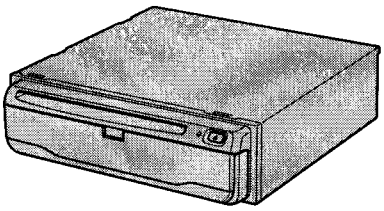
Service Manual



ORDER NO.
CRT2709

DVD NAVIGATION UNIT

AVIC-9DVD UC

DVD VIDEO™ COMPACT disc DIGITAL AUDIO

● **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
CPN1746	Main Assy

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

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

Part to use	Part No.
Main PCB (CN3251) <--> DVD Core Unit V (CN1701)	GGD1170
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

PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE 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

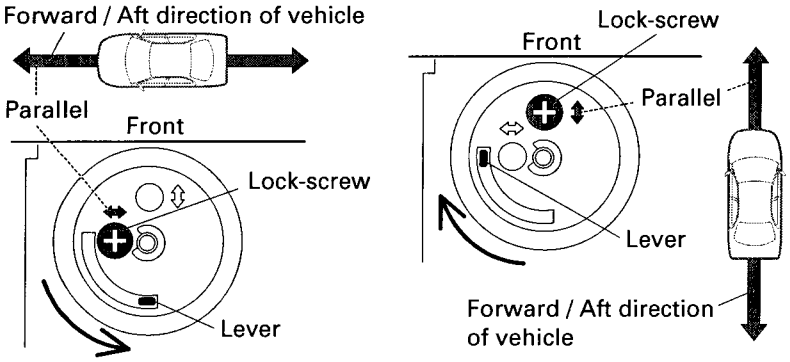
K-ZZY. JUNE 2001 Printed in Japan

● **DVD Player Service Precautions**

1. Never adjust the LD VR in the pickup unit to protect the pickup from electrical damages.
2. For pickup unit(service)(CXX1530) handling, please refer to"Disassembly"(see page 164).
   During replacement, handling precautions shall be taken to prevent an electrostatic discharge(set the short switch of the pickup unit to the SHORT side).
3. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
4. Please adjusting the skew after changing the pickup unit(see page 123).

● High voltage is generated in the inverter when the power is supplied to the system. To avoid an electric shock, reconfirm that the power switch is set to OFF before starting operation.

● Check of installation direction when G-Sensor Unit was after repair.



CONTENTS

1. SAFETY INFORMATION

CAUTION

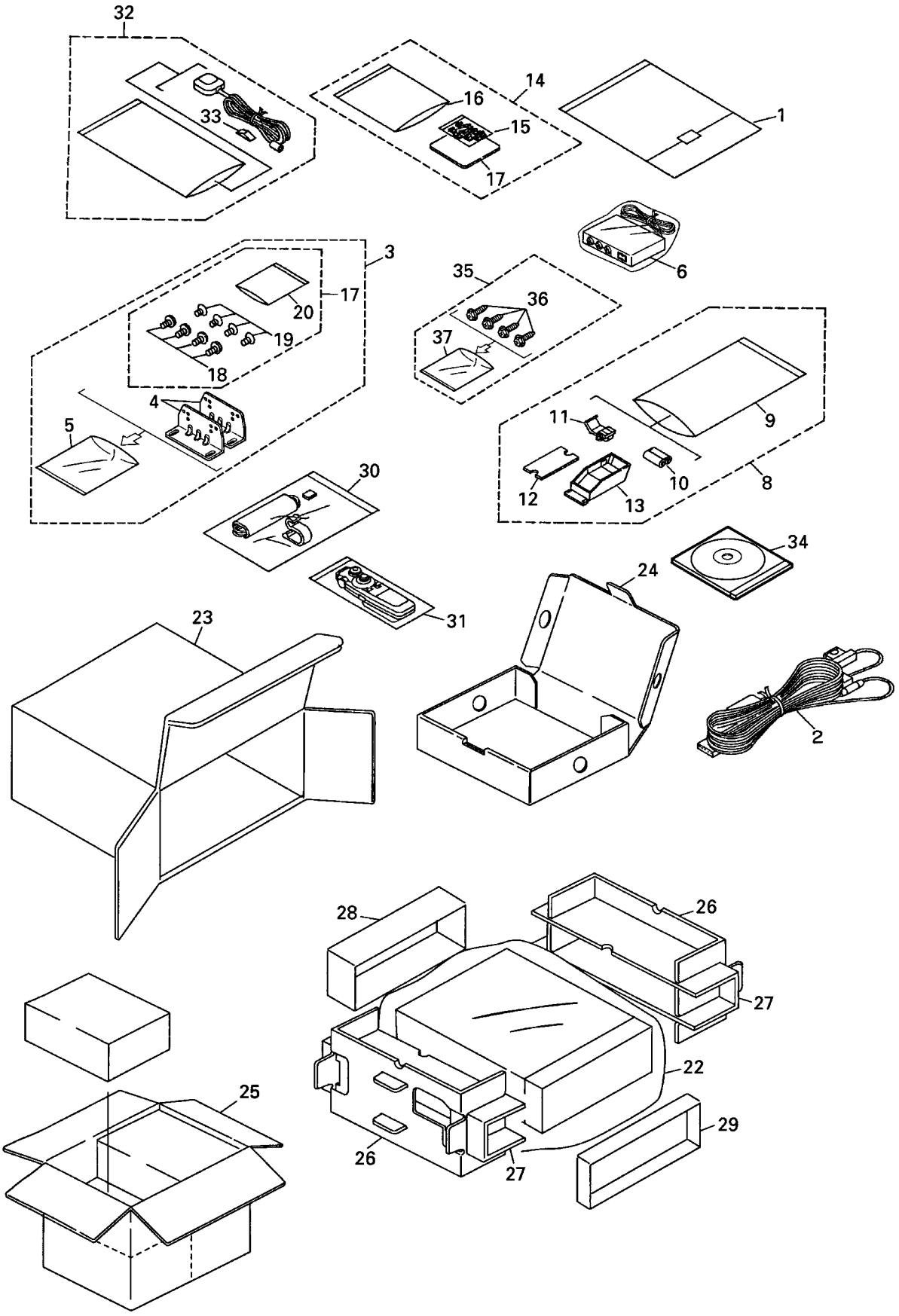
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1-1	Owner's Manual	CRD3462
	1-2	Owner's Manual	CRB1694
	1-3	Owner's Manual/PA/FRE	CRB1695
	1-4	Installation Manual	CRD3457
*	1-5	Card	ARY1048
	1-6	Polyethylene Bag	CEG1116
	2	Cord Assy	CDE6678
	3	Accessory Assy	CEA2913
	4	Angle	CNC5619
*	5	Polyethylene Bag	E36-637
	6	Connection Box	CXB7595
	7	•••••	
	8	Accessory Assy	CEA2536
	9	Polyethylene Bag	CEG1011
	10	Battery	CEX1021
	11	Connector	CKX1049
	12	Sheet	CNM6370
	13	Holder	CNS5606
	14	Accessory Assy	CEA2643
	15	Cord Clamper Assy	CEA2644
	16	Polyethylene Bag	CEG1161
	17	Sheet	CNM6902
	18	Screw Assy	CEA2896
	19	Screw	BMZ50P060FZK
	20	Screw	CMZ50P060FMC
*	21	Polyethylene Sheet	CNM4338
	22	Polyethylene Bag	CEG1173
	23	Carton	CHG4391
	24	Sub Carton	CHG4392
	25	Contain Box	CHL4391
	26	Protector	CHP2383
	27	Protector	CHP2384
	28	Protector	CHP2386
	29	Protector	CHP2387
	30	Microphone Assy	CPM1048
	31	Remote Control Assy	CXB7426
	32	GPS Antenna Assy	CXB7600
	33	Water Proof Pad	CZN5352
	34	DVD-ROM	CPJ1134
	35	Screw Assy	CEA2938
	36	Screw(M6x16)	CBA1295
*	37	Polyethylene Bag	E36-613

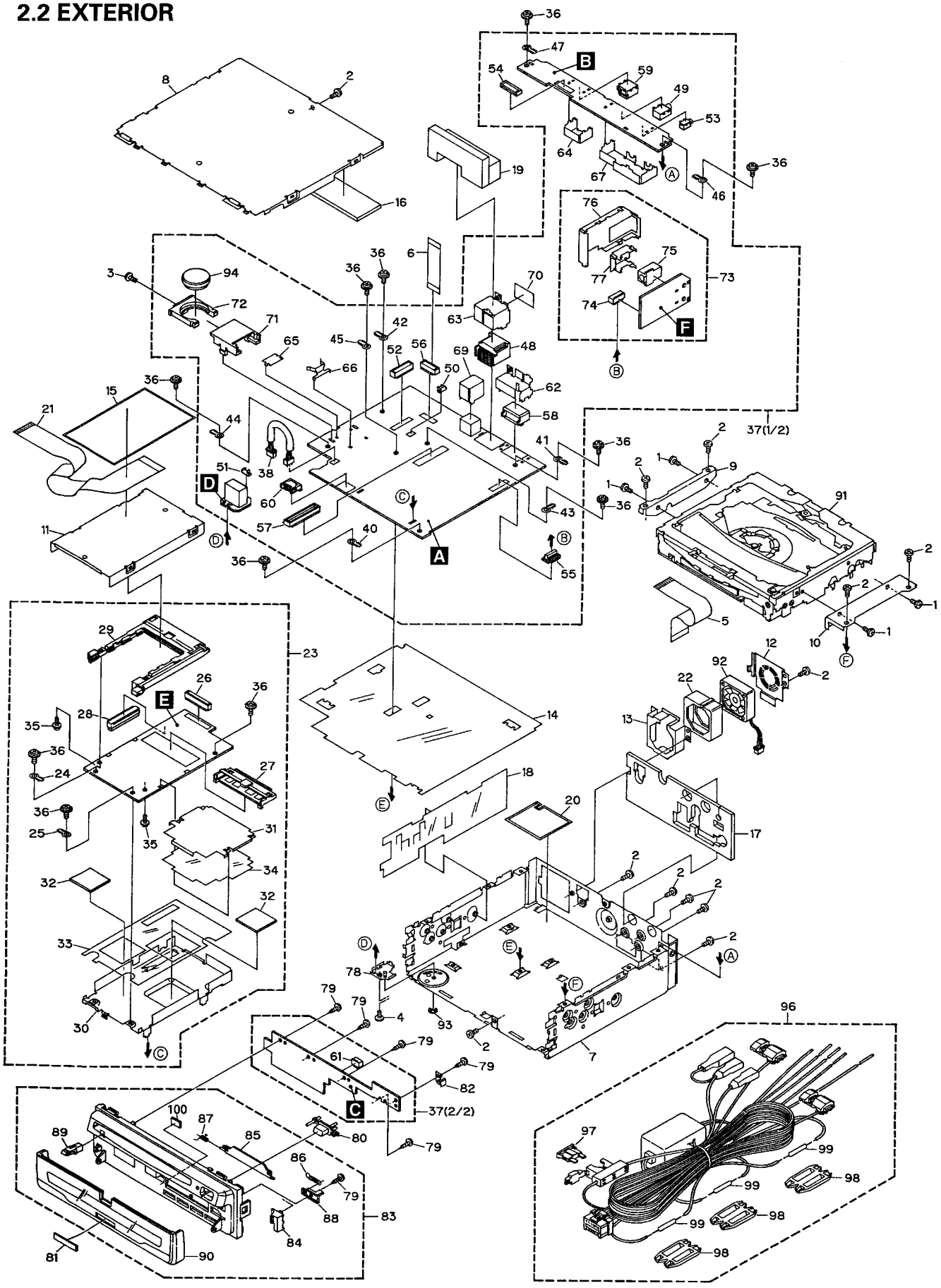
● Owner's Manual

Part No.	Language
CRD3462	English, French
CRB1694	English
CRB1695	French

● Installation Manual

Part No.	Language
CRD3457	English, French

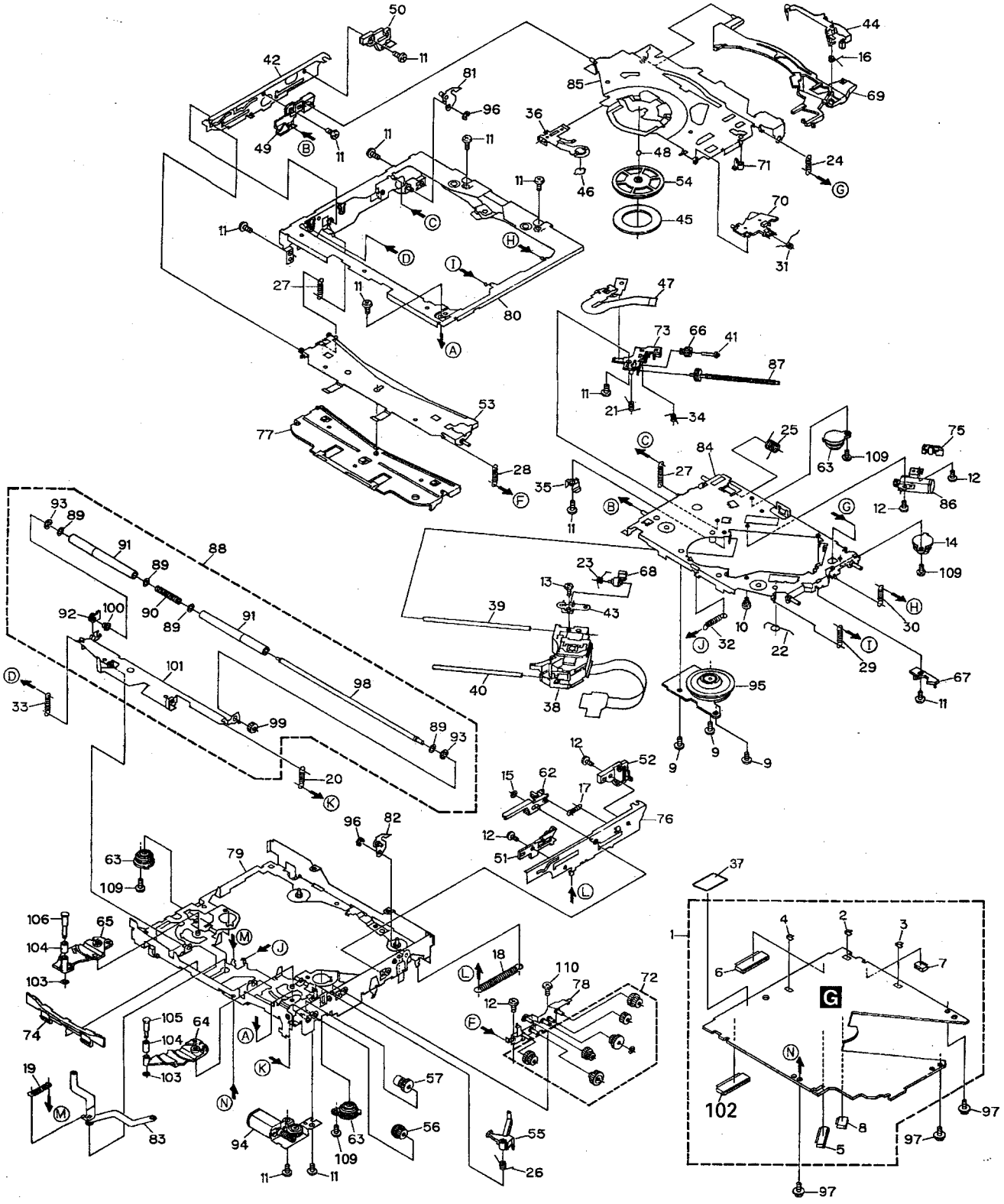
2.2 EXTERIOR



● EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BMZ20P025FMC
	2	Screw	BMZ26P040FMC
	3	Screw(M2.6x4)	CBA1013
	4	Screw(M3x3)	CBA1534
	5	FFC	CDE6529
	6	FFC	CDE6530
	7	Chassis	CNA2418
	8	Case	CNB2712
	9	Bracket	CNC9280
	10	Bracket	CNC9281
	11	Shield	CNC9643
	12	Holder	CNC9719
	13	Holder	CNC9720
	14	Insulator	CNM7186
	15	Insulator	CNM7597
	16	Cushion	CNM7442
	17	Cushion	CNM7459
	18	Insulator	CNM7460
	19	Cushion	CNM7461
	20	Insulator	CNM7506
	21	PCB	CNP6231
	22	Cover	CNV6912
	23	CC Unit	CWM7894
	24	Terminal(CN99)	CKF1064
	25	Terminal(CN100)	CKF1064
	26	Connector(CN2)	CKS3930
	27	Connector(CN901)	CKS4070
	28	Connector(CN302)	CKS4429
	29	Connector	CKS4434
	30	Shield	CNC9267
	31	Shield	CNC9485
	32	Sheet	CNM6903
	33	Insulator	CNM7456
	34	Insulator	CNM7532
	35	Screw	IMS20P060FCR
	36	Screw	IMS26P030FMC
	37	Main Unit	CWM7614
	38	Cord Assy(CN555)	CDE5955
	39	•••••	
	40	Terminal(CN553)	CKF1064
	41	Terminal(CN554)	CKF1064
	42	Terminal(CN1803)	CKF1064
	43	Terminal(CN3258)	CKF1064
	44	Terminal(CN3259)	CKF1064
	45	Terminal(CN3903)	CKF1064
	46	Terminal(CN5006)	CKF1064
	47	Terminal(CN5007)	CKF1064
	48	Connector(CN1801)	CKM1341
	49	Jack(CN5005)	CKN1035
	50	Connector(CN1802)	CKS3124
	51	Connector(CN556)	CKS3125
	52	Connector(CN3251)	CKS3751
	53	Connector(CN5001)	CKS3759
	54	Connector(CN5004)	CKS3991
	55	Connector(CN552)	CKS4065
	56	Connector(CN3901)	CKS4361
	57	Connector(CN3254)	CKS4430
	58	Connector(CN3257)	CKS4463
	59	Connector(CN5002)	CKS4473
	60	Connector(CN660)	CKS4518
	61	Connector(CN2851)	CKS4519
	62	Holder	CNC9270
	63	Holder	CNC9271
	64	Holder	CNC9272
	65	Holder	CNC9474
	66	Holder	CNC9475
	67	Holder	CNC9477
	68	•••••	
	69	Shield	CNC9635
	70	Insulator	CNM7535
	71	Holder	CNV6763
	72	Holder	CNV6764
	73	GPS Unit	CWX2591
	74	Connector(CN461)	CKS4280
	75	Connector(CN504)	CKS4432
	76	Shield	CNC9191
	77	Holder	CNC9252
	78	Holder Unit	CXB7069
	79	Screw	BPZ20P050FMC
	80	Button(EJECT)	CAC7005
*	81	Badge	CAH1754
	82	Earth Plate	CNC9476
	83	Grille Unit	CXB8290
	84	Button(PC-CARD)	CAC7105
	85	Door	CAT2285
	86	Spring	CBH2258
	87	Spring	CBH2499
	88	Holder	CNV6794
	89	Latch Unit	CXB3967
	90	Door Unit	CXB7566
	91	DVD Mechanism Module(MS2)	CXK6100
	92	Fan Motor	CXM1192
	93	Washer	YE20FUC
*	94	Battery	CEX1068
	95	•••••	
	96	Cord Assy	CDE6678
	97	Fuse(7.5A)	CEK1135
	98	Cap	CNS1472
	99	Resistor	RS1/2PMF102J
	100	Sheet	CNM7595

2.3 DVD MECHANISM MODULE

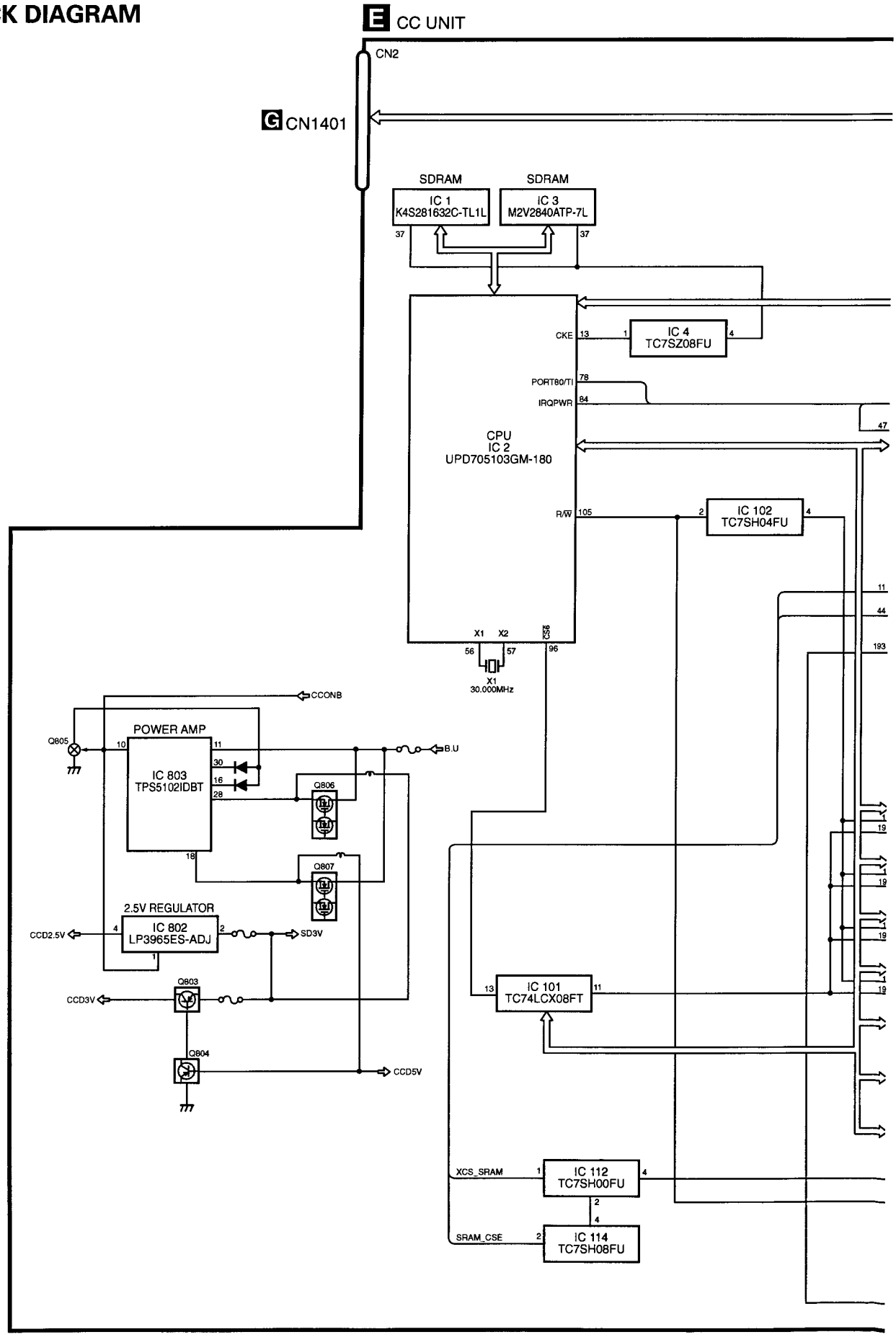


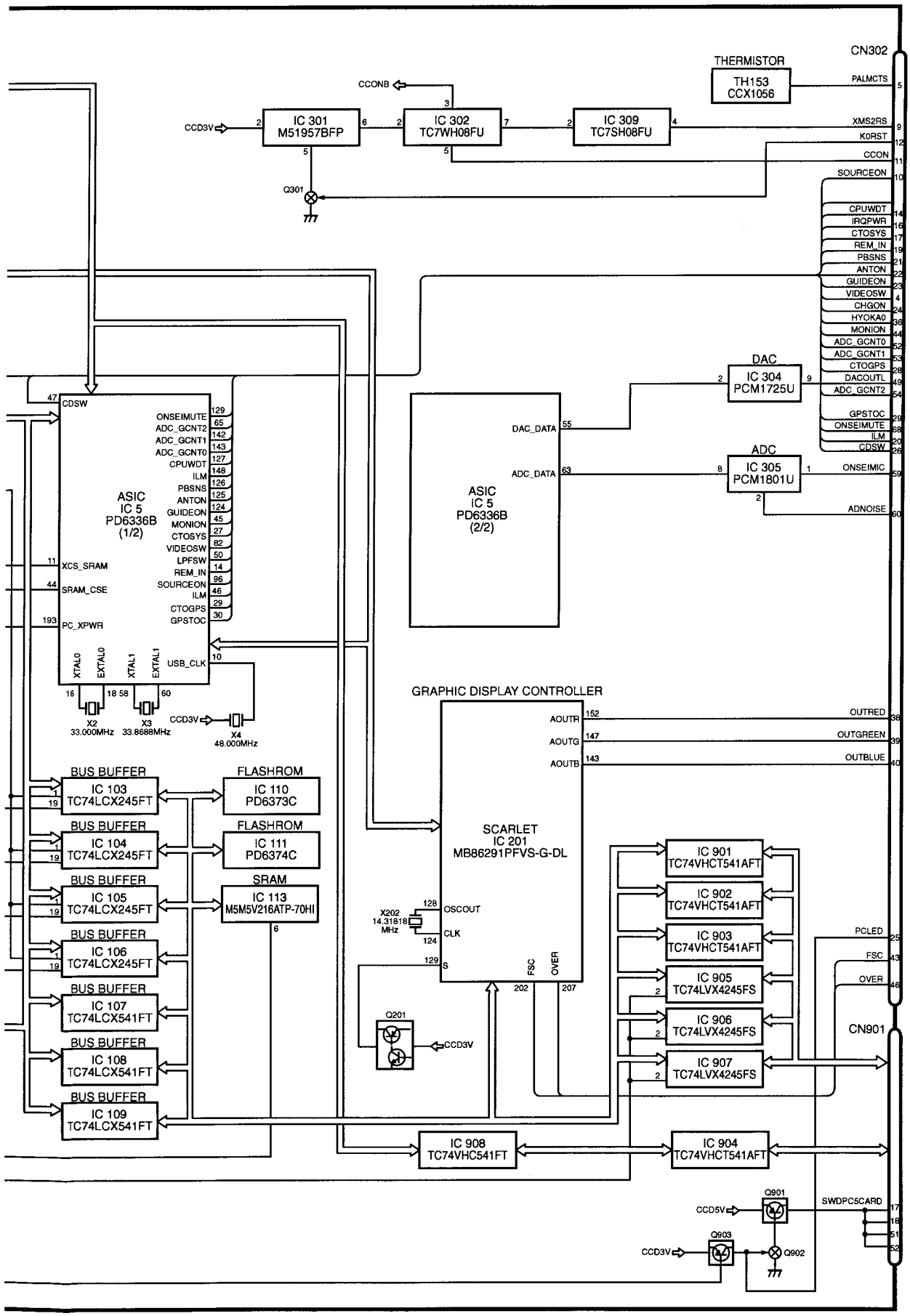
● DVD MECHANISM MODULE SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	DVD Core Unit V	CWX2453
	2	Terminal(CN1703)	CKF1065
	3	Terminal(CN1705)	CKF1065
	4	Terminal(CN1706)	CKF1065
	5	Connector(CN1100)	CKS3749
	6	Connector(CN1701)	CKS4052
	7	Connector(CN1700)	CKS4374
	8	Connector(CN1300)	CKS4507
	9	Screw(M2x3)	CBA1486
	10	Screw	CBA1535
	11	Screw(M2x2.2)	CBA1547
	12	Screw(M2x2.2)	CBA1548
	13	Screw(M1.4x2)	CBA1549
	14	Damper	CNV6927
	15	Washer	CBF1038
	16	Spring	CBH2394
	17	Spring	CBH2395
	18	Spring	CBH2396
	19	Spring	CBH2397
	20	Spring	CBH2398
	21	Spring	CBH2399
	22	Spring	CBH2400
	23	Spring	CBH2401
	24	Spring	CBH2402
	25	Spring	CBH2403
	26	Spring	CBH2404
	27	Spring	CBH2405
	28	Spring	CBH2406
	29	Spring	CBH2407
	30	Spring	CBH2408
	31	Spring	CBH2410
	32	Spring	CBH2411
	33	Spring	CBH2413
	34	Spring	CBH2414
	35	Spring	CBL1499
	36	Spring	CBL1500
	37	Sheet	CNM7590
	38	Pickup Unit(Service)(DP4)	CXX1530
	39	Shaft	CLA3878
	40	Shaft	CLA3879
	41	Shaft	CLA3881
	42	Lever	CNC8988
	43	Bracket	CNC8992
	44	Arm	CNC8994
	45	Sheet	CNM6883
	46	Sheet	CNM6884
	47	PCB	CNP5971
	48	Ball	CNR1189
	49	Guide	CNV6352
	50	Guide	CNV6353
	51	Guide	CNV6354
	52	Guide	CNV6355
	53	Guide	CNV6356
	54	Clamper	CNV6357
	55	Arm	CNV6358
	56	Gear	CNV6361
	57	Gear	CNV6362
	58-61	•••••	
	62	Rack	CNV6367
	63	Damper	CNV6368
	64	Arm	CNV6369
	65	Arm	CNV6370
	66	Gear	CNV6372
	67	Holder	CNV6374
	68	Rack	CNV6376
	69	Arm	CNV6377
	70	Arm	CNV6378
	71	Arm	CNV6379
	72	Gear Unit	CXB5959
	73	Holder	CNV6383
	74	Guide	CNV6384
	75	Holder	CNV6385
	76	Lever Unit	CXB5943
	77	Holder Unit	CXB5944
*	78	Holder Unit	CXB5947
	79	Frame Unit	CXB5948
	80	Frame Unit	CXB5949
	81	Arm Unit	CXB5950
	82	Arm Unit	CXB5951
	83	Arm Unit	CXB5952
	84	Chassis Unit	CXB5953
	85	Arm Unit	CXB5954
	86	Motor Unit(CRG)	CXB5955
	87	Screw Unit	CXB5957
	88	Roller Unit	CXB5958
	89	Washer	CBF1060
	90	Spring	CBH2170
	91	Roller	CNV6068
	92	Holder	CNV6210
	93	Washer	YE20FUC
	94	Motor Unit(LOAD)	CXB5960
	95	Motor Unit(SPDL)	CXB6218
	96	Washer	YE15FUC
	97	Screw	IMS20P030FMC
*	98	Shaft	CLA3877
*	99	Gear	CNV6359
*	100	Collar	CNV6382
*	101	Arm Unit	CXB5945
	102	Connector(CN1401)	CKS4052
	103	Washer	CBF1087
	104	Roller	CNV6928
	105	Shaft	CLA4091
	106	Shaft	CLA4092
	107,108	•••••	
	109	Screw (M2x3.5)	CBA1560
	110	Screw (M2x2.2)	CBA1419

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM




CN302
THERMISTOR
TH153
CCX1056
PALMCTS
CCONB
CCD3V
IC 301
M51957BFP
IC 302
TC7WH08FU
IC 309
TC7SH08FU
XMS2RS
K0RST
CCON
SOURCEON
Q301
CPUWDT
IRQPWR
CTOSYS
REM_IN
PBSNS
ANTON
GUIDEON
VIDEOSW
CHGON
HYOKA0
MONION
ADC_GCNT0
ADC_GCNT1
CTOGPS
DACOUTL
ADC_GCNT2
GPSTOC
ONSEIMUTE
ILM
CDSW
DAC
IC 304
PCM1725U
ADC
IC 305
PCM1801U
ONSEIMIC
ADNOISE
DAC_DATA
ADC_DATA
ASIC
IC 5
PD6336B
(2/2)
CDSW
ONSEIMUTE
ADC_GCNT2
ADC_GCNT1
ADC_GCNT0
CPUWDT
ILM
PBSNS
ANTON
GUIDEON
MONION
CTOSYS
VIDEOSW
LPFSW
REM_IN
SOURCEON
ILM
CTOGPS
GPSTOC
XCS_SRAM
SRAM_CSE
PC_XPWR
ASIC
IC 5
PD6336B
(1/2)
XTAL0
EXTAL0
XTAL1
EXTAL1
USB_CLK
X2
33.000MHz
X3
33.8688MHz
X4
48.000MHz
CCD3V
A CN3254
GRAPHIC DISPLAY CONTROLLER
AOUTR
AOUTG
AOUTB
OUTRED
OUTGREEN
OUTBLUE
SCARLET
IC 201
MB86291PFVS-G-DL
OSCOUT
CLK
FSC
OVER
X202
14.31818
MHz
Q201
CCD3V
BUS BUFFER
IC 103
TC74LCX245FT
IC 104
TC74LCX245FT
IC 105
TC74LCX245FT
IC 106
TC74LCX245FT
IC 107
TC74LCX541FT
IC 108
TC74LCX541FT
IC 109
TC74LCX541FT
FLASHROM
IC 110
PD6373C
FLASHROM
IC 111
PD6374C
SRAM
IC 113
M5M5V216ATP-70HI
IC 901
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IC 902
TC74VHCT541AFT
IC 903
TC74VHCT541AFT
IC 905
TC74LVX4245FS
IC 906
TC74LVX4245FS
IC 907
TC74LVX4245FS
PCLED
FSC
OVER
CN901
IC 908
TC74VHC541FT
IC 904
TC74VHCT541AFT
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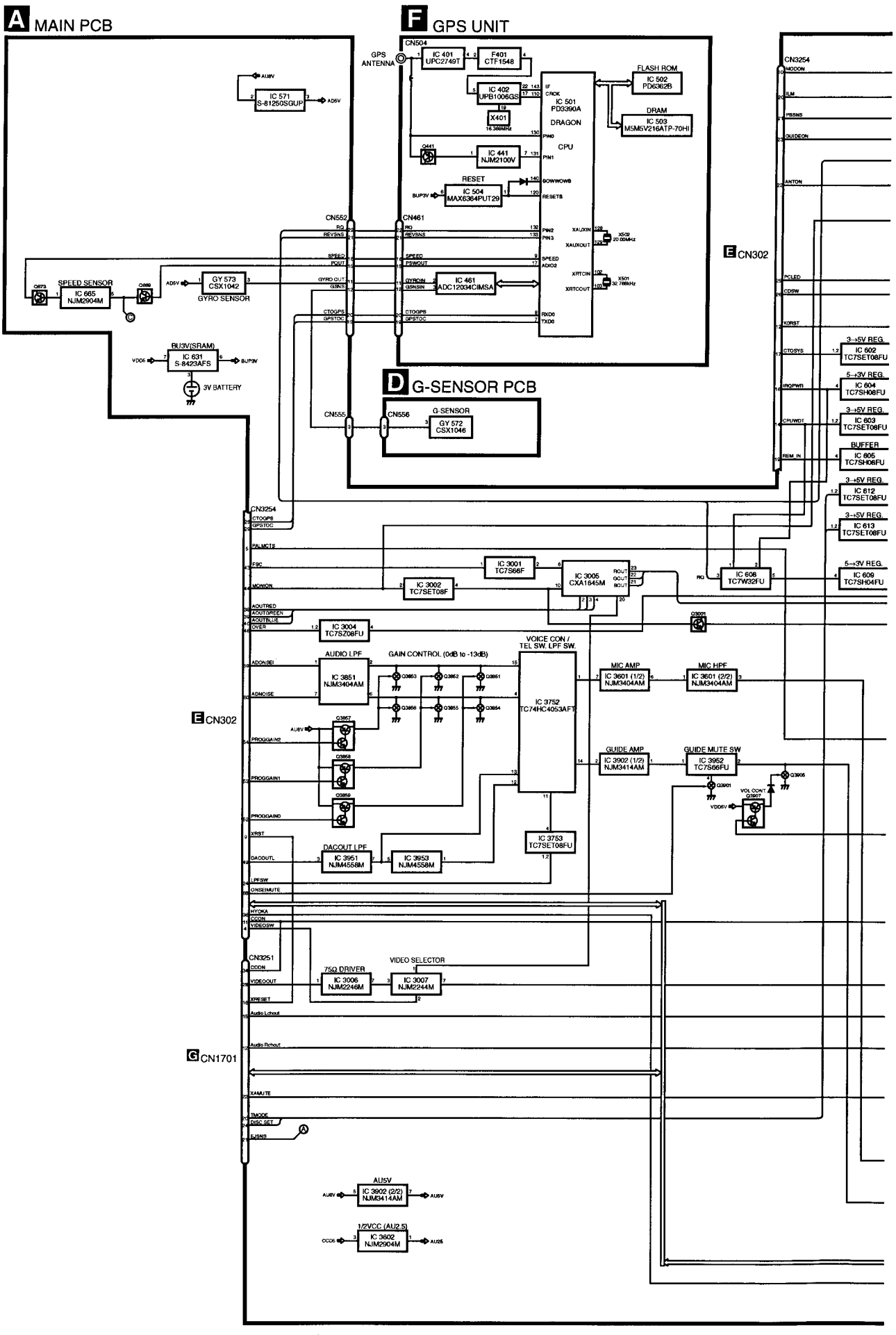
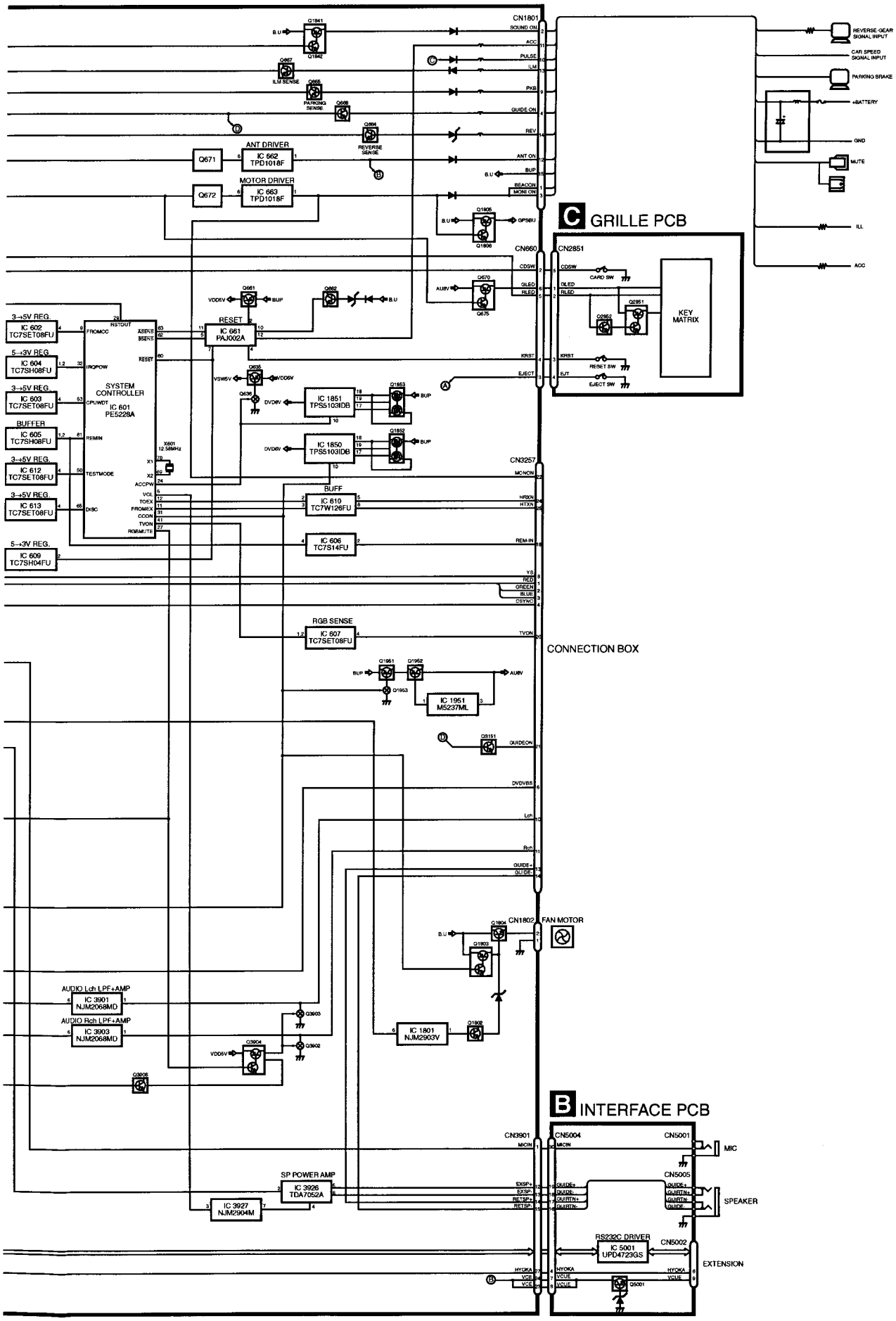
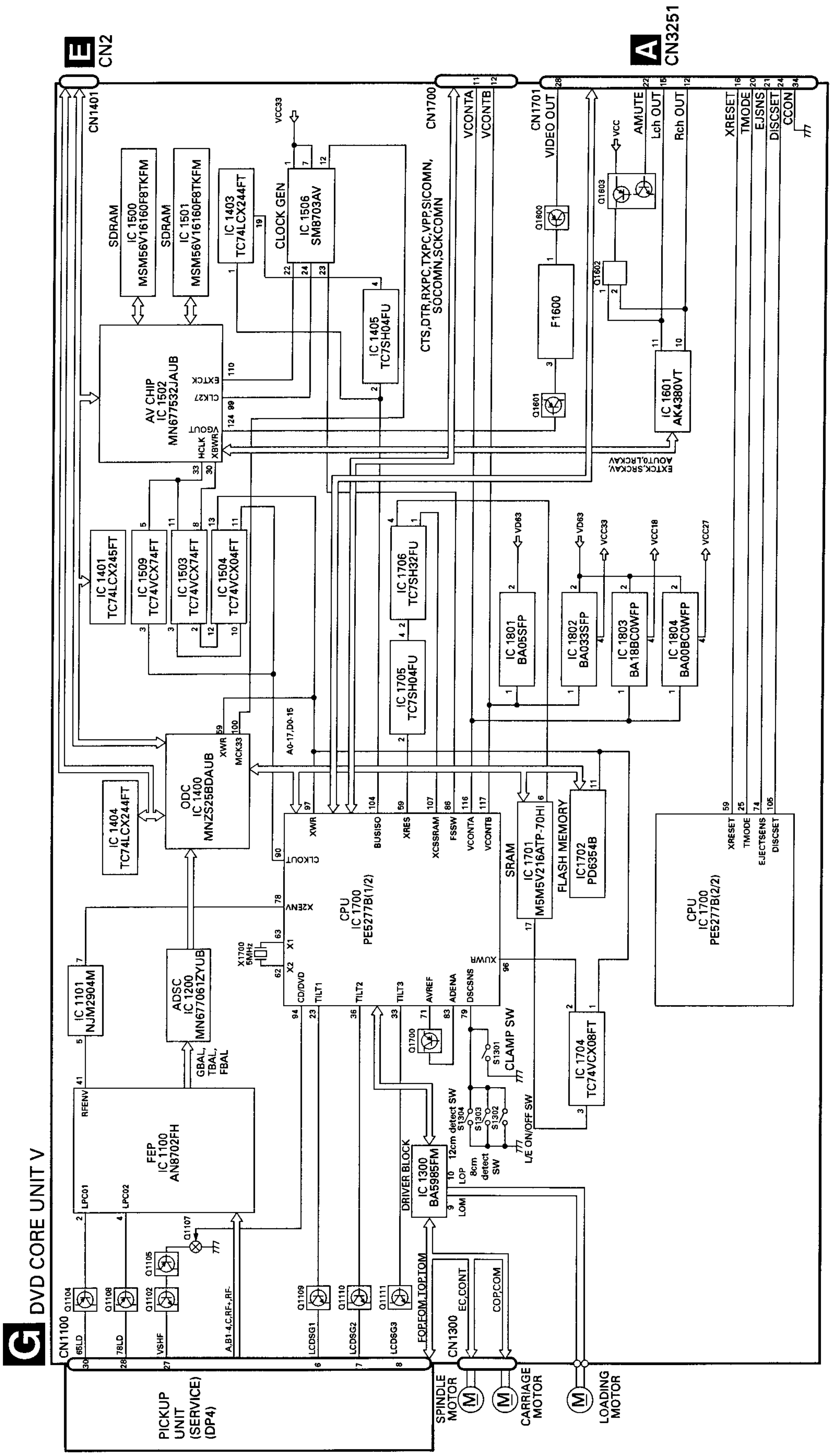
Q901
CCD5V
SWDPC5CARD
Q903
CCD3V
Q902


A MAIN PCB
F GPS UNIT
D G-SENSOR PCB
E CN302
G CN1701
GPS ANTENNA
CN504
IC 401 UPC2749T
F401 CTF1548
IC 402 UPB1006GS
X401 16.368MHz
IC 501 PD3390A DRAGON CPU
FLASH ROM IC 502 PD63626
DRAM IC 503 M5M5V216ATP-70HI
Q441
IC 441 NJM2100V
RESET IC 504 MAX6364PUT29
IC 571 S-81250SGUP
CN552
CN461
IC 461 ADC12034CIMSA
X502 20.00MHz
X501 32.768kHz
SPEED SENSOR IC 665 NJM2904M
GY 573 CSX1042 GYRO SENSOR
BU3V(SRAM) IC 631 S-8423AFS
3V BATTERY
CN555
CN556
G-SENSOR GY 572 CSX1046
CN3254
CN3251
IC 3001 TC7S66F
IC 3002 TC7SET08F
IC 3005 CXA1645M
IC 606 TC7W32FU
IC 3004 TC7SZ08FU
AUDIO LPF IC 3851 NJM3404AM
GAIN CONTROL (0dB to -13dB)
VOICE CON / TEL SW, LPF SW. IC 3752 TC74HC4053AFT
MIC AMP IC 3601 (1/2) NJM3404AM
MIC HPF IC 3601 (2/2) NJM3404AM
GUIDE AMP IC 3902 (1/2) NJM3414AM
GUIDE MUTE SW IC 3952 TC7S66FU
IC 3753 TC7SET08FU
DACOUT LPF IC 3951 NJM4558M
IC 3953 NJM4558M
75Ω DRIVER IC 3006 NJM2246M
VIDEO SELECTOR IC 3007 NJM2244M
AU5V IC 3902 (2/2) NJM3414AM
1/2VCC (AU2.5) IC 3602 NJM2904M
3→5V REG. IC 602 TC7SET08FU
5→3V REG. IC 604 TC7SH08FU
3→5V REG. IC 603 TC7SET08FU
BUFFER IC 605 TC7SH06FU
3→5V REG. IC 612 TC7SET08FU
3→5V REG. IC 613 TC7SET08FU
5→3V REG. IC 609 TC7SH04FU

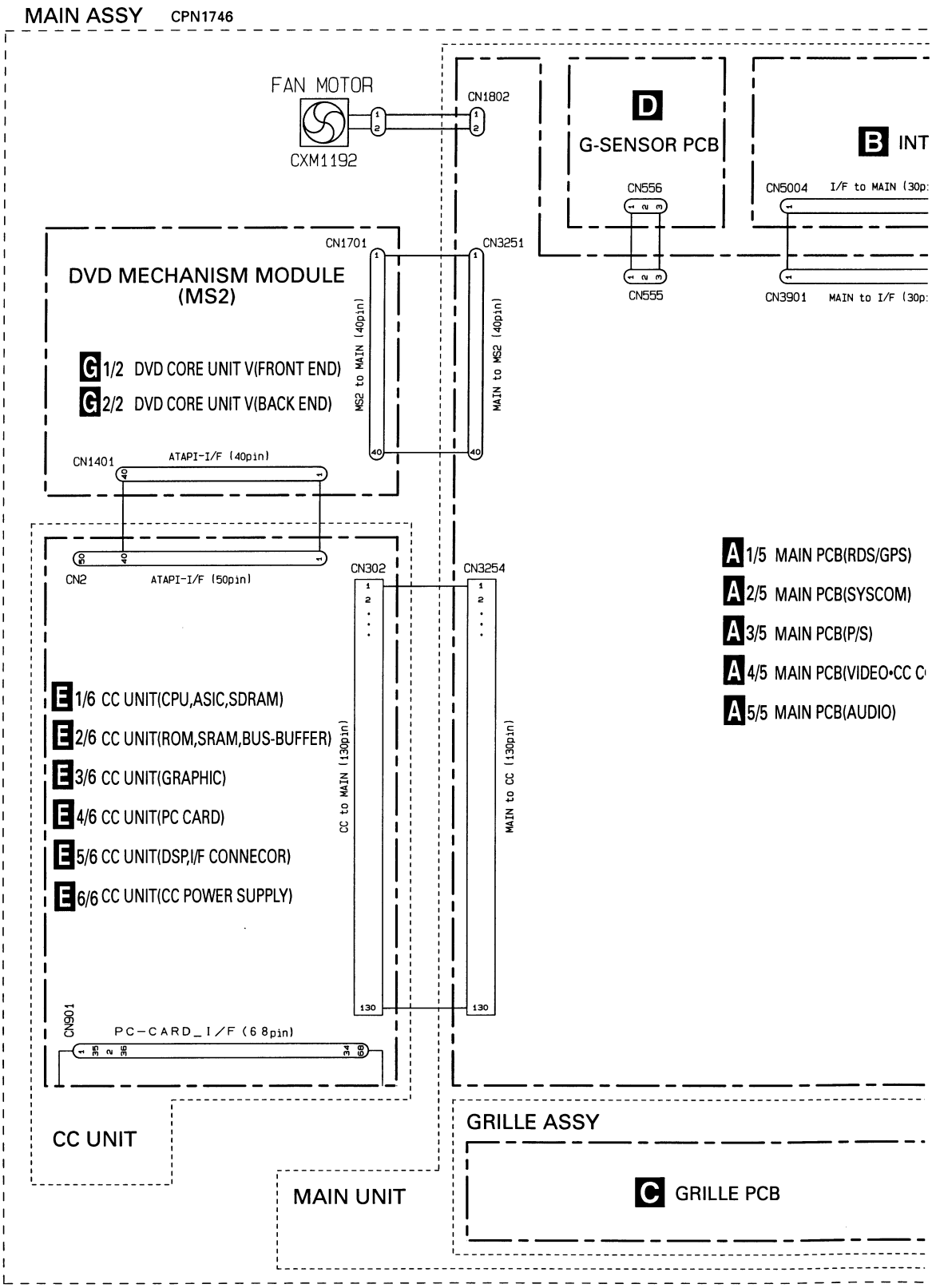

CN1801
SOUND ON
ACC
PULSE
ILM
PKB
GUIDE ON
REV
ANT ON
BUP
BEACON MONI ON
REVERSE GEAR SIGNAL INPUT
CAR SPEED SIGNAL INPUT
PARKING BRAKE
+BATTERY
GND
MUTE
ILL
ACC
ANT DRIVER
IC 662 TPD1018F
Q671
MOTOR DRIVER
IC 663 TPD1018F
Q672
ILM SENSE
PARKING SENSE
REVERSE SENSE
C GRILLE PCB
CN2851
CDSW
CARD SW
KEY MATRIX
RESET SW
EJECT SW
CN660
KRST
EJECT
3→5V REG.
IC 602 TC7SET08FU
5→3V REG.
IC 604 TC7SH08FU
3→5V REG.
IC 603 TC7SET08FU
BUFFER
IC 605 TC7SH08FU
3→5V REG.
IC 612 TC7SET08FU
3→5V REG.
IC 613 TC7SET08FU
5→3V REG.
IC 609 TC7SH04FU
SYSTEM CONTROLLER
IC 601 PE5228A
RESET
IC 661 PAJ002A
IC 1851 TPS5103IDB
IC 1850 TPS5103IDB
X601 12.58MHz
BUFF
IC 610 TC7W126FU
IC 606 TC7S14FU
CN3257
MONON
HRXN
HTXN
REM-IN
Y.S
RED
GREEN
BLUE
CSYNC
RGB SENSE
IC 607 TC7SET08FU
TVON
CONNECTION BOX
IC 1951 M5237ML
GUIDEON
DVDVBS
Lch
Rch
GUIDE+
GUIDE-
CN1802
FAN MOTOR
AUDIO Lch LPF+AMP
IC 3901 NJM2068MD
AUDIO Rch LPF+AMP
IC 3903 NJM2068MD
IC 1801 NJM2903V
B INTERFACE PCB
CN3901
MICIN
CN5004
CN5001
MIC
CN5005
SPEAKER
SP POWER AMP
IC 3926 TDA7052A
IC 3927 NJM2904M
EXSP+
EXSP-
RETSP+
RETSP-
RS232C DRIVER
IC 5001 UPD4723GS
CN5002
EXTENSION
HYOKA
VCUE
Q5001

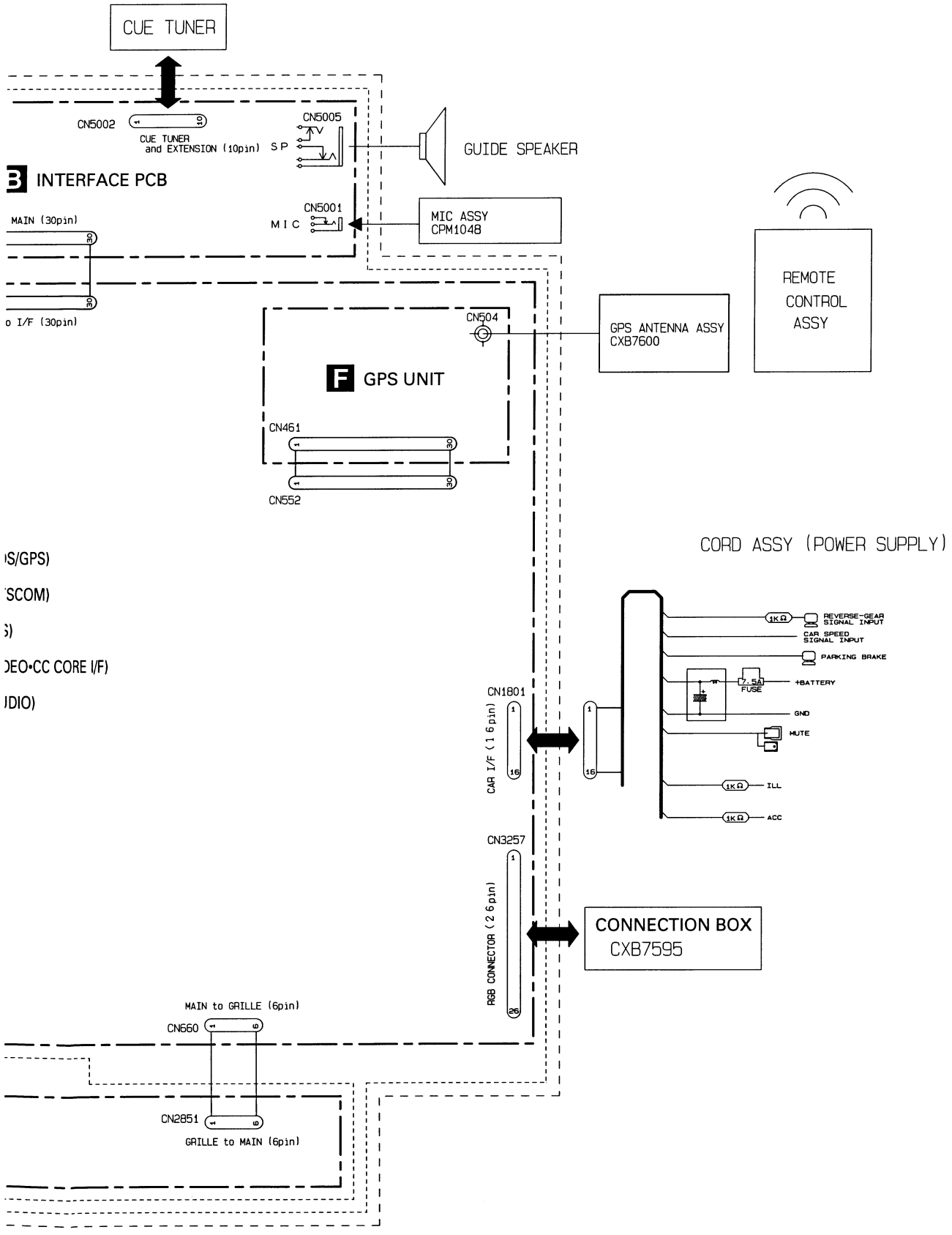


DVD CORE UNIT V
CN2
CN3251
CN1401
CN1700
CN1701
VIDEO OUT
AMUTE
Lch OUT
Rch OUT
VCONTA
VCONTB
XRESET
TMODE
EJSNS
DISCSET
CCON
SDRAM IC 1500 MSM56V16160F8TKFM
SDRAM IC 1501 MSM56V16160F8TKFM
IC 1403 TC74LCX244FT
CLOCK GEN IC 1506 SM8703AV
IC 1405 TC7SH04FU
AV CHIP IC 1502 MN677532JAUB
CTS,DTR,RXPC,TXPC,VPP,SICOMN, SOCOMN,SCKCOMN
F1600
IC 1601 AK4380VT
IC 1401 TC74LCX245FT
IC 1509 TC74VCX74FT
IC 1503 TC74VCX74FT
IC 1504 TC74VCX04FT
IC 1706 TC7SH32FU
IC 1705 TC7SH04FU
IC 1801 BA05SFP
IC 1802 BA033SFP
IC 1803 BA18BC0WFP
IC 1804 BA00BC0WFP
ODC IC 1400 MN2S25BDAUB
IC 1404 TC74LCX244FT
CPU IC 1700 PE5277B(1/2)
SRAM IC 1701 M5M5V216ATP-70HI
FLASH MEMORY IC1702 PD6354B
CPU IC 1700 PE5277B(2/2)
IC 1101 NJM2904M
ADSC IC 1200 MN6770612YUB
IC 1704 TC74VCX08FT
CLAMP SW
FEP IC 1100 AN8702FH
DRIVER BLOCK IC 1300 BA5985FM
12cm detect SW
8cm detect SW
L/E ON/OFF SW
CN1100
CN1300
PICKUP UNIT (SERVICE) (DP4)
SPINDLE MOTOR
CARRIAGE MOTOR
LOADING MOTOR

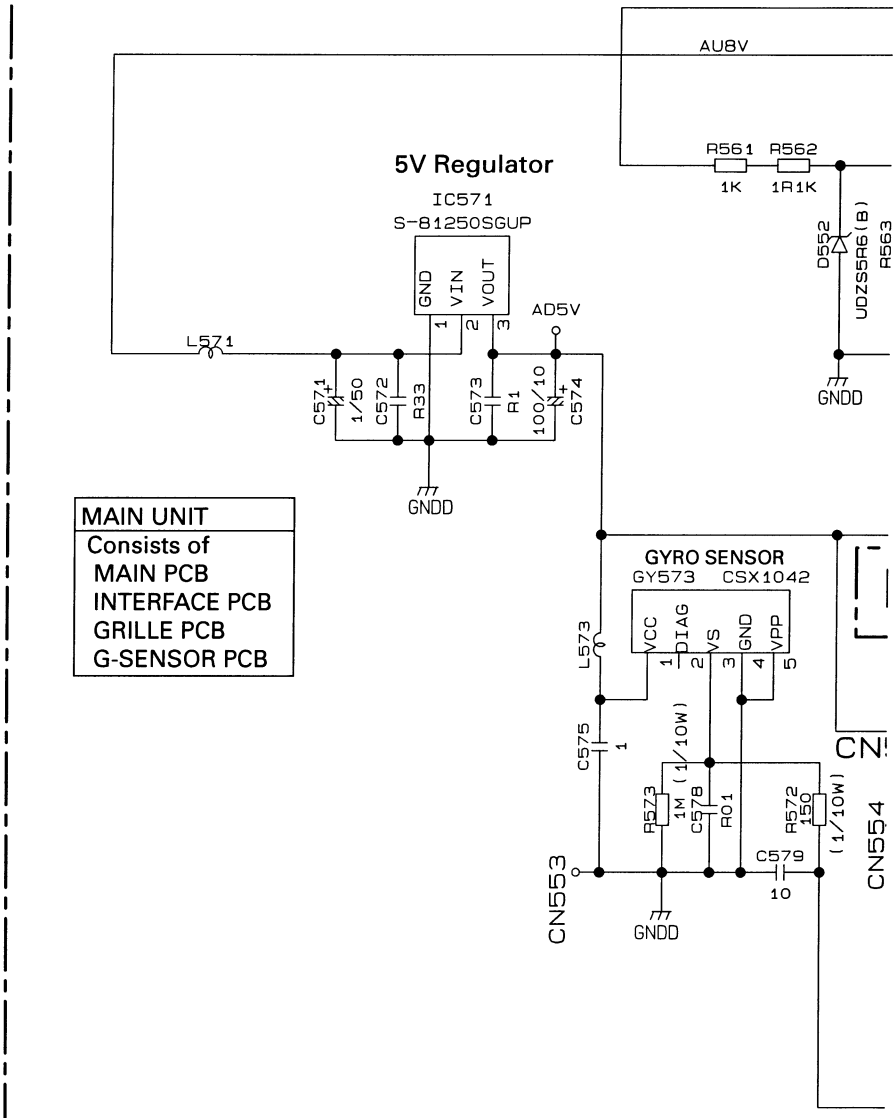
3.2 OVERALL CONNECTION DIAGRAM

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".




CUE TUNER
CN5002
CUE TUNER
and EXTENSION (10pin)
CN5005
SP
GUIDE SPEAKER
B INTERFACE PCB
CN5001
MIC
MIC ASSY
CPM1048
MAIN (30pin)
o I/F (30pin)
REMOTE
CONTROL
ASSY
CN504
GPS ANTENNA ASSY
CXB7600
F GPS UNIT
CN461
CN552
CORD ASSY (POWER SUPPLY)
)S/GPS)
'SCOM)
;)
)EO•CC CORE I/F)
)DIO)
CN1801
CAR I/F (16pin)
1K Ω
REVERSE-GEAR
SIGNAL INPUT
CAR SPEED
SIGNAL INPUT
PARKING BRAKE
7.5A
FUSE
+BATTERY
GND
MUTE
ILL
ACC
CN3257
RGB CONNECTOR (26pin)
CONNECTION BOX
CXB7595
MAIN to GRILLE (6pin)
CN660
CN2851
GRILLE to MAIN (6pin)

3.3 MAIN PCB 1/5 (GPS)

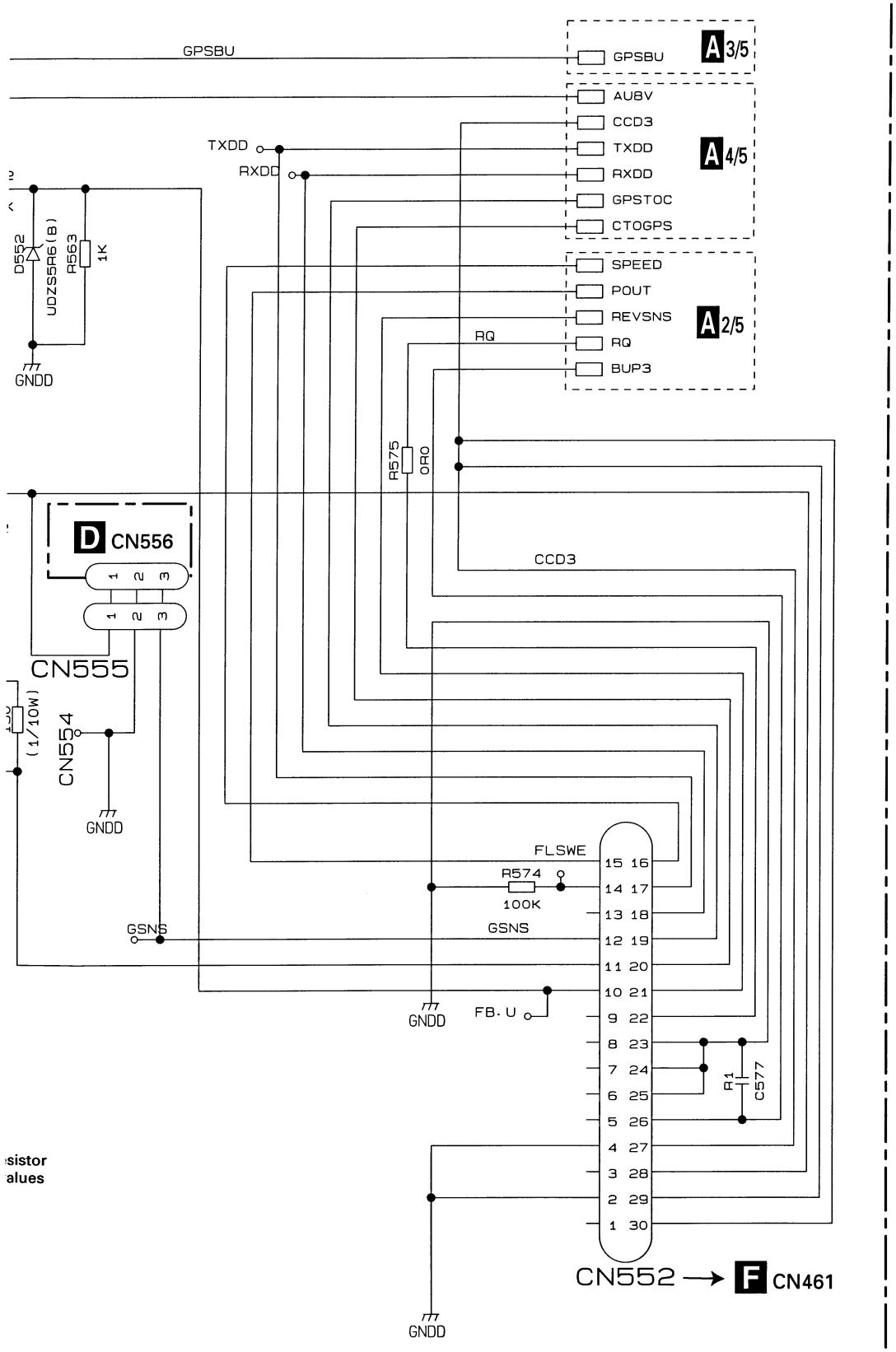


NOTE :

- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

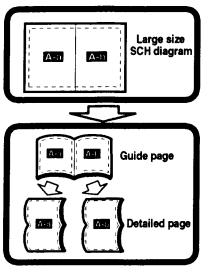
Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022

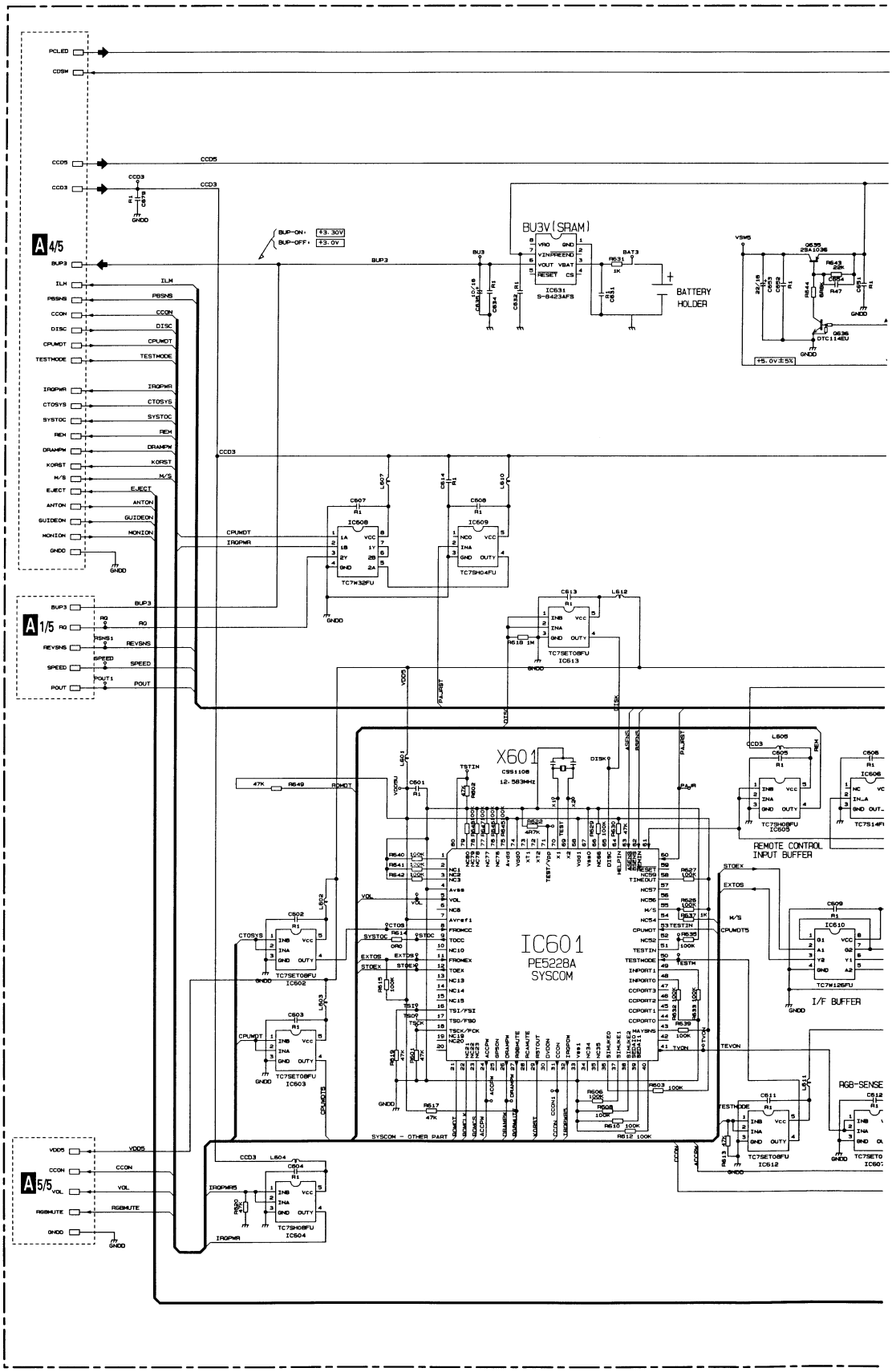
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.



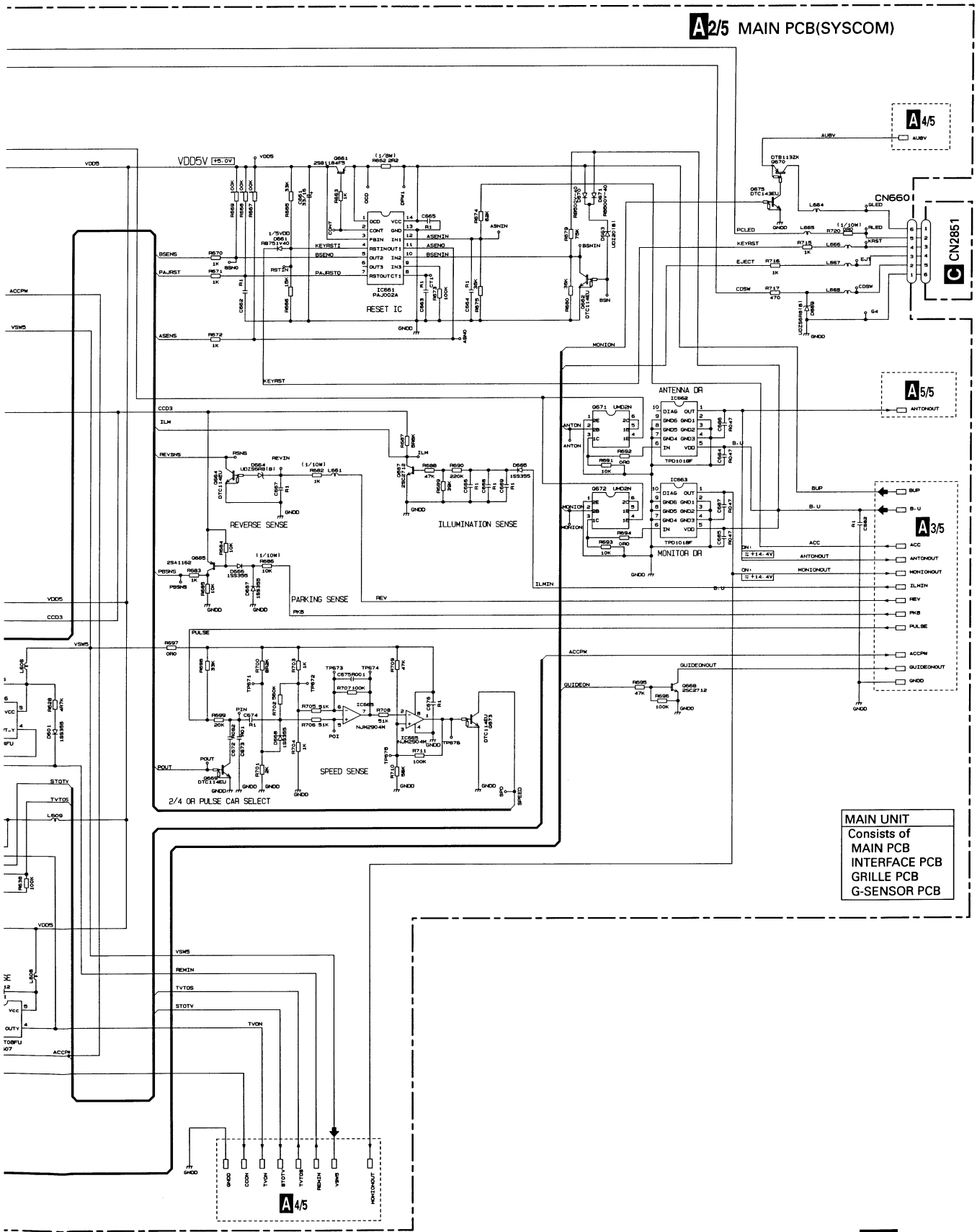
sistor
alues

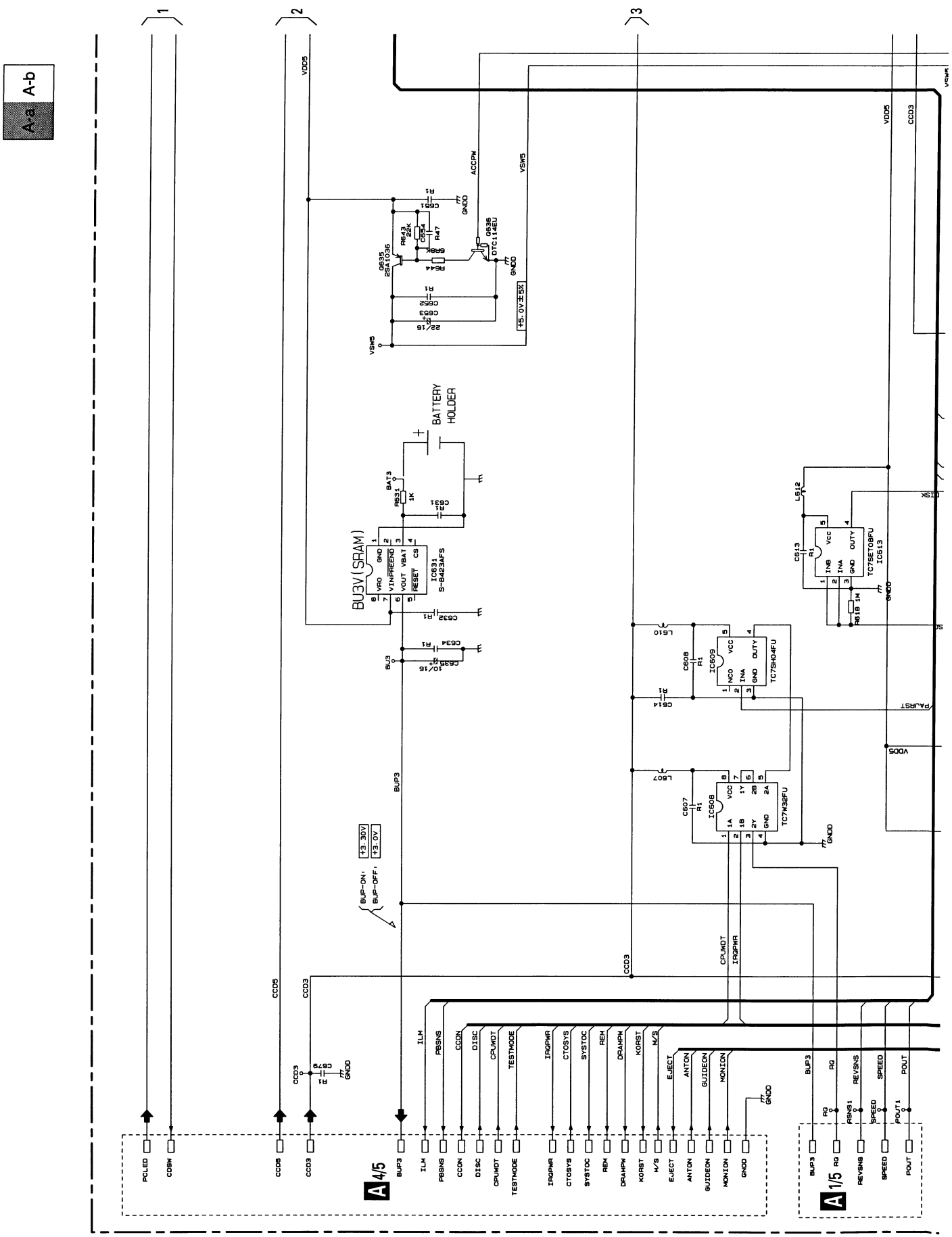
3.4 MAIN PCB 2/5 (SYSCOM)(GUIDE PAGE) A-a 2/5

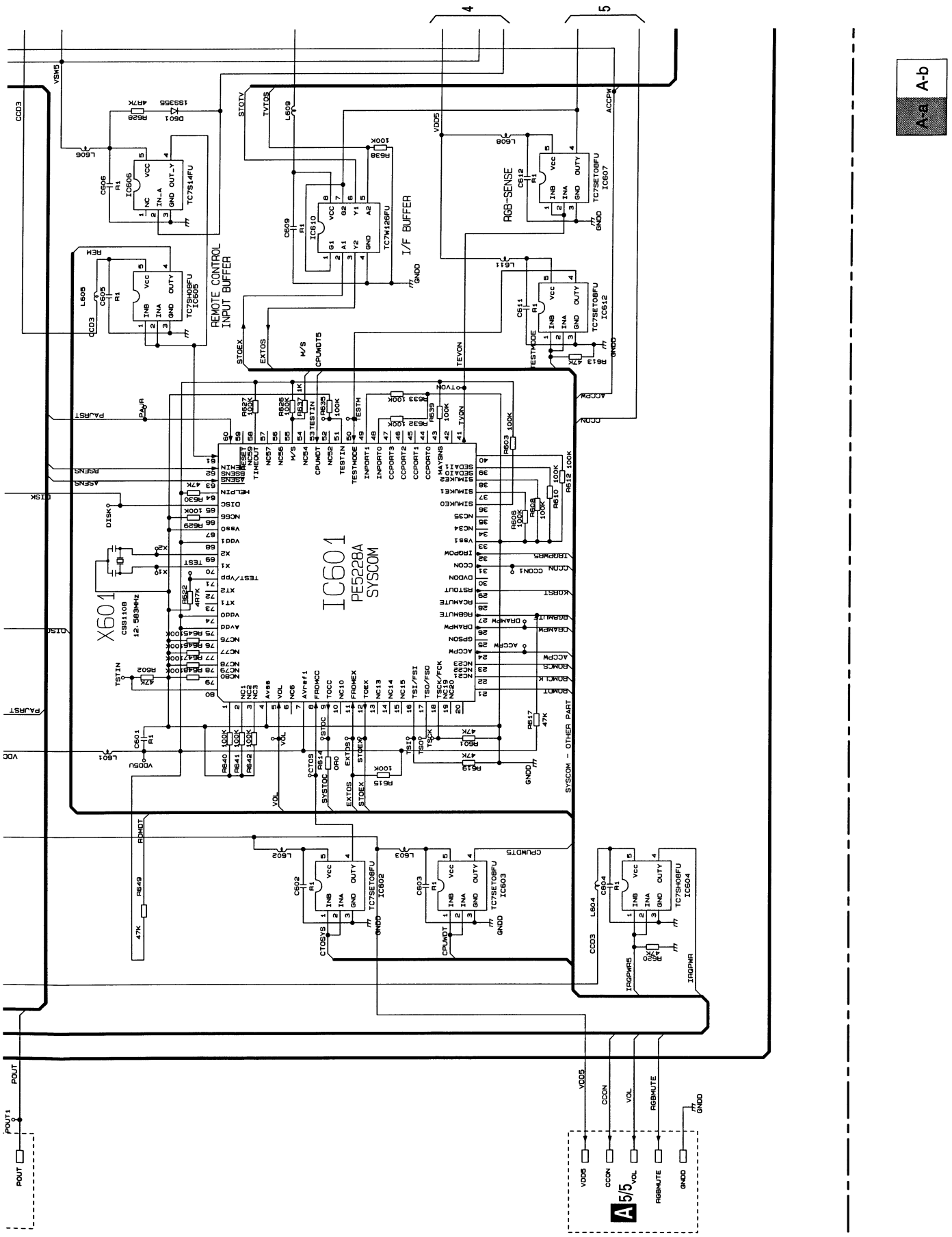




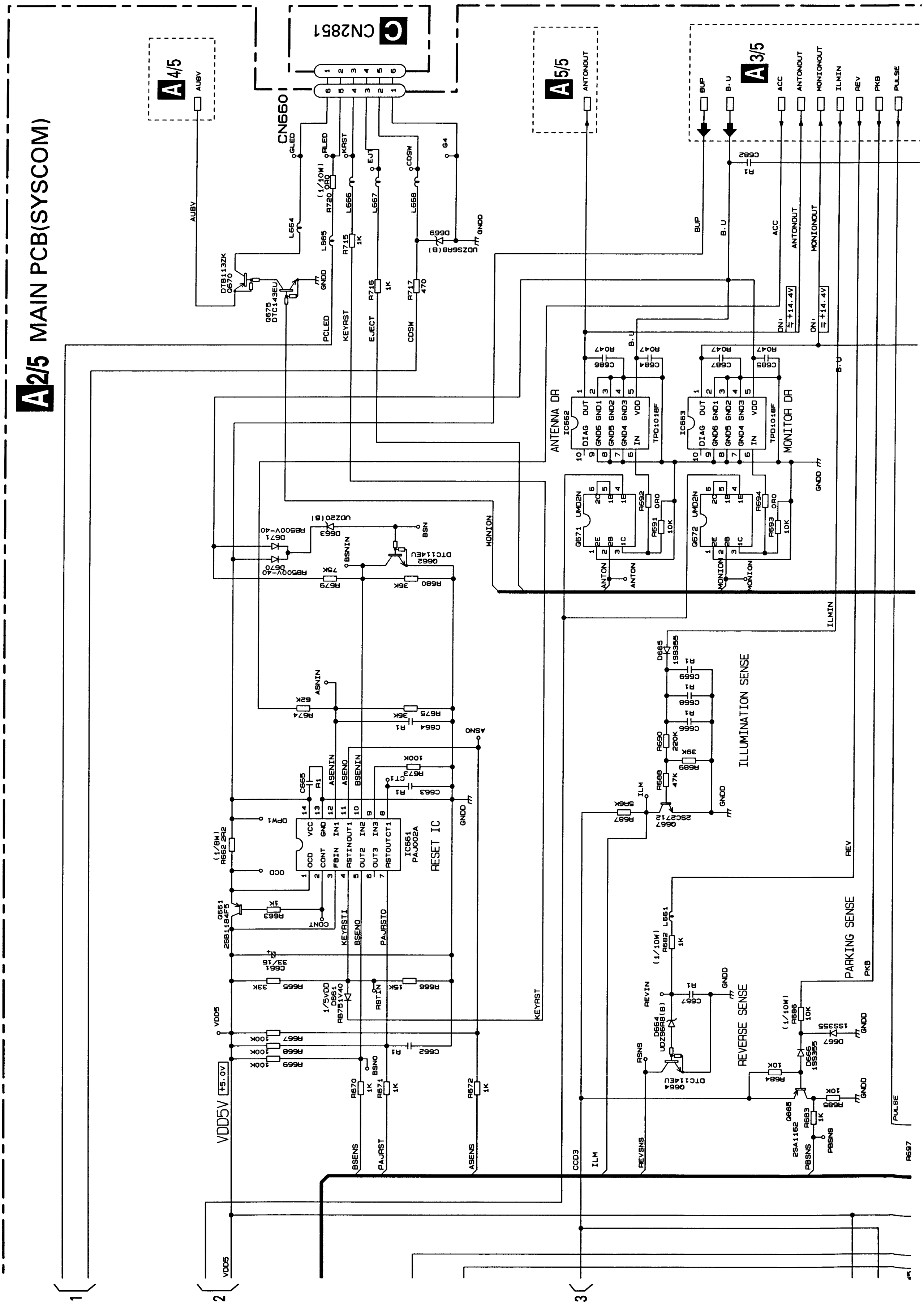
A-b 2/5


A2/5 MAIN PCB(SYSCOM)
VDD5V [+5.0V]
RESET IC
REVERSE SENSE
ILLUMINATION SENSE
PARKING SENSE
SPEED SENSE
2/4 OR PULSE CAR SELECT
ANTENNA DR
MONITOR DR
CN660
CN2851
A4/5
A5/5
A3/5
MAIN UNIT
Consists of
MAIN PCB
INTERFACE PCB
GRILLE PCB
G-SENSOR PCB

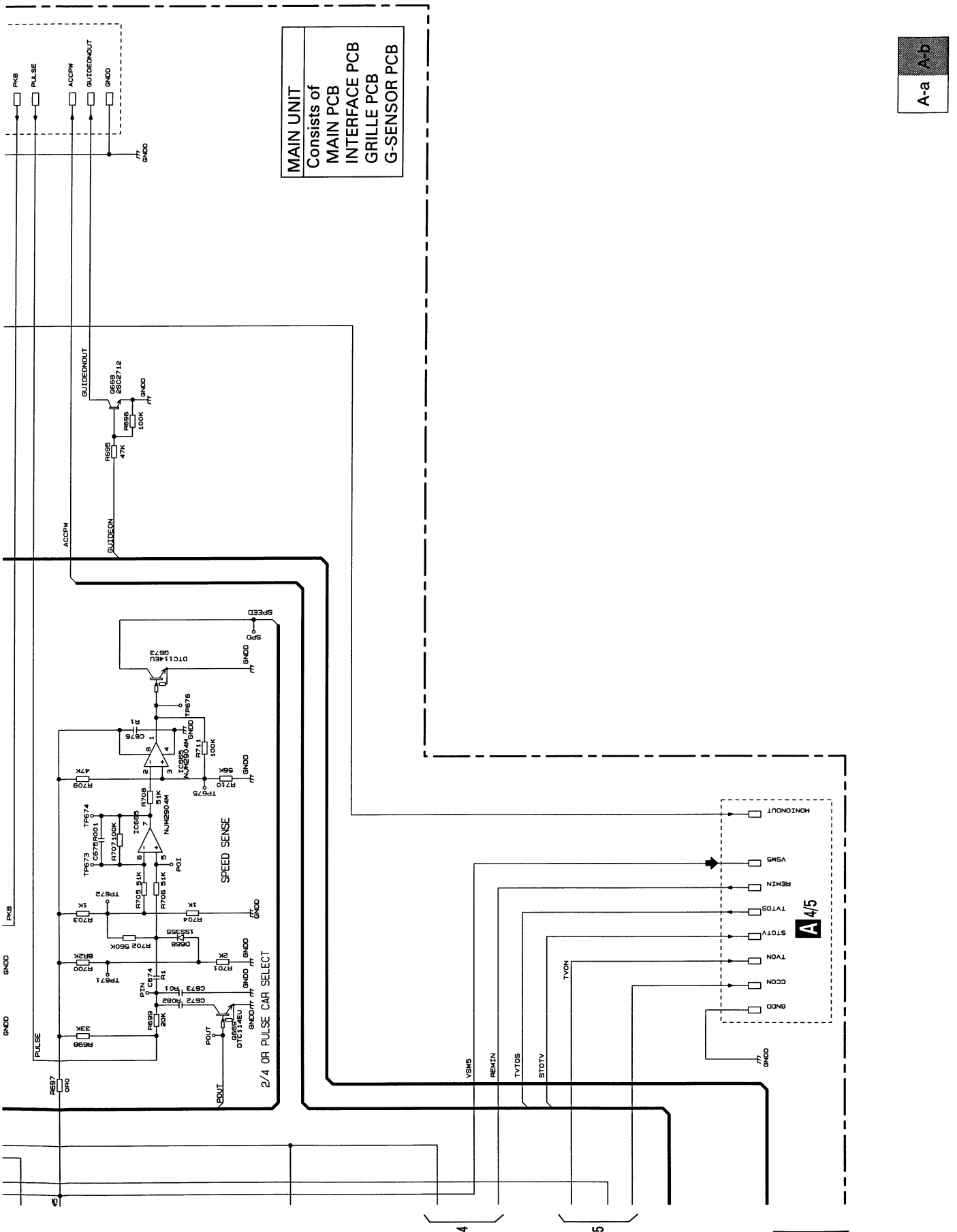

A-b
A-a
BATTERY HOLDER
BU3V (SRAM)
IC631 S-8423AFS
BUP-ON: +3.30V
BUP-OFF: +3.0V
+5.0V±5%
IC609 TC7SH04FU
IC608 TC7W32FU
IC613 TC7SET08FU
PCLED
CDSW
CCD5
CCD3
BUP3
ILM
PBSNS
CCON
DISC
CPUWDT
TESTMODE
IRQPWR
CTOSYS
SYSTOC
REM
DRAMPW
KORST
M/S
EJECT
ANTON
GUIDEON
MONION
GNDD
RQ
REVSNS
SPEED
POUT
A 4/5
A 1/5


