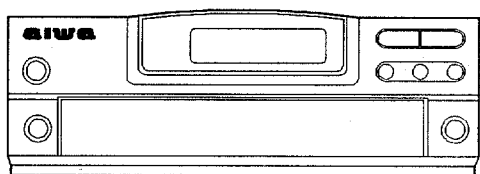


aiwa



ACD-300



CD-ROM

• BASIC CD MECHANISM:KSL-360ADM

• TYPE:H,U,E,K

SERVICE MANUAL

SPECIFICATIONS

Interface	SCSI-2 (single-ended)	Seek time (1/3 stroke)	275 ms (TYP)
SCSI terminator	Active type, Internal (110Ω), ON/OFF switchable with DIP switch	Error rate	10 ¹² bits per block (Mode 1) 10 ⁹ bits per block (Mode 2)
Playback disc diameter	12 cm, 8 cm (no adapter required)	Audio output	LINE OUT: 0.5 V (at 47kΩ) Headphones: 0.55 V (at 32Ω)
Disc standards	CD-ROM Mode 1, Mode 2 CD-ROM XA Mode 2 (Form 1, Form 2) CD-DA (Digital Audio) Mixed-mode CD CD Bridge (Photo CD)	Operating temperature	5°C to 40°C (41° to 104°F)
Disc rotation speed	Approx. 200 rpm to 530 rpm (standard-speed) Approx. 400 rpm to 1060 rpm (double-speed)	Operating humidity	20% to 85%
Data buffer capacity	256 kB	Power requirements	H, E, K : 100 V to 240 V AC (50/60 Hz) U : 100 V to 120 V AC (60 Hz)
Data transfer rate (sustained)	150 kBps (standard-speed) 300 kBps (double-speed)	Power consumption	Maximum 10 W
Data transfer rate (burst mode)	2.8 MBps	Dimensions (w/h/d)	175 × 63.2 × 296 mm 7 × 2 1/2 × 11 3/4 inches (excluding projections)
		Weight	Approx. 2 kg (4 lb 6 oz)

Model number plate located on bottom panel.

• Design and specifications are subject to change without notice.

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!

Laitteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylitäville 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.

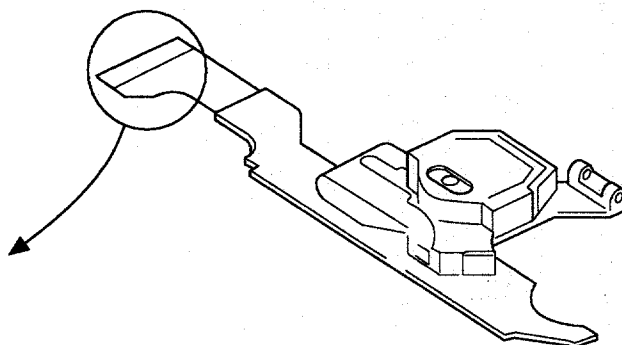
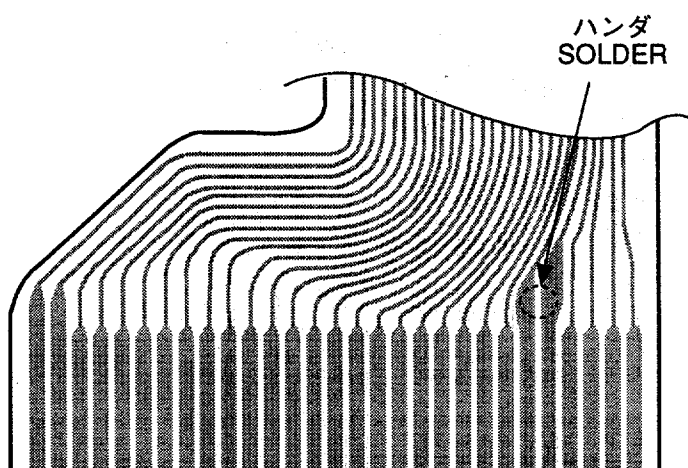
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block (KSS-360A)

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 below figure.



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.	カナ NO.	DESCRIPTION	REF. NO	PART NO.	カナ NO.	DESCRIPTION
IC				C44	87-010-196-080		C-CAP, S 0.1-25 F
	87-017-895-040		IC, LC3664BML-10	C45	87-010-318-080		C-CAP, S 47P-50 CH
	87-017-898-040		IC, BA6162F	C46	87-010-197-080		C-CAP, S 0.01-25 B
	87-017-894-010		IC, LC89512	C47	87-010-197-080		C-CAP, S 0.01-25 B
	84-XC2-602-010		IC, MB622E47PF	C48	87-010-193-080		C-CAP, S 0.033-25 F
	84-XC2-628-110		IC ASSY, NM27C512Q*04	C49	87-010-146-080		C-CAP, S 2P-50 CH
	87-017-897-040		IC, MB81C4256A-80LPJ	C50	87-010-196-080		C-CAP, S 0.1-25 F
	87-017-896-010		IC, M38022M4-001FP	C51	87-010-196-080		C-CAP, S 0.1-25 F
	87-017-706-080		IC, BH9590FP-Y	C52	87-010-182-080		C-CAP, S 2200P-50 B
	87-020-794-110		IC, CXA-1082BQ	C53	87-010-197-080		C-CAP, S 0.01-25 B
	87-017-893-040		IC, LC78815M	C54	87-010-197-080		C-CAP, S 0.01-25 B
	87-001-834-080		IC, NJM3414M	C55	87-010-196-080		C-CAP, S 0.1-25 F
	87-017-486-080		IC, BA6397FP	C56	87-010-197-080		C-CAP, S 0.01-25 B
	87-020-793-080		IC, CXA-1081M	C57	87-010-197-080		C-CAP, S 0.01-25 B
	87-001-944-010		IC, CXD-1167Q	C58	87-010-213-080		C-CAP, S 0.015-25 B
	84-XC2-606-080		IC, L272D	C59	87-010-197-080		C-CAP, S 0.01-25 B
	87-001-683-080		IC, TC4S66F	C60	87-010-220-080		C-CAP, S 0.018-25 B
	84-XC2-614-010		IC, M34200M4-446GP	C61	87-010-197-080		C-CAP, S 0.01-25 B
				C62	87-010-197-080		C-CAP, S 0.01-25 B
				C63	87-010-196-080		C-CAP, S 0.1-25 F
TRANSISTOR				C64	87-010-196-080		C-CAP, S 0.1-25 F
	87-026-227-080		C-TR, DTA114EK	C65	87-010-193-080		C-CAP, S 0.033-25 F
	87-026-237-080		C-TR, DTC124XK	C66	87-010-197-080		C-CAP, S 0.01-25 B
	87-026-233-080		C-TR, DTA114TK	C67	87-010-196-080		C-CAP, S 0.1-25 F
	89-115-864-080		C-TR, 2SA1586Y	C68	87-010-178-080		C-CAP, S 1000P-50 B
	89-342-132-080		C-TR, 2SC4213B	C69	87-010-197-080		C-CAP, S 0.01-25 B
	89-115-884-080		C-TR, 2SA1588Y	C72	87-010-178-080		C-CAP, S 1000P-50 B
	89-112-134-080		C-TR, 2SA1213Y	C73	87-010-196-080		C-CAP, S 0.1-25 F
				C74	87-010-178-080		C-CAP, S 1000P-50 B
				C75	87-010-060-080		CAP, E 100-16 7L
DIODE				C76	87-010-060-080		CAP, E 100-16 7L
	87-017-900-080		C-DIODE, SFPB-62	C77	87-010-060-080		CAP, E 100-16 7L
	87-017-407-080		C-DIODE, RB751H	C78	87-015-698-080		CAP, E 4.7-50 7L
	87-001-165-080		C-DIODE, 1SS300	C79	87-015-698-080		CAP, E 4.7-50 7L
				C80	87-015-680-080		CAP, E 47-10 7L
MAIN C.B				C81	87-015-680-080		CAP, E 47-10 7L
C1	87-010-196-080		C-CAP, S 0.1-25 F	C82	87-015-680-080		CAP, E 47-10 7L
C2	87-010-196-080		C-CAP, S 0.1-25 F	C83	87-015-680-080		CAP, E 47-10 7L
C3	87-010-196-080		C-CAP, S 0.1-25 F	C84	87-015-680-080		CAP, E 47-10 7L
C4	87-010-196-080		C-CAP, S 0.1-25 F	C85	87-010-060-080		CAP, E 100-16 7L
C5	87-010-196-080		C-CAP, S 0.1-25 F	C86	87-015-686-080		CAP, E 22-25 7L
C6	87-010-196-080		C-CAP, S 0.1-25 F	C87	87-010-060-080		CAP, E 100-16 7L
C7	87-010-196-080		C-CAP, S 0.1-25 F	C88	87-010-060-080		CAP, E 100-16 7L
C8	87-010-805-080		C-CAP, S 1-16 F	C89	87-015-699-080		CAP, E 10-50 7L
C9	87-010-196-080		C-CAP, S 0.1-25 F	C90	87-015-680-080		CAP, E 47-10 7L
C10	87-010-196-080		C-CAP, S 0.1-25 F	C91	87-010-060-080		CAP, E 100-16 7L
C11	87-010-196-080		C-CAP, S 0.1-25 F	C92	87-015-695-080		CAP, E 1-50 7L
C12	87-010-196-080		C-CAP, S 0.1-25 F	C93	87-015-680-080		CAP, E 47-10 7L
C13	87-010-196-080		C-CAP, S 0.1-25 F	C94	87-015-694-080		CAP, E 0.47-50 7L
C14	87-010-060-080		CAP, E 100-16 7L	C95	87-010-754-080		CAP, E 220-10 SRA 7L
C15	87-010-060-080		CAP, E 100-16 7L	C96	87-010-196-080		C-CAP, S 0.1-25 F
C16	87-010-178-080		C-CAP, S 1000P-50 B	C98	87-010-805-080		C-CAP, S 1-16 F
C17	87-010-196-080		C-CAP, S 0.1-25 F	C99	87-015-695-080		CAP, E 1-50 7L
C18	87-010-196-080		C-CAP, S 0.1-25 F	C100	87-010-196-080		C-CAP, S 0.1-25 F
C19	87-015-680-080		CAP, E 47-10 7L	C101	87-010-154-080		C-CAP, S 10P-50 CH
C20	87-015-680-080		CAP, E 47-10 7L	C102	87-015-694-080		CAP, E 0.47-50 7L
C22	87-010-312-080		C-CAP, S 15P-50 CH	C103	87-010-196-080		C-CAP, S 0.1-25 F
C23	87-010-312-080		C-CAP, S 15P-50 CH	C106	87-010-193-080		C-CAP, S 0.033-25 F
C27	87-010-316-080		C-CAP, S 33P-50 CH	C107	87-010-198-080		C-CAP, S 0.022-25 B
C28	87-010-316-080		C-CAP, S 33P-50 CH	C108	87-015-698-080		CAP, E 4.7-50 7L
C36	87-010-318-080		C-CAP, S 47P-50 CH	C109	87-010-194-080		C-CAP, S 0.047-25 F
C37	87-010-186-080		C-CAP, S 4700P-50 B	C110	87-010-198-080		C-CAP, S 0.022-25 B
C38	87-010-196-080		C-CAP, S 0.1-25 F	C111	87-015-699-080		CAP, E 10-50 7L
C39	87-010-197-080		C-CAP, S 0.01-25 B	C112	87-015-694-080		CAP, E 0.47-50 7L
C40	87-010-198-080		C-CAP, S 0.022-25 B	C114	87-010-175-080		C-CAP, S 560P-50 SL
C41	87-010-196-080		C-CAP, S 0.1-25 F	C115	87-012-154-080		C-CAP, S 150P-50 CH
C42	87-010-196-080		C-CAP, S 0.1-25 F	C116	87-012-154-080		C-CAP, S 150P-50 CH
C43	87-010-196-080		C-CAP, S 0.1-25 F	C117	87-010-175-080		C-CAP, S 560P-50 SL
				C118	87-010-426-080		C-CAP, S 0.012-25 B
				C119	87-010-426-080		C-CAP, S 0.012-25 B

REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
EMI1	87-005-786-080		F-BEAD, BL03RN2	D311	87-002-866-080		C-LED, CL-150 YG
EMI2	87-005-786-080		F-BEAD, BL03RN2	D312	87-002-866-080		C-LED, CL-150 YG
△ F1	87-035-500-010		FUSE, 1.5A 125V	D313	87-002-866-080		C-LED, CL-150 YG
FC1	84-XC2-611-010		F-CABLE, 29P-1.0	D314	87-002-866-080		C-LED, CL-150 YG
FC2	84-XC2-615-010		F-CABLE, 21P-1.0	D315	87-002-866-080		C-LED, CL-150 YG
L1	87-003-243-080		C-COIL, S 10UH K	J301	87-009-975-010		JACK, 3.5 HSJ2013
L2	87-003-243-080		C-COIL, S 10UH K	L302	87-003-176-080		C-COIL, 2.2UH LQH3
L3	87-003-243-080		C-COIL, S 10UH K	L303	87-003-176-080		C-COIL, 2.2UH LQH3
SFR1	87-024-409-080		C-SFR, 22K RH03A3A	LCD301	84-XC2-601-010		LCD, LD-BU4250JZ
SFR2	87-024-399-080		C-SFR, 470 RH03A3A	R315	87-022-589-080		C-RES, S M/F 22K D
SFR3	87-024-407-080		C-SFR, 10K RH03A3A	SW301	87-036-214-080		SW, TACT EVQ21409K
SFR4	87-024-407-080		C-SFR, 10K RH03A3A	SW302	87-036-214-080		SW, TACT EVQ21409K
SFR5	87-024-401-080		C-SFR, 1K RH03A3A	SW303	87-036-214-080		SW, TACT EVQ21409K
SFR6	87-024-407-080		C-SFR, 10K RH03A3A	SW304	87-036-214-080		SW, TACT EVQ21409K
SK5	87-049-841-010		SOCKET, IC 28P	SW305	87-036-214-080		SW, TACT EVQ21409K
X1	87-030-212-080		CERA LOCK CST8.0M	SW306	87-036-214-080		SW, TACT EVQ21409K
X2	84-733-617-010		VIB, XTAL 16.9344MHZ	VOL301	87-024-647-010		VR, 20KA X2

