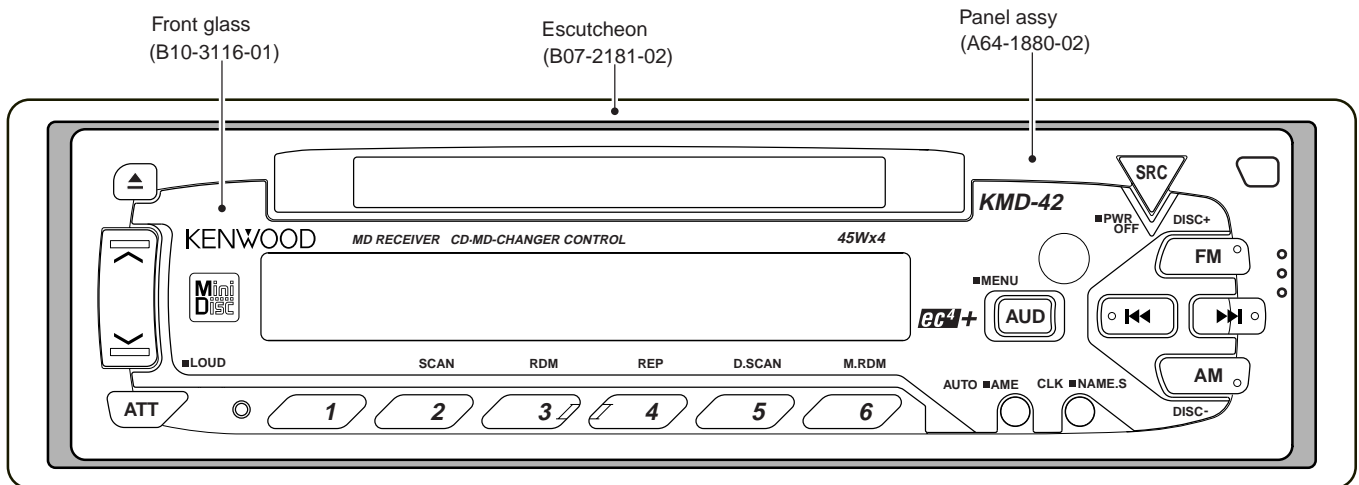


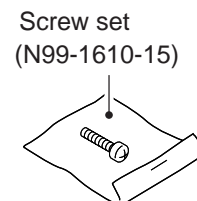
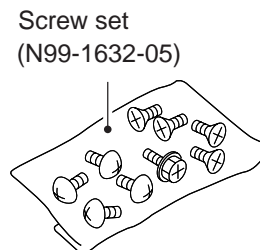
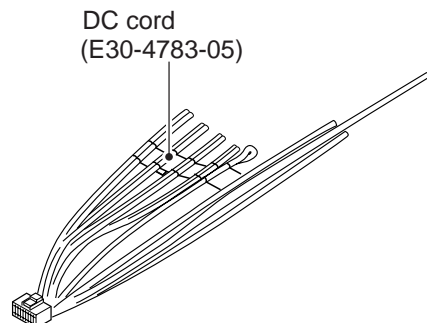
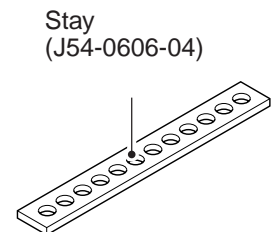
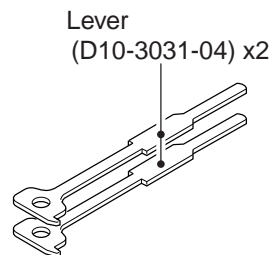
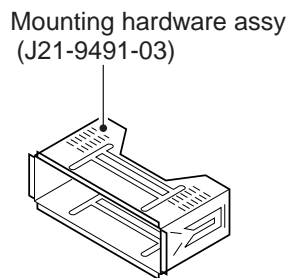
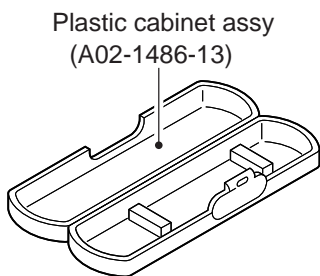
- This service manual does not include information on the MD mechanism assembly (exploded view, parts list, schematic diagram or mechanism description).  
For such information, refer to the MD mechanism assembly manual (X92-3390-00, 0-01, X92-3560-00, X92-3580-00 : B51-7461-00).



Front glass  
(B10-3116-01)

Escutcheon  
(B07-2181-02)

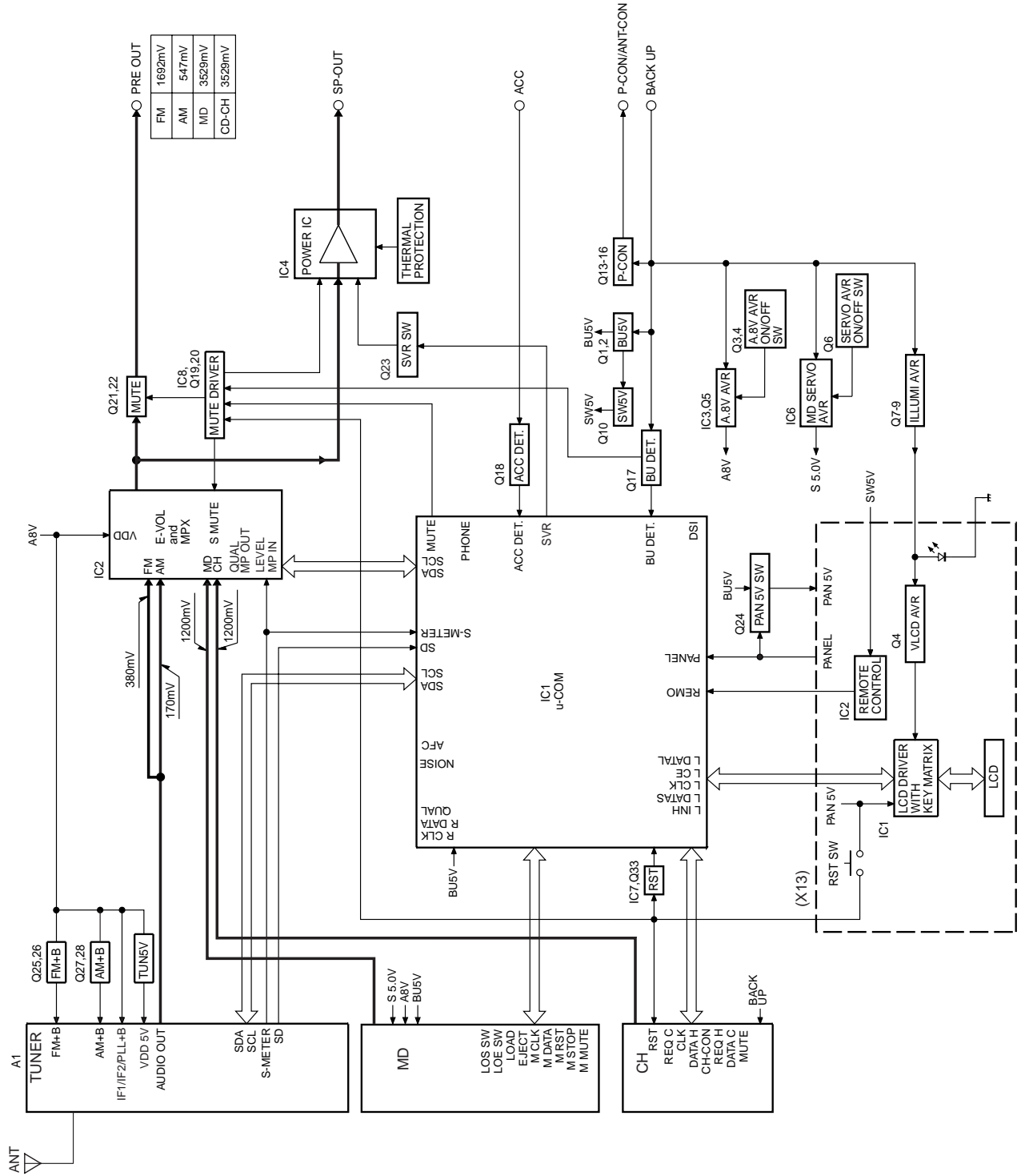
Panel assy  
(A64-1880-02)



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## BLOCK DIAGRAM



## COMPONENT DESCRIPTION

### ● SWITCH UNIT(X13-9700-11)

Ref.No.	Component Name	Application/Function	Operation/Condition/Compatibility
IC1	LC75808W	LCD driver with key-matrix	
IC2	RS-171	Remote control light sensor	
Q1	DTA114EKorUN2111	Key-matrix permission SW	Ready on key-matrix, ON when the base goes "Lo".
Q4	2SC2412Kor2SD601A	LCD AVR	

