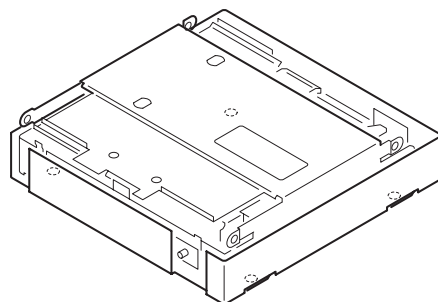




SERVICE MANUAL

MD MECHANISM

BASIC MD MECHANISM : KMS-280A

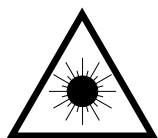
TYPE
A
YA

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 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

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

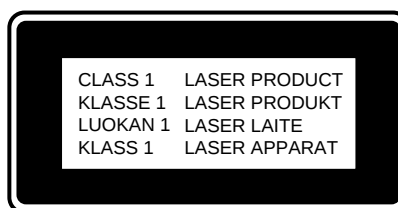
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

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.

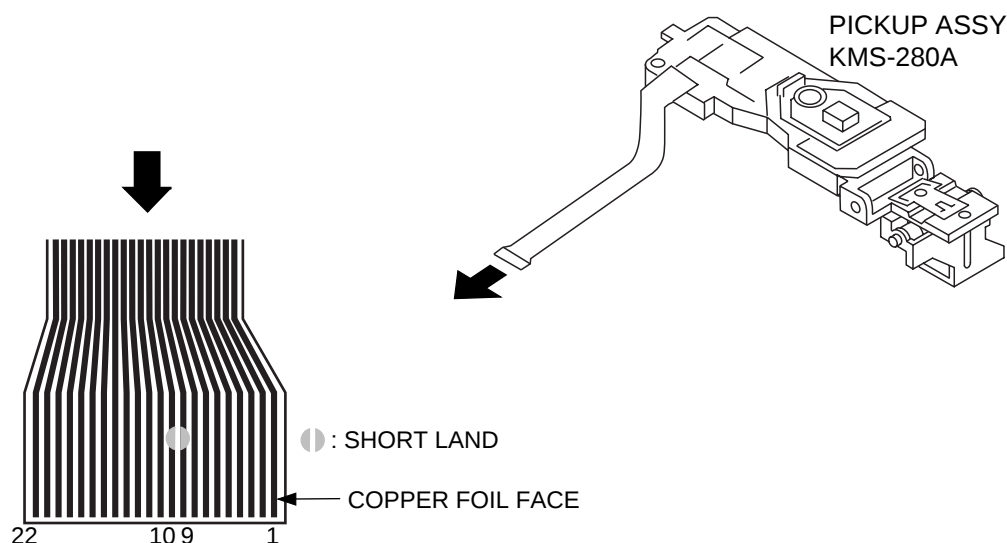
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block (KMS-280A)

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 figure below.



ELECTRICAL MAIN PARTS LIST

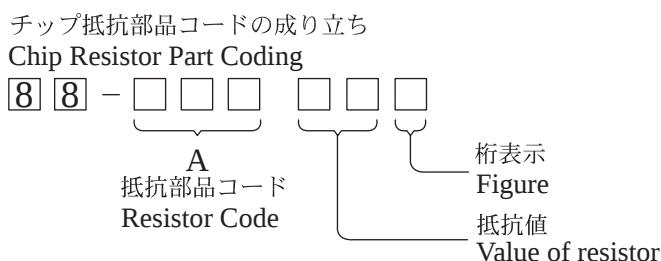
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC				C209	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-A20-707-010	C-IC, CXA2523AR		C210	87-012-169-080		C-CAP,U 7P-50 CH
	87-A20-710-040	C-IC, S-8110AMP		C211	87-012-169-080		C-CAP,U 7P-50 CH
	87-A20-708-010	C-IC, CXD2652AR		C212	87-A11-050-080		C-CAP,TN 47U-4 M F95 A
	87-A21-140-010	C-IC, MSM51V17400D		C213	87-012-172-080		C-CAP,U 10P-50 CH
	87-A21-027-040	C-IC, TC7W66FU		C214	87-A10-260-080		C-CAP,U 0.1-16 K B
	8A-ZG5-602-010	C-IC, CXP81952M-555R		C215	87-012-188-080		C-CAP,U 47P-50 CH
	87-A21-030-040	C-IC, S-93C46AMFN		C216	87-010-785-080		C-CAP,U0.015-25BK
	87-A21-024-010	C-IC, BD6601KV		C217	87-012-274-080		CHIP CAP,U 1000P-50B
	87-A21-199-040	C-IC, LB1638M		C218	87-012-274-080		CHIP CAP,U 1000P-50B
	87-A20-719-040	C-IC, MPC18A20VM		C302	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-A20-602-040	C-IC, M5291FP		C309	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-A21-035-040	C-IC, R1110N281B-TR		C313	87-012-286-080		CAP, U 0.01-25
	87-A21-110-040	C-IC, AK4519VF		C315	87-012-286-080		CAP, U 0.01-25
	87-A21-036-040	C-IC, R1110N251B-TR		C353	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-017-853-040	IC, NJM2100V		C400	87-A11-049-080		C-CAP,U 1-6.3 K B
TRANSISTOR				C411	87-A11-070-080		C-CAP,U 0.033-16 K B
	89-115-884-080	CHIP -TRANSISTER 2SA1588Y		C412	87-A11-070-080		C-CAP,U 0.033-16 K B
	87-A30-148-080	C-TR, 2SC4738GR		C413	87-A10-353-080		C-CAP,U0.22-10KB
	87-026-644-080	C-TR, DTA144EE		C414	87-012-278-080		C-CAP,U 2200P-50 B
	87-A30-147-080	C-TR, 2SA1832GR		C415	87-012-278-080		C-CAP,U 2200P-50 B
	87-A30-033-080	C-FET, 2SK2035		C416	87-012-278-080		C-CAP,U 2200P-50 B
	87-A30-181-080	C-TR, DTA114TEA		C417	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-A30-150-080	C-FET, MTD2N06HD		C418	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-026-645-080	C-TR, DTC144EE		C419	87-A10-260-080		C-CAP,U 0.1-16 K B
	89-113-695-680	C-TR, 2SA1369G/H		C420	87-A11-049-080		C-CAP,U 1-6.3 K B
	87-A30-020-080	C-TR, DTC114EE		C421	87-A11-049-080		C-CAP,U 1-6.3 K B
DIODE				C422	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-A40-412-040	C-DIODE, SB05-05CP		C423	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-A40-124-080	C-DIODE, RB501V-40		C424	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-017-520-080	C-DIODE, SFPB52		C425	87-016-448-080		C-CAP,TN 2.2-10 F95P
	87-001-166-080	DIODE, 1SS301		C429	87-A11-046-080		C-CAP,TN 100U-4 M F95 B
MD C.B				C430	87-A11-046-080		C-CAP,TN 100U-4 M F95 B
	87-016-296-080	C-CAP, TN 22-4SV(A)		C430	87-A11-046-080		C-CAP,TN 100U-4 M F95 B
C102	87-016-296-080	C-CAP, TN 22-4SV(A)		C431	87-016-448-080		C-CAP,TN 2.2-10 F95P
C103	87-016-296-080	C-CAP, TN 22-4SV(A)		C432	87-016-296-080		C-CAP,TN 22-4SV(A)
C104	87-A11-046-080	C-CAP, TN 100U-4 M F95 B		C500	87-012-266-080		C-CAP,U 220P-50 B
C106	87-016-296-080	C-CAP, TN 22-4SV(A)		C501	87-016-296-080		C-CAP,TN 22-4SV(A)
C107	87-A10-504-080	C-CAP,U 0.047-16 K B		C502	87-016-448-080		C-CAP,TN 2.2-10 F95P
C108	87-012-286-080	CAP, U 0.01-25		C503	87-012-286-080		CAP, U 0.01-25
C109	87-010-787-080	CAP, U 0.022-25		C504	87-012-278-080		C-CAP,U 2200P-50 B
C110	87-A10-353-080	C-CAP,U0.22-10KB		C505	87-A11-049-080		C-CAP,U 1-6.3 K B
C111	87-012-282-080	CAP, U 4700P-50		C506	87-016-564-080		C-CAP,10-6.3 PSN
C112	87-A11-049-080	C-CAP,U 1-6.3 K B		C507	87-012-286-080		CAP, U 0.01-25
C113	87-012-282-080	CAP, U 4700P-50		C508	87-A10-504-080		C-CAP,U 0.047-16 K B
C114	87-A11-049-080	C-CAP,U 1-6.3 K B		C509	87-A10-504-080		C-CAP,U 0.047-16 K B
C115	87-016-448-080	C-CAP, TN 2.2-10 F95P		C510	87-012-270-080		CAP, U 470P-50
C116	87-012-195-080	C-CAP,U 100P-50CH		C511	87-A10-260-080		C-CAP,U 0.1-16 K B
C117	87-012-286-080	CAP, U 0.01-25		C512	87-016-449-080		C-CAP,TN 10-4 F95 P
C118	87-012-286-080	CAP, U 0.01-25		C513	87-016-449-080		C-CAP,TN 10-4 F95 P
C119	87-010-787-080	CAP, U 0.022-25		C600	87-A11-162-080		C-CAP,TN 47-16 M F93
C120	87-012-284-080	CAP, U 6800P-50		C602	87-016-446-080		C-CAP,TN 220-4 M
C121	87-A10-504-080	C-CAP,U 0.047-16 K B		C603	87-A10-260-080		C-CAP,U 0.1-16 K B
C122	87-012-286-080	CAP, U 0.01-25		C605	87-012-268-080		C-CAP,U 330P-50 K B
C123	87-012-286-080	CAP, U 0.01-25		C606	87-012-286-080		C-CAP,U 0.01-25 K B
C200	87-A10-260-080	C-CAP,U 0.1-16 K B		C607	87-A11-050-080		C-CAP,TN 47U-4 M F95 A
C201	87-A10-260-080	C-CAP,U 0.1-16 K B		C609	87-A11-967-080		C-CAP,TN 10-16 M F93
C202	87-012-286-080	CAP, U 0.01-25		C610	87-A10-260-080		C-CAP,U 0.1-16 K B
C203	87-A10-827-080	C-CAP,U 0.47-6.3 K B		C701	87-016-296-080		C-CAP,TN 22-4SV(A)
C204	87-A10-827-080	C-CAP,U 0.47-6.3 K B		C711	87-012-274-080		C-CAP,U 1000P-50 K B
C205	87-A10-260-080	C-CAP,U 0.1-16 K B		C712	87-012-274-080		C-CAP,U 1000P-50 K B
C206	87-012-270-080	CAP, U 470P-50		C713	87-016-296-080		C-CAP,TN 22-4SV(A)
C207	87-A10-827-080	C-CAP,U 0.47-6.3 K B		C714	87-016-296-080		C-CAP,TN 22-4SV(A)
C208	87-012-286-080	CAP, U 0.01-25		C715	87-016-296-080		C-CAP,TN 22-4SV(A)
				C716	87-010-831-080		C-CAP,U 0.1-16 Z F
				C717	87-016-296-080		C-CAP,TN 22-4SV(A)
				C718	87-010-831-080		C-CAP,U 0.1-16 Z F
				C719	87-010-831-080		C-CAP,U 0.1-16 Z F
				C720	87-010-831-080		C-CAP,U 0.1-16 Z F
				C721	87-016-296-080		C-CAP,TN 22-4SV(A)

