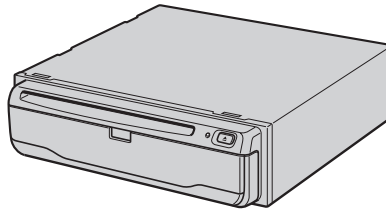


Service Manual

AVIC-90DVD/UC



ORDER NO.
CRT2890

DVD NAVIGATION UNIT

AVIC-90DVD

AVIC-9DVDII EW



● This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-954	CRT2670	MS2	DVD Mech. Module:Circuit Description, Mech.Description, Disassembly

● Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

● This product has the unit part numbers as below.

Unit Part No.	Description
CPN1803	Main Assy (AVIC-90DVD/UC)
CPN1801	Main Assy (AVIC-9DVDII/EW)

*) The unit part numbers listed above are not for the service components.

● For your inspection, the following extension cords are supplied. Use them if necessary.

Part to use	Part No.
Main PCB (CN3251) <--> DVD Core Unit V (CN1701)	GGD1284
Main PCB (CN3254) <--> CC Unit (CN302)	GGD1264
Main PCB (CN3901) <--> Interface PCB (CN5004)	GGD1171
Main PCB (CN552) <--> GPS Unit (CN461)	GGD1265
CC Unit (CN2) <--> DVD Core Unit V (CN1401)	GGD1268



For details, refer to "Important symbols for good services".

PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER EUROPE NV Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

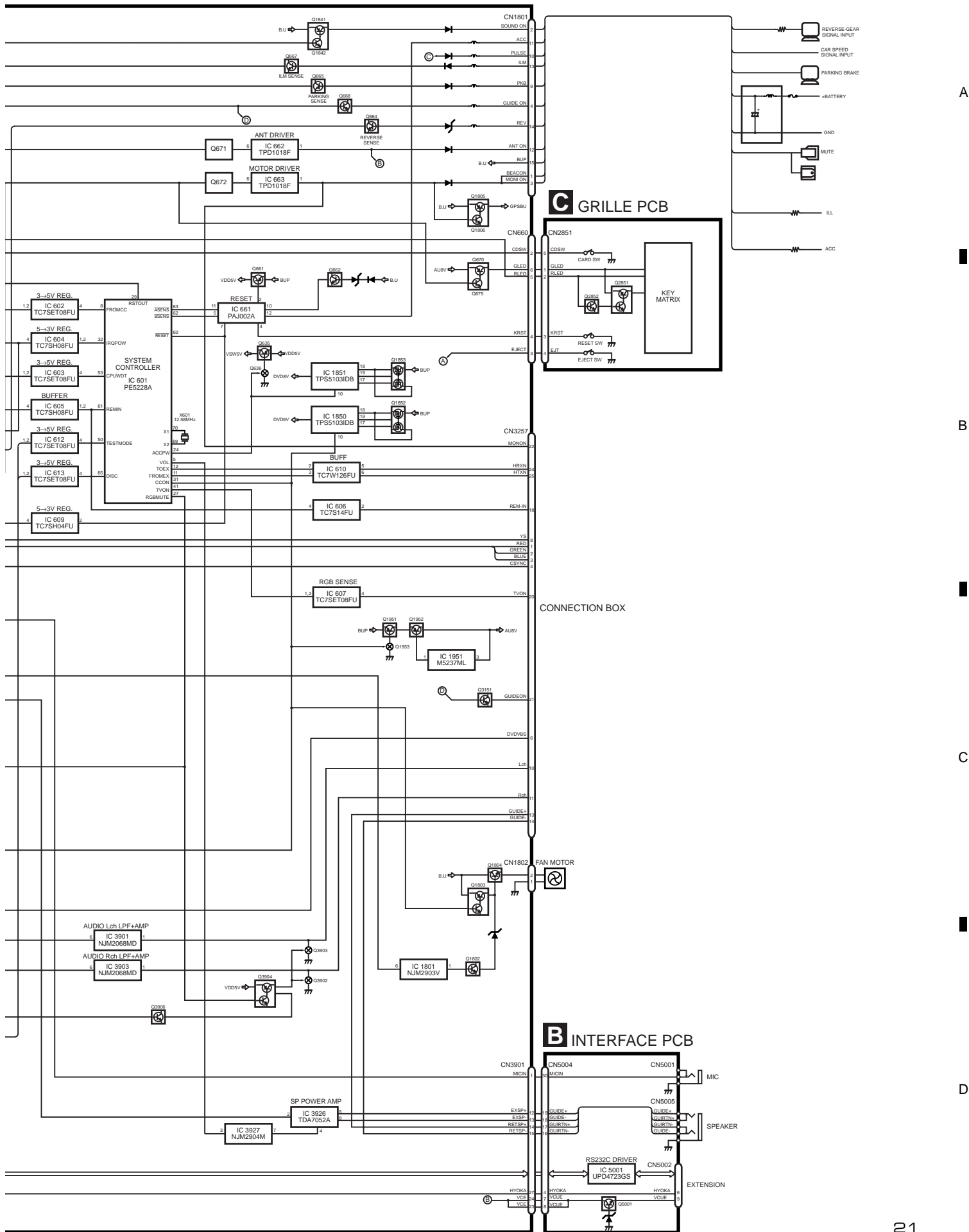
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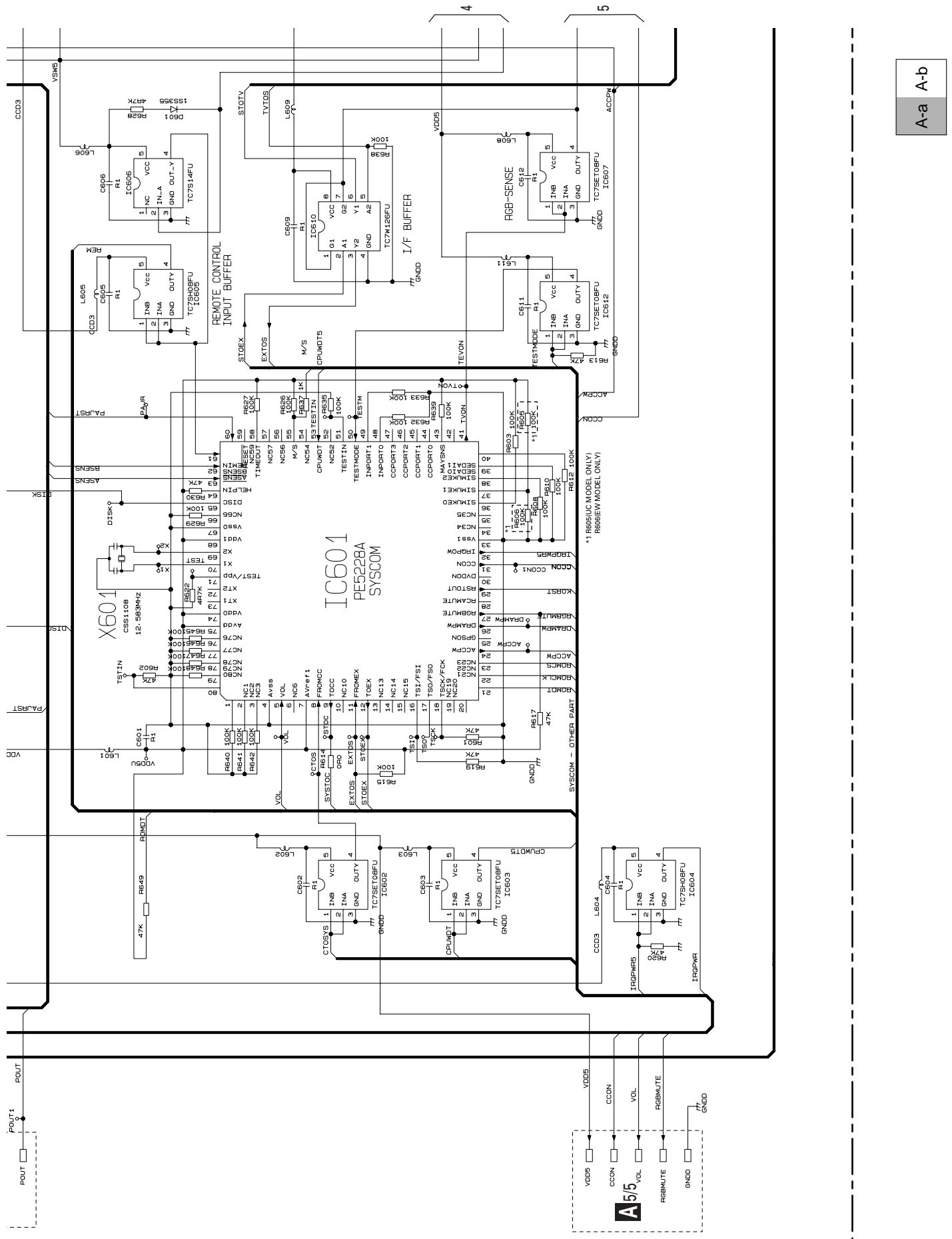


