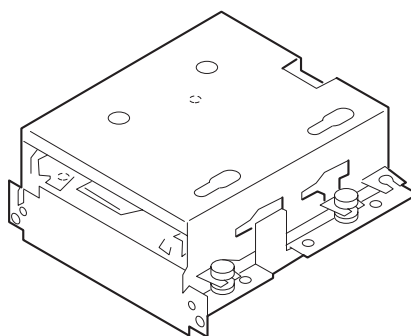




SERVICE MANUAL

MD MECHANISM

BASIC MD MECHANISM : 7ZG-8 B2
ZZG-D A1

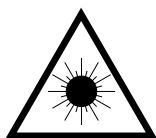
TYPE
A
YA

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.

WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, 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

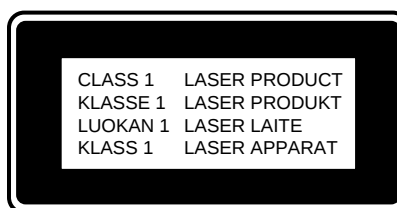
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

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.

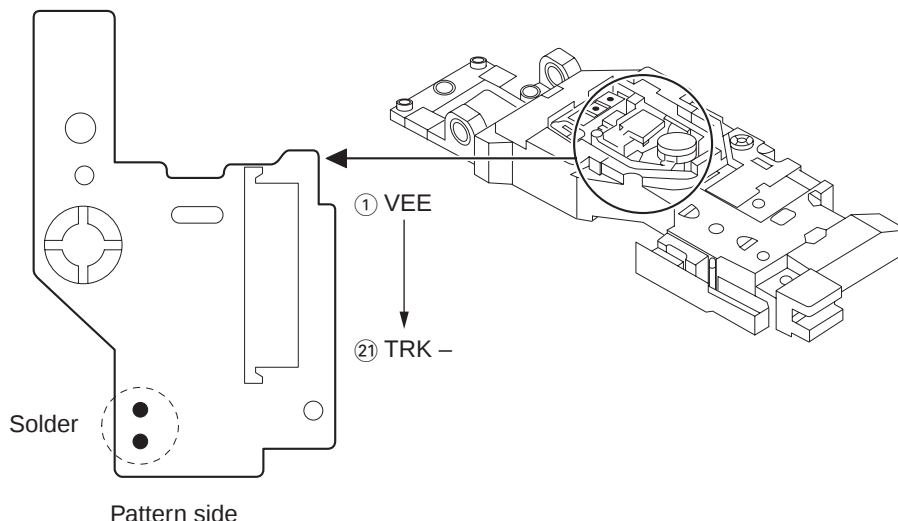


Precaution to replace Optical block (KMS-260B)

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				C219	87-016-296-080		C-CAP, TN 22-4SV(A)
	87-A20-707-010	C-IC, CXA2523AR		C220	87-010-662-080		C-CAP, E 22-6.3
	87-A21-610-030	C-IC, CXD2654R		C221	87-010-831-080		C-CAP, U, 0.1-16F
	87-A20-709-040	C-IC, BD7910FV		C222	87-016-444-080		C-CAP, TN 47-10 F95E
	8A-ZGH-601-030	C-IC, CXP81952M-557R		C223	87-010-831-080		C-CAP, U, 0.1-16F
	87-A21-526-010	C-IC, GM71VLS17403CTL-1		C224	87-A10-685-080		C-CAP, S 470P-100 J CH
	87-A20-755-080	C-IC, AK93C45AF		C225	87-010-831-080		C-CAP, U, 0.1-16F
	87-A20-710-040	C-IC, S-8110AMP		C226	87-010-831-080		C-CAP, U, 0.1-16F
	87-A20-711-040	C-IC, BA5970FP		C227	87-012-274-080		CHIP CAP, U 1000P-50B
	87-A21-110-040	C-IC, AK4519VF		C228	87-012-274-080		CHIP CAP, U 1000P-50B
	87-017-853-040	IC, NJM2100V		C229	87-012-274-080		CHIP CAP, U 1000P-50B
	87-A21-340-040	C-IC, LA5638H		C232	87-012-274-080		CHIP CAP, U 1000P-50B
				C233	87-012-274-080		CHIP CAP, U 1000P-50B
				C236	87-010-831-080		C-CAP, U, 0.1-16F
				C237	87-012-274-080		CHIP CAP, U 1000P-50B
TRANSISTOR				C300	87-010-831-080		C-CAP, U, 0.1-16F
	87-026-423-080	C-TR RN2305		C301	87-010-831-080		C-CAP, U, 0.1-16F
	89-115-884-080	CHIP -TRANSISTER 2SA1588Y		C302	87-010-831-080		C-CAP, U, 0.1-16F
	89-341-164-080	CHIP-TRANSISTOR, 2SC4116 Y		C305	87-016-462-080		C-CAP, S 1-16 F
	87-026-412-080	C-TR RN1305		C307	87-010-831-080		C-CAP, U, 0.1-16F
DIODE				C308	87-010-831-080		C-CAP, U, 0.1-16F
	87-001-166-080	DIODE, 1SS301		C311	87-010-662-080		C-CAP, E 22-6.3
	87-A40-412-040	C-DIODE, SB05-05CP		C312	87-012-195-080		C-CAP, U 100P-50CH
				C321	87-012-274-080		CHIP CAP, U 1000P-50B
				C322	87-012-274-080		CHIP CAP, U 1000P-50B
MD C.B				C323	87-012-274-080		CHIP CAP, U 1000P-50B
				C324	87-012-274-080		CHIP CAP, U 1000P-50B
				C325	87-012-274-080		CHIP CAP, U 1000P-50B
C100	87-016-296-080	C-CAP, TN 22-4SV(A)		C400	87-010-831-080		C-CAP, U, 0.1-16F
C101	87-016-296-080	C-CAP, TN 22-4SV(A)		C401	87-010-831-080		C-CAP, U, 0.1-16F
C102	87-012-286-080	CAP, U 0.01-25					
C103	87-010-787-080	CAP, U 0.022-25		C402	87-010-831-080		C-CAP, U, 0.1-16F
C104	87-010-662-080	C-CAP, E 22-6.3		C403	87-010-831-080		C-CAP, U, 0.1-16F
				C404	87-010-831-080		C-CAP, U, 0.1-16F
C105	87-010-831-080	C-CAP, U, 0.1-16F		C405	87-010-661-080		C-CAP, E 10-16
C106	87-016-462-080	C-CAP, S 1-16 F		C406	87-010-779-080		C-CAP, E 100-6.3
C107	87-012-195-080	C-CAP, U 100P-50CH					
C108	87-012-274-080	CHIP CAP, U 1000P-50B		C407	87-012-197-080		C-CAP, U 150P-50 CH
C109	87-A11-033-080	C-CAP, TN 47U-4		C408	87-012-197-080		C-CAP, U 150P-50 CH
				C411	87-012-271-080		CAP, U 560P-50
C111	87-016-296-080	C-CAP, TN 22-4SV(A)		C412	87-012-271-080		CAP, U 560P-50
C112	87-012-286-080	CAP, U 0.01-25		C413	87-012-197-080		C-CAP, U 150P-50 CH
C113	87-012-284-080	CAP, U 6800P-50					
C114	87-010-828-080	CHIP CAPACITOR, U 0.033-25F		C414	87-012-197-080		C-CAP, U 150P-50 CH
C115	87-A10-369-080	C-CAP, S 0.47-16 K B		C415	87-012-286-080		CAP, U 0.01-25
				C416	87-012-286-080		CAP, U 0.01-25
C116	87-012-282-080	CAP, U 4700P-50		C417	87-012-268-080		C-CAP, U 330P-50 B
C117	87-016-462-080	C-CAP, S 1-16 F		C418	87-012-268-080		C-CAP, U 330P-50 B
C118	87-012-282-080	CAP, U 4700P-50					
C119	87-016-491-080	C-CAP, S 0.22-16 FZ		C423	87-012-286-080		CAP, U 0.01-25
C120	87-010-787-080	CAP, U 0.022-25		C424	87-012-286-080		CAP, U 0.01-25
				C429	87-012-286-080		CAP, U 0.01-25
C121	87-012-286-080	CAP, U 0.01-25		C430	87-012-286-080		CAP, U 0.01-25
C122	87-010-829-080	CAP, U 0.047-16		C431	87-010-779-080		C-CAP, E 100-6.3
C123	87-012-286-080	CAP, U 0.01-25					
C124	87-010-662-080	C-CAP, E 22-6.3		C434	87-010-831-080		C-CAP, U, 0.1-16F
C125	87-010-662-080	C-CAP, E 22-6.3		C501	87-010-831-080		C-CAP, U, 0.1-16F
				C502	87-010-831-080		C-CAP, U, 0.1-16F
C126	87-010-831-080	C-CAP, U, 0.1-16F		C503	87-010-662-080		C-CAP, E 22-6.3
C201	87-010-831-080	C-CAP, U, 0.1-16F		C504	87-010-831-080		C-CAP, U, 0.1-16F
C202	87-010-831-080	C-CAP, U, 0.1-16F					
C203	87-010-785-080	C-CAP, U0.015-25BK		C505	87-010-662-080		C-CAP, E 22-6.3
C204	87-016-461-080	C-CAP, S 0.47-16F		C506	87-010-831-080		C-CAP, U, 0.1-16F
				C507	87-010-661-080		C-CAP, E 10-16
C205	87-010-831-080	C-CAP, U, 0.1-16F		C508	87-010-831-080		C-CAP, U, 0.1-16F
C206	87-012-270-080	CAP, U 470P-50		C509	87-010-662-080		C-CAP, E 22-6.3
C207	87-016-461-080	C-CAP, S 0.47-16F					
C208	87-012-286-080	CAP, U 0.01-25		C510	87-010-831-080		C-CAP, U, 0.1-16F
C209	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
C210	87-012-176-080	C-CAP, U 15P-50 J CH		C514	87-010-661-080		C-CAP, E 10-16
C211	87-012-176-080	C-CAP, U 15P-50 J CH		C515	87-012-337-080		C-CAP, U 56P-50 CH
C212	87-012-195-080	C-CAP, U 100P-50CH					
C213	87-010-662-080	C-CAP, E 22-6.3		C516	87-012-337-080		C-CAP, U 56P-50 CH
C214	87-012-274-080	CHIP CAP, U 1000P-50B		C517	87-012-278-080		C-CAP, U 2200P-50 B
				C518	87-012-278-080		C-CAP, U 2200P-50 B
C217	87-012-188-080	C-CAP, U 47P-50 CH		C519	87-010-831-080		C-CAP, U, 0.1-16F
C218	87-012-172-080	CAPACITOR CHIP U 10P CH		C520	87-010-661-080		C-CAP, E 10-16

