

SERVICE MANUAL

VIDEO CD MECHANISM

BASIC CD MECHANISM:3ZG-2 E3NM
KSM-2131 FAM

TYPE	BASIC CD MECHANISM
VZD3RDM	3ZG-2 E3NM
VZD3RNDM	
YVZD3RDM	
YVZD3RNDM	
VZD3RNDCM	
VEZD3RNDM	
VEZD4RNDC	KSM-2131 FAM

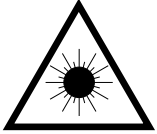
This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-001-335-3TG).

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

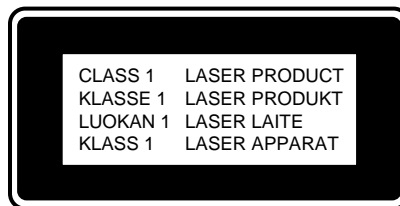
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

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.

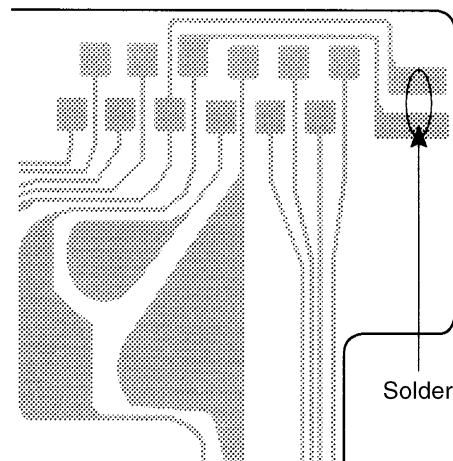


Precaution to replace Optical block (KSS-213F)

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.

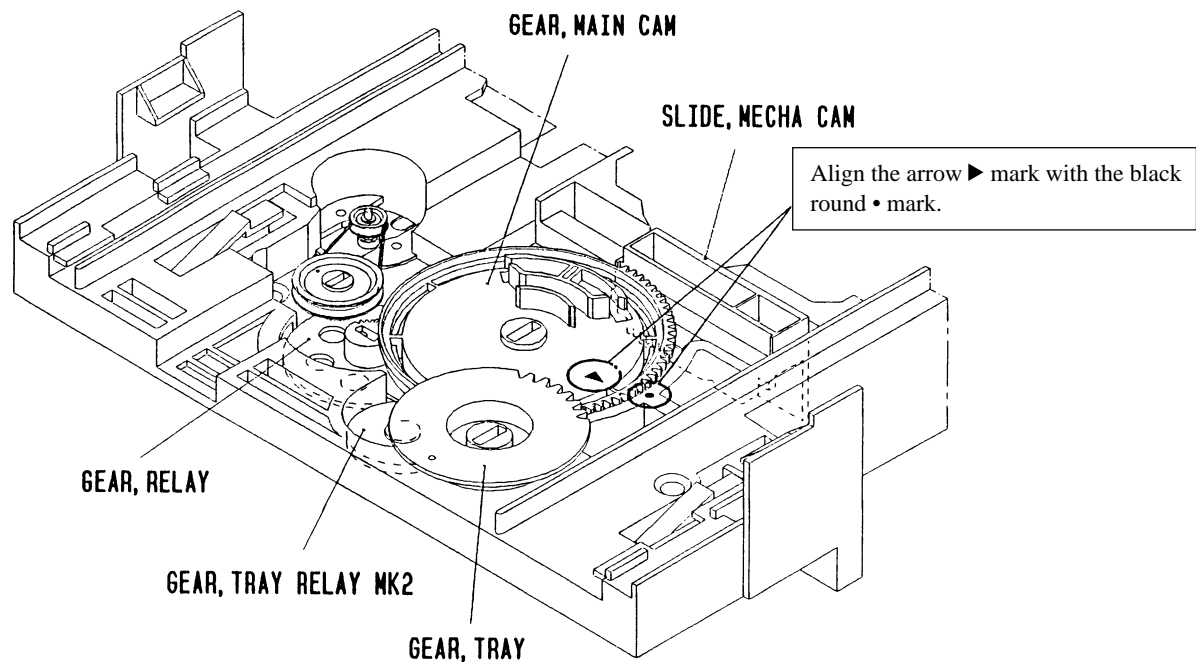
PICK-UP Assy P.C.B



How to Adjust the Rotating Phase of the Gear, Main Cam

- 1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
- 2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
- 3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



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				C124	87-010-403-040		CAP,E 3.3-50 SME
	87-A21-381-040	C-IC,LA9235M		C125	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A21-557-010	C-IC,LC78635E		C133	87-010-314-080		C-CAP,S 22P-50V
	8Z-ZJP-602-010	C-IC,UPD78016FGC-574		C134	87-010-197-080		CAP, CHIP 0.01 DM
	87-017-760-080	IC,M51943BML					<VEZD3RNDM,VEZD4RNDC>
	87-A20-602-040	C-IC,M5291FP		C135	87-010-322-080		C-CAP,S 100P-50 CH
				C191	87-010-260-040		CAP,E 47-25 SME
	87-A20-925-040	C-IC,BA05FP		C192	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A20-905-040	C-IC,BA033FP		C201	87-016-669-080		C-CAP,S 0.1-25 K B
	87-A21-513-040	C-IC,BA6998FP		C202	87-010-322-080		C-CAP,S 100P-50 CH
	87-001-873-010	IC,LB1644					<VEZD3RNDM,VEZD4RNDC>
	87-A20-920-010	C-IC,CL680-D1		C206	87-010-322-080		C-CAP,S 100P-50 CH
				C207	87-010-322-080		C-CAP,S 100P-50 CH
	87-A20-921-040	C-IC,SN74LVU04APW		C208	87-010-322-080		C-CAP,S 100P-50 CH
	87-A20-962-040	C-IC,MSM54V16258B/BSL		C209	87-010-322-080		C-CAP,S 100P-50 CH
	84-ZG1-695-040	C-IC,LH5V2RN1		C210	87-016-669-080		C-CAP,S 0.1-25 K B.
	87-A20-975-040	C-IC,SN74LV74APW		C211	87-010-263-040		CAP,E 100-10
	87-A20-918-040	C-IC,SM5878AM					
	87-A20-974-040	C-IC,LC74781M-9017		C213	87-010-190-080		S CHIP F 0.01
				C214	87-010-196-080		CHIP CAPACITOR,0.1-25
TRANSISTOR				C301	87-016-251-040		CAP,E 220-16 SMG
				C302	87-012-140-080		CAP 470P
				C303	87-010-178-080		CHIP CAP 1000P
	87-026-609-080	TR,KTA1266GR		C304	87-010-384-040		CAP,E 100-25 SME
	87-A30-076-080	C-TR,2SC3052F		C305	87-010-982-040		CAP,E 33-25 GAS
	87-A30-075-080	C-TR,2SA1235F		C306	87-A10-222-040		CAP,AS 22-10 OS
	87-026-231-080	CHIP-TRANSISTER,DTA124XK		C307	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-026-237-080	CHIP-TR,DTCL24XK		C308	87-010-263-040		CAP,E 100-10
				C309	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A30-117-010	TR,2SA1357		C310	87-010-263-040		CAP,E 100-10
	89-327-125-080	CHIP TR,2SC2712GR		C311	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-026-580-080	C-TR,DTA123JK		C312	87-010-178-080		CHIP CAP 1000P
	87-026-470-080	TR,HN1C03F (0.3W)		C320	87-010-196-080		CHIP CAPACITOR,0.1-25
	89-111-625-080	TR,2SA1162 (0.15W)					
DIODE				C321	87-010-197-080		CAP, CHIP 0.01 DM
							<VEZD3RNDM,VEZD4RNDC>
	87-017-024-040	C-DIODE,DA204K		C351	87-010-190-080		S CHIP F 0.01
	87-A40-180-040	C-DIODE,SB07-015C		C352	87-010-190-080		S CHIP F 0.01
	87-020-027-080	CHIP-DIODE 1SS184		C353	87-010-552-040		CAP,E 22-16 GAS
	87-A40-384-080	C-ZENER,UDZ3.3B		C354	87-016-044-040		CAP,E 100-16 GAS
VCD C.B				C355	87-010-196-080		CHIP CAPACITOR,0.1-25
				C361	87-010-322-080		C-CAP,S 100P-50 CH
							<VEZD3RNDM,VEZD4RNDC>
C1	87-A10-222-040	CAP,AS 22-10 OS		C401	87-010-101-040		CAP,E 220-16 SME
C2	87-010-196-080	CHIP CAPACITOR,0.1-25		C402	87-010-196-080		CHIP CAPACITOR,0.1-25
C3	87-010-260-040	CAP,E 47-25 SME		C403	87-010-196-080		CHIP CAPACITOR,0.1-25
C4	87-A10-222-040	CAP,AS 22-10 OS					
C5	87-010-197-080	CAP, CHIP 0.01 DM		C404	87-010-196-080		CHIP CAPACITOR,0.1-25
				C405	87-010-196-080		CHIP CAPACITOR,0.1-25
C6	87-010-405-040	CAP,E 10-50		C406	87-010-196-080		CHIP CAPACITOR,0.1-25
C7	87-010-263-040	CAP,E 100-10		C501	87-010-197-080		CAP, CHIP 0.01 DM
C8	87-010-178-080	CHIP CAP 1000P		C502	87-010-197-080		CAP, CHIP 0.01 DM
C10	87-010-546-040	CAP,E 0.33-50					
C11	87-010-401-040	CAP,E 1-50 SME		C503	87-010-197-080		CAP, CHIP 0.01 DM
				C504	87-010-154-080		CAP CHIP 10P
C13	87-010-321-080	CHIP CAPACITOR,82P(J)		C505	87-010-154-080		CAP CHIP 10P
C15	87-010-197-080	CAP, CHIP 0.01 DM		C506	87-010-197-080		CAP, CHIP 0.01 DM
C16	87-010-260-040	CAP,E 47-25 SME		C508	87-010-263-040		CAP,E 100-10
C101	87-010-992-080	C-CAP,S 0.047-25 B					
C102	87-010-401-040	CAP,E 1-50 SME		C509	87-016-669-080		C-CAP,S 0.1-25 K B
				C510	87-010-263-040		CAP,E 100-10
C103	87-010-196-080	CHIP CAPACITOR,0.1-25		C511	87-010-196-080		CHIP CAPACITOR,0.1-25
C104	87-010-196-080	CHIP CAPACITOR,0.1-25		C512	87-010-197-080		CAP, CHIP 0.01 DM
C105	87-010-260-040	CAP,E 47-25 SME		C513	87-010-197-080		CAP, CHIP 0.01 DM
C106	87-010-322-080	C-CAP,S 100P-50 CH					
C107	87-010-196-080	CHIP CAPACITOR,0.1-25		C514	87-010-197-080		CAP, CHIP 0.01 DM
				C518	87-010-322-080		C-CAP,S 100P-50 CH
C108	87-010-186-080	CAP,CHIP 4700P		C519	87-012-145-080		CAP, CHIP S 270P CH
C109	87-010-992-080	C-CAP,S 0.047-25 B		C520	87-012-157-080		C-CAP,S 330P-50 CH
C110	87-010-322-080	C-CAP,S 100P-50 CH		C521	87-012-154-080		C-CAP,S 150P-50 CH
C111	87-010-260-040	CAP,E 47-25 SME					
C112	87-010-197-080	CAP, CHIP 0.01 DM		C523	87-010-197-080		CAP, CHIP 0.01 DM
				C524	87-010-197-080		CAP, CHIP 0.01 DM
C114	87-010-260-040	CAP,E 47-25 SME		C525	87-010-197-080		CAP, CHIP 0.01 DM
C115	87-010-197-080	CAP, CHIP 0.01 DM		C526	87-010-197-080		CAP, CHIP 0.01 DM
C118	87-010-263-040	CAP,E 100-10		C527	87-010-197-080		CAP, CHIP 0.01 DM
C119	87-A11-567-080	C-CAP,S 0.01-50 K B					
C123	87-010-197-080	CAP, CHIP 0.01 DM					

