

Illustration is DMF-3020.

*** Refer to parts list on page 23.**

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

Refer to 1050MD/DM-5090/DM-9090 service manual (B51-5387-00) if you see the mechanism test mode.

KENWOOD-Corp. certifies this equipment conforms to DHHS Regulation No.21 CFR 1040.10, Chapter 1, Subchapter J.

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



CONTENTS/ACCESSORIES/CAUTIONS

CONTENTS

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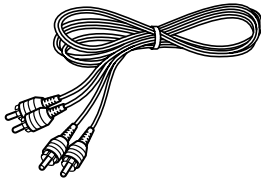
Refer to the Service manual, if you see the IC40, 41 on the X25 (PCB)

PCB	Ref No.	Parts No.	Refer to Service manual	Parts No.	Page
X25	IC40	KAN06	DV-203/2070, DVF-5010/9010/K7010	B51-5456-00	20
X25	IC41	PCM1716E	DV-203/2070, DVF-5010/9010/K7010	B51-5456-00	21

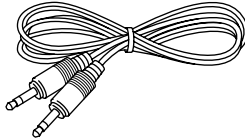
Accessories

Check that the following accessories are present.

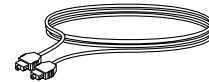
Audio cord (2)
(E30-0505-05)



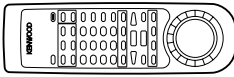
System control cord (1)
(E30-2733-05)



Optical fiber cable (1)
(B19-1529-05)

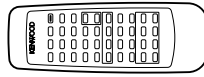


Remote control unit (1)
RC-M0705 (For DMF-5020)
(A70-1238-05)



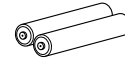
Battery cover (A09-1116-08)

Remote control unit (1)
RC-M0302 (For DMF-3020/MD-203)
(A70-1239-05)



Battery cover (A09-0374-08)

Batteries (2)
R03 ("AAA"-size) batteries (For RC-M0705)
R6 ("AA"-size) batteries (For RC-M0302)



Cautions

Note related to transportation and movement

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

1. Set the **POWER** key to **ON** without loading a Mini Disc.
 - Check that no disc is present in the unit.
2. Wait a few seconds and verify that the display shown appears.
3. Set the **POWER** key to **OFF**.

NO DISC

Operation to reset

The microprocessor may fall into malfunction (impossibility to operate erroneous display, etc.) when the power cord is unplugged while power is ON or due to an external factor. In this case, execute the following procedure to reset the microprocessor and return it to normal condition.

With the **POWER key left to ON, unplug the power cord from the power outlet then, while holding the eject (▲) key depressed, plug the power cord again.**

- Please note that resetting the microprocessor clears the contents stored in, it returns the microprocessor to the condition when it left the factory.

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 with the power left ON, and restart the operation after the condensation has dried up.

Be specially cautious against condensation in a following circumstance:

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.

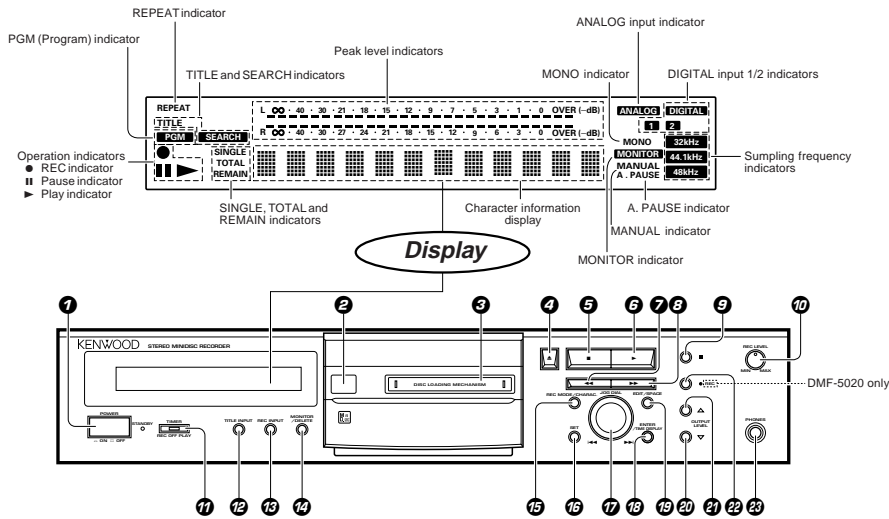
Memory backup

The typical period for which the memory can be backed up while the power cord is unplugged or the **POWER** key is set to the **OFF** position is about 3 weeks, though this may be variable depending on the surrounding environment.

In case of long hours of power failure or slipping out of the power cord, the data related to recording and editing (that is usually recorded at the moment the Mini Disc is ejected) may be cleared or destroyed before it is written in the Mini Disc. Remember that the data lost cannot be recovered.

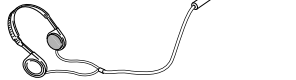
After recording or editing, be sure to eject the Mini Disc so that the recording or editing data can be written in the disc.

Display / Main unit



Listening through headphones

Plug the stereo headphones (with standard-plug) available in audio stores into the **PHONES** jack and adjust the listening volume with the **OUTPUT LEVEL** control on the front panel. The default value is 0 dB (maximum volume).



Standby mode

While the standby indicator of the unit is lit, a small amount of current is flowing into the unit's internal circuitry to back up the memory. This condition is referred to as the standby mode of the unit. While the unit is in the standby mode, it can be turned ON from the remote control unit.

Description of main unit keys

- 1 POWER key**
 - : Press to turn the unit ON and OFF.
 - : The unit may enter the standby mode when the **POWER** key is pressed to turn it ON. This is because the unit holds the memory that it has been put to the standby mode by the remote control unit in the last operation.
- 2 Remote control sensor**
- 3 Mini Disc insertion slot**
 - : When a Mini Disc is inserted while the unit is in the standby mode, it is turned ON automatically.
- 4 Eject (▲) key**
 - : Press to eject the Mini Disc.
- 5 Stop (■) key**
 - : Press to stop playback or recording.
- 6 Play (▶) key**
 - : Press to start playback.
- 7 Manual search down (◀◀) key**
 - : This key functions as the fast reverse key during playback.
 - : During an editing mode, press to move the title input cursor or to scroll the track title display to the left.
- 8 Manual search up (▶▶) key**
 - : This key functions as the fast forward key during playback.
 - : During an editing mode, press to move the title input cursor or to scroll the track title display to the right.
- 9 Pause (||) key**
 - : Press to let playback or recording pause temporarily.
- 10 REC LEVEL knob**
 - : Rotate to adjust the analog recording level.
- 11 TIMER switch**
 - : This switch is used in timer playback and timer recording.
- 12 TITLE INPUT key**
 - : Press to switch the title input mode ON/OFF.
- 13 REC INPUT key**
 - : Press to switch the recording input line between digital (optical/coaxial), analog and monaural.
- 14 MONITOR/DELETE key**
 - MONITOR**
 - : Press to monitor the sound being input from the source while the unit is in stop mode.
 - DELETE**
 - : During title editing, press to delete a character. During track editing, press to delete a track.
- 15 REC MODE/CHARAC. (Character) key**
 - REC MODE**
 - : Press to switch the recording setting adjustment modes (record modes) ON/OFF.
 - CHARAC.**
 - : Press to select a character group during the title input operation.
- 16 SET key**
 - : For use in setting the editing result and input title in memory.
 - : When pressed in the recording pause mode, the MEMORY REC function is set and recording starts from the sound approximately 6 seconds before the current sound.
- 17 JOG DIAL**
 - Skip down (◀◀) / Skip up (▶▶) knob**
 - : During playback, rotate to skip tracks.
 - : Before starting recording in record mode, rotate to select the recording setting adjustment mode.
 - : During title search, rotate to select a track number.
 - : During title input, rotate to select a track number or a character.
 - : During editing, rotate to select the editing mode or a track number.
- 18 ENTER/TIME DISPLAY key**
 - ENTER**
 - : For use in executing the editing and title input operations.
 - TIME DISPLAY**
 - : Press to switch the time and title display modes.
- 19 EDIT/SPACE key**
 - EDIT**
 - : Press to switch the editing mode ON/OFF.
 - SPACE**
 - : Press to insert a blank space character during the title input operation.
- 20 OUTPUT LEVEL DOWN (▽) key**
 - : Use this to decrease the volume of the headphones and the output level.
- 21 OUTPUT LEVEL UP (△) key**
 - : Use this to increase the volume of the headphones and the output level.
- 22 Record (●) key**
 - : Press to start recording.
 - In stop mode**
 - : When the ● key is pressed while a recordable disc is present in the unit, it enters record-pause mode. (It enters record-pause mode at the position immediately after the last existing track.)
 - In record-pause mode**
 - : When the ● key is pressed, the SOUND SYNCHRO REC standby mode is set.
 - : In the SOUND SYNCHRO REC standby mode, the set functions in the same way as in the normal recording pause mode.
- 23 PHONES jack**
 - : Connect stereo headphones (optional) here.

Remote control unit (DMF-3020/MD-203)

The remote control unit incorporates the basic operation keys as well as a variety of applied operation keys so that it can be used in a wide range of purposes.

The keys on the remote control unit with the same names as on the main unit have the same function as the keys on the main unit.

① Numeric keys / Character editing keys

Numeric keys

0-9

: Press when selecting a track number directly.

+10

: Press when selecting a track number 10 or more.

+100

: Press when selecting a track number 100 or more.

: These keys are also used to select a character or symbol during title editing.

CHARACTER DELETE / CLEAR key

CHARACTER DELETE

: During title input, press to delete a character.

CLEAR

: During editing, press to clear a selected track number.

: In program mode, press to clear the program.

CHARACTER SPACE / CHECK key

CHARACTER SPACE

: During title input, press to insert a blank space character.

CHECK

: In program mode, press to check the program contents.

CHARA. (Character) / P.MODE (Play Mode) key

CHARA.
: Press to select a character group during the title input operation.

P.MODE

: Press to initiate the program mode.

② ON/STANDBY key

: Press to turn the unit between ON and STANDBY (I/II) modes.

③ REPEAT key

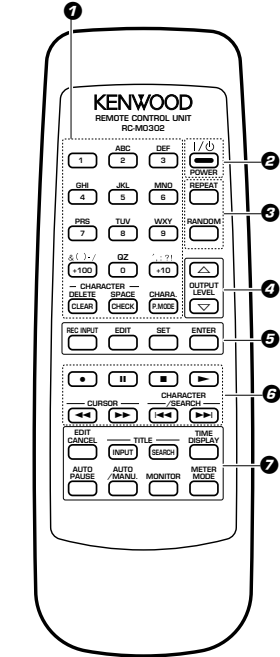
: Press to switch the repeat modes for repeat playback.

RANDOM key

: Press to initiate the random play mode.

④ OUTPUT LEVEL (Δ▽) keys

: Use these to adjust the output level and the volume of the headphones.



Model: RC-M0302
Infrared ray system

⑤ Editing mode keys

REC INPUT key

: Press to switch the recording input line between digital (optical/coaxial), analog and monaural.

EDIT key

: Press to switch the editing mode ON/OFF.

SET key

: This key is used in the title assignment or editing operations.

: When pressed in the recording pause mode, the MEMORY REC function is set and recording starts from the sound approximately 6 seconds before the current sound.

ENTER key

: Press to execute editing or enter the input title in memory.

⑥ Basic operation keys

- : Record key
- II : Pause key
- : Stop key
- ▶ : Play key

CURSOR / ◀▶, ▶▶ keys

◀▶, ▶▶
: During playback, press to fast forward or fast reverse the play.

CURSOR

: During title input, press to move the cursor.

CHARACTER/SEARCH/◀▶, ▶▶ keys

CHARACTER
: Press to select a character group during the title input operation.

SEARCH

: During title search, rotate to select a track number.

◀▶, ▶▶

: During playback, press to skip tracks in the forward or reverse direction.

⑦ Applied operation keys

EDIT CANCEL key

: Press to cancel the editing operation.

TITLE INPUT key

: Press to switch the title input mode ON/OFF.

TITLE SEARCH key

: Press to switch the title search mode ON/OFF.

: During title editing, press to switch the title change input mode between the "overwrite mode" and "insert mode".

TITLE DISPLAY key

: Press to switch the time and title display modes.

AUTO PAUSE key

: When this key is pressed, the pause mode is initiated automatically at the point where the track number changes during playback.

: When pressed in the recording or recording standby mode, the AUTO REC PAUSE mode is turned on.

AUTO/MANU. key

: Selects whether the track numbers are to be marked automatically during recording (AUTO) or to be marked manually after it (MANUAL).

MONITOR key

: Press to monitor the sound being input from the source while the unit is in stop mode.

METER MODE key

: Press to switch the level meter display contents.

Remote control unit (DMF-5020)

The remote control unit incorporates the basic operation keys as well as a variety of applied operation keys so that it can be used in a wide range of purposes.

The keys on the remote control unit with the same names as on the main unit have the same function as the keys on the main unit.

① ON/STANDBY key

: Press to turn the unit between ON and STANDBY (I/II) modes.

② OUTPUT LEVEL (Δ▽) keys

: Use these to adjust the output level and the volume of the headphones.

③ Character editing keys

TIME DISPLAY key

: Press to switch the time and title display modes.

CHARA. (Character) / P.MODE (Play Mode) key
CHARA.
: Press to select a character group during the title input operation.

P.MODE

: Press to initiate the program mode.

DELETE / CLEAR key

DELETE

: During title input, press to delete a character.

CLEAR

: During editing, press to clear a selected track number.

: In program mode, press to clear the program.

SPACE / CHECK key

SPACE

: During title input, press to insert a blank space character.

CHECK

: In program mode, press to check the program contents.

④ MONITOR key

: Press to monitor the sound being input from the source while the unit is in stop mode.

METER key

: Press to switch the level meter display contents.

RANDOM key

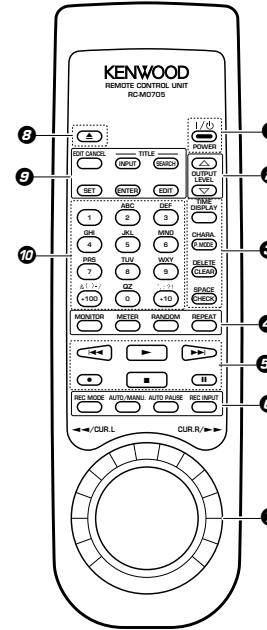
: Press to initiate the random play mode.

REPEAT key

: Press to switch the repeat modes for repeat playback.

⑤ Basic operation keys

- ▶ : Play key
- ◀▶, ▶▶ : Skip down/up keys
- : Record key
- : Stop key
- II : Pause key



Model: RC-M0705
Infrared ray system

⑥ Recording-related keys

REC MODE key

: Press to switch the recording setting adjustment modes ON/OFF.

AUTO/MANU. key

: Selects whether the track numbers are to be marked automatically during recording (AUTO) or to be marked manually after it (MANUAL).

AUTO PAUSE key

: When this key is pressed, the pause mode is initiated automatically at the point where the track number changes during playback.

: When pressed in the recording or recording standby mode, the AUTO REC PAUSE mode is turned on.

REC INPUT key

: Press to switch the recording input line between digital (optical/coaxial), analog and monaural.

⑦ CURSOR / ◀▶, ▶▶ shuttle

CURSOR

: During title input, rotate to move the cursor.

◀▶, ▶▶

: Use this during playback for forward and reverse search.

⑧ EJECT (▲) key

⑨ Editing mode keys

EDIT CANCEL key

: Press to cancel the editing operation.

TITLE INPUT key

: Press to switch the title input mode ON/OFF.

TITLE SEARCH key

: Press to switch the title search mode ON/OFF.

: During title editing, press to switch the title change input mode between the "overwrite mode" and "insert mode".

SET key

: This key is used in the title assignment or editing operations.

: When pressed in the recording pause mode, the MEMORY REC function is set and recording starts from the sound approximately 6 seconds before the current sound.

ENTER key

: Press to execute editing or enter the input title in memory.

EDIT key

: Press to switch the editing mode ON/OFF.

⑩ Numeric keys

0-9

: Press when selecting a track number directly.

+10

: Press when selecting a track number 10 or more.

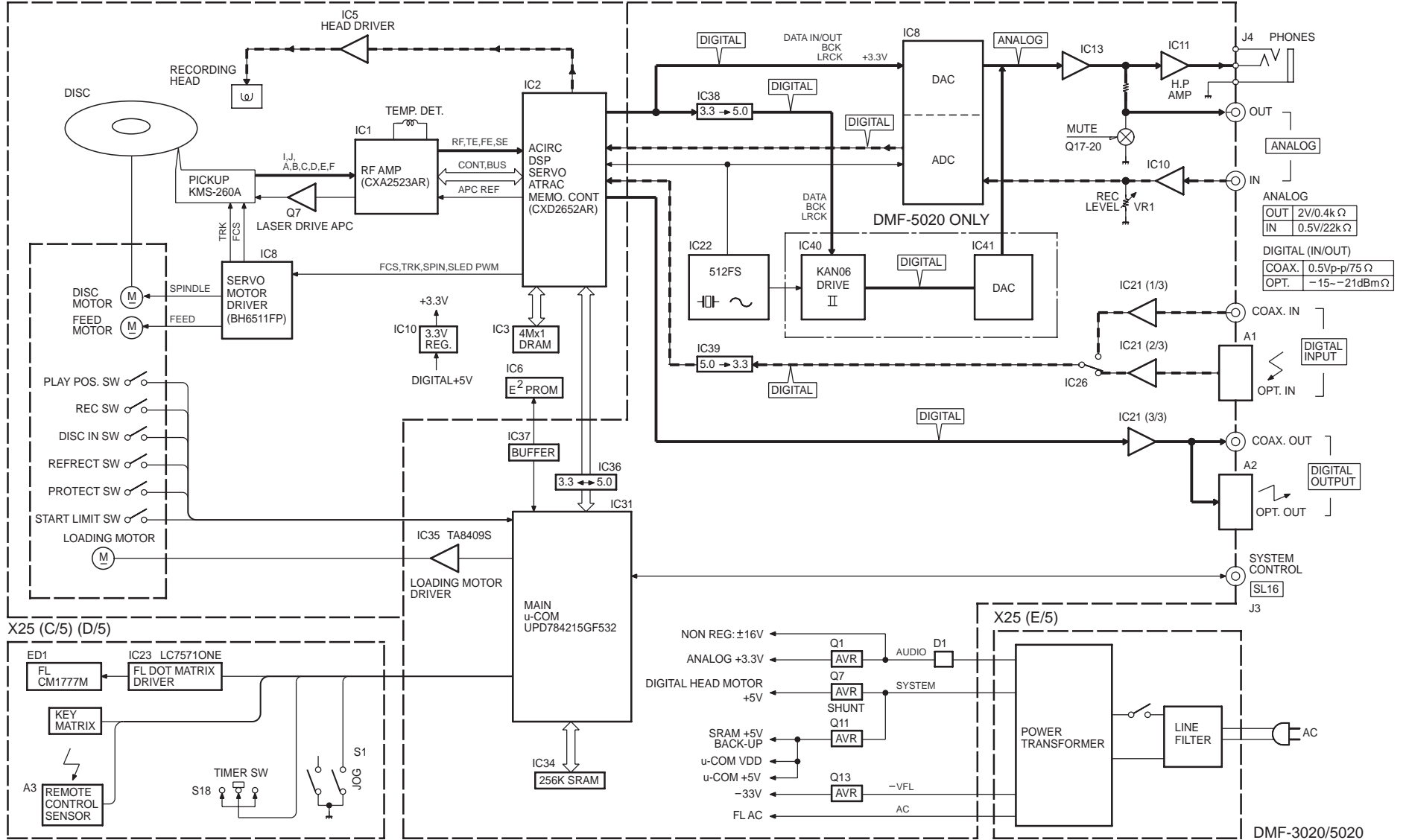
+100

: Press when selecting a track number 100 or more.