### ● ELECTRIC UNIT(X25-8450-11)

Ref.No.	Component Name	Application/Function	Operation/Condition/Compatibility
IC1	UPD784216GF520	System MI-COM.	
IC2	TDA7400D	E-VOL. & N.C. MPX	
IC3	M5237ML	AVR IC	AVR IC is combined with Q5, and it works as the error detection, the driver.
IC4	TDA7386	Power IC	
IC6	LM2595S-5.0	MD SERVO AVR	Output voltage 5.0V fixation. A DC/DC Converter with the ON/OFF function.
IC7	PST9130NR	Reset IC	"L":detection voltage below 3.0V
IC8	HD74HC27FP	Mute logic	3 input NOR gate x3
Q1	2SC4081or2SD1819A	BU 5V AVR	Inverted darlington connection On during BU applied.
Q2	2SB1565F(E,F)		
Q3	DTA124EUAorUN5112	Audio 8V AVR ON/OFF SW	Audio 8V AVR ON/OFF control
Q4	DTC144EKorUN2213orKRC104S		Q3 is turned ON when Q4's base goes "Hi".
Q5	2SB1565F(E,F)	Audio 8V AVR	Output voltage 8.3V
Q6	DTC144EKorUN2213orKRC104S	MD SERVO AVR ON/OFF SW	AVR IC is activated when Q6's base goes "Hi".
Q7	DTC144EUAorUN5213	Illumination AVR	AVR output is ON when Q7's base goes "Hi".
Q8	DTA124EUAorUN5112		
Q9	2SD1760		
Q10	2SA1036K	SW 5V	ON when the base goes "Lo".
Q13	2SB1277(Q,R)	P-CON SW	Q13 is turned ON when Q16's base goes "Hi".
Q16	DTC114YKorUN2214orKRC107S		
Q14	2SA1037K	P-CON protection	Protect Q13 by turning ON when P-CON output is grounded. Prevents Q14 tuning ON during start-up after power ON.
Q15	DTA124EKorUN2112orKRA103S		
Q17	2SC2412Kor2SD601A	BU detection(Momentary power down detection)	ON when the base goes "Hi" during BU applied.
Q18	2SC2412Kor2SD601A	ACC detection	ON when the base goes "Hi" during ACC applied.
Q19	DTA124EKorUN2112orKRA103S	Mute driver for Audio mute SW	ON when the base goes "Lo".
Q20	DTC144EKorUN2213orKRC104S	E-VOL. mute SW	E-VOL. is muted when the base goes "Hi".
Q21	DTC143TKorUN2216	Audio mute SW	Audio pre-outs are muted when the base goes "Hi".
Q22	DTC143TKorUN2216		
Q23	DTC114YKorUN2214orKRC107S	SVR SW	POWER IC RESET is activated when the base goes "Hi".
Q24	2SA1576A	Panel detection SW	ON when the base goes "Lo" during the panel closed.
Q25	DTC124EKorUN2212orKRC103S	FM+B SW	Q26 is turned ON when Q25's base goes "Hi". ON during FM reception
Q26	2SB1277(Q,R)		
Q27	DTC124EKorUN2212orKRC103S	AM+B SW	Q28 is turned ON when Q27's base goes "Hi". ON during AM reception
Q28	2SB1277(Q,R)		
Q33	DTC144EKorUN2213orKRC104S	RESET SW	System RESET is activated when the panel reset SW is pushed.

## MICROCOMPUTER'S DESCRIPTION

System  $\mu$ -com : UPD784216GF520

## ● Terminal Description

Pin No.	Pin Name	I/O	Description	Processing Operation
1	TYPE 0	I	Destination type input terminal 0	Pull down to GND
2	TYPE 1	I	Destination type input terminal 1	Pull down to GND
3	N.C.	O	Not used	
4	N.C.	O	Not used	
5	N.C.	O	Not used	
6	N.C.	O	Not used	
7	N.C.	O	Not used	
8	N.C.	O	Not used	
9	VDD	-	VDD connection terminal	Connected to BU 5V lines
10	STBY	O	Power IC standby control output	"Hi": POWER ON mode
11	SVR	O	Power IC reset terminal	When the momentary power down, after ACC OFF is detected and after POWER OFF, the output goes "Hi" temporarily.
12	N.C.	O	Not used	
13	P-MUTE	O	Power IC mute control	"Lo": Mute
14	ANT-CON	O	Antenna control	"Hi": during FM/AM reception
15	IC2-SCK	O	Clock output to the E-VOL. IC	
16	N.C.	O	Not used	
17	P-CON	O	Power control	"Hi": POWER ON mode except ALL OFF mode
18	ACC-DET	I	ACC detection input	"Hi": ACC OFF, "Lo": ACC ON
19	REMO	I	Data input from the remote control light sensor	
20	P-ON	O	A.8V AVR ON/OFF control terminal	"Hi": POWER ON mode or during MD Loading/Eject
21	BU-DET	I	Momentary power down detection input	"Hi": When momentary power down detected or BU OFF, "Lo": BU ON
22	TSET	-	Not used	Connected to GND
23	IC2-SDA	I/O	Data input/output with the E-VOL. IC	
24	MUTE	O	Mute control output	"Hi": Mute ON, "Lo": Mute OFF
25	SW5	O	SW 5V control	"Lo": POWER ON mode or during MD Loading/Eject
26	M-CLK	I/O	Clock input/output with the MI-COM. of MD mecha.	
27	M-DATA	I/O	Data input/output with the MI-COM. of MD mecha.	
28	IC3-SDA	I/O	Data input/output with the F/E(tuner)	
29	CHCON	O	Changer control	"Lo": Standby, "Hi": during the movement
30	IC3-SCK	O	Clock output to the F/E(tuner)	
31	REQ H	O	Request output to changers	"Lo": Request
32	ILL-ON	O	Illumination AVR ON/OFF control terminal	"Hi": POWER ON mode
33	DSI	O	DSI output terminal	Not used
34	N.C.	O	Not used	
35	N.C.	O	Not used	
36	MD+B	O	MD servo +B ON/OFF control terminal	"Hi": MD source is selected or during MD Loading/Eject.
37	VDD	-	VDD connection terminal	Connected to BU 5V lines
38	X2	-	Main clock resonator connection terminal	
39	X1	I	Main clock resonator connection terminal	
40	VSS	-	Ground connection terminal	Connected to GND
41	XT2	-	Sub clock resonator connection terminal	
42	XT1	I	Sub clock resonator connection terminal	
43	RESET	I	Reset input terminal	"Lo": System reset
44	N.C.	O	Not used	
45	R-CLK	I	Clock input from RDS decoder	Not used(pull down to GND)
46	REQ C	I	Request input from changers	"Hi": Request
47	KEY-REQ	I	Key request terminal	"Lo": Request
48	N.C.	O	Not used	
49	LOS-SW	I	MD insertion detection terminal	"Lo": MD insertion detected

## MICROCOMPUTER'S DESCRIPTION

Pin No.	Pin Name	I/O	Description	Processing Operation
50	N.C.	O	Not used	
51	AVDD	-	VDD connection terminal	Connected to BU 5V lines
52	AVREF 0	-	VDD connection terminal(A/D converter reference voltage input)	Connected to BU 5V lines
53	PHONE	I	PHONE detection input	Not used(pull down to GND)
54	N.C.	I	Not used	Connected to GND
55	NIOSE	I	Noise detection input	Not used(pull down to GND)
56	S-METER	I	S-meter input from the F/E(tuner)	
57	N.C.	I	Not used	Connected to GND
58	N.C.	I	Not used	Connected to GND
59	N.C.	I	Not used	Connected to GND
60	M-MUTE	I	Mute request from the MI-COM. of MD mecha.	"Lo": Mute requested
61	AVSS	-	Ground connection terminal(A/D, D/A converter)	Connected to GND
62	N.C.	O	Not used	
63	M-RST	O	Reset output to the MI-COM. of MD mecha.	"Lo": Reset
64	AVREF 1	-	VDD connection terminal(D/A converter reference voltage input)	Connected to BU 5V lines
65	DATA C	I	Data input from changers	
66	DATA H	O	Data output to changers	
67	CH-CLK	I/O	Clock input/output with changers	
68	L-DATAL	I	Data input from the LCD driver IC	
69	L-DATAS	O	Data output to the LCD driver IC	
70	L-CLK	O	Clock output to the LCD driver IC	
71	M-STOP	O	Stop request to the MI-COM. of MD mecha.	"Lo": Stop, "Hi": during the movement
72	BEEP	O	BEEP sound output	
73	N.C.	O	Not used	
74	N.C.	O	Not used	
75	N.C.	O	Not used	
76	LOE-SW	I	MD loading complete detection SW input terminal	"Lo": MD loading completion
77	EJECT	O	MD mecha. Loading/Eject switching output terminal	Standby : (EJECT, LOAD)=(Lo, Lo) Eject : (EJECT, LOAD)=(Hi, Lo)
78	LOAD	O	MD mecha. Loading/Eject switching output terminal	Loading : (EJECT, LOAD)=(Lo, Hi) Brake : (EJECT, LOAD)=(Hi, Hi)
79	L-INH	O	INH output to the LCD driver IC	"Hi": Active, "Lo": LCD indication OFF
80	L-CE	O	CE output to the LCD driver IC	"Hi": Active
81	PANEL	I	Panel detaching detection input	"Lo": Panel not detached
82	N.C.	O	Not used	
83	N.C.	O	Not used	
84	QUAL	I	Quality input from RDS decoder	Not used(pull down to GND)
85	R-DATA	I	Data input from RDS decoder	Not used(pull down to GND)
86	N.C.	O	Not used	
87	N.C.	O	Not used	
88	SD	I	SD input from the F/E(tuner)	"Hi": Station detected, "Lo": Not detected
89	N.C.	O	Not used	
90	N.C.	O	Not used	
91	N.C.	O	Not used	
92	AFC	O	Noise detection time constant switching terminal	Not used
93	N.C.	O	Not used	
94	N.C.	O	Not used	
95	N.C.	O	Not used	
96	AM+B	O	AM+B control	"Hi": during AM reception
97	FM+B	O	FM+B control	"Hi": during FM reception
98	ST TYPE 0	I	IC2 stereo data setting terminal	"Lo": Initial value
99	ST TYPE 1	I	IC2 stereo data setting terminal	"Lo": Initial value
100	VSS	-	Ground connection terminal	Connected to GND

## ADJUSTMENT

### TEST MODE

#### 1. To enter test mode

While holding the "FM" key and preset "6" key, reset the unit.  
All indication segments are ON at the beginning of test mode.

#### 2. To release test mode

Simply reset the unit.  
(NOTE) The test mode is not canceled by ACC OFF, power OFF, momentary power down.

#### 3. MD receiver test mode specification

Pressing the "Track Up" key jumps between tracks in the following order.

No.7 → No.2 → No.13 → No.23 → No.30 → No.34 → No.7  
(Same as the beginning)

Pressing the "Track Down" key jumps to the previous track to the being played.

Pressing the preset "1" key jumps to No.28 track. Again pressing the preset "1" key jumps to No.22 track.

#### 4. Audio adjustment

The volume is set to -10dB (which is shown as 30).

Loudness is OFF. CRSC becomes OFF regardless of the functional excuse, too.

The BASS / TREBLE and BALANCE / FADER controls can be set to the full boost / full cut and full front / full rear and full right / full left respectively by pressing the "Track Up" / "Track Down" keys.

