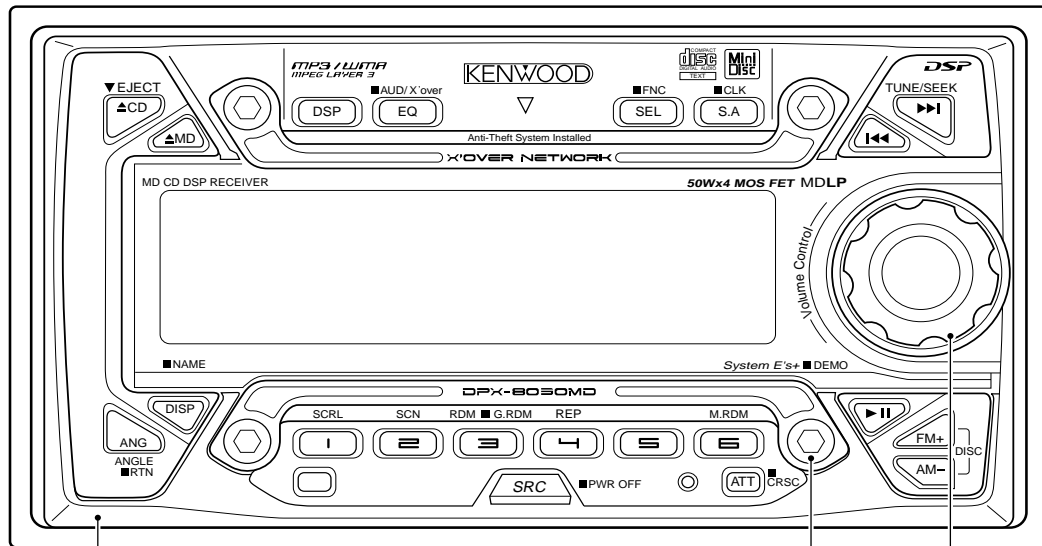


# DPX-8030MD

## SERVICE MANUAL

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B51-7924-00 (4) 517

- This service manual does not include information on the CD and MD mechanism assembly (exploded view, parts list, schematic diagram and mechanism operation description).  
For such information, please refer to the CD mechanism assembly service manual (X92-4470-00 : B51-7899-00) and MD mechanism assembly service manual (X92-4570-00 : B51-7887-00).

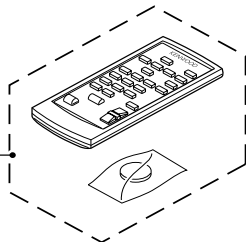


PANEL ASSY (A64-2731-02)

MACHINE SCREW (N09-6027-05)

KNOB (VOL.) (K23-1064-03)

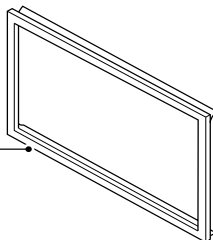
REMOTE CONTROLLER ASSY (A70-2028-05)



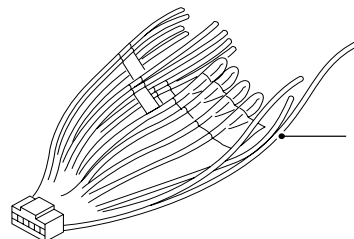
SCREW SET (N99-1724-05)



ESCUTCHEON (B07-3025-02)



DC CORD (E30-4939-05)





## COMPONENTS DESCRIPTION

### ●SYNTHESIZER UNIT (X14-6980-21)

Ref No.	Application/Function	Operation/Condition/Compatibility
IC1	System $\mu$ -com	-
IC2	Input selector & electronic volume	Input source switching, SP=OUT/PRE-OUT electronic volume.
IC3	Power supply IC	Generates BU 5V supply from B.UP, and AUD 8V supply and DSP(D)3.3V supply and PCON output.
IC4	Analog switch	CD and MD input switching.
IC5	HPF and PRE-OUT (REAR NF)	N/F electronic volume.
IC6	Analog switch	CD-CH and AUX input switching.
IC7	LPF	L,R output low-pass filter.
IC8	DSP IC	2-ch analog input, 4-ch analog output. (pos/neg phase PWM output)
IC9	4V AVR	LPF L,R channel reference supply.
IC10	LPF	Front L,R output low-pass filter.
IC11	LPF	Rear L,R output low-pass filter.
IC12	POWER IC	BTL Power amplifier.
IC13	5-pin regulator	WMA supply 5.0V, with variable output and on/off.
IC14	Motor driver for panel mechanism	-
IC15	Reset IC	Output goes low on detecting voltage below 4.2 Volts.
IC16	Logic IC	Audio mute & power IC mute control.
IC17	3-pin regulator	DSP 3.3V supply.
Q1	Surge detector switch	Switch turns on when BU voltage surges to approx. 18.2 to 18.9 volts or more, and turns off BU detector switch.
Q2	B.U/ACC detector switch	Base goes Hi, when BU voltage is applied and turns on. When an instantaneous voltage drop is detected and BU turns off or when shutoff, the base goes Lo and turns off. Base goes Hi, and transistor turns on when Acc voltage is applied.
Q3	Dimmer switch	Base goes Hi, and transistor turns on when vehicle lights turn on.
Q5	External amp control switch	Turns on when base goes Lo and outputs control signal.
Q6	P CON detector switch	Base goes Hi, and transistor turns on when P CON is output.
Q7	P ANT switch	-
Q8	P ANT switch	When base of Q8 goes Hi, Q7 turns on and P ANT output.
Q9	P ON5V switch	Turns on when base goes Hi, and applies voltage to PON 5V line.
Q10	CD servo supply 7.5V on/off switch	Turns on when base goes Hi, and turns on CD servo 7.5 volt supply.
Q11,12	CD servo supply 7.5V AVR	When base of Q13 goes Hi, AVR output turns on.
Q13	CD servo supply 7.5V AVR	-
Q14	MD servo supply 5.0V AVR	When base of Q15 goes Hi, AVR output turns on.
Q15	MD servo supply 5.0V AVR	-
Q16	SW16V on/off switch	Turns SW16V AVR on and off. Turns on when base goes Hi, and turns on the SW16V output.
Q17	SW16V AVR	SW16V output turns on when Q18 base goes HI.
Q18	SW16V AVR	-
Q19	Illumination 11V on/off switch	Turns on when base goes Hi, and turns on the 11 volt LED supply.
Q20	Illumination 11V AVR	Turns on when base of Q21 goes Hi and turns on the 11V output.
Q21	Illumination 11V AVR	-
Q22	FAC11V on/off switch	Turns on when base goes Hi, and turns on FAC11V.
Q23	FAC11V AVR	Turns on when base of Q24 goes Hi, and turns on FAC11V output.
Q24	FAC11V AVR	-
Q25	WMA DSP 5V ON/OFF SW	Turns on when base goes Hi, and turns on the WMA DSP 5 volt supply.
Q26	CD entrance LED on/off switch	Turns on when base goes Hi, and turns on LED of CD entrance.
Q52	AM +B SW	During AM operation, base goes Lo and turns on.
Q53	FM +B SW	During FM operation, base goes Lo and turns on.
Q54	FM/AM+B SW	During FM/AM operation, base goes Hi, and Q52 or Q53 turn on and off.

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## COMPONENTS DESCRIPTION

Ref No.	Application/Function	Operation/Condition/Compatibility
Q101	RST DRIVER	Turns on when base goes Lo and sends a reset signal to the system $\mu$ -com/panel $\mu$ -com/changer.
Q102	RST SW	Turns on when base goes Hi and resets the system $\mu$ -com.
Q201	Audio mute SW	Front L-ch mute, turns on when base goes Hi.
Q202	Audio mute SW	Rear/nonfader L-ch mute, turns on when base goes Hi.
Q301	Audio mute SW	Front R-ch mute, turns on when base goes Hi.
Q302	Audio mute SW	Rear/nonfader R-ch mute, turns on when base goes Hi.
Q401	MD/CD analog selector switch	Turns on when base goes Hi, controls IC4 output.
Q402	CD-CH/AUX analog selector switch	Turns on when base goes Hi, controls IC6 output.
Q403,404	Electronic volume mute switch	Turns on when base goes Lo, sends mute signal to electronic volume mute SW.
Q405	PWIC mute switch	Turns on when base goes Hi.
Q406,407	Mute driver	Turns on when base goes Lo, sends mute signal to audio mute SW.
Q801	Panel mechanism voltage selector	Turns on when base goes Hi, lowers the panel motor drive voltage.

### ●SWITCH UNIT (X25-9320-00)

Ref No.	Application/Function	Operation/Condition/Compatibility
IC1	Logic IC (buffer)	Control signal voltage convertor for VFD, BD sections. (5V $\rightarrow$ 3.3V)
IC2	Power supply IC	3.3V AVR. (VDD1B 5V $\rightarrow$ 3.3V)
IC3	Panel $\mu$ -com	-
IC4	Remote control IC	Remote control signal receiver & control signal output.
IC5	Memory IC	-
Q1	Panel $\mu$ -com reset switch	Turns on when base goes Hi and resets the Panel $\mu$ -com.
Q2	PON 5 volt supply switch	Turns on when base goes Lo and turns on PON5V.
Q3	PON control switch	Turns on when base goes Hi and turns on Q10.
Q4	FL+B (50V) supply switch	Turn on when base goes Lo, and turns on FL+B.
Q5	FL+B (50V) control switch	Turn on when base goes Hi, and turns on Q3.
Q6	VFD BD section blanking switch	Turns off when base goes Lo, and turn on a light BD section.
Q7	DSI control switch	Turns on when base goes Hi, and turn on the DSI LED.

### ●SUB-CIRCUIT UNIT (X16-1710-00)

Ref No.	Application/Function	Operation/Condition/Compatibility
PH1	CD disc sensor	When sensor detects infrared light, optical current proportional to that current flows in collector.
PH3	MD disc sensor	When sensor detects infrared light, optical current proportional to that current flows in collector.

## MICROCOMPUTER'S TERMINAL DESCRIPTION

### (X14-) IC1 : System $\mu$ -com

PIN No.	Pin Name	I/O	Description	Processing Operation
1	DSP RVDT	O	DSP data output terminal	
2	DSP CLK	O	DSP clock output terminal	500kHz
3	DSP RST	O	DSP reset terminal	L reset, Low pulse width : 450ms
4	DSP XLAT	O	Address data selector terminal	
5	CH DATAH	O	External CH data output terminal	
6	CH DATAC	I	External CH data input terminal	
7	CH CLK	I/O	External CH clock I/O terminal	N5L: System controller output, O5L: Input, Input when not connected
8	BYTE	I	External data bus pulse width switcher	
9	CNVss	I	Processor mode switcher	During normal operation: L, During flash writing: H
10	CH CON	O	External CH selector terminal	L when not connected, H: during CH1 for O5L, Others: L Normally at H after N5L is recognized.
11	CH REQH	O	External CH transmit request terminal	L during system controller output
12	RESET	I	Reset input	L: Reset, reset voltage 4.2 volts
13	Xout	O	$\mu$ -com operating frequency (out)	
14	Vss	I	$\mu$ -com GND	
15	Xin	I	$\mu$ -com operating frequency (in)	
16	Vcc	I	Positive power supply terminal	
17	NMI	I	NMI (non-maskable interrupt) terminal	
18	PN REQ	I	Panel communications line	
19	SP INT	I	Spectrum analyzer request	
20	CH REQC	I	External CH receive request terminal	
21	BU DET	I	Instantaneous port voltage detector terminal	L: Normally on H: Instantaneous port voltage
22	ACC DET	I	ACC detector terminal	H: ACC OFF
23	ILLUMI	I	Illumination detector terminal	L: Small ON
24	AMP CTRL	O	External amp control	
25	TEST	O	Power IC control terminal	L: Test mode H: Non test mode
26	BUZZ	O	Beep output	
27	PWIC SVR	O	Power IC control terminal	
28	PWIC STBY	O	Power IC standby terminal	H: ON
29	SCL	I/O	I2C clock output terminal	
30	SDA	I/O	I2C data I/O terminal	
31	SYS-DATA	O	Panel communications data OUT terminal (Flash TxD)	
32	PN-DATA	I	Panel communications data IN terminal (Flash RxD)	
33	PN CLK	O	Panel communications CLOCK (Flash SCLK)	500kHz
34	SYS REQ	O	Panel communications control line (Flash BUSY)	
35	TEL DAOUT	O	Hands-free data OUT terminal	H: Use L: LOW fixed
36	TEL DAIN	I/O	Hands-free data IN terminal	H: Use L: Input
37	PANT	O	Power antenna terminal	H: ANT ON L: ANT OFF
38	PCON IN	I	External amp overcurrent terminal	H: Triggers protection circuit L: In normal operation
39	PCON	O	External amp current control terminal	Logic level when ON: H During ALL OFF is L (during TEL: H)
40	PON	O	Power control terminal	H: ON
41	LAMP	O	Lamp control terminal (Flash EPM)	H: ON (Illumi triggered) EPM terminal for flash writing
42	LED OPEN	O	LED control terminal for CD, MD	ON if opened other than at CD Eject position
43	SI	O	LED control terminal	H: Lights up
44	NC	O	OPEN	Fixed at LOW

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## MICROCOMPUTER'S TERMINAL DESCRIPTION

PIN No.	Pin Name	I/O	Description	Processing Operation
45	SP REQ	O	Spectrum analyzer enable output	
46	PN SCCON	O	Panel communications line (Flash CE)	Active at L
47	SEL E2PROM	I	E2PROM inserted/not inserted	Writes at H
48	CD PON	O	CD WMA power supply control terminal	L: ON
49	PMOT1	O	Panel motor control terminal	
50	PMOT2	O	Panel motor control terminal	
51	PM VR	O	Panel mechanism voltage control terminal	H: Low torque L: Normal torque
52	PMDET	I	Panel mechanism detect terminal	L: Panel mechanism H: No panel mechanism
53	OPEN SW	I	Panel full-open detect terminal	L: Panel full-open
54	CD MOTOR	O	CD motor control terminal	
55	CD LO/EJ	I/O	CD motor control terminal	
56	CD LOE/LIM SW	I	CD mechanism SW3 detect terminal (Clamping SW)	L: DISC in switch position
57	CD 8EJE SW	I	CD mechanism detect terminal	L: DISC in switch position
58	CD MSTOP	O	CD mechanism control stop terminal	H: Now at CD source
59	CD AMUTEL	I	CD mute request terminal	
60	CD LOS SW	I	CD loading detect terminal	L: DISC in switch position
61	CD 12EJE SW	I	CD mechanism detect terminal (8cm/12cmSW)	L: 12cm H:8cm
62		-	μ-com power supply	
63	CD AMUTER	I	CD Mute request terminal	
64		-	μ-com GND	
65	MD LOS/EJE SW	I	MD disc position detect output (load start switch)	H: DISC inserted (during loading) L: Eject finish position (during eject)
66	MD AMUTE	I	MD MUTE request terminal	L: Mute ON (MD source only)
67	MRST	O	CD/MD μ-com RST terminal	L: RESET
68	MD MSTOP	O	MD mechanism control stop terminal	H: MD mechanical startup
69	MD EJECT	O	MD motor control terminal	
70	MD LOAD	O	MD motor control terminal	
71	MD LOE/LIM SW	I	MD mechanical detect terminal (clamping switch)	L: No MDPACK H: MDPACK
72	TEL C	O	Cell phone connection control terminal	L: Private or POWER OFF
73	TEL MUTE	O	Cell phone mute terminal	H: TEL MUTE ON
74	V DOWN	O	Mute terminal to Hands-free DSP IC	L: MUTE ON
75	V RST	O	Resets the Hands-free DSP IC	L: RESET
76	PLUG SW	O	Easy hands-free selector terminal	PULG:H Bus:L
77	TYPE AUX	I	AUX yes/no setting	H: AUX function present
78	CRSC SEL1	I	Destination setting	
79	CRSC SEL2	I	Destination setting	
80	NC	O	Not used	OPEN
81	TYPE TEL	I	Cell phone yes/no setting	H: Yes L: No
82	TYPE DIVER	I	DIVER yes/no setting	H: DIVER function present
83	MUTE	O	Mute terminal	H: MUTE ON
84	PW MUTE	O	Power IC mute control terminal	L: MUTE ON L: During ALL OFF & Instantaneous port voltage
85	ASEL 1	O	INPUT selector terminal 1	L: CD H:MD
86	ASEL 2	O	INPUT selector terminal 2	L: CH H:AUX
87	FM+B	O	FM power terminal	H: FM (however is Lo at AM+B: L)
88	AM+B	O	AM power terminal	H: AM (however is Lo at FM+B: L)
89	SD	I	Broadcast station detection terminal	H: Station found
90	DIVER	O	FM DIVER selector switch	L: DIVER ON H: DIVER OFF or during AM
91	FSD OUT	I	S meter input terminal	H: Station found (A/D input), Vth is by F/E setting
92	REFCON	O	A/D reference voltage output	

