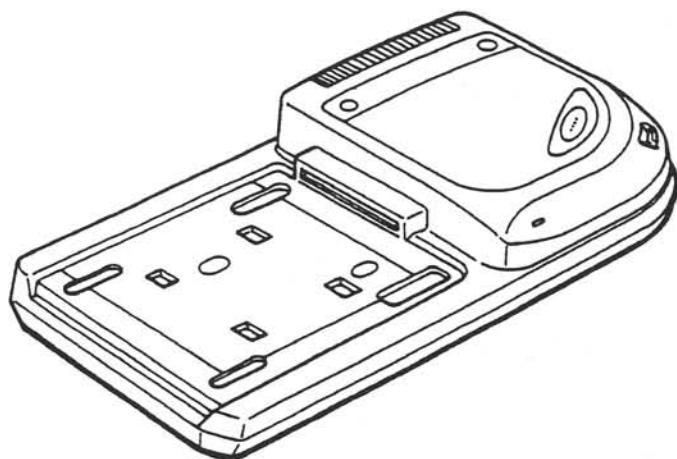


SEGATM SERVICE MANUAL

SEGA CD II /MEGA CD II



NO.	002
ISSUED	AUGUST, 1993

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Sega Enterprises, Ltd.

1. SPECIFICATIONS

Ratings

Model	SEGA CD II	MEGA CD II
Power input	AC 120V, 60Hz	AC230 or 240V, 50Hz
Power consumption	18 W	18 W
Operating environment	Temperature : 0 to 40 °C Humidity : 10% to 80%RH (no condensation)	
Dimensions	396 (W) × 220 (D) × 84 (H) mm	

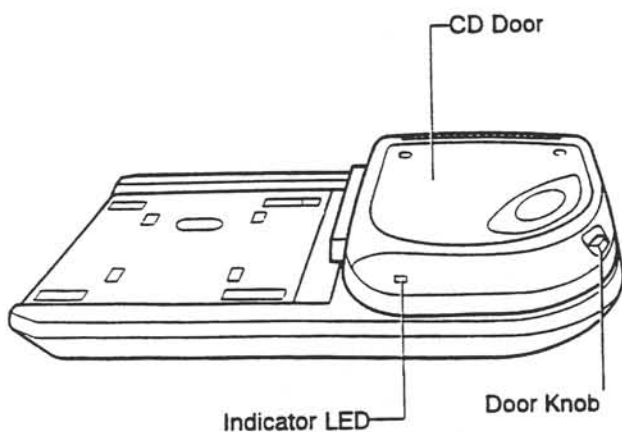
Specifications

CPU		68000 (12.5MHz)
Memory	RAM	6M bit (Program, Picture data, Sound data memory) 512k bit (PCM waveform memory) 128k bit (CD-ROM data cache memory) 64k bit (Back-up memory)
	Boot ROM	1M bit CD game BIOS CD player software CD+G compatible
Sound circuitry	PCM sound source	Stereo 8 channels. Sampling frequency 32kHz max.
	D/A converter	16 bit D/A converter. 8x internal over-sampling digital filter. PCM and CD sound mixing. Mixing with mixing terminal possible.
Audio characteristics	Frequency characteristics	20Hz to 20kHz
	Signal v. noise ratio (S/N)	Over 80dB (1kHz) (Line out)
	Dynamic range	Over 90dB
Battery back-up secondary duration		Approx. 1 month
CD drive unit	CD diameter	12cm and 8cm
	Rotational direction	Counter-clockwise (relative to the side opposite from the label)
	Access time	Average 1.5s
Audio output	Line out	RCA pin jack × 2 (L/R)
Audio input	Mixing	Stereo jack mixing.

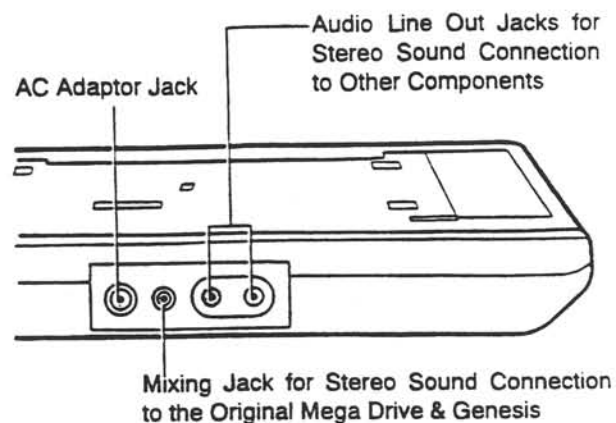
* Design and specifications are subject to change without notice.

2. IDENTIFYING PARTS

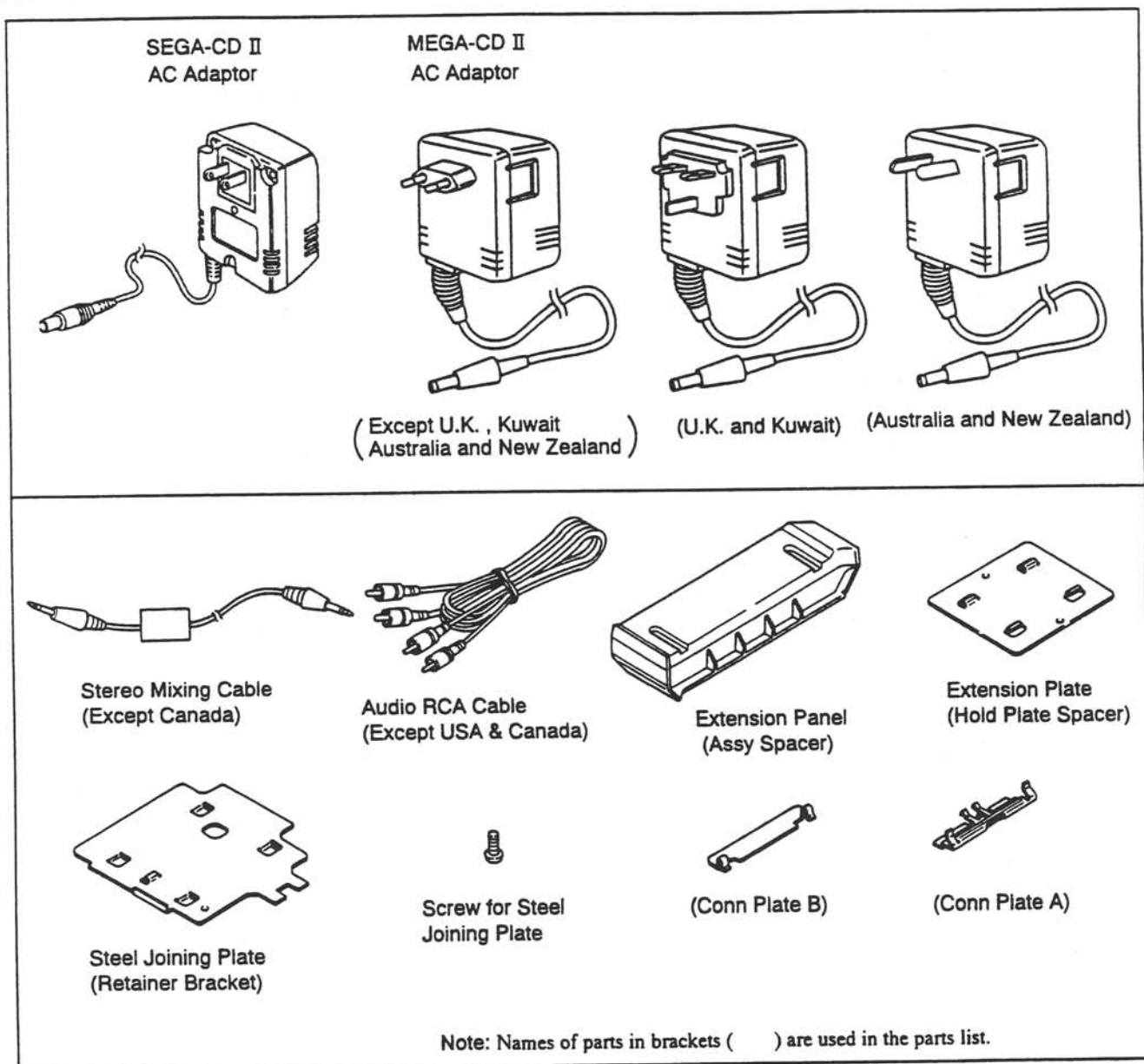
2-1. Front & Top View of Console



2-2. Back View of Console



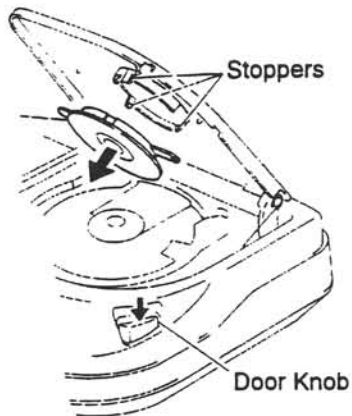
2-3. Accessories



3. DISASSEMBLY

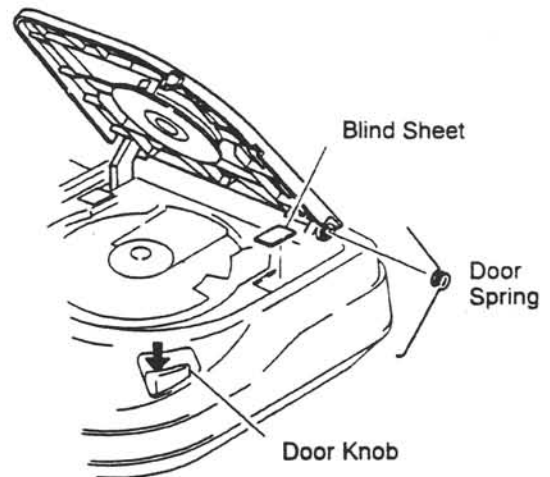
3-1. Chuck Disk Assembly Removal

- (1) Press the door knob to open the door.
- (2) Release three (3) stoppers holding the chuck disk assembly.
- (3) When reinstalling, align the recesses in the chuck holder with the stoppers.



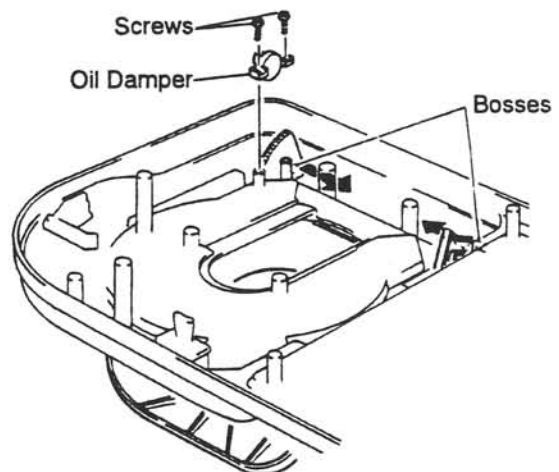
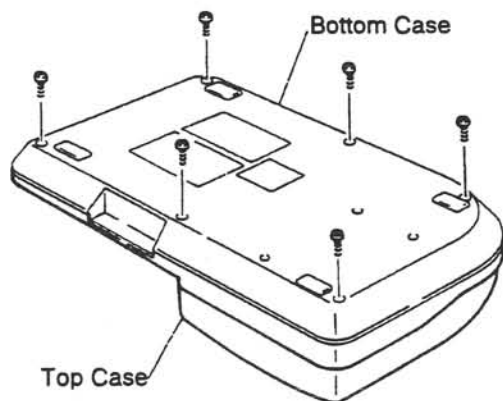
3-3. Door Removal

- (1) Remove the top case assembly. (See item 3-2)
- (2) Press the door knob to open the door.
- (3) Remove the blind sheet on the right.
- (4) Remove the door spring.
- (5) Turn over the top case and remove two (2) screws, then remove the oil damper.
- (6) Push the door installation section in the directions of the arrows to release the bosses.



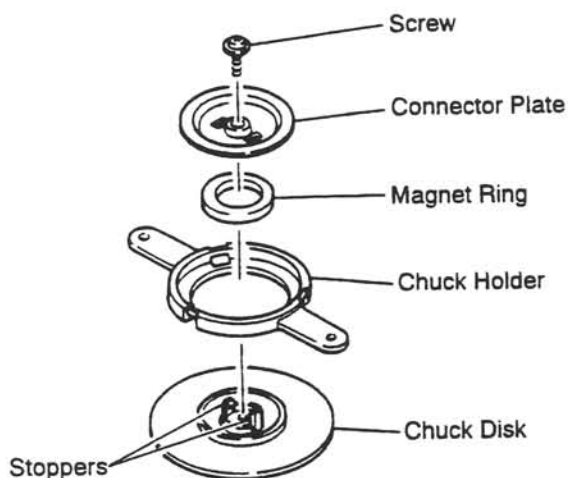
3-2. Top Case Assembly Removal

- (1) Turn over the unit and remove six (6) screws from the bottom.
- (2) Do not remove the bottom case in this state. Be sure to turn over the unit again and then remove the top case in the original state.



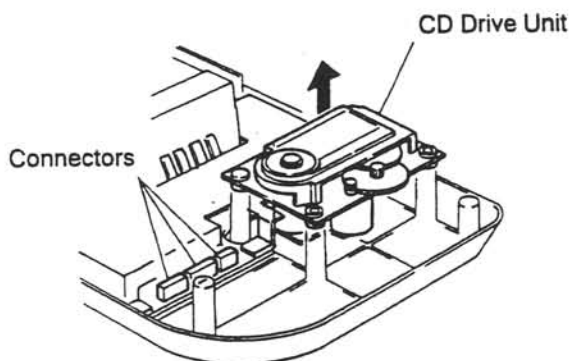
3-4. Dismantling the Chuck Disk Assembly

- (1) Remove the chuck disk assembly. (See item 3-1)
- (2) Remove the screw and release two (2) stoppers. The connector plate, magnet, chuck holder and chuck disk come apart on their own.



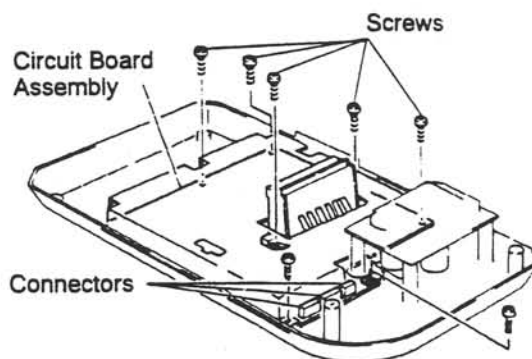
3-5. CD Drive Unit Removal

- (1) Remove the top case assembly. (See item 3-2)
- (2) Disconnect three (3) connectors and lift the CD drive unit.



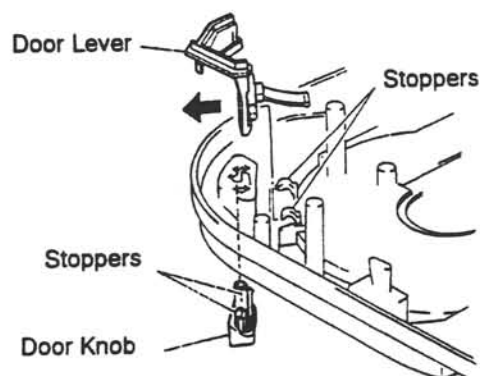
3-6. Circuit Board Assembly Removal

- (1) Remove the top case assembly. (See item 3-2)
- (2) Remove five (5) screws holding the shield plate.
- (3) Disconnect three (3) connectors from the CD drive unit.
- (4) Remove two (2) screws holding the circuit board assembly.



3-7. Door Lever and Door Knob Removal

- (1) Remove the top case assembly. (See item 3-2)
- (2) Turn over the top case assembly and release two (2) stoppers, then remove the door lever in the direction of the arrow.
- (3) Release two (2) stoppers and remove the door knob.



4. CD DRIVE ADJUSTMENT

4-1. Test Equipment and Test Disc

- 1) Frequency counter
- 2) Oscilloscope (20MHz or more)
- 3) Adjustment jig (MEGA-CD II (F) CD ADJ. JIG)
- 4) Audio generator
- 5) Voltmeter (two units with one needle or one unit with two needles)
- 6) Test CD (SONY TYPE-4)

4-2. Set-up for Adjustment

- 1) Connect both terminals of J401.
- 2) Turn SW401 on and fix it using plastic tape, etc.
- 3) Connect the jig to CN403.
- 4) Supply power to the unit and jig. (Use AC adaptor of MEGA CD II /SEGA CD II for jig)
- 5) Press the [RESET] switch of the jig so the counter reads "0".
- 6) Connect the Q301's emitter and CN101 pin 28 B or connect Mega Drive II /Genesis II .

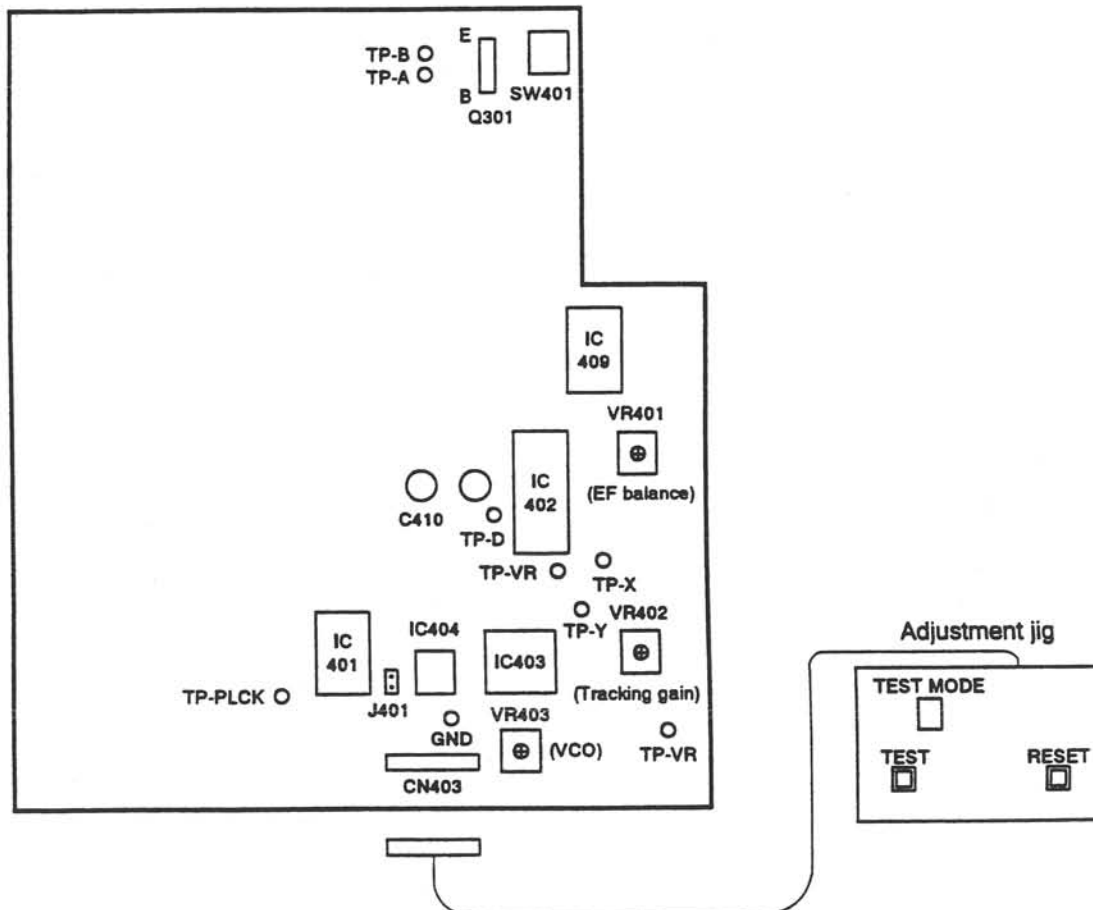
6 SNUGGER BE BETWEEN 3 AND 4

Test mode	Adjustment item
0	VCO
2	EF balance
3	Tracking gain

Note 1: The test mode is incremented each time the [TEST] switch of the jig is pressed.

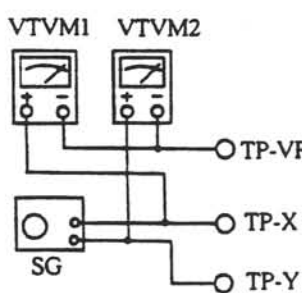
Note 2: Test mode 1 is for checking the laser power and keeps the pickup laser illuminated.

