

CD RECEIVER

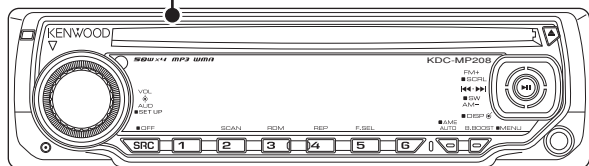
KDC-MP208/MP238 KDC-MP238CR/MP239 KDC-MP3039/MP339 KDC-MP339S/MP439 SERVICE MANUAL

KENWOOD

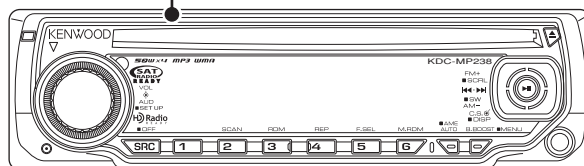
Kenwood Corporation

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B53-0575-00 (N) 373

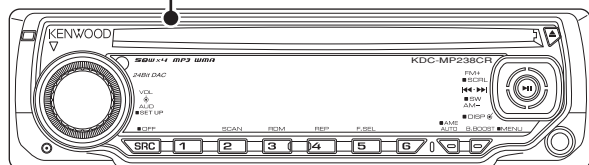
Panel assy
KDC-MP208 (A64-4275-02)



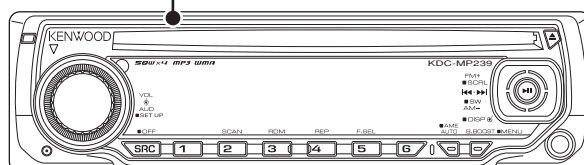
Panel assy
KDC-MP238 (A64-4273-02)



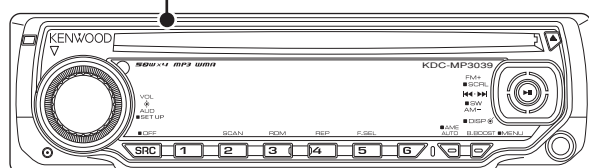
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KDC-MP238CR (A64-4274-02)



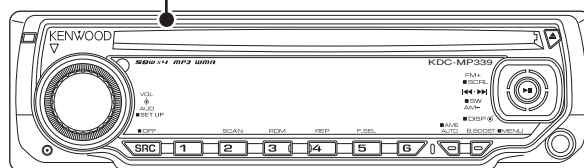
Panel assy
KDC-MP239 (A64-4282-02)



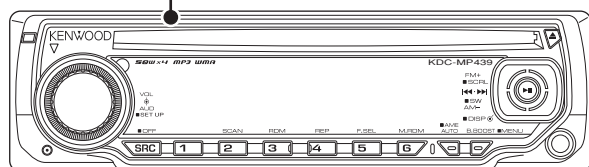
Panel assy
KDC-MP3039 (A64-4283-02)



Panel assy
KDC-MP339 (A64-4284-02)
KDC-MP339S (A64-4285-02)



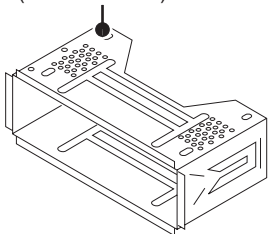
Panel assy
KDC-MP439 (A64-4281-02)



TDF SPARE-PANEL

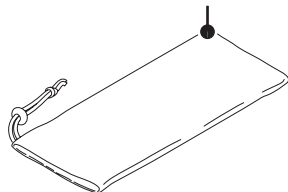
MAIN UNIT NAME	TDF PARTS No.	TDF NAME
KDC-MP208	Y33-2830-62	TDF-MP82DT
KDC-MP238	Y33-2830-60	TDF-MP82D
KDC-MP238CR	Y33-2830-61	TDF-MP82DCR
KDC-MP239	Y33-2820-61	TDF-MP239
KDC-MP3039	Y33-2820-62	TDF-MP3039
KDC-MP339	Y33-2820-63	TDF-MP339
KDC-MP339S	Y33-2820-64	TDF-MP339S
KDC-MP439	Y33-2820-60	TDF-MP439

Mounting hardware assy
(J21-9716-03)



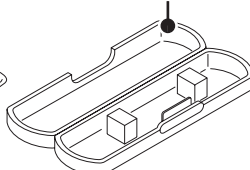
Screw (4x16)
(N84-4016-48)

* Carrying case
(W01-xxxx-xx)



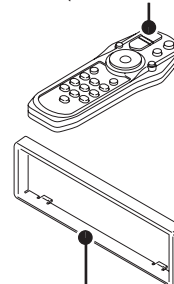
Screw set
(N99-1757-05)

* Plastic cabinet assy
(A02-2736-03)



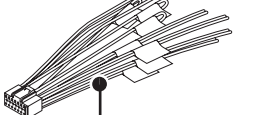
Lever
(D10-4589-04) x2

* Remote controller assy (RC-xxx)
(A70-xxxx-xx)



* Escutcheon
(B07-xxxx-xx)

Battery
(Not supplied)



DC cord
(E30-6415-15)

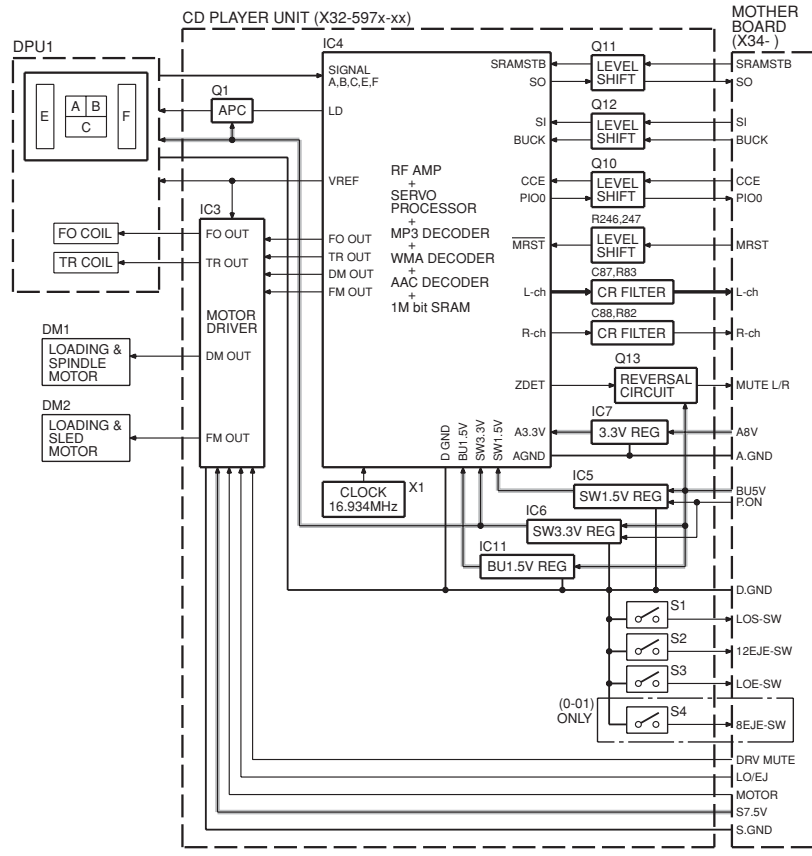
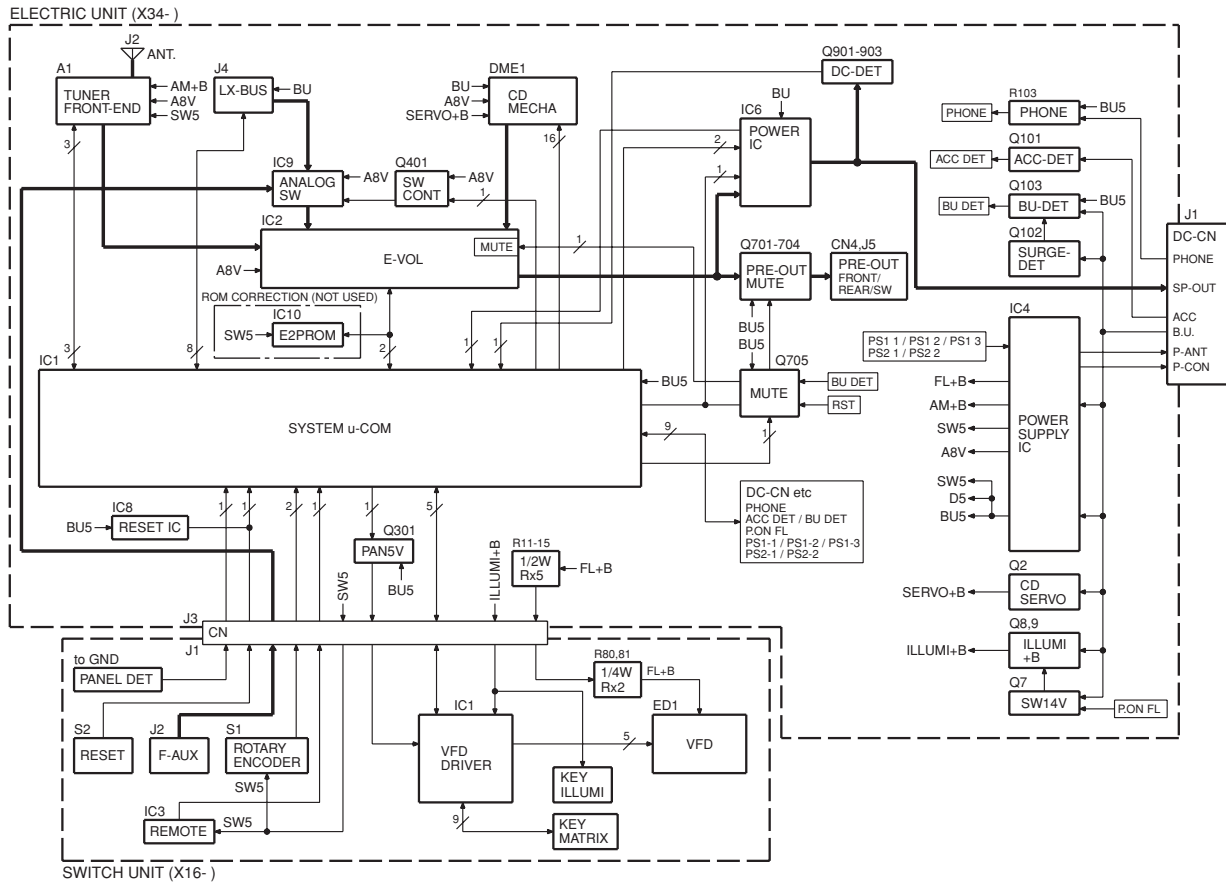
* Depends on the model. Refer to the parts list.

This product uses Lead Free solder.

This product complies with the **RoHS** directive for the European market.



BLOCK DIAGRAM



COMPONENTS DESCRIPTION

● ELECTRIC UNIT (X34-564x-xx)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC1	System μ -COM	Controls FM/AM tuner, the changer, CD mechanism, panel, volume and tone.
IC2	E-VOL	Controls the source, volume and tone.
IC4	Power Supply IC	Outputs 5Vx2, 8.1Vx2, 10.2V, P-CON and P-ANT.
IC6	Power IC	Amplifies the front L/R and the rear L/R to 50W maximum.
IC8	Reset IC	Lo when detection voltage goes below 3.6V.
IC9	Analog SW	Multiplex triple 2-channel analog SW.
Q2	Servo+B AVR	When Q3's base goes Hi, Servo+B AVR outputs 7.5V.
Q3	Control SW for Servo+B	ON when the base goes Hi.
Q7	VFD+B SW	ON when the base goes Hi.
Q8	VFD+B AVR	When Q9's base goes Hi, Servo+B AVR outputs 10.5V.
Q9	Control SW for VFD+B	ON when the base goes Hi.
Q11	14V SW	ON when the base goes Hi.
Q12	14V SW	ON when the base goes Lo.
Q13	Control SW for IC4	ON when the base goes Hi.
Q14	Control SW for IC4	ON when the base goes Lo.
Q101	ACC DET	ON when the base goes Hi during ACC is applied.
Q102	Serge DET	When the base goes Hi, surge voltage is detected.
Q103	BU DET	ON when the base goes Hi during BU is applied.
Q104,105	Mute Control	ON when the base goes Hi.
Q301	Panel 5V SW	ON when the base goes Lo.
Q401	IC9 Control SW	Switches to AUX when the base goes Hi, and switches to LX-BUS (CD-CH) when the base goes Lo.
Q402	Quick Charge Voltage SW	Charges voltage quickly when the base goes Hi.
Q701~704	Pre-out Mute SW	When a base of the 4 transistors goes Hi, pre-out is muted.
Q705	Mute Driver for Pre-out	ON when the base goes Lo.
Q801	Electric Discharge Circuit for C805 (SVR)	ON when the base goes Lo.
Q901	DC Offset DET	ON when the base goes Hi after Q902's and Q903's outputs are separated.
Q902,903	DC Offset DET SW	ON when the bases go Lo after IC6's SP-OUTs (DC) are separated.

● SWITCH UNIT (X16-617x-xx)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC1	VFD Driver	
IC3	Remote Control Sensor	

● CD PLAYER UNIT (X32-5970-02)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC3	4ch BTL Driver	Driver for focusing & tracking coil, driver for sled & spindle motor, and operation for disc loading & ejection.
IC4	Servo DSP with built-in Audio DAC	With built-in MP3/WMA/AAC decoder and 1M-bit-SRAM.

COMPONENTS DESCRIPTION

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC5	D1.5V REG.	Power supply for digital 1.5V.
IC6	D3.3V REG.	Power supply for digital 3.3V.
IC11	BU1.5V REG.	Power supply for back-up 1.5V.
Q1	APC (Auto Power Control)	Drives LD (Laser Diode).
Q10~12	5V~3.3V Level Shift	Converts signal from 5V to 3.3V, or from 3.3V to 5V.
Q13	Inverter	Inverts ZDET signal.
D1	Level Down	Lowers signal level by about 1.2V so that Lo level signal that turns the regulator ON/OFF surely becomes Lo judgment level of the regulator SW.
D2	Laser Diode Protection	Prevents reverse bias which is applied to laser. Laser destruction prevention.
D3,4	Static Electricity Countermeasure	Prevents malfunction by static electricity.

MICROCOMPUTER'S TERMINAL DESCRIPTION

● SYSTEM μ -COM: IC1 on X34- (ELECTRIC UNIT)

Pin No.	Pin Name	I/O	Application	Truth Value Table	Processing Operation Description
1	LX DATA M	I/O	Data to slave unit		Pull-down (GND)
2	LX CLK	I/O	LX-BUS clock		125k~65kHz
3~5	NC	-	Not used		Output L fixed
6	REMO	I	Remote control signal input		Detects pulse width
7	NC	-	Not used		Output L fixed
8	BYTE	-	Memory extended bus width setting		Connects to VSS
9	CNVSS	-	32.768kHz		Connects to VSS
10	XCIN	-	32.768kHz		
11	XCOU	-	32.768kHz		
12	RESET	-			L: Reset
13	XOUT	-	10.0MHz		
14	VSS	-			
15	XIN	-	10.0MHz		
16	VCC1	-			
17	NMI	I			Connects to VCC
18	PANEL DET	I	Panel communication detection		H: Panel detached, L: Panel attached
19,20	NC	-	Not used		Output L fixed
21	ROMCOR DET	I	E2PROM writing request		H: Writing
22,23	NC	-	Not used		Output L fixed
24	PON FL	O	Key illumination power supply control		ON: H, OFF: L
25	NC	-	Not used		Output L fixed
26	PON PANEL	I/O	Panel 5V control		ON: L, Momentary power down/Panel detached : Hi-Z, 11 minutes after ACC OFF: Hi-Z
27,28	NC	-	Not used		Output L fixed
29	AUD SCL	I/O	E-VOL clock output		
30	AUD SDA	I/O	E-VOL data input/output		
31	VFD SYS DATA	O	VFD data output		
32	VFD PAN DATA	I	VFD data input		
33	VFD CLK	O	VFD clock output		125kHz
34	VFD BLK	O	VFD data blanking output		H: Reset cancelled, L: Reset, Momentary power down /Panel detached: L, 11 minutes after ACC OFF: L
35	CD SI	O	CD mechanism serial output		
36	CD SO	I	CD mechanism serial input		
37	BUCK	O	Serial clock output		1MHz
38	CD LOS SW	I	CD loading detection		
39	PIO0	I	Communication request from mechanism DSP		H: Data request
40	CD SRAMSTB	O	1M-bit SRAM standby		H: SRAM standby
41	EPM	I	Flash EPM input		Connects to VSS
42	CD LOE LIM SW	I	CD detection (Chucking SW)		H: Loading completed, L: No disc