: These keys are also used to select a character or symbol during title editing.

MECHA: MDM-04 (X33-1100-00)

X25-618 (A/5) (B/5)

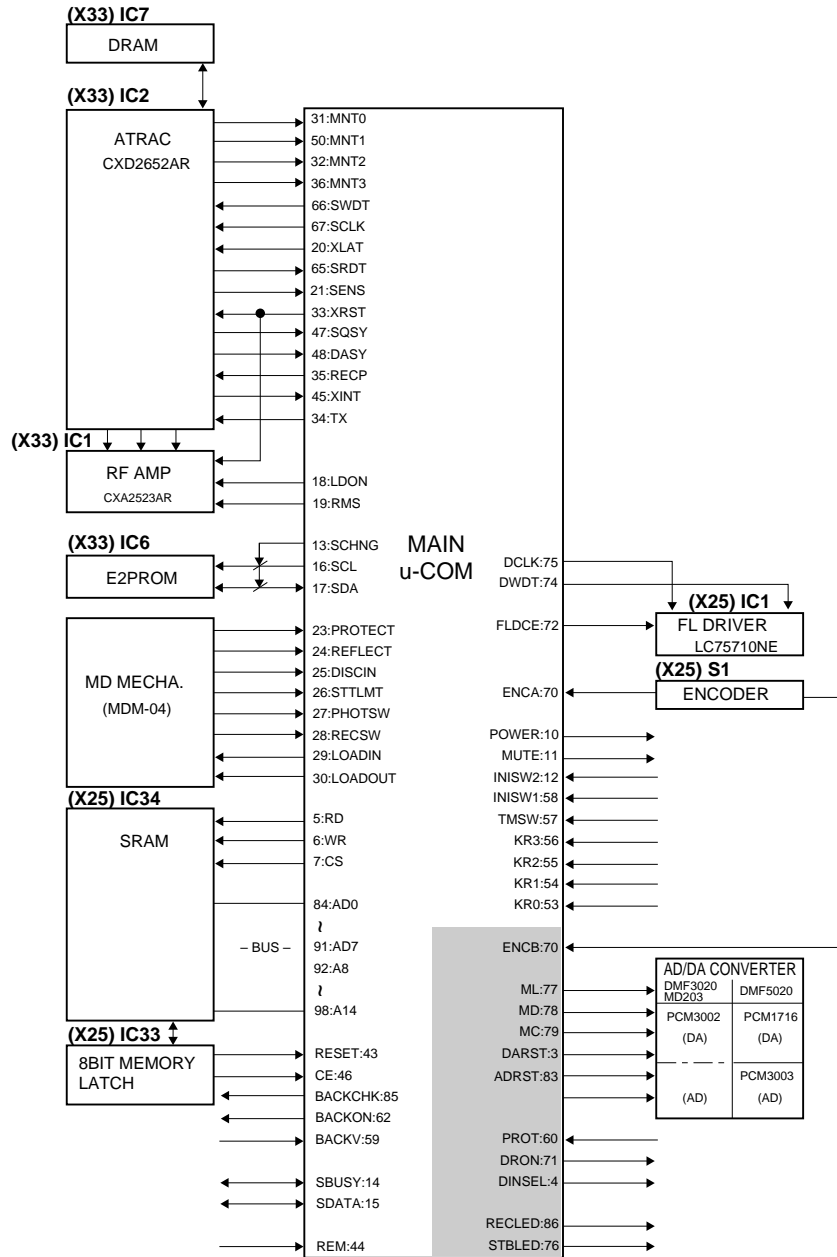


BLOCK DIAGRAM

DMF-3020/3020(S)/5020/MD-203

1. Main microprocessor : uPD784215GF532 (X25: IC31)

1-1 Microprocessor periphery block diagram



1-2 Pin description

No.	Name	I/O	Description
1,2	-	O	N.C.
3	DARST	O	DAC reset
4	DINSEL	O	Digital 1/2 select H; DIGITAL 1
5	RD	O	SRAM read strobe
6	WR	O	SRAM write strobe
7	CS	O	SRAM CS L; SRAM enable
8	ASTB	O	SRAM address strobe
9	Vdd	-	Power supply (Microprocessor)
10	POWER	O	Power terminal H; Power ON
11	MUTE	O	Mute control output L; Mute ON
12	INISW2	I	Destination selector L; DMF-3020/5020
13	SCHNG	O	E2PROM data IN/OUT change-over H; SDA output
14	SBUSY	I/O	16 serial busy
15	SDATA	I/O	16 serial data
16	SCL	O	E2PROM clock
17	SDA	I/O	E2PROM data
18	LDON	O	Laser ON / OFF control port H; LD ON
19	RMS	O	Pick RMS H; ON
20	XLAT	O	System IC latch
21	SENS	I	System IC sens
22	Vpp	-	GND
23	PROTECT	I	Detection port of protect switch L; Protect ON
24	REFLECT	I	Detection port of reflect switch H; Low reflect
25	DISCIN	I	Detection of disc input switch L; Disc out SW ON
26	STTLMT	I	Detection port of limit switch L; Start limit SW ON
27	PHOTSW	I	Detection of mechanism play position L; Photo sensor ON
28	REC SW	I	Input port of detection from REC position switch L; REC SW ON
29	LOADIN	O	Output port of loading motor control signal L; Loading OUT
30	LOADOUT	O	Output port of loading motor control signal L; Loading IN
31	MNT0	I	FOK signal from CXD2652AR (IC2)
32	MNT2	I	Input port of monitor 2 from CXD2652AR (IC2)
33	XRST	O	Output port of reset signal to CXD2652AR (IC2)
34	TX	O	Output port of recording permitted signal
35	RECP	O	Laser power control to CXD2652AR (IC2)
36	MNT3	I	Input port of monitor 3 from CXD2652AR (IC2)
37	Vdd	-	Power supply (Microprocessor)
38,39	-	-	Clock IN / OUT (12.5MHz)
40	GND	-	GND
41	OPEN	O	No used
42	GND	I	No used
43	RESET	I	Microprocessor hard reset
44	REM	I	Remocon signal input terminal
45	XINT	I	Input port of interrupted status from CXD2652AR (IC2)
46	CE	I	Microprocessor chip enable H; Enable / L; disable
47	SQS	I	Input port of sub code Q from CXD2652AR (IC2)
48	DQS	I	U-bit of digital IN / SUB Q sync input of CD format from CXD2652AR (IC2)
49	DDQS	I	N.C.
50	MNT1	I	Input port of track jump detection from CXD2652AR (IC2)
51	Vdd	-	Microprocessor power supply (+5V)
52	AVref 0	-	A/D reference voltage (Connect Vdd)
53-56	KR0-KR3	I	Key return (KR0-KR3)
57	TMSW	I	Timer switch input 0.0V QEF 1.25V PLAY 3.7V REC 5.0V
58	INISW1	I	Detection selector
59	BACK	I	Back up voltage detection (Less than 2.2V : NG)
60	PROT	I	Protection detection
61	GND	-	GND
62	BACK ON	O	Back up charge control H; Charge ON
63	ENCA	I	Rotary encoder A
64	AVref 1	-	D/A reference voltage (+5V)
65	SRDT	I	Data for reading input from CXD2652AR (IC2)

No.	Name	I/O	Description
66	SWDT	O	Data for writing to CXD2652AR (IC2)
67	SCLK	O	Serial clock to CXD2652AR (IC2)
68,69	-	-	N.C.
70	ENCB	I	Communication to sub u-COM (IC28) Rotary encoder B
71	DRON	O	DSP (D.R.I.V.E II : IC40) drive on H; ON
72	FLDCE	O	Latch to FL driver
73	-	I	N.C.
74	DWDT	O	Data to LC75710NE (IC1)
75	DCLK	O	Clock to LC75710NE (IC1)
76	STB LED	O	Latch to LC8904Q (IC23) Standby LED ON/OFF H; ON
77	ML	O	DAC (IC41) control latch
78	MD	O	DAC (IC41) control data
79	MC	O	DAC (IC41) control clock
80	-	O	No used / pull up
81	BACKCHK	O	Back up voltage check
82	REC LED	O	Clock to SM5844AF (IC25) REC LED ON/OFF H; ON
83	ADRST	O	Data to SM5844AF (IC25) ADC reset
84-91	AD0-AD7	O	SRAM address / data (AD0-AD7)
92-99	A8-A15	O	SRAM address (A8-A15)
100	Vss	-	GND

1-3 Initialization

- ※ POWER = ON (DM-9090,DM-5090)
- ※ REC INPUT = ANALOG
- ※ OUTPUT LEVEL = 0 dB
- ※ AUTO/MANUAL = AUTO
- ※ AUTO CUT = OFF
- PLAY MODE = TRACK
- REPEAT = OFF
- TIME DISPLAY = SINGLE(+)
- LEVEL METER MODE = NORMAL MODE
- ※ AUTO TNO TIME = 2 sec
- ※ AUTO TNO LEVEL = 0 (-55 dB)
- ※ REC END WRITE = ON
- DRIVE = ON
- ※ PRESET TITLE = PRE1 : Pops
PRE2 : Rock
PRE3 : Classic
PRE4 : Jazz
PRE5 : Disco
PRE6 : Best Hits
PRE7 : Air Check
PRE8 : No.
PRE9 : Vol.

1-4 Switch control table

Model	INISW 58	INISW 12
DMF-3020	3.5 (V)	LOW
MD-203		
DMF-5020	1.5 (V)	

1-5 Key voltage matrix

	0.0 V	0.8 V	1.6 V	2.4 V	3.2 V	4.0 V
KR0	-	TT INPUT	REC INPUT	-	MONITOR/DEL	-
KR1	EJECT	STOP	FB	REC MODE	SET	-
KR2	PLAY	FF	EDIT/SPACE	-	ENTER/TIME	-
KR3	PAUSE	REC	LEVEL UP	LEVEL DOWN	-	-

Vdd=5.0V
5.0V : KEY OFF

2. AD/DA converter :

PCM3002E, PCM3003E (X25: IC8)

2-1 PIN DESCRIPTION

(PCM3002E: DMF-3020,MD-203)

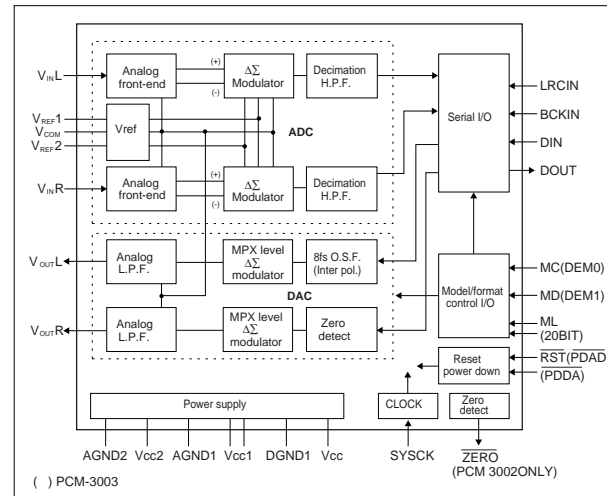
PIN	PIN NAME	I/O	DESCRIPTION
1,2	VCC1	-	ADC ANALOG POWER SUPPLY
3	VINR	I	RCH ANALOG INPUT
4,5	VREF1,2	-	REFERENCE VOLTAGE 1,2
6	VINL	I	LCH ANALOG INPUT
7	RST	I	RESET L: ON
8	ML	I	CONTROL DATA INPUT LOAD STOREBE
9	SYSCK	I	SYSTEM CLOCK INPUT256fs 384fs 512fs
10	LRCIN	I	SAMPLING CLOCK INPUT
11	BCKIN	I	BIT CLOCK INPUT
12	DOUT	O	DIGITAL AUDIO DATA OUTPUT
13	DGND	-	DIGITAL GND
14	VDD	-	DIGITAL POWER SUPPLY
15	DIN	I	DIGITAL AUDIO DATA INPUT
16	ZERO	I	ZERO FLAG OUTPUT L: ON
17	MD	I	CONTROL DATA INPUT
19	VOU TL	O	LCH ANALOG OUTPUT
20	VOU TR	O	RCH ANALOG OUTPUT
21	VCOM	-	ANALOG AMP COMMON
22	AGND2	-	DAC ANALOG GND
23	AGND1	-	ADC ANALOG GND
24	VCC2	-	DAC ANALOG GND

(PCM3003E:DMF-5020)

PIN	PIN NAME	I/O	DESCRIPTION
1,2	VCC1	-	ADC ANALOG POWER SUPPLY
3	VINR	I	RCH ANALOG INPUT
4,5	VREF1,2	-	REFERENCE VOLTAGE 1,2
6	VINL	I	LCH ANALOG INPUT
7	PDAD	I	ADC POWER DOWN L: ON
8	PDDA	I	DAC POWER DOWN L: ON
9	SYSCK	I	SYSTEM CLOCK INPUT256fs 384fs 512fs
10	LRCIN	I	SAMPLING CLOCK INPUT
11	BCKIN	I	BIT CLOCK INPUT
12	DOUT	O	DIGITAL AUDIO DATA OUTPUT
13	DGND	-	DIGITAL GND

PIN	PIN NAME	I/O	DESCRIPTION
14	VDD	-	DIGITAL POWER SUPPLY
15	DIN	I	DIGITAL AUDIO DATA INPUT
16	20BIT	I	20/16 BIT DATA FORMAT CHOICE
17,18	DEM1,0	I	DE-EMPHASIS CONTROL 1,0
19	VOU TL	O	LCH ANALOG OUTPUT
20	VOU TR	O	RCH ANALOG OUTPUT
21	VCOM	-	ANALOG AMP COMMON
22	AGND2	-	DAC ANALOG GND
23	AGND1	-	ADC ANALOG GND
24	VCC2	-	DAC ANALOG GND

2-2 Block diagram



3. Test mode of the unit

3-1 Setting of the test mode

While pressing the [REC/INPUT] key, plug the AC power cord into the AC wall outlet.

3-2 Contents of the test mode

Choose the 3 mode by TIMER switch position below.

TIMER SW	Mode
(1) REC	INSPECTION
(2) PLAY	ERROR RATE
※ OFF	NONE

※ NONE means none mode.

- (1) [INSPECTION] mode
- 「ENGLISH」 display (2secs)

- " NIAGARA TEST " display
 - Dot : Niagara
 - Segment : All lighting

- Push a key, then cancel " NIAGARA TEST "

• Function of the key

Key	Mode
REC/INPUT	※ KEY-TEST
EDIT	NIAGARA TEST
TITLE INPUT	None all lighting

※ Display [KEY 028] into the KEY-TEST mode.

Push a key, then display [KEY * * *] .

(2) [ERROR RATE] mode

• Function of the key

Key	Function
PLAY	CPLAY (MID)
REC	CREC (MID)
STOP	STOP CPLAY, CREC (2time push) ERROR RATE

4. Microprocessor reset

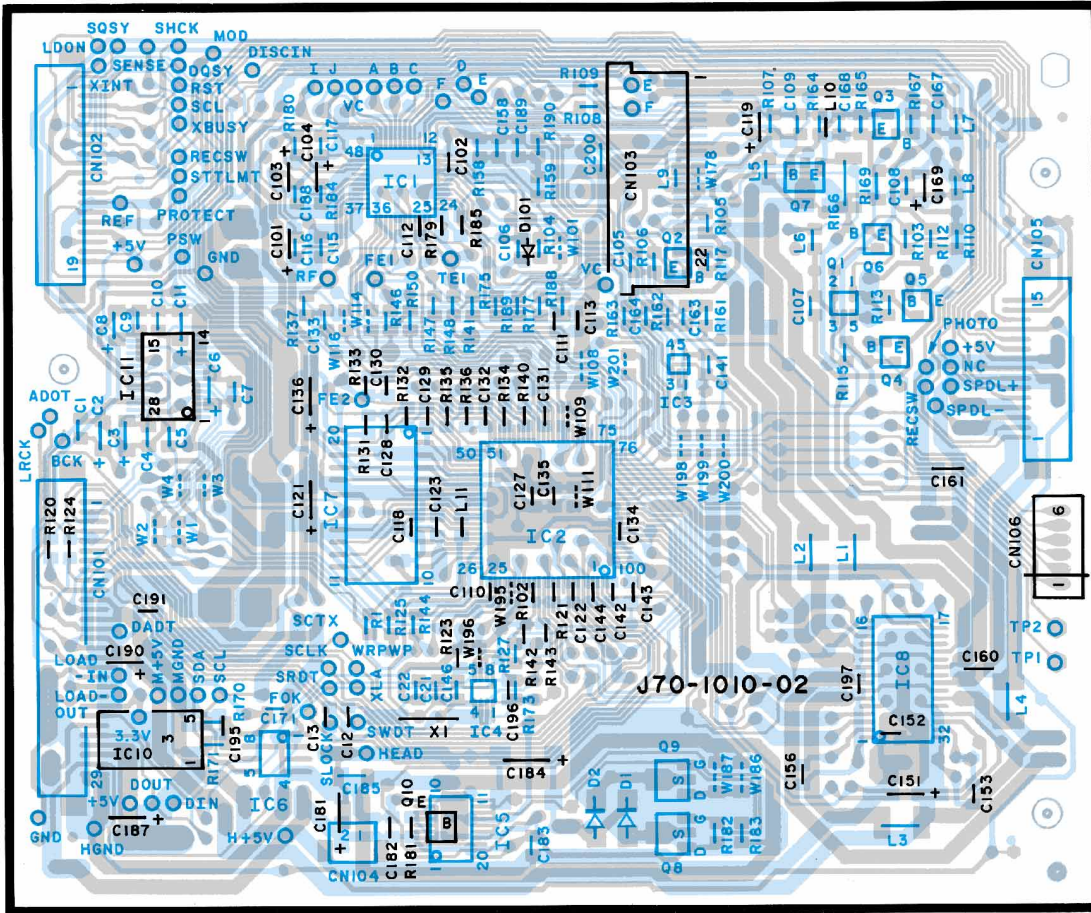
The microprocessor can be initialized while pressing the [EJECT] key, plug the AC power cord into the AC wall outlet.

