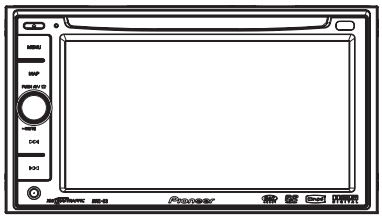
Pioneer *sound.vision.soul*

Service Manual



AVIC-D3/XU/UC

ORDER NO.
CRT3879

DVD MULTIMEDIA AV NAVIGATION SERVER

AVIC-D3/XU/UC
AVIC-D3/XU/EW5

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

Model No.	Order No.	Mech.Module	Remarks
CX-3212	CRT3896	MS5	DVD Mech. Module : Circuit Descriptions, Mech. Descriptions, Disassembly

For details, refer to "Important Check Points for Good Servicing".

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

K-ZZW. FEB. 2007 Printed in Japan

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

This product contains mercury. Disposal of this material may be regulated due to environmental considerations.
For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

1. Safety Precautions for those who Service this Unit.

- **Follow the adjustment steps in the service manual when servicing this unit. When check - ing or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.**

Caution:

1. **During repair or tests, minimum distance of 13cm from the focus lens must be kept.**
2. **During repair or tests, do not view laser beam for 10 seconds or longer.**

2. The trianglar label is attached to the mechanism unit frame.

CAUTION
This product contains a laser diode of higher class than 1. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product.
Refer all servicing to qualified personnel.

The following caution label appears on your unit.

On the top of the player.

WARNING!

The AEL (accessible emission level)of the laser power output is less than CLASS 1 but the laser component is capable of emitting radiation exceeding the limit for CLASS 1.
A specially instructed person should do servicing operation of the apparatus.

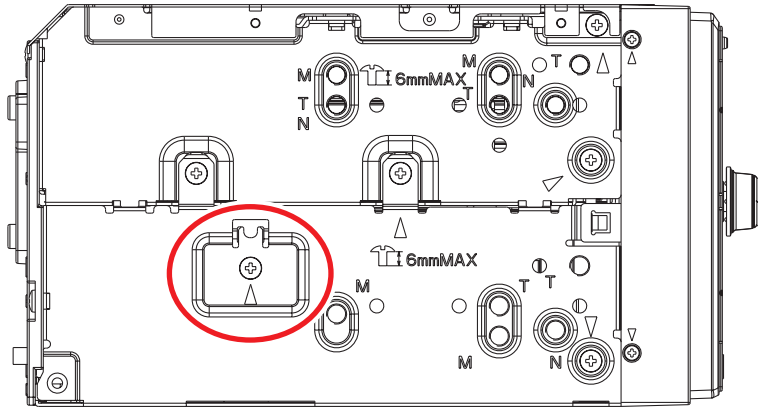
Laser diode characteristics
Wave length:
DVD:660 nm to 670 nm
CD:780 nm to 800 nm
Maximum output:
DVD : 1.27 mW(Emitting period :9 sec.)
CD : 6.26 mW(Emitting period : unlimited)

Additional Laser Caution

Transistors Q1103 and Q1104 in PCB drive the laser diodes for DVD and CD respectively. When Q1103 or Q1104 is shorted between their terminals, the laser diodes for DVD or CD will radiate beam. If the top cover is removed with no disc loaded while such short-circuit is continued, the naked eyes may be exposed to the laser beam.

● Service Precautions

1. You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
2. Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.
3. Because a part to show in figure below becomes hot, take care upon its operation.



DVD MECHANISM MODULE section precaution

1. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
2. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY" .
3. After replacing the pickup unit, be sure to skew adjustment.
4. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.

is a trademark of DVD Format/Logo Licensing Corporation.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

1. SPECIFICATIONS

● AVIC-D3/XU/UC

General

Rated power source ..... 14.4 V DC (allowable voltage range: 12.0 V to 14.4 V DC)
Grounding system ..... Negative type
Max. current consumption ..... 10.0 A
Backup current ..... 6.5 mA or less
Display unit:
Dimensions (W × H × D):
D
Chassis ..... 178 × 100 × 165 mm (7 × 3-7/8 × 6-1/2 in.)
Nose ..... 170 × 97 × 8 mm (6-3/4 × 3-7/8 × 3/8 in.)
Weight ..... 2.2 kg(4.9 lbs)

Navigation

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
Position update frequency ..... Approx. once per second
GPS antenna:
Antenna ..... Micro strip flat antenna/ right-handed helical polarization
Antenna cable ..... 5.0 m(16 ft. 5 in.)
Dimensions (W × H × D) ..... 33 × 14 × 36 mm (1-1/4 × 1/2 × 1-3/8 in.)
Weight ..... 105 g(0.23 lbs)

Display

Screen size/aspect ratio ..... 6.1 inch wide/17:9 (effective display area: 136 × 72 mm)
Pixels ..... 336 960 (480 × 234 × 3)
Type ..... TFT active matrix, transmissive type
Color system ..... NTSC
Operating temperature range ..... +22 °F to +185 °F
Storage temperature range ..... –40 °F to +185 °F

Audio

Continuous power output is 22 W per channel minimum into 4 ohms, both channels driven 50 to 15 000 Hz with no more than 5% THD.
Maximum power output ..... 50 W × 4 50 W × 2 ch/4 Ω + 70 W × 1 ch/2 Ω (for subwoofer)
Load impedance ..... 4 Ω (4 Ω to 8 Ω [2 Ω for 1 ch] allowable)
Preout max output level/output impedance ..... 1.7 V/1 kohm
Equalizer (3-Band Parametric Equalizer):
Low
Frequency ..... 40/80/100/160 Hz
Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain ..... ±12dB
Mid
Frequency ..... 200/500/1 k/2 kHz
Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain ..... ±12dB
High
Frequency ..... 3.15 k/8 k/10 k/12.5 kHz
Q Factor ..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain ..... ±12dB
Loudness contour:
Low ..... +3.5 dB (100 Hz), +3 dB (10 kHz)
Mid ..... +10 dB (100 Hz), +6.5 dB (10 kHz)
High ..... +11 dB (100 Hz), +11 dB (10 kHz) (volume: –30 dB)
Tone controls:
Bass
Frequency ..... 40/63/100/160 Hz
Gain ..... ±12dB
Treble
Frequency ..... 2.5 k/4 k/6.3 k/10 kHz
Gain ..... ±12dB
HPF:
Frequency ..... 50/80/125 Hz
Slope ..... –12 dB/oct
Subwoofer:
Frequency ..... 50/80/125 Hz
Slope ..... –18 dB/oct
Gain ..... ±12dB
Phase ..... Normal/Reverse

DVD Drive

System ..... DVD-Video, Compact disc audio, MP3, WMA, AAC, DivX system
Usable discs ..... DVD-Video, Compact disc, MP3, WMA, AAC, DivX
Region number 1
Signal format:
Sampling frequency .... 44.1/48/96 kHz
Number of quantization bits ..... 16/20/24; linear
Frequency response ..... 5 Hz to 44 000 Hz (with DVD, at sampling frequency 96 kHz)
Signal-to-noise ratio ..... 97 dB (1 kHz) (IHF-A network) (CD: 96 dB (1 kHz) (IHF-A network))
Dynamic range ..... 95 dB (1 kHz) (CD: 94 dB (1 kHz))

Distortion..... 0.008 % (1 kHz)
Output level:
Video..... 1.0 Vp-p/75 Ω (±0.2 V)
Audio ..... 1.4 V (1 kHz, 0 dB)
Number of channels ..... 2 (stereo)
MP3 decoding format ..... MPEG-1 & 2 Audio Layer 3
WMA decoding format..... Ver.9.0 L3
AAC decoding format..... MPEG-4 AAC (only encoded by iTunes)
: .m4a
DivX decoding format ..... Home Theater Ver.3, Ver.4, Ver.5.2
: .avi, .divx

FM tuner

Frequency range..... 87.9 MHz to 107.9 MHz
Usable sensitivity..... 8 dBf (0.7 μV/75 Ω, mono, S/N: 30 dB)
Signal-to-noise ratio ..... 75 dB (IHF-A network)
Distortion..... 0.3 % (at 65 dBf, 1 kHz, stereo)
0.1 % (at 65 dBf, 1 kHz, mono)
Frequency response..... 30 Hz to 15 000 Hz (±3 dB)
Stereo separation ..... 45 dB (at 65 dBf, 1 kHz)

AM tuner

Frequency range..... 530 kHz to 1 710 kHz (10 kHz)
Usable sensitivity..... 18 μV (S/N: 20 dB)
Signal-to-noise ratio ..... 65 dB (IHF-A network)

Note:

- Specifications and the design are subject to possible modifications without notice due to improvements.

● AVIC-D3/XU/EW5

General

Rated power source ..... 14.4 V DC (allowable voltage range: 12.0 V to 14.4 V DC)
Earthing system ..... Negative type
Maximum current consumption ..... 10.0 A
Backup current ..... 6.5 mA or less
Display unit:
Dimensions (W × H × D):
DIN
Chassis ..... 178 × 100 × 160 mm
Nose ..... 188 × 118 × 13 mm
D
Chassis ..... 178 × 100 × 165 mm
Nose ..... 170 × 97 × 8 mm
Weight ..... 2.2 kg

Navigation

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
Position update frequency ..... Approx. once per second
GPS aerial:
Aerial ..... Micro strip flat aerial/right-handed helical polarisation
Aerial cable ..... 5.0 m
Dimensions (W × H × D) ..... 33 × 14 × 36 mm
Weight ..... 105 g

Display

Screen size/aspect ratio..... 6.1 inch wide/17:9 (effective display area: 136 × 72 mm)
Pixels ..... 336 960 (480 × 234 × 3)
Type..... TFT active matrix, transmissive type
Colour system ..... NTSC/PAL compatible
Operating temperature range ..... –30 °C to +85 °C
Storage temperature range ..... –40 °C to +85 °C

Audio

Maximum power output..... 50 W × 4
50 W × 2 ch/4 Ω + 70 W × 1 ch/2 Ω (for subwoofer)
Continuous power output ... 22 W × 4 (DIN 45324, +B=14.4 V)
Load impedance ..... 4 Ω (4 Ω to 8 Ω [2 Ω for 1 ch] allowable)
Preout max output level/output impedance ..... 1.7 V/1 kohm
Equaliser (3-Band Parametric Equaliser):
Low
Frequency..... 40/80/100/160 Hz
Q Factor..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain ..... ±12dB
Mid
Frequency..... 200/500/1 k/2 kHz
Q Factor..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain ..... ±12dB
High
Frequency..... 3.15 k/8 k/10 k/12.5 kHz
Q Factor..... 0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain ..... ±12dB
Loudness contour:
Low ..... +3.5 dB (100 Hz), +3 dB (10 kHz)
Mid..... +10 dB (100 Hz), +6.5 dB (10 kHz)
High..... +11 dB (100 Hz), +11 dB (10 kHz) (volume: –30 dB)
Tone controls:
Bass
Frequency..... 40/63/100/160 Hz
Gain ..... ±12dB
Treble
Frequency..... 2.5 k/4 k/6.3 k/10 kHz
Gain ..... ±12dB
HPF:
Frequency ..... 50/80/125 Hz
Slope..... –12 dB/oct
Subwoofer:
Frequency ..... 50/80/125 Hz
Slope..... –18 dB/oct
Gain ..... ±12dB
Phase..... Normal/Reverse

DVD Drive

System..... DVD-Video, Compact disc audio, MP3, WMA, AAC, DivX system
Usable discs ..... DVD-Video, Compact disc, MP3, WMA, AAC, DivX
Region number..... 2
Signal format:
Sampling frequency.... 44.1/48/96 kHz
Number of quantisation bits ..... 16/20/24; linear
Frequency response..... 5 Hz to 44 000 Hz (with DVD, at sampling frequency 96 kHz)
Signal-to-noise ratio ..... 97 dB (1 kHz) (IEC-A network) (CD: 96 dB (1 kHz) (IEC-A network))
Dynamic range ..... 95 dB (1 kHz) (CD: 94 dB (1 kHz))
Distortion ..... 0.008 % (1 kHz)

Output level:
- Video ..... 1.0 Vp-p/75 Ω (±0.2 V)
- Audio..... 1.4 V (1 kHz, 0 dB)

Number of channels..... 2 (stereo)
MP3 decoding format..... MPEG-1 & 2 Audio Layer 3
WMA decoding format..... Ver.9.0 L3
AAC decoding format..... MPEG-4 AAC (only encoded by iTunes)
: .m4a
DivX decoding format..... Home Theater Ver.3, Ver.4, Ver.5.2
: .avi, .divx

FM tuner

Frequency range..... 87.5 MHz to 108.0 MHz
Usable sensitivity..... 8 dBf (0.7 μV/75 Ω, mono, S/N: 30 dB)
Signal-to-noise ratio ..... 75 dB (IEC-A network)
Distortion..... 0.3 % (at 65 dBf, 1 kHz, stereo)
0.1 % (at 65 dBf, 1 kHz, mono)
Frequency response ..... 30 Hz to 15 000 Hz (±3 dB)
Stereo separation ..... 45 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range..... 531 kHz to 1 602 kHz (9 kHz)
Usable sensitivity..... 18 μV (S/N: 20 dB)
Signal-to-noise ratio ..... 65 dB (IEC-A network)

LW tuner

Frequency range..... 153 kHz to 281 kHz (9 kHz)
Usable sensitivity..... 30 μV (S/N: 20 dB)
Signal-to-noise ratio ..... 65 dB (IEC-A network)

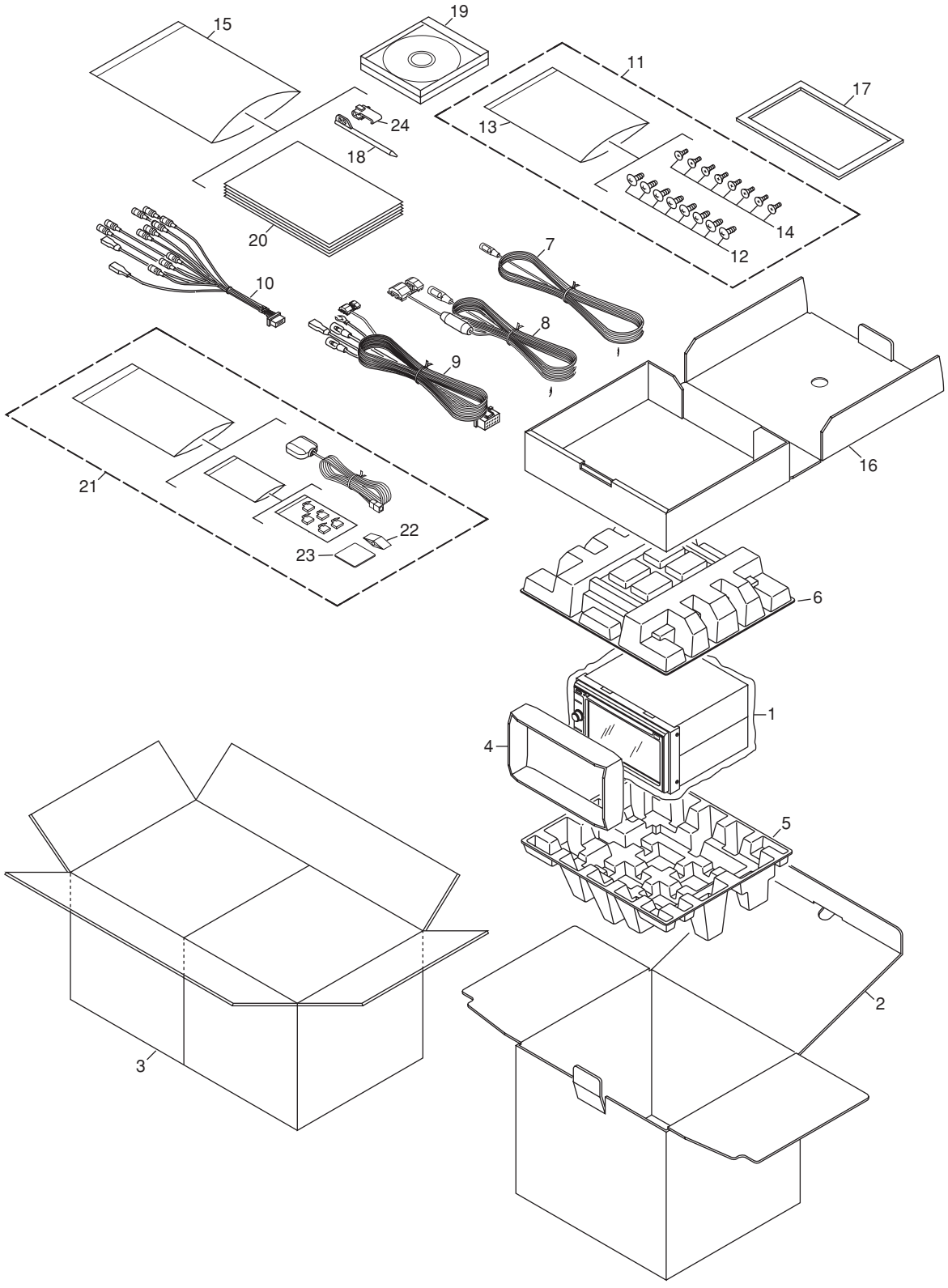
Note:

- Specifications and design are subject to possible modifications without notice due to improvements.

2. EXPLODED VIEWS AND PARTS LIST

*NOTES : • Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.*
• The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
• Screw adjacent to▽mark on the product are used for disassembly.
• For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions,apply as you think it appropriate.)

2.1 PACKING (UC)



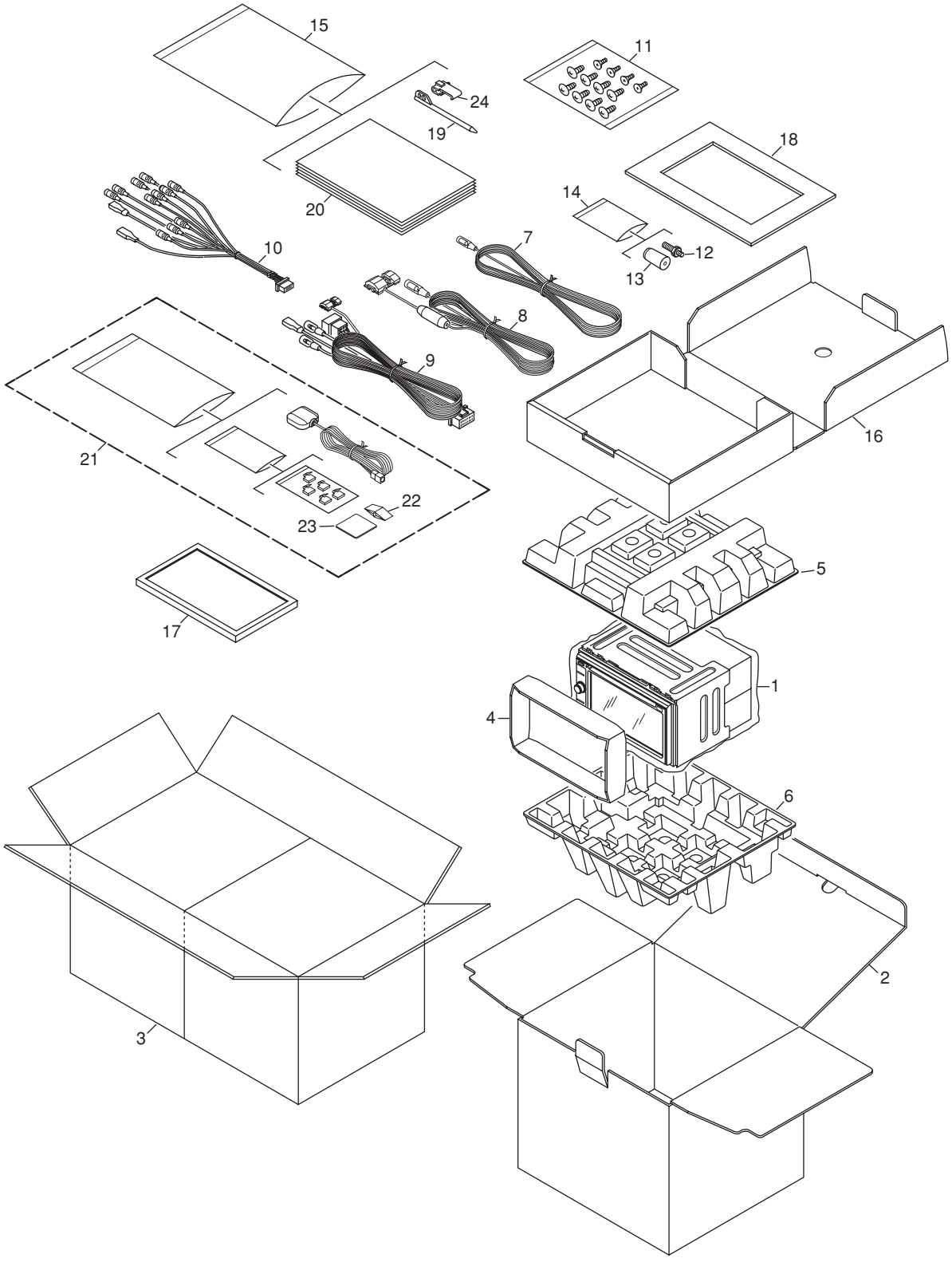
PACKING (UC) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Polyethylene Bag	CEG1383
	2	Unit Box	CHG6065
	3	Contain Box	CHL6065
	4	Protector	CHP3376
	5	Protector	CHP3315
	6	Protector	CHP3316
	7	Cord	CDE5044
	8	Cord	CDE6825
	9	Cord Assy	CDP1063
	10	Cord Assy	CDP1064
	11	Screw Assy	CEA3797
	12	Screw	BMZ50P060FTC
*	13	Polyethylene Bag	CEG-127
	14	Screw	CMZ50P060FTC
	15	Polyethylene Bag	CEG1116
	16	Sub Unit Box	CHG6064
	17	Panel	CNS9008
	18	Pen	CNV8969
	19	DVD-ROM	CPJ1183
	20-1	Owner's Manual	CRB2325
	20-2	Owner's Manual/POC/FRE	CRB2326
	20-3	Owner's Manual	CRB2327
	20-4	Owner's Manual/POC/FRE	CRB2328
	20-5	Installation Manual	CRD4167
	20-6	Caution Card	CRP1310
*	20-7	Warranty Card	CRY1246
*	20-8	Registration Card	CRY1263
	21	GPS Antenna Assy	CXC4864
	22	Water Proof Pad	CZN5442
	23	Sheet	CZN7008
	24	Connector	CKX1049

Owner's Manual,Installation Manual

Part No.	Language
CRB2325, CRB2327	English
CRB2326, CRB2328	French
CRD4167	English, French

2.2 PACKING (EW5)



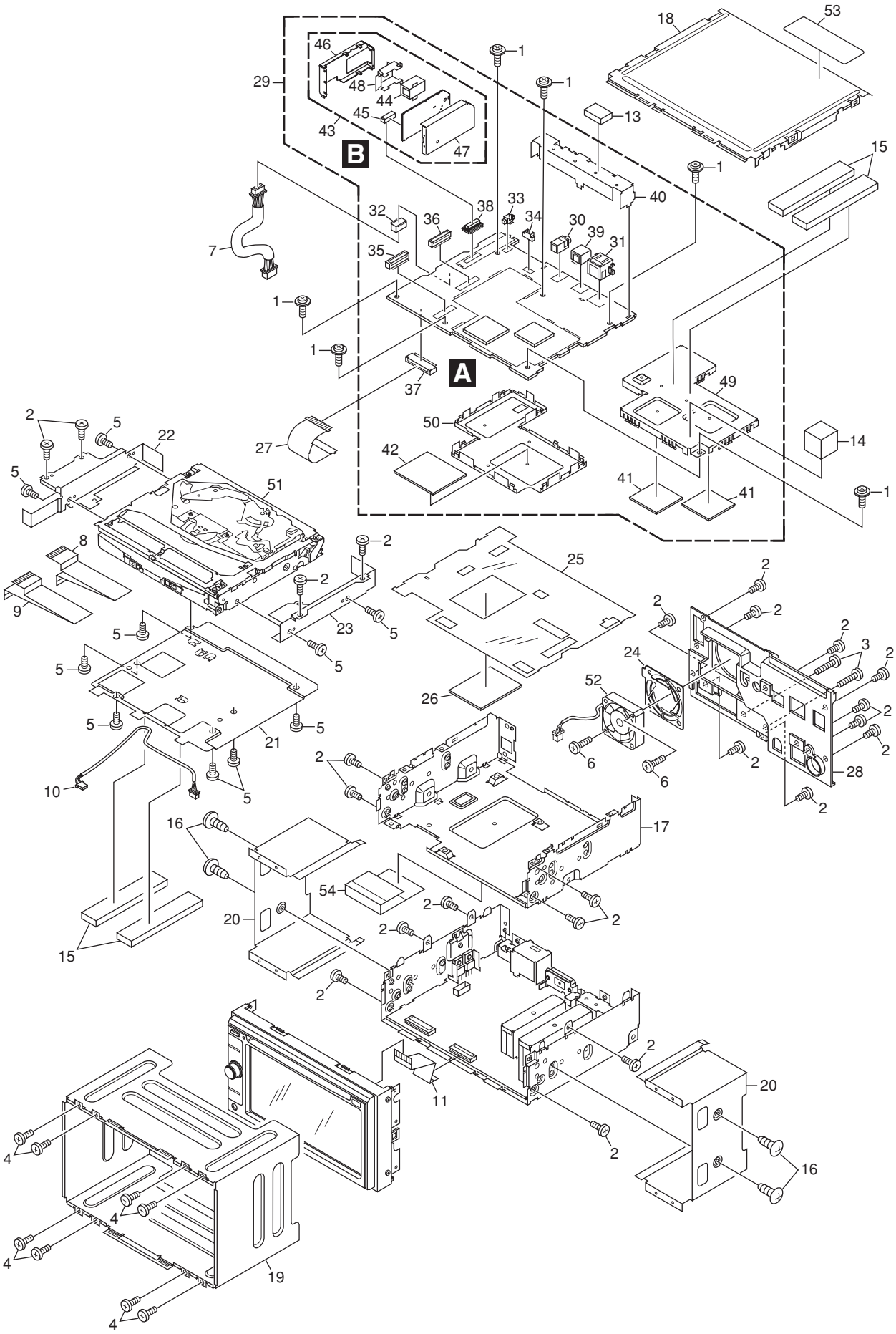
PACKING (EW5) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Polyethylene Bag	CEG1382
	2	Unit Box	CHG6066
	3	Contain Box	CHL6066
	4	Protector	CHP3376
	5	Protector	CHP3317
	6	Protector	CHP3318
	7	Cord	CDE5044
	8	Cord	CDE6825
	9	Cord Assy	CDP1062
	10	Cord Assy	CDP1064
	11	Screw Assy	CEA7395
	12	Screw	CBA2081
	13	Bush	CNV3930
*	14	Polyethylene Bag	E36-615
	15	Polyethylene Bag	CEG1116
	16	Sub Unit Box	CHG6064
	17	Panel	CNS8665
	18	Panel	CNS9007
	19	Pen	CNV8969
	20-1	Owner's Manual/PEE/ENG	CRB2329
	20-2	Owner's Manual/PEE/SPE	CRB2330
	20-3	Owner's Manual/PEE/GER	CRB2331
	20-4	Owner's Manual/PEE/FRE	CRB2332
	20-5	Owner's Manual/PEE/ITA	CRB2333
	20-6	Owner's Manual/PEE/DUT	CRB2334
	20-7	Owner's Manual/PEE/ENG	CRB2335
	20-8	Owner's Manual/PEE/SPE	CRB2336
	20-9	Owner's Manual/PEE/GER	CRB2337
	20-10	Owner's Manual/PEE/FRE	CRB2338
	20-11	Owner's Manual/PEE/ITA	CRB2339
	20-12	Owner's Manual/PEE/DUT	CRB2340
	20-13	Installation Manual	CRD4169
	20-14	Caution Card	CRP1310
*	20-15	Warranty Card	CRY1157
	21	GPS Antenna Assy	CXC4864
	22	Water Proof Pad	CZN5442
	23	Sheet	CZN7008
	24	Connector	CKX1049

Owner's Manual,Installation Manual

Part No.	Language
CRB2329, CRB2335	English
CRB2330, CRB2336	Spanish
CRB2331, CRB2337	German
CRB2332, CRB2338	French
CRB2333, CRB2339	Italian
CRB2334, CRB2340	Dutch
CRD4169	English, Spanish, German, French, Italian, Dutch

2.3 EXTERIOR (1)



(1) EXTERIOR (1) SECTION PARTS LIST

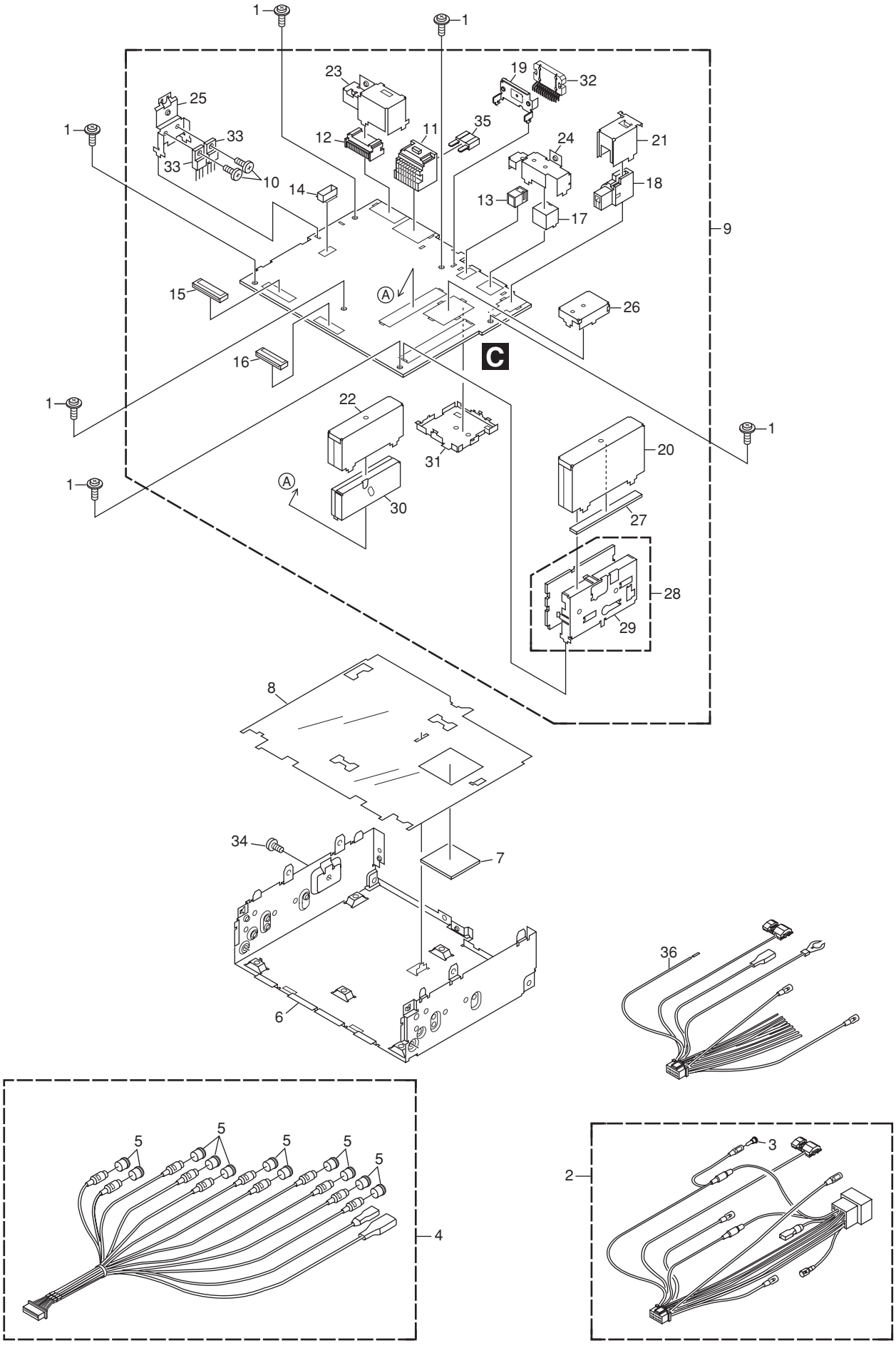
Mark	No.	Description	Part No.
	1	Screw	ASZ26P050FTC
	2	Screw	BMZ26P050FTC
	3	Screw	BMZ26P160FTB
	4	Screw	See Contrast table(2)
	5	Screw(M2 x 3)	CBA2096
	6	Screw(M3 x 10)	CBA2097
	7	Cord Assy	CDE8156
	8	FFC	CDE8312
	9	FFC	CDE8313
	10	Cord Assy	CDE8339
	11	FFC	CDE8340
	12	•••••	
	13	Gasket	CNN1805
	14	Gasket	CNN1804
	15	Cushion	CNN1807
	16	Screw	See Contrast table(2)
	17	Chassis	CNA2964
	18	Case	CNB3357
	19	Holder	See Contrast table(2)
	20	Holder	See Contrast table(2)
	21	Shield	CND3692
	22	Bracket	CND3697
	23	Bracket	CND3698
	24	Cover	CND3917
	25	Insulator	CNN1404
	26	Sheet	CNN1449
	27	Flexible PCB	CNP8272
	28	Heat Sink	CNR1888
	29	Navi Mother Unit	See Contrast table(2)
	30	Jack(CN2063)	CKN1043
	31	Connector(CN2065)	CKS3408
	32	Connector(CN2068)	CKS4674
	33	Connector(CN2059)	CKS4822
	34	Connector(CN2061)	CKS4823
	35	Connector(CN2)	CKS5075
	36	Connector(CN2057)	CKS5075
	37	Connector(CN2055)	CKS5110
	38	Connector(CN2060)	CKS5205
	39	Connector(CN2066)	CKS5598
	40	Holder	CND3696
	41	Sheet	CNM9933
	42	Sheet	CNN1449
	43	GPS Unit	See Contrast table(2)
	44	Connector(CN504)	CKS4432
	45	Connector(CN461)	CKS5204
	46	Shield	CNC9191
	47	Shield	CNC9192
	48	Holder	CND1535
	49	Shield Assy	CXC7020
	50	Shield Assy	CXC7021
	51	DVD Mechanism Module(MS5)	CXK6601
	52	Fan Motor	CXM1320
	53	Label	See Contrast table(2)
	54	Shield	CNN1806

(2) CONTRAST TABLE

AVIC-D3/XU/UC and AVIC-D3/XU/EW5 are constructed the same except for the following:

Mark	No.	Description	AVIC-D3/XU/UC	AVIC-D3/XU/EW5
	4	Screw	Not used	BMZ30P060FTC
	16	Screw	Not used	CMZ50P060FTC
	19	Holder	Not used	CND3430
	20	Holder	Not used	CND3431
	29	Navi Mother Unit	CWN2189	CWN2089
	43	GPS Unit	CWX3446	CWX3447
	53	Label	Not used	CAN5448

2.4 EXTERIOR (2)



(1) EXTERIOR (2) SECTION PARTS LIST

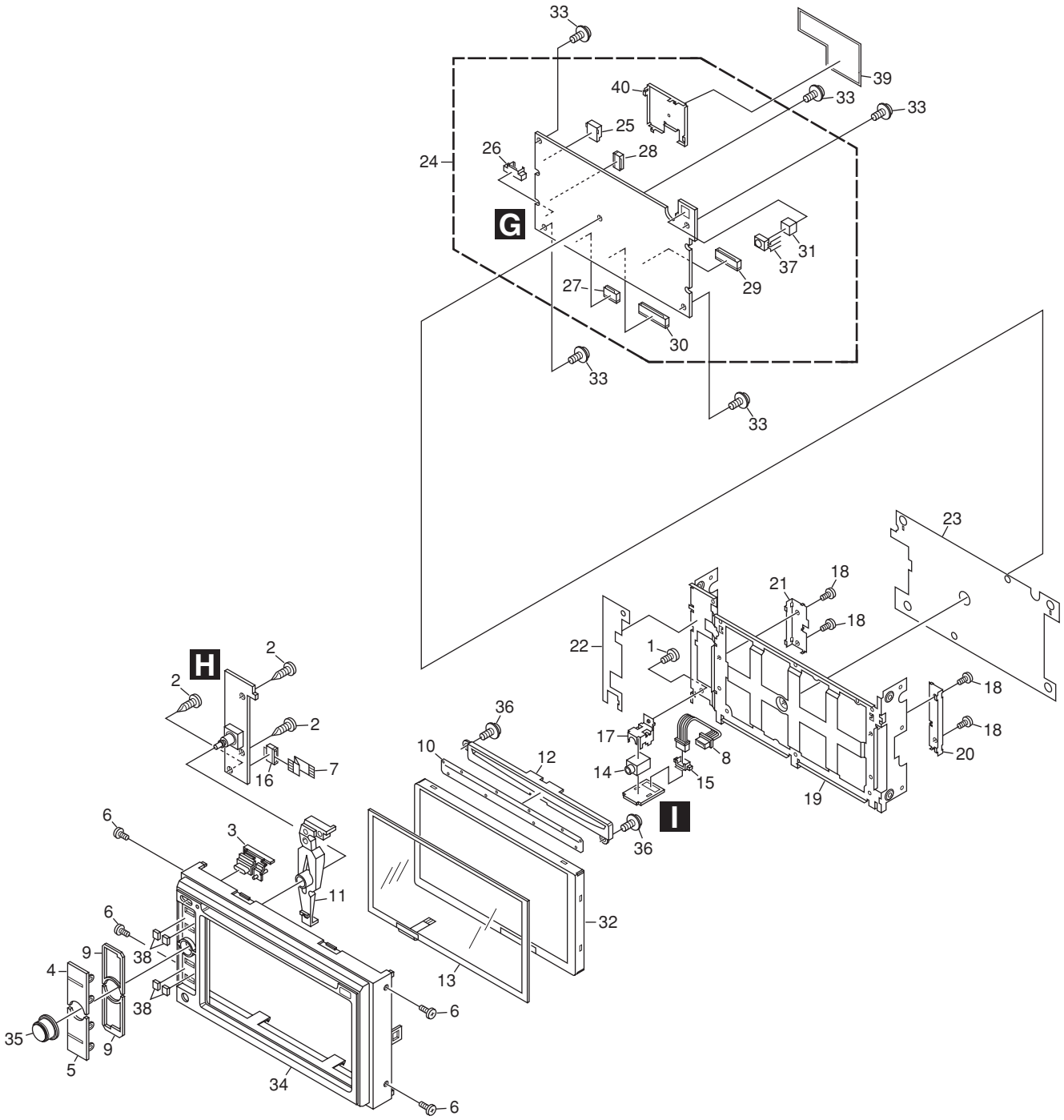
Mark	No.	Description	Part No.
	1	Screw	ASZ26P050FTC
	2	Cord Assy	See Contrast table(2)
	3	Cap	See Contrast table(2)
	4	Cord Assy	CDP1064
	5	Cap	CNV6727
	6	Chassis	See Contrast table(2)
	7	Sheet	CNM9933
	8	Insulator	CNN1403
	9	AV Unit	See Contrast table(2)
	10	Screw	BMZ26P060FTC
	11	Plug(CN1651)	CKM1376
	12	Connector(CN1701)	CKM1460
	13	Jack(CN1721)	CKN1042
	14	Connector(CN1652)	CKS4674
	15	Connector(CN1711)	CKS5110
	16	Connector(CN1661)	CKS5486
	17	Connector(CN1621)	CKS5683
	18	Antenna Jack(CN1401)	CKX1060
	19	Holder	CNC9921
	20	Shield	CND3004
	21	Holder	CND3181
	22	Shield	See Contrast table(2)
	23	Holder	CND3693
	24	Holder	CND3694
	25	Holder	CND3695
	26	Shield	See Contrast table(2)
	27	Sheet	CNM9805
	28	FM/AM Tuner Unit(Y1431)	See Contrast table(2)
	29	Holder	CND1054
	30	Tuner Unit(Y1452)	See Contrast table(2)
	31	Shield Assy	CXC7172
	32	IC(IC1201)	PAL007C
	33	IC(IC1821,1841)	BA00C0WCP-V5
	34	Screw	BMZ26P050FTC
⚠	35	Fuse(10A)	CEK1208
	36	Cord Assy	See Contrast table(2)

