

FILE NO.

SERVICE MANUAL Portable DVD Navigation System

NV-E7000
(U.S.A.)



PRODUCT CODE No.
949 005 03

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REFERENCE No. SM590496

MONITOR

Type Liquid crystal color monitor
Drive system TFT active matrix system
Screen size 7V type
Light source Cold cathode tube

NAVIGATION

GPS antenna Micro-strip flat antenna
Reception frequency 1575.42MHz (C/A cord)
Reception system 18 channels parallel
Reception sensitivity -130dBm
Updating Interval About 1 second
Format Original DVD format

DVD VIDEO/CD PLAYER

Made for the following disc type:

- DVD video
- Music CD (CD-DA)

5 inch (12 cm) and
 3 inch (8 cm) diameter

Reading format Non-contact optical reading (using a semiconductor laser)

Frequency range 20Hz to 20kHz (+1.0dB to -2.0dB)

S/N ratio 85dB or more

High harmonic distortion 0.1% or less

Dynamic range 88dB or more

Wow and flutter Within or under the measurement limit

I/O TERMINAL

Expansion output terminal 14 pin connector
Power supply input terminal DC 9V (EIAJ terminal)
GPS exterior antenna input terminal GPS connector
Brake terminal Mini-jack
Headphone output terminal Stereo mini-jack
Video I/O terminal Mini-jack
Audio I/O terminal/ optic digital audio output terminal stereo mini-jack/optic mini-jack
S video output terminal S terminal

OTHER

Power source AC 120V, 60Hz
 DC 12V

Current 2.0A (when using DC-DC)

Power consumption 18W (when using the navigation system)

Temperature range 32 to +122°F (0 to +50°C) (when in NAVI or VIDEO mode)
 41 to +95°F (+5 to +35°C) (when in DVD mode)

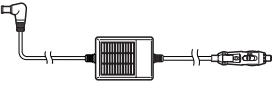

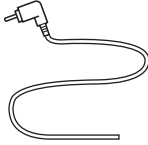
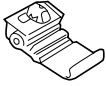
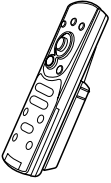



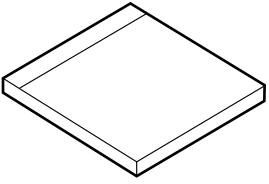


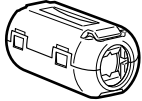
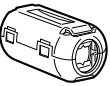
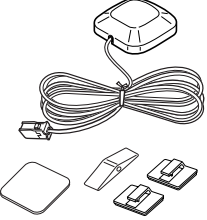
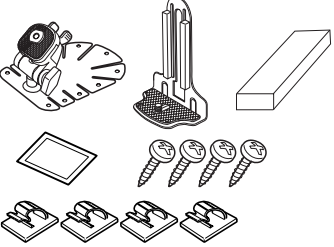
Exterior dimensions About 175X42X137mm (width x height x depth)
 *excluding projections

Weight About 800g (main unit only)

* The specifications and design of this unit are subject to change for improvements without prior notification.

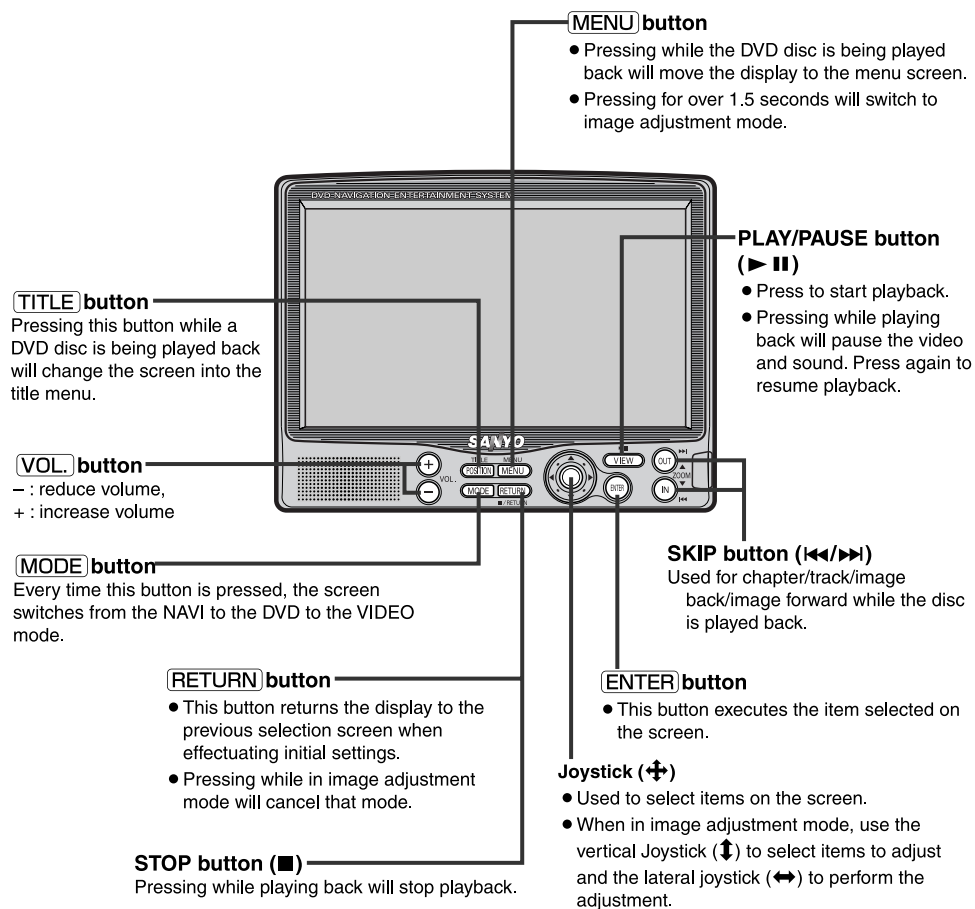
* The V-type monitor screen size (7V type) is a standard based on the dimensions necessary for an effective screen.

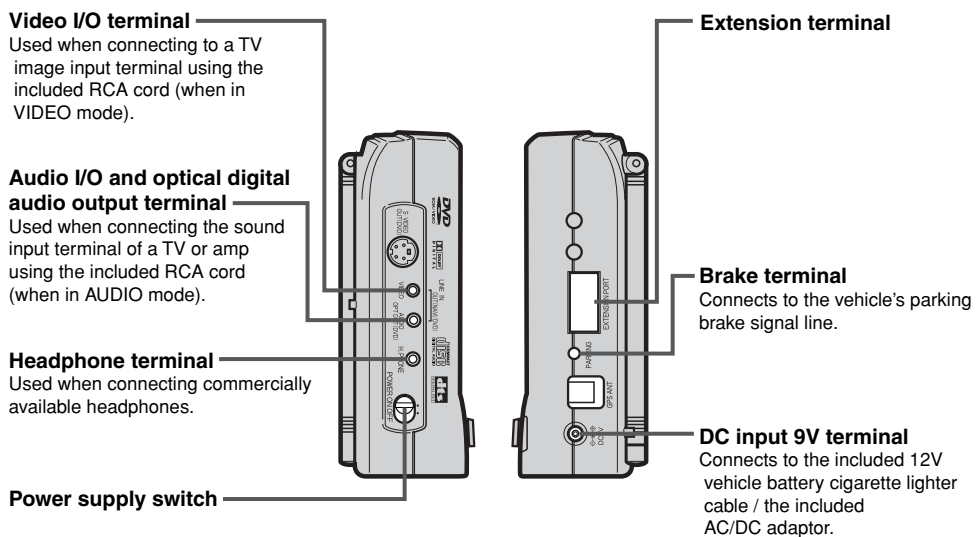
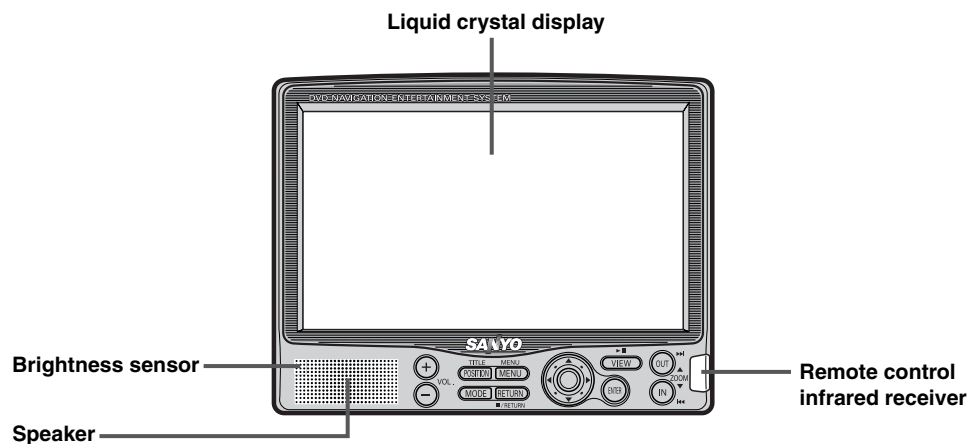
ACCESSORIES

<p>12V cigarette lighter connector cable</p>  <p>1 cable</p>	<p>AC/DC adapter</p>  <p>1 cable</p>	<p>Parking brake connector cable</p>  <p>2 cables</p>	<p>Self-lock connector</p>  <p>2 clips</p>
<p>Remote control and holder</p>  <p>Each 1</p>	<p>Velcro tape</p>  <p>1 pair</p>	<p>Tapping screw (M3x8)</p>  <p>2 screws</p>	<p>AAA battery</p>  <p>2 batteries</p>
<p>Map DVD-ROM</p>  <p>1 disc</p>	<p>RCA cord (when in AUDIO mode)</p>  <p>1 cable</p>	<p>RCA cord (when in VIDEO mode)</p>  <p>1 cable</p>	<p>Core (Large)</p>  <p>1 core</p>
<p>Core (Small)</p>  <p>1 core</p>	<p>GPS Exterior Antenna and Installation Parts</p> 	<p>Kit for Installation</p> 	

DVD VIDEO/CD OPERATION

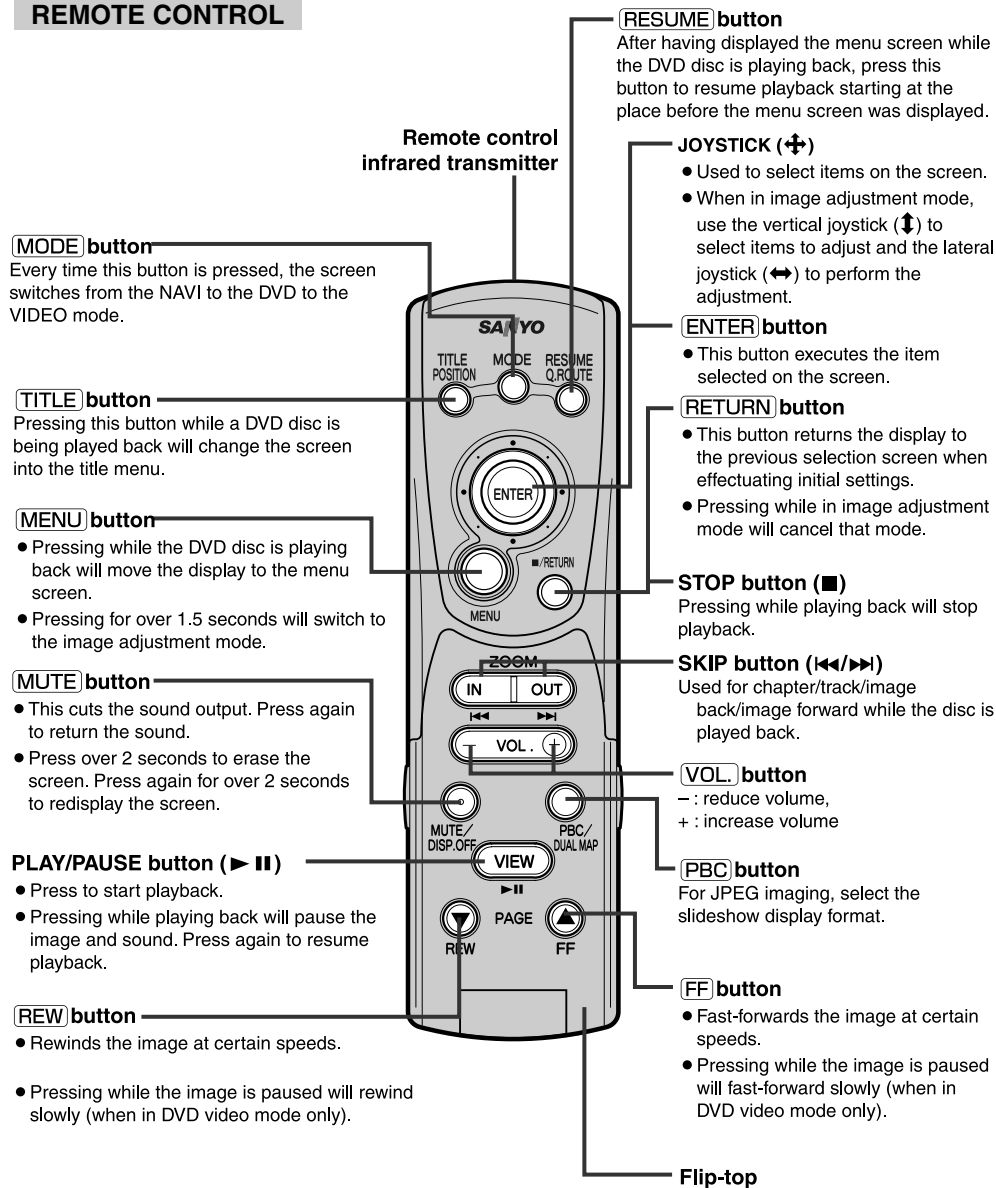
MAIN UNIT





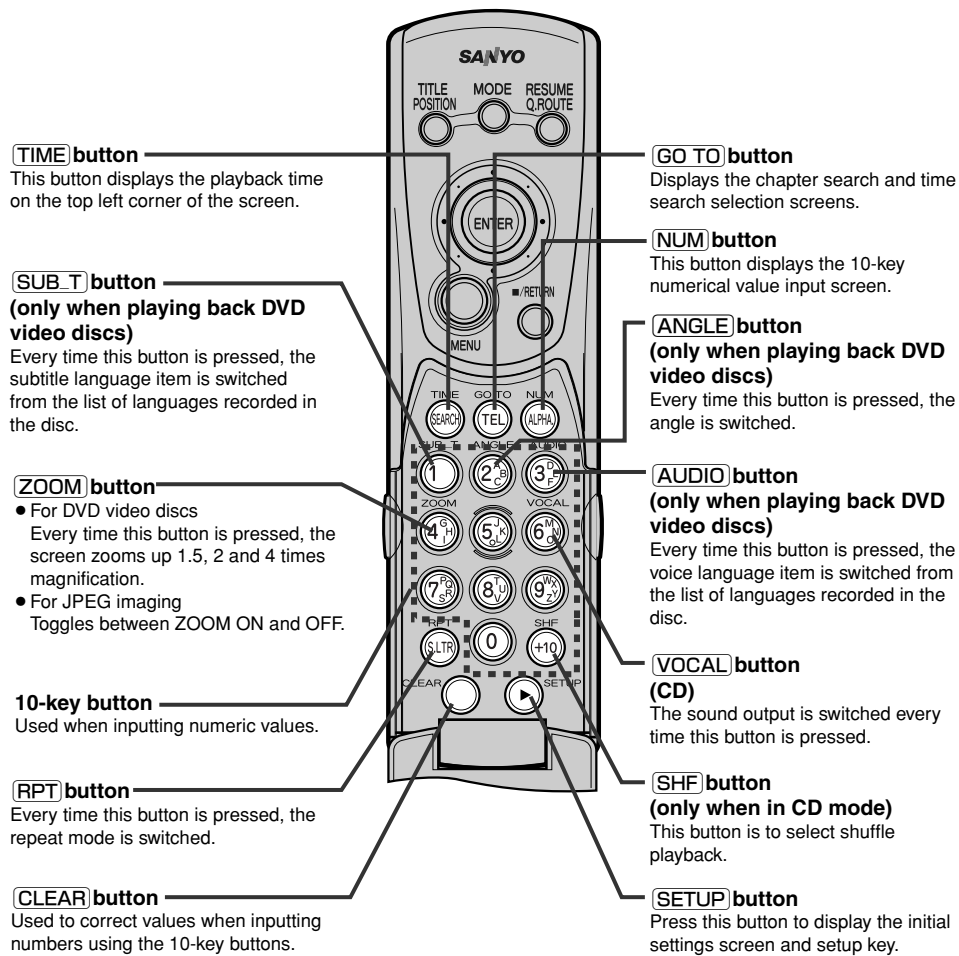
DVD VIDEO/CD OPERATION

REMOTE CONTROL



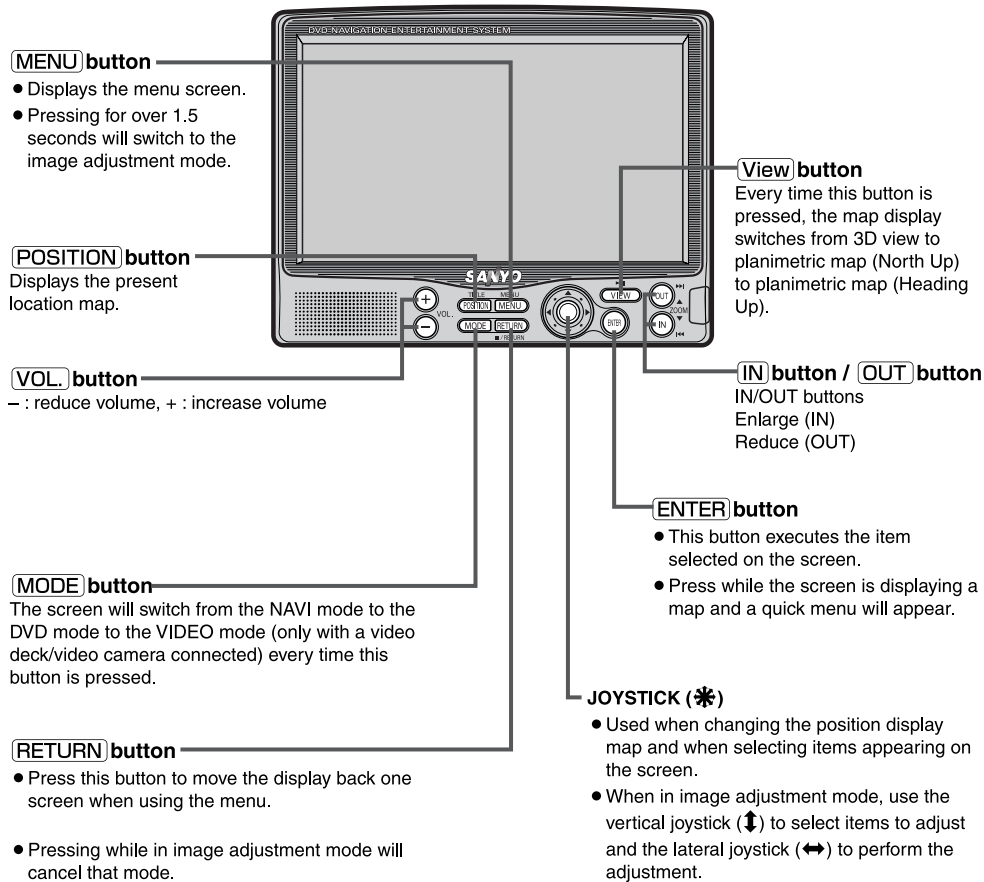
10-KEY

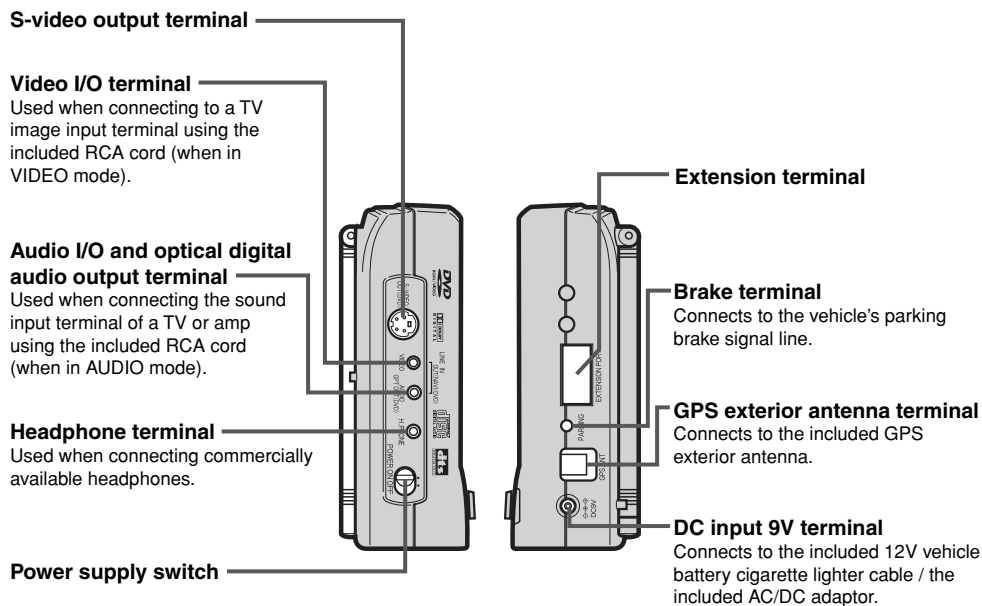
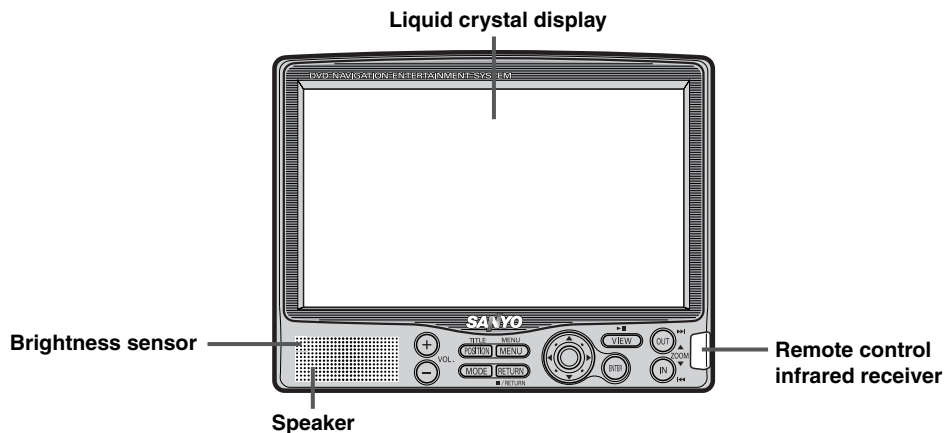
Flip-top opened



OPERATING THE NAVIGATION UNIT

MAIN UNIT





OPERATING THE NAVIGATION UNIT

REMOTE CONTROL

MODE button

The screen will switch from the NAVI mode to the DVD mode to the VIDEO mode (only with a video deck/video camera connected) every time this button is pressed.

POSITION button

Displays the present location map.

MENU button

- Displays the menu screen.
- Pressing for over 1.5 seconds will switch to the image adjustment mode.

IN button / OUT button

IN/OUT buttons Enlarge (IN) Reduce (OUT)

MUTE button

- This cuts the sound output. Press again to return the sound.
- Press over 2 seconds to erase the screen. Press again for over 2 seconds to redisplay the screen.

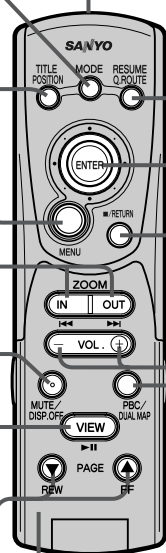
View button

Every time this button is pressed, the map display switches from 3D view to planimetric map (North Up) to planimetric map (Heading Up).

PAGE button

Press for the next/previous page when the display is incomplete on only one screen.

Remote control infrared transmitter



Q.ROUTE button

Used for a quick route search.

Joystick (✳)

- Used when changing the position display map and when selecting items appearing on the screen.
- When in image adjustment mode, use the vertical Joystick (↑↓) to select items to adjust and the lateral Joystick (←→) to perform the adjustment.

ENTER button

- This button executes the item selected on the screen.
- Press while the screen is displaying a map and a quick menu will appear.

RETURN button

- Press this button to move the display back one screen when using the menu.
- Pressing while in image adjustment mode will cancel that mode.

VOL. button

- : reduce volume, + : increase volume

DUAL MAP button

Every time this button is pressed, the screen toggles between double screen display and full screen display.

Flip-top opened

SEARCH button

- Pressing this button when the telephone number input screen is displayed will show the map that corresponds with the inputted number.
- Pressing when the ABC input screen is displayed will start a search for the inputted point of interest or geographic name.



TEL button

This button displays the telephone number input screen when searching for a destination by telephone number.

ALPHA button

Used when inputting alphanumerically.

DISASSEMBLY

How to remove the PCB - ML,MAIN, DVD MECHANISM,MDVC07 and PCB - ML,DVD.
[Refer to figures 1,2,3]

- 1.Remove 4 screws A which fasten the REAR CABINET ASSY, and the Hook.
Remove FFC,28P which is connected to the PCB - ML,MAIN and PCB - W,LCD.
- 2.Remove 6 screws B which fasten the PCB - ML,MAIN.
Remove the LEAD WIRES placed on the PCB - ML,DVD side, and FPC.
The PCB - ML,MAIN can be removed.
- 3.Remove the 3 SPECIAL SCREWS C which fasten the DVD MECHANISM,MDVC07.
Remove FFC,50P which is connected to the DVD MECHANISM,MDVC07 and PCB - ML,DVD.
The DVD MECHANISM,MDVC07 can be removed.
- 4.Remove 8 screws D which fasten the PCB- ML,DVD.
Remove the solder of 2 LEAD WIRES placed on the FAN,MOTOR,DC side.
The PCB - ML,DVD can be removed.

How to remove the PCB- W,LCD [Refer to figures 2]

- 1.Remove the 2 screws E which fasten the BRACKET, LCD.
- 2.Remove the solder of 2 LEAD WIRES placed on the SPEAKER side.
The PCB - W,LCD can be removed.

How to remove the PCB - W,KEY. [Refer to figures 2,4]

- 1.Remove the BUTTON, SCROLL.
- 2.Remove the 2 screws F which fasten the BRACKET, LCD.
- 3.Remove FFC,6P.
- 4.Remove the solder of 3 LEAD WIRES placed on the PCB- W,SENSOR side.
- 5.Remove the 5 screws G which fasten the PCB - W,KEY.
The PCB - W,KEY can be removed.

How to remove the PCB- W,SENSOR. [Refer to figure 4]

- 1.Remove SPECIAL SCREW H which fasten the PCB - W,SENSOR.
- 2.Remove the solder of 3 LEAD WIRES placed on the PCB- W,KEY side.
The PCB - W,SENSOR can be removed.

