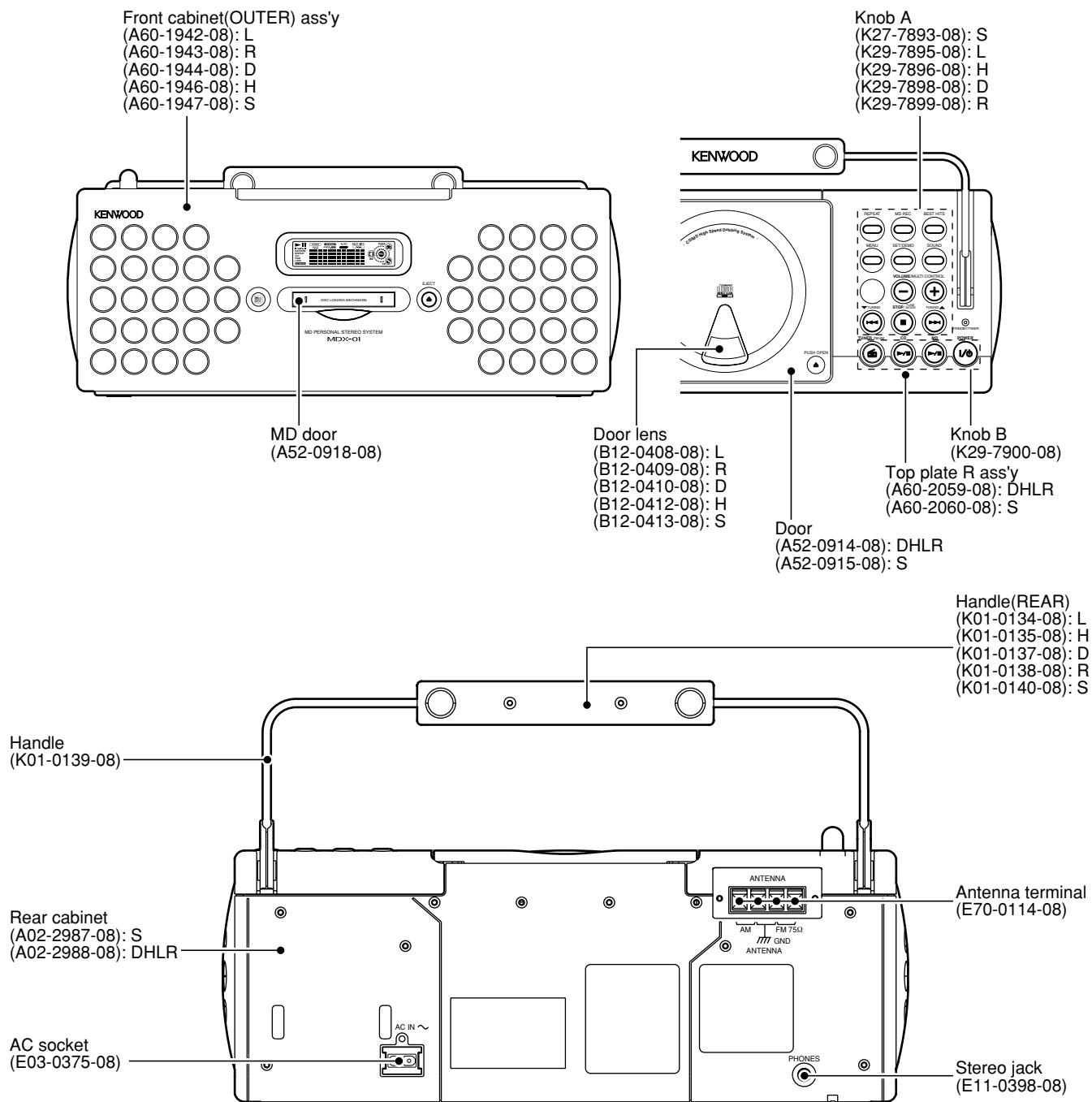


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**D: ORANGE, H: GREY, L: BLUE, R: RED, S: SILVER**

In compliance with Federal Regulations, following are reproduction of labels on, or inside the product relating to laser product safety.

Note: Please contact KENWOOD service in your side if you want to get the AC power cord.

KENWOOD-Corp. certifies this equipment conforms to DHHS Regulations No.21 CFR 1040. 10, Chapter 1, Subchapter J.

**DANGER : Laser radiation when open and interlock defeated.
AVOID DIRECT EXPOSURE TO BEAM.**



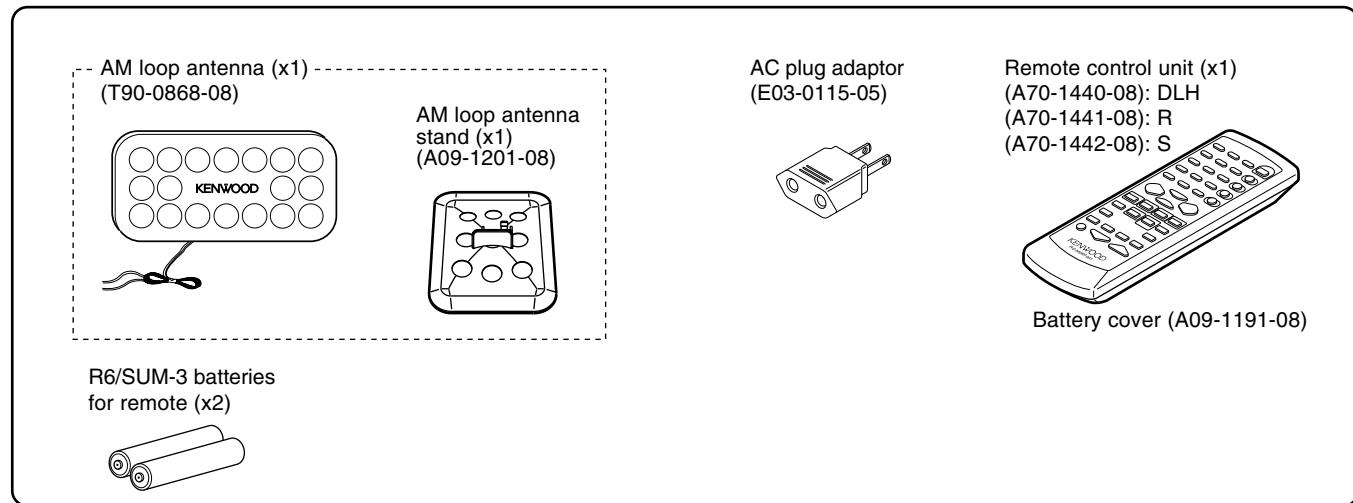
MDX-01/02

CONTENTS / ACCESSORIES

Contents

CONTENTS / ACCESSORIES	2	PC BOARD	10
DISASSEMBLY FOR REPAIR.....	3	SCHEMATIC DIAGRAM	13
CIRCUIT DESCRIPTION	4	EXPLODED VIEW	25
ADJUSTMENT	8	PARTS LIST.....	27
PARTS DESCRIPTIONS	9	SPECIFICATIONS	Back cover

Accessories



Caution on condensation

Condensation (of dew) may occur inside the unit when there is a great difference in temperature between this unit and the outside.

This unit may not function properly if condensation occurs. In this case, leave the unit for a few hours and restart the operation after the condensation has dried up.

Be specially cautious against condensation in a following circumsatance:

When this unit is carried from a place to another across a large difference in temperature, when the humidity in the room where this unit is installed increases, etc.

Note related to transportation and movement

Before transporting or moving this unit, carry out the following operations.

- (1) Remove the CD or MD from the unit.
- (2) Press the **▶/■** key of the MD.
- (3) Wait for some time and verify that the display becomes as shown in the figure.

**EX.BASS
MD NO DISC**

- (4) Press the **▶/■** key of the CD.
- (5) Wait for some time and verify that the display becomes as shown in the figure.

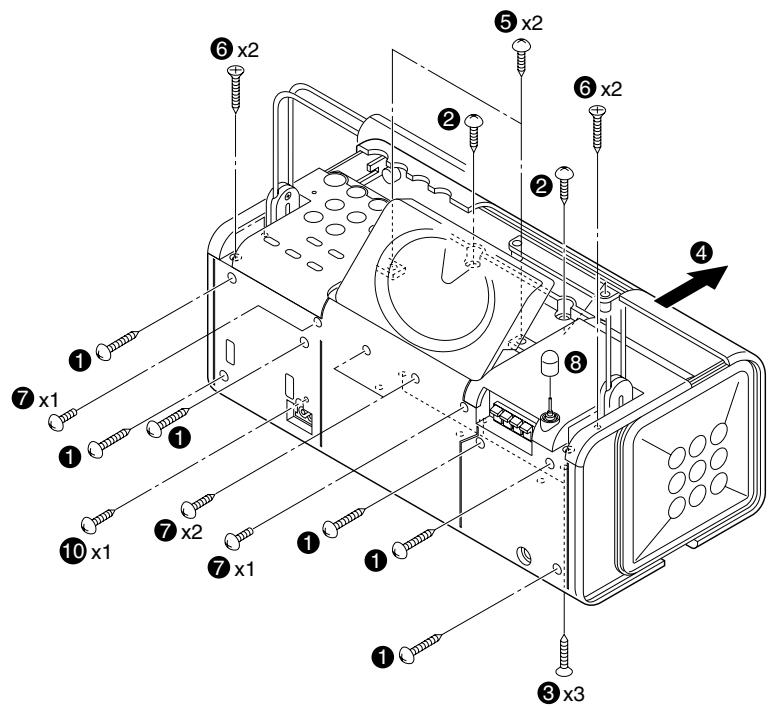
**EX.BASS
CD NO DISC**

- (6) Wait a few seconds and turn the unit OFF.

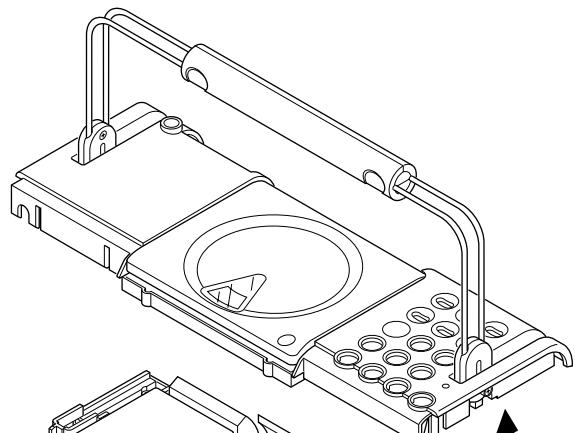
DISASSEMBLY FOR REPAIR

1. How to Remove Front Cabinet

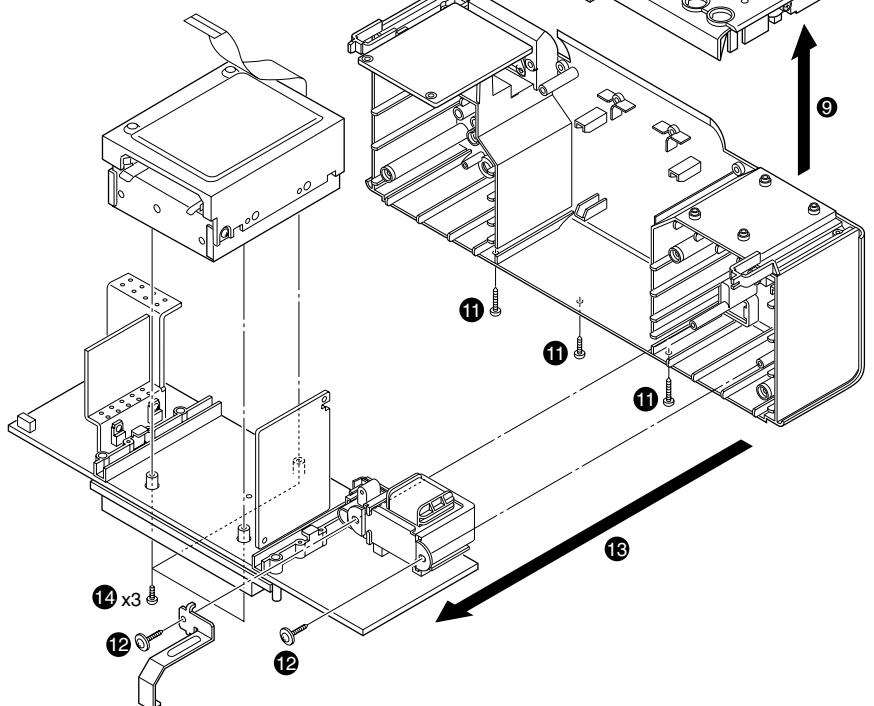
1. Remove 6 screws(❶) from the rear cabinet side.
2. Remove 2 screws(❷) fixed CD and the front cabinet.
3. Remove 3 screws(❸) from the bottom front side.
4. Move the front cabinet frontwards(❹).