IC601
PE5228A
SYSCOM
X601
REMOTE CONTROL INPUT BUFFER
I/F BUFFER
RGB-SENSE
SYSCOM - OTHER PART
A5/5
A-a 2/5

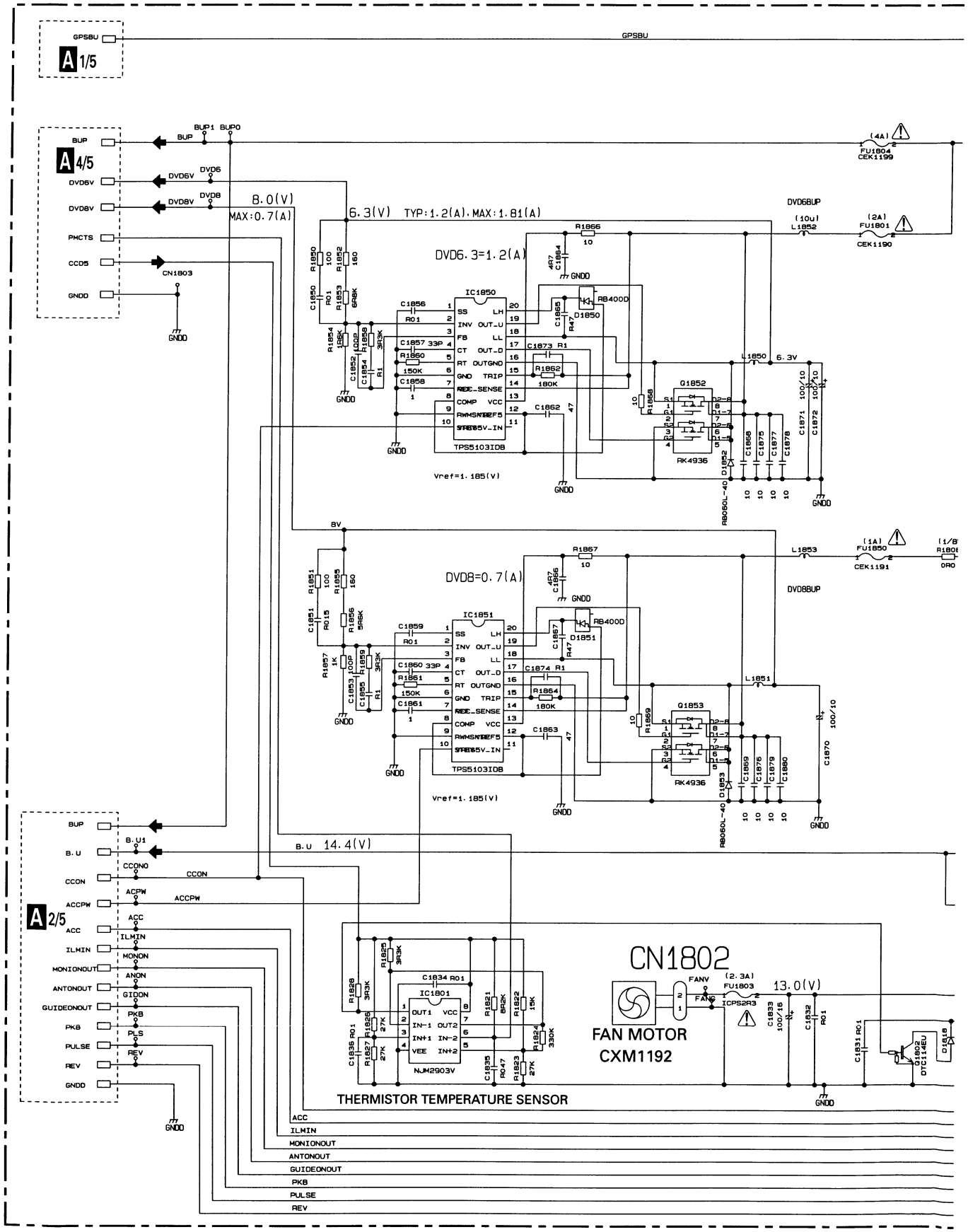
A-a A-b

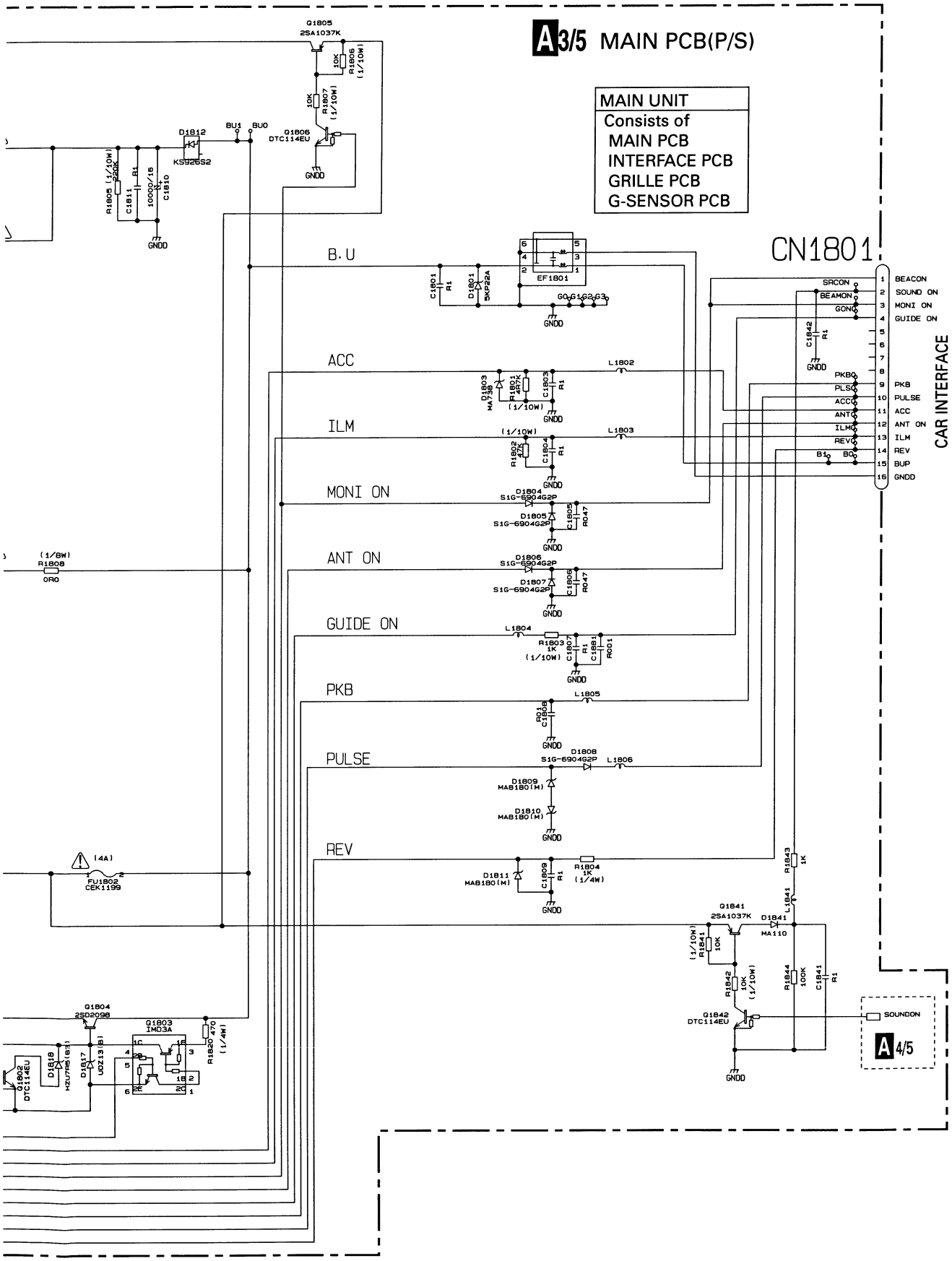


A 2/5 MAIN PCB(SYSCOM)
C CN2851
CN660
A 4/5
A 5/5
A 3/5
ANTENNA DR
MONITOR DR
ILLUMINATION SENSE
REVERSE SENSE
PARKING SENSE
RESET IC
VDD5V +5.0V


MAIN UNIT
Consists of
MAIN PCB
INTERFACE PCB
GRILLE PCB
G-SENSOR PCB
A-a
A-b
PKB
PULSE
ACCPW
GUIDEONOUT
GNDD
GUIDEON
SPEED
SPD
SPEED SENSE
2/4 OR PULSE CAR SELECT
MONIONOUT
VSW5
REMIN
TVTOS
STOTV
TVON
CCON
A 4/5
VSW5
REMIN
TVTOS
STOTV
TVON
4
5

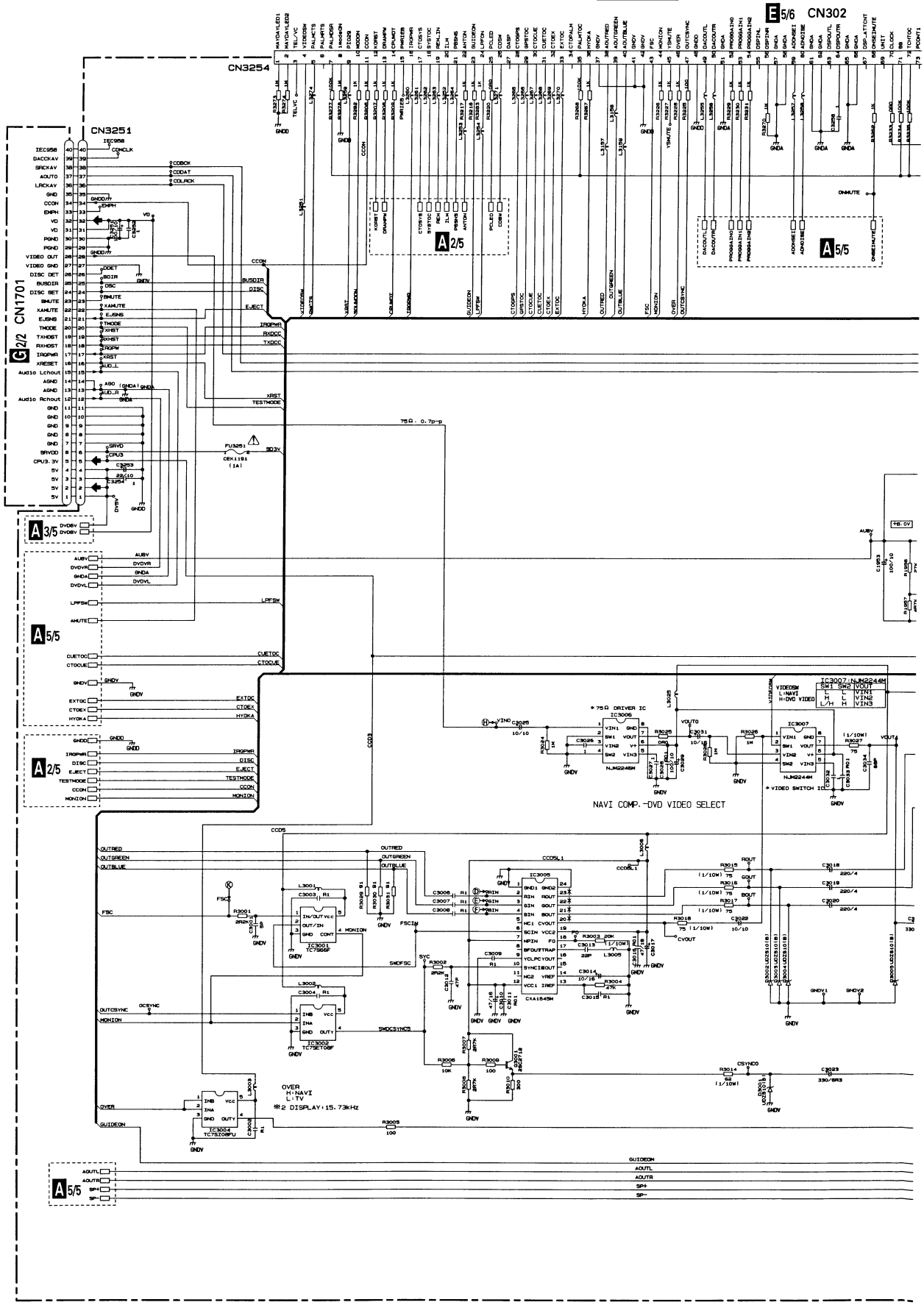
3.5 MAIN PCB 3/5 (P/S)



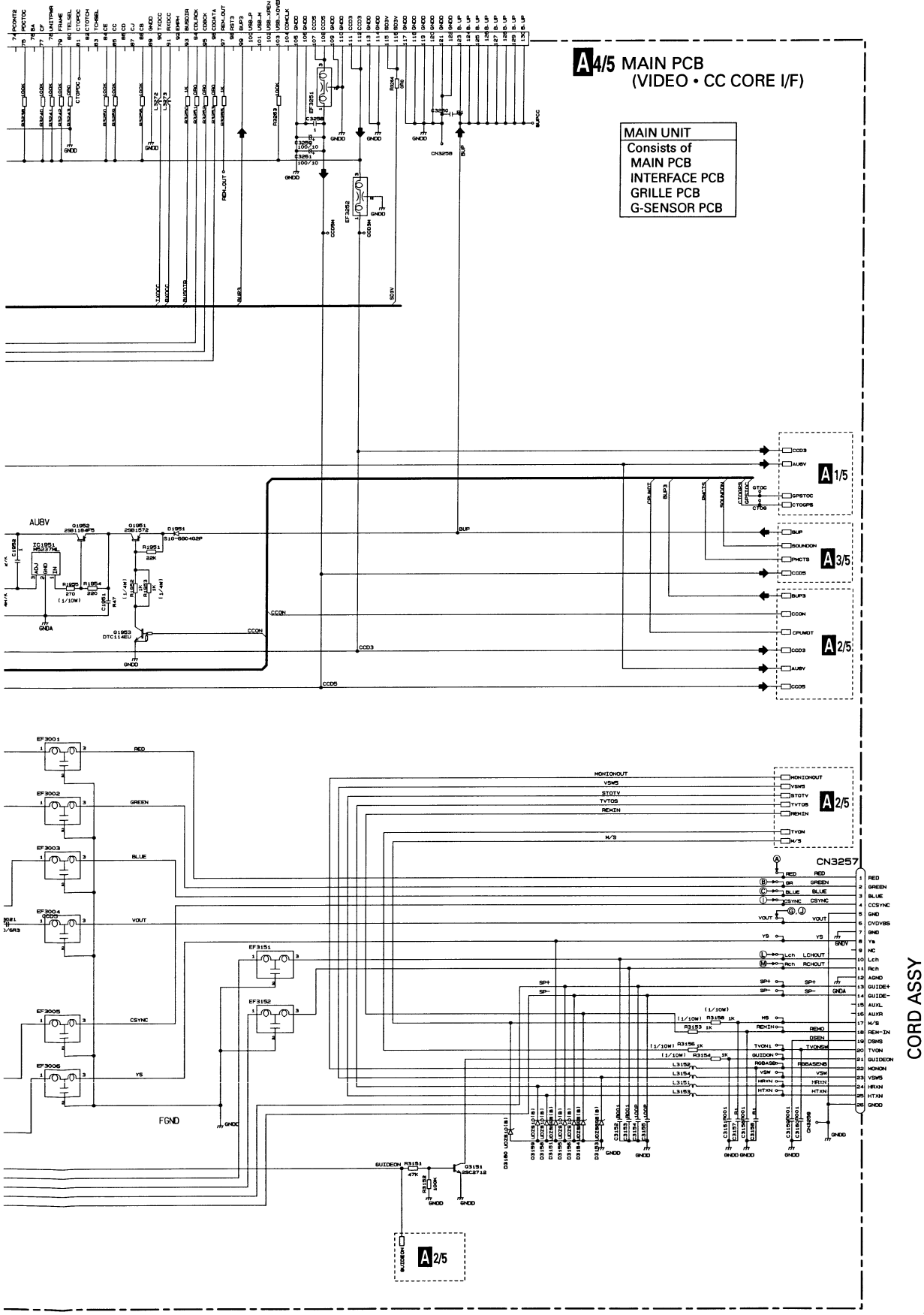

A3/5 MAIN PCB(P/S)
MAIN UNIT
Consists of
MAIN PCB
INTERFACE PCB
GRILLE PCB
G-SENSOR PCB
CN1801
CAR INTERFACE
1 BEACON
2 SOUND ON
3 MONI ON
4 GUIDE ON
9 PKB
10 PULSE
11 ACC
12 ANT ON
13 ILM
14 REV
15 BUP
16 GNDD
B.U
ACC
ILM
MONI ON
ANT ON
GUIDE ON
PKB
PULSE
REV
GNDD
SOUNDON
A4/5

3.6 MAIN PCB 4/5 (VIDEO•CC CORE I/F)(GUIDE PAGE)

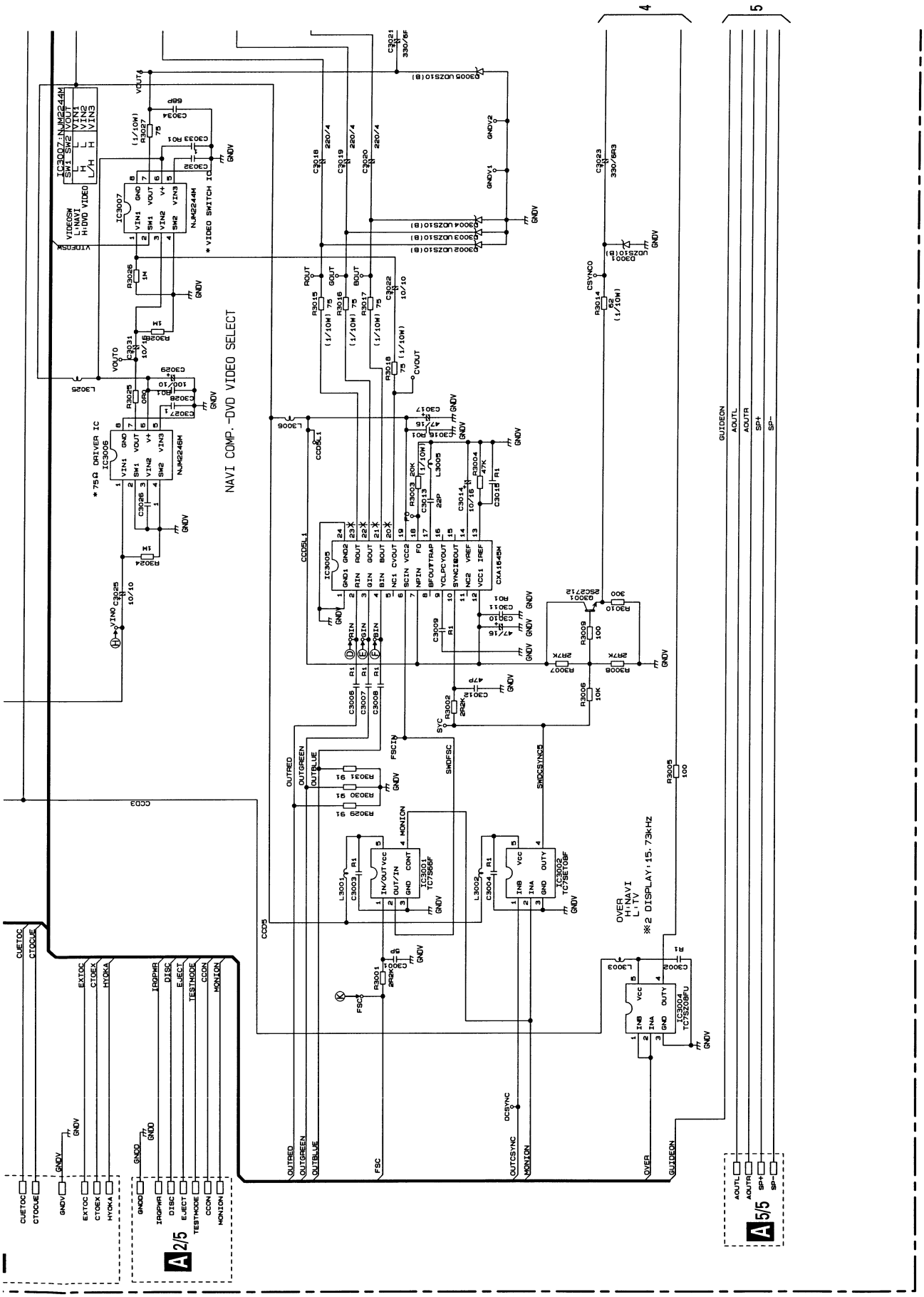
A-a 4/5

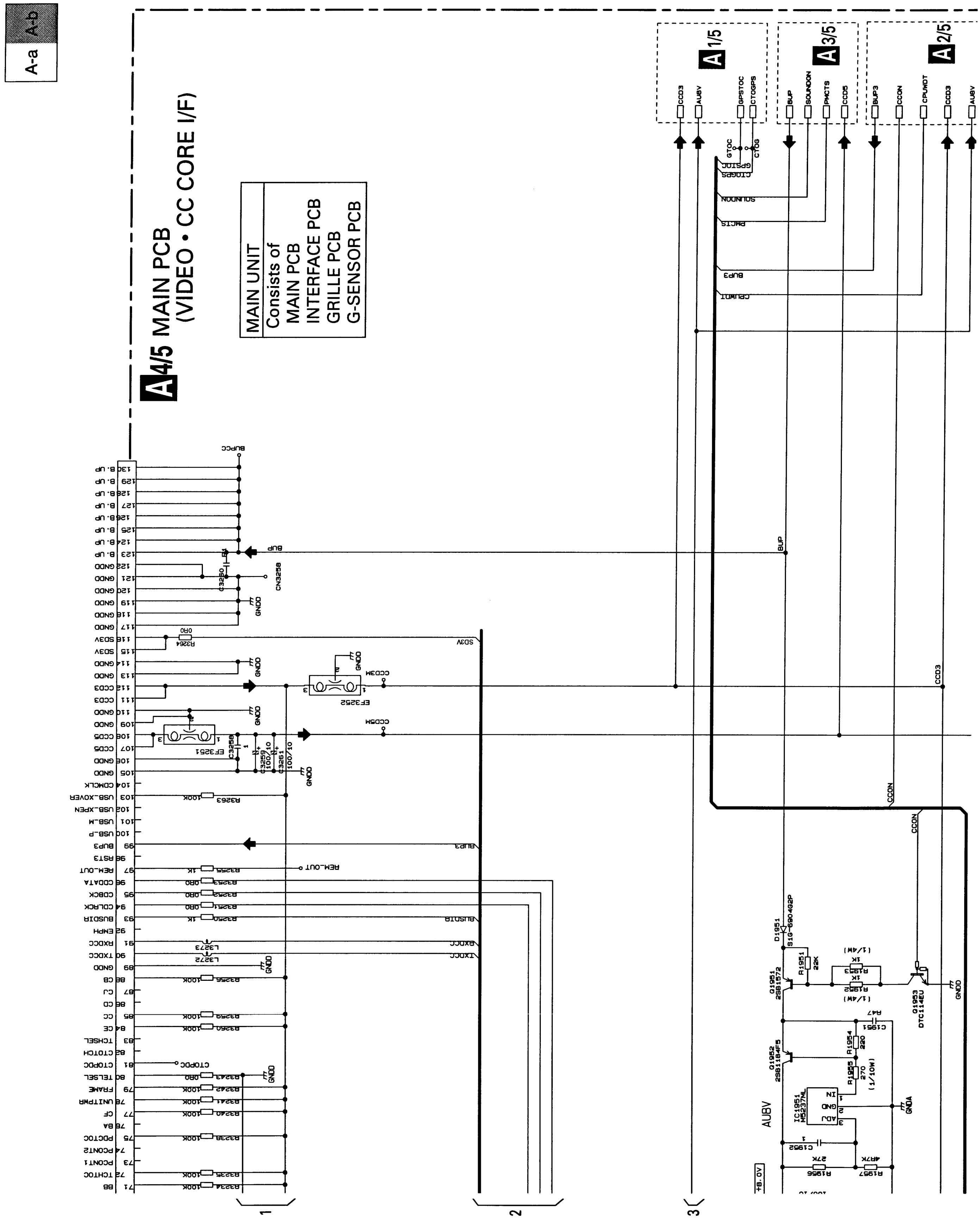


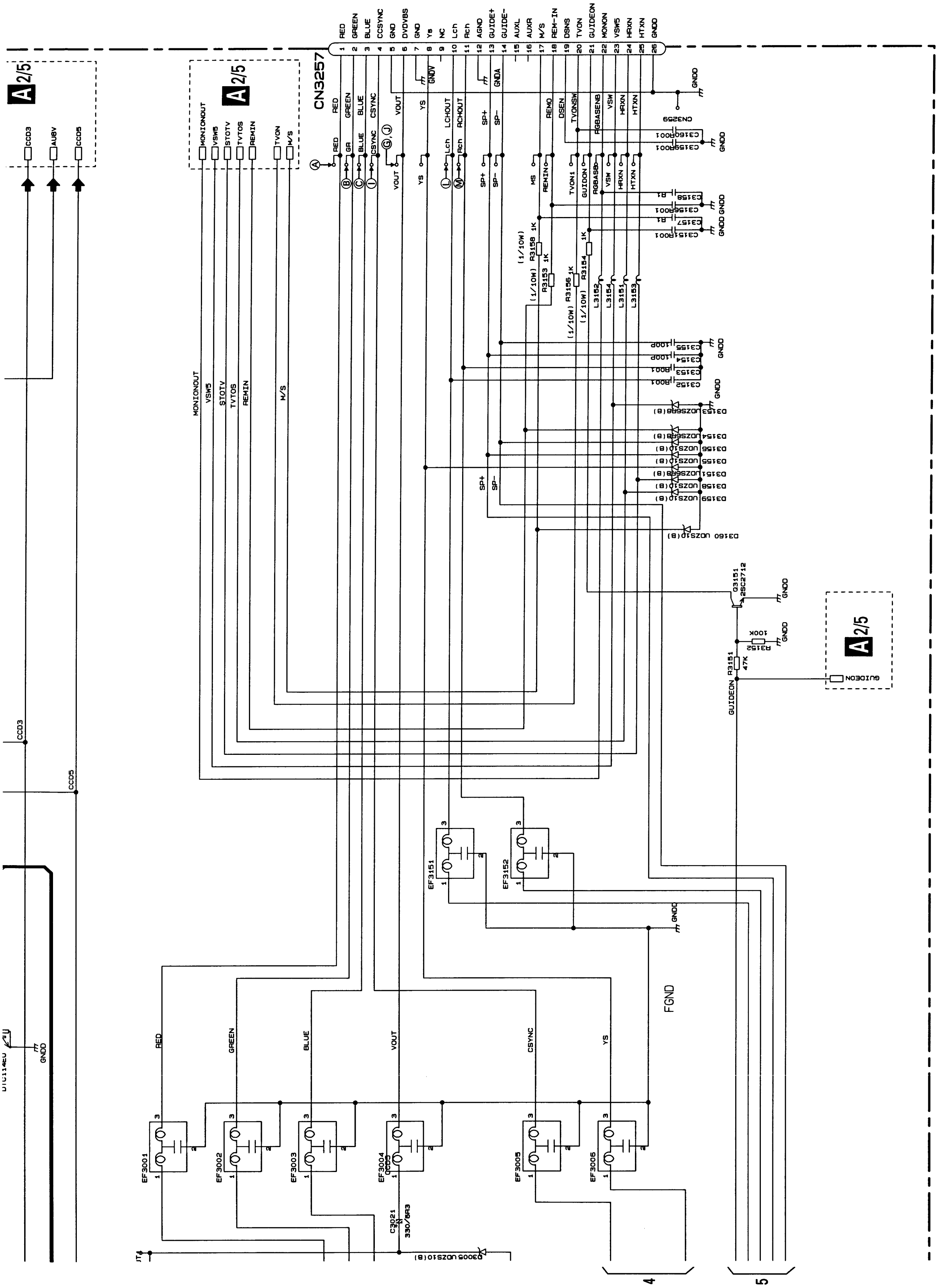
A-b 4/5


A4/5 MAIN PCB
(VIDEO • CC CORE I/F)
MAIN UNIT
Consists of
MAIN PCB
INTERFACE PCB
GRILLE PCB
G-SENSOR PCB
A1/5
A3/5
A2/5
CN3257
CORD ASSY
RED
GREEN
BLUE
VOUT
CSYNC
YS
FGND
AUBV

CN302
E 5/6
CN3254
CN3251
CN1701
G 2/2
A 5/5
A 2/5
A 3/5
A-a
A-b
75Ω. 0.7p-p
FU3251
CEK1191
(1A)


NAVI COMP. -DVD VIDEO SELECT
* VIDEO SWITCH IC
* 75Ω DRIVER IC
A 2/5
A 5/5
OVER
H:NAVI
L:TV
※2 DISPLAY:15.73kHz


A-a
A-b
A 4/5 MAIN PCB
(VIDEO • CC CORE I/F)
MAIN UNIT
Consists of
MAIN PCB
INTERFACE PCB
GRILLE PCB
G-SENSOR PCB
A 1/5
A 3/5
A 2/5
AUBV


A-a A-b
A 2/5
CCD3
AU8V
CCD5
MONIONOUT
VSW5
STOTV
TVTOS
REMIN
TVON
M/S
CN3257
RED
GREEN
BLUE
CSYNC
VOUT
YS
LCHOUT
RCHOUT
SP+
SP-
EF3151
EF3152
GNDD
FGND
Q3151 2SC2712
GUIDEON
EF3001
EF3002
EF3003
EF3004
EF3005
EF3006
A
B
C
D

Note: The encircled numbers denote measuring pointes in the circuit diagram.

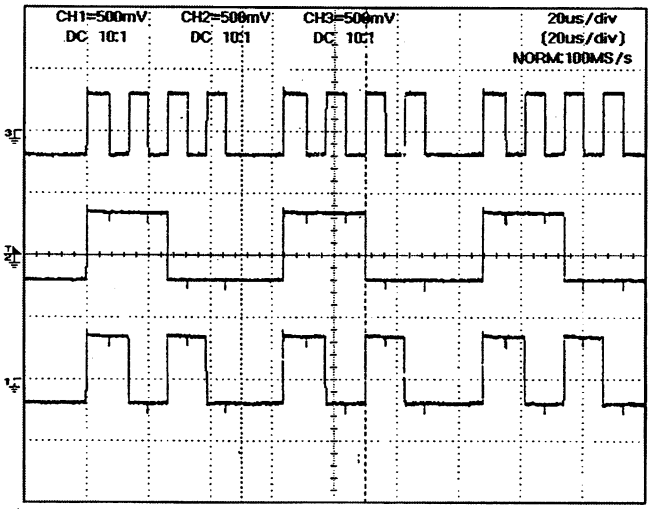
● Waveforms

• Navigation RGB Color Bar Signal

CH1 : Ⓒ TP BLUE →

CH2 : Ⓑ TP GR →

CH3 : Ⓐ TP RED →

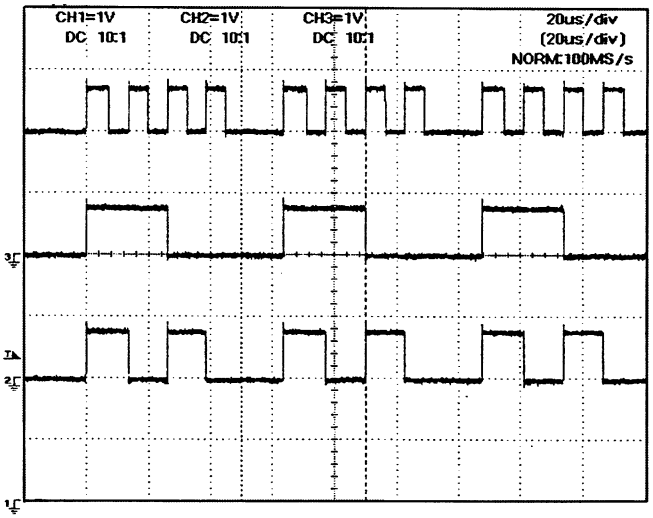


• Navigation RGB Color Bar Signal

CH1 : Ⓕ TP BIN →

CH2 : Ⓔ TP GIN →

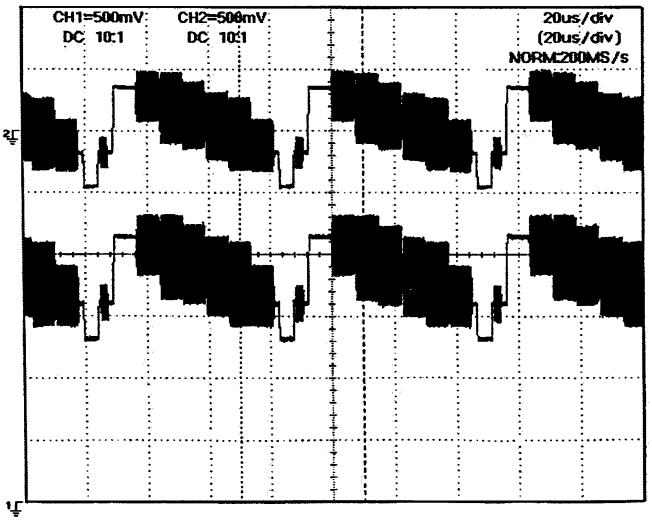
CH3 : Ⓓ TP RIN →



• DVD Video Color Bar Signal

CH1 : Ⓖ TP VOUT →

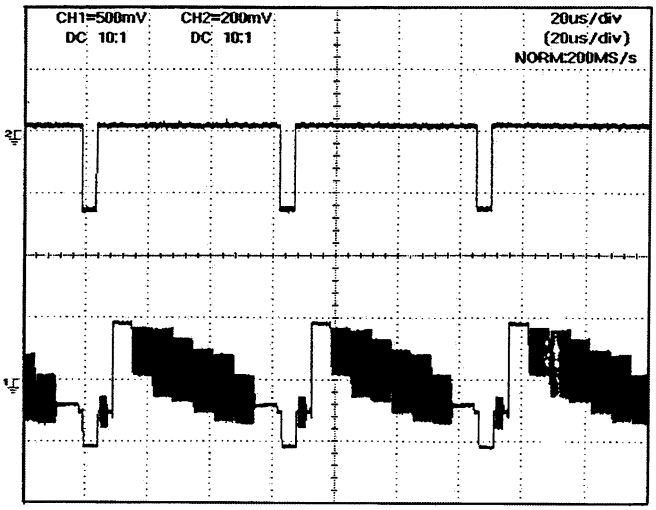
CH2 : Ⓗ TP VIN0 →



• DVD Video Color Bar Signal

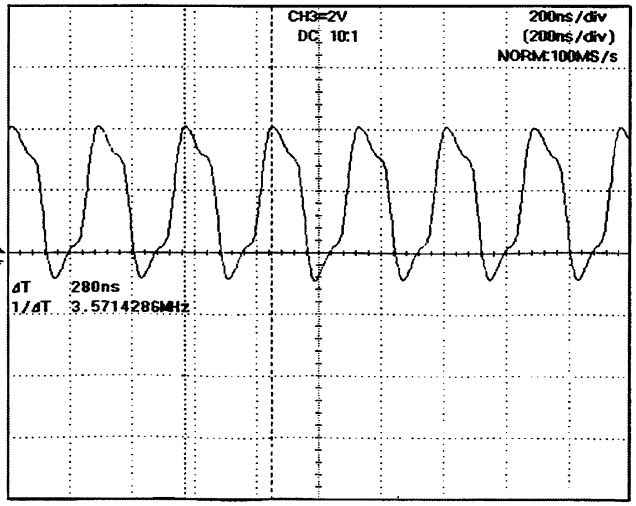
CH1 : ① TP CSYNC →

CH2 : ⑨ TP VOUT →



• DVD Video Color Bar Signal

CH1 : Ⓚ TP FSC →

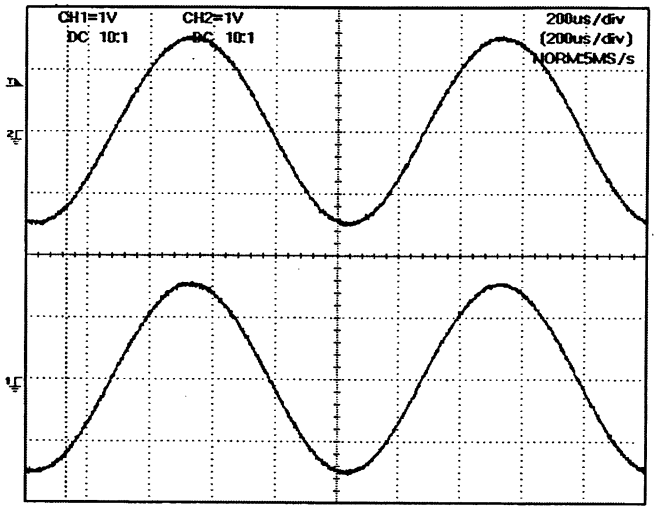


• DVD Video : 1kHz, 0dB (48kHz and 16bit Sampling)

* The A1 Disk is used.

CH1 : Ⓛ TP Lch →

CH2 : Ⓜ TP Rch →

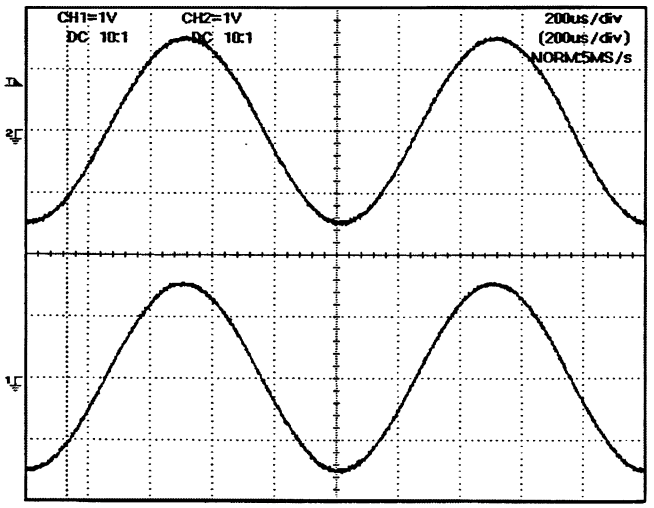


• DVD Video : 1kHz, 0dB (96kHz and 24bit Sampling)

* The A1 Disk is used.

CH1 : Ⓛ TP Lch →

CH2 : Ⓜ TP Rch →

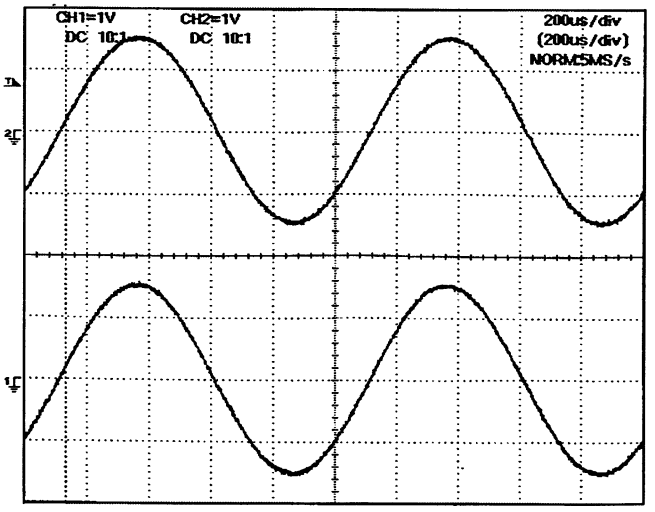


• CDDA : 1kHz, 0dB

* The TCD-785 Disk is used.

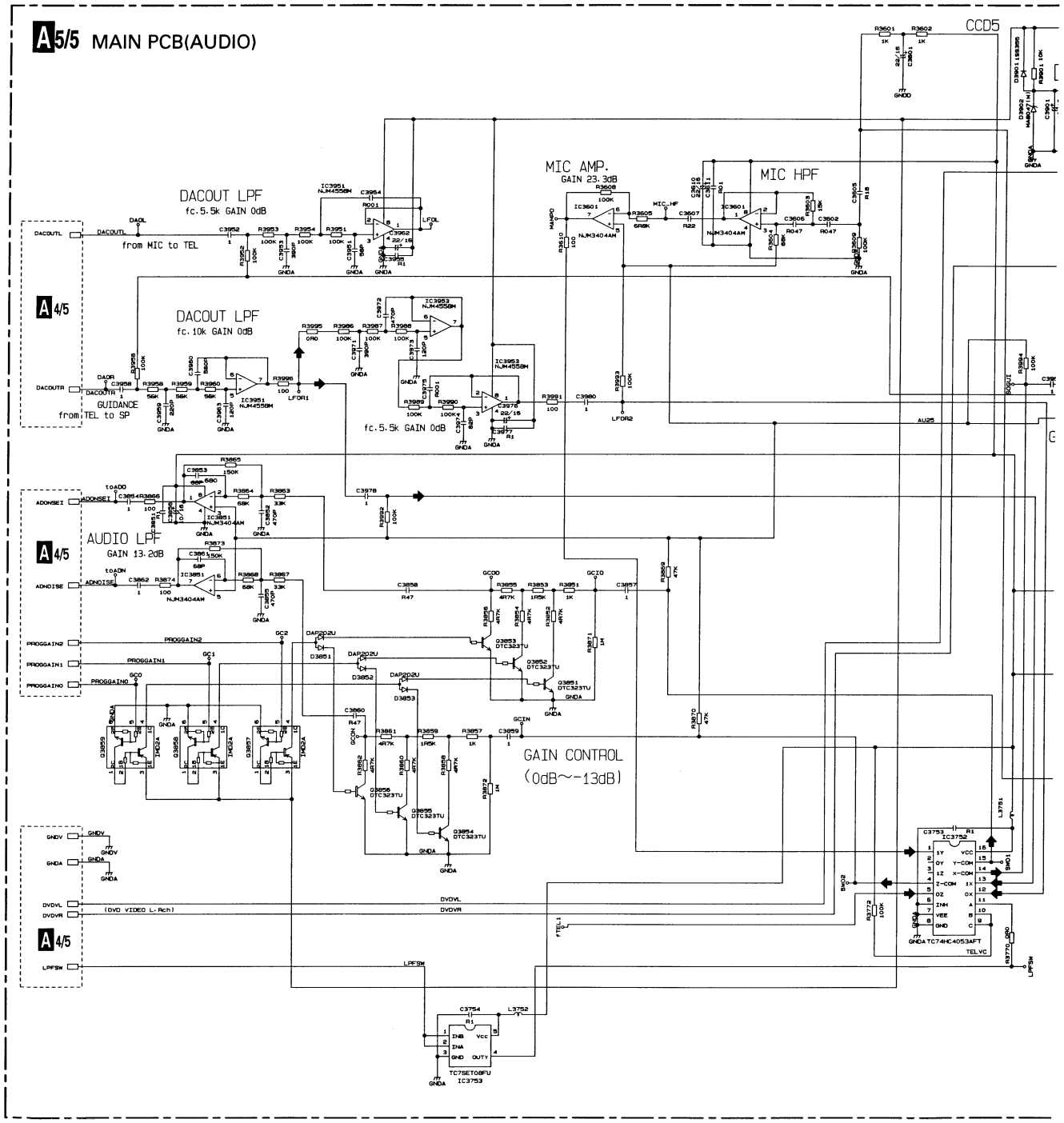
CH1 : Ⓛ TP Lch →

CH2 : Ⓜ TP Rch →

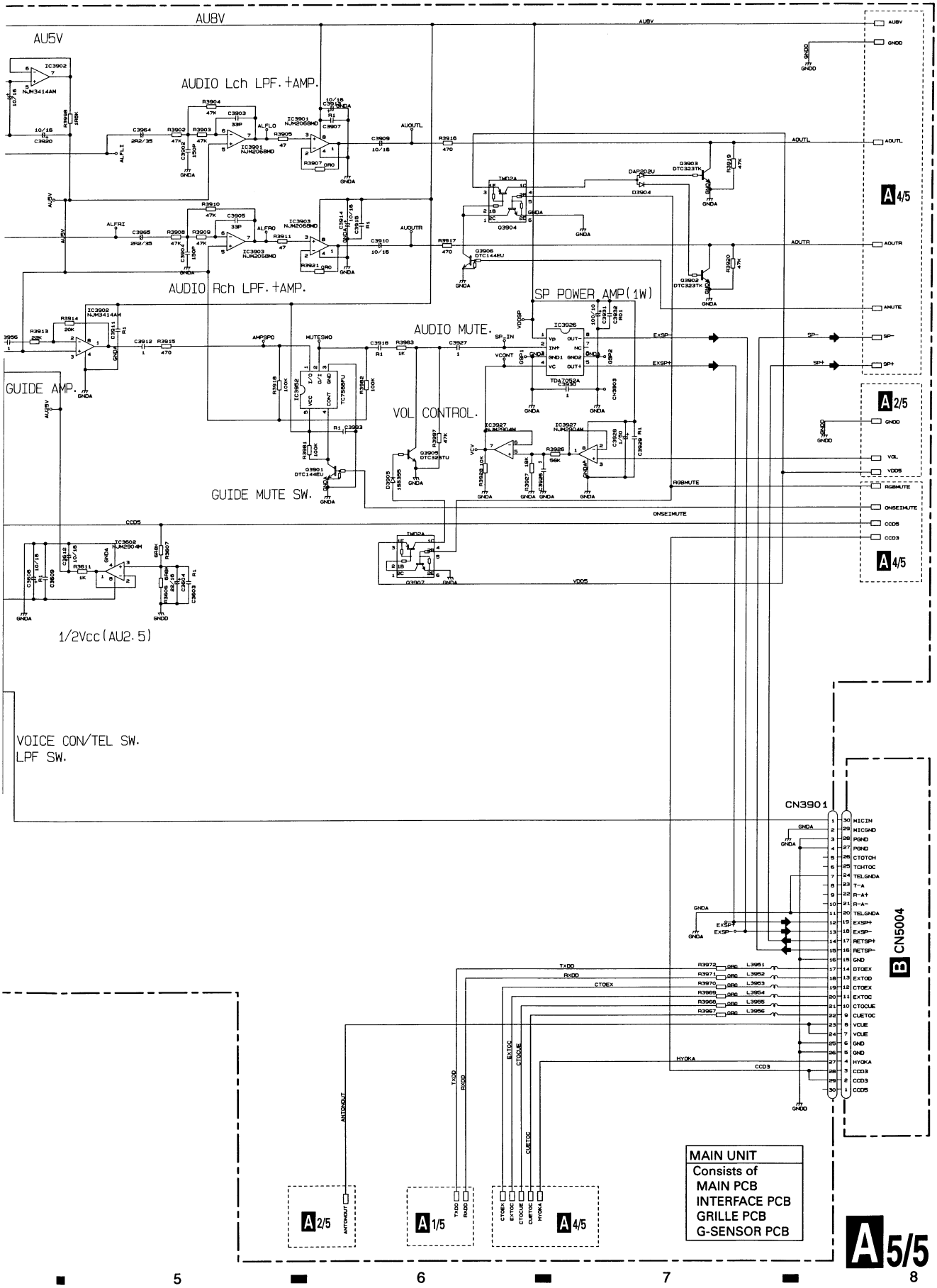


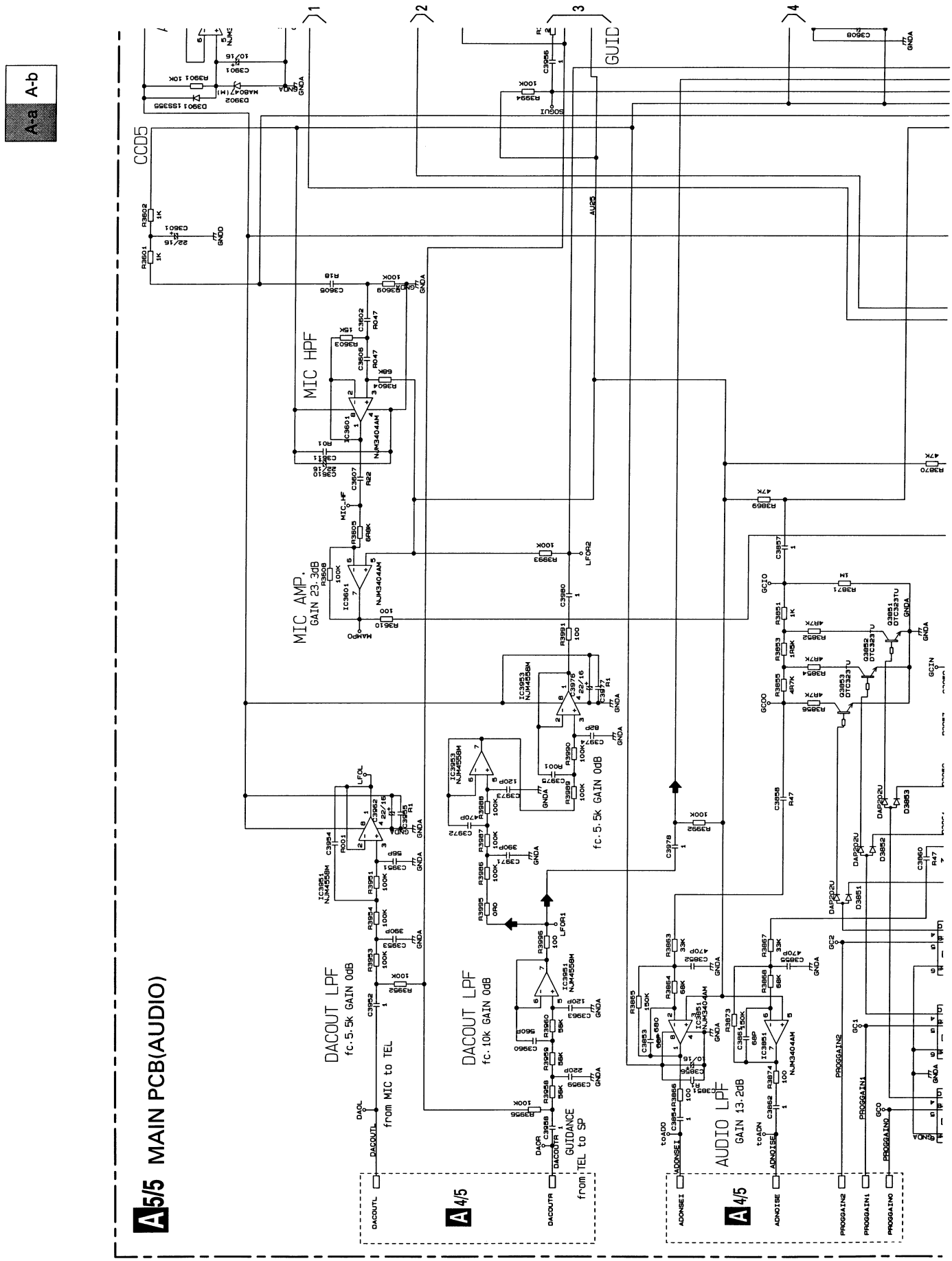
3.7 MAIN PCB 5/5 (AUDIO)(GUIDE PAGE)

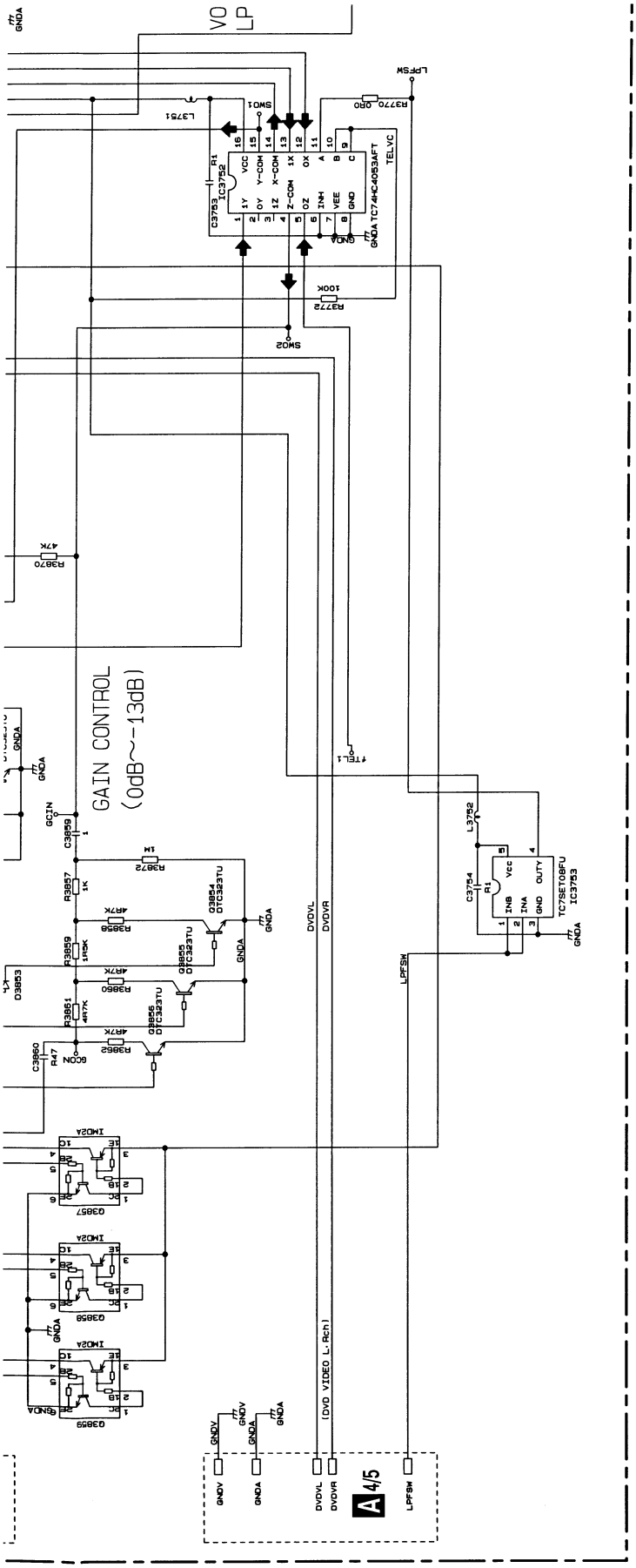
A-a 5/5

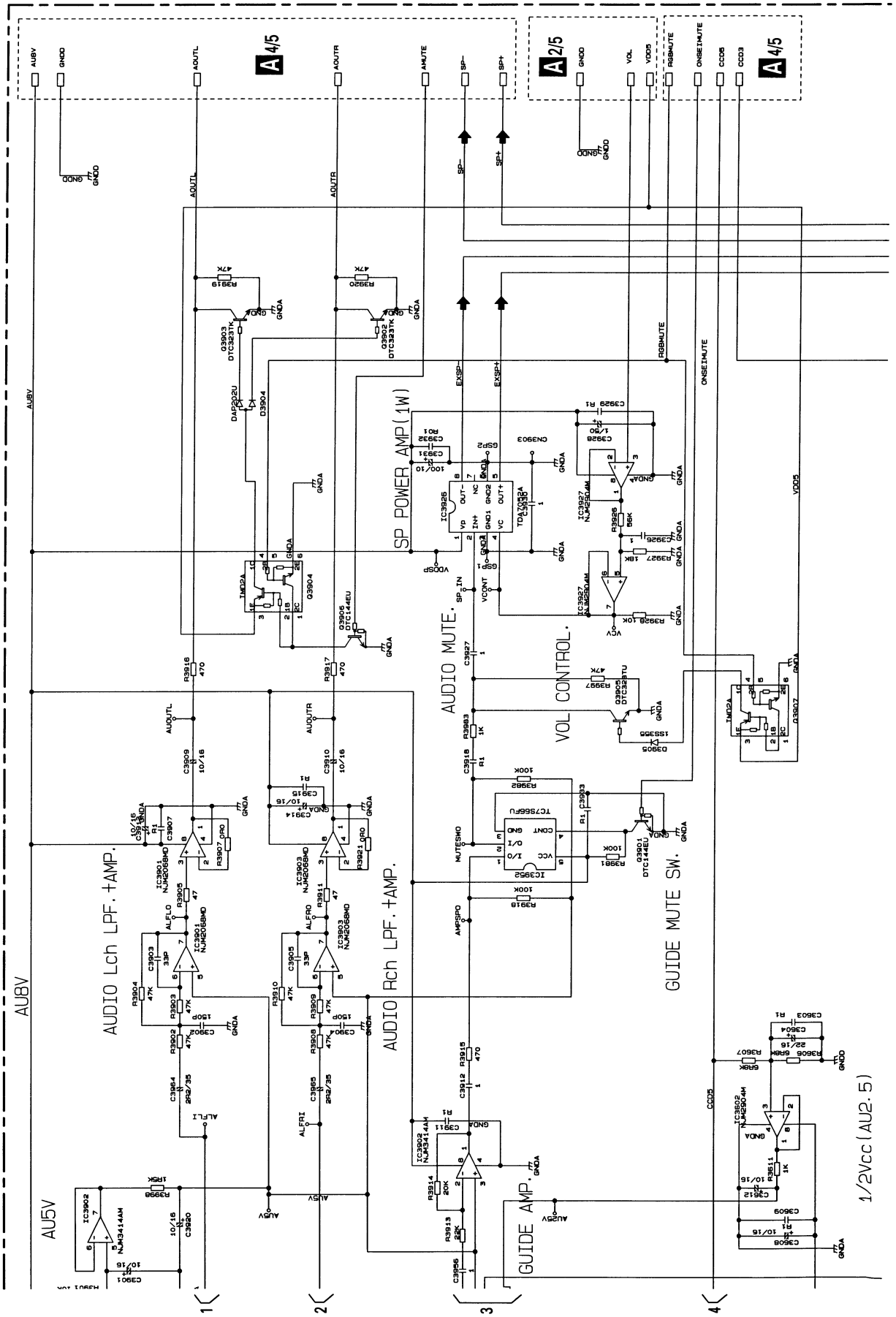


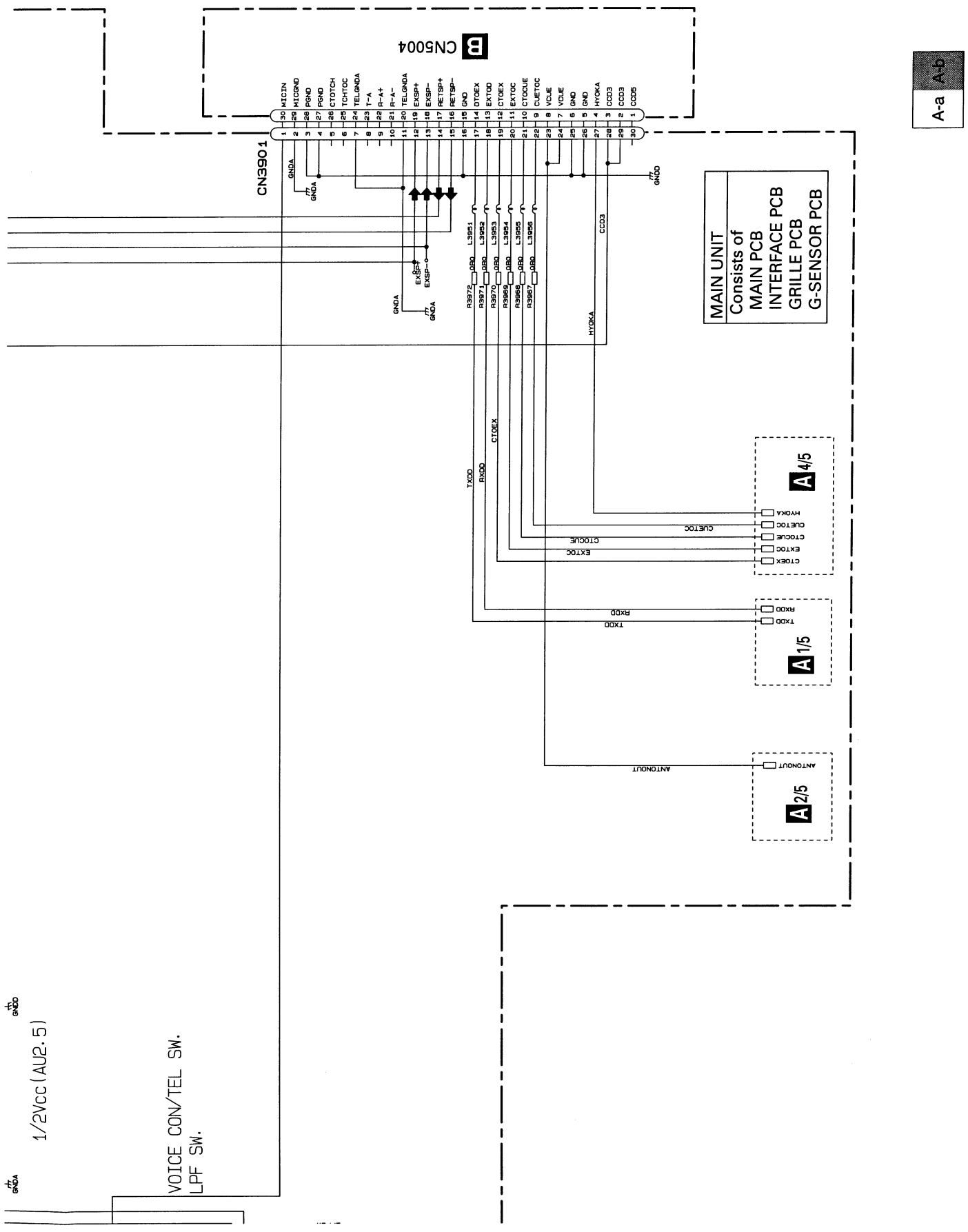
A-b 5/5


AU8V
AU5V
AUDIO Lch LPF.+AMP.
AUDIO Rch LPF.+AMP.
SP POWER AMP(1W)
AUDIO MUTE.
GUIDE AMP.
VOL CONTROL.
GUIDE MUTE SW.
1/2Vcc(AU2.5)
VOICE CON/TEL SW.
LPF SW.
CN3901
CN5004
MICIN
MICGND
PGND
CTOTCH
TCHTOC
TELGNDA
T-A
R-A+
R-A-
TELGNDA
EXSP+
EXSP-
RETSP+
RETSP-
GND
DTOEX
EXTOD
CTOEX
EXTOC
CTOCLE
CUETOC
VCUE
VCUE
GND
GND
HYOKA
CCD3
CCD3
CCD5
MAIN UNIT
Consists of
MAIN PCB
INTERFACE PCB
GRILLE PCB
G-SENSOR PCB
A 4/5
A 2/5
A 1/5
A 5/5

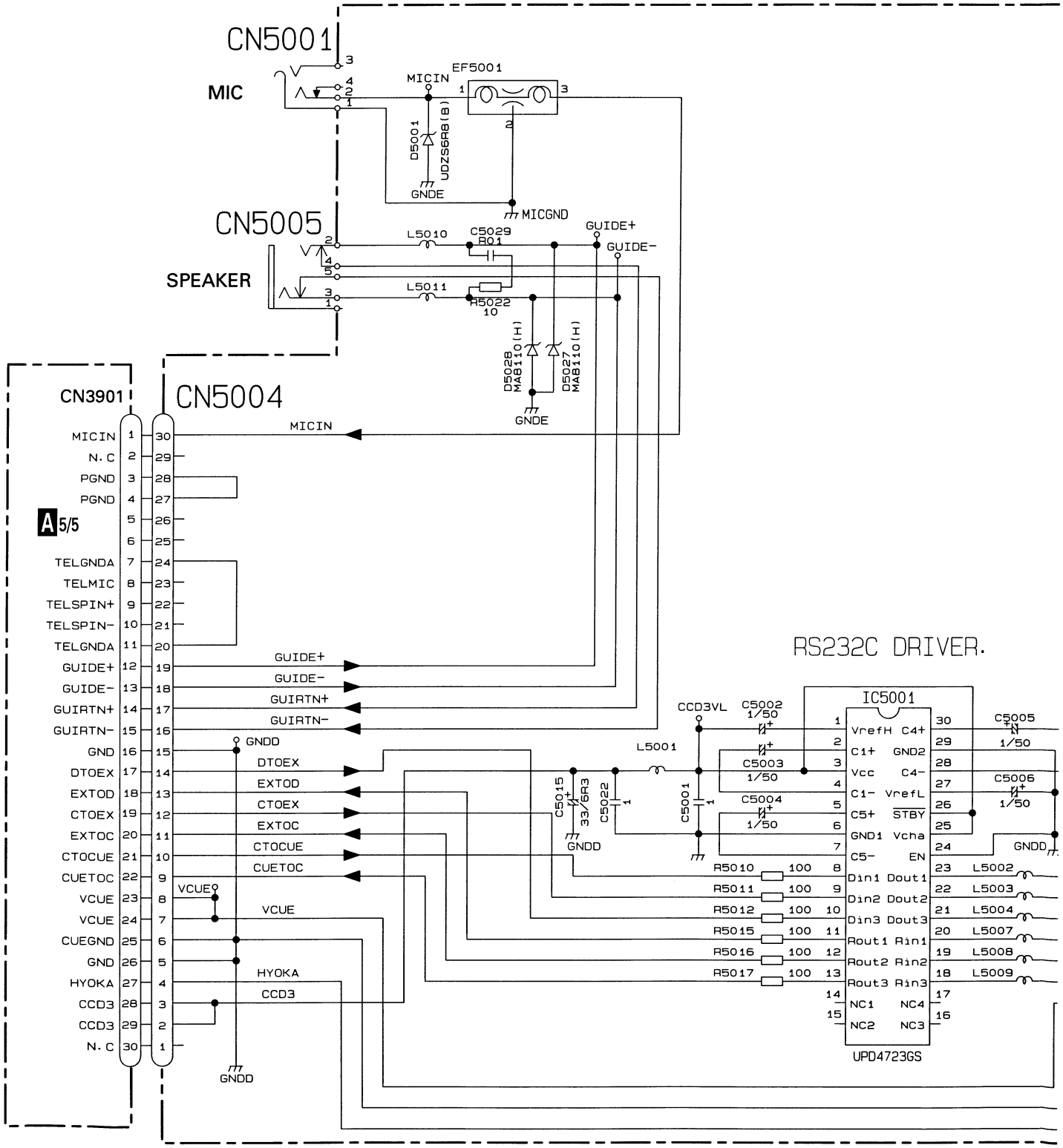

A-b
A-a
CCD5
MIC HPF
MIC AMP.
GAIN 23.3dB
DACOUT LPF
fc.5.5k GAIN 0dB
DACOUT LPF
fc.10k GAIN 0dB
fc.5.5k GAIN 0dB
AUDIO LPF
GAIN 13.2dB
GUIDANCE
from TEL to SP
from MIC to TEL
A5/5 MAIN PCB(AUDIO)
A4/5
A4/5

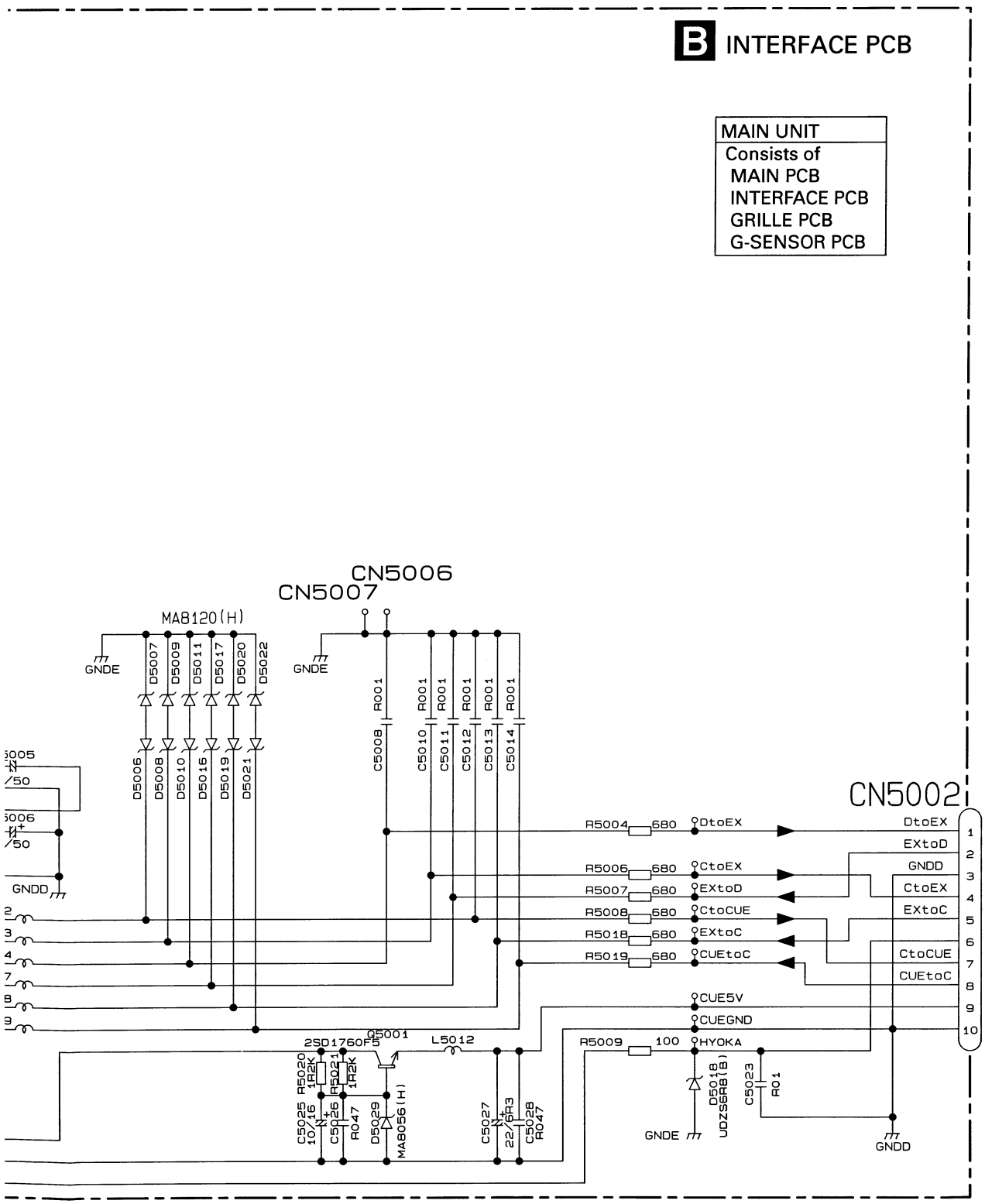

GAIN CONTROL
(0dB~-13dB)
TC74HC4053AFT
TC7SET08FU
DVDVL
DVDVR
LPFSW
(DVD VIDEO L-Rch)
A 4/5


A-b
A-a
AUDIO Lch LPF.+AMP.
AUDIO Rch LPF.+AMP.
SP POWER AMP(1W)
AUDIO MUTE.
VOL CONTROL.
GUIDE MUTE SW.
GUIDE AMP.
AU8V
AU5V
1/2Vcc(AU2.5)

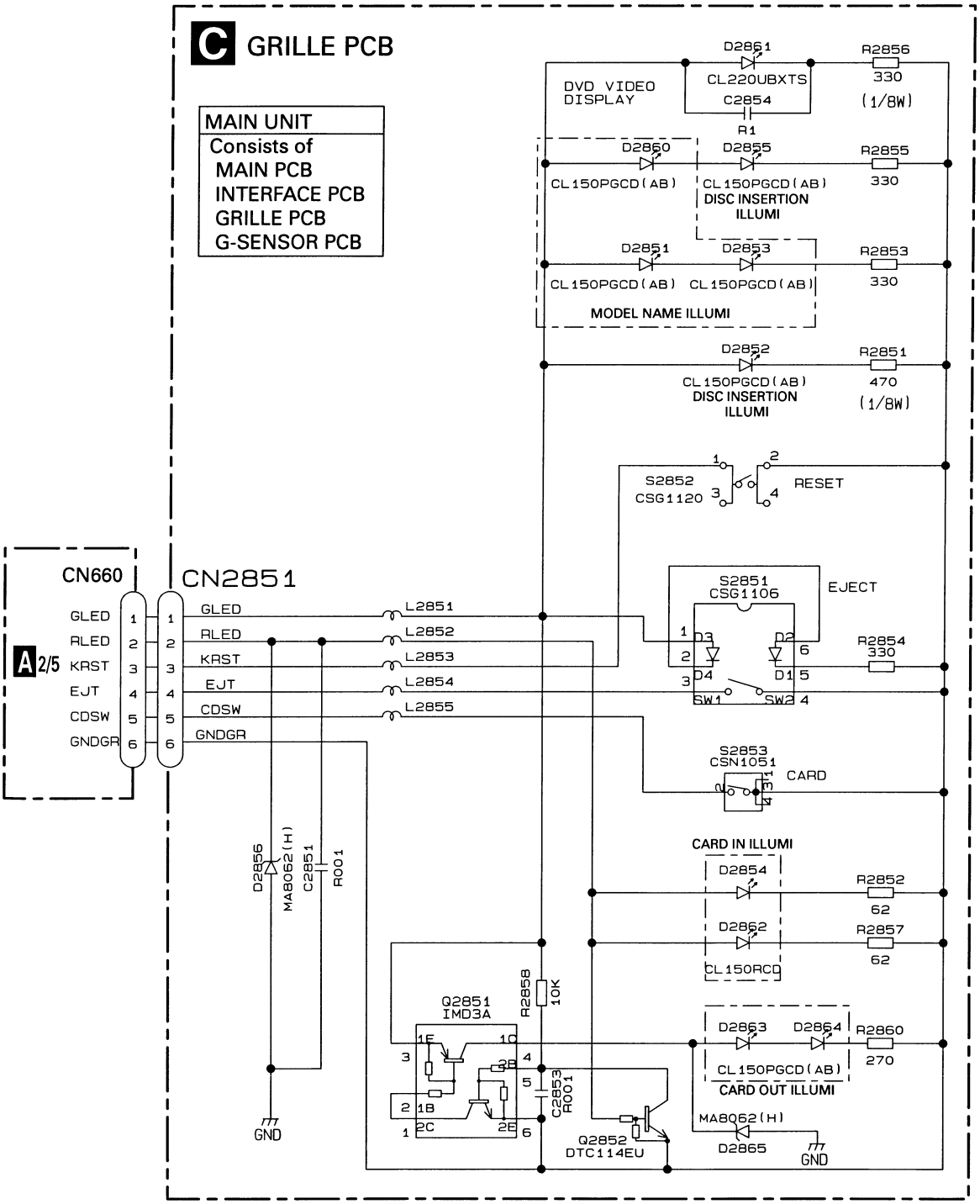

B CN5004
CN3901
MAIN UNIT
Consists of
MAIN PCB
INTERFACE PCB
GRILLE PCB
G-SENSOR PCB
A 4/5
A 1/5
A 2/5
1/2Vcc(AU2.5)
VOICE CON/TEL SW.
LPF SW.
A-a
A-b

3.8 INTERFACE PCB

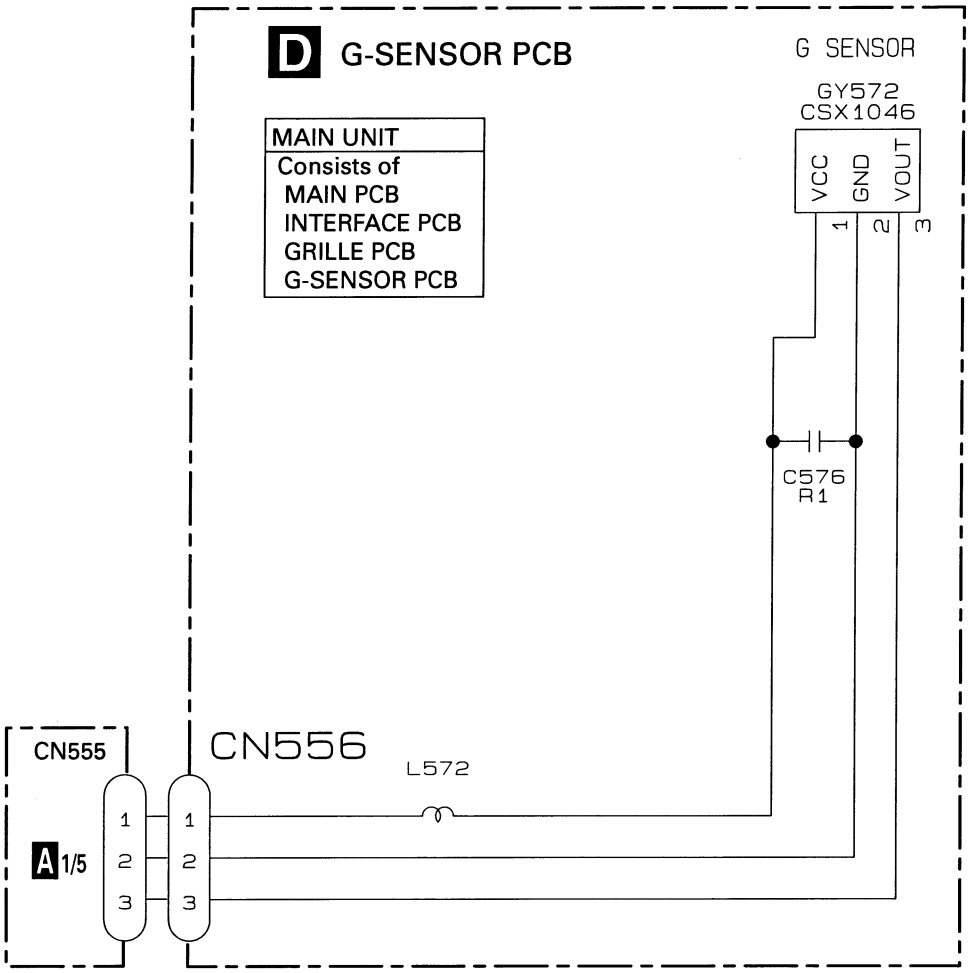



B INTERFACE PCB
MAIN UNIT
Consists of
MAIN PCB
INTERFACE PCB
GRILLE PCB
G-SENSOR PCB
CN5006
CN5007
CN5002
MA8120(H)
GNDE
GNDD
D5007
D5009
D5011
D5017
D5020
D5022
D5006
D5008
D5010
D5016
D5019
D5021
R001
C5008
C5010
C5011
C5012
C5013
C5014
R5004 680 DtoEX
R5006 680 CtoEX
R5007 680 EXtoD
R5008 680 CtoCUE
R5018 680 EXtoC
R5019 680 CUEtoC
CUE5V
CUEGND
HYOKA
R5009 100
Q5001
2SD1760F5
L5012
R5020 1R2K
R5021 1R2K
C5025 10/16
C5026
R047
D5029
MA8056(H)
C5027 22/6R3
C5028 R047
D5018 UDZS6R8(B)
C5023 R01
DtoEX
EXtoD
GNDD
CtoEX
EXtoC
CtoCUE
CUEtoC
1 GPStoEX
2 EXtoGPS
3 GND
4 NAVItoEX
5 EXtoNAVI
6 HYOKA
7 NAVItoCUE
8 CUEtoNAVI
9 VCUE
10 CUEGND
EXTENSION (BLACK)

3.9 GRILLE PCB

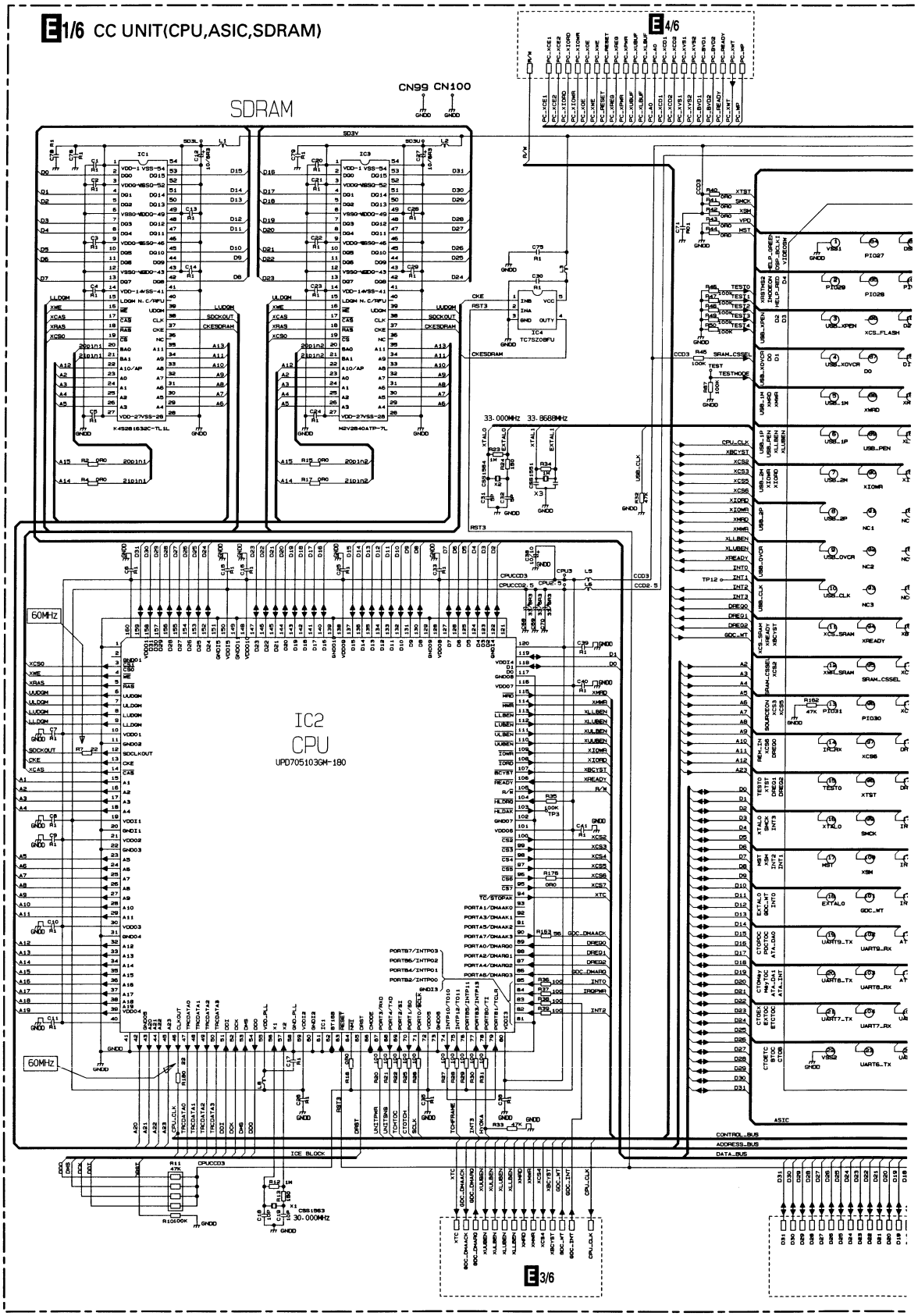


3.10 G-SENSOR PCB

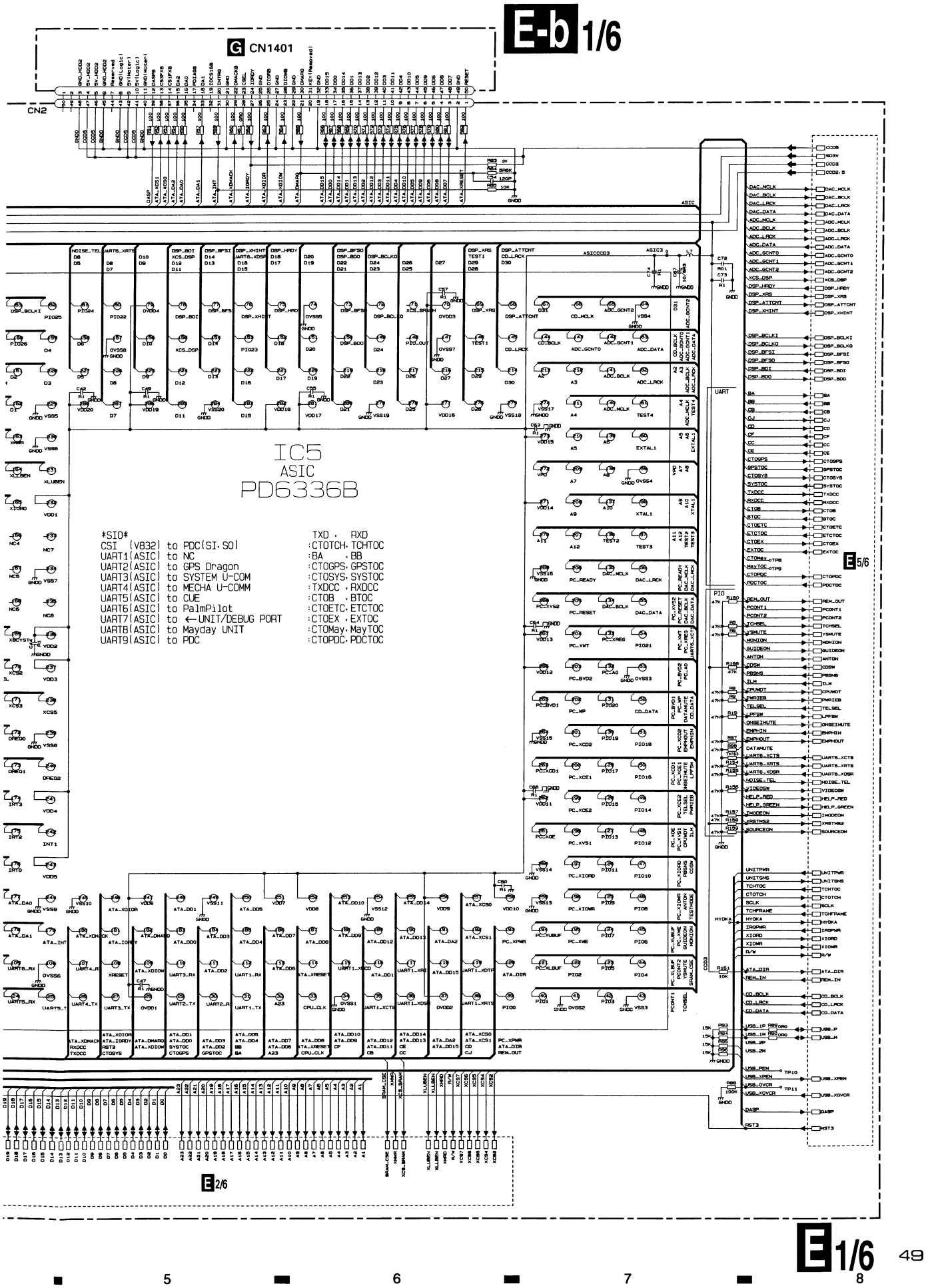


3.11 CC UNIT 1/6 (CPU, ASIC, SDRAM)(GUIDE PAGE)

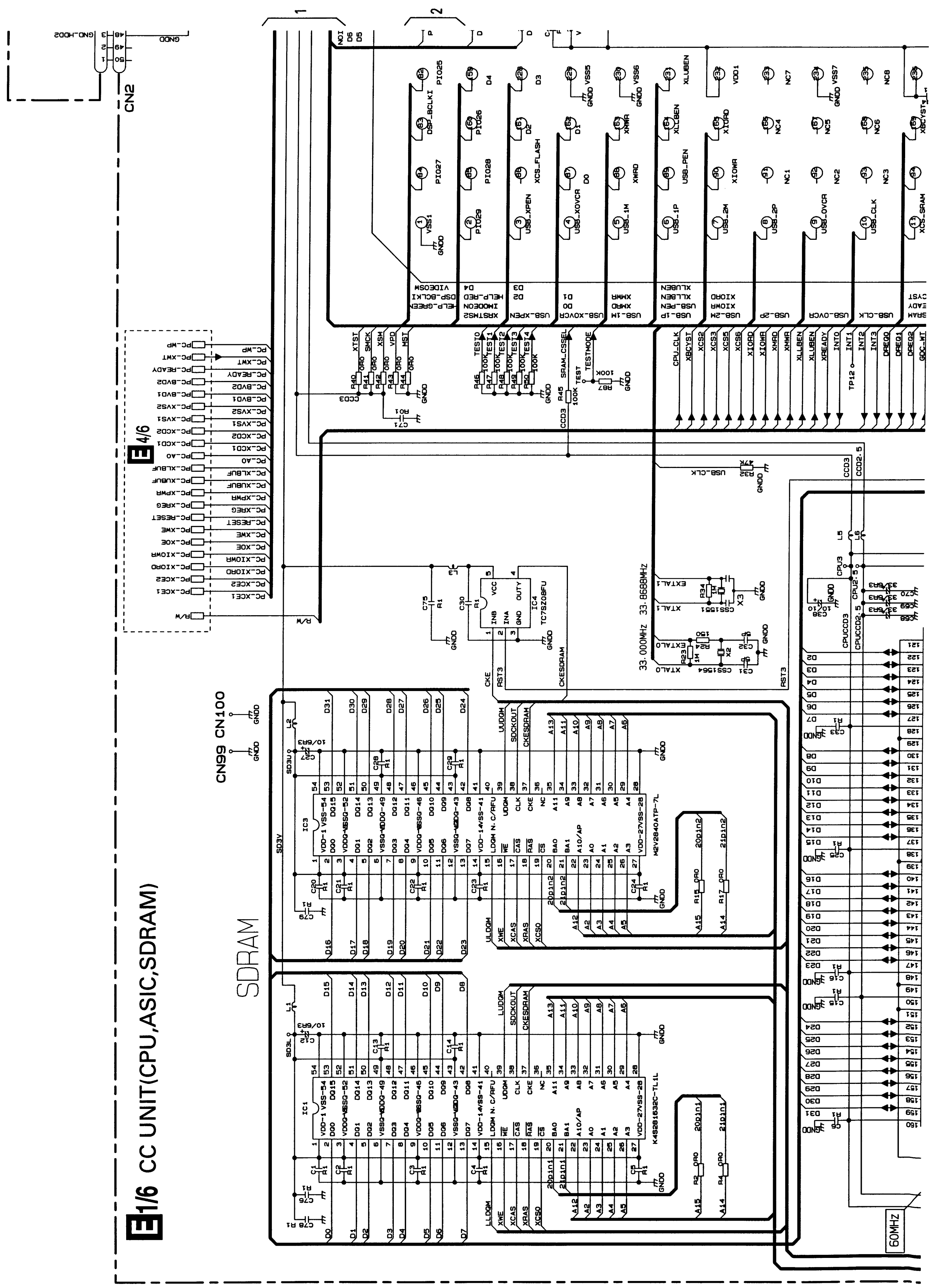
E-a 1/6

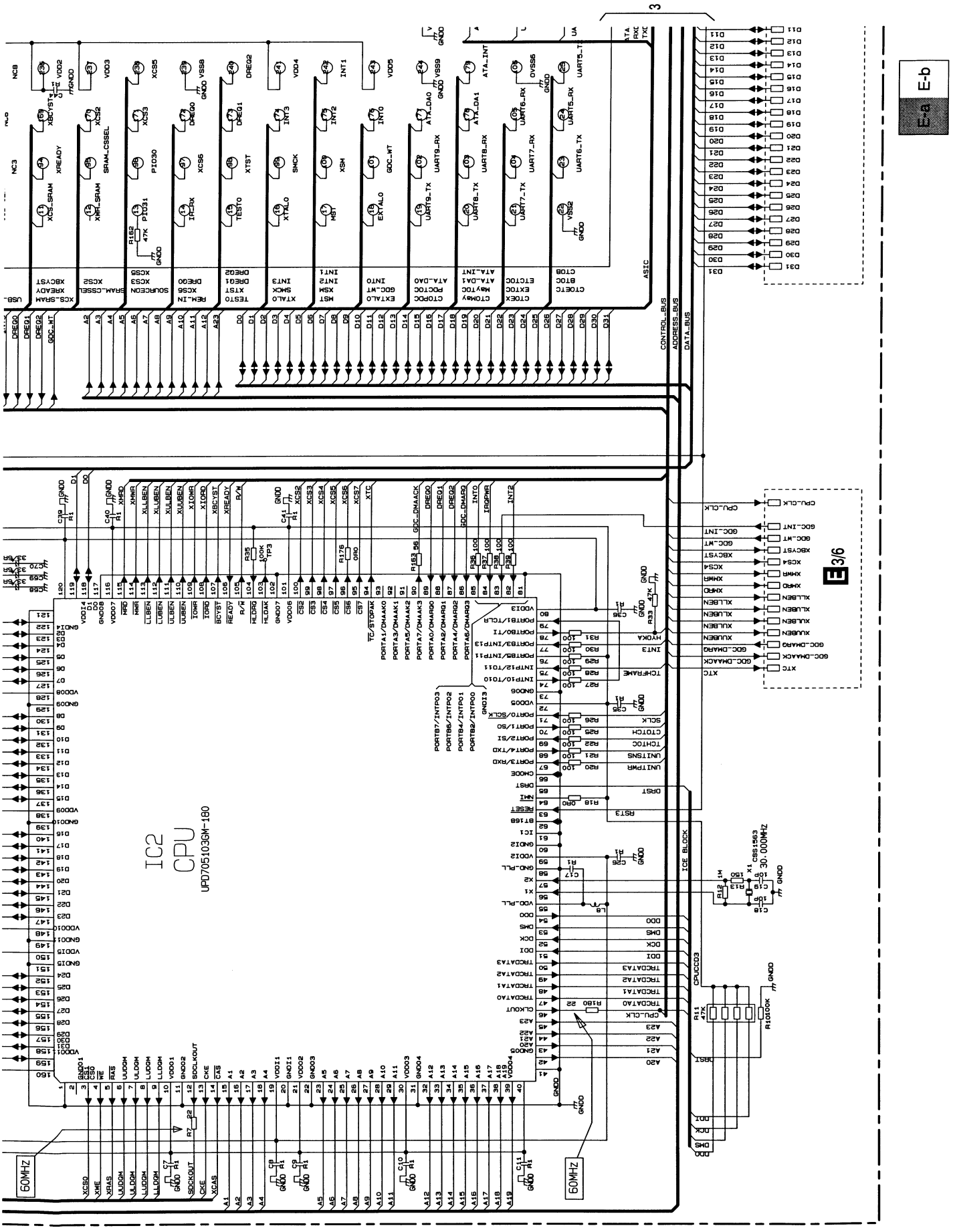


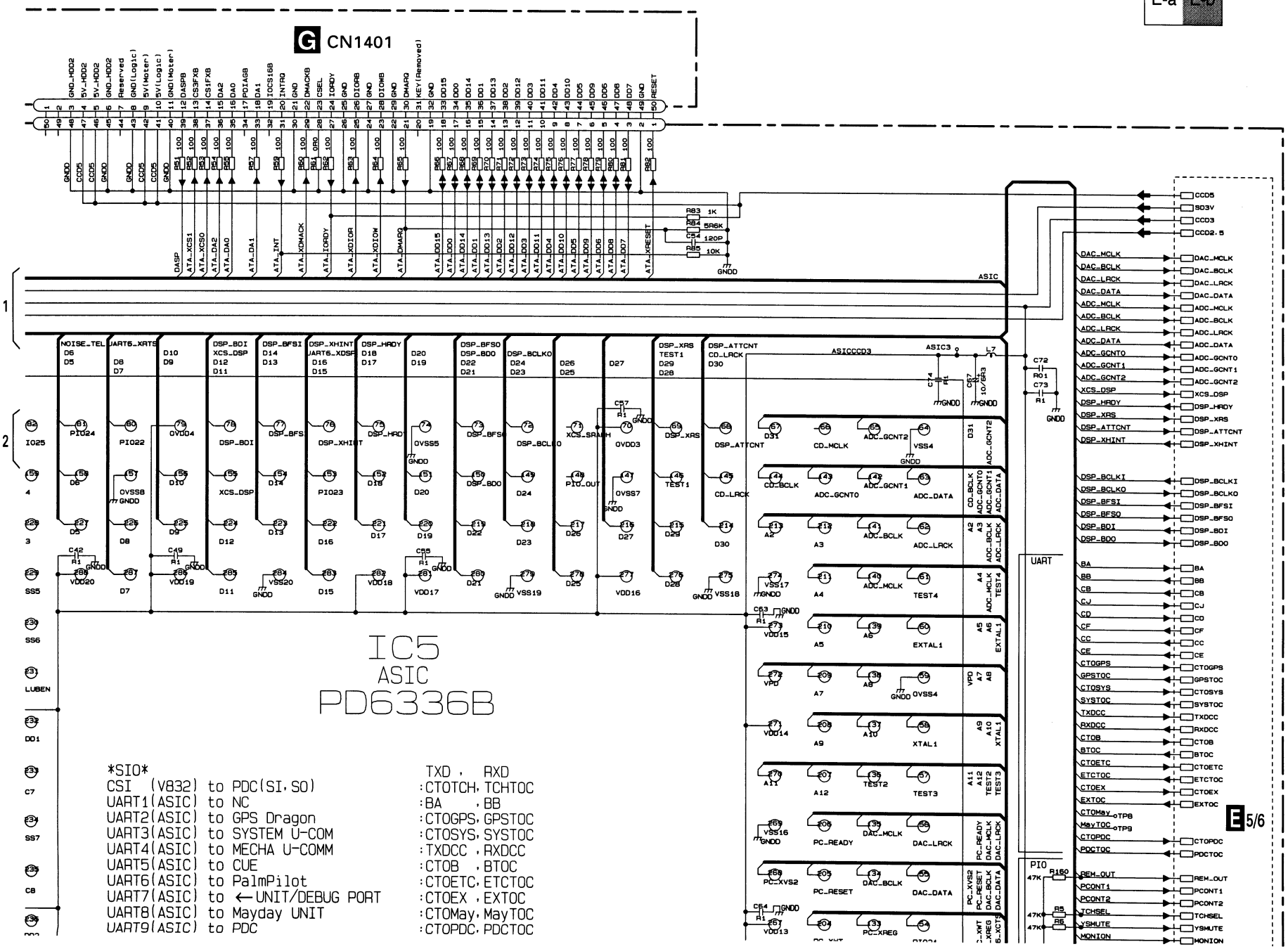
E-b 1/6


G CN1401
CN2
IC5
ASIC
PD6336B
SIO
CSI (V832) to PDC(SI,SO) : CTOTCH, TCHTOC
UART1(ASIC) to NC : BA , BB
UART2(ASIC) to GPS Dragon : CTOGPS, GPSTOC
UART3(ASIC) to SYSTEM U-COM : CTOSYS, SYSTOC
UART4(ASIC) to MECHA U-COMM : TXDCC , RXDCC
UART5(ASIC) to CUE : CTOB , BTOC
UART6(ASIC) to PalmPilot : CTOETC, ETCTOC
UART7(ASIC) to ←UNIT/DEBUG PORT : CTOEX , EXTOC
UART8(ASIC) to Mayday UNIT : CTOMay, MayTOC
UART9(ASIC) to PDC : CTOPDC, PDCTOC
E 5/6
E 2/6
E 1/6

