CD RECEIVER

KDC-232MR

SERVICE MANUAL

KENWOOD

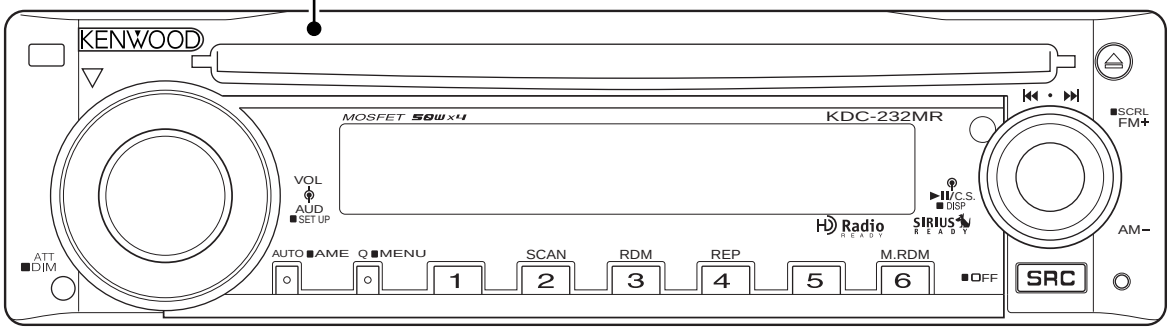
Kenwood Corporation

B53-0344-00 (N) 600

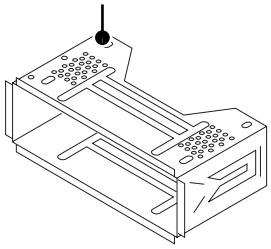
SPARE TDF PANEL

MAIN UNIT NAME	TDF PARTS No.	TDF NAME
KDC-232MR	Y33-2410-62	TDF-62DMR

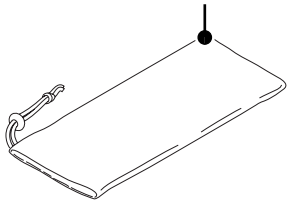
Panel assy
(A64-3804-02)



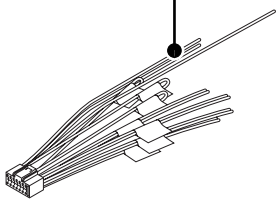
Mounting hardware assy
(J21-9716-03)



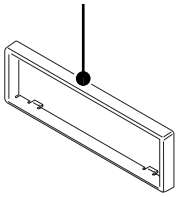
Carrying case
(W01-1661-05)



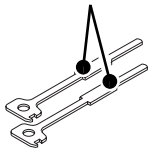
DC cord
(E30-6415-15)



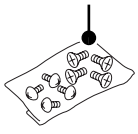
Escutcheon
(B07-3123-01)



Lever
(D10-4589-04) x2



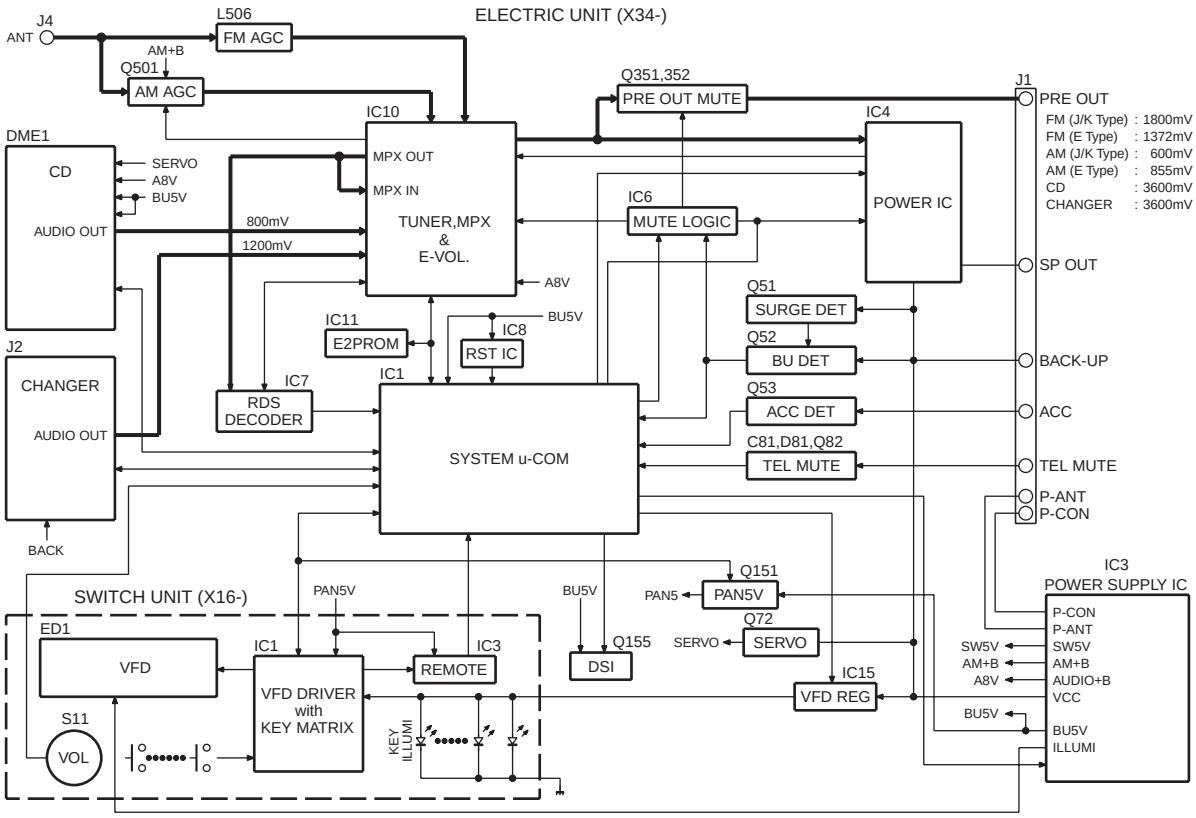
Screw set
(N99-1757-05)

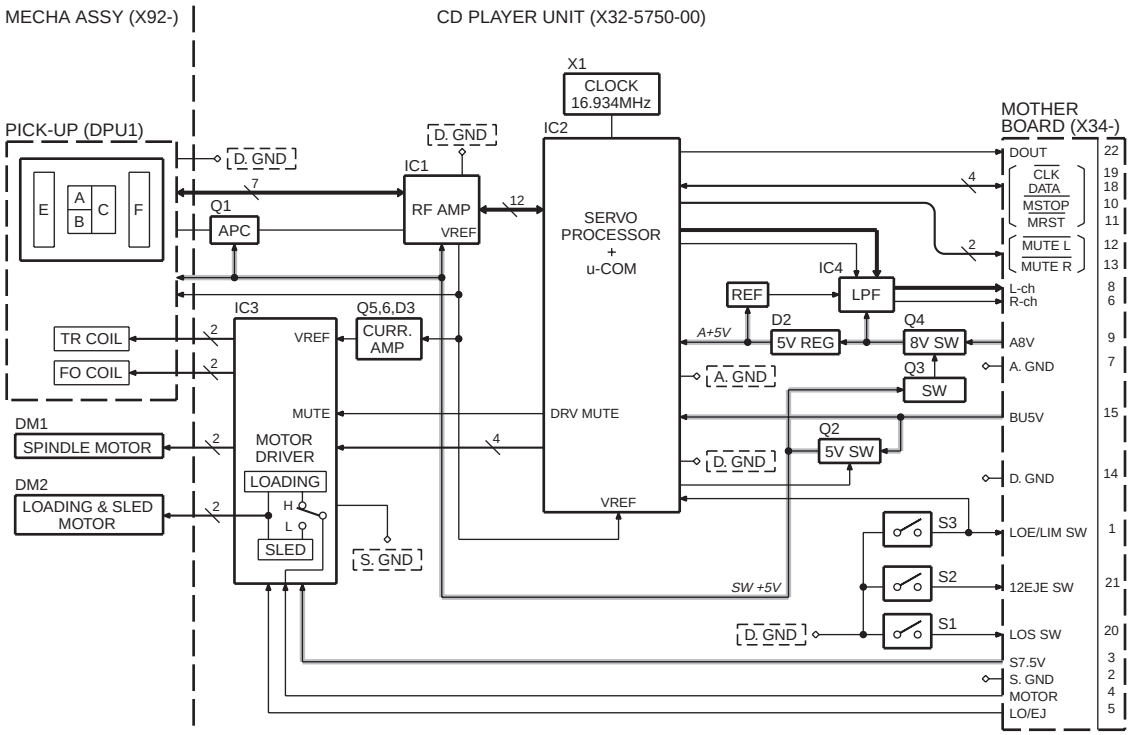


Screw (4x16)
(N84-4016-48)

This product uses Lead Free solder.

BLOCK DIAGRAM





COMPONENTS DESCRIPTION

● ELECTRIC UNIT (X34-4160-12)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC1	System μ-COM	System controller.
IC3	Power Supply IC	DC5Vx2, 7.9Vx1, 8.1Vx1, 10.2Vx1, P-CON, P-ANT output.
IC4	Power IC	Signal amplifier.
IC6	Mute logic IC	Controls for mute action.
IC8	Reset IC	"L" : detection voltage below 3.6V.
IC10	E-VOL & Tuner	E-VOL, Tuner, Stereo decoder.
IC11	E2PROM	Saves & Loads for tuner adjustment data.
IC15	Regulator IC	Outputs 11.3V for LED and VFD.
Q51	Serge Det.	ON when the base goes "Hi".
Q52	B.U. Det.	ON when the base goes "Hi" during BU applied.
Q53	ACC Det.	ON when the base goes "Hi" during ACC applied.
Q71	Control SW for SERVO+B	ON when the base goes "Hi".
Q72	SERVO+B AVR	Outputs voltage 7.5V.
Q151	Panel 5V SW	ON when the base goes "Lo".
Q155	DSI ILLUMI SW	ON when the base goes "Lo".
Q252	STANDBY SW for IC4	ON when the base goes "Lo".
Q330	Mute driver for Q351, Q352	ON when the base goes "Lo".
Q351	Mute SW for Lch PRE OUT	Audio pre-output is muted when the base goes "Hi".
Q352	Mute SW for Rch PRE OUT	Audio pre-output is muted when the base goes "Hi".
Q501	AM RF Amplifier	Adjusts for Gain.

● SWITCH UNIT (X16-3500-11)

Ref. No.	Application / Function	Operation / Condition
IC1	VFD DRIVER	
Q21	PAN SW5V	"ON" when the base goes "H".

● CD PLAYER UNIT (X32-5750-00)

Ref. No.	Application / Function	Operation / Condition
IC1	RF AMPLIFIER responding to CD-RW	Generation of RF signal based on the signals from the APC circuit and pickup, and generation of servo error (focusing error and tracking error) signals. Detection of dropout, anti-shock, track crossing and off-tracking conditions, included gain control function during CD-RW.
IC2	CD SIGNAL PROCESSOR built-in μ-COM	Focusing, tracking, sled and spindle servo processing. Automatic adjustment (focusing, tracking, gain, offset and balance) operations. Digital signal processing (DSP, PLL, sub-codes, CIRC error correction, audio data interpolation processing) operations, and microcomputer function.
IC3	4ch BTL DRIVER	Focusing coil, tracking coil, spindle motor and sled motor driver, disc loading and eject operation.
IC4	L.P.F. (LOW PASS FILTER)	2nd low pass filter for audio signals.
Q1	APC (AUTOMATIC POWER CONTROL)	LD power control.
Q2	DIGITAL +5V SW	"ON" When P. ON signal goes "L".

COMPONENTS DESCRIPTION

Ref. No.	Application / Function	Operation / Condition
Q3	Q4 SW	“ON” When P. ON signal goes “L” (SW+5V is ON).
Q4	ANALOG +8V SW	“ON” When P. ON signal goes “L” (Q3 is ON).
Q5, 6	CURRENT AMP	Current driver.

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	DCERR	I	DC offset error detection input		
2	LINE MUTE	I	Phone detection		TEL mute: 1V or lower NAVI mute: 2.5V or higher
3	ROTARY CW	I	Rotary encoder input		
4	AVSS	-			
5	TUNER TYPE1	I	E-VOL setting switching	①	Refer to the truth value table
6	TUNER TYPE2	I	E-VOL setting switching	①	Refer to the truth value table
7	AVREF1	-			
8	VFD DATAF	I	Data input from VFD driver		
9	VFD DATAS	O	Data output to VFD driver		
10	VFD CLK	O	CLK output to VFD driver		
11	$\overline{\text{VFD RST}}$	O	Reset output to VFD driver		L: Display off, key reset, panel detached H: Display on, key scan
12	VFD CE	O	CE output to VFD driver		
13	ROTARY CCW	I	Rotary encoder input		
14	$\overline{\text{TDF DET}}$	I	Panel detection		H: Panel detached, L: Panel attached
15	$\overline{\text{PWIC BEEP}}$	O	Beep output		
16	LX DATA S	I	Data from slave unit		
17	LX DATA M	O	Data to slave unit		
18	LX CLK	I/O	LX-BUS clock		
19	RDS AFSL	O	Tuner RDS mute output	②	Refer to the truth value table
20	$\overline{\text{TUNER ADJ}}$	I	For IC10 adjustment		ADJ=H PS1-1, 2=L PS1-3=Hi-Z, PS2-1, 2=Hi-Z Tuner data, CLK=Hi-Z
21	TUNER SD	I	Tuner search stop input		H: Station found, L: Station not found

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Application	Truth Value Table	Processing/Operation/Description
22	LX RST	O	Forced reset to slave unit		H: Reset, L: Normal
23	LX CON	O	Start-up request to slave unit		H: Slave unit ON, L: Slave unit OFF
24	LX REQ M	O	Communication request to the slave unit		
25	AUD SDA	I/O	E-VOL and tuner I2C data input/output		
26	AUD SCL	I/O	E-VOL and tuner I2C CLK output		
27	PWIC STBY	O	Power IC STBY output		H: Power IC ON, L: Power IC OFF
28	VOL MUTE	O	E-VOL mute output		L: Mute OFF, Hi-Z: ON
29	$\overline{\text{PWIC MUTE}}$	O	Power IC mute output		L: Power OFF, STANDBY, or TEL mute.
30	TUNER FANC OUT	O	Tuner block (in μ-com) check		L: E2P OK, H: NG
31	RESET2	O	Mute for reset		Output L
32	RDS DATA	I	RDS decoder data input		
33	VSS1	-			
34	RDS QUAL	I	RDS decoder QUAL input		
35	$\overline{\text{ACC DET}}$	I	ACC detection		L: ACC ON, H: ACC OFF
36	$\overline{\text{BU DET}}$	I	Momentary power down detection		L: BU found, H: BU not found (momentary power down)
37	$\overline{\text{PON}}$	I/O	SW5V/SW14V control		L: ON, Hi-Z: OFF
38	PS2-2	O	Power Supply control output 2-2	③	Refer to the truth value table
39	PS2-1	O	Power Supply control output 2-1	③	Refer to the truth value table
40	PS1-1	O	Power Supply control output 1-1	③	Refer to the truth value table
41	PS1-2	O	Power Supply control output 1-2	③	Refer to the truth value table
42	PS1-3	O	Power Supply control output 1-3	③	Refer to the truth value table
43	NC	-			
44	PON CD	I/O	Power supply control for MP3		L: ON, Hi-Z: OFF
45	CD MUTE	I	CD mute request		L: Mute request
46	$\overline{\text{CD MSTOP}}$	O	CD mechanism μ-com stop		H: Mechanism μ-com in operation, L: Mechanism μ-com stopped
47	CD LOE LIM SW	I	CD detection (chucking SW)		H: Loading completed, L: Disc not found
48	CD LOEJ	I/O	CD motor control	④	Refer to the truth value table
49	CD MOTOR	O	CD motor control	④	Refer to the truth value table
50	NC	-			
51	$\overline{\text{CD MRST}}$	O	CD mechanism μ-com reset		H: Normal, L: Reset
52	CD SCL	I/O	CD mechanism I2C clock output		
53	CD DISC12 SW	I	12cm disc detection		
54	CD LOS SW	I	CD loading detection		
55	CD SDA	I/O	CD mechanism I2C clock input/output		
56	OEM DISP CE	I/O	External display CE		External display
57	OEM DISP CLK	I/O	External display CLK		External display
58	OEM DISP DATA	I/O	External display DATA		External display
59	DSI	O	DSI control		H: DSI ON, L: DSI OFF TDF DET=blink when H
60	RESET	-			
61	NC	-			
62	$\overline{\text{PON FL}}$	O	VFD power supply ON		H: ON, L: OFF L: When TDF DET is H, H: When TDF DET is L

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Application	Truth Value Table	Processing/Operation/Description
63	KEY REQ	I	Communication request from VFD driver		L: Key input
64	RDS CLK	I	RDS decoder CLK input		
65	REMO	I	Remote control input		
66	LX REQ S	I	Communication request from slave unit		
67	VSS0	-			
68	VDD1	-			
69,70	X2,X1	-			
71	TEST	-			
72,73	XT2,XT1	-			
74	VDD0	-			
75	AVDD	-			
76~78	TYPE 3~1	I	Destination switching	⑤	Refer to the truth value table
79	RDS NOISE	I	Tuner Quality (Noise) input		
80	TUNER SMETER	I	Tuner S meter input		

TRUTH VALUE TABLE

① TUNER TYPE

Model	TYPE 1	TYPE 2
KENWOOD brand model (initial value)	L	L
OEM model (with CRSC changed)	L	H
KENWOOD brand model (with CRSC changed)	H	L
KENWOOD brand model (to support test-driving in EU)	H	H

② RDS AFSL (AF search)

High	Normal condition communication (IC10 side : High) (Quality time constant long / Stereo Decoder PLL : Not hold)
Low	AF search (IC10 side : Middle) (Quality time constant short / Stereo Decoder PLL : Hold)

③ POWER SUPPLY IC (IC3) CONTROL

SEL1 (Pin No. 11)

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 No. 12)

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

④ CD MECHA CONTROL OPERATION

CD LOEJ	CD MOTOR	CD MECHA OPERATION
L	H	Load
H	H	Eject
Hi-Z	L	Stop
Hi-Z	H	Brake

⑤ DESTINATION

TYPE 3 (pin 76)	TYPE 2 (pin 77)	TYPE 1 (pin 78)	DESTI NATION	MODEL
0	0	0	K	KDC-232MR/MP2032/ MP232
0	0	1	E	KDC-W4534/Y
0	1	0	M	KDC-MP4033/MP4033S/ MP4533
0	1	1	-	-
1	0	0	-	-
1	0	1	-	-
1	1	0	-	-
1	1	1	-	-

MICROCOMPUTER'S TERMINAL DESCRIPTION

● CD MECHANISM μ-COM : IC2 on X32- (CD PLAYER UNIT)