4-3. Adjustment Parts Location



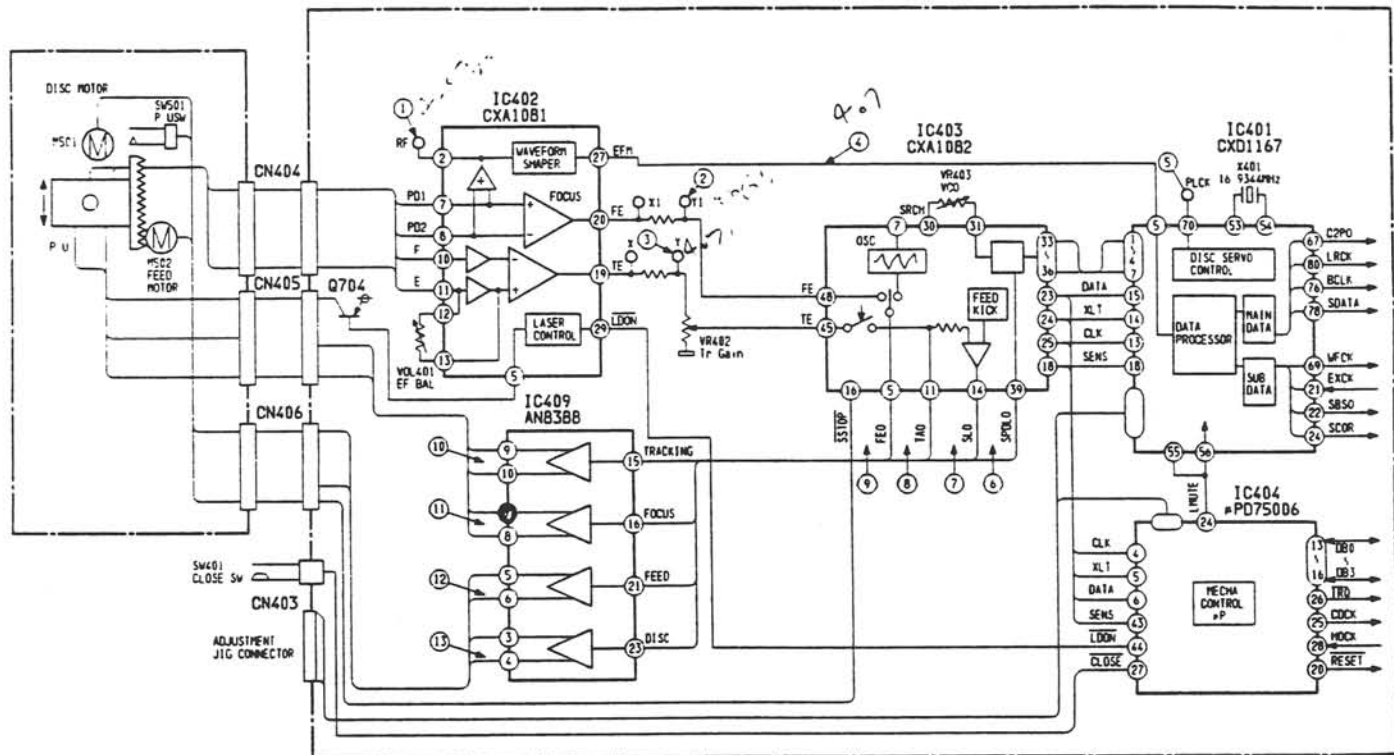
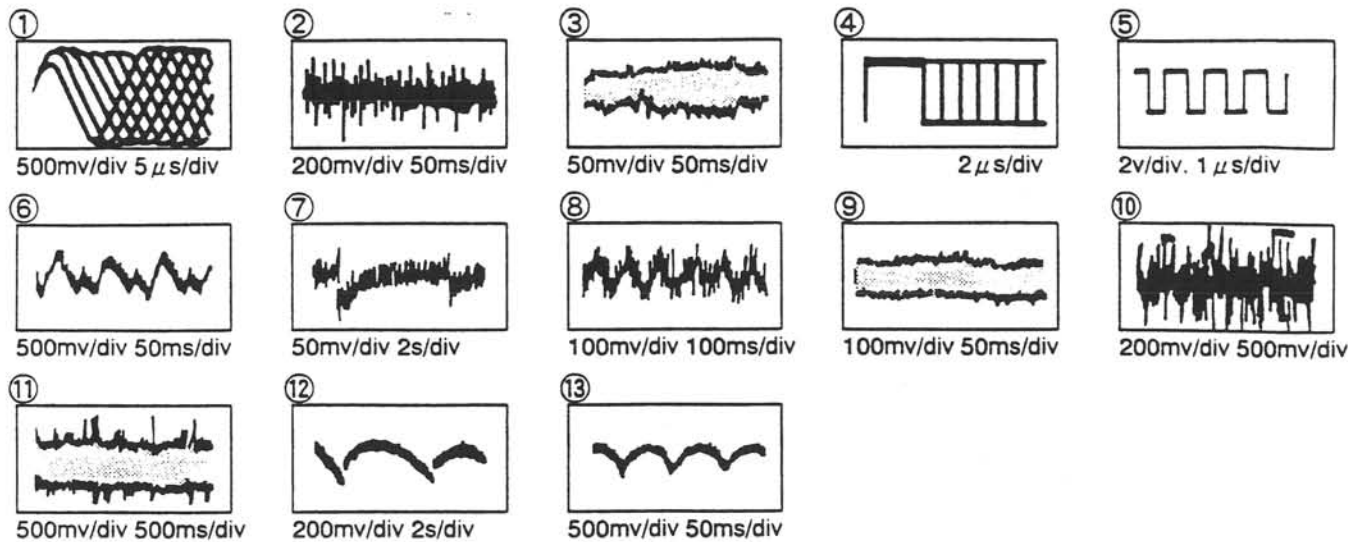
4-4. Adjustment

C 50/div 4.6

Adjustment name	Adjustment point	Test point	Test equipment	Adjustment procedure	Purpose	Faults due to incomplete adjustment	
1. VCO adjustment	VR403	TP-PLCK (Connect the probe's ground to GND)	Frequency counter	Short both terminals of C410 or connect TP-D and GND. Adjust variable resistor VR403 so the frequency of the signal at test pin PLCK is $4.320 \pm 0.05\text{MHz}$.	To reproduce a reference clock signal during CD play.	Small	• It takes more time to search for each track.
						Large	• No play possible.
2. EF balance adjustment	VR401	TP-X (Connect the probe's ground to TP-VR)	Oscilloscope, Adjustment jig. Probe: 10:1 50mv/div 1ms/div Test CD	Press [TEST] switch twice to set to "Test Mode 2".  Adjust VR401 so that peaks (A) and (B) of the output waveform shown above are equal.	To adjust the center of the tracking error signal	Small	• Playability of dirty discs and scratched discs becomes poor.
						Large	• It becomes impossible to search for each track.
3. Tracking gain adjustment	VR402	TP-X TP-Y	2 voltmeters, Generator, Adjustment jig Test CD	 Connect as shown above. Press [TEST] switch three times to set to "Test Mode 3" and supply a 1.0kHz, 0.15Vrms signal from the generator. Adjust VR402 so the 2 voltmeters read the same value.	To adjust the tracking servo gain.	Small	• Becomes susceptible to shocks. • It becomes impossible to search for each track on dirty and scratched discs.
						Large	• Playability of dirty discs and scratched discs becomes poor.

5. CD INTERFACE

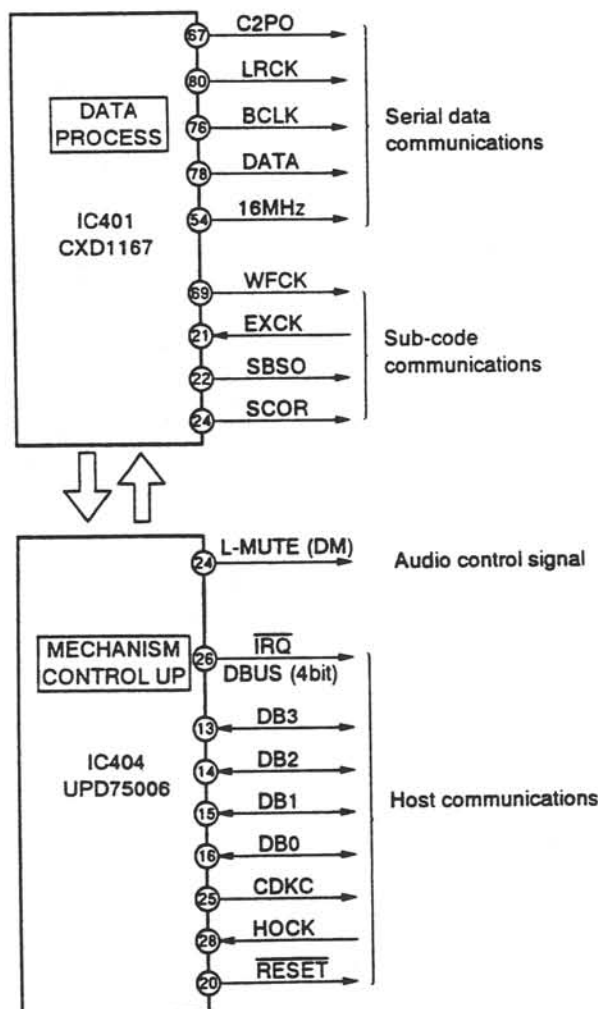
5-1. CD Drive Block Diagram



5-2. Description of CD Interface Signals

Name	I/O	Function	IC No.	Pin No.
C2PO	O	Error flag. Outputs "H" when data correction is disabled.	IC401	(67)
BCLK	O	Bit clock.	IC401	(76)
SDATA	O	Serial data output.	IC401	(78)
LRCK	O	L/R-channel identification clock.	IC401	(80)
16MHz	O	16.9344MHz output.	IC401	(54)
WFCK	O	Frame clock.	IC401	(69)
EXCK	I	Sub-code read clock.	IC401	(21)
SBSO	O	Sub-code data.	IC401	(22)
SCOR	O	Sub-code sync.	IC401	(24)
L-MUTE (DM)	O	Outputs "L" when playing back music and "H" in other modes.	IC404	(24)
IRQ	O	Interrupt request.	IC404	(26)
CDCK	O	CD mechanism control communications clock.	IC404	(25)
HOCK	I	Host communications clock.	IC404	(28)
DB 0	I/O	Data bus 0.	IC404	(16)
DB 1	I/O	Data bus 1.	IC404	(15)
DB 2	I/O	Data bus 2.	IC404	(14)
DB 3	I/O	Data bus 3.	IC404	(13)
RESET	I	Resets the CD hardware.	IC404	(20)

5-3. CD Interface Connection Reference Diagram



6. CD DRIVE UNIT REPLACEMENT PROCEDURE

Remove the GENESIS II/MEGA DRIVE II from the SEGA CD II/MEGA CD II and unplug the power cord of the SEGA CD II/MEGA CD II from the AC outlet.



Replace the CD drive unit.



Connect the power adapter and GENESIS II/MEGA DRIVE II.

Turn on the door close detection switch (SW401) forcibly to turn the power switch on. Check that the laser emits a beam for about 2 seconds and the pickup's object lens moves up and down.

Caution: Be careful; it is dangerous to look straight at a laser beam.
Do not bring your eyes too close to it.



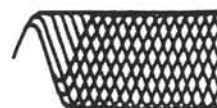
Adjust the EF balance. (VR401)



Adjust the tracking gain. (VR402)

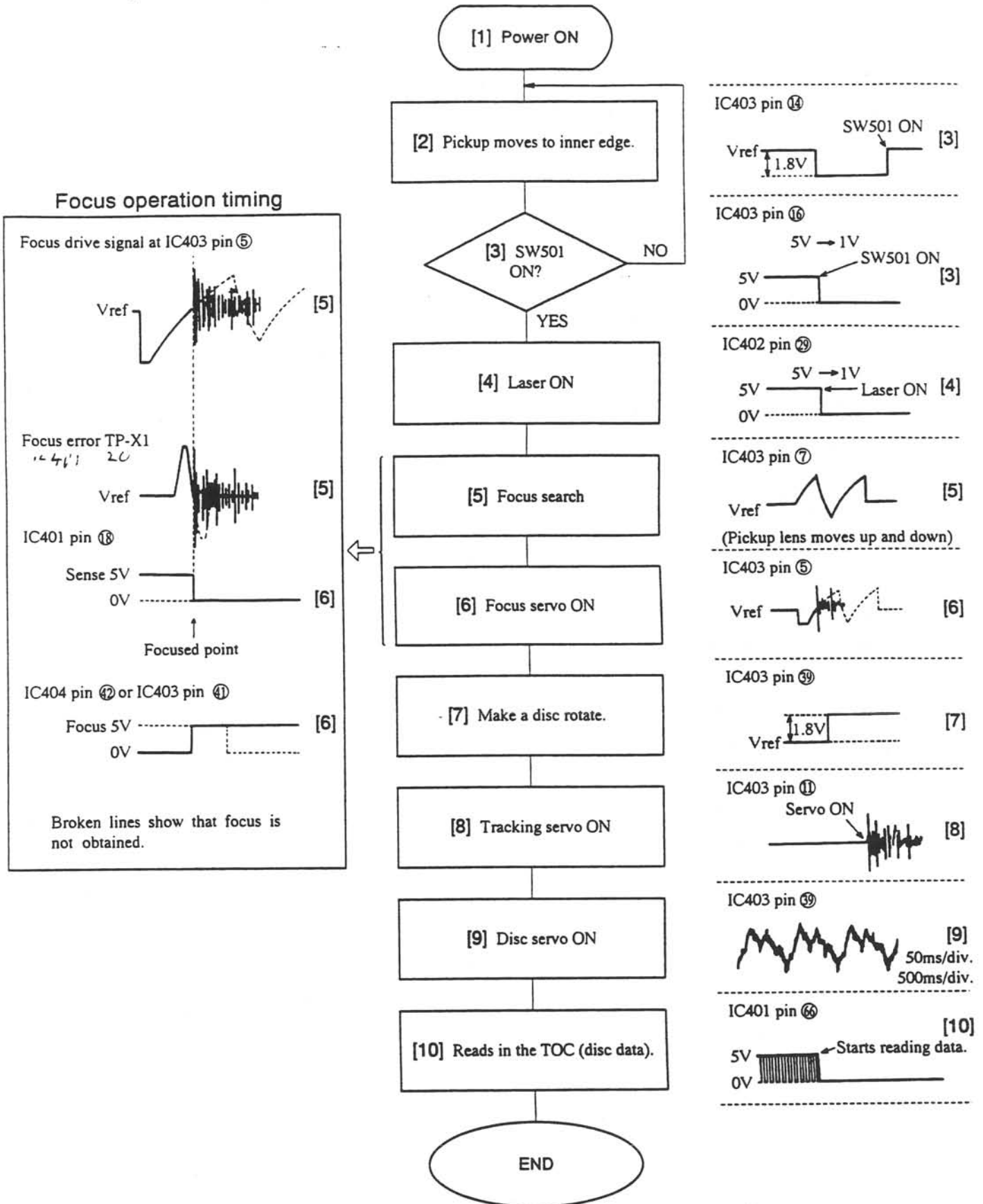


Check that an RF waveform of approx. 1.5Vp-p can be observed at IC402-2 (TP-RF).

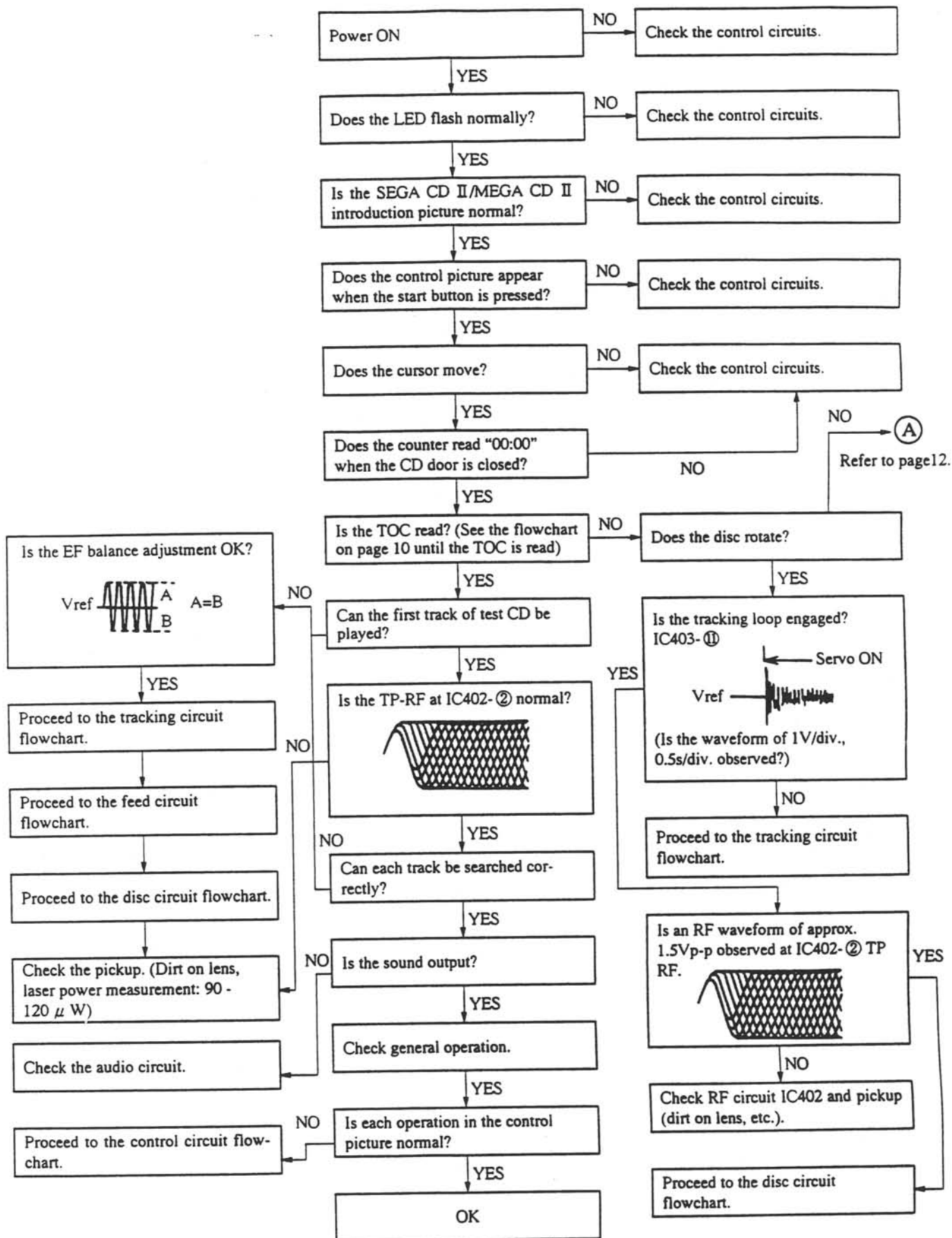


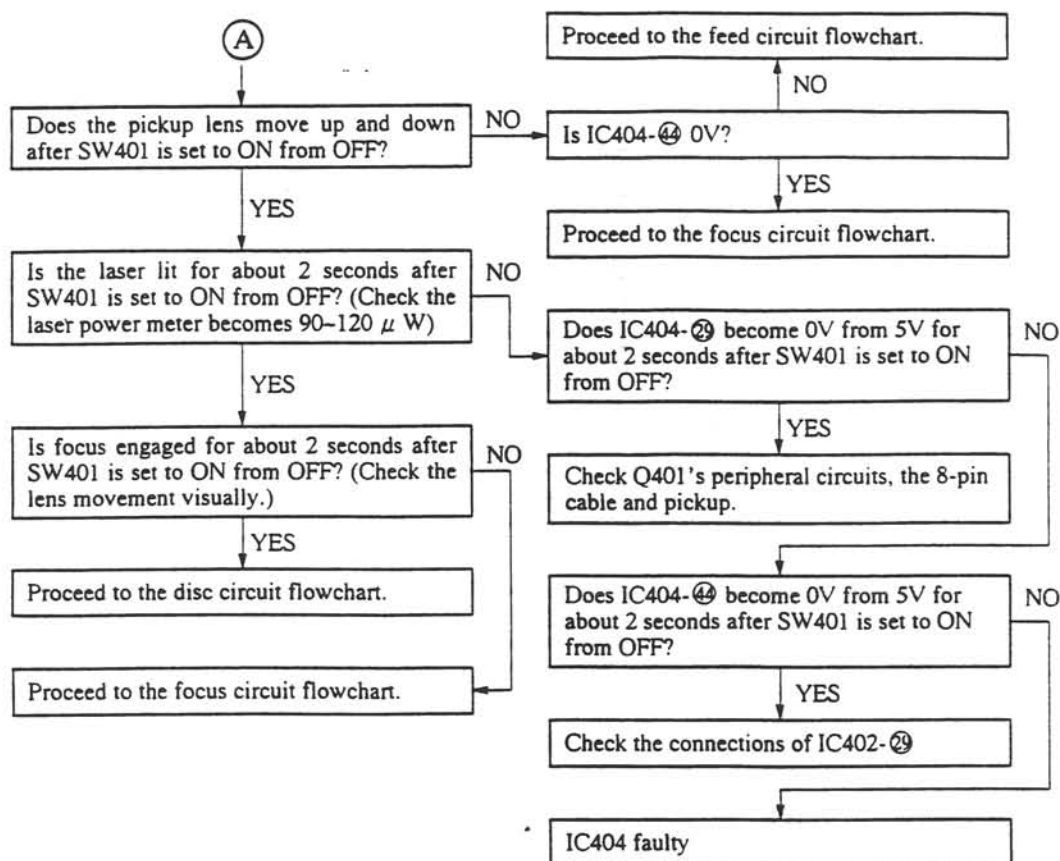
Replacement complete.