A

B

C

D



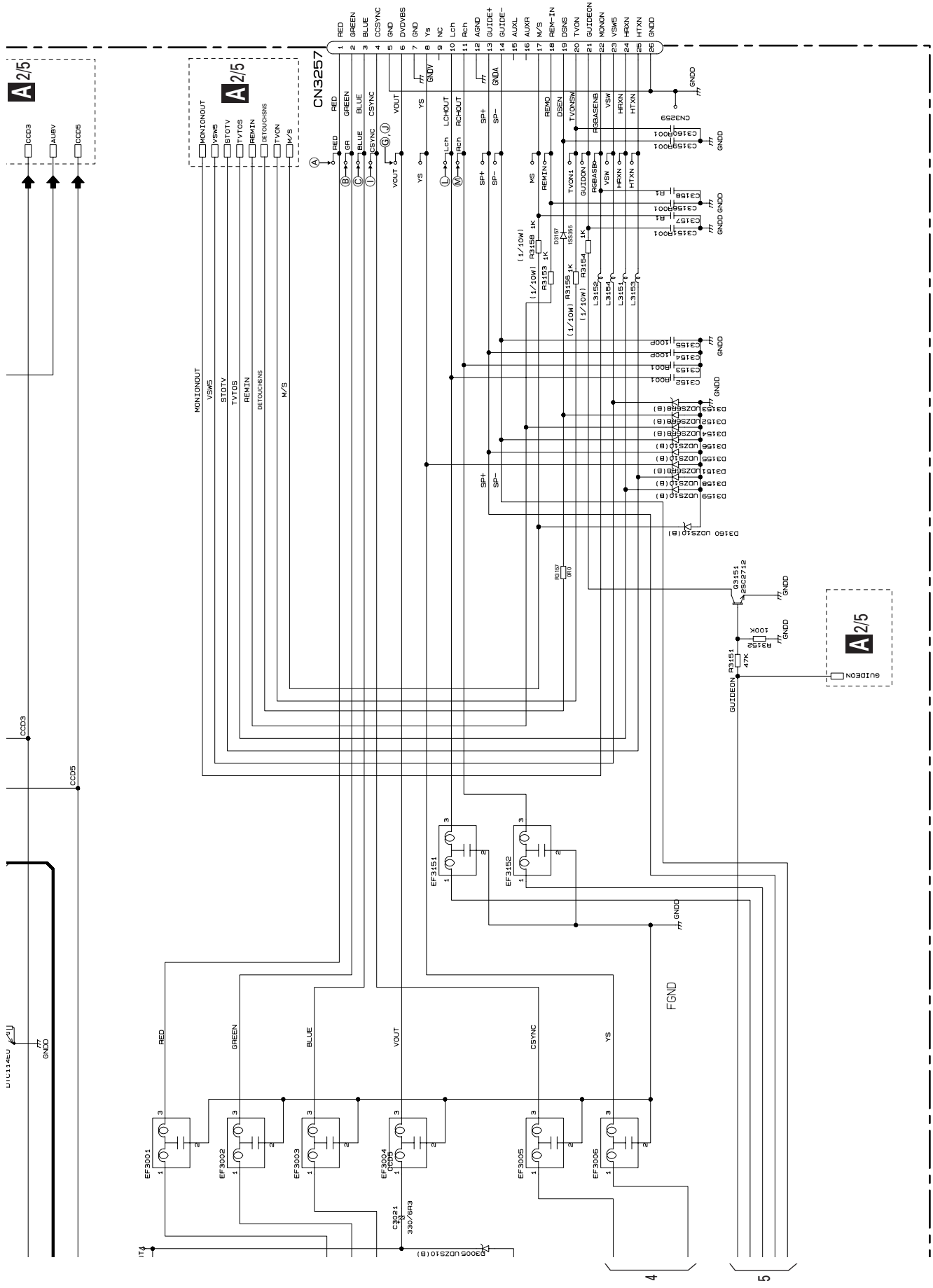
A-a A-b

A

B

C

D



A-a A-b

A

B

C

D

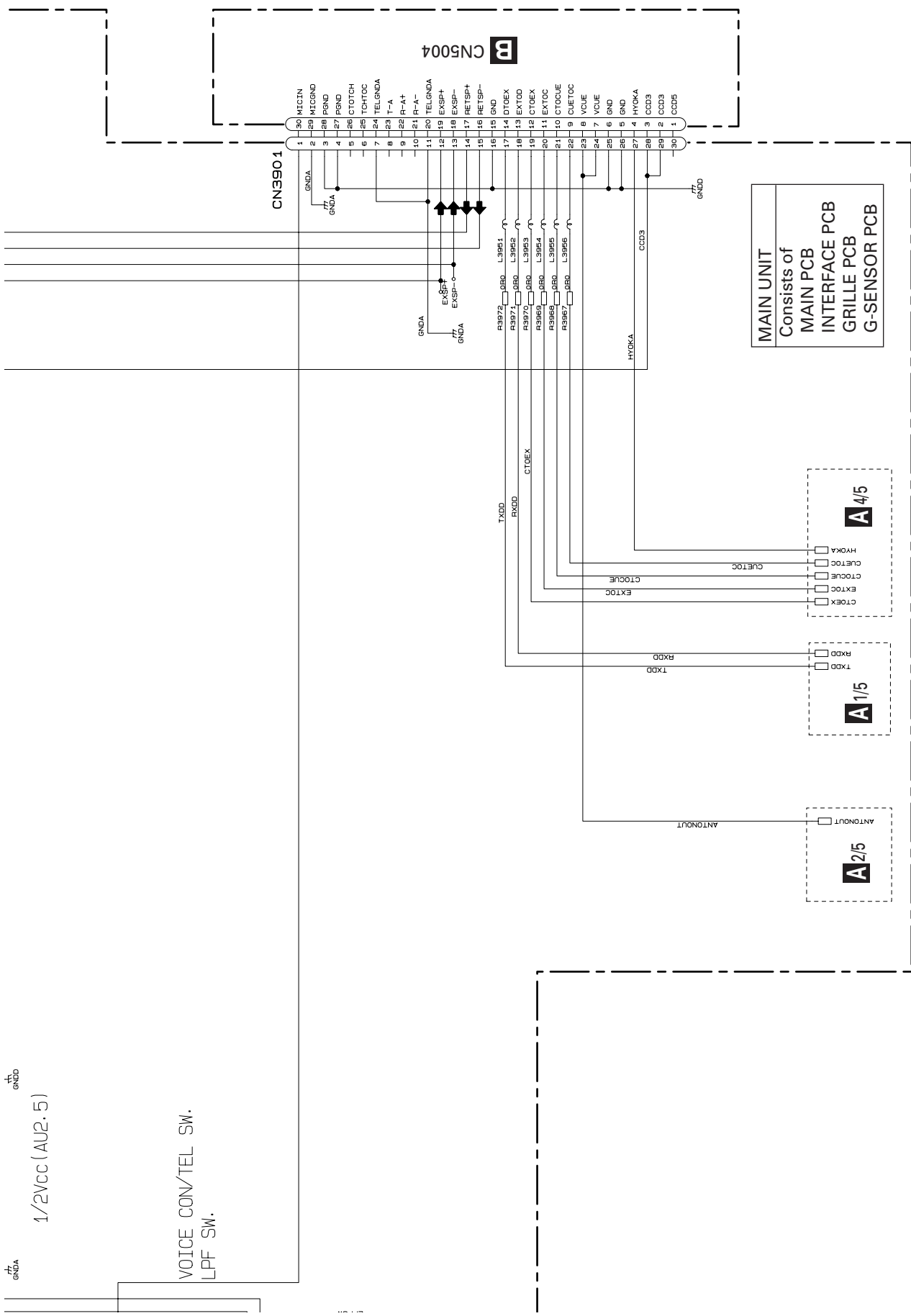
A-a A-b

A

B

C

D



MAIN UNIT
 Consists of