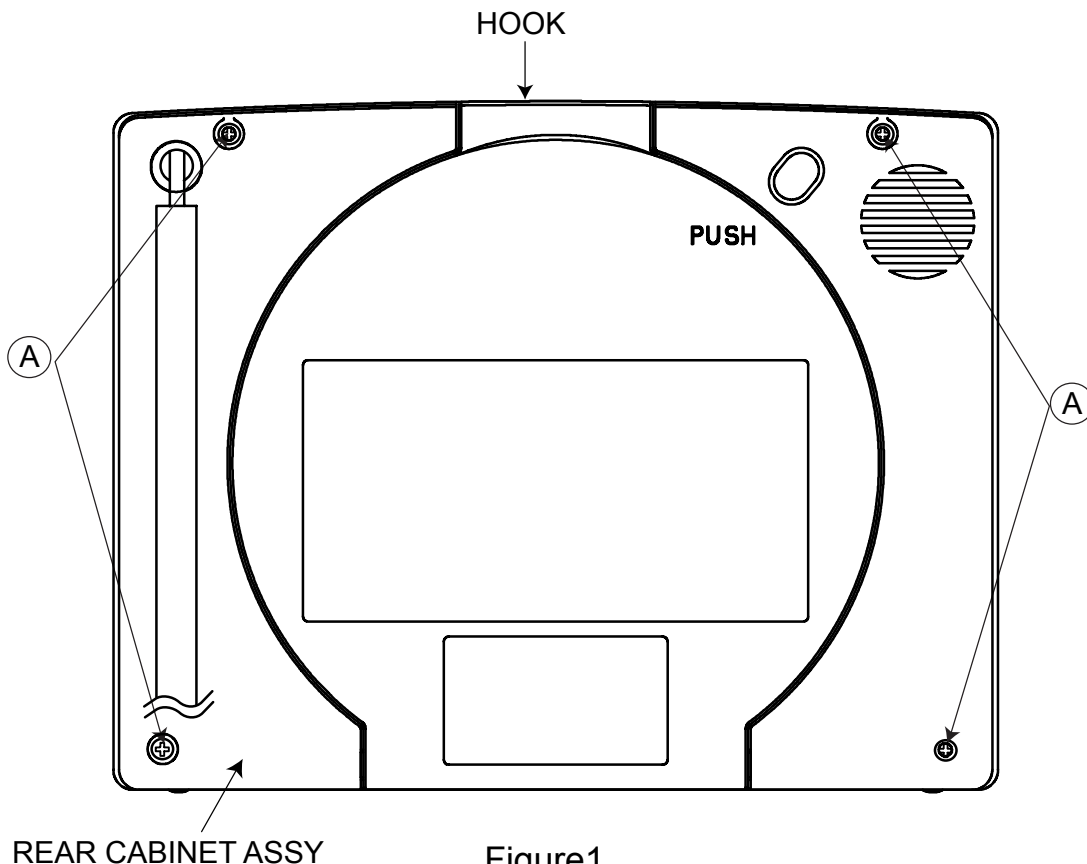


Figure1

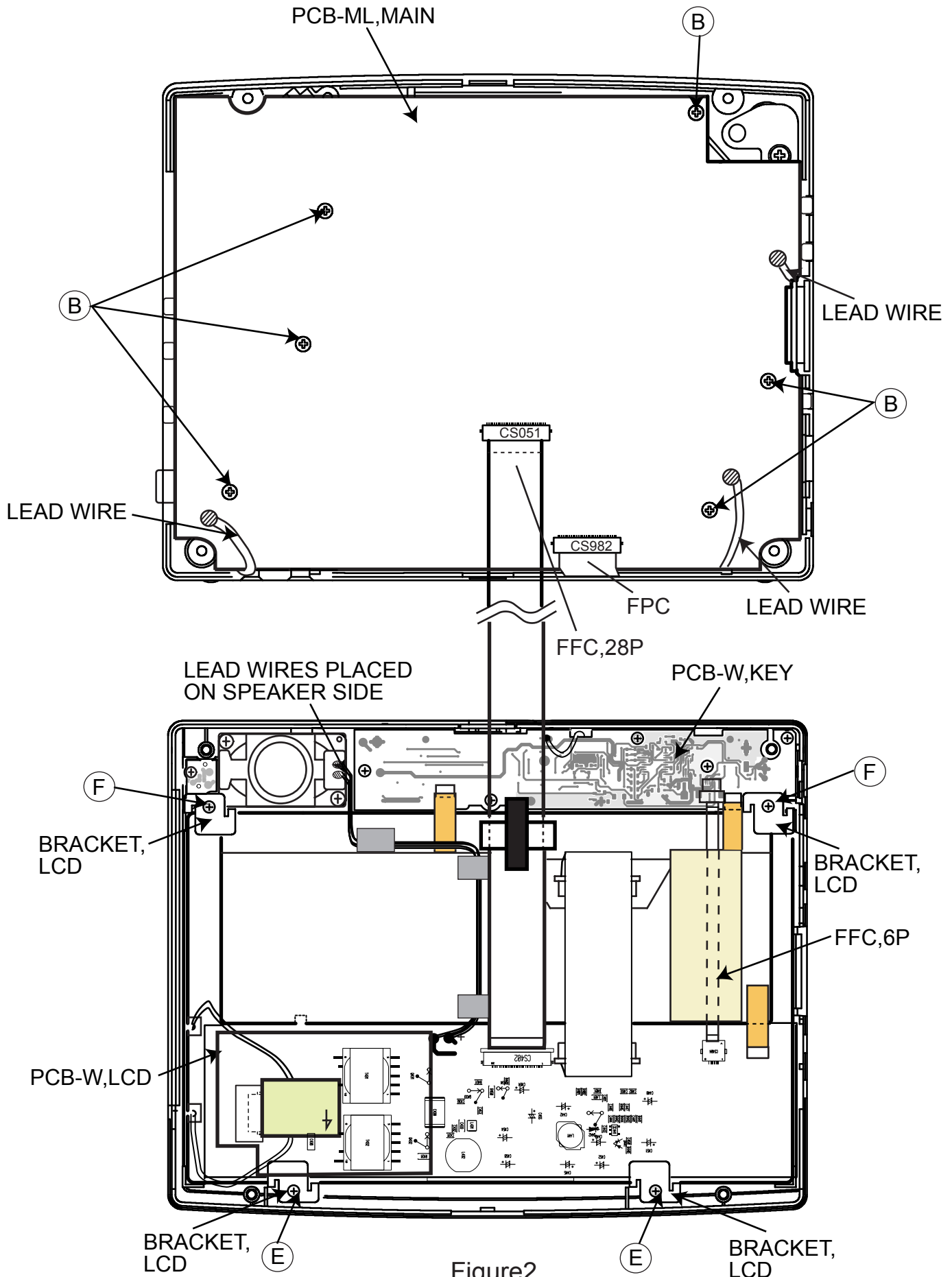


Figure2

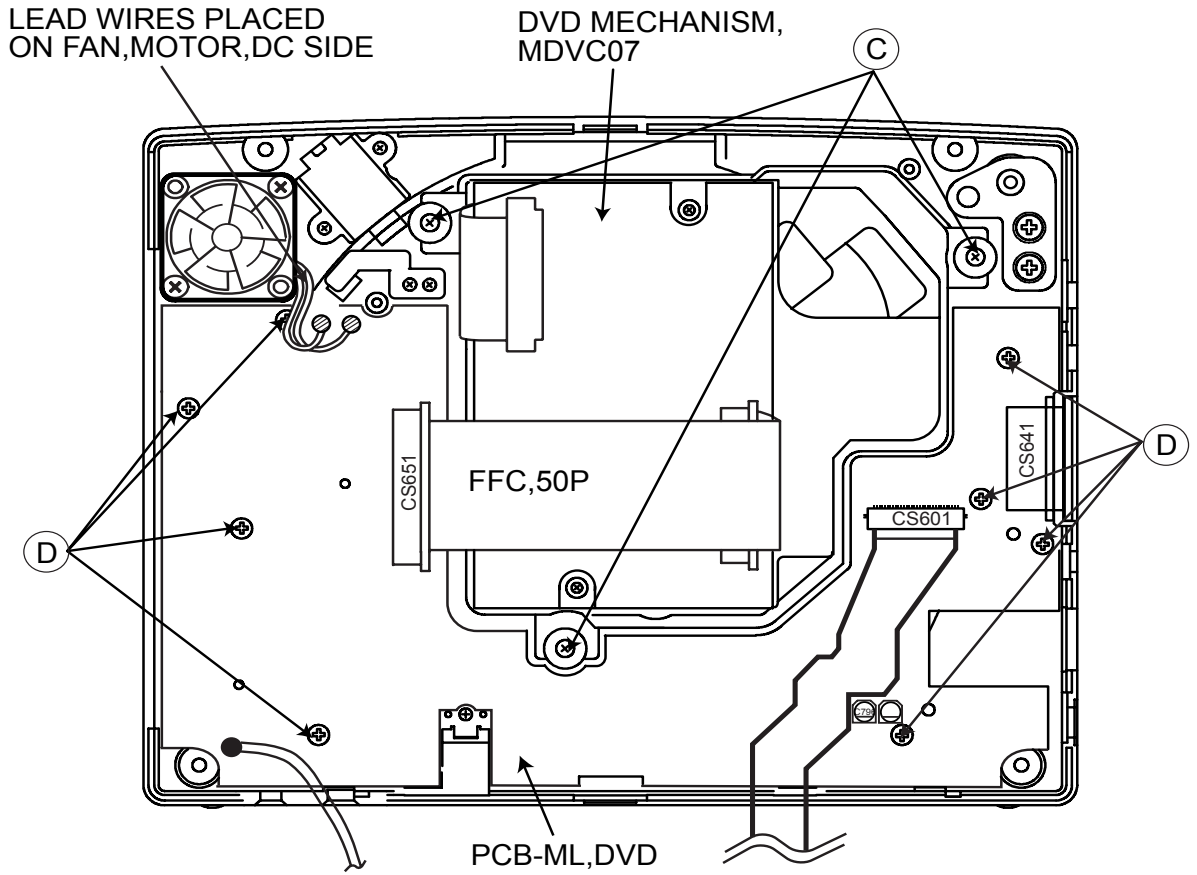


Figure3

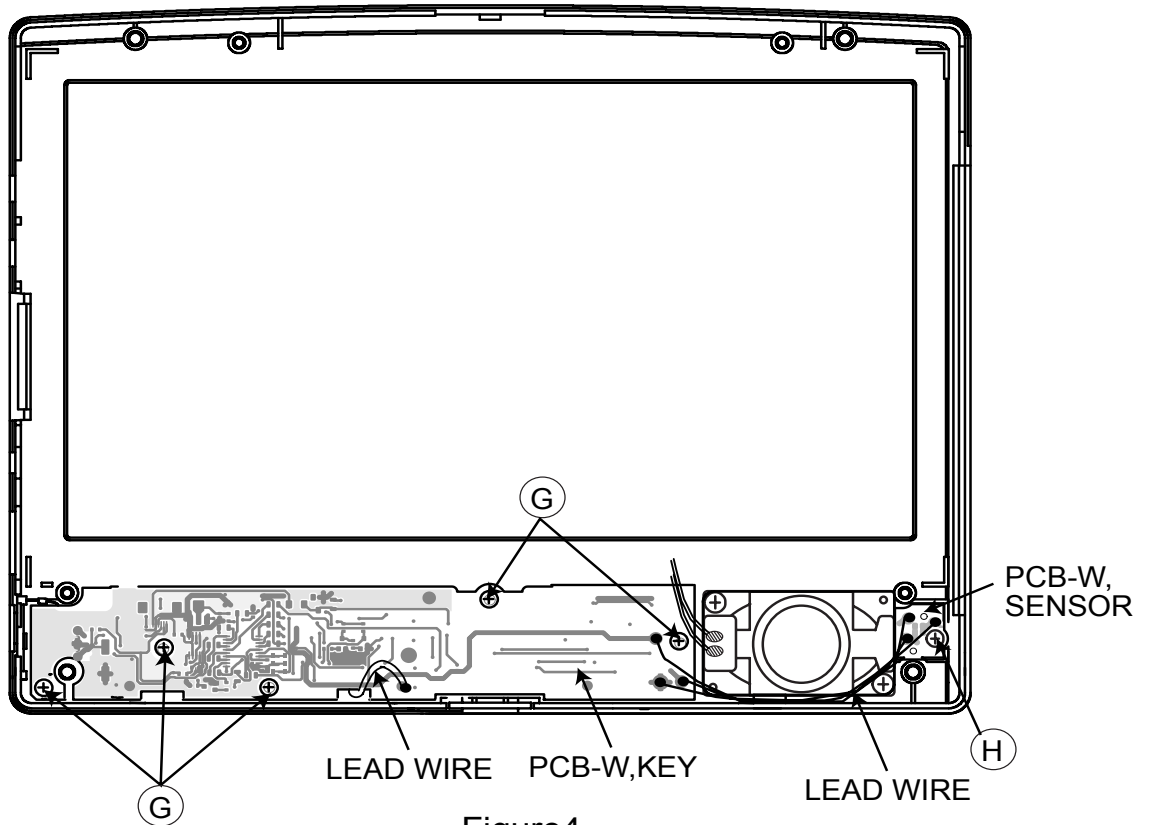


Figure4

1. Adjustment Conditions

- Power supply voltage DC +9.0 V.
- Input the suitable signal for each adjustment.
- It shifts to TEST MODE by pressing in order of [OUT] [OUT][IN] [IN] [VOLUME-] [VOLUME+] [VOLUME-] [VOLUME+] [RETURN] [POSITION].
- When in TEST MODE, the items can be changed by pressing [▲] or [▼] of joystick, and the values can be changed by pressing [VOLUME+] or [VOLUME-] .

2. LCD Adjustment

< Adjustment conditions >

- In VIDEO MODE, input monochrome 10 step signal from VIDEO IN.
- Go to TEST MODE and adjust in order of the following.
- Adjust each video signal value by default value (COLOR/TINT/ BLACK: CENTER, DIMMER: MAX, AUTO DIMMER: OFF).

1) B-B Adjustment

- Observe VG(CS1, pin 8) by Synchro - scope.
- Adjust [RGB AMP] to become [4.0V P-P \pm 0.1V] between Black - Black voltage (V_{B-B})

2) B-W Adjustment

- Observe VG(CS1, pin 8) by Synchro - scope.
- Adjust [BRIGHT] to become [2.9V P-P \pm 0.1V] between Black - White voltage (V_{B-W}).

3) Red Adjustment

- Observe VR(CS1, pin 7) by Synchro - scope.
- Adjust [SUB R] to become [2.9V P-P \pm 0.1V] between Black - White voltage (V_{B-W}).

4) Blue Adjustment

- Observe VB(CS1, pin 6) by Synchro - scope.
- Adjust [SUB B] to become [2.9V P-P \pm 0.1V] between Black - White voltage (V_{B-W})

5) VCOM Adjustment

- Observe VCOM(CS1, pin 9) by Synchro - scope.
- Adjust [COM AMP] to become wave Form [4.0V P-P \pm 0.1V]

The steps should be like figure 1 by the above - mentioned adjustment.

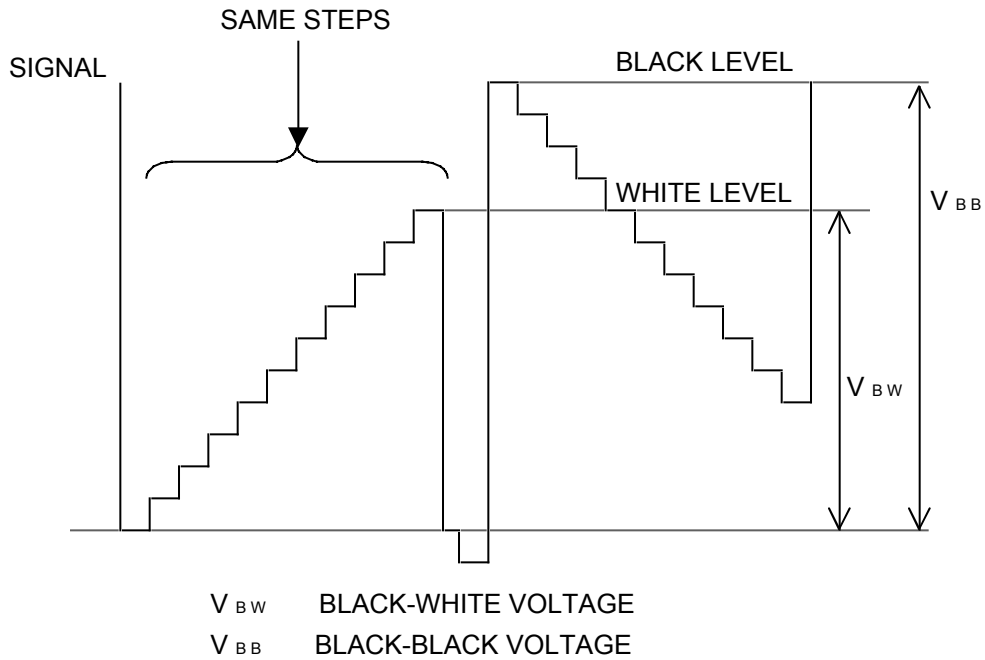


Figure1

3. FLICKER Adjustment

< Adjustment conditions >

- Adjustment shall be done with the combination of a paired LCD module.
- Adjustment in TEST MODE.
- Display map in NAVI MODE.
- Adjust each video signal value by default value.
(BLACK : CENTER. DIMMER : MAX.)

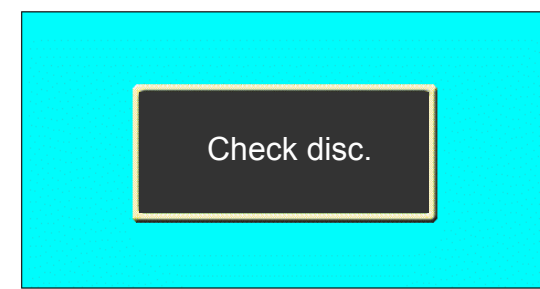
1) FLICKER adjustment

- Give a shock to the set, and adjust the [FLICKER] to make the FLICKER visually optimal.

4. DISPLAY POSITION ADJUSTMENT

< Adjustment conditions >

- Display the following screen in NAVI MODE, and adjust the VOLUME on the reverse side of the LCD module to make the both ends of right and left of the screen equalize.



Right and left of the both ends of the white line shall be equalized.

EXPLANATION OF MICROCOMPUTER

IC501 (M30802)1/2

Pin	Signal	I/O	Function
1	SDA_D	I/O	NC
2	DVD_INT	O	NC
3	DVD_RST	O	NC
4	VOL_O	O	NC
5	DARC_DO	O	DARC
6	DARC_DI	I	DARC
7	DARC_CLK	O	DARC
8	DRAC_CE	O	DARC
9	DRAC_RST	O	DARC
10	TV_CLK	O	TV tuner
11	TV_DATA	O	TV tuner
12	TV_LE	O	TV tuner
13	TV_LOCK	I	TV tuner
14	TV_SD	I	NC
15	BYTE	I	Hi input
16	CNVSS	PWR	GND
17	AU_SW1	O	AUDIO change sw
18	AU_SW2	O	AUDIO change sw
19	RST	I	RESET input
20	XOUT	O	Main clock oscillator input
21	VSS	PWR	GND
22	XIN	I	Main clock oscillator output
23	VCC	PWR	Power supply4.2–5.5V
24	-	-	NC
25	VSYNC	I	Vortical syncro input
26	DARC_INT	I	DARC
27	RMC	I	Remote control sensor input
28	VD_IN	I	VIDEO input
29	DOOR	I	NC
30	KEY_TX	O	RS232C output (to NAVI block)
31	BAT_O	O	Battery output (to NAVI block)
32	PARK_O	O	Parking output (to NAVI block)
33	PARK_I	I	Parking input (to NAVI block)
34	CDCHK	I	GND
35	-	-	NC
36	SCL	O	I ² C BUS
37	SDA	I/O	I ² C BUS
38	VICSTX	O	NC
39	VCC	PWR	Power supply4.2–5.5V
40	VICSRX	I	NC
41	VSS	PWR	GND
42	FM_SD	I	FM tuner SD
43	FM_CE	O	FM tuner
44	FM_DO	O	FM tuner
45	FM_DI	I	FM tuner
46	FM_CLK	O	FM tuner
47	-	-	NC
48	TV	O	NC
49	VIDEO	O	VIDEO(VIDEO:Hi,Other:Lo)
50	NAVI	O	NAVI(NAVI:Hi,Other:Lo)
51	DVD	O	DVD(DVD:Hi,Other:Lo)
52	-	-	NC
53	RAS	O	DRAM
54	-	-	NC
55	-	-	NC
56	POWER	O	POWER ON/OFF output
57	VSS	PWR	GND
58	AMP	O	AMP ON/OFF output
59	VCC	PWR	Power Supply 4.2V – 5.5V
60	D_MENU	I	GND
61	ILM	O	NAVI display(Day/Night)change
62	-	-	NC
63	WE	O	DARM
64	-	-	NC

EXPLANATION OF MICROCOMPUTER

IC501 (M30802)2/2

Pin	Signal	I/O	Function
65	CAS	O	DRAM
66	LMUTE	O	LINE OUT Mute
67	VOL_CLK	O	Electronic Volume
68	VOL_DATA	O	Electronic Volume
69 72	-	-	NC
73	DA10R	O	DRAM address
74	VCC	PWR	Power supply 4.2V – 5.5V
75	DA9	O	DRAM address
76	VSS	PWR	GND
77 85	DA8 DA0	O	DRAM address
86	NV_BEEP1	I	NAVI Beep input
87	NV_BEEP2	I	NC
88	BEEP	O	Beep output
89	SMUTE	O	Audio mute output
90	DMUTE	O	Image mute output
91	VCC	PWR	Power supply 4.2V – 5.5V
92	-	-	NC
93	VSS	PWR	GND
94 109	-	-	NC
110 113	D7 D4	I/O	DRAM
114	-	-	NC
115	-	-	NC
116	PARK_SW	I	Parking cable plug input
117	DISVICS	O	NC
118	TEST	I	Test mode input
119 122	D3 D0	I/O	DRAM data
123	LCD_CLK	O	LCD I/F CLOCK
124	LCD_DATA		
125	LCD_CS		
126	DM2	O	LCD display mode output
127	DM3	O	LCD display mode output
128	OSD_SW	O	OSD display output
129	DIMOUT	O	Dimmer output
130	VSS	PWR	GND
131	MODEL_SW	I	Model(NV-DK700/750)change
132	VCC		Power supply 4.2V – 5.5V
133	-	-	NC
134	-	-	NC
135	-	-	NC
136	TEMP	I	Temperature input
137	BAT_I	I	Battery input
138	DIMIN	I	Dimmer sensor input
139	FM_SM	I	NC
140	AVSS	PWR	Analog GND
141	-	-	NC
142	VREF	PWR	Battery reference
143	AVCC	PWR	Analog power supply
144	SCL_D	I/O	NC

EXPLANATION OF MICROCOMPUTER

IC861 (LC24072B)1/2

Pin	Signal	I/O	Function
1	LVcc	PWR	+3.3V
2	HD8	I/O	ATAPI data bus
3	HD7		
4	HD9		
5	HD6		
6	HD10		
7	HD5		
8	HD11		
9	HD4		
10	HD12		
11	HD3		
12	HD13		
13	GND	PWR	0V
14	HD2	I/O	ATAPI data bus
15	HD14		
16	HD1		
17	HD15		
18	HD0		
19	LVcc	PWR	+3.3V
20	HDREQ	I	ATAPI DMA transmit request
21	/HRD	O	ATAPI Read strobe
22	/HWR	O	ATAPI Write strobe
23	/HIORDY	I	ATAPI Wait
24	/HDACK	O	ATAPI DMA transmit strobe
25	HA1	O	ATAPI Address bus
26	HA0	O	ATAPI Address bus
27	HA2	O	ATAPI Address bus
28	/HCS1	O	ATAPI Control Register chip select
29	/HCS3	O	ATAPI Command Register chip select
30	GND	PWR	0V
31	LVcc	PWR	+3.3V
32	FM-ASIC	I	NC
33	ASIC-FM	O	NC
34	BEACON-ASIC	I	NC
35	ASIC-BEACON	O	NC
36	GYRO-ASIC	I	NC
37	ASIC-GYRO	O	NC
38	-	I	Pull-up
39	-	-	NC
40	IRQ_FM	O	NC
41	IRQ_BEACON	O	NC
42	IRQ_GYRO	O	NC
43	-	-	NC
44	VCK	I	Clock input(7.15909MHz)
45	SC	O	3.579545MHz output
46	PLLCK	O	15.7342kHz output
47	GND	PWR	0V
48	/CS_CARD	O	PC card chip select
49	/LOAD	I	BOOT Soft load
50	SI	O	Serial data output(Voice Gaideance)
51	LRCK	O	L/R clock(Voice Gaideance)
52	SCK	O	Clock output(Voice Gaideance)
53	/WAIT_Q2	I	Q2i Wait input
54	/CS_Q2UGM	O	Q2i UGM chip select

EXPLANATION OF MICROCOMPUTER

IC861 (LC24072B)2/2

Pin	Signal	I/O	Function
55	/CS_Q2REG	O	Q2i inside register chip select
56	ADPCM_SW	I	ADPCM switch
57	GND	PWR	0V
58	/RST_3	I	Power on reset
59	CKIO	I	System clock input(39.3216MHz)
60	GND	PWR	0V
61	LVcc	PWR	+3.3V
62	/FCS	O	Flash memory chip select
63	/FWE	O	Flash memory write strobe
64	/DREQ1	O	DMA request
65	/DREQ0		
66	/DACK1	O	DMA acknowledge
67	/DACK0		
68	/WAIT	O	Wait output
69	/CS6	I	Chip select input
70	/CS5		
71	/CS4		
72	/CS0		
73	GND	PWR	0V
74	/WE1	I	Write strobe
75	/WE0		
76	/RD	I	Read strobe
77	SA22	I	Address bus
78	SA5	I	Address bus
82	SA1		
83	GND	PWR	0V
84	SD0	I/O	Data bus
89	SD5		
90	GND	PWR	0V
91	LVcc	PWR	+3.3V
92	SD6	I/O	Data bus
99	SD13		
100	GND	PWR	0V
101	SD14	I/O	Data bus
109	SD22		
110	GND	PWR	0V
111	SD23	I/O	Data bus
119	SD31		
120	GND	PWR	0V

EXPLANATION OF MICROCOMPUTER

IC801 (HD6417706)1/3

Pin	Signal	I/O	Function
1	LLVcc	PWR	+1.9V
2	XTAL2	O	NC
3	EXTAL2	I	Pull-up
4	GND	PWR	0V
5	SD31	I/O	Data bus
10	SD26		
11	GND	PWR	0V
12	SD25	I/O	Data bus
13	LVcc	PWR	+3.3V
14	SD24	I/O	Data bus
18	SD20		
19	GND	PWR	0V
20	SD19	I/O	Data bus
21	LLVcc	PWR	+1.9V
22	SD18	I/O	Data bus
24	SD16		
25	GND	PWR	0V
26	SD15	I/O	Data bus
27	LVcc	PWR	+3.3V
28	SD14	I/O	Data bus
36	SD6		
37	GND	PWR	0V
38	SD5	I/O	Data bus
39	LVcc	PWR	+3.3V
40	SD4	I/O	Data bus
44	SD0		
45	SA0	O	Address bus
48	SA3		
49	GND	PWR	0V
50	SA4	O	Address bus
51	LVcc	PWR	+3.3V
52	SA5	O	Address bus
60	SA13		
61	GND	PWR	0V
62	SA14	O	Address bus
63	LVcc	PWR	+3.3V
64	SA15	O	Address bus
70	SA21		
71	GND	PWR	0V
72	SA22	O	Address bus
73	LVcc	PWR	+3.3V
74	SA23	O	Address bus
76	SA25		

EXPLANATION OF MICROCOMPUTER

IC801 (HD6417706)2/3

Pin	Signal	I/O	Function
77	/BS	O	NC
78	/RD	O	Read strobe
79	/WE0	O	D70-D0 select signal
80	/WE1	O	D15-D8 select signal
81	/WE2	O	D23-D16 select signal
82	/WE3	O	D31-D24 select signal
83	RD/WR	O	Read/write select signal
84	GND	PWR	0V
85	/CS0	O	Chip select
86	LVcc	PWR	+3.3V
87	/CS2	O	NC
88	/CS3	O	Chip select 3
89	/CS4	O	Chip select 4
90	/CS5	O	Chip select 5
91	/CS6	O	Chip select 6
92	/CE2A	O	NC
93	GND	PWR	0V
94	PTD[7]	O	Input/output port D
95	LVcc	PWR	+3.3V
96	/RAS	O	Lower32 Mbytes address RAS
97	PTD[1]	O	Input/output port D
98	/CAS	O	Lower32 Mbytes address CAS
99	PTD[3]	I/O	NC
100	PTD[4]	I/O	NC
101	/IOIS16	I	Pull-up
102	/BACK	O	NC
103	/BREQ	I	Pull-up
104	/WAIT	I	Hardwave wait request
105	/DACK0	O	DMA acknowledge 0
106	/DACK1	O	DMA acknowledge 1
107	PTE[2]	I	Input/output port E
108	PTE[3]	I	Input/output port E
109	PTF[0]	I	Input/output port F
110	PTF[1]	I	NC
111	PTF[2]	I	Input/output port F
112	PTF[3]	I	Pull-up
113	PTF[4]	O	Input/output port F
114	PTG[0]	I	Pull-up
115	GND	PWR	0V
116	PTG[1]	I	Pull-up
117	LLVcc	PWR	+1.9V
118	PTG[2]	I	Pull-up
119	PTG[3]	I	Pull-up
120	PTF[5]	I/O	NC
121	PTF[6]	I/O	NC
122	/ASEMD0	I	Pull-up
123	LLVcc	PWR	+1.9V
124	CAP1	-	PLL1 external capacitance pin
125	GND	PWR	0V
126	GND	PWR	0V
127	CAP2	-	PLL2 external capacitance pin
128	LLVcc	PWR	+1.9V
129	MD1	I	Pull-up
130	GND	PWR	0V

EXPLANATION OF MICROCOMPUTER

IC801 (HD6417706)3/3

Pin	Signal	I/O	Function
131	XTAL	O	Clock oscillator pin
132	EXTAL	I	External Clock/crystal oscillator pin
133	STATUS0	O	Processor status
134	STATUS1	O	Processor status
135	PTE[6]	I/O	NC
136	PTE[7]	I	ADPCM SW
137	GND	PWR	0V
138	CKIO	O	System clock input/output(39.3216MHz)
139	LVcc	PWR	+3.3V
140	TxD0	O	SCI transmit data0
141	SCK0	I/O	NC
142	TxD2	O	Pull-up
143	SCPT[3]	O	SC port
144	SCPT[4]	I/O	NC
145	RxD0	I	SCI receive data0
146	RxD2	I	SCIF receive data2
147	IRQ5	I	Pull-up
148	GND	PWR	0V
149	/RESETM	I	Pull-up
150	LLVcc	PWR	+1.9V
151	IRQ0	I	External interrupt request(Q2)
152	IRQ1	I	External interrupt request(ATAPI)
153	IRQ2	I	External interrupt request(FM)
154	IRQ3	I	NC
155	IRQ4	I	NC
156	GND	PWR	0V
157	NMI	I	Pull-up
158	LVcc	PWR	+3.3V
159	PTG[4]	I	Pull-up
160	/DREQ0	I	DMA request
161	/DREQ1	I	DMA request
162	PTG[5]	I	Input port G
163	MD0	I	Pull-down
164	MD2	I	Pull-down
165	/RESETP	I	Power-on reset request
166	CA	I	Pull-up
167	MD3	I	Pull-down
168	MD4	I	Pull-up
169	MD5	I	Pull-down
170	GND	PWR	0V
171	PTJ[0]	I	GND
172	PTJ[1]	I	GND
173	PTJ[2]	I	GND
174	PTJ[3]	I	GND
175	LVcc	PWR	+3.3V
176	GND	PWR	0V

EXPLANATION OF MICROCOMPUTER

IC1151 (HD64F3039TEBL18)1/3

PIN	Signal	I/O	Function
1	/RST0	O	ATAPI controller/decoder reset
2	/RST1	O	Servo/data processor reset
3	SPDRVPS	O	Spindle motor driver power save
4	G	O	H : Operation mode, L : Standby
5	MUTEL	O	H : MUTE ON / L : MUTE OFF LcH
6	MUTER	O	H : MUTE ON / L : MUTE OFF RcH
7	MD2	I	Normally 5V,boot flash writing 0V
8	LSPEED	O	PLL output
9	FLCNT	O	Flash memory output
10	AUDIO	O	AUDIO Disc play : H
11	/G	O	H : Standby,L : Operation mode
12	VSS	—	GND
13	D0	I/O	CPU data bus
14	D1	I/O	CPU data bus
15	D2	I/O	CPU data bus
16	D3	I/O	CPU data bus
17	D4	I/O	CPU data bus
18	D5	I/O	CPU data bus
19	D6	I/O	CPU data bus
20	D7	I/O	CPU data bus
21	VCC	—	+5V
22	HA0	O	CPU address bus
23	HA1	O	CPU address bus
24	HA2	O	CPU address bus
25	HA3	O	CPU address bus
26	HA4	O	CPU address bus
27	HA5	O	CPU address bus
28	HA6	O	CPU address bus
29	HA7	—	NC
30	VSS	—	GND
31	NC	—	NC
32	NC	—	NC
33	LOEJKEY	—	NC

EXPLANATION OF MICROCOMPUTER

IC1151 (HD64F3039TEB L18)2/3

PIN	Signal	I/O	Function
34	INSIDE	I	Inside switch input
35	NC	—	NC
36	CLOSESW	I	Cover OPEN / CLOSE SW input
37	CSEL	I	IDE cable select input
38	NAVI	I	NAVI,DVD change terminal(Low at NAVI)
39	NC	—	NC
40	SRVDPCS	O	Chip select output
41	ATACS	O	Chip select output
42	NC	—	NC
43	PSC	O	RF AMP prescaler
44	MD0	—	+5V
45	MD1	—	GND
46	PHI	O	System clock output
47	STBY	I	CPU hard ware standby terminal +5V
48	RES	I	CPU hard reset +5V
49	NMI	—	0V
50	VSS	—	GND
51	EXTAL	I	Crystal connection terminal
52	XTAL	I	Crystal connection terminal
53	VCC	—	+5V
54	NC	—	NC
55	/RD	O	READ
56	/WR	O	WRITE
57	/FEW	I	Flash memory output
58	AVSS	—	GND
59	FE	I	Focus error signal input
60	LVL	I	SUM signal input
61	TEST0	I	KEY input terminal for TEST
62	TEST1	I	KEY input terminal for TEST
63	TEST2	I	KEY input terminal for TEST
64	TEST3	I	KEY input terminal for TEST
65	TEST CNT	I	Test mode input
66	NC	—	GND

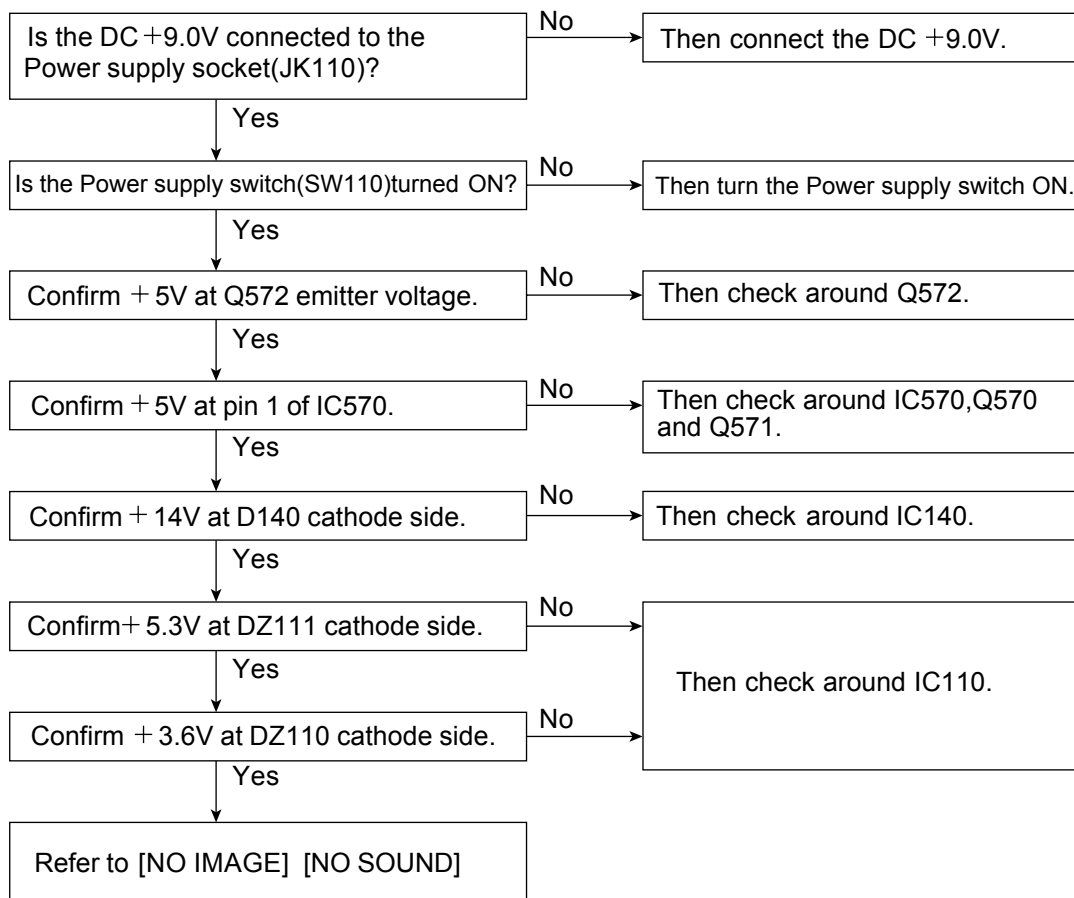
EXPLANATION OF MICROCOMPUTER

IC1151 (HD64F3039TEBL18)3/3

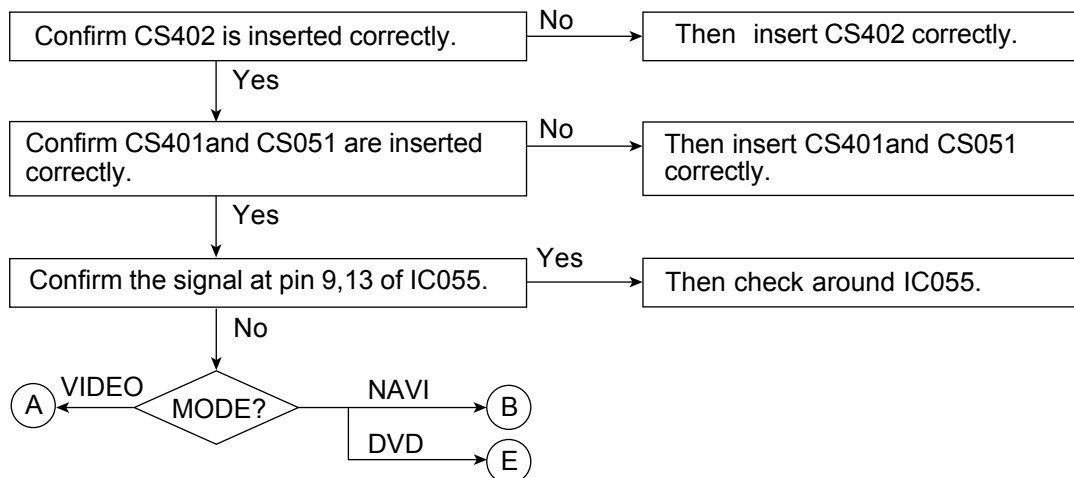
PIN	Signal	I/O	Function
67	AVCC	—	+5V
68	/ATAINT	I	ATAPI controller/decoder interrupt input
69	/SDINT	I	Servo/decoder processor interrupt input
70	TXD	O	Serial data trans terminal for debug
71	RXD	I	Serial data receive terminal for debug
72	NC	—	NC
73	ENCODER	I	ENCODER pulse input
74	/PWR DWN1	O	Analog+5V power down control output
75	/PWR DWN2	O	Digital+5V power down control output
76	STBY	O	PWMdriver MUTEoutput STBY : L
77	DIR	O	H : DSP output, L : DSP input
78	DVDR	O	DVD-Rdisc : L Other disc : H
79	RFMVON	O	Laser RF output DVD : H
80	NC	—	NC