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Application	Truth Value Table	Processing Operation Description
43	PON CD	O	CD mechanism power supply control		H: Power ON
44	CD LOEJ	I/O	CD motor control	①	Refer to the truth value table
45	CD MOTOR	I/O	CD motor control	①	Refer to the truth value table
46	VFD CE	O	VFD control request		
47	CD DRIVEMUTE	O	Motor driver mute output		
48	CD CCE	O	CD mechanism chip enable		
49	NC	-	Not used		
50	CD MRST	O	CD mechanism μ -com reset		H: Normal, L: Reset
51~53	NC	-	Not used		Output L fixed
54	CD MUTE	I	CD mute request		L: Mute request
55	CD DISC12 SW	I	12cm disc detection		Pull-up (B.U.)
56	ROTARY CCW	I	VOL key input		Detects pulse width
57	ROTARY CW	I	VOL key input		Detects pulse width
58~61	NC	-	Not used		Output L fixed
62	VCC2	-			
63	NC	-	Not used		Output L fixed
64	VSS	-			
65	NC	-	Not used		
66	TUN IFC OUT	I	Front-end IFC-OUT input		H: Station found, L: No station
67	PON EXT GND	I/O	IC2 external input quick charge control		L: OFF, Hi-Z: Quick charge, When IC2 is in source select: Hi-Z, Mute L: L, Momentary power down/Power OFF: L
68	MUTE	I/O	Mute		L: Mute OFF, Hi-Z: Mute ON
69	ANALOG CON	O	AUX/LX audio switching		AUX: H (Switches after 100ms after first-out mute begins to work), LX/Other source: L
70	LX RST	O	Forced reset to slave unit		H: Reset, L: Normal
71	LX CON	O	Start-up request to slave unit		H: Slave unit ON, L: Slave unit OFF
72	LX MUTE	I	Mute request from slave unit		H: Mute ON, L: Mute OFF
73	LX REQ M	O	Communication request to slave unit		
74	NC	-	Not used		
75	LX REQ S	I	Communication request from slave unit		Pull-down (GND)
76	PWIC SVR	O	SVR discharging circuit		During 500ms after power OFF and momentary power down: H, Since then: L
77	PWIC STBY	O	Power IC standby control		Power ON: H, Power OFF: L
78	PWIC MUTE	O	Power IC mute		STANDBY source/Momentary power down: L, TEL mute: L
79	ACC DET	I	ACC power supply detection		ACC found: L, No ACC: H
80	BU DET	I	Detection of momentary power down		BU found: L, No BU/Momentary power down: H (Operates after less than 4ms after momentary power down is detected)
81~83	NC	-	Not used		Output L fixed
84	TUN SMETER	I	S-meter input		
85	TYPE1	I	Destination switching	③	Refer to the truth value table

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Application	Truth Value Table	Processing Operation Description
86	TYPE2	I	Destination switching	③	Refer to the truth value table
87	PWIC DC DET	I	DC offset detection		If DC offset is found 20 times in 100ms with condition of over 1.0V, it will be judged as DC offset detected.
88	LINE MUTE	I	Line mute detection		TEL mute: Below 1V, NAVI mue: Over 2.5V
89	OFFSET DET	I	Power IC offset detection		
90	PS2 2	O	Power supply IC control	④	Refer to the truth value table
91	PS2 1	O	Power supply IC control	④	Refer to the truth value table
92	PS1 1	O	Power supply IC control	④	Refer to the truth value table
93	PS1 2	O	Power supply IC control	④	Refer to the truth value table
94	PS1 3	O	Power supply IC control	④	Refer to the truth value table
95	NC	-	Not used		Output L fixed
96	AVSS	-			
97	REF CON	O	VREF control		Connects to VREF
98	VREF	-			
99	AVCC	-			
100	LX DATA S	I	Data from slave unit		Pull-down (GND)

• Truth value table

① CD motor control

	CD motor	CD loading/eject
Stop	L	L
Load	H	L
Eject	H	H
Brake	H	Hi-z

③ Destination switching

TYPE 2 (Pin 86)	TYPE 1 (Pin 85)	Model
0V	0V	KDC-135/MP2035/MP205
0V	1.2V	KDC-MP235/MP235CR
0V	2.4V	KDC-135CR

④ Power supply IC (IC4) control

SEL1 (Pin 10)

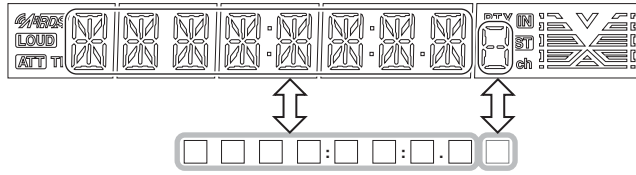
PS1-2	PS1-3	PS2-1	ILLUMI	P-CON	P-ANT
L	L	L	OFF	OFF	OFF
L	L	H	ON	OFF	OFF
H	L	H	ON	ON	OFF
H	H	H	ON	ON	ON

SEL2 (Pin 11)

PS1-1	PS2-2	AUDIO/SW5	AM
L	L	OFF	OFF
H	L	ON	OFF
H	H	ON	ON

TEST MODE

■ Example



Key	Description of display	Description
5		Disc EJECT times display. MAX 65535 (times)
■5	Disc EJECT times display	While disc EJECT times is displayed, press and hold for 2 seconds or longer to clear disc EJECT times.

A symbol "■" in the key column indicates that the key should be pressed and held for 1 second or longer.

■ How to enter the test mode

Procedure	Note
Press and hold the [1] key and [3] key and reset.	While "----" is displayed, power can be turned ON for only 30 minutes. (KDC-MP238/MP439 only)

All lamps blink when it is detected that the sub-clock resonator is disconnected.

Do not display "CODE_OFF", "CODE_ON" or "CODE_NG" when Power is ON.

When having started up in the test mode, change the LINE MUTE inhibition time from 10 seconds to 1 second.

When operating in the test mode, even if a DC offset error occurs, detection information is not written in the E2PROM.

When operating in the test mode, CD mechanism error log information clear mode, and DC offset error detection information clear mode, do not perform DEMO mode operations.

Also, do not display DEMO ON/OFF option items in the MENU in STANDBY source in the above modes.

Forced disc ejection is prohibited in the test mode.

■ How to clear the test mode

Procedure	Note
Reset, momentary power down, ACC OFF, Power OFF, Panel detached.	Clearing the test mode

■ Test mode default condition

Description	Default values
Source	STANDBY
Display	Display lights are all turned on.
Volume	-10dB ("30" is displayed.)
Bass Boost	OFF
CRSC	OFF regardless of having/not having the switching function.
AUX	ON
System Q	NATURAL (FLAT)
Preout	Rear

TEST MODE

■ Special displays when all lights are on in STANDBY source

Key	Description of display	Description
Common	All lights ON. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	All lights ON.
1	Destination terminal condition indication <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	"TYPE" indicates system μ -com (IC1) destination, and shows real-time condition of the destination terminal.
	Development ID condition indication <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Development ID – Version (system μ -com: IC1)
2	Serial No. display <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Serial No. is displayed (8 digits)
3	Power ON time display <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	00~50 is displayed for "XX". When less than 1 hour, displayed by increments of 10 minutes.
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	00001~10922 is displayed for "XXXXX". MAX 10922 (hours)
■3		When Power ON time is displayed, press and hold for 2 seconds or longer to clear Power ON time.
4	Disc operation time display <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	00~50 is displayed for "XX". When less than 1 hour, displayed by increments of 10 minutes.
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	00001~10922 is displayed for "XXXXX". MAX 10922 (hours)
■4		While the disc operation time is displayed, press and hold for 2 seconds or longer to clear the disc operation time. (Cleared only for displayed media.)
5	Disc EJECT times display <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Disc EJECT times display. MAX 65535 (times)
■5		While disc EJECT times is displayed, press and hold for 2 seconds or longer to clear disc EJECT times.
6	Panel open/close times display <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	PANEL open/close times display. MAX 65535 (times)
■6		Press the key for more than 2 seconds while the PANEL open/close count is displayed and PANEL open/close count is cleared.
FM	ROM correction version display <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	The number is the ROM correction version number.
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	When E2PROM is not installed.
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	When not written in yet.
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	When data not matched. (due to the difference in versions)
■AM	ROM data transfer <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
▶▶I	Audio data initialization <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	AUDIO setting value is re-set to the test mode default value.
I◀◀	Forced Power OFF information display <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	No forced power OFF
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Forced power OFF because of missing Security Code. (Code security supporting model)
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Forced power OFF by communication error between system μ -com and panel.
■I◀◀		While the forced power OFF data is displayed, press and hold for 2 seconds to clear the data.
▶▶I	CD information display mode ON/OFF <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	For the display contents, refer to "CD information display mode" in the next section.
	■▶▶I	

TEST MODE

• CD information display mode

Key	Description of display	Description
FM (forward rotation) AM (reverse rotation)	◀◀/ ▶▶ CD mechanism error log display	M C E R R 1 : X X <input type="checkbox"/> Mechanism error log 1 (Latest) XX: Error number. "--" is displayed in case there is no error.
		M C E R R 2 : X X <input type="checkbox"/> Mechanism error log 2 (Latest) XX: Error number. "--" is displayed in case there is no error.
		M C E R R 3 : X X <input type="checkbox"/> Mechanism error log 3 (Latest) XX: Error number. "--" is displayed in case there is no error.
	◀◀/ ▶▶ CD Load error information display	L D E R R 1 : X X <input type="checkbox"/> Load error switch 1 XX: Number of errors. "--" is displayed in case there is no error.
		L D E R R 2 : X X <input type="checkbox"/> Load error switch 2 XX: Number of errors. "--" is displayed in case there is no error.
	◀◀/ ▶▶ CD Ejection error information display	E J E R R 1 : X X <input type="checkbox"/> Ejection error switch 1 XX: Number of errors. "--" is displayed in case there is no error.
		E J E R R 2 : X X <input type="checkbox"/> Ejection error switch 2 XX: Number of errors. "--" is displayed in case there is no error.
		E J E R R 3 : X X <input type="checkbox"/> Ejection error switch 3 XX: Number of errors. "--" is displayed in case there is no error.
		E J E R R 4 : X X <input type="checkbox"/> Ejection error switch 4 XX: Number of errors. "--" is displayed in case there is no error.
	◀◀/ ▶▶ CD time code error count data display (Missing counts)	C N T <input type="checkbox"/> L O S E <input type="checkbox"/> CD time code error count data (Missing counts) mode display.
		C D D A <input type="checkbox"/> <input type="checkbox"/> : X X <input type="checkbox"/> Number of CD-DA count errors XX: Number of errors. "--" is displayed in case there is no error.
		C D R O M <input type="checkbox"/> : X X <input type="checkbox"/> CD-ROM (Compressed file) number of count errors XX: Number of errors. "--" is displayed in case there is no error.
◀◀/ ▶▶ CD time code error count data display (count not updated)	C N T <input type="checkbox"/> S T A Y <input type="checkbox"/> CD time code error count data (count not updated) mode display.	
	C D D A <input type="checkbox"/> <input type="checkbox"/> : X X <input type="checkbox"/> Number of CD-DA count errors XX: Number of errors. "--" is displayed in case there is no error.	
	C D R O M <input type="checkbox"/> : X X <input type="checkbox"/> CD-ROM (Compressed file) Number of count errors XX: Number of errors. "--" is displayed in case there is no error.	

TEST MODE

■ Test mode specifications in TUNER source

Error is found in front-end (A1), etc. if indications below is displayed while in tuner source.

Status	Display	Description
Front-end (A1) E2PROM data error	T N E 2 P □ N G □	Front-end (A1) E2PROM is still the default (unspecified) value.
Front-end (A1) communication error	T N C O N □ N G □	Communication with front-end (A1) is not possible.
Destination mismatch	T N T Y P □ N G □	When destination is mismatch between front-end (A1) E2PROM and the product.

• TUNER preset operation

Key	Description of display	Description
4	Preset function F M 1 □ 9 8 . 3 A 4	Change to 98.3MHz with the preset key [4].

• K3I forced switching

Every time when [6] key is pressed in tuner FM source, switched in the following order: AUTO → Forced WIDE → Forced MIDDLE → Forced NARROW → AUTO. Default status is AUTO, and displayed as shown below.

Key	Description of display	Description	
6	K3I Forced switching	F M 1 □ 9 8 . 1 A □	AUTO
		F M 1 □ 9 8 . 1 W □	Forced WIDE
		F M 1 □ 9 8 . 1 M □	Forced MIDDLE
		F M 1 □ 9 8 . 1 N □	Forced NARROW

• FST adjustment mode

Perform FST soft-mute adjustment.

Key	Note
■▶	Enter the FST adjustment mode. (Press for 1 second or longer.)

Operations in the FST adjustment mode are as follows:

Key	Description of display	Description
FM (UP) AM (DOWN)	Soft-mute adjustment S M D - F □ □ □	18dBμ (0) ↔ 36dBμ (F)
■▶	Adjustment value memory E P □ W R I T E □	Displays the data that has been written in the E2PROM when pressing the key for 2 seconds or longer.
▶	Mode clear F M 1 □ 9 8 . 3 A 4	Clear the FST adjustment mode. (Returns to normal display and the test mode is retained.)

After completing the FST adjustment, if You wish to clear the test mode, You can do this using the reset button.

TEST MODE

■ Test mode specifications in CD source

Display mode default: P-Time

• Procedure in CD-DA media (KTD-02A)

Key	Description of display		Description
▶▶I	Track up procedure		Every time pressed, jumps to the track shown below. No.9 → No.15 → No.10 → No.11 → No.12 → No.13 → No.22 → No.14 → No.9 (recursive) But in case the disc has 8 tracks or less, playback starts with track No.1. (For both CD-DA and compressed file discs)
I◀◀	Track down procedure		Goes down by 1 track from the currently played track.
1	Jump procedure		Jump to No. 28 (Scratch 0.7mm for MUSIC line vibration testing)
2	Jump procedure		Jump to No. 14 (Blurring surface disc TCD-731RA Tr14)
3	Information display Mechanism model name Mechanism version	6 E 0 0 : □ □ □ □ □ □ □ □	Display of Mechanism model name and Mechanism version. (When key is pressed while the display in the left is being shown, returns to normal display.)
6	Jump procedure		Jump to No. 15. Set the volume value to "25". (For 20Hz 0dB DC protection false-operation FCT checking)

Used media: For CD, KTD-02A

■ Audio-related test mode

Procedure	Note
Press the [AUD] key (main unit) Press the [AUD] and [*] keys (Remote control)	Enter audio adjustment mode (the initial item should be Fader, and then, Balance → Bass Level → Middle Level → Treble Level → SW Level → System Q → V-Offset → LPF Sub Woofer.

About audio adjustment items (include both Audio Function Mode and Audio Setup Mode)

Procedure	Item	Procedure	Description
For item forwarding procedure, press [AUD] key and [FM] key	Fader	[VOL] knob and [I◀◀ / ▶▶I] key	Adjust to 3 steps of R15 ↔ 0 ↔ F15. (Default value: 0)
	Balance	[VOL] knob and [I◀◀ / ▶▶I] key	Adjust to 3 steps of L15 ↔ 0 ↔ R15. (Default value: 0)
	Bass Level	[VOL] knob and [I◀◀ / ▶▶I] key	Adjust to 3 steps of -8 ↔ 0 ↔ +8. (Default value 0)
	Middle Level	[VOL] knob and [I◀◀ / ▶▶I] key	Adjust to 3 steps of -8 ↔ 0 ↔ +8. (Default value 0)
	Treble Level	[VOL] knob and [I◀◀ / ▶▶I] key	Adjust to 3 steps of -8 ↔ 0 ↔ +8. (Default value 0)
	LPF Sub woofer	[VOL] knob and [I◀◀ / ▶▶I] key	Adjust to 2 steps of 80Hz ↔ Through. (Default value: Through) (Only in models with Sub Woofer output)
	Volume Offset	[VOL] knob and [I◀◀ / ▶▶I] key	Adjust to 3 steps of -8 ↔ 0 ↔ +8. (Default value 0)

Procedure	Note
Press the [B.BOOST] key for 1 second or longer	Switch Bass Boost (Note: Front key functions as MENU.)

■ [ATT] key operation

Procedure	Note
In the TUNER source, press [▶I] key	ATT OFF/ON

TEST MODE

■ MENU-related test mode

Procedure	Note
Press the [B.BOOST] key (main unit) Press the [DNPP/SBF] and [DIRECT] keys (Remote control)	Continuous forwarding by remote control is prohibited

■ Backup current measurement

Procedure	Note
While ACC OFF (Back Up ON), Reset	MUTE terminal is OFF after 2 seconds, not after 15 seconds. (During this time, the CD mechanism does not function.)

■ PREOUT switching

Procedure	Note
In the STANDBY source, press and hold [AUTO] key for 1 second or longer	Switches PREOUT

■ Fluorescent indicator (ED1) short check

Procedure	Note
In the STANDBY source, press [ATT] key	All lights are off → Turns on odd and even terminals alternatively every 125ms (terminals that have a maximum number of grids) → Turns on only the odd terminals → Turn on only the even terminals →

■ Clearing CD mechanism information / Service information / DC offset error information (Clearing E2PROM data)

Status	Display	Description
While pressing and holding [2] key and [5] key, reset-start.	<input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	At normal termination
	<input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> X <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	At abnormal termination

While “— — — —” is displayed, power can be ON for 30 minutes. This mode is cancelled by resetting. (The last screen will not be retained.)
Data to be cleared is shown below.

CD mechanism information	CD mechanism error log display
	Displays CD loading error data
	Displays CD EJECT error data
	Displays CD time code count error data (missing count)
	Displays CD time code count error data (count not updated)
Service Information	Power ON time display
	CD operation time display
	CD EJECT times display
	PANEL open/close times display
	Forced Power OFF information display
DC offset error information	DC offset error 1 display (Provides information on whether there is an improper connection or another error)
	DC offset error 2 display (Provides information on the number of capacitor leaks)

TEST MODE

■ Clearing DC offset error detection data (E2PROM data clearing)

Procedure	Note
While pressing and holding [3] key and [6] key, reset-start.	Entering DC offset error display mode.

Procedure	Display	Description
Press and hold the [3] and [6] keys, and reset-start	D C □ □ E R R □ □	When DC offset error is detected (when either one of capacitors is leaking, or an improper connection or another error is detected)
	D C □ □ O K □ □ □	When DC offset error is not detected (when none of capacitors leak, no improper connection or other error is detected)
1	D C 1 □ E R R □ □	When improper connection or other DC offset errors are detected.
	D C 1 □ O K □ □ □	When improper connection or other DC offset errors are not detected.
■1	D C 1 □ O K □ □ □	When detecting improper connection or other DC offset errors, clears detection data. (Clear E2PROM)
2	D C 2 □ 4 □ □ □ □	When detecting capacitor leak, provides information on the number of capacitor leaks. (0~4)
■2	D C 2 □ 0 □ □ □ □	When detecting capacitor leak, clears the number of capacitor leaks. (Clear E2PROM)

This mode is cancelled by resetting. (The last screen will not be retained.)