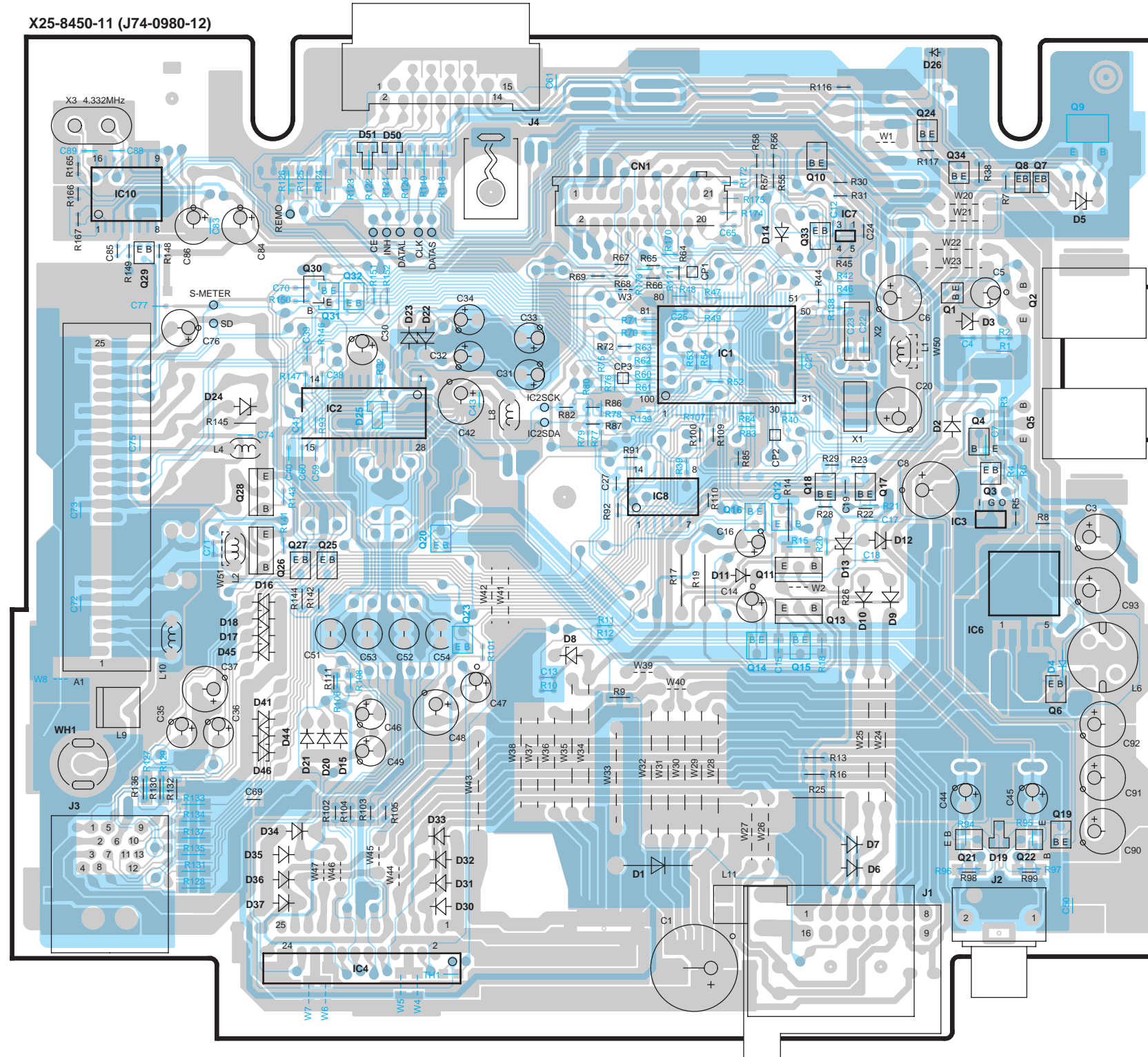
Sound coordination(Kex / ec4 / dB) doesn't appear for the Audio mode feed.

# PC BOARD (Component Side View)

## ELECTRIC UNIT

ELECTRIC UNIT  
(X25-8450-11)

Ref. No.	IC	Q	Address
1			3F
2			3D
3			4G
4			6D
6			4G
7			2F
8			4F
1			3G
2			3G
3			4G
4			3G
5			3G
6			5G
7			2G
8			2G
9			2H
10			2F
13			4F
14			4F
15			4F
16			4F
17			4G
18			4F
19			5G
20			4E
21			5G
22			5G
23			4E
24			2G
25			4D
26			4D
27			4D
28			4D
33			2F

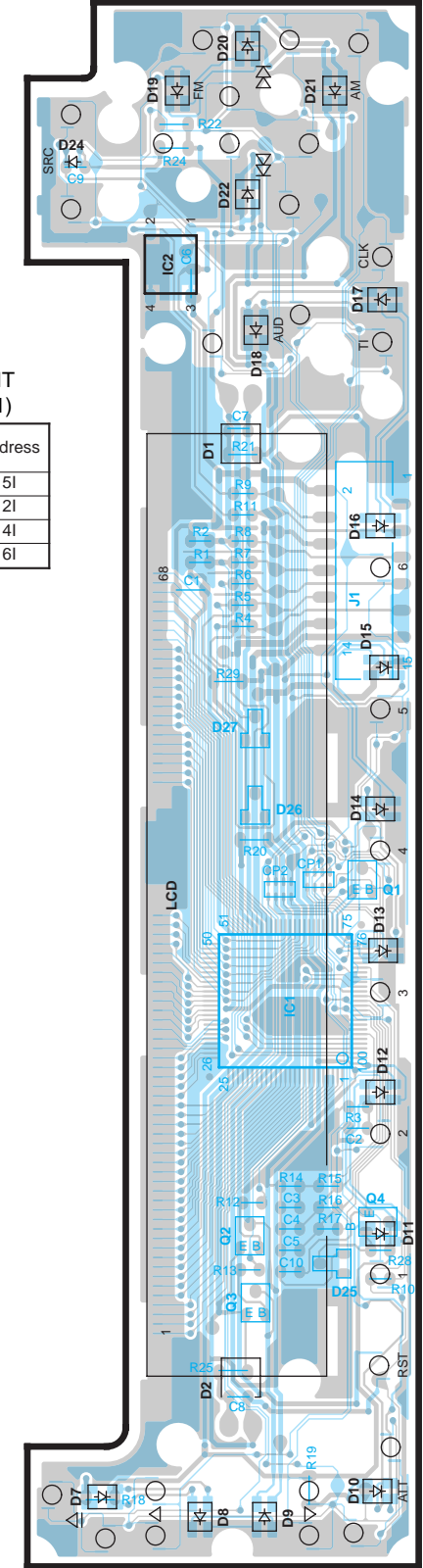


## SWITCH UNIT

X13-9700-11 (J74-0982-12)

SWITCH UNIT  
(X13-9700-11)

Ref. No.	IC	Q	Address
1			5I
2			2I
1			4I
4			6I



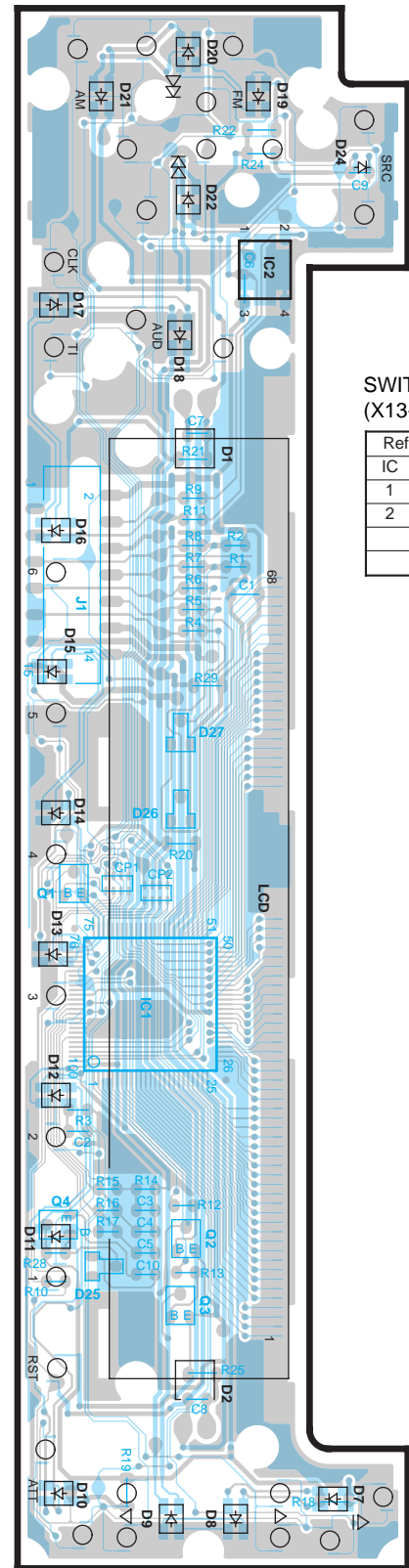
Refer to the schematic diagram for the values of resistors and capacitors.



