Pioneer sound.vision.soul

Service Manual

ORDER NO.
RRV2533

STEREO CD/VCD CASSETTE DECK RECEIVER

XR-VS400

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	XR-VS400		
DXJN/NC	○	AC110-127V/220-230V/240V	With the voltage selector

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

Model No.	Order No.	Remarks
XR-VS90SW/DBDXJ	RRV2364	

CONTENTS

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1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 → 56 x 10^1 → 561 ····· RD1/4PU 5 6 1 J
47k → 47 x 10^3 → 473 ····· RD1/4PU 4 7 3 J
0.5 → R50 ····· RN2H R 5 0 K
1 → 1R0 ····· RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k → 562 x 10^1 → 5621 ····· RN1/4PC 5 6 2 1 F

■ CONTRAST TABLE

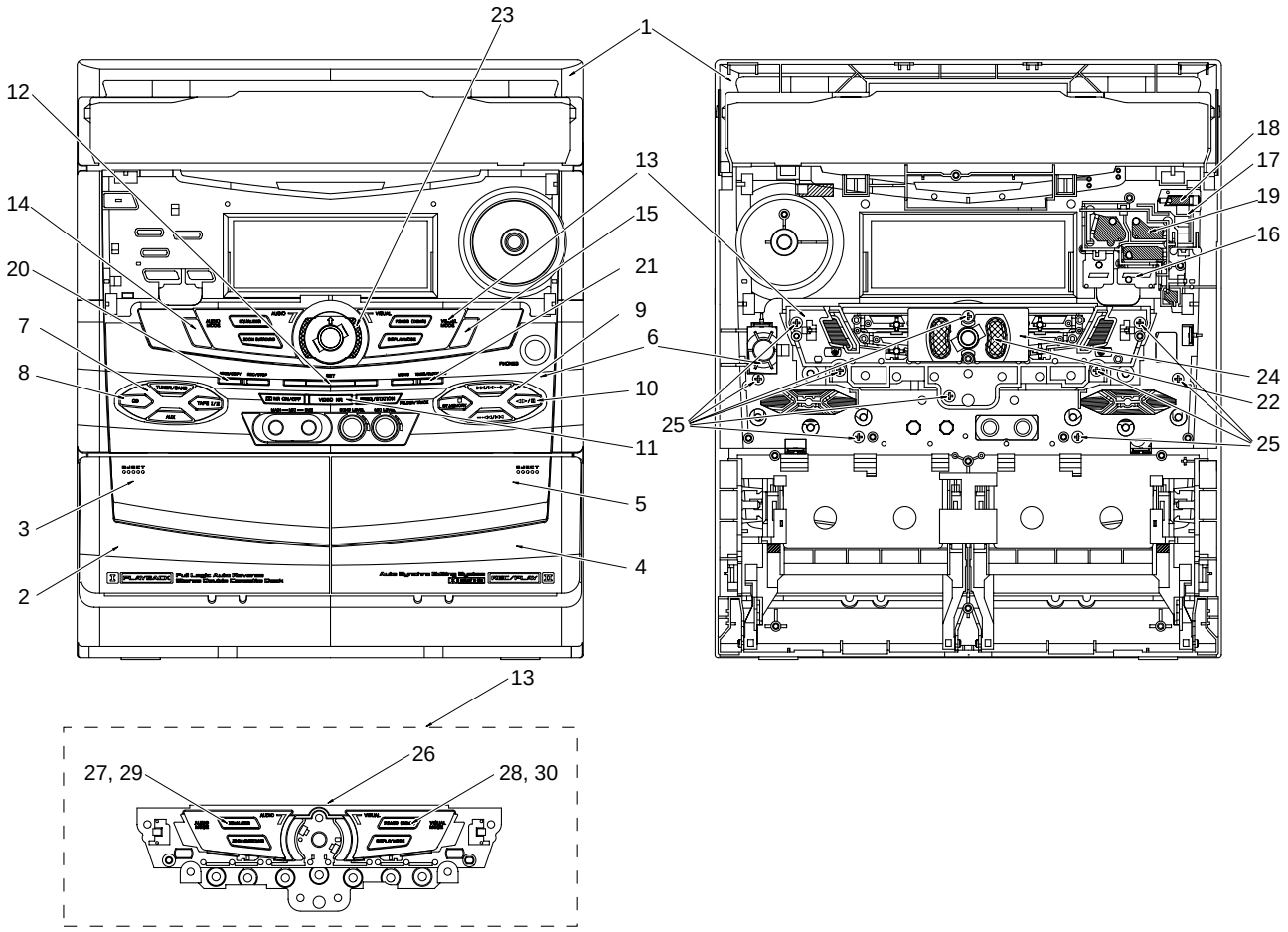
XR-VS400/DXJN/NC and XR-VS90SW/DBDXJ are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			XR-VS90SW /DBDXJ	XR-VS400 /DXJN/NC	
		PCB ASSEMBLIES			
		MAIN ASSY	XWM3164	AWM7604	
P5- 1		└ AF ASSY	XWZ3313	AWU7788	
		COMPLEX ASSY	XWM3170	AWM7616	
P5- 3		├ PRIMARY ASSY	XWZ3291	AWU7965	
P7- 1		└ DISPLAY ASSY	XWZ3315	AWU7799	
P5- 4		FM/AM TUNER Module	AXQ7062	AXQ7065	*1
		PACKING SECTION			
P3- 1	⚠	Power Cord	ADG1158	ADG1154	
P3- 4		Remote Control Unit	XZN3107	XZN3121	
P3- 8		Front Pad	XHA3018	XHA3028	
P3- 9		Rear Pad	XHA3019	XHA3029	
P3-10		Packing Case	XHD3132	XHD3276	
P3-12		Operating Instructions (English/Chinese/Spanish)	XRE3034	Not used	
P3-12		Operating Instructions (Thai)	Not used	XRC3047	
P3-14		SW Wire Antenna	ADH7006	Not used	
		Caution Sheet	XRH3003	Not used	
		EXTERIOR SECTION			
P5- 5	NSP	$M MECHA. VCD	XXA3017	Not used	
P5- 5	NSP	$M MECHA. VCD/MP3	Not used	AXA7107	
P5-11		Tray Cap	XAK3156	XAK3236	
		Tray Panel CD	Not used	XAK3235	For Tray Cap
P5-15		Rear Panel	XNC3062	XNC3135	
P5-26	NSP	Tray Cap Assy	XXG3046	Not used	
P5-31		Caution Label	Not used	PRW1018	
P5-36	NSP	Getter	XAX3173	XAX3268	
P5-44		Barrier	XEC3013	XEC3027	
	NSP	Name Label	XAL3048	XAL3098	
		Rear Sheet	AED7037	Not used	
		FRONT PANEL SECTION			
P7-8		GND Plate C	XNG3047	Not used	
P7-18		Volume Knob	XAA3013	XAA3022	
P7-21		FUNC Button L	XAD3050	XAD3111	No.8
		FUNC Cap L	Not used	XAK3247	No.7
P7-22		FUNC Button R	XAD3051	XAD3112	No.10

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			XR-VS90SW /DBDXJ	XR-VS400 /DXJN/NC	
		FUNC Cap R	Not used	XAK3248	No.9
P7-23		FUNC Frame L	XAD3052	Not used	
P7-24		FUNC Frame R	XAD3053	Not used	
P7-25		CD ENT Button	XAD3055	XAD3109	No.12
P7-26		Display Panel	XAK3233	XAK3318	
P7-27		EQ Panel	XAK3150	Not used	
		SC Panel	Not used	XAK3268	No.26
		SC Panel Assy	Not used	XXG3090	No.13
P7-28		JOG Lens	XAK3152	XAK3243	No.23
P7-29		V Lens	XAK3153	XAK3313	
P7-33		FL Cover	XAK3163	XAK3239	
P7-34		Cover Sheet L	XAK3184	Not used	
P7-35		Cover Sheet R	XAK3185	Not used	
		LED Barrier	Not used	XEC3022	No.24
P7-36		Power Button	XAD3043	XAD3102	No.17
P7-37		CD Button	XAD3045	XAD3104	No.19
P7-38		SC Button	XAD3046	Not used	
		SC Button L	Not used	XAD3105	No.29
		SC Cap L	Not used	XAK3241	No.27
		SC Button R	Not used	XAD3106	No.30
		SC Cap R	Not used	XAK3267	No.28
		ASES Button	Not used	XAD3114	No.20
		Timer Button	Not used	XAD3115	No.21
P7-39		SC Button L	XAD3047	Not used	
		Audio Button	Not used	XAD3107	No.14
P7-40		SC Button R	XAD3048	Not used	
		Visual Button	Not used	XAD3108	No.15
P7-41		DOLBY Button	XAD3054	XAD3121	No.11
P7-42		Sub Panel	XAK3201	XAK3307	No.6
P7-43		Standby Lens	XAK3151	XAK3240	No.18
P7-44		Deck Lens L	XAK3159	XAK3249	No.3
P7-45		Deck Lens R	XAK3160	XAK3250	No.5
P7-46		JOG Conductor	XAK3165	XAK3244	No.22
P7-47		Deck Door_L	XAN3022	XAN3037	No.2
P7-48		Deck Door_R	XAN3026	XAN3038	No.4
P7-49		Front Panel	XMB3026	XMB3056	No.1
		O/C Button	Not used	XAD3103	No.16
P7-50	NSP	Front Panel Assy	XXG3065	XXG3116	
P7-51		GND Plate A	Not used	XNG3030	
P7-52		Spacer	XEB3012	Not used	
P7-53		Spacer	XEB3013	Not used	
P7-59		Cushion Spacer	XEB3015	Not used	
P7-60		Cushion Spacer	XEB3016	Not used	
P7-61		Cushion Spacer	XEB3017	Not used	
		Spacer	XEC3014	Not used	
		Spacer	XEC3019	Not used	

Notes : For PCB ASSEMBLIES, Refer to “CONTRAST OF PCB ASSEMBLIES” and “2. SCHEMATIC DIAGRAM”.
The numbers in the remarks column correspond to the numbers on the “ FRONT PANEL ASSY ”.
*1 Refer to XR-VS90/DLXJ/NC.

■ FRONT PANEL ASSY



• FRONT PANEL ASSY PARTS LIST

Mark	No.	Description	Part No.
	1	Front Panel	XMB3056
	2	Deck Door_L	XAN3037
	3	Deck Lens L	XAK3249
	4	Deck Door_R	XAN3038
	5	Deck Lens R	XAK3250
	6	Sub Panel	XAK3307
	7	FUNC Cap L	XAK3247
	8	FUNC Button L	XAD3111
	9	FUNC Cap R	XAK3248
	10	FUNC Button R	XAD3112
	11	DOLBY Button	XAD3121
	12	CD ENT Button	XAD3109
	13	SC Panel Assy	XXG3090
	14	Audio Button	XAD3107
	15	Visual Button	XAD3108

Mark	No.	Description	Part No.
	16	O/C Button	XAD3103
	17	Power Button	XAD3102
	18	Standby Lens	XAK3240
	19	CD Button	XAD3104
	20	ASES Button	XAD3114
	21	Timer Button	XAD3115
	22	JOG Conductor	XAK3244
	23	JOG Lens	XAK3243
	24	LED Barrier	XEC3022
	25	Screw	BPZ30P080FMC
	26	SC Panel	XAK3268
	27	SC Cap L	XAK3241
	28	SC Cap R	XAK3267
	29	SC Button L	XAD3105
	30	SC Button R	XAD3106

■ CONTRAST OF $M MECHA. VCD

AXA7107 and XXA3017 are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			XXA3017	AXA7107	
P9- 3	NSP	$M SERVO VCD ASSY	XWX3018	Not used	
P9- 3		3CD ASSY	Not used	AWP7035	

Notes : For PCB ASSEMBLIES, Refer to “PCB PARTS LIST”, “2. SCHEMATIC DIAGRAM” and “3. PCB CONNECTION DIAGRAM”.