5. Mechanism test mode

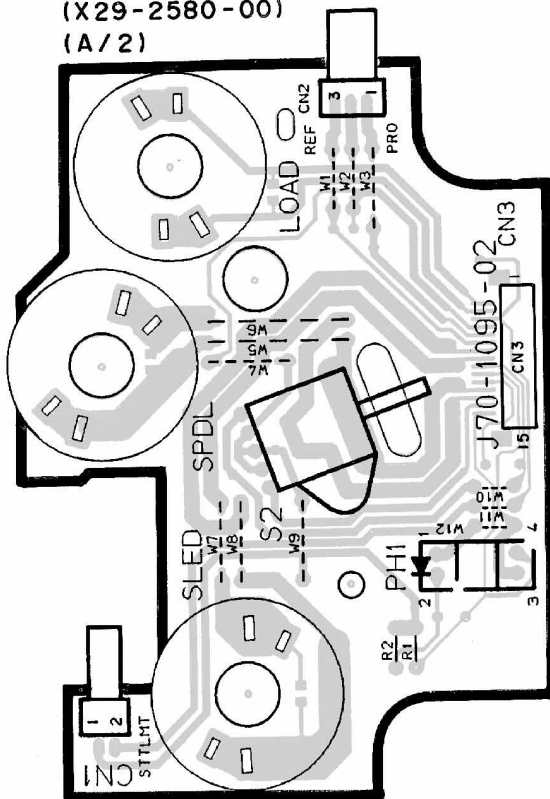
Refer to 1050MD/DM-5090/MD-9090 service manual (B51-5387-00), if you see this test mode.

PC BOARD (Component side view)

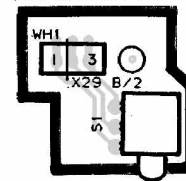
(X33-1100-00)



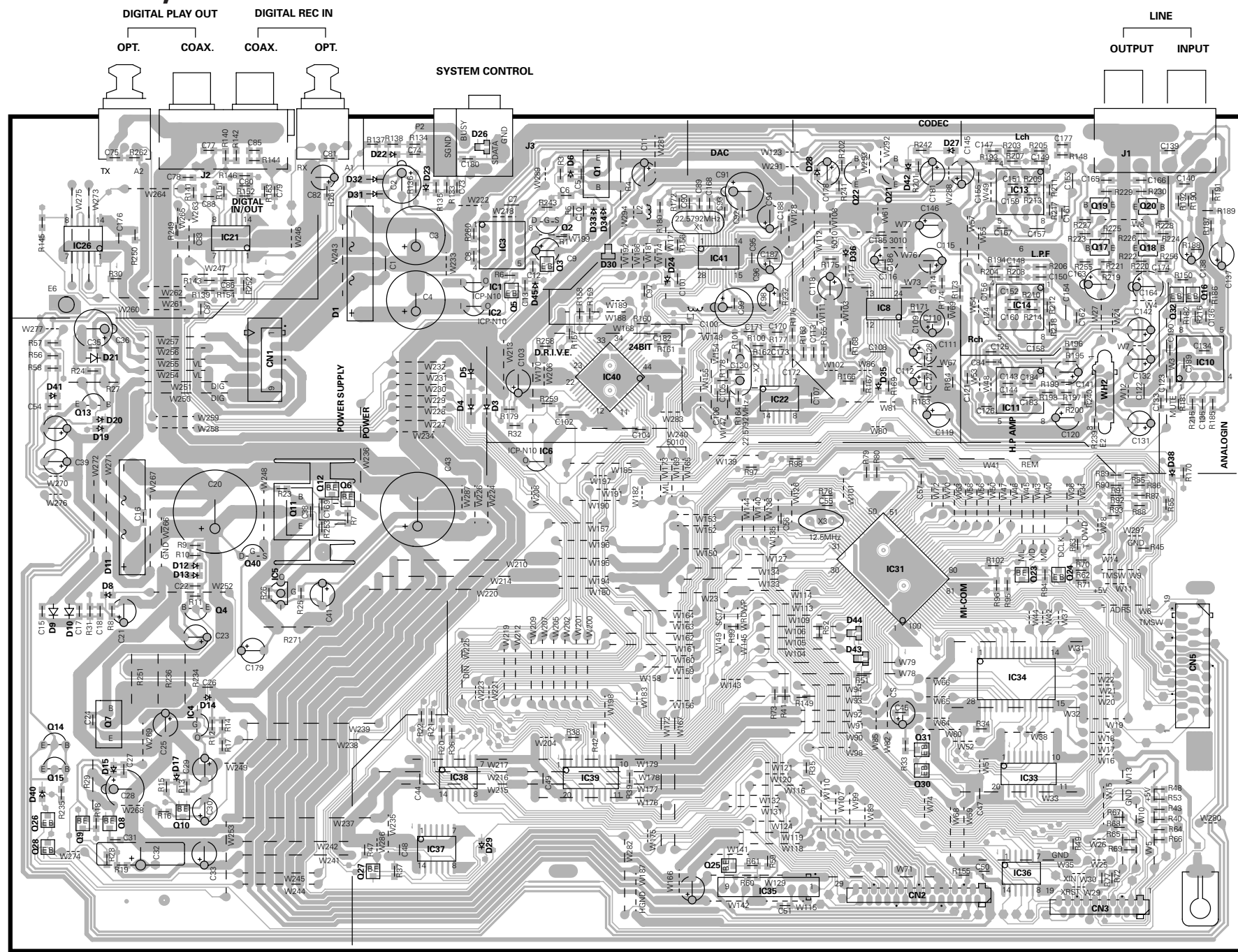
(X29-2580-00)
(A/2)



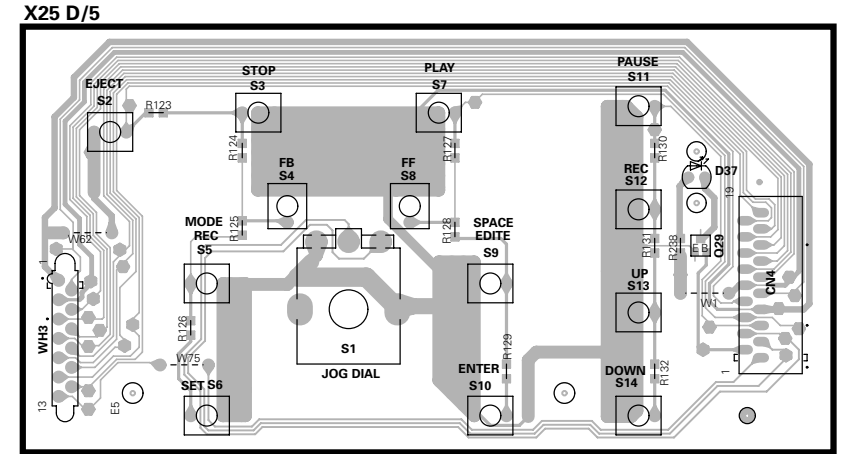
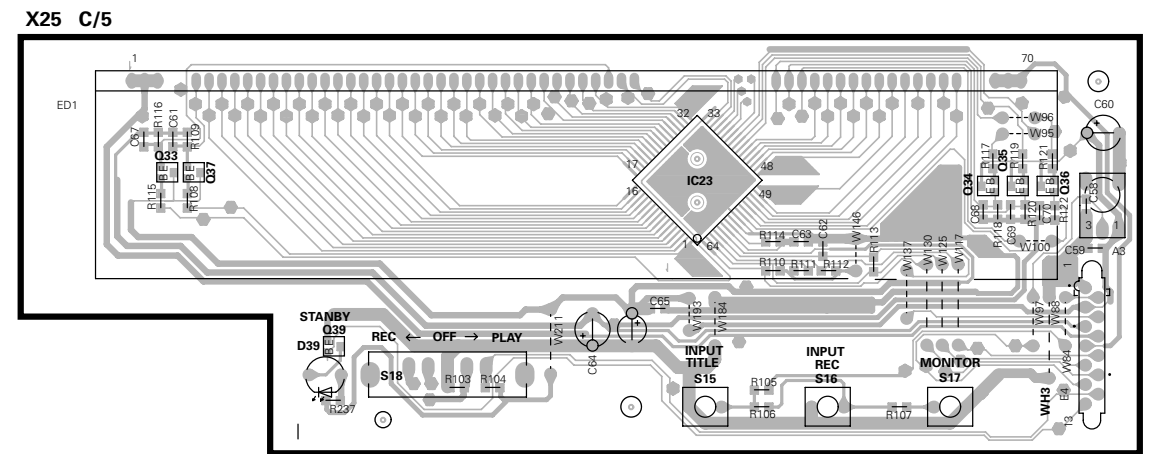
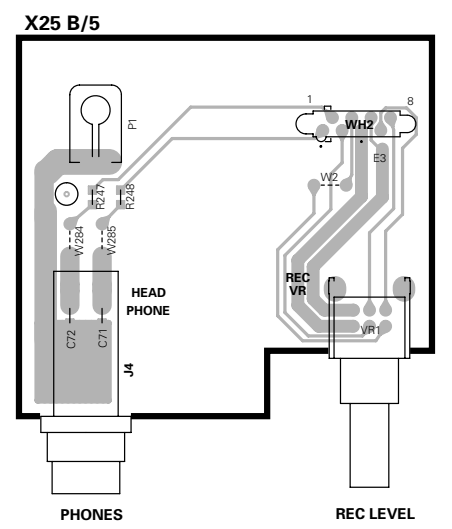
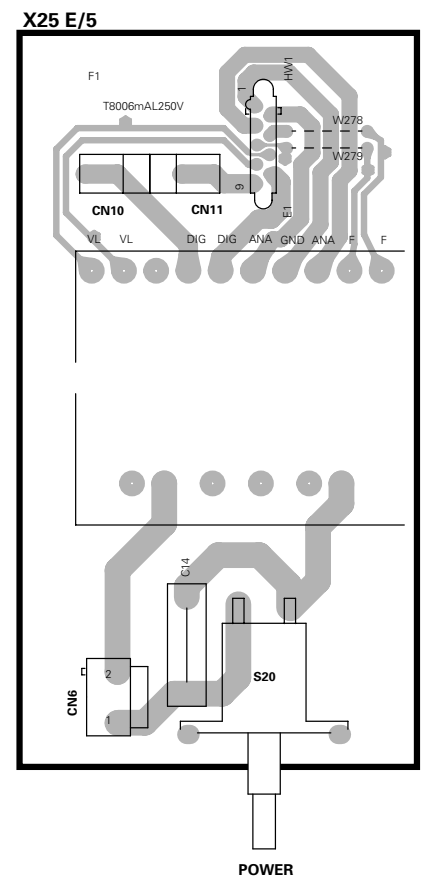
(X29) (B/2)



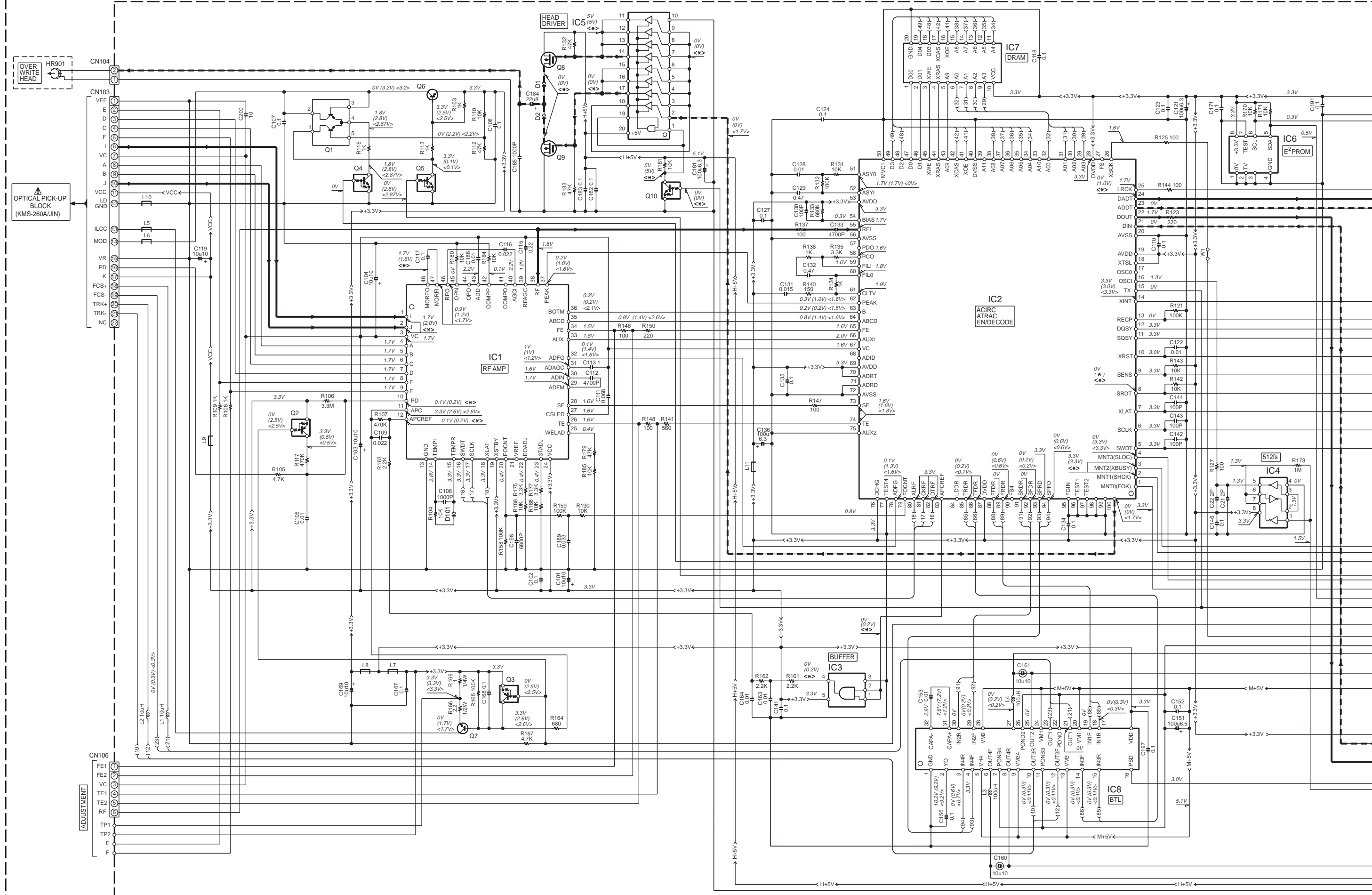
PC BOARD(Component side view)