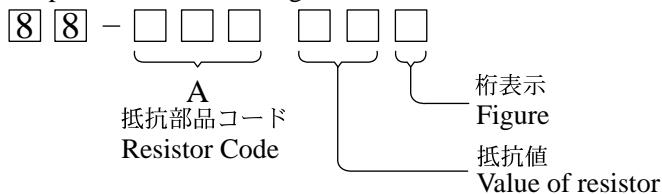
REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C528	87-010-197-080		CAP, CHIP 0.01 DM	L504	87-005-187-080		COIL,1.8UH<EXCEPT VEZD4RND<
C529	87-010-197-080		CAP, CHIP 0.01 DM	L504	87-005-423-080		COIL,1.8UH K FLR50<VEZD4RND<
C530	87-010-197-080		CAP, CHIP 0.01 DM	L505	87-005-204-080		COIL,47UH<EXCEPT VEZD4RND<
C531	87-010-197-080		CAP, CHIP 0.01 DM	L505	87-005-481-080		COIL,47UH J FLR50<VEZD4RND<
C532	87-010-374-040		CAP,E 47-10	L506	87-005-204-080		COIL,47UH<EXCEPT VEZD4RND<
C533	87-010-197-080		CAP, CHIP 0.01 DM	L506	87-005-481-080		COIL,47UH J FLR50<VEZD4RND<
C534	87-010-263-040		CAP,E 100-10	L507	87-005-204-080		COIL,47UH<EXCEPT VEZD4RND<
C535	87-010-197-080		CAP, CHIP 0.01 DM	L507	87-005-481-080		COIL,47UH J FLR50<VEZD4RND<
C536	87-010-078-040		CAP,E 47-6.3 5L	L701	87-005-817-080		C-COIL, 33UH J FLC32
C537	87-010-190-080		S CHIP F 0.01	LED191	87-A40-558-010		LED,SLZ-8128A-01-A
C538	87-010-196-080		CHIP CAPACITOR,0.1-25	M101	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
C539	87-010-196-080		CHIP CAPACITOR,0.1-25	Q901	87-026-237-080		CHIP-TR,DTC124XK<VZD3RDM>
C540	87-010-078-040		CAP,E 47-6.3 5L	R507	87-A00-408-080		C-RES,S 2K-1/10W D
C541	87-010-197-080		CAP, CHIP 0.01 DM	S201	87-A90-162-010		SW,SL 1-1-3 SSSU
C542	87-010-318-080		C-CAP,S 47P-50 CH	SW351	87-036-109-010		PUSH SWITCH
C544	87-010-197-080		CAP, CHIP 0.01 DM	SW352	87-036-109-010		PUSH SWITCH
C546	87-010-197-080		CAP, CHIP 0.01 DM	X201	87-A70-124-080		VIB,CER 8.0MHZ
C547	87-A11-088-080		CAP,TC U 100P-50 J CH <VEZD3RNDM,VEZD4RND<	X501	87-A70-125-080		VIB,XTAL 27MHZ 50PPM
C560	87-010-196-080		CHIP CAPACITOR,0.1-25	X601	87-030-270-080		VIB,XTAL 16.9344MHZ
C601	87-010-197-080		CAP, CHIP 0.01 DM				LED C.B<VZD3RDM>
C602	87-010-197-080		CAP, CHIP 0.01 DM	LED901	87-A40-447-040		LED,SLP-6130C-81H-S-T1 ORN <VZD3RDM>
C603	87-010-112-040		CAP,E 100-16	LED902	87-017-350-080		LED,SEL1550CM<VZD3RDM>
C604	87-010-196-080		CHIP CAPACITOR,0.1-25	LED903	87-017-350-080		LED,SEL1550CM<VZD3RDM>
C605	87-010-197-080		CAP, CHIP 0.01 DM	LED904	87-A40-447-040		LED,SLP-6130C-81H-S-T1 ORN <VZD3RDM>
C606	87-010-197-080		CAP, CHIP 0.01 DM				
C607	87-010-313-080		CAP, CHIP 18P				
C608	87-010-313-080		CAP, CHIP 18P				
C609	87-010-178-080		CHIP CAP 1000P				
C610	87-010-178-080		CHIP CAP 1000P				
C611	87-010-178-080		CHIP CAP 1000P				
C612	87-010-178-080		CHIP CAP 1000P				
C613	87-010-403-040		CAP,E 3.3-50 SME	C401	87-A11-148-080		CAP,TC U 0.1-50 Z F
C614	87-010-403-040		CAP,E 3.3-50 SME	CN401	87-A60-082-010		CONN,05P H 9604S-05F <EXCEPT VEZD4RND<
C615	87-010-318-080		C-CAP,S 47P-50 CH	CN401	86-NFZ-675-010		CONN,5P H 6216-11H<VEZD4RND<
C616	87-010-318-080		C-CAP,S 47P-50 CH	M401	87-045-364-010		MOTOR(BCH3B14)
C617	87-010-197-080		CAP, CHIP 0.01 DM <VEZD3RNDM,VEZD4RND<	PS401	87-026-573-010		IC,GP1S53V<VEZD4RND<
C701	87-012-153-080		C-CAP,S 120P-50 CH	PS401	87-A90-156-010		SNSR,SG-240<EXCEPT VEZD4RND<
C702	87-010-494-040		CAP,E 1-50 GAS				
C703	87-010-197-080		CAP, CHIP 0.01 DM				
C704	87-016-526-080		C-CAP,S 0.47-16 BK				
C705	87-010-371-080		CAP, ELECT 470-6.3V				
C706	87-010-196-080		CHIP CAPACITOR,0.1-25				
C707	87-010-197-080		CAP, CHIP 0.01 DM				
C708	87-A11-167-080		C-CAP,S 27P-50 F CH <VZD3RDM,VZD3RNDM,VZD3RCDM>				
C709	87-A11-167-080		C-CAP,S 27P-50 F CH				
CN1	87-A60-424-010		CONN,16P V TOC-B				
CN202	87-099-212-010		CONN,5P 6216 V				
CN301	87-A60-154-010		CONN,6P H FE				
CN401	84-ZG1-648-010		CONN ASSY,6P<VEZD4RND<				
CN401	87-099-199-010		CONN,6P 6216 H<EXCEPT VEZD4RND<				
CN403	87-099-030-010		CONN,13P 6216H				
CN901	84-ZG1-647-010		CONN ASSY,2P<VZD3RDM>				
FB192	87-008-372-080		FILTER, EMI BL 01RN1				
FB601	87-A91-907-080		C-F-BEAD, MMZ2012S102A <VEZD3RNDM,VEZD4RND<				
FB602	87-A91-907-080		C-F-BEAD, MMZ2012S102A <VEZD3RNDM,VEZD4RND<				
FB603	87-A91-907-080		C-F-BEAD, MMZ2012S102A <VEZD3RNDM,VEZD4RND<				
J701	87-009-502-010		JACK,PIN 1P Y EARTH <EXCEPT VZD3RCDM>				
JR302	87-005-778-080		C-COIL,10UK NLC252018<VEZD4RND<				
L301	87-A50-095-010		COIL,68UH RCR875D				
L302	87-005-426-080		COIL,3.3UH K FLR50				
L303	87-005-426-080		COIL,3.3UH K FLR50				
L502	87-005-204-080		COIL,47UH<EXCEPT VEZD4RND<				
L502	87-005-481-080		COIL,47UH J FLR50<VEZD4RND<				
L503	87-005-189-080		COIL 2.7UH<EXCEPT VEZD4RND<				
L503	87-005-425-080		COIL,2.7UH K<VEZD4RND<				