LCD C. B				DIP SW C. B			
	84-XC2-005-010		REFLECTOR, LCD	SW401	87-036-369-010		SW, DIP 4
C302	87-010-322-080		C-CAP, S 100P-50 CH	SW402	87-036-370-010		SW, RTRY
C303	87-010-322-080		C-CAP, S 100P-50 CH				
C304	87-010-196-080		C-CAP, S 0.1-25 F	P-JACK C. B			
C306	87-010-196-080		C-CAP, S 0.1-25 F	C501	87-010-322-080		C-CAP, S 100P-50 CH
D301	87-017-899-010		LED, SLR-54YW	C502	87-010-322-080		C-CAP, S 100P-50 CH
D302	87-002-866-080		C-LED, CL-150 YG	J501	87-009-414-010		JACK, PIN(2P)
D303	87-002-866-080		C-LED, CL-150 YG				
D304	87-002-866-080		C-LED, CL-150 YG	JOINT C. B			
D305	87-002-866-080		C-LED, CL-150 YG	C601	87-010-196-080		C-CAP, S 0.1-25 F
D306	87-002-866-080		C-LED, CL-150 YG	C602	87-010-196-080		C-CAP, S 0.1-25 F
D307	87-002-866-080		C-LED, CL-150 YG				
D308	87-002-866-080		C-LED, CL-150 YG				
D309	87-002-866-080		C-LED, CL-150 YG				
D310	87-002-866-080		C-LED, CL-150 YG				

○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



A
抵抗部品コード
Resistor Code

桁表示
Figure

抵抗値
Value of resistor

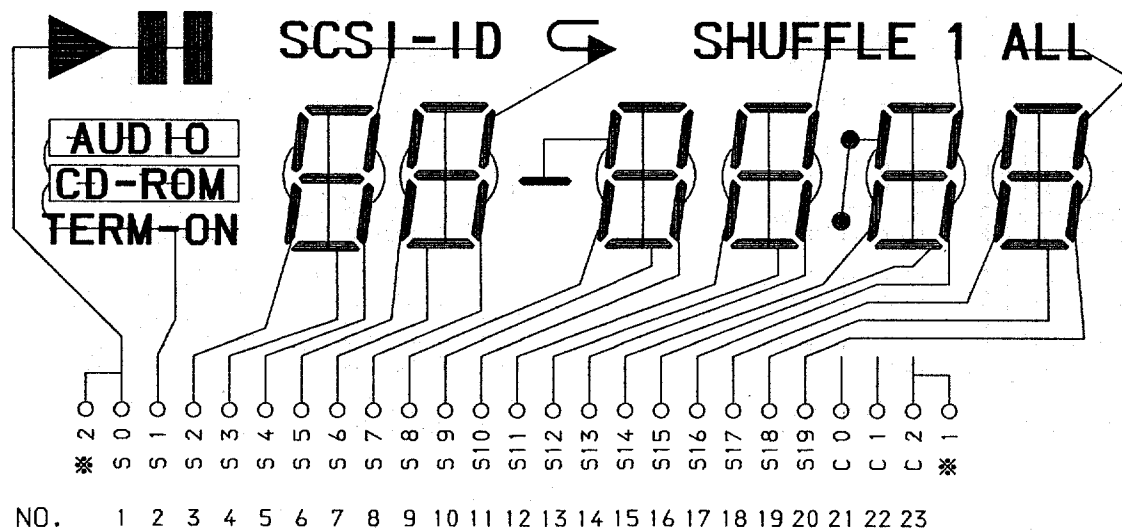
チップ抵抗

Chip resistor

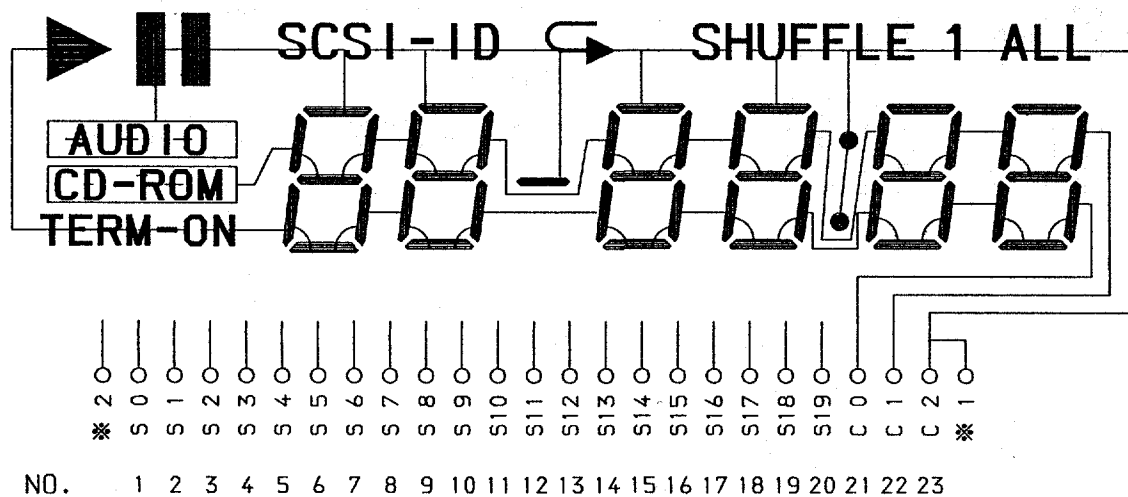
Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions/寸法 (mm)				Resistor Code : A 抵抗コード : A
				Form/外形	L	W	t	
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3126	±5%	CJ		3.2	1.6	0.5 ~0.7	128

LCD

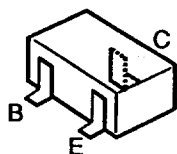
SEGMENT



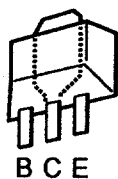
COMMON



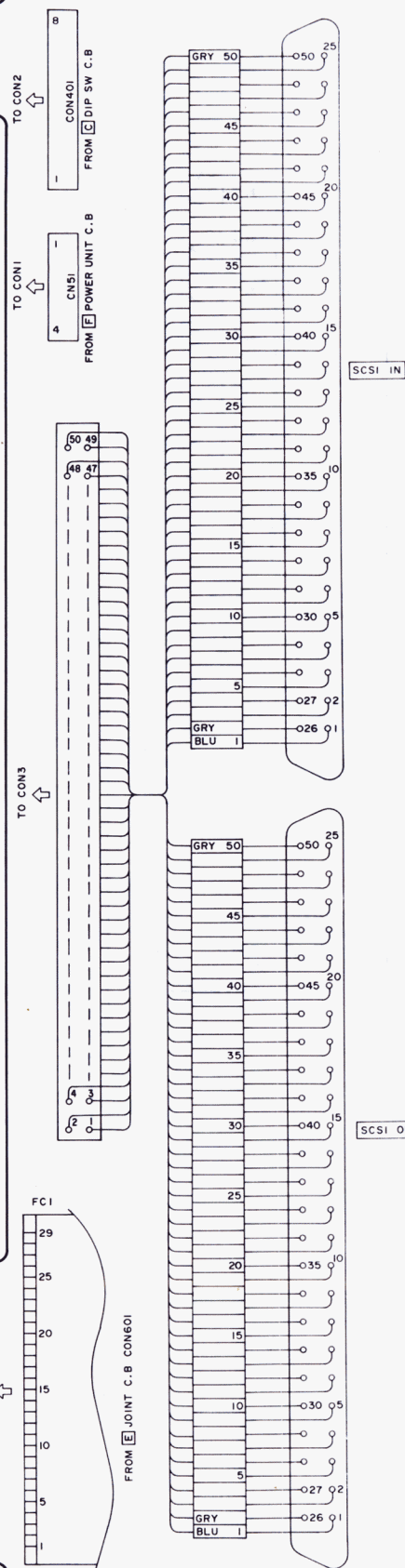
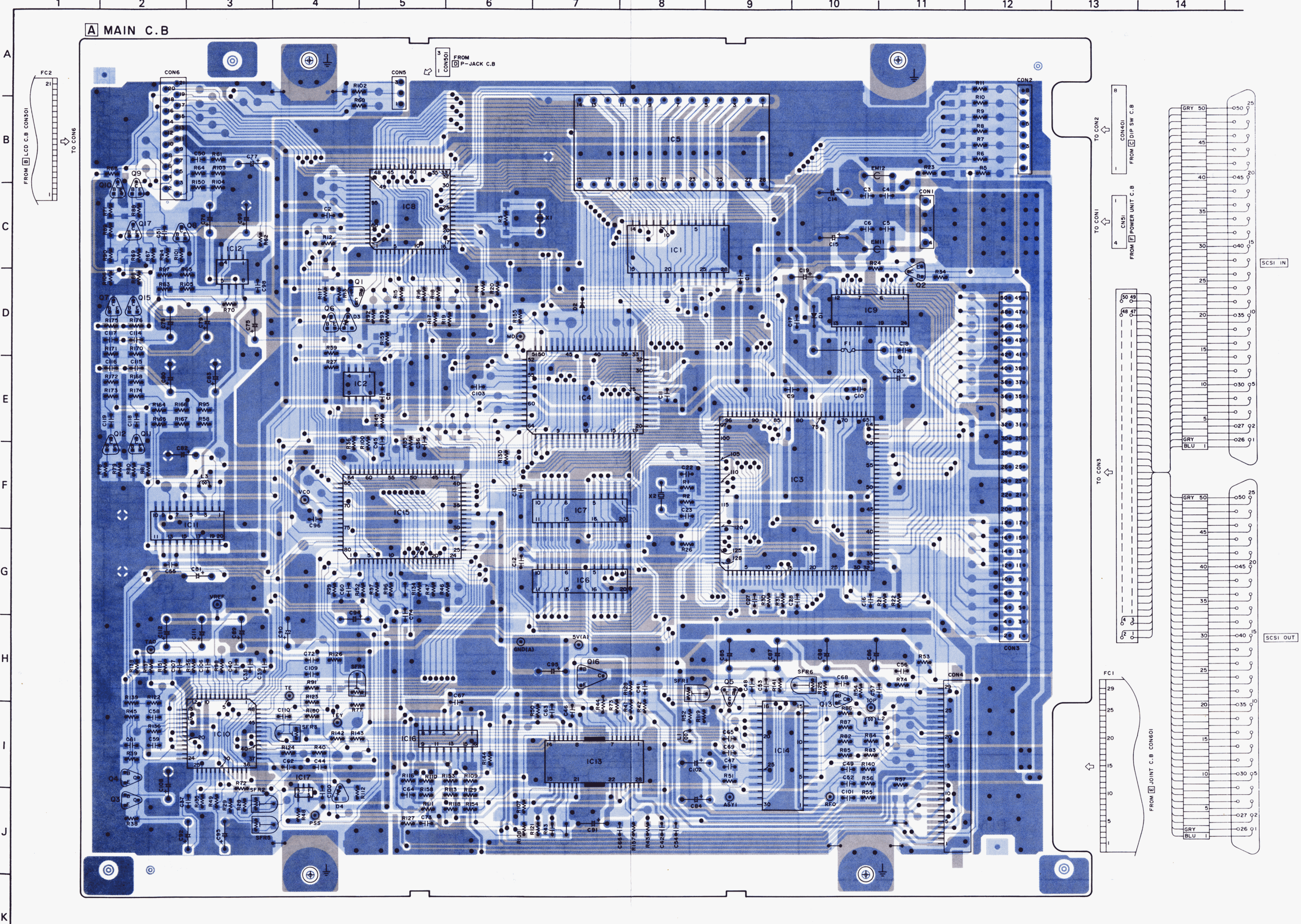
TRANSISTOR ILLUSTRATION