(2) CONTRAST TABLE

AVIC-D3/XU/UC and AVIC-D3/XU/EW5 are constructed the same except for the following:

Mark	No.	Description	AVIC-D3/XU/UC	AVIC-D3/XU/EW5
	2	Cord Assy	Not used	CDP1062
	3	Cap	Not used	CKX-003
	6	Chassis	CNA2971	CNA2963
	9	AV Unit	CWN2190	CWN2090
	22	Shield	Not used	CND3188
	26	Shield	Not used	CND3769
	28	FM/AM Tuner Unit(Y1431)	CWE1952	CWE1951
	30	Tuner Unit(Y1452)	Not used	CWE2023
	36	Cord Assy	CDP1063	Not used

2.5 EXTERIOR (3)



(1) EXTERIOR (3) SECTION PARTS LIST

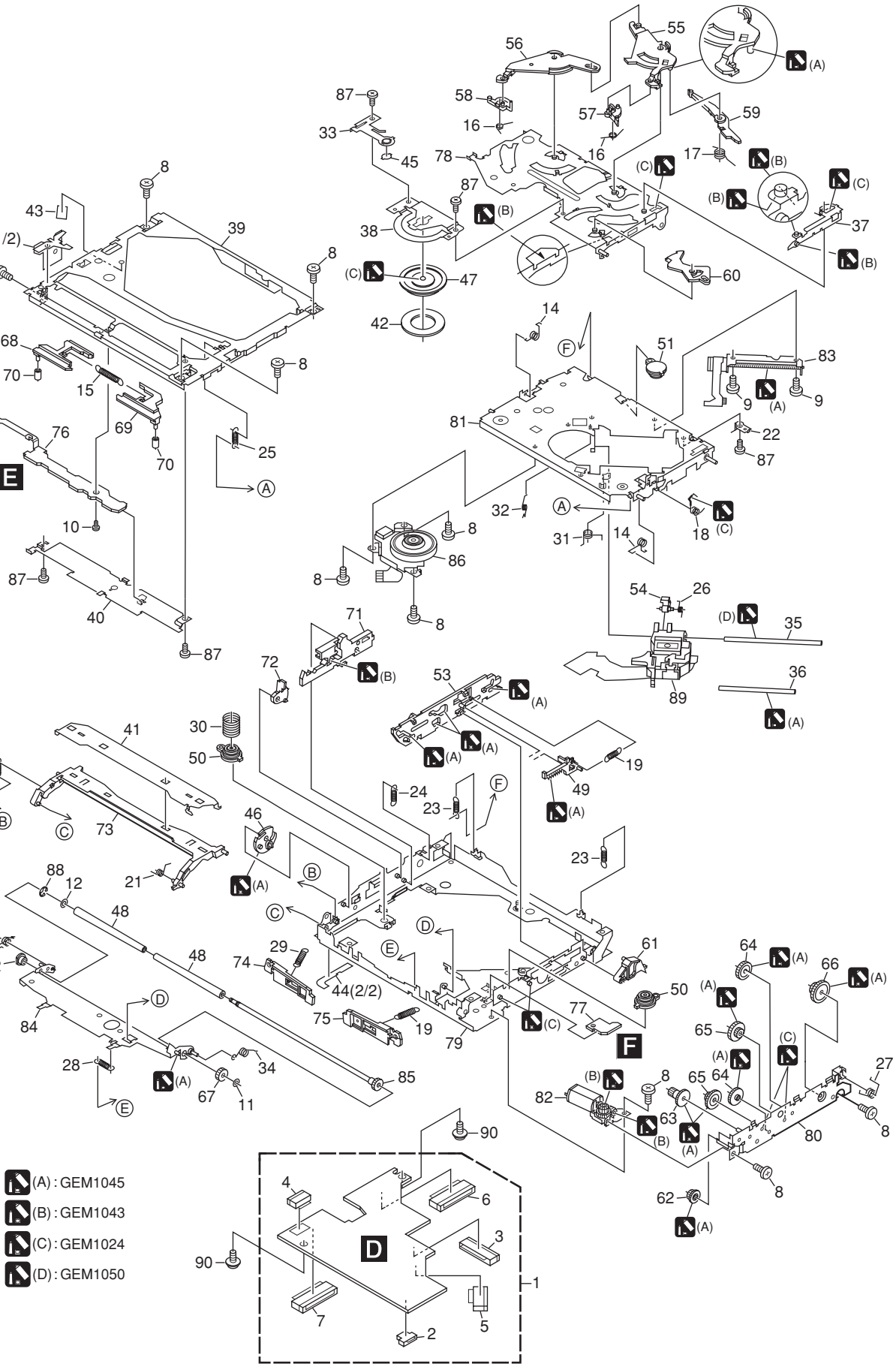
Mark	No.	Description	Part No.
	1	Screw	BMZ26P030FTC
	2	Screw	BPZ20P080FTC
	3	Button	CAC9994
	4	Button	CAC9995
	5	Button	CAC9996
	6	Screw(M2 x 3)	CBA1797
	7	FFC	CDE8341
	8	Cord Assy	CDE8343
	9	Cushion	CNN1429
	10	Cover	CNN1432
	11	Lighting Conductor	CNV9371
	12	Holder	CNV9375
	13	Touch Panel	CSX1114
	14	Jack(CN5552)	CKN1046
	15	Connector(CN4825)	CKS4825
	16	Connector(CN5503)	CKS5037
	17	Holder	CND3755
	18	Screw(M2 x 2)	CBA1771
	19	Holder	CND3757
	20	Holder	CND3758
	21	Holder	CND3759
	22	Insulator	CNN1431
	23	Insulator	CNN1444
	24	Monitor Unit	See Contrast table(2)
	25	Connector(CN5006)	CKS4428
	26	Connector(CN5004)	CKS4825
	27	Connector(CN5002)	CKS5033
	28	Connector(CN5003)	CKS5037
	29	Connector(CN5007)	CKS5050
	30	Connector(CN5001)	CKS5054
	31	Cushion	CNN1445
	32	LCD Module	CWX3435
	33	Screw	PMB20P040FTC
	34	Grille Assy	See Contrast table(2)
	35	Knob Assy	CXC7160
	36	Screw	IMS26P040FTC
	37	REMOTE IC(IC5307)	GP1UX51RK
	38	Cushion	CNN1704
	39	Shield	CNN1731
	40	Shield	CND3932

(2) CONTRAST TABLE

AVIC-D3/XU/UC and AVIC-D3/XU/EW5 are constructed the same except for the following:

Mark	No.	Description	AVIC-D3/XU/UC	AVIC-D3/XU/EW5
	24	Monitor Unit	CWN2188	CWN2091
	34	Grille Assy	CXC7159	CXC7158

2.6 DVD MECHANISM MODULE



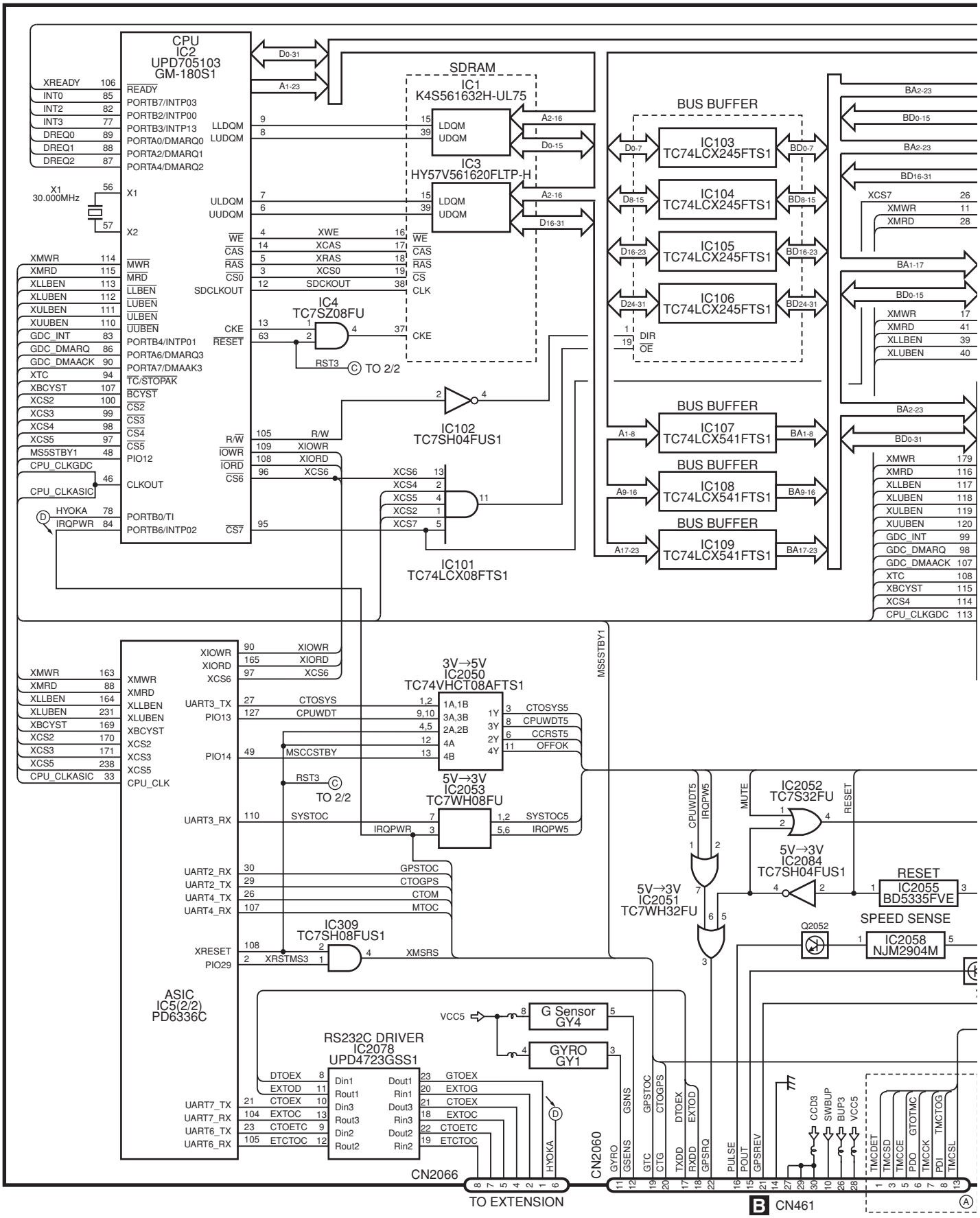
DVD MECHANISM MODULE SECTION PARTS LIST

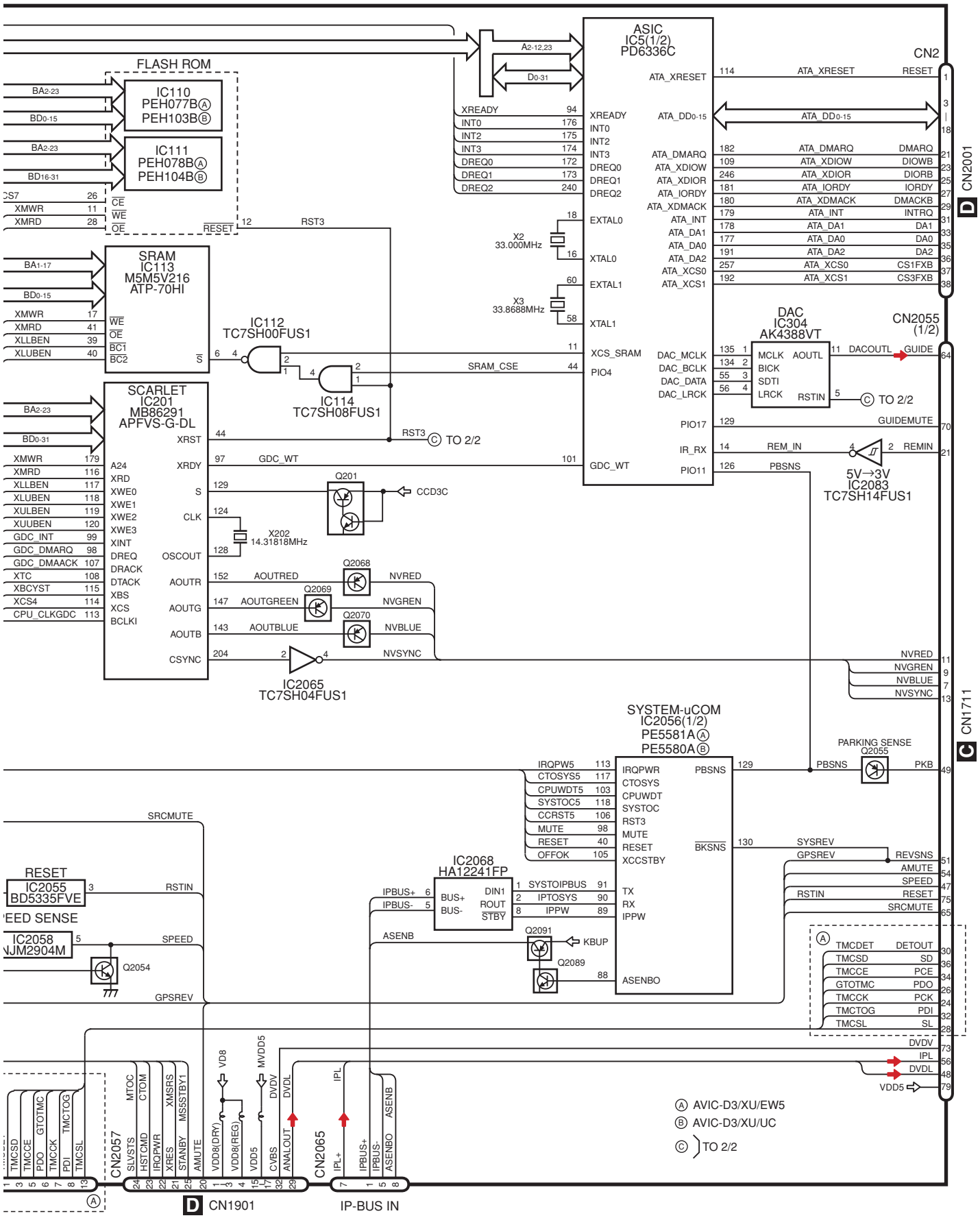
Mark	No.	Description	Part No.
	1	DVD Core Unit	CWX3401
	2	Connector(CN1852)	CKS4817
	3	Connector(CN1101)	CKS4841
	4	Connector(CN1301)	CKS5017
	5	Connector(CN1201)	CKS5043
	6	Connector(CN1901)	CKS5054
	7	Connector(CN2001)	CKS5054
	8	Screw	BMZ20P020FTC
	9	Screw	BMZ20P025FNI
	10	Screw	CBA1787
	11	Washer	CBF1038
	12	Washer	CBF1064
	13	Spring	CBH2586
	14	Spring	CBH2588
	15	Spring	CBH2589
	16	Spring	CBH2590
	17	Spring	CBH2591
	18	Spring	CBH2592
	19	Spring	CBH2593
	20	Spring	CBH2596
	21	Spring	CBH2597
	22	Spring	CBL1726
	23	Spring	CBH2599
	24	Spring	CBH2600
	25	Spring	CBH2601
	26	Spring	CBH2926
	27	Spring	CBH2604
	28	Spring	CBH2605
	29	Spring	CBH2710
	30	Spring	CBH2711
	31	Spring	CBH2935
	32	Spring	CBH2890
	33	Spring	CBL1689
	34	Spring	CBH2898
	35	Shaft	CLA4206
	36	Shaft	CLA4701
	37	Lever	CNC9933
	38	Holder	CND2643
	39	Frame	CND2250
	40	Holder	CND2251
	41	Holder	CND2642
	42	Sheet	CNM6883
	43	Sheet	CNM8697
	44	Sheet	CNM9658
	45	Sheet	CNM9407
	46	Cam	CNV7156
	47	Clamper	CNV7158
	48	Roller	CNV7165
	49	Rack	CNV7175
	50	Damper	CNV9061
	51	Damper	CNV9062
	52	Collar	CNV8845
	53	Lever	CNV8865
	54	Rack	CNV9063
	55	Arm	CNV8867
	56	Arm	CNV8868
	57	Arm	CNV9577
	58	Arm	CNV8870
	59	Arm	CNV8871
	60	Arm	CNV8872
	61	Arm	CNV8873
	62	Gear	CNV8874
	63	Gear	CNV8875
	64	Gear	CNV8876
	65	Gear	CNV8877
	66	Gear	CNV8878
	67	Gear	CNV8879
	68	Lever	CNV8903
	69	Lever	CNV8904
	70	Roller	CNV8905
	71	Lever	CNV8908
	72	Arm	CNV8909
	73	Guide	CNV8910
	74	Arm	CNV9116
	75	Arm	CNV9117
	76	Compound Unit(A)	CWX3154
	77	Compound Unit(B)	CWX3394
*	78	Arm Unit	CXC7872
	79	Frame Unit	CXC6442
	80	Bracket Unit	CXB8685
	81	Chassis Unit	CXC6443
	82	Motor Unit(LOAD)(M1)	CXC4912
	83	Motor(STEPPING)(M2)	CXM1364
	84	Arm Unit	CXC5486
	85	Roller Unit	CXC5708
	86	Motor(SPDL)(M3)	CXM1362
	87	Screw	JFZ20P018FTC
	88	Washer	YE20FTC
	89	Pickup Unit(Service)	CXX2118
	90	Screw	IMS20P030FTC

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

A NAVI MOTHER UNIT(1/2)

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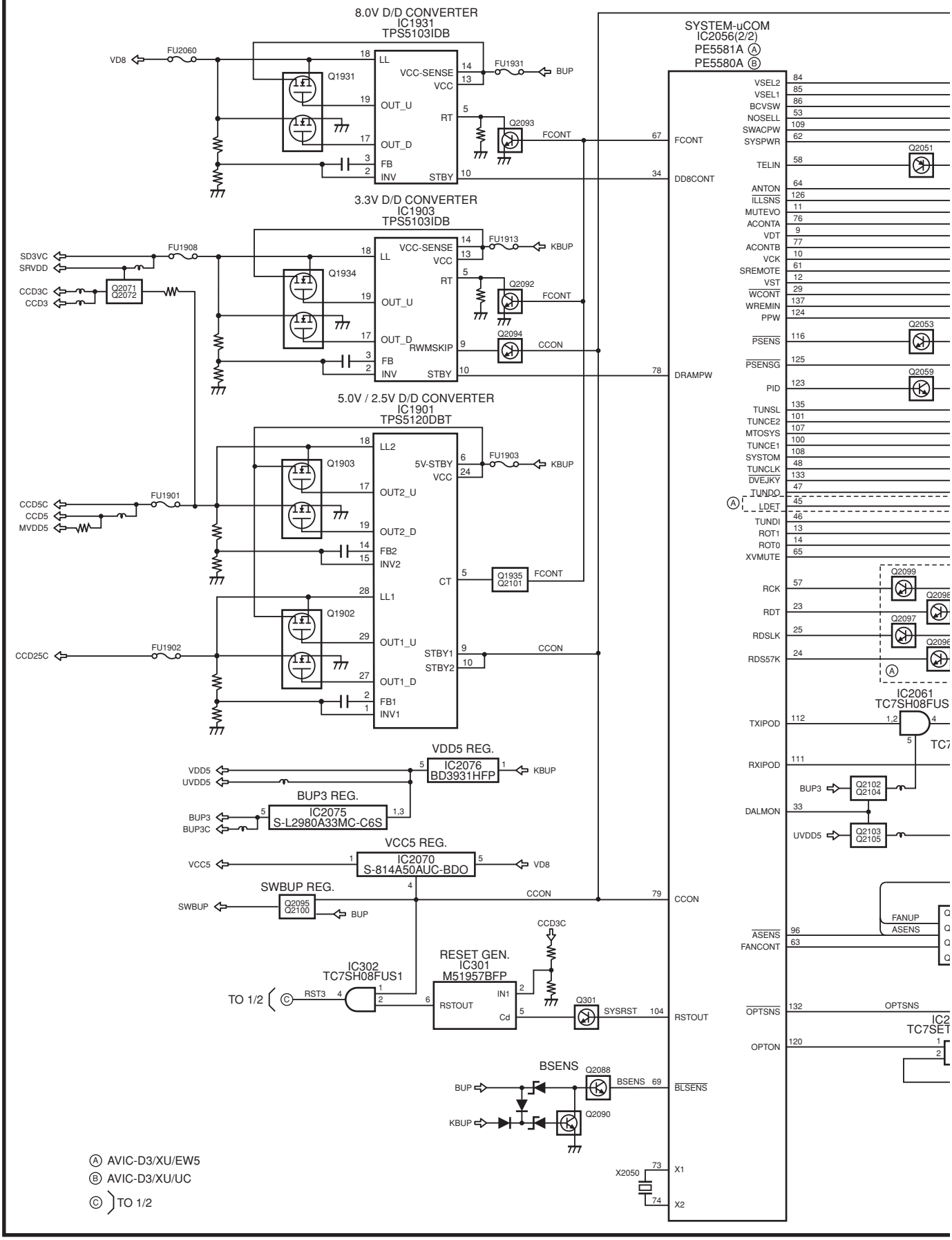
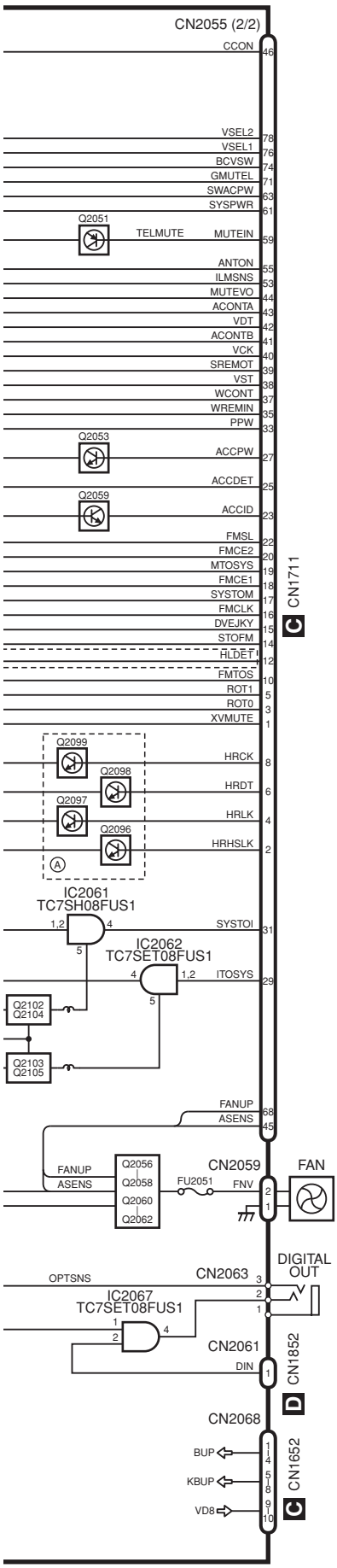
PEH103B Ⓑ
IC111
PEH078B Ⓐ
PEH104B Ⓑ
SRAM
IC113
M5M5V216
ATP-70HI
SCARLET
IC201
MB86291
APFVS-G-DL
ASIC
IC5(1/2)
PD6336C
CN2
CN2001
CN2055
(1/2)
IC112
TC7SH00FUS1
IC114
TC7SH08FUS1
IC2065
TC7SH04FUS1
DAC
IC304
AK4388VT
5V→3V
IC2083
TC7SH14FUS1
X2
33.000MHz
X3
33.8688MHz
X202
14.31818MHz
Q201
Q2068
Q2069
Q2070
CCD3C
TO 2/2
SYSTEM-uCOM
IC2056(1/2)
PE5581A Ⓐ
PE5580A Ⓑ
PARKING SENSE
Q2055
RESET
IC2055
BD5335FVE
SPEED SENSE
IC2058
NJM2904M
Q2054
IC2068
HA12241FP
Q2091
Q2089
KBUP
CN1711
CN2057
CN2065
CN1901
IP-BUS IN
Ⓐ AVIC-D3/XU/EW5
Ⓑ AVIC-D3/XU/UC
Ⓒ TO 2/2

A NAVI MOTHER UNIT(2/2)

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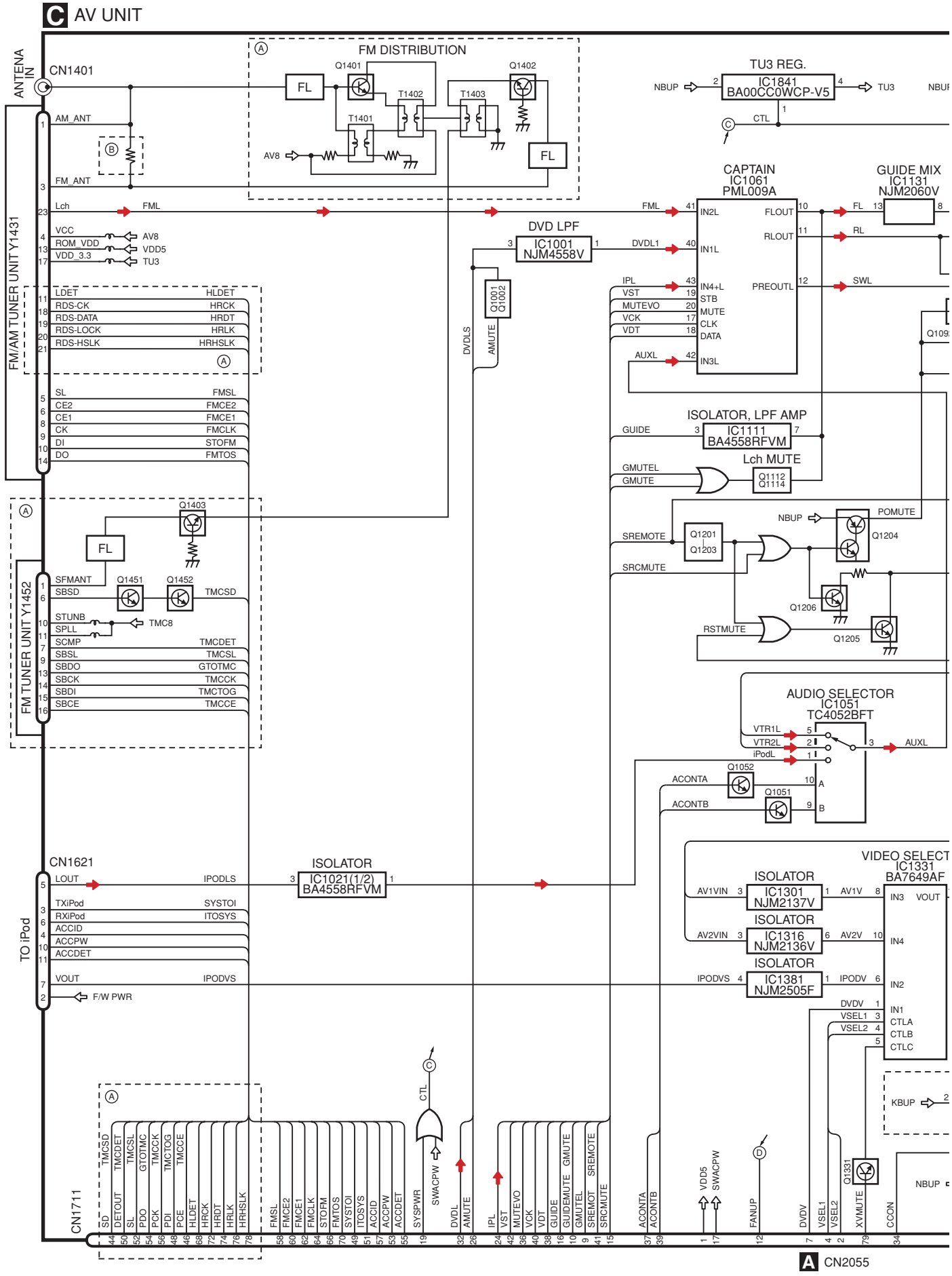
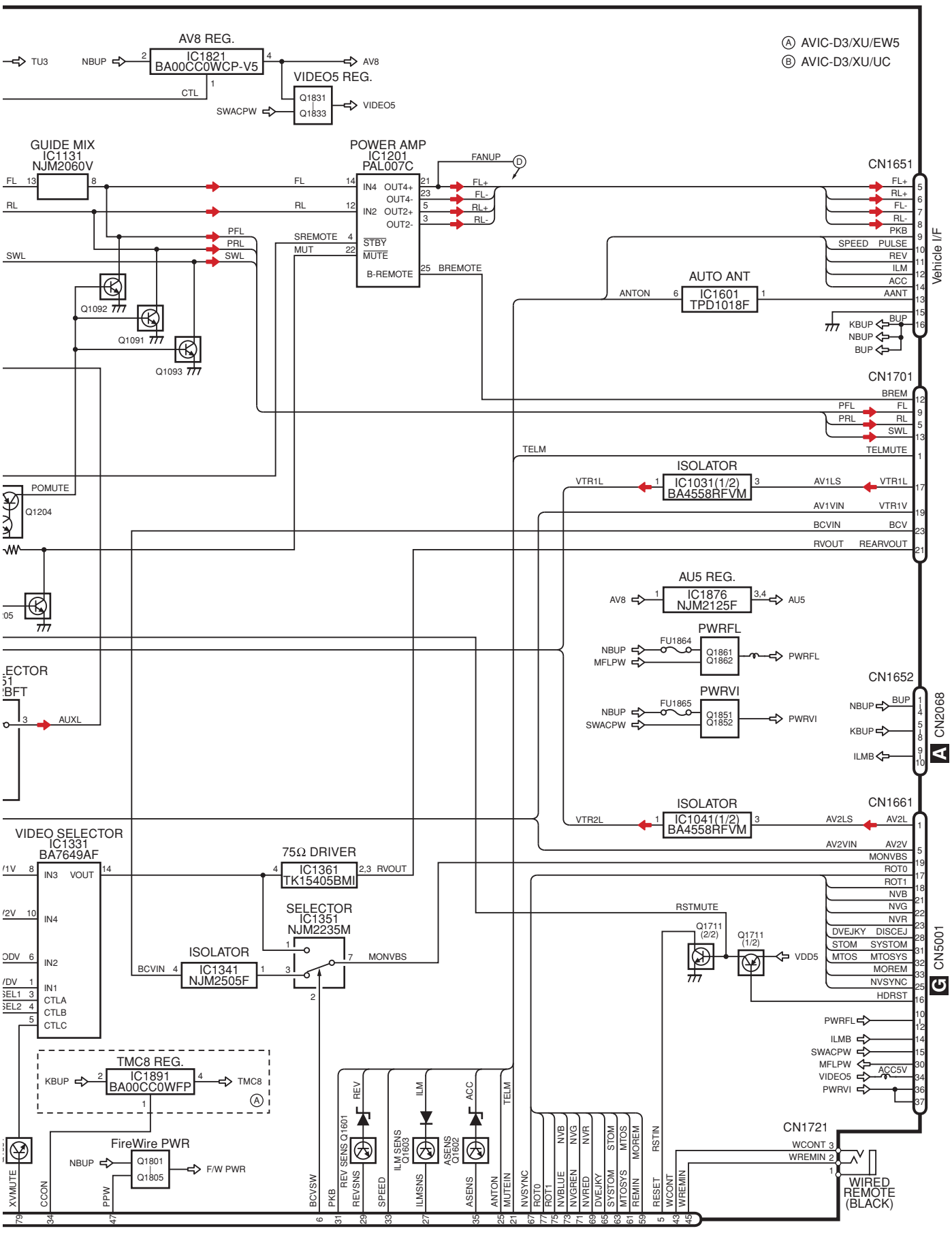
CCON 46
VSEL2 78
VSEL1 76
BCVSW 74
GMUTEL 71
SWACPW 63
SYSPWR 61
Q2051
TELMUTE
MUTEIN 59
ANTON 55
ILMSNS 53
MUTEVO 44
ACONTA 43
VDT 42
ACONTB 41
VCK 40
SREMOT 39
VST 38
WCONT 37
WREMIN 35
PPW 33
Q2053
ACCPW 27
ACCDET 25
Q2059
ACCID 23
FMSL 22
FMCE2 20
MTOSYS 19
FMCE1 18
SYSTOM 17
FMCLK 16
DVEJKY 15
STOFM 14
HLDET 12
FMTOS 10
ROT1 5
ROT0 3
XVMUTE 1
CN1711
Q2099
Q2098
Q2097
Q2096
HRCK 8
HRDT 6
HRLK 4
HRHSLK 2
A
IC2061
TC7SH08FUS1
SYSTOI 31
IC2062
TC7SET08FUS1
ITOSYS 29
Q2102
Q2104
Q2103
Q2105
FANUP 68
ASENS 45
FANUP
ASENS
Q2056
Q2058
Q2060
Q2062
FU2051
FNV
CN2059
FAN
OPTSNS
CN2063
DIGITAL OUT
IC2067
TC7SET08FUS1
CN2061
DIN
CN1852
CN2068
BUP
KBUP
VD8
CN1652