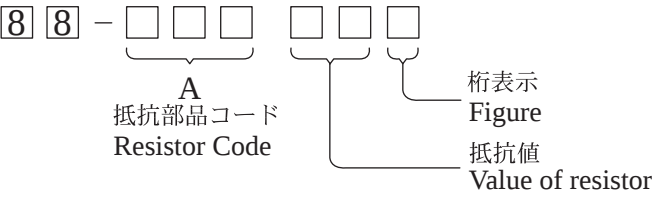
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C521	87-010-831-080	C-CAP,U,0.1-16F		L503	87-A50-116-080	C-COIL,4.7UHLQH3C	
C522	87-010-661-080	C-CAP,E 10-16		L504	87-005-774-080	C-COIL,4BLH	
C523	87-010-662-080	C-CAP,E 22-6.3		L505	87-005-774-080	C-COIL,4BLH	
C524	87-010-662-080	C-CAP,E 22-6.3		L611	87-A50-163-080	C-COIL,ZBFS5101-PT	
C525	87-012-274-080	CHIP CAP,U 1000P-50B		L612	87-005-512-080	C-COIL,BLM21A05	
C526	87-012-274-080	CHIP CAP,U 1000P-50B		L613	87-005-512-080	C-COIL,BLM21A05	
C527	87-010-661-080	C-CAP,E 10-16		L614	87-A50-163-080	C-COIL,ZBFS5101-PT	
C528	87-010-661-080	C-CAP,E 10-16		L615	87-A90-034-080	C-FLTR,EMI BLM41P750	
C530	87-010-831-080	C-CAP,U,0.1-16F		L616	87-A50-163-080	C-COIL,ZBFS5101-PT	
C531	87-010-831-080	C-CAP,U,0.1-16F		R423	87-025-564-080	C-RES,U M/F 47K D	
C600	87-010-662-080	C-CAP,E 22-6.3		R424	87-025-564-080	C-RES,U M/F 47K D	
C601	87-010-779-080	C-CAP,E 100-6.3		R425	87-022-583-080	C-RES,U M/F 12K D	
C602	87-010-779-080	C-CAP,E 100-6.3		R426	87-022-583-080	C-RES,U M/F 12K D	
C603	87-010-662-080	C-CAP,E 22-6.3		X200	87-A70-270-080	C-VIB,XTAL 45.1584MHZ SMD-49	
C604	87-010-779-080	C-CAP,E 100-6.3		X301	87-A70-100-080	C-VIB,CER 12.0MHZ PBRC-BR-A	
C607	87-010-831-080	C-CAP,U,0.1-16F					
C608	87-010-831-080	C-CAP,U,0.1-16F		MECHA C.B			
CN100	87-A60-537-080	C-CONN,21P H CFP55		CON1	87-A61-058-080	C-CONN,8P H 6232BOT	
CN201	87-A60-467-080	C-CONN,4P V FMN-BMTR		M400	87-A91-490-010	MOT,BCD3B04	
CN300	87-A60-518-080	C-CONN,8P H 6232		M401	87-A91-489-010	MOT,BCD3B93	
CN400	87-A60-027-080	C-CONN,8P H WHT		SW1	87-A91-419-080	C-SW,PUSH MPU11121MLB1	
CN401	87-A60-062-010	CONN,05P V 9604S-05C		SW2	87-A91-445-080	C-SW,PUSH MPU20420MLB1	
CN600	87-A60-519-080	C-CONN,14P H 6232					
FB501	87-A90-828-080	C-F-BEAD, BK1608LM182		LOAD C.B			
L100	87-A50-117-080	C-COIL,10UHLQH3C		CON451	86-NFZ-675-010	CONN,5P H 6216-11H	
L101	87-A50-012-080	C-COIL,100UH LQH3C		M450	87-A90-672-010	MOT,M25E-4	
L102	87-A50-117-080	C-COIL,10UHLQH3C		SW451	87-A90-673-010	SW,MICRO ESE11SH1C	
L103	87-A50-117-080	C-COIL,10UHLQH3C		SW452	87-A90-117-010	SW,PUSH 1-1-1 MPU103	
L201	87-A50-117-080	C-COIL,10UHLQH3C					
L202	87-A50-117-080	C-COIL,10UHLQH3C					
L203	87-A50-116-080	C-COIL,4.7UHLQH3C					
L204	87-003-367-080	C-COIL,U 2.2UHK					
L301	87-A50-117-080	C-COIL,10UHLQH3C					
L501	87-A50-116-080	C-COIL,4.7UHLQH3C					
L502	87-A50-116-080	C-COIL,4.7UHLQH3C					