X25-6180-00 A/5



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



1
2
3
4
5
6
7

OVER WRITE HEAD HR901

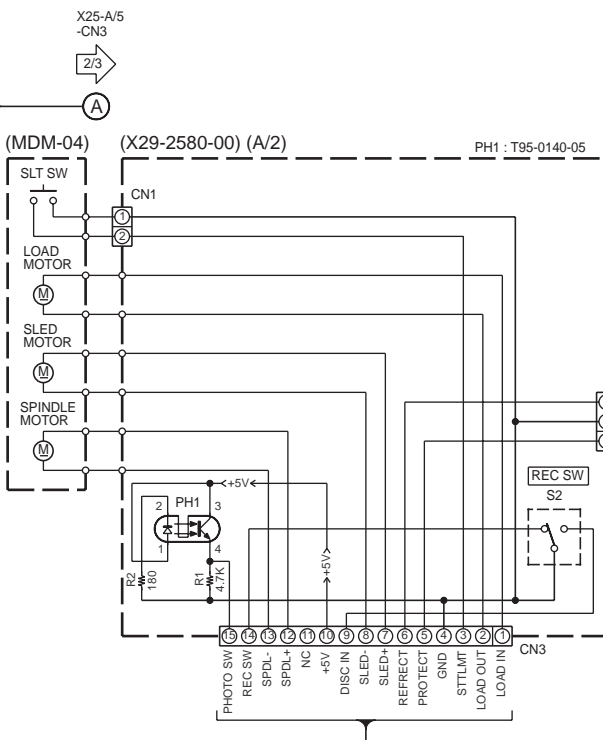
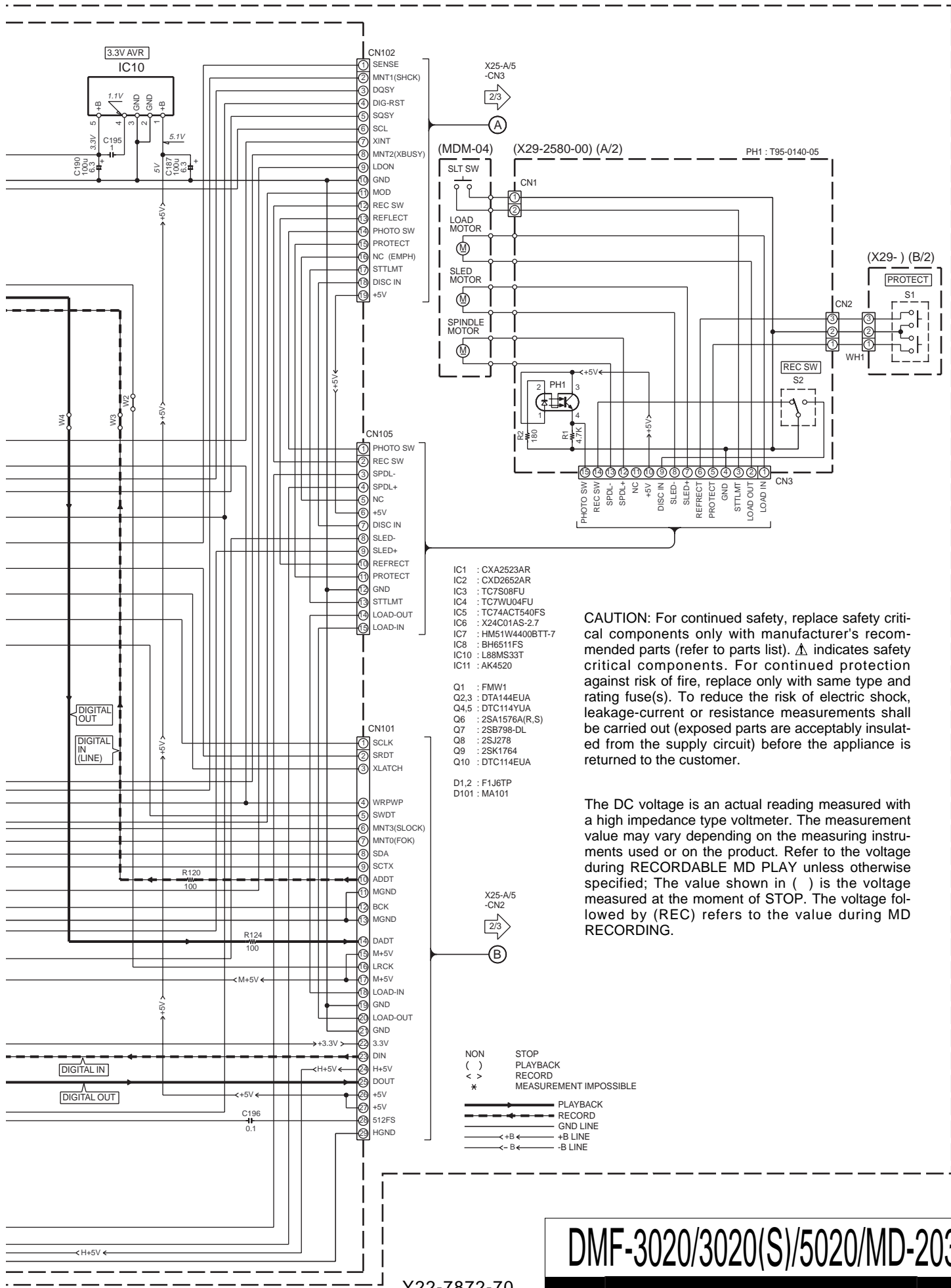
OPTICAL PICK-UP BLOCK (KMS-260A/JIN)

ADJUSTMENT

VEE
E
D
C
B
A
J
VC
LD
GND
ILCC
MOD
VR
PD
K
FCS+
FCS-
TRK+
TRK-
NC

CN104
CN103
CN106

FE1
FE2
VC
TE1
TE2
RF
TP1
TP2
E
F



- IC1 : CXA2523AR
- IC2 : CXD2652AR
- IC3 : TC7S08FU
- IC4 : TC7WU04FU
- IC5 : TC74ACT540FS
- IC6 : X24C01AS-2.7
- IC7 : HM51W4400BT-7
- IC8 : BH6511FS
- IC10 : L88MS33T
- IC11 : AK4520

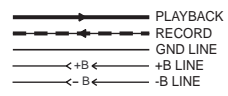
- Q1 : FMW1
- Q2,3 : DTA144EUA
- Q4,5 : DTC114YUA
- Q6 : 2SA1576A(R,S)
- Q7 : 2SB798-DL
- Q8 : 2SJ278
- Q9 : 2SK1764
- Q10 : DTC114EUA

- D1,2 : F1J6TP
- D101 : MA101

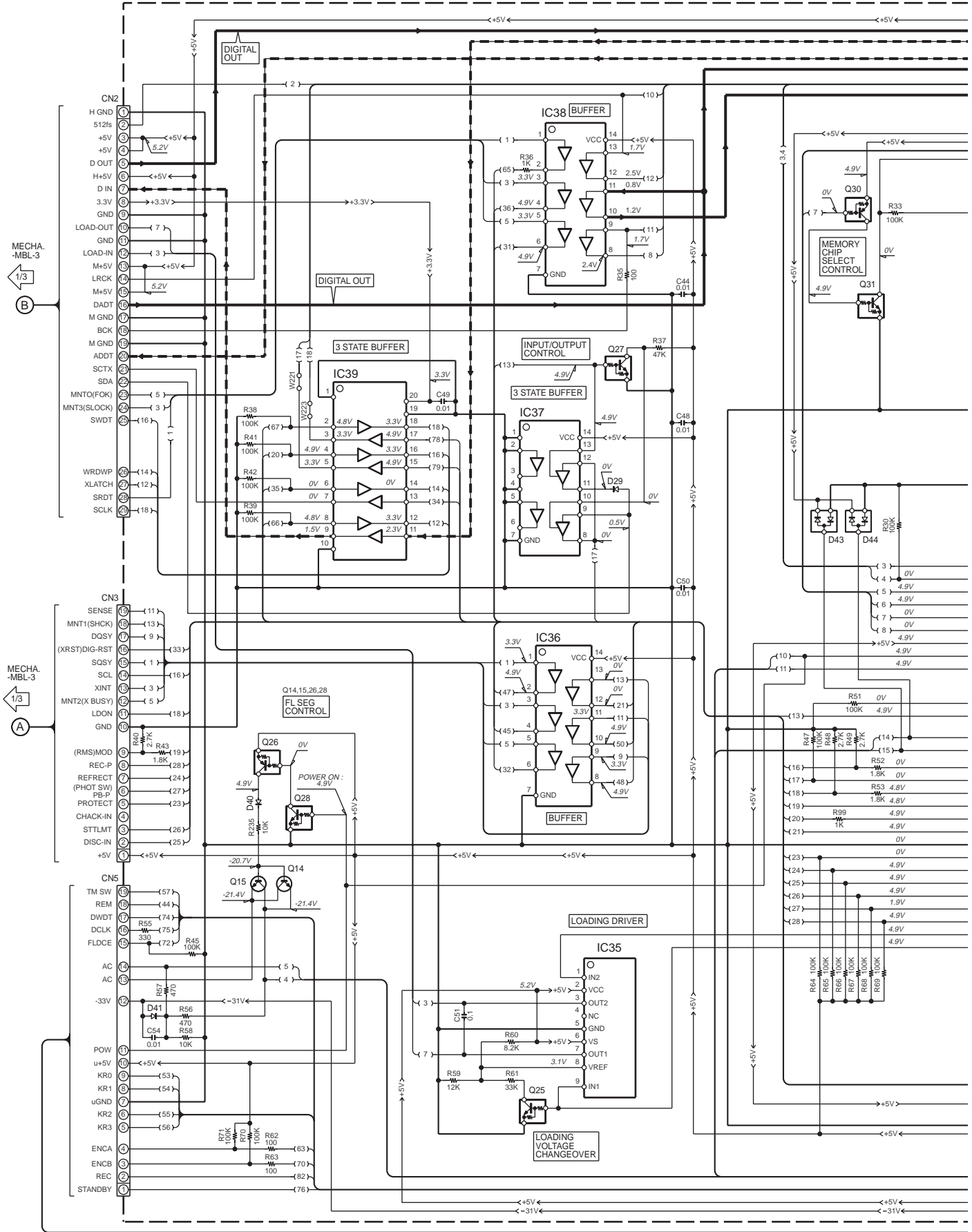
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock,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

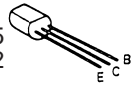
NON STOP
() PLAYBACK
< > RECORD
* MEASUREMENT IMPOSSIBLE



ELECTRIC UNIT
(X25-618X-XX) (A/5)



2SA954
2SA992
2SC1845
2SD1302

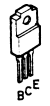


DTA144EUA
DTC114YUA
DTC143TUA
UN5216
UN5219

2SB1218A
2SC4081
2SD1819A



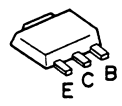
2SD2061



FMW1



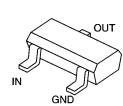
2SB798-DL



2SD2012



DTC114EUA



6

5

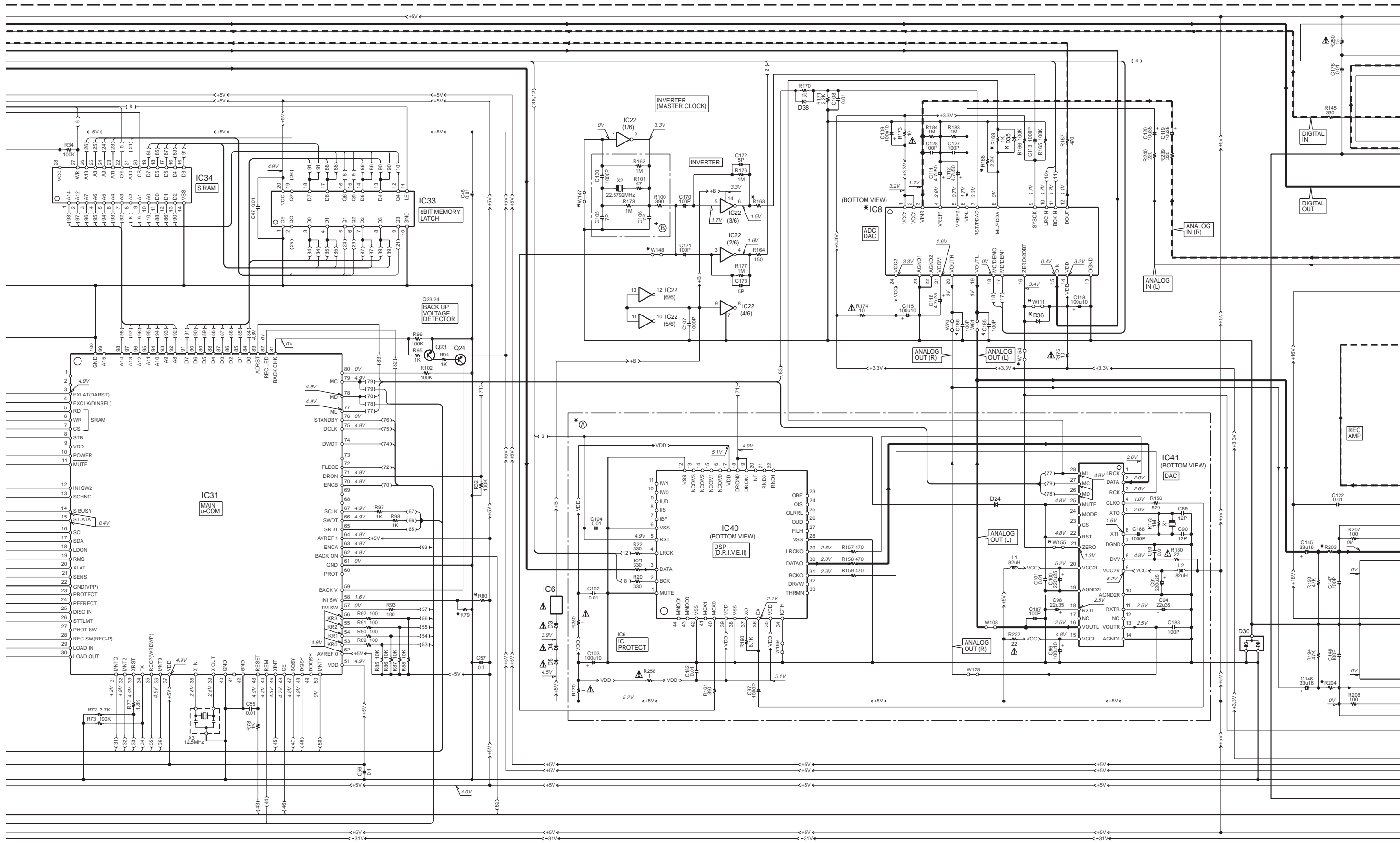
4

3

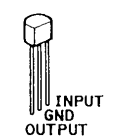
2

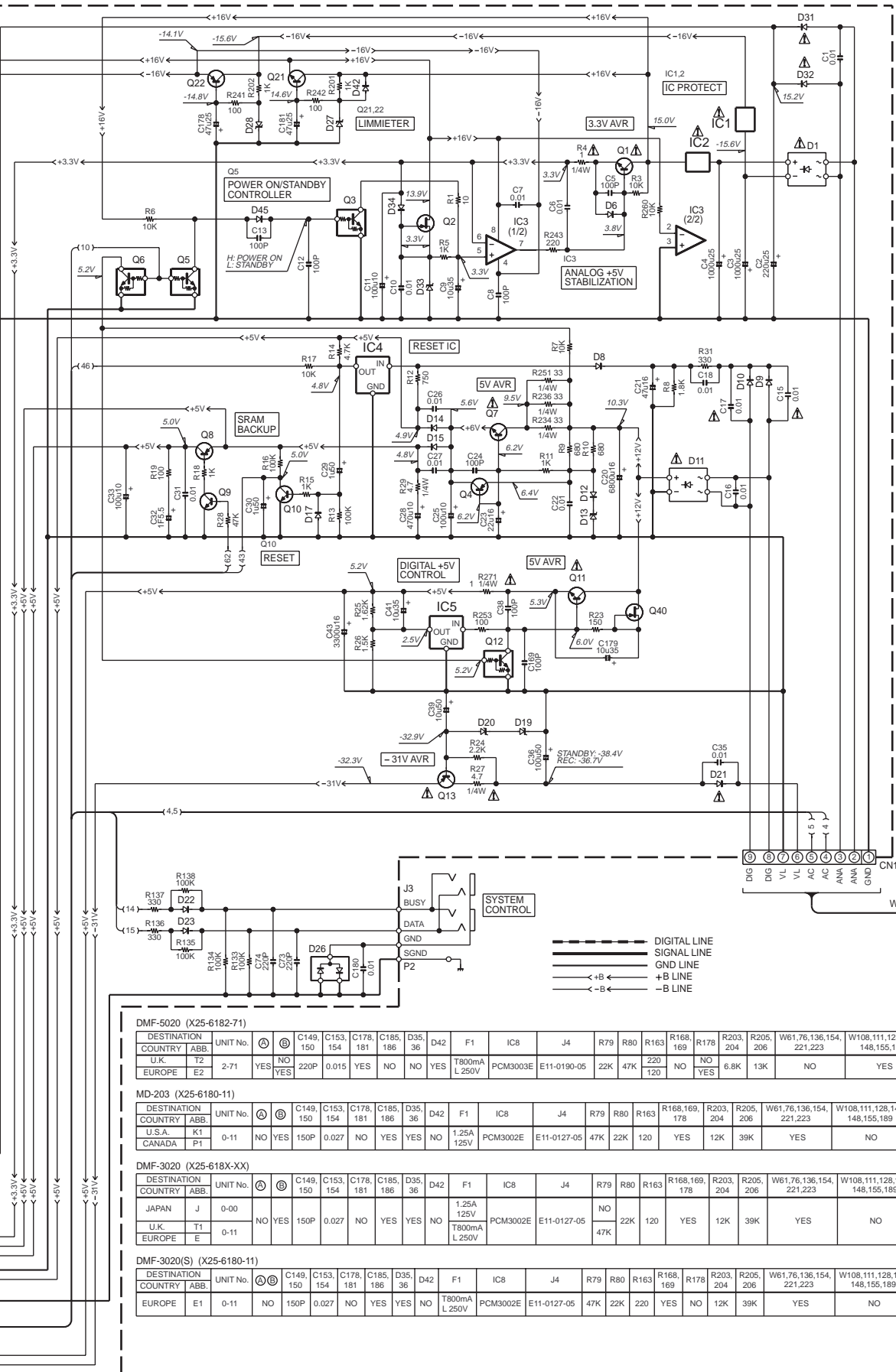
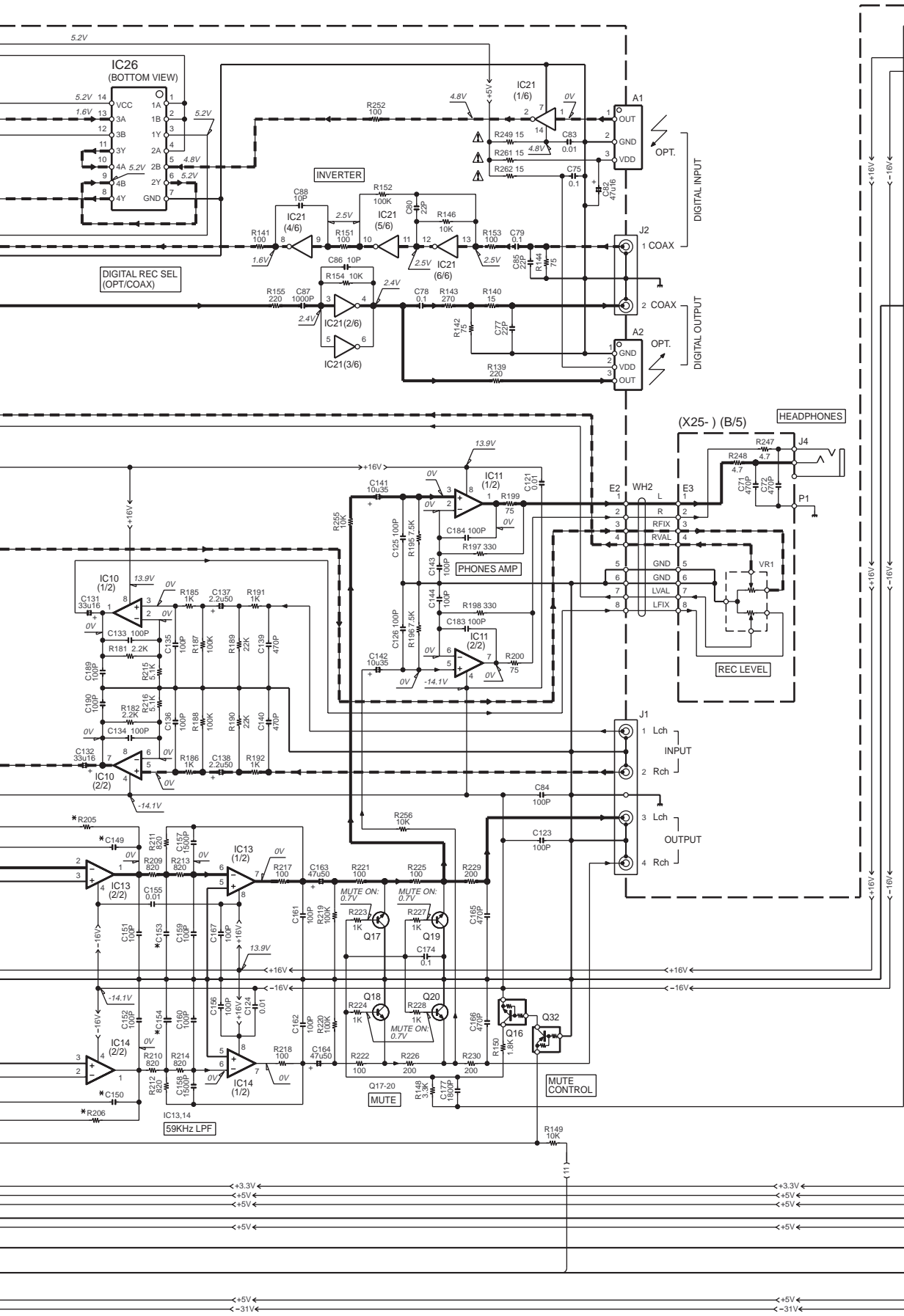
1