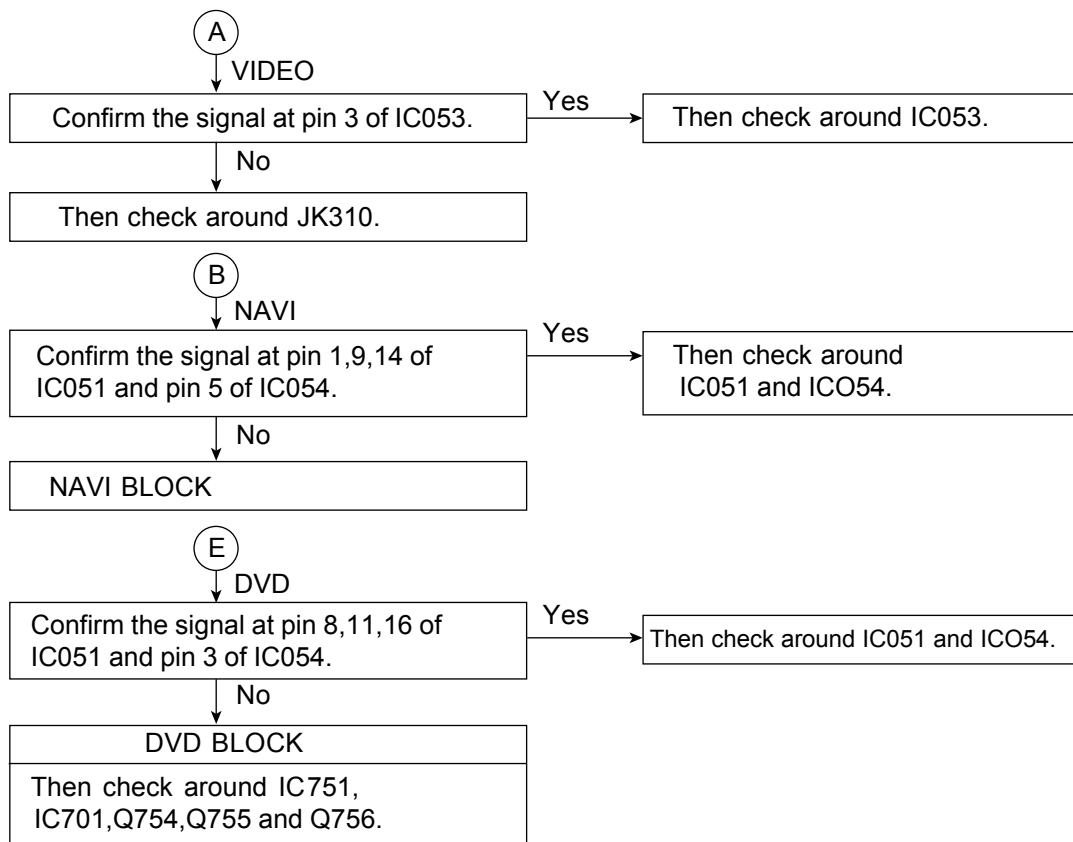
TROUBLE SHOOTING

NO POWER

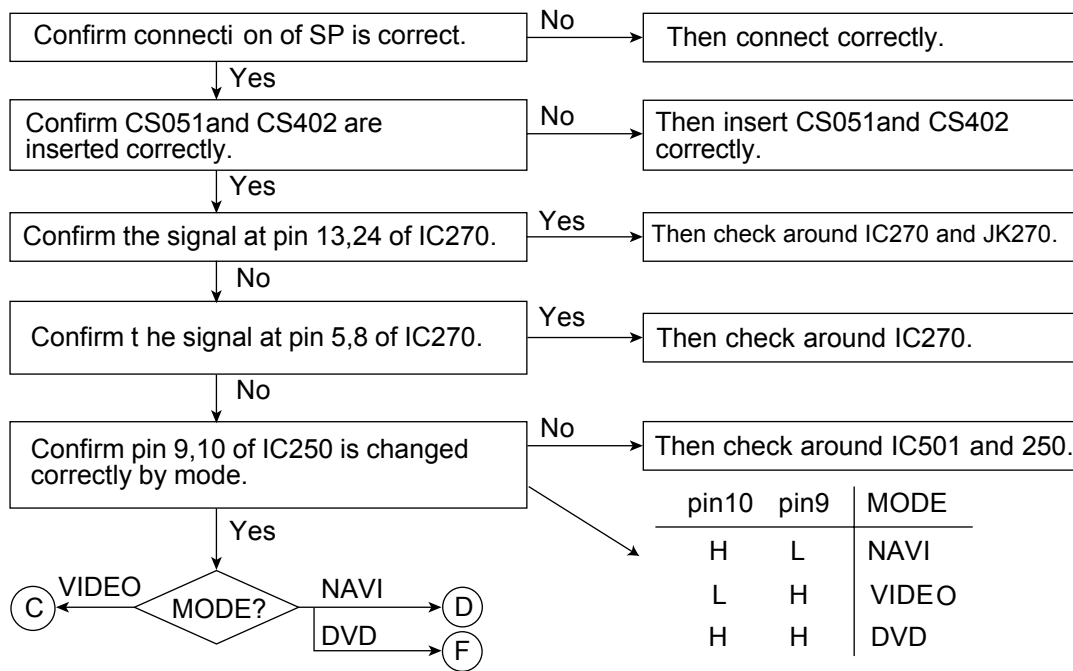


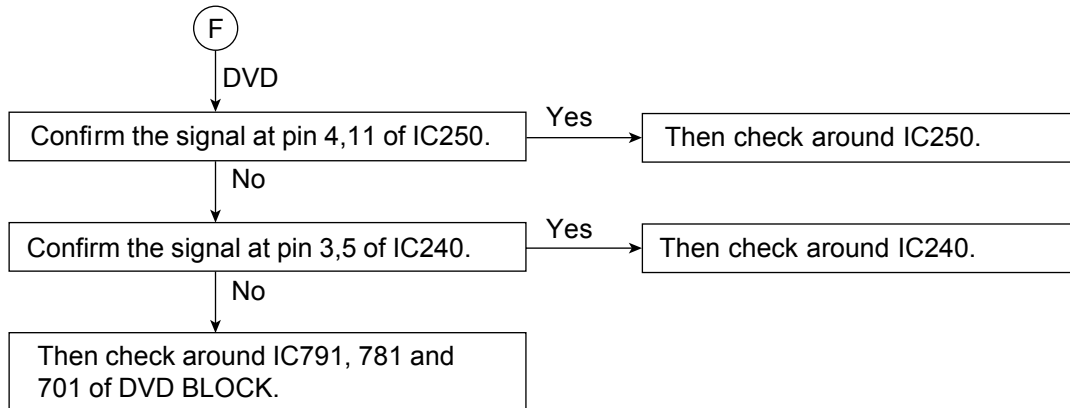
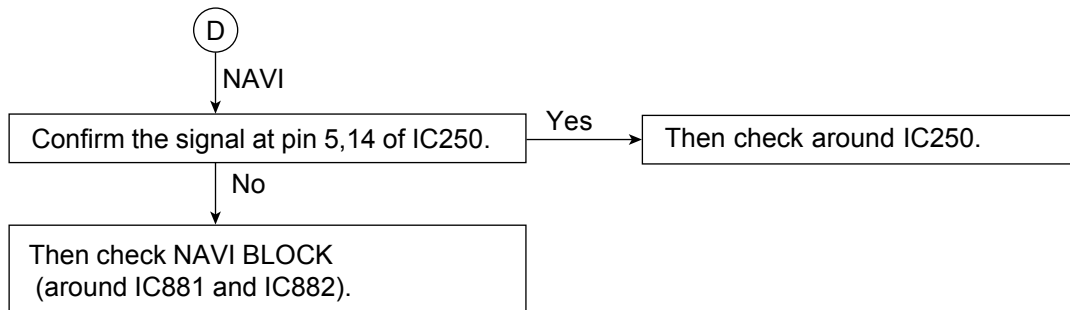
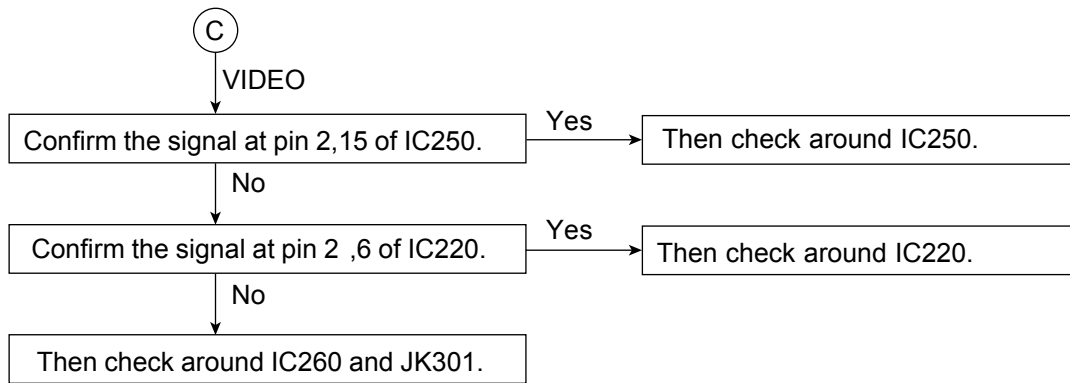
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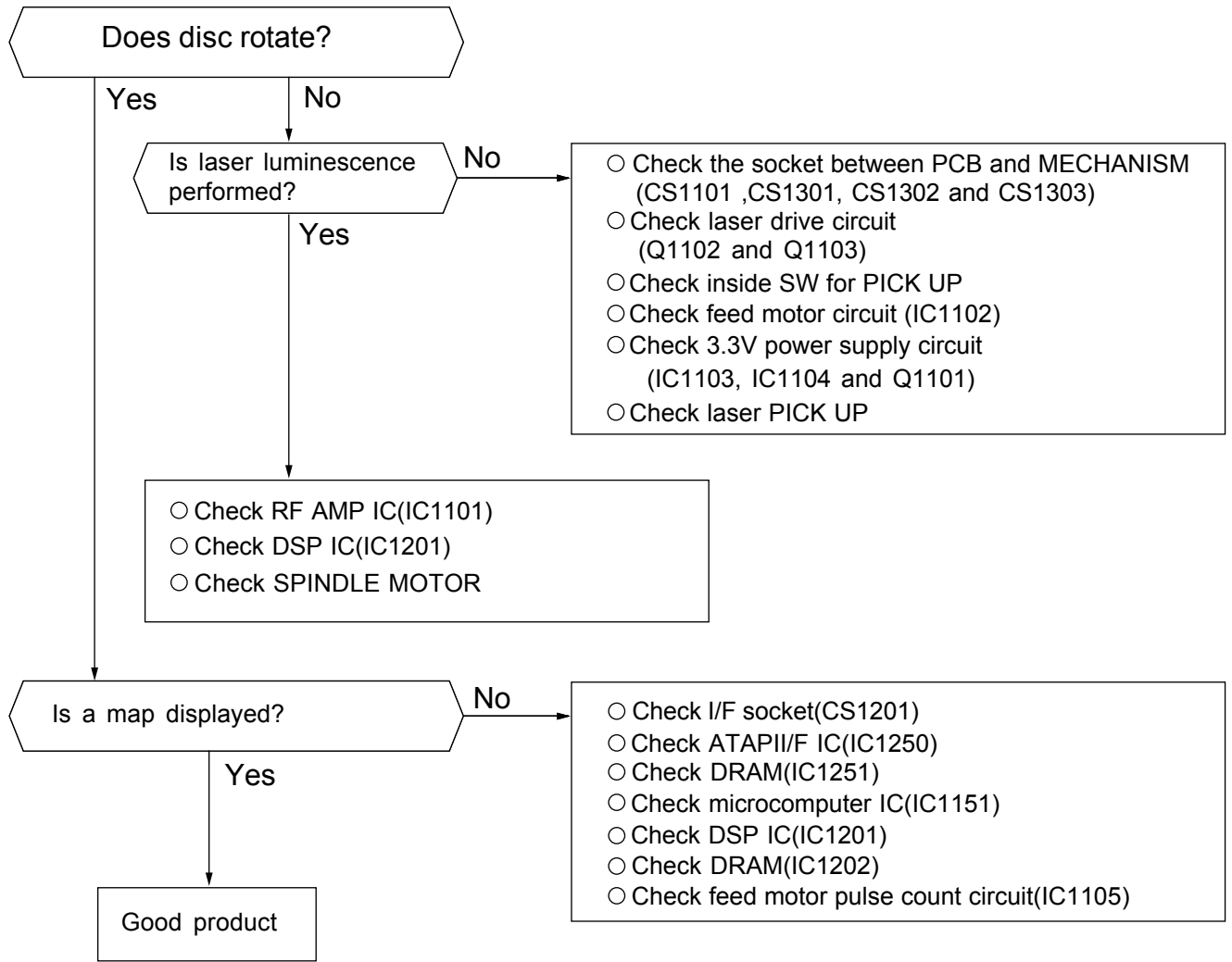


NO SOUND





(DVD - ROM MECHANISM)



(NAVI MODE)

[Operation flow from inserting a disc to map display]

1. Turn the power supply ON after inserting a disc
2. Check inside switch of PICK UP
3. Movement of PICK UP (inside switch ON→OFF→ON)
4. Focus search operation (dual layer DVD)
5. Focus servo ON
6. Start spindle motor rotation
7. TOC read
8. Movement of PICK UP is performed by command from NAVI main part, and then read the data.
9. Data transmission to NAVI main part
10. Map display

(DVD MODE)

[Operation flow from inserting a disc to DVD video display]

1. Turn the power supply ON after inserting a disc
2. Check inside switch of PICK UP
3. Movement of PICK UP (inside switch ON→OFF→ON)
4. Laser ON
5. Disc distinction operation (focus search)
6. Disc distinction (single layer DVD or dual layer DVD or CD)
7. Focus search operation
8. Focus servo ON
9. Start spindle motor rotation
10. TOC read
11. Start the DVD video opening display (when auto play is ON)

✳ Since map disc is limited to dual layer DVD disc, focus search is directly performed as dual layer disc without disc distinction.

In DVD mode, disc distinction is performed.

1. NAVI BLOCK

In NAVI MODE, the power supply is supplied to NAVI BLOCK and SERVO PCB.

The NAVI signal from the microcomputer is Hi, and +3.3V and +5V are supplied to NAVI BLOCK from Q168 and 108. +5V is supplied to SERVO PCB from Q120.

a. CPU(IC801)

IC801 controls ASIC, MEMORY, and GRAPHIC CONTROLER etc. in MAIN CPU. Taking in the key signal from GPS data and microcomputer are also performed by CPU.

And CPU detects the state of BEEP output, Parking brake, and Disc cover etc.

b. ASIC(IC861)

ASIC performs output of the control signal at the time of memory access of CPU, and communicates with DVD drive.

Voice guidance is outputted through IC881(DAC)and IC82(LPF/AMP)by ASIC.

c. MEMORY(IC841,842,843)

IC841 and 842 are used for memory of Map data and calculation of NAVI microcomputer by SDRAM.

IC843 is used for memory of program software, font data, bit map data, and back up data of course and initial setting by FLASH.

d. GRAPHIC CONTROLER(IC901)

The data sent from NAVI microcomputer or MEMORY is changed into the data for display.

IC931 is used as work memory by DRAM.

Graphic data is inputted by 6- bit RGB data synchronizing with DCLK.

IC 941 is inputted to pin 3 and pin14 by PLL.

15.7KHz is compared and DCLK is outputted from pin 4.

e. VIDEO DAC(IC951)

Digital RGB outputted from IC901 is synchronizes with DCLK and changed into ANALOG, and RGB signal and Composite video signal are outputted.

f. GPS

GPS tuner and MAIN PCB are connected by CS971 and wire.

Pin 8 is power supply for tuner, pin 9 is power supply for antenna, and pin 2 is power supply for backup.

Pin 6 receives data from NAVI microcomputer, and data is transmitted to NAVI Microcomputer from pin 7.

From GPS tuner, position/time data is outputted for every seconds, and it is inputted into pin 145 of NAVI microcomputer.

2. VIDEO BLOCK

a. Microcomputer part

Microcomputer manages the whole set, such as power supply management, change mode, change image/audio, sensor input processing of remote control or dimmer. Communication with parking brake input and NAVI BLOCK are also performed.

b. Image part

There are 3 kinds of images displayed by this set. NAVI image, DVD image, and VIDEO IN image.

Their signals are switched by VIDEO SW (IC053, IC054) and outputted to LCD interface IC(IC055).

However, since NAVI image is outputted from NAVI BLOCK and DVD image is outputted from DVD BLOCK by RGB signal, so DVD image and NAVI image are switched by RGB SW(IC051), and RGB signal of OSD is switched by RGB SW (IC052), and then they are outputted to LCD interface IC(IC055).

Gamma correction and bright adjustment of the image signal inputted to LCD interface are performed, and then the image signal is outputted to LCD side as RGB signal.

c. Audio part

There are 3 kinds of audio outputted by this set. NAVI GUIDANCE, DVD AUDIO, and VIDEO IN AUDIO.

NAVI GUIDANCE outputted from NAVI BLOCK is directly inputted to SW(IC250). The audio outputted from DVD BLOCK is outputted to IC250 via GRAND ISOLATOR(IC240).

VIDEO IN AUDIO is switched (input/output) by IC260 and AMP is performed at IC220 and inputted to IC250.

The audio signal outputted from SW is inputted to HEADPHONE SPAMP (IC270) with electronic volume, and volume is adjusted based on the data from the microcomputer and outputted to SPEAKER.

3. POWER SUPPLY BLOCK

When the power supply SW is turned ON, +5V will be supplied to microcomputer by regulator(Q572).

If the power supply signal from microcomputer is "Hi", the IC for DC - DC(IC110, 140) will operate and +5V, 3V, +3V, 6V, and +14V will be outputted.

Furthermore, +8V will be outputted by regulator(Q101).

These power supplies are supplied to block required in each mode.

4. LCD PCB

LCD PCB has POWER SUPPLY BLOCK for LCD and INVERTER BLOCK.

a. POWER SUPPLY BLOCK for LCD

By DC - DC IC(IC601), +16/- 16V power supply for LCD is outputted from +5V supplied from MAIN PCB, and supplied to LCD PANEL.

b. INVERTER BLOCK

The high pressure for LCD back light is generated based on +14v supplied from MAIN PCB. (T431, 432)

Light adjustment is also performed by DIMOUT signal from microcomputer.

5. KEY PCB

KEY PCB has various keys and remote control dimmer sensor port.

- a. +3V is supplied to IC503 by IC540, key SW is taken in, and assignment of remote control and the data of main part key are performed.

6. DVD PCB

In DVD MODE, the power supply is supplied to DVD BLOCK and SERVO PCB. The DVD signal from the microcomputer is Hi, and +3.3V and +5V are supplied to DVD BLOCK from Q611 and Q613. +5V is supplied to SERVO PCB from Q120.

a. DVD DECODER

IC701 communicates with microcomputer, and playbacks DVD by DVD DECODER.

b. VIDEO DAC

IC751 outputs DVDRGB, Y/C signal and VIDEO signal by DVD VIDEO DAC

c. AUDIO DAC

IC781 outputs DVD audio through BUFFER(IC791) by DVD AUDIO DAC.

(SERVO PCB)

1. RF AMP PART(IC1101)

For the signal read by PICKUP, AMP is performed, and equalizing of playback RF signal and error signal required for each SERVO are generated.

2. DSP PART(IC 1201)

Digital signal processing of the signal from RF AMP is performed, and control signals of PICK UP, SPINDLE MOTOR, and FEED MOTOR etc are outputted. Recovery and correction of RF signal are also performed.

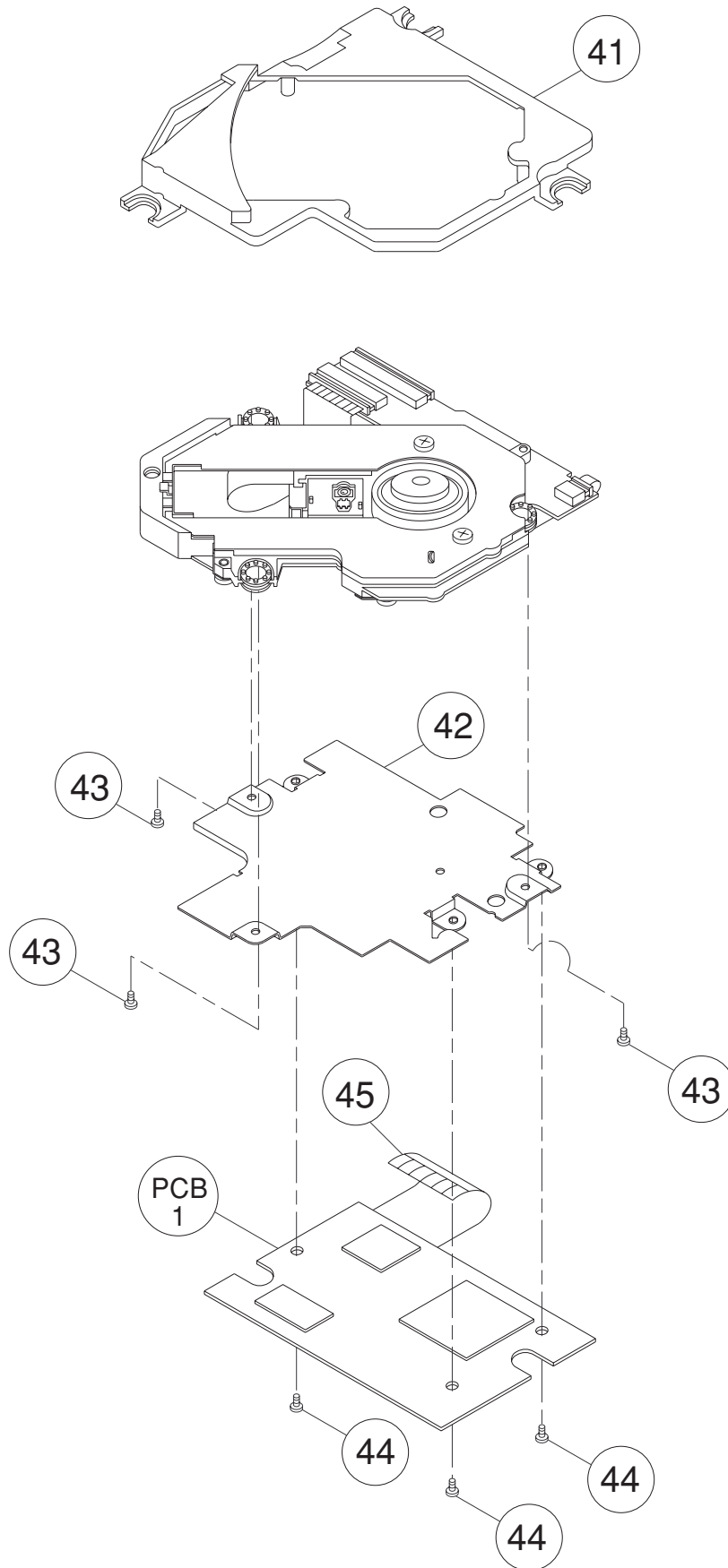
3. ATAPII/F PART(IC1250)

It communicates by ASIC and ATAPII/F in NAVI PCB.

4. MICROCOMPUTER PART(IC1151)

When in NAVI MODE, +5V power supply is supplied, and operation of DVD BLOCK is controlled .

EXPLODED VIEW(DVD-ROM MECHANISM)

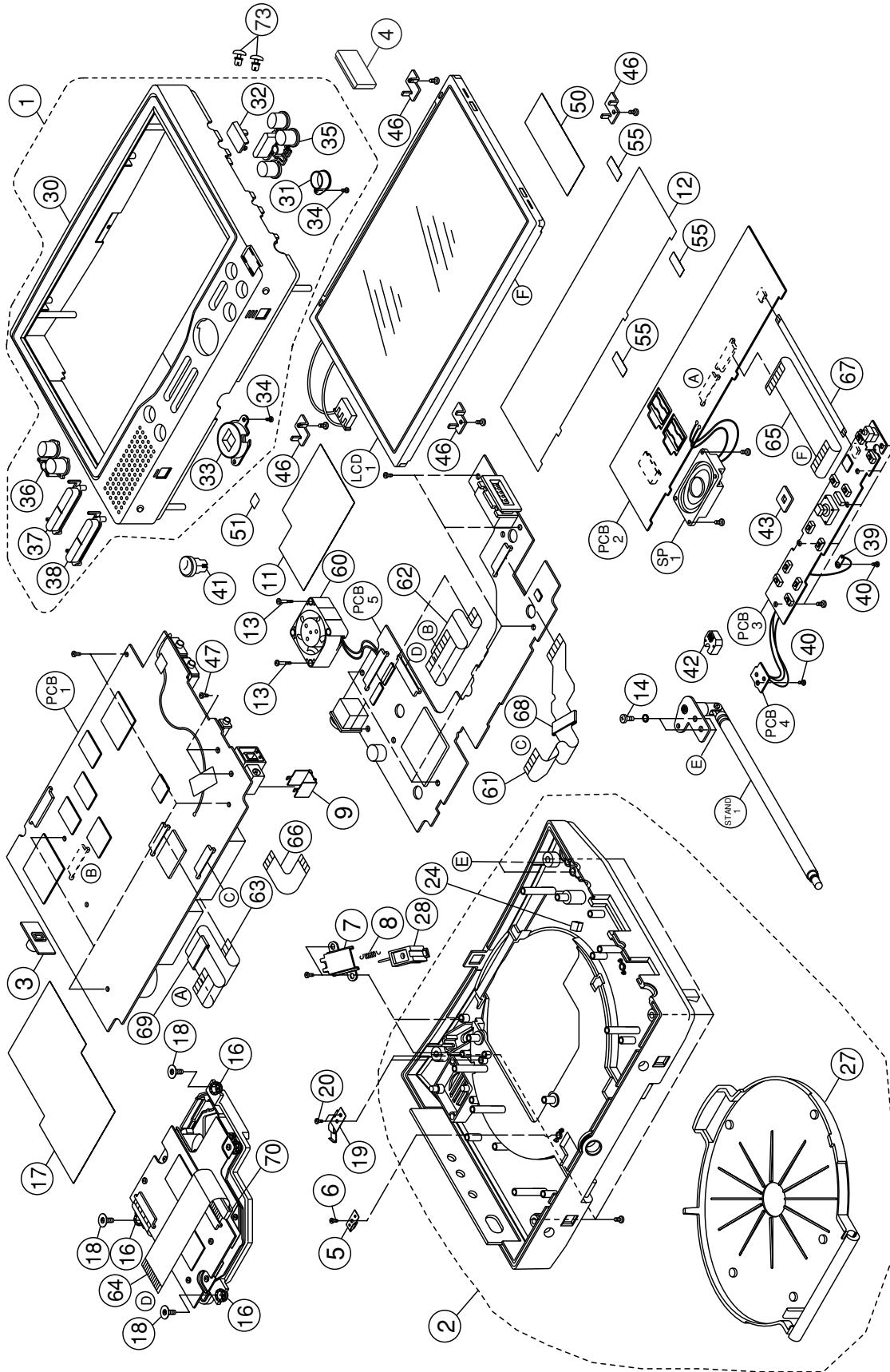


PARTS LIST(DVD-ROM MECHANISM)

Ref. No.	PART No.	DESCRIPTION	Q'ty	Ref. No.	PART No.	DESCRIPTION	Q'ty
DVD-ROM MECHANISM							
	661 035 1884	ASSY,CHASSIS,DVD, NO SERVICE PART	1	IC1153	409 424 7709	IC IC-PST597EN	1
41	661 030 2503	BASE	1	IC1154	409 323 8708	IC TC7WU04FU	1
42	632 889 9166	PLATE,BOTTOM	1	IC1104	405 164 2202	TR HAT1025R	1
43	412 056 0208	SPECIAL SCREW,MECHANISM	3	IC1104 OR	405 173 7106	TR NTMD6P02R2	1
44	411 166 2607	SCR S-TPG PAN PCS 2X3	3	Q1101	405 124 2402	TR 2SB1424-R	1
		SERVO PCB		Q1101 OR	405 124 2303	TR 2SB1424-Q	1
45	661 025 2419	FFC,45P 30MM	1	Q1151	405 083 6206	TR DTA114YU	1
		MECHA-SERVO PCB		D1102	407 130 4500	DIODE DAP202U	1
	632 864 9211	POLY COVER,200X250	1	D1105	407 130 4401	DIODE DAN202U	1
SERVO P.C.B.ASSEMBLY							
PCB1	661 031 4179	PCB-ML ASSY,SERVO	1	X1151	632 815 2773	RESONATOR,CERAM,16.000MHZ	1
CS1101	661 022 4669	SOCKET,45P	1	RA1151	632 754 3268	RESISTOR,2X1K	1
CS1101 OR	632 855 3945	SOCKET,45P	1	RA1152	632 746 7144	RESISTOR,4X47K	1
CS1201	661 022 4652	SOCKET,50P	1	RA1154	632 746 7144	RESISTOR,4X47K	1
CS1201 OR	632 818 9397	SOCKET,50P	1	RA1155	632 746 7144	RESISTOR,4X47K	1
IC1101	409 438 7603	IC TA1293F	1	RA1157	632 746 7144	RESISTOR,4X47K	1
IC1101 OR	410 347 0906	IC TA1293F(DRY,C)	1	IC1201	409 504 3607	IC TC94A03F	1
IC1102	409 430 6208	IC BA5918FP-Y	1	IC1202	410 318 2908	IC MSM511666C-50TS-K-DR1	1
IC1105	409 353 4404	IC TC75S51F	1	IC1203	410 328 9607	IC TC74VHC245FT-(EL)	1
D1101	407 130 4500	DIODE DAP202U	1	IC1204	409 320 9401	IC TC7S66FU	1
Q1102	405 030 7300	TR 2SA1338-5	1	IC1205	409 320 9401	IC TC7S66FU	1
Q1103	405 030 7300	TR 2SA1338-5	1	IC1206	409 320 9401	IC TC7S66FU	1
Q1152	405 030 7300	TR 2SA1338-5	1	X1201	632 843 4602	RESONATOR,CERAM,22.579MHZ	1
Q1104	405 131 2501	TR DTC114TUA	1	SVR120	632 721 2218	POTENTIOMETER,4.7K	1
Q1105	405 131 2501	TR DTC114TUA	1	RA1202	632 754 3268	RESISTOR,2X1K	1
RA1162	632 754 3268	RESISTOR,2X1K	1	RA1201	632 754 3442	RESISTOR,2X10K	1
RA1103	632 754 3442	RESISTOR,2X10K	1	RA1205	632 754 3572	RESISTOR,2X47K	1
RA1102	632 754 3572	RESISTOR,2X47K	1	RA1203	632 746 6970	RESISTOR,4X10K	1
IC1151	410 497 4304	IC HD64F3039TEBL18/7531AB	1	IC1250	410 377 9702	IC TC9469BF(BS,DRY,CA)	1
IC1103	409 371 1102	IC RN5RG33AA	1	IC1251	410 318 2809	IC MSM514265C-50TS-K-DR1	1
IC1152	409 375 7001	IC TC7ST08FU	1	X1250	632 833 4513	RESONATOR,CERAM,50.000MHZ	1
				RA1250	632 746 5966	RESISTOR,4X47	1
				RA1251	632 746 5966	RESISTOR,4X47	1
				RA1252	632 746 5966	RESISTOR,4X47	1
				RA1253	632 746 5966	RESISTOR,4X47	1
				RA1256	632 746 5966	RESISTOR,4X47	1
				RA1257	632 746 5966	RESISTOR,4X47	1

- NOTES: 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.
3. Regular type resistor and capacitor are omitted. Check the schematic diagram for these values.