 MAIN PCB
 INTERFACE PCB
 GRILLE PCB
 G-SENSOR PCB

A 4/5
 HYOKA
 CUE10C
 C100UE
 EX100C
 EX100E

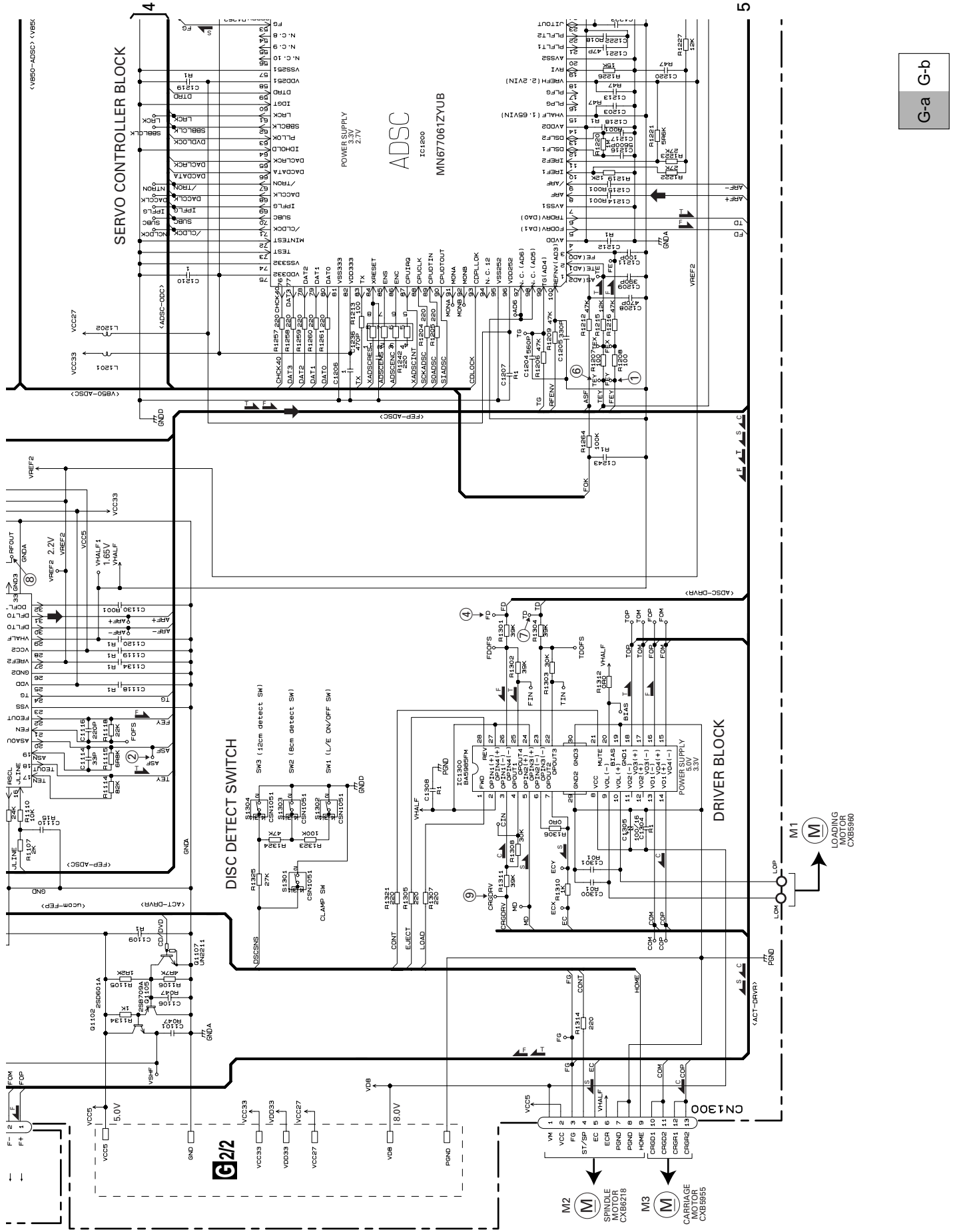
A 1/5
 TXDD
 RXDD

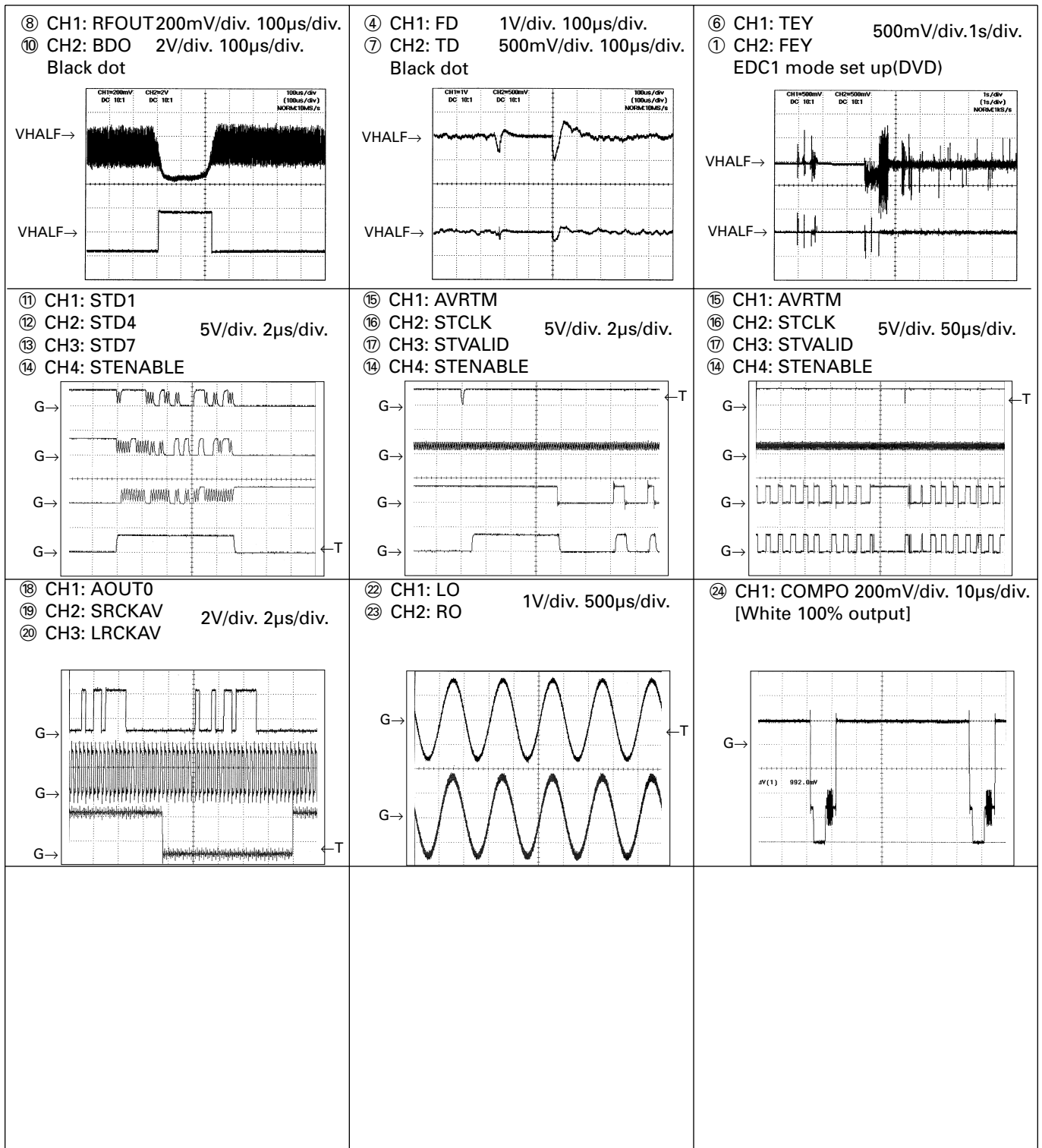
