

SERVICE MANUAL

MD MECHANISM

BASIC MD MECHANISM : AZG-H A

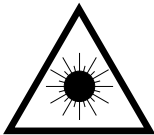
TYPE
D

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 mainituilla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

WARNING!

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

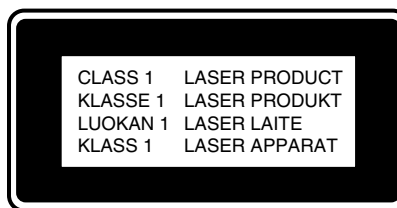
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

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.

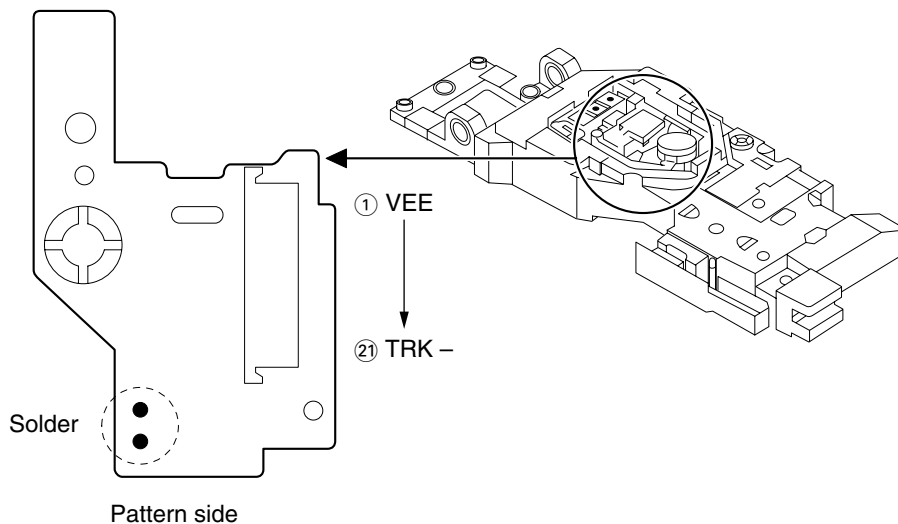


Precaution to replace Optical block (KMS-260B)

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		CON908	87-A60-061-010		CONN,06P V 9604S-06C
	87-A21-419-040	C-IC,NJM14558MD-TE2		R405	87-A50-189-080		C-COIL,S BLM21B272S
	87-A20-709-040	C-IC,BD7910FV		MD C.B			
	8A-ZGH-601-030	C-IC,CXP81952M-557R		C100	87-016-296-080		C-CAP,TN 22-4SV(A)
	87-A21-526-010	C-IC,GM71VLS17403CTL-1		C101	87-016-296-080		C-CAP,TN 22-4SV(A)
	87-A20-755-080	C-IC,AK93C45AF		C102	87-012-286-080		CAP, U 0.01-25
	87-A20-710-040	C-IC,S-8110AMP		C103	87-010-787-080		CAP, U 0.022-25
	87-A20-711-040	C-IC,BA5970FP		C104	87-010-662-080		C-CAP,E 22-6.3
	87-A20-870-010	IC,GP1F37R		C105	87-010-831-080		C-CAP,U,0.1-16F
	87-A20-971-040	C-IC,SN74LV14APW		C106	87-016-462-080		C-CAP,S 1-16 F
	87-A21-110-040	C-IC,AK4519VF		C107	87-012-195-080		C-CAP,U 100P-50CH
	87-017-853-040	IC,NJM2100V		C108	87-012-274-080		CHIP CAP,U 1000P-50B
	87-A21-340-040	C-IC,LA5638H		C109	87-A11-033-080		C-CAP,TN 47U-4
TRANSISTOR				C111	87-016-296-080		C-CAP,TN 22-4SV(A)
	87-026-423-080	C-TR RN2305		C112	87-012-286-080		CAP, U 0.01-25
	89-115-884-080	CHIP -TRANSISTOR 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-A30-490-080	C-TR,KRC107S		C117	87-016-462-080		C-CAP,S 1-16 F
	87-A30-075-080	C-TR,2SA1235F		C118	87-012-282-080		CAP, U 4700P-50
	87-026-225-080	FET,2SJ106GR		C119	87-016-491-080		C-CAP,S 0.22-16 FZ
	87-A30-489-080	C-TR,KRA107S		C120	87-010-787-080		CAP, U 0.022-25
	87-A30-484-080	C-TR,KRA102S		C121	87-012-286-080		CAP, U 0.01-25
	87-026-412-080	C-TR RN1305		C122	87-010-829-080		CAP, U 0.047-16
	87-A30-087-080	C-FET,2SK2158		C123	87-012-286-080		CAP, U 0.01-25
DIODE				C124	87-010-662-080		C-CAP,E 22-6.3
	87-001-166-080	DIODE,1SS301		C125	87-010-662-080		C-CAP,E 22-6.3
	87-A40-751-080	ZENER,UZ6.2BSB		C126	87-010-831-080		C-CAP,U,0.1-16F
	87-A40-313-080	C-DIODE,MC 2840		C201	87-010-831-080		C-CAP,U,0.1-16F
	87-A40-412-040	C-DIODE,SB05-05CP		C202	87-010-831-080		C-CAP,U,0.1-16F
	87-A40-270-080	C-DIODE,MC2838		C203	87-010-785-080		C-CAP,U0.015-25BK
	87-A40-269-080	C-DIODE,MC2836		C204	87-016-461-080		C-CAP,S 0.47-16F
	87-A40-747-080	ZENER,UZ5.1BSB		C205	87-010-831-080		C-CAP,U,0.1-16F
	87-A40-796-080	ZENER,MTZJ2.7B		C206	87-012-270-080		CAP, U 470P-50
INTERFACE C.B				C207	87-016-461-080		C-CAP,S 0.47-16F
	C101	87-010-196-080	CHIP CAPACITOR,0.1-25	C208	87-012-286-080		CAP, U 0.01-25
	C102	87-010-101-080	CAP, ELECT 220-16	C209	87-010-831-080		C-CAP,U,0.1-16F
	C104	87-010-370-040	CAP,E 330-6.3 SME	C210	87-012-176-080		C-CAP,U 15P-50 J CH
	C105	87-010-380-080	CAP, ELECT 47-16V	C211	87-012-176-080		C-CAP,U 15P-50 J CH
	C106	87-010-101-080	CAP, ELECT 220-16	C212	87-012-195-080		C-CAP,U 100P-50CH
	C122	87-010-956-080	CHIP-CAP,S 0.068-25B	C213	87-010-662-080		C-CAP,E 22-6.3
	C201	87-010-402-080	CAP, ELECT 2.2-50V	C214	87-012-274-080		CHIP CAP,U 1000P-50B
	C202	87-010-402-080	CAP, ELECT 2.2-50V	C217	87-012-188-080		C-CAP,U 47P-50 CH
	C203	87-012-156-080	C-CAP,S 220P-50 CH	C218	87-012-172-080		CAPACITOR CHIP U 10P CH
	C204	87-012-156-080	C-CAP,S 220P-50 CH	C219	87-016-296-080		C-CAP,TN 22-4SV(A)
	C205	87-010-180-080	C-CER 1500P	C220	87-010-662-080		C-CAP,E 22-6.3
	C206	87-010-180-080	C-CER 1500P	C221	87-010-831-080		C-CAP,U,0.1-16F
	C207	87-010-404-080	CAP, ELECT 4.7-50V	C222	87-016-444-080		C-CAP,TN 47-10 F95E
	C208	87-010-404-080	CAP, ELECT 4.7-50V	C223	87-010-831-080		C-CAP,U,0.1-16F
	C251	87-010-380-080	CAP, ELECT 47-16V	C224	87-A10-685-080		C-CAP,S 470P-100 J CH
	C252	87-010-196-080	CHIP CAPACITOR,0.1-25	C225	87-010-831-080		C-CAP,U,0.1-16F
	C401	87-010-178-080	CHIP CAP 1000P	C226	87-010-831-080		C-CAP,U,0.1-16F
	C402	87-010-178-080	CHIP CAP 1000P	C227	87-012-274-080		CHIP CAP,U 1000P-50B
	C403	87-010-196-080	CHIP CAPACITOR,0.1-25	C228	87-012-274-080		CHIP CAP,U 1000P-50B
	C404	87-010-805-080	C-CAP,S 1-16 F	C229	87-012-274-080		CHIP CAP,U 1000P-50B
	C411	87-012-140-080	CAP 470P	C232	87-012-274-080		CHIP CAP,U 1000P-50B
	C421	87-010-196-080	CHIP CAPACITOR,0.1-25	C233	87-012-274-080		CHIP CAP,U 1000P-50B
CON901	87-A60-056-010	CONN,12P V 9604S-12C		C236	87-010-831-080		C-CAP,U,0.1-16F
CON902	87-A60-060-010	CONN,07P V 9604S-07C		C237	87-012-274-080		CHIP CAP,U 1000P-50B
CON903	87-A60-619-010	CONN,2P V 2MM JMT		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	87-016-462-080		C-CAP,S 1-16 F
				C307	87-010-831-080		C-CAP,U,0.1-16F
				C308	87-010-831-080		C-CAP,U,0.1-16F