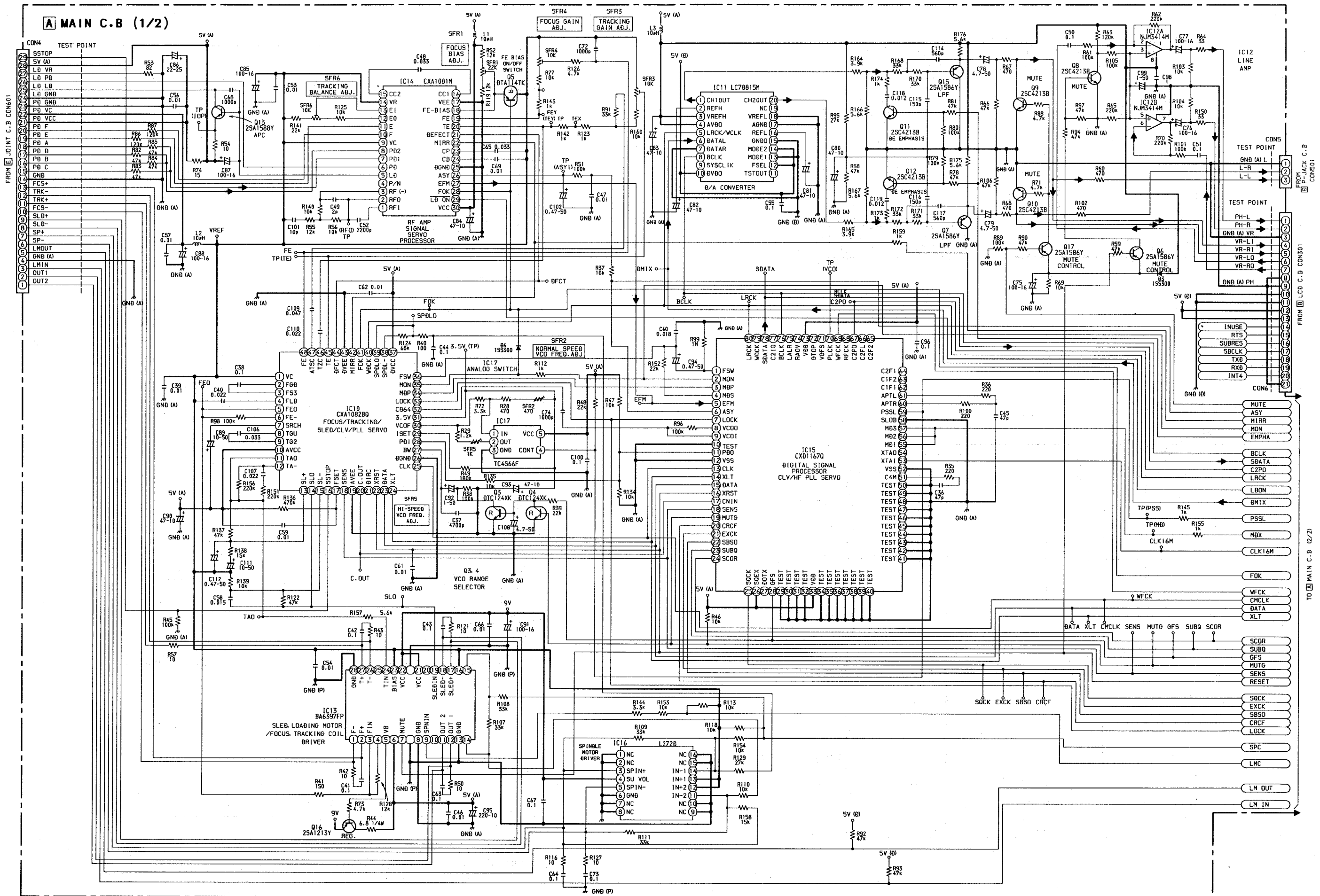


2SA1586
2SA1588
2SC4213
DTA114EK
DTA114TK
DTC124XK



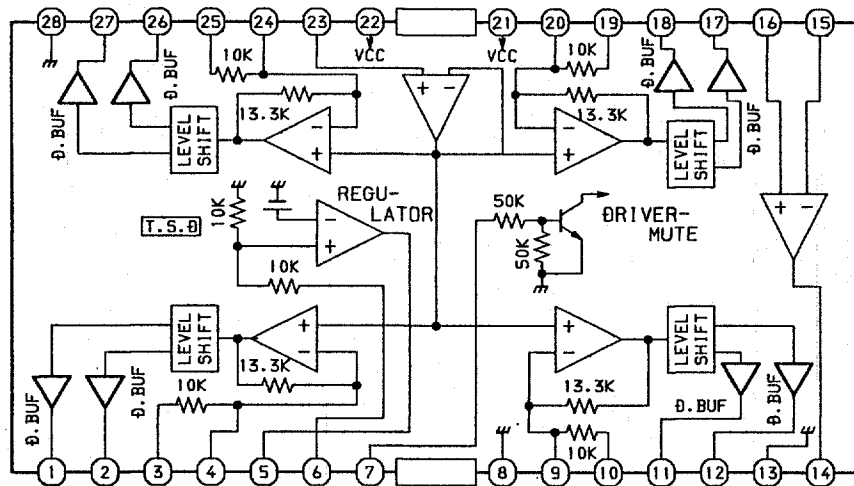
2SA1213



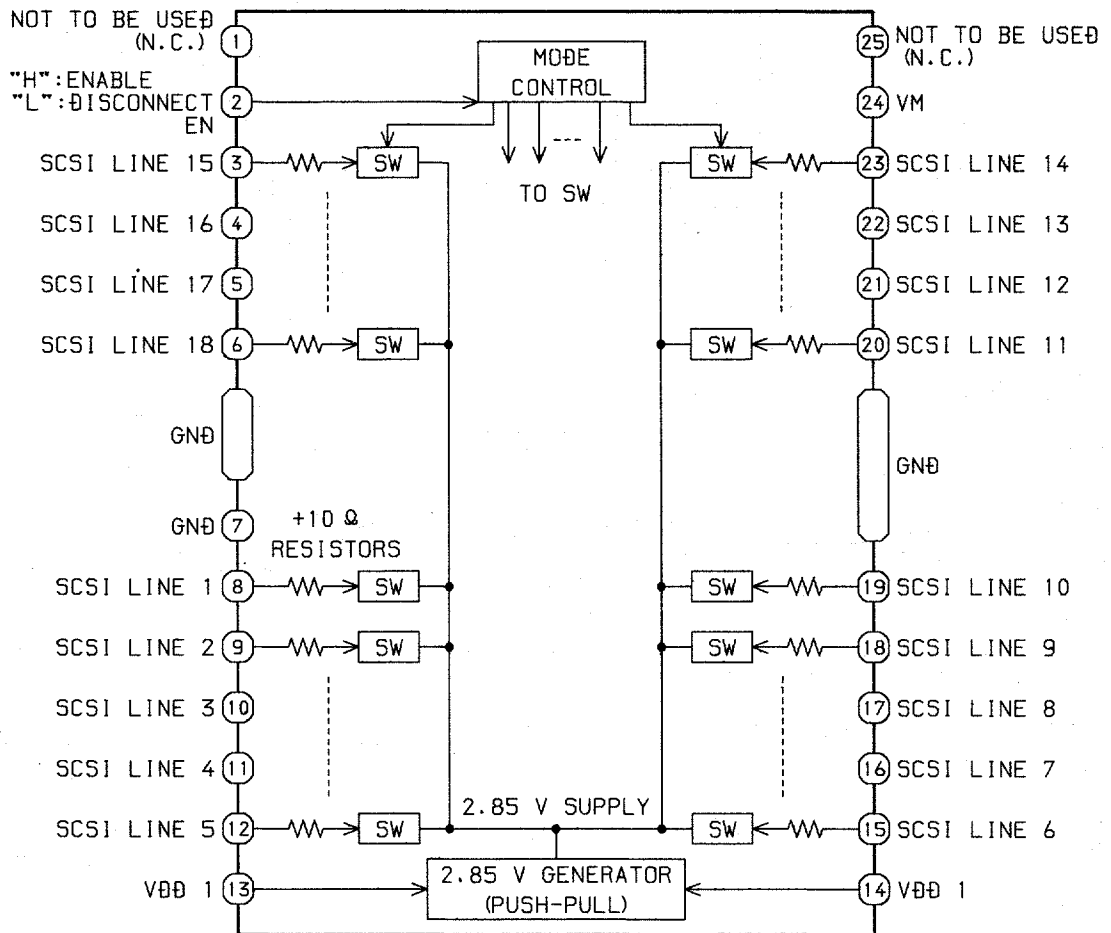


IC BLOCK DIAGRAM

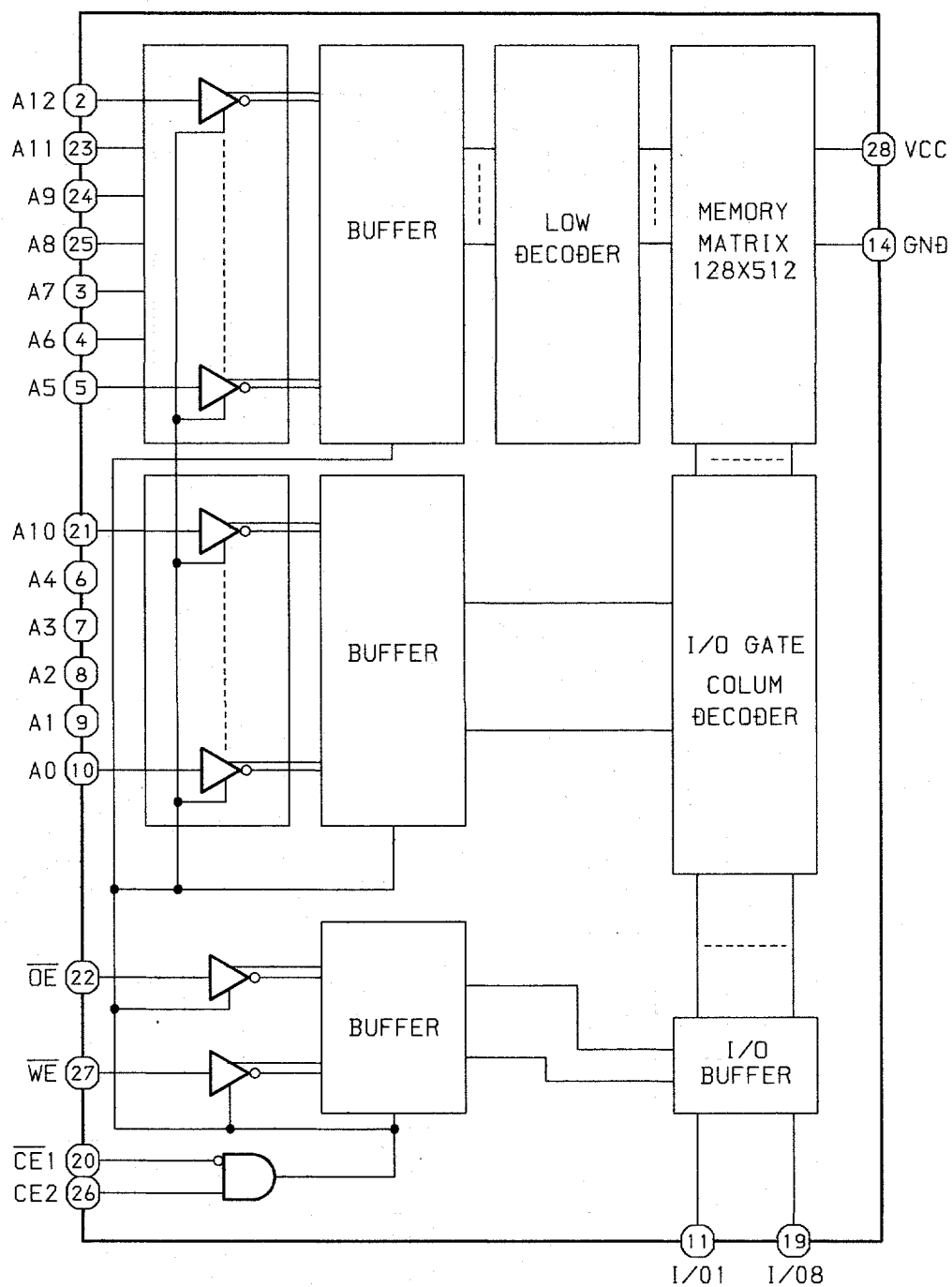
IC,BA6397FP



IC,BH9590FP



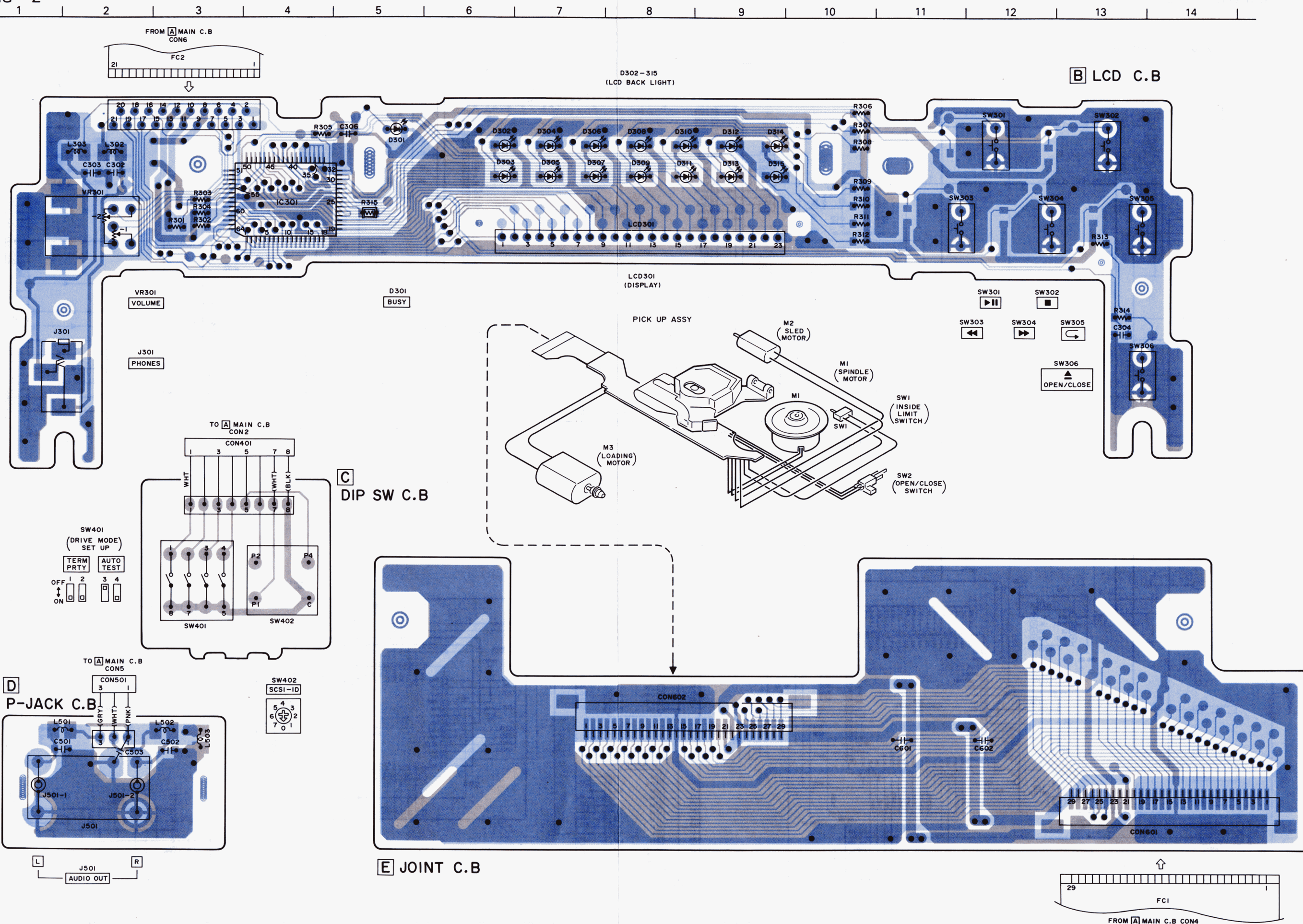
IC,LC3664BML – 10

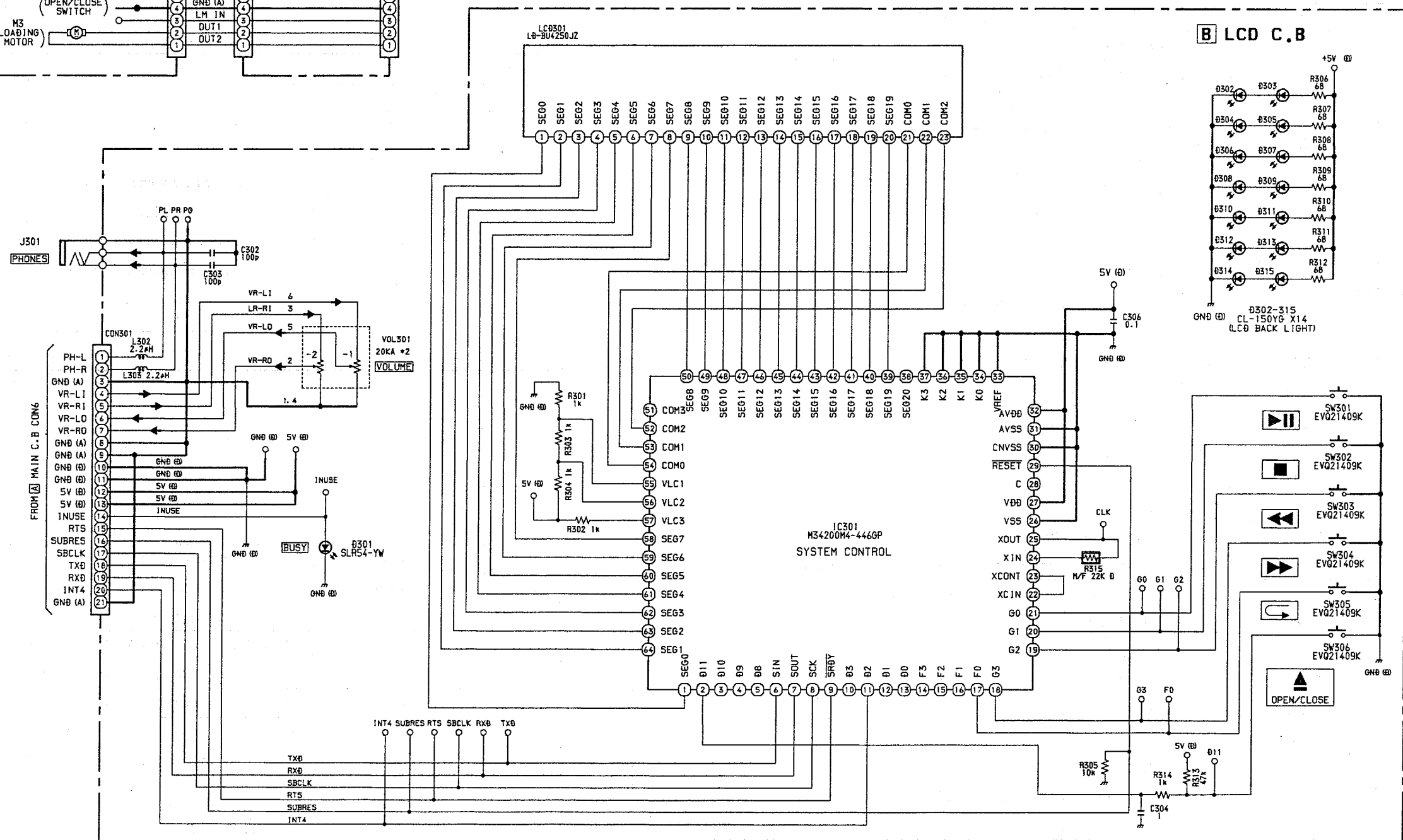
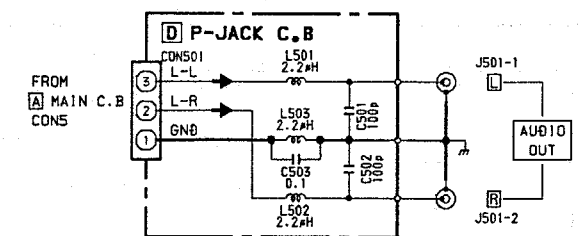
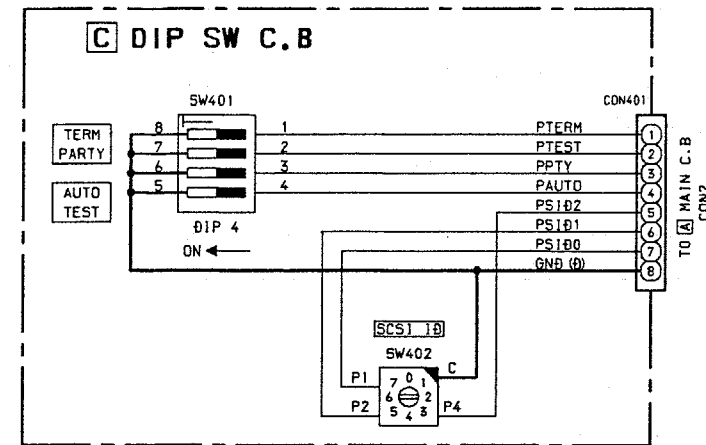
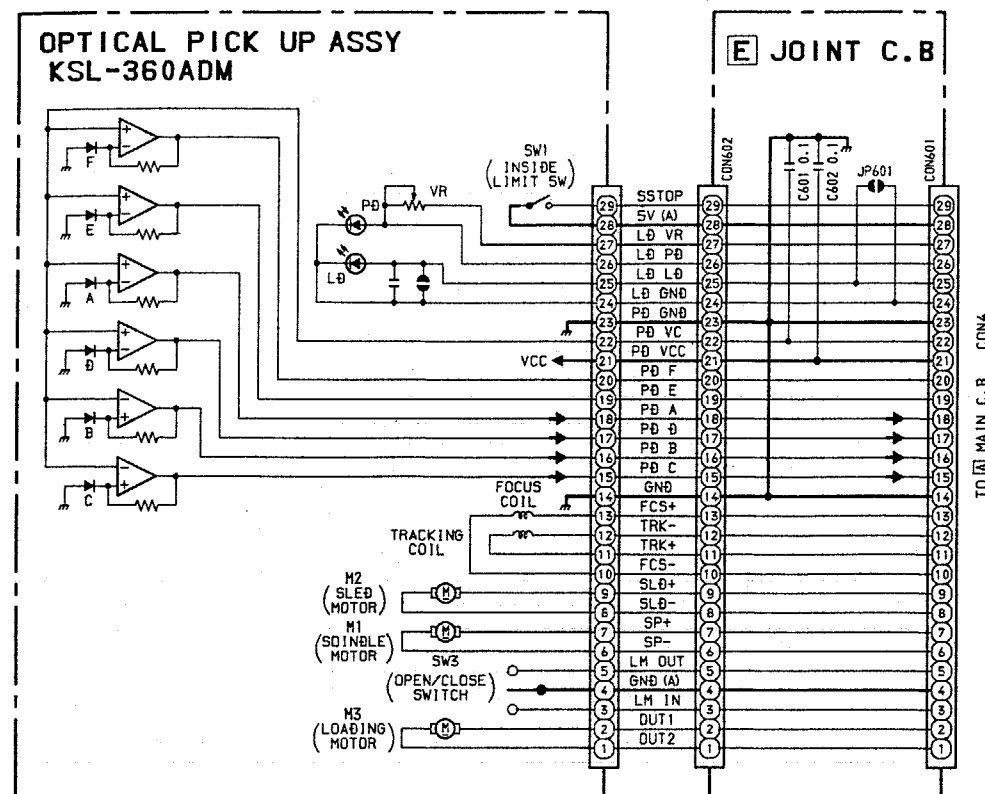


FUNCTION TABLE

MODE	CE1	CE2	OE	WE	I/O	POWER CURRENT
READ CYCLE	L	H	L	H	DATA OUTPUT	ICCA
WRITE CYCLE	L	H	X	L	DATA INPUT	ICCA
OUT	L	H	H	H	HIGH INPEÐANCE	ICCA
NOT SELECT	H	X	X	X	HIGH INPEÐANCE	ICCS
	X	L	X	X	HIGH INPEÐANCE	ICCS







IC DESCRIPTION

IC, CXD1167Q

Pin No.	Pin Name	I/O	Description
1	FSW	O	Time constant switching output for the spindle motor output filter.
2	MON	O	ON/OFF control output for the spindle motor.
3	MDP	O	Spindle motor drive output, the coarse control in the CLV-S mode and the SPEED control in the CLV-P mode.
4	MDS	O	Spindle motor drive output, speed control in the CLV-S mode.
5	EFM	I	EFM signal input from the RF amplifier.
6	ASY	O	Output to control the slice level of the EFM signal.
7	LOCK	O	When the GFS signal is sampled by WFCK/16 and it is "H", "H" is output. When "L" is serially output eight times; "L" is output.
8	VCOO	O	VCO output. $f = 8.6436\text{MHz}$ when it is locked to the EFM signal.
9	VCOI	I	VCO input.