■ FM/AM channel space switching

Procedure	Note
While Power OFF, press and hold [1] key and [5] key, and press [SRC] key to Power ON	FM200kHz/AM10kHz ↔ FM50kHz/AM9kHz (Except KDC-MP238CR) FM50kHz/AM10kHz ↔ FM200kHz/AM10kHz (KDC-MP238CR only)

■ Security (KDC-MP238/MP439 only)

• Forced Power ON mode

Procedure	Note
While pressing and holding [B.BOOST] key and [4] key, reset-start.	While “- - - -” is displayed, power can be turned ON for only 30 minutes. After 30 minutes, can only be recovered by resetting.

• Method of clearing the programmable security code (KDC MP238 only)

Procedure	Display	Description
Press [▶▶] key for 3 seconds or longerwhile pressing [AUTO] key	C O D E : - - - - □	Carry out the procedure while “- - - -” is being displayed.
	C O D E : □ □ □ □ □	“- - - -” disappears.
Press the remote control [5] key 2 times, display “K”, and press [▶▶] key.	C O D E : K □ □ □ □	
Press the remote control [2] key 3 times, display “C”, and press [▶▶] key.	C O D E : K C □ □ □	
Press the remote control [2] key 1 time, display “A”, and press [▶▶] key.	C O D E : K C A □ □	
Press the remote control [7] key 2 times, display “R”, and press [▶▶] key.	C O D E : K C A R □	
	A P P R O V E D □	Security cancelled. (If wrong character is input, code request mode is displayed.)

TEST MODE

- How to register the security code on the “Car Audio Passport” after replacement of the FRONT-END (A1) with E2PROM (KDC-MP439 only)

Procedure	Description
While pressing and holding [1] key and [3] key, reset-start	Enters the test mode
Press the [B.BOOST] key	Enters the MENU mode.
Press and hold [▶] key for 1 second or longer	Enters the security registration mode.
[FM] / [AM] / [◀◀ / ▶▶] key	Inputs the code. FM: Number up / AM: Number down / ◀◀ : Cursor to the left / ▶▶ : Cursor to the right
Press and hold [▶] key for 3 seconds or longer	“RE-ENTER” is displayed.
[FM] / [AM] / [◀◀ / ▶▶] key	Inputs the code again. FM: Number up / AM: Number down / ◀◀ : Cursor to the left / ▶▶ : Cursor to the right
Press and hold [▶] key for 3 seconds or longer	“APPROVED” is displayed.
Reset, momentary power down, ACC OFF, Power OFF, panel removed	Cancel the test mode.

Note: The security code in this model cannot be all-clear.

■ ROM data transfer

When replacing front-end (A1), this function is used to transfer E2PROM data (ROM correction, security and other data) to front-end (A1) to E2PROM of to mother unit (X34-), used for saving data, and, after completing replacement of front-end (A1), to recover data from the E2PROM of the mother unit (X34-), and for saving data to the new front-end (A1). Refer to “ROM data transfer processes” on the next page for details on front-end (A1) replacement procedures and on the data to be transferred.

Procedure	Display	Description
While pressing and holding [1] key and [3] keys, reset-start	□ □ □ □ : □ □ □ □ □ □	All lights ON.
Press [B.BOOST] key (MENU)	R O M □ R E A D □ □	MENU mode
Press [◀◀] key or [▶▶] key	R O M □ R E A D □ □	Front-end (A1) → Mother unit (X34-). Data transfer processing.
	R O M □ W R T □ □	Mother unit (X34-) → Front-end (A1). Data transfer processing.
(In the above ROM READ status), ■ [▶] key for 2 seconds or longer	R E A D □ □ □ □ □ □	Front-end (A1) → Mother unit (X34-). ROM data is being transferred.
	R E A D □ O K □ □ □	Front-end (A1) → Mother unit (X34-). ROM correction transfer, security and other data is OK.
	R E A D □ O K 2 □ □	Front-end (A1) → Mother unit (X34-). Transfer of security and other data is OK.
	R E A D □ N G □ □ □	Front-end (A1) → Mother unit (X34-). ROM data transfer is NG.
(In the above ROM WRT status), ■ [▶] key for 2 seconds or longer	W R T □ □ □ □ □ □	Mother unit (X34-) → Front -end (A1). ROM data is being transferred.
	W R T □ □ □ O K □ □	Mother unit (X34-) → Front-end (A1). ROM correction, security and other data transfer is OK.
	W R T □ □ □ O K 1 □ □	Mother unit (X34-) → Front-end (A1). ROM correction data transfer is OK.
	W R T □ □ □ O K 2 □ □	Mother unit (X34-) → Front-end (A1). Transfer of security and other data is OK.
	W R T □ □ □ N G □ □	Mother unit (X34-) → Front-end (A1). ROM data transfer is NG
(In every status of ROM data [▶] transfer processing)	□ □ □ □ : □ □ □ □ □ □	Clear from ROM correction data transfer processing

ROM DATA TRANSFER PROCESSES

When replacing front-end (A1) of mother unit (X34-), or when adding or replacing ROM correction (program correction with ROM IC (IC10)), the following activities are required.

■ Overview

When replacing front-end (A1) in the model where ROM correction and security data have been written into E2PROM, included in the front-end (A1) pack, the transfer function of the E2PROM data itself in the replaced front-end (A1) is required.

This function in the above system configuration is used to allow for complete replacement of the front-end at any service center.

■ Overview of specifications

Procedures for replacement are as follows: To install the E2PROM to the mother unit (X34-), and replace front-end (A1) with new front-end after copying the data in the E2PROM (such as ROM correction data and other data) in the front-end (A1) to the mother unit (X34-) by operating the system, and then copy the data (such as ROM correction data and other data) into the mother unit to the E2PROM of the front-end (A1), operating the main body.

Tuner adjustment data was inserted during the tuner pack manufacturing, and data will not be transferred because front-end (A1) is built-in.

In addition, tuner adjustment data for new front-end (A1) is supplied as a service part in which data was inserted.

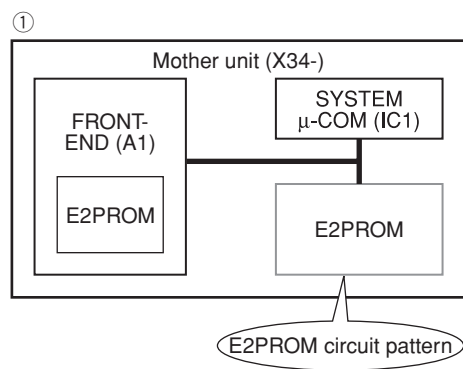
■ Data to be copied

- ROM correction data
- Other data
 - Security data
 - DEMO MODE ON/OFF status
 - POWER ON time (For maintenance)
 - Playback time (For maintenance)
 - EJECT count (For maintenance)
 - Panel open/close count (For maintenance)
 - CD I2C status (For maintenance)
 - CD offset error code (For maintenance)
 - CD sound skips count (For maintenance)
 - CD time code not updated count (For maintenance)
 - CD load switch errors count (For maintenance)
 - CD ejection errors count (For maintenance)
 - DC offset error (For maintenance)
 - Forced Power OFF information (For maintenance)
 - Serial number (For maintenance)
 - E2PROM data check data (For internal check)

■ Operation procedure

Operation procedure is different depending on the conditions. Proceed with the appropriate operation procedure depending on the specific condition.

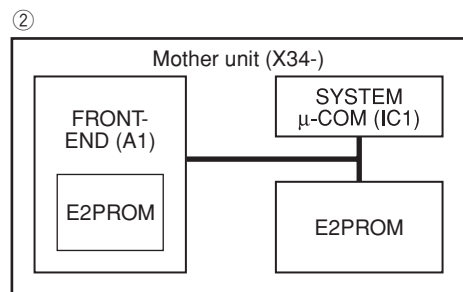
1. In case of replacing front-end (A1) without an applicable ROM correction.
2. In case of replacing front-end (A1) with an applicable ROM correction.
3. In case of applying new ROM correction at the same time when front-end (A1) is replaced. (No ROM correction has been carried out.)



Install new E2PROM.

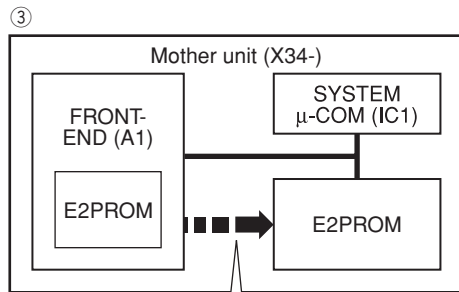
Install E2PROM containing no data, in case of [1] and [2].

In case of [3], install maintenance E2PROM with an applicable ROM correction program.



ROM DATA TRANSFER PROCESSES

Turn power on.
Press and hold the [1] and [3] keys and press reset button.
(Enter the system in the test mode.)
Press [B.BOOST] key. (ROM data System enters data transfer mode.)
Press [◀◀] (or ▶▶) . (Select READ)
Press [▶] key for 1 second or longer. (Data transfer)



The system μ-COM (IC1) copies the data in the front-end (A1) in the E2PROM on the mother unit (X34-)

In case of [2]

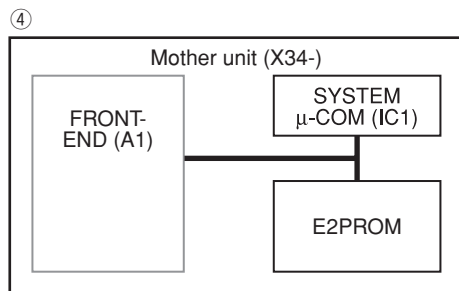
READ OK	R-OK
---------	------

 In case of [1] or [3]

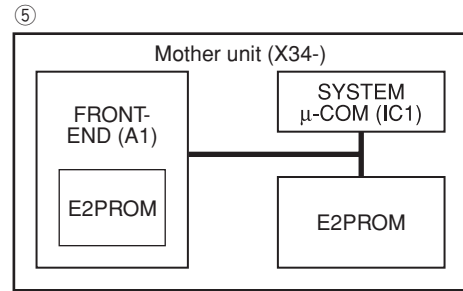
READ OK2	R-O2
----------	------



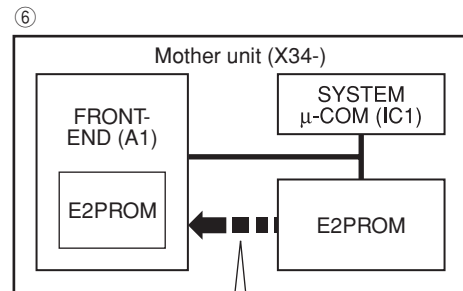
Press [▶] key. (Exit ROM data transfer mode.)
Turn power off.
Remove front-end (A1).



Install new front-end (A1).
No ROM correction or other data status.



Turn power on.
Press and hold the [1] and [3] keys and press reset button.
(Enter the system in the test mode.)
Press [B.BOOST] key. (Start transferring ROM data.)
Press [◀◀] (or ▶▶) . (Select WRT)
Press [▶] key for 1 second or longer. (Data transfer)



System μ-COM (IC1) copies data on the mother unit (X34-) into E2PROM in the front-end (A1)

In case of [2] or [3]

WRT OK	W-OK
--------	------

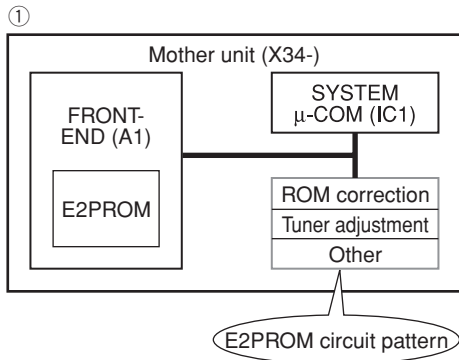
 In case of [1]

WRT OK2	W-O2
---------	------

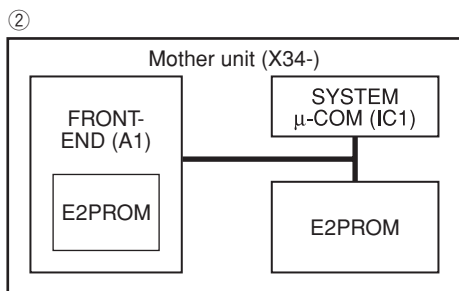
Press [▶] key. (Exit ROM data transfer mode.)

ROM DATA TRANSFER PROCESSES

4. In case of applying a new ROM correction when front-end (A1) is replaced (There is ROM correction data.)
5. In case of applying a new ROM correction even when front-end (A1) is not replaced.



Install new E2PROM. (E2PROM that has been updated with ROM correction)



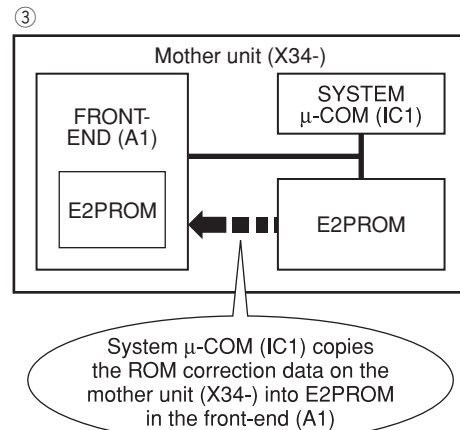
Turn power on.

Press and hold the [1] and [3] keys, press reset button. (Enter the system in the test mode.)

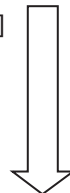
Press [B.BOOST] key. (ROM data System enters data transfer mode.)

Press [◀◀] (or ▶▶) . (Select WRT)

Press [▶▶] key for 1 second or longer. (Data transfer)



In case of [4]



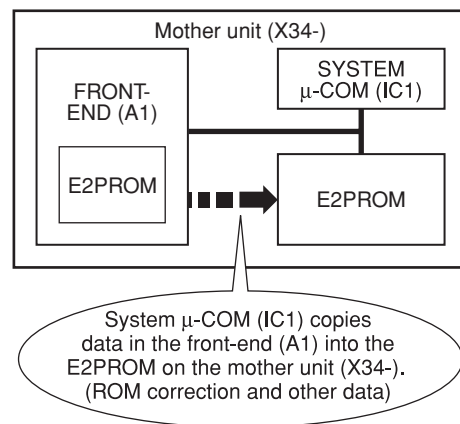
Press [◀◀] (or ▶▶) . (Select READ)

Press [▶▶] key for 1 second or longer. (Data transfer)



In case of [5]

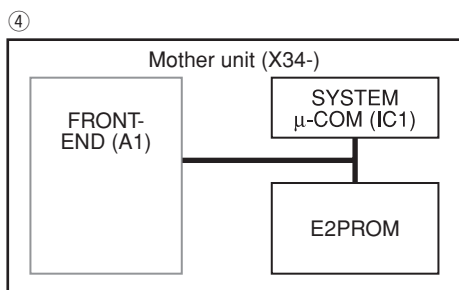
Press [▶▶] key. (Exit ROM data transfer mode.)



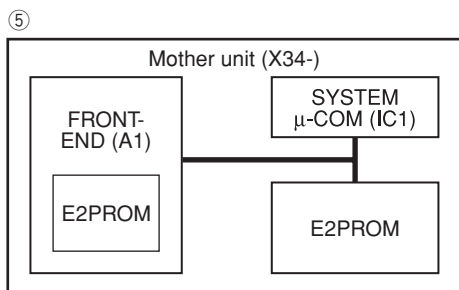
ROM DATA TRANSFER PROCESSES

Press [▶|] key. (Exit ROM data transfer mode.)
Turn power off.

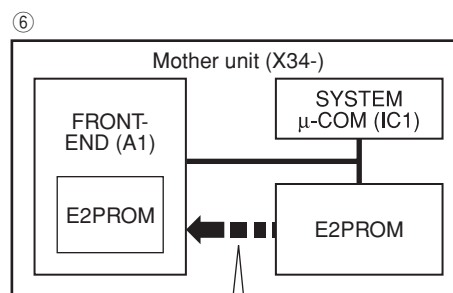
Remove front-end (A1).



Install new front-end (A1).
No ROM correction or other data status.