- 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



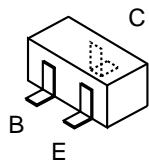
チップ抵抗
Chip resistor

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

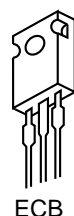
TRANSISTOR ILLUSTRATION



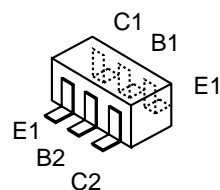
KAT1266



- 2SA1162
- 2SC2712
- DTA123JK
- DTA124XK
- DTC124XK
- 2SC3052F
- 2SA1235

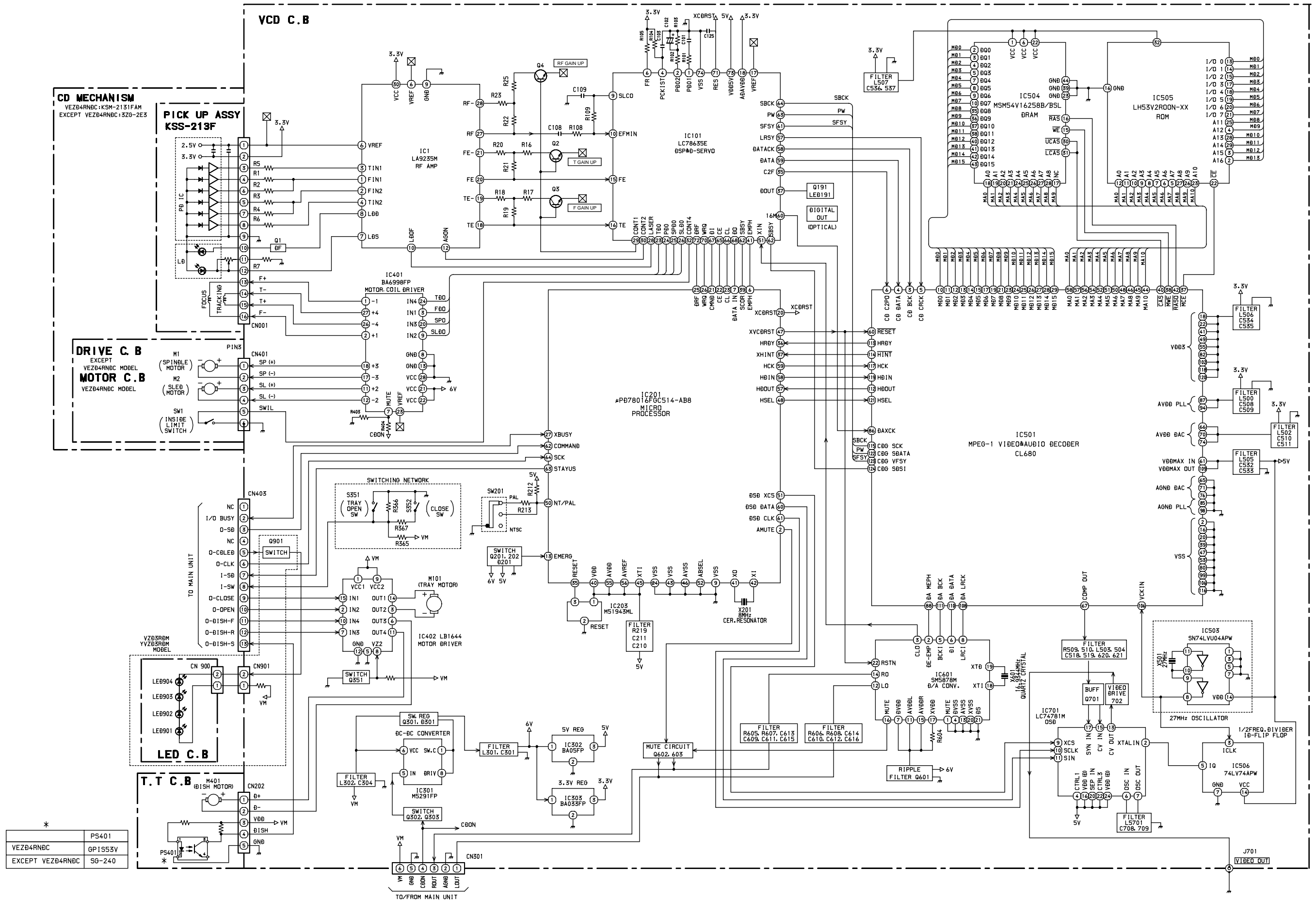