10	TEST	—	Connected to GND. (0V)
11	PDO	O	Phase comparison output between the EFM and VCO/2 signals.
12	VSS	—	GND. (0V)
13	CLK	I	Serial data transmission clock input from the CPU. Data is latched at the starting edge of the clock.
14	XLT	I	Latch input from CPU. Latches 8-bit shift register data (serial data from CPU) to each register.
15	DATA	I	Input serial data from CPU.
16	XRST	I	System reset input. It is reset when "L".
17	CNIN	I	Tracking pulse input.
18	SENS	O	Internal state is output corresponding to the address.
19	MUTG	I	Muting input. When the ATTM of the internal register is "L", the MUTG is "L" and is normal. When "H", there is no sound signal.
20	CRCF	O	Result of the CRC check of sub code Q is output.
21	EXCK	I	Clock input for sub code serial output.
22	SBSO	O	Sub code serial output.
23	SUBQ	O	Sub code Q output.
24	SCOR	O	Sub code sync S0 + S1 output.
25	SQCK	I/O	Sub code Q read clock.
26	SQEX	I	SQCK selection input.
27	DOTX	O	Digital audio interface output. (WFCK is output when OFF.)
28	GFS	O	Display output of the lock state of the frame sync. "H" when it is locked.
29	TEST	I/O	External RAM data terminal, DATA 8 (MSB).
30	TEST	I/O	External RAM data terminal, DATA 7.
31	TEST	I/O	External RAM data terminal, DATA 6.
32	TEST	I/O	External RAM data terminal, DATA 5.
33	VDD	—	Power supply. (Connected to +5V.)
34	TEST	I/O	External RAM data terminal, DATA 4.
35	TEST	I/O	External RAM data terminal, DATA 3.
36	TEST	I/O	External RAM data terminal, DATA 2.

