Pioneer

Service Manual

ORDER NO.
RRV2134

MINI DISC RECORDER

MJ-HX5000

MJ-HX3000
MJ-HX2000
MJ-HX700

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model				Power Requirement	Remarks
	MJ-HX5000	MJ-HX3000	MJ-HX2000	MJ-HX700		
ZUCXCN	○	○	○	—	DC power supplied from other system component	
ZUCXCN1	○	○	○	—	DC power supplied from other system component	
ZVYXCN	—	—	—	○	DC power supplied from other system component	

● ZUCXCN type and ZUCXCN1 type are constructed the same.

- **These products are component of systems.**
- **This product does not operate normally by itself. Please connect it to the CD RECEIVER SYSTEM, for adjustment and operation inspection. Otherwise damage may result.**

CONTENTS

1. SAFETY INFORMATION 2
2. EXPLODED VIEWS AND PARTS LIST 3
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM 8
4. PCB CONNECTION DIAGRAM 19
5. PCB PARTS LIST 26
6. ADJUSTMENT 28
7. GENERAL INFORMATION 28
   7.1 DIAGNOSIS 28
   7.2 PARTS 30
8. PANEL FACILITIES AND SPECIFICATIONS 32

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

©PIONEER ELECTRONIC CORPORATION 1999

T–ZZR MAY 1999 Printed in Japan

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

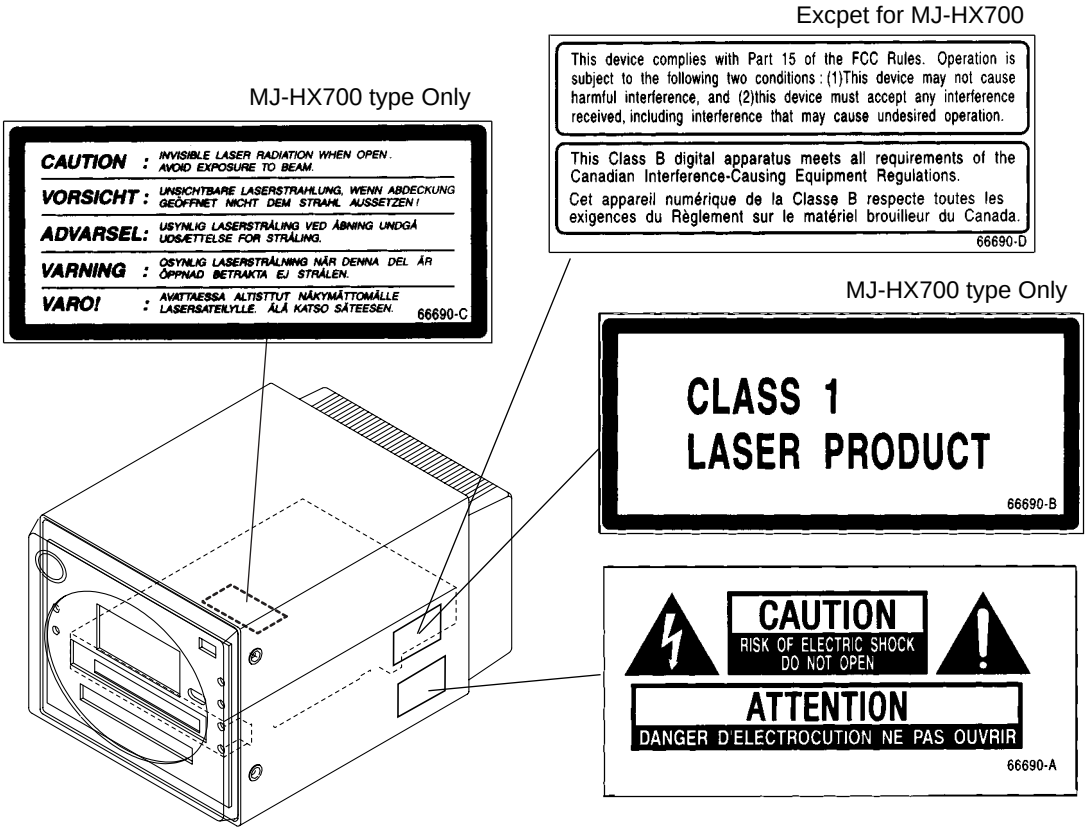
WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780 – 785 nm

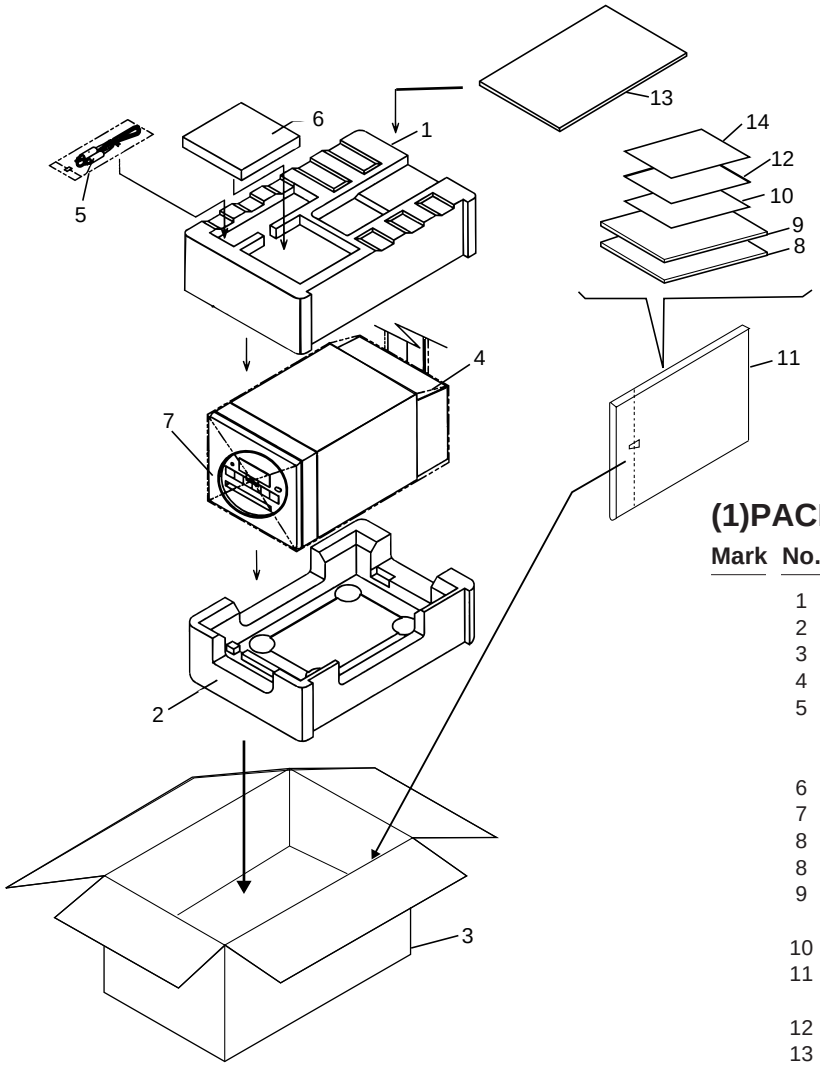
LABEL CHECK



2. EXPLODED VIEWS AND PARTS LIST

NOTES : ● *Parts marked by "* NSP *" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screw adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1)PACKING PARTS LIST

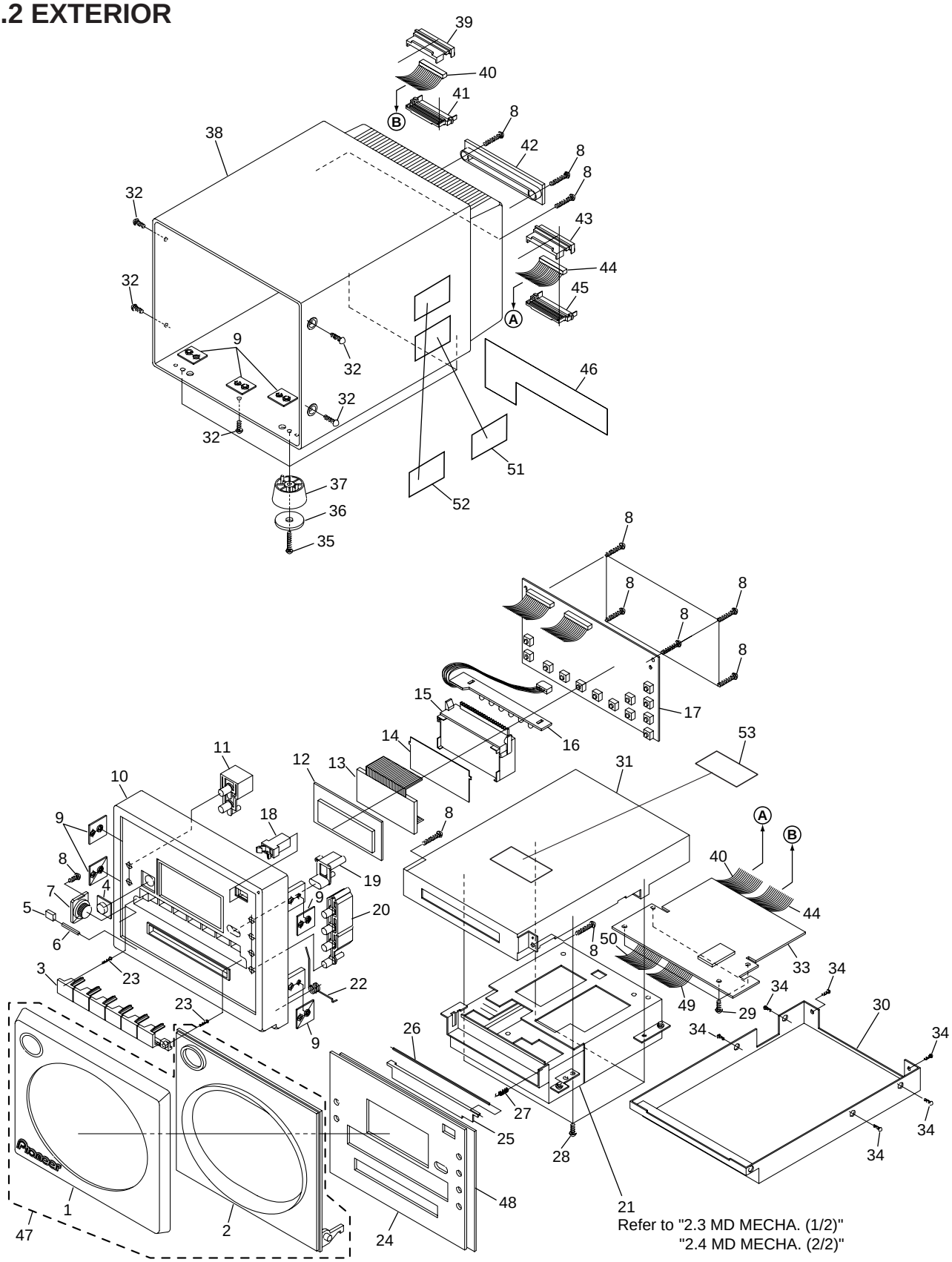
Mark	No.	Description	Parts No.
	1	Polyfoam (TOP)	66680
	2	Polyfoam (BOTTOM)	66681
	3	Display Carton	See Contrast table (2)
	4	Mirormat Mat(380x300x0.5)	66694
	5	Exclusive use CD-MD Cable (L=1.0 m)	60233
	6	Sound Scape MD	AFB7011-A
	7	MD RECORDER	See Contrast table (2)
	8	Operating Instructions (English)	66780-MDU
	8	Operating Instructions (French)	66780-MDF
	9	Operating Instructions	See Contrast table (2)
	10	Guarantee Card	See Contrast table (2)
	11	Polyethylene Bag ($0.03 \times 200 \times 300$)	53117
	12	Initial Instruction Manual	66783
	13	Carton Sheet C	66669
	14	Safety Directions	See Contrast table (2)

(2) CONTRAST TABLE

MJ-HX5000, MJ-HX3000, MJ-HX2000 and MJ-HX700 are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.				Remarks
			MJ-HX5000	MJ-HX3000	MJ-HX2000	MJ-HX700	
	3	Display Carton	66679-50U	66679-30U	66679-20U	66679-70	
NSP	7	MD RECORDER	MJ-HX5000 /ZUCXCN	MJ-HX3000 /ZUCXCN	MJ-HX2000 /ZUCXCN	MJ-HX700 /ZVYXCN	
	9	Operating Instructions (German)	Not used	Not used	Not used	66780-MDG	
	10	Guarantee Card	66688-U	66688-U	66688-U	66688-Y/N	
	14	Safety Directions	66784-50U	66784-30U	66784-20U	66784-70V	

2.2 EXTERIOR



(1) EXTERIOR PARTS LIST

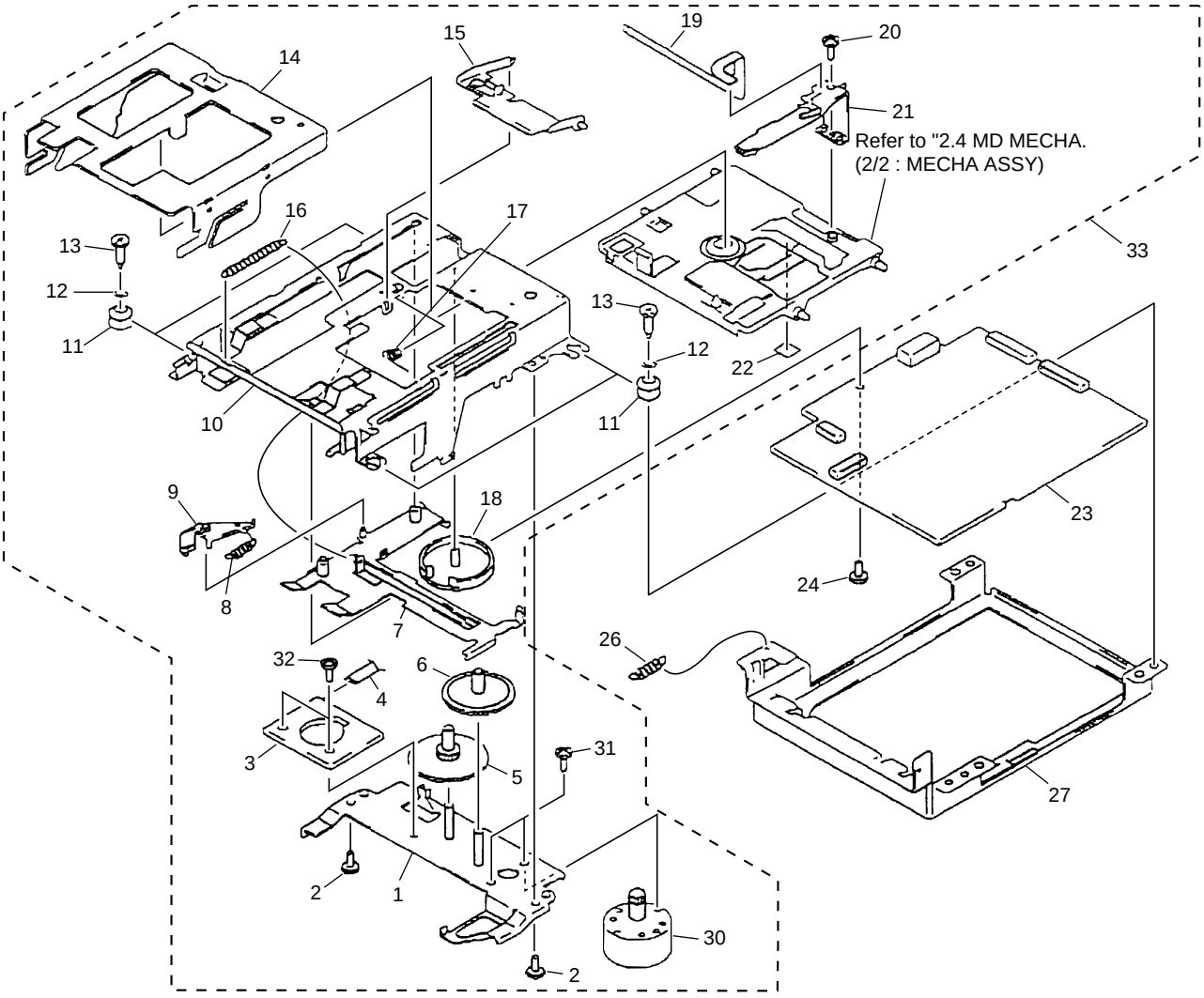
Mark	No.	Description	Parts No.
NSP	1	Front Cover A, B (MD)	See Contrast table (2)
NSP	2	Front Door A, B (MD)	See Contrast table (2)
	3	Button B (MD)	See Contrast table (2)
	4	Lens	66734-MD
	5	Cushion A	66795
	6	Door Shaft A	66746
	7	Dumper Gear	60227
	8	Screw PAN TAPP. T3x10	PMZ30P100FNI
	9	Plate Nut	66741
	10	MD Front Case	See Contrast table (2)
	11	Button D (REC)	See Contrast table (2)
	12	LCD Window	66735
	13	LCD Assy	52715
	14	LCD Sheet	66756
	15	LCD Holder	66727
	16	MD COMBI PCB Assy (LED PCB)	66785C
	17	MD COMBI PCB Assy (FRONT PCB)	66785A
	18	Push Door Lock	60226
	19	Eject Button	See Contrast table (2)
	20	Button C (MD EDIT)	See Contrast table (2)
	21	MD Mechanism Assy	61416
	22	Front Door Spring	66748
	23	Screw PAN TAPP. T2x8	PBZ20P080FMC
	24	Inner Panel (MD)	See Contrast table (2)
	25	MD Door	66732
	26	MD Door Shaft	66750
	27	MD Door Spring	66751
	28	Screw PAN M3x6	PMZ30P060FZK
	29	Screw BIND TAPP. M3x6	BMZ30P060FZK
	30	Shield Case (Bottom)	66739
	31	Shield Case (Up)	66738
	32	Screw PLAT M3x6	CMZ30P060FNI
	33	MD COMBI PCB Assy (AD/DA PCB)	66785B
	34	Screw PAN M2x4	PMZ20P040FZK
	35	Screw PAN M3x10	PBZ30P100FMC
	36	Leg Rubber (A, B)	See Contrast table (2)
	37	Foot (A, B)	See Contrast table (2)
	38	MD Rear Case	See Contrast table (2)
	39	12P Connector Holder A	66728
NSP	40	12P Connector Assy	66763
	41	12P Connector Holder B	66729
	42	Wire Clamper	66726
	43	10P Connector Holder A	66730
NSP	44	10P Connector Assy	66778
	45	10P Connector Holder B	66731
	46	Back Plate (MD)	See Contrast table (2)
	47	Front Door Assy A,B (MD)	See Contrast table (2)
	48	Panel Tape B	66761
	49	16P FFC (SUMI Card)	66775
	50	19P FFC (SUMI Card)	66776
	51	Label Plate (CAUTION)	66690I
	52	Label Plate	See Contrast table (2)
	53	Label Plate (MD Caution A)	See Contrast table (2)