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C722	87-016-296-080	C-CAP,TN 22-4SV(A)		L614	87-A50-163-080	C-COIL,ZBFS5101-PT	
C723	87-010-831-080	C-CAP,U 0.1-16 Z F		L615	87-A90-034-080	C-FLTR,EMI BLM41P750	
C724	87-016-296-080	C-CAP,TN 22-4SV(A)		L616	87-A50-163-080	C-COIL,ZBFS5101-PT	
C725	87-010-831-080	C-CAP,U 0.1-16 Z F		L701	87-A50-116-080	C-COIL,4.7UHLQH3C	
C800	87-012-274-080	C-CAP,U 1000P-50 K B		L702	87-A50-116-080	C-COIL,4.7UHLQH3C	
C801	87-016-449-080	C-CAP,TN 10-4 F95 P		L800	87-A50-362-080	C-COIL,ACM2520-601-2P	
C802	87-016-449-080	C-CAP,TN 10-4 F95 P		L801	87-A50-362-080	C-COIL,ACM2520-601-2P	
C803	87-012-337-080	C-CAP,U 56P-50 CH		L802	87-005-774-080	C-COIL,4BLH	
C804	87-012-337-080	C-CAP,U 56P-50 CH		L803	87-A50-116-080	C-COIL,4.7UHLQH3C	
C805	87-016-449-080	C-CAP,TN 10-4 F95 P		R108	87-022-294-080	C-RES,U 470K 1-16W F	
C806	87-010-831-080	C-CAP,U 0.1-16 Z F		R114	87-022-223-080	CHIP RES 2.2K 1/16W F	
C807	87-016-449-080	C-CAP,TN 10-4 F95 P		R115	87-022-223-080	CHIP RES 2.2K 1/16W F	
C808	87-010-831-080	C-CAP,U 0.1-16 Z F		R116	87-022-223-080	CHIP RES 2.2K 1/16W F	
C809	87-016-449-080	C-CAP,TN 10-4 F95 P		R502	87-022-227-080	C-RES,U 3.3K-1/16W F	
C810	87-016-449-080	C-CAP,TN 10-4 F95 P		R506	87-022-217-080	C-RES,U 1.2K-1/16W F	
C811	87-012-278-080	C-CAP,U 2200P-50 K B		R507	87-022-237-080	C-RES,U 8.2K-1/16W F	
C812	87-012-278-080	C-CAP,U 2200P-50 K B		R508	87-022-243-080	CHIP RES,U 15K-1/16W F	
CN100	87-A61-134-080	C-CONN,22P H FLZ-SM1-TB		R509	87-022-241-080	CHIP RESTOR 12K 1/16W F	
CN200	87-A61-133-080	C-CONN,14P H FLZ-RSM1-TB		S304	87-A90-953-080	C-SW,PUSH MPU10992MLB1	
CN300	87-A61-128-080	C-CONN,6P H FLZ-SM1-TB		X200	87-A70-160-080	C-VIB,XTAL 22.5792MHZ FCX-03	
CN500	87-A60-888-080	C-CONN,9P V FMN-BMTTN-TF		X301	87-A70-100-080	C-VIB,CER 12.0MHZ PBRC-BR-A	
CN600	87-A60-891-080	C-CONN,14P V FMN-BMTTN-TF		SW C.B			
FB200	88-108-000-080	C-JUMPER,U		CN50	87-A61-132-080	C-CONN,10P H FLZ-SM1-TB	
L100	87-A50-360-080	C-COIL,47UH K NLF252018		S50	87-A91-419-080	C-SW,PUSH MPU11121MLB1	
L102	87-A50-360-080	C-COIL,47UH K NLF252018		S51	87-A91-419-080	C-SW,PUSH MPU11121MLB1	
L200	87-A50-359-080	C-COIL,22UH K NLF252018		S52	87-A91-008-080	C-SW,PUSH 2-1-1 SPVE4.1	
L411	87-A50-358-080	C-COIL,10UH K NLF252018		S53	87-A91-009-080	C-SW,PUSH 2-1-1 SPVE5.2	
L412	87-A50-358-080	C-COIL,10UH K NLF252018		S54	87-A91-420-080	C-SW,PUSH MPU11120MLA1	
L413	87-A50-358-080	C-COIL,10UH K NLF252018					
L414	87-A50-358-080	C-COIL,10UH K NLF252018					
L415	87-A50-012-080	C-COIL,100UH LQH3C					
L416	87-A50-011-080	C-COIL,47UH LQH3C					
L417	87-A50-359-080	C-COIL,22UH K NLF252018					
L500	87-A50-361-080	C-COIL,100UH K NLF252018					
L501	87-A50-011-080	C-COIL,47UH LQH3C					
L601	87-A50-604-080	C-COIL,180UH-D75C					
L602	87-A50-116-080	C-COIL,4.7UHLQH3C					
L611	87-A50-163-080	C-COIL,ZBFS5101-PT					
L612	87-005-512-080	C-COIL,BLM21A05					
L613	87-005-512-080	C-COIL,BLM21A05					