- 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.

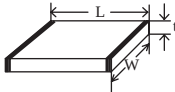
○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

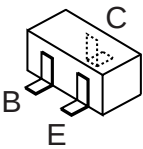
Chip Resistor Part Coding



チップ抵抗
Chip resistor

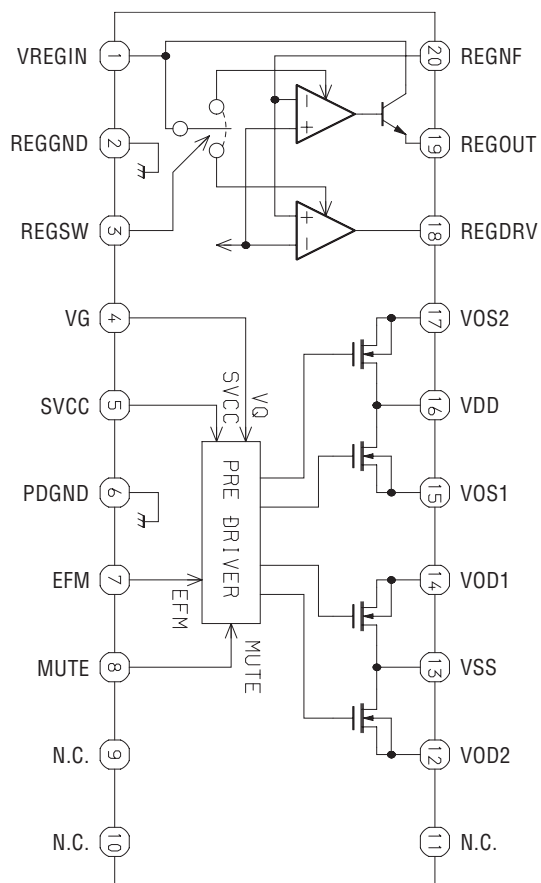
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