A 2/5
 ANTOUT

1/2Vcc (AU2.5)

VOICE CON/TEL SW.
 LPF SW.

G-a G-b





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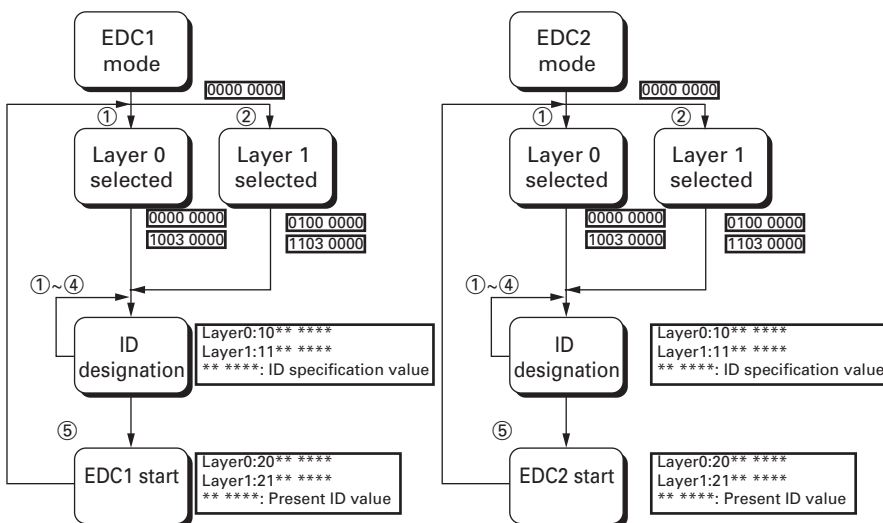