2SA1357



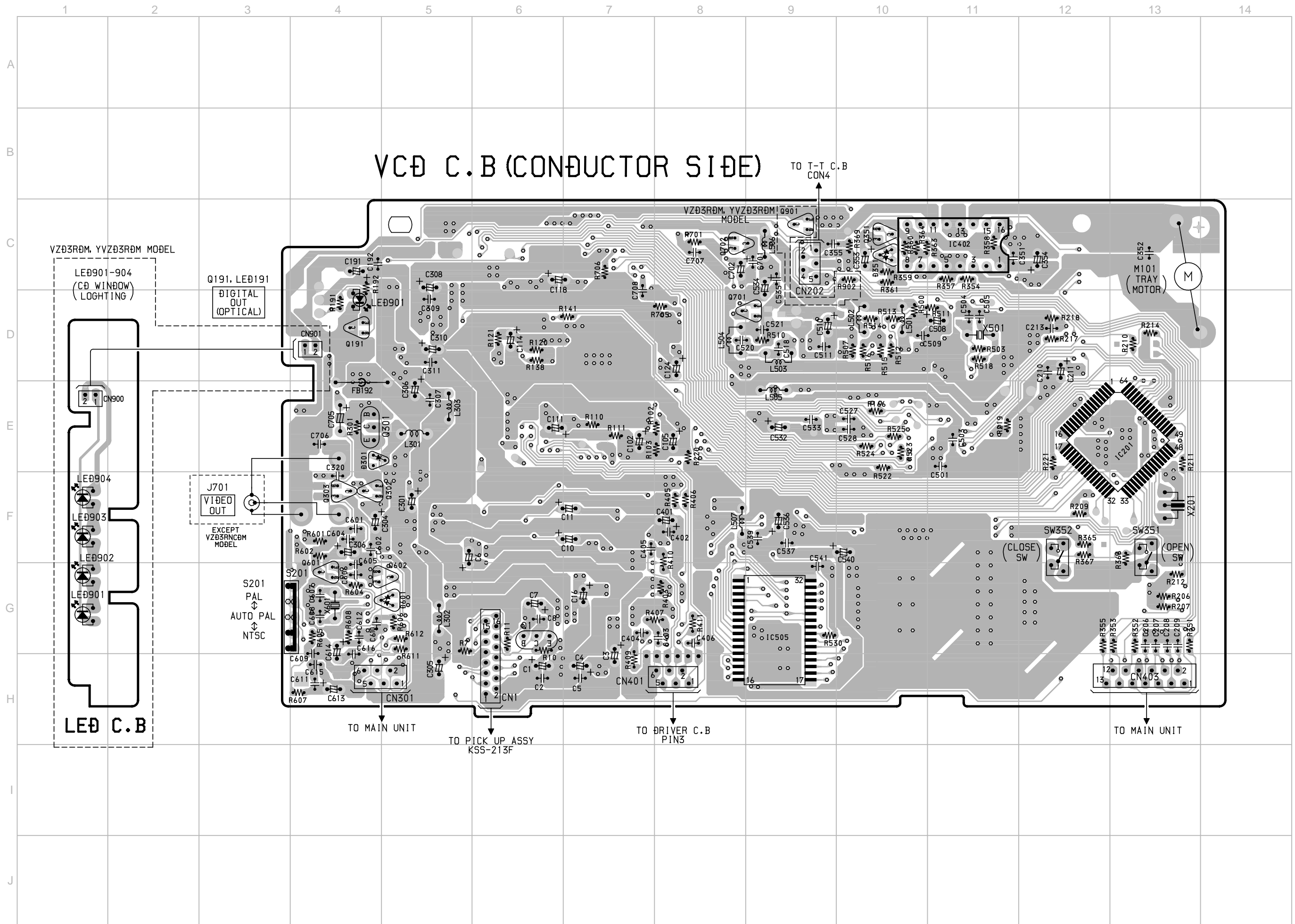
HN1C03F

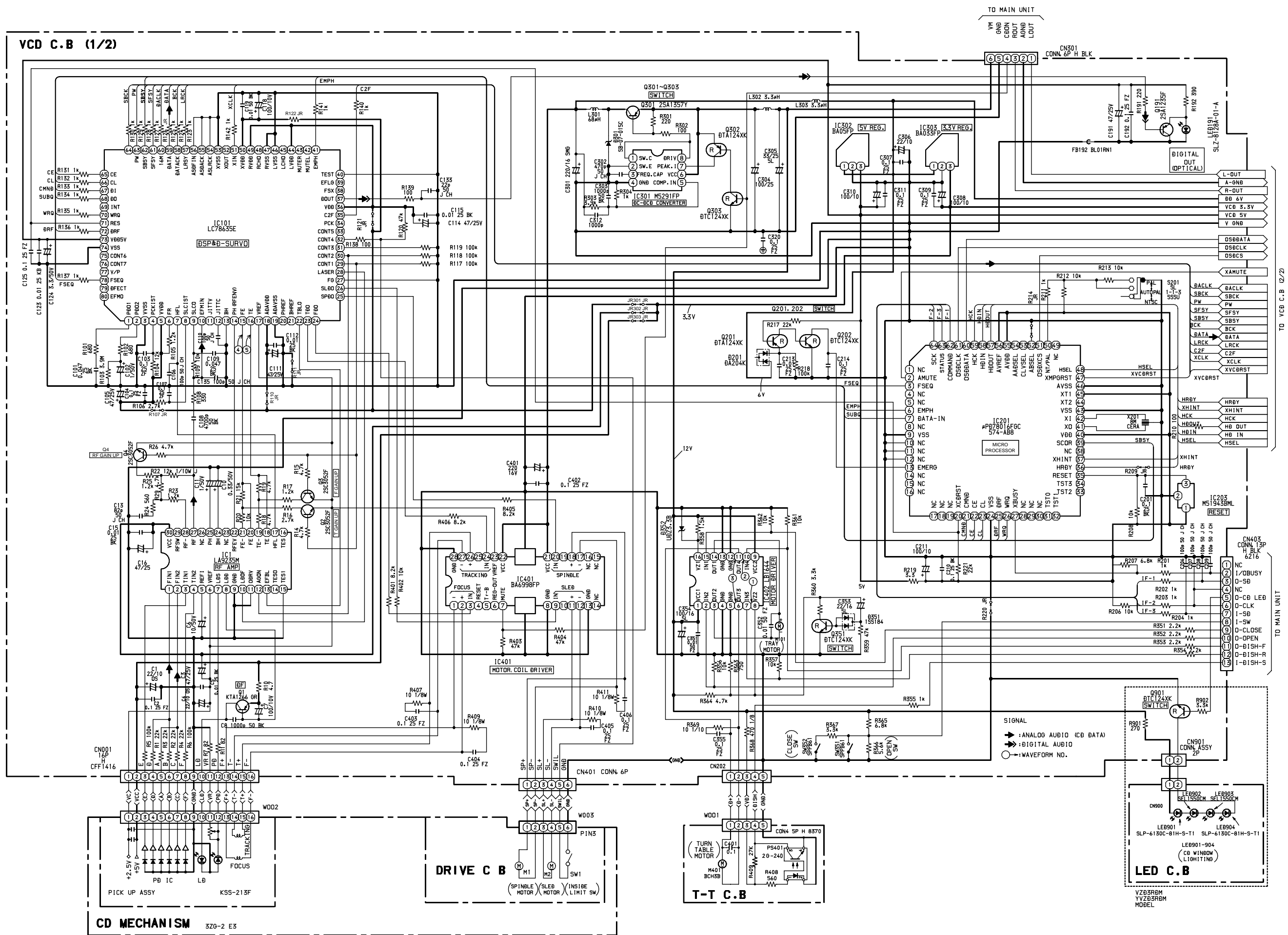
BLOCK DIAGRAM



* PS401

VEZD4RND	GP1553V
EXCEPT VEZD4RND	SG-240

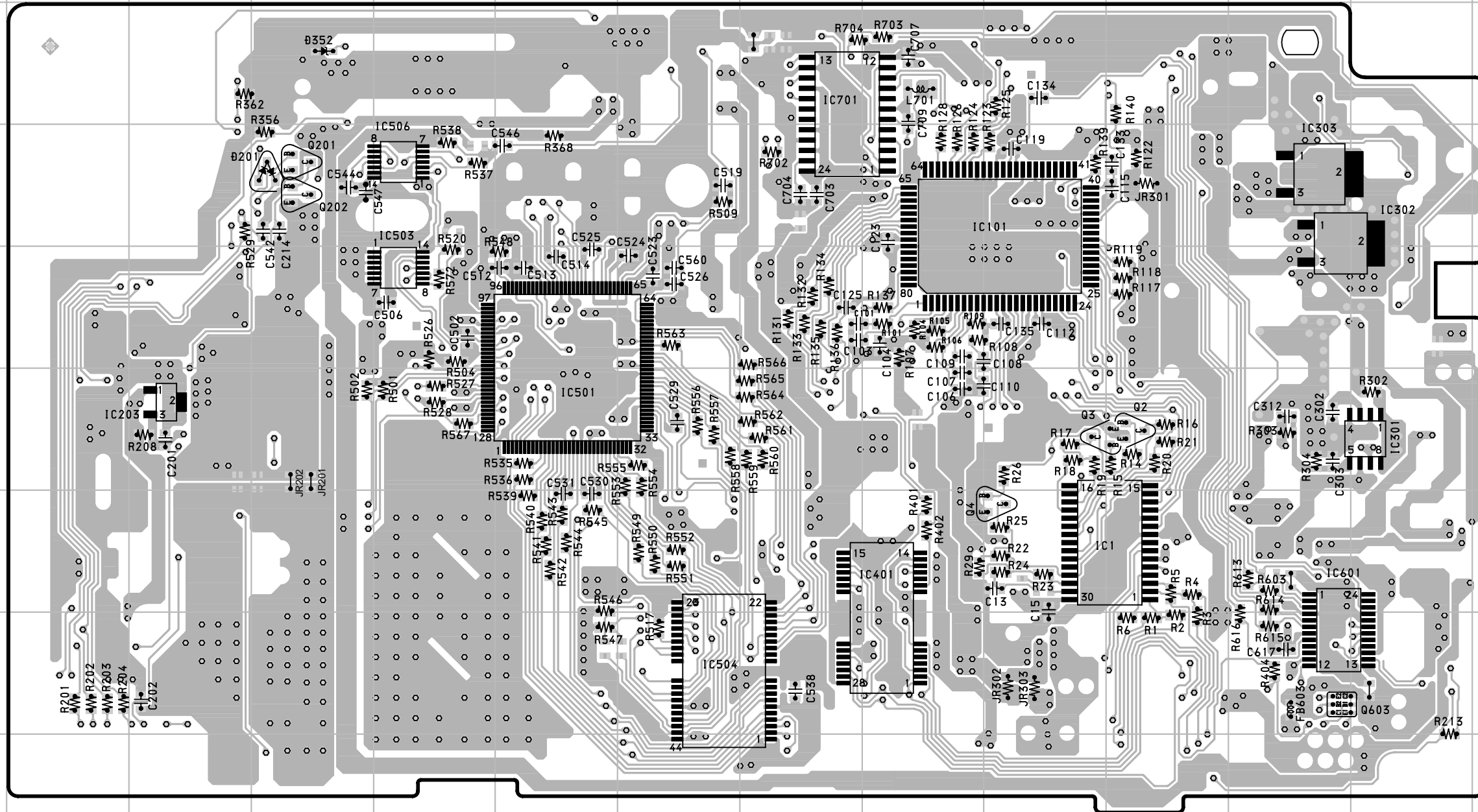




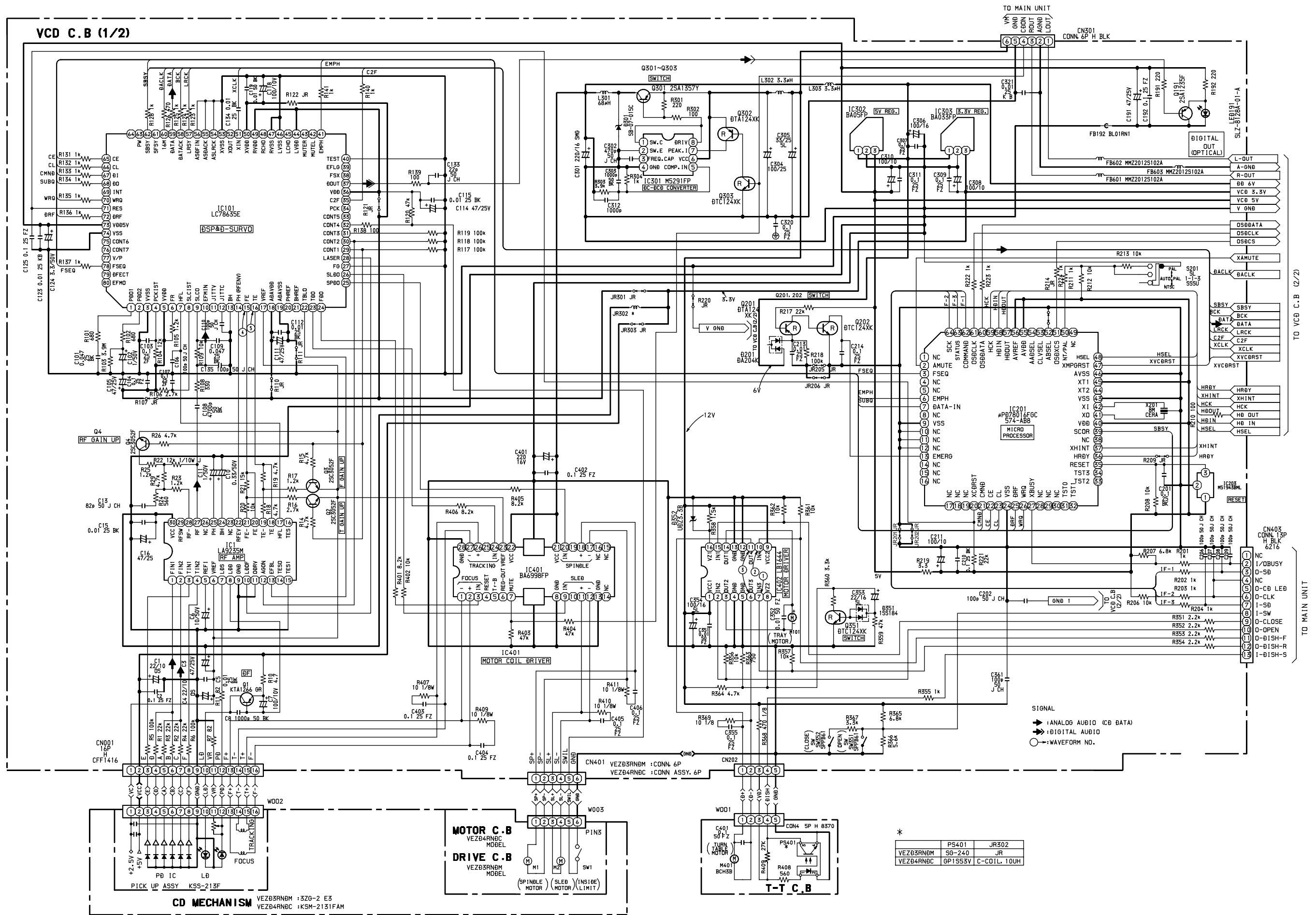
14 13 12 11 10 9 8 7 6 5 4 3 2 1

A
B
C
D
E
F
G
H
I
J

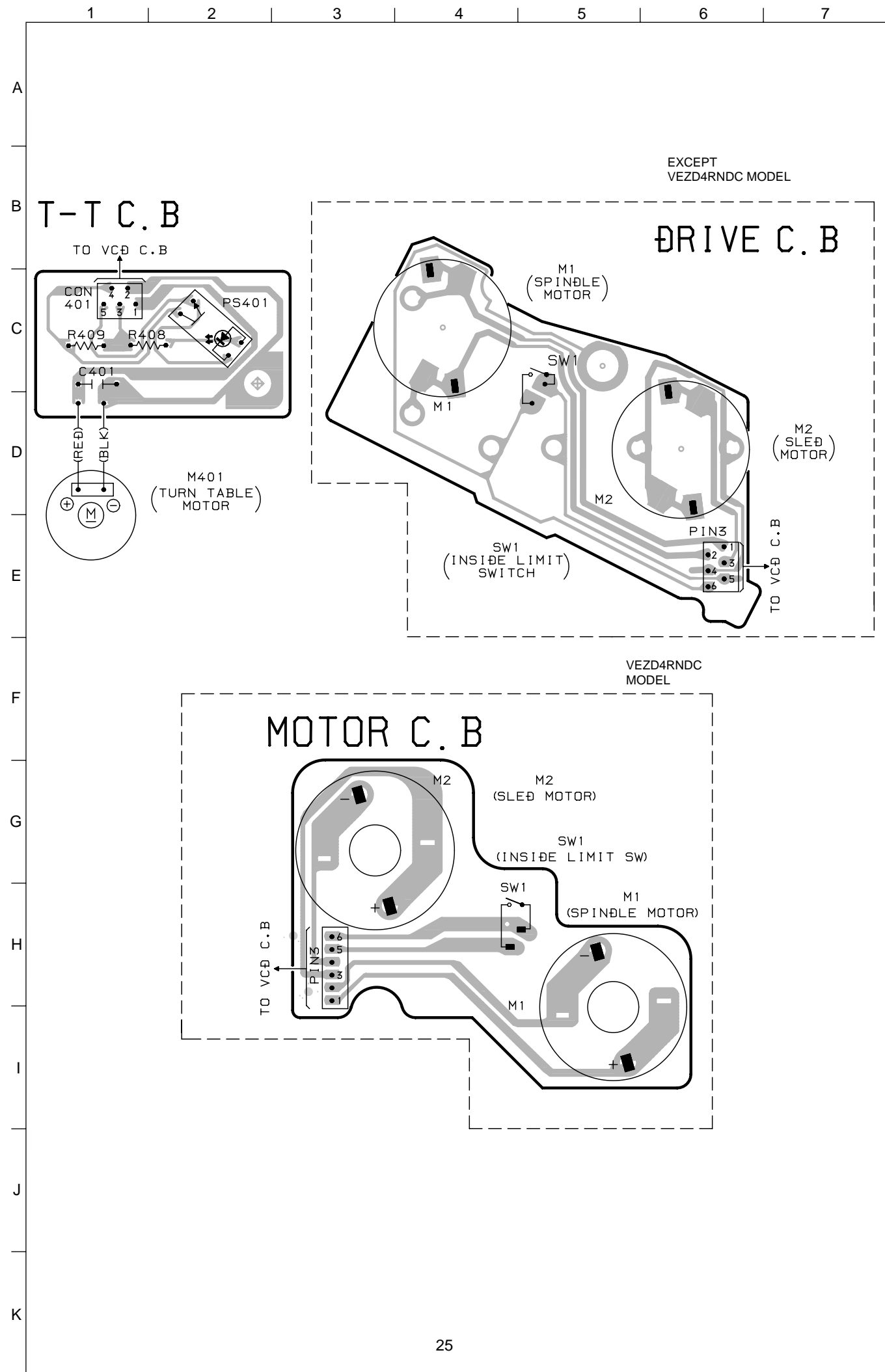
VCD C.B (COMPONENT SIDE)