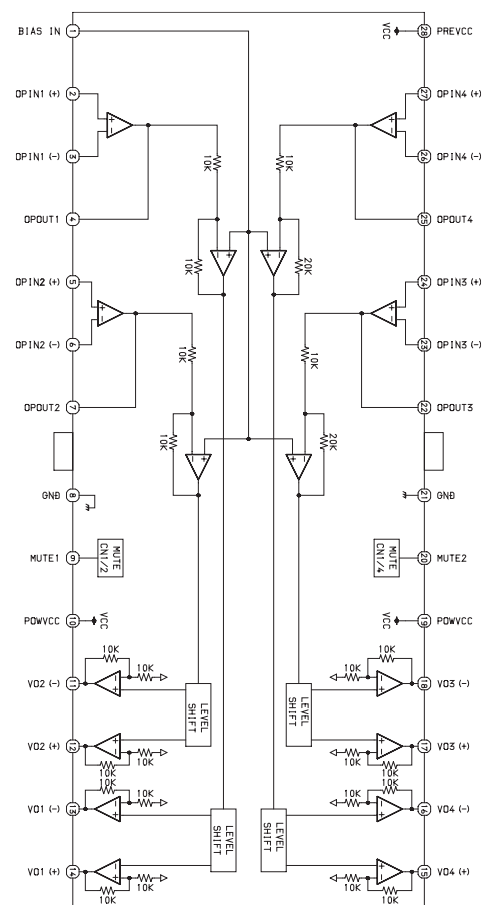


2SA1588
2SC4116
RN1305
RN2305

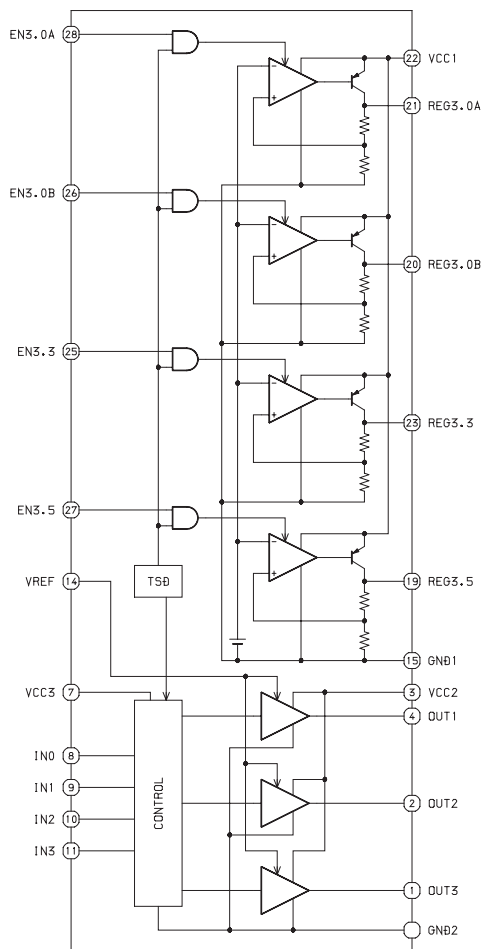
IC, BD7910FV



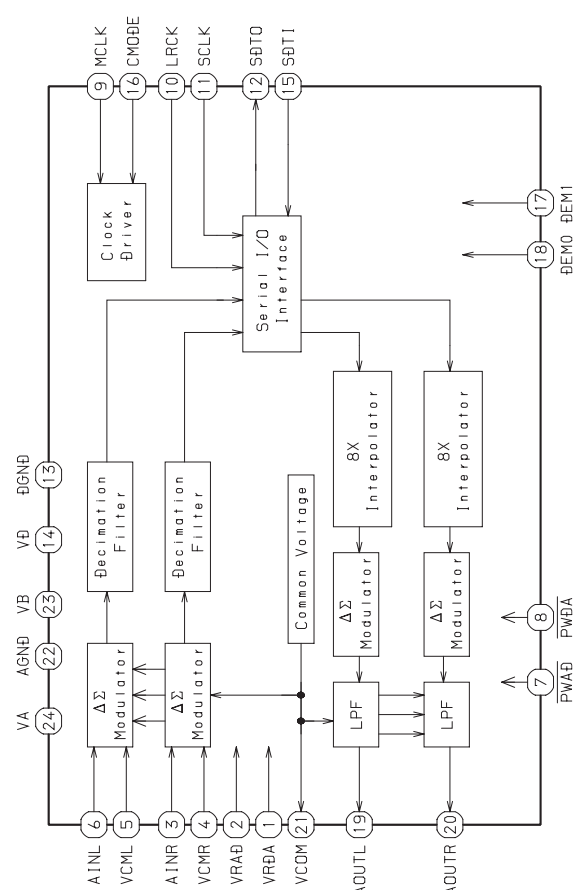