C AV UNIT
ANTENA IN
CN1401
FM DISTRIBUTION
Q1401
Q1402
T1401
T1402
T1403
FL
AV8
TU3 REG.
IC1841
BA00CC0WCP-V5
NBUP
TU3
CTL
AM_ANT
FM_ANT
Lch
FML
VCC
ROM_VDD
VDD_3.3
AV8
VDD5
TU3
FM/AM TUNER UNIT Y1431
LDET
RDS-CK
RDS-DATA
RDS-LOCK
RDS-HSLK
HLDET
HRCK
HRDT
HRLK
HRHSLK
SL
CE2
CE1
CK
DI
DO
FMSL
FMCE2
FMCE1
FMCLK
STOFM
FMTOS
CAPTAIN
IC1061
PML009A
GUIDE MIX
IC1131
NJM2060V
IN2L
IN1L
IN4+L
STB
MUTE
CLK
DATA
IN3L
FLOUT
RLOUT
PREOUTL
FL
RL
SWL
DVD LPF
IC1001
NJM4558V
DVDL1
DVDLS
AMUTE
Q1001
Q1002
IPL
VST
MUTEVO
VCK
VDT
AUXL
ISOLATOR, LPF AMP
IC1111
BA4558RFVM
GUIDE
Lch MUTE
GMUTEL
GMUTE
Q1112
Q1114
SREMOTE
SRCMUTE
Q1201
Q1203
NBUP
POMUTE
Q1204
Q1206
RSTMUTE
Q1205
FM TUNER UNIT Y1452
SFMANT
SBSD
STUNB
SPLL
SCMP
SBSL
SBDO
SBCK
SBDI
SBCE
Q1451
Q1452
TMC8
TMCSD
TMCDET
TMCSL
GTOTMC
TMCCK
TMCTOG
TMCCE
AUDIO SELECTOR
IC1051
TC4052BFT
VTR1L
VTR2L
iPodL
AUXL
Q1052
Q1051
ACONTA
ACONTB
CN1621
TO iPod
LOUT
IPODLS
TXiPod
RXiPod
ACCID
ACCPW
ACCDET
SYSTOI
ITOSYS
VOUT
IPODVS
F/W PWR
ISOLATOR
IC1021(1/2)
BA4558RFVM
VIDEO SELECT
IC1331
BA7649AF
ISOLATOR
IC1301
NJM2137V
AV1VIN
AV1V
IN3
VOUT
ISOLATOR
IC1316
NJM2136V
AV2VIN
AV2V
IN4
ISOLATOR
IC1381
NJM2505F
IPODVS
IPODV
IN2
DVDV
VSEL1
VSEL2
IN1
CTLA
CTLB
CTLC
KBUP
Q1331
XVMUTE
NBUP
CCON
CN1711
SYSPWR
SWACPW
FANUP
VDD5
A CN2055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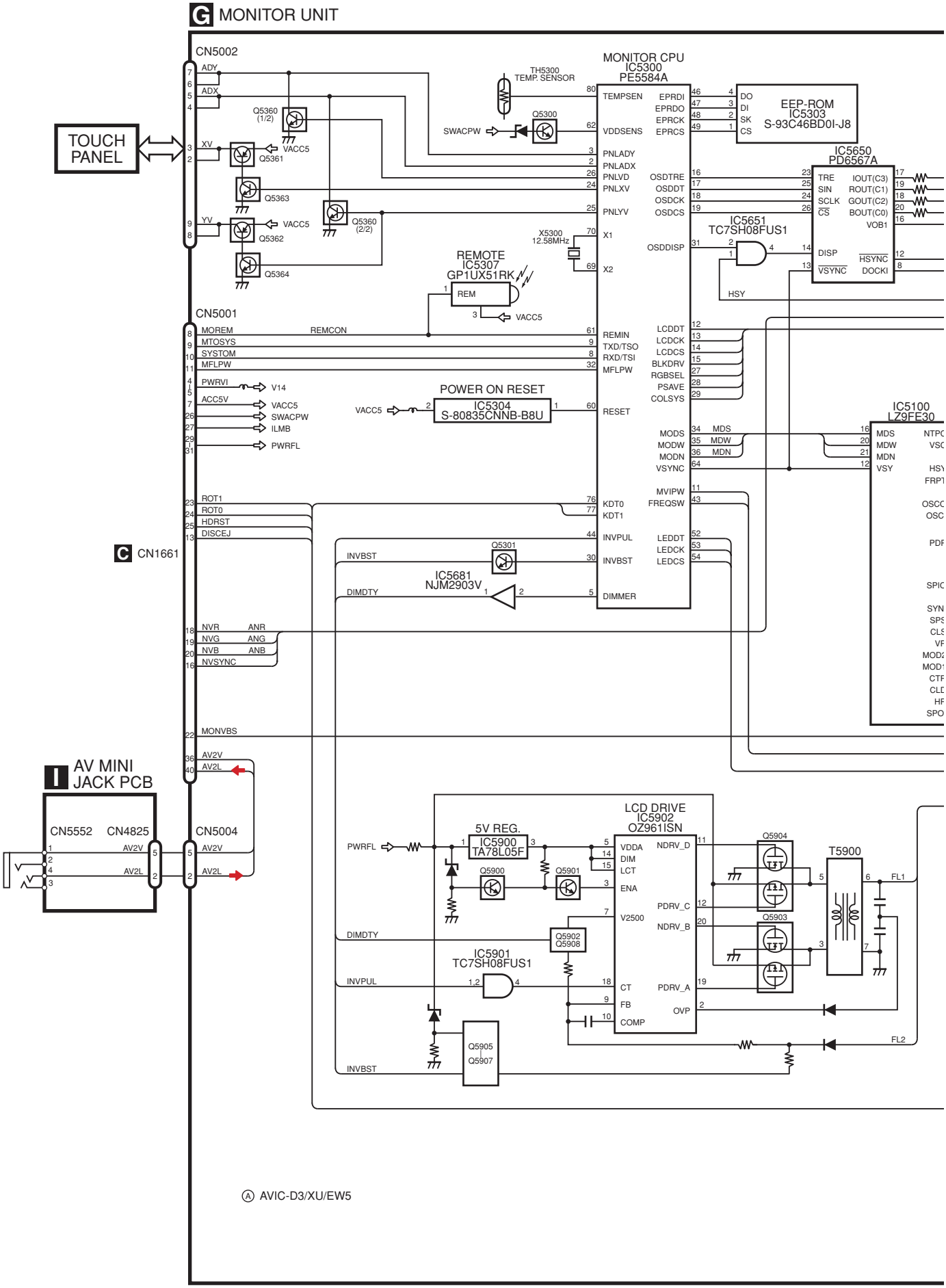
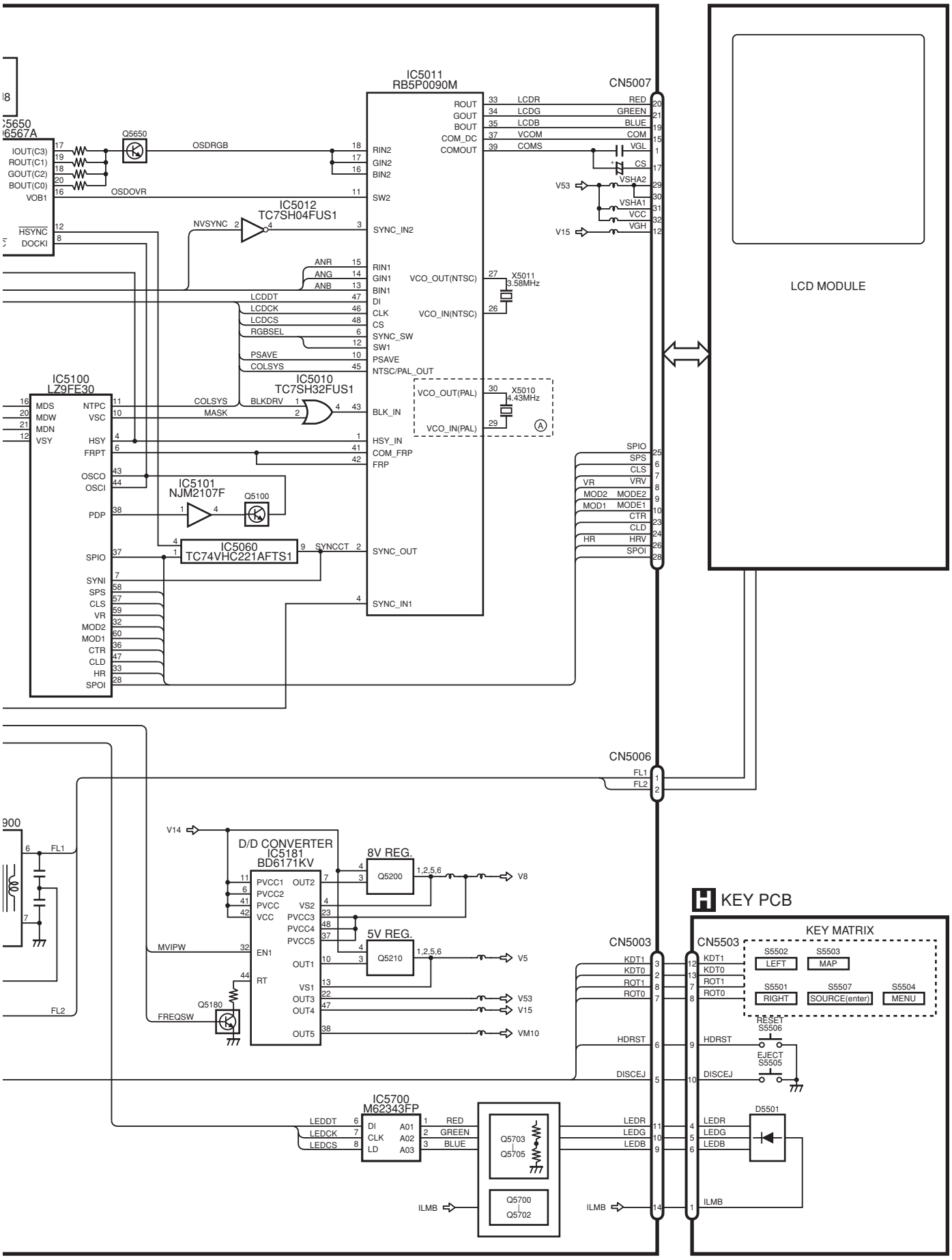
BA00CC0WCP-V5
TU3
NBUP
AV8
CTL
VIDEO5 REG.
Q1831
Q1833
SWACPW
VIDEO5
Ⓐ AVIC-D3/XU/EW5
Ⓑ AVIC-D3/XU/UC
GUIDE MIX
IC1131
NJM2060V
POWER AMP
IC1201
PAL007C
FANUP
FL
RL
SWL
PFL
PRL
SREMOTE
MUT
STBY
MUTE
B-REMOTE
BREMOTE
Q1092
Q1091
Q1093
CN1651
FL+
RL+
FL-
RL-
PKB
SPEED
PULSE
REV
ILM
ACC
AANT
Vehicle I/F
AUTO ANT
IC1601
TPD1018F
ANTON
KBUP
NBUP
BUP
CN1701
BREM
PFL
FL
PRL
RL
SWL
TELM
TELMUTE
ISOLATOR
IC1031(1/2)
BA4558RFVM
VTR1L
AV1LS
AV1VIN
VTR1V
BCVIN
BCV
RVOUT
REARVOUT
POMUTE
Q1204
AU5 REG.
IC1876
NJM2125F
AV8
AU5
PWRFL
FU1864
Q1861
Q1862
MFLPW
PWRVI
FU1865
Q1851
Q1852
SWACPW
CN1652
CN2068
ILMB
ISOLATOR
IC1041(1/2)
BA4558RFVM
VTR2L
AV2LS
AV2L
AV2VIN
AV2V
MONVBS
ROT0
ROT1
NVB
NVG
NVR
DVEJKY
DISCEJ
STOM
SYSTOM
MTOS
MTOSYS
MOREM
NVSYNC
HDRST
CN5001
RSTMUTE
Q1711
(2/2)
Q1711
(1/2)
VDD5
VIDEO SELECTOR
IC1331
BA7649AF
IN3
VOUT
IN4
IN2
IN1
CTLA
CTLB
CTLC
75Ω DRIVER
IC1361
TK15405BMI
RVOUT
SELECTOR
IC1351
NJM2235M
ISOLATOR
IC1341
NJM2505F
BCVIN
MONVBS
TMC8 REG.
IC1891
BA00CC0WFP
KBUP
TMC8
FireWire PWR
Q1801
Q1805
F/W PWR
REV SENS Q1601
ILM SENS Q1603
ASENS Q1602
REV
ILM
ACC
TELM
CN1721
WCONT
WREMIN
WIRED
REMOTE
(BLACK)
XVMUTE
CCON
PPW
BCVSW
PKB
REVSNS
SPEED
ILMSNS
ASENS
ANTON
MUTEIN
NVSYNC
ROT0
ROT1
NVBLUE
NVGREN
NVRED
DVEJKY
SYSTOM
MTOSYS
REMIN
MOREM
RSTIN
RESET
WCONT
WREMIN

055


G MONITOR UNIT
CN5002
TOUCH PANEL
ADY
ADX
XV
YV
Q5360 (1/2)
VACC5
Q5361
Q5363
Q5362
Q5360 (2/2)
Q5364
TH5300 TEMP. SENSOR
Q5300
SWACPW
MONITOR CPU IC5300 PE5584A
TEMPSEN
VDDSENS
PNLADY
PNLADX
PNLVD
PNLXV
PNLYV
X5300 12.58MHz
X1
X2
REMOTE IC5307 GP1UX51RK
REM
CN5001
MOREM
REMCON
MTOSYS
SYSTOM
MFLPW
PWRVI
V14
ACC5V
SWACPW
ILMB
PWRFL
POWER ON RESET
IC5304 S-80835CNNB-B8U
RESET
REMIN
TXD/TSO
RXD/TSI
MFLPW
EEP-ROM IC5303 S-93C46BD0I-J8
EPRDI
EPRDO
EPRCK
EPRCS
DO
DI
SK
CS
IC5650 PD6567A
OSDTRE
OSDDT
OSDCK
OSDCS
OSDDISP
IC5651 TC7SH08FUS1
TRE
SIN
SCLK
CS
IOUT(C3)
ROUT(C1)
GOUT(C2)
BOUT(C0)
VOB1
DISP
VSYNC
HSYNC
DOCKI
HSY
LCDDT
LCDCK
LCDCS
BLKDRV
RGBSEL
PSAVE
COLSYS
IC5100 LZ9FE30
MDS
MDW
MDN
VSY
MVIPW
FREQSW
LEDDT
LEDCK
LEDCS
KDT0
KDT1
INVPUL
INVBST
DIMMER
IC5681 NJM2903V
Q5301
DIMDTY
C CN1661
ROT1
ROT0
HDRST
DISCEJ
NVR
NVG
NVB
NVSYNC
ANR
ANG
ANB
MONVBS
AV2V
AV2L
I AV MINI JACK PCB
CN5552
CN4825
CN5004
LCD DRIVE IC5902 OZ961ISN
5V REG.
IC5900 TA78L05F
Q5900
Q5901
VDDA
DIM
LCT
ENA
V2500
CT
FB
COMP
NDRV_D
PDRV_C
NDRV_B
PDRV_A
OVP
Q5902
Q5908
IC5901 TC7SH08FUS1
Q5905
Q5907
Q5904
Q5903
T5900
FL1
FL2
Ⓐ AVIC-D3/XU/EW5


IC5011
RB5P0090M
CN5007
IC5012
TC7SH04FUS1
IC5100
LZ9FE30
IC5010
TC7SH32FUS1
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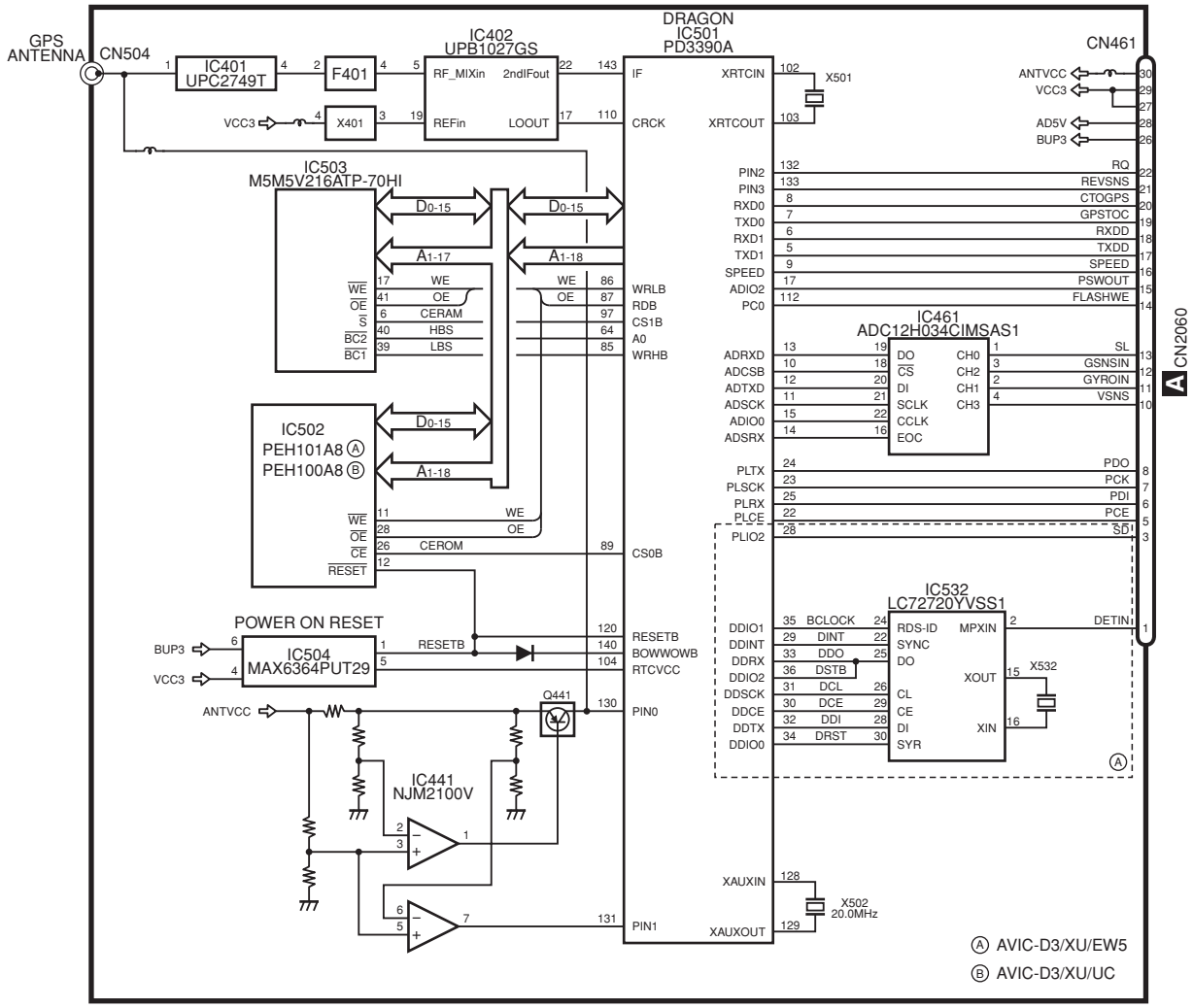
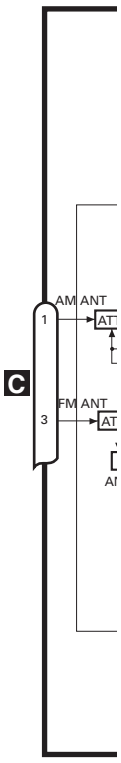
NJM2107F
IC5060
TC74VHC221AFTS1
LCD MODULE
CN5006
D/D CONVERTER
IC5181
BD6171KV
8V REG.
5V REG.
KEY PCB
KEY MATRIX
CN5503
IC5700
M62343FP
D5501
OSDRGB
OSDOVR
NVSYNC
COLSYS
MASK
BLKDRV
LCDDT
LCDCK
LCDCS
RGBSEL
PSAVE
COLSYS
SYNCCT
MVIPW
FREQSW
LEDDT
LEDCK
LEDCS
ILMB
RESET
S5506
EJECT
S5505
S5502
LEFT
S5503
MAP
S5501
RIGHT
S5507
SOURCE(enter)
S5504
MENU

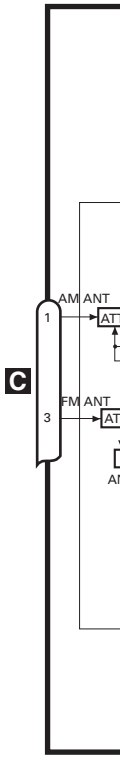
B GPS UNIT



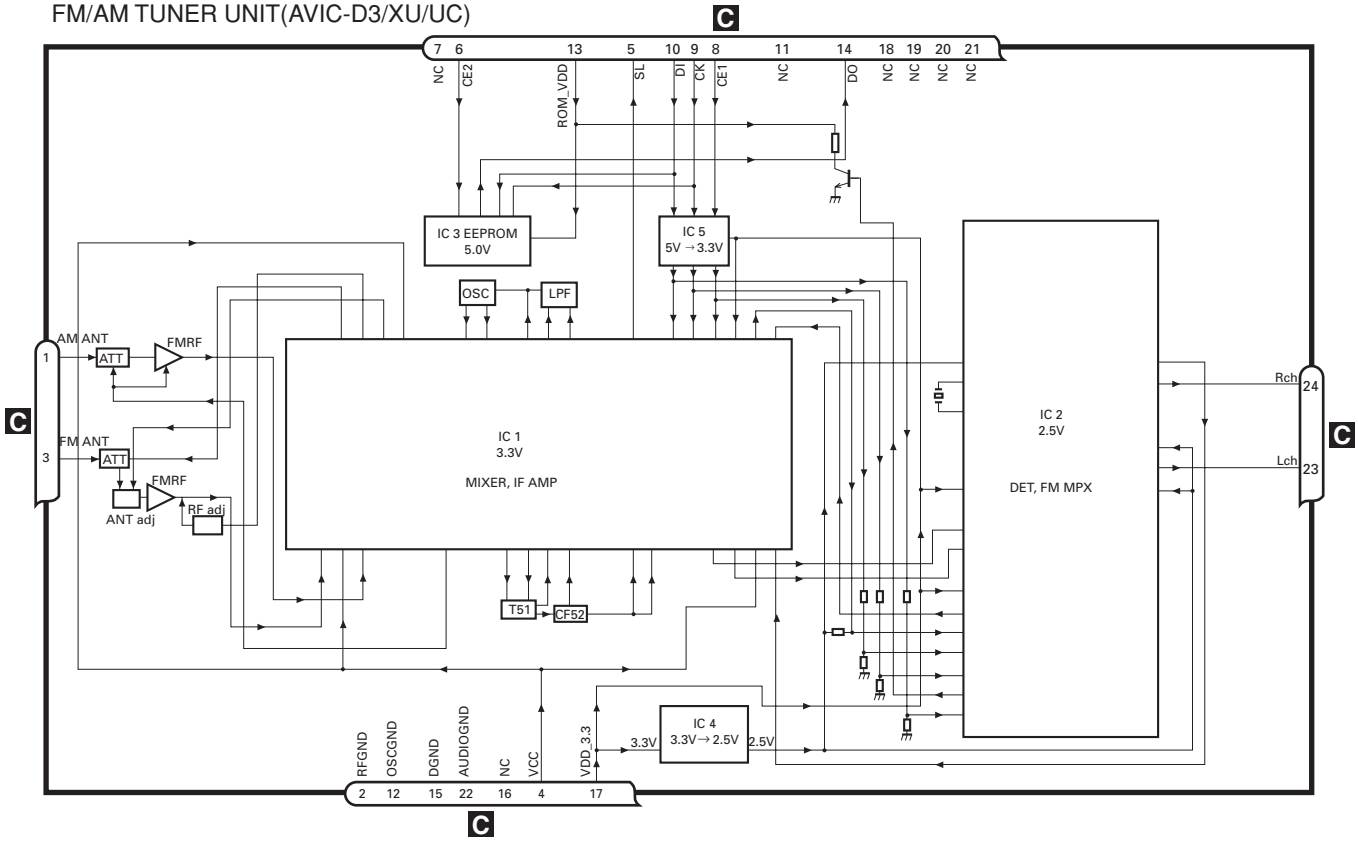
FM/AM



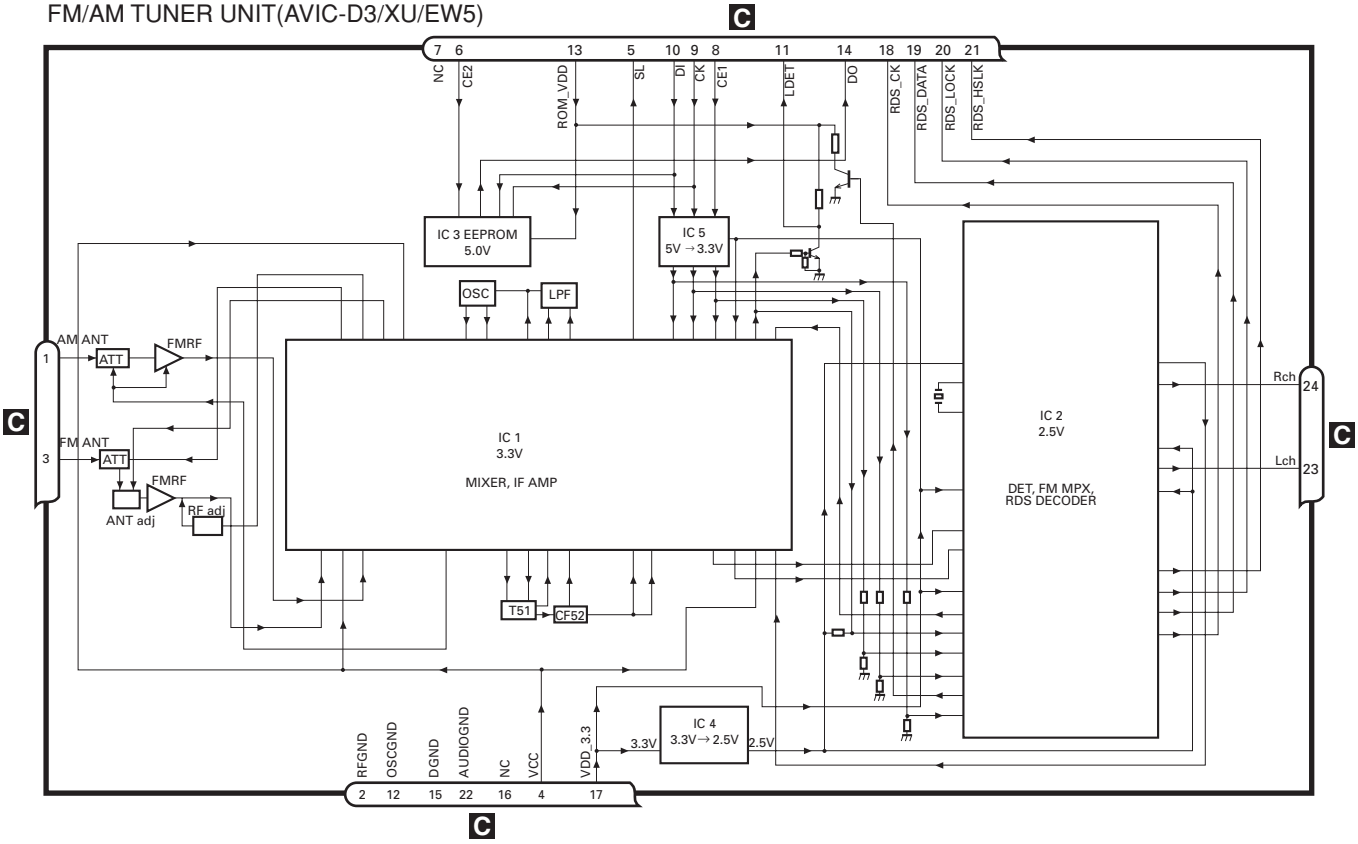
FM/AM



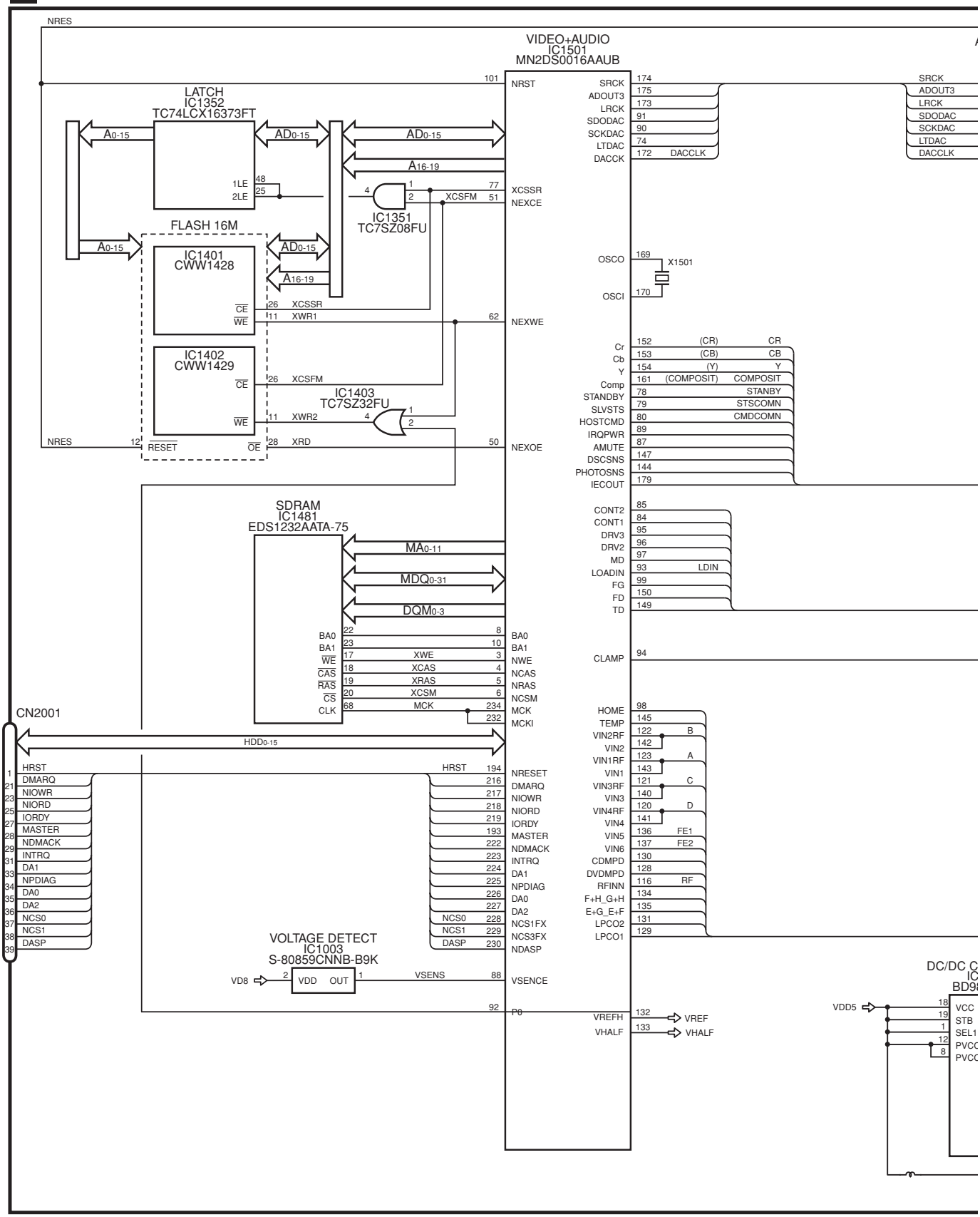
FM/AM TUNER UNIT(AVIC-D3/XU/UC)

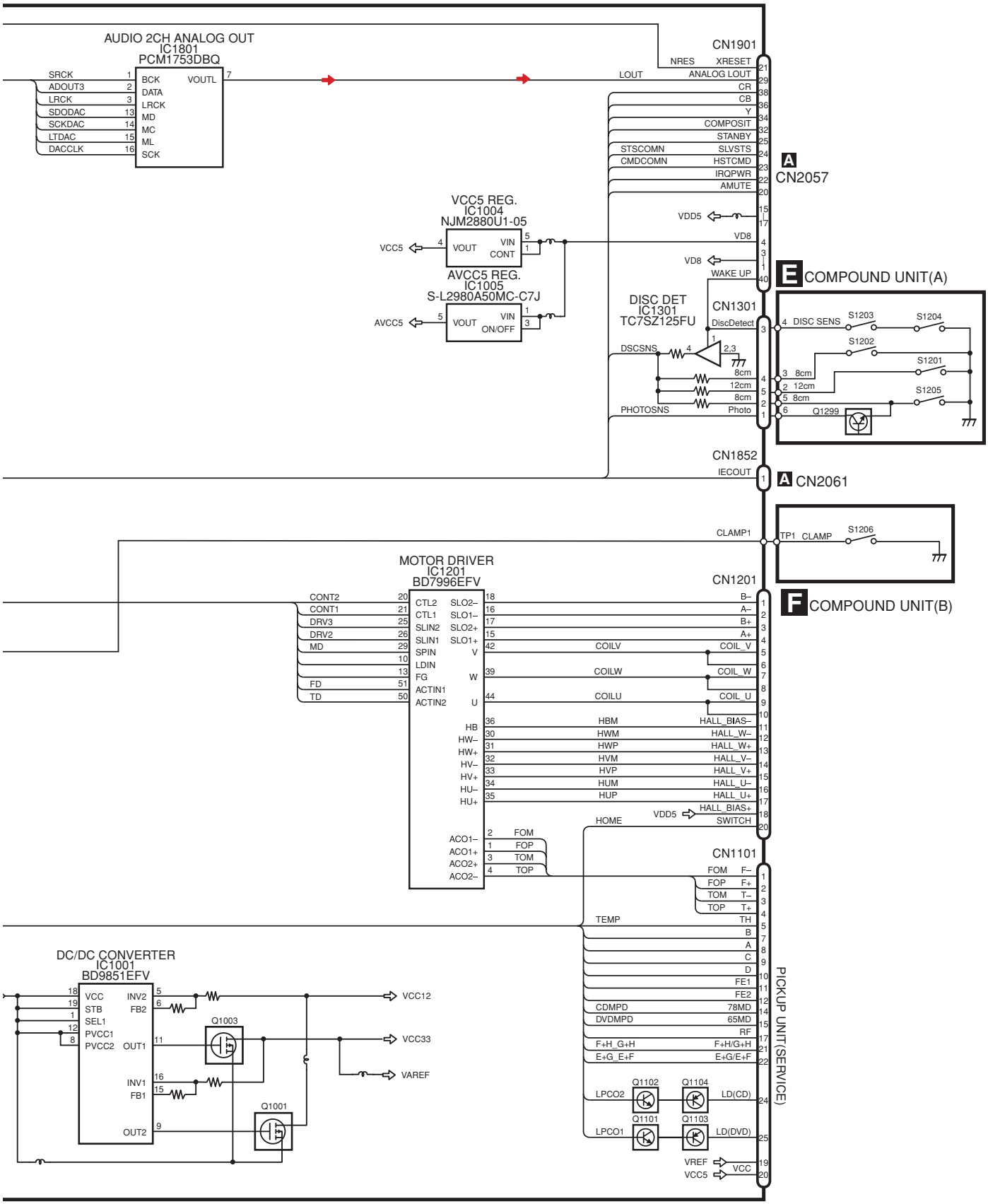


FM/AM TUNER UNIT(AVIC-D3/XU/EW5)

