiplexer TC74HC4051.)
3	IN6	I	F6	10kHz analog signal input. (For inputting signals coming in directly from filter circuit.)
4	IN5	I	F5	3.9kHz analog signal input. (For inputting signals coming in directly from filter circuit.)
5	IN4	I	F4	1.5kHz analog signal input. (For inputting signals coming in directly from filter circuit.)
6	IN3	I	F3	625Hz analog signal input. (For inputting signals coming in directly from filter circuit.)
7	IN2	I	F2	250Hz analog signal input. (For inputting signals coming in directly from filter circuit.)
8	IN1	I	F1	98Hz analog signal input. (For inputting signals coming in directly from filter circuit.)
9	IN0	I	F0	40Hz analog signal input. (For inputting signals coming in directly from filter circuit.)
10~13	P47~P44	O	D~A	4 → 10 Control signal output for Decoder TC74HC4028
14	P43	O	NC	Unused.
15	P42	O	DATA	Output of NJU7305 CONTROL DATA signals for electronic VR of graphic equalizer.
16	P41	O	CLOCK	Output of NJU7305 CONTROL CLOCK signals for electronic VR of graphic equalizer.
17	P40	O	ST	Output of NJU7305 CONTROL ST signals for electronic VR of graphic equalizer.
18	P37	I	SYNC	Input for transfer display data indication signals. H : DISPLAY MODE data L : LEVEL or POINT data
19	P36 (CLK)	O	CLOCK	CLOCK signal output for DISPLAY data transfer.
20	P35 (Sout)	O	DATA	DATA signal output for display.
21	P34	O	BUSY	Output for DISPLAY DATA TRANSFERRING signals. H : Data transferring L : Others
22	P33	I	READY	Input for DISPLAY DATA TRANSFERRABLE signal. H : Not transferrable L : Transferrable
23	P32	I/O	SDATA	Input/Output for SYSTEM SERIAL DATA signal.
24	P31	I/O	SBUSY	Input/Output for SYSTEM SERIAL BUSY signal.
25	P30	I	CE	BACK UP detection. H : Others L : Backing up
26	CNVss	—	Vss	Unused.
27	RESET	I	RESET	RESET signal detection. H : Others L : Reset
28	XIN	I	XIN	System clock input (4.0MHz).
29	XOUT	O	XOUT	System clock output.
30	XcIN	I	Vss	Unused. (Clock input terminal for timer.)
31	XcOUT	O	NC	Unused. (Clock output terminal for timer.)
32	Vss	—		GND.
33	ø	O	NC	Unused. (Output terminal for system clock 1/4 divided frequencies.)
34~37	R3~R0	I	KR3~KR0	KEY RETURN signal input.
38	Vp	—	Vss	Pull down input.
39	P17	O	NC	Unused.
40~54	P16~P00	O	B1~B15	Output for DISPLAY TUBE SEGMENT DRIVE. H : ON L : OFF
55	P27	O	ST	STROBE Control signal to SELECTOR TC9163N, TC9164N.
56	P26	O	CLOCK	CLOCK Control signal to SELECTOR TC9163N, TC9164N.
57	P25	O	DATA	DATA Control signal to SELECTOR TC9163N, TC9164N.
58	P24	O	VIDEO I	ON-OFF Control signal for VIDEO signal.
59	P23	O	BS/LD I	ON-OFF Control signal for BS/ LD signal.
60~62	P22~P20	O	C~A	8 → 1 Control signal output for multiplexer TC74HC4051.
63	AVcc	—	AVcc	Power supply for A/D converter (+5V).
64	Vcc	—	Vcc	Power supply for microprocessor (+5V).

CIRCUIT DESCRIPTION

2-3. Input sensitivity

Segment	Input (dB)	Input voltage (mV)	A-D register
+12	24.3	4593.65	236
+11	23.4	4141.50	213
+10	22.5	3733.86	192
+9	21.6	3366.34	173
+8	20.7	3035.00	156
+7	19.8	2736.26	141
+6	18.9	2466.94	127
+5	18.0	2224.12	115
+4	17.1	2005.20	104
+3	16.2	1807.83	94
+2	15.3	1629.89	85
+1	14.4	1469.46	76
0	13.5	1324.82	69

$V_{CC}=V_{REF}=5.0V$, $0dB=280mV$,

Absolute accuracy $\pm 3LSB = \pm 59mV$

Segments turn on if A-D register has equal or over value compared with above table's value.

Segment	Input (dB)	Input voltage (mV)	A-D register
-1	12.6	1194.42	62
-2	11.7	1076.86	56
-3	10.8	970.86	51
-4	9.9	875.30	46
-5	9.0	789.15	41
-6	8.1	711.47	37
-7	7.2	641.44	34
-8	6.3	578.31	31
-9	5.4	521.38	28
-10	4.5	470.07	25
-11	3.6	423.80	23
-12	2.7	382.08	21
	0.0	280.00	14

3. TEST MODE

3-1. Test Mode with key switch setting method

1. Press the M/R key and turn on (SEGMENT CHECK MODE).
2. Press the FLAT key and turn on (ALL SEGMENT LIGHT MODE).
3. Press the EFFECT key and turn on (SELECT TEST MODE).

3-2. Resetting method

<If return another test mode in test mode, refer to the followings.>

In SEGMENT CHECK MODE and ALL SEGMENT LIGHT MODE, press any key. In SELECT TEST MODE, press any key except FREQUENCY UP/DOWN key. After press the key, change to normal display mode. It is impossible to be changed in DEMO mode.

1. SEGMENT CHECK MODE : Press LOUDNESS key
2. ALL SEGMENT LIGHT MODE : Press AI AUTO key
3. SELECT TEST MODE : Press REC MODE key

• Contents of operation

- 1-1. If the test mode is selected, the short check of the segment terminals is indicated. If any key is pressed, the device return to the normal indication but it is kept in test mode.
- 1-2. If the short check of the segment terminals is indicated, the 5 bars of all bands lighting bars move up at the interval of 256msec. The 14 segment indication on the right continue lighting in order of B12, B14, B3, B8, B7, B6, B11, B9, B10. B2, B1, B13, B5, B4, B15, B12, B14

- 1-3. Set the contents of MANUAL PRESET MEMORY as follows.

M1 : FLAT (all, 0dB) M2 : ALL MAX (all +12dB)
M3 : ALL MIN (all -12dB)

- 1-4. The EQ LEVEL UP/DOWN operation is set to three points of +12dB, 0db, and -12dB at all the frequency.

- 1-5. EQ: on.

- 1-6. Audio signal : TUNER /VIDEO signal : BS/LD.

- 2-1. If the system is set to the test mode, all the indicator elements lights up. If any key is pressed, the system returns to normal indicating condition, but it is still in the test mode. The operation in test mode is the same as 1-3, 1-4, 1-5, and 1-6.

- 3-1. If the system is set to the test mode, it performs the selecting operation according to the FREQUENCY UP/DOWN keys.

