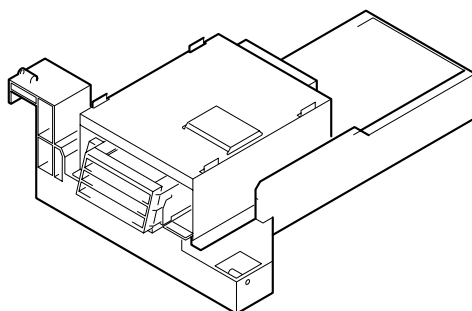




SERVICE MANUAL

MD MECHANISM

BASIC MD MECHANISM : AZG-M A

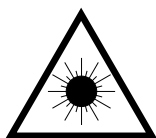
TYPE
D

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylitävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstråling, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

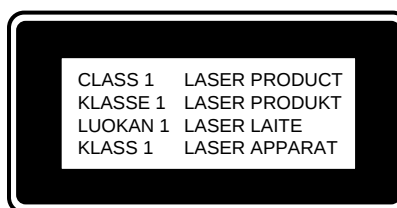
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.

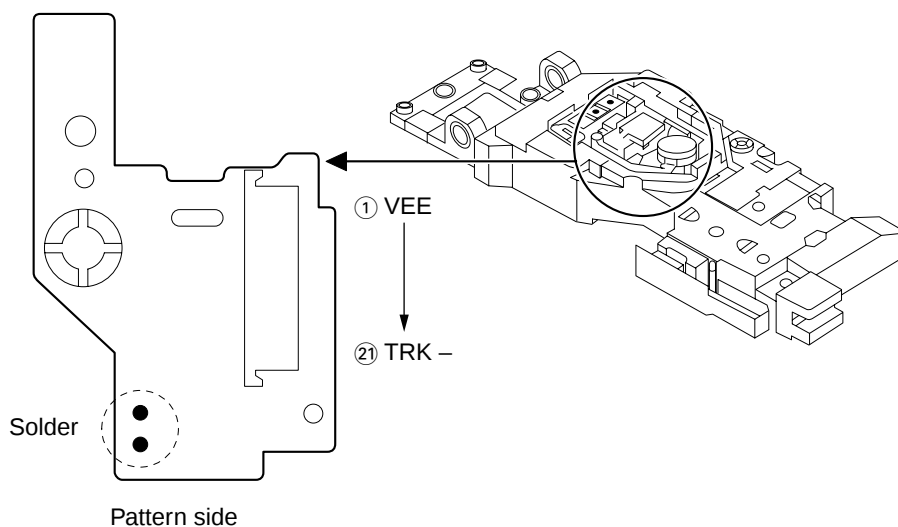


Precaution to replace Optical block (KMS-260B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

- 1) After the connection, remove solder shown in the right figure.

MD PICKUP Assy P.C.B.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC				CON905	87-A60-423-010		CONN,14P V TOC-B
	87-A20-707-010		C-IC, CXA2523AR	CON906	87-A60-422-010		CONN,8P V TOC-B
	87-A21-610-030		C-IC, CXD2654R	FB401	87-A50-189-080		C-COIL, S BLM21B272S
	87-017-888-080		IC, NJM4558MD	MD C.B			
	87-A20-709-040		C-IC, BD7910FV				
	8A-ZGM-601-030		C-IC, CXP81960M-561R				
	87-A21-526-010		C-IC, GM71VLS17403CTL-1	C9	87-010-831-080		C-CAP,U,0.1-16F
	87-A20-755-080		C-IC, AK93C45AF	C10	87-010-831-080		C-CAP,U,0.1-16F
	87-A20-710-040		C-IC, S-8110AMP	C100	87-A11-241-080		C-CAP,TN 22-6.3 M F93 A
	87-A20-711-040		C-IC, BA5970FP	C101	87-A11-241-080		C-CAP,TN 22-6.3 M F93 A
	87-A20-712-040		C-IC, BA6417F	C102	87-012-286-080		CAP, U 0.01-25
	87-A20-870-010		IC, GP1F37R	C103	87-010-787-080		CAP, U 0.022-25
	87-A20-971-040		C-IC, SN74LV14APW	C104	87-010-662-080		C-CAP,E 22-6.3
	87-A21-078-080		C-IC, PCM3003E	C105	87-010-831-080		C-CAP,TN 22-6.3 M F93 A
	87-017-853-040		IC, NJM2100V	C106	87-A11-067-080		C-CAP,S 1-10 K B
	87-A20-797-040		C-IC, NJU7221U30	C107	87-012-195-080		C-CAP,U 100P-50CH
	87-A20-798-040		C-IC, NJU7221U35	C108	87-012-274-080		CHIP CAP,U 1000P-50B
	87-A20-714-040		C-IC, NJM2370U33	C109	87-016-558-080		C-CAP,TN47-6.3F93B
TRANSISTOR				C111	87-A11-241-080		C-CAP,TN 22-6.3 M F93 A
	87-026-423-080		C-TR RN2305	C112	87-012-286-080		CAP, U 0.01-25
	89-115-884-080		CHIP -TRANSISTER 2SA1588Y	C113	87-012-284-080		CAP, U 6800P-50
	89-213-702-010		TR,2SB1370 (1.8W)	C114	87-010-828-080		CHIP CAPACITOR,U 0.033-25F
	87-A30-076-080		C-TR,2SC3052F	C115	87-A10-369-080		C-CAP,S 0.47-16 K B
	89-341-164-080		CHIP-TRANSISTOR,2SC4116 Y	C116	87-012-282-080		CAP, U 4700P-50
	87-A30-074-080		C-TR,RT1P 141C	C117	87-A11-067-080		C-CAP,S 1-10 K B
	87-026-412-080		C-TR RN1305	C118	87-012-282-080		CAP, U 4700P-50
	87-A30-071-080		C-TR,RT1N 144C	C119	87-016-491-080		C-CAP,S 0.22-16 FZ
	87-A30-087-080		C-FET,2SK2158	C120	87-010-787-080		CAP, U 0.022-25
DIODE				C121	87-012-286-080		CAP, U 0.01-25
	87-001-166-080		DIODE,1SS301	C122	87-010-829-080		CAP, U 0.047-16
	87-A40-304-080		ZENER,DZ6.2M	C123	87-012-286-080		CAP, U 0.01-25
	87-A40-313-080		C-DIODE,MC 2840	C124	87-010-662-080		C-CAP,E 22-6.3
	87-A40-412-040		C-DIODE,SB05-05CP	C125	87-010-662-080		C-CAP,E 22-6.3
	87-020-764-080		CHIP-ZENER,02CZ4.7X	C201	87-010-831-080		C-CAP,U,0.1-16F
	87-A40-299-080		ZENER,DZ5.1M	C202	87-010-831-080		C-CAP,U,0.1-16F
INTERFACE C.B				C203	87-010-785-080		C-CAP,U0.015-25BK
C101	87-010-196-080		CHIP CAPACITOR,0.1-25	C204	87-016-461-080		C-CAP,S 0.47-16F
C102	87-010-101-080		CAP, ELECT 220-16	C205	87-010-831-080		C-CAP,U,0.1-16F
C104	87-010-370-040		CAP,E 330-6.3 SME	C206	87-012-270-080		CAP, U 470P-50
C105	87-010-380-080		CAP, ELECT 47-16V	C207	87-016-461-080		C-CAP,S 0.47-16F
C106	87-010-101-080		CAP, ELECT 220-16	C208	87-012-286-080		CAP, U 0.01-25
C107	87-010-235-080		CAP,E 470-16 SME	C209	87-010-831-080		C-CAP,U,0.1-16F
C121	87-016-462-080		C-CAP,S 1-16 F	C210	87-012-176-080		CAP 15P
C201	87-010-402-080		CAP, ELECT 2.2-50V	C211	87-012-176-080		CAP 15P
C202	87-010-402-080		CAP, ELECT 2.2-50V	C212	87-012-195-080		C-CAP,U 100P-50CH
C203	87-012-156-080		C-CAP,S 220P-50 CH	C213	87-010-662-080		C-CAP,E 22-6.3
C204	87-012-156-080		C-CAP,S 220P-50 CH	C214	87-012-274-080		CHIP CAP,U 1000P-50B
C205	87-010-180-080		C-CER 1500P	C217	87-012-188-080		C-CAP,U 47P-50 CH
C206	87-010-180-080		C-CER 1500P	C218	87-012-172-080		CAPACITOR CHIP U 10P CH
C207	87-010-404-080		CAP, ELECT 4.7-50V	C219	87-A11-241-080		C-CAP,TN 22-6.3 M F93 A
C208	87-010-404-080		CAP, ELECT 4.7-50V	C220	87-010-662-080		C-CAP,E 22-6.3
C251	87-010-408-080		CAP, ELECT 47-50V	C221	87-010-831-080		C-CAP,U,0.1-16F
C252	87-010-196-080		CHIP CAPACITOR,0.1-25	C222	87-016-444-080		C-CAP,TN 47-10 F95E
C401	87-010-178-080		CHIP CAP 1000P	C223	87-010-831-080		C-CAP,U,0.1-16F
C402	87-010-178-080		CHIP CAP 1000P	C224	87-A10-685-080		C-CAP,S 470P-100 J CH
C403	87-010-196-080		CHIP CAPACITOR,0.1-25	C225	87-010-831-080		C-CAP,U,0.1-16F
C404	87-010-196-080		CHIP CAPACITOR,0.1-25	C226	87-010-831-080		C-CAP,U,0.1-16F
C411	87-012-140-080		CAP 470P	C227	87-012-274-080		CHIP CAP,U 1000P-50B
C421	87-010-196-080		CHIP CAPACITOR,0.1-25	C228	87-012-274-080		CHIP CAP,U 1000P-50B
CON901	87-A60-139-010		CONN,14P V FE	C229	87-012-274-080		CHIP CAP,U 1000P-50B
CON902	87-A60-060-010		CONN,07P V 9604S-07C	C232	87-012-274-080		CHIP CAP,U 1000P-50B
CON903	87-009-030-010		CONNECTOR 2P PH M	C233	87-012-274-080		CHIP CAP,U 1000P-50B
CON904	87-A60-061-010		CONN,06P V 9604S-06C	C237	87-012-274-080		CHIP CAP,U 1000P-50B
				C300	87-010-831-080		C-CAP,U,0.1-16F
				C301	87-010-831-080		C-CAP,U,0.1-16F
				C302	87-010-831-080		C-CAP,U,0.1-16F
				C305	87-A11-067-080		C-CAP,S 1-10 K B
				C307	87-010-831-080		C-CAP,U,0.1-16F
				C308	87-010-831-080		C-CAP,U,0.1-16F
				C311	87-010-662-080		C-CAP,E 22-6.3