IC, BA5970FP



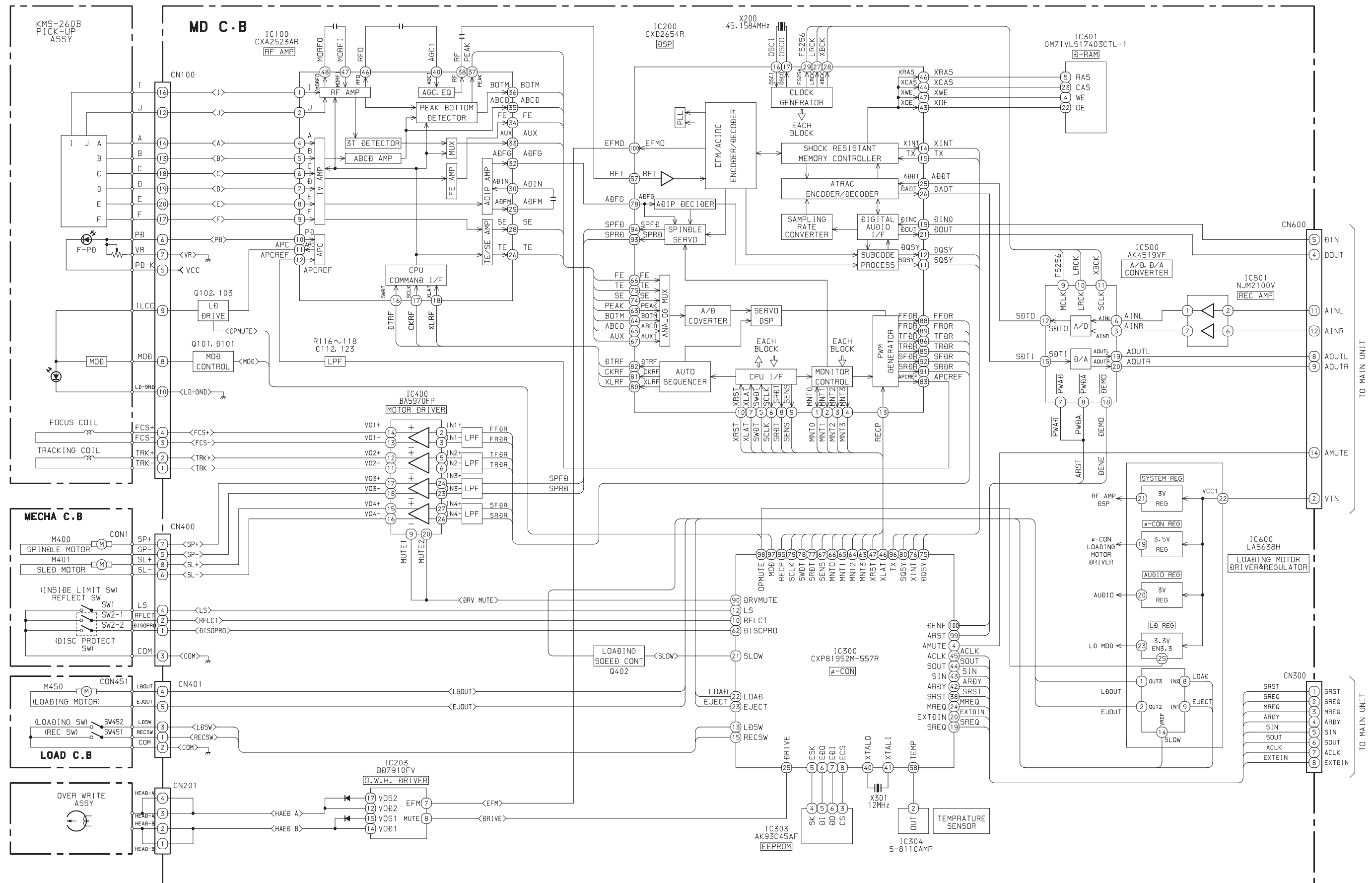
IC, LA5638H

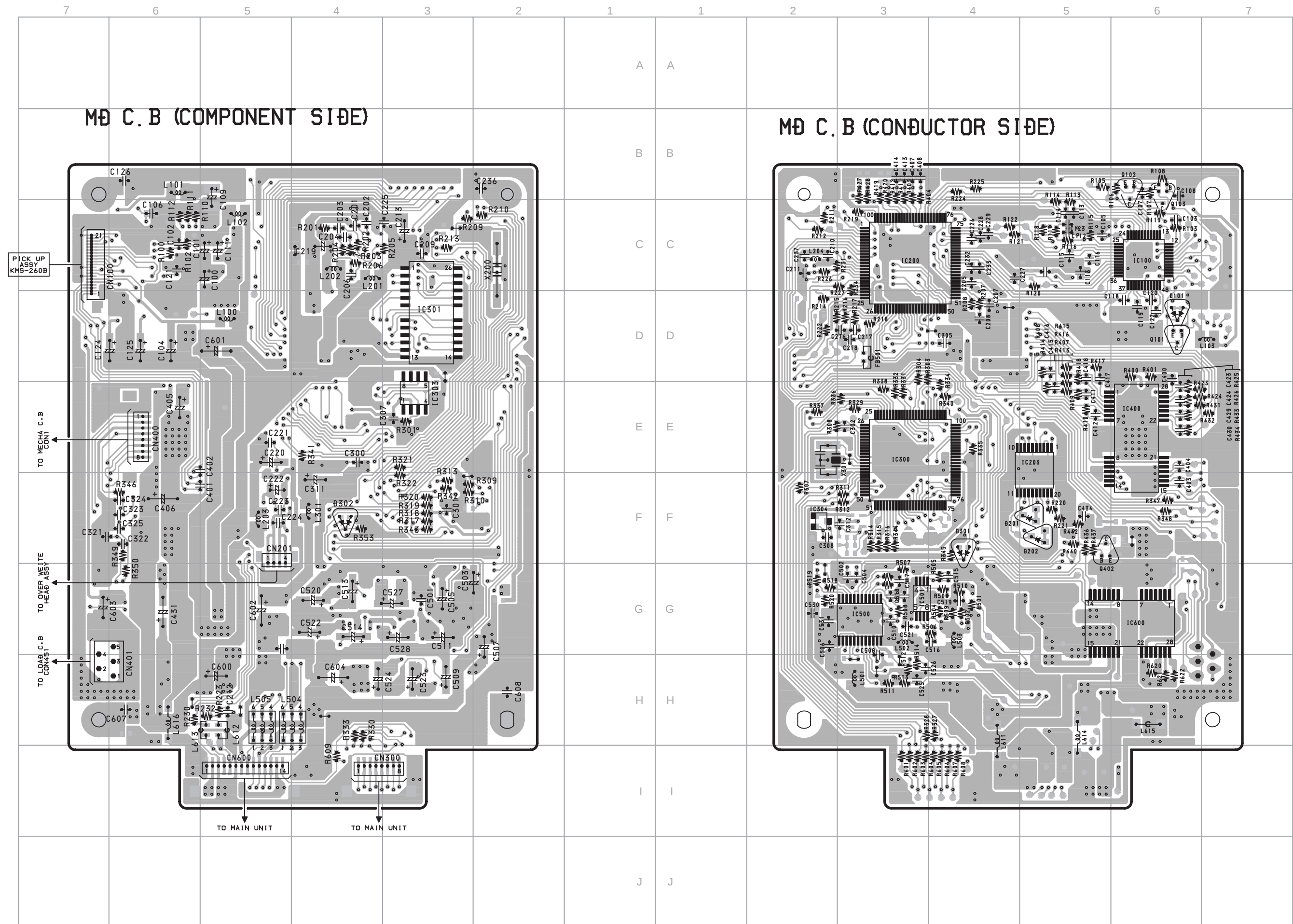


IC, AK4519VF

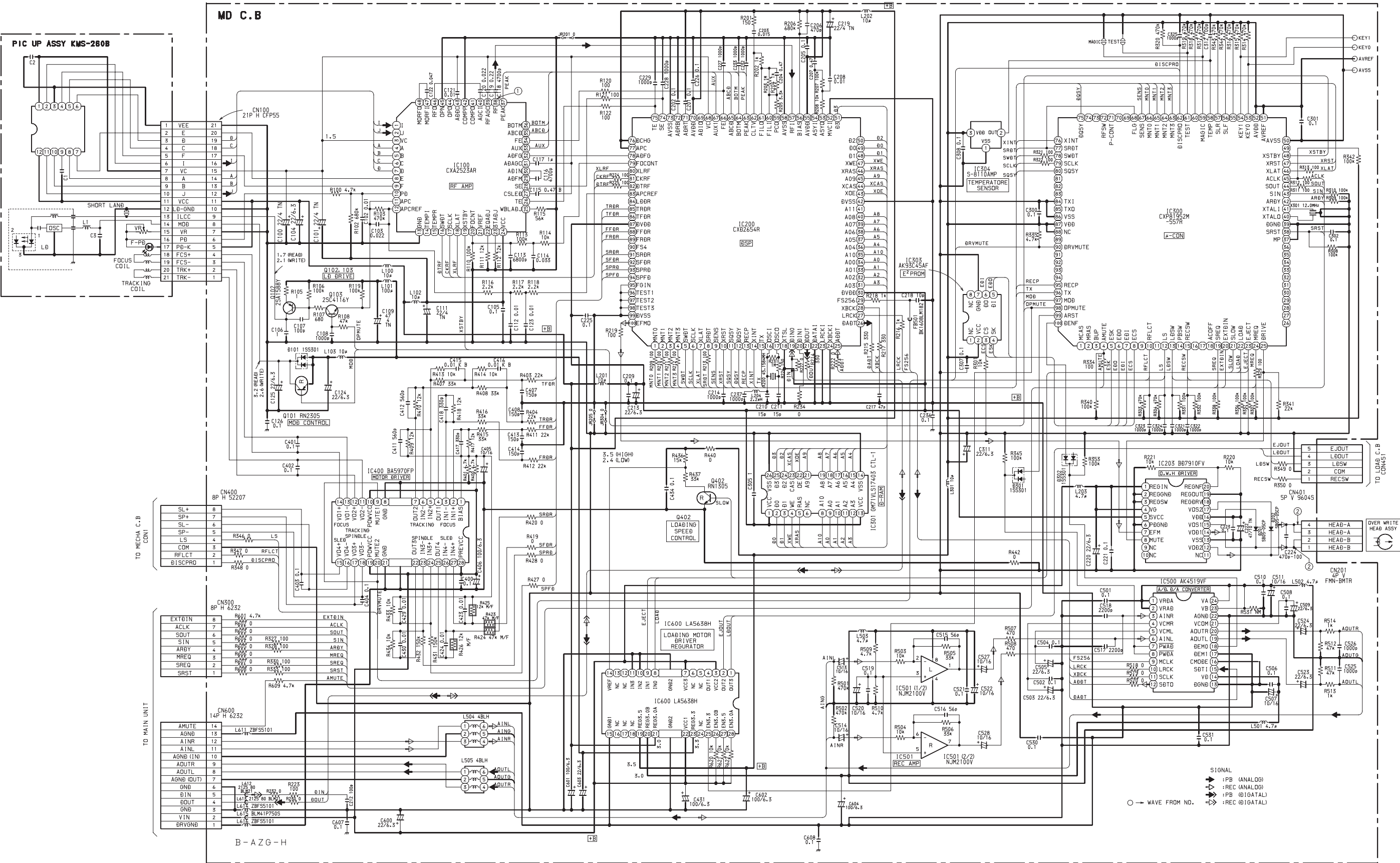


BLOCK DIAGRAM