E-b
E-a

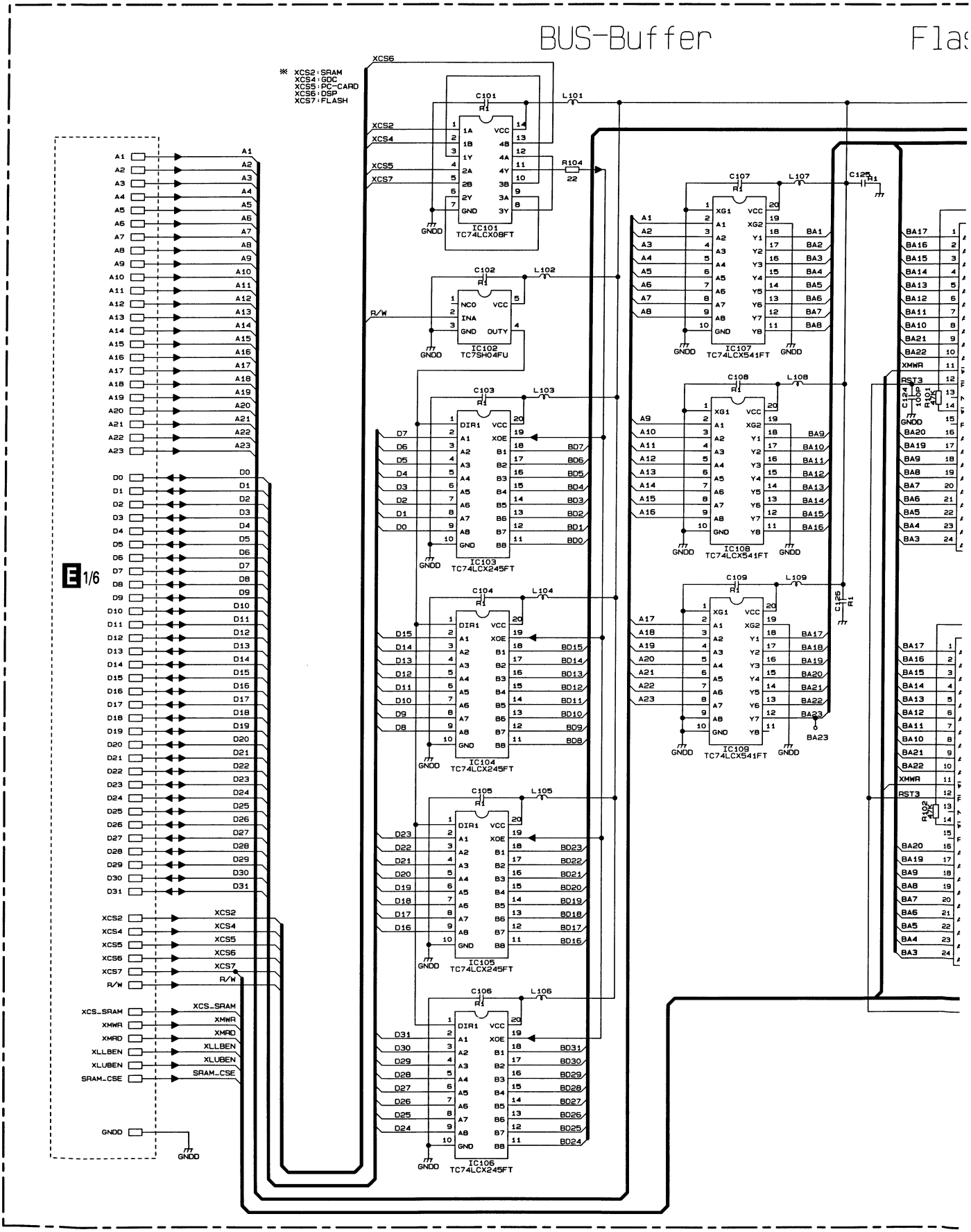

E 1/6 CC UNIT(CPU,ASIC,SDRAM)
SDRAM
E 4/6
CN2
CN99 CN100
IC1 K4S281632C-TL1L
IC3 M2V28040ATP-7L
IC4 TC7SZ08FU
60MHz


IC2
CPU
UPD70510366M-180
60MHZ
ASIC
CONTROL_BUS
ADDRESS_BUS
DATA_BUS
ICE BLOCK
E3/6
E-a 1/6
E-a
E-b

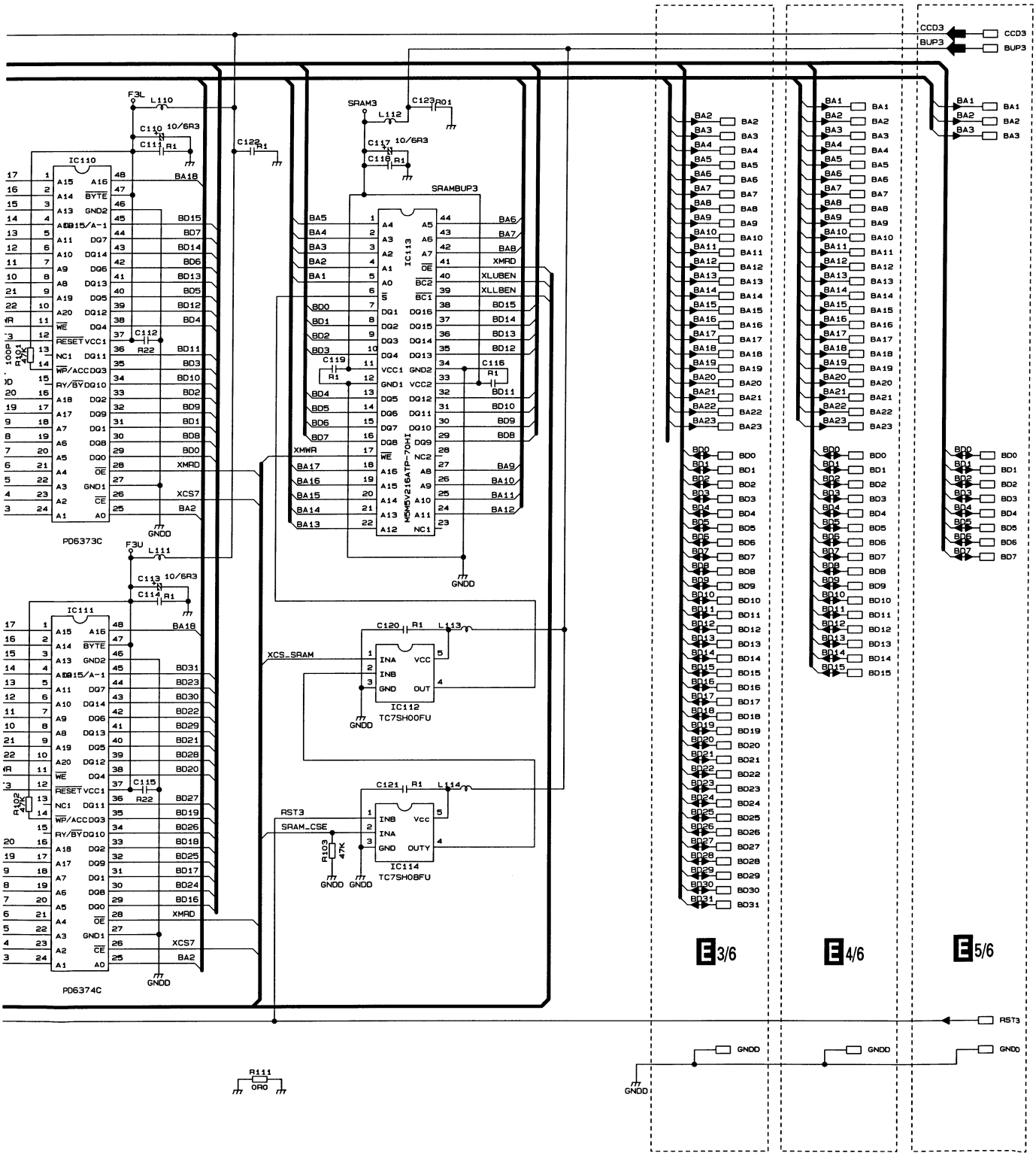

G CN1401
IC5
ASIC
PD6336B
SIO
CSI (V832) to PDC(SI,SO) :CTOTCH,TCHTOC
UART1(ASIC) to NC :BA ,BB
UART2(ASIC) to GPS Dragon :CTOGPS,GPSTOC
UART3(ASIC) to SYSTEM U-COM :CTOSYS,SYSTOC
UART4(ASIC) to MECHA U-COMM :TXDCC ,RXDCC
UART5(ASIC) to CUE :CTOB ,BTOC
UART6(ASIC) to PalmPilot :CTOETC,ETCTOC
UART7(ASIC) to ←UNIT/DEBUG PORT :CTOEX ,EXTOC
UART8(ASIC) to Mayday UNIT :CTOMay,MayTOC
UART9(ASIC) to PDC :CTOPDC,PDCTOC
TXD , RXD
ASIC
UART
PIO
E 5/6

UART7(ASIC) to ←UNIT/DEBUG PORT
UART8(ASIC) to Mayday UNIT
UART9(ASIC) to PDC
:CTOEX , EXTOC
:CTOMay, MayTOC
:CTOPDC, PDCTOC
E-a
E-b
E 2/6
3

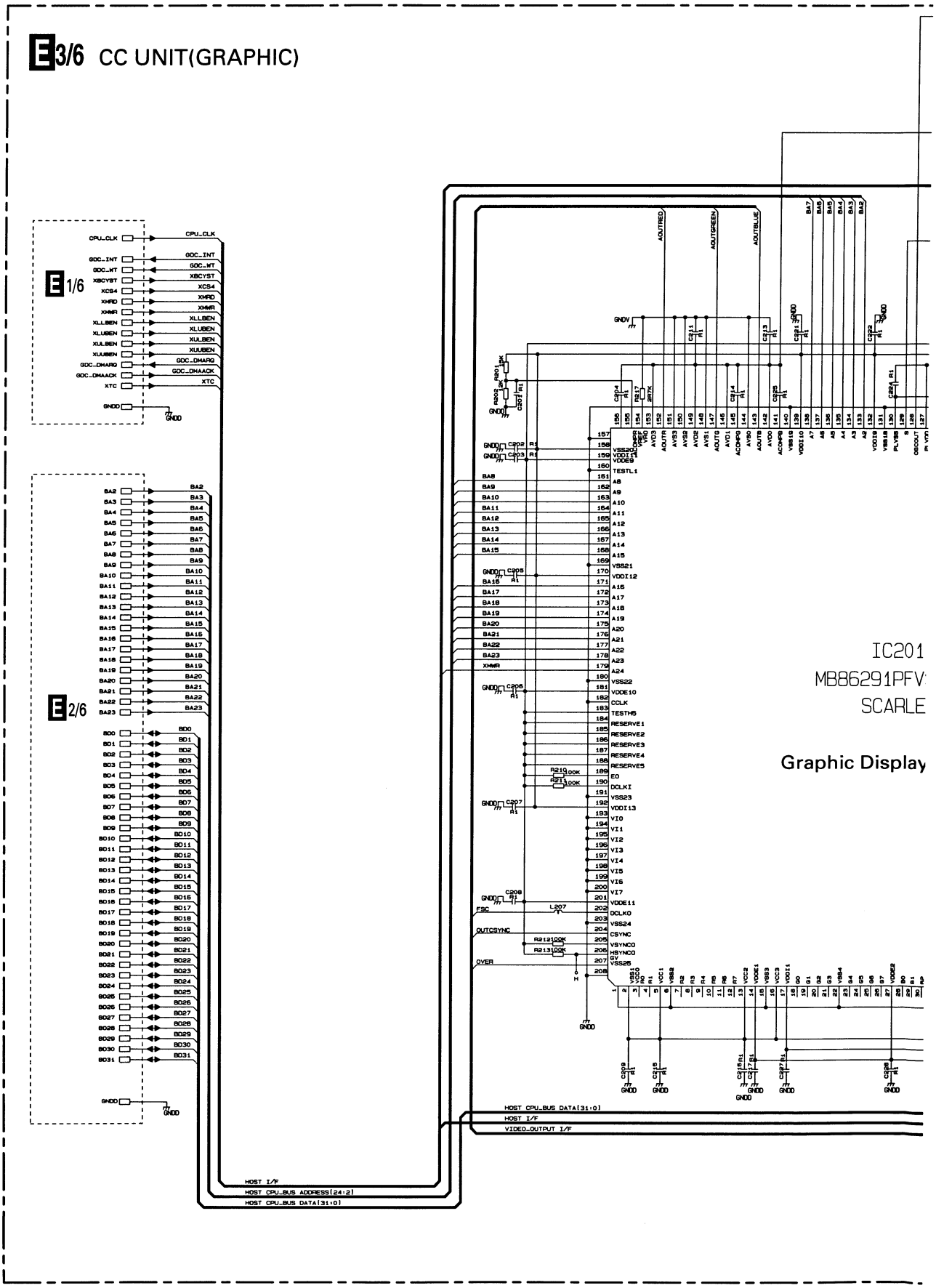
3.12 CC UNIT 2/6 (ROM, SRAM, BUS-BUFFER)

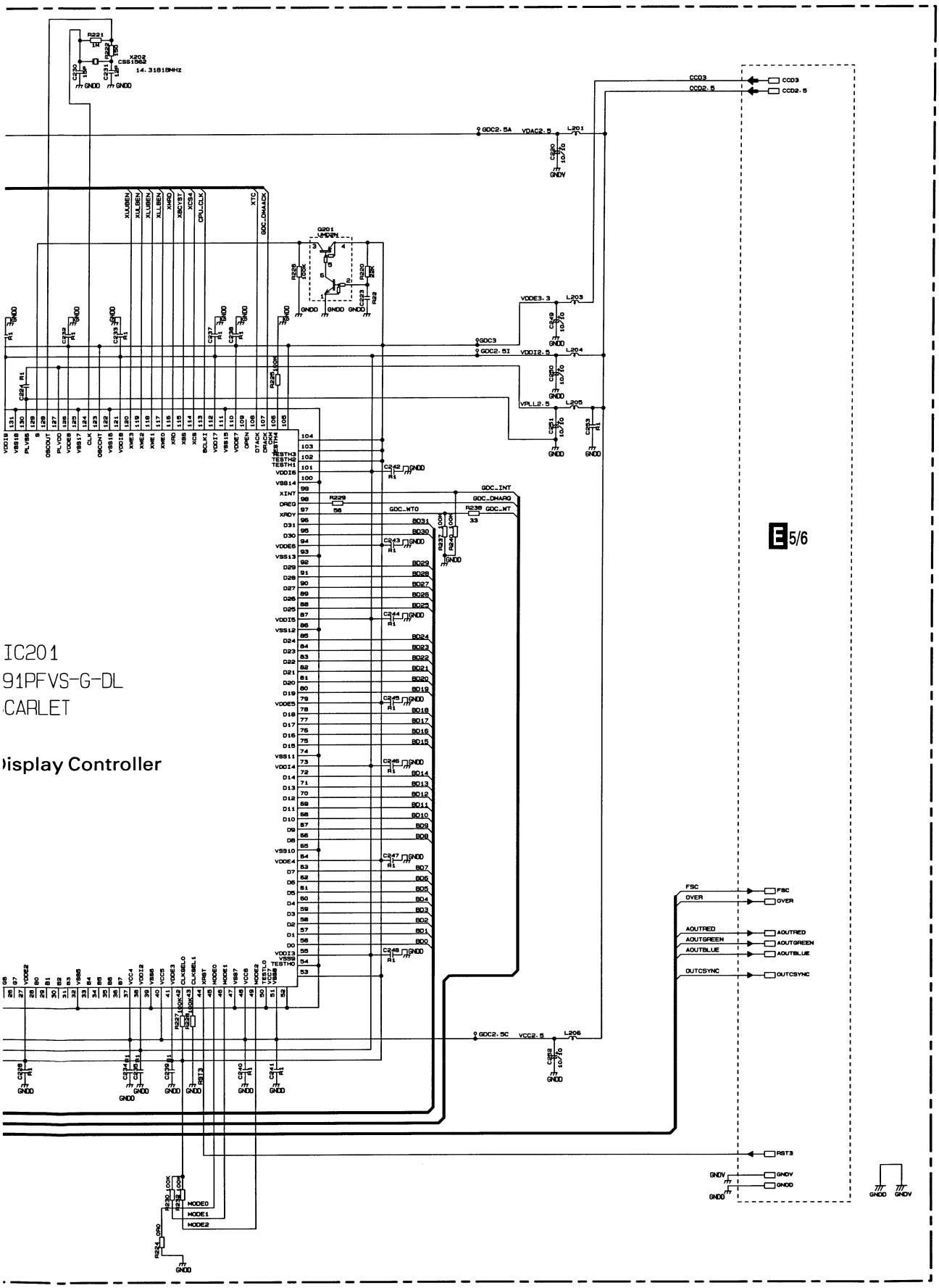


E2/6 CC UNIT(ROM,SRAM,BUS-BUFFER)

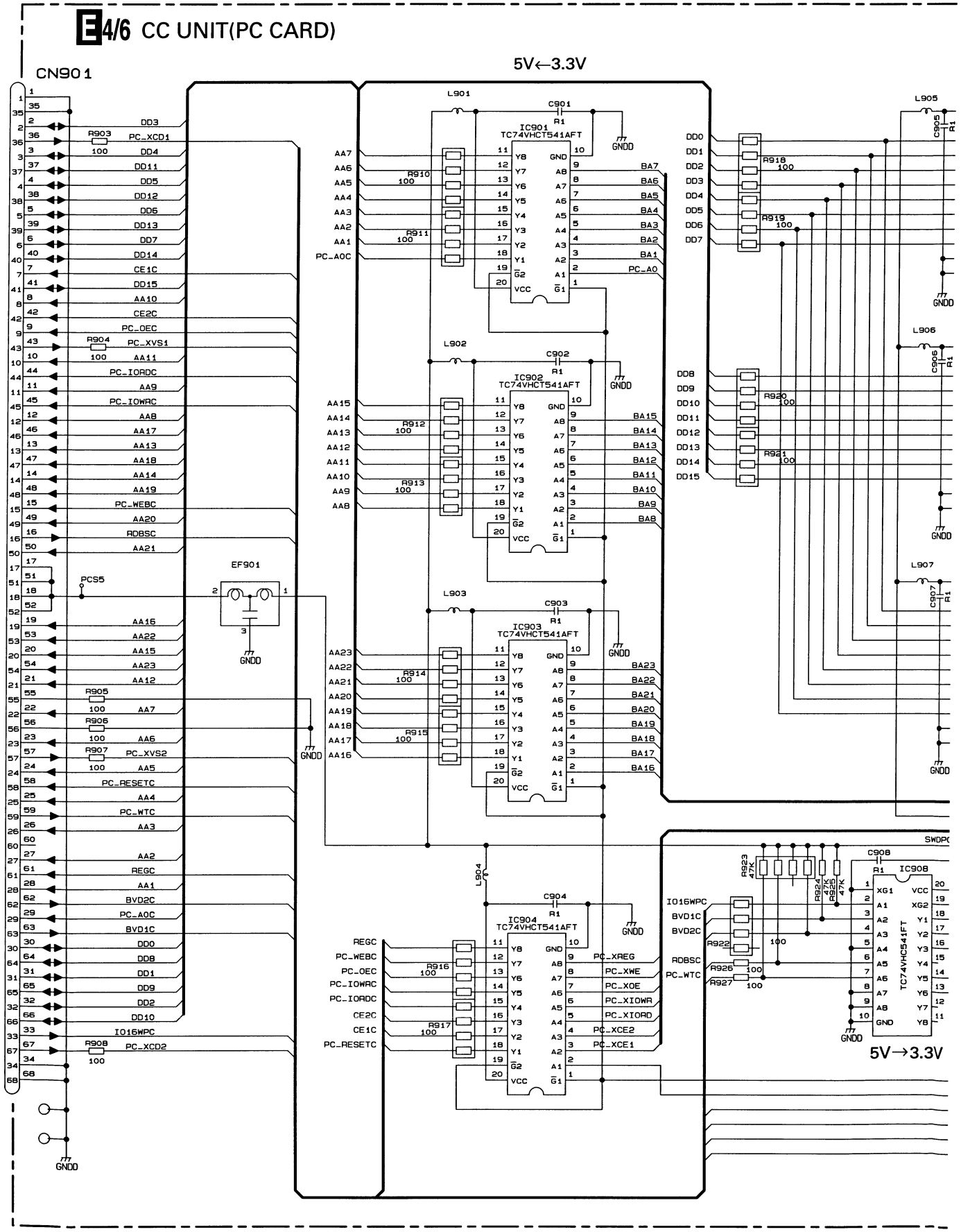


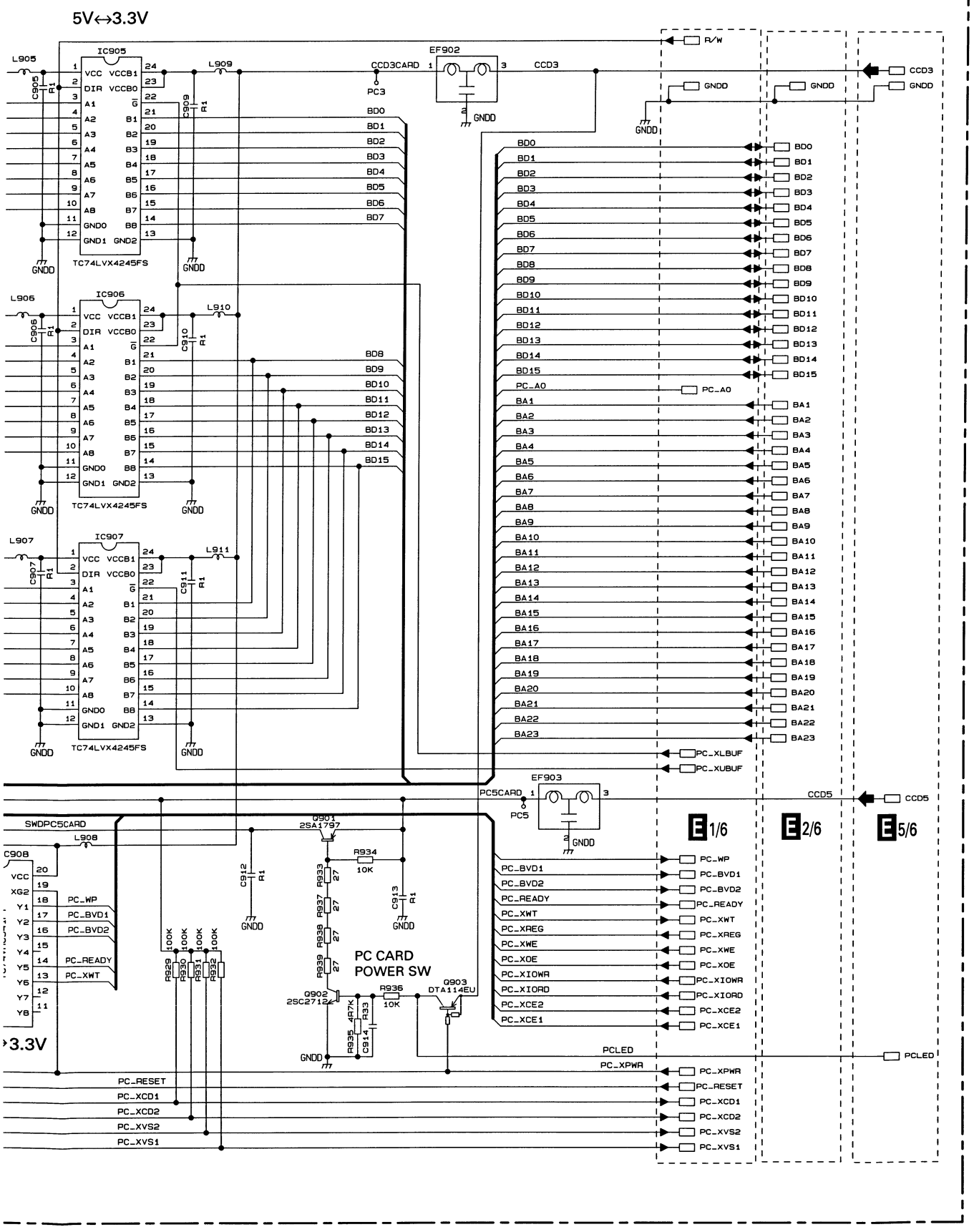
3.13 CC UNIT 3/6 (GRAPHIC)




IC201
91PFVS-G-DL
CARLET
Display Controller
E5/6
E3/6

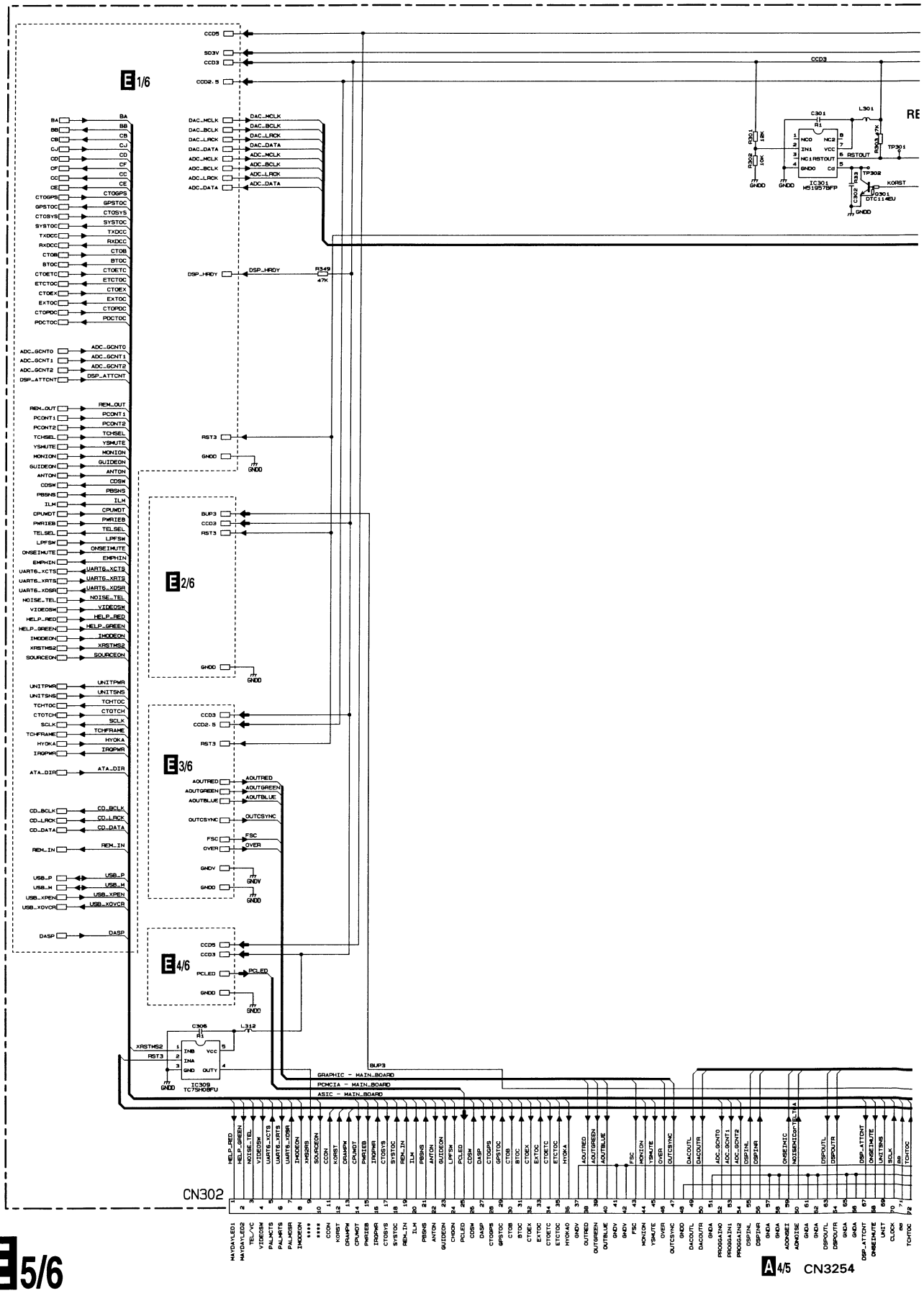
3.14 CC UNIT 4/6 (PC CARD)




5V↔3.3V
IC905
IC906
IC907
TC74LVX4245FS
L905
L906
L907
L908
L909
L910
L911
EF902
EF903
CCD3CARD
PC5CARD
PC3
PC5
GNDD
R/W
CCD3
CCD5
PCLED
BD0
BD1
BD2
BD3
BD4
BD5
BD6
BD7
BD8
BD9
BD10
BD11
BD12
BD13
BD14
BD15
PC_A0
BA1
BA2
BA3
BA4
BA5
BA6
BA7
BA8
BA9
BA10
BA11
BA12
BA13
BA14
BA15
BA16
BA17
BA18
BA19
BA20
BA21
BA22
BA23
PC_XLBUF
PC_XUBUF
SWDPC5CARD
Q901
2SA1797
Q902
2SC2712
Q903
DTA114EU
R934
10K
R933
R937
R938
R939
27
R935
4.7K
R936
10K
R33
R929
R930
R931
R932
100K
C912
C913
C914
PC CARD
POWER SW
3.3V
PC_WP
PC_BVD1
PC_BVD2
PC_READY
PC_XWT
PC_XREG
PC_XWE
PC_XOE
PC_XIOWR
PC_XIORD
PC_XCE2
PC_XCE1
PC_XPWR
PC_RESET
PC_XCD1
PC_XCD2
PC_XVS2
PC_XVS1
E1/6
E2/6
E5/6
E4/6

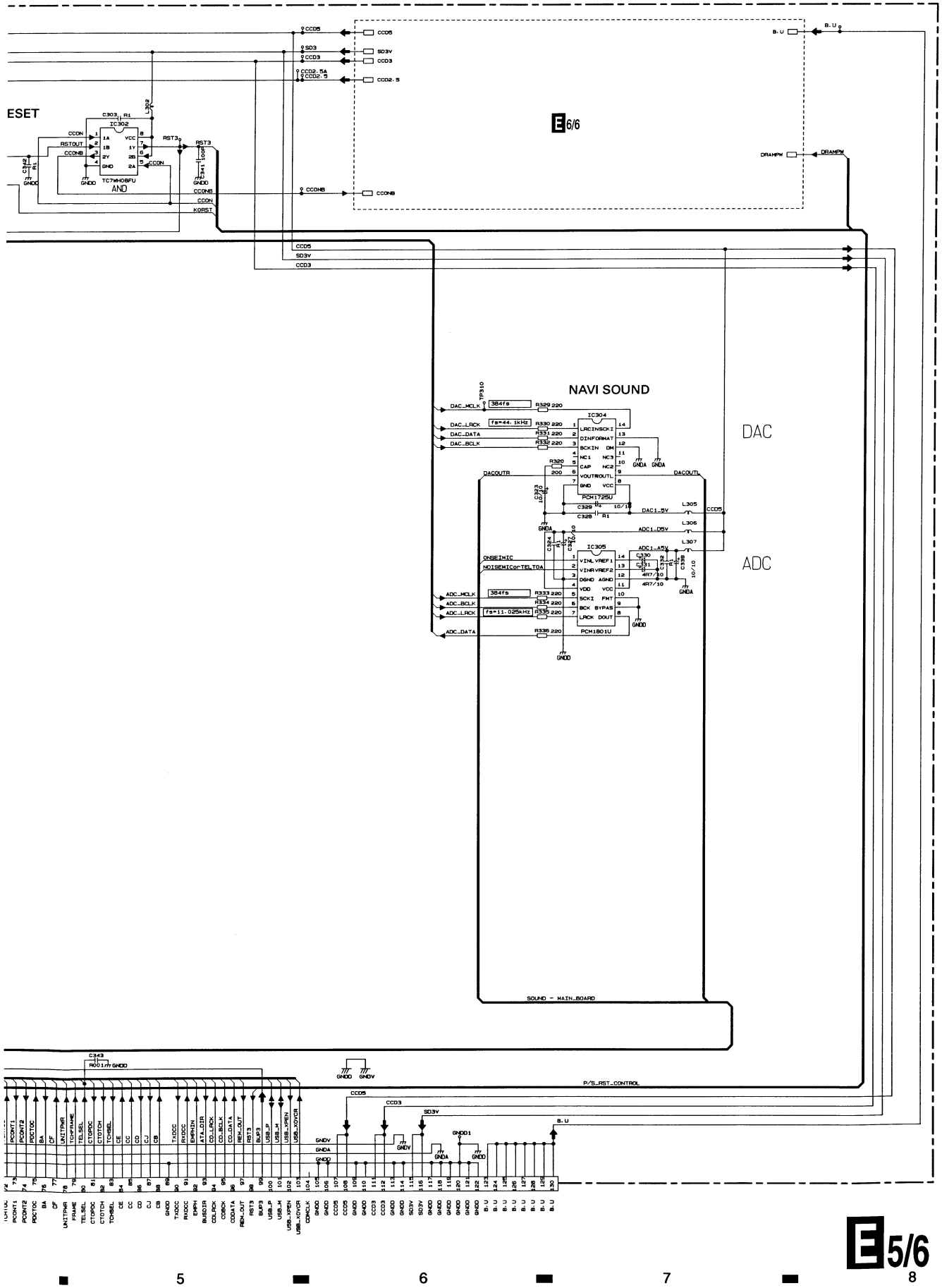
3.15 CC UNIT 5/6 (DSP, I/F CONNECTOR)(GUIDE PAGE)

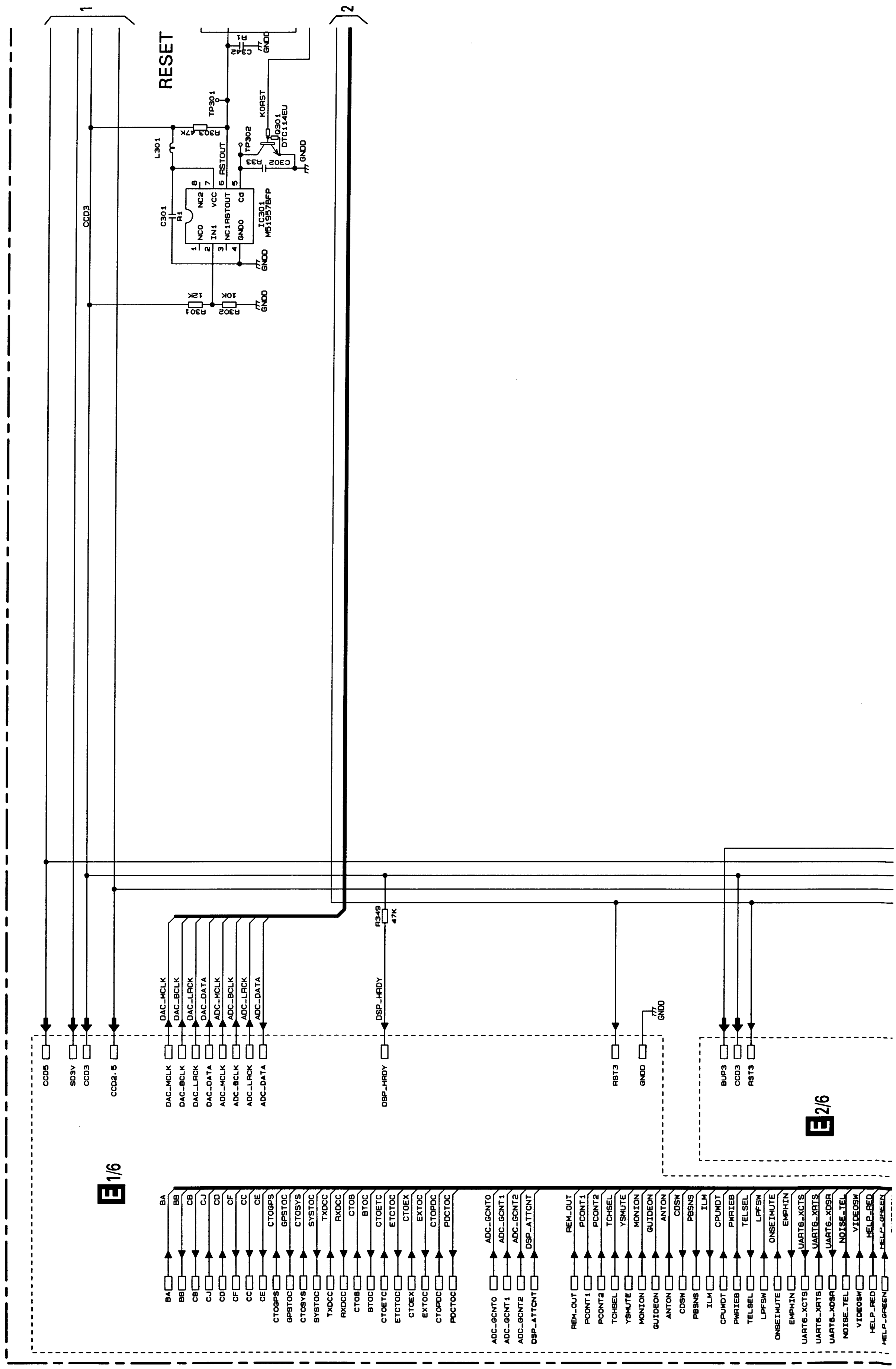
E-a 5/6

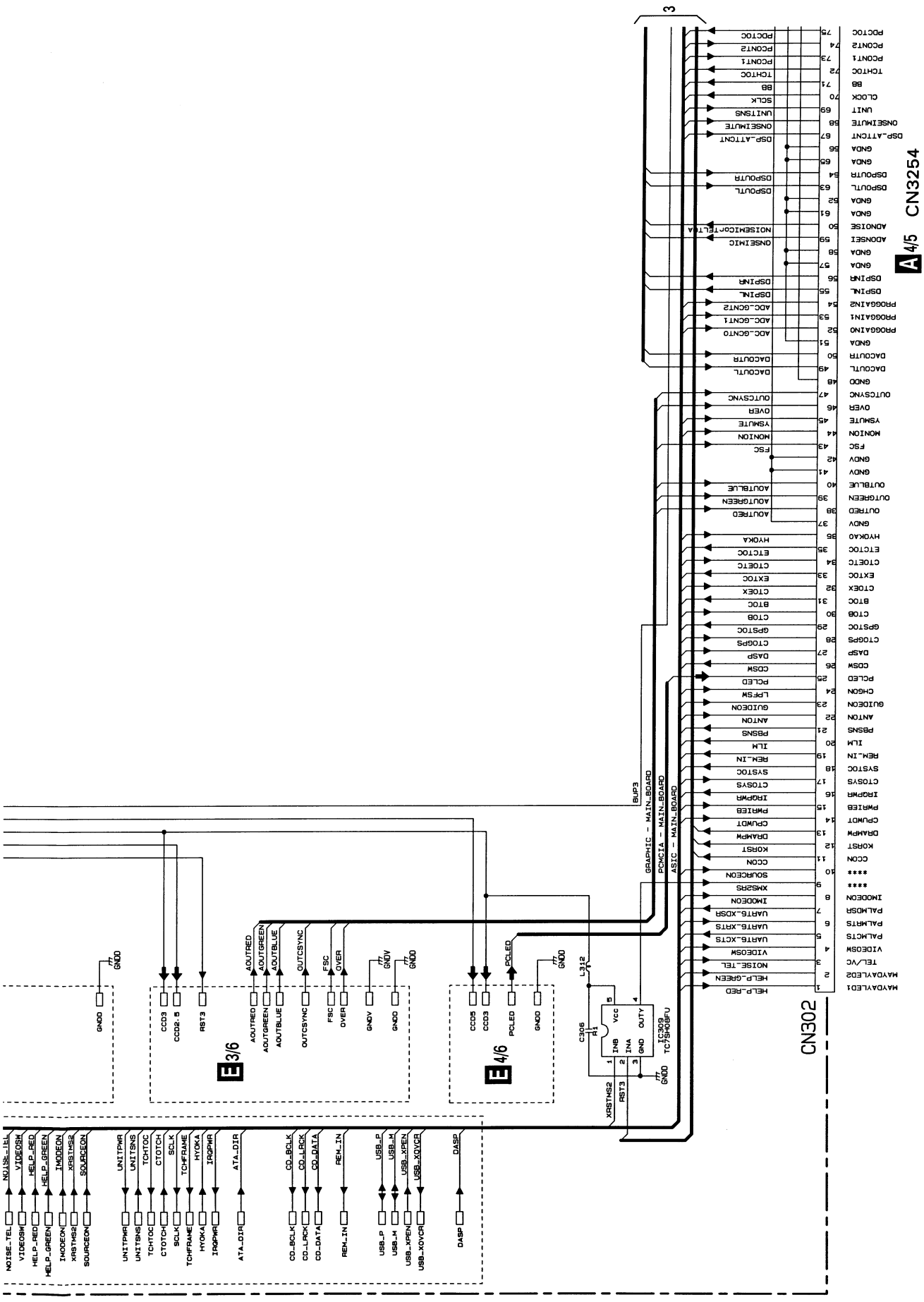


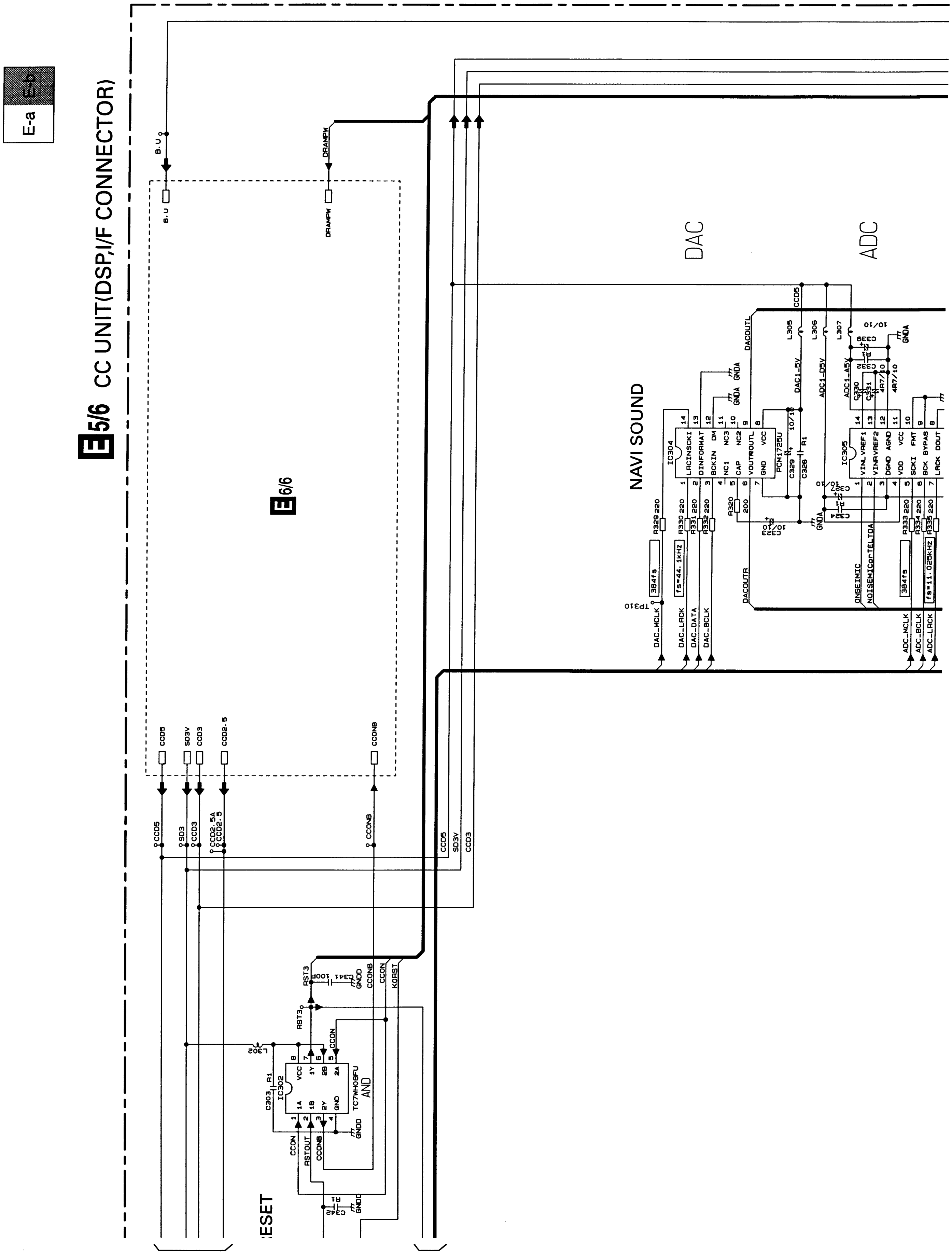
E-b 5/6

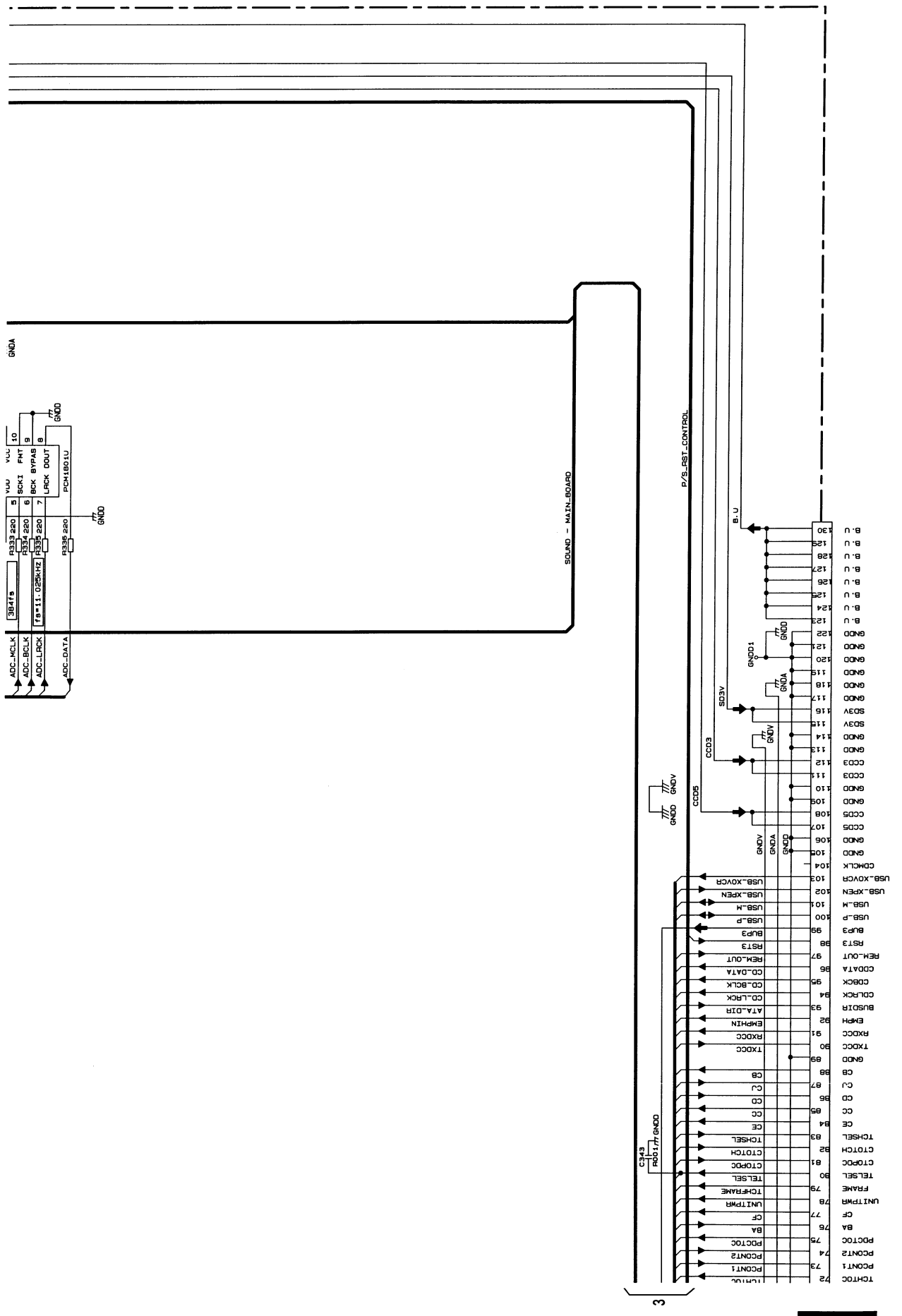
E 5/6 CC UNIT(DSP,I/F CONNECTOR)



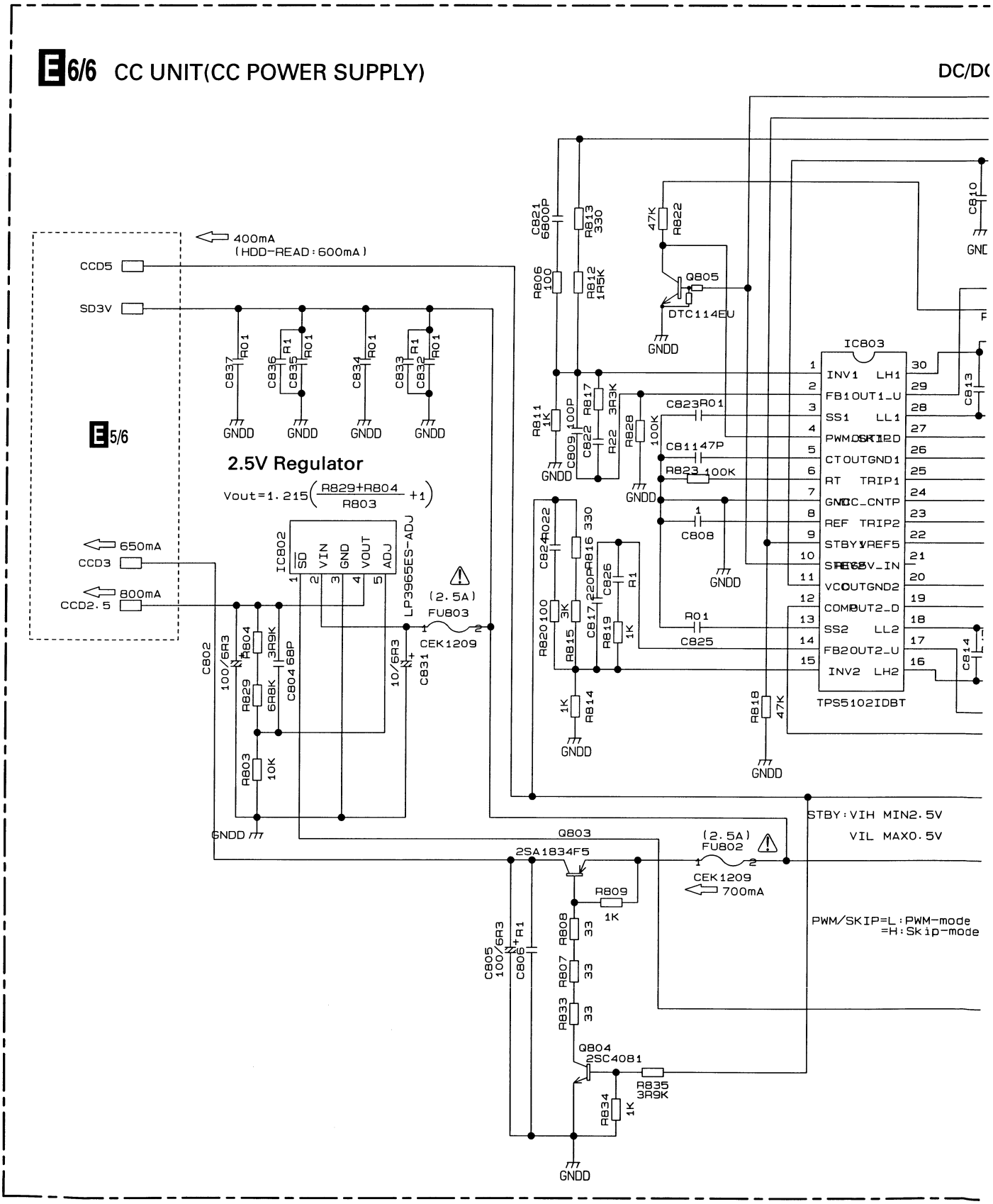

RESET
IC301
M51957BFP
Q301
DTC114EU
TP301
TP302
KORST
RSTOUT
L301
C301
C302
R301 12K
R302 10K
R303 47K
R349 47K
GNDD
CCD3
CCD5
SD3V
CCD2.5
DAC_MCLK
DAC_BCLK
DAC_LRCK
DAC_DATA
ADC_MCLK
ADC_BCLK
ADC_LRCK
ADC_DATA
DSP_HRDY
RST3
BUP3
E 1/6
E 2/6
BA
BB
CB
CJ
CD
CF
CC
CE
CTOGPS
GPSTOC
CTOSYS
SYSTOC
TXDCC
RXDCC
CTOB
BTOC
CTOETC
ETCTOC
CTOEX
EXTOC
CTOPDC
PDCTOC
ADC_GCNT0
ADC_GCNT1
ADC_GCNT2
DSP_ATTCNT
REM_OUT
PCONT1
PCONT2
TCHSEL
YSMUTE
MONION
GUIDEON
ANTON
CDSW
PBSNS
ILM
CPUWDT
PWRIEB
TELSEL
LPFSW
ONSEIMUTE
EMPHIN
UART6_XCTS
UART6_XRTS
UART6_XDSR
NOISE_TEL
VIDEOSW
HELP_RED
HELP_GREEN


CN3254
CN302
E-a
E-b
A 4/5
E 3/6
E 4/6
GRAPHIC - MAIN-BOARD
PCMCIA - MAIN-BOARD
ASIC - MAIN-BOARD
IC309 TC7SH08FU

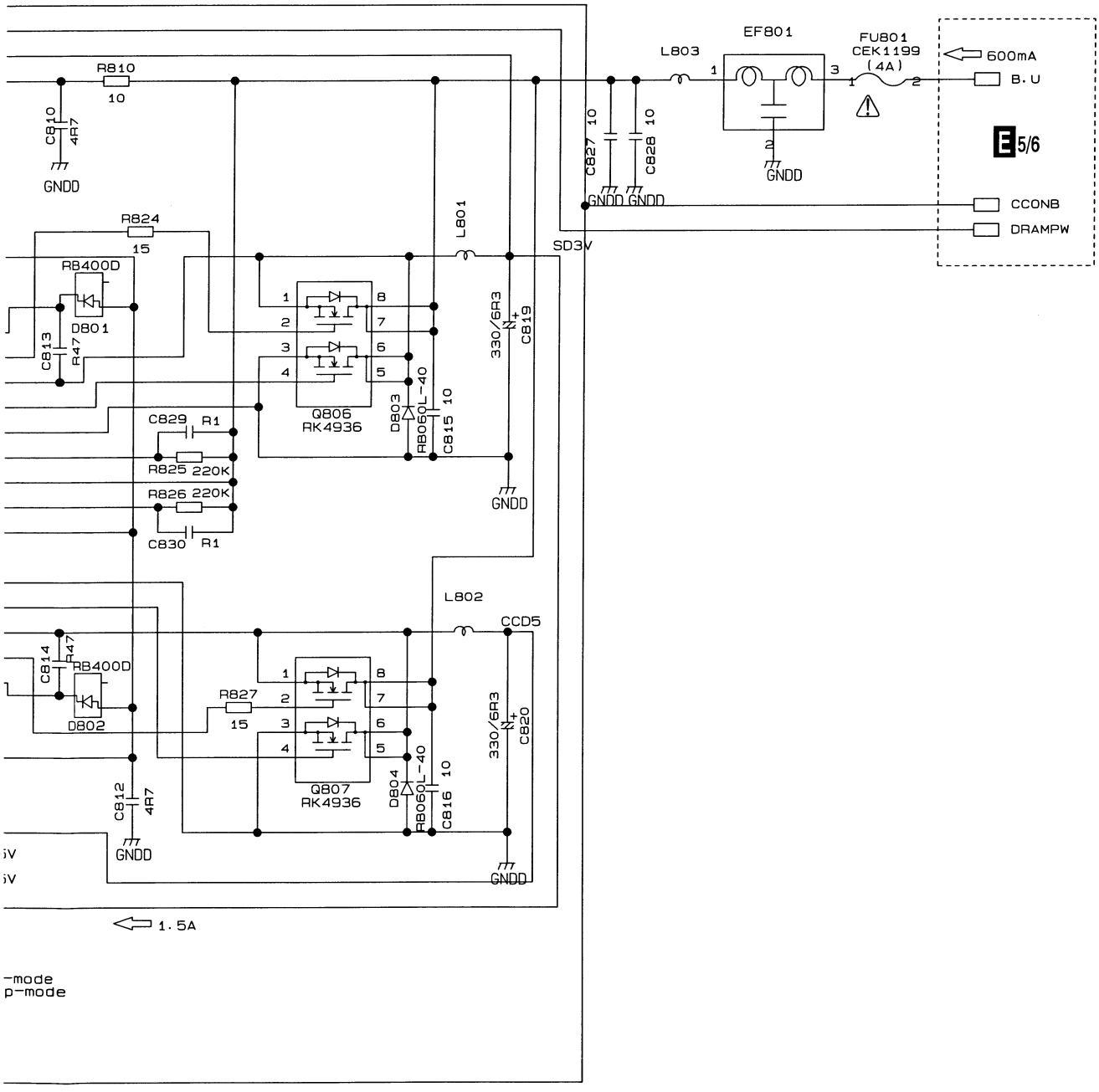

E-a
E-b
E 5/6 CC UNIT(DSP,I/F CONNECTOR)
E 6/6
DAC
ADC
NAVI SOUND
PCM1725U
TC7WH08FU
AND


E-b
E-a
SOUND - MAIN_BOARD
P/S_RST_CONTROL
PCM1801U
384fs
fs=11.025kHz
ADC_MCLK
ADC_BCLK
ADC_LRCK
ADC_DATA
GNDA
GNDD
SD3V
CCD3
CCD5
B.U
C343
R001

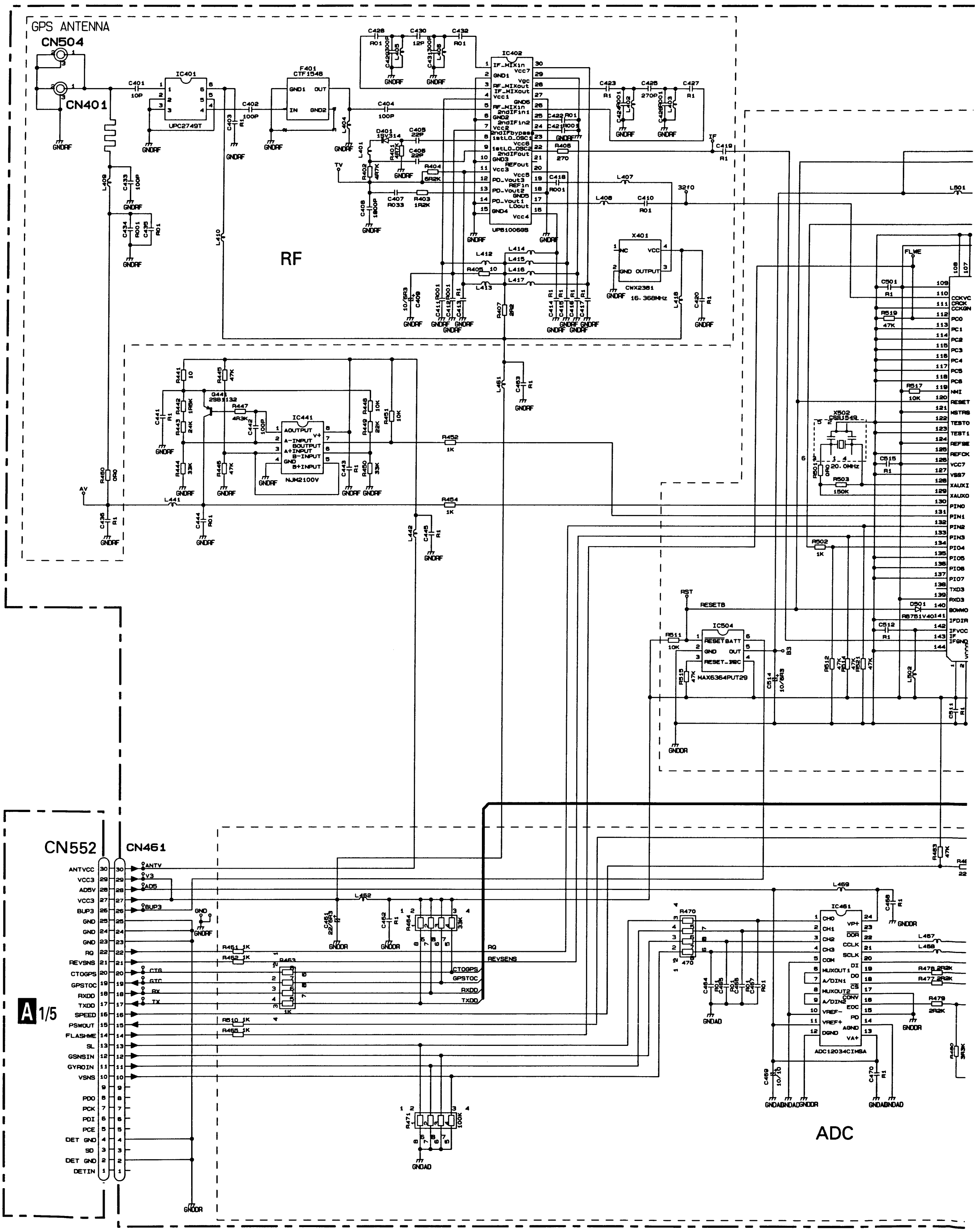
3.16 CC UNIT 6/6 (CC POWER SUPPLY)

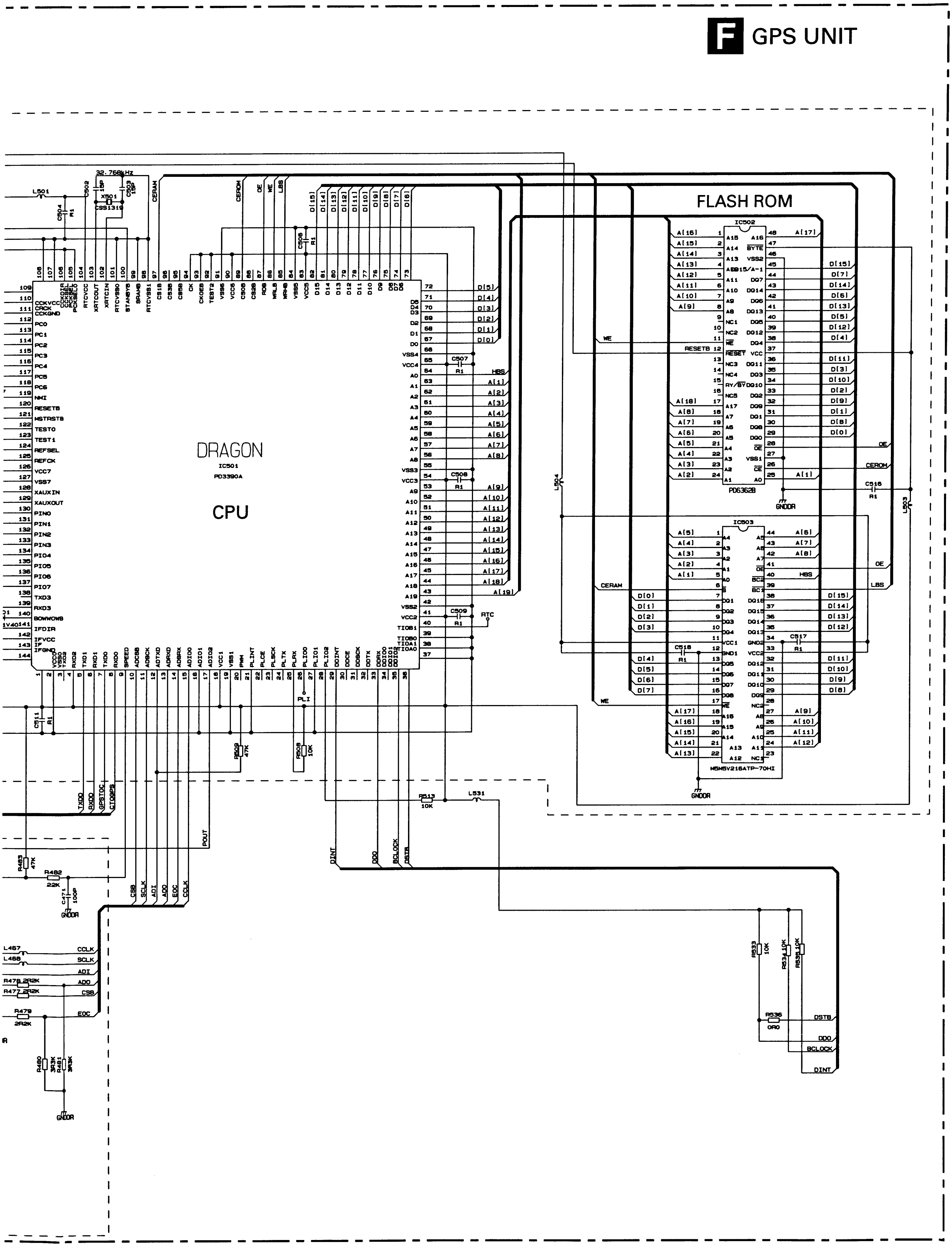


DC/DC Converter 3.3V / 5V 2ch



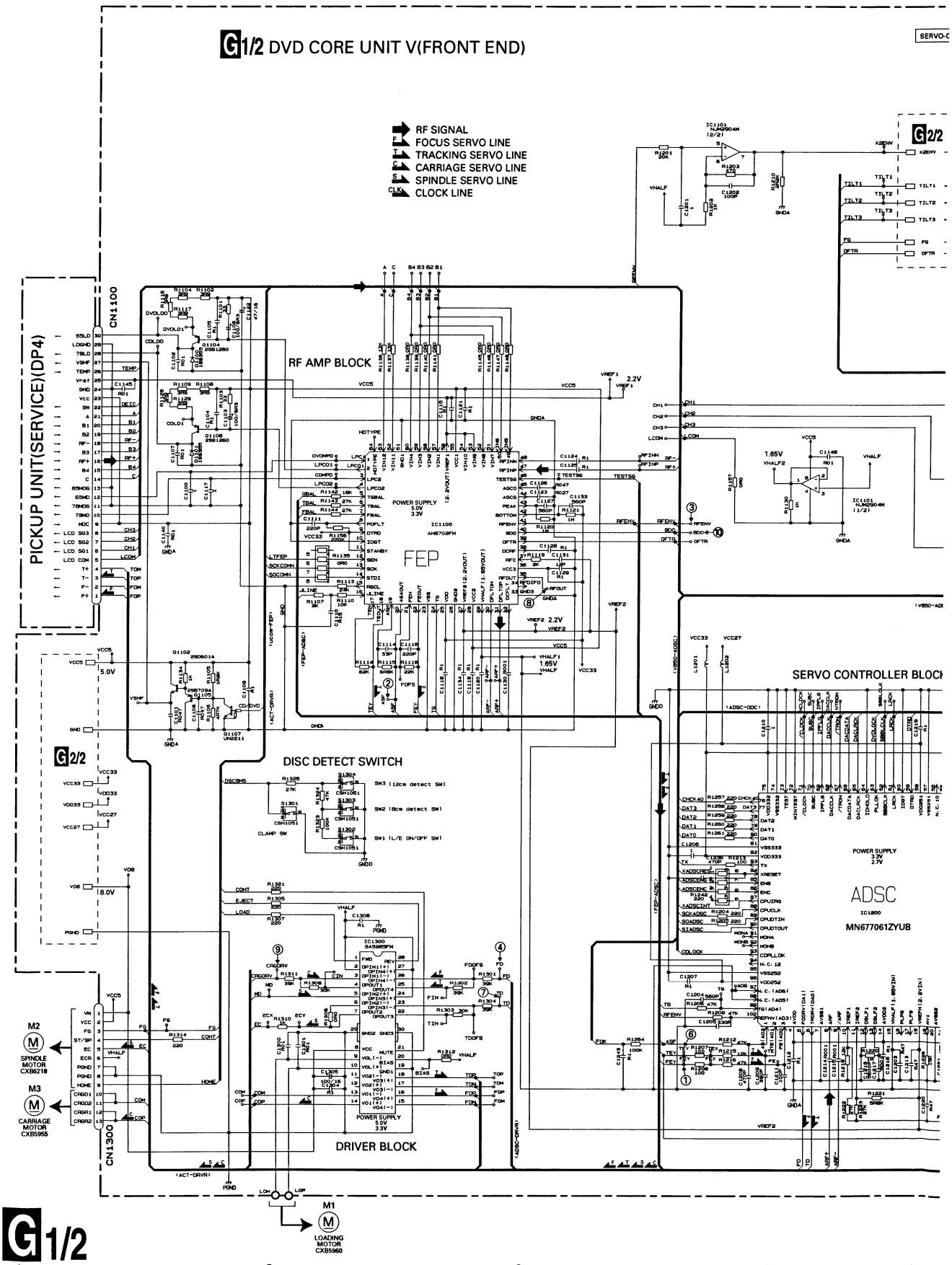
3.17 GPS UNIT


GPS ANTENNA
CN504
CN401
IC401
UPC2749T
F401
CTF1548
IC402
UPB1006GS
X401
CWX2381
16.368MHz
RF
IC441
NJM2100V
Q441
2SB1132
IC504
MAX6364PUT29
X502
CSBJ549
20.0MHz
IC461
ADC12034CIMSA
ADC
CN552
CN461
A 1/5


F GPS UNIT
FLASH ROM
IC502
PD6362B
IC503
M5M5V216ATP-70HI
DRAGON
IC501
PD3390A
CPU
32.768kHz
X501
CSS1319

3.18 DVD MECHANISM MODULE(1/2)(GUIDE PAGE)

G-a 1/2

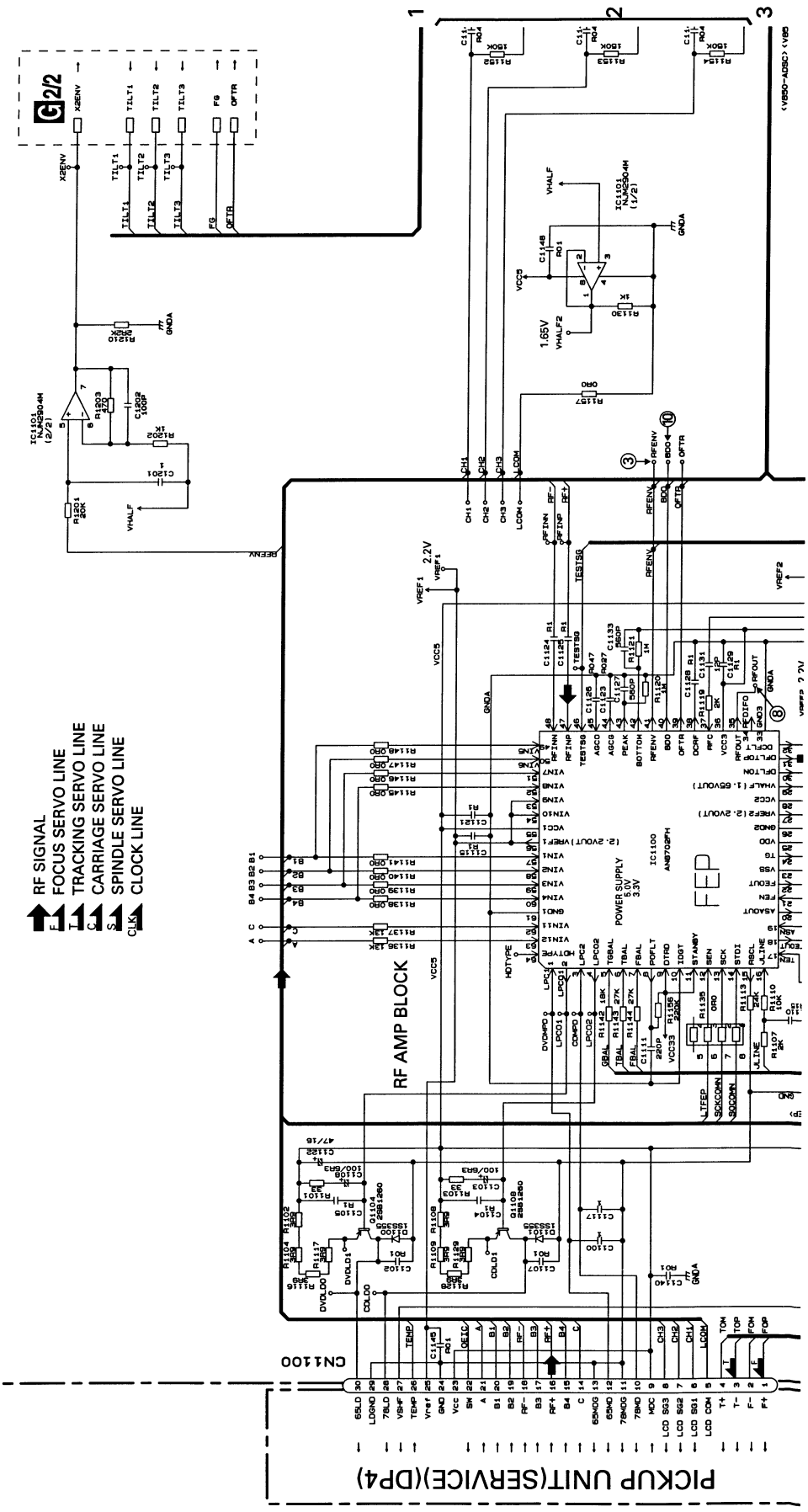


G-a G-b

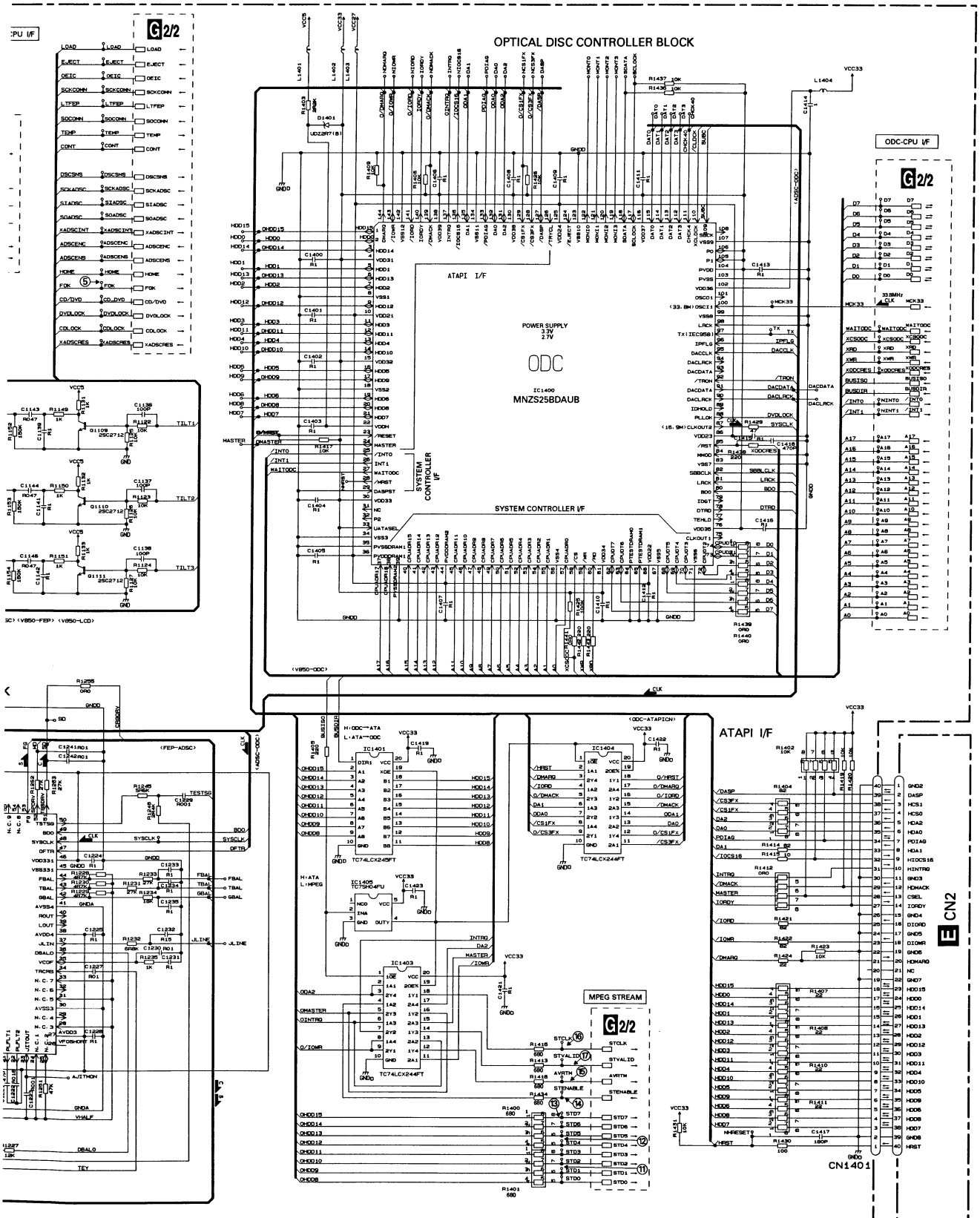
SERVO-CPU I/F

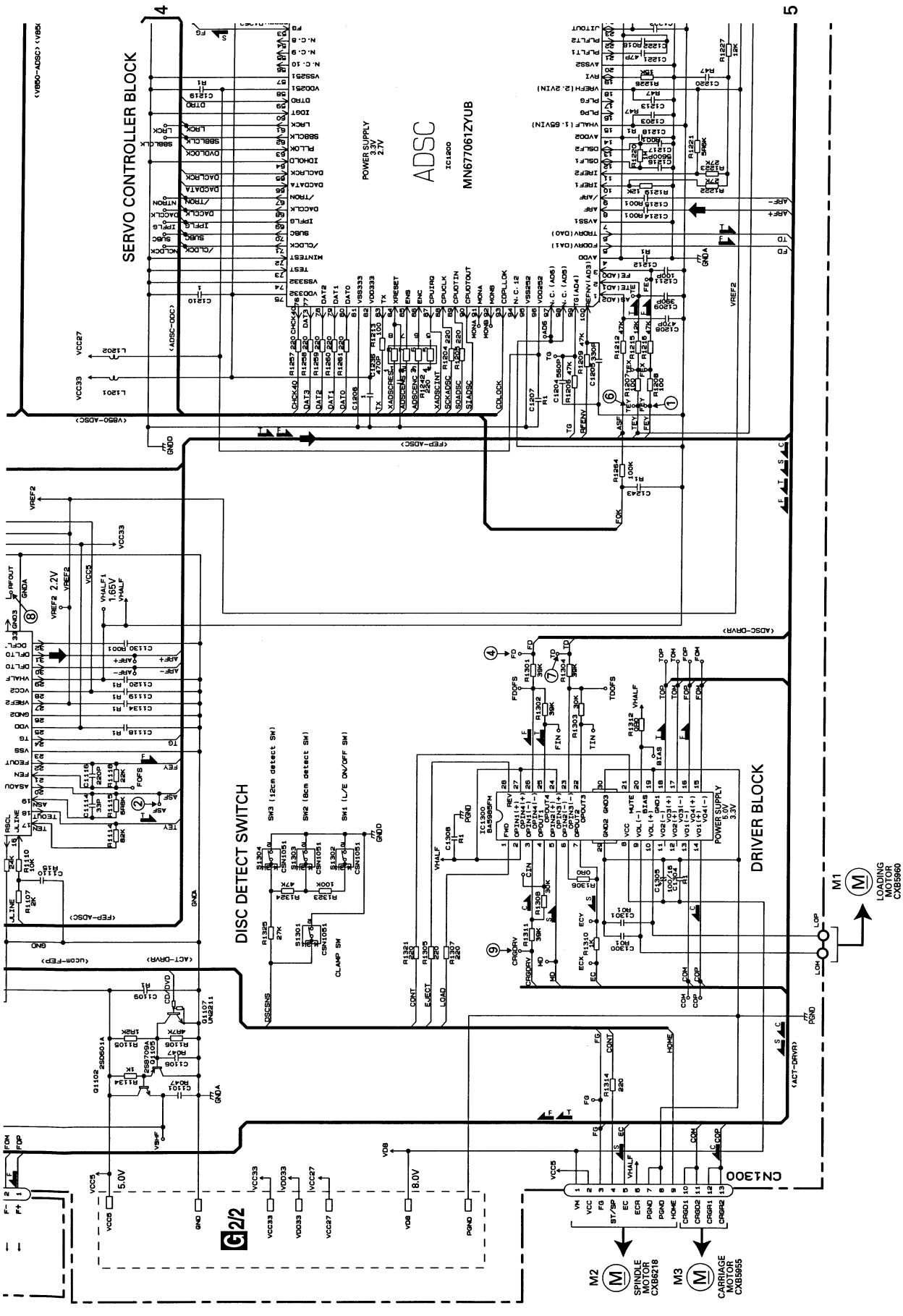
G1/2 DVD CORE UNIT V(FRONT END)

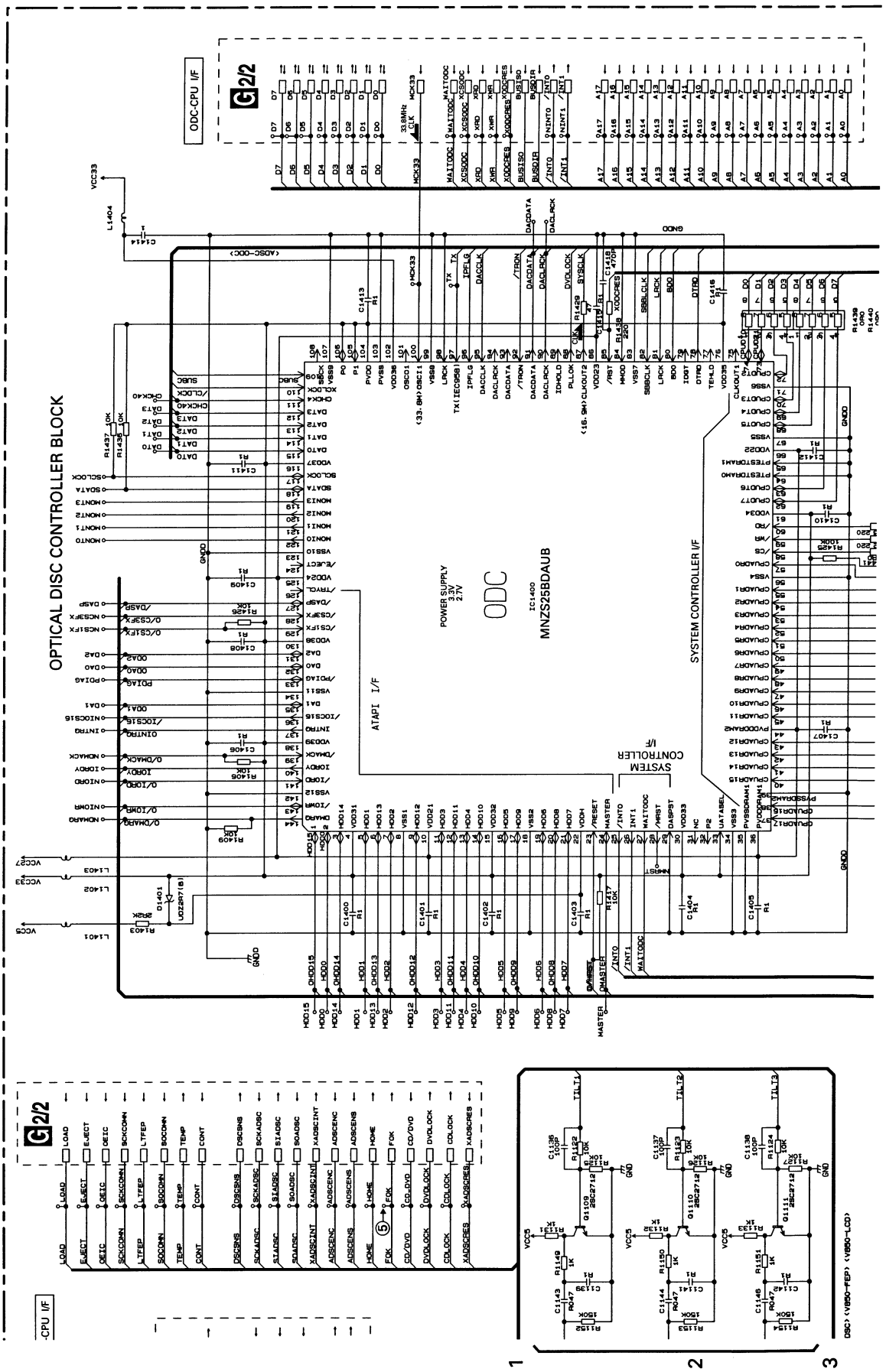
RF SIGNAL
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE
CLOCK LINE



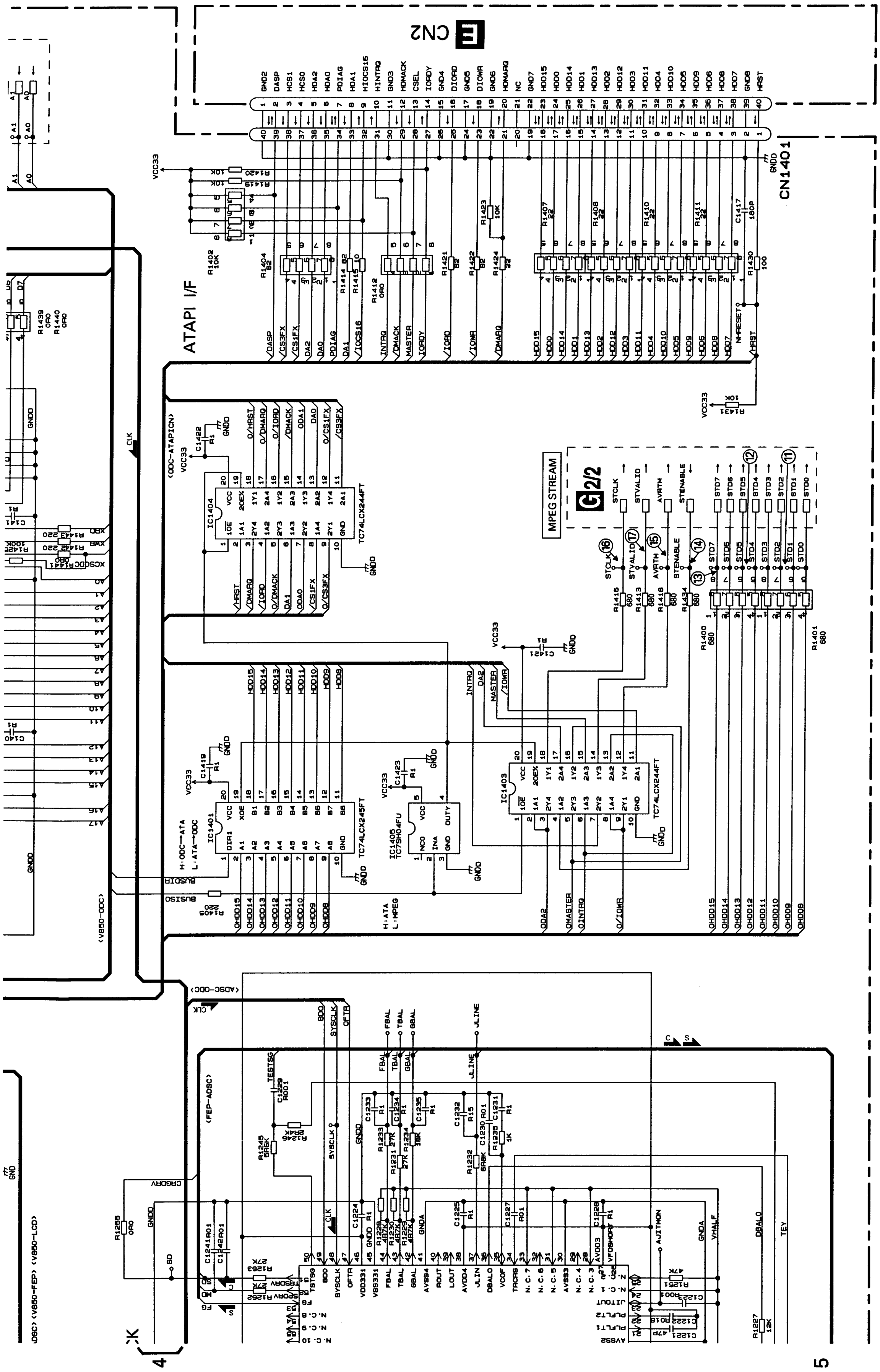
G-b 1/2


OPTICAL DISC CONTROLLER BLOCK
ATAPI I/F
POWER SUPPLY
3.3V
2.7V
ODC
IC1400
MNZS25BDAUB
SYSTEM CONTROLLER I/F
SYSTEM CONTROLLER I/F
ODC-CPU I/F
ATAPI I/F
MPEG STREAM
CN1401
CN2
G2/2
G1/2