# PC BOARD (Foil Side View)

## SWITCH UNIT

X13-9700-11 (J74-0982-12)

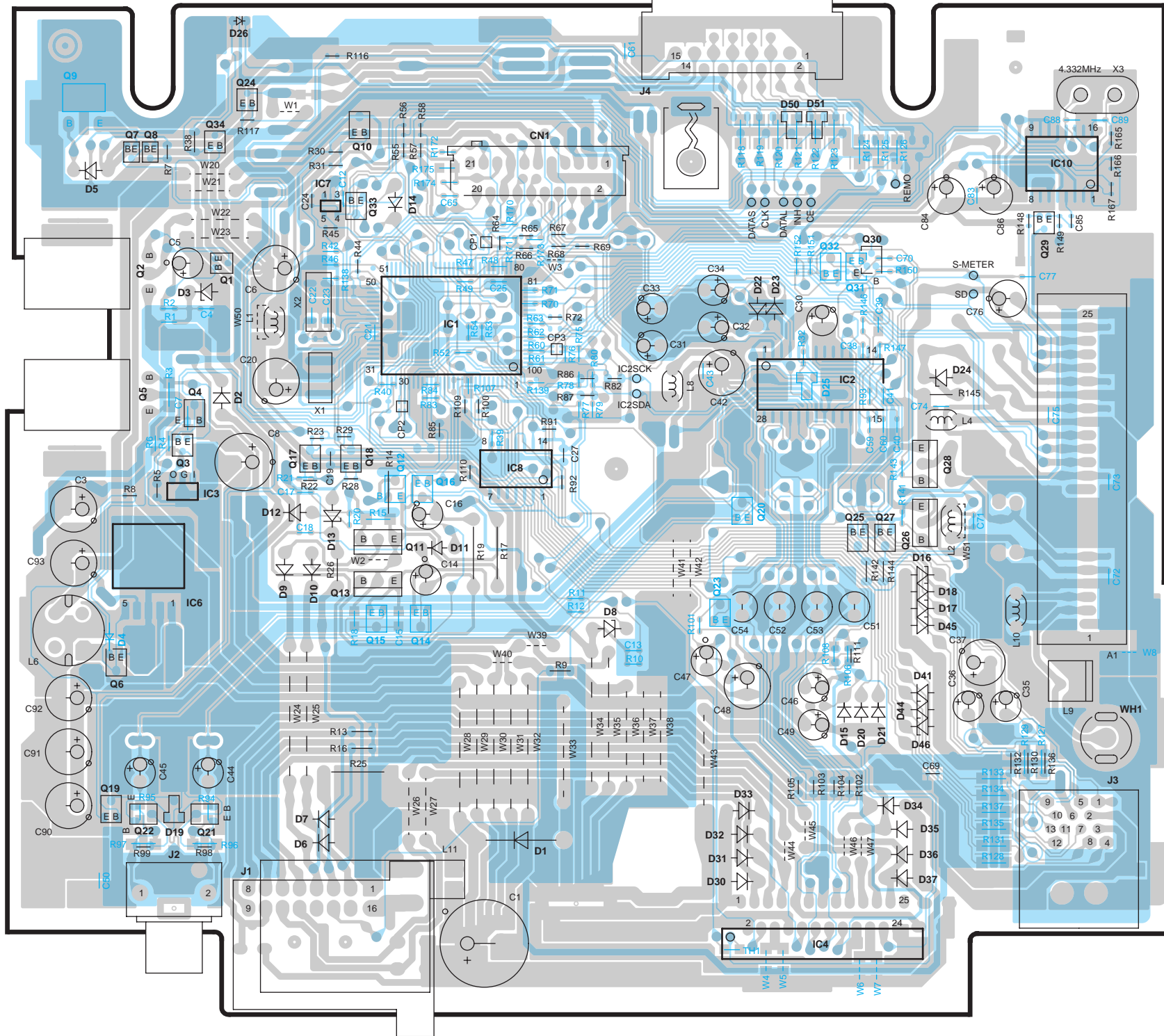


SWITCH UNIT  
(X13-9700-11)

Ref. No.	IC	Q	Address
1			5J
2			2J
	1		4J
	4		6J

## ELECTRIC UNIT

X25-8450-11 (J74-0980-12)

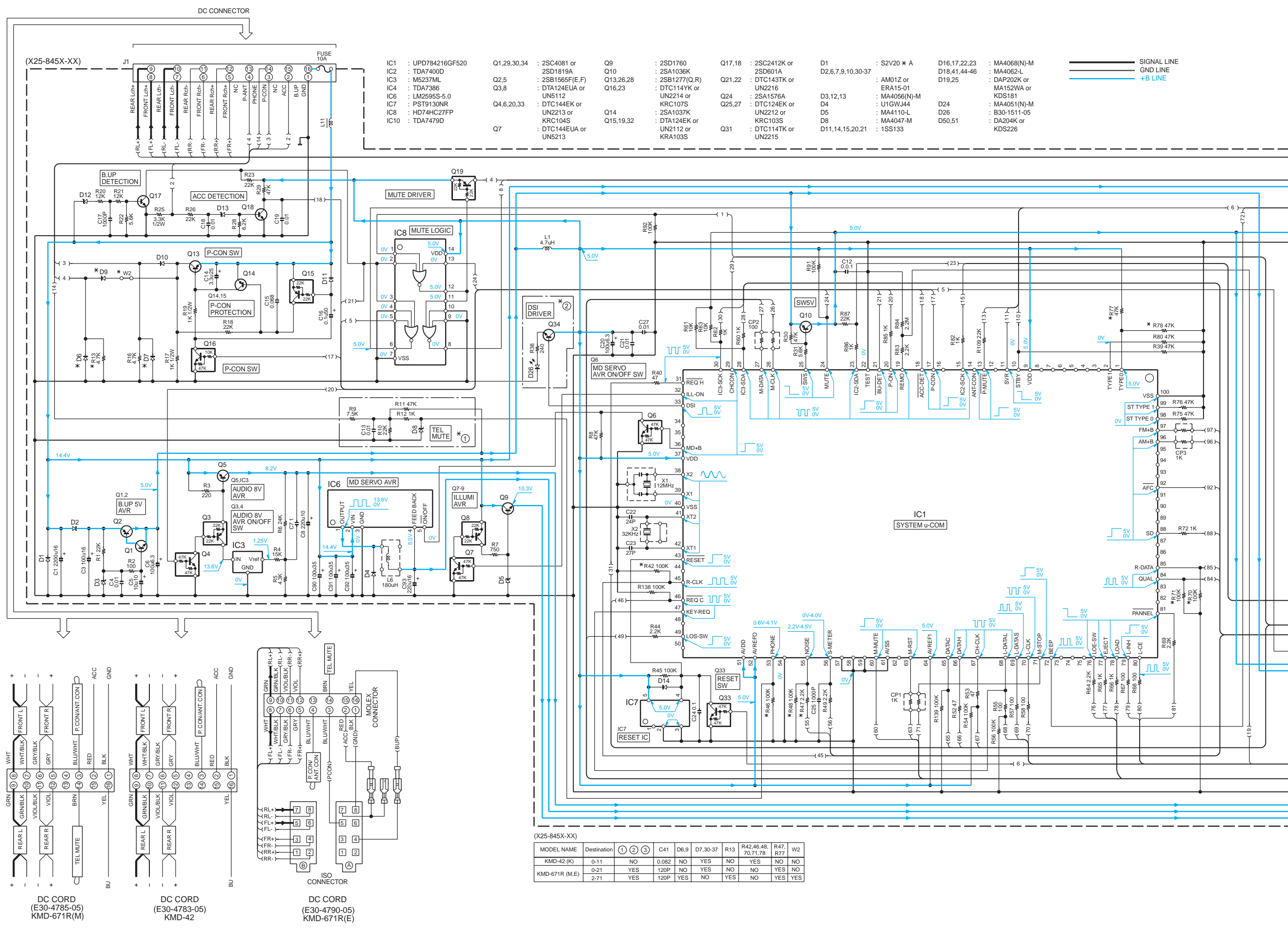


ELECTRIC UNIT  
(X25-8450-11)

Ref. No.	IC	Q	Address
1			3M
2			3O
3			4L
4			6O
6			4L
7			2M
8			4M
	1		3L
	2		3L
	3		4L
	4		3L
	5		3L
	6		5L
	7		2L
	8		2L
	9		2K
10			2M
13			4M
14			4M
15			4M
16			4M
17			4L
18			4M
19			5L
20			4N
21			5L
22			5L
23			4N
24			2L
25			4O
26			4O
27			4O
28			4O
33			2M

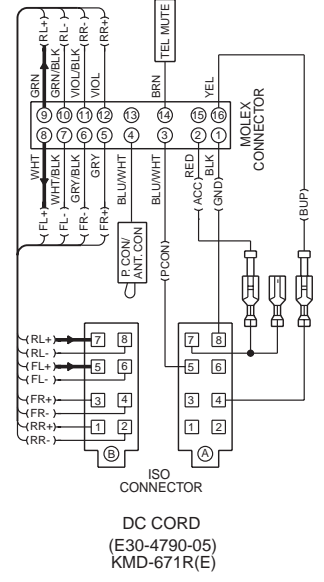
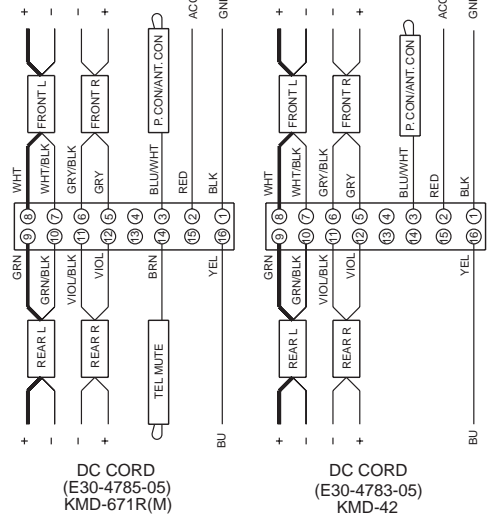
Refer to the schematic diagram for the values of resistors and capacitors.