## MICROCOMPUTER'S TERMINAL DESCRIPTION

PIN No.	Pin Name	I/O	Description	Processing Operation
93	PMODE	I	Panel position sensor input terminal	(A/D input) Vth is set in test mode
94	CD DET	I	CD photosensor terminal	L: CD present (A/D input) Vth: 2.2 volts
95	MD DET	I	MD detector terminal	L: MD present (A/D input) Vth: 2.8 volts
96	Avss	I	AD converter ground potential	
97	LINE MUTE	I	LINE MUTE ON/OFF detector terminal	OFF at 1.0 - 2.5 volts, ON at all other voltages
98	Vref	-	AD converter reference voltage	
99	Avcc	I	AD converter positive power supply voltage	
100	NC	I	Not used	Connect to GND potential

### (X25-) IC3 : Panel $\mu$ -com

PIN No.	Pin Name	I/O	Description	Processing Operation
1	GS01	O	FL dot section data output terminal 1	
2	GCLK	O	FL dot section clock output terminal	3.3MHz
3	NC	O	Not used	L: Fixed
4	REMO	I	Remote control signal input	
5	GS02	O	FL dot section data output terminal 2	
6	NC	I	Not used	Connect to GND potential
7	GCLK	I	FL dot section clock input terminal	
8-11	NC	O	Not used	L: Fixed
12	GCP	O	FL dot section gradation generation	
13	NC	O	Not used	L: Fixed
14	GBK	O	FL dot section data blanking output	H: Turn on a light L: Off
15	BYTE	I	GND potential	W3: L due to 16 bit pulse width
16	CNVss	I	GND	
17	NC	I	Not used	
18	NC	O	Not used	L: Fixed
19	RESET	I	$\mu$ -com Reset	L: Reset
20	Xout	O	$\mu$ -com operating frequency (out)	
21	Vss	I	GND potential	
22	Xin	I	$\mu$ -com operating frequency (in)	
23	Vcc	I	Positive power supply terminal	
24	NC(NMI)	I	Connect to 5 volt potential	
25	SP REQ	I	Spectrum analyzer enable input	
26	SYS REQ	I	System controller communication request input	
27	PN SC CON	I	System controller communication panel operation	L: Operation OK
28,29	NC	O	Not used	L: Fixed
30	SCL	I/O	E2PROM writing clock terminal	P-OFF: Output L, P-ON: Output L/input
31	SDA	I/O	E2PROM writing terminal	P-OFF: Output L, P-ON: Output L/input
32	GLAT	O	FL dot data latch output	
33	SP INT	O	Spectrum analyzer data request	
34	NC	O	Not used	L: Fixed
35	DSP CLK	I	Spectrum analyzer data input clock	
36	SP DATA IN	I	Spectrum analyzer data input	
37	NC	O	Not used	L: Fixed
38	PN DATA	O	System control communication data output	
39	Vcc	I	Positive power supply terminal	
40	SYS DATA	I	System control communication data input	
41	Vss	I	GND potential	
42	PN CLK	I	System controller communication clock input terminal	
43	PN REQ	O	Panel communication request output	

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## MICROCOMPUTER'S TERMINAL DESCRIPTION

PIN No.	Pin Name	I/O	Description	Processing Operation
44	GS03	O	FL dot section data output terminal 3	
45	NC	O	Not used	L: Fixed
46	FL CLK	I	FL dot section clock input terminal	
47	NC	O	Not used	L: Fixed
48	SEL E2P	I	E2PROM writing request	H: Write
49-51	NC	O	Not used	L: Fixed
52	RDY	I	RDY request	
53	NC	O	Not used	L: Fixed
54	HOLD	I	5 volt potential	
55,56	NC	O	Not used	L: Fixed
57	Vss	I	GND potential	
58	NC	I	Not used	L: Fixed
59	Vcc	I	Positive power supply terminal	
60-62	NC	O	Not used	L: Fixed
63	RD	O	External memory read request	L: Read
64	NC	O	Not used	L: Fixed
65	WR	O	External memory write request	L: Write
66-69	NC	O	Not used	L: Fixed
70	CS0	O	F/MEMORY CE terminal	L: Select external ROM
71	A21	O	External bus ADDR 21	
72	A20	O	External bus ADDR 20	
73	A19	O	External bus ADDR 19	
74	Vcc	I	Positive power supply terminal	
75	A18	O	External bus ADDR 18	
76	Vss	I	GND potential	
77	A17	O	External bus ADDR 17	
78	A16	O	External bus ADDR 16	
79	A15	O	External bus ADDR 15	
80	A14	O	External bus ADDR 14	
81	A13	O	External bus ADDR 13	
82	A12	O	External bus ADDR 12	
83	A11	O	External bus ADDR 11	
84	A10	O	External bus ADDR 10	
85	A9	O	External bus ADDR 9	
86-90	NC	O	Not used	L: Fixed
91	Vcc	I	Positive power supply terminal	
92	A8	O	External bus ADDR 8	
93	Vss	I	GND potential	
94	A7	O	External bus ADDR 7	
95	A6	O	External bus ADDR 6	
96	A5	O	External bus ADDR 5	
97	A4	O	External bus ADDR 4	
98	A3	O	External bus ADDR 3	
99	A2	O	External bus ADDR 2	
100	A1	O	External bus ADDR 1	
101	A0	O	External bus ADDR 0	16-bit pulse width is OPEN
102	D15	I	External bus DATA 15	
103	D14	I	External bus DATA 14	
104	D13	I	External bus DATA 13	
105	D12	I	External bus DATA12	



## MICROCOMPUTER'S TERMINAL DESCRIPTION

PIN No.	Pin Name	I/O	Description	Processing Operation
106	D11	I	External bus DATA 11	
107	D10	I	External bus DATA 10	
108	D9	I	External bus DATA 9	
109	D8	I	External bus DATA 8	
110	D7	I	External bus DATA 7	
111	D6	I	External bus DATA 6	
112	D5	I	External bus DATA 5	
113	D4	I	External bus DATA 4	
114-118	NC	O	Not used	L: Fixed
119	D3	I	External bus DATA 3	
120	D2	I	External bus DATA 2	
121	D1	I	External bus DATA 1	
122	D0	I	External bus DATA 0	
123	NC	O	Not used	L: Fixed
124	RE IN	I	B input	
125	RE BASE	I	A input	
126	KS0	O	Key-scan output 0	
127	KS1	O	Key-scan output 1	
128	KS2	O	Key-scan output 2	
129	KS3	O	Key-scan output 3	
130	Vss	I	GND potential	
131	KS4	O	Key-scan output 4	
132	Vcc	I	Positive power supply terminal	
133	NC	O	Not used	L: Fixed
134	DC/DC SW	O	DC/DC FL terminal selector terminal	Dependent on PN PON
135	PN PON	O	Power control terminal	
136	KR0	I	Key-return signal input 0	
137	KR1	I	Key-return signal input 1	
138	KR2	I	Key-return signal input 2	
139	KR3	I	Key-return signal input 3	
140	Avss	I	GND potential for AD converter	
141	KR4	I	Key-return signal input 4	
142	Vref	I	AD converter reference voltage	Connect to GND potential
143	Avcc	I	AD converter positive power supply	
144	NC	I	Not used	Connect to GND potential

## TEST MODE

### ■How to enter the test mode

- Test Mode 1, reset while holding down the **[1]** & **[3]** keys.
- Test Mode 2, reset while holding down the **[1]** & **[4]** keys.

### ■Initial status in the test mode

- When set in Test Mode 1 with the **[1]** & **[3]** keys.
 

Source	All OFF
Volume	-30dB (display 20)
AUX volume adjust	0dB
AUX-IN	ON
Beep	Sounds every time key is pressed
EQ	FLAT
SPE/ANA	PEAK HOLD
MD Group function	ON
- When set in Test Mode 2 with the **[1]** & **[4]** keys.
 

Source	All OFF
Volume	-10dB (display 30)
AUX volume adjust	0dB
AUX-IN	ON
Beep	Prohibited
EQ	FLAT
SPE/ANA	PEAK HOLD
MD Group function	ON

### ■Display

There are many segments on the display and the link between these segments can be checked in Test Modes 1 and 2.

(only in ALL OFF Source)

Switch between segments and grids on the display with the **[>>I]** , **[I<<<]** , **[FM]** , **[AM]** keys.

### ■Switch between REAR/N-F

Hold down the **[PLAY/PAUSE]** key while in tuner-source, to switch between REAR and N-F.

To cancel, press the **[SEL]** key.

### ■Correction ROM version display

Display the ROM version by holding down the **[DSP]** key while in ALL OFF source.

To cancel press the **[DSP]** key again.

The following display appears if there is no correction ROM or if it cannot be loaded.

RP0. 00 S0. 00.

### ■Panel mechanism

Allows using only the **[MD Eject]** key rather than automatic opening/closing.

Displays operating time during opening/closing until about 2 seconds after operation is complete.

Operating time is reset in 0.1 seconds.

### ■Panel slot disc sensor (CD)

Sensor status used for detecting if CD is inserted in slot at subpanel.

Beeps 4 times when inserted CD blocks light to sensor.

### ■Panel slot disc sensor (MD)

Sensor status used for detecting if MD is inserted in slot at subpanel.

Beeps 4 times when inserted MD blocks light to sensor.

### ■Panel mechanism position mode

To call up mechanism position mode, hold down the **[ATT]** key. Store the panel open position by pressing the **[\*]** key on the remote controller.

After storing the panel open position, again press the **[\*]** key on the remote controller to operation for storing the panel close position.

### ■Source: CD

Starts song play from track No. 9 at start of disc loading. Key operation only functions when the CD is the source, song play continues at all other times even if the track No. is changed during play.

- **[>>I]** key selects only preset tracks. (See table below.)
- **[I<<<]** key makes downward selections the same as in normal operation.
- When **[1]** key pressed, playback No. 28.

C D	
Current track	Search target
Tracks other than shown below	No.9
No.9	No.15
No.15	No.10
No.10	No.11
No.11	No.12
No.12	No.13
No.13	No.14

\*1: "Track No. 1" may appear on the display right after play due to the timing.

### ■Source: MD

Starts song play from track No. 7 at start of disc loading. Key operation only functions when the MD is the source, song play continues at all other times even if the track No. is changed during play.

- **[>>I]** key selects only preset tracks. (See table below.)
- **[I<<<]** key makes downward selections the same as in normal operation.

## TEST MODE

M D	
Current track	Search target
Tracks other than shown below	No.7
No.7	No.2
No.2	No.13
No.13	No.23
No.23	No.30
No.30	No.34

\*1: "Track No. 1" may appear on the display right after play due to the timing.

### ■EQ alignment

Tap the **[EQ/AUD]** key 1 time during source display to call up EQ alignment mode.

- Press the **[1]** key for Flat.
- Press the **[2]** key for Full-boost.
- Press the **[3]** key for Full-cut.

### ■Audio: balance, fader alignment

Press and hold down the **[EQ/AUD]** key to call up balance, fader alignment mode.

**[<<]** , **[>>]** keys ----- Balance alignment  
**[FM+]** , **[AM-]** keys ----- Fader alignment

(All sources other than ALL OFF mode)

- Set balance alignment in 3 steps  
 RIGHT ↔ CENTER ↔ LEFT (L15, R15)
- Set fader alignment in 3 steps  
 FRONT ↔ CENTER ↔ REAR (F15, R15)

### ■Audio: X 'OVER Front/Rear

Call up X 'OVER Front/Rear alignment mode by holding the **[EQ/AUD]** key down and then tapping it 1 time.

(All sources other than ALL OFF mode)

Shift through the following items with the **[FM+]** , **[AM-]** keys and align using the **[<<]** , **[>>]** keys.

- HPF Front frequency alignment ---- Set Off ↔ 220 Hz in 2 steps.
- HPF Rear frequency alignment ---- Set Off ↔ 220 Hz in 2 steps.
- LPF frequency alignment ---- Set 50Hz ↔ Off in 2 steps.
- N-F Level alignment ---- —, -76 ↔ +10
- N-F Phase alignment ---- NOR ↔ REV

(LPF and N-F alignment can be made during preout alignment in "N-F")

### ■Audio: Amp Control

Call up Amp Control alignment mode by holding the **[EQ/AUD]** key down and then tapping it 2 times.

(All sources other than ALL OFF mode)

Shift through the following items with the **[FM+]** , **[AM-]** keys and align using the **[<<]** , **[>>]** keys.

- Amp Bass (BMS) alignment --- FLT (Flat) ↔ +18
- Amp Freq (Offset) alignment --- NML (Normal) ↔ Low

### ■Adding tuner functions

Call up alignment mode by holding down the **[SEL]** key in tuner:source, select the following items with the **[FM+]** , **[AM-]** keys and then align with the **[<<]** , **[>>]** keys.

The following functions can be added (only while in test mode).

- Preout alignment      Rear ↔ N - F
- AUX-IN function      ON ↔ OFF

### ■How to exit the test mode

Resetting will cancel the test mode and start up the unit with all settings initialized (factory settings).

Setting in ACC-off or Power-off will initialize (factory settings) the Source, Tuner and Audio settings.

### Backup current measurement

Mute turns off after 2 seconds when reset (backup is on) by ACC-off, regardless of the test mode.

(The CD/MD mechanism takes 2 seconds or longer to turn off because peripheral power is still available.)

# DPX-8030MD

## ADJUSTMENT (X16-1710-00)

### Adjusting the CD disc sensor phototransistor detection voltage (ver1.0)

■ Adjust semifixed potentiometers VR1 and VR3 to obtain the following specified values for the CD DET (detector) terminal voltage (checkland CD1).

- When CD is loaded:  
CD DET terminal voltage (target value) : 1.0 volts  
CD DET terminal voltage (allowable range) : 0.8 to 1.2 volts

- When no CD is loaded:  
CD DET (detector) terminal minimum voltage : 4.0 volts

\* CD used for alignment should be an Audio Test CD: TCD-781/TCD-784 or CD having infrared light reflectivity with  $\pm 5\%$  of TCD-781.

■ Align the semifixed potentiometers VR1 & VR3  
Load the CD in the unit, turn on the power (5volt $\pm$ 0.1volt) and adjust while monitoring the CD DET terminal voltage. Semifixed potentiometers VR1 & VR3 can be aligned as follows using orientation in fig. 1 (attached sheet).

- Turning clockwise (to right)  
→ Raises CD DET voltage
- Turning counterclockwise (to left)  
→ Lowers CD DET voltage

■ When CD detector voltage is LESS THAN target value

\* Turn VR3 clockwise (to right) so CD Detector terminal voltage is between 0.8 to 1.2 volts.

\* If target value was reached just by using VR3, then don't touch VR1 and make the alignment using just VR3.

\* If the CD DET voltage is lower than the target value even with VR3 turned (all the way), then turn VR1 clockwise (to right). To make fine adjustments near target value, use VR3 and leave VR1 turned.