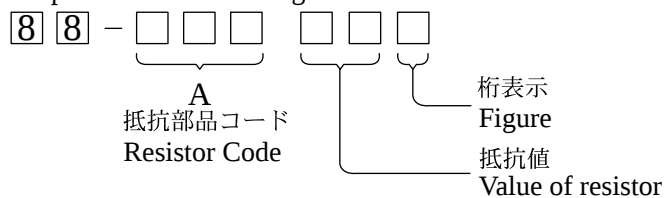
REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C312	87-012-195-080	C-CAP,U 100P-50CH		CN200	87-A60-816-080	C-CONN,9P V 6232	
C321	87-012-274-080	CHIP CAP,U 1000P-50B		CN300	87-A60-518-080	C-CONN,8P H 6232	
C322	87-012-274-080	CHIP CAP,U 1000P-50B		CN400	87-A60-714-080	C-CONN,8P V FMN-BMTR	
C323	87-012-274-080	CHIP CAP,U 1000P-50B		CN600	87-A60-519-080	C-CONN,14P H 6232	
C324	87-012-274-080	CHIP CAP,U 1000P-50B		CN700	87-A60-814-080	C-CONN,4P H 6232	
C325	87-012-274-080	CHIP CAP,U 1000P-50B		FB204	83-XM1-617-080	C-COIL,BK2125HM601	
C400	87-010-831-080	C-CAP,U,0.1-16F		FB205	83-XM1-617-080	C-COIL,BK2125HM601	
C401	87-012-286-080	CAP, U 0.01-25		FB501	87-A90-828-080	C-F-BEAD, BK1608LM182	
C402	87-012-286-080	CAP, U 0.01-25		L100	87-A50-117-080	C-COIL,10UHLQH3C	
C403	87-010-831-080	C-CAP,U,0.1-16F		L101	87-A50-012-080	C-COIL,100UH LQH3C	
C404	87-010-831-080	C-CAP,U,0.1-16F		L102	87-A50-117-080	C-COIL,10UHLQH3C	
C405	87-010-661-080	C-CAP,E 10-16		L103	87-A50-117-080	C-COIL,10UHLQH3C	
C406	87-010-779-080	C-CAP,E 100-6.3		L201	87-A50-117-080	C-COIL,10UHLQH3C	
C407	87-012-197-080	C-CAP,U 150P-50 CH		L202	87-A50-117-080	C-COIL,10UHLQH3C	
C408	87-012-197-080	C-CAP,U 150P-50 CH		L203	87-A50-116-080	C-COIL,4.7UHLQH3C	
C411	87-012-271-080	CAP, U 560P-50		L204	87-003-367-080	C-COIL,U 2.2UHK	
C412	87-012-271-080	CAP, U 560P-50		L301	87-A50-117-080	C-COIL,10UHLQH3C	
C413	87-012-197-080	C-CAP,U 150P-50 CH		L501	87-A50-116-080	C-COIL,4.7UHLQH3C	
C414	87-012-197-080	C-CAP,U 150P-50 CH		L502	87-A50-116-080	C-COIL,4.7UHLQH3C	
C417	87-012-268-080	C-CAP,U 330P-50 B		L503	87-A50-116-080	C-COIL,4.7UHLQH3C	
C418	87-012-268-080	C-CAP,U 330P-50 B		L504	87-005-774-080	C-COIL,4BLH	
C423	87-012-286-080	CAP, U 0.01-25		L505	87-005-774-080	C-COIL,4BLH	
C424	87-012-286-080	CAP, U 0.01-25		L611	87-A50-163-080	C-COIL,ZBFS5101-PT	
C429	87-012-286-080	CAP, U 0.01-25		L612	87-005-512-080	C-COIL,BLM21A05	
C430	87-012-286-080	CAP, U 0.01-25		L614	87-A50-163-080	C-COIL,ZBFS5101-PT	
C431	87-010-779-080	C-CAP,E 100-6.3		L615	87-A90-034-080	C-FLTR,EMI BLM41P750	
C434	87-010-831-080	C-CAP,U,0.1-16F		L616	87-A50-163-080	C-COIL,ZBFS5101-PT	
C500	87-010-661-080	C-CAP,E 10-16		R315	87-022-239-080	C-RES U 10K-1/16WF	
C501	87-010-831-080	C-CAP,U,0.1-16F		R423	87-025-564-080	C-RES,U M/F 47K D	
C502	87-010-831-080	C-CAP,U,0.1-16F		R424	87-025-564-080	C-RES,U M/F 47K D	
C503	87-010-846-080	C-CAP,E 4.7-35V		R425	87-022-583-080	C-RES,U M/F 12K D	
C504	87-010-831-080	C-CAP,U,0.1-16F		R426	87-022-583-080	C-RES,U M/F 12K D	
C505	87-010-846-080	C-CAP,E 4.7-35V		S701	87-A90-947-080	C-SW,MICRO SPPB63	
C506	87-010-831-080	C-CAP,U,0.1-16F		S702	87-A90-947-080	C-SW,MICRO SPPB63	
C507	87-010-661-080	C-CAP,E 10-16		X200	87-A70-270-080	C-VIB,XTAL 45.1584MHZ SMD-49	
C508	87-010-831-080	C-CAP,U,0.1-16F		X301	87-A70-100-080	C-VIB,CER 12.0MHZ PBRC-BR-A	
C509	87-010-846-080	C-CAP,E 4.7-35V					
C510	87-010-831-080	C-CAP,U,0.1-16F					
C511	87-010-661-080	C-CAP,E 10-16					
C513	87-010-661-080	C-CAP,E 10-16					
C514	87-010-661-080	C-CAP,E 10-16					
C515	87-012-337-080	C-CAP,U 56P-50 CH					
C516	87-012-337-080	C-CAP,U 56P-50 CH					
C517	87-012-278-080	C-CAP,U 2200P-50 B					
C518	87-012-278-080	C-CAP,U 2200P-50 B					
C519	87-010-831-080	C-CAP,U,0.1-16F					
C520	87-010-661-080	C-CAP,E 10-16					
C521	87-010-831-080	C-CAP,U,0.1-16F					
C522	87-010-661-080	C-CAP,E 10-16					
C523	87-010-662-080	C-CAP,E 22-6.3					
C524	87-010-662-080	C-CAP,E 22-6.3					
C525	87-012-274-080	CHIP CAP,U 1000P-50B					
C526	87-012-274-080	CHIP CAP,U 1000P-50B					
C527	87-010-661-080	C-CAP,E 10-16					
C528	87-010-661-080	C-CAP,E 10-16					
C530	87-010-831-080	C-CAP,U,0.1-16F					
C531	87-010-831-080	C-CAP,U,0.1-16F					
C532	87-010-831-080	C-CAP,U,0.1-16F					
C600	87-010-662-080	C-CAP,E 22-6.3					
C601	87-010-779-080	C-CAP,E 100-6.3					
C602	87-010-779-080	C-CAP,E 100-6.3					
C603	87-010-662-080	C-CAP,E 22-6.3					
C604	87-010-779-080	C-CAP,E 100-6.3					
C605	87-012-286-080	CAP, U 0.01-25					
C607	87-A10-711-080	C-CAP,E 100-6.3 M MF					
C701	87-010-779-080	C-CAP,E 100-6.3					
C702	87-012-286-080	CAP, U 0.01-25					
C703	87-012-286-080	CAP, U 0.01-25					
C706	87-010-831-080	C-CAP,U,0.1-16F					
CN100	87-A61-347-080	C-CONN,21P H XF2H-2115-1					

- Regarding connectors, they are not stocked as they are not the initial order items.
The connectors are available after they are supplied from connector manufacturers upon the order is received.

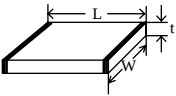
○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

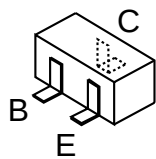
Chip Resistor Part Coding



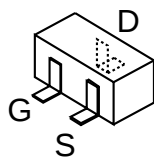
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