SERVO CONTROLLER BLOCK
ADSC
IC1200
MN6770 61ZYUB
POWER SUPPLY 3.3V 2.7V
DISC DETECT SWITCH
DRIVER BLOCK
SW3 (12cm detect SW)
SW2 (8cm detect SW)
SW1 (L/E ON/OFF SW)
CLAMP SW
IC1300 BA5988FM
POWER SUPPLY 5.0V 3.3V
CN1300
M1 LOADING MOTOR CXB5960
M2 SPINDLE MOTOR CXB6218
M3 CARRIAGE MOTOR CXB5955
G2/2
VREF2 2.2V
VHALF1 1.65V
5.0V
8.0V

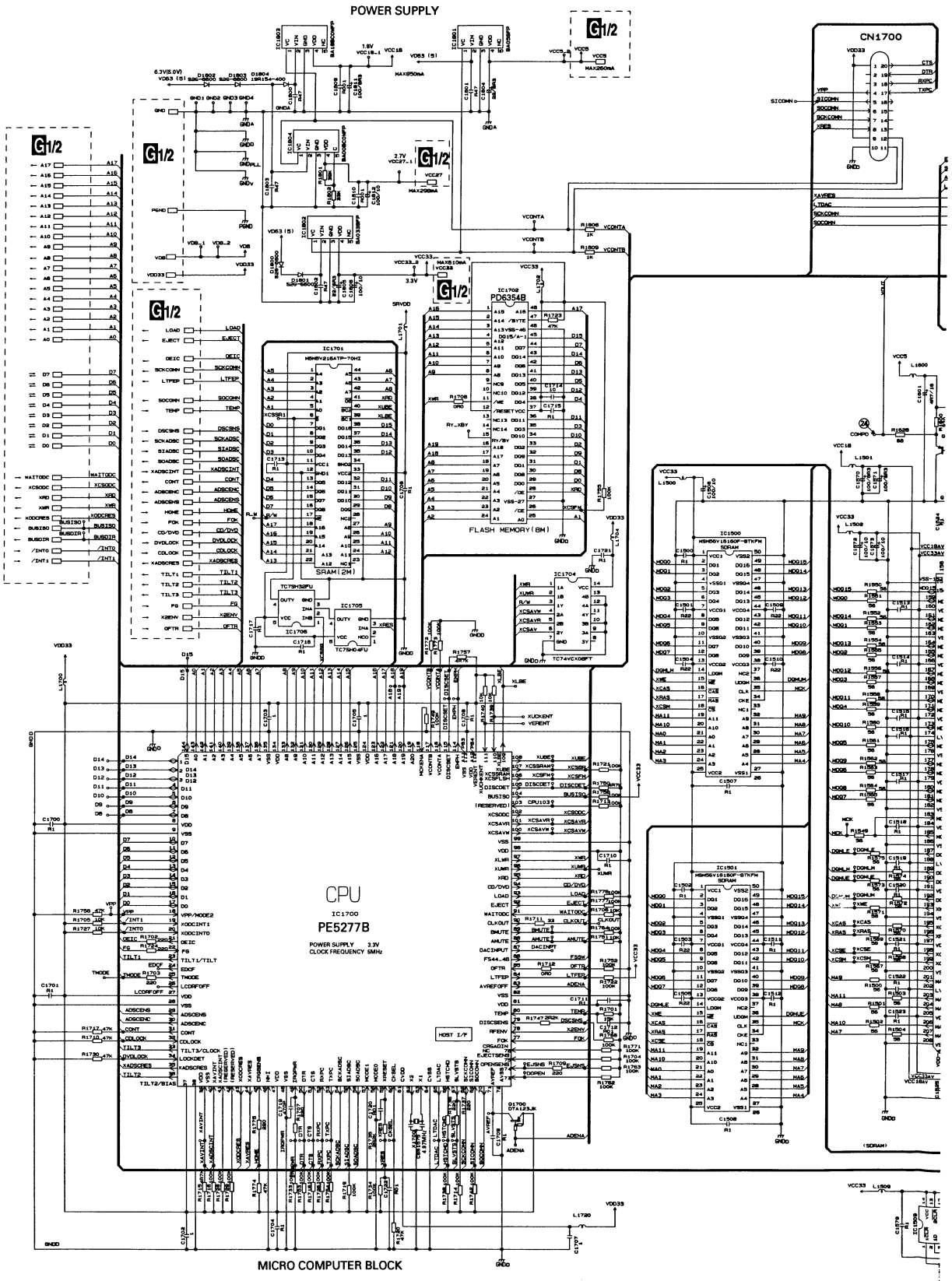

OPTICAL DISC CONTROLLER BLOCK
ATAPI I/F
POWER SUPPLY
3.3V
2.7V
ODC
IC1400
MNZS25BDAUB
SYSTEM CONTROLLER I/F
SYSTEM CONTROLLER I/F
ODC-CPU I/F
-CPU I/F
G-2/2

G-a G-b


CN2
CN1401
ATAPI I/F
MPEG STREAM
IC1404
TC74LCX244FT
IC1401
TC74LCX245FT
IC1405
TC7SH04FU
IC1403
TC74LCX244FT

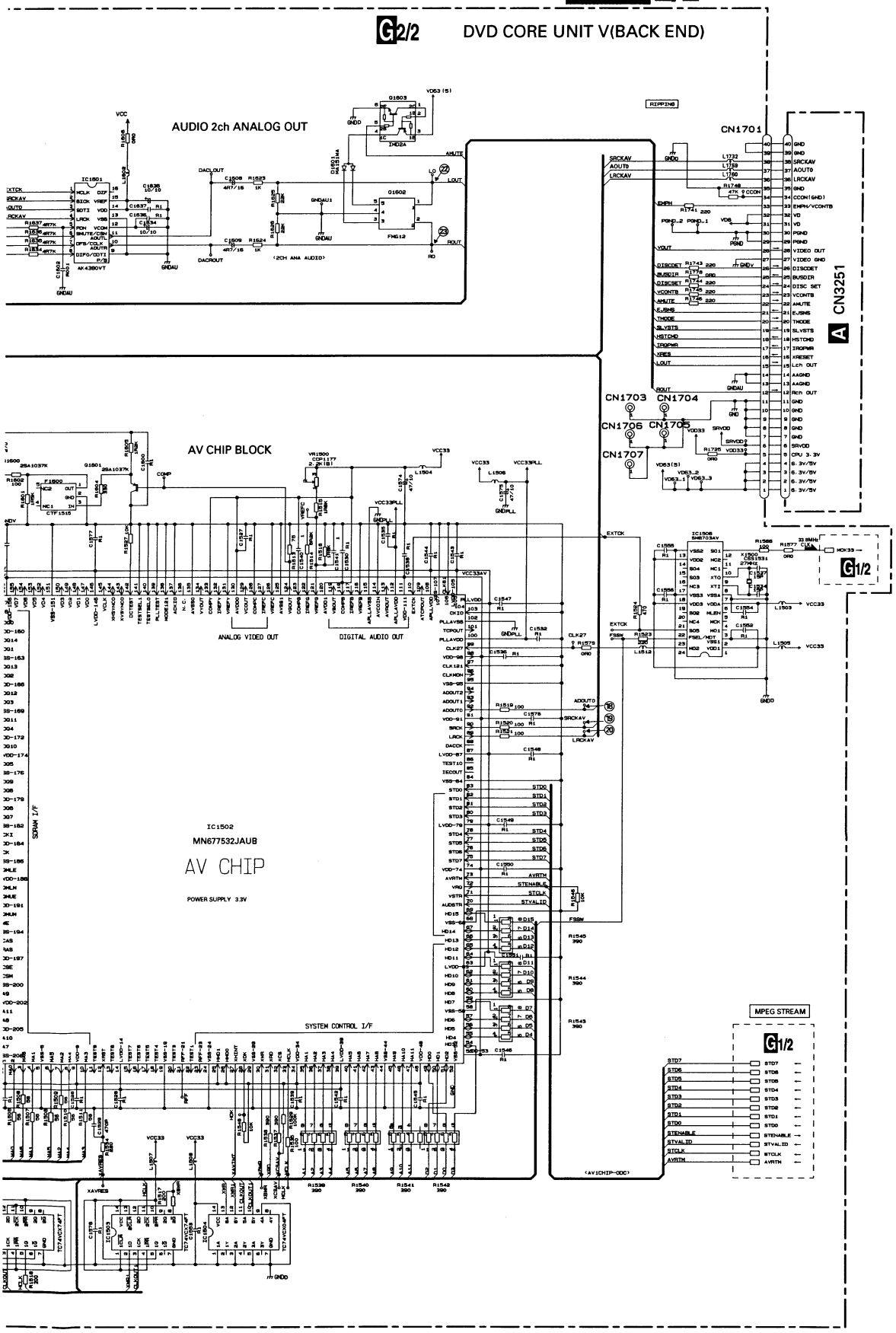
3.19 DVD MECHANISM MODULE(2/2)(GUIDE PAGE)

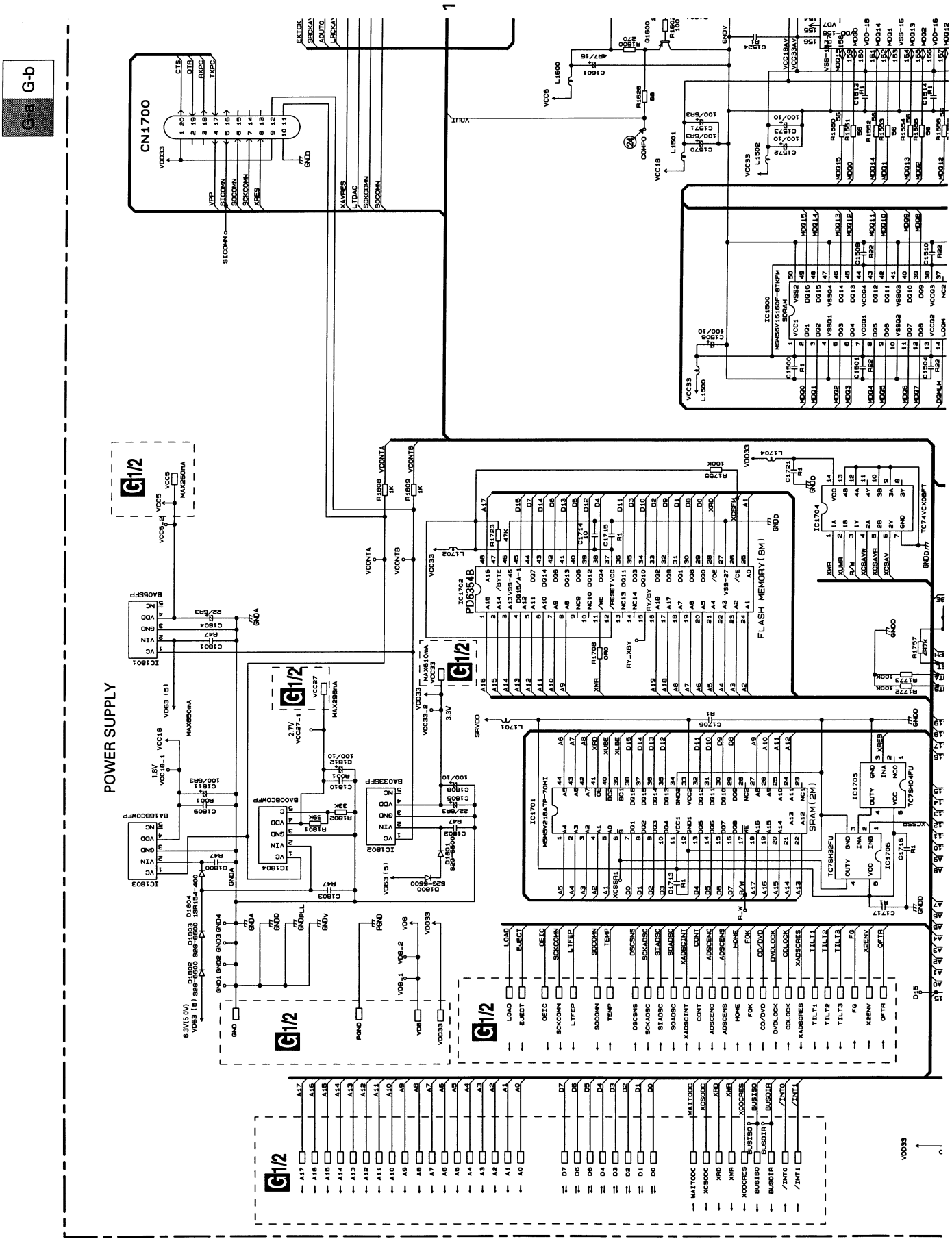
G-a 2/2

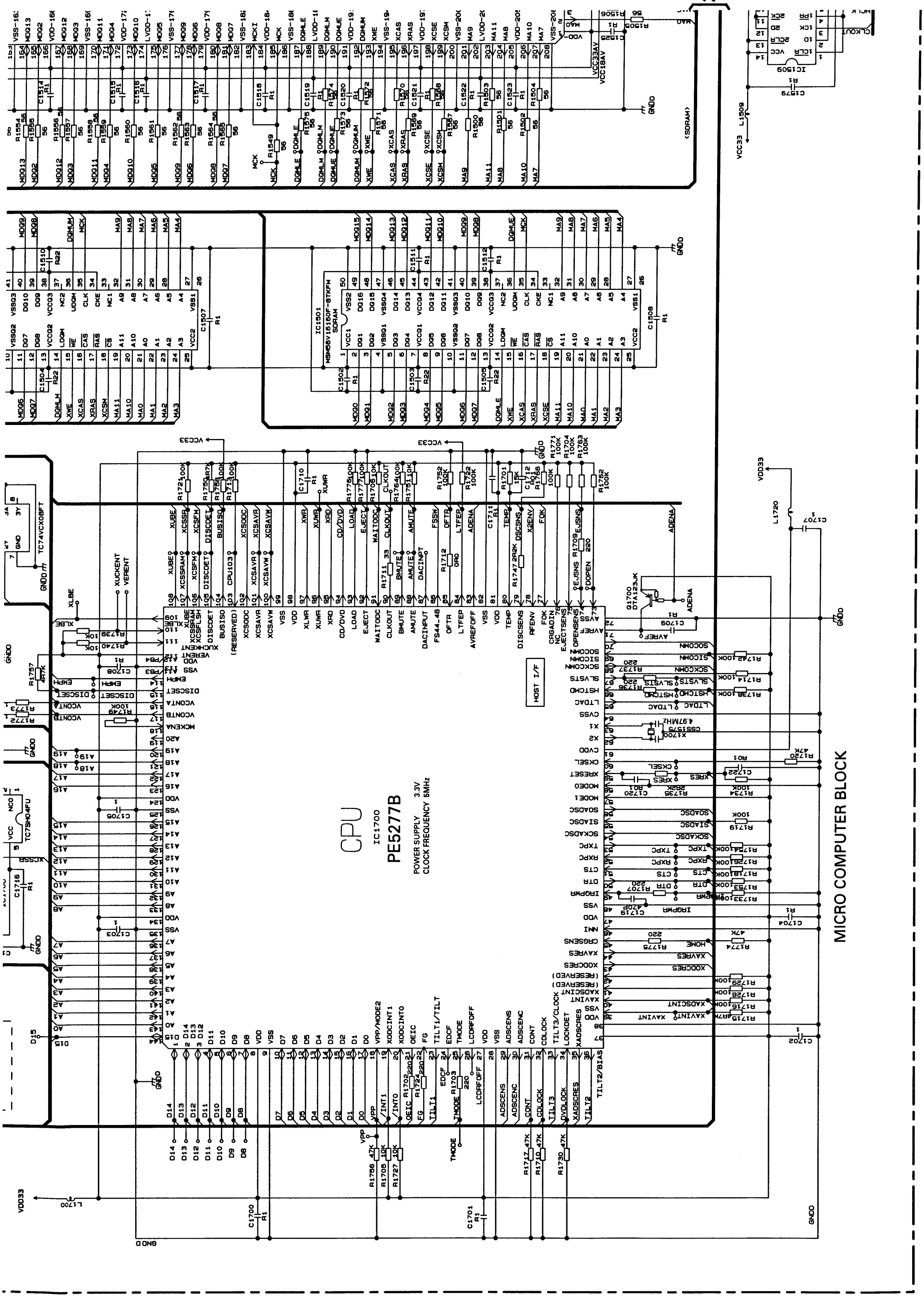


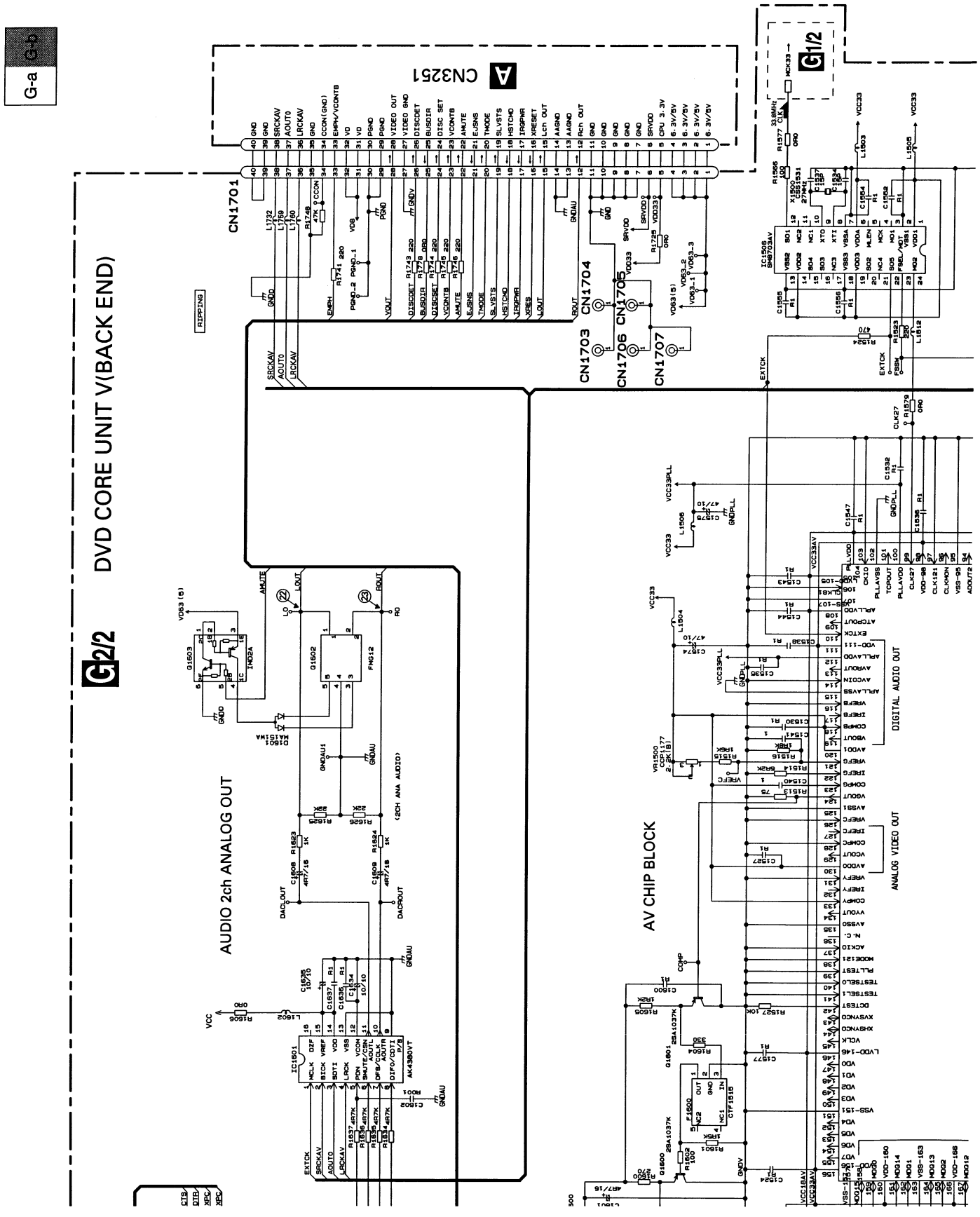
G 2/2

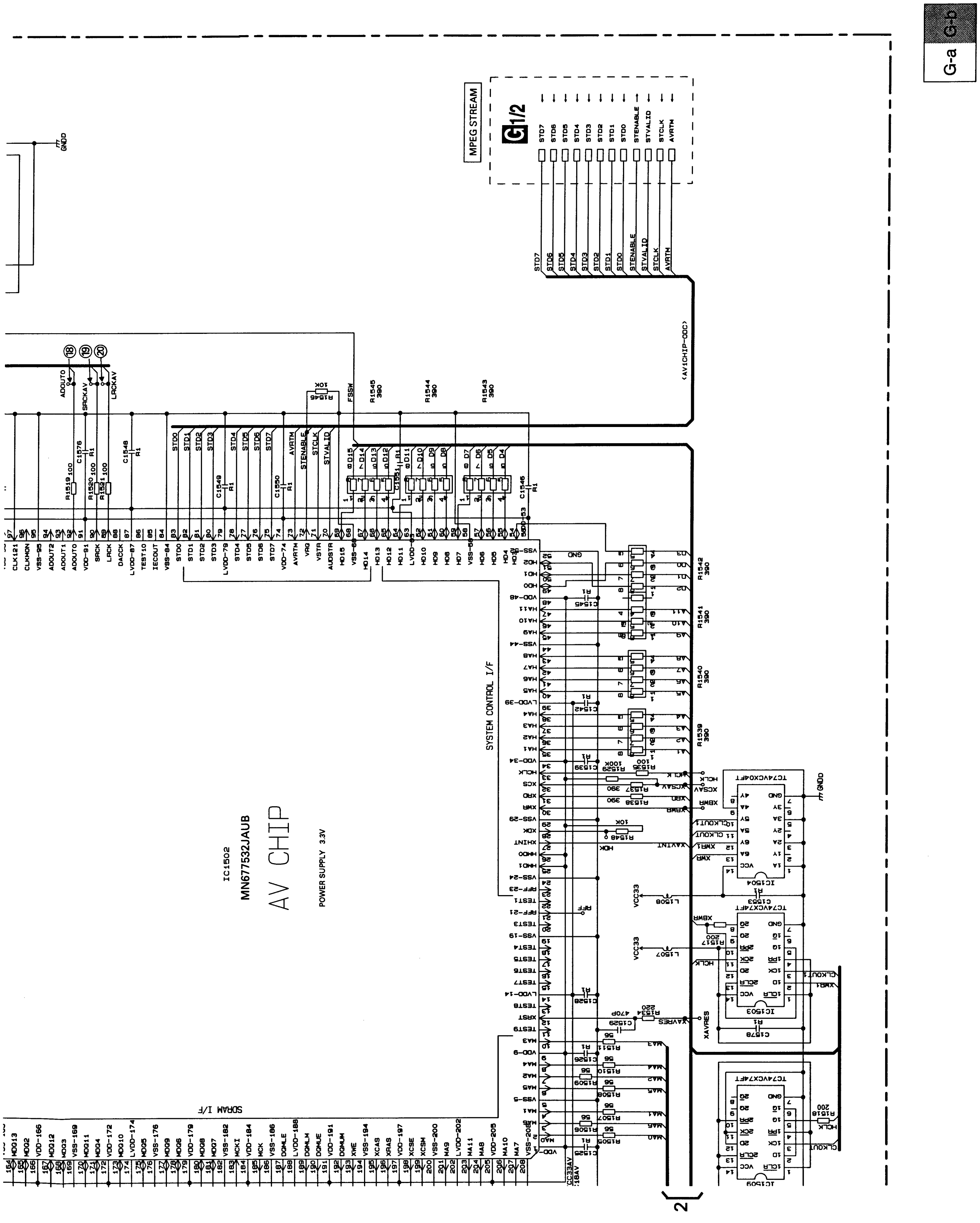
G-b 2/2


G2/2 DVD CORE UNIT V(BACK END)
AUDIO 2ch ANALOG OUT
AV CHIP BLOCK
IC1502
MN677532JAUB
AV CHIP
POWER SUPPLY 3.3V
SDRAM I/F
SYSTEM CONTROL I/F
ANALOG VIDEO OUT
DIGITAL AUDIO OUT
MPEG STREAM
CN1701
CN3251
CN1703
CN1704
CN1705
CN1706
CN1707
G1/2


G-a G-b
CN1700
POWER SUPPLY
FLASH MEMORY (8M)
PD6354B
SRAM(2M)
G1/2


CPU
IC1700
PE5277B
POWER SUPPLY 3.3V
CLOCK FREQUENCY 5MHz
MICRO COMPUTER BLOCK
IC1501
HOST I/F
(SDRAM)

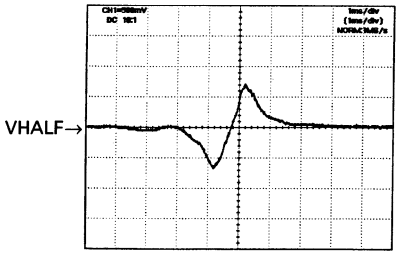

G-a
G-b
DVD CORE UNIT V(BACK END)
G2/2
G1/2
CN1701
CN3251
CN1703
CN1704
CN1705
CN1706
CN1707
AUDIO 2ch ANALOG OUT
AV CHIP BLOCK
DIGITAL AUDIO OUT
ANALOG VIDEO OUT
RIPPING


G-a
G-b
MPEG STREAM
G 1/2
IC1502
MN677532JAUB
AV CHIP
POWER SUPPLY 3.3V
SYSTEM CONTROL I/F
SDRAM I/F
(AVICHIP-ODC)
TC74VCX04FT
TC74VCX74FT
IC1504
IC1503
IC1509
A
B
C
D

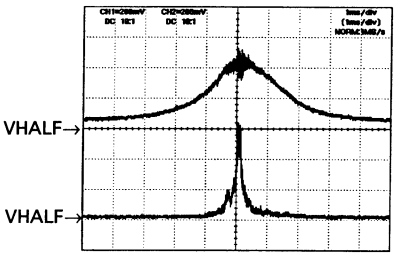
● Waveforms

Note:1. The encircled number denote measuring pointes in the circuit diagram.
2. Reference voltage VHALF : 1.65V

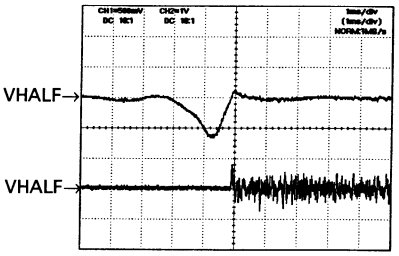
① FEY 500mV/div. 1ms/div.
Focus search



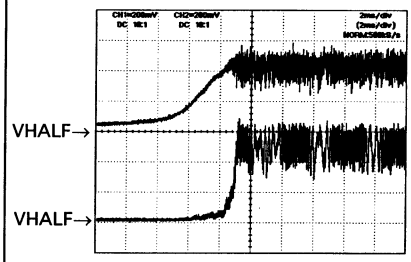
② CH1: ASF 200ms/div. 1ms/div.
③ CH2: RFENV
Focus search



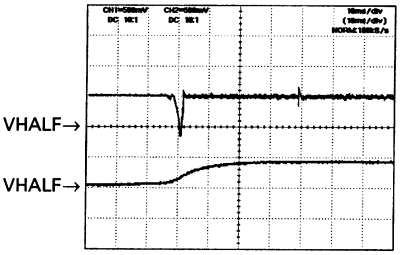
① CH1: FEY 500mV/div. 1ms/div.
④ CH2: FD 1V/div. 1ms/div.
Focus close



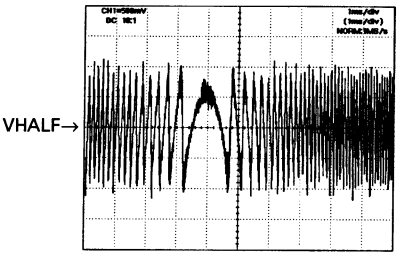
② CH1: ASF 200mV/div. 2ms/div.
③ CH1: RFENV
Focus close



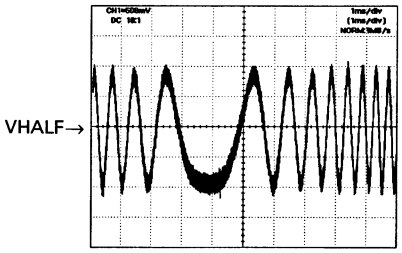
① CH1: FEY 500mV/div. 10ms/div.
⑤ CH2: FOK
Focus close



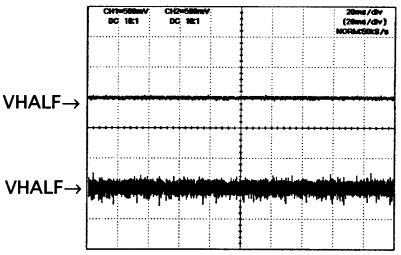
⑥ CH1: TEY 500mV/div. 1ms/div.
Focus close(DVD)



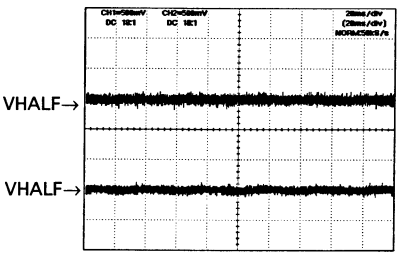
⑥ CH1: TEY 500mV/div. 1ms/div.
Focus close(CD)



① CH1: FEY 500mV/div.20ms/div.
④ CH2: FD
Play

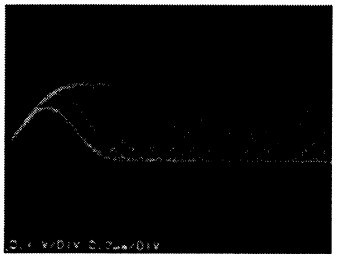


⑥ CH1: TEY 500mV/div.20ms/div.
⑦ CH2: TD
Play

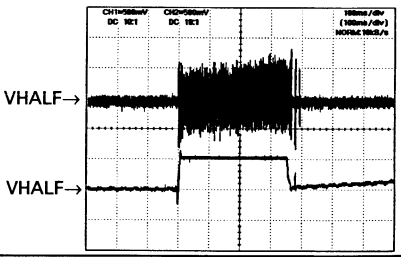


⑧ CH1: RFOUT 0.1V/div. 0.1µs/div.
Play(DVD surroundings on inside)

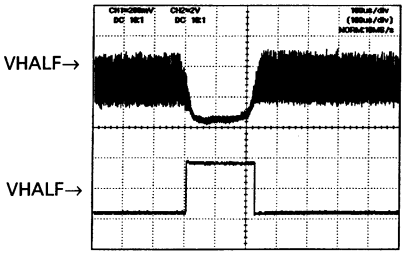
⑧ CH1: RFOUT 0.1V/div. 0.2µs/div.
Play(CD)



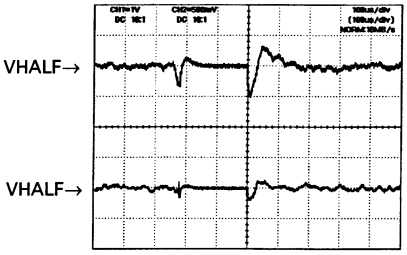
⑥ CH1: TEY 500mV/div. 100ms/div.
⑨ CH2: CRGDRV
Surroundings on inside->
surroundings on outside



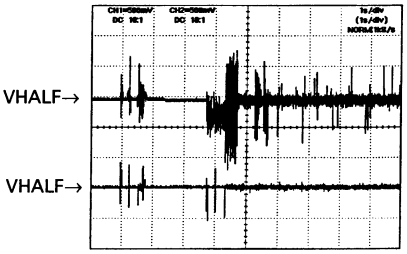
⑧ CH1: RFOUT 200mV/div. 100µs/div.
⑩ CH2: BDO 2V/div. 100µs/div.
Black dot



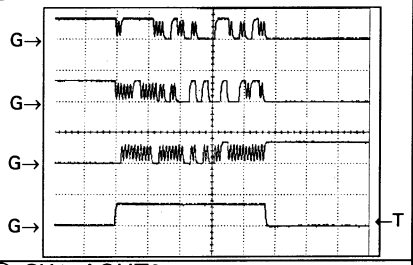
④ CH1: FD 1V/div. 100µs/div.
⑦ CH2: TD 500mV/div. 100µs/div.
Black dot



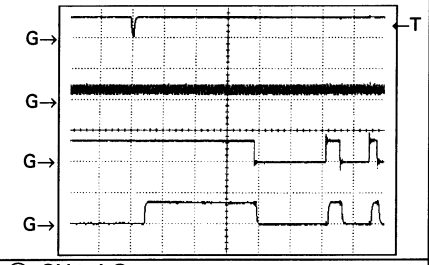
⑥ CH1: TEY 500mV/div.1s/div.
① CH2: FEY
EDC1 mode set up(DVD)



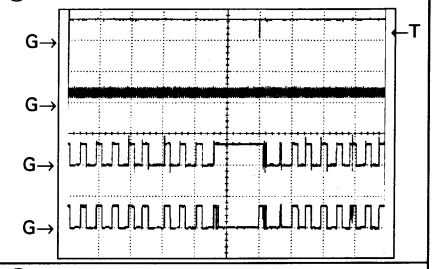
⑪ CH1: STD1
⑫ CH2: STD4
⑬ CH3: STD7
⑭ CH4: STENABLE
5V/div. 2µs/div.



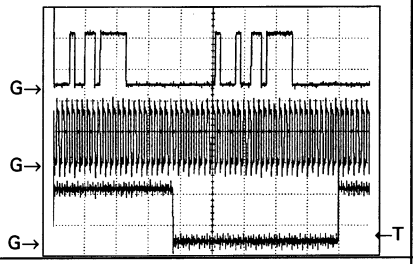
⑮ CH1: AVRTM
⑯ CH2: STCLK
⑰ CH3: STVALID
⑭ CH4: STENABLE
5V/div. 2µs/div.



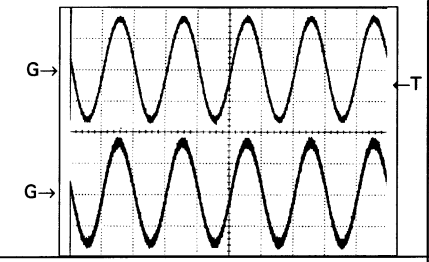
⑮ CH1: AVRTM
⑯ CH2: STCLK
⑰ CH3: STVALID
⑭ CH4: STENABLE
5V/div. 50µs/div.



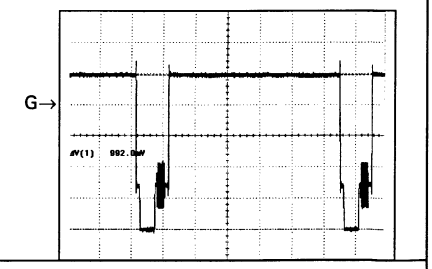
⑱ CH1: AOUT0
⑲ CH2: SRCKAV
⑳ CH3: LRCKAV
2V/div. 2µs/div.



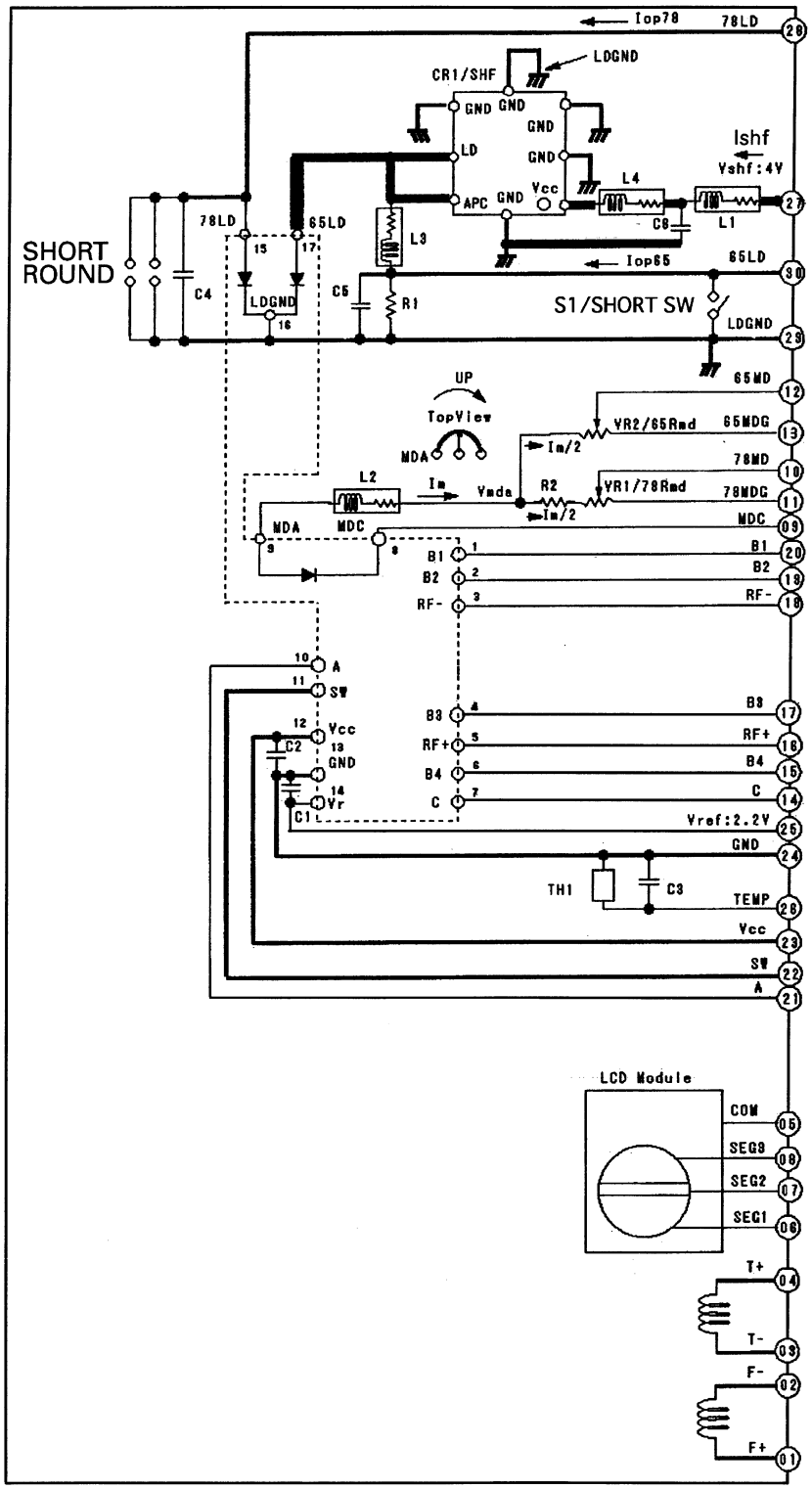
㉒ CH1: LO
㉓ CH2: RO
1V/div. 500µs/div.



㉔ CH1: COMPO 200mV/div. 10µs/div.
[White 100% output]



3.20 PU UNIT(REFERENCE)

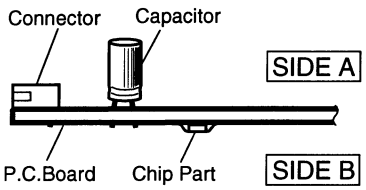


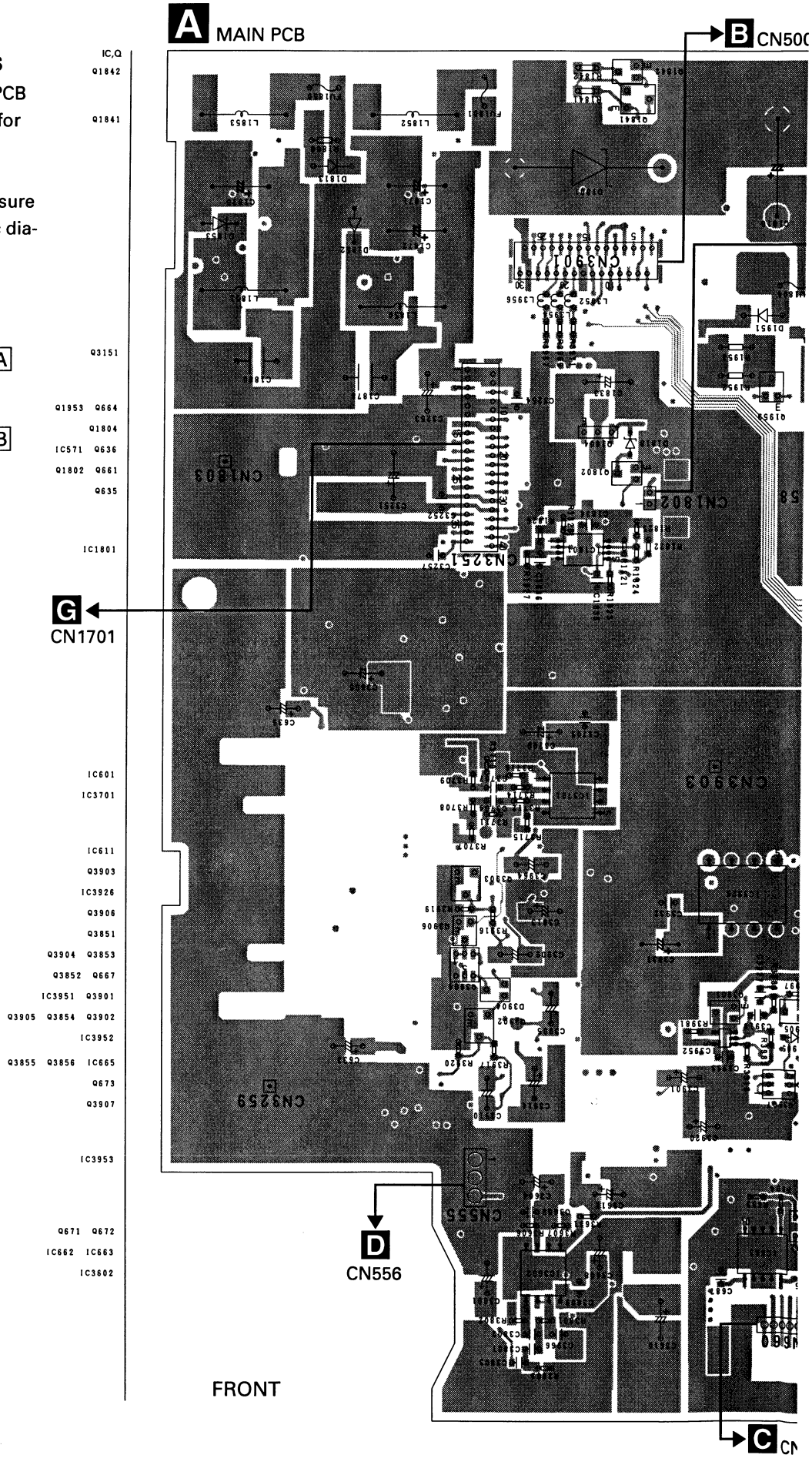
4. PCB CONNECTION DIAGRAM

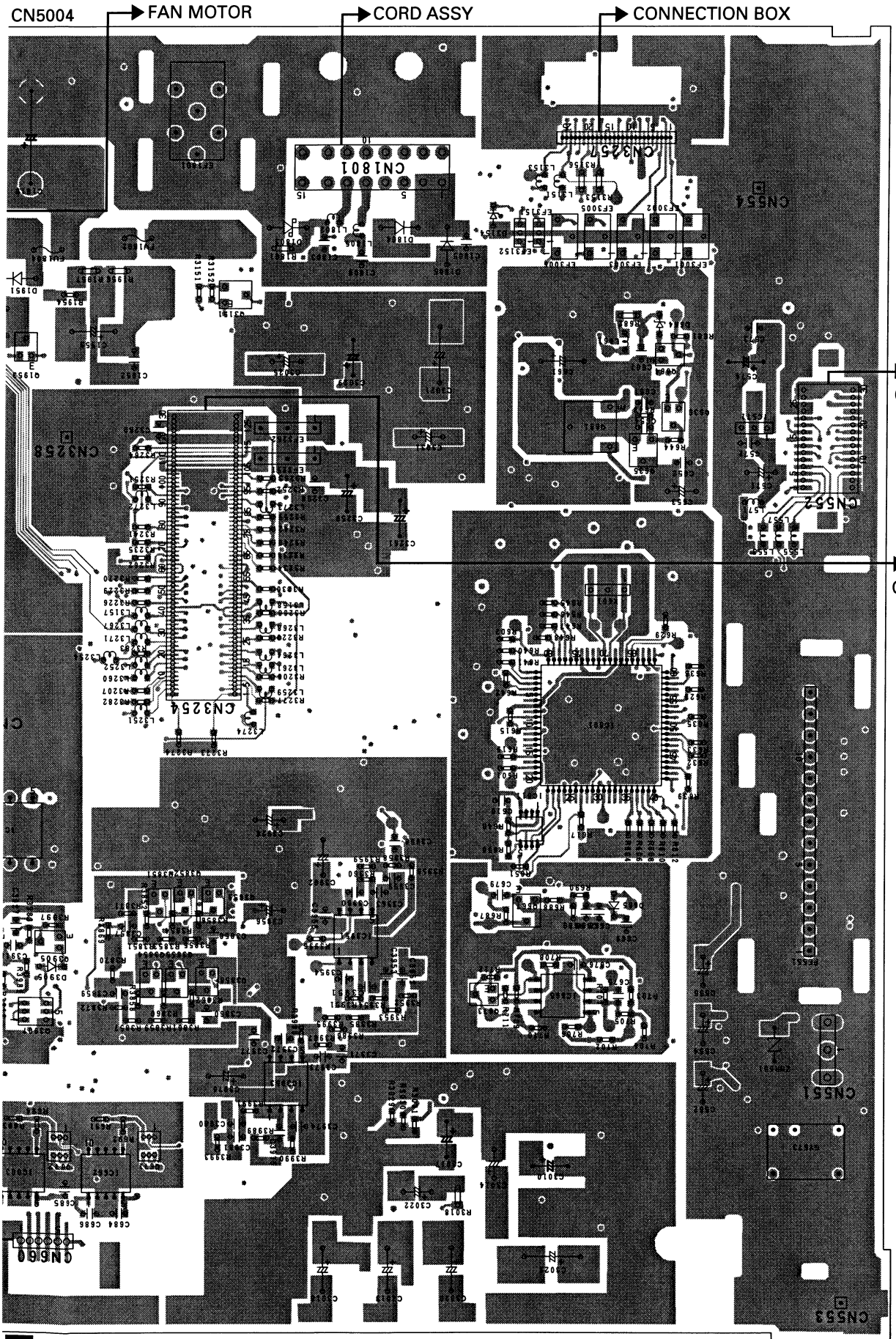
4.1 MAIN PCB

NOTE FOR PCB DIAGRAMS

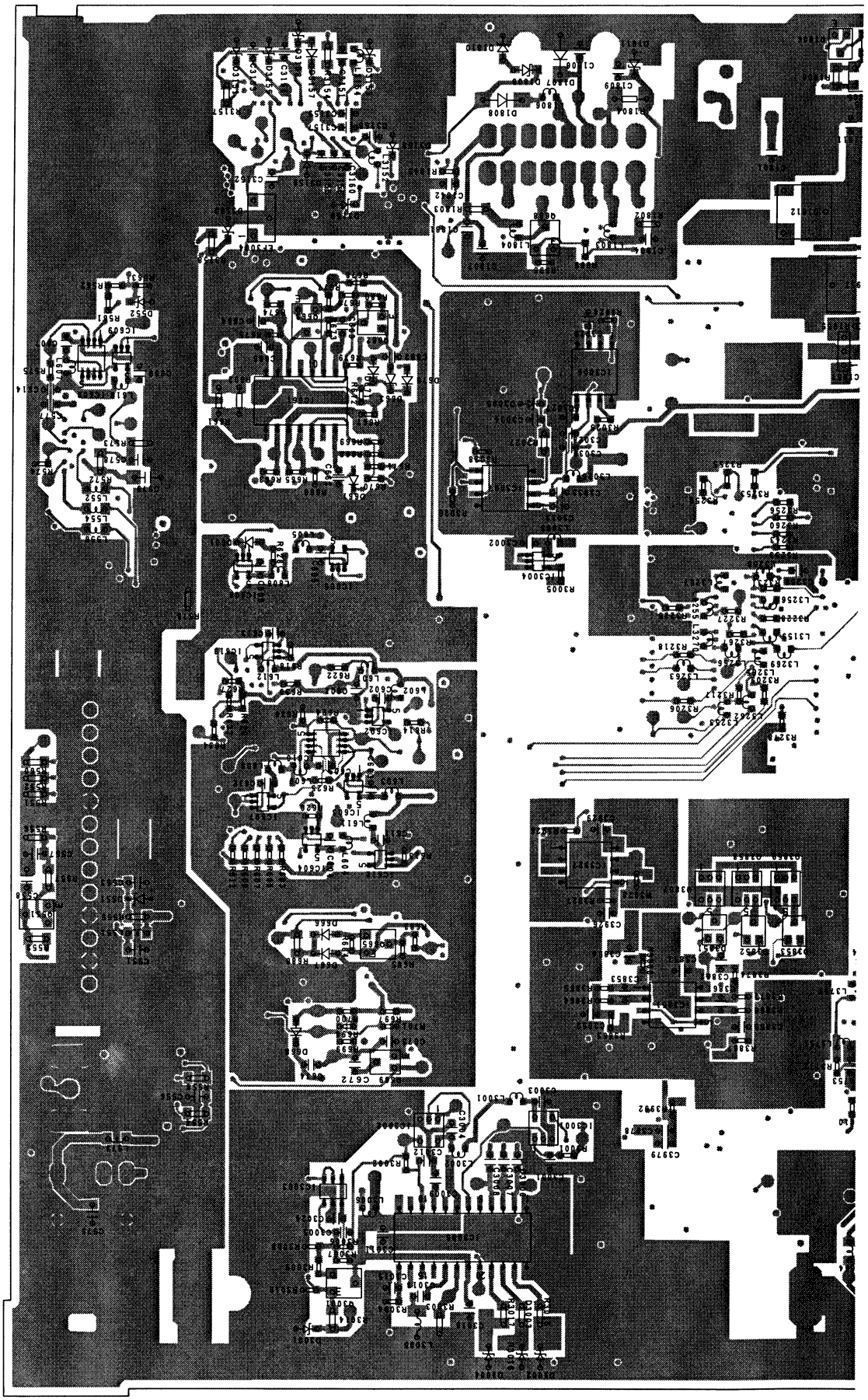
1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