7

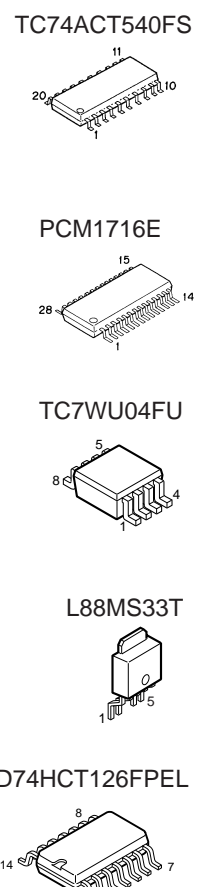


- | | | | | | | | | | | | | | | |
|----------------------|---------|----------|--------|--------|--------|--------|---|----------|-----------|----------------------------|----------|----------|-----------|---------|
| NJM4558D
NJM4565D | TA8409S | NJM4580D | DA204U | UN5212 | 2SK246 | 2SK163 | TC74HCT700AF
TC74HCU04AF
TC74HC00AF | TC7S08FU | CXA2523AR | TC74HC373AF
TC74VHC244F | BH6511FS | TL431CLP | CXD2652AR | ICP-N10 |
| | | | | | | | | | | | | | | |





- IC1,2,6 : ICP-N10
- IC3 : NJM4558D
- IC4 : PST993D-T
- IC5 : TL431CLP
- IC8 : *
- IC10,13,14 : NJM4565D
- IC11 : NJM4580D
- IC12,22 : TC74HC04AF
- IC26 : TC74HC00AF
- IC31 : UPD784215GF532
- IC33 : TC74HC373AF
- IC34 : W24258S-70LE
- IC35 : TA8409S
- IC36,38 : TC74HC17007AF
- IC37 : HD74HCT126FPEL
- IC39 : TC74VHC244F
- IC40 : KAN06
- IC41 : PCM1716E
- Q1,7,11 : 2SD2061 or 2SD2012
- Q2 : 2SK246(GR)
- Q3,12 : UN5219 or DTC113ZUA
- Q4,22 : 2SA992(F,E)
- Q5,6,16,25,27,28,39 : UN5212 or DTC124EUA
- Q8,24 : 2SA1576(R,S) or 2SB1218A(Q,R)
- Q9,10,23,33-37 : 2SC4081(R,S) or 2SD1819A(Q,R)
- Q13 : 2SA954(L,K)
- Q14,15 : 2SD1302(S,T)
- Q17-20 : 2SD1450(S,T)
- Q21 : 2SC1845(F,E)
- Q26,30,32 : UN5112 or DTA124EUA
- Q31 : UN5216 or DTC143TUA
- Q40 : 2SK163(L)
- D1,11 : D3SBA20F03
- D3-5,31,32 : U1BC44
- D6,8,12,17,22,24,29,34-36,38, 42,45 : MA111
- D9,10,21 : S5688B(TPB5)
- D13 : UDZ5.6B
- D14,15 : MA113
- D19,27,28 : UDZ18B
- D20 : UDZ15B
- D26,30,43,44 : DA204U
- D33 : UDZ3.3B
- D41 : UDZ7.5B
- A1 : W02-1181-05
- A2 : W02-1114-05

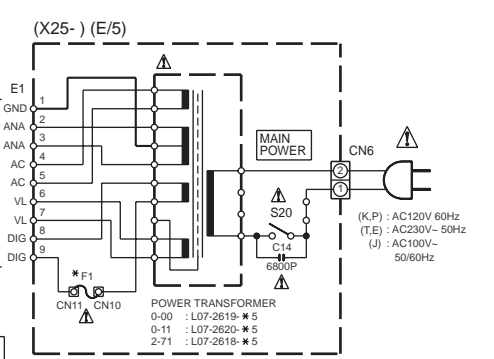


DMF-5020 (X25-6182-71)											
DESTINATION	COUNTRY	ABB.	UNIT No.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
U.K.	T2		2-71	YES	NO	YES	NO	NO	YES	NO	NO
EUROPE	E2			YES	NO	YES	NO	NO	YES	NO	NO

MD-203 (X25-6180-11)											
DESTINATION	COUNTRY	ABB.	UNIT No.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
U.S.A.	K1		0-11	NO	YES	NO	YES	NO	YES	NO	NO
CANADA	P1			NO	YES	NO	YES	NO	YES	NO	NO

DMF-3020 (X25-618X-XX)											
DESTINATION	COUNTRY	ABB.	UNIT No.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
JAPAN	J		0-00	NO	YES	NO	YES	NO	YES	NO	NO
U.K.	T1		0-11	NO	YES	NO	YES	NO	YES	NO	NO
EUROPE	E1			NO	YES	NO	YES	NO	YES	NO	NO

DMF-3020(S) (X25-6180-11)											
DESTINATION	COUNTRY	ABB.	UNIT No.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
EUROPE	E1		0-11	NO	YES	NO	YES	NO	YES	NO	NO



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

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DMF-5020/3020/3020S/MD-203 (2/3)

Y22-7872-70

DMF-3020/3020(S)/5020/MD-203

KENWOOD

DMF-5020 (X25-6182-71)

DESTINATION	UNIT No.	D37	Q29	R238
COUNTRY ABB.				
U.K.	T2			
EUROPE	E2	2-71	YES	YES

DMF-3020 (X25-618X-XX)

DESTINATION	UNIT No.	D37	Q29	R238
COUNTRY ABB.				
JAPAN	J	0-00		
U.K.	T1		NO	NO
EUROPE	E	0-11	NO	NO

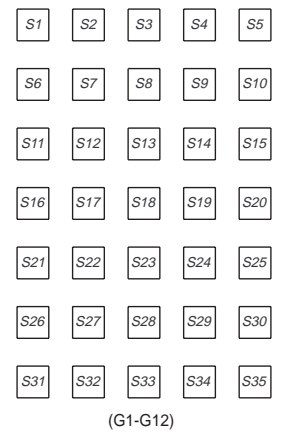
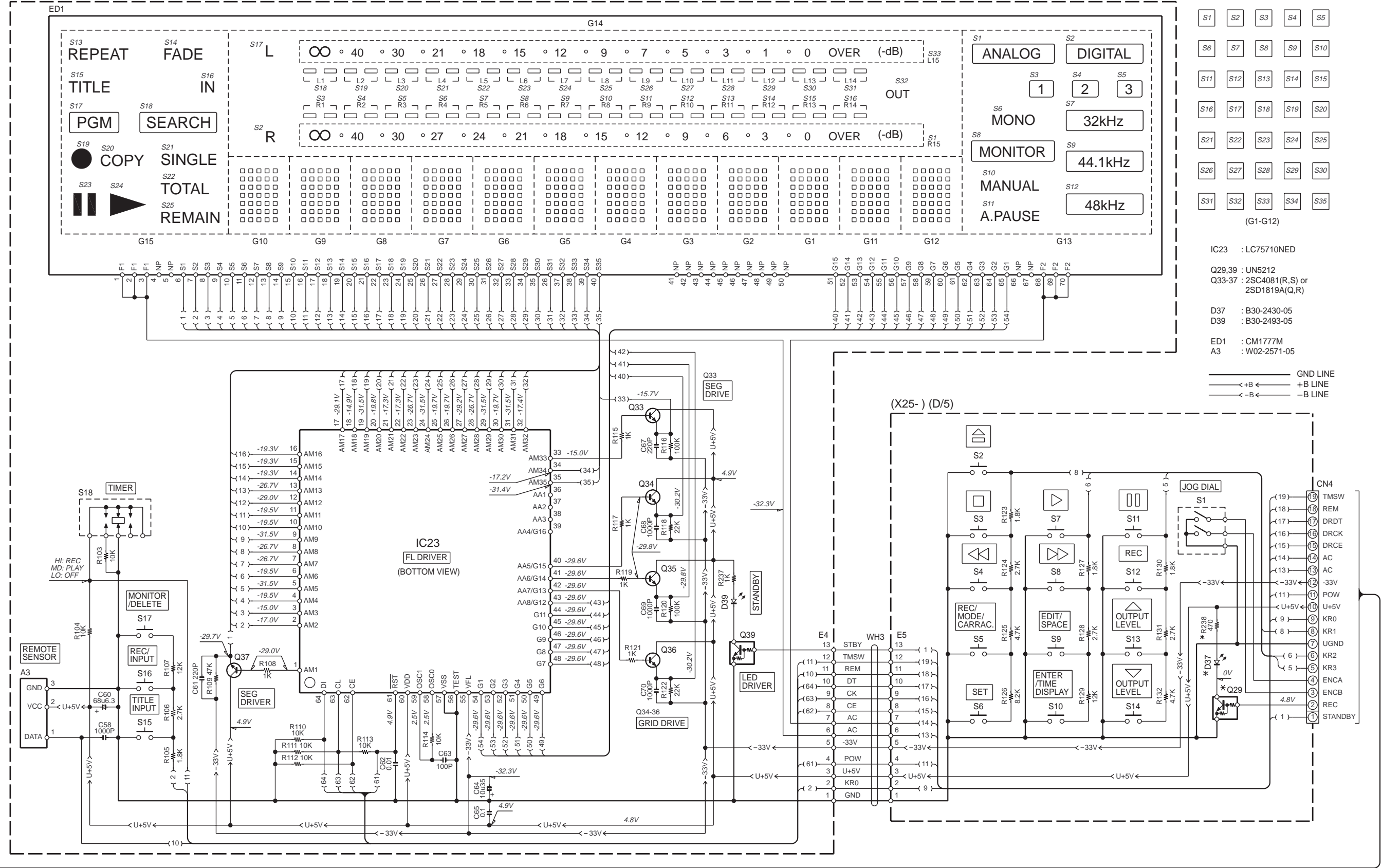
MD-203 (X25-6180-11)

DESTINATION	UNIT No.	D37	Q29	R238
COUNTRY ABB.				
U.S.A.	K1	0-11	NO	NO
CANADA	P1		NO	NO

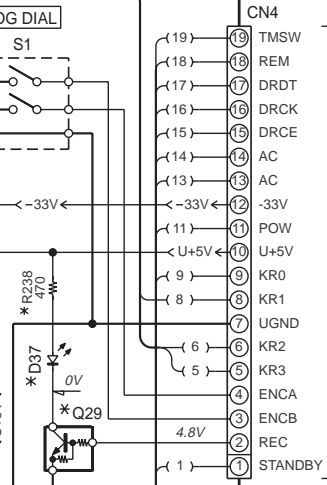
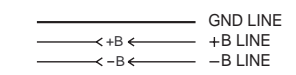
DMF-3020(S) (X25-6180-11)

DESTINATION	UNIT No.	D37	Q29	R238
COUNTRY ABB.				
EUROPE	E1	0-11	NO	NO

DISPLAY UNIT
(X25-618X-XX) (C/5)



- IC23 : LC75710NED
- Q29,39 : UN5212
- Q33-37 : 2SC4081(R,S) or 2SD1819A(Q,R)
- D37 : B30-2430-05
- D39 : B30-2493-05
- ED1 : CM1777M
- A3 : W02-2571-05



DMF-5020/3020/3020(S)/MD-203 (3/3)

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.

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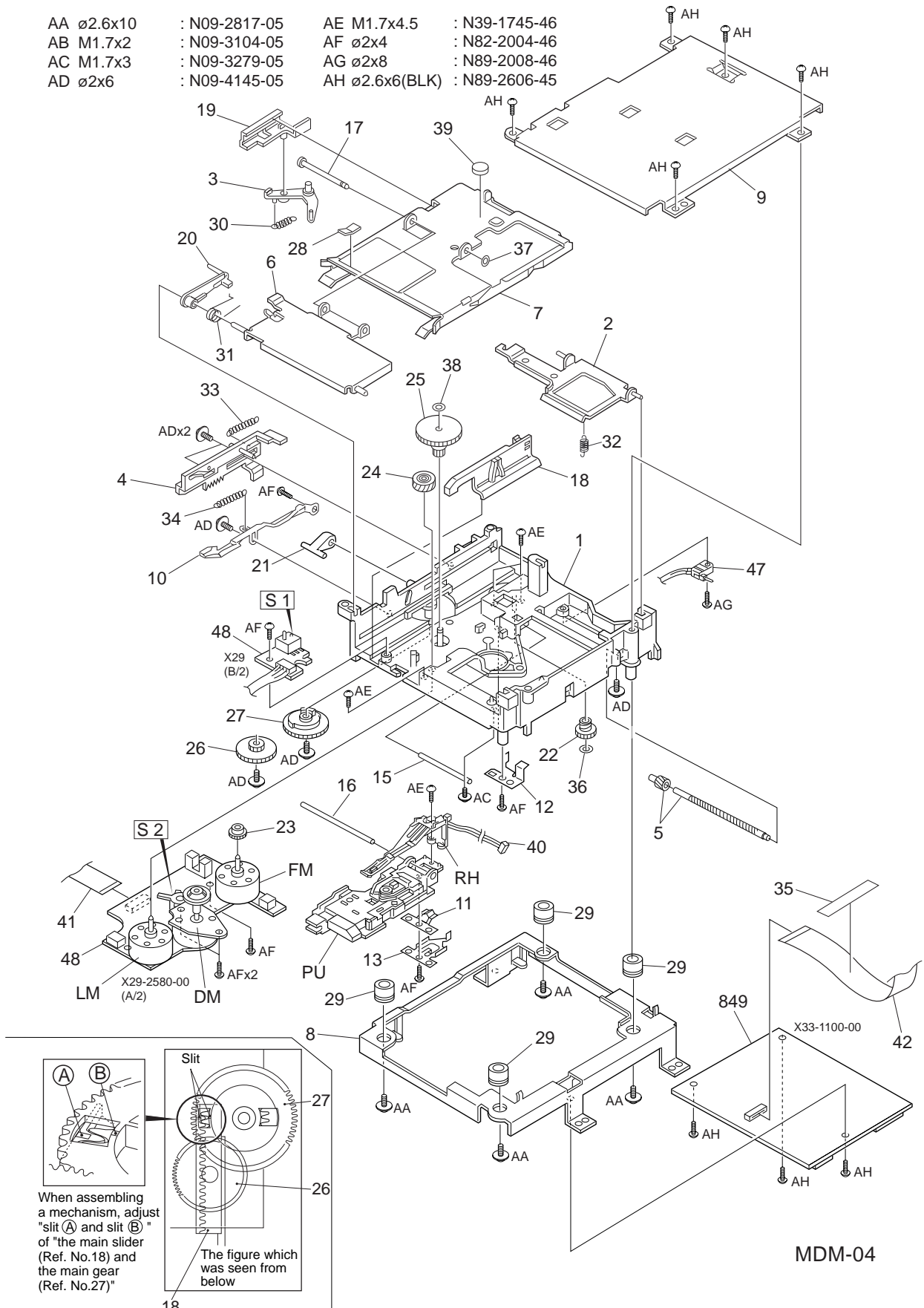
Y22-7872-70