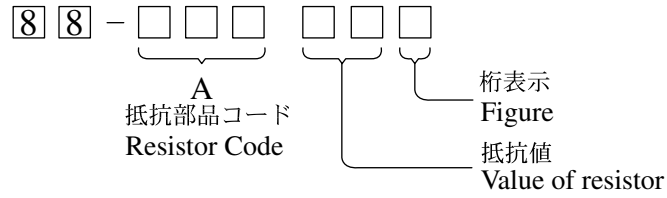
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C311	87-010-662-080		C-CAP,E 22-6.3	C601	87-010-779-080		C-CAP,E 100-6.3
C312	87-012-195-080		C-CAP,U 100P-50CH	C602	87-010-779-080		C-CAP,E 100-6.3
C321	87-012-274-080		CHIP CAP,U 1000P-50B	C603	87-010-662-080		C-CAP,E 22-6.3
C322	87-012-274-080		CHIP CAP,U 1000P-50B	C604	87-010-779-080		C-CAP,E 100-6.3
C323	87-012-274-080		CHIP CAP,U 1000P-50B	C607	87-010-831-080		C-CAP,U,0.1-16F
C324	87-012-274-080		CHIP CAP,U 1000P-50B	C608	87-010-831-080		C-CAP,U,0.1-16F
C325	87-012-274-080		CHIP CAP,U 1000P-50B	CN100	87-A60-537-080		C-CONN,21P H CFP55
C400	87-010-831-080		C-CAP,U,0.1-16F	CN201	87-A60-467-080		C-CONN,4P V FMN-BMTR
C401	87-010-831-080		C-CAP,U,0.1-16F	CN300	87-A60-518-080		C-CONN,8P H 6232
C402	87-010-831-080		C-CAP,U,0.1-16F	CN400	87-A60-027-080		C-CONN,8P H WHT
C403	87-010-831-080		C-CAP,U,0.1-16F	CN401	87-A60-062-010		CONN,05P V 9604S-05C
C404	87-010-831-080		C-CAP,U,0.1-16F	CN600	87-A60-519-080		C-CONN,14P H 6232
C405	87-010-661-080		C-CAP,E 10-16	FB501	87-A90-828-080		C-F-BEAD, BK1608LM182
C406	87-010-779-080		C-CAP,E 100-6.3	L100	87-A50-117-080		C-COIL,10UHLQH3C
C407	87-012-197-080		C-CAP,U 150P-50 CH	L101	87-A50-012-080		C-COIL,100UH LQH3C
C408	87-012-197-080		C-CAP,U 150P-50 CH	L102	87-A50-117-080		C-COIL,10UHLQH3C
C411	87-012-271-080		CAP, U 560P-50	L103	87-A50-117-080		C-COIL,10UHLQH3C
C412	87-012-271-080		CAP, U 560P-50	L201	87-A50-117-080		C-COIL,10UHLQH3C
C413	87-012-197-080		C-CAP,U 150P-50 CH	L202	87-A50-117-080		C-COIL,10UHLQH3C
C414	87-012-197-080		C-CAP,U 150P-50 CH	L203	87-A50-116-080		C-COIL,4.7UHLQH3C
C415	87-012-286-080		CAP, U 0.01-25	L204	87-003-367-080		C-COIL,U 2.2UHK
C416	87-012-286-080		CAP, U 0.01-25	L301	87-A50-117-080		C-COIL,10UHLQH3C
C417	87-012-268-080		C-CAP,U 330P-50 B	L501	87-A50-116-080		C-COIL,4.7UHLQH3C
C418	87-012-268-080		C-CAP,U 330P-50 B	L502	87-A50-116-080		C-COIL,4.7UHLQH3C
C423	87-012-286-080		CAP, U 0.01-25	L503	87-A50-116-080		C-COIL,4.7UHLQH3C
C424	87-012-286-080		CAP, U 0.01-25	L504	87-005-774-080		C-COIL,4BLH
C429	87-012-286-080		CAP, U 0.01-25	L505	87-005-774-080		C-COIL,4BLH
C430	87-012-286-080		CAP, U 0.01-25	L611	87-A50-163-080		C-COIL,ZBFS5101-PT
C431	87-010-779-080		C-CAP,E 100-6.3	L612	87-005-512-080		C-COIL,BLM21A05
C434	87-010-831-080		C-CAP,U,0.1-16F	L613	87-005-512-080		C-COIL,BLM21A05
C501	87-010-831-080		C-CAP,U,0.1-16F	L614	87-A50-163-080		C-COIL,ZBFS5101-PT
C502	87-010-831-080		C-CAP,U,0.1-16F	L615	87-A90-034-080		C-FLTR,EMI BLM41P750
C503	87-010-662-080		C-CAP,E 22-6.3	L616	87-A50-163-080		C-COIL,ZBFS5101-PT
C504	87-010-831-080		C-CAP,U,0.1-16F	R423	87-025-564-080		C-RES,U M/F 47K D
C505	87-010-662-080		C-CAP,E 22-6.3	R424	87-025-564-080		C-RES,U M/F 47K D
C506	87-010-831-080		C-CAP,U,0.1-16F	R425	87-022-583-080		C-RES,U M/F 12K D
C507	87-010-661-080		C-CAP,E 10-16	R426	87-022-583-080		C-RES,U M/F 12K D
C508	87-010-831-080		C-CAP,U,0.1-16F	X200	87-A70-270-080		C-VIB,XTAL 45.1584MHZ SMD-49
C509	87-010-662-080		C-CAP,E 22-6.3	X301	87-A70-100-080		C-VIB,CER 12.0MHZ PBRC-BR-A
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	MECHA C.B			
C516	87-012-337-080		C-CAP,U 56P-50 CH	CON1	87-A61-058-080		C-CONN,8P H 6232BOT
C517	87-012-278-080		C-CAP,U 2200P-50 B	M400	87-A91-490-010		MOT,BCD3B04
C518	87-012-278-080		C-CAP,U 2200P-50 B	M401	87-A91-489-010		MOT,BCD3B93
C519	87-010-831-080		C-CAP,U,0.1-16F	SW1	87-A91-419-080		C-SW,PUSH MPU11121MLB1
C520	87-010-661-080		C-CAP,E 10-16	SW2	87-A91-445-080		C-SW,PUSH MPU20420MLB1
C521	87-010-831-080		C-CAP,U,0.1-16F				
C522	87-010-661-080		C-CAP,E 10-16	LOAD C.B			
C523	87-010-662-080		C-CAP,E 22-6.3	CON451	86-NFZ-675-010		CONN,5P H 6216-11H
C524	87-010-662-080		C-CAP,E 22-6.3	M450	87-A90-672-010		MOT,M25E-4
C525	87-012-274-080		CHIP CAP,U 1000P-50B	SW451	87-A90-673-010		SW,MICRO ESE11SH1C
C526	87-012-274-080		CHIP CAP,U 1000P-50B	SW452	87-A90-117-010		SW,PUSH 1-1-1 MPU103
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				
C600	87-010-662-080		C-CAP,E 22-6.3				

- 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

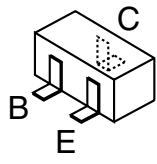
Chip Resistor Part Coding



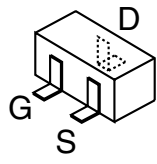
チップ抵抗
Chip resistor

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

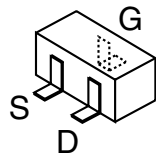
TRANSISTOR ILLUSTRATION



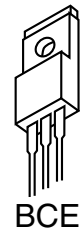
2SA1235
2SA1588
2SC3052
2SC4116
RN1305
RN2305
KRA102S
KRC107S
KRA107