- 3-2. The indicator shows DECK→CD→TUNER→BS/LD→VIDEO→DAT→DECK→..... in every time the UP key is pressed (reverse order is DOWN key)

- 3-3. If a key other than the FREQUENCY UP/DOWN keys is pressed, the system returns to normal indication. But it is still in the test mode. The operation in test mode is the same as 1-3, 1-4, 1-5, and 1-6.

• Release test mode

After set power to off, turn it on again.

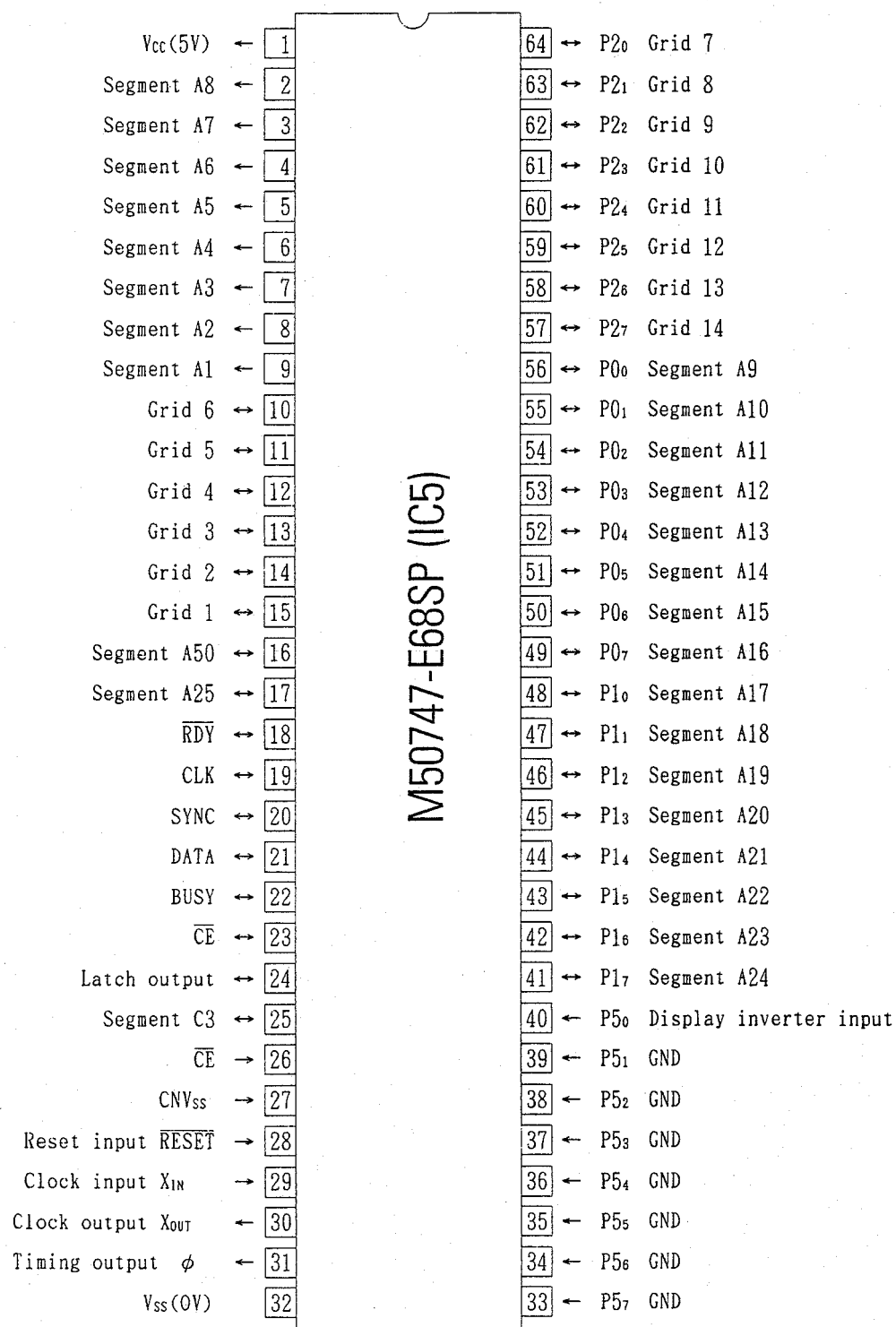
• Set the initial test mode

After set power to off, turn it on with pressing MEMORY key.