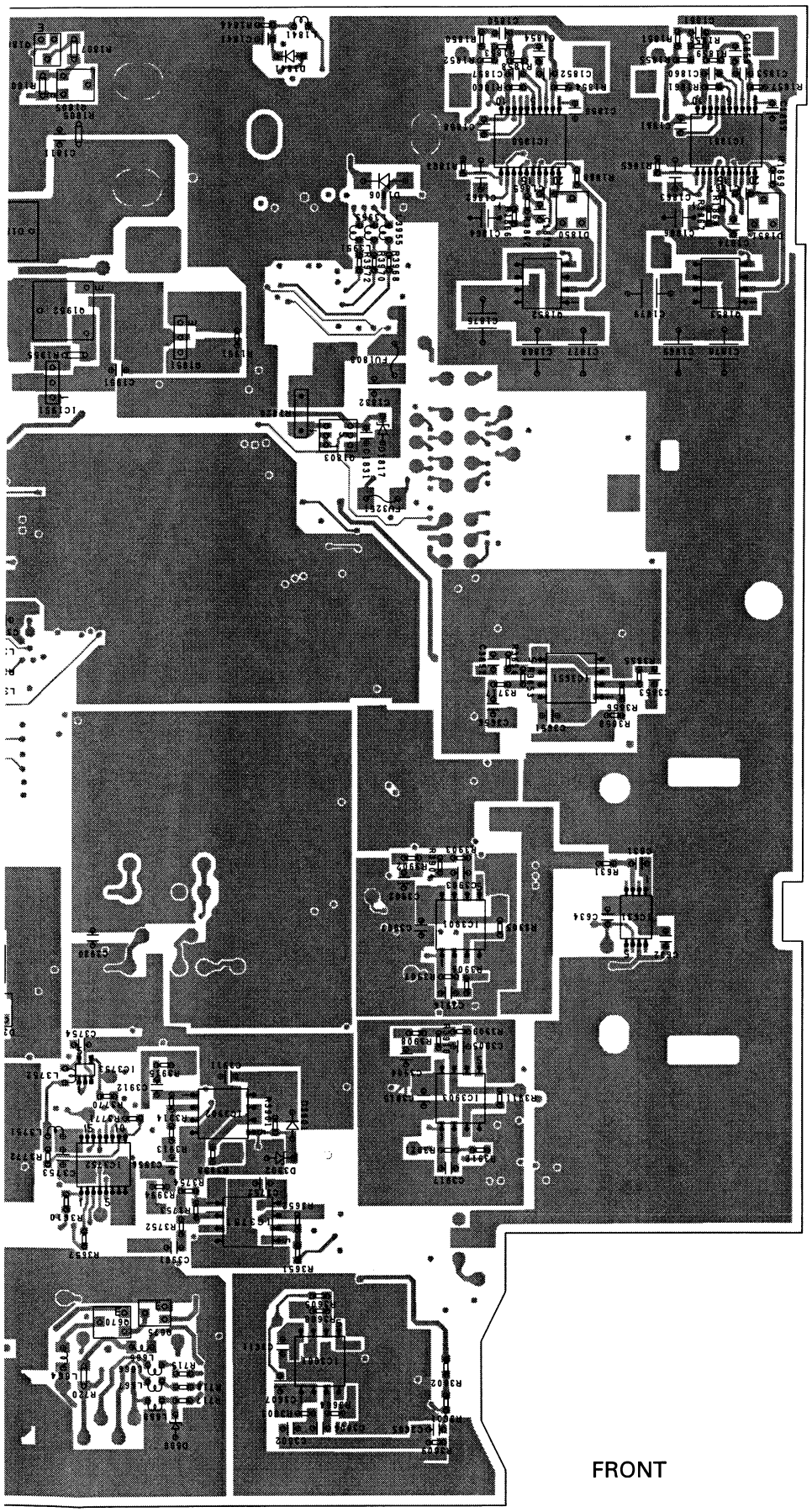



CN5004
FAN MOTOR
CORD ASSY
CONNECTION BOX
SIDE A
F
CN461
E
CN302
C
CN2851
A

A MAIN PCB



SIDE B



IC,Q

Q1806

Q1805

IC1851 IC1850

Q668

Q1952 Q1853 Q1852

Q663 IC609

Q1951 Q662

IC3006

IC1951 IC608

IC661

Q1803

IC3007

IC3004 IC605

IC606

IC3651

IC613

IC602

IC610

IC603 IC607

IC631 IC3901

Q3859 Q3858

IC3927 IC604 IC612

Q3857

Q551

Q665

IC3753

IC3851 IC3903

IC3902

IC3752

Q669

IC3002 IC3751

IC3001

IC3003

Q670 Q675

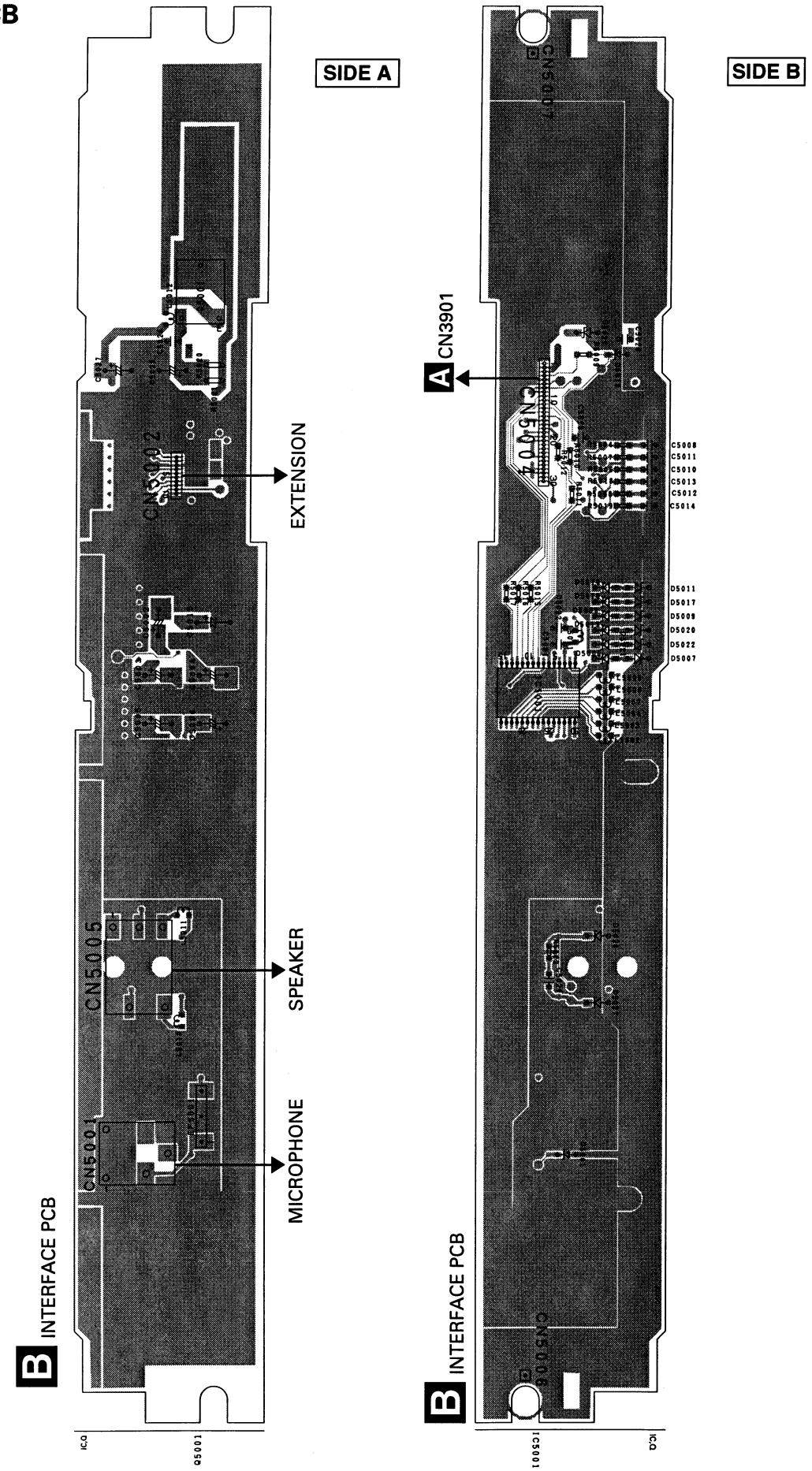
IC3005

IC3601

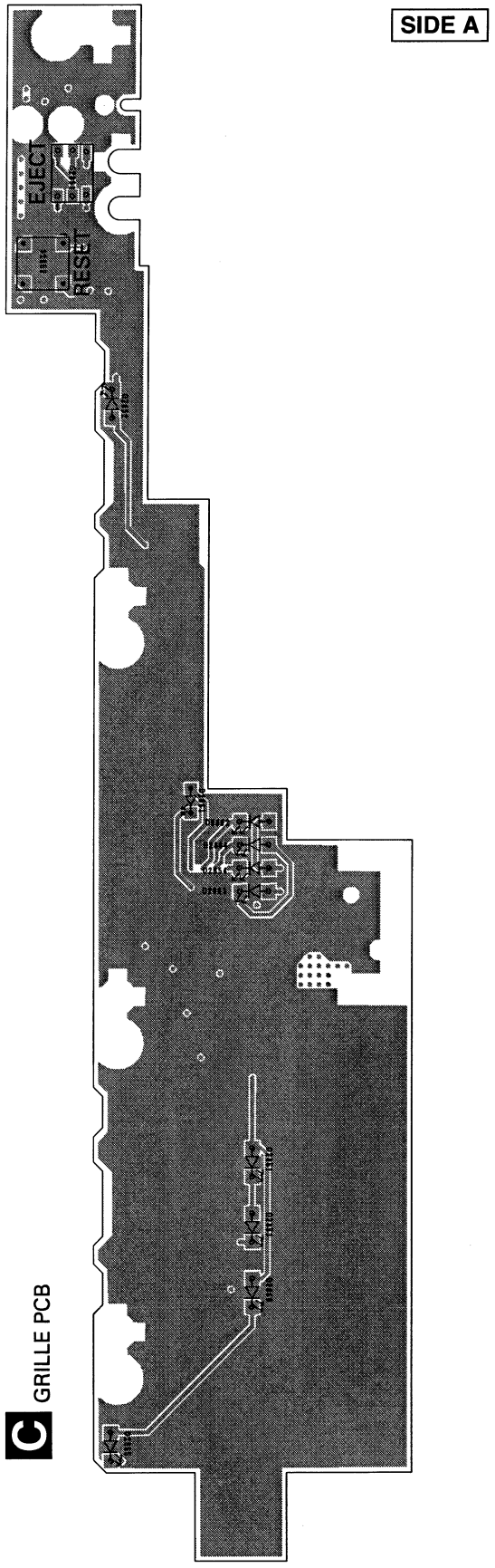
Q3001

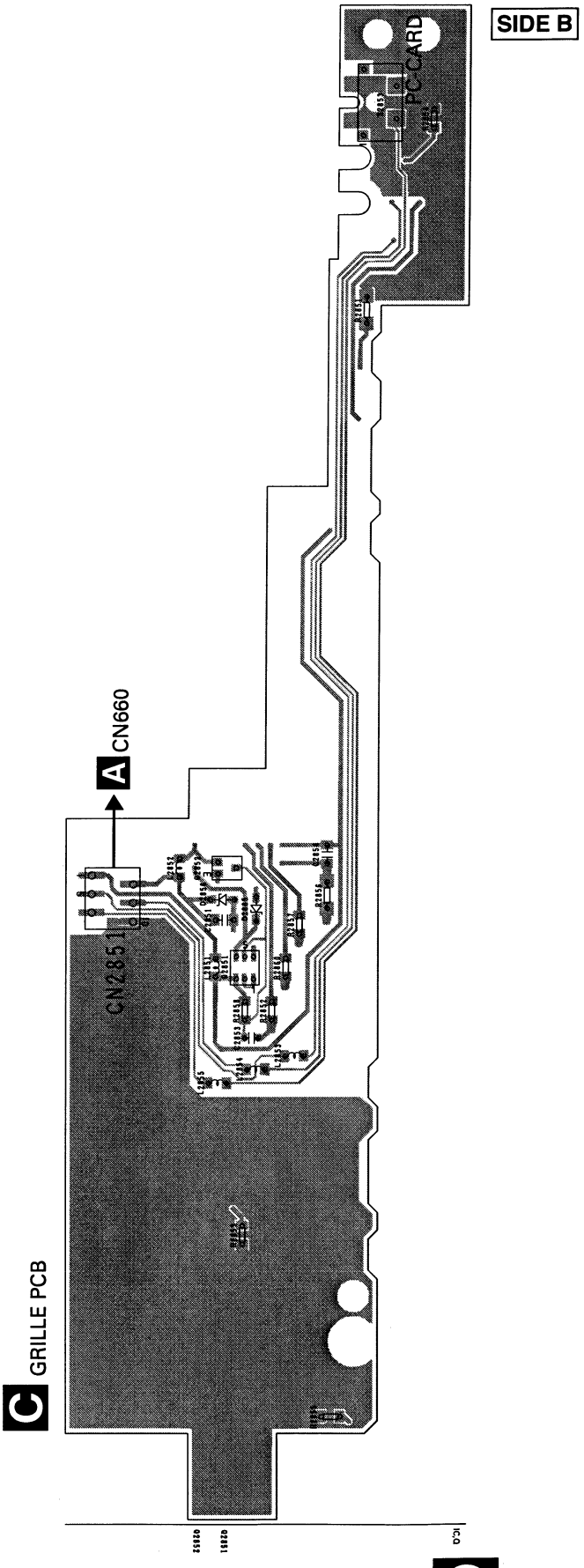
FRONT

4.2 INTERFACE PCB



4.3 GRILLE PCB

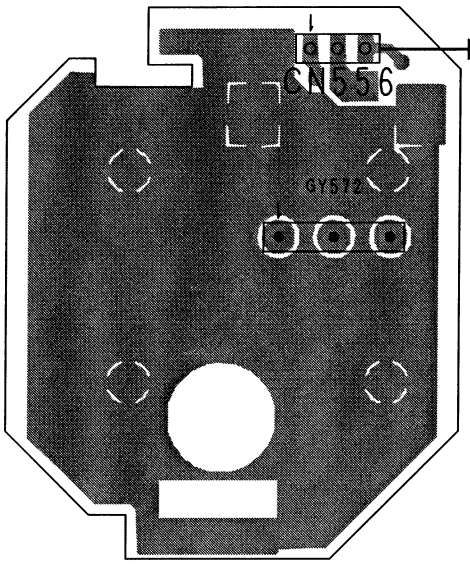




4.4 G-SENSOR PCB

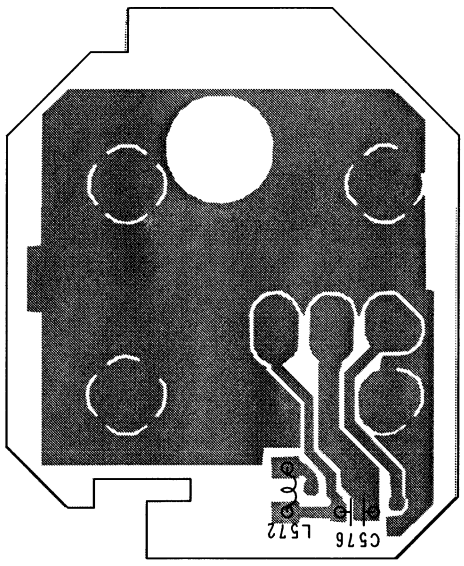
SIDE A

D G-SENSOR PCB



SIDE B

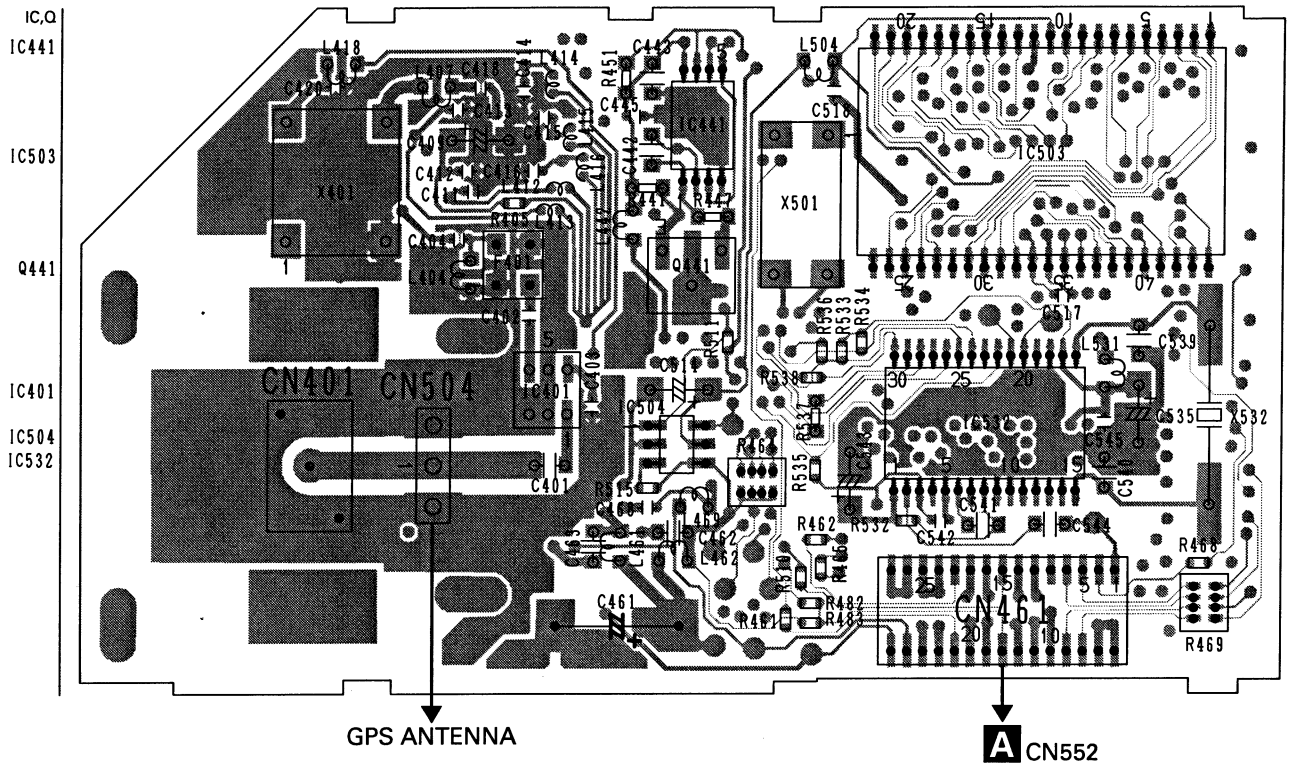
D G-SENSOR PCB



4.5 GPS UNIT

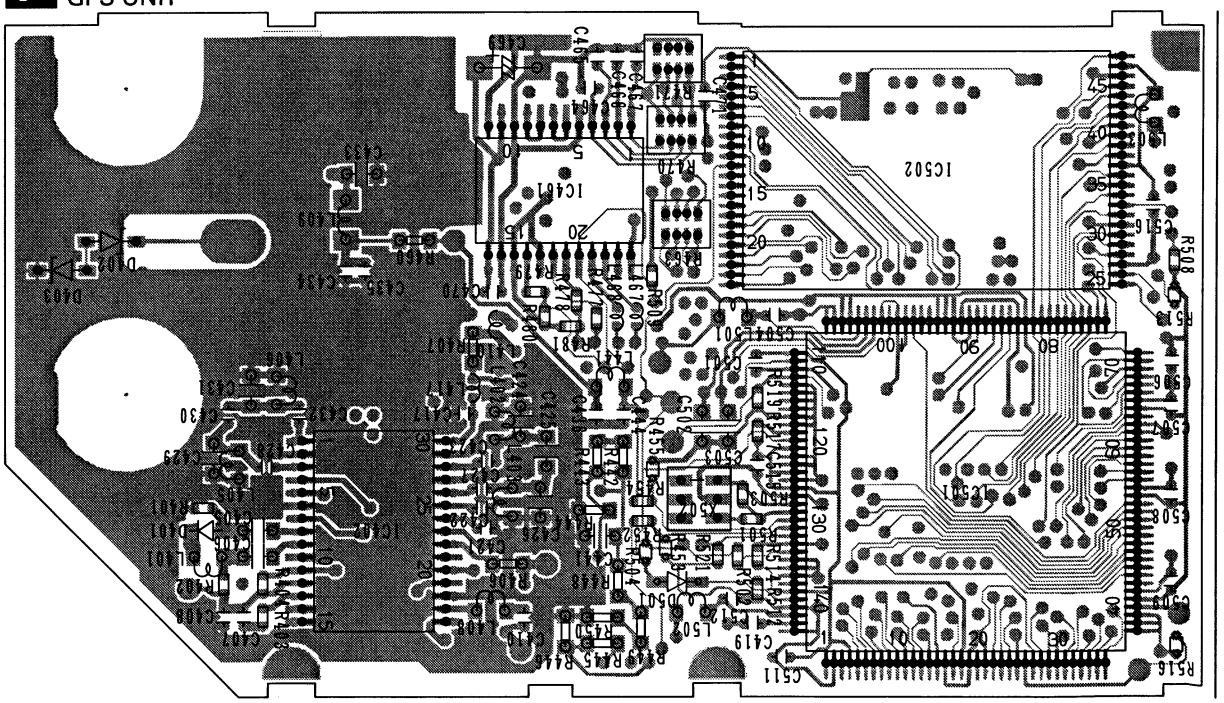
SIDE A

F GPS UNIT

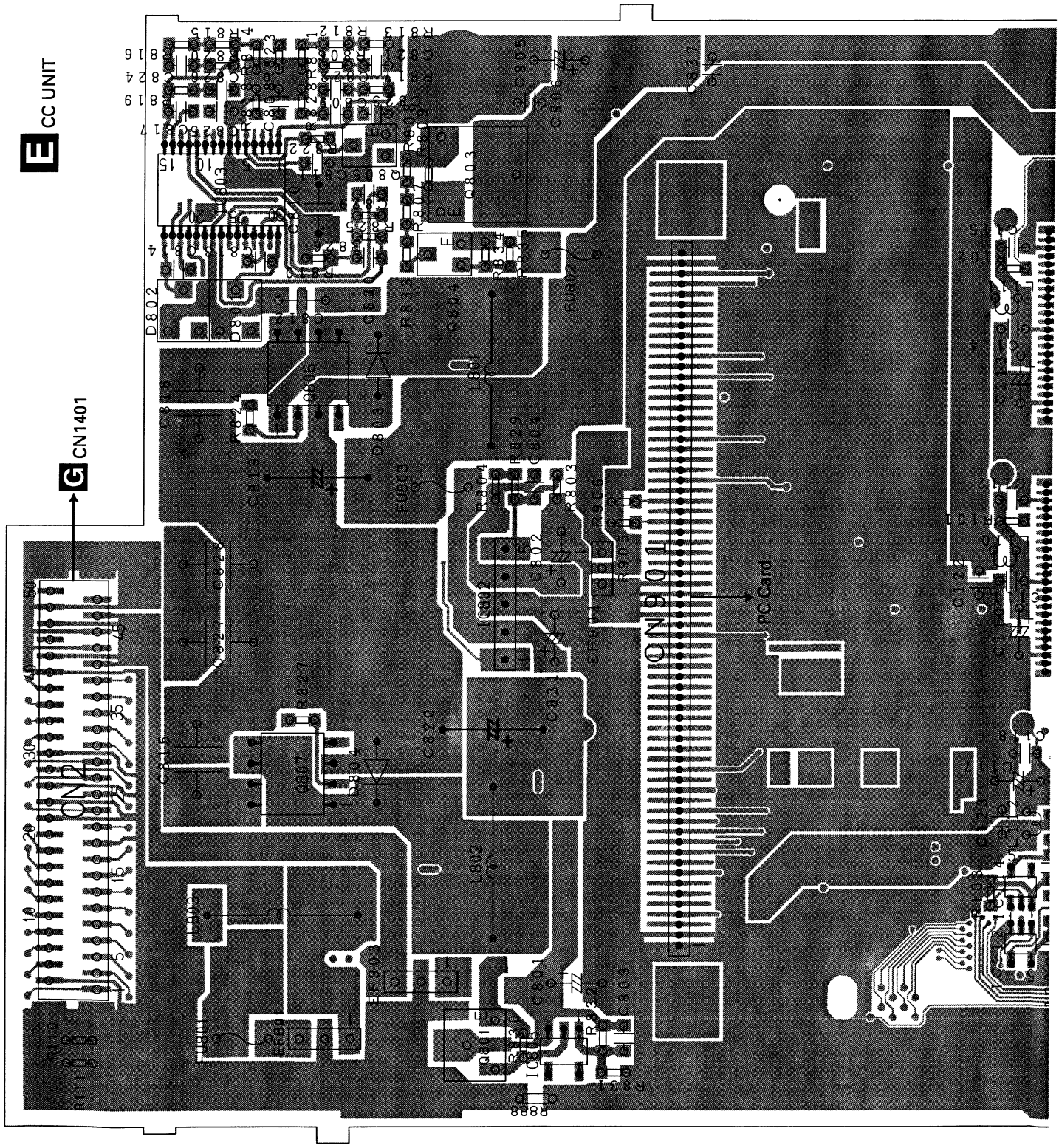


SIDE B

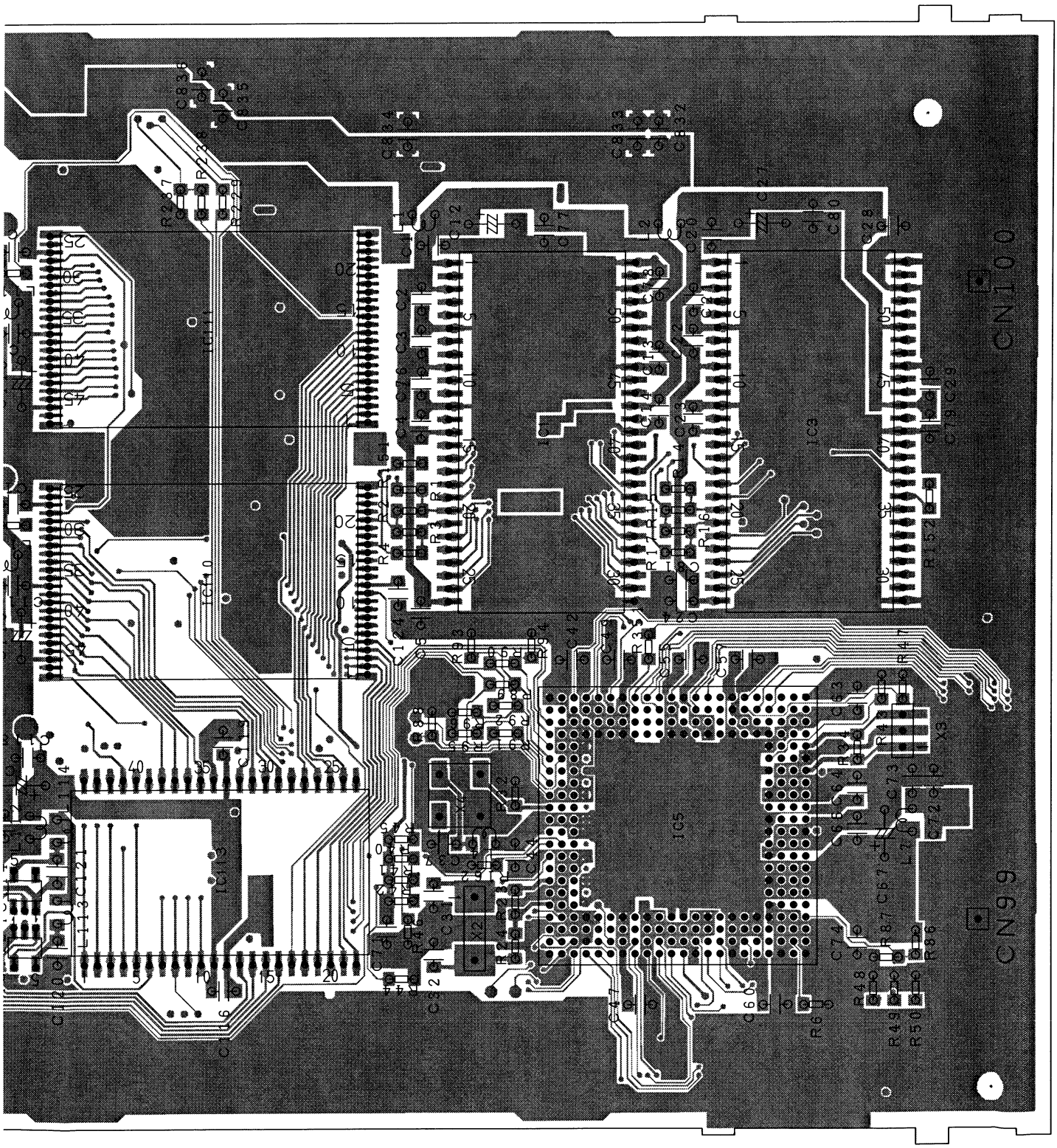
F GPS UNIT



4.6 CC UNIT

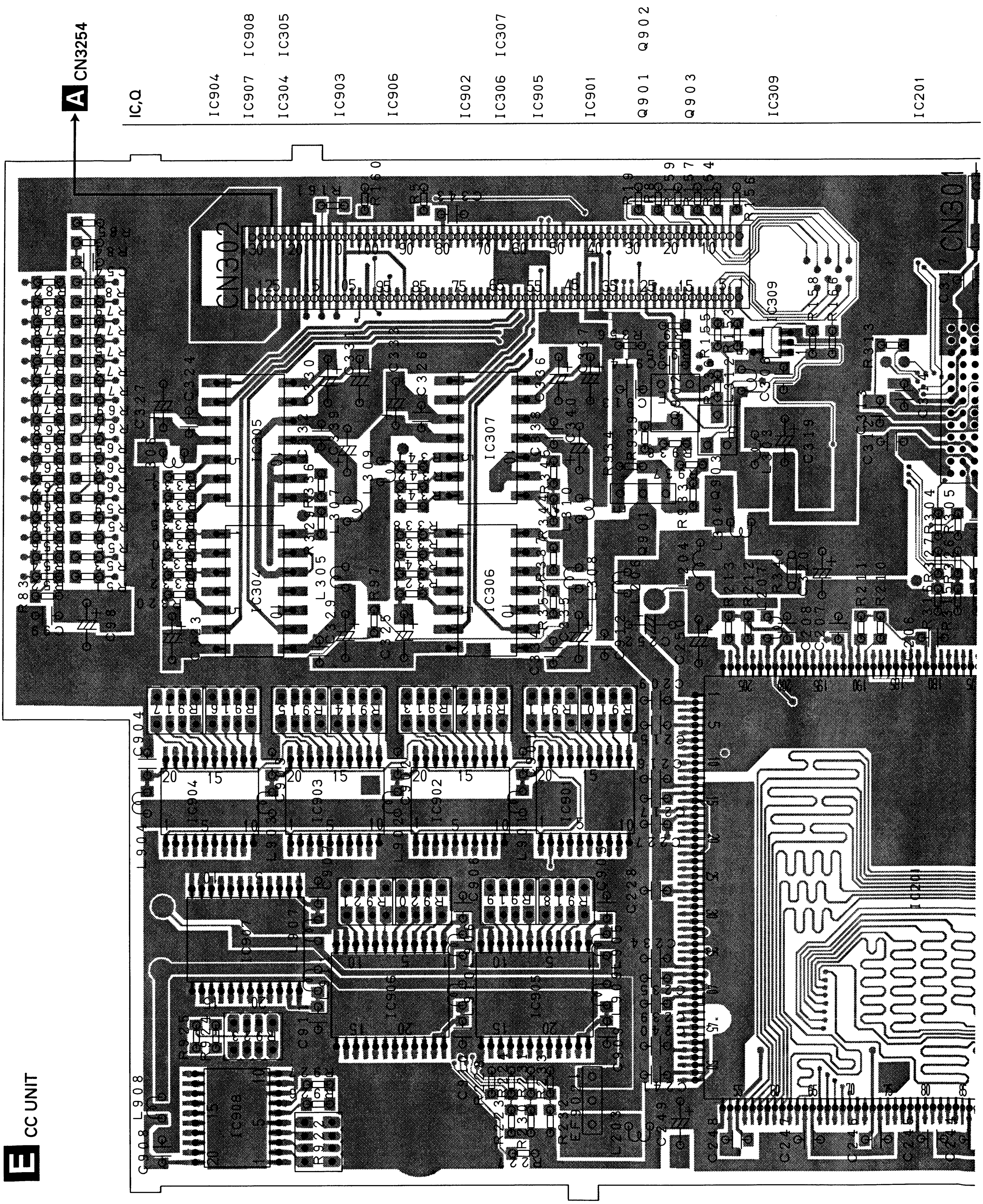

E CC UNIT
G CN1401
CN6101
PC Card
IC,Q
IC803
Q806
Q807
Q805
Q804
Q803
Q801
IC802
IC808
IC112
IC114

SIDE A



1 2 3 4

A



B

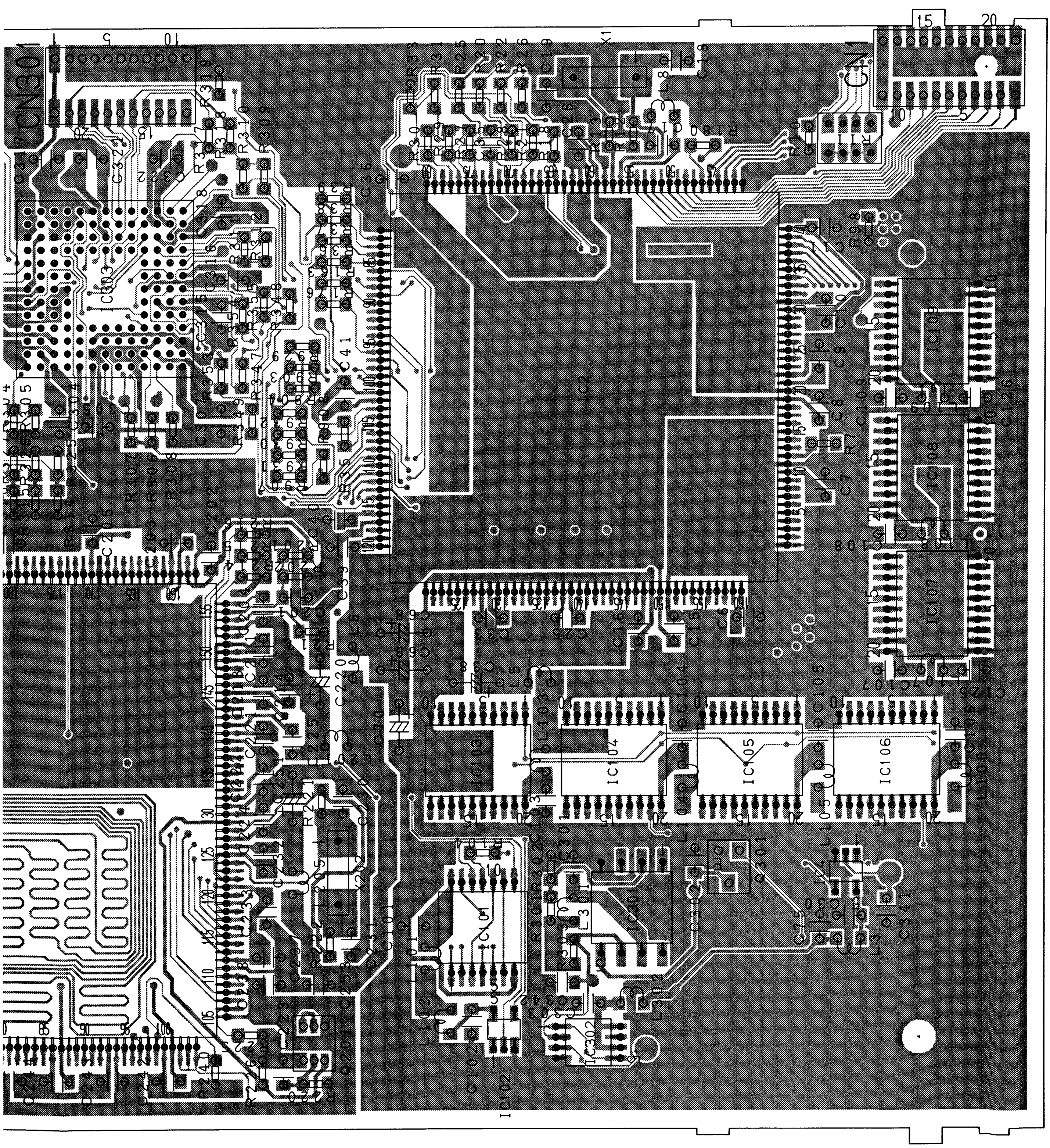
C

D

E CC UNIT

SIDE B

A


IC303
Q201
IC101
IC103
IC102
IC302
IC2
IC104
IC301
IC105
Q301
IC4
IC106
IC108
IC109
IC107
CN301
CN1
X1
IC102

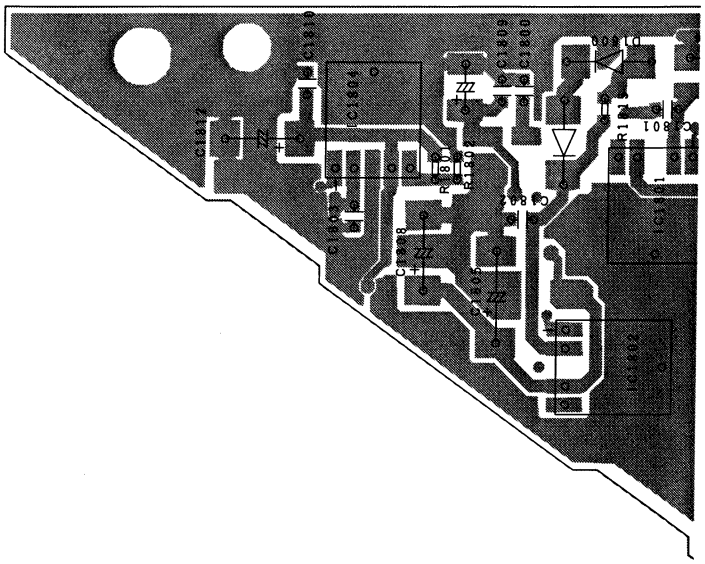
B

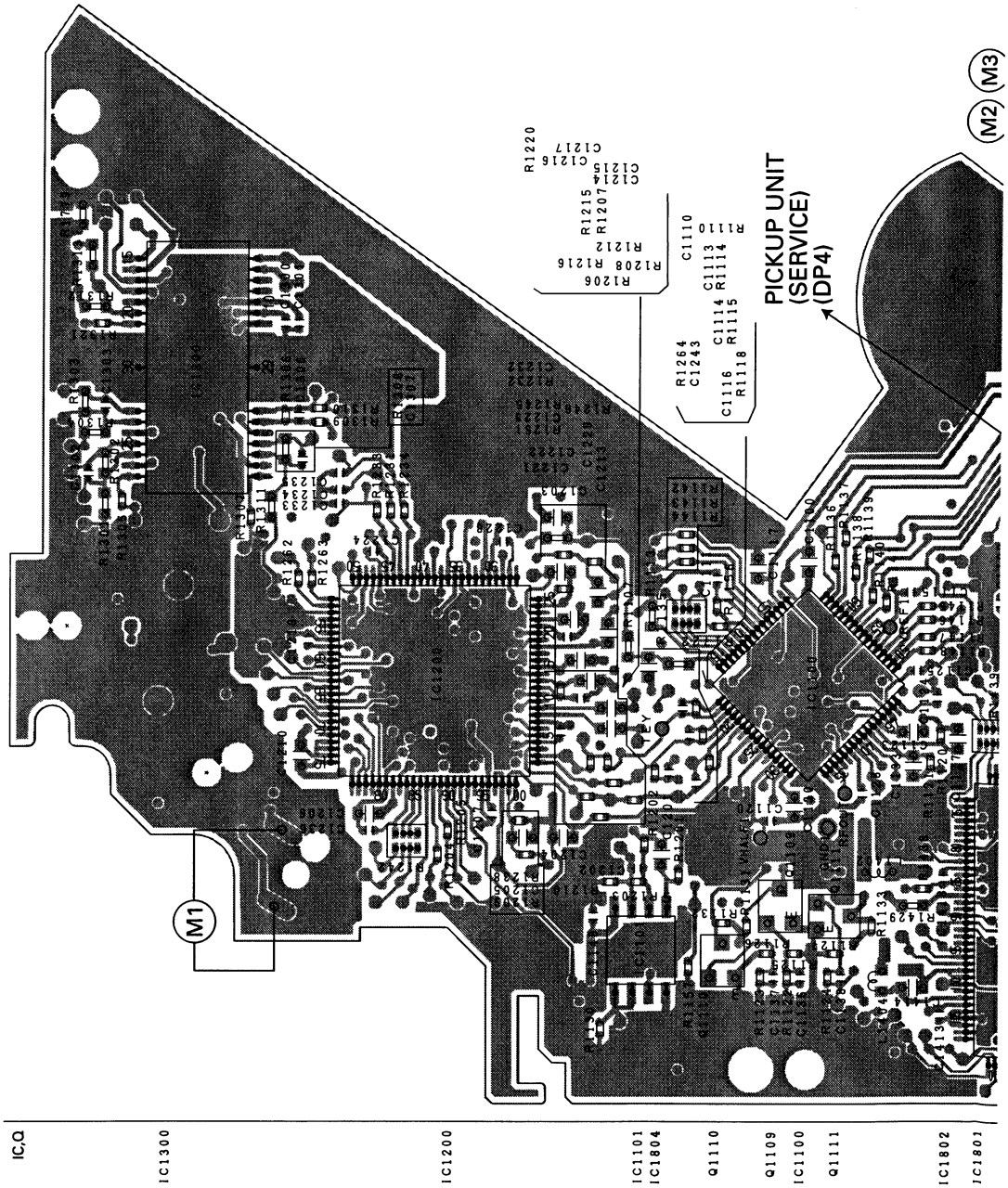
C

D

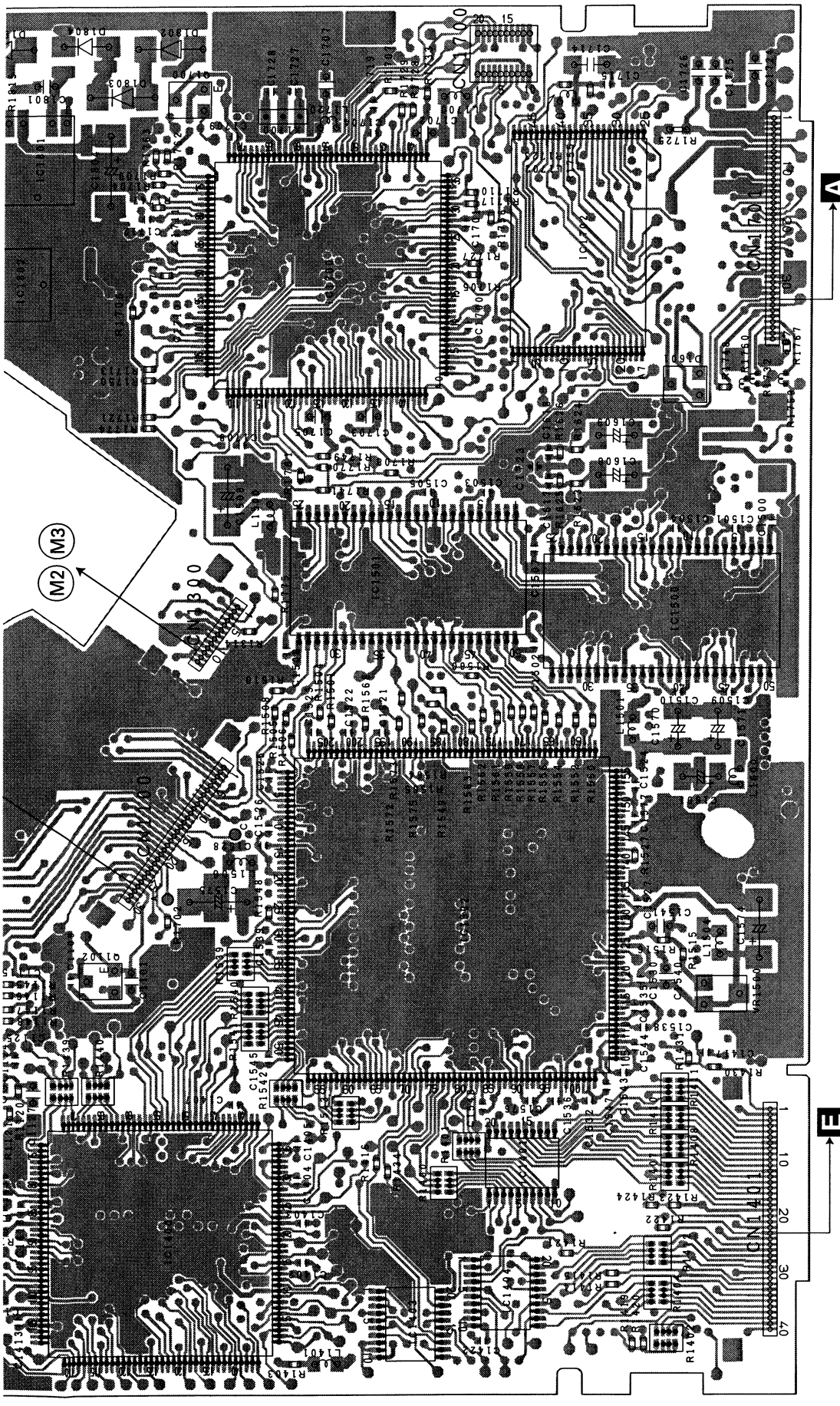
4.7 DVD CORE UNIT V

G DVD CORE UNIT V

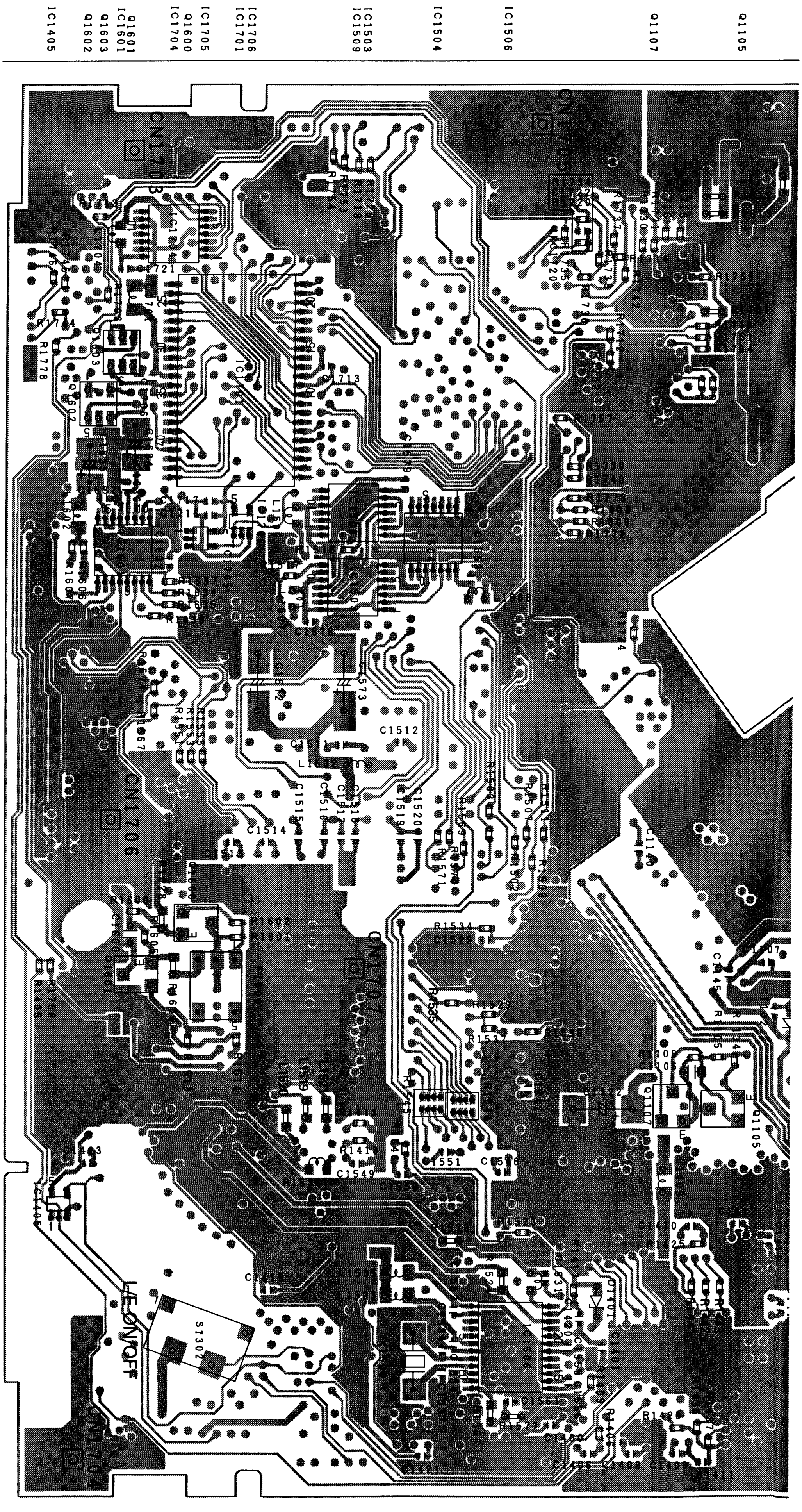




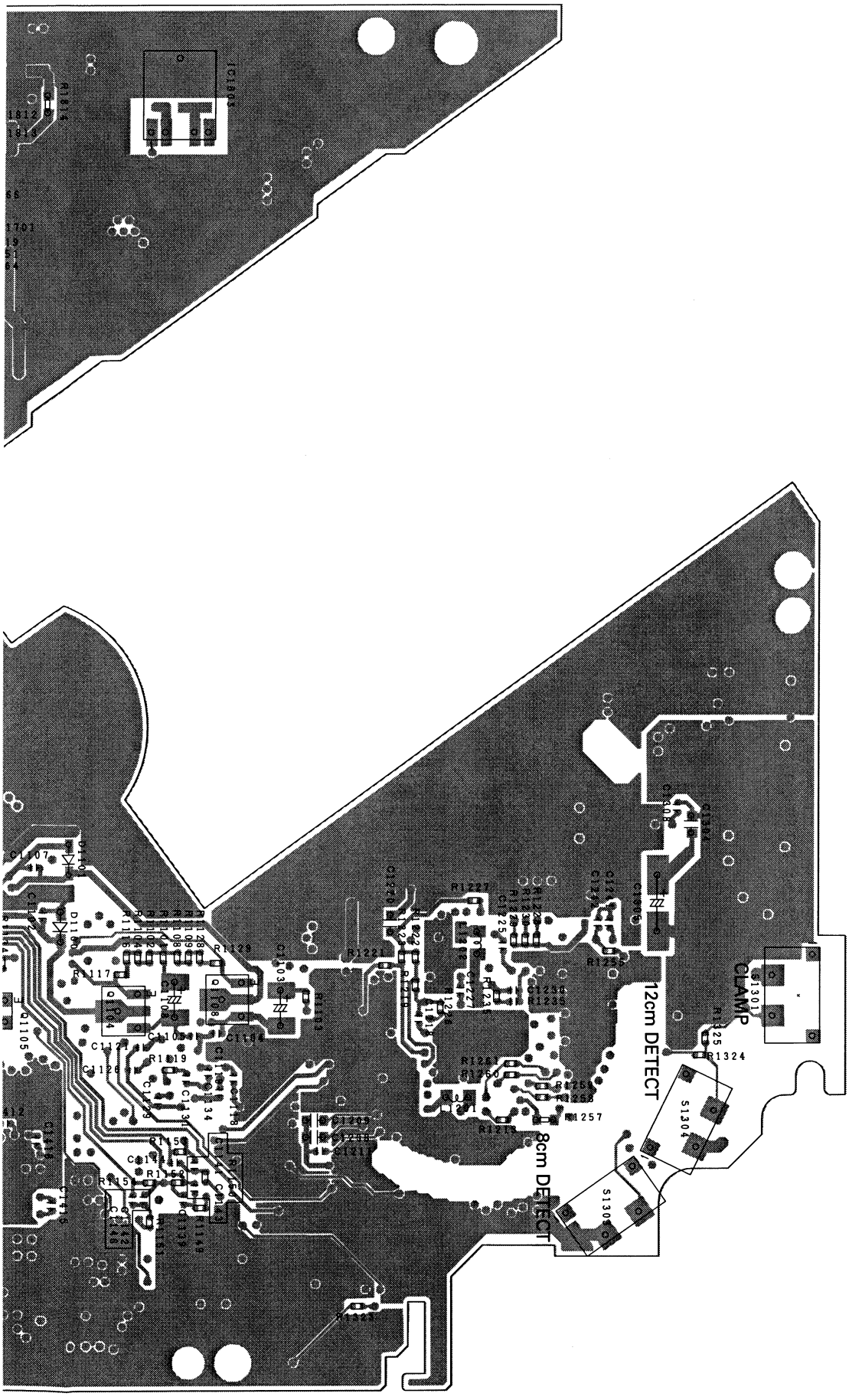
SIDE A


A
CN3251
E
CN2
M2
M3
IC1802
IC1801
Q1102
IC1400
Q1700
IC1700
IC1501
IC1403
IC1502
IC1404
IC1401
IC1702
IC1500
ADJ
VR1500

G DVD CORE UNIT V



SIDE B



5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

E Unit Number : CWM7894
Unit Name : CC Unit

MISCELLANEOUS

=====Circuit Symbol and No.	===Part Name	Part No.
IC 1	IC	K4S281632C-TL1L
IC 2	IC	UPD705103GM-180
IC 3	IC	M2V2840ATP-7L
IC 4	IC	TC7SZ08FU
IC 5	IC	PD6336B
IC 101	IC	TC74LCX08FT
IC 102	IC	TC7SH04FU
IC 103	IC	TC74LCX245FT
IC 104	IC	TC74LCX245FT
IC 105	IC	TC74LCX245FT
IC 106	IC	TC74LCX245FT
IC 107	IC	TC74LCX541FT
IC 108	IC	TC74LCX541FT
IC 109	IC	TC74LCX541FT
IC 110	IC	PD6373C
IC 111	IC	PD6374C
IC 112	IC	TC7SH00FU
IC 113	IC	M5M5V216ATP-70HI
IC 114	IC	TC7SH08FU
IC 201	IC	MB86291PFVS-G-DL
IC 301	IC	M51957BFP
IC 302	IC	TC7WH08FU
IC 304	IC	PCM1725U
IC 305	IC	PCM1801U
IC 309	IC	TC7SH08FU
IC 802	IC	LP3965ES-ADJ
IC 803	IC	TPS5102IDBT
IC 901	IC	TC74VHCT541AFT
IC 902	IC	TC74VHCT541AFT
IC 903	IC	TC74VHCT541AFT
IC 904	IC	TC74VHCT541AFT
IC 905	IC	TC74LVX4245FS
IC 906	IC	TC74LVX4245FS
IC 907	IC	TC74LVX4245FS
IC 908	IC	TC74VHC541FT
Q 201	Transistor	UMD2N
Q 301	Transistor	DTC114EU
Q 803	Transistor	2SA1834F5
Q 804	Transistor	2SC4081
Q 805	Transistor	DTC114EU
Q 806	FET	RK4936
Q 807	FET	RK4936
Q 901	Transistor	2SA1797
Q 902	Transistor	2SC2712
Q 903	Transistor	DTA114EU
D 801	Diode	RB400D
D 802	Diode	RB400D
D 803	Diode	RB060L-40
D 804	Diode	RB060L-40
L 1	Inductor	CTF1558
L 2	Inductor	CTF1558
L 3	Inductor	CTF1410
L 5	Inductor	CTF1556
L 6	Inductor	CTF1295
L 7	Inductor	CTF1558
L 8	Inductor	CTF1556
L 101	Inductor	CTF1557
L 102	Inductor	CTF1557
L 103	Inductor	CTF1557
L 104	Inductor	CTF1557
L 105	Inductor	CTF1557
L 106	Inductor	CTF1557
L 107	Inductor	CTF1557
L 108	Inductor	CTF1557
L 109	Inductor	CTF1557
L 110	Inductor	CTF1556
L 111	Inductor	CTF1556
L 112	Inductor	CTF1556
L 113	Inductor	CTF1557
L 114	Inductor	CTF1557
L 201	Inductor	CTF1556
L 203	Inductor	CTF1556
L 204	Inductor	CTF1488
L 205	Inductor	CTF1556
L 206	Inductor	CTF1556
L 207	Inductor	CTF1379
L 301	Inductor	CTF1557
L 302	Inductor	CTF1557
L 305	Inductor	CTF1556
L 306	Inductor	CTF1556
L 307	Inductor	CTF1556
L 312	Inductor	CTF1410
L 801	Inductor	CTH1257
L 802	Inductor	CTH1257
L 803	Inductor	CTH1253
L 901	Inductor	CTF1410
L 902	Inductor	CTF1410
L 903	Inductor	CTF1410
L 904	Inductor	CTF1410
L 905	Inductor	CTF1410
L 906	Inductor	CTF1410
L 907	Inductor	CTF1410
L 908	Inductor	CTF1410
L 909	Inductor	CTF1410
L 910	Inductor	CTF1410
L 911	Inductor	CTF1410
TH 153	Thermistor	CCX1056
X 1	Radiator 30.0MHz	CSS1563
X 2	Radiator 33.0MHz	CSS1564
X 3	Radiator 33.86MHz	CSS1551
X 202	Radiator 14.31818MHz	CSS1562
FU 801	Fuse 4A	CEK1199
FU 802	Fuse 2.5A	CEK1209
FU 803	Fuse 2.5A	CEK1209
EF 801	EMI Filter	CCG1083

=====Circuit Symbol and No.		===Part Name	Part No.
EF	901	EMI Filter	CCG1104
EF	902	EMI Filter	CCG1083
EF	903	EMI Filter	CCG1083

RESISTORS

R	2		RS1/16S0R0J
R	4		RS1/16S0R0J
R	5		RS1/16S473J
R	6		RS1/16S473J
R	7		RS1/16S220J
R	8		RS1/16S473J
R	9		RS1/16S473J
R	10		RS1/16S104J
R	11		RAB4C473J
R	12		RS1/16S105J
R	13		RS1/16S151J
R	15		RS1/16S0R0J
R	17		RS1/16S0R0J
R	18		RS1/16S0R0J
R	19		RS1/16S473J
R	20		RS1/16S101J
R	21		RS1/16S101J
R	22		RS1/16S101J
R	23		RS1/16S105J
R	24		RS1/16S151J
R	25		RS1/16S101J
R	26		RS1/16S101J
R	27		RS1/16S101J
R	28		RS1/16S101J
R	29		RS1/16S101J
R	30		RS1/16S101J
R	31		RS1/16S101J
R	32		RS1/16S473J
R	33		RS1/16S473J
R	34		RS1/16S105J
R	35		RS1/16S104J
R	36		RS1/16S101J
R	37		RS1/16S101J
R	38		RS1/16S101J
R	39		RS1/16S101J
R	40		RS1/16S0R0J
R	41		RS1/16S0R0J
R	42		RS1/16S0R0J
R	43		RS1/16S0R0J
R	44		RS1/16S0R0J
R	45		RS1/16S104J
R	46		RS1/16S104J
R	47		RS1/16S104J
R	48		RS1/16S104J
R	49		RS1/16S104J
R	50		RS1/16S104J
R	51		RS1/16S101J
R	52		RS1/16S101J
R	53		RS1/16S101J
R	54		RS1/16S101J
R	55		RS1/16S101J
R	57		RS1/16S101J
R	59		RS1/16S101J
R	60		RS1/16S101J
R	61		RS1/16S0R0J
R	62		RS1/16S101J
R	63		RS1/16S101J
R	64		RS1/16S101J
R	65		RS1/16S101J
R	66		RS1/16S101J

=====Circuit Symbol and No.		===Part Name	Part No.
R	67		RS1/16S101J
R	68		RS1/16S101J
R	69		RS1/16S101J
R	70		RS1/16S101J
R	71		RS1/16S101J
R	72		RS1/16S101J
R	73		RS1/16S101J
R	74		RS1/16S101J
R	75		RS1/16S101J
R	76		RS1/16S101J
R	77		RS1/16S101J
R	78		RS1/16S101J
R	79		RS1/16S101J
R	80		RS1/16S101J
R	81		RS1/16S101J
R	82		RS1/16S101J
R	83		RS1/16S102J
R	84		RS1/16S562J
R	85		RS1/16S103J
R	87		RS1/16S104J
R	88		RS1/16S104J
R	89		RS1/16S0R0J
R	90		RS1/16S0R0J
R	93		RS1/16S153J
R	94		RS1/16S153J
R	95		RS1/16S153J
R	96		RS1/16S153J
R	97		RS1/16S473J
R	98		RS1/16S473J
R	101		RS1/16S473J
R	102		RS1/16S473J
R	103		RS1/16S473J
R	104		RS1/16S220J
R	111		RS1/16S0R0J
R	154		RS1/16S473J
R	155		RS1/16S473J
R	156		RS1/16S473J
R	157		RS1/16S473J
R	158		RS1/16S473J
R	159		RS1/16S473J
R	160		RS1/16S473J
R	161		RS1/16S103J
R	162		RS1/16S473J
R	163		RS1/16S560J
R	166		RS1/16S473J
R	176		RS1/16S0R0J
R	180		RS1/16S220J
R	201		RN1/16SE1502D
R	202		RN1/16SE1202D
R	210		RS1/16S104J
R	211		RS1/16S104J
R	212		RS1/16S104J
R	213		RS1/16S104J
R	217		RS1/16S272J
R	220		RS1/16S223J
R	221		RS1/16S105J
R	222		RS1/16S151J
R	224		RS1/16S0R0J
R	225		RS1/16S104J
R	226		RS1/16S104J
R	227		RS1/16S104J
R	228		RS1/16S104J
R	229		RS1/16S560J
R	230		RS1/16S104J
R	232		RS1/16S104J

=====Circuit Symbol and No.	Part Name	Part No.
R 237		RS1/16S104J
R 238		RS1/16S330J
R 240		RS1/16S104J
R 301		RS1/16S123J
R 302		RS1/16S103J
R 303		RS1/16S473J
R 320		RS1/16S201J
R 329		RS1/16S221J
R 330		RS1/16S221J
R 331		RS1/16S221J
R 332		RS1/16S221J
R 333		RS1/16S221J
R 334		RS1/16S221J
R 335		RS1/16S221J
R 336		RS1/16S221J
R 349		RS1/16S473J
R 803		RN1/16SE1002D
R 804		RN1/16SE3901D
R 806		RS1/16S101J
R 807		RS1/16S330J
R 808		RS1/16S330J
R 809		RS1/16S102J
R 810		RS1/16S100J
R 811		RN1/16SE1001D
R 812		RN1/16SE1501D
R 813		RN1/16SE3300D
R 814		RN1/16SE1001D
R 815		RN1/16SE3001D
R 816		RN1/16SE3300D
R 817		RS1/16S332J
R 818		RS1/16S473J
R 819		RS1/16S102J
R 820		RS1/16S101J
R 822		RS1/16S473J
R 823		RS1/16S104J
R 824		RS1/16S150J
R 825		RS1/16S224J
R 826		RS1/16S224J
R 827		RS1/16S150J
R 828		RS1/16S104J
R 829		RN1/16SE6801D
R 833		RS1/16S330J
R 834		RS1/16S102J
R 835		RS1/16S392J
R 903		RS1/16S101J
R 904		RS1/16S101J
R 905		RS1/16S101J
R 906		RS1/16S101J
R 907		RS1/16S101J
R 908		RS1/16S101J
R 910		RAB4C101J
R 911		RAB4C101J
R 912		RAB4C101J
R 913		RAB4C101J
R 914		RAB4C101J
R 915		RAB4C101J
R 916		RAB4C101J
R 917		RAB4C101J
R 918		RAB4C101J
R 919		RAB4C101J
R 920		RAB4C101J
R 921		RAB4C101J
R 922		RAB4C101J
R 923		RAB4C473J
R 924		RS1/16S473J

=====Circuit Symbol and No.	Part Name	Part No.
R 925		RS1/16S473J
R 926		RS1/16S101J
R 927		RS1/16S101J
R 929		RS1/16S104J
R 930		RS1/16S104J
R 931		RS1/16S104J
R 932		RS1/16S104J
R 933		RS1/16S270J
R 934		RS1/16S103J
R 935		RS1/16S472J
R 936		RS1/16S103J
R 937		RS1/16S270J
R 938		RS1/16S270J
R 939		RS1/16S270J

CAPACITORS

C 1		CKSRYB104K16
C 2		CKSRYB104K16
C 3		CKSRYB104K16
C 4		CKSRYB104K16
C 5		CKSRYB104K16
C 6		CKSRYB104K16
C 7		CKSRYB104K16
C 8		CKSRYB104K16
C 9		CKSRYB104K16
C 10		CKSRYB104K16
C 11		CKSRYB104K16
C 12		CSZSQ100M6R3
C 13		CKSRYB104K16
C 14		CKSRYB104K16
C 15		CKSRYB104K16
C 16		CKSRYB104K16
C 17		CKSRYB104K16
C 18		CCSRCH100D50
C 19		CCSRCH100D50
C 20		CKSRYB104K16
C 21		CKSRYB104K16
C 22		CKSRYB104K16
C 23		CKSRYB104K16
C 24		CKSRYB104K16
C 25		CKSRYB104K16
C 26		CKSRYB104K16
C 27		CSZSQ100M6R3
C 28		CKSRYB104K16
C 29		CKSRYB104K16
C 30		CKSRYF104Z25
C 31		CCSRCH5R0D50
C 32		CCSRCH5R0D50
C 33		CKSRYB104K16
C 35		CKSRYB104K16
C 36		CKSRYB104K16
C 38		CSZS100M10
C 39		CKSRYB104K16
C 40		CKSRYB104K16
C 41		CKSRYB104K16
C 42		CKSRYB104K16
C 44		CKSRYB104K16
C 47		CKSRYB104K16
C 49		CKSRYB104K16
C 54		CCSRCH121J50
C 55		CKSRYB104K16
C 57		CKSRYB104K16
C 60		CKSRYB104K16
C 63		CKSRYB104K16
C 64		CKSRYB104K16
C 66		CKSRYB104K16

=====Circuit Symbol and No.		===Part Name	Part No.
C	67		CSZSQ100M6R3
C	68		CSZS330M6R3
C	69		CSZS330M6R3
C	70		CSZS330M6R3
C	71		CKSRYF103Z50
C	72		CKSRYF103Z50
C	73		CKSRYF104Z25
C	74		CKSRYF104Z25
C	75		CKSRYF104Z25
C	76		CKSRYB104K16
C	78		CKSRYB104K16
C	79		CKSRYB104K16
C	101		CKSRYB104K16
C	102		CKSRYB104K16
C	103		CKSRYB104K16
C	104		CKSRYB104K16
C	105		CKSRYB104K16
C	106		CKSRYB104K16
C	107		CKSRYB104K16
C	108		CKSRYB104K16
C	109		CKSRYB104K16
C	110		CSZSQ100M6R3
C	111		CKSRYB104K16
C	112		CKSRYF224Z16
C	113		CSZSQ100M6R3
C	114		CKSRYB104K16
C	115		CKSRYF224Z16
C	116		CKSRYF104Z25
C	117		CSZSQ100M6R3
C	118		CKSRYB104K16
C	119		CKSRYF104Z25
C	120		CKSRYF104Z25
C	121		CKSRYF104Z25
C	122		CKSRYF104Z25
C	123		CKSRYF103Z50
C	124		CCSRCH101J50
C	125		CKSRYF104Z25
C	126		CKSRYF104Z25
C	201		CKSRYB104K16
C	202		CKSRYB104K16
C	203		CKSRYB104K16
C	204		CKSRYB104K16
C	205		CKSRYB104K16
C	206		CKSRYB104K16
C	207		CKSRYB104K16
C	208		CKSRYB104K16
C	209		CKSRYB104K16
C	211		CKSRYB104K16
C	213		CKSRYB104K16
C	214		CKSRYB104K16
C	215		CKSRYB104K16
C	216		CKSRYB104K16
C	217		CKSRYB104K16
C	220		CSZS100M10
C	221		CKSRYB104K16
C	222		CKSRYB104K16
C	223		CKSRYB224K10
C	224		CKSRYB104K16
C	225		CKSRYB104K16
C	227		CKSRYB104K16
C	228		CKSRYB104K16
C	230		CCSRCH150J50
C	231		CCSRCH120J50
C	232		CKSRYB104K16
C	233		CKSRYB104K16

=====Circuit Symbol and No.		===Part Name	Part No.
C	234		CKSRYB104K16
C	235		CKSRYB104K16
C	237		CKSRYB104K16
C	238		CKSRYB104K16
C	239		CKSRYB104K16
C	240		CKSRYB104K16
C	241		CKSRYB104K16
C	242		CKSRYB104K16
C	243		CKSRYB104K16
C	244		CKSRYB104K16
C	245		CKSRYB104K16
C	246		CKSRYB104K16
C	247		CKSRYB104K16
C	248		CKSRYB104K16
C	249		CSZS100M10
C	250		CSZS100M10
C	251		CSZS100M10
C	252		CSZS100M10
C	253		CKSRYF104Z25
C	301		CKSRYF104Z25
C	302		CKSRYB334K10
C	303		CKSRYF104Z25
C	306		CKSRYF104Z25
C	323		CSZS100M10
C	324		CKSRYB104K16
C	327		CSZS100M10
C	328		CKSRYB104K16
C	329		CSZS100M10
C	330		CSZS4R7M10
C	331		CSZS4R7M10
C	332		CKSRYB104K16
C	339		CSZS100M10
C	341		CCSRCH101J50
C	342		CKSRYF104Z25
C	343		CKSRYB102K50
C	802		CSZSR101M6R3
C	804		CCSRCH680J50
C	805		CSZSR101M6R3
C	806		CKSRYB104K16
C	808		CKSRYB105K10
C	809		CCSRCH101J50
C	810	4.7µF	CCG1111
C	811		CCSRCH470J50
C	812		CKSYB475K10
C	813		CKSRYF474Z16
C	814		CKSRYF474Z16
C	815	10µF	CCG1150
C	816	10µF	CCG1150
C	817		CCSRCH221J50
C	819	330µF/6.3V	CCH1366
C	820	330µF/6.3V	CCH1366
C	821		CKSRYB682K50
C	822		CKSRYB224K10
C	823		CKSRYB103K25
C	824		CKSRYB223K25
C	825		CKSRYB103K25
C	826		CKSRYB104K16
C	827	10µF	CCG1150
C	828	10µF	CCG1150
C	829		CKSRYF104Z25
C	830		CKSRYF104Z25
C	831		CSZS100M6R3
C	832		CKSRYF103Z50
C	833		CKSRYF104Z25
C	834		CKSRYF103Z50

=====Circuit Symbol and No.	===Part Name	Part No.
C 835		CKSRYF103Z50
C 836		CKSRYF104Z25
C 837		CKSRYF103Z50
C 901		CKSRYF104Z25
C 902		CKSRYF104Z25
C 903		CKSRYF104Z25
C 904		CKSRYF104Z25
C 905		CKSRYF104Z25
C 906		CKSRYF104Z25
C 907		CKSRYF104Z25
C 908		CKSRYF104Z25
C 909		CKSRYF104Z25
C 910		CKSRYF104Z25
C 911		CKSRYF104Z25
C 912		CKSRYF104Z25
C 913		CKSRYF104Z25
C 914		CKSRYB334K10

F Unit Number : CWX2591
Unit Name : GPS Unit

MISCELLANEOUS

IC 401	IC		UPC2749T
IC 402	IC		UPB1006GS
IC 441	IC		NJM2100V
IC 461	IC		ADC12034CIMSA
IC 501	IC		PD3390A
IC 502	IC		PD6362B
IC 503	IC		M5M5V216ATP-70HI
IC 504	IC		MAX6364PUT29
Q 441	Transistor		2SB1132
D 401	Diode		1SV314
D 501	Diode		RB751V40
L 401	Inductor		CTF1549
L 402	Inductor		CTF1486
L 403	Inductor		CTF1486
L 404	Inductor		LCSA3N3R1608
L 405	Inductor		LCYB22NJ1608
L 406	Inductor		LCYB22NJ1608
L 407	Inductor		CTF1410
L 408	Inductor		CTF1556
L 409	Inductor		LCTB1R0K2125
L 410	Inductor		CTF1547
L 412	Inductor		CTF1547
L 413	Inductor		CTF1547
L 414	Inductor		CTF1547
L 415	Inductor		CTF1547
L 416	Inductor		CTF1547
L 417	Inductor		CTF1547
L 418	Inductor		CTF1410
L 441	Inductor		CTF1410
L 442	Inductor		CTF1410
L 461	Inductor		CTF1410
L 462	Inductor		CTF1410
L 467	Inductor		CTF1547
L 468	Inductor		CTF1547
L 469	Inductor		CTF1410
L 501	Inductor		CTF1410
L 502	Inductor		CTF1410
L 503	Inductor		CTF1410
L 504	Inductor		CTF1410
L 531	Inductor		CTF1410
X 401	TCXO 16.368MHz		CWX2381
X 501	Radiator 32.768kHz		CSS1319
X 502	Radiator 20.00MHz		CSS1549
F 401	Filter		CTF1548

=====Circuit Symbol and No.	===Part Name	Part No.

RESISTORS

R 401		RS1/16SS472J
R 402		RS1/16SS472J
R 403		RS1/16SS122J
R 404		RS1/16SS622J
R 405		RS1/16SS100J
R 406		RS1/16S271J
R 407		RS1/16S2R2J
R 441		RN1/16SE10R0D
R 442		RN1/16SE1501D
R 443		RN1/16SE2402D
R 444		RN1/16SE3302D
R 445		RN1/16SE4702D
R 446		RN1/16SE4702D
R 447		RS1/16S432J
R 448		RN1/16SE1002D
R 449		RN1/16SE2202D
R 450		RN1/16SE3302D
R 451		RS1/16S103J
R 452		RS1/16SS102J
R 454		RS1/16SS102J
R 460		RS1/16S0R0J
R 461		RS1/16SS102J
R 462		RS1/16SS102J
R 463		RAB4CQ102J
R 464		RAB4CQ333J
R 465		RS1/16SS102J
R 470		RAB4CQ471J
R 471		RAB4CQ104J
R 477		RS1/16SS222J
R 478		RS1/16SS222J
R 479		RS1/16SS222J
R 480		RS1/16SS332J
R 481		RS1/16SS332J
R 482		RS1/16SS223J
R 483		RS1/16SS473J
R 501		RS1/16SS0R0J
R 502		RS1/16SS102J
R 503		RS1/16SS154J
R 508		RS1/16SS103J
R 509		RS1/16SS473J
R 510		RS1/16SS102J
R 511		RS1/16SS103J
R 512		RS1/16SS473J
R 513		RS1/16SS103J
R 514		RS1/16SS473J
R 515		RS1/16SS473J
R 517		RS1/16SS103J
R 519		RS1/16SS473J
R 521		RS1/16SS473J
R 533		RS1/16SS103J
R 534		RS1/16SS103J
R 535		RS1/16SS103J
R 536		RS1/16SS0R0J

CAPACITORS

C 401		CCSRCH100D50
C 402		CCSSCH101J50
C 403		CKSSYB104K10
C 404		CCSSCH101J50
C 405		CCSRUJ220J50
C 406		CCSRUJ220J50
C 407		CKSSYB333K16
C 408		CKSSYB182K50
C 409		CSZS100M6R3
C 410		CKSSYB103K16

=====Circuit Symbol and No.	===	Part Name	Part No.
C	411		CKSSYB102K50
C	412		CKSSYB102K50
C	413		CKSSYB104K10
C	414		CKSSYB104K10
C	415		CKSSYB104K10
C	416		CKSSYB104K10
C	417		CKSSYB104K10
C	418		CKSSYB102K50
C	419		CKSSYB104K10
C	420		CKSSYB104K10
C	421		CKSSYB102K50
C	422		CKSSYB103K16
C	423		CKSSYB104K10
C	424		CCSRCH102J50
C	425		CCSRCH271J50
C	426		CCSRCH102J50
C	427		CKSSYB104K10
C	428		CKSSYB103K16
C	429		CCSRCH301J50
C	430		CCSSCH120J50
C	431		CCSRCH301J50
C	432		CKSSYB103K16
C	433		CCSRCH101J50
C	434		CKSSYB102K50
C	435		CKSSYB103K16
C	436		CKSSYB104K10
C	441		CKSRYB104K16
C	442		CCSRCH101J50
C	443		CKSRYB104K16
C	444		CKSSYB103K16
C	445		CKSSYB104K10
C	461	22µF/6.3V	CCH1408
C	462		CKSRYB104K16
C	463		CKSRYB104K16
C	464		CKSSYB103K16
C	465		CKSSYB103K16
C	466		CKSSYB103K16
C	467		CKSSYB103K16
C	468		CKSSYB104K10
C	469		CSZS100M10
C	470		CKSSYB104K10
C	471		CCSSCH101J50
C	501		CKSSYB104K10
C	502		CCSRCH150J50
C	503		CCSRCH150J50
C	504		CKSSYB104K10
C	506		CKSSYB104K10
C	507		CKSSYB104K10
C	508		CKSSYB104K10
C	509		CKSSYB104K10
C	511		CKSSYB104K10
C	512		CKSSYB104K10
C	514		CSZS100M6R3
C	515		CKSSYB104K10
C	516		CKSSYB104K10
C	517		CKSSYB104K10
C	518		CKSSYB104K10

=====Circuit Symbol and No.	===	Part Name	Part No.

Main Unit
Consists of
Main PCB
Interface PCB
Grille PCB
G-Sensor PCB

A B C D Unit Number : CWM7614
Unit Name : Main Unit

MISCELLANEOUS

IC	571	IC	S-81250SGUP
IC	601	IC	PE5228A
IC	602	IC	TC7SET08FU
IC	603	IC	TC7SET08FU
IC	604	IC	TC7SH08FU
IC	605	IC	TC7SH08FU
IC	606	IC	TC7S14FU
IC	607	IC	TC7SET08FU
IC	608	IC	TC7W32FU
IC	609	IC	TC7SH04FU
IC	610	IC	TC7W126FU
IC	612	IC	TC7SET08FU
IC	613	IC	TC7SET08FU
IC	631	IC	S-8423AFS
IC	661	IC	PAJ002A
IC	662	IC	TPD1018F
IC	663	IC	TPD1018F
IC	665	IC	NJM2904M
IC	1801	IC	NJM2903V
IC	1850	IC	TPS5103IDB
IC	1851	IC	TPS5103IDB
IC	1951	IC	M5237ML
IC	3001	IC	TC7S66F
IC	3002	IC	TC7SET08F
IC	3004	IC	TC7SZ08FU
IC	3005	IC	CXA1645M
IC	3006	IC	NJM2246M
IC	3007	IC	NJM2244M
IC	3601	IC	NJM3404AM
IC	3602	IC	NJM2904M
IC	3752	IC	TC74HC4053AFT
IC	3753	IC	TC7SET08FU
IC	3851	IC	NJM3404AM
IC	3901	IC	NJM2068MD
IC	3902	IC	NJM3414AM
IC	3903	IC	NJM2068MD
IC	3926	IC	TDA7052A
IC	3927	IC	NJM2904M
IC	3951	IC	NJM4558M
IC	3952	IC	TC7S66FU
IC	3953	IC	NJM4558M
IC	5001	IC	UPD4723GS
Q	635	Transistor	2SA1036K
Q	636	Transistor	DTC114EU
Q	661	Transistor	2SB1184F5
Q	662	Transistor	DTC114EU
Q	664	Transistor	DTC114EU
Q	665	Transistor	2SA1162
Q	667	Transistor	2SC2712
Q	668	Transistor	2SC2712
Q	669	Transistor	DTC114EU
Q	670	Transistor	DTB113ZK
Q	671	Transistor	UMD2N
Q	672	Transistor	UMD2N
Q	673	Transistor	DTC114EU

=====Circuit Symbol and No.	Part Name	Part No.
Q 675	Transistor	DTC143EU
Q 1802	Transistor	DTC114EU
Q 1803	Transistor	IMD3A
Q 1804	Transistor	2SD2098
Q 1805	Transistor	2SA1037K
Q 1806	Transistor	DTC114EU
Q 1841	Transistor	2SA1037K
Q 1842	Transistor	DTC114EU
Q 1852	FET	RK4936
Q 1853	FET	RK4936
Q 1951	Transistor	2SB1572
Q 1952	Transistor	2SB1184F5
Q 1953	Transistor	DTC114EU
Q 2851	Transistor	IMD3A
Q 2852	Transistor	DTC114EU
Q 3001	Transistor	2SC2712
Q 3151	Transistor	2SC2712
Q 3851	Transistor	DTC323TU
Q 3852	Transistor	DTC323TU
Q 3853	Transistor	DTC323TU
Q 3854	Transistor	DTC323TU
Q 3855	Transistor	DTC323TU
Q 3856	Transistor	DTC323TU
Q 3857	Transistor	IMD2A
Q 3858	Transistor	IMD2A
Q 3859	Transistor	IMD2A
Q 3901	Transistor	DTC144EU
Q 3902	Transistor	DTC323TK
Q 3903	Transistor	DTC323TK
Q 3904	Transistor	IMD2A
Q 3905	Transistor	DTC323TU
Q 3906	Transistor	DTC144EU
Q 3907	Transistor	IMD2A
Q 5001	Transistor	2SD1760F5
D 552	Diode	UDZS5R6(B)
D 601	Diode	1SS355
D 661	Diode	RB751V40
D 663	Diode	UDZ20(B)
D 664	Diode	UDZS6R8(B)
D 665	Diode	1SS355
D 666	Diode	1SS355
D 667	Diode	1SS355
D 668	Diode	1SS355
D 669	Diode	UDZS6R8(B)
D 670	Diode	RB500V-40
D 671	Diode	RB500V-40
D 1801	Diode	5KP22A
D 1803	Diode	MA738
D 1804	Diode	S1G-6904G2P
D 1805	Diode	S1G-6904G2P
D 1806	Diode	S1G-6904G2P
D 1807	Diode	S1G-6904G2P
D 1808	Diode	S1G-6904G2P
D 1809	Diode	MA8180(M)
D 1810	Diode	MA8180(M)
D 1811	Diode	MA8180(M)
D 1812	Diode	KS926S2
D 1817	Diode	UDZ13(B)
D 1818	Diode	HZU7R5(B3)
D 1841	Diode	MA110
D 1850	Diode	RB400D
D 1851	Diode	RB400D
D 1852	Diode	RB060L-40
D 1853	Diode	RB060L-40
D 1951	Diode	S1G-6904G2P

=====Circuit Symbol and No.	Part Name	Part No.
D 2851	LED	CL150PGCD(AB)
D 2852	LED	CL150PGCD(AB)
D 2853	LED	CL150PGCD(AB)
D 2854	Diode	CL150RCD
D 2855	LED	CL150PGCD(AB)
D 2856	Diode	MA8062(H)
D 2860	LED	CL150PGCD(AB)
D 2861	Chip LED	CL220UBXTS
D 2862	Diode	CL150RCD
D 2863	LED	CL150PGCD(AB)
D 2864	LED	CL150PGCD(AB)
D 2865	Diode	MA8062(H)
D 3001	Diode	UDZS10(B)
D 3002	Diode	UDZS10(B)
D 3003	Diode	UDZS10(B)
D 3004	Diode	UDZS10(B)
D 3005	Diode	UDZS10(B)
D 3151	Diode	UDZS6R8(B)
D 3153	Diode	UDZS6R8(B)
D 3154	Diode	UDZS6R8(B)
D 3155	Diode	UDZS10(B)
D 3156	Diode	UDZS10(B)
D 3158	Diode	UDZS10(B)
D 3159	Diode	UDZS10(B)
D 3160	Diode	UDZS10(B)
D 3851	Diode	DAP202U
D 3852	Diode	DAP202U
D 3853	Diode	DAP202U
D 3901	Diode	1SS355
D 3902	Diode	MA8047(M)
D 3904	Diode	DAP202U
D 3905	Diode	1SS355
D 5001	Diode	UDZS6R8(B)
D 5006	Diode	MA8120(H)
D 5007	Diode	MA8120(H)
D 5008	Diode	MA8120(H)
D 5009	Diode	MA8120(H)
D 5010	Diode	MA8120(H)
D 5011	Diode	MA8120(H)
D 5016	Diode	MA8120(H)
D 5017	Diode	MA8120(H)
D 5018	Diode	UDZS6R8(B)
D 5019	Diode	MA8120(H)
D 5020	Diode	MA8120(H)
D 5021	Diode	MA8120(H)
D 5022	Diode	MA8120(H)
D 5027	Diode	MA8110(H)
D 5028	Diode	MA8110(H)
D 5029	Diode	MA8056(H)
L 571	Inductor	CTF1295
L 572	Inductor	CTF1295
L 573	Inductor	CTF1295
L 601	Inductor	CTF1410
L 602	Inductor	CTF1410
L 603	Inductor	CTF1410
L 604	Inductor	CTF1410
L 605	Inductor	CTF1410
L 606	Inductor	CTF1410
L 607	Inductor	CTF1410
L 608	Inductor	CTF1410
L 609	Inductor	CTF1410
L 610	Inductor	CTF1410
L 611	Inductor	CTF1410
L 612	Inductor	CTF1410
L 661	Inductor	CTF1295

=====Circuit Symbol and No.	===Part Name	Part No.
L 664	Inductor	CTF1390
L 665	Inductor	CTF1295
L 666	Inductor	CTF1410
L 667	Inductor	CTF1410
L 668	Inductor	CTF1410
L 1802	Inductor	CTF1556
L 1803	Inductor	CTF1556
L 1804	Inductor	CTF1556
L 1805	Inductor	CTF1556
L 1806	Inductor	CTF1556
L 1841	Inductor	CTF1556
L 1850	Inductor	CTH1254
L 1851	Inductor	CTH1255
L 1852	Inductor	CTH1257
L 1853	Inductor	CTH1257
L 2851	Inductor	CTF1295
L 2852	Inductor	CTF1295
L 2853	Inductor	CTF1295
L 2854	Inductor	CTF1295
L 2855	Inductor	CTF1295
L 3001	Inductor	CTF1410
L 3002	Inductor	CTF1410
L 3003	Inductor	CTF1410
L 3005	Inductor	LCTA680J3225
L 3006	Inductor	CTF1410
L 3025	Inductor	CTF1410
L 3151	Inductor	CTF1557
L 3152	Inductor	CTF1558
L 3153	Inductor	CTF1557
L 3154	Inductor	CTF1557
L 3157	Inductor	CTF1306
L 3158	Inductor	CTF1306
L 3159	Inductor	CTF1306
L 3251	Inductor	CTF1556
L 3252	Inductor	CTF1556
L 3253	Inductor	CTF1556
L 3254	Inductor	CTF1556
L 3255	Inductor	CTF1556
L 3256	Inductor	CTF1556
L 3257	Inductor	CTF1556
L 3258	Inductor	CTF1556
L 3259	Inductor	CTF1557
L 3260	Inductor	CTF1557
L 3261	Inductor	CTF1557
L 3262	Inductor	CTF1557
L 3263	Inductor	CTF1557
L 3264	Inductor	CTF1557
L 3265	Inductor	CTF1557
L 3266	Inductor	CTF1557
L 3267	Inductor	CTF1557
L 3268	Inductor	CTF1557
L 3269	Inductor	CTF1557
L 3270	Inductor	CTF1557
L 3271	Inductor	CTF1557
L 3272	Inductor	CTF1557
L 3273	Inductor	CTF1557
L 3274	Inductor	CTF1556
L 3751	Inductor	CTF1410
L 3752	Inductor	CTF1410
L 3951	Inductor	CTF1410
L 3952	Inductor	CTF1410
L 3953	Inductor	CTF1410
L 3954	Inductor	CTF1410
L 3955	Inductor	CTF1410
L 3956	Inductor	CTF1410

=====Circuit Symbol and No.	===Part Name	Part No.
L 5001	Inductor	CTF1410
L 5002	Inductor	CTF1334
L 5003	Inductor	CTF1334
L 5004	Inductor	CTF1334
L 5007	Inductor	CTF1334
L 5008	Inductor	CTF1334
L 5009	Inductor	CTF1334
L 5010	Inductor	CTF1557
L 5011	Inductor	CTF1557
L 5012	Inductor	CTF1557
X 601	Ceramic Resonator 12.583MHz	CSS1108
S 2851	Switch(EJECT)	CSG1106
S 2852	Switch(RESET)	CSG1120
S 2853	Spring Switch(PC-CARD)	CSN1051
FU 1801	Fuse 2A	CEK1190
FU 1802	Fuse 4A	CEK1199
FU 1803	Fuse 2.3A	ICPS2R3
FU 1804	Fuse 4A	CEK1199
FU 1850	Fuse 1A	CEK1191
FU 3251	Fuse 1A	CEK1191
	GPS unit	CWX2591
GY 572	Sensor	CSX1046
GY 573	Sensor	CSX1042
EF 1801	EMI Filter	CCG1025
EF 3001	EMI Filter	CCG1081
EF 3002	EMI Filter	CCG1081
EF 3003	EMI Filter	CCG1081
EF 3004	EMI Filter	CCG1081
EF 3005	EMI Filter	CCG1081
EF 3006	EMI Filter	CCG1081
EF 3151	EMI Filter	CCG1067
EF 3152	EMI Filter	CCG1067
EF 3251	EMI Filter	CCG1030
EF 3252	EMI Filter	CCG1030
EF 5001	EMI Filter	CCG1030

RESISTORS

R 561	RN1/16SE1001D
R 562	RN1/16SE1101D
R 563	RN1/16SE1001D
R 572	RS1/10S151J
R 573	RS1/10S105J
R 574	RS1/16S104J
R 575	RS1/16S0R0J
R 601	RS1/16S473J
R 602	RS1/16S473J
R 603	RS1/16S104J
R 605	RS1/16S104J
R 607	RS1/16S104J
R 610	RS1/16S104J
R 612	RS1/16S104J
R 613	RS1/16S473J
R 614	RS1/16S0R0J
R 615	RS1/16S104J
R 617	RS1/16S473J
R 618	RS1/16S105J
R 619	RS1/16S473J
R 620	RS1/16S473J
R 622	RS1/16S472J
R 626	RS1/16S104J
R 627	RS1/16S104J
R 628	RS1/16S472J

=====Circuit Symbol and No.	===Part Name	Part No.
R 629		RS1/16S104J
R 630		RS1/16S473J
R 631		RS1/16S102J
R 632		RS1/16S104J
R 633		RS1/16S104J
R 635		RS1/16S104J
R 637		RS1/16S102J
R 638		RS1/16S104J
R 639		RS1/16S104J
R 640		RS1/16S104J
R 641		RS1/16S104J
R 642		RS1/16S104J
R 643		RS1/16S223J
R 644		RS1/16S682J
R 645		RS1/16S104J
R 646		RS1/16S104J
R 647		RS1/16S104J
R 648		RS1/16S104J
R 649		RS1/16S473J
R 662		RS1/8S2R2J
R 663		RS1/16S102J
R 665		RS1/16S333J
R 666		RS1/16S153J
R 667		RS1/16S104J
R 668		RS1/16S104J
R 669		RS1/16S104J
R 670		RS1/16S102J
R 671		RS1/16S102J
R 672		RS1/16S102J
R 673		RS1/16S104J
R 674		RS1/16S623J
R 675		RS1/16S363J
R 679		RS1/16S753J
R 680		RS1/16S363J
R 682		RS1/10S102J
R 683		RS1/16S102J
R 684		RS1/16S103J
R 685		RS1/16S103J
R 686		RS1/10S103J
R 687		RS1/16S562J
R 688		RS1/16S473J
R 689		RS1/16S393J
R 690		RS1/16S224J
R 691		RS1/16S103J
R 692		RS1/16S0R0J
R 693		RS1/16S103J
R 694		RS1/16S0R0J
R 695		RS1/16S473J
R 696		RS1/16S104J
R 697		RS1/16S0R0J
R 698		RS1/16S333J
R 699		RS1/16S203J
R 700		RS1/16S822J
R 701		RS1/16S202J
R 702		RS1/16S564J
R 703		RS1/16S102J
R 704		RS1/16S102J
R 705		RS1/16S513J
R 706		RS1/16S513J
R 707		RS1/16S104J
R 708		RS1/16S513J
R 709		RS1/16S473J
R 710		RS1/16S563J
R 711		RS1/16S104J
R 715		RS1/16S102J

=====Circuit Symbol and No.	===Part Name	Part No.
R 716		RS1/16S102J
R 717		RS1/16S471J
R 720		RS1/10S0R0J
R 1801		RN1/10SE4701D
R 1802		RS1/10S473J
R 1803		RS1/10S102J
R 1804		RS1/4S102J
R 1805		RS1/10S224J
R 1806		RS1/10S103J
R 1807		RS1/10S103J
R 1808		RS1/8S0R0J
R 1820		RS1/4S471J
R 1821		RN1/16SE8201D
R 1822		RN1/16SE1502D
R 1823		RN1/16SE2702D
R 1824		RN1/16SE3303D
R 1825		RS1/16S332J
R 1826		RS1/16S273J
R 1827		RS1/16S273J
R 1828		RS1/16S332J
R 1841		RS1/10S103J
R 1842		RS1/10S103J
R 1843		RS1/16S102J
R 1844		RS1/16S104J
R 1850		RS1/16S101J
R 1851		RS1/16S101J
R 1852		RN1/16SE1600D
R 1853		RN1/16SE6801D
R 1854		RN1/16SE1601D
R 1855		RN1/16SE1600D
R 1856		RN1/16SE5601D
R 1857		RN1/16SE1001D
R 1858		RS1/16S332J
R 1859		RS1/16S332J
R 1860		RS1/16S154J
R 1861		RS1/16S154J
R 1862		RS1/16S184J
R 1864		RS1/16S184J
R 1866		RS1/16S100J
R 1867		RS1/16S100J
R 1868		RS1/16S100J
R 1869		RS1/16S100J
R 1951		RS1/16S223J
R 1952		RS1/4S102J
R 1953		RS1/4S102J
R 1954		RS1/16S221J
R 1955		RS1/10S271J
R 1956		RN1/10SE2702D
R 1957		RN1/10SE4701D
R 2851		RS1/8S471J
R 2852		RS1/10S620J
R 2853		RS1/10S331J
R 2854		RS1/10S331J
R 2855		RS1/10S331J
R 2856		RS1/8S331J
R 2857		RS1/10S620J
R 2858		RS1/10S103J
R 2860		RS1/10S271J
R 3001		RS1/16S222J
R 3002		RS1/16S222J
R 3003		RN1/10SE2002D
R 3004		RS1/16S473J
R 3005		RS1/16S101J
R 3006		RS1/16S103J
R 3007		RS1/16S272J

=====Circuit Symbol and No.	===Part Name	Part No.
R	3008	RS1/16S272J
R	3009	RS1/16S101J
R	3010	RS1/16S301J
R	3014	RS1/10S620J
R	3015	RS1/10S750J
R	3016	RS1/10S750J
R	3017	RS1/10S750J
R	3018	RS1/10S750J
R	3024	RS1/16S105J
R	3025	RS1/16S0R0J
R	3026	RS1/16S105J
R	3027	RS1/10S750J
R	3028	RS1/16S105J
R	3029	RS1/16S910J
R	3030	RS1/16S910J
R	3031	RS1/16S910J
R	3151	RS1/16S473J
R	3152	RS1/16S104J
R	3153	RS1/10S102J
R	3154	RS1/10S102J
R	3156	RS1/10S102J
R	3158	RS1/10S102J
R	3206	RS1/16S102J
R	3207	RS1/16S102J
R	3208	RS1/16S102J
R	3209	RS1/16S102J
R	3217	RS1/16S102J
R	3218	RS1/16S102J
R	3220	RS1/16S0R0J
R	3225	RS1/16S101J
R	3226	RS1/16S102J
R	3227	RS1/16S102J
R	3228	RS1/16S102J
R	3229	RS1/16S102J
R	3230	RS1/16S102J
R	3231	RS1/16S102J
R	3233	RS1/16S0R0J
R	3234	RS1/16S104J
R	3235	RS1/16S104J
R	3238	RS1/16S104J
R	3240	RS1/16S104J
R	3241	RS1/16S104J
R	3242	RS1/16S104J
R	3243	RS1/16S0R0J
R	3250	RS1/16S102J
R	3251	RS1/16S0R0J
R	3252	RS1/16S0R0J
R	3253	RS1/16S0R0J
R	3255	RS1/16S102J
R	3256	RS1/16S104J
R	3259	RS1/16S104J
R	3260	RS1/16S104J
R	3262	RS1/16S102J
R	3263	RS1/16S104J
R	3264	RS1/16S0R0J
R	3267	RS1/16S102J
R	3268	RS1/16S104J
R	3270	RS1/16S105J
R	3273	RS1/16S105J
R	3274	RS1/16S105J
R	3277	RS1/16S104J
R	3278	RS1/16S105J
R	3282	RS1/16S102J
R	3283	RS1/16S102J
R	3601	RS1/16S102J

=====Circuit Symbol and No.	===Part Name	Part No.
R	3602	RS1/16S102J
R	3603	RS1/16S153J
R	3604	RS1/16S683J
R	3605	RS1/16S682J
R	3606	RS1/16S682J
R	3607	RS1/16S682J
R	3608	RS1/16S104J
R	3609	RS1/16S104J
R	3610	RS1/16S101J
R	3611	RS1/16S102J
R	3770	RS1/16S0R0J
R	3772	RS1/16S104J
R	3851	RS1/16S102J
R	3852	RS1/16S472J
R	3853	RS1/16S152J
R	3854	RS1/16S472J
R	3855	RS1/16S472J
R	3856	RS1/16S472J
R	3857	RS1/16S102J
R	3858	RS1/16S472J
R	3859	RS1/16S152J
R	3860	RS1/16S472J
R	3861	RS1/16S472J
R	3862	RS1/16S472J
R	3863	RS1/16S333J
R	3864	RS1/16S683J
R	3865	RS1/16S154J
R	3866	RS1/16S101J
R	3867	RS1/16S333J
R	3868	RS1/16S683J
R	3869	RS1/16S473J
R	3870	RS1/16S473J
R	3871	RS1/16S105J
R	3872	RS1/16S105J
R	3873	RS1/16S154J
R	3874	RS1/16S101J
R	3901	RS1/16S103J
R	3902	RS1/16S473J
R	3903	RS1/16S473J
R	3904	RS1/16S473J
R	3905	RS1/16S470J
R	3907	RS1/16S0R0J
R	3908	RS1/16S473J
R	3909	RS1/16S473J
R	3910	RS1/16S473J
R	3911	RS1/16S470J
R	3913	RS1/16S223J
R	3914	RS1/16S203J
R	3915	RS1/16S471J
R	3916	RS1/16S471J
R	3917	RS1/16S471J
R	3918	RS1/16S104J
R	3919	RS1/16S473J
R	3920	RS1/16S473J
R	3921	RS1/16S0R0J
R	3926	RN1/16SE5602D
R	3927	RN1/16SE1802D
R	3928	RS1/16S103J
R	3951	RS1/16S104J
R	3952	RS1/16S104J
R	3953	RS1/16S104J
R	3954	RS1/16S104J
R	3956	RS1/16S104J
R	3958	RS1/16S563J
R	3959	RS1/16S563J

=====Circuit Symbol and No.	Part Name	Part No.
R 3960		RS1/16S563J
R 3967		RS1/16S0R0J
R 3968		RS1/16S0R0J
R 3969		RS1/16S0R0J
R 3970		RS1/16S0R0J
R 3971		RS1/16S0R0J
R 3972		RS1/16S0R0J
R 3981		RS1/16S104J
R 3982		RS1/16S104J
R 3983		RS1/16S102J
R 3986		RS1/16S104J
R 3987		RS1/16S104J
R 3988		RS1/16S104J
R 3989		RS1/16S104J
R 3990		RS1/16S104J
R 3991		RS1/16S101J
R 3992		RS1/16S104J
R 3993		RS1/16S104J
R 3994		RS1/16S104J
R 3995		RS1/16S0R0J
R 3996		RS1/16S101J
R 3997		RS1/16S473J
R 3998		RS1/16S152J
R 5004		RS1/16S681J
R 5006		RS1/16S681J
R 5007		RS1/16S681J
R 5008		RS1/16S681J
R 5009		RS1/16S101J
R 5010		RS1/16S101J
R 5011		RS1/16S101J
R 5012		RS1/16S101J
R 5015		RS1/16S101J
R 5016		RS1/16S101J
R 5017		RS1/16S101J
R 5018		RS1/16S681J
R 5019		RS1/16S681J
R 5020		RS1/10S122J
R 5021		RS1/10S122J
R 5022		RS1/16S100J

CAPACITORS

=====Circuit Symbol and No.	Part Name	Part No.
C 571		CEV1R0M50
C 572		CKSQYF334Z25
C 573		CKSRYF104Z25
C 574		CEVQ101M10
C 575		CKSQYB105K16
C 576		CKSRYB104K16
C 577		CKSRYB104K16
C 578		CKSQYB103K25
C 579		CKSYB106K6R3
C 601		CKSRYF104Z25
C 602		CKSRYF104Z25
C 603		CKSRYF104Z25
C 604		CKSRYF104Z25
C 605		CKSRYF104Z25
C 606		CKSRYF104Z25
C 607		CKSRYF104Z25
C 608		CKSRYF104Z25
C 609		CKSRYF104Z25
C 611		CKSRYF104Z25
C 612		CKSRYF104Z25
C 613		CKSRYF104Z25
C 614		CKSRYF104Z25
C 631		CKSRYF104Z25
C 632		CKSRYF104Z25
C 634		CKSRYF104Z25
C 635		CEV100M16
C 651		CKSRYB104K16
C 652		CKSRYB104K16
C 653		CEVQ220M16
C 654		CKSRYB474K10
C 661		CSZST330M16
C 662		CKSRYF104Z25
C 663		CKSRYF104Z25
C 664		CKSRYF104Z25
C 665		CKSRYF104Z25
C 666		CKSRYB104K16
C 667		CKSRYF104Z25
C 668		CKSRYB104K16
C 669		CKSRYB104K16
C 672		CKSRYB823K16
C 673		CKSRYB103K50
C 674		CKSRYB104K16
C 675		CKSRYB102K50
C 676		CKSRYF104Z25
C 679		CKSRYF104Z25
C 682		CKSRYF104Z25
C 684		CKSRYB473K50
C 685		CKSRYB473K50
C 686		CKSRYB473K50
C 687		CKSRYB473K50
C 1801		CKSRYB104K16
C 1803		CKSRYB104K16
C 1804		CKSRYB104K16
C 1805		CKSRYB473K50
C 1806		CKSRYB473K50
C 1807		CKSRYB104K16
C 1808		CKSRYF103Z50
C 1809		CKSRYB104K16
C 1810	10000µF/16V	CCH1412
C 1811		CKSRYB104K16
C 1831		CKSRYB103K50
C 1832		CKSRYB103K50
C 1833		CEV101M16
C 1834		CKSRYB103K50
C 1835		CKSRYB473K50
C 1836		CKSRYB103K50
C 1841		CKSRYB104K16
C 1842		CKSRYB104K16
C 1850		CKSRYB103K50
C 1851		CKSRYB153K50
C 1852		CCSRCH101J50
C 1853		CCSRCH101J50
C 1854		CKSRYB104K16
C 1855		CKSRYB104K16
C 1856		CKSRYB103K50
C 1857		CCSRCH330J50
C 1858		CKSRYB105K10
C 1859		CKSRYB103K50
C 1860		CCSRCH330J50
C 1861		CKSRYB105K10
C 1862		CKSYB475K10
C 1863		CKSYB475K10
C 1864	4.7µF	CCG1111
C 1865		CKSRYF474Z16
C 1866	4.7µF	CCG1111
C 1867		CKSRYF474Z16
C 1868	10µF	CCG1150
C 1869	10µF	CCG1150
C 1870	100µF/10V	CCH1332
C 1871	100µF/10V	CCH1332

=====Circuit Symbol and No.		===Part Name	Part No.
C	1872	100µF/10V	CCH1332
C	1873		CKSRYF104Z25
C	1874		CKSRYF104Z25
C	1875	10µF	CCG1150
C	1876	10µF	CCG1150
C	1877	10µF	CCG1150
C	1878	10µF	CCG1150
C	1879	10µF	CCG1150
C	1880	10µF	CCG1150
C	1881		CKSRYB102K50
C	1951		CKSRYB474K10
C	1952		CKSQYB105K16
C	1953		CEV101M10
C	2851		CKSQYB102K50
C	2853		CKSRYB102K50
C	2854		CKSQYB104K50
C	3001		CCSRCH5R0C50
C	3002		CKSRYF104Z25
C	3003		CKSRYF104Z25
C	3004		CKSRYF104Z25
C	3006		CKSRYB104K16
C	3007		CKSRYB104K16
C	3008		CKSRYB104K16
C	3009		CKSRYF104Z25
C	3010		CEVQ470M16
C	3011		CKSRYB103K50
C	3012		CCSRCH470J50
C	3013		CCSRCH220J50
C	3014		CEV100M16
C	3015		CKSRYF104Z25
C	3016		CKSRYB103K50
C	3017		CEVQ470M16
C	3018		CEV221M4
C	3019		CEV221M4
C	3020		CEV221M4
C	3021	330µF/6.3V	CCH1410
C	3022		CEV100M10
C	3023	330µF/6.3V	CCH1410
C	3025		CEV100M10
C	3026		CKSRYB105K6R3
C	3027		CKSRYB105K6R3
C	3028		CKSRYB103K50
C	3029		CEVQ101M10
C	3031		CEV100M10
C	3032		CKSRYB105K6R3
C	3033		CKSRYB103K50
C	3034		CCSRCH680J50
C	3151		CKSRYB102K50
C	3152		CKSRYB102K50
C	3153		CKSRYB102K50
C	3154		CCSRCH101J50
C	3155		CCSRCH101J50
C	3156		CKSRYB102K50
C	3157		CKSRYB104K16
C	3158		CKSRYB104K16
C	3159		CKSRYB102K50
C	3160		CKSRYB102K50
C	3251		CEV101M10
C	3252		CKSRYF105Z10
C	3253		CEV220M10
C	3254		CKSRYF105Z10
C	3256		CKSRYB105K6R3
C	3258		CKSRYF105Z10
C	3259		CEVQ101M10
C	3260		CKSRYF104Z25

=====Circuit Symbol and No.		===Part Name	Part No.
C	3261		CEVQ101M10
C	3601		CEVQ220M16
C	3602		CKSRYB473K50
C	3603		CKSRYF104Z25
C	3604		CEVQ220M16
C	3605		CKSRYB184K10
C	3606		CKSRYB473K50
C	3607		CKSRYB224K16
C	3608		CEV100M16
C	3609		CKSRYF104Z25
C	3610		CEV220M16
C	3611		CKSRYB103K50
C	3612		CSZSR100M16
C	3753		CKSRYB104K16
C	3754		CKSRYB104K16
C	3851		CKSRYF104Z25
C	3852		CKSRYB471K50
C	3853		CCSRCH680J50
C	3854		CKSRYF105Z10
C	3855		CKSRYB471K50
C	3856		CEV100M16
C	3857		CKSRYB105K10
C	3858		CKSRYB474K10
C	3859		CKSRYB105K10
C	3860		CKSRYB474K10
C	3861		CCSRCH680J50
C	3862		CKSRYF105Z10
C	3901		CEV100M16
C	3902		CCSRCH151J50
C	3903		CCSRCH330J50
C	3904		CCSRCH151J50
C	3905		CCSRCH330J50
C	3907		CKSRYF104Z25
C	3909		CEVNP100M16
C	3910		CEVNP100M16
C	3911		CKSRYF104Z25
C	3912		CKSRYB105K6R3
C	3913		CEV100M16
C	3914		CEV100M16
C	3915		CKSRYF104Z25
C	3918		CKSRYB105K10
C	3920		CSZSR100M16
C	3926		CKSRYF105Z10
C	3927		CKSRYB105K6R3
C	3928		CEV1R0M50
C	3929		CKSRYF104Z25
C	3930		CKSRYB105K10
C	3931		CEVQ101M10
C	3932		CKSRYB103K50
C	3933		CKSRYF104Z25
C	3951		CKSRYB561K50
C	3952		CKSRYB105K6R3
C	3953		CKSRYB391K50
C	3954		CKSRYB102K50
C	3955		CKSRYF104Z25
C	3956		CKSRYB105K6R3
C	3958		CKSRYB105K6R3
C	3959		CKSRYB221K50
C	3960		CKSRYB561K50
C	3962		CEV220M16
C	3963		CCSRCH121J50
C	3964		CEVNP2R2M35
C	3965		CEVNP2R2M35
C	3971		CKSRYB391K50
C	3972		CKSRYB471K50

=====Circuit Symbol and No.	Part Name	Part No.
C 3973		CCSRCH121J50
C 3974		CCSRCH820J50
C 3975		CKSRYB102K50
C 3976		CEV220M16
C 3977		CKSRYF104Z25
C 3978		CKSRYB105K10
C 3980		CKSRYB105K10
C 5001		CKSRYB105K6R3
C 5002		CEV1R0M50
C 5003		CEV1R0M50
C 5004		CEV1R0M50
C 5005		CEV1R0M50
C 5006		CEV1R0M50
C 5008		CKSRYB102K50
C 5010		CKSRYB102K50
C 5011		CKSRYB102K50
C 5012		CKSRYB102K50
C 5013		CKSRYB102K50
C 5014		CKSRYB102K50
C 5015		CEV330M6R3
C 5022		CKSRYB105K6R3
C 5023		CKSRYB103K25
C 5025		CEV100M16
C 5026		CKSRYB473K16
C 5027		CEV220M6R3
C 5028		CKSRYB473K16
C 5029		CKSRYB103K50

G Unit Number : CWX2453
Unit Name : DVD Core Unit V

MISCELLANEOUS

IC	1100	IC	AN8702FH
IC	1101	IC	NJM2904M
IC	1200	IC	MN677061ZYUB
IC	1300	IC	BA5985FM
IC	1400	IC	MNZS25BDAUB
IC	1401	IC	TC74LCX245FT
IC	1403	IC	TC74LCX244FT
IC	1404	IC	TC74LCX244FT
IC	1405	IC	TC7SH04FU
IC	1500	IC	MSM56V16160F8TKFM
IC	1501	IC	MSM56V16160F8TKFM
IC	1502	IC	MN677532JAUB
IC	1503	IC	TC74VCX74FT
IC	1504	IC	TC74VCX04FT
IC	1506	IC	SM8703AV
IC	1509	IC	TC74VCX74FT
IC	1601	IC	AK4380VT
IC	1700	IC	PE5277B
IC	1701	IC	M5M5V216ATP-70HI
IC	1702	IC	PD6354B
IC	1704	IC	TC74VCX08FT
IC	1705	IC	TC7SH04FU
IC	1706	IC	TC7SH32FU
IC	1801	IC	BA05SFP
IC	1802	IC	BA033SFP
IC	1803	IC	BA18BC0WFP
IC	1804	IC	BA00BC0WFP
Q	1102	Transistor	2SD601A
Q	1104	Transistor	2SB1260
Q	1105	Transistor	2SB709A
Q	1107	Transistor	UN2211
Q	1108	Transistor	2SB1260
Q	1109	Chip Transistor	2SC2712
Q	1110	Chip Transistor	2SC2712
Q	1111	Chip Transistor	2SC2712

=====Circuit Symbol and No.	Part Name	Part No.
Q 1600	Transistor	2SA1037K
Q 1601	Transistor	2SA1037K
Q 1602	Transistor	FMG12
Q 1603	Transistor	IMD2A
Q 1700	Transistor	DTA123JK
D 1100	Diode	1SS355
D 1101	Diode	1SS355
D 1401	Diode	UDZ2R7(B)
D 1601	Chip Diode	MA151WA
D 1800	Diode	S2G-6600
D 1801	Diode	S2G-6600
D 1802	Diode	S2G-6600
D 1803	Diode	S2G-6600
D 1804	Diode	1SR154-400
L 1201	Inductor	CTF1409
L 1202	Inductor	CTF1409
L 1401	Inductor	CTF1409
L 1402	Inductor	CTF1409
L 1403	Inductor	CTF1395
L 1404	Inductor	CTF1473
L 1500	Inductor	CTF1395
L 1501	Inductor	CTF1394
L 1502	Inductor	CTF1409
L 1503	Inductor	CTF1399
L 1504	Inductor	CTF1399
L 1505	Inductor	CTF1399
L 1506	Inductor	CTF1409
L 1507	Inductor	CTF1473
L 1508	Inductor	CTF1473
L 1509	Inductor	CTF1473
L 1512	Inductor	CTF1470
L 1600	Inductor	CTF1473
L 1602	Inductor	CTF1399
L 1700	Inductor	CTF1395
L 1701	Inductor	CTF1409
L 1702	Inductor	CTF1473
L 1704	Inductor	CTF1473
L 1720	Inductor	CTF1473
L 1732	Inductor	CTF1547
L 1759	Inductor	CTF1547
L 1760	Inductor	CTF1547
X 1500	Radiator 27MHz	CSS1531
X 1700	Ceramic Resonator 4.97MHz	CSS1575
S 1301	Spring Switch(CLAMP)	CSN1051
S 1302	Spring Switch(L/E ON/OFF)	CSN1051
S 1303	Spring Switch(8cm DETECT)	CSN1051
S 1304	Spring Switch(12cm DETECT)	CSN1051
VR 1500	Semi-fixed 2.2kΩ(B)	CCP1177
F 1600	Filter	CTF1515

RESISTORS

R	1101	RS1/16SS330J
R	1102	RS1/16SS3R9J
R	1103	RS1/16SS330J
R	1104	RS1/16SS3R9J
R	1105	RS1/16SS122J
R	1106	RS1/16SS472J
R	1107	RS1/16S6201D
R	1108	RS1/16SS3R9J
R	1109	RS1/16SS3R9J
R	1110	RS1/16S1002D
R	1113	RS1/16S2402D
R	1114	RS1/16SS823J
R	1115	RS1/16SS682J
R	1116	RS1/16SS3R9J
R	1117	RS1/16SS3R9J

=====Circuit Symbol and No.	===Part Name	Part No.
R	1118	RS1/16SS223J
R	1119	RS1/16SS202J
R	1120	RS1/16SS105J
R	1121	RS1/16SS105J
R	1122	RS1/16SS103J
R	1123	RS1/16SS103J
R	1124	RS1/16SS103J
R	1125	RS1/16SS103J
R	1126	RS1/16SS103J
R	1127	RS1/16SS103J
R	1128	RS1/16SS3R9J
R	1129	RS1/16SS3R9J
R	1130	RS1/16SS102J
R	1131	RS1/16SS102J
R	1132	RS1/16SS102J
R	1133	RS1/16SS102J
R	1134	RS1/16SS102J
R	1135	RAB4CQ0R0J
R	1136	RS1/16SS133J
R	1137	RS1/16SS133J
R	1138	RS1/16SS0R0J
R	1139	RS1/16SS0R0J
R	1140	RS1/16SS0R0J
R	1141	RS1/16SS0R0J
R	1142	RS1/16SS183J
R	1143	RS1/16SS273J
R	1144	RS1/16SS273J
R	1145	RS1/16SS0R0J
R	1146	RS1/16SS0R0J
R	1147	RS1/16SS0R0J
R	1148	RS1/16SS0R0J
R	1149	RS1/16SS102J
R	1150	RS1/16SS102J
R	1151	RS1/16SS102J
R	1152	RS1/16SS154J
R	1153	RS1/16SS154J
R	1154	RS1/16SS154J
R	1156	RS1/16SS224J
R	1157	RS1/16SS0R0J
R	1201	RS1/16SS203J
R	1202	RS1/16SS102J
R	1203	RS1/16SS471J
R	1204	RS1/16SS221J
R	1205	RS1/16SS221J
R	1206	RS1/16SS473J
R	1207	RS1/16SS101J
R	1208	RS1/16SS101J
R	1209	RS1/16SS473J
R	1210	RS1/16SS222J
R	1212	RS1/16SS473J
R	1213	RS1/16SS101J
R	1215	RS1/16SS123J
R	1216	RS1/16SS473J
R	1219	RS1/16SS123J
R	1220	RS1/16SS105J
R	1221	RS1/16SS562J
R	1222	RS1/16SS273J
R	1223	RS1/16SS273J
R	1226	RS1/16SS153J
R	1227	RS1/16SS123J
R	1228	RS1/16SS472J
R	1229	RS1/16SS472J
R	1230	RS1/16SS472J
R	1231	RS1/16SS273J
R	1232	RS1/16S6801D

=====Circuit Symbol and No.	===Part Name	Part No.
R	1233	RS1/16SS273J
R	1234	RS1/16SS183J
R	1235	RS1/16SS102J
R	1242	RAB4CQ221J
R	1245	RS1/16SS562J
R	1246	RS1/16SS242J
R	1251	RS1/16SS473J
R	1255	RS1/16SS0R0J
R	1257	RS1/16S221J
R	1258	RS1/16SS221J
R	1259	RS1/16SS221J
R	1260	RS1/16SS221J
R	1261	RS1/16SS221J
R	1262	RS1/16SS273J
R	1263	RS1/16SS273J
R	1264	RS1/16SS104J
R	1301	RS1/16S3902D
R	1302	RS1/16S3902D
R	1303	RS1/16S3002D
R	1304	RS1/16S3902D
R	1305	RS1/16SS221J
R	1306	RS1/16SS0R0J
R	1307	RS1/16SS221J
R	1308	RS1/16S3002D
R	1310	RS1/16SS102J
R	1311	RS1/16S3902D
R	1312	RS1/16S0R0J
R	1314	RS1/16SS221J
R	1321	RS1/16SS221J
R	1323	RS1/16SS104J
R	1324	RS1/16SS473J
R	1325	RS1/16SS273J
R	1400	RAB4CQ681J
R	1401	RAB4CQ681J
R	1402	RAB4CQ103J
R	1403	RS1/16SS222J
R	1404	RAB4CQ820J
R	1405	RS1/16SS221J
R	1406	RS1/16SS103J
R	1407	RAB4CQ220J
R	1408	RAB4CQ220J
R	1409	RS1/16SS103J
R	1410	RAB4CQ220J
R	1411	RAB4CQ220J
R	1412	RAB4CQ0R0J
R	1413	RS1/16SS681J
R	1414	RS1/16SS820J
R	1415	RS1/16SS100J
R	1416	RS1/16SS681J
R	1417	RS1/16SS103J
R	1418	RS1/16SS681J
R	1419	RS1/16SS103J
R	1420	RS1/16SS103J
R	1421	RS1/16SS820J
R	1422	RS1/16SS820J
R	1423	RS1/16SS103J
R	1424	RS1/16SS220J
R	1425	RS1/16SS104J
R	1426	RS1/16SS103J
R	1429	RS1/16S470J
R	1430	RS1/16SS101J
R	1431	RS1/16SS103J
R	1434	RS1/16SS681J
R	1436	RS1/16SS103J
R	1437	RS1/16SS103J

=====Circuit Symbol and No.	===Part Name	Part No.
R	1438	RS1/16SS221J
R	1439	RAB4CQ0R0J
R	1440	RAB4CQ0R0J
R	1441	RS1/16SS0R0J
R	1442	RS1/16SS221J
R	1443	RS1/16SS221J
R	1500	RS1/16SS560J
R	1501	RS1/16SS560J
R	1502	RS1/16SS560J
R	1503	RS1/16SS560J
R	1504	RS1/16SS560J
R	1505	RS1/16SS560J
R	1506	RS1/16SS560J
R	1507	RS1/16SS560J
R	1508	RS1/16SS560J
R	1509	RS1/16SS560J
R	1510	RS1/16SS560J
R	1511	RS1/16SS560J
R	1513	RS1/16SS750J
R	1514	RS1/16SS622J
R	1515	RS1/16SS162J
R	1516	RS1/16SS182J
R	1517	RS1/16SS201J
R	1518	RS1/16SS201J
R	1519	RS1/16S101J
R	1520	RS1/16S101J
R	1521	RS1/16S101J
R	1523	RS1/16SS221J
R	1524	RS1/16S470J
R	1527	RS1/16SS103J
R	1529	RS1/16SS104J
R	1534	RS1/16SS221J
R	1535	RS1/16SS101J
R	1537	RS1/16SS391J
R	1538	RS1/16SS391J
R	1539	RAB4CQ391J
R	1540	RAB4CQ391J
R	1541	RAB4CQ391J
R	1542	RAB4CQ391J
R	1543	RAB4CQ391J
R	1544	RAB4CQ391J
R	1545	RAB4CQ391J
R	1546	RS1/16SS103J
R	1548	RS1/16SS103J
R	1549	RS1/16SS560J
R	1550	RS1/16SS560J
R	1551	RS1/16SS560J
R	1552	RS1/16SS560J
R	1553	RS1/16SS560J
R	1554	RS1/16SS560J
R	1555	RS1/16SS560J
R	1556	RS1/16SS560J
R	1557	RS1/16SS560J
R	1558	RS1/16SS560J
R	1559	RS1/16SS560J
R	1560	RS1/16SS560J
R	1561	RS1/16SS560J
R	1562	RS1/16SS560J
R	1563	RS1/16SS560J
R	1564	RS1/16SS560J
R	1565	RS1/16SS560J
R	1566	RS1/16S101J
R	1567	RS1/16SS560J
R	1568	RS1/16SS560J
R	1569	RS1/16SS560J

=====Circuit Symbol and No.	===Part Name	Part No.
R	1570	RS1/16SS560J
R	1571	RS1/16SS560J
R	1572	RS1/16SS560J
R	1573	RS1/16SS560J
R	1574	RS1/16SS560J
R	1575	RS1/16SS560J
R	1577	RS1/16S0R0J
R	1579	RS1/16S0R0J
R	1600	RS1/16SS271J
R	1601	RS1/16SS152J
R	1602	RS1/16SS101J
R	1604	RS1/16S3300D
R	1605	RS1/16SS122J
R	1606	RS1/16SS0R0J
R	1623	RS1/16SS102J
R	1624	RS1/16SS102J
R	1625	RS1/16SS223J
R	1626	RS1/16SS223J
R	1628	RS1/16S68R0D
R	1634	RS1/16SS472J
R	1635	RS1/16SS472J
R	1636	RS1/16SS472J
R	1637	RS1/16SS472J
R	1701	RN1/16SE1502D
R	1702	RS1/16SS221J
R	1703	RS1/16SS221J
R	1704	RS1/16SS104J
R	1705	RS1/16SS103J
R	1706	RS1/16SS103J
R	1707	RS1/16SS221J
R	1708	RS1/16SS0R0J
R	1709	RS1/16SS221J
R	1710	RS1/16SS473J
R	1711	RS1/16SS330J
R	1712	RS1/16SS0R0J
R	1713	RS1/16SS104J
R	1714	RS1/16SS104J
R	1715	RS1/16SS472J
R	1716	RS1/16SS104J
R	1717	RS1/16SS473J
R	1718	RS1/16SS104J
R	1719	RS1/16SS104J
R	1720	RS1/16SS473J
R	1721	RS1/16SS104J
R	1722	RS1/16SS104J
R	1723	RS1/16SS473J
R	1724	RS1/16SS221J
R	1725	RS1/16S0R0J
R	1726	RS1/16SS104J
R	1727	RS1/16SS103J
R	1728	RS1/16SS104J
R	1729	RS1/16SS104J
R	1730	RS1/16SS473J
R	1733	RS1/16SS104J
R	1734	RS1/16SS104J
R	1735	RS1/16SS222J
R	1736	RS1/16SS221J
R	1737	RS1/16SS221J
R	1738	RS1/16SS104J
R	1739	RS1/16SS103J
R	1740	RS1/16SS103J
R	1741	RS1/16SS221J
R	1742	RS1/16SS104J
R	1743	RS1/16SS221J
R	1744	RS1/16SS221J

=====Circuit Symbol and No.	===Part Name	Part No.
R	1745	RS1/16SS221J
R	1746	RS1/16SS221J
R	1747	RS1/16SS222J
R	1748	RS1/16SS473J
R	1749	RS1/16SS104J
R	1750	RS1/16SS472J
R	1751	RS1/16SS103J
R	1752	RS1/16SS104J
R	1753	RS1/16SS104J
R	1754	RS1/16SS104J
R	1755	RS1/16SS104J
R	1756	RS1/16SS473J
R	1757	RS1/16SS472J
R	1758	RS1/16SS104J
R	1762	RS1/16SS104J
R	1763	RS1/16SS104J
R	1764	RS1/16SS104J
R	1766	RS1/16SS104J
R	1771	RS1/16SS104J
R	1772	RS1/16SS104J
R	1773	RS1/16SS104J
R	1774	RS1/16SS473J
R	1775	RS1/16SS221J
R	1776	RS1/16SS104J
R	1777	RS1/16SS104J
R	1778	RS1/16SS0R0J
R	1801	RS1/16S3902D
R	1802	RS1/16S3302D
R	1808	RS1/16SS102J
R	1809	RS1/16SS102J

CAPACITORS

C	1100	CKSRYB105K10
C	1101	CKSRYB473K25
C	1102	CKSSYB103K16
C	1103	CSZSR101M6R3
C	1104	CKSSYB104K10
C	1105	CKSSYB104K10
C	1106	CKSRYB473K25
C	1107	CKSSYB103K16
C	1108	CSZSR101M6R3
C	1109	CKSSYB104K10
C	1110	CKSRYB154K10
C	1111	CCSSCH221J25
C	1114	CCSSCH330J50
C	1115	CKSSYB104K10
C	1116	CCSSCH221J25
C	1117	CKSRYB105K10
C	1118	CKSSYB104K10
C	1119	CKSSYB104K10
C	1120	CKSSYB104K10
C	1121	CKSSYB104K10
C	1122	CSZSC470M16
C	1123	CKSRYB273K25
C	1124	CKSSYB104K10
C	1125	CKSSYB104K10
C	1126	CKSSYB473K10
C	1127	CCSRCH561J50
C	1128	CKSSYB104K10
C	1129	CKSSYB104K10
C	1130	CCSRCH102J50
C	1131	CCSSCH120J50
C	1133	CCSRCH561J50
C	1134	CKSSYB104K10
C	1136	CCSSCH101J50
C	1137	CCSSCH101J50
C	1138	CCSSCH101J50

=====Circuit Symbol and No.	===Part Name	Part No.
C	1139	CKSSYB104K10
C	1140	CKSSYB103K16
C	1141	CKSSYB104K10
C	1142	CKSSYB104K10
C	1143	CKSSYB473K10
C	1144	CKSSYB473K10
C	1145	CKSSYB103K16
C	1146	CKSSYB473K10
C	1148	CKSSYB103K16
C	1201	CKSRYB105K10
C	1202	CCSSCH101J50
C	1203	CKSRYB474K10
C	1204	CCSRCH561J50
C	1205	CCSRCH331J50
C	1206	CKSRYB105K10
C	1207	CKSSYB104K10
C	1208	CCSRCH471J50
C	1209	CCSRCH391J50
C	1210	CKSRYB105K10
C	1211	CCSSCH101J50
C	1212	CKSSYB104K10
C	1213	CKSRYB474K10
C	1214	CCSRCH102J50
C	1215	CCSRCH102J50
C	1216	CKSSYB562K25
C	1217	CCSRCH102J50
C	1218	CKSSYB104K10
C	1219	CKSSYB104K10
C	1220	CKSRYB474K10
C	1221	CCSSCH470J50
C	1222	CKSRYB183K25
C	1223	CCSRCH102J50
C	1224	CKSSYB104K10
C	1225	CKSSYB104K10
C	1227	CKSSYB103K16
C	1228	CKSSYB104K10
C	1229	CCSRCH102J50
C	1230	CKSSYB103K16
C	1231	CKSSYB104K10
C	1232	CKSRYB154K10
C	1233	CKSSYB104K10
C	1234	CKSSYB104K10
C	1235	CKSSYB104K10
C	1236	CKSSYB471K50
C	1241	CKSSYB103K16
C	1242	CKSSYB103K16
C	1243	CKSSYB104K10
C	1300	CKSSYB103K16
C	1301	CKSSYB103K16
C	1304	CKSRYB104K16
C	1305	CEV101M16
C	1308	CKSSYB104K10
C	1400	CKSSYB104K10
C	1401	CKSSYB104K10
C	1402	CKSSYB104K10
C	1403	CKSSYB104K10
C	1404	CKSSYB104K10
C	1405	CKSSYB104K10
C	1406	CKSSYB104K10
C	1407	CKSSYB104K10
C	1408	CKSSYB104K10
C	1409	CKSSYB104K10
C	1410	CKSSYB104K10
C	1411	CKSSYB104K10
C	1412	CKSSYB104K10

=====Circuit Symbol and No.		===Part Name	Part No.
C	1413		CKSSYB104K10
C	1414		CKSRYB105K10
C	1415		CKSSYB104K10
C	1416		CKSSYB104K10
C	1417		CCSSCH181J25
C	1418		CKSSYB471K50
C	1419		CKSSYB104K10
C	1421		CKSSYB104K10
C	1422		CKSSYB104K10
C	1423		CKSSYB104K10
C	1500		CKSSYB104K10
C	1501		CKSSYB224K6R3
C	1502		CKSSYB104K10
C	1503		CKSSYB224K6R3
C	1504		CKSSYB224K6R3
C	1505		CKSSYB224K6R3
C	1506		CSZSC101M10
C	1507		CKSSYB104K10
C	1508		CKSSYB104K10
C	1509		CKSSYB224K6R3
C	1510		CKSSYB224K6R3
C	1511		CKSSYB104K10
C	1512		CKSSYB104K10
C	1513		CKSSYB104K10
C	1514		CKSSYB104K10
C	1515		CKSSYB104K10
C	1516		CKSSYB104K10
C	1517		CKSSYB104K10
C	1518		CKSSYB104K10
C	1519		CKSSYB104K10
C	1520		CKSSYB104K10
C	1521		CKSSYB104K10
C	1522		CKSSYB104K10
C	1523		CKSSYB104K10
C	1524		CKSSYB104K10
C	1525		CKSSYB104K10
C	1526		CKSSYB104K10
C	1527		CKSSYB104K10
C	1528		CKSSYB104K10
C	1529		CKSSYB471K50
C	1530		CKSSYB104K10
C	1532		CKSSYB104K10
C	1534		CCSSCH150J50
C	1535		CKSSYB104K10
C	1536		CKSSYB104K10
C	1537		CCSSCH150J50
C	1538		CKSSYB104K10
C	1539		CKSSYB104K10
C	1540		CKSRYB105K10
C	1541		CKSRYB105K10
C	1542		CKSSYB104K10
C	1543		CKSSYB104K10
C	1544		CKSSYB104K10
C	1545		CKSSYB104K10
C	1546		CKSSYB104K10
C	1547		CKSSYB104K10
C	1548		CKSSYB104K10
C	1549		CKSSYB104K10
C	1550		CKSSYB104K10
C	1551		CKSSYB104K10
C	1552		CKSSYB104K10
C	1553		CKSSYB104K10
C	1554		CKSSYB104K10
C	1555		CKSSYB104K10
C	1556		CKSSYB104K10

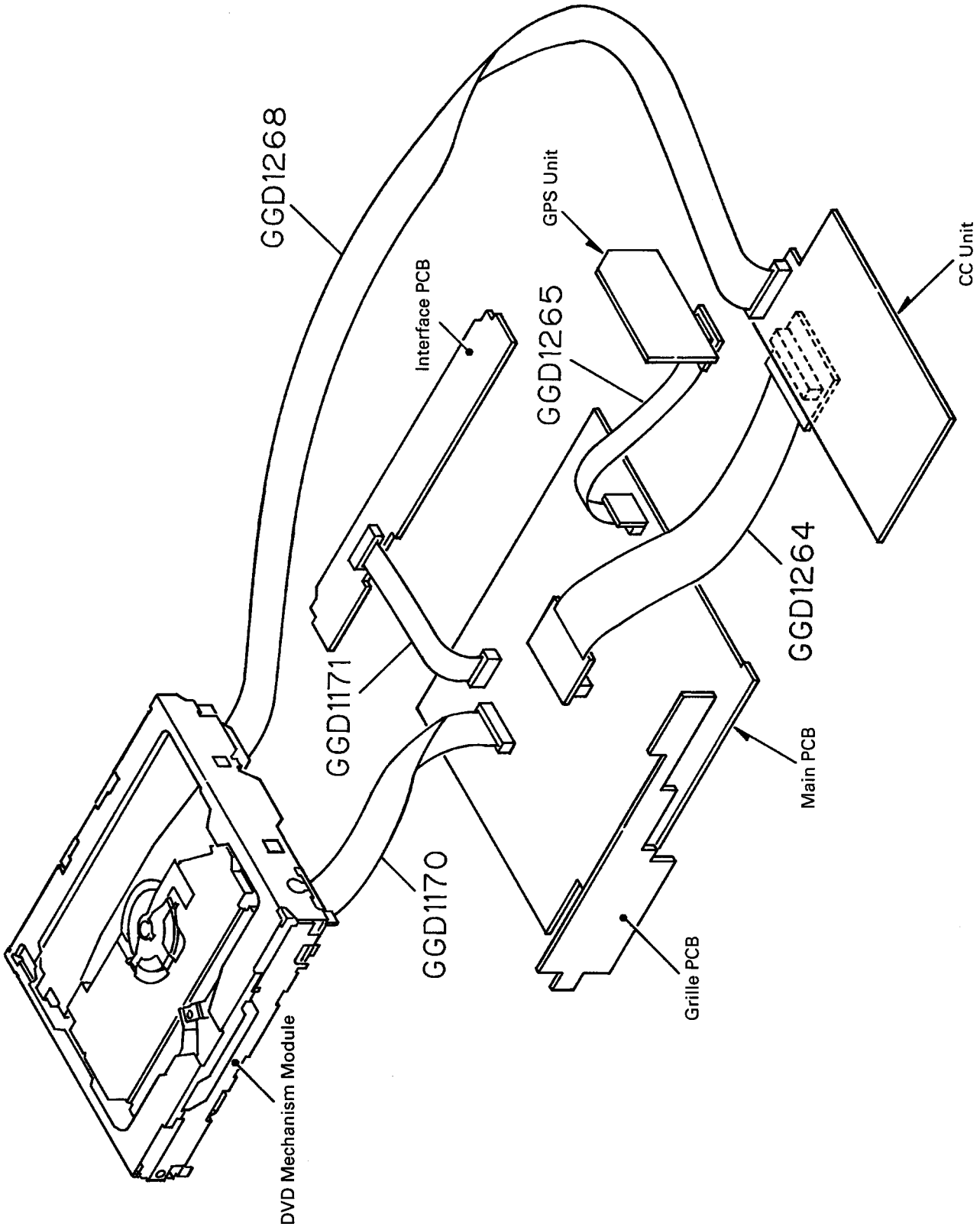
=====Circuit Symbol and No.		===Part Name	Part No.
C	1570		CSZSR101M6R3
C	1571		CSZSR101M6R3
C	1572		CEV101M10
C	1573		CEV101M10
C	1574		CSZSC470M10
C	1575		CSZSC470M10
C	1576		CKSSYB104K10
C	1577		CKSSYB104K10
C	1578		CKSSYB104K10
C	1579		CKSSYB104K10
C	1600		CKSRYB104K16
C	1601		CSZSR4R7M16
C	1602		CKSSYB102K50
C	1608		CSZSR4R7M16
C	1609		CSZSR4R7M16
C	1634	10µF/10V	CCH1349
C	1635	10µF/10V	CCH1349
C	1636		CKSSYB104K10
C	1637		CKSSYB104K10
C	1700		CKSSYB104K10
C	1701		CKSSYB104K10
C	1702		CKSRYB105K10
C	1703		CKSRYB105K10
C	1704		CKSSYB104K10
C	1705		CKSRYB105K10
C	1706		CKSSYB104K10
C	1707		CKSRYB105K10
C	1708		CKSSYB104K10
C	1709		CKSSYB104K10
C	1710		CKSSYB104K10
C	1711		CKSSYB104K10
C	1712		CKSSYB103K16
C	1713		CKSSYB104K10
C	1714		CKSYB106K6R3
C	1715		CKSSYB104K10
C	1716		CKSSYB104K10
C	1717		CKSSYB104K10
C	1719		CKSSYB471K50
C	1720		CKSSYB103K16
C	1721		CKSSYB104K10
C	1722		CKSSYB103K16
C	1800		CKSRYB474K10
C	1801		CKSRYB474K10
C	1802		CKSRYB474K10
C	1803		CKSRYB474K10
C	1804	22µF/6.3V	CCH1300
C	1805	22µF/6.3V	CCH1300
C	1808		CSZSC101M10
C	1809		CCSRCH102J50
C	1810		CCSRCH102J50
C	1811		CSZSR101M6R3
C	1812		CSZSC101M10

Miscellaneous Parts List

		Pickup Unit(Service)(DP4)	CXX1530
M	1	Motor Unit(LOADING)	CXB5960
M	2	Motor Unit(CARRIAGE)	CXB5955
M	3	Motor(SPINDLE)	CXB6218
		Fan Motor	CXM1192

6. ADJUSTMENT

6.1 JIG CONNECTION DIAGRAM



6.2 DVD ADJUSTMENT

Cautions for servicing

This product uses 5V and 3.3V as standard voltages. The electrical potential that is the reference for signals, is not GND, but VREF (approximately 2.2V) and VHALF (approximately 1.65V).