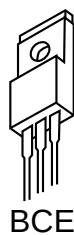
TRANSISTOR ILLUSTRATION



2SA1588
2SC3052
2SC4116
RN1305
RN2305
RT1N144C
RT1P141C

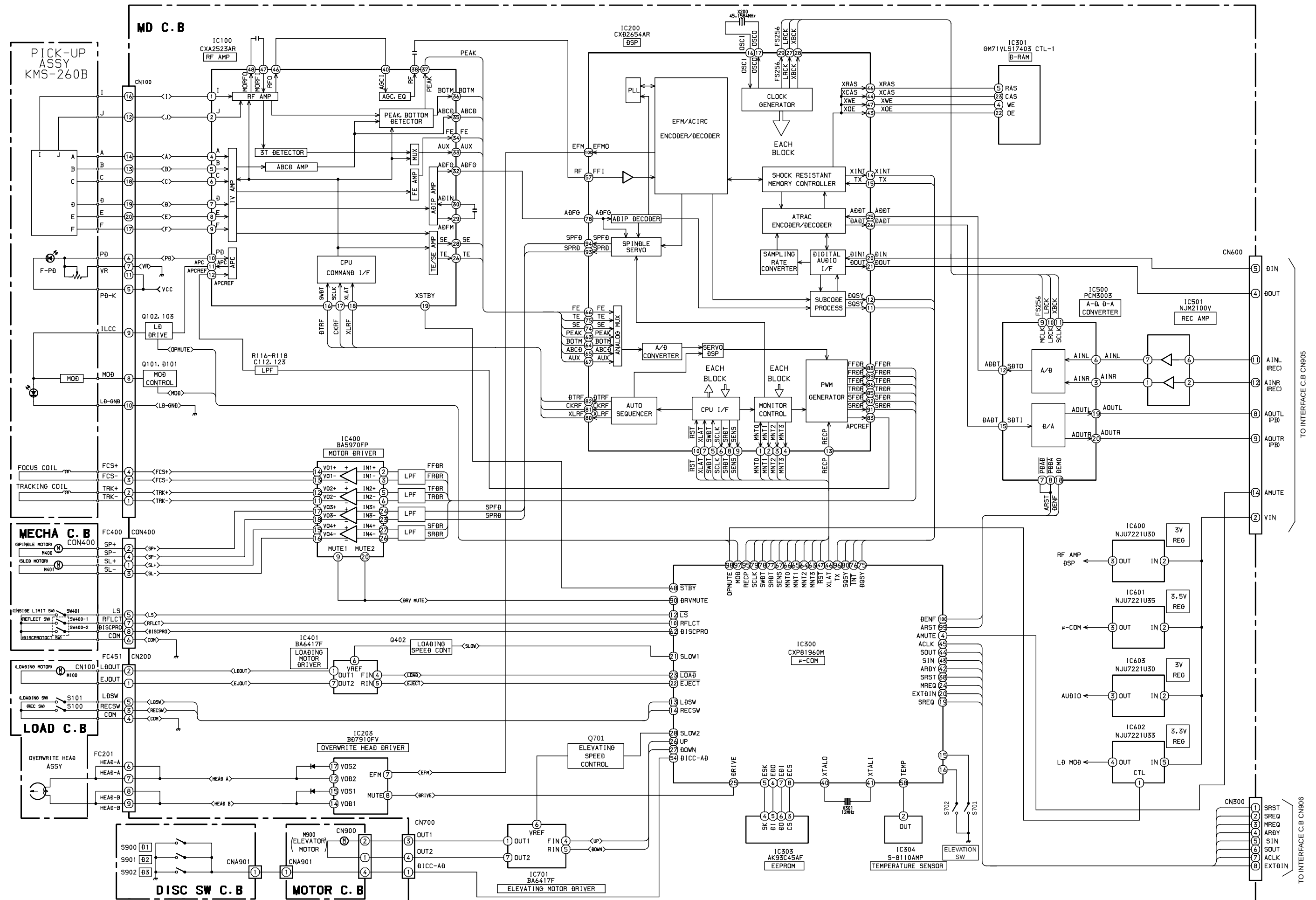


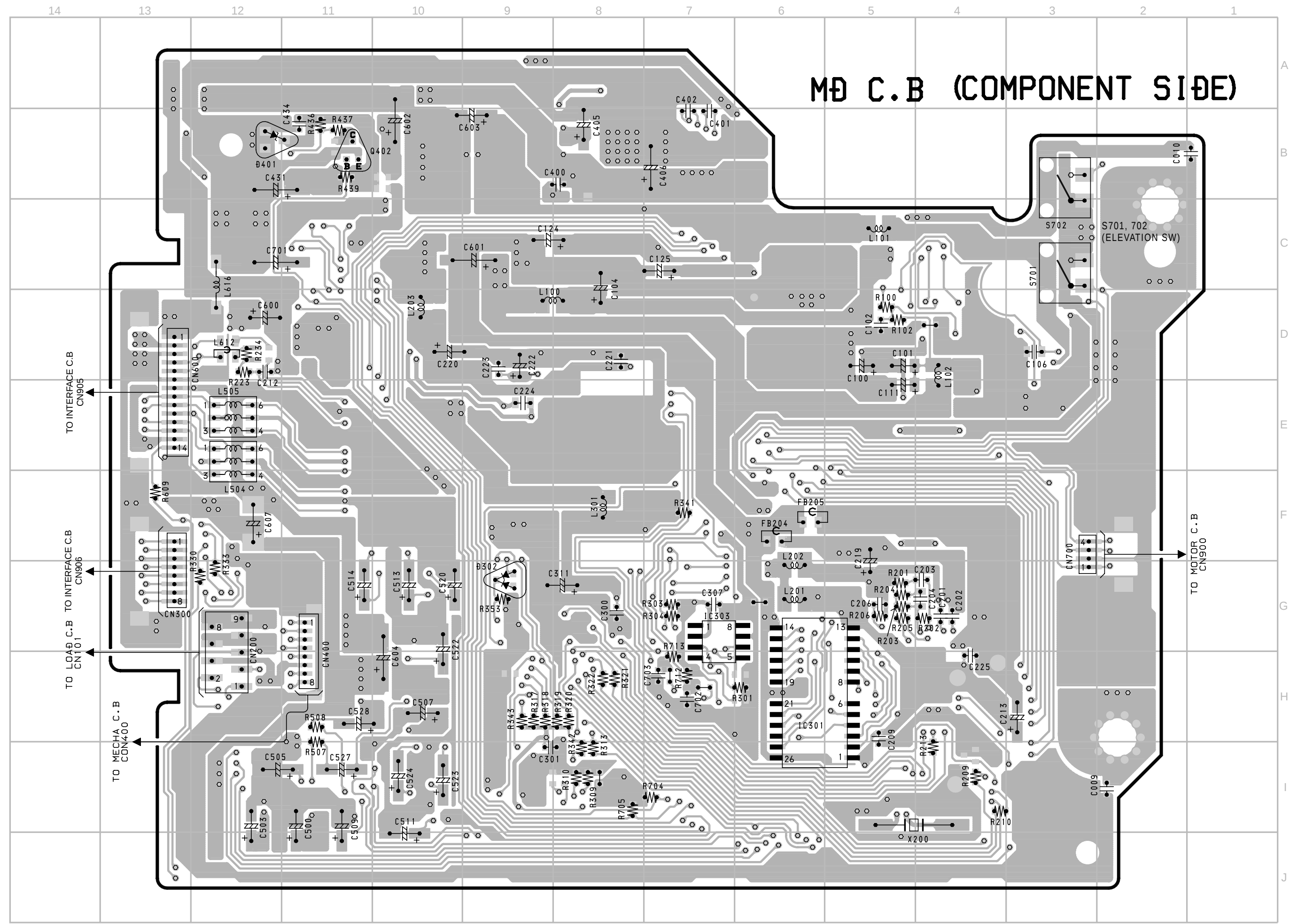
2SK2158



2SB1370

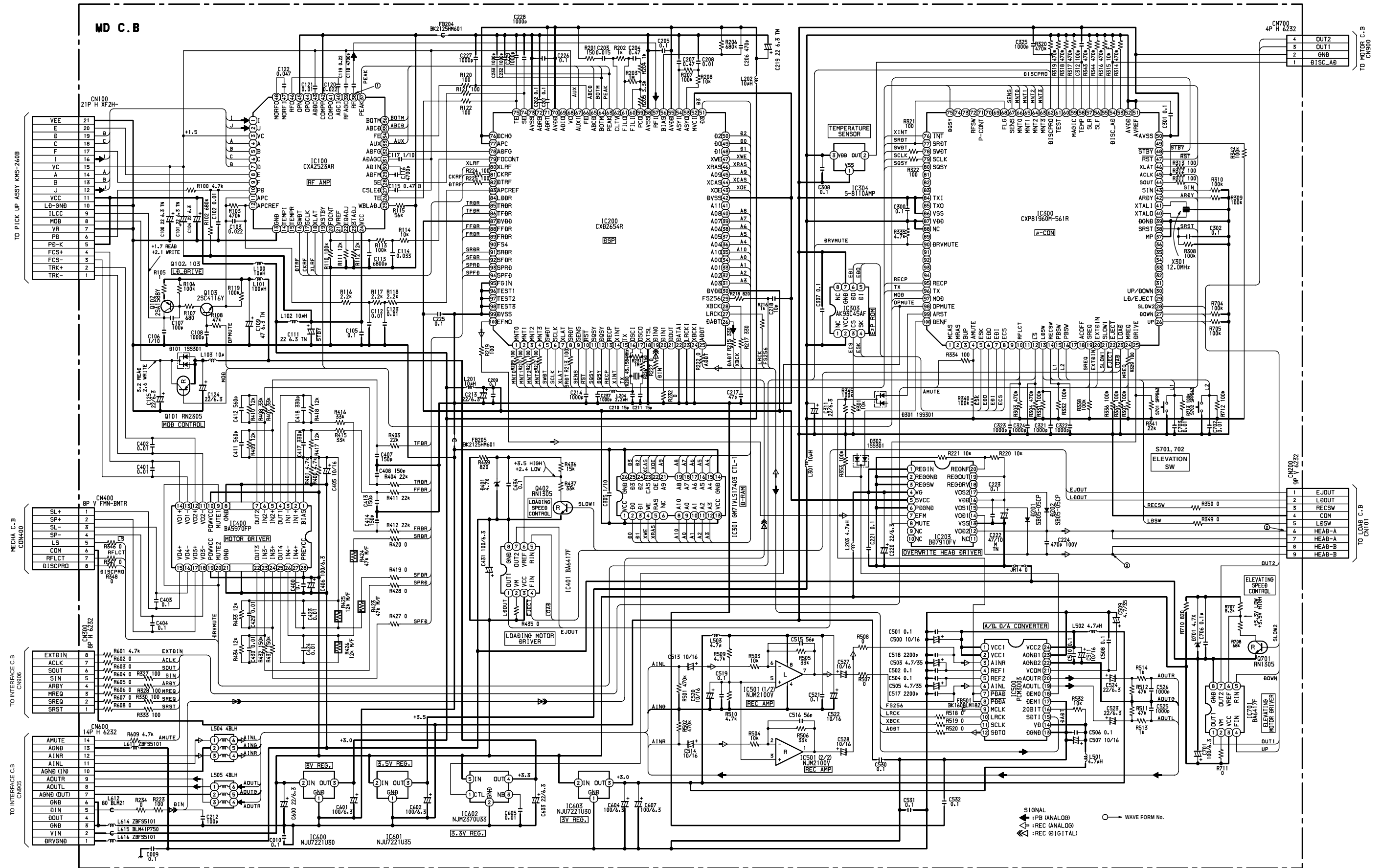
BLOCK DIAGRAM



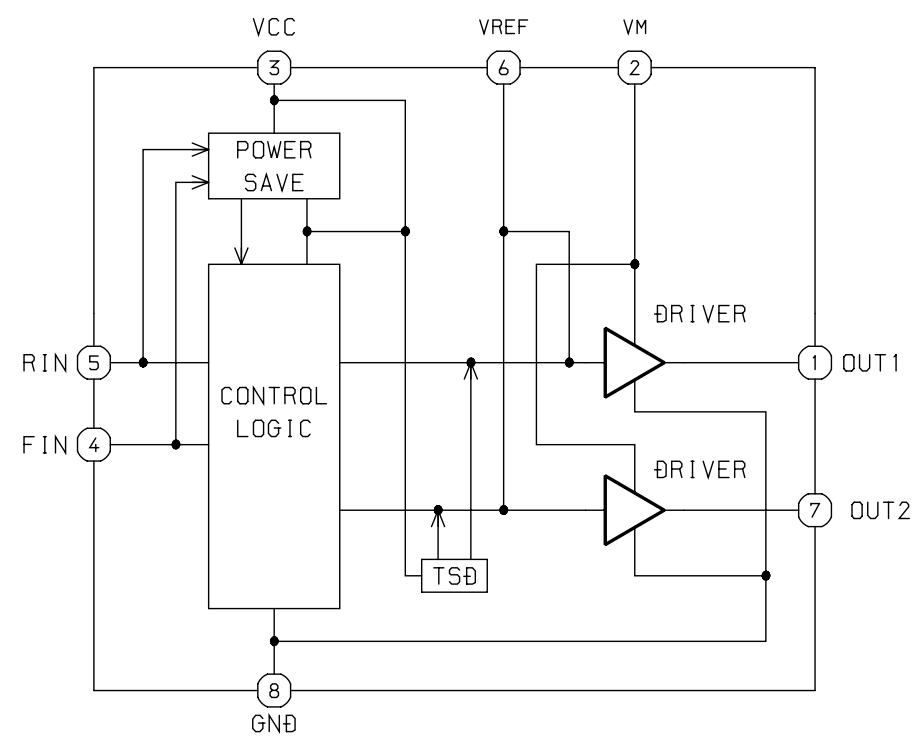


M0 C.B (CONDUCTOR SIDE)

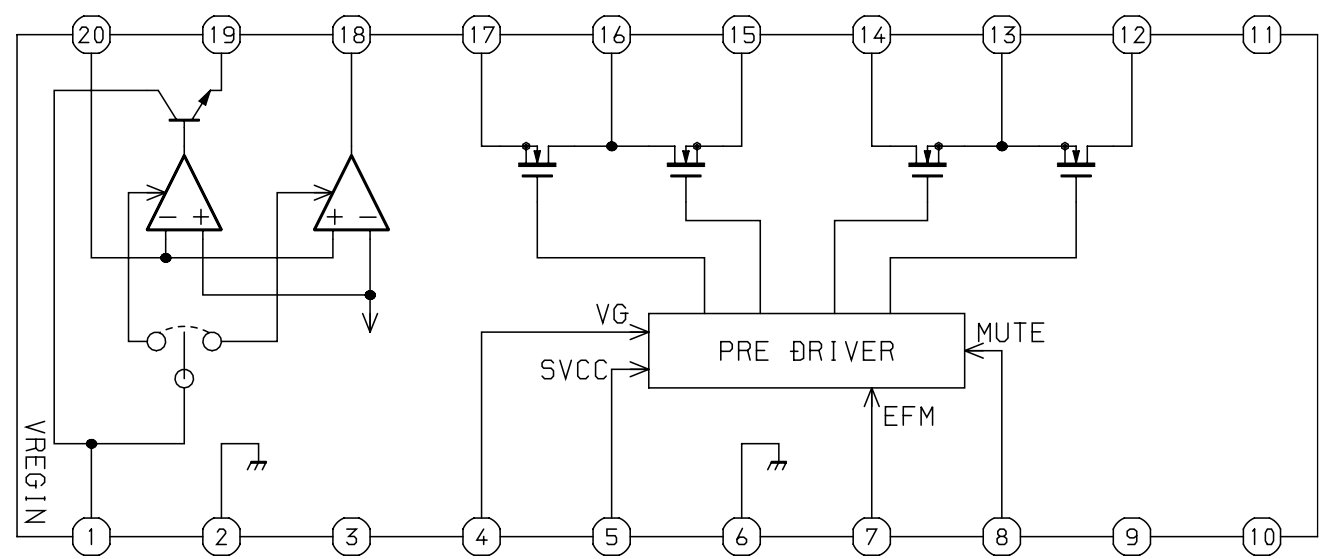
SCHEMATIC DIAGRAM-1 (MD)