**2. How to Remove CD and Top Covers**

1. Remove 2 screws fixed CD and top covers(⽠).
2. Remove 8 screws fixed the carrying handle (⽢x4) and the rear cabinet(⽤x4).
3. Turn the antenna cap(⽦) to remove and lift the carrying handle and CD mechanism(⽨).

**3. How to Remove MD Mechanism**

1. Remove the screw(⽩) fixed the AC inlet socket.
2. Remove 5 screws fixed the bottom cabinet(⽪x3) and the power transformer(⽫x2).
3. Move the main pcb frontwards(⽬).
4. Remove 3 screws(⽮) fixed the MD mechanism.



CIRCUIT DESCRIPTION

1. INITIALIZATION**1-1 How to Set Initialization**

Insert the power cord to AC outlet with pressing REPEAT key.

1-2 Operation in Initialization mode

Display shows INITIALIZE, and Standby mode after mechanism check.

The Display shows error code if mechanism has malfunction.

		Error Code
CD	In 1st figure "C"	
MD	In 3rd figure "M"	
CD Door SW	In 7th figure "S"	

The until changes to shipment mode after RAM and back-up clear, disc out, and so.

2. TUNER PRESET

P.CH	BAND	FREQ.	P.CH	BAND	FREQ.
1	FM	98.30 MHz	21	AM	531 kHz
2	FM	87.50 MHz	22	FM	87.50 MHz
3	FM	89.10 MHz	23	FM	87.50 MHz
4	FM	108.00 MHz	24	FM	87.50 MHz
5	FM	90.00 MHz	25	FM	87.50 MHz
6	FM	87.50 MHz	26	FM	87.50 MHz
7	FM	87.50 MHz	27	FM	87.50 MHz
8	FM	87.50 MHz	28	FM	87.50 MHz
9	AM	1602 kHz	29	FM	87.50 MHz
10	AM	999 kHz	30	FM	106.00 MHz
11	AM	630 kHz	31	FM	87.50 MHz
12	AM	1440 kHz	32	FM	87.50 MHz
13	FM	106.00 MHz	33	FM	87.50 MHz
14	AM	531 kHz	34	FM	87.50 MHz
15	FM	87.50 MHz	35	FM	87.50 MHz
16	FM	98.00 MHz	36	FM	87.50 MHz
17	FM	98.50 MHz	37	FM	87.50 MHz
18	FM	87.50 MHz	38	FM	87.50 MHz
19	AM	990 kHz	39	FM	87.50 MHz
20	FM	97.70 MHz	40	AM	945 kHz

3. TEST MODE**3-1 TEST Mode Setting**

TEST MODE	SETTING	
CD	MD REC	
MD 1	SKIP UP	
* FTC & Sub-Clock Oscillation Check Mode	BEST HITS	Insert the power cord to outlet with pressing every left key
MD mode2	SKIP DOWN	

*** FTC&Sub-Clock Oscillation Check Mode**

FTC test mode is after Sub-Clock Oscillation Check Mode(Internal Oscillation, Check of Period) Check Mode is 5 times maximum. FTC carries if 1 time OK.

The unit is STOP mode after display shows error if 5 times NG.

No Oscillation →ERR 1 Period NG→ERR 2

(FTC mode is factory use only)

3-2 Test Mode Cancel

The unit cancel the test mode after initialization if pull out power cord.

The unit cancel the test mode after no initialization if power off.

3-3 Key Function in Test Mode

KEY	CD MODE	MD MODE 1
CD PLAY	T-SERVO ON(05) ⇔ T-SERVO OFF(03)	-
STOP	Stop to CD operation(01) ↓ TB/FB (07) In STOP mode. TG/FG (08) FE/RF (09) Selfcheck result shows ↓ TE/VC (10) 2 figures	Stop to operation. Change to mute-off.
MENU	HI SPEED(double speed) ⇔ NOR SPEED: in playback	Choose the REC input; digital or analog in stop mode.
SKIP UP	Playback in STOP mode. Track up of CD. FF search of CD if key pressed more 400ms. Pickup move outwards in STOP mode if key pressed more 400ms.	Track up of MD. FF search of MD if key pressed more 400ms.
SKIP DOWN	Playback in STOP mode. Track down of CD. FB search of CD if key pressed more 400ms. Pickup moves inwards in STOP mode if key pressed more 400ms.	Track down of MD. FB search of MD if key pressed more 400ms.

4. MD TEST MODE FOR ADJUSTMENT**4-1 Entering the Test Mode (MD Mode2)**

While pressing the SKIP DOWN key, turn the AC on.

4-2 Cancelling the Test Mode

Turn the AC off.

4-3 Key Operations for Adjustment

KEYS	OPERATION
SKIP UP/DOWN	Select mode or adjustment value change.
MD PLAY/PAUSE	Fix mode or adjustment value.
STOP	Cancel the selected mode.
SKIP UP *	Pickup moves outwards when pressed skip up key.
SKIP DOWN *	Pickup moves inwards when pressed skip down key.

* Remote control only.

4-4 Selection of Adjustment Test Mode

Whenever the [volume/multi-control] knob is turned, the adjustment test mode is selected.

No.	LCD	DESCRIPTION	SECTION
1	TEMP ADJU	The work of adjustment is unnecessary in this mode.	5-5
2	LDPWR ADJU	Laser power adjustment.	5-6
3	LDPWR CHEC	Laser power check.	5-6
4	EFBAL ADJU	Traverse adjustment.	5-7
5	TE B. ADJ	Automatic EF balance adjustment.	-
6	FBIAS ADJU	Focus bias adjustment.	5-8
7	CPLAY MODE	Continuous playback mode.	4-5
8	CREC MODE	Continuous recording mode.	4-6
*9	STT-LIMIT	Check the mechanism start limit switch position.	-
*10	JUMP MODE	Track jump checking mode.	-
*11	SRV DAT RE	Servo data reading.	-
*12	EPP MODE	E2PPROM data reading or rewrite.	-
*13	EPP INITIAL	E2PPROM data initializing.	-

For more information on each adjustment mode, refer to each section of 5, "Electrical adjustment".

If other adjustment mode has been entered incorrectly, press the STOP key to exit the mode.

* The number 9 - 13 are not used for service. If these mode have been entered incorrectly, press the STOP key immediately to exit the mode. Specially, do not use EEP INITIAL. (E2PROM data has initialized if used it.)

CIRCUIT DESCRIPTION

4-5 Continuous Playback Mode

1. Setting of Continuous Playback Mode		
No.	Key	Display/Function
1	<>	Select [CPLAY MODE]
2		Load disc
3	PLAY	[CPLAY MID] [c=xxxx a=yy] error (xxxx=C1 error, yy=ADIP error)
4	STOP	[CPLAY MODE]

2. Change of Playback Points(in continuous playback mode)		
No.	Key	Display/Function
1		Carry out No.1 to 3 in the above table.
2	PLAY	[CPLAY OUT] [c=xxxx a=yy] error (xxxx=C1 error, yy=ADIP error)
3	PLAY	[CPLAY IN] [c=xxxx a=yy] error (xxxx=C1 error, yy=ADIP error)
4	STOP	[CPLAY MODE]
5	EJECT	Disc out

4-6 Continuous Recording Mode

1. Continuous Recording Setting		
No.	Key	Display/Function
1	<>	Select [CREC MODE]
2		Load the recordable disc
3	PLAY	[CREC MID]
4	PLAY	[CREC (zzzz)] CREC address (0300H cluster=recording start point)
5	STOP	[CREC MODE]

2. Change and End of Recording Points		
No.	Key	Display/Function
1		Carry out No.1 to 3 in the above table Select[CREC MID]
2	>	[CREC OUT]
3	PLAY	[CREC (zzzz)] CREC address (0700H cluster=recording start point)
4	STOP	[CREC MODE]
5	PLAY	[CREC MID]
6	> (2time)	Select [CREC IN]
7	PLAY	[CREC (zzzz)] CREC address (0300H cluster=recording start point)
8	STOP	[CREC MODE]
9	EJECT	Disc out

- The recording start addresses of IN, MID, and OUT are described below.
IN 30H cluster
MID 300H cluster
OUT 700H cluster
- An erasure prevention control is not detected in the test mode. Be careful not to enter the continuous recording mode using a disc containing the data that should not be erased.
- Do not record continuously for more than five minutes.
- Take care that no vibration is applied during continuous recording.

5. ELECTRICAL ADJUSTMENT

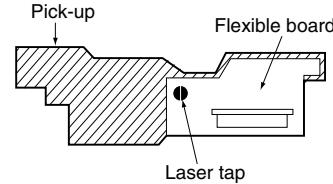
5-1 Precaution during confirmation of Laser Diode emission

During adjustment, do not view the emission of a laser diode from just above for confirmation. This may damage your eyes.

5-2 Precaution on handling of Optical pick-up (KMS-260B)

The laser diode in an optical pick-up is easy to be subject to electrostatic destruction. Therefore, solder bridge the laser tap on the flexible board when handling the optical pick-up.

When removing the flexible board from the connector, make a solder bridge in advance, then remove the board. Be careful not to remove the solder bridge before inserting the connector. Moreover, take careful measures against electrostatic destruction. The flexible board is cut easily. Handle the flexible board with care.



5-3 Precaution during adjustment

- Perform the adjustment and confirmation marked with "O" in the order shown in the table when the parts below are replaced.

	Optical pick-up	BD board		
		IC6	D101	IC1,IC2,IC10
1.Temperature compensation offset adjustment	X	O	O	O
2.Laser power adjustment	O	O	X	O
3.Traverse adjustment	O	O	X	O
4.Focus bias adjustment	O	O	X	O
5.Error rate confirmation	O	O	X	O

- In the test mode, perform the adjustment. After adjustment is completed, cancel the test mode.
- Perform the adjustment in the order described.
- Use the following tools and measurement equipment.
 - CD test disc TGYS-1
 - Laser power meter
 - Oscilloscope (with bandwidth of more than 40 MΩ)
(Calibrate the probe before measurement.)
 - Digital voltmeter
 - Thermometer
- Take care that VC and GND (ground) are not connected on the oscilloscope when two or more signals are monitored on the oscilloscope. (VC and GND are short-circuited in this case.)

5-4 Creating the recordable continuous recording disc

This disc is used for focus bias adjustment and error rate confirmation. How to create the recordable continuous recording disc is 4-6.