■ CONTRAST OF PCB ASSEMBLIES

FF AF ASSY

XWZ3313 and AWU7788 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWZ3313	AWU7788	
	C44	Not used	CEAT222M25	
	C3001, C3002, C3858	Not used	CCSRCH101J50	
	C3011, C3012	Not used	CEATR47M50	
	C3041, C3042	CEAT2R2M50	Not used	
	C3046	CEJA100M50	CEJQ100M50	
	C5697	Not used	CKSRYB102K50	
	R2000	Not used	RS1/16S0R0J	
	R3333, R3334	RD1/4LMF100J	RD1/2LMF100J	
	R3994	Not used	RD1/4PU221J	
	CN3331 SPEAKER TERMINAL	XKE3004	AKE7018	

HF PRIMARY ASSY

AWU7965 and XWZ3291 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWZ3291	AWU7965	
	L1 LINE FILTER	ATF7018	Not used	

IF DISPLAY ASSY

AWU7799 and XWZ3315 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWZ3315	AWU7799	
	IC5501	PDC063B	PDC082A	
	D5594	1SS133	Not used	
	D5601-D5608, D5621	SLP6118C51H	SLR-343MC(NPQ)	
	D5610, D5611, D5615, D5616, D5622, D5904	SLP3118C51H	SLR-343MC(NPQ)	
	D5612, D5614	SLP6118C51H	SLR-343DC(NPQ)	
	D5617	SLP6118C51H	Not used	
	D5618	SLP3118C51H	Not used	
	D5619, D5620, D5903	SLP9118C51H	SLR-343VC(NPQ)	
	D5902	SLP7118C51H	SLR-343PC(KLM)	
	S5911, S5913, S5915–S5921, S5923–S5929, S5931–S5940	XSG3001	ASG1051	
	R5501	RS1/16S105J	Not used	
	R5502	RS1/16S0R0J	RS1/16S331J	
	R9901, R9902	Not used	RS1/16S101J	
	X5501 CERAMIC RESONATOR (10MHz)	DSS1048	ASS7034	

Mark	No.	Description	Part No.

● PCB PARTS LIST

BF 3CD ASSY

SEMICONDUCTORS

	IC1001	BA033FP
	IC1701	CL680T-D1
	IC1851	LC324265BT-25P
	IC1801	LC895199K-ND2
	IC1301	M56788AFP
	IC1756	MSM514260C-60TS
	IC1401	PCM1742KE
	IC1501	PD5693A
	IC1751	PEB001A
	IC1551	STA013
	IC1101	TA2151FN
	IC1451	TC74HCT157AF
	IC1202	TC7SH08FU
	IC1776	TC7W14FU
	IC1771	TC7WU04FU
	IC1201	TC9495F
	Q1101	2SA1036K
	Q1351, Q1353	2SB1132
	Q1551, Q1553, Q1701	2SC2412K
	Q1352, Q1354	2SD1664
	Q1433, Q1434	2SD2114K
	Q1431, Q1432	DTA124EK
	Q1355, Q1356	DTC143EK
	D1351–D1354	1SS355
	D1431, D1432	DAN202K

COILS AND FILTERS

	L1712	LCTB1R8K2125
	L1711	LCTB2R7K2125
	L1102, L1202, L1206 CHIP SOLID INDUCTOR	QTL1013
	L1713, L1721 CHIP BEADS	VTL1072
	L1756 CHIP BEADS	VTL1074
	L1781 CHIP BEADS	VTL1084
	L1777, L9260, L9262 CHIP BEADS	VTL1086
	L1271, L1771, L1776 CHIP BEADS	VTL1087

CAPACITORS

	C1119, C1541–C1544, C1568, C1569	CCSRCH101J50
	C1712, C1734, C1781	CCSRCH101J50
	C1773, C1774	CCSRCH120J50
	C1201	CCSRCH150J50
	C1307, C1714	CCSRCH151J50
	C1202	CCSRCH220J50
	C1711, C9753	CCSRCH221J50
	C1126	CCSRCH271J50
	C1713	CCSRCH331J50
	C1210, C1303, C1720, C1735, C1737	CCSRCH470J50
	C1117	CCSRCH560J50
	C1519, C1520	CCSRCH821J50
	C1116	CCSRCJ3R0C50
	C1401, C1402, C1405, C1417, C1418	CEV100M16
	C1001, C1008, C1101, C1102, C1108	CEV101M16
	C1205, C1222, C1224, C1231, C1321	CEV101M16
	C1351, C1502	CEV101M16
	C1002, C1115, C1236, C1552	CEV101M4
	C1783, C1784	CEV221M4
	C1133	CEV3R3M50
	C1203, C1228	CEV470M6R3
	C1242, C1261, C1771, C1776	CKSRYB102K50
	C1009, C1103, C1107, C1114, C1204	CKSRYB103K50
	C1206, C1207, C1212, C1214, C1223	CKSRYB103K50
	C1225–C1227, C1230, C1232, C1239	CKSRYB103K50
	C1406, C1503–C1506, C1556, C1756	CKSRYB103K50
	C1808–C1811, C1813, C1821, C9001	CKSRYB103K50
	C9201, C9203, C9441, C9501, C9551	CKSRYB103K50
	C9701, C9703, C9751, C9801, C9851	CKSRYB103K50
	C1003, C1104, C1110, C1111, C1131	CKSRYB104K16
	C1245, C1260, C1271, C1322, C1325	CKSRYB104K16
	C1403, C1404, C1451, C1553–C1555	CKSRYB104K16
	C1703–C1706, C1710, C1716–C1718	CKSRYB104K16
	C1721–C1724, C1731, C1733, C1736	CKSRYB104K16
	C1753, C1758, C1759, C1772, C1777	CKSRYB104K16
	C1782, C1803–C1807, C1812	CKSRYB104K16
	C1852, C1853	CKSRYB104K16
	C1725	CKSRYB152K50
	C1211	CKSRYB153K25
	C1213	CKSRYB222K50
	C1112, C1113	CKSRYB224K10
	C1215	CKSRYB333K16
	C1237, C1291, C1557	CKSRYB471K50
	C1558	CKSRYB472K50
	C1216, C1217	CKSRYB473K16
	C1311, C1319	CKSRYB682K50

RESISTORS

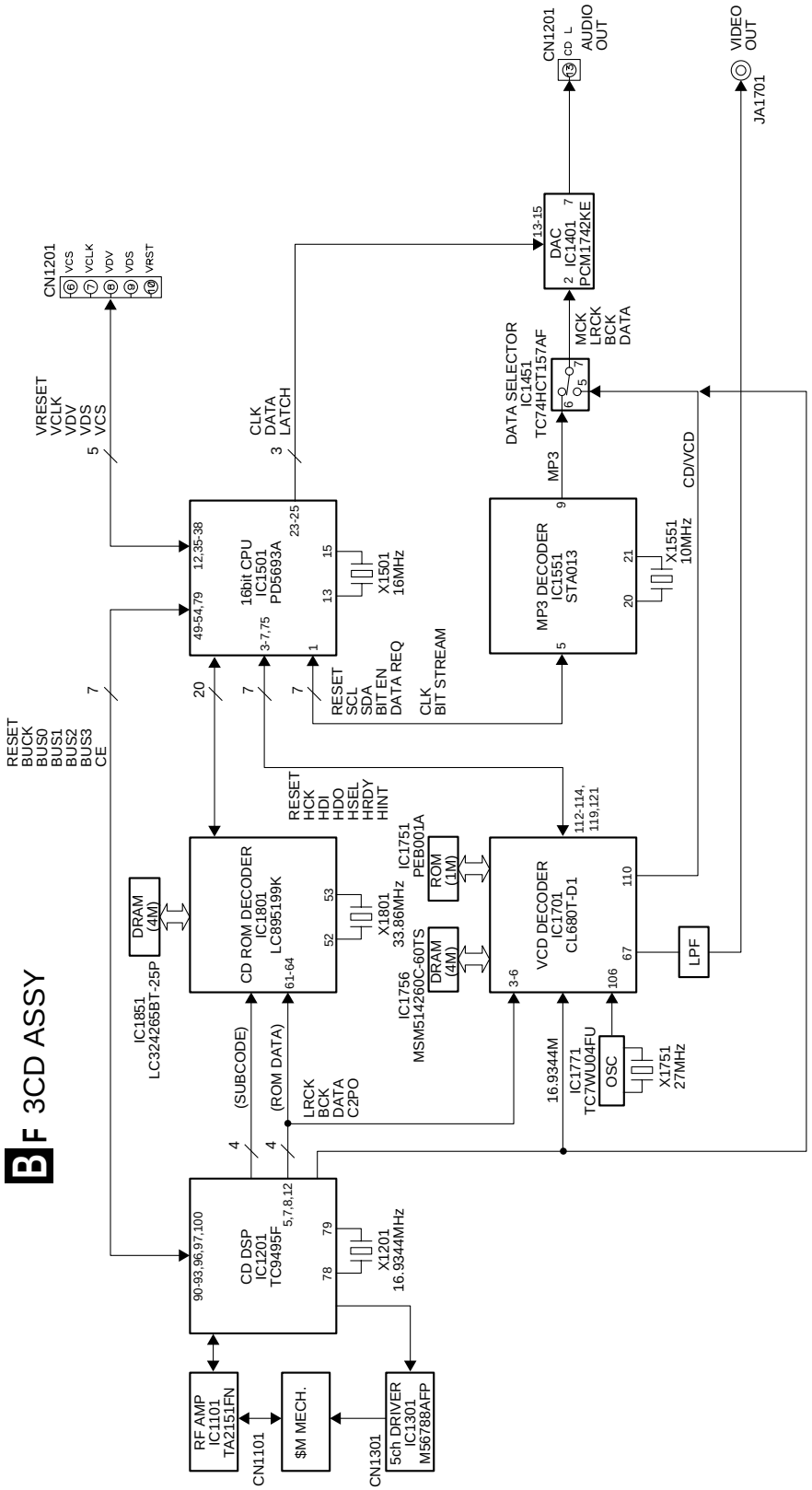
	R1540, R1541, R1819, R1820	RAB4C0R0J
	R1219, R1520	RAB4C221J
	R1546, R1813–R1816	RAB4C473J
	R1318	RS1/16S1202F
	R1319	RS1/16S2202F
	R1317	RS1/16S2702F
	Other Resistors	RS1/16S□□□J

OTHERS

	CN1201 FFC CONNECTOR 16P	AKN7028
	CN1102 CONNECTOR 3P	B3P-SHF-1AA
	JA1201 OPTICAL LINK OUT	GP1FA550TZ
	CN1301 CONNECTOR	SFW13R-1ST-TFB
	CN1101 CONNECTOR	SFW15R-1ST-TFB
	JA1701 1P PIN JACK	VKB1063
	CN1501 8P CONNECTOR	VKN1300
	X1551 CERAMIC RESONATOR (10MHz)	ASS7037
	X1501 CERAMIC RESONATOR (16MHz)	DSS1098
	X1201 CRYSTAL RESONATOR (16.9344MHz)	VSS1084
	X1751 CRYSTAL RESONATOR (27.0MHz)	VSS1086
	X1801 CRYSTAL RESONATOR (33.86MHz)	VSS1130