7. TOC (Total of Contents) READ-IN FLOWCHART

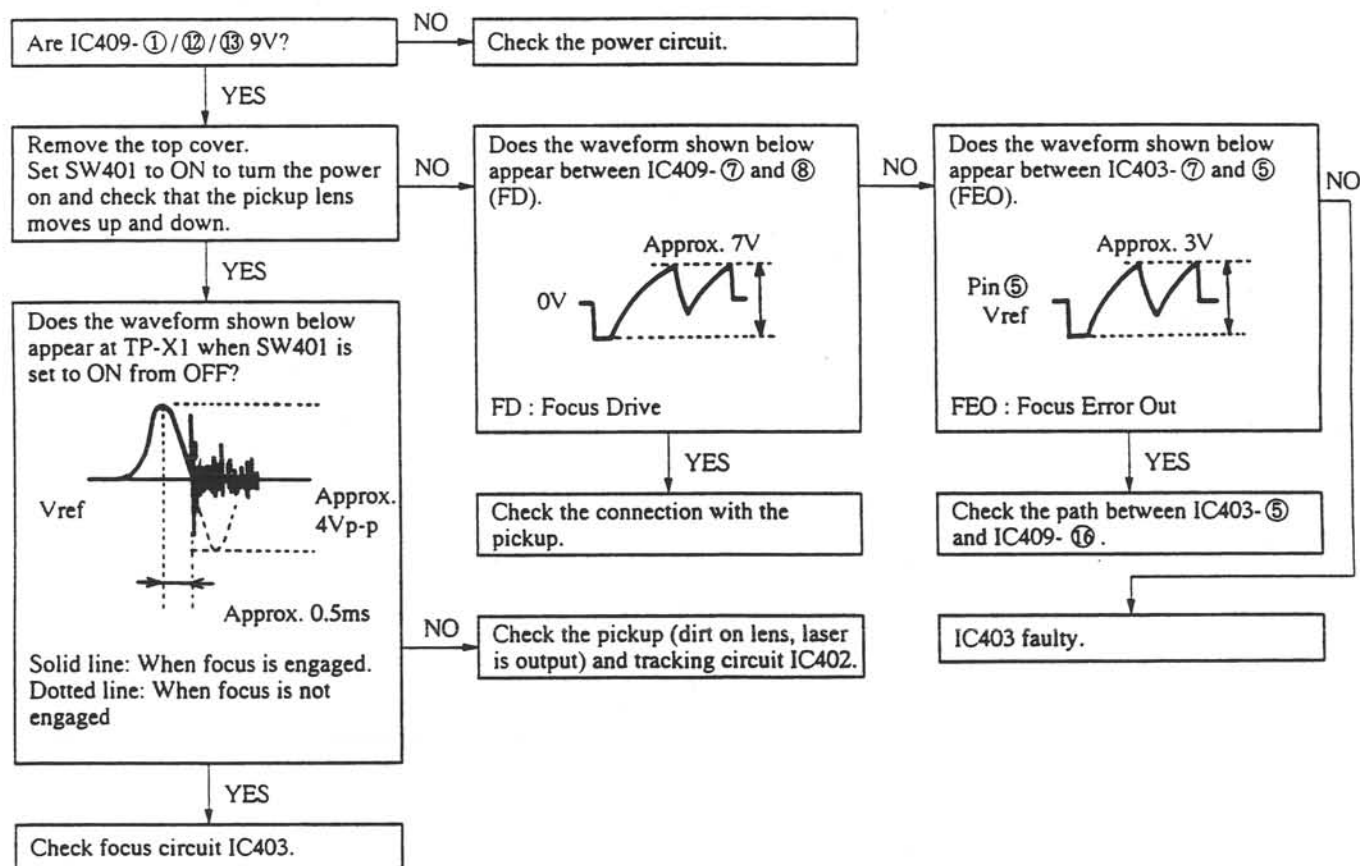


8. GUIDES FOR SERVICING

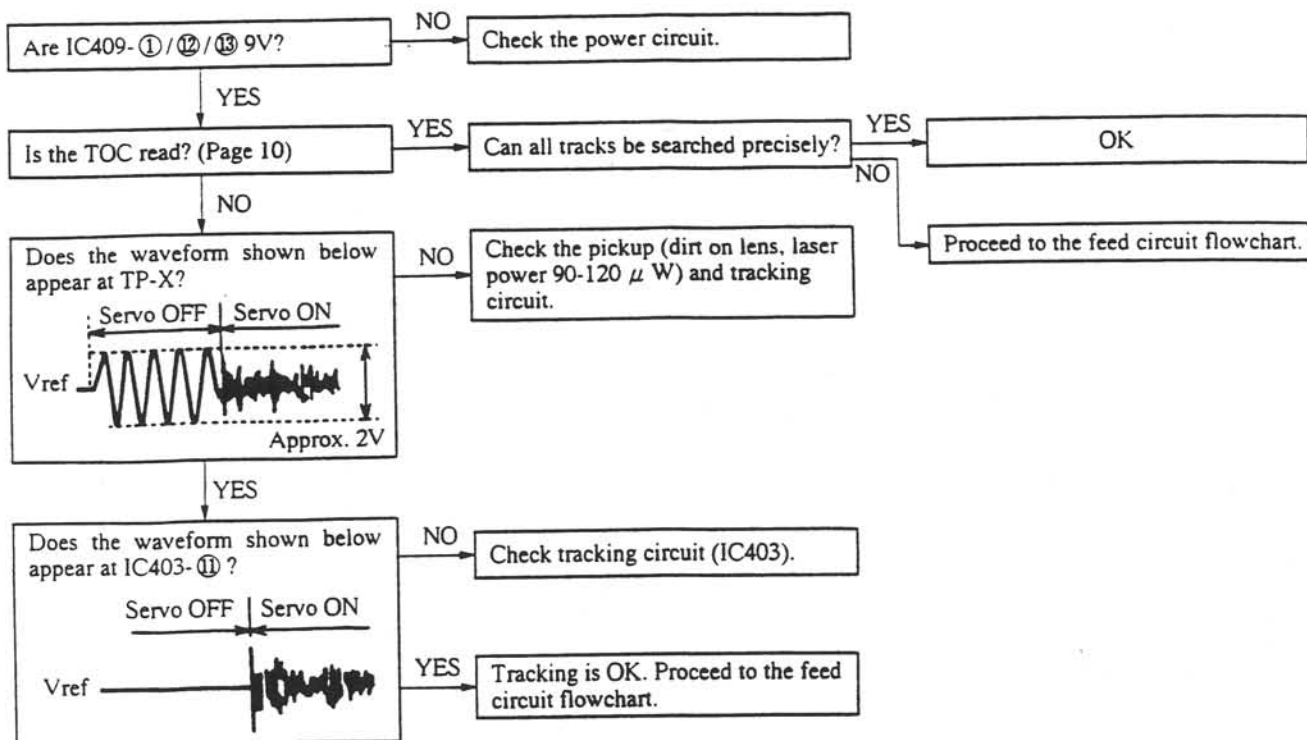




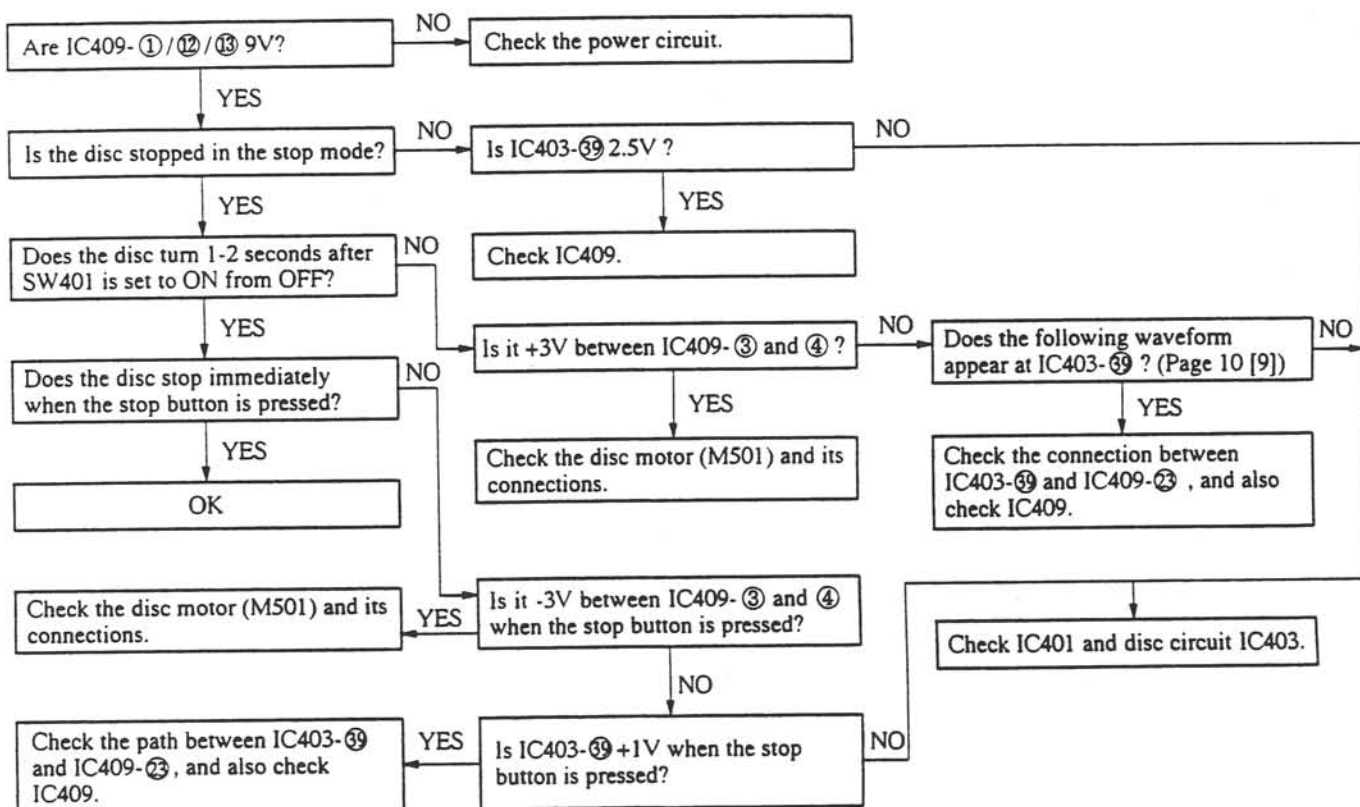
8-1. Focus Circuit Flowchart



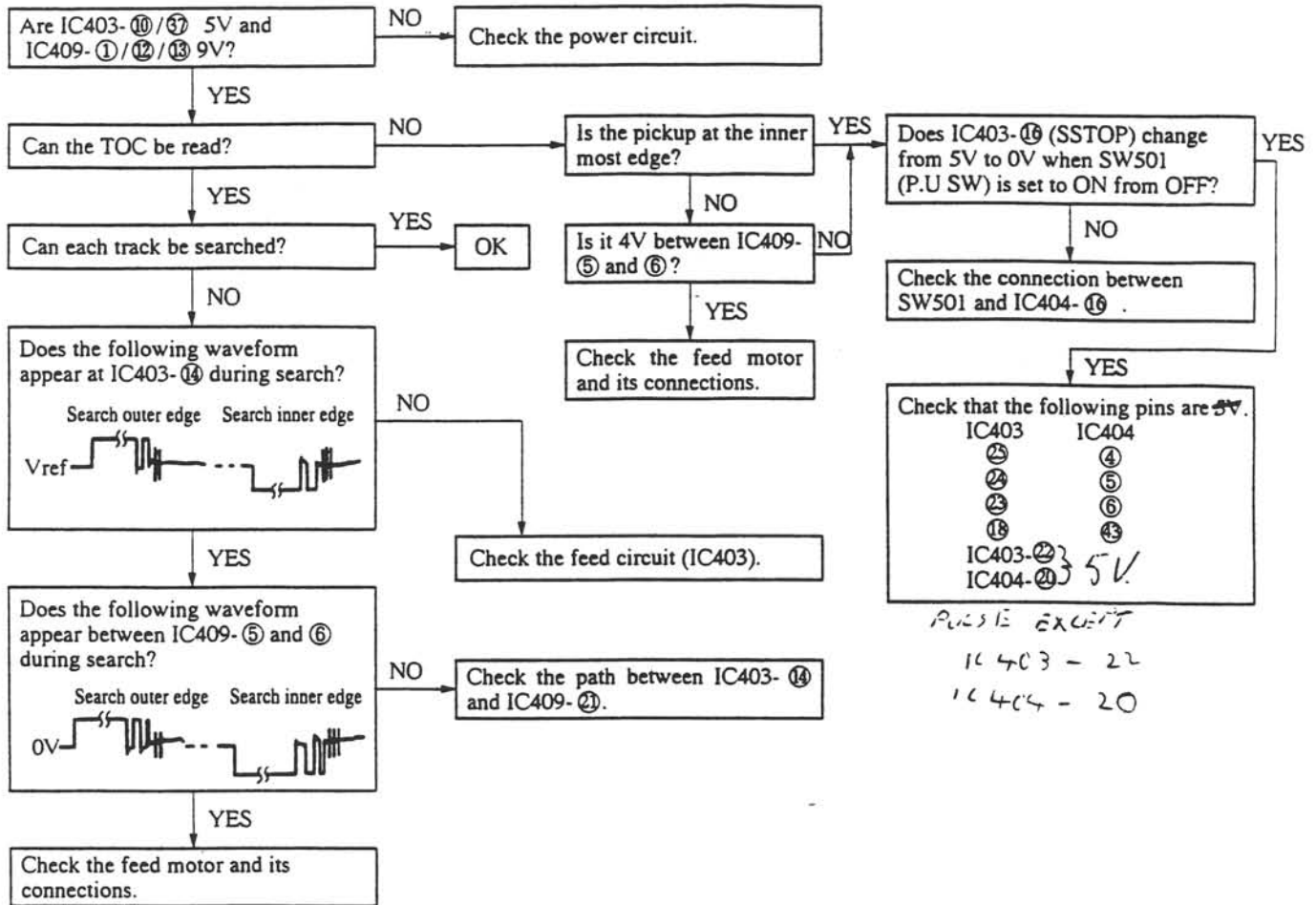
8-2. Tracking Circuit Flowchart



8-3. Disc Circuit Flowchart



8-4. Feed Circuit Flowchart

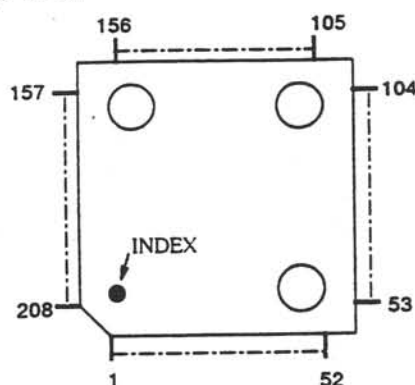


IC101 CUSTOM CHIP

IC MCE3

Parts No. : 315-5632

Top View



Description

No.	I/O	Pin Name
1	O	OCK25
2	O	OBRAM
3	-	V _{SS}
4	I	OXBROM
5	I	IROM
6	I	ICASO
7	I	ILWR
8	I	IUWR
9	I	IASEL
10	-	V _{DD}
11	I	IRAS2
12	I	ICAS2
13	I	IFDC
14	I	IFRES
15	-	V _{SS}
16	O	OERES
17	I/O	BEAD0
18	I/O	BEAD1
19	I/O	BEAD2
20	I/O	BEAD3
21	I/O	BEAD4
22	I/O	BEAD5
23	I/O	BEAD6
24	I/O	BEAD7
25	I/O	BED8
26	-	V _{SS}
27	-	V _{DD}
28	I/O	BED9
29	I/O	BED10
30	I/O	BED11
31	I/O	BED12
32	I/O	BED13
33	I/O	BED14
34	I/O	BED15
35	O	OERAS
36	O	OECAS
37	O	OEOE
38	-	V _{SS}
39	O	OOWE
40	O	OORAS
41	O	OOCAS
42	O	OOWE

No.	I/O	Pin Name
43	-	V _{DD}
44	O	OOWE
45	I/O	BOAD0
46	I/O	BOAD1
47	I/O	BOAD2
48	I/O	BOAD3
49	I/O	BOAD4
50	-	V _{SS}
51	I/O	BOAD5
52	I/O	BOAD6
53	I/O	BOAD7
54	I/O	BOD8
55	I/O	BOD9
56	I/O	BOD10
57	I/O	BOD11
58	I/O	BOD12
59	I/O	BOD13
60	-	V _{SS}
61	-	V _{DD}
62	I/O	BOD14
63	I/O	BOD15
64	O	OLED0
65	O	OLED1
66	O	OLATCH
67	O	OSHT
68	O	OATT
69	O	ODTM
70	I	IWFCK
71	I	ISCOR
72	-	V _{SS}
73	I	ISBSO
74	O	OEXCK
75	I	ILRCK
76	I	IDATA
77	I	IC2PO
78	I/O	BDB3
79	-	V _{DD}
80	I/O	BDB2
81	I/O	BDB1
82	I/O	BDB0
83	O	OHOCK
84	I	ICK50

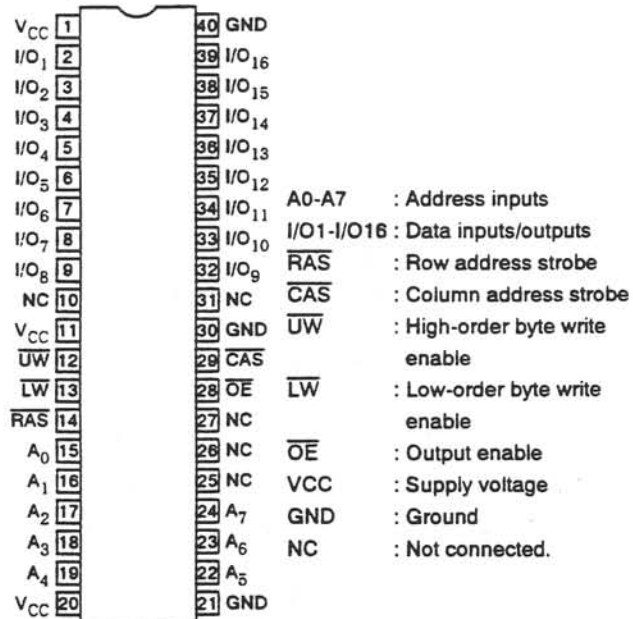
No.	I/O	Pin Name
85	-	V _{SS}
86	I	IIRQ
87	I	IDXM
88	I	ICDCK
89	O	OXPCM
90	I	IDTEN
91	I	IWAIT
92	O	OHRD
93	I	IINT
94	O	OCDC
95	O	OPROE
96	-	V _{SS}
97	-	V _{DD}
98	O	OC2LR
99	I	IA19
100	I	IA18
101	I	IA17
102	I	IA16
103	I	IA15
104	I	IA14
105	I/O	BA13
106	I/O	BA12
107	-	V _{SS}
108	I/O	BA11
109	I/O	BA10
110	I/O	BA9
111	I/O	BA8
112	I/O	BA7
113	I/O	BA6
114	-	V _{DD}
115	I/O	BA5
116	I/O	BA4
117	I/O	BA3
118	I/O	BA2
119	-	V _{SS}
120	I/O	BA1
121	I	IFC0
122	I	IFC1
123	O	OIPL0
124	O	OIPL1
125	O	OIPL2
126	O	OVPA
127	O	ORESET
128	O	OHALT
129	O	OCLK
130	-	V _{SS}
131	-	V _{DD}
132	O	ODTACK
133	I	IRXW
134	I	IXLDS
135	I	IXUDS
136	I	IXAS
137	I/O	BD0
138	I/O	BD1
139	I/O	BD2
140	I/O	BD3
141	I/O	BD4
142	-	V _{SS}
143	I/O	BD5
144	I/O	BD6
145	I/O	BD7
146	I/O	BD8

No.	I/O	Pin Name
147	-	V _{DD}
148	I/O	BD9
149	I/O	BD10
150	I/O	BD11
151	I/O	BD12
152	I/O	BD13
153	I/O	BD14
154	-	V _{SS}
155	I/O	BD15
156	I/O	BPRA0
157	I/O	BPRA1
158	I/O	BPRA2
159	I/O	BPRA3
160	I/O	BPRA4
161	I/O	BPRA5
162	I/O	BPRA6
163	I/O	BPRA7
164	-	V _{SS}
165	-	V _{DD}
166	I/O	BPRA8
167	O	OPRRAS
168	O	OPRCAS
169	O	OPRUWE
170	O	OPRLWE
171	I/O	IVA1
172	I/O	IVA2
173	I/O	IVA3
174	I/O	IVA4
175	I/O	IVA5
176	-	V _{SS}
177	I/O	IVA6
178	I/O	IVA7
179	I/O	IVA8
180	I/O	IVA9
181	I/O	IVA10
182	I/O	IVA11
183	-	V _{DD}
184	I/O	IVA12
185	I/O	IVA13
186	I/O	IVA14
187	I/O	IVA15
188	I/O	IVA16
189	-	V _{SS}
190	I	IVA17
191	I/O	BVD0
192	I/O	BVD1
193	I/O	BVD2
194	I/O	BVD3
195	I/O	BVD4
196	I/O	BVD5
197	I/O	BVD6
198	I/O	BVD7
199	I/O	BVD8
200	-	V _{SS}
201	-	V _{DD}
202	I/O	BVD9
203	I/O	BVD10
204	I/O	BVD11
205	I/O	BVD12
206	I/O	BVD13
207	I/O	BVD14
208	I/O	BVD15

IC102/103 1Mbit Dynamic RAM

IC TC511664BJ-80 IC TC421664LE-70
IC UPD421664-80 IC UPD421664-80L

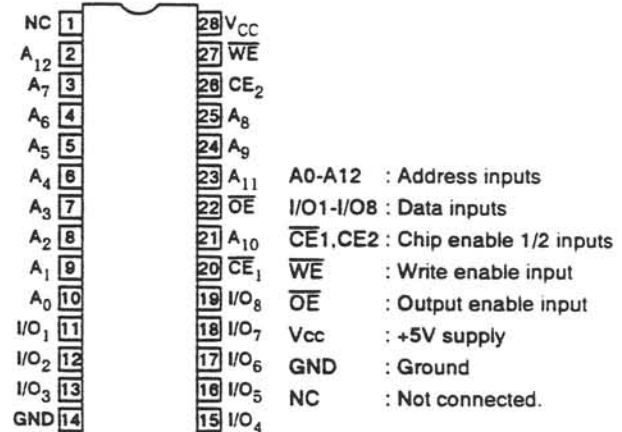
Top View & Pin Layout



IC104/105 8bit CMOS Static RAM

IC CKX5864BM-70 IC MB8464-80
IC MB8464-90

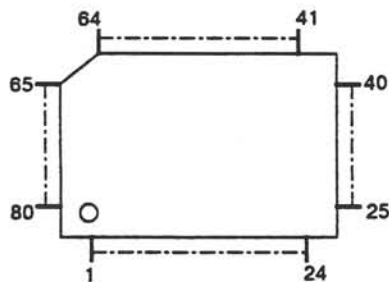
Top View & Pin Layout



IC106 CD-ROM LSI

IC LC89515

Top View



Description

No.	I/O	Pin Name	No.	I/O	Pin Name	No.	I/O	Pin Name	No.	I/O	Pin Name
1	—	V _{SS}	21	I/O	IO3	41	—	V _{SS}	61	O	EOP
2	O	RA6	22	I/O	IO2	42	I/O	D3	62	O	RCS
3	O	RA7	23	I/O	IO1	43	I/O	D4	63	O	HDE
4	O	RA8	24	—	V _{SS}	44	I/O	D5	64	—	V _{SS}
5	O	RA9	25	I	XTAL	45	I/O	D6	65	I/O	HD7
6	O	RA10	26	O	XTAL	46	I/O	D7	66	I/O	HD6
7	O	RA11	27	I	TEST A	47	I	RS	67	I/O	HD5
8	O	RA12	28	I	TEST B	48	I	RD	68	I/O	HD4
9	O	RA13	29	I	CSEL	49	I	WR	69	I/O	HD3
10	O	RA14	30	I	LMSEL	50	I	CS	70	I/O	HD2
11	O	RA15	31	—	V _{DD}	51	O	INT	71	I/O	HD1
12	O	RWE	32	I	LRCK	52	—	V _{SS}	72	I/O	HD0
13	—	V _{SS}	33	I	SDATA	53	I	RESET	73	—	V _{DD}
14	O	ROE	34	I	BCK	54	I	ENABLE	74	I	SELDRO
15	I/O	ERA	35	I	C4LR	55	I	HRW	75	O	RA0
16	I/O	IO8	36	I	C2PO	56	I	HRD	76	O	RA1
17	I/O	IO7	37	O	MCK	57	I	CMD	77	O	RA2
18	I/O	IO6	38	I/O	D0	58	O	WAIT	78	O	RA3
19	I/O	IO5	39	I/O	D1	59	O	DTEN	79	O	RA4
20	I/O	IO4	40	I/O	D2	60	O	STEN	80	O	RA5

IC107 CMOS Dynamic RAM

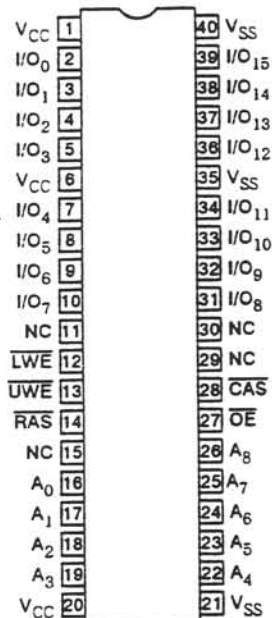
IC UPD424270LE-80

IC HM514270AJ-8

IC M5M44270AJ-8

IC MN414270SJ-08

■ Top View & Pin Layout



Input State				Output State	Operation Mode
RAS	CAS	UWE	LWE		
H	H	D	D	Open	Standby
H	L	H	H	Valid	Standby
L	L	H	H	Valid	Read cycle
L	L	L 2)	L 2)	Open	Early write cycle
L	L	L 2)	L 2)	Underlined	Delayed write cycle
L	L	H → L	H → L	Valid	Read modified write cycle
L	H	D	D	Open	$\overline{\text{RAS}}$ only refresh cycle
H → L	L	D	D	Open	$\overline{\text{CAS}}$ before /RAS refresh cycle
L	H → L	H	H	Valid	High-speed page mode read cycle
L	H → L	L 2)	L 2)	Open	High-speed page mode early write cycle
L	H → L	L 2)	L 2)	Underlined	High-speed page mode delayed write cycle
L	H → L	H → L	H → L	Valid	High-speed page mode read modified write cycle

Note: H=High(inactive), L=Low(active), D=Don't care.