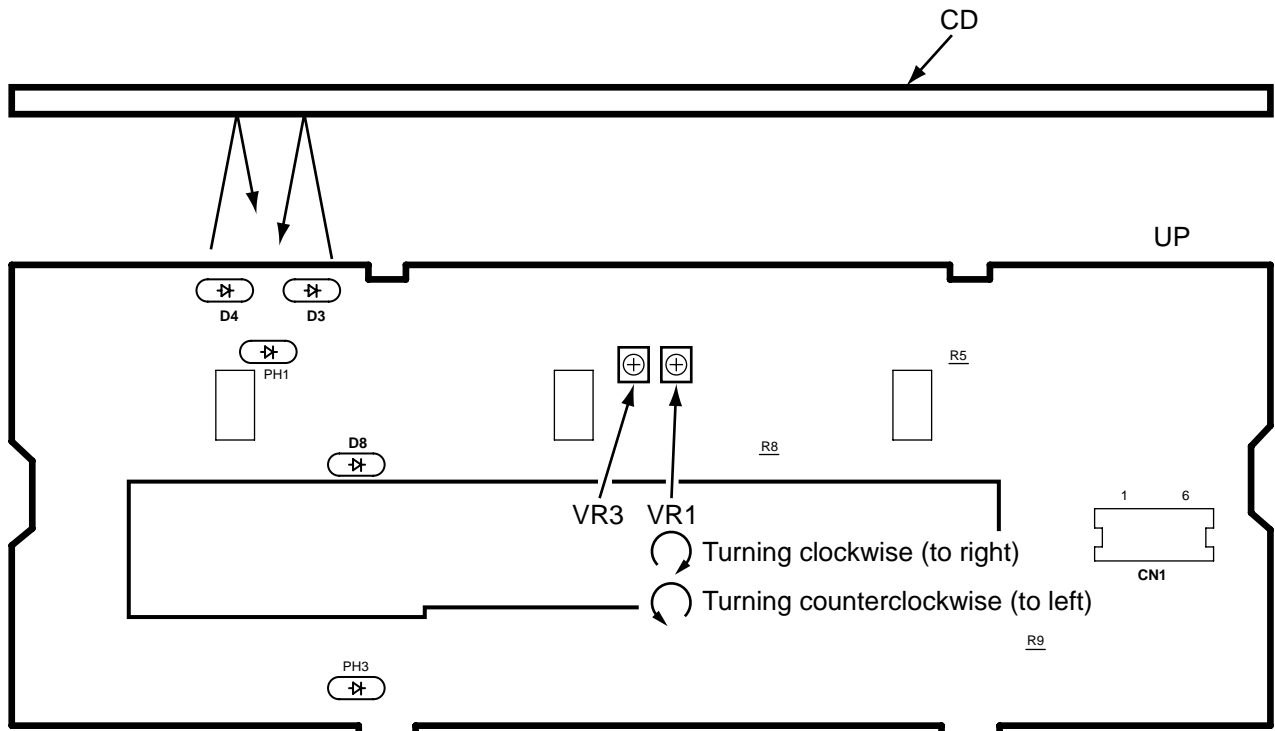
■ When CD detector voltage is HIGHER THAN target value

\* Turn VR3 counterclockwise (to left) so CD Detector voltage is between 0.8 to 1.2 volts.

\* If target value was reached just by using VR3, then don't touch VR1 and make the alignment using just VR3.

\* If the CD DET voltage is higher than the target value even with VR3 turned (all the way), then turn VR1 counterclockwise (to left). To make fine adjustments near target value, use VR3 and leave VR1 turned.

After aligning the CD DET terminal voltage, remove the CD and check the CD DET terminal voltage, if 4 volts or more, then the alignment is okay.

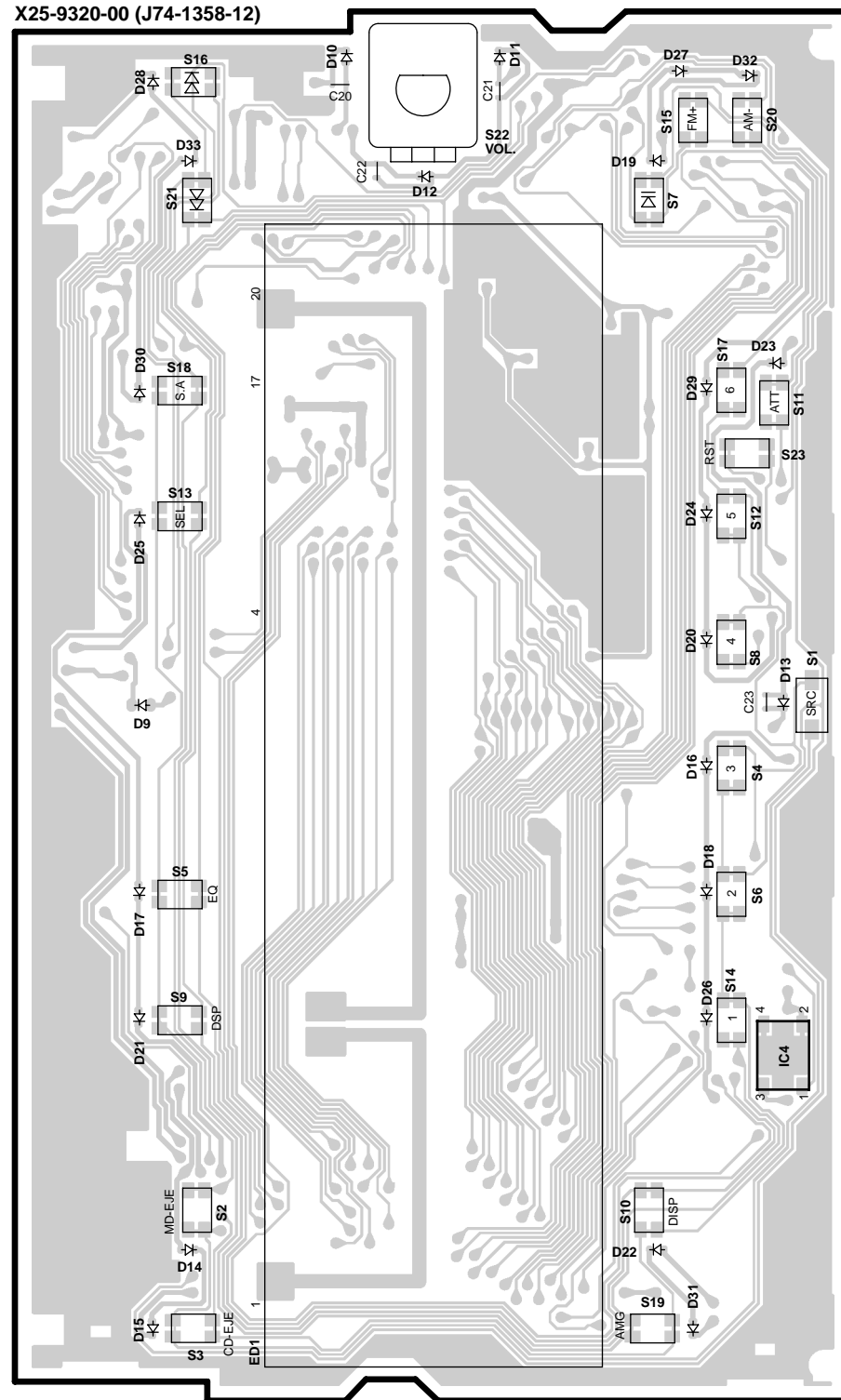


(X16-1710-00/J74-1360-02) : Foil side view

fig.1

# PC BOARD (Component side view)

SWITCH UNIT (X25-9320-00)



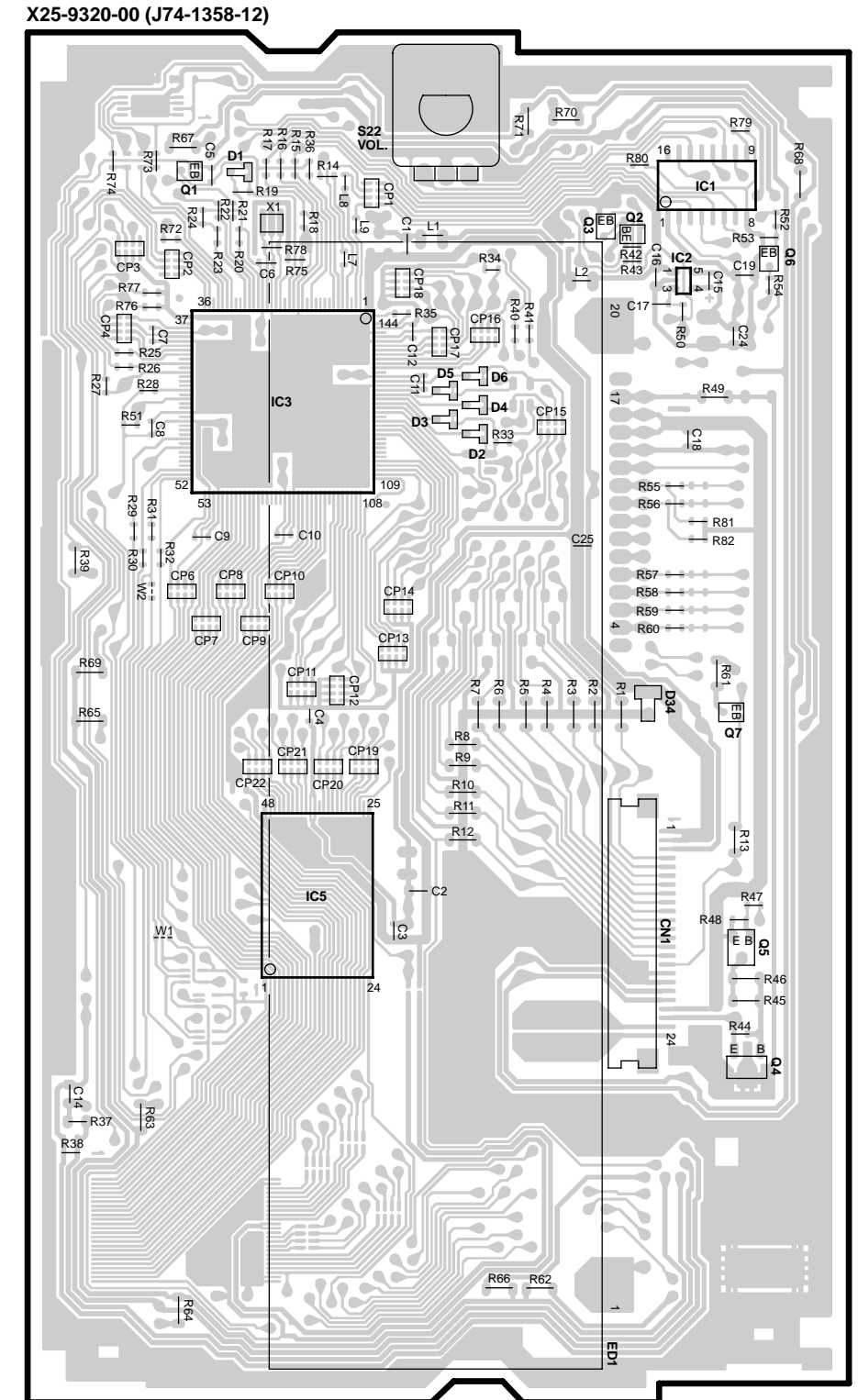
(X25-9320-00)

Ref. No.	IC4
Address	5D

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

# PC BOARD (Foil side view)

SWITCH UNIT (X25-9320-00)



(X25-9320-00)

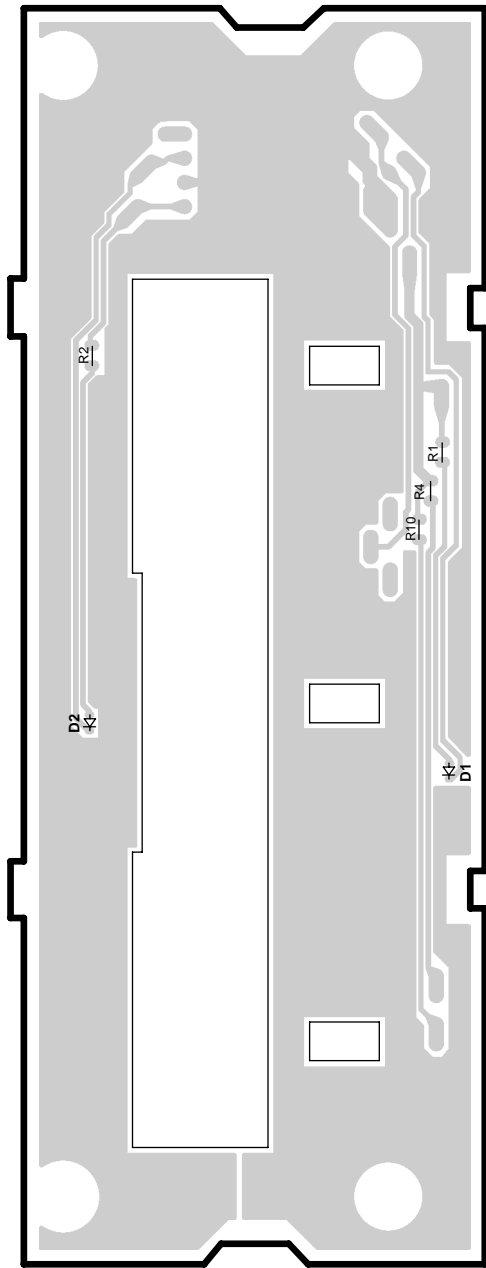
Ref. No.	IC1	IC2	IC3	IC5	Q1	Q2
Address	2I	2I	3H	4H	2G	2I
Ref. No.	Q3	Q4	Q5	Q6	Q7	
Address	2I	5I	5I	2I	4I	

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

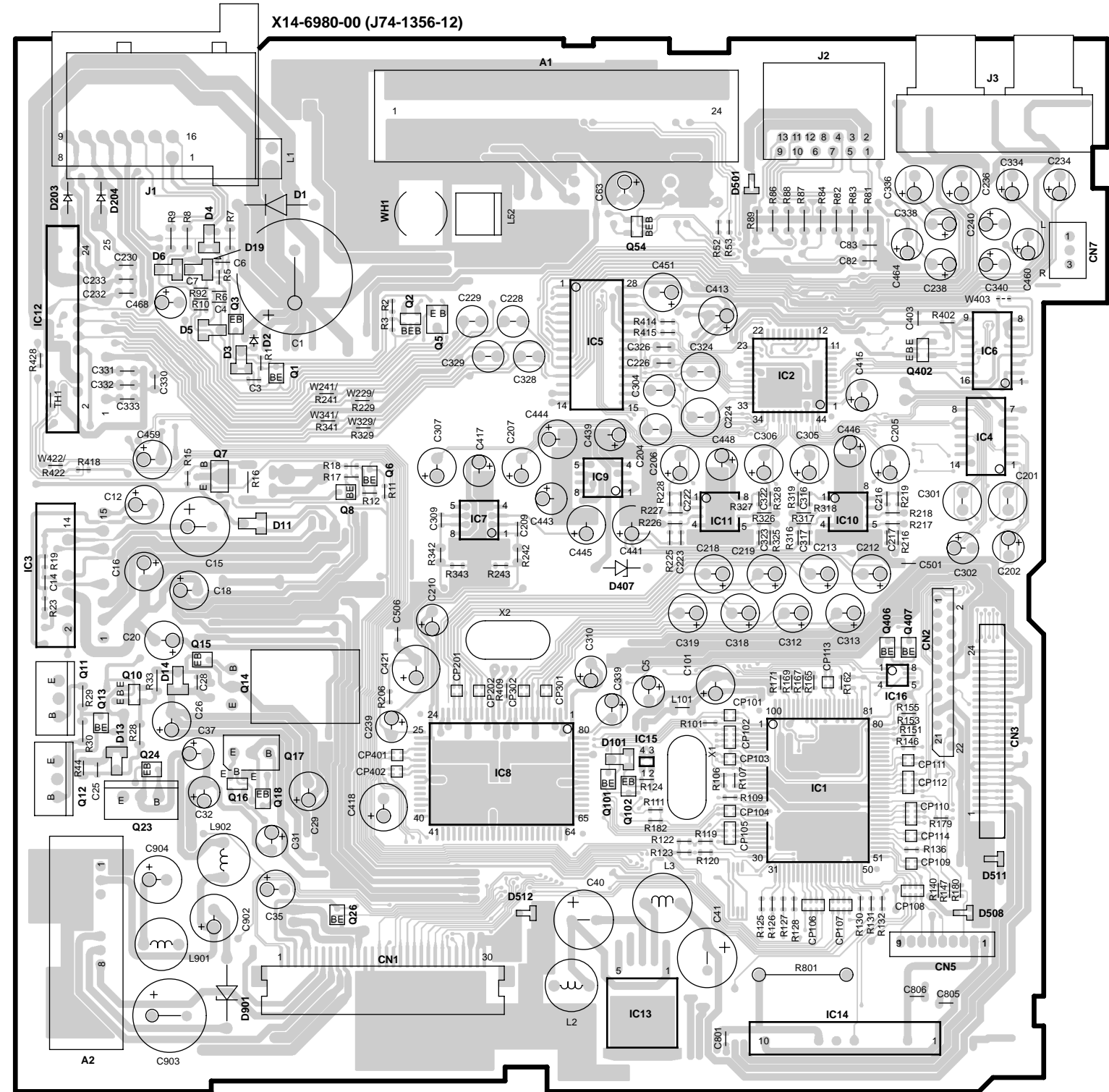
# PC BOARD (Component side view)