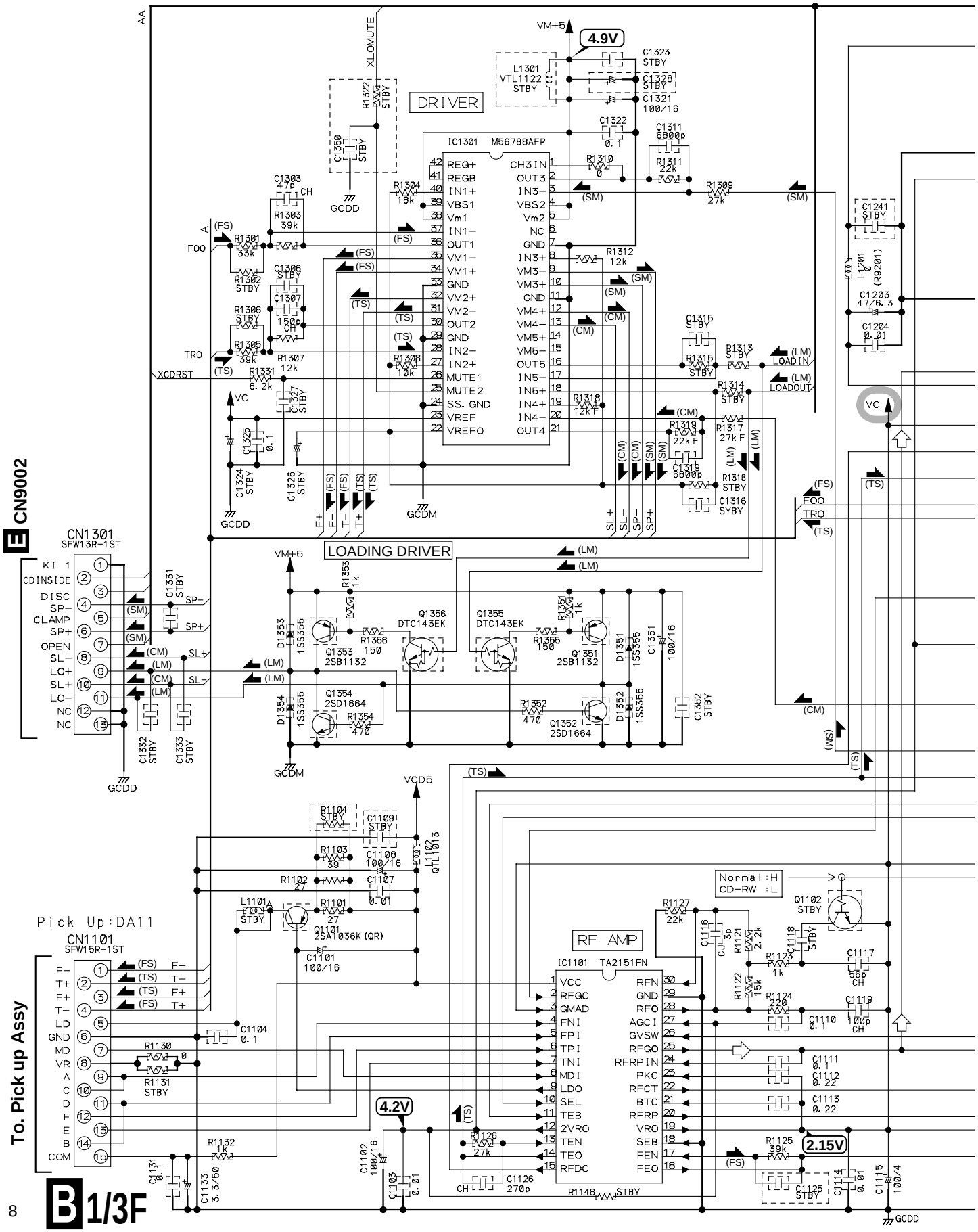
2. SCHEMATIC DIAGRAM

2.1 BLOCK DIAGRAM (3CD ASSY)



2.2 3CD ASSY (1/3)

B 1/3F 3CD ASSY (AWP7035)



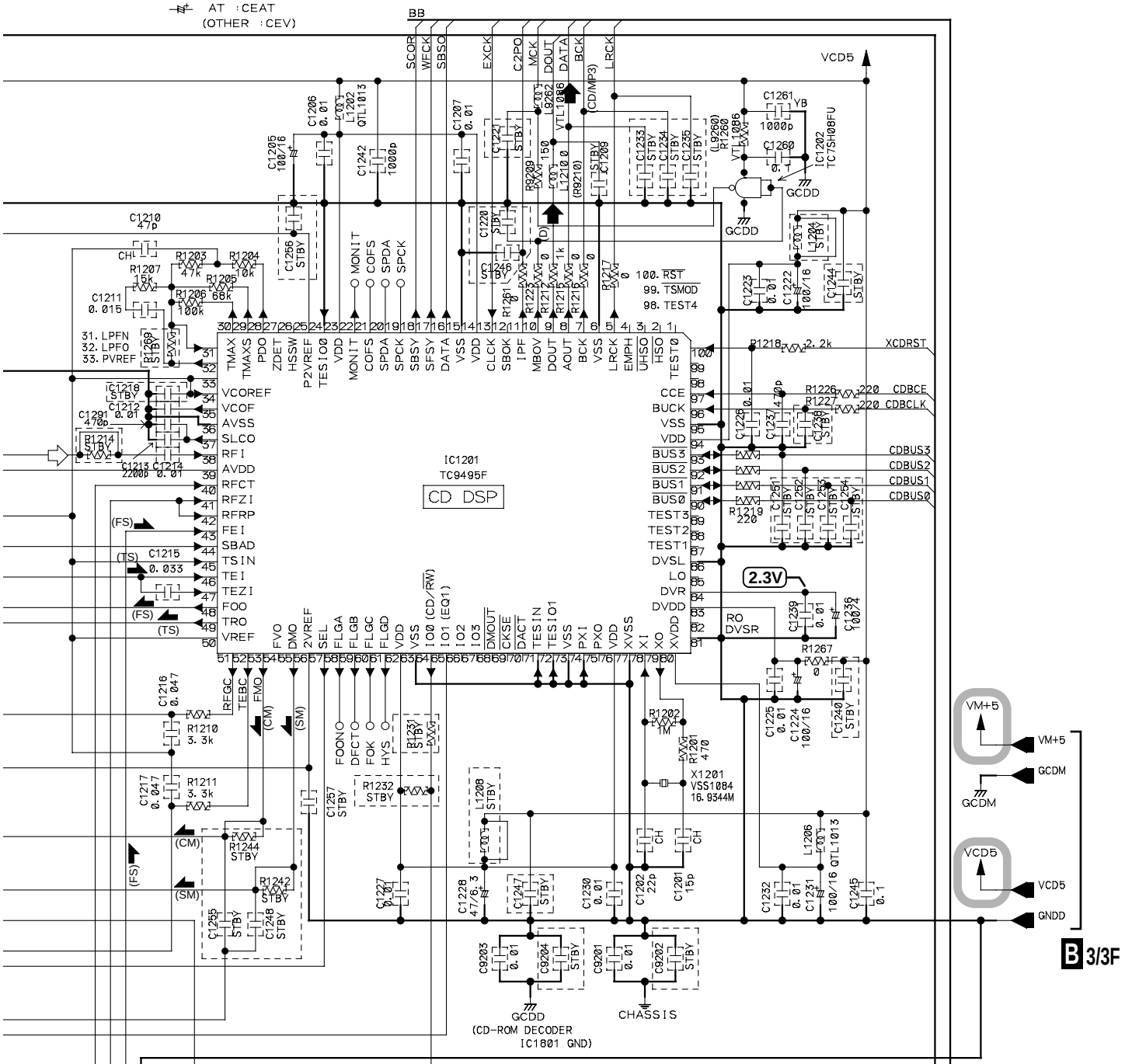
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST"

NOTES

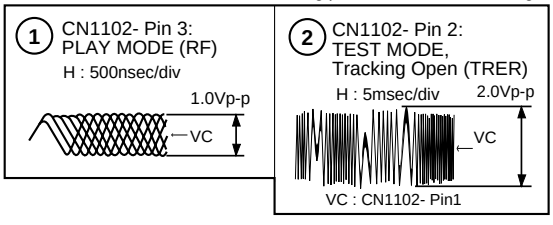
ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CJ : CCSRCJ
CH : CCSRCH
(OTHER : CKSRYB)
AT : CEAT
(OTHER : CEV)

ALL RESISTORS ARE IN Ω
1/16W (CHIP)

ALL INDUCTORS ARE IN μH
A : LCTA****J2520
B : LCTB****K2125
C : LCTB****K1608



Note: The encircled numbers denote measuring point in the schematic diagram.



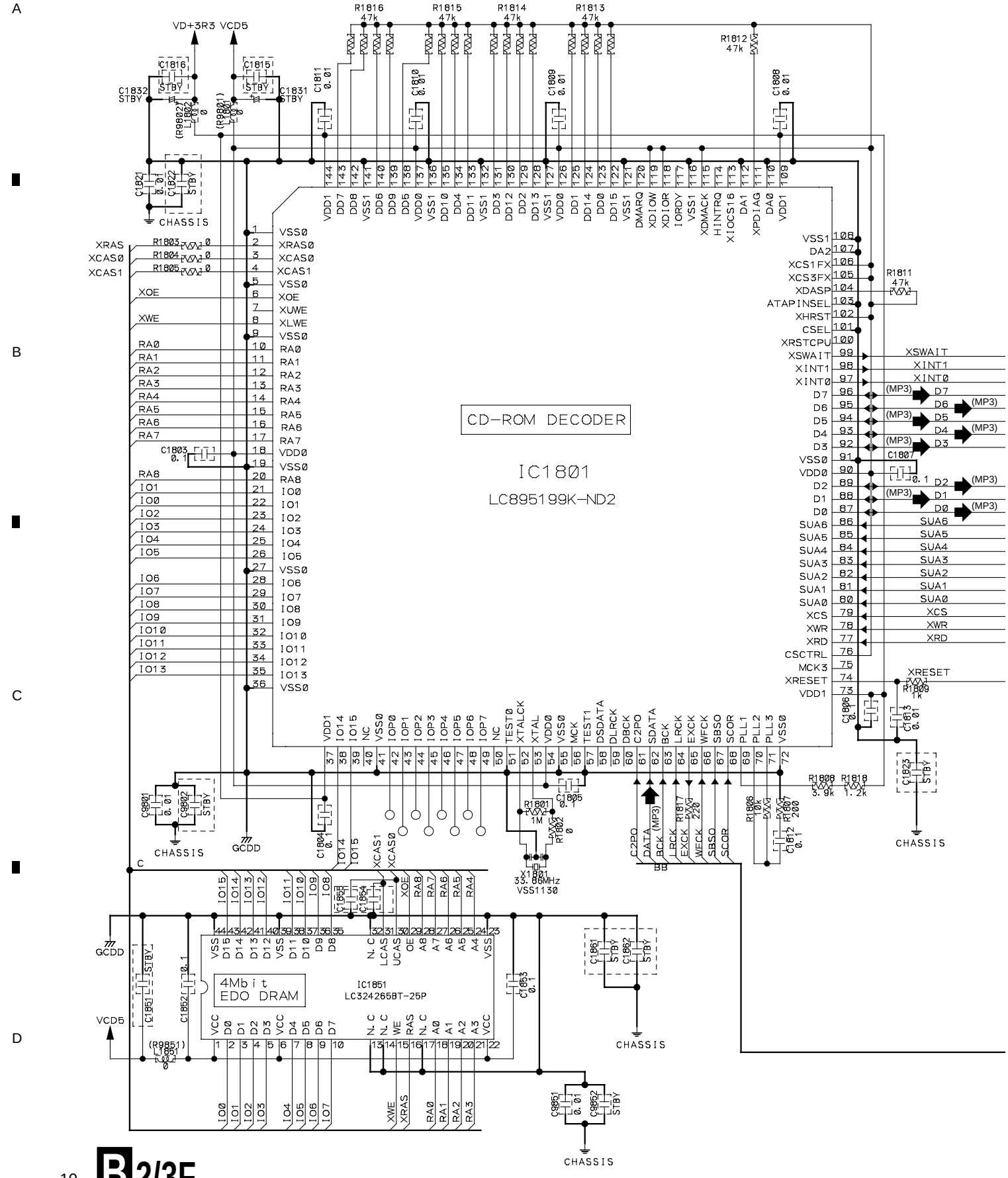
SIGNAL ROUTE

(CD) : CD AUDIO SIGNAL ROUTE
(MP3) : MP3 AUDIO SIGNAL ROUTE
(D) : DIGITAL SIGNAL ROUTE
: RF SIGNAL ROUTE
(FS) : FOCUS SERVO LOOP LINE
(TS) : TRACKING SERVO LOOP LINE
(SM) : SPINDLE MOTOR ROUTE
(CM) : CARRIAGE MOTOR ROUTE
(LM) : LOADING MOTOR ROUTE