5-5 Offset Adjustment

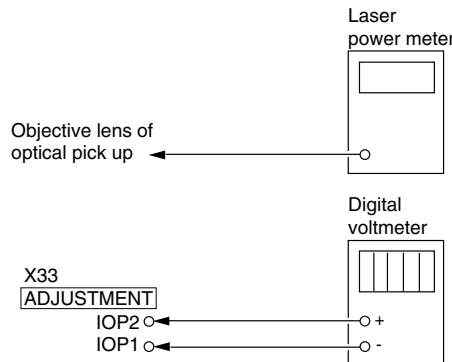
No.	Key	Display/Function
1	<>	Select [TEMP ADJU]
2	PLAY	[TEMP=xx (yy)] (xx=compensation data, yy=settings temperature)
3	<>	Input "yy" with present temp..
4	PLAY	[TEMP=**SAVE] in writing data [TEMP ADJU ST]

5-6 Laser Power Check and Adjustment

Laser power setting in playback and recording modes.
Preparation

- Remove the MD mechanism from the unit.
- Connect the digital voltmeter to IOP1 and 2 on X33 pcb.
- Remove the top plate from traverse unit.
- Remove the magnetic head.
- Remount the MD mechanism to the unit

CIRCUIT DESCRIPTION



1. Laser Power Adjustment		
No.	Key	Display/Function
1	◀◀▶	[LDPWR ADJU]
2		Load recordable disc
3	PLAY	Load the disc and lazer on [(a0.9mW) \$xx] read power (xx=power value)
4	EJECT	Unload the disc and laser on
5	PLAY	[LDPWR CHECK]
6	◀◀▶	Move the pickup to check the laser power with laser power meter sensor
7	◀◀▶	Adjust "xx" so that the power meter shows 0.9mW.
8	PLAY	[(a7.0mW) \$xx] writing power
9	◀◀▶	Adjust "xx" so that the power meter shows 7.0mW. This adjustment should be carried out in 15 secs.
10	PLAY	Laser power off Display shows [LDPWR ADJUST] after [LDPWR <xx] to save the data in E2PROM

Start from No.2 if readjust.

2. Laser Power Check		
No.	Key	Display/Function
1	◀◀▶	[LDPWR CHEC]
2	PLAY	[(c0.9mW) \$xx] (xx=0.85 to 0.95mW)
3	PLAY	[(c7.0mW) \$xx] Laser power meter: 7.0±1.0mW* VOM:optical pickup indication value ±10%*

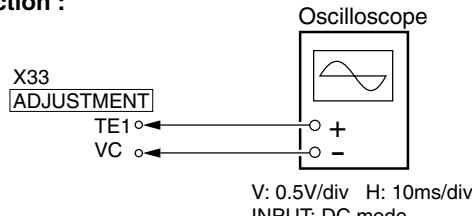
(optical pick-up label)

KMS 260B
27x40
B0825

* In this case, lop = 82.5 mA
lop(mA) = Reading of digital voltmeter(mV)/1(Ω)

5-7 EF Balance(Traverse Adjustment)

Connection :



1. Recordable Disc		
No.	Key	Display/Function
1		Connect the oscilloscope to TE1 and VC in X33 pcb
2	◀◀▶	Select [EFBAL ADJU]
3		Load the recordable disc
4	PLAY	[EFBAL MO-W]
5	PLAY	[EF=\$:::MOW]
6	◀◀▶	Write power adjustment. Adjust the waveform as follows.
7	PLAY	Display shows [EF=\$:::MOR] after [EFB=:::SAVE] to save the data in E2PROM. <i>Mode changes write to read</i> Focus and disc servo are on. Tracking servo off.
8	◀◀▶	Read power adjustment. Adjust the waveform as follows.
9	PLAY	Save the data in E2PROM. Display shows [EFBAL MO-P] Display shows [EF=\$:::MOP] (Pickup travels to search pits and tune the servo to on.)
10	◀◀▶	Adjust the waveform as follows.
11	PLAY	Display shows [EFB=:::SAVE] to save the data in E2PROM. Display shows [EFBAL CHAN]
12	EJECT	Unload disc.

2. Pre Master Test Disc(TGYS-1)		
No.	Key	Display/Function
1		Load the disc(TGYS-1). [EFBAL CD]
2	PLAY	[EF=\$:::CD] servo is on
3	◀◀▶	Adjust the waveform as follows.
4	PLAY	Save the data in E2PROM. Display shows[EFB=:::SAVE] in brief time. [EF PHASE]
5	EJECT	Unload disc.

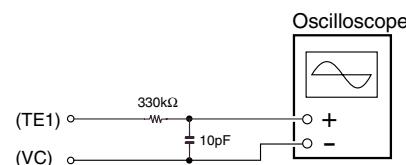
During this adjustment, the oscilloscope changes in units of about 2%. Adjust so that the waveform comes nearest to the specified value. (MO groove read power traverse adjustment)

(Traverse waveform)



Notes :

1. Data is erased during MO write when a recorded disc is used for this adjustment.
2. If the traverse waveform is difficult to be monitored, connect an oscilloscope as shown in the figure below.



CIRCUIT DESCRIPTION

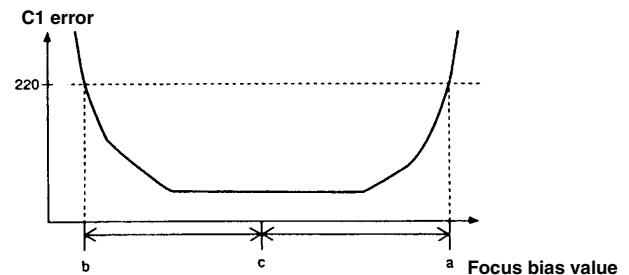
5-8 Focus Bias Adjustment

Use the special disc(continuous recorded disc)

No.	Key	Display/Function
1	◀▶▶▶	Select [FBIAS ADJU]
2		Load the disc.
3	PLAY	[a=xx yyyy/] point a (xx=focus bias, yyyy=C1 error)
4	◀▶▶▶	Adjust "yyyy" to 220:
5	PLAY	[b=xx yyyy/] point b
6	◀▶▶▶	Adjust "yyyy" to 220:
7	PLAY	[C=xx yyyy/] point c Check "yyyy" within 50
8	PLAY	Display shows [aa bb cc(xx)] focus bias adjust (aa=point a,bb=b,cc=c)

* Notes :

1. The relation between the C1 error and focus bias value is shown in the figure below. Points "a" and "b" in the figure are detected by the above adjustment. Focal position "C" is automatically obtained from points "a" and "b" by calculation.
2. The C1 error rate fluctuates. Therefore, perform the adjustment according to the observed mean value.

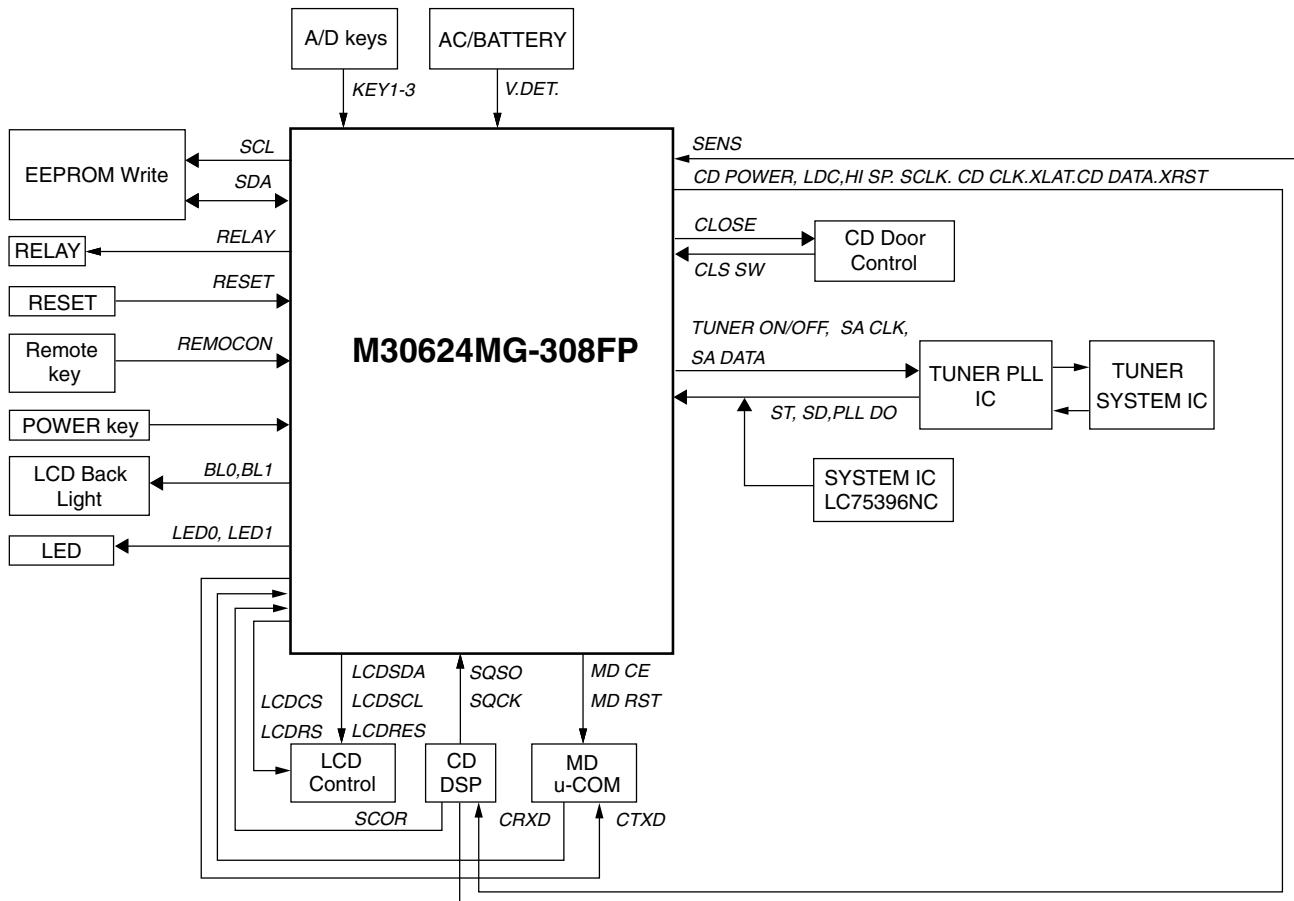


5-9 Error Rate Check

No.	Key	Display/Function
1. CD Error Rate		
1	◀▶▶▶	[CPLAY MODE]
2		Load the test disc(TGYS-1)
3	PLAY	Display shows [CPLAY MID] Access end [c=xxxx a=yy] xxxx=C1 error (lower 20) yy=AIDP error
4	STOP	[CPLAY MODE]
5	EJECT	Unload disc.
2. MO Error Rate		
No.	Key	Display/Function
1	◀▶▶▶	[CPLAY MODE]
2		Load the recordable disc
3	PLAY	Display shows [CPLAY MID] Access end [c=xxxx a=yy] xxxx=C1 error (lower 50) yy=AIDP error(00)
4	STOP	[CPLAY MODE]
5	EJECT	Unload disc.