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====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
L 909 Inductor	CTF1410	R 63	RS1/16S101J
L 910 Inductor	CTF1410	R 64	RS1/16S101J
L 911 Inductor	CTF1410	R 65	RS1/16S101J
TH 153 Thermistor	CCX1056	R 66	RS1/16S101J
X 1 Radiator 30.0MHz	CSS1563	R 67	RS1/16S101J
X 2 Radiator 33.0MHz	CSS1564	R 68	RS1/16S101J
X 3 Radiator 33.86MHz	CSS1551	R 69	RS1/16S101J
X 202 Radiator 14.31818MHz	CSS1562	R 70	RS1/16S101J
FU 801 Fuse 4A	CEK1199	R 71	RS1/16S101J
FU 802 Fuse 2.5A	CEK1209	R 72	RS1/16S101J
FU 803 Fuse 2.5A	CEK1209	R 73	RS1/16S101J
EF 801 EMI Filter	CCG1083	R 74	RS1/16S101J
EF 901 EMI Filter	CCG1104	R 75	RS1/16S101J
EF 902 EMI Filter	CCG1083	R 76	RS1/16S101J
EF 903 EMI Filter	CCG1083	R 77	RS1/16S101J
RESISTORS			
R 2	RS1/16S0R0J	R 78	RS1/16S101J
R 4	RS1/16S0R0J	R 79	RS1/16S101J
R 5	RS1/16S473J	R 80	RS1/16S101J
R 6	RS1/16S473J	R 81	RS1/16S101J
R 7	RS1/16S220J	R 82	RS1/16S101J
R 8	RS1/16S473J	R 83	RS1/16S102J
R 9	RS1/16S473J	R 84	RS1/16S562J
R 10	RS1/16S104J	R 85	RS1/16S103J
R 11	RAB4C473J	R 86	RS1/16S104J
R 12	RS1/16S105J	R 87	RS1/16S104J
R 13	RS1/16S151J	R 88	RS1/16S104J
R 15	RS1/16S0R0J	R 89	RS1/16S0R0J
R 17	RS1/16S0R0J	R 90	RS1/16S0R0J
R 19	RS1/16S473J	R 93	RS1/16S153J
R 20	RS1/16S101J	R 94	RS1/16S153J
R 21	RS1/16S101J	R 95	RS1/16S153J
R 22	RS1/16S101J	R 96	RS1/16S153J
R 23	RS1/16S105J	R 97	RS1/16S473J
R 24	RS1/16S151J	R 98	RS1/16S473J
R 25	RS1/16S101J	R 101	RS1/16S473J
R 26	RS1/16S101J	R 102	RS1/16S473J
R 27	RS1/16S101J	R 103	RS1/16S473J
R 28	RS1/16S101J	R 104	RS1/16S220J
R 29	RS1/16S101J	R 110	(AVIC-9DVDII/EW)
R 30	RS1/16S101J	R 111	(AVIC-90DVD/UC)
R 31	RS1/16S101J	R 115	RS1/16S0R0J
R 32	RS1/16S473J	R 154	RS1/16S473J
R 33	RS1/16S473J	R 155	RS1/16S473J
R 34	RS1/16S105J	R 156	RS1/16S473J
R 35	RS1/16S104J	R 157	RS1/16S473J
R 36	RS1/16S101J	R 158	RS1/16S473J
R 37	RS1/16S101J	R 159	RS1/16S473J
R 38	RS1/16S101J	R 160	RS1/16S473J
R 39	RS1/16S101J	R 161	RS1/16S103J
R 45	RS1/16S104J	R 162	RS1/16S473J
R 46	RS1/16S104J	R 163	RS1/16S560J
R 47	RS1/16S104J	R 166	RS1/16S473J
R 48	RS1/16S104J	R 176	RS1/16S0R0J
R 49	RS1/16S104J	R 180	RS1/16S220J
R 50	RS1/16S104J	R 181	RS1/16S473J
R 51	RS1/16S101J	R 201	RN1/16SE1502D
R 52	RS1/16S101J	R 202	RN1/16SE1202D
R 53	RS1/16S101J	R 210	RS1/16S104J
R 54	RS1/16S101J	R 211	RS1/16S104J
R 55	RS1/16S101J	R 212	RS1/16S104J
R 57	RS1/16S101J	R 213	RS1/16S104J
R 59	RS1/16S101J	R 217	RS1/16S272J
R 60	RS1/16S101J	R 220	RS1/16S223J
R 61	RS1/16S0R0J	R 221	RS1/16S105J
R 62	RS1/16S101J	R 222	RS1/16S151J
		R 224	RS1/16S0R0J
		R 225	RS1/16S104J

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
C 1809	CKSRYP104K16	C 3018	CEV221M4
C 1810	CCH1412	C 3019	CEV221M4
C 1811	CKSRYP104K16	C 3020	CEV221M4
C 1831	CKSRYP103K50	C 3021	CCH1410
C 1832	CKSRYP103K50	C 3022	CEV100M10
C 1833	CEV101M16	C 3023	330μF/6.3V
C 1834	CKSRYP103K50	C 3025	330μF/6.3V
C 1835	CKSRYP473K50	C 3026	
C 1836	CKSRYP103K50	C 3027	
C 1841	CKSRYP104K16	C 3028	
C 1842	CKSRYP104K16	C 3029	CEVQ101M10
C 1850	CKSRYP103K50	C 3031	CEV100M10
C 1851	CKSRYP153K50	C 3032	CKSRYP105K6R3
C 1852	CCSRCH101J50	C 3033	CKSRYP103K50
C 1853	CCSRCH101J50	C 3034	CCSRCH680J50
C 1854	CKSRYP104K16	C 3151	CKSRYP102K50
C 1855	CKSRYP104K16	C 3152	CKSRYP102K50
C 1856	CKSRYP103K50	C 3153	CKSRYP102K50
C 1857	CCSRCH330J50	C 3154	CCSRCH101J50
C 1858	CKSRYP105K10	C 3155	CCSRCH101J50
C 1859	CKSRYP103K50	C 3156	CKSRYP102K50
C 1860	CCSRCH330J50	C 3157	CKSRYP104K16
C 1861	CKSRYP105K10	C 3158	CKSRYP104K16
C 1862	CKSYB475K10	C 3159	CKSRYP102K50
C 1863	CKSYB475K10	C 3160	CKSRYP102K50
C 1864	CCG1111	C 3251	CEV101M10
C 1865	CKSRYP474Z16	C 3252	CKSRYP105Z10
C 1866	CCG1111	C 3253	CEV220M10
C 1867	CKSRYP474Z16	C 3254	CKSRYP105Z10
C 1868	CCG1150	C 3256	CKSRYP105K6R3
C 1869	CCG1150	C 3258	CKSRYP105Z10
C 1870	CCH1332	C 3259	CEVQ101M10
C 1871	CCH1332	C 3260	CKSRYP104Z25
C 1872	CCH1332	C 3261	CEVQ101M10
C 1873	CKSRYP104Z25	C 3601	CEVQ220M16
C 1874	CKSRYP104Z25	C 3602	CKSRYP473K50
C 1875	CCG1150	C 3603	CKSRYP104Z25
C 1876	CCG1150	C 3604	CEVQ220M16
C 1877	CCG1150	C 3605	CKSRYP184K10
C 1878	CCG1150	C 3606	CKSRYP473K50
C 1879	CCG1150	C 3607	CKSRYP224K16
C 1880	CCG1150	C 3608	CEV100M16
C 1881	CKSRYP102K50	C 3609	CKSRYP104Z25
C 1951	CKSRYP474K10	C 3610	CEV220M16
C 1952	CKSQYB105K16	C 3611	CKSRYP103K50
C 1953	CEV101M10	C 3612	CSZSR100M16
C 2851	CKSQYB102K50	C 3753	CKSRYP104K16
C 2853	CKSRYP102K50	C 3754	CKSRYP104K16
C 2854	CKSQYB104K50	C 3851	CKSRYP104Z25
C 3001	CCSRCH5R0C50	C 3852	CKSRYP471K50
C 3002	CKSRYP104Z25	C 3853	CCSRCH680J50
C 3003	CKSRYP104Z25	C 3854	CKSRYP105Z10
C 3004	CKSRYP104Z25	C 3855	CKSRYP471K50
C 3006	CKSRYP104K16	C 3856	CEV100M16
C 3007	CKSRYP104K16	C 3857	CKSRYP105K10
C 3008	CKSRYP104K16	C 3858	CKSRYP474K10
C 3009	CKSRYP104Z25	C 3859	CKSRYP105K10
C 3010	CEVQ470M16	C 3860	CKSRYP474K10
C 3011	CKSRYP103K50	C 3861	CCSRCH680J50
C 3012	CCSRCH470J50	C 3862	CKSRYP105Z10
C 3013	CCSRCH220J50	C 3901	CEV100M16
C 3014	CEV100M16	C 3902	CCSRCH151J50
C 3015	CKSRYP104Z25	C 3903	CCSRCH330J50
C 3016	CKSRYP103K50	C 3904	CCSRCH151J50
C 3017	CEVQ470M16	C 3905	CCSRCH330J50