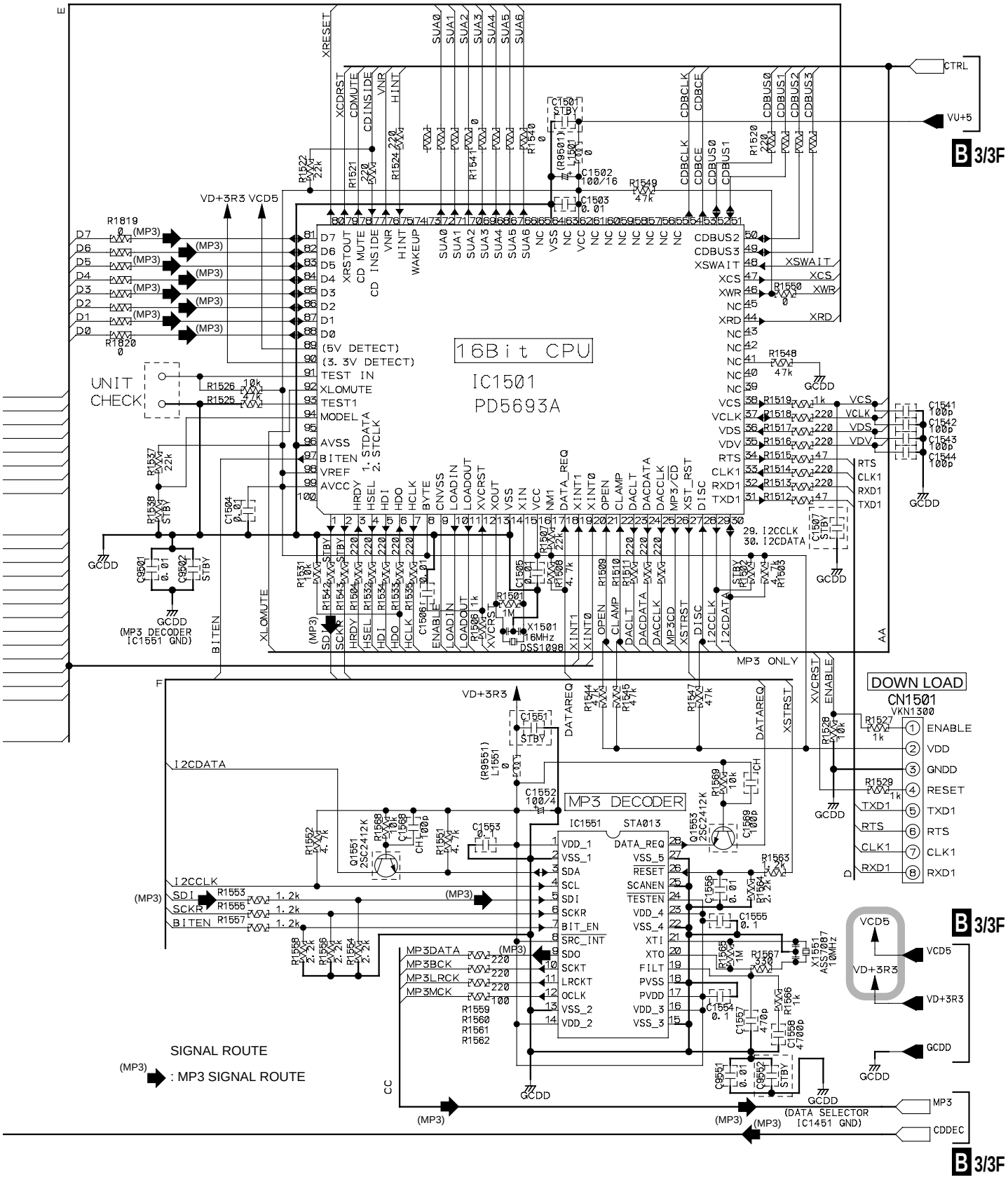
: The power supply is shown with the marked box.

2.3 3CD ASSY (2/3)

B 2/3F 3CD ASSY (AWP7035)

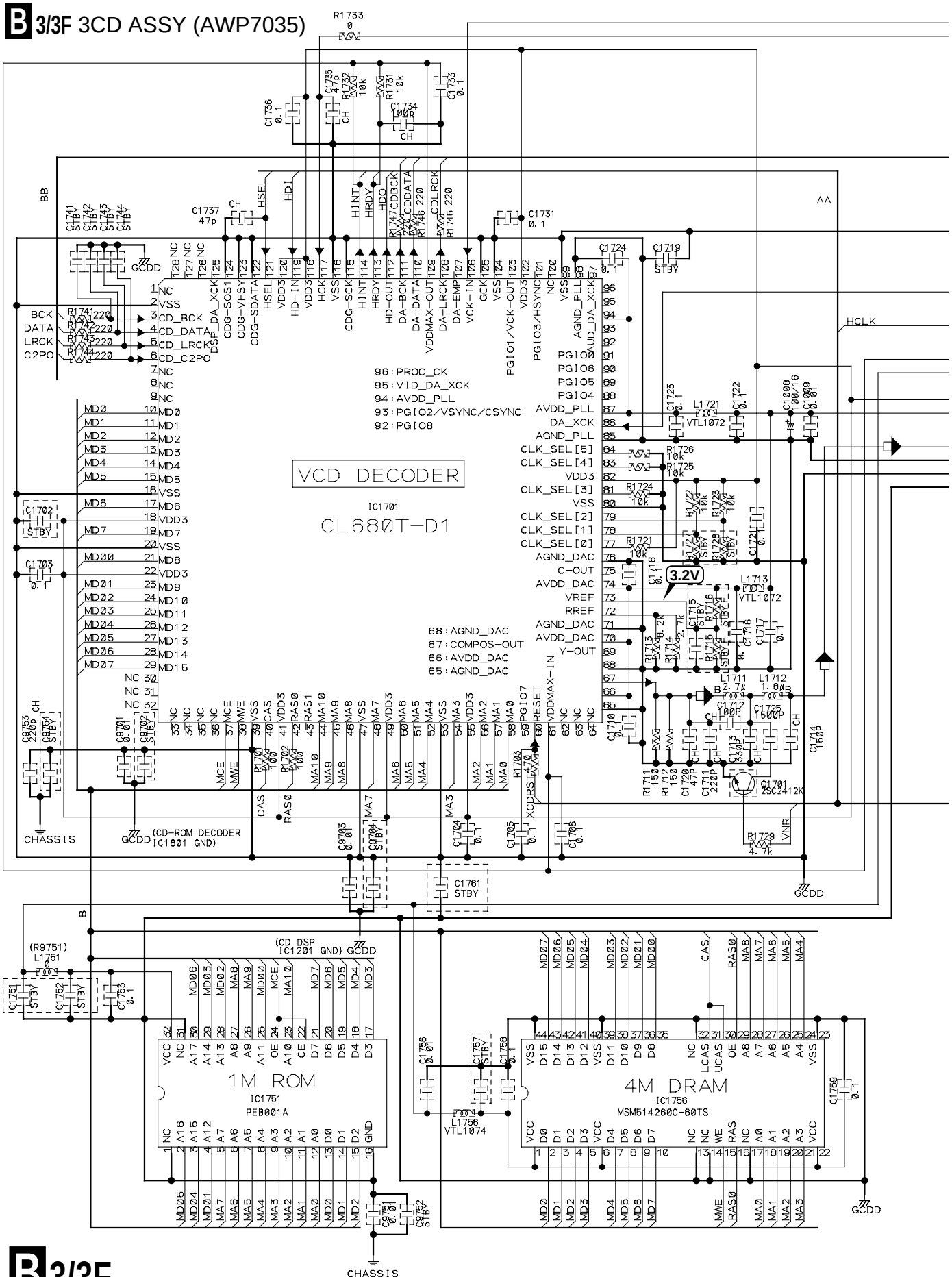


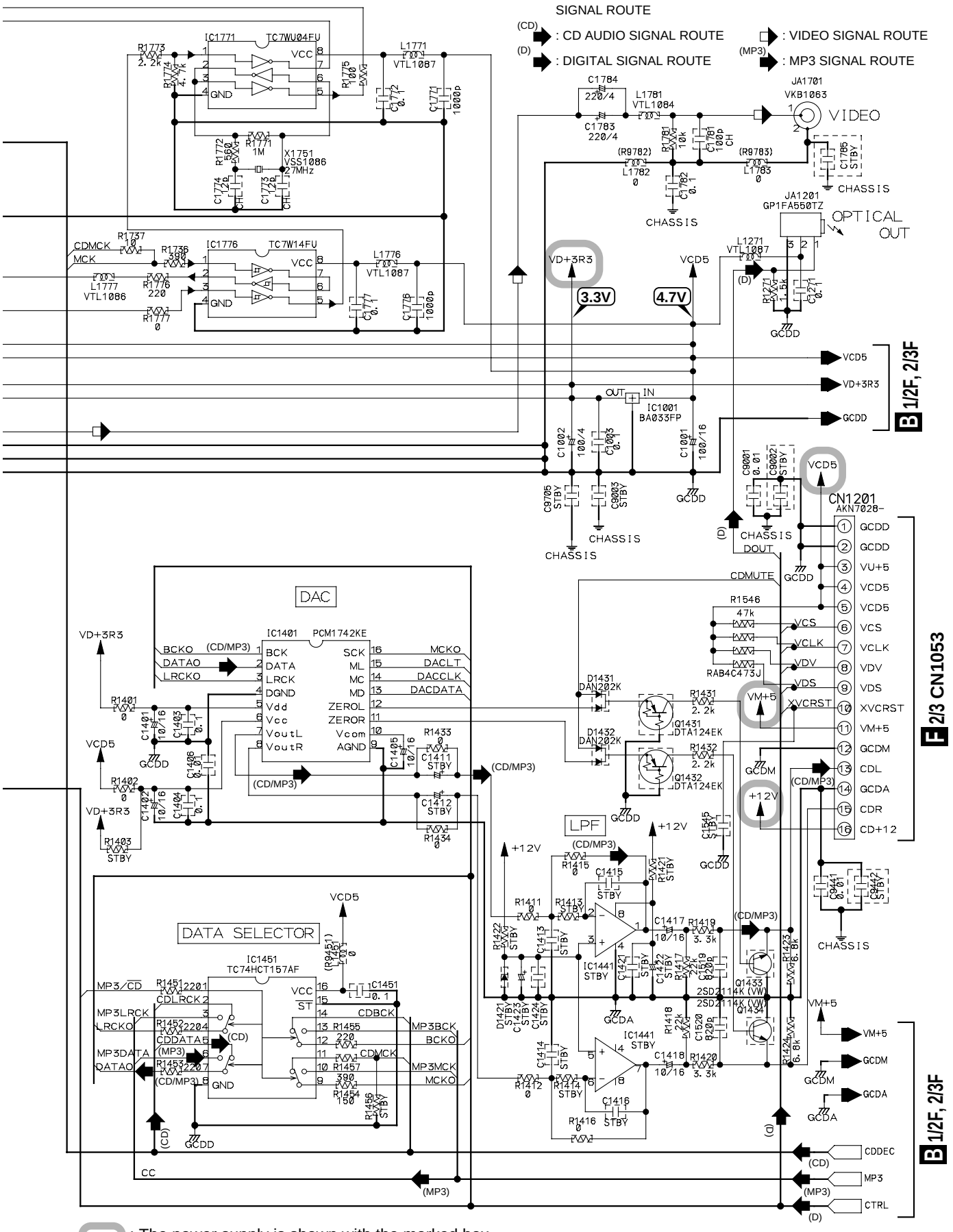
: The power supply is shown with the marked box.