Pin No.	Pin Name	I/O	Description
37	TEST	I/O	External RAM data terminal, DATA 1 (LSB).
38	TEST	O	External RAM address output, ADDR 01 (LSB).
39	TEST	O	External RAM address output, ADDR 02.
40	TEST	O	External RAM address output, ADDR 03.
41	TEST	O	External RAM address output, ADDR 04.
42	TEST	O	External RAM address output, ADDR 05.
43	TEST	O	External RAM address output, ADDR 06.
44	TEST	O	External RAM address output, ADDR 07.
45	TEST	O	External RAM address output, ADDR 08.
46	TEST	O	External RAM address output, ADDR 09.
47	TEST	O	External RAM address output, ADDR 10.
48	TEST	O	External RAM address output, ADDR 11 (MSB).
49	TEST	O	Write Enable signal output to the external RAM, (Active when "L").
50	TEST	O	Chip Select signal output to the external RAM, (Active when "L").
51	C4M	O	1/2 frequency division output to the X'tal. f = 4.2336MHz
52	VSS	—	Connected to GND.
53	XTAI	I	X'tal oscillation circuit input. f = 8.4672MHz
54	XTAO	O	X'tal oscillation circuit output. f = 8.4672MHz
55	MD1	I	Mode selection input 1. It is used when "H" Mode selection input 2. It is used when "L" Mode selection input 3. It is used when "L" Clock frequency 8.4672MHz, digital out OFF, digital filter ON. It is used in the following modes.
56	MD2		
57	MD3		
58	SLOB	I	Code switching input of the audio output. 2's complement output when "L", offset binary output when "H".
59	PSSL	I	Mode switching input of the audio data output. Serial output when "L", parallel output when "H".
60	APTR	O	Aperture compensation control output. When Rch= "H".
61	APTL	O	Aperture compensation control output. When Lch= "H".
62	C1F1	O	DA01 (LSB of the parallel audio data) output when PSSL = "H". C1F1 output when PSSL = "L".
63	C1F2	O	DA02 output when PSSL = "H". C1F2 output when PSSL = "L".
64	C2F1	O	DA03 output when PSSL = "H". C2F1 output when PSSL = "L".
65	C2F2	O	DA04 output when PSSL = "H". C2F2 output when PSSL = "L".
66	C2FL	O	DA05 output when PSSL = "H". C2FL output when PSSL = "L".
67	C2P0	O	DA06 output when PSSL = "H". C2P0 output when PSSL = "L".
68	RFCK	O	DA07 output when PSSL = "H". RFCK output when PSSL = "L".
69	WFCK	O	DA08 output when PSSL = "H". WFCK output when PSSL = "L".
70	PLCK	O	DA09 output when PSSL = "H". PLCK output when PSSL = "L". (Note 1)
71	VGFS	O	DA10 output when PSSL = "H". VGFS output when PSSL = "L".
72	GTOP	O	DA11 output when PSSL = "H". GTOP output when PSSL = "L".
73	VDD	—	Power supply. (Connected to +5V.)
74	RA0V	O	DA12 output when PSSL = "H". RA0V output when PSSL = "L".

Pin No.	Pin Name	I/O	Description
75	LALR	O	DA13 output when PSSL = "H". C4LR output when PSSL = "L".
76	BCLK	O	DA14 output when PSSL = "H". C210 output when PSSL = "L".
77	C2IQ	O	DA15 output when PSSL = "H". C210 output when PSSL = "L". (Note 2)
78	SDATA	O	DA16 (MSB of the parallel audio data) output when PSSL = "H". DATA output when PSSL = "L". (Note 3)
79	WDCK	O	Strobe signal output. 176.4kHz when filter ON, 88.2kHz when filter OFF.
80	LRCK	O	Strobe signal output. 88.2kHz when filter ON, 44.1kHz when filter OFF.

Note 1: PLCK: VCO/2 output. $f = 4.3218\text{MHz}$ when the EFM signal is locked.

Note 2: C210: Bit clock output. $f = 2.1168\text{MHz}$

Note 3: DATA: Serial data output of the audio signal.

IC, CXA1082BQ

Pin No.	Pin Name	I/O	Description
1	VC	—	Connected to VREF.
2	FGD	O	When the high-frequency gain of the focus servo is lowered, a capacitor is connected between this terminal and pin 3.
3	FS3	I	The high-frequency gain of the focus servo is switched with ON/OFF of FS3.
4	FLB	O	Time constant external terminal for raising the low-frequency range of the focus servo.
5	FEO	O	Focus error signal output terminal.
6	FE $\ominus$	I	Focus amplifier inversion input terminal.
7	SRCH	O	Time constant exterminator terminal to generate the focus search waveform.
8	TGU	O	Time constant external terminal for switching the tracking high-frequency gain.
9	TG2	O	Time constant external terminal for switching the tracking high-frequency gain.
10	AVCC	—	Power supply terminal. (+5V)
11	TAO	O	Tracking error signal output terminal.
12	TA $\ominus$	I	Tracking amplifier inversion input terminal.
13	SL $\oplus$	I	Noninversion input terminal of the sled amplifier.
14	SLO	O	Output terminal of the sled amplifier.
15	SL $\ominus$	I	Inversion input terminal of the sled amplifier.
16	SSTOP	I	ON/OFF detection signal terminal of the limit switch detects the inner-most circumference. It is fixed to "L" for this set.
17	FSET	I	Setting terminal of the phase compensation peak of the focus tracking and CLV LPF (f_0).
18	SENS	O	IC internal state output corresponding to data address. (It is changed depending on the address of the internal register.)

Pin No.	Pin Name	I/O	Description
19	AVEE	—	Power supply terminal.
20	C. OUT	O	Count signal output of the tracking in the high-speed access mode.
21	DIRCT	O	It is used when the one-track jump. It is normally set to "H". A direction of the tracking jump pulse is inverted when "L". When setting to "H", it is set to the normal tracking mode. It is set in a time to "L" at the start and fall of TZC.
22	XRST	O	All the internal register are cleared when "L".
23	DATA	I	Serial data transmission from the CPU. Input from LSB.
24	XLT	O	Data of the internal serial shift register is transmitted to each latch memory which the address is decoded when "L".
25	CLK	O	Data transmission clock. Data is read at the falling edge.
26	DGND	—	GND terminal.
27	BW	I	Time constant external terminal of the loop filter.
28	PD1	I	Input terminal of data PD0 output from phase comparator CXD1167Q.
29	ISET	I	The current which set the height of the focus search, tracking jump and sled kick is supplied.
30	VCOF	I	The free-running frequency of VCO corresponds to the resist value between pins30 and 31.
31	3.5V	O	
32	C8.64	O	8.64MHz VCO output terminal.
33	LOCK	I	Connected to the LOCK terminal of CXD1167Q.
34	MDP	I	Terminal to connect the MDP terminal of CXD1167Q.
35	MON	I	Terminal to connect the MON terminal of CXD1167Q.
36	FSW	I	LPF time constant external terminal of the CLV servo difference signal.
37	DVCC	—	Power supply terminal. (Connected to +5V.)
38	SPDL $\ominus$	I	Inversion terminal of the spindle drive amplifier.
39	SPDLO	O	Spindle motor drive terminal.
40	WDCK	I	Word clock signal input terminal.
41	FOK	I	Focus OK signal input terminal.
42	MIRR	I	Mirror signal input terminal.
43	DVEE	—	GND terminal.
44	DFCT	I	Focus servo and tracking servo are OFF while "H" is being inputting.
45	TE	I	Tracking error signal input terminal.
46	TZC	I	Input terminal of the tracking zero-cross comparator.
47	ATSC	I	ATSC detection window comparator input terminal. Data input terminal to indicate that a mechanical shock is occurred.
48	FE	I	Focus error signal input terminal.

IC, CXA1081M

Pin No.	Pin Name	I/O	Description
1	RFI	I	RF summing amplifier output is input combined with C.
2	RFO	O	RF summing amplifier output, EYE pattern test point.
3	RF $\ominus$	I	RF summing amplifier inversion input. Feedback resistor is connected between pins ② and ③.
4	P/N	I	Input is switched with the polarity of the laser diode.
5	LD	O	Control output of the laser diode output.
6	PD	I	Photo detector for detecting the laser diode output is connected.
7	PD1	I	RF I-V amplifier (1) inversion input. It is connected to PIN diode A + C and the power supply is input.
8	PD2	I	RF I-V amplifier (2) inversion input. It is connected to PIN diode B + D and the power supply is input.
9	VC	I	Reference voltage input of the internal IC. It is connected to pin ⑭ in the single power mode. It is connected to GND in the ± 2 power mode.
10	F	I	F I-V amplifier inversion input. It is connected to PIN diode F and the power supply is input.
11	E	I	E I-V amplifier inversion input. It is connected to PIN diode E and the power supply is input.
12	EO	O	E I-V amplifier output. It is connected to the feedback resistor.
13	EI	I	E I-V amplifier gain adjustment terminal.
14	VR	O	Intermediate potential is output. It is connected to pin ⑨ in the single power mode. It is OPEN in the ± 2 power mode.
15	CC2	O	Defect bottom hold (1) output. Capacitor is connected between pins ⑮ and ⑯.
16	CC1	I	Defect bottom hold (1) output is connected to the capacitor and input.
17	VEE	—	GND in the single power mode. Negative power in the ± 2 power mode.
18	FE BIAS	I	Positive phase bias input of the focus error amplifier.
19	FE	O	Focus error amplifier output.
20	TE	O	Tracking error amplifier output.
21	DEFECT	O	Defect detection output. Mirror defect detection signal is output.
22	MIRR	O	Mirror comparator output.
23	CP	O	Mirror hold capacitor connection terminal.
24	CB	O	Defect bottom hold (2) capacitor connection terminal.
25	D.GND	—	Connected to GND.
26	ASY	I	Auto symmetry control input.
27	EFM	O	EFM output comparator output.
28	FOK	O	Focus OK output.
29	LD ON	I	Laser diode ON/OFF control input.
30	VCC	—	Connected to +5V.

IC, LC78815M

Pin No.	Pin Name	I/O	Description
1	CH1OUT	O	CH1 output.
2	REFH	—	Reference voltage “H”. Normally connected to AGND via capacitor.
3	VREFH	I	Reference voltage “H”.
4	AVDD	—	Analog system power supply
5	LRCK/WCLK	I	LR clock/word clock input. Generates the internal signal latching the digital audio data (DATAL, DATAR).
6	DATAL	I	Digital audio data input. Bit serial input from MSB. CH1 data is input when FSEL is “L”. CH1 and CH2 data is input at time-sharing when FSEL is “H”.
7	DATAR	I	Digital audio data input. Bit serial input from MSB. CH2 data is input when FSEL is “L”. Performs interface switching when FSEL is “H”.
8	BCLK	I	Bit clock input. Clock for bit serial input of digital audio data. Performs system clock when SYSCLK is fixed to “L” or “H”.
9	SYSCLK	I	System clock input System clock to operate LSI. Performs interface switching in some modes.
10	DVDD	—	Digital system power supply.
11	TSTOUT	O	Test output.
12	FSEL	I	“L” when digital audio data is input from DATAL and DATAR at the same time. “H” when digital audio data is input from DATAL at time-sharing. Interface switching.
13, 14	MODE1, MODE2	I	Interface switching.
15	DGND	—	Digital system GND.
16	REFL	—	Reference voltage “L”. Normally connected to AGND via capacitor.
17	AGND	—	Analog system GND.
18	VREFL	I	Reference voltage “L” input.
19	NC	—	Not used.
20	CH2OUT	O	CH2 output. (R-ch)

IC, LC89512

Pin No.	Pin Name	I/O	Description
1	VDD	—	Connected to +5V.
2~4	RA7~RA9	O	Address signal output to data buffer RAM pin.
5~8	RA10~RA13	O	Address signal output to data buffer RAM pin.
9	VSS0	—	Connected to GND.
10, 11	RA14, RA15	O	Address signal output to data buffer RAM pin.
12, 13	RA16, RA17	O	Address signal output to data buffer RAM pin.
14~16	IO0~IO2	I/O	Data buffer RAM data signal pin (with built in pull-up resistor).
17	VSS0	—	Connected to GND.
18~22	IO3~IO7	I/O	Data buffer RAM data signal pin (with built in pull-up resistor).
23	INT1	O	Interrupt request signal to block SCSI.
24~26	VSS0	—	Connected to GND.
27	BSY	I/O	SCSI pin.
28	NC	—	Not used.
29	ACK	I/O	SCSI pin.
30	VSS1	—	Connected to GND.
31	RST	I/O	SCSI pin.
32	NC	—	Not used.
33	VSS1	—	Connected to GND.
34	NC	—	Not used.
35	I/O	I/O	SCSI pin.
36	VSS1	—	Connected to GND.
37	MSG	I/O	SCSI pin.
38	NC	—	Not used.
39	SEL	I/O	SCSI pin.
40	NC	—	Not used.
41	VSS1	—	Connected to GND.
42	NC	—	Not used.
43	REQ	I/O	SCSI pin.
44	VSS1	—	Connected to GND.
45	ATN	I/O	SCSI pin.
46	NC	—	Not used.
47	C/D	I/O	SCSI pin.
48	NC	—	Not used.
49	VDD	—	Connected to +5V.
50~52	VSS1	—	Connected to GND.
53	DB0	I/O	SCSI pin.
54	NC	—	Not used.
55	DB1	I/O	SCSI pin.
56	VSS1	—	Connected to GND.
57	DB2	I/O	SCSI pin.
58	NC	—	Not used.