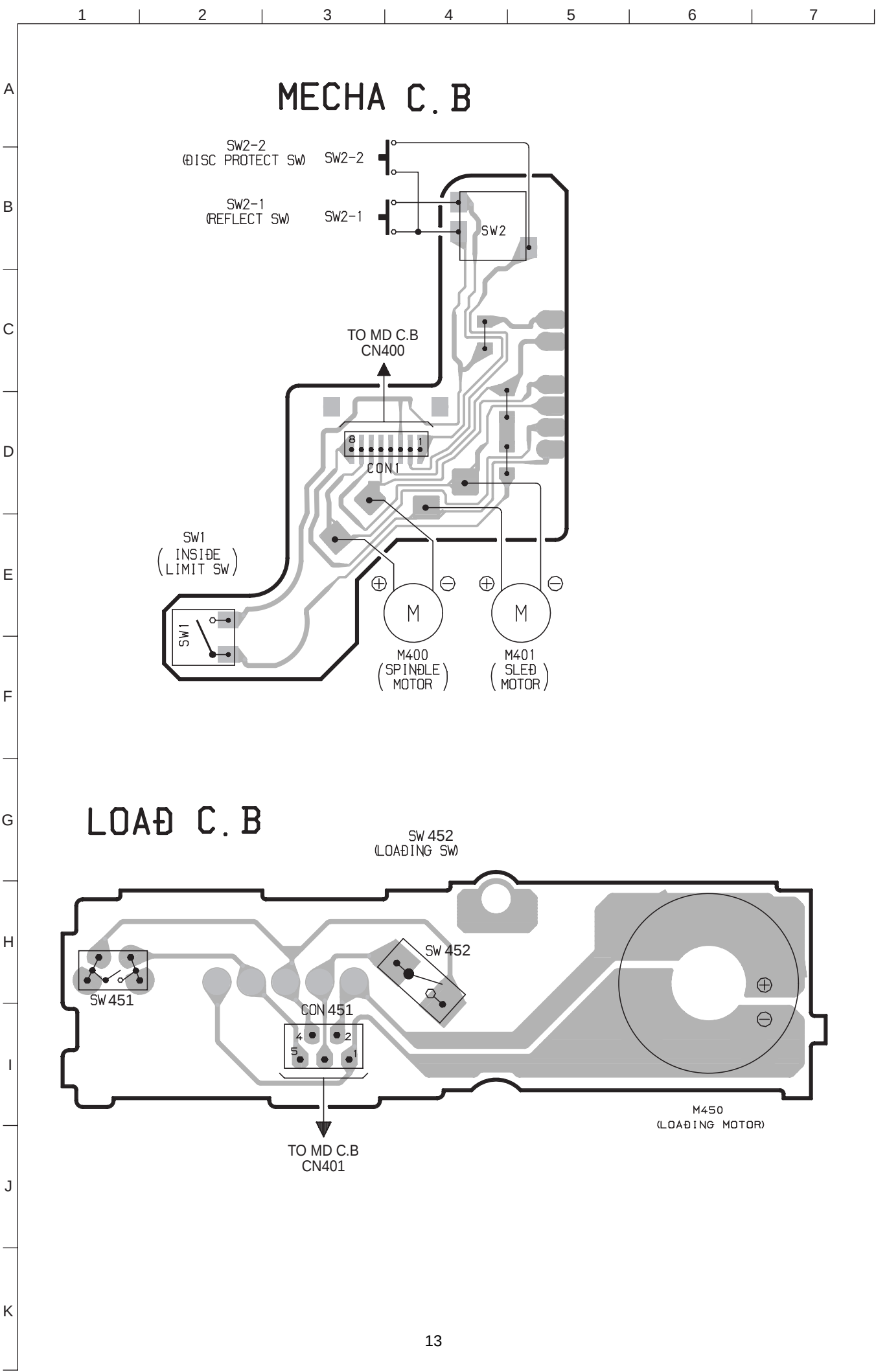




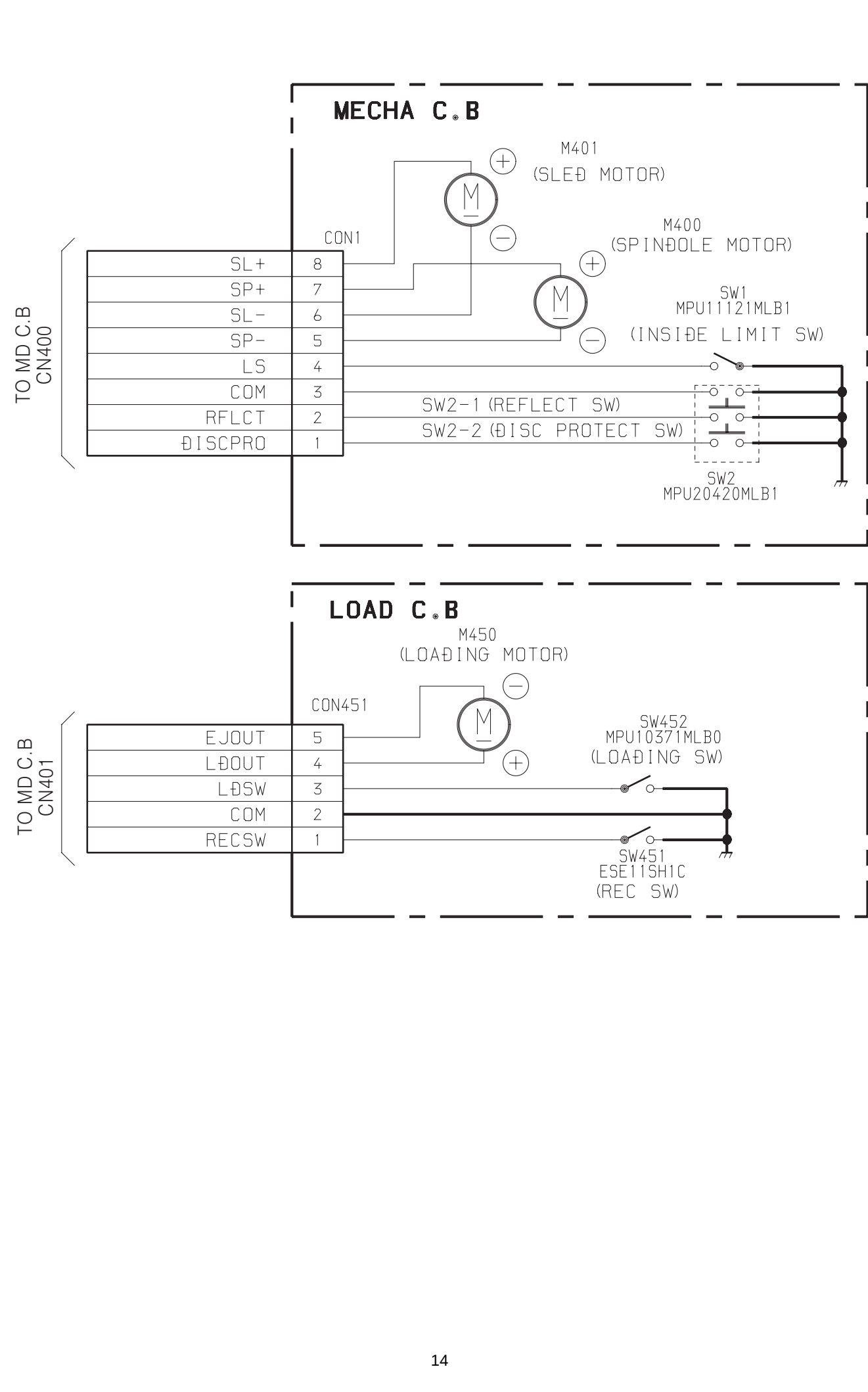
SCHEMATIC DIAGRAM-1 (MD)



WIRING-2 (MECHA/LOAD)



SCHEMATIC DIAGRAM-2 (MECHA/LOAD)