2.4 3CD ASSY (3/3)

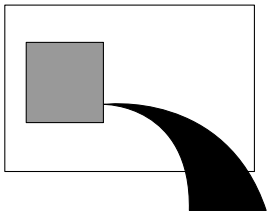
B 3/3F 3CD ASSY (AWP7035)



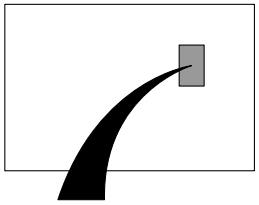


: The power supply is shown with the marked box.

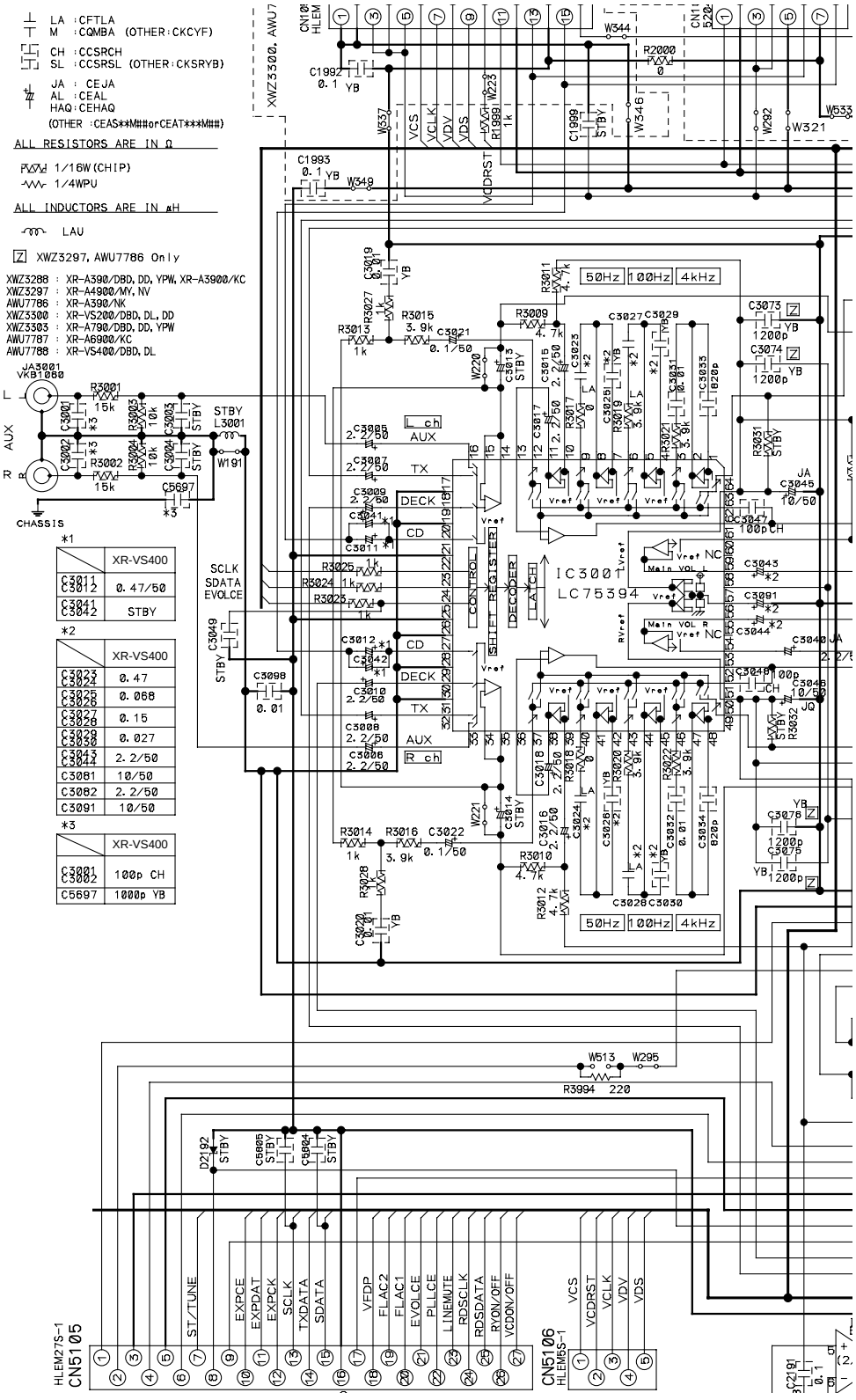
2.5 AF ASSY (2/3)



F 2/3F
AF ASSY (AWU7788)



F 2/3F
AF ASSY (AWU7788)



*1

	XR-VS400
C3011 C3012	0.47/50
C3041 C3042	STBY

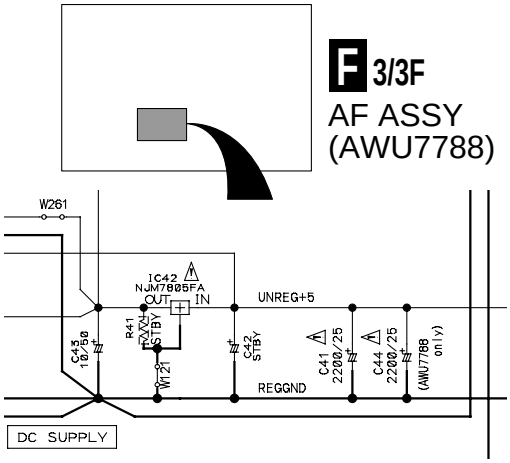
*2

	XR-VS400
C3023 C3024	0.47
C3025 C3026	0.068
C3027 C3028	0.15
C3029 C3030	0.027
C3013 C3014	2.2/50
C3081	10/50
C3082	2.2/50
C3091	10/50

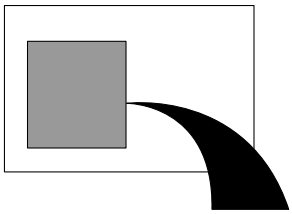
*3

	XR-VS400
C3001 C3002	100p CH
C5697	1000p YB

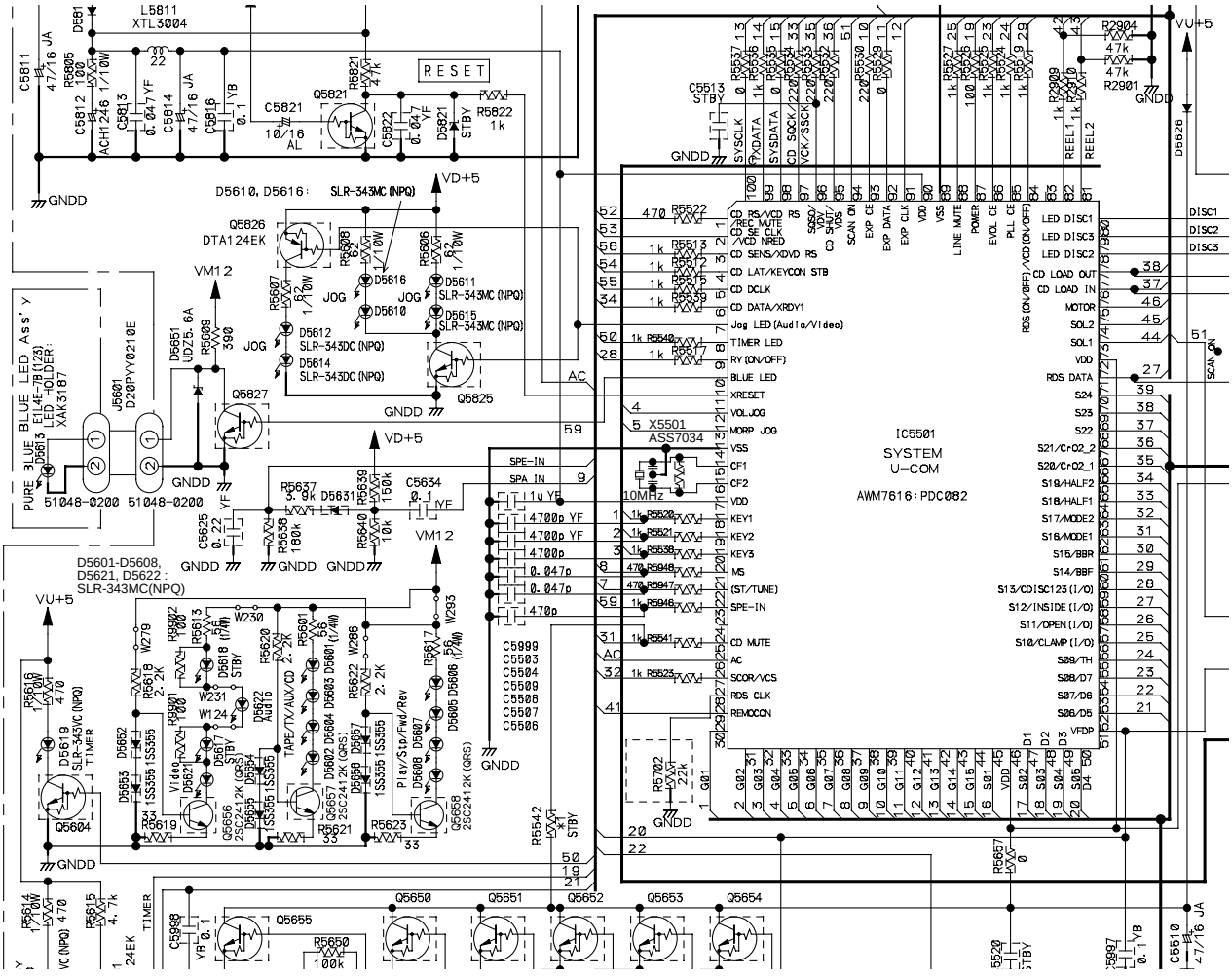
2.6 AF (3/3) and DISPLAY ASSYS



F 3/3F
AF ASSY
(AWU7788)