- IC1 : UPD784216GF520 Q1,29,30,34 : 2SC4081 or Q9 : 2SD1760 IC2 : TDA7400D Q10 : 2SA1036K IC3 : M5237ML Q13,26,28 : 2SB1277(Q,R) IC4 : TDA7386 Q3,8 : DTA124EUA or UN5112 IC6 : LM2595S-5.0 Q4,6,20,33 : DTC144EK or UN2213 or KRC104S IC7 : PST9130NR IC8 : HD74HC27FP Q14 : 2SA1037K Q15,19,32 : DTA124EK or UN2112 or KRA103S IC10 : TDA7479D Q7 : DTC144EUA or UN5213 Q17,18 : 2SC2412K or 2SD601A Q21,22 : DTC143TK or UN2216 Q24 : 2SA1576A Q25,27 : DTC124EK or UN2212 or KRC103S Q31 : DTC114TK or UN2215 D1 : S2V20 \* A D2,6,7,9,10,30-37 : AM012 or ERA15-01 D3,12,13 : MA4056(N)-M D4 : U1GWJ44 D5 : MA4110-L D8 : MA4047-M D11,14,15,20,21 : 1SS133 D16,17,22,23 : MA4068(N)-M D18,41,44-46 : MA4062-L D19,25 : DAP202K or MA152WA or KDS181 D24 : MA4051(N)-M D26 : B30-1511-05 D50,51 : DA204K or KDS226

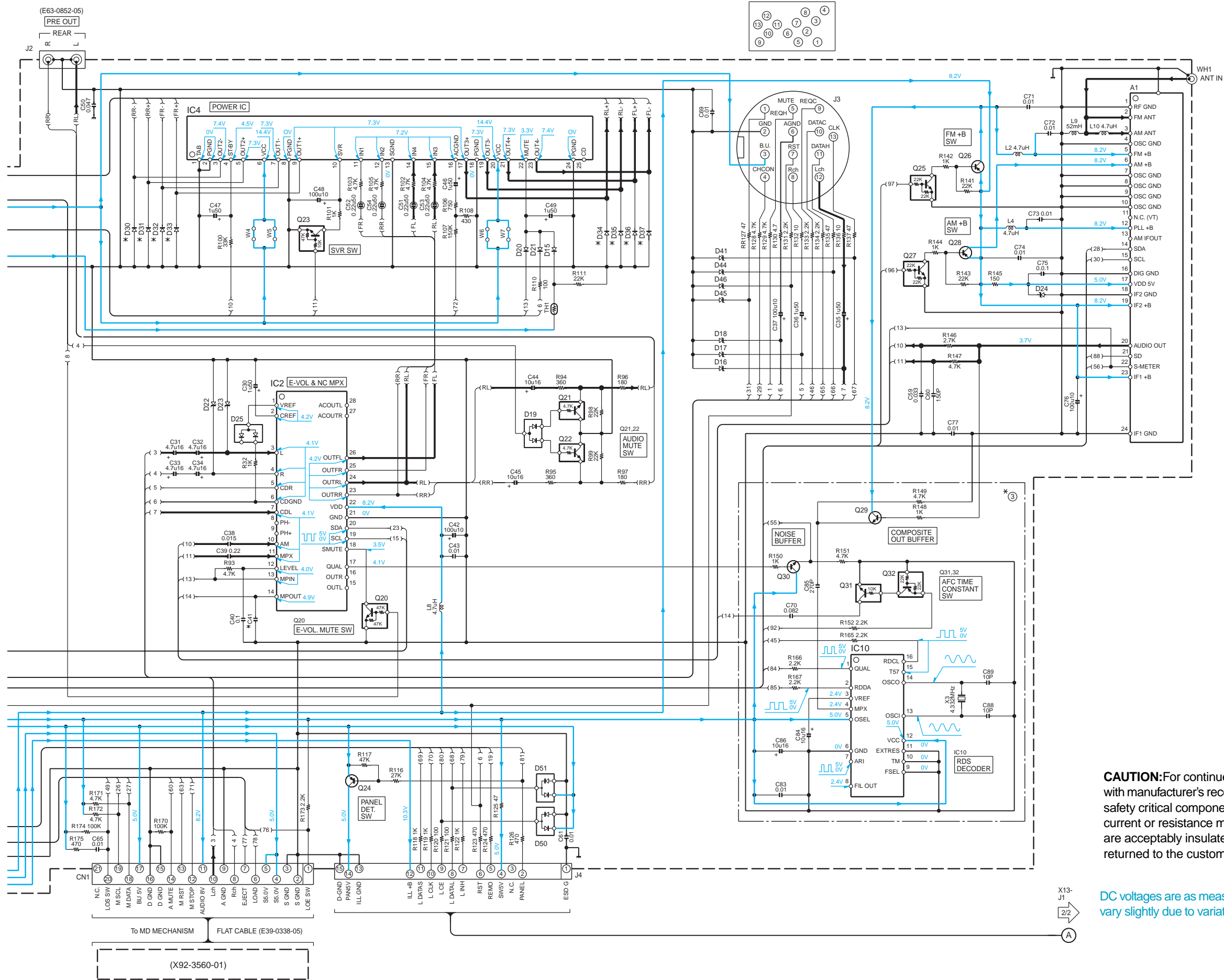
— SIGNAL LINE  
 — GND LINE  
 — +B LINE



(X25-845X-XX)

MODEL NAME	Destination	①	②	③	C41	D6,9	D7,30-37	R13	R42,46,48,70,71,78	R47, R77	W2
KMD-42 (K)	0-11	NO	0.082	NO	NO	YES	NO	NO	YES	NO	NO
KMD-671R (M,E)	0-21	YES	120P	NO	YES	NO	NO	NO	NO	YES	NO
	2-71	YES	120P	YES	NO	NO	YES	NO	NO	YES	YES

1  
2  
3  
4  
5  
6  
7

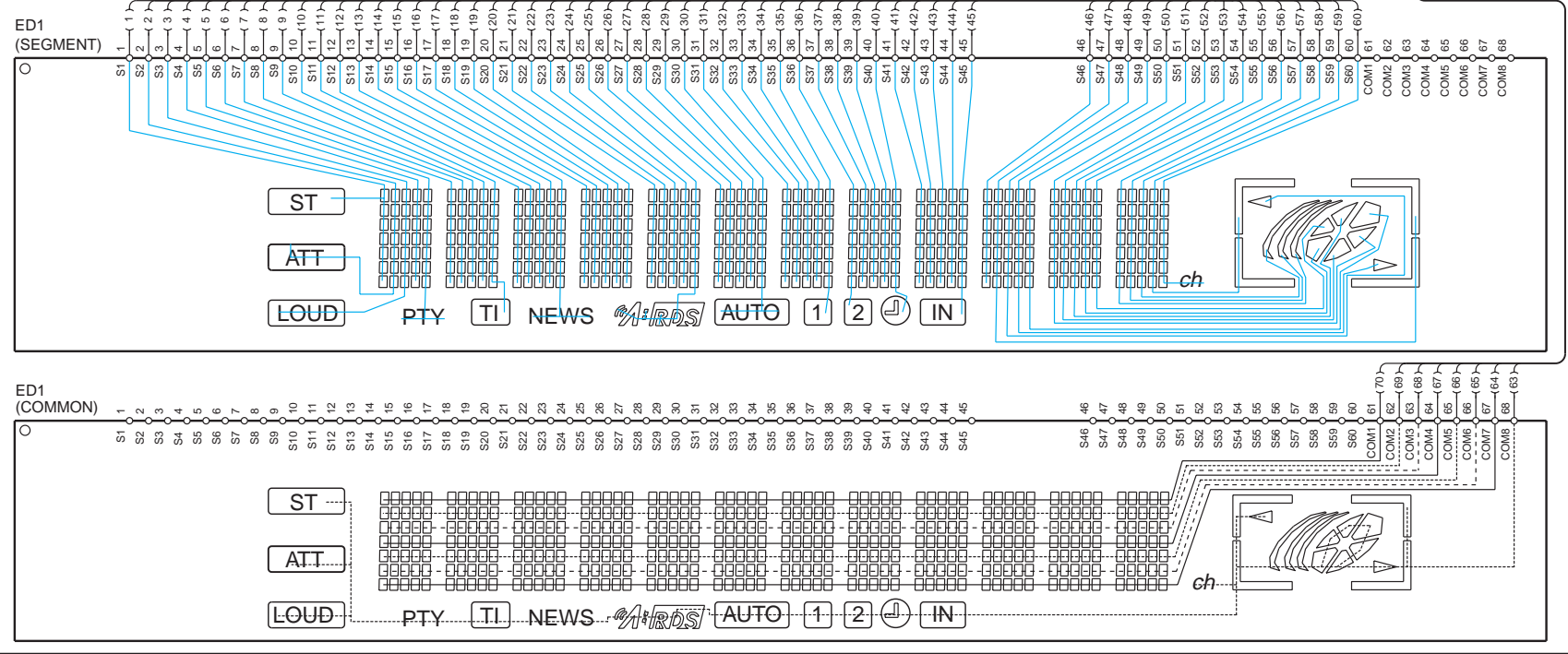
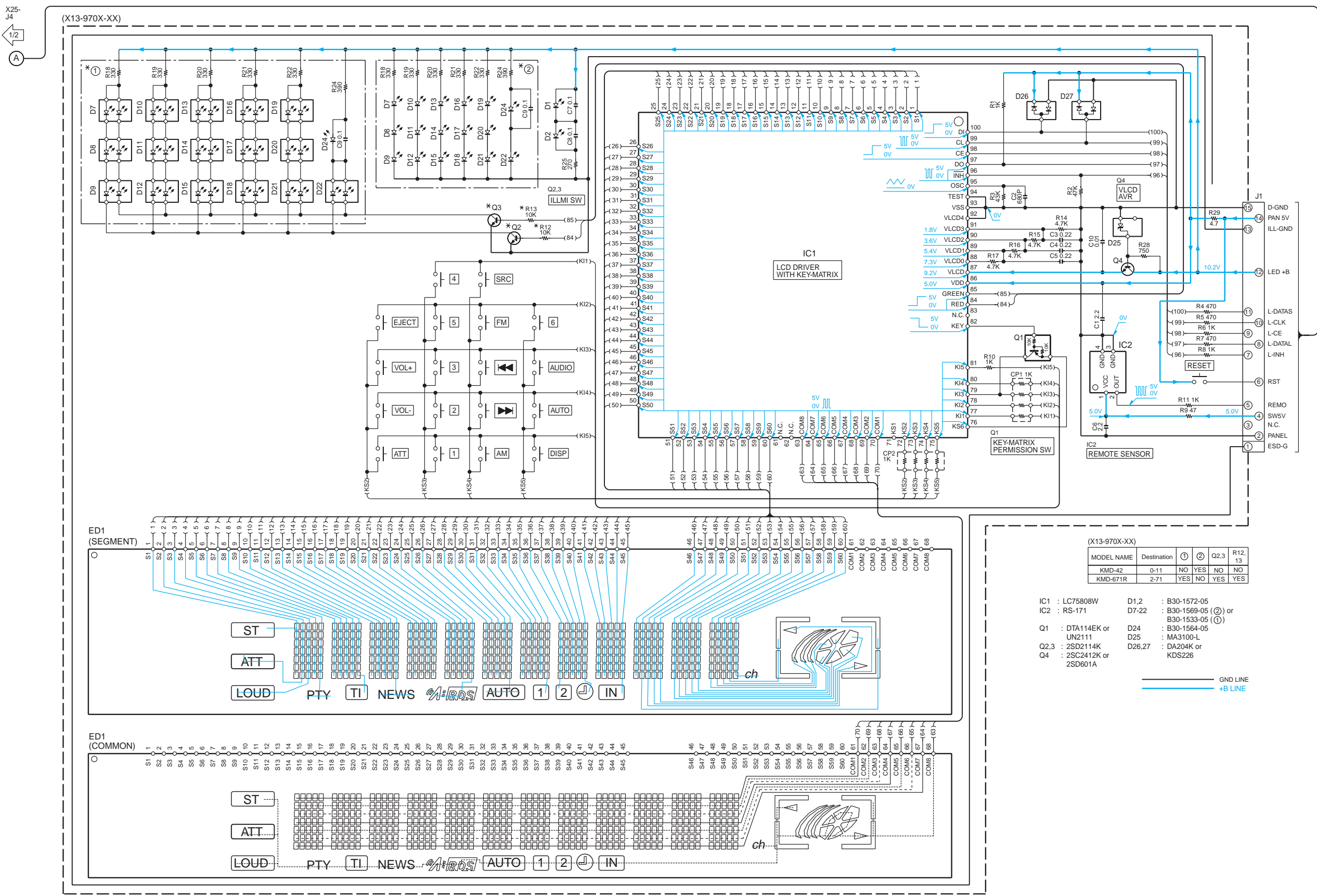