CIRCUIT DESCRIPTION

4. Display Microprocessor : M50747-E68SP (X14-3210-10 : IC5)

4-1. Terminal connection diagram



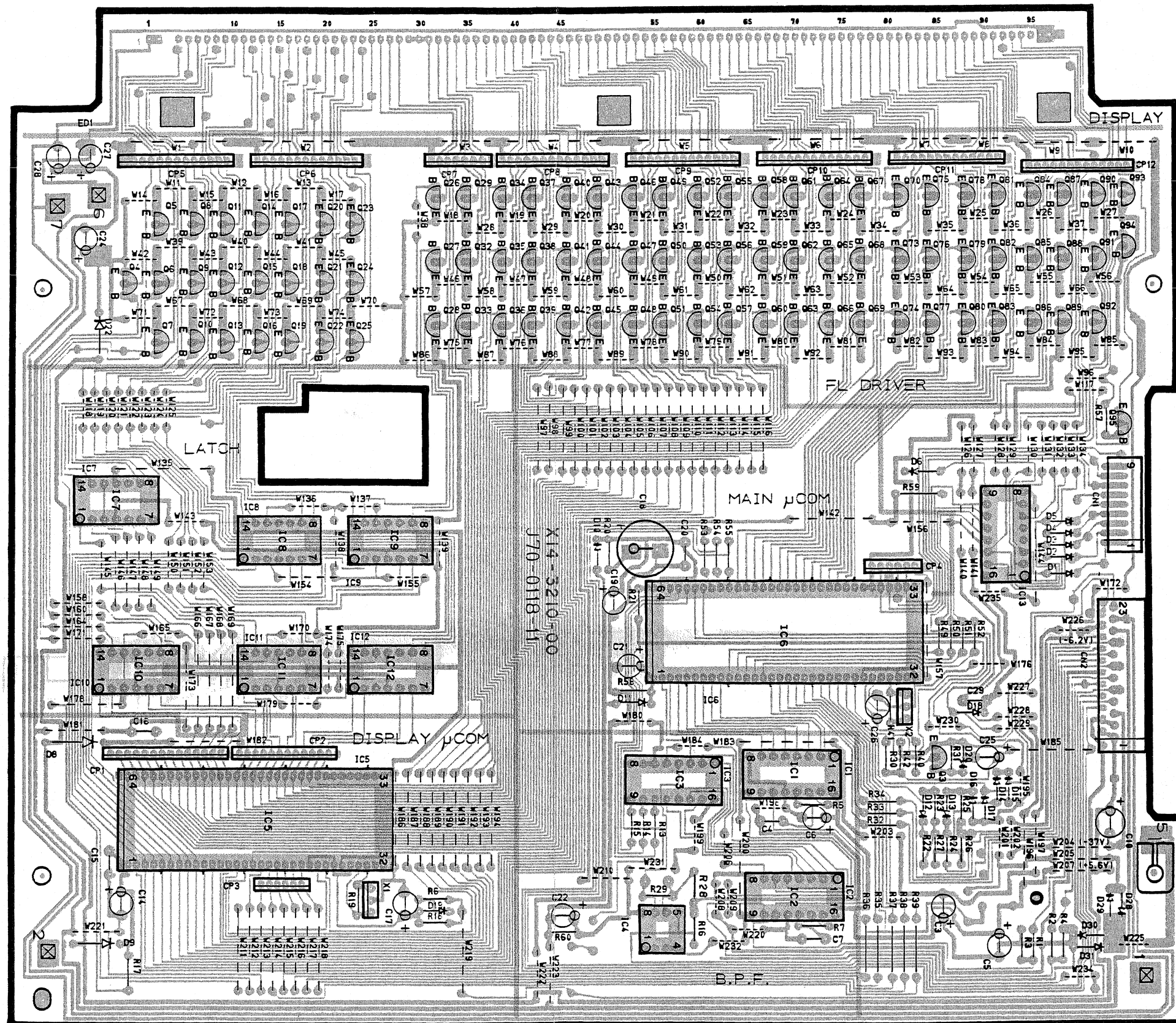
CIRCUIT DESCRIPTION

4-2. Description of terminals

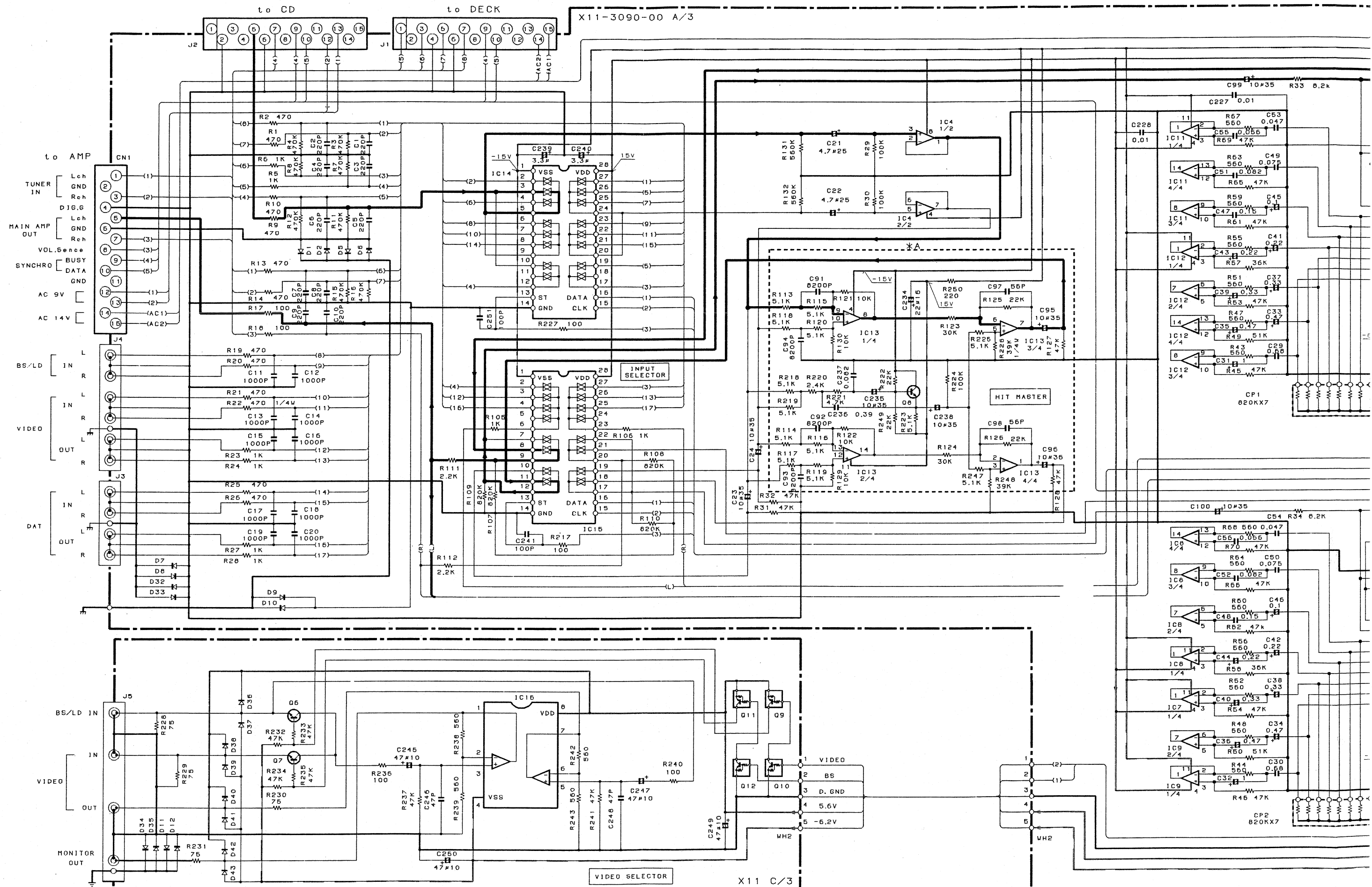
Pin No.	Pin name	I/O	Name	Description
1	V _{CC}	I	5V	Power supply
2	P67	O	Segment A8	Segment
3	P66	O	Segment A7	Segment
4	P65	O	Segment A6	Segment
5	P64	O	Segment A5	Segment
6	P63	O	Segment A4	Segment
7	P62	O	Segment A3	Segment
8	P61	O	Segment A2	Segment
9	P60	O	Segment A1	Segment
10	P47	O	Grid 6	Grid
11	P46	O	Grid 5	Grid
12	P45	O	Grid 4	Grid
13	P44	O	Grid 3	Grid
14	P43	O	Grid 2	Grid
15	P42	O	Grid 1	Grid
16	P41	O	Segment A50	Segment
17	P40	O	Segment A25	Segment
18	P37	O	RDY	Serial RDY
19	P36	I	CLK	Serial CLK
20	P35	O	SYNC	Serial SYNC
21	P34	I	DATA	Serial DATA
22	P33	I	BUSY	Serial BUSY
23	P32	I	CE	Chip inable
24	P31	O	LATCH OUT	74HC77 latch control
25	P30	O	Segment C3	Segment
26	INT1	O	CE	Chip inable
27	CNV _{SS}	I	CNV _{SS}	GND
28	RESET	I	RESET	RESET
29	X _{IN}	I	X _{IN}	Clock
30	X _{OUT}	O	X _{OUT}	Clock
31	ϕ	O	ϕ	Timing signal ϕ output
32	V _{SS}	I	V _{SS}	GND