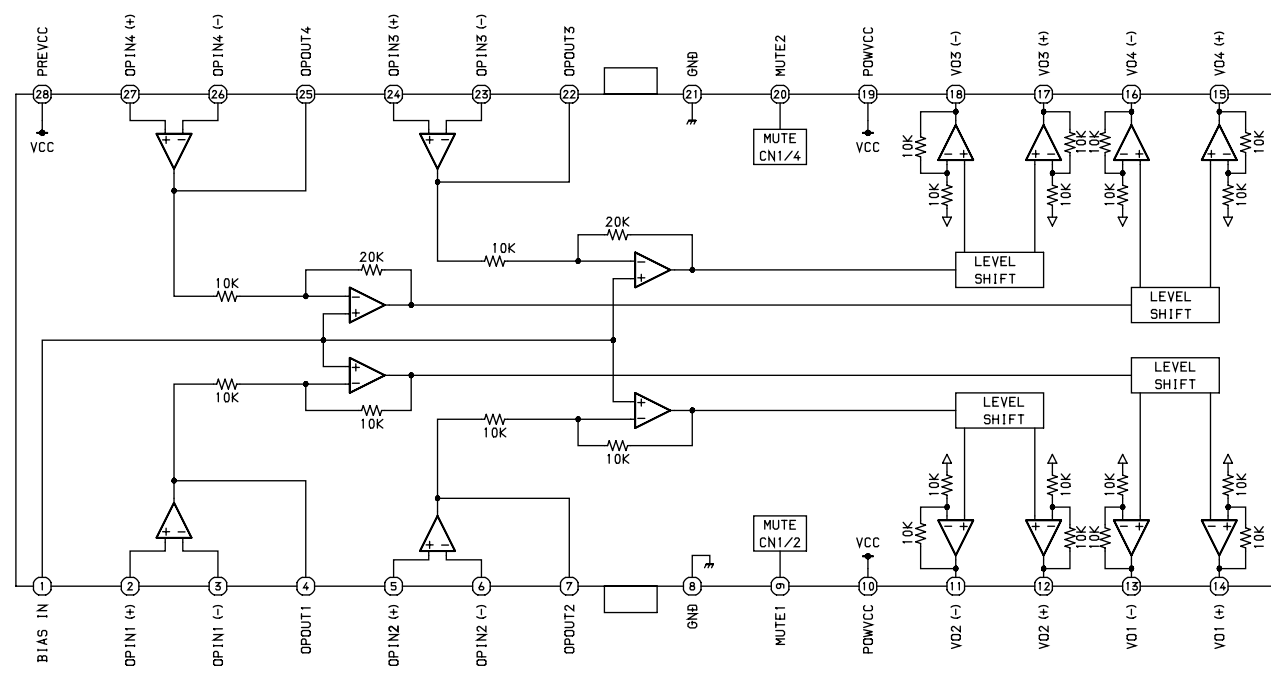
IC BLOCK DIAGRAM
IC, BA6417F



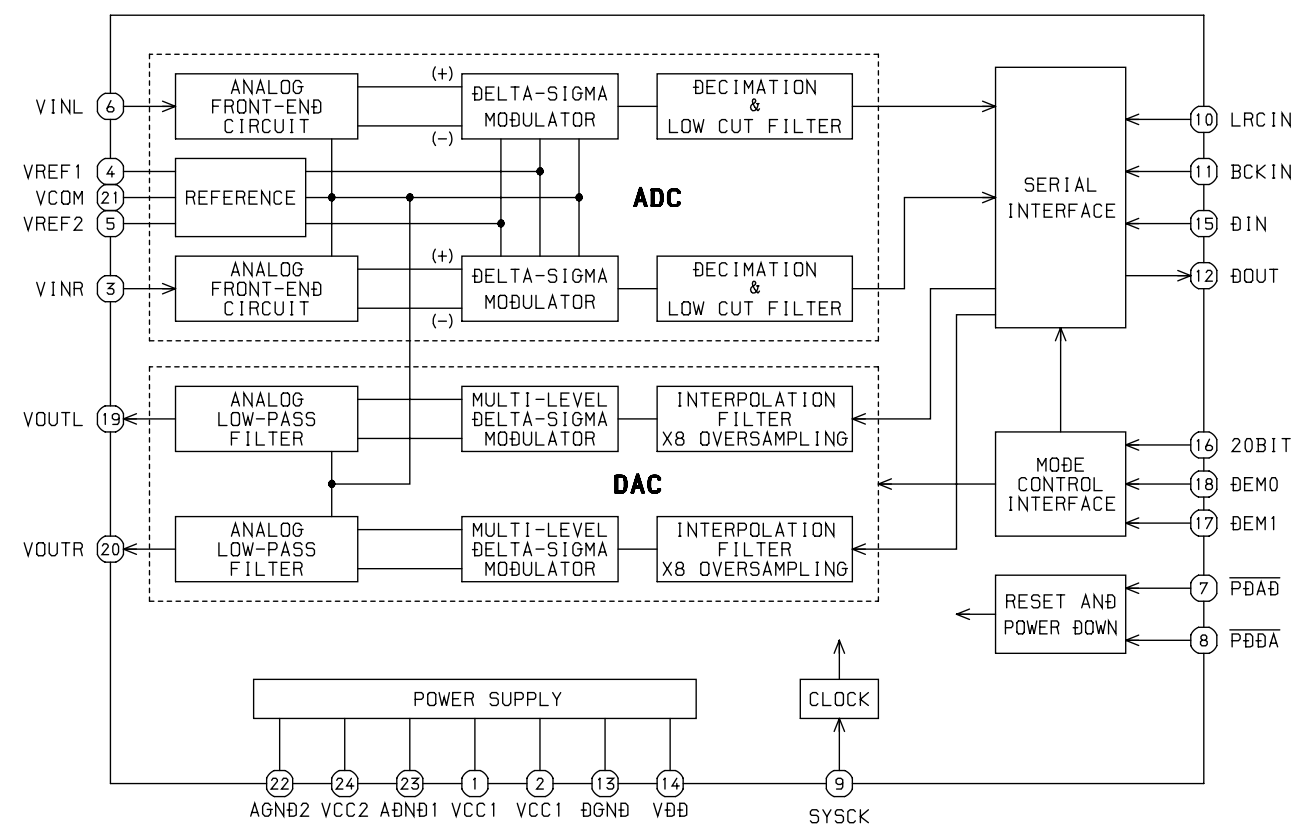
IC, BD7910FV

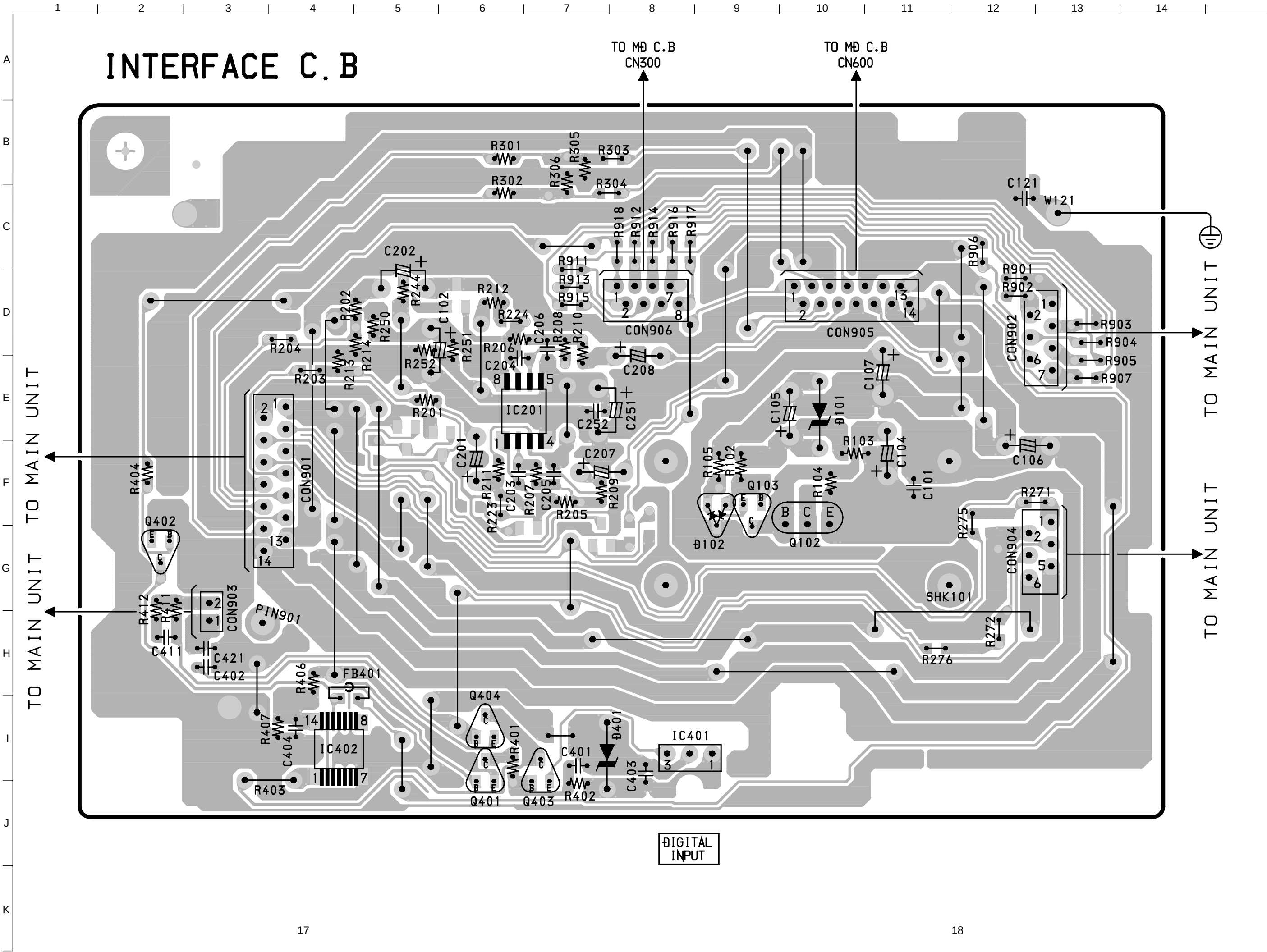


IC, BA5970FP

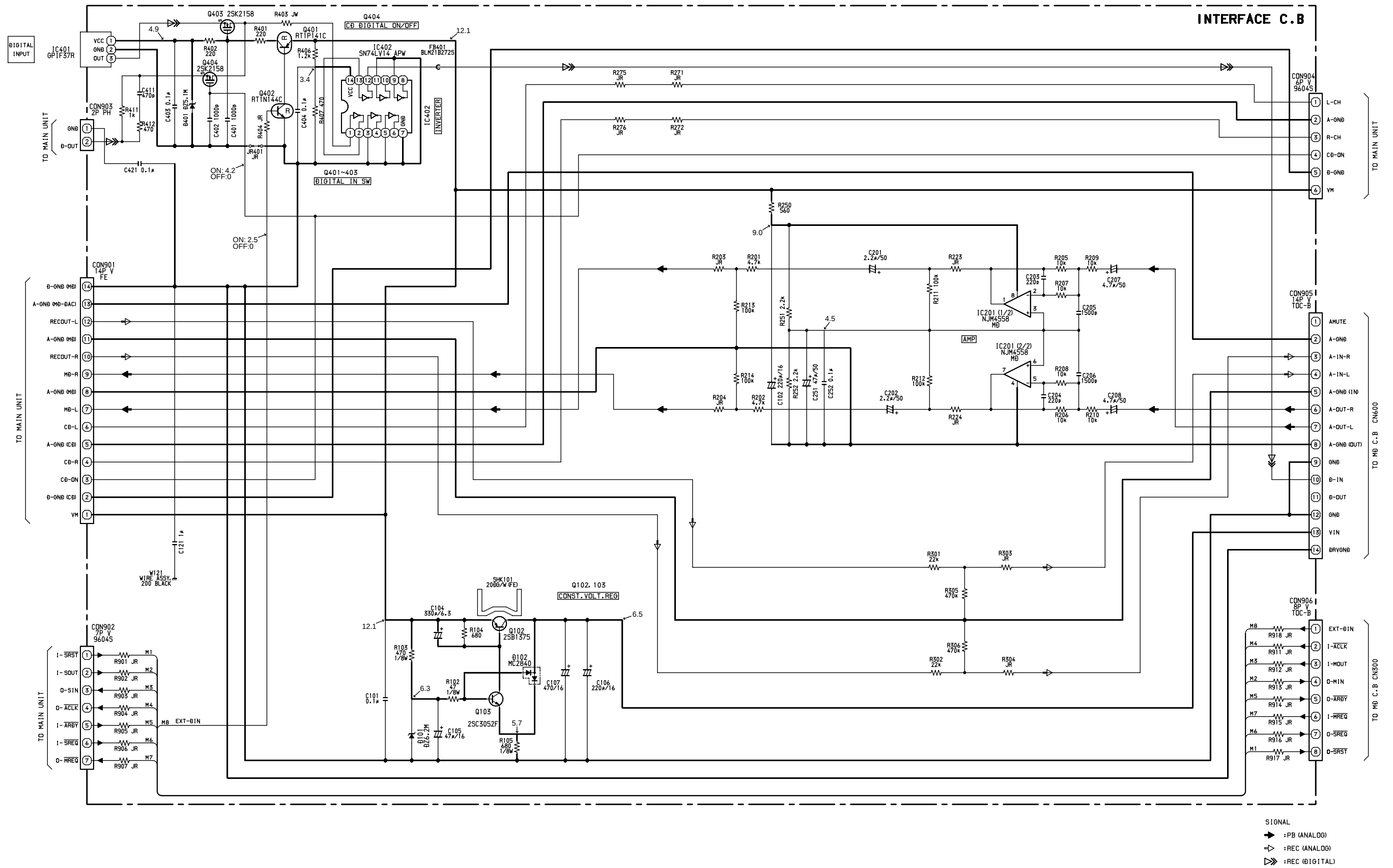


IC, PCM3003E

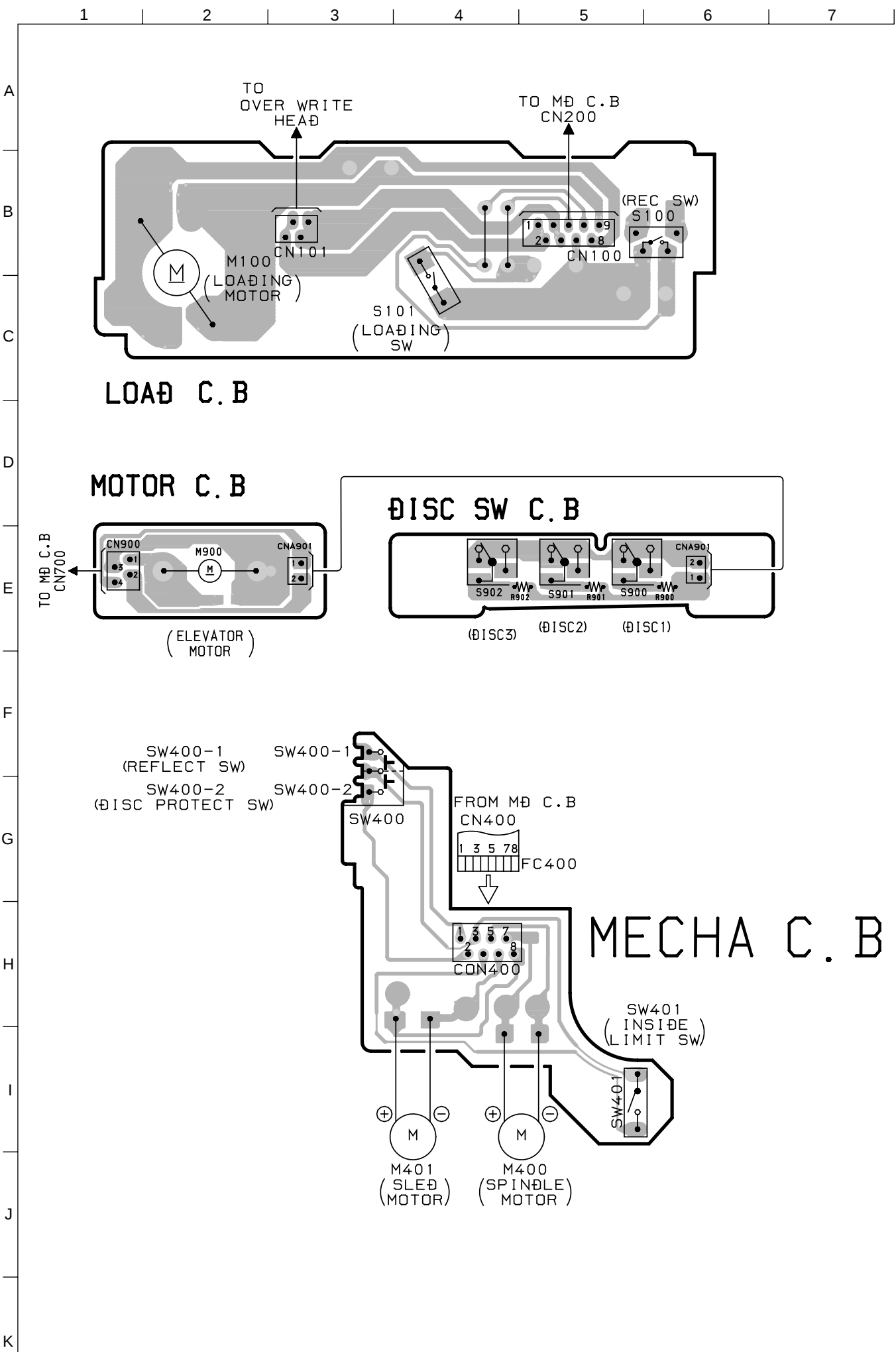