Pin No.	Pin Name	I/O	Application	Processing Operation
1	TVD	O	Traverse drive output (PWM output).	
2	SPL	O	Spindle motor drive output (PWM output).	
3	NC	-	No connection.	
4	PWM	O	Multipurpose PWM output.	
5	TBAL	O	Tracking balance adjustment output (PWM output).	
6	FBAL	O	Focusing balance adjustment output (PWM output).	
7	NRFDET	I	RF detection signal input.	L : Detection
8	OFT	I	Off-tracking signal input.	H : Detection
9	BDO	I	Drop-out signal input.	H : Detection
10	LDON	O	Laser-on signal output.	H : Focus ON
11	DSLB	O	DSL balance output.	
12	DVDD1	-	Power supply for digital circuit.	
13	DVSS1	-	GND for digital circuit.	
14	AVSS2	-	GND for analog circuit.	For DSL, PLL and A/D converter
15	DSLF	I/O	Loup filter for DSL and bias output for ARF.	
16	ARF	I	RF signal input.	
17	RFSW	I	DSL circuit time constant switch.	
18	PLLF	I/O	Loup filter for PLL.	
19	PLLF2	I/O	Loup filter character switch for PLL.	
20	IREF	I	Reference current input.	
21	RFENV	I	RF envelope signal input.	
22	TRCRS	I	Tracking cross signal input.	
23	TE	I	Tracking error signal input.	
24	FE	I	Focusing error signal input.	
25	AVDD2	-	Power supply for analog circuit.	For DSL, PLL and A/D converter
26	AVSS1	-	GND for analog circuit.	For Lch/Rch audio output
27	OUTR	O	Rch audio output.	
28	AVDD1	-	Power supply for analog circuit.	For Lch/Rch audio output
29	OUTL	O	Lch audio output.	
30	DVSS3	-	GND for digital circuit.	
31	CSEL	-		
32	NC	-	No connection.	
33	ASEL	-		
34	MSEL0	-		
35	MSEL1	-		
36~39	NC	-	No connection.	
40	VREFP	-	Reference power supply input for A/D converter.	
41	HOT	-		
42	8EJE SW	-		

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Application	Processing Operation
43	12EJE/SDET SW	-		
44	LOE/LIM SW	I	Loading-end detection / Pick-up inner circumference detection.	H : Loading-end detection L : Pick-up inner circumference detection
45~49	NC	-	No connection.	
50	DVDD2	-	Power supply for digital circuit.	
51	X1	I	Main clock input.	
52	X2	O	Main clock output.	
53	DVSS2	-	GND for digital circuit.	
54	XSUB1	-		
55	NC	-	No connection.	
56	TEST1	-	Test terminal.	Normal condition : "H" fixed
57	TEST2	-	Test terminal.	Normal condition : "H" fixed
58,59	NC	-	No connection.	
60	DRV MUTE	O	Driver mute control.	L : Mute ON, H : Mute OFF
61	$\overline{\text{MUTE L}}$	O	Audio Lch mute output.	
62	$\overline{\text{MUTE R}}$	O	Audio Rch mute output.	
63	$\overline{\text{RST}}$	I	LSI reset input.	
64	OCD CLK	-		
65	$\overline{\text{MSTOP}}$	I	Standby detection.	
66	DATA	I/O	I2C bus data line (Communication line to system μ-com).	During serial writer is connected.
67	SBIO	I	Data input.	During serial writer is connected.
68	$\overline{\text{CLK}}$	I/O	I2C bus clock line (Communication line to system μ-com).	During serial writer is connected.
69	TX	O	Digital audio interface signal output.	
70	NC	-	No connection.	
71	XSEL	-		
72	MCNT	I	Loading control / Eject control.	L : OFF (Host control), H : Mecha μ-com control
73	P. ON	O	Audio & Servo power supply control.	L : Power supply ON. H : Power supply OFF
74,75	NC	-	No connection.	
76	CD-RW	O	CD-RW control.	H : CD-RW, L : Normal disc
77	NC	-	No connection.	
78	DVDD3	-	Power supply for digital circuit.	
79	FOD	O	Focusing drive output (PWM output).	
80	TRD	O	Tracking drive output (PWM output).	

TEST MODE

● How to enter the test mode

Press and hold the [1] and [3] keys and reset.
(While "– – – –" is being displayed, power can be ON for 30 minutes.)

● How to clear the test mode

Reset. (Not cancelled by Power OFF or ACC OFF.)

● Test mode default condition

- Source is STANDBY.
- Display lights are all turned on.
- The volume is at -10dB (The display is 30).
- LOUD is OFF.
- CRSC is off regardless of the availability of switching function.
- SYSTEM Q is NATURAL (=FLAT).
- BEEP always functions when the key is pressed while in sources other than STANBY.

● Specification of test mode for tuner

K3I forced switching

- [6] key in TUNER mode switches AUTO → forced narrow → forced middle → forced wide.
- When K3I AUTO, if PTY dot is off, filter value read from FAST4 is displayed. If force-set, PTY dot is lit and the setting value is displayed. ("Forced/AUTO" is determined by the PTY dot being on or off.)
  - Wide : "FMW 98.1"
  - Middle : "FMM 98.1"
  - Narrow : "FMN 98.1"

● CD receiver test mode specification

- Display mode default setting shall be P-TIME.
- Forced ejection is prohibited while reset-starting. Note that CD is not to be recognized by reset while it is inserted.
- Jumps to the next tracks by pressing the [▶▶I] key.
  No.9 → No.15 → No.10 → No.11 → No.12 → No.13 → No.22 → No.14 → No.9 (Recursive)
  Note that when playing a MP3 / WMA / AAC disc with 8 files or less, the disc is played from the 1st track in the regular order.
- Pressing the [I◀◀] key goes back by 1 track from the track being played.
- When CD is the source, press the [1] key to jump to No.28.
- When CD is the source, press the [2] key to jump to No.14.
- When CD is the source, press the [6] key to jump to No.15. At this time, the volume value is set to 25.

● AUDIO adjust mode

- Press the [AUD] key and enter the audio adjustment mode.
- Press the remote control [∗] key and [AUD] key to go into the audio adjustment mode.
- Both AUDIO FUNCTION MODE and SETUP MODE adjustment items are included.
- By pressing [AUD] and [FM] keys, switch the item to be adjusted in the following order. (Only in forward rotation)
  The default item shall be Fader, and then the item is forwarded in the following order: Balance → Bass Level → Middle Level → Treble Level.
- Continuous forwarding by remote control is prohibited.
- Fader is adjusted by the VOL knob and [I◀◀] / [▶▶I] keys in 3 steps: R15 ↔ 0 ↔ F15. (Default value: 0)
- Balance is adjusted by the VOL knob and [I◀◀] / [▶▶I] keys in 3 steps: L15 ↔ 0 ↔ R15. (Default value: 0)
- Bass/Middle/Treble are adjusted by the VOL knob and [I◀◀] / [▶▶I] keys in 3 steps: -8 ↔ 0 ↔ +8. (Default value: 0)
- Volume Offset is adjusted by the VOL knob and [I◀◀] / [▶▶I] keys in 2 steps: -8 ↔ 0. (Default value: 0)
- Loudness ON/OFF is adjusted by the VOL knob and [I◀◀] / [▶▶I] keys in 2 steps: OFF ↔ ON. (Default value: OFF)

● MENU

- Press [Q] key to enter the MENU.
- Press the remote control [DNPP/SBF] key to enter the MENU.
- Continuous forwarding by remote control is prohibited.

● Backup current measurement

If reset while in Acc OFF (Back Up ON) condition, MUTE terminal goes off 2 seconds later, rather than 15 seconds.
(During this time, the CD mechanism does not function.)

● Fluorescent indicator tube (ED1) short-checking

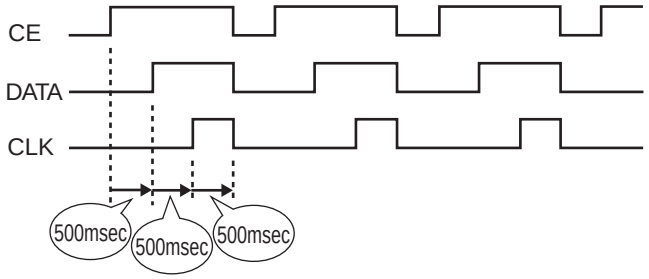
- When the source is STANDBY, press [ATT] key to switch the process in the following order.
  1. All lights off.
  2. Every 125m sec, light the odd and even number of the grid with the largest numbers.
  3. Light only odd number terminals.
  4. Light only even number terminals.
  5. All lights on.

  ∗After the step 5 above, the process goes back to the step 1 and then repeats the steps.

TEST MODE

● OEM display communication

OEM display communication line while in test mode outputs the following.
(Communication line output condition is switched every 500m sec.)



● Initializing AUDIO-related setting value

Press the [▶▶I] key in the STANDBY source and reset the AUDIO setting value to the test mode default value.

● Other

- When Power ON, do not display "CODE_OFF" and "CODE_ON".
- When the source is STANDBY, press [AUTO] key to switch key illumination GREEN/RED.
  (in the model with ILLUMI switching function)
- When started in Test Mode, duration of prohibiting LINE MUTE shall be changed from 10 seconds to 1 second.
- While in Test Mode, serial number is not written with a serial-number-writing jig.
- When in Test Mode, when DC offset error detection is run, the detection information is not written into the E2PROM.
- DEMO mode shall not be operated while in Test Mode, CD Mechanism Error Log Data Clearing Mode, or DC Offset Error Detection Data Clearing Mode.

● Special displays while all lights are on

When all indicators are on with STANDBY source, if the following keys are pressed, the following messages are displayed.

[1] key	Version is displayed (forwarding) (Display) TYPE: x___ → 070710: 10 → All indicators are on. ("x" is displayed in hexadecimals.) Date (xxxx) Time (xx: xx) ∗TYPE indicates μ-com destination, and shows real-time condition of the destination terminal
[2] key	Serial No. is displayed (8 digits) (Display) x x x x x x x x
[3] key	Key pressed: Power ON time is displayed. While Power ON time is displayed, press and hold for 2 seconds or longer to clear the Power ON time. (Display) PON_0H x x (00~50 is displayed for "xx".) x x x x x (00001-10922 is displayed for "xxxxxx".) MAX 10922 (hours)
[4] key	Key pressed: CD operation time is displayed. While CD operation time is displayed, press and hold for 2 seconds or longer to clear the CD operation time. (Display) CDT_0H x x (00~50 is displayed for "xx".) x x x x x (00001-10922 is displayed for "xxxxxx".) MAX 10922 (hours)
[5] key	Key pressed: Number of CD EJECT times is displayed. While the CD EJECT times is displayed, press and hold for 2 seconds or longer to clear the CD EJECT time. (Display) EJC x x x x x MAX 65535 (times)
[6] key	Key pressed: Number of times panel is opened/closed is displayed. While the number of times panel is opened/closed is displayed, press and hold for 2 seconds or longer to clear the value. (Display) PC_ x x x x x MAX 65535 (times)
[FM] key	ROM correction version is displayed. When not written in: ROM_R – – – (Display) ROM_R123 When data not matching ROM_R ∗ ∗ ∗
[AM] key	FAST4 adjustment status • "E2P_OK" : Adjustment completed • "E2P_ER" : E2PROM values are still default (not determined). • "I2C_ER" : Cannot communicate with FAST4/EEPROM. ∗ If "E2P_OK", Pin30 (TUN FANC OUT) should be output as "H".
[▶▶I] key	Audio data initialization (Display) AUD_INIT
[I◀◀] key	Key pressed: Forced Power OFF data displayed. While the forced power OFF data is displayed, press and hold for 2 seconds or longer to clear the data. (Display) POFF_ – – – (No Forced Power OFF) SEC (Forced Power OFF because of missing Security Code) PNL (Forced Power OFF because of system μ-com panel communication error)
[▶II] key	Key pressed: CD information display mode ON/OFF While in CD information display mode, press and hold for 2 seconds or longer to clear all CD information ∗ Please refer to the following "CD information display mode".

TEST MODE

CD information display mode

[AM] key	I2C communication condition display (Display) I2C_OK__ NG
↑	CD mechanism error log display [switched by [I◄◄] / [►►I] keys] (Display) MCERR1: x x ↔ MCERR2: x x ↔ MCERR3: x x ↔ MCERR1: x x ↔ (For "xx", "–" or the error code is displayed.)
	CD loading error log display [switched by [I◄◄] / [►►I] keys] (Display) LDERR1: x x ↔ LDERR2: x x ↔ LDERR1: x x ↔ (number of times is displayed for "xx") MAX 99 (times)
↓ [FM] key	CD ejection error log display [switched by [I◄◄] / [►►I] keys] (Display) EJERR1: x x ↔ EJERR2: x x ↔ EJERR3: x x ↔ EJERR4: x x ↔ EJERR1: x x ↔ (number of times is displayed for "xx") MAX 99 (times)
	CD time code error count data display (missing counts) [switched by [I◄◄] / [►►I] keys] (Display) CNT_LOSE ↔ CDDA__: x x ↔ CDROM_: x x ↔ CNT_LOSE ↔ (number of times is displayed for "xx") MAX 99 (times)
	CD time code error count data display (count not updated) [switched by [I◄◄] / [►►I] keys] (Display) CNT_STAY ↔ CDDA__: x x ↔ CDROM_: x x ↔ CNT_STAY ↔ (number of times is displayed for "xx") MAX 99 (times)

Security

- **How to enter the forced POWER ON mode**
  While "– – – –" is being displayed, while simultaneously pressing [Q] key and [4] key, press [RESET] button, With this, it is possible to turn the power on for 30 minutes only.

- **How to clear the programmable security code**
  ∗ Operation 1
  1. While "– – – –" is being displayed, press [►►I] key for 3 seconds or longer while pressing the [AUTO] key. This makes the "– – – –" display disappear.
  2. Input "KCAR", using the remote controller.
     Press [5] key of the remote controller twice (Input for "K") and press [►►I] key.
     Press [2] key of the remote controller 3 times (Input for "C") and press [►►I] key.
     Press [2] key of the remote controller once (Input for "A") and press [►►I] key.
     Press [7] key of the remote controller twice (Input for "R") and press [►►I] key.
  3. The security is cleared and the unit enters STANDBY source.
  4. If wrong codes are input, "– – – –" will be displayed again.

  ∗ Operation 2
  1. After code has been registered, in STANDBY source, press and hold the [Q] key for 1 second or longer to go into the MENU. While "CODE_CLR" is displayed, press the [►II] keys for 1 second or longer to cancel the security code.
  2. Input pre-registered code, using [FM] / [AM] / [I◄◄] / [►►I] keys.
     [FM] key: numbers go up / [AM] key: numbers go down
     [►►I] key: cursor moved to the right / [I◄◄] key: cursor moved to the left
  3. Press the [►II] key for 3 seconds or longer and "CLEAR" is displayed.
  4. When the input code is not registered, "ERROR" is displayed. Go back to the step 2 and input the code again.

● Clearing CD mechanism information and service information (Clearing E2PROM data)

1. While pressing the [Q] key and [ATT] key, reset-start to start CD mechanism and service information initialization.
   (While "– – – –" is being displayed, power can be ON for 30 minutes.)
   [CD mechanism information]
   - Displays I2C communication condition
   - Displays CD mechanism error log
   - Displays CD loading error data.
   - Displays CD ejection error data.
   - Displays CD time code error count data (missing count).
   - Displays CD time code error count data (count not updated).

   [Service Information]
   - Displays power ON time is displayed.
   - Displays CD operation time.
   - Displays number of CD EJECT times.
   - Displays number of times PANEL was opened / closed.
   - Displays forced Power OFF data.
2. After the initialization process is completed, the following is displayed.
   When successfully completed: "CD_O___".
   When finished but unsuccessful: "CD_X___"
3. This mode is cancelled by resetting. (The last screen will not be retained.)

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

If DC voltage difference (DC offset error) is detected between audio power amplifier (power IC) ± outputs, "DC_ERR_" is displayed on the display. When this occurs, the audio is forced-mute and the display displays only "DC_ERR_".

TEST MODE

Once this product detected a DC offset error, even if it is re-started (or reset), its display displays “DC_ERR_”.
However, if the error is detected while in Test Mode, it is not saved in E2PROM.

1. Press and hold [3] and [6] keys and reset-start to go into the DC offset error display mode
   (While “– – – –” is being displayed, power can be ON for 30 minutes.)
2. While in STANDBY source, the current DC offset error condition is displayed.
   Error detected: “DC_ERR___”
   Error not detected: “DC_OK___”
3. While error condition is being displayed, press [AUTO] key to clear the detection data.
   (Clear E2PROM)
4. CD offset error display mode is cancelled by resetting. (The last screen will not be retained.)

● FM/AM channel space switching

While Power OFF, press and hold [1] and [5] keys and press [SRC] key to Power ON.

● FAST4 software-mute adjustment mode

1. Press and hold [1] and [6] keys and reset-start to go into the FAST4 software mute adjustment mode.
   Default setting LOUD: OFF
   FM band reception frequency: 98.3MHz
2. While in STANDBY source, “TUN_ADJ”,
   While in TUNER source, “S-＊_D-＊” is displayed.
3. While in TUNER source, press [FM] / [AM] / [I◀◀] / [▶▶I] keys to input the adjustment value.
   • Start point: [I◀◀] / [▶▶I] keys (0-7) “S-＊”
   • Convergent point : [FM] / [AM] key (0-F) “D-＊”
   • Press the [4] key and call up 98.3MHz.
4. Press and hold [6] key for 2 seconds or longer to write the adjustment value into E2PROM, and “EP_WRITE” is displayed.
5. This mode is cancelled by resetting.

● Settings for OEM

Use pin 2 on the system μ-com to support OEM model.

TUN TYPE1 (Pin. 5)	TUN TYPE2 (Pin. 6)	Description
Low	Low	①KENWOOD brand model
High	Low	②KENWOOD brand model (with CRSC changed)
Low	High	③OEM model (with CRSC changed)
High	High	④KENWOOD brand model (to support test-driving in EU)

ADJUSTMENT

After replacing the following parts, adjust as follows.

REPLACED PARTS		ADJUSTMENT ITEMS		
Ref. No.	Function / Parts name	1st AM MIX	2nd AM MIX	FM antenna
IC10	E-VOL & TUNER	YES	YES	YES
IC11	E2PROM	YES	YES	YES
L507	VCO COIL	YES	YES	YES
L508	1st AM MIX IFT	YES	-	-
L509	2nd AM MIX IFT	-	YES	-
L518	FM ANTENNA COIL	-	-	YES
D504	VARIABLE CAPACITANCE DIODE	YES	YES	YES
D506	VARIABLE CAPACITANCE DIODE	YES	YES	YES
X501	CRYSTAL RESONATOR	YES	YES	YES

● 1st AM MIX / 2nd AM MIX ADJUSTMENT

ADJUSTMENT POINT : L508 (1st AM MIX) / L509 (2nd AM MIX)

VOLTAGE VALUE CHECK POINT : S-METER check land (X34-)

Adjust so that S-METER voltage value becomes maximum.