6. Microprocessor: M30624M-308FP(IC401)

6-1 Periphery Block Diagram



CIRCUIT DESCRIPTION

6-2 Microprocessor's Port Description

Port #	Port Name	I/O	Description	ACTIVE	
				H	L
1~3	NC	-	No use		
4	SDA	O	EEP ROM data		
5	SCL	O	EEP ROM clock		
6	RELAY	O	Main power supply control	ON	OFF
7	CE	I	No power supply detection	AC ON	AC OFF
8	BYTE	-	GND		
9	CNVSS	-	GND		
10	XCIN	I	Oscillation for clock(32.768MHz)		
11	XCOOUT	O	Oscillation for clock(32.768MHz)		
12	RESET	I	Microprocessor reset port	NORMAL	RESET
13	XOUT	O	Oscillation for main clock(10MHz)		
14	VSS	-	GND		
15	XIN	I	Oscillation for main clock(10MHz)		
16	VCC(B.U.)	I	Standard voltage for A/D converter(+5V)		
17	NMI	I	+5V		
18	REMOCON	I	Remote control signal H→L: interrupt		
19	POWER KEY	I	Power key signal control	other	backup
20	SCOR	I	Sub-code synchro signal control L→H: interrupt		
21	LCD RS	O	Reset port of LCD driver		
22,23	NC	-	No use		
24	B.L.0	O	Back light dimmer. L=dark, H=bright(#26 port(B.L.1)=L)		
25	LED0	O	Standby led control	OFF	ON
26	B.L.1	O	Back light dimmer. H=dark, L=bright(#24 port(B.L.0)=L)		
27	LED1	O	Timer led control	OFF	ON
28	LCD CS	O	CS port of LCD driver		
29	CTXD	O	TXD port of UART		
30	CRXD	I	RXD port of UART		
31	LCD DATA	O	Data port of LCD driver		
32	NC	-	No use		
33	LCD CLK	O	Clock port of LCD driver		
34	LCD RST	O	Reset port of LCD driver		
35	NC	-	No use		
36	SQSO	I	CD sub-code		
37	SQCK	I	Clock for CD sub-code		
38	MD CE	O	MD IC CE		
39	MD RST	O	MD reset signal	RESET	NORMAL
40~55	NC	O	No use		
56	CD ON/OFF	O	CD power control	ON	OFF
57	NC	-	No use		
58	AMUTE	O	Audio mute signal	OFF	ON
59	TU CLK	O	PLL/SYSTEM IC clock		
60	ST	I	Tuner stereo signal	MONO	STEREO
61	SD	I	Tuning signal	NO	TUNED
62	VCC(B.U.)	O	No use		
63	NC	-	No use		
64	VSS	-	GND		
65	TU DATA	O	PLL/SYSTEM IC data		
66	TU CE	O	PLL/SYSTEM IC CE		
67	PLL DO	I	PLL IC data		
68	NC	-	No use		
69	LDC	O	CD laser control	ON	OFF
70	CLS SW	I	CD door close detection	OFF	ON
71	OPN SW	-	No use		
72	CLOSE	O	No use		

CIRCUIT DESCRIPTION

Port #	Port Name	I/O	Description	ACTIVE	
				H	L
73	OPEN	O	No use		
74	HI SP	O	Recording signal in high speed mode		NORMAL
75	SCLK	O	CD sense clock		
76	SENS	I	CD sense		
77	CD CLK	O	Clock for CD DSP		
78	XLAT	O	Latch for CD DSP		
79	CD DATA	O	Data for CD DSP		
80	CD XRST	O	Reset for CD DSP	NORMAL	RESET
81	CODE	I	Model selector		
82	CODE	I	Model selector	KITTY	NORMAL
83	CODE	I	Model selector		
84~87	NC	-	No use		
88	LOOP	-	No use		
89,90	NC	-	No use		
91	V.DET	I	AC power supply detection(less 1.25V: detect)		
92	NC	O	No use		
93~95	KEY1~3	I	Key signal	ON	OFF
96	AVSS	-	GND		
97	NC	-	No use		
98	VREF	I	Standard voltage for A/D converter		
99	VCC(B.U.)	I	Standard voltage for A/D converter(+5V)		
100	NC	O	No use		

6-3 Key Matrix

* Reference voltage=5V. ()=Port of Microprocessor

Voltage[V]	0.00~0.46	0.47~1.32	1.33~2.14	2.15~3.00	3.01~3.80	3.81~4.60	more 4.61
KEY 1 (#93)	-	SKIP UP	MD EJECT	SET/DEMO	MENU	-	KEY OFF
KEY 2 (#94)	POWER	CD	BEST HITS	TUNER	REPEAT	SOUND	KEY OFF
KEY 3 (#95)	STOP	SKIP DOWN	VOL.+	VOL.-	MD	MD RE	KEY OFF

MDX-01/02

ADJUSTMENT

CD section

NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	CD PLAYER SETTINGS	ALIGNMENT	ALIGN FOR	FIG.
TEST MODE : While pressing the MD REC key ,plug the power cord into the AC power wall output. Load the TEST DISC.							
[1]	LASER CURRENT CHECK	Test disc type 4	Connect the DC voltmeter across R208A (Q201-E)	Press the PLAY/PAUSE key to check that the display is 03 or05.	-	220~550mV	
[2]	FOCUS ERROR BIAS (Set up horizontally)	Test disc type 4	Connect an oscilloscope as follows. CH1:RF GND:REF	Press the PLAY/PAUSE key . Confirm that the display is 05.	VR 201	Optimum eye pattern	

Note:

- Type 4disc: SONY YEDS -18 Test Disc or equivalent.
- Keep the step of adjustment.

Tuner section

NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	RECEIVER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION: SELECTOR: FM							
1	TUNING LEVEL	98.0MHz MONO 1 kHz, ±40kHz dev. 30dBf (ANT. input)	-	MONO 98.0 MHz	TUNER PACK VR 101	Adjust VR101 and stop at the point where LCD801(TUNED) goes on.	

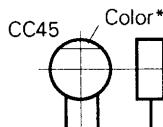
PARTS DESCRIPTIONS

CAPACITORS

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

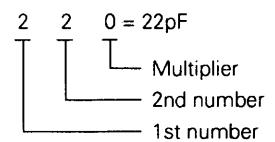
1 = Type ... ceramic, electrolytic, etc.
2 = Shape ... round, square, ect.
3 = Temp. coefficient

4 = Voltage rating
5 = Value
6 = Tolerance



• Capacitor value

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



• 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 ± 60 ppm/°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	+80	+100	More than 10µF - 10 ~ +50 -20 -20 -0

(Less than 10pF)

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

• Voltage rating

1st word \ 2nd 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	3150	4000	5000	6300	8000	-

• Chip capacitors

(EX)	C	C	7	3	F	S	L	1	H	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	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 capacitors)

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

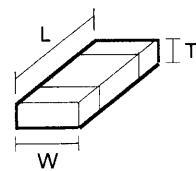
RESISTORS

• Chip resistor (Carbon)

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

(Chip) (B, F)

Dimension



• Carbon resistor (Normal type)

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

1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Rating wattage
6 = Value
7 = Tolerance

Dimension (Chip resistor)