EXPLODED VIEW



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol \triangle in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with \triangle use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

Ref. No.	PART No.	DESCRIPTION	Q'ty	Ref. No.	PART No.	DESCRIPTION	Q'ty
INDIVIDUAL				34	412 063 2806	SPECIAL SCREW	(2)
	661 049 4161	INNER CARTON	1	35	661 049 4192	BUTTON,ENTER	(1)
	661 031 5794	SHEET	1	36	661 049 4208	BUTTON,VOL	(1)
	661 043 5430	SHEET	1	37	661 049 4215	BUTTON,MENU	(1)
	661 042 9859	POLY COVER,230X300	1	38	661 049 4222	BUTTON,MODE	(1)
	661 031 2410	PAD,PARTITION	1	39	632 835 5693	LUG	1
	661 031 2427	REMOTE CONTROL	1	40	412 063 2806	SPECIAL SCREW	2
	661 031 2397	SHEET,REMOTE CONTROL	1	41	661 043 3900	BUTTON,SCROLL	1
	661 035 4847	PAD,PLAIN	1	42	661 043 3924	ILLUMINANT	1
		SHEET	1	2	661 049 4260	REAR CABINET ASSY	1
ACCESSORY				27	661 059 0429	LID ASSY,CD	(1)
	661 050 0282	INSTRUCTION MANUAL	1	28	661 030 2718	KNOB,OPEN	1
	661 049 4123	NOTICE	1		411 102 8205	SCR S-TPG BIN 2.6X8	4
	661 049 4130	NOTICE	1	3	632 887 7720	KNOB,SLIDE,POWER	1
	661 049 4147	NOTICE	1		661 049 7278	RATING LABEL	1
	661 042 9859	POLY COVER,230X300	1		661 049 7261	LABEL,LICENSE,DTS	1
\triangle	661 052 8200	AC ADAPTOR,NVP-AC7E	1	4	632 814 3146	CAP,SOCKET	1
		AC/DC ADAPTER		73	661 050 3900	FIXER	2
\triangle	661 052 3748	ASSY,DC-DC CONVERTER	1		661 052 2321	CAUTION LABEL	1
		12V CIGARETTE LIGHTER		CHASSIS			
\triangle	423 009 4006	CONNECTOR CABLE	1	5	661 030 2442	STOPPER,LID,CD	1
		FUSE 125V 3A	1	6	412 056 9904	SPECIAL SCREW	1
		DC-DC CONVERTER		7	661 030 2435	FIXER	1
	661 059 0405	ASSY,ANTENNA,GPS	1	8	661 030 6839	COIL SPRING	1
		GPS EXTERIOR ANTENNA AND			411 025 9006	SCR S-TPG PAN 2X4	2
		INSTALLATION PARTS		9	661 030 2466	BRACKET,SOCKET	1
	661 031 8849	ANTENNA,GPS	(1)	46	661 043 4341	BRACKET,LCD	4
	661 031 4483	PLATE,EARTH	(1)		411 025 4209	SCR S-TPG BIN 2X6	4
	632 763 3549	CORD,1500MM	2			BRACKET,LCD-CABINET	
	632 785 2292	CORD,PARKING BRAKE CABLE	(1)		411 025 4209	SCR S-TPG BIN 2X6	5
		PARKING BRAKE CONNCTOR CABLE		11	661 033 4436	SW PCB-CABINET	1
	632 635 1116	CONNECTOR,U ELEMENT	(1)	12	661 043 7540	INSULATOR	1
		SELF-LOCK CONNECTOR			661 049 7285	SHEET,LCD-PCB	1
	661 040 8755	CORD ASSY	1		661 049 7285	CAUTION LABEL	1
	661 040 8397	CORD,RCA	(1)	13	632 717 5827	LABEL,IDENTIFICATION	1
		WHEN IN AUDIO MODE			412 061 7704	SPECIAL SCREW,FAN	2
	661 040 8403	CORD,RCA	(1)		411 025 3905	SCR S-TPG BIN 2X5,SPEAKE	2
		WHEN IN VIDEO MODE		14	632 866 3545	SPECIAL SCREW, 3X8,STAND	2
	661 050 4464	DVD-ROM,NVP-KS01U	1		411 086 3609	WASHER SPR 3,STAND	2
		MAP DVD-ROM		47	412 056 9805	SPECIAL SCREW	2
	661 050 6451	REMOCON,NVP-R7000	1		411 025 4209	SCR S-TPG BIN 2X6	6
		REMOTE CONTROL AND HOLDER			411 025 4209	SCR S-TPG BIN 2X6	8
	632 871 1765	TARESIVE SHEET	1		632 644 5518	SHEET	2
		VELCRO TAPE		16	632 870 1391	DAMPER	3
	632 871 1772	TARESIVE SHEET	1	17	661 025 6486	SHIELD PLATE	1
		VELCRO TAPE				MECHANISM(68X52)	
	411 073 2400	SCR TPG PAN 3X8	2	18	412 061 6806	SPECIAL SCREW	3
		TAPPING SCREW(M3X8)		19	661 032 1092	PLATE SPRING	1
	661 050 6130	BATTERY,LR03	2	20	412 063 2806	SPECIAL SCREW	2
		AAA BATTERY			632 824 7561	LABEL,COLOR,FAN	1
	632 835 5723	POLY COVER,100X100	1	24	661 034 5333	SPACER	1
	632 891 7280	ASSY,STAND	1		632 559 9656	PAD	7
		KIT ROR INSTALLATION		50	661 044 2377	INSULATOR,LCD	1
	661 052 2338	CUSHION	2	43	661 037 2810	VEIL	1
	661 025 6721	POLY COVER,120X175	1	51	661 045 8019	SHELTER	1
	411 073 2400	SCR TPG PAN 3X8	4		632 666 4674	SHEET	4
	632 807 1807	CORD BUSHING	4	55	661 052 1218	SHIELD SHEET,LCD	3
	632 835 5723	POLY COVER,100X100	1	CHASSIS ELECTRICAL			
	661 052 9085	CORE	1	LCD1	661 031 0348	DISPLAY MODULE	1
		CORE(LARGE)		SP1	661 031 3127	SPEAKER,8 OHM	1
	661 052 9078	CORE(SMALL)	1	STAND1	661 049 7292	STAND ASSY	1
CABINET					661 029 7465	DVD MECHANISM,MDVC07	1
1	661 049 4253	CABINET ASSY	1		661 041 3049	FAN,MOTOR,DC	1
30	661 049 4246	CABINET	(1)	61	661 032 0668	FPC,MAIN PCB-DVD PCB	1
31	661 043 2521	RING	(1)	62	661 034 9447	WIRE,50P-64MM	1
32	661 043 2453	FILTER	(1)	64	661 057 1251	MAIN PCB-DVD PCB	1
33	661 059 0412	RING ASSY	(1)		661 046 0173	FFC,50P 92MM	1
						DVD PCB-MECHANISM	
						WIRE,6P-72MM	1

- NOTES: 1. Part orders must contain Model Number, Part Number and Description.
 2. Ordering quantity of screws and resistors must be multiple of 10 pcs.
 3. Regular type resistor and capacitor are omitted. Check the schematic diagram for these values.

PARTS LIST(CONTINUED)

Ref. No.	PART No.	DESCRIPTION	Q'ty	Ref. No.	PART No.	DESCRIPTION	Q'ty
65	661 046 0166	WIRE,28P-92MM	1	L861	632 883 2132	INDUCTOR,FERRITE	((1))
	661 015 0333	WIRE,24P-82MM,LCD PCB-LC	1	L862	632 883 2132	INDUCTOR,FERRITE	((1))
	661 059 7701	WIRE HANESS,9P-60MM	1	L871	632 883 2132	INDUCTOR,FERRITE	((1))
68	661 035 1372	CORE,MAIN PCB-DVD PCB	1	L881	632 883 2132	INDUCTOR,FERRITE	((1))
69	661 046 6847	CORE,FERRITE	1	L882	632 883 2132	INDUCTOR,FERRITE	((1))
		MAIN PCB-LCD PCB		L901	632 883 2132	INDUCTOR,FERRITE	((1))
70	661 025 9586	CORE,FERRITE	1	L902	632 883 2132	INDUCTOR,FERRITE	((1))
		DVD PCB-MECHANISM		L921	632 883 2132	INDUCTOR,FERRITE	((1))
MAIN & GPS P.C.B. ASSEMBLY							
PCB1	661 059 4953	PCB-ML ASSY,MAIN & GPS	1	L951	632 883 2132	INDUCTOR,FERRITE	((1))
	661 059 0436	PCB-ML ASSY,MAIN	((1))	L952	632 883 2132	INDUCTOR,FERRITE	((1))
IC801	410 448 1604	IC HD6417706F133	((1))	L971	632 883 2132	INDUCTOR,FERRITE	((1))
IC802	410 359 8709	IC SN74AHC1G08HDCK-R	((1))	L91	632 889 9449	INDUCTOR,FERRITE	((1))
IC834	410 359 8709	IC SN74AHC1G08HDCK-R	((1))	L953	661 048 5800	INDUCTOR,56UH J	((1))
IC802 OR	409 368 5809	IC TC7SH08FU	((1))	NF951	661 012 0138	FILTER,EMI	((1))
IC834 OR	409 368 5809	IC TC7SH08FU	((1))	RA817	632 754 3053	RESISTOR,2X33	((1))
IC831	410 415 7509	IC SN74AHC1G00HDCKR	((1))	RA819	632 754 3053	RESISTOR,2X33	((1))
IC831 OR	409 395 5902	IC TC7SH00FU	((1))	RA820	632 754 3053	RESISTOR,2X33	((1))
IC832	409 532 0302	IC R3112Q271A	((1))	RA870	632 754 3053	RESISTOR,2X33	((1))
IC833	410 369 9505	IC SN74AHC2G14HDC-TR	((1))	RA868	632 754 3114	RESISTOR,2X100	((1))
IC833 OR	409 468 2302	IC TC7WH14FU	((1))	RA869	632 754 3268	RESISTOR,2X1K	((1))
IC835	409 506 5807	IC NC7ST08P5	((1))	RA823	632 754 3442	RESISTOR,2X10K	((1))
IC835 OR	409 375 7001	IC TC7ST08FU	((1))	RA825	632 754 3442	RESISTOR,2X10K	((1))
IC841	410 459 3604	IC V54C365164VCT-7	((1))	RA881	632 754 3442	RESISTOR,2X10K	((1))
IC842	410 459 3604	IC V54C365164VCT-7	((1))	RA901	632 754 3442	RESISTOR,2X10K	((1))
IC841 OR	410 402 8106	IC HY57V641620HGT-P	((1))	RA872	632 754 3442	RESISTOR,2X10K	((1))
IC842 OR	410 402 8106	IC HY57V641620HGT-P	((1))	RA801	632 746 5942	RESISTOR,4X33	((1))
IC841 OR	410 441 0000	IC K4S641632F-TC75	((1))	RA802	632 746 5942	RESISTOR,4X33	((1))
IC842 OR	410 441 0000	IC K4S641632F-TC75	((1))	RA803	632 746 5942	RESISTOR,4X33	((1))
IC841 OR	410 449 3300	IC MT48LC4M16A2TG-75	((1))	RA804	632 746 5942	RESISTOR,4X33	((1))
IC842 OR	410 449 3300	IC MT48LC4M16A2TG-75	((1))	RA805	632 746 5942	RESISTOR,4X33	((1))
IC841 OR	410 450 2309	IC M12L64164A-7T	((1))	RA806	632 746 5942	RESISTOR,4X33	((1))
IC842 OR	410 450 2309	IC M12L64164A-7T	((1))	RA807	632 746 5942	RESISTOR,4X33	((1))
IC841 OR	410 451 6306	IC NT5SV4M16DT-7K	((1))	RA808	632 746 5942	RESISTOR,4X33	((1))
IC842 OR	410 451 6306	IC NT5SV4M16DT-7K	((1))	RA809	632 746 5942	RESISTOR,4X33	((1))
IC841 OR	410 433 7000	IC HY57V641620HGT-K	((1))	RA810	632 746 5942	RESISTOR,4X33	((1))
IC842 OR	410 433 7000	IC HY57V641620HGT-K	((1))	RA811	632 746 5942	RESISTOR,4X33	((1))
IC843	410 500 9401	IC TC58FVT321FT-10/7560AA	((1))	RA812	632 746 5942	RESISTOR,4X33	((1))
IC843 OR	410 509 5008	IC TC58FVMS2ATG65/7560AA	((1))	RA813	632 746 5942	RESISTOR,4X33	((1))
IC861	410 444 8805	IC LC24072B-WC8-E	((1))	RA814	632 746 5942	RESISTOR,4X33	((1))
IC871	409 323 8708	IC TC7WU04FU	((1))	RA815	632 746 5942	RESISTOR,4X33	((1))
IC872	409 301 5101	IC TC7W04FU	((1))	RA816	632 746 5942	RESISTOR,4X33	((1))
IC881	409 391 5005	IC UPD6379ALGR	((1))	RA818	632 746 5942	RESISTOR,4X33	((1))
IC882	409 228 9206	IC NJM2100M	((1))	RA861	632 746 5942	RESISTOR,4X33	((1))
IC901	409 429 7100	IC HD64412F	((1))	RA862	632 746 5942	RESISTOR,4X33	((1))
IC921	409 511 1207	IC XC2151A510M	((1))	RA863	632 746 5942	RESISTOR,4X33	((1))
IC923	409 435 9501	IC NC7S04P5	((1))	RA864	632 746 5942	RESISTOR,4X33	((1))
IC923 OR	409 330 2508	IC TC7SH04FU	((1))	RA865	632 746 5942	RESISTOR,4X33	((1))
IC931	410 403 9706	IC MSM5118165F-60TS-K	((1))	RA866	632 746 5942	RESISTOR,4X33	((1))
IC941	410 371 6004	IC CD74HC4046AM-96	((1))	RA871	632 746 5942	RESISTOR,4X33	((1))
IC951	409 459 9303	IC CXA2106R	((1))	RA902	632 746 5966	RESISTOR,4X47	((1))
X801	661 040 2074	RESONATOR,XTAL,14.7456MHZ	((1))	RA903	632 746 5966	RESISTOR,4X47	((1))
X871	632 807 3719	RESONATOR,XTAL,7.15909MHZ	((1))	RA904	632 746 5966	RESISTOR,4X47	((1))
X921	661 032 5212	RESONATOR,XTAL,32.000MHZ	((1))	RA905	632 746 5966	RESISTOR,4X47	((1))
CS971	632 870 6884	PLUG,9P	((1))	RA906	632 746 5966	RESISTOR,4X47	((1))
CS981	632 789 6951	SOCKET,50P	((1))	RA907	632 746 5966	RESISTOR,4X47	((1))
CS991	632 789 6951	SOCKET,50P	((1))	RA908	632 746 5966	RESISTOR,4X47	((1))
CS982	661 032 8084	SOCKET,34P	((1))	RA909	632 746 5966	RESISTOR,4X47	((1))
	632 892 1157	SOCKET,GPS	((1))	RA954	632 746 5966	RESISTOR,4X47	((1))
	661 000 4773	RETAINER,SOCKET,GPS	((1))	RA867	632 746 6048	RESISTOR,4X100	((1))
Z971	632 806 8784	BATTERY	((1))	RA951	632 746 6062	RESISTOR,4X150	((1))
Q801	405 183 8704	TR RT1N141M	((1))	RA821	632 746 6970	RESISTOR,4X10K	((1))
Q802	405 183 8704	TR RT1N141M	((1))	RA822	632 746 6970	RESISTOR,4X10K	((1))
Q804	405 183 8704	TR RT1N141M	((1))	RA824	632 746 6970	RESISTOR,4X10K	((1))
Q805	405 183 8704	TR RT1N141M	((1))	RA910	632 746 6970	RESISTOR,4X10K	((1))
Q806	405 183 8704	TR RT1N141M	((1))	RA931	632 746 6970	RESISTOR,4X10K	((1))
Q807	405 183 8704	TR RT1N141M	((1))	RA932	632 746 6970	RESISTOR,4X10K	((1))
Q803	405 183 9008	TR RT1N441M	((1))	RA933	632 746 6970	RESISTOR,4X10K	((1))
Q951	405 102 5609	TR 2SD1819A-R	((1))	RA934	632 746 6970	RESISTOR,4X10K	((1))
Q952	405 102 5609	TR 2SD1819A-R	((1))	RA981	632 746 6970	RESISTOR,4X10K	((1))
Q971	405 111 2408	TR 2SD601A-R	((1))	RA991	632 746 6970	RESISTOR,4X10K	((1))
Q971 OR	405 014 4509	TR 2SC2412K-R	((1))	RA992	632 746 6970	RESISTOR,4X10K	((1))
D971	407 216 8101	DIODE MA721WK	((1))	RA993	632 746 6970	RESISTOR,4X10K	((1))
D972	407 008 5707	DIODE MA152K	((1))	RA994	632 746 6970	RESISTOR,4X10K	((1))
DZ941	407 056 5506	ZENER DIODE RD4.3MB1	((1))	RA995	632 746 6970	RESISTOR,4X10K	((1))
L801	632 883 2132	INDUCTOR,FERRITE	((1))	RA996	632 746 6970	RESISTOR,4X10K	((1))
L802	632 883 2132	INDUCTOR,FERRITE	((1))	JK110	632 637 5211	SOCKET, DC JACK	((1))
L841	632 883 2132	INDUCTOR,FERRITE	((1))	JK270	632 696 1124	JACK,HEAD PHONE	((1))
L842	632 883 2132	INDUCTOR,FERRITE	((1))	JK301	632 889 2105	JACK,LINE IN/OUT	((1))
				JK310	632 891 4128	JACK,VIDEO IN/OUT	((1))
				JK560	661 030 1070	JACK,PARK	((1))

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3. Regular type resistor and capacitor are omitted. Check the schematic diagram for these values.

PARTS LIST(CONTINUED)

Ref. No.	PART No.	DESCRIPTION	Q'ty	Ref. No.	PART No.	DESCRIPTION	Q'ty
SW110	632 815 1585	SWITCH,SLIDE,POWER	((1))	D160	407 217 4904	DIODE EP10QY03	((1))
CS051	632 889 2068	SOCKET,28P	((1))	D270	407 217 4904	DIODE EP10QY03	((1))
X051	632 659 7989	RESONATOR,XTAL3.579545MHZ	((1))	TH501	407 211 3101	THERMISTOR SC20-3U104K	((1))
X501	661 015 6786	OSC,XTAL,12.000MHZ	((1))	TH570	408 049 2205	TH NCP18XH103F03RB	((1))
IC051	409 494 4905	IC MM1234XFBE	((1))	L110	661 010 5951	CHOKO COIL	((1))
IC052	409 494 4905	IC MM1234XFBE	((1))	L111	632 868 7732	INDUCTOR,FERRITE	((1))
IC053	409 476 7009	IC BA7652AF	((1))	L112	632 869 5652	INDUCTOR 22UH M	((1))
IC054	409 476 7009	IC BA7652AF	((1))	L141	632 869 5652	INDUCTOR 22UH M	((1))
IC055	409 508 4808	IC RB5P0060M	((1))	L113	632 889 3317	INDUCTOR 8.2UH M	((1))
IC110	409 535 2709	IC LTC3707EGN	((1))	L114	661 000 7187	INDUCTOR,FERRITE	((1))
IC140	409 520 7108	IC XC9101D09AK	((1))	L140	661 000 7187	INDUCTOR,FERRITE	((1))
IC160	409 531 2109	IC XC6203E192F	((1))	L142	661 000 7187	INDUCTOR,FERRITE	((1))
IC201	409 182 1209	IC NJM4565M-B	((1))	L160	661 000 7187	INDUCTOR,FERRITE	((1))
IC220	409 182 1209	IC NJM4565M-B	((1))	L161	661 000 7187	INDUCTOR,FERRITE	((1))
IC240	409 262 4205	IC BA3121F	((1))	L163	661 000 7187	INDUCTOR,FERRITE	((1))
IC250	409 485 0107	IC CD4052BC	((1))	L260	632 883 2132	INDUCTOR,FERRITE	((1))
IC260	409 485 0107	IC CD4052BC	((1))	L261	632 883 2132	INDUCTOR,FERRITE	((1))
IC270	409 537 8709	IC BH7884EFV	((1))	L310	632 883 2132	INDUCTOR,FERRITE	((1))
IC301	410 359 8709	IC SN74AHC1G08HDCK-R	((1))	L501	661 001 2518	INDUCTOR,FERRITE	((1))
IC301 OR	409 368 5809	IC TC7SH08FU	((1))	L530	661 001 2518	INDUCTOR,FERRITE	((1))
IC310	409 482 0407	IC MM1228XF	((1))	L540	661 001 2518	INDUCTOR,FERRITE	((1))
IC501	410 496 9607	IC M30802FCGP/7548AA	((1))	L541	661 001 2518	INDUCTOR,FERRITE	((1))
IC530	410 350 7800	IC MSM5117805D-60TS-K	((1))	L550	661 001 2518	INDUCTOR,FERRITE	((1))
IC540	409 531 9207	IC M35075-050FP	((1))	BR503	632 754 3114	RESISTOR,2X100	((1))
IC550	409 530 4401	IC BR24C02FV-W	((1))	BR508	632 754 3114	RESISTOR,2X100	((1))
IC570	409 506 5906	IC XC61CC4202M	((1))	BR514	632 754 3114	RESISTOR,2X100	((1))
Q572	405 182 5605	TR 2SC4132	((1))	BR250	632 754 3268	RESISTOR,2X1K	((1))
Q109	405 165 8401	TR RT1N144M	((1))	BR270	632 754 3411	RESISTOR,2X6.8K	((1))
Q121	405 165 8401	TR RT1N144M	((1))	BR509	632 754 3442	RESISTOR,2X10K	((1))
Q141	405 165 8401	TR RT1N144M	((1))	BR251	632 754 3619	RESISTOR,2X100K	((1))
Q161	405 165 8401	TR RT1N144M	((1))	BR501	632 746 6048	RESISTOR,4X100	((1))
Q261	405 165 8401	TR RT1N144M	((1))	BR517	632 746 6048	RESISTOR,4X100	((1))
Q051	405 092 4101	TR 2SC4081-R	((1))	BR541	632 746 6178	RESISTOR,4X1K	((1))
Q101	405 022 6304	TR 2SD1621-T	((1))	BR051	632 746 7229	RESISTOR,4X100K	((1))
Q108	405 124 2402	TR 2SB1424-R	((1))	R122	402 083 4300	MT-GLAZE 0.024 JA 1/2W	((1))
Q160	405 124 2402	TR 2SB1424-R	((1))	R123	402 083 4300	MT-GLAZE 0.024 JA 1/2W	((1))
Q120	405 153 4903	TR 2SA2016	((1))	R114	402 083 4508	MT-GLAZE 0.047 JA 1/2W	((1))
Q140	405 030 7102	TR 2SB1203-T	((1))	R150	402 083 4508	MT-GLAZE 0.047 JA 1/2W	((1))
Q201	405 144 1508	TR DTA143XUA	((1))		661 036 0008	SHIELD,SHEET	((1))
Q260	405 144 1508	TR DTA143XUA	((1))		661 056 1368	SHIELD SHEET	((1))
Q570	405 144 1508	TR DTA143XUA	((1))		661 056 1375	SHIELD SHEET	((1))
Q202	405 083 5209	TR DTC343TK	((1))		661 056 1382	SHIELD SHEET	((1))
Q203	405 083 5209	TR DTC343TK	((1))		632 848 0975	SHEET	((2))
Q270	405 083 5209	TR DTC343TK	((1))		661 059 4946	PCB-W ASSY,GPS	(1)
Q310	405 083 5209	TR DTC343TK	((1))		661 052 1980	GPS RECEIVING UNIT	((1))
Q271	405 102 5609	TR 2SD1819A-R	((1))		632 870 8178	SOCKET,9P(PLUG)	((1))
Q571	405 102 5609	TR 2SD1819A-R	((1))		661 058 5081	BRACKET	((1))
Q301	405 183 8605	TR RT1P136C	((1))	LCD P.C.B. ASSEMBLY			
Q110	405 167 4104	TR FY5ACJ-03F	((1))	PCB2	661 051 2872	PCB-W ASSY,LCD	1
Q111	405 167 4104	TR FY5ACJ-03F	((1))	CS401	632 798 5822	SOCKET,24P	1
Q110 OR	405 158 5509	TR FDS8936A	((1))	CS402	632 891 4449	SOCKET,28P	1
Q111 OR	405 158 5509	TR FDS8936A	((1))	CS402 OR	632 860 8300	SOCKET,28P	1
Q142	405 140 9409	TR IRF7201	((1))	CS431	632 775 2707	PLUG,2P	1
Q560	405 161 4506	TR RT1P141C	((1))	CS404	661 044 6931	SOCKET,6P	1
Q112	405 145 0104	TR 2SA1586-GR	((1))	IC441	409 509 2001	IC XC6367B103M	1
DZ571	407 057 3709	ZENER DIODE RD6.2MB2	((1))	Q431	405 182 5605	TR 2SC4132	1
DZ052	407 055 7402	ZENER DIODE RD3.3MB2	((1))	Q432	405 182 5605	TR 2SC4132	1
DZ110	407 207 7700	ZENER DIODE PTZ3.9B	((1))	Q433	405 124 2402	TR 2SB1424-R	1
DZ111	407 207 9209	ZENER DIODE PTZ6.2B	((1))	Q434	405 165 8609	TR RT1N144C	1
DZ260	407 058 0400	ZENER DIODE RD9.1MB1	((1))	Q441	405 182 5605	TR 2SC4132	1
DZ570	407 057 1101	ZENER DIODE RD5.6MB2	((1))	D441	407 218 1803	DIODE RB706D-40	1
DZ101	407 058 0509	ZENER DIODE RD9.1MB2	((1))	D442	407 149 0807	DIODE 1SS355	1
D051	407 228 3507	DIODE UMN1N	((1))	T431	661 015 6076	INVERTER TRANSFORMER	1
D053	407 228 3507	DIODE UMN1N	((1))	T432	661 015 6076	INVERTER TRANSFORMER	1
D055	407 224 5109	DIODE MC2848-T11	((1))	L431	661 000 7187	INDUCTOR,FERRITE	1
D056	407 224 5109	DIODE MC2848-T11	((1))	L432	661 009 4651	INDUCTOR 100UH K	1
D115	407 224 5109	DIODE MC2848-T11	((1))	L441	661 009 2916	INDUCTOR 100UH M	1
D201	407 224 5109	DIODE MC2848-T11	((1))	L461	632 755 3571	CORE	1
D202	407 224 5109	DIODE MC2848-T11	((1))	KEY P.C.B. ASSEMBLY			
D310	407 224 5109	DIODE MC2848-T11	((1))	PCB3	661 059 0443	PCB-W ASSY,KEY	1
D110	407 108 4006	DIODE DSM10C	((1))	IC541	409 410 7805	IC TC7WT241FU	1
D111	407 149 0807	DIODE 1SS355	((1))	IC503	410 483 7104	IC M34282M2-338GP	1
D112	407 149 0807	DIODE 1SS355	((1))	IC540	410 464 4009	IC S-812C33AUA-C2N-T2	1
D203	407 149 0807	DIODE 1SS355	((1))	Q550	405 102 5609	TR 2SD1819A-R	1
D204	407 149 0807	DIODE 1SS355	((1))	Q560	405 102 5609	TR 2SD1819A-R	1
D301	407 149 0807	DIODE 1SS355	((1))	Q561	405 102 5609	TR 2SD1819A-R	1
D311	407 149 0807	DIODE 1SS355	((1))	X501	661 046 5345	RESONATOR,CERAM,4.000MHZ	1
D560	407 149 0807	DIODE 1SS355	((1))				
D113	407 217 4904	DIODE EP10QY03	((1))				
D114	407 217 4904	DIODE EP10QY03	((1))				
D140	407 217 4904	DIODE EP10QY03	((1))				

NOTES: 1. Part orders must contain Model Number, Part Number and Description.
 2. Ordering quantity of screws and resistors must be multiple of 10 pcs.
 3. Regular type resistor and capacitor are omitted. Check the schematic diagram for these values.