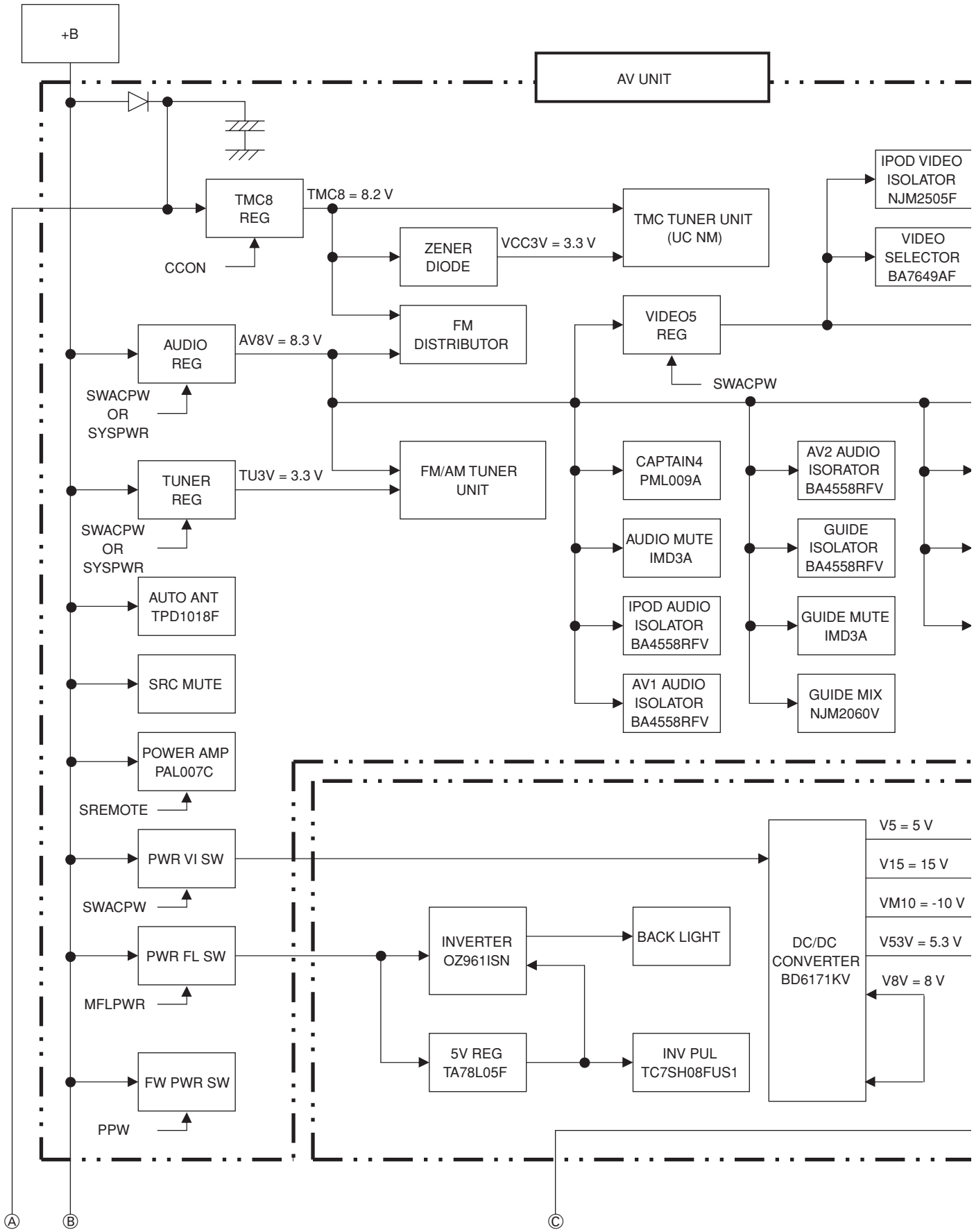


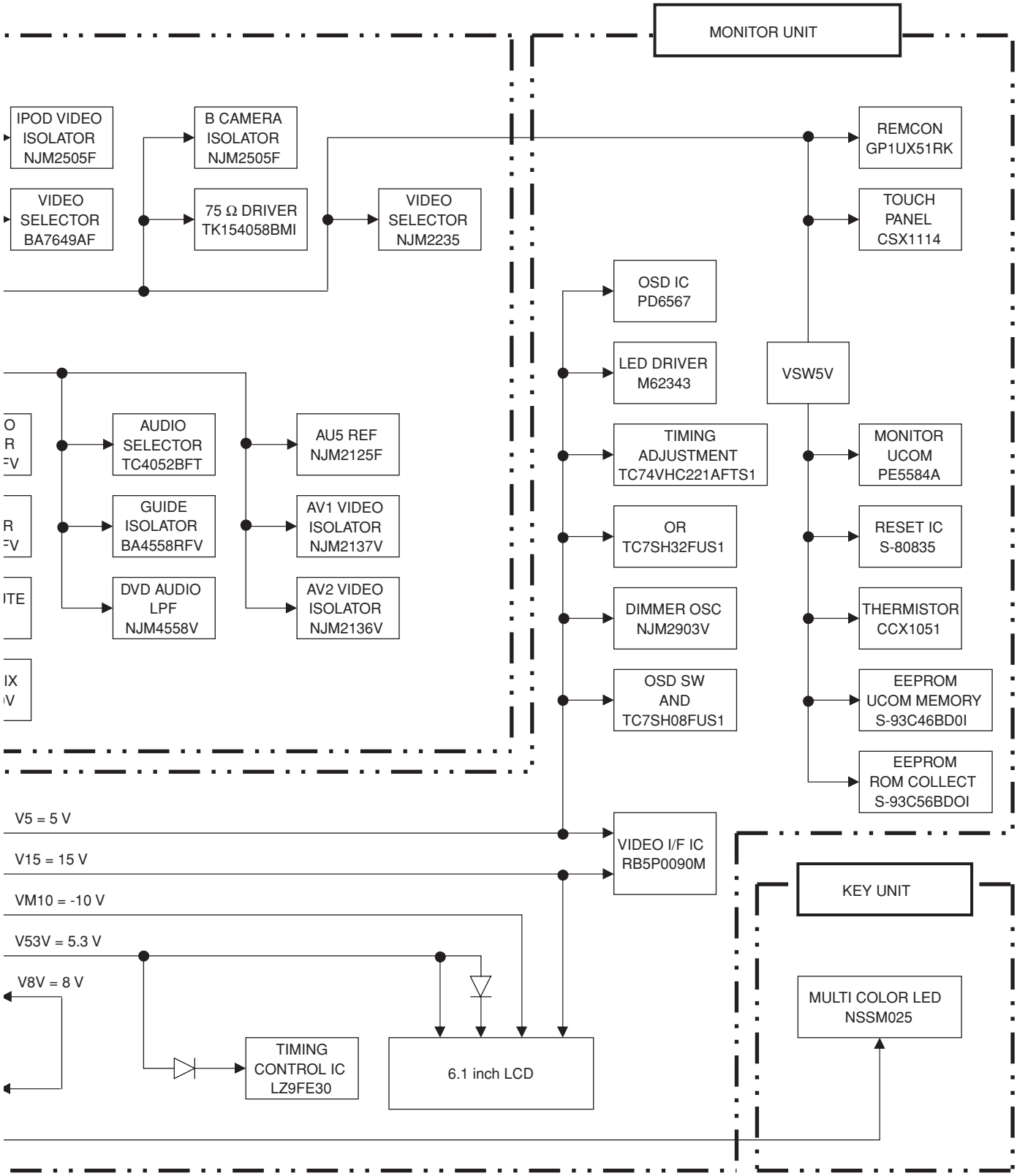
D DVD CORE UNIT

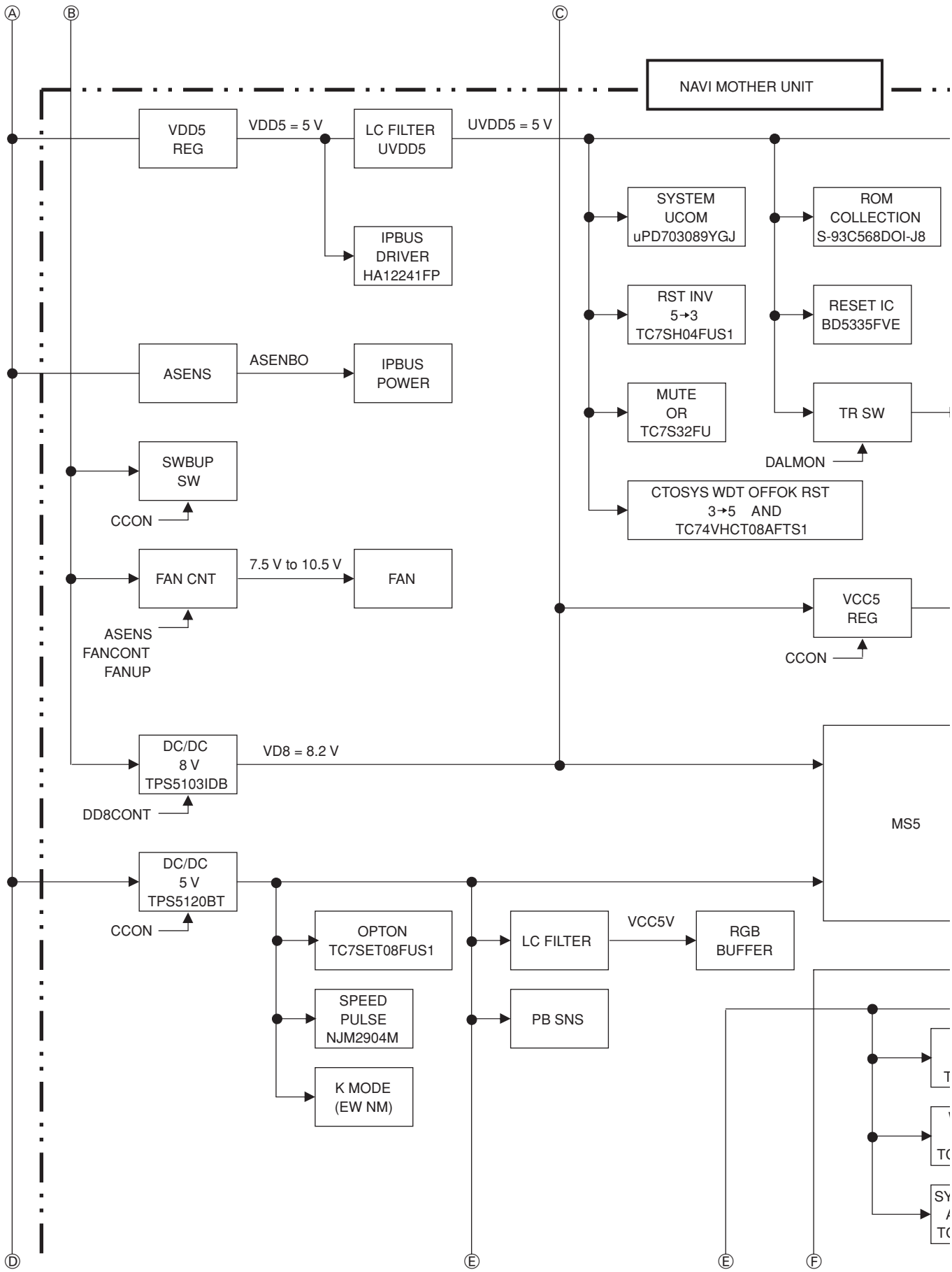


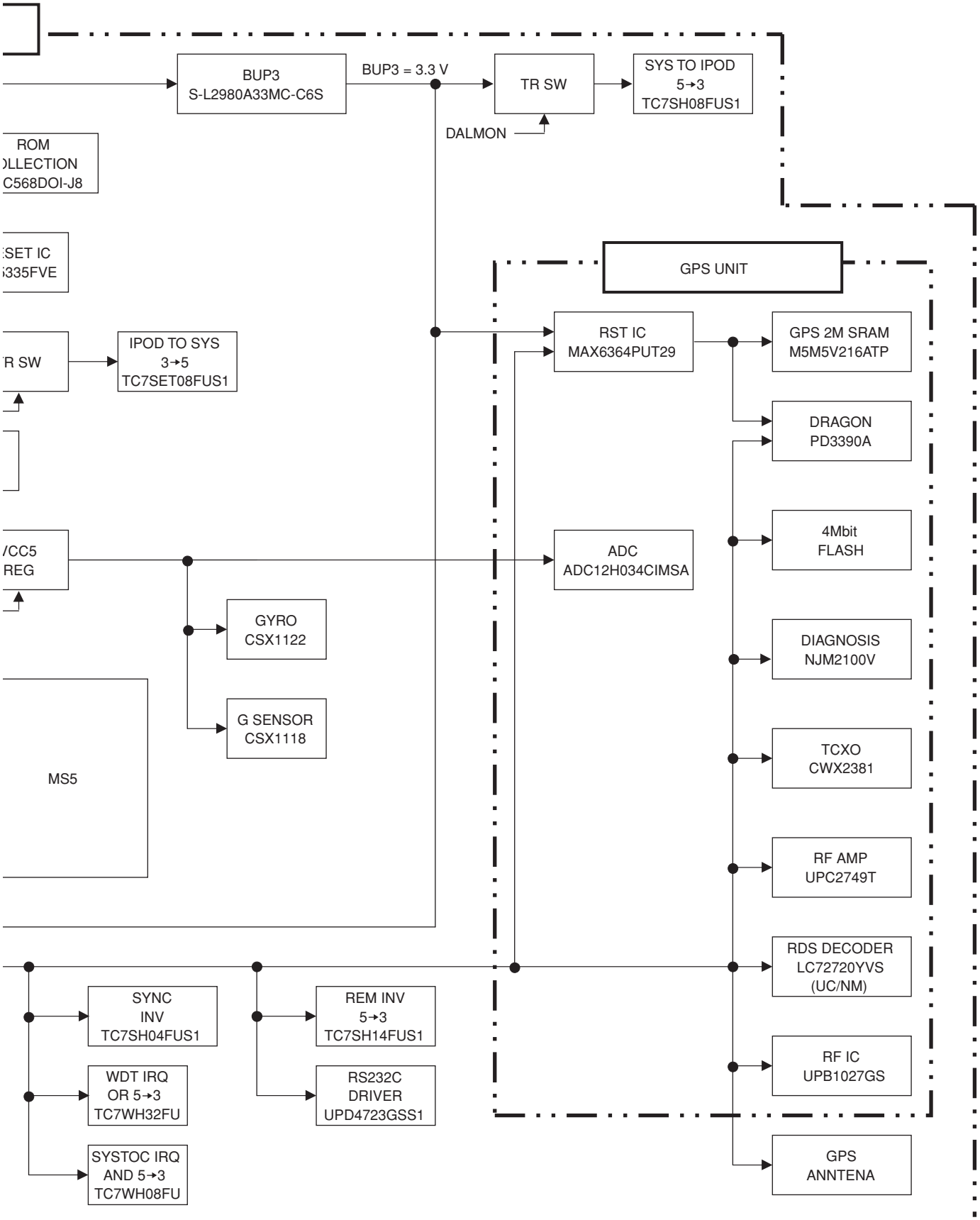

AUDIO 2CH ANALOG OUT
IC1801
PCM1753DBQ
SRCK
ADOUT3
LRCK
SDODAC
SCKDAC
LTDAC
DACCLK
BCK
DATA
LRCK
MD
MC
ML
SCK
VOUTL
LOUT
CN1901
NRES
XRESET
ANALOG LOUT
CR
CB
Y
COMPOSIT
STANBY
STSCOMN
SLVSTS
CMDCOMN
HSTCMD
IRQPWR
AMUTE
A
CN2057
VCC5 REG.
IC1004
NJM2880U1-05
VCC5
VOUT
VIN
CONT
VDD5
VD8
AVCC5 REG.
IC1005
S-L2980A50MC-C7J
AVCC5
ON/OFF
WAKE UP
E
COMPOUND UNIT(A)
DISC DET
IC1301
TC7SZ125FU
CN1301
DiscDetect
DISC SENS
S1203
S1204
S1202
S1201
S1205
DSCSNS
8cm
12cm
PHOTOSNS
Photo
Q1299
CN1852
IECOUT
A
CN2061
CLAMP1
TP1
CLAMP
S1206
F
COMPOUND UNIT(B)
MOTOR DRIVER
IC1201
BD7996EFV
CN1201
CONT2
CONT1
DRV3
DRV2
MD
FD
TD
CTL2
CTL1
SLIN2
SLIN1
SPIN
LDIN
FG
ACTIN1
ACTIN2
SLO2–
SLO1–
SLO2+
SLO1+
V
W
U
HB
HW–
HW+
HV–
HV+
HU–
HU+
B–
A–
B+
A+
COILV
COIL_V
COILW
COIL_W
COILU
COIL_U
HBM
HALL_BIAS–
HWM
HALL_W–
HWP
HALL_W+
HVM
HALL_V–
HVP
HALL_V+
HUM
HALL_U–
HUP
HALL_U+
HALL_BIAS+
VDD5
HOME
SWITCH
ACO1–
ACO1+
ACO2+
ACO2–
FOM
FOP
TOM
TOP
CN1101
F–
F+
T–
T+
TEMP
TH
B
A
C
D
FE1
FE2
CDMPD
78MD
DVDMPD
65MD
RF
F+H_G+H
F+H/G+H
E+G_E+F
E+G/E+F
Q1102
Q1104
LPCO2
LD(CD)
Q1101
Q1103
LPCO1
LD(DVD)
VREF
VCC
VCC5
PICKUP UNIT(SERVICE)
DC/DC CONVERTER
IC1001
BD9851EFV
VCC
STB
SEL1
PVCC1
PVCC2
INV2
FB2
OUT1
INV1
FB1
OUT2
Q1003
Q1001
VCC12
VCC33
VAREF

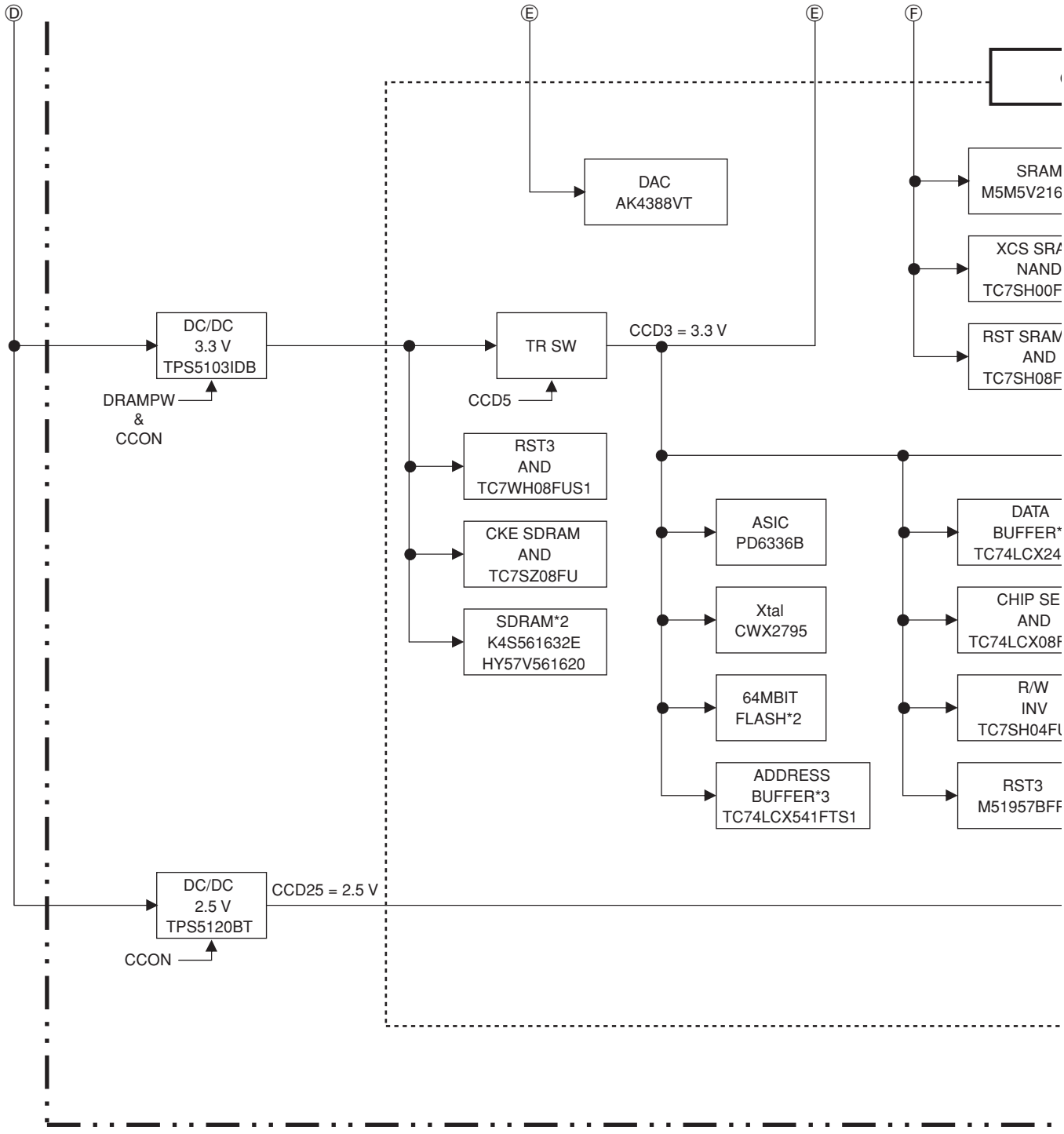
● Power supply system figure

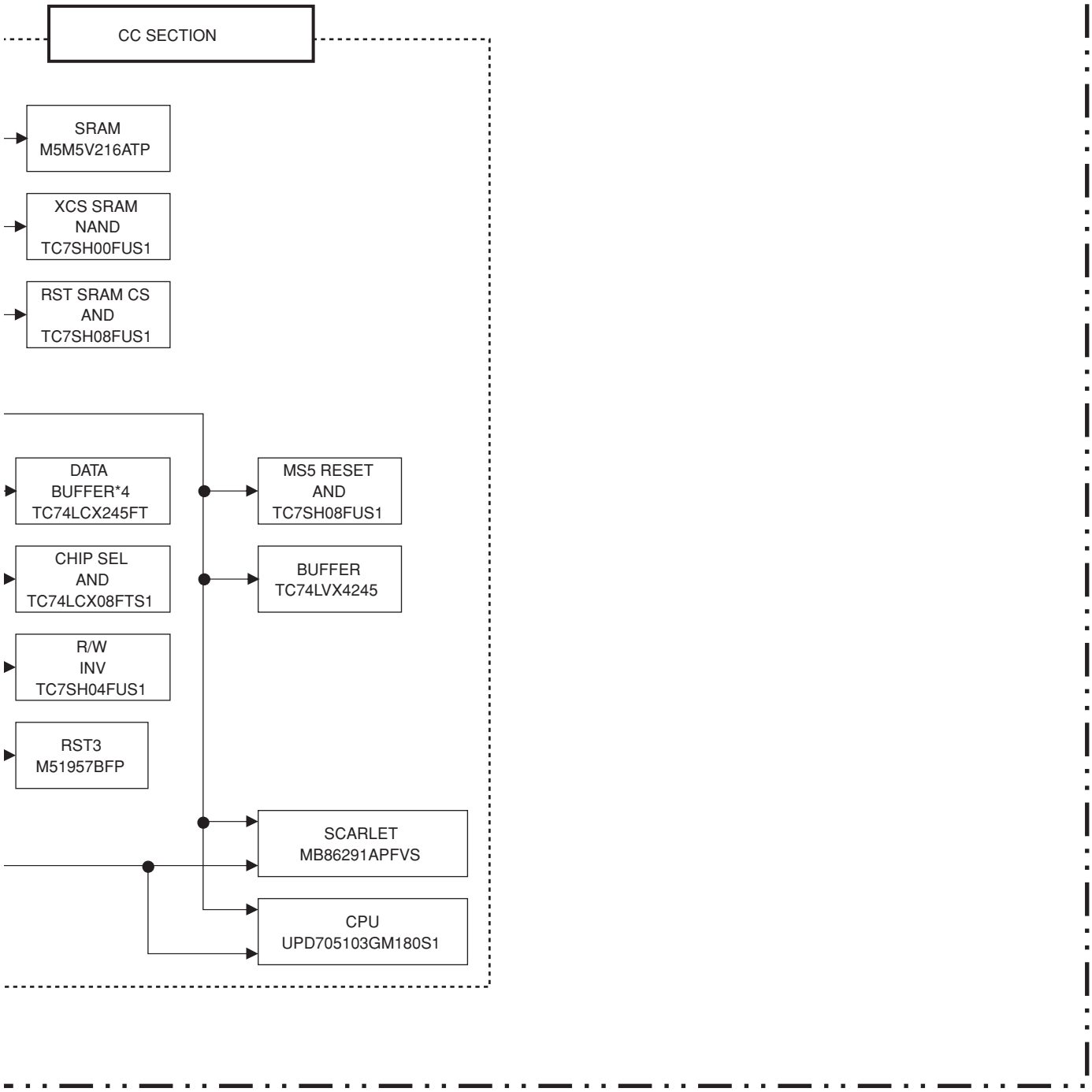



MONITOR UNIT
IPOD VIDEO ISOLATOR NJM2505F
B CAMERA ISOLATOR NJM2505F
VIDEO SELECTOR BA7649AF
75 Ω DRIVER TK154058BMI
VIDEO SELECTOR NJM2235
REMCON GP1UX51RK
TOUCH PANEL CSX1114
OSD IC PD6567
LED DRIVER M62343
VSW5V
TIMING ADJUSTMENT TC74VHC221AFTS1
OR TC7SH32FUS1
DIMMER OSC NJM2903V
OSD SW AND TC7SH08FUS1
MONITOR UCOM PE5584A
RESET IC S-80835
THERMISTOR CCX1051
EEPROM UCOM MEMORY S-93C46BD0I
EEPROM ROM COLLECT S-93C56BDOI
AUDIO SELECTOR TC4052BFT
GUIDE ISOLATOR BA4558RFV
DVD AUDIO LPF NJM4558V
AU5 REF NJM2125F
AV1 VIDEO ISOLATOR NJM2137V
AV2 VIDEO ISOLATOR NJM2136V
V5 = 5 V
V15 = 15 V
VM10 = -10 V
V53V = 5.3 V
V8V = 8 V
VIDEO I/F IC RB5P0090M
TIMING CONTROL IC LZ9FE30
6.1 inch LCD
KEY UNIT
MULTI COLOR LED NSSM025


NAVI MOTHER UNIT
VDD5 REG
VDD5 = 5 V
LC FILTER UVDD5
UVDD5 = 5 V
IPBUS DRIVER HA12241FP
SYSTEM UCOM uPD703089YGJ
ROM COLLECTION S-93C568DOI-J8
RST INV 5→3 TC7SH04FUS1
RESET IC BD5335FVE
ASENS
ASENBO
IPBUS POWER
MUTE OR TC7S32FU
TR SW
DALMON
SWBUP SW
CCON
CTOSYS WDT OFFOK RST 3→5 AND TC74VHCT08AFTS1
FAN CNT
7.5 V to 10.5 V
FAN
ASENS
FANCONT
FANUP
VCC5 REG
CCON
DC/DC 8 V TPS5103IDB
VD8 = 8.2 V
DD8CONT
MS5
DC/DC 5 V TPS5120BT
CCON
OPTON TC7SET08FUS1
LC FILTER
VCC5V
RGB BUFFER
SPEED PULSE NJM2904M
PB SNS
K MODE (EW NM)

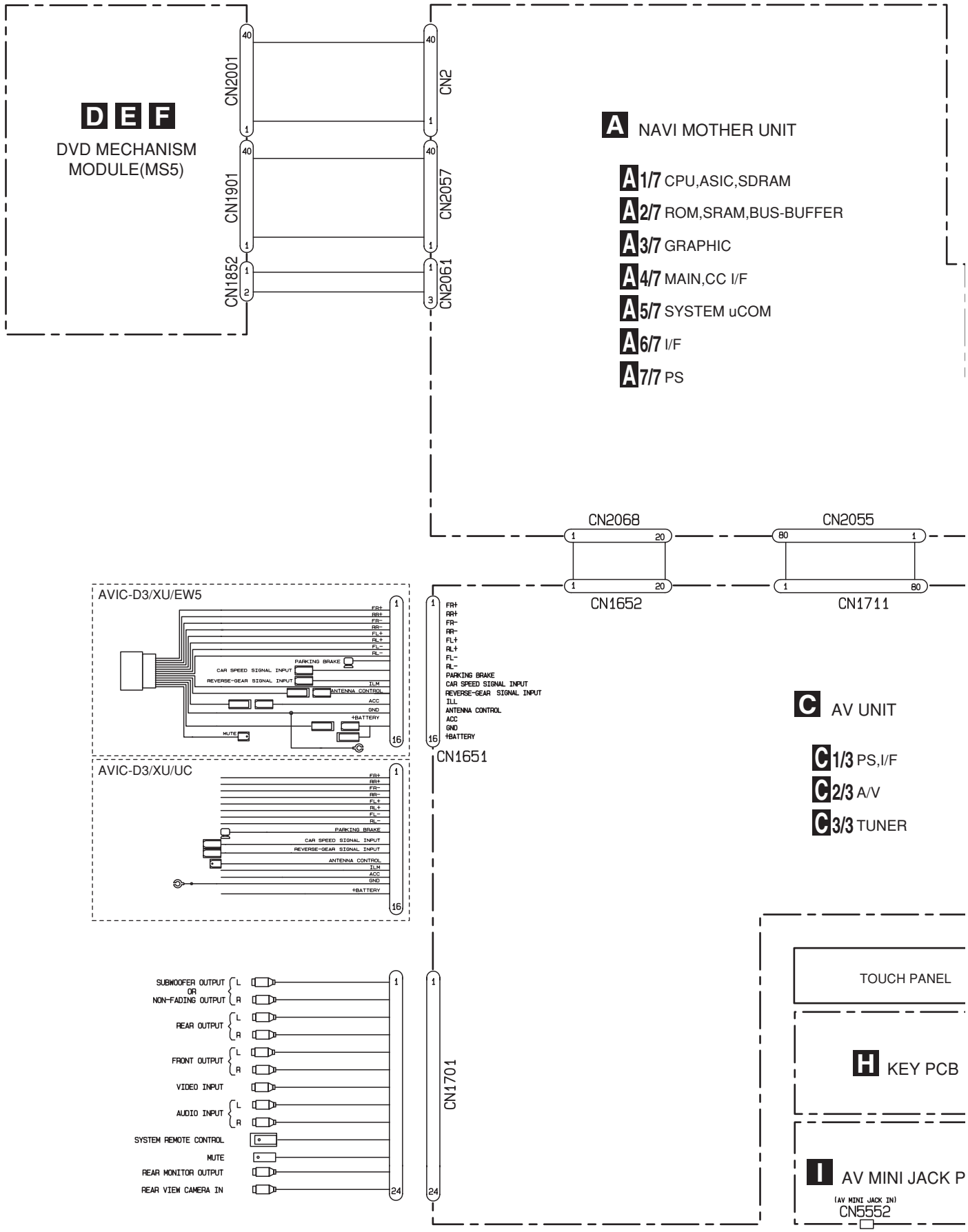

BUP3
S-L2980A33MC-C6S
BUP3 = 3.3 V
TR SW
SYS TO IPOD
5→3
TC7SH08FUS1
DALMON
ROM
OLLECTION
C568DOI-J8
SET IC
335FVE
GPS UNIT
R SW
IPOD TO SYS
3→5
TC7SET08FUS1
RST IC
MAX6364PUT29
GPS 2M SRAM
M5M5V216ATP
DRAGON
PD3390A
/CC5
REG
ADC
ADC12H034CIMSA
4Mbit
FLASH
GYRO
CSX1122
DIAGNOSIS
NJM2100V
G SENSOR
CSX1118
MS5
TCXO
CWX2381
RF AMP
UPC2749T
RDS DECODER
LC72720YVS
(UC/NM)
SYNC
INV
TC7SH04FUS1
REM INV
5→3
TC7SH14FUS1
RF IC
UPB1027GS
WDT IRQ
OR 5→3
TC7WH32FU
RS232C
DRIVER
UPD4723GSS1
SYSTOC IRQ
AND 5→3
TC7WH08FU
GPS
ANNTENA

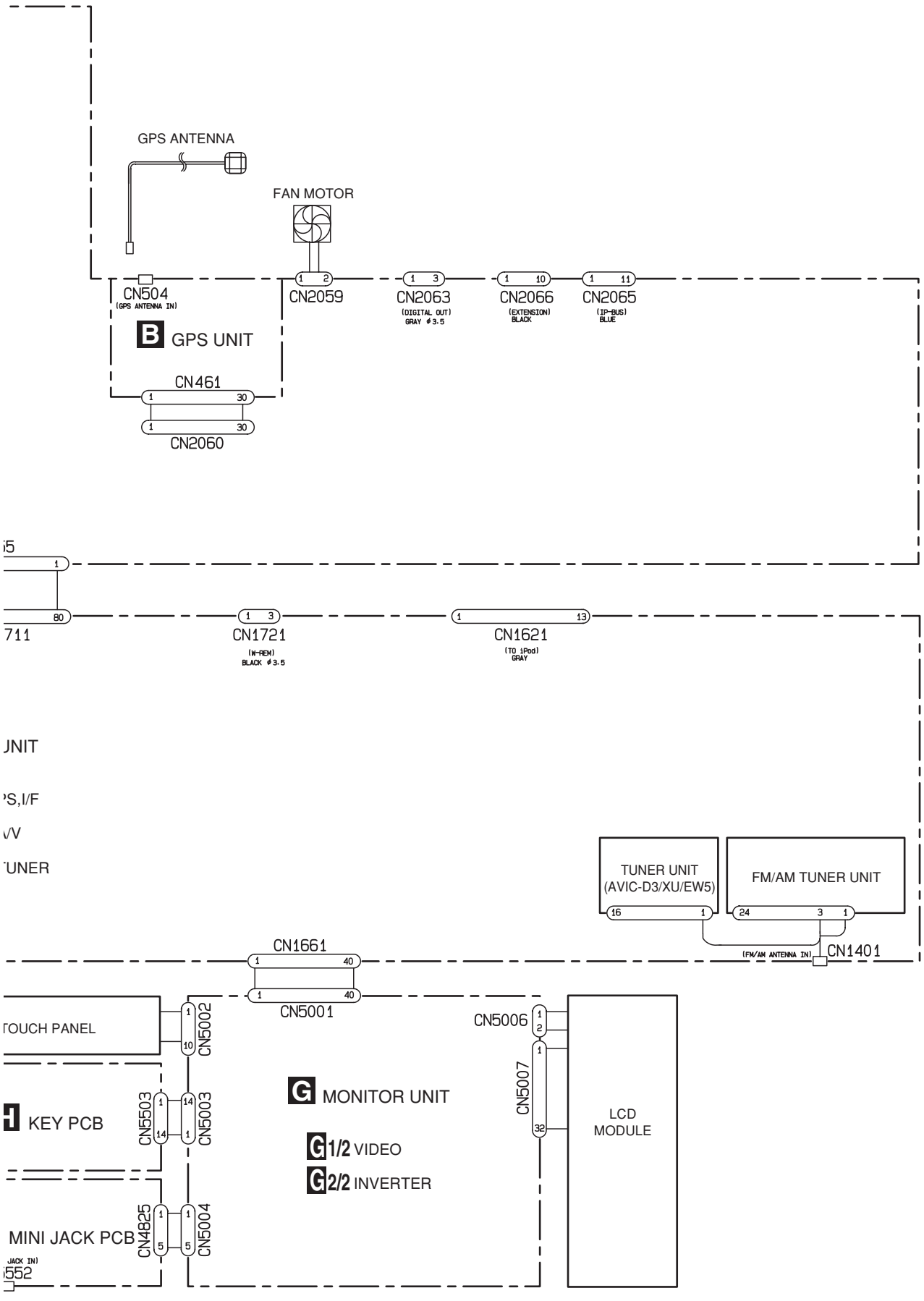

Ⓓ
Ⓔ
Ⓔ
Ⓕ
DAC
AK4388VT
SRAM
M5M5V216
XCS SRA
NAND
TC7SH00F
RST SRAM
AND
TC7SH08F
DC/DC
3.3 V
TPS5103IDB
DRAMPW
&
CCON
TR SW
CCD5
CCD3 = 3.3 V
RST3
AND
TC7WH08FUS1
CKE SDRAM
AND
TC7SZ08FU
SDRAM*2
K4S561632E
HY57V561620
ASIC
PD6336B
Xtal
CWX2795
64MBIT
FLASH*2
ADDRESS
BUFFER*3
TC74LCX541FTS1
DATA
BUFFER*
TC74LCX24
CHIP SE
AND
TC74LCX08F
R/W
INV
TC7SH04FU
RST3
M51957BFF
DC/DC
2.5 V
TPS5120BT
CCON
CCD25 = 2.5 V


CC SECTION
SRAM
M5M5V216ATP
XCS SRAM
NAND
TC7SH00FUS1
RST SRAM CS
AND
TC7SH08FUS1
DATA
BUFFER*4
TC74LCX245FT
CHIP SEL
AND
TC74LCX08FTS1
R/W
INV
TC7SH04FUS1
RST3
M51957BFP
MS5 RESET
AND
TC7SH08FUS1
BUFFER
TC74LVX4245
SCARLET
MB86291APFVS
CPU
UPD705103GM180S1

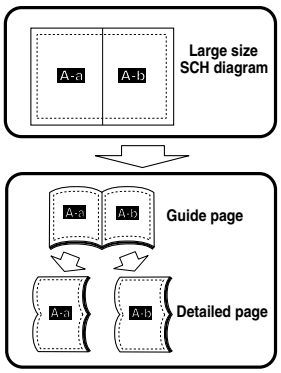
3.2 OVERALL CONNECTION DIAGRAM

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




GPS ANTENNA
FAN MOTOR
CN504
(GPS ANTENNA IN)
B GPS UNIT
CN2059
CN2063
(DIGITAL OUT)
GRAY φ3.5
CN2066
(EXTENSION)
BLACK
CN2065
(IP-BUS)
BLUE
CN461
CN2060
CN1721
(W-REM)
BLACK φ3.5
CN1621
(TO iPod)
GRAY
TUNER UNIT
(AVIC-D3/XU/EW5)
FM/AM TUNER UNIT
(FM/AM ANTENNA IN)
CN1401
CN1661
CN5001
TOUCH PANEL
CN5002
H KEY PCB
CN5503
CN5003
G MONITOR UNIT
G1/2 VIDEO
G2/2 INVERTER
CN5006
CN5007
LCD
MODULE
MINI JACK PCB
CN4825
CN5004

3.3 NAVI MOTHER UNIT (CPU, ASIC, SDRAM)(GUIDE PAGE)

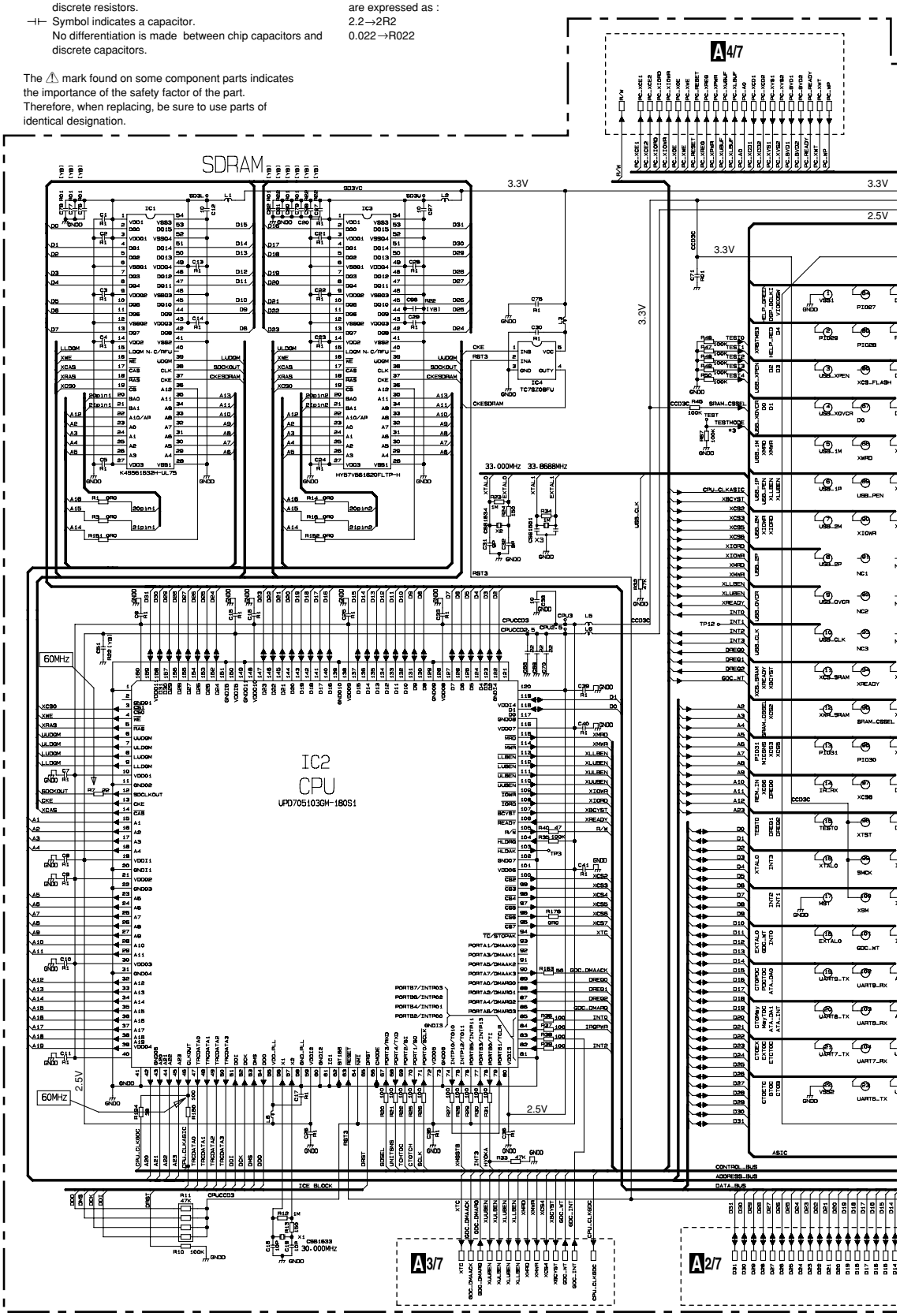


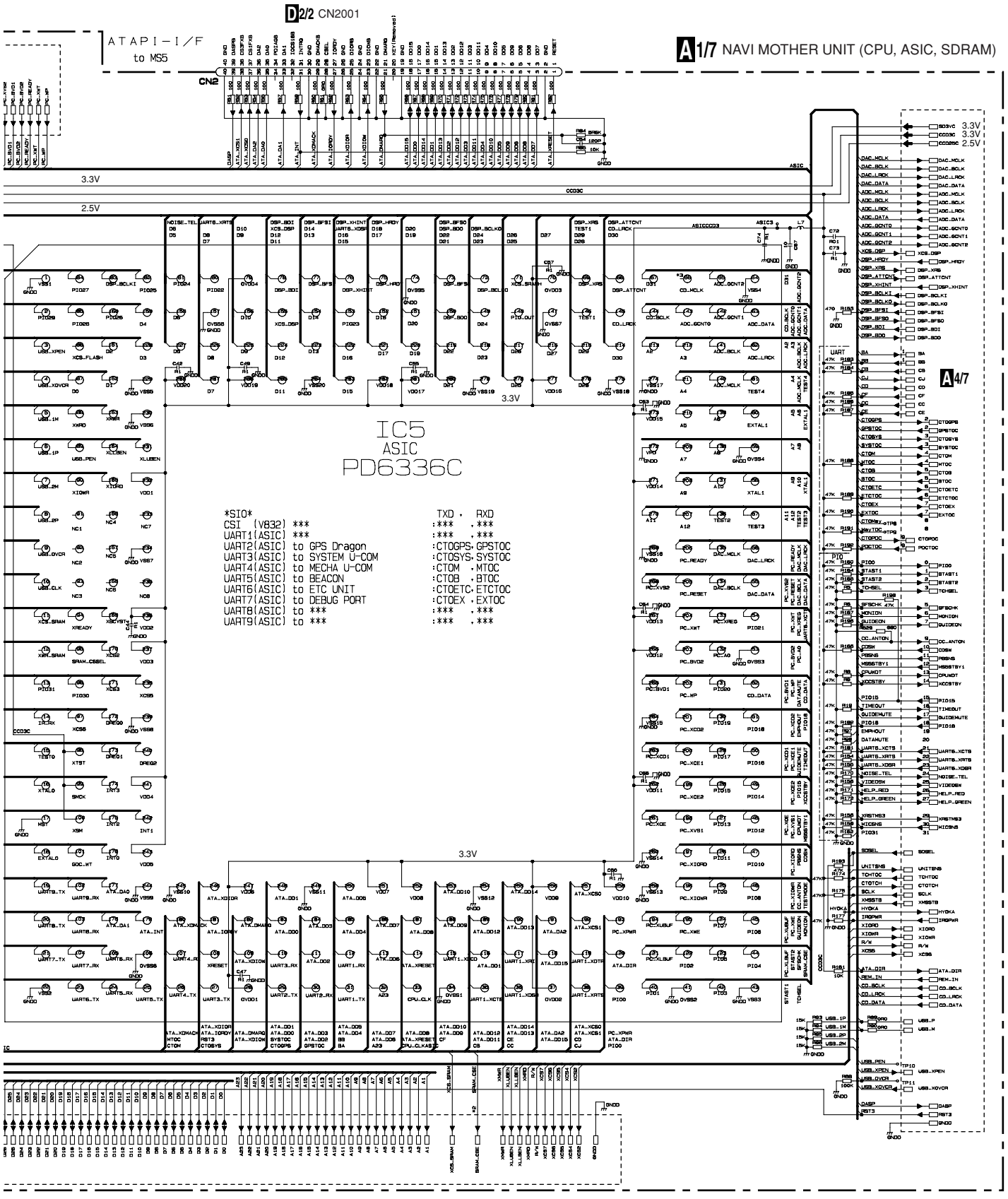
A-a 1/7

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.

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.