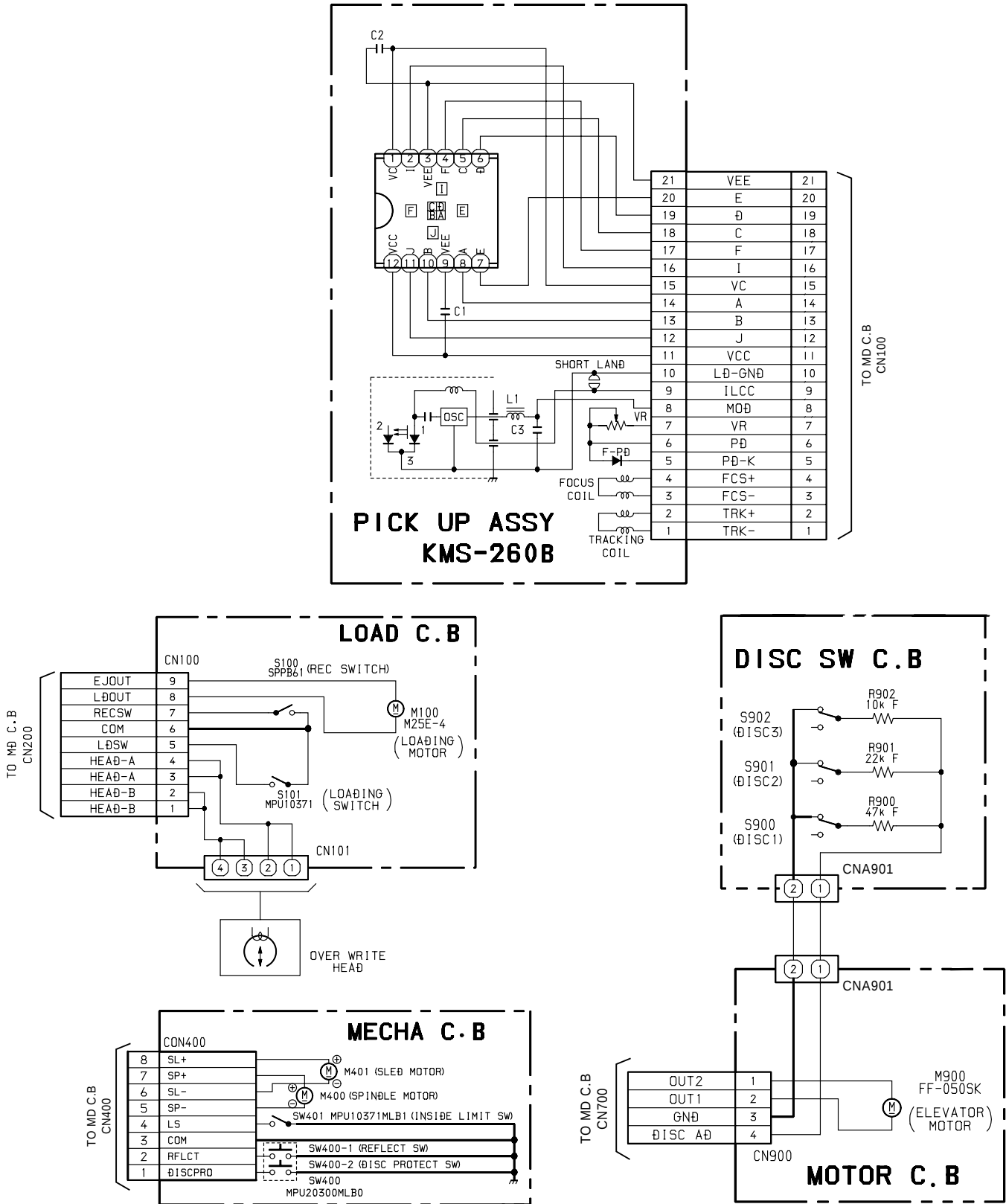
SCHEMATIC DIAGRAM-2 (INTERFACE)



WIRING-2 (LOAD/MOTOR/DISC SW/MECHA)



SCHEMATIC DIAGRAM-3 (PICK UP/LOAD/DISC SW/MOTOR/MECHA)



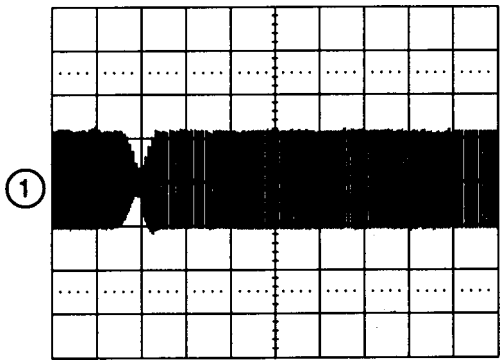
WAVE FORM

1

IC100 Pin 38 (RF)