SUB CIRCUIT UNIT (X16-1710-00)

X16-1710-00 (J74-1360-02)



SYNTHESIZER UNIT (X14-6980-21)



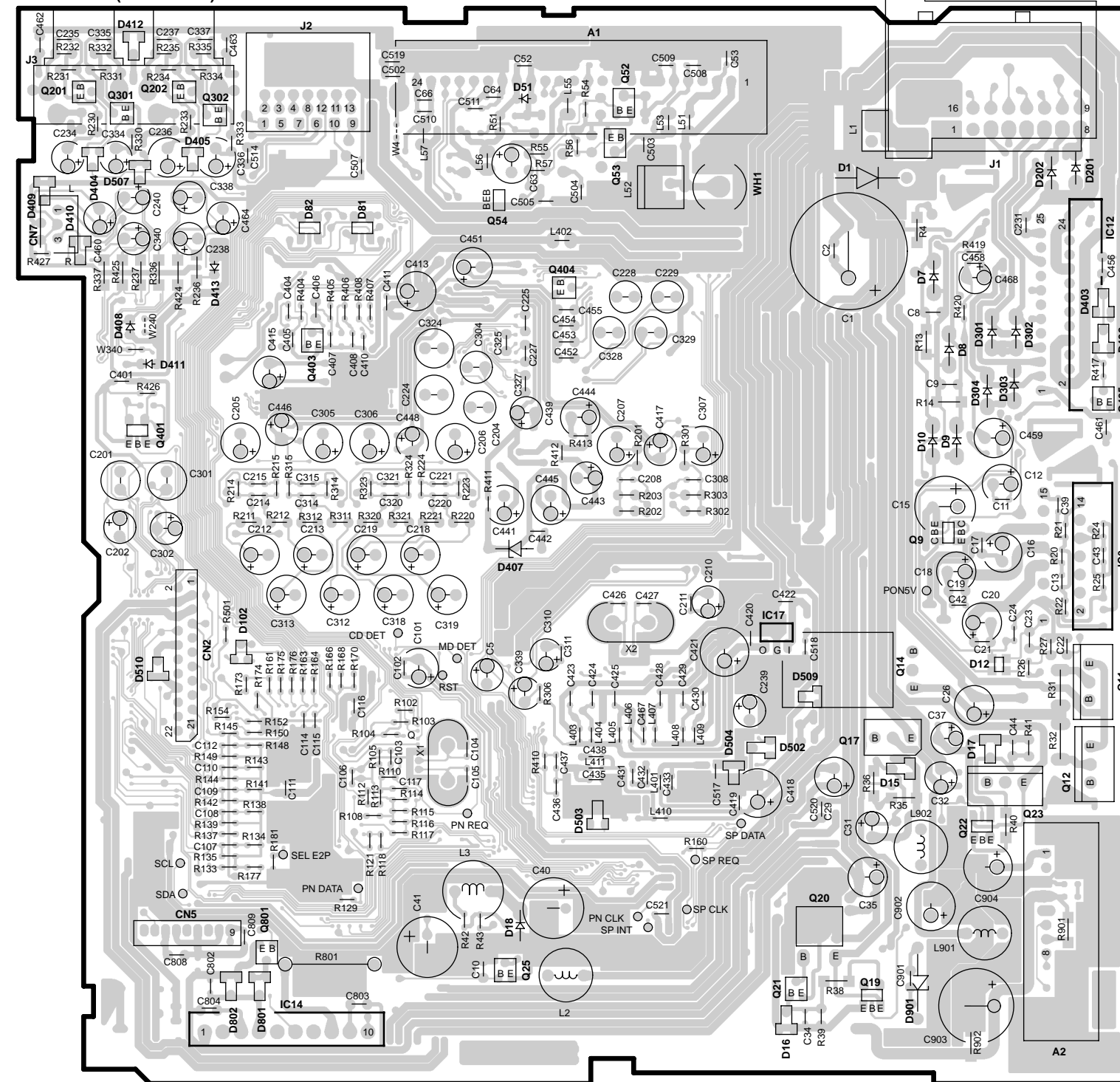
(X14-6980-21)

Ref. No.	IC1	IC2	IC3	IC4	IC5	IC6	IC7	IC8	IC9	IC10	IC11	IC12	IC13	IC14	IC15	IC16
Address	5R	3R	4O	3S	3Q	3S	4Q	5Q	3Q	4S	4R	3O	6R	6S	5R	4S
Ref. No.	Q1	Q2	Q3	Q5	Q6	Q7	Q8	Q10	Q11	Q12	Q13	Q14	Q15	Q15	Q16	Q17
Address	3P	3Q	3P	3Q	3P	3Q	2P	4O	4O	5O	4O	4P	4P	4P	5P	5P
Ref. No.	Q18	Q23	Q24	Q26	Q54	Q101	Q102	Q402	Q406	Q407						
Address	5P	5O	5O	5P	2R	5Q	5R	3S	4S	4S						

# PC BOARD (Foil side view)

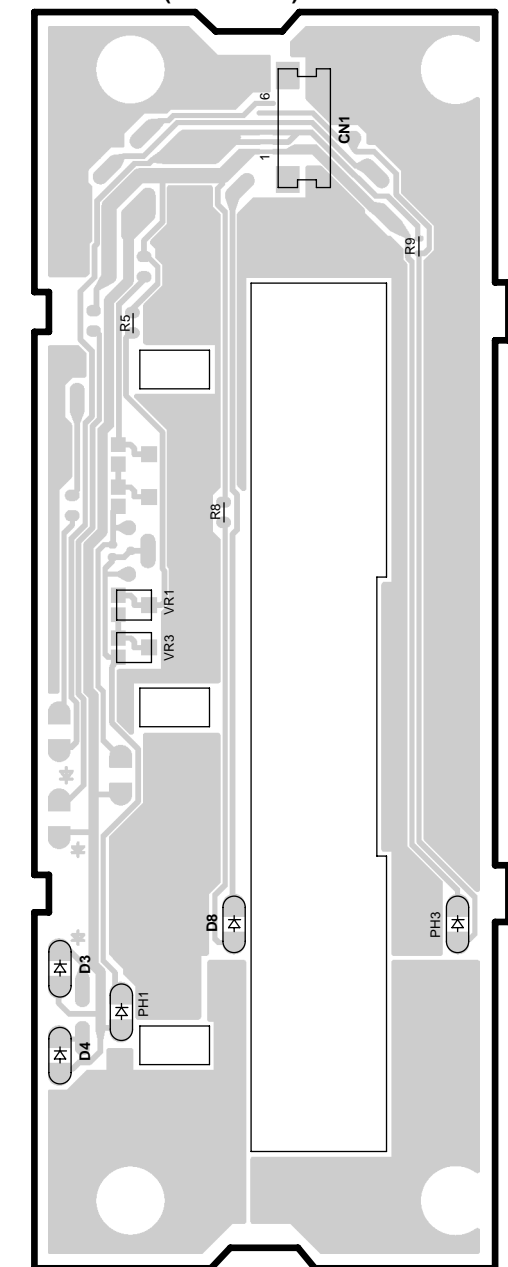
SYNTHESIZER UNIT (X14-6980-21)

X14-6980-00 (J74-1356-12)



SUB CIRCUIT UNIT (X16-1710-00)

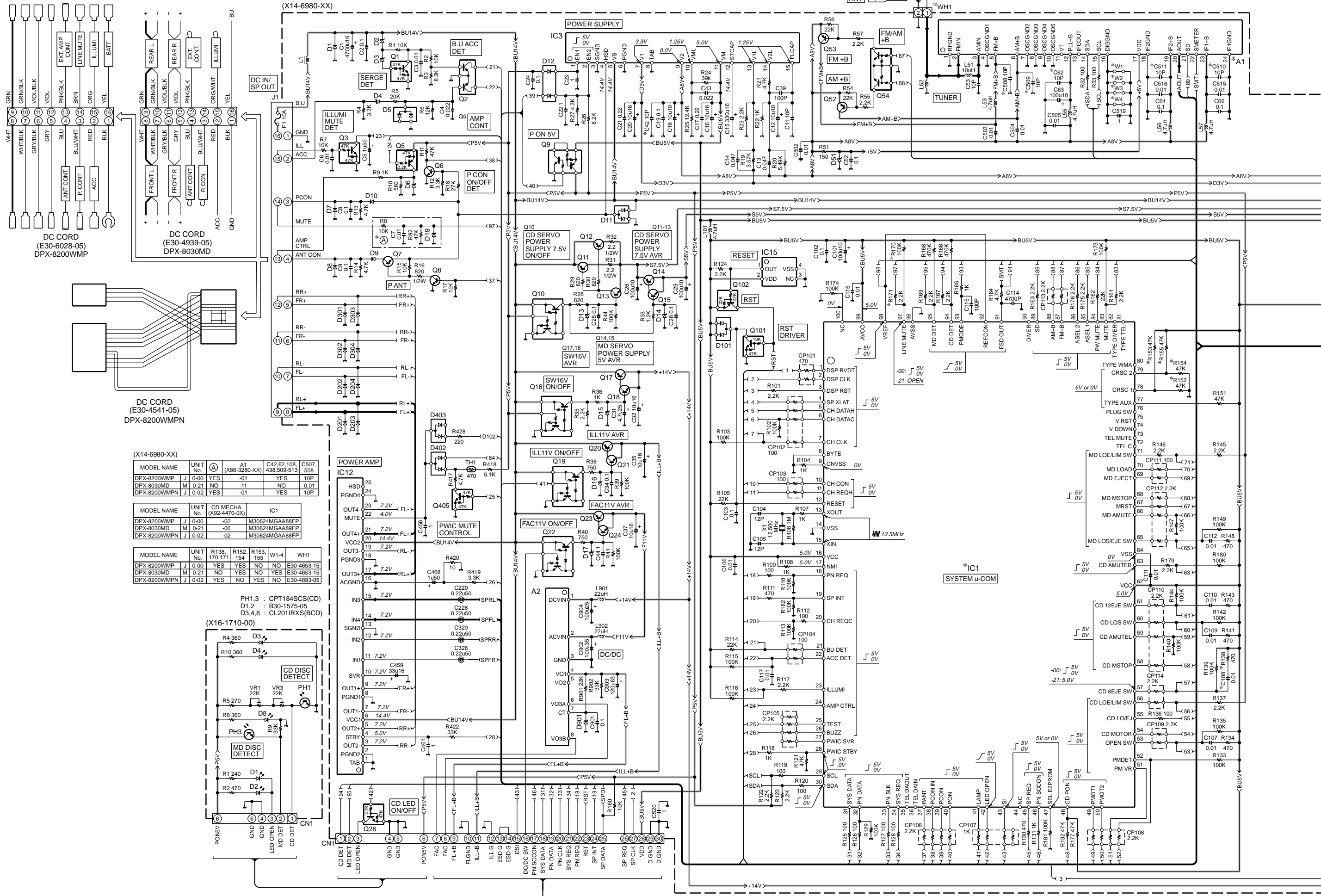
X16-1710-00 (J74-1360-02)



(X14-6980-21)

Ref. No.	IC3	IC12	IC14	IC17	Q9	Q11	Q12	Q14	Q17	Q19	Q20	Q21	Q22	Q23
Address	4Z	2Z	6V	4Y	4Y	4Z	5Z	4Y	5Y	6Y	5Y	6Y	5Y	5Z
Ref. No.	Q25	Q52	Q53	Q54	Q201	Q202	Q301	Q302	Q401	Q403	Q404	Q405	Q801	
Address	6W	2X	2X	2W	2U	2V	2V	2V	3V	3V	2X	3Z	5V	

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



(X14-6980-XX)

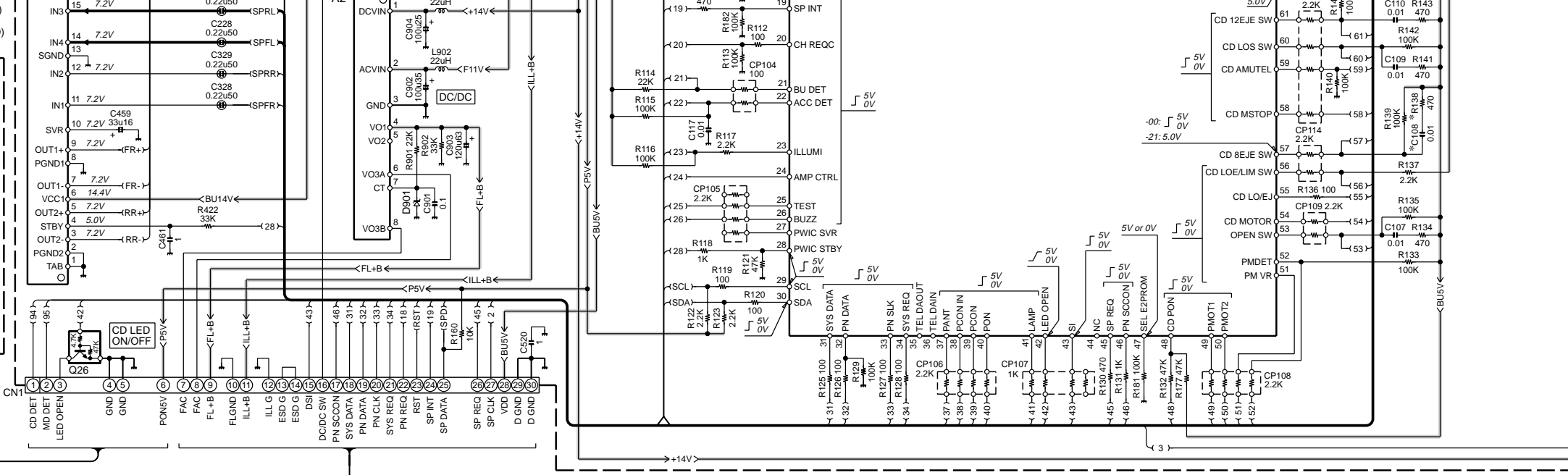
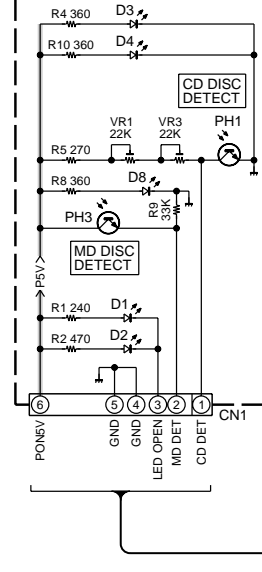
MODEL NAME	UNIT No.	A	A1 (X86-3280-XX)	C42,62,108, 438,509-513	C507, 508
DPX-8200WMP	J 0-00	YES	-01	YES	10P
DPX-8030MD	M 0-21	NO	-11	NO	0.01
DPX-8200WMPN	J 0-02	YES	-01	YES	10P

MODEL NAME	UNIT No.	CD MECHA (X92-4470-0X)	IC1
DPX-8200WMP	J 0-00	-02	M30624MGA88FP
DPX-8030MD	M 0-21	-00	M30624MGA89FP
DPX-8200WMPN	J 0-02	-02	M30624MGA88FP