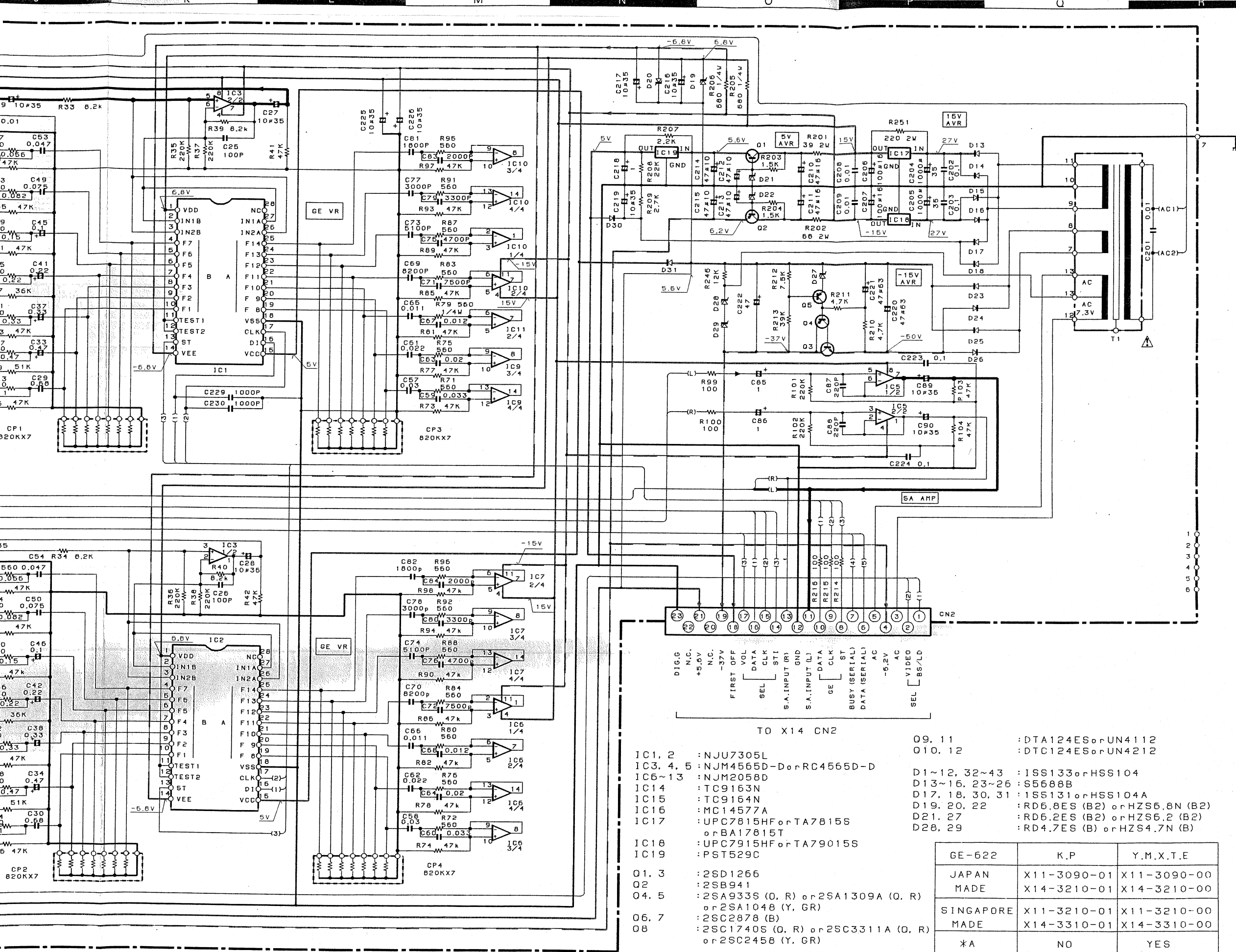
Pin No.	Pin name	I/O	Name	Description
33	P57	I	P57	GND
34	P56	I	P56	GND
35	P55	I	P55	GND
36	P54	I	P54	GND
37	P53	I	P53	GND
38	P52	I	P52	GND
39	P51	I	P51	GND
40	P50	I	Invert	Display invert input
41	P17	O	Segment A24	Segment
42	P16	O	Segment A23	Segment
43	P15	O	Segment A22	Segment
44	P14	O	Segment A21	Segment
45	P13	O	Segment A20	Segment
46	P12	O	Segment A19	Segment
47	P11	O	Segment A18	Segment
48	P10	O	Segment A17	Segment
49	P07	O	Segment A16	Segment
50	P06	O	Segment A15	Segment
51	P05	O	Segment A14	Segment
52	P04	O	Segment A13	Segment
53	P03	O	Segment A12	Segment
54	P02	O	Segment A11	Segment
55	P01	O	Segment A10	Segment
56	P00	O	Segment A9	Segment
57	P27	O	Grid 14	Grid
58	P26	O	Grid 13	Grid
59	P25	O	Grid 12	Grid
60	P24	O	Grid 11	Grid
61	P23	O	Grid 10	Grid
62	P22	O	Grid 9	Grid
63	P21	O	Grid 8	Grid
64	P20	O	Grid 7	Grid

PC BOARD (COMPONENT SIDE VIEW)



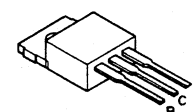
Refer to the schematic diagram for the values of resistors and capacitors.



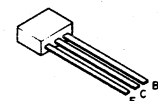


2SD1266

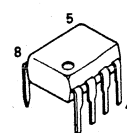
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UN4212
2SA1309A
2SC3311A

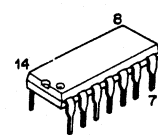
NJM4565D-D



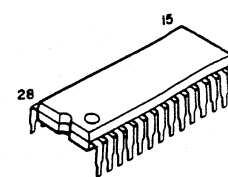
NJM2058D



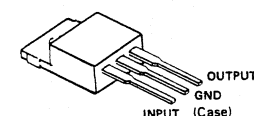
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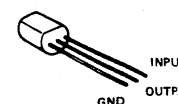
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PST529C



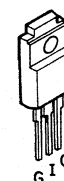
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TA7815S