PARTS LIST(CONTINUED)

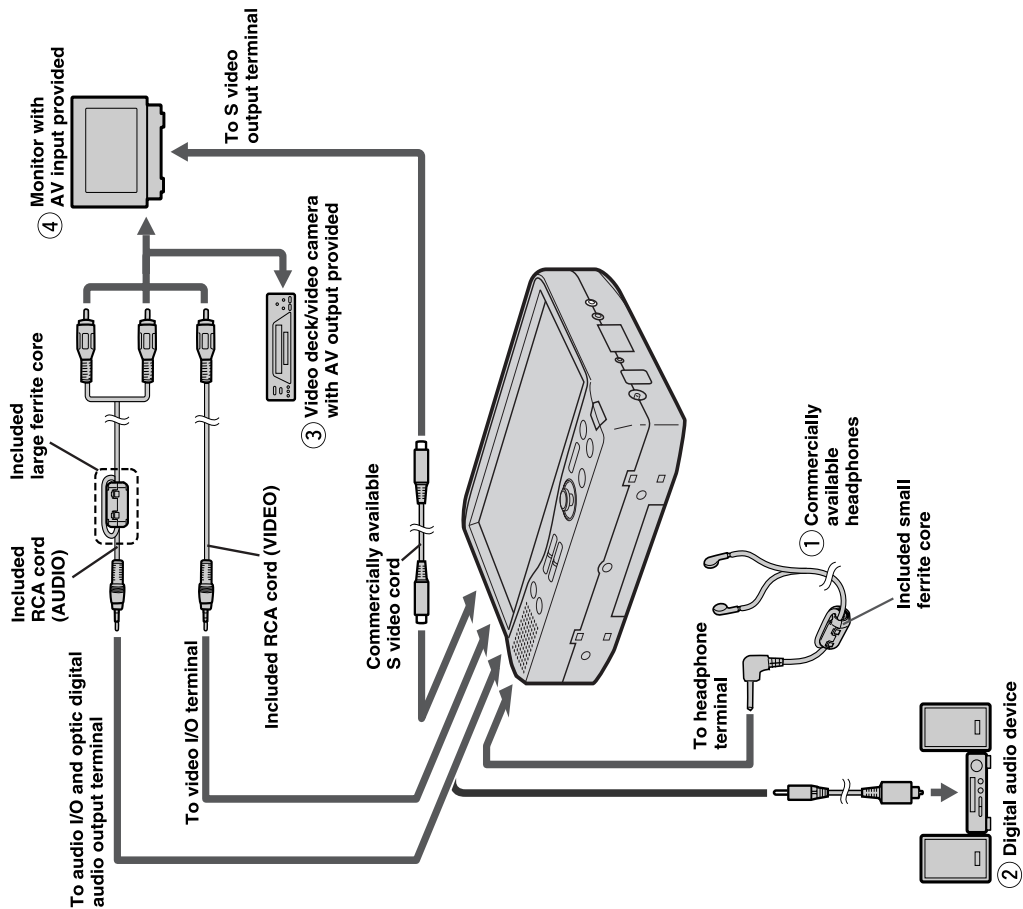
Ref. No.	PART No.	DESCRIPTION	Q'ty	Ref. No.	PART No.	DESCRIPTION	Q'ty
S540	632 868 0221	SWITCH,TACT	1	L751	632 883 2132	INDUCTOR,FERRITE	1
S511	632 668 1442	SWITCH,TACT	1	L781	632 883 2132	INDUCTOR,FERRITE	1
S512	632 668 1442	SWITCH,TACT	1	L782	632 883 2132	INDUCTOR,FERRITE	1
S513	632 668 1442	SWITCH,TACT	1	L791	632 883 2132	INDUCTOR,FERRITE	1
S515	632 668 1442	SWITCH,TACT	1	L611	632 883 2132	INDUCTOR,FERRITE	1
S516	632 668 1442	SWITCH,TACT	1	L612	632 883 2132	INDUCTOR,FERRITE	1
S517	632 668 1442	SWITCH,TACT	1	L752	632 559 5733	INDUCTOR 8.2UH K	1
S519	632 668 1442	SWITCH,TACT	1	L753	632 559 5733	INDUCTOR 8.2UH K	1
S521	632 668 1442	SWITCH,TACT	1	L754	632 559 5733	INDUCTOR 8.2UH K	1
S528	632 668 1442	SWITCH,TACT	1	NF751	661 012 0138	FILTER,EMI	1
S531	632 668 1442	SWITCH,TACT	1	NF641	661 012 0145	FILTER,EMI	1
D501	407 231 2306	LED CL-191B1-X	1	Q751	405 145 0104	TR 2SA1586-GR	1
D502	407 231 2306	LED CL-191B1-X	1	Q752	405 145 0104	TR 2SA1586-GR	1
D503	407 231 2306	LED CL-191B1-X	1	Q753	405 145 0104	TR 2SA1586-GR	1
D504	407 231 2306	LED CL-191B1-X	1	Q754	405 145 0104	TR 2SA1586-GR	1
D505	407 231 2306	LED CL-191B1-X	1	Q755	405 145 0104	TR 2SA1586-GR	1
D506	407 231 2306	LED CL-191B1-X	1	Q756	405 145 0104	TR 2SA1586-GR	1
D507	407 231 2306	LED CL-191B1-X	1	Q612	405 165 8401	TR RT1N144M	1
D508	407 231 2306	LED CL-191B1-X	1	Q614	405 165 8401	TR RT1N144M	1
D509	407 231 2306	LED CL-191B1-X	1	Q671	405 165 8401	TR RT1N144M	1
D510	407 231 2306	LED CL-191B1-X	1	Q701	405 165 8401	TR RT1N144M	1
D511	407 231 2306	LED CL-191B1-X	1	Q613	405 124 2402	TR 2SB1424-R	1
D513	407 231 2306	LED CL-191B1-X	1	Q611	405 118 7901	TR 2SB709A-R	1
D514	407 231 2306	LED CL-191B1-X	1	D611	407 092 9506	DIODE SB07-03C	1
D515	407 231 2306	LED CL-191B1-X	1	DZ601	407 056 5506	ZENER DIODE RD4.3MB1	1
CS501	661 044 6931	SOCKET,6P	1	DZ641	407 227 4802	ZENER DIODE RSA6.1EN	1
REM501	407 213 2102	SENSOR RPM6938-V4	1	RA723	632 754 3053	RESISTOR,2X33	1
	661 033 7475	SPACER	1	RA730	632 754 3053	RESISTOR,2X33	1
	661 045 8026	SHEET	1	RA734	632 754 3053	RESISTOR,2X33	1
	661 053 6472	CUSHION	1	RA758	661 011 7077	RESISTOR,2X75	1
SENSOR P.C.B. ASSEMBLY							
PCB4	661 051 2889	PCB-W ASSY,SENSOR	1	RA705	632 754 3114	RESISTOR,2X100	1
PH601	407 232 1506	PHOTO DIODE RPM-075PT	1	RA707	632 754 3114	RESISTOR,2X100	1
DVD P.C.B. ASSEMBLY							
PCB5	661 059 0450	PCB-ML ASSY,DVD	1	RA641	632 754 3114	RESISTOR,2X100	1
IC701	409 513 8709	IC ES4408FD	1	RA642	632 754 3114	RESISTOR,2X100	1
IC731	409 487 9108	IC S-24C02BFJ	1	RA791	632 754 3237	RESISTOR,2X560	1
IC731 OR	410 382 0107	IC HN58X2402FPI-Z	1	RA735	632 754 3367	RESISTOR,2X4.7K	1
IC733	410 496 9706	IC W29C040T-90/7549AA	1	RA651	632 754 3442	RESISTOR,2X10K	1
IC734	410 359 8709	IC SN74AHC1G08HDCK-R	1	RA701	632 746 5942	RESISTOR,4X33	1
IC734 OR	409 368 5809	IC TC7SH08FU	1	RA702	632 746 5942	RESISTOR,4X33	1
IC735	409 323 8708	IC TC7WU04FU	1	RA703	632 746 5942	RESISTOR,4X33	1
IC737	410 416 3401	IC SN74AHC174PW-R	1	RA704	632 746 5942	RESISTOR,4X33	1
IC741	409 525 3204	IC A43L0616AV-6	1	RA708	632 746 5942	RESISTOR,4X33	1
IC742	409 525 3204	IC A43L0616AV-6	1	RA709	632 746 5942	RESISTOR,4X33	1
IC741 OR	410 390 2209	IC LC3816161ET-70-MPB	1	RA710	632 746 5942	RESISTOR,4X33	1
IC742 OR	410 390 2209	IC LC3816161ET-70-MPB	1	RA711	632 746 5942	RESISTOR,4X33	1
IC741 OR	409 521 5707	IC T431616A-7S	1	RA712	632 746 5942	RESISTOR,4X33	1
IC742 OR	409 521 5707	IC T431616A-7S	1	RA713	632 746 5942	RESISTOR,4X33	1
IC751	409 507 1600	IC CS4955-CQ	1	RA714	632 746 5942	RESISTOR,4X33	1
IC781	409 480 3806	IC PCM1720E	1	RA715	632 746 5942	RESISTOR,4X33	1
IC782	409 435 9501	IC NC7S04P5	1	RA716	632 746 5942	RESISTOR,4X33	1
IC782 OR	409 330 2508	IC TC7SH04FU	1	RA717	632 746 5942	RESISTOR,4X33	1
IC791	409 039 7804	IC NJM4558M	1	RA718	632 746 5942	RESISTOR,4X33	1
IC601	409 533 1407	IC NC7WB3306K8	1	RA719	632 746 5942	RESISTOR,4X33	1
IC671	409 533 1506	IC FST16210MTD	1	RA720	632 746 5942	RESISTOR,4X33	1
IC672	409 533 1506	IC FST16210MTD	1	RA721	632 746 5942	RESISTOR,4X33	1
IC673	409 533 1506	IC FST16210MTD	1	RA722	632 746 5942	RESISTOR,4X33	1
X731	661 036 8356	RESONATOR,XTAL,27.000MHZ	1	RA725	632 746 5942	RESISTOR,4X33	1
CS601	632 801 7270	SOCKET,34P	1	RA726	632 746 5942	RESISTOR,4X33	1
CS631	661 015 1255	SOCKET,4P	1	RA727	632 746 5942	RESISTOR,4X33	1
CS641	632 761 9833	SOCKET	1	RA728	632 746 5942	RESISTOR,4X33	1
CS651	632 869 1371	SOCKET,50P	1	RA729	632 746 5942	RESISTOR,4X33	1
CS661	632 789 6951	SOCKET,50P	1	RA753	632 746 5966	RESISTOR,4X47	1
SW661	632 775 2844	SWITCH,MICRO	1	RA755	632 746 5980	RESISTOR,4X56	1
L701	632 883 2132	INDUCTOR,FERRITE	1	RA754	632 746 6062	RESISTOR,4X150	1
L702	632 883 2132	INDUCTOR,FERRITE	1	RA751	661 012 9674	RESISTOR,4X300	1
L734	632 883 2132	INDUCTOR,FERRITE	1	RA752	661 012 9674	RESISTOR,4X300	1
				RA706	632 746 6901	RESISTOR,4X4.7K	1
				RA792	632 746 7229	RESISTOR,4X100K	1
					661 052 1171	SHIELD SHEET	1
					661 036 0978	SHIELD,SHEET	1
					661 055 8573	SHIELD	1
					661 056 1351	SHIELD SHEET	1

- NOTES: 1. Part orders must contain Model Number, Part Number and Description.
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3. Regular type resistor and capacitor are omitted. Check the schematic diagram for these values.

① ④ are commercially available. (See the numbers below and their corresponding descriptions on the right.)

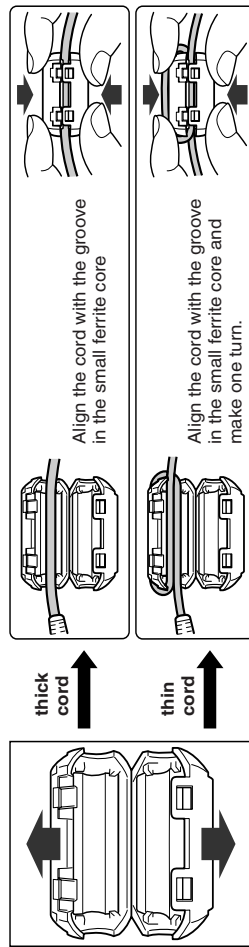
- ① You can listen to the unit's audio using headphones.
- ② If using commercially available optic digital cables, you can hear the unit's audio (DVD mode only) using your existing digital audio device.
- ③ If using the RCA cords (AUDIO and VIDEO respectively) included with the unit, you can view images on the unit's screen from a video deck/video camera.
"Connecting a video deck/video camera"
- ④ If using the RCA cords (AUDIO and VIDEO respectively) included with the unit, you can view the images from the unit on an exterior monitor (with AV output provided).
* If the exterior monitor has an S video terminal, images provided by commercially available media become significantly clearer.

* Inquire at the store of purchase for commercially available items that can be used with this unit.



CONNECTING COMMERCIALLY AVAILABLE HEADPHONES TO THE HEADPHONE TERMINAL OF THE UNIT

Mount the included small ferrite core to the headphones.

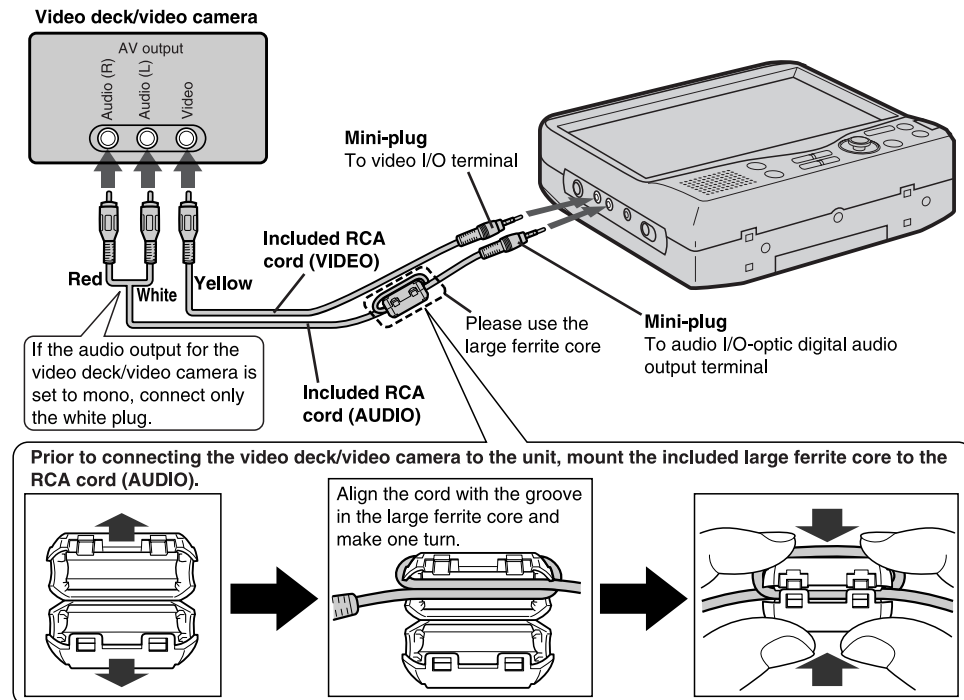


CONNECTING A VIDEO DECK/VIDEO CAMERA

Use the AUDIO and VIDEO RCA cords included with this unit to enable the playback of images from your video deck or video camera.

1 Connect your video deck/video camera to the unit.

* Prior to connecting, cut off the power supply to the video deck/video camera.



2 Turn the power supply ON for the video deck/video camera "VIDEO" will be displayed on the screen for roughly 10 seconds.

*If the unit is in another mode, press the button to return the unit to the VIDEO mode.

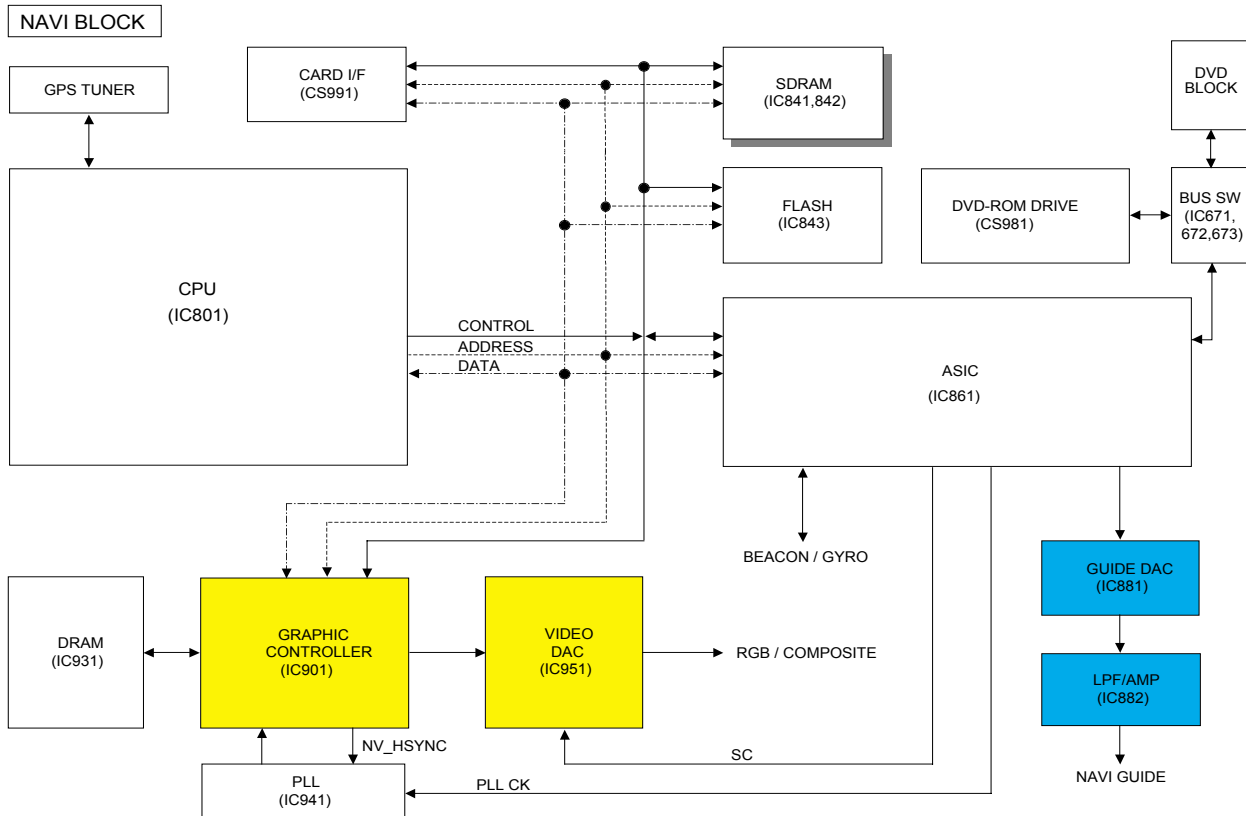
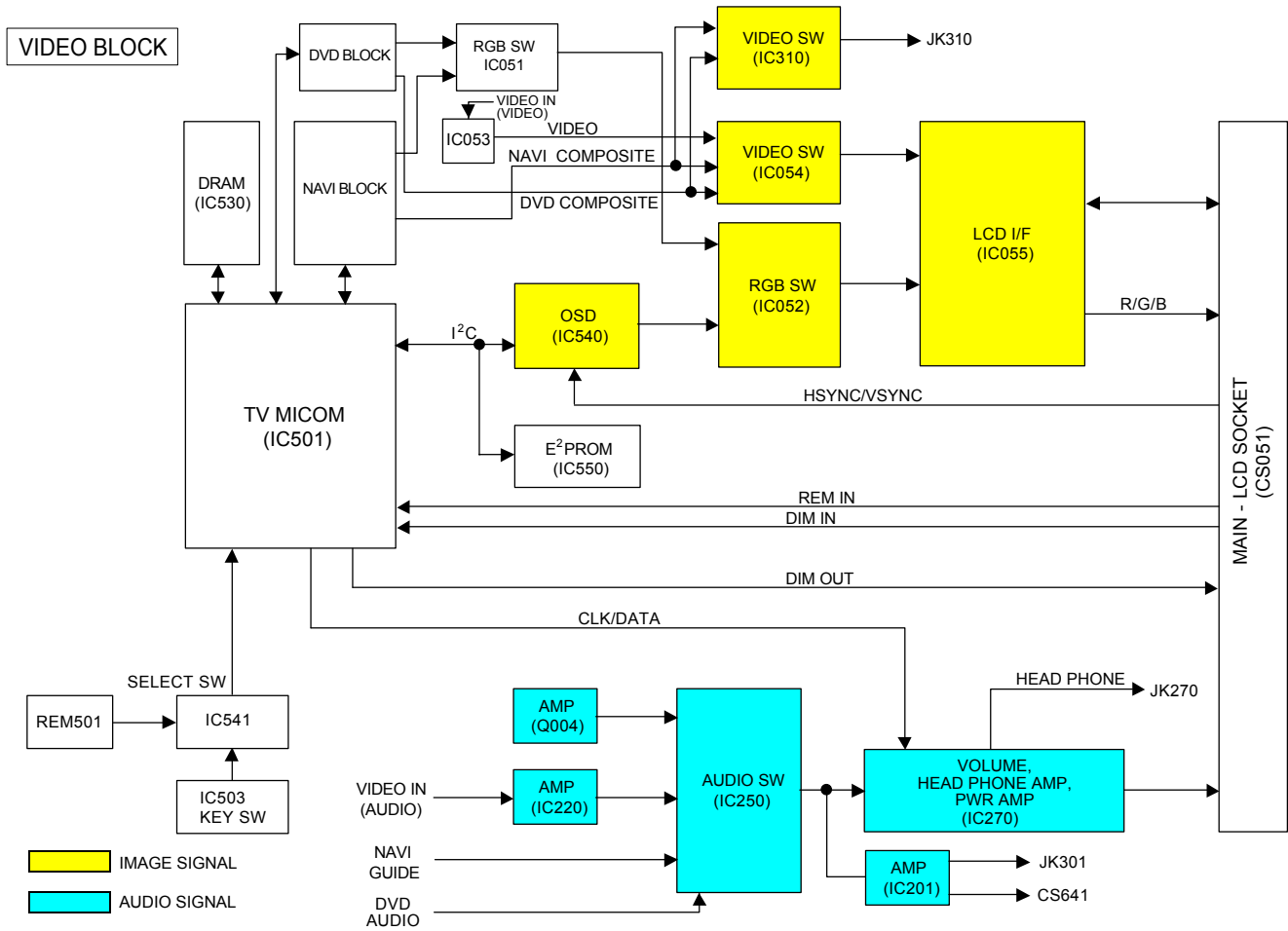
3 Start playback on the video deck/video camera.

* Refer to the video deck/video camera instruction manual for their respective operation method.

Hint When connecting the unit to the video deck/video camera, press the MODE button to switch modes in the following order: → "VIDEO" → "NAVI" → "DVD"]

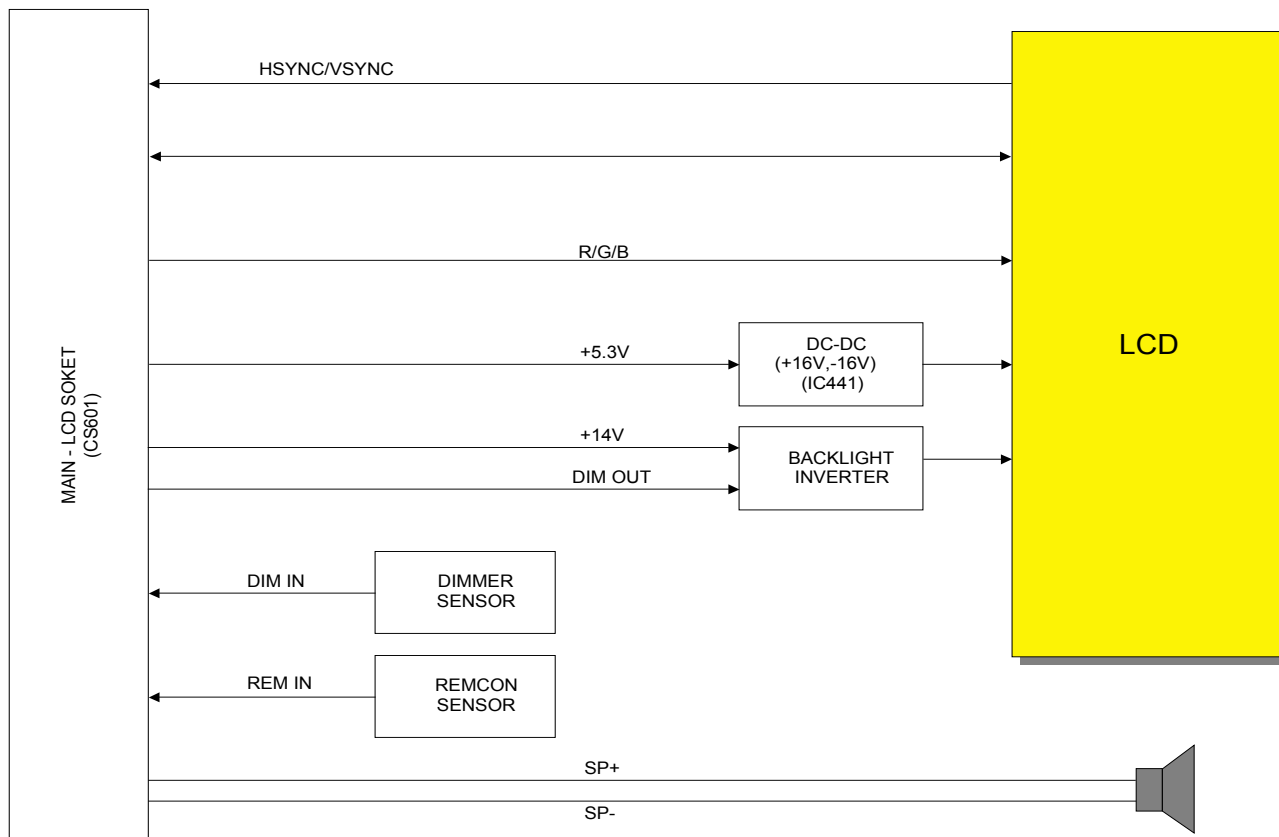
Video deck/video camera operation is enabled only after having put the unit in VIDEO mode.

BLOCK DIAGRAM

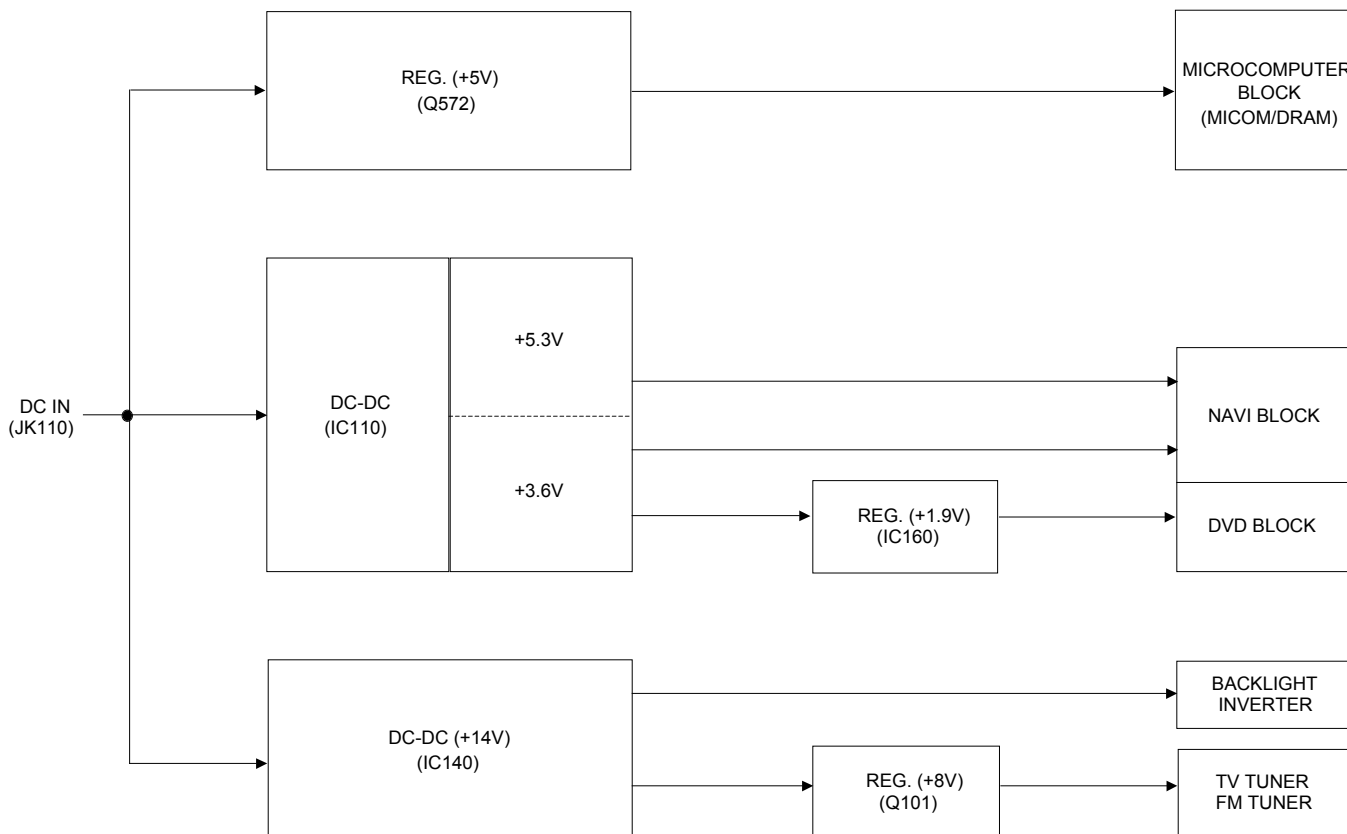


BLOCK DIAGRAM

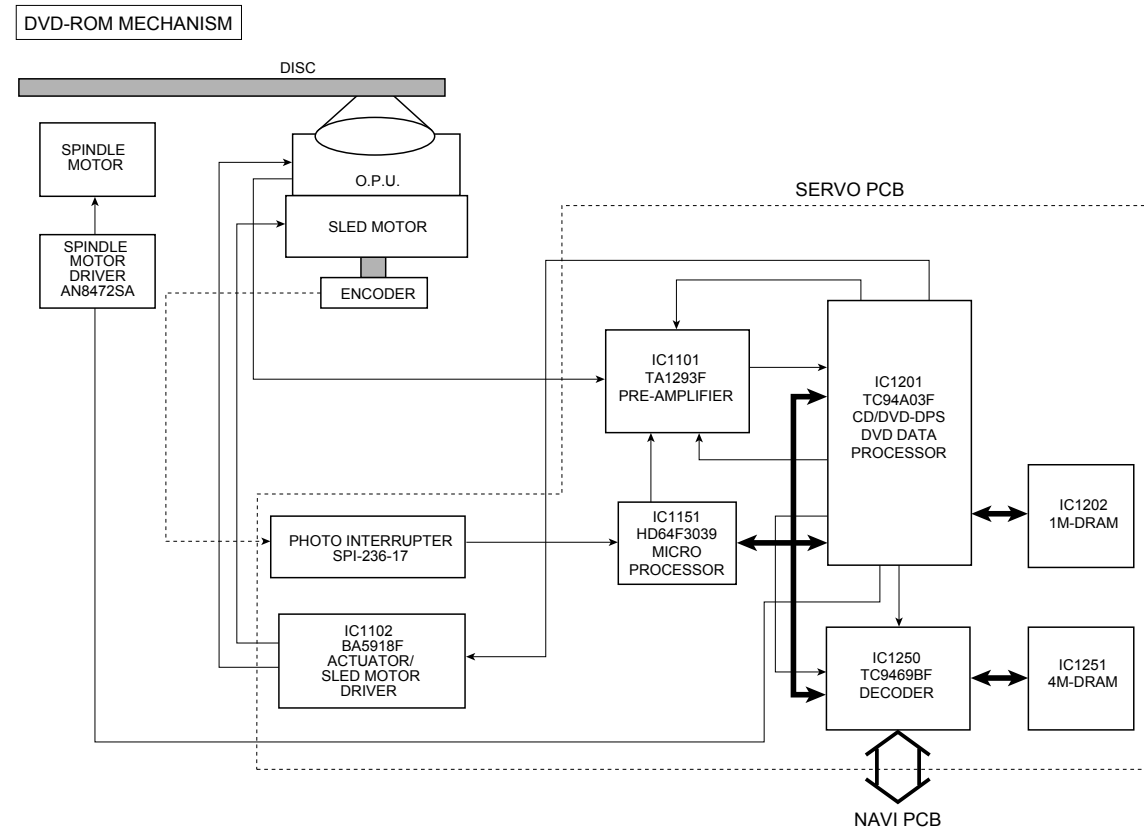
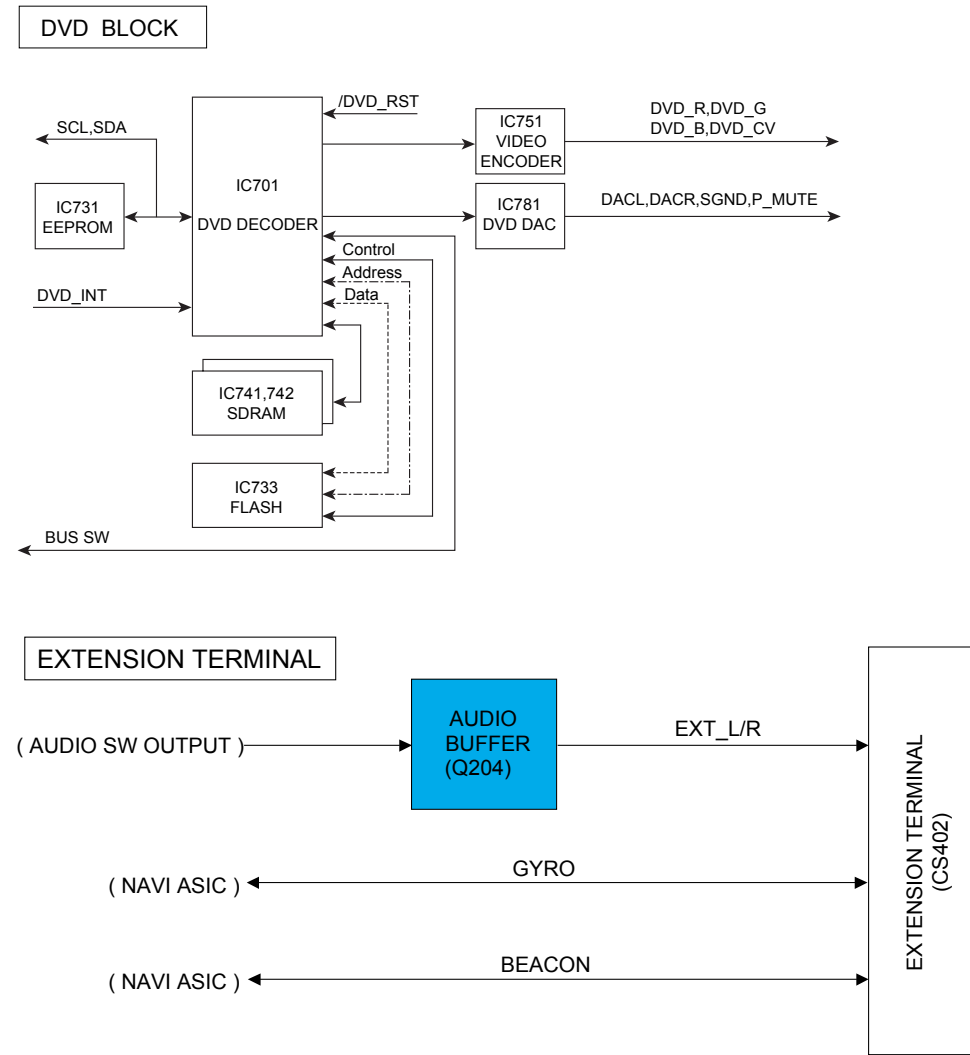
LCD PCB BLOCK