- 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



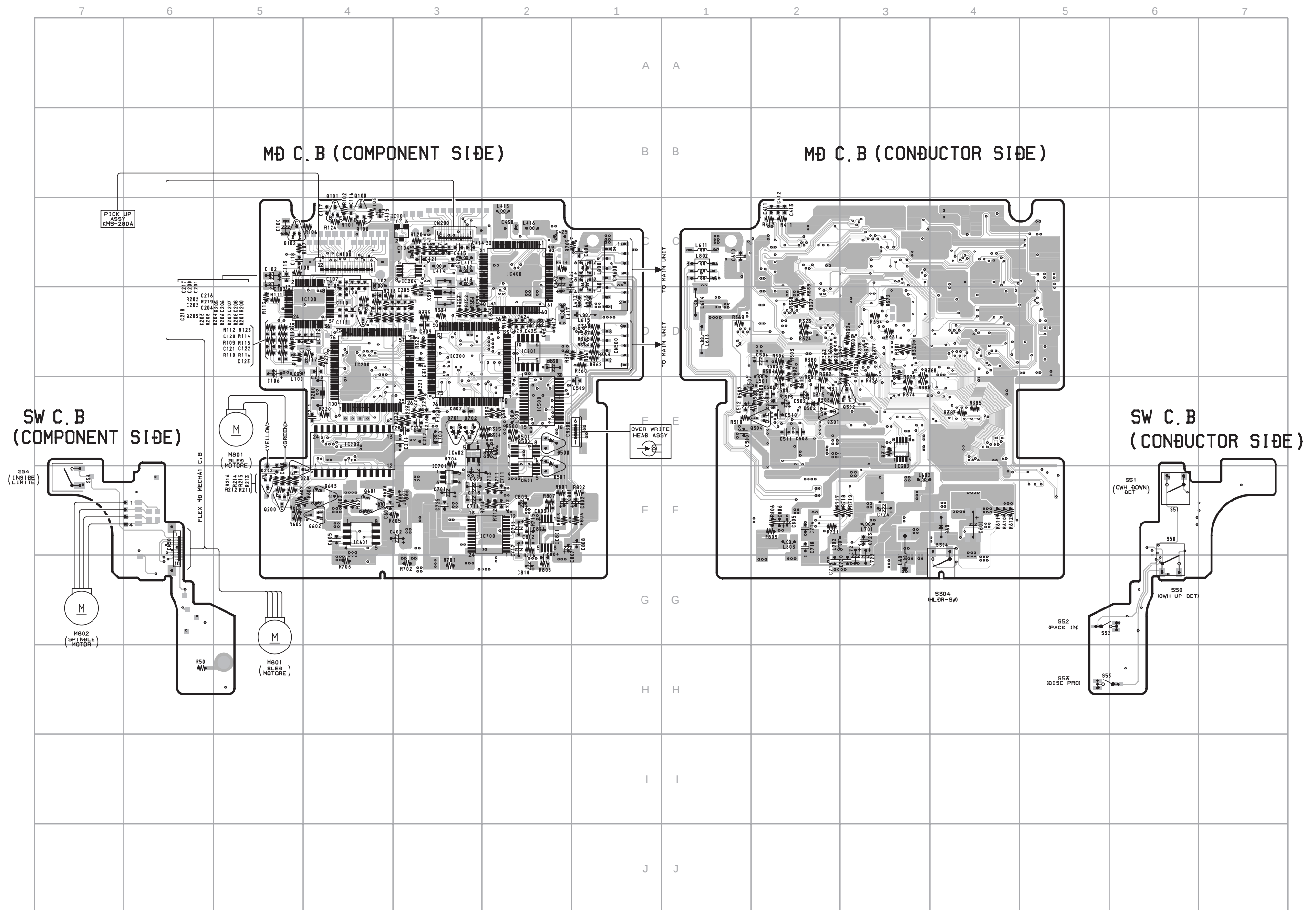
チップ抵抗 Chip resistor

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

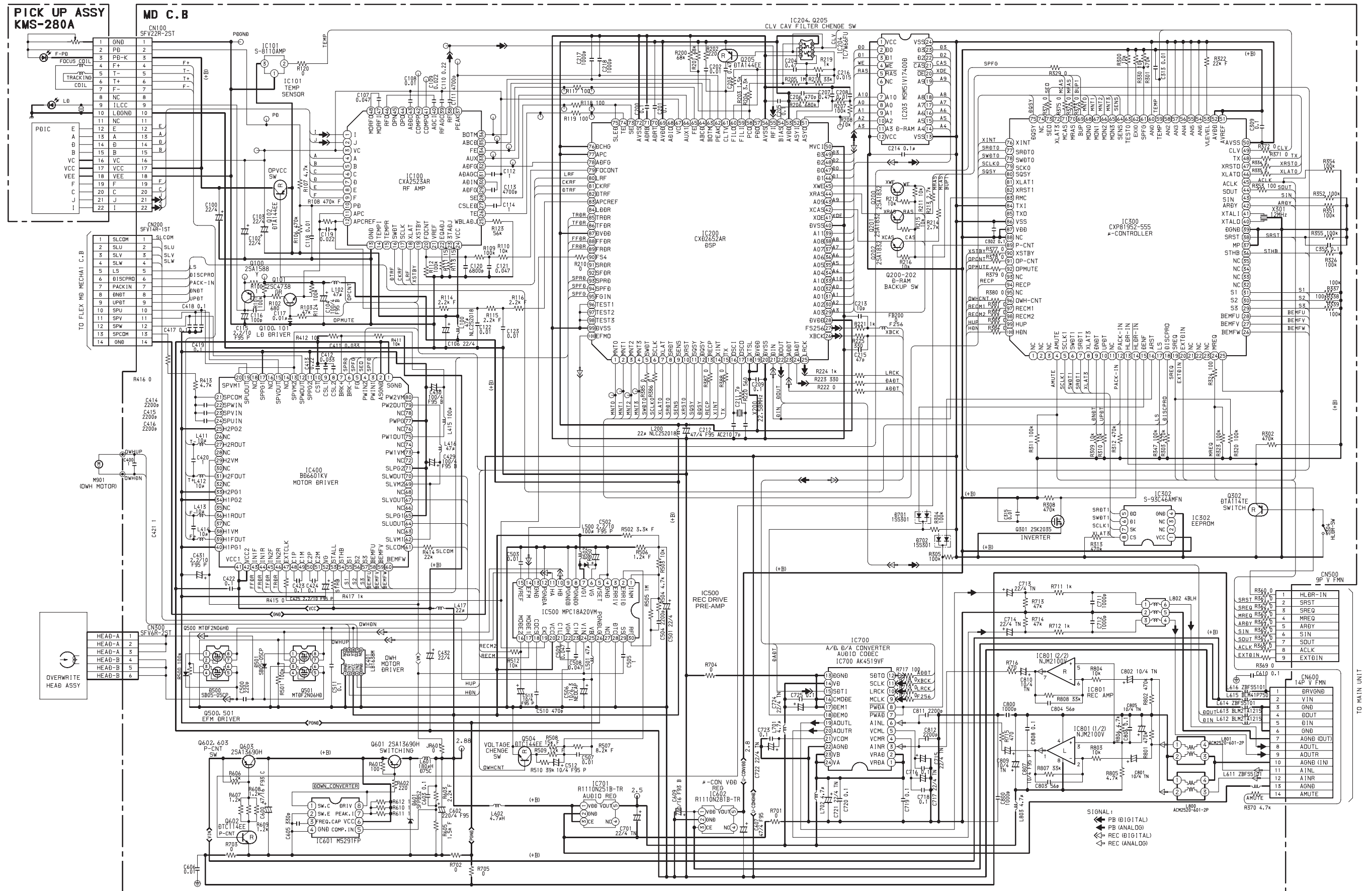
The schematic diagram illustrates the internal components and wiring of a CD player. It is organized into two main sections: the left side (Page 5) and the right side (Page 6).

Page 5 Components:

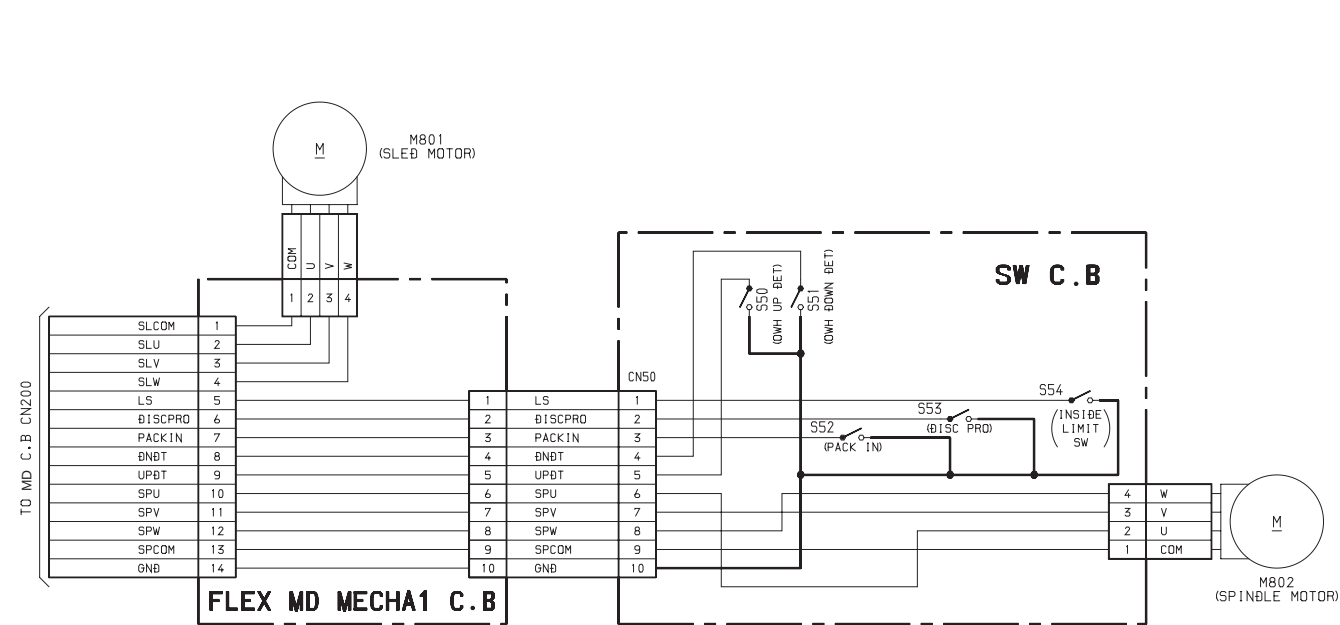
- MD C.B (Mechanical Control Board):** Includes RF AMP, AGC, EQ, PEAK, BTM, ABCD, AUX, ADFG, ABIN, ADFG, FE, TE, SE, TE, APC, CPU I/F, and various detectors.
- FLEX MD MECHA1 C.B (Mechanical Control Board):** Includes M801 (SLED MOTOR), M802 (SPINDLE MOTOR), and various drivers and oscillators.
- SW C.B (Switching Control Board):** Includes Q500, Q501, Q502, Q503, Q504, Q505, Q506, Q507, Q508, Q509, Q510, Q511, Q512, Q513, Q514, Q515, Q516, Q517, Q518, Q519, Q520, Q521, Q522, Q523, Q524, Q525, Q526, Q527, Q528, Q529, Q530, Q531, Q532, Q533, Q534, Q535, Q536, Q537, Q538, Q539, Q540, Q541, Q542, Q543, Q544, Q545, Q546, Q547, Q548, Q549, Q550, Q551, Q552, Q553, Q554, Q555, Q556, Q557, Q558, Q559, Q560, Q561, Q562, Q563, Q564, Q565, Q566, Q567, Q568, Q569, Q570, Q571, Q572, Q573, Q574, Q575, Q576, Q577, Q578, Q579, Q580, Q581, Q582, Q583, Q584, Q585, Q586, Q587, Q588, Q589, Q590, Q591, Q592, Q593, Q594, Q595, Q596, Q597, Q598, Q599, Q600, Q601, Q602, Q603, Q604, Q605, Q606, Q607, Q608, Q609, Q610, Q611, Q612, Q613, Q614, Q615, Q616, Q617, Q618, Q619, Q620, Q621, Q622, Q623, Q624, Q625, Q626, Q627, Q628, Q629, Q630, Q631, Q632, Q633, Q634, Q635, Q636, Q637, Q638, Q639, Q640, Q641, Q642, Q643, Q644, Q645, Q646, Q647, Q648, Q649, Q650, Q651, Q652, Q653, Q654, Q655, Q656, Q657, Q658, Q659, Q660, Q661, Q662, Q663, Q664, Q665, Q666, Q667, Q668, Q669, Q670, Q671, Q672, Q673, Q674, Q675, Q676, Q677, Q678, Q679, Q680, Q681, Q682, Q683, Q684, Q685, Q686, Q687, Q688, Q689, Q690, Q691, Q692, Q693, Q694, Q695, Q696, Q697, Q698, Q699, Q700, Q701, Q702, Q703, Q704, Q705, Q706, Q707, Q708, Q709, Q710, Q711, Q712, Q713, Q714, Q715, Q716, Q717, Q718, Q719, Q720, Q721, Q722, Q723, Q724, Q725, Q726, Q727, Q728, Q729, Q730, Q731, Q732, Q733, Q734, Q735, Q736, Q737, Q738, Q739, Q740, Q741, Q742, Q743, Q744, Q745, Q746, Q747, Q748, Q749, Q750, Q751, Q752, Q753, Q754, Q755, Q756, Q757, Q758, Q759, Q760, Q761, Q762, Q763, Q764, Q765, Q766, Q767, Q768, Q769, Q770, Q771, Q772, Q773, Q774, Q775, Q776, Q777, Q778, Q779, Q780, Q781, Q782, Q783, Q784, Q785, Q786, Q787, Q788, Q789, Q790, Q791, Q792, Q793, Q794, Q795, Q796, Q797, Q798, Q799, Q800, Q801, Q802, Q803, Q804, Q805, Q806, Q807, Q808, Q809, Q810, Q811, Q812, Q813, Q814, Q815, Q816, Q817, Q818, Q819, Q820, Q821, Q822, Q823, Q824, Q825, Q826, Q827, Q828, Q829, Q830, Q831, Q832, Q833, Q834, Q835, Q836, Q837, Q838, Q839, Q840, Q841, Q842, Q843, Q844, Q845, Q846, Q847, Q848, Q849, Q850, Q851, Q852, Q853, Q854, Q855, Q856, Q857, Q858, Q859, Q860, Q861, Q862, Q863, Q864, Q865, Q866, Q867, Q868, Q869, Q870, Q871, Q872, Q873, Q874, Q875, Q876, Q877, Q878, Q879, Q880, Q881, Q882, Q883, Q884, Q885, Q886, Q887, Q888, Q889, Q890, Q891, Q892, Q893, Q894, Q895, Q896, Q897, Q898, Q899, Q900, Q901, Q902, Q903, Q904, Q905, Q906, Q907, Q908, Q909, Q910, Q911, Q912, Q913, Q914, Q915, Q916, Q917, Q918, Q919, Q920, Q921, Q922, Q923, Q924, Q925, Q926, Q927, Q928, Q929, Q930, Q931, Q932, Q933, Q934, Q935, Q936, Q937, Q938, Q939, Q940, Q941, Q942, Q943, Q944, Q945, Q946, Q947, Q948, Q949, Q950, Q951, Q952, Q953, Q954, Q955, Q956, Q957, Q958, Q959, Q960, Q961, Q962, Q963, Q964, Q965, Q966, Q967, Q968, Q969, Q970, Q971, Q972, Q973, Q974, Q975, Q976, Q977, Q978, Q979, Q980, Q981, Q982, Q983, Q984, Q985, Q986, Q987, Q988, Q989, Q990, Q991, Q992, Q993, Q994, Q995, Q996, Q997, Q998, Q999, Q1000, Q1001, Q1002, Q1003, Q1004, Q1005, Q1006, Q1007, Q1008, Q1009, Q1010, Q1011, Q1012, Q1013, Q1014, Q1015, Q1016, Q1017, Q1018, Q1019, Q1020, Q1021, Q1022, Q1023, Q1024, Q1025, Q1026, Q1027, Q1028, Q1029, Q1030, Q1031, Q1032, Q1033, Q1034, Q1035, Q1036, Q1037, Q1038, Q1039, Q1040, Q1041, Q1042, Q1043, Q1044, Q1045, Q1046, Q1047, Q1048, Q1049, Q1050, Q1051, Q1052, Q1053, Q1054, Q1055, Q1056, Q1057, Q1058, Q1059, Q1060, Q1061, Q1062, Q1063, Q1064, Q1065, Q1066, Q1067, Q1068, Q1069, Q1070, Q1071, Q1072, Q1073, Q1074, Q1075, Q1076, Q1077, Q1078, Q1079, Q1080, Q1081, Q1082, Q1083, Q1084, Q1085, Q1086, Q1087, Q1088, Q1089, Q1090, Q1091, Q1092, Q1093, Q1094, Q1095, Q1096, Q1097, Q1098, Q1099, Q1100, Q1101, Q1102, Q1103, Q1104, Q1105, Q1106, Q1107, Q1108, Q1109, Q1110, Q1111, Q1112, Q1113, Q1114, Q1115, Q1116, Q1117, Q1118, Q1119, Q1120, Q1121, Q1122, Q1123, Q1124, Q1125, Q1126, Q1127, Q1128, Q1129, Q1130, Q1131, Q1132, Q1133, Q1134, Q1135, Q1136, Q1137, Q1138, Q1139, Q1140, Q1141, Q1142, Q1143, Q1144, Q1145, Q1146, Q1147, Q1148, Q1149, Q1150, Q1151, Q1152, Q1153, Q1154, Q1155, Q1156, Q1157, Q1158, Q1159, Q1160, Q1161, Q1162, Q1163, Q1164, Q1165, Q1166, Q1167, Q1168, Q1169, Q1170, Q1171, Q1172, Q1173, Q1174, Q1175, Q1176, Q1177, Q1178, Q1179, Q1180, Q1181, Q1182, Q1183, Q1184, Q1185, Q1186, Q1187, Q1188, Q1189, Q1190, Q1191, Q1192, Q1193, Q1194, Q1195, Q1196, Q1197, Q1198, Q1199, Q1200, Q1201, Q1202, Q1203, Q1204, Q1205, Q1206, Q1207, Q1208, Q1209, Q1210, Q1211, Q1212, Q1213,