MODEL NAME	UNIT No.	R138, 170,171	R152, 154, 155	W1-4	WH1
DPX-8200WMP	J 0-00	YES	YES	NO	E30-4653-15
DPX-8030MD	M 0-21	NO	NO	YES	E30-4653-15
DPX-8200WMPN	J 0-02	YES	NO	YES	E30-4893-05

PH1,3 : CPT184SCS(CD)  
 D1,2 : B30-1575-05  
 D3,4,8 : CL2011RXS(BCD)

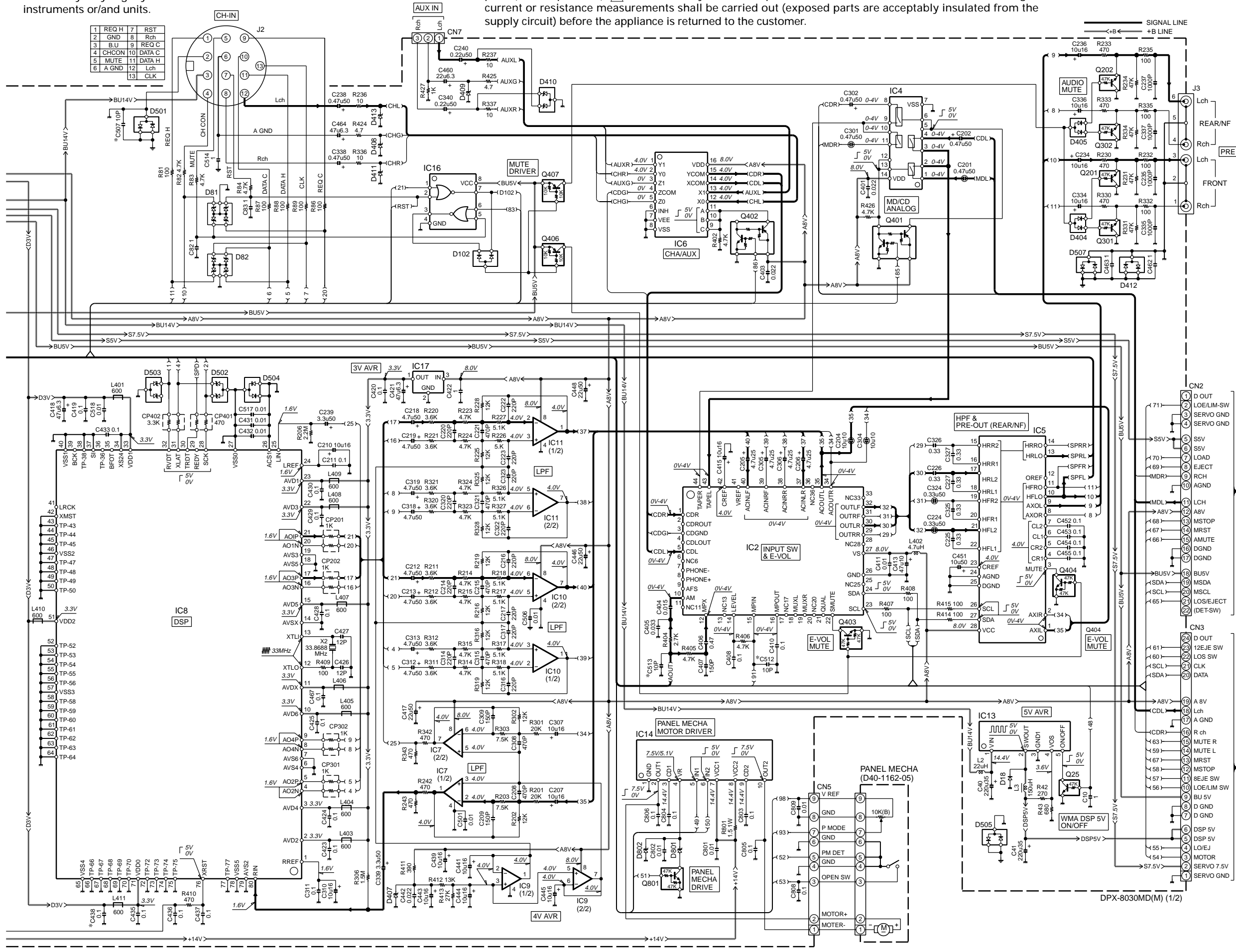
(X16-1710-00)





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

**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.



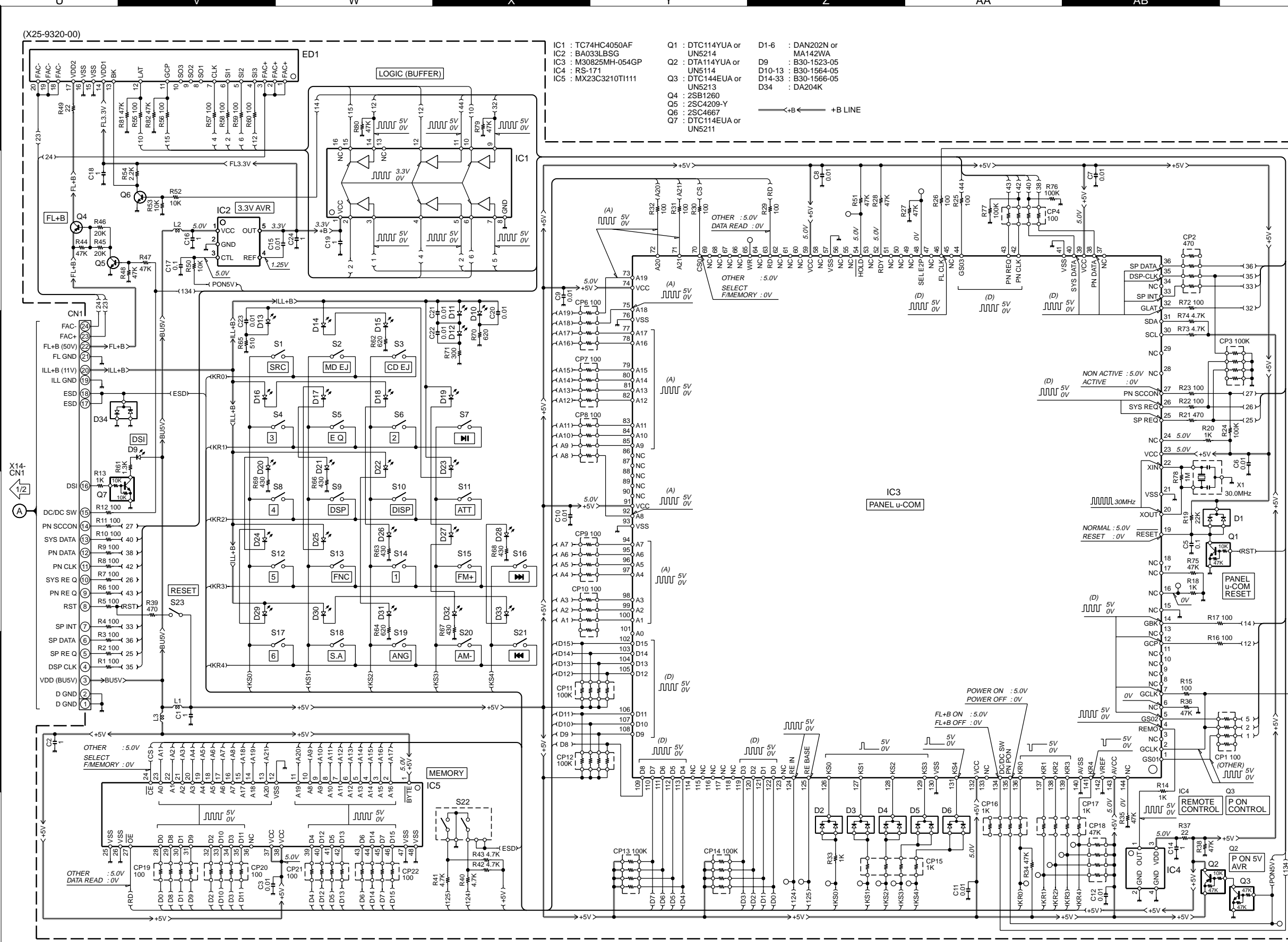
- IC1 : TDA7407
- IC2 : L4943
- IC3 : TC4066BF(N)
- IC4 : TDA7401
- IC5 : TC4053BF(N)
- IC6 : NUM4565M-TE2
- IC7,9-11 : CXD2728Q-1
- IC8 : TDA7560
- IC12 : SI-8033JD
- IC13 : BA6219B
- IC14 : S-80842ANNP
- IC15 : TC7W02FU
- IC16 : UPC29L33T
- IC17 : \*

- D1 : 1N5393G-M5
- D2 : MA8068-M
- D3,16,17 : 02CZ12-X
- D4 : 02CZ6.8-Y
- D5 : DAN202K or MA152VK
- D6 : 02CZ6.2-X
- D7-10,201-204,301-304 : S1J
- D11,412 : DAN217
- D12 : DA227
- D13 : 02CZ8.2-Y
- D14 : 02CZ5.6-Y
- D15 : 02CZ18-Y
- D18 : U1GWJ44
- D19 : MA3047-M or HZM4.7N(B2)
- D51 : MA8051-L
- D81,82 : HZM6.8FA or FT26.8E
- D101,402,403 : MA152WA or DAP202K
- D102,404,405 : DAP202U or MA142WA
- D407 : HZ8C2L
- D408,411,413 : MA8062-M
- D409 : MA3062-M or HZM6.2N(B2)
- D410 : MA3068WA or HZM6.8WA
- D501,504,507-512 : DA204U
- D502,503 : MA3056WA
- D505 : DA204K
- D801 : 02CZ5.1-Y
- D802 : 02CZ7.5-X
- D901 : RD5.6F(B2)

- A1 : \*
- A2 : W02-3352-05

- Q1,3,403-405,801 : DTC144EUA or UN5213
- Q2 : FMW1
- Q5 : DTA123JK or KRA105S
- Q6,13,15,18,21,24 : 2SD1819A
- Q7 : 2SB1188(R) or 2SC440(S)
- Q8 : 2SC4081
- Q9 : IMD16A
- Q10,19,401,402 : FMC2A
- Q11,12,14,23 : 2SB1548(P)
- Q16,22 : FMC3A
- Q17 : 2SB1416(Q,R)
- Q20 : 2SB1184
- Q25,201,202,301,302 : DTC143TUA or UN5216
- Q26 : DTC143ZUA
- Q52,53 : CPH3105
- Q54 : FMG1A
- Q101 : DTC114YUA or UN5214
- Q102 : DTA124EUA or UN5112
- Q406,407 : DTA114EUA or UN5111

**DPX-8030MD**  
**KENWOOD**



- IC1 : TC74HC4050AF  
 IC2 : BA033LBSG  
 IC3 : M30825MH-054GP  
 IC4 : RS-171  
 IC5 : MX23C3210T111
- Q1 : DTC114YUA or UN5214  
 Q2 : DTA114YUA or UN5114  
 Q3 : DTC144EUA or UN5213  
 Q4 : 2SB1260  
 Q5 : 2SC4209-Y  
 Q6 : 2SC4667  
 Q7 : DTC114EUA or UN5211
- D1-6 : DAN202N or MA142WA  
 D9 : B30-1523-05  
 D10-13 : B30-1564-05  
 D14-33 : B30-1566-05  
 D34 : DA204K

- DA227  
 MA142WA  
 DAN202K  
 DAN202U
- 02CZ12-X  
 02CZ18-Y  
 02CZ5.1-Y  
 02CZ6.2-X  
 02CZ6.8-Y  
 02CZ7.5-X  
 02CZ8.2-Y
- DTA123JK  
 DTC114YUA  
 DTC143TUA  
 UN5111  
 UN5211  
 UN5213  
 UN5214  
 UN5216  
 2SD1819A
- FMW1  
 FMG1A  
 2SB1188  
 2SB1548  
 DAP202K  
 DAP202U  
 DA204K  
 DA204U  
 DTA114YUA  
 2SB1184
- DTA114EUA  
 DTA124EUA  
 DTC114EUA  
 DTC144EUA
- NJM4565M-TE2
- 2SC4081  
 IMD16A  
 BA033LBSG
- TC74HC4050AF  
 TC4066BF
- UPC29L33T  
 TC4053BF

DPX-8030MD(M) (2/2)

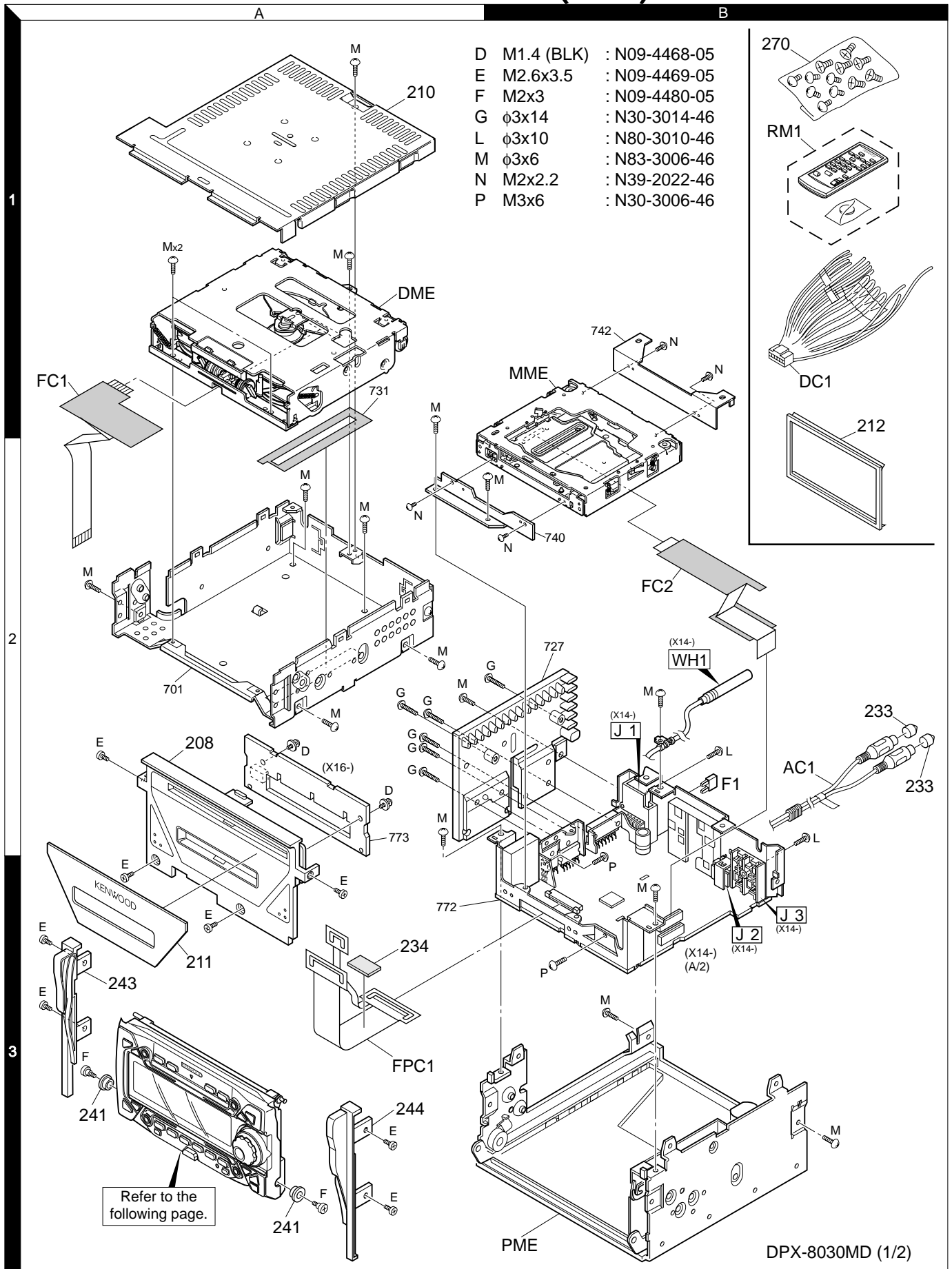
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  $\Delta$  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts 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.