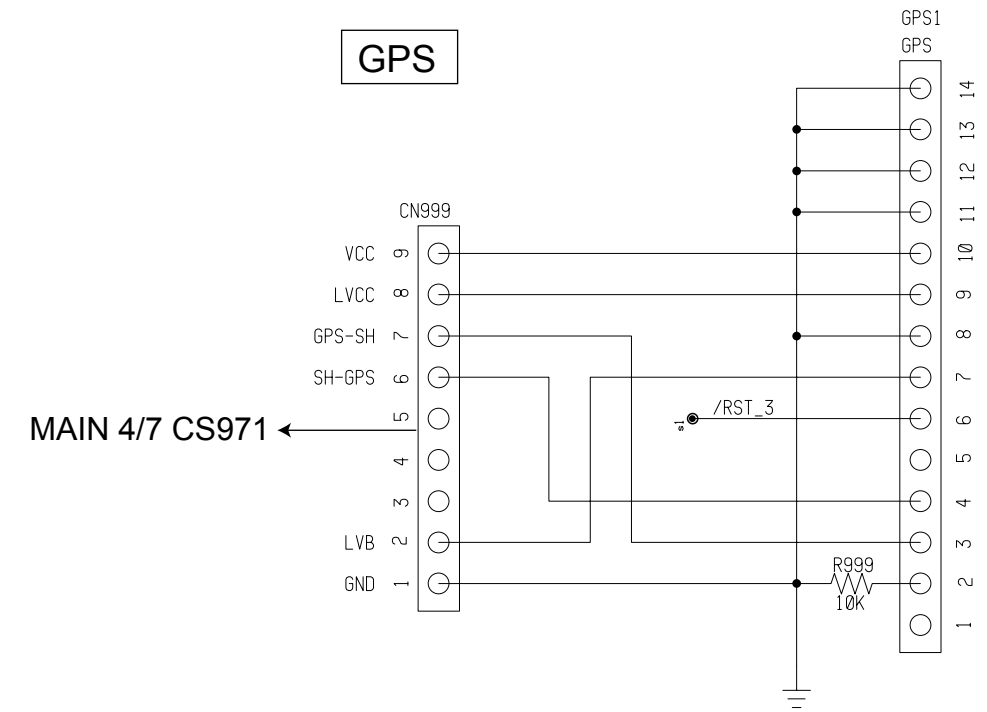
POWER SUPPLY BLOCK



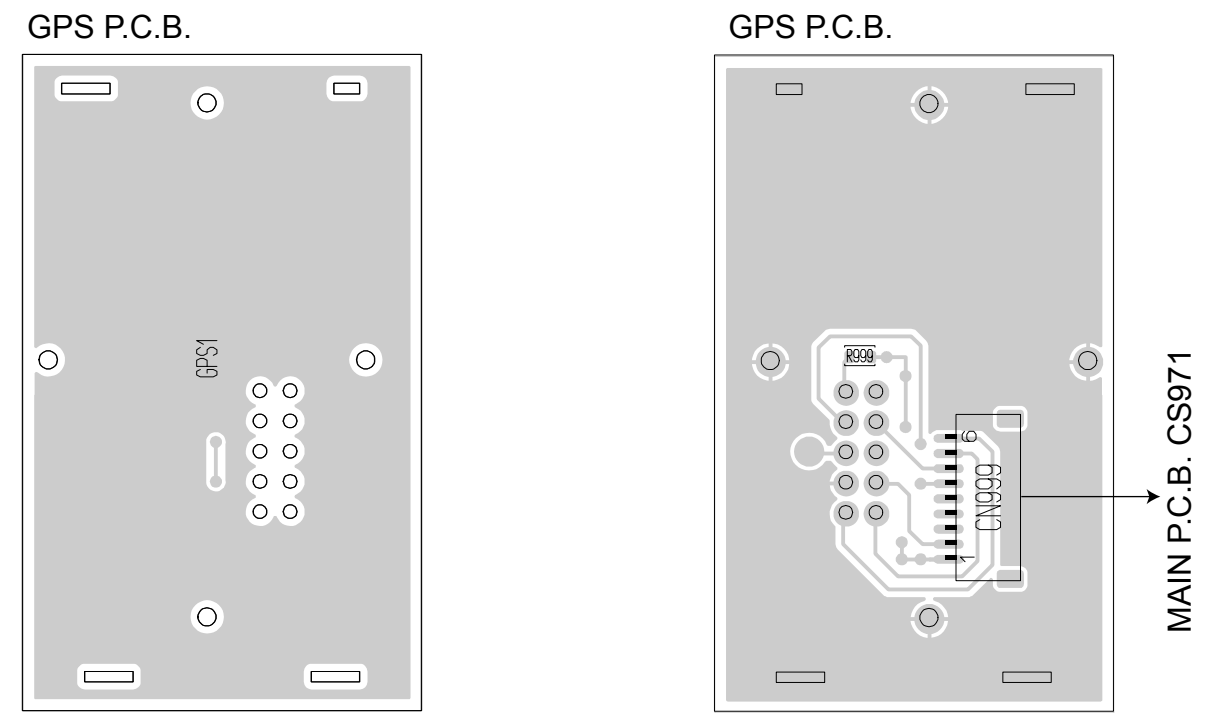
BLOCK DIAGRAM



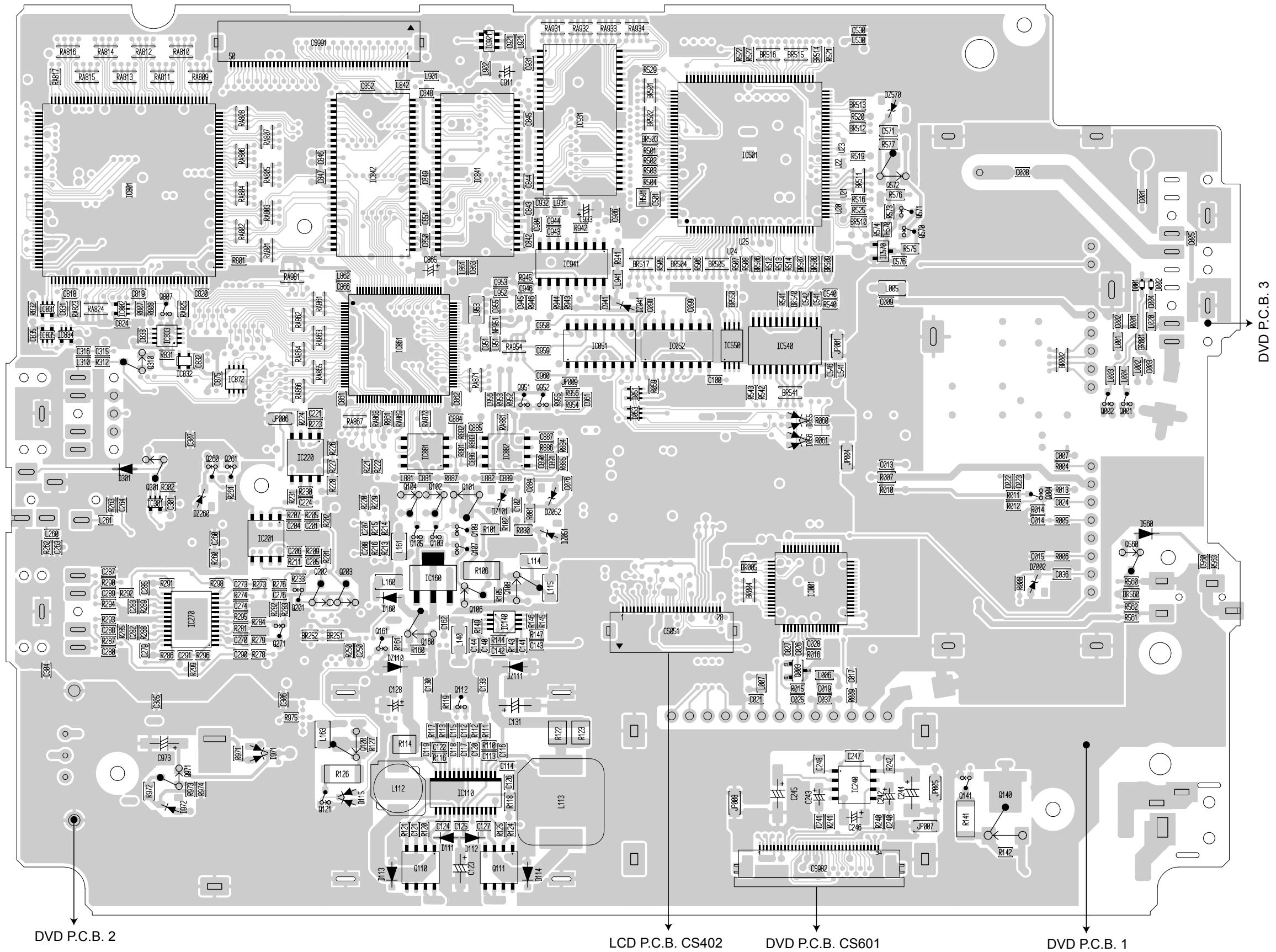
SCHEMATIC DIAGRAM



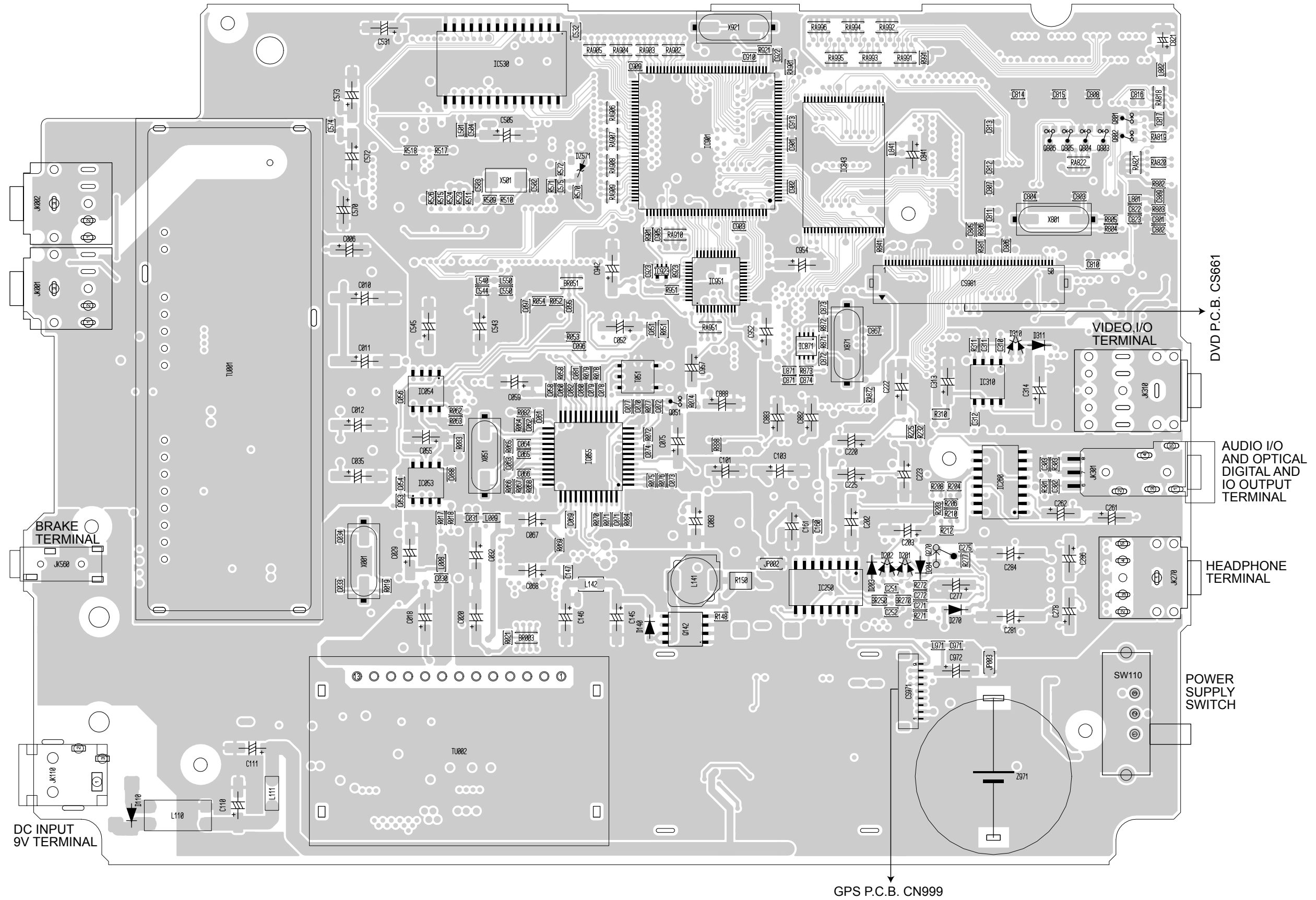
WIRING DIAGRAM

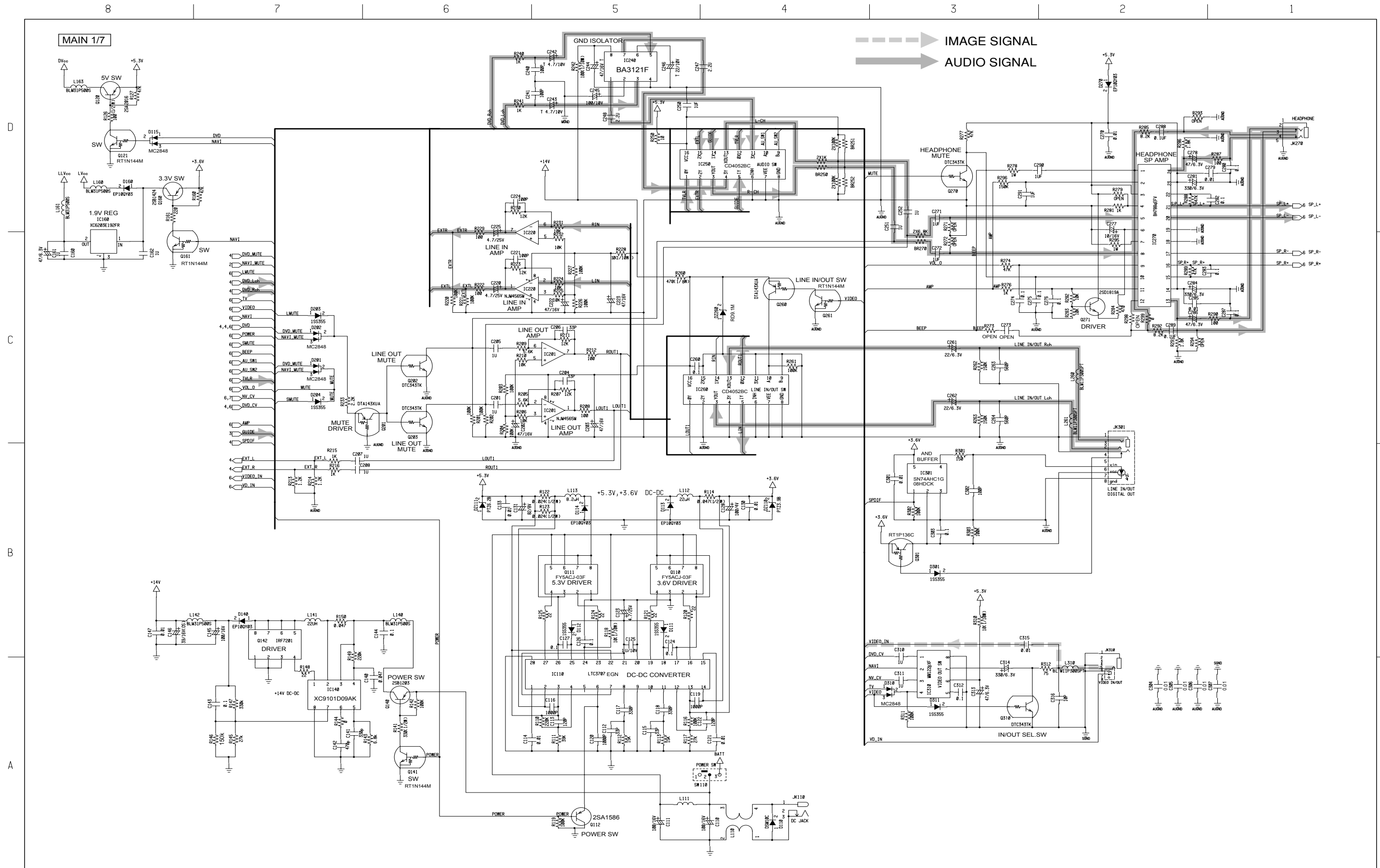


MAIN P.C.B.



MAIN P.C.B.

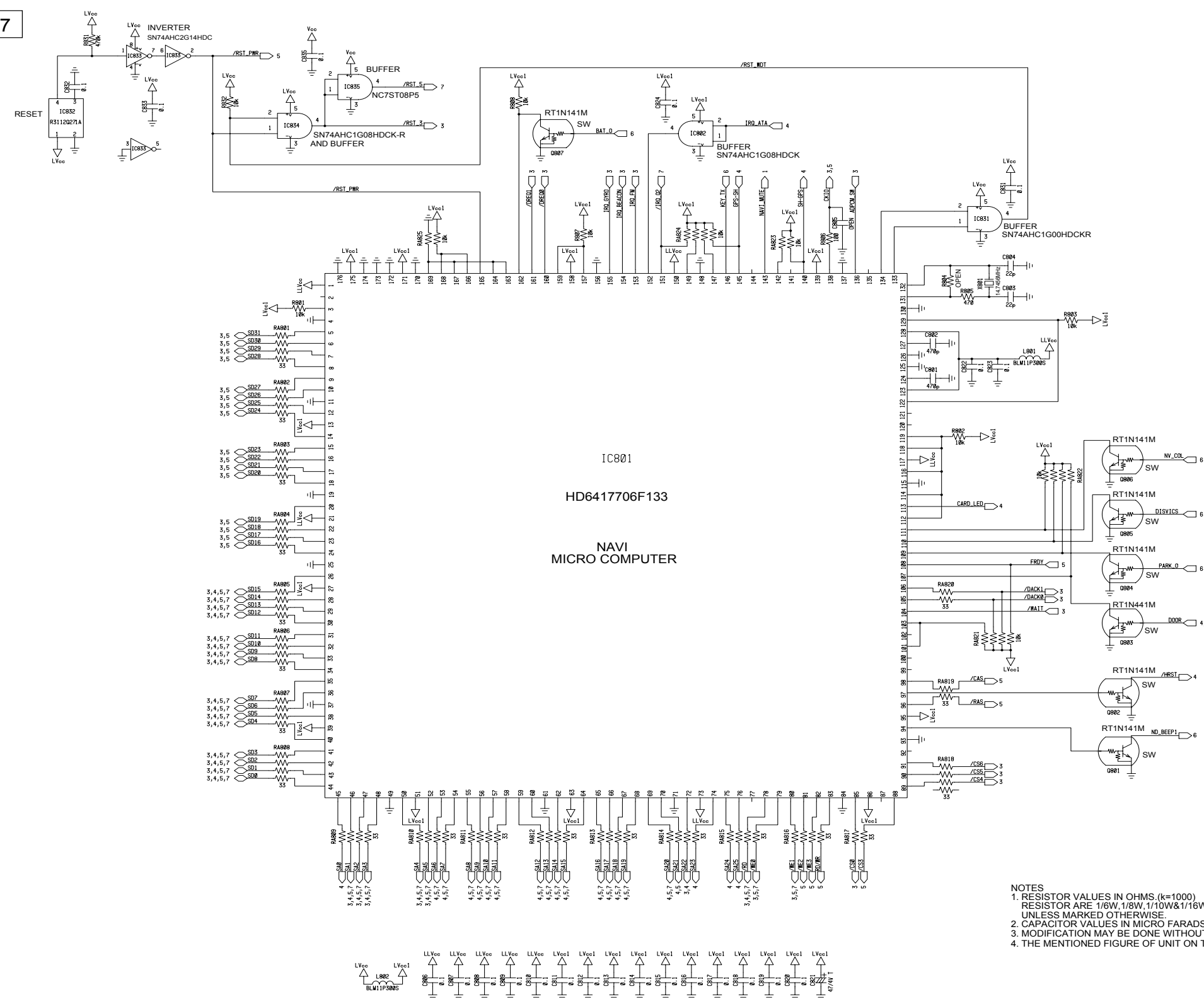




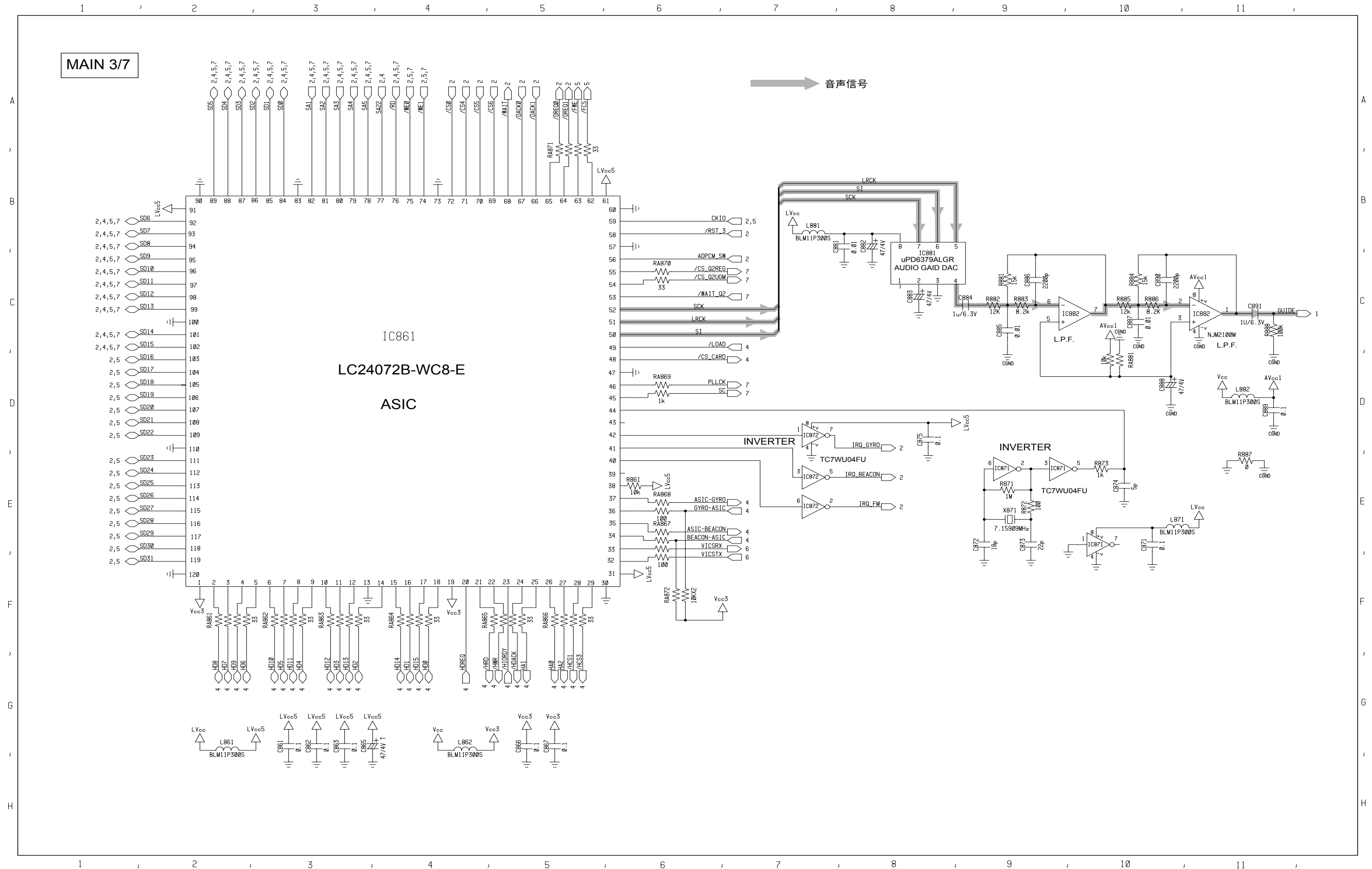
8 7 6 5 4 3 2 1

D
C
B
A

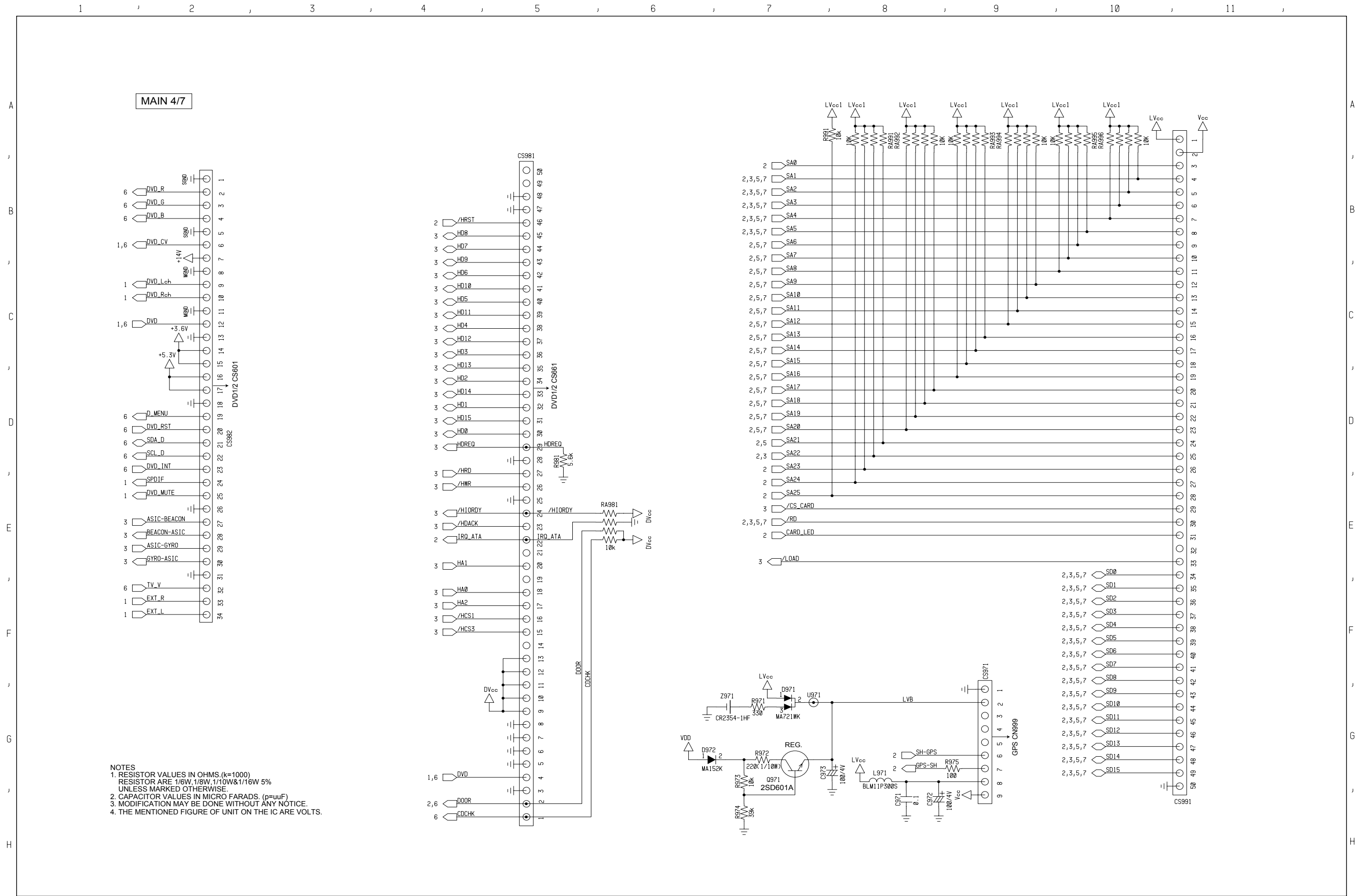
MAIN 2/7



- NOTES
1. RESISTOR VALUES IN OHMS (k=1000) RESISTOR ARE 1/16W, 1/8W, 1/10W & 1/16W 5% UNLESS MARKED OTHERWISE
 2. CAPACITOR VALUES IN MICRO FARADS. (p=µuF)
 3. MODIFICATION MAY BE DONE WITHOUT ANY NOTICE.
 4. THE MENTIONED FIGURE OF UNIT ON THE IC ARE VOLTS.