(2) CONTRAST TABLE

MJ-HX5000, MJ-HX3000, MJ-HX2000 and MJ-HX700 are constructed the same except for the following:

Mark	No.	Symbol and Description	Part No.				Remarks
			MJ-HX5000	MJ-HX3000	MJ-HX2000	MJ-HX700	
NSP	1	Front Cover (A, B)	66714-05M	66715-03M	66714-02M	66714-K7M	
NSP	2	Front Door (A, B)	66708-05M	66709-03M	66708-02M	66708-K7M	
	3	Button B (MD)	66717-05M	66717-03M	66717-02M	66717-K7M	
	10	MD Front Case	66702-05	66702-03	66702-02	66702-K7	
	11	Button D (REC)	66719-05R	66719-03R	66719-02R	66719-K7R	
	19	Eject Button	66721-05	66721-03	66721-02	66721-K7	
	20	Button C (MD EDIT)	66718-05ME	66718-03ME	66718-02ME	66718-K7ME	
	24	Inner Panel (MD)	66711-05M	66711-03M	66711-02M	66711-K7M	
	36	Leg Rubber (A, B)	66758-01	66758-02	66758-02	66758-01	
	37	Foot (A, B)	66722-05	66723-03	66723-02	66722-K7	
	38	MD Rear Case	66704-05	66704-03	66704-02	66704-K7	
	46	Back Plate (MD)	66762-50U	66762-30U	66762-20U	66762-70	
	47	Front Door Assy (MD)	10000-05M	10000-03M	10000-02M	10000-K7M	
	52	Label Plate	66690B	66690B	66690B	66690E	
	53	Label Plate (MD Caution A)	Not used	Not used	Not used	66690A	

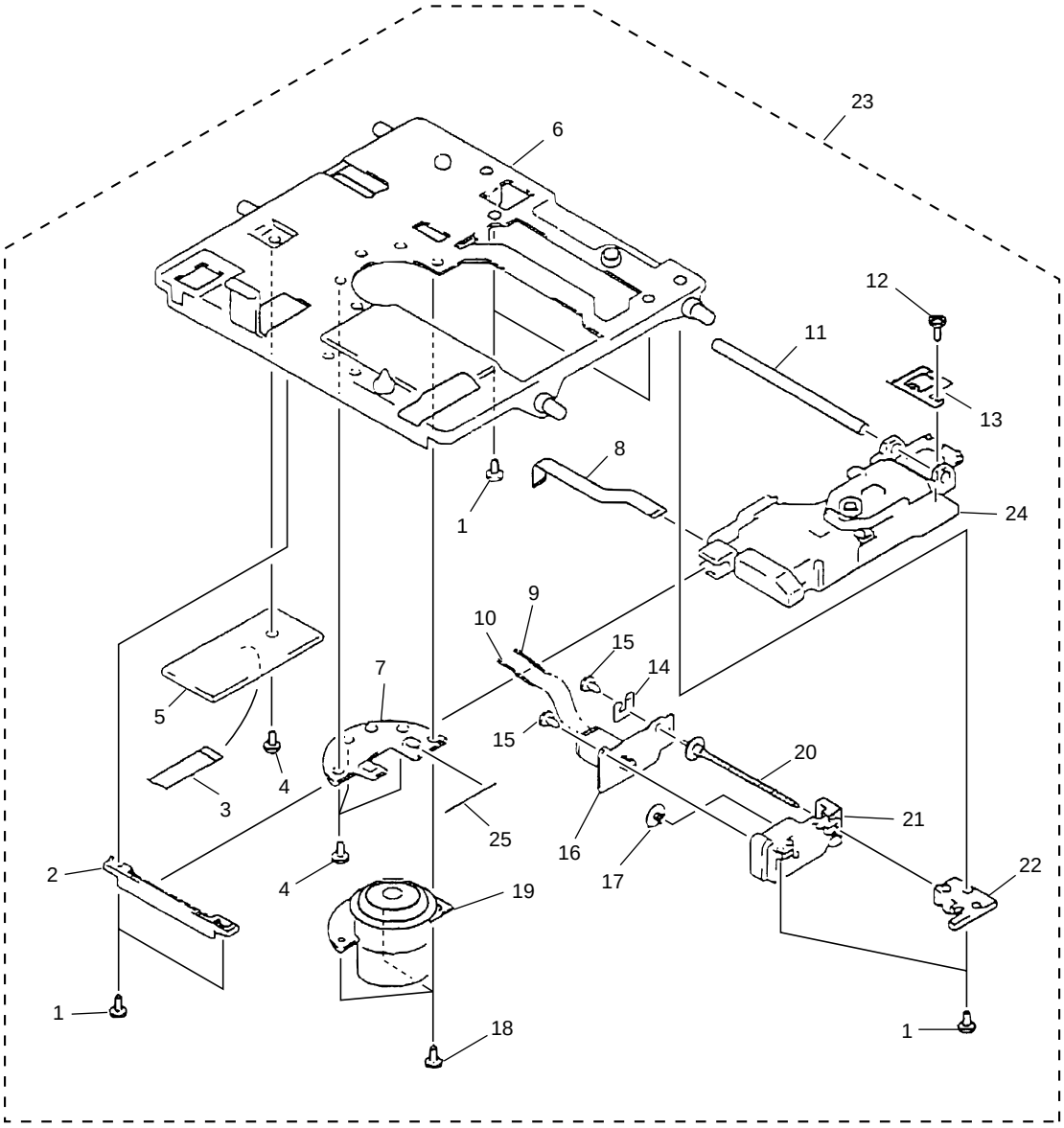
2.3 MD MECHA. (1/2 : LOADING ASSY)



● MD MECHA. (1/2:LOADING ASSY) PARTS LIST

Mark	No.	Description	Parts No.
	1	Motor Plate Assy	X-2646-247-1
	2	Screw +P2.6x4.5 TYPE3	7-627-854-28
	3	L-SW Wire Connection Board	1-668-261-11
	4	Connecton Wire (6P)	1-783-386-11
	5	Gear (AW B)	2-646-555-02
	6	Gear (AW A)	2-646-554-01
	7	Slot Frame Assy	X-2646-249-2
	8	Lifter Spring (Slot Arm)	2-646-563-01
	9	Slot Arm	2-646-556-01
	10	Load Frame Assy	X-2646-248-2
	11	Insulator	2-646-548-01
	12	W2.6,MIDDLE	7-688-002-11
	13	Screw	4-628-167-01
	14	Slid Frame	2-646-557-01
	15	Head Arm	2-646-559-01
	16	Lifter Spring (Slot Frame)	2-646-562-01
	17	Coil Spring (Head Arm)	2-646-561-01
	18	Mode Cam	2-646-560-01
	19	Head F.Wire Connection	1-669-181-11
	20	Screw +P1.7x2.5TYPE2	2-627-529-01
	21	MD Head	1-500-518-12
	22	Sheet	2-646-549-02
	23	MD MOUNT ASSY	A-4917-020-A
	24	Screw	2-643-228-01
	25	• • • • •	
	26	Lifter Spring (Door Arm)	2-646-545-01
	27	Main Frame	2-646-547-02
	28	• • • • •	
	29	• • • • •	
	30	Loading Motor Assy	X-2626-328-1
	31	Screw +P1.7x1.8TYP.3	7-627-852-38
	32	Screw +P2x3 TYP.3	7-627-853-37
	33	Loading Assy	A-4912-117-A

2.4 MD MECHA. (2/2 : MECHA ASSY)



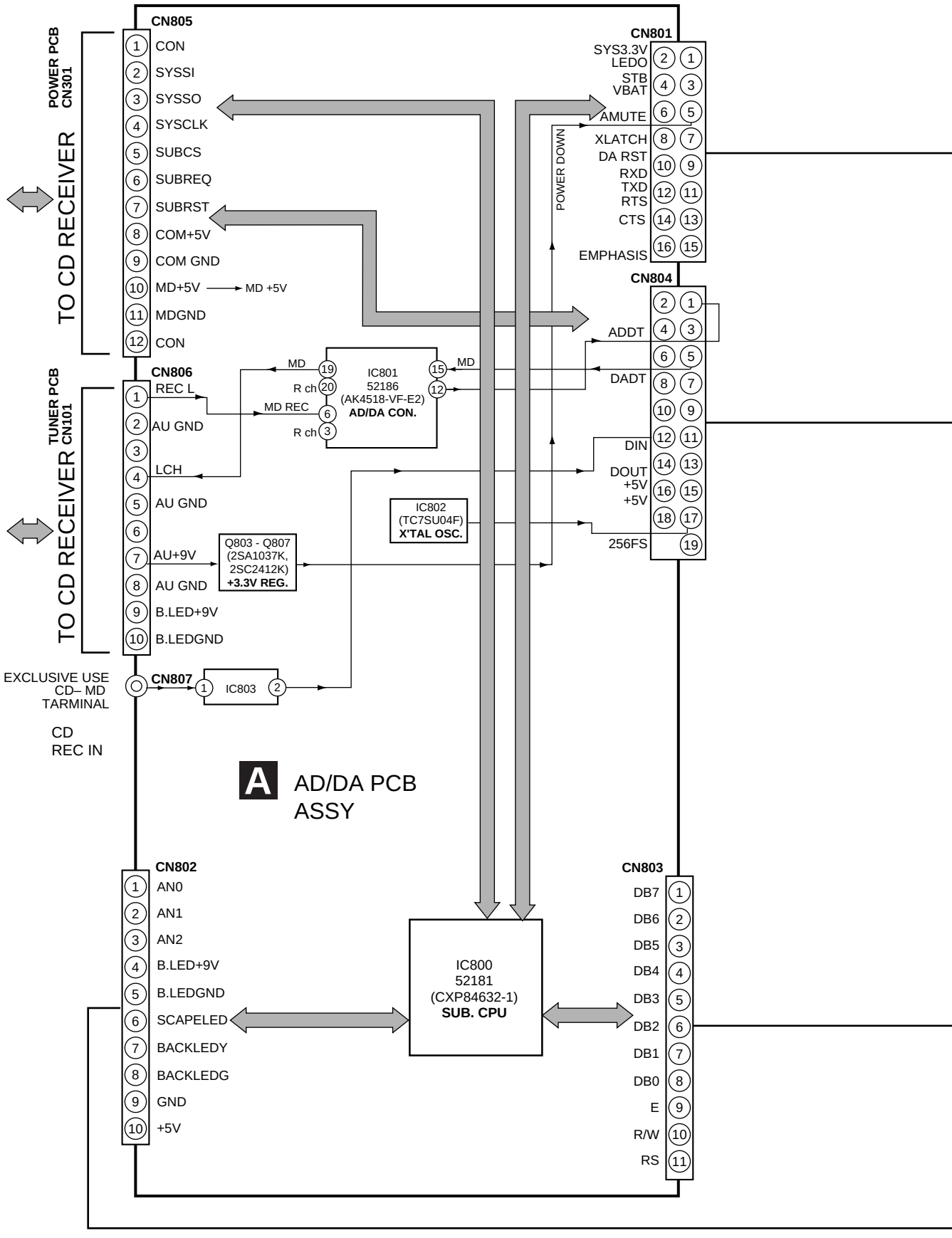
● MD MECHA. (2/2:MECHA ASSY) PARTS LIST

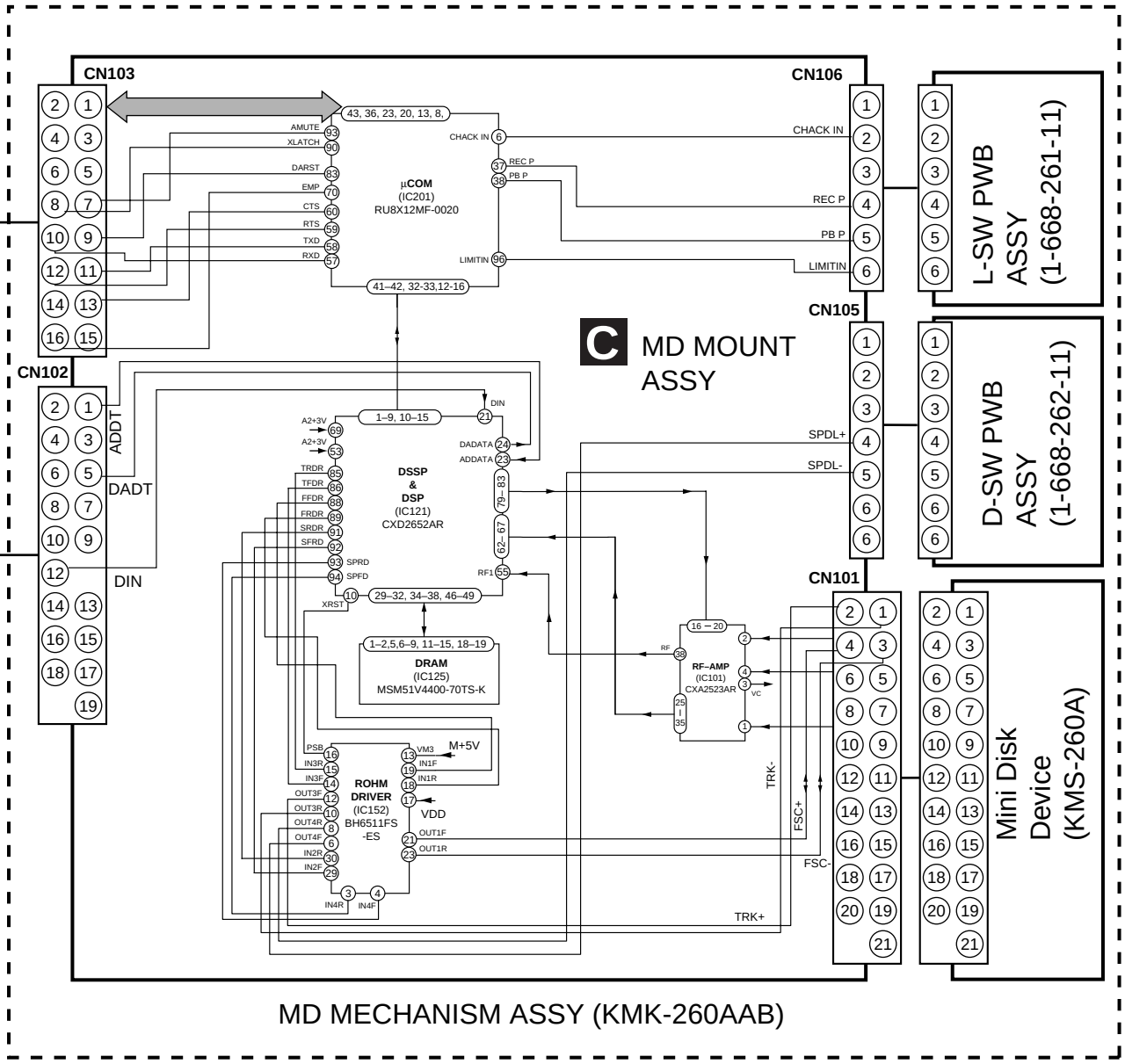
Mark	No.	Description	Parts No.
	1	Screw +P1.4x3.5 TYPE3	2-627-404-01
	2	Guide	2-646-453-01
	3	Connecton Wire (7P)	1-783-387-11
	4	Screw +P1.4x1.8TYPE3	7-627-850-79
	5	D-SW MOUNT BOARD	1-668-262-11
	6	Servo Base	2-646-575-01
	7	SP Motor Holder	2-646-566-01
	8	OP Lead Wire	1-669-180-11
	9	SL Motor Lead Wire	1-783-318-11
	10	SL Motor Lead Wire	1-783-318-21
	11	Guide Shaft	2-646-452-01
	12	Screw +P1.4x1.4TYPE2	2-627-530-D1
	13	Rack (Insater)	4-963-914-02
	14	Pulley Load plate	2-646-567-01
	15	N0.0 Cross Screw	2-627-431-01