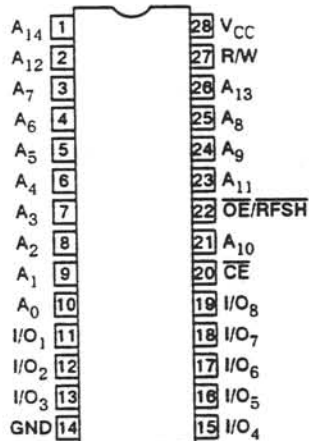
IC108/109 8bit CMOS Pseudo Static RAM

IC LH5P832N-10

IC TC51832FL-10

IC TC51832AFL-10

■ Top View & Pin Layout



■ Pin Configuration and Pin Description

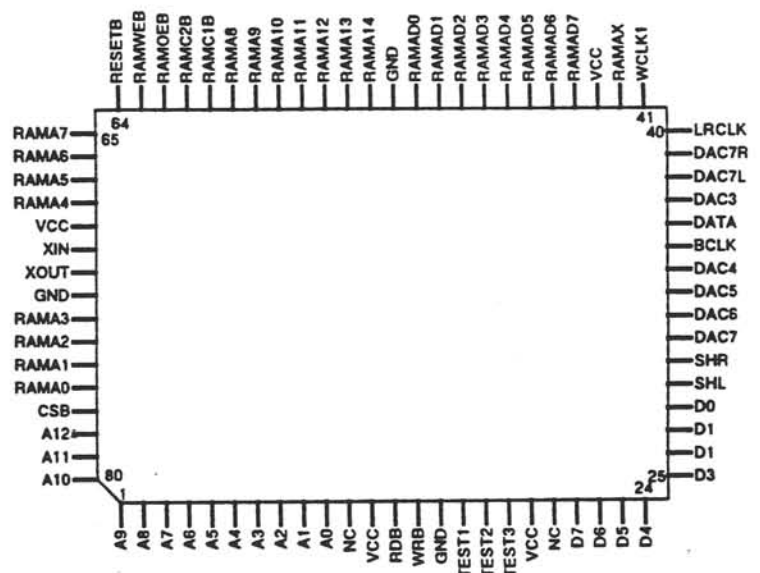
Symbol	Pin Name
$A_0 \sim A_{14}$	Address Input
R/W	Read / Write Input
$\overline{OE} / \overline{RFSH}$	Output Enable / Refresh
$\overline{CE}$	Chip Enable
$I/O, \sim I/O_e$	Data Input / Output

IC110 PCM Sound Source

IC RF5C164A

Parts No. : 315-5476A

■ Top View & Pin Layout



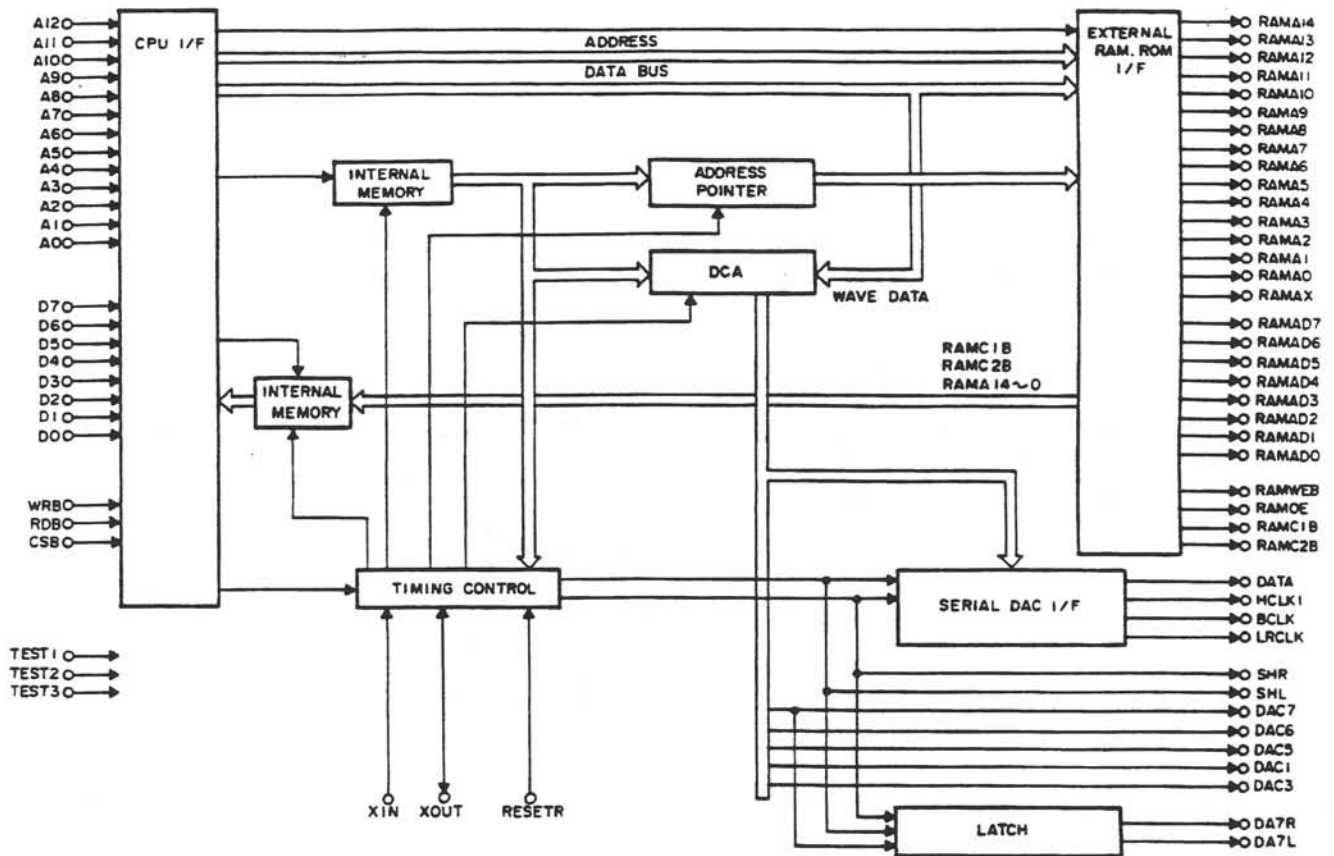
■ Description (IC110)

Pin No.	Name	I/O	Function
78	A12	I	Address signals from μ P.
79	A11		
80	A10		
1	A9		
2	A8		
3	A7		
4	A6		
5	A5		
6	A4		
7	A3		
8	A2		
9	A1		
10	A0		
21	D7	I/O	Data bus signals with μ P.
22	D6		
23	D5		
24	D4		
25	D3		
26	D2		
27	D1		
28	D0		
77	CSB	I	Chip select signal from μ P.
13	RDB	I	Read signal from μ P.
14	WRB	I	Write signal from μ P.
44	RAMAD7	I/O	When connected to a pseudo SRAM, these pins provide multiplex signals of the low order address/data to the SRAM, and when connected to an MROM, these pins provide data input signal from the MROM. When connected to an SRAM, these pins also provide data bus signals to the SRAM.
45	RAMAD6		
46	RAMAD5		
47	RAMAD4		
48	RAMAD3		
49	RAMAD2		
50	RAMAD1		
51	RAMAD0		
53	RAMA14	O	High order address signals of the SRAM & MROM.
54	RAMA13		
55	RAMA12		
56	RAMA11		
57	RAMA10		
58	RAMA9		
59	RAMA8	O	Low address signals of the SRAM & MROM.
65	RAMA7		
66	RAMA6		
67	RAMA5		
68	RAMA4		
73	RAMA3		
74	RAMA2		

Pin No.	Name	I/O	Function
75	RAMA1	O	Low address signals of the SRAM & MROM.
76	RAMA0		
42	RAMAX	O	LSB address signal of the MROM.
61	RAMC2B	O	High order 32k byte SRAM & MROM select signal.
6060	Note: The inter-	O	Low order 32k byte SRAM & MROM select signal.
63	RAMWEB	O	Signal to write data to the pseudo SRAM or SRAM.
62	RAMOEB	O	Signal to read data from the pseudo SRAM, SRAM or MROM.
31	DAC7	O	Multiplex signals of "R" and "L" data output to the parallel DAC.
32	DAC6		
33	DAC5		
34	DAC4		
37	DAC3		
29	SHL	O	DAC7-3 "L" data sample/hold signal.
30	SHR	O	DAC7-3 "R" data sample/hold signal.
39	DAC7R	O	Signal obtained by sampling and holding the DAC7 output at SHR.
38	DAC7L	O	Signal obtained by sampling and holding the DAC7 output at SHL.
41	WCLK1	O	Word clock signal output to the serial DAC.
40	LRCLK	O	LR clock signal output to the serial DAC.
36	DATA	O	Digital audio data signal output to the serial DAC.
35	BCLK	O	Bit clock signal output to the serial DAC.
64	RESETB	I	Reset signal.
70	XIN	I	An external crystal oscillator is connected. A clock signal is input to XIN directly.
71	XOUT	O	
16	TEST1	I	Test signal inputs. Normally, fixed at "L". However, TEST2 is fixed at "H" when an MROM or SRAM is used.
17	TEST2		
18	TEST3		
12	VCC	-	Power supply pins.
19			
43			
69			
15	GND	-	Ground pins.
52			
72			

Note: The interface with the serial DAC is formed in the MSB initial mode.

■ Block Diagram (IC110)



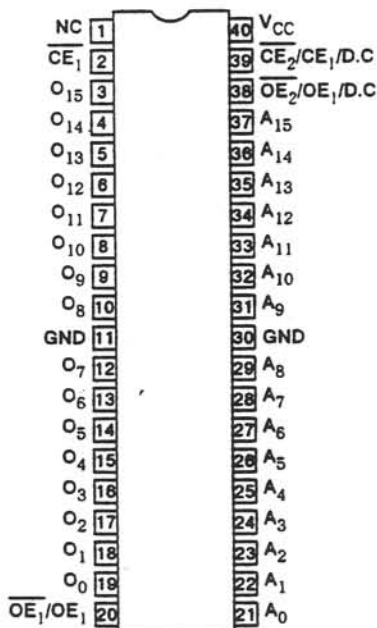
IC111 1Mbit CMOS Masked Programmable ROM

IC SEGA-CD2 BOOT ROM EP
IC MEGA-CD2 (PAL) BOOT ROM

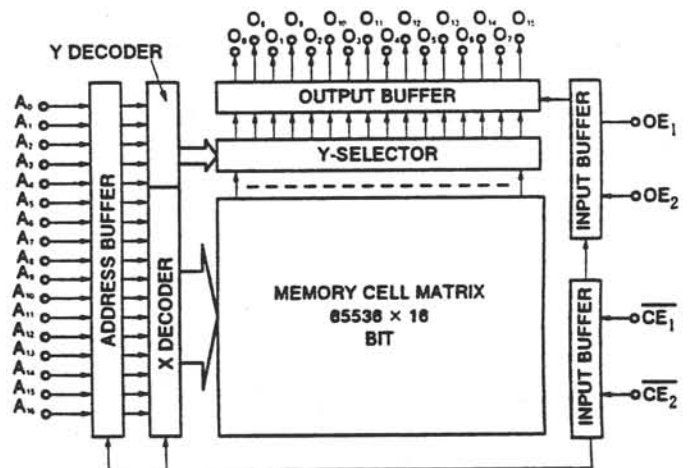
IC SEGA-CD2 USA BOOT ROM

IC MEGA-CD2 BOOT EP MULTI

■ Top View & Pin Layout



■ Block Diagram



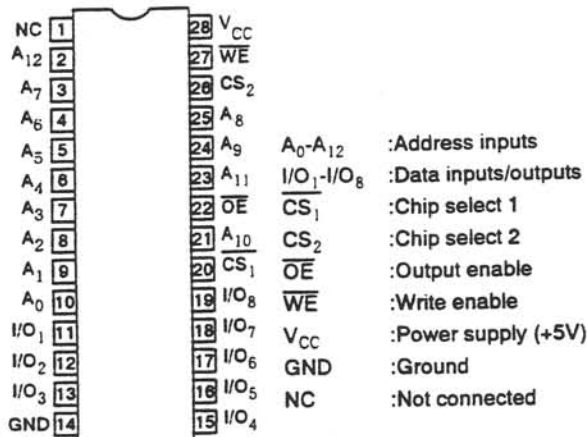
■ Operation Mode

CE ₁	CE ₂	OE ₁	OE ₂	Mode	Output
I	x	x	x	Non-selective	High Impedance
x	I	x	x	Non-selective	
A	A	I	x	Selective	Data
A	A	x	I		
A	A	A	A		

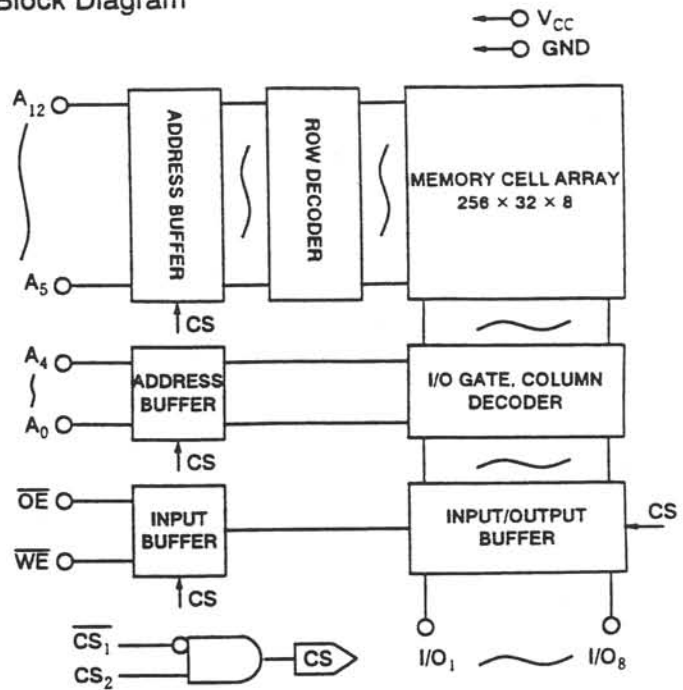
IC112 64k(8k × 8)bit Static RAM

IC MB8464A-10LL

Top View & Pin Layout



Block Diagram

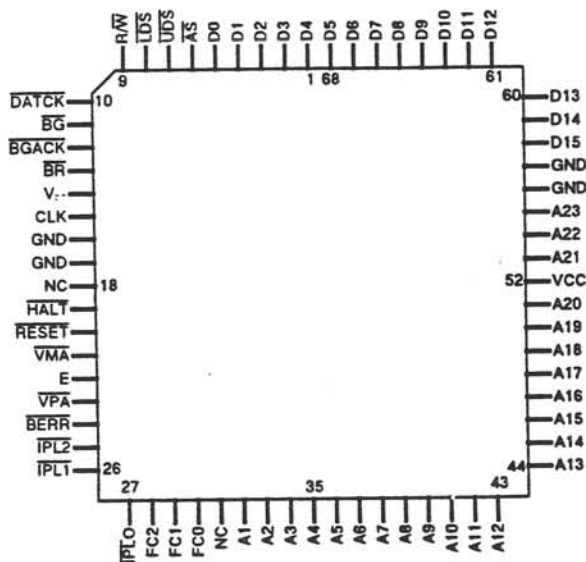


IC113 16/32-Bit Microprocessor

IC MC68HC000FN12

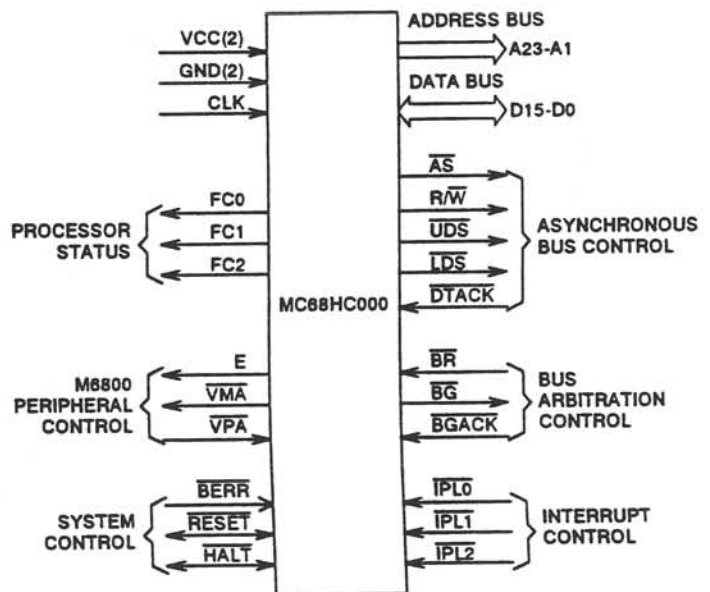
IC HD68HC000CP-12

Top View & Pin Layout



IC TMP68HC000T-12

Signal Description



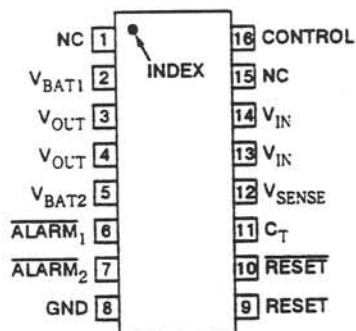
■ Description

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	D ₄	I/O	Data Bus	23	VPA	I	Valid Peripheral Address	46	A ₁₅	O	Address Bus
2	D ₃			24	BERR	I	Bus Error	47	A ₁₆		
3	D ₂			25	IPL ₂	I	Interrupt Control	48	A ₁₇		
4	D ₁			26	IPL ₁			49	A ₁₈		
5	D ₀			27	IPL ₀			50	A ₁₉		
6	AS	O	Address Strobe	28	FC ₂	O	Processor Status	51	A ₂₀	O	Address Bus
7	UDS	O	Upper Data Strobe	29	FC ₁			52	V _{CC}		Power Supply
8	LDS	O	Lower Data Strobe	30	FC ₀			53	A ₂₁	O	Address Bus
9	R/W	O	Read/Write	31	N.C	—		54	A ₂₂		
10	DTACK	I	Data Transfer Acknowledge	32	A ₁	O	Address Bus	55	A ₂₃		
11	BG	O	Bus Grant	33	A ₂			56	V _{SS}	—	GND
12	BGACK	I	Bus Grant Acknowledge	34	A ₃			57	V _{SS}		
13	BR	I	Bus Request	35	A ₄			58	D ₁₅	I/O	Data Bus
14	V _{CC}	—	Power Supply	36	A ₅			59	D ₁₄		
15	CLK	I	Clock	37	A ₆			60	D ₁₃		
16	V _{SS}	—	GND	38	A ₇			61	D ₁₂		
17	V _{SS}	—	GND	39	A ₈			62	D ₁₁		
18	NC	—	Not Connected	40	A ₉			63	D ₁₀		
19	HALT	I/O	Halt	41	A ₁₀			64	D ₉		
20	RES	I/O	Reset	42	A ₁₁			65	D ₈		
21	VMA	O	Valid Memory Address	43	A ₁₂			66	D ₇		
22	E	O	Enable	44	A ₁₃			67	D ₆		
				45	A ₁₄			68	D ₅		