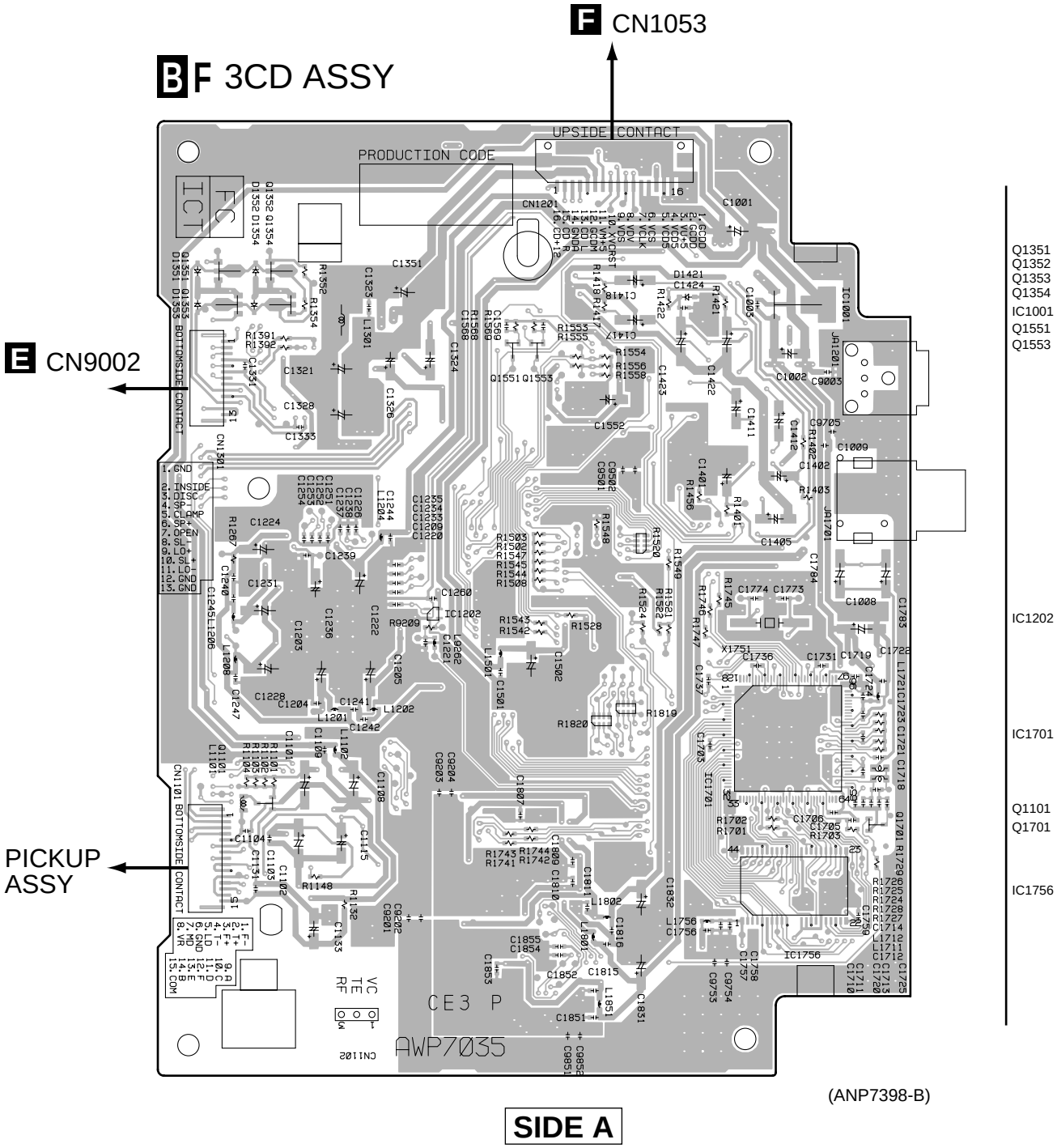


I F
DISPLAY ASSY (AWU7799)



3. PCB CONNECTION DIAGRAM

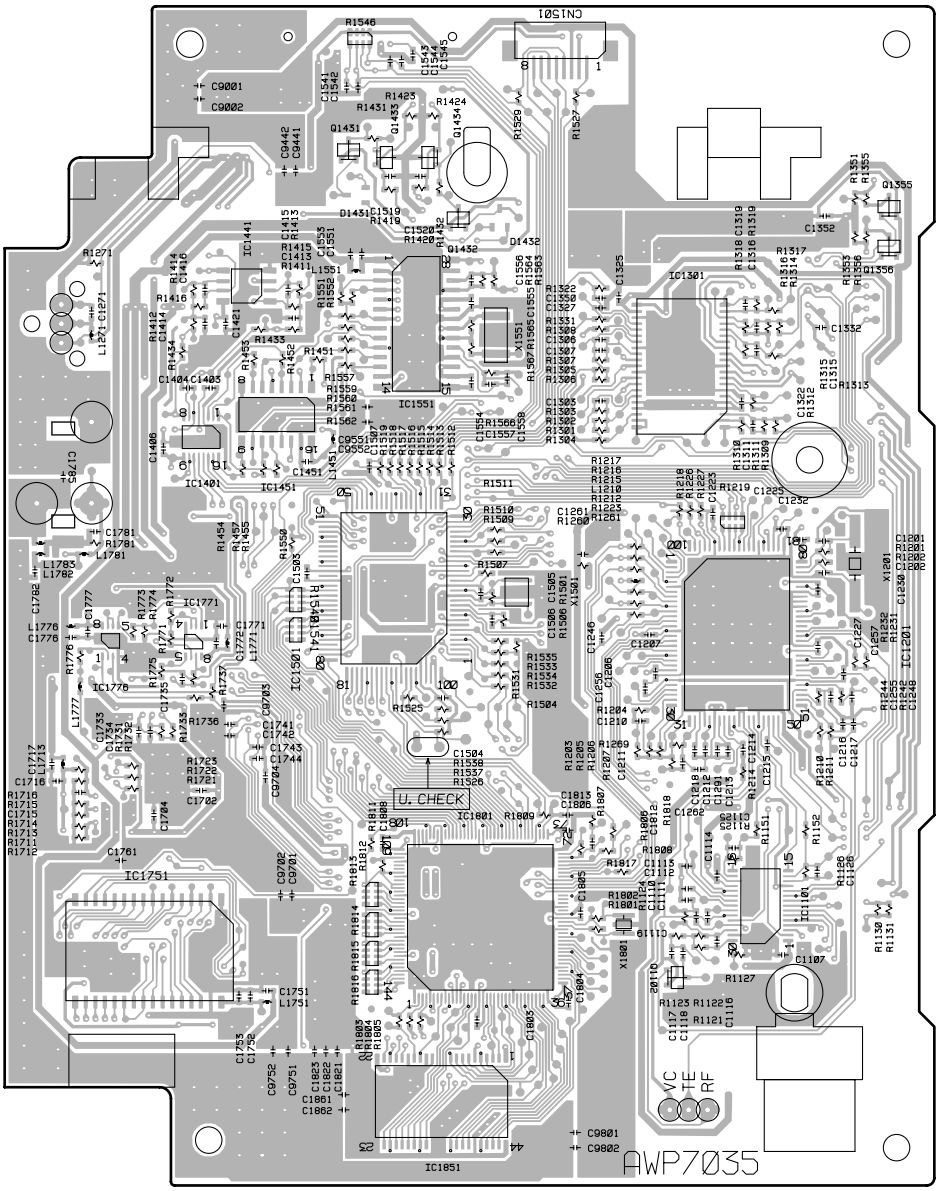
3.1 3CD ASSY



(ANP7398-B)

SIDE A

BF 3CD ASSY



(ANP7398-B)

SIDE B

Q1431
Q1433
Q1434
Q1455
Q1432
Q1456
IC1441
IC1551
IC1301
IC1451
IC1401
IC1501
IC1201
IC1778
IC1771
IC1801
IC1101
IC1751
Q1102
IC1851

4. GENERAL INFORMATION

4.1 IC ■ PDC082A (DISPLAY ASSY : IC5501) • System Control Microcomputer IC

●Pin Function

No.	Pin Name	I/O	Function
1	CD RS/VCD RS/REC MUTE	O	VIDEO CD Microcomputer Reset
2	CD SE CLK/VCD NRED	O	CD decoder SENS data
3	CD SENS/XDVD RS	O	Not used
4	CD LAT/KEYCON STB	O	Not used
5	CD DCLK	O	Not used
6	CD DATA/XRDY1	O	Not used
7	Jog LED (Audio/Video)	O	Audio/Visual mode LED output
8	TIMER LED	O	TIMER LED output
9	RY ON/OFF	O	RELAY ON/OFF
10	BLUE LED	O	BLUE LED output
11	XRESET	I	CPU reset input
12	VOL JOG	I	Volume JOG input
13	MORP JOG	I	Sound morphing JOG input
14	VSS	–	Ground
15	CF1	I	
16	CF2	O	
17	VDD	–	Power supply
18	KEY1	I	Key input 1 (A/D)
19	KEY2		Key input 2 (A/D)
20	KEY3		Key input 3 (A/D)
21	MS	I	Deck MS input
22	(ST/TUNE)	I	Tuner STEREO/TUNE input
23	SPE-IN	I	Spectrum analayzer signal input
24	N.C.	O	Not used
25	CD MUTE	O	Not used
26	AC	I	AC pulse interrupt input
27	SCOR/VCS	I	VCD communication interrupt input
28	RDS/CLK	I	Tuner RDS clock interrupt input
29	REMOCON	I	Remote control interrupt input
30	G1	O	Grid1 output
31	G2		Grid2 output
32	G3		Grid3 output
33	G4		Grid4 output
34	G5		Grid5 output
35	G6		Grid6 output
36	G7		Grid7 output
37	G8		Grid8 output
38	G9		Grid9 output
39	G10		Grid10 output
40	G11		Grid11 output
41	G12		Grid12 output
42	G13		Grid13 output
43	G14		Grid14 output
44	G15		Grid15 output
45	S1		Segment 1 output
46	VDD	–	Power supply
47	S2/D5597	I/O	Segment 2 output/SW7 input
48	S3/D5596		Segment 3 output/SW6 input
49	S4/D5595		Segment 4 output/SW5 input
50	S5/D5594		Segment 5 output/SW4 input

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

No.	Pin Name	I/O	Function
51	VFDP	–	
52	S6/D5593	I/O	Segment 6 output/SW3 input
53	S7/D5592		Segment 7 output/SW2 input
54	S8/D5591		Segment 8 output/SW1 input
55	S9	O	Segment 9 output
56	S10/CLAMP (I/0)	I/O	Segment 10 output
57	S11/OPEN (I/0)		Segment 11 output
58	S12/INSIDE (I/0)		Segment 12 output
59	S13/CDISC123 (I/0)		Segment 13 output
60	S14/BBF		Segment 14 output/DECK ARF SW input
61	S15/BBR		Segment 15 output/DECK ARR SW input
62	S16/MODE1		Segment 16 output/DECK MODE SW1 input
63	S17/MODE2		Segment 17 output/DECK MODE SW2 input
64	S18/HALF1		Segment 18 output/DECK HALF SW1 input
65	S19/HALF2		Segment 19 output/DECK HALF SW2 input
66	S20/CrO2_1		Segment 20 output/DECK CrO2 SW1 input
67	S21/CrO2_2		Segment 21 output/DECK CrO2 SW2 input
68	S22	O	Segment 22 output
69	S23		Segment 23 output
70	S24		Segment 24 output
71	RDSDATA	I	PULL-UP or PULL-DOWN (Not used)
72	VDD	–	Power supply
73	SOL1	O	DECK solenoid output 1
74	SOL2		DECK solenoid output 2
75	MOTOR	O	DECK motor output
76	CD LOAD IN	O	Not used
77	CD LOAD OUT	O	Not used
78	LED DISC2	O	DISC 2 LED output
79	LED DISC3		DISC 3 LED output
80	LED DISC1		DISC 1 LED output
81	REEL2	I	DECK reel pulse input 2
82	REEL1		DECK reel pulse input 1
83	N.C.	–	Not used
84	RDS (ON/OFF)/VCD (ON/OFF)	O	VCD Power ON/OFF (pull-down)
85	PLL CE	O	Chip enable output of Tuner PLL
86	EVOL CE	O	Chip enable output of electronic volume IC
87	POWER	O	Power output
88	LINE MUTE	O	Line mute output
89	VSS	–	Ground
90	VDD	–	Power supply
91	EXP CLK	O	Clock output for EXP IC (BU2092, BU4094, M65847AFP)
92	EXP DATA	O	Data output for EXP IC (BU2092, BU4094, M65847AFP)
93	EXP CE	O	Chip enable output of EXP IC (BU4094BCF)
94	SCAN ON	O	Outputs for SW reading
95	CD SHUT/VDS	O	The communication data output with CD microcomputer
96	SQSO/VDV	I	The communication data input with CD microcomputer
97	SQCK/VCLK/SSCK	O	The communication clock with CD microcomputer
98	SYSDATA	O	Data output of the Tuner PLL data/electronic volume IC
99	TXDATA	I	Tuner data input
100	SYSCLK	O	Clock output of the Tuner PLL data/electronic volume IC