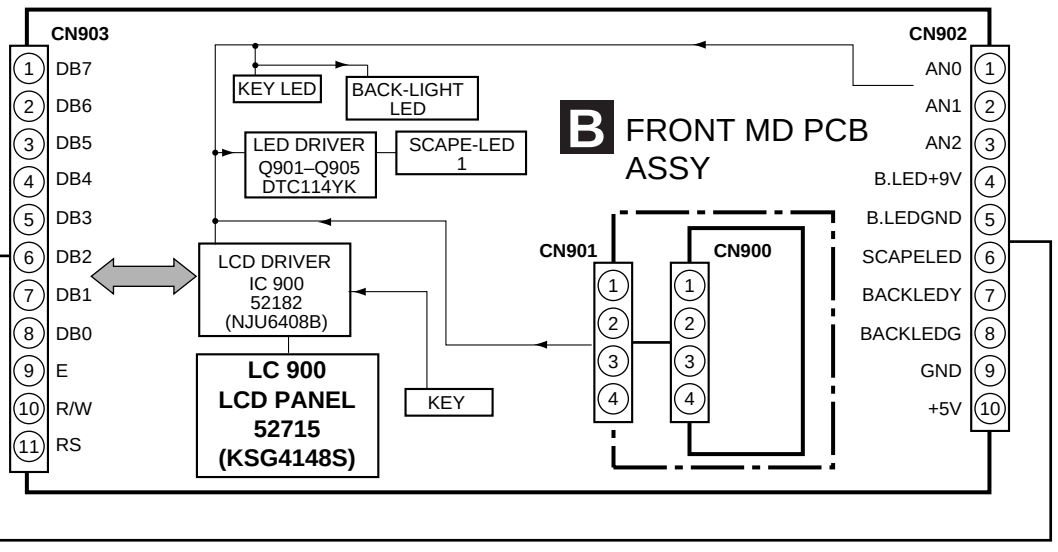
Mark	No.	Description	Parts No.
	16	SL Motor Assy	X-2626-329-1
	17	Gear (MD)	2-646-571-01
	18	Screw +P1.7x4 TYPE3	7-627-852-18
	19	SP Motor Assy	X-2626-327-1
	20	Lead Screw Assy	X-2626-330-1
	21	Lead Holder Assy	X-2626-331-1
	22	Lead Holder (B)	2-646-573-01
	23	Deck Mechanism Assy	A-4912-118-A
	24	MD MECHANISM ASSY (KMS-260A)	KMS-260A
	25	SP Tension Spring	2-646-564-01

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

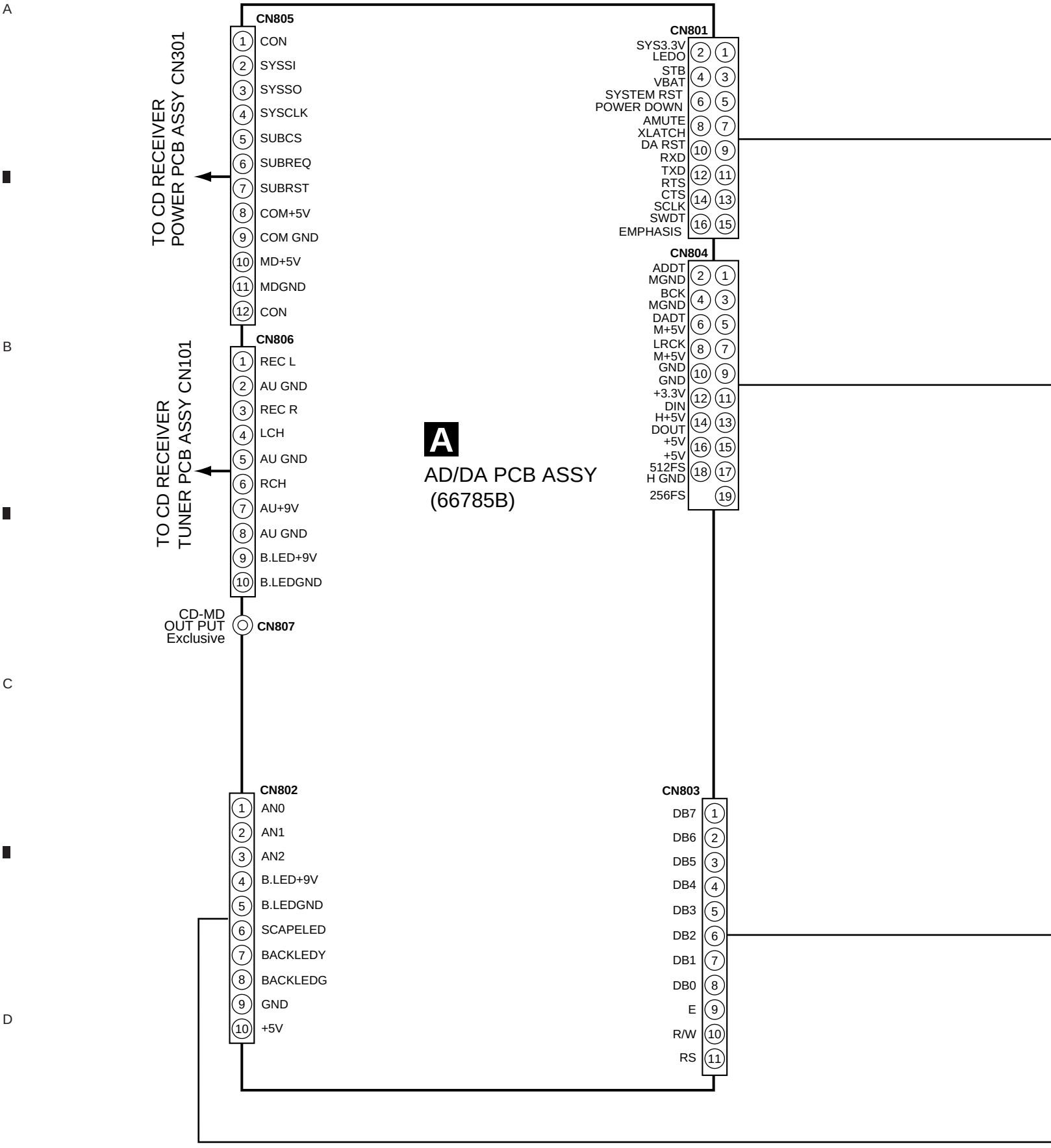
3.1 BLOCK DIAGRAM



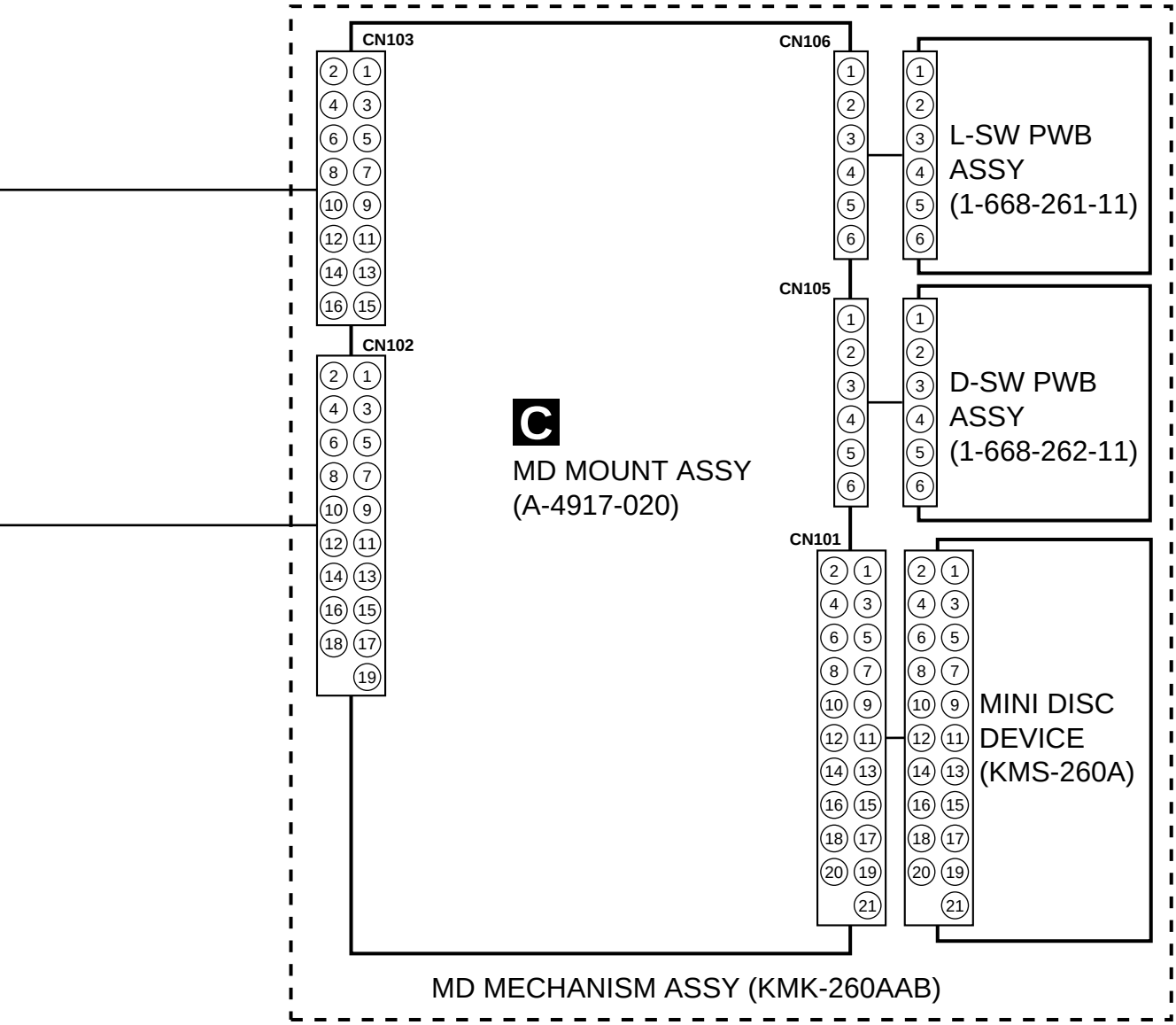

CN103
CN106
CN102
CN105
CN101
C MD MOUNT ASSY
µCOM
(IC201)
RU8X12MF-0020
DSSP
&
DSP
(IC121)
CXD2652AR
DRAM
(IC125)
MSM51V4400-70TS-K
RF–AMP
(IC101)
CXA2523AR
ROHM
DRIVER
(IC152)
BH6511FS
-ES
L-SW PWB
ASSY
(1-668-261-11)
D-SW PWB
ASSY
(1-668-262-11)
Mini Disk
Device
(KMS-260A)
AMUTE
XLATCH
DARST
EMP
CTS
RTS
TXD
RXD
CHACK IN
REC P
PB P
LIMITIN
ADDT
DADT
DIN
SPDL+
SPDL-
TRK+
TRK-
FSC+
FSC-
M+5V
VDD
MD MECHANISM ASSY (KMK-260AAB)

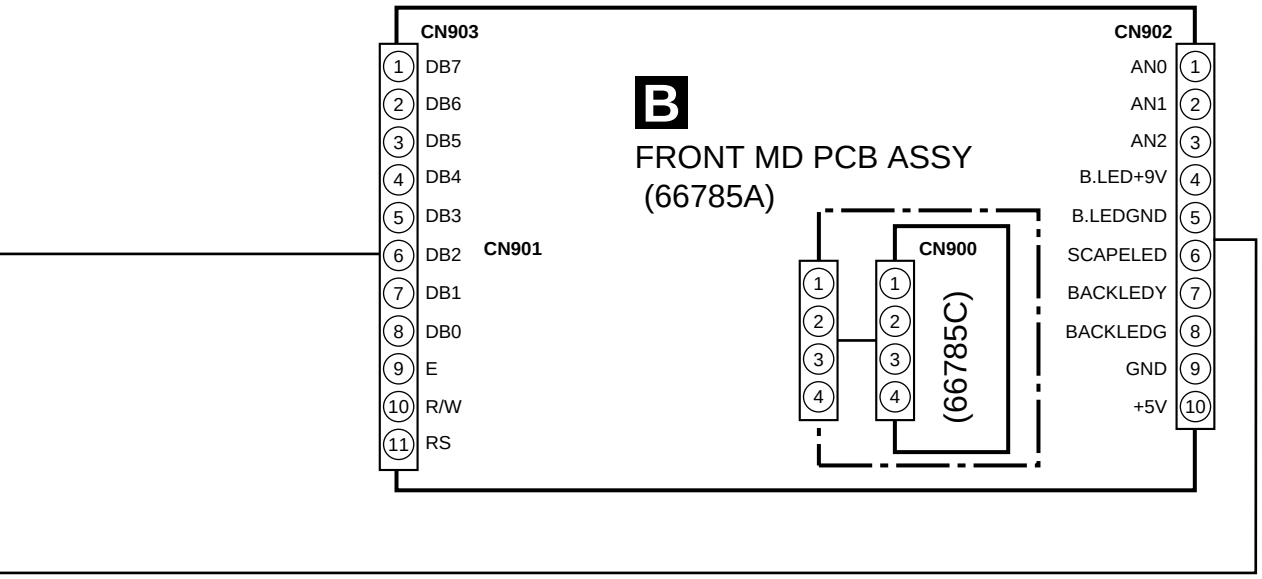

CN903
CN902
CN901
CN900
B FRONT MD PCB ASSY
KEY LED
BACK-LIGHT LED
LED DRIVER
Q901–Q905
DTC114YK
SCAPE-LED 1
LCD DRIVER
IC 900
52182
(NJU6408B)
LC 900
LCD PANEL
52715
(KSG4148S)
KEY
DB7
DB6
DB5
DB4
DB3
DB2
DB1
DB0
E
R/W
RS
AN0
AN1
AN2
B.LED+9V
B.LEDGND
SCAPELED
BACKLEDY
BACKLEDG
GND
+5V