2SK2158

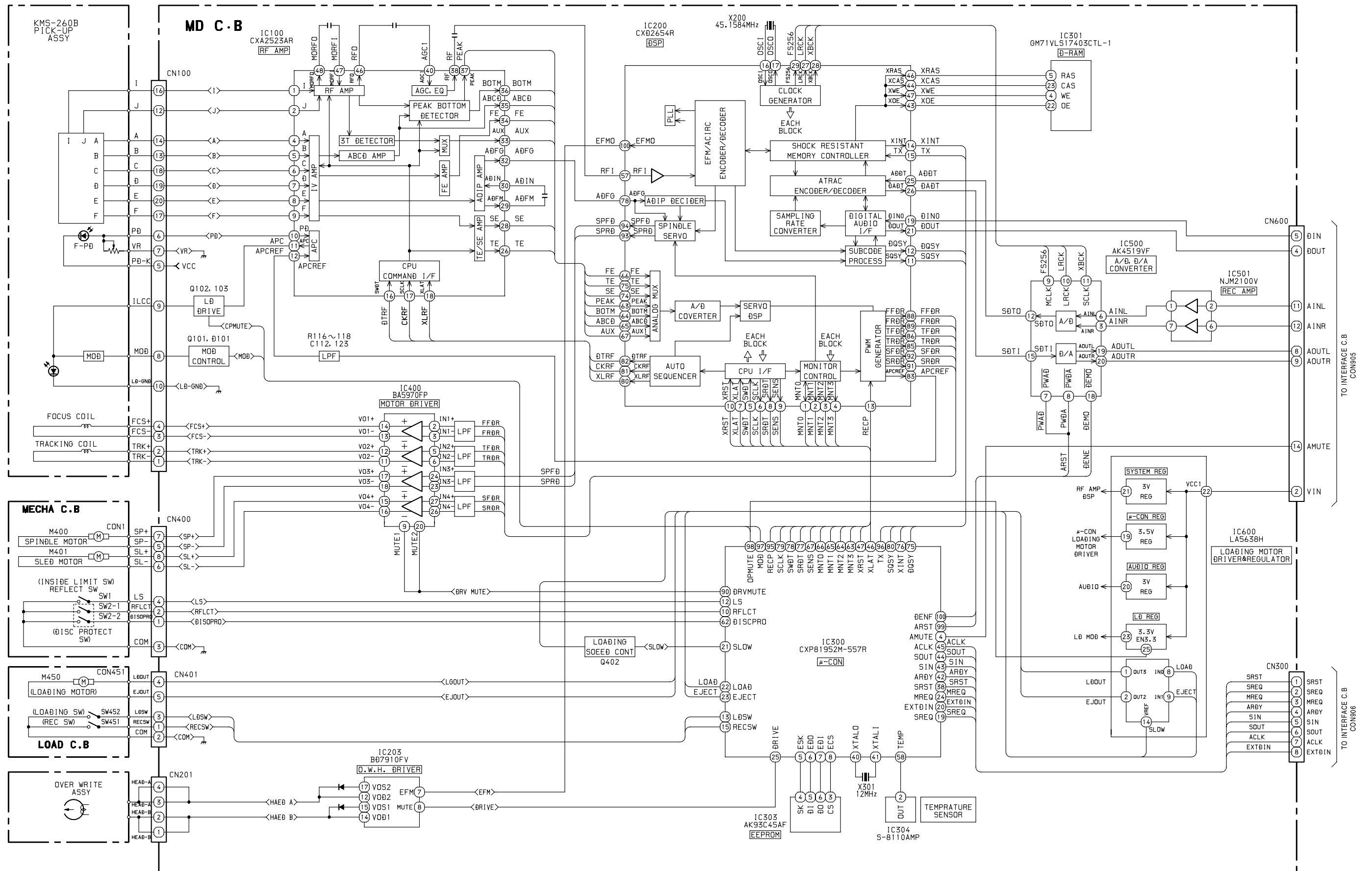


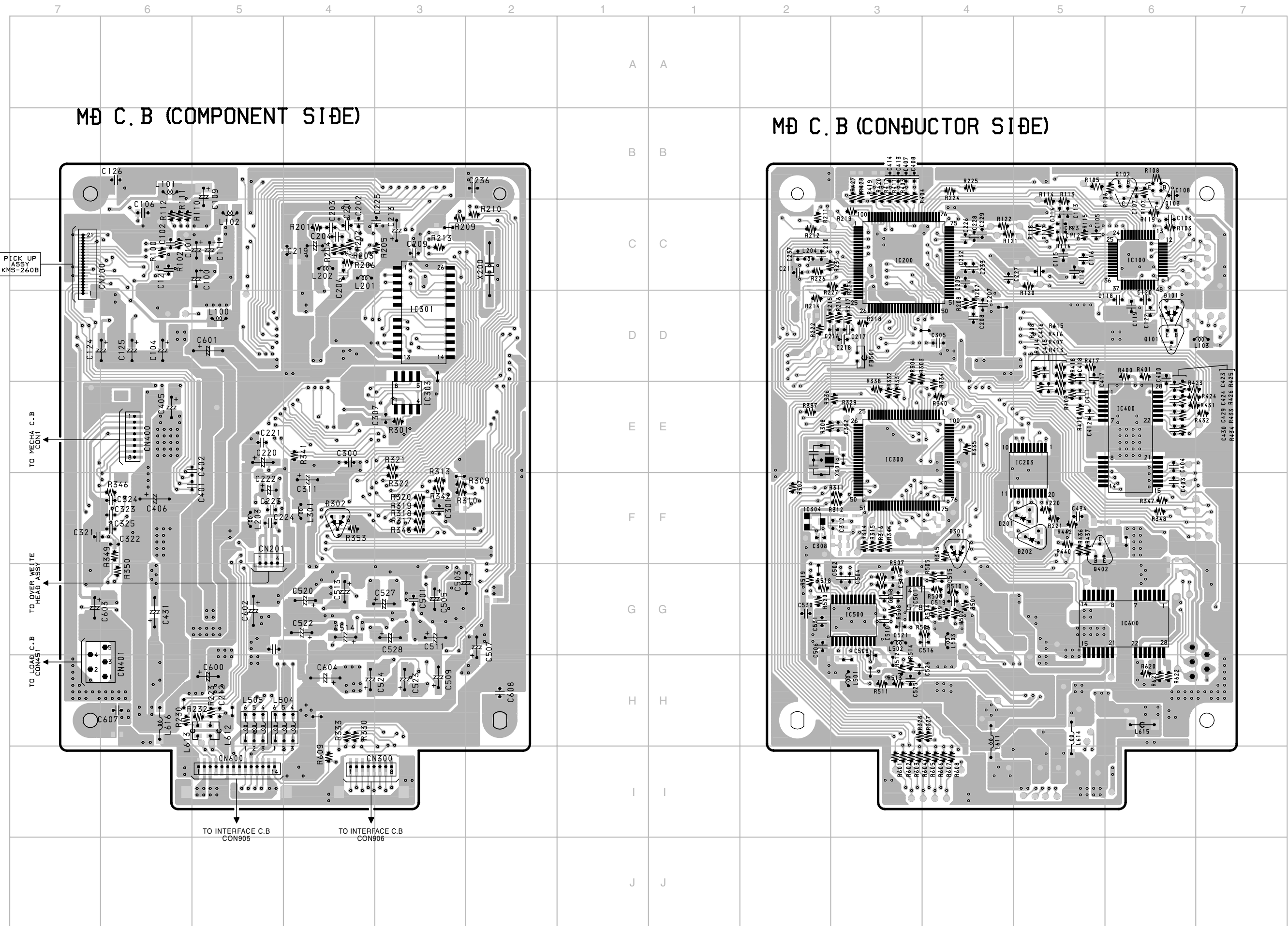
2SJ106



2SB1370

BLOCK DIAGRAM





MØ C. B (COMPONENT SIDE)

MØ C. B (CONDUCTOR SIDE)