UPC7915HF

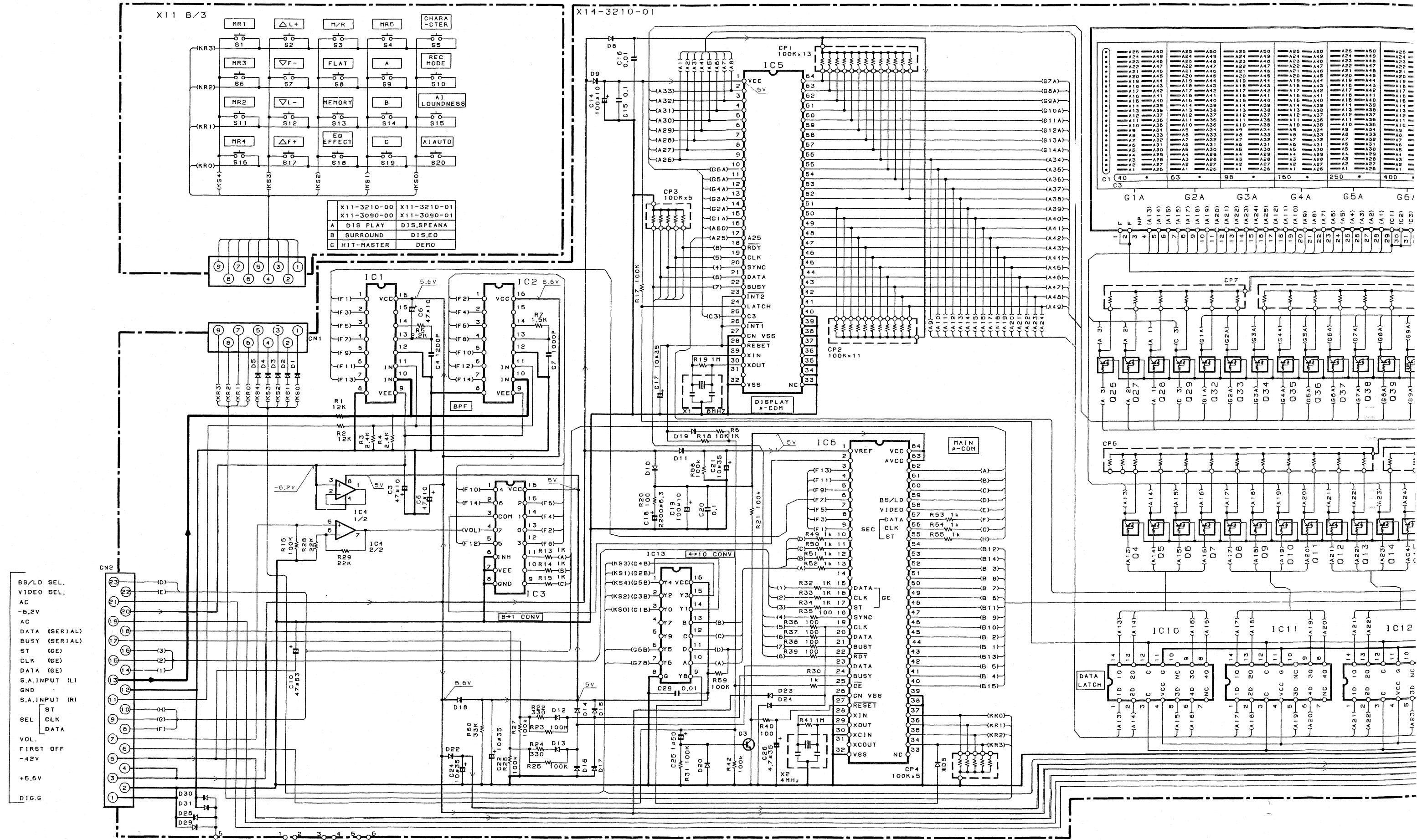


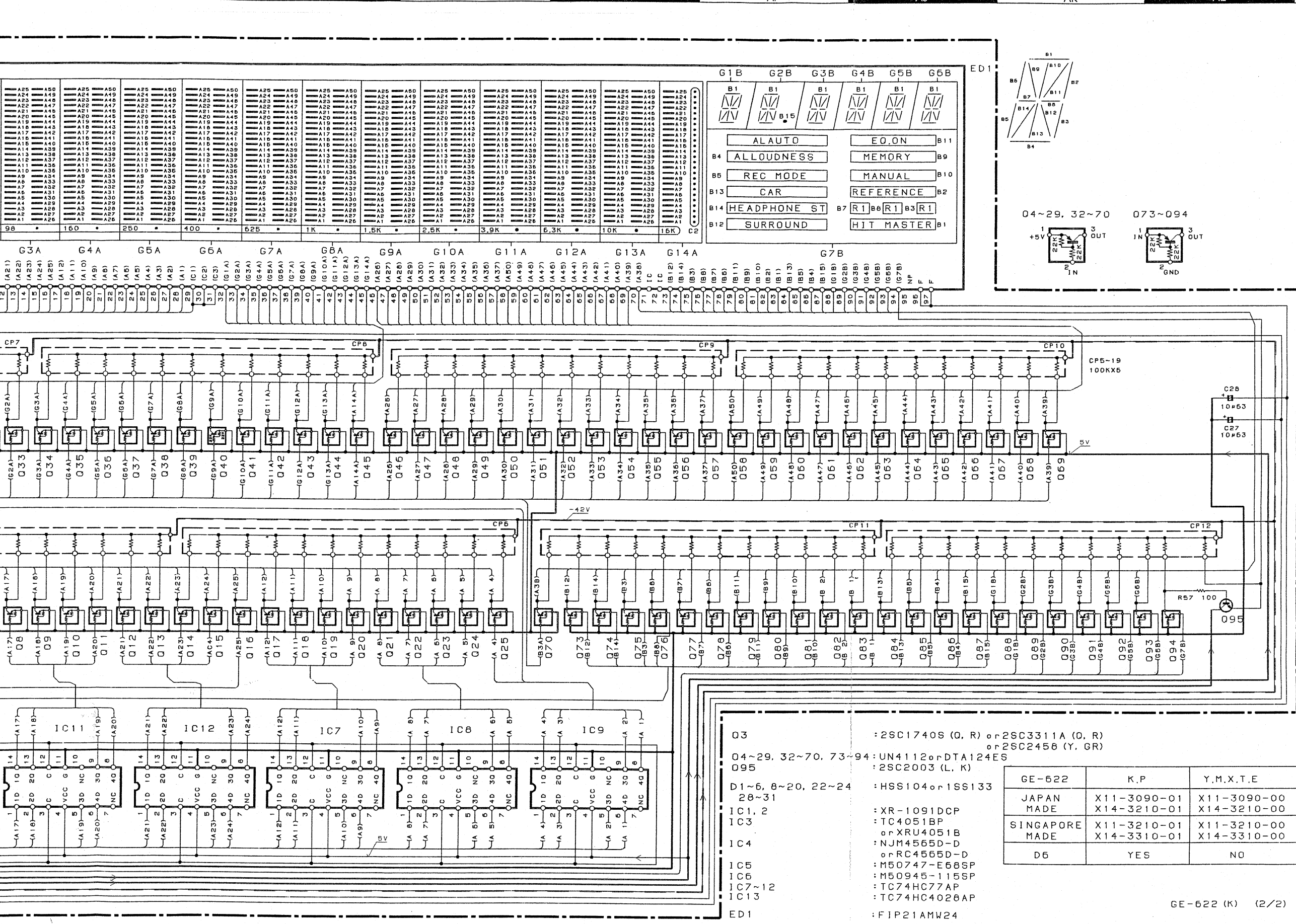
Y09-3890-11

GE-622 (1/2)

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

GE-622
KENWOOD





2SC2003
2SC2878

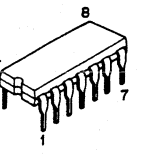
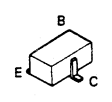
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DTC124ES
UN4112
2SA1048

2SA933S
2SC1740S
2SC2458



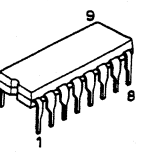
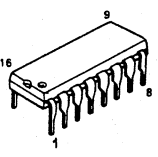
2SD1328
2SD1757K
2SD596