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

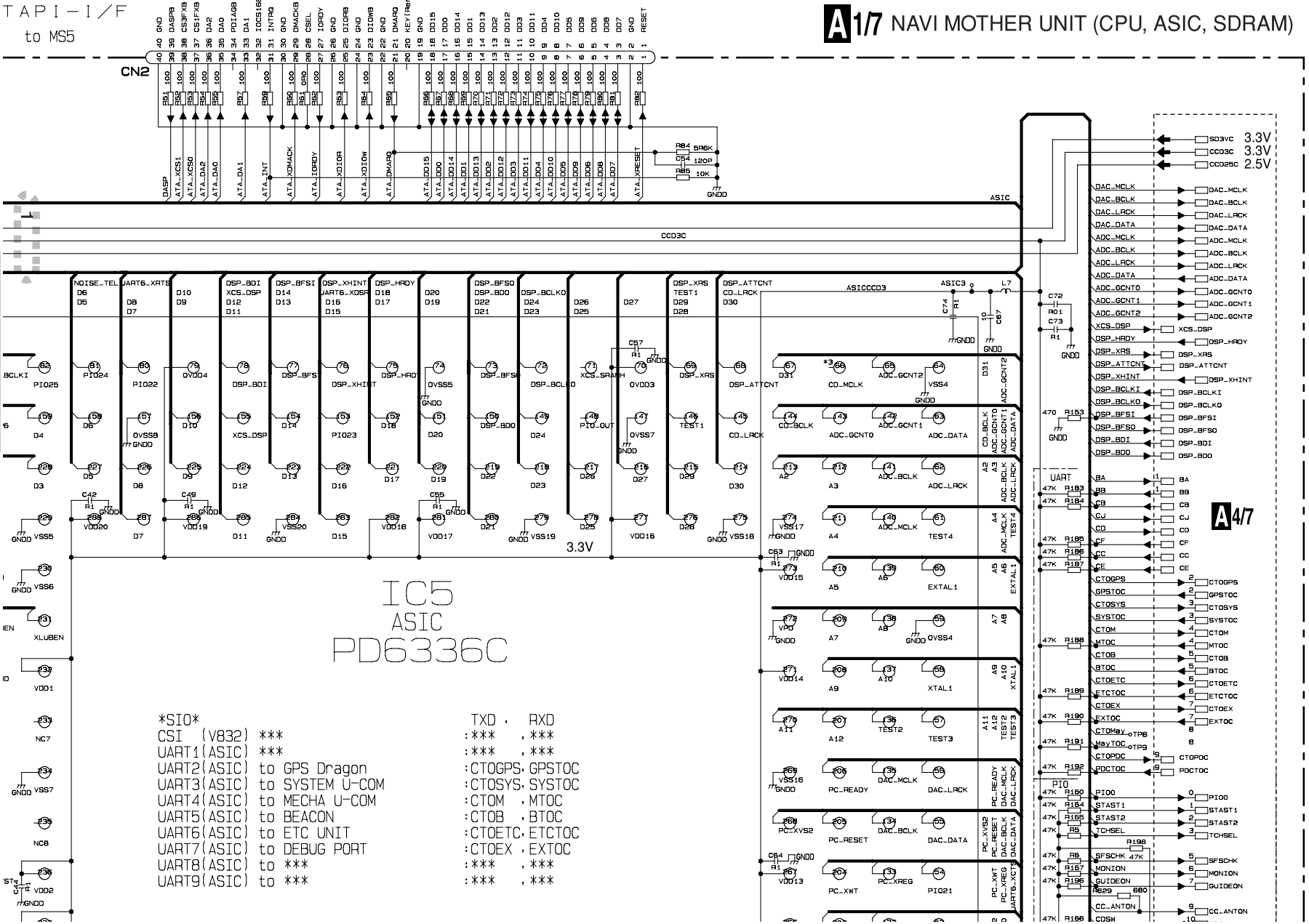



D 2/2 CN2001
A T A P I – I / F
to MS5
CN2
A 1/7 NAVI MOTHER UNIT (CPU, ASIC, SDRAM)
3.3V
2.5V
IC5
ASIC
PD6336C
SIO TXD , RXD
CSI (V832) *** :*** , ***
UART1(ASIC) *** :*** , ***
UART2(ASIC) to GPS Dragon :CTOGPS, GPSTOC
UART3(ASIC) to SYSTEM U-COM :CTOSYS, SYSTOC
UART4(ASIC) to MECHA U-COM :CTOM , MTOC
UART5(ASIC) to BEACON :CTOB , BTOC
UART6(ASIC) to ETC UNIT :CTOETC, ETCTOC
UART7(ASIC) to DEBUG PORT :CTOEX , EXTOC
UART8(ASIC) to *** :*** , ***
UART9(ASIC) to *** :*** , ***
A 4/7
A 1/7

D 2/2 CN2001

A 1/7 NAVI MOTHER UNIT (CPU, ASIC, SDRAM)

TAPI-I/F
to MS5



AVIC-D3/XU/UC

UART4(ASIC) to MECHA U-COM
UART5(ASIC) to BEACON
UART6(ASIC) to ETC UNIT
UART7(ASIC) to DEBUG PORT
UART8(ASIC) to ***
UART9(ASIC) to ***
:CTOM ,MTOC
:CTOB ,BTOC
:CTOETC,ETCTOC
:CTOEX ,EXTOC
:*** ,***
:*** ,***
3.3V
AVIC-D3/XU/UC

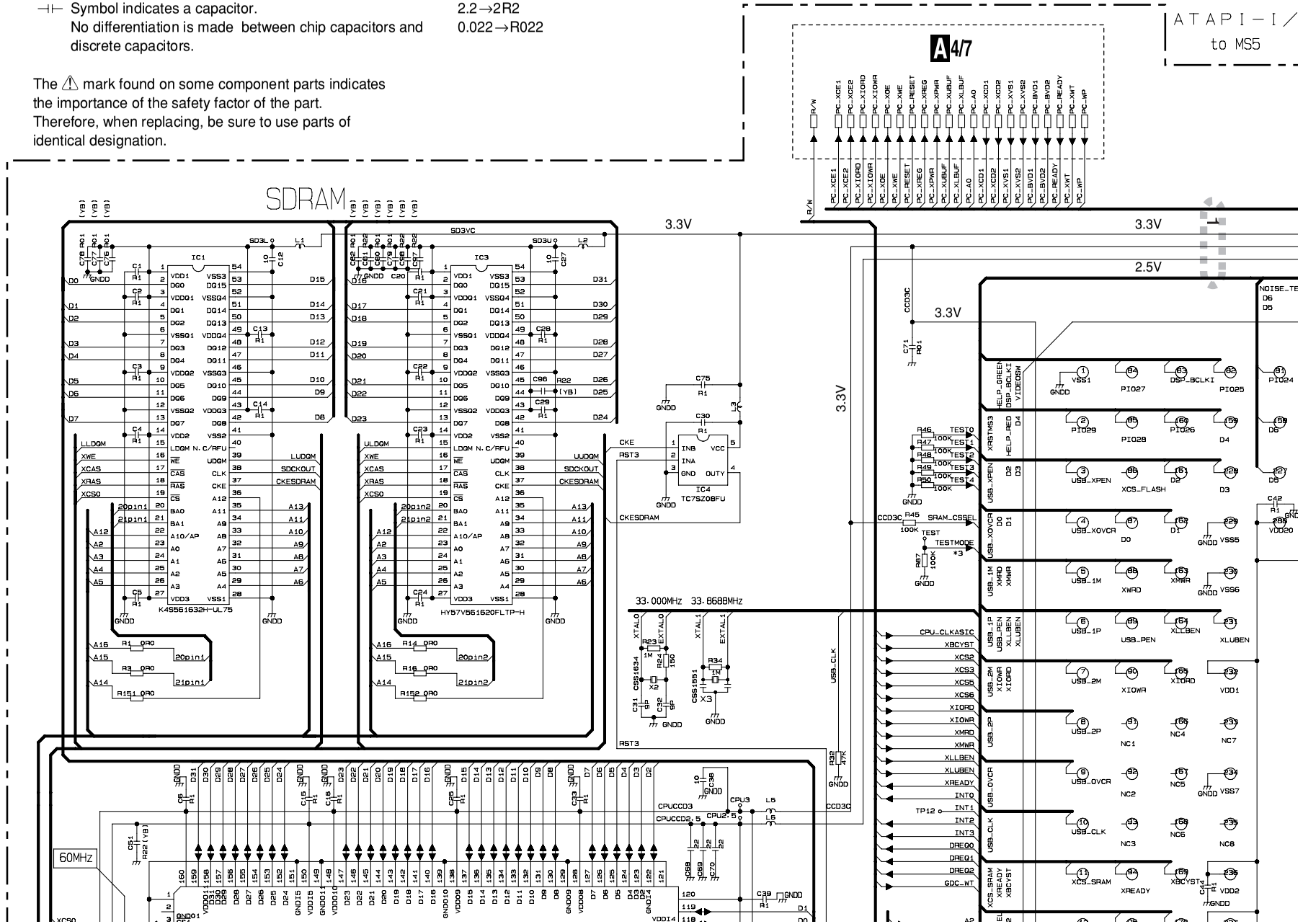
A-a A-b

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.

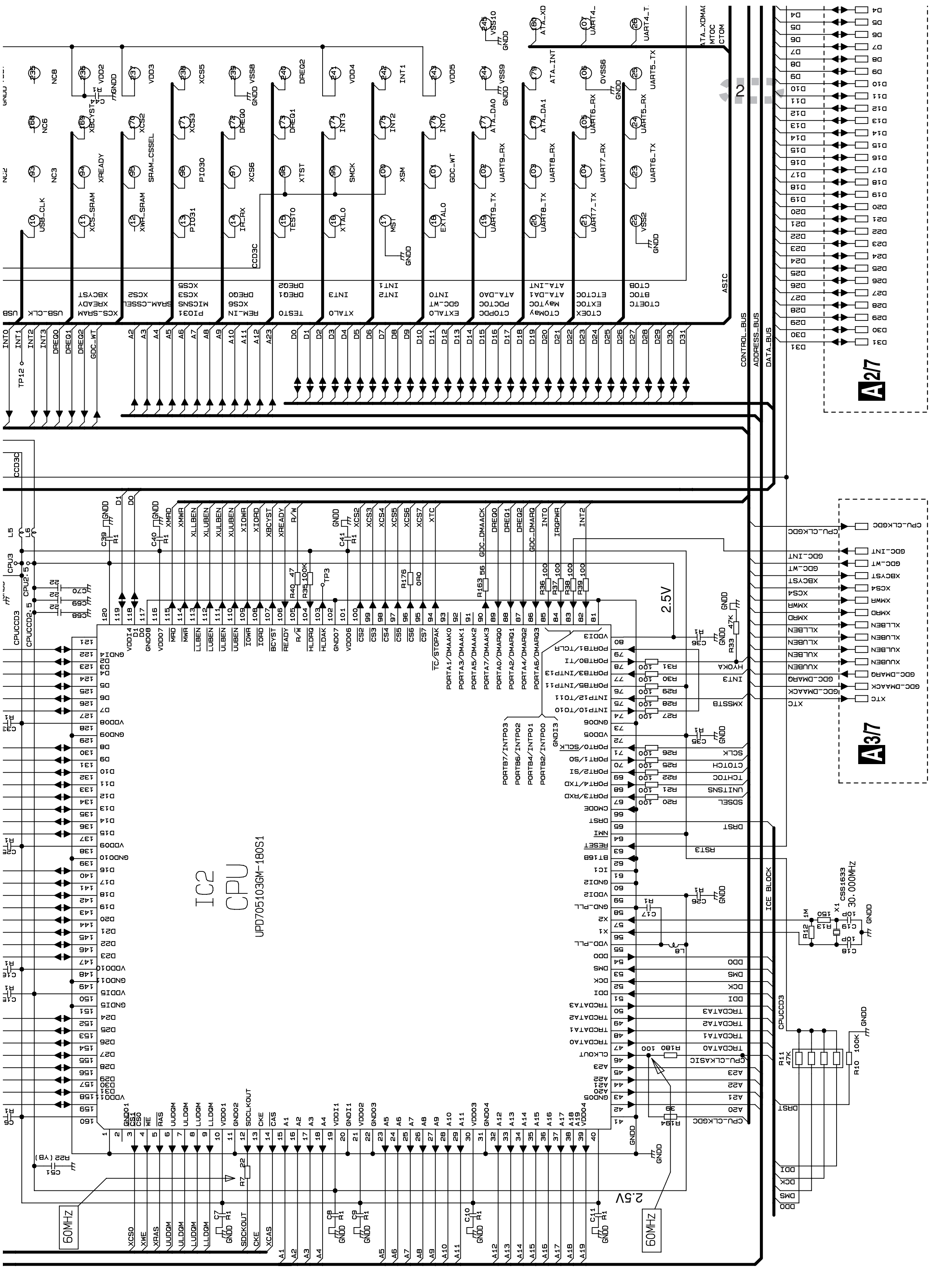
Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022

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.



5 6 7 8

A B C D E F

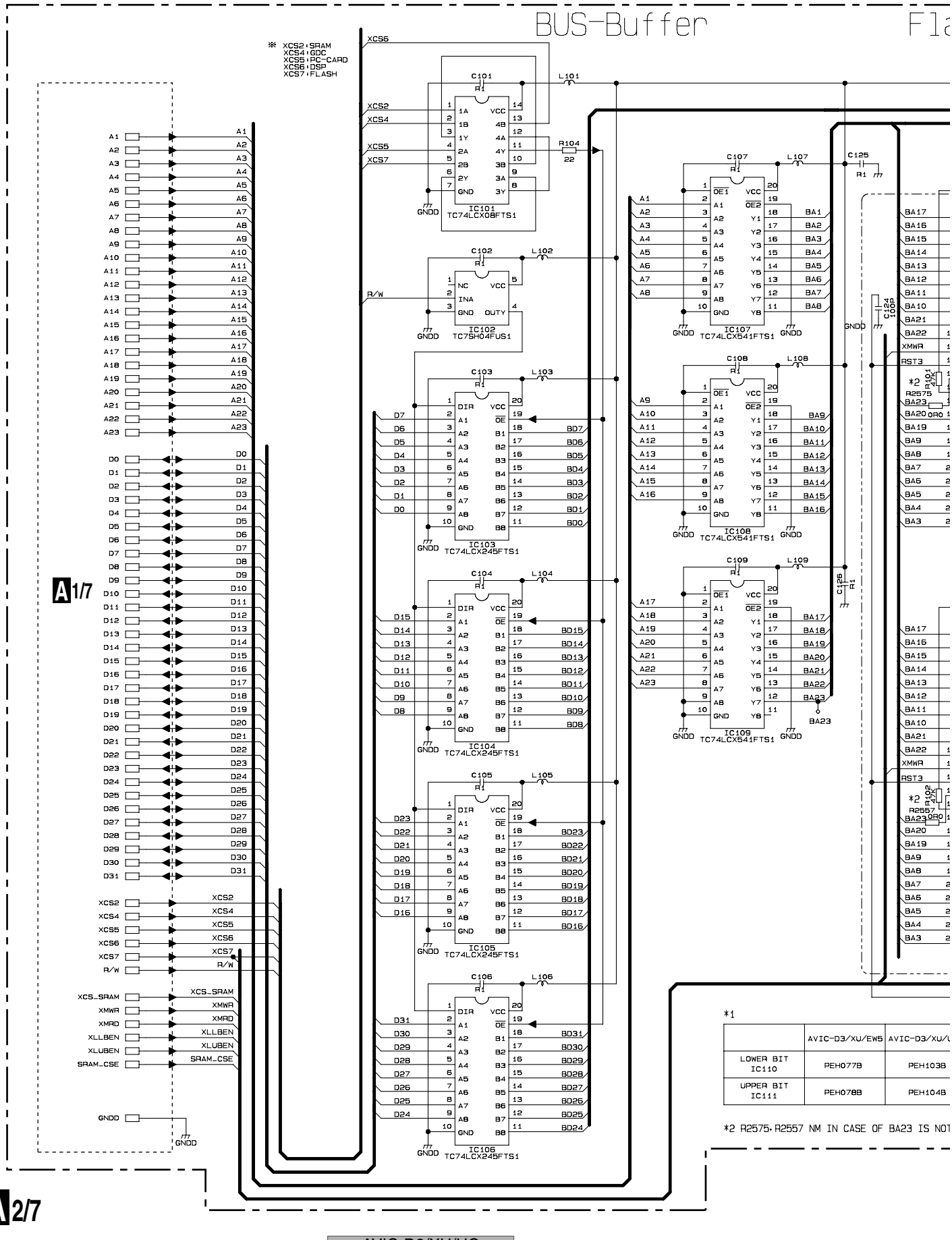


A-b 1/7

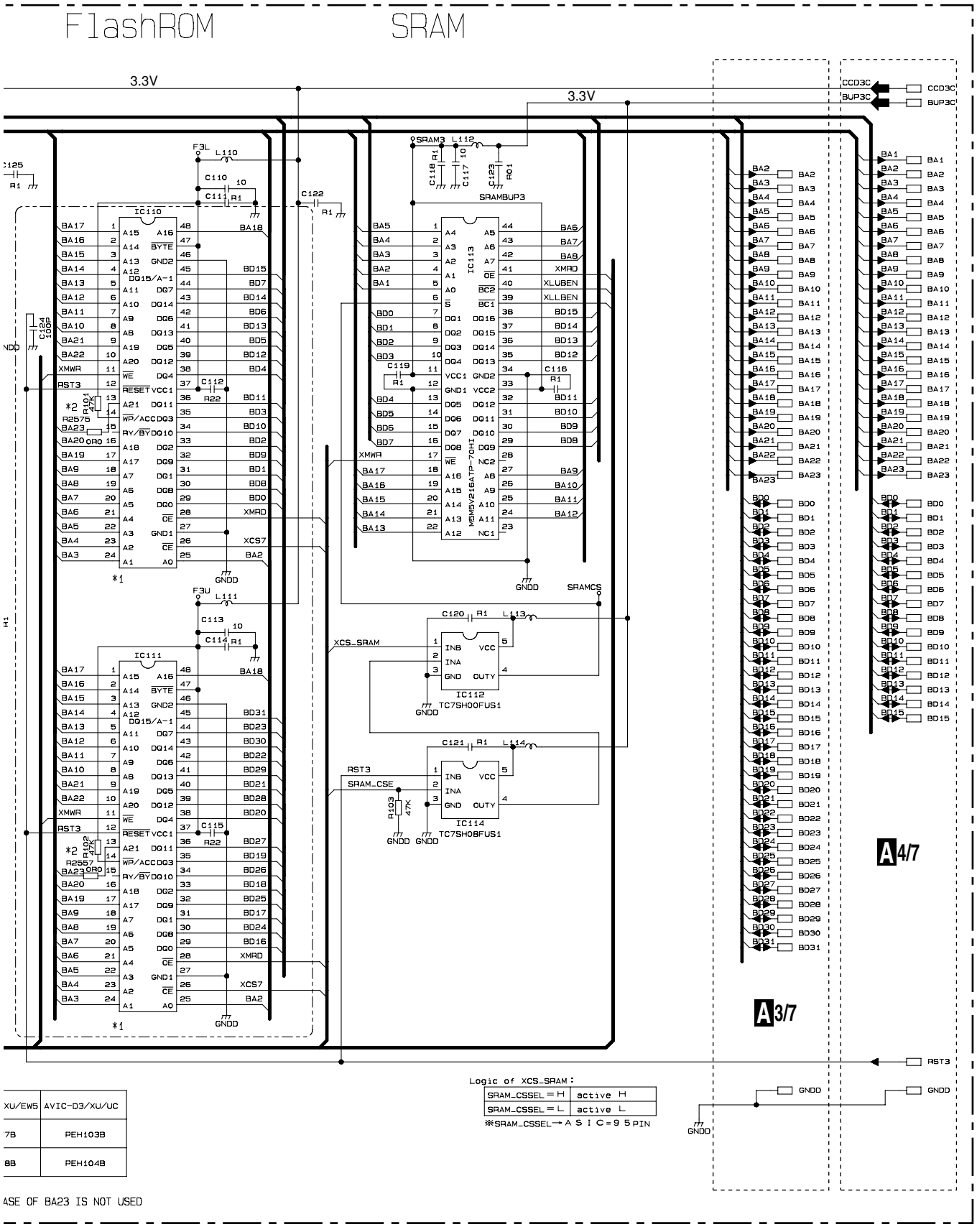
A-a 1/7

5 6 7 8

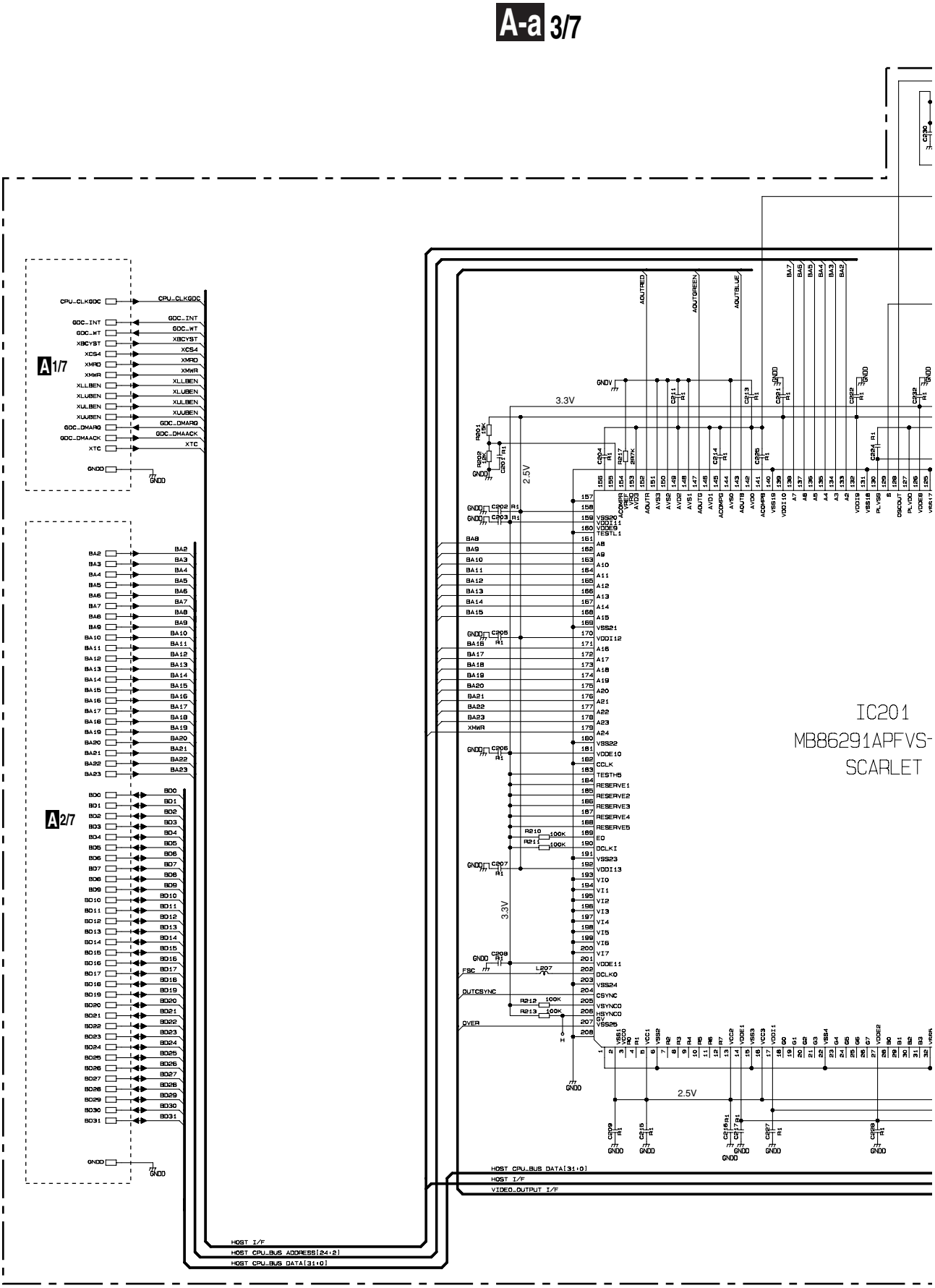
3.4 NAVI MOTHER UNIT (ROM, SRAM, BUS-BUFFER)



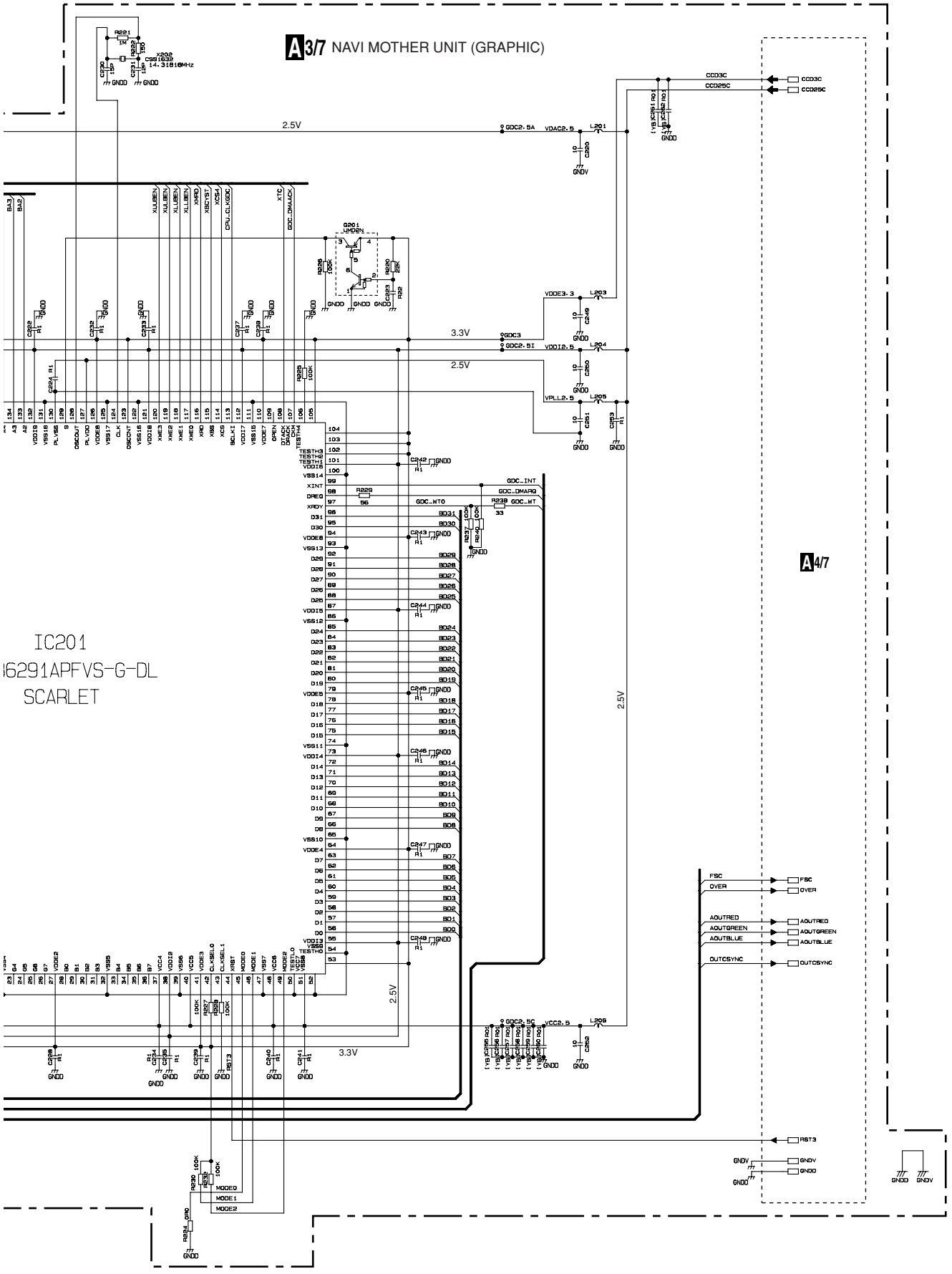
A2/7 NAVI MOTHER UNIT (ROM, SRAM, BUS-BUFFER)

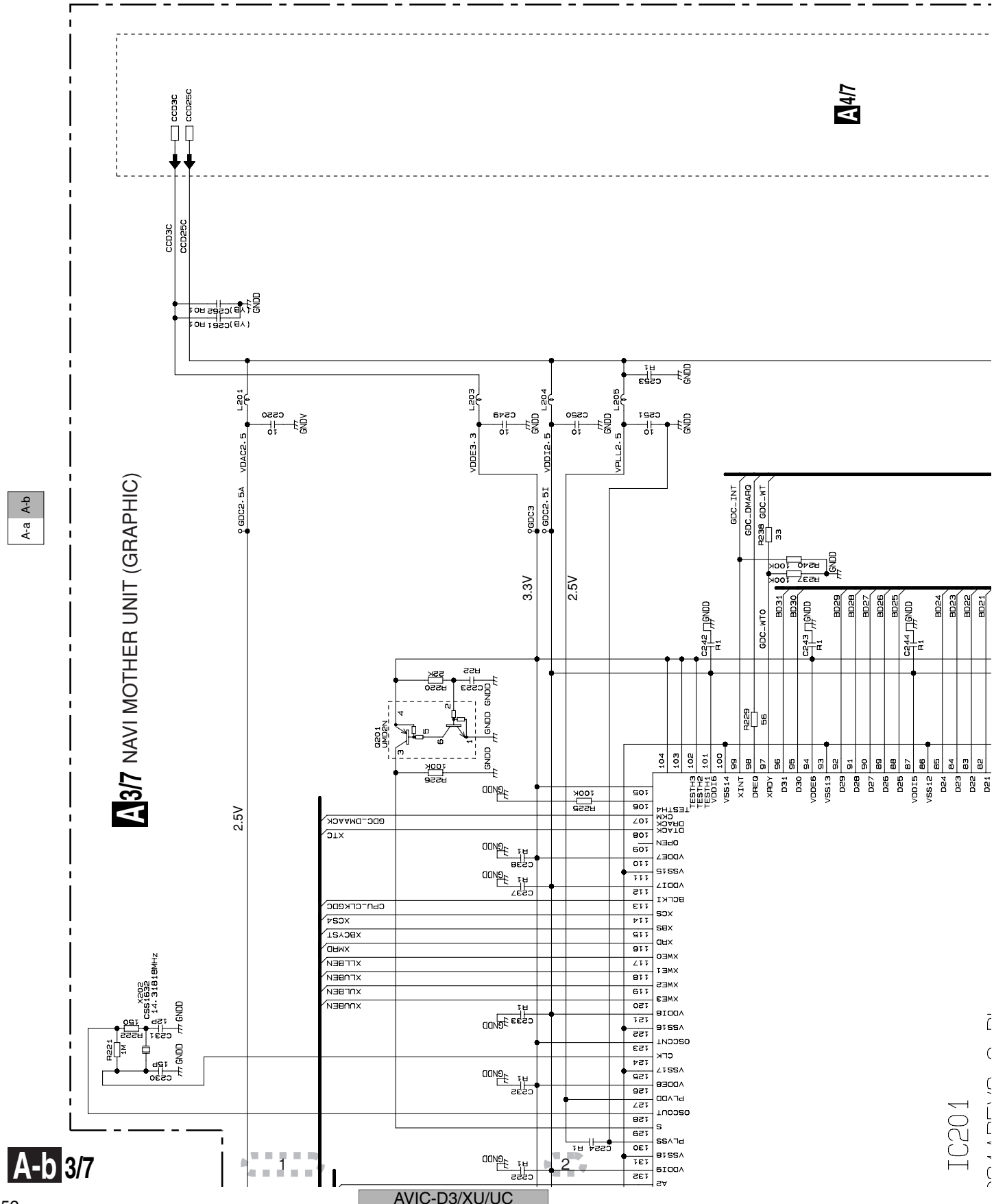


3.5 NAVI MOTHER UNIT (GRAPHIC)(GUIDE PAGE)



A 3/7


A3/7 NAVI MOTHER UNIT (GRAPHIC)
IC201
16291APFVS-G-DL
SCARLET
A4/7
2.5V
3.3V
GDC_INT
GDC_DMARQ
GDC_WT
GDC_WTO
CCD3C
CCD25C
FSC
OVER
AOUTRED
AOUTGREEN
AOUTBLUE
OUTCSYNC
RST3
MODE0
MODE1
MODE2
GNDD
GNDV


A3/7 NAVI MOTHER UNIT (GRAPHIC)
A4/7
A-b 3/7
A-a A-b
IC201
2.5V
3.3V
GDC2.5A
GDC3
GDC2.5I
VDAC2.5
VDDE3.3
VDDI2.5
VPLL2.5
GNDD
GNDV
GDC_INT
GDC_DMARQ
GDC_WT
GDC_WTO
CCD3C
CCD25C
AVIC-D3/XU/UC

5 6 7 8

A

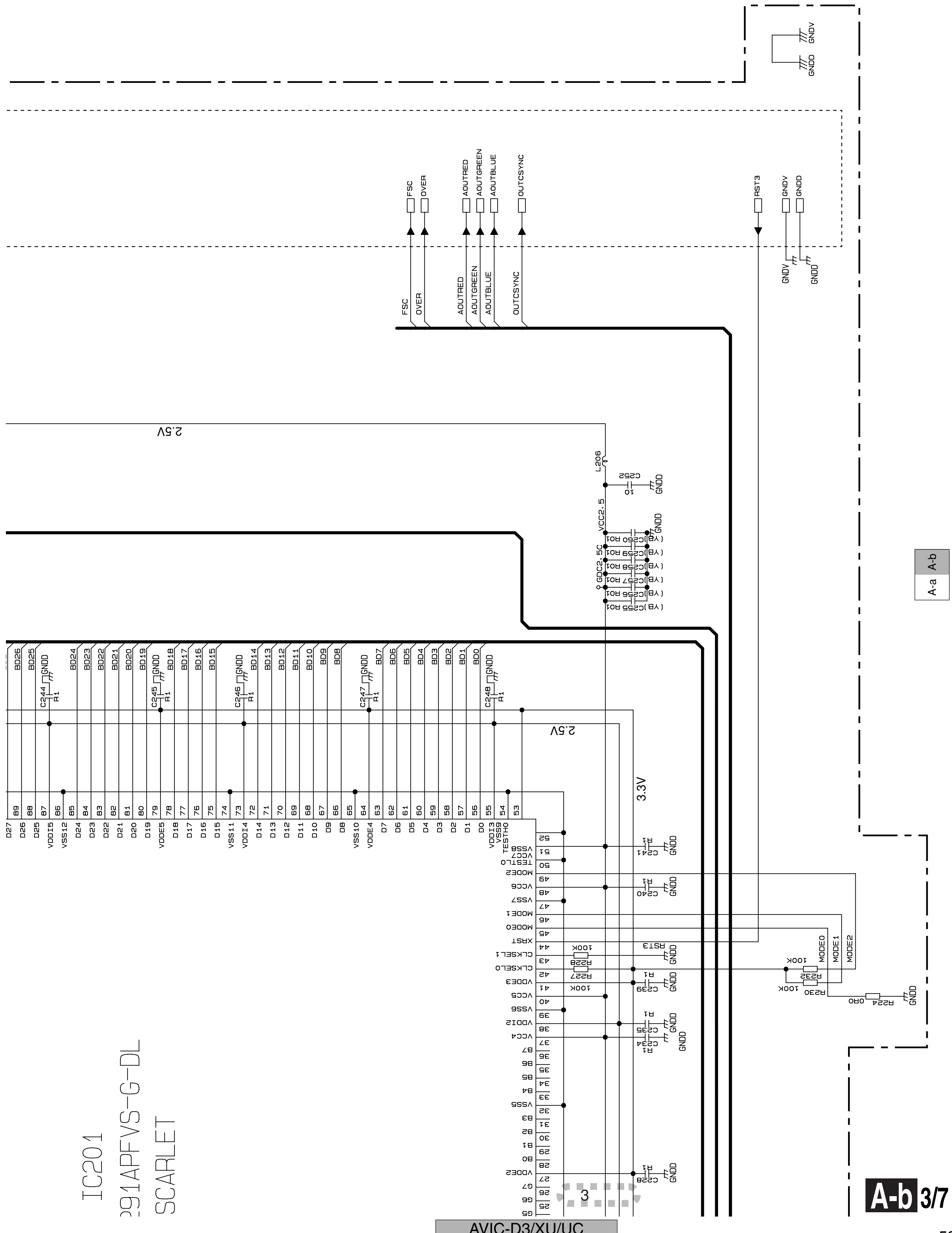
B

C

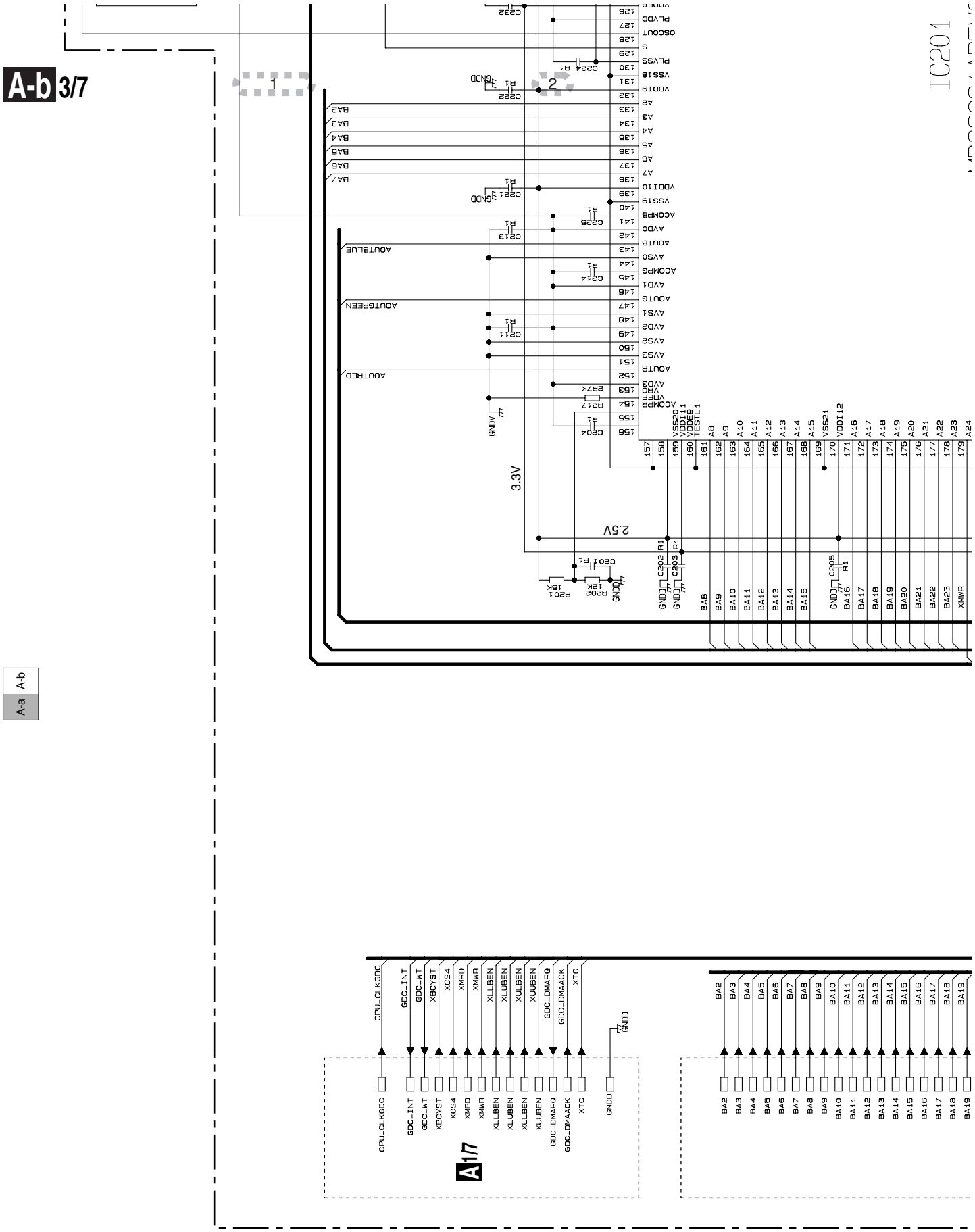
D

E

F



FSC
OVER
AOUTRED
AOUTGREEN
AOUTBLUE
OUTCSYNC
RST3
GNDV
GNDD
2.5V
3.3V
L206
C252
VCC2.5
C255
C256
C257
C258
C259
C260
C244
C245
C246
C247
C248
C241
C240
C239
C235
C234
C228
R227
R228
R230
R232
R224
100K
MODE0
MODE1
MODE2
IC201
SCARLET
A-a
A-b


A-b 3/7
IC201
3.3V
2.5V
A-a 3/7
A1/7
CPU_CLKGDC
GDC_INT
GDC_WT
XBCYST
XCS4
XMRD
XMWR
XLLBEN
XLUBEN
XULBEN
XUUBEN
GDC_DMARQ
GDC_DMAACK
XTC
GNDD
BA2
BA3
BA4
BA5
BA6
BA7
BA8
BA9
BA10
BA11
BA12
BA13
BA14
BA15
BA16
BA17
BA18
BA19
XMWR