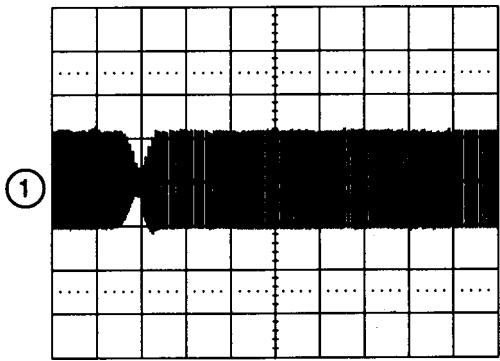
WAVE FORM

1

IC100 Pin 38 (RF)

VOLT/DIV: 0.5V

TIME/DIV: 1mS

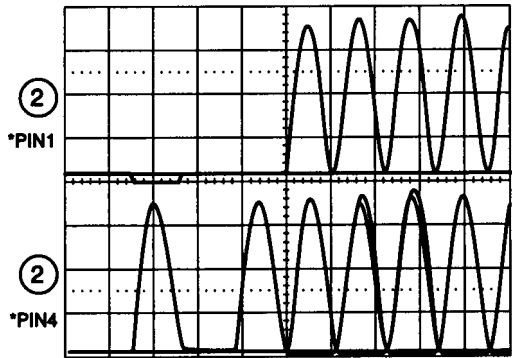


2

CN201 Pin 1 (HEAD-B)
CN201 Pin 4 (HEAD-A)

VOLT/DIV: 10V

TIME/DIV: 0.2μS



IC 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.

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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	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.

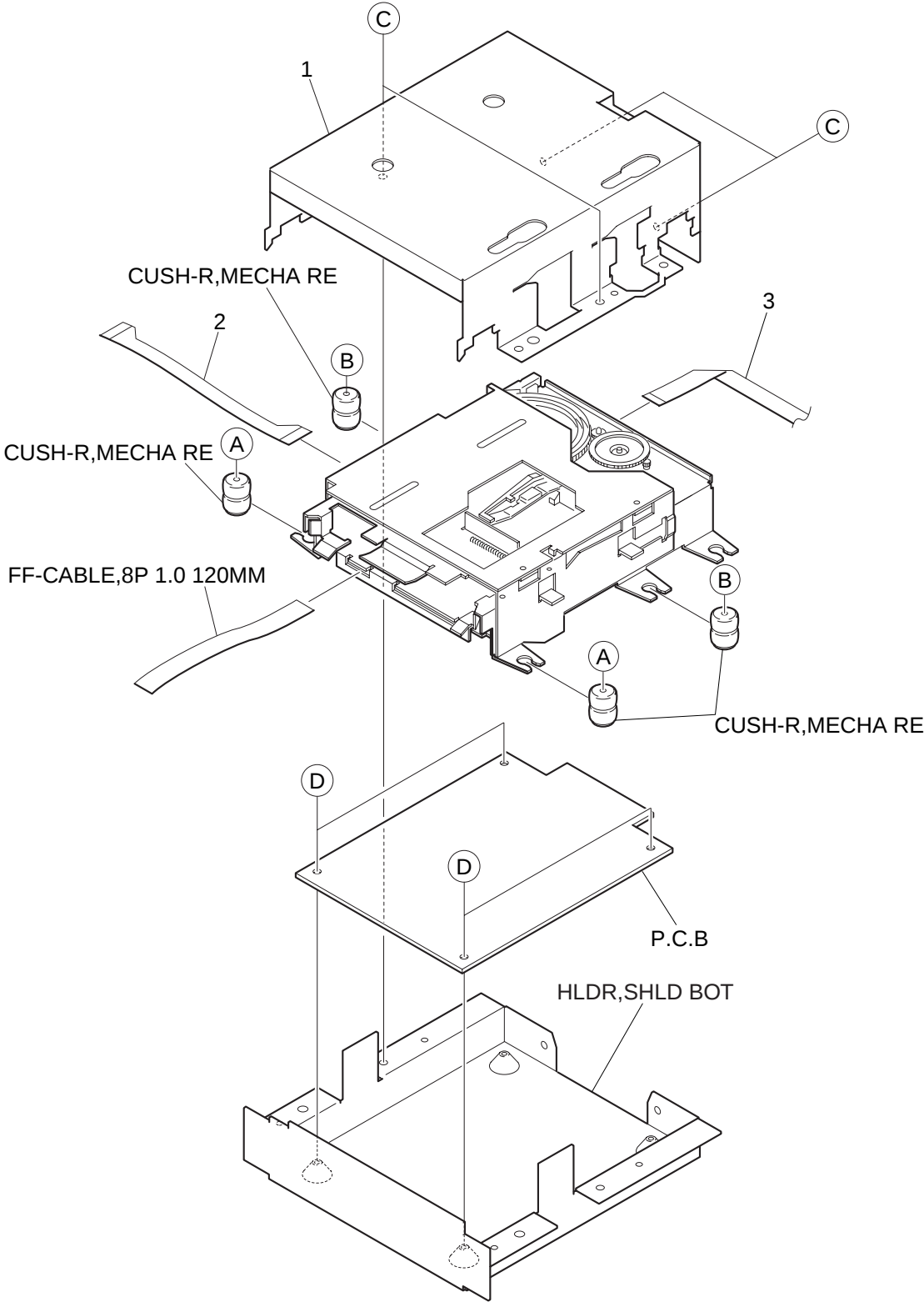
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Pin No.	Pin Name	I/O	Description
1	MCAS	—	Not used.
2	MRAS	—	
3	BUP	—	
4	AMUTE	O	Audio mute signal output.
5	ESK	O	Serial clock output for EEPROM interface.
6	EDO	O	Serial data output for EEPROM interface.
7	EDI	I	Serial data input for EEPROM interface.
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.