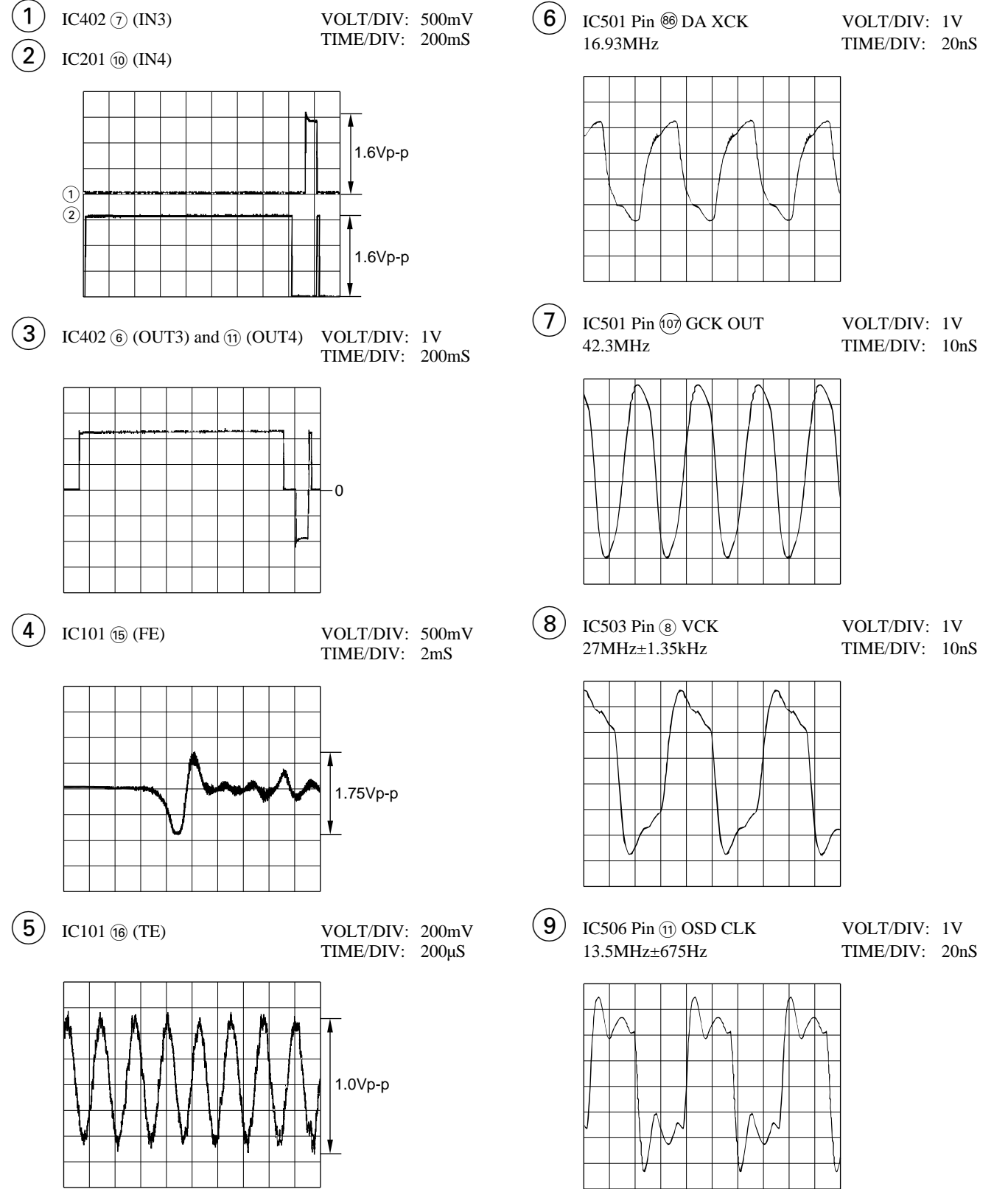
SCHEMATIC DIAGRAM-3 (VCD 1/2: VEZD3RNDM, VEZD4RND)C



WIRING-3 (T-T/DRIVE/MOTOR)

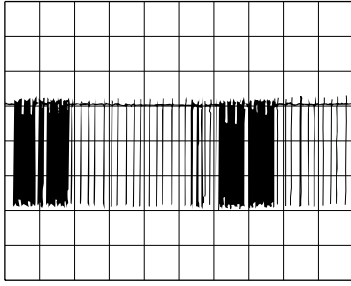


WAVE FORM



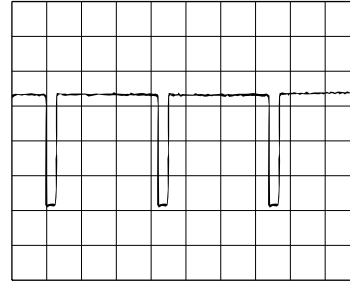
10 IC504 Pin 30 \overline{UCAS}
(Pin 31 \overline{LCAS})

VOLT/DIV: 1V
TIME/DIV: 2 μ S



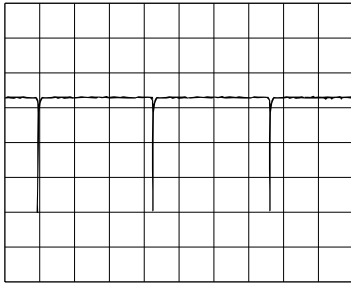
12 IC501 Pin 101 \overline{HSync}
PAL

VOLT/DIV: 1V
TIME/DIV: 20 μ S



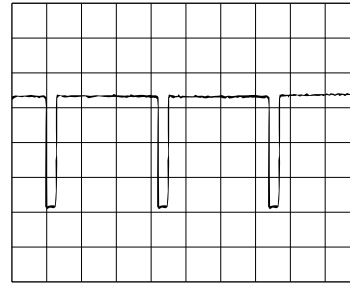
11 IC501 Pin 93 \overline{VSync}
NTSC

VOLT/DIV: 1V
TIME/DIV: 5mS



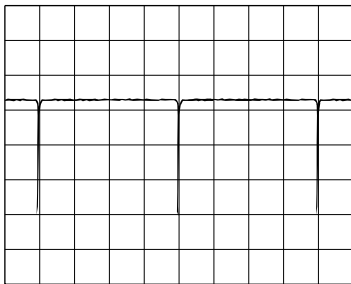
IC501 Pin 101 \overline{HSync}
NTSC

VOLT/DIV: 1V
TIME/DIV: 20 μ S



IC501 Pin 93 \overline{VSync}
PAL

VOLT/DIV: 1V
TIME/DIV: 5mS



IC DESCRIPTION

IC, CL680

Pin No.	Pin Name	I/O	Description
1	NC	—	No connection.
2	VSS	—	GND.
3	CD BCK	I	Bit clock input from CD DSP.
4	CD DATA	I	Data input from CD DSP.
5	CD LRCK	I	LRCK input from CD DSP.
6	CD C2PO	I	C2 pointer input from CD DSP.
7-9	NC	—	No connection.
10-15	MD0-MD5	I/O	DRAM/ROM interface. (DATA)
16	VSS	—	Ground.
17	MD6	I/O	DRAM/ROM interface. (DATA)
18	VDD3	—	Power supply 3.3V.
19	MD7	I/O	DRAM/ROM interface. (DATA)
20	VSS	—	Ground.
21	MD8	I/O	DRAM/ROM interface. (DATA)
22	VDD3	—	Power supply 3.3V.
23-29	MD9-MD15	I/O	DRAM/ROM interface. (DATA)
30-36	NC	—	No connection.
37	MCE	—	ROM chip enable.
38	MWE	O	DRAM write enable.
39	VSS	—	Ground.
40	CAS	O	DRAM/ROM interface.
41	VDD3	—	Power supply 3.3V.
42	RASO	O	DRAM/ROM interface.
43	RASI	O	
44-46	MA10-MA8	O	DRAM/ROM interface. (Address)
47	VSS	—	Ground.
48	MA7	O	DRAM/ROM interface. (Address)
49	VDD3	—	Power supply 3.3V.
50-52	MA6-MA4	O	DRAM/ROM interface. (Address)
53	VSS	—	Ground.
54	MA3	O	DRAM/ROM interface. (Address)
55	VDD3	—	Power supply 3.3V.
56-58	MA2-MA0	O	DRAM/ROM interface. (Address)
59	PGIO7	I/O	Programmable I/O.
60	RESET	I	Reset input.
61	VDD MAX IN	—	Power supply - VDDMAX. (5.0V)
62-64	NC	—	No connection.
65	AGND DAC	—	Analog ground.
66	A DAC	—	Analog power supply (DAC) : 3.3V.
67	COMP OUT	O	Composite out.
68	AGND DAC	—	Analog ground.