• SG setting

DESTINATION	FREQUENCY	MODULATION	ANTENNA INPUT
Europe	999kHz	OFF	35dBμV (EMF)
Except Europe	1000kHz	OFF	35dBμV (EMF)

● FM ANTENNA ADJUSTMENT

ADJUSTMENT POINT : L518

VOLTAGE VALUE CHECK POINT : S-METER check land (X34-)

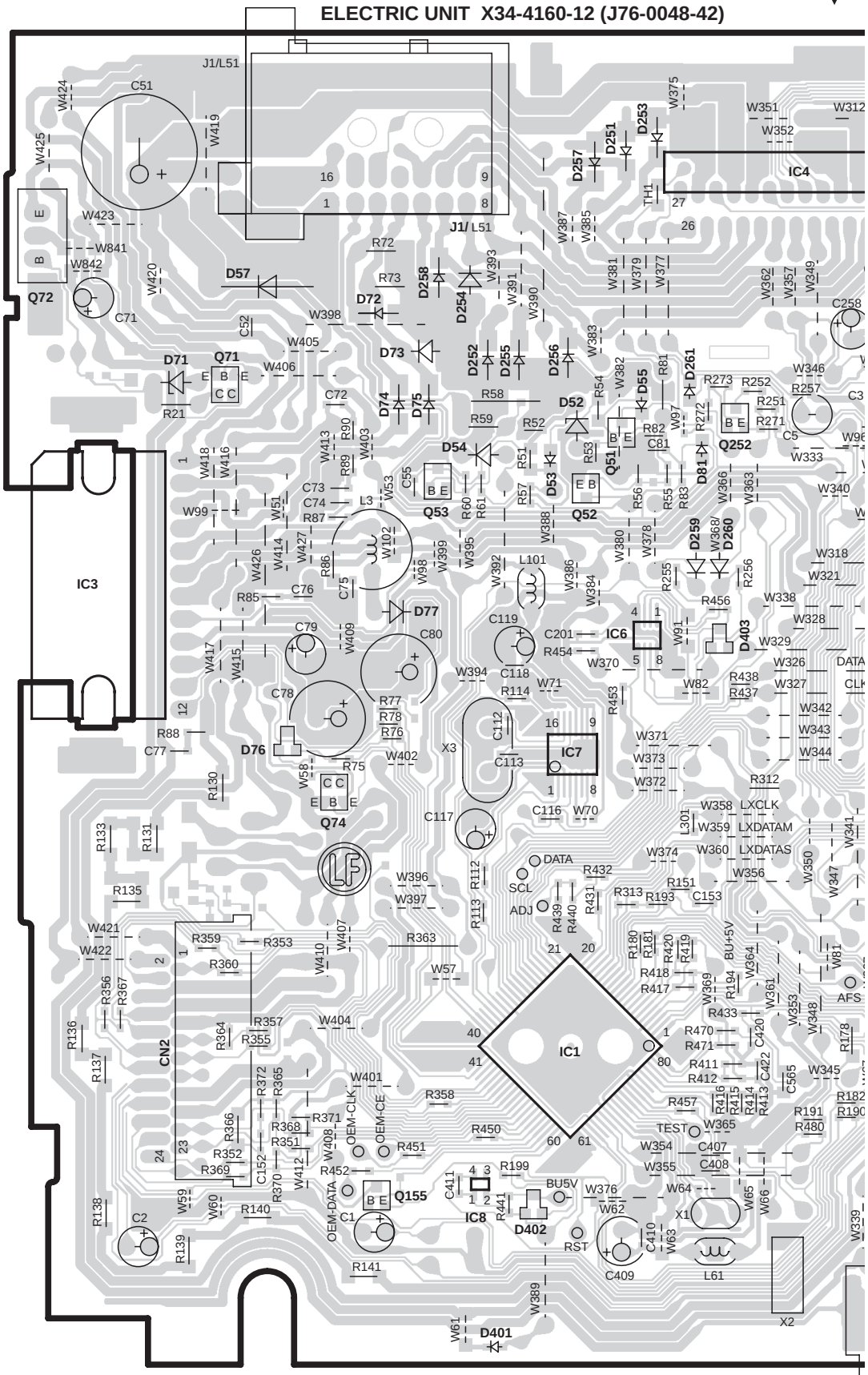
Adjust so that S-METER voltage value becomes maximum.

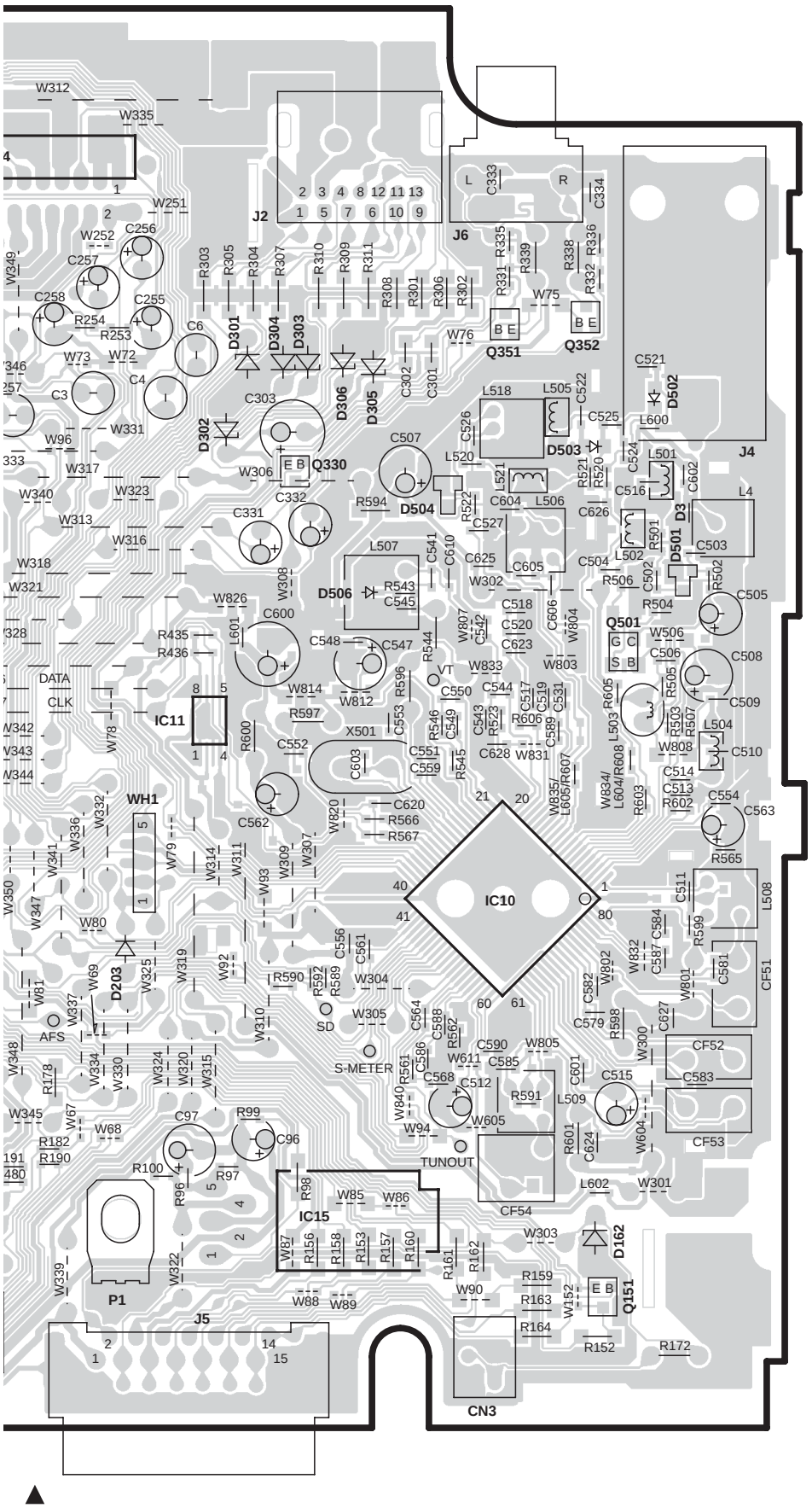
• SG setting

DESTINATION	FREQUENCY	MODULATION	ANTENNA INPUT
Europe	87.5MHz	OFF	5dBμV (LOAD) or 11dBμV (EMF)
Except Europe	87.9MHz	OFF	5dBμV (LOAD) or 11dBμV (EMF)

PC BOARD (FOIL SIDE VIEW)

ELECTRIC UNIT X34-4160-12 (J76-0048-42)





X34-4160-12

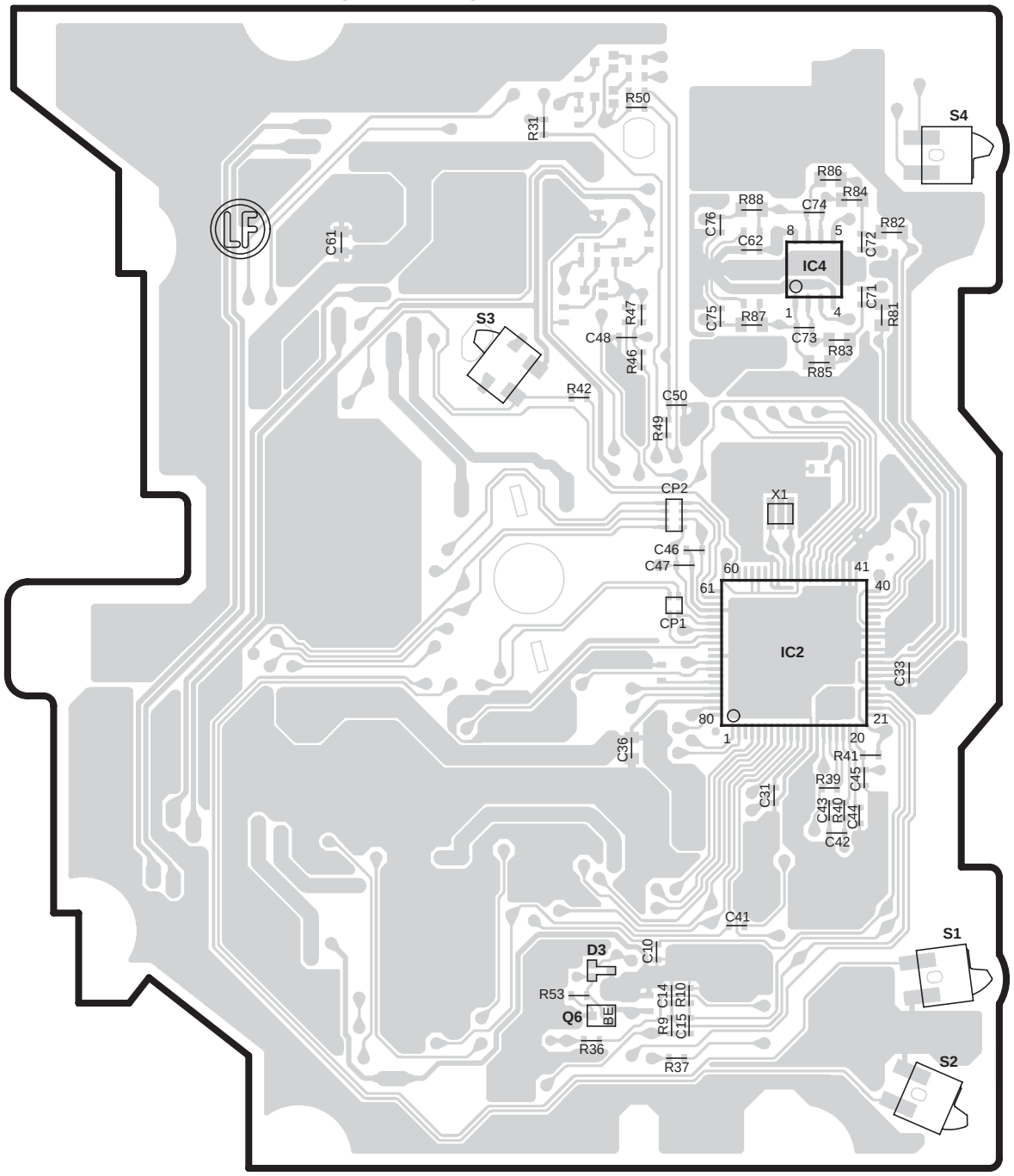
Ref. No.	Address
IC1	6D
IC3	4B
IC4	2E
IC6	4D
IC8	6D
IC10	5G
IC11	4F
IC15	6G
Q51	3D
Q52	3D
Q53	3D
Q71	3C
Q72	2B
Q151	6H
Q155	6D
Q252	3E
Q330	3G
Q351	3G
Q352	3H
Q501	4H

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

KDC-232MR

PC BOARD (COMPONENT SIDE VIEW)

CD PLAYER UNIT X32-5750-00 (J76-0059-12)



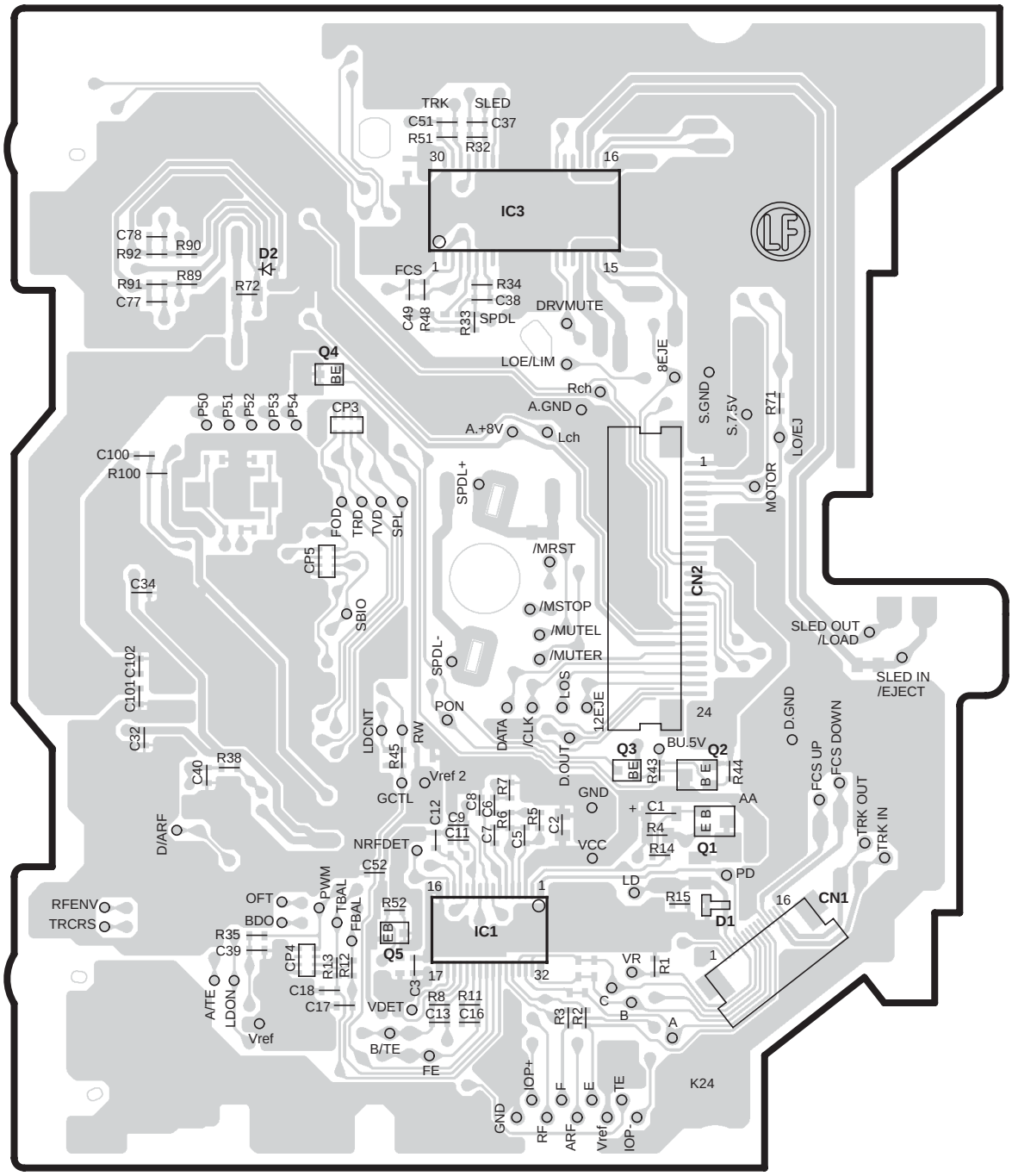
X32-5750-00

Ref. No.	Address
IC2	4N
IC4	2N
Q6	5M

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

PC BOARD (FOIL SIDE VIEW)

CD PLAYER UNIT X32-5750-00 (J76-0059-12)



X32-5750-00

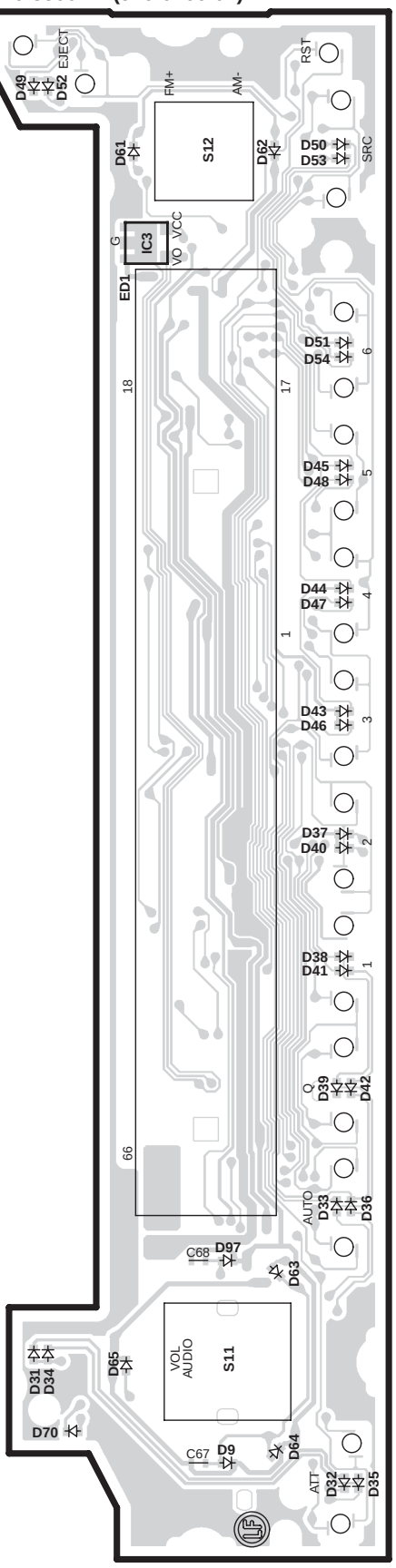
Ref. No.	Address
IC1	5R
IC3	2R
Q1	5S
Q2	4S
Q3	4R
Q4	3Q
Q5	5Q