PICK UP ASSY KMS-260B

TO MECHA C.B CON1

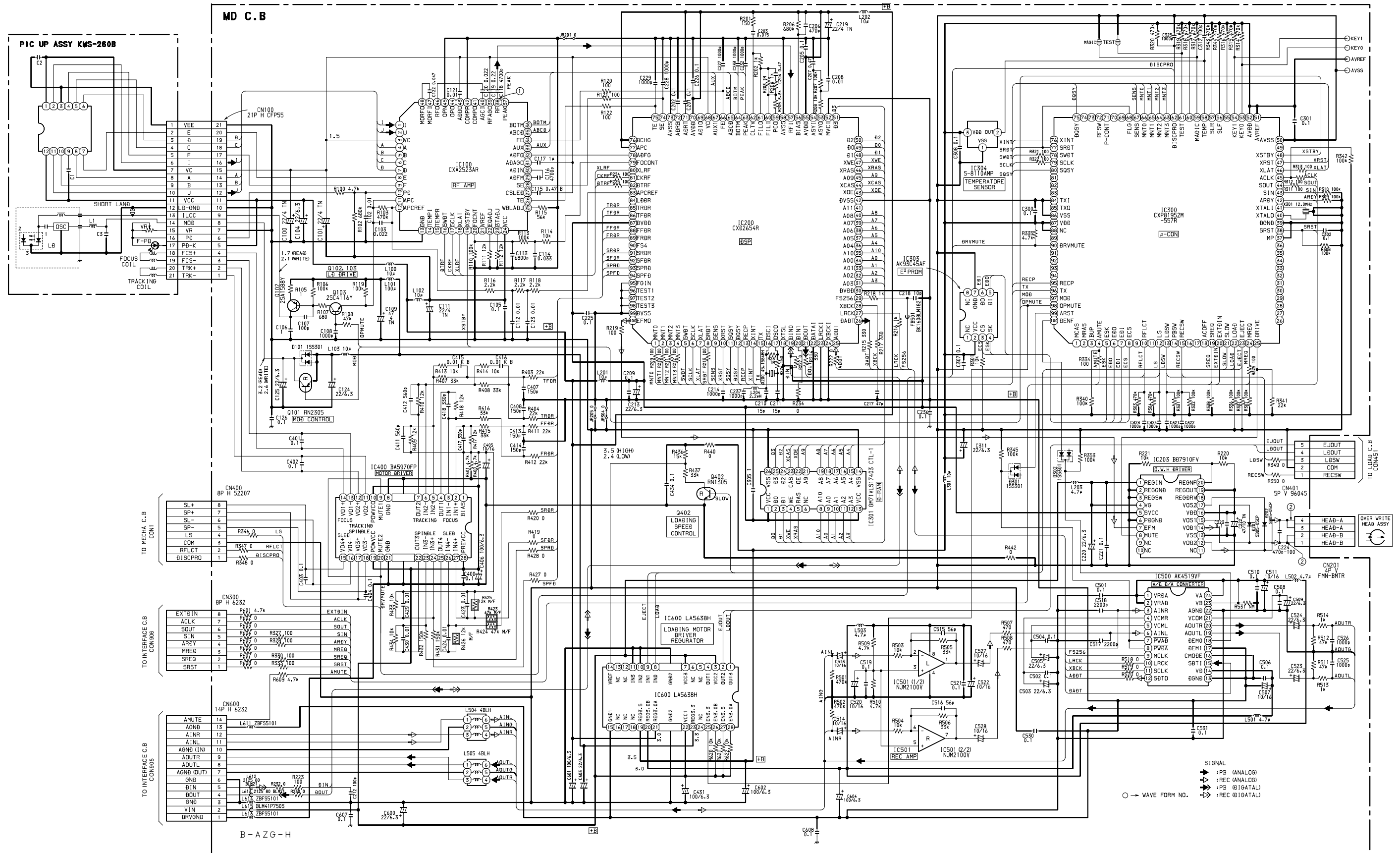
TO OVER WELTE HEAD ASSY

TO LOAD C.B CON451

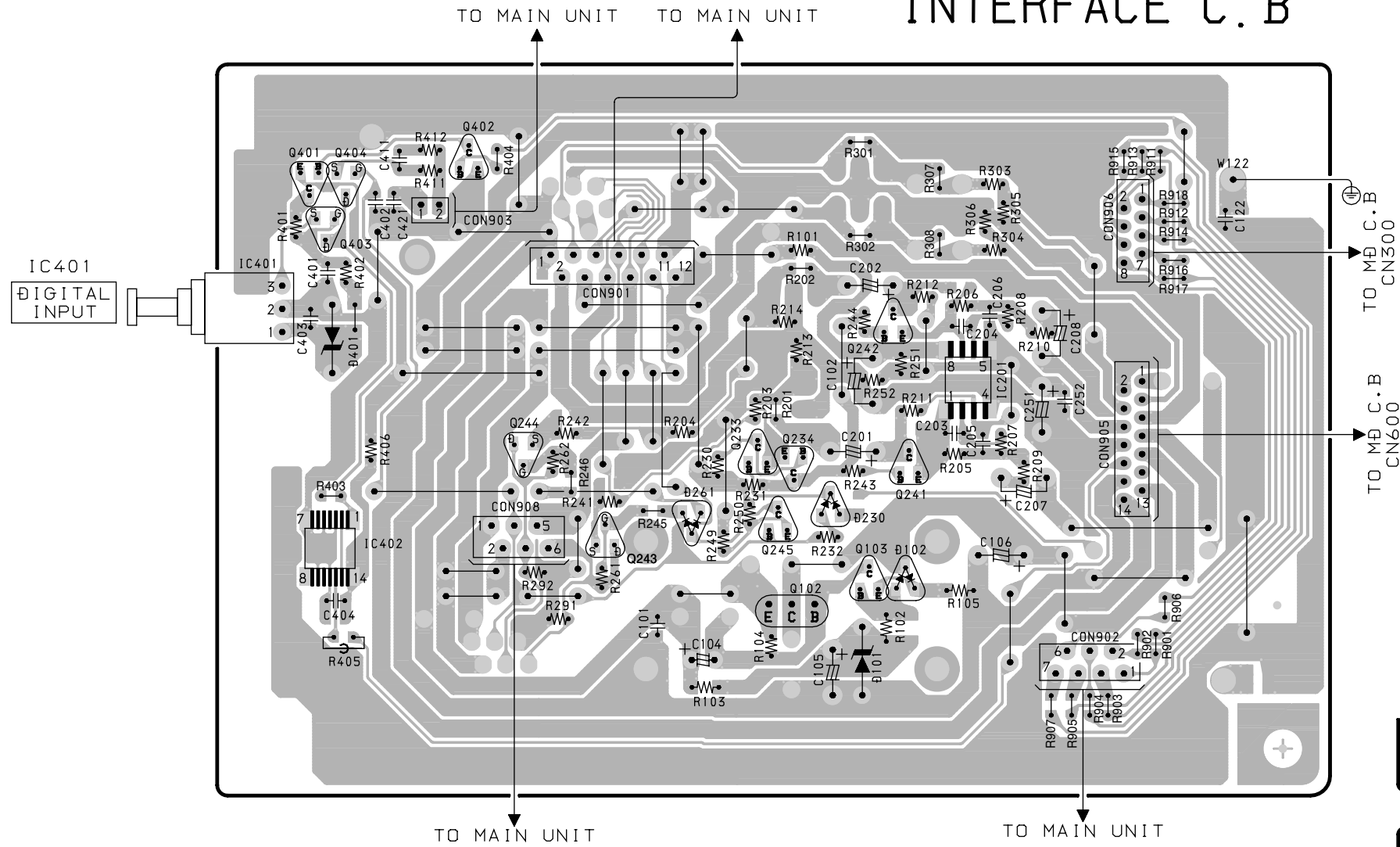
TO INTERFACE C.B CON905

TO INTERFACE C.B CON906

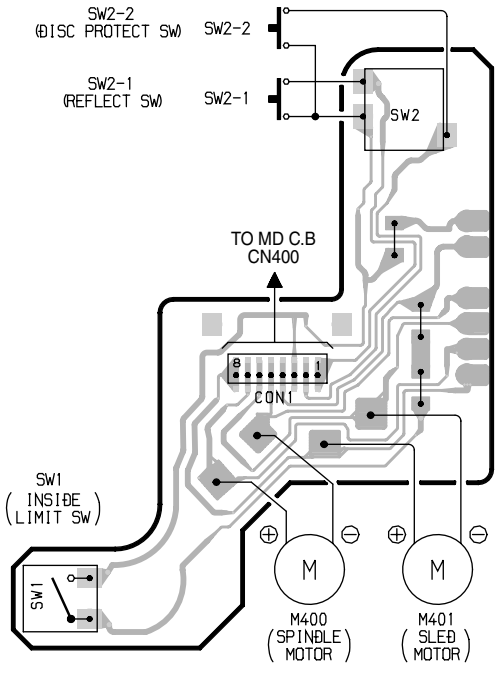
SCHEMATIC DIAGRAM-1 (MD)