Pin No.	Pin Name	I/O	Description
69	Y OUT	O	Video signal “Y” OUT.
70	AVDD DAC	—	Analog power supply (DAC) 3.3V.
71	AGND DAC	—	Analog ground.
72	R REF	I	Reference resistor input.
73	V REF	I	Voltage reference input.
74	AVDD DAC	—	Analog power supply (DAC) : 3.3V.
75	C OUT	O	Video signal “C” out.
76	AGND DAC	—	Analog ground.
77-79	CLK SEL0-2	I	Clock selection input.
80	VSS	—	Ground.
81	CLK SEL3	I	Clock selection input.
82	VDD3	—	Power supply 3.3V.
83, 84	CLK SEL4, 5	I	Clock selection input.
85	AGND PLL	—	Analog ground.
86	DA XCK	I	DA XCK (16.933MHz) input.
87	AVDD PLL	—	Analog power supply 3.3V.
88	DA EMP	O	DAC-emphasis output.
89, 90	PGIO5, O6	I/O	Programmable I/O.
91	PGIO0	I/O	
92	PGIO8	I/O	
93	$\overline{\text{VSYNC/CSYNC}}$	O	$\overline{\text{VSYNC/CSYNC}}$ output.
94	AVDD PLL	—	Analog power supply (PLL) 3.3V.
95	VID_DAC_CK	O	Video DAC clock.
96	PROC_CK	O	Processor clock.
97	AUD_XCK	O	Audio XCK.
98	AGND PLL	—	Analog ground.
99	VSS	—	Ground.
100	NC	—	No connection.
101	$\overline{\text{HSYNC}}$	O	$\overline{\text{HSYNC}}$ output.
102	VDD3	—	Power supply 3.3V.
103	VCK OUT	O	VCK out.
104	VSS	—	Ground.
105	GCK	I	Global clock signal input. (42.3MHz)
106	VCK	I	Video clock signal input. (27.0MHz)
107	GCK OUT	O	Global clock signal output. (27.0MHz)
108	DA LRCK	O	DAC-LRCK output.
109	VDD MAX OUT	—	Power supply (VDD MAX) : 5.0V.
110	DA DATA	O	DAC-PCM data output.
111	DA BCK	O	DAC-BIT clock output.
112	HD OUT	O	Micon interface. (Data out)
113	HRDY	O	Micon interface. (Host ready)

Pin No.	Pin Name	I/O	Description
114	$\overline{\text{HINT}}$	O	Micon interface. (Host interrupt)
115	CDG SCK	I	CD-G serial clock input.
116	VSS	—	Ground.
117	HCK	I	Micon interface. (Host clock)
118	VDD3	—	Power supply 3.3V.
119	HD IN	I	Micon interface. (Host data in)
120	VDD3	—	Power supply 3.3V.
121	HSEL	I	Micon interface. (Host select in)
122	CDG DATA	I	CD-G data input.
123	CDG VFSY	I	CD-G VFSY input.
124	CDG SOSI	I	CD-G SOSI input.
125	DSP-XCK	O	DSP-XCK output.
126-128	NC	—	No connection.

IC, LC78635E

Pin No.	Pin Name	I/O	Description
1	PDO1	O	Internal VCO control phase comparator output pin. (Pull down)
2	PDO2	O	Internal VCO control phase comparator output pin. OFF for rough servo, ON for phase servo. (Pull down)
3	VVSS	—	Internal VCO ground pin.
4	PCKIST	I	PDO output current adjustment resistor connection pin.
5	VVDD	—	Internal VCO power supply pin.
6	FR	I	VCO frequency range adjustment resistor connection pin. (Pull up)
7	HFL	I	Mirror detection signal input pin.
8	SLCIST	I	SLCO output current adjustment resistor connection pin.
9	SLCO	O	Control output.
10	EFMIN	I	EFM signal input pin.
11	JITTV	O	Jitter detection monitor pin.
12	JITTC	O	Jitter detection adjustment pin. (Pull down)
13	BH	I	BH signal input pin. (Connected to GND)
14	PH (RFENV)	I	PH signal or RFENV signal input pin.
15	FE	I	FE signal input pin.
16	TE	I	TE signal input pin.
17	VREF	I	VREF input pin.
18	ADAVDD	—	Servo A/D, D/A power supply pin.
19	ADAVSS	—	Servo A/D, D/A ground pin.
20	PHREF	O	PH reference output pin.
21	BHREF	O	BH reference output pin.
22	TBLO	O	Tracking balance output pin.
23	TDO	O	Tracking control output pin.
24	FDO	O	Focus control output pin.
25	SPDO	O	Spindle control output pin.
26	SLDO	O	Thread control output pin.
27	FG	I/O	FG signal input pin. (Connected to GND)
28	LASER	O	Laser ON/OFF control pin.
29	CONT1	I/O	General-purpose input/output pin 1. (Connected to GND)
30	CONT2	I/O	General-purpose input/output pin 2. (Connected to GND)
31	CONT3	I/O	General-purpose input/output pin 3.
32	CONT4	I/O	General-purpose input/output pin 4.
33	CONT5	I/O	General-purpose input/output pin 5. (Not connected)
34	PCK	O	EFM data playback clock monitor pin. Average 4.3218MHz when the phase is locked. (Not connected)
35	C2F	O	C2 flag output pin.
36	VDD	—	Digital power supply pin.
37	DOUT	O	Digital out output pin. (EIAJ format)
38	FSX	O	Output pin for the 7.35kHz synchronization signal divided from the crystal oscillator. (Not connected)

Pin No.	Pin Name	I/O	Description
39	EFLG	O	C1, C2 error correction monitor pin. (Not connected)
40	TEST	I	Test input pin. (Connected to GND)
41	EMPH	I/O	Emphasis pin. Which becomes an input pin after reset and can be controlled externally. This becomes an emphasis monitor pin under control by command.
42	MUTEL	O	L channel mute output pin. (Not connected)
43	MUTER	O	R channel mute output pin. (Not connected)
44	LVDD	—	L channel power supply pin.
45	LCHO	O	L channel output pin. (Not connected)
46	LVSS	—	L channel ground pin.
47	RVSS	—	R channel ground pin.
48	RCHO	O	R channel output pin. (Not connected)
49	RVDD	—	R channel power supply pin.
50	XVDD	—	Crystal oscillator power supply pin.
51	XIN	I	Connections for a 16.9344MHz crystal oscillator pin.
52	XOUT	O	
53	XVSS	—	Crystal oscillator ground pin.
54	ASLRCK	I	L/R clock input pin. (Connected to GND)
55	ASDACK	I	Bit clock input pin. (Connected to GND)
56	ASDFIN	I	L/R channel data input pin. (Connected to GND)
57	LRSY	O	L/R clock output pin.
58	DATAACK	O	Bit clock output pin.
59	DATA	O	L/R channel data output pin.
60	16M	O	16.9344MHz output pin.
61	SFSY	O	Subcode frame synchronization signal output pin. This signal falls when the subcode is in the standby state.
62	SBSY	O	Subcode clock synchronization signal output pin.
63	PW	O	Subcode P, Q, R, S, T, U and W output pin.
64	SBCK	I	Subcode readout clock input pin.
65	CE	I	Chip enable signal input pin.
66	CL	I	Data transfer clock input pin.
67	DI	I	Data input pin.
68	DO	O	Data output pin.
69	INT	O	Interruption signal output pin. (Not connected)
70	WRQ	O	Interruption signal output pin.
71	RES	I	Reset input pin. This pin must be set low briefly after power is first applied.
72	DRF	O	Focus ON detect pin.
73	VDD5V	—	Microprocessor interface power supply.
74	VSS	—	Digital ground pin.
75	CONT6	I/O	General-purpose input/output pin 6.
76	CONT7	I/O	General-purpose input/output pin 7.
77	V/P	O	Rough servo/phase control automatic switching monitor output pin. "H" for rough servo and "L" for phase servo. (Not connected)

Pin No.	Pin Name	I/O	Description
78	FSEQ	O	Synchronization signal detection output pin. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal agree.
79	DEFECT	I/O	Defect pin. Which becomes an input pin after reset and can be controlled externally. This becomes the defect monitor pin under control by command. (Not connected)
80	EFMO	O	EFM signal output pin. (Not connected)

IC, LC74781M

Pin No.	Pin Name	I/O	Description
1	VSS1	—	GND connection terminal. (Digital ground terminal).
2	Xtal IN	I	External X'tal and capacitor for internal sync generator, or the external clock are connected to this terminal. (2fsc or 4fsc).
3	Xtal OUT	O	
4	CTRL1	I	Either the external clock input mode or the X'tal generator mode is selected by this selector terminal. L: X'tal generator mode, H: External clock input.
5	BLANK	O	Blank signal (character and the green ORed signal) is output from this terminal. (MODE 0: composite sync signal is output at H.) When reset (\overline{RST} terminal = L), the X'tal clock signal is output. (It is not output when reset by the reset command).
6	OSC IN	I	External coil and capacitor for the character output dot clock generator are connected to this terminal.
7	OSC OUT	O	
8	CHARA	O	The character signal is output from this terminal. (MOD 0: when H, the external sync signal identification signal is output from this terminal. This output signal tells whether the external sync signal is present or not. When external sync signal is present, H is output.) When reset (\overline{RST} terminal = L), the dot clock signal (LC oscillator) is output. (It is not output when reset by the reset command).
9	\overline{CS}	I	Enable signal for the serial data input is input to this terminal. The serial data input is enabled at L. Pull-up resistor is built-in. (Hysteresis input).
10	SCLK	I	Clock of the serial data input is input to this terminal. Pull-up resistor is built-in. (Hysteresis input).
11	SIN	I	Serial data input terminal. Pull-up resistor is built-in. (Hysteresis input).
12	VDD2	—	Power supply for the composite video signal level adjustment. (Analog power supply).
13	CV OUT	O	Composite video signal output terminal.
14	NC	—	Connected to GND or not connected.
15	CV IN	I	Composite video signal input terminal.
16	VDD1	—	Power supply (+5V digital power supply).
17	SYN IN	I	Video signal for the internal sync separator circuit is input to this terminal. (When the internal sync separator circuit is not used, the horizontal sync signal or composite sync signal is input to this terminal).
18	SEP C	—	Internal sync separator circuit bias voltage monitoring terminal.
19	SEP OUT	O	The composite sync output signal of the internal sync separator circuit is output from this terminal. (H: MOD 1. H: during internal sync mode. L: during external sync mode.) (When internal sync separator circuit is not used, the SYN IN input signal is output from this terminal).
20	SEP IN	I	The output signal of the SEP OUT terminal is integrated so that the vertical sync signal is input to this terminal. An integrator circuit must be connected between the SEP OUT terminal and this terminal. When this terminal is not used, it must be connected to VDD1.
21	CTRL2	I	When selecting any of the NTSC or PAL or PAL-M or PAL-N system, the pin setting has priority. When L, the NTSC system is selected after resetting. Selection of either NTSC or PAL or PAL-M or PAL-N system by the command becomes effective. H: PAL-M system.

Pin No.	Pin Name	I/O	Description
22	CTRL3	I	Controls whether or not to input the $\overline{\text{VSYNC}}$ signal to the SEPIN input. L: to input the $\overline{\text{VSYNC}}$ signal. H: not to input the $\overline{\text{VSYNC}}$ signal.
23	$\overline{\text{RST}}$	I	System reset input terminal. Pull-up resistor is built-in. (Hysteresis input).
24	VDD1	—	Power supply. (+5V digital power supply).