During product adjustments, if the reference voltage is mistakenly taken as GND, and a grounding contact is made, not only would it be impossible to measure the accurate electrical potential, but also the servo motor would malfunction, resulting in the application of a strong impact on the pick up. The following precautionary measures should be strictly adhered to, in order to avoid such problems.

The reference voltage and GND should not be confused when using the minus probe of a measurement device. When an oscilloscope is being used special care should be taken to make sure that the reference voltage is not connected to the probe of ch1 (on the minus side), while the probe of ch2 (on the minus side), is connected to GND. Further, since the body frame of most measurement devices have the same electrical potential as the minus side of the probe, the body frame of the measurement device should be set to floating ground.

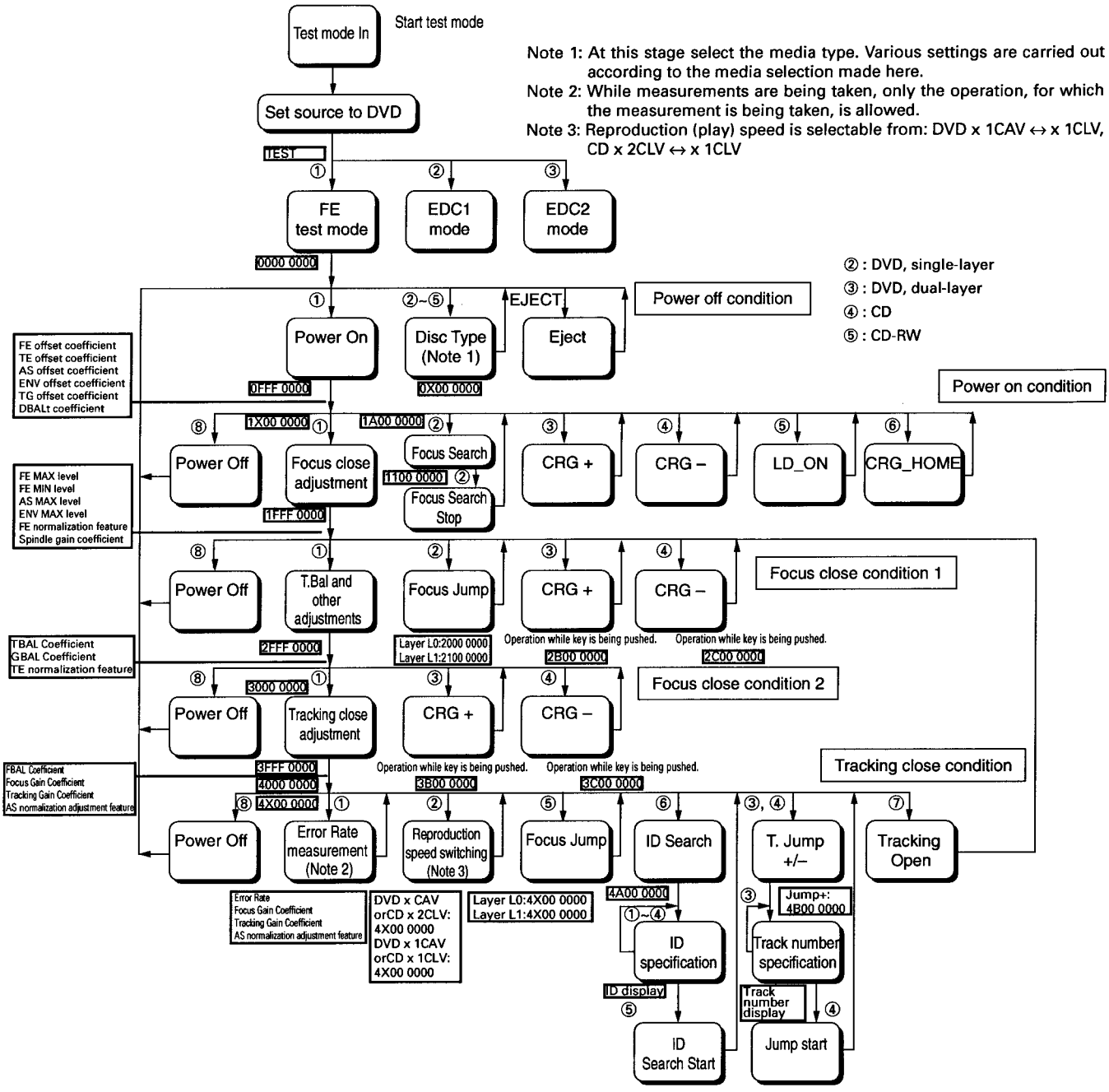
If the reference voltage is connected to GND by mistake, turn the regulator OFF immediately, or turn the power OFF.

- Remove the filters and wires used for measurements only after the regulator has been turned OFF.
- After the power supply is turned on, regulator ON the following adjustment and measurement are promptly done.
- Whenever the product is in the test mode, the software will not take any protective action. For this reason, special care should be taken to make sure that no mechanical or electrical shock could be applied to the product when taking measurements in the test mode.
- Whenever the EJECT key is pressed to eject the disk, no other keys, other than the EJECT key, should be pressed until the disk eject action has been completed.
- Press the EJECT key only after the disk has stopped completely.
- If the product hangs up turn the power OFF immediately.
- Laser didoes may be damaged, if the volume switch for the laser power adjustment of the pick up unit, is turned.

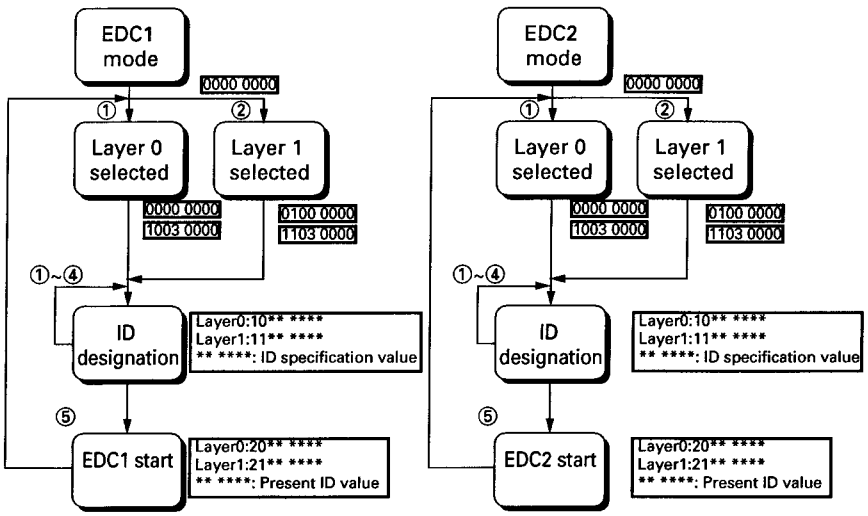
- Test mode starting procedure
  The test mode can be selected from the navigation test mode.

Please use the " remote control unit of the product accessory" after the test mode starts.

● Front-End test mode flow chart



Note 1: At this stage select the media type. Various settings are carried out according to the media selection made here.
Note 2: While measurements are being taken, only the operation, for which the measurement is being taken, is allowed.
Note 3: Reproduction (play) speed is selectable from: DVD x 1CAV ↔ x 1CLV, CD x 2CLV ↔ x 1CLV



F-close and F-search cannot be executed, unless LD-ON is set.
[If F-close isn't executed within 9 seconds after LD-ON,
it switches to LD-OFF automatically. And even if F-search is executed
within 9 seconds after LD-ON, it also switches to LD-OFF.]

The track number designation is selected from the track numbers already prepared for selection.

Switching to cyclic operation is made at step ③, and the decision is finalized (entered) in step ④.

For CD: Tracks 1, 4, 10, 11 and 32.

For DVD: Tracks 1, 4, 10, 11, 32, 64 and 100.

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 dislay
0X40	No disc	No dislay
0X30	The temperature is abnormal	Thermal Protection in Motion
0X20	Read error	Error-02-XX
0XE2	Non-playable disc	NON-PLAYABLE DISC
0X90	Drrerent region disc	DFFERENT REGION DISC
0XFF	Undefined error	Error-FF

Error code of read error(Part of XX)

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

● Skew adjustment

If any of the following replacements have been performed on the system, adjustments for pick up, must be conducted:

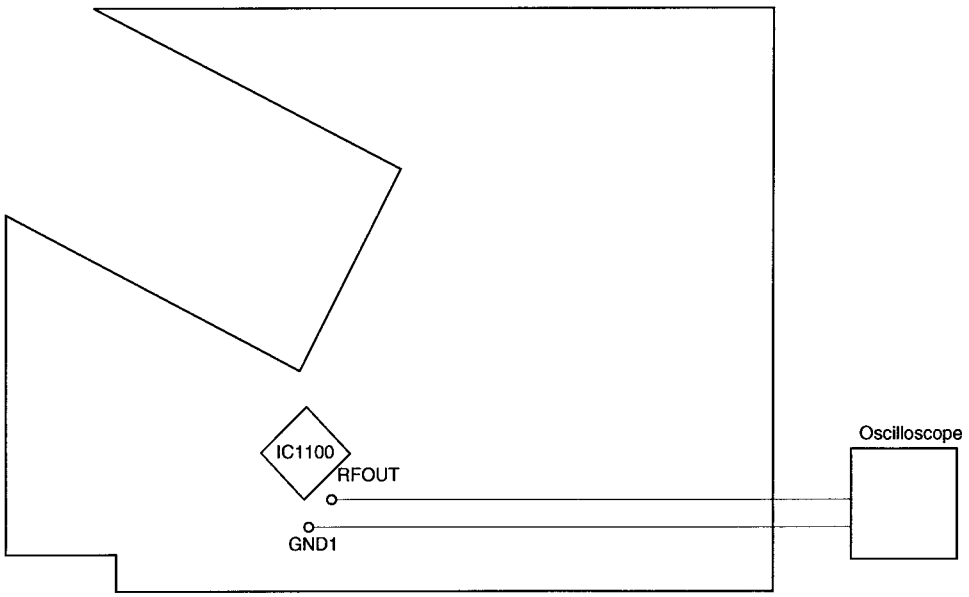
1. Pick up unit replacement
2. Spindle motor replacement
3. Carriage chassis replacement
4. Pick up unit main shaft replacement
5. Pick up unit sub-shaft replacement

Measurement device and tools : Oscilloscope
Allen key wrench
40-pin flexible extension
Adhesive material(GEM1033)
Screw rock(GYL1001)

Disk used : GGV1018
Measurement reference : GND1
Measurement point : RFOUT

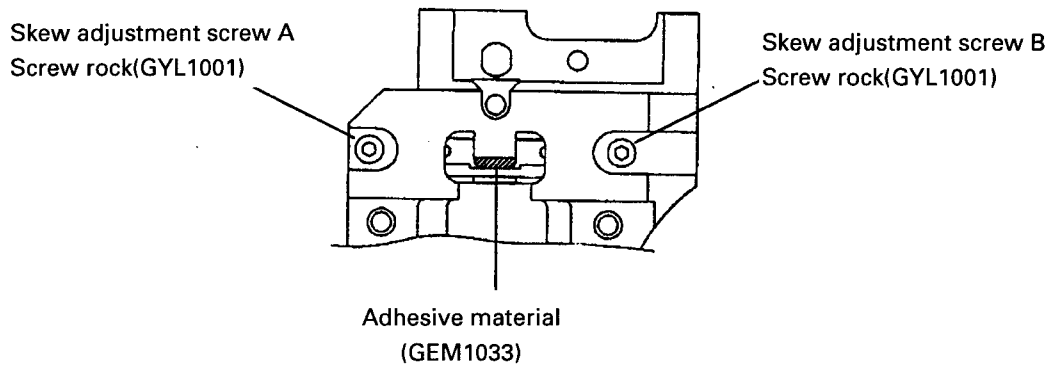
Skew adjustment connection diagram

• DVD Core Unit V

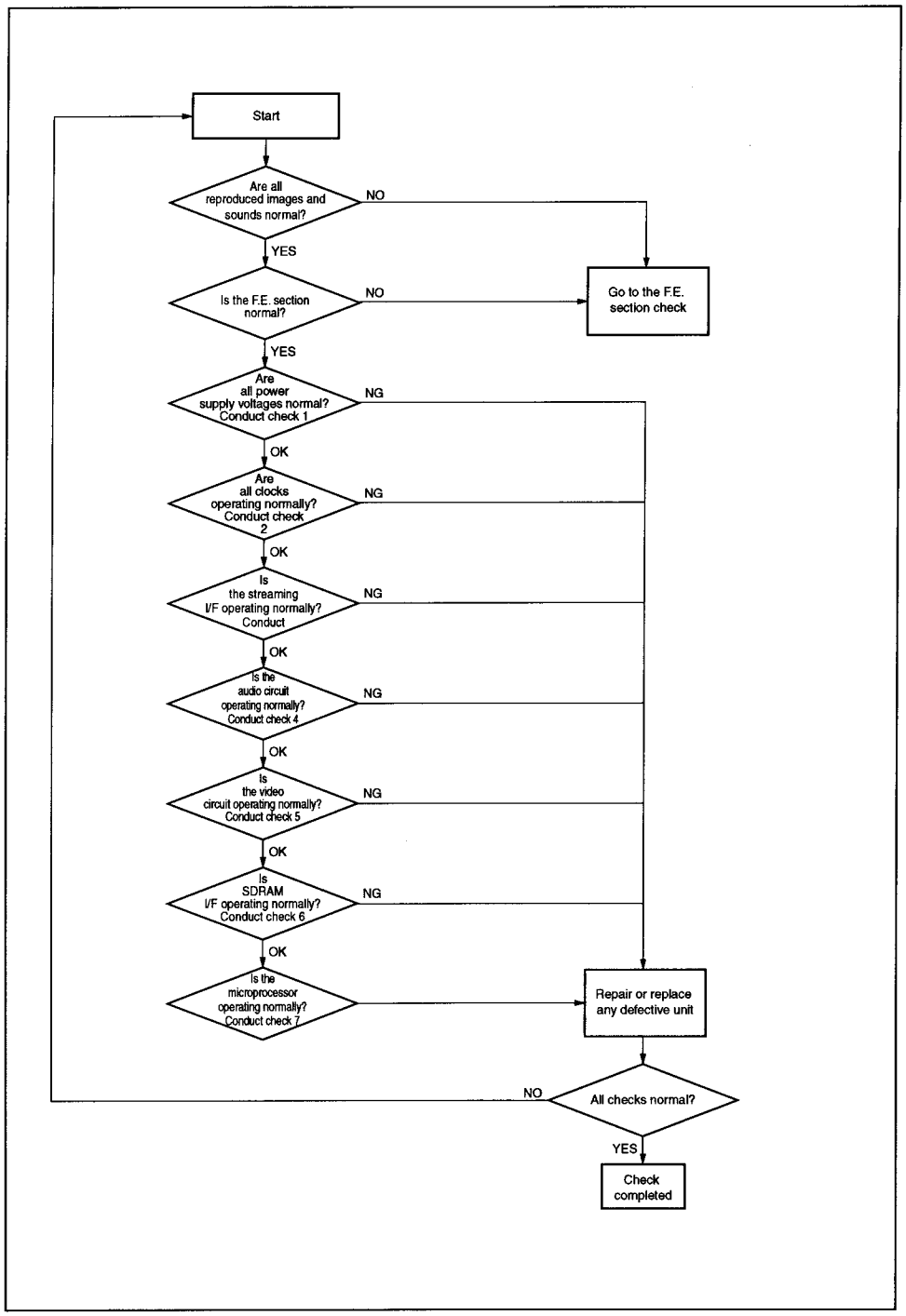


Symptoms that can occur if proper adjustments are not made: Error rate reaches 10^{-3} (10^{-4} or less under normal conditions).
The RF jitter becomes more pronounced - the RF waveform becomes deformed.
Retraction of the tracking and the servo motor, become unstable.
Cautions for performing adjustments: Do not look directly into the laser beam for any prolonged periods of time.
Procedure:
1. Replace the cable, connecting the product's main unit and the DVD mechanical module, with a 40-pin extended flexible cable (GGD1170), and turn the DVD mechanical module upside down, in order to proceed with pick-up unit adjustments.
2. Remove adhesive materials from the pick-up unit, using tweezers.
(Note) Make sure that adhesive material fragments are not scattered while removing the adhesive from the unit. Be also very careful not to exert excessive force on the actuator.
3. Connect the unit to an oscilloscope, referring to the connection diagram.
4. Turn the product power ON, and load the disk for adjustments (GGV1018).
5. Set the disk type to single-layer DVD in the front-end test mode, turn the power ON and then move the pick-up to the middle radius.
6. LD ON.
7. Close in the focus(Do not carry out 'T.Bal adjustment' and 'Tracking close'.)
8. Maximize the level by slightly turning the skew adjustment screw A, while looking at the RF waveform level on the oscilloscope.
Next, maximize the level by turning the skew adjustment screw B, slightly. Repeat this procedure three times and adjust the unit to attain a maximum level.
9. Turn the power OFF in the test mode, and eject the disk after verifying that it has stopped spinning.
10. Apply adhesive and screw lock materials, to the locations specified in the pick-up diagram (shown below).
Apply the adhesive material to secure the resin components on the pick-up chassis.
Apply the screw lock material to secure the screws on the pick-up chassis.
Do not apply any of these materials to the pick-up section or mechanical sections, which are not specified.
Keep the unit away from vibration or shock until the materials securely fix the components and screws in place.

PU diagram



● Back end section check flow chart



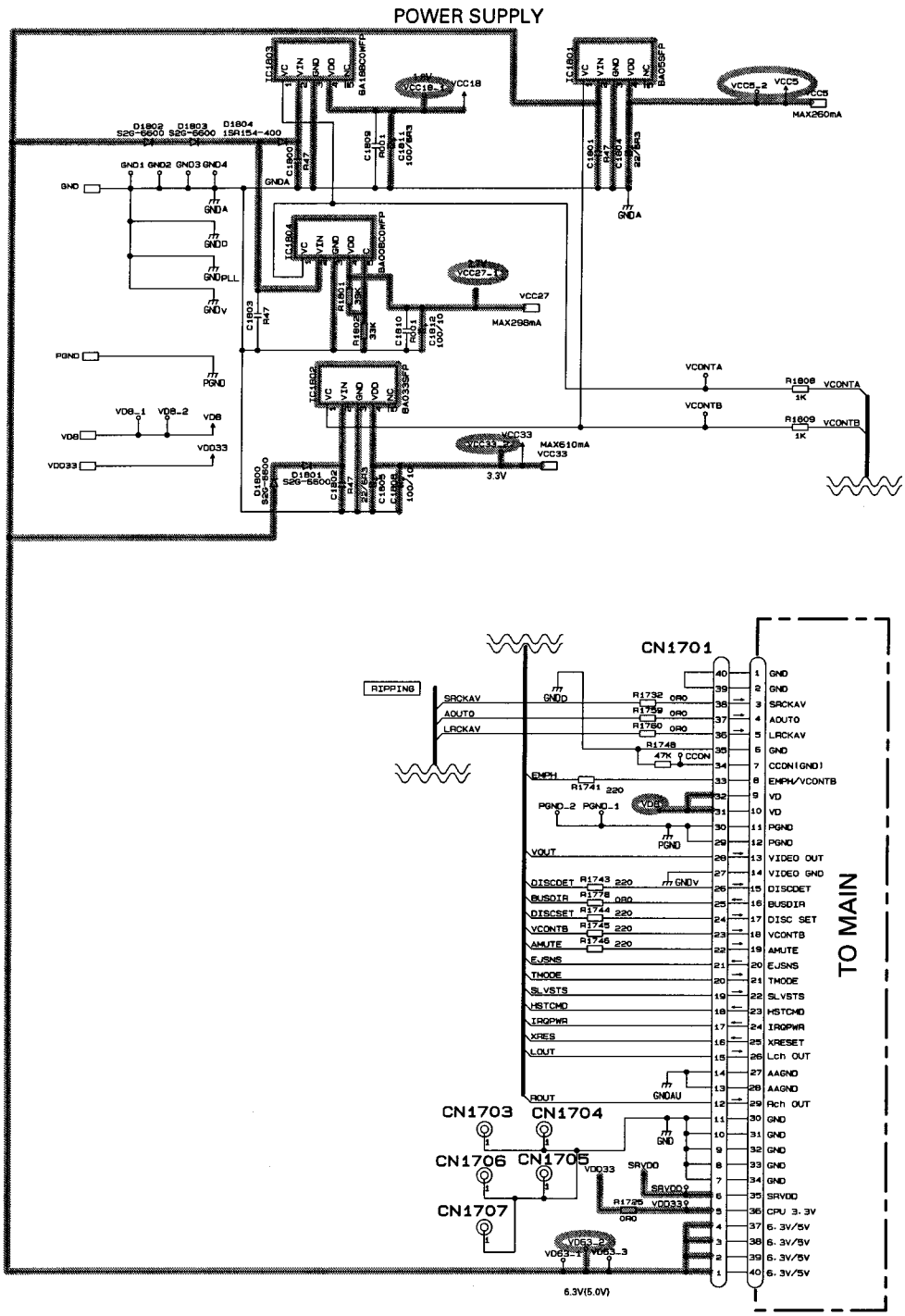
Check 1: Are all power supply voltages normal?

Reproduce DVD-REF-A1 Title 1.

Verify the voltage of the sensing pin.

If results are not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in the vicinity of IC1801 through 1804 (the section marked ① in the circuit diagram).

NO.	Verification location	Rated value	Unit
1	VD8-PGND	8±0.3	V
2	VD63-GND	6.3±0.3	V
3	VDD33-GND	3.3±0.3	V
4	SRVDD-GND	3.3±0.3	V
5	VCC5-GND	5±0.25	V
6	VCC33-GND	3.3±0.17	V
7	VCC27-GND	2.73±0.07	V
8	VCC18-GND	1.8±0.04	V



Schematic diagram ①

Check 2: Are all clocks operating normally?

Reproduce DVD-REF-A1 Title 1.

Verify the circuit described in Figure ②.

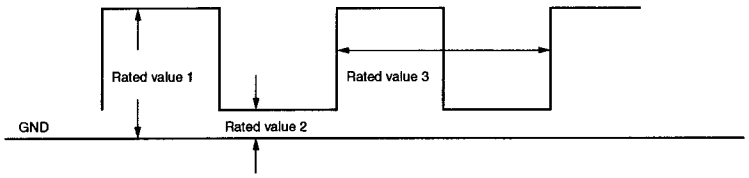
This check is the same for all DVD-V compatible modules.

Checks are to be conducted with a GND reference.

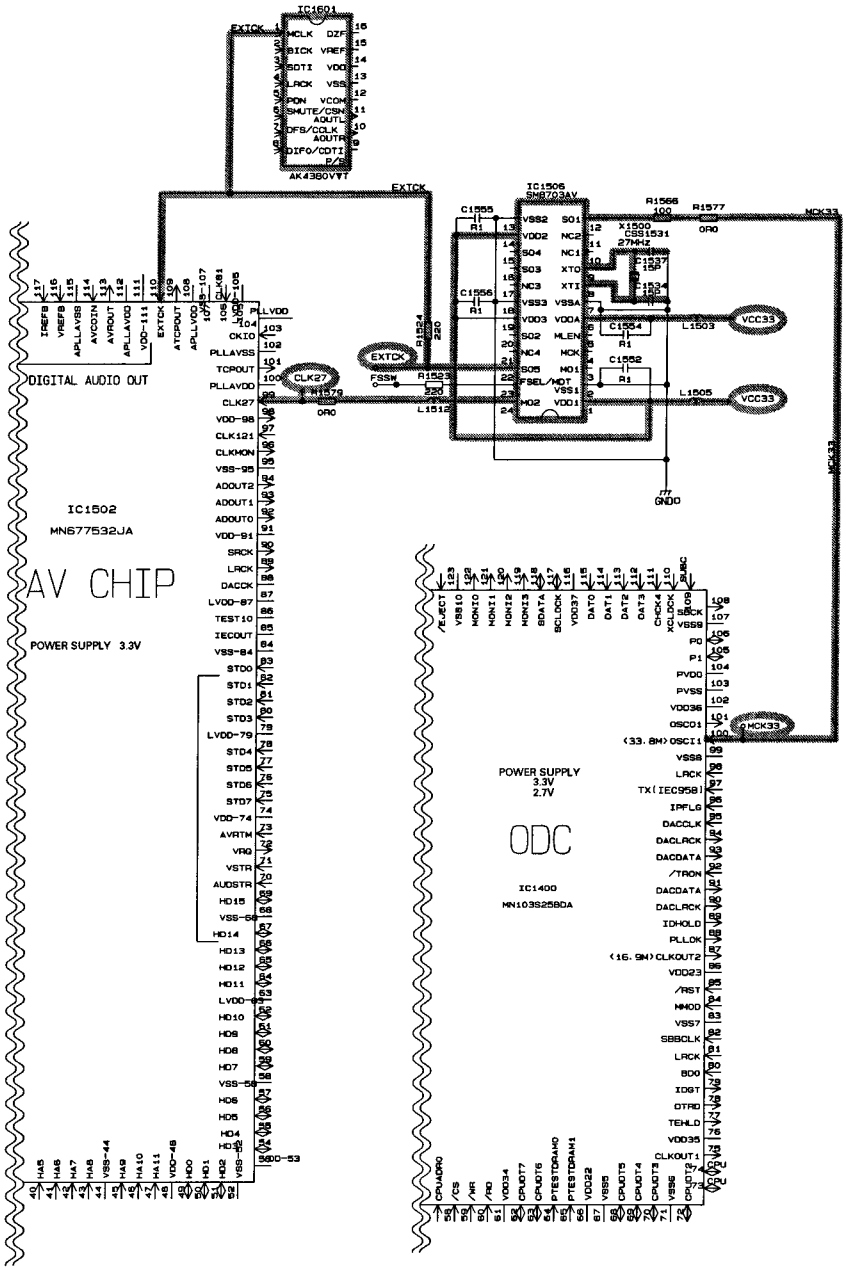
If locations listed under "verification location 2", can be verified, there will be no need to perform verifications for the locations listed under "verification location 1."

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 IC1506 (the section marked ② in the circuit diagram).

NO.	Verification location 1 (contact measurements)	Verification location 2	Media	Rated value 1	Rated value 2	Rated value 3
1	CLK27	IC1502 99pin	ALL	2.65V~VCC33	GND~0.65V	27MHz±50ppm
2	EXTCK	IC1502 110pin IC1601 1pin	DVD	2.65V~VCC33	GND~0.65V	36.8640MHz± 100ppm
3	EXTCK	IC1502 110pin IC1601 1pin	CD	2.65V~VCC33	GND~0.65V	33.8688MHz± 100ppm
4	MCK33	IC1400 100pin	ALL	2.33~VCC33	GND~0.99V	33.8688MHz±100ppm



Clock rated values



Schematic diagram ②

Check 3: Is the streaming I/F operating normally?

Reproduce DVD-REF-A1 Title 1.

Verify the circuit described in Figure ③.

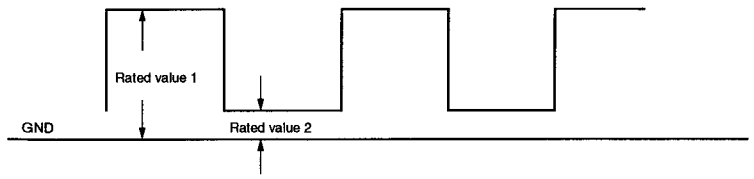
This check is the same for all DVD-V compatible modules.

Checks are to be conducted with a GND reference.

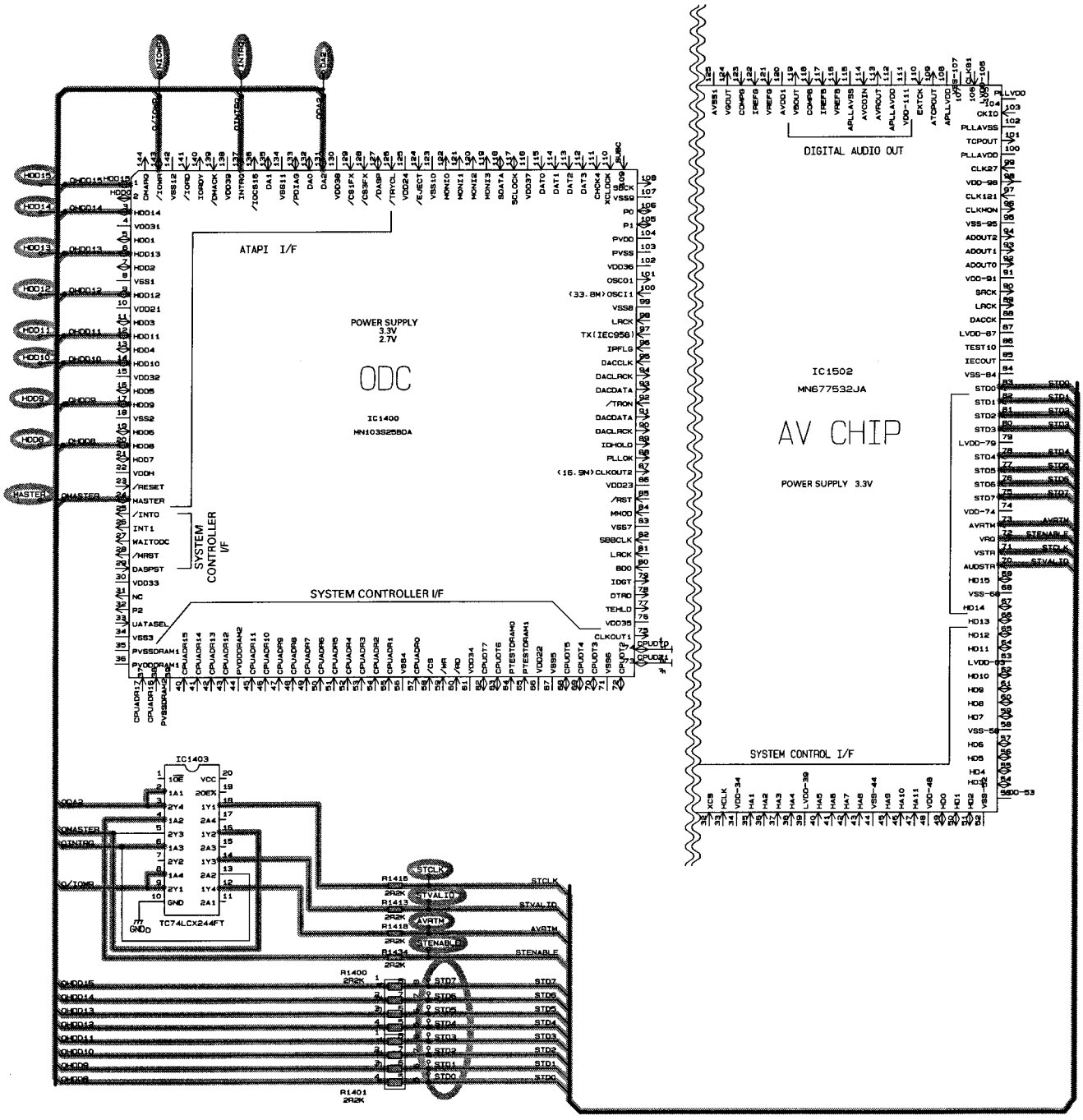
If the locations listed under "verification location 2" can be verified, then there is no need to conduct verifications for the locations listed under "verification location 1."

If the result is not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in areas where a problem occurs, for the overall sequence of "output " input" of the checked location.

NO.	Verification location 1 (contact measurements)	Verification location 2	Verification Media	Rated value 1	Rated value 2	Reference waveform	Others
1	STD0	IC1502 83pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD6 at R1401
2	STD1	IC1502 82pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD9 at R1401
3	STD2	IC1502 81pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD10 at R1401
4	STD3	IC1502 80pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD11 at R1401
5	STD4	IC1502 78pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD12 at R1401
6	STD5	IC1502 77pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD13 at R1401
7	STD6	IC1502 76pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD14 at R1401
8	STD7	IC1502 75pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD15 at R1401
9	AVRTM	IC1502 73pin	DVD	2V~VCC33	GND~0.8V	Waveform 2	Line name O/IOWR
10	STCLK	IC1502 71pin	DVD	2V~VCC33	GND~0.8V	Waveform 2	Line name ODA2
11	STVALID	IC1502 70pin	DVD	2V~VCC33	GND~0.8V	Waveform 2	Line name O/INTRO
12	MASTER	IC1400 24pin	DVD	2V~VCC33	GND~0.8V	Waveform 2	Line name STENABLE



Streaming I/F rated value



Schematic diagram ③

Check 4: Is the audio circuit operating normally?

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

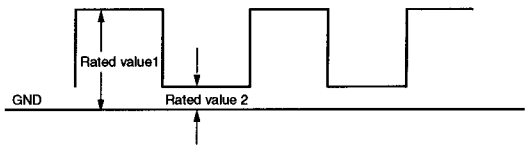
This check is the same for all DVD-V compatible modules.

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).

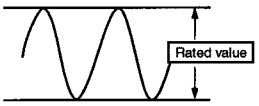
NO.	Verification location 1	Verification location 2	Rated value 1	Rated value 2	Reference waveform
1	AOUT0	IC1601 pin-3 For CXK6113, include also CN1701 pin-37	2.2V and over	0.8V and lower	Waveform 3
2	SRCKAV	IC1601 pin-2 For CXK6113, include also CN1701 pin-38	2.2V and over	0.8V and lower	Waveform 3
4	LRCKAV	IC1701 pin-4 CXK6113, include also CN1701 pin-36	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

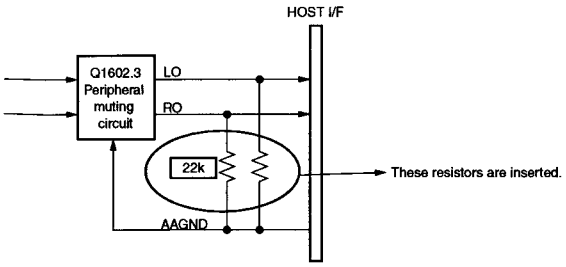
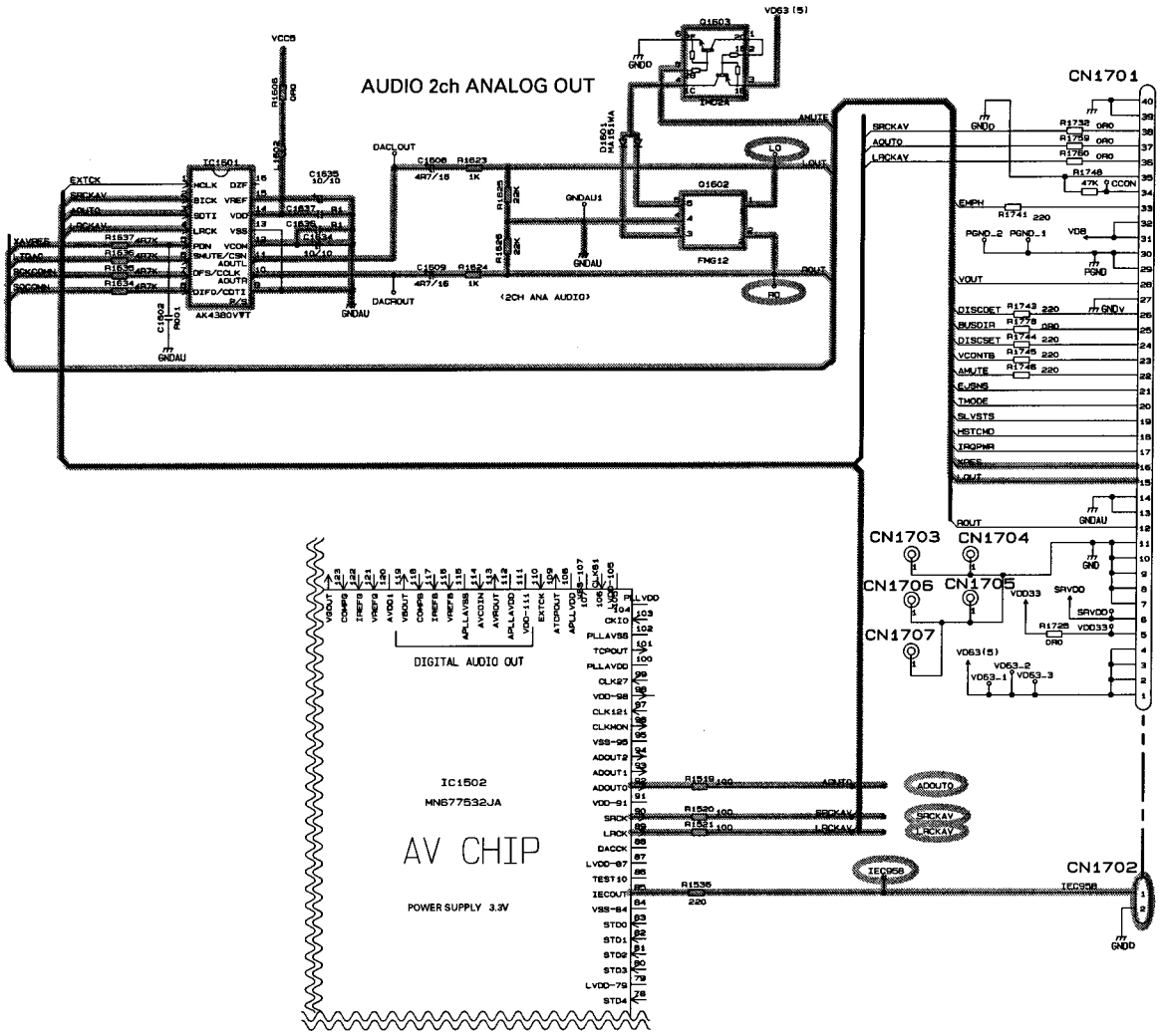


Figure 9: LO and RO output measurement circuit

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



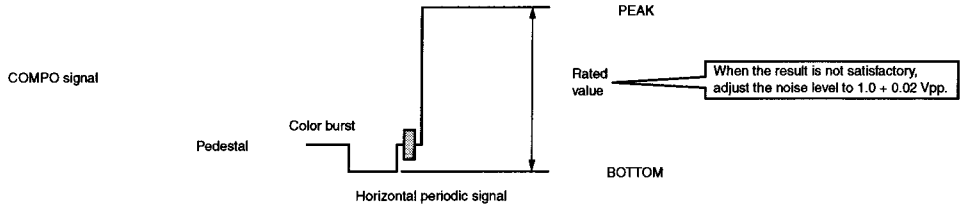
Schematic diagram ④

Check 5: Is the video circuit operated normally?

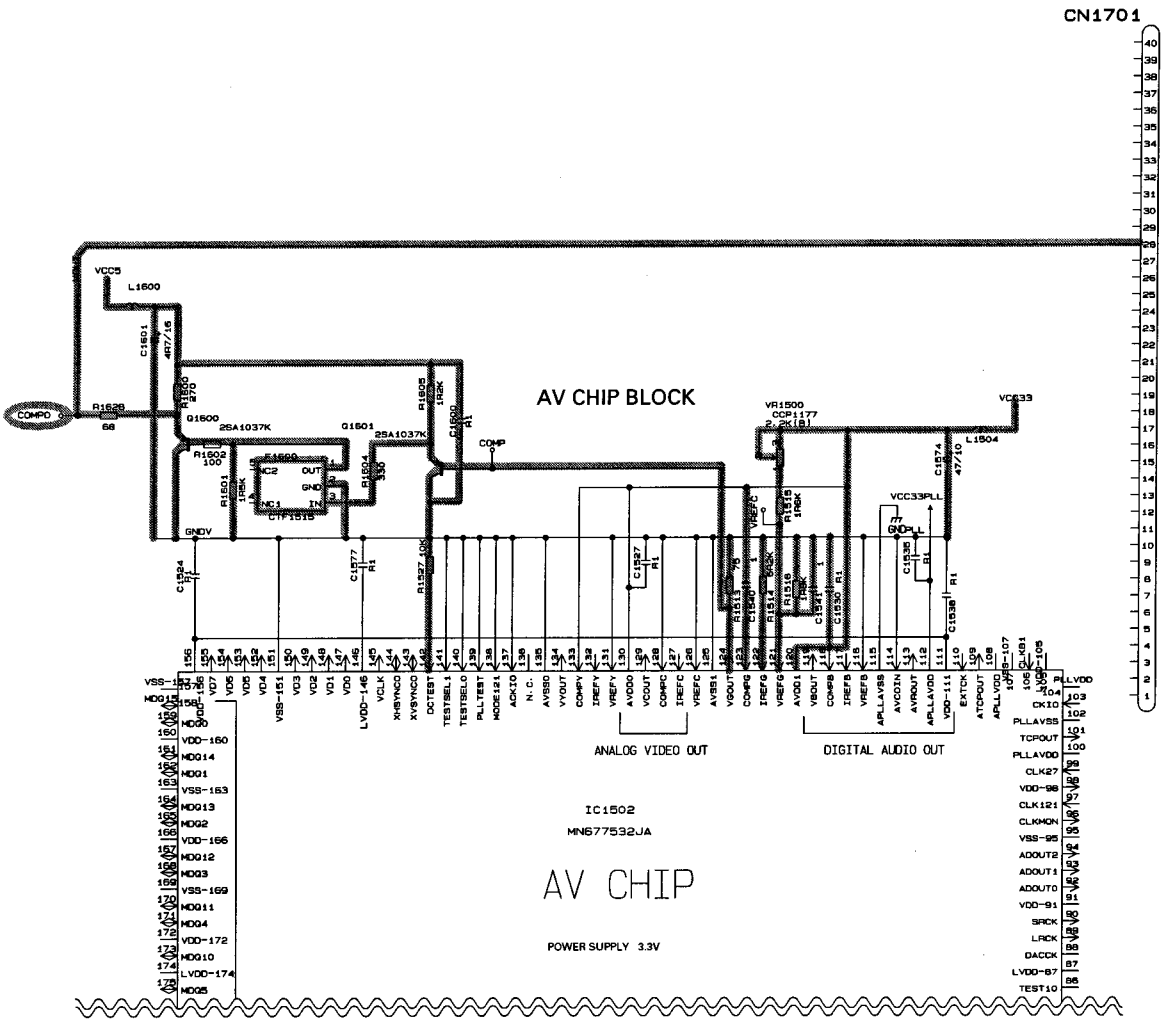
Reproduce DVD-REF-A1 Title 2 Chapters (White 100IRE).
Monitor the output with the oscilloscope, by setting the COMPO signal to a GND reference.
Set the Trigger mode to the TV trigger, and the Trigger line to line-150.

NO.	Verification location (sensing pin)	Rated value	Reference waveform
1	COMPO	1.0±0.02Vpp	Waveform 6

If the result is not satisfactory, check to see if there are any problems with resin flux cored solder, parts and components, in the vicinity of line-150 (the section marked ⑤ in the circuit diagram) and peripheral components



Composite signal 100% output waveform

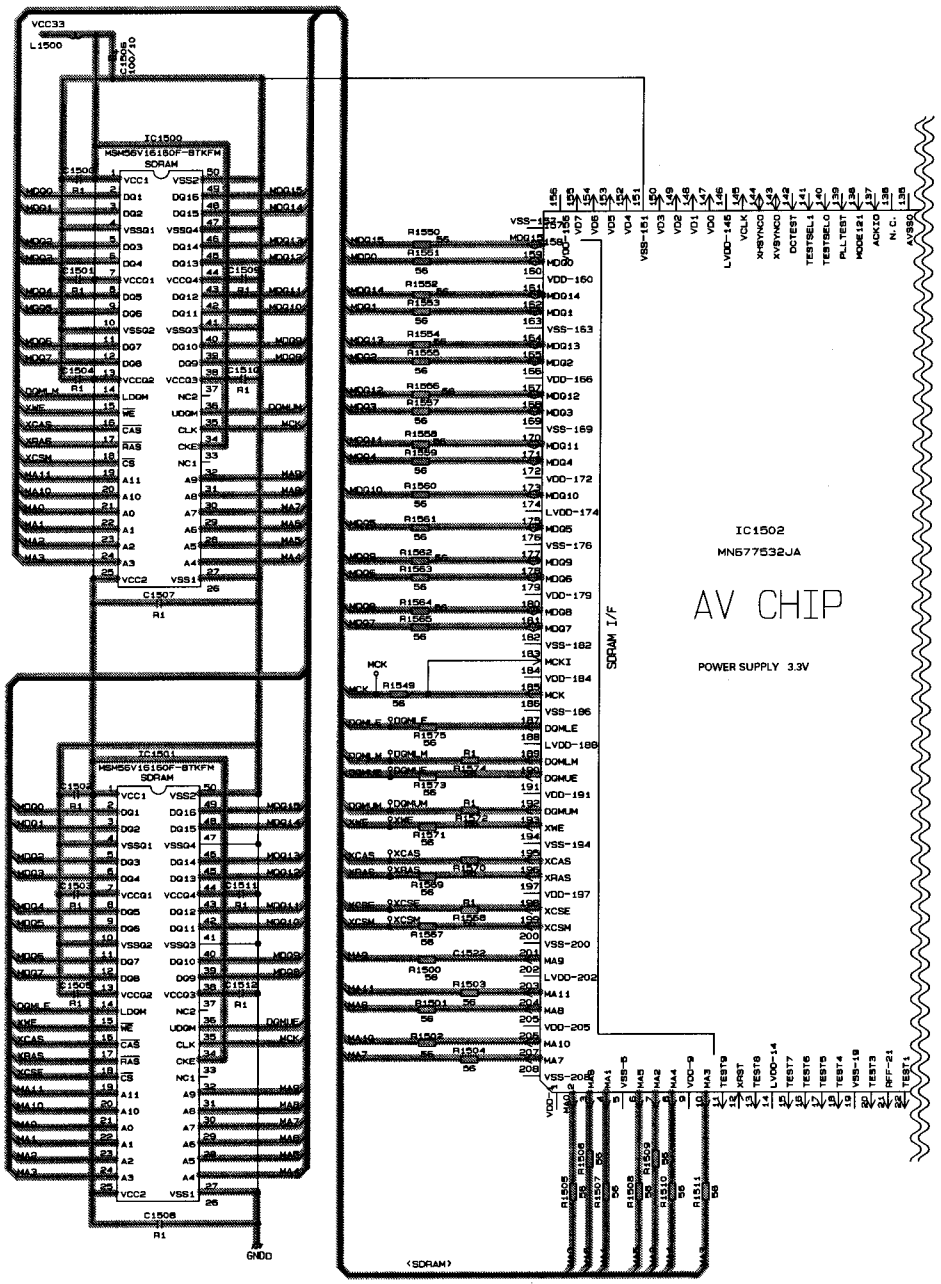


Schematic diagram ⑤

Check 6: Is SDRAM I/F operating normally?

Reproduce DVD-REF-A1 Title 1.
Verify the circuit described in Figure ⑥.
This check is the same for all DVD-V compatible modules.
Check the conductivity of both the "Verification location 1" and the "Verification location2."
If the result is not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in areas where a problem occurs, for the overall sequence of "output " input" of the checked location.

NO.	Signal name	Verification location 1	Verification location 2	Rated value	Others
1	MA0	IC1500/1501 21pin	IC1502 2pin	56Ω ± 5%	Same for both IC1500 and IC1501.
2	MA1	IC1500/1501 22pin	IC1502 4pin	56Ω ± 5%	Same for both IC1500 and IC1501.
3	MA2	IC1500/1501 23pin	IC1502 7pin	56Ω ± 5%	Same for both IC1500 and IC1501.
4	MA3	IC1500/1501 24pin	IC1502 10pin	56Ω ± 5%	Same for both IC1500 and IC1501.
5	MA4	IC1500/1501 27pin	IC1502 8pin	56Ω ± 5%	Same for both IC1500 and IC1501.
6	MA5	IC1500/1501 28pin	IC1502 6pin	56Ω ± 5%	Same for both IC1500 and IC1501.
7	MA6	IC1500/1501 29pin	IC1502 3pin	56Ω ± 5%	Same for both IC1500 and IC1501.
8	MA7	IC1500/1501 30pin	IC1502 207pin	56Ω ± 5%	Same for both IC1500 and IC1501.
9	MA8	IC1500/1501 31pin	IC1502 204pin	56Ω ± 5%	Same for both IC1500 and IC1501.
10	MA9	IC1500/1501 32pin	IC1502 201pin	56Ω ± 5%	Same for both IC1500 and IC1501.
11	MA10	IC1500/1501 20pin	IC1502 206pin	56Ω ± 5%	Same for both IC1500 and IC1501.
12	MA11	IC1500/1501 19pin	IC1502 203pin	56Ω ± 5%	Same for both IC1500 and IC1501.
13	MDQ0	IC1500/1501 2pin	IC1502 159pin	56Ω ± 5%	Same for both IC1500 and IC1501.
14	MDQ1	IC1500/1501 3pin	IC1502 162pin	56Ω ± 5%	Same for both IC1500 and IC1501.
15	MDQ2	IC1500/1501 5pin	IC1502 165pin	56Ω ± 5%	Same for both IC1500 and IC1501.
16	MDQ3	IC1500/1501 6pin	IC1502 168pin	56Ω ± 5%	Same for both IC1500 and IC1501.
17	MDQ4	IC1500/1501 8pin	IC1502 171pin	56Ω ± 5%	Same for both IC1500 and IC1501.
18	MDQ5	IC1500/1501 9pin	IC1502 175pin	56Ω ± 5%	Same for both IC1500 and IC1501.
19	MDQ6	IC1500/1501 11pin	IC1502 178pin	56Ω ± 5%	Same for both IC1500 and IC1501.
20	MDQ7	IC1500/1501 12pin	IC1502 181pin	56Ω ± 5%	Same for both IC1500 and IC1501.
21	MDQ8	IC1500/1501 39pin	IC1502 180pin	56Ω ± 5%	Same for both IC1500 and IC1501.
22	MDQ9	IC1500/1501 40pin	IC1502 177pin	56Ω ± 5%	Same for both IC1500 and IC1501.
23	MDQ10	IC1500/1501 42pin	IC1502 173pin	56Ω ± 5%	Same for both IC1500 and IC1501.
24	MDQ11	IC1500/1501 43pin	IC1502 170pin	56Ω ± 5%	Same for both IC1500 and IC1501.
25	MDQ12	IC1500/1501 45pin	IC1502 167pin	56Ω ± 5%	Same for both IC1500 and IC1501.
26	MDQ13	IC1500/1501 46pin	IC1502 164pin	56Ω ± 5%	Same for both IC1500 and IC1501.
27	MDQ14	IC1500/1501 48pin	IC1502 161pin	56Ω ± 5%	Same for both IC1500 and IC1501.
28	MDQ15	IC1500/1501 49pin	IC1502 158pin	56Ω ± 5%	Same for both IC1500 and IC1501.
29	MCK	IC1500/1501 35pin	IC1502 185pin	56Ω ± 5%	Same for both IC1500 and IC1501.
30	XWE	IC1500/1501 15pin	IC1502 193pin	56Ω ± 5%	Same for both IC1500 and IC1501.
31	XCAS	IC1500/1501 16pin	IC1502 195pin	56Ω ± 5%	Same for both IC1500 and IC1501.
32	XRAS	IC1500/1501 17pin	IC1502 196pin	56Ω ± 5%	Same for both IC1500 and IC1501.
33	XCSM	IC1500 18pin	IC1502 199pin	56Ω ± 5%	Same for both IC1500 and IC1501.
34	XCSE	IC1501 18pin	IC1502 198pin	56Ω ± 5%	
35	DQMUM	IC1500 14pin	IC1502 192pin	56Ω ± 5%	
36	DQMLM	IC1500 36pin	IC1502 189pin	56Ω ± 5%	
37	DQMUE	IC1500 14pin	IC1502 190pin	56Ω ± 5%	
38	DQMLE	IC1500 36pin	IC1502 187pin	56Ω ± 5%	



Schematic diagram ⑥

Check 7: Is the microprocessor operating normally?

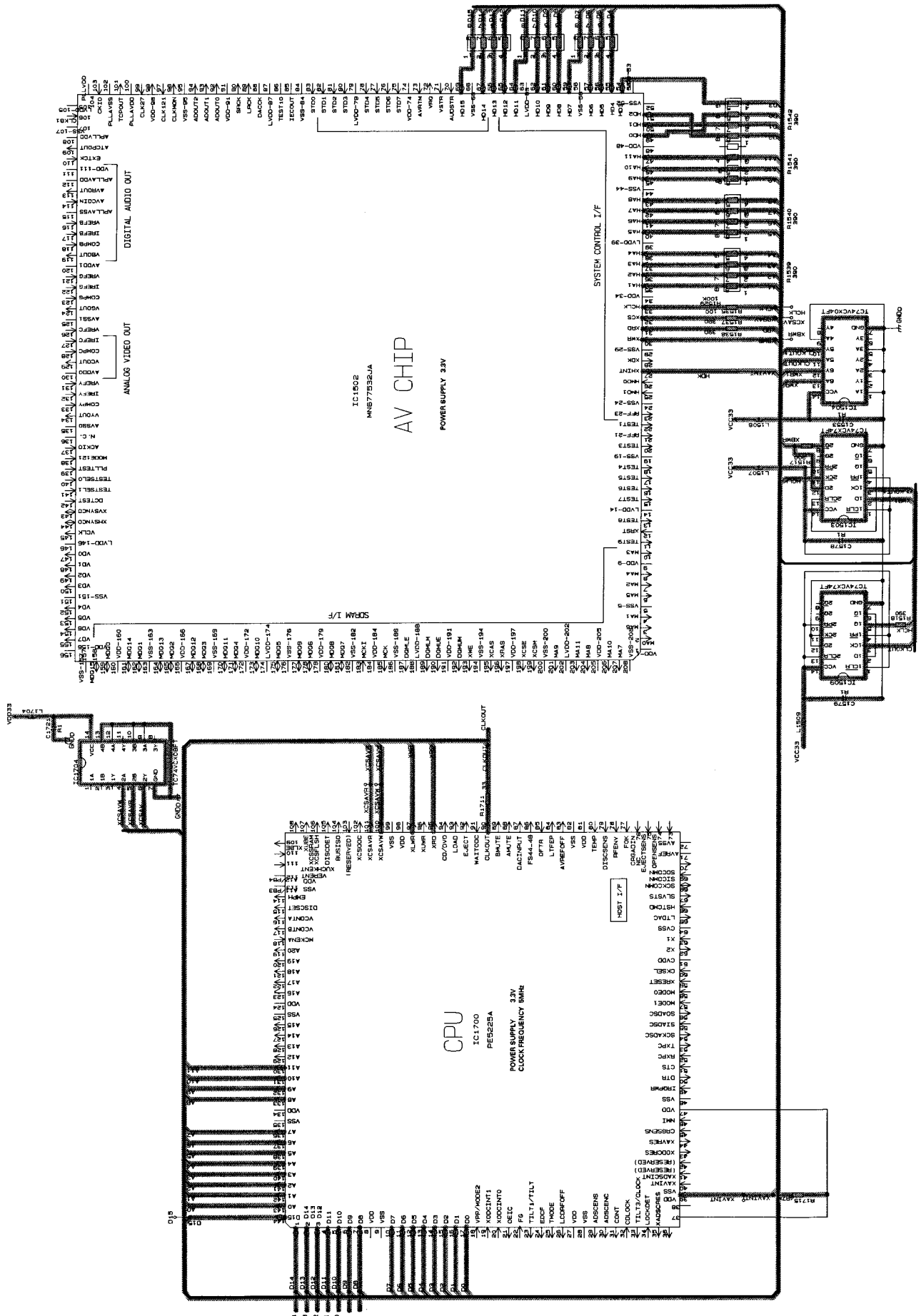
Verify the circuit described in Figure ⑦.

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

Check the conductivity of both the "Verification location 1" and the "Verification location2."

If the result is not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in areas where a problem occurs, for the overall sequence of "output – input" of the checked location.

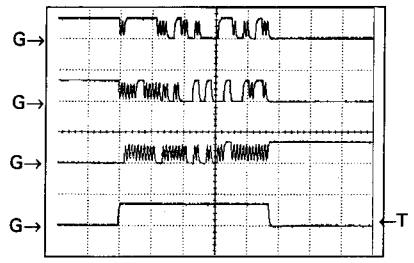
NO.	Signal name	Verification location 1	Verification location 2	Verification Media	Rated value	Others
1	A1	IC1700 142pin	IC1502 35pin	ALL	390Ω ± 5%	
2	A2	IC1700 141pin	IC1502 36pin	ALL	390Ω ± 5%	
3	A3	IC1700 140pin	IC1502 37pin	ALL	390Ω ± 5%	
4	A4	IC1700 139pin	IC1502 38pin	ALL	390Ω ± 5%	
5	A5	IC1700 138pin	IC1502 40pin	ALL	390Ω ± 5%	
6	A6	IC1700 137pin	IC1502 41pin	ALL	390Ω ± 5%	
7	A7	IC1700 136pin	IC1502 42pin	ALL	390Ω ± 5%	
8	A8	IC1700 133pin	IC1502 43pin	ALL	390Ω ± 5%	
9	A9	IC1700 132pin	IC1502 45pin	ALL	390Ω ± 5%	
10	A10	IC1700 131pin	IC1502 46pin	ALL	390Ω ± 5%	
11	A11	IC1700 130pin	IC1502 47pin	ALL	390Ω ± 5%	
12	D0	IC1700 17pin	IC1502 49pin	ALL	390Ω ± 5%	
13	D1	IC1700 16pin	IC1502 50pin	ALL	390Ω ± 5%	
14	D2	IC1700 15pin	IC1502 51pin	ALL	390Ω ± 5%	
15	D3	IC1700 14pin	IC1502 54pin	ALL	390Ω ± 5%	
16	D4	IC1700 13pin	IC1502 55pin	ALL	390Ω ± 5%	
17	D5	IC1700 12pin	IC1502 56pin	ALL	390Ω ± 5%	
18	D6	IC1700 11pin	IC1502 57pin	ALL	390Ω ± 5%	
19	D7	IC1700 10pin	IC1502 59pin	ALL	390Ω ± 5%	
20	D8	IC1700 7pin	IC1502 60pin	ALL	390Ω ± 5%	
21	D9	IC1700 6pin	IC1502 61pin	ALL	390Ω ± 5%	
22	D10	IC1700 5pin	IC1502 62pin	ALL	390Ω ± 5%	
23	D11	IC1700 4pin	IC1502 64pin	ALL	390Ω ± 5%	
24	D12	IC1700 3pin	IC1502 65pin	ALL	390Ω ± 5%	
25	D13	IC1700 2pin	IC1502 66pin	ALL	390Ω ± 5%	
26	D14	IC1700 1pin	IC1502 67pin	ALL	390Ω ± 5%	
27	D15	IC1700 144pin	IC1502 69pin	ALL	390Ω ± 5%	
28	XCSAVR	IC1700 101pin	IC1704 5pin	ALL	0Ω	
29	XCSAVW	IC1700 100pin	IC1704 4pin	ALL	0Ω	
30	XCSAV	IC1704 6pin	IC1502 32pin	ALL	390Ω ± 5%	
31	XAVINT	IC1700 39pin	IC1502 27pin	ALL	0Ω	
32	XRD	IC1700 95pin	IC1502 31pin	ALL	390Ω ± 5%	
33	CLKOUT	IC1700 90pin	IC1509 3pin	ALL	33Ω	Dividing circuit For verification location 1, include also IC1054 pin-11
34	HCLK	IC1509 5pin	IC1502 33pin	ALL	200Ω ± 5%	
35	XWR	IC1700 97pin	IC1504 13pin	ALL	0Ω	
36	XBWR	IC1503 8pin	IC1502 30pin	ALL	200Ω ± 5%	



Schematic diagram ⑦

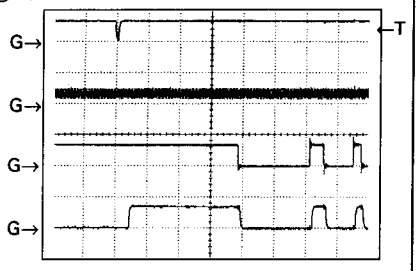
Note:1. The encircled number denote measuring pointes in the circuit diagram.
2. Reference voltage VHALF : 1.65V

⑪ CH1: STD1
⑫ CH2: STD4
⑬ CH3: STD7
⑭ CH4: STENABLE
5V/div. 2µs/div.



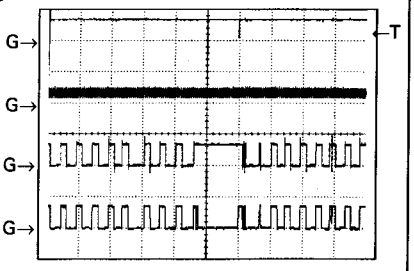
Waveform1

⑮ CH1: AVRTM
⑯ CH2: STCLK
⑰ CH3: STVALID
⑭ CH4: STENABLE
5V/div. 2µs/div.



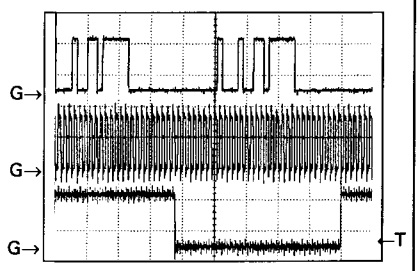
Waveform2(1)

⑮ CH1: AVRTM
⑯ CH2: STCLK
⑰ CH3: STVALID
⑭ CH4: STENABLE
5V/div. 50µs/div.



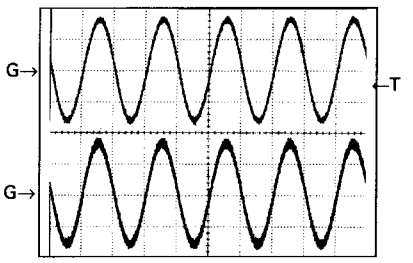
Waveform2(2)

⑱ CH1: AOUT0
⑲ CH2: SRCKAV
⑳ CH3: LRCKAV
2V/div. 2µs/div.



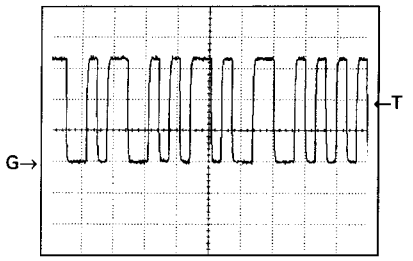
Waveform3

㉒ CH1: LO
㉓ CH2: RO
1V/div. 500µs/div.



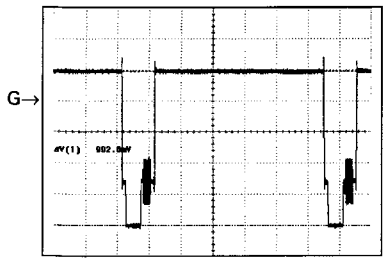
Waveform4

㉑ CH1: IEC958 1V/div. 500ns/div.



Waveform5

㉔ CH1: COMPO 200mV/div. 10µs/div.
[White 100% output]



Waveform6

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

● Navigation Test Modes

1. Types of Test Modes

There are two types of test modes:

1. Production Engineering Specification (this type is not available for service uses).
2. Service Specification, ROM / SDRAM version

This type is available when the system start-up is conducted from system software in ROM.

2. Test Mode System Start-Up Method

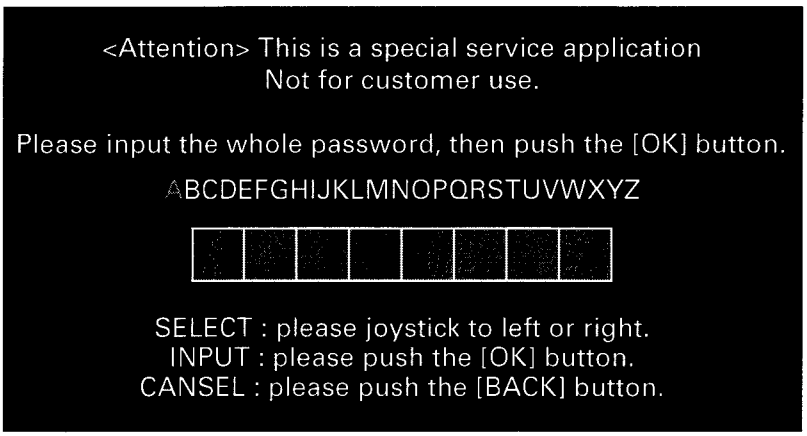
Service Specification Version (ROM / SDRAM version):

1. Press both the RESET and EJECT buttons simultaneously, when +Battery and ACC are both in an ON condition.
2. Release the RESET button only.
3. When the password entry screen is displayed, release the EJECT button.
4. Enter the password.
5. Once the password has been entered, press the OK button.
6. If the system matches the entered password the test mode menu will be displayed.

* Ordinarily, the ROM version will start up. However, if the system software is being stored on an SDRAM, and if the ACC is turned ON while the EJECT button only is being pressed, the software on the SDRAM will start up.

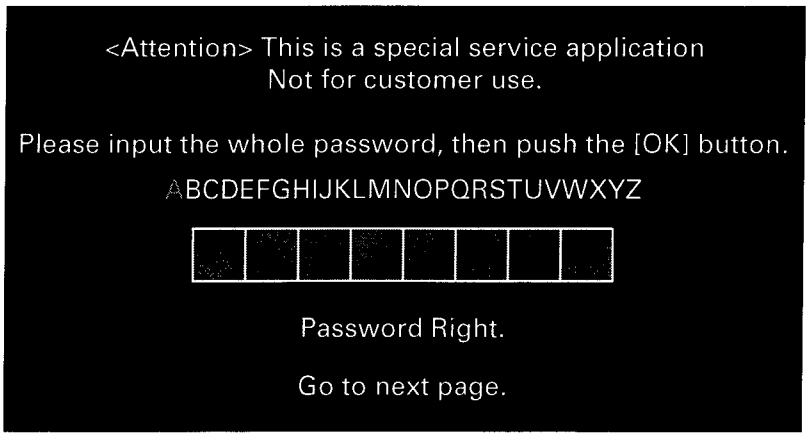
[Password]
The password is "2580456".
Enter the password using the ten-key pad, then press the OK button.
All the alphabetical characters displayed are dummy displays.
Seven digits are necessary for the password. Entering eight digits will result in a password error.

• Password Entry Screen

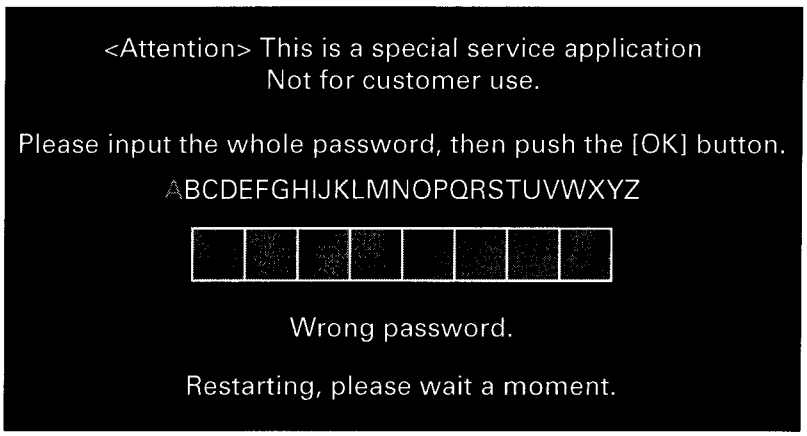


• Password OK screen:

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

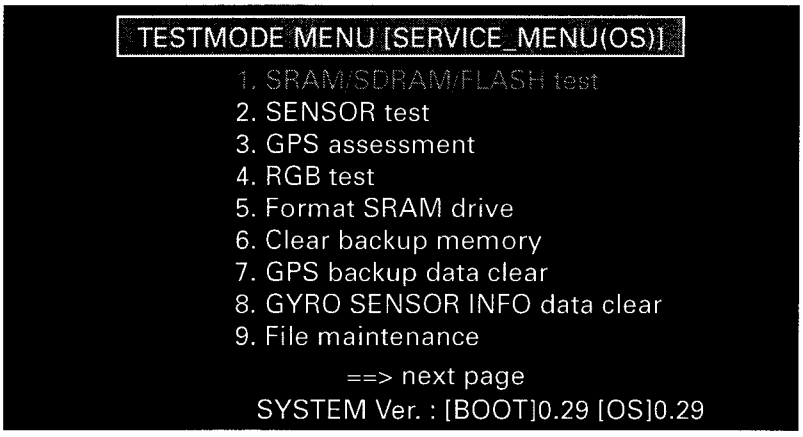


• Password NG screen

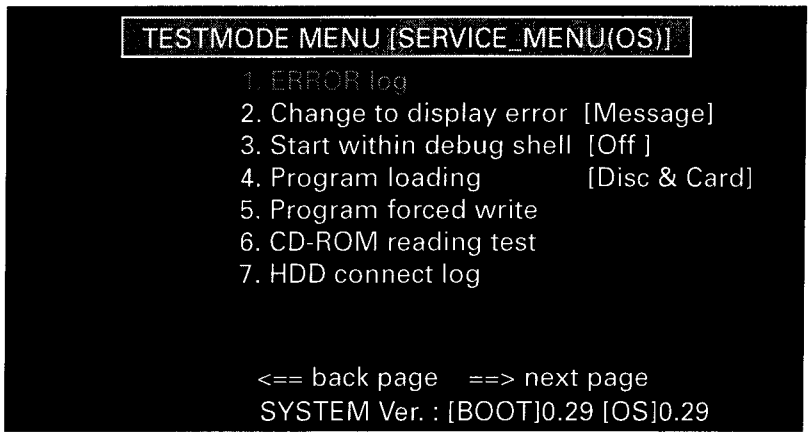


3. Service Mode Menu

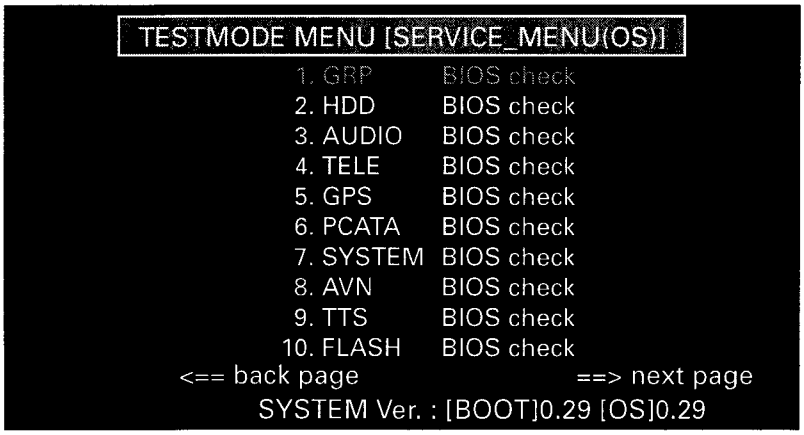
Service Specification Version (ROM / SDRAM version)



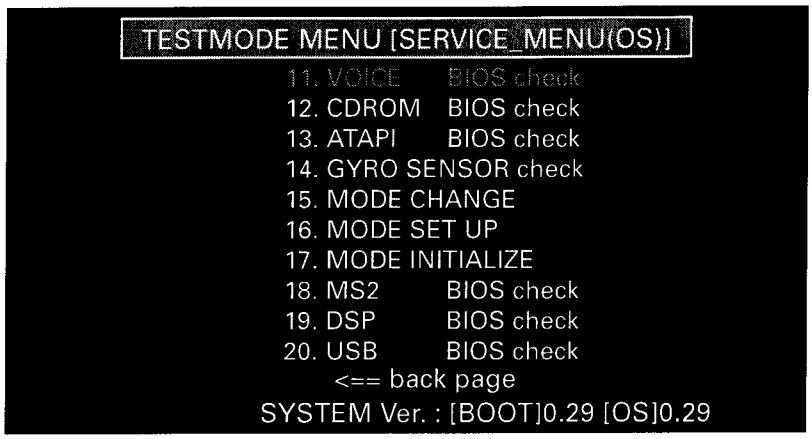
1. SRAM / SDRAM / FLASH test	SRAM / SDRAM / FLASH Tests Tests can be started by pressing the OK button. SRAM: Device and bus tests are conducted to all areas of the SRAM. Data is protected during the test. SDRAM: Device and bus tests are conducted to all areas of the SDRAM, by dividing the areas into BIOS / USER areas. During the device tests, data in the BIOS area is not protected, while the data in the USER area is protected During the bus test, data patterns are written in the USER area, therefore, the data in the USER area is not protected. FLASH: The CRC-CCITT codes are calculated from all areas within the range specified by the ROM, and are verified to match with the code values stored in the ROM. When a test process has been completed, the successfully (OK) completed process will be displayed in green on the screen's display listing. Pressing the OK button will return the display to the menu screen.
2. Sensor test	Sensor tests Tests on the G-sensor, gyro, power supply voltage and mechanical installation conditions, are conducted. Pressing the BACK key will return the display to the menu screen.
3. GPS assessment	GPS evaluation system start up Tests on the availability and usability of the GPS evaluation system are conducted. Pressing the BACK key will return the display to the menu screen.
4. RGB test	Display images RGB rendering checks RGB rendering tests (The upper half consists of eight colors of black, blue, red, pink, green, light blue, yellow and white, as well as the lower half three colors of red, green and blue.) -> Red (full) -> Green (full) -> Blue (full) ->
The color toggle can be implemented by using the <- and -> keys. Pressing the BACK key will return the display to the menu screen.
5. Format SRAM drive	SRAM formatting The SRAM area used by the application will be initialized. When the initialization process has been completed, the display will return to the menu screen.
6. Clear backup memory	Backup variable initialization The SRAM area used by the system software will be initialized. When the process has been completed, the system will reboot.
7. GPS backup data clear	GPS backup data clearing The SRAM area, used by the GPS program, will be initialized. When the process has been completed, the display will return to the menu screen.
8. GYRO SENSOR INFO clear	Gyro sensor's learning function data clearing The learning values stored in the gyro sensor will be cleared. When the process has been completed, the display will return to the menu screen.
9. File Maintenance	File management function test Conducts formatting of the SRAM drive and PC card (ATA Flash Card). Data stored in the SRAM can be extracted and copied to the PC Card. Data extracted from the SRAM to the PC Card can be copied to the SRAM again.



1. ERROR Log	Error log entry test (Refer to page 146 .) Displays an error log of the system software stored in the SRAM. A maximum of eight error logs can be displayed, starting with the latest error.
2. Change to display error	Error information switch (Refer to page 147 .) A display setting (for debugging) where an error occurs. A Message (message itself) or Information (error information) selection can be made.
3. Start within debug shell	Debug shell Start-up setting for the debug shell (for debugging). An Off (no initial start-up) or On (initial start-up) selection can be made.
4. Program loading	Program loading Setting the storage location priority for the system software and application at start-up (for debugging). A Disc (disc prioritized as boot source) or Disc & Card (disc or card prioritized as boot source) selection can be made.
5. Program forced write	Forced overwriting of the program Forced overwriting of SYS (system), GPS (GPS), APL (application) software, (and DSP software for Japanese domestic versions) are performed. For the system and application, the selection of a language is required (using the joystick). Pressing the BACK key will return the display to the menu screen.
6. CD-ROM reading test	CD-ROM reading test A reading test of the CD-ROM drive will be conducted.
7. HDD connect log	Not used.



This is the menu for performing hardware evaluations.
This menu is not used for service.



18. MS2 BIOS Check : Starting the DVD test mode. (Refer to pages 150)
The name of No.18 may be changed.

This is the menu for performing hardware evaluations.
This menu is not used for service (Except [No. 18]).

4. Test Mode's Menu Selection Method

A selection can be made while moving the joystick up or down the menu. When the desired item has been emphasized, press the OK button to execute the selected test.
This selection cannot be performed using the ten-key pad.
A transition between pages of the menu can be performed by moving the joystick to the left and right.

5. Version Information

The system software's version information is provided on the bottom line of the test mode menu.

SYSTEM Ver. : [BOOT] X.XX	ROM version = X.XX. No system software exists in an SDRAM.
SYSTEM Ver. : [BOOT] X.XX [OS] Y.YY	ROM version = X.XX. SDRAM version = Y.YY.

● Error Information

1. Error Information

Descriptions of error information, for errors arising from system software problems, will be provided in this section.

Up to eight sets of information, related to the system software's errors, will be stored in the SRAM.

By executing hi_sysdwn( ) the line number (on which the error occurred), the error code and detailed information of the error, will be stored in the error log.

Hi_sysdwn( ) will be executed in the following two circumstances:

1. hi_sysdwn( ) will be intentionally stored if fatal errors occur with each BIOS.
2. If multiple exceptions, fatal exceptions, illegal command codes and trap command errors occur.

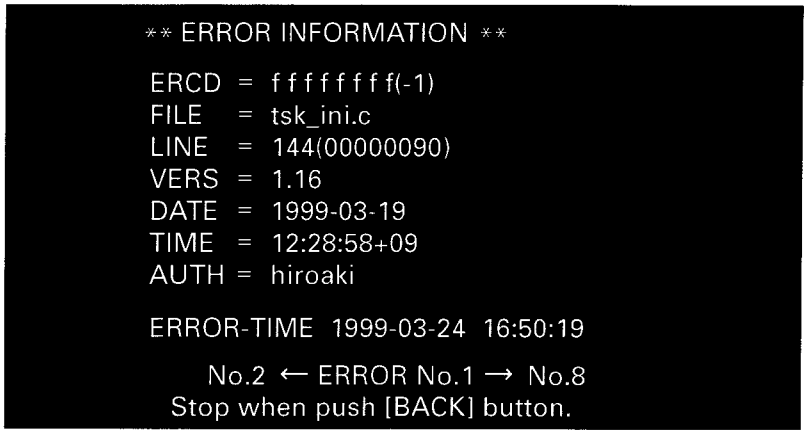
2. Error Log's Entry Function

Up to eight sets of information, related to errors starting with the latest error, will be displayed by the error log entry function.

There are two types of error log displays.

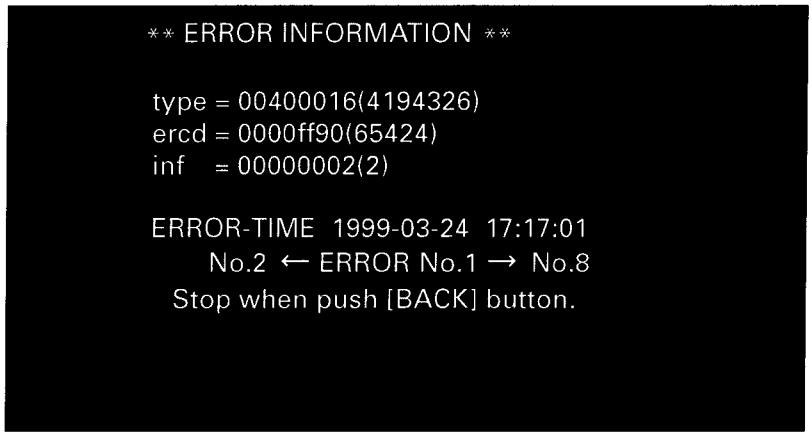
The display will vary when the argument provided to hi_sysdwn( ), depending on whether detailed information (such as program name, version number, creation date, creation time and creator name) exists or not.

1. When detailed information exists:



ERCD	Error code.
FILE	Error occurring program name.
LINE	Error occurring program line number.
VERS	Error occurring program version number.
DATE	Error occurring program creation date.
TIME	Error occurring program creation time.
AUTH	Error occurring program creator name.
ERROR-TIME	Error occurrence date and time.

2. When detailed information does not exist:



type	Error occurring program line number.
ercd	Error code.
inf	System down information.
ERROR-TIME	Error occurrence date and time.

If an error occurs due to a multiple exception, the definitions will change to the following:

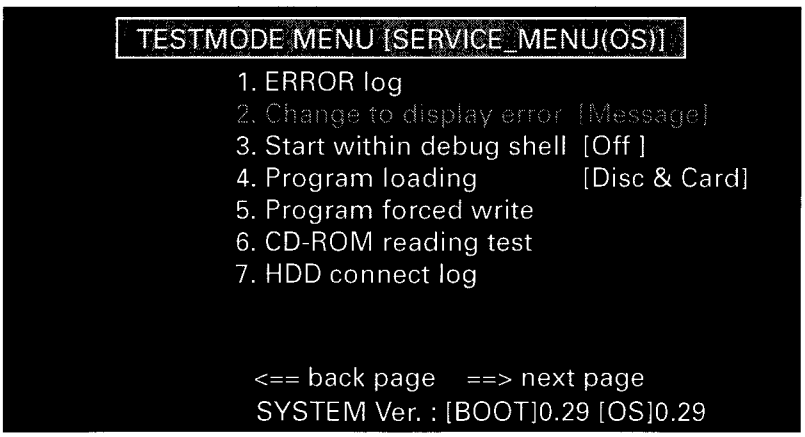
type	Execution address at the time of error occurrence.
ercd	Contributing factor for the exceptions.
inf	Program status word at the time of error occurrence.
ERROR-TIME	Error occurrence date and time.

3. Error Information Switch

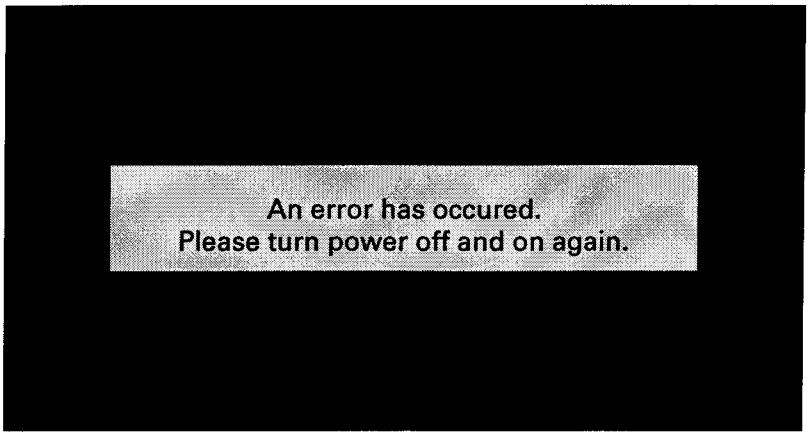
The product (with default settings) will display error messages to the user if an error occurs.
Error information can be displayed if an error occurs by switching the error information in the test mode.
In either case, the error log entry display will be the same.

1) Error message display (default settings):

• Setting in the test mode:

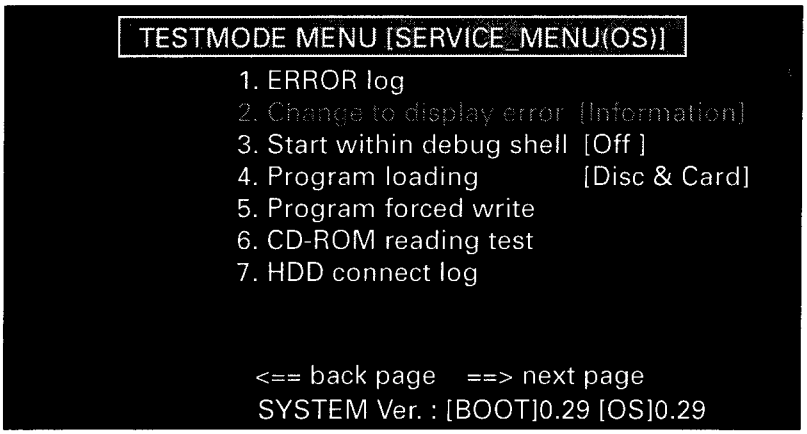


• Display when an error occurs:



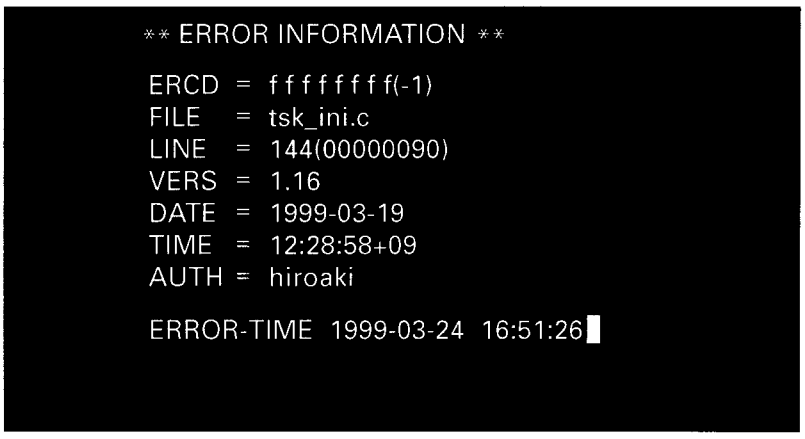
2) Error information display

• Settings in the test mode:

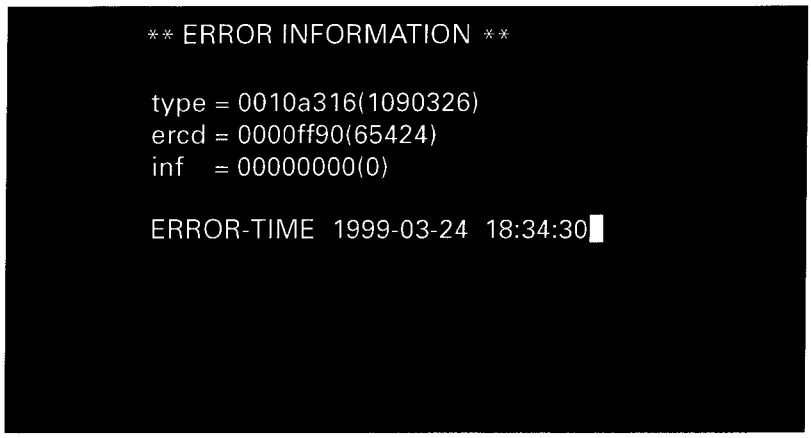


Display when an error occurs:

• If error information exists:



• If error information does not exist:



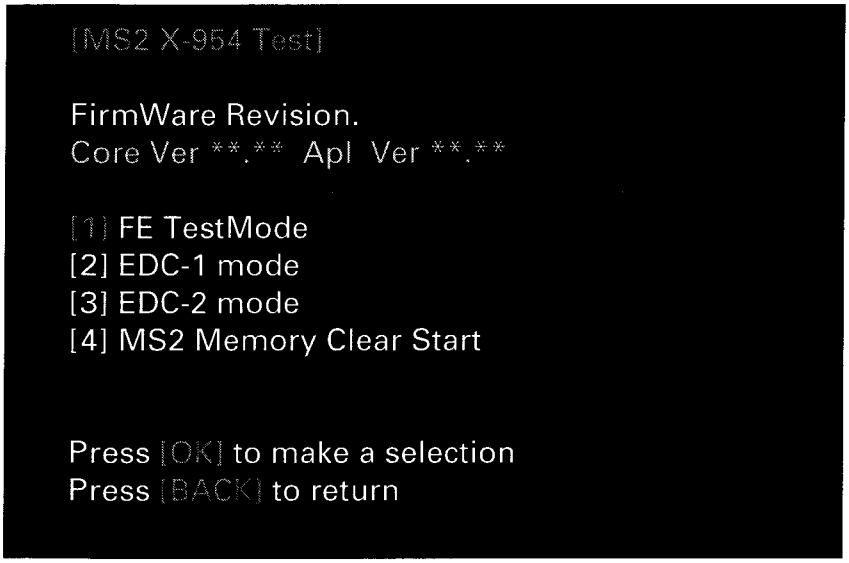
● DVD Test Modes

CAUTIONS
Protection is not operational against a mechanical runaway conditions during servo testing,.
Critical damage can result if the system is allowed to continue in a mechanical runaway state.
If abnormal noise is heard during the test, turn the power OFF immediately.