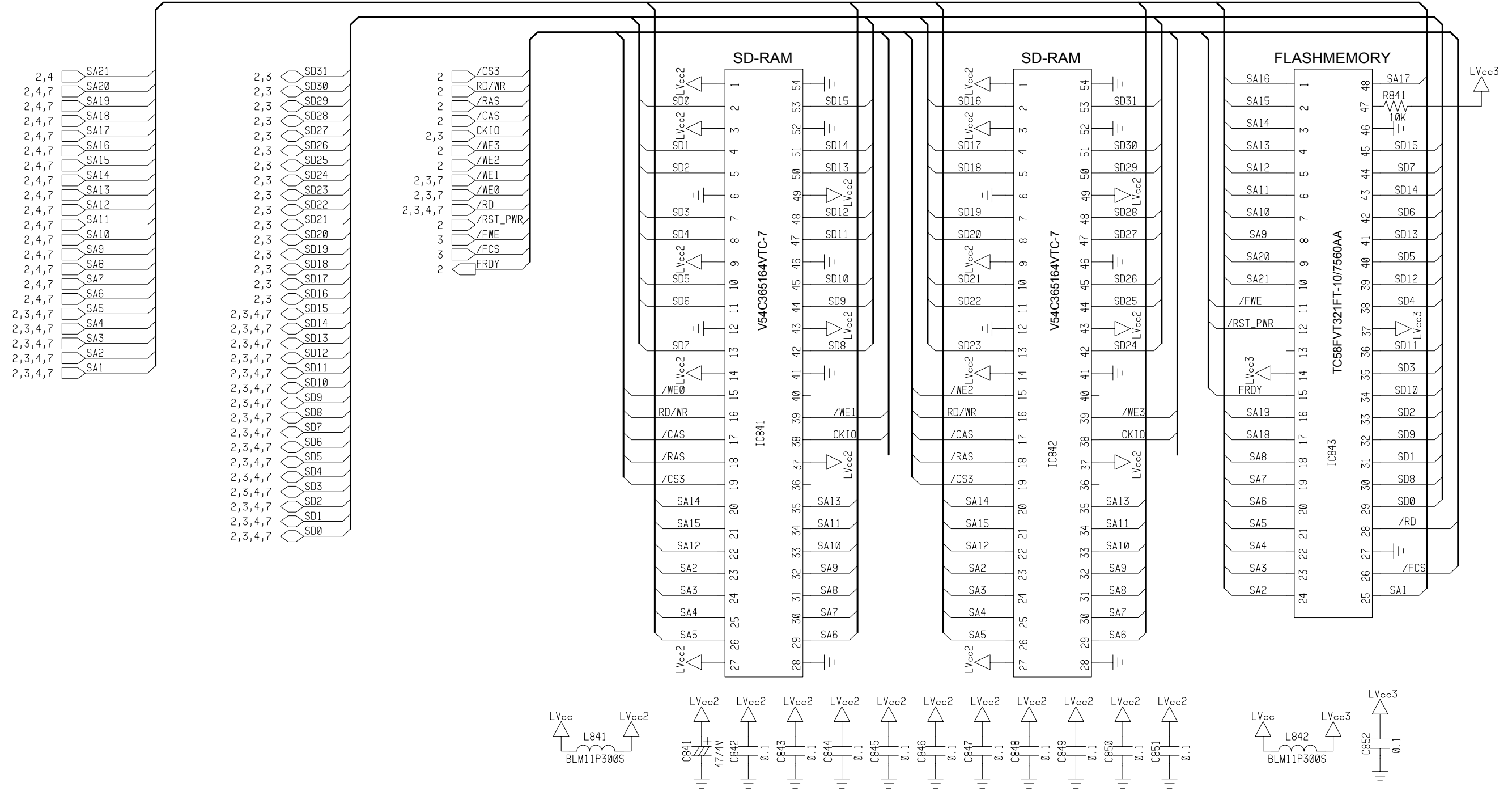


SCHEMATIC DIAGRAM

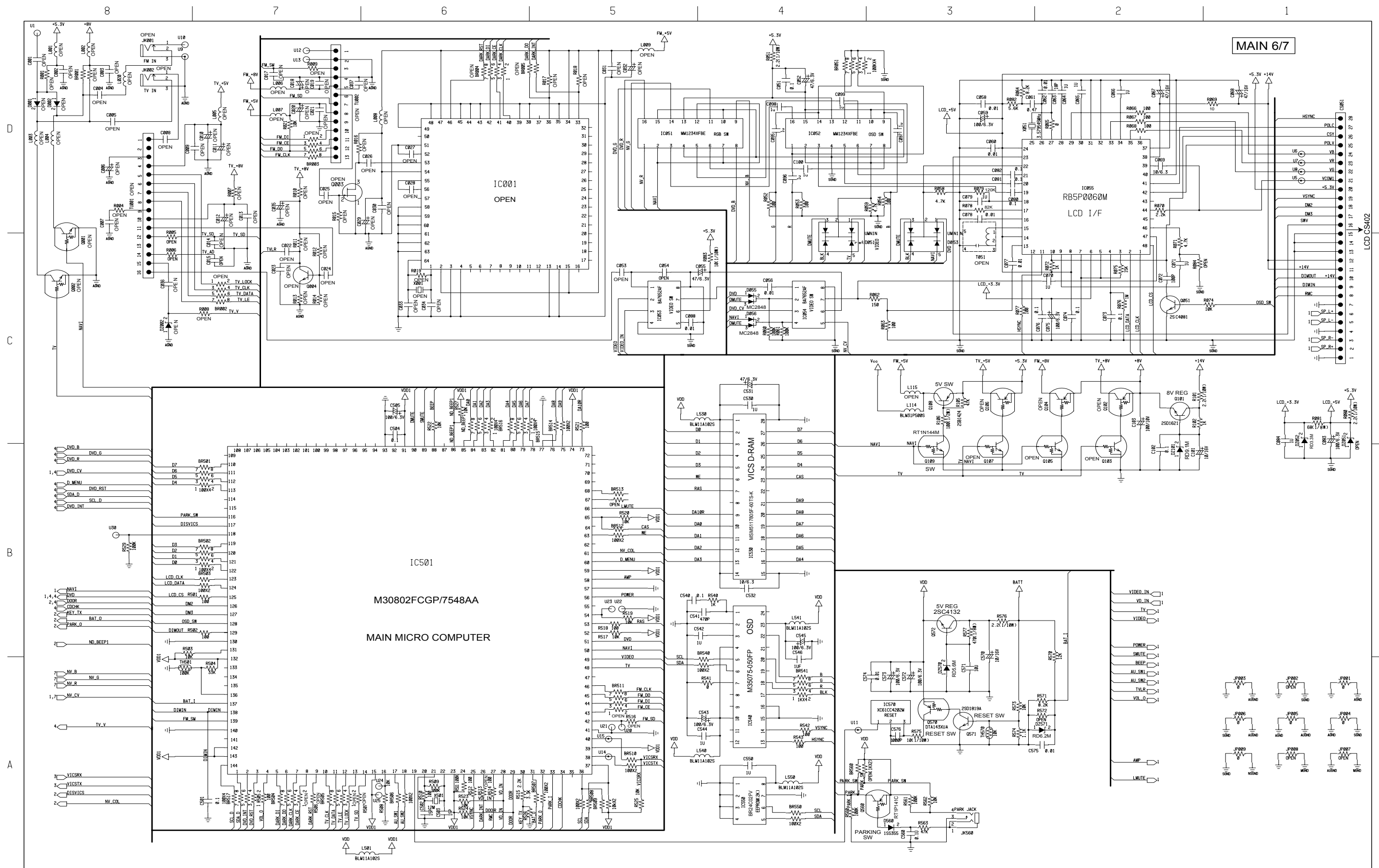


NOTES
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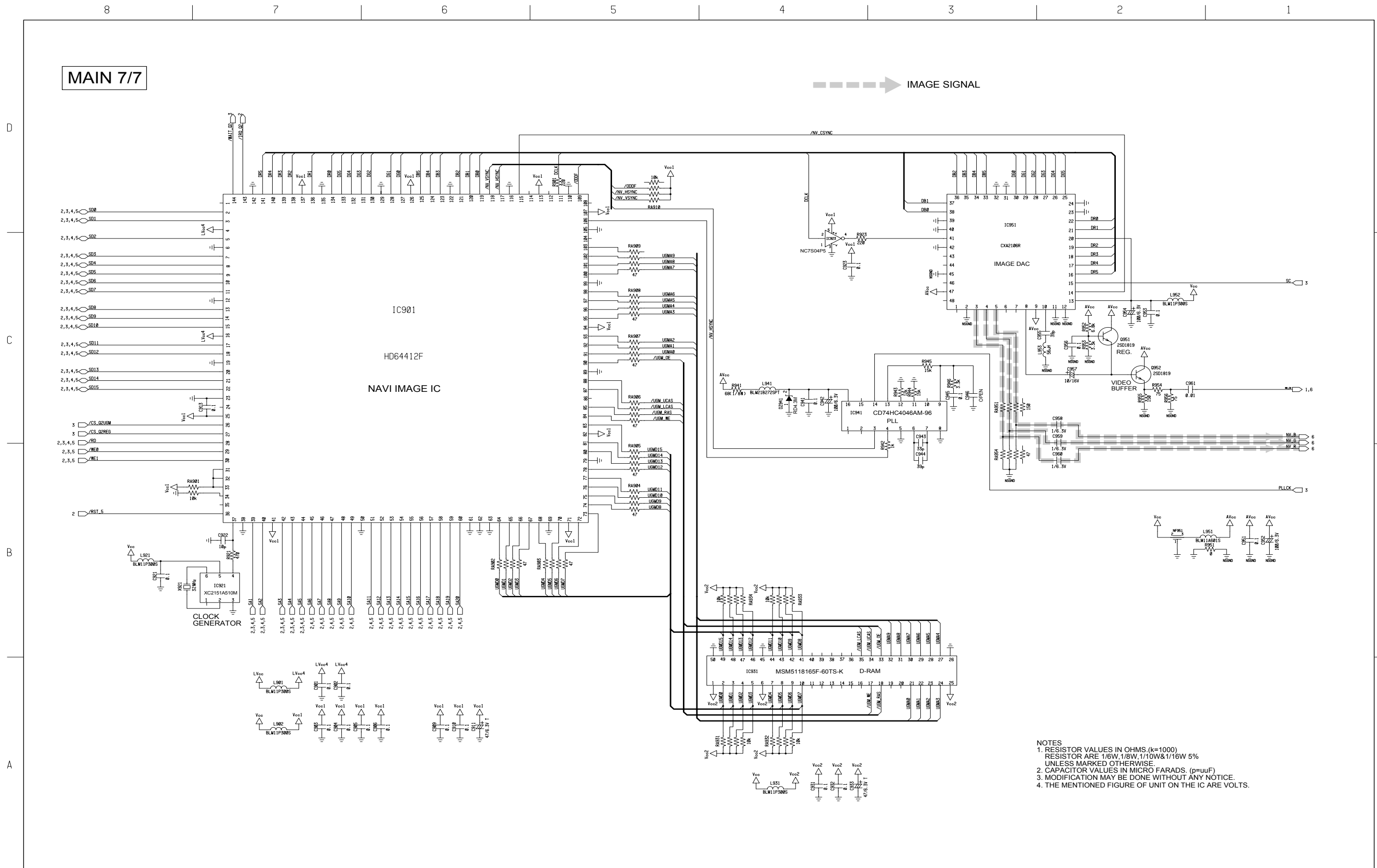
MAIN 5/7



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SCHEMATIC DIAGRAM

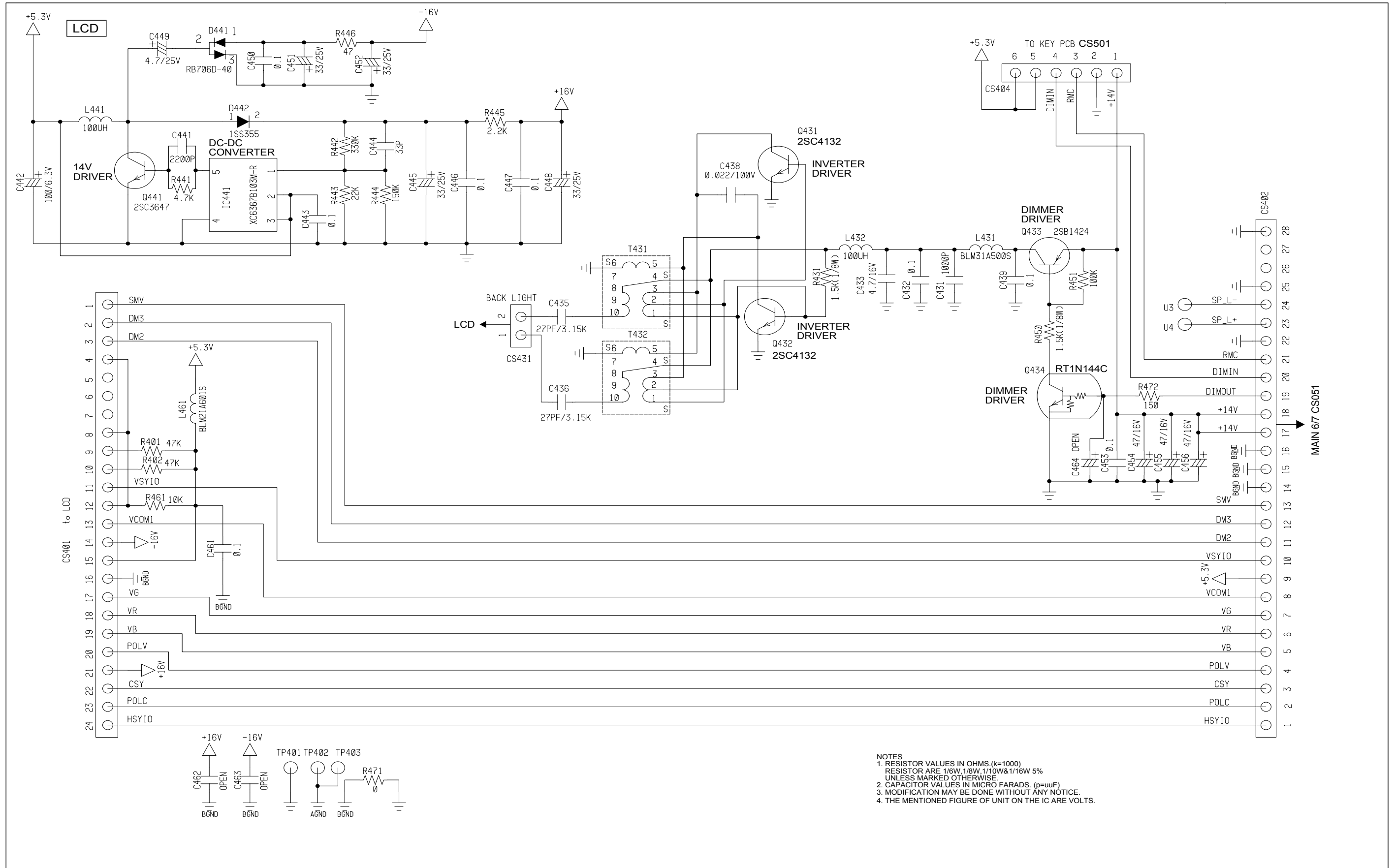


MAIN 717

IMAGE SIGNAL

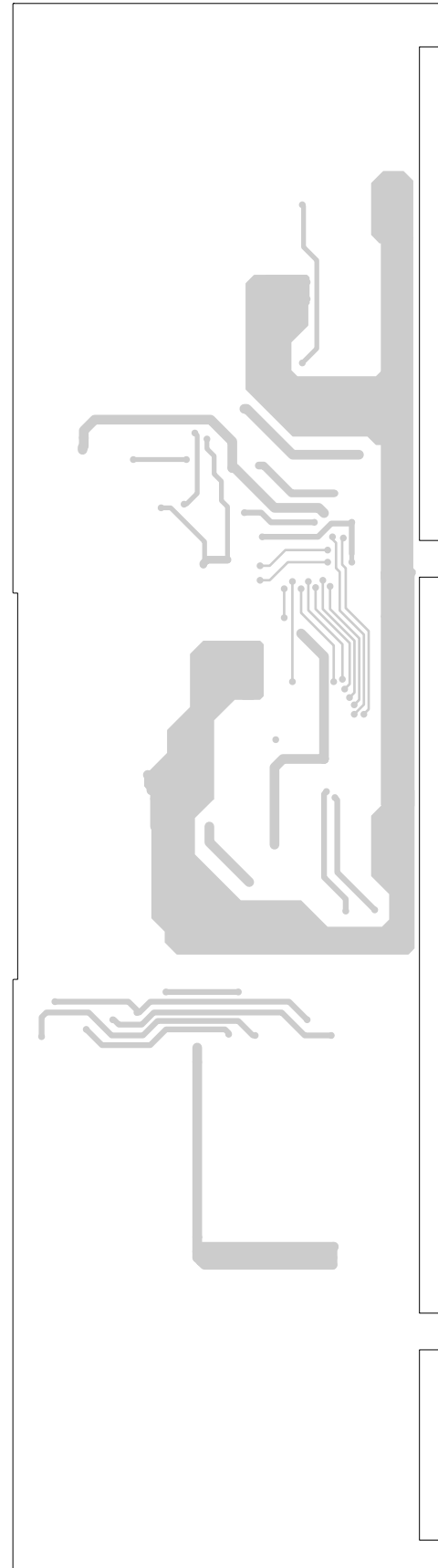
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SCHEMATIC DIAGRAM

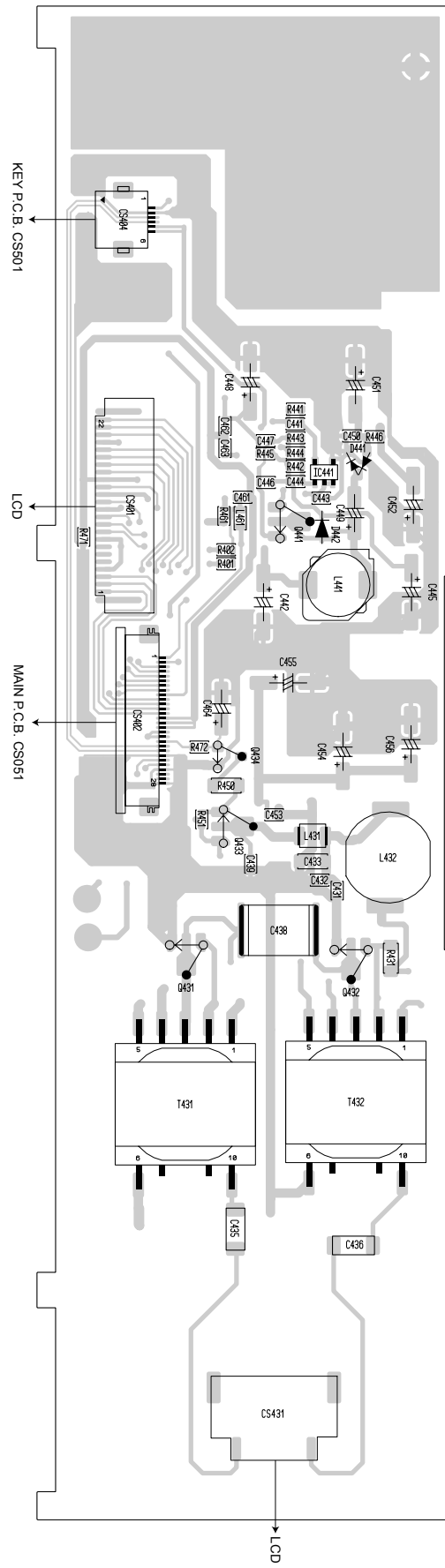


NOTES
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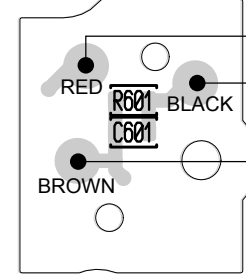
LCD P.C.B.



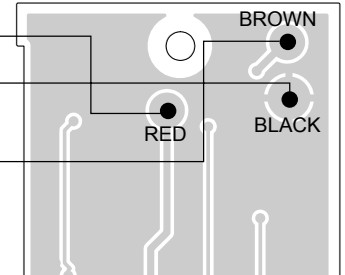
LCD P.C.B.



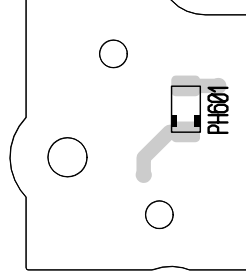
SENSOR P.C.B.



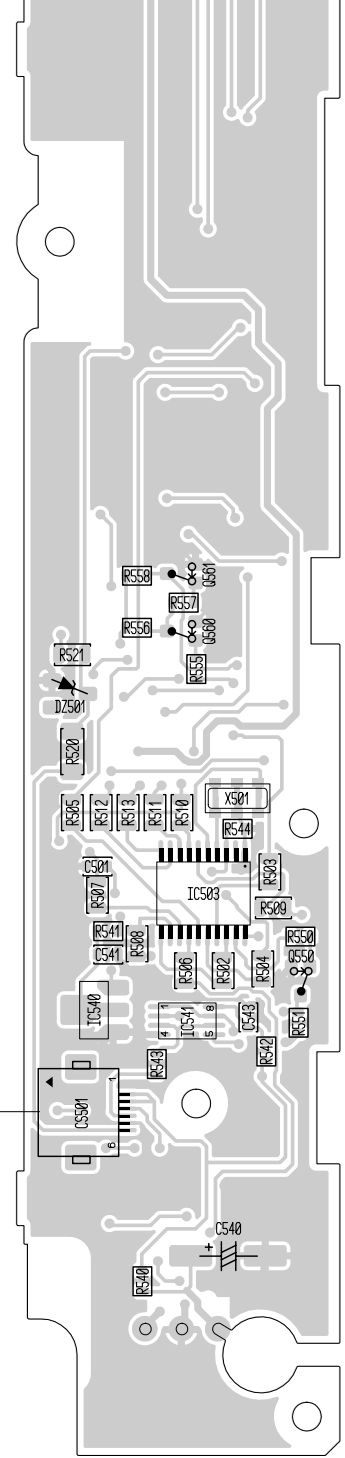
KEY P.C.B.



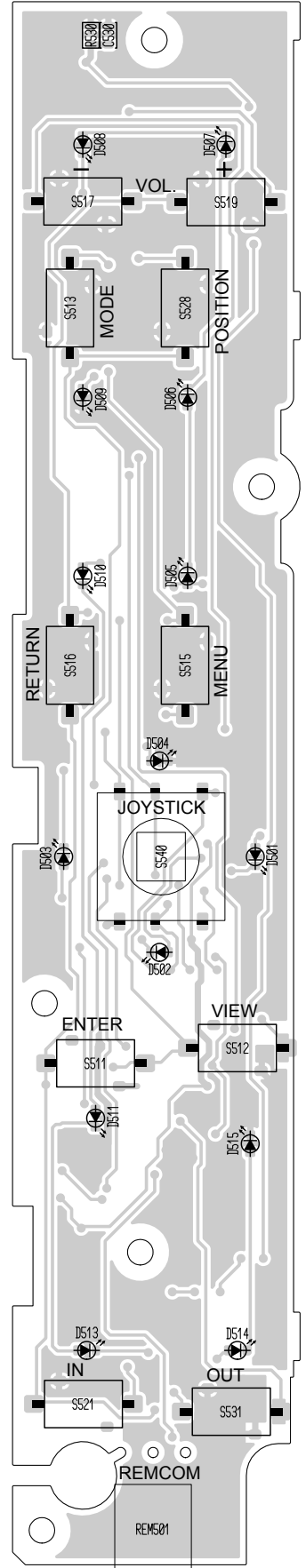
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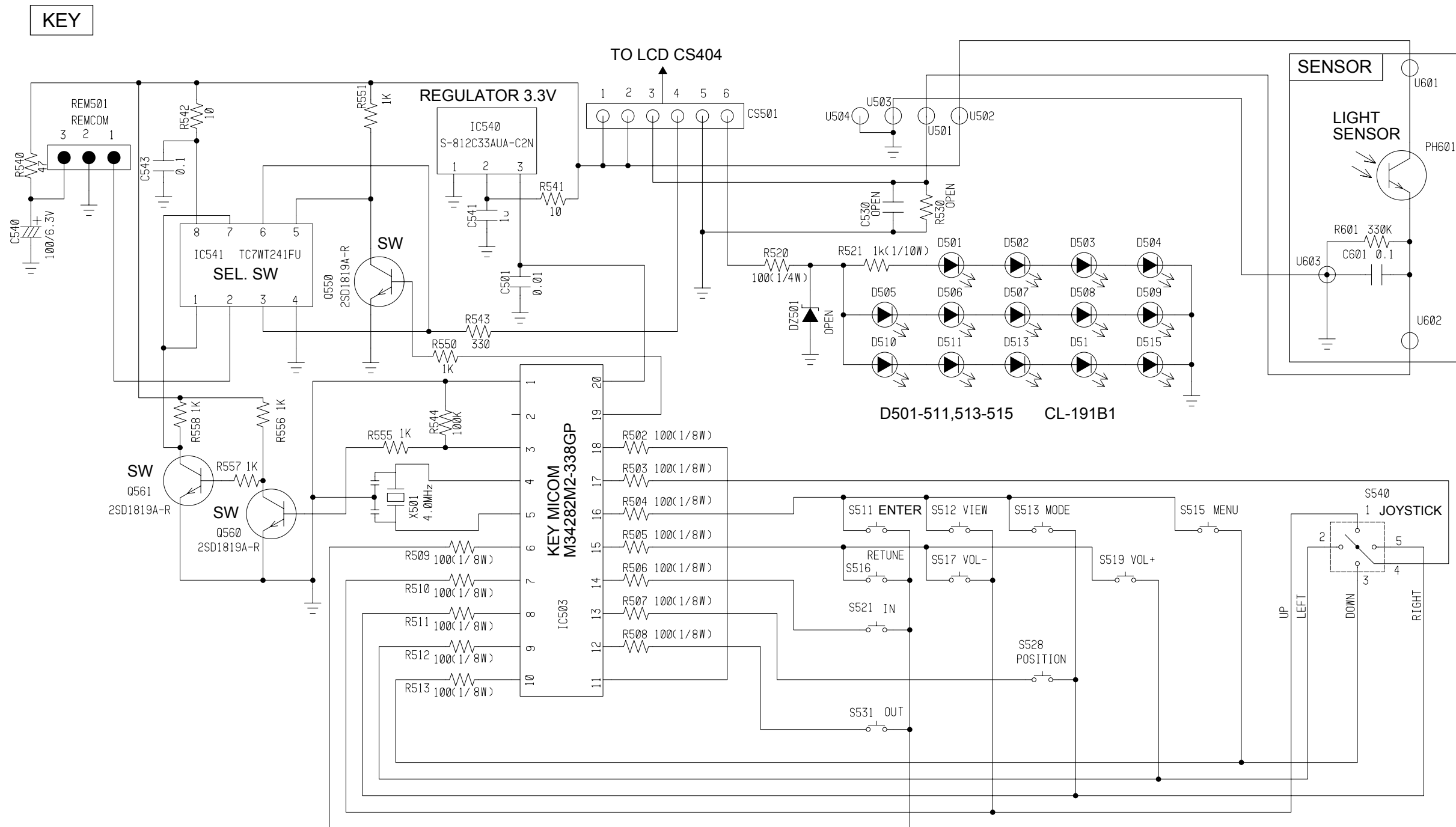


LCD P.C.B. CS404



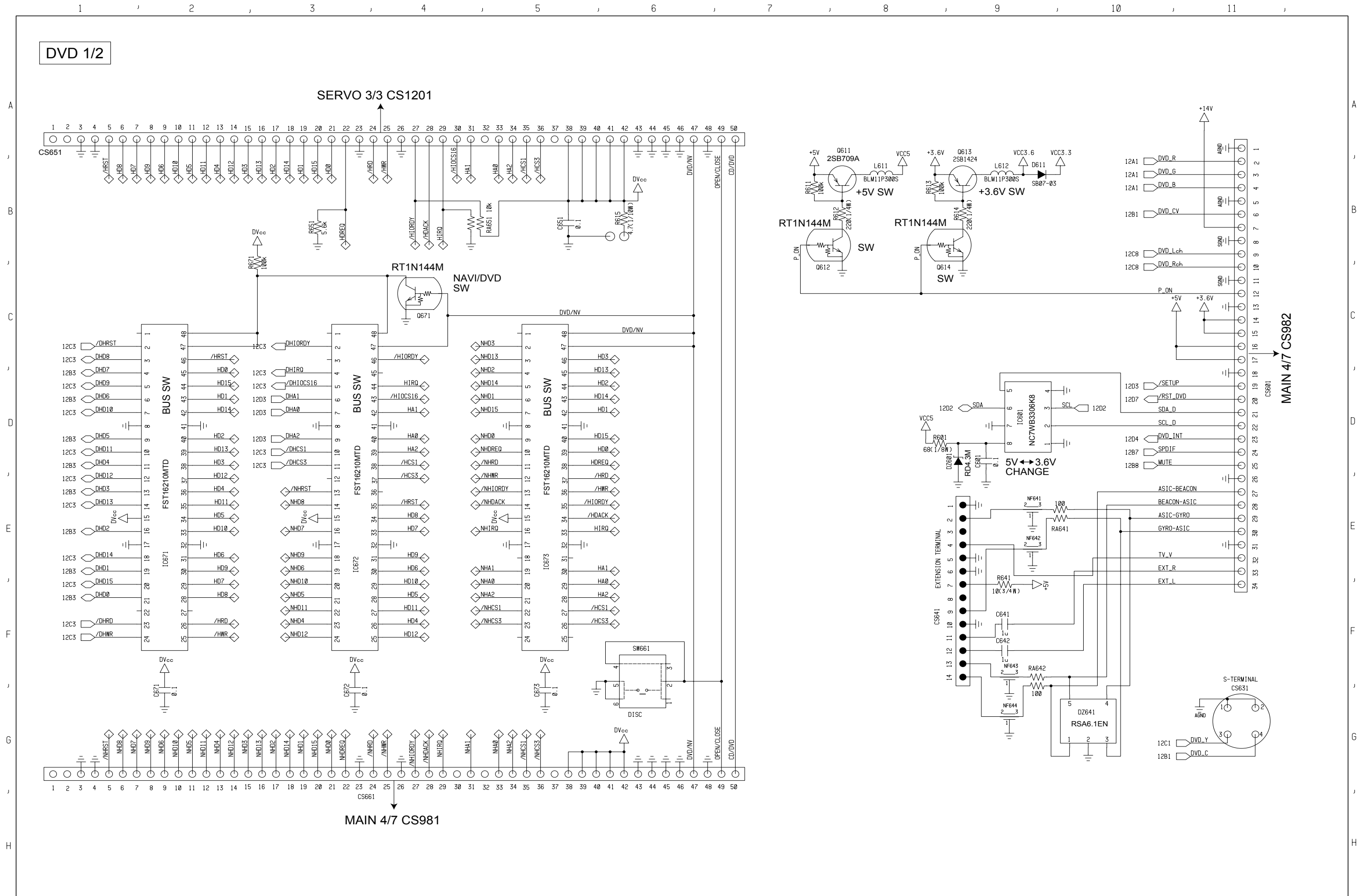
KEY P.C.B.



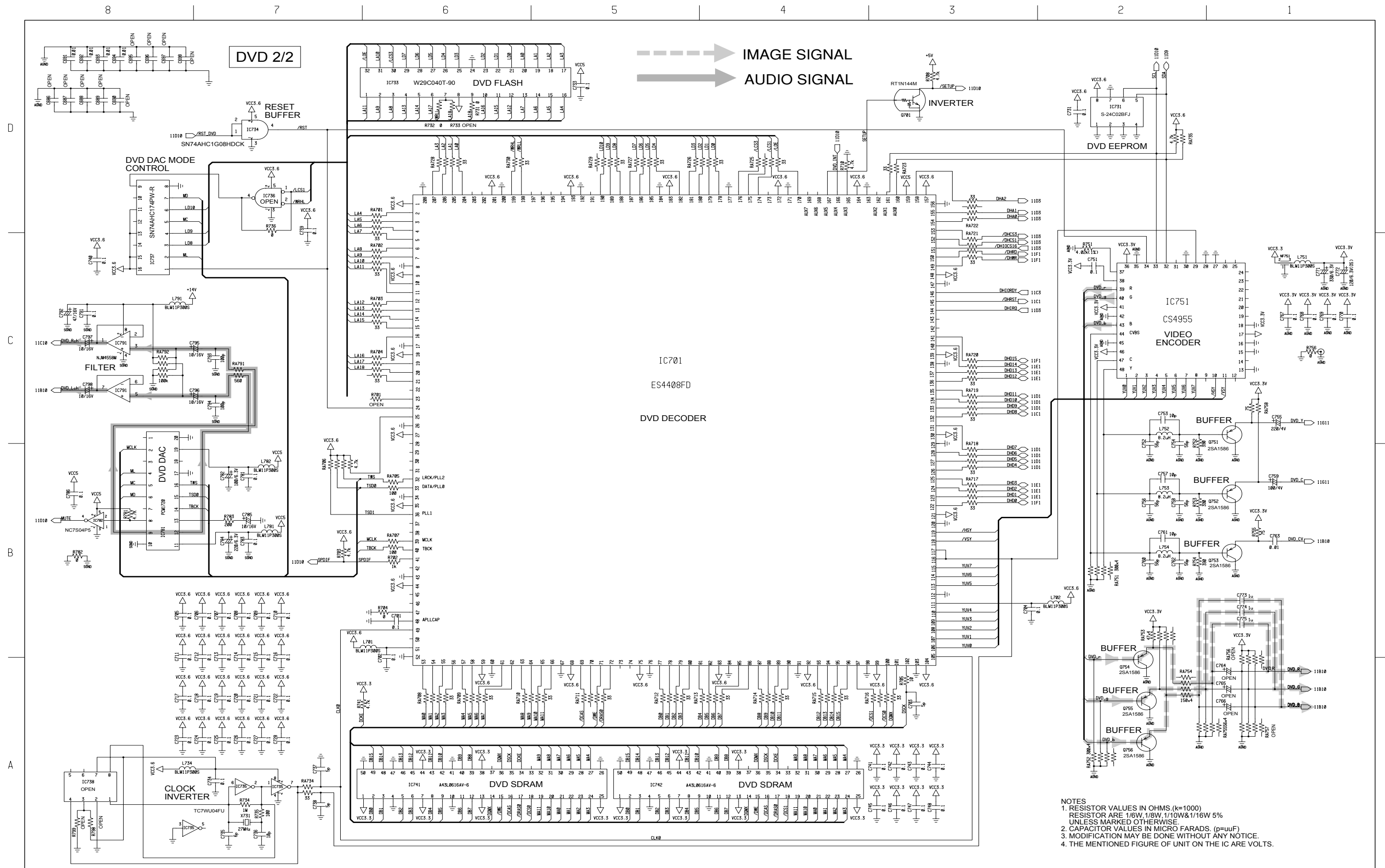


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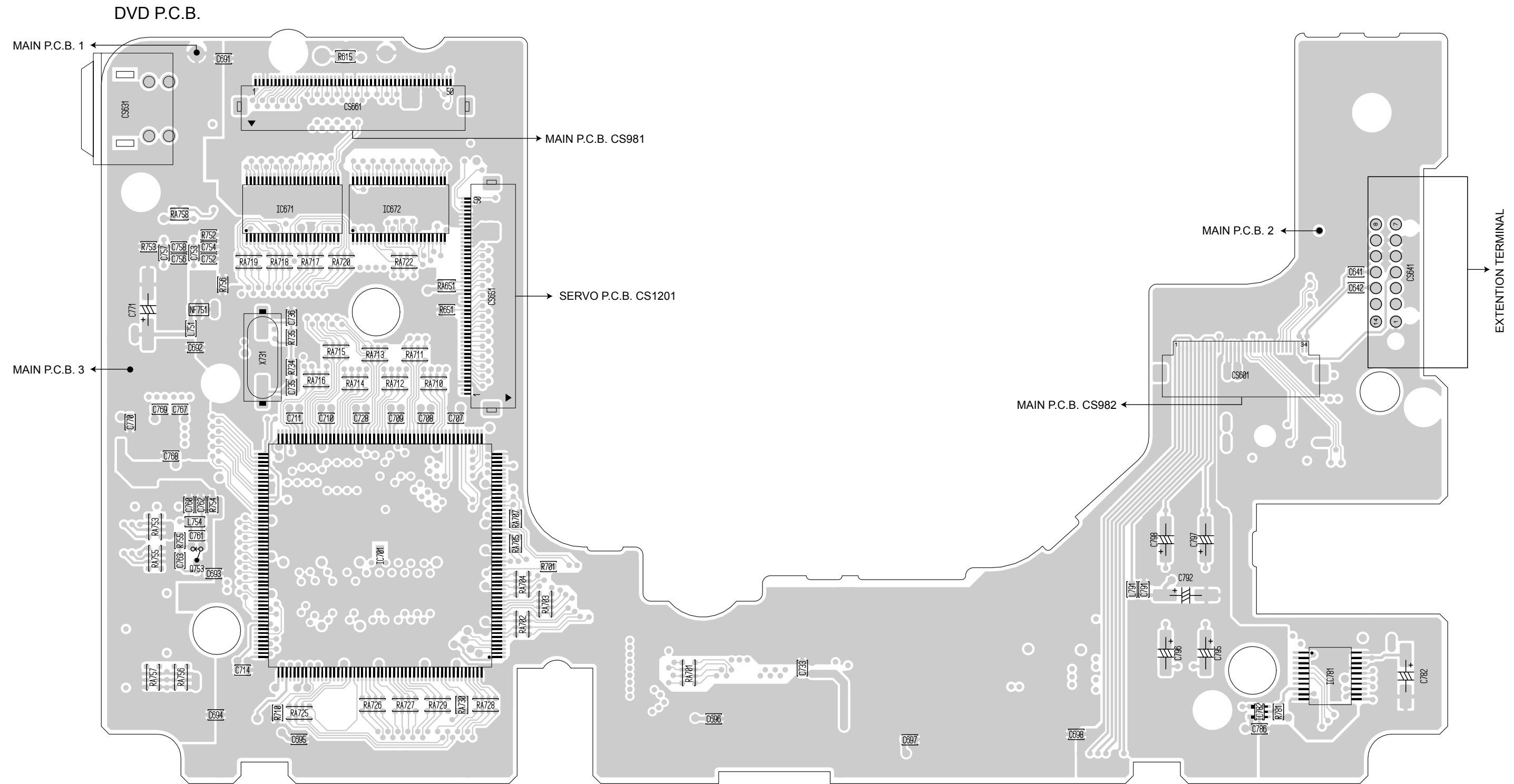
SCHEMATIC DIAGRAM