TC74HC77AP



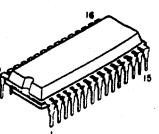
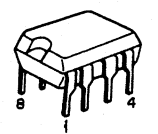
XR-1091DCP
XRU4051B

TC4051BP



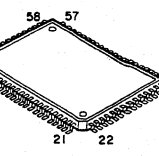
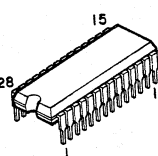
RC4565D-D

M50461-126FP



TC9163N
TC9164N

M50747-E68SP



Q3 : 2SC1740S (Q, R) or 2SC3311A (Q, R)
or 2SC2458 (Y, GR)

Q4~29, 32~70, 73~94: UN4112 or DTA124ES

Q95 : 2SC2003 (L, K)

D1~6, 8~20, 22~24 : HSS104 or 1SS133

20~31

IC1, 2 : XR-1091DCP

IC3 : TC4051BP

IC4 : or XRU4051B

IC5 : NJM4565D-D

IC6 : or RC4565D-D

IC7~12 : M50747-E68SP

IC13 : M50945-115SP

ED1 : TC74HC77AP

: TC74HC4026AP

: FIP21AMW24

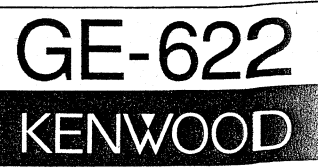
GE-622	K.P	Y.M.X.T.E
JAPAN MADE	X11-3090-01 X14-3210-01	X11-3090-00 X14-3210-00
SINGAPORE MADE	X11-3210-01 X14-3310-01	X11-3210-00 X14-3310-00
D6	YES	NO

GE-622 (K) (2/2)

CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ 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.

Y09-3890-11





24

× New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
GE-622 : JAPAN MADE						
601	1A	*	A01-2000-01	METALLIC CABINET		
602	1A	*	A09-0115-13	BATTERY COVER		
603	2A	*	A60-0161-01	PANEL		
607	2A	*	B10-1859-03	FRONT GLASS		
615	2B	*	E30-2669-05	CORD WITH CONNECTOR		
616	2B	*	E31-7966-05	WIRING HARNESS		
-		*	H10-5230-02	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-5231-02	POLYSTYRENE FOAMED FIXTURE	KPYMXE	
-		*	H25-0397-04	PROTECTION BAG	T	
-		*	H25-0659-04	PROTECTION BAG	XTE	
-		*	H50-0102-04	ITEM CARTON CASE		
-		*	H50-0203-04	ITEM CARTON CASE	KPYM	
625	2A		K29-4162-03	KNØB (UP)		
626	2A		K29-4164-03	KNØB (DOWN)		
627	2A	*	K29-4186-02	KNØB (EFFECT/5)		
628	2A	*	K29-4187-02	KNØB (AI AUTO/HIT MASTER)	YMXTE	
628	2A	*	K29-4310-02	KNØB (AI AUTO/HIT MASTER)	KP	
A			N09-0394-05	SEMS (TAPTITE SCREW)(3X12)		
B			N09-2782-05	TAPTITE SCREW (2.6X8)		
C			N89-3008-45	BINDING HEAD TAPTITE SCREW		
D			N89-3008-46	BINDING HEAD TAPTITE SCREW		
630	1A	*	X94-1000-21	REMOTE CONTROL ASSY UNIT		
GE-622 : SINGAPORE MADE						
601	1A	*	A01-1999-01	METALLIC CABINET		
602	1A	*	A09-0115-13	BATTERY COVER		
603	2A	*	A60-0161-01	PANEL		
607	2A	*	B10-1859-03	FRONT GLASS		
615	2B	*	E30-2669-05	CORD WITH CONNECTOR		
617	2B	*	E31-7966-05	WIRING HARNESS		
-		*	H10-5228-02	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-5229-02	POLYSTYRENE FOAMED FIXTURE	KPYMXE	
-		*	H25-0397-04	PROTECTION BAG	T	
-		*	H25-0659-04	PROTECTION BAG	XTE	
-		*	H50-0188-04	ITEM CARTON CASE		
-		*	H50-0204-04	ITEM CARTON CASE	KPYM	
625	2A		K29-4162-03	KNØB (UP)		
626	2A		K29-4164-03	KNØB (DOWN)		
627	2A	*	K29-4186-02	KNØB (EFFECT/5)		
628	2A	*	K29-4187-02	KNØB (AI AUTO/HIT MASTER)	YMXTE	
628	2A	*	K29-4310-02	KNØB (AI AUTO/HIT MASTER)	KP	
A			N09-0394-05	SEMS (TAPTITE SCREW)(3X12)		
B			N09-2782-05	TAPTITE SCREW (2.6X8)		
C			N89-3008-45	BINDING HEAD TAPTITE SCREW		
D			N89-3008-46	BINDING HEAD TAPTITE SCREW		
630	1A	*	X94-1000-21	REMOTE CONTROL ASSY UNIT		
SUB (X11-3090-01)						
C1	-10		CC45FSL1H221J	CERAMIC 220PF J		