3.2 OVERALL SCHEMATIC DIAGRAM

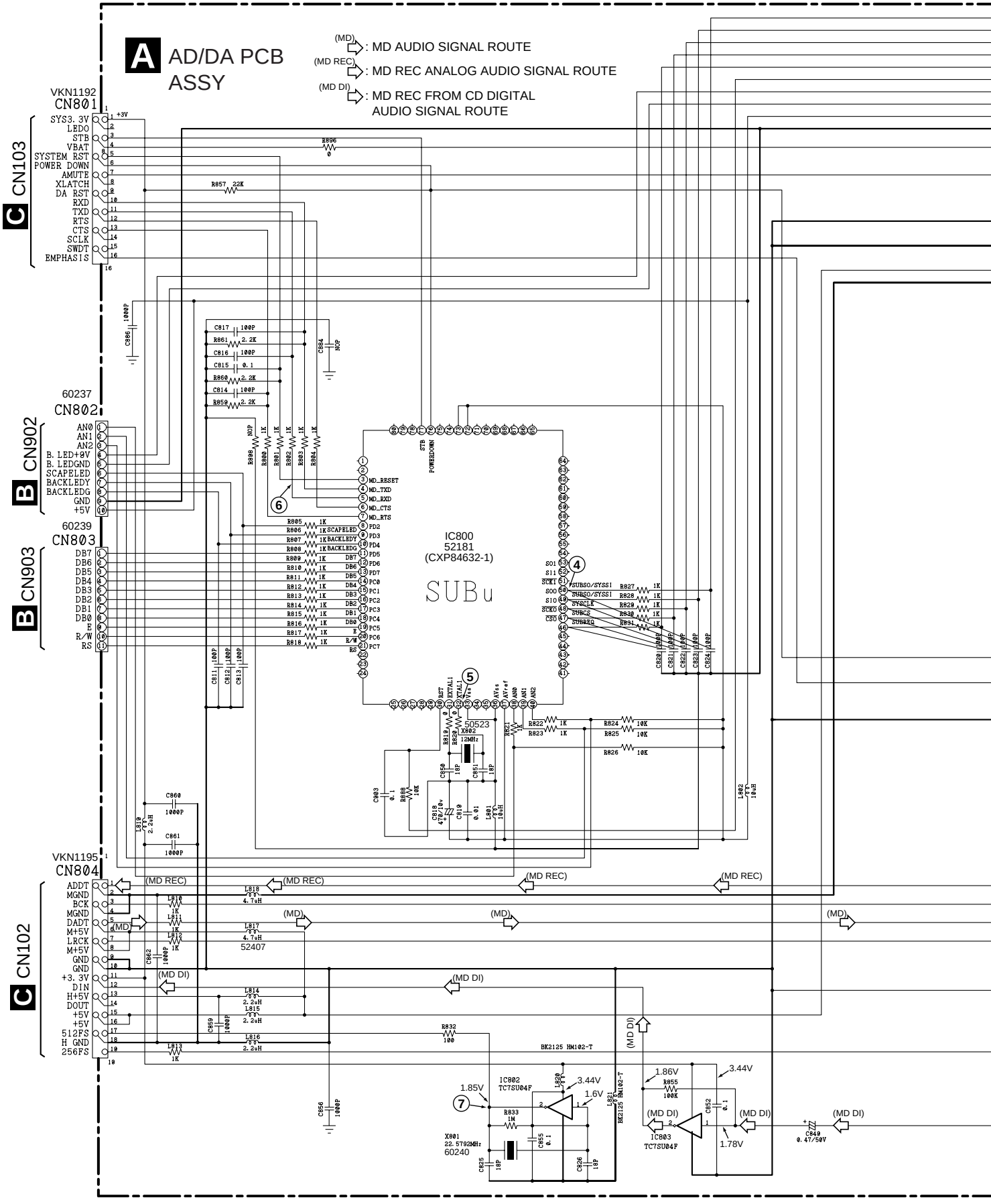


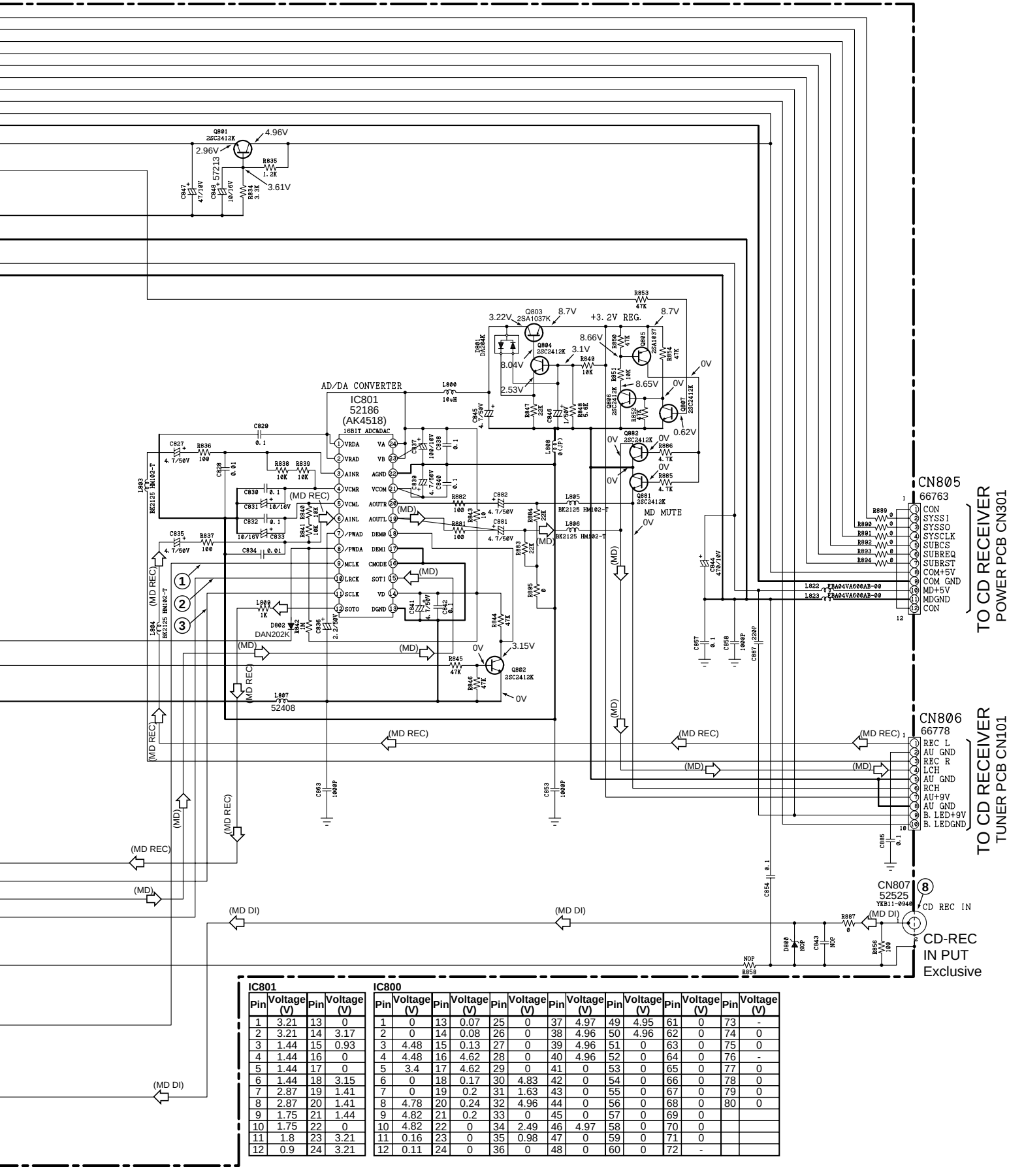
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "PCB PARTS LIST".





3.3 AD/DA PCB ASSY





IC801

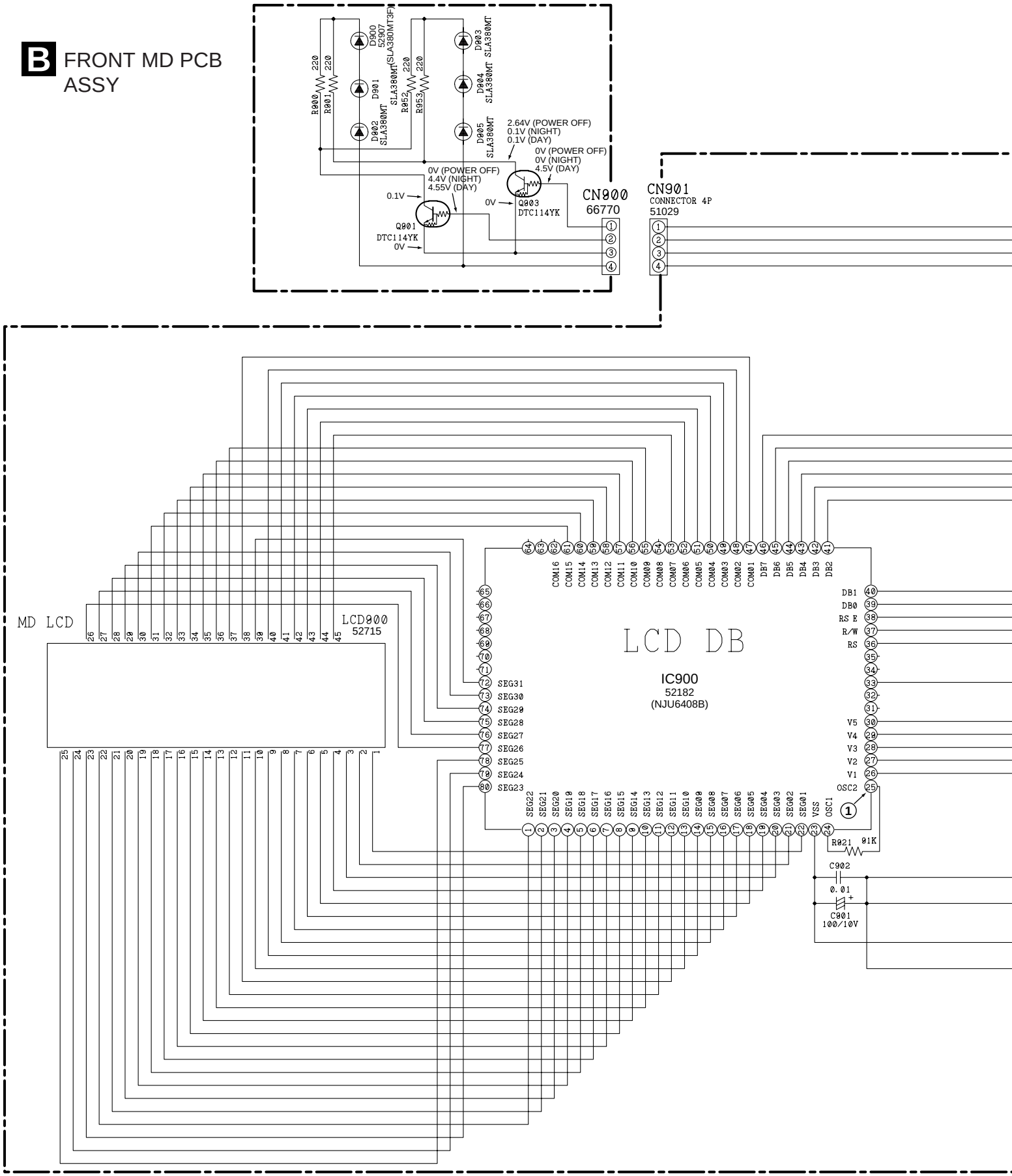
Pin	Voltage (V)	Pin	Voltage (V)
1	3.21	13	0
2	3.21	14	3.17
3	1.44	15	0.93
4	1.44	16	0
5	1.44	17	0
6	1.44	18	3.15
7	2.87	19	1.41
8	2.87	20	1.41
9	1.75	21	1.44
10	1.75	22	0
11	1.8	23	3.21
12	0.9	24	3.21

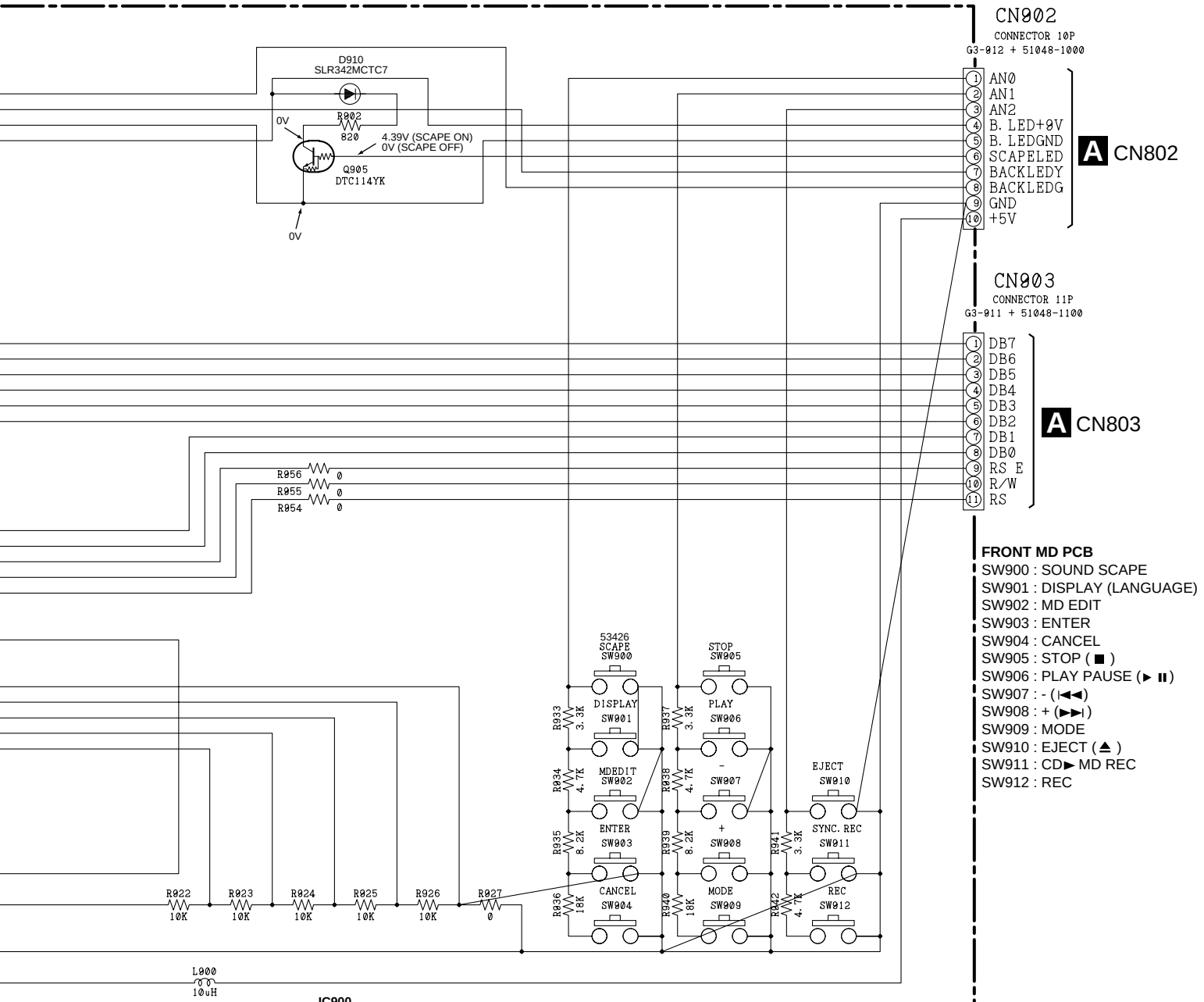
IC800

Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)
1	0	13	0.07	25	0	37	4.97	49	4.95	61	0	73	-		
2	0	14	0.08	26	0	38	4.96	50	4.96	62	0	74	0		
3	4.48	15	0.13	27	0	39	4.96	51	0	63	0	75	0		
4	4.48	16	4.62	28	0	40	4.96	52	0	64	0	76	-		
5	3.4	17	4.62	29	0	41	0	53	0	65	0	77	0		
6	0	18	0.17	30	4.83	42	0	54	0	66	0	78	0		
7	0	19	0.2	31	1.63	43	0	55	0	67	0	79	0		
8	4.78	20	0.24	32	4.96	44	0	56	0	68	0	80	0		
9	4.82	21	0.2	33	0	45	0	57	0	69	0				
10	4.82	22	0	34	2.49	46	4.97	58	0	70	0				
11	0.16	23	0	35	0.98	47	0	59	0	71	0				
12	0.11	24	0	36	0	48	0	60	0	72	-				