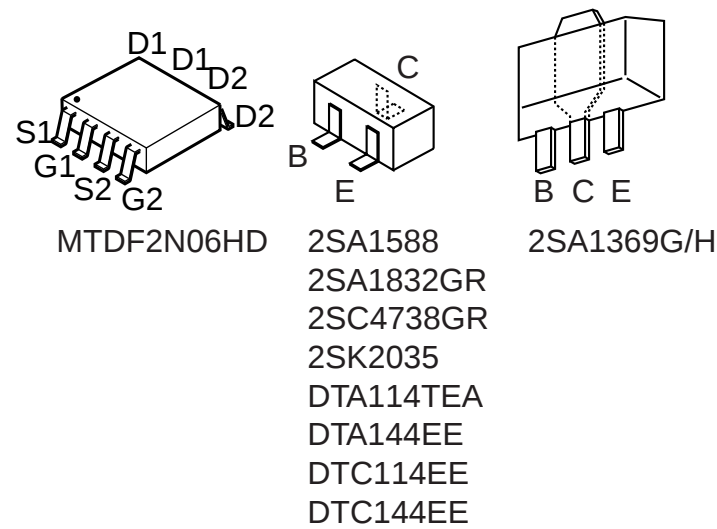
SCHEMATIC DIAGRAM-1 (MD C.B)



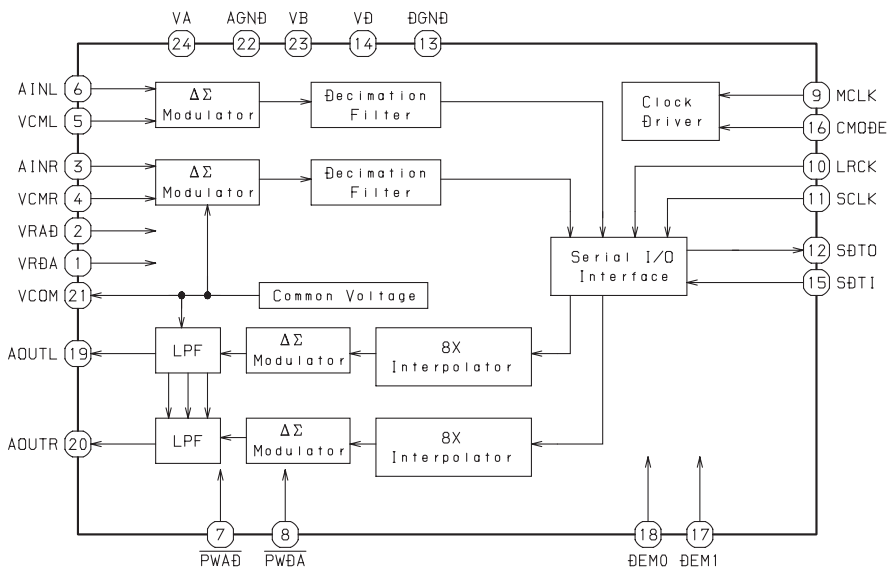
SCHEMATIC DIAGRAM-2 (SW C.B/FLEX MD MECHA1 C.B)



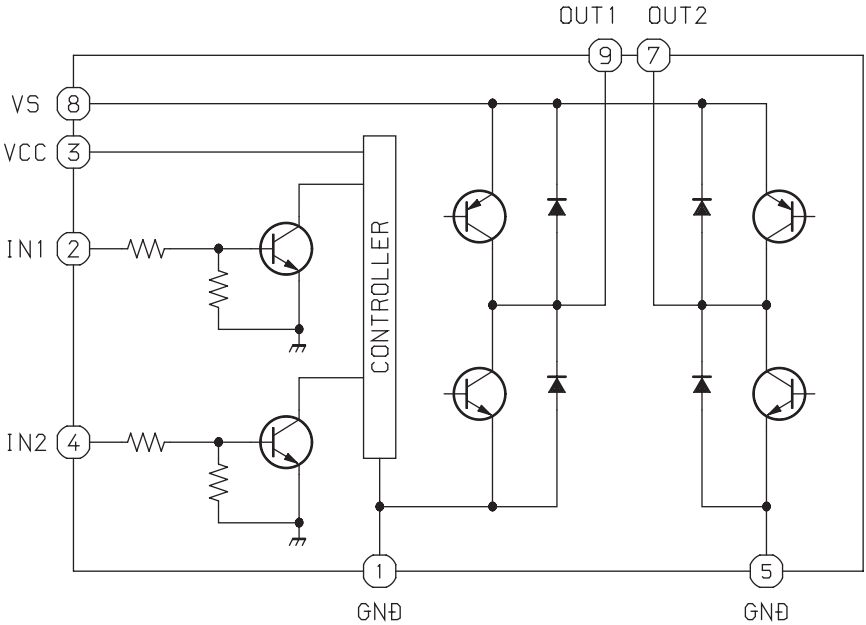
TRANSISTOR ILLUSTRATION



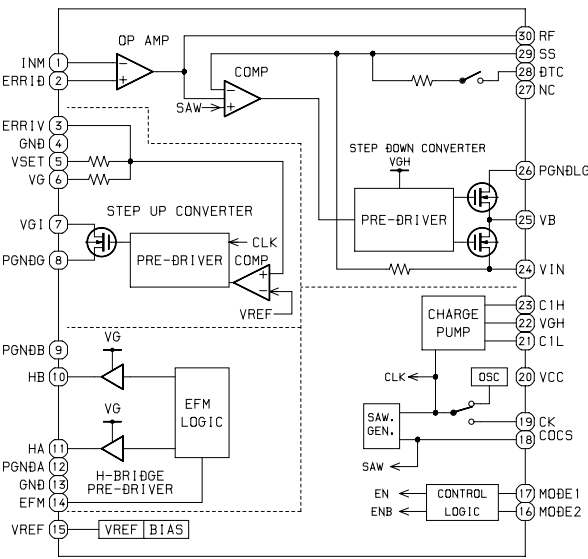
IC BLOCK DIAGRAM
IC, AK4519VF



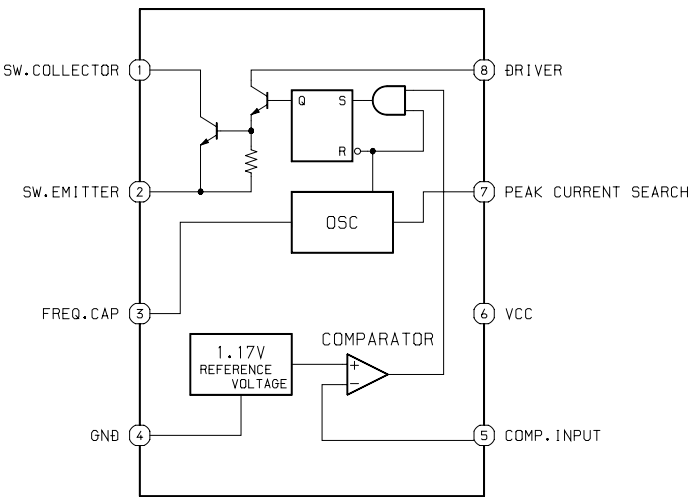
IC, LB1638M



IC, MPC18A20VM



IC, M5291FP



TEST MODE

1. Starting up the MD Test Mode

While pressing the ECO/DEMO button, insert the AC plug into the outlet.