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

KDC-232MR

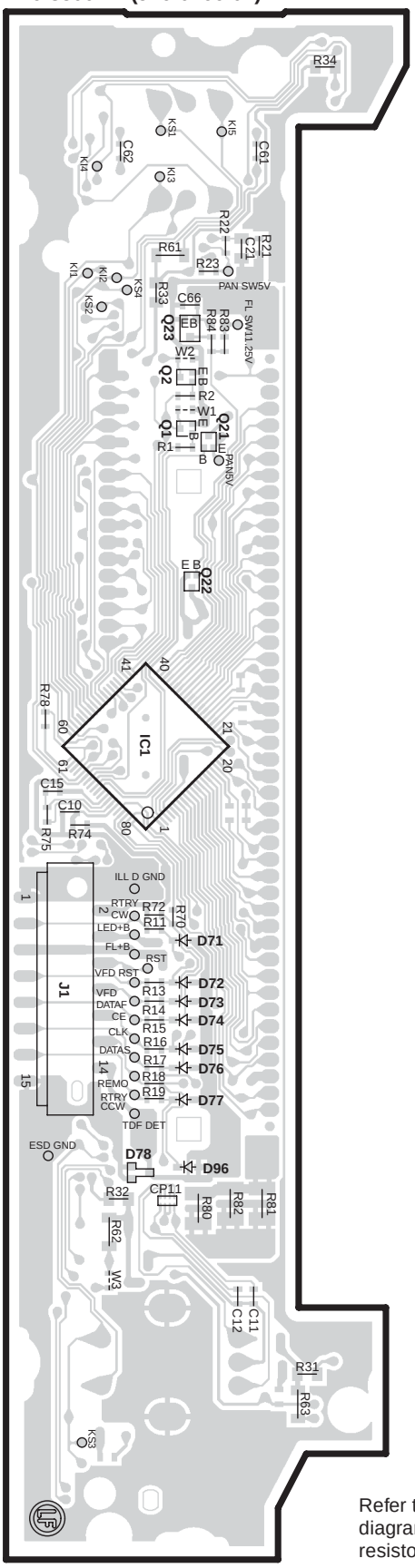
PC BOARD (COMPONENT SIDE VIEW)

SWITCH UNIT
X16-3500-11 (J76-0166-02)



(FOIL SIDE VIEW)

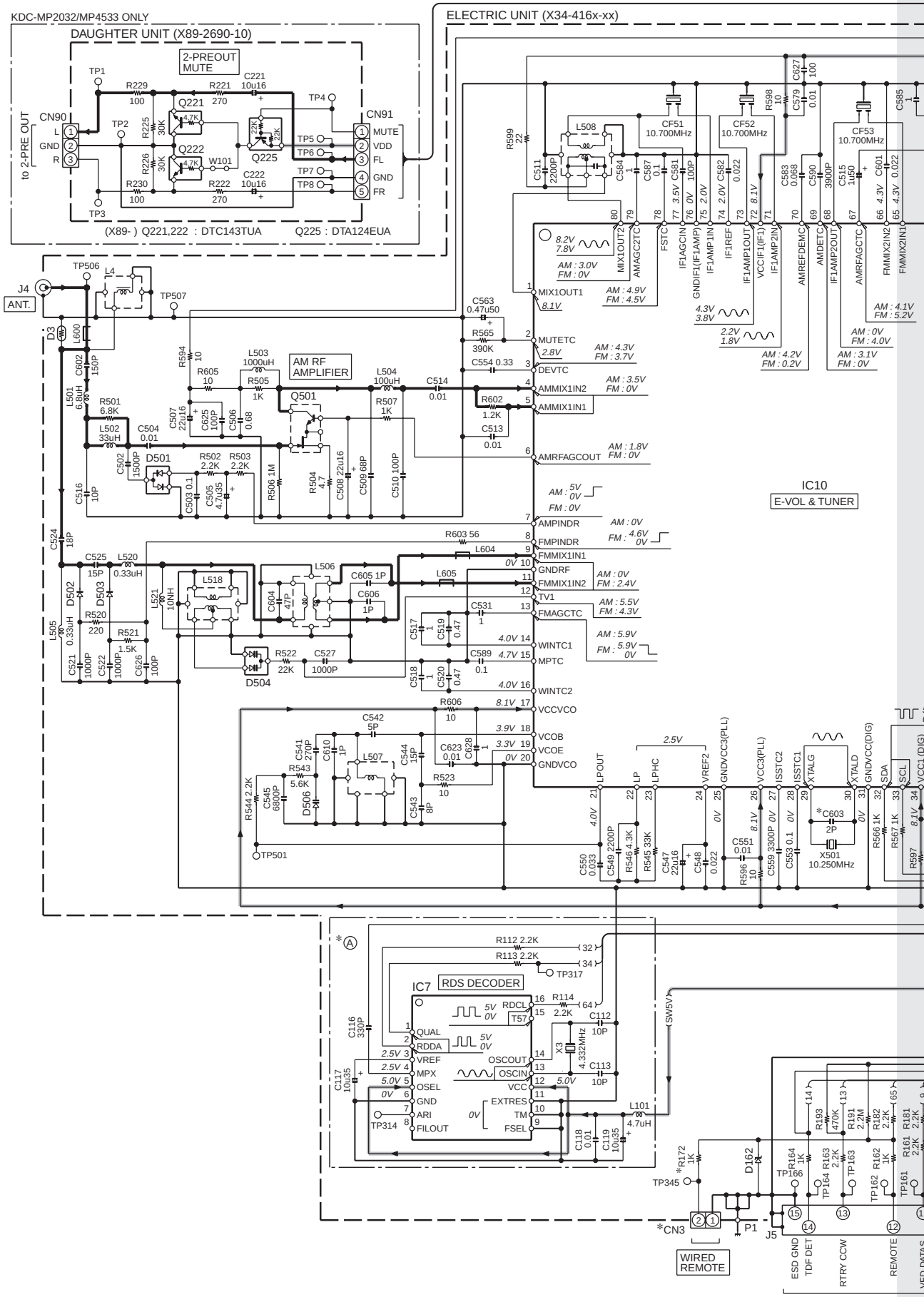
SWITCH UNIT
X16-3500-11 (J76-0166-02)



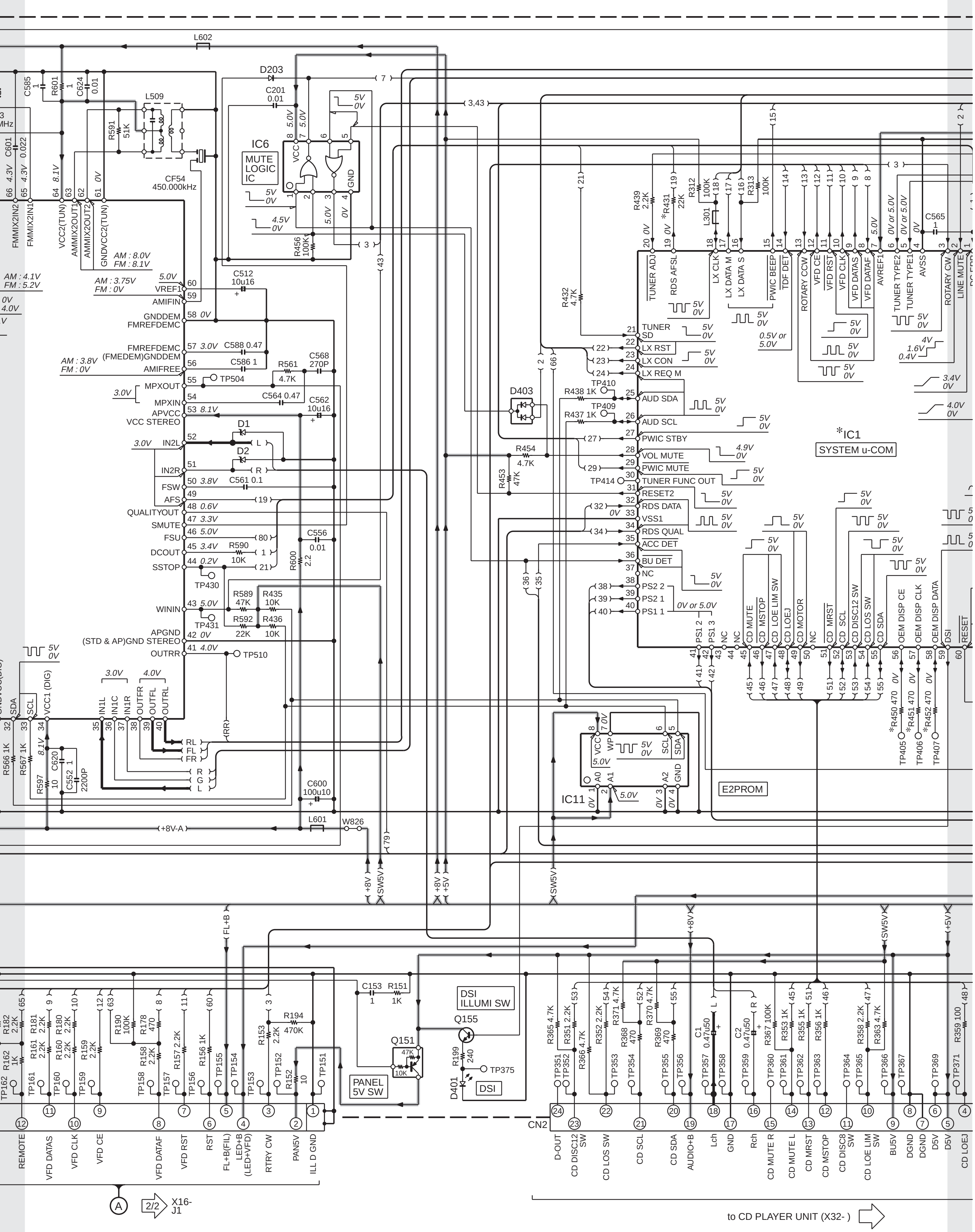
X16-3500-11

Ref. No.	Address
IC1	4X
Q21	3X

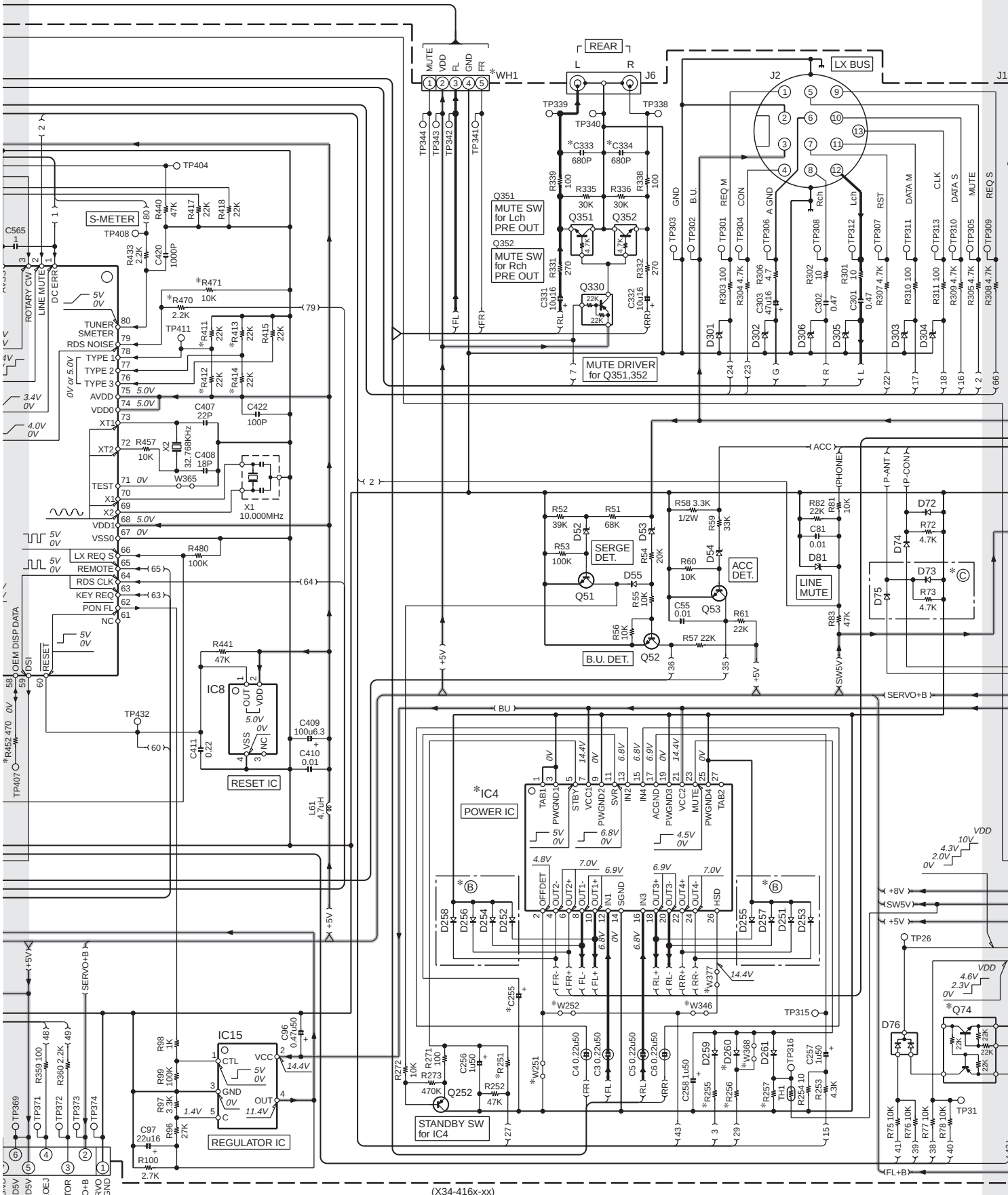
Refer to the schematic diagram for the values of resistors and capacitors.


KDC-MP2032/MP4533 ONLY
DAUGHTER UNIT (X89-2690-10)
2-PREOUT MUTE
CN90
CN91
to 2-PRE OUT
(X89-) Q221,222 : DTC143TUA
Q225 : DTA124EUA
ELECTRIC UNIT (X34-416x-xx)
AM RF AMPLIFIER
IC10
E-VOL & TUNER
IC7
RDS DECODER
WIRED REMOTE
ESD GND
TDF DET
RTRY CCW
REMOTE
ANT.
CF51 10.700MHz
CF52 10.700MHz
CF53 10.700MHz
X501 10.250MHz
X3 4.332MHz

KDC-232MR

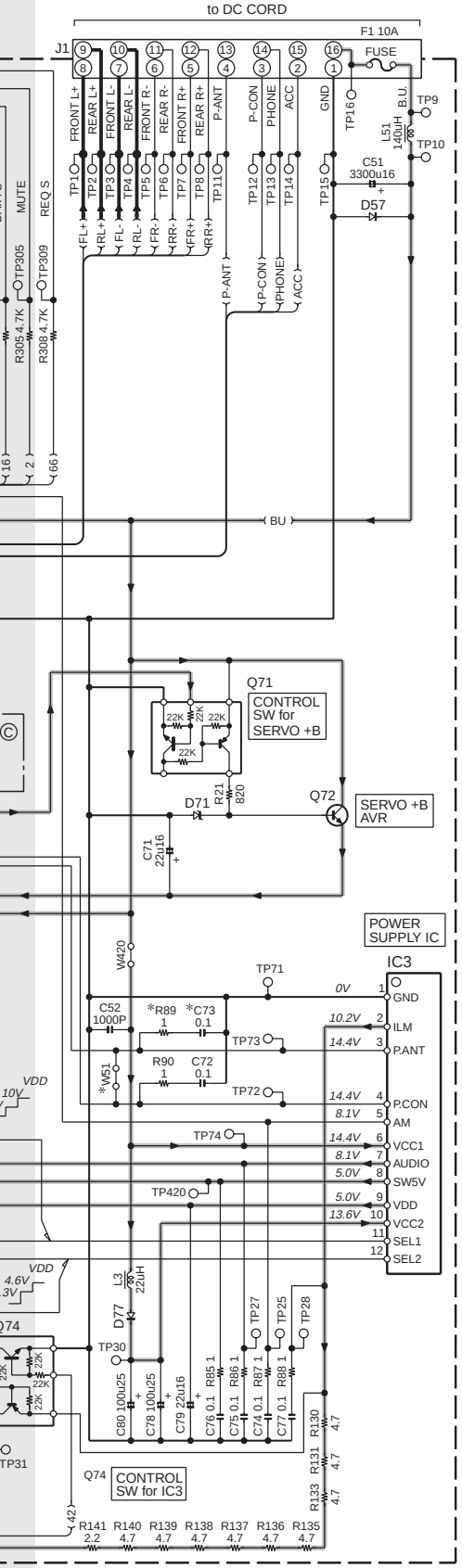

IC6
MUTE LOGIC IC
D203
C201 0.01
L602
L509
CF54 450.000kHz
C512 10u16
C588 0.47
C586 1
R561 4.7K
C568 270P
TP504
C564 0.47
C562 10u16
D1
D2
C561 0.1
C556 0.01
R590 10K
R600 2.2
TP430
R589 47K
R435 10K
R592 22K
R436 10K
TP431
TP510
C600 100u10
L601
W826
+8V-A
D403
R438 1K
TP410
R437 1K
TP409
R454 4.7K
R453 47K
TP414
R432 4.7K
R439 2.2K
R431 22K
R312 100K
R313 100K
L301
C565 1
*IC1
SYSTEM u-COM
TUNER ADJ
RDS AFSL
LX CLK
LX DATA M
LX DATA S
PWIC BEEP
TDF DET
ROTARY CCW
VFD CE
VFD RST
VFD CLK
VFD DATAS
VFD DATAF
AVREF1
TUNER TYPE2
TUNER TYPE1
AVSS
ROTARY CW
LINE MUTE
TUNER SD
LX RST
LX CON
LX REQ M
AUD SDA
AUD SCL
PWIC STBY
VOL MUTE
PWIC MUTE
TUNER FUNC OUT
RESET2
RDS DATA
VSS1
RDS QUAL
ACC DET
BU DET
NC
PS2 2
PS2 1
PS1 1
CD MUTE
CD MSTOP
CD LOE LIM SW
CD LOEJ
CD MOTOR
CD MRST
CD SCL
CD DISC12 SW
CD LOS SW
CD SDA
OEM DISP CE
OEM DISP CLK
OEM DISP DATA
DSI
RESET
IC11
E2PROM
TP405
TP406
TP407
FMMIX2IN2
FMMIX2IN1
VCC2(TUN)
AMMIX2OUT1
AMMIX2OUT2
GNDVCC2(TUN)
VREF1
AMIFIN
GNDDEM
FMREFDEMC
AMIFREE
MPXOUT
MPXIN
APVCC
VCC STEREO
IN2L
IN2R
FSW
AFS
QUALITYOUT
SMUTE
FSU
DCOUT
SSTOP
WININ
APGND
(STD & AP)GND STEREO
OUTRR
SDA
SCL
VCC1 (DIG)
IN1L
IN1C
IN1R
OUTFR
OUTFL
OUTRL
C153 1
R151 1K
Q151
PANEL 5V SW
DSI ILLUMI SW
Q155
R199 240
TP375
D401
DSI
R194 470K
CN2
REMOTE
VFD DATAS
VFD CLK
VFD CE
VFD DATAF
VFD RST
RST
FL+B(FIL)
LED+B (LED+VFD)
RTRY CW
PAN5V
ILL D GND
D-OUT
CD DISC12 SW
CD LOS SW
CD SCL
CD SDA
AUDIO+B
Lch
GND
Rch
CD MUTE R
CD MUTE L
CD MRST
CD MSTOP
CD DISC8 SW
CD LOE LIM SW
BU5V
DGND
D5V
CD LOEJ
2/2 X16-J1
to CD PLAYER UNIT (X32-)