- DTA114EK
- DTA124EK
- DTC114YK
- DTC124EK
- DTC143TK
- DTC144EK
- KRC103S
- UN5213
- 2SA1036K
- 2SA1576A
- 2SC2412K
- 2SD1819A
- DTA124EUA
- DTC144EUA
- KRC104S
- IN OUT
- DAP202K
- DA204K
- PST9130NR
- M5237ML
- 2SB1277
- 2SD1760
- 2SA1037K
- 2SC4081

**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.

**KMD-42**  
**KENWOOD**



(X13-970X-XX)

MODEL NAME	Destination	①	②	Q2.3	R12, 13
KMD-42	0-11	NO	YES	NO	NO
KMD-671R	2-71	YES	NO	YES	YES

IC1 : LC75808W	D1.2 : B30-1572-05
IC2 : RS-171	D7-22 : B30-1569-05 (②) or B30-1533-05 (①)
Q1 : DTA114EK or UN2111	D24 : B30-1564-05
Q2.3 : 2SD2114K	D25 : MA3100-L
Q4 : 2SC2412K or 2SD601A	D26,27 : DA204K or KDS226

— GND LINE  
— +B LINE

**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.





## PARTS LIST

\* New Parts

Parts without Parts No. are not supplied.

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

Teile ohne Parts No. werden nicht geliefert.

**SWITCH UNIT (X13-9700-11)**  
**ELECTRIC UNIT (X25-8450-11)**

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
<b>KMD-42</b>					
202	1B		A52-0739-12	TOP PLATE	
203	1A		A02-1486-13	PLASTIC CABINET ASSY	
205	1B	*	A22-2392-03	SUB PANEL ASSY	
207	2A	*	A46-1653-01	REAR COVER	
208	1A	*	A53-1673-03	LID	
PA1	3A	*	A64-1880-02	PANEL ASSY	
210	3A		B07-2181-02	ESCUTCHEON	
211	3A	*	B10-3116-01	FRONT GLASS	
-			B46-0100-50	WARRANTY CARD	
-			B46-0606-04	ID CARD	
-		*	B64-1557-00	INST.MANUAL(ENG,FRE)	
-		*	B64-1558-00	INST.MANUAL(SPA,POR)	
220	1A		D10-3031-04	LEVER	
221	2A		D10-4051-33	LEVER	
222	2B		D10-4052-03	LEVER	
223	2A		D21-2250-04	SHAFT	
224	2A		E29-1571-02	CONDUCTIVE RUBBER	
DC1	1A		E30-4783-05	DC CORD	
FC1	2B	*	E39-0338-05	FLAT CABLE	
F1	2B		F52-0006-05	FUSE(MINI BLADE TYPE)(10A)	
F1	2B		F52-0011-05	FUSE(MINI BLADE TYPE)(10A)	
228	3A		G01-2738-04	COMPRESSION SPRING	
229	2B		G01-2792-04	EXTENSION SPRING	
230	2A		G02-1244-03	FLAT SPRING	
231	1A	*	G01-2985-04	TORSION COIL SPRING	
-		*	H10-4711-02	POLYSTYRENE FOAMED FIXTURE	
-			H25-0329-04	PROTECTION BAG (280X450X0.03)	
-			H25-0337-04	PROTECTION BAG (180X300X0.03)	
-		*	H54-1685-03	ITEM CARTON CASE	
236	3A		J19-4878-22	HOLDER	
237	2B		J21-7726-04	MOUNTING HARDWARE	
238	1A		J21-9491-03	MOUNTING HARDWARE ASSY	
239	1A		J54-0606-04	STAY	
240	3A		K24-1924-14	KNOB (SRC)	
241	3A		K24-1948-14	KNOB (RELEASE)	
242	3A		K25-0965-03	KNOB (FM,AM,UP,DOWN,AUD)	
243	3A		K25-0967-03	KNOB (VOL,ATT,EJECT)	
244	3A		K25-1036-03	KNOB (AUTO,CLK)	
245	3A		K25-1037-03	KNOB (PRESET1-6)	
251	1A		N99-1610-15	SCREW SET	
252	1A		N99-1632-05	SCREW SET	
A	1B		N83-3005-46	PAN HEAD TAPTITE SCREW	
E	2A		N80-2006-46	PAN HEAD TAPTITE SCREW	
F	2A		N80-2008-45	PAN HEAD TAPTITE SCREW	
G	2A		N30-2608-45	PAN HEAD MACHINE SCREW	
K	2B		N38-2020-46	PAN HEAD MACHIN SCREW	
ME1	2B		X92-3560-01	MD MECHANISM ASSY	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
<b>SWITCH UNIT (X13-9700-11)</b>					
270	2A		B11-0974-04	REFLECTION SHEET	
271	2A		B11-0975-04	OPTICAL DIFFUSER	
272	2A	*	B19-2018-03	LIGHTING BOARD	
D1 ,2			B30-1572-05	LED(WHITE)	
D7 -22			B30-1533-05	LED(1608,PG)	
D24			B30-1564-05	LED(1608,BLUE)	
ED1	2A	*	B38-1025-05	LIQUID CRYSTAL	
C1			CK73EB1C225K	CHIP C	2.2UF K
C2			CK73FB1H681K	CHIP C	680PF K
C3 -5			CK73FB1C224K	CHIP C	0.22UF K
C6			CK73EB1C225K	CHIP C	2.2UF K
C7 -9			CK73FB1C104K	CHIP C	0.10UF K
C10			CK73FB1H103K	CHIP C	0.010UF K
273	2A	*	E29-1597-04	CONDUCTIVE RUBBER (L)	
274	2A	*	E29-1598-04	CONDUCTIVE RUBBER (R)	
J1			E59-0828-05	RECTANGULAR PLUG (15P)	
CP1 ,2			R90-0724-05	MULTI-COMP	1K X4
R1			RK73FB2A102J	CHIP R	1.0K J 1/10W
R2			RK73FB2A473J	CHIP R	47K J 1/10W
R3			RK73FB2A433J	CHIP R	43K J 1/10W
R4 ,5			RK73FB2A471J	CHIP R	470 J 1/10W
R6			RK73FB2A102J	CHIP R	1.0K J 1/10W
R7			RK73FB2A471J	CHIP R	470 J 1/10W
R8			RK73FB2A102J	CHIP R	1.0K J 1/10W
R9			RK73FB2A470J	CHIP R	47 J 1/10W
R10 ,11			RK73FB2A102J	CHIP R	1.0K J 1/10W
R14 -17			RK73FB2A472J	CHIP R	4.7K J 1/10W
R18 -22			RK73EB2B331J	CHIP R	330 J 1/8W
R24			RK73EB2B391J	CHIP R	390 J 1/8W
R25			RK73EB2B271J	CHIP R	270 J 1/8W
R28			RK73FB2A751J	CHIP R	750 J 1/10W
R29			RK73EB2B4R7J	CHIP R	4.7 J 1/8W
D25			MA3100-L	ZENER DIODE	
D26 ,27			DA204K	DIODE	
D26 ,27		*	KDS226	DIODE	
IC1		*	LC75808W	MOS-IC	
IC2			RS-171	ANALOGUE IC	
Q1			DTA114EK	DIGITAL TRANSISTOR	
Q1			UN2111	DIGITAL TRANSISTOR	
Q4			2SC2412K	TRANSISTOR	
Q4			2SD601A	TRANSISTOR	
<b>ELECTRIC UNIT (X25-8450-11)</b>					
C1			C90-5235-05	ELECTRO	2200UF 16WV
C3			CE04DW1C101M	ELECTRO	100UF 16WV
C4			CK73GB1H103K	CHIP C	0.010UF K
C5			C90-2594-05	ELECTRO	10UF 10WV
C6			CE04CW0J101M	ELECTRO	100UF 6.3WV
C7			CK73EB1C105K	CHIP C	1.0UF K
C8			CE04CW1A221M	ELECTRO	220UF 10WV
C12			CK73GB1H103K	CHIP C	0.010UF K
C14			C90-2598-05	ELECTRO	3.3UF 25W

⚠ indicates safety critical components.