- Notes:
- 1) Mechanical abnormalities are ignored while the test mode is starting up.
If any abnormality occurs, disconnect the plug immediately.
 - 2) During test mode operation, playback and recording are not possible.

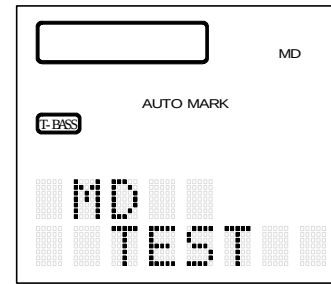


Fig-1. Test mode start-up display

2. Checking the MD Test Mode

Indication

About five seconds later after the test mode starts, characters as shown in Fig-1 appear on the screen and the test mode becomes usable.

3. Canceling the MD Test Mode

- 1) Press the MD EJECT button to eject the disk. (Confirm that the OWH moves up.)
 - 2) Disconnect the AC plug.
- * If the MD test mode is canceled by procedures other than the above, the unit sometimes run incorrectly. If this happens, disconnect the AC plug.

4. Switching to the Servo Standby Mode

After starting up the test mode, press the STOP key to display “SV OFF” and switch to the servo standby mode. (Fig-2)

Change from the servo standby mode to other modes.

When the STOP key is pressed in each mode, the display returns to “SV OFF”.

5. Checking the Sled Feed Operation

- 1) Press the F.SKIP button in the “SV OFF” state to move the pickup to the outer circumference. Then “T.S. FWD” is displayed.
- 2) Press the B.SKIP button in the “SV OFF” state to move the pickup to the inner circumference. Then “T.S. RVS” is displayed. Turn on the INSIDE LIMIT switch to display “JAZZ”.

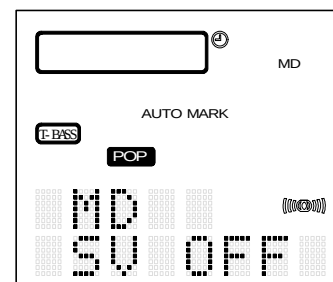
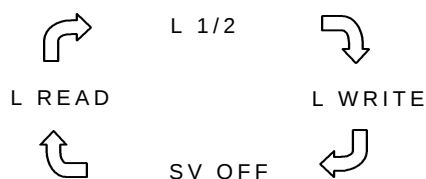


Fig-2. Servo standby mode

6. Checking the Laser Power

- 1) Every time the MD REC/EDIT button is pressed in the “SV OFF” state, the laser power is switched. The display is switched as shown below.



- 2) After checking, press the STOP button to return the display to “SV OFF”.

7. Checking the OWH and Each Detection Switch

To check the operations of the OWH and each detection switch, follow the procedure given below.

Insert an MO (PIT) disk and confirm that SLEEP lights.

When the CD → MD button is pressed with the disk inserted, the OWH moves down. When the FUNCTION button is pressed, the OWH moves up.

- * Do not move down the OWH with the PIT disk inserted because the unit may be damaged.
- * Do not insert the disk while the PIT disk is down because the OWH may be damaged.
- * While the OWH is moving down, the lid of the MD is locked.

CD → MD button OWH DOWN

FUNCTION button OWH UP

8. Turning On/Off Each Switch and Checking the Display

The state of each switch can be checked on the display.

	Display	Function	Lit	Off
①	T-BASS	Laser power	Displayed using the three-step level meter (READ-1/2-WRITE)	
②	AUTO MARK	Disk mode	PIT DISC (PIT)	
③	TIME MARK	Disk mode	MO DISC (GROOVE)	
④	ROCK	Write-protection detection switch	REC OK	REC protection
⑤	POP	Reflection ratio detection result	High reflection ratio (PIT DISC)	Low reflection ratio (MO DISC)
⑥	JAZZ	INSIDE LIMIT switch	Switch ON (innermost circumference)	Switch OFF
⑦	MONO	OWH DOWN detection	Switch ON (OWH DOWN)	Switch OFF
⑧	STEREO	OWH UP detection	Switch ON (OWH UP)	Switch OFF
⑨	SLEEP	Disk detection	Disk	No disk
⑩	TIMER	Lid open/close detection	OPEN	CLOSE

Note: “Switch ON” means that the switch is being pressed.

9. Checking the Servo Operation

9-1. Checking the Focus Search and Spindle Kick (checking the S-curve)

- 1) When the MD button of the remote control is pressed in the “SV OFF” state, the focus search and spindle kick are performed at the same time. Then “FCS CHK” is displayed. These operations are repeated regardless of whether a disk is installed. Therefore, the S-curve can be checked with the disk installed.
- 2) After checking, press the STOP button to return the display to “SV OFF”.

9-2. Checking the Focus Servo

- 1) Insert a disk.
 - 2) Press the MD MODE button and set the servo mode using the inserted disk as shown below.
 - MO disk “SEL GRV” appears and “TIME MARK” lights.
 - PIT disk “SEL PIT” appears and “AUTO MARK” lights.
 - 3) Move the pickup to the center of the disk using the B.SKIP button and the SKIP button.
 - 4) Press the PLAY button.
 - If the focus servo is normal, “FCS Srch” appears and “FCS ON!” appears.
 - 5) After checking, press the STOP button to return the display to “SV OFF”.
- * If the lens fails to focus, the focus search is repeated.

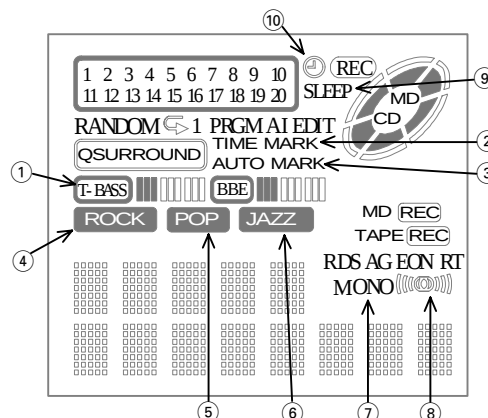


Fig-3 Indication on the display and its function

9-3. Checking the All Servo ON

- 1) When the ENTER button is pressed in the “FCS ON!” state, the tracking sled servo is turned on and all servos run. If the servos are all normal, “SV ON” is displayed.
- 2) After checking, press the STOP button to return the display to “SV OFF”.

ELECTRIC ADJUSTMENT

All the MD blocks are adjusted and checked in the test mode.

1. Temperature Compensation Adjustment

- * Normally, do not perform the temperature compensation adjustment.
If it needs to be performed, follow the procedure given below in a suitable environment for measuring the correct temperature near the unit.
- Test point: Check the test point on the display.
- Tool: Thermometer (Celsius)
Adjustment procedure:
 - 1) After the MD test mode starts up, press the STOP button to display “SV OFF”.
 - 2) Press the DISPLAY button to display “T = \$**”.
 - 3) Press the PAUSE button to display “T + **C + **”.
 - 4) Put the thermometer near the MD mechanism to measure the room temperature (Celsius).
 - 5) The values of +## are changed by pressing the B.SKIP button and F.SKIP button. Adjust the value **C±## (Celsius) until the value is the same as the thermometer reading. Press the ENTER button to store the value.
 - 6) After adjustment, press the STOP button to return the display to “SV OFF”.

2. Laser Power Adjustment

- Test point: Pickup laser output
- Tool: Laser power meter (meters that can measure up to 10 mW)

2-1. Playback Laser Power Adjustment

- Adjustment procedure
 - 1) Press the MD REC/EDIT button in the “SV OFF” state to change the display to “L READ”.
 - 2) Press the PAUSE button once to display “L = \$**”.
 - 3) Measure the pickup laser output using the laser power meter and adjust it using the B.SKIP button and F.SKIP button so that it is around 0.68 mW. Then, press the ENTER button. (default setting L = \$09)
 - 4) After adjustment, press the STOP button to change the display to “SV OFF”.

2-2. Record Laser Power Adjustment

- 1) Press the EDIT button three times in the “SV OFF” state to change the display to “L WRITE”.
- 2) Press the PAUSE button once to display “L = \$**”.
- 3) Measure the pickup laser output using the laser power meter and adjust it using the B.SKIP button and F.SKIP button so that it is around 6.8±0.03 mW. Then, press the ENTER button. (default setting L = \$4A)
- 4) After adjustment, press the STOP button to return the display to “SV OFF”.

Note: If the laser power exceeds 7.0 mW, the pickup may be damaged.

3. Automatic Sequence Adjustment (EFB/IVR/FOCUS AGC/TRACKING AGC adjustment)

- Test point: Check the test point on the display.
- Test disk: MDW-74 (MDW-60), TGYS-1 or equivalent

3-1. Adjusting the MO Disk

- Adjustment procedure
 - 1) Insert the MDW-74.
 - 2) Press the MD MODE button to display “SEL GRV”.
 - 3) Press the BAND button to display “AUTO ADJ” and start the adjustment. After adjustment, “Complete” is displayed.
(If the adjustment failed, “FAILED” appears.)
 - 4) Then, press the STOP button to return the display to “SV OFF”.
 - 5) Proceed to 3-2 for checking.

3-2. IVR, EFB, Focus/ Tracking/ Sled Gain Check of MO Disk

- Checking procedure (Perform this check consecutively after 3.1)
 - 1) Move the pickup to the center of the disk using the B.SKIP button and F.SKIP button.
 - 2) Press the PLAY button to display “FCS ON!”.
 - 3) Press the ENTER button to display “SV ON”.
 - 4) Press the STOP button and press the DISPLAY key twice. Confirm that the values of “iv**ef◇◇” are within the range shown below. (hexadecimal)

iv “**”		04 to 09
ef “◇◇”		09 to 15
 - 5) Press the DISPLAY again. Confirm that the values of “Gf***##△△” are within the range shown below. (hexadecimal)

“**”		1A to 45
“##”		15 to 40
“△△”		15 to 40
 - 6) After adjustment, press the STOP button to return the display to “SV OFF”.