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

Rating wattage

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

A

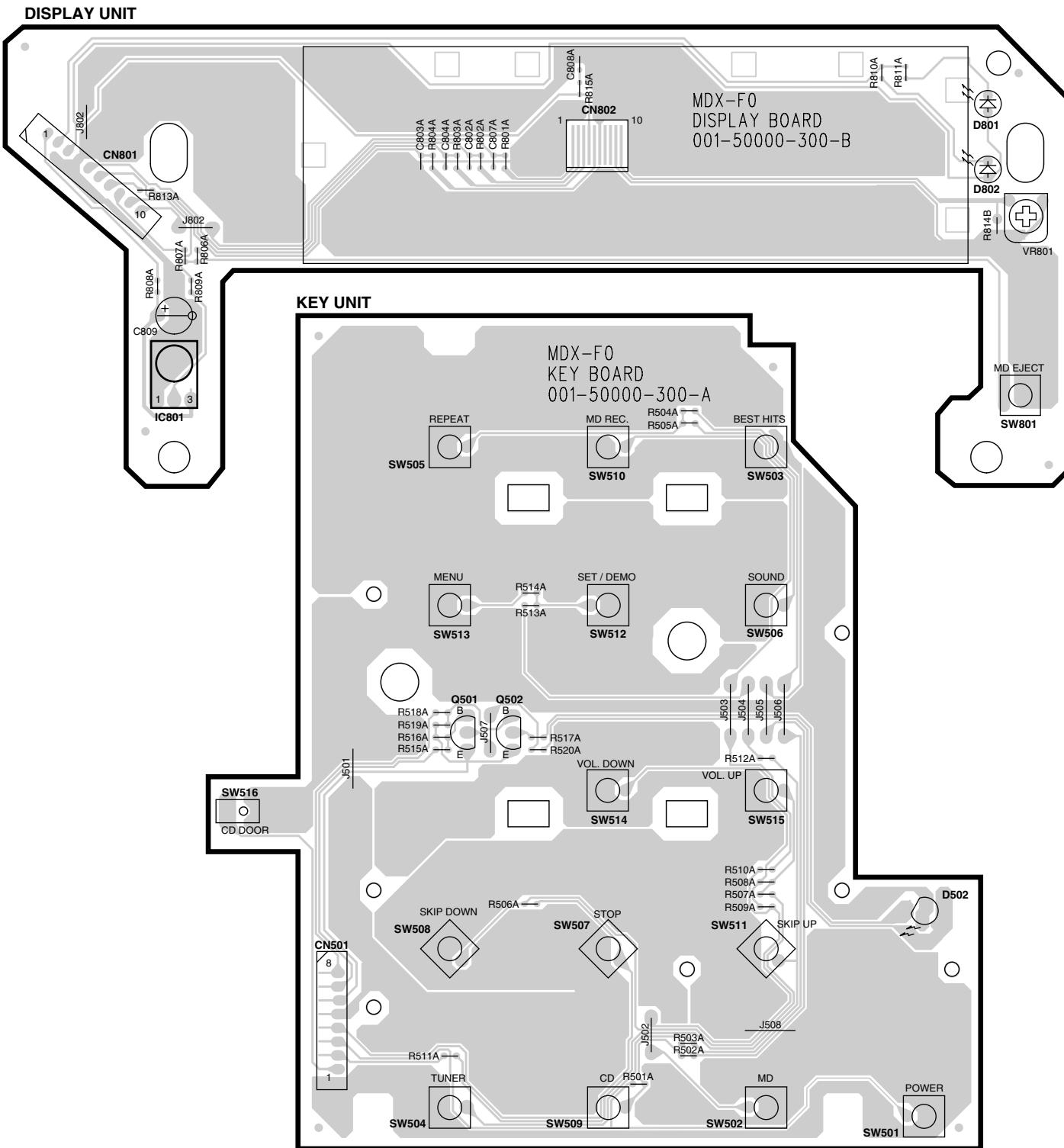
B

C

D

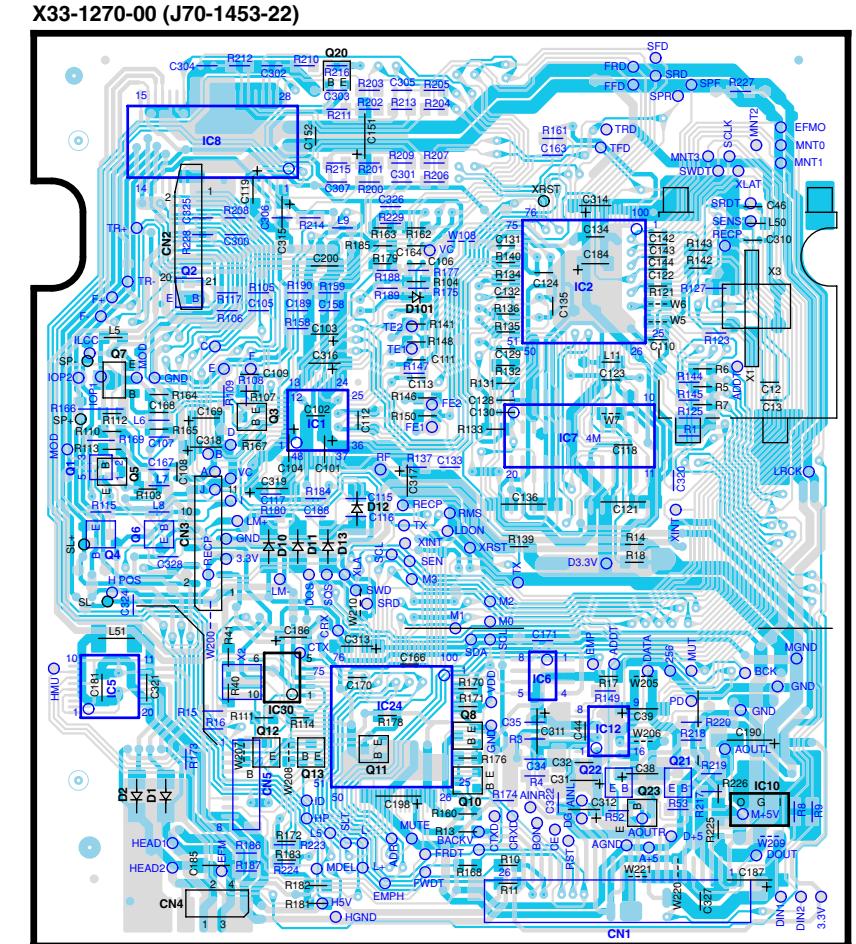
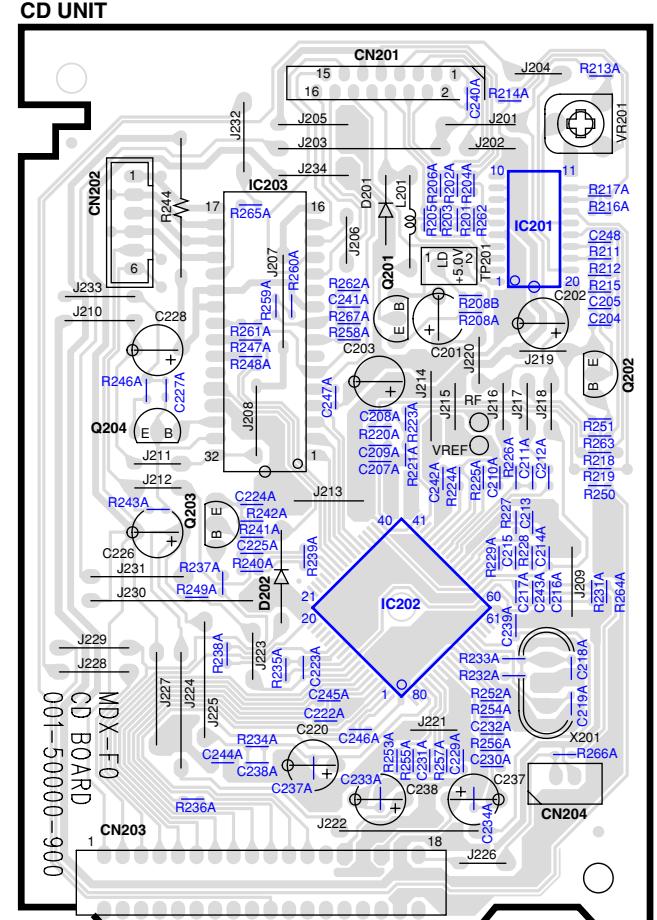
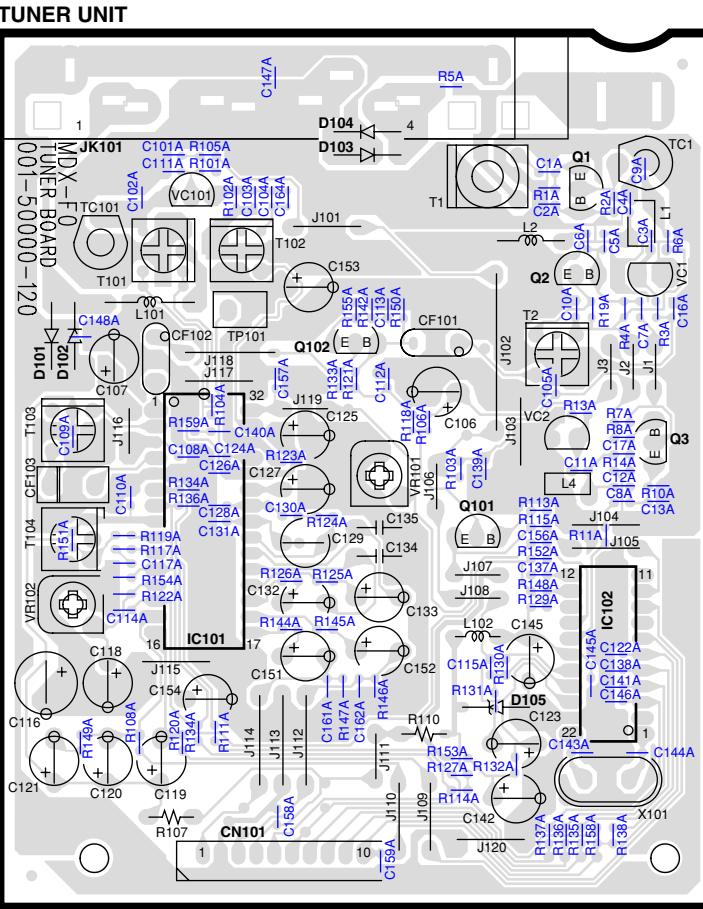
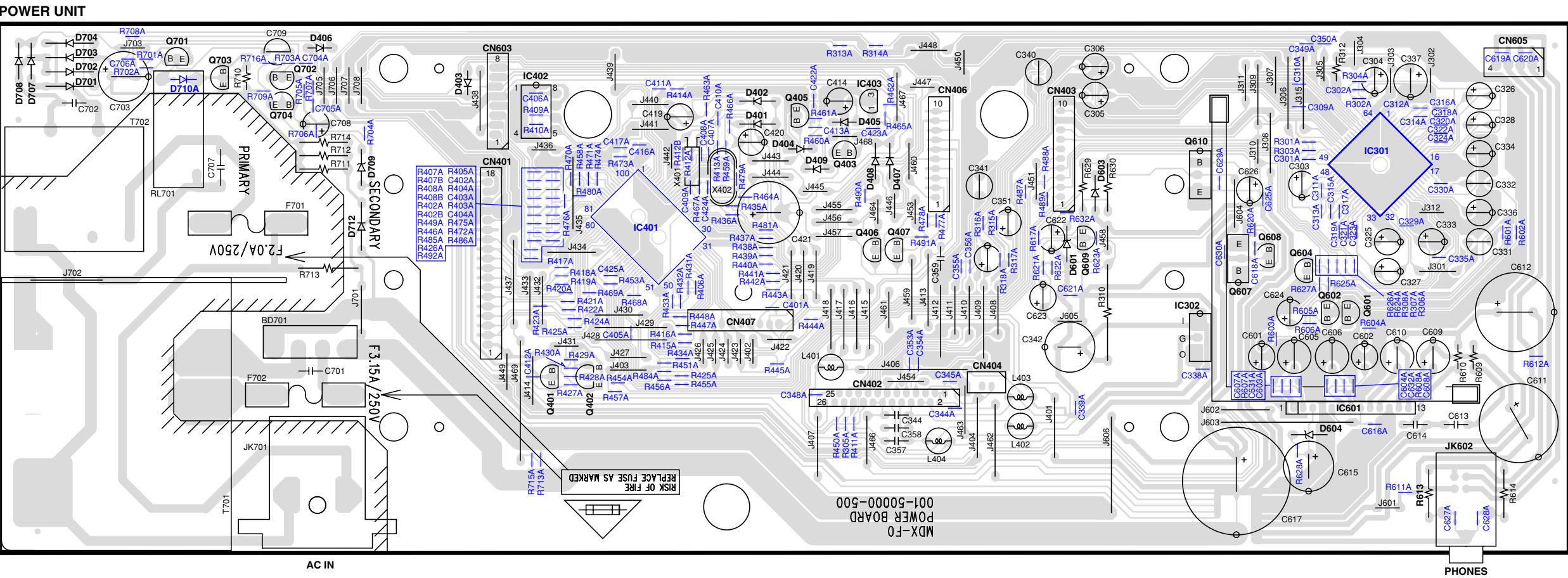
E

PC BOARD (Component side view)

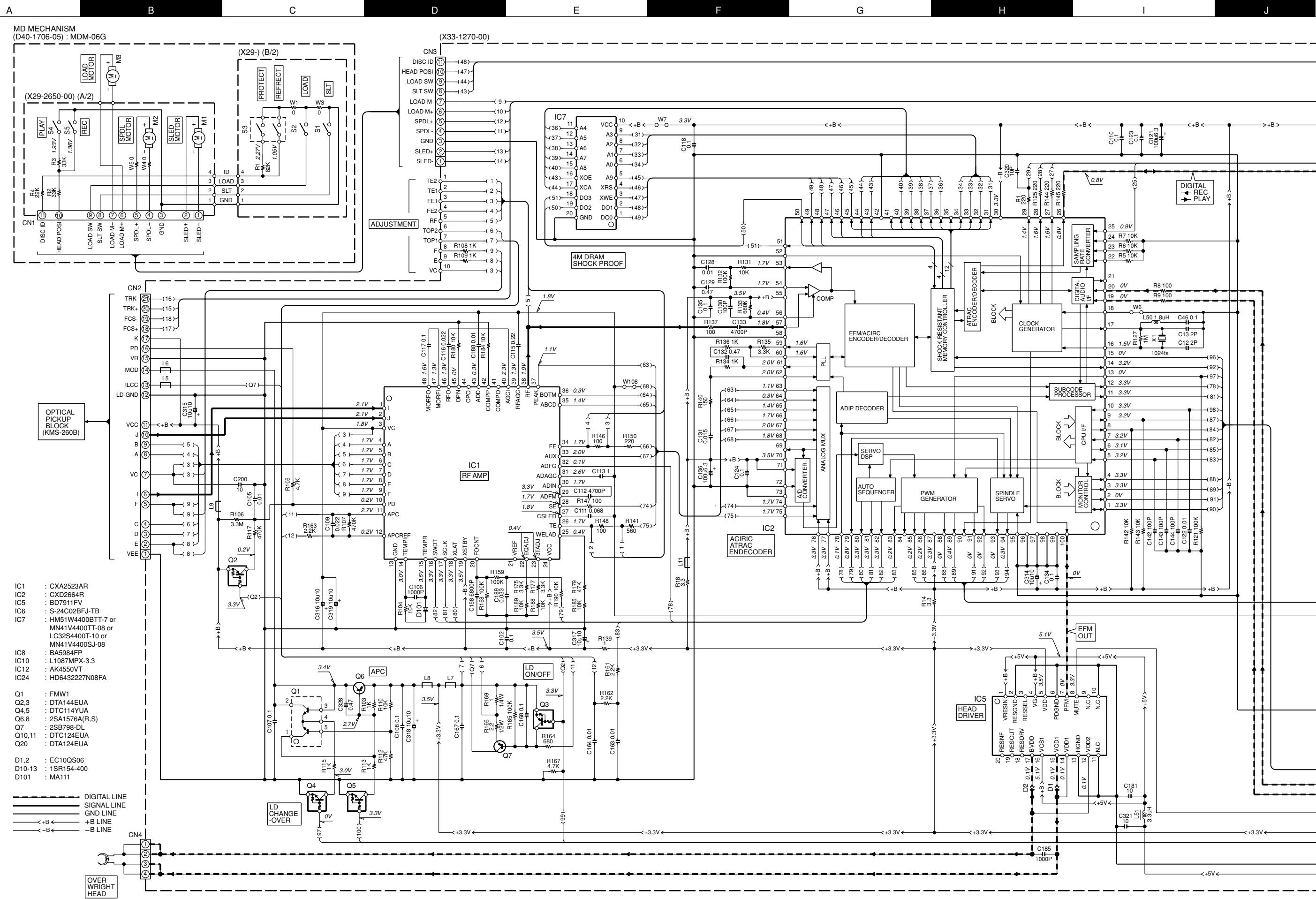


Refer to the schematic diagram for the value of resistors and capacitors.