KDC-232MR



MODEL NAME	DESTI-NATION	UNIT No.	Ⓐ	Ⓑ	Ⓒ	C73	C255	C333,334, 603	CN3	D260	IC1	IC4	Q74	R89, 414	R172, 413	R251	R25
KDC-232MR	K2	0-12	—	YES	—	—	33u10	—	—	YES	784225GC303A	E-TDA7560A	—	—	YES	33K	22
KDC-MP2032	K	0-10	—	YES	—	—	33u10	—	—	YES	784225GC302A	E-TDA7560A	—	—	YES	33K	22
KDC-MP232	K1	0-11	—	—	—	—	10u35	—	—	—	784225GC302A	TB2904HQ	—	—	YES	150K	33
KDC-MP4033/S	M1/M2	0-21	—	YES	YES	YES	33u10	—	—	YES	784225GC302A	E-TDA7560A	YES	YES	—	33K	22
KDC-MP4533	M3	0-22	—	YES	YES	YES	33u10	—	—	YES	784225GC302A	E-TDA7560A	YES	YES	—	33K	22
KDC-W4534/Y	E1/E2	2-71	YES	YES	YES	—	33u10	YES	YES	YES	784225GC302A	E-TDA7560A	YES	—	YES	33K	22

KDC-232MR



(X34-)
IC1 : *
IC3 : BD4912-V4
IC4 : *
IC6 : TC7W02FU-F
IC7 : E-TDA7479AD
IC8 : S-80836CNNB-J
IC10 : E-TDA7516A
IC11 : BR24L04FV-W
IC15 : BA00CCWT

TH1 : PRF21BE471QB2

Q51-53,155 : 2SC4155A(Q,R,S
Q71,74 : UMC2N
Q72 : 2SD2396(J,K)
Q151 : DTA114YUA
Q252 : 2SA1603A
Q330 : RT1P241M
Q351,352 : RT1N430M
Q501 : HN3G01J(BL)-F

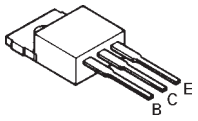
D3 : IMSA-6801-E
D52,54,305,306 : MTZJ6.8B
D53 : 02DZ6.8F-Y
D55,261 : 1SS355
D57 : S2V60*A
D71 : MTZJ8.2B
D72,74,75,251-258 : 1SR154-400
D73,77 : 1SR139-400T64
D76,403 : BAV70W
D81 : 02DZ4.7F-Y
D162,301-304 : MTZJ6.2B
D203,259,260 : 1SS133
D401 : B30-1567-05
D501 : RN739F
D502,503 : KP2311ETR-G
D504 : KV1430STL-G
D506 : HVC383B-E

SIGNAL LINE
GND LINE
+B LINE

R251	R255	R256	R257	R411, 471	R412,431, 470	R450-452	W51	W251,346, 368,377	W252	WH1
33K	220	22K	39K	YES	—	YES	—	—	YES	—
33K	220	22K	39K	YES	—	YES	—	—	YES	YES
150K	330	150K	12K	YES	—	YES	—	YES	—	—
33K	220	22K	39K	YES	—	—	—	—	YES	—
33K	220	22K	39K	YES	—	—	—	—	YES	YES
33K	220	22K	39K	—	YES	—	YES	—	YES	—

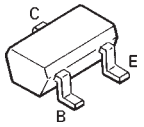
KDC-232MR (1/2)

2SD2396

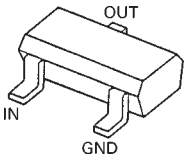


2SA1362
2SA1576A

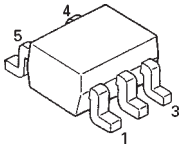
2SC4081



DTA124EUA



UMC2N



DAN202U

DA204U

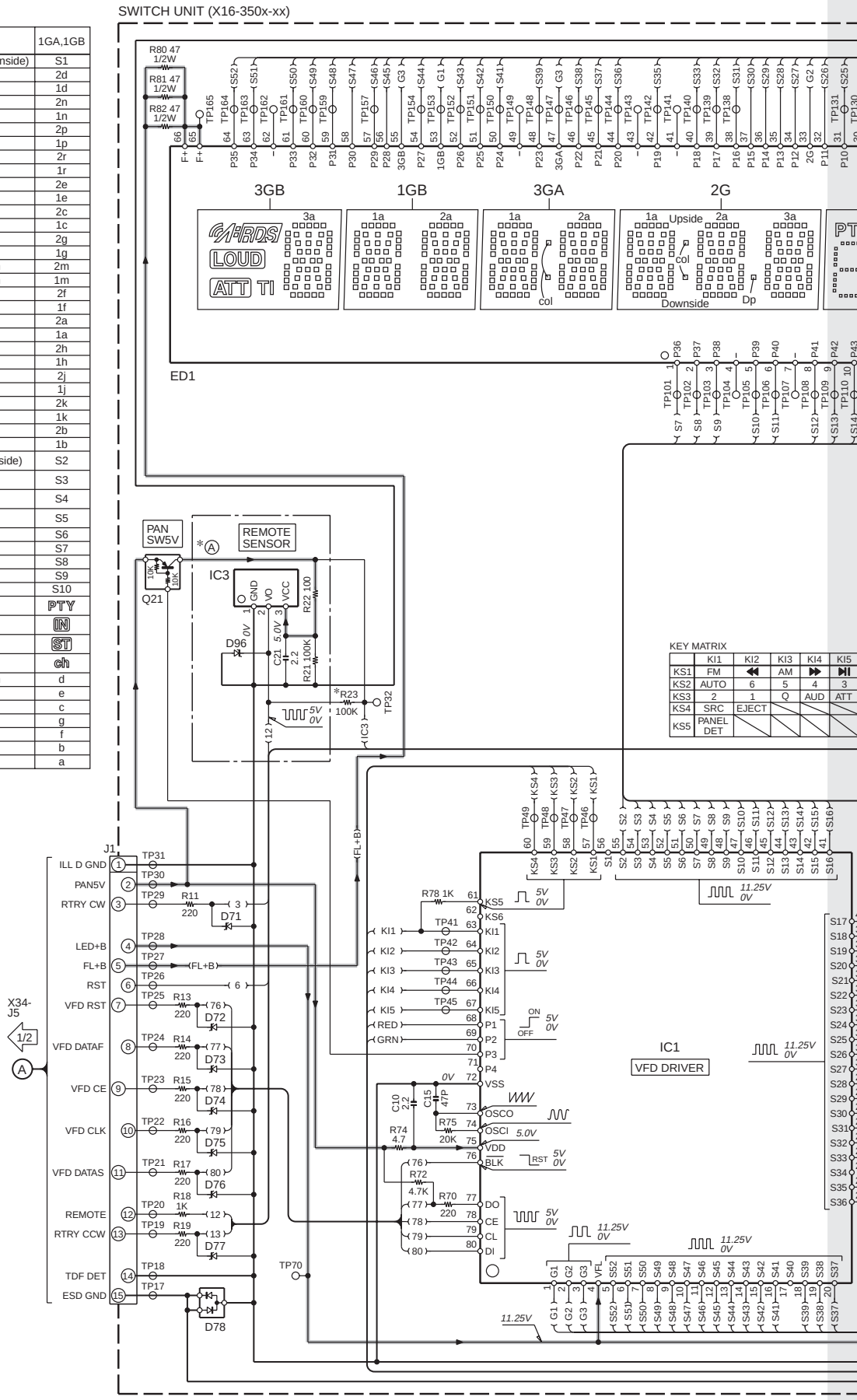
CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).
⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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

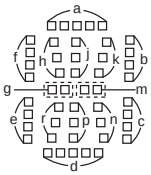
ANODE CONNECTION

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	CH/RDS	col (Upside)	S2
P31	LOUD	—	S3
P32	ATT	—	S4
P33	TI	—	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

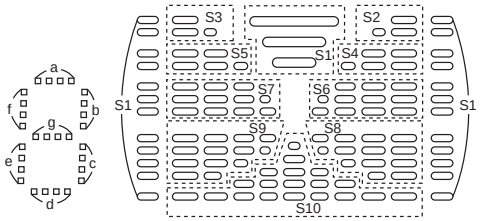
SWITCH UNIT (X16-350x-xx)



KDC-232MR



(3GB/1GB/3GA/2G)



(1GA)

(X16-350x-xx)

MODEL NAME	DESTI-NATION	UNIT No.	Ⓐ	Ⓑ	Ⓒ	C61,62, 67,68	D61,62	D63-65	D97,98	Q1,2	R1,2	R23	R61	R62	R63	W1	W2	W3
E212/S	J/J1	0-01	—	—	B30-1575-05	YES	B30-1729-05	—	B30-1729-05	—	—	YES	300	680	470	YES	—	YES
E313S	J2																	
KDC-232MR	K2	0-11	—	YES	—	YES	B30-1729-05	—	B30-1729-05	—	—	YES	300	680	470	—	YES	YES
KDC-MP202	K1	2-72	—	YES	—	—	B30-1567-05	—	B30-1567-05	—	—	YES	680	820	680	—	YES	YES
KDC-MP2032	K	0-10	YES	YES	—	YES	B30-1729-05	—	B30-1729-05	—	—	—	300	680	470	—	YES	YES
KDC-MP2032CR	K2	0-21	YES	—	B30-1533-05	—	B30-1533-05	YES	—	—	—	—	620	620	680	YES	—	—
KDC-MP232	K1	0-10	YES	YES	—	YES	B30-1729-05	—	B30-1729-05	—	—	—	300	680	470	—	YES	YES
KDC-MP333/RC	M1/M3	0-21	YES	—	B30-1533-05	—	B30-1533-05	YES	—	—	—	—	620	620	680	YES	—	—
KDC-MP4033/S	M1/M2	0-22	YES	—	B30-1533-05	YES	B30-1729-05	—	B30-1729-05	—	—	—	300	680	470	YES	—	YES
KDC-MP433	M2	0-21	YES	—	B30-1533-05	—	B30-1533-05	YES	—	—	—	—	620	620	680	YES	—	—
KDC-MP4533	M3	0-22	YES	—	B30-1533-05	YES	B30-1729-05	—	B30-1729-05	—	—	—	300	680	470	YES	—	YES
KDC-3034A/AY	E2/E4	2-72	—	YES	—	—	B30-1567-05	—	B30-1567-05	—	—	YES	680	820	680	—	YES	YES
KDC-3034G/GY	E3/E5	2-73	—	—	B30-1533-05	—	B30-1533-05	YES	—	—	—	YES	620	620	680	YES	—	—
KDC-W40GY	E9	2-73	—	—	B30-1533-05	—	B30-1533-05	YES	—	—	—	YES	620	620	680	YES	—	—
KDC-W4034A/AY	E/E2	2-72	—	YES	—	—	B30-1567-05	—	B30-1567-05	—	—	YES	680	820	680	—	YES	YES
KDC-W4034G/GY	E1/E3	2-73	—	—	B30-1533-05	—	B30-1533-05	YES	—	—	—	YES	620	620	680	YES	—	—
KDC-W410A/AY	E4/E6	2-72	—	YES	—	—	B30-1567-05	—	B30-1567-05	—	—	YES	680	820	680	—	YES	YES
KDC-W410G/GY	E5/E7	2-73	—	—	B30-1533-05	—	B30-1533-05	YES	—	—	—	YES	620	620	680	YES	—	—
KDC-W434A	E6	2-72	—	YES	—	—	B30-1567-05	—	B30-1567-05	—	—	YES	680	820	680	—	YES	YES
KDC-W434G/GY	E7/E8	2-73	—	—	B30-1533-05	—	B30-1533-05	YES	—	—	—	YES	620	620	680	YES	—	—
KDC-W4534/Y	E1/E2	2-71	—	YES	B30-1533-05	YES	B30-1729-05	—	B30-1729-05	YES	YES	YES	300	680	470	—	—	YES

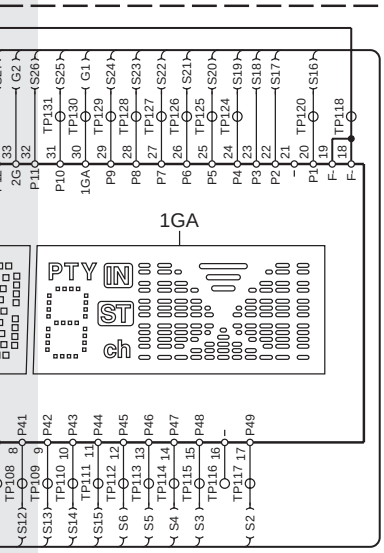
ED1 : HNR-03SS09T

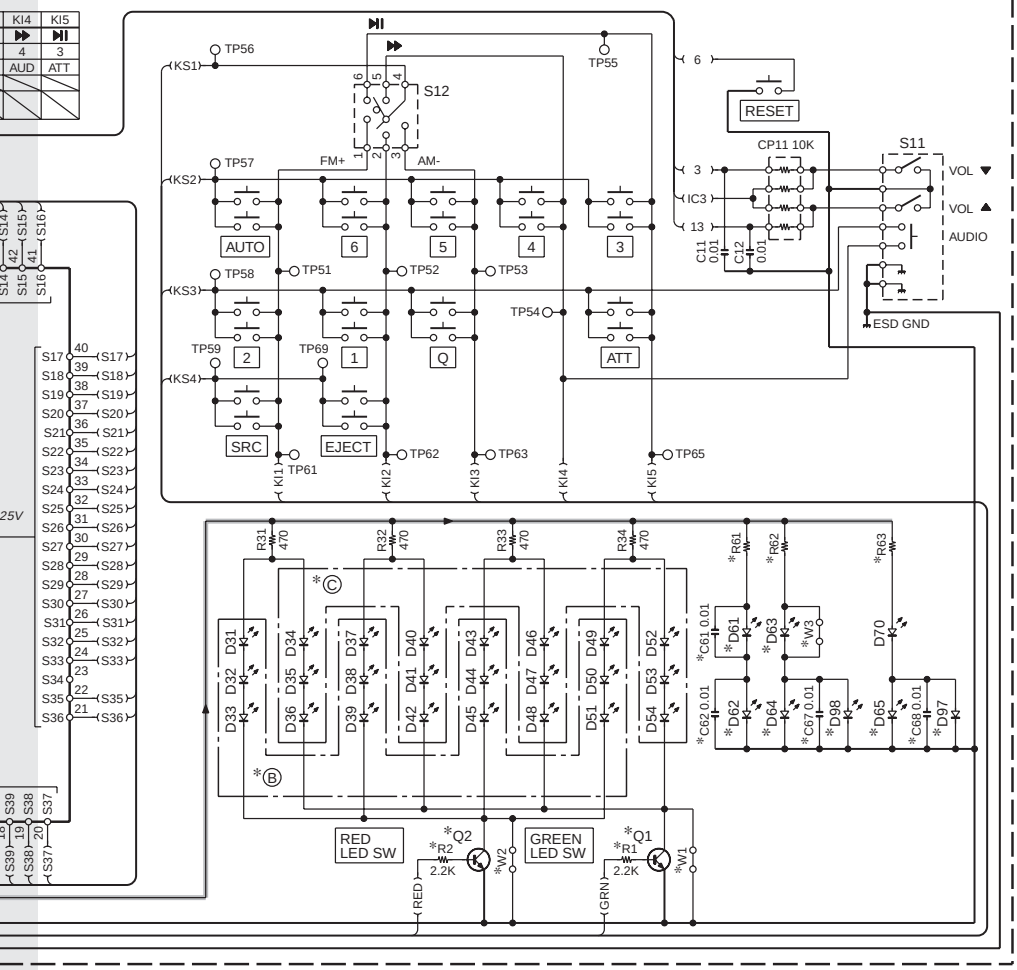
IC1 : LC75756W
IC3 : PNA4S22M02KW

Q1,2 : 2SC5383(E,F)
Q21 : RT1P141U

D31-33,37-39,43-45,49-51,70 : B30-1567-05
D34-36,40-42,46-48,52-54 : *
D61-65 : *
D71-77 : UDZS5.6B
D78 : DA204U
D96 : UDZS5.6B
D97,98 : *