3-3. Adjusting the PIT Disk

- Adjustment procedure
 - 1) Insert the TGYS-1.
 - 2) Press the MD MODE button to display “SEL PIT”.
 - 3) Press the BAND button to display “AUTO ADJ”. After adjustment, “Complete” is displayed. (If the adjustment failed, “FAILED” appears.)
 - 4) Then, press the STOP button to return the display to “SV OFF”.
 - 5) Proceed to 3-4 for checking.

3-4. IVR, EFB, Focus/ Tracking/ Sled Gain Check of PIT Disk

- Checking procedure (Perform this check consecutively after 3.3)
 - 1) Move the pickup to the center of the disk using the B.SKIP button and F.SKIP button.
 - 2) Press the PLAY button to display “FCS ON!”.
 - 3) Press the ENTER button to display “SV ON”.
 - 4) Press the STOP button and press the DISPLAY button twice. Confirm that the values of “iv**ef◇◇” are within the range shown below. (hexadecimal)

iv “**”		14 to 19
ef “◇◇”		09 to 15
 - 5) Press the DISPLAY again. Confirm that the values of “Gf***##△△” are within the range shown below. (hexadecimal)

f “**”		1A to 45
t “##”		15 to 40
s “△△”		15 to 40
 - 6) After adjustment, press the STOP button to return the display to “SV OFF”.

4. Error Rate Check (PIT disk)

- Test point: Check the test point on the display.
- Test disk: TSYS-1 or equivalent Checking procedure
 - 1) Insert the TGYS-1.
 - 2) Move the pickup to the center of the disk using the B.SKIP button and F.SKIP button.
 - 3) Press the MD MODE button to display “SEL PIT”.
 - 4) Press the PLAY button to display “FCS ON!”.
 - 5) Press the ENTER button to display “SV ON”. Press the DISPLAY button once to confirm that the address indication is stable. (Refer to Fig-4)
 - 6) Press the DISPLAY button once again to display the playback error rate. (Refer to Fig-5.) Confirm that the numbers of “##: ****” (underlined portion) is “0030” or lower.
 - 7) After check, press the STOP button to return the display to “SV OFF”.

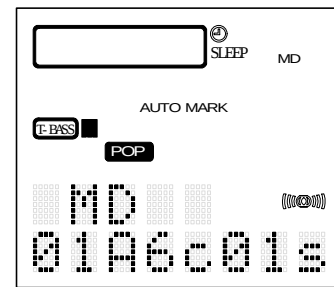


Fig-4. Address indication

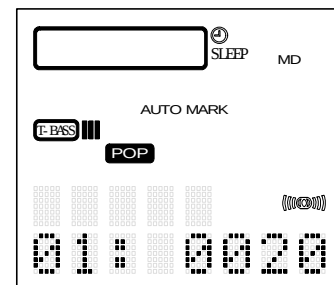


Fig-5. Error rate indication

5. Record/Playback Error Rate Check (MO disk)

- Test point: Check the test point on the display.
- Test disk: MDW-74 (MDW-60)
- Checking procedure
 - 1) Insert the MDW-74.
 - 2) Move the pickup to the center of the disk using the B.SKIP button and F.SKIP button.
 - 3) Press the JOG MODE button. Recording starts automatically in cluster 600.
 - 4) After recording for about 15 seconds, press the STOP button.
 - 5) Press the ECO/DEMO button. “SV ON” is displayed from around cluster 600 onward (the display is in the state of the address indication) and press the DISPLAY button in or after cluster 600. (Refer to Fig-6.) Then confirm that the values of “##: ****” (underlined portion) is “0030” or lower.
 - 6) After adjustment, press the STOP button to return the display to “SV OFF”.

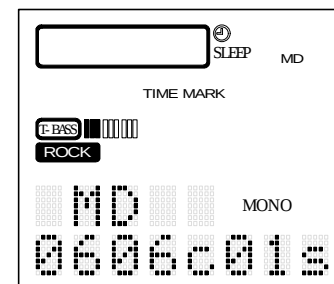


Fig-6. Address indication

6. Checking the No Adjust

- 1) Press the POWER button to turn off the power.
- 2) Press the POWER button again to turn on the power.
- 3) Confirm that “No Adjust” is not displayed.
- * If “No Adjust” is displayed, perform all the adjustments of 1 to 3.

IC DESCRIPTION

IC, CXD2652AR

Pin No.	Pin Name	I/O	Description
1	MNT0	O	Monitor output terminal.
2	MNT1	O	Monitor output terminal.
3	MNT2	O	Monitor output terminal.
4	MNT3	O	Monitor output terminal.
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	DVDD	—	Digital Power Supply.
20	DVSS	—	Digital GND.
21	DIN	I	Digital audio interface signal input.
22	DOUT	O	Digital audio interface signal output.
23	ADDT	I	Analog recording signal input terminal. (External A/D converter output is connected to this terminal).
24	DADT	O	RECORD monitor output/decode audio data output.
25	LRCK	O	LRCK (44.1 kHz) output terminal to external audio block.
26	XBCK	O	Bit clock output (2.8224 kHz) output terminal to external audio block.
27	FS256	O	256 Fs output. (11.2896 MHz).
28	DVDD	—	Digital power supply.
29	A03	O	Address output to external DRAM.
30	A02	O	Address output to external DRAM.
31	A01	O	Address output to external DRAM.
32	A00	O	Address output to external DRAM.
33	A10	O	Address output to external DRAM. (Not used).
34	A04	O	Address output to external DRAM.
35	A05	O	Address output to external DRAM.
36	A06	O	Address output to external DRAM.
37	A07	O	Address output to external DRAM.

Pin No.	Pin Name	I/O	Description
38	A08	O	Address output to external DRAM.
39	A11	O	Address output to external DRAM.
40	DVSS	—	Digital GND.
41	XOE	O	External DRAM output enable.
42	XCAS	O	$\overline{\text{CAS}}$ output to external DRAM.
43	A09	O	Address output to external DRAM.
44	XRAS	O	$\overline{\text{RAS}}$ output to external DRAM.
45	XWE	O	Write enable for external DRAM.
46	D1	I/O	Data bus for external DRAM.
47	D0	I/O	Data bus for external DRAM.
48	D2	I/O	Data bus for external DRAM.
49	D3	I/O	Data bus for external DRAM.
50	MVCI	I	External VCO (784 fs) clock input.
51	ASYO	O	Playback EFM full swing output. (L: VSS, H: VDD)
52	ASYI	I	Playback EFM comparator slice voltage input.
53	AVDD	—	Analog GND.
54	BIAS	I	Playback EFM comparator bias current input.
55	RFI	I	Playback EFM RF signal input.
56	AVss	—	Analog power supply.
57	PDO	O	Phase comparison output to EFM decoder analog PLL. (Not used)
58	PCO	O	Phase comparison output to the master PLL of playback digital PLL and to the recording EFM PLL.
59	FILI	I	Filter input to the master PLL of playback digital PLL and to the recording EFM PLL.
60	FILO	O	Filter output to the master PLL of playback digital PLL and to the recording EFM PLL.
61	CLTV	I	Internal VCO control voltage of the master PLL of playback digital PLL and of the recording EFM PLL.
62	PEAK	I	Optical light volume's peak hold signal input.
63	BOTM	I	Optical light volume's bottom hold signal input.
64	ABCD	I	Optical light volume signal input.
65	FE	I	Focus error signal input.
66	AUX1	I	Auxiliary input 1.
67	VC	I	Center terminal voltage input.
68	ADIO	O	Monitor output of A/D converter input signal. (Not used)
69	AVDD	—	Analog power supply.
70	ADRT	I	Voltage input of the upper limit of the A/D converter operation range.
71	ADRB	I	Voltage input of the lower limit of the A/D converter operation range.
72	AVSS	—	Analog GND.
73	SE	I	Sled error signal input.
74	TE	I	Tracking error signal input.
75	SLED	I	Auxiliary input 2.

Pin No.	Pin Name	I/O	Description
76	DCHG	I	Connected to the low impedance power supply.
77	APC	I	Error signal input to the laser digital APC.
78	ADFG	I	ADIP2 binary-converted FM signal (22.05±1 kHz) input.
79	FOCNT	O	Current source setting output terminal to CXA2523.
80	LRF	O	Latch output for CXA2523 control. Shut down: Latch.
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	PWM output to laser digital APC. (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	4 fs output. (176.4 kHz).
91	SRDR	O	Sled servo drive PWM output. (-). (Not used)
92	SFDR	O	Sled servo drive PWM output. (+). (Not used)
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	Test pin. Connected to GND.
98	TEST3	I	Test pin. Connected to GND.
99	DVSS	—	Digital GND.
100	EFMO	O	Low signal during playback. EFM (encode data) output: during recording.

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	Temperature sensor connection pin. (Not used)
15	TEMPR	I	Temperature sensor connection pin. Output reference voltage. (Not used)
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	Output reference voltage. (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	ADFG	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	13 output / 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	RF	—	RFAGC capacitor connection pin.
40	AGCI	I	RFAGC input pin.
41	COMPO	O	User comparator output pin. (Not used).

Pin No.	Pin Name	I/O	Description
42	COMPP	I	User comparator non-inverted input pin. (Not used)
43	ADDC	I/O	Capacitor connection pin for ADIP amplifier on return circuit.
44	OPO	O	Output pin for user operational amplifier. (Not used)
45	OPN	I	Non-inverted input pin for user operational amplifier. (Not used)
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, BD6601KV

Pin No.	Pin Name	I/O	Description
1	SGND	—	Small signal circuit block ground. (MOS)
2	ASGND	—	Small signal circuit block ground. (Bip.)
3	PWIN1	I	Half bridge 1 input.
4	PWIN2	I	Half bridge 2 input.
5	FG	O	FG output.
6	BRK-	I	Brake comparator input (-).
7	BRK+	I	Brake comparator input (+).
8	CSL2	—	Slope capacitor connection terminal 2.
9	CSL1	—	Slope capacitor connection terminal 1.
10	CST	—	Startup oscillation capacitor connection terminal.
11	SPPG2	—	Spindle power circuit block ground 2.
12	SPWOUT	O	Spindle motor output. (W phase)
13	SPVM2	—	Spindle power circuit block power 2.
14	N.C.	—	Not used.
15	SPVOUT	O	Spindle motor output. (V phase)
16	N.C.	—	Not used.
17	SPPG1	—	Spindle power circuit block ground 1.
18	N.C.	—	Not used.
19	SPUOUT	O	Spindle motor output. (U phase)
20	SPVM1	—	Spindle power circuit block power 1.
21	SPCOM	I	SPIN motor coil center input terminal.
22	SPWIN	I	SPIN detection comparator input. (W phase)
23	SPVIN	I	SPIN detection comparator input. (V phase)
24	SPUIN	I	SPIN detection comparator input. (U phase)
25	H2PG2	—	H bridge 2 power block ground 2.
26	N.C.	—	Not used.
27	H2ROUT	O	H bridge 2 reverse output.
28	N.C.	—	Not used.
29	H2VM	—	H bridge 2 power block power.
30	N.C.	—	Not used.
31	H2FOUT	O	H bridge 2 forward output.
32	N.C.	—	Not used.
33	H2PG1	—	H bridge 2 power block ground 1.
34	H1PG2	—	H bridge 1 power block ground 2.
35	N.C.	—	Not used.
36	H1ROUT	O	H bridge 1 reverse output.
37	N.C.	—	Not used.
38	H1VM	—	H bridge 1 power block power.
39	H1FOUT	O	H bridge 1 forward output.
40	H1PG1	—	H bridge 1 power block ground 1.
41	VCC1	—	Small signal circuit block power terminal 1. (MOS)