# DPX-8030MD

## EXPLODED VIEW (UNIT)





## PARTS LIST

\*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.

The language of an instruction manual.

E : ENG F : FRE P : POR H : HUN O : POL

T : CHI G : GER D : DUT C : CRO Z : CZE

K : KOR S : SPA I : I T A R : RUS L : SLO

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
<b>DPX-8030MD</b>					
202	3C	*	A21-4198-02	DRESSING PANEL	
203	3C	*	A21-4200-02	DRESSING PANEL	
204	3C	*	A21-4202-02	DRESSING PANEL	
205	3C	*	A21-4204-02	DRESSING PANEL	
206	3C	*	A21-4214-02	DRESSING PANEL	
207	3C	*	A21-4228-02	DRESSING PANEL	
208	2A	*	A22-2956-03	SUB PANEL ASSY	
209	1C	*	A46-1762-02	REAR COVER ASSY	
210	1A		A52-0794-02	TOP PLATE	
PA1	3D	*	A64-2731-02	PANEL ASSY	
RM1	1B		A70-2028-05	REMOTE CONTROLLER ASSY RC-430	
211	3A	*	B03-5005-02	DRESSING PLATE	
212	1B		B07-3025-02	ESCUTCHEON	
213	3C	*	B10-4269-02	FRONT GLASS	
214	2D	*	B10-4248-03	FRONT GLASS	
215	2C	*	B10-4259-03	FRONT GLASS	
216	2D	*	B19-2146-04	LIGHTING BOARD	
217	3C	*	B19-2147-03	LIGHTING BOARD	
218	3D	*	B19-2148-03	LIGHTING BOARD	
220	2C		B43-1298-04	KENWOOD BADGE	
-			B46-0100-50	WARRANTY CARD	
-		*	B64-2329-00	INSTRUCTION MANUAL E,T	
-		*	B64-2330-00	INSTRUCTION MANUAL K	
222	1D		D14-0761-04	ROLLER	
223	1C		D14-0762-04	ROLLER	
PME	3B		D40-1162-15	MECHANISM ASSY	
AC1	2B		E30-6077-05	AUDIO CORD	
DC1	1B		E30-4939-05	DC CORD	
FC1	1A		E39-0451-05	FLAT CABLE	
FC2	2B		E39-0452-05	FLAT CABLE	
229	1D	*	F12-0759-03	SHIELDING SHEET	
233	2B		F29-0049-05	INSULATING COVER	
F1	2B		F52-0011-05	FUSE(MINI BLADE TYPE)	
234	3A		G11-1949-04	CUSHION	
236	3C		G02-1439-04	FLAT SPRING	
237	1D		G11-1947-14	CUSHION	
238	1D		G11-1945-04	CUSHION	
-		*	H10-4835-12	POLYSTYRENE FOAMED FIXTURE	
-			H13-2025-04	CARTON BOARD	
-			H25-0337-04	PROTECTION BAG (180X300X0.03)	
-			H25-1164-04	PROTECTION BAG (0.5X350X480)	
-			H25-1170-04	PROTECTION BAG	
-		*	H54-2551-03	ITEM CARTON CASE	
239	1C	*	J21-9859-03	MOUNTING HARDWARE ASSY	
241	3A		J31-1050-04	COLLAR L	
243	3A	*	J90-1040-01	RAIL R	
244	3A	*	J90-1041-01	RAIL	
FPC1	3A		J84-0132-05	FLEXIBLE PRINTED WIRING BOARD	
250	3C	*	K23-1064-03	KNOB SRC	
251	2D	*	K24-3866-03	KNOB	

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
252	2D	*	K25-1438-02	KNOB EJ	
253	2D	*	K25-1439-02	KNOB FF	
254	2D	*	K25-1440-02	KNOB FM	
255	2D	*	K25-1455-02	KNOB ANG	
256	2D	*	K25-1442-03	KNOB EQ	
258	2D	*	K25-1444-03	KNOB SA	
259	2D	*	K25-1445-02	KNOB 1-6	
260	2D	*	K25-1446-03	KNOB ATT	
270	1B		N99-1724-05	SCREW SET	
A	1D		N09-4465-05	STEPPED SCREW	
B	1C		N09-4466-05	STEPPED SCREW	
C	1D		N09-4467-05	MACHINE SCREW	
D	2A		N09-4468-05	SEMS (TAPTITE SCREW)(2X5)	
E	3A		N09-4469-05	MACHINE SCREW (M2.6X3.5)	
F	3A		N09-4480-15	STEPPED SCREW	
G	2A		N30-3014-46	PAN HEAD MACHINE SCREW	
H	2D		N80-2005-46	PAN HEAD TAPTITE SCREW	
J	3C		N09-6027-05	MACHINE SCREW	
K	1D		N80-2010-46	PAN HEAD TAPTITE SCREW	
M	1A		N83-3006-46	PAN HEAD TAPTITE SCREW	
N	2B		N39-2022-46	PAN HEAD MACHIN SCREW	
DME	1A		X92-4470-00	MECHANISM ASSY	
MME	1B		X92-4570-00	MECHANISM ASSY	
<b>SYNTHESIZER UNIT (X14-6980-21)</b>					
C1			C90-5424-05	ALMINIUM ELECTROLYTIC C.	
C2			CK73FB1H104K	CHIP C 0.10UF	K
C3			CK73GB1H103K	CHIP C 0.010UF	K
C4			CK73GB1E223K	CHIP C 0.022UF	K
C5			C90-2608-05	ELECTRO 1.0UF	50WV
C6			CK73GB1H103K	CHIP C 0.010UF	K
C8 ,9			CK73FB1H104K	CHIP C 0.10UF	K
C10			CK73FB1A105K	CHIP C 1.0UF	K
C11			CC73GCH1H100D	CHIP C 10PF	D
C12			C90-2528-05	ELECTRO 10UF	10WV
C13 ,14			CK73GB1E473K	CHIP C 0.047UF	K
C15			C90-2685-05	ELECTRO 330UF	16WV
C16			C90-2759-05	ELECTRO 10UF	16WV
C17			CK73FB1C224K	CHIP C 0.22UF	K
C18			C90-2528-05	ELECTRO 10UF	10WV
C19			CK73FB1H104K	CHIP C 0.10UF	K
C20			C90-2759-05	ELECTRO 10UF	16WV
C21			CK73FB1C224K	CHIP C 0.22UF	K
C22 ,23			CK73FB1A105K	CHIP C 1.0UF	K
C24 ,25			CK73GB1C104K	CHIP C 0.10UF	K
C26			C90-2672-05	ELECTRO 100UF	10WV
C28			CK73GB1C104K	CHIP C 0.10UF	K
C29			C90-2672-05	ELECTRO 100UF	10WV
C31			C90-2555-05	ELECTRO 4.7UF	25WV
C32			C90-2554-05	ELECTRO 10UF	16WV
C34			CK73GB1C104K	CHIP C 0.10UF	K
C35			C90-2759-05	ELECTRO 10UF	16WV
C37			C90-2554-05	ELECTRO 10UF	16WV
C39			CC73GCH1H101J	CHIP C 100PF	J
C40 ,41			C90-5433-05	ALMINIUM ELECTROLYTIC C.	

⚠ indicates safety critical components.

## PARTS LIST

\*New Parts

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(X14-6980-21)

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
C43			CK73GB1E223K	CHIP C 0.022UF K	
C44			CK73FB1C105K	CHIP C 1.0UF K	
C52			CK73GB1C104K	CHIP C 0.10UF K	
C53			CC73GCH1H100D	CHIP C 10PF D	
C63			CE04DW1A101M	ELECTRO 100UF 10WV	
C64			CK73GB1C104K	CHIP C 0.10UF K	
C66			CK73GB1C104K	CHIP C 0.10UF K	
C82, 83			CK73FB1C105K	CHIP C 1.0UF K	
C101			CE04DW1A101M	ELECTRO 100UF 10WV	
C102,103			CK73GB1H104K	CHIP C 0.10UF K	
C104,105			CC73GCH1H120J	CHIP C 12PF J	
C106,107			CK73GB1H103K	CHIP C 0.010UF K	
C109-112			CK73GB1H103K	CHIP C 0.010UF K	
C114			CK73GB1H472K	CHIP C 4700PF K	
C115			CC73GCH1H101J	CHIP C 100PF J	
C116,117			CK73GB1H103K	CHIP C 0.010UF K	
C201			CE04HW1HR47M	NP-ELEC 0.47UF 50WV	
C202			CE04VW1HR47M	ALUMINIUM ELECTROLYTIC C.	
C204			C90-2850-05	ELECTRO 10UF 10WV	
C205,206			CE04DW1E4R7M	ELECTRO 4.7UF 25WV	
C207			CE04DW1C100M	ELECTRO 10UF 16WV	
C208			CC73GCH1H471J	CHIP C 470PF J	
C209			CC73GCH1H151J	CHIP C 150PF J	
C210			CE04NW1C100M	ELECTRO 10UF 16WV	
C211			CK73GB1C104K	CHIP C 0.10UF K	
C212,213			CE04DW1E4R7M	ELECTRO 4.7UF 25WV	
C214			CK73GB1H221K	CHIP C 220PF K	
C215			CK73GB1H471K	CHIP C 470PF K	
C216,217			CC73GCH1H221J	CHIP C 220PF J	
C218,219			CE04DW1E4R7M	ELECTRO 4.7UF 25WV	
C220			CK73GB1H221K	CHIP C 220PF K	
C221			CK73GB1H471K	CHIP C 470PF K	
C222,223			CC73GCH1H221J	CHIP C 220PF J	
C224			CE04HW1HR33M	NP-ELEC 0.33UF 50WV	
C225-227			CK73FB1C334K	CHIP C 0.33UF K	
C228,229			C90-5297-05	NP-ELECT 0.22UF 50WV	
C234			CE04NW1C100M	ELECTRO 10UF 16WV	
C235			CK73GB1H102K	CHIP C 1000PF K	
C236			CE04DW1C100M	ELECTRO 10UF 16WV	
C237			CK73GB1H102K	CHIP C 1000PF K	
C238			CE04NW1HR47M	ELECTRO 0.47UF 50WV	
C239			CE04NW1H3R3M	ELECTRO 3.3UF 50WV	
C240			CE04NW1HR22M	ELECTRO 0.22UF 50WV	
C301			CE04HW1HR47M	NP-ELEC 0.47UF 50WV	
C302			CE04VW1HR47M	ALUMINIUM ELECTROLYTIC C.	
C304			C90-2850-05	ELECTRO 10UF 10WV	
C305,306			CE04DW1E4R7M	ELECTRO 4.7UF 25WV	
C307			CE04DW1C100M	ELECTRO 10UF 16WV	
C308			CC73GCH1H471J	CHIP C 470PF J	
C309			CC73GCH1H151J	CHIP C 150PF J	
C310			CE04NW1C100M	ELECTRO 10UF 16WV	
C311			CK73GB1C104K	CHIP C 0.10UF K	
C312,313			CE04DW1E4R7M	ELECTRO 4.7UF 25WV	
C314			CK73GB1H221K	CHIP C 220PF K	
C315			CK73GB1H471K	CHIP C 470PF K	

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
C316,317			CC73GCH1H221J	CHIP C 220PF J	
C318,319			CE04DW1E4R7M	ELECTRO 4.7UF 25WV	
C320			CK73GB1H221K	CHIP C 220PF K	
C321			CK73GB1H471K	CHIP C 470PF K	
C322,323			CC73GCH1H221J	CHIP C 220PF J	
C324			CE04HW1HR33M	NP-ELEC 0.33UF 50WV	
C325-327			CK73FB1C334K	CHIP C 0.33UF K	
C328,329			C90-5297-05	NP-ELECT 0.22UF 50WV	
C334			CE04NW1C100M	ELECTRO 10UF 16WV	
C335			CK73GB1H102K	CHIP C 1000PF K	
C336			CE04DW1C100M	ELECTRO 10UF 16WV	
C337			CK73GB1H102K	CHIP C 1000PF K	
C338			CE04NW1HR47M	ELECTRO 0.47UF 50WV	
C339			CE04NW1H3R3M	ELECTRO 3.3UF 50WV	
C340			CE04NW1HR22M	ELECTRO 0.22UF 50WV	
C401			CK73GB1E223K	CHIP C 0.022UF K	
C403			CK73GB1E223K	CHIP C 0.022UF K	
C404			CK73GB1H153K	CHIP C 0.015UF K	
C405			CK73GB1E333K	CHIP C 0.033UF K	
C406			CK73FB1C474K	CHIP C 0.47UF K	
C407			CC73GCH1H151J	CHIP C 150PF J	
C408			CK73GB1H104K	CHIP C 0.10UF K	
C410			CK73GB1C104K	CHIP C 0.10UF K	
C411			CK73GB1H103K	CHIP C 0.010UF K	
C413			CE04NW1A470M	ELECTRO 47UF 10WV	
C415			CE04VW1C100M	ALUMINIUM ELECTROLYTIC C.	
C417			CE04NW1C220M	ELECTRO 22UF 16WV	
C418			C90-5262-05	ELECTRO 47UF 6.3WV	
C419,420			CK73GB1C104K	CHIP C 0.10UF K	
C421			C90-5262-05	ELECTRO 47UF 6.3WV	
C422			CK73EB1E105K	CHIP C 1.0UF K	
C423-425			CK73GB1C104K	CHIP C 0.10UF K	
C426,427			CC73GCH1H120J	CHIP C 12PF J	
C428-430			CK73GB1C104K	CHIP C 0.10UF K	
C431,432			CK73GB1H103K	CHIP C 0.010UF K	
C433			CK73GB1C104K	CHIP C 0.10UF K	
C435-437			CK73GB1C104K	CHIP C 0.10UF K	
C439			CE04NW1C100M	ELECTRO 10UF 16WV	
C441			CE04DW1C100M	ELECTRO 10UF 16WV	
C442			CK73GB1E223K	CHIP C 0.022UF K	
C443			CE04NW1A220M	ELECTRO 22UF 10WV	
C444,445			CE04DW1C100M	ELECTRO 10UF 16WV	
C446			CE04NW1C220M	ELECTRO 22UF 16WV	
C448			CE04NW1C220M	ELECTRO 22UF 16WV	
C451			CE04DW1H100M	ELECTRO 10UF 50WV	
C452-455			CK73FB1H104K	CHIP C 0.10UF K	
C456			CK73EB1E105K	CHIP C 1.0UF K	
C459			C90-2758-05	ELECTRO 33UF 10WV	
C460			CE04NW0J220M	ELECTRO 22UF 6.3WV	
C461-463			CK73FB1C105K	CHIP C 1.0UF K	
C464			CE04NW0J470M	ELECTRO 47UF 6.3WV	
C467			CK73GB1C104K	CHIP C 0.10UF K	
C468			C90-5308-05	ELECTRO 1.0UF 50WV	
C501-508			CK73GB1H103K	CHIP C 0.010UF K	
C514			CK73FB1C105K	CHIP C 1.0UF K	

## PARTS LIST

\*New Parts

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(X14-6980-21)