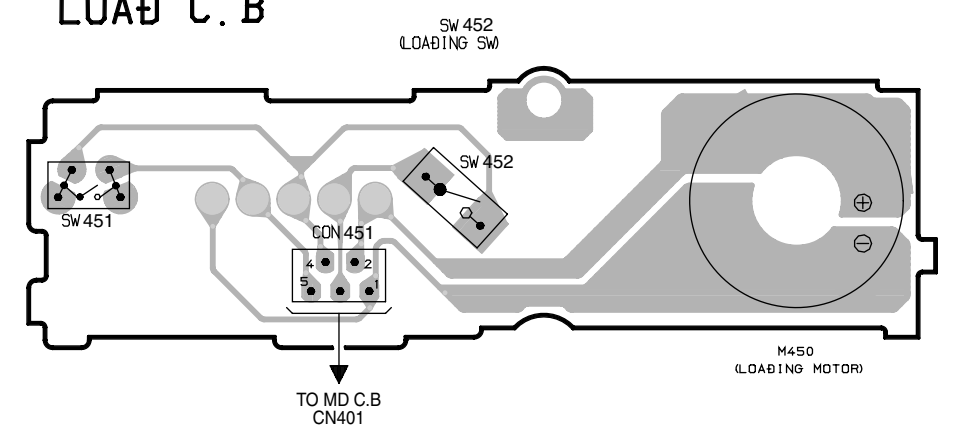
INTERFACE C.B



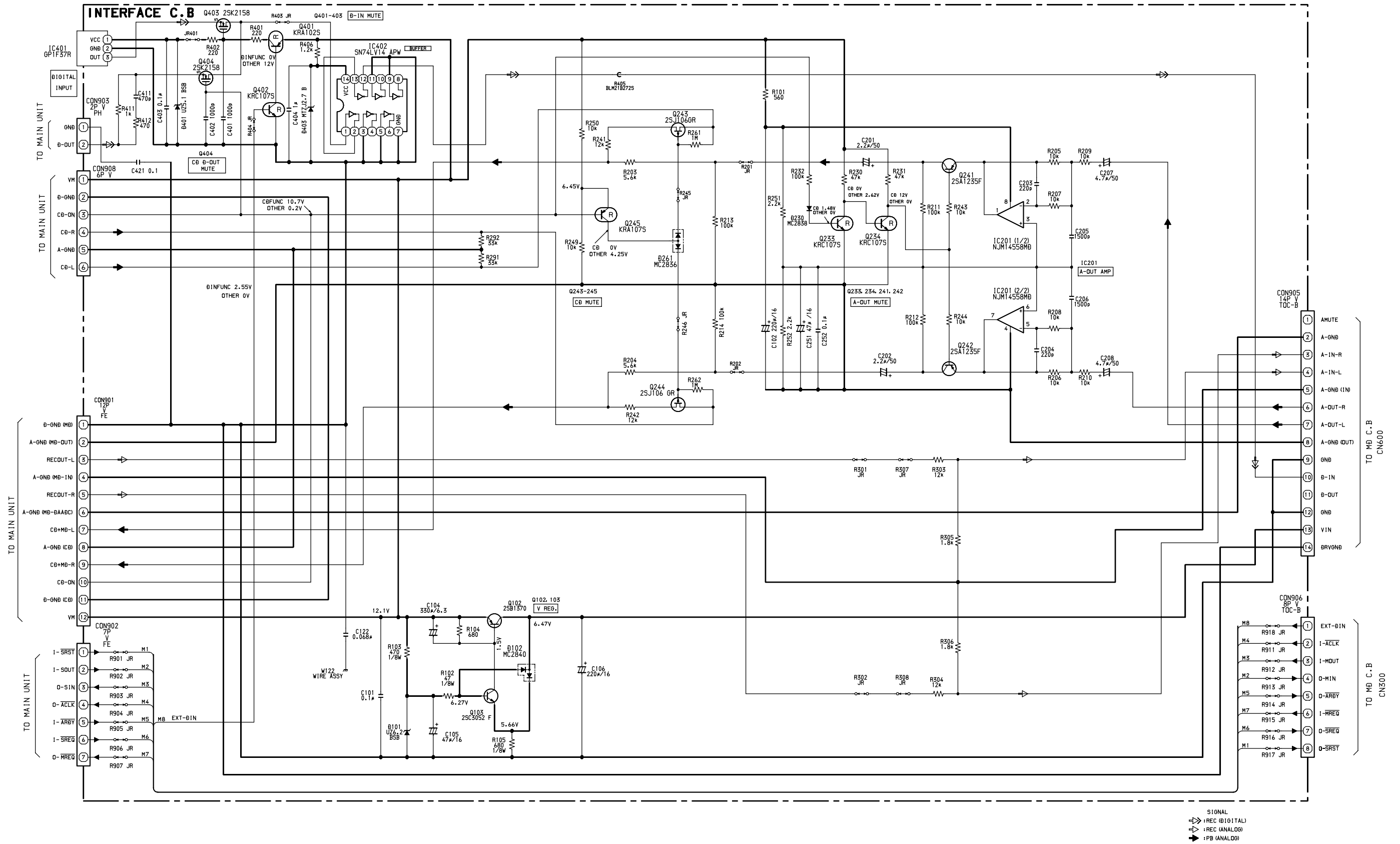
MECHA C.B



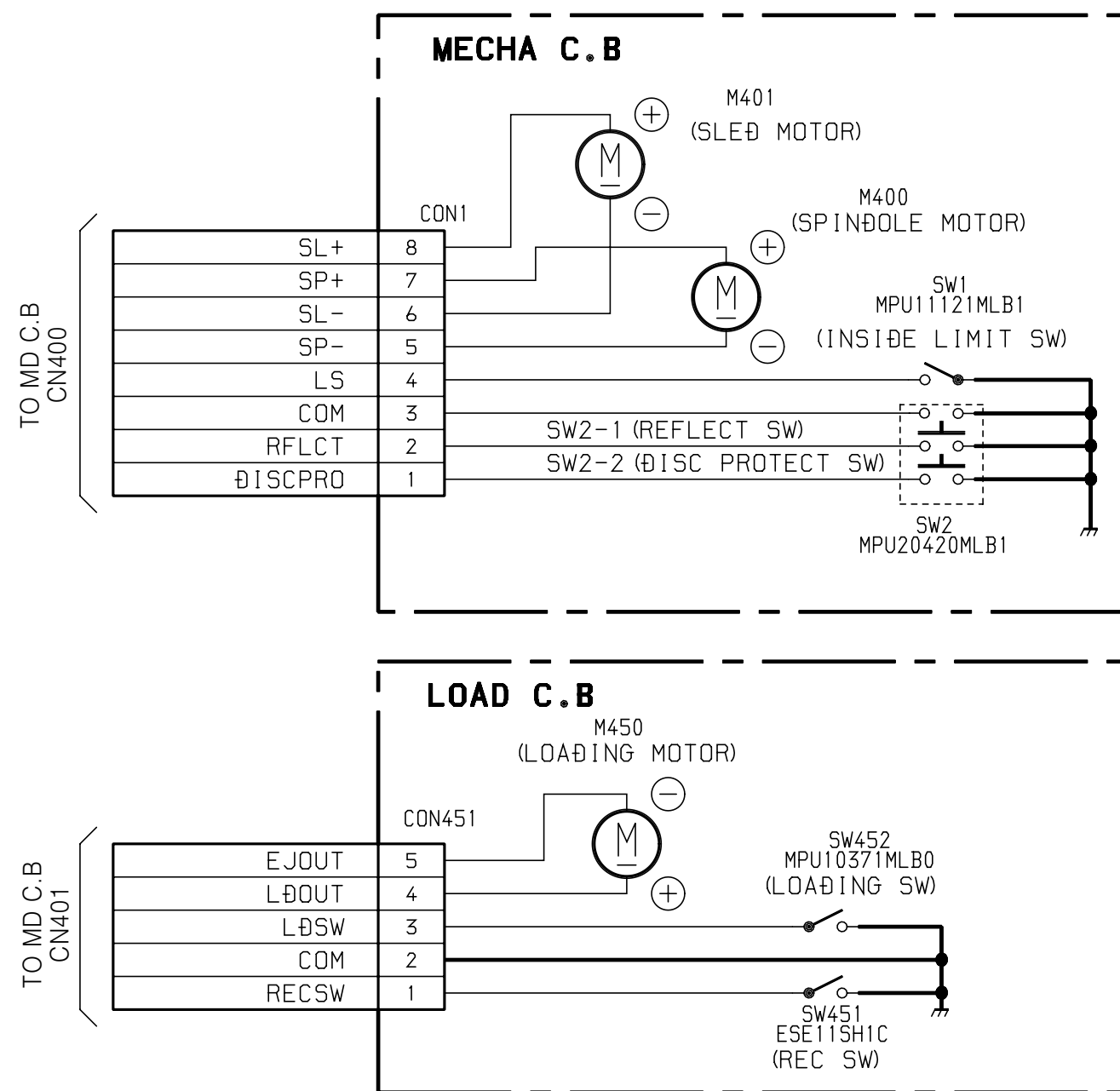
LOAD C.B



SCHEMATIC DIAGRAM-2 (INTERFACE)

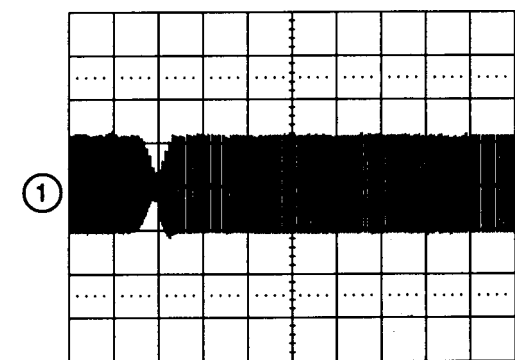


SCHEMATIC DIAGRAM-3 (MECHA/LOAD)

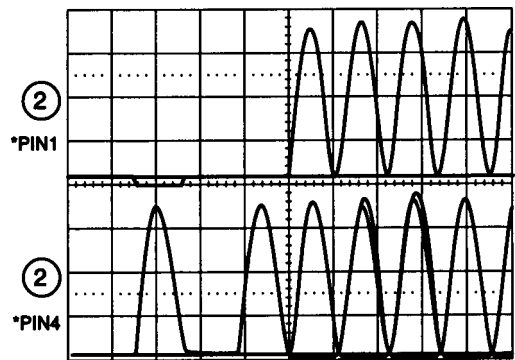


WAVE FORM

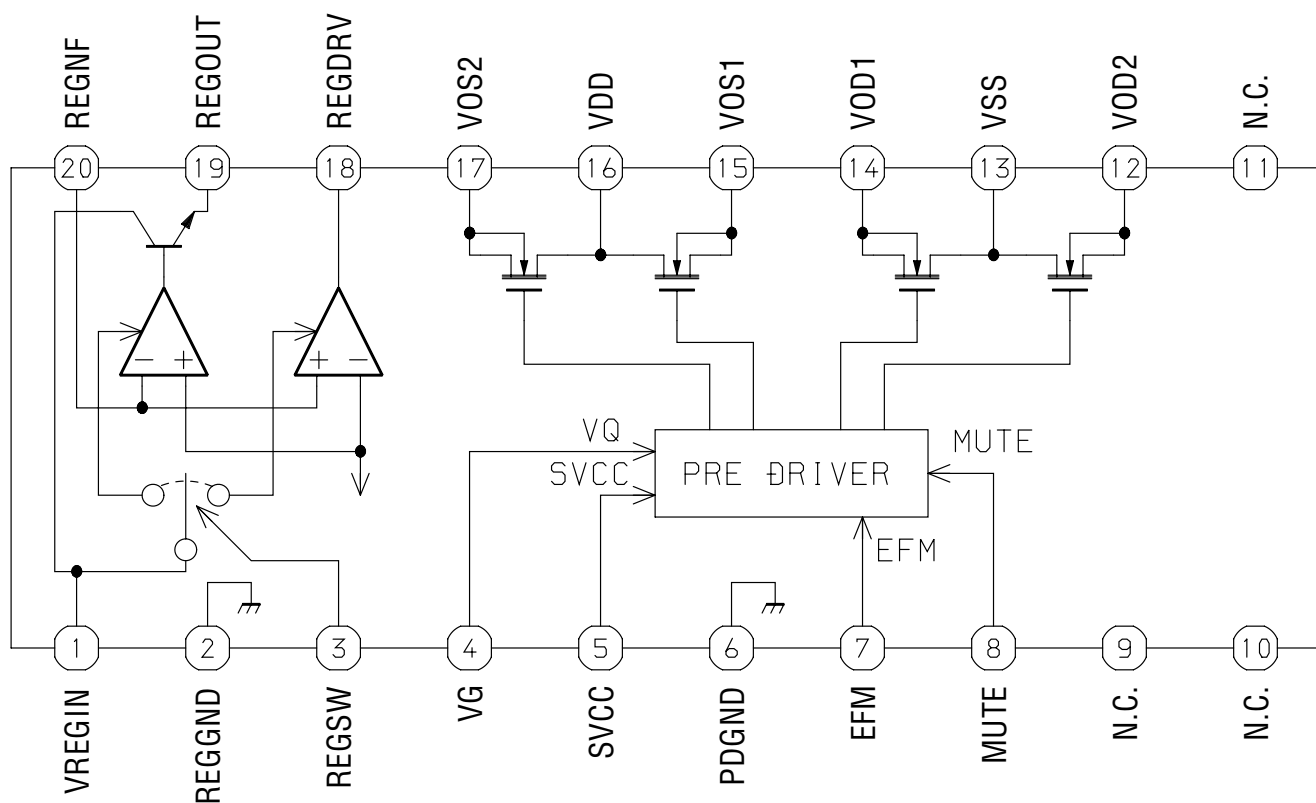
① IC100 Pin 38 (RF) VOLT/DIV: 0.5V
TIME/DIV: 1mS