IC, μ PD78016FGC

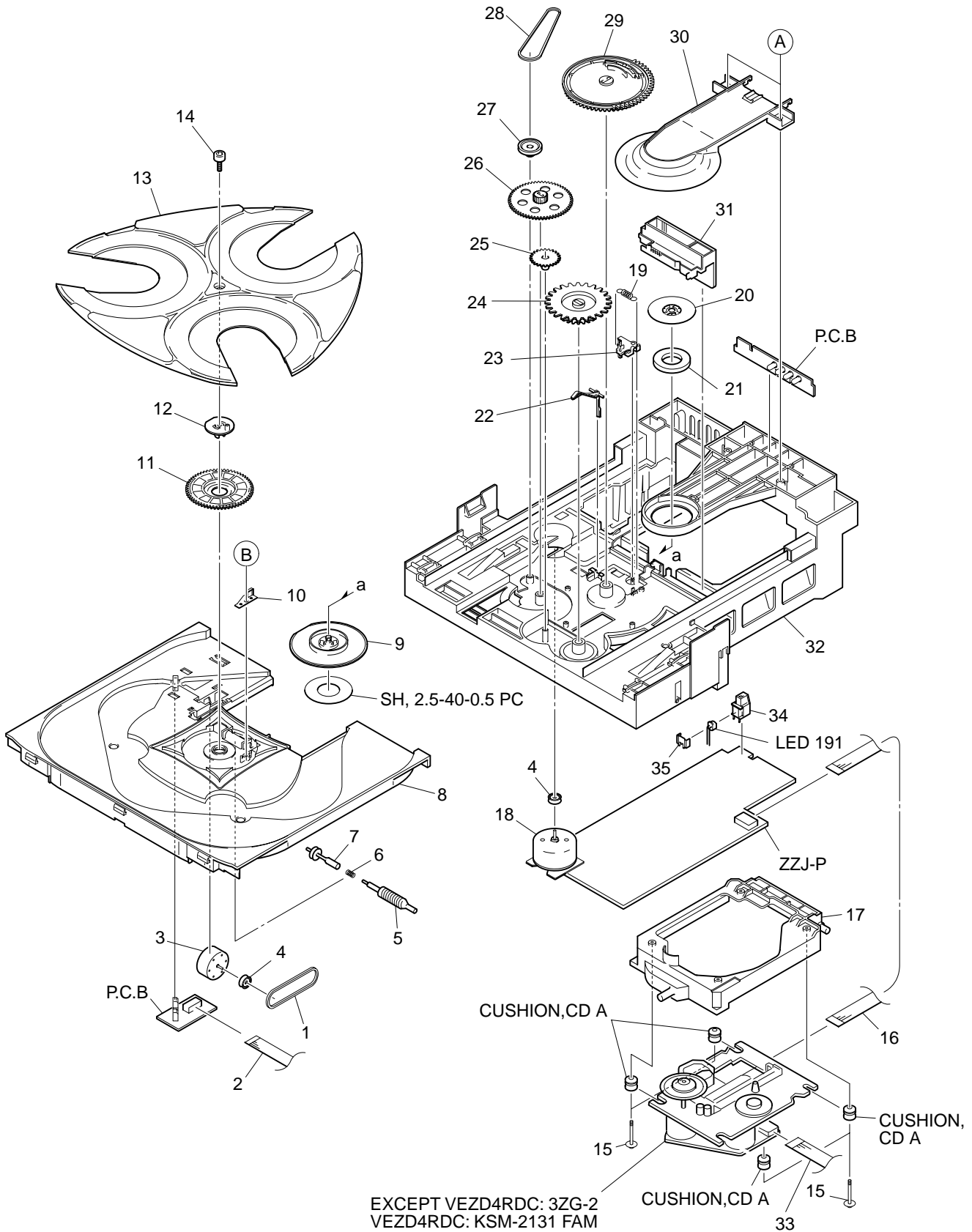
Pin No.	Pin Name	I/O	Description
1	RBPLS	O	RADIAL BALANCE PLUS.
2	AMUTE	O	AUDIO ANALOG MUTE (H=MUTE ON).
3	GFS	I	GFS.
4	XVCDMD	I	AUDIO/VIDEO CD MODE (L=VCD=SPINDLE GAIN UP).
5	MD2	O	DOUT MUTE CONT.
6	EMPH	I	EMPHASIS.
7	SQSO	I	SQDATA FROM CD.
8	SQCK	O	SQCLK TO CD.
9	VSS	—	GND.
10	SWNT	I	SW TV OUT MODE (L=NTSC).
11	SWAUTO	I	SW TV OUT MODE (L=NTSC/PAL AUTO).
12	SWPAL	I	SW TV OUT MODE (L=PAL).
13	EMERG	I	POWER EMERGENCY STOP (L*3sec=STOP).
14	NC	—	Nou used.
15	LPCSEL	I	“LPC ON/OFF (H=ON, NORMAL)”.
16	NC	—	Nou used.
17	LOCK	O	GFS (FRAME SYNC) LOCK (NO USE=H).
18	DMUTE	O	DIGITAL DATA OUT MUTE.
19	SENS	I	DSP SENS1 FROM CD.
20	XCDRST	O	CD RESET.
21	DATA	O	DATA TO CD.
22	XLAT	O	XLT TO CD.
23	CLOK	O	CLK TO CD.
24	VSS	—	GND.
25	FOK	I	FOCUS OK.
26	SENS2	I	SSP SENS2 FROM CD.
27	XBUSY	I/O	READY/BUSY I/O TO HOST OD.
28	NC	—	Nou used.
29	NC	—	
30	NC	—	
31	TST0	I/O	CHECK LAND.
32	TST1	I/O	
33	TST2	I/O	
34	TST3	I/O	
35	RESET	I	RESET.
36	HRDY	I	HRDY FROM CL680.
37	XHINT	I	HINT FROM CL680.
38	NC	—	Nou used.
39	SCOR	I	SCOR FROM CD.
40	VDD	—	5.0VDD.
41	XO	O	8.0MHz CERALOCK.

Pin No.	Pin Name	I/O	Description
42	XI	I	8.0MHz CERALOCK.
43	VSS	—	GND.
44	XT2	—	Nou used.
45	XT1	I	5.0VDD.
46	AVSS	—	GND.
47	XMPGRST	O	MPEG BLOCK IC RESET.
48	HSEL	O	ADDRESS/DATA SEL TO CL680.
49	INLSW	I	INSIDE LIMIT SW .
50	NC	—	Nou used.
51	OSDXCS	O	OSD CHIP SELECT.
52	ABSEL	I	CXA1992A/B SELECT (L=CXA1992A).
53	CLVSEL	I	CLV MODE SELECT (H=CLV-N).
54	AADSEL	I	AUTO ADJUST SELECT (H=AUTO ON).
55	AVDD	—	5.0VDD.
56	AVREF	—	
57	HDOUT	I	HD-OUT FROM CL680.
58	HDIN	O	HD-IN TO CL680.
59	HCK	O	HCK TO CL680.
60	OSDDATA	O	OSD DATA.
61	OSDCLK	O	OSD CLOCK.
62	COMMAND	I	COMMAND FROM HOST .
63	STATUS	O	STATUS TO HOST.
64	SCK	I	SCK FROM HOST.

IC, SM5878M

Pin No.	Pin Name	I/O	Description
1	MUTE	I	MODE = H: Soft mute ON/OFF terminal. (Mute at H). MODE = L: Attenuator level DOWN/UP terminal. (DOWN at H).
2	DEEM	I	De-emphasis ON/OFF terminal. (De-emphasis ON at H).
3	CKO	O	Oscillator clock output. (16.9344 MHz).
4	DVSS	—	Digital VSS terminal.
5	BCKI	I	Bit clock input terminal.
6	DI	I	Serial data input terminal.
7	DVDD	—	Digital VDD terminal.
8	LRCI	I	Sample rate clock (fs) input terminal. (H = L ch/L = R ch).
9	TSTN	I	Test input. ("H" or open during normal operation)
10	TO1	O	Test output 1. (Normally low level output).
11	AVDDL	—	Analog VDD terminal. (For L ch).
12	LO	O	Left channel analog output terminal.
13	AVSS	—	Analog VSS terminal.
14	RO	O	Right channel analog output terminal.
15	AVDDR	—	Analog VDD terminal. (For R ch).
16	MUTEO	O	Infinity zero detection output.
17	XVDD	—	X'tal system VDD terminal.
18	XTI	I	X'tal oscillator terminal. (Or external clock input terminal of 16.9344 MHz).
19	XTO	O	X'tal oscillator terminal.
20	XVSS	—	X'tal system VSS terminal.
21	DS	I	Double-speed/normal playback selection. (Double-speed at H).
22	RSTN	I	Reset terminal. (Reset at L).
23	MODE	I	Soft mute/Attenuator mode selection. (Soft mute at H).
24	ATCK	I	Attenuator level setup clock (Ignored when MODE = H).