GND LINE
+B LINE

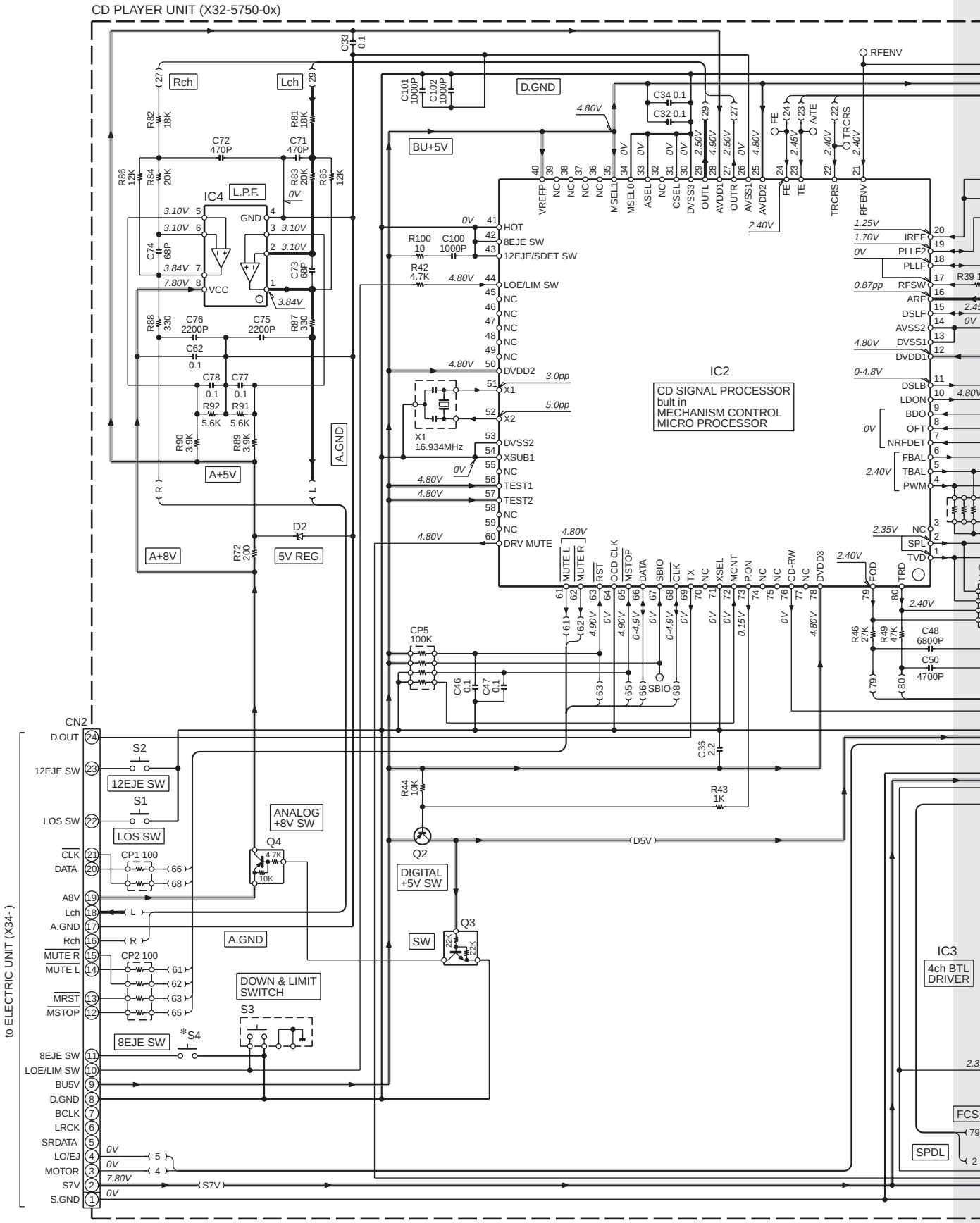




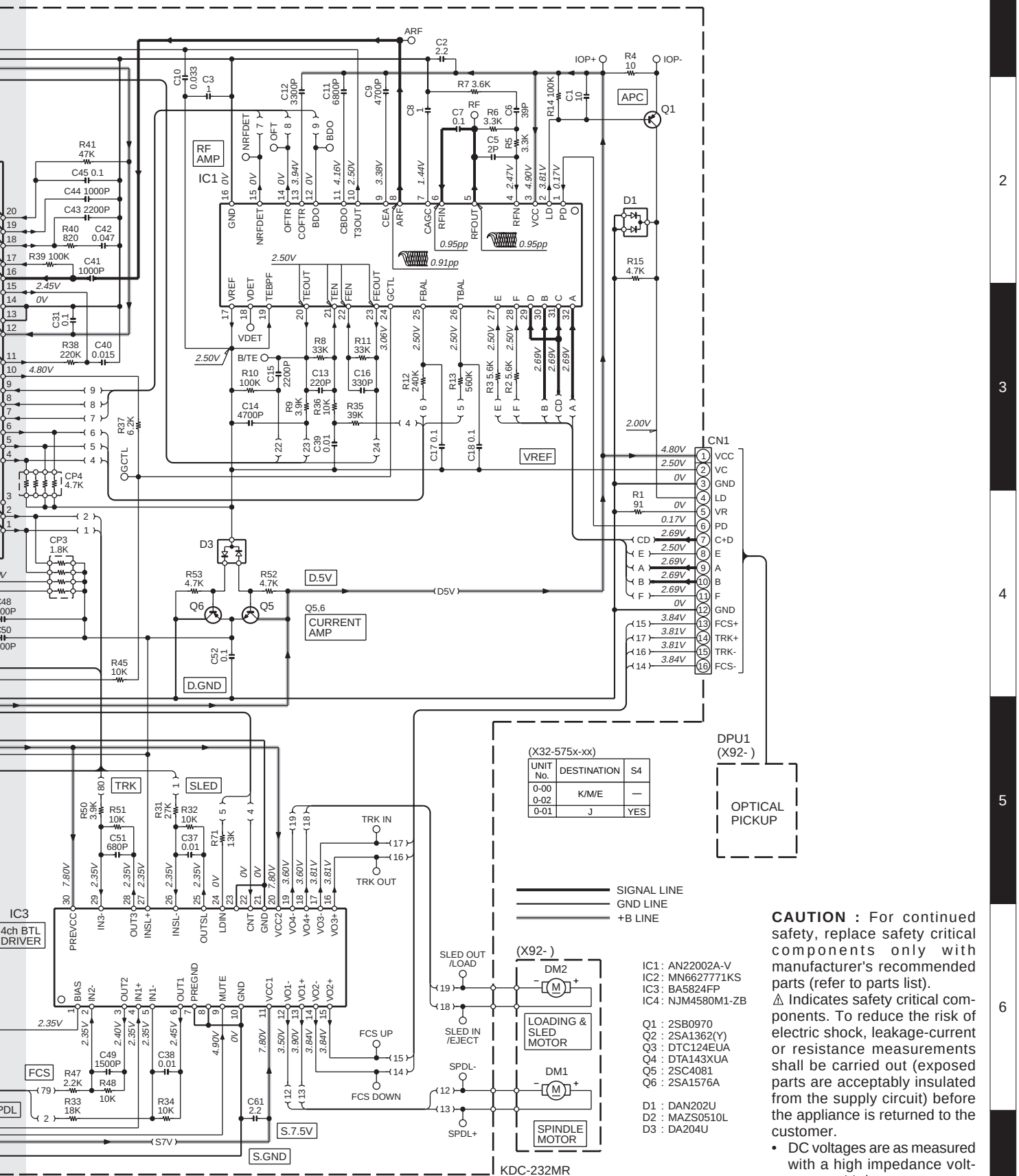
KDC-232MR (2/2)

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.


CD PLAYER UNIT (X32-5750-0x)
IC2
CD SIGNAL PROCESSOR
bult in
MECHANISM CONTROL
MICRO PROCESSOR
IC4
L.P.F.
IC3
4ch BTL
DRIVER
X1
16.934MHz
Rch
Lch
A+5V
A+8V
5V REG
A.GND
D.GND
BU+5V
D5V
RFENV
CN2
to ELECTRIC UNIT (X34-)
D.OUT
12EJE SW
LOS SW
CLK
DATA
A8V
Lch
A.GND
Rch
MUTE R
MUTE L
MRST
MSTOP
8EJE SW
LOE/LIM SW
BU5V
D.GND
BCLK
LRCK
SRDATA
LO/EJ
MOTOR
S7V
S.GND
S1
S2
S3
*S4
ANALOG
+8V SW
DIGITAL
+5V SW
DOWN & LIMIT
SWITCH
SW
Q2
Q3
Q4
CP1 100
CP2 100
CP5
100K
SBIO
FCS
SPDL
HOT
8EJE SW
12EJE/SDET SW
LOE/LIM SW
DVDD2
X1
X2
DVSS2
XSUB1
TEST1
TEST2
DRV MUTE
IREF
PLLF2
PLLF
RFSW
ARF
DSLF
AVSS2
DVSS1
DVDD1
DSLB
LDON
BDO
OFT
NRFDET
FBAL
TBAL
PWM
SPL
TVD
FOD
TRD

KDC-232MR



IC1 : AN22002A-V
IC2 : MN6627771KS
IC3 : BA5824FP
IC4 : NJM4580M1-ZB

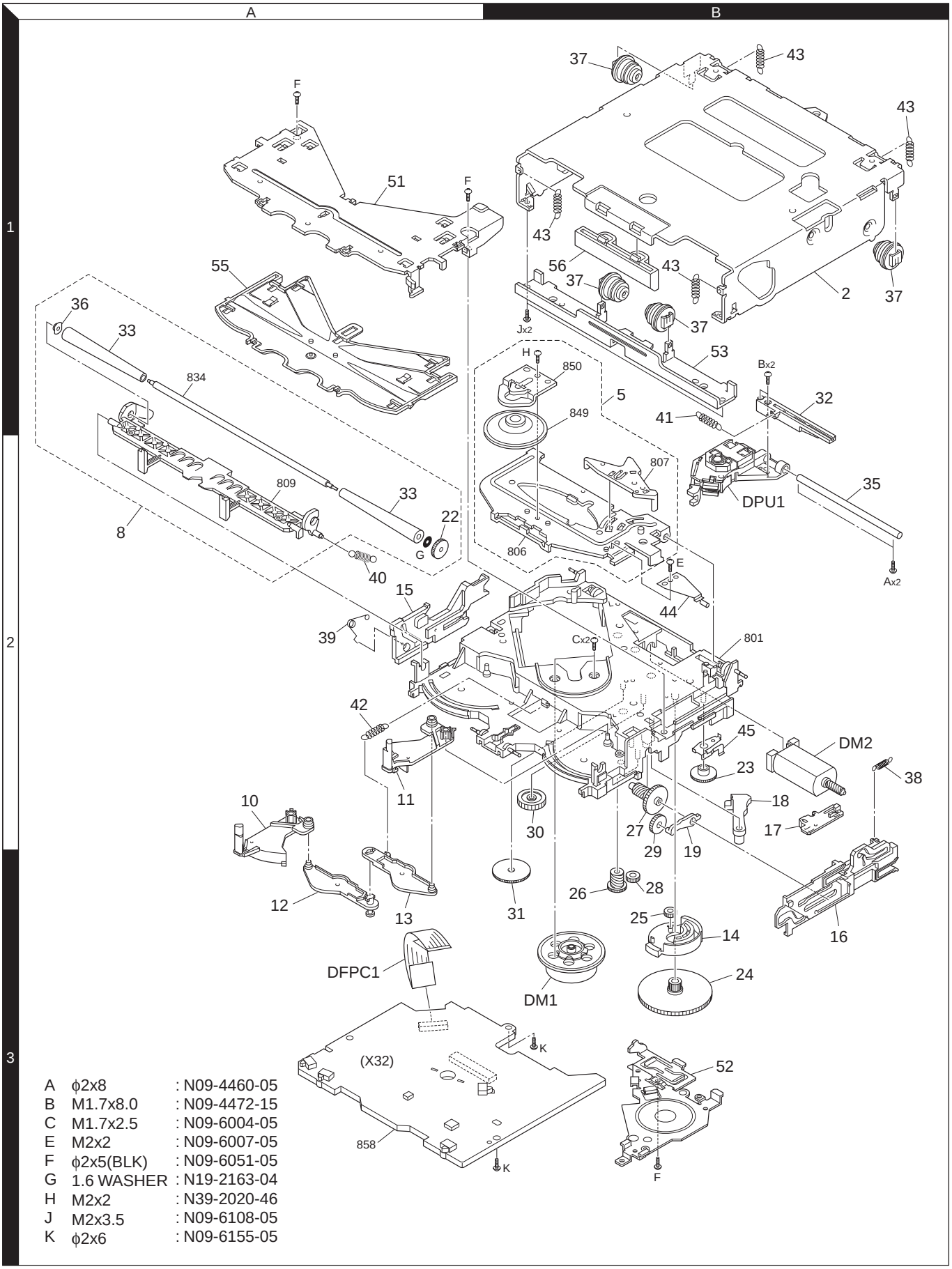
Q1 : 2SB0970
Q2 : 2SA1362(Y)
Q3 : DTC124EUA
Q4 : DTA143XUA
Q5 : 2SC4081
Q6 : 2SA1576A

D1 : DAN202U
D2 : MAZS0510L
D3 : DA204U

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.

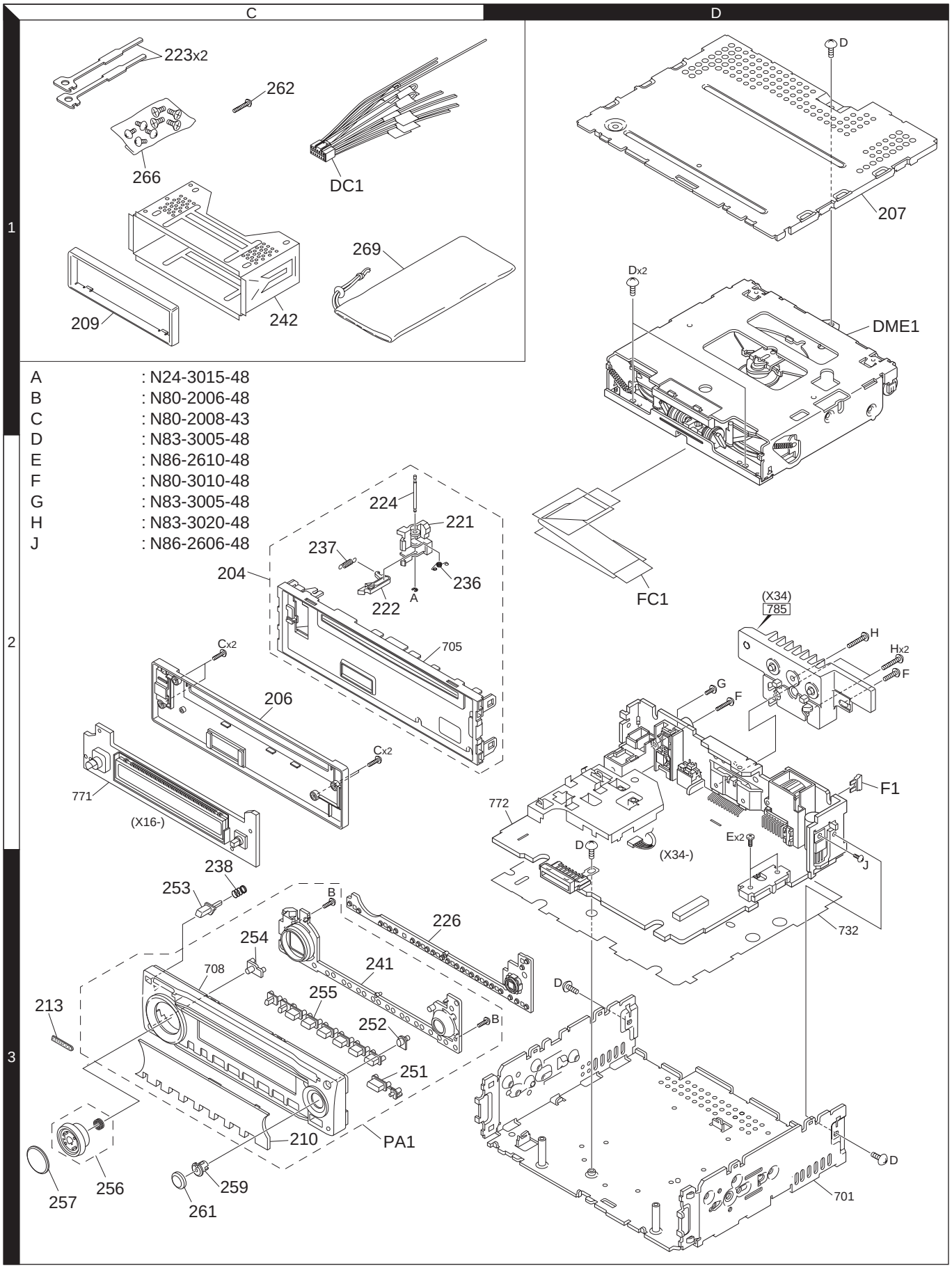
- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

EXPLODED VIEW (CD MECHANISM)



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

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 mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No.	Add	New	Parts No.	Description	Destination
KDC-232MR					
204	2C		A22-2863-13	SUB PANEL ASSY	
206	2C		A46-1815-01	REAR COVER	
207	1D		A52-0804-12	TOP PLATE	
PA1	3C	✻	A64-3804-02	PANEL ASSY	
-			B46-0681-04	ID CARD	
-			B46-0682-00	WARRANTY CARD	
-			B58-1426-04	CAUTION CARD	
-		✻	B64-3290-00	INST. MANUAL (ENG,SPA)	
-		✻	B64-3291-00	INST. MANUAL (FRENCH)	
209	1C		B07-3123-01	ESCUTCHEON	
210	3C	✻	B10-4799-01	FRONT GLASS	
213	3C		B43-1518-04	BADGE	
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	✻	E29-2070-02	CONDUCTIVE RUBBER	
⚠ DC1	1C		E30-6415-15	DC CORD	
FC1	2D		E39-0718-05	FLAT CABLE	
⚠ 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	
-			H10-4919-12	POLYSTYRENE FOAMED FIXTURE	
-			H25-0329-04	PROTECTION BAG (280X450X0.03)	
-		✻	H25-1236-14	PROTECTION BAG (0.03X180X500)	
-		✻	H54-3601-03	ITEM CARTON CASE	
241	3C	✻	J19-7115-01	HOLDER	
242	1C		J21-9716-03	MOUNTING HARDWARE ASSY	
251	3C	✻	K25-1788-03	PUSH KNOB (SRC)	
252	3C	✻	K24-4457-04	PUSH KNOB (EJECT)	
253	3C	✻	K24-4459-04	PUSH KNOB (RELEASE)	
254	3C	✻	K24-4455-04	PUSH KNOB (ATT)	
255	3C	✻	K25-1790-02	PUSH KNOB (PRESET)	
256	3C	✻	K29-7200-03	KNOB ASSY (VOL)	
257	3C	✻	K28-0115-03	KEY TOP (VOL)	
259	3C	✻	K28-0102-03	KNOB BASE (FM/AM)	
261	3C	✻	K28-0113-03	KEY TOP (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		N80-2008-43	PAN HEAD TAPTITE SCREW	
D	1D		N83-3005-48	PAN HEAD TAPTITE SCREW	
E	3D		N86-2610-48	BINDING HEAD TAPTITE SCREW	
269	1C		W01-1661-05	CARRYING CASE	
DME1	1D		X92-5090-00	MECHANISM ASSY (DXM-6220W)	

Ref. No.	Add	New	Parts No.	Description	Destination
SWITCH UNIT (X16-3500-11)					
D31-33			B30-1567-05	LED (1608,RED)	
D37-39			B30-1567-05	LED (1608,RED)	
D43-45			B30-1567-05	LED (1608,RED)	
D49-51			B30-1567-05	LED (1608,RED)	
D61,62			B30-1729-05	LED (1608,BLUE)	
D70			B30-1567-05	LED (1608,RED)	
D97,98			B30-1729-05	LED (1608,BLUE)	
C10			CK73GB0J225K	CHIP C 2.2UF K	
C11,12			CK73GB1H103K	CHIP C 0.010UF K	
C15			CC73GCH1H470J	CHIP C 47PF J	
C61,62			CK73GB1H103K	CHIP C 0.010UF K	
C67,68			CK73GB1H103K	CHIP C 0.010UF K	
J1			E59-0851-05	RECTANGULAR PLUG	
CP11			RK74HB1J103J	CHIP-COM 10K J 1/16W	
R11			RK73GB2A221J	CHIP R 220 J 1/10W	
R13-17			RK73GB2A221J	CHIP R 220 J 1/10W	
R18			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R19			RK73GB2A221J	CHIP R 220 J 1/10W	
R23			RK73GB2A104J	CHIP R 100K J 1/10W	
R31-34			RK73FB2B471J	CHIP R 470 J 1/8W	
R61			RK73EB2E301J	CHIP R 300 J 1/4W	
R62			RK73EB2E681J	CHIP R 680 J 1/4W	
R63			RK73EB2E471J	CHIP R 470 J 1/4W	
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	
R80-82			RK73PB2H470J	CHIP R 47 J 1/2W	
W2,3			R92-1252-05	CHIP R 0 OHM J 1/16W	
S12			S70-0106-05	TACT SWITCH	
S11			T99-0457-15	ROTARY ENCODER	
D71 -77			UDZS5.6B	ZENER DIODE	
D78			DA204U	DIODE	
ED1		✻	HNR-03SS09T	FLUORESCENT INDICATOR TUBE	
IC1			LC75756W	MOS-IC	
Q21			RT1P141U	TRANSISTOR	
CD PLAYER UNIT (X32-5750-00)					
C1			C93-1215-05	CERAMIC 10UF K	
C2			CK73FB1A225K	CHIP C 2.2UF K	
C3			CK73GB0J105K	CHIP C 1.0UF K	
C5			CC73GCH1H020C	CHIP C 2.0PF C	
C6			CC73GCH1H390J	CHIP C 39PF J	
C7			CK73GB1C104K	CHIP C 0.10UF K	
C8			CK73GB0J105K	CHIP C 1.0UF K	
C9			CK73GB1H472K	CHIP C 4700PF K	
C10			CK73GB1C333K	CHIP C 0.033UF K	
C11			CK73GB1H682K	CHIP C 6800PF K	
C12			CK73GB1H332K	CHIP C 3300PF K	
C13			CC73GCH1H221J	CHIP C 220PF J	

E : Europe **K** : North America **M** : Other Areas **W** : Without Europe

⚠ Indicates safety critical components.