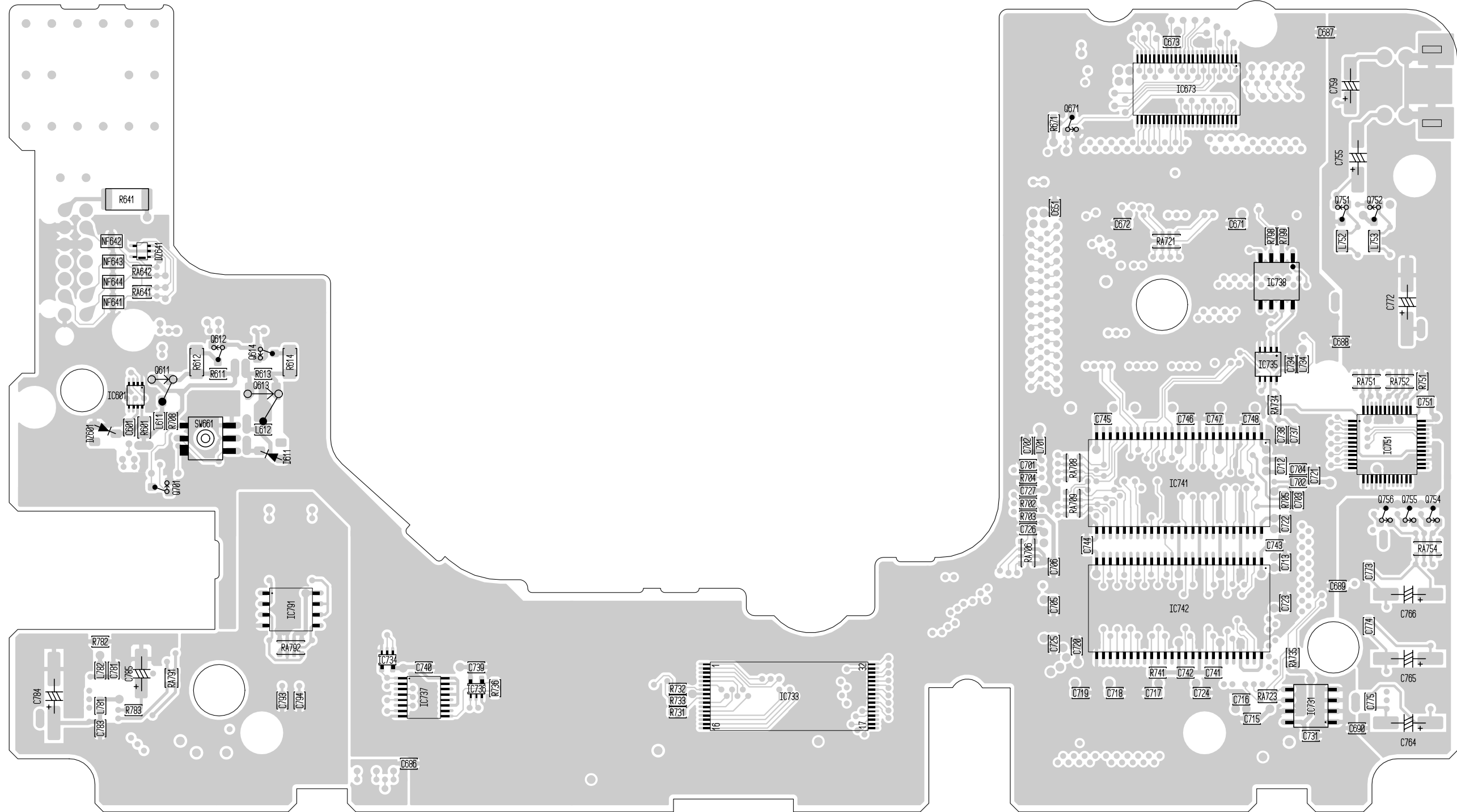
SCHEMATIC DIAGRAM



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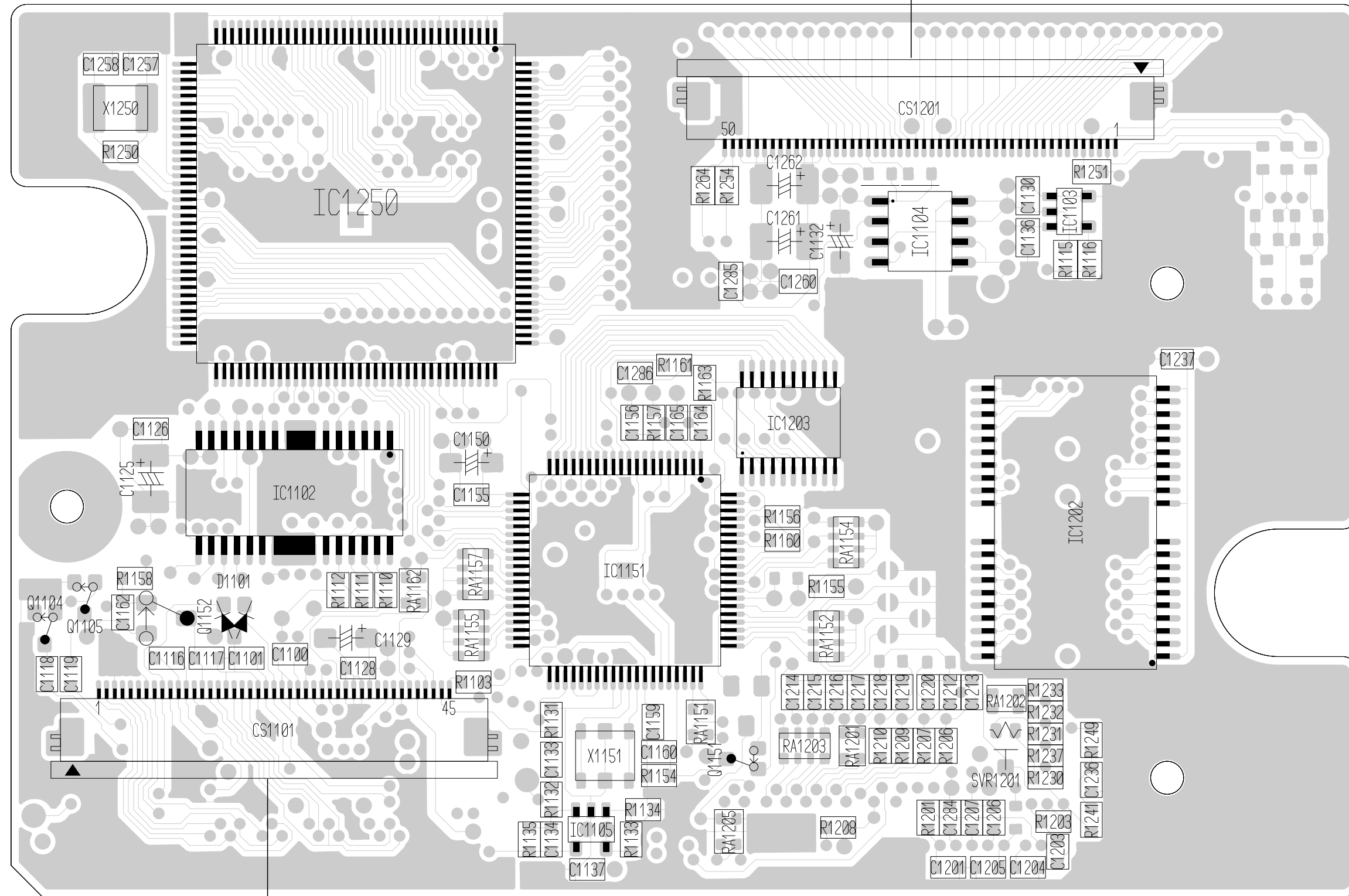


DVD P.C.B.



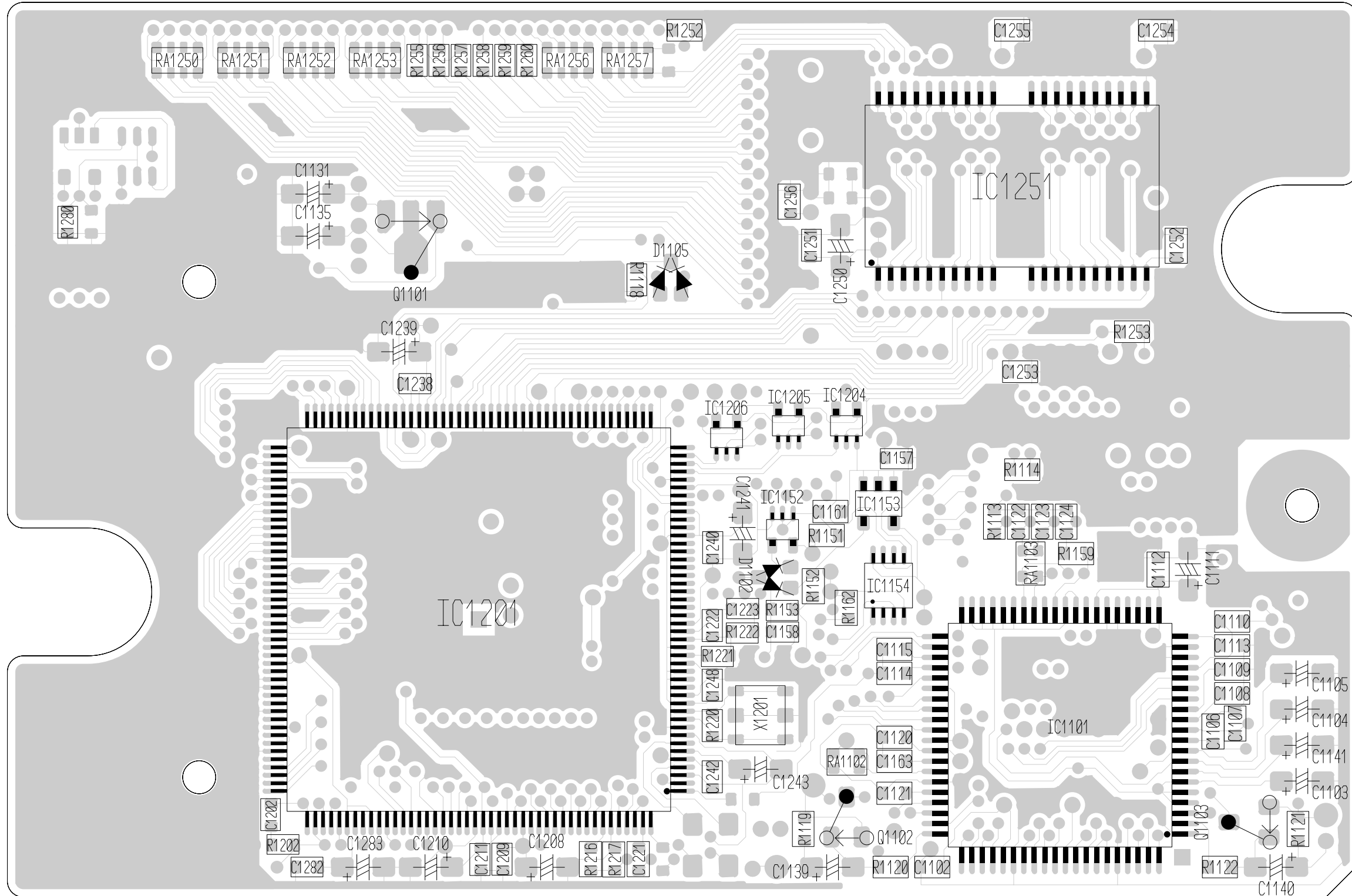
SERVO P.C.B.

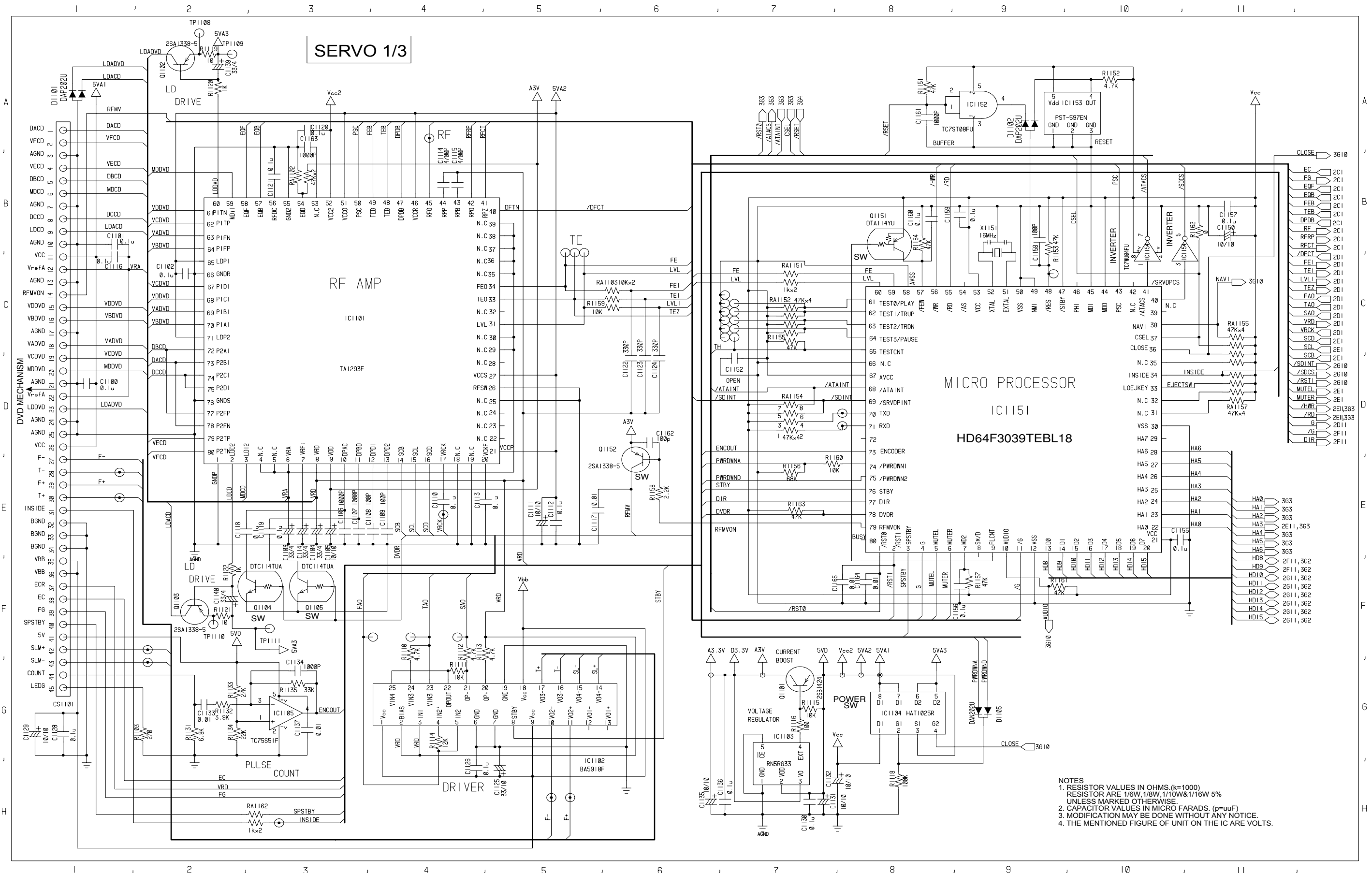
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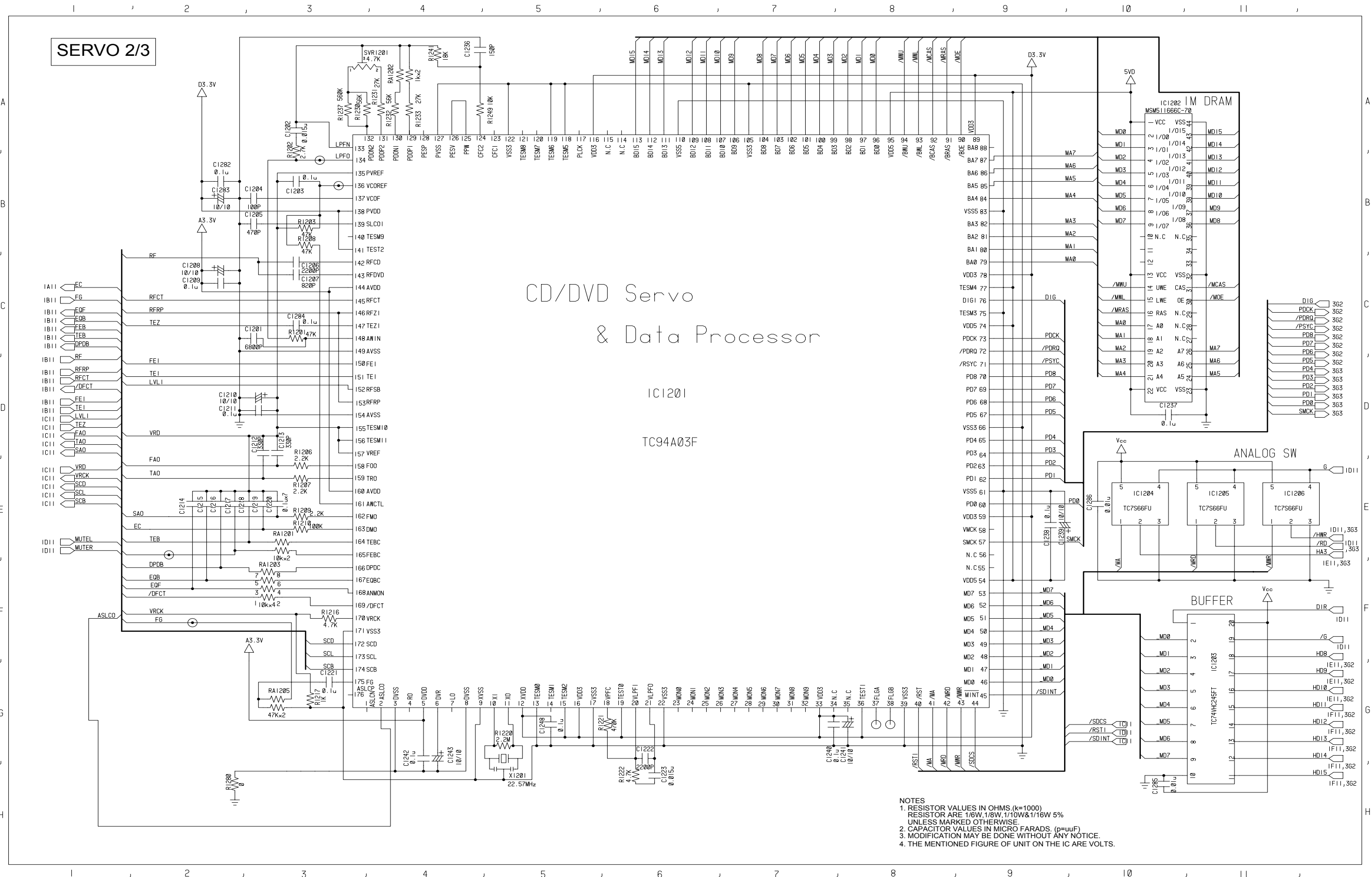
DVD MECHANISM

SERVO P.C.B.





NOTES
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 3. MODIFICATION MAY BE DONE WITHOUT ANY NOTICE.
 4. THE MENTIONED FIGURE OF UNIT ON THE IC ARE VOLTS.



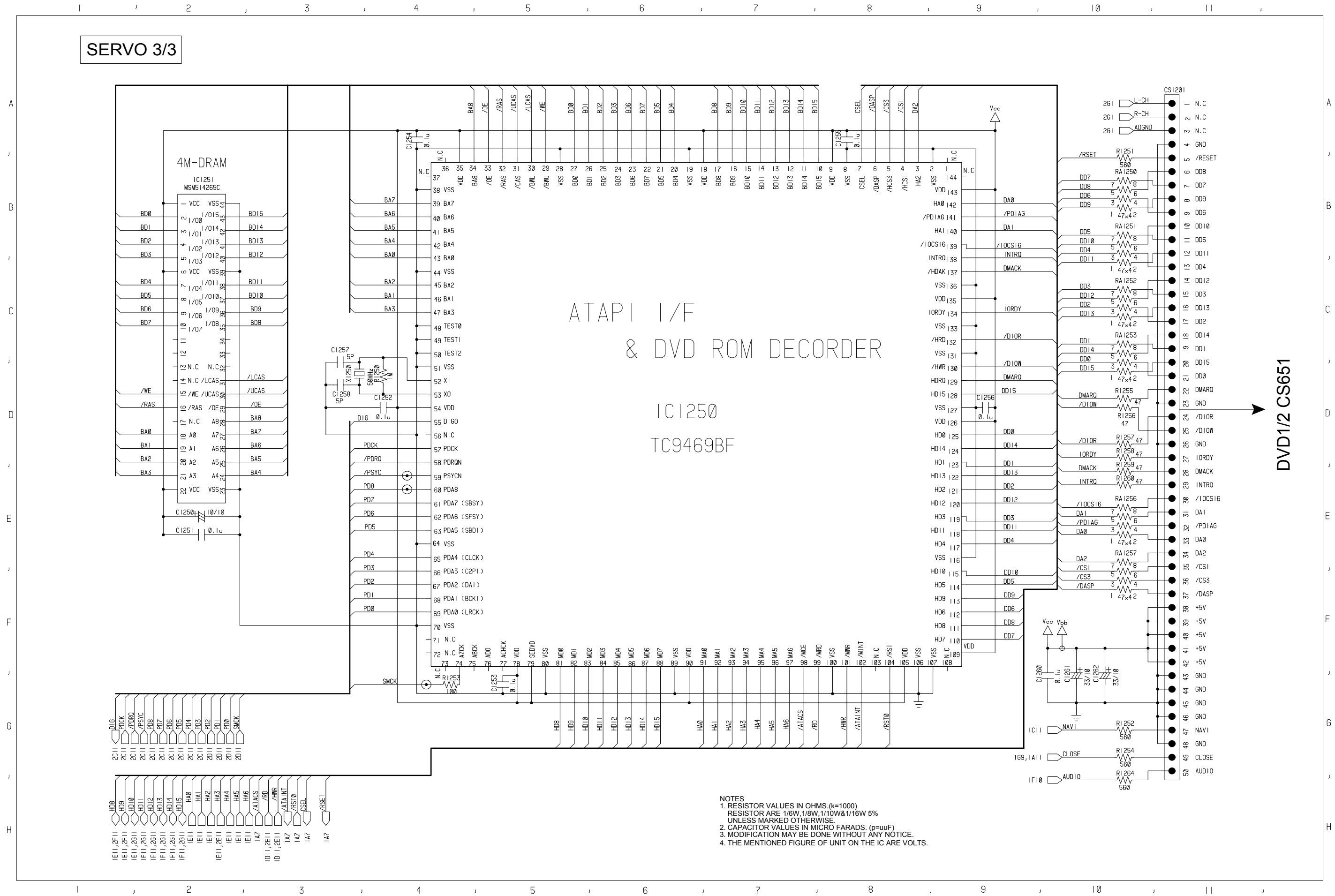
CD/DVD Servo
& Data Processor

IC1201
TC94A03F

- NOTES**
1. RESISTOR VALUES IN OHMS (k=1000) RESISTOR ARE 1/6W, 1/8W, 1/10W & 1/16W 5% UNLESS MARKED OTHERWISE
 2. CAPACITOR VALUES IN MICRO FARADS. (p=uuF)
 3. MODIFICATION MAY BE DONE WITHOUT ANY NOTICE.
 4. THE MENTIONED FIGURE OF UNIT ON THE IC ARE VOLTS.

SCHEMATIC DIAGRAM

SERVO 3/3



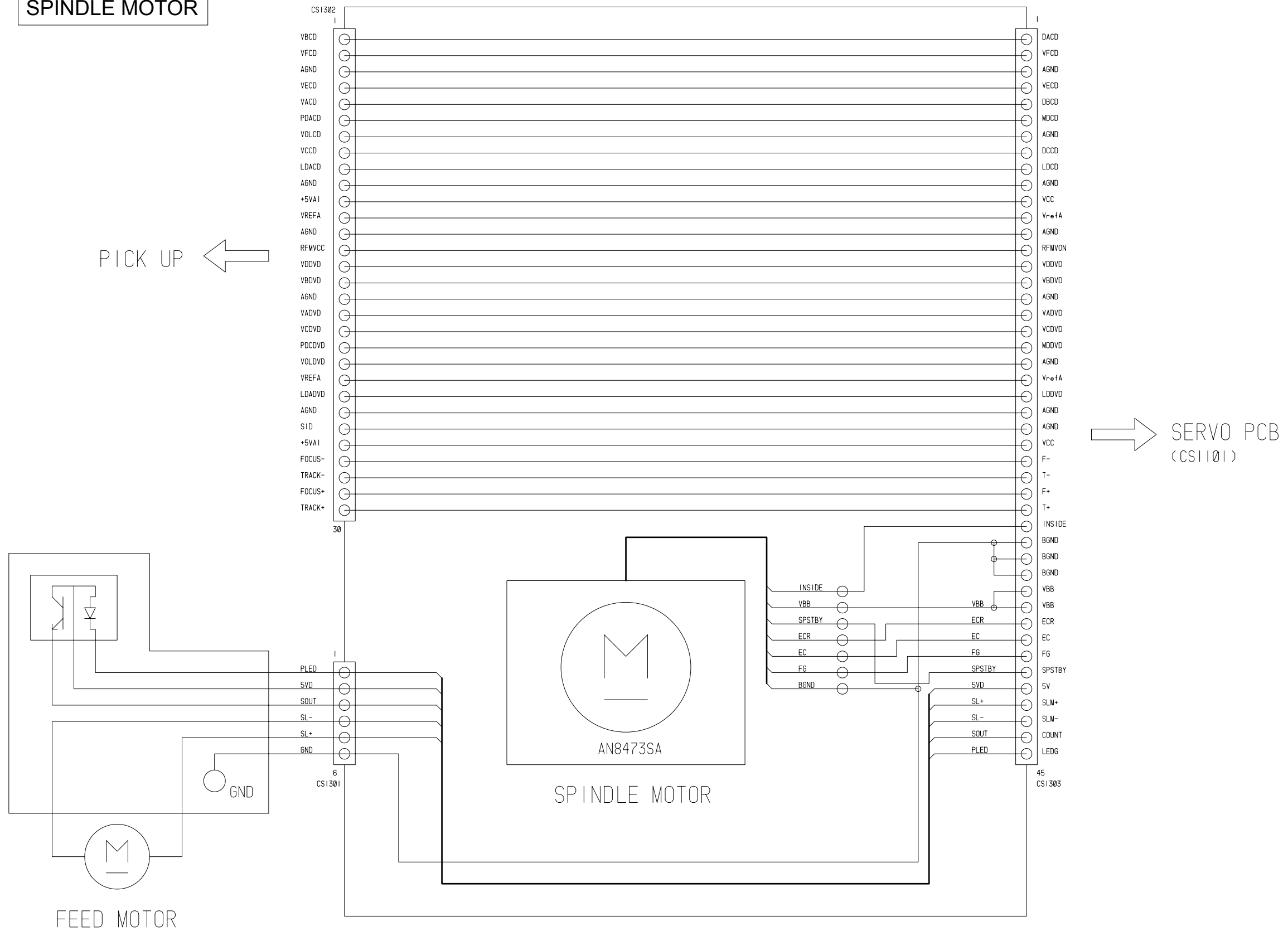
ATAPI I/F
& DVD ROM DECORDER

IC1250
TC9469BF

DVD1/2 CS651

- NOTES
 1. RESISTOR VALUES IN OHMS.(k=1000)
 RESISTOR ARE 1/6W,1/8W,1/10W&1/16W 5%
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 2. CAPACITOR VALUES IN MICRO FARADS. (p=uF)
 3. MODIFICATION MAY BE DONE WITHOUT ANY NOTICE.
 4. THE MENTIONED FIGURE OF UNIT ON THE IC ARE VOLTS.

SPINDLE MOTOR



By long term use, There is a case where it becomes impossible to read the road map data by adhesion of dust, trash, or tar on the PICKUP of the Portable Navigation, and the message "Check disc" will be displayed. In this case, the PICKUP should be cleaned as follows.

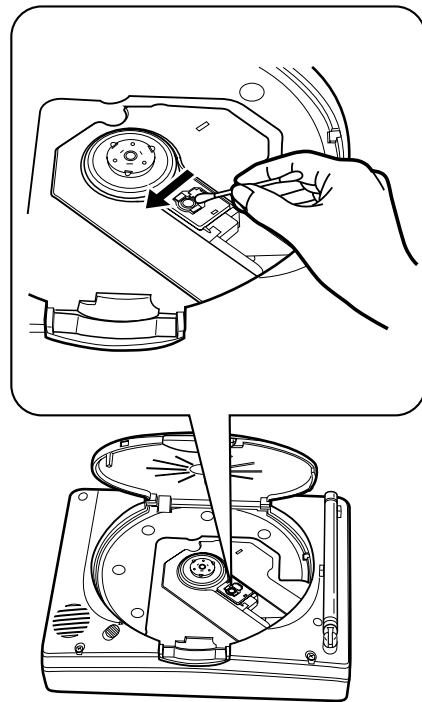
REGARDING CLEANING KIT

Please use the head cleaner for cassette deck that you can buy on the market. Generally, there are 2 kinds of liquid. One is for the head capstan, and the other is for the pinch roller.

You should use cleaning liquid of the head capstan only.

Though there are some cleaners for CD and DVD on the market, we don't recommend them because of few cleaning effects.

HOW TO CLEANING



1. Open the lid and take out the disk.
2. Apply a little amount of cleaning liquid to the swab, and wipe softly like stroke the lens of the PICKUP in the direction of the arrow in the left figure several times. (dirt would be floated.)
※ You must wipe softly like stroke in the direction of the arrow. (only in one direction)

NOTICE

Pressing down strongly or wiping in another direction can cause breaking the pick.

3. Apply a little amount of cleaning liquid to the new swab, (If the swab has cotton on both sides, put the liquid on the other side that not yet used) and wipe softly like stroke the lens of the PICKUP in the direction of the arrow in the left figure several times to remove dirt.

Cleaning is the end above.

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