Method for designating an ID address:

- A number of digits are determined through commands ① and ②. Numerical UP/DOWN operations are performed through commands ③ and ④. The decision is finalized (entered) with command ⑤.

OSD display

Error Code List

Error status from DVD microcomputer	Contents	Display
0X50	Mecha. error	No display
0X40	No disc	No display
0X30	The temperature is abnormal	Thermal Protection in Motion
0X20	Read error	Error-02-XX
0XE2	Non-playable disc	NON-PLAYABLE DISC
0X90	Different region disc	DIFFERENT REGION DISC
0XFF	Undefined error	Error-FF

Error code of read error(Part of XX)

Error Code	Contents	Display
0X99	Data cannot read	Please confirm the disc
0X80	The address cannot be found	Please confirm the disc
0X90	Focus error	Please confirm the disc
0X91	Spindle lock NG	DVD is stopping because mechanism detected abnormality
0X92	Carriage home NG	DVD is stopping because mechanism detected abnormality
0X93	FOK error	Please confirm the disc
0X94	ID/Subcode cannot be read	Please confirm the disc
0X95	High spindle rotation	Please confirm the disc
0X96	Low spindle rotation	DVD is stopping because mechanism detected abnormality
0X98	TOC cannot be found	Please confirm the disc
0X9A	AV chip error	DVD is stopping because mechanism detected abnormality
0X9B	RecoveryNG(BE)	DVD is stopping because mechanism detected abnormality

Check 4: Is the audio circuit operating normally?

Reproduce DVD-REF-A1 Title 2 Chapter (48k/16-bit/1 kHz/0dB).

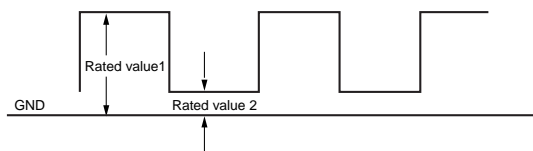
This check is the same for all DVD-V compatible modules.

Checks are to be conducted using GNDAU1 (sensing pins) as a reference.

If the locations, listed under "verification location 2", can be verified, there is no need to conduct verifications for the locations listed under "verification location 1."

If the result is not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in the vicinity of the main components (the section marked ④ in the circuit diagram circuit diagram).

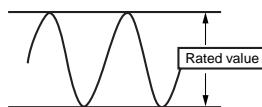
NO.	Verification location 1	Verification location 2	Rated value 1	Rated value 2	Reference waveform
1	AOUT0	IC1601 pin-3	2.2V and over	0.8V and lower	Waveform 3
2	SRCKAV	IC1601 pin-2 For	2.2V and over	0.8V and lower	Waveform 3
4	LRCKAV	IC1601 pin-4	2.2V and over	0.8V and lower	Waveform 3



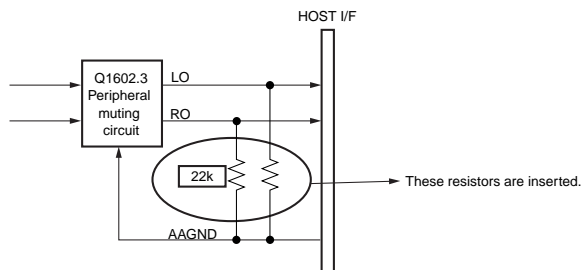
Three serial output rated values

Checks are conducted with the measurement circuit below.

NO.	Verification location 1	Verification location 2	Rated value	Reference waveform
4	LO	CN1701 15pin	1120±150mV	Waveform 4
5	RO	CN1702 12pin	1120±150mV	Waveform 4



Analog audio outputs (LO and RO) rated values

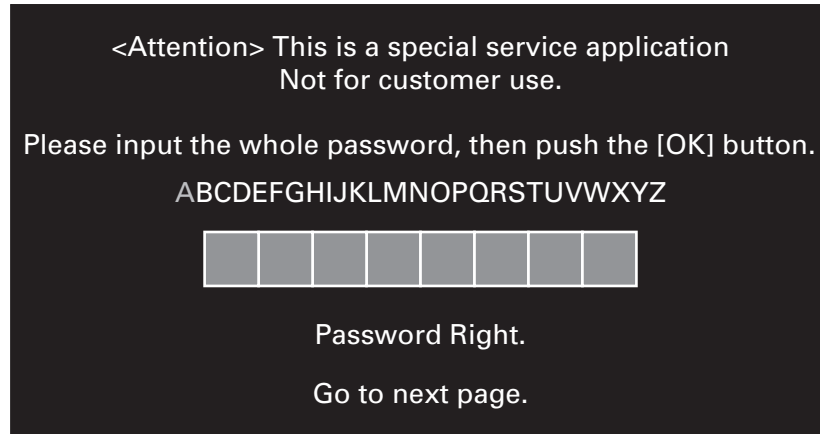


LO and RO output measurement circuit

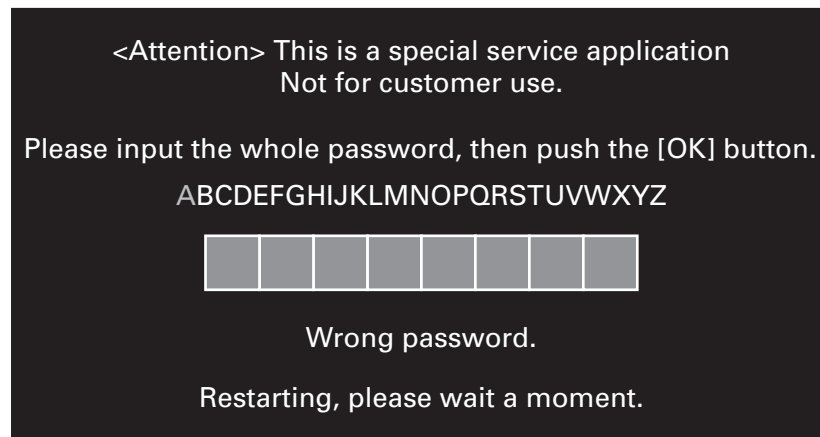
NO.	Verification location 1	Verification location 2	Rated value 1	Rated value 2	Reference waveform
6	IEC958	CN1702 1pin	2.2V and over	0.8V and lower	Waveform 5