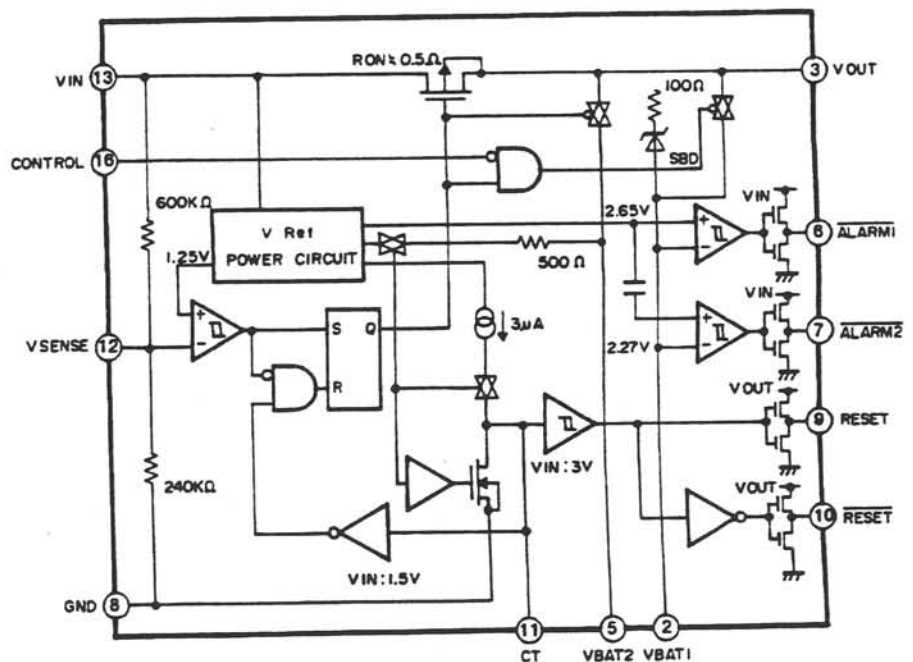
IC114 Battery Back-up

IC MB3790

■ Top View & Pin Layout



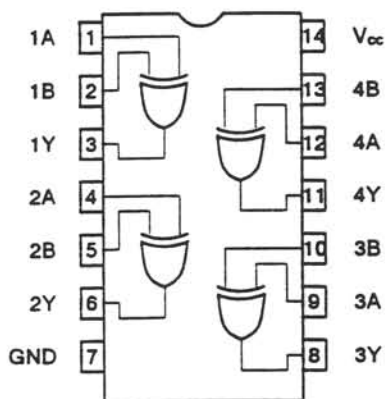
■ Block Diagram



IC116 CMOS Quad Exclusive OR Gate

IC TC74HC86

■ Top View & Pin Layout



■ Truth Table

A	B	Y
H	H	L
L	H	H
H	L	H
L	L	L

IC201 18Bit Digital Filter & 16Bit D/A Converter

IC LC7883KM

■ Top View



■ Description

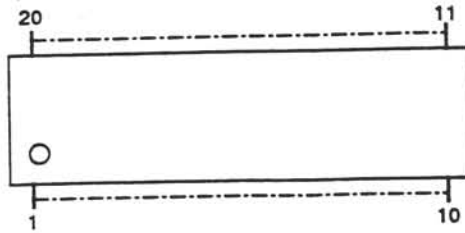
Pin	Name	I/O	Function
1	CH1OUT	O	DAC CH-1 output.
2	VrefH	—	Reference voltage "H" input.
3	AVDD	—	Power supply of analog circuits.
4	DVDD	—	Power supply of digital circuits.
5	BLCK	I	Bit clock.
6	DATA	I	Digital audio data input. Input from the MSB in the bit serial state.
7	LRCK	I	L/R clock input. LRCK= "H" CH1 LRCK= "L" CH2
8	TEST	I	Test pin. (normally, set to "L")
9	ATT	I	Attenuator data input. Input from the LSB in the bit serial state.
10	SHIFT	I	Attenuator data transfer clock input.
11	LATCH	I	Attenuator data latch clock input.
12	INITB	I	Initializing signal input. (normally, set to "H")
13	TEST	I	Test pin. (normally, set to "L")

Pin	Name	I/O	Function
14	EMPH2	I	De-emphasis setting pins.
15	EMPH1		
16	D/N	I	Double/Normal speed switching pin.
17	SOC2	I	Input source select inputs. (PULL-DOWN)
18	SOC1		
19	MODE	I	Operation mode setting pin. (PULL-DOWN)
20	TEST	I	Test pins. (normally, set to "L") (PULL-DOWN)
21			
22	DGND	—	Ground of digital circuits.
23	CLKOUT	O	Clock output. 392Fs: 1/2 XOUT 384Fs, 448Fs, 512Fs : XOUT
24	XIN	I	Crystal oscillator input.
25	XOUT	O	Crystal oscillator output.
26	AGND	—	Ground of analog circuits.
27	VrefL	—	Reference voltage "L" input.
28	CH2OUT	O	DAC CH-2 output.

IC202 16Bit D/A Converter

IC LC78815M

■ Top View



■ Description

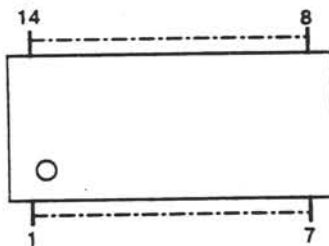
Pin No.	Name	I/O	Function
1	CH1OUT	O	CH-1 output. (L-ch)
2	REFH	—	Reference voltage "H".
3	VrefH	—	Reference voltage "H" input.
4	AVDD	—	Supply voltage of analog circuits.
5	LRCK/WCLK	I	LR clock/word clock input .
6	DATAL	I	Digital audio data input.
7	DATAR	I	Digital audio data input.
8	BCLK	I	Bit clock input.
9	SYSCLK	I	System clock input.
10	DVDD	—	Supply voltage of digital circuits.
11	TSTOUT	O	Test output.

Pin No.	Name	I/O	Function
12	FSEL	—	"L" : Digital audio data is input from the DATAL and DATAR pins simultaneously. "H" : Digital audio data is input from the DATAL pin by time-sharing.
13	MODE1	—	Interface switching.
14	MOCE2		
15	DGND	—	Ground of digital circuits.
16	REFL	—	Reference voltage "L".
17	AGND	—	Ground of analog circuits.
18	VrefL	—	Reference voltage "L" input.
19	NC	—	Not connected.
20	CH2OUT	O	CH-2 output. (R-ch)

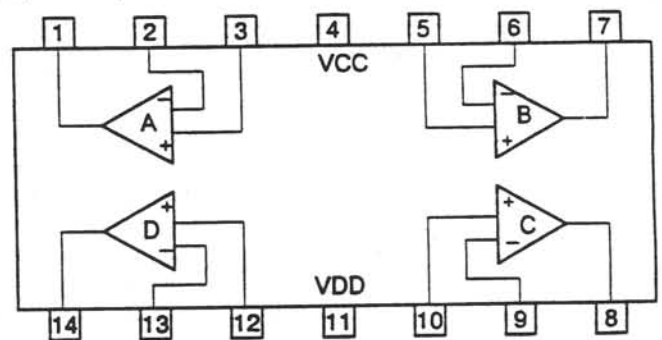
IC203/204 Quad Operational Amplifier

IC NJM3403AM

■ Top View



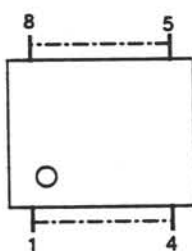
■ Pin Layout



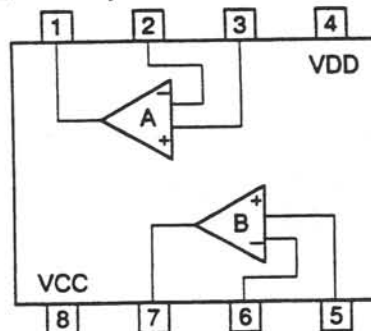
IC205 Dual Operational Amplifier

IC NJM3404AM

■ Top View



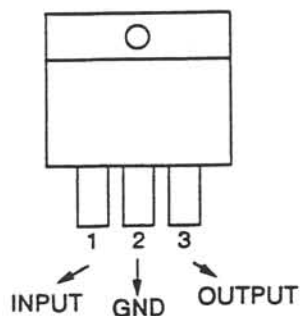
■ Pin Layout



IC301 3-Terminal Voltage Regulator

IC UPC2405HF

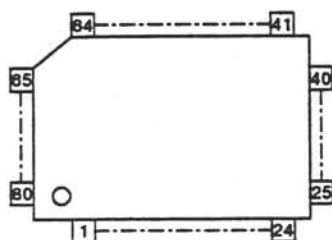
■ Front View



IC401 Digital Processor for CD

IC CXD1167Q

■ Top View

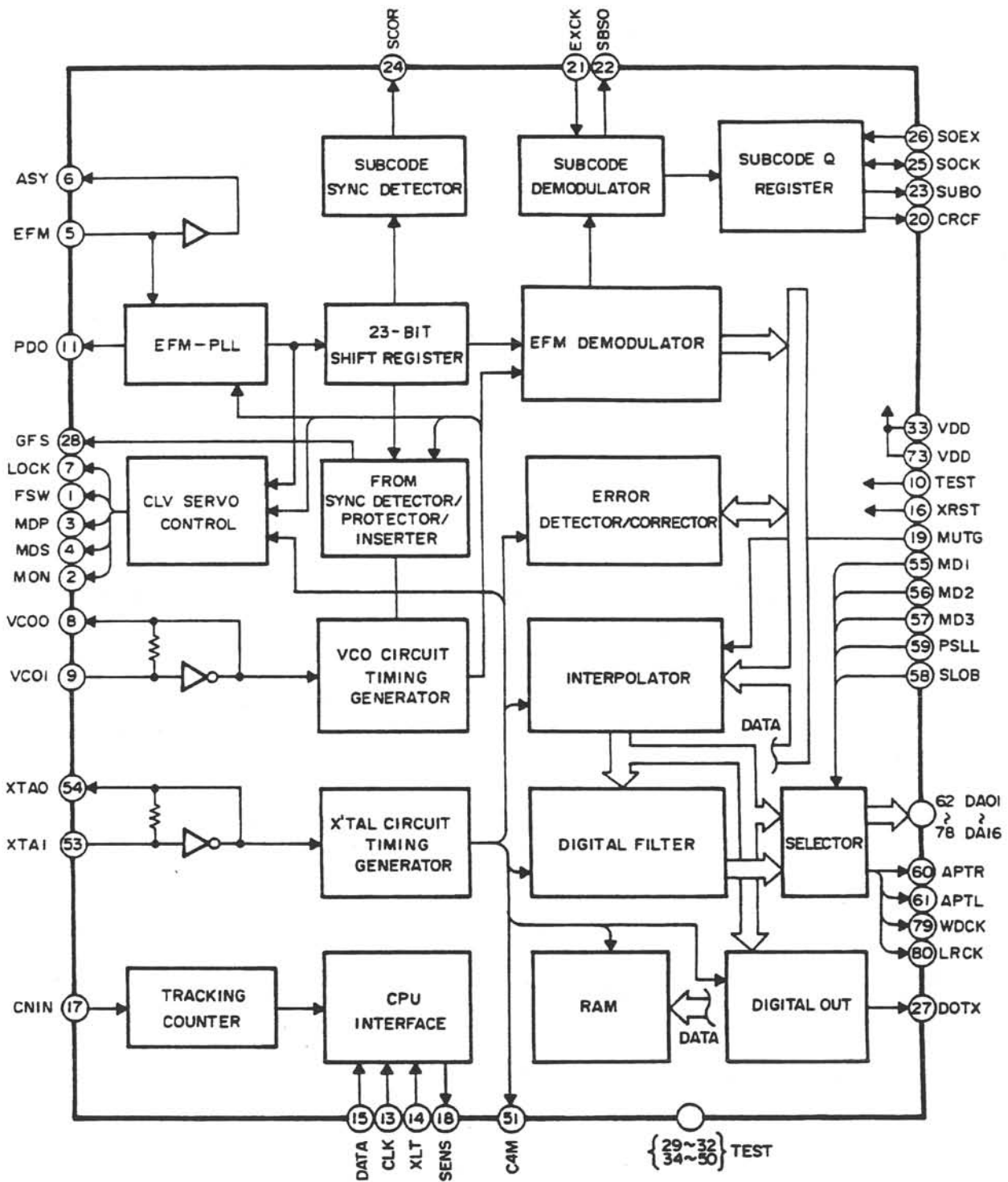


■ Description

Pin No.	Name	I/O	Function
1	FSW	O	Output to switch the time constant of the spindle motor's output filter.
2	MON	O	Spindle motor on/off control output.
3	MDP	O	Spindle motor drive output. Coarse control in the CLV-S mode and phase control in the CLV-P mode.
4	MDS	O	Spindle motor drive output. Speed control in the CLV-P 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 the level is "H", this pin outputs "H" ; when the level is "L" for 8 times continuously, this pin outputs "L".
8	VCOO	O	VCO output. When locked to the EFM signal, the frequency is 8.6436MHz. (17.2872MHz in the double speed mode)
9	VCOI	I	VCO input.
10	TEST	I	(0V)
11	PDO	O	Output obtained by comparing the phases of the EFM signal and VCO/2.
12	V _{ss}	-	GND (0V)
13	CLK	I	Serial data transfer clock input from CPU. Latches the data at the leading edge of the clock signal.
14	XLT	I	Latch input from CPU. Latches the data in the 8-bit shift register, (serial data from CPU) in each register.
15	DATA	I	Serial data input from CPU.
16	XRST	I	System reset input. Reset when "L" is input.
17	CNIN	I	Tracking pulse input.
18	SENS	O	Outputs the internal state according to the address.
19	MUTG	I	Muting input. When ATTM of internal register A is "L", MUTG "L" causes the normal state and MUTG "H", causes muting.
20	CRCF	O	Outputs the CRC check results of subcode Q.
21	EXCK	I	Clock input for serial output of subcodes.
22	SBSO	O	Serial output of subcodes.
23	SUBQ	O	Subcode Q output.

Pin No.	Name	I/O	Function
24	SCOR	O	Subcode sync S0 + S1 output.
25	SQCK	I/O	Subcode Q reading clock.
26	SQEX	I	SQCK select input. (see CPU interface)
27	DOTX	O	Digital output. (WFCK is output when DO is off)
28	GFS	O	Output to display the frame sync locked state.
29	TEST	I	Fixed at "H" or "L", do not set to open.
30			
31			
32			
33	V _{DD}	—	Power supply. (+5V)
34	TEST	I	Fixed at "H" or "L", do not set to open.
35			
36			
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50			
51	C4M	O	Crystal oscillator's frequency divided output. $f = 4.2336\text{MHz}$. (8.4672MHz during double-speed play)
52	V _{SS}	—	GND (0V)
53	XTAI	I	Crystal oscillator input. The frequency is determined as 8.4672MHz or 16.9344MHz (during double-speed play) by the mode select inputs.
54	XTAO	O	Crystal oscillator output. The frequency is determined as 8.4672MHz or 16.9344MHz (during double-speed play) by the mode select inputs.
55	MD1	I	Mode select input 1.
56	MD2	I	Mode select input 2.
57	MD3	I	Mode select input 3.
58	SLOB	I	Input to switch the audio data output code. "L": complementary output, "H": offset binary output.
59	PSSL	I	Input to switch the audio data output mode. "L": serial output, "H": parallel output.
60	APTR	O	Aperture correction control output. "H": R-ch.
61	APTL	O	Aperture correction control output. "H": L-ch.
62	DA01	O	DA01 (LSB of parallel audio data) output when PSSL is "H". C1F1 output when PSSL is "L".
63	DA02	O	DA02 output when PSSL is "H". C1F2 output when PSSL is "L".
64	DA03	O	DA03 output when PSSL is "H". C2F1 output when PSSL is "L".
65	DA04	O	DA04 output when PSSL is "H". C2F2 output when PSSL is "L".
66	DA05	O	DA05 output when PSSL is "H". C2FL output when PSSL is "L".
67	DA06	O	DA06 output when PSSL is "H". C2PO output when PSSL is "L".
68	DA07	O	DA07 output when PSSL is "H". RFCK output when PSSL is "L".
69	DA08	O	DA08 output when PSSL is "H". WFCK output when PSSL is "L".
70	DA09	O	DA09 output when PSSL is "H". PLCK output when PSSL is "L".
71	DA10	O	DA10 output when PSSL is "H". UGFS output when PSSL is "L".
72	DA11	O	DA11 output when PSSL is "H". GTOP output when PSSL is "L".
73	V _{DD}	—	Power supply. (+5V)
74	DA12	O	DA12 output when PSSL is "H". RA0V output when PSSL is "L".
75	DA13	O	DA13 output when PSSL is "H". C4LR output when PSSL is "L".
76	DA14	O	DA14 output when PSSL is "H". BCLK output when PSSL is "L".
77	DA15	O	DA15 output when PSSL is "H". BCLK output when PSSL is "L".
78	DA16	O	DA16 (MSB of parallel audio data) output when PSSL is "H". DATA output when PSSL is "L".
79	WDCK	O	Strobe signal output. 176.4kHz (352.8kHz in double-speed play) when DF is on, and 88.2kHz (176.4kHz in double-speed play) when DF is off.
80	LRCK	O	Strobe signal output. 88.2kHz (176.4kHz in double-speed play) when DF is on, and 44.1kHz (88.2kHz in double-speed play) when DF is off.

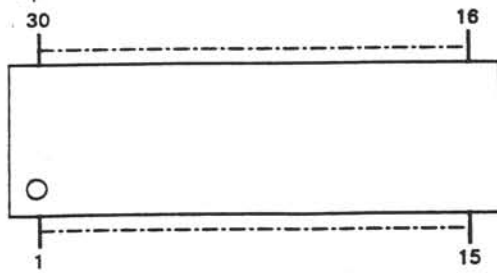
■ Block Diagram



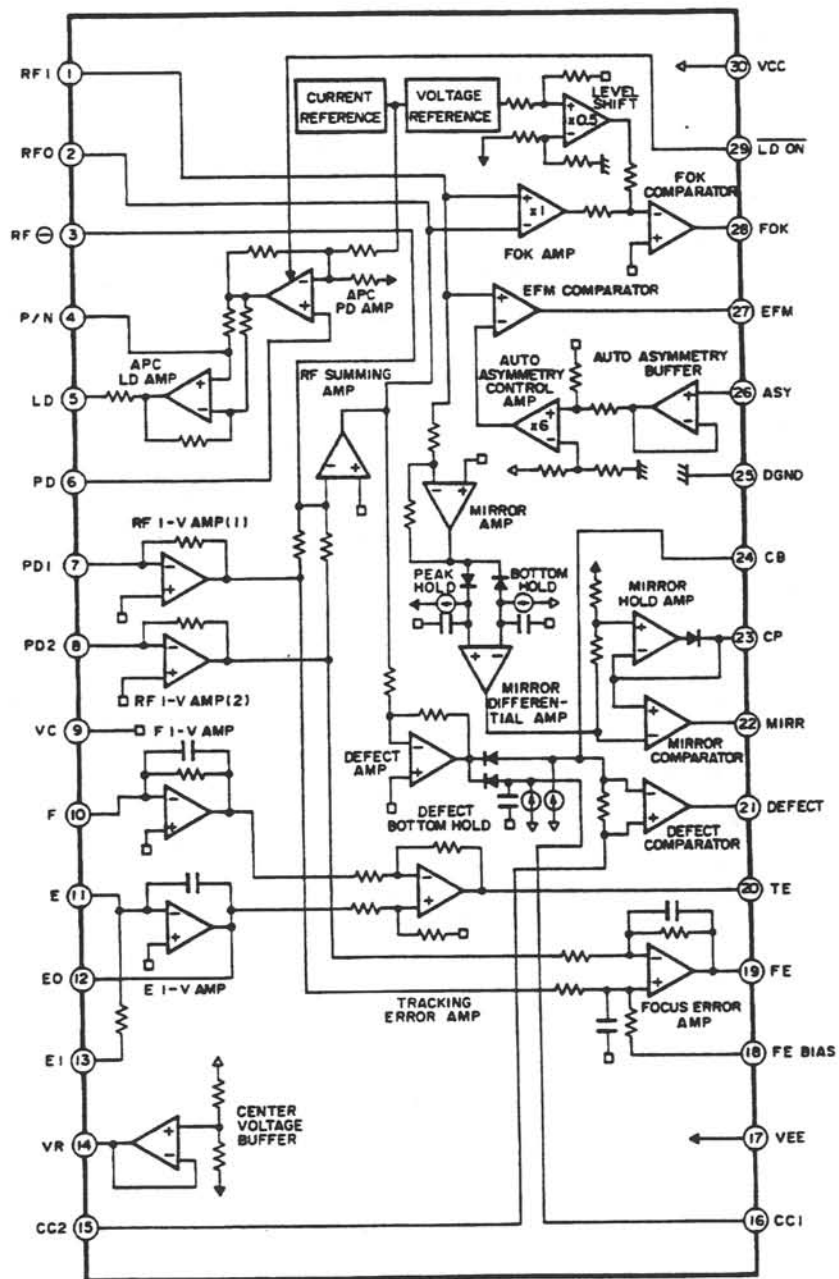
IC402 RF Amplifier for CD

IC CXA1081M

Top View



Block Diagram



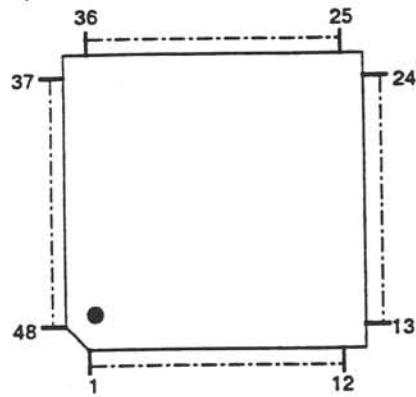
Pin No.	Name	I/O	Function
1	RFI	I	The RF summing amp outputs are capacity-coupled before input.
2	RFO	O	RF summing amp output. Eye pattern check point
3	RF $\ominus$	I	RF summing amp feedback input.
4	P/N	I	Laser diode (LD) P-sub/N-sub switching. (DC voltage: when switched to N-sub)
5	LD	O	Automatic power control (APC) LD amp output. (DC voltage, when switched to N-sub, PD open)
6	PD	I	Automatic power control (APC) PD amp input. (DC voltage: open)
7	PD1	I	RF I-V amp (1) inverting input. Connected to the A + C terminal of the photodiode and the current is input.
8	PD2	I	RF I-V amp (2) inverting input. Connected to the B + D terminal of the photodiode and the current is input.
9	VC	–	With positive/negative power supplies: GND. With single power supply: VR. (connected to pin 14)
10	F	I	F I-V amp inverting input. Connected to the F terminal of the photodiode and the current is input.
11	E	I	E I-V amp inverting input. Connected to the E terminal of the photodiode and the current is input.
12	EO	O	E I-V amp output.
13	EI	I	E I-V amp feedback input. Used to adjust the gain of the E I-V amp.
14	VR	O	$(V_{CC} + V_{EE}) / 2$ V DC output.
15	CC2	I	The DEFECT bottom hold outputs are capacity-coupled and input.
16	CC1	O	DEFECT bottom hold output.
17	V_{EE}	–	With positive/negative power supplies: Negative power supply pin. With single power supply: GND.
18	FE BIAS	I	Bias pin for the non-inverting input of focus error amp. Used for CMR adjustment of the focus error amp.
19	FE	O	Focus error amp output.
20	TE	O	Tracking error amp output.
21	DEFECT	O	DEFECT comparator output. (DC voltage: with 10k Ω resistor connected)
22	MIRR	O	MIRR comparator output. (DC voltage: with 10k Ω resistor connected)
23	CP	I	A MIRR hold capacitor is connected. Non-inverting input of the MIRR comparator.
24	CB	I	A DEFECT bottom hold capacitor is connected.
25	D_{GND}	–	With positive/negative power supplies: GND. With single power supply: GND. (V_{EE})
26	ASY	I	Auto asymmetry control input.
27	EFM	O	EFM comparator output. (DC voltage: with 10k Ω load resistor connected)
28	FOK	O	Focus OK comparator output. (DC voltage: with 10k Ω load resistor connected)
29	$\overline{LD\ ON}$	I	Laser diode (LD) on/off switching. (DC voltage: when LD is turned on)
30	V_{CC}	–	Positive power supply.