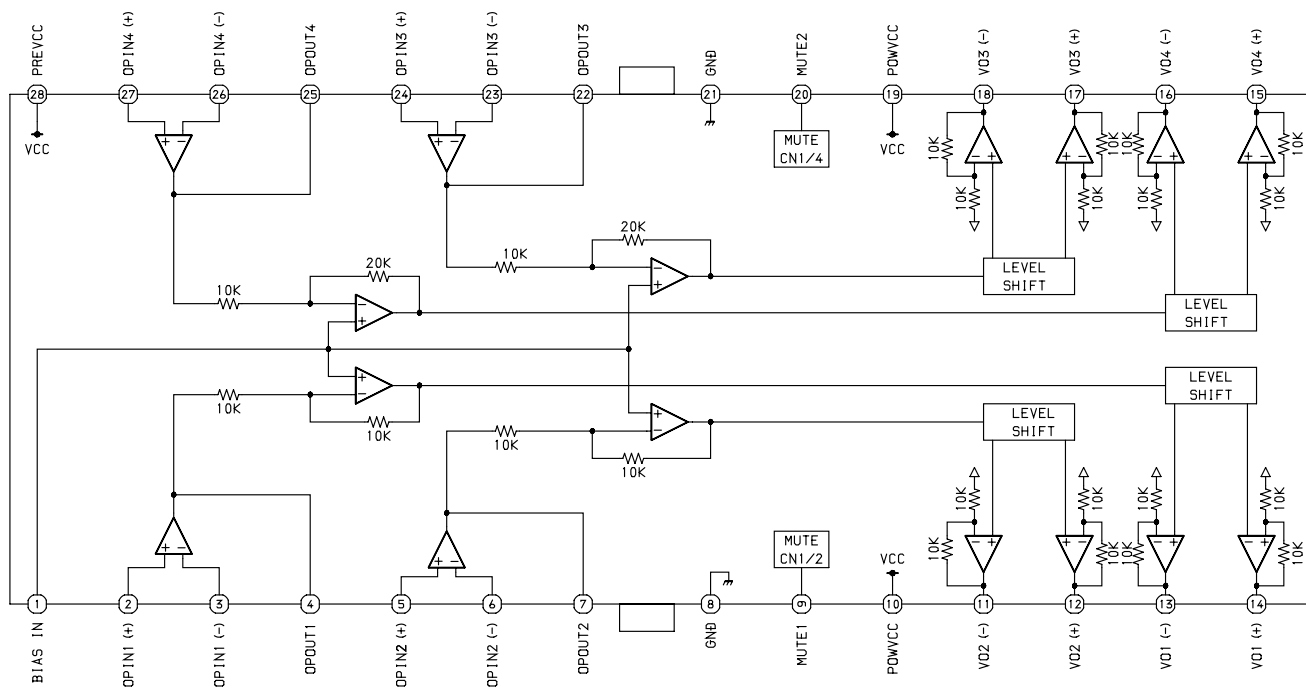
② CN201 Pin 1 (HEAD-B)
CN201 Pin 4 (HEAD-A) VOLT/DIV: 10V
TIME/DIV: 0.2μS



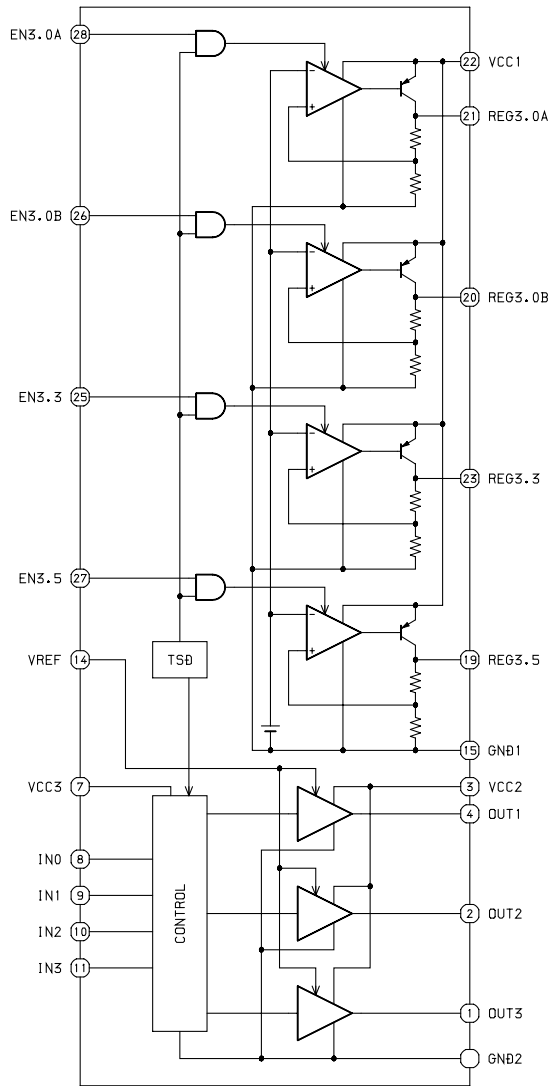
IC BLOCK DIAGRAM
IC, BD7910FV



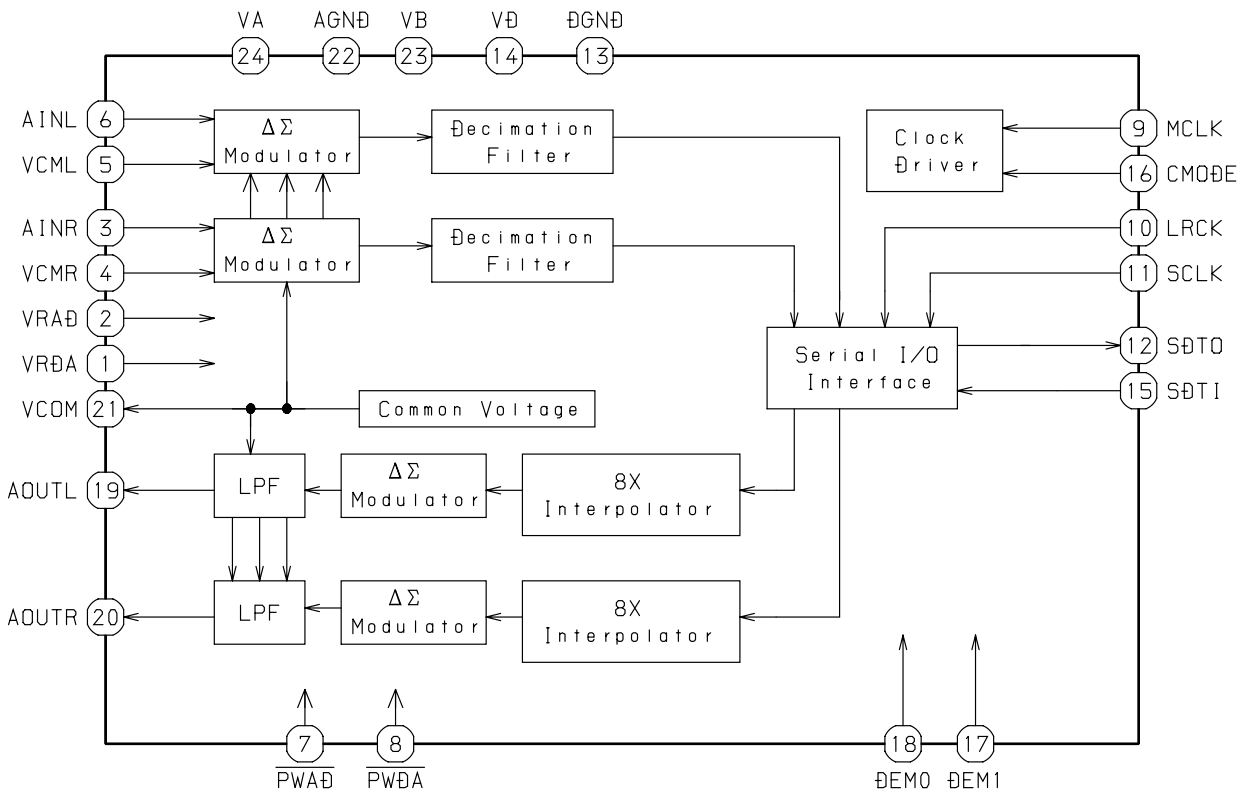
IC, BA5970FP



IC, LA5638H



IC, AK4519VF



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	XRST	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	External DRAM address output.
40	A08	O	
41	A11	O	External 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.