3.4 FRONT MD PCB ASSY

B FRONT MD PCB ASSY





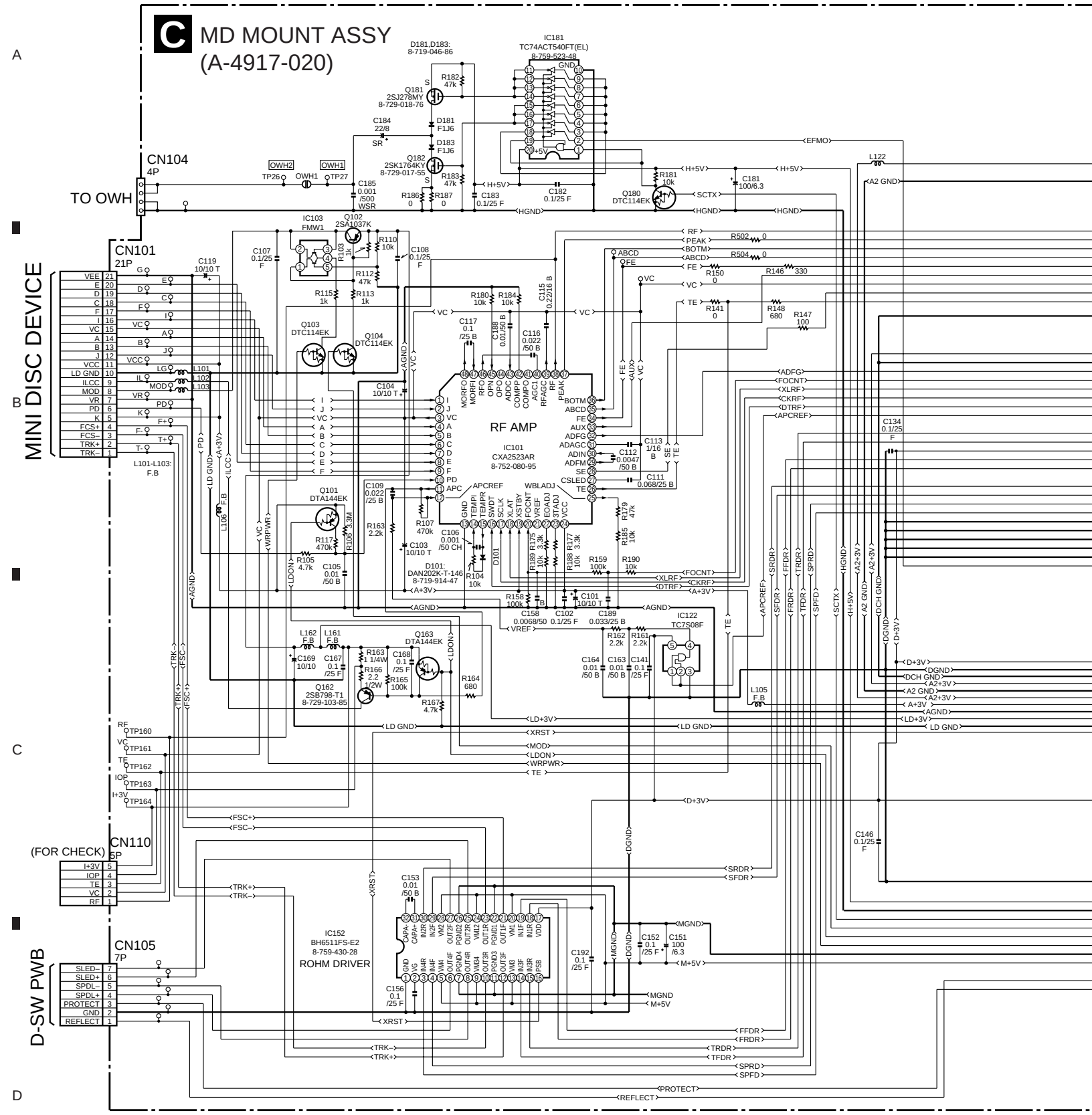
FRONT MD PCB

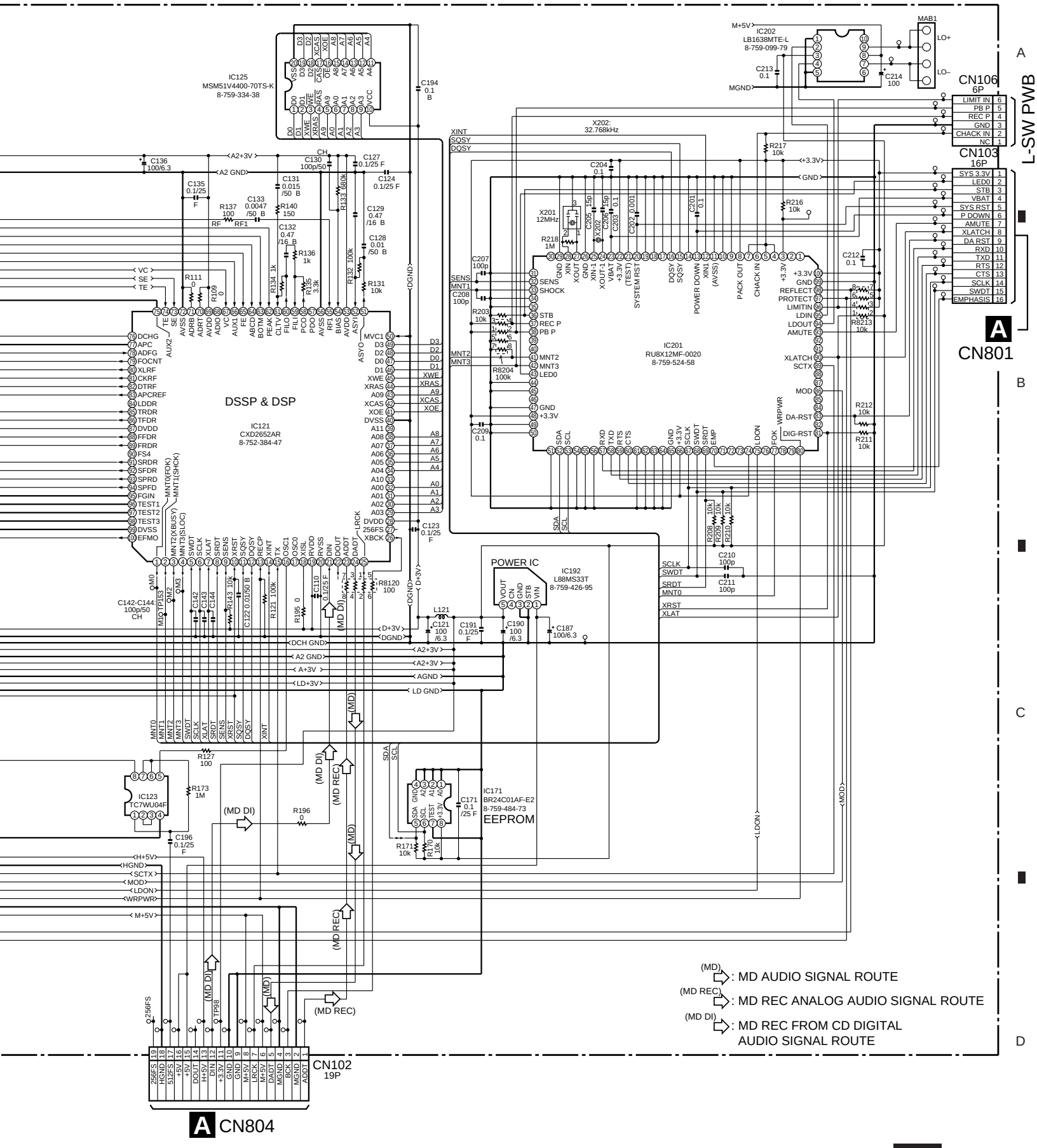
SW900 : SOUND SCAPE
SW901 : DISPLAY (LANGUAGE)
SW902 : MD EDIT
SW903 : ENTER
SW904 : CANCEL
SW905 : STOP (■)
SW906 : PLAY PAUSE (► ❚❚)
SW907 : - (I◄◄)
SW908 : + (►►I)
SW909 : MODE
SW910 : EJECT (▲)
SW911 : CD► MD REC
SW912 : REC

IC900

Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)	Pin	Voltage (V)
1	2.5	13	2.5	25	2.54	37	0.4	49	2.5	61	2.5	73	2.5
2	2.5	14	2.5	26	3.97	38	0.38	50	2.5	62	2.5	74	2.5
3	2.5	15	2.5	27	2.99	39	0.31	51	2.5	63	2.5	75	2.5
4	2.5	16	2.5	28	1.99	40	4.5	52	2.5	64	2.5	76	2.5
5	2.5	17	2.5	29	1.01	41	4.5	53	2.5	65	2.5	77	2.5
6	2.5	18	2.5	30	0	42	0.27	54	2.5	66	2.5	78	2.5
7	2.5	19	2.5	31	0	43	0.28	55	2.5	67	2.5	79	2.5
8	2.5	20	2.5	32	2.93	44	0.26	56	2.5	68	2.5	80	2.5
9	2.5	21	2.5	33	4.99	45	0.2	57	2.5	69	2.5		
10	2.5	22	2.5	34	2.53	46	0.3	58	2.5	70	2.5		
11	2.5	23	0	35	1.36	47	2.5	59	2.5	71	2.5		
12	2.5	24	2.32	36	0.37	48	2.5	60	2.5	72	2.5		

3.5 MD MOUNT ASSY



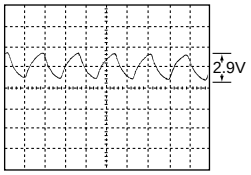

IC125
MSM51V4400-70TS-K
8-759-334-38
IC121
CXD2652AR
8-752-384-47
DSSP & DSP
IC201
RU8X12MF-0020
8-759-524-58
IC202
LB1638MTE-L
8-759-099-79
IC192
L88MS33T
8-759-426-95
POWER IC
IC171
BR24C01AF-E2
8-759-484-73
EEPROM
IC123
TC7WU04F
X201
12MHz
X202:
32.768kHz
MAB1
LO+
LO–
CN106
6P
LIMIT IN
PB P
REC P
GND
CHACK IN
NC
CN103
16P
SYS 3.3V
LED0
STB
VBAT
SYS RST
P DOWN
AMUTE
XLATCH
DA RST
RXD
TXD
RTS
CTS
SCLK
SWDT
EMPHASIS
L-SW PWB
CN801
CN102
19P
CN804
(MD): MD AUDIO SIGNAL ROUTE
(MD REC): MD REC ANALOG AUDIO SIGNAL ROUTE
(MD DI): MD REC FROM CD DIGITAL AUDIO SIGNAL ROUTE

■ Waveforms

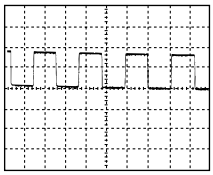
Note: The encircled numbers denote measuring point in the schematic diagram.

A AD/DA PCB ASSY

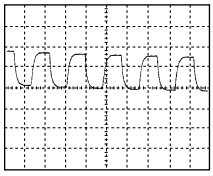
①
MCLK (IC801 - pin 9)
V : 2V/div. H : 50nsec/div.



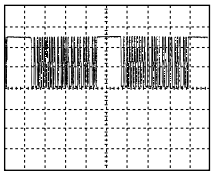
②
LRCK (IC801 - pin 10)
V : 2V/div. H : 2µsec/div.



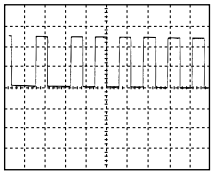
③
SCLK (IC801 - pin 11)
V : 2V/div. H : 200nsec/div.



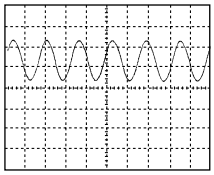
④-1
SOO (IC800 - pin 50)
V : 2V/div. H : 20msec/div.



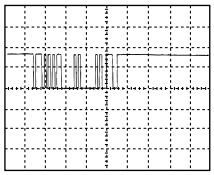
④-2
SOO (IC800 - pin 50)
V : 2V/div. H : 2msec/div.



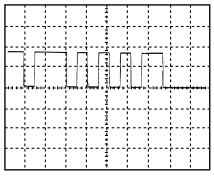
⑤
XTAL1 (IC800 - pin 32)
V : 2V/div. H : 50nsec/div.



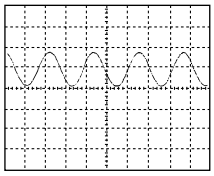
⑥-1
MD_RXD (IC800 - pin 5)
V : 2V/div. H : 1msec/div.



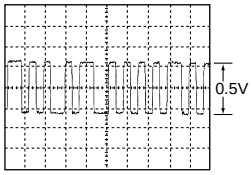
⑥-2
MD_RXD (IC800 - pin 5)
V : 2V/div. H : 200µsec/div.



⑦
(IC802 - pin 2)
V : 2V/div. H : 20nsec/div.

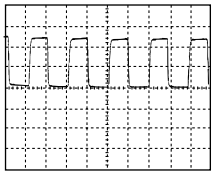


⑧
CD REC IN (CN807)
V : 200mV/div. H : 500nsec/div.



B FRONT MD PCB ASSY

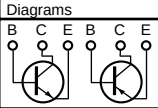
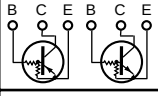
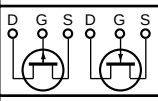
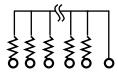
①
OSC2 (IC900 - pin 25)
V : 2V/div. H : 2µsec/div.



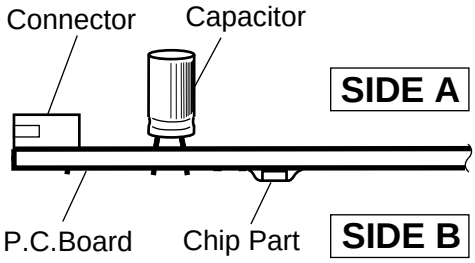
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

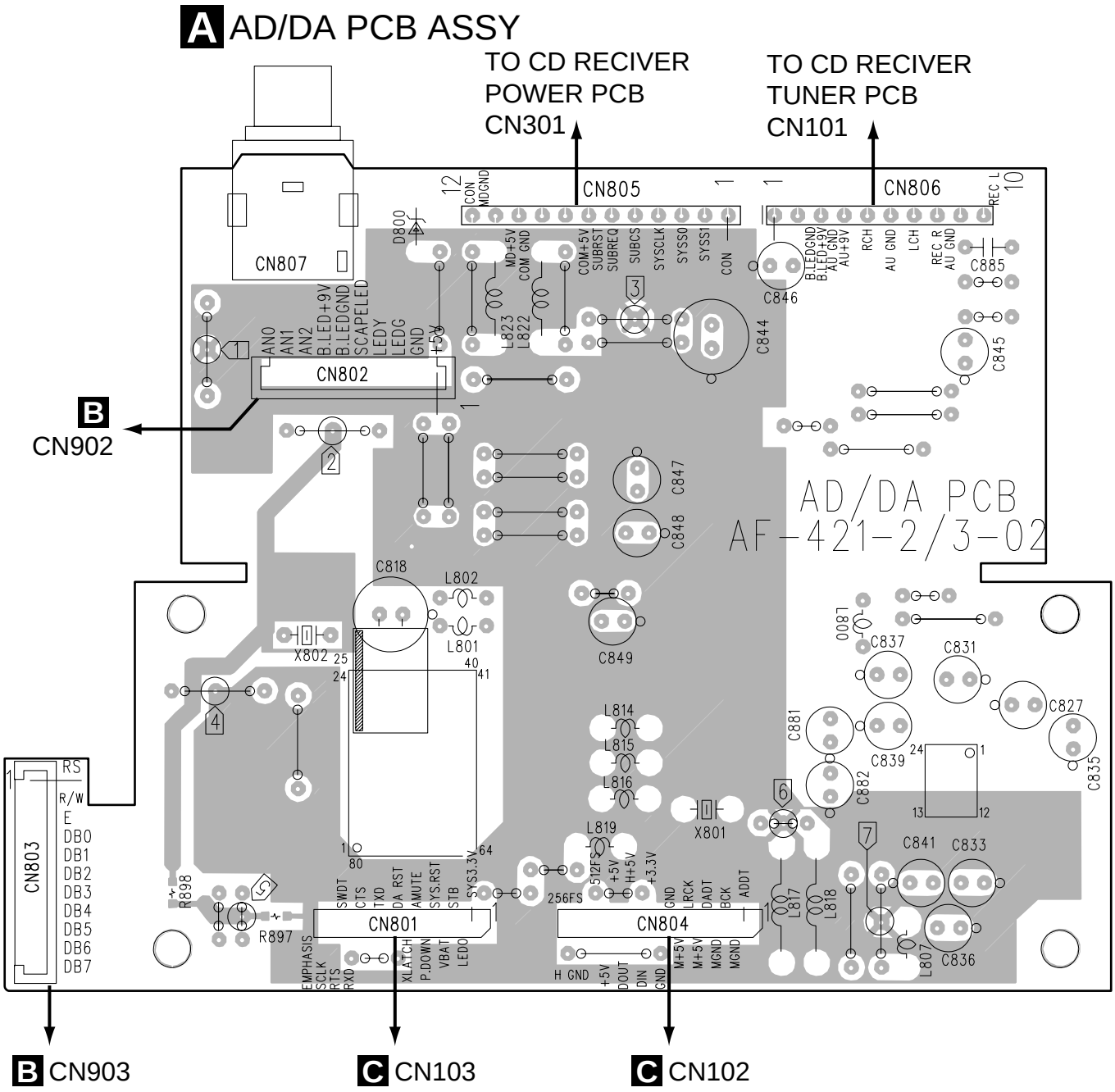
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