Pin No.	Pin Name	I/O	Description
42	VCC2	—	Small signal circuit block power terminal 2. (Bip.)
43	IN1F	I	H bridge 1 forward input.
44	IN1R	I	H bridge 1 reverse input.
45	IN2F	I	H bridge 2 forward input.
46	IN2R	I	H bridge 2 reverse input.
47	EXTCLK	I	Sync clock input terminal.
48	C1P	—	Charge pump capacitor 1 connection terminal +.
49	C1M	—	Charge pump capacitor 1 connection terminal -.
50	C2P	—	Charge pump capacitor 2 connection terminal +.
51	C2M	—	Charge pump capacitor 2 connection terminal -.
52	VG	O	Charge pump output.
53	STALL	I	Standby terminal.
54	STHB	I	H1/H2 bridge mute terminal.
55	S1	I	Stepping decoder input 1.
56	S2	I	Stepping decoder input 2.
57	S3	I	Stepping decoder input 3.
58	BEMFU	O	STEP detection comparator output. (U phase)
59	BEMFV	O	STEP detection comparator output. (V phase)
60	BEMFW	O	STEP detection comparator output. (W phase)
61	SLCOM	I	STEP motor coil center input terminal.
62	SLVM1	—	Stepping power block power 1.
63	N.C.	—	Not used.
64	SLUOUT	O	Stepping motor output. (U phase)
65	SLPG1	—	Stepping power block ground 1.
66	N.C.	—	Not used.
67	SLVOUT	O	Stepping motor output. (V phase)
68	N.C.	—	Not used.
69	SLVM2	—	Stepping power block power 2.
70	SLWOUT	O	Stepping motor output. (W phase)
71	SLPG2	—	Stepping power block ground 2.
72	N.C.	—	Not used.
73	PW1VM	—	Half bridge 1 power block power.
74	N.C.	—	Not used.
75	PW1OUT	O	Half bridge 1 output.
76	N.C.	—	Not used.
77	PWPG	—	Half bridge power block ground.
78	N.C.	—	Not used.
79	PW2OUT	O	Half bridge 2 output.
80	PW2VM	—	Half bridge 2 power block power.

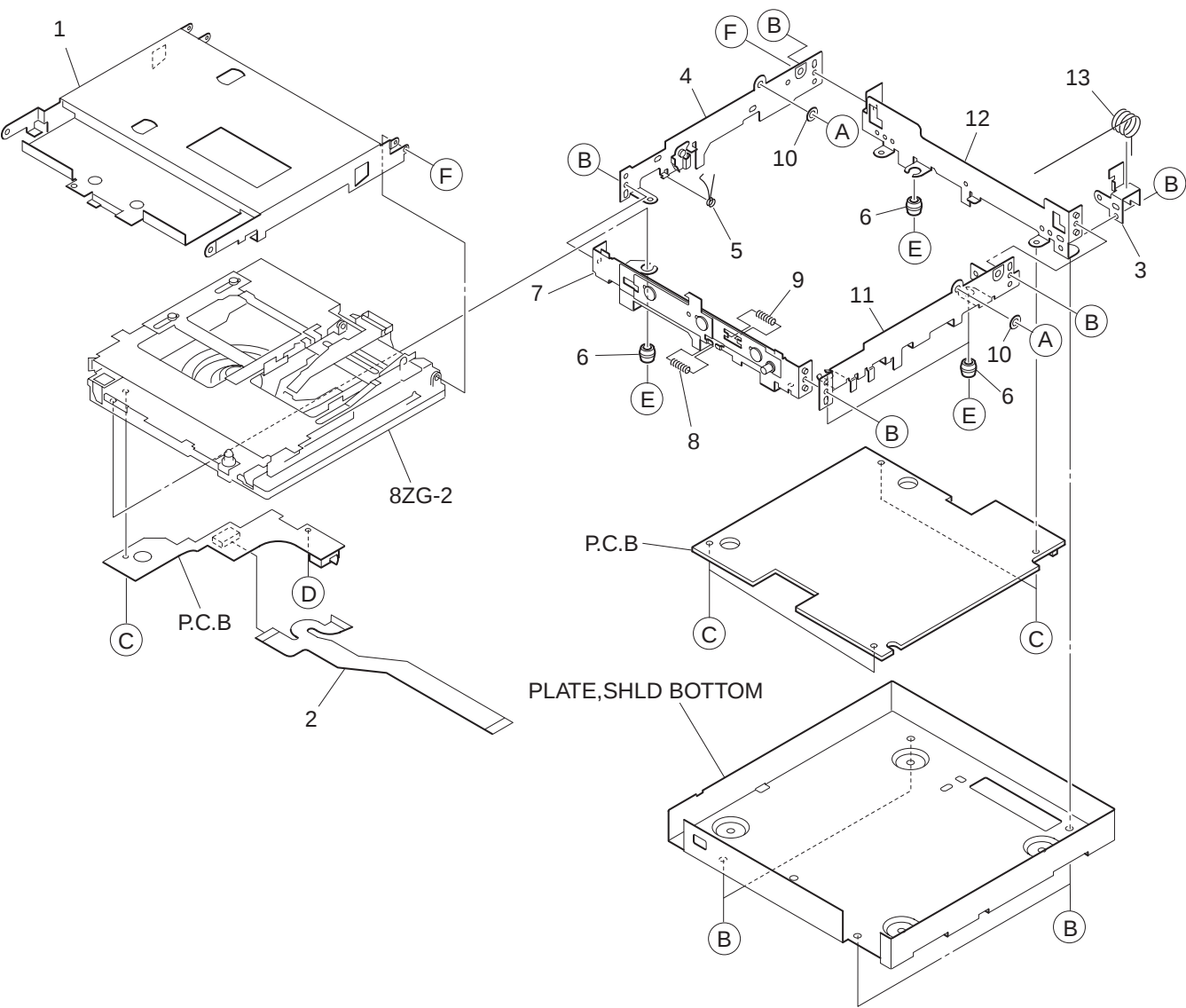
IC, CXP81952M-555R

Pin No.	Pin Name	I/O	Description
1	N.C.	O	Not used.
2	N.C.	O	Not used.
3	N.C.	O	Not used.
4	AMUTE	O	Audio mute signal output. (Muted at “H”.)
5	SCLK1	O	Serial clock output for EEPROM interface.
6	SW-DT1	O	Serial data output for EEPROM interface.
7	SRDT1	I	Serial data input for EEPROM interface.
8	XLAT3	O	EEPROM chip select signal output. (H active.)
9	DNDT	I	OWH DOWN position detection switch input.
10	UPDT	I	OWH UP position detection switch input.
11	N.C.	O	Not used.
12	PACK-IN	I	Disk presence detection switch input.
13	HLDRIN	I	Holder open/close detection switch input.
14	HLDR-IN	I	Holder open/close detection switch input. (Opposite of No. 13 at all times)
15	DENF	O	De-emphasis ON/OFF signal output. (OFF at “H”. ON at “L”.)
16	ARST	O	AK4519 power control output. (ON at “H”. OFF at “L”.)
17	LS	I	Pickup innermost circumference position detection switch input. (innermost circumference at “L”.)
18	DSCPRO	I	Write-protection tab detection switch.
19	SREQ	I	System control send request signal input to system control interface.
20	EXTDIN	O	External digital-in enable signal output.
21	N.C.	O	Not used.
22	N.C.	O	Not used.
23	N.C.	O	Not used.
24	MREQ	O	MD microprocessor send request signal output to system control interface.
25	PD3	I	Connected to Vss.
26	BEMFW	I	Motor driver comparator output.
27	BEMFV	I	Motor driver comparator output.
28	BEMFU	I	Motor driver comparator output.
29	SL_S3	O	Sled control output.
30	SL_S2	O	Sled control output.
31	SL_S1	O	Sled control output.
32	N.C.	O	Not used.
33	N.C.	O	Not used.
34	N.C.	O	Not used.
35	N.C.	O	Not used.
36	STHB	O	Two-axis mute signal output to BD6601KVT. (Mute at “L”.)
37	MP	—	Connected to Vss.
38	SRST	I	MD microprocessor reset signal input.
39	DGND	—	Connected to Vss.
40	XTALO	—	Terminal to which external crystal is connected for system clock oscillation 1.

Pin No.	Pin Name	I/O	Description
41	XTALI	—	Terminal to which external crystal is connected for system clock oscillation 2.
42	ARDY	I	Ready signal input 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 CXD2652 interface.
47	XRST	O	CXD2652 reset signal output.
48	TX	O	Record data output enable. (Enabled at “H”.)
49	CLV	O	Circuit selection output for wide PLL. (Normal PLL at “H”.)
50	AVSS	—	Connected to Vss.
51	AVREF	—	Connected to VDD.
52	AVDD	—	Connected to VDD.
53	VLEVEL	I	Pull up.
54	AN6	I	Connected to Vss.
55	AN5	I	Connected to Vss.
56	AN4	I	Connected to Vss.
57	AN3	I	Connected to Vss.
58	AN2	I	Connected to Vss.
59	TEMP	I	Temperature sensor signal input.
60	AN0	I	Connected to Vss.
61	SPFG	I	Spindle FG signal input.
62	EXI0	I	Pull up to VDD.
63	TEST0	I	Pull up to VDD.
64	SENS	I	CXD2652 SENS signal input.
65	MON3	I	CXD2652 monitor signal input 3.
66	MON2	I	CXD2652 monitor signal input 2.
67	MON1	I	CXD2652 monitor signal input 1.
68	MON0	I	CXD2652 monitor signal input 0.
69	BUP	O	DRAM refresh selection signal output. (Microprocessor control at “H”. DSP at “L”.)
70	M_RAS	O	RAS signal output.
71	M_CAS	O	CAS signal output.
72	XLAT3	O	Not used.
73	SEO	O	PWM output for sled motor drive.
74	N.C.	O	Not used.
75	DQSY	I	DIGITAL-IN SUB-Q sync input.
76	XINT	I	CXD2652 status, sync input.
77	SRDT	I	Serial data input for CXD2652 interface.
78	SWDT	O	Serial data output for CXD2652 interface.
79	SCKO	O	Serial clock output for CXD2652 interface.
80	SQSY	I	SUB-Q/ADIP sync input.
81	XLAT1	O	Not used.