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Ref. No. 参照番号	Address 位置	New Parts	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
C11	-20		CK45FB1H102K	CERAMIC 1000PF K		
C21	,22		C90-1919-05	ELECTRØ 4.7UF 25WV		
C23	,24		CE04KW1V100M	ELECTRØ 10UF 35WV		
C25	,26		CC45FSL1H101J	CERAMIC 100PF J		
C27	,28		CE04KW1V100M	ELECTRØ 10UF 35WV		
C29	,30		CF92FV1H684J	MF 0.68UF J		
C31	,32		CE04KW1H010M	ELECTRØ 1.0UF 50WV		
C33	-36		CE04KW1HR47M	ELECTRØ 0.47UF 50WV		
C37	-40		CE04KW1HR33M	ELECTRØ 0.33UF 50WV		
C41	-44		CE04KW1HR22M	ELECTRØ 0.22UF 50WV		
C45	,46		CE04KW1H0R1M	ELECTRØ 0.1UF 50WV		
C47	,48		CF92FV1H154J	MF 0.15UF J		
C49	,50		CF92FV1H753J	MF 0.075UF J		
C51	,52		CF92FV1H823J	MF 0.082UF J		
C53	,54		CF92FV1H473J	MF 0.047UF J		
C55	,56		CF92FV1H563J	MF 0.056UF J		
C57	,58		CF92FV1H303J	MF 0.030UF J		
C59	,60		CF92FV1H333J	MF 0.033UF J		
C61	,62		CF92FV1H223J	MF 0.022UF J		
C63	,64		CF92FV1H203J	MF 0.020UF J		
C65	,66		CF92FV1H113J	MF 0.011UF J		
C67	,68		CF92FV1H123J	MF 0.012UF J		
C69	,70		CF92FV1H822J	MF 8200PF J		
C71	,72		CF92FV1H752J	MF 7500PF J		
C73	,74		CF92FV1H512J	MF 5100PF J		
C75	,76		CF92FV1H472J	MF 4700PF J		
C77	,78		CF92FV1H302J	MF 3000PF J		
C79	,80		CF92FV1H332J	MF 3300PF J		
C81	,82		CF92FV1H182J	MF 1800PF J		
C83	,84		CF92FV1H202J	MF 2000PF J		
C85	,86		CE04KW1H010M	ELECTRØ 1.0UF 50WV		
C87	,88		CC45FSL1H221J	CERAMIC 220PF J		
C89	,90		CE04KW1V100M	ELECTRØ 10UF 35WV		
C91	-94		CF92FV1H822J	MF 8200PF J		
C95	,96		CE04KW1V100M	ELECTRØ 10UF 35WV		
C97	,98		CC45FSL1H560J	CERAMIC 56PF J		
C99	,100		CE04KW1V100M	ELECTRØ 10UF 35WV		
C201			CK45FF1H103Z	CERAMIC 0.010UF Z		
C202	,203		CF92FV1H104J	MF 0.10UF J		
C204	,205	*	C90-1956-05	ELECTRØ 1000UF 35WV		
C206	,207		CE04KW1C101M	ELECTRØ 100UF 16WV		
C208	,209		CF92FV1H103J	MF 0.010UF J		
C210	,211		CE04KW1C470M	ELECTRØ 47UF 16WV		
C212	,215		CE04KW1A470M	ELECTRØ 47UF 10WV		
C216	,217		CE04KW1V100M	ELECTRØ 10UF 35WV		
C218			CE04KW1H010M	ELECTRØ 1.0UF 50WV		
C219			CE04KW1V100M	ELECTRØ 10UF 35WV		
C220	,221		CE04KW1J470M	ELECTRØ 47UF 63WV		
C222			CE04KW1H470M	ELECTRØ 47UF 50WV		
C223	,224		CF92FV1H104J	MF 0.10UF J		
C225	,226		CE04KW1V100M	ELECTRØ 10UF 35WV		
C227	,228		CK45FF1H103Z	CERAMIC 0.010UF Z		
C229	,230		CK45FB1H102K	CERAMIC 1000PF K		
C234			CE04KW1C220M	ELECTRØ 22UF 16WV		
C235			CE04KW1V100M	ELECTRØ 10UF 35WV		

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PARTS LIST

× New Parts

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3

Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
C236			CF92FV1H394J	MF 0.39UF J	YMXTB	
C237			CF92FV1H823J	MF 0.082UF J	YMXTB	
C238			CE04KW1V100M	ELECTRO 10UF 35WV	YMXTB	
C239, 240		*	C90-1934-05	ELECTRO 3.3UF 50WV		
C241			CC45FSL1H101J	CERAMIC 100PF J		
C245			CE04KW1A470M	ELECTRO 47UF 10WV		
C246			CC45FSL1H470J	CERAMIC 47PF J		
C247			CE04KW1A470M	ELECTRO 47UF 10WV		
C248			CC45FSL1H470J	CERAMIC 47PF J		
C249, 250			CE04KW1A470M	ELECTRO 47UF 10WV		
C251			CC45FSL1H101J	CERAMIC 100PF J		
CN2	3B		E40-4163-05	FLAT CABLE CONNECTOR		
J1	3B		E08-1509-05	RECTANGULAR RECEPTACLE		
J2	3B		E08-1510-05	RECTANGULAR RECEPTACLE		
J3	3B		E63-0023-05	PHONE JACK		
J4	3B		E63-0022-05	PHONE JACK		
J5	2B		E63-0024-05	PHONE JACK		
635	2B	*	F01-1807-05	HEAT SINK		
-			J11-0098-05	WIRE CLAMPER		
△ T1	2B	*	L07-0393-05	POWER TRANSFORMER		
E			N35-3008-46	BINDING HEAD MACHIN SCREW		
CP1 -4			R90-0491-05	MULTI-COMP 820KX7 J 1/6W		
R201			RS14KB30390J	FL-PROOF RS 39 J 2W		
R202			RS14KB30680J	FL-PROOF RS 68 J 2W		
R205, 206			RD14NB2E681J	RD 68 J 1/4W		
R251			RS14KB30221J	FL-PROOF RS 220 J 2W		
S1 -20	1A, 2A		S40-1064-05	PUSH SWITCH		
D1 ,2			HSS104	DIODE		
D1 ,2			1SS133	DIODE		
D5 -12			HSS104	DIODE		
D5 -12			1SS133	DIODE		
D13 -16			S5688B	DIODE		
D17 ,18			HSS104A	DIODE		
D17 ,18			1SS131	DIODE		
D19 ,20			HZS6.8N(B2)	ZENER DIODE		
D19 ,20			RD6.8ES(B2)	ZENER DIODE		
D21			HZS6.2N(B2)	ZENER DIODE		
D21			RD6.2ES(B2)	ZENER DIODE		
D22			HZS6.8N(B2)	ZENER DIODE		
D22			RD6.8ES(B2)	ZENER DIODE		
D23 -26			S5688B	DIODE		
D27			HZS6.2N(B2)	ZENER DIODE		
D27			RD6.2ES(B2)	ZENER DIODE		
D28 ,29			HZS4.7N(B)	ZENER DIODE		
D28 ,29			RD4.7ES(B)	ZENER DIODE		
D30 ,31			HSS104A	DIODE		
D30 ,31			1SS131	DIODE		
D32 -43			HSS104	DIODE		
D32 -43			1SS133	DIODE		
IC1 ,2			NJU7305L	IC(ELECTRIC VOLUME)		