PARTS LIST

CD PLAYER UNIT (X32-5750-00)

Ref. No.	Add	New	Parts No.	Description	Destination
C14			CK73GB1H472K	CHIP C 4700PF K	
C15			CK73GB1H222K	CHIP C 2200PF K	
C16			CC73GCH1H331J	CHIP C 330PF J	
C17,18			CK73GB1C104K	CHIP C 0.10UF K	
C31-34			CK73GB1C104K	CHIP C 0.10UF K	
C36			CK73FB1A225K	CHIP C 2.2UF K	
C37-39			CK73GB1H103K	CHIP C 0.010UF K	
C40			CK73GB1H153K	CHIP C 0.015UF K	
C41			CK73GB1H102K	CHIP C 1000PF K	
C42			CK73GB1E473K	CHIP C 0.047UF K	
C43			CK73GB1H222K	CHIP C 2200PF K	
C44			CK73GB1H102K	CHIP C 1000PF K	
C45-47			CK73GB1C104K	CHIP C 0.10UF K	
C48			CK73GB1H682K	CHIP C 6800PF K	
C49			CK73GB1H152K	CHIP C 1500PF K	
C50			CK73GB1H472K	CHIP C 4700PF K	
C51			CK73GB1H681K	CHIP C 680PF K	
C52			CK73GB1C104K	CHIP C 0.10UF K	
C61			CK73FB1A225K	CHIP C 2.2UF K	
C62			CK73GB1C104K	CHIP C 0.10UF K	
C71,72			CK73GB1H471K	CHIP C 470PF K	
C73,74			CC73GCH1H680J	CHIP C 68PF J	
C75,76			CK73GB1H222K	CHIP C 2200PF K	
C77,78			CK73GB1C104K	CHIP C 0.10UF K	
C100-102			CK73GB1H102K	CHIP C 1000PF K	
CN1			E41-2297-05	FLAT CABLE CONNECTOR	
CN2			E41-2083-15	FLAT CABLE CONNECTOR	
X1			L78-0851-05	RESONATOR (16.93MHZ)	
CP1			RK74GA1J101J	CHIP-COM 100 J 1/16W	
CP2			RK74GB1J101J	CHIP-COM 100 J 1/16W	
CP3			RK74GB1J182J	CHIP-COM 1.8K J 1/16W	
CP4			RK74GB1J472J	CHIP-COM 4.7K J 1/16W	
CP5			RK74GB1J104J	CHIP-COM 100K J 1/16W	
R1			RK73GB2A910J	CHIP R 91 J 1/10W	
R2,3			RK73GB2A562J	CHIP R 5.6K J 1/10W	
R4			RK73FB2B100J	CHIP R 10 J 1/8W	
R5,6			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R7			RK73GB2A362J	CHIP R 3.6K J 1/10W	
R8			RK73GB2A333J	CHIP R 33K J 1/10W	
R9			RK73GB2A392J	CHIP R 3.9K J 1/10W	
R10			RK73GB2A104J	CHIP R 100K J 1/10W	
R11			RK73GB2A333J	CHIP R 33K J 1/10W	
R12			RK73GB2A244J	CHIP R 240K J 1/10W	
R13			RK73GB2A564J	CHIP R 560K J 1/10W	
R14			RK73GB2A104J	CHIP R 100K J 1/10W	
R15			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R31			RK73GB2A273J	CHIP R 27K J 1/10W	
R32			RK73GB2A103J	CHIP R 10K J 1/10W	
R33			RK73GB2A183J	CHIP R 18K J 1/10W	
R34			RK73GB2A103J	CHIP R 10K J 1/10W	
R35			RK73GB2A393J	CHIP R 39K J 1/10W	
R36			RK73GB2A103J	CHIP R 10K J 1/10W	
R37			RK73GB2A622J	CHIP R 6.2K J 1/10W	
R38			RK73GB2A224J	CHIP R 220K J 1/10W	
R39			RK73GB2A104J	CHIP R 100K J 1/10W	
R40			RK73GB2A821J	CHIP R 820 J 1/10W	
R41			RK73GB2A473J	CHIP R 47K J 1/10W	
R42			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R43			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R44,45			RK73GB2A103J	CHIP R 10K J 1/10W	
R46			RK73GB2A273J	CHIP R 27K J 1/10W	
R47			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R48			RK73GB2A103J	CHIP R 10K J 1/10W	
R49			RK73GB2A473J	CHIP R 47K J 1/10W	
R50			RK73GB2A392J	CHIP R 3.9K J 1/10W	
R51			RK73GB2A103J	CHIP R 10K J 1/10W	
R52,53			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R71			RK73GB2A133J	CHIP R 13K J 1/10W	
R72			RK73FB2B201J	CHIP R 200 J 1/8W	
R81,82			RK73FB2B183J	CHIP R 18K J 1/8W	
R83,84			RK73FB2B203J	CHIP R 20K J 1/8W	
R85,86			RK73FB2B123J	CHIP R 12K J 1/8W	
R87,88			RK73FB2B331J	CHIP R 330 J 1/8W	
R89,90			RK73GB2A392J	CHIP R 3.9K J 1/10W	
R91,92			RK73GB2A562J	CHIP R 5.6K J 1/10W	
R100			RK73GB2A100J	CHIP R 10 J 1/10W	
S1,2			S68-0863-05	PUSH SWITCH	
S3			S68-0862-05	PUSH SWITCH	
D1			DAN202U	DIODE	
D2			MAZS0510L	ZENER DIODE	
D3			DA204U	DIODE	
IC1			AN22002A-V	ANALOGUE IC	
IC2			MN6627771KS	MOS-IC	
IC3			BA5824FP	ANALOGUE IC	
IC4			NJM4580M1-ZB	ANALOGUE IC	
Q1			2SB0970	TRANSISTOR	
Q2			2SA1362 (Y)	TRANSISTOR	
Q3			DTC124EUA	DIGITAL TRANSISTOR	
Q4			DTA143XUA	DIGITAL TRANSISTOR	
Q5			2SC4081	TRANSISTOR	
Q6			2SA1576A	TRANSISTOR	

ELECTRIC UNIT (X34-4160-12)

D401			B30-1567-05	LED (1608,RED)	
C1,2			CD04AT1HR47M	ELECTRO 0.47UF 50WV	
C3-6			C90-6735-05	NP-ELECT 0.22UF 50WV	
C51			C90-5683-05	ELECTRO 3300UF 16WV	
C52			CK73GB1H102K	CHIP C 1000PF K	
C55			CK73GB1H103K	CHIP C 0.010UF K	
C71			CD04AS1C220M	ELECTRO 22UF 16WV	
C72			CK73GB1H104K	CHIP C 0.10UF K	
C74-77			CK73GB1H104K	CHIP C 0.10UF K	
C78			CD04AT1E101M	ELECTRO 100UF 25WV	
C79			CD04AS1C220M	ELECTRO 22UF 16WV	
C80			CD04AT1E101M	ELECTRO 100UF 25WV	
C81			CK73GB1H103K	CHIP C 0.010UF K	
C96			CD04AS1HR47M	ELECTRO 0.47UF 50WV	

E : Europe **K** : North America **M** : Other Areas **W** : Without Europe

⚠ Indicates safety critical components.

PARTS LIST

ELECTRIC UNIT (X34-4160-12)

Ref. No.	Add	New	Parts No.	Description			Destination
C97			CD04BF1C220M	ELECTRO	22UF	16WV	
C153			CK73GB1A105K	CHIP C	1.0UF	K	
C201			CK73GB1H103K	CHIP C	0.010UF	K	
C255			CD04AS1A330M	ELECTRO	33UF	10WV	
C256			CD04AS1H010M	ELECTRO	1UF	50WV	
C257			C90-5663-05	ELECTRO	1UF	50WV	
C258			CD04AS1H010M	ELECTRO	1UF	50WV	
C301,302			CK73FB1E474K	CHIP C	0.47UF	K	
C303			CD04AT1C470M	ELECTRO	47UF	16WV	
C331,332			CD04AT1C100M	ELECTRO	10UF	16WV	
C407			CC73GCH1H220J	CHIP C	22PF	J	
C408			CC73GCH1H180J	CHIP C	18PF	J	
C409			CD04AS0J101M	ELECTRO	100UF	6.3WV	
C410			CK73GB1H103K	CHIP C	0.010UF	K	
C411			CK73GB1C224K	CHIP C	0.22UF	K	
C420			CC73GCH1H102J	CHIP C	1000PF	J	
C422			CC73GCH1H101J	CHIP C	100PF	J	
C502			CK73GB1H152K	CHIP C	1500PF	K	
C503			CK73GB1H104K	CHIP C	0.10UF	K	
C504			CK73GB1H103K	CHIP C	0.010UF	K	
C505			CD04AT1V4R7M	ELECTRO	4.7UF	35WV	
C506			CK73GB1A684K	CHIP C	0.68UF	K	
C507,508			CD04AT1C220M	ELECTRO	22UF	16WV	
C509			CC73GCH1H680J	CHIP C	68PF	J	
C510			CC73GCH1H101J	CHIP C	100PF	J	
C511			CK73GB1H222K	CHIP C	2200PF	K	
C512			CD04AT1C100M	ELECTRO	10UF	16WV	
C513,514			CK73GB1H103K	CHIP C	0.010UF	K	
C515			CD04AT1H010M	ELECTRO	1UF	50WV	
C516			CC73GCH1H100D	CHIP C	10PF	D	
C517,518			CK73GB1A105K	CHIP C	1.0UF	K	
C519,520			CK73GB1A474K	CHIP C	0.47UF	K	
C521,522			CC73GCH1H102J	CHIP C	1000PF	J	
C524			CC73GCH1H180J	CHIP C	18PF	J	
C525			CC73GCH1H150J	CHIP C	15PF	J	
C527			CC73GCH1H102J	CHIP C	1000PF	J	
C531			CK73GB1A105K	CHIP C	1.0UF	K	
C541			CC73GCH1H271J	CHIP C	270PF	J	
C542			CC73GCH1H050C	CHIP C	5.0PF	C	
C543			CC73GCH1H080D	CHIP C	8.0PF	D	
C544			CC73GCH1H150J	CHIP C	15PF	J	
C545			CK73GB1H682K	CHIP C	6800PF	K	
C547			CD04AT1C220M	ELECTRO	22UF	16WV	
C548			CK73GB1H223K	CHIP C	0.022UF	K	
C549			CK73GB1H222K	CHIP C	2200PF	K	
C550			CK73GB1H333K	CHIP C	0.033UF	K	
C551			CK73GB1H103K	CHIP C	0.010UF	K	
C552			CK73GB1H222K	CHIP C	2200PF	K	
C553			CK73GB1H104K	CHIP C	0.10UF	K	
C554			CK73GB1A334K	CHIP C	0.33UF	K	
C556			CK73GB1H103K	CHIP C	0.010UF	K	
C559			CK73GB1H332K	CHIP C	3300PF	K	
C561			CK73GB1H104K	CHIP C	0.10UF	K	
C562			CD04AT1C100M	ELECTRO	10UF	16WV	
C563			CD04AT1HR47M	ELECTRO	0.47UF	50WV	

Ref. No.	Add	New	Parts No.	Description			Destination
C564			CK73GB1A474K	CHIP C	0.47UF	K	
C565			CK73FB1C105K	CHIP C	1.0UF	K	
C568			CC73GCH1H271J	CHIP C	270PF	J	
C579			CK73GB1H103K	CHIP C	0.010UF	K	
C581			CC73GCH1H101J	CHIP C	100PF	J	
C582			CK73GB1H223K	CHIP C	0.022UF	K	
C583			CK73GB1H683K	CHIP C	0.068UF	K	
C584-586			CK73GB1A105K	CHIP C	1.0UF	K	
C587			CK73GB1H104K	CHIP C	0.10UF	K	
C588			CK73GB1A474K	CHIP C	0.47UF	K	
C589			CK73GB1H104K	CHIP C	0.10UF	K	
C590			CK73GB1H392K	CHIP C	3900PF	K	
C600			CD04AT1A101M	ELECTRO	100UF	10WV	
C601			CK73GB1H223K	CHIP C	0.022UF	K	
C602			CC73GCH1H151J	CHIP C	150PF	J	
C604			CC73GCH1H470J	CHIP C	47PF	J	
C605,606			CC73GCH1H010C	CHIP C	1.0PF	C	
C610			CC73GCH1H010C	CHIP C	1.0PF	C	
C620			CK73GB1A105K	CHIP C	1.0UF	K	
C623,624			CK73GB1H103K	CHIP C	0.010UF	K	
C625-627			CC73GCH1H101J	CHIP C	100PF	J	
C628			CK73GB1A105K	CHIP C	1.0UF	K	
CN2			E41-2244-05	FLAT CABLE CONNECTOR			
⚠ J1			E58-0991-05	RECTANGULAR RECEPTACLE			
J2			E56-0855-05	CYLINDRICAL RECEPTACLE			
J4			E04-0326-05	RF COAXIAL CABLE RECEPTACLE			
J5			E58-0992-05	RECTANGULAR RECEPTACLE			
J6			E63-0898-05	PIN JACK			
CF51-53			L72-0805-05	CERAMIC FILTER			
CF54			L72-0804-05	CERAMIC FILTER			
L3			L33-1978-05	CHOKE COIL			
L4			L33-2260-05	CHOKE COIL			
L51			L33-1988-05	CHOKE COIL ASSY			
L61			L40-4795-91	SMALL FIXED INDUCTOR (4.7UH,J)			
L301			L92-0337-05	CHIP FERRITE			
L501			L40-6891-58	SMALL FIXED INDUCTOR (6.8UH)			
L502			L40-3301-58	SMALL FIXED INDUCTOR (33UH)			
L503			L40-1021-56	SMALL FIXED INDUCTOR (1MH)			
L504			L40-1011-58	SMALL FIXED INDUCTOR (100UH)			
L505			L40-3381-58	SMALL FIXED INDUCTOR (0.33UH)			
L506			L31-0977-15	FM-RF COIL (RF)			
L507			L32-0941-15	FM OSCILLATING COIL (VCO)			
L508			L30-0776-15	FM IFT			
L509			L30-0777-15	AM IFT			
L518			L31-0976-15	FM-RF COIL (ANT)			
L520			L40-3381-58	SMALL FIXED INDUCTOR (0.33UH)			
L521			L40-1073-72	SMALL FIXED INDUCTOR (10NH)			
L600			L92-0607-05	CHIP FERRITE			
L601,602			L92-0397-05	CHIP FERRITE			
L604,605			L92-0609-05	CHIP FERRITE			
X1			L78-0879-05	RESONATOR (10.0MHZ)			
X2			L77-2793-05	CRYSTAL RESONATOR (32.768KHZ)			
X501			L77-2077-05	CRYSTAL RESONATOR (10.25MHZ)			

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PARTS LIST

ELECTRIC UNIT (X34-4160-12)

Ref. No.	Add	New	Parts No.	Description				Destination
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				
R21			RD14BB2C821J	RD	820	J	1/6W	
R51			RK73FB2B683J	CHIP R	68K	J	1/8W	
R52			RK73GB2A393J	CHIP R	39K	J	1/10W	
R53			RK73GB2A104J	CHIP R	100K	J	1/10W	
R54			RK73FB2B203J	CHIP R	20K	J	1/8W	
R55,56			RK73GB2A103J	CHIP R	10K	J	1/10W	
R57			RK73GB2A223J	CHIP R	22K	J	1/10W	
R58			RD14DB2H332J	SMALL-RD	3.3K	J	1/2W	
R59			RD14BB2C333J	RD	33K	J	1/6W	
R60			RK73GB2A103J	CHIP R	10K	J	1/10W	
R61			RK73GB2A223J	CHIP R	22K	J	1/10W	
R72			RD14BB2C472J	RD	4.7K	J	1/6W	
R75-78			RK73GB2A103J	CHIP R	10K	J	1/10W	
R81			RD14BB2C103J	RD	10K	J	1/6W	
R82			RK73GB2A223J	CHIP R	22K	J	1/10W	
R83			RK73GB2A473J	CHIP R	47K	J	1/10W	
R85			RK73GB2A1R0J	CHIP R	1.0	J	1/10W	
R86			RK73EB2E1R0J	CHIP R	1.0	J	1/4W	
R87,88			RK73GB2A1R0J	CHIP R	1.0	J	1/10W	
R90			RK73GB2A1R0J	CHIP R	1.0	J	1/10W	
R96			RK73GH2A273D	CHIP R	27K	D	1/10W	
R97			RK73GH2A332D	CHIP R	3.3K	D	1/10W	
R98			RK73EB2E102J	CHIP R	1.0K	J	1/4W	
R99			RK73GB2A104J	CHIP R	100K	J	1/10W	
R100			RK73GB2A272J	CHIP R	2.7K	J	1/10W	
R130,131			RK73EB2E4R7J	CHIP R	4.7	J	1/4W	
R133			RK73EB2E4R7J	CHIP R	4.7	J	1/4W	
R135-140			RK73EB2E4R7J	CHIP R	4.7	J	1/4W	
R141			RK73EB2E2R2J	CHIP R	2.2	J	1/4W	
R151			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R152			RK73EB2E100J	CHIP R	10	J	1/4W	
R153			RK73EB2E222J	CHIP R	2.2K	J	1/4W	
R156			RK73EB2E102J	CHIP R	1.0K	J	1/4W	
R157-161			RK73EB2E222J	CHIP R	2.2K	J	1/4W	
R162			RK73EB2E102J	CHIP R	1.0K	J	1/4W	
R163			RK73EB2E222J	CHIP R	2.2K	J	1/4W	
R164			RK73EB2E102J	CHIP R	1.0K	J	1/4W	
R172			RD14BB2C102J	RD	1.0K	J	1/6W	
R178			RK73EB2E471J	CHIP R	470	J	1/4W	
R180-182			RK73GB2A222J	CHIP R	2.2K	J	1/10W	
R190			RK73GB2A104J	CHIP R	100K	J	1/10W	
R191			RK73GB2A225J	CHIP R	2.2M	J	1/10W	
R193,194			RK73GB2A474J	CHIP R	470K	J	1/10W	
R199			RK73GB2A241J	CHIP R	240	J	1/10W	
R251			RK73GB2A333J	CHIP R	33K	J	1/10W	
R252			RK73GB2A473J	CHIP R	47K	J	1/10W	
R253			RK73GB2A432J	CHIP R	4.3K	J	1/10W	
R254			RK73GB2A100J	CHIP R	10	J	1/10W	
R255			RK73GB2A221J	CHIP R	220	J	1/10W	
R256			RK73GB2A223J	CHIP R	22K	J	1/10W	