PC BOARD(Component side view)

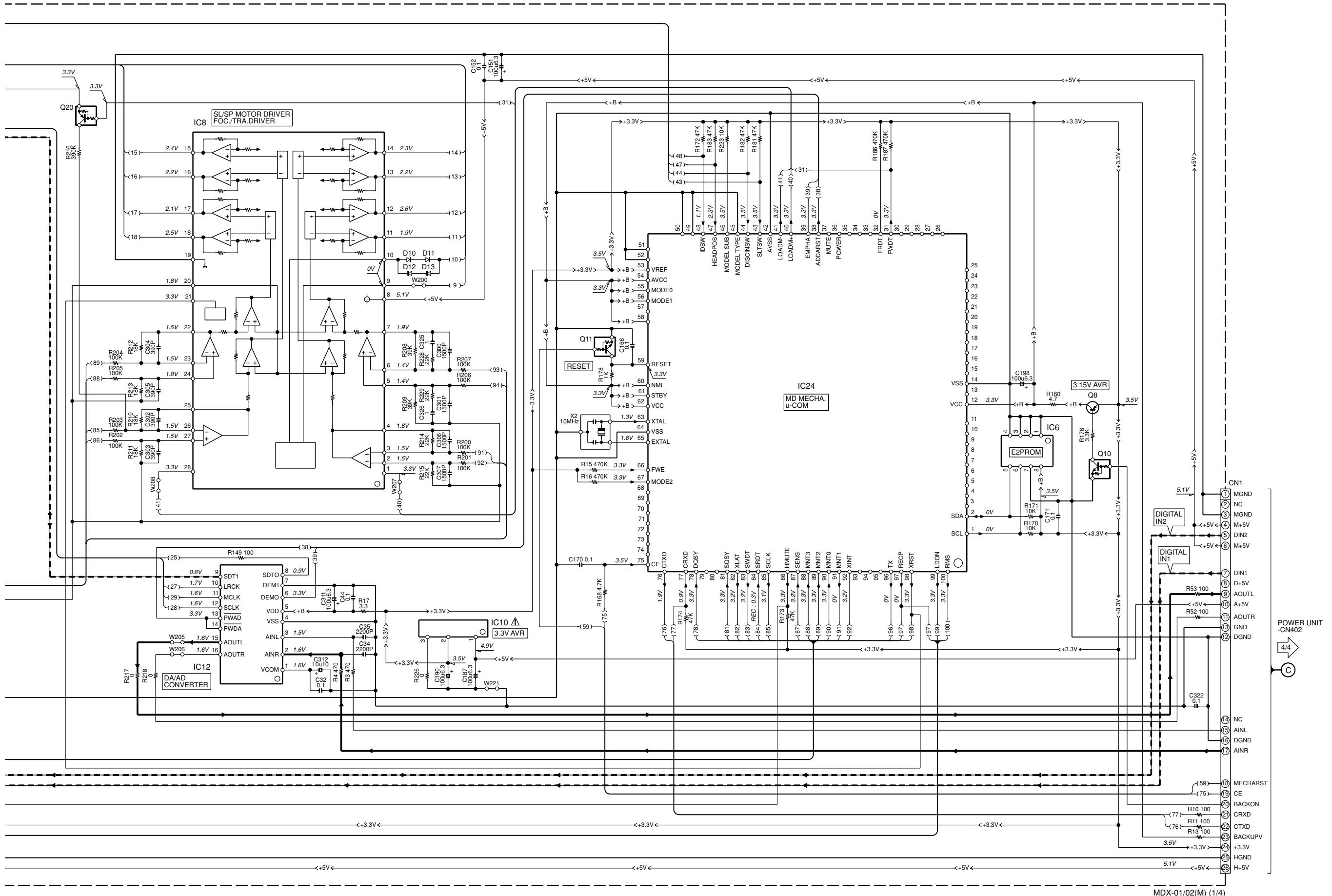


Refer to the schematic diagram for the value of resistors and capacitors.



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). 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.

The DC voltage is an actual reading measured with a high impedance type voltmeter. The measurement value may vary depending on the measuring instruments used or on the product. Refer to the voltage during RECORDABLE MD PLAY unless otherwise specified; The value shown in () is the voltage measured at the moment of STOP. The voltage followed by (REC) refers to the value during MD RECORDING.



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Y39-3890-20

MDX-01/02

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U

V

W

X

Y

Z

AA

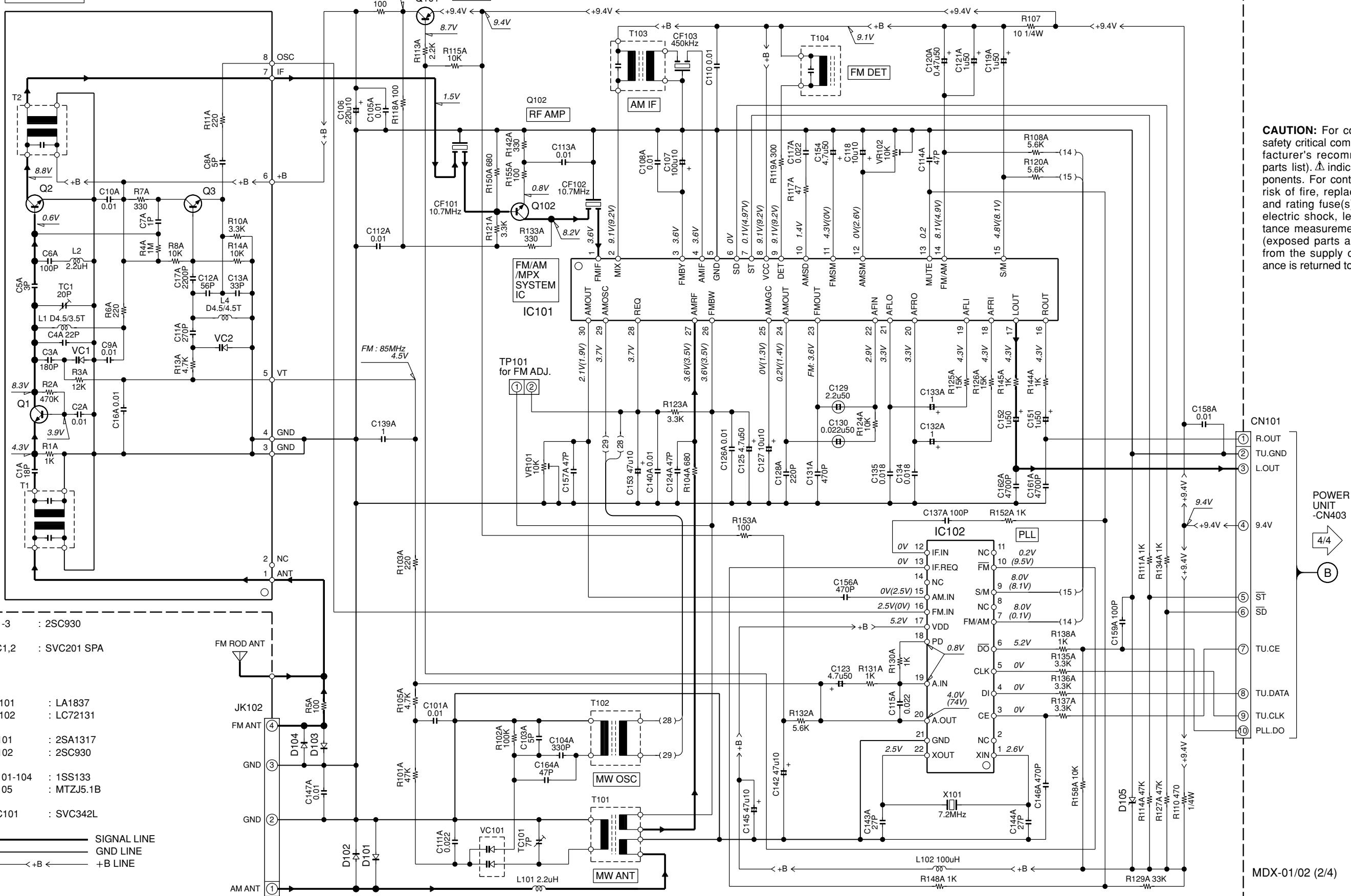
AB

AC

AD

TUNER UNIT

FM FRONT-END



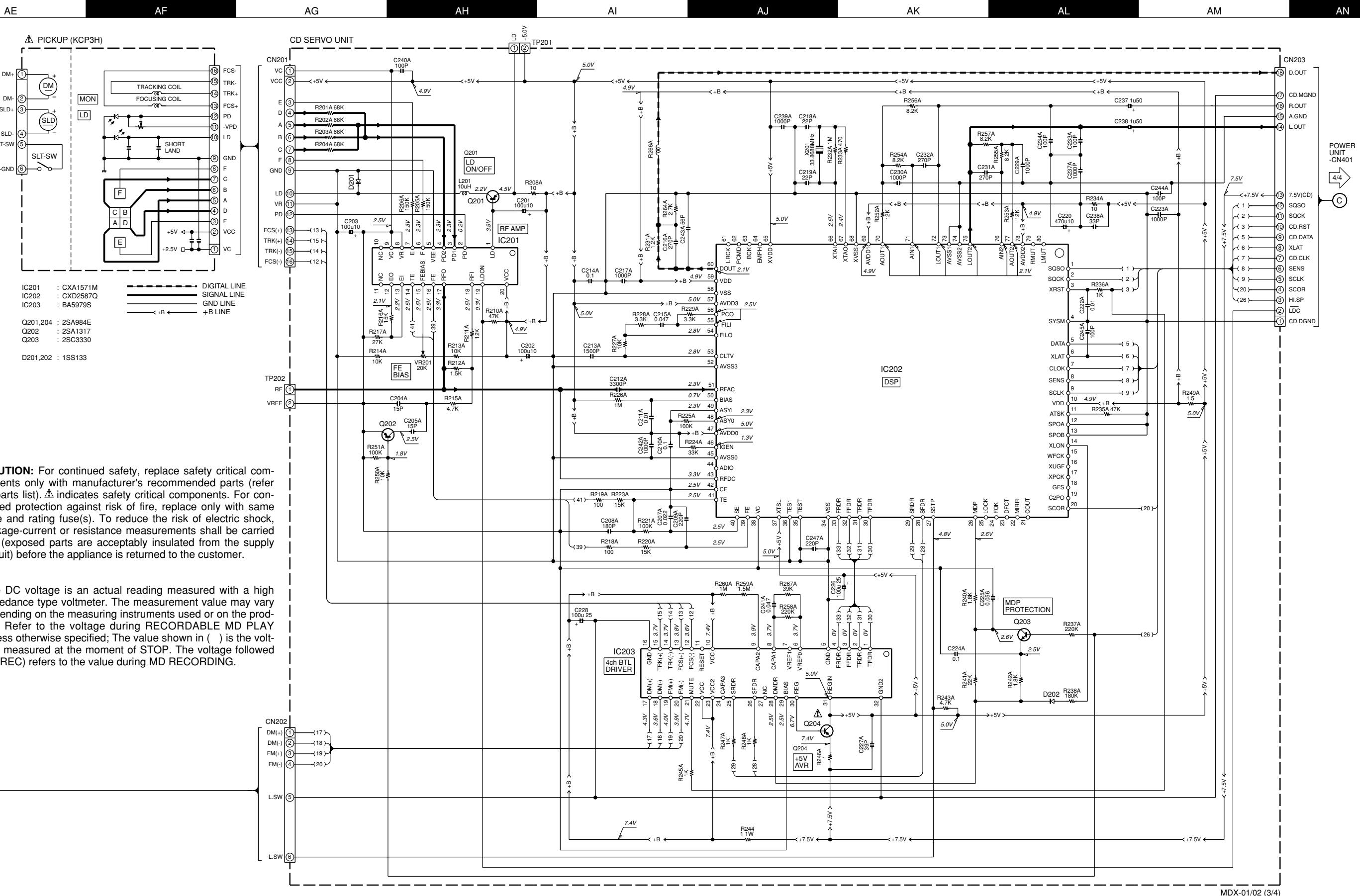
The DC voltage is an actual reading measured with a high impedance type voltmeter as the AM/FM signal generator is specified to the conditions as shown in the list below. The measurement value may vary depending on the measuring instruments used or on the product. The value shown in () is actual reading measured in the AM mode.