IC201
MB86291APFV
SCARLET

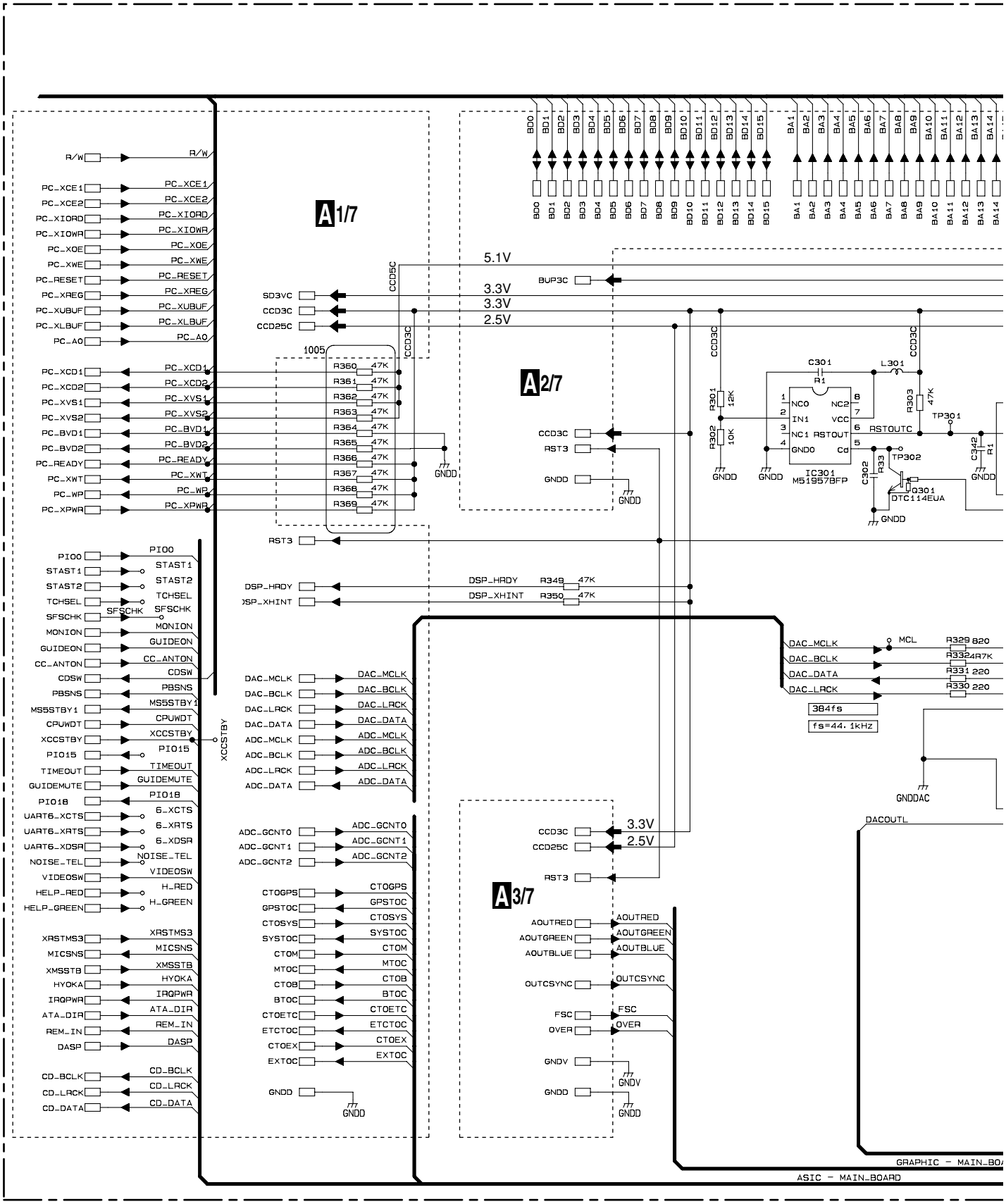
A-b 3/7

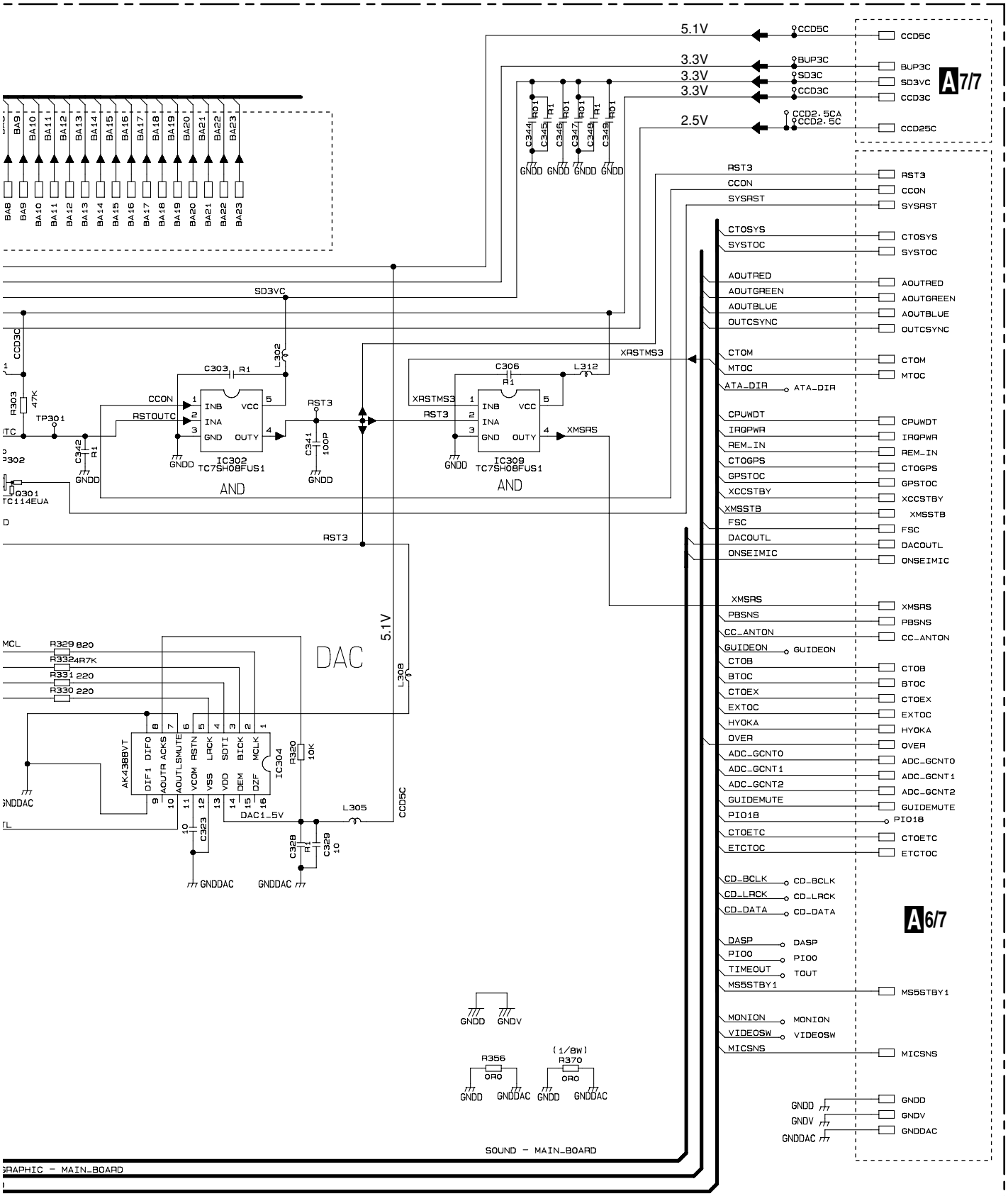
A-a A-b

A2 7

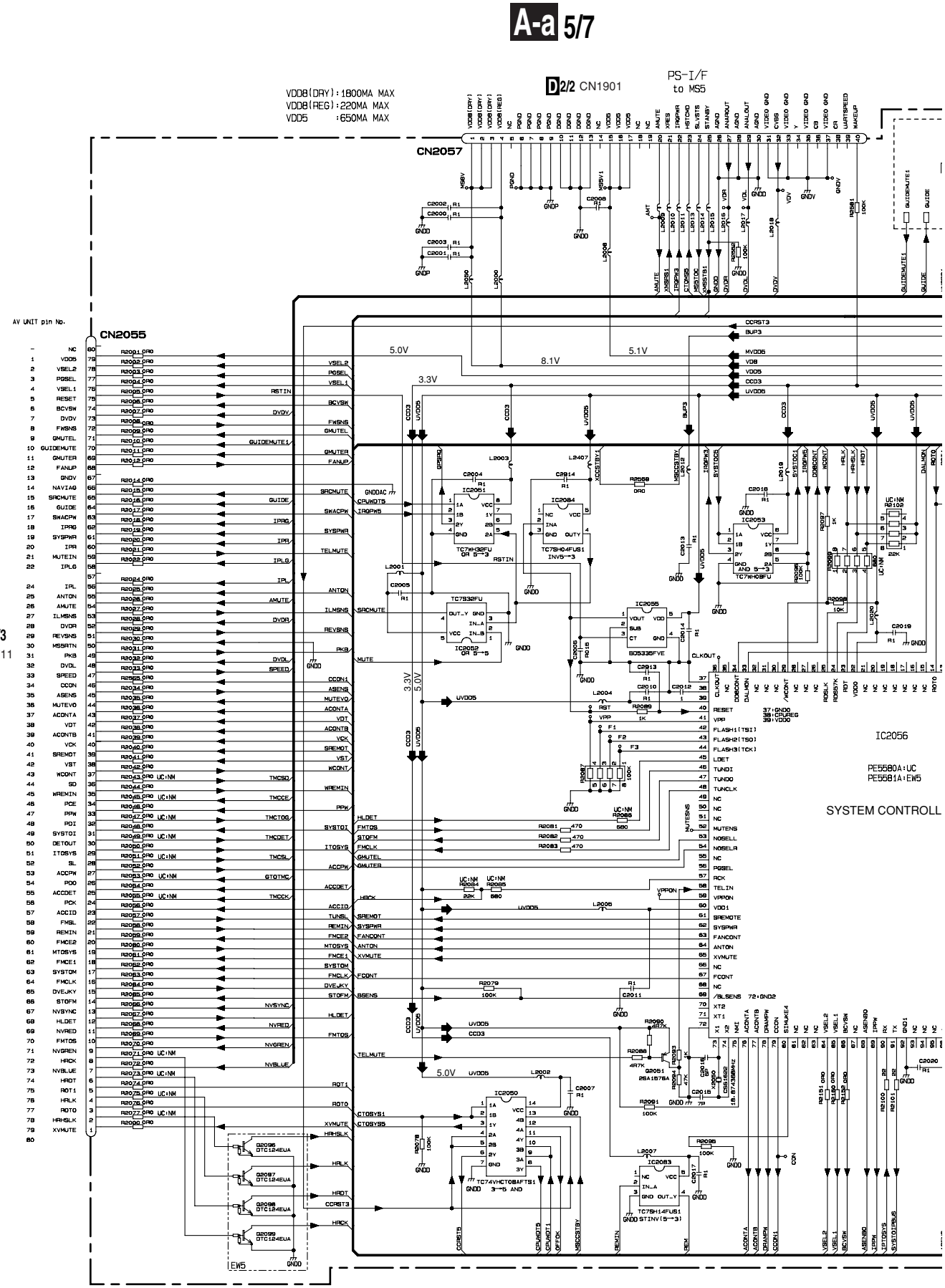
A-a 3/7

3.6 NAVI MOTHER UNIT (MAIN, CC I/F)

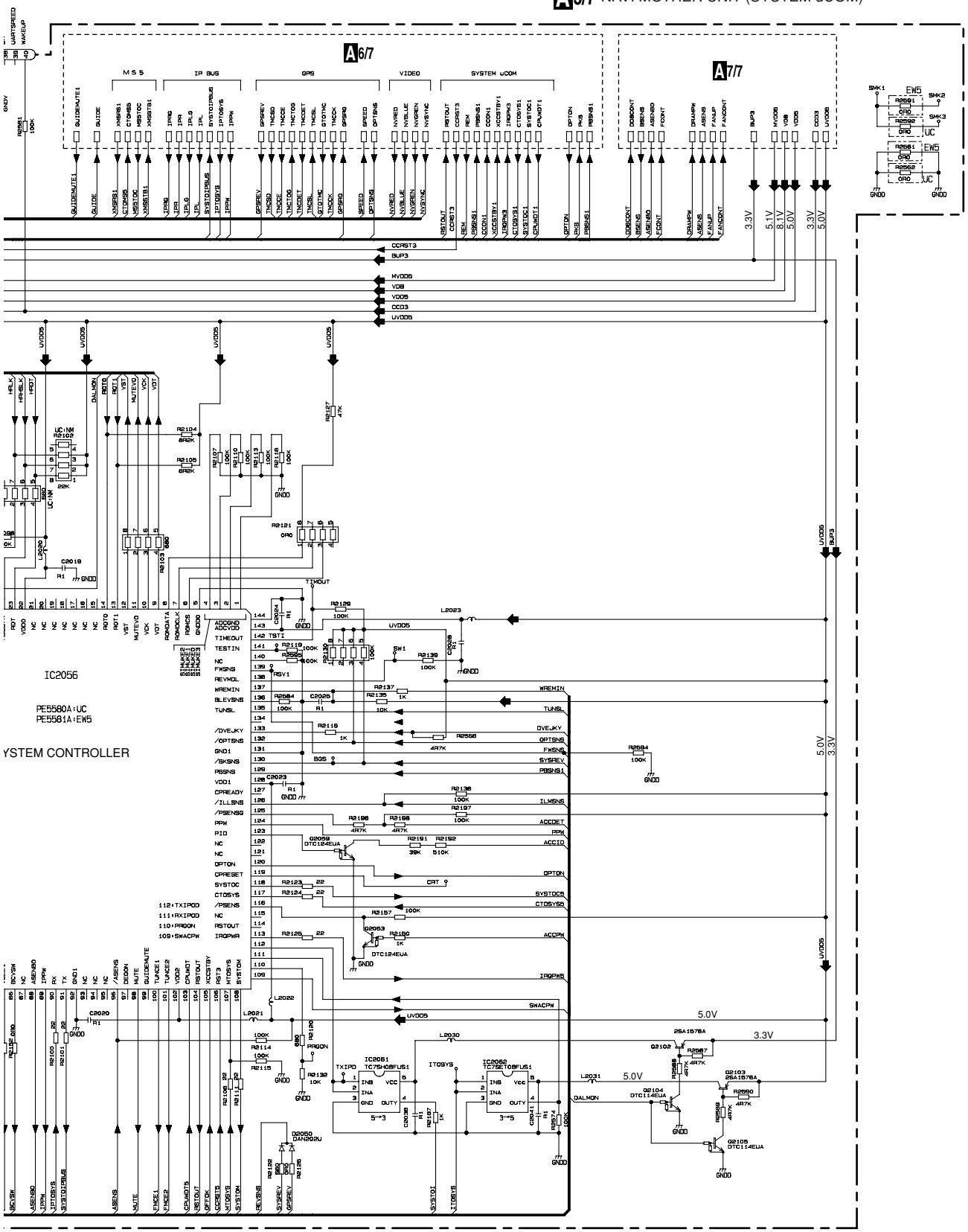



5.1V
3.3V
3.3V
3.3V
2.5V
CCD5C
BUP3C
SD3VC
CCD3C
CCD2.5CA
CCD2.5C
CCD25C
A7/7
BA8 BA9 BA10 BA11 BA12 BA13 BA14 BA15 BA16 BA17 BA18 BA19 BA20 BA21 BA22 BA23
C344 R01
C345 R1
C346 R01
C347 R1
C348 R01
C349 R01
GNDD GNDD GNDD GNDD
RST3
CCON
SYSRST
CTOSYS
SYSTOC
AOUTRED
AOUTGREEN
AOUTBLUE
OUTCSYNC
CTOM
MTOC
ATA_DIR
CPUWDT
IRQPWR
REM_IN
CTOGPS
GPSTOC
XCCSTBY
XMSSTB
FSC
DACOUTL
ONSEIMIC
XMSRS
PBSNS
CC_ANTON
GUIDEON
CTOB
BTOC
CTOEX
EXTOC
HYOKA
OVER
ADC_GCNT0
ADC_GCNT1
ADC_GCNT2
GUIDEMUTE
PIO18
CTOETC
ETCTOC
CD_BCLK
CD_LRCK
CD_DATA
A6/7
DASP
PIO0
TIMEOUT
MS5STBY1
MONION
VIDEOSW
MICSNS
GNDD
GNDV
GNDDAC
SD3VC
CCD3C
R303 47K
TP301
Q301 TC114EUA
C342 R1
C303 R1
L302
CCON
RSTOUTC
IC302 TC7SH08FUS1
AND
C341 100P
C306 R1
L312
XRSTMS3
RST3
IC309 TC7SH08FUS1
AND
XMSRS
DAC
5.1V
L308
MCL
R329 820
R332 4R7K
R331 220
R330 220
AK4388VT
DIF1 DIF0 AOUTR ACKS AOUTLSMUTE VCOM RSTN LRCK SDTI BICK MCLK
VSS VDD DEM DZF
IC304
R320 10K
DAC1_5V
L305
C323
C328 R1
C329 10
GNDDAC
R356 0R0
R370 (1/8W) 0R0
SOUND - MAIN_BOARD
GRAPHIC - MAIN_BOARD

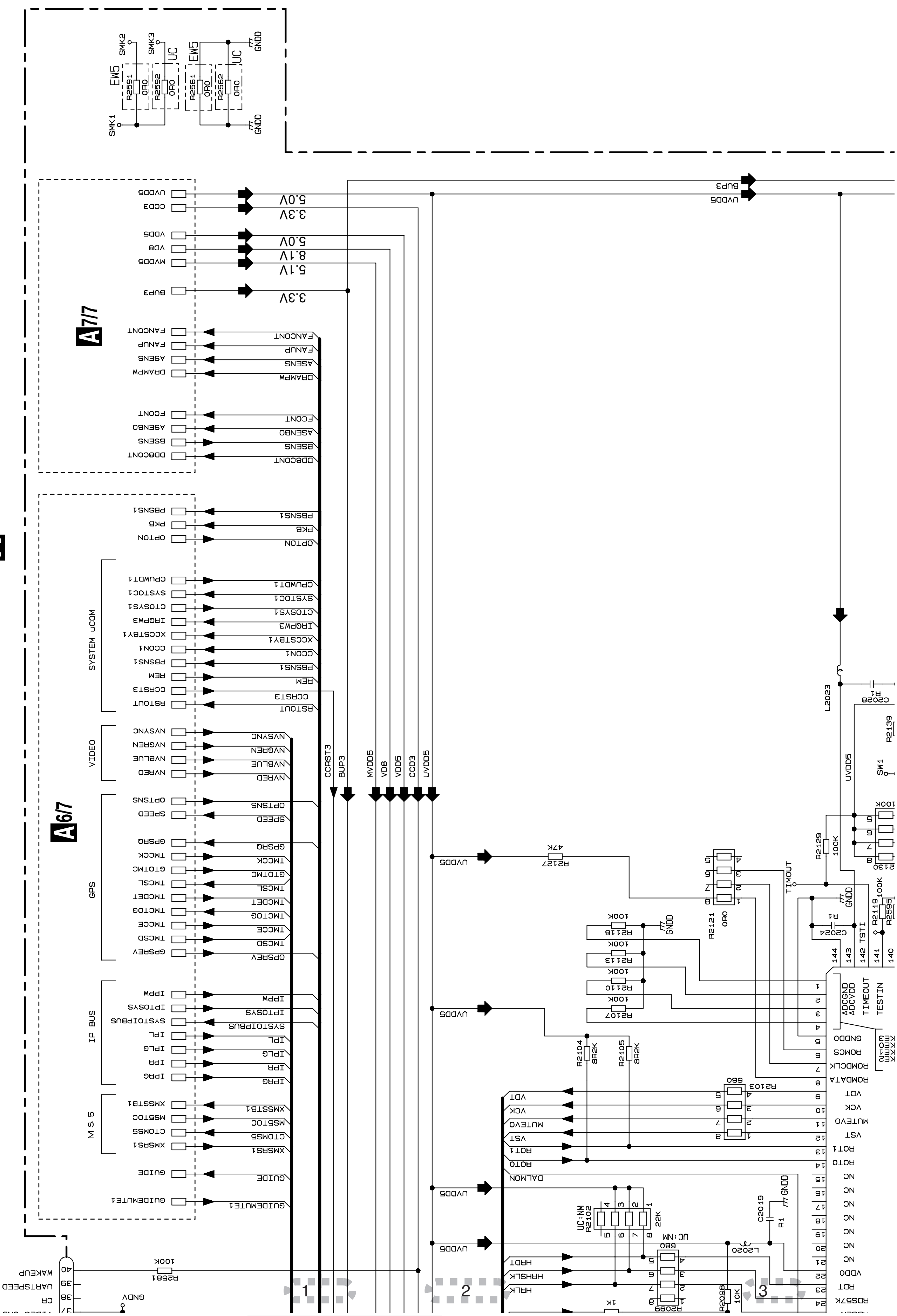
3.7 NAVI MOTHER UNIT (SYSTEM uCOM)(GUIDE PAGE)



A5/7 NAVI MOTHER UNIT (SYSTEM uCOM)



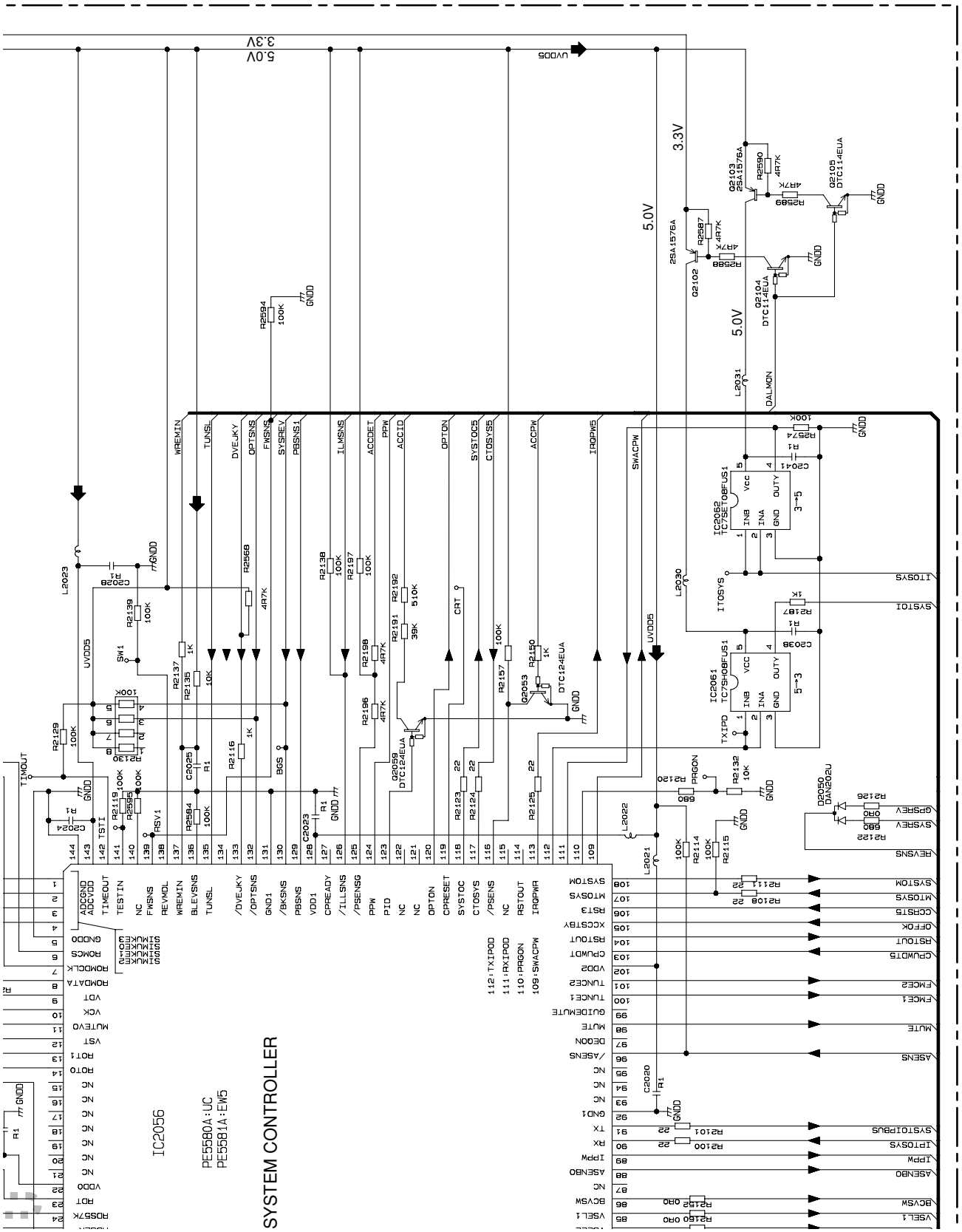
A 5/7 NAVI MOTHER UNIT (SYSTEM uCOM)

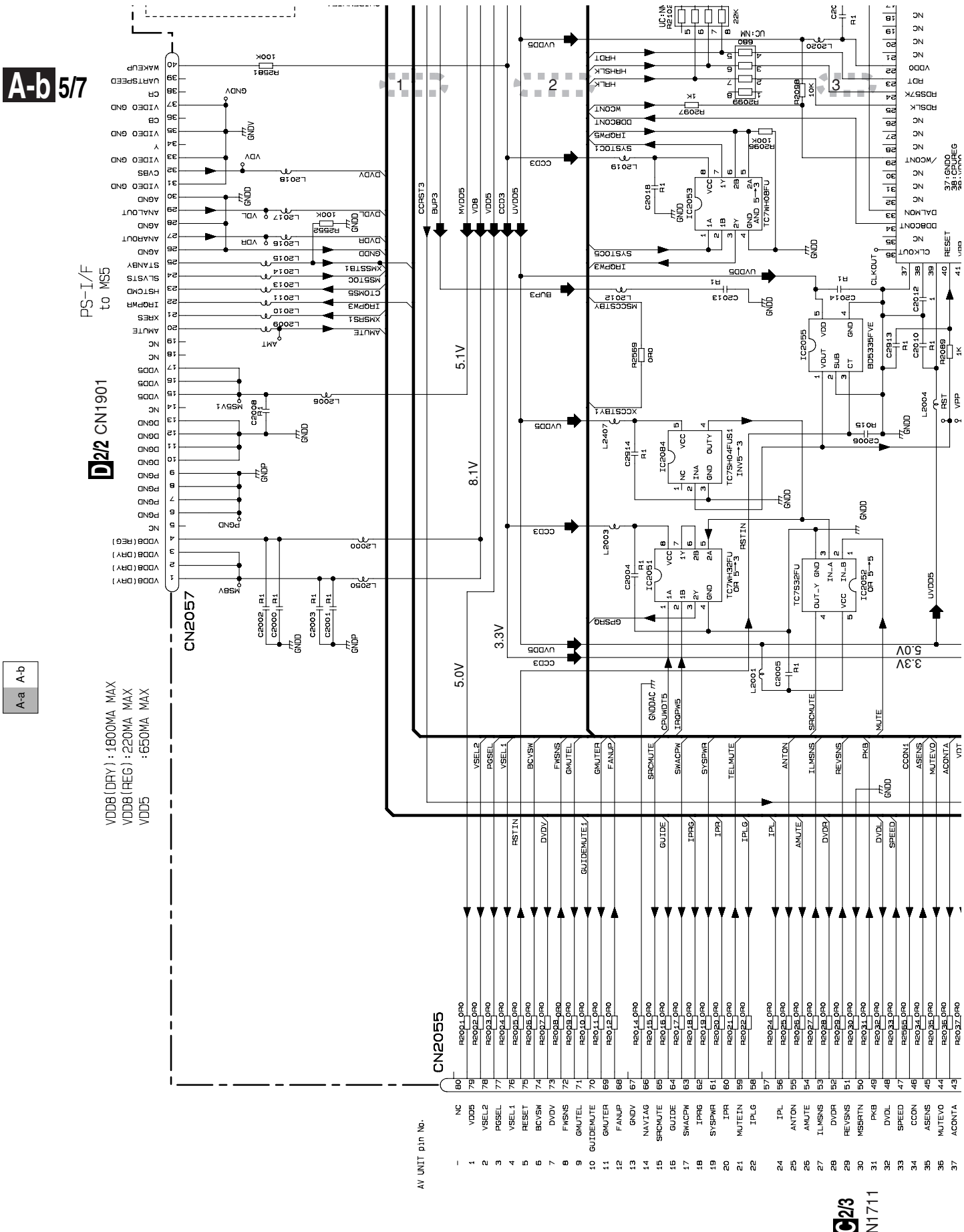

A 7/7
A 6/7
SYSTEM uCOM
VIDEO
GPS
IP BUS
M S 5
UVDD5
CCD3
VDD5
VD8
MVDD5
BUP3
5.0V
3.3V
8.1V
5.1V
FANCONT
FANUP
ASENS
DRAMPW
FCONT
ASENBO
BSENS
DDBCONT
PBSNS1
PKB
OPTON
CPUWDT1
SYSTOC1
CTOSYS1
IRQPW3
XCCSTBY1
CCON1
REM
CCRST3
RSTOUT
NVSYNC
NVGREN
NVBLUE
NVRED
OPTSNS
SPEED
GPSRQ
TMCCK
GTOTMC
TMCSL
TMCDET
TMCTOG
TMCCE
TMCSD
GPSREV
IPPW
IPTOSYS
SYSTOIPBUS
IPL
IPLG
IPR
IPRG
XMSSTB1
MSSTOC
CTOMSS
XMSRS1
GUIDE
GUIDEMUTE1
WAKEUP
UARTSPEED
CR
GNDV
GNDD
TIMOUT
L2023
L2020
C2028
C2024
C2019
R2581
R2127
R2121
R2118
R2113
R2110
R2107
R2104
R2105
R2103
R2102
R2099
R2098
R2129
R2130
R2119
R2139
SW1
ADCGND
ADCVDD
TIMEOUT
TESTIN
GNDDD
ROMCS
ROMCLK
ROMDATA
VDT
VCK
MUTEVO
VST
ROT1
ROT0
DALMON
NC
VDDD
HRDT
HRHSLK
HRLK
SMK1
SMK2
SMK3
EW5
UC
R2591
R2592
R2561
R2562
0R0
100K
47K
8R2K
680
22K
10K
1K

A-a A-b

A-b 5/7

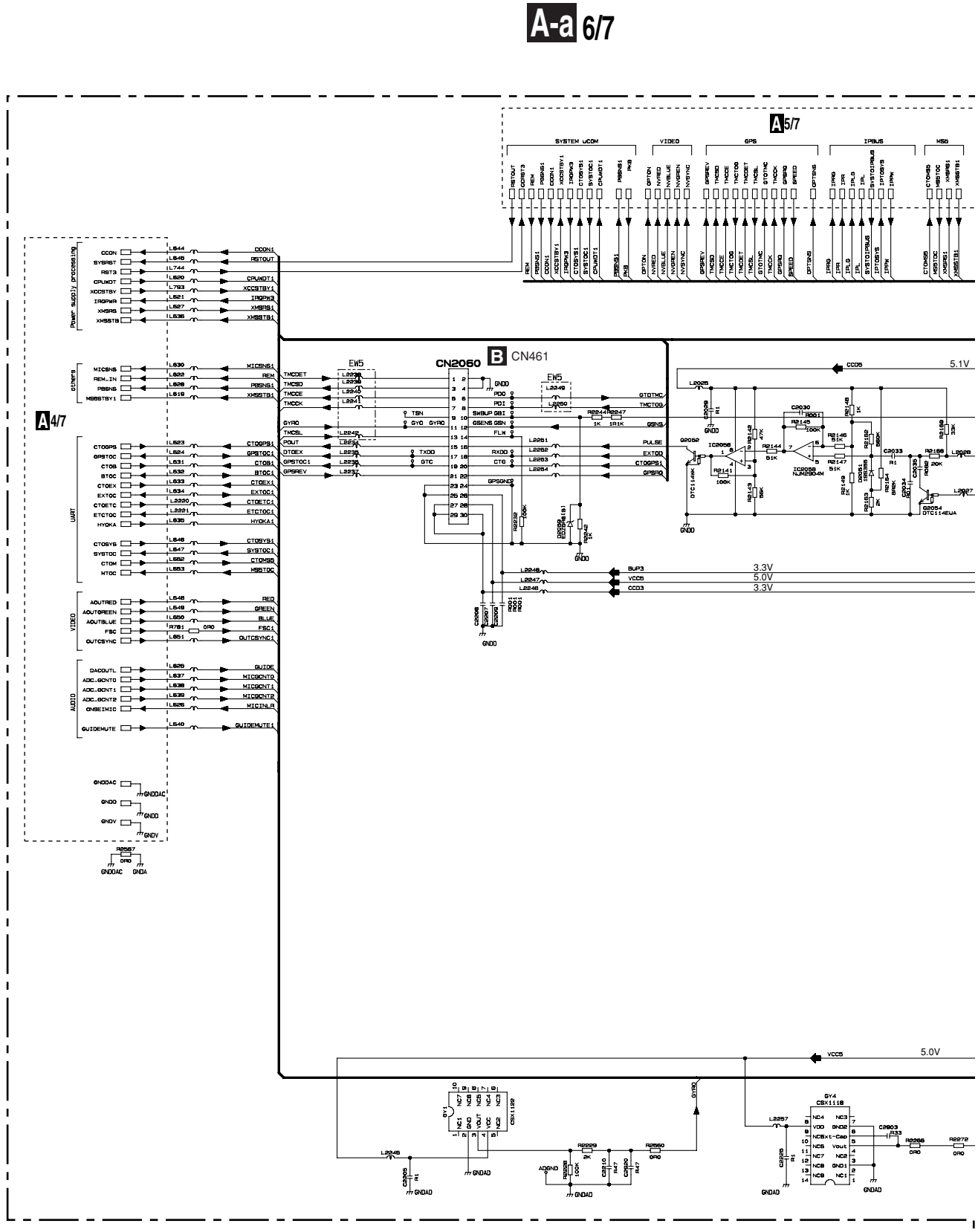
AVIC-D3/XU/UC

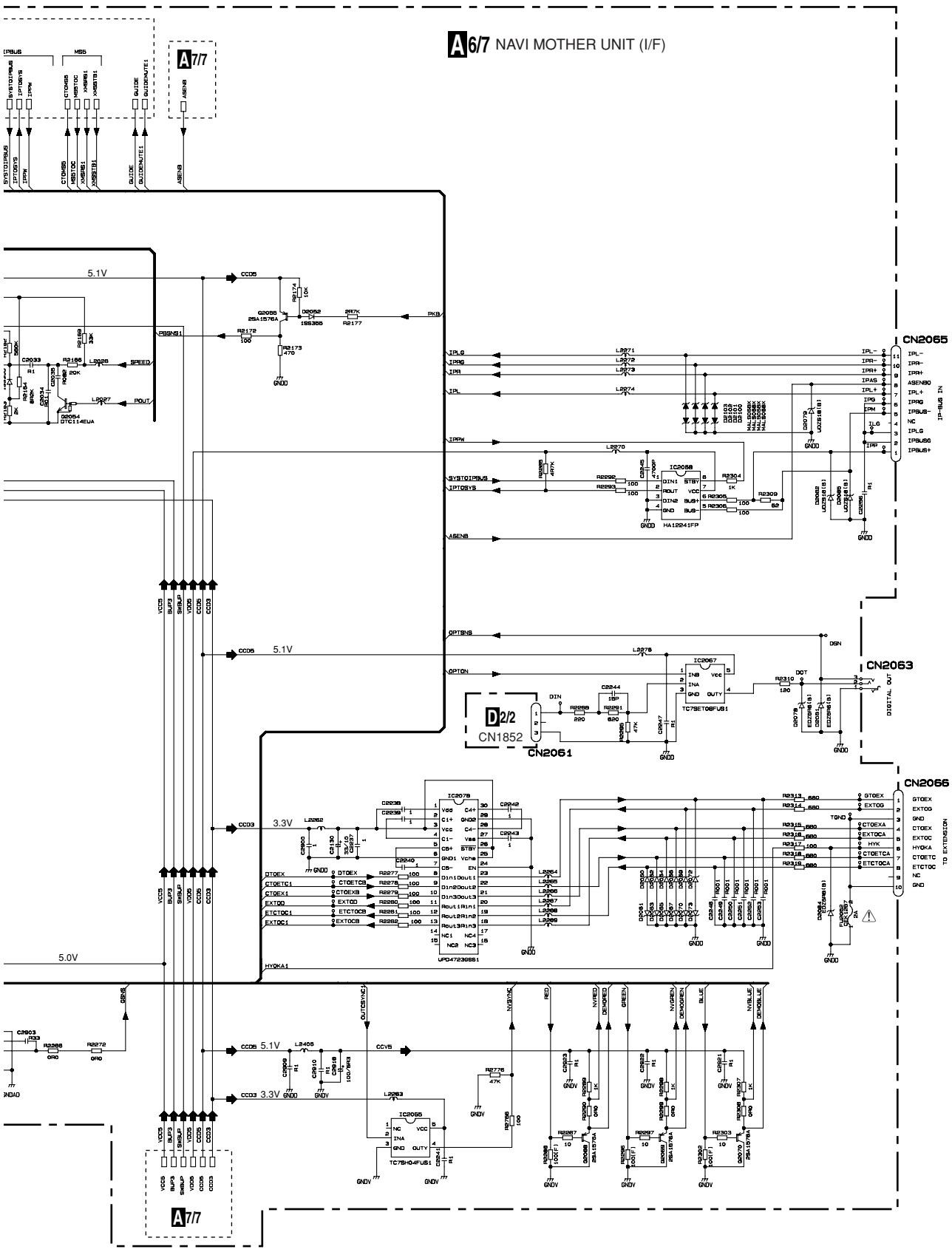

SYSTEM CONTROLLER
IC2056
PE5580A:UC
PE5581A:EW5
3.3V
5.0V
UVDD5
GNDD
GNDA
TIMOUT
TSTI
RSV1
SW1
WREMIN
TUNSL
DVEJKY
OPTSNS
FWSNS
SYSREV
PBSNS1
ILMSNS
ACCDET
PPW
ACCID
OPTON
SYSTOC5
CTDSYS5
ACCPW
IRQPWS
SWACPW
DALMON
ITOSYS
SYSTOI
REVSNS
SYSTOM
MTOSYS
CCRST5
OFFOK
RSTOUT
CPUWDT5
EMCS2
EMCS1
MUTE
ASENS
IPTOSYS
IPPW
ASENB0
BCYSW
VSEL1
SYSTOIPBUS
GPSREV
PRGON
TXIPD
IC2062
TC75W08FUS1
IC2061
TC75W08FUS1
Q2102
2SA1576A
Q2103
2SA1576A
Q2104
DTC114EUA
Q2105
DTC114EUA
Q2059
DTC124EUA
Q2053
DTC124EUA
D2050
DAN202U
L2021
L2022
L2023
L2030
L2031
IC2056
PE5580A:UC
PE5581A:EW5

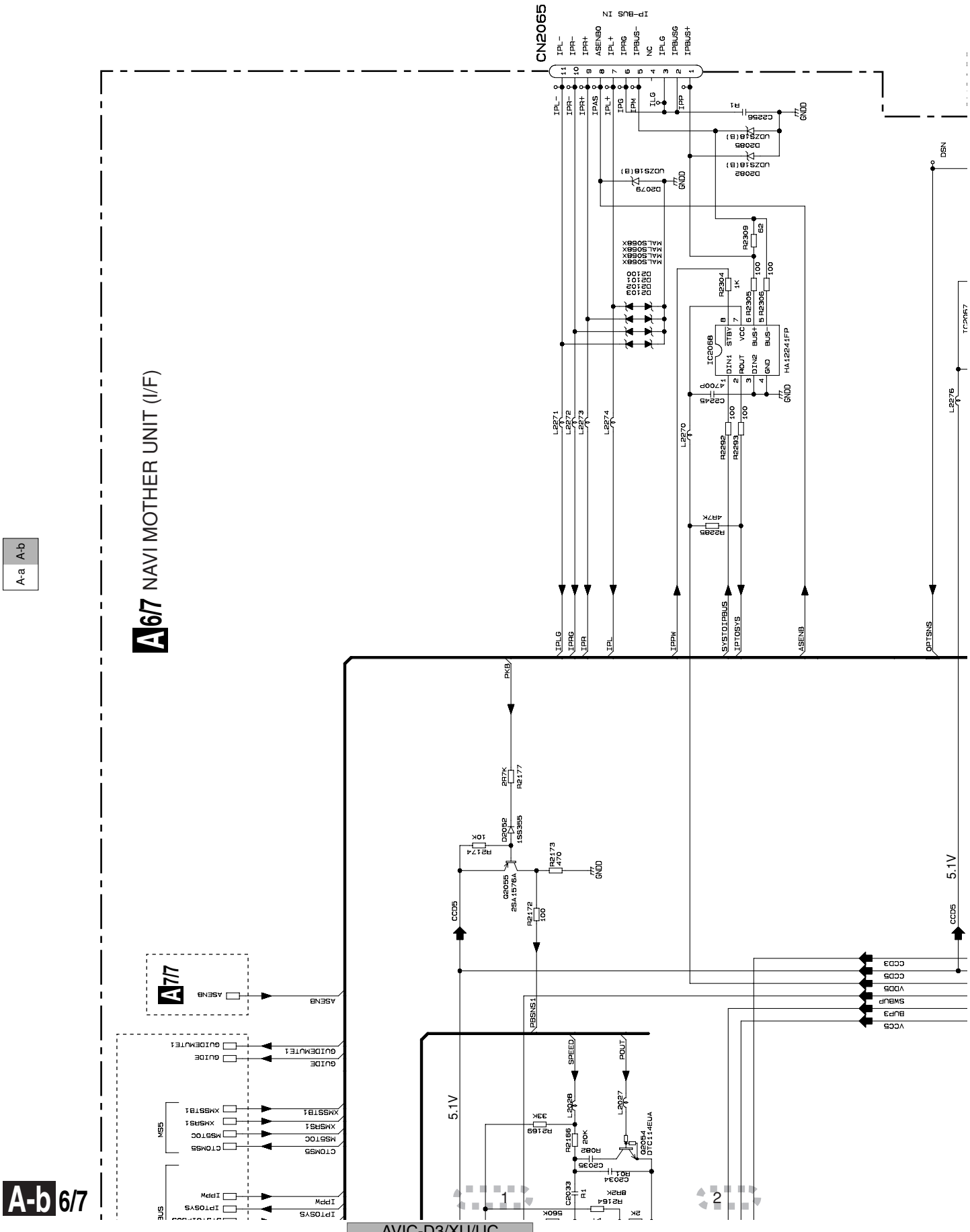

A-b 5/7
A-a 5/7
D2/2 CN1901
PS-I/F
to MS5
CN2057
CN2055
C2/3
CN1711
5.1V
8.1V
5.0V
3.3V
VDDB(DRY):1800MA MAX
VDDB(REG):220MA MAX
VDD5 :650MA MAX
AV UNIT pin No.