Pin No.	Pin Name	I/O	Description
59, 60	VSS1	—	Connected to GND.
61	$\overline{\text{DB3}}$	I/O	SCSI pin.
62	NC	—	Not used.
63	DB4	I/O	SCSI pin.
64	NC	—	Not used.
65	VDD	—	Connected to 5V.
66, 67	VSS1	—	Connected to GND.
68	$\overline{\text{DB5}}$	I/O	SCSI pin.
69	VSS1	—	Connected to GND.
70	$\overline{\text{DB6}}$	I/O	SCSI pin.
71	VSS1	—	Connected to GND.
72	$\overline{\text{DB7}}$	I/O	SCSI pin.
73	NC	—	Not used.
74, 75	VSS1	—	Connected to GND.
76	DBP	I/O	SCSI pin.
77~80	NC	—	Not used.
81	VSS0	—	Connected to GND.
82	VDD	—	Connected to +5V.
83	$\overline{\text{RD}}$	I	Data read signal from Microcontroller.
84	$\overline{\text{WR}}$	I	Data write signal to Microcontroller.
85	$\overline{\text{CS}}$	I	Chip select signal input from Microcontroller.
86	RS	I	Resistor select signal pin.
87~90	D0~D3	I/O	Microcontroller Data signal pin (with built in pull-up resistor).
91	VSS0	—	Connected to GND.
92~95	D4~D7	I/O	Microcontroller Data signal pin (with built in pull-up resistor).
96	$\overline{\text{INT0}}$	O	Interrupt request signal to Microcontroller output pin.
97	VSS0	—	Connected to GND.
98	$\overline{\text{SWAIT}}$	O	SUB-CPU wait signal.
99~102	TEST0~TEST3	I	Test input pin normally fix to LOW.
103	VSS0	—	Connected to GND.
104	EXCK	O	SUB-CODE output pin.
105	WFCK	I	SUB-CODE input pin.
106	SBSO	I	SUB-CODE input pin.
107	SCOR	I	SUB-CODE input pin.
108	VSS0	—	Connected to GND.
109	SDATA	I	Serial data input pin.
110	BCK	I	Serial data input clock pin.
111	LRCK	I	44.1 kHz strobe signal input pin.
112	C2PO	I	C2 pointer input pin.
113	VDD	—	Connected to +5V.
114	XTALCK	I	X'tal oscillating circuit input pin.

Pin No.	Pin Name	I/O	Description
115	XTAL	O	X'tal oscillating circuit output pin.
116	MCK	O	XTALCK oscillation frequency out.
117	RESET	I	Reset pin.
118	RCS	O	Chip select RAM pin.
119	RWE	O	Data write signal to RAM pin.
120	ROE	O	Data read signal from RAM pin.
121	VSS0	—	Connected to +5V.
122~128	RA0~RA6	O	Address signal output to data buffer RAM pin.

IC, M34200M4-446GP

Pin No.	Pin Name	I/O	Description
1	SEG0	O	LCD segment output.
2	D11	I	Open/close switch.
3	D10	I/O	Input/output port D.
4	D9	I/O	Input/output port D.
5	D8	I/O	Input/output port D.
6	S IN	I	Serial data input.
7	S OUT	O	Serial data output.
8	SCK	I/O	Input/output of synchronization clock for serial data transfer.
9	SRDY	O	Output of receive-ready signal for serial data.
10	D3	I/O	Input/output port D.
11	D2	O	Interrupt to main CPU.
12	D1	I/O	Input/output port D.
13	D0	I/O	Input/output port D.
14	F3	I/O	Input/output port F.
15	F2	I/O	Input/output port F.
16	F1	I/O	Input/output port F.
17	F0	I	Repeat switch.
18	G3	I	FF switch.
19	G2	I	REW switch.
20	G1	I	Stop switch.
21	G0	I	Play/pause switch.
22	XC IN	I	Clock signal input for clock.
23	XC OUT	O	Clock signal output for clock.
24	X IN	I	Clock signal input with resistor.
25	X OUT	O	Clock signal output with resistor.
26	VSS	—	GND.
27	VDD	—	Power supply. (Connected to +5V)
28	C	—	Externally connected capacitor.
29	RESET	I	Reset input. Micro computer is reset when level is added over 1 machine cycle.
30	CNVSS	—	Connected to GND.

Pin No.	Pin Name	I/O	Description
31	AVSS	—	Connected to GND.
32	AVDD	—	Power supply.
33	VREF	—	Reference voltage.
34	K0	I	Analog input for A/D converter.
35	K1	I	Analog input for A/D converter.
36	K2	I	Analog input for A/D converter.
37	K3	I	Analog input for A/D converter.
38	SEG20	O	LCD segment output.
39~50	SEG19~8	O	LCD segment output.
51	COM3	O	LCD common output.
52~54	COM2~COM0	O	LCD common output.
55~57	VLC1~3	I	LCD power input.
58~64	SEG7~1	O	LCD segment output.

IC, M38022M4-001FP

Pin No.	Pin Name	I/O	Description
1	INUSE	O	Access LED.
2	LM OUT	I	Loading out.
3	LM IN	I	Loading in.
4	INT3	I	Gate alley timer CPU interrupt.
5	RTS	I	Communication with Sub CPU. (Requested to send)
6	ASY	I	ASY input. (For detection of motor rotation)
7	MIRR	I	Traverse count input.
8	XLT	O	Command output latch to CD, DSP and SSP.
9	CMCLK	O	Command output clock to CD, DSP and SSP.
10	DATA	O	Command output data to CD, DSP and SSP.
11	SUBQ	I	Subcode Q input.
12	SUBRES	O	Communication with Sub CPU. (SUB CPU RESET)
13	SBCLK	O	Communication with Sub CPU. (Clock)
14	TXD	O	Communication with Sub CPU. (To transmit)
15	RXD	I	Communication with Sub CPU. (To receive)
16	INT2	I	Interrupt from CD-ROM decoder.
17	INT1	I	Interrupt from SCSI.
18	CNVSS	I	Processor mode.
19	RESET	I	Reset terminal.
20	INT0	I	Interrupt from SCOR.
21	INT4	I	Interrupt from Sub CPU (LCD, KEY).
22	X IN	I	Clock input.
23	X OUT	O	Clock output.

Pin No.	Pin Name	I/O	Description
24	VSS	—	GND.
25~32	DB7~DB0	I/O	CPU data bus.
33~48	AD15~AD0	O	CPU address bus.
49	RD	O	Read timing output.
50	WR	O	Write timing output.
51	SYNC	O	SYNC output.
52	SYSCLK	O	SYSTEM CLOCK. ($f/2=4\text{MHz}$)
53	RESET OUT	O	Reset output.
54	SWAIT	I	One State Wait input.
55	MUTG	O	CD DSP Muting Mode.
56	DA1	—	DA1 output.
57	VCC	—	Connected to +5V.
58	VREF	—	Connected to +5V.
59	GND	—	Connected to GND.
60	MUTE	O	Audio circuit mute.
61	GFS	I	Status of frame SYNC synchronization.
62	SENS	I	Internal status of CD DSP.
63	CRCF	I	CRC error flag.
64	LDON	O	“O” when laser is ON. “T” when laser is OFF.

TEST MODE

Mode No.	Operation contents of Test Mode
1	Automatic aging test
2	Full seek test 2000 times
3	Read check on all frames
4	Reserved
5	Reserved
6	Reserved
7	Reserved
8	Reserved
9	Reserved
10	Servo off and tray open
11	Tray close
12	Focus search only is test. (3 times)
13	Focus on
14	Spindle on (CLV A-mode)
15	Tracking and sledding servo on (CD-DA Low)
16	Tracking and sledding servo off
17	Spindle off
18	Focus servo off
19	Speed change to the CD-DA standard speed
20	Speed change to the CD-DA two-times speed
21	Speed change to the CD-ROM standard speed
22	Speed change to the CD-ROM two-times speed
23	One track jump (FWD)
24	One track jump (REV)
25	Ten track jump (FWD)
26	Ten track jump (REV)
27	96 track jump (FWD)
28	96 track jump (REV)
29	Small move of sled (FWD: used when tracking is on.)
30	Small move of sled (REV: used when tracking is on.)
31	Driving sled only (>> : FWD, << : REV, STOP : Cancel)
32	Number of sessions displayed.
33	Reserved
34	Reserved
35	Reserved

1. How to Activate the TEST Mode

- 1) Turn on the TEST of the DIP switch.
- 2) While pressing the PLAY, STOP and REPEAT buttons simultaneously, turn on the main power.

- * By the above operation, the TEST mode starts up the MODE No. [1] appears on the LCD.
- * The TEST mode items No.1 to No.7 are used only in assembly plant for aging purpose, and are not used in general repair work.

2. How to Release the TEST Mode

- Turn off the main power of the machine.

3. Operating Instruction of TEST Mode

- 1) By press the F. SKIP (UP) or R. SKIP (DOWN) button, the respective TEST modes can be selected.
- 2) If the PLAY button is then pressed, the TEST mode starts operation.
- 3) To move into other modes, repeat the above steps 1) and 2) repeatedly.
- 4) In the operation of the MODE No.31, the optical pickup moves to the outer tracks (outer circumference) or to the inner tracks (inner circumference) by first pressing the PLAY button and then pressing the F. SKIP button (outer tracks) or the R. SKIP button (inner tracks).
- 5) In the operation of the MODE No. 32, the tray is ejected by pressing the PLAY button. Then insert the disc to be inspected into the tray. Press the PLAY button again which starts the operation. In this operation, if the session numbers which was loaded first is the same number as the session numbers loaded next, the DISC IN processing is repeated. If the session numbers are different, the machine stops.

4. Aging Function to be Used in Assembly Plant

1) Automatic aging

If the MODE No. [1] is selected and the PLAY button is pressed, the tray is opened. If a CD-ROM is inserted in the tray, and the PLAY button is pressed, the automatic aging operation of full seek 2000 times for all frame read check is carried out.

If errors occur during automatic aging operation, [PAUSE] appears on the LCD and machine enters the STOP mode.

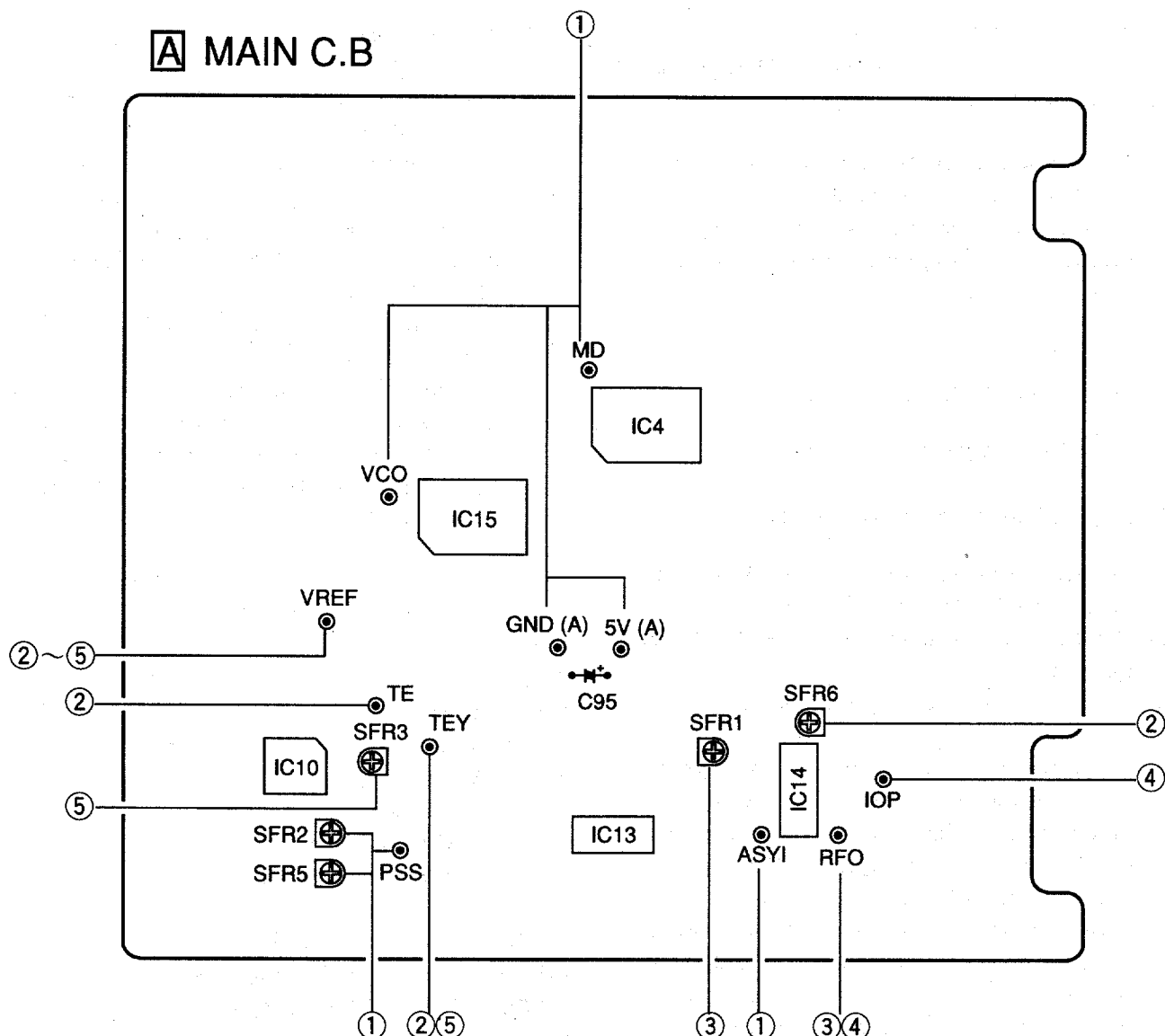
To terminate the automatic aging operation in its middle, press the PLAY button.