Pin No.	Pin Name	I/O	Description
82	XRST1	O	Not used.
83	RMC	I	DIN signal input.
84	TXI	—	Connected to Vss.
85	TXO	—	Open.
86	VSS	—	Connected to Vss.
87	VDD	—	Connected to VDD.
88	N.C.	—	Connected to VDD.
89	PCONT	O	Power control output inside the unit. (ON at “H”. OFF at “L”.)
90	XSTBY	O	CXA2523 standby signal output.
91	OPCNT	O	Laser ON/OFF signal output.
92	OPMUTE	O	Laser mute signal output.
93	N.C.	O	Not used.
94	RECP	O	Laser power selection signal output.
95	N.C.	O	Not used.
96	OWHCNT	O	Head motor drive control. (During driving: “H”)
97	RECM1	O	For REC driver.
98	RECM2	O	For REC driver.
99	HUP	O	Overwrite head UP output. (UP at “H”.)
100	HDOWN	O	Overwrite head DOWN output. (DOWN at “H”.)

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

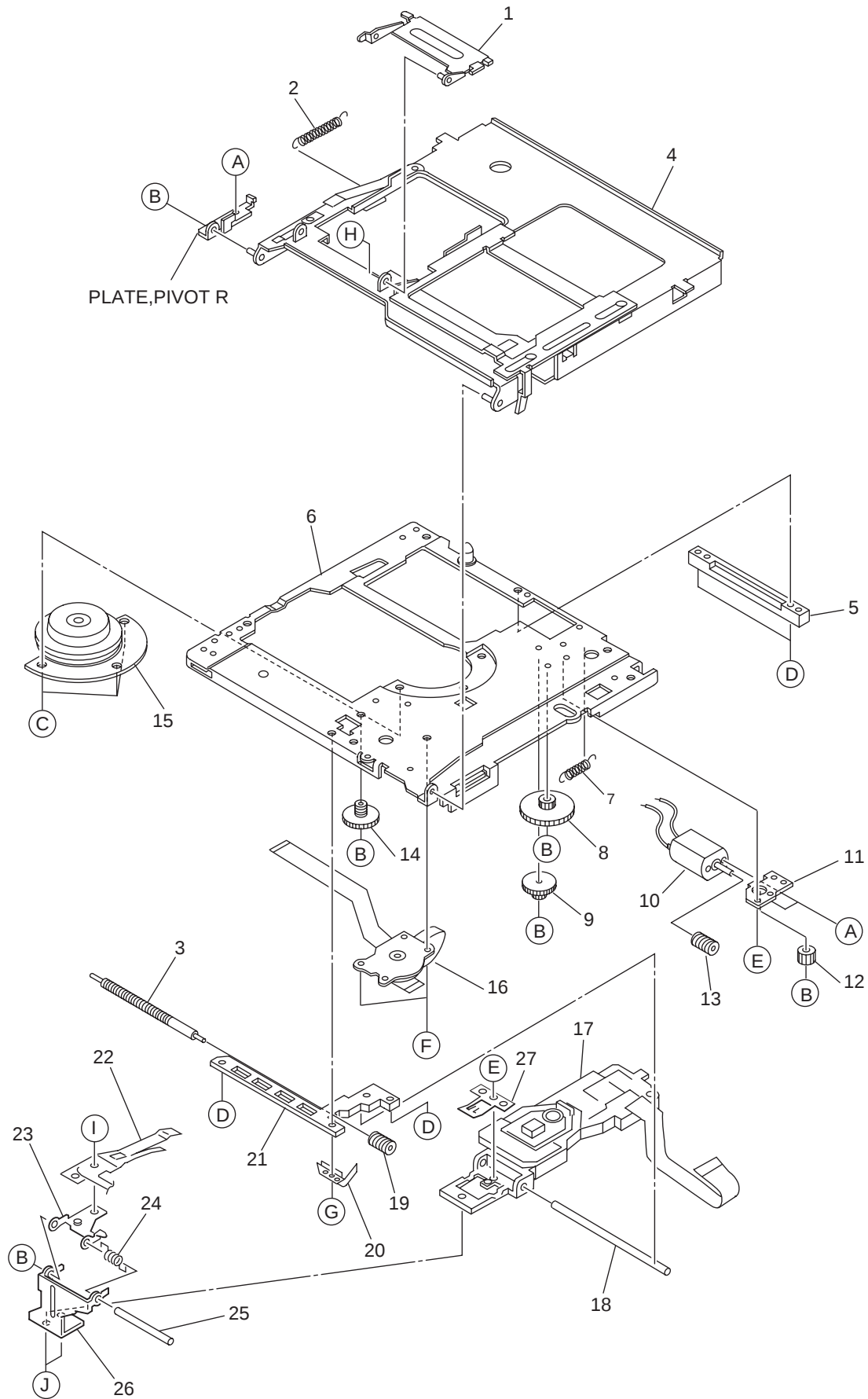
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
TYPE=A				TYPE=YA			
1	8A-ZG5-201-010		ARM ASSY, TOP	1	8A-ZG5-201-010		ARM ASSY, TOP
2	8Z-HM1-610-110		PWB, FLEX MECHA	2	8Z-HM1-610-110		PWB, FLEX MECHA
3	8A-ZG5-214-010		HLDR, SPR-T	3	8A-ZG5-220-010		HLDR, SPR-T R
4	8A-ZG5-203-010		FRAME ASSY, L	4	8A-ZG5-203-010		FRAME ASSY, L
5	8Z-HM1-229-110		SPR-T, LEVER SW	5	8Z-HM1-229-110		SPR-T, LEVER SW
6	8Z-HM1-234-010		DMPR, G MECHA	6	8Z-HM1-234-010		DMPR, G MECHA
7	8A-ZG5-207-010		FRAME ASSY, FRONT	7	8A-ZG5-207-110		FRAME ASSY, FRONT
8	8Z-HM1-226-010		SPR-C, EJECT	8	8Z-HM1-226-010		SPR-C, EJECT
9	8Z-HM1-227-010		SPR-C, LOCK	9	8Z-HM1-227-010		SPR-C, LOCK
10	8A-ZG5-221-010		W, 2-4-1 W/O ADH	10	8A-ZG5-221-010		W, 2-4-1 W/O ADH
11	8A-ZG5-206-010		FRAME, R	11	8A-ZG5-206-010		FRAME, R
12	8A-ZG5-213-010		FRAME, REAR	12	8A-ZG5-213-010		FRAME, REAR
13	8A-ZG5-216-010		SPR-T, EJECT	13	8A-ZG5-216-010		SPR-T, EJECT
A	87-078-145-010		S-SCRW, +1.4-0.8 CR N	A	87-078-145-010		S-SCRW, +1.4-0.8 CR N
B	87-HM1-254-010		S-SCREW, 1.4-1.4CR	B	87-HM1-254-010		S-SCREW, 1.4-1.4CR
C	8Z-HM1-236-010		S-SCREW, +1.4-1.2 SWCH CR	C	8Z-HM1-236-010		S-SCREW, +1.4-1.2 SWCH CR
D	88-ZG2-256-010		S-SCREW, +1.4-3.5	D	88-ZG2-256-010		S-SCREW, +1.4-3.5
E	8Z-HM1-235-010		S-SCREW, DMPR	E	8Z-HM1-235-010		S-SCREW, DMPR
F	88-HJ3-220-010		S-SCREW, +1.4-0.7-1 BLK NL	F	88-HJ3-220-010		S-SCREW, +1.4-0.7-1 BLK NL

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

MD MECHANISM EXPLODED VIEW 1/1



MD 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-ZG1-262-010		LEVER ASSY, KICK OWH
2	87-ZG1-254-010		SPR-E, EJECT
3	88-ZG2-235-010		SHAFT, PU GUIDE G
4	88-ZG2-216-010		HLDR ASSY, CTRG
5	88-ZG2-226-010		HLDR, PU GUIDE S
6	88-ZG2-201-010		CHAS ASSY, R
7	88-ZG2-240-010		SPR-E, E- LOCK
8	88-ZG2-230-010		GEAR, C OWH
9	88-ZG2-229-010		GEAR, B OWH
10	87-A91-016-010		MOT, LA8-388L
11	88-ZG2-221-010		HLDR, MOT OWH
12	88-ZG2-228-010		GEAR, A OWH
13	88-ZG2-227-010		GEAR, MOT OWH
14	88-ZG2-231-010		GEAR, A SL
15	87-A91-014-010		MOT, MX-2225
16	87-A91-013-010		MOT, SSM11A
17	87-A90-956-010		PICKUP, KMS-280A
18	88-ZG2-234-010		SHAFT, PU GUIDE M
19	88-ZG2-232-010		GEAR, B SL
20	88-ZG2-241-010		SPR-T, LS GUIDE
21	88-ZG2-225-010		HLDR, PU GUIDE M
22	87-A91-109-010		HEAD, RF328-74B
23	87-ZG1-242-010		HLDR, OWH
24	87-ZG1-244-010		SPR-T, OWH
25	87-ZG1-243-010		SHAFT, OWH
26	88-ZG2-222-010		HLDR, PU
27	88-ZG2-243-010		SPR-P, RACK
A	87-078-120-010		1V+1.2-1.5
B	87-067-569-010		POLY WASHER 0.83-2.5-0.25
C	87-067-393-010		SCREW +1.4-1.4
D	87-067-360-010		SCREW+1.4-3.5(BK)
E	87-263-500-310		SCREW V+1.4-1.4
F	87-067-300-110		V+1.4-1.1
G	87-067-480-010		SPECIAL SCREW +1.4-3
H	87-067-858-010		PW, 0.83-2.0-0.25 SLT
I	87-231-501-310		PRECISION SCREW, Q+1.4-1.6
J	88-ZG2-255-010		S-SCREW, +1.7-1.6 AZIMUTH



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