Note: Values in brackets () are for CXA1081Q. ($V_{CC}=2.5V$, $V_{EE} = D_{GND} = -2.5V$, $VC=GND$)

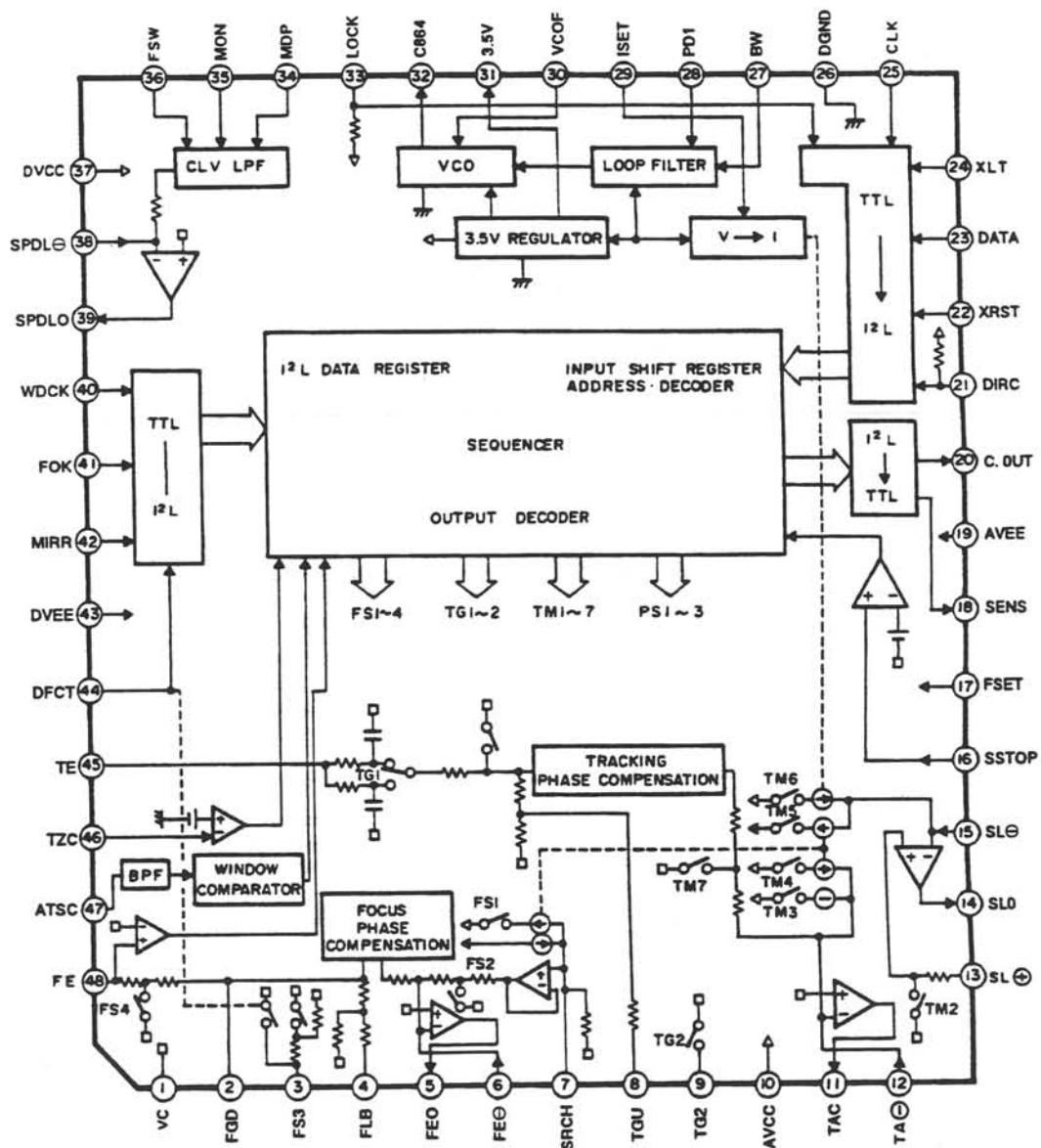
IC403 Servo Signal Processor for CD

IC CXA1082Q

Top View



Block Diagram



■ Description

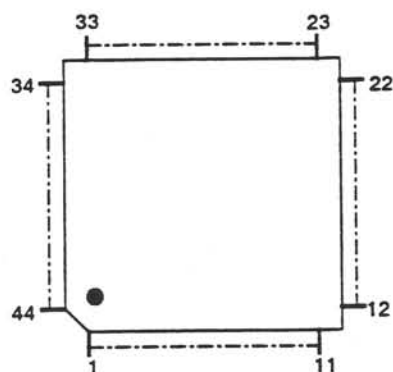
Pin No.	Name	I/O	Function
2	FGD	—	A capacitor is inserted between this pin and pin ③ to decrease the focus servo high-frequency gain.
3	FS3	—	FS3 is turned on or off to switch the focus servo high-frequency gain.
4	FLB	—	Time constant components are connected externally to boost the focus servo low frequencies.
5	FEO	O	Focus drive output.
6	FE $\ominus$	I	Focus amp inverting input.
7	SRCH	—	Time constant components are connected externally to form the focus search waveform.
8	TGU	—	Time constant components are connected externally to switch the tracking high-frequency gain.
9	TG2	—	Time constant components are connected externally to switch the tracking high-frequency gain.
11	TAO	O	Tracking drive output.
12	TA $\ominus$	I	Tracking amp inverting input.
13	SL $\oplus$	I	Sled amp non-inverting input.
14	SLO	O	Sled drive output.
15	SL $\ominus$	I	Sled amp inverting input.
16	SSTOP	—	Signal to detect whether the limit switch that detects the disc innermost edge is turned on or off.
17	FSET	—	Determines the peak of the focus/tracking phase compensation and the frequency (fo) of CLV LPF.
18	SENS	O	Outputs FZC, AS, TZC, SSTOP and $\overline{\text{BUSY}}$, instructed by commands from the CPU.
20	C.OUT	O	Outputs a signal to count the number of tracks.
21	DIRC	—	Used to jump one track. A 47k Ω pull-up resistor is incorporated.
22	XRST	—	Reset when "L" is input to the reset input.
23	DATA	I	Serial data input from the CPU.
24	XLT	I	Latch input from the CPU.
25	CLK	I	Serial data transfer clock input from the CPU.
27	BW	—	Time constant components of the loop filter is connected externally.
28	PDI	I	The CX23035/CXD1135 phase comparator output PDO is input.
29	ISET	—	Supplies the current that determines the levels of the focus search, track jump and sled kick.
30	VCOF	—	The VCO free-running frequency is proportional to the resistance between this pin and pin ③.
32	C864	O	8.64MHz VCO output.
33	LOCK	—	"L" activates the sled run-out prevention circuit. A 47k Ω pull-up resistor is incorporated.
34	MDP	—	The MDP pin of the CX23035/CXD1135 is connected.
35	MON	—	The MON pin of the CX23035/CXD1135 is connected.
36	FSW	—	Time constant components of the LPF for the CLV servo error signal are connected externally.
38	SPDL $\ominus$	I	Spindle drive amp inverting input.
39	SPDLO	O	Spindle drive output.
40	WDCK	I	Clock input for auto sequence. Normally, 88.2kHz is input.
41	FOK	I	FOK signal input.
42	MIRR	I	Mirror signal input.
44	DFCT	I	DEFECT signal input. "H" activates the defect troubleshooting circuit.
45	TE	I	Tracking error signal input.
46	TZC	I	Tracking zero-cross comparator input.
47	ATSC	I	ATSC detection window comparator input.
48	FE	I	Focus error signal input.

IC404 4Bit Single Chip Microcomputer

IC UPD75P008GB

IC UPD75006GB

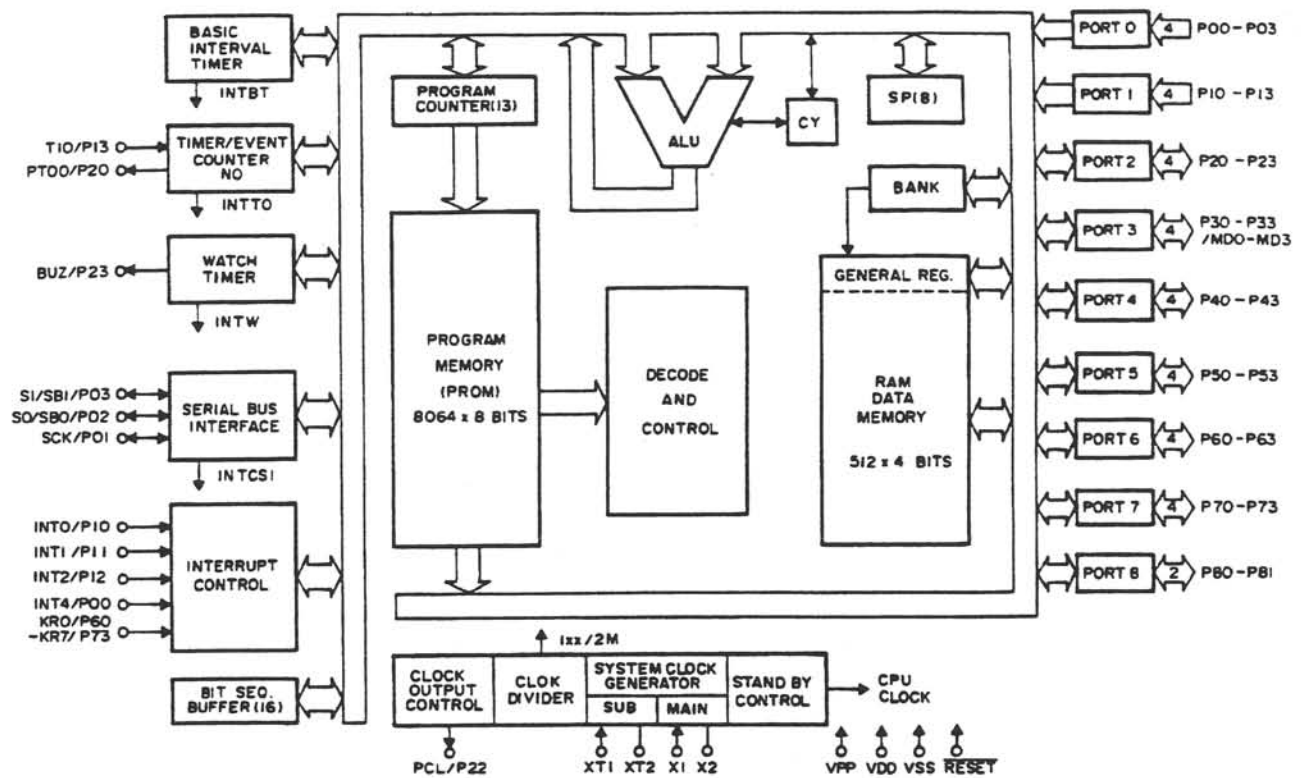
■ Top View



■ Description

Pin No.	Port Name	Pin Name	I/O	Function
1	P72	—		Not used.
2	P71	MUTG	O	Digital muting control for CXD1167Q. "H": Muting.
3	P70	TIR Q	—	Not used.
4	P63	CLK	O	Serial data transfer to CXA1082BQ and CXD1167Q.
5	P62	XLT		
6	P61	DATA		
7	P60	GAIN	—	Disc servo gain switching.
8	P53	TDB3	—	Not used.
9	P52	TDB2	—	
10	P51	TDB1	—	
11	P50	TDB0	—	
13	P43	DB3	I/O	Data bus with the host CPU.
14	P42	DB2		
15	P41	DB1		
16	P40	DB0		
23	P33	—	—	Not used.
24	P32	L-MUTE	O	Muting output. "L": during music play, "H": in other modes.
25	P31	CDCK	O	CD mechanism control clock.
26	P30	IRQ	O	Interrupt request.
27	P81		I	Open/close switch.
28	P80	HOCK	I	Host CPU clock.
29	P03(SI)	SUB Q	I	Q-code serial data input.
30	P02(SO)	—	—	Not used.
31	P01(SCK)	SQCK	O	Serial clock to read Q codes.
32	P00(INT4)	—	—	Not used.
33	P13	—	—	Not used.
35	P12(INT2)	—	—	Not used.
36	P11(INT1)	SCOR	I	External interrupt request to read Q codes. Interrupt at the leading edge.
37	P10(INT0)	SENS1	I	CXA1082/CXD1167Q sensing input.
40	P23	THOCK	—	Not used.
41	P22	TEST1	I	Test input. "H": Normal, "L": Test.
42	P21	FOK	I	Focus OK signal input.
43	P20	SENS	I	CXA1082/CXD1167Q sensing input.
44	P73	LDON	O	Laser diode on/off switching. "H": LD ON.

Block Diagram

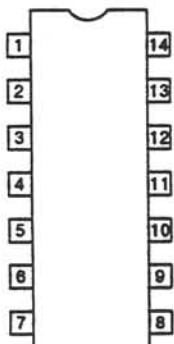


IC407 CMOS Inverter

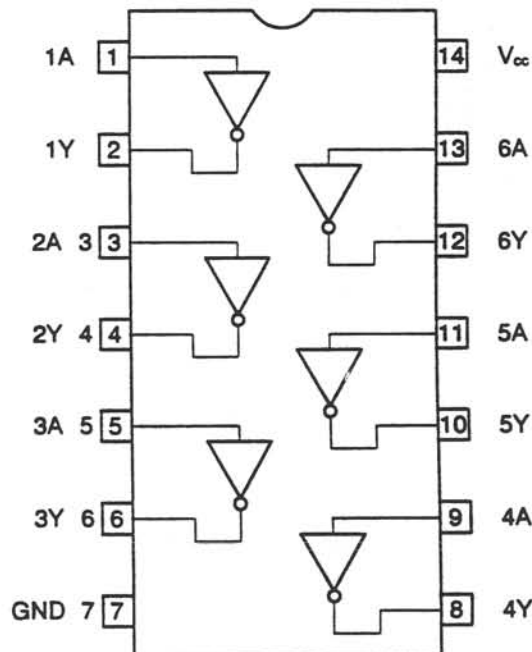
IC 74HCU04

Parts No. : 314-0571

Top View



Pin Layout



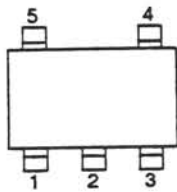
Truth Table

A	Y
L	H
H	L

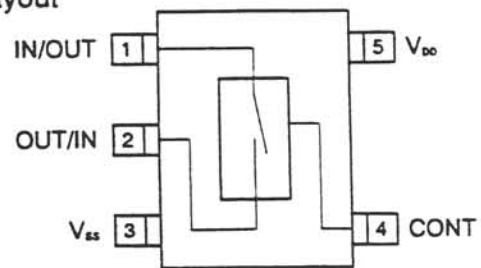
IC408 Bilateral Switch

IC TC4S66F-TE85R

■ Top View



■ Pin Layout

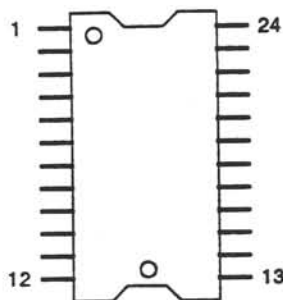


IC409 4ch Linear Driver

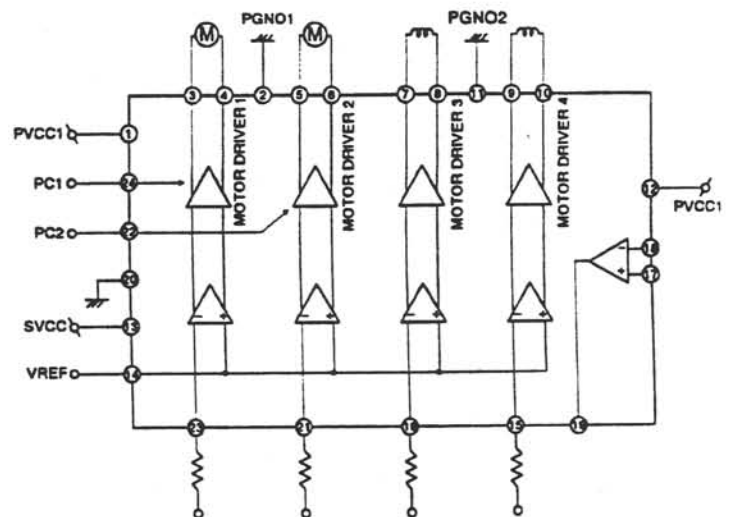
IC AN8388SR

IC AN8388NSRBE1

■ Top View



■ Block Diagram



■ Description

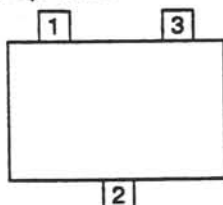
Pin No.	Function
1	Driver power supply pin 1
2	Driver ground pin 1
3	Motor driver 1 reverse run output
4	Motor driver 1 forward run output
5	Motor driver 2 reverse run output
6	Motor driver 2 forward run output
7	Motor driver 3 reverse run output
8	Motor driver 3 forward run output
9	Motor driver 4 reverse run output
10	Motor driver 4 forward run output
11	Driver ground pin 2
12	Driver power supply pin 2

Pin No.	Function
13	Power supply pin
14	VREF input pin
15	Motor driver 4 input
16	Motor driver 3 input
17	OP amp forward input pin
18	OP amp reverse input pin
19	OP amp output
20	Ground pin
21	Motor driver 2 input
22	PC2 (power cutoff) input
23	Motor driver 1 input
24	PC1 (power cutoff) input