- 2) The MODEs No.2 and No.3 enable full seek operation and read/check operation independently.
- 3) The various switch monitors appears on the LCD as follows when the MODE No.8 auto switch/DIP switch monitor is used.

Operation Switch ON	LCD Display
	SCSI. ID-
PLAY Switch	-11:11
STOP Switch	-22:22
R. SKIP Switch	-33:33
F. SKIP Switch	-44:44
REPEAT Switch	-55:55
OPEN/CLOSE Switch	-66:66
R. SKIP Switch Pressing Extendedly	-77:77
F. SKIP Switch Pressing Extendedly	-88:88

DIP Switch	LCD Display
AUTO ON →	SCSI-ID display turns on
TEST ON →	AUDIO display turns on
PRTY ON →	CD-ROM display turns on
TERM ON →	TERM-ONdisplay turns on

ADJUSTMENT



Note:

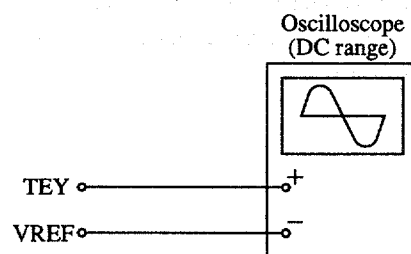
- When making adjustment, use an oscilloscope probe of (10:1).
- In each adjustment, connect an oscilloscope probe to the desired test point while connecting their GND pin clip to the VREF test point.

1. VCO Frequency Adjustment

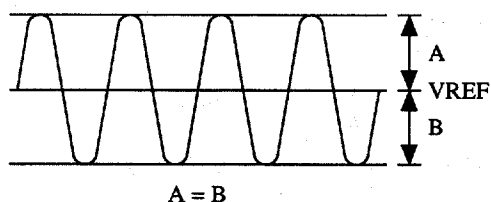
※ Make this adjustment without insert a disc.

- 1) Connect a frequency counter to the test point VCO and GND (A).
- 2) Short the test points MD, PSS and ASYI to GND (A) with shorting clips.
- 3) Adjust SFR2 (VCO1) for $4.32 \text{ MHz} \pm 0.01 \text{ MHz}$. (Adjusting the standard speed)
- 4) After completing the adjustment, remove shorting between the test points MD, PSS and GND.
- 5) Short the test point MD and PSS to 5V (A). Short the test point ASYI to GND (A).
- 6) Adjust SFR5 (VCO2) for $8.64 \text{ MHz} \pm 0.01 \text{ MHz}$. (Adjusting the double speed)
- 7) After completing the adjustment, remove shorting between the test points MD and PSS to +5 V. Remove shorting between ASYI and GND (A).

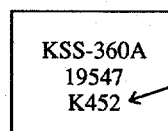
2. Tracking Balanced Adjustment



- 1) Connect an oscilloscope to the test points TEY and VREF as shown.
- 2) Turn on the main power.
- 3) Insert a test disc TCD-782 (YEDS-18), and press the ►PLAY button to enter the play mode.
- 4) Connect an oscilloscope to the test points TE and VREF.
- 5) Adjust SFR6 (R. BALANCE) so that the traverse waveform is vertically symmetrical on the oscilloscope.
- 6) After completing the adjustment, remove shorting between the test points TE and VREF.



VOLT/DIV : 500mV
TIME/DIV : 1mS

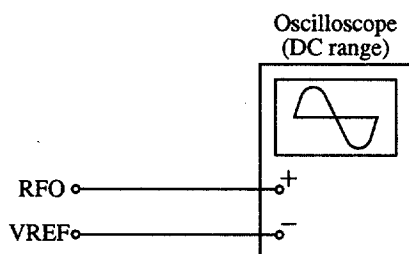


45.2mA

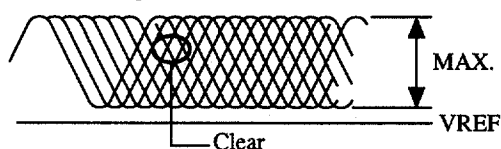
$$\text{Laser current lop} = \frac{\text{Voltage developed between the test point IOP and 5 V (A)}}{10\Omega}$$

3. Focus Bias Adjustment

Perform this adjustment when an optical block is replaced during repair.



- 1) Connect an oscilloscope to the test points RFO and VREF as shown.
- 2) Turn on the main power.
- 3) Insert a test disc TCD-782 (YEDS-18), and press the ►PLAY button to play the second program.
- 4) Adjust SFR1 (F. BIAS) so that the waveform has the maximum amplitude and is most clear.



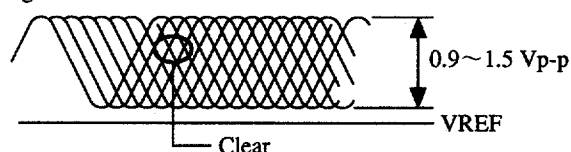
VOLT/DIV : 0.5V
TIME/DIV : 0.5 μ S

4. RF Waveform Check

Perform this check when an optical block is replaced during repair.

- 1) Connect an oscilloscope to the test points RFO and VREF as shown.
- 2) Turn on the main power.
- 3) Insert a test disc TCD-782 (YEDS-18), and press the ►PLAY button to play the second program.
- 4) Check that the waveform has the amplitude as shown below and is most clear.

RF Signal Waveform



VOLT/DIV : 0.5V
TIME/DIV : 0.5 μ S

Note: The laser current can be check from the voltage developed between the test point IOP and 5 V (A). The laser current value must fall within the range of ± 6.0 mA with respect to the current value shown on the label on the back of the laser pickup unit.

5. Tracking Gain Adjustment

Accurate adjustment of the tracking gain requires use of the servo analyzer. Usually, where the servo analyzer is not available, never attempt this adjustment.

The focus gain and the tracking gain determines the following characteristics of the dual-axes pickup unit against the mechanical noise and the mechanical shock. Because these two characteristics are contradictory, the tracking and focus gain are adjusted in the contradictory point.

- If the gain is increased, noise during dual-axes mode increases.
- If the gain is decreased, the pickup is easily affected by the mechanical shock so that it can generate missing sound. If the tracking and focus gain adjustments are poor, the following symptom can result.

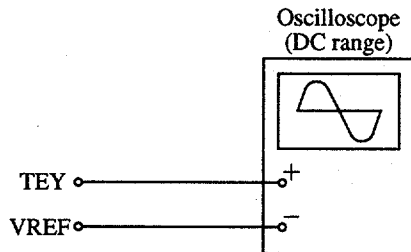
Symptoms \ Gain	(Focus)	Tracking
● When operation mode is changed from STOP→►PLAY, or during the automatic music selection mode (when ◀◀, or ▶▶ button is pressed), it takes a longer time to start playing a program. (It is normally 2 seconds.)	low	low or high
● When operation mode is changed from STOP→►PLAY, or during the automatic music selection mode (when ◀◀, or ▶▶ button is pressed), but the disc keeps rotating without starting to playback a program.	—	low
● Disc does not rotates even a disc is inserted.	low or high	—
● Sound is missing during program playback. Display on the time counter stops advancing.	—	low
● Noise increases during dual-axes mode.	high	high

The simplified adjustment procedure is shown as follows.

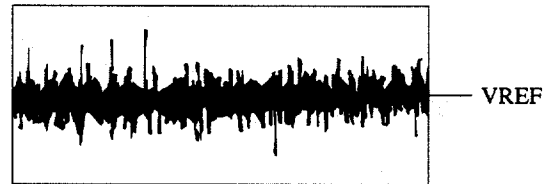
—simplified adjustment procedure—

Note: Because an accurate adjustment cannot be performed by the simplified adjustment procedure, take note of the previous mechanical position of the adjustment control volume before starting the simplified adjustment. Compare the position before adjustment and after adjustment. If difference between the two positions is small, return the adjustment control volume to the original position before adjustment.

Adjustment procedure:



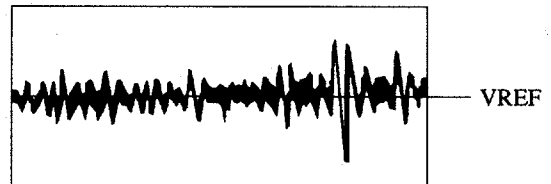
- 1) Place the disc player horizontally level.
(If the disc player is not placed horizontally level, the dual-axes device is affected by the gravity, and the correct adjustment cannot be executed.)
- 2) Insert a test disc TCD-782 (YEDS-18), and play the second program..
- 3) Connect an oscilloscope to the test points TEY and GND (A).
- 4) Adjust SFR3 (R. GAIN) so that the waveform shown below is obtained on the oscilloscope. (Tracking gain adjustment)



VOLT/DIV : 500mV
TIME/DIV : 1mS

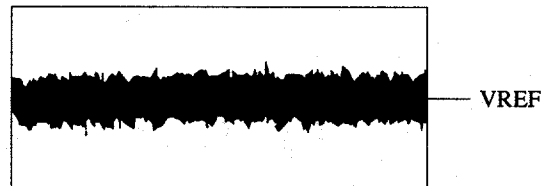
● Example of poor adjustment

If the tracking gain is low:
(The fundamental wave appears when compared with the correctly adjusted servo loops.)



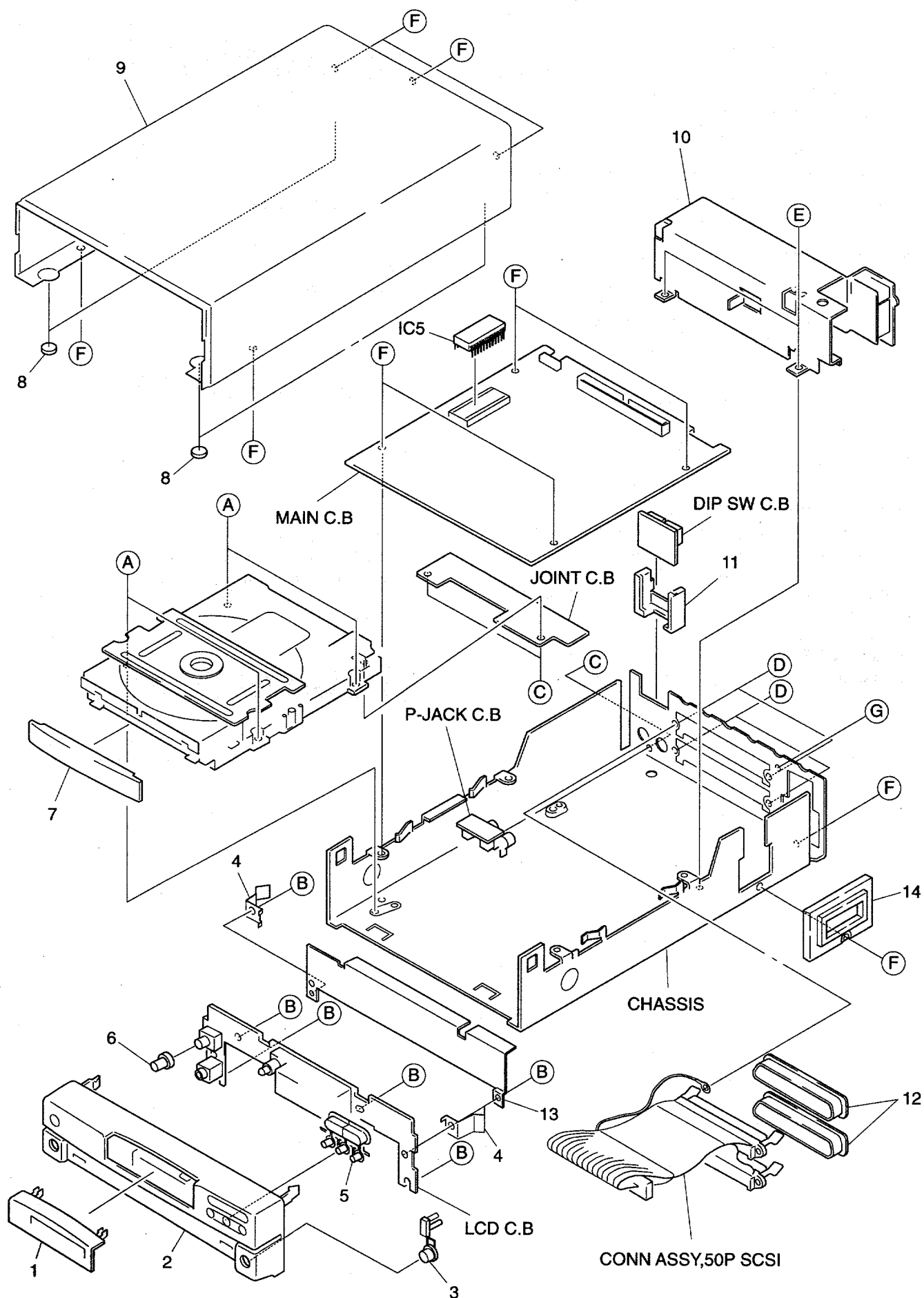
VOLT/DIV : 500mV
TIME/DIV : 1mS

If the tracking gain is high:
(The fundamental wave has high amplitude when compared with the correctly adjusted servo loops.)