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
C515-518			CK73GB1H103K	CHIP C 0.010UF K	
C519,520			CK73FB1C105K	CHIP C 1.0UF K	
C801,802			CK73GB1H103K	CHIP C 0.010UF K	
C803-806			CK73FB1H104K	CHIP C 0.10UF K	
C808			CK73FB1H104K	CHIP C 0.10UF K	
C809			CK73GB1H103K	CHIP C 0.010UF K	
C901			CK73FB1H104K	CHIP C 0.10UF K	
C902			C90-2983-05	ELECTRO 100UF 35WV	
C903			C90-5321-05	ELECTRO 120UF 63WV	
C904			C90-5458-05	ALMINIUM ELECTROLYTIC C.	
CN1			E41-0251-05	FLAT CABLE CONNECTOR	
CN2			E40-9735-15	FLAT CABLE CONNECTOR	
CN3			E40-9656-05	FLAT CABLE CONNECTOR	
CN5			E40-5186-05	PIN ASSY	
CN7			E40-3247-05	PIN ASSY	
J1			E58-0863-15	RECTANGULAR RECEPTACLE	
J2			E56-0834-05	CYLINDRICAL RECEPTACLE	
J3			E63-0854-05	PIN JACK	
WH1			E30-4653-15	CORD WITH PLUG	
L1			L33-1170-05	CHOKE COIL ASSY	
L2			L33-1029-05	SMALL FIXED INDUCTOR	
L3			L33-1864-05	CHOKE COIL	
L51			L33-1001-05	SMALL FIXED INDUCTOR	
L52			L33-1123-05	LINE FILTER COIL	
L53			L40-4795-68	SMALL FIXED INDUCTOR(4.7UH)	
L55 -57			L40-4795-68	SMALL FIXED INDUCTOR(4.7UH)	
L101			L40-4795-68	SMALL FIXED INDUCTOR(4.7UH)	
L401			L92-0332-05	CHIP FERRITE	
L402			L40-4795-68	SMALL FIXED INDUCTOR(4.7UH)	
L403-411			L92-0332-05	CHIP FERRITE	
L901,902			L33-1029-05	SMALL FIXED INDUCTOR	
X1			L77-2813-05	CRYSTAL RESONATOR	
X2			L77-2816-05	CRYSTAL RESONATOR(33.8688MHZ)	
L	2B		N80-3010-46	PAN HEAD TAPTITE SCREW	
M			N83-3006-46	PAN HEAD TAPTITE SCREW	
P	3B		N30-3006-46	PAN HEAD MACHINE SCREW	
CP101			R90-1022-05	MULTI-COMP 470 X2	
CP102			R90-1014-05	MULTI-COMP 100 X4	
CP103,104			R90-1019-05	MULTI-COMP 100 X2	
CP105,106			R90-0722-05	MULTI-COMP 2.2K X4	
CP107			R90-0724-05	MULTI-COMP 1K X4	
CP108			R90-0722-05	MULTI-COMP 2.2K X4	
CP109			R90-1013-05	MULTI-COMP 2.2K X2	
CP110			R90-0722-05	MULTI-COMP 2.2K X4	
CP111			R90-1019-05	MULTI-COMP 100 X2	
CP112			R90-0722-05	MULTI-COMP 2.2K X4	
CP113,114			R90-1013-05	MULTI-COMP 2.2K X2	
CP201,202			R90-0725-05	MULTI-COMP 1K X2	
CP301,302			R90-0725-05	MULTI-COMP 1K X2	
CP401			R90-1022-05	MULTI-COMP 470 X2	
CP402			R90-1021-05	MULTI-COMP 3.3K X2	
R1 ,2			RK73GB2A103J	CHIP R 10K J 1/10W	
R3			RK73GB2A822J	CHIP R 8.2K J 1/10W	
R4			RK73EB2E332J	CHIP R 3.3K J 1/4W	

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
R5			RK73GB2A203J	CHIP R 20K J 1/10W	
R6			RK73GB2A123J	CHIP R 12K J 1/10W	
R7			RK73EB2E103J	CHIP R 10K J 1/4W	
R9			RK73EB2E102J	CHIP R 1.0K J 1/4W	
R10			RK73GB2A561J	CHIP R 560 J 1/10W	
R11			RK73GB2A473J	CHIP R 47K J 1/10W	
R12			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R13 ,14			RK73EB2E472J	CHIP R 4.7K J 1/4W	
R15			RK73GB2A103J	CHIP R 10K J 1/10W	
R16			R92-2023-05	CHIP R 820 J 1/2W	
R17			RK73GB2A103J	CHIP R 10K J 1/10W	
R18			RK73GB2A273J	CHIP R 27K J 1/10W	
R19			RN73GH1J3571D	CHIP R 3.57K D 1/16W	
R20			RN73GH1J5491D	CHIP R 5.49K D 1/16W	
R21			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R22			RN73GH1J102D	CHIP R 1.0K D 1/16W	
R23			RN73GH1J222D	CHIP R 2.2K D 1/16W	
R24			RN73GH1J393D	CHIP R 39K D 1/16W	
R25			RN73GH1J1242D	CHIP R 12.4K D 1/16W	
R26			RK73GB2A822J	CHIP R 8.2K J 1/10W	
R27			RK73FB2B432J	CHIP R 4.3K J 1/8W	
R28			RK73EB2E821J	CHIP R 820 J 1/4W	
R29 ,30			RK73EB2E621J	CHIP R 620 J 1/4W	
R31 ,32			R92-2021-05	CHIP R 2.2 J 1/2W	
R33			RK73EB2E122J	CHIP R 1.2K J 1/4W	
R35			RK73EB2E222J	CHIP R 2.2K J 1/4W	
R36			RK73EB2E102J	CHIP R 1.0K J 1/4W	
R38			RK73EB2E751J	CHIP R 750 J 1/4W	
R39			RK73FB2B104J	CHIP R 100K J 1/8W	
R40			RK73EB2E751J	CHIP R 750 J 1/4W	
R41			RK73FB2B104J	CHIP R 100K J 1/8W	
R42			RN73GH1J271D	CHIP R 270 D 1/16W	
R43			RN73GH1J681D	CHIP R 680 D 1/16W	
R44			RK73FB2B104J	CHIP R 100K J 1/8W	
R51			RK73FB2B151J	CHIP R 150 J 1/8W	
R52 ,53			RK73GB2A101J	CHIP R 100 J 1/10W	
R54			RK73GB2A223J	CHIP R 22K J 1/10W	
R55			RK73FB2B222J	CHIP R 2.2K J 1/8W	
R56			RK73GB2A223J	CHIP R 22K J 1/10W	
R57			RK73FB2B222J	CHIP R 2.2K J 1/8W	
R81			RK73EB2E101J	CHIP R 100 J 1/4W	
R82 -84			RK73EB2E472J	CHIP R 4.7K J 1/4W	
R86 -89			RK73EB2E101J	CHIP R 100 J 1/4W	
R101			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R102,103			RK73GB2A104J	CHIP R 100K J 1/10W	
R104			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R105			RK73GB2A223J	CHIP R 22K J 1/10W	
R106			RK73GB2A105J	CHIP R 1.0M J 1/10W	
R107,108			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R109			RK73GB2A101J	CHIP R 100 J 1/10W	
R110			RK73GB2A104J	CHIP R 100K J 1/10W	
R111			RK73GB2A471J	CHIP R 470 J 1/10W	
R112			RK73GB2A101J	CHIP R 100 J 1/10W	
R113			RK73GB2A104J	CHIP R 100K J 1/10W	
R114			RK73GB2A223J	CHIP R 22K J 1/10W	

⚠ indicates safety critical components.

## PARTS LIST

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(X14-6980-21)

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
R115,116			RK73GB2A104J	CHIP R 100K J 1/10W	
R117			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R118			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R119,120			RK73GB2A101J	CHIP R 100 J 1/10W	
R121			RK73GB2A473J	CHIP R 47K J 1/10W	
R122-124			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R125-128			RK73GB2A101J	CHIP R 100 J 1/10W	
R129			RK73GB2A104J	CHIP R 100K J 1/10W	
R130			RK73GB2A471J	CHIP R 470 J 1/10W	
R131			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R132			RK73GB2A473J	CHIP R 47K J 1/10W	
R133			RK73GB2A104J	CHIP R 100K J 1/10W	
R134			RK73GB2A471J	CHIP R 470 J 1/10W	
R135			RK73GB2A104J	CHIP R 100K J 1/10W	
R136			RK73GB2A101J	CHIP R 100 J 1/10W	
R137			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R139,140			RK73GB2A104J	CHIP R 100K J 1/10W	
R141			RK73GB2A471J	CHIP R 470 J 1/10W	
R142			RK73GB2A104J	CHIP R 100K J 1/10W	
R143			RK73GB2A471J	CHIP R 470 J 1/10W	
R144			RK73GB2A104J	CHIP R 100K J 1/10W	
R145,146			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R147			RK73GB2A104J	CHIP R 100K J 1/10W	
R148			RK73GB2A471J	CHIP R 470 J 1/10W	
R149			RK73GB2A104J	CHIP R 100K J 1/10W	
R151,152			RK73GB2A473J	CHIP R 47K J 1/10W	
R154			RK73GB2A473J	CHIP R 47K J 1/10W	
R160			RK73GB2A103J	CHIP R 10K J 1/10W	
R161			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R162			RK73GB2A223J	CHIP R 22K J 1/10W	
R163			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R164			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R165			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R166			RK73GB2A474J	CHIP R 470K J 1/10W	
R167			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R168			RK73GB2A474J	CHIP R 470K J 1/10W	
R169			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R173,174			RK73GB2A104J	CHIP R 100K J 1/10W	
R175,176			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R177			RK73GB2A473J	CHIP R 47K J 1/10W	
R179			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R180-182			RK73GB2A104J	CHIP R 100K J 1/10W	
R201			RK73FB2B203J	CHIP R 20K J 1/8W	
R202			RK73FB2B123J	CHIP R 12K J 1/8W	
R203			RK73FB2B752J	CHIP R 7.5K J 1/8W	
R206			RK73GB2A225J	CHIP R 2.2M J 1/10W	
R211,212			RK73FB2B362J	CHIP R 3.6K J 1/8W	
R214,215			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R216			RK73GB2A123J	CHIP R 12K J 1/10W	
R217,218			RK73GB2A512J	CHIP R 5.1K J 1/10W	
R219			RK73GB2A123J	CHIP R 12K J 1/10W	
R220,221			RK73FB2B362J	CHIP R 3.6K J 1/8W	
R223,224			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R225			RK73GB2A123J	CHIP R 12K J 1/10W	
R226,227			RK73GB2A512J	CHIP R 5.1K J 1/10W	

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
R228			RK73GB2A123J	CHIP R 12K J 1/10W	
R230			RK73FB2B471J	CHIP R 470 J 1/8W	
R231			RK73FB2B473J	CHIP R 47K J 1/8W	
R232			RK73FB2B101J	CHIP R 100 J 1/8W	
R233			RK73FB2B471J	CHIP R 470 J 1/8W	
R234			RK73FB2B473J	CHIP R 47K J 1/8W	
R235			RK73FB2B101J	CHIP R 100 J 1/8W	
R236,237			RK73EB2E100J	CHIP R 10 J 1/4W	
R242			RK73FB2B471J	CHIP R 470 J 1/8W	
R243			RK73GB2A471J	CHIP R 470 J 1/10W	
R301			RK73FB2B203J	CHIP R 20K J 1/8W	
R302			RK73FB2B123J	CHIP R 12K J 1/8W	
R303			RK73FB2B752J	CHIP R 7.5K J 1/8W	
R306			RK73GB2A155J	CHIP R 1.5M J 1/10W	
R311,312			RK73FB2B362J	CHIP R 3.6K J 1/8W	
R314,315			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R316			RK73GB2A123J	CHIP R 12K J 1/10W	
R317,318			RK73GB2A512J	CHIP R 5.1K J 1/10W	
R319			RK73GB2A123J	CHIP R 12K J 1/10W	
R320,321			RK73FB2B362J	CHIP R 3.6K J 1/8W	
R323,324			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R325			RK73GB2A123J	CHIP R 12K J 1/10W	
R326,327			RK73GB2A512J	CHIP R 5.1K J 1/10W	
R328			RK73GB2A123J	CHIP R 12K J 1/10W	
R330			RK73FB2B471J	CHIP R 470 J 1/8W	
R331			RK73FB2B473J	CHIP R 47K J 1/8W	
R332			RK73FB2B101J	CHIP R 100 J 1/8W	
R333			RK73FB2B471J	CHIP R 470 J 1/8W	
R334			RK73FB2B473J	CHIP R 47K J 1/8W	
R335			RK73FB2B101J	CHIP R 100 J 1/8W	
R336,337			RK73EB2E100J	CHIP R 10 J 1/4W	
R342			RK73FB2B471J	CHIP R 470 J 1/8W	
R343			RK73GB2A471J	CHIP R 470 J 1/10W	
R402			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R404			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R405,406			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R407-409			RK73GB2A101J	CHIP R 100 J 1/10W	
R410			RK73GB2A471J	CHIP R 470 J 1/10W	
R411			RK73GB2A391J	CHIP R 390 J 1/10W	
R412			RK73GB2A133J	CHIP R 13K J 1/10W	
R413			RK73GB2A273J	CHIP R 27K J 1/10W	
R414,415			RK73GB2A101J	CHIP R 100 J 1/10W	
R417			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R418			RK73GB2A512J	CHIP R 5.1K J 1/10W	
R419			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R420			RK73GB2A100J	CHIP R 10 J 1/10W	
R422			RK73GB2A333J	CHIP R 33K J 1/10W	
R424,425			RK73EB2E4R7J	CHIP R 4.7 J 1/4W	
R426			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R427			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R428			RK73GB2A221J	CHIP R 220 J 1/10W	
R801			RS14DB3A1R5J	FL-PROOF RS 1.5 J 1W	
R901			RK73EB2E223J	CHIP R 22K J 1/4W	
R902			RK73EB2E333J	CHIP R 33K J 1/4W	
W1 -4			R92-1252-05	CHIP R 0 OHM J 1/16W	



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(X14-6980-21)

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
W229			R92-2052-05	CHIP R 0 OHM J 1/10W	
W241			R92-2052-05	CHIP R 0 OHM J 1/10W	
W329			R92-2052-05	CHIP R 0 OHM J 1/10W	
W341			R92-2052-05	CHIP R 0 OHM J 1/10W	
D1			1N5393G-M5	DIODE	
D2			MA8068-M	ZENER DIODE	
D3			02CZ12-X	ZENER DIODE	
D4			02CZ6.8-Y	ZENER DIODE	
D5			DAN202K	DIODE	
D5			MA152WK	DIODE	
D6			02CZ6.2-X	ZENER DIODE	
D7 -10			S1J	DIODE	
D11			DAN217	DIODE	
D12			DA227	DIODE	
D13			02CZ8.2-Y	ZENER DIODE	
D14			02CZ5.6-Y	ZENER DIODE	
D15			02CZ18-Y	ZENER DIODE	
D16 ,17			02CZ12-X	ZENER DIODE	
D18			U1GWJ44	DIODE	
D51			MA8051-L	ZENER DIODE	
D81 ,82			FTZ6.8E	ZENER DIODE	
D81 ,82			HZM6.8FA	ZENER DIODE	
D101			DAP202K	DIODE	
D101			MA152WA	DIODE	
D102			DAP202U	DIODE	
D102			MA142WA	DIODE	
D201-204			S1J	DIODE	
D301-304			S1J	DIODE	
D402,403			DAP202K	DIODE	
D402,403			MA152WA	DIODE	
D404,405			DAP202U	DIODE	
D404,405			MA142WA	DIODE	
D407			HZ6C2L	ZENER DIODE	
D408			MA8062-M	ZENER DIODE	
D409			HZM6.2N(B2)	ZENER DIODE	
D409			MA3062-M	ZENER DIODE	
D410			HZM6.8WA	ZENER DIODE	
D410			MA3068WA	ZENER DIODE	
D411			MA8062-M	ZENER DIODE	
D412			DAN217	DIODE	
D413			MA8062-M	ZENER DIODE	
D501			DA204U	DIODE	
D502,503			MA3056WA	ZENER DIODE	
D504			DA204U	DIODE	
D505			DA204K	DIODE	
D507			DA204U	DIODE	
D801			02CZ5.1-Y	ZENER DIODE	
D802			02CZ7.5-X	ZENER DIODE	
D901			RD5.6E(B2)	ZENER DIODE	
IC1			M30624MGAA89FP	MI-COM IC	
IC2			TDA7407	ANALOGUE IC	
IC3			L4943	ANALOGUE IC	
IC4			TC4066BF(N)	MOS-IC	
IC5			TDA7401	ANALOGUE IC	