VOLT/DIV: 0.5V

TIME/DIV: 1mS

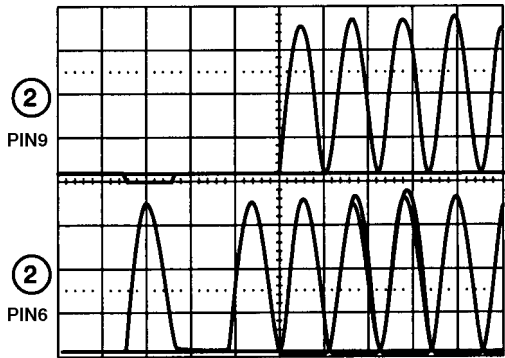


2

CN200 Pin 9 (HEAD-B)
CN200 Pin 6 (HEAD-A)

VOLT/DIV: 10V

TIME/DIV: 0.2μS



IC DESCRIPTION

IC, CXA2523AR

Pin No.	Pin Name	I/O	Description
1	I	I	Input “I” RF signal converted to I-V.
2	J	I	Input “J” RF signal converted to I-V.
3	VC	O	Output voltage for VCC/2.
4	A	I	Input current for main beam servo signal A.
5	B	I	Input current for main beam servo signal B.
6	C	I	Input current for main beam servo signal C.
7	D	I	Input current for main beam servo signal D.
8	E	I	Input current for side beam servo signal E.
9	F	I	Input current for side beam servo signal F.
10	PD	I	Input beam spectrum monitor signal.
11	APC	O	Output laser APC.
12	APCREF	I	Input reference voltage for laser power setting.
13	GND	—	GND.
14	TEMPI	I	Not used.
15	TEMPR	I	
16	SWDT	I	Input micro-processor serial interface data.
17	SCLK	I	Input micro-processor serial interface shift clock.
18	XLAT	I	Input micro-processor serial interface latch. “L”: Latch.
19	XSTBY	I	Standby setting pin. “H”: Normal mode, “L”: Standby.
20	FOCNT	I	Internal current setting pin.
21	VREF	O	Not used.
22	EQADJ	I/O	EQ central frequency setting pin.
23	3TADJ	I/O	BPF3T central frequency setting pin.
24	VCC	—	Power supply pin.
25	WBLADJ	I/O	BPF22 central frequency setting pin.
26	TE	O	Output tracking error signal.
27	CSLED	—	LPF capacitor connection pin for SLED error signal.
28	SE	O	Output SLED error signal.
29	ADFM	O	Output ADIP FM signal.
30	ADIN	I	Input ADIP signal comparator.
31	ADAGC	—	ADIPAGC capacitor connection pin.
32	ADFG	O	Output ADIP2 binary data signal.
33	AUX	O	I3 output temperature signal. Switched by serial command.
34	FE	O	Output focus error signal.
35	ABCD	O	Output beam spectrum signal for main beam servo detector.
36	BOTM	O	Output bottom hold signal for RF/ABCD.
37	PEAK	O	Output peak hold signal for RF/ABCD.
38	RF	O	RF equalizer output pin.
39	RFAGC	—	RFAGC capacitor connection pin.
40	AGCI	I	RFAGC input pin.
41	COMPO	O	Not used.

Pin No.	Pin Name	I/O	Description
42	COMPP	I	User comparator non-inverted input pin.
43	ADDC	I/O	Capacitor connection pin for ADIP amplifier on return circuit.
44	OPO	O	Not used.
45	OPN	I	Non-inverted input pin for user operational amplifier.
46	RFO	O	RF amplifier output pin. Check point for eye pattern.
47	MORFI	I	Input pin where Groove RF signal is AC coupled.
48	MORFO	O	Output pin for Groove RF signal.

IC, CXD2654R

Pin No.	Pin Name	I/O	Description
1	MNT0	O	Monitor output terminal.
2	MNT1	O	
3	MNT2	O	
4	MNT3	O	
5	SWDT	I	Microprocessor serial interface data input.
6	SCLK	I	Microprocessor serial interface shift clock input.
7	XLAT	I	Microprocessor serial interface latch input. Latched at falling down edge.
8	SRDT	O	Microprocessor serial interface data output.
9	SENS	O	The terminal which outputs internal status in accordance with the address of the microprocessor serial interface.
10	RST	I	Reset input. L: reset.
11	SQSY	O	Disc sub code Q sync/ADIP sync output.
12	DQSY	O	Subcode Q sync output of U-bit CD or MD format when the DIGITAL IN source is CD or MD.
13	RECP	I	Laser power selection input. H: Recording power, L: Playback power.
14	XINT	O	Interrupt request output terminal. L is output when interrupt status is generated.
15	TX	I	Record data output enable signal input terminal. H: enable.
16	OSCI	I	Crystal oscillator circuit input terminal.
17	OSCO	O	Crystal oscillator circuit output terminal. (Inverted output of OSCI).
18	XTSL	I	OSCI terminal input frequency selection. H: 512 Fs (22.5792 MHz), L: 1024 Fs (45.1584 MHz).
19	DIN0	I	Digital audio interface signal input 1.
20	DIN1	I	Digital audio interface signal input 2.
21	DOUT	O	Digital audio interface signal output.
22	DATAI	I	Test pin. Connect to GND.
23	LRCKI	I	Test pin. Connect to GND.
24	XBCKI	I	Test pin. Connect to GND.
25	ADDT	I	Data input from A/D converter.
26	DADT	O	REC monitor output/decoded audio data output.
27	LRCK	O	LR clock (44.1kHz) output to the external audio block.
28	XBCK	O	Bit clock (2.8224MHz) output to the external audio block.
29	FS256	O	256Fs output.
30	DVDD	—	Digital power supply.
31	A03	O	Eternal DRAM address output.
32	A02	O	
33	A01	O	
34	A00	O	
35	A10	O	
36	A04	O	
37	A05	O	
38	A06	O	

Pin No.	Pin Name	I/O	Description
39	A07	O	Eternal DRAM address output.
40	A08	O	
41	A11	O	Eternal DRAM address output. (Not connected)
42	DVSS	—	Digital ground.
43	XOE	O	External DRAM output enable.
44	XCAS	O	External DRAM $\overline{\text{CAS}}$ output.
45	A09	O	External DRAM address output.
46	XRAS	O	External DRAM $\overline{\text{RAS}}$ output.
47	XWE	O	External DRAM write enable.
48	D1	I/O	External DRAM data bus.
49	D0	I/O	
50	D2	I/O	
51	D3	I/O	
52	MVCI	I	External VCO (784Fs) clock input.
53	ASYO	O	Playback EFM full- swing output. (Low: VSS; high: VDD)
54	ASYI	I	Playback EFM comparator slice voltage input.
55	AVDD	—	Analog power supply.
56	BIAS	I	Playback EFM comparator bias current input.
57	RFI	I	Playback EFM RF signal input.
58	AVSS	—	Analog ground.
59	PCO	O	Phase comparison output for master PLL of playback digital PLL and recording EFM PLL.
60	FILI	I	Filter input for master PLL of playback digital PLL and recording EFM PLL.
61	FILO	O	Filter output for master PLL of playback digital PLL and recording EFM PLL.
62	CLTV	I	Internal VCO control voltage input for master PLL of playback digital PLL and recording EFM PLL.
63	PEAK	I	Peak hold signal input for quantity of light.
64	BOTM	I	Bottom hold signal input for quantity of light.
65	ABCD	I	Signal input for quantity of light.
66	FE	I	Focus error signal input.
67	AUX1	I	Auxiliary input 1.
68	VC	I	Center voltage input.
69	ADIO	O	Monitor output for A/D converter input signal. (Not connected)
70	AVDD	—	Analog power supply.
71	ADRT	I	Voltage input for the upper limit of the A/D converter operating range.
72	ADRB	I	Voltage input for the lower limit of the A/D converter operating range.
73	AVSS	—	Analog ground.
74	SE	I	Sled error signal input.
75	TE	I	Tracking error signal input.
76	DCHG	I	Connected to the low impedance power supply.
77	APC	I	Error signal input to the laser digital APC.

Pin No.	Pin Name	I/O	Description
78	ADFG	I	ADIP2 binary-converted FM signal (22.05±1 kHz) input.
79	F0CNT	O	Current source setting output terminal to CXA2523.
80	XLRF	O	Latch output for CXA2523 control. Latched at rise-up.
81	CKRF	O	Shift clock output for CXA2523 control.
82	DTRF	O	Data output for CXA2523 control.
83	APCREF	O	Reference PWM output to laser APC.
84	LDDR	O	Not used.
85	TRDR	O	Tracking servo drive PWM output. (-).
86	TFDR	O	Tracking servo drive PWM output. (+).
87	DVDD	—	Digital power supply.
88	FFDR	O	Focus servo drive PWM output. (+).
89	FRDR	O	Focus servo drive PWM output. (-).
90	FS4	O	Not used.
91	SRDR	O	Sled servo drive PWM output. (-).
92	SFDR	O	Sled servo drive PWM output. (+).
93	SPRD	O	Spindle servo drive PWM output. (PWM (-) or negative polarity).
94	SPFD	O	Spindle servo drive PWM output. (PWM (+) or PWM absolute value).
95	FGIN	I	FG input to spindle CAV servo.
96	TEST1	I	Test pin. Connected to GND.
97	TEST2	I	
98	TEST3	I	
99	DVSS	—	Digital GND.
100	EFMO	O	Low signal during playback. EFM (encode data) output: during recording.