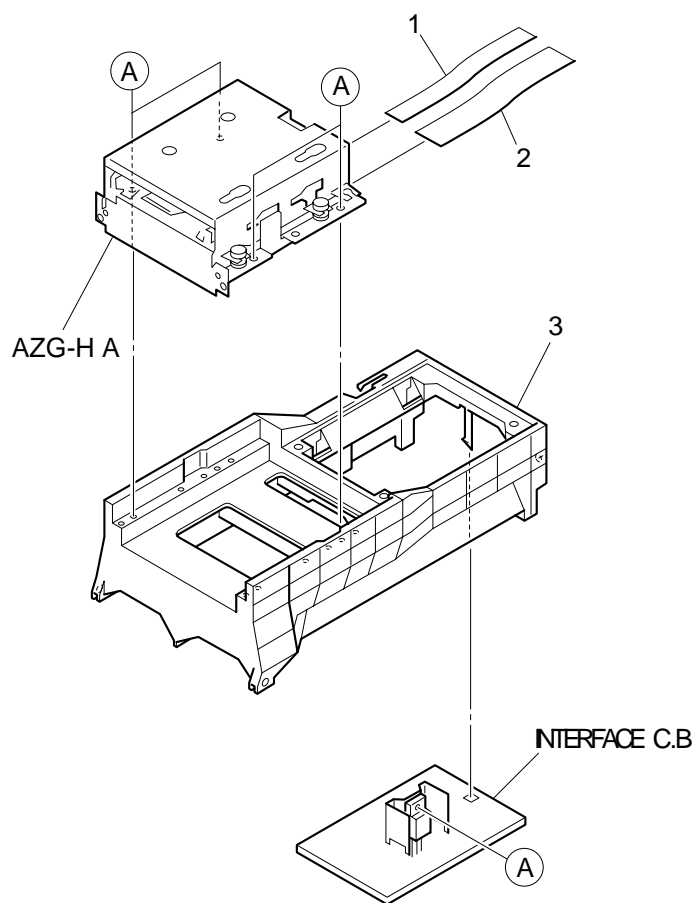
IC, CXP81952M-557R

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	LS	I	Input signal from pickup inner circumference detect switch.
13	LDSW	I	Input signal from loading mechanism EJECT position detect switch.
14	PBSW	—	Not used.
15	RECSW	I	Input signal from loading mechanism REC position detect switch.
16	NC	—	Not used.
17	NC	—	
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	SLOW	O	Speed control signal output to loading mechanism.
22	LOAD	O	Movement direction control signal output-1 to loading mechanism.
23	EJECT	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	NC	—	Not used.
27	NC	—	
28	NC	—	
29	NC	—	
30	NC	—	
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	XRST	O	CXD2654 reset signal output.
48	XSTBY	O	CXA2523 standby signal output.
49	NC	O	Not used.
50	AVSS	—	Connected to VSS.
51	AVREF	—	Connected to VDD.
52	AVDD	—	
53	KEY0	I	
54	KEY1	I	
55	NC	I	
56	SLF	I	
57	SLR	I	
58	TEMP	I	Connected to VSS.
59	MAGIC	I	Connected to VDD.
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	XINT	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	AK4512 reset signal output.
100	DENF	O	De-emphasis ON/OFF signal output.

MECHANICAL EXPLODED VIEW 1/1 (AZG-E)

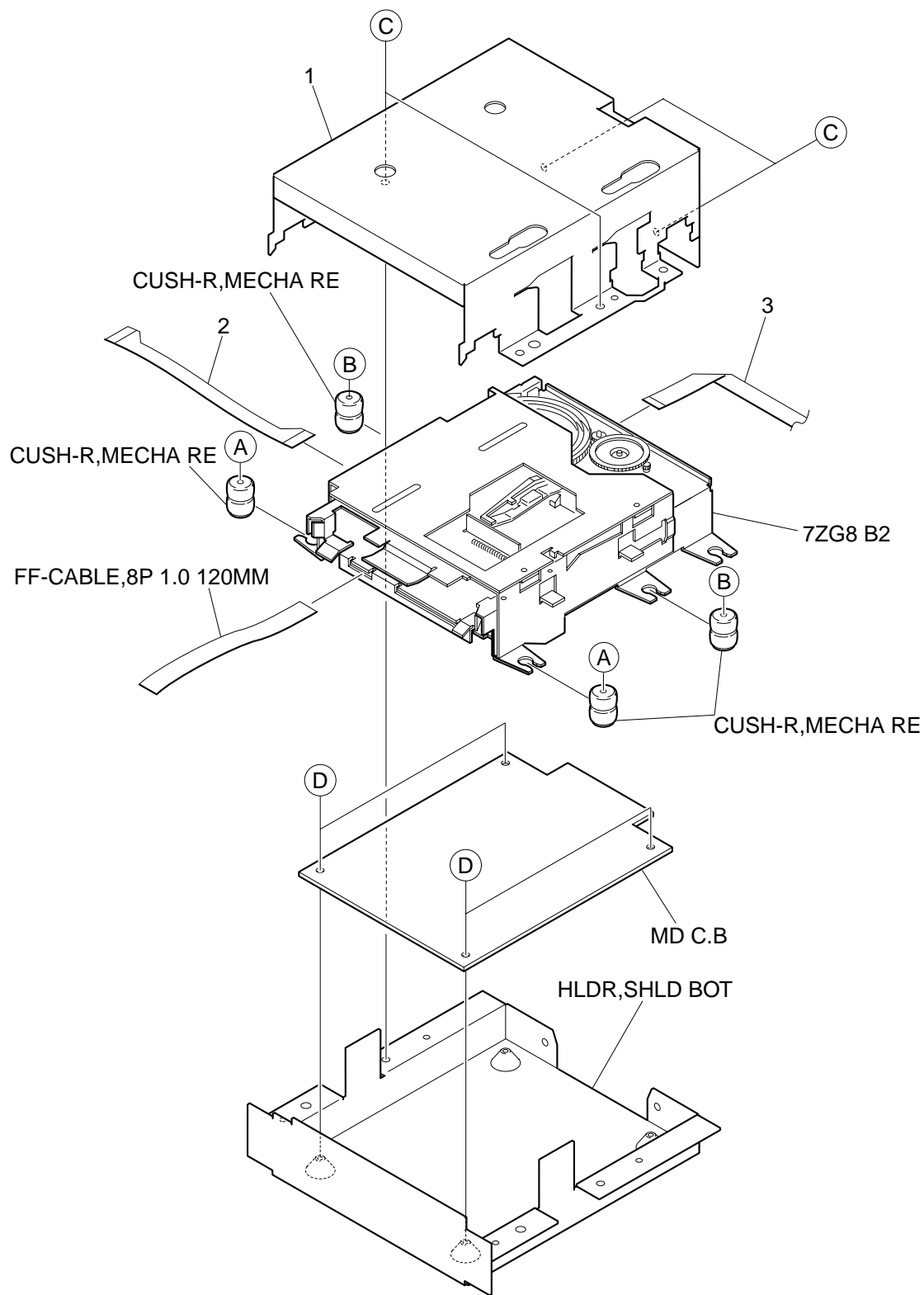


MECHANICAL PARTS LIST 1/1 (AZG-E)

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	87-ZGA-611-010	0E	FF-CABLE, 8P 1.0 100MM
2	87-ZGA-612-010	1A	FF-CABLE, 14P 1.0 100MM
3	8A-DB8-205-010	1C	HLDR,MD
A	87-067-703-010	0E	TAPPING SCREW, BVT2+3-10

MECHANISM EXPLODED VIEW 1/3 (AZG-H A)