■ PD5693A (3CD ASSY : IC1501)

• **VCD micro computer**

●Pin Function

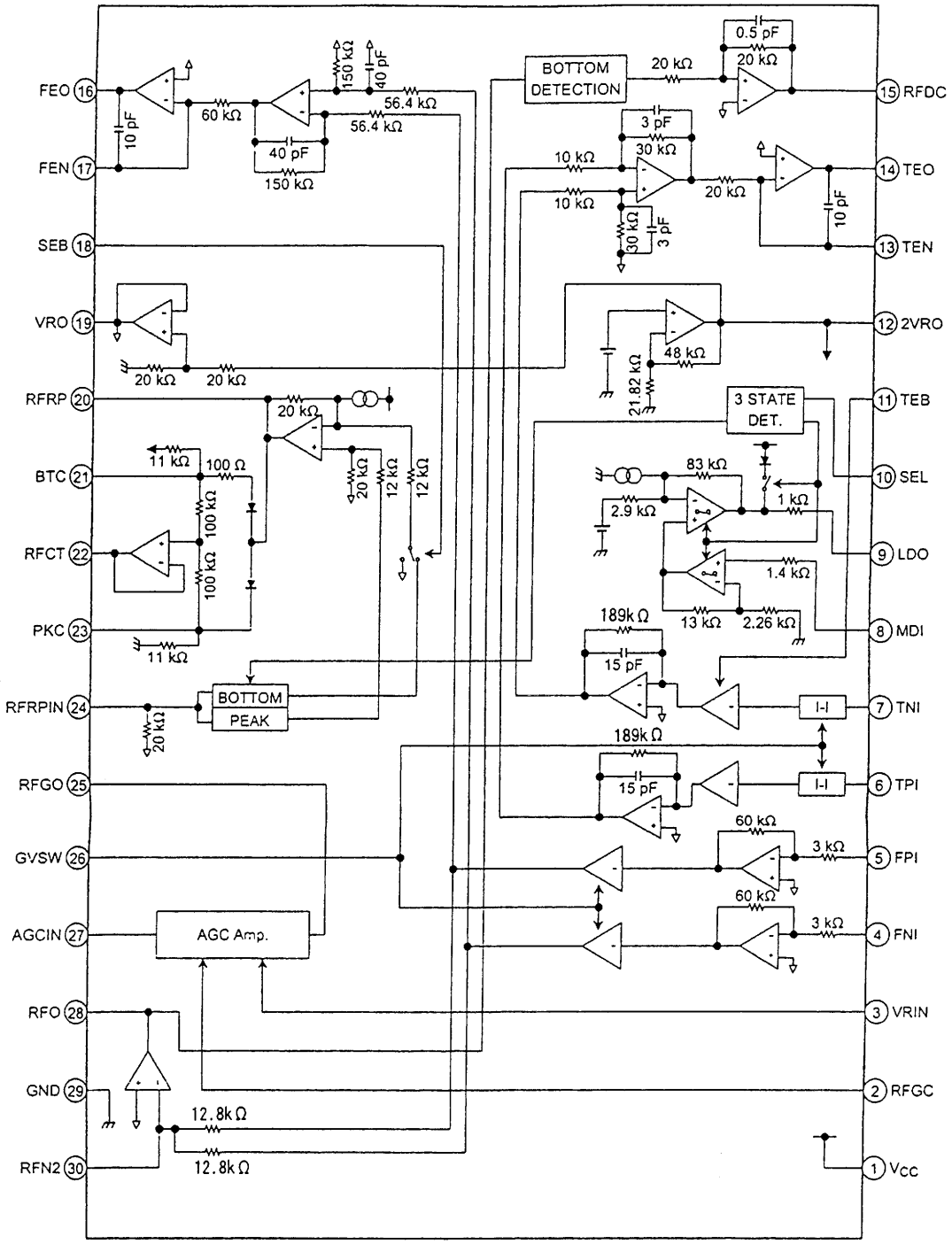
No.	Mark	Pin Name	Type	Function
1	P96/ANEX1/Sout4	SDI	O	STA013 bit stream Communication data output
2	P95/ANEX0/CLK4	SCKR	O	STA013 bit stream Communication clock output
3	P94/DA1/TB4in	HRDY	I/O	VCD IC communication permission input
4	P93/DA0/TB3in	HSEL	O	VCD IC communication data selection output
5	P92/TB2in/Sout3	HDI	O	VCD IC communication data output
6	P91/TB1in/Sin3	HDO	I	VCD IC communication data input
7	P90/TB0in/CLK3	HCLK	O	VCD IC communication clock output
8	BYTE	BYTE	I	External data bus change terminal
9	CNVss	CNVSS	I	The terminal for rewriting distinction
10	P87/Xcin	LOADIN	O	$M Loading output
11	P86/Xcout	LOADOUT	O	$M Loading output
12	RESET	XVCRST	I	Reset input
13	Xout	XOUT	O	Main clock oscillation output
14	Vss	VSS	I	GND
15	Xin	XIN	I	Main clock oscillation input
16	Vcc	VCC	I	Power supply voltage (2.7-5.5V)
17	P85/NMI	NM1	I	Power supply voltage (2.7-5.5V)
18	P84/INT2	DATA_REQ	I	The data transmission demand from STA013
19	P84/INT2	XINT1	I	The interruption demand from LC895199
20	P82/INT0	XINT0	I	The interruption demand from LC895199
21	P81/TA4in/U	OPEN	I	$M OPEN SW input
22	P80/TA4out/U	CLAMP	I	$M CLAMP SW input
23	P77/TA3in	DACLT	O	PCM1742KE latch output
24	P76/TA3out	DACDATA	O	PCM1742KE data output
25	P75/TA2in/W	DACCLK	O	PCM1742KE clock output
26	P74/TA2out/W	MP3/CD	O	DAC (PCM1742) incoming signal selection output
27	P73/CTS2/RTS2/TA1in/V	XST_RST	O	STA013 reset output
28	P72/CLK2/TA1out/V	DISC	I	$M DISC position detection SW input
29	P71/RxD2/SCL/TA0in/TB5in	I2CCLK	O	The I2C clock output for STA013
30	P70/TxD2/SDA/TA0out	I2CDATA	I/O	The I2C data input/output for STA013
31	P67/TxD1	TXD1	O	The time data output of flash writing
32	P66/RxD1	RXD1	I	The time data input of flash writing
33	P65/CLK1	CLK1	I	The time clock input of flash writing
34	P64/CTS1/RTS1/CLKS1	RTS	O	The reset output of flash writing
35	P63/TxD0	VDV	O	The communication data output with a system microcomputer
36	P62/RxD0	VDS	I	The communication data input with a system microcomputer
37	P61/CLK0	VCLK	I/O	The communication clock input with a system microcomputer
38	P60/CTS0/RTS0	VCS	I/O	A communication chip selection with a system microcomputer
39	P57/RDY/CLKout	NC	I/O	-
40	P56/ALE	NC	I/O	-
41	P54/HOLD	NC	I/O	-
42	P54/HLDA	NC	I/O	-
43	P53/BCLK	NC	I/O	-
44	P52/RD	XRD	O	The data read-out signal output of LC895199
45	P51/WRH/BHE	NC	I/O	-
46	P50/WRL/WR	XWR	O	The data write-in signal output of LC895199
47	P47/CS3	XCS	O	LC895199 chip selection
48	P46/CS2	XSWAIT	I	WAIT signal from LC895199
49	P45/CS1	CDBUS3	I/O	TC9495F data BUS communication data input and output
50	P44/CS0	CRBUS2	I/O	TC9495F data BUS communication data input and output

No.	Mark	Pin Name	Type	Function
51	P43/A19	CVBUS1	I/O	TC9495F data BUS communication data input and output
52	P43/A18	CVBUS0	I/O	TC9495F data BUS communication data input and output
53	P43/A17	CDBCE	O	TC9495F chip enable output
54	P43/A16	CDBCLK	O	TC9495F BUS clock output
55	P43/A15	NC	I/O	-
56	P43/A14	NC	I/O	-
57	P43/A13	NC	I/O	-
58	P43/A12	NC	I/O	-
59	P43/A11	NC	I/O	-
60	P43/A10	NC	I/O	-
61	P43/A9	NC	I/O	-
62	Vcc	VCC	I	Power supply voltage (2.7-5.5V)
63	P30/A8(/-/7)	NC	I/O	-
64	Vss	VSS	I	GND
65	P27/A7(/D7/D6)	NC	I/O	-
66	P26/A6(/D6/D5)	SUA6	O	LC895199 adress signal output
67	P25/A5(/D5/D4)	SUA5	O	LC895199 adress signal output
68	P24/A4(/D4/D3)	SUA4	O	LC895199 adress signal output
69	P24/A4(/D4/D2)	SUA3	O	LC895199 adress signal output
70	P24/A4(/D4/D1)	SUA2	O	LC895199 adress signal output
71	P24/A4(/D4/D0)	SUA1	O	LC895199 adress signal output
72	P20/A0(/D0/-)	SUA0	O	LC895199 adress signal output
73	P17/D15/INT5	NC	I/O	-
74	P17/D14/INT5	WAKEUP	I/O	NC
75	P17/D13/INT5	HINT	I	VCD IC communication interruption demand
76	P14/D12	VNR	O	VNR ON/OFF output
77	P14/D11	CD INSIDE	I	CD INSIDE SW input
78	P14/D10	CD MUTE	O	CD MUTE output
79	P11/D9	XRSTOUT	O	CD DSP and MPEG DECODER reset output
80	P10/D8	XRESET	O	LC895199 reset output
81	P07/D7	D7	I/O	The data bus with LC895199
82	P06/D6	D6	I/O	The data bus with LC895199
83	P05/D5	D5	I/O	The data bus with LC895199
84	P04/D4	D4	I/O	The data bus with LC895199
85	P03/D3	D3	I/O	The data bus with LC895199
86	P02/D2	D2	I/O	The data bus with LC895199
87	P01/D1	D1	I/O	The data bus with LC895199
88	P00/D0	D0	I/O	The data bus with LC895199
89	P107/AN7/KI3	DETECT5	I	5[V] DETECT
90	P106/AN6/KI2	DETECT3R3	I	3.3[V] DETECT
91	P105/AN5/KI1	TEST KEY IN	I	Key input for Unit check
92	P104/AN4/KI0	XLOMUTE	O	Driver MUTE output
93	P103/AN3	TEST1	I	CD TEST input
94	P102/AN2	MODEL	I	MODEL distinction input
95	P101/AN1	NC	I/O	-
96	AVss	AVSS	I	A-D conversion machine power supply voltage (Vss)
97	P100/AN0	BIT EN	O	STA013 bit sutorumu DATA Permission output
98	Vref	VREF	I	A-D conversion machine standard voltage input
99	AVcc	AVCC	I	A-D conversion machine power supply voltage (Vcc)
100	P97/ADtrg/Sin4	NC	I/O	-