MODE	CARRIER	MODULATION		ANT INPUT
		FREQUENCY	DEVIATION	
FM	98MHz	1kHz	STEREO 67.5kHz 7.5kHz(Pilot)	60dB
AM	1000(999)kHz	400Hz	MONO 30% MOD	60dB

Y39-3890-20

MDX-01/02

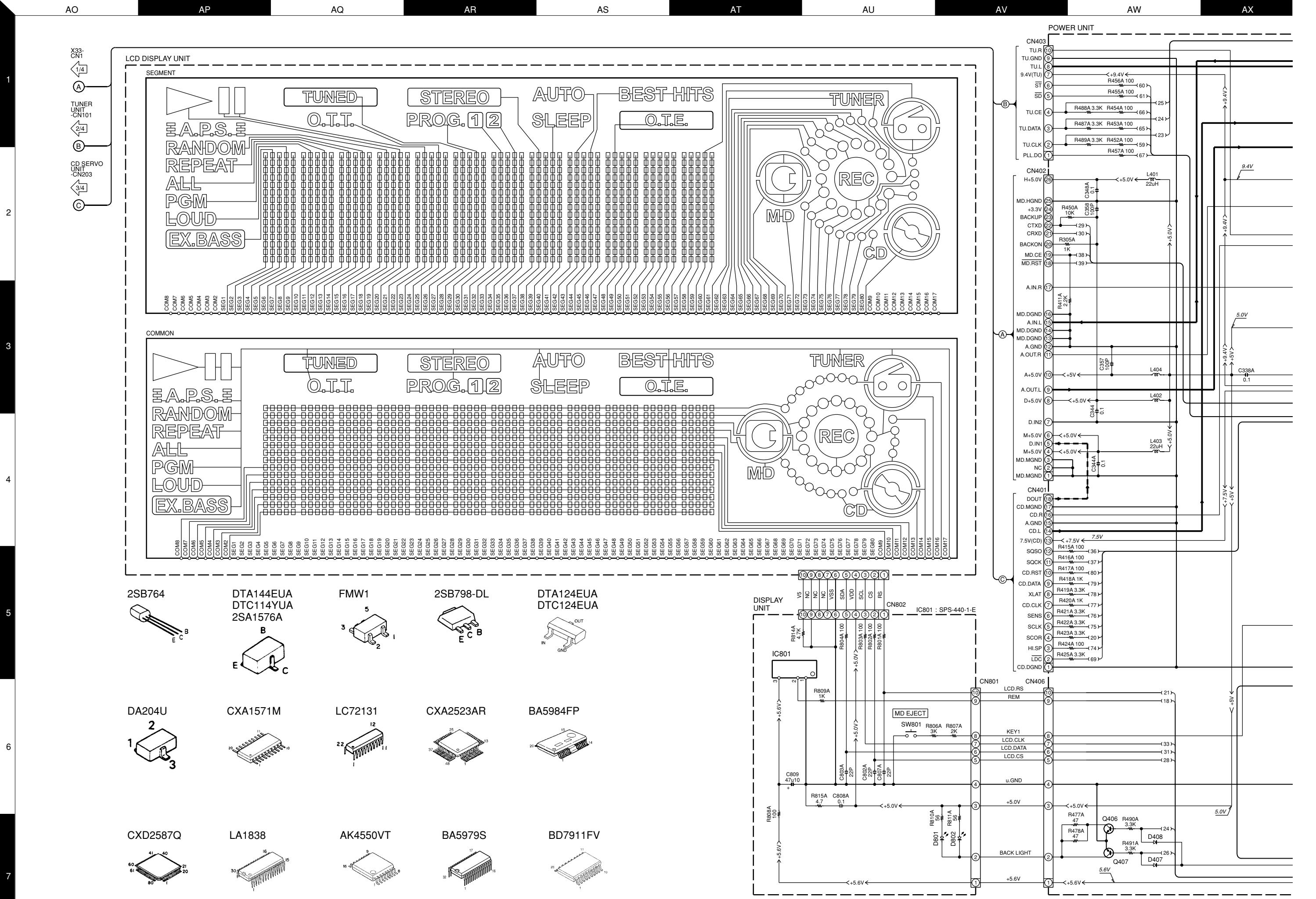
KENWOOD

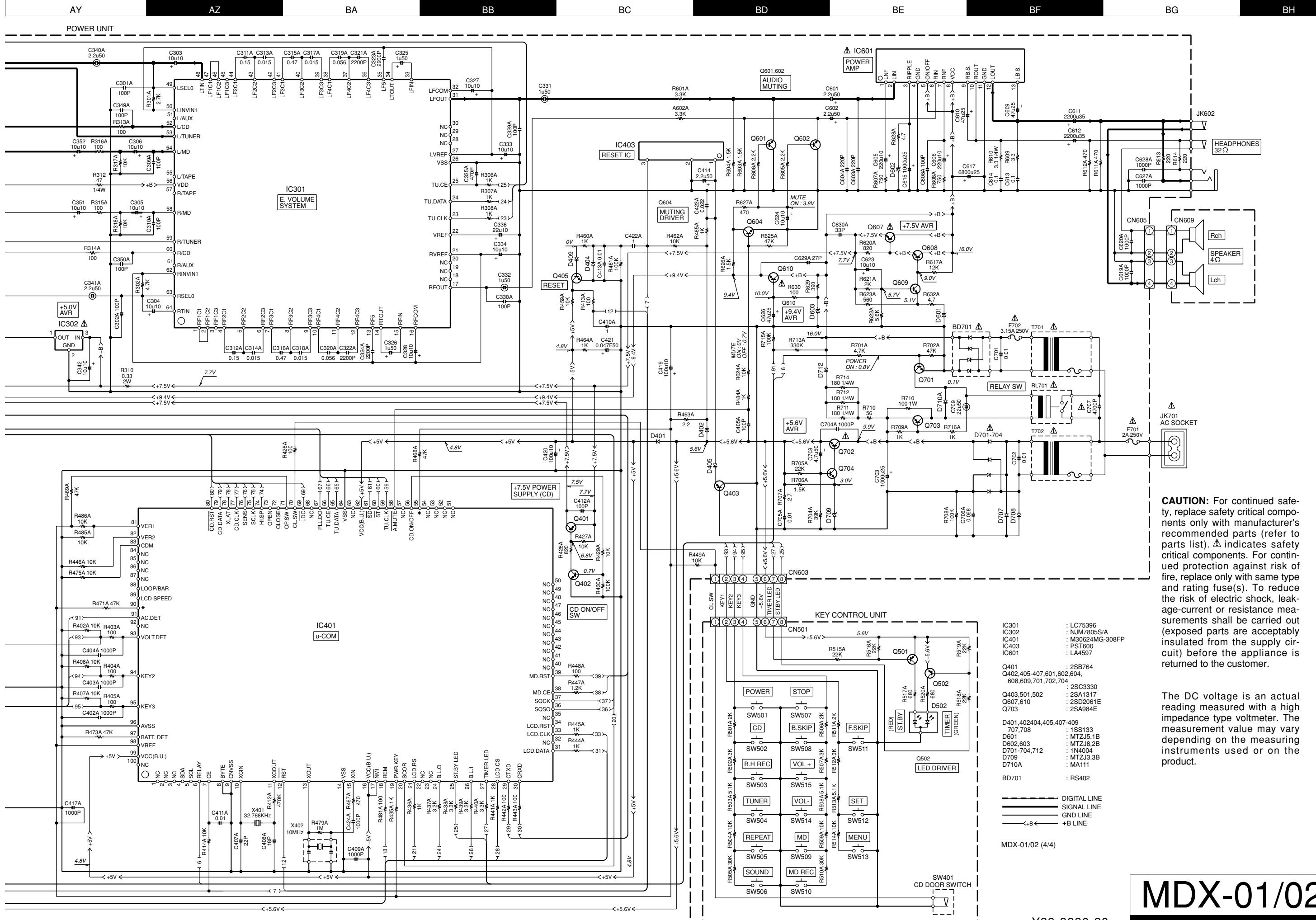


MDX-01/02

KENWOOD

Y39-3890-20



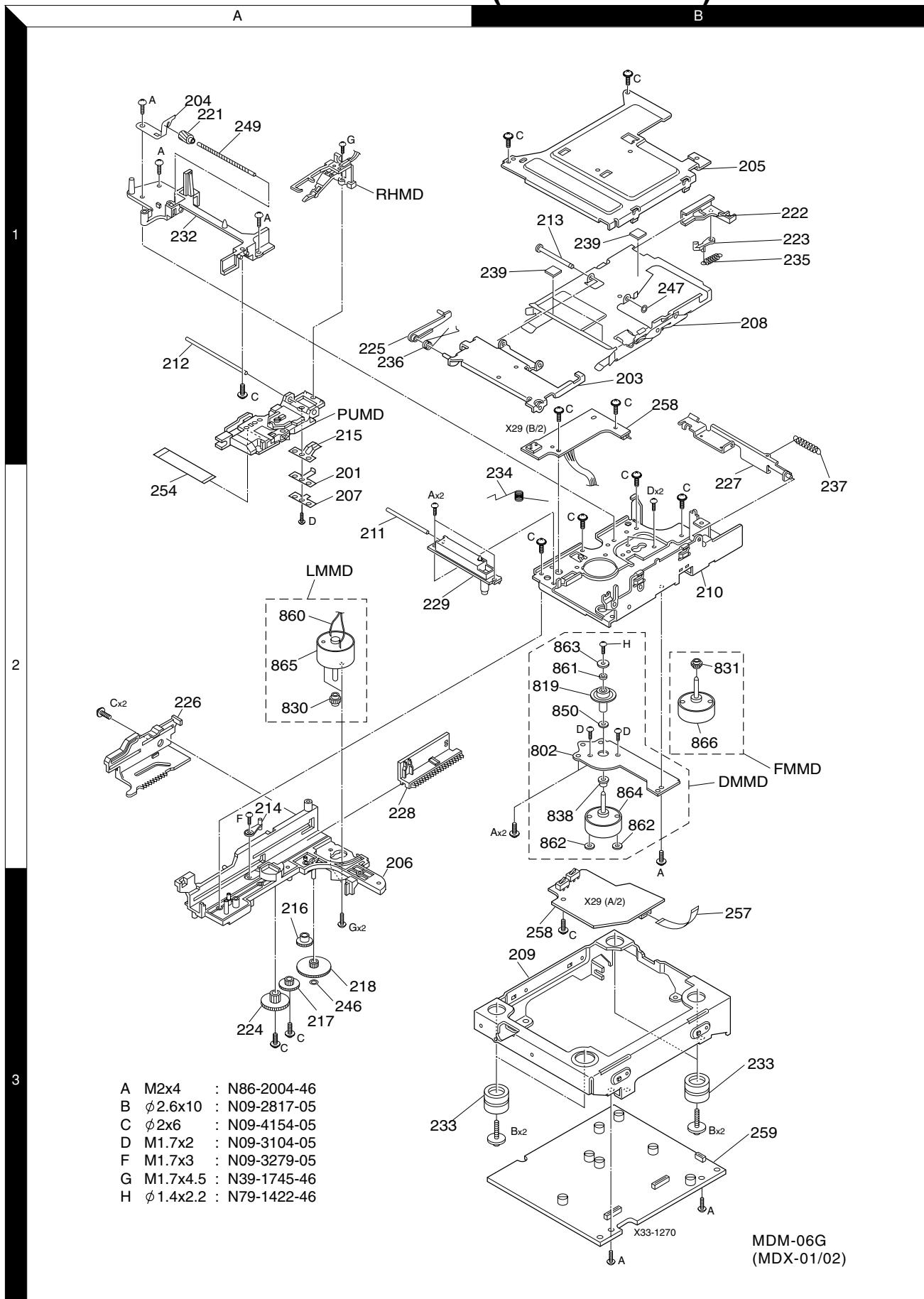


MDX-01/02

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Y39-3890-20

EXPLODED VIEW (MECHANISM)



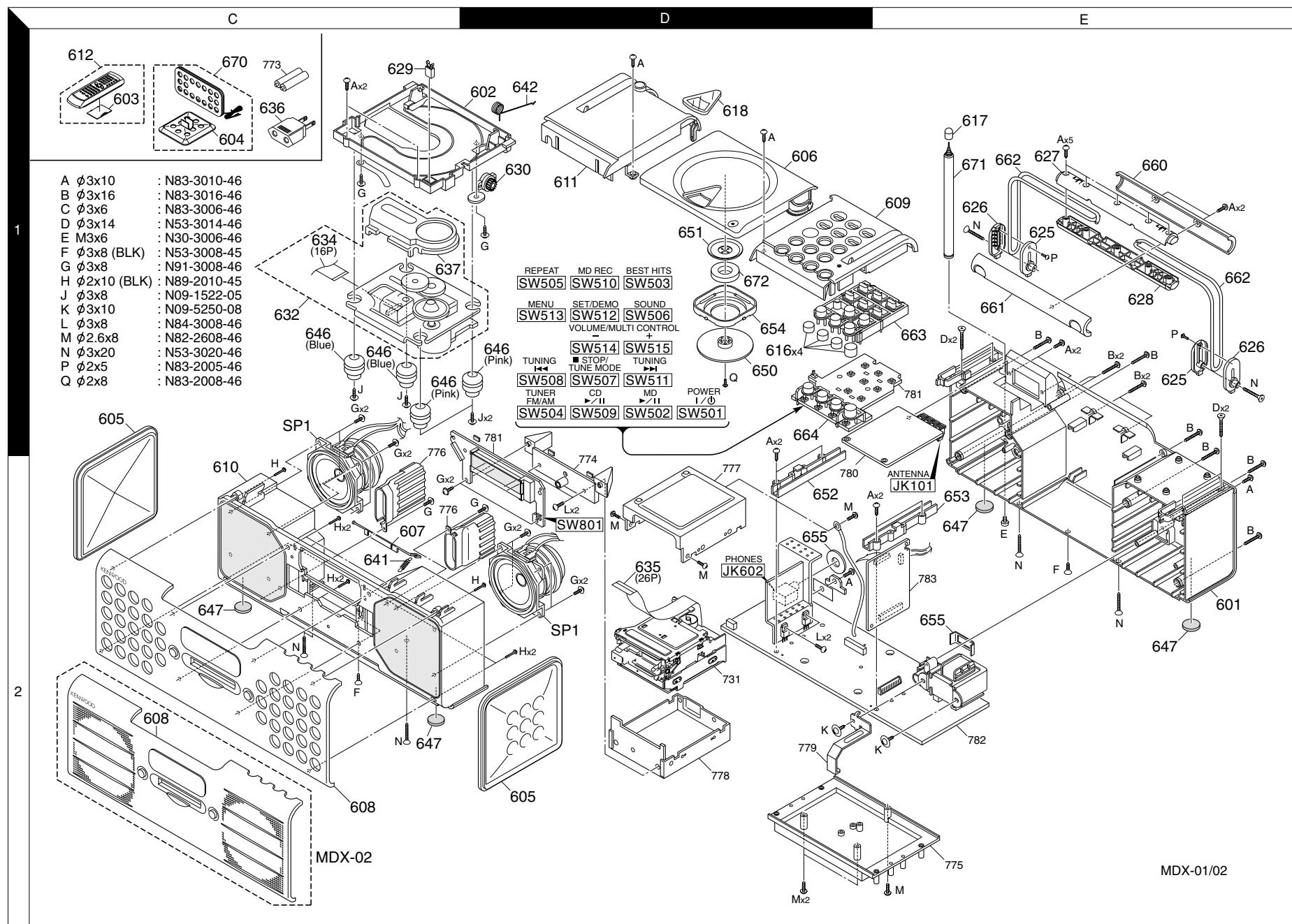
Parts with exploded numbers larger than 700 are not supplied.

MDX-01/02

EXPLODED VIEW (UNIT)

28

Parts with exploded numbers larger than 700 are not supplied.



PARTS LIST

HOW TO READ THE PARTS LIST

ABBREVIATION OF MODEL AND MASS PRODUCTION'S DESTINATIONS

MODEL	ABB.	Australia	Canada	China	England	Europe	Germany	Korea	Malaysia
		X	P	C	T	E	G	H	I
MDX-01-D	D	-	-	-	-	-	-	-	-
MDX-01-L	L	-	-	-	-	-	-	-	-
MDX-01-LH	H	-	-	-	-	-	-	-	-
MDX-01-R	R	-	-	-	-	-	-	-	-
MDX-02-S	S	-	-	-	-	-	-	-	-
MODEL	ABB.	Mexico	PX/AAFES	Russia	Scandinavia	Shanghai	USA	Otherarea	
		R	Y	Q	L	V	K	M	
MDX-01-D	D	-	-	-	-	-	-	ORANGE	-
MDX-01-L	L	-	-	-	-	-	-	BULE	-
MDX-01-LH	H	-	-	-	-	-	-	GREY	-
MDX-01-R	R	-	-	-	-	-	-	RED	-
MDX-02-S	S	-	-	-	-	-	-	SILVER	-

* 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	Address	New Parts	Parts No.	Description	Desti- nation	Re- marks
214	2A		D10-3859-08	ARM	CHANGE	
215	1A		D13-1792-08	RACK	GEAR	
216	3A		D13-1918-08	GEAR	IDLER	
217	3A		D13-1917-08	GEAR	INTERMEDIATE	
218	3A		D13-1919-08	GEAR	DRIVE	
221	1A		D13-1921-08	GEAR	FEED	
222	1B		D10-3863-08	SLIDER	LOAD	
223	1B		D10-3864-08	ARM	LOAD	
224	3A		D13-1916-08	GEAR	FINAL	
225	1A		D10-3865-08	ARM	CLAMP	
226	2A		D10-3858-08	SLIDER	OUTER	
227	2B		D10-3866-08	LEVER ASSY	HD	
228	2A		D10-3860-18	SLIDER	INNER	
229	2A		J90-0866-08	GUIDE	SUB-SO	
230	1A		J90-0865-18	GUIDE	MAIN-SO	
233	3A,3B		J02-1446-08	INSULATOR		
234	2B		G01-4115-08	TORSION SPRING SPDL		
235	1B		G01-4116-08	TENSION SPRING ARM		
236	1A		G01-4117-08	TORSION SPRING CLAMP		
237	2B		G01-4118-08	SPRING	HD	
239	1B		G11-2383-08	CUSHION		
246	3A		N19-1105-04	WASHER	1.6X4.0X0.5C	
247	1B		N19-0366-04	WASHER	2.1X4.0X0.5C	