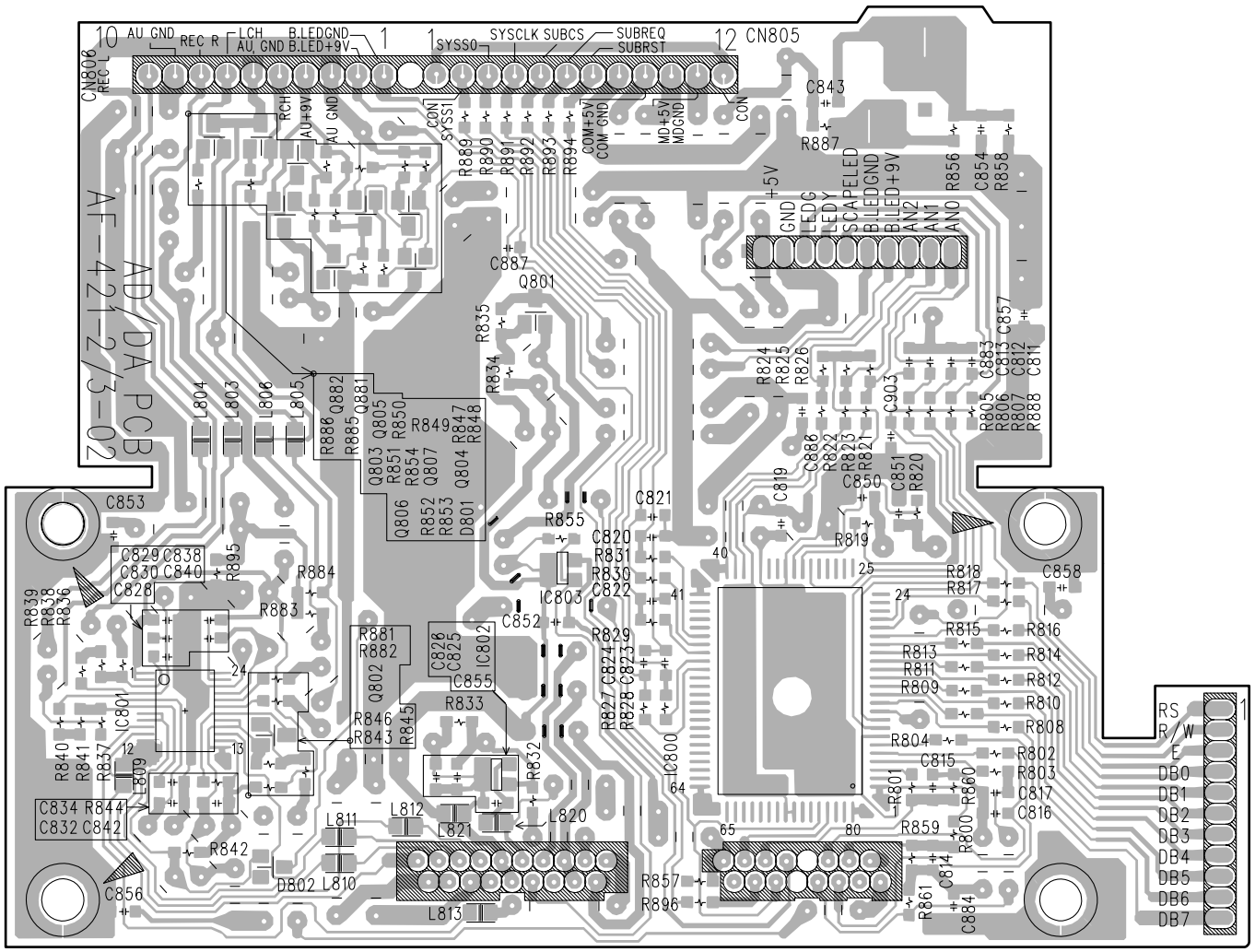
SIDE A

4.1 AD/DA PCB ASSY



SIDE B

A AD/DA PCB ASSY

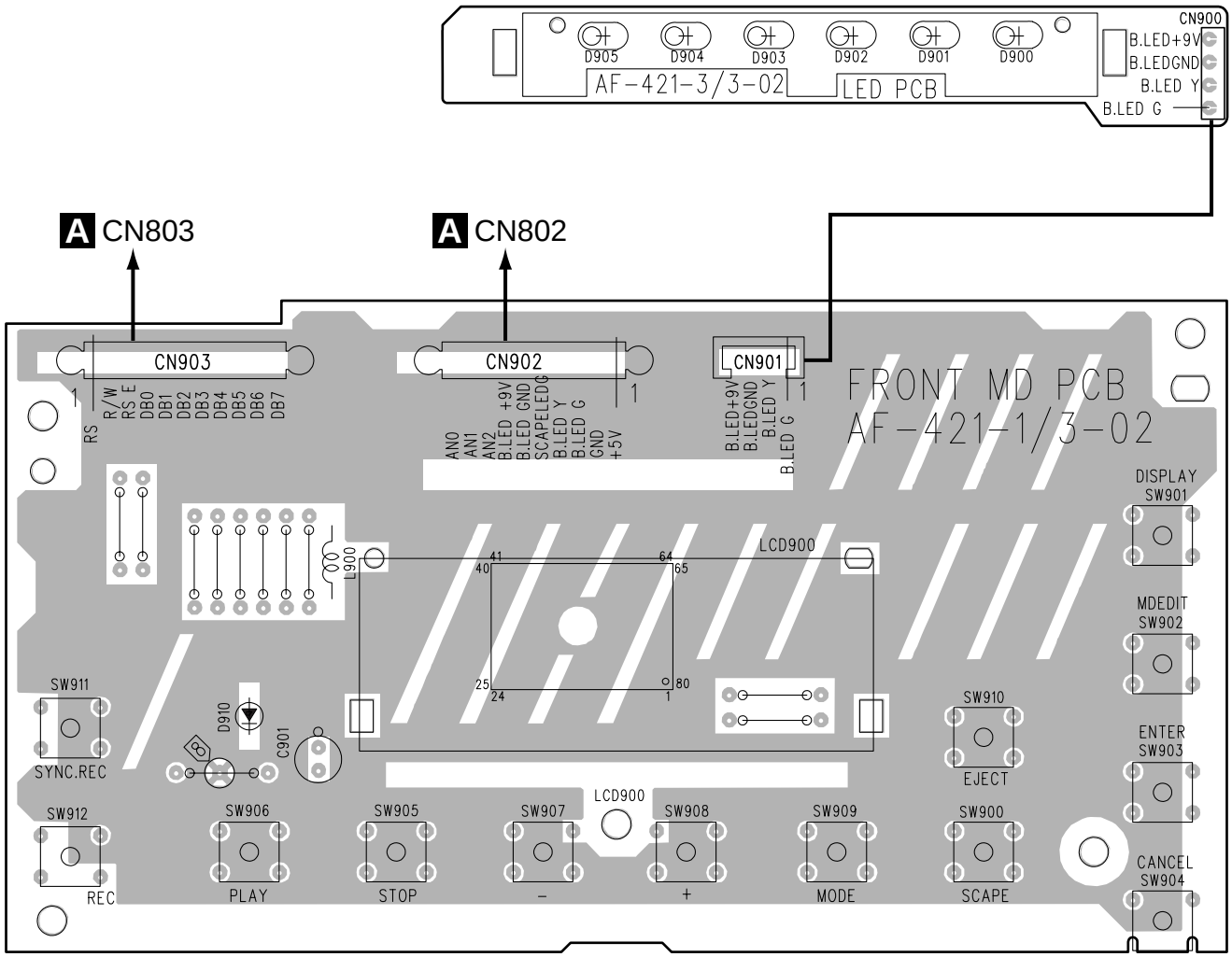


Q882 Q881 Q805
Q803 Q807 Q804
Q806 Q801
IC801 Q802 IC802 IC800

4.2 FRONT MD PCB ASSY

SIDE A

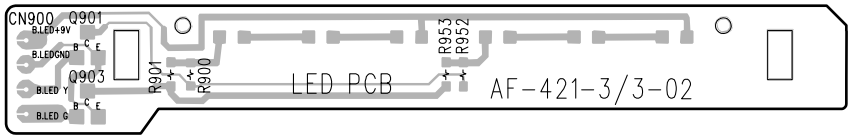
B FRONT MD PCB ASSY

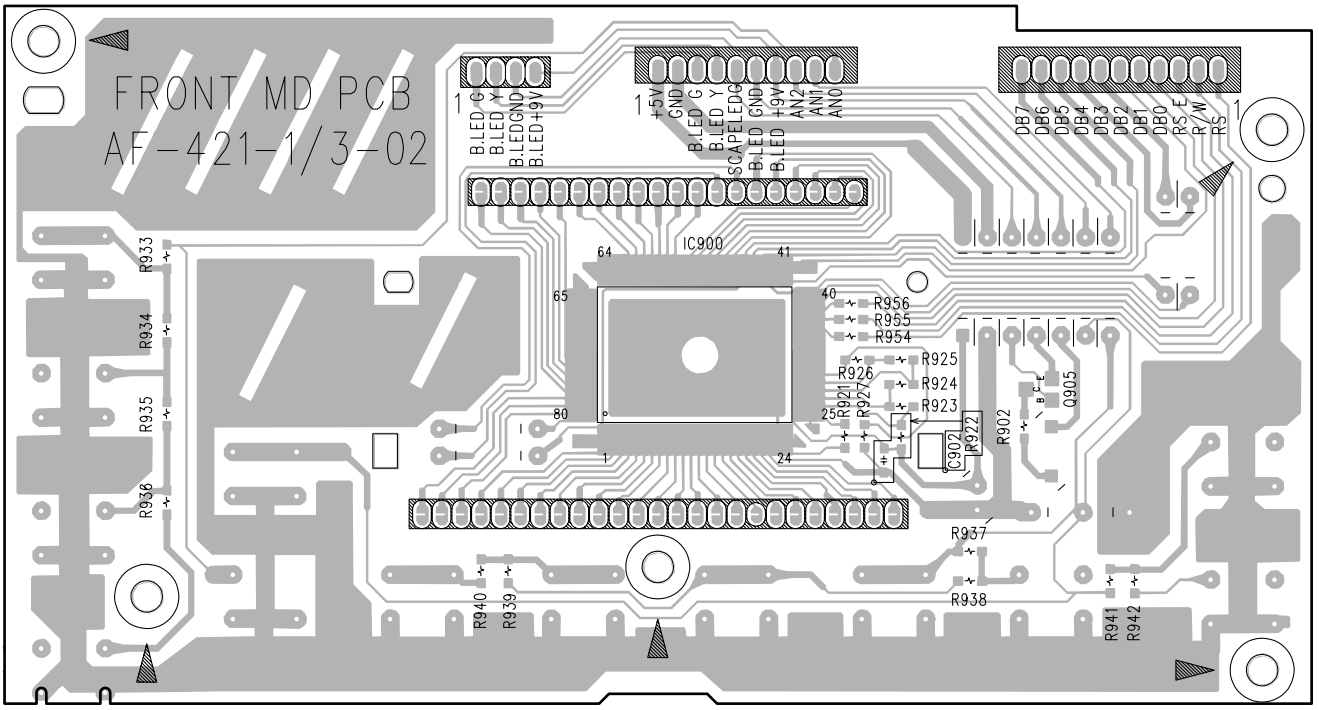


SIDE B

B FRONT MD PCB ASSY

Q901
Q903



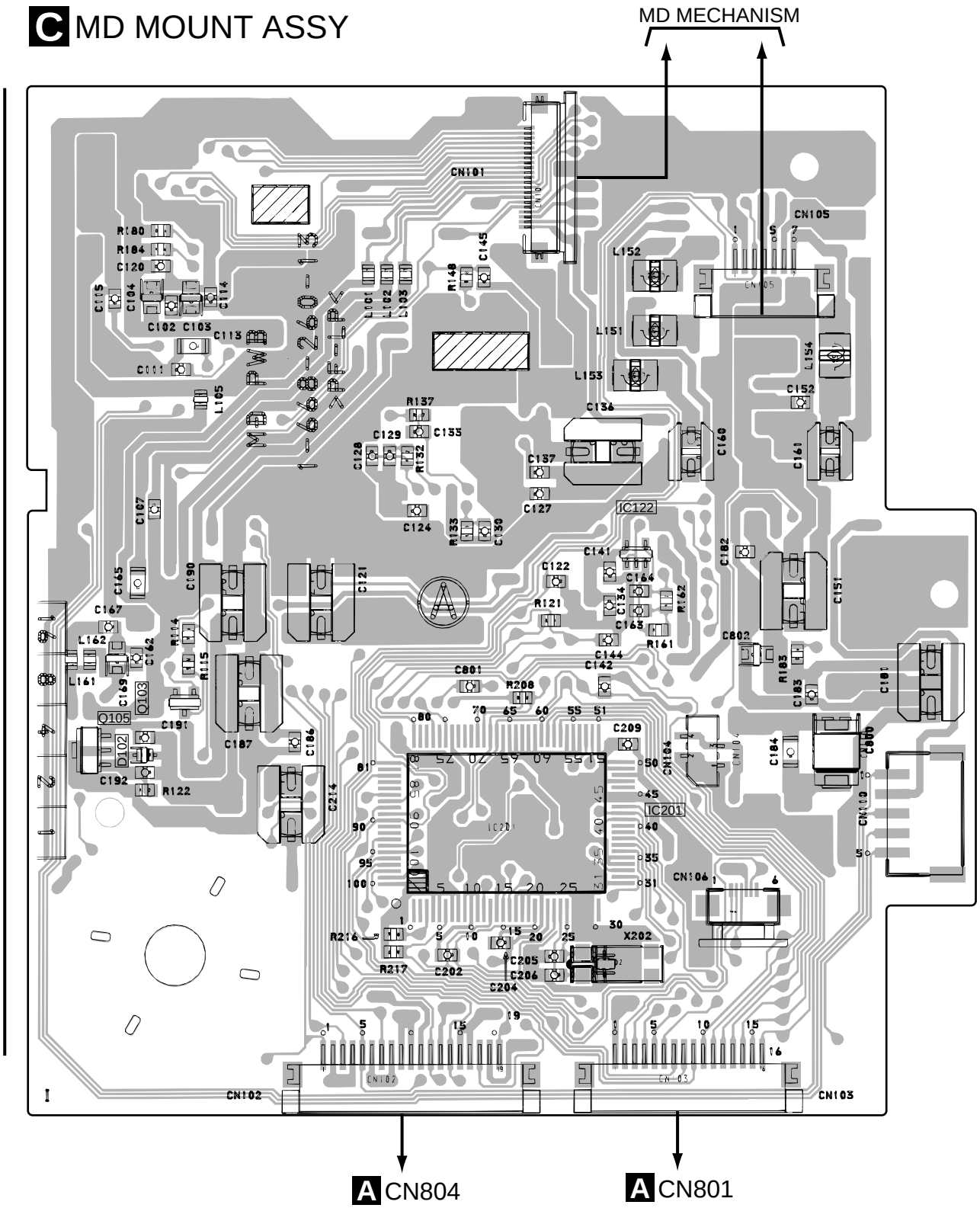


Q905

4.3 MD MOUNT ASSY

SIDE A

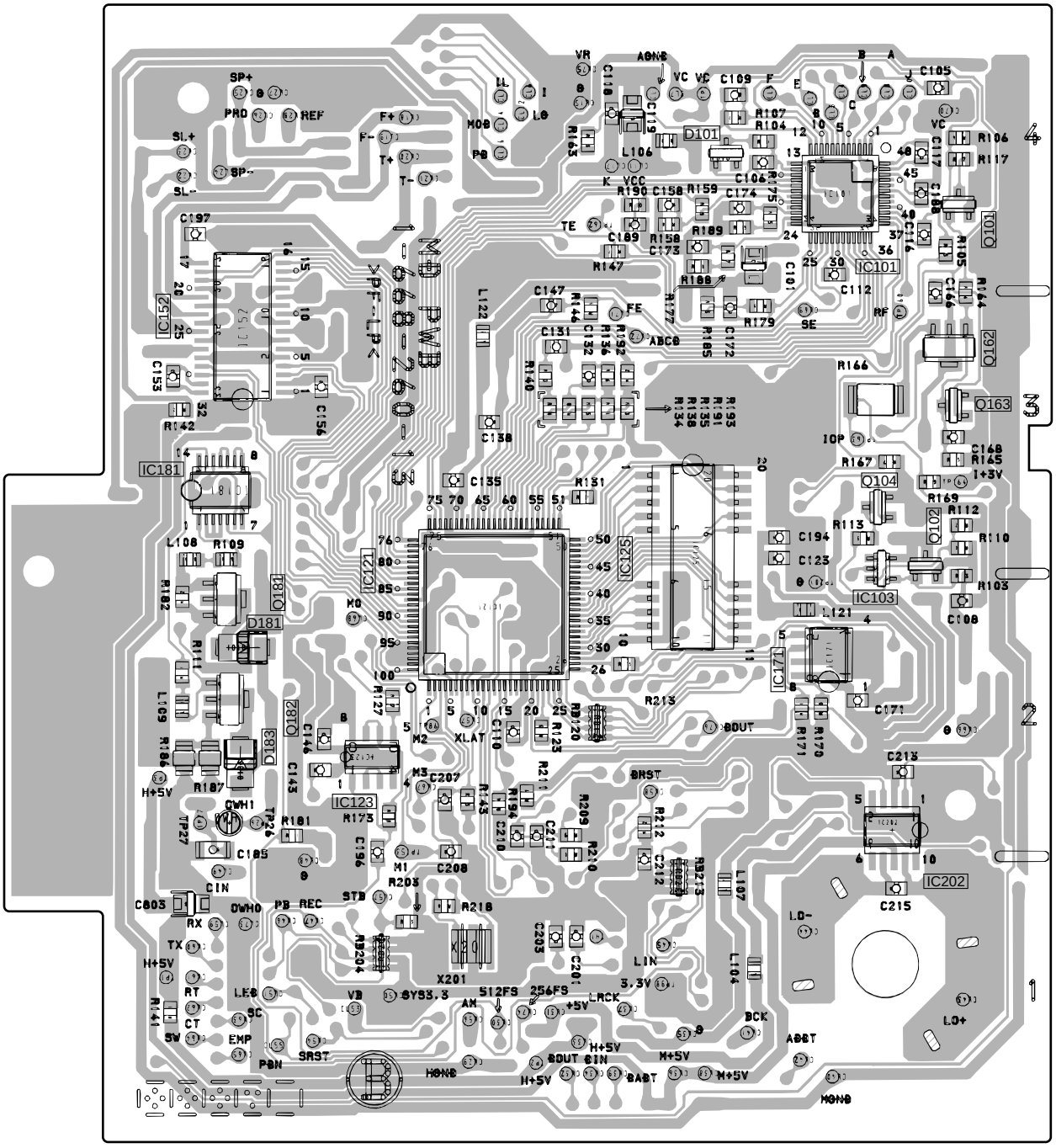
C MD MOUNT ASSY



SIDE B

C MD MOUNT ASSY

IC101
Q101
IC152
Q162
Q163
IC181
IC125
Q104
Q102
IC103
IC121
Q181
IC171
Q182
IC123
IC202



5. PCB PARTS LIST

NOTES :
- *Parts marked by " NSP " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56 × 10 [1] → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10 [3] → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10 [1] → 5621 ..... RN1/4PC 5 6 2 1 F

LIST OF PCB ASSEMBLIES

	MD COMBI PCB ASSY	66785
NSP	├AD/DA PCB ASSY	• • • • •
NSP	└FRONT MD PCB ASSY	• • • • •
	MD MECHANISM ASSY	KMK-260AAB
	├MD MOUNT ASSY	A-4917-020
	├L-SW PWB ASSY	1-668-261-11
	└D-SW PWB ASSY	1-668-262-11

A B MD COMBI PCB ASSY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC800	(CXP84632-128Q)	52181
	IC900	(NJU6408BFC-01A)	52182
	IC801	(AK4518-VF-E2)	52186
	IC802, IC803		TC7SU04F-T5L
	Q803, Q805		2SA1037K
	Q801, Q802, Q804, Q806, Q807		2SC2412K
	Q881, Q882		2SC2412K
	Q901, Q903, Q905		DTC114YK
	D900- D905	(SLA380MT3F)	52907
	D801		DA204K
	D910		SLR-342MCTC7
	D802		DAN202K

COILS AND FILTERS

Mark	No.	Description	Parts No.
	L817, L818	INDUCTOR (LAL04KB4R7K)	52407
	L803- L806, L820, L821	CHIP BEAD	DTF1069
	L800- L802		LAU100J
	L807, L814- L816, L819		52408
	L822, L823		FBA04UA600AB

SWITCHHES

Mark	No.	Description	Parts No.
	SW900- SW912	(SOA-111H)	53426

CAPACITORS

Mark	No.	Description	Parts No.
	C831, C833, C848	(10µF/16V)	57213
	C811- C814, C816, C817, C820- C824		CCSQSL101J50
	C825, C826, C850, C851		CCSQSL180J50
	C837, C901		CEAT101M10
	C846		CEAT1R0M50
	C836		CEAT2R2M50
	C847		CEAT470M10
	C818, C844		CEAT471M10
	C827, C835, C839,C841, C845		CEAT4R7M50
	C881, C882		CEAT4R7M50
	C849		CEATR47M50
	C815, C829, C830, C832, C840		CKPUYF104Z50
	C842, C852, C854, C855, C857		CKPUYF104Z50
	C885, C903		CKPUYF104Z50
	C853, C856, C858, C886		CKSQYB102K50
	C819, C828, C834, C902		CKSQYB103K50
	C859– C863		CKPUYK102K50

RESISTORS

Mark	No.	Description	Parts No.
	Other Resistors		RS1/10S□□□J

OTHERS

Mark	No.	Description	Parts No.
	X802	RESONATOR CSA12.0MTz	50523
	10P CABLE HOLDER		51048-1000
	11P CABLE HOLDER		51048-1100
	CN807	1P PIN JACK YKB11-09	52525