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

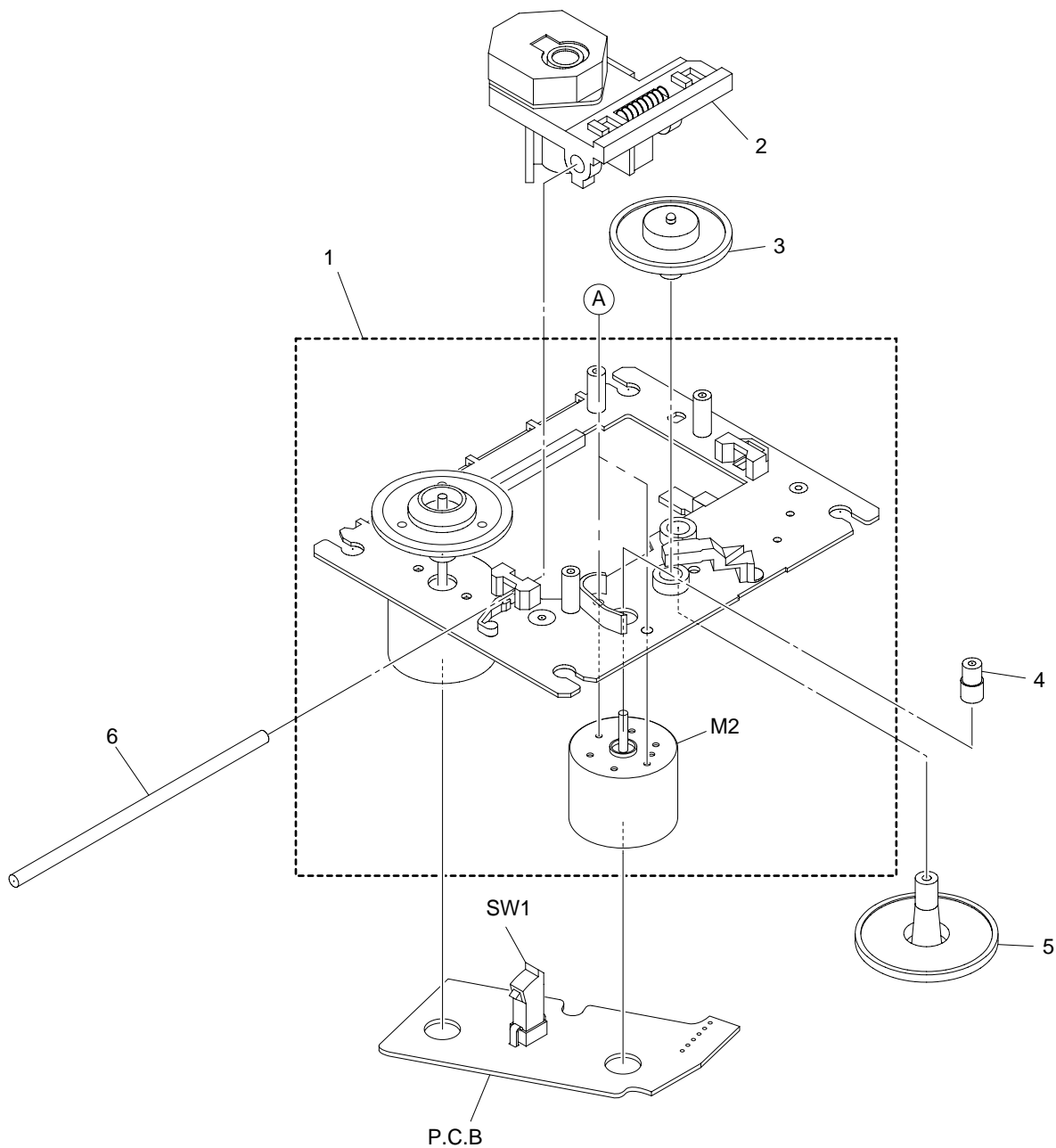
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-225-010		BELT,SQ1.0-63.3	25	81-ZG1-291-110		GEAR,TRAY RELAY NO3 <EXCEPT VEZD4RNDC>
2	84-ZG1-672-010		F-CABLE,5P 1.25 210MM WHITE N	26	84-ZG1-206-110		GEAR,RELAY<VEZD4RNDC>
3	87-045-364-010		MOTOR(BCH3B14)	26	84-ZG1-274-010		GEAR,RELAY 8<EXCEPT VEZD4RNDC>
4	84-ZG1-267-010		PULLEY,LOAD MO 8	27	84-ZG1-207-010		PULLEY,RELAY<EXCEPT VEZD4RNDC>
5	84-ZG1-238-010		GEAR,WORM N	27	84-ZG1-271-010		PULLEY,RELAY 8<VEZD4RNDC>
6	84-ZG1-248-010		SPR-C,WORM	28	84-ZG1-209-010		BELT,SQ1.8-117.7
7	84-ZG1-273-010		PULLEY,WORM 4<VEZD4RNDC>	29	84-ZG1-203-410		GEAR,MAIN CAM <EXCEPT VZD3RDM,YVZD3RDM>
7	84-ZG1-239-210		PULLY,WORM N<EXCEPT VEZD4RNDC>	29	84-ZG1-215-410		GEAR,MAIN CAM BLU <VZD3RDM,YVZD3RDM>
8	8A-ZG1-001-010		TRAY,NO3 BLU	30	84-ZG1-011-010		REFLECTOR,CD<VZD3RDM,YVZD3RDM>
9	84-ZG1-291-110		HLDR,MAGNET 4 NAT <EXCEPT VZD3RDM,YVZD3RDM>	31	84-ZG1-216-310		SLIDE,MECHA CAM YEL <VZD3RDM,YVZD3RDM>
9	84-ZG1-272-110		HLDR,MAGNET N 4<VZD3RDM,YVZD3RDM>	31	84-ZG1-204-310		SLIDER,MECHA CAM <EXCEPT VZD3RDM,YVZD3RDM>
10	84-ZG1-259-010		SPR-P,WORM	32	8A-ZG1-217-010		CHAS,MECHA F NAT <VEZD4RNDC,VEZD3RNDC>
11	84-ZG1-269-010		GEAR,MAIN TT 4	32	84-ZG1-286-010		CHAS,MECHA NAT <VZD3RNDM,YVZD3RNDM,VZD3RNCMD>
12	84-ZG1-224-010		LEVER,TT<VZD3RDM,YVZD3RDM>	33	84-ZG1-630-010		CABLE FFC 6P-1.25 <EXCEPT VEZD4RNDC>
12	84-ZG1-288-010		LEVER,TT NAT <EXCEPT VZD3RDM,YVZD3RDM>	34	84-ZG1-244-310		CABI,OPTICAL <VZD3RDM,VZD3RNDM,YVZD3RDM,YVZD3RNDM>
13	8A-ZG1-002-010		TURN TABLE,NO1 BLU	34	84-ZG1-270-010		CABI,OPTICAL 8<VZD3RNCMD>
14	81-ZG1-239-010		S-SCREW,TT	35	84-ZG1-261-010		LID,OPTICAL <EXCEPT VEZD4RNDC,VEZD3RNDM>
15	81-ZG1-271-010		S-SCREW MECH REAR	A	87-067-703-010		TAPPING SCREW, BVT2+3-10 <VZD3RDM,YVZD3RDM>
16	85-NFT-611-110		FF-CABLE 16P-1.0	A	87-067-579-010		TAPPING SCREW, BVT2+3-8 <VEZD4RNDC,VEZD3RNDM>
17	84-ZG1-287-010		HLDR,MECHA NAT <EXCEPT VZD3RDM,YVZD3RDM>	B	87-067-981-010		BVT2+3-6 BLK
17	84-ZG1-212-210		HLDR,MECHA NO2<VZD3RDM,YVZD3RDM>				
18	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)				
19	84-ZG1-211-010		SPR-E CAM S				
20	81-ZG1-255-110		PLATE,MAGNET MK2				
21	83-ZG3-604-010		RING,MAG 2				
22	83-ZG3-213-010		LVR,SW				
23	84-ZG1-208-210		LEVER,CAM<VEZD4RNDC>				
23	84-ZG1-266-010		LEVER,CAN 8<EXCEPT VEZD4RNDC>				
24	84-ZG1-205-210		GEAR,TRAY (*)				
25	81-ZG1-250-110		GEAR,TRAY RELAY MK2*<VEZD4RNDC>				

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	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink

CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2E3)

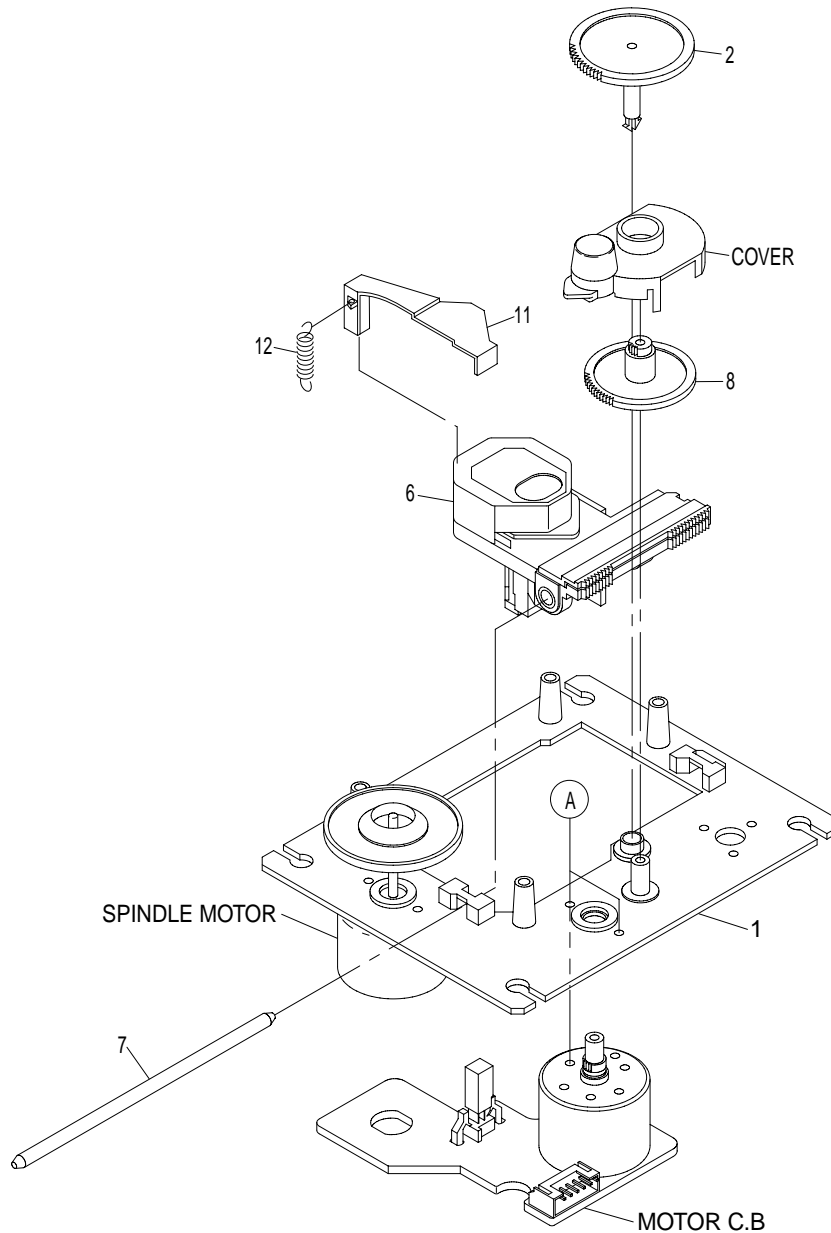


CD MECHANISM PARTS LIST 1/1 (3ZG-2E3)

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	83-ZG2-262-010		CHAS ASSY, E3
2	87-A90-836-010		PICKUP, KSS-213F
3	83-ZG2-235-010		GEAR, A3
4	83-ZG2-236-010		GEAR, MOTOR 3
5	83-ZG2-205-310		GEAR, B
6	83-ZG2-253-010		SHAFT, SLIDE 5
A	87-261-032-210		V+2-3

CD MECHANISM EXPLODED VIEW 1/1 (KSM-2131 FAM)



CD MECHANISM PARTS LIST 1/1 (KSM-2131 FAM)

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	9X-262-629-220		MOTOR CHASSIS ASSY(MB) (FR)
2	92-626-907-010		GEAR(A) (S)
6	87-A90-836-010		OPTICAL PICK UP KSS-213F
7	92-626-908-020		SHAFT SLED
8	92-627-003-010		GEAR(B)
11	92-646-697-020		LENS SHUTTER(F)
12	92-646-702-010		SPRIG EXTENSION
A	97-621-255-150		SCREW+P2-3

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