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**ELECTRIC UNIT (X25-8450-11)**

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
C15			CK73FB1E683K	CHIP C 0.068UF K	
C16			C90-2602-05	ELECTRO 0.10UF 50WV	
C17			CK73GB1H102K	CHIP C 1000PF K	
C18			CK73GB1H103K	CHIP C 0.010UF K	
C19			CK73FB1H103K	CHIP C 0.010UF K	
C20			CE04CW0J101M	ELECTRO 100UF 6.3WV	
C21			CK73GB1H103K	CHIP C 0.010UF K	
C22			CC73FCH1H240J	CHIP C 24PF J	
C23			CC73FCH1H270J	CHIP C 27PF J	
C24			CK73GB1C104K	CHIP C 0.10UF K	
C25			CK73GB1H102K	CHIP C 1000PF K	
C27			CK73FB1H103K	CHIP C 0.010UF K	
C30			C90-2608-05	ELECTRO 1.0UF 50WV	
C31 -34			C90-2595-05	ELECTRO 4.7UF 16WV	
C35 ,36			C90-2608-05	ELECTRO 1.0UF 50WV	
C37			CE04CW1A101M	ELECTRO 100UF 10WV	
C38			CK73GB1E153K	CHIP C 0.015UF K	
C39			CK73FB1C224K	CHIP C 0.22UF K	
C40			CK73GB1C104K	CHIP C 0.10UF K	
C41			CK73GB1C823K	CHIP C 0.082UF K	
C42			CE04CW1A101M	ELECTRO 100UF 10WV	
C43			CK73GB1H103K	CHIP C 0.010UF K	
C44 ,45			C90-2597-05	ELECTRO 10UF 16WV	
C46			C90-2935-05	ELECTRO 1.0UF 50WV	
C47			C90-2608-05	ELECTRO 1.0UF 50WV	
C48			CE04CW1A101M	ELECTRO 100UF 10WV	
C49			C90-2608-05	ELECTRO 1.0UF 50WV	
C50			CK73FB1E473K	CHIP C 0.047UF K	
C51 -54			C90-5296-05	ELECTRO 0.22UF 50WV	
C59			CK73GB1C333K	CHIP C 0.033UF K	
C60			CC73GCH1H151J	CHIP C 150PF J	
C61			CK73GB1H103K	CHIP C 0.010UF K	
C65			CK73GB1H103K	CHIP C 0.010UF K	
C69			CK73GB1H103K	CHIP C 0.010UF K	
C71 -75			CK73GB1H103K	CHIP C 0.010UF K	
C76			CE04DW1A101M	ELECTRO 100UF 10WV	
C77			CK73GB1H103K	CHIP C 0.010UF K	
C90 -92			C90-2983-05	ELECTRO 100UF 35WV	
C93			C90-2980-05	ELECTRO 220UF 16WV	
CN1			E40-9287-05	PIN ASSY (21P)	
J1			E58-0863-15	RECTANGULAR RECEPTACLE (16P)	
J2	2B		E63-0852-05	PIN JACK (2P)	
J3	2B		E56-0809-05	CYLINDRICAL RECEPTACLE (13P)	
J4	3B		E58-0879-05	RECTANGULAR RECEPTACLE (15P)	
WH1	1B		E30-4440-05	CORD WITH PLUG	
WH1	1B	*	E30-4804-05	CORD WITH PLUG	
L1 ,2			L40-4795-91	SMALL FIXED INDUCTOR(4.7UH,J)	
L4			L40-4795-91	SMALL FIXED INDUCTOR(4.7UH,J)	
L6			L33-1098-05	CHOKE COIL	
L8			L40-4795-91	SMALL FIXED INDUCTOR(4.7UH,J)	
L9			L33-1123-05	LINE FILTER COIL	
L10			L40-4795-91	SMALL FIXED INDUCTOR(4.7UH,J)	
L11	2B		L33-1119-05	CHOKE COIL ASSY	
X1			L78-0574-05	RESONATOR (12MHZ)	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
X2		*	L77-2738-05	CRYSTAL RESONATOR (32KHZ)	
B			N80-3008-46	PAN HEAD TAPTITE SCREW	
C	1B		N86-2606-46	BINDING HEAD TAPTITE SCREW	
D	2B		N83-3020-46	PAN HEAD TAPTITE SCREW	
H	1B		N35-3010-46	BINDING HEAD MACHINE SCREW	
J	2B		N83-3006-46	PAN HEAD TAPTITE SCREW	
CP1			R90-0725-05	MULTI-COMP 1K X2	
CP2			R90-1019-05	MULTI-COMP 100 X2	
CP3			R90-0725-05	MULTI-COMP 1K X2	
R1			RK73GB1J223J	CHIP R 22K J 1/16W	
R2			RK73GB1J101J	CHIP R 100 J 1/16W	
R3			RK73EB2B221J	CHIP R 220 J 1/8W	
R4			RK73FB2A153J	CHIP R 15K J 1/10W	
R5			R92-3032-05	CHIP R 4.3K D 1/10W	
R6			R92-3047-05	CHIP R 24K D 1/10W	
R7			RK73FB2A751J	CHIP R 750 J 1/10W	
R8			RK73GB1J473J	CHIP R 47K J 1/16W	
R16			RK73EB2B472J	CHIP R 4.7K J 1/8W	
R17			RD14DB2H102J	SMALL-RD 1.0K J 1/2W	
R18			RK73FB2A223J	CHIP R 22K J 1/10W	
R19			RD14DB2H102J	SMALL-RD 1.0K J 1/2W	
R20 ,21			RK73GB1J123J	CHIP R 12K J 1/16W	
R22			RK73GB1J562J	CHIP R 5.6K J 1/16W	
R23			RK73GB1J223J	CHIP R 22K J 1/16W	
R25			RD14DB2H332J	SMALL-RD 3.3K J 1/2W	
R26			RD14BB2C223J	RD 22K J 1/6W	
R28			RK73GB1J622J	CHIP R 6.2K J 1/16W	
R29			RK73FB2A473J	CHIP R 47K J 1/10W	
R30			RK73GB1J473J	CHIP R 47K J 1/16W	
R31			RK73GB1J562J	CHIP R 5.6K J 1/16W	
R32			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R39			RK73GB1J473J	CHIP R 47K J 1/16W	
R40			RK73GB1J470J	CHIP R 47 J 1/16W	
R42			RK73GB1J104J	CHIP R 100K J 1/16W	
R44			RK73GB1J222J	CHIP R 2.2K J 1/16W	
R45 ,46			RK73GB1J104J	CHIP R 100K J 1/16W	
R48			RK73FB2A104J	CHIP R 100K J 1/10W	
R49			RK73GB1J222J	CHIP R 2.2K J 1/16W	
R52 ,53			RK73GB1J470J	CHIP R 47 J 1/16W	
R54			RK73GB1J104J	CHIP R 100K J 1/16W	
R55			RK73GB1J101J	CHIP R 100 J 1/16W	
R56			RK73GB1J104J	CHIP R 100K J 1/16W	
R57 ,58			RK73GB1J101J	CHIP R 100 J 1/16W	
R60			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R61			RK73GB1J103J	CHIP R 10K J 1/16W	
R62			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R63			RK73GB1J103J	CHIP R 10K J 1/16W	
R64			RK73GB1J222J	CHIP R 2.2K J 1/16W	
R65 ,66			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R67 ,68			RK73GB1J101J	CHIP R 100 J 1/16W	
R69			RK73GB1J222J	CHIP R 2.2K J 1/16W	
R70 ,71			RK73GB1J104J	CHIP R 100K J 1/16W	
R72			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R75 ,76			RK73GB1J473J	CHIP R 47K J 1/16W	

⚠ indicates safety critical components.



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### ELECTRIC UNIT (X25-8450-11)