Turn power on.
Press and hold the [1] and [3] keys press reset button. (Enter the system in the test mode.)
Press [B.BOOST] key. (Enter the system in ROM data transfer mode.)
Press [◀◀] (or ▶▶) . (Select WRT)
Press [▶|] key for 1 second or longer. (Data transfer)



System μ-COM (IC1) copies data on the mother unit (X34-) into E2PROM in the front-end (A1)

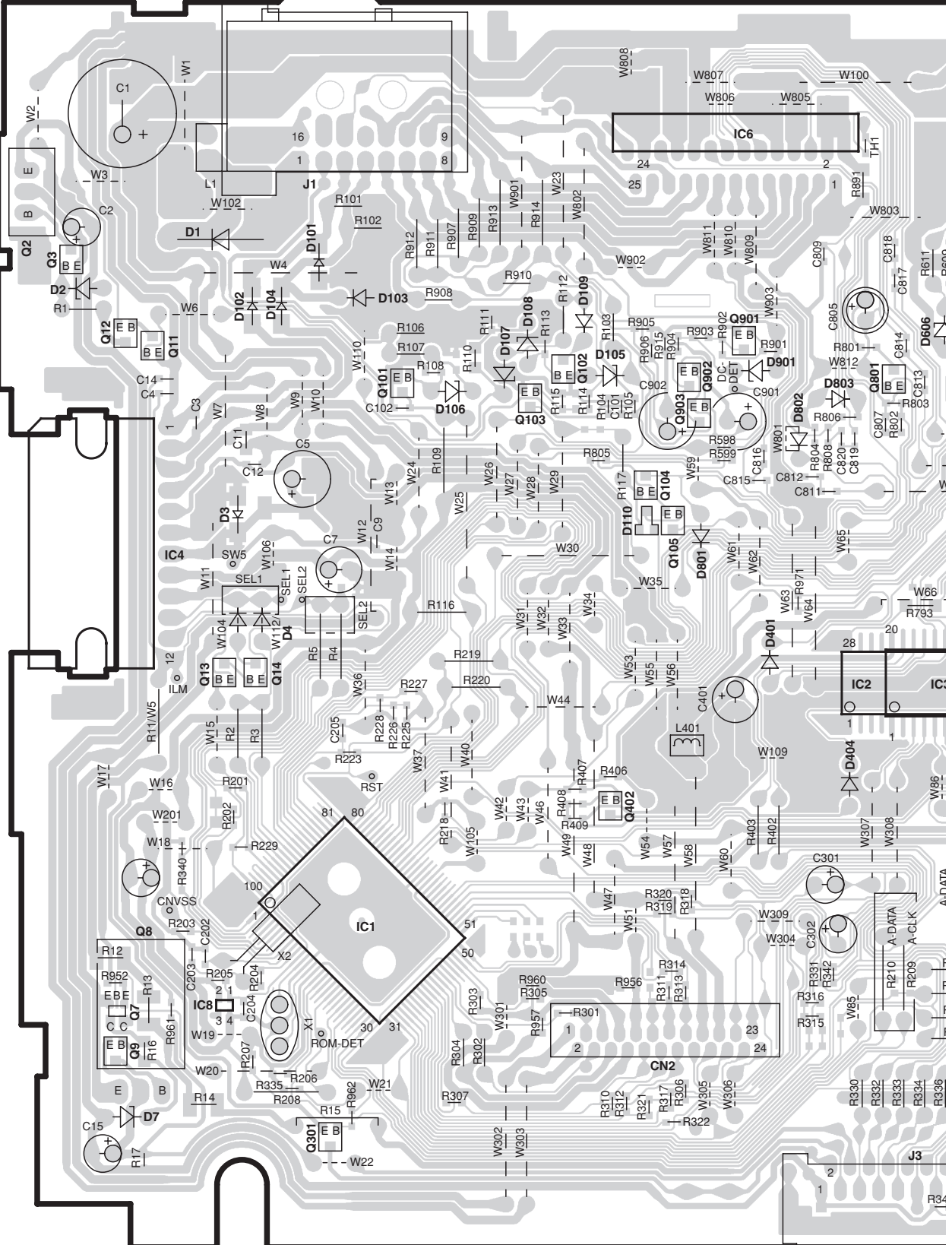
WRT OK

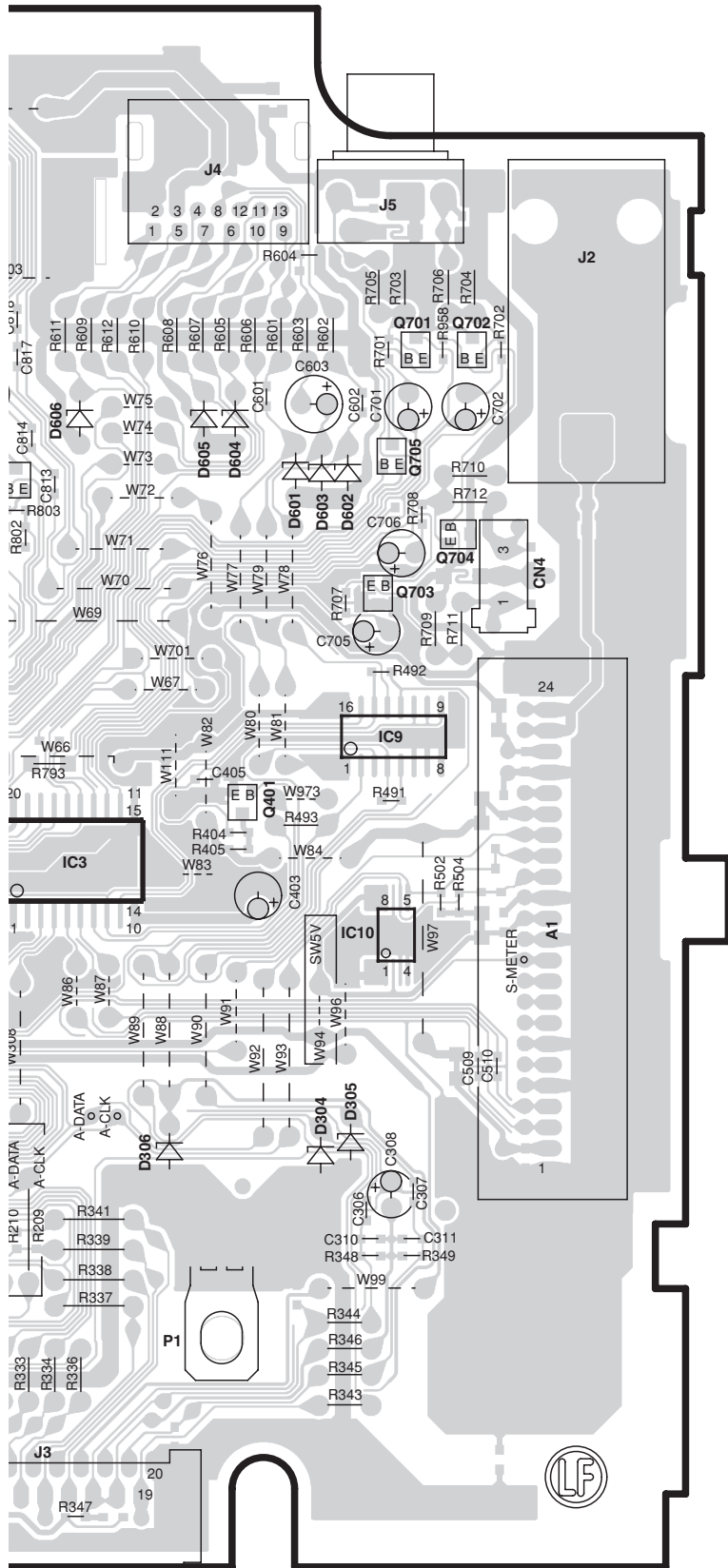
W-OK

Press [▶|] key. (Exit ROM data transfer mode.)

PC BOARD (FOIL SIDE VIEW)

ELECTRIC UNIT X34-564x-xx
(J76-0457-02)





X34-564x-xx

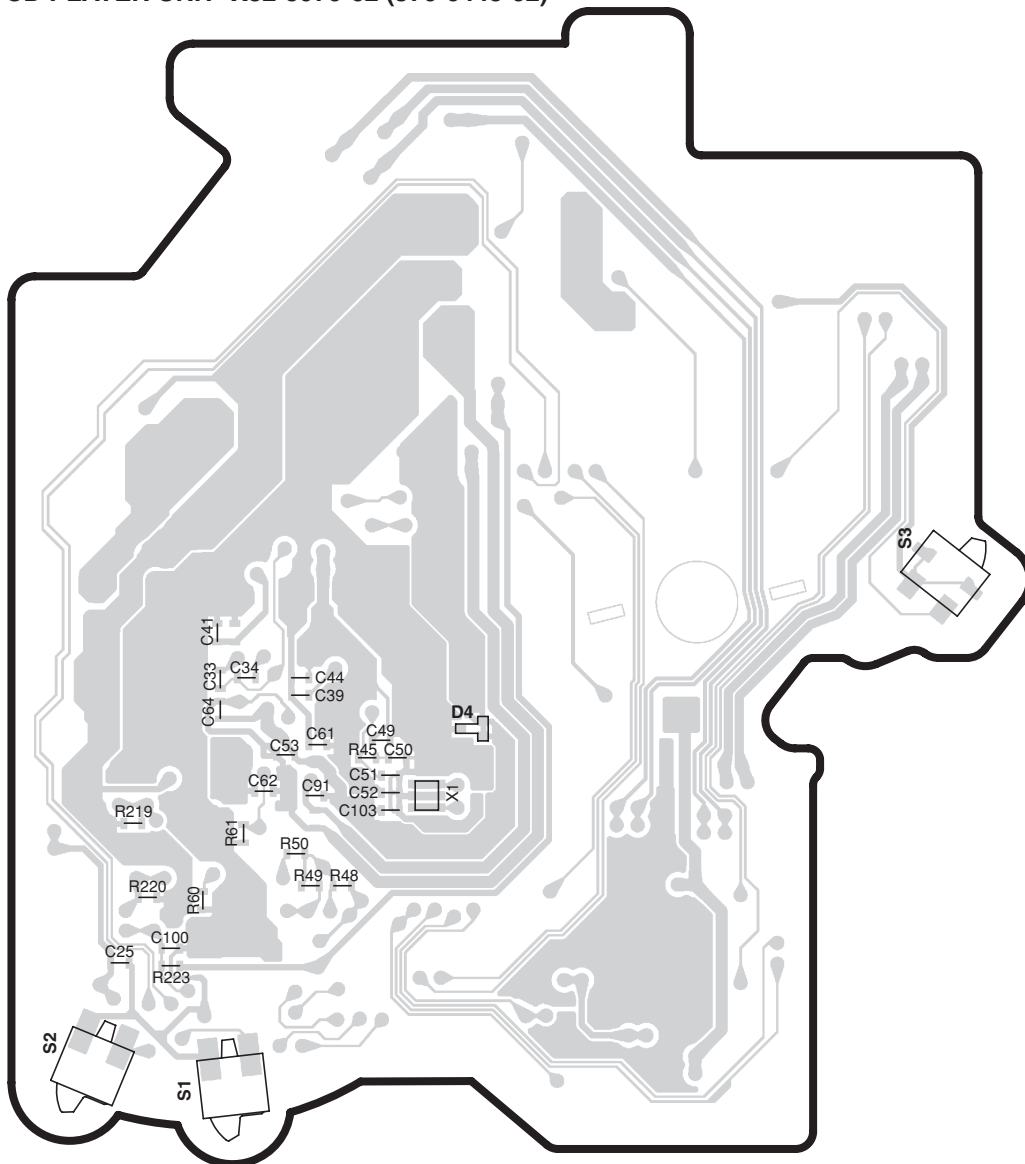
Ref. No.	Address
IC1	5C
IC2	4E
IC4	4B
IC6	2E
IC8	6B
IC9	4G
Q2	3A
Q3	3B
Q7	6B
Q8	5B
Q9	6B
Q11	3B
Q12	3B
Q13	4B
Q14	4C
Q101	3C
Q102	3D
Q103	3D
Q104	4D
Q105	4D
Q301	6C
Q401	4F
Q402	5D
Q701	3G
Q702	3G
Q705	3G
Q801	3E
Q901	3E
Q902	3D
Q903	3D

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

KDC-MP208/MP238/MP238CR/MP239
KDC-MP3039/MP339/MP339S/MP439

PC BOARD (COMPONENT SIDE VIEW)

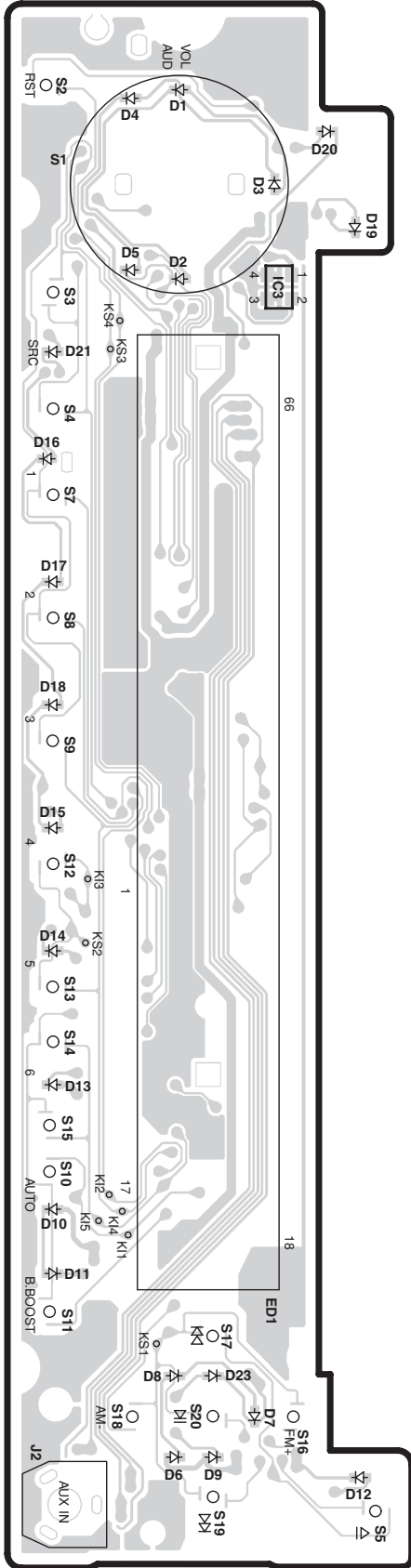
CD PLAYER UNIT X32-5970-02 (J76-0443-02)



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

PC BOARD (COMPONENT SIDE VIEW)

SWITCH UNIT
 X16-617x-xx (J76-0455-02)

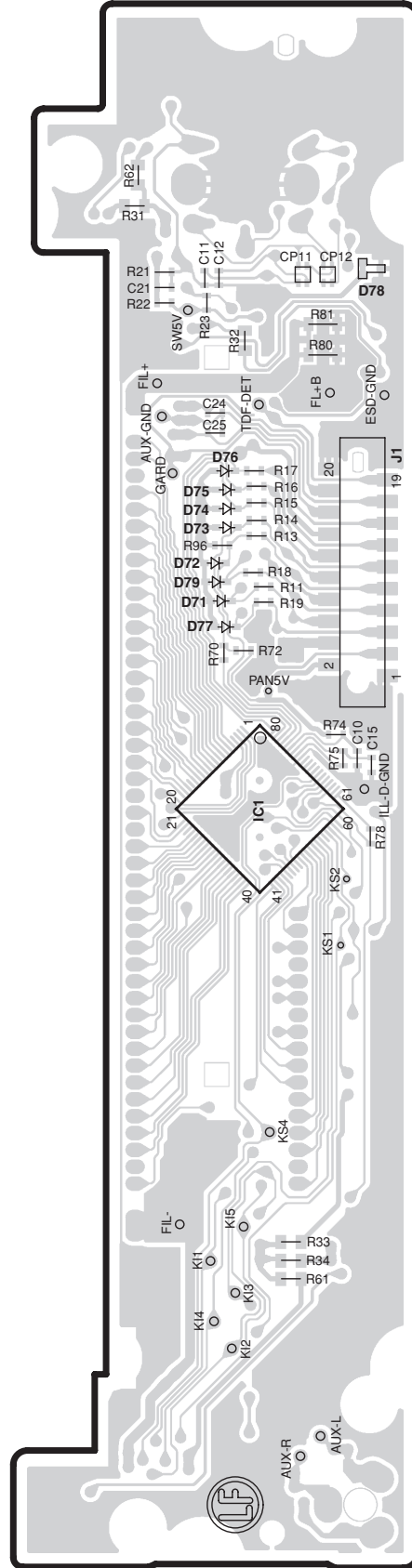


X16-617x-xx

Ref. No.	Address
IC3	2V

(FOIL SIDE VIEW)

SWITCH UNIT
 X16-617x-xx (J76-0455-02)