- Password OK screen:

This screen is displayed for approximately two seconds, then automatically changes to the menu screen.



- Password NG screen

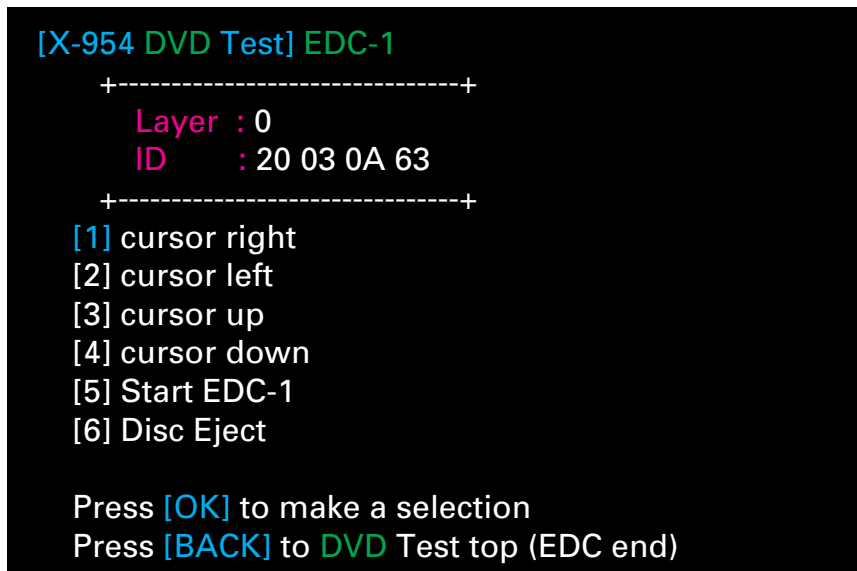


EDC-1 : Performs consecutive EDC tests.
 EDC-2 : Performs EDC tests for each block.
 ID : Performs ID of the test.

- [1] Selects layer 0.
- [2] Selects layer 1.
- [3] Ejects the disk.
- [OK] Executes.
- [BACK] Returns to the test mode menu.

* Using the joystick select individual items .

(4) DVD ECD Test Menu Screen Display



EDC-1 : Performs consecutive EDC tests.
 EDC-2 : Performs EDC tests for each block.
 ID : Performs ID of the test.

- [1] Moves the cursor to the right by one increment.
- [2] Moves the cursor to the left by one increment.
- [3] Moves the cursor up by one increment.
- [4] Moves the cursor down by one increment.
- [5] Starts the EDC test.
- [6] Ejects the disk.
- [OK] Executes.
- [BACK] Returns to the test mode menu.

3. GPS Information

```

GPS information
0D T2 H25.5 V25.5 01/03/28 23:05:47
SV Azi Ev SNR Flag ACC Doppler SrchW
10 119 39 3.0 UY- - 3 -2249 2883
26 25 60 4.9 UYC- 2 -1051 3496
18 310 25 0.0 -- -m f +0 12487
23 305 33 0.0 -- -m f +0 21812
17 317 49 0.0 -- -m f +0 21812
9 196 56 0.0 -- -m f +0 21812
14 260 73 0.0 -- -m f +0 5994
4 142 81 0.0 -- -m 3 +0 5994

Position  SV Stat  Ver & Diag  Err Info
    
```

- If the cursor is over the "Position" and the [CR] key is pressed, the "Position Information" will be displayed.
 - If the cursor is over the "SV Stat" and the [CR] key is pressed, the "Status Information" will be displayed.
 - If the cursor is over the "Ver&Diag" and the [CR] key is pressed, the "Dialog Information" will be displayed.
 - If the cursor is over the "Err Info" and the [CR] key is pressed, the "Error Information" will be displayed.
- (The screen displayed shown here represent pressing the [CR] key when the cursor will be over the "SV Stat.")

4. Audio Reproduction

```

Sound play

ADPCM fixation 11K 1K L
ADPCM fixation 11K 1K mono
ADPCM fixation 11K 1K R
ADPCM fixation 11K 1K ste
ADPCM fixation 19K 1K L
ADPCM fixation 19K 1K mono
ADPCM fixation 19K 1K R

Main fader Vol. [0-15] 15

[-> Vol. up, <- Vol. down ]
[Push BACK key to go to menu]
    
```

- The audio selected by the [CR] key will be reproduced.
- The audio selection can be changed by using the [←] and [→] keys.