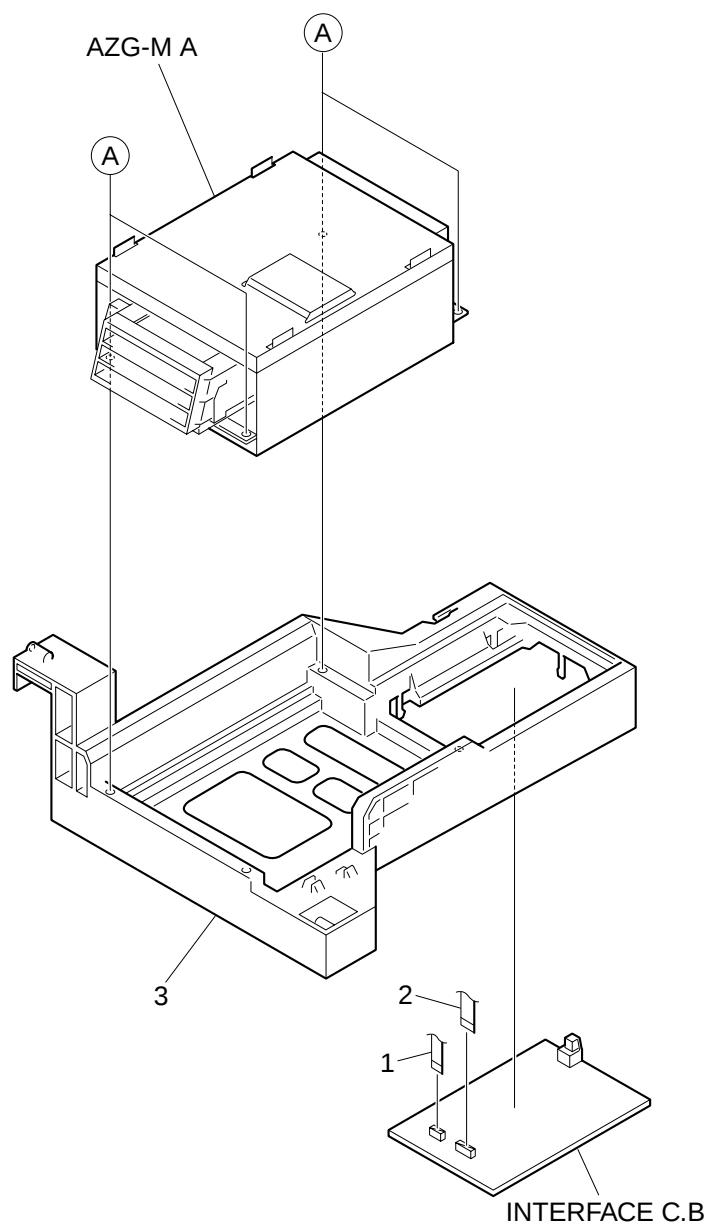
IC, CXP81960M-561R

Pin No.	Pin Name	I/O	Description
1	MCAS	—	Not used.
2	MRAS	—	
3	BUP	—	
4	AMUTE	O	Audio mute signal output.
5	ESK	O	Serial clock output for EEPROM interface.
6	EDO	O	Serial data output for EEPROM interface.
7	EDI	I	Serial data input for EEPROM interface.
8	ECS	O	EEPROM chip select signal output.
9	NC	—	Not used.
10	RFLCT	I	Input from disc reflectance detection switch.
11	NC	—	Not used.
12	$\overline{LS}$	I	Input signal from pickup inner circumference detect switch.
13	LDSW	I	Input signal from loading mechanism EJECT position detect switch.
14	RECSW	I	Input signal from loading mechanism REC position detect switch.
15	PBSW	I	Elevator's mechanical position detection switch input.
16	PBSW	I	
17	NC	—	Not used.
18	ACOFF	—	
19	SREQ	I	System control send request input signal for system control interface.
20	EXTDIN	O	External DIGITAL-IN permission output signal.
21	SLOW1	O	Speed control signal output to loading mechanism.
22	$\overline{EJECT}$	O	Movement direction control signal output-1 to loading mechanism.
23	$\overline{LOAD}$	O	Movement direction control signal output-2 to loading mechanism.
24	MREQ	O	MD controller send request output signal for system control interface.
25	DRIVE	O	EFM driver ON/OFF output signal.
26	UP	O	Operation direction control signal output 1 from the elevator mechanism.
27	DOWN	O	Operation direction control signal output 2 from the elevator mechanism.
28	SLOW2	O	Speed control signal output of the elevator mechanism.
29	LE/EJECT	—	Not used.
30	UP/DOWN	—	
31	NC	—	
32	NC	—	
33	NC	—	
34	NC	—	
35	NC	—	
36	NC	—	
37	MP	—	Connected to VSS.
38	SRST	I	MD controller reset signal input.
39	DGND	—	Connected to VSS.
40	XTALO	O	External crystal connection terminal-1 for system clock oscillation.
41	XTALI	I	External crystal connection terminal-2 for system clock oscillation.

Pin No.	Pin Name	I/O	Description
42	ARDY	I	READY input signal for system control interface.
43	SIN	I	Serial data input for system control interface.
44	SOUT	O	Serial data output for system control interface.
45	ACLK	O	Serial clock output for system control interface.
46	XLAT	O	Latch signal output for CXD2654 interface.
47	$\overline{\text{RST}}$	O	CXD2654 reset signal output.
48	$\overline{\text{STBY}}$	O	CXA2523 standby signal output.
49	NC	O	Not used.
50	AVSS	—	Connected to VSS.
51	AVREF	I	Connected to VDD.
52	AVDD	I	
53	NC	I	Not used.
54	DISC_AD	I	Selection disc detection.
55	NC	I	Not used.
56	SLF	I	
57	SLR	I	
58	TEMP	I	Temperature sensor A/D input.
59	MAGIC	I	Not used.
60	NC	I	
61	TEST	I	
62	DISCPRO	I	Disc write protection switch input.
63	MNT3	I	CXD2654 monitor signal input-1.
64	MNT2	I	CXD2654 monitor signal input-2.
65	MNT1	I	CXD2654 monitor signal input-3.
66	MNT0	I	CXD2654 monitor signal input-4.
67	SENS	I	CXD2654 SENS signal input.
68	FLG	O	Monitoring signal of flag contained in SRDT of CXD2652 interface.
69	NC	O	Not used.
70	NC	O	
71	P-CONT	O	
72	RFSW	O	
73	NC	O	
74	NC	O	
75	DQSY	I	DIGITAL-IN SUB-Q sync input.
76	$\overline{\text{INT}}$	I	CXD2654 status sync input.
77	SRDT	I	Serial data input for CXD2654 interface.
78	SWDT	O	Serial data output for CXD2654 interface.
79	SCLK	O	Serial clock output for CXD2654 interface.
80	SQSY	I	SUB-Q, ADIP sync input.
81	NC	—	Not used.
82	NC	—	

Pin No.	Pin Name	I/O	Description
83	NC	—	Not used.
84	TXI	I	Connected to VSS.
85	TXO	O	Open.
86	VSS	—	Connected to VSS.
87	VDD	—	Connected to VDD.
88	NC	—	
89	NC	—	Not used.
90	DRVMUTE	O	BA5970FP mute signal output.
91	NC	—	Not used.
92	NC	—	
93	NC	—	
94	NC	—	
95	RECP	O	Laser power select signal output.
96	TX	O	Record data output enable signal output.
97	MOD	O	High frequency superimpose circuit ON/OFF signal output.
98	OPMUTE	O	Laser mute signal output.
99	ARST	O	PCM3003 reset signal output.
100	DENF	O	De-emphasis ON/OFF signal output.

MECHANICAL EXPLODED VIEW 1/1

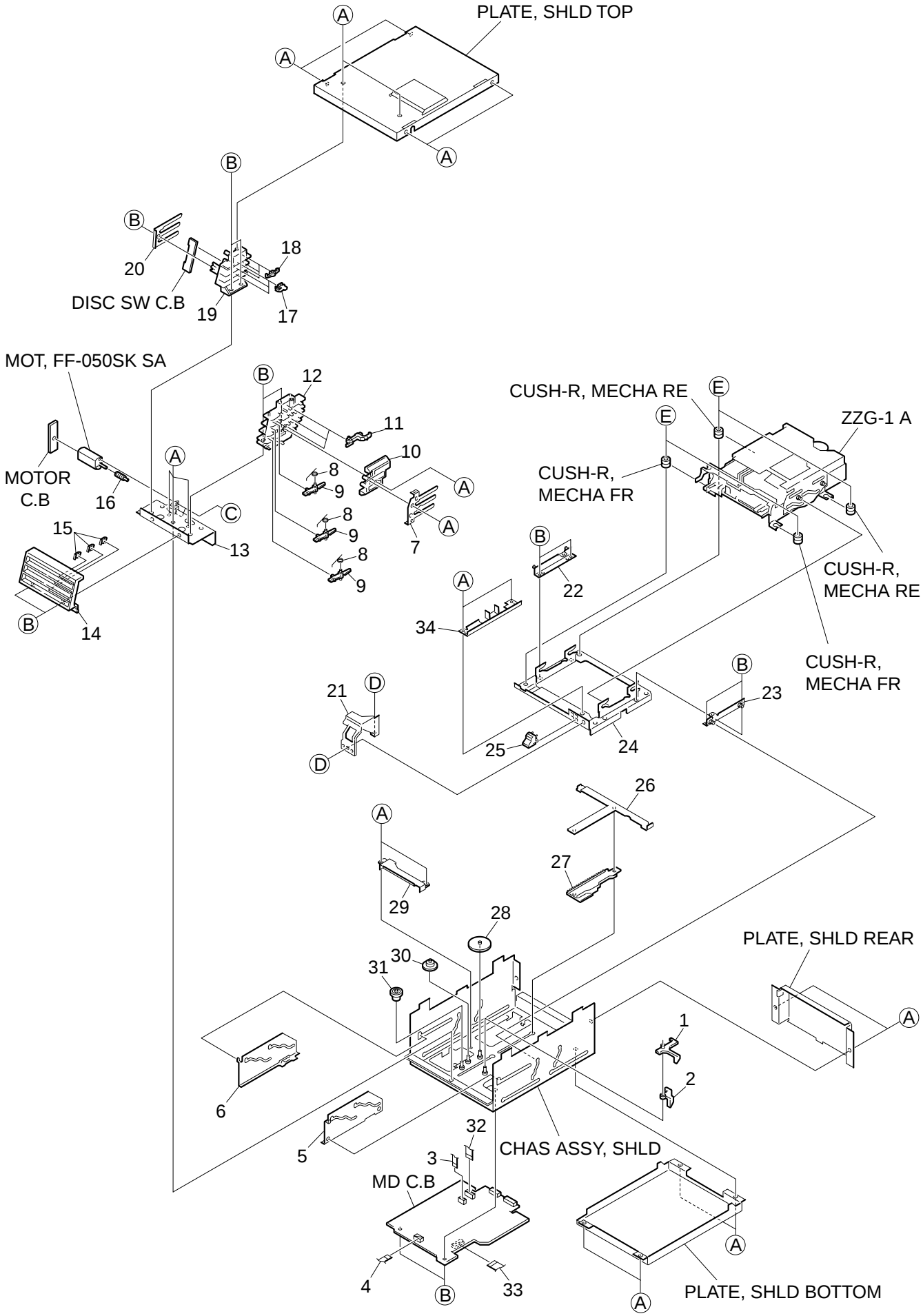


MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-ZGT-601-010		FF-CABLE,8P 1.0 130MM
2	8A-ZGT-602-010		FF-CABLE,14P 1.0 130MM
3	8A-DB6-202-010		HLDR,MD
A	87-067-703-010		TAPPING SCREW, BVT2+3-10

MECHANISM EXPLODED VIEW 1/1 (AZG-M)