	LCD900	LCD KSG4148S(STN)	52715
	CN801	16P FFC CONNECTOR	VKN1192
	CN804	19P FFC CONNECTOR	VKN1195
	CN802	WIRE TRAP 10P	60237
	CN803	WIRE TRAP 11P	60239
	X801	CRYSTAL HC49US (22.5792MHz)	60240
	FERRITE BEAD FBA04		60241
	LCD HOLDER		66727
	LCD SHEET		66756
	11P FLAT CABLE		66773
	10P FLAT CABLE		66774
	MD COMBI PCB		66785
	FRONT MD PCB		66785A
	AD/DA PCB		66785B
	LED PCB		66785C
	CN901	CONNECTOR 53253-0410	51029
	CN805	12P CONNECTOR ASSY	66763
	CN900	4P CONNECTOR ASSY	66770
	CN806	10P CONNECTOR ASSY	66778

Mark	No.	Description	Parts No.

C MD MOUNT ASSY

SEMICONDUCTORS

	IC122		TC7S08F
	IC123		TC7WU04F
	IC101	(CXA2523AR)	8-752-080-95
	IC121	(CXD2652AR)	8-752-384-47
	IC202	LB1638MTE-L	8-759-099-79
	IC125	(MSM51V4400-70TS-K)	8-759-334-38
	IC192	(L88MS33T-TL)	8-759-426-95
	IC152	(BH6511FS-E2)	8-759-430-28
	IC171	(BR24C01AF-E2)	8-759-484-73
	IC181	(TC74ACT540FT)	8-759-523-48
	IC201	(RU8X12MF-0020)	8-759-524-58
	Q101		DTA144EK
	Q103		DTC114EK
	Q102		2SA1037K
	Q182	(2SK1764KY)	8-729-017-55
	Q181	(2SJ278MYT)	8-729-018-76
	Q162	(2SB798-T1)	8-729-103-85
	IC103	(FMW1-T-14)	8-729-803-11
	D181	(F1J6TP)	8-719-046-86
	D101	(DAN202K-T-146)	8-719-914-47

COILS AND FILTERS

	L101	FERRITE BEED INDUCTOR	1-414-235-21

CAPACITORS

	C142		CCSQCH101J50
	C106		CCSQCH102J50
	C105		CKSQYB103K50
	C117		CKSQYB104K25
	C131		CKSQYB153K50
	C116		CKSQYB223K50
	C115		CKSQYB224K16
	C189		CKSQYB333K25
	C112		CKSQYB472K50
	C158		CKSQYB682K50
	C111		CKSQYB683K25
	C107		CKSQYF104Z25

RESISTORS

		R SQA TYPE CHIP CONDUCTOR	1-216-295-91
		R SQA TYPE CHIP RESISTOR (1Ω, 1/8W)	1-217-806-91
		R163 METAL COATING RESISTOR (1Ω, 1/4W)	1-219-724-91
		R213 CHIP NETWORK RESISTOR (10kΩ x4)	1-233-415-21
		R120 CHIP NETWORK RESISTOR (100Ω x4)	1-233-575-21
		R204 NETWORK RESISTOR (100kΩ x4)	1-233-810-21
		R166 SQA TYPE CHIP RESISTOR (2.2Ω, 1/2W)	1-240-032-91
		Other Resistors	RS1/10S□□□J

Mark	No.	Description	Parts No.

OTHERS

		CN101 FFC/FPC CONNECTOR 21P	1-691-385-21
		CN106 FFC/FPC CONNECTOR 6P	1-768-338-21
		CN103 FFC/FPC CONNECTOR 16P	1-770-425-11
		CN110 CONNECTOR PIN 5P	1-774-731-21
		CN104 FFC/FPC CONNECTOR 4P	1-778-289-11
		CN102 FFC/FPC CONNECTOR 19P	1-778-460-11
		CN105 FFC/FPC CONNECTOR 7P	1-779-345-11
		X202 CERAMIC RESONATOR (32.768kHz)	1-760-174-41
		X201 X"TAL RESONATOR (12MHz)	1-780-872-21

L-SW PWB ASSY

OTHERS

		FFC/FPC CONNECTOR 6P	1-768-338-21
		PUSH SWITCH(1KEY)	1-771-082-21
		PUSH LEVER SW(1KEY)	1-771-326-11

D-SW PWB ASSY

OTHERS

		2PIN PUSH SW(2KEY)	1-771-327-11
		FFC/FPC CONNECTOR 7P	1-779-345-11

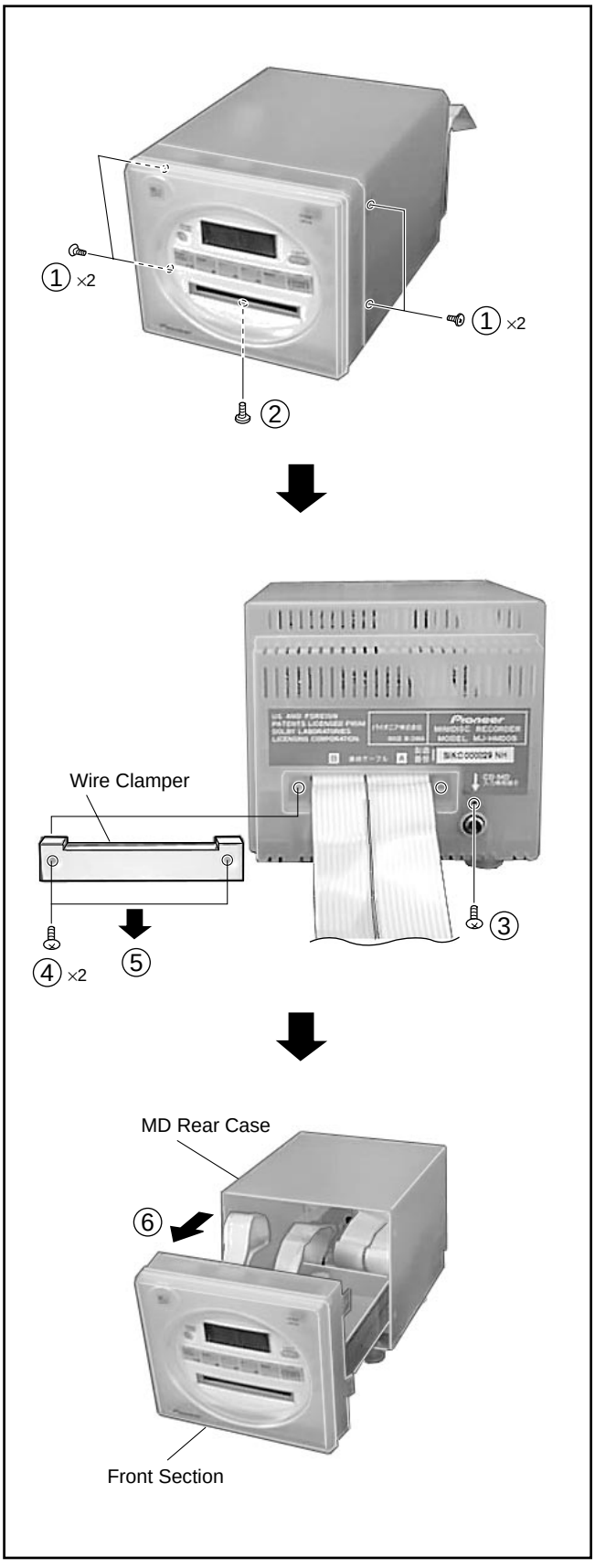
6. ADJUSTMENT

Note : There is no information to be shown in this MD adjustment.