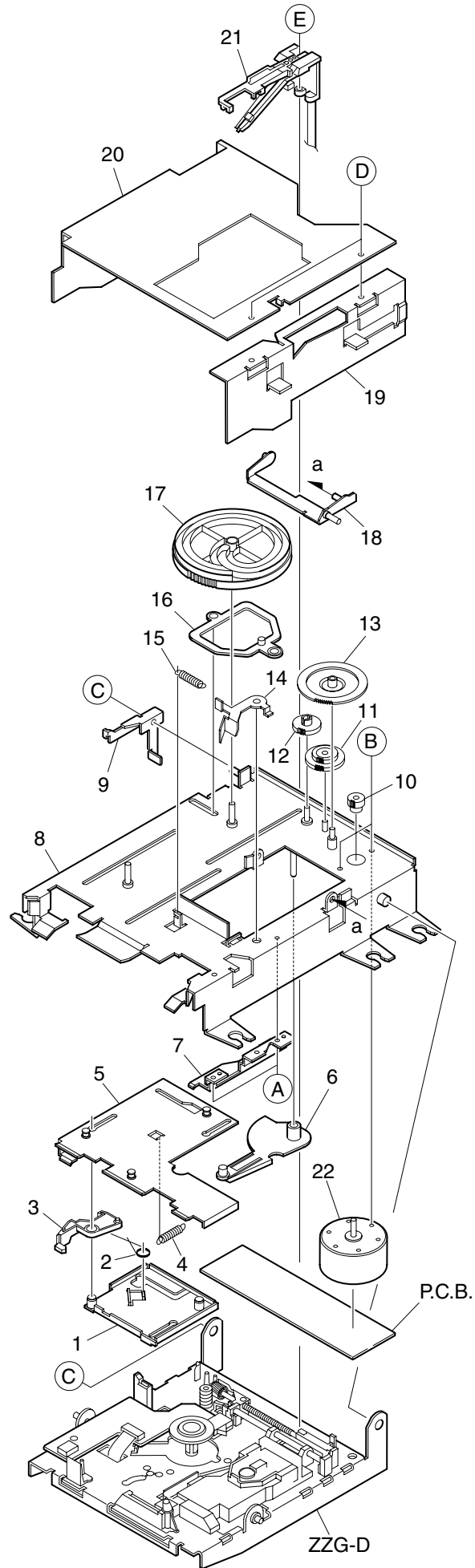


MECHANISM PARTS LIST 1/3 (AZG-H)

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	87-ZG9-202-210		HLD, SHLD TOP
2	8A-ZG4-611-110		PWB, FLEX 21P AZG-4
3	87-ZG9-604-010		FF-CABLE, 5P 1.25 100MM
A	87-ZG9-209-010		S-SCREW, MD TF
B	87-ZG9-208-010		S-SCREW, MD T
C	87-067-020-010		SCREW, VTT+3-4
D	87-067-421-010		VTT+2-4

MECHANISM EXPLODED VIEW 2/3 (7ZG8 B2)

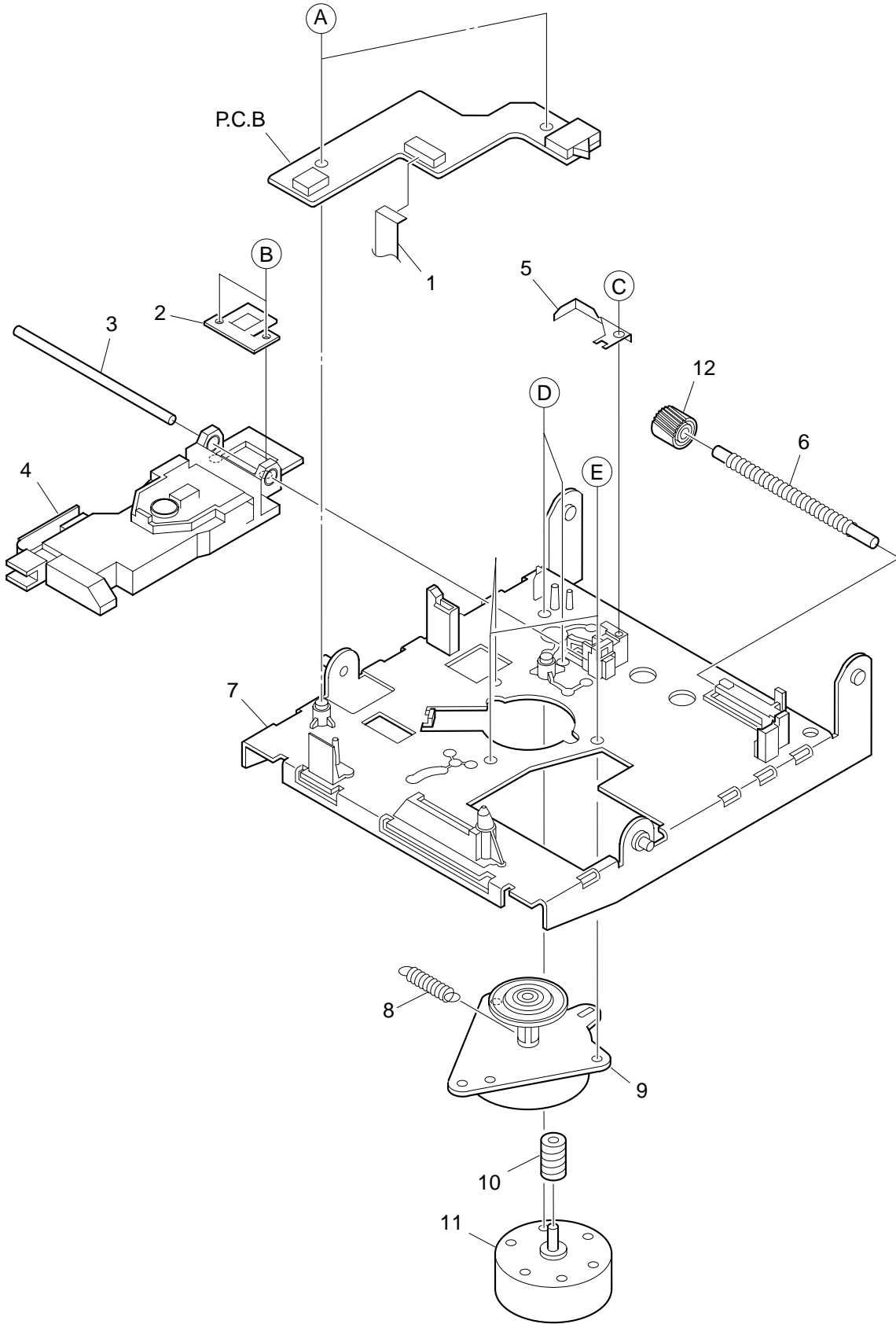


MECHANISM PARTS LIST 2/3 (7ZG8 B2)

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-ZG8-220-210	1B	PLATE ASSY,LATCH	16	87-ZG8-225-310	1A	LEVER ASSY,CAM
2	87-ZG8-259-110	0E	SPR-T,LATCH	17	87-ZG8-239-110	0E	CAM,LOAD(*)
3	87-ZG8-230-410	0E	LEVER,LATCH(*)	18	87-ZG8-257-210	1A	LEVER ASSY,REC
4	87-ZG8-224-110	0E	SPR-E,LATCH	19	87-ZG8-213-310	0E	PLATE,SLIDE R
5	87-ZG8-214-310	1D	HLDR ASSY,CARTRIGE	20	87-ZG8-209-310	1B	PLATE ASSY,SLIDE L
6	87-ZG8-233-310	0E	LEVER,SW H(*)	21	87-A90-605-210	2A	HEAD,OWH RF325-74A
7	87-ZG8-255-210	0E	PLATE,CARTRIGE	22	87-A90-672-010	1D	MOT,M25E-4
8	87-ZG8-277-110	1H	CHAS ASSY,MAIN B	A	87-B10-129-010	0E	VTT+1.7-3.5 W/O MFZN2-C
9	87-ZG8-256-110	0E	LEVER,SW S2	B	87-B10-128-010	0E	V+1.7-2 W/O MFZN2-C
10	87-ZG8-242-010	0E	GEAR,MOT	C	87-B10-130-010	0E	W-P,1.23-3.1-0.25 SLIT
11	87-ZG8-253-010	0E	GEAR,REDUCTION S3	D	87-B10-185-010	0E	VTT+2-3
12	87-ZG8-246-010	0E	GEAR,IDLER 2	E	87-ZD8-280-010	0E	S-SCREW,S+1.7-5 W/O
13	87-ZG8-252-010	0E	GEAR,REDUCTION L3	F	87-067-315-010	0E	PW 3.1-7-0.5
14	87-ZG8-231-110	0E	LEVER,SHUTTER				
15	87-ZG8-232-110	0E	SPR-E,SHUTTER				

MECHANISM EXPLODED VIEW 3/3 (ZZG-D A1)



MECHANISM PARTS LIST 3/3 (ZZG-D)

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-ZG9-603-010		FF-CABLE, 8P 1.0 120MM	11	87-A91-490-010		MOT,BCD3B04
2	87-ZG3-216-010		SPR-P,RACK	12	8Z-ZGD-206-010		GEAR, LEAD
3	87-ZG3-211-010		SHAFT, GUIDE	A	87-341-035-210		SCREW, UT1+2-6
4	87-A91-444-010		PICKUP, KMS-260B	B	87-067-393-010		SCREW +1.4-1.4
5	8Z-ZGD-207-010		SPR-P, LEAD	C	8Z-ZGD-211-010		S-SCREW, VBT+1.7-5
6	8Z-ZGD-208-010		SHAFT, LEAD	D	87-263-523-310		SCREW, V+1.7-2
7	8Z-ZGD-201-010		CHAS ASSY, MECHA	E	8Z-ZGD-210-010		S-SCREW, +2-2.5
8	8Z-ZGD-209-010		SPR-E, SPINDLE				
9	87-A91-489-010		MOT, BCD3B93				
10	8Z-ZGD-205-010		GEAR, MOT				

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