5. File Management

```

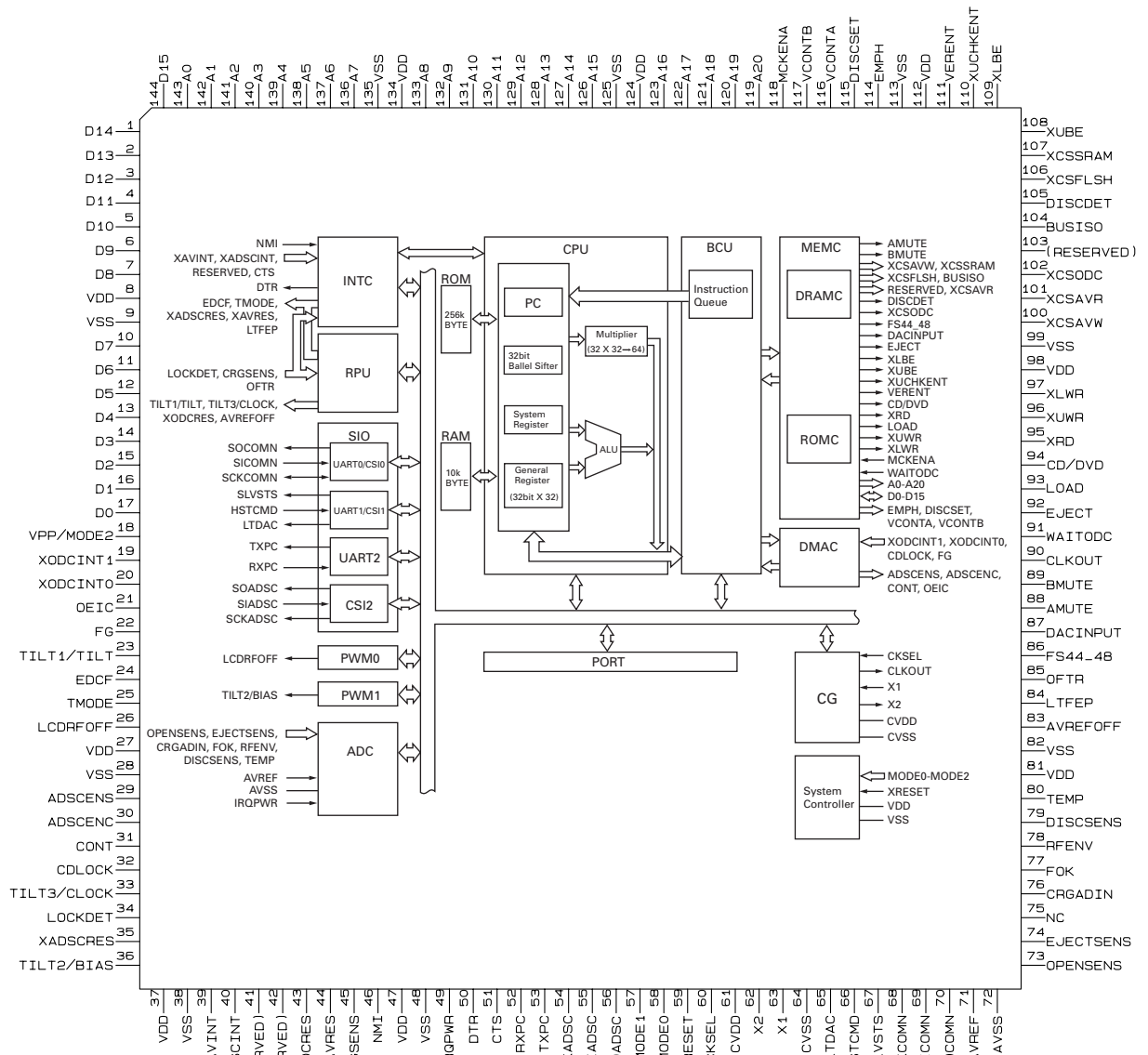
File maintenance tool

Total Capacity : 216.5K  Remain : 216.3K
Media:SRAM: Path:¥
  LOGINFO.CFG 20      84 80/01/01 00:00
  LOCPOS .DAT 20      68 01/01/01 21:22

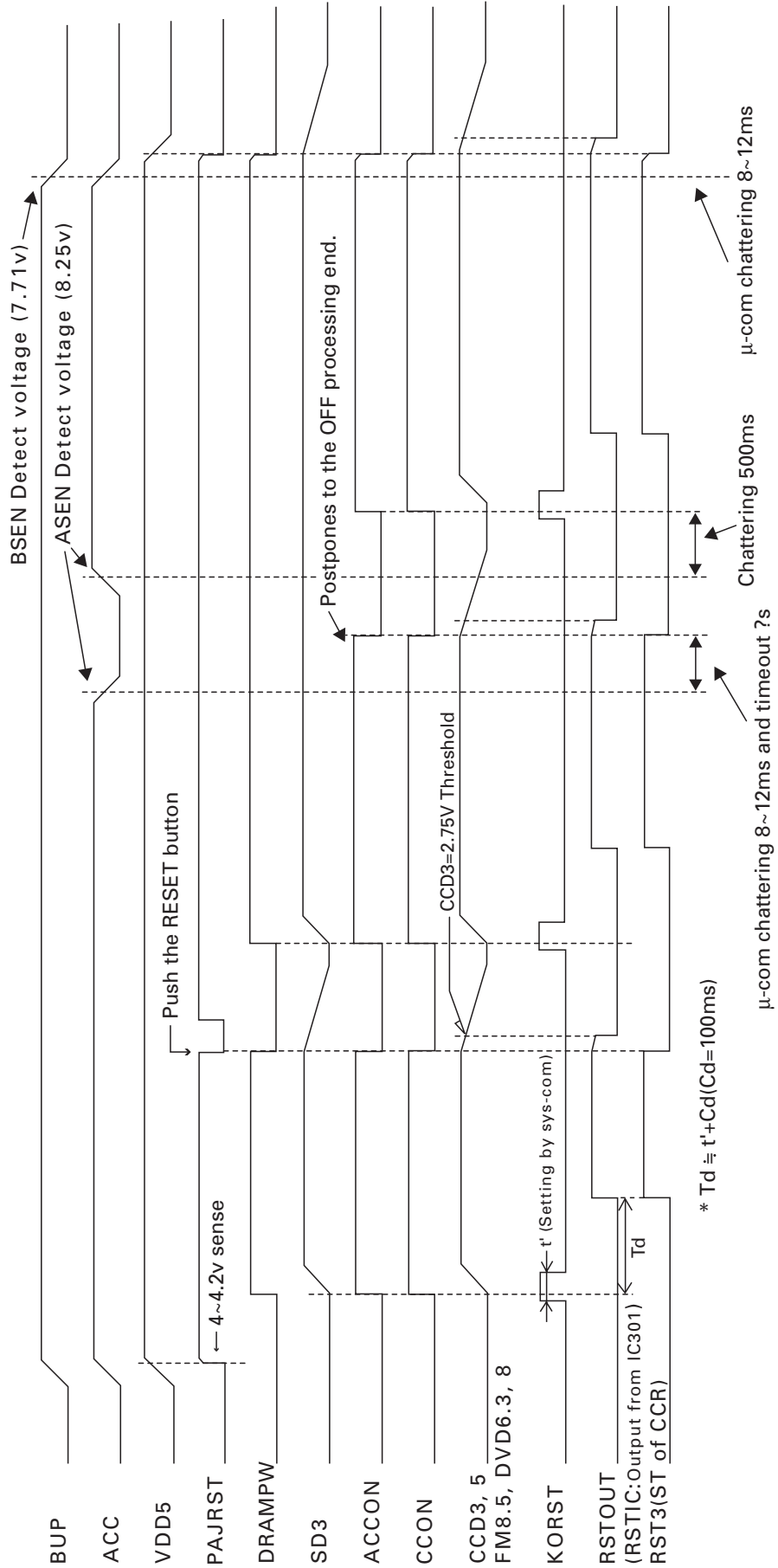
[1]Media [2]Copy [3>Delete [4]Dump [0]Help
    
```

- The copying, deleting and dumping of files can be performed. Please refer to the HELP for details concerning the use of individual functions.

*PE5324C



7.3.2 OPERATIONAL FLOW CHART



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