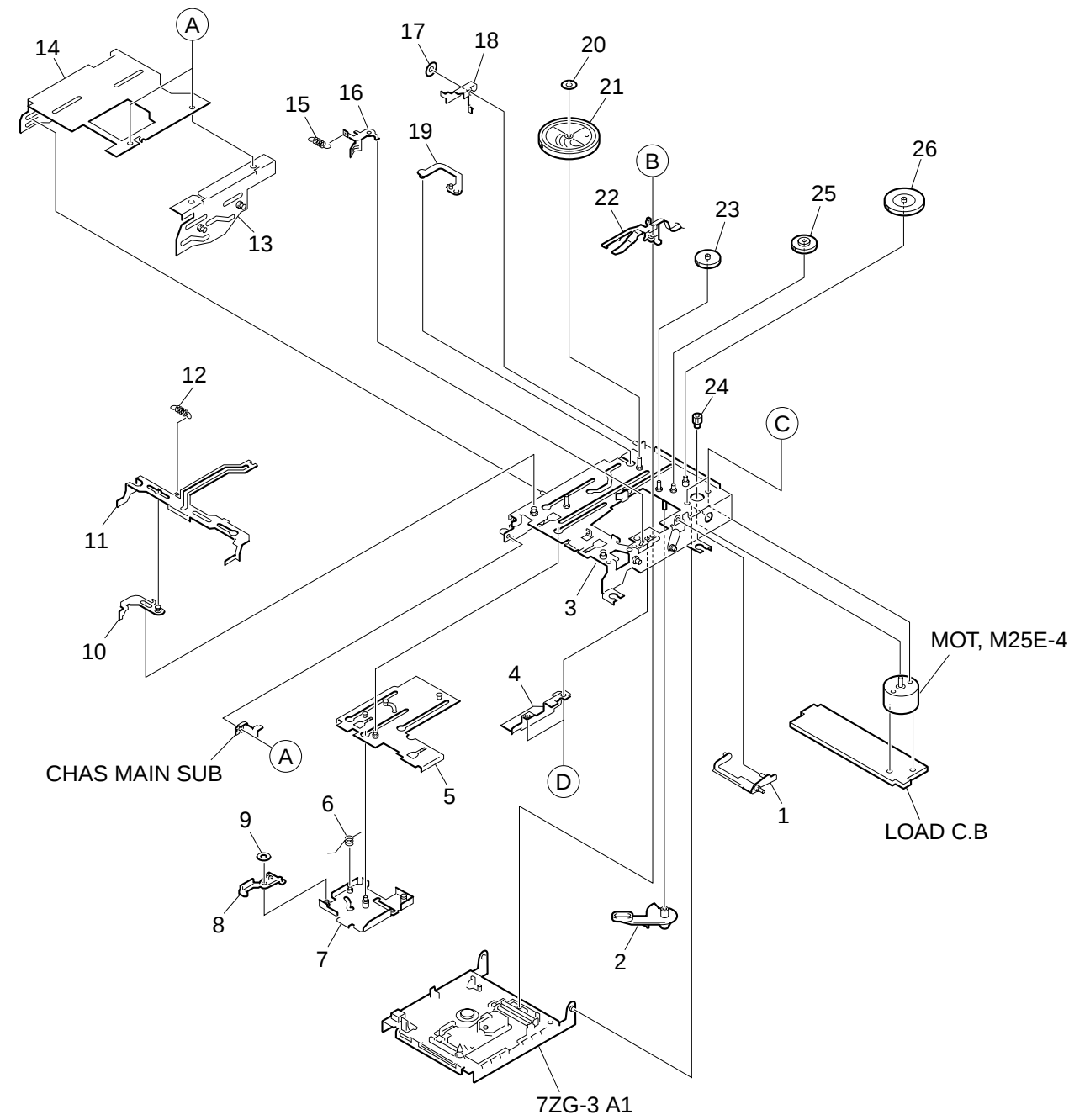


MECHANISM PARTS LIST 1/1 (AZG-M)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-ZG2-220-010		LEVER, SW RACK A	21	8Z-ZG2-238-010		HLDR, MECHA STOP
2	8Z-ZG2-221-010		LEVER, SW RACK B	22	8Z-ZG2-241-010		HLDR, ASSY M SUB L
3	8Z-ZG1-606-010		FF-CABLE, 8P 1.0 115MM	23	8Z-ZG2-243-010		HLDR, ASSY M SUB R
4	8Z-ZG2-613-010		FF-CABLE, 4P 1.0 70MM	24	8Z-ZG2-235-010		HLDR, MECHA
5	8Z-ZG2-213-010		SLIDER ASSY, CAM R	25	8Z-ZG2-239-010		STOPPER, HLDR M
6	8Z-ZG2-210-010		SLIDER ASSY, CAM L	26	8Z-ZG2-207-010		JOINT ASSY, SLIDER
7	8Z-ZG2-233-010		SPR-P, STOPPER R	27	8Z-ZG2-219-010		GEAR, RACK JT
8	8Z-ZG2-245-010		SPR-T, LVR PUSH	28	8Z-ZG2-218-010		GEAR, JT B
9	8Z-ZG2-230-010		LEVER, PUSH R	29	8Z-ZG2-244-010		PLATE, PROTECTOR
10	8Z-ZG2-231-010		HLDR, LEVER R	30	8Z-ZG2-217-010		GEAR, JT A
11	8Z-ZG2-229-010		LEVER, STOPPER R	31	8Z-ZG2-216-010		WORM-WHL, JT
12	8Z-ZG2-225-010		MAGAZINE, R	32	8Z-ZG2-612-010		FF-CABLE, 9P 1.0 90MM
13	8Z-ZG2-223-010		HLDR, MAGAZINE	33	8Z-ZG1-605-010		FF-CABLE, 21P 0.5 100MM
14	8Z-ZG2-001-010		MAGAZINE, F	34	8Z-ZG2-248-010		PLATE, PROTECT PIC
15	8Z-ZG2-247-010		PLATE, MAGAZINE F	A	87-067-684-010		BVT2+2.6-6 W/O SLOT
16	8Z-ZG2-215-010		GEAR, WORM JT	B	87-743-073-410		UT2+2.6-6
17	8Z-ZG2-227-010		STOPPER, L	C	87-262-545-310		V+2-2.5
18	8Z-ZG2-228-010		LEVER, STOPPER L	D	87-067-421-010		VTT+2-4
19	8Z-ZG2-224-010		MAGAZINE, L	E	87-ZG9-208-010		S-SCREW, MD T
20	8Z-ZG2-232-010		SPR-P, STOPPER L				

MECHANISM EXPLODED VIEW 1/1 (ZZG-1 A)

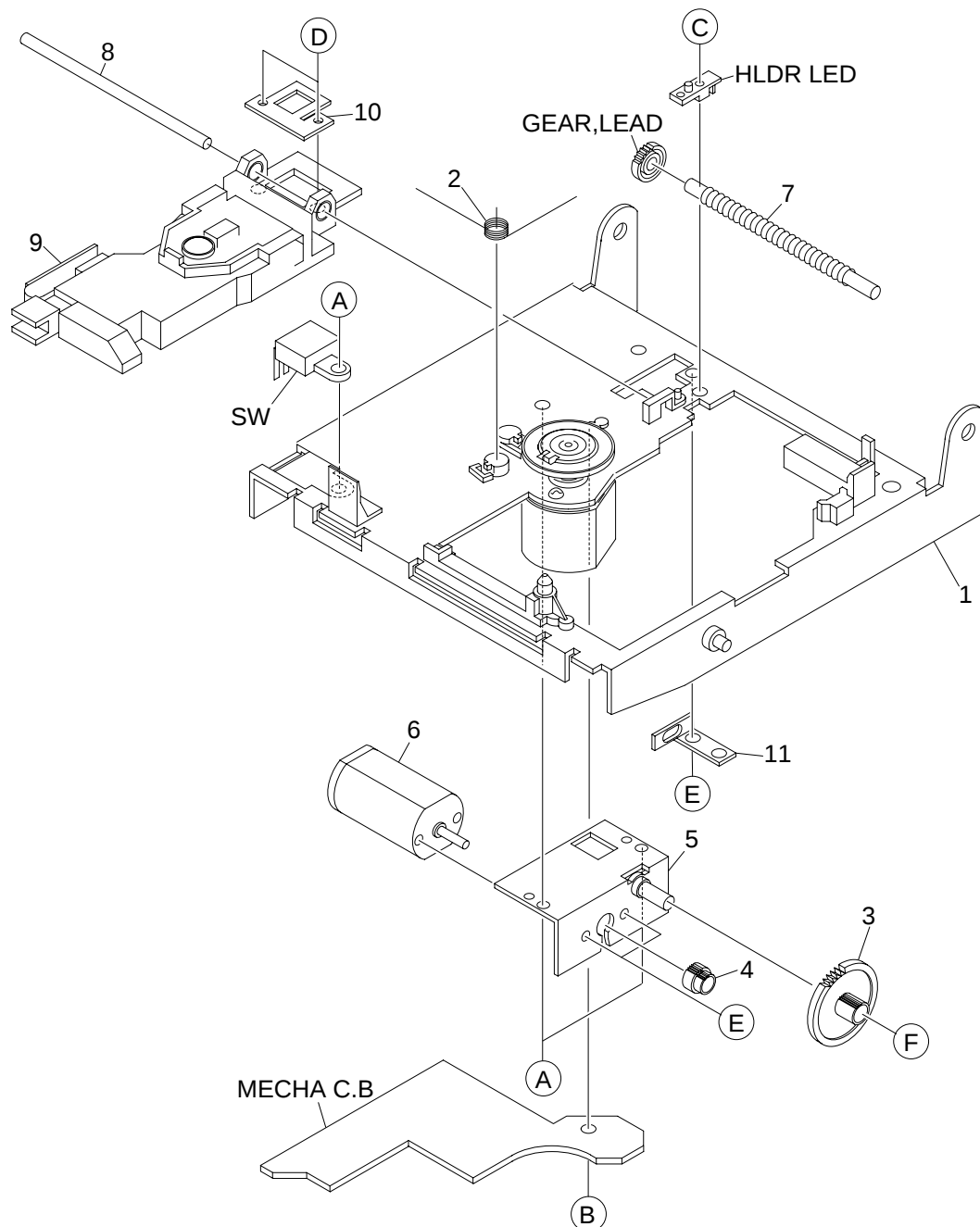


MD MECHANISM PARTS LIST 1/1 (ZZG-1 A)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-ZG8-257-210		LEVER ASSY, REC	16	87-ZG8-231-010		LEVER, SHUTTER
2	8Z-ZG1-220-010		LEVER, SW EJECT	17	87-B10-130-010		W-P, 1.23-3.1-0.25 SLIT
3	8Z-ZG1-201-010		CHAS ASSY, MAIN	18	8Z-ZG1-221-010		LEVER, SW PLAY
4	8Z-ZG1-248-010		PLATE, CTRG	19	8Z-ZG1-218-010		LEVER ASSY, CAM
5	8Z-ZG1-210-010		HLDR ASSY, CTRG	20	87-B10-267-010		W-P, 1.74-4-0.2 BLKSLIT W/O
6	8Z-ZG1-209-010		SPR-T, LOAD	21	87-ZG8-239-010		CAM, LOAD
7	8Z-ZG1-206-010		PLATE ASSY, EJECT	22	87-A90-605-010		HEAD, OWH RF325-74A
8	8Z-ZG1-208-010		LEVER, LOAD	23	8Z-ZG1-243-010		GEAR, IDLER
9	87-B10-193-010		W-P, 1.76-4.5-0.3 SLIT W/O ADH	24	87-ZG8-242-010		GEAR, MOT
10	8Z-ZG1-223-010		LEVER ASSY, LOAD M	25	8Z-ZG1-226-010		GEAR, REDUCTION S
11	8Z-ZG1-222-010		SLIDER, OPEN	26	8Z-ZG1-225-010		GEAR, REDUCTION L
12	8Z-ZG1-245-010		SPR-E, SL OPEN	A	87-067-421-010		VTT+2-4
13	8Z-ZG1-216-010		PLATE ASSY, SLIDE R	B	87-B10-131-010		VW+1.7-5 W/O MFZN2C
14	8Z-ZG1-214-010		PLATE ASSY, SLIDE L	C	87-B10-128-010		V+1.7-2 W/O MFZN2-C
15	87-ZG8-232-110		SPR-E, SHUTTER	D	87-B10-129-010		VTT+1.7-3.5 W/O MFZN2-C

MD MECHANISM EXPLODED VIEW 1/1 (7ZG-3 A1)



MD MECHANISM PARTS LIST 1/1 (7ZG-3 A1)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	87-ZG3-219-010		CHAS ASSY (7ZG-3)	11	87-ZG3-213-010		SPR-P, LEAD
2	87-ZG3-214-010		SPR-T, SPINDLE-A	A	87-261-547-310		V+2-3 BLK (1)
3	87-ZG3-206-010		GEAR, A	B	87-341-035-210		SCREW, UT1+2-6
4	87-ZG3-205-010		GEAR, MOT SL	C	87-261-509-310		SCREW, V+1.4-4
5	87-ZG3-208-010		HLDR ASSY, MOTOR	D	87-067-393-010		SCREW +1.4-1.4
6	87-A90-616-010		MOT, FF-N30VA	E	87-261-503-310		PRECISION SCREW, V+1.4-2
7	87-ZG3-212-010		SHAFT, LEAD	F	87-078-033-010		PW 1.2-2.5-0.25 SLT
8	87-ZG3-211-010		SHAFT, GUIDE				
9	87-A91-444-010		PICKUP, KMS-260B				
10	87-ZG3-216-010		SPR-P, RACK				