DMF-3020/3020(S)/5020/MD-203

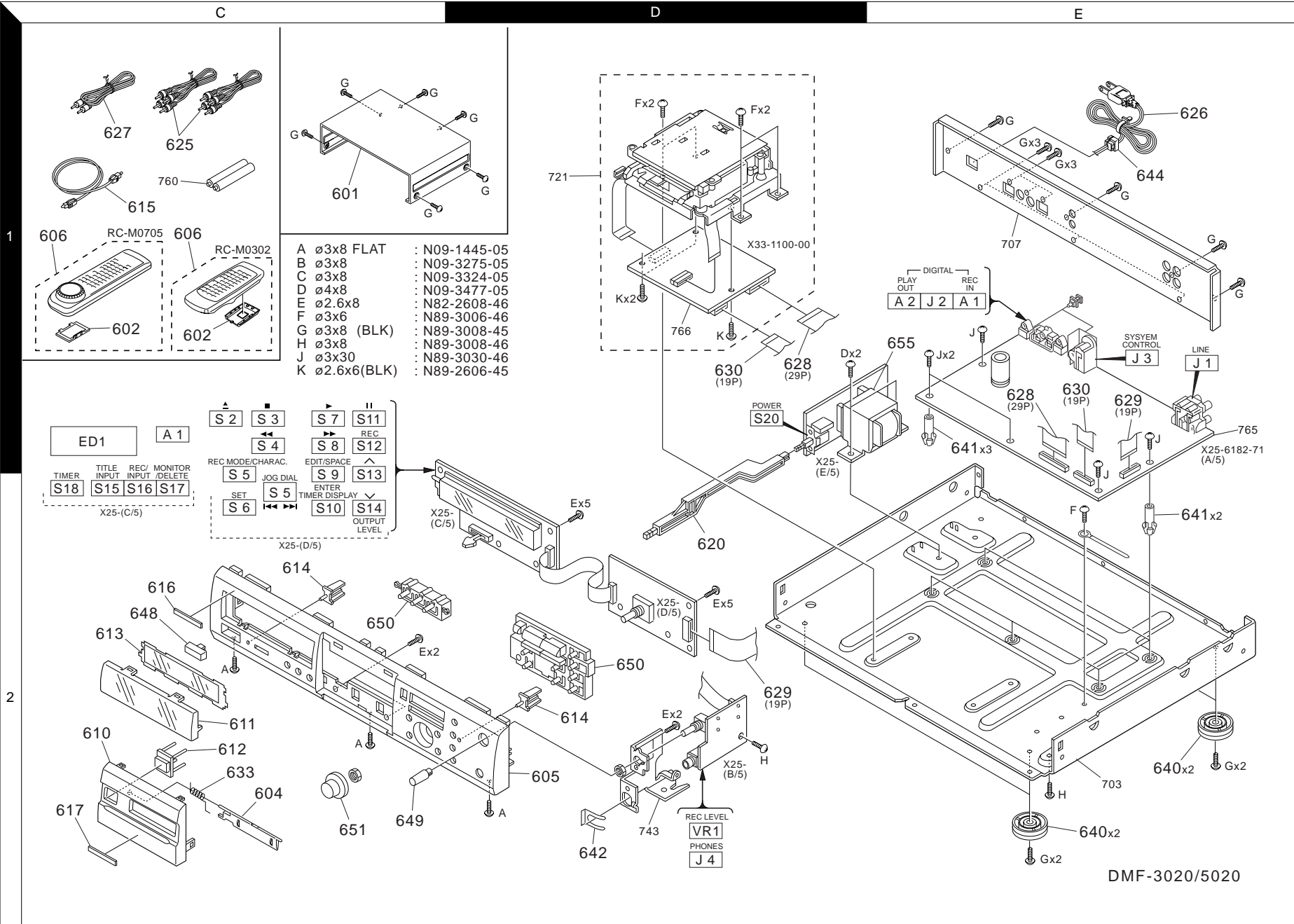
KENWOOD

EXPLODED VIEW (MECHANISM)

- | | | | |
|-------------------------|---------------|------------------------------|---------------|
| AA $\phi 2.6 \times 10$ | : N09-2817-05 | AE M1.7x4.5 | : N39-1745-46 |
| AB M1.7x2 | : N09-3104-05 | AF $\phi 2 \times 4$ | : N82-2004-46 |
| AC M1.7x3 | : N09-3279-05 | AG $\phi 2 \times 8$ | : N89-2008-46 |
| AD $\phi 2 \times 6$ | : N09-4145-05 | AH $\phi 2.6 \times 6$ (BLK) | : N89-2606-45 |



MDM-04



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

* 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.

①

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
DMF-3020/3020(S)/5020/MD-203						
601	1C	*	A01-3635-01	METALLIC CABINET	EK1P1	
601	1C	*	A01-3635-01	METALLIC CABINET	T1E1T2	
601	1C	*	A01-3637-01	METALLIC CABINET	E2	
602	1C	*	A09-0374-08	BATTERY COVER	EK1P1	
602	1C	*	A09-0374-08	BATTERY COVER	T1E2	
602	1C	*	A09-1116-08	BATTERY COVER	E1T2	
604	2C	*	A29-1024-04	PANEL	EK1P1	
604	2C	*	A29-1024-04	PANEL	T1E1T2	
604	2C	*	A29-1025-04	PANEL	E2	
605	2D	*	A60-1530-11	PANEL	ET1	
605	2D	*	A60-1532-11	PANEL	K1P1	
605	2D	*	A60-1533-11	PANEL	E1T2	
605	2D	*	A60-1534-11	PANEL	E2	
606	1C	*	A70-1238-05	REMOTE CONTROL ASSY(RC-M0705)	E1T2	
606	1C	*	A70-1239-05	REMOTE CONTROL ASSY(RC-M0302)	EK1P1	
606	1C	*	A70-1239-05	REMOTE CONTROL ASSY(RC-M0302)	T1E2	
610	2C	*	B07-2428-12	ESCUTCHEON	ET1	
610	2C	*	B07-2429-12	ESCUTCHEON	K1P1	
610	2C	*	B07-2430-12	ESCUTCHEON	E2	
610	2C	*	B07-2431-12	ESCUTCHEON	E1T2	
611	2C	*	B10-3426-03	FRONT GLASS		
612	2C	*	B11-0376-04	FILTER		
613	2C	*	B11-0377-04	COLOR FILTER	E2	
614	2C, 2D	*	B12-0353-04	INDICATOR		
615	1C	*	B19-1529-05	OPTICAL FIBER		
616	2C	*	B43-0302-04	KENWOOD BADGE		
617	2C		B43-0310-04	BADGE	E1T2	
-			B46-0310-03	WARRANTY CARD	ET1E1	
-			B46-0310-03	WARRANTY CARD	T2E2	
-			B46-0328-03	WARRANTY CARD	K1	
-			B46-0336-03	WARRANTY CARD	P1	
-		*	B60-4074-00	INSTRUCTION MANUAL(EN)	K1P1T1	
-		*	B60-4074-00	INSTRUCTION MANUAL(EN)	T2	
-		*	B60-4075-00	INSTRUCTION MANUAL(FR)	EP1E1	
-		*	B60-4075-00	INSTRUCTION MANUAL(FR)	E2	
-		*	B60-4076-00	INSTRUCTION MANUAL(GE/NE)	EE1E2	
-		*	B60-4077-00	INSTRUCTION MANUAL(IT/ES)	EE1E2	
620	2D		D21-1840-03	EXTENSION SHAFT		
625	1C		E30-0505-05	AUDIO CORD		
626	1E		E30-2592-15	AC POWER CORD	EE1E2	
626	1E		E30-2721-05	AC POWER CORD	T1T2	
626	1E	*	E30-2884-05	AC POWER CORD	K1P1	
627	1C		E30-2733-05	CORD WITH PLUG (SYSTEM)		
628	1D, 1E		E35-1960-05	FLAT CABLE 29P,180		
629	2D, 1E		E35-2149-05	FLAT CABLE 19P,330		
630	1D, 1E	*	E35-2289-05	FLAT CABLE 19P,270		
F1			F05-8013-05	FUSE (SEMKO) (250V T800MAL)	ET1E1	
F1			F05-8013-05	FUSE (SEMKO) (250V T800MAL)	T2E2	
F1			F50-0067-05	FUSE(5X20)	K1P1	
633	2C	*	G01-4088-04	TORSION COIL SPRING		

L: Scandinavia K: USA P: Canada R: Mexico C: China I: Malaysia

Y: PX(Far East, Hawaii) T: Europe E: Europe G: Germany V: China(Shanghai)

Y: AAFES(Europe) X: Australia Q: Russia H: Korea M: Other Areas Δ indicates safety critical components.

* 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.

②

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
-		*	H10-7530-12	POLYSTYRENE FOAMED FIXTURE		
-		*	H10-7531-12	POLYSTYRENE FOAMED FIXTURE		
-		*	H25-0232-04	PROTECTION BAG (235X350X0.03)	EK1P1	
-		*	H25-0232-04	PROTECTION BAG (235X350X0.03)	E1E2	
-		*	H25-0651-04	PROTECTION BAG	T1T2	
-		*	H25-0661-04	PROTECTION BAG		
-		*	H50-3172-14	ITEM CARTON CASE	ET1	
-		*	H50-3173-04	ITEM CARTON CASE	K1P1	
-		*	H50-3174-14	ITEM CARTON CASE	E1T2	
-		*	H50-3175-14	ITEM CARTON CASE	E2	
640	2E		J02-1168-03	FOOT	ET1E1	
640	2E		J02-1168-03	FOOT	T2	
640	2E		J02-1407-03	FOOT (D=46,H=14.5,T)	K1P1E2	
641	1E, 2E		J19-3753-04	UNIT HOLDER		
642	2D		J21-3326-05	JACK MOUNTING HARDWARE		
Δ 644	1E		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		
648	2C		K27-2178-04	KNOB (BUTTON)	ET1E1	
648	2C		K27-2178-04	KNOB (BUTTON)	T2	
648	2C		K27-2273-04	KNOB (BUTTON)	K1P1	
648	2C	*	K27-2330-04	KNOB (BUTTON)	E2	
649	2C	*	K29-7354-14	KNOB	EK1P1	
649	2C	*	K29-7354-14	KNOB	T1E1T2	
649	2C	*	K29-7410-04	KNOB	E2	
650	2C, 2D	*	K29-7412-02	KNOB	ET1E1	
650	2C, 2D	*	K29-7412-02	KNOB	T2	
650	2C, 2D	*	K29-7413-02	KNOB	K1P1	
650	2C, 2D	*	K29-7414-02	KNOB	E2	
651	2C	*	K29-7536-04	KNOB	ET1E1	
651	2C	*	K29-7536-04	KNOB	T2	
651	2C	*	K29-7537-04	KNOB	K1P1	
651	2C	*	K29-7538-04	KNOB	E2	
Δ 655	1E	*	L07-2618-05	POWER TRANSFORMER	ET1E1	
Δ 655	1E	*	L07-2618-05	POWER TRANSFORMER	T2E2	
Δ 655	1E	*	L07-2620-05	POWER TRANSFORMER	K1P1	
ELECTRIC PCB (X25-6180-00)						
D37			B30-2430-05	LED(RED)		
D39			B30-2493-05	LED(RED)	E1T2	
C1			CK45FF1H103Z	CERAMIC	0.010UF	Z
C2			CE04KW1E221M	ELECTRO	220UF	25WV
C3, 4			CE04KW1E102M	ELECTRO	1000UF	25WV
C5			CC73FSL1H101J	CHIP C	100PF	J
C6			CK73FB1H103K	CHIP C	0.010UF	K
C7			CK45FF1H103Z	CERAMIC	0.010UF	Z
C8			CC73FSL1H101J	CHIP C	100PF	J
C9			CE04KW1V100M	ELECTRO	10UF	35WV
C10			CK73FB1H103K	CHIP C	0.010UF	K
C11			CE04KW1A101M	ELECTRO	100UF	10WV
C12, 13			CC73FSL1H101J	CHIP C	100PF	J
C14			C91-1488-05	MF	6800PF	250VAC
Δ C15-18			CK73FB1H103K	CHIP C	0.010UF	K
C20			CE04KW1C682M	ELECTRO	6800UF	16WV
Δ C21			CE04KW1C470M	ELECTRO	47UF	16WV

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③

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C22			CK73FB1H103K	CHIP C 0.010UF K		
C23			CE04KW1C220M	ELECTRO 22UF 16WV		
C24			CC73FSL1H101J	CHIP C 100PF J		
C25			CE04KW1A101M	ELECTRO 100UF 10WV		
C26, 27			CK73FB1H103K	CHIP C 0.010UF K		
C28			CE04KW1A471M	ELECTRO 470UF 10WV		
C29, 30			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C31			CK73FB1H103K	CHIP C 0.010UF K		
C32			C90-3542-05	SUPER-C 1.0F 5.5WV		
C33			CE04KW1A101M	ELECTRO 100UF 10WV		
C35			CK73FB1H103K	CHIP C 0.010UF K		
C36			CE04KW1H101M	ELECTRO 100UF 50WV		
C38			CC73FSL1H101J	CHIP C 100PF J		
C39			CE04KW1H100M	ELECTRO 10UF 50WV		
C41			CE04KW1V100M	ELECTRO 10UF 35WV		
C43			CE04KW1C332M	ELECTRO 3300UF 16WV		
C44, 45			CK73FB1H103K	CHIP C 0.010UF K		
C47-50			CK73FB1H103K	CHIP C 0.010UF K		
C51			CK73FF1E104Z	CHIP C 0.10UF Z		
C54, 55			CK73FB1H103K	CHIP C 0.010UF K		
C56, 57			CK73FF1E104Z	CHIP C 0.10UF Z		
C58			CC73FSL1H102J	CHIP C 1000PF J		
C60			C90-3213-05	ELECTRO 68UF 6.3WV		
C61			CC73FSL1H221J	CHIP C 220PF J		
C62			CK73FF1E104Z	CHIP C 0.10UF Z		
C63			CC73FSL1H101J	CHIP C 100PF J		
C64			C90-3244-05	ELECTRO 10UF 35WV		
C65			CK73FF1E104Z	CHIP C 0.10UF Z		
C67			CC73FSL1H221J	CHIP C 220PF J		
C68-70			CC73FSL1H102J	CHIP C 1000PF J		
C71, 72			CC73FSL1H471J	CHIP C 470PF J		
C73, 74			CC73FSL1H221J	CHIP C 220PF J		
C75			CK73FF1E104Z	CHIP C 0.10UF Z		
C77			CC73FCH1H220J	CHIP C 22PF J		
C78, 79			CK73FF1E104Z	CHIP C 0.10UF Z		
C80			CC73FCH1H220J	CHIP C 22PF J		
C82			CE04KW1C470M	ELECTRO 47UF 16WV		
C83			CK73FB1H103K	CHIP C 0.010UF K		
C84			CC73FSL1H101J	CHIP C 100PF J		
C85			CC73FCH1H220J	CHIP C 22PF J		
C86			CC73FCH1H100D	CHIP C 10PF D		
C87			CC73FSL1H102J	CHIP C 1000PF J		
C88			CC73FCH1H100D	CHIP C 10PF D		
C89, 90			CC73FCH1H120J	CHIP C 12PF J	E1T2	
C91			CE04KW1E221M	ELECTRO 220UF 25WV	E1T2	
C93			CK73FB1H103K	CHIP C 0.010UF K	E1T2	
C94			CE04KW1V220M	ELECTRO 22UF 35WV	E1T2	
C96			CE04KW1A101M	ELECTRO 100UF 10WV	E1T2	
C97			CC73FSL1H102J	CHIP C 1000PF J	E1T2	
C98			CE04KW1V220M	ELECTRO 22UF 35WV	E1T2	
C100			CE04KW1E221M	ELECTRO 220UF 25WV	E1T2	
C101, 102			CK73FB1H103K	CHIP C 0.010UF K	E1T2	
C103			CE04KW1A101M	ELECTRO 100UF 10WV	E1T2	
C104			CK73FB1H103K	CHIP C 0.010UF K	E1T2	
C105, 106			CC73FCH1H070D	CHIP C 7.0PF D	EK1P1	

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④

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C105, 106			CC73FCH1H070D	CHIP C 7.0PF D	T1E2	
C107			CC73FSL1H102J	CHIP C 1000PF J		
C108			CK45FF1H103Z	CERAMIC 0.010UF Z		
C109			CE04KW1A101M	ELECTRO 100UF 10WV		
C111, 112			CE04KW1H4R7M	ELECTRO 4.7UF 50WV		
C113			CC73FSL1H102J	CHIP C 1000PF J		
C115			CE04KW1A101M	ELECTRO 100UF 10WV		
C116			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C118			CE04KW1A101M	ELECTRO 100UF 10WV		
C119, 120			CE04KW1V100M	ELECTRO 10UF 35WV		
C121			CK73FB1H103K	CHIP C 0.010UF K		
C122			CK45FF1H103Z	CERAMIC 0.010UF Z		
C123			CC73FSL1H101J	CHIP C 100PF J		
C124			CK73FB1H103K	CHIP C 0.010UF K		
C125-128			CC73FSL1H101J	CHIP C 100PF J		
C130			CC73FSL1H102J	CHIP C 1000PF J	EK1P1	
C130			CC73FSL1H102J	CHIP C 1000PF J	T1E2	
C131, 132			CE04KW1C330M	ELECTRO 33UF 16WV		
C133-136			CC73FSL1H101J	CHIP C 100PF J		
C137, 138			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C139, 140			CC73FSL1H471J	CHIP C 470PF J		
C141, 142			CE04KW1V100M	ELECTRO 10UF 35WV		
C143, 144			CC73FSL1H101J	CHIP C 100PF J		
C145, 146			CE04KW1C330M	ELECTRO 33UF 16WV		
C147, 148			CC73FSL1H101J	CHIP C 100PF J		
C149, 150			CC73FSL1H151J	CHIP C 150PF J	EK1P1	
C149, 150			CC73FSL1H151J	CHIP C 150PF J	T1E2	
C149, 150			CC73FSL1H221J	CHIP C 220PF J	E1T2	
C151, 152			CC73FSL1H101J	CHIP C 100PF J		
C153, 154			CQ93FMG1H153J	MYLAR 0.015UF J	E1T2	
C153, 154			CQ93FMG1H273J	MYLAR 0.027UF J	EK1P1	
C153, 154			CQ93FMG1H273J	MYLAR 0.027UF J	T1E2	
C155			CK73FB1H103K	CHIP C 0.010UF K		
C156			CC73FSL1H101J	CHIP C 100PF J		
C157, 158			CQ93FMG1H152J	MYLAR 1500PF J		
C159-162			CC73FSL1H101J	CHIP C 100PF J		
C163, 164			CE04KW1H470M	ELECTRO 47UF 50WV		
C165, 166			CC73FSL1H471J	CHIP C 470PF J		
C167			CC73FSL1H101J	CHIP C 100PF J		
C168			CC73FSL1H102J	CHIP C 1000PF J	E1T2	
C169-171			CC73FSL1H101J	CHIP C 100PF J		
C172, 173			CC73FCH1H050C	CHIP C 5.0PF C		
C174			CK73FF1E104Z	CHIP C 0.10UF Z		
C176			CK73FB1H103K	CHIP C 0.010UF K		
C177			CC73FSL1H182J	CHIP C 1800PF J		
C178			CE04KW1E220M	ELECTRO 22UF 25WV		
C179			CE04KW1V100M	ELECTRO 10UF 35WV		
C180			CK73FB1H103K	CHIP C 0.010UF K		
C181			CE04KW1E470M	ELECTRO 47UF 25WV		
C182			CK73FB1H103K	CHIP C 0.010UF K	E1T2	
C183, 184			CC73FSL1H101J	CHIP C 100PF J	EK1P1	
C185, 186			CC73FSL1H101J	CHIP C 100PF J	T1E2	
C185, 186			CC73FSL1H101J	CHIP C 100PF J	E1T2	
C187, 188			CC73FSL1H101J	CHIP C 100PF J		
C189, 190			CC73FSL1H101J	CHIP C 100PF J		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
CN1			E40-4807-05	PIN ASSY		
CN2			E40-8055-05	FLAT CABLE CONNECTOR		
CN3			E40-8054-05	FLAT CABLE CONNECTOR		
CN4			E40-4944-05	FLAT CABLE CONNECTOR		
CN5			E40-4906-05	FLAT CABLE CONNECTOR		
△ CN6		*	E40-4245-05	PIN ASSY		
J1			E63-1065-05	PHONO JACK		
J2			E63-0160-05	PHONO JACK		
J3			E11-0293-05	MINIATURE PHONE JACK(2P)		
J4			E11-0127-05	PHONE JACK (3P)	EK1P1	
J4			E11-0127-05	PHONE JACK (3P)	T1E2	
J4			E11-0190-05	PHONE JACK (3P)	E1T2	
CN10, 11			J13-0075-05	FUSE CLIP		
E6			J11-0808-05	WIRE CLAMPER		
L1, 2		*	L40-8201-58	SMALL FIXED INDUCTOR(82UH,K)	E1T2	
X1			L77-1124-05	CRYSTAL RESONATOR	E1T2	
X2			L77-1124-05	CRYSTAL RESONATOR	EK1P1	
X2			L77-1124-05	CRYSTAL RESONATOR	T1E2	
X3			L78-0615-05	RESONATOR (12.5MHZ)		
R1			RK73FB2A100J	CHIP R 10	J	1/10W
R3			RK73FB2A103J	CHIP R 10K	J	1/10W
△ R4			RD14NB2E1R0J	RD 1	J	1/4W
R5			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R6, 7			RK73FB2A103J	CHIP R 10K	J	1/10W
R8			RK73FB2A182J	CHIP R 1.8K	J	1/10W
R9, 10			RK73FB2A681J	CHIP R 680	J	1/10W
R11			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R12			RK73FB2A751J	CHIP R 750	J	1/10W
R13			RK73FB2A104J	CHIP R 100K	J	1/10W
R14			RK73FB2A472J	CHIP R 4.7K	J	1/10W
R15			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R16			RK73FB2A104J	CHIP R 100K	J	1/10W
R17			RK73FB2A103J	CHIP R 10K	J	1/10W
R18			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R19			RK73FB2A101J	CHIP R 100	J	1/10W
R20-22			RK73FB2A331J	CHIP R 330	J	1/10W
R23			RK73FB2A151J	CHIP R 150	J	1/10W
R24			RK73FB2A222J	CHIP R 2.2K	J	1/10W
R25			R92-1861-05	METAL GLAZE 1.62K	F	1/10W
△ R26			R92-1860-05	METAL GLAZE 1.50K	F	1/10W
R27			RD14NB2E4R7J	RD 4.7	J	1/4W
R28			RK73FB2A473J	CHIP R 47K	J	1/10W
R29			RD14NB2E4R7J	RD 4.7	J	1/4W
R30			RK73FB2A104J	CHIP R 100K	J	1/10W
R31			RK73FB2A331J	CHIP R 330	J	1/10W
R32-34			RK73FB2A104J	CHIP R 100K	J	1/10W
R35			RK73FB2A101J	CHIP R 100	J	1/10W
R36			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R37			RK73FB2A473J	CHIP R 47K	J	1/10W
R38, 39			RK73FB2A104J	CHIP R 100K	J	1/10W
R40			RK73FB2A272J	CHIP R 2.7K	J	1/10W
R41, 42			RK73FB2A104J	CHIP R 100K	J	1/10W
R43			RK73FB2A182J	CHIP R 1.8K	J	1/10W
R45			RK73FB2A104J	CHIP R 100K	J	1/10W