■ TA2151FN (3CD ASSY : IC1101)

- **RF Amplifire for Digital Servo CD System**

● **Block Diagram**



SEL	LDC			RFRP Detect Frequency
	SW1	SW2	SW3	
GND	ON	OFF	OFF	Low
HiZ	OFF	ON	ON	
VCC				High

GVSW	Mode
GND	CD-RW
HiZ	Normal
VCC	

SEB	Bottom Detect	Peak Detect
GND	ON	ON
HiZ		
VCC	OFF	

●Pin Function

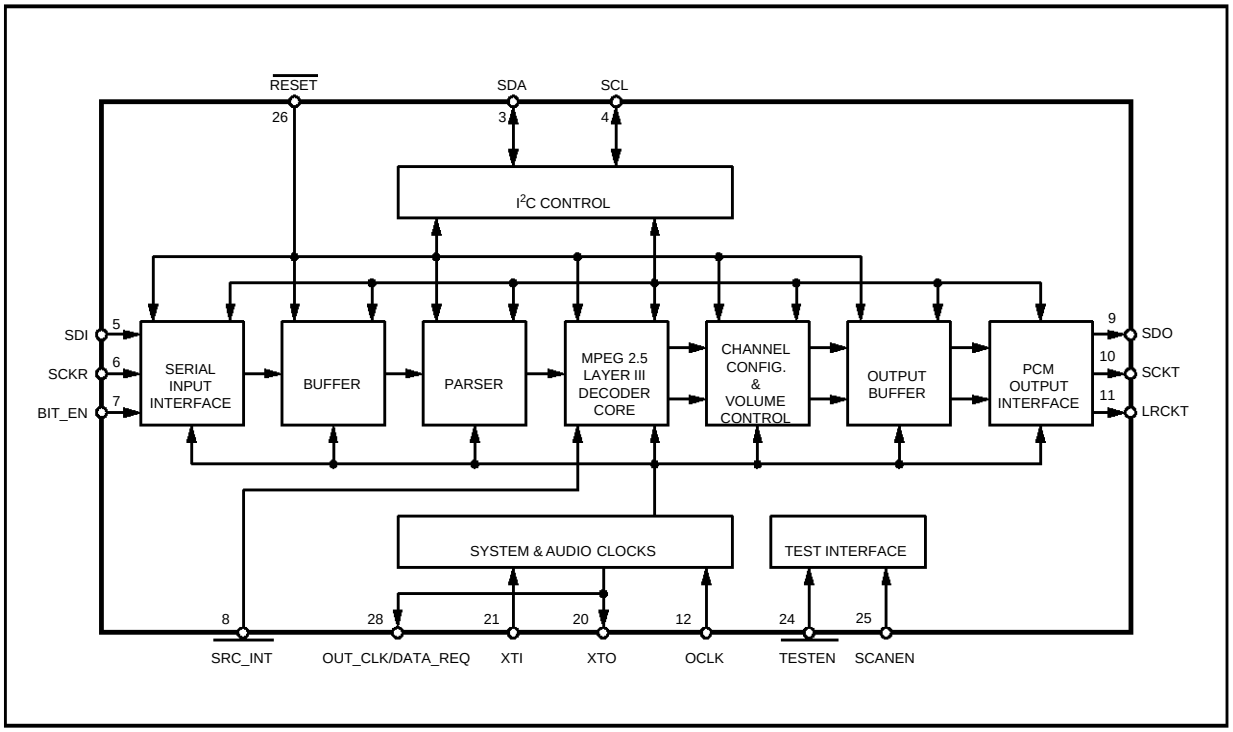
<table>
<tr><th>Pin No.</th><th>Symbol</th><th>I/O</th><th>Functional Description</th><th>Remarks</th></tr>
<tr><td>1</td><td>V_{CC}</td><td>—</td><td>Power supply input terminal.</td><td>—</td></tr>
<tr><td>2</td><td>RFGC</td><td>I</td><td>RF amplitude adjustment control signal input terminal.
Controlled by 3-PWM signals.
(PWM carrier = 88.2 kHz)
RFGC input voltage: VRO ± 1.5 V
AGC amplifier voltage again: ×0.7~1.5 (typ.)</td><td>—</td></tr>
<tr><td>3</td><td>VRIN</td><td>I</td><td>AGC amp. Reference voltage input terminal.</td><td>Connected to VRO</td></tr>
<tr><td>4</td><td>FNI</td><td>I</td><td>Main beam I-V amp input terminal.</td><td>Connected to pin diode output B + D (through resistor).</td></tr>
<tr><td>5</td><td>FPI</td><td>I</td><td>Main beam I-V amp input terminal.</td><td>Connected to pin diode output A + C (through resistor).</td></tr>
<tr><td>6</td><td>TPI</td><td>I</td><td>Sub beam I-V amp input terminal.</td><td>Connected to pin diode output F.</td></tr>
<tr><td>7</td><td>TNI</td><td>I</td><td>Sub beam I-V amp input terminal.</td><td>Connected to pin diode output E.</td></tr>
<tr><td>8</td><td>MDI</td><td>I</td><td>Monitor photo diode amp input terminal.</td><td>Connected to monitor photo diode.</td></tr>
<tr><td>9</td><td>LDO</td><td>O</td><td>Laser diode amp input terminal.</td><td>Connected to laser diode control circuit.</td></tr>
<tr><td>10</td><td>SEL</td><td>I</td><td>Laser diode control signal input terminal and APC circuit ON/OFF control signal terminal.
<table>
<tr><th>SEL Level</th><th>APC Circuit</th><th>LDO</th><th>Detect Frequency</th></tr>
<tr><td>GND</td><td>OFF</td><td>Connected to V_{CC} through resister (1 kΩ)</td><td rowspan="2">Low</td></tr>
<tr><td>HiZ</td><td rowspan="2">ON</td><td rowspan="2">Control signal output</td></tr>
<tr><td>V_{CC}</td><td>High</td></tr>
</table></td><td>3 signals input.
(V_{CC}, HiZ, GND)</td></tr>
<tr><td>11</td><td>TEB</td><td>I</td><td>Tracking error balance adjustment signal input terminal.
Controlled by 3-PWM signal.
(PWM carrier = 88.2 kHz)</td><td>3 signals input.
(2VRO, VRO, GND)</td></tr>
<tr><td>12</td><td>2VRO</td><td>O</td><td>Reference voltage (2VRO) output terminal.
2VRO = 4.2 V when V_{CC} = 5 V</td><td>—</td></tr>
<tr><td>13</td><td>TEN</td><td>I</td><td>TE amp negative input terminal.</td><td>Connected to TEO through feedback resistor.</td></tr>
<tr><td>14</td><td>TEO</td><td>O</td><td>TE error signal output terminal.</td><td>—</td></tr>
<tr><td>15</td><td>RFDC</td><td>O</td><td>RF signal peak detect output terminal.</td><td>—</td></tr>
<tr><td>16</td><td>FEO</td><td>O</td><td>Focus error signal output terminal.</td><td>—</td></tr>
<tr><td>17</td><td>FEN</td><td>I</td><td>FE amp negative input terminal.</td><td>Connected to FEO through feedback resistor.</td></tr>
<tr><td>18</td><td>SEB</td><td>I</td><td>RFRP output circuit switching terminal.
<table>
<tr><th>SEB Level</th><th>Bottom Detection</th><th>Peak Detection</th></tr>
<tr><td>GND</td><td>ON</td><td rowspan="2">ON</td></tr>
<tr><td>V_{CC}</td><td>OFF</td></tr>
</table></td><td>Low (GND) is for normal use.</td></tr>
<tr><td>19</td><td>VRO</td><td>O</td><td>Reference voltage (VRO) output terminal.
VRO = 2.1 V when V_{CC} = 5 V</td><td>—</td></tr>
</table>

Pin No.	Symbol	I/O	Functional Description	Remarks
20	RFRP	O	Track count signal output terminal.	—
21	BTC	I	Time constant adjustment terminal for bottom detection.	Adjusted by capacitance.
22	RFCT	O	RFRP signal center level output terminal.	—
23	PKC	I	Time constant adjustment terminal for peak detection.	Adjusted by capacitance.
24	RFRPIN	I	Input terminal for track count signal output amp.	—
25	RFGO	O	Output terminal for RF signal amplitude adjustment amp.	—
26	GVSW	I	Amp (FE, TE) gain switching terminal. GVSW: GND → Mode: CD-RW GVSW: HiZ → Mode: Normal GVSW: V_{CC} → Mode: Normal	Low (GND) is for 5 times gain.
27	AGCIN	I	Input terminal for RF signal amplitude adjustment amp.	Connected to RFO through capacitance.
28	RFO	O	Output terminal RF signal amp.	—
29	GND	—	Ground terminal.	—
30	RFN2	I	Input terminal for RF signal amp.	—

■ STA013 (3CD ASSY : IC1551)

• Mpeg 2.5 Layer 3 Audio Decoder

● Block Diagram



●Pin Function

SO28	TQFP44	LFBGA64	Pin Name	Type	Function	PAD Description
1	29	B5	VDD_1		Supply Voltage	
2	30	B4	VSS_1		Ground	
3	31	A4	SDA	I/O	i^2C Serial Data + Acknowledge	CMOS Input Pad Buffer CMOS 4mA Output Drive
4	32	B3	SCL	I	I^2C Serial Clock	CMOS Input Pad Buffer
5	34	A1	SDI	I	Receiver Serial Data	CMOS Input Pad Buffer
6	36	B2	SCKR	I	Receiver Serial Clock	CMOS Input Pad Buffer
7	38	D4	BIT_EN	I	Bit Enable	CMOS Input Pad Buffer with pull up
8	40	D1	$\overline{\text{SRC\_INT}}$	I	Interrupt Line For S.R. Control	CMOS Input Pad Buffer
9	42	E2	SDO	O	Transmitter Serial Data (PCM Data)	CMOS 4mA Output Drive
10	44	F2	SCKT	O	Transmitter Serial Clock	CMOS 4mA Output Drive
11	2	H1	LRCKT	O	Transmitter Left/Right Clock	CMOS 4mA Output Drive
12	3	H3	OCLK	I/O	Oversampling Clock for DAC	CMOS Input Pad Buffer CMOS 4mA Output Drive
13	5	F3	VSS_2		Ground	
14	6	E4	VDD_2		Supply Voltage	
15	7	G4	VSS_3		Ground	
16	8	G5	VDD_3		Supply Voltage	
17	10	F5	PVDD		PLL Power	
18	11	G6	PVSS		PLL Ground	
19	12	G7	FILT	O	PLL Filter Ext. Capacitor Conn.	
20	13	G8	XTO	O	Crystal Output	CMOS 4mA Output Drive
21	15	F7	XTI	I	Crystal Input (Clock Input)	Specific Level Input Pad (see paragraph 2.1)
22	19	E7	VSS_4		Ground	
23	21	C8	VDD_4		Supply Voltage	
24	22	D7	$\overline{\text{TESTEN}}$	I	Test Enable	CMOS Input Pad Buffer with pull up
25	24	A7	SCANEN	I	Scan Enable	CMOS Input Pad Buffer
26	25	B6	$\overline{\text{RESET}}$	I	System Reset	CMOS Input Pad Buffer with pull up
27	26	A5	VSS_5		Ground	
28	27	C5	OUT_CLK/ DATA_REQ	O	Buffered Output Clock/ Data Request Signal	CMOS 4mA Output Drive

Note: $\overline{\text{SRC\_INT}}$ signal is used by STA013 internal software in Broadcast Mode only; in Multimedia mode $\overline{\text{SRC\_INT}}$ must be connected to V_{DD} In functional mode $\overline{\text{TESTEN}}$ must be connected to VDD, SCANEN to ground.