VOLT/DIV : 500mV
TIME/DIV : 1mS

MECHANICAL EXPLODED VIEW 1/1

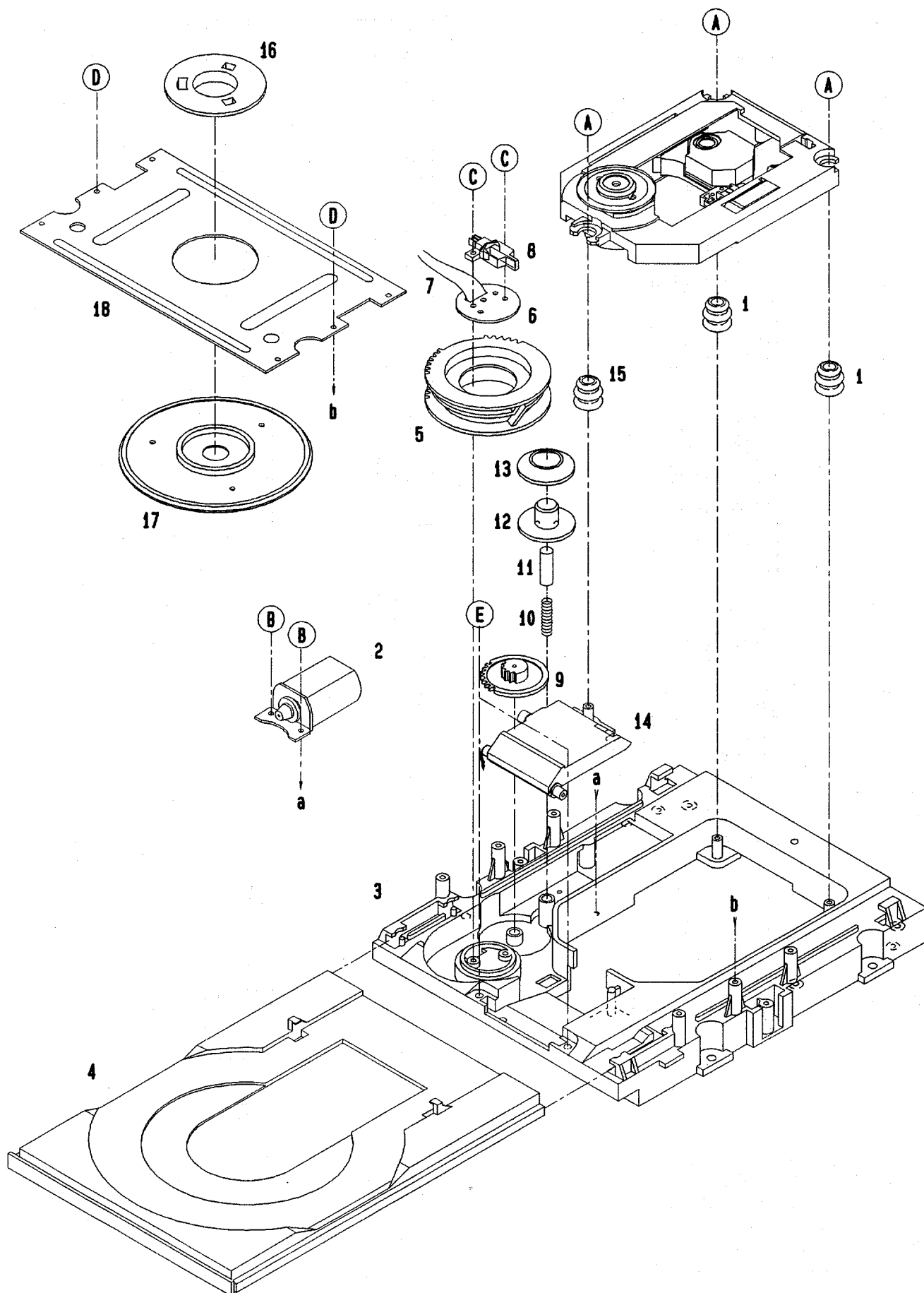


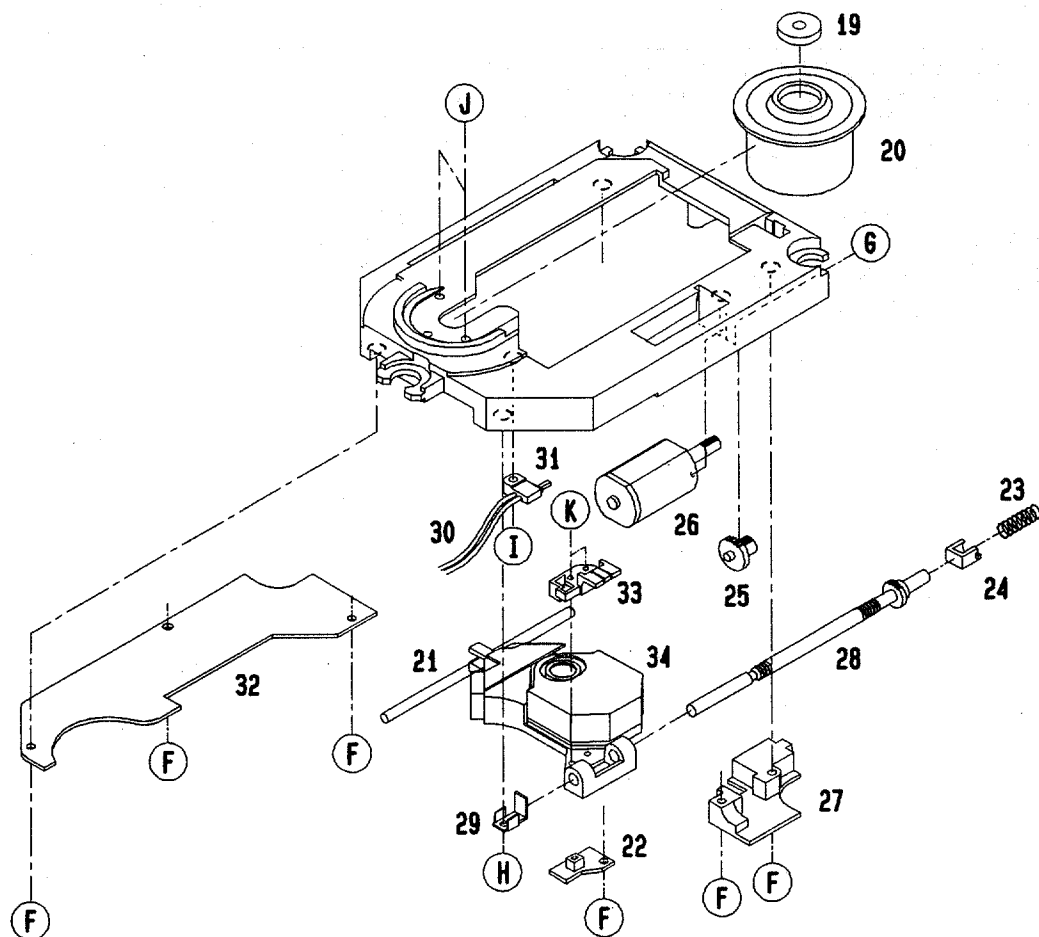
MECHANICAL PARTS LIST 1/1

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.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	84-XC2-009-010		WINDOW, LCD	14	84-XC2-013-010		HOLDER, AC SW (H, E, K)
2	84-XC2-001-110		BEZEL	A	87-743-074-410		UT2+2. 6-8
3	84-XC2-008-010		BTN, EJECT	B	87-741-073-410		UT2+2. 6-6 GLD
4	84-XC2-018-010		SPR-P, GND	C	87-851-095-410		VT2+3-8 GLD
5	84-XC2-007-010		BTN, CD	D	87-261-094-410		V+3-6 GLD
6	84-XC2-006-010		KNOB, VOL	E	87-571-092-410		VIT+3-4 GLD
7	84-XC2-002-010		PANEL, TRAY	F	87-581-072-410		UIT+2. 6-5
8	84-XC2-010-010		FOOT, RBR DIA10	G	87-581-170-410		UIT+4-8
9	84-XC2-004-010		CABINET (U)	H	87-581-094-410		UIT+3-6
9	84-XC2-015-010		CABINET (H, E, K)				
△ 10	84-XC2-612-010		UNIT, POWER D (U)				
△ 10	84-XC2-616-010		UNIT, POWER E (H, E, K)				
11	84-XC2-628-110		IC ASSY, NM27C5120*04				
12	84-XC2-011-010		HOLDER, SW				
13	83-XS1-616-010		DUST COVER, SEN 50				

CD MECHANISM EXPLODED VIEW 1/1





CD 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.	カソリ NO.	DESCRIPTION	REF. NO	PART NO.	カソリ NO.	DESCRIPTION
1	92-625-864-130		INSULATOR	26	9X-262-574-510		SL MOTOR ASSY D(M2)
2	9X-262-535-020		LOADING MOTOR ASSY(M3)	27	92-625-945-020		FIXED PLATE 80
3	92-625-935-030		LU CHASSIS	28	9X-262-565-310		SLED SCREW 82 ASSY
4	92-626-932-020		TRAY D	29	92-625-946-020		SLED SPRING 80
5	92-626-931-030		CONTROL GEAR	30	91-949-834-330		HARNESS D
6	92-625-920-010		LEAF SWITCH BASE	31	91-570-771-210		SWITCH(SW1)
7	91-950-376-120		HARNESS	32	9A-491-057-8A0		TRANSLATION FPC 80 ASSY
8	91-692-053-110		LEAF SWITCH(SW2)	33	92-626-099-020		RACK 80 J
9	92-625-925-010		GEAR B	34	98-848-246-320		KSS-360A
10	92-625-928-010		COIL SPRING	A	92-625-922-010		+PTPW2-6
11	92-625-927-010		SPRING SHAFT	B	97-685-133-110		TAP SCREW+2. 6-6
12	92-625-926-010		GEAR A	C	97-685-105-110		TAP SCREW+2-8
13	96-625-865-020		RUBBER RING	D	97-865-134-190		TAP SCREW+2. 6-8
14	92-625-930-040		LIFTER	E	92-626-294-110		+PTPW2. 6-7
15	92-625-864-030		INSULATOR	F	97-685-103-190		TAP SCREW+P2-5
16	92-625-934-010		CHUCKING PULLEY	G	97-627-850-180		PRECISION SCREW+P1. 4-2. 5
17	9X-262-535-510		CHUCKING ASSY RP	H	97-685-103-190		TAP SCREW+P2-5
18	92-626-899-010		CHUCK CHASSIS D	I	97-685-105-190		TAP SCREW+P2-8
19	91-452-636-110		CHUCKING MAGNET	J	97-627-552-870		PLECISION SCREW+P1. 7-2. 2
20	9X-262-574-610		SP MOTOR ASSY D(M1)	K	97-627-852-170		PLECISION SCREW+P1. 7-4
21	92-625-943-010		GUIDE SHAFT 80				
22	92-625-942-020		SHAFT RETAINER				
23	92-640-618-010		COIL SPRING				
24	92-625-941-010		THRUST RETAINER 80				
25	92-625-944-010		GEAR B 80				

■ ACCESSORIES/PACKAGE 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.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	84-XC2-921-010		IB, H(E, S, C) (H, K, E)	△6	87-050-084-010		AC CORD SET ASSY, U3P (U)
2	84-XC2-907-010		IB, U (U)	△7	87-050-085-010		AC CORD SET ASSY, K3P (K)
3	84-XC2-922-010		IB, E(G, F, I) (E)	△8	87-050-083-010		AC CORD SET ASSY, E3P (E)
4	84-XC2-202-010		DRIVER-2. 6X0. 35 RED				
△5	84-XC2-627-010		AC CORD SET ASSY, H3P (H)				

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, SERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
サージサプレッサ	SERGESUPPRESSOR
セラコン	CAP,CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ジグアーム	ARM,SHAFT
ジグガイド	GUIDE,SHAFT
ストラップ	STRAP
トクナベ	S-SCREW
ヒンジ	HINGE
ヒンジビス	S-SCREW
ビスセレート	SCREW,SERRART

サービス技術ニュース	
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