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Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
IC3 -5			NJM4565D-D	IC(OP AMP X2)		
IC3 -5			RC4565D-D	IC(OP AMP X2)		
IC6 -12			NJM2058D	IC(OP AMP X4)	KP	
IC6 -13			NJM2058D	IC(OP AMP X4)	YMXTB	
IC14			TC9163N	IC(BILATERAL SWITCH X16)		
IC15			TC9164N	IC(16CH BILATERAL SELECTOR SW)		
IC16			MC14577A	IC		
IC17			BA17815T	IC(VOLTAGE REGULATOR)		
IC17			TA7815S	IC(VOLTAGE REGULATOR/ +15V)		
IC17			UPC7815HF	IC(VOLTAGE REGULATOR/ +15V)		
IC18			TA79015S	IC		
IC18			UPC7915HF	IC(VOLTAGE REGULATOR/ -15V)		
IC19			PST529C	IC(SYSTEM RESET)		
Q1			2SD1266	TRANSISTOR		
Q2			2SB941	TRANSISTOR		
Q3			2SD1266	TRANSISTOR		
Q4 ,5			2SA1048(Y,GR)	TRANSISTOR		
Q4 ,5			2SA1309A(Q,R)	TRANSISTOR		
Q4 ,5			2SA933S(Q,R)	TRANSISTOR		
Q6 ,7			2SC2678(B)	TRANSISTOR		
Q8			2SC1740S(Q,R)	TRANSISTOR	YMXTB	
Q8			2SC2458(Y,GR)	TRANSISTOR	YMXTB	
Q8			2SC3311A(Q,R)	TRANSISTOR		
Q9			DTA124ES	DIGITAL TRANSISTOR		
Q9			UN4112	TRANSISTOR		
Q10			DTC124ES	DIGITAL TRANSISTOR		
Q10			UN4212	TRANSISTOR		
Q11			DTA124ES	DIGITAL TRANSISTOR		
Q11			UN4112	TRANSISTOR		
Q12			DTC124ES	DIGITAL TRANSISTOR		
Q12			UN4212	TRANSISTOR		
DISPLAY (X14-3210-01)						
C3			CE04KW1A470M	ELECTRO 47UF 10WV		
C4			CF92FV1H122J	MF 1200PF J		
C5 ,6			CE04KW1A470M	ELECTRO 47UF 10WV		
C7			CF92FV1H102J	MF 1000PF J		
C10			CE04KW1J470M	ELECTRO 47UF 63WV		
C14			CE04KW1A101M	ELECTRO 100UF 10WV		
C15			CF92FV1H104J	MF 0.10UF J		
C16			CF92FV1H103J	MF 0.010UF J		
C17			CE04KW1V100M	ELECTRO 10UF 35WV		
C18			CE04KW0J222M	ELECTRO 2200UF 6.3WV		
C19			CE04KW1A101M	ELECTRO 100UF 10WV		
C20			CF92FV1H104J	MF 0.10UF J		
C21 ,22			CE04KW1V100M	ELECTRO 10UF 35WV		
C24			CE04KW1V100M	ELECTRO 10UF 35WV		
C25			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C26			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C27 ,28			CE04KW1J100M	ELECTRO 10UF 63WV		
C29			CF92FV1H103J	MF 0.010UF J		
CN2	2B	*	E40-4203-05	FLAT CABLE CONNECTOR		
X1			L78-0275-05	RESONATOR (8MHz)		
X2			L78-0244-05	RESONATOR (4MHz)		

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Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
CP1			R90-0483-05	MULTI-COMP 100KX13 J 1/6W		
CP2			R90-0851-05	MULTI-COMP 100KX11 J		
CP3 ,4			R90-0855-05	MULTI-COMP 100KX5 J		
CP5 ,6			R90-0479-05	MULTI-COMP 100KX12 J 1/4W		
CP7			R90-0500-05	MULTI-COMP 100KX6 J 1/4W		
CP8 -12			R90-0479-05	MULTI-COMP 100KX12		
D1 -5			HSS104	DIODE	YMXTB	
D1 -5			1SS133	DIODE	YMXTB	
D1 -6			HSS104	DIODE	KP	
D1 -6			1SS133	DIODE	KP	
D8 -20			HSS104	DIODE		
D8 -20			1SS133	DIODE		
D22 -24			HSS104	DIODE		
D22 -24			1SS133	DIODE		
D28 -31			HSS104	DIODE		
D28 -31			1SS133	DIODE		
ED1	2A	*	FIP21CMW24	FLUORESCENT INDICATOR TUBE		
IC1 ,2			XR-1091DCP	IC(GE DISPLAY FILTER)		
IC3			TC4051BP	IC(8CH MPX/ DE-MPX)		
IC3			XRU4051B	IC(MULTIPLEXERS/DEMULTIPLEXERS)		
IC4			NJM4565D-D	IC(OP AMP X2)		
IC4			RC4565D-D	IC(OP AMP X2)		
IC5			M50747-B68SP	IC(MICROPROCESSOR)		
IC6			M50945-115SP	IC		
IC7 -12		*	TC74HC77AP	IC(D-TYPE LATCH)		
IC13			TC74HC4028AP	IC		
Q3			2SC1740S(Q,R)	TRANSISTOR		
Q3			2SC2458(Y,GR)	TRANSISTOR		
Q3			2SC3311A(Q,R)	TRANSISTOR		
Q4 -29			DTA124ES	DIGITAL TRANSISTOR		
Q4 -29			UN4112	TRANSISTOR		
Q32 -70			DTA124ES	DIGITAL TRANSISTOR		
Q32 -70			UN4112	TRANSISTOR		
Q73 -94			DTA124ES	DIGITAL TRANSISTOR		
Q73 -94			UN4112	TRANSISTOR		
Q95			2SC2003(L,K)	TRANSISTOR		

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PARTS LIST

GE-622

GE-622

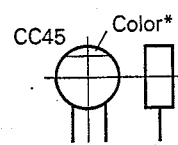
PARTS LIST

PARTS LIST

CAPACITORS

CC 45 TH 1H 220 J
1 2 3 4 5 6

- 1 = Type ... ceramic, electrolytic, etc. 4 = Voltage rating
2 = Shape ... round, square, ect. 5 = Value
3 = Temp. coefficient 6 = Tolerance



• Capacitor value

010 = 1pF
100 = 10pF
101 = 100pF
102 = 1000pF = 0.001μF
103 = 0.01μF

2 2 0 = 22pF
Multiplier
2nd number
1st number

• Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470 ± 60ppm/°C

• Tolerance

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40 -20	+80 -20	+100 -0	More than 10μF - 10 ~ +50 Less than 4.7μF -10 ~ +75

Less than 10pF

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

• Voltage rating

2nd word	A	B	C	D	E	F	G	H	J	K	V
1st word											
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	-
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	-
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	-

• Chip capacitors

(EX) C C 7 3 F S L 1 H 0 0 0 J
1 2 3 4 5 6 7
(Chip) (CH, RH, UJ, SL) Refer to the table above.

(EX) C K 7 3 F F 1 H 0 0 0 Z
1 2 3 4 5 6 7
(Chip) (B, F)

RESISTORS

• Chip resistor (Carbon)

(EX) R K 7 3 E B 2 B 0 0 0 J
1 2 3 4 5 6 7
(Chip) (B,F)

• Carbon resistor (Normal type)

(EX) R D 1 4 B B 2 C 0 0 0 J
1 2 3 4 5 6 7

- 1 = Type ... ceramic, electrolytic, etc. 5 = Voltage rating
2 = Shape ... round, square, ect. 6 = Value
3 = Dimension (41) (73) 7 = Tolerance
4 = Temp. coefficient

Dimension

Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

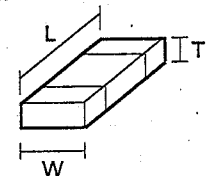
Dimension

Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6±0.2	0.8±0.2	0.5±0.1

Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

Dimension



SPECIFICATIONS

Equalizer characteristics variable range ±12dB
Individual channel adjust 40Hz, 63Hz, 98Hz, 160Hz, 250Hz, 400Hz, 625Hz, 1kHz, 1.5kHz, 2.5kHz, 3.9kHz, 6.3kHz, 10kHz, 16kHz
AI LOUDNESS controls +5dBmax. (100Hz)
..... +4dBmax. (10kHz)
SN ratio (IHF' 66) 100dB
Dimensions W : 270mm
..... H : 85mm
..... D : 255mm
Weight (Net) 2.6kg

Note:

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