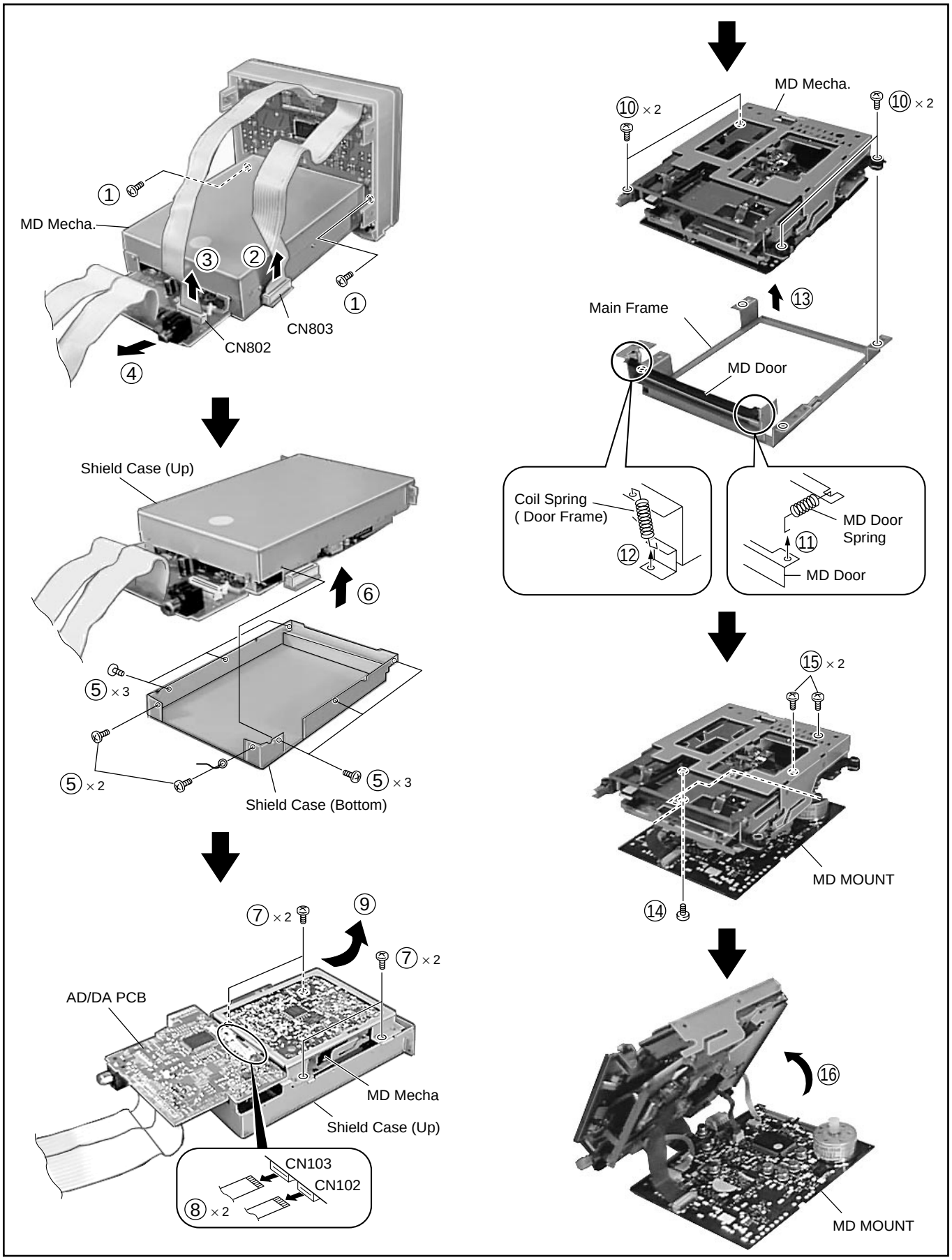
7. GENERAL INFORMATION

7.1 DIAGNOSIS

■ MD REAR CASE



■ MD MECHANISM ASSY



7.2 PARTS

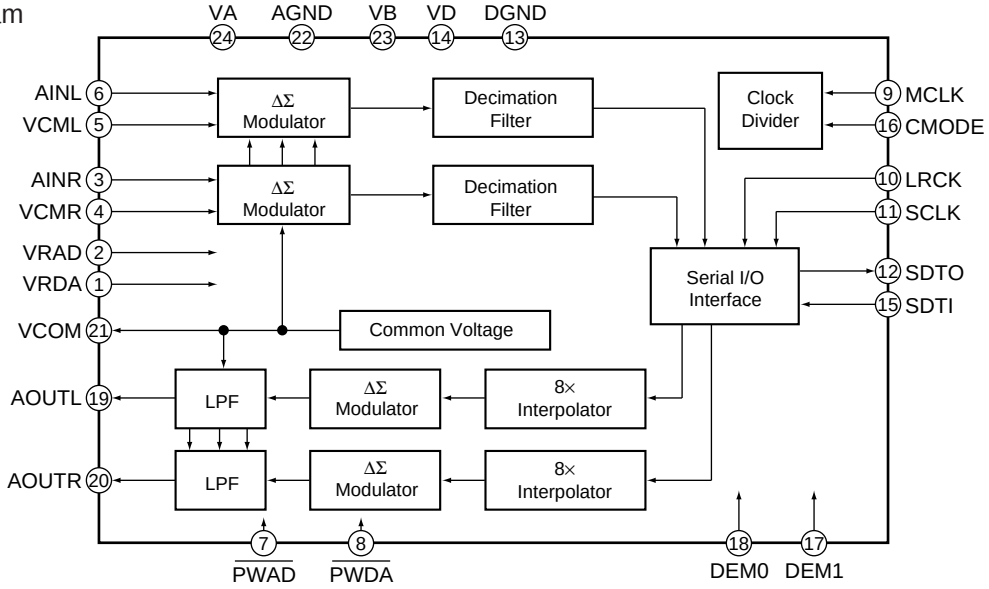
● The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

7.2.1 IC

■ 52186 (AK4518-VF-E2) (AD/DA PCB ASSY : IC801)

■ AD/DA Converter IC

● Block Diagram



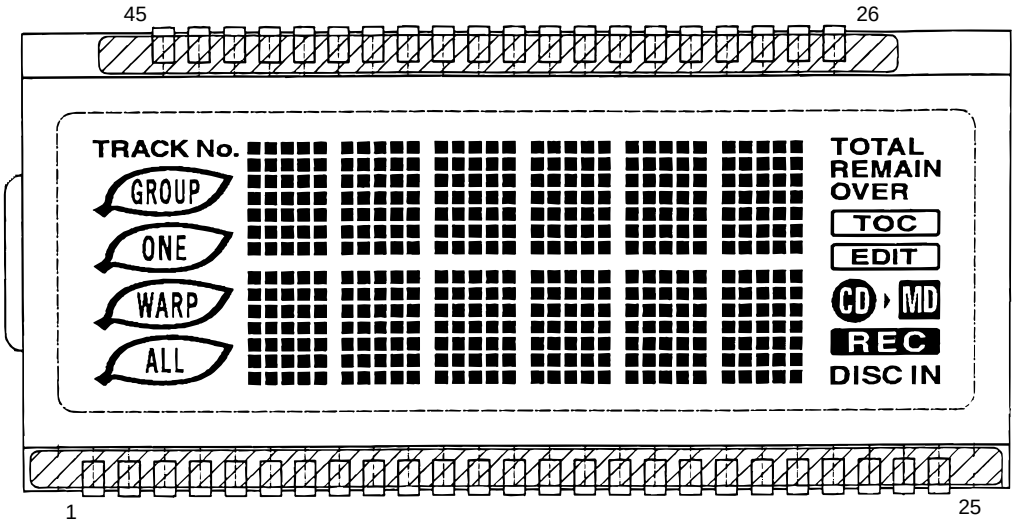
● Pin Arrangement

No.	Pin Name	I/O	Function
1	VRDA	I	Reference voltage input for DAC and VA
2	VRAD	I	Reference voltage input for ADC and VA
3	AINR	I	R ch analog input
4	VCMR	O	R ch common voltage output , 0.45 × VA Connect an electrolytic capacitor (about 4.7μF) and a ceramic capacitor (0.1μF) between this pin and AGND.
5	VCML	O	L ch common voltage output , 0.45 × VA Connect an electrolytic capacitor (about 4.7μF) and a ceramic capacitor (0.1μF) between this pin and AGND.
6	AINL	I	L ch analog input
7	PWAD	I	ADC power down mode L: power down
8	PWDA	I	DAC power down mode L: power down
9	MCLK	I	Master clock input
10	LRCK	I	Input/output channel clock pin
11	SCLK	I	Audio serial data clock pin
12	SDTO	O	Audio serial data output
13	DGND	–	Digital ground
14	VD	–	Digital power supply
15	SDTI	I	Audio serial data input
16	CMODE	I	Master clock selection "H": 384fs or 512fs, "L": 256fs
17	DEM1	I	Deemphasis frequency selection
18	DEM0		
19	AOUTL	O	L ch analog output
20	AOUTR	O	R ch analog output
21	VCOM	O	Common voltage output , 0.45 × VA Connect an electrolytic capacitor (about 4.7μF) and a ceramic capacitor (0.1μF) between this pin and AGND.
22	AGND	–	Analog ground pin
23	VB	–	Substraight pin
24	VA	–	Analog power supply

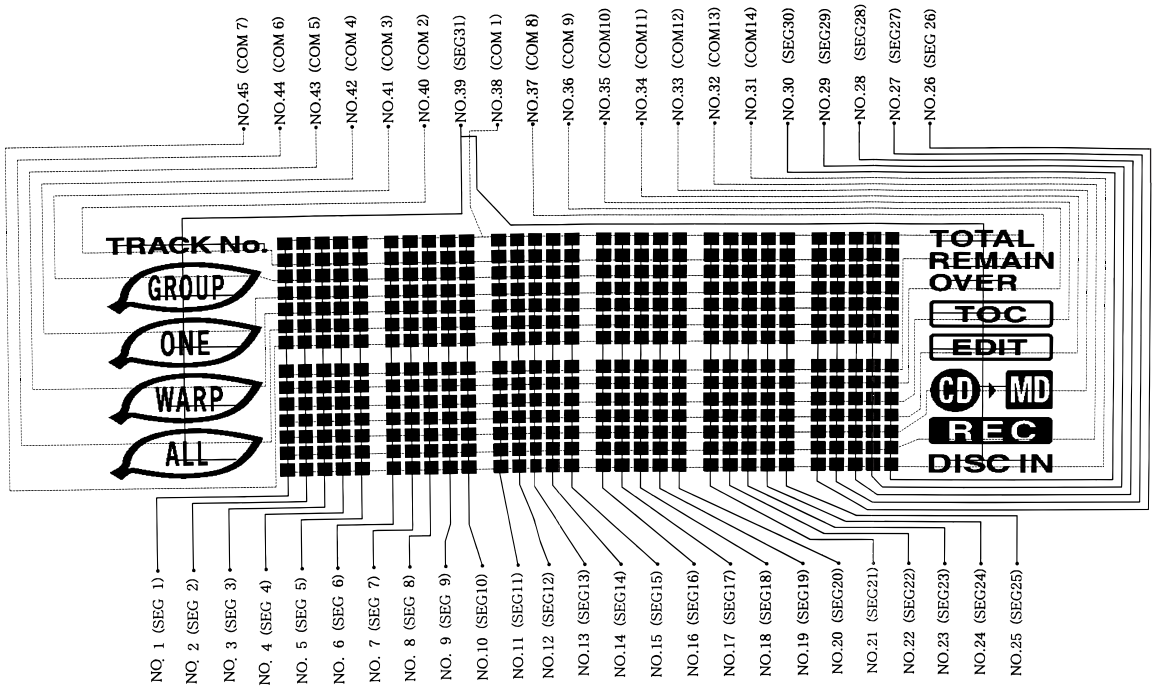
7.2.2 DISPLAY

■ 52715 (KSG4148) (FRONT MD PCB ASSY : LCD900)

• **LCD**

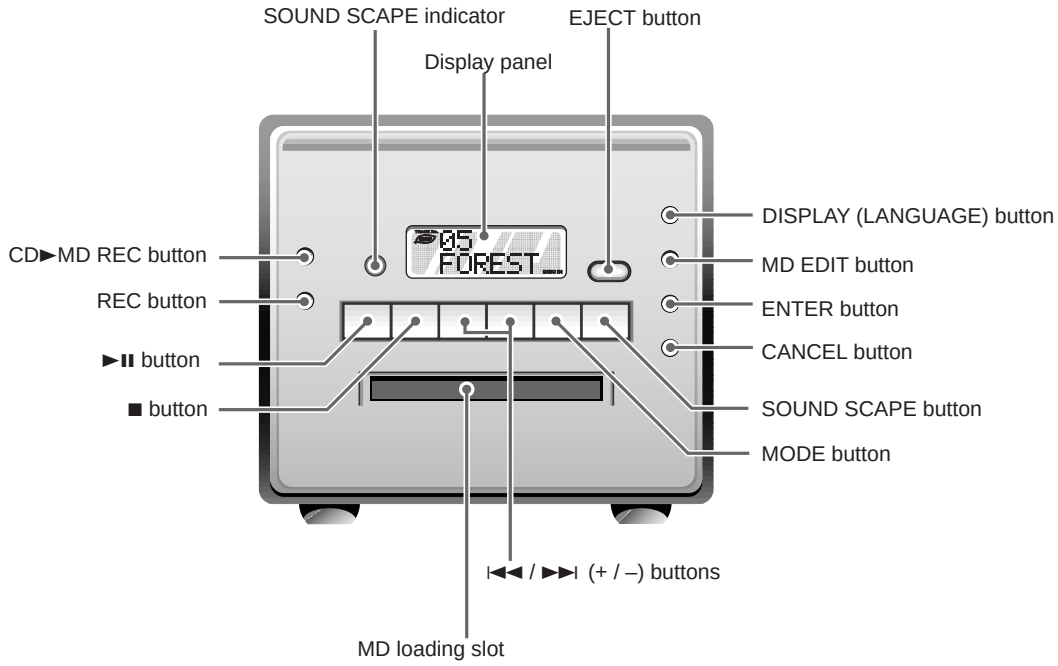


● Pin Connection

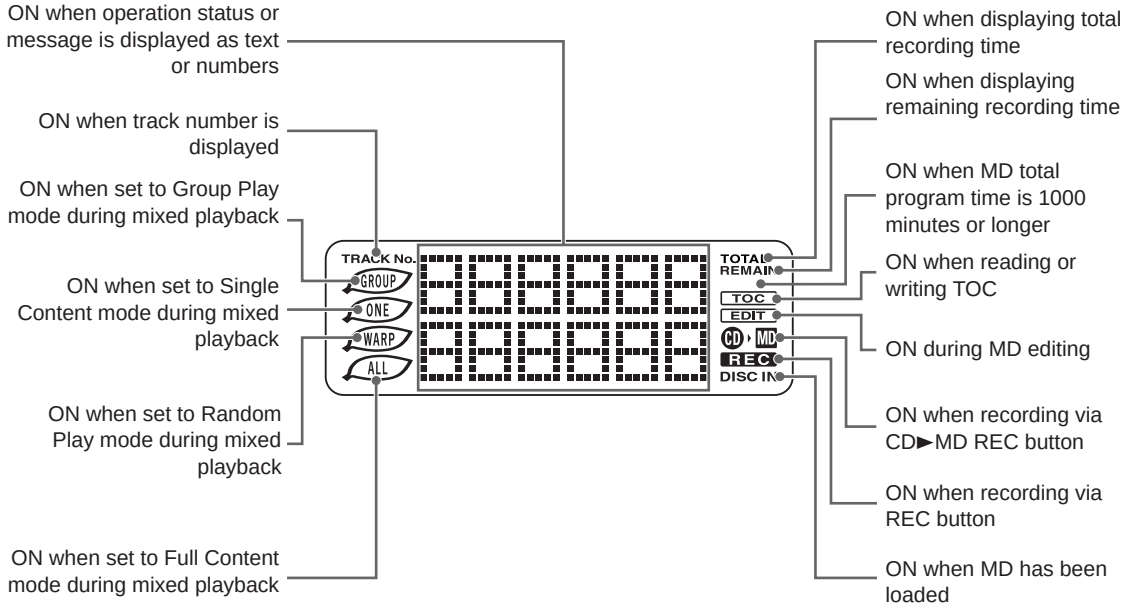


8. PANEL FACILITIES AND SPECIFICATIONS

8.1 PANEL FACILITIES



Display Panel



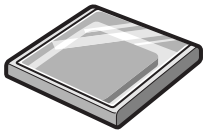
8.2 SPECIFICATIONS

- Specifications and design subject to possible modification without notice, due to improvements.

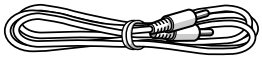
■ MD RECORDER

Type ..... Mini disc digital audio system
Medium ..... Mini disc (MD)
Frequency characteristics ..... 20 Hz to 20 kHz (+/– 3 dB)
Error correction method
..... Advanced Cross Interleave Code (ACIRC) Solomon code
Coding ..... Adaptive Transform Acoustic Coding (ATRAC)
Power supply voltage ..... DC 5 V, 230 mA
DC 9 V, 14 mA
External dimensions ..... 145 (W) × 137 (H) × 235 (D) mm
($5\ ^{3}/_{4} \times 5\ ^{1}/_{2} \times 9\ ^{3}/_{8}$ inches)
Weight ..... 1.4 kg (3.3 lb)

■ ACCESSORIES



Sound Scape Disc
(60234-01, 60234-03)



CD/MD Cable
(60233)