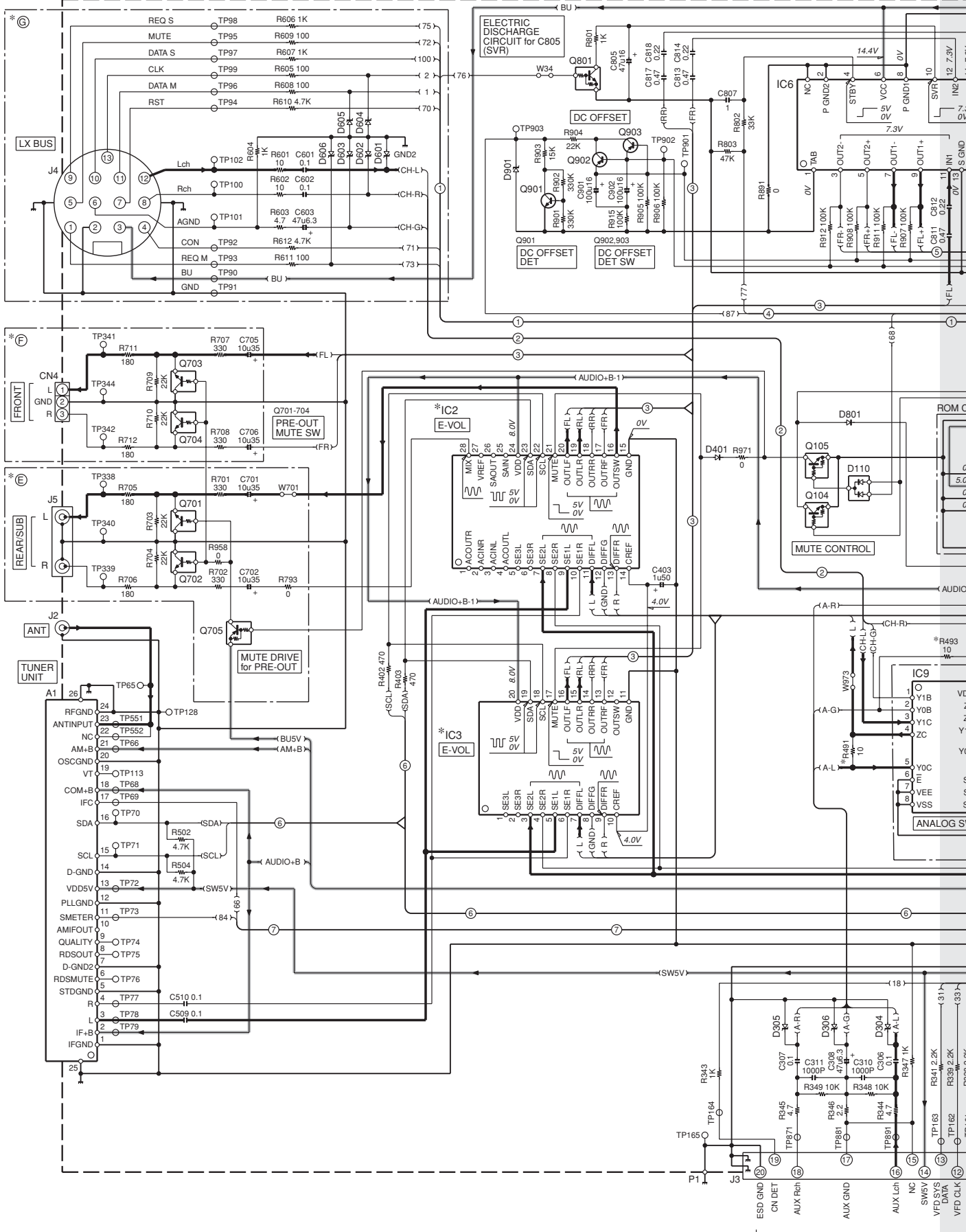


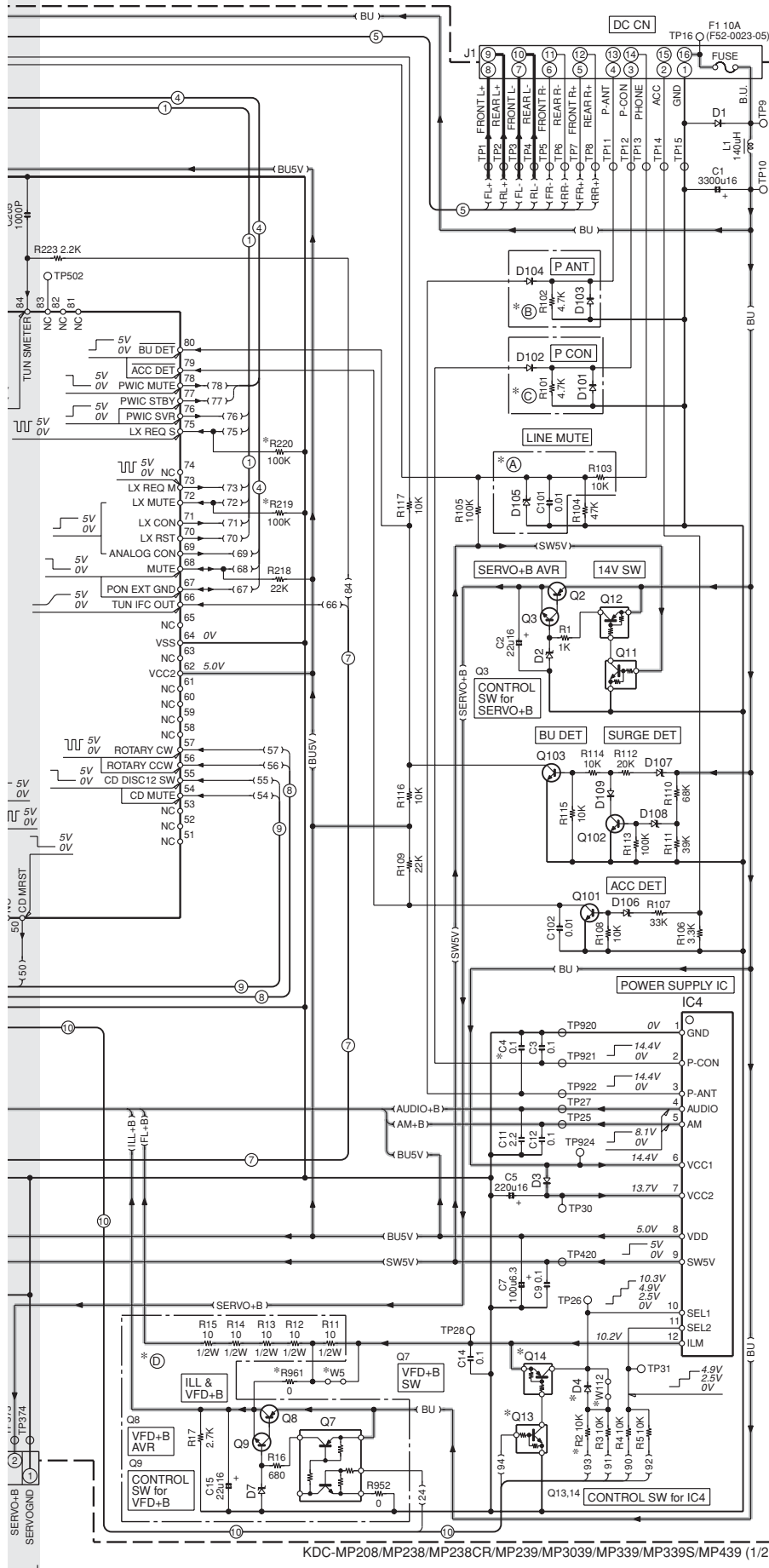
X16-617x-xx

Ref. No.	Address
IC1	4X

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

ELECTRIC UNIT (X34-564x-xx)





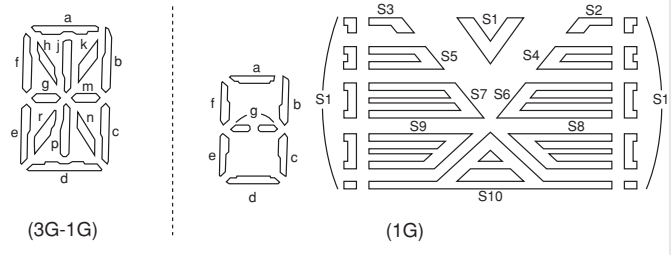
KDC-MP208/MP238/MP238CR/MP239/MP3039/MP339/MP339S/MP439 (1/2)

UNIT	DESTI- NATION	MODEL NAME	IC1	IC2	IC3	Q1,3	R2	R201,202, 219,220,229	R225	R226	R227	R228	R303-306, 312,321,322	R316	R333	R491- 493	W5	W12
E222S	JJT	0-021	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-MP208	K2	0-14	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-MP238	K	0-12	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-MP238CR	M2	0-13	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-MP239	M3	0-23	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-MP3039	M4/M5	0-22	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-MP339S	M1	0-01	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-MP439	M1	0-01	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
RDT-131	J	0-10	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-138	K3	0-11	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-138CR	K4	0-11	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-139S	K4	0-11	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12
KDC-139S	M6/M7	0-21	YES	YES	YES	YES	YES	YES	47K	47K	47K	47K	YES	2.2K	YES	493	YES	W12

- ELECTRIC UNIT (X34-564x-xx)
- IC1 : E222S
 - IC2 : E-TDA7419
 - IC3 : BD4913-V4
 - IC6 : KKZ10Z
 - IC8 : S-80836CNBB-J
 - IC9 : HEF4053BT
 - IC10 : NOT USED
 - Q2,8 : KTA1046-P
 - Q3,9,101-103,402,901 : 2SC4081
 - Q7 : UMC2N
 - Q11,13 : RT1N241M
 - Q12,14,705 : RT1P241M
 - Q104,105,401 : RT1N441M
 - Q301 : RT1P144M
 - Q701-704 : RT1N430M
 - Q801 : RT1N1444M
 - Q902,903 : 2SA1576A
 - D1 : S2V60-5009F46
 - D2 : MTZJ8.2(B)
 - D3,101,102,104 : D1F60-5063
 - D4,109,401,404,801-803 : 1SS133
 - D7 : MTZJ12(B)
 - D103 : 1SR139-400T64
 - D105,901 : MTZJ4.7(B)
 - D106-108,304-306,601-606 : MTZJ6.8(B)
 - D110 : BAV70W
- SIGNAL LINE
 ○ 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.

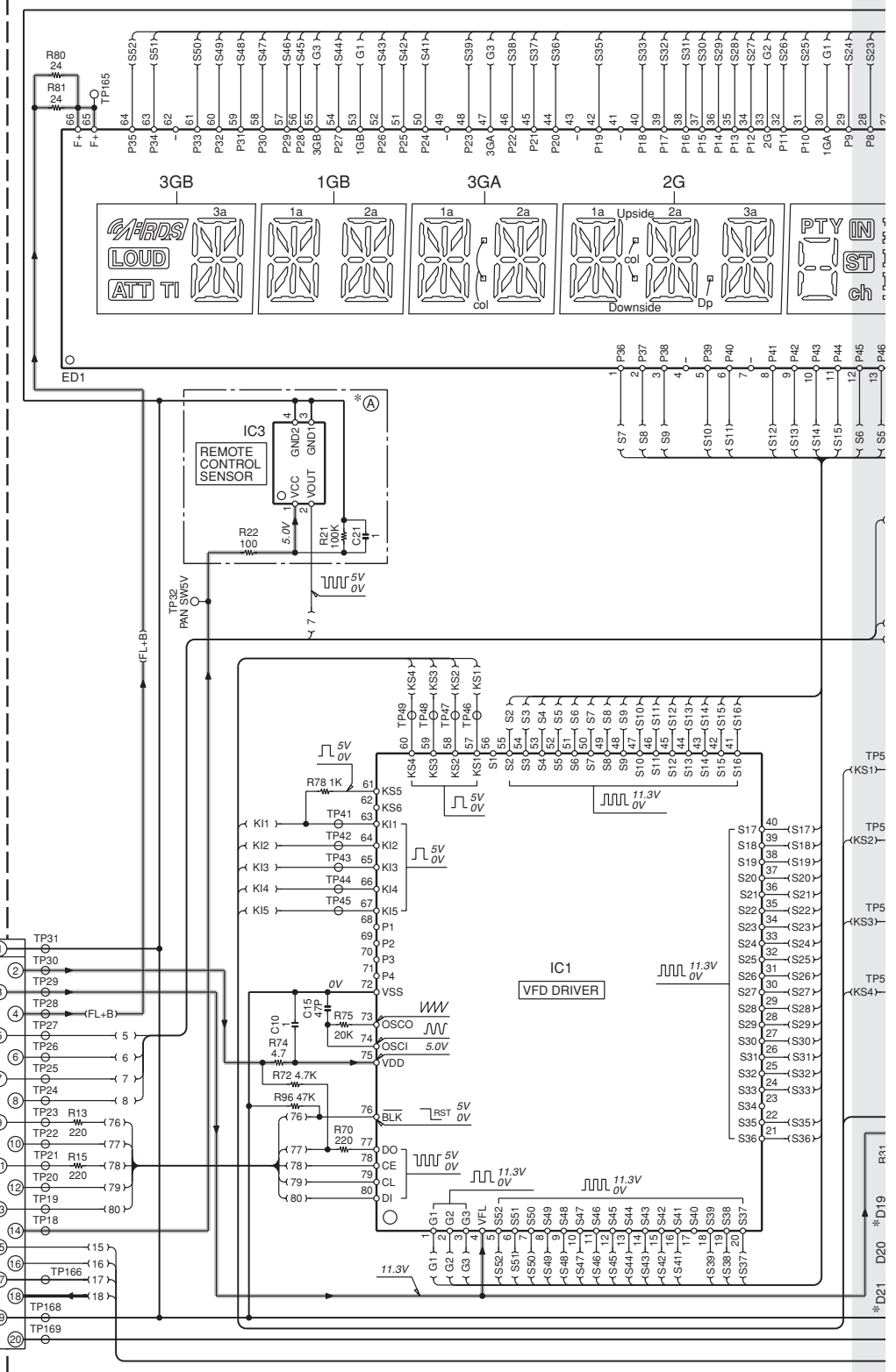
• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

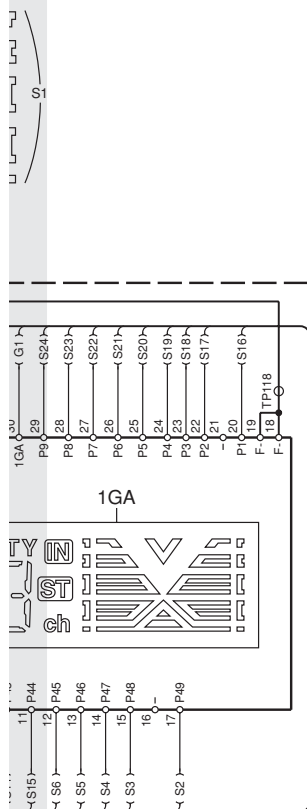


ANODE CONNECTION

PIN NAME	3GA,3GB	2G	1GA,1GB
P1	—	col (Downside)	S1
P2	2d	2d	2d
P3	1d	1d	1d
P4	2n	2n	2n
P5	1n	1n	1n
P6	2p	2p	2p
P7	1p	1p	1p
P8	2r	2r	2r
P9	1r	1r	1r
P10	2e	2e	2e
P11	1e	1e	1e
P12	2c	2c	2c
P13	1c	1c	1c
P14	2g	2g	2g
P15	1g	1g	1g
P16	2m	2m	2m
P17	1m	1m	1m
P18	2f	2f	2f
P19	1f	1f	1f
P20	2a	2a	2a
P21	1a	1a	1a
P22	2h	2h	2h
P23	1h	1h	1h
P24	2j	2j	2j
P25	1j	1j	1j
P26	2k	2k	2k
P27	1k	1k	1k
P28	2b	2b	2b
P29	1b	1b	1b
P30	col (Upside)	S2	
P31	—	—	S3
P32	—	—	S4
P33	—	—	S5
P34	—	—	S6
P35	col	Dp	S7
P36	3d	3d	S8
P37	3n	3n	S9
P38	3p	3p	S10
P39	3r	3r	PTY
P40	3e	3e	IN
P41	3c	3c	ST
P42	3g	3g	ch
P43	3m	3m	d
P44	3f	3f	e
P45	3b	3b	c
P46	3k	3k	g
P47	3j	3j	f
P48	3h	3h	b
P49	3a	3a	a

SWITCH UNIT (X16-617x-xx)





SWITCH UNIT (X16-617x-xx)

MODEL NAME	DESTINATION	UNIT No.	(A)	D1,2,9,23	D3-8	D10,11,13-18,21	D12,19	R61, R62
E232/S	J/J1	0-01	—	B30-1781-05	—	B30-1782-05	B30-1782-05	560
KDC-MP208	K2	0-11	YES	B30-1779-05	—	B30-1779-05	B30-1566-05	750
KDC-MP238	K	0-10	YES	B30-1781-05	—	B30-1779-05	B30-1566-05	560
KDC-MP238CR	K1	0-11	YES	B30-1779-05	—	B30-1779-05	B30-1566-05	750
KDC-MP239	M2	0-11	YES	B30-1779-05	—	B30-1779-05	B30-1566-05	750
KDC-MP3039	M3	0-22	YES	—	YES	B30-1780-05	B30-1780-05	470
KDC-MP339	M4	0-22	YES	—	YES	B30-1780-05	B30-1780-05	470
KDC-MP339S	M5	0-11	YES	B30-1779-05	—	B30-1779-05	B30-1566-05	750
KDC-MP439	M1	0-21	YES	B30-1781-05	—	B30-1780-05	B30-1780-05	560
KDC-241SA	E4	2-71	—	B30-1779-05	—	B30-1779-05	B30-1566-05	750
KDC-241SG	E5	2-72	—	—	YES	B30-1780-05	B30-1780-05	470
KDC-W241AY	E8	2-71	—	B30-1779-05	—	B30-1779-05	B30-1566-05	750
KDC-W241GY	E9	2-72	—	—	YES	B30-1780-05	B30-1780-05	470
KDC-W3041A/AY	E/E4	0-11	YES	B30-1779-05	—	B30-1779-05	B30-1566-05	750
KDC-W3041G/GY	E1/E5	0-22	YES	—	YES	B30-1780-05	B30-1780-05	470
KDC-W312A/AY	E2/E6	0-11	YES	B30-1779-05	—	B30-1779-05	B30-1566-05	750
KDC-W312G/GY	E3/E7	0-22	YES	—	YES	B30-1780-05	B30-1780-05	470
KDC-W312SAY	F	0-11	YES	B30-1779-05	—	B30-1779-05	B30-1566-05	750

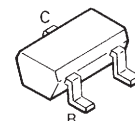
ED1 : 3-BT-257N D1,2,9,23 : *
 IC1 : LC75756W D3-8 : B30-1780-05
 IC3 : PIC95603 D10,11,13,18,21 : *
 D12,19 : *
 D20 : B30-1566-05