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
IC6			TC4053BF(N)	MOS-IC	
IC7			NJM4565M-TE2	ANALOGUE IC	
IC8			CXD2728Q-1	ANALOGUE IC	
IC9 -11			NJM4565M-TE2	ANALOGUE IC	
IC12			TDA7560	ANALOGUE IC	
IC13			SI-8033JD	ANALOGUE IC	
IC14			BA6219B	ANALOGUE IC	
IC15			S-80842ANNP	MOS-IC	
IC16			TC7W02FU	MOS-IC	
IC17			UPC29L33T	ANALOGUE IC	
Q1			DTC144EUA	DIGITAL TRANSISTOR	
Q1			UN5213	DIGITAL TRANSISTOR	
Q2			FMW1	TRANSISTOR	
Q3			DTC144EUA	DIGITAL TRANSISTOR	
Q3			UN5213	DIGITAL TRANSISTOR	
Q5			DTA123JK	DIGITAL TRANSISTOR	
Q5			KRA105S	DIGITAL TRANSISTOR	
Q6			2SD1819A	TRANSISTOR	
Q7			2SB1188(R)	TRANSISTOR	
Q7			2SB1440(S)	TRANSISTOR	
Q8			2SC4081	TRANSISTOR	
Q9			IMD16A	TRANSISTOR	
Q10			FMC2A	DIGITAL TRANSISTOR	
Q11 ,12			2SB1548(P)	TRANSISTOR	
Q13			2SD1819A	TRANSISTOR	
Q14			2SB1548(P)	TRANSISTOR	
Q15			2SD1819A	TRANSISTOR	
Q16			FMC3A	DIGITAL TRANSISTOR	
Q17			2SB1416(Q,R)	TRANSISTOR	
Q18			2SD1819A	TRANSISTOR	
Q19			FMC2A	DIGITAL TRANSISTOR	
Q20			2SB1184	TRANSISTOR	
Q21			2SD1819A	TRANSISTOR	
Q22			FMC3A	DIGITAL TRANSISTOR	
Q23			2SB1548(P)	TRANSISTOR	
Q24			2SD1819A	TRANSISTOR	
Q25			DTC143TUA	DIGITAL TRANSISTOR	
Q25			UN5216	DIGITAL TRANSISTOR	
Q26			DTC143ZUA	DIGITAL TRANSISTOR	
Q52 ,53			CPH3105	TRANSISTOR	
Q54			FMG1A	DIGITAL TRANSISTOR	
Q101			DTC114YUA	DIGITAL TRANSISTOR	
Q101			UN5214	DIGITAL TRANSISTOR	
Q102			DTA124EUA	DIGITAL TRANSISTOR	
Q102			UN5112	DIGITAL TRANSISTOR	
Q201,202			DTC143TUA	DIGITAL TRANSISTOR	
Q201,202			UN5216	DIGITAL TRANSISTOR	
Q301,302			DTC143TUA	DIGITAL TRANSISTOR	
Q301,302			UN5216	DIGITAL TRANSISTOR	
Q401,402			FMC2A	DIGITAL TRANSISTOR	
Q403-405			DTC144EUA	DIGITAL TRANSISTOR	
Q403-405			UN5213	DIGITAL TRANSISTOR	
Q406,407			DTA114EUA	DIGITAL TRANSISTOR	
Q406,407			UN5111	DIGITAL TRANSISTOR	
Q801			DTC144EUA	DIGITAL TRANSISTOR	

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(X14-6980-21)

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
Q801			UN5213	DIGITAL TRANSISTOR	
TH1			PTH9C32BB471Q	POSITIVE RESISTOR	
A2			W02-3352-05	ELECTRIC CIRCUIT MODULE	
A1			X86-3280-11	TUNER UNIT	
<b>SUB CIRCUIT UNIT (X16-1710-00)</b>					
D1 ,2			B30-1575-05	LED(1608,YG)	
CN1			E41-0283-05	FLAT CABLE CONNECTOR	
R1			RK73FB2B241J	CHIP R 240 J 1/8W	
R2			RK73FB2B471J	CHIP R 470 J 1/8W	
R4			RK73FB2B361J	CHIP R 360 J 1/8W	
R5			RK73FB2B271J	CHIP R 270 J 1/8W	
R8			RK73FB2B361J	CHIP R 360 J 1/8W	
R9			RK73GB2A333J	CHIP R 33K J 1/10W	
R10			RK73FB2B361J	CHIP R 360 J 1/8W	
VR1			R32-0249-05	SEMI FIXED VARIABLE RESISTOR	
VR3			R32-0249-05	SEMI FIXED VARIABLE RESISTOR	
D3 ,4			CL201IRXS(BCD)	INFRARED LED	
D8			CL201IRXS(BCD)	INFRARED LED	
PH1			CPT184SCS(CDE)	PHOTO TRANSISTOR	
PH3			CPT184SCS(CDE)	PHOTO TRANSISTOR	
<b>SWITCH UNIT (X25-9320-00)</b>					
D9			B30-1523-05	LED	
D10 -13			B30-1564-05	LED(1608,BLUE)	
D14 -33			B30-1566-05	LED(1608,RED)	
C1 ,2			CK73FB1C105K	CHIP C 1.0UF K	
C3			CK73GB1H103K	CHIP C 0.010UF K	
C5			CK73GB1C104K	CHIP C 0.10UF K	
C6 -12			CK73GB1H103K	CHIP C 0.010UF K	
C14			CK73FB1C105K	CHIP C 1.0UF K	
C15			CK73GB1H103K	CHIP C 0.010UF K	
C16			CK73FB1C105K	CHIP C 1.0UF K	
C17			CK73GB1C104K	CHIP C 0.10UF K	
C18 ,19			CK73FB1C105K	CHIP C 1.0UF K	
C20 -23			CK73GB1H103K	CHIP C 0.010UF K	
C24			CK73FB1C105K	CHIP C 1.0UF K	
CN1			E41-0194-05	FLAT CABLE CONNECTOR	
L1 -3			L40-4795-68	SMALL FIXED INDUCTOR(4.7UH)	
X1			L78-0859-05	RESONATOR	
CP1			R90-1014-05	MULTI-COMP 100 X4	
CP2			R90-1016-05	MULTI-COMP 470 X4	
CP3			R90-0720-05	MULTI-COMP 100K X4	
CP4			R90-1014-05	MULTI-COMP 100 X4	
CP6 -10			R90-1014-05	MULTI-COMP 100 X4	
CP11-14			R90-0720-05	MULTI-COMP 100K X4	
CP15-17			R90-0724-05	MULTI-COMP 1K X4	
CP18			R90-0748-05	MULTI-COMP 47K X4	
CP19-22			R90-1014-05	MULTI-COMP 100 X4	
R1 -12			RK73EB2E101J	CHIP R 100 J 1/4W	
R13			RK73EB2E102J	CHIP R 1.0K J 1/4W	

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
R14			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R15 -17			RK73GB2A101J	CHIP R 100 J 1/10W	
R18			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R19			RK73GB2A223J	CHIP R 22K J 1/10W	
R20			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R21			RK73GB2A471J	CHIP R 470 J 1/10W	
R22 ,23			RK73GB2A101J	CHIP R 100 J 1/10W	
R24			RK73GB2A104J	CHIP R 100K J 1/10W	
R25 ,26			RK73GB2A101J	CHIP R 100 J 1/10W	
R27 ,28			RK73GB2A473J	CHIP R 47K J 1/10W	
R29 -32			RK73GB2A101J	CHIP R 100 J 1/10W	
R33			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R34 -36			RK73GB2A473J	CHIP R 47K J 1/10W	
R37			RK73FB2B220J	CHIP R 22 J 1/8W	
R38			RK73GB2A473J	CHIP R 47K J 1/10W	
R39			RK73EB2E471J	CHIP R 470 J 1/4W	
R40 -43			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R44			RK73GB2A473J	CHIP R 47K J 1/10W	
R45 ,46			RK73EB2E203J	CHIP R 20K J 1/4W	
R47 ,48			RK73GB2A473J	CHIP R 47K J 1/10W	
R49			RK73EB2E220J	CHIP R 22 J 1/4W	
R50			RK73GB2A103J	CHIP R 10K J 1/10W	
R51			RK73GB2A473J	CHIP R 47K J 1/10W	
R52 ,53			RK73GB2A103J	CHIP R 10K J 1/10W	
R54			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R55 -60			RK73GB2A101J	CHIP R 100 J 1/10W	
R61			RK73EB2E132J	CHIP R 1.3K J 1/4W	
R62			RK73EB2E621J	CHIP R 620 J 1/4W	
R63			RK73EB2E431J	CHIP R 430 J 1/4W	
R64			RK73EB2E621J	CHIP R 620 J 1/4W	
R65			RK73EB2E511J	CHIP R 510 J 1/4W	
R66 -69			RK73EB2E431J	CHIP R 430 J 1/4W	
R70			RK73EB2E621J	CHIP R 620 J 1/4W	
R71			RK73EB2E301J	CHIP R 300 J 1/4W	
R72			RK73GB2A101J	CHIP R 100 J 1/10W	
R73 ,74			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R75			RK73GB2A473J	CHIP R 47K J 1/10W	
R76 ,77			RK73GB2A104J	CHIP R 100K J 1/10W	
R78			RK73GB2A105J	CHIP R 1.0M J 1/10W	
R79 -82			RK73GB2A473J	CHIP R 47K J 1/10W	
W1 ,2			R92-1252-05	CHIP R 0 OHM J 1/16W	
S1			S70-0813-05	TACT SWITCH	
S2 -21			S70-0869-05	TACT SWITCH	
S23			S70-0869-05	TACT SWITCH	
S22			T99-0432-05	ROTARY ENCODER	
D1 -6			DAN202U	DIODE	
D1 -6			MA142WA	DIODE	
D34			DA204K	DIODE	
ED1			MN18645A	FLUORESCENT INDICATOR TUBE	
IC1			TC74HC4050AF	MOS-IC	
IC2			BA033LBSG	ANALOGUE IC	
IC3			M30825MH-054GP	MI-COM IC	
IC4			RS-171	ANALOGUE IC	

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(X25-9320-00)

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
IC5			MX23C3210T1111	MEMORY IC	
Q1			DTC114YUA	DIGITAL TRANSISTOR	
Q1			UN5214	DIGITAL TRANSISTOR	
Q2			DTA114YUA	DIGITAL TRANSISTOR	
Q2			UN5114	DIGITAL TRANSISTOR	
Q3			DTC144EUA	DIGITAL TRANSISTOR	
Q3			UN5213	DIGITAL TRANSISTOR	
Q4			2SB1260	TRANSISTOR	
Q5			2SC4209-Y	TRANSISTOR	
Q6			2SC4667	TRANSISTOR	
Q7			DTC114EUA	DIGITAL TRANSISTOR	
Q7			UN5211	DIGITAL TRANSISTOR	
<b>MECHANISM ASSY (D40-1162-15)</b>					
601	3D		A10-4678-08	CHASSIS ASSY	
602	3C		A11-0983-08	SUB SHASSIS	
603	2D		D13-2057-08	GEAR ASSY	
604	2D		D10-4455-08	ARM ASSY	
606	1C		J21-9501-08	BRACKET	
607	2D		J21-9502-08	BRACKET	
608	2C		D13-2058-08	GEAR ASSY	
609	2C		D13-2059-08	GEAR ASSY	
611	3D		G16-1138-08	SHEET	
612	2C		J90-0955-08	RAIL	
613	2D		G02-1334-08	FLAT SPRING	
614	3D		D10-4397-08	ARM	
615	3D		G09-2028-08	FLAT SPRING	
616	2C		D13-2020-08	GEAR	
617	2D		J90-0956-08	GUIDE	
618	3D		J19-4964-08	HOLDER	
619	3D		J19-4965-18	HOLDER	
620	2D		D13-1421-08	GEAR	
621	2C		D13-2021-08	GEAR	
622	2D		D13-2024-08	GEAR	
623	2C		D13-2025-08	GEAR	
624	2D		D13-2026-08	GEAR	
625	2D		J30-1074-08	COLLER	
626	3D		J30-1063-08	COLLER	
627	1C		E39-0325-08	CORD WITH CONNECTOR	
630	2C		G01-3130-18	SPRING	
631	2C		G01-2992-08	SPRING	
632	2C		G01-2993-08	SPRING	
633	3C		G01-2994-08	SPRING	
634	3C		G01-2936-08	SPRING	
635	3D		J90-0957-08	CUSHION	
H	2C		N29-0516-08	WASHER	
J	3D		N29-0517-08	WASHER	
K	2D		N19-1135-08	WASHER	
L	2C		N19-2143-08	WASHER	
A	3D		N09-4343-08	SCREW	
B	2C		N09-4303-08	SCREW	
C	2C		N09-4341-08	SCREW	
D	3D		N09-4358-08	SCREW	
E	2C		N38-2025-45	SCREW	
F	3D		N38-2630-45	SCREW	

Ref. No.	A d d	N e w	Parts No.	Description	Des- tina- tion
G	2C		N32-2604-46	SCREW	
PM1	1C		T42-1012-08	MOTOR ASSY	
PS1	2C		S68-0835-08	SWITCH	
VR1	3D		R33-0204-08	VARIABLE RESISTOR	

 indicates safety critical components.

## SPECIFICATIONS

### FM

Frequency Range (Frequency Step) .....	87.5MHz - 108.0MHz (50kHz)
Frequency Range (Frequency Step) .....	87.9MHz - 107.9MHz (200kHz)
Channel Space Selection .....	50kHz/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 (dB) .....	75dB (MONO)
Selectivity .....	$\geq$ 80dB ( $\pm$ 400kHz)
Stereo Separation .....	40dB (1kHz)

### AM

Frequency Range (Frequency Step) .....	531kHz - 1611kHz (9kHz)
Frequency Range (Frequency Step) .....	530kHz - 1700kHz (10kHz)
Channel Space Selection .....	9kHz/10kHz
Usable Sensitivity S/N: 20dB .....	28dB $\mu$ V (25 $\mu$ V)

### CD

Laser Diode .....	GaAIs ( $\lambda$ =780nm)
Digital Filter (D/A) .....	8 Times Over Sampling
D/A Converter .....	1 Bit
Spindle Speed (CD-DA) (MP3) (WMA) .....	1000 - 400rpm (CLV $\cdot$ 2times)
Wow & Flutter .....	Below Mesurable Limit
Frequency Response .....	10Hz - 20kHz ( $\pm$ 1dB)
Total Harmonic Distortion .....	0.01% (1kHz)
S/N Ratio .....	105dB (1kHz)
Dynamic Range .....	95dB
Channel Separation .....	85dB
MP3 decode .....	compliant with MPEG-1.0/2.0/2.5 Audio Layer-3
WMA decode .....	Compliant with Windows Media Audio 7

### MD

Laser Diode .....	GaAIs ( $\lambda$ =780nm)
Digital Filter (D/A) .....	8 Times Over Sampling
D/A Converter .....	1 Bit
Spindle Speed .....	400 - 900rpm (CLV)
Wow & Flutter .....	Below Mesurable Limit
Frequency Response .....	20Hz - 20kHz ( $\pm$ 1dB)
Total Harmonic Distortion .....	0.01% (1kHz)
S/N Ratio .....	90dB (1kHz)
Dynamic Range .....	90dB
Channel Separation .....	85dB

### AMP

Maximum Power .....	50W $\times$ 4
Full Bandwidth Power .....	23W $\times$ 4 (at less than 1%THD)
Preout Level (V) .....	1800mV/10k $\Omega$
Preout Impedance ( $\Omega$ ) .....	$\leq$ 600 $\Omega$

### AUX input

Frequency Response .....	20Hz - 20kHz ( $\pm$ 1dB)
Input Maximum Voltage .....	1.5V
Input Impedance .....	$\geq$ 68k $\Omega$

### DSP/EQ

A/D converter .....	3-dimensional 18bit $\Delta \Sigma$ system 128 times oversampling
D/A converter .....	3-dimensional 18bit $\Delta \Sigma$ system 128 times oversampling
EQ Frequency (Hz) .....	60/160/400/1k/2k/6k/16k
Adjustable Range (dB) .....	$\pm$ 12dB ( $\pm$ 6 STEP)

### GENE.

Operating Voltage .....	14.4V (11V - 16V)
Current Consumption .....	10A
Installation Size (W) $\times$ (H) $\times$ (D) .....	(mm) 178 $\times$ 100 $\times$ 155
Weight .....	(inch) 7 $\times$ 3-15/16 $\times$ 6-1/8
Weight .....	2.8kg

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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

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