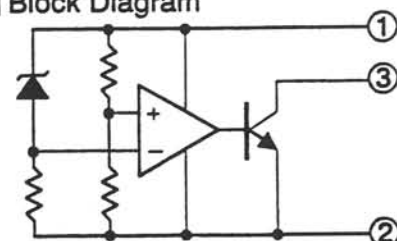
IC601 System Reset

IC PST529F MMP3P

■ Top View

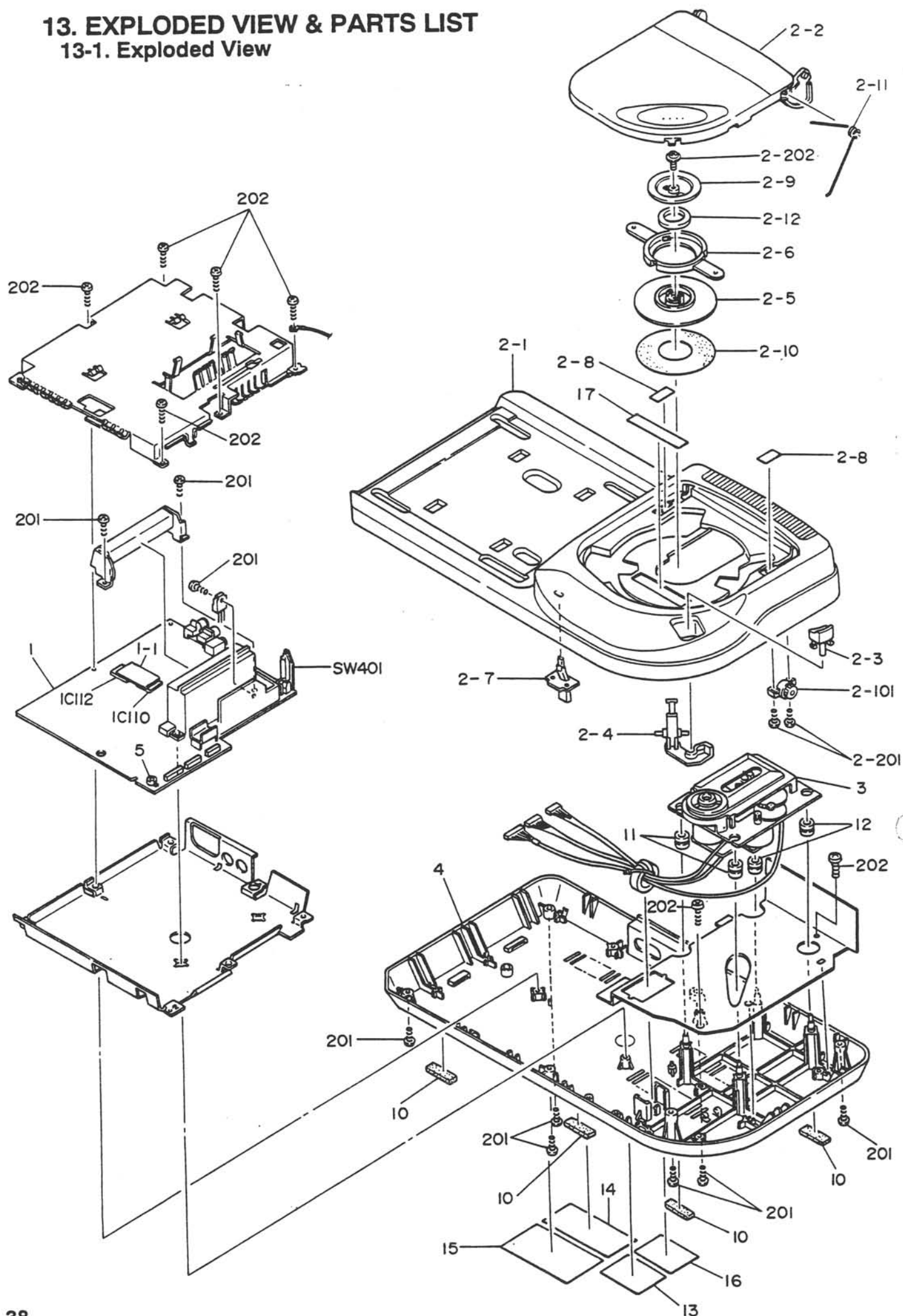


■ Block Diagram



13. EXPLODED VIEW & PARTS LIST

13-1. Exploded View



13-2. Mechanical Parts List

13-3. Electrical Parts List

Ref. No.	Parts No.	Description	Circuit No.	Parts No.	Description
1	837-9615	IC BD SEGA-CD2 MAIN BD USA (CBA) [S]	IC001	314-0367	IC 74HC04
1	837-9616	IC BD MEGA-CD2 MAIN BD MULTI (CBA) [M]	IC002	314-0407	IC 74HC74
1-1	837-9798	IC BD MEGA-CD2 PCM BD	IC101	315-5632	IC CUSTOM CHIP MCE3 FUJITSU
2-1	253-6661	TOP CASE MEGA-CD2 EXPORT	IC102	315-0745-80	IC TC511664BJ-80 SOJ TOSHIBA
2-2	253-6635	DOOR SEGA-CD2 USA [S]	IC102	315-0804-70	IC UPD421664LE-70 SOJ NEC
2-2	253-6636	DOOR MEGA-CD2 MULTI [M]	IC102	315-0804-80	IC UPD421664-80 SOJ NEC
2-3	253-6562-01	DOOR KNOB SEGA-CD2 USA [S]	IC102	315-0805-80	IC UPD421664-80L SOJ NEC
2-3	253-6562-02	DOOR KNOB MEGA-CD2 MULTI [M]	IC103	315-0745-80	IC TC511664BJ-80 SOJ TOSHIBA
2-4	253-6563	DOOR LEVER MEGA-CD2	IC103	315-0804-70	IC UPD421664LE-70 SOJ NEC
2-5	253-6564	CHUCK DISK MEGA-CD2	IC103	315-0804-80	IC UPD421664-80 SOJ NEC
2-6	253-6565	CHUCK HOLDER MEGA-CD2	IC103	315-0805-80	IC UPD421664-80L SOJ NEC
2-7	253-6566	LED LENS MEGA-CD2	IC104	315-0796-70	IC CXK5864BM-70 SOP SONY
2-8	253-6569	BLIND SHEET MEGA-CD2	IC105	315-0796-70	IC CXK5864BM-70 SOP SONY
2-9	250-5306	CONNECT PLATE MEGA-CD2	IC106	315-5181-01	IC LC89515 QFP SANYO
2-10	601-6983	CHUCK SHEET MEGA-CD2	IC107	315-0739-80	IC UPD424270LE-80 NEC
2-11	125-5101	DOOR SPRING MEGA-CD2	IC107	315-0777-80	IC HM514270AJ-8 SOJ HITACHI
2-12	113-0020	MAGNET MEGA-CD2	IC107	315-0818	IC M5M44270AJ-8 SOJ MITSUBISHI
2-101	601-7018	OIL DAMPER MEGA-CD2	IC107	315-0822-80	IC MN414270SJ-08 SOJ PANASONIC
2-201	012-P00210	TAP SCR PH M2×10	IC108	315-0760-10	IC LH5P832N-10 SOP SHARP
2-202	029-000016	CUP SCR M2. 6×5	IC108	315-0677	IC TC51832FL-10 SOP TOSHIBA
3	610-5424	CD DRIVE UNIT MEGA-CD2	IC108	315-0759-10	IC TC51832AFL-10 SOP TOSHIBA
4	253-6651	BOTTOM CASE MEGA-CD2 EXPORT	IC109	315-0760-10	IC LH5P832N-10 SOP SHARP
5	253-6567	LED HOLDER MEGA-CD2	IC109	315-0677	IC TC51832FL-10 SOP TOSHIBA
10	601-6982	RUBBER FOOT MEGA-CD2	IC109	315-0759-10	IC TC51832AFL-10 SOP TOSHIBA
11	601-6984	RUBBER DAMPER A MEGA-CD2	IC110	315-5476A	IC CUSTOM CHIP RF5C164A RICHIO
12	601-7002	RUBBER DAMPER B MEGA-CD2	IC111	EPR-15511	IC SEGA-CD2 BOOT ROM EP [S]
13	670-3119	LABEL SER. NO. SEGA-CD2 [S]	IC111	MPR-15511A	IC SEGA-CD2 USA BOOT ROM [S]
13	670-3120	LABEL SER. NO. MEGA-CD2 MULTI [M]	IC111	EPR-15512	IC MEGA-CD2 BOOT EP MULTI [M]
14	670-0248	SEAL CUSTOMER SERVICE [S]	IC111	MPR-15512A	IC MEGA-CD2 (PAL) BOOT ROM [M]
14	670-2774	LABEL CAUTION LASER EUROPE [M]	IC112	315-0635	IC MB8464A-10LL PF-G-BND FUJITSU
14	670-3349	LABEL CUSTOMER SERVICE SOC [S]	IC113	315-0637	IC MC68HC000FN12 PLCC MOTOROLA
15	670-3204	LABEL FCC SEGA-CD2 USA [S]	IC113	315-0650	IC HD68HC000CP-12 PLCC HITACHI
15	670-3417	LABEL FCC SEGA-CD2 CAN [S]	IC113	315-0626	IC TMP68HC000T-12 PLCC TOSHIBA
16	670-3126-01	LABEL FDA MK-4101 USA [S]	IC114	313-5190	IC MB3790 SOP 16PIN FUJITSU
16	670-2708	SEAL RFI MARK MEGA-CD MULTI [M]	IC116	314-0549-01	IC TC74HC86 SOP TOSHIBA
17	670-3209	CAUTION LABEL SEGA-CD2 [S]	IC201	313-5184	IC LC7883KM SOP SANYO
17	670-3210	CAUTION LABEL MEGA-CD2 MULTI [M]	IC202	313-5231	IC LC78815M SOP 20P SANYO
201	012-P00310	TAP SCR PH M3×10	IC203	313-5249	IC NJM3403AM SOP
202	012-P00308	TAP SCR PH M3×8	IC204	313-5249	IC NJM3403AM SOP
			IC205	313-5250	IC NJM3404AM SOP
			IC301	313-5193	IC UPC2405HF NEC
			IC401	315-0798	IC CXD11670 QFP
			IC402	313-5251	IC CXA1081M SOP
			IC403	313-5252	IC CXA1082Q QFP
			IC404	315-0799	IC UPD75P008GB QFP
			IC404	315-0808	IC UPD75006GB QFP
			IC407	314-0571	IC 74HC004 SOP
			IC408	313-5253	IC TC4S66F-TE85R
			IC409	314-0572	IC AN8388SR SOP
			IC409	314-0585	IC AN8388NSRBE1 SOP
			IC601	314-0573	IC PST529F MMP3P RESET IC
			X 101	230-5103	XTAL OSC 50.000MHZ JX0-7
			X 401	230-5104	XTAL OSC 16.9344MHZ HC-49U
			X 702	230-5109	CER OSC 4.19MHZ
			Q 101	482-5191	XSTR CHIP 2SC2812-5-CP-TB
			Q 101	482-5192	XSTR CHIP 2SC2812-6-CP-TB
			Q 201	482-5191	XSTR CHIP 2SC2812-5-CP-TB
			Q 201	482-5192	XSTR CHIP 2SC2812-6-CP-TB
			Q 202	482-5191	XSTR CHIP 2SC2812-5-CP-TB
			Q 202	482-5192	XSTR CHIP 2SC2812-6-CP-TB

Note: [S] → SEGA CD II
[M] → MEGA CD II

Circuit No.	Parts No.	Description	Circuit No.	Parts No.	Description
Q 301	482-5193	XSTR 2SB963 M	R 220	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
Q 301	482-5194	XSTR 2SB963 L	R 221	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
Q 301	482-5195	XSTR 2SB963 K	R 222	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
Q 302	482-5191	XSTR CHIP 2SC2812-5-CP-TB	R 223	476-1222-J-16	RES CHIP 2.2kOHM 1/16W 5%
Q 302	482-5192	XSTR CHIP 2SC2812-6-CP-TB	R 224	476-1331-J-16	RES CHIP 330 OHM 1/16W 5%
Q 302	482-5204	XSTR CHIP 2SC4362	R 225	476-1222-J-16	RES CHIP 2.2kOHM 1/16W 5%
Q 302	482-5205	XSTR CHIP UN221L	R 226	476-1331-J-16	RES CHIP 330 OHM 1/16W 5%
Q 401	482-5196	XSTR 2SA1704 S-AN	R 227	476-1750-J-16	RES CHIP 750HM 1/16W 5%
Q 401	482-5197	XSTR 2SA1704 T-AN	R 228	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
Q 402	482-5191	XSTR CHIP 2SC2812-5-CP-TB	R 229	476-1750-J-16	RES CHIP 750HM 1/16W 5%
Q 402	482-5192	XSTR CHIP 2SC2812-6-CP-TB	R 230	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
BT101	401-0037	BATTERY ML2016-HS1 SANYO	R 231	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
D 301	481-5119	DIODE DSK10-ET1	R 232	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
D 302	481-5121	DIODE GMB01-BT	R 233	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
D 401	481-5120	DIODE 1S2076RE	R 234	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
D 601	481-5121	DIODE GMB01-BT	R 235	476-1331-J-16	RES CHIP 330 OHM 1/16W 5%
LD101	390-5449	LED LN88RPX	R 236	476-1331-J-16	RES CHIP 330 OHM 1/16W 5%
FLT505	271-0058	FILMAC TH30333MAT	R 237	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
FLT506	479-5009	RES 0 OHM 1/4W	R 238	476-1332-J-16	RES CHIP 3.3kOHM 1/16W 5%
FLT507	479-5009	RES 0 OHM 1/4W	R 239	476-1332-J-16	RES CHIP 3.3kOHM 1/16W 5%
FLT512	271-0058	FILMAC TH30333MAT	R 240	476-1332-J-16	RES CHIP 3.3kOHM 1/16W 5%
FLT516	479-5009	RES 0 OHM 1/4W	R 241	476-1750-J-16	RES CHIP 750HM 1/16W 5%
FLT519	479-5009	RES 0 OHM 1/4W	R 242	476-1750-J-16	RES CHIP 750HM 1/16W 5%
FLT520	479-5009	RES 0 OHM 1/4W	R 243	476-1152-J-16	RES CHIP 1.5kOHM 1/16W 5%
FLT522	479-5009	RES 0 OHM 1/4W	R 244	476-1122-J-16	RES CHIP 1.2kOHM 1/16W 5%
FLT600	479-5009	RES 0 OHM 1/4W	R 301	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
FLT601	271-0059	FILMAC TX09500NBT	R 301	476-1822-J-16	RES CHIP 8.2kOHM 1/16W 5%
FLT602	271-0060	FILMAC TX07520NBT	R 302	476-1162-J-16	RES CHIP 1.6kOHM 1/16W 5%
FLT604	479-5009	RES 0 OHM 1/4W	R 302	NOT USED	NOT USED
EMI202	271-0007	EMI FILTER STX222MB	R 303	476-1162-J-16	RES CHIP 1.6kOHM 1/16W 5%
EMI202	479-5009	RES 0 OHM 1/4W	R 304	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
EMI203	271-0007	EMI FILTER STX222MB	R 401	476-1102-J-16	RES CHIP 1kOHM 1/16W 5%
EMI203	479-5009	RES 0 OHM 1/4W	R 402	476-2100-J-10	RES CHIP 10 OHM 1/10W 5%
EMI204	479-5009	RES 0 OHM 1/4W	R 403	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%
EMI205	479-5009	RES 0 OHM 1/4W	R 404	476-1153-J-16	RES CHIP 15kOHM 1/16W 5%
EMI206	479-5009	RES 0 OHM 1/4W	R 405	476-1102-J-16	RES CHIP 1kOHM 1/16W 5%
FL301	271-0054	LINE FILTER CM08RB01	R 406	476-1104-J-16	RES CHIP 100kOHM 1/16W 5%
F 301	514-5044	FUSE PICO II 25202.5 RADIAL	R 407	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%
R 101	476-1361-J-16	RES CHIP 360 OHM 1/16W 5%	R 408	476-1223-J-16	RES CHIP 22kOHM 1/16W 5%
R 102	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 409	476-1223-J-16	RES CHIP 22kOHM 1/16W 5%
R 103	476-1222-J-16	RES CHIP 2.2kOHM 1/16W 5%	R 410	476-1101-J-16	RES CHIP 100 OHM 1/16W 5%
R 104	476-1473-J-16	RES CHIP 47kOHM 1/16W 5%	R 411	476-1101-J-16	RES CHIP 100 OHM 1/16W 5%
R 105	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 412	476-1222-J-16	RES CHIP 2.2kOHM 1/16W 5%
R 106	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 413	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%
R 107	479-5007-J-16	RES CHIP 0 OHM 1/16W J	R 414	476-1182-J-16	RES CHIP 1.8kOHM 1/16W 5%
R 108	479-5007-J-16	RES CHIP 0 OHM 1/16W J	R 415	476-1223-J-16	RES CHIP 22kOHM 1/16W 5%
R 109	479-5007-J-16	RES CHIP 0 OHM 1/16W J	R 416	476-1334-J-16	RES CHIP 330kOHM 1/16W 5%
R 130	479-5007-J-16	RES CHIP 0 OHM 1/16W J	R 417	151-0421	CAP CER CHIP 4700PF/50V B K
R 131	479-5007-J-16	RES CHIP 0 OHM 1/16W J	R 418	479-5007-J-16	RES CHIP 0 OHM 1/16W J
R 201	476-1162-J-16	RES CHIP 1.6k OHM 1/16W 5%	R 419	476-1184-J-16	RES CHIP 180kOHM 1/16W 5%
R 202	476-1102-J-16	RES CHIP 1kOHM 1/16W 5%	R 420	476-1334-J-16	RES CHIP 330kOHM 1/16W 5%
R 203	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 421	476-1224-J-16	RES CHIP 220kOHM 1/16W 5%
R 204	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 422	476-1154-J-16	RES CHIP 150kOHM 1/16W 5%
R 205	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 423	476-1224-J-16	RES CHIP 220kOHM 1/16W 5%
R 206	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 424	476-1153-J-16	RES CHIP 15kOHM 1/16W 5%
R 207	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 425	476-1393-J-16	RES CHIP 39kOHM 1/16W 5%
R 208	476-1222-J-16	RES CHIP 2.2kOHM 1/16W 5%	R 426	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%
R 209	476-1222-J-16	RES CHIP 2.2kOHM 1/16W 5%	R 427	476-1334-J-16	RES CHIP 330kOHM 1/16W 5%
R 210	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 428	476-1514-J-16	RES CHIP 510kOHM 1/16W 5%
R 211	476-1222-J-16	RES CHIP 2.2kOHM 1/16W 5%	R 429	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%
R 212	476-1222-J-16	RES CHIP 2.2kOHM 1/16W 5%	R 430	476-1224-J-16	RES CHIP 220kOHM 1/16W 5%
R 213	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 431	476-1332-J-16	RES CHIP 3.3kOHM 1/16W 5%
R 214	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 432	476-1823-J-16	RES CHIP 82kOHM 1/16W 5%
R 215	476-1331-J-16	RES CHIP 330 OHM 1/16W 5%	R 433	476-1105-J-16	RES CHIP 1MOHM 1/16W 5%
R 216	476-1100-J-16	RES CHIP 10 OHM 1/16W 5%	R 434	476-1223-J-16	RES CHIP 22kOHM 1/16W 5%
R 217	476-1331-J-16	RES CHIP 330 OHM 1/16W 5%	R 435	476-1104-J-16	RES CHIP 100kOHM 1/16W 5%
R 218	476-1100-J-16	RES CHIP 10 OHM 1/16W 5%	R 436	476-1104-J-16	RES CHIP 100kOHM 1/16W 5%
R 219	476-1472-J-16	RES CHIP 4.7kOHM 1/16W 5%	R 437	476-1104-J-16	RES CHIP 100kOHM 1/16W 5%
			R 438	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%
			R 441	479-5007-J-16	RES CHIP 0 OHM 1/16W J
			R 444	476-2100-J-10	RES CHIP 10 OHM 1/10W 5%
			R 445	476-1101-J-16	RES CHIP 100 OHM 1/16W 5%
			R 446	476-1101-J-16	RES CHIP 100 OHM 1/16W 5%
			R 447	479-5007-J-16	RES CHIP 0 OHM 1/16W J
			R 448	476-1910-J-16	RES CHIP 910HM 1/16W 5%
			R 449	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%

Note: [S] → SEGA CD II
[M] → MEGA CD II

Note: All chip resistors and capacitors are 1.6 × 0.8 mm.

Circuit No.	Parts No.	Description	Circuit No.	Parts No.	Description
R 450	476-1333-J-16	RES CHIP 33kOHM 1/16W 5%	VR403	475-0075	V. RES C TRM 2kOHM B RADIAL
R 451	476-1474-J-16	RES CHIP 470kOHM 1/16W 5%	RA101	477-0152	RES PACK CP 8x4. 7kOHM W/COMM
R 452	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	RA102	477-0152	RES PACK CP 8x4. 7kOHM W/COMM
R 454	476-2100-J-10	RES CHIP 10 OHM 1/10W 5%	C 001	151-0434	CAP CER CP 0.1UF/0.5V F Z
R 456	476-2100-J-10	RES CHIP 10 OHM 1/10W 5%	C 104	150-0439	CAP E 10UF/16V 20%
R 465	476-2100-J-10	RES CHIP 10 OHM 1/10W 5%	C 105	151-0405	CAP CER CP 0.1UF/16V F Z
R 468	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 109	151-0405	CAP CER CP 0.1UF/16V F Z
R 469	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 110	150-0439	CAP E 10UF/16V 20%
R 470	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 113	151-0406	CAP CER CP 100PF/50V SL J
R 471	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 114	151-0405	CAP CER CP 0.1UF/16V F Z
R 472	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 115	150-0439	CAP E 10UF/16V 20%
R 473	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 118	151-0406	CAP CER CP 100PF/50V SL J
R 474	476-1473-J-16	RES CHIP 47kOHM 1/16W 5%	C 119	151-0405	CAP CER CP 0.1UF/16V F Z
R 476	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 120	151-0405	CAP CER CP 0.1UF/16V F Z
R 477	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 122	150-0439	CAP E 10UF/16V 20%
R 478	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 126	151-0405	CAP CER CP 0.1UF/16V F Z
R 479	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 127	150-0439	CAP E 10UF/16V 20%
R 480	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 128	151-0405	CAP CER CP 0.1UF/16V F Z
R 481	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 129	150-0439	CAP E 10UF/16V 20%
R 482	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 130	151-0405	CAP CER CP 0.1UF/16V F Z
R 483	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 131	150-0439	CAP E 10UF/16V 20%
R 484	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 132	150-0439	CAP E 10UF/16V 20%
R 485	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 133	151-0405	CAP CER CP 0.1UF/16V F Z
R 486	479-5007-J-16	RES CHIP 0 OHM 1/16W J	C 135	151-0405	CAP CER CP 0.1UF/16V F Z
R 487	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 137	151-0405	CAP CER CP 0.1UF/16V F Z
R 488	476-1683-J-16	RES CHIP 68kOHM 1/16W 5%	C 138	151-0405	CAP CER CP 0.1UF/16V F Z
R 489	476-1473-J-16	RES CHIP 47kOHM 1/16W 5%	C 139	150-0439	CAP E 10UF/16V 20%
R 490	476-1333-J-16	RES CHIP 33kOHM 1/16W 5%	C 143	151-0409	CAP CER CP 1000PF/50V B K
R 490	476-1473-J-16	RES CHIP 47kOHM 1/16W 5%	C 144	151-0405	CAP CER CP 0.1UF/16V F Z
R 491	476-1683-J-16	RES CHIP 68kOHM 1/16W 5%	C 201	150-0440	CAP E 100UF/6.3V 20%
R 492	476-2100-J-10	RES CHIP 10 OHM 1/10W 5%	C 206	150-0439	CAP E 10UF/16V 20%
R 493	476-2100-J-10	RES CHIP 10 OHM 1/10W 5%	C 207	150-0439	CAP E 10UF/16V 20%
R 494	476-2100-J-10	RES CHIP 10 OHM 1/10W 5%	C 208	150-0439	CAP E 10UF/16V 20%
R 495	476-2100-J-10	RES CHIP 10 OHM 1/10W 5%	C 209	150-0439	CAP E 10UF/16V 20%
R 496	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 210	150-0439	CAP E 10UF/16V 20%
R 497	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 211	151-0410	CAP CER CP 680PF/50V B K
R 498	476-1103-J-16	RES CHIP 10kOHM 1/16W 5%	C 212	151-0410	CAP CER CP 680PF/50V B K
R 601	476-1102-J-16	RES CHIP 1kOHM 1/16W 5%	C 213	151-0405	CAP CER CP 0.1UF/16V F Z
R 602	476-1104-J-16	RES CHIP 100kOHM 1/16W 5%	C 214	151-0411	CAP CER CP 8200PF/50V B K
R 701	479-5007-J-16	RES CHIP 0 OHM 1/16W 5%	C 215	151-0411	CAP CER CP 8200PF/50V B K
R 702	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 216	151-0405	CAP CER CP 0.1UF/16V F Z
R 703	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 217	151-0412	CAP CER CP 1200PF/50V B K
R 704	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 218	151-0412	CAP CER CP 1200PF/50V B K
R 705	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 219	151-0405	CAP CER CP 0.1UF/16V F Z
R 706	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 220	150-0439	CAP E 10UF/16V 20%
R 707	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 221	150-0439	CAP E 10UF/16V 20%
R 708	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 222	150-0439	CAP E 10UF/16V 20%
R 709	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 223	151-0413	CAP CER CP 2200PF/50V B K
R 710	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 224	151-0405	CAP CER CP 0.1UF/16V F Z
R 711	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 225	151-0411	CAP CER CP 8200PF/50V B K
R 712	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 226	151-0413	CAP CER CP 2200PF/50V B K
R 713	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 227	151-0411	CAP CER CP 8200PF/50V B K
R 714	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 228	150-0439	CAP E 10UF/16V 20%
R 715	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 229	150-0439	CAP E 10UF/16V 20%
R 716	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 230	151-0411	CAP CER CP 8200PF/50V B K
R 717	476-1330-J-16	RES CHIP 33 OHM 1/16W 5%	C 231	151-0411	CAP CER CP 8200PF/50V B K
R 718	479-5007-J-16	RES CHIP 0 OHM 1/16W	C 232	150-0439	CAP E 10UF/16V 20%
R 802	479-5007-J-16	RES CHIP 0 OHM 1/16W	C 233	150-0439	CAP E 10UF/16V 20%
RB101	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 234	150-0439	CAP E 10UF/16V 20%
RB102	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 235	150-0439	CAP E 10UF/16V 20%
RB103	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 236	150-0439	CAP E 10UF/16V 20%
RB104	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 237	150-0439	CAP E 10UF/16V 20%
RB105	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 238	150-0440	CAP E 100UF/6.3V 20%
RB106	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 239	150-0439	CAP E 10UF/16V 20%
RB107	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 240	150-0439	CAP E 10UF/16V 20%
RB108	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 301	150-0440	CAP E 100UF/6.3V 20%
RB109	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 302	151-0405	CAP CER CP 0.1UF/16V F Z
RB110	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 303	150-0441	CAP E 1000UF/6.3V 20%
RB111	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 304	151-0405	CAP CER CP 0.1UF/16V F Z
RB112	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 305	150-0249	CAP E 330UF 16V U-TYPE
RB113	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 306	150-0440	CAP E 100UF/6.3V 20%
RB114	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 401	151-0456	CAP CER CP 0.33UF/16V R K
RB115	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 403	150-0249	CAP E 330UF 16V U-TYPE
RB116	476-1221-J-16	RES CHIP 220 OHM 1/16W 5%	C 404	150-0440	CAP E 100UF/6.3V 20%
VR401	475-0073	V. RES C TRM 20kOHM B RADIAL	C 406	150-0301	CAP E 470UF/6.3V U-TYPE
VR402	475-0074	V. RES C TRM 5kOHM B RADIAL			

Note: [S] → SEGA CD II
[M] → MEGA CD II

Note: All chip resistors and capacitors are 1.6 × 0.8 mm.