SYSTEM CON
PE5580A
PE5581A
IC205
A-b 5/7
A-a 5/7
A-b
A-a
2/3
CN1711
REVSNS
MSSRTN
PKB
DVDL
SPEED
CCON
ASENS
MUTEVO
ACONTA
VDT
ACONTB
VCK
SREMOT
VST
WCONT
WREMIN
PCE
PPW
PDI
SYSTOI
DETOUT
ITOSYS
SL
ACCPW
PDO
ACCDET
PCK
ACCID
FMSL
REMIN
FMCE2
MTOSYS
FMCE1
SYSTOM
FMCLK
DVEJKY
STOFM
NVSYNC
HLDET
NVRED
FMTOS
NVGREN
HRCK
NVBLUE
HRDT
ROT1
HRLK
ROTO
HRHSLK
XYMUTE
MUTE
5.0V
3.3V
UVDD5
CCD3
GNDD
EW5
AVIC-D3/XU/UC
63

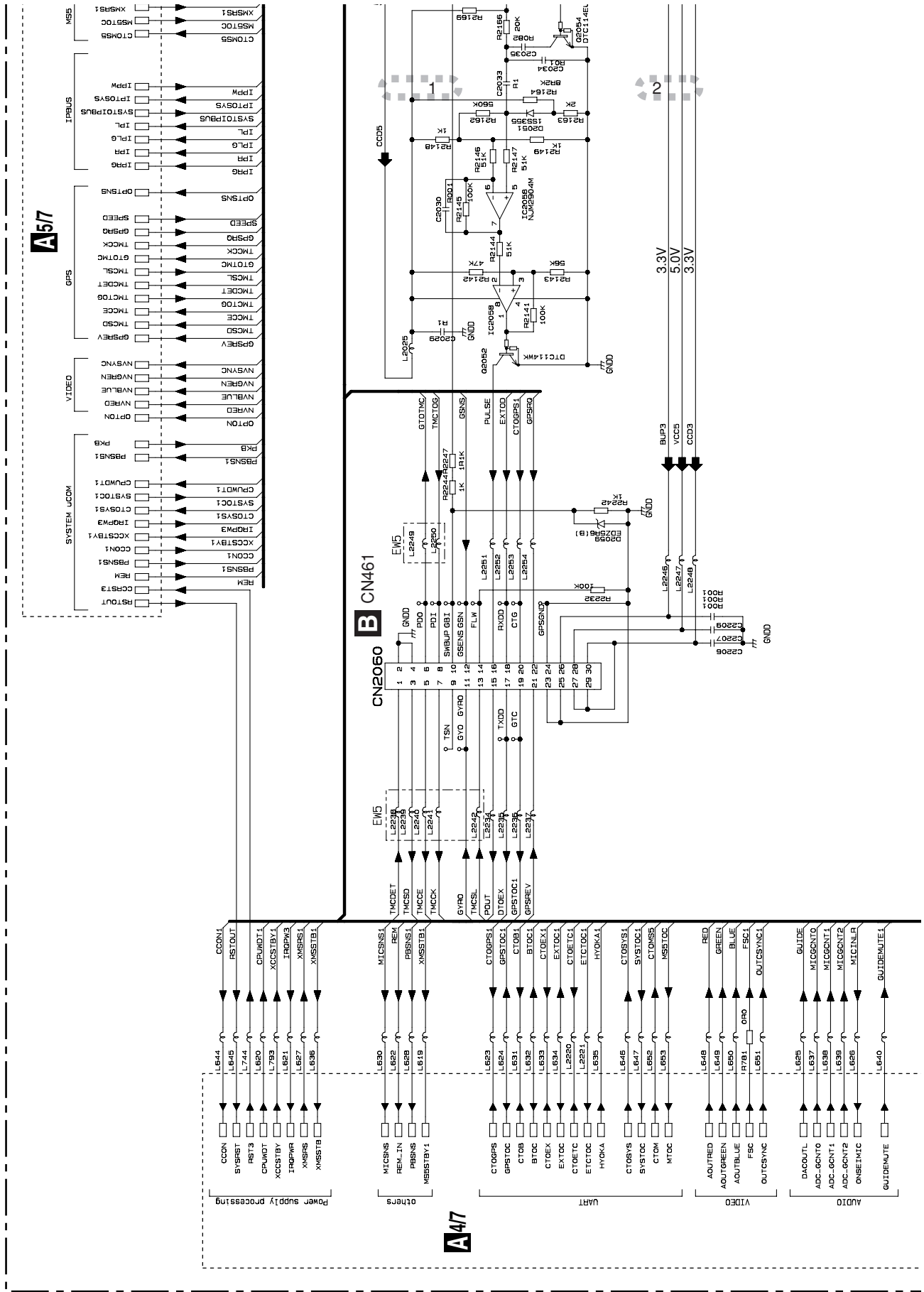
3.8 NAVI MOTHER UNIT (I/F)(GUIDE PAGE)




A6/7 NAVI MOTHER UNIT (I/F)
A7/7
CN2065
IP-BUS IN
CN2063
DIGITAL OUT
CN2066
TO EXTENSION
D2/2
CN1852
CN2061
HA12241FP
TC7SET08FUS1
TC7SH04FUS1
UPD4723GB1
5.1V
3.3V
5.0V

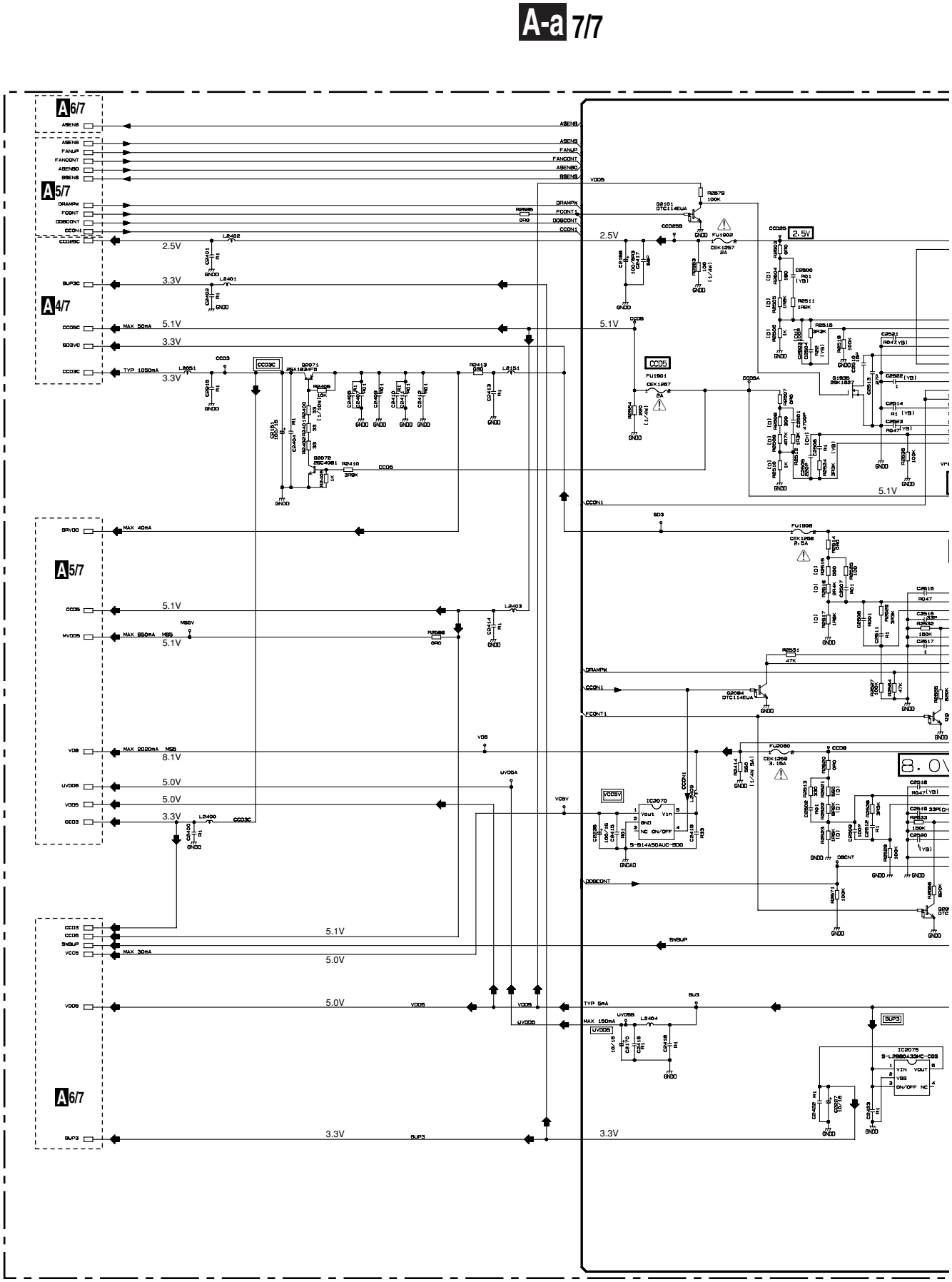

A6/7 NAVI MOTHER UNIT (I/F)
CN2065
IP-BUS IN
IPL-
IPR-
IPH+
ASENBO
IPL+
IPAG
IPBUS-
NC
ILG
IPBUSG
IPBUS+
IC2068
HA12241FP
R2309
R2304
R2305
R2306
L2271
L2272
L2273
L2274
L2270
L2276
TCP067
DSN
IPLG
IPAG
IPR
IPL
IPPW
SYSTOIPBUS
IPTOSYS
ASENB
OPTSNS
PKB
R2177
D2052
1SS355
R2174
R2173
Q2055
2SA1576A
R2172
CCD5
5.1V
PBSNS1
SPEED
PDUT
R2028
R2027
Q2054
DTC114EUA
R2166
R2164
C2033
C2034
C2035
560K
A7/7
ASENB
GUIDE
GUIDEMUTE1
XMSST81
XMSRS1
MSSTOC
CTOMSS
IPPW
IPTOSYS
SW5
BUS
A-a
A-b

CN2066
TO EXTENSION
GTOEX
EXTOG
GND
CTOEX
EXTOC
HYOKA
CTOETC
ETCTOC
NC
CN2063
DIGITAL OUT
DSN
DOT
DIN
CN2061
CN1852
D2/2
OPTSNS
OPTON
IC2067
TC7SET08FUS1
IC2078
UPD472365S1
IC2065
TC7SH04FUS1
5.1V
3.3V
5.0V
CCD5
CCD3
VCC5
BUP3
SWBUP
VDD5
CCD3
A7/7
A-b 6/7
AVIC-D3/XU/UC
67


A5/7
SYSTEM uCOM
VIDEO
GPS
IPBUS
MSS
CN461
CN2060
EW5
3.3V
5.0V
3.3V
A4/7
Power supply processing
others
UART
VIDEO
AUDIO

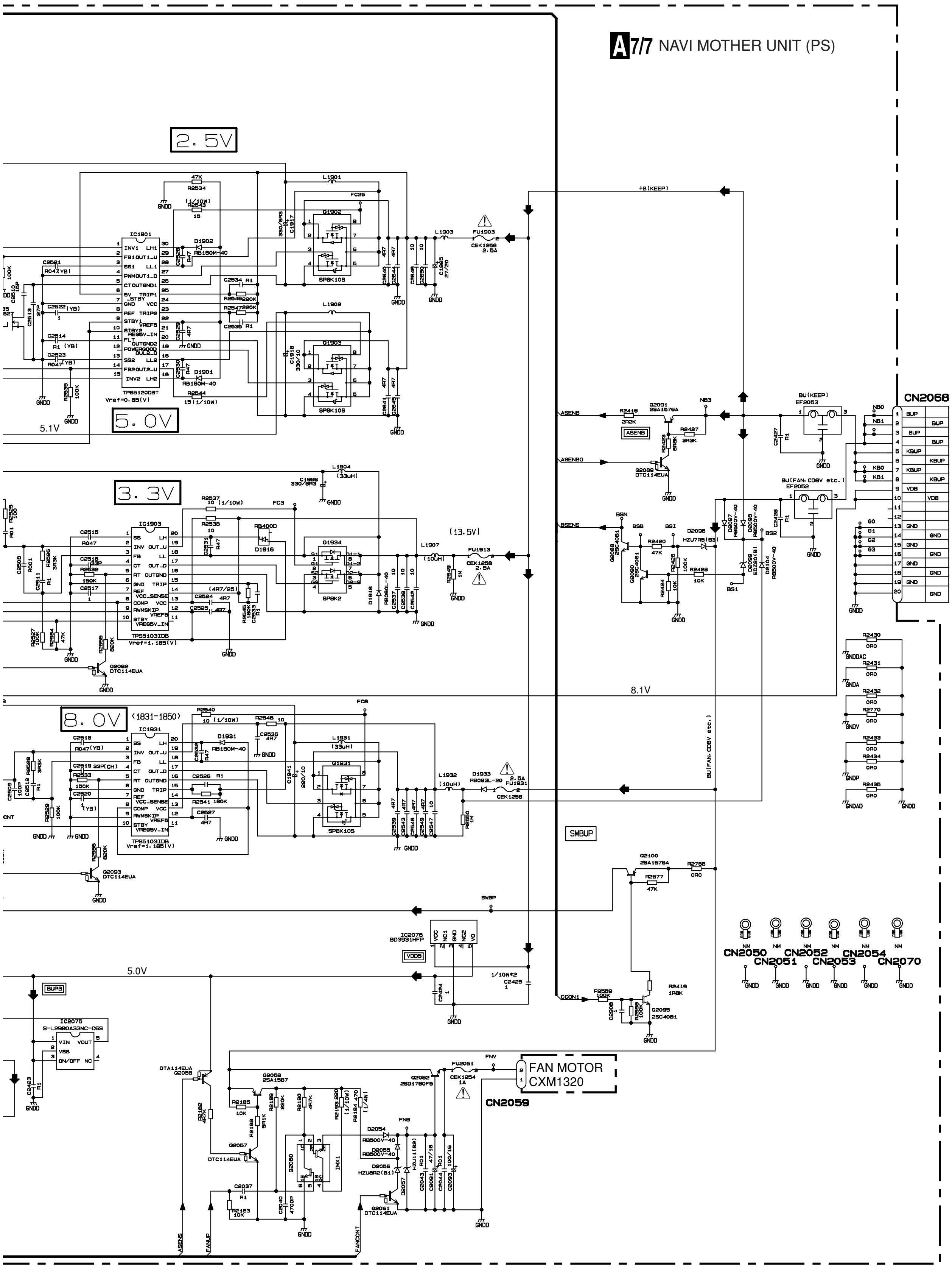
A-b 6/7
A-a 6/7
A-b
A-a
5.0V
VCC5
GYRO
GNDAD
ADGND
GNDDAC
GNDD
GNDV
GNDA
AUDIO
GUIDE
MICGCNT0
MICGCNT1
MICGCNT2
MICINLR
GUIDEMUTE1
DACOUTL
ADC_GCNT0
ADC_GCNT1
ADC_GCNT2
ONSEIMIC
GUIDEMUTE
GY4
CSX1118
GY1
CSX1125
R2366
R2560
R2229
100K
2K
R47
L2257
L2245
L625
L637
L638
L639
L626
L640
R2567

3.9 NAVI MOTHER UNIT (PS)(GUIDE PAGE)



A7/7

A-b 7/7


A 7/7 NAVI MOTHER UNIT (PS)
2.5V
5.0V
3.3V
8.0V
5.1V
8.1V
IC1901
TPS5120DBT
IC1903
TPS5103IDB
IC1931
TPS5103IDB
IC2075
S-L2980A33MC-C6S
IC2076
BD3931HFP
CN2068
C 1/3
CN1652
FAN MOTOR
CXM1320
CN2059
CN2050
CN2051
CN2052
CN2053
CN2054
CN2070

A 7/7

A

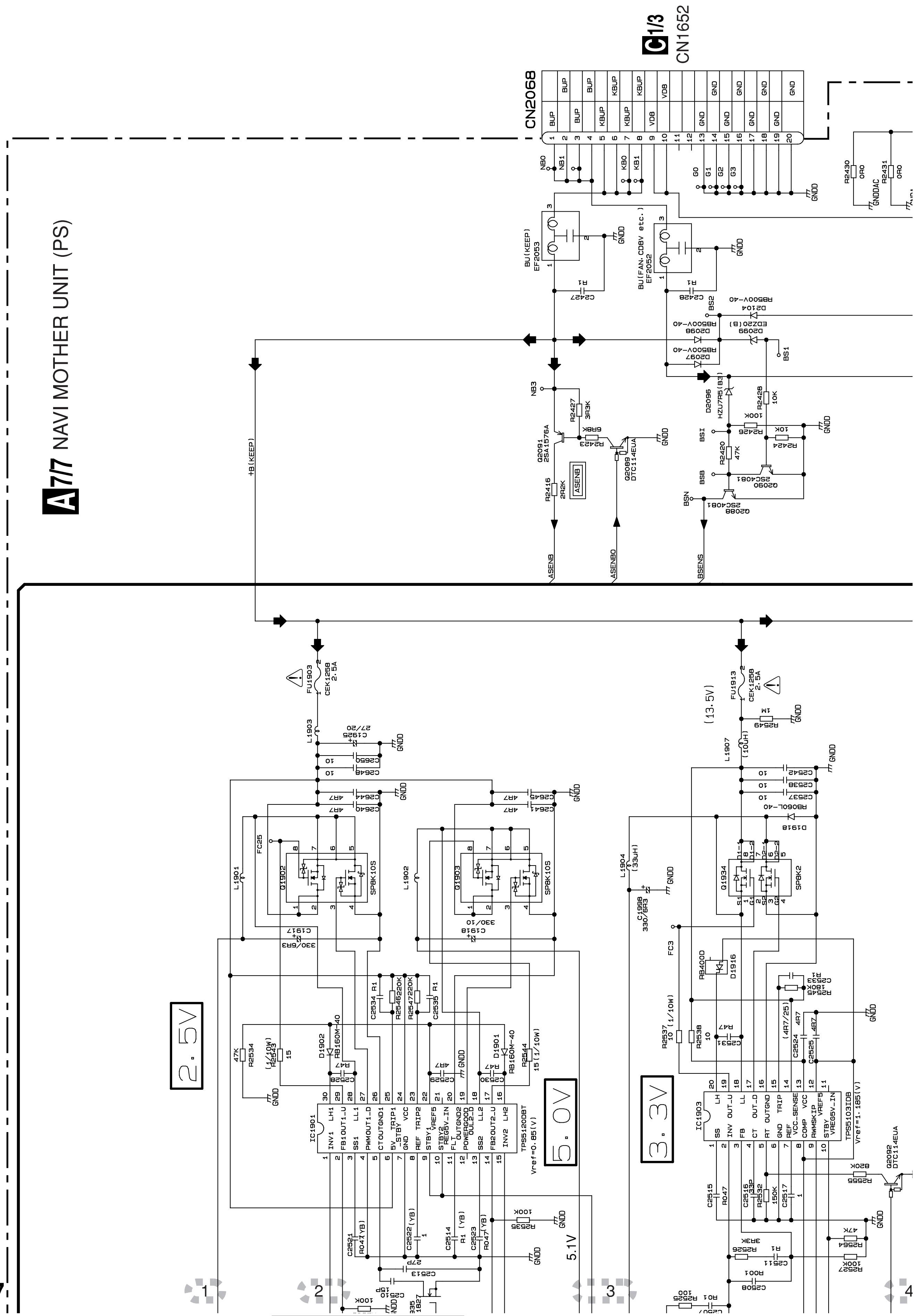
B

C

D

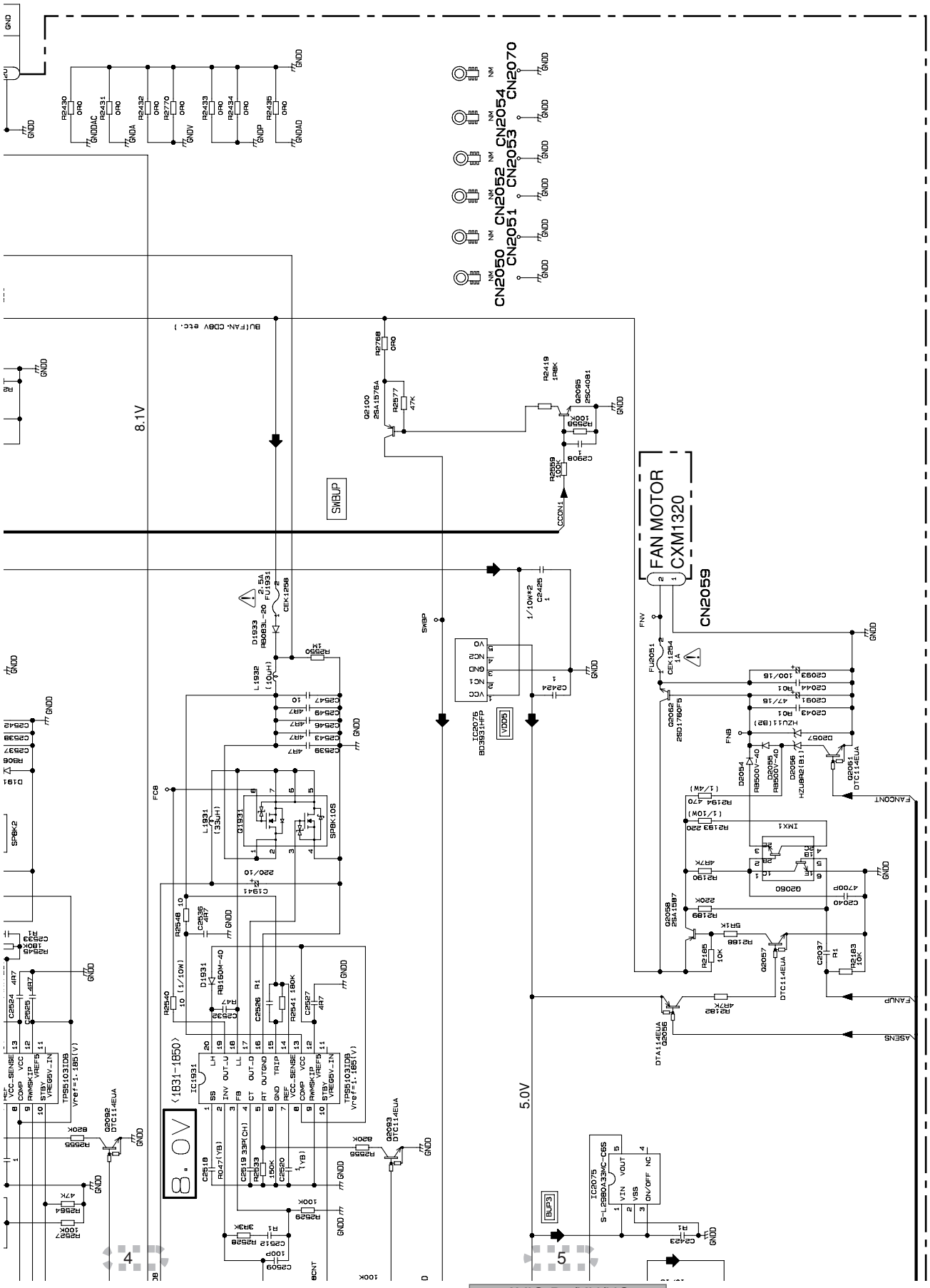
E

F



A-a A-b

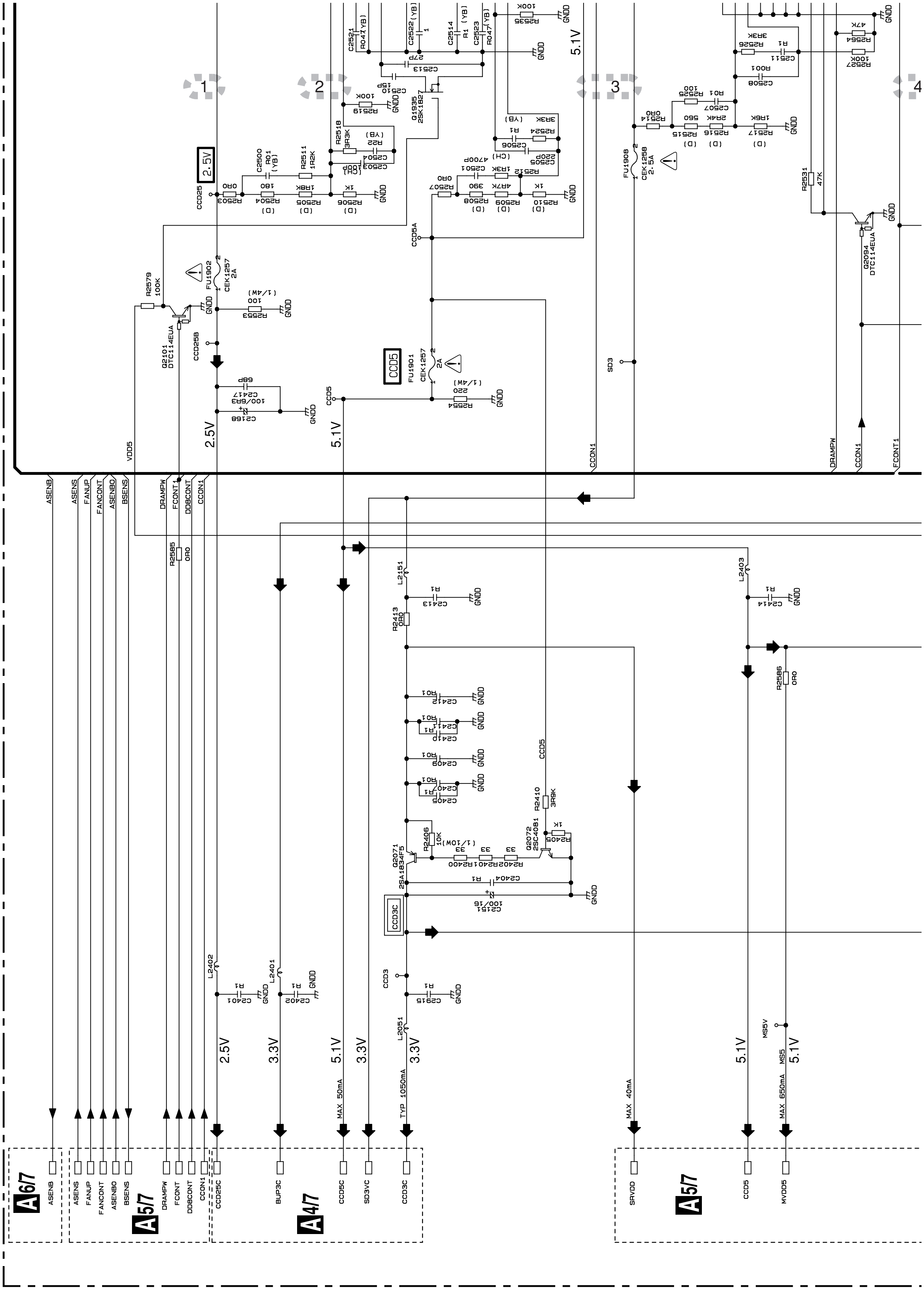
A-b 7/7


CN2050
CN2051
CN2052
CN2053
CN2054
CN2070
FAN MOTOR
CXM1320
CN2059
8.1V
5.0V
8.0V
SWBUP
SWBP
FANCONT
FANUP
ASENS
BUP3
VDD5
FNV
FNB
FCB
BCNT
IC1931
IC2075
Q2092
Q2093
Q2095
Q2100
Q2057
Q2058
Q2060
Q2061
D1931
D1933
D2054
D2055
D2056
D2057
L1931
L1932
FU1931
FU2051
CCDN1
BLU(FAN. CD8V etc.)

1 2 3 4

A

A-b 7/7



1
2
3
4
2.5V
5.1V
CCD5
CCD3C
CCD25
CCD25B
CCD5A
CCD5
SD3
CCD3
MS5V
VDD5
ASENB
ASENS
FANUP
FANCONT
ASENBO
BSENS
DRAMPW
FCONT
DDBCONT
CCON1
FCONT1
GNDD
2.5V
3.3V
5.1V
3.3V
3.3V
5.1V
MS5
5.1V
MAX 50mA
TYP 1050mA
MAX 40mA
MAX 650mA
A6/7
ASENB
ASENS
FANUP
FANCONT
ASENBO
BSENS
A5/7
DRAMPW
FCONT
DDBCONT
CCON1
CCD25C
BUP3C
A4/7
CCD5C
SD3VC
CCD3C
SRVDD
A5/7
CCD5
MVDD5
Q2101
DTC114EUA
Q1935
2SK1827
Q2094
DTC114EUA
Q2071
2SA1834F5
Q2072
2SC4081
FU1902
CEK1257
2A
FU1901
CEK1257
2A
FU1908
CEK1258
2.5A

B

C

D

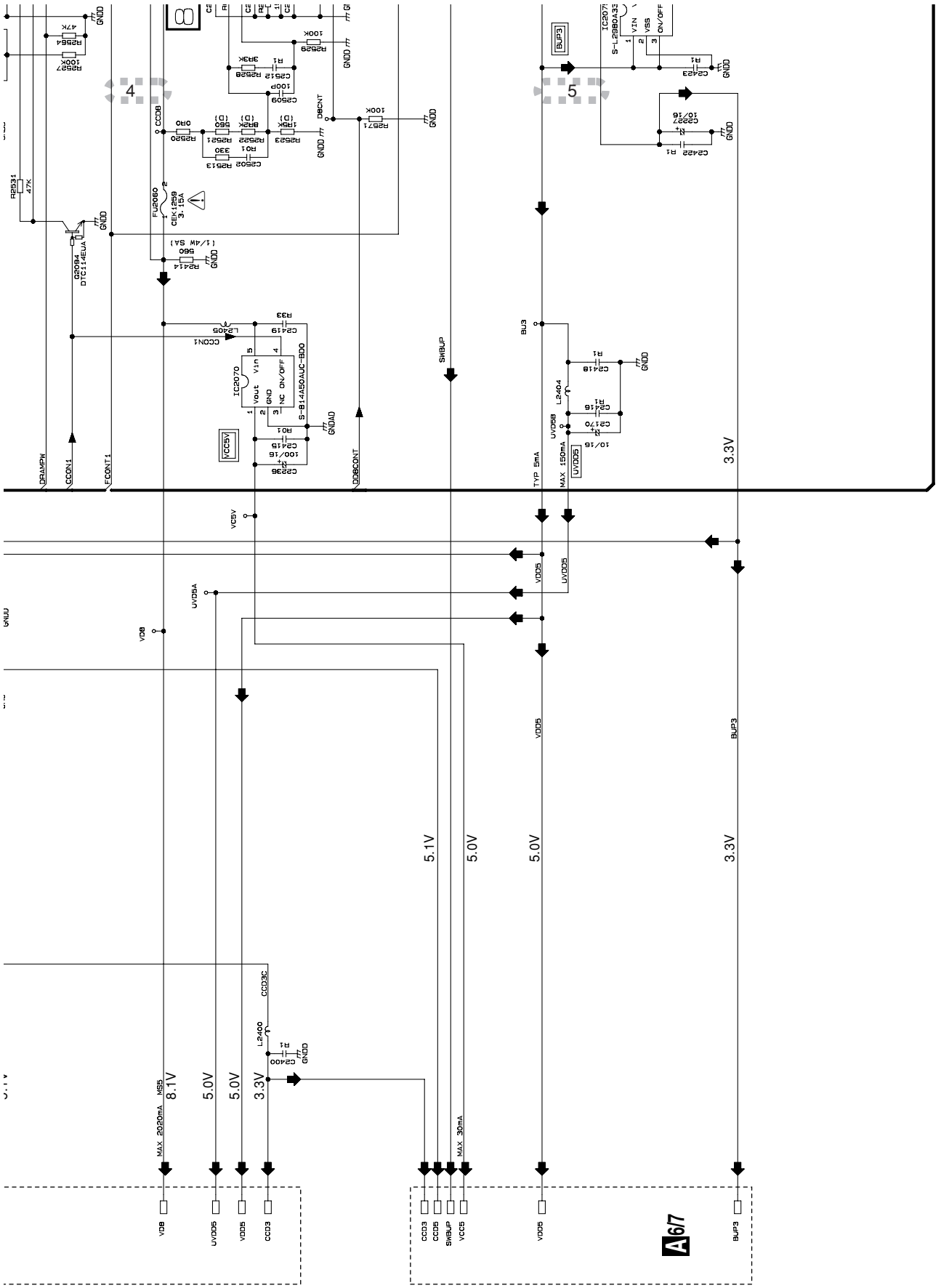
E

F

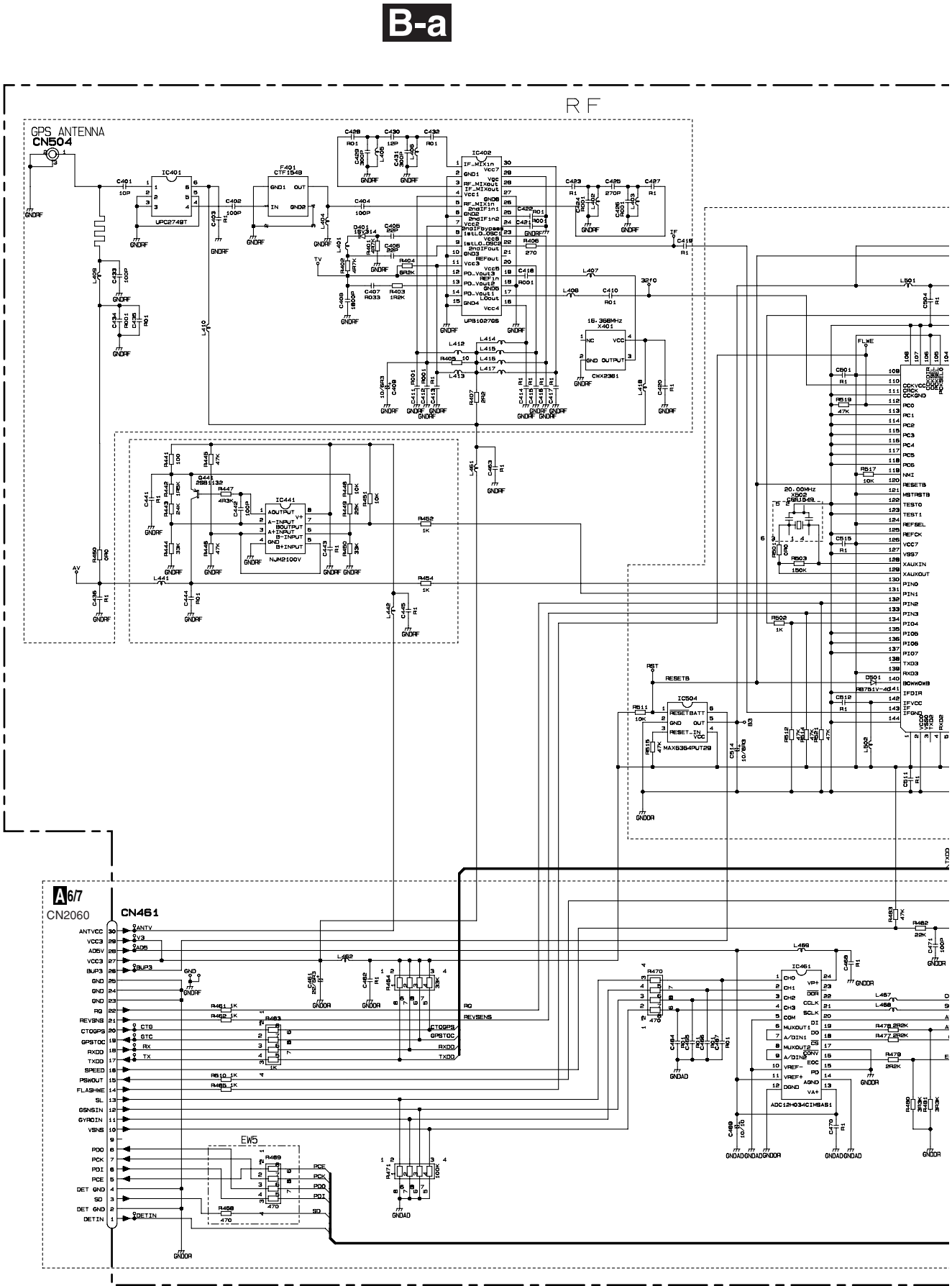
A-b
A-a

A-a 7/7

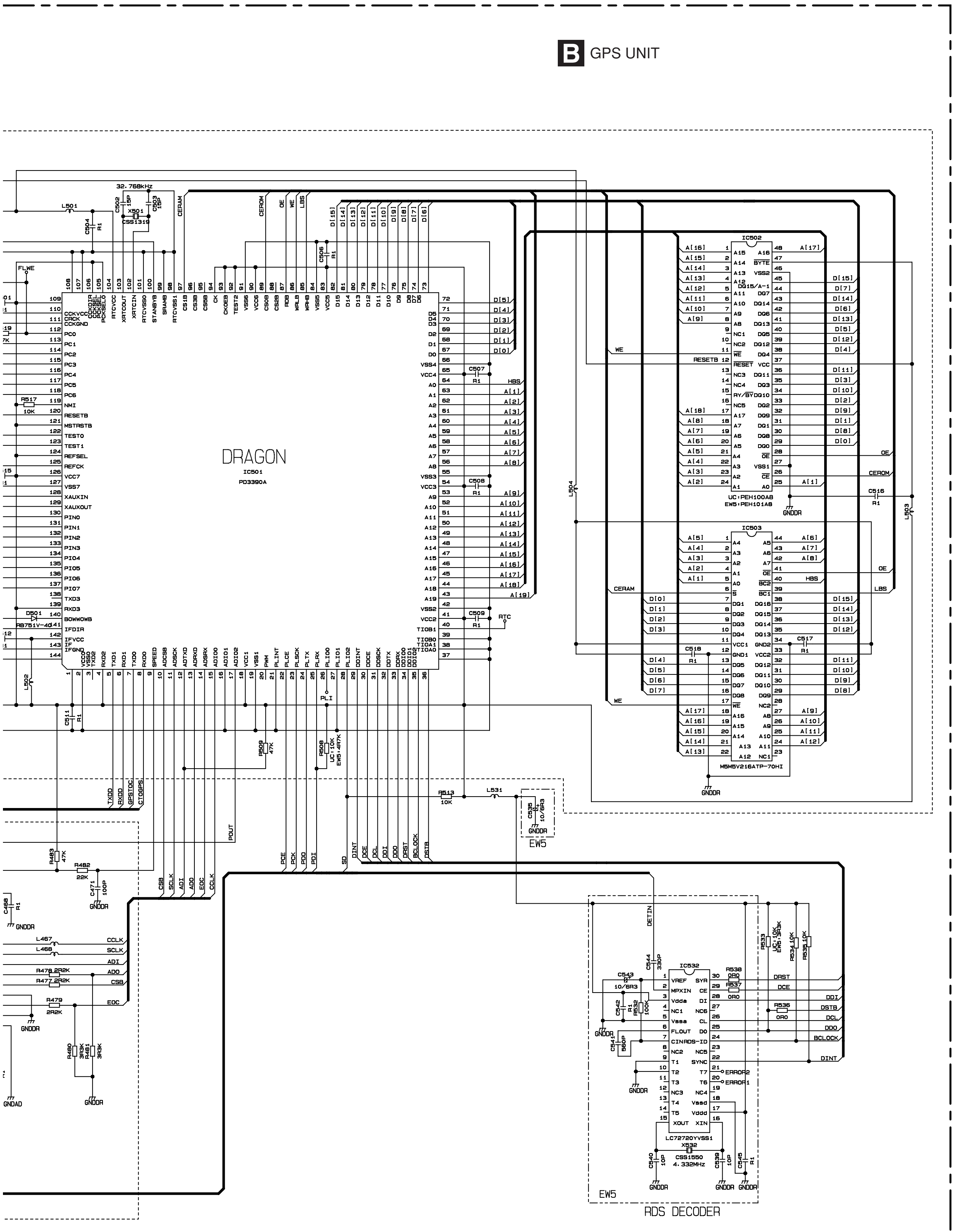
1 2 3 4


A-b 7/7
A-a 7/7
A-b
A-a
5.1V
5.0V
5.0V
3.3V
8.1V
5.0V
5.0V
3.3V
3.3V
MAX 2020mA
MAX 30mA
TYP 5mA
MAX 150mA
VDB
UVDD5
VDD5
CCD3
CCD3
CCD5
SWBUP
VCC5
VDD5
BUP3
A6/7