———— GND LINE
 ———— +B LINE

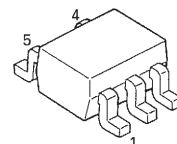
DTC114YUA
2SA1576A



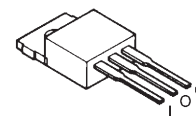
2SC4081



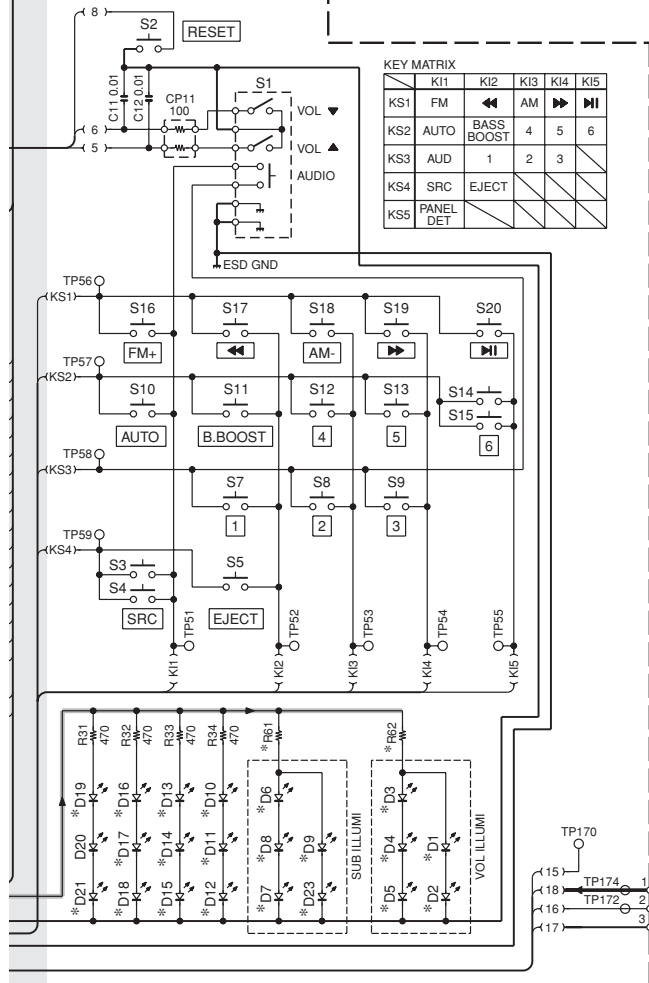
UMC2N



KTA1046-P



DAP202U
DA204U



	KI1	KI2	KI3	KI4	KI5
KS1	FM	◀	AM	▶	⏸
KS2	AUTO	BASS BOOST	4	5	6
KS3	AUD	1	2	3	
KS4	SRC	EJECT			
KS5	PANEL DET				

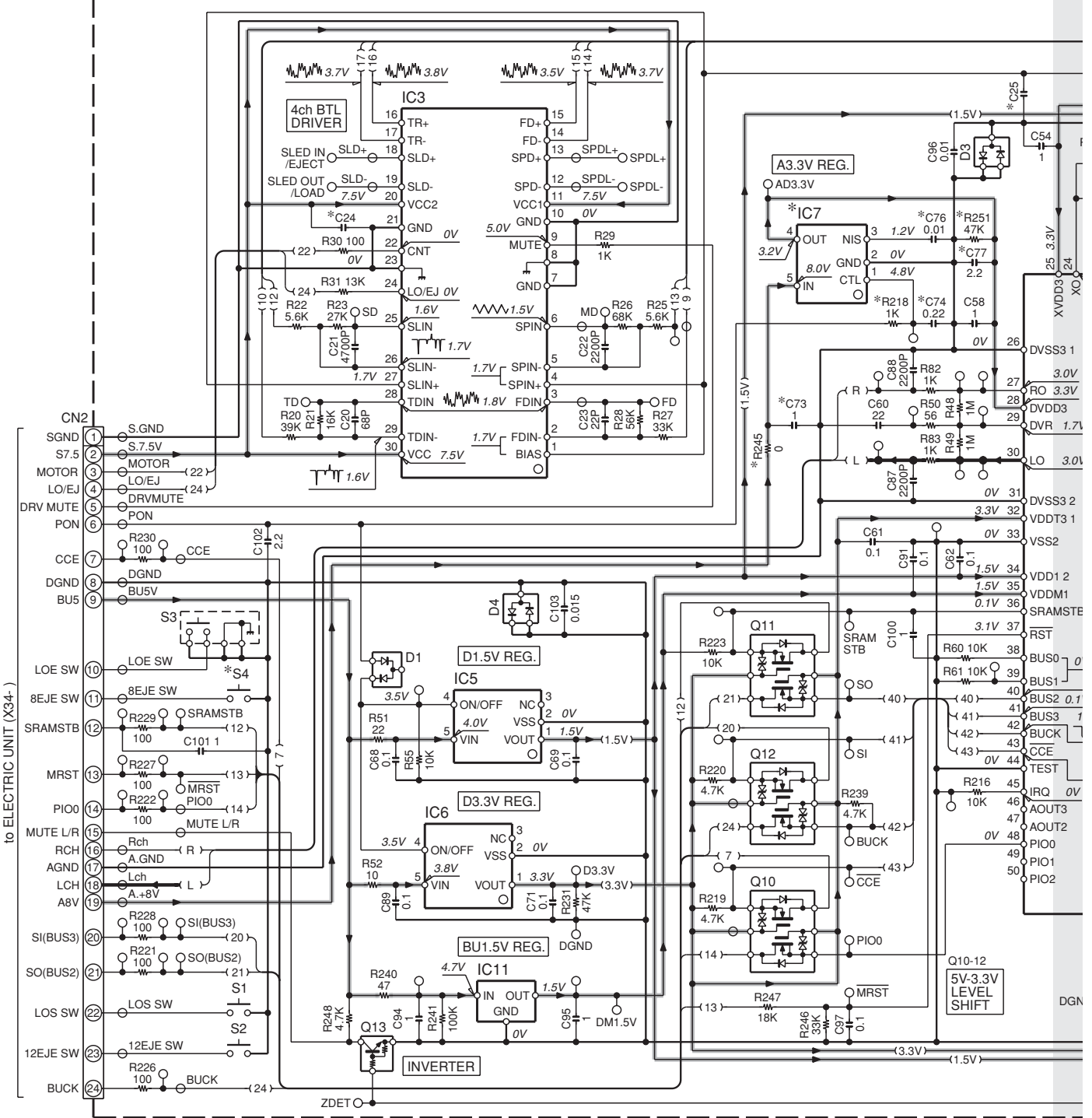
CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).

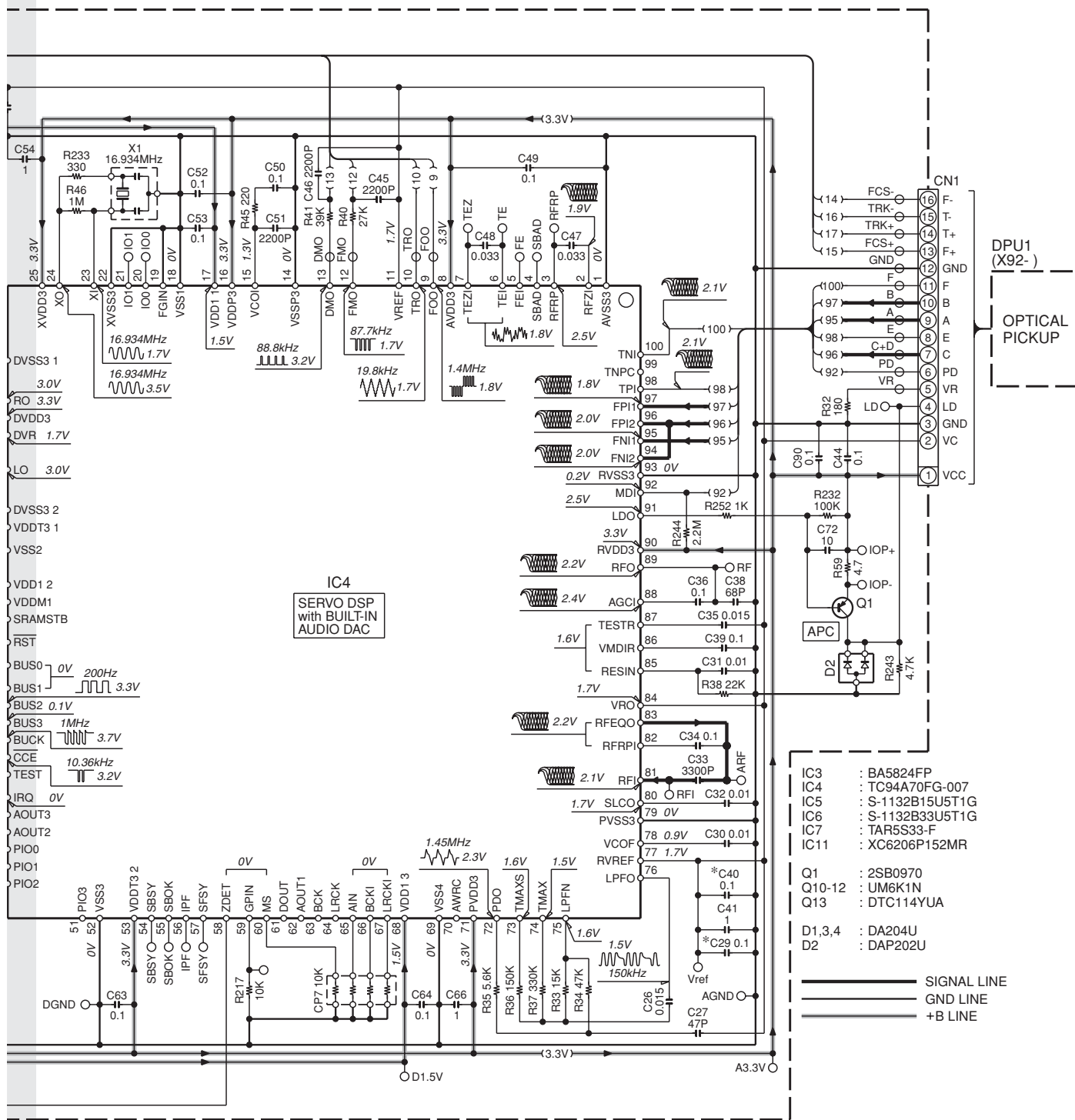
⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

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

KDC-MP208/MP238/MP238CR/MP239/
MP3039/MP339/MP339S/MP439 (2/2)

CD PLAYER UNIT (X32-597x-xx)





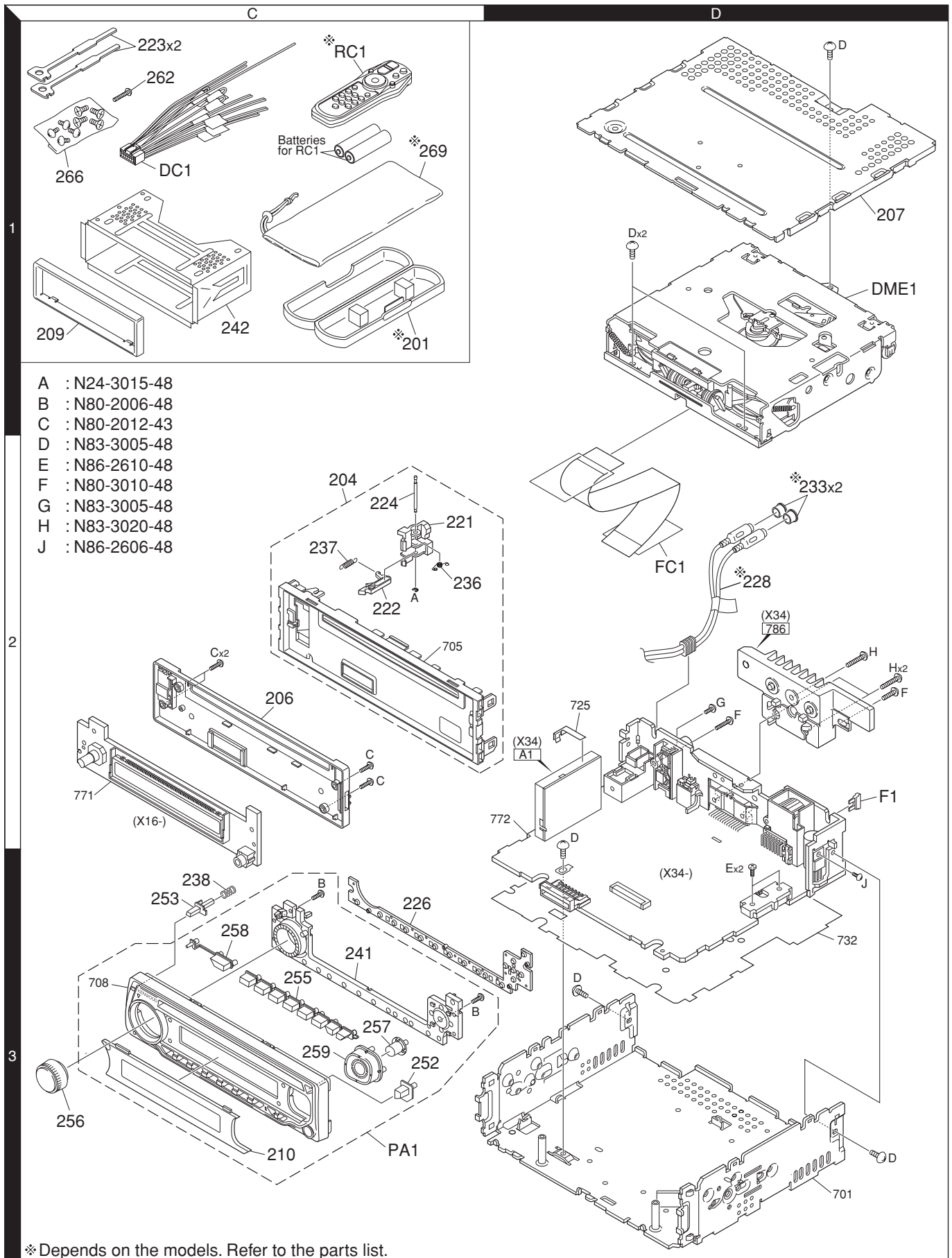
- IC3 : BA5824FP
- IC4 : TC94A70FG-007
- IC5 : S-1132B15U5T1G
- IC6 : S-1132B33U5T1G
- IC7 : TAR5S33-F
- IC11 : XC6206P152MR
- Q1 : 2SB0970
- Q10-12 : UM6K1N
- Q13 : DTC114YUA
- D1,3,4 : DA204U
- D2 : DAP202U

— SIGNAL LINE
— GND LINE
— +B LINE

(X32-597x-xx)

PC BOARD	DESTINATION	UNIT No.	C24	C25	C29,40,73,74,76,77	IC7	R218,245,251	S4
J76-0366	J/K/M/E	0-00	4.7	10	YES	YES	YES	—
J76-0443	J/K/M/E	0-01	4.7	10	YES	YES	YES	YES
J76-0443	J/K/M/E	0-02	2.2	1	—	—	—	—

EXPLODED VIEW (UNIT)



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

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.

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
KDC-MP208/MP238/MP238CR/MP239/MP3039/MP339/MP339S/MP439					
201	1C		A02-2736-03	PLASTIC CABINET ASSY	M1M2M3
201	1C		A02-2736-03	PLASTIC CABINET ASSY	M4M5
204	2C	*	A22-3149-03	SUB PANEL ASSY	
206	2C	*	A46-1861-01	REAR COVER	
207	1D		A52-0804-12	TOP PLATE	
PA1	3C	*	A64-4273-02	PANEL ASSY	K
PA1	3C	*	A64-4274-02	PANEL ASSY	K1
PA1	3C	*	A64-4275-02	PANEL ASSY	K2
PA1	3C	*	A64-4281-02	PANEL ASSY	M1
PA1	3C	*	A64-4282-02	PANEL ASSY	M2
PA1	3C	*	A64-4283-02	PANEL ASSY	M3
PA1	3C	*	A64-4284-02	PANEL ASSY	M4
PA1	3C	*	A64-4285-02	PANEL ASSY	M5
RC1	1C		A70-2069-15	REMOTE CONTROLLER ASSY (RC-517)	K1K2M3
RC1	1C		A70-2069-15	REMOTE CONTROLLER ASSY (RC-517)	M4M5
RC1	1C		A70-2087-05	REMOTE CONTROLLER ASSY (RC-557)	KM1
-			B46-0690-04	ID CARD	KK1K2
-			B46-0690-04	ID CARD	M2M3M4
-			B46-0690-04	ID CARD	M5
-			B46-0691-04	ID CARD	M1
-		*	B64-3898-00	INST. MANUAL (ENG.FRE.SPA.)	KK1K2
-		*	B64-3901-00	INST. MANUAL (ENG.S-CHI.)	M1M2M3
-		*	B64-3901-00	INST. MANUAL (ENG.S-CHI.)	M4M5
-		*	B64-3902-00	INST. MANUAL (ARABIC)	M1M2M3
-		*	B64-3902-00	INST. MANUAL (ARABIC)	M4M5
209	1C		B07-3122-01	ESCUTCHEON	KK1K2
209	1C		B07-3122-01	ESCUTCHEON	M1M2M4
209	1C	*	B07-3229-01	ESCUTCHEON	M3M5
210	3C	*	B10-4996-01	FRONT GLASS	K
210	3C	*	B10-4997-01	FRONT GLASS	K1
210	3C	*	B10-4998-01	FRONT GLASS	K2
210	3C	*	B10-5003-01	FRONT GLASS	M1
210	3C	*	B10-5004-01	FRONT GLASS	M2
210	3C	*	B10-5005-01	FRONT GLASS	M3
210	3C	*	B10-5006-01	FRONT GLASS	M4M5
221	2C		D10-4446-03	LEVER	
222	2C		D10-4447-03	LEVER	
223	1C		D10-4589-04	LEVER	
224	2C		D21-2329-04	SHAFT	
226	3C	*	E29-2115-02	CONDUCTIVE RUBBER	
228	2D		E30-6229-05	CORD WITH PINPLUG	KM1
△ DC1	1C		E30-6415-15	DC CORD	
FC1	2D	*	E39-0958-05	FLAT CABLE	
233	2D		F29-0626-04	INSULATING COVER	KM1
△ F1	2D		F52-0023-05	FUSE (MINI BLADE TYPE) (10A)	
236	2C		G01-2987-04	TORSION COIL SPRING	
237	2C		G01-3096-04	EXTENSION SPRING	
238	3C		G01-3244-04	COMPRESSION SPRING (REL)	
-		*	H54-4151-03	ITEM CARTON CASE	K
-		*	H54-4152-03	ITEM CARTON CASE	K1
-		*	H54-4153-03	ITEM CARTON CASE	K2