● Entering the test mode
The test mode can be selected from the navigation test mode (please refer to pages 141and 145).

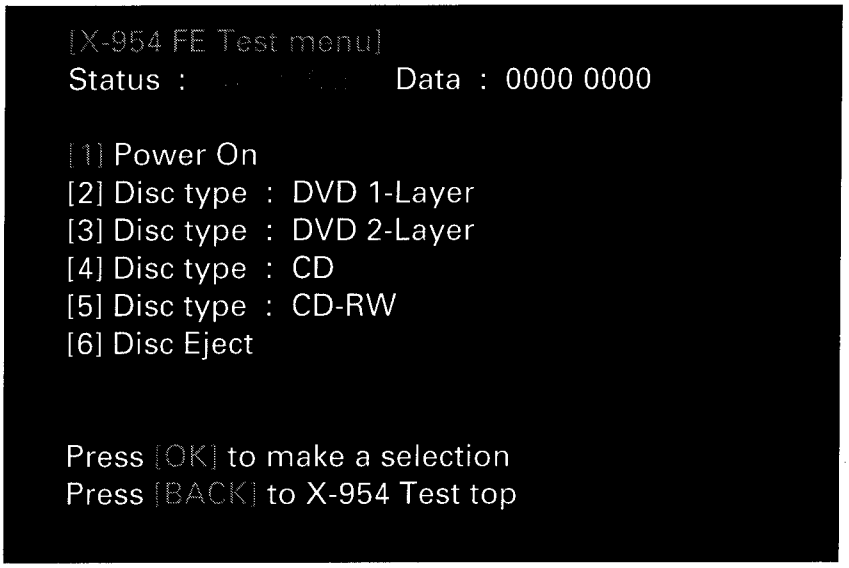
● Keys (remote control) used for the DVD test mode
[OK] : Selection decided.
[BACK] : Go back.
Directional keys : [← ↓ → ↑] keys of the joystick.

(1) Initial screen display



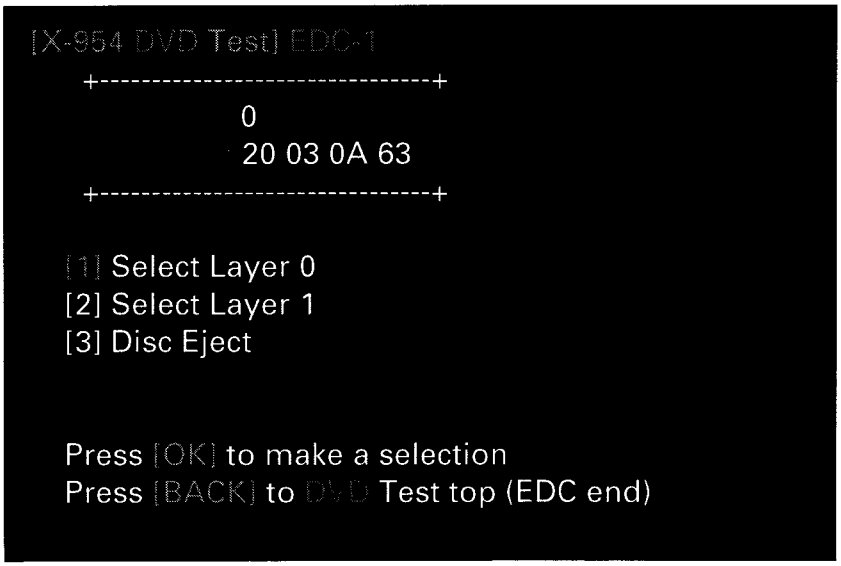
FirmWare Revision: Version of the drive used.
[1] Starts the FE test mode.
[2] EDC1 mode (available for DVDs only).
[3] EDC2 mode (available for DVDs only).
[4] Executes the MS2 memory clearing operation.
[OK] Executes.
[BACK] Returns to the test mode menu.
* Using the joystick select individual items .

(2) FE Test Menu Screen Display



Status : "Power Off (during normal conditions)."
[1] Power On (proceed to servo test 1-0).
[2] Disk type : DVD single-layer.
[3] Disk type : DVD double-layer.
[4] Disk type : CD.
[5] Disk type : CD-RW.
[6] Ejects the disk.
[OK] Executes.
[BACK] Returns to the initial screen display for the test.
* Using the joystick select individual items .

(3) DVD EDC Test Menu Screen Display

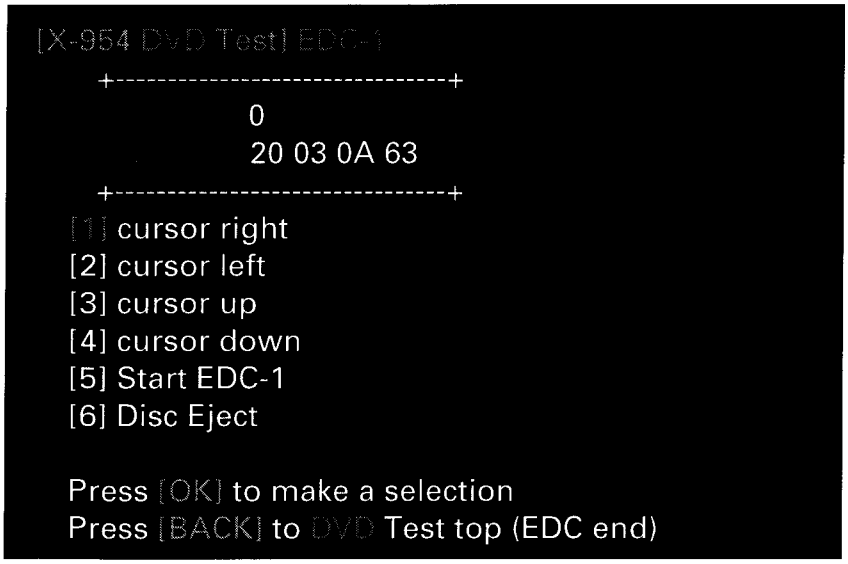


EDC-1 : Performs consecutive EDC tests.
EDC-2 : Performs EDC tests for each block.
ID : Performs ID of the test.

[1] 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 .

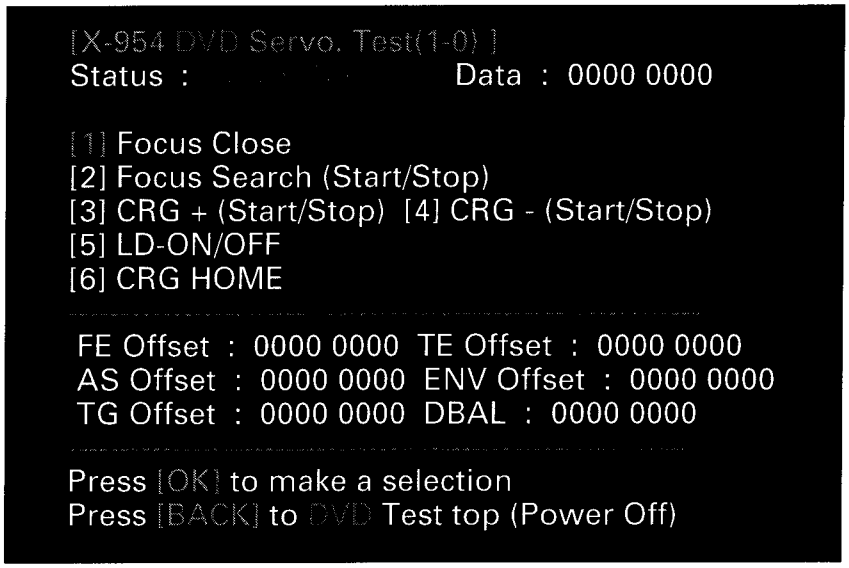
(4) DVD ECD Test Menu Screen Display



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.

(5) Servo Test Screen Display 1-0



Test items are basically the same for both DVDs and CDs.

* Using the joystick select individual items.

Status : "Power On" (during normal conditions).

* Focus closing and searching will not operate unless the LD-ON setting is made.

[1] Closes in on the focus (proceeds to servo test 2-0).

[2] Performs a focus search operation (S-curve measurement). Focus operation will then be stopped.

[3] Moves the carriage (external). The carriage transition operation will then be stopped.

[4] Moves the carriage (internal). The carriage transition operation will then be stopped.

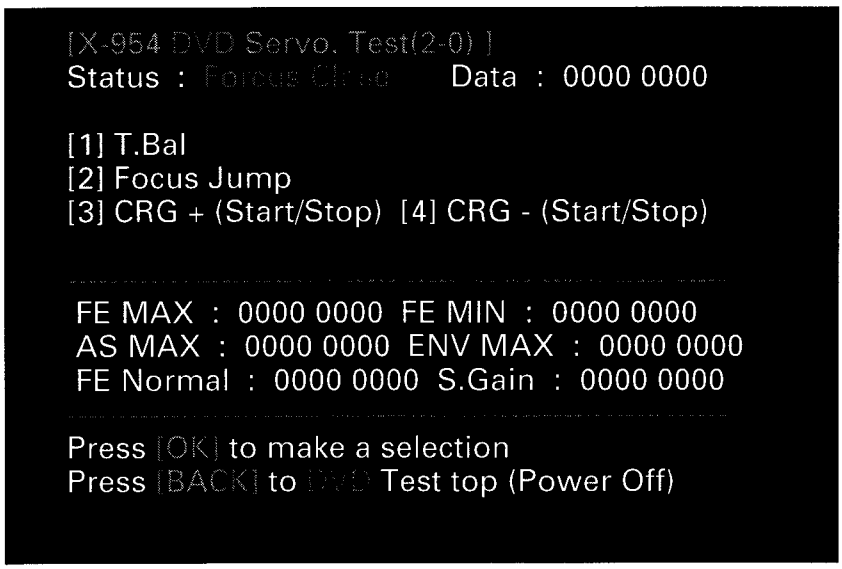
[5] Performs LD-ON/OFF operation.

[6] Returns the carriage to the home position.

[BACK] Returns to the DVD test menu screen display.

* This operation will not be performed until the coefficient figures have been received.

(6) Servo Test Screen Display 2-0

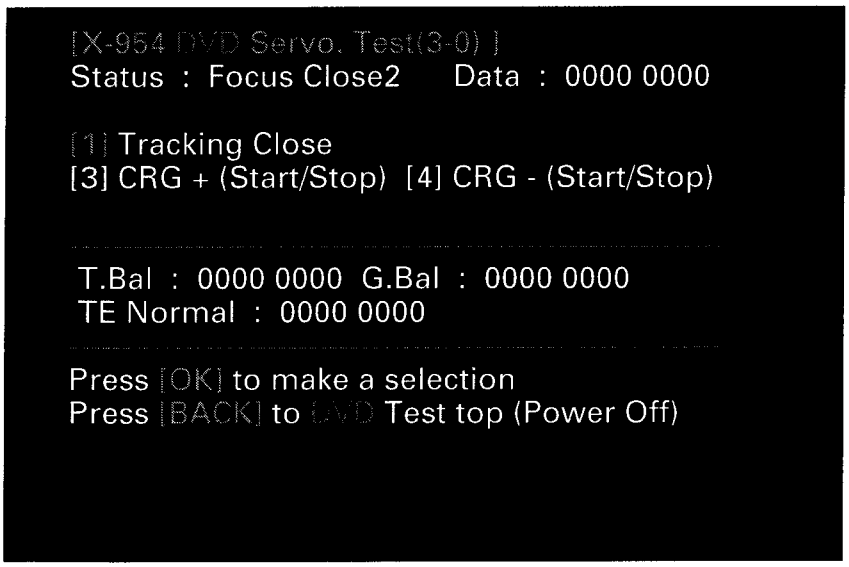


Test items are basically the same for both DVDs and CDs.
* Using the joystick select individual items.

Status : "Focus Close" (during normal conditions).

[1] Adjusts tracking balance (proceeds to servo test 3-0).
[2] Performs a focus jump operation.
[3] Moves the carriage (external). The carriage transition operation will then be stopped.
[4] Moves the carriage (internal). The carriage transition operation will then be stopped.
[BACK] Returns to the DVD test menu screen display.
* This operation will not be performed until the coefficient figures have been received.

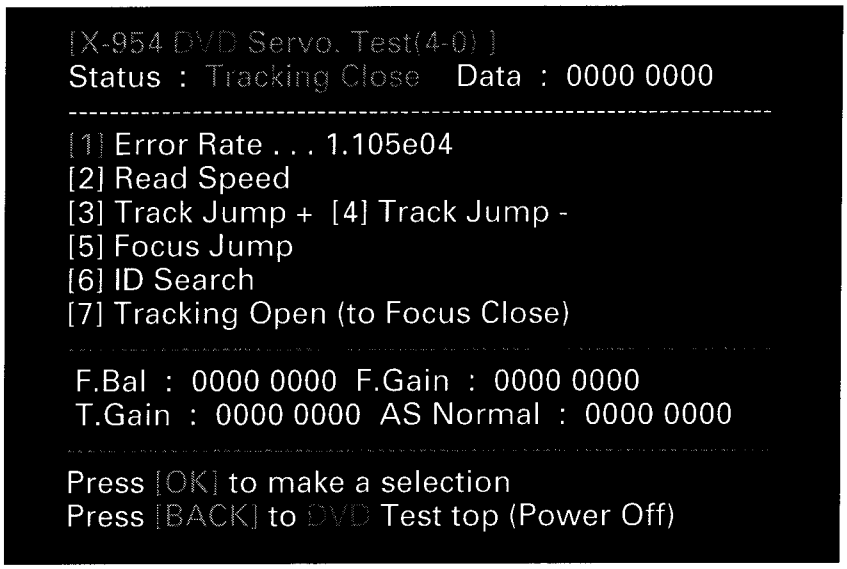
(7) Servo Test Screen Display 3-0



Test items are basically the same for both DVDs and CDs.
* Using the joystick select individual items.

Status : "Focus Close2" (during normal conditions).
[1] Performs tracking close operation (proceeds to servo test 4-0).
[3] Moves the carriage (external). The carriage transition operation will then be stopped.
[4] Moves the carriage (internal). The carriage transition operation will then be stopped.
[BACK] Returns to the DVD test menu screen display.
* This operation will not be performed until the coefficient figures have been received.

(8) Servo Test Screen Display 4-0



Test items are basically the same for both DVDs and CDs.

* Using the joystick select individual items.

Status : "Tracking Close" (during normal conditions).

[1] [OK] triggers measurement of the error rates (other operations can not be performed for approximately 10 seconds).

[2] [OK] triggers switching of the reproduction speed.

[3] Performs track jumping by a designated number of tracks (external).

[4] Performs track jumping by a designated number of tracks (internal).

[5] Performs a focus jump operation (for DVDs only).

[6] Designates an ID (for DVDs only).

[7] Performs a tracking open operation (for the focus close status: will proceed to servo test 2-0).

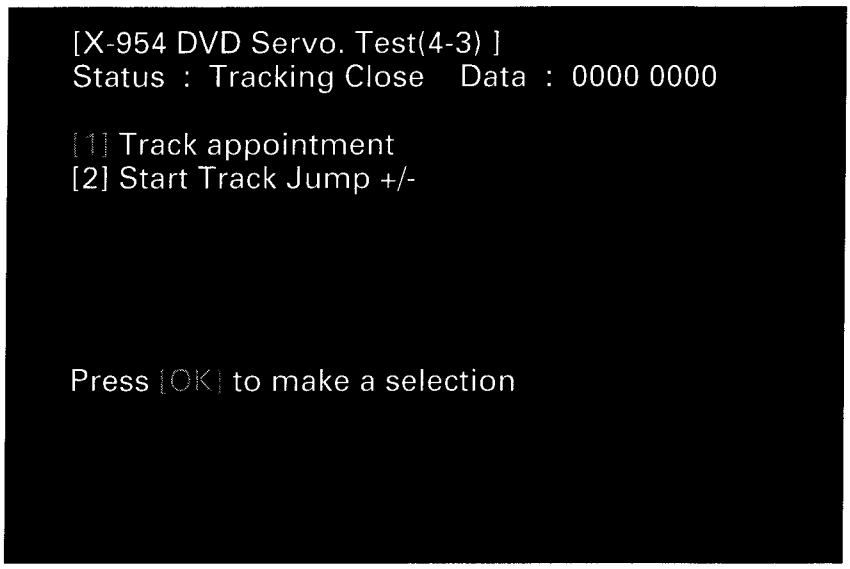
[BACK] Returns to the DVD test menu screen display.

* This operation will not be performed until the coefficient figures have been received.

Reproduction speeds

L0-layer	DVD x CAV, CD x 2CLV	4000 0000
L0-layer	DVD x 1CLV, CD x 1CLV	4200 0000
L1-layer	DVD x CAV	4100 0000
L1-layer	DVD x 1CLV	4300 0000

(9) Servo Test Screen Display 4-3/4



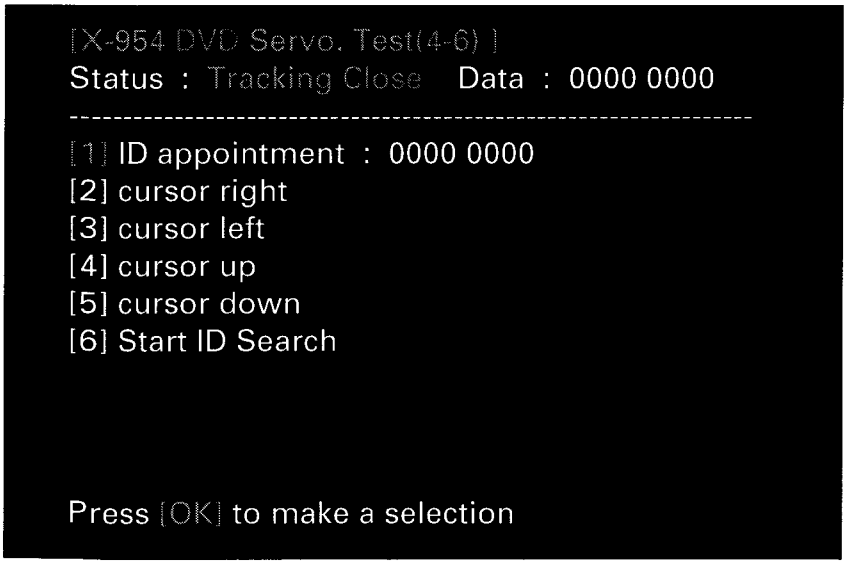
Test items are basically the same for both DVDs and CDs.

Status : "Tracking Close" (during normal conditions).

[1] Performs a track number designation (MS2 cyclically switches the ten available patterns).

[2] Starts the tracking jump operation (will proceed to servo test 4-0).

(10) Servo Test Screen Display 4-6



Available for DVDs only.

Status : "Tracking Close" (during normal conditions).

[1] Displays designated ID .

[2] Moves the cursor to the right by one increment.

[3] Moves the cursor to the left by one increment.

[4] Moves the cursor up by one increment.

[5] Moves the cursor down by one increment.

[6] Starts the ID search operation (return to servo test 4-0).

7.1.2 USING THE TEST DISC

● TEST DISC Part No. : GGV1059 (CNDK-LT0102)

1. Start up

Insert the test disc into the system, and press the [BACK] key while the title, "AVIC-9DVD/EW, AVIC-9DVD/UC and AVIC-8DVD/EW TEST DISC" is displayed. This will bring up the menu screen.
If keys are not pressed while the title is displayed, the initial screen of the line testing will be displayed.

2. Key Operations

• Line testing screen display

1. To switch between the testing screen and menu screen displays press the [CR] key.
2. To test a selected item press the [BACK] key.
3. To revert to the previous screen press the [↑] key.
4. To move to the next test screen press the [↓] key (the display will not change to the next screen, unless the test has been completed successfully).

* For details please refer to descriptions for each screen.

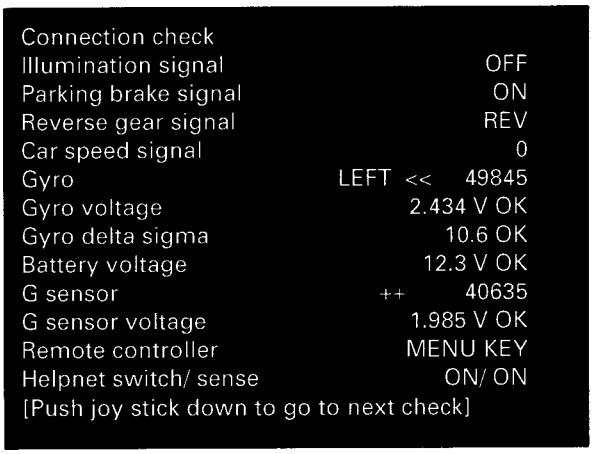
• Menu screen for service

1. Select an item by using the [↑] and [↓] keys, then press the [CR] key to display the test screen.
2. To return to the menu screen press the [BACK] key.

* For details please refer to descriptions on each screen.

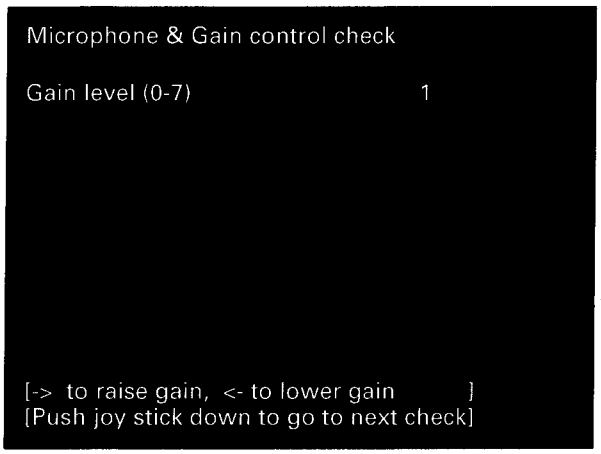
3. Test Screen Display

1. External Connections



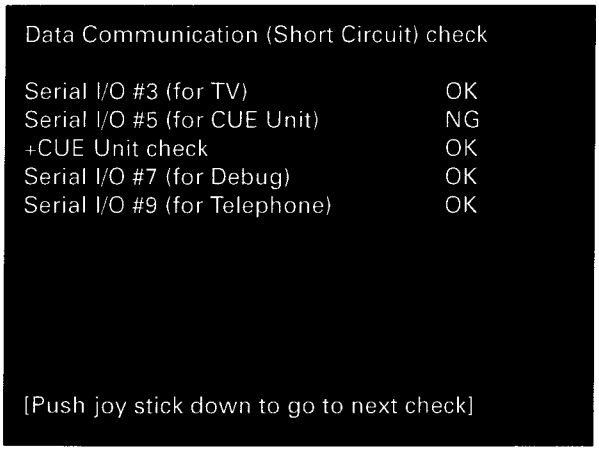
• Status of items listed on the left will be updated every second.
• The VCUE (Pin-9) line will be turned ON during the test.
• The status of the Illumination, Parking Brake and Reverse Gear must change between ON and OFF.
• Pressing the [↓] key will not enable the test to proceed to the next test unless all conditions have been satisfied.

2. Call Origination Microphone Line (Voice Recognition)



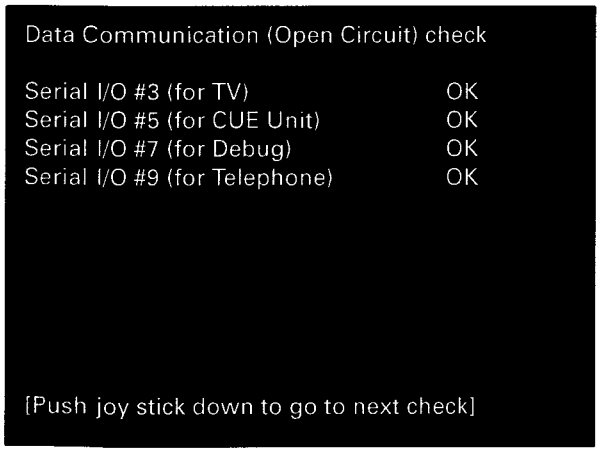
- Voice recognition will be performed and the microphone and speaker line's connectivity tests will be conducted. Please input a voice signal in MICIN to verify the voice recognition's function, operation and input level. The gain of PROGGAIN0 through PROGGAIN2 can be increased or decreased by using the [→] and [←] of the joystick.
- Enable and disable muting of the ONSEIMUTE signal by using the Current Position key as a toggle switch.
- The next test can be performed by pressing the [↓] key.

3. Data Communications (Short Circuit Checks)



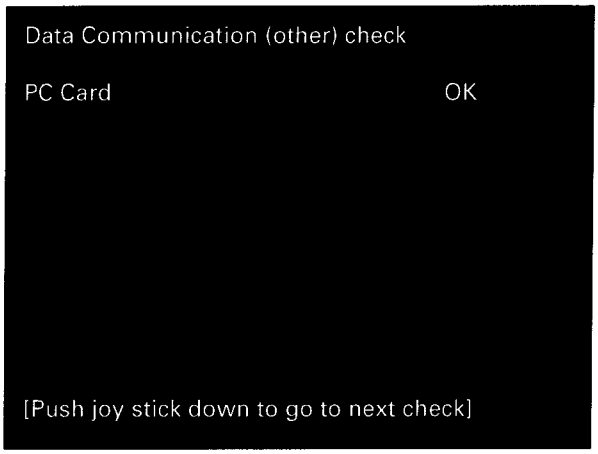
- CUE connection will be checked for short circuits. If the CUE is not connected a loop-back check at CH5 will be performed. If the CUE connectivity or CH5 loop-back check results in an OK, the CH5 test will be successfully completed (OK).
- The SIO #1, #6 and ETC checks, will be skipped.
- If all tests result in an OK the next test can be performed by using the [↓] key.

4. Data Communications (Open Circuit Checks)



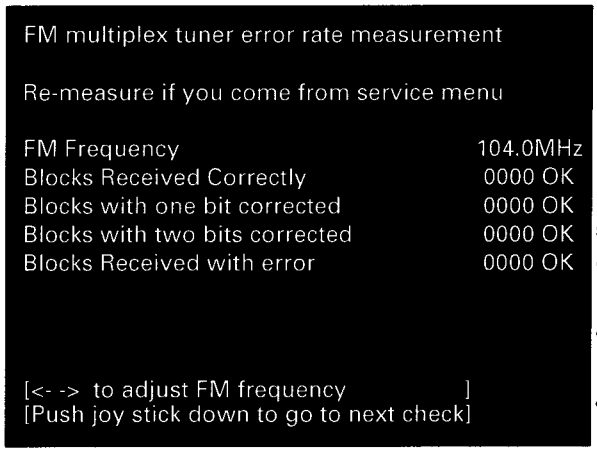
- The SIO connection is checked for open circuits. Please do not connect anything to the pins. If the circuit is determined to be open, the test will result in an OK for each SIO connection.
- The next test can be performed using the [↓] key, if all tests result in OK.

5. Data Communications (Others)



- PC card connection is checked.
- The next test can be performed by pressing the [↓] key, if all tests result in OK.

6. FM Multiplex Error Measurements

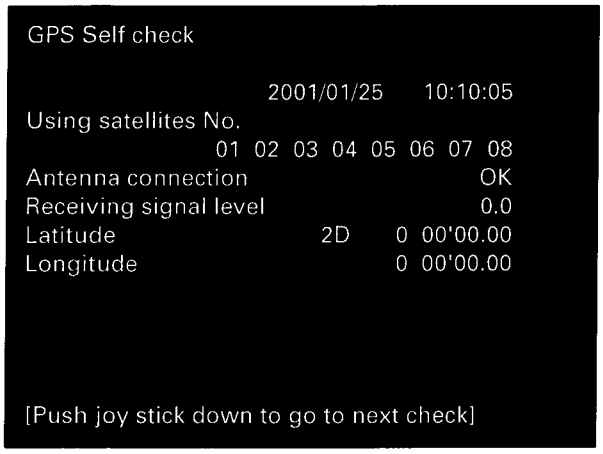


- FM multiplex error measurement is conducted.
- The default frequency is 104.0MHz.
- If the test is performed for the first time, measurements (taken at the time the test disk is started up) will be displayed.
- Please set the frequency to a frequency other than the frequency used in the previous test for all tests following the second test.
- The frequency can be changed by using the [←] and [→] keys after taking a measurement.
- 500 blocks will be tested, and if the error rate is 1% or less, the results will be displayed as "OK".
- The next test can be performed by pressing the [↓] key, if the test results in an OK.

7. Natural Image and Navigator P-side-P

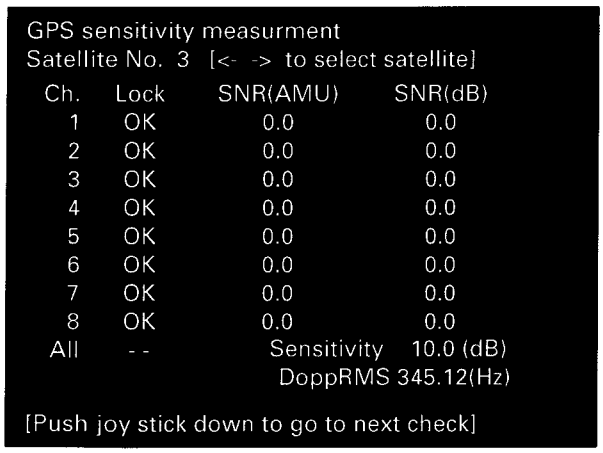
- A 256-color natural image will be displayed as a background image, and the right half of the image will be changed to a chroma key color.
- The 1kHz sine wave, with a sampling rate of 22kHz, will be output for 30 seconds.
- If the test screen is displayed, turn the guidance audio ON, then turn it OFF when the screen is no longer displayed.
- The sound volume can be altered by pressing the [←] and [→] keys (from level 0 to 9).
  [JPEG file name: HITO1.JPG]
  [audio file name: A19K01KR.WAV]
- The next test can be performed using the [↓] key.

8. GPS Reception



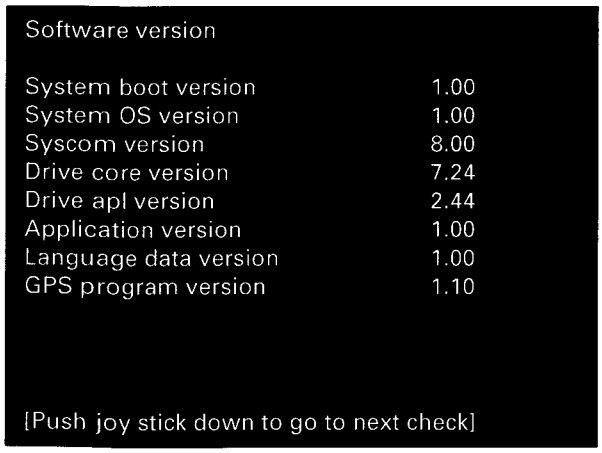
- The status of the GPS reception will be displayed.
- Verification is made to ensure that the antenna connection is OK and that the latitude and longitude measurements are 1 degrees or more, resulting in a three-dimensional binary measurement. If these conditions have been verified to satisfy the requirements, the process can proceed to the next step.
- The next test can be performed by pressing the [↓] key.

9. GPS Sensitivity Measurements



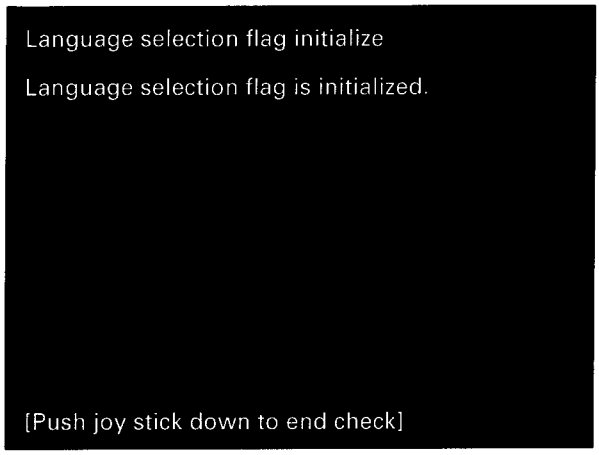
- The sensitivity of the GPS selected by the [CR] key will be displayed.
- The GPS selection can be changed by pressing the [←] and [→] keys.
- The next test can be performed by pressing the [↓] key.

10. Software Version Display



- The software version will be displayed.
- The next test can be performed by pressing the [↓] key.

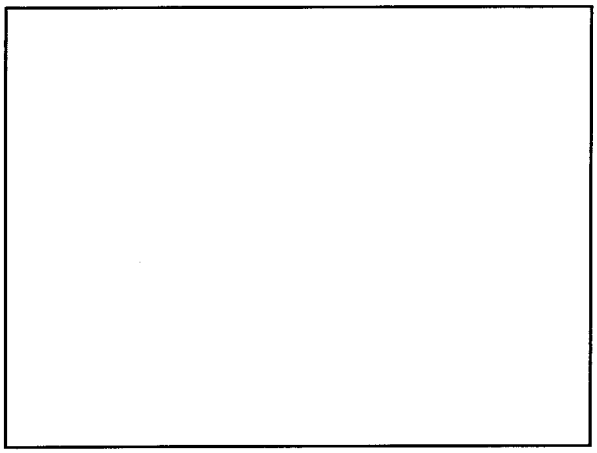
11. Language Selection Flag Initialization



- Settings will be reset to the shipping conditions upon entering into this test stage (no settings).
- Settings will be performed at the time this test starts.
- The [↓] key will terminate the production engineering test.

4. Menus for Service

1. Display Image RGB

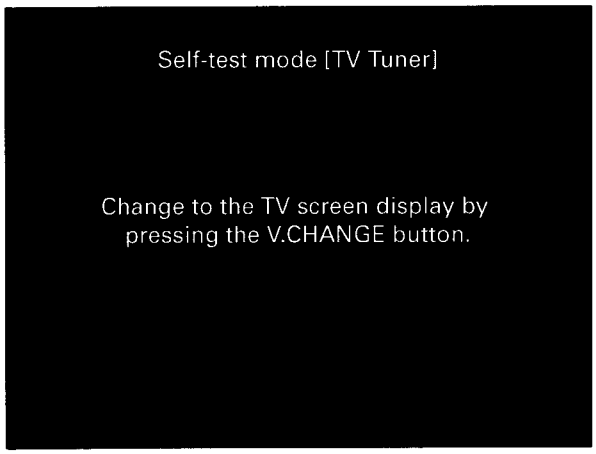


- This is a test for the RGB image display.
- The display can be switched by pressing the [←] and [→] keys.

* An RGB image display is performed in the order of R100% -> R50% -> G100% -> G50% -> B100% -> B50%.

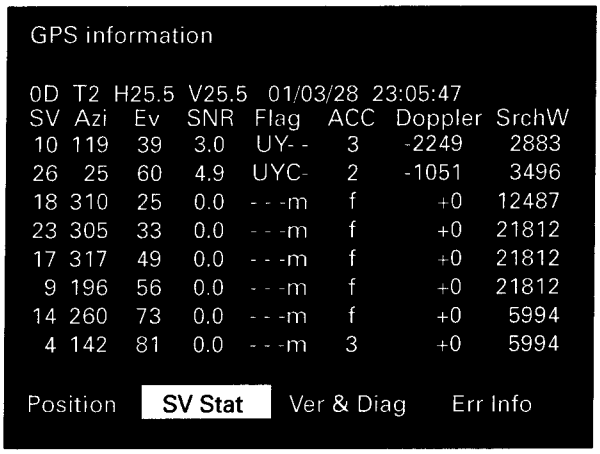
- A total of six screen images will be displayed.

2. TV Tuner



- The display can be switched to the TV screen display by pressing the V.CHANGE button.
- Channels can be switched between 1, 8, 12, 13, 39 and 62 by using the up and down motion of the joystick.
- Turning and holding the joystick to the right or left causes the seek action to go up or down.
- Turning the joystick quickly to the right or left will cause the manual channel to scroll up or down.

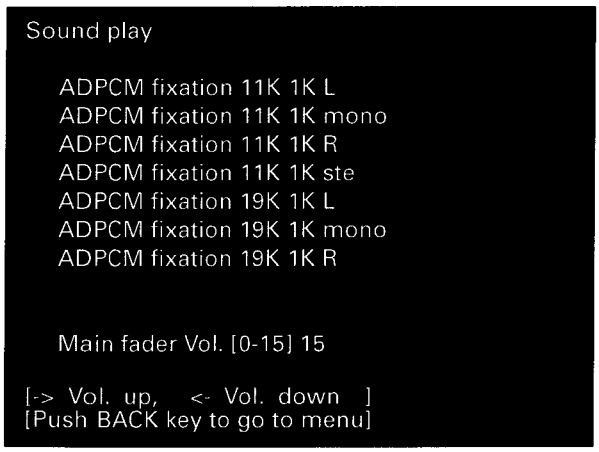
3. GPS Information



- 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.

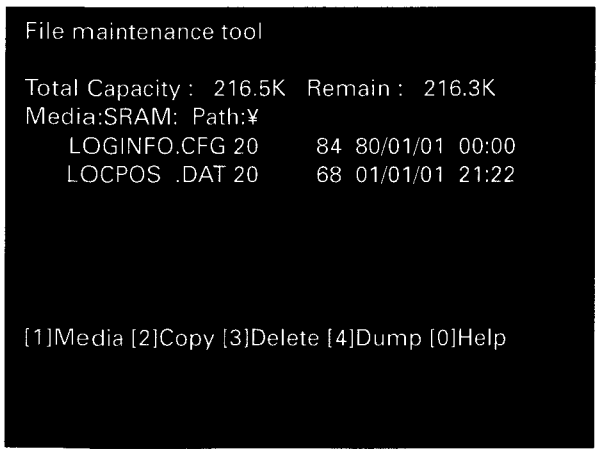
(The screen displayed shown here represent pressing the [CR] key when the cursor will be over the "SV Stat.")

4. Audio Reproduction



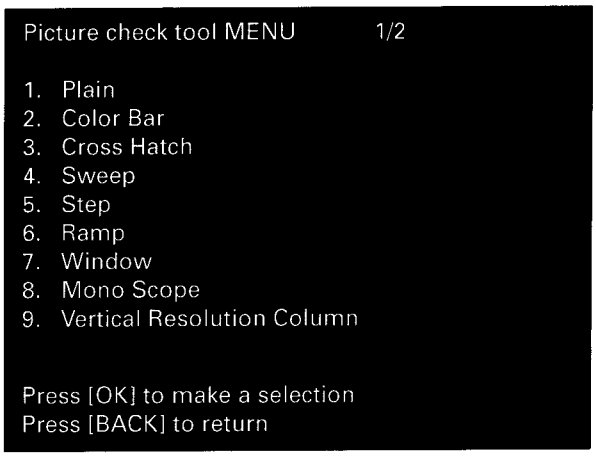
- The audio selected by the [CR] key will be reproduced.
- The audio selection can be changed by using the [←] and [→] keys.

5. File Management



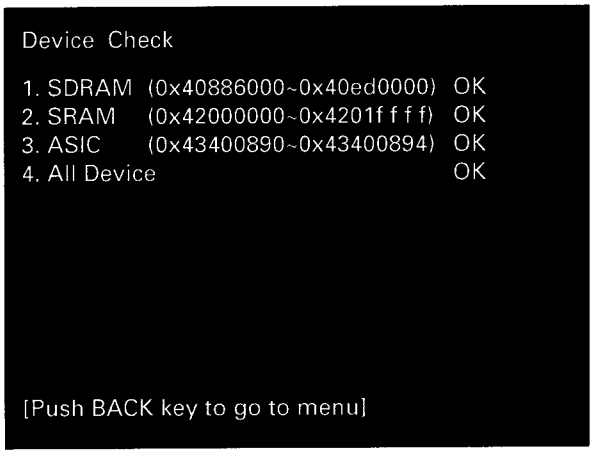
- The copying, deleting and dumping of files can be performed. Please refer to the HELP for details concerning the use of individual functions.

6. Display Image Check



1. Plain
... White, yellow, light blue, green, purple, red and blue are displayed by using the [←] and [→] keys.
2. Color bar
... These are white, yellow, light blue, green, purple, red and blue, from left to right.
3. Cross hatch
4. Sweep
5. Step
6. Ramp
7. Window
8. Monoscope
9. Frequency line
10. Horizontal stripe 1
11. Horizontal stripe 2
12. Japanese Kanji character pattern
13. Map (map.jpg)
14. Natural image (nature.jpg)
15. Portrait 1 (hito1.jpg)
16. Portrait 2 (hito2.jpg)

7. Device Check (for technical purposes only)



- The devices listed to the left are tested for technical purposes only.
- Selections are made by pressing the [↓] and [↑] keys, and then by pressing the [CR] key.
- If the test pattern is selected, the test will start.

7.1.3 DISASSEMBLY

● Removing the Case (not shown)

1. Remove the screw and then remove the Case.

● Removing the DVD Mechanism Module (Fig.1)

1 Remove the four screws.

Disconnect the connector and then remove the DVD Mechanism Module.

● Removing the Interface PCB (Fig.1)

2 Remove the two screws.

3 Remove the two screws.

Disconnect the connector and then remove the Interface PCB.

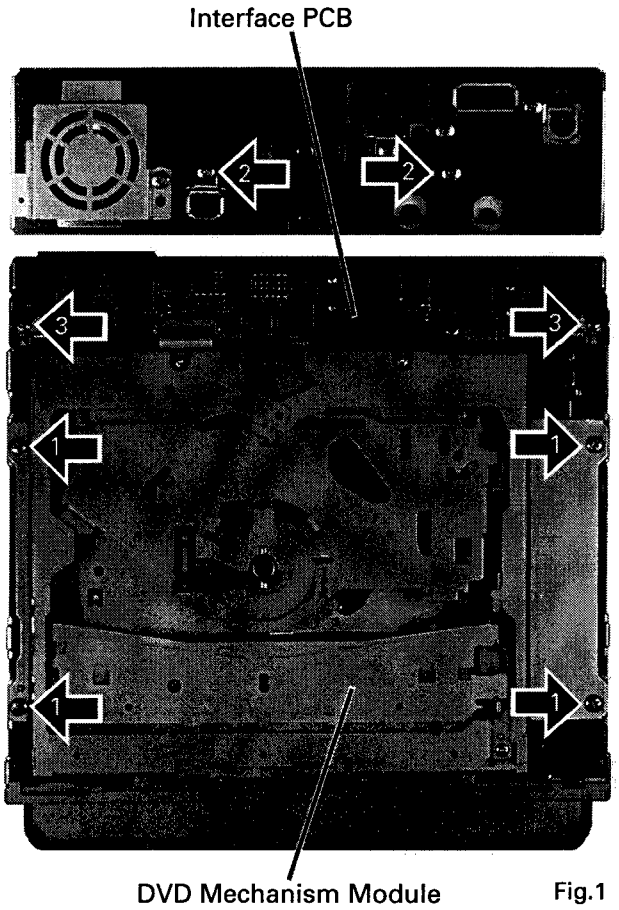


Fig.1

● Removing the Grille Assy (not shown)

1. Remove the Grille Assy.

● Removing the CC Unit (Fig.2)

1 Remove the solder and then straight the tab at location indicated.

2 Remove the three screws and then remove the CC Unit.

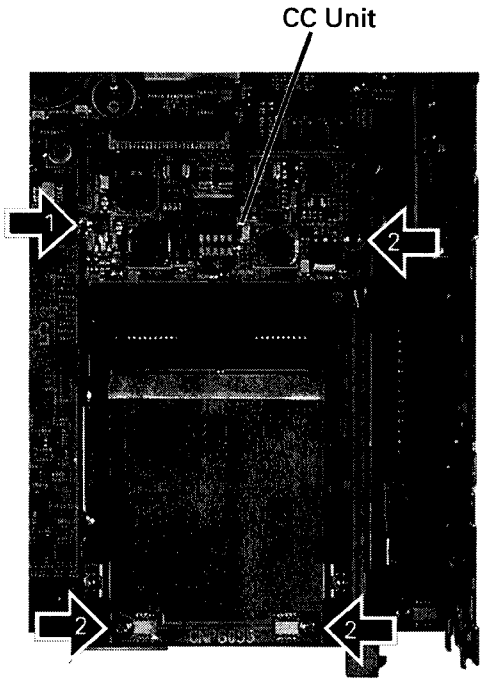


Fig.2

● **Removing the Main PCB (Fig.3)**

1. Remove the screw and then remove the Holder and the Battery.
2. Remove the screw and then remove the Fan Motor.
3. Remove the four screws.
4. Remove the six screws and then remove the Main PCB.

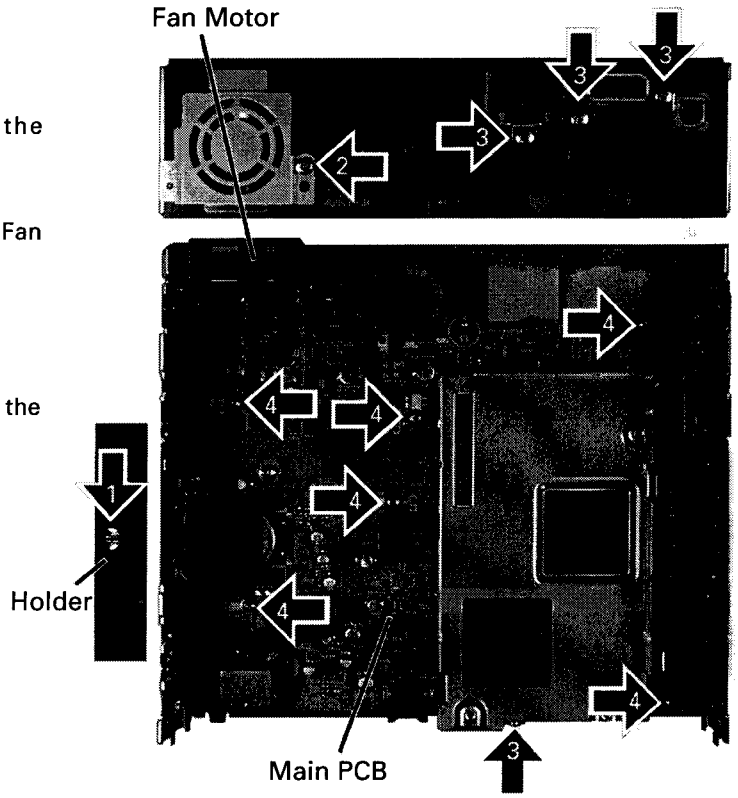


Fig.3

● Handling the mechanical module

1. The mechanical module should be handled by holding the upper frame and main frame of the mechanical module.
2. The front section of the upper frame is not very sturdy, so this section should not be held too firmly (see fig. 1).

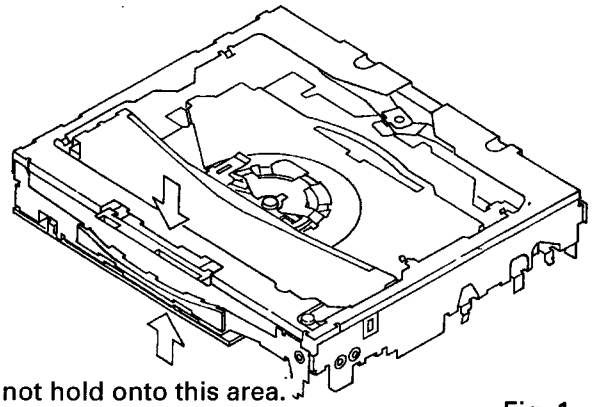


Fig. 1

● Removing the DVD CORE UNIT

1. Bring the mechanism to a locked position (disk load standby position).
2. Turn the mechanical module upside down.
3. Set the pick-up flexible cable to a shorted position on the land end (the other is auxiliary), and turn the SW knob in the direction opposite to OP (see fig. 2).
4. Remove the pick-up flexible cable and the CRG flexible cable from the connector. Remove the solder on the lead wires of the load motor.
5. Remove screws at three locations, and remove the DVD Core Unit (lift the board in the direction of the white arrow shown in fig. 3, and remove it out diagonally).

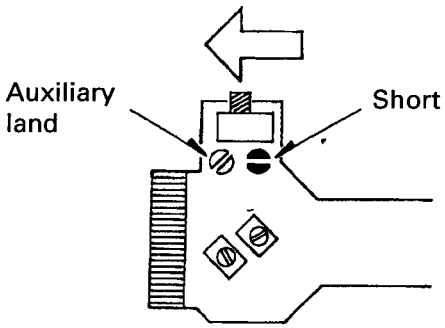


Fig. 2

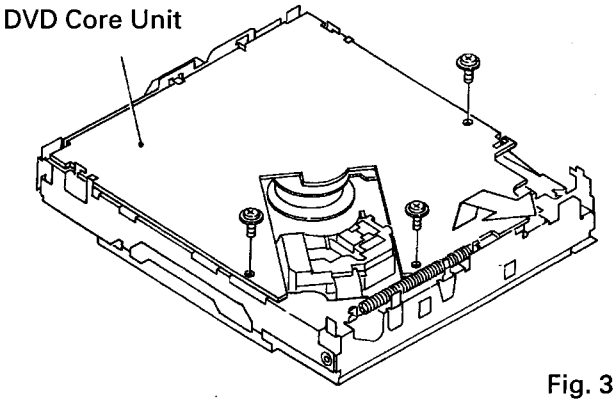


Fig. 3

● Removing the PU unit (see fig. 4)

1. Remove the DVD Core Unit according to the "Removing the DVD Core Unit" procedure described in the previous page.
2. Lift the pick-up rack to the center of the axis of the rack, turn it 90 degrees first, then press on it lightly, and fix it in place temporarily.
3. Remove the screw that keeps the main shaft clamp spring in place, and remove the main shaft clamp spring.
4. Remove the PU unit with the main shaft attached.

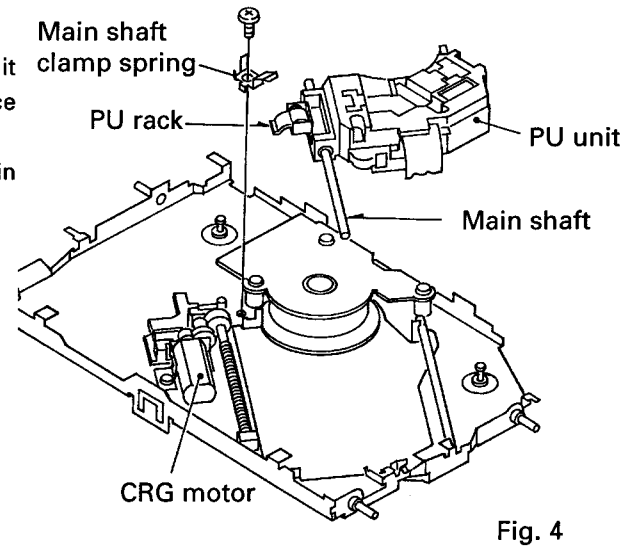
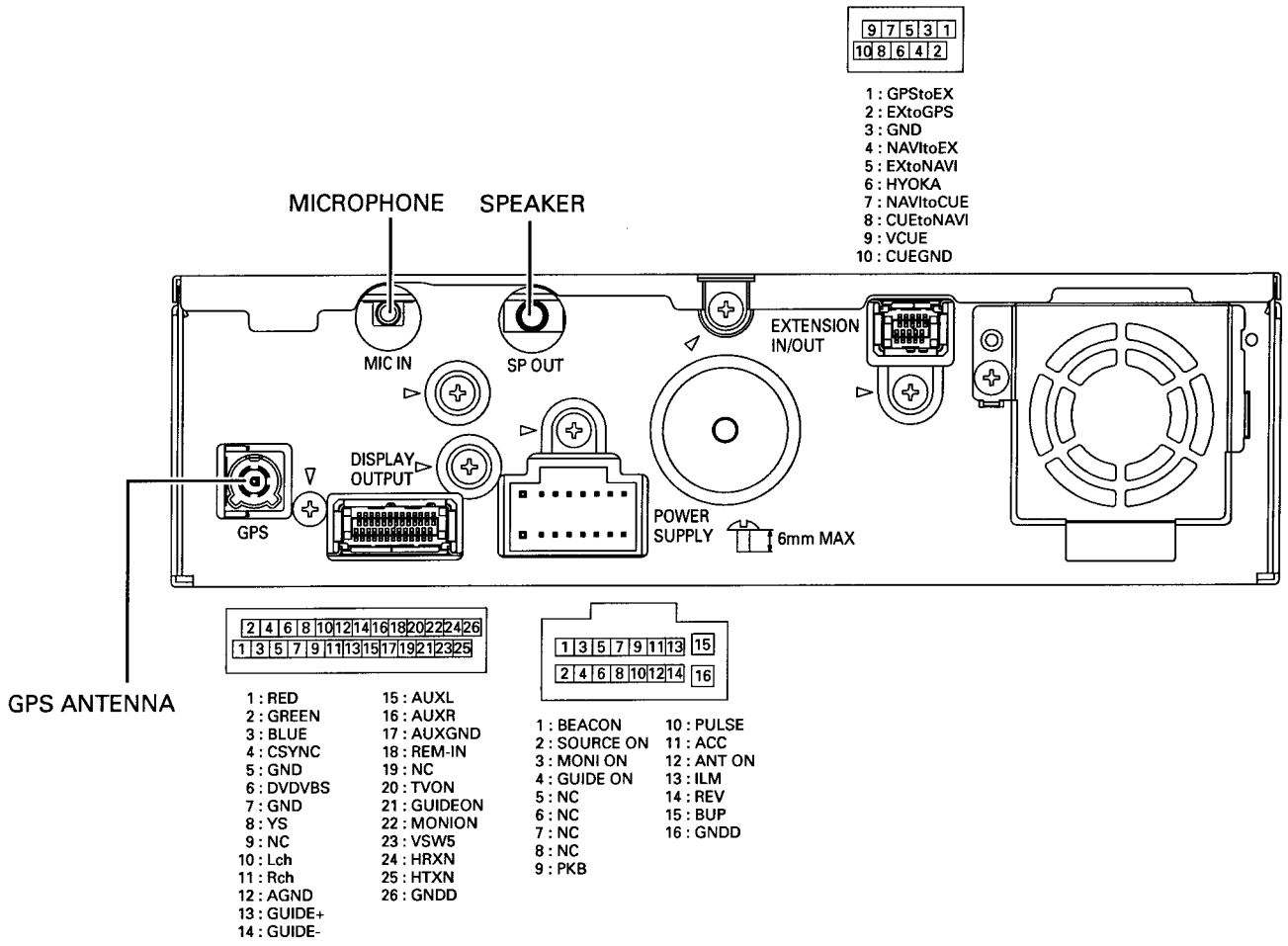


Fig. 4

7.1.4 CONNECTOR FUNCTION DESCRIPTION



9 7 5 3 1
10 8 6 4 2

1 : GPStoEX
2 : EXtoGPS
3 : GND
4 : NAVItoEX
5 : EXtoNAVI
6 : HYOKA
7 : NAVItoCUE
8 : CUEtoNAVI
9 : VCUE
10 : CUEGND

2 4 6 8 10 12 14 16 18 20 22 24 26
1 3 5 7 9 11 13 15 17 19 21 23 25

1 : RED
2 : GREEN
3 : BLUE
4 : CSYNC
5 : GND
6 : DVDVBS
7 : GND
8 : YS
9 : NC
10 : Lch
11 : Rch
12 : AGND
13 : GUIDE+
14 : GUIDE-
15 : AUXL
16 : AUXR
17 : AUXGND
18 : REM-IN
19 : NC
20 : TVON
21 : GUIDEON
22 : MONION
23 : VSW5
24 : HRXN
25 : HTXN
26 : GNDD

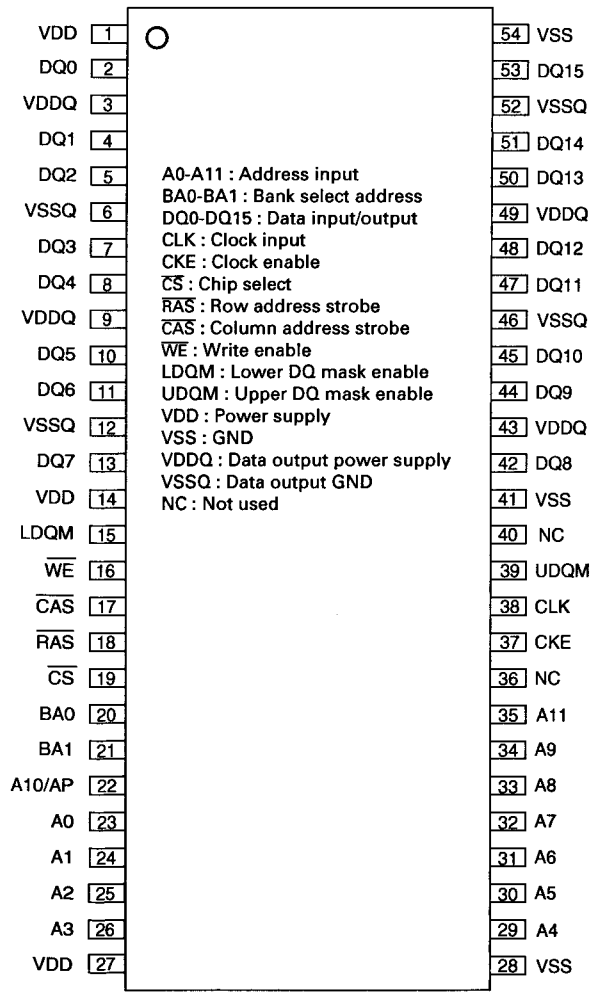
1 3 5 7 9 11 13 15
2 4 6 8 10 12 14 16

1 : BEACON
2 : SOURCE ON
3 : MONI ON
4 : GUIDE ON
5 : NC
6 : NC
7 : NC
8 : NC
9 : PKB
10 : PULSE
11 : ACC
12 : ANT ON
13 : ILM
14 : REV
15 : BUP
16 : GNDD

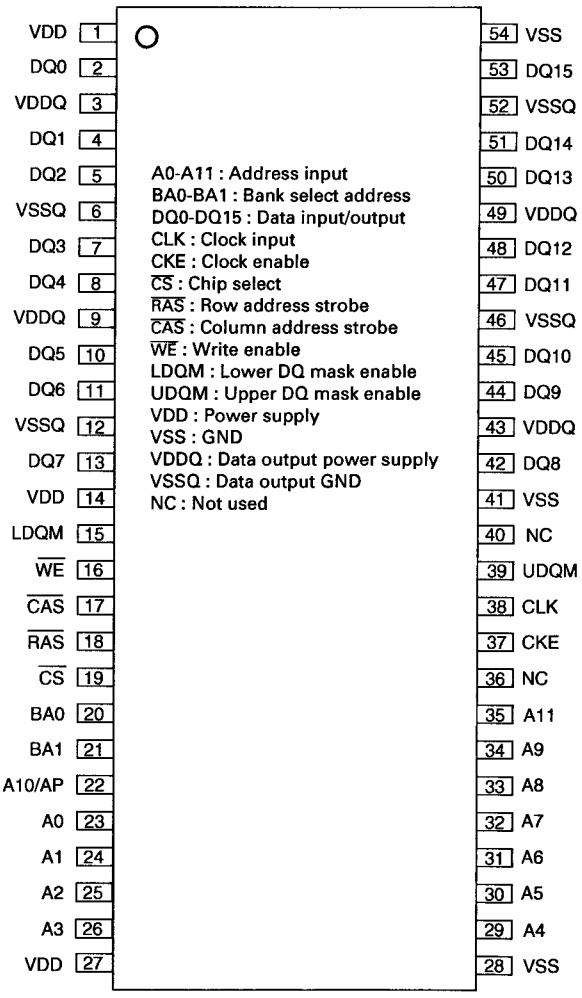
7.2 IC

K4S281632C-TL1L
M2V2840ATP-7L
TC7SZ08FU
UPD705103GM-180
PD6336B
TC74LCX08FT
TC7SH00FU
PD6373C
PD6374C
MB86291PFVS-G-DL
TC7WH08FU
PCM1725U
LP3965ES-ADJ
PCM1801U
TPS5102IDBT
PE5228A
TC7S14FU
TC7W126FU
TDA7052A
TPS5103IDB
MAX6364PUT29
PD6362B
AN8702FH
MN677061ZYUB
MNZS25BDAUB
TC74LCX244FT
MSM56V16160F8TKFM
TC74VCX74FT
MN677532JAUB
TC74VCX04FT
SM8703AV
PD6354B
AK4380VT
TC74VCX08FT
PE5277B
BA033SFP
BA18BC0WFP
BA00BC0WFP

*K4S281632C-TL1L

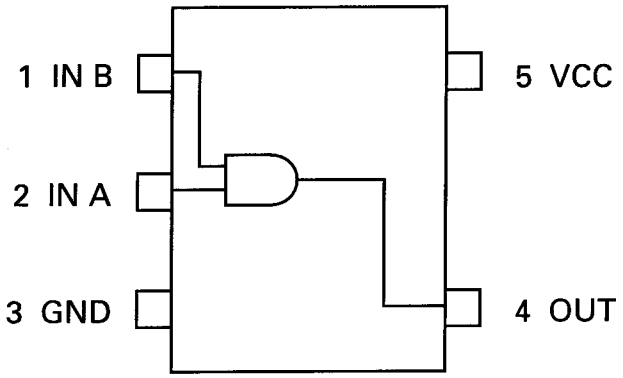


*M2V2840ATP-7L



IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

*TC7SZ08FU



*UPD705103GM-180

*PD6336B

● Pin Arrangement Chart

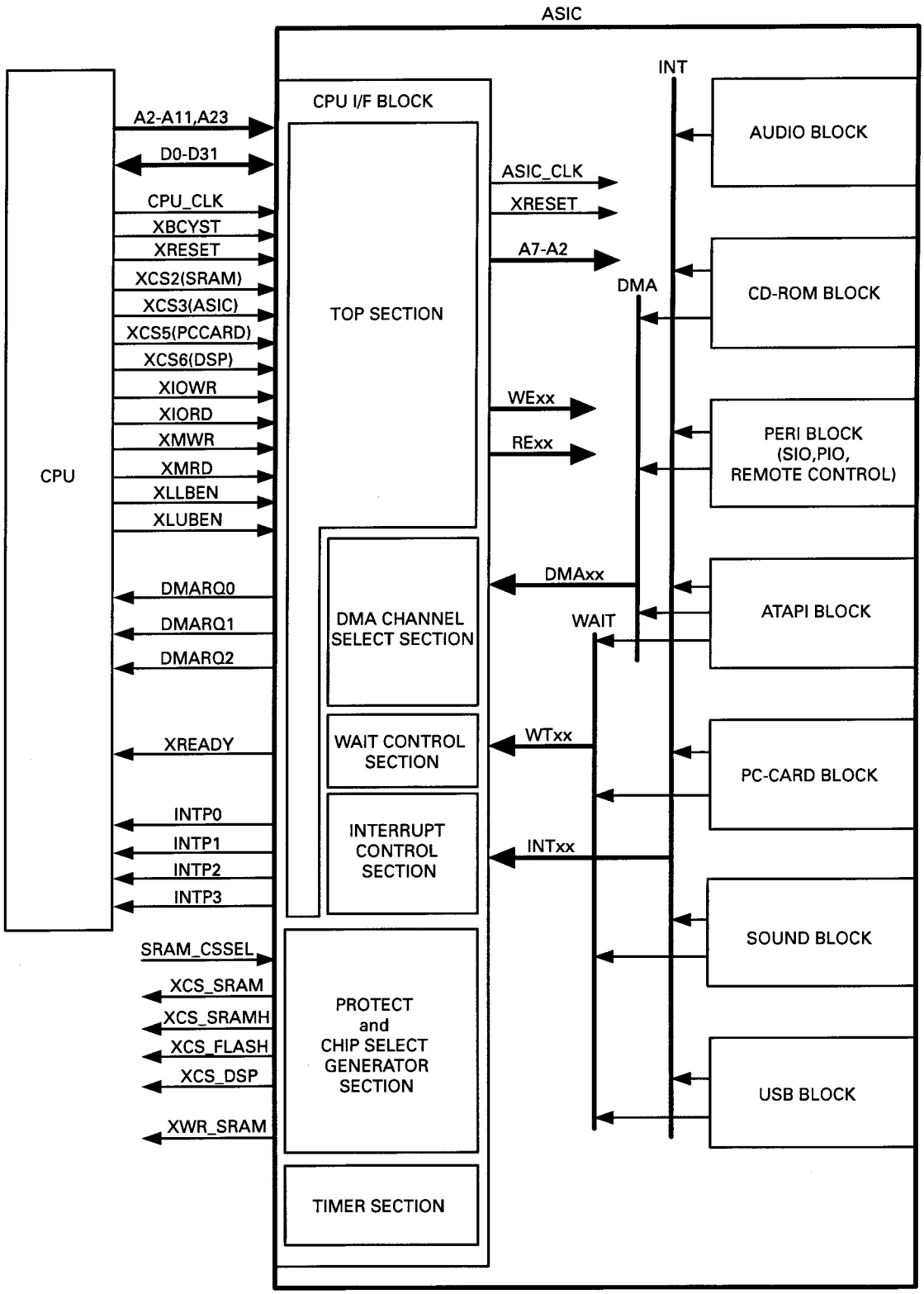
1	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64
2	85	160	159	158	157	156	155	154	153	152	151	150	149	148	147	146	145	144	143	142	63
3	86	161	228	227	226	225	224	223	222	221	220	219	218	217	216	215	214	213	212	141	62
4	87	162	229	288	287	286	285	284	283	282	281	280	279	278	277	276	275	274	211	140	61
5	88	163	230															273	210	139	60
6	89	164	231															272	209	138	59
7	90	165	232															271	208	137	58
8	91	166	233															270	207	136	57
9	92	167	234															269	206	135	56
10	93	168	235															268	205	134	55
11	94	169	236															267	204	133	54
12	95	170	237															266	203	132	53
13	96	171	238															265	202	131	52
14	97	172	239															264	201	130	51
15	98	173	240															263	200	129	50
16	99	174	241															262	199	128	49
17	100	175	242															261	198	127	48
18	101	176	243															260	197	126	47
19	102	177	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	196	125	46
20	103	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	124	45
21	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	44
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43

TOP VEIW

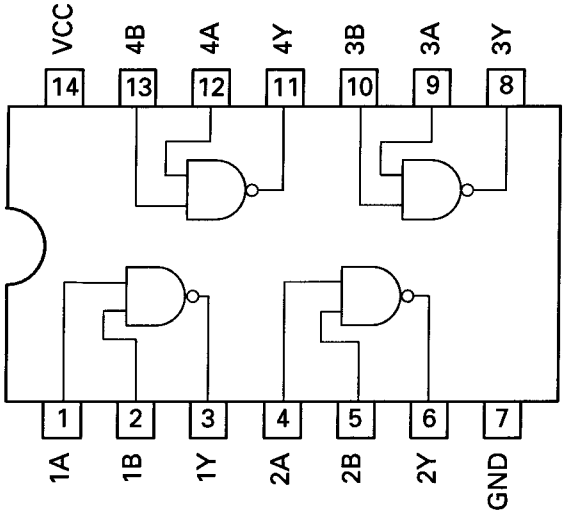
VSS	PIO27	DSP_BCLKI	PIO25	PIO24	PIO22	OVDD3	DSP_BDI	DSP_BFSI	DSP_XHINT	DSP_HRDY	OVSS6	DSP_BFSO	DSP_BCLKO	XCS_SRAMH	OVDD2	DSP_XRS	DSP_ATTCNT	D31	CD_MCLK	ADC_GCNT2	VSS
PIO29	PIO28	PIO26	D4	D6	OVSS7	D10	XCS_DSP	D14	PIO23	D18	D20	DSP_BDO	D24	PIO_OUT	OVSS5	TEST1	CD_LRCLK	CD_BLK	ADC_GCNT0	ADC_GCNT1	ADC_DATA
USBXPWREN	XCS_FLASH	D2	D3	D5	D8	D9	D12	D13	D16	D17	D19	D22	D23	D26	D27	D29	D30	A2	A3	ADC_BCLK	ADC_LRCLK
USBXOVRCUR	D0	D1	VSS	VDD	D7	VDD	D11	VSS	D15	VDD	VDD	D21	VSS	D25	VDD	D28	VSS	VSS	A4	ADC_MCLK	TEST4
UVD1M	XMRD	XMWR	VSS															VDD	A5	A6	EXTAL1
UVD1P	USBPWREN	XLLBEN	XLUBEN															VPDP	A7	A8	OVSS4
UVD2M	XIOWR	XIORD	VDD															VDD	A9	A10	XTAL1
UVD2P	NC	NC	NC															A11	A12	TEST2	TEST3
USBOVRCUR	NC	NC	VSS															VSS	PC_READY	DAC_MCLK	DAC_LRCLK
USB_CLK	NC	NC	NC															PC_XVS2	PC_RESET	DAC_BCLK	DAC_DATA
XCS_SRAM	XREADY	XBCYST	VDD															VDD	PC_WXT	PC_XREG	PIO21
XWR_SRAM	SRAM_CSSEL	XCS2	VDD															VDD	PC_BVD2	PC_A0	OVSS3
PIO31	PIO30	XCS3	XCS5															PC_BVD1	PC_WP	PIO20	CD_DATA
IR_RX	XCS6	DREQ0	VSS															VSS	PC_XCD2	PIO19	PIO18
TEST0	XTST	DREQ1	DREQ2															PC_XCD1	PC_XCE1	PIO17	PIO16
XTAL0	SMCK	INT3	VDD															VDD	PC_XCE2	PIO15	PIO14
MST	XSM	INT2	INT1															PC_XOE	PC_XVS1	PIO13	PIO12
EXTAL0	GDC_WT	INT0	VDD															VSS	PC_XIORD	PIO11	PIO10
UART9_TXD	UART9_RXD	ATA_DA0	VSS	VSS	ATA_XDIOR	VDD	ATA_DD1	VSS	ATA_DD5	VDD	VDD	ATA_DD10	VSS	ATA_DD14	VDD	ATA_XCS0	VDD	VSS	PC_XIOWR	PIO9	PIO8
UART8_TXD	UART8_RXD	ATA_DA1	ATA_INT	ATA_XDMACK	ATA_IORDY	ATA_DMARQ	ATA_DD0	ATA_DD3	ATA_DD4	ATA_DD7	ATA_DD8	ATA_DD9	ATA_DD12	ATA_DD13	ATA_DA2	ATA_XCS1	PC_XPWR	PC_XUBUF	PC_XWE	PIO7	PIO6
UART7_TXD	UART7_RXD	UART6_RXD	OVSS0	UART4_RXD	XRESET	ATA_XDIOW	UART3_RXD	ATA_DD2	UART1_RXD	ATA_DD6	ATA_XRESET	UART_XDCD	ATA_DD11	UART_XRI	ATA_DD15	UART1_XDTR	ATA_DIR	PC_XLBUF	PIO2	PIO5	PIO4
VSS	UART6_TXD	UART5_RXD	UART5_TXD	UART4_TXD	UART3_TXD	OVDD0	UART2_TXD	UART2_RXD	UART1_TXD	A23	CPU_CLK	OVSS1	UART1_XCTS	UART_XDSR	OVDD1	UART1_XRTS	PIO0	PIO1	OVSS2	PIO3	VSS

TOP VEIW

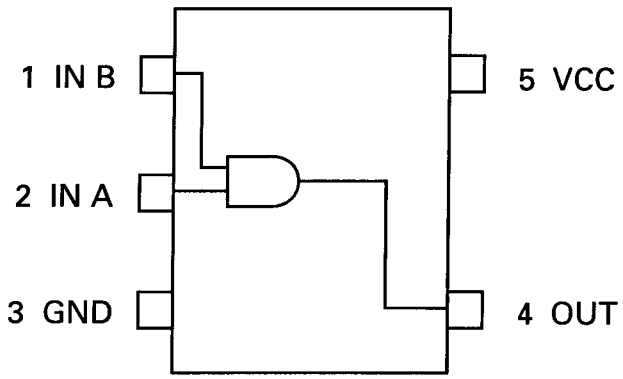
● Block Diagram Chart



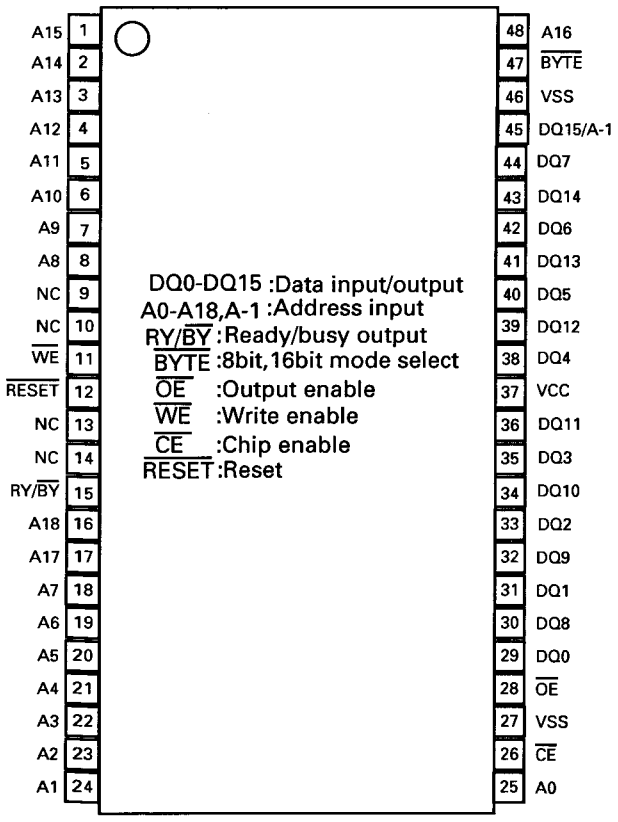
*TC74LCX08FT



*TC7SH00FU



*PD6373C



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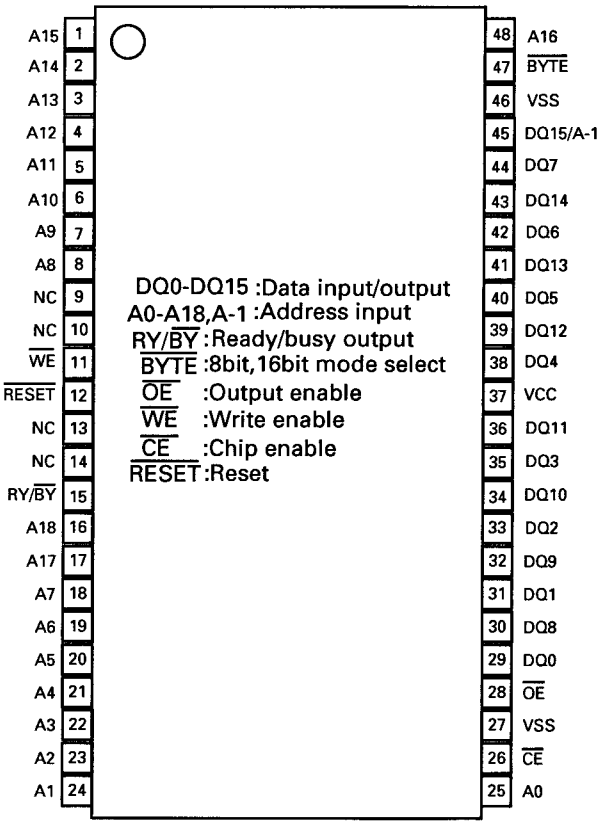

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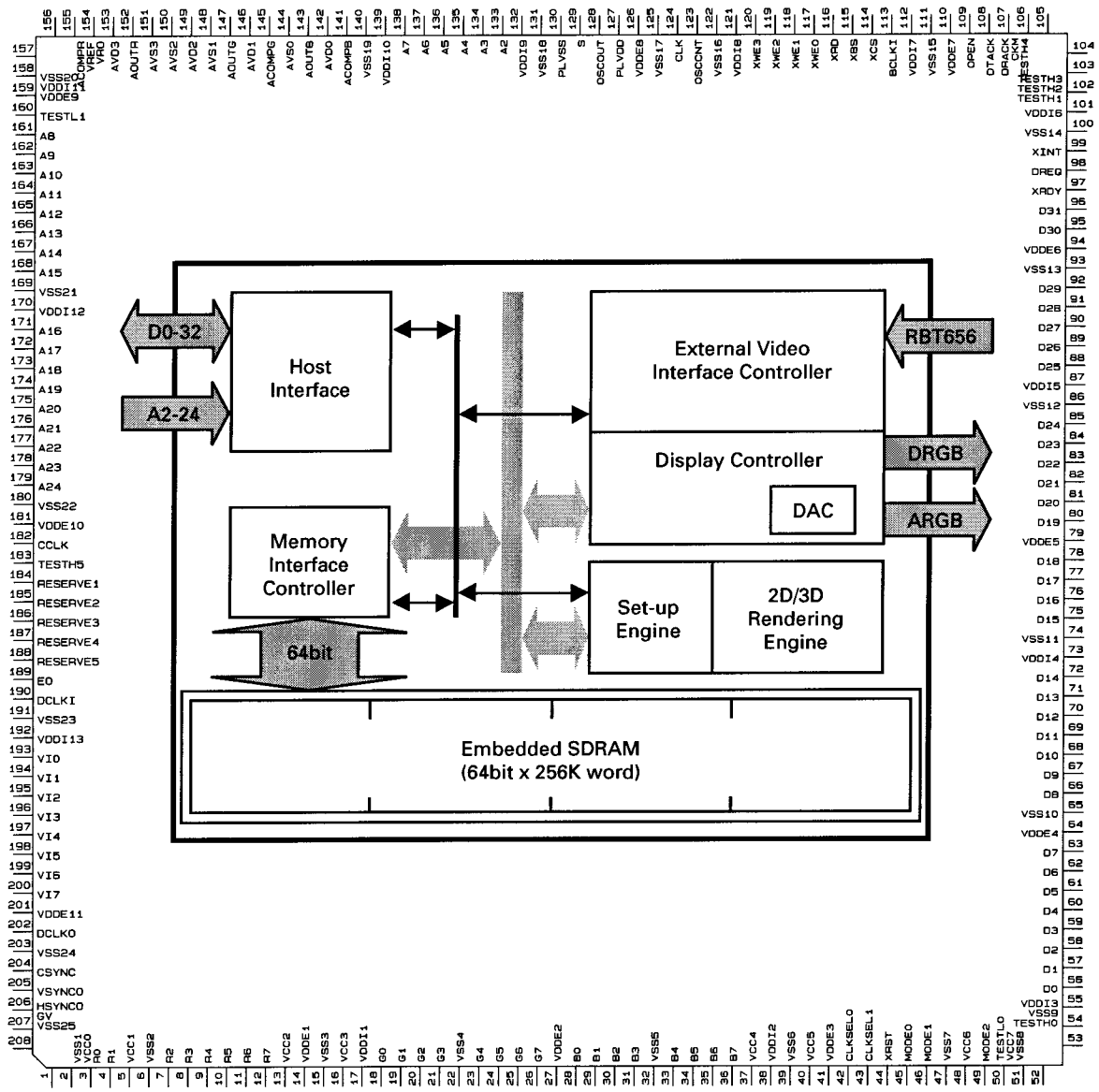

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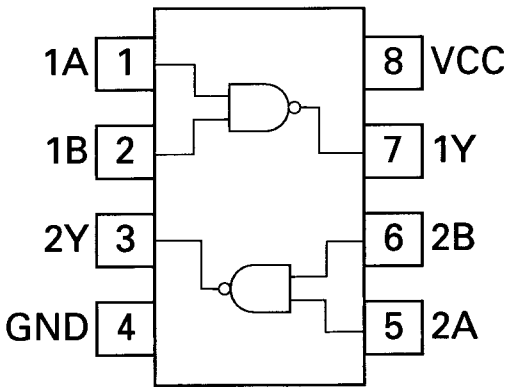

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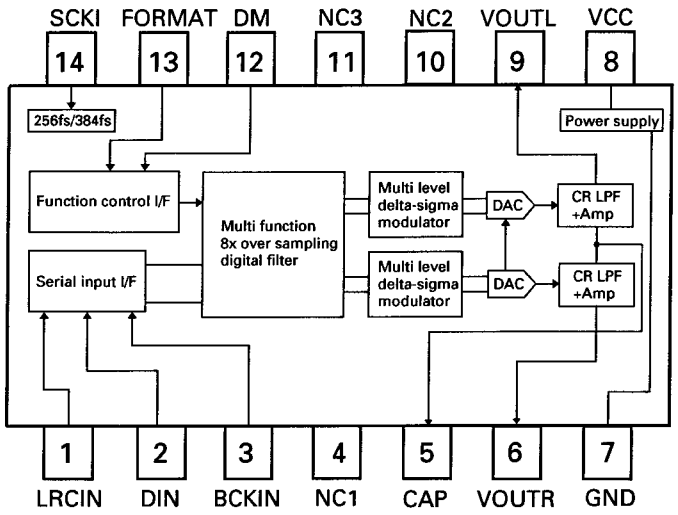

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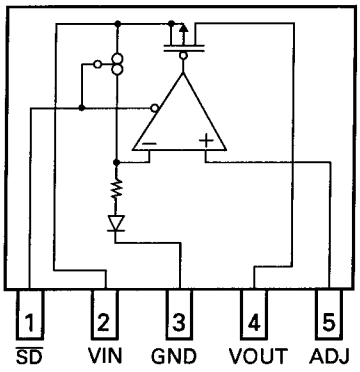

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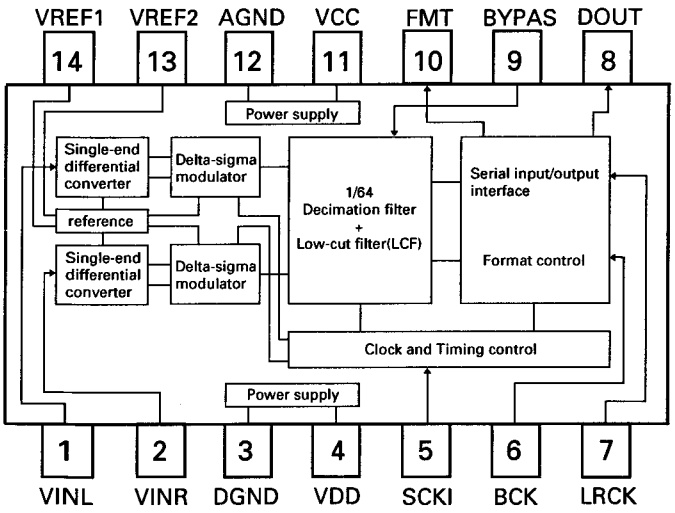

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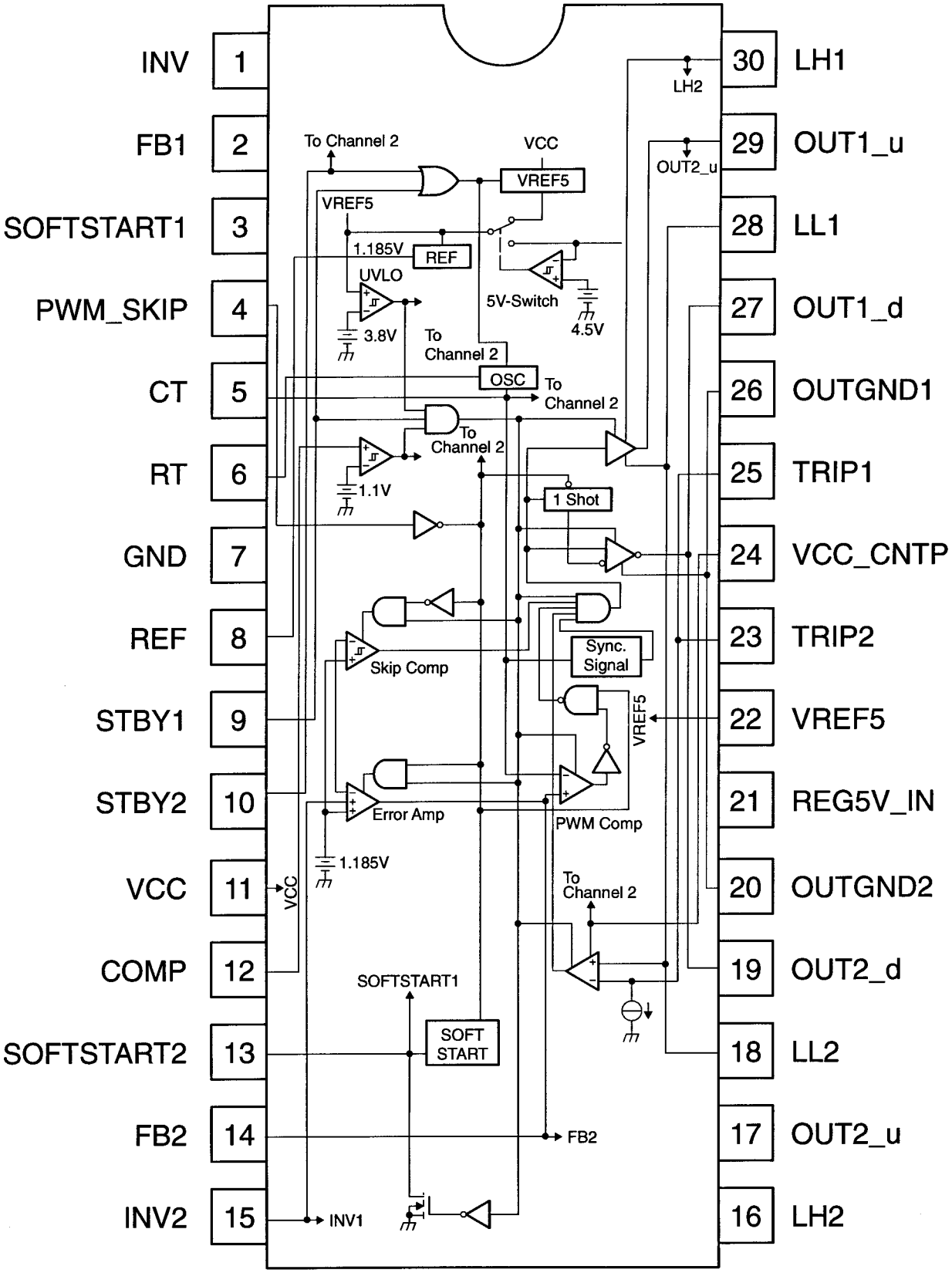
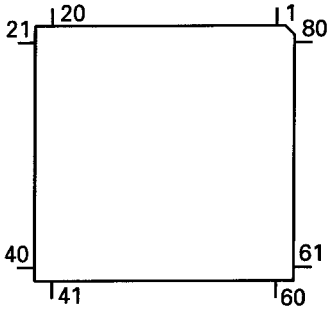


● **Pin Functions (PE5228A)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1-3	NC			Not used
4	AVSS			A/D GND
5	VOL	O		Guide voice volume output
6	NC			Not used
7	AVREF1			(D/A converter reference voltage)
8	FROMCC	I		Data input from CC UNIT (UART)
9	TOCC	O	C	Data output to CC UNIT (UART)
10	NC			Not used
11	FORMEX	I		Data input from EXT (UART)
12	TOEX	O	C	Data output to EXT (UART)
13-15	NC			Not used
16	TSI/FSI	I		Test program data input
17	TSO/FSO	O	C	Test program data output
18	TSCKFCK	I		Test program clock input
19,20	NC			Not used
21	ROMDT	O	C	ROM collection data output
22	ROMCLK	O	C	ROM collection clock output
23	ROMCS	O	C	ROM collection chip select output
24	ACCPW	O	C	ACC power supply output
25	GPSON	O	C	GPS power supply ON output
26	DRAMPW	O	C	DRAM power supply control output
27	RGBMUTE	O	C	RGB audio mute output
28	RCAMUTE	O	C	RCA audio mute output
29	RSTOUT	O	C	Reset output
30	DVDON	O	C	DVD power supply ON output
31	CCON	O	C	Car computer power supply ON output
32	IRQPOW	O	C	Emergency stand-by request output (BSENS)
33	VSS1			GND
34,35	NC			Not used
36-38	SIMUKE0-2	I		Model detect input 0-2
39,40	SEDAI0,1	I		Generation detect input 0,1
41	TVON	O	C	TV communication enable output
42	ALARMOUT	O	C	Detach warning LED output
43	MAYSNS	I		MAYDAY UNIT detect input (H : No unit)
44-47	CCPORT0-3	O	C	Control port output from CC UNIT 0-3 (Stand-by time = L)
48,49	INPORT0,1	I		Input notice port input to CC UNIT 0,1 (Stand-by time = L)
50	TESTMODE	I		Navigation test mode detect input (H : Test mode)
51	TESTIN	I		Chip test / Enable input (L : Chip test)
52	NC			Not used
53	CPUWDT	I		WDT operation input from CC UNIT
54	NC			Not used
55	M/S	I		Master / Slave input (H : Alone)
56,57	NC			Not used
58	TIMEOUT	I		(L : No time-out)
59	NC			Not used
60	$\overline{\text{RESET}}$	I		Reset input
61	REMIN	I		Remote control data input
62	$\overline{\text{BSENS}}$	I		Back Up sense input
63	$\overline{\text{ASENS}}$	I		ACC sense input
64	HELPIN	I		HELP system SW input
65	DISC	I		DISC detect input
66	NC			Not used
67	VSS0			GND
68	VDD1			Power supply
69	X2			Crystal oscillating element connection pin (Main system)
70	X1			Crystal oscillating element connection pin (Main system)

Pin No.	Pin Name	I/O	Format	Function and Operation
71	TEST/VPP			Connect to GND
72	XT2			Crystal oscillating element connection pin (Sub system)
73	XT1			Crystal oscillating element connection pin (Sub system)
74	VDD0			Power supply
75	AVDD			(A/D converter power supply)
76-80	NC			Not used

*PE5228A



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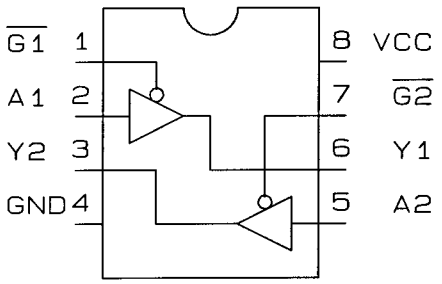

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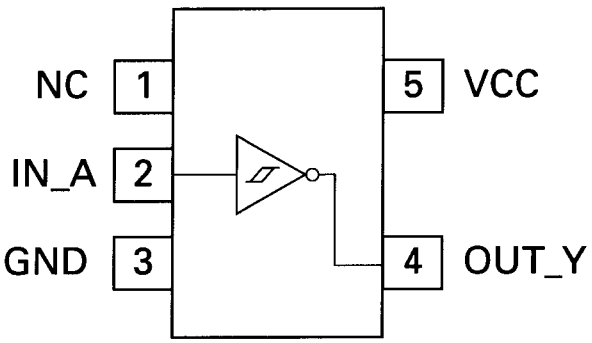

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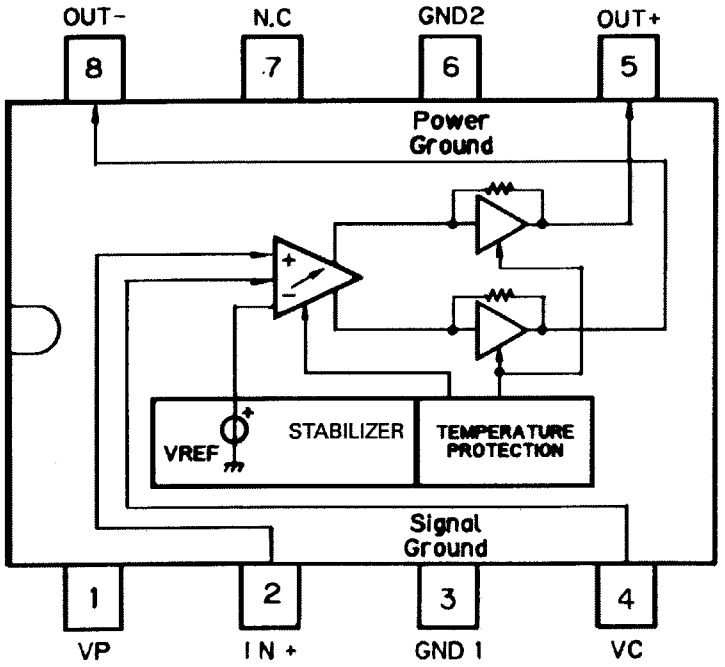