249	1A		D19-0315-08	REED SWITCH		
254	2A		E35-2348-08	FLAT CABLE	PU	
257	3B		E35-2349-08	FLAT CABLE	11P	
258	1B,3B	*	X29-2650-00	PCB		
259	3B	*	X33-1270-00	CONTROL PCB		
A			N86-2004-46	SCREW		
B			N09-2817-05	SCREW	2.610	
C			N09-4154-05	SCREW	2.0X6.0	
D			N09-3104-05	SCREW	1.7X2.0	
F			N09-3279-05	SCREW	1.7X3.0	
G			N39-1745-46	SCREW	1.7X4.5	
H			N79-1422-46	SCREW	1.4X2.2	
DMMD	2B	*	T42-0992-08	DM ASSY		
FMMD	2B	*	T42-0940-08	FM ASSY		
LMMD	2A	*	T42-0938-08	LM ASSY		
PUMD	1A	*	T25-0085-05	PICKUP		
RHMD	1A	*	T30-0021-05	RECORDING HEAD	KSM-260B	

L : Scandinavia

Y : PX(Far East,Hawaii)

Y : AAFES(Europe)

K : USA

T : England

X : Australia

P : Canada

E : Europe

Q : Russia

R : Mexico

G : Germany

H : Korea

C : China

V : China(Shanghai)

I : Malaysia

M : Other Areas

△ indicates safety critical components .

MDX-01/02

SPECIFICATIONS

Amplifier section

Maximum practical output 2 W + 2 W (EIAJ, 4 Ω)

Tuner section

FM tuner

Tuning frequency range 87.5 MHz ~ 108 MHz

AM tuner

Tuning frequency range 531 kHz ~ 1,602 kHz

MD Recorder section

Laser wave length 765 to 805 nm

Laser power class Class 3B

Reading method

..... Non-contact optical read (using a laser diode)

Recording method Field modulating overwriting

Audio compression method ATRAC

D/A conversion 1 Bit

Wow & flutter Below measurable limit

CD Player section

Reading method

..... Non-contact optical read (using a laser diode)

D/A conversion 1 Bit

Sampling frequency 8 fs (352.8 kHz)

Frequency response 20 Hz to 20,000 Hz

Wow & flutter Below measurable limit

Speakers

Enclosures Bass-reflex type

Speaker units 80 mm, cone type

Power Supply, etc.

Supply voltage/frequency AC 220 V, 50Hz

Rated power consumption 24 W

STANDBY power consumption 0.4 W

Dimensions (including projections) W : 410 mm

H : 170 mm

D : 190 mm

Weight 4.6 kg (net)



- KENWOOD follows a policy of continuous advancements in development. For reason specifications may be changed without notice.
- The full performance may not be exhibited in an extremely cold location (under a water-freezing temperature).

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