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R47			RK73FB2A104J	CHIP R 100K	J	1/10W
R48, 49			RK73FB2A272J	CHIP R 2.7K	J	1/10W
R51			RK73FB2A104J	CHIP R 100K	J	1/10W
R52, 53			RK73FB2A182J	CHIP R 1.8K	J	1/10W
R55			RK73FB2A331J	CHIP R 330	J	1/10W
R56, 57			RK73FB2A471J	CHIP R 470	J	1/10W
R58			RK73FB2A103J	CHIP R 10K	J	1/10W
R59			RK73FB2A123J	CHIP R 12K	J	1/10W
R60			RK73FB2A822J	CHIP R 8.2K	J	1/10W
R61			RK73FB2A333J	CHIP R 33K	J	1/10W
R62, 63			RK73FB2A101J	CHIP R 100	J	1/10W
R64-71			RK73FB2A104J	CHIP R 100K	J	1/10W
R72			RK73FB2A272J	CHIP R 2.7K	J	1/10W
R73			RK73FB2A104J	CHIP R 100K	J	1/10W
R77			RK73FB2A182J	CHIP R 1.8K	J	1/10W
R78			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R79			RK73FB2A223J	CHIP R 22K	J	1/10W
R79			RK73FB2A473J	CHIP R 47K	J	1/10W
R79			RK73FB2A473J	CHIP R 47K	J	1/10W
R80			RK73FB2A223J	CHIP R 22K	J	1/10W
R80			RK73FB2A223J	CHIP R 22K	J	1/10W
R80			RK73FB2A473J	CHIP R 47K	J	1/10W
R85-88			RK73FB2A103J	CHIP R 10K	J	1/10W
R89-93			RK73FB2A101J	CHIP R 100	J	1/10W
R94, 95			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R96			RK73FB2A104J	CHIP R 100K	J	1/10W
R97-99			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R100			RK73FB2A391J	CHIP R 390	J	1/10W
R100			RK73FB2A391J	CHIP R 390	J	1/10W
R101			RK73FB2A470J	CHIP R 47	J	1/10W
R101			RK73FB2A470J	CHIP R 47	J	1/10W
R102			RK73FB2A104J	CHIP R 100K	J	1/10W
R103, 104			RK73FB2A103J	CHIP R 10K	J	1/10W
R105			RK73FB2A182J	CHIP R 1.8K	J	1/10W
R106			RK73FB2A272J	CHIP R 2.7K	J	1/10W
R107			RK73FB2A123J	CHIP R 12K	J	1/10W
R108			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R109			RK73FB2A473J	CHIP R 47K	J	1/10W
R110-114			RK73FB2A103J	CHIP R 10K	J	1/10W
R115			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R116			RK73FB2A104J	CHIP R 100K	J	1/10W
R117			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R118			RK73FB2A223J	CHIP R 22K	J	1/10W
R119			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R120			RK73FB2A104J	CHIP R 100K	J	1/10W
R121			RK73FB2A102J	CHIP R 1.0K	J	1/10W
R122			RK73FB2A223J	CHIP R 22K	J	1/10W
R123			RK73FB2A182J	CHIP R 1.8K	J	1/10W
R124			RK73FB2A272J	CHIP R 2.7K	J	1/10W
R125			RK73FB2A472J	CHIP R 4.7K	J	1/10W
R126			RK73FB2A822J	CHIP R 8.2K	J	1/10W
R127			RK73FB2A182J	CHIP R 1.8K	J	1/10W
R128			RK73FB2A272J	CHIP R 2.7K	J	1/10W
R129			RK73FB2A123J	CHIP R 12K	J	1/10W
R130			RK73FB2A182J	CHIP R 1.8K	J	1/10W

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R131			RK73FB2A272J	CHIP R 2.7K J 1/10W		
R132			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R133~135			RK73FB2A104J	CHIP R 100K J 1/10W		
R136, 137			RK73FB2A331J	CHIP R 330 J 1/10W		
R138			RK73FB2A104J	CHIP R 100K J 1/10W		
R139			RK73FB2A221J	CHIP R 220 J 1/10W		
R140			RK73FB2A150J	CHIP R 15 J 1/10W		
R141			RK73FB2A101J	CHIP R 100 J 1/10W		
R142			RK73FB2A750J	CHIP R 75 J 1/10W		
R143			RK73FB2A271J	CHIP R 270 J 1/10W		
R144			RK73FB2A750J	CHIP R 75 J 1/10W		
R145			RK73FB2A331J	CHIP R 330 J 1/10W		
R146			RK73FB2A103J	CHIP R 10K J 1/10W		
R148			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R149			RK73FB2A103J	CHIP R 10K J 1/10W		
R150			RK73FB2A182J	CHIP R 1.8K J 1/10W		
R151			RK73FB2A101J	CHIP R 100 J 1/10W		
R152			RK73FB2A104J	CHIP R 100K J 1/10W		
R153			RK73FB2A101J	CHIP R 100 J 1/10W		
R154			RK73FB2A103J	CHIP R 10K J 1/10W		
R155			RK73FB2A221J	CHIP R 220 J 1/10W		
R156			RK73FB2A821J	CHIP R 820 J 1/10W	E1T2	
R157~159			RK73FB2A471J	CHIP R 470 J 1/10W	E1T2	
R160			RK73FB2A512J	CHIP R 5.1K J 1/10W	E1T2	
R161			RK73FB2A391J	CHIP R 390 J 1/10W	E1T2	
R162			RK73FB2A105J	CHIP R 1.0M J 1/10W	EK1P1	
R162			RK73FB2A105J	CHIP R 1.0M J 1/10W	T1E2	
R163			RK73FB2A121J	CHIP R 120 J 1/10W	EK1P1	
R163			RK73FB2A121J	CHIP R 120 J 1/10W	T1E2	
R163			RK73FB2A221J	CHIP R 220 J 1/10W	E1T2	
R164			RK73FB2A151J	CHIP R 150 J 1/10W		
R165, 166			RK73FB2A104J	CHIP R 100K J 1/10W		
R167			RK73FB2A471J	CHIP R 470 J 1/10W		
R168			RK73FB2A222J	CHIP R 2.2K J 1/10W	EK1P1	
R168			RK73FB2A222J	CHIP R 2.2K J 1/10W	T1E2	
R169			RK73FB2A102J	CHIP R 1.0K J 1/10W	EK1P1	
R169			RK73FB2A102J	CHIP R 1.0K J 1/10W	T1E2	
R170			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R171			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R172			RK73FB2A105J	CHIP R 1.0M J 1/10W	E1T2	
Δ R173~175			RK73FB2A100J	CHIP R 10 J 1/10W		
R176, 177			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R178			RK73FB2A105J	CHIP R 1.0M J 1/10W	EK1P1	
R178			RK73FB2A105J	CHIP R 1.0M J 1/10W	T1E2	
Δ R179			RK73FB2A1R0J	CHIP R 1 J 1/10W	E1T2	
Δ R180			RK73FB2A220J	CHIP R 22 J 1/10W	E1T2	
R181, 182			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R183, 184			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R185, 186			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R187, 188			RK73FB2A104J	CHIP R 100K J 1/10W		
R189, 190			RK73FB2A223J	CHIP R 22K J 1/10W		
R191, 192			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R193, 194			RK73FB2A473J	CHIP R 47K J 1/10W		
R195, 196			RK73FB2A752J	CHIP R 7.5K J 1/10W		
R197, 198			RK73FB2A331J	CHIP R 330 J 1/10W		

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R199, 200			RK73FB2A750J	CHIP R 75 J 1/10W		
R201, 202			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R203, 204			RK73FB2A123J	CHIP R 12K J 1/10W	EK1P1	
R203, 204			RK73FB2A123J	CHIP R 12K J 1/10W	T1E2	
R203, 204			RK73FB2A682J	CHIP R 6.8K J 1/10W	E1T2	
R205, 206			RK73FB2A133J	CHIP R 13K J 1/10W	E1T2	
R205, 206			RK73FB2A393J	CHIP R 39K J 1/10W	EK1P1	
R205, 206			RK73FB2A393J	CHIP R 39K J 1/10W	T1E2	
R207, 208			RK73FB2A101J	CHIP R 100 J 1/10W		
R209~214			RK73FB2A821J	CHIP R 820 J 1/10W		
R215, 216			RK73FB2A512J	CHIP R 5.1K J 1/10W		
R217, 218			RK73FB2A101J	CHIP R 100 J 1/10W		
R219, 220			RK73FB2A104J	CHIP R 100K J 1/10W		
R221, 222			RK73FB2A101J	CHIP R 100 J 1/10W		
R223, 224			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R225, 226			RK73FB2A101J	CHIP R 100 J 1/10W		
R227, 228			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R229, 230			RK73FB2A101J	CHIP R 100 J 1/10W	E1T2	
Δ R232			RK73FB2A220J	CHIP R 22 J 1/10W		
R234			RD14NB2E330J	RD 33 J 1/4W		
R235			RK73FB2A103J	CHIP R 10K J 1/10W		
R236			RD14NB2E330J	RD 33 J 1/4W		
R237			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R238			RK73FB2A471J	CHIP R 470 J 1/10W	E1T2	
R239, 240			RK73FB2A221J	CHIP R 220 J 1/10W		
R241, 242			RK73FB2A101J	CHIP R 100 J 1/10W		
R243			RK73FB2A221J	CHIP R 220 J 1/10W		
R247, 248			RK73FB2A4R7J	CHIP R 4.7 J 1/10W		
Δ R249, 250			RK73FB2A150J	CHIP R 15 J 1/10W		
R251			RD14NB2E330J	RD 33 J 1/4W		
R252, 253			RK73FB2A101J	CHIP R 100 J 1/10W		
R255, 256			RK73FB2A103J	CHIP R 10K J 1/10W		
Δ R258, 259			RK73FB2A1R0J	CHIP R 1 J 1/10W	E1T2	
R260			RK73FB2A103J	CHIP R 10K J 1/10W		
Δ R261, 262			RK73FB2A150J	CHIP R 15 J 1/10W		
Δ R271			RD14NB2E1R0J	RD 1 J 1/4W		
VR1		*	R31-0098-05	VARIABLE RESISTOR		
S2~17			S70-0031-05	TACT SWITCH		
S18			S31-1036-05	SLIDE SWITCH		
Δ S20			S68-0107-05	PUSH SWITCH		
S1			T99-0537-05	ROTARY ENCODER		
Δ D1			D3SBA20F03	DIODE		
Δ D3~5			U1BC44	DIODE		
D6			MA111	DIODE		
D8			MA111	DIODE		
D9, 10			S5688B(TPB5)	DIODE		
Δ D11			D3SBA20F03	DIODE		
D12			MA111	DIODE		
D13			UDZ5.6B	ZENER DIODE		
D14, 15			MA113	DIODE		
D17			MA111	DIODE		
D19			UDZ18B	ZENER DIODE		
D20			UDZ15B	ZENER DIODE		

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Δ D21			S5688B(TPB5)	DIODE	E1T2	
D22, 23			MA111	DIODE		
D24			MA111	DIODE		
D26			DA204U	DIODE		
Δ D27, 28			UDZ18B	ZENER DIODE		
D29			MA111	DIODE	EK1P1	
D30			DA204U	DIODE		
Δ D31, 32			U1BC44	DIODE		
D33			UDZ3.3B	ZENER DIODE		
D34			MA111	DIODE		
D35, 36			MA111	DIODE	EK1P1	
D35, 36			MA111	DIODE		
D38			MA111	DIODE		
D40			MA111	DIODE		
D41			UDZ7.5B	ZENER DIODE		
D42			MA111	DIODE	EK1P1	
Δ D43, 44			DA204U	DIODE		
D45			MA111	DIODE		
ED1		*	CM1777M	INDICATOR TUBE		
Δ IC1, 2			ICP-N10	ANALOGUE IC		
IC3			NJM4558D	ANALOGUE IC	EK1P1	
IC4			PST993D-T	ANALOGUE IC		
IC5			TL431CLP	MOS-IC		
Δ IC6			ICP-N10	ANALOGUE IC		
IC8		*	PCM3002E	MOS-IC		
IC8		*	PCM3003E	MOS-IC	T1E2	
IC10		*	NJM4565D	ANALOGUE IC		
IC11			NJM4580D	IC(OP AMP X2)		
IC13, 14			NJM4565D	ANALOGUE IC		
IC21, 22			TC74HCU04AF	IC(HEX INVERTER SMD)		
IC23			LC75710NED	MOS-IC	EK1P1	
IC26			TC74HC00AF	IC(2INPUT NAND GATE)		
IC31		*	UPD784215GF532	MI-COM IC		
IC33			TC74HC373AF	IC(8 bit LATCH)		
IC34			W24258S-70LE	MEMORY IC		
IC35			TA8409S	MOS-IC	EK1P1	
IC36			TC74HCT7007AF	IC(HEX BUFFER)		
IC37			HD74HCT126FPEL	MOS-IC		
IC38			TC74HCT7007AF	IC(HEX BUFFER)		
IC39			TC74VHC244F	MOS-IC		
IC40			KAN06	CUSTOM IC	E1T2	
IC41			PCM1716E	MOS-IC		
Δ Q1			2SD2012	TRANSISTOR		
Δ Q1			2SD2061	TRANSISTOR		
Q2			2SK246(GR)	FET		
Q3			DTC113ZUA	DIGITAL TRANSISTOR	EK1P1	
Q3			UN5219	DIGITAL TRANSISTOR		
Q4			2SA992(F,E)	TRANSISTOR		
Q5, 6			DTC124EUA	DIGITAL TRANSISTOR		
Q5, 6			UN5212	DIGITAL TRANSISTOR		
Δ Q7			2SD2012	TRANSISTOR	EK1P1	
Q7			2SD2061	TRANSISTOR		
Q8			2SA1576A(R,S)	TRANSISTOR		
Q8			2SB1218A(Q,R)	TRANSISTOR		
Q8						