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
-		*	H54-4159-03	ITEM CARTON CASE	M1
-		*	H54-4160-03	ITEM CARTON CASE	M2
-		*	H54-4161-03	ITEM CARTON CASE	M3
-		*	H54-4162-03	ITEM CARTON CASE	M4
-		*	H54-4163-03	ITEM CARTON CASE	M5
241	3C	*	J19-7186-01	HOLDER	
242	1C		J21-9716-03	MOUNTING HARDWARE ASSY	
252	3C	*	K24-4783-04	PUSH KNOB (EJECT)	
253	3C	*	K24-4786-04	PUSH KNOB (RELEASE)	
255	3C	*	K25-1906-02	PUSH KNOB (PRESET)	
256	3C	*	K28-0272-04	KNOB ASSY (VOL)	
257	3C	*	K24-4789-04	PUSH KNOB (PLAY/PAUSE)	
258	3C	*	K25-1909-03	PUSH KNOB (RESET/SRC)	
259	3C	*	K25-1912-03	PUSH KNOB (FM/AM)	
262	1C		N84-4016-48	PAN HEAD TAPTITE SCREW	
266	1C		N99-1757-05	SCREW SET	
A	2C		N24-3015-48	E TYPE RETAINING RING	
B	3C		N80-2006-48	PAN HEAD TAPTITE SCREW	
C	2C		N80-2012-43	PAN HEAD TAPTITE SCREW	
D	1D		N83-3005-48	PAN HEAD TAPTITE SCREW	
E	3D		N86-2610-48	BINDING HEAD TAPTITE SCREW	
269	1C		W01-1691-05	CARRYING CASE	K1
269	1C		W01-1692-05	CARRYING CASE	K
DME1	1D	*	X92-5880-06	MECHANISM ASSY (DXM-6E06W)	
SWITCH UNIT (X16-617x-xx)					
D1,2		*	B30-1779-05	LED (1608,SR)	K1K2M2
D1,2		*	B30-1779-05	LED (1608,SR)	M5
D1,2		*	B30-1781-05	LED (1608,BLUE)	KM1
D3-8		*	B30-1780-05	LED (1608,PG)	M3M4
D9		*	B30-1781-05	LED (1608,BLUE)	KM1
D9-11		*	B30-1779-05	LED (1608,SR)	K1K2M2
D9-11		*	B30-1779-05	LED (1608,SR)	M5
D10-19		*	B30-1780-05	LED (1608,PG)	M1M3M4
D10,11		*	B30-1779-05	LED (1608,SR)	K
D12			B30-1566-05	LED (1608,RED)	KK1K2
D12			B30-1566-05	LED (1608,RED)	M2M5
D13-18		*	B30-1779-05	LED (1608,SR)	KK1K2
D13-18		*	B30-1779-05	LED (1608,SR)	M2M5
D19,20			B30-1566-05	LED (1608,RED)	KK1K2
D19,20			B30-1566-05	LED (1608,RED)	M2M5
D20			B30-1566-05	LED (1608,RED)	M1M3M4
D21		*	B30-1779-05	LED (1608,SR)	KK1K2
D21		*	B30-1779-05	LED (1608,SR)	M2M5
D21		*	B30-1780-05	LED (1608,PG)	M1M3M4
D23		*	B30-1779-05	LED (1608,SR)	K1K2M2
D23		*	B30-1779-05	LED (1608,SR)	M5
D23		*	B30-1781-05	LED (1608,BLUE)	KM1
C10			CK73GB1A105K	CHIP C 1.0UF	K
C11,12			CK73GB1H103K	CHIP C 0.010UF	K
C15			CC73GCH1H470J	CHIP C 47PF	J
C21			CK73GB1A105K	CHIP C 1.0UF	K

K : KDS-MP238 K1 : KDC-MP238CR K2 : KDC-MP208

M1 : KDC-MP439 M2 : KDC-MP239 M3 : KDC-MP3039 M4 : KDC-MP339 M5 : KDC-MP339S

△ Indicates safety critical components.

PARTS LIST

SWITCH UNIT (X16-617x-xx)

Ref. No.	Add	New	Parts No.	Description	Destination
J1			E59-0852-05	RECTANGULAR PLUG	
J2			E11-0649-05	3.5D PHONE JACK	
CP11			RK74GA1J101J	CHIP-COM 100 J 1/16W	
R13			RK73GB2A221J	CHIP R 220 J 1/10W	
R15			RK73GB2A221J	CHIP R 220 J 1/10W	
R21			RK73GB2A104J	CHIP R 100K J 1/10W	
R22			RK73GB2A101J	CHIP R 100 J 1/10W	
R31-34			RK73FB2B471J	CHIP R 470 J 1/8W	M3M4 KM1 K1K2M2 M5
R61,62			RK73FB2B471J	CHIP R 470 J 1/8W	
R61,62			RK73FB2B561J	CHIP R 560 J 1/8W	
R61,62			RK73FB2B751J	CHIP R 750 J 1/8W	
R61,62			RK73FB2B751J	CHIP R 750 J 1/8W	
R70			RK73GB2A221J	CHIP R 220 J 1/10W	
R72			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R74			RK73GB2A4R7J	CHIP R 4.7 J 1/10W	
R75			RK73GB2A203J	CHIP R 20K J 1/10W	
R78			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R80,81		*	RK73EB2E240J	CHIP R 24 J 1/4W	
R96			RK73GB2A473J	CHIP R 47K J 1/10W	
S1			T99-0474-05	ROTARY ENCODER	
ED1		*	3-BT-257N	FLUORESCENT INDICATOR TUBE	
IC1			LC75756W	MOS-IC	
IC3		*	PIC95603	ANALOGUE IC	
CD PLAYER UNIT (X32-5970-02) IN CD MECHA					
C20			CC73GCH1H680J	CHIP C 68PF J	
C21			CK73GB1H472K	CHIP C 4700PF K	
C22			CK73GB1H222K	CHIP C 2200PF K	
C23			CC73GCH1H220J	CHIP C 22PF J	
C24			CK73FB1A225K	CHIP C 2.2UF K	
C25			CK73GB1A105K	CHIP C 1.0UF K	
C26			CK73GB1H153K	CHIP C 0.015UF K	
C27			CC73GCH1H470J	CHIP C 47PF J	
C30-32			CK73GB1H103K	CHIP C 0.010UF K	
C33			CK73GB1H332K	CHIP C 3300PF K	
C34			C93-1451-05	CHIP C 0.10UF K	
C35			CK73GB1H153K	CHIP C 0.015UF K	
C36			C93-1451-05	CHIP C 0.10UF K	
C38			CC73GCH1H680J	CHIP C 68PF J	
C39			C93-1451-05	CHIP C 0.10UF K	
C41			CK73GB1A105K	CHIP C 1.0UF K	
C44			C93-1451-05	CHIP C 0.10UF K	
C45,46			CK73GB1H222K	CHIP C 2200PF K	
C47,48			CK73GB1H333K	CHIP C 0.033UF K	
C49,50			C93-1451-05	CHIP C 0.10UF K	
C51			CK73GB1H222K	CHIP C 2200PF K	
C52,53			C93-1451-05	CHIP C 0.10UF K	
C54			CK73GB1A105K	CHIP C 1.0UF K	
C58			CK73EB1E105K	CHIP C 1.0UF K	
C60			CK73EB0J226K	CHIP C 22UF K	
C61-64			C93-1451-05	CHIP C 0.10UF K	
C66			CK73FB1C105K	CHIP C 1.0UF K	
C68,69			C93-1451-05	CHIP C 0.10UF K	
C71			C93-1451-05	CHIP C 0.10UF K	

Ref. No.	Add	New	Parts No.	Description	Destination
C72			CK73FB0J106K	CHIP C 10UF K	
C87,88			CK73GB1H222K	CHIP C 2200PF K	
C89-91			C93-1451-05	CHIP C 0.10UF K	
C94,95			CK73GB1A105K	CHIP C 1.0UF K	
C96			CK73GB1H103K	CHIP C 0.010UF K	
C97			C93-1451-05	CHIP C 0.10UF K	
C100,101			CK73GB1A105K	CHIP C 1.0UF K	
C102			CK73FB1A225K	CHIP C 2.2UF K	
C103			CK73GB1H153K	CHIP C 0.015UF K	
CN1			E41-2612-05	FLAT CABLE CONNECTOR	
CN2			E41-2083-15	FLAT CABLE CONNECTOR	
X1			L78-1221-05	RESONATOR (16.93MHZ)	
CP7			RK74GB1J103J	CHIP-COM 10K J 1/16W	
R20			RK73GB2A393J	CHIP R 39K J 1/10W	
R21			RK73GB2A163J	CHIP R 16K J 1/10W	
R22			RK73GB2A562J	CHIP R 5.6K J 1/10W	
R23			RK73GB2A273J	CHIP R 27K J 1/10W	
R25			RK73GB2A562J	CHIP R 5.6K J 1/10W	
R26			RK73GB2A683J	CHIP R 68K J 1/10W	
R27			RK73GB2A333J	CHIP R 33K J 1/10W	
R28			RK73GB2A563J	CHIP R 56K J 1/10W	
R29			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R30			RK73GB2A101J	CHIP R 100 J 1/10W	
R31			RK73GB2A133J	CHIP R 13K J 1/10W	
R32			RK73GB2A181J	CHIP R 180 J 1/10W	
R33			RK73GB2A153J	CHIP R 15K J 1/10W	
R34			RK73GB2A473J	CHIP R 47K J 1/10W	
R35			RK73GB2A562J	CHIP R 5.6K J 1/10W	
R36			RK73GB2A154J	CHIP R 150K J 1/10W	
R37			RK73GB2A334J	CHIP R 330K J 1/10W	
R38			RK73GB2A223J	CHIP R 22K J 1/10W	
R40			RK73GB2A273J	CHIP R 27K J 1/10W	
R41			RK73GB2A393J	CHIP R 39K J 1/10W	
R45			RK73GB2A221J	CHIP R 220 J 1/10W	
R46			RK73GB2A105J	CHIP R 1.0M J 1/10W	
R48,49			RK73GB2A105J	CHIP R 1.0M J 1/10W	
R50			RK73GB2A560J	CHIP R 56 J 1/10W	
R51			RK73EB2E220J	CHIP R 22 J 1/4W	
R52			RK73EB2E100J	CHIP R 10 J 1/4W	
R55			RK73GB2A103J	CHIP R 10K J 1/10W	
R59			RK73GB2A4R7J	CHIP R 4.7 J 1/10W	
R60,61			RK73GB2A103J	CHIP R 10K J 1/10W	
R82,83			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R216,217			RK73GB2A103J	CHIP R 10K J 1/10W	
R219,220			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R221,222			RK73GB2A101J	CHIP R 100 J 1/10W	
R223			RK73GB2A103J	CHIP R 10K J 1/10W	
R226-230			RK73GB2A101J	CHIP R 100 J 1/10W	
R231			RK73GB2A473J	CHIP R 47K J 1/10W	
R232			RK73GB2A104J	CHIP R 100K J 1/10W	
R233			RK73GB2A331J	CHIP R 330 J 1/10W	
R239			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R240			RK73EB2E470J	CHIP R 47 J 1/4W	

K : KDS-MP238 K1 : KDC-MP238CR K2 : KDC-MP208
M1 : KDC-MP439 M2 : KDC-MP239 M3 : KDC-MP3039 M4 : KDC-MP339 M5 : KDC-MP339S

△ Indicates safety critical components.

PARTS LIST

CD PLAYER UNIT (X32-5970-02) IN CD MECHA

Ref. No.	Add	New	Parts No.	Description	Destination
R241			RK73GB2A104J	CHIP R 100K J 1/10W	
R243			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R244			RK73GB2A225J	CHIP R 2.2M J 1/10W	
R246			RK73GB2A333J	CHIP R 33K J 1/10W	
R247			RK73GB2A183J	CHIP R 18K J 1/10W	
R248			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R252			RK73GB2A102J	CHIP R 1.0K J 1/10W	
S1,2			S68-0863-05	PUSH SWITCH	
S3			S68-0862-05	PUSH SWITCH	
D1			DA204U	DIODE	
D2			DAP202U	DIODE	
D3,4			DA204U	DIODE	
IC3			BA5824FP	ANALOGUE IC	
IC4			TC94A70FG-007	MOS-IC	
IC5			S-1132B15U5T1G	ANALOGUE IC	
IC6			S-1132B33U5T1G	ANALOGUE IC	
IC11			XC6206P152MR	ANALOGUE IC	
Q1			2SB0970	TRANSISTOR	
Q10-12			UM6K1N	DUAL FET	
Q13			DTC114YUA	DIGITAL TRANSISTOR	
ELECTRIC UNIT (X34-564x-xx)					
C1			CD04AZ1C332M2	ELECTRO 3300UF 16WV	
C2			CD04AB1C220M	ELECTRO 22UF 16WV	
C3			CK73GB1H104K	CHIP C 0.10UF K	KK1K2
C3,4			CK73GB1H104K	CHIP C 0.10UF K	M1M2M3
C3,4			CK73GB1H104K	CHIP C 0.10UF K	M4M5
C5			CD04AR1C221M	ELECTRO 220UF 16WV	
C7			CD04AB0J101M	ELECTRO 100UF 6.3WV	
C9			CK73GB1C104K	CHIP C 0.10UF K	
C11			CK73FB1A225K	CHIP C 2.2UF K	
C12			CK73GB1C104K	CHIP C 0.10UF K	
C14			CK73GB1C104K	CHIP C 0.10UF K	
C15			CD04AB1C220M	ELECTRO 22UF 16WV	
C101,102			CK73GB1H103K	CHIP C 0.010UF K	
C202			CC73GCH1H180J	CHIP C 18PF J	
C203			CC73GCH1H220J	CHIP C 22PF J	
C204			CK73GB1C104K	CHIP C 0.10UF K	
C205			CK73GB1H102K	CHIP C 1000PF K	
C301,302			CD04AB1HR47M	ELECTRO 0.47UF 50WV	
C306,307			CK73GB1C104K	CHIP C 0.10UF K	
C308			CD04AB0J470M	ELECTRO 47UF 6.3WV	
C310,311			CK73GB1H102K	CHIP C 1000PF K	
C401			CD04AB1C470M	ELECTRO 47UF 16WV	
C403			CD04AB1H010M	ELECTRO 1.0UF 50WV	
C405			CK73GB1C104K	CHIP C 0.10UF K	KM1
C509,510			CK73GB1C104K	CHIP C 0.10UF K	
C601,602			CK73GB1C104K	CHIP C 0.10UF K	KM1
C603			CD04AC0J470M	ELECTRO 47UF 6.3WV	KM1
C701,702			CD04AB1V100M	ELECTRO 10UF 35WV	
C705,706			CD04AB1V100M	ELECTRO 10UF 35WV	KM1
C805			CD04AB1C470M	ELECTRO 47UF 16WV	
C807			CK73GB1A105K	CHIP C 1.0UF K	
C809			CK73GB1A105K	CHIP C 1.0UF K	

Ref. No.	Add	New	Parts No.	Description	Destination
C811			CK73GB1A474K	CHIP C 0.47UF K	
C812			CK73GB1A224K	CHIP C 0.22UF K	
C813			CK73GB1A474K	CHIP C 0.47UF K	
C814			CK73GB1A224K	CHIP C 0.22UF K	
C815			CK73GB1A474K	CHIP C 0.47UF K	
C816			CK73GB1A224K	CHIP C 0.22UF K	
C817			CK73GB1A474K	CHIP C 0.47UF K	
C818			CK73GB1A224K	CHIP C 0.22UF K	
C819,820			CK73GB1A105K	CHIP C 1.0UF K	
C901,902			CD04AB1C101M	ELECTRO 100UF 16WV	
CN2			E41-1822-05	FLAT CABLE CONNECTOR	
CN4			E40-6526-05	PIN ASSY	KM1
J1			E58-0991-05	RECTANGULAR RECEPTACLE	
J2			E04-0332-05	RF COAXIAL CABLE RECEPTACLE	
J3			E58-1060-05	RECTANGULAR RECEPTACLE	
J4			E56-0855-05	CYLINDRICAL RECEPTACLE	KM1
J5			E63-0941-05	PIN JACK	
L1			L33-2319-05	CHOKE COIL ASSY	
L401			L40-4791-58	SMALL FIXED INDUCTOR	
X1			L78-1218-05	RESONATOR	
X2			L77-2920-05	CRYSTAL RESONATOR	
F	2D		N80-3010-48	PAN HEAD TAPTITE SCREW	
G	2D		N83-3005-48	PAN HEAD TAPTITE SCREW	
H	2D		N83-3020-48	PAN HEAD TAPTITE SCREW	
J	3D		N86-2606-48	BINDING HEAD TAPTITE SCREW	
R1			RD14BB2C102J	RD 1.0K J 1/6W	
R2-5			RD14BB2C103J	RD 10K J 1/6W	
R11			RD14DB2H100J	SMALL-RD 10 J 1/2W	
R12-14			RK73PB2H100J	CHIP R 10 J 1/2W	
R15			RD14DB2H100J	SMALL-RD 10 J 1/2W	
R16			RK73FB2B681J	CHIP R 680 J 1/8W	
R17			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R101			RD14BB2C472J	RD 4.7K J 1/6W	KK1K2
R101,102			RD14BB2C472J	RD 4.7K J 1/6W	M1M2M3
R101,102			RD14BB2C472J	RD 4.7K J 1/6W	M4M5
R103			RD14BB2C103J	RD 10K J 1/6W	
R104			RK73GB2A473J	CHIP R 47K J 1/10W	
R105			RK73GB2A104J	CHIP R 100K J 1/10W	
R106			RD14BB2C332J	RD 3.3K J 1/6W	
R107			RD14BB2C333J	RD 33K J 1/6W	
R108			RK73GB2A103J	CHIP R 10K J 1/10W	
R109			RD14BB2C223J	RD 22K J 1/6W	
R110			RK73FB2B683J	CHIP R 68K J 1/8W	
R111			RK73GB2A393J	CHIP R 39K J 1/10W	
R112			RD14BB2C203J	RD 20K J 1/6W	
R113			RK73GB2A104J	CHIP R 100K J 1/10W	
R114,115			RK73GB2A103J	CHIP R 10K J 1/10W	
R116,117			RD14BB2C103J	RD 10K J 1/6W	
R201			RK73GB2A473J	CHIP R 47K J 1/10W	KM1
R202			RK73GB2A104J	CHIP R 100K J 1/10W	KM1
R203,204			RK73GB2A103J	CHIP R 10K J 1/10W	
R205-207			RK73GB2A473J	CHIP R 47K J 1/10W	
R208			RD14BB2C473J	RD 47K J 1/6W	
R209,210			RD14BB2C471J	RD 470 J 1/6W	

K : KDS-MP238 K1 : KDC-MP238CR K2 : KDC-MP208
M1 : KDC-MP439 M2 : KDC-MP239 M3 : KDC-MP3039 M4 : KDC-MP339 M5 : KDC-MP339S

△ Indicates safety critical components.