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
R78			RK73GB1J473J	CHIP R 47K J 1/16W	
R80			RK73GB1J473J	CHIP R 47K J 1/16W	
R82			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R83			RK73GB1J222J	CHIP R 2.2K J 1/16W	
R84			RK73GB1J225J	CHIP R 2.2M J 1/16W	
R85 ,86			RK73FB2A102J	CHIP R 1.0K J 1/10W	
R87			RK73FB2A223J	CHIP R 22K J 1/10W	
R91 ,92			RK73GB1J104J	CHIP R 100K J 1/16W	
R93			RK73GB1J472J	CHIP R 4.7K J 1/16W	
R94 ,95			RK73FB2A361J	CHIP R 360 J 1/10W	
R96 ,97			RK73EB2B181J	CHIP R 180 J 1/8W	
R98 ,99			RK73FB2A223J	CHIP R 22K J 1/10W	
R100			RK73GB1J333J	CHIP R 33K J 1/16W	
R101			RK73GB1J102J	CHIP R 1.0K J 1/16W	
R102-105			RK73FB2A472J	CHIP R 4.7K J 1/10W	
R106			RK73FB2A751J	CHIP R 750 J 1/10W	
R107			RK73FB2A154J	CHIP R 150K J 1/10W	
R108			RK73FB2A431J	CHIP R 430 J 1/10W	
R109			RK73GB1J223J	CHIP R 22K J 1/16W	
R110			RK73GB1J101J	CHIP R 100 J 1/16W	
R111			RK73FB2A223J	CHIP R 22K J 1/10W	
R116			RK73GB1J273J	CHIP R 27K J 1/16W	
R117			RK73GB1J473J	CHIP R 47K J 1/16W	
R118,119			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R120,121			RK73EB2B101J	CHIP R 100 J 1/8W	
R122			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R123,124			RK73EB2B471J	CHIP R 470 J 1/8W	
R125			RK73EB2B470J	CHIP R 47 J 1/8W	
R126			RK73EB2B471J	CHIP R 470 J 1/8W	
R127			RK73EB2B470J	CHIP R 47 J 1/8W	
R128,129			RK73EB2B472J	CHIP R 4.7K J 1/8W	
R130			RK73EB2B4R7J	CHIP R 4.7 J 1/8W	
R131			RK73EB2B222J	CHIP R 2.2K J 1/8W	
R132			RK73EB2B100J	CHIP R 10 J 1/8W	
R133,134			RK73EB2B222J	CHIP R 2.2K J 1/8W	
R135			RK73EB2B470J	CHIP R 47 J 1/8W	
R136			RK73EB2B100J	CHIP R 10 J 1/8W	
R137			RK73EB2B470J	CHIP R 47 J 1/8W	
R138,139			RK73GB1J104J	CHIP R 100K J 1/16W	
R141			RK73GB1J223J	CHIP R 22K J 1/16W	
R142			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R143			RK73GB1J223J	CHIP R 22K J 1/16W	
R144			RK73EB2B102J	CHIP R 1.0K J 1/8W	
R145			RD14BB2C151J	RD 150 J 1/6W	
R146			RK73GB1J272J	CHIP R 2.7K J 1/16W	
R147			RK73GB1J472J	CHIP R 4.7K J 1/16W	
R170			RK73GB1J104J	CHIP R 100K J 1/16W	
R171,172			RK73GB1J472J	CHIP R 4.7K J 1/16W	
R173			RK73GB1J222J	CHIP R 2.2K J 1/16W	
R174			RK73GB1J104J	CHIP R 100K J 1/16W	
R175			RK73FB2A471J	CHIP R 470 J 1/10W	
W4 -7			R92-2053-05	CHIP R 0 J 1/8W	
D1			S2V20*A	DIODE	
D2			AM01Z	DIODE	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
D2			ERA15-01	DIODE	
D3			MA4056(N)-M	ZENER DIODE	
D4			U1GWJ44	DIODE	
D5			MA4110-L	ZENER DIODE	
D7			AM01Z	DIODE	
D7			ERA15-01	DIODE	
D10			AM01Z	DIODE	
D10			ERA15-01	DIODE	
D11			1SS133	DIODE	
D12 ,13			MA4056(N)-M	ZENER DIODE	
D14 ,15			1SS133	DIODE	
D16 ,17			MA4068(N)-M	ZENER DIODE	
D18			MA4062-L	ZENER DIODE	
D19			DAP202K	DIODE	
D19			KDS181	DIODE	
D19			MA152WA	DIODE	
D20 ,21			1SS133	DIODE	
D22 ,23			MA4068(N)-M	ZENER DIODE	
D24			MA4051(N)-M	ZENER DIODE	
D25			DAP202K	DIODE	
D25			KDS181	DIODE	
D25			MA152WA	DIODE	
D30 -37			AM01Z	DIODE	
D30 -37			ERA15-01	DIODE	
D41			MA4062-L	ZENER DIODE	
D44 -46			MA4062-L	ZENER DIODE	
D50 ,51			DA204K	DIODE	
D50 ,51		*	KDS226	DIODE	
IC1		*	UPD784216GF520	MI-COM IC	
IC2			TDA7400D	ANALOGUE IC	
IC3			M5237ML	IC(VOLTAGE REGULATOR)	
IC4	1B		TDA7386	ANALOGUE IC	
IC6			LM2595S-5.0	ANALOGUE IC	
IC7			PST9130NR	ANALOGUE IC	
IC8			HD74HC27FP	MOS-IC	
Q1			2SC4081	TRANSISTOR	
Q1			2SD1819A	TRANSISTOR	
Q2	2B		2SB1565F(E,F)	TRANSISTOR	
Q3			DTA124EUA	DIGITAL TRANSISTOR	
Q3			UN5112	DIGITAL TRANSISTOR	
Q4			DTC144EK	DIGITAL TRANSISTOR	
Q4			KRC104S	TRANSISTOR	
Q4			UN2213	DIGITAL TRANSISTOR	
Q5	2B		2SB1565F(E,F)	TRANSISTOR	
Q6			DTC144EK	DIGITAL TRANSISTOR	
Q6			KRC104S	TRANSISTOR	
Q6			UN2213	DIGITAL TRANSISTOR	
Q7			DTC144EUA	DIGITAL TRANSISTOR	
Q7			UN5213	DIGITAL TRANSISTOR	
Q8			DTA124EUA	DIGITAL TRANSISTOR	
Q8			UN5112	DIGITAL TRANSISTOR	
Q9			2SD1760	TRANSISTOR	
Q10			2SA1036K	TRANSISTOR	
Q13			2SB1277(Q,R)	TRANSISTOR	
Q14			2SA1037K	TRANSISTOR	

⚠ indicates safety critical components.

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ELECTRIC UNIT (X25-8450-11)

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
Q15			DTA124EK	DIGITAL TRANSISTOR	
Q15			KRA103S	TRANSISTOR	
Q15			UN2112	DIGITAL TRANSISTOR	
Q16			DTC114YK	DIGITAL TRANSISTOR	
Q16		*	KRC107S	TRANSISTOR	
Q16			UN2214	DIGITAL TRANSISTOR	
Q17 ,18			2SC2412K	TRANSISTOR	
Q17 ,18			2SD601A	TRANSISTOR	
Q19			DTA124EK	DIGITAL TRANSISTOR	
Q19			KRA103S	TRANSISTOR	
Q19			UN2112	DIGITAL TRANSISTOR	
Q20			DTC144EK	DIGITAL TRANSISTOR	
Q20			KRC104S	TRANSISTOR	
Q20			UN2213	DIGITAL TRANSISTOR	
Q21 ,22			DTC143TK	DIGITAL TRANSISTOR	
Q21 ,22			UN2216	DIGITAL TRANSISTOR	
Q23			DTC114YK	DIGITAL TRANSISTOR	
Q23		*	KRC107S	TRANSISTOR	
Q23			UN2214	DIGITAL TRANSISTOR	
Q24			2SA1576A	TRANSISTOR	
Q25			DTC124EK	DIGITAL TRANSISTOR	
Q25			KRC103S	TRANSISTOR	
Q25			UN2212	DIGITAL TRANSISTOR	
Q26			2SB1277(Q,R)	TRANSISTOR	
Q27			DTC124EK	DIGITAL TRANSISTOR	
Q27			KRC103S	TRANSISTOR	
Q27			UN2212	DIGITAL TRANSISTOR	
Q28			2SB1277(Q,R)	TRANSISTOR	
Q33			DTC144EK	DIGITAL TRANSISTOR	
Q33			KRC104S	TRANSISTOR	
Q33			UN2213	DIGITAL TRANSISTOR	
TH1			PTH9C42BD471Q	POSITIVE RESISTOR	
A1	3B		X86-3160-11	FRONT-END UNIT	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on

△ indicates safety critical components.

## SPECIFICATIONS

### FM tuner section

Frequency range(Frequency step) ... 87.9MHz~107.9MHz(200kHz)  
Channel space selection ..... 50k/200kHz  
Usable sensitivity(S/N=30dB) ..... 9.3dBf(0.8 $\mu$ V/75 $\Omega$ )  
Quieting sensitivity(S/N=50dB) ..... 15.2dBf(1.6 $\mu$ V/75 $\Omega$ )  
Frequency response( $\pm$ 3.0dB) ..... 30Hz~15kHz  
S/N(MONO) ..... 70dB  
Selectivity .....  $\geq$ 80dB( $\pm$ 400kHz)  
Stereo separation(1kHz) ..... 40dB

### AM tuner section

Frequency range(Frequency step) ... 530kHz~1700kHz(10kHz)  
Channel space selection ..... 9k/10kHz  
Usable sensitivity(S/N=20dB) ..... 28dB $\mu$  (25 $\mu$ V)

### MD section

Laser diode ..... GaAlAs( $\lambda$ =760~800nm)  
Digital filter(D/A) ..... 8 Times Over Sampling  
D/A converter ..... 1 Bit  
Frequency response ..... 20Hz~20kHz( $\pm$ 2dB)  
T.H.D ..... 0.03%(1kHz)  
S/N(1kHz) ..... 90dB

Dynamic range ..... 90dB  
Channel separation ..... 85dB  
Spindle speed ..... 400rpm~900rpm(CLV)  
Wow & Flutter ..... Below measurable limit

### Audio section

Preout level/Load ..... 1800mV/10k $\Omega$ (MD/CD-CH)  
Preout impedance .....  $\leq$ 600 $\Omega$   
Maximum power ..... 45Wx4  
Rated power ..... 22Wx4(at less than 1%THD)

### Tone action

Bass ..... 100Hz $\pm$ 10dB  
Treble ..... 10kHz $\pm$ 10dB

### General

Operating voltage ..... 14.4V(11V~16V allowable)  
Current consumption ..... 10A  
Installation size(WxHxD) ..... 182x53x160(mm)  
7-3/16x2-1/16x6-5/16(inch)  
Weight ..... 1.4kg  
3.1lbs

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

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## KENWOOD CORPORATION

14-6, Dogenzaka 1-chome, Shibuya-ku, Tokyo 150-8501, Japan

### KENWOOD SERVICE CORPORATION

P.O. Box 22745, 2201 East Dominguez Street,  
Long Beach, CA90801-5745, U.S.A.

### KENWOOD ELECTRONICS CANADA INC.

6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

### KENWOOD ELECTRONICS LATIN AMERICA S.A.

P.O. Box 55-2791, Piso 6, Plaza Chase, Cl. 47 y,  
Aquilino de la Guardia, Panama, Republic of Panama

### KENWOOD ELECTRONICS BRASIL LTDA.

Av. Moema, 170-17<sup>o</sup>, Andar-Cobertura "B",  
Ed. Maximum Service Center, 04077-020 Moema,  
São Paulo-SP-Brasil

### KENWOOD ELECTRONICS UK LIMITED

Kenwood House, Dwight Road, Watford, Herts,  
WD1 8EB United Kingdom

### KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrücker-Str. 15, 63150 Heusenstamm, Germany

### KENWOOD ELECTRONICS FRANCE S.A.

13, Boulevard Ney, 75018 Paris, France

### KENWOOD ELECTRONICS BELGIUM N.V.

Mechelsesteenweg 418, B-1930 Zaventem, Belgium

### KENWOOD ELECTRONICS ITALIA S.p.A.

Via G. Sirtori 7/9, 20129 Milano, Italy

### KENWOOD IBÉRICA S.A.

Bolivia, 239-08020 Barcelona, Spain

### KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.

(A.C.N. 001 499 074)

16 Giffnock Avenue, North Ryde, N.S.W. 2113, Australia

### KENWOOD ELECTRONICS (HONG KONG) LTD.

Unit 3712-3724, Level 37, Tower 1, Metroplaza,  
223 Hing Fong Road, Kwai Fong, N.T., Hong Kong

### KENWOOD ELECTRONICS GULF FZE

P.O. Box 61318, Jebel Ali, Dubai, U.A.E.

### KENWOOD ELECTRONICS (THAILAND) CO., LTD.

2019 New Pechburi Road, Bangkapi, Huaykwang,  
Bangkok, 10320 Thailand

### KENWOOD ELECTRONICS SINGAPORE PTE. LTD.

1 Genting Lane, #07-00, Kenwood Building, Singapore 349544

### KENWOOD ELECTRONICS (MALAYSIA) SDN BHD

#4.01 Level 4, Wisma Academy Lot 4A, Jalan 19/1,  
46300 Petaling Jaya, Selangor Darul Ehsan, Malaysia