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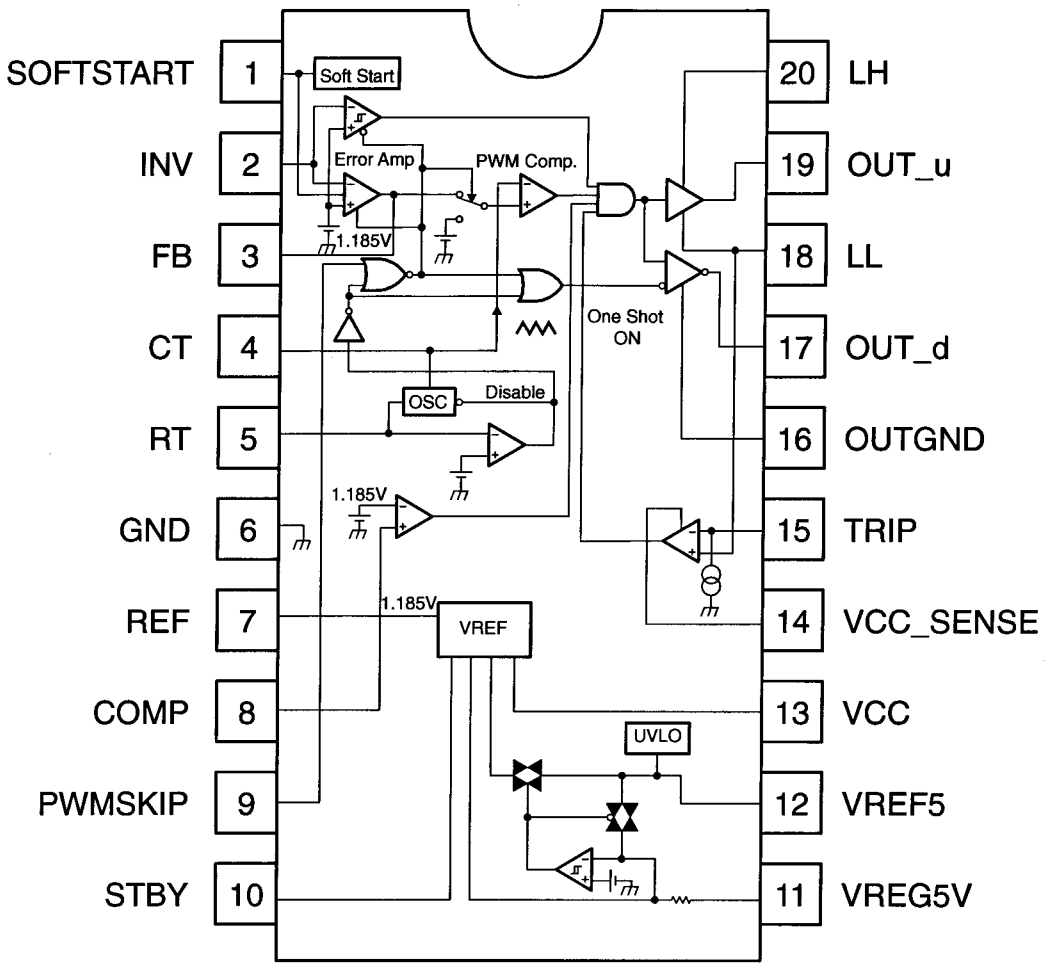

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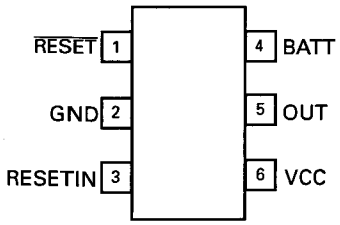

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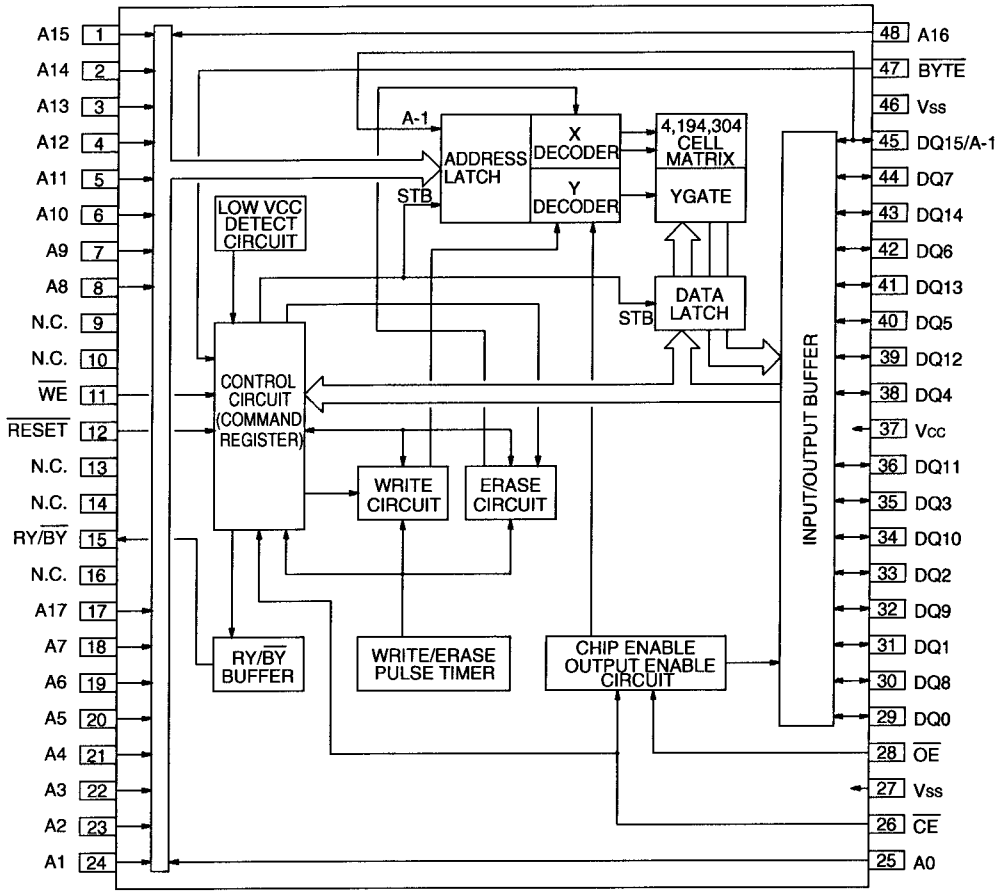
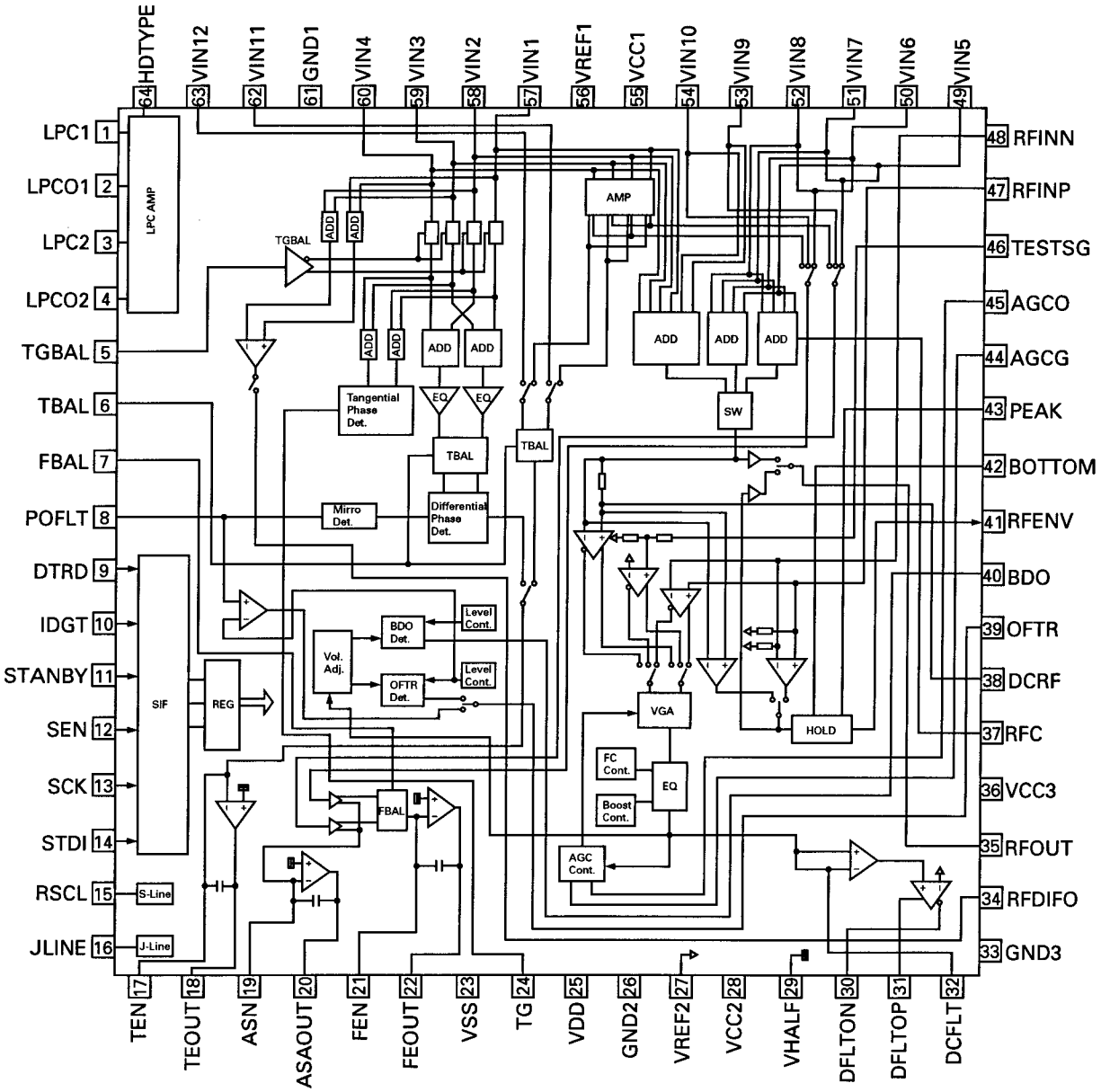

A15 1
A14 2
A13 3
A12 4
A11 5
A10 6
A9 7
A8 8
N.C. 9
N.C. 10
WE 11
RESET 12
N.C. 13
N.C. 14
RY/BY 15
N.C. 16
A17 17
A7 18
A6 19
A5 20
A4 21
A3 22
A2 23
A1 24
48 A16
47 BYTE
46 Vss
45 DQ15/A-1
44 DQ7
43 DQ14
42 DQ6
41 DQ13
40 DQ5
39 DQ12
38 DQ4
37 Vcc
36 DQ11
35 DQ3
34 DQ10
33 DQ2
32 DQ9
31 DQ1
30 DQ8
29 DQ0
28 OE
27 Vss
26 CE
25 A0
A-1
ADDRESS LATCH
STB
X DECODER
Y DECODER
4,194,304 CELL MATRIX
YGATE
LOW VCC DETECT CIRCUIT
DATA LATCH
STB
CONTROL CIRCUIT (COMMAND REGISTER)
WRITE CIRCUIT
ERASE CIRCUIT
INPUT/OUTPUT BUFFER
RY/BY BUFFER
WRITE/ERASE PULSE TIMER
CHIP ENABLE OUTPUT ENABLE CIRCUIT

*AN8702FH

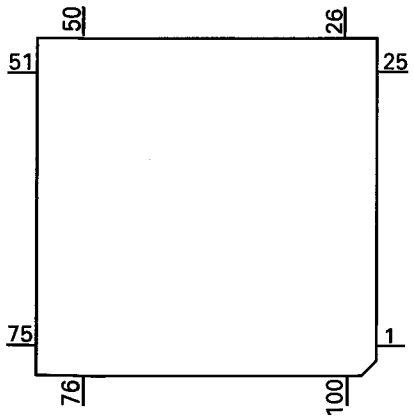

HDTYPE 64
VIN12 63
VIN11 62
GND1 61
VIN4 60
VIN3 59
VIN2 58
VIN1 57
VREF1 56
VCC1 55
VIN10 54
VIN9 53
VIN8 52
VIN7 51
VIN6 50
VIN5 49
LPC1 1
LPCO1 2
LPC2 3
LPCO2 4
TGBAL 5
TBAL 6
FBAL 7
POFLT 8
DTRD 9
IDGT 10
STANBY 11
SEN 12
SCK 13
STDI 14
RSCL 15
JLINE 16
RFINN 48
RFINP 47
TESTSG 46
AGCO 45
AGCG 44
PEAK 43
BOTTOM 42
RFENV 41
BDO 40
OFTR 39
DCRF 38
RFC 37
VCC3 36
RFOUT 35
RFDIFO 34
GND3 33
TEN 17
TEOUT 18
ASN 19
ASAOUT 20
FEN 21
FEOUT 22
VSS 23
TG 24
VDD 25
GND2 26
VREF2 27
VCC2 28
VHALF 29
DFLTON 30
DFLTOP 31
DCFLT 32
LPC AMP
SIF
REG
S-Line
J-Line
AMP
ADD
SW
HOLD
VGA
EQ
FC Cont.
Boost Cont.
AGC Cont.
Tangential Phase Det.
Differential Phase Det.
Mirro Det.
Vol. Adj.
BDO Det.
OFTR Det.
Level Cont.
FBAL
TBAL

● **Pin Functions(MN677061ZYUB)**

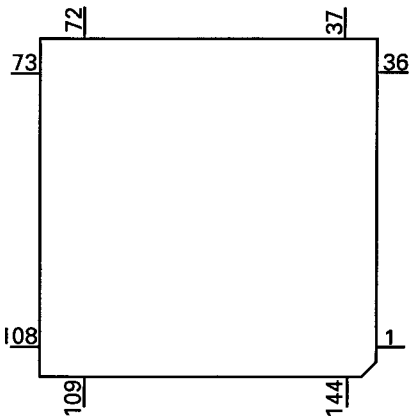
Pin No.	Pin Name	I/O	Function and Operation
1	AS	I	Full adder signal input
2	TE	I	Phase-contrast/Three beam tracking error input
3	FE	I	Focus error input
4	AVDD		Analog power supply (3.3V)
5	FODRV	O	Focus driver output
6	TRDRV	O	Tracking driver output
7	AVSS1		Analog GND
8	ARF	I	Equivalent RF+ input
9	$\overline{\text{ARF}}$	I	Equivalent RF- input
10,11	IREF1,2	I	DBAL reference current input 1,2
12,13	DSLF1,2	I/O	DSL capacitor input/output 1,2
14	AVDD2		Analog power supply (3.3V)
15	VHALF		Reference voltage (1.65±0.1V)
16,17	NC		Not used
18	VREFH		Reference voltage (2.2±0.1V)
19	RVI	I/O	VERFH reference current resistor input/output
20	AVSS2		Analog GND
21,22	PLFLT1,2	O	PLL capacitor output 1,2
23	JITOUT	I/O	Jitter signal monitor input/output
24	N.C.1	I	Open
25	N.C.2	I/O	Pull up
26	NC		Not used
27	AVDD3		Analog power supply (3.3V)
28	N.C.3	I	Pull up
29	N.C.4		Not used
30	AVSS3		Analog GND
31	N.C.5		Pull up
32	N.C.6		Not used
33	N.C.7		Open
34	TRCRS	I	Track cross production signal input
35	VCOF	I/O	JFVCO control voltage input/output
36	DBALO	O	DSL balance adjustment output
37	JLIN	O	J-line set output
38	AVDD4		Analog power supply (3.3V)
39	LOUT	O	Analog audio left output
40	ROUT	O	Analog audio right output
41	AVSS4	I	Analog GND
42	GBAL	O	Tangential balance adjustment output
43	TBAL	O	Tracking balance adjustment output
44	FBAL	O	Focus balance adjustment output
45	VSS331		I/O GND
46	VDD331		I/O power supply (3.3V)
47	OFTR	I	Off track signal input
48	SYSCLK	I	System clock input
49	BDO	I	RF dropout signal input
50	TSTSG	O	Calibration signal output
51	TRSDRV	O	Traverse driver output
52	SPDRV	O	Spindle driver output
53	FG	I	FG signal input
54	N.C.8		Not used
55	CRGDRV	O	Carriage driver output
56	N.C.10		Not used
57	VSS251		GND
58	VDD251		Power supply
59	DTRD	I	Data read control signal output
60	LDGT	I	GND
61	LRCK	O	LR channel data strobe output
62	SBBCLK	O	CD sub code synchronism signal output

Pin No.	Pin Name	I/O	Function and Operation
63	PLLOK	I	PLL drag OK signal input
64	IDHOLD		GND
65	DACLRCK	I	1bit DAC - LR channel data strobe input
66	DACDATA	I	CD 1bit DAC channel data input
67	$\overline{\text{TRON}}$	O	Tracking ON output
68	DACCLK	O	1bit DAC channel data shift clock input
69	IPFLG	O	CIRG error flag output
70	SUBC	O	CD sub code output
71	$\overline{\text{CLDCK}}$	O	CD sub code data frame clock output
72	MINTEST	I	GND
73	TEST	I	GND
74	VSS332		I/O GND
75	VDD332		I/O power supply (3.3V)
76	CHCK40	O	SRDATA clock output
77–80	DAT3–0	O	SRDATA output 3–0
81	VSS333		I/O GND
82	VDD333		I/O power supply (3.3V)
83	TX	O	Digital audio interface data output
84	XRESET	I	Reset input
85	ENS	I	Servo DSC serial I/F chip select input
86	ENC	I	CIRC serial I/F chip select input
87	CPUIRQ	O	Interrupt request output to system computer
88	CPUCLK	I	System computer serial I/F clock input
89	CPUDTIN	I	System computer serial I/F data input
90	CPUDTOUT	O	System computer serial I/F data output
91,92	MONA,B	O	Monitor terminal output A,B
93	CDPLLOK	O	CD PLL drag OK signal output
94	N.C.12		Not used
95	VSS252		GND
96	VDD252		Power supply
97,98	N.C.		Pull up
99	TG	I	Tangential phase-contrast input
100	REFNV	I	RF envelop input

*MN677061ZYUB



*MNZS25BDAUB

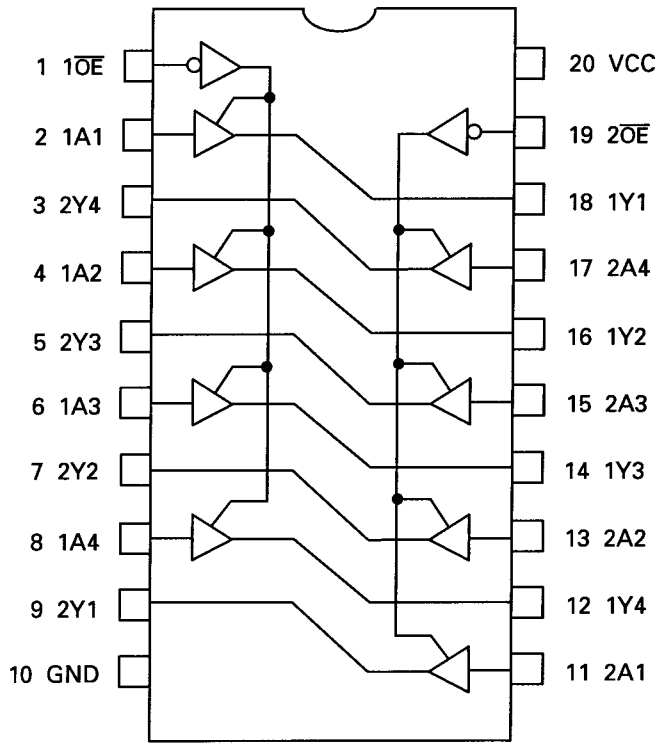


● **Pin Functions(MNZS25BDAUB)**

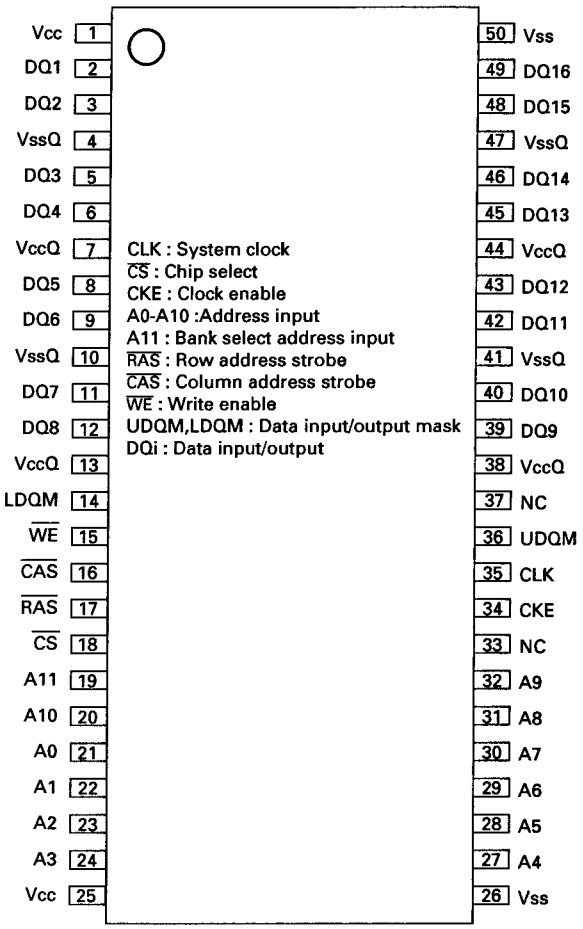
Pin No.	Pin Name	I/O	Function and Operation
1	HDD15	I/O	ATAPI HOST data input/output 15
2	HDD0	I/O	ATAPI HOST data input/output 0
3	HDD14	I/O	ATAPI HOST data input/output 14
4	VDD31		I/O power supply (3.3V)
5	HDD1	I/O	ATAPI HOST data input/output 1
6	HDD13	I/O	ATAPI HOST data input/output 13
7	HDD2	I/O	ATAPI HOST data input/output 2
8	VSS1		GND
9	HDD12	I/O	ATAPI HOST data input/output 12
10	VDD21		Digital power supply (2.7V)
11	HDD3	I/O	ATAPI HOST data input/output 3
12	HDD11	I/O	ATAPI HOST data input/output 11
13	HDD4	I/O	ATAPI HOST data input/output 4
14	HDD10	I/O	ATAPI HOST data input/output 10
15	VDD32		I/O power supply (3.3V)
16	HDD5	I/O	ATAPI HOST data input/output 5
17	HDD9	I/O	ATAPI HOST data input/output 9
18	VSS2		GND
19	HDD6	I/O	ATAPI HOST data input/output 6
20	HDD8	I/O	ATAPI HOST data input/output 8
21	HDD7	I/O	ATAPI HOST data input/output 7
22	VDDH		ATAPI reference power supply (5.0V)
23	$\overline{\text{RESET}}$		Reset input
24	MASTER	I/O	ATAPI master/slave select input/output
25	$\overline{\text{INT0}}$	O	System computer interrupt output 0
26	$\overline{\text{INT1}}$	O	System computer interrupt output 1
27	WAITODC	O	System computer bus wait control output
28	$\overline{\text{MRST}}$	O	System computer reset output
29	DASPST	I	DASP initialize value input
30	VDD33		I/O power supply (3.3V)
31	NC		Not used
32	P2	O	PORT output
33	UATASEL	I	Internal clock select input
34	VSS3		GND
35	PVSSDRAM1		GND
36	PVDDDRAM1		Digital power supply (2.7V)
37,38	CPUADR17,16	I	System computer address input 17,16
39	PVSSDRAM2		GND
40–43	CPUADR15-12	I	System computer address input 15-12
44	PVDDDRAM2		Digital power supply (2.7V)
45–55	CPUADR11-1	I	System computer address input11-1
56	VSS4		GND
57	CPUADR0	I	System computer address input 0
58	$\overline{\text{CS}}$	I	System computer chip select input
59	$\overline{\text{WR}}$	I	System computer write signal input
60	$\overline{\text{RD}}$	I	System computer read signal input
61	VDD34		I/O power supply (3.3V)
62,63	CPUDT7,6	I/O	System computer data input/output 7,6
64,65	PTESTDRAM0,1		GND
66	VDD22		Digital power supply (2.7V)
67	VSS5		GND
68–70	CPUDT5-3	I/O	System computer data input/output 5-3
71	VSS6		GND
72–74	CPUDT2-0	I/O	System computer data input/output 2-0
75	CLKOUT1	O	System computer clock output 1
76	VDD35		I/O power supply (3.3V)
77	NC		Not used
78	DTRD	O	CAPA read gate output
79	NC		Not used

Pin No.	Pin Name	I/O	Function and Operation
80	BDO	I	RF dropout signal input
81	LRCK	I	LR identifier signal input
82	SBBCLK	I	CD sub code block clock input
83	VSS7		GND
84	MMOD		GND
85	$\overline{RST}$	I	System reset input
86	VDD23		Digital power supply (2.7V)
87	CLKOUT2	O	System computer clock output 2
88	PLLOK	O	Frame mark detect signal output
89	NC		Not used
90	DACLRCK	O	LR identifier signal output
91	DACDATA	O	Serial output
92	$\overline{TRON}$	I	Tracking ON input
93,94	NC		Not used
95	DACCLK	I	1bit DAC Serial output clock input
96	IPFLG	I	interpolation flag input
97	TX	I	TX input
98	LRCK	I	VSS
99	VSS8		GND
100	OSCI1	I	Oscillator pin input
101	OSCO1	O	Oscillator pin output
102	VDD36		I/O power supply (3.3V)
103	PVSS		GND
104	PVDD		I/O power supply (3.3V)
105	P1		VDD3
106	P0		VDD3
107	VSS9		GND
108	NC		Not used
109	SUBC	I	Sub code serial input
110	XCLDCK	I	Sub code Frame clock input
111	CHCK4	I	Read clock input to DAT3-0
112–115	DAT3-0	I	Read data input from DISC 3-0
116	VDD37		I/O power supply (3.3V)
117	SCLOCK	I/O	Pull up
118	SDATA	I/O	Pull up
119–122	MONI3-0	O	Internal signal monitor output 3-0
123	VSS10		GND
124	$\overline{EJECT}$	I	Eject detect input
125	VDD24		Digital power supply (2.7V)
126	$\overline{TRYCL}$	I	Tray close detect input
127	$\overline{DASP}$	I/O	ATAPI drive active/slave connect input/output
128	$\overline{CS3FX}$	I	ATAPI HOST chip select input
129	$\overline{CS1FX}$	I	ATAPI HOST chip select input
130	VDD38		I/O power supply (3.3V)
131	DA2	I/O	ATAPI HOST address input/output 2
132	DA0	I/O	ATAPI HOST address input/output 0
133	$\overline{PDIAG}$	I/O	ATAPI slave/master diagnosis input/output
134	VSS11		GND
135	DA1	I/O	ATAPI HOST address input/output 1
136	$\overline{IOCS16}$	O	ATAPI HOST data bus width select output
137	INTRQ	O	ATAPI HOST interrupt request output
138	VDD39		I/O power supply (3.3V)
139	$\overline{DMACK}$	I	ATAPI HOST DMA response input
140	IORDY	O	ATAPI HOST ready output
141	$\overline{IORD}$	I/O	ATAPI HOST data read input/output
142	VSS12		GND
143	$\overline{IOWR}$	I/O	ATAPI HOST data write input/output
144	DMARQ	O	ATAPI HOST DMA request output

*TC74LCX244FT



*MSM56V16160F8TKFM



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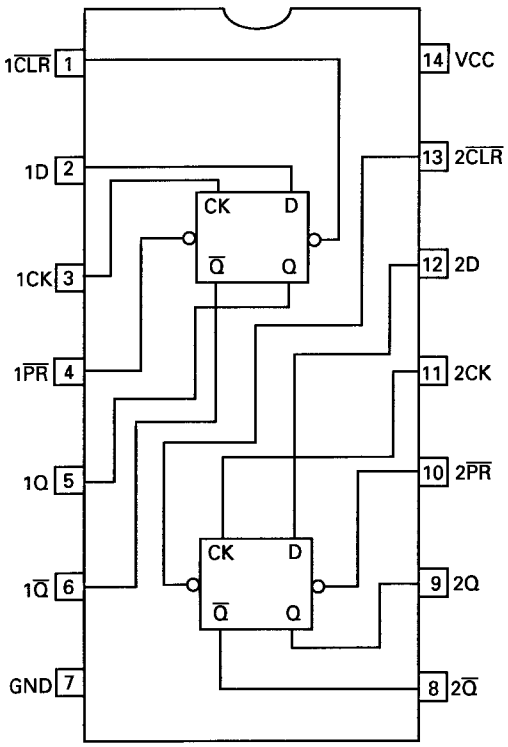


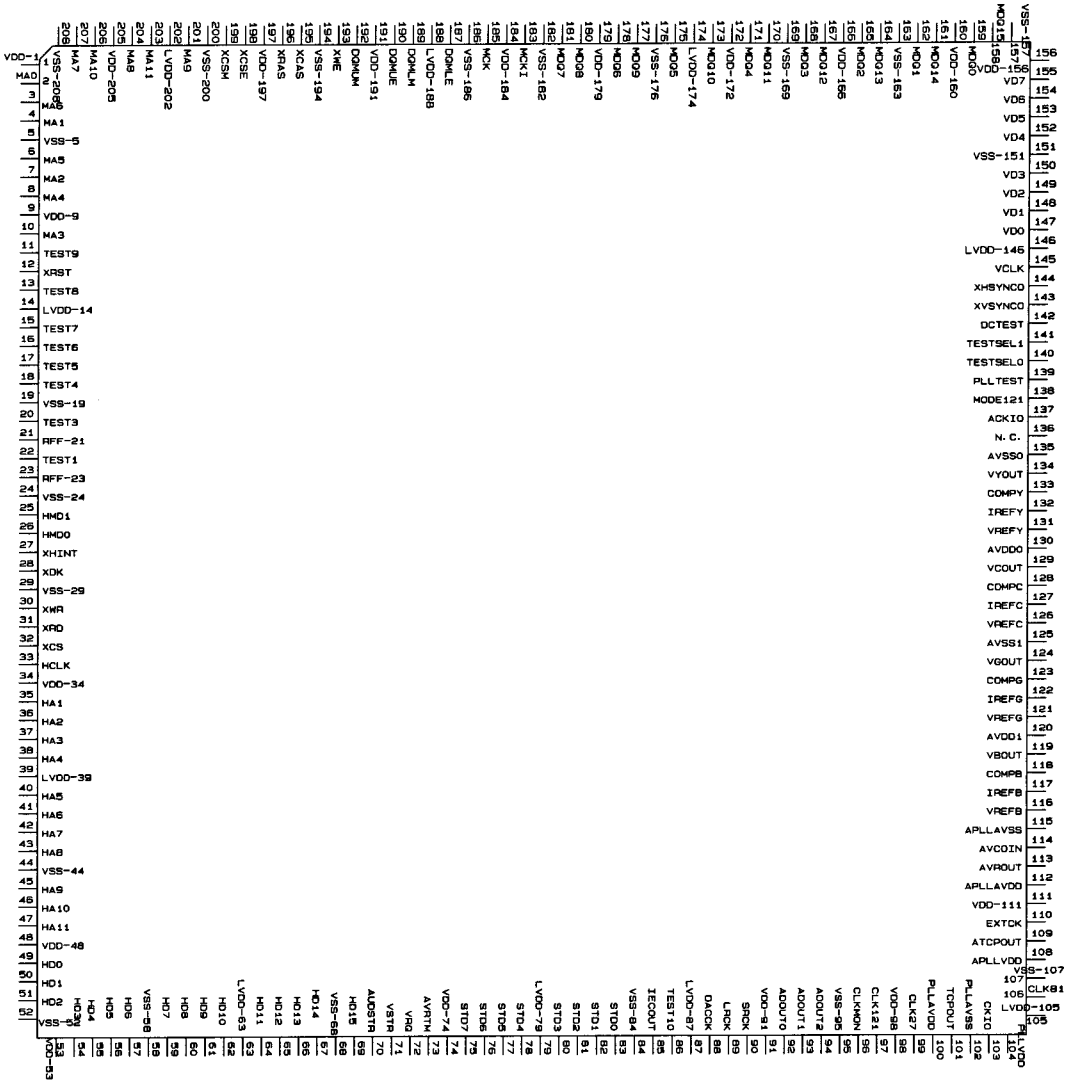
● **Pin Functions(MN677532JAUB)**

Pin No.	Pin Name	I/O	Function and Operation
1	VDD-1		Power supply
2	MA0	O	Bank sell and address
3	MA6	O	Bank sell and address
4	MA1	O	Bank sell and address
5	VSS-5		GND
6	MA5	O	Bank sell and address
7	MA2	O	Bank sell and address
8	MA4	O	Bank sell and address
9	VDD-9		Power supply
10	MA3	O	Bank sell and address
11	TEST9	O	Test signal
12	XRST	I	System reset
13	TEST8	O	Test signal
14	LVDD-14	O	Lch Power supply
15-18	TEST7-4	O	Test signal
19	VSS-19		GND
20	TEST3	O	Test signal
21	RFF-21	O	Repeat first field flag output
22	TEST1	O	Test signal
23	RFF-23	O	Repeat first field flag output
24	VSS-24	O	GND
25,26	HMD1,0	I	Host CPU select
27	XHINT	O	Interrupt strobe
28	XDK	O	Data acknowledge
29	VSS-29		GND
30	XWR	I	Write enable
31	XRD	I	Read enable
32	XCS	I	Chip select
33	HCLK	I	Host CPU clock
34	VDD-34		Power supply
35-38	HA1-4	I	Address bus
39	LVDD-39		Lch Power supply
40-43	HA5-8	I	Address bus
44	VSS-44		GND
45-47	HA9-11	I	Address bus
48	VDD-48	I	Power supply
49-51	HD0-2	I/O	Data bus
52	VSS-52		GND
53	VDD-53	I	Power supply
54-57	HD3-6	I/O	Data bus
58	VSS-58		GND
59-62	HD7-10	I/O	Data bus
63	LVDD-63		Lch Power supply
64-67	HD11-14	I/O	Data bus
68	VSS-68		GND
69	HD15	I/O	Data bus
70	AUDSTR	I	Data strobe
71	VSTR	I	Data strobe
72	VRQ	O	DMA request
73	AVRTM	I	Select separation signal
74	VDD-74		Power supply
75-78	STD7-4	I	Stream data/CD-Audio bypass port
79	LVDD-79		Lch Power supply
80-83	STD3-0	I	Stream data/CD-Audio bypass port
84	VSS-84		GND
85	IECOUT	O	IEC958 data output
86	TEST10	O	Test signal
87	LVDD-87		Lch Power supply

Pin No.	Pin Name	I/O	Function and Operation
88	DACCK	O	DAC clock output
89	LRCK	O	LR clock output
90	SRCK	O	Bit clock output
91	VDD-91		Power supply
92-94	ADOUT0-2	O	Audio data output
95	VSS-95		GND
96	CLKMON	O	Clock monitor
97	CLK121	I	121.5MHz clock input
98	VDD-98	O	Power supply
99	CLK27	I	27MHz clock input
100	PLLAVDD		PLL analog power supply
101	TCPOUT	O	OPEN
102	PLLAVSS	O	OPEN
103	CKIO	I	81MHz clock select
104	PLLVDD		PLL
105	LVDD-105		Lch power supply
106	CLK81	I	81MHz clock input
107	VSS-107	I	GND
108	APLLVDD		Analog PLL power supply
109	ATCPOUT	O	OPEN
110	EXTCK	I	Outside clock output
111	VDD-111		Power supply
112	APLLAVDD		Analog PLL audio power supply
113	AVROUT		OPEN
114	AVCOIN		GND
115	APLLAVSS		Analog PLL audio GND
116	VREFB	I	DAC reference input
117	IREFB	I	DAC resistance terminal for bias current setting
118	COMPB	I	DAC capacity connection terminal for stabilization
119	VBOUT	O	C analog output
120	AVDD1		Analog power supply
121	VREFG	I	DAC reference input
122	IREFG	I	DAC resistance terminal for bias current setting
123	COMPG	I	DAC capacity connection terminal for stabilization
124	VGOUT	O	Cb composite analog output
125	AVSS1		Analog GND
126	VREFC	I	DAC reference input
127	IREFC	I	DAC resistance terminal for bias current setting
128	COMPC	I	DAC capacity connection terminal for stabilization
129	VCOUT	O	Cr C analog output
130	AVDD0		Analog power supply
131	VREFY	I	DAC reference input
132	IREFY	I	DAC resistance terminal for bias current setting
133	COMPY	I	DAC capacity connection terminal for stabilization
134	VYOUT	O	Y analog output
135	AVSS0		Analog GND
136	N.C.		Not used
137	ACKIO	I	Audio PLL test mode
138	MODE121	I	Clock mode select
139	PLLTEST		PLL test
140,141	TESTSEL0,1	O	Test signal
142	DCTEST	I	DC test mode
143	XVSYNCO	I/O	Vertical sync input/output
144	XHSYNCO	I/O	Horizontal sync input/output
145	VCLK	O	Video data clock
146	LVDD-146		Lch power supply
147-150	VD0-3	O	Video data bus
151	VSS-151		GND
152-155	VD4-7	O	Video data bus

Pin No.	Pin Name	I/O	Function and Operation
156	VDD-156		Power supply
157	VSS-157		GND
158	MDQ15	I/O	I/O data SDRAM
159	MDQ0	I/O	I/O data SDRAM
160	VDD-160		Power supply
161	MDQ14	I/O	I/O data SDRAM
162	MDQ1	I/O	I/O data SDRAM
163	VSS-163		GND
164	MDQ13	I/O	I/O data SDRAM
165	MDQ2	I/O	I/O data SDRAM
166	VDD-166		Power supply
167	MDQ12	I/O	I/O data SDRAM
168	MDQ3	I/O	I/O data SDRAM
169	VSS-169		GND
170	MDQ11	I/O	I/O data SDRAM
171	MDQ4	I/O	I/O data SDRAM
172	VDD-172		Power supply
173	MDQ10	I/O	I/O data SDRAM
174	LVDD-174		Lch power supply
175	MDQ5	I/O	I/O data SDRAM
176	VSS-176		GND
177	MDQ9	I/O	I/O data SDRAM
178	MDQ6	I/O	I/O data SDRAM
179	VDD-179		Power supply
180	MDQ8	I/O	I/O data SDRAM
181	MDQ7	I/O	I/O data SDRAM
182	VSS-182		GND
183	MCKI	I	SDRAM CLK input
184	VDD-184		Power supply
185	MCK	I	SDRAM CLK
186	VSS-186		GND
187	DQMLE	O	Lower byte DQ mask of extended SDRAM
188	LVDD-188		Lch power supply
189	DQMLM	O	Lower byte DQ mask of main SDRAM
190	DQMUE	O	Upper byte DQ mask of extended SDRAM
191	VDD-191		Power supply
192	DQMUM	O	Upper byte DQ mask of main SDRAM
193	XWE	O	Write signal of SDRAM
194	VSS-194		GND
195	XCAS	O	CAS of SDRAM
196	XRAS	O	RAS of SDRAM
197	VDD-197		Power supply
198	XCSE	O	CS of extended SDRAM
199	XCSM	O	CS of main SDRAM
200	VSS-200		GND
201	MA9	O	Bank sell and address
202	LVDD-202		Lch power supply
203	MA11	O	Bank sell and address
204	MA8	O	Bank sell and address
205	VDD-205		Power supply
206	MA10	O	Bank sell and address
207	MA7	O	Bank sell and address
208	VSS-208		GND

*MN677532JAUB



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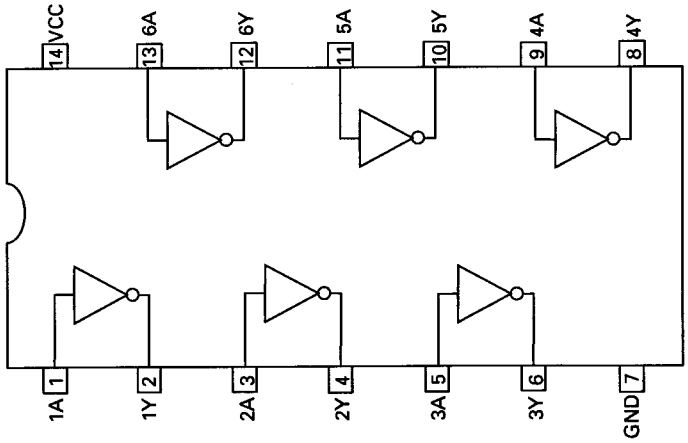

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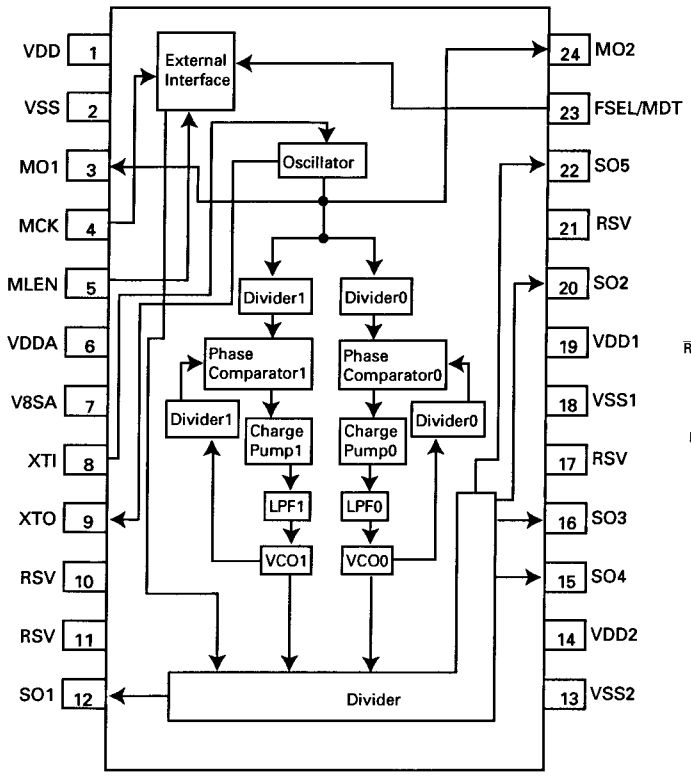

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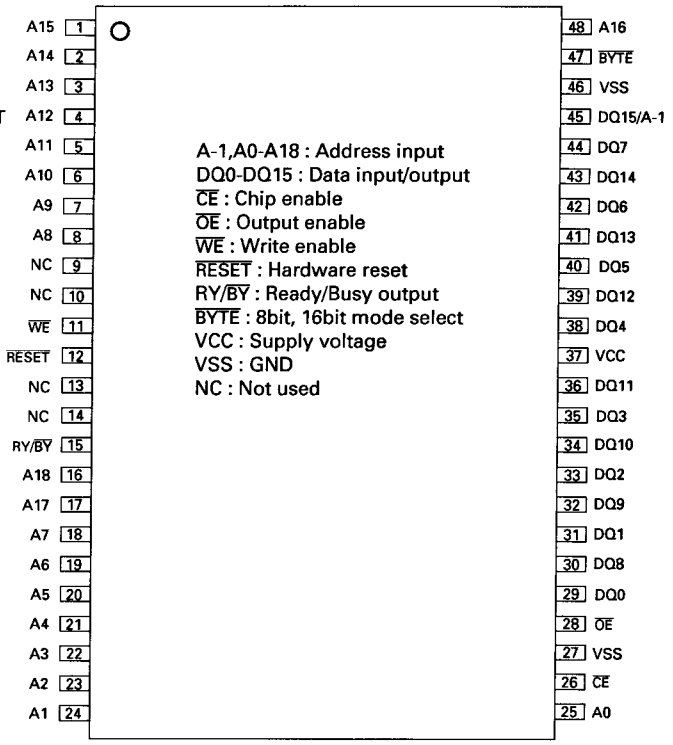

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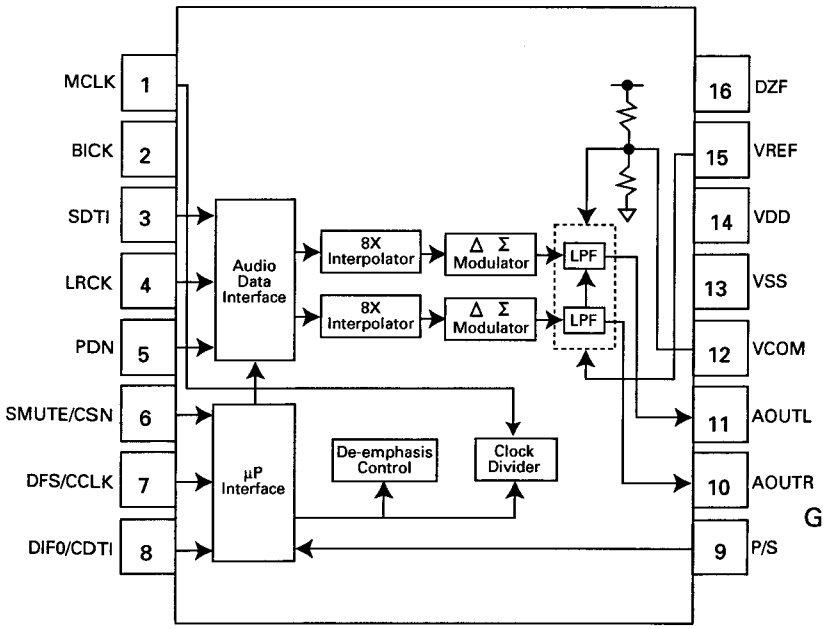

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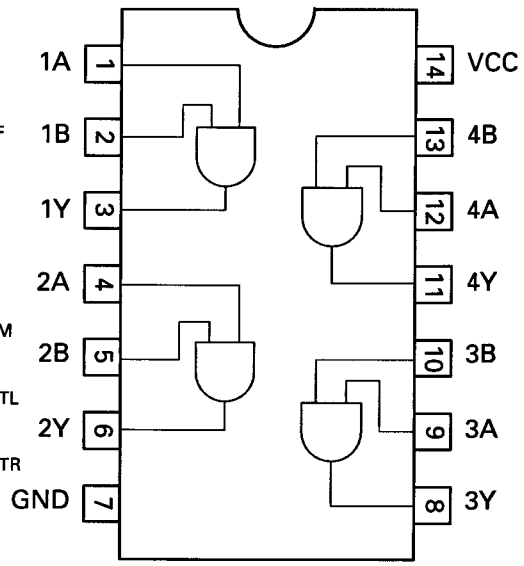

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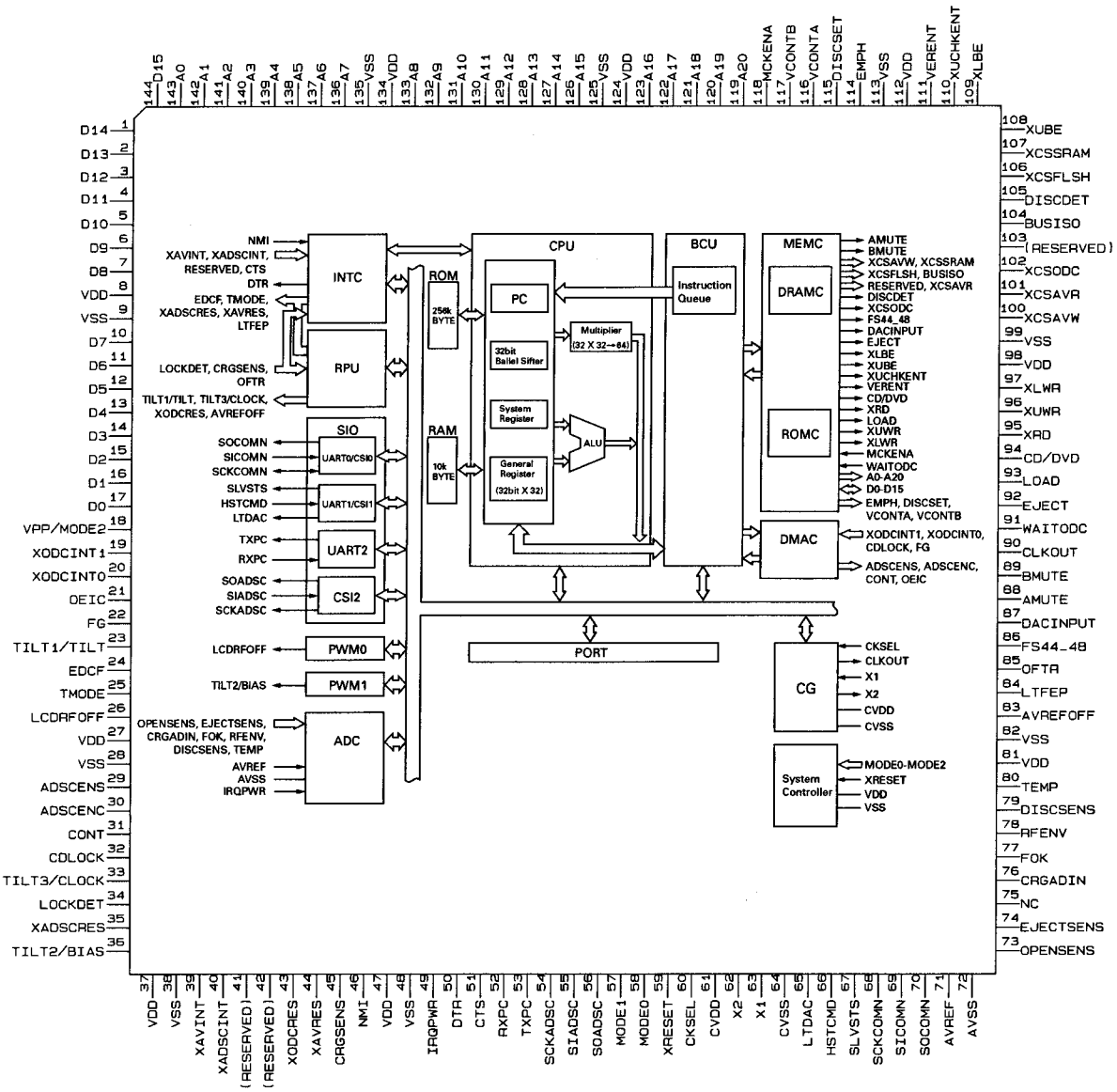
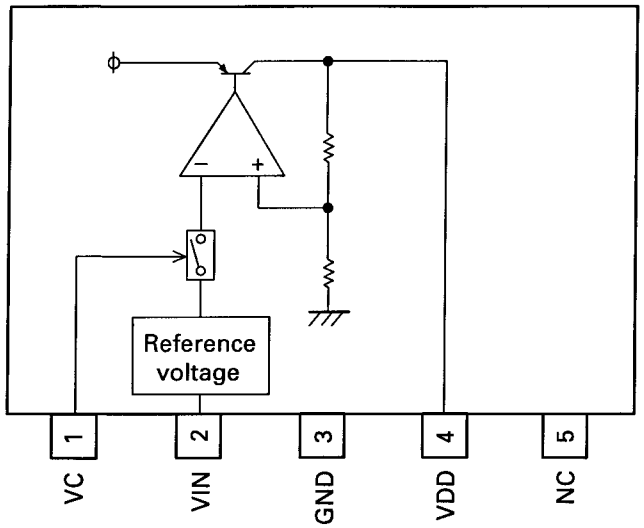

CPU
BCU
MEMC
INTC
RPU
SIO
UART0/CSI0
UART1/CSI1
UART2
CSI2
PWM0
PWM1
ADC
ROM
256k BYTE
RAM
10k BYTE
PC
32bit Ballel Sifter
System Register
General Register (32bit X 32)
Multiplier (32 X 32→64)
ALU
Instruction Queue
DRAMC
ROMC
DMAC
PORT
CG
System Controller
NMI
XAVINT, XADSCINT, RESERVED, CTS
DTR
EDCF, TMODE, XADSCRES, XAVRES, LTFEP
LOCKDET, CRGSENS, OFTR
TILT1/TILT, TILT3/CLOCK, XODCRES, AVREFOFF
SOCOMN
SICOMN
SCKCOMN
SLVSTS
HSTCMD
LTDAC
TXPC
RXPC
SOADSC
SIADSC
SCKADSC
LCDRFOFF
TILT2/BIAS
OPENSENS, EJECTSENS, CRGADIN, FOK, RFENV, DISCSENS, TEMP
AVREF
AVSS
IRQPWR
AMUTE
BMUTE
XCSAVW, XCSSRAM
XCSFLSH, BUSISO
RESERVED, XCSAVR
DISCDET
XCSODC
FS44_48
DACINPUT
EJECT
XLBE
XUBE
XUCHKENT
VERENT
CD/DVD
XRD
LOAD
XUWR
XLWR
MCKENA
WAITODC
A0-A20
D0-D15
EMPH, DISCSET, VCONTA, VCONTB
XODCINT1, XODCINT0, CDLOCK, FG
ADSCENS, ADSCENC, CONT, OEIC
CKSEL
CLKOUT
X1
X2
CVDD
CVSS
MODE0-MODE2
XRESET
VDD
VSS
D14 1
D13 2
D12 3
D11 4
D10 5
D9 6
D8 7
VDD 8
VSS 9
D7 10
D6 11
D5 12
D4 13
D3 14
D2 15
D1 16
D0 17
VPP/MODE2 18
XODCINT1 19
XODCINT0 20
OEIC 21
FG 22
TILT1/TILT 23
EDCF 24
TMODE 25
LCDRFOFF 26
VDD 27
VSS 28
ADSCENS 29
ADSCENC 30
CONT 31
CDLOCK 32
TILT3/CLOCK 33
LOCKDET 34
XADSCRES 35
TILT2/BIAS 36
144 D15
143 A0
142 A1
141 A2
140 A3
139 A4
138 A5
137 A6
136 A7
135 VSS
134 VDD
133 A8
132 A9
131 A10
130 A11
129 A12
128 A13
127 A14
126 A15
125 VSS
124 VDD
123 A16
122 A17
121 A18
120 A19
119 A20
118 MCKENA
117 VCONTB
116 VCONTA
115 DISCSET
114 EMPH
113 VSS
112 VDD
111 VERENT
110 XUCHKENT
109 XLBE
108 XUBE
107 XCSSRAM
106 XCSFLSH
105 DISCDET
104 BUSISO
103 (RESERVED)
102 XCSODC
101 XCSAVR
100 XCSAVW
99 VSS
98 VDD
97 XLWR
96 XUWR
95 XRD
94 CD/DVD
93 LOAD
92 EJECT
91 WAITODC
90 CLKOUT
89 BMUTE
88 AMUTE
87 DACINPUT
86 FS44_48
85 OFTR
84 LTFEP
83 AVREFOFF
82 VSS
81 VDD
80 TEMP
79 DISCSENS
78 RFENV
77 FOK
76 CRGADIN
75 NC
74 EJECTSENS
73 OPENSENS
37 VDD
38 VSS
39 XAVINT
40 XADSCINT
41 (RESERVED)
42 (RESERVED)
43 XODCRES
44 XAVRES
45 CRGSENS
46 NMI
47 VDD
48 VSS
49 IRQPWR
50 DTR
51 CTS
52 RXPC
53 TXPC
54 SCKADSC
55 SIADSC
56 SOADSC
57 MODE1
58 MODE0
59 XRESET
60 CKSEL
61 CVDD
62 X2
63 X1
64 CVSS
65 LTDAC
66 HSTCMD
67 SLVSTS
68 SCKCOMN
69 SICOMN
70 SOCOMN
71 AVREF
72 AVSS

BA033SFP



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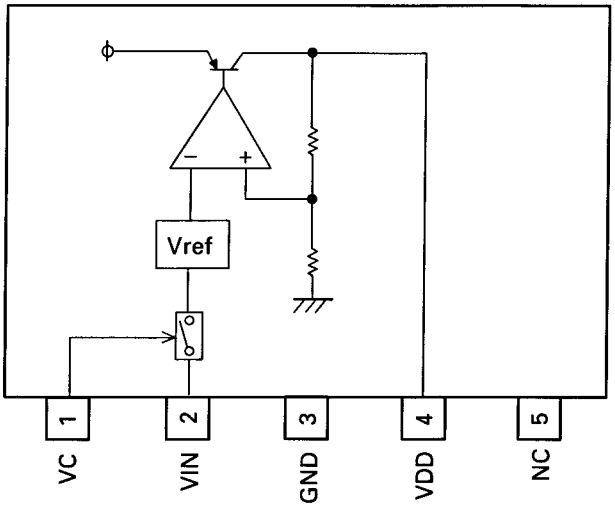

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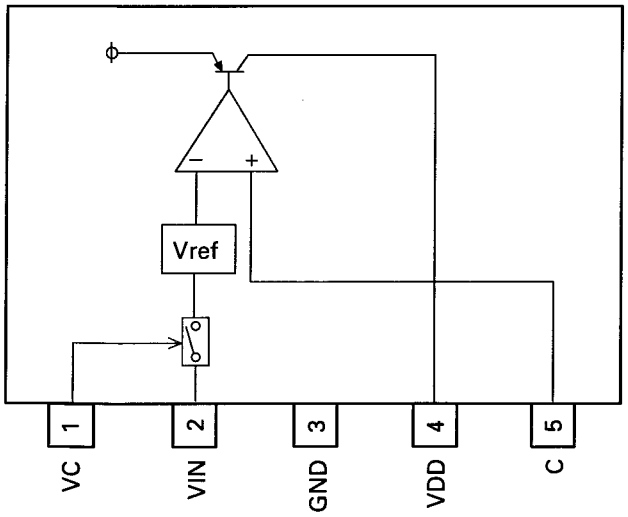
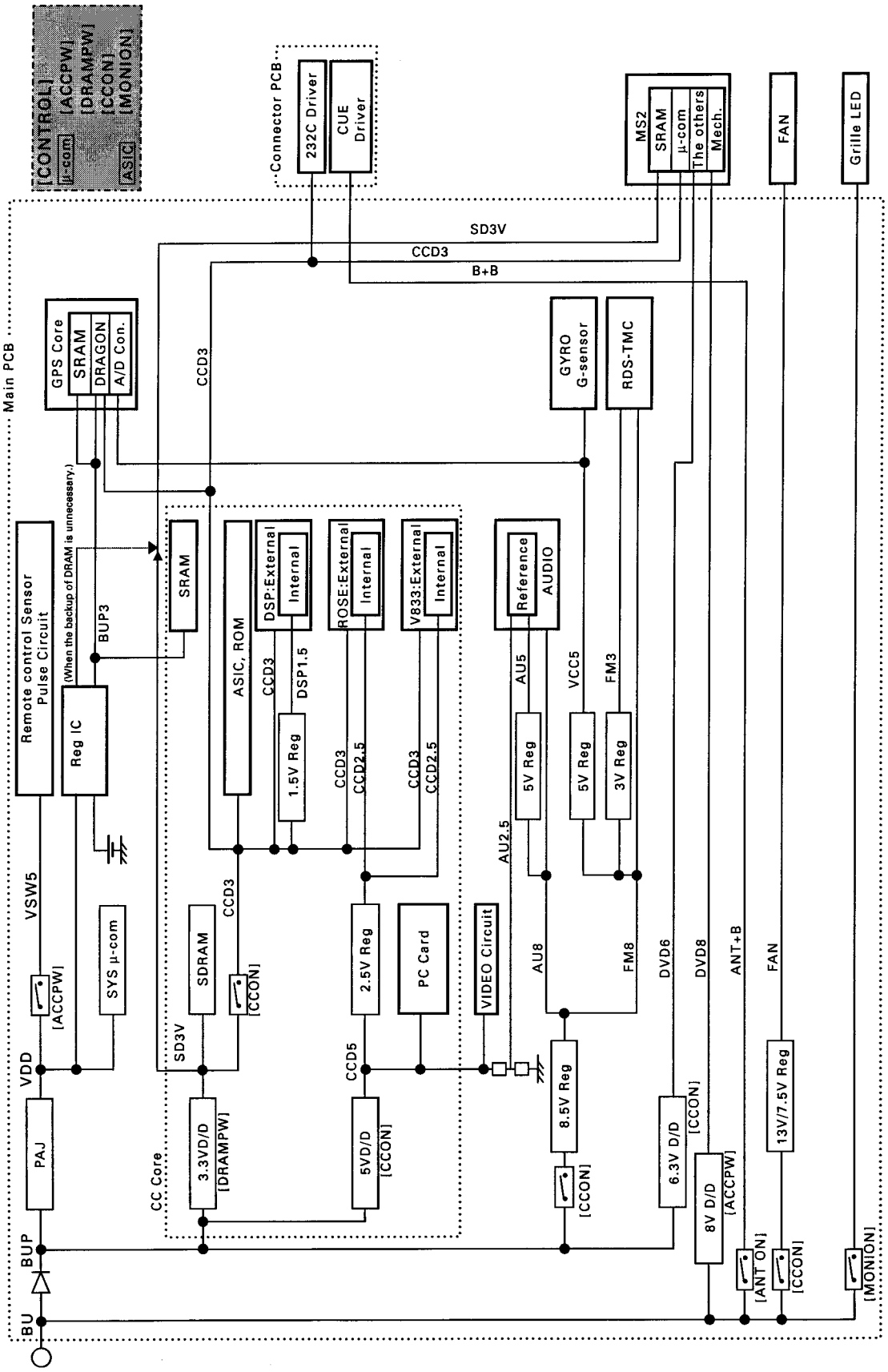
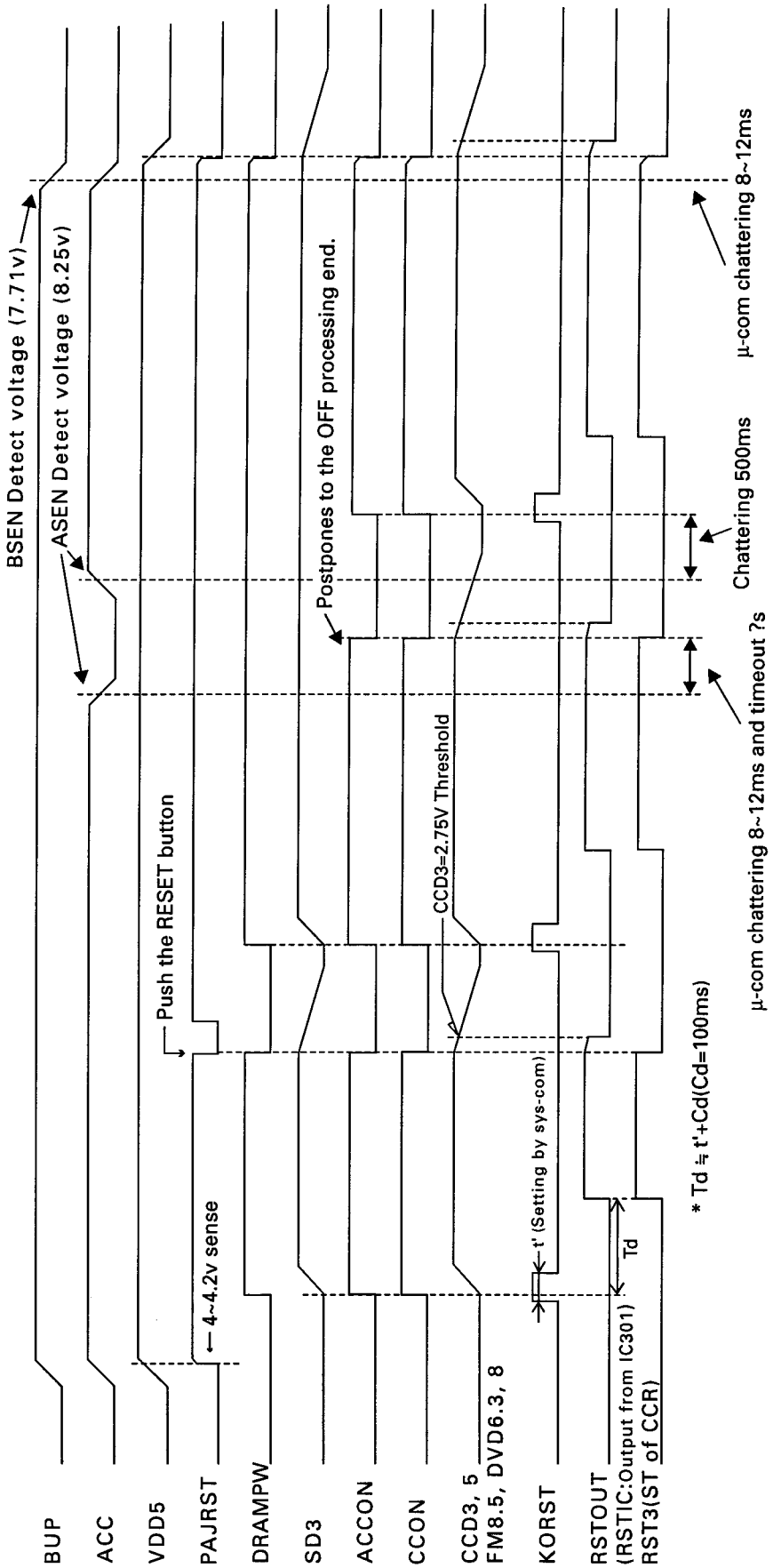


7.3 EXPLANATION

7.3.1 CIRCUIT DESCRIPTION



7.3.2 OPERATIONAL FLOW CHART

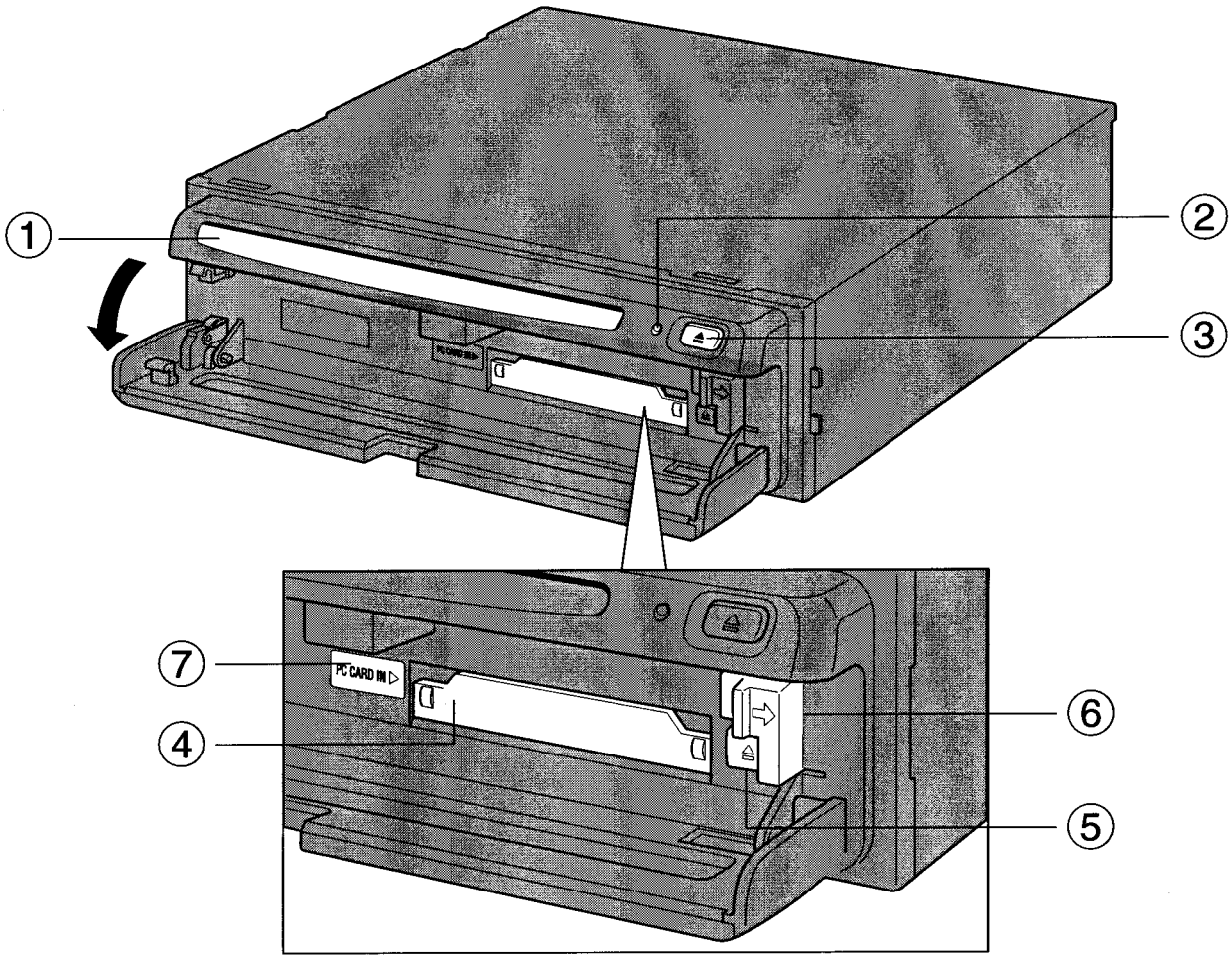


8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS

Key Finder

Main unit



(1) Disc loading slot

(2) Reset button
If the system goes wrong, reset it by pressing this recessed button with a ballpoint pen or similar pointed object.

(3) Disc ejection button

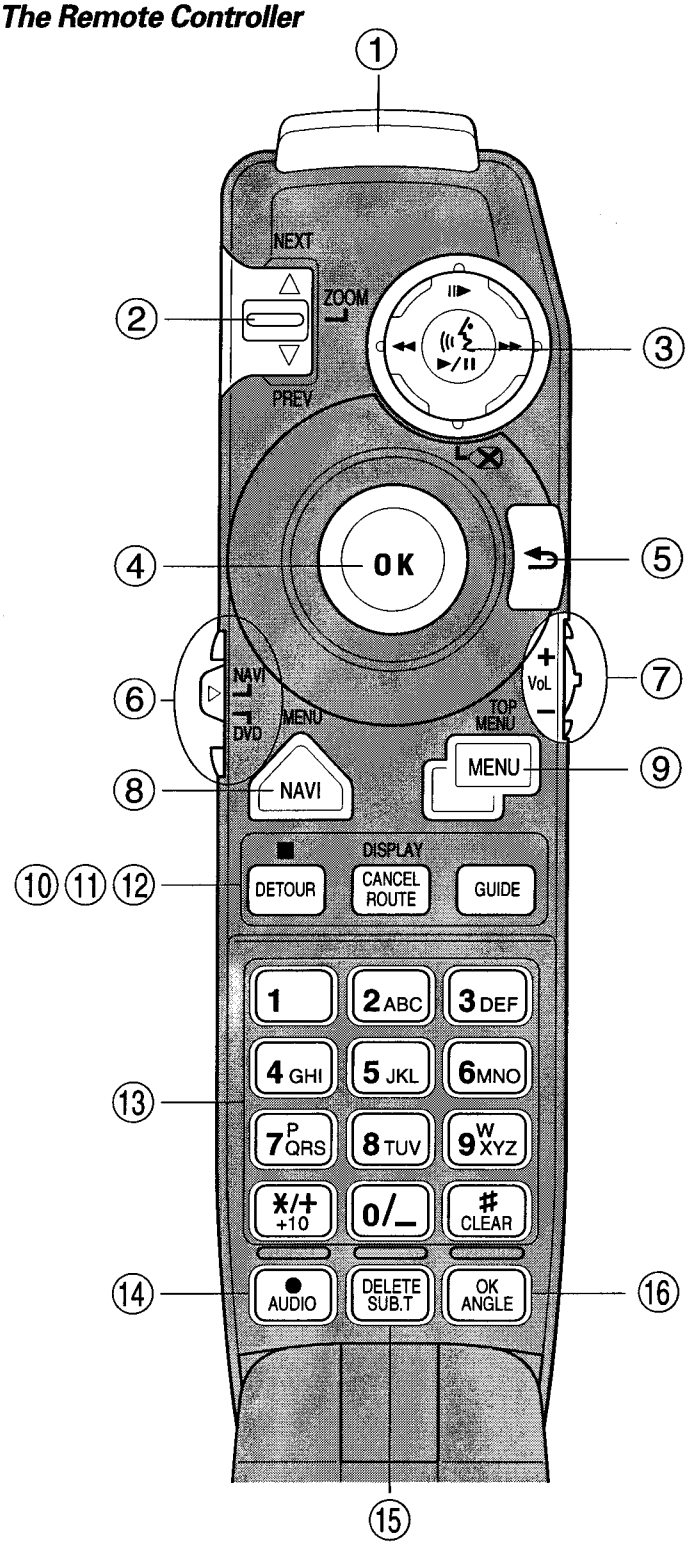
(4) PC card slot

(5) PC card ejection button
Remove the PC card by pressing this button.

(6) PC card lock lever
This lever is used when you remove the PC card.

(7) PC card lock lamp
The red light goes on when the PC card is inserted and a proper connection is made.

The Remote Controller



(1) Transmitter
Signals of the Remote Controller are transmitted from here.

(2) Scale controller
You use the scale controller to enlarge or reduce the displayed map. When you move the scale controller downwards, the scale of the displayed map is enlarged and a more detailed map is displayed. Conversely, moving it upwards reduces the displayed map, and a wider area is displayed. Also, when a list is longer than one screen, this controller is used for indicating the next screen or previous screen.

(3) TALK button
You use the TALK button to start voice recognition, allowing you to command the Navigation System by speech. When a voice command is given, you can cycle through possible matches by clicking down this button.

(4) Joystick/OK button
Use the joystick to select items in the display and to scroll the map. The joystick is also the OK button; simply press it to select a location on the map or an option displayed on the screen.

Used as the joystick :
Directions of movements indicated by arrows are possible.

Used as the OK button :
Press straight down.

(5) BACK button
While using a menu, pressing this button cancels the present operation and returns you to the previously displayed menu or list.

(6) Mode switch
Using the Remote Controller, you can switch to operate either the Navigation System or the DVD/CD. If switching the operation mode, the function of each button on the Remote Controller is also switched.

(7) VOL dial
When you turn the dial downwards, the volume decreases. Turning it upwards increases the volume.

- When the Dipswitch 2 is OFF, volume of the voice guidance of the Navig ation System is adjusted.
- When the Dipswitch 2 is ON, the volume of Pioneer Head Unit is adjusted. If the dial is pressed, the volume is reduced to around 1/10th of the volume (ATT function). When pressed again, the volume returns to its previous level.

(8) NAVI button
You press the NAVI button to view the map or return to guidance. Also, when the map is scrolled, pressing this button returns to the display of the map of your surroundings.

(9) MENU button
Pressing the MENU button displays a menu of options.

(10) DETOUR button
Press this button to restart route calculation, such as calculating a detour. If this button is pressed for more than two seconds, you can see the information (passing roads and driving distance, and so on) of the route down which you are currently being guided.

(11) CANCEL ROUTE button
Press this button to cancel the route guidance. When pressed for more than two seconds, the next via point is recognised as already being passed, and a new route calculation starts.

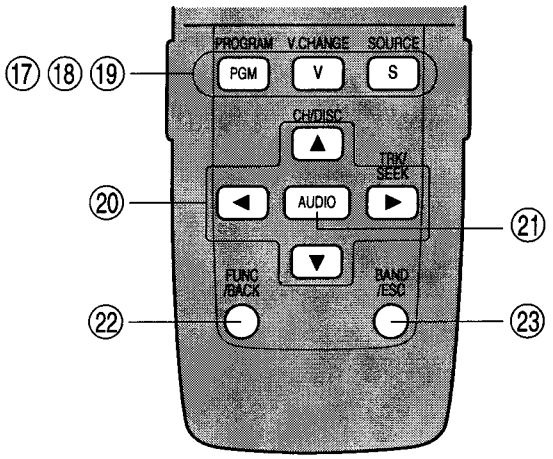
(12) GUIDE button
Press this button if you did not hear the voice guidance properly. If this button is pressed for more than two seconds, you can listen to traffic information (where available.).

(13) Numeric keypad
You use this pad for entering characters or numbers.

(14) • (AUDIO) button
Use this button when the Navigation System is combined with another manufacturer's display . This button is used only when the navigation image (RGB image) is output from RCA Video output (yellow) of the Hide-away Unit of this product. (For details, see the installation manual.)

(15) DELETE button
Press to delete the character you just entered. If you press this button for more than two seconds, all the characters entered will be deleted.

(16) OK button for numeric keypad
This works in the same way as "OK" on the text palette.



(17) PROGRAM button (for audio operation)

(18) V.CHANGE button (for audio operation)

(19) SOURCE button (for audio operation)

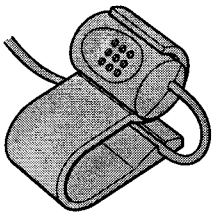
(20) Cross Key /▲,▼,◄,► button (for audio operation)

(21) AUDIO button (for audio operation)

(22) FUNC/BACK button (for audio operation)

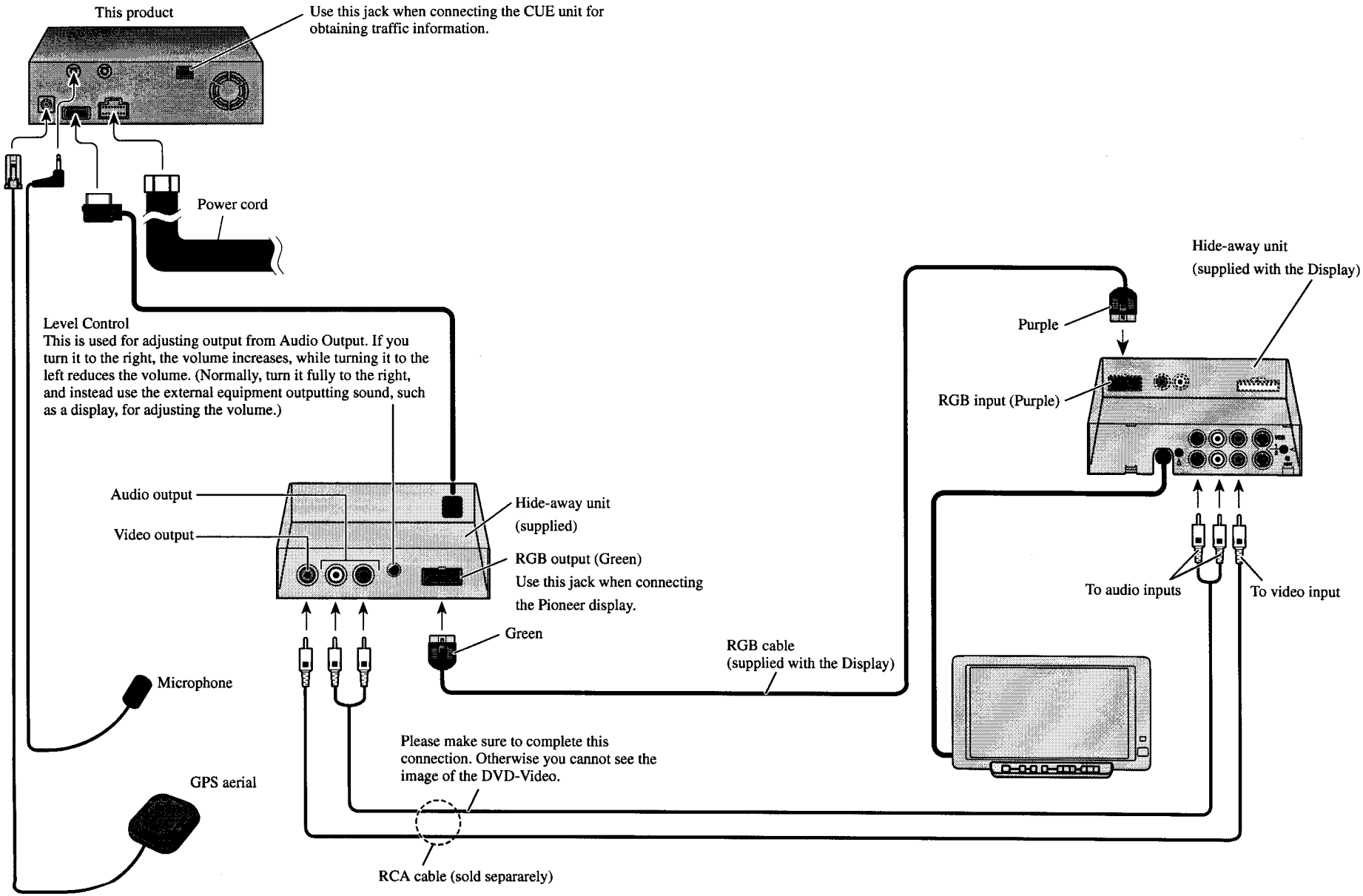
(23) BAND/ESC button (for audio operation)

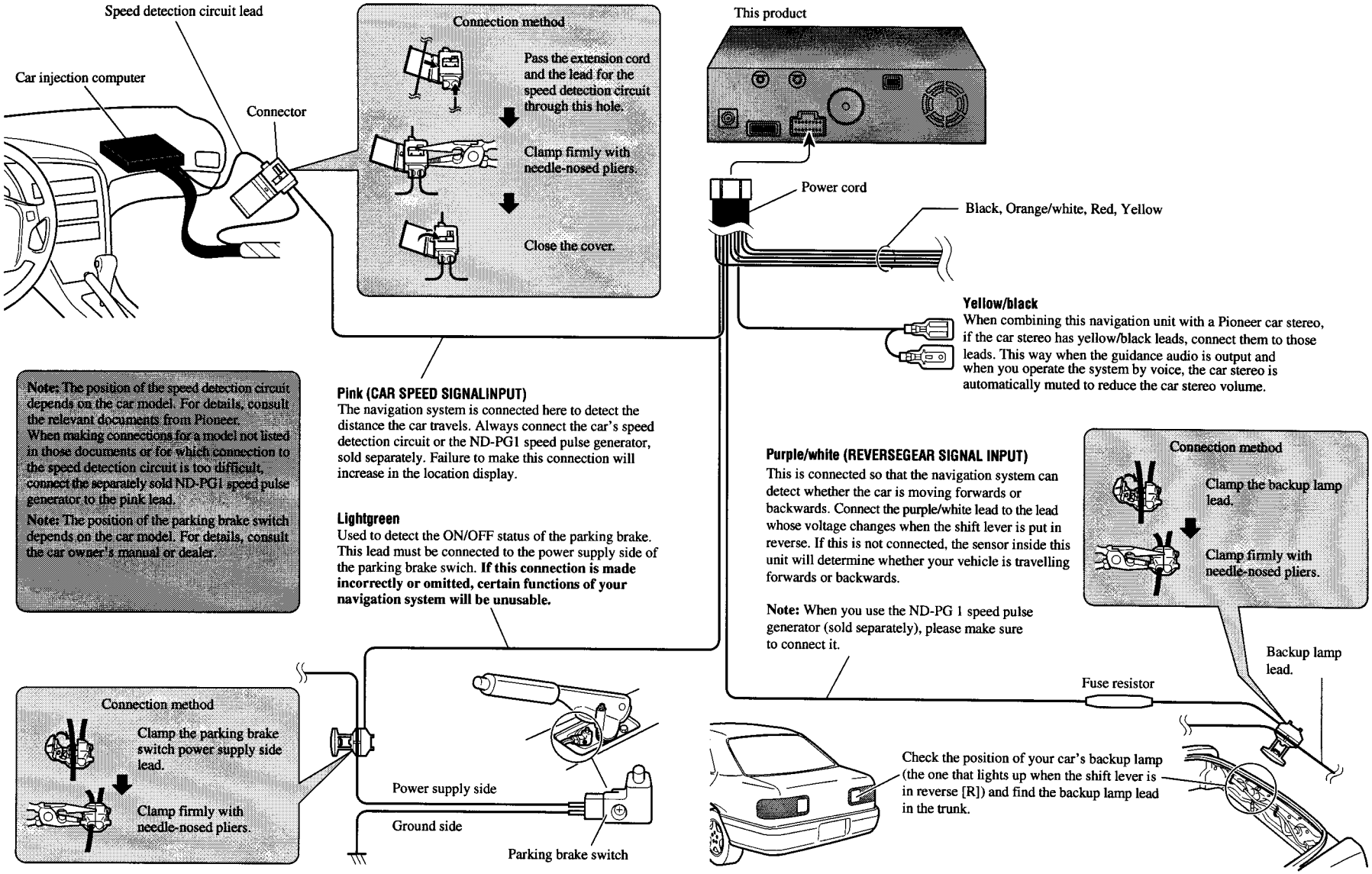
Microphone

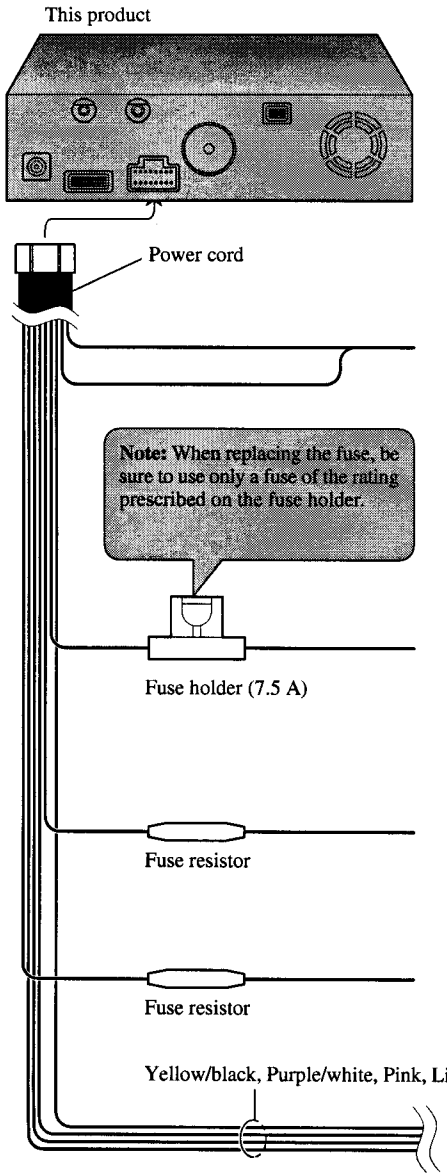


(1) Microphone

After pressing the TALK button to start voice operation, this microphone hears your commands.


This product
Use this jack when connecting the CUE unit for obtaining traffic information.
Power cord
Level Control
This is used for adjusting output from Audio Output. If you turn it to the right, the volume increases, while turning it to the left reduces the volume. (Normally, turn it fully to the right, and instead use the external equipment outputting sound, such as a display, for adjusting the volume.)
Audio output
Video output
Hide-away unit
(supplied)
RGB output (Green)
Use this jack when connecting the Pioneer display.
Green
Microphone
GPS aerial
RGB cable
(supplied with the Display)
Please make sure to complete this connection. Otherwise you cannot see the image of the DVD-Video.
RCA cable (sold separarely)
Hide-away unit
(supplied with the Display)
Purple
RGB input (Purple)
To audio inputs
To video input


Speed detection circuit lead
Car injection computer
Connector
Connection method
Pass the extension cord and the lead for the speed detection circuit through this hole.
Clamp firmly with needle-nosed pliers.
Close the cover.
This product
Power cord
Black, Orange/white, Red, Yellow
Yellow/black
When combining this navigation unit with a Pioneer car stereo, if the car stereo has yellow/black leads, connect them to those leads. This way when the guidance audio is output and when you operate the system by voice, the car stereo is automatically muted to reduce the car stereo volume.
Note: The position of the speed detection circuit depends on the car model. For details, consult the relevant documents from Pioneer.
When making connections for a model not listed in those documents or for which connection to the speed detection circuit is too difficult, connect the separately sold ND-PG1 speed pulse generator to the pink lead.
Note: The position of the parking brake switch depends on the car model. For details, consult the car owner's manual or dealer.
Pink (CAR SPEED SIGNALINPUT)
The navigation system is connected here to detect the distance the car travels. Always connect the car's speed detection circuit or the ND-PG1 speed pulse generator, sold separately. Failure to make this connection will increase in the location display.
Lightgreen
Used to detect the ON/OFF status of the parking brake. This lead must be connected to the power supply side of the parking brake swich. If this connection is made incorrectly or omitted, certain functions of your navigation system will be unusable.
Purple/white (REVERSEGEAR SIGNAL INPUT)
This is connected so that the navigation system can detect whether the car is moving forwards or backwards. Connect the purple/white lead to the lead whose voltage changes when the shift lever is put in reverse. If this is not connected, the sensor inside this unit will determine whether your vehicle is travelling forwards or backwards.
Note: When you use the ND-PG 1 speed pulse generator (sold separately), please make sure to connect it.
Connection method
Clamp the backup lamp lead.
Clamp firmly with needle-nosed pliers.
Backup lamp lead.
Fuse resistor
Connection method
Clamp the parking brake switch power supply side lead.
Clamp firmly with needle-nosed pliers.
Power supply side
Ground side
Parking brake switch
Check the position of your car's backup lamp (the one that lights up when the shift lever is in reverse [R]) and find the backup lamp lead in the trunk.



Black
To car (metal) body. To keep electromagnetic noise from the car body out of the navigation system, attach this lead near the main unit.

Note: When replacing the fuse, be sure to use only a fuse of the rating prescribed on the fuse holder.

Note: The yellow, red, and orange/white leads should be connected to the opposite side of the fusebox terminals from the battery.

Yellow
To the terminal always supplied with power regardless of ignition switch position.

Red
To the electric terminal controlled by the ignition switch (12 V DC) ON/OFF.
Do not connect this lead to power source terminals to which power is continuously supplied. If the lead is connected to such terminals, the battery may be drained.

Orange/white
To lighting switch terminal.

8.2 SPECIFICATIONS

Specifications

Main unit

(GPS receiver)		
System	:	L1, C/Acode GPS SPS (Standard Positioning Service)
Reception system	:	8-channel multi-channel reception system
Reception frequency	:	1,575.42 MHz
Sensitivity	:	-130 dbm
Frequency	:	Approx. once a second

(Common)

Max. output impedance	:	1Vp-p, 75Ω
Maximum current consumption	:	2 A
Power source	:	DC 14.4V (10.8 - 15.1V allowed)
Ground type	:	Negative type
Buckup current	:	4mA or less

GPS antenna

Antenna	:	Micro strip flat antenna/right-handed helical polarization
Antenna cable	:	5.0 m (196-7/8 in)

Dimensions

Main unit	:	178(W) × 50(H) × 178(D) mm (7 × 2 × 7 in)
GPS antenna	:	46(W) × 46(H) ×13(D) mm (1-3/4 × 1-3/4 × 1/2 in)
Remote controller	:	38(W) × 146(H) × 30(D) mm (1-1/2 × 5-3/4 × 1/8 in)

Weight

Main unit	:	1.5 kg (3.3 lbs.)
GPS aerial	:	130g (0.31 lbs.)
Remote controller	:	80g (incl. battery) (0.2 lbs.)

DVD mechanism part

REGION NUMBER	:	1
USABLE DISCS	:	DVD-VIDEO/CD
SIGNAL FORMAT		
Sampling frequency	:	44.1/48/96KHz
Number of quantization bits	:	16/20/24 bit; linear
FREQUENCY RESPONSE	:	5~44,000Hz (± 1dB)
S/N RATIO	:	96dB (IEC-A NETWORK) 97dB (IEC-A NETWORK): CD
DINAMIC RANGE	:	96dB (1kHz) 95dB (1kHz): CD
DISTORTION	:	0.008% (1kHz)
OUTPUT LEVEL VIDEO	:	1Vp-p/75Ω
AUDIO	:	1mV (1kHz,0dB)
NUMBER OF CHANNELS	:	2 (STEREO)

Note:

- The specifications and design are subject to change without prior notice. The product purchased may differ in detail from illustrations in this manual.