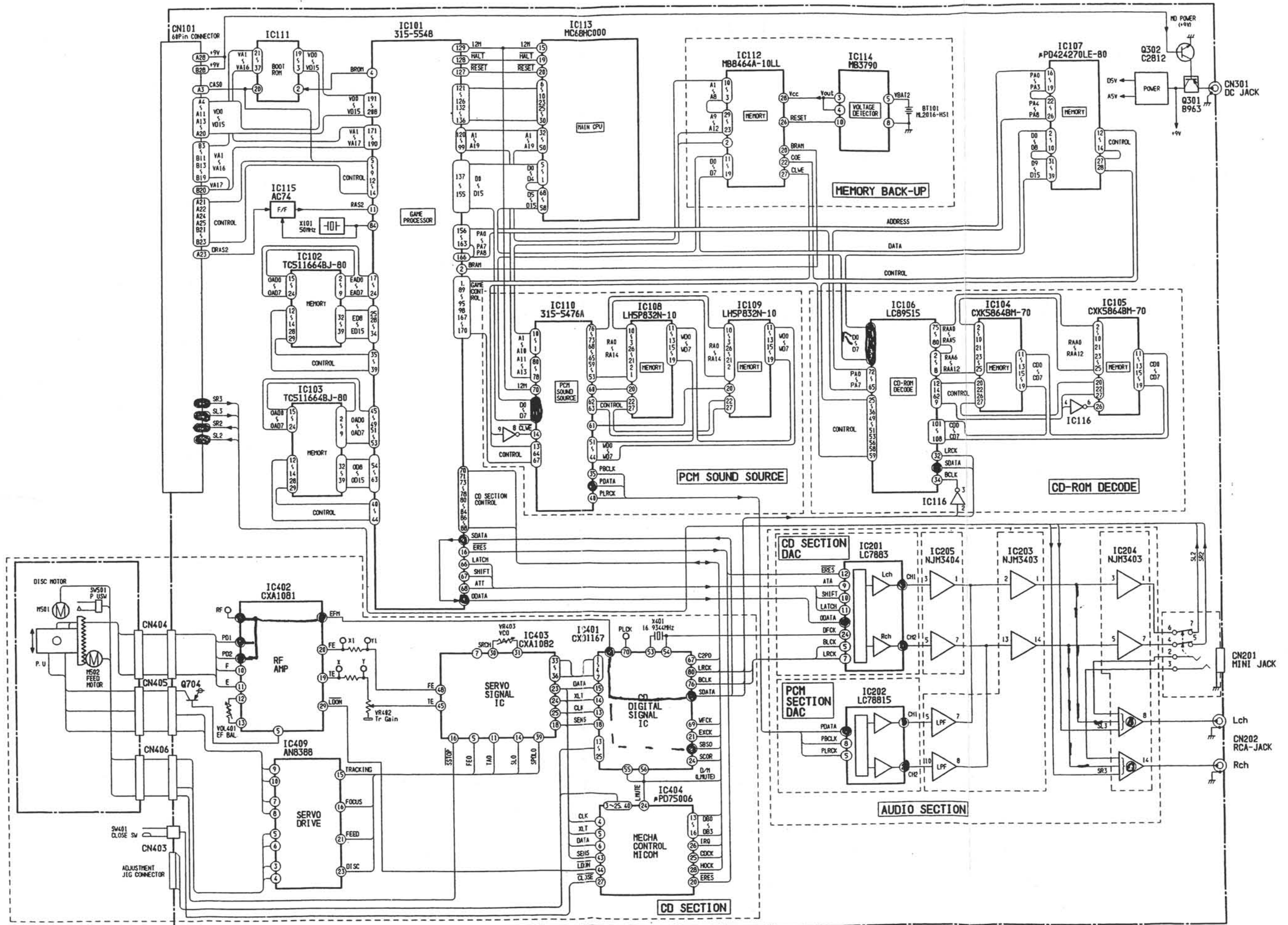
Circuit No.	Parts No.	Description	Circuit No.	Parts No.	Description
C 407	150-0329	CAP E 3.3UF 50V U-TYPE	CN406	212-5281	CONN E8G-701B-00
C 408	150-0440	CAP E 100UF/6.3V 20%	SW401	510-5050	LEAF SW LSA-1141E2AU
C 409	150-0440	CAP E 100UF/6.3V 20%		250-5342	SW COVER CD2 SY(FOR SW401)
C 410	150-0442	CAP E 0.47UF/50V 20%	13-4. Accessories/Package List		
C 411	150-0443	CAP E 22UF/6.3V 20%			
C 412	150-0443	CAP E 22UF/6.3V 20%			
C 413	150-0016	CAP E 1UF 50V			
C 414	150-0442	CAP E 0.47UF/50V 20%			
C 415	151-0415	CAP CER CP 3900PF/50V B K			
C 416	151-0416	CAP CER CP 5PF/50V CH C			
C 417	151-0417	CAP CER CP 0.033UF/50V B K			
C 418	151-0419	CAP CER CP 0.1UF/50V B K			
C 419	151-0417	CAP CER CP 0.033UF/50V B K			
C 420	151-0419	CAP CER CP 0.1UF/50V B K			
C 421	151-0419	CAP CER CP 0.1UF/50V B K			
C 422	479-5007-J-16	RES CHIP 0 OHM 1/16W J			
C 423	151-0413	CAP CER CP 2200PF/50V B K			
C 424	151-0419	CAP CER CP 0.1UF/50V B K			
C 425	151-0417	CAP CER CP 0.033UF/50V B K			
C 426	151-0417	CAP CER CP 0.033UF/50V B K			
C 427	151-0419	CAP CER CP 0.1UF/50V B K			
C 428	151-0420	CAP CER CP 0.056UF/50V B K			
C 429	151-0419	CAP CER CP 0.1UF/50V B K			
C 430	151-0421	CAP CER CHIP 4700PF/50V B K			
C 431	151-0409	CAP CER CP 1000PF/50V B K			
C 432	151-0417	CAP CER CP 0.033UF/50V B K			
C 433	151-0405	CAP CER CP 0.1UF/16V F Z			
C 435	151-0422	CAP CER CP 24PF/50V CH J			
C 436	151-0422	CAP CER CP 24PF/50V CH J			
C 438	151-0405	CAP CER CP 0.1UF/16V F Z			
C 439	151-0405	CAP CER CP 0.1UF/16V F Z			
C 441	151-0405	CAP CER CP 0.1UF/16V F Z			
C 442	151-0405	CAP CER CP 0.1UF/16V F Z			
C 443	151-0405	CAP CER CP 0.1UF/16V F Z			
C 444	151-0405	CAP CER CP 0.1UF/16V F Z			
C 447	151-0405	CAP CER CP 0.1UF/16V F Z			
C 449	151-0405	CAP CER CP 0.1UF/16V F Z			
C 450	150-0441	CAP E 1000UF/6.3V 20%			
C 451	151-0436	CAP CER CP 15PF/50V CH J			
C 452	151-0405	CAP CER CP 0.1UF/16V F Z			
C 453	151-0405	CAP CER CP 0.1UF/16V F Z			
C 454	151-0409	CAP CER CP 1000PF/50V B K			
C 455	150-0016	CAP E 1UF 50V			
C 601	151-0419	CAP CER CP 0.1UF/50V B K			
C 702	151-0437	CAP CER CP 150PF/50V CH J			
C 703	151-0437	CAP CER CP 150PF/50V CH J			
C 704	151-0437	CAP CER CP 150PF/50V CH J			
C 705	151-0437	CAP CER CP 150PF/50V CH J			
C 706	151-0437	CAP CER CP 150PF/50V CH J			
C 707	151-0437	CAP CER CP 150PF/50V CH J			
C 708	151-0437	CAP CER CP 150PF/50V CH J			
C 709	151-0437	CAP CER CP 150PF/50V CH J			
C 710	151-0437	CAP CER CP 150PF/50V CH J			
C 711	151-0437	CAP CER CP 150PF/50V CH J			
C 712	151-0437	CAP CER CP 150PF/50V CH J			
C 713	151-0437	CAP CER CP 150PF/50V CH J			
C 714	151-0437	CAP CER CP 150PF/50V CH J			
C 715	151-0437	CAP CER CP 150PF/50V CH J			
C 716	151-0437	CAP CER CP 150PF/50V CH J			
C 717	151-0437	CAP CER CP 150PF/50V CH J			
C 903	150-0440	CAP E 100UF/6.3V 20%			
C 920	151-0438	CAP CER CP 0.022UF/25V B K			
C 921	151-0405	CAP CER CP 0.1UF/16V F Z			
C 922	151-0439	CAP CER CP 47PF/50V CH J			
C 923	151-0439	CAP CER CP 47PF/50V CH J			
C 930	151-0405	CAP CER CP 0.1UF/16V F Z			
C 931	151-0405	CAP CER CP 0.1UF/16V F Z			
C 933	151-0405	CAP CER CP 0.1UF/16V F Z			
C 934	151-0405	CAP CER CP 0.1UF/16V F Z			
CN101	209-5068	EDGE CONN 60PIN CD2 CUSTOM			
CN201	210-5114	STEREO MINIJACK HSJ2000-01-010			
CN202	210-5115	RCA JACK YKC21-0242			
CN301	212-5378	DC JACK HECO470-01-630			
CN403	212-5382	PIN HEADER ST 1L-S-12P-S2T2-EF			
CN404	212-5379	CONN BASE 9P B9B-PH-K-S			
CN405	212-5380	CONN BASE 8P B8B-PH-K-S			
			1	610-5507	ASSY CD ROM MDP ROAD AVENGER [M]
			1	610-5574	ASSY CD ROM GEN W/SEWER SHARK [S]
			2	400-5100B	AC ADAPTOR AC120V/DC10V 1.2A [S]
			2	400-5100B-01	AC ADAPTOR AC120V/DC10V 1.2A [S]
			2	400-5122C	AC ADAPTOR AC230V/DC10V 1.2A (EXCEPT U. K, KUWAIT, AUSTRALIA & NEWZEALAND) [M]
			2	400-5127A	AC ADAPTOR AC240V/DC10V 1.2A (FOR U. K, KUWAIT) [M]
			2	400-5128A	AC ADAPTOR AC240V/DC10V 1.2A (FOR AUSTRALIA & NEWZEALAND) [M]
			3	600-6201	STEREO MIXING CABLE W/CORE
			4	600-6204	AUDIO RCA CABLE L=2M UNION [M]
			5	610-5491	ASSY SPACER MEGA-CD2 EXPORT
			6	250-5346	HOLD PLATE SPACER MEGA-CD2 A
			7	250-5333	RETAINER BRACKET CD2 EXPORT
			8	250-5329	CONN PLATE A ACCESSORY CD2 EXP
			9	250-5330	CONN PLATE B ACCESSORY CD2 EXP
			10	000-F00410	M SCR FH M4×10
			11	671-3240-01E	MA CTN SEGA-CD2 USA E(FOR MK-4101) [S]
			11	671-3240-03	MA CTN MEGA-CD2 MULTI 4180 (FOR MK-4180) [M]
			11	671-3240-05	MA CTN SEGA-CD2 CAN 4101-22 (FOR MK-4101-22) [S]
			11	671-3240-06	MA CTN MEGA-CD2 MULTI 4182 (FOR MK-4182) [M]
			12	672-1257	OPERATION MANUAL CD2 USA [S]
			12	672-1332	OPERATION MANUAL CD2 CANADA [S]
			12	672-1258-01	OPERATION MANUAL CD2 MULTI 01 [M]
			13	671-3322-01	BOX & PACK SET CD2 USA (FOR MK-4101) [S]
			13	671-3322-05	BOX & PACK SET CD2 CAN 4101-22 (FOR MK-4101-22) [S]
			13	671-3322-03	BOX & PACK SET CD2 MULTI 4180 (FOR MK-4180) [M]
			13	671-3322-06	BOX & PACK SET CD2 MULTI 4182 (FOR MK-4182) [M]
			14	670-3211	BUSINESS REPLY MAIL CD2 USA [S]
			14	670-4106	BUSINESS REPLY MAIL SOC [S]
			15	670-3311	GUARANTEE CARD CD2 MULTI (EXCEPT AUSTRALIA & NEWZEALAND) [M]
			15	670-3327	WARRANTY CARD OZISOFT AUS (FOR AUSTRALIA & NEWZEALAND) [M]
			16	SGM-4218	POLY BAG 300×550×0.05 EXP6
			17	SGM-4245	POLY BAG 200×310×0.05 EXP6
			19	SGM-4207	POLY BAG 70×100×0.05
			20	SGM-4220	POLY BAG 120×300×0.02
			21	670-3265	CROSS SELL POSTER GEN2 USA [S]
			22	672-1473-22	PLAY INSTR CDU SEWER SHARK CAN [S]
NOTE: Accessory Provided					
Model No.		MK-4101	MK-4101-22	MK-4180	MK-4182
Country		USA	Canada	Except USA & Canada	Except USA, Canada & Kuwait
CD Soft		-	Sewer Shark	Road Avenger	-

Note: [S] → SEGA CD II
[M] → MEGA CD II

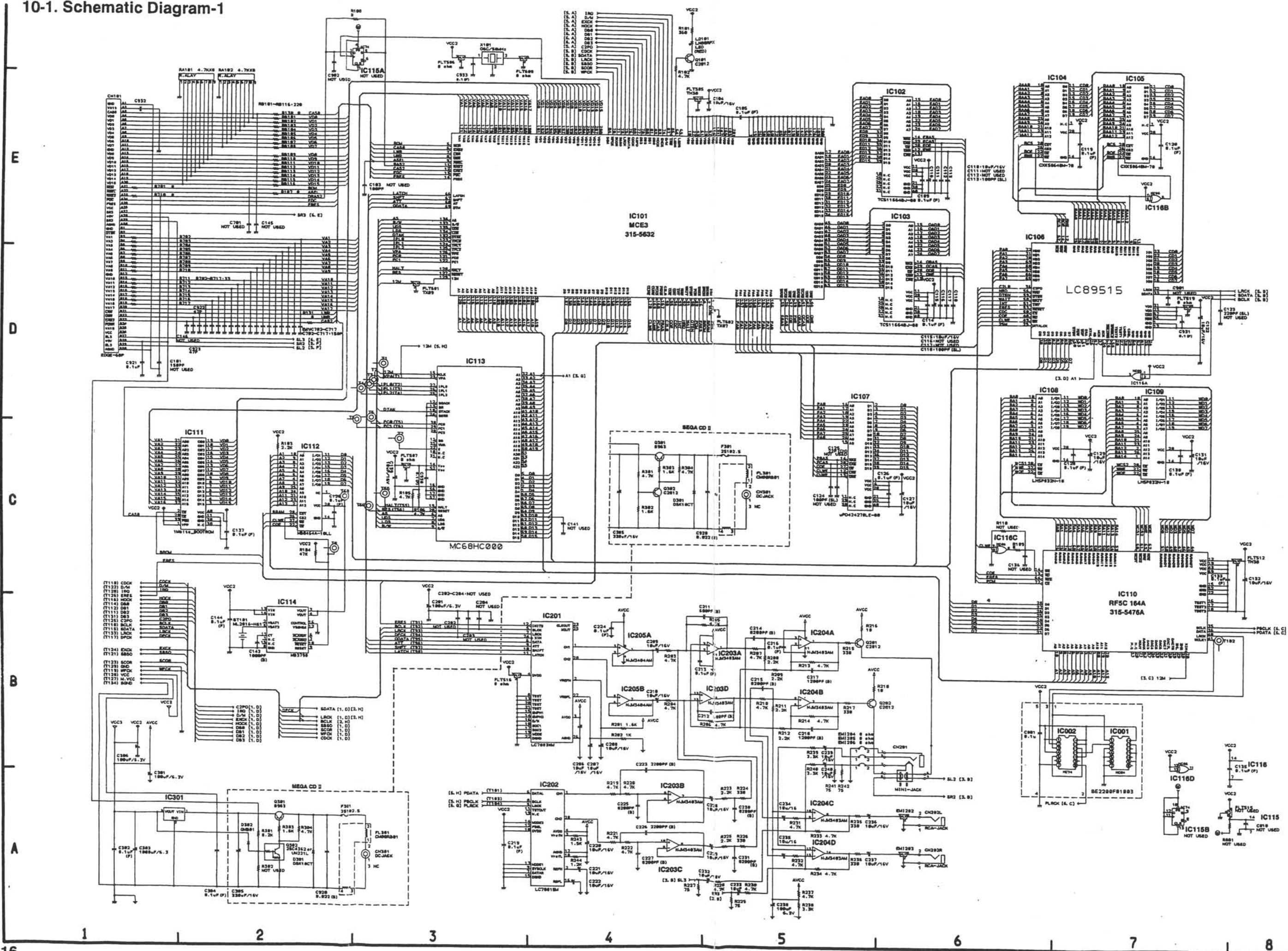
Note: All chip resistors and capacitors are 1.6 × 0.8 mm.



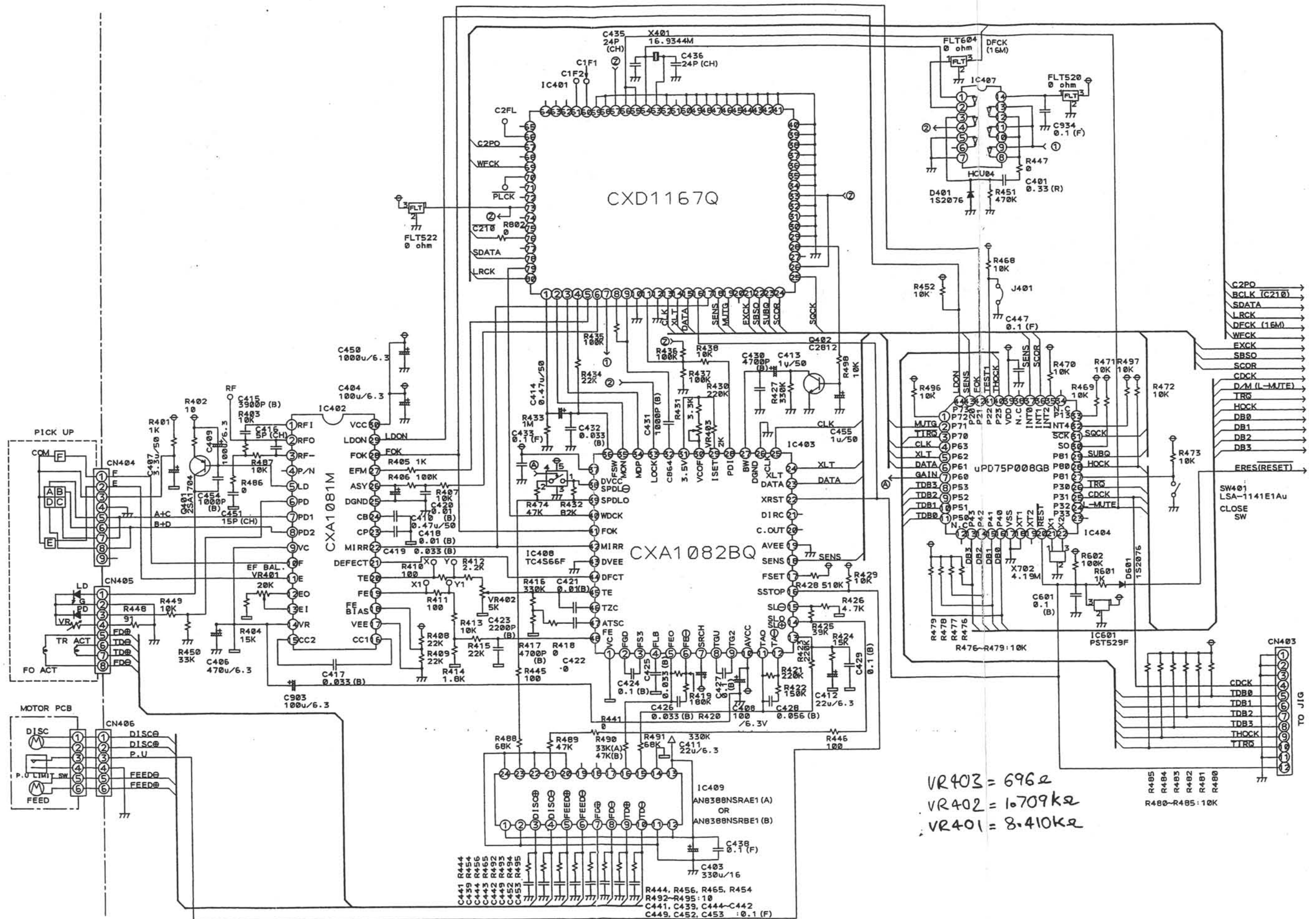
9. BLOCK DIAGRAM



10-1. Schematic Diagram-1



10-1. Schematic Diagram-2



11-1. Main Circuit Board(Top View)

11-2. Main Circuit Board(Bottom View)