Ref. No.	Add	New	Parts No.	Description				Destination
R257			RK73GB2A393J	CHIP R	39K	J	1/10W	
R271			RK73GB2A101J	CHIP R	100	J	1/10W	
R272			RK73GB2A103J	CHIP R	10K	J	1/10W	
R273			RK73GB2A474J	CHIP R	470K	J	1/10W	
R301,302			RK73EB2E100J	CHIP R	10	J	1/4W	
R303			RK73EB2E101J	CHIP R	100	J	1/4W	
R304,305			RK73EB2E472J	CHIP R	4.7K	J	1/4W	
R306			RK73EB2E4R7J	CHIP R	4.7	J	1/4W	
R307-309			RK73EB2E472J	CHIP R	4.7K	J	1/4W	
R310,311			RK73EB2E101J	CHIP R	100	J	1/4W	
R312			RD14BB2C104J	RD	100K	J	1/6W	
R313			RK73GB2A104J	CHIP R	100K	J	1/10W	
R331,332			RK73GB2A271J	CHIP R	270	J	1/10W	
R335,336			RK73GB2A303J	CHIP R	30K	J	1/10W	
R338,339			RD14BB2C101J	RD	100	J	1/6W	
R351,352			RK73GB2A222J	CHIP R	2.2K	J	1/10W	
R353			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R355,356			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R358			RK73GB2A222J	CHIP R	2.2K	J	1/10W	
R359			RK73GB2A101J	CHIP R	100	J	1/10W	
R360			RK73GB2A222J	CHIP R	2.2K	J	1/10W	
R363			RD14BB2C472J	RD	4.7K	J	1/6W	
R365			RK73GB2A472J	CHIP R	4.7K	J	1/10W	
R366			RK73EB2E472J	CHIP R	4.7K	J	1/4W	
R367			RK73GB2A104J	CHIP R	100K	J	1/10W	
R368,369			RK73GB2A471J	CHIP R	470	J	1/10W	
R370,371			RK73GB2A472J	CHIP R	4.7K	J	1/10W	
R411			RK73GB2A223J	CHIP R	22K	J	1/10W	
R413			RK73GB2A223J	CHIP R	22K	J	1/10W	
R415			RK73GB2A223J	CHIP R	22K	J	1/10W	
R417,418			RK73GB2A223J	CHIP R	22K	J	1/10W	
R432			RK73GB2A472J	CHIP R	4.7K	J	1/10W	
R433			RK73GB2A222J	CHIP R	2.2K	J	1/10W	
R435,436			RK73GB2A103J	CHIP R	10K	J	1/10W	
R437,438			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R439			RK73GB2A222J	CHIP R	2.2K	J	1/10W	
R440,441			RK73GB2A473J	CHIP R	47K	J	1/10W	
R450-452			RK73GB2A471J	CHIP R	470	J	1/10W	
R453			RK73GB2A473J	CHIP R	47K	J	1/10W	
R454			RK73GB2A472J	CHIP R	4.7K	J	1/10W	
R456			RK73GB2A104J	CHIP R	100K	J	1/10W	
R457			RK73GB2A103J	CHIP R	10K	J	1/10W	
R471			RK73GB2A103J	CHIP R	10K	J	1/10W	
R480			RK73GB2A104J	CHIP R	100K	J	1/10W	
R501			RK73GB2A682J	CHIP R	6.8K	J	1/10W	
R502,503			RK73GB2A222J	CHIP R	2.2K	J	1/10W	
R504			RK73GB2A4R7J	CHIP R	4.7	J	1/10W	
R505			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R506			RK73GB2A105J	CHIP R	1.0M	J	1/10W	
R507			RK73GB2A102J	CHIP R	1.0K	J	1/10W	
R520			RK73GB2A221J	CHIP R	220	J	1/10W	
R521			RK73GB2A152J	CHIP R	1.5K	J	1/10W	
R522			RK73GB2A223J	CHIP R	22K	J	1/10W	
R523			RK73GB2A100J	CHIP R	10	J	1/10W	
R543			RK73GB2A562J	CHIP R	5.6K	J	1/10W	

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PARTS LIST

ELECTRIC UNIT (X34-4160-12)

Ref. No.	Add	New	Parts No.	Description	Destination
R544			RD14BB2C222J	RD 2.2K J 1/6W	
R545			RK73GB2A333J	CHIP R 33K J 1/10W	
R546			RK73GB2A432J	CHIP R 4.3K J 1/10W	
R561			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R565			RK73GB2A394J	CHIP R 390K J 1/10W	
R566,567			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R589			RK73GB2A473J	CHIP R 47K J 1/10W	
R590			RK73GB2A103J	CHIP R 10K J 1/10W	
R591			RK73GB2A513J	CHIP R 51K J 1/10W	
R592			RK73GB2A223J	CHIP R 22K J 1/10W	
R594			RK73EB2E100J	CHIP R 10 J 1/4W	
R596-598			RD14BB2C100J	RD 10 J 1/6W	
R599			RK73GB2A220J	CHIP R 22 J 1/10W	
R600			RD14BB2C2R2J	RD 2.2 J 1/6W	
R601			RD14BB2C1R0J	RD 1.0 J 1/6W	
R602			RK73GB2A122J	CHIP R 1.2K J 1/10W	
R603			RK73GB2A560J	CHIP R 56 J 1/10W	
R605,606			RK73GB2A100J	CHIP R 10 J 1/10W	
W53			R92-1252-05	CHIP R 0 OHM J 1/16W	
W58-60			R92-1252-05	CHIP R 0 OHM J 1/16W	
W61-63			R92-2053-05	CHIP R 0 OHM J 1/8W	
W64			R92-1252-05	CHIP R 0 OHM J 1/16W	
W65,66			R92-2053-05	CHIP R 0 OHM J 1/8W	
W67,68			R92-1252-05	CHIP R 0 OHM J 1/16W	
W71			R92-1252-05	CHIP R 0 OHM J 1/16W	
W72			R92-2053-05	CHIP R 0 OHM J 1/8W	
W73			R92-1252-05	CHIP R 0 OHM J 1/16W	
W75			R92-2053-05	CHIP R 0 OHM J 1/8W	
W76			R92-1252-05	CHIP R 0 OHM J 1/16W	
W78			R92-2053-05	CHIP R 0 OHM J 1/8W	
W79,80			R92-1252-05	CHIP R 0 OHM J 1/16W	
W81,82			R92-2053-05	CHIP R 0 OHM J 1/8W	
W85			R92-2053-05	CHIP R 0 OHM J 1/8W	
W86			R92-1252-05	CHIP R 0 OHM J 1/16W	
W87			R92-2053-05	CHIP R 0 OHM J 1/8W	
W88,89			R92-1252-05	CHIP R 0 OHM J 1/16W	
W90,91			R92-2053-05	CHIP R 0 OHM J 1/8W	
W92			R92-1252-05	CHIP R 0 OHM J 1/16W	
W93			R92-2053-05	CHIP R 0 OHM J 1/8W	
W96-98			R92-1252-05	CHIP R 0 OHM J 1/16W	
W99			R92-2053-05	CHIP R 0 OHM J 1/8W	
W102			R92-2053-05	CHIP R 0 OHM J 1/8W	
W252			R92-1252-05	CHIP R 0 OHM J 1/16W	
W506			R92-2053-05	CHIP R 0 OHM J 1/8W	
W604,605			R92-1252-05	CHIP R 0 OHM J 1/16W	
W611			R92-1252-05	CHIP R 0 OHM J 1/16W	
W802			R92-1252-05	CHIP R 0 OHM J 1/16W	
W803			R92-2053-05	CHIP R 0 OHM J 1/8W	
W804,805			R92-1252-05	CHIP R 0 OHM J 1/16W	
W807			R92-1252-05	CHIP R 0 OHM J 1/16W	
W808			R92-2053-05	CHIP R 0 OHM J 1/8W	
W812			R92-2053-05	CHIP R 0 OHM J 1/8W	
W814			R92-2053-05	CHIP R 0 OHM J 1/8W	
W820			R92-2053-05	CHIP R 0 OHM J 1/8W	
W826			R92-2053-05	CHIP R 0 OHM J 1/8W	
W831			R92-1252-05	CHIP R 0 OHM J 1/16W	
W832			R92-2053-05	CHIP R 0 OHM J 1/8W	
W840			R92-1252-05	CHIP R 0 OHM J 1/16W	
W841,842			R92-2053-05	CHIP R 0 OHM J 1/8W	
D3			IMSA-6801-E	SURGE ABSORBER	
D52			MTZJ6.8B	ZENER DIODE	
D53			02DZ6.8F-Y	ZENER DIODE	
D54			MTZJ6.8B	ZENER DIODE	
D55			1SS355	DIODE	
D57			S2V60✻A	DIODE	
D71			MTZJ8.2B	ZENER DIODE	
D72			1SR154-400	DIODE	
D74			1SR154-400	DIODE	
D76		✻	BAV70W	DIODE	
D77		✻	1SR139-400T64	DIODE	
D81			02DZ4.7F-Y	ZENER DIODE	
D162			MTZJ6.2B	ZENER DIODE	
D203			1SS133	DIODE	
D251-258			1SR154-400	DIODE	
D259,260			1SS133	DIODE	
D261			1SS355	DIODE	
D301-304			MTZJ6.2B	ZENER DIODE	
D305,306			MTZJ6.8B	ZENER DIODE	
D403		✻	BAV70W	DIODE	
D501			RN739F	DIODE	
D502,503			KP2311ETR-G	DIODE	
D504			KV1430STL-G	VARIABLE CAPACITANCE DIODE	
D506			HVC383B-E	VARIABLE CAPACITANCE DIODE	
IC1		✻	784225GC303A	MICROCONTROLLER IC	
IC3			BD4912-V4	ANALOGUE IC	
IC4			E-TDA7560A	ANALOGUE IC	
IC6			TC7W02FU-F	MOS-IC	
IC8			S-80836CNNB-J	MOS-IC	
IC10			E-TDA7516A	ANALOGUE IC	
IC11			BR24L04FV-W	ROM IC	
IC15			BA00CCWT	ANALOGUE IC	
Q51-53			2SC4155A (Q,R,S)	TRANSISTOR	
Q71			UMC2N	TRANSISTOR	
Q72			2SD2396 (J,K)	TRANSISTOR	
Q151			RT1P144M	TRANSISTOR	
Q155			2SC4155A (Q,R,S)	TRANSISTOR	
Q252			2SA1603A	TRANSISTOR	
Q330			RT1P241M	TRANSISTOR	
Q351,352			RT1N430M	TRANSISTOR	
Q501			HN3G01J (BL)-F	TRANSISTOR	
TH1			PRF21BE471QB2	POSITIVE RESISTOR	

MECHANISM ASSY (X92-5090-00)

2	1B		A10-4827-32	CHASSIS	
5	1B		D10-4576-83	ARM ASSY	
8	2A		D10-4579-23	LEVER ASSY	
10	2A		D10-4581-13	ARM	
11	2A		D10-4582-13	ARM	
12	3A		D10-4583-03	ARM	

E : Europe **K** : North America **M** : Other Areas **W** : Without Europe

⚠ Indicates safety critical components.

PARTS LIST

MECHANISM ASSY (X92-5090-00)

Ref. No.	Add	New	Parts No.	Description	Destination
13	3A		D10-4584-03	ARM	
14	3B		D10-4585-03	ARM	
15	2A		D10-4586-13	SLIDER	
16	3B		D10-4587-52	SLIDER	
17	2B		D10-4588-13	SLIDER	
18	2B		D10-4595-04	ARM	
19	2B		D10-4596-24	ARM	
22	2A		D13-2151-04	GEAR	
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		D13-2172-13	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		G01-3075-24	EXTENSION SPRING	
42	2A		G01-3076-04	EXTENSION SPRING	
43	1B		G01-3077-14	EXTENSION SPRING	
44	2B		G02-1399-04	FLAT SPRING	
45	2B		G02-1408-04	FLAT SPRING	
51	1A		J21-9676-32	MOUNTING HARDWARE	
52	3B		J21-9677-22	MOUNTING HARDWARE	
53	1B		J21-9678-13	MOUNTING HARDWARE	
55	1A		J90-1001-11	GUIDE	
56	1B		J90-1023-03	GUIDE	
DFPC1	3A		J84-0141-05	FLEXIBLE PRINTED WIRING BOARD	
A	2B		N09-4460-05	TAPTITE SCREW (OVAL P TAPTIT)	
B	1B		N09-4472-15	MACHINE SCREW (M1.7X8.0)	
C	2B		N09-6004-05	MACHINE SCREW (M1.7X2.5)	
E	2B		N09-6007-05	MACHINE SCREW (PAN M2X2)	
F	1A		N09-6051-05	TAPTITE SCREW (BIND P 2X5)	
G	2A		N19-2163-04	FLAT WASHER	
H	1B		N39-2020-46	PAN HEAD MACHINE SCREW	
J	1B		N09-6108-05	MACHINE SCREW (M2X3.5)	
K	3B		N09-6155-05	SEMS (TAPTITE SCREW) (PT2X6)	
DM1	3B		T42-1066-14	DC MOTOR (SPINDLE)	
DM2	2B		T42-1067-14	DC MOTOR (LOADING)	
DPU1	2B		X93-2010-00	OPTICAL PICKUP ASSY	

Ref. No.	Add	New	Parts No.	Description	Destination

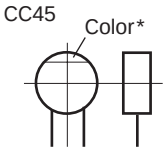
E : Europe **K** : North America **M** : Other Areas **W** : Without Europe

⚠ Indicates safety critical components.

CAPACITORS

C C	4 5	T H	1 H	2 2 0	J
1	2	3	4	5	6

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



• Capacitor value

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

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

• Temperature coefficient

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

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

Example : CC45TH = –470±60ppm/°C

• Tolerance (More than 10pF)

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

(Less than 10pF)

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

• Voltage rating

2nd word / 1st word	A	B	C	D	E	F	G	H	J	K	V
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	–
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	–
3	1000	1250	1600	2000	2500	2150	4000	5000	6300	8000	–

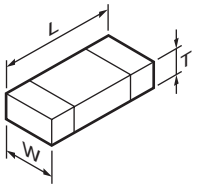
CHIP CAPACITORS

(EX) C C 7 3 F S L 1 H 0 0 0 J
1 2 3 4 5 6 7
(Chip) (CH, RH, UJ, SL)

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

Refer to the table above.
1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Voltage rating
6 = Value
7 = Tolerance

• Dimension



Chip capacitor

Code	L	W	T
Empty	5.6±0.5	5.0±0.5	Less than 2.0
A	4.5±0.5	3.2±0.4	Less than 2.0
B	4.5±0.5	2.0±0.3	Less than 2.0
C	4.5±0.5	1.25±0.2	Less than 1.25
D	3.2±0.4	2.5±0.3	Less than 1.5
E	3.2±0.2	1.6±0.2	Less than 1.25
F	2.0±0.3	1.25±0.2	Less than 1.25
G	1.6±0.2	0.8±0.2	Less than 1.0
H	1.0±0.05	0.5±0.05	0.5±0.05

Chip resistor

Code	L	W	T
E	3.2±0.2	1.6±0.2	1.0
F	2.0±0.3	1.25±0.2	1.0
G	1.6±0.2	0.8±0.2	0.5±0.1
H	1.0±0.05	0.5±0.05	0.35±0.05

RESISTORS

• Chip resistor (Carbon)

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

• Carbon resistor (Normal type)

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

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

• Rating wattage

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

KDC-232MR

SPECIFICATIONS

FM

Frequency Range (Frequency Step)	87.9MHz~107.9MHz (200kHz)
Channel Space Selection	50kHz/200kHz
Usable Sensitivity (S/N : 30dB)	9.3dBf (0.8µV/75Ω)
Quieting Sensitivity (S/N : 50dB)	15.2dBf (1.6µV/75Ω)
Frequency Response (±3.0dB)	30Hz~15kHz
S/N	70dB (MONO)
Selectivity	≧80dB (±400kHz)
Stereo Separation	40dB (1kHz)

AM

Frequency Range (Frequency Step)	530kHz~1700kHz (10kHz)
Channel Space Selection	9kHz/10kHz
Usable Sensitivity (S/N : 20dB)	28dBµV (25µV)

CD

Laser Diode	GaAlAs
Digital Filter (D/A)	8 Times Over Sampling
D/A Converter	1 Bit
Spindle Speed	500rpm~200rpm (CLV)
Wow & Flutter	Below Mesurable Limit
Frequency Response	10Hz~20kHz (±1dB)
Total Harmonic Distortion	0.01% (1kHz)
S/N Ratio	93dB (1kHz)
Dynamic Range	93dB
Channel Separation	85dB

Preout Level/Load	2000mV/10kΩ (CD/CD-CH)
Preout Impedance	≦600Ω
Speaker Impedance	4Ω~8Ω

AMPLIFIER

Maximum Power	50W x 4
Full Bandwidth Power (at less than 1% THD)	22W x 4

TONE

Bass	100Hz±8dB
Middle	1kHz±8dB
Treble	10kHz±8dB

GENERAL

Operating Voltage (11V~16V allowable)		14.4V
Current Consumption		10A
Installation Size	(Width)	182mm (7-3/16inch)
	(Height)	53mm (2-1/16inch)
	(Depth)	155mm (6-1/10inch)
Weight		1.40kg (3.1lbs)

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