MECHANISM EXPLODED VIEW 1/1

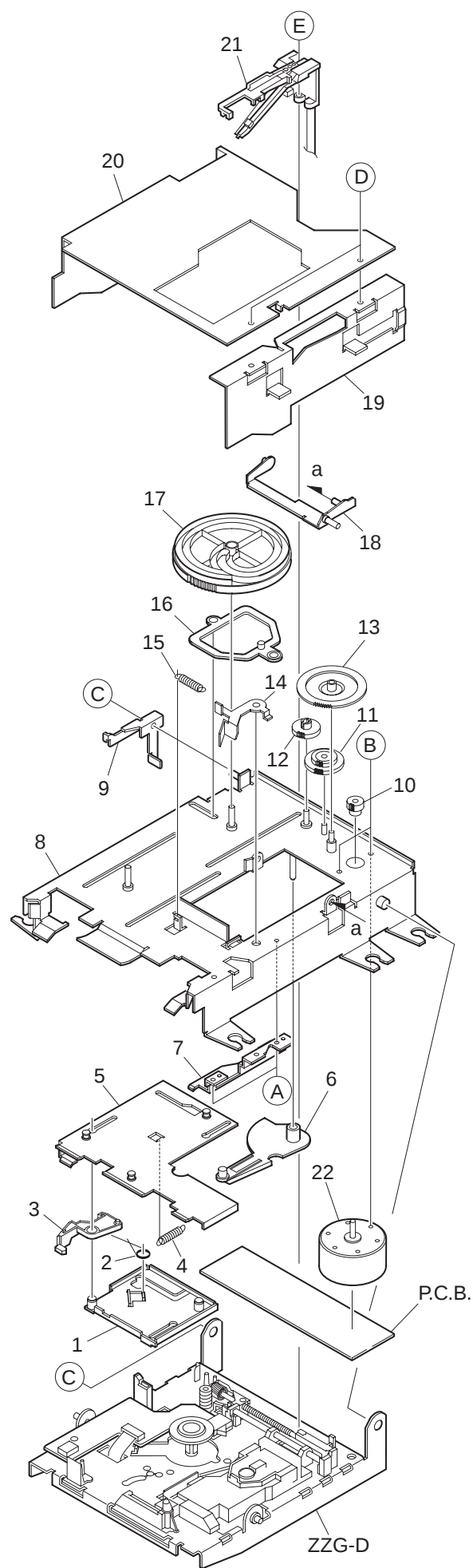


MECHANISM PARTS LIST 1/1

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	87-ZG9-202-210		HLDR, 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 1/1 (7ZG8 B2)

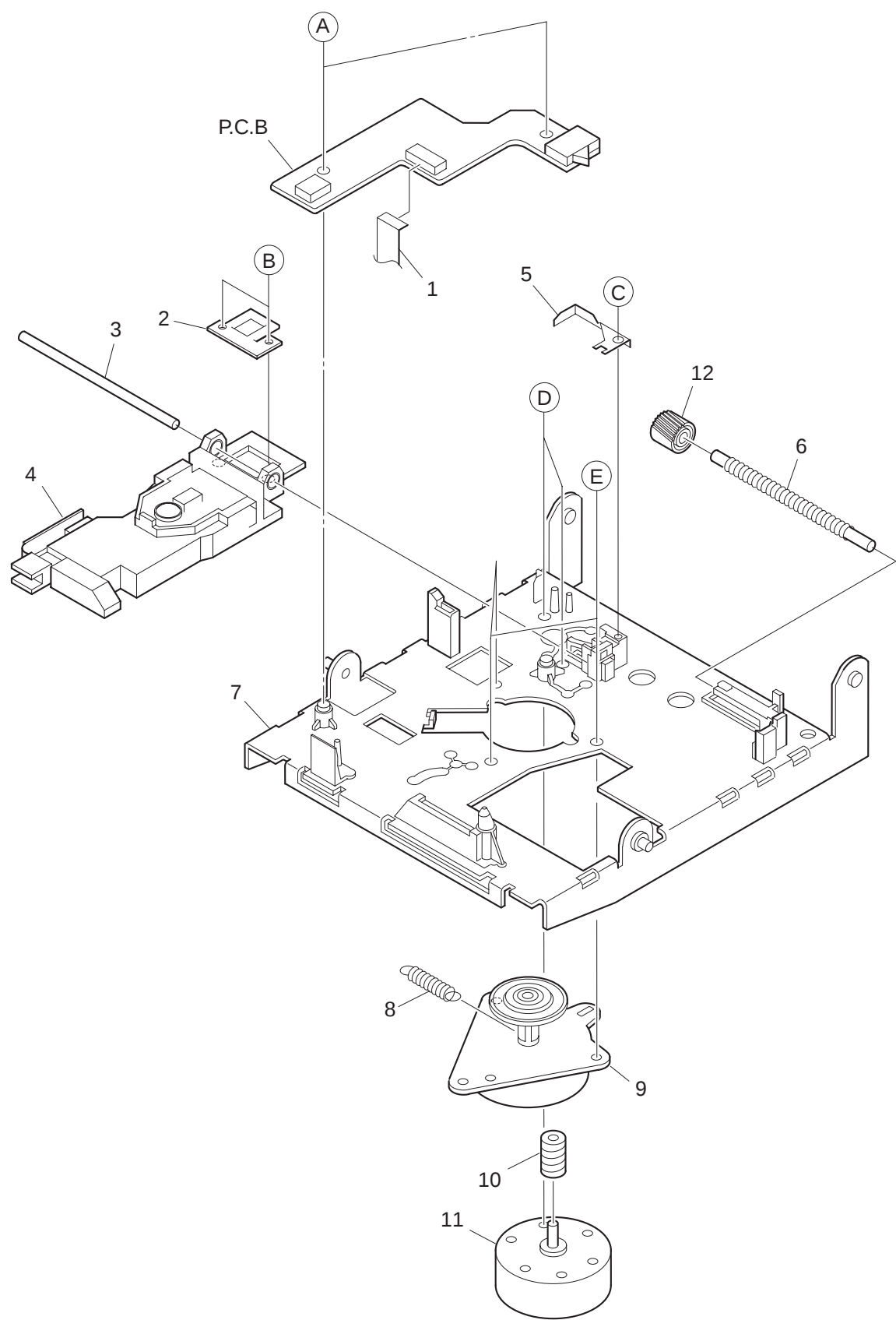


MECHANISM PARTS LIST 1/1 (7ZG8 B2)

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		PLATE ASSY, LATCH	16	87-ZG8-225-310		LEVER ASSY, CAM
2	87-ZG8-259-110		SPR-T, LATCH	17	87-ZG8-239-110		CAM, LOAD(*)
3	87-ZG8-230-210		LEVER, LATCH(*)	18	87-ZG8-257-210		LEVER ASSY, REC
4	87-ZG8-224-110		SPR-E, LATCH	19	87-ZG8-213-310		PLATE, SLIDE R
5	87-ZG8-214-210		HLDR ASSY, CARTRIGE	20	87-ZG8-209-310		PLATE ASSY, SLIDE L
6	87-ZG8-233-310		LEVER, SW H(*)	21	87-A90-605-210		HEAD, OWH RF325-74A
7	87-ZG8-255-210		PLATE, CARTRIGE	22	87-A90-672-010		MOT, M25E-4
8	87-ZG8-277-010		CHAS ASSY, MAIN B	A	87-B10-129-010		VTT+1.7-3.5 W/O MFZN2-C
9	87-ZG8-256-110		LEVER, SW S2	B	87-B10-128-010		V+1.7-2 W/O MFZN2-C
10	87-ZG8-242-010		GEAR, MOT	C	87-B10-130-010		W-P, 1.23-3.1-0.25 SLIT
11	87-ZG8-253-010		GEAR, REDUCTION S3	D	87-B10-185-010		VTT+2-3
12	87-ZG8-246-010		GEAR, IDLER 2	E	87-B10-286-010		VW+1.7-5 W/O MFZN2C
13	87-ZG8-252-010		GEAR, REDUCTION L3	F	87-067-315-010		PW 3.1-7-0.5
14	87-ZG8-231-110		LEVER, SHUTTER				
15	87-ZG8-232-110		SPR-E, SHUTTER				

MECHANISM EXPLODED VIEW 1/1 (ZZG-D)



MECHANISM PARTS LIST 1/1 (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				