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Q9, 10			2SC4081(R,S)	TRANSISTOR	E1T2	
Q9, 10			2SD1819A(Q,R)	TRANSISTOR		
Δ Q11			2SD2012	TRANSISTOR		
Q11			2SD2061	TRANSISTOR		
Δ Q12			DTC113ZUA	DIGITAL TRANSISTOR		
Q12			UN5219	DIGITAL TRANSISTOR		
Δ Q13			2SA954(L,K)	TRANSISTOR		
Q14, 15			2SD1302(S,T)	TRANSISTOR		
Q16			DTC124EUA	DIGITAL TRANSISTOR		
Q16			UN5212	DIGITAL TRANSISTOR		
Q17~20			2SD1450(S,T)	TRANSISTOR		
Q21			2SC1845(F,E)	TRANSISTOR		
Q22			2SA992(F,E)	TRANSISTOR		
Q23			2SC4081(R,S)	TRANSISTOR		
Q23			2SD1819A(Q,R)	TRANSISTOR		
Q24			2SA1576A(R,S)	TRANSISTOR	E1T2	
Q24			2SB1218A(Q,R)	TRANSISTOR		
Q25			DTC124EUA	DIGITAL TRANSISTOR		
Q25			UN5212	DIGITAL TRANSISTOR		
Q26			DTA124EUA	DIGITAL TRANSISTOR		
Q26			UN5112	DIGITAL TRANSISTOR		
Q27, 28			DTC124EUA	DIGITAL TRANSISTOR		
Q27, 28			UN5212	DIGITAL TRANSISTOR		
Q29			DTC124EUA	DIGITAL TRANSISTOR		
Q29			UN5212	DIGITAL TRANSISTOR		
Q30			DTA124EUA	DIGITAL TRANSISTOR		
Q30			UN5112	DIGITAL TRANSISTOR		
Q31			DTC143TUA	DIGITAL TRANSISTOR		
Q31			UN5216	DIGITAL TRANSISTOR		
Q32			DTA124EUA	DIGITAL TRANSISTOR		
Q32			UN5112	DIGITAL TRANSISTOR		
Q33~37			2SC4081(R,S)	TRANSISTOR		
Q33~37			2SD1819A(Q,R)	TRANSISTOR		
Q39			DTC124EUA	DIGITAL TRANSISTOR		
Q39			UN5212	DIGITAL TRANSISTOR		
Q40			2SK163(L)	FET		
A1			W02-1181-05	OPTIC RECEIVING MODULE	E1T2	
A2			W02-1114-05	OSCILLATING MODULE		
A3			W02-2571-05	OPTIC RECEIVING MODULE		
MD MECHANISM PCB (X29-2580-00)						
CN1			E40-3260-05	PIN ASSY	E1T2	
CN2			E40-3261-05	PIN ASSY		
CN3			E40-8076-05	FLAT CABLE CONNECTOR		
S1			S68-0074-05	PUSH SWITCH	E1T2	
S2			S64-0028-05	LEVER SWITCH		
PH1			T95-0140-05	PHOTO INTERRUPTER		
MD PCB (X33-1100-00)						
C21, 22			CC73FCH1H020C	CHIP C	2.0PF	C
C101			C92-0628-05	CHIP-TAN	10UF	10WV
C102			CK73FB1E104K	CHIP C	0.10UF	K
C103, 104			C92-0628-05	CHIP-TAN	10UF	10WV
C105			CK73FB1H103K	CHIP C	0.010UF	K

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C106			CC73FCH1H102J	CHIP C 1000PF J		
C107, 108			CK73FF1E104Z	CHIP C 0.10UF Z		
C109			CK73FB1H223K	CHIP C 0.022UF K		
C110			CK73FB1E104K	CHIP C 0.10UF K		
C111			CK73FB1H683K	CHIP C 0.068UF K		
C112			CK73FB1H472K	CHIP C 4700PF K		
C113			CK73FF1C105Z	CHIP C 1.0UF Z		
C115			CK73FB1C224K	CHIP C 0.22UF K		
C116			CK73FB1H223K	CHIP C 0.022UF K		
C117, 118			CK73FB1E104K	CHIP C 0.10UF K		
C119			C92-0628-05	CHIP-TAN 10UF 10WV		
C121			C92-0048-05	ELECTRO 100UF 6.3WV		
C122			CK73FB1H103K	CHIP C 0.010UF K		
C123			CK73FF1E104Z	CHIP C 0.10UF Z		
C127			CK73FF1E104Z	CHIP C 0.10UF Z		
C128			CK73FB1H103K	CHIP C 0.010UF K		
C129			CK73FB1C474K	CHIP C 0.47UF K		
C130			CC73FSL1H101J	CHIP C 100PF J		
C131			CK73FB1H153K	CHIP C 0.015UF K		
C132			CK73FB1C474K	CHIP C 0.47UF K		
C133			CK73FB1H472K	CHIP C 4700PF K		
C134, 135			CK73FF1E104Z	CHIP C 0.10UF Z		
C136			C92-0048-05	ELECTRO 100UF 6.3WV		
C141			CK73FF1E104Z	CHIP C 0.10UF Z		
C142-144			CC73FSL1H101J	CHIP C 100PF J		
C146			CK73FF1E104Z	CHIP C 0.10UF Z		
C151			C92-0048-05	ELECTRO 100UF 6.3WV		
C152			CK73FF1E104Z	CHIP C 0.10UF Z		
C153			CK73FB1H103K	CHIP C 0.010UF K		
C156			CK73FF1E104Z	CHIP C 0.10UF Z		
C158			CK73FB1H682K	CHIP C 6800PF K		
C160, 161			C92-0167-05	CHIP-ELE 10UF 10WV		
C163, 164			CK73FB1H103K	CHIP C 0.010UF K		
C167, 168			CK73FF1E104Z	CHIP C 0.10UF Z		
C169			C92-0628-05	CHIP-TAN 10UF 10WV		
C171			CK73FF1E104Z	CHIP C 0.10UF Z		
C181			C92-0048-05	ELECTRO 100UF 6.3WV		
C182, 183			CK73FF1E104Z	CHIP C 0.10UF Z		
C184			C92-0149-05	CHIP-ELE 22UF 8WV		
C185			C93-0031-05	CHIP-C 1000P 500V		
C187			C92-0048-05	ELECTRO 100UF 6.3WV		
C188			CK73FB1H103K	CHIP C 0.010UF K		
C189			CK73FB1H333K	CHIP C 0.033UF K		
C190			C92-0048-05	ELECTRO 100UF 6.3WV		
C191			CK73FF1E104Z	CHIP C 0.10UF Z		
C195			CK73FF1C105Z	CHIP C 1.0UF Z		
C196, 197			CK73FF1E104Z	CHIP C 0.10UF Z		
C200			C93-0032-05	CHIP C 10UF 10WV		
CN101			E40-8074-05	FLAT CABLE CONNECTOR (29P)		
CN102			E40-8075-05	FLAT CABLE CONNECTOR (19P)		
CN103			E40-8077-05	FLAT CABLE CONNECTOR (22P)		
CN104			E40-8078-05	PIN ASSY (2P)		
CN105			E40-8076-05	FLAT CABLE CONNECTOR (15P)		
L1, 2			L33-0545-05	CHOKE COIL (10UH)		

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L3, 4			L33-0369-05	CHOKE COIL (100UH)		
L5-11			L79-1216-05	LINE FILTER		
R103			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R104			RK73FB2A103J	CHIP R 10K J 1/10W		
R105			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R106			RK73FB2A335J	CHIP R 3.3M J 1/10W		
R107			RK73FB2A474J	CHIP R 470K J 1/10W		
R108, 109			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R110			RK73FB2A103J	CHIP R 10K J 1/10W		
R112			RK73FB2A473J	CHIP R 47K J 1/10W		
R113			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R115			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R117			RK73FB2A474J	CHIP R 470K J 1/10W		
R120			RK73FB2A101J	CHIP R 100 J 1/10W		
R121			RK73FB2A104J	CHIP R 100K J 1/10W		
R123			RK73FB2A221J	CHIP R 220 J 1/10W		
R124, 125			RK73FB2A101J	CHIP R 100 J 1/10W		
R127			RK73FB2A101J	CHIP R 100 J 1/10W		
R131			RK73FB2A103J	CHIP R 10K J 1/10W		
R132			RK73FB2A104J	CHIP R 100K J 1/10W		
R133			RK73FB2A684J	CHIP R 680K J 1/10W		
R134			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R135			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R136			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R137			RK73FB2A101J	CHIP R 100 J 1/10W		
R140			RK73FB2A151J	CHIP R 150 J 1/10W		
R141			RK73FB2A561J	CHIP R 560 J 1/10W		
R142, 143			RK73FB2A103J	CHIP R 10K J 1/10W		
R144			RK73FB2A101J	CHIP R 100 J 1/10W		
R146-148			RK73FB2A101J	CHIP R 100 J 1/10W		
R150			RK73FB2A221J	CHIP R 220 J 1/10W		
R158, 159			RK73FB2A104J	CHIP R 100K J 1/10W		
R161-163			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R164			RK73FB2A681J	CHIP R 680 J 1/10W		
R165			RK73FB2A104J	CHIP R 100K J 1/10W		
R166			R92-1854-05	RN 2.2 K 1/2W		
R167			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R169			R92-1853-05	CHIP-RN 1 1/4W		
R170, 171			RK73FB2A103J	CHIP R 10K J 1/10W		
R173			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R175			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R177			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R179			RK73FB2A473J	CHIP R 47K J 1/10W		
R180, 181			RK73FB2A103J	CHIP R 10K J 1/10W		
R182, 183			RK73FB2A473J	CHIP R 47K J 1/10W		
R184, 185			RK73FB2A103J	CHIP R 10K J 1/10W		
R188-190			RK73FB2A103J	CHIP R 10K J 1/10W		
W1-4			R92-0670-05	CHIP R 0 OHM		
W101			R92-0670-05	CHIP R 0 OHM		
W108			R92-0679-05	CHIP R 0 OHM		
W109			R92-0670-05	CHIP R 0 OHM		
W111			R92-0670-05	CHIP R 0 OHM		
W114			R92-0670-05	CHIP R 0 OHM		
W116			R92-0670-05	CHIP R 0 OHM		

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W178			R92-0670-05	CHIP R	0 OHM	
W186, 187			R92-0679-05	CHIP R	0 OHM	
W195, 196			R92-0670-05	CHIP R	0 OHM	
W198-201			R92-0670-05	CHIP R	0 OHM	
D1, 2			F1J6TP	DIODE		
D101			MA111	DIODE		
IC1			CXA2523AR	ANALOGUE IC		
IC2			CXD2652AR	MOS-IC		
IC3			TC7S08FU	MOS-IC		
IC4			TC7WU04FU	MOS-IC		
IC5			TC74ACT540FS	MOS-IC		
IC6			X24C01AS-2.7	MEMORY IC		
IC7			HM51W4400BTT-7	MEMORY IC		
IC8			BH6511FS	ANALOGUE IC		
IC10			L88MS33T	ANALOGUE IC		
Q1			FMW1	TRANSISTOR		
Q2, 3			DTA144EUA	DIGITAL TRANSISTOR		
Q4, 5			DTC114YUA	DIGITAL TRANSISTOR		
Q6			2SA1576A(R,S)	TRANSISTOR		
Q7			2SB798-DL	TRANSISTOR		
Q8			2SJ278	FET		
Q9			2SK1764	FET		
Q10			DTC114EUA	DIGITAL TRANSISTOR		
MD MECHANISM (D40-1533-05) : MDM-04						
1	2B		A10-3329-08	CHASSIS ASSY		
2	1B		D10-3690-08	LEVER ASSY		
3	1A		D10-3698-08	ARM ASSY		
4	2A		D10-3759-08	SLIDER ASSY (HD)		
5	2B		D13-1784-08	GEAR ASSY (T)		
6	1A		J11-0824-08	CLAMPER ASSY		
7	1B		J19-5766-08	HOLDER ASSY		
8	3A		A11-1113-08	SUB SHASSIS (FRAME)		
9	1B		A11-1116-08	SUB SHASSIS (TOP)		
10	2A		D10-3742-08	LEVER (DOOR)		
11	3A		D13-1792-08	RACK (GEAR)		
12	2B		G02-1616-08	FLAT SPRING (THRUST)		
13	3A		G02-1618-08	FLAT SPRING (SUB)		
15	2A		D10-3685-08	SHAFT (SUB)		
16	2A		D10-3694-08	SHAFT (MAIN)		
17	1A		D21-1859-08	SHAFT (JOINT)		
18	2B		D10-3686-08	SLIDER (MAIN)		
19	1A		D10-3687-08	SLIDER (LD)		
20	1A		D10-3689-08	ARM (CLAMP)		
21	2A		D10-3692-08	ARM (CHANGE)		
22	2B		D13-1786-08	GEAR (WORM)		
23	2A		D13-1787-08	GEAR (MOTOR-T)		
24	2A		D13-1788-08	GEAR (MOTOR-L)		
25	1A		D13-1789-08	GEAR (INTERMEDIATE LA)		
26	2A		D13-1790-08	GEAR (INTERMEDIATE LB)		
27	2A		D13-1791-08	GEAR (MAIN)		
28	1A		G13-0560-08	CUSHION		
29	3A, 3B		J02-1178-08	INSULATOR		
30	1A		G01-3964-08	EXTENSION SP		
31	1A		G01-3965-08	TORSION SP		

L : Scandinavia K : USA P : Canada R : Mexico C : China I : Malaysia
Y : PX(Far East, Hawaii) T : Europe E : Europe G : Germany V : China(Shanghai)
X : AAFES(Europe) X : Australia Q : Russia H : Korea M : Other Areas Δ indicates safety critical components.

* 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.

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
32	2B		G01-3966-08	EXTENSION SP		
33	1A		G01-3967-08	EXTENSION SP (S/HD)		
34	2A		G01-4014-08	EXTENSION SP (DOOR)		
35	3B		G10-0146-04	NON-WOVEN-FABRIC		
36	2B		N19-1101-04	POLY WS 1.2*3.0*0.5CUT		
37	1B		N19-1105-04	POLY WS 1.6*3.5*0.5CUT		
38	1A		N19-0366-04	POLY WS 2.1*4.0*0.5CUT		
39	1A		G16-0877-04	SHEET (TRAY)		
40	2B		E35-1715-08	WIRING HARNESS		
41	3A		E35-1780-08	FLAT CABLE		
42	3B		J80-0012-08	FPC		
47	2B		S33-1022-05	PUSH SWITCH SPPB12		
48	2A, 3A		J26-0052-08	PCB ASSY (X29-2580-00)		
DM	3A		T42-0871-08	MOTOR ASSY		
FM	3A		T42-0880-05	DC MOTOR		
LM	3A		T42-0881-05	DC MOTOR		
PU	3A		T25-0060-05	OPTICAL PICKUP HEAD		
RH	3A		T30-0013-05	RECORD HEAD		

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HOW TO READ THE PARTS LIST

ABBREVIATION OF MODEL AND MASS PRODUCTION'S DESTINATIONS

MODEL	ABB.	Australia	Canada	China	England	Europe	Germany	Korea	Malaysia
DMF-3020		-	-	-	T1	E	-	-	-
DMF-3020(S)		-	-	-	-	E1	-	-	-
DMF-5020		-	-	-	T2	E2	-	-	-
MD-203		-	P1	-	-	-	-	-	-
MODEL	ABB.	Mexico	PX/AAFES	Russia	Scandinavia	Shanghai	USA	Other area	
DMF-3020		-	-	-	-	-	-	-	-
DMF-3020(S)		-	-	-	-	-	-	-	-
DMF-5020		-	-	-	-	-	-	-	-
MD-203		-	-	-	-	-	K1	-	-

PARTS LIST

DMF-3020/3020(S)/5020/MD-203

DMF-3020/3020(S)/5020/MD-203

SPECIFICATIONS

DMF-5020

[Format]

System Minidisc digital audio system
Laser Semiconductor laser
Recording method Field modulation overwrite method
Audio compression ATRAC (Adaptive TRansform Acoustic Coding)
Playing rotation Approx. 400 rpm ~ 900 rpm (CLV)

[D/A conversion]

D/A conversion 1 Bit (24 Bit D.R.I.V.E. conversion)
Oversampling 8 fs (352.8 kHz)

[A/D converter]

A/D converter 5 th order sigma-delta conversion
Sampling frequency 44.1 kHz

[Digital audio performance]

Frequency response (playback mode) 8 Hz ~ 20 kHz (± 1 dB)
Signal to noise ratio (playback mode) More than 105 dB
Dynamic range (playback mode) More than 94 dB
Total harmonic distortion (1 kHz, playback mode) Less than 0.007 %
Wow & flutter Less than unmeasurable limit
Analog input sensitivity / input impedance 500 mV / 22 k Ω or more
Analog output level / output impedance 2.0 V / Less than 400 Ω
Headphone output 20 mW/32 Ω load
Digital input
Coxaial 0.5 Vp-p / 75 Ω
Optical(Wave length 660 nm) - 15 dBm ~ - 21 dBm
Digital output
Coxaial 0.5 Vp-p / 75 Ω
Optical(Wave length 660 nm) - 15 dBm ~ - 21 dBm

[General]

Power consumption 18 W
Dimensions W : 440 mm (17 - 5 / 16")
..... H : 94 mm (3 - 11 / 16")
..... D : 379 mm (14 - 15 / 16")
Weight (Net) 4.0 kg (8.8 lb)

DMF-3020/MD-203

[Format]

System Minidisc digital audio system
Laser Semiconductor laser
Recording method Field modulation overwrite method
Audio compression ATRAC (Adaptive TRansform Acoustic Coding)
Playing rotation Approx. 400 rpm ~ 900 rpm (CLV)

[D/A conversion]

D/A conversion 1 Bit
Oversampling 8 fs (352.8 kHz)

[A/D converter]

A/D converter 5 th order sigma-delta conversion
Sampling frequency 44.1 kHz

[Digital audio performance]

Frequency response (playback mode) 8 Hz ~ 20 kHz (± 1 dB)
Signal to noise ratio (playback mode) More than 100 dB
Dynamic range (playback mode) More than 90 dB
Total harmonic distortion (1 kHz, playback mode) Less than 0.01 %
Wow & flutter Less than unmeasurable limit
Analog input sensitivity / input impedance 500 mV / 22 k Ω or more
Analog output level / output impedance 2.0 V / Less than 400 Ω
Headphone output 20 mW/32 Ω load
Digital input
Coxaial 0.5 Vp-p / 75 Ω
Optical(Wave length 660 nm) - 15 dBm ~ - 21 dBm
Digital output
Coxaial 0.5 Vp-p / 75 Ω
Optical(Wave length 660 nm) - 15 dBm ~ - 21 dBm

[General]

Power consumption 18 W
Dimensions W : 440 mm (17 - 5 / 16")
..... H : 94 mm (3 - 11 / 16")
..... D : 379 mm (14 - 15 / 16")
Weight (Net) 4.0 kg (8.8 lb)



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

Note:

Component and circuit are subject to modification to insure best operation under differing local conditions. This manual is based on Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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