PARTS LIST

ELECTRIC UNIT (X34-564x-xx)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
R218			RK73GB2A223J	CHIP R 22K J 1/10W		R504			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R219,220			RD14BB2C104J	RD 100K J 1/6W	KM1	R598			RK73GB2A223J	CHIP R 22K J 1/10W	
R223			RK73GB2A222J	CHIP R 2.2K J 1/10W		R599			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R225			RK73GB2A473J	CHIP R 47K J 1/10W	M1M2M3	R601,602			RD14BB2C100J	RD 10 J 1/6W	KM1
R225			RK73GB2A473J	CHIP R 47K J 1/10W	M4M5	R603			RD14BB2C4R7J	RD 4.7 J 1/6W	KM1
R226			RK73GB2A223J	CHIP R 22K J 1/10W	M1M2M3	R604			RK73GB2A102J	CHIP R 1.0K J 1/10W	KM1
R226			RK73GB2A223J	CHIP R 22K J 1/10W	M4M5	R605			RD14BB2C101J	RD 100 J 1/6W	KM1
R226			RK73GB2A473J	CHIP R 47K J 1/10W	KK1	R606,607			RD14BB2C102J	RD 1.0K J 1/6W	KM1
R226,227			RK73GB2A473J	CHIP R 47K J 1/10W	K2	R608,609			RD14BB2C101J	RD 100 J 1/6W	KM1
R228			RK73GB2A223J	CHIP R 22K J 1/10W	K2	R610			RD14BB2C472J	RD 4.7K J 1/6W	KM1
R228			RK73GB2A473J	CHIP R 47K J 1/10W	K1M2M3	R611			RD14BB2C101J	RD 100 J 1/6W	KM1
R228			RK73GB2A473J	CHIP R 47K J 1/10W	M4M5	R612			RD14BB2C472J	RD 4.7K J 1/6W	KM1
R229			RK73GB2A104J	CHIP R 100K J 1/10W	KM1	R701,702			RK73GB2A331J	CHIP R 330 J 1/10W	
R301			RK73GB2A222J	CHIP R 2.2K J 1/10W		R703,704			RD14BB2C223J	RD 22K J 1/6W	
R302			RD14BB2C101J	RD 100 J 1/6W		R705,706			RD14BB2C181J	RD 180 J 1/6W	
R303			RK73GB2A102J	CHIP R 1.0K J 1/10W		R707,708			RK73GB2A331J	CHIP R 330 J 1/10W	KM1
R304			RD14BB2C102J	RD 1.0K J 1/6W		R709,710			RD14BB2C223J	RD 22K J 1/6W	KM1
R305			RK73GB2A102J	CHIP R 1.0K J 1/10W		R711,712			RD14BB2C181J	RD 180 J 1/6W	KM1
R306			RK73GB2A472J	CHIP R 4.7K J 1/10W		R793			RK73EB2E000J	CHIP R 0.0 J 1/4W	
R307			RK73GB2A222J	CHIP R 2.2K J 1/10W		R801			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R310-313			RK73GB2A102J	CHIP R 1.0K J 1/10W		R802			RK73GB2A333J	CHIP R 33K J 1/10W	
R314			RK73GB2A104J	CHIP R 100K J 1/10W		R803			RK73GB2A473J	CHIP R 47K J 1/10W	
R315			RK73GB2A472J	CHIP R 4.7K J 1/10W		R804			RK73GB2A221J	CHIP R 220 J 1/10W	
R316,317			RK73GB2A222J	CHIP R 2.2K J 1/10W		R805			RK73GB2A223J	CHIP R 22K J 1/10W	
R318			RK73GB2A472J	CHIP R 4.7K J 1/10W		R806			RK73GB2A183J	CHIP R 18K J 1/10W	
R319			RK73GB2A222J	CHIP R 2.2K J 1/10W		R808			RK73GB2A100J	CHIP R 10 J 1/10W	
R320			RK73GB2A472J	CHIP R 4.7K J 1/10W		R891			RK73EB2E000J	CHIP R 0.0 J 1/4W	
R321			RK73GB2A473J	CHIP R 47K J 1/10W		R901,902			RK73GB2A334J	CHIP R 330K J 1/10W	
R322			RK73GB2A471J	CHIP R 470 J 1/10W		R903			RK73GB2A153J	CHIP R 15K J 1/10W	
R330			RD14BB2C101J	RD 100 J 1/6W		R904			RK73GB2A223J	CHIP R 22K J 1/10W	
R331			RK73GB2A392J	CHIP R 3.9K J 1/10W		R905,906			RK73GB2A104J	CHIP R 100K J 1/10W	
R332			RD14BB2C101J	RD 100 J 1/6W		R907-914			RD14BB2C104J	RD 100K J 1/6W	
R333,334			RD14BB2C102J	RD 1.0K J 1/6W		R915			RK73GB2A104J	CHIP R 100K J 1/10W	
R335			RK73GB2A473J	CHIP R 47K J 1/10W		R952			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R336-339			RD14BB2C222J	RD 2.2K J 1/6W		R958			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R340			RK73GB2A225J	CHIP R 2.2M J 1/10W		R962			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R341			RD14BB2C222J	RD 2.2K J 1/6W		R971			RK73GB2A000J	CHIP R 0.0 J 1/10W	
R342			RK73GB2A392J	CHIP R 3.9K J 1/10W		D1			S2V60-5009F46	DIODE	
R343			RD14BB2C102J	RD 1.0K J 1/6W		D2			MTZJ8.2 (B)	ZENER DIODE	
R344,345			RD14BB2C4R7J	RD 4.7 J 1/6W		D3			D1F60-5063	DIODE	
R346			RD14BB2C2R2J	RD 2.2 J 1/6W		D4			1SS133	DIODE	M1M2M3
R347			RK73GB2A102J	CHIP R 1.0K J 1/10W		D4			1SS133	DIODE	M4M5
R348,349			RK73GB2A103J	CHIP R 10K J 1/10W		D7			MTZJ12 (B)	ZENER DIODE	
R402,403			RD14BB2C471J	RD 470 J 1/6W		D101,102			D1F60-5063	DIODE	
R404			RK73GB2A102J	CHIP R 1.0K J 1/10W	KM1	D103			1SR139-400T64	DIODE	M1M2M3
R405			RK73GB2A473J	CHIP R 47K J 1/10W	KM1	D103			1SR139-400T64	DIODE	M4M5
R406			RK73GB2A223J	CHIP R 22K J 1/10W		D104			D1F60-5063	DIODE	M1M2M3
R407			RK73GB2A103J	CHIP R 10K J 1/10W		D104			D1F60-5063	DIODE	
R408			RK73GB2A152J	CHIP R 1.5K J 1/10W		D104			D1F60-5063	DIODE	M4M5
R409			RK73GB2A392J	CHIP R 3.9K J 1/10W		D105			MTZJ4.7 (B)	ZENER DIODE	
R491,492			RK73GB2A100J	CHIP R 10 J 1/10W	K1K2M2	D106-108			MTZJ6.8 (B)	ZENER DIODE	
R491,492			RK73GB2A100J	CHIP R 10 J 1/10W	M3M4M5	D109			1SS133	DIODE	
R493			RD14BB2C100J	RD 10 J 1/6W	K1K2M2	D110			BAV70W	DIODE	
R493			RD14BB2C100J	RD 10 J 1/6W	M3M4M5	D304-306			MTZJ6.8 (B)	ZENER DIODE	
R502			RK73GB2A472J	CHIP R 4.7K J 1/10W		D401			1SS133	DIODE	

K : KDS-MP238 K1 : KDC-MP238CR K2 : KDC-MP208
M1 : KDC-MP439 M2 : KDC-MP239 M3 : KDC-MP3039 M4 : KDC-MP339 M5 : KDC-MP339S

△ Indicates safety critical components.

PARTS LIST

ELECTRIC UNIT (X34-564x-xx)

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
D404			1SS133	DIODE	
D601-606			MTZJ6.8 (B)	ZENER DIODE	KM1
D801-803			1SS133	DIODE	
D901			MTZJ4.7 (B)	ZENER DIODE	
IC1		*	30622MEPB44FP	MICROCONTROLLER IC	K1K2M2
IC1		*	30622MEPB44FP	MICROCONTROLLER IC	M3M4M5
IC1		*	30622MGPB45FP	MICROCONTROLLER IC	KM1
IC2			E-TDA7419	ANALOGUE IC	
IC4			BD4913-V4	ANALOGUE IC	
IC6			KKZ10Z	ANALOGUE IC	
IC8			S-80836CNNB-J	MOS-IC	
IC9			HEF4053BT	MOS-IC	KM1
Q2			KTA1046-P	TRANSISTOR	
Q3			2SC4081	TRANSISTOR	
Q7			UMC2N	TRANSISTOR	
Q8			KTA1046-P	TRANSISTOR	
Q9			2SC4081	TRANSISTOR	
Q11			RT1N241M	TRANSISTOR	
Q12			RT1P241M	TRANSISTOR	
Q13			RT1N241M	TRANSISTOR	M1M2M3
Q13			RT1N241M	TRANSISTOR	M4M5
Q14			RT1P241M	TRANSISTOR	M1M2M3
Q14			RT1P241M	TRANSISTOR	M4M5
Q101-103			2SC4081	TRANSISTOR	
Q104,105			RT1N441M	TRANSISTOR	
Q301			RT1P144M	TRANSISTOR	
Q401			RT1N441M	TRANSISTOR	KM1
Q402			2SC4081	TRANSISTOR	
Q701-704			RT1N430M	TRANSISTOR	KM1
Q701,702			RT1N430M	TRANSISTOR	K1K2M2
Q701,702			RT1N430M	TRANSISTOR	M3M4M5
Q705			RT1P241M	TRANSISTOR	
Q801			RT1N144M	TRANSISTOR	
Q901			2SC4081	TRANSISTOR	
Q902,903			2SA1576A	TRANSISTOR	
TH1			PRF18BE471QS2	POSITIVE RESISTOR	
A1	2D	*	X86-4030-14	FRONT-END UNIT	
MECHANISM ASSY (X92-5880-06) DXM-6E06W					
1	2B		A10-5328-31	CHASSIS	
2	1B		A10-5329-11	CHASSIS	
5	2B		D10-4910-13	ARM ASSY	
8	2A		D10-4911-23	LEVER ASSY	
10	2A		D10-4906-33	ARM	
11	2A		D10-4907-33	ARM	
12	3A		D10-4908-03	ARM	
13	3A		D10-4909-03	ARM	
14	3B		D10-4915-03	ARM	
15	2A		D10-4916-23	SLIDER	
16	3B		D10-4914-12	SLIDER	
17	2B		D10-4588-13	SLIDER	
18	2B		D10-4917-04	ARM	
19	2B		D10-4596-24	ARM	
22	2A		D13-2151-04	GEAR	

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
23	2B		D13-2152-04	GEAR	
24	3B		D13-2153-04	GEAR	
25	3B		D13-2154-04	GEAR	
26	3B		D13-2155-04	WORM	
27	2B		D13-2156-14	GEAR	
28	3B		D13-2157-04	GEAR	
29	2B		D13-2158-04	GEAR	
30	2B		D13-2168-04	GEAR	
31	3B		D13-2171-04	GEAR	
32	1B		D13-2400-13	RACK (GEAR)	
33	2A		D14-0759-04	ROLLER	
35	2B		D21-2382-04	SHAFT	
36	1A		D23-0954-04	RETAINER	
37	1B		D39-0246-05	DAMPER	
38	2B		G01-3072-04	EXTENSION SPRING	
39	2A		G01-3073-04	TORSION COIL SPRING	
40	2A		G01-3074-04	EXTENSION SPRING	
41	1B		G01-4615-04	EXTENSION SPRING	
42	2A		G01-3076-04	EXTENSION SPRING	
43	1B		G01-3077-14	EXTENSION SPRING	
44	2B	*	G02-1399-14	FLAT SPRING	
45	2B	*	G02-1547-14	FLAT SPRING	
51	1A		J22-0473-21	MOUNTING HARDWARE	
52	3B		J22-0474-12	MOUNTING HARDWARE	
53	1B	*	J22-0519-13	MOUNTING HARDWARE	
55	1A		J90-1138-41	GUIDE	
56	1B		J90-1023-03	GUIDE	
DPC1	3A		J86-0039-05	FPC (LEAD FREE)	
A	2B		N09-4460-15	TAPTITE SCREW (PT2X8)	
B	1B		N09-6317-05	TAPTITE SCREW (1.6X6.0)	
C	2B		N09-6004-15	MACHINE SCREW (M1.7X2.5)	
E	2B		N09-6007-15	MACHINE SCREW (M2X2)	
F	1A		N09-6051-15	TAPTITE SCREW (PT2X5)	
G	2A		N19-2163-04	FLAT WASHER (1.6X6X0.25)	
H	1B		N39-2020-48	PAN HEAD MACHINE SCREW (M2X2)	
J	1B		N09-6108-15	TAPTITE SCREW (M2X3.5)	
K	3B		N09-6155-15	SEMS (TAPTITE SCREW) (PT2X6)	
DM1	3B		T42-1066-14	DC MOTOR (SPINDLE)	
DM2	2B		T42-1067-14	DC MOTOR (LOADING/SLED)	
DPU1	2B		X93-2130-01	OPTICAL PICKUP ASSY	

SPECIFICATIONS (KDC-MP208/MP238/MP238CR)

FM tuner section

Frequency range	
200kHz space	87.9MHz~107.9MHz
50kHz space (KDC-MP238CR)	87.5MHz~108.0MHz
Usable sensitivity (S/N=30dB)	9.3dBf (0.8 μ V/75 Ω)
Quieting Sensitivity (S/N=50dB)	15.2dBf (1.6 μ V/75 Ω)
Frequency response (\pm 3dB)	30Hz~15kHz
Signal to Noise ratio (MONO)	70dB
Selectivity (\pm 400kHz)	\geq 80dB
Stereo separation (1kHz)	40dB

AM tuner section

Frequency range (10kHz space)	530kHz~1700kHz
Usable sensitivity (S/N=20dB)	28dB μ (25 μ V)

CD player section

Laser diode	GaAlAs
Digital filter (D/A)	8 Times Over Sampling
D/A Converter	1Bit
Spindle speed	500~200rpm (CLV)
Wow & Flutter	Below Measurable Limit
Frequency response (\pm 1dB)	20Hz~20kHz
Total harmonic distortion (1kHz)	0.01%
Signal to Noise ratio (1kHz)	105dB
Dynamic range	93dB
MP3 decode	Compliant with MPEG-1/2 Audio Layer-3
WMA decode	Compliant with Windows Media Audio

Audio section

Maximum output power	50W x 4
Full Bandwidth Power (at less than 1% THD)	22W x 4
Speaker Impedance	4~8 Ω
Tone action	
Bass	100Hz \pm 8dB
Middle	1kHz \pm 8dB
Treble	10kHz \pm 8dB
Preout level/Load (CD)	2000mV/10k Ω
Preout impedance	\leq 600 Ω

Auxiliary input

Frequency response (\pm 3dB)	20Hz~20kHz
Input Maximum Voltage	1200mV
Input Impedance	100k Ω

General

Operating voltage (11~16V allowable)	14.4V
Current consumption	10A
Installation Size (W x H x D)	182 x 53 x 155mm
	7-3/16 x 2-1/16 x 6-1/8inch
Weight	2.9lbs (1.30kg)

KDC-MP208/MP238/MP238CR/MP239
KDC-MP3039/MP339/MP339S/MP439

SPECIFICATIONS (KDC-MP239/MP3039/MP339/MP339S/MP439)

FM tuner section

Frequency range
200kHz space87.9 MHz~107.9MHz
50kHz space87.5MHz~108.0MHz
Usable sensitivity (S/N=30dB)9.3dBf (0.8 μ V/75 Ω)
Quieting Sensitivity (S/N=50dB)15.2dBf (1.6 μ V/75 Ω)
Frequency response (\pm 3dB)30Hz~15kHz
Signal to Noise ratio (MONO)..... 70dB
Selectivity (\pm 400kHz)..... \geq 80dB
Stereo separation (1kHz)..... 40dB

AM tuner section

Frequency range
10kHz space 530kHz~1700kHz
9kHz space 531kHz~1611kHz
Usable sensitivity (S/N=20dB) 28dB μ (25 μ V)

CD player section

Laser diode GaAlAs
Digital filter (D/A) 8 Times Over Sampling
D/A Converter 1Bit
Spindle speed 500~200rpm (CLV)
Wow & Flutter Below Measurable Limit
Frequency response (\pm 1dB)20Hz~20kHz
Total harmonic distortion (1kHz)..... 0.01%
Signal to Noise ratio (1kHz)..... 105dB
Dynamic range 93dB
MP3 decode Compliant with MPEG-1/2 Audio Layer-3
WMA decode Compliant with Windows Media Audio

Audio section

Maximum output power 50W x 4
Full Bandwidth Power (at less than 1% THD) 22W x 4
Speaker Impedance4~8 Ω
Tone action
Bass100Hz \pm 8dB
Middle1kHz \pm 8dB
Treble10kHz \pm 8dB
Preout level/Load (CD)2000mV/10k Ω
Preout impedance \leq 600 Ω

Auxiliary input

Frequency response (\pm 3dB)20Hz~20kHz
Input Maximum Voltage 1200mV
Input Impedance 100k Ω

General

Operating voltage (11~16V allowable)..... 14.4V
Current consumption 10A
Installation Size (W x H x D)..... 182 x 53 x 155mm
Weight 1.30kg

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

DANGER:

Please do not look at the laser beam directly during repair or operation check.