3.10 GPS UNIT(GUIDE PAGE)



B-b


B GPS UNIT
DRAGON
IC501
PD3390A
IC502
UC:PEH100A8
EW5:PEH101A8
IC503
M5M5V216ATP-70HI
IC532
LC72720YVSS1
X532
CSS1550
4.332MHz
X501
CSS1319
32.768kHz
EW5
RDS DECODER

A

B

C

D

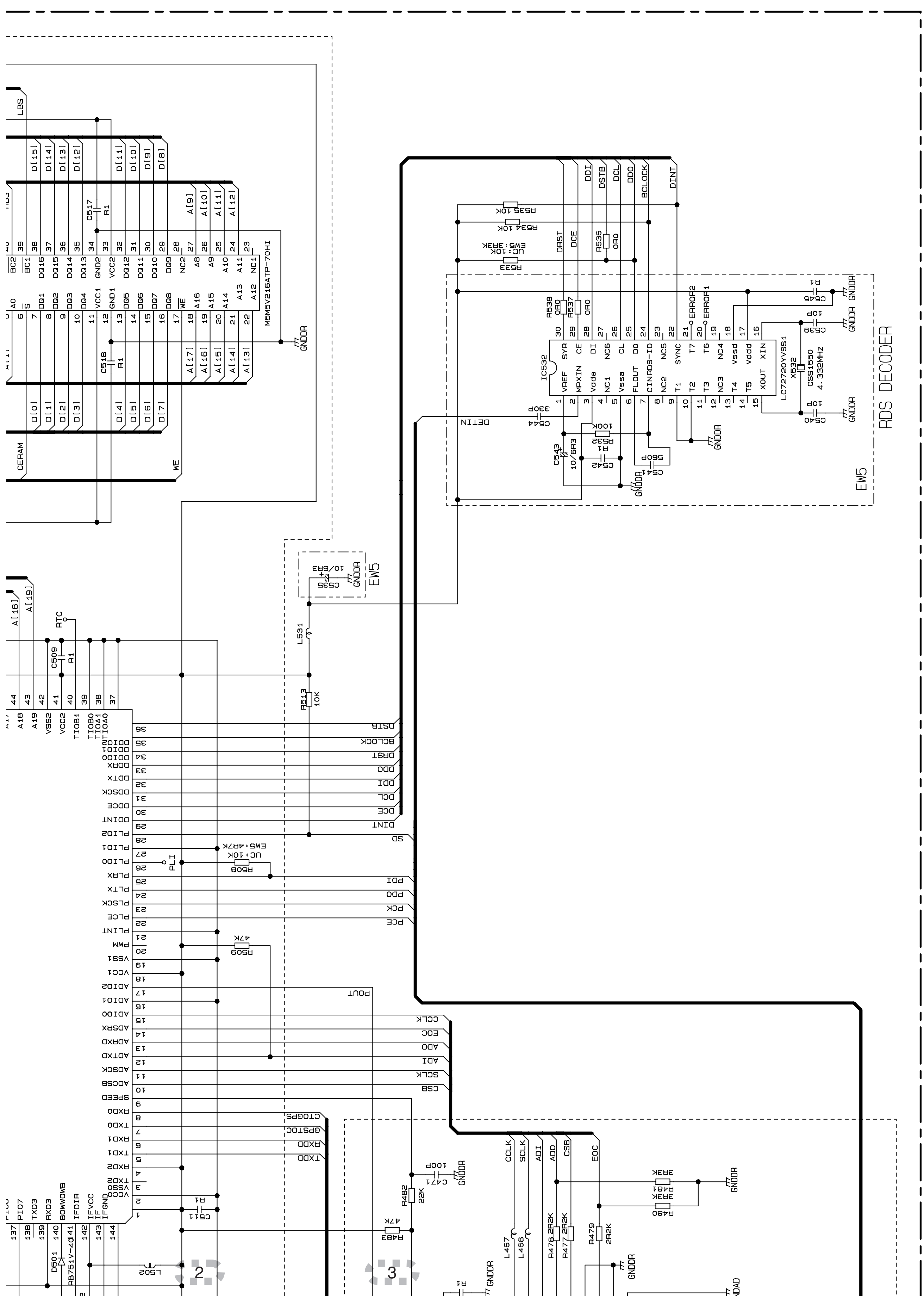
E

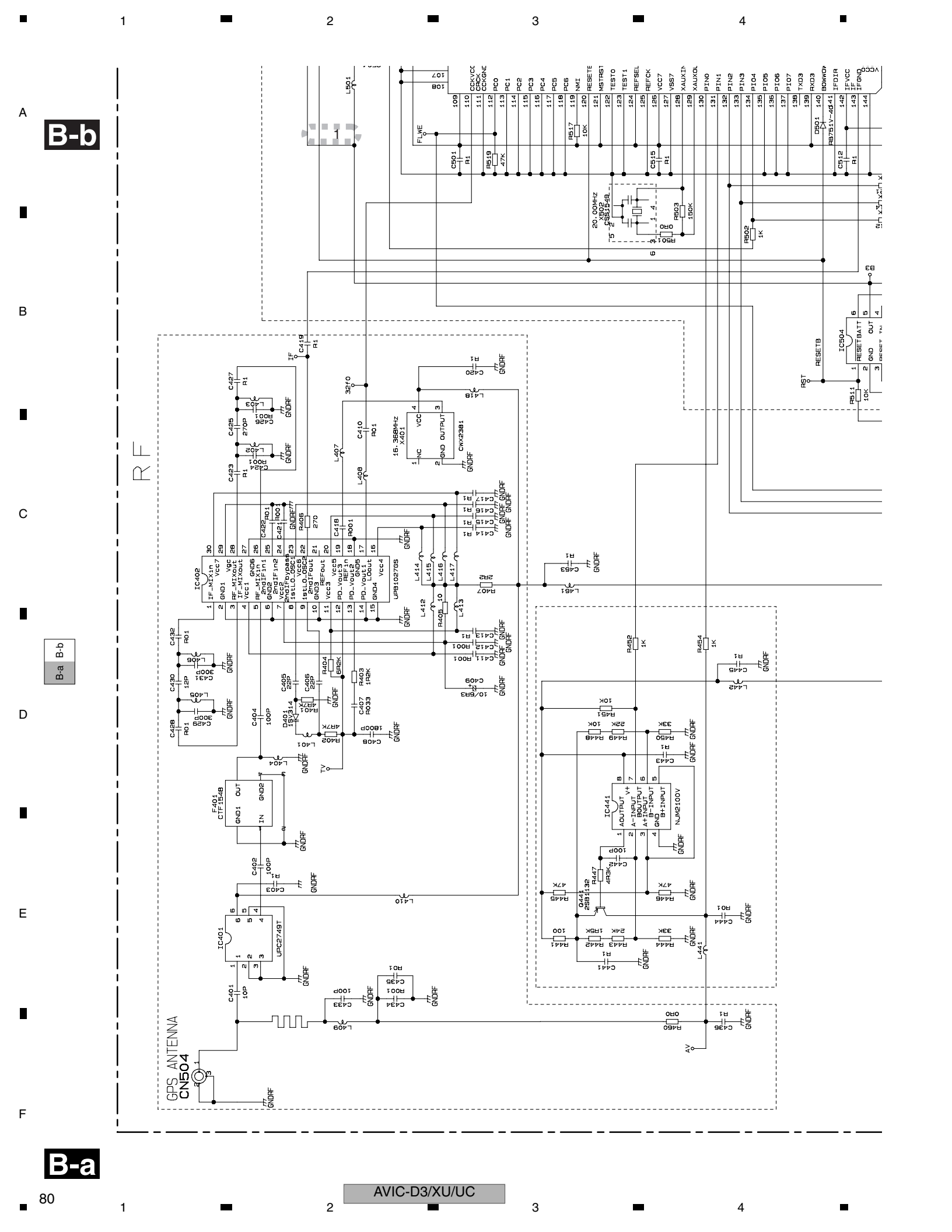
F

B GPS UNIT

B-a B-b

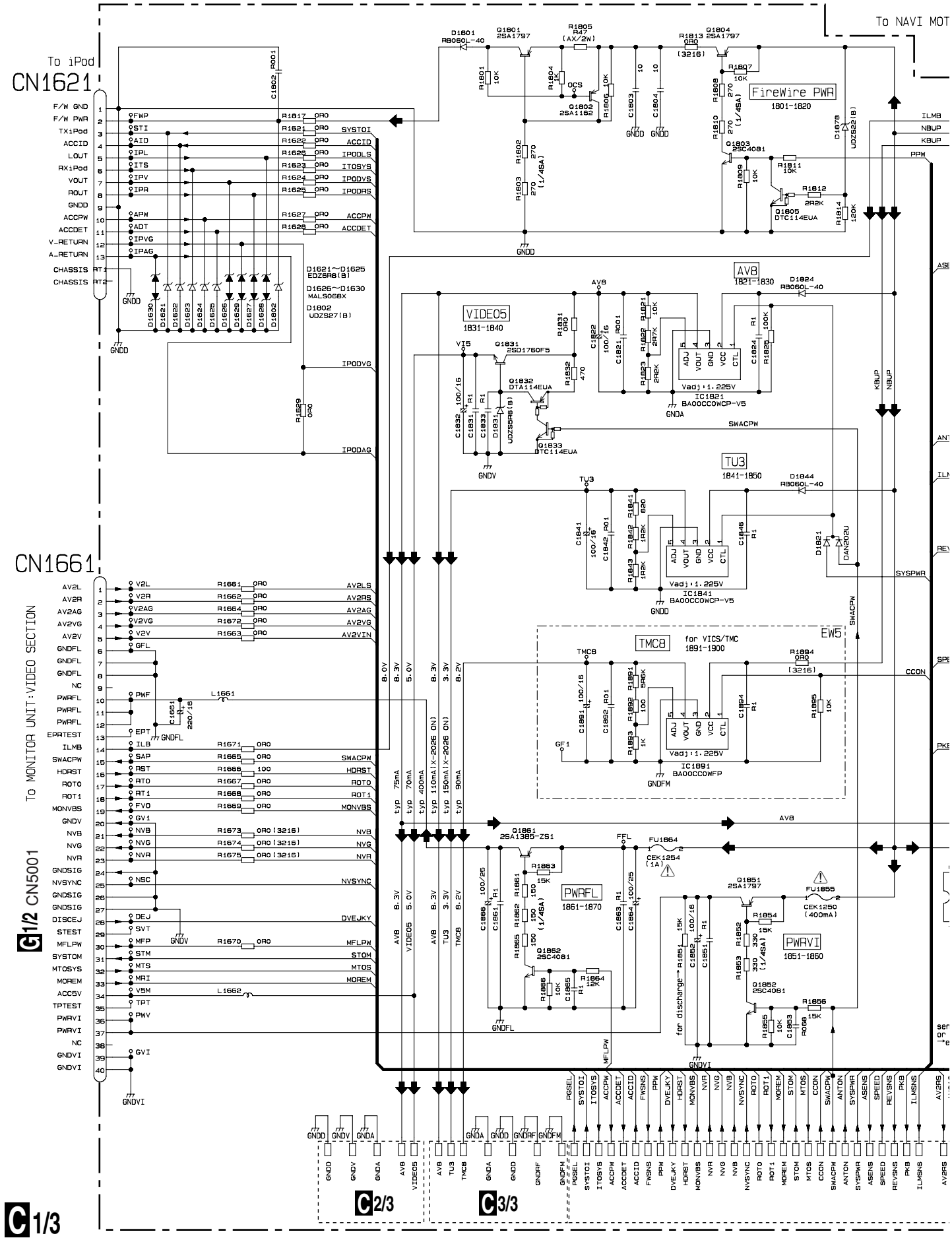
B-b

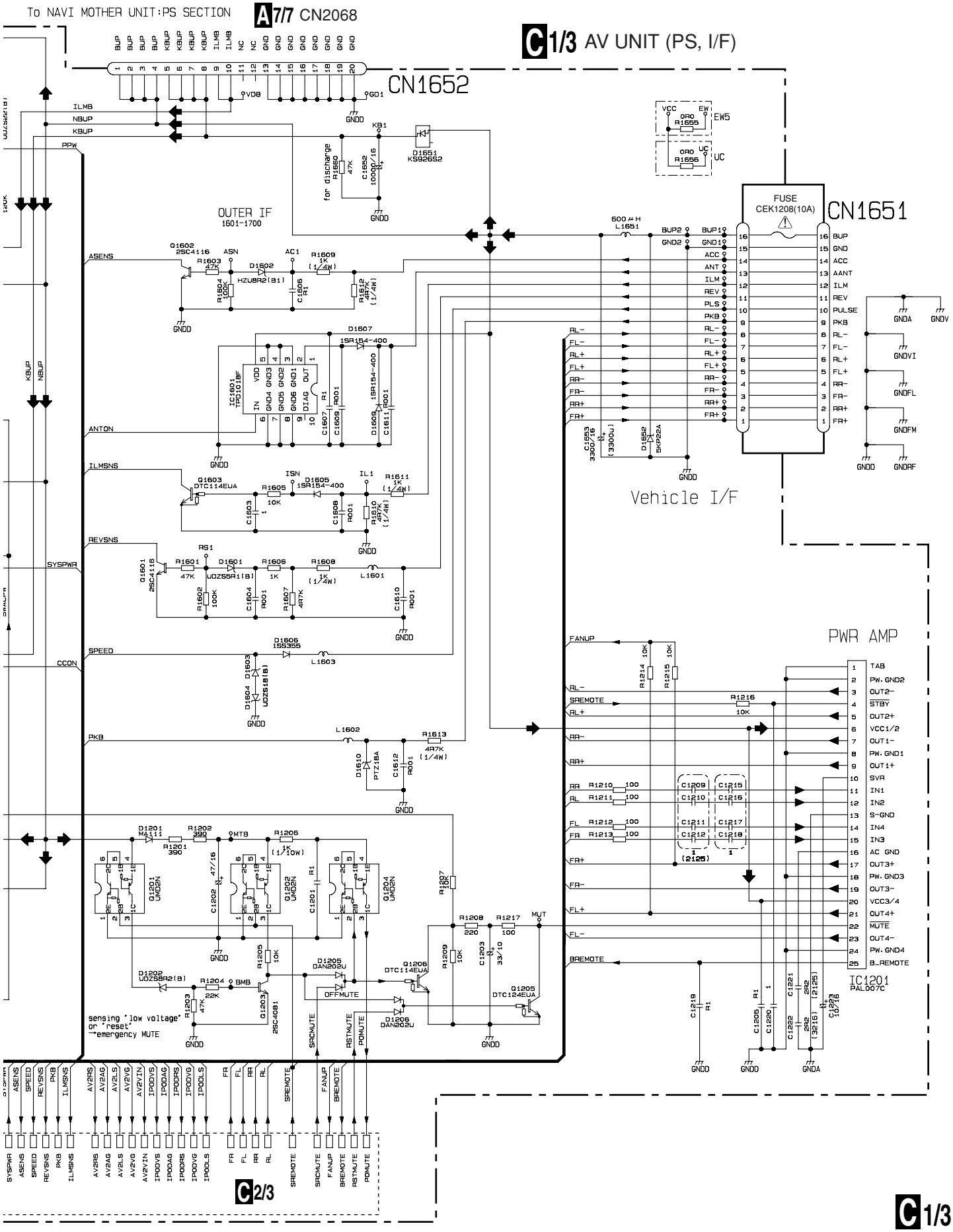

RDS DECODER
EW5
IC532
LC72720YVSS1
X532
CSS1550
4.332MHz
M5M5V216ATP-70HI
DETIN
DDI
DSTB
DCL
DDO
BCLOCK
DINT
DRST
DCE
R535 10K
R534 10K
R533
UC:10K
EW5:3R3K
R536
0R0
R538
R537
C545
C539 10P
C540 10P
C544 330P
R532 100K
C543 10/6R3
C542
C541 560P
GNDDR
C535 10/6R3
L531
R513 10K
C509
RTC
C517
C518
LBS
CERAM
WE
PLI
R508
UC:10K
EW5:4R7K
R509 47K
POUT
CCLK
EOC
ADO
ADI
SCLK
CSB
CTOGPS
GPSTOC
RXDD
TXDD
C471 100P
R482 22K
R483 47K
R481 3R3K
R480 3R3K
R479 2R2K
R478 2R2K
R477 2R2K
L467
L468
L502
D501
RB751V-40
C511
PDI
PDO
PCK
PCE
SD


B-b
B-a
RF
GPS ANTENNA
CN504
B-a
B-b

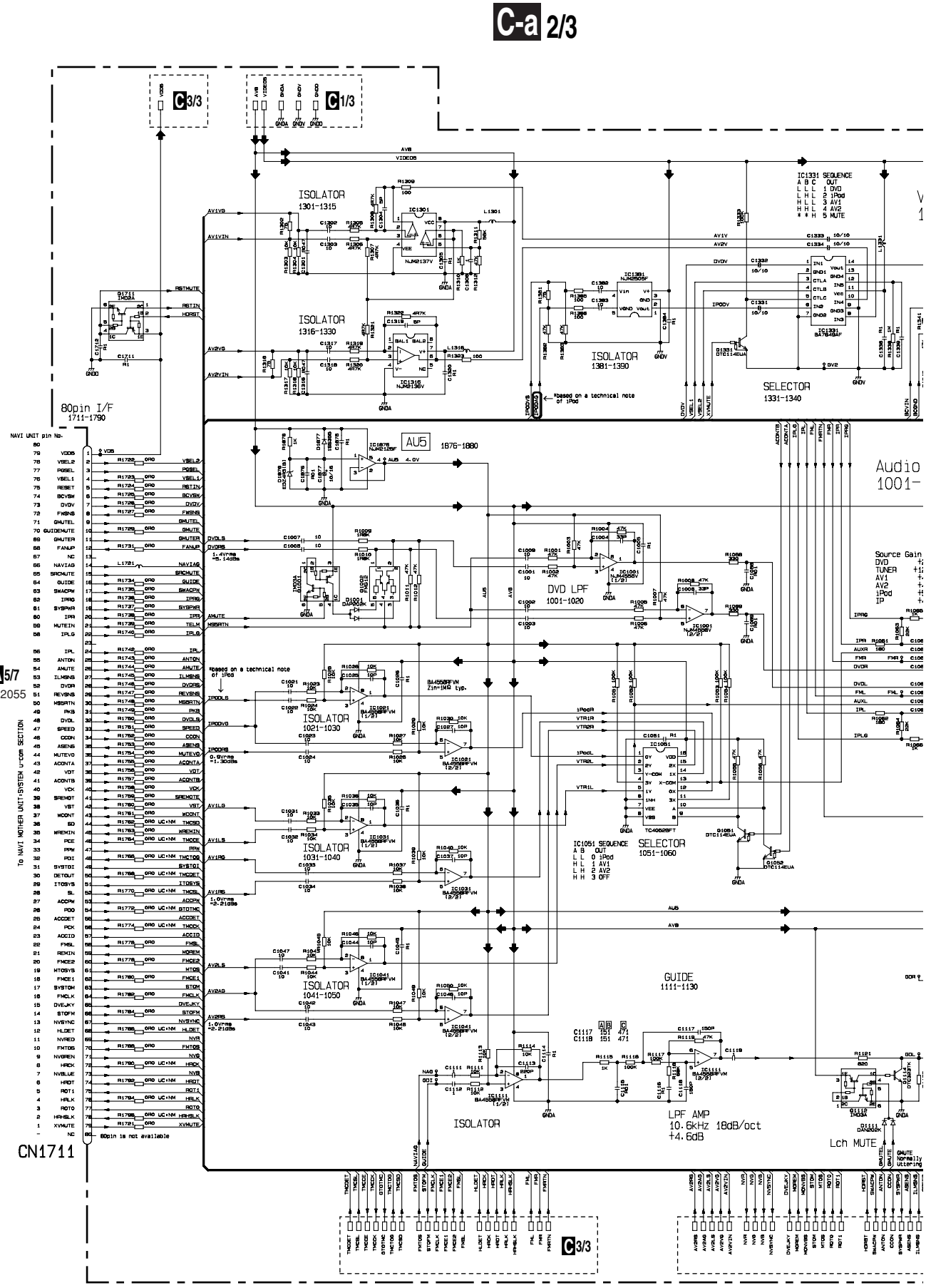
B-b
B-a B-b
B-a
A6/7
CN2060
CN461
ANTVCC
VCC3
ADSV
VCC3
BUP3
GND
GND
GND
RQ
REVSNS
CTOGPS
GPSTOC
RXDD
TXDD
SPEED
PSWOUT
FLASHWE
SL
GSNSIN
GYROIN
VSNS
PDO
PCK
PDI
PCE
DET GND
SD
DET GND
DETIN
ANTV
V3
ADS
BUP3
CTG
GTC
RX
TX
DETIN
IC504
MAX6364PUT29
RESETB
RST
IC461
ADC12H034CIMSA51
GNDDR
GNDAD
GNDADGNDDR
GNDADGNDAD
EWS

3.11 AV UNIT (PS, I/F)

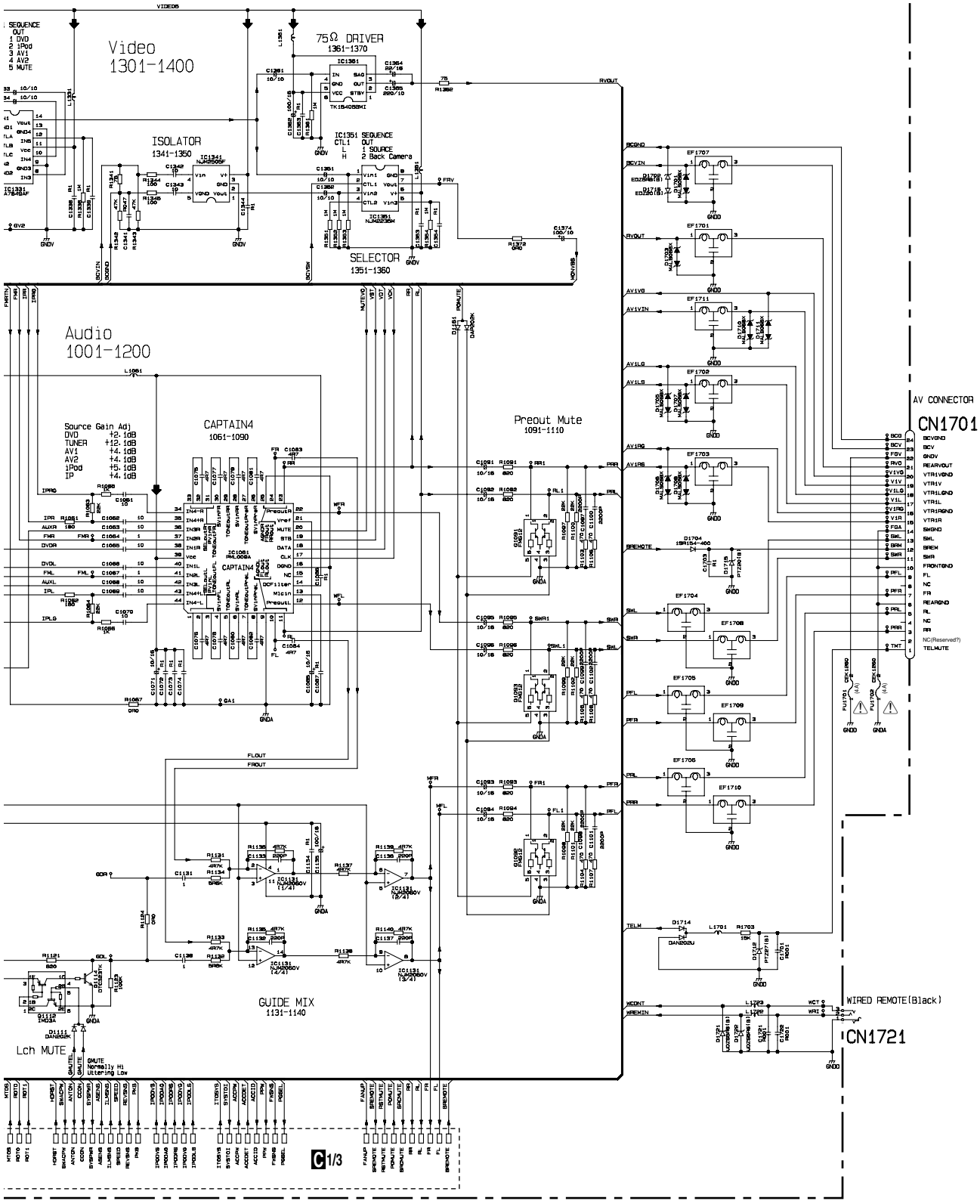



To NAVI MOTHER UNIT:PS SECTION
A7/7 CN2068
C1/3 AV UNIT (PS, I/F)
CN1652
CN1651
FUSE
CEK1208(10A)
OUTER IF
1601-1700
Vehicle I/F
PWR AMP
IC1201
PAL007C
sensing "low voltage" or "reset" "emergency MUTE"
C2/3
C1/3

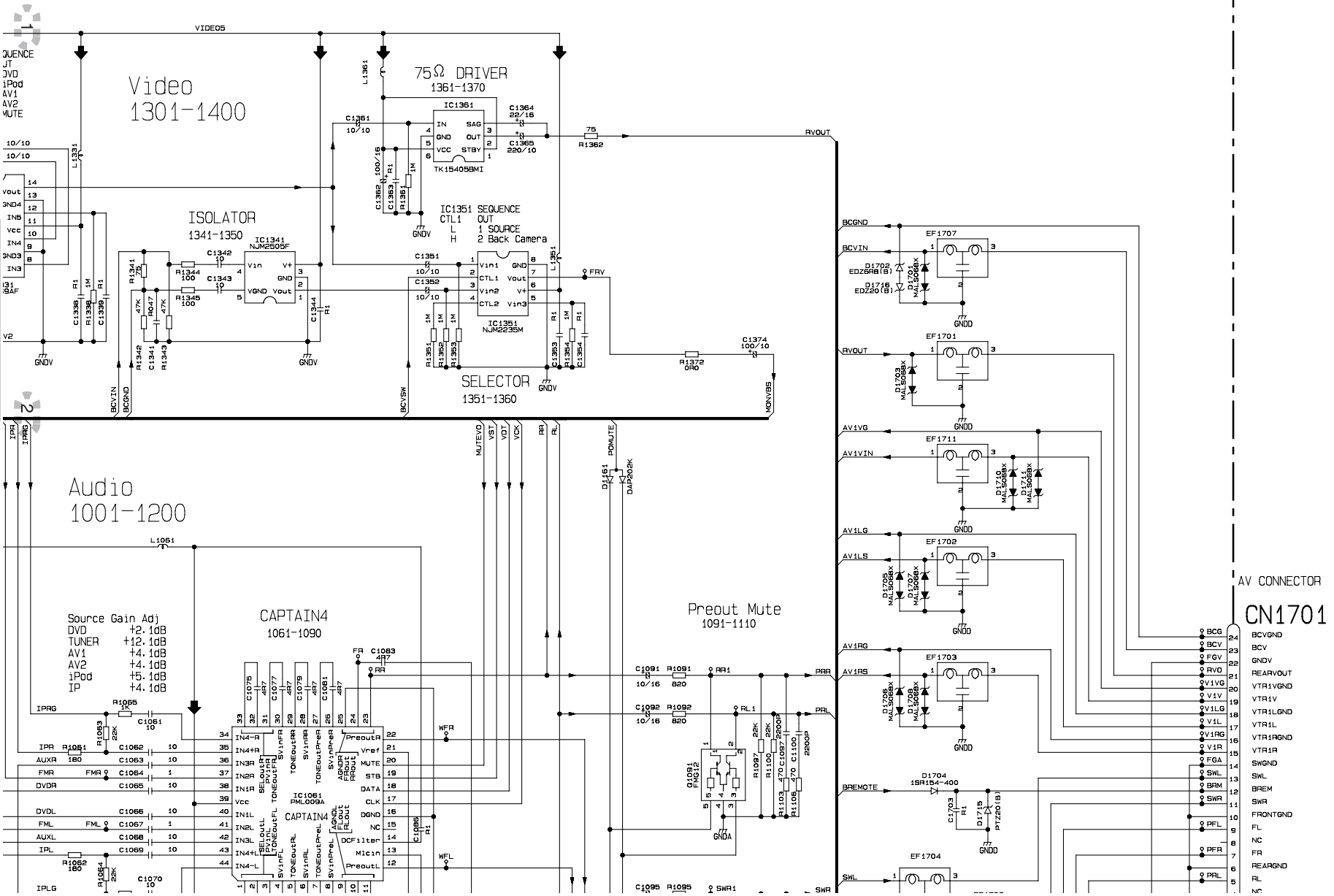
3.12 AV UNIT (A/V)(GUIDE PAGE)



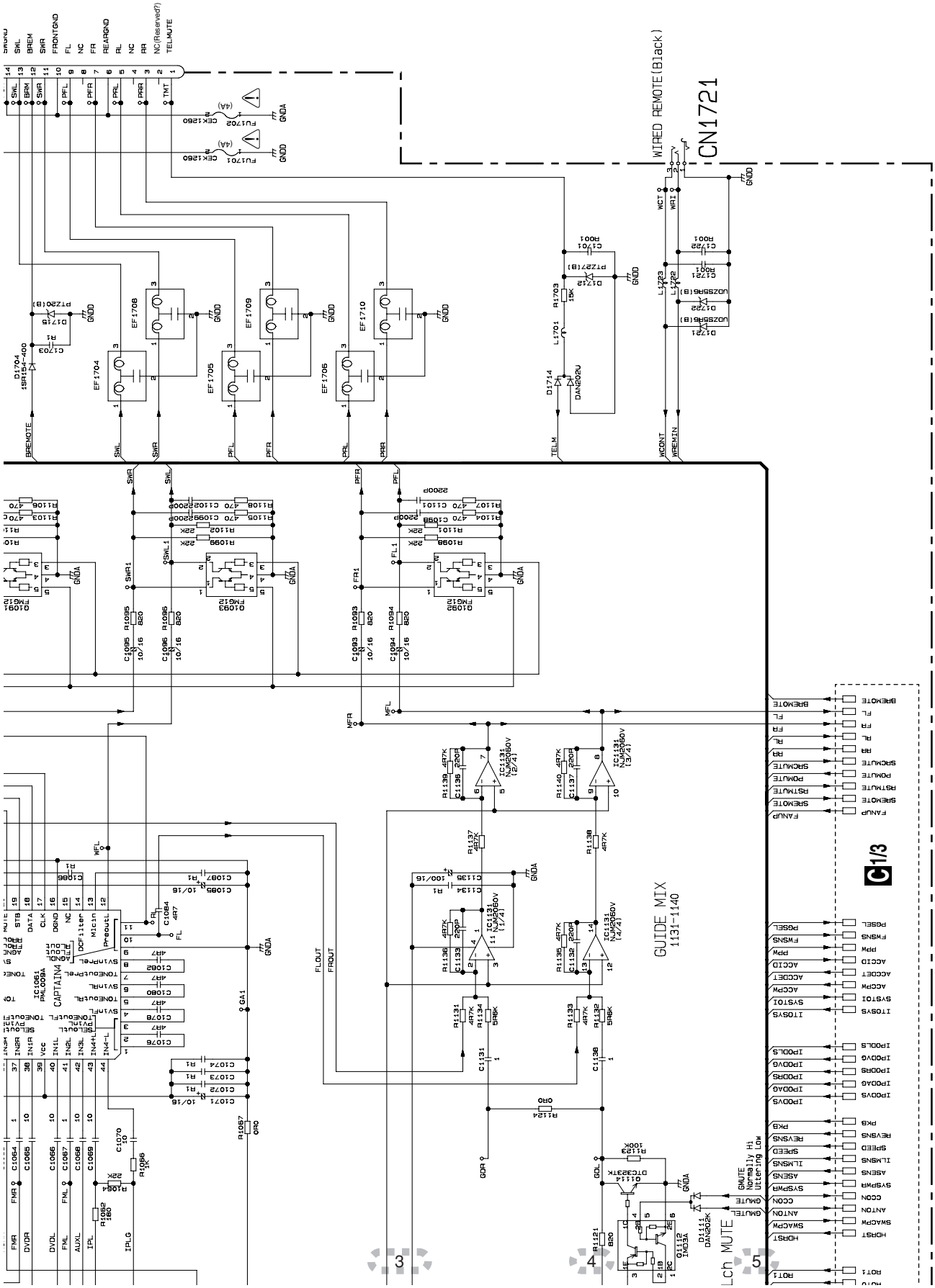
C2/3 AV UNIT (A/V)

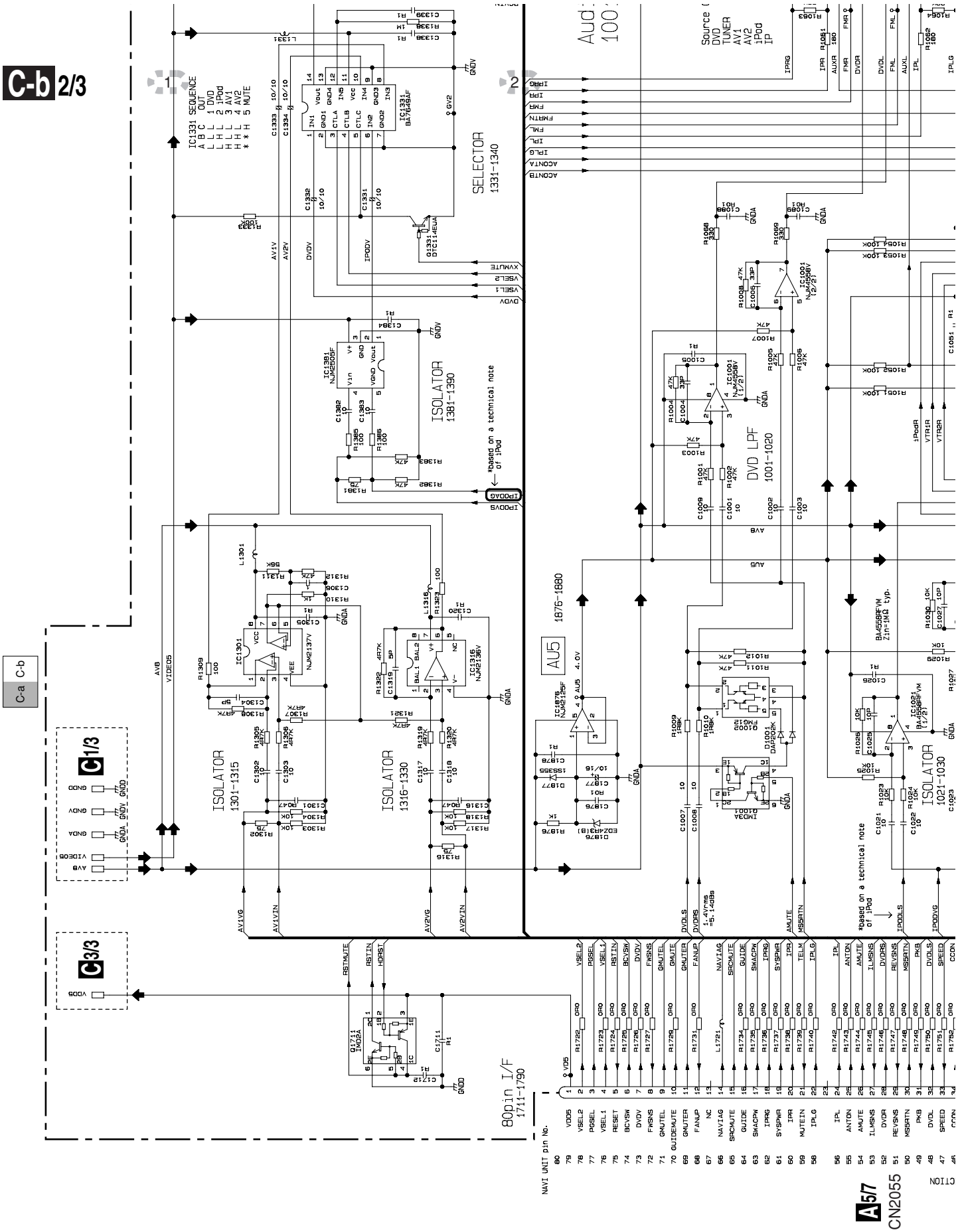


C2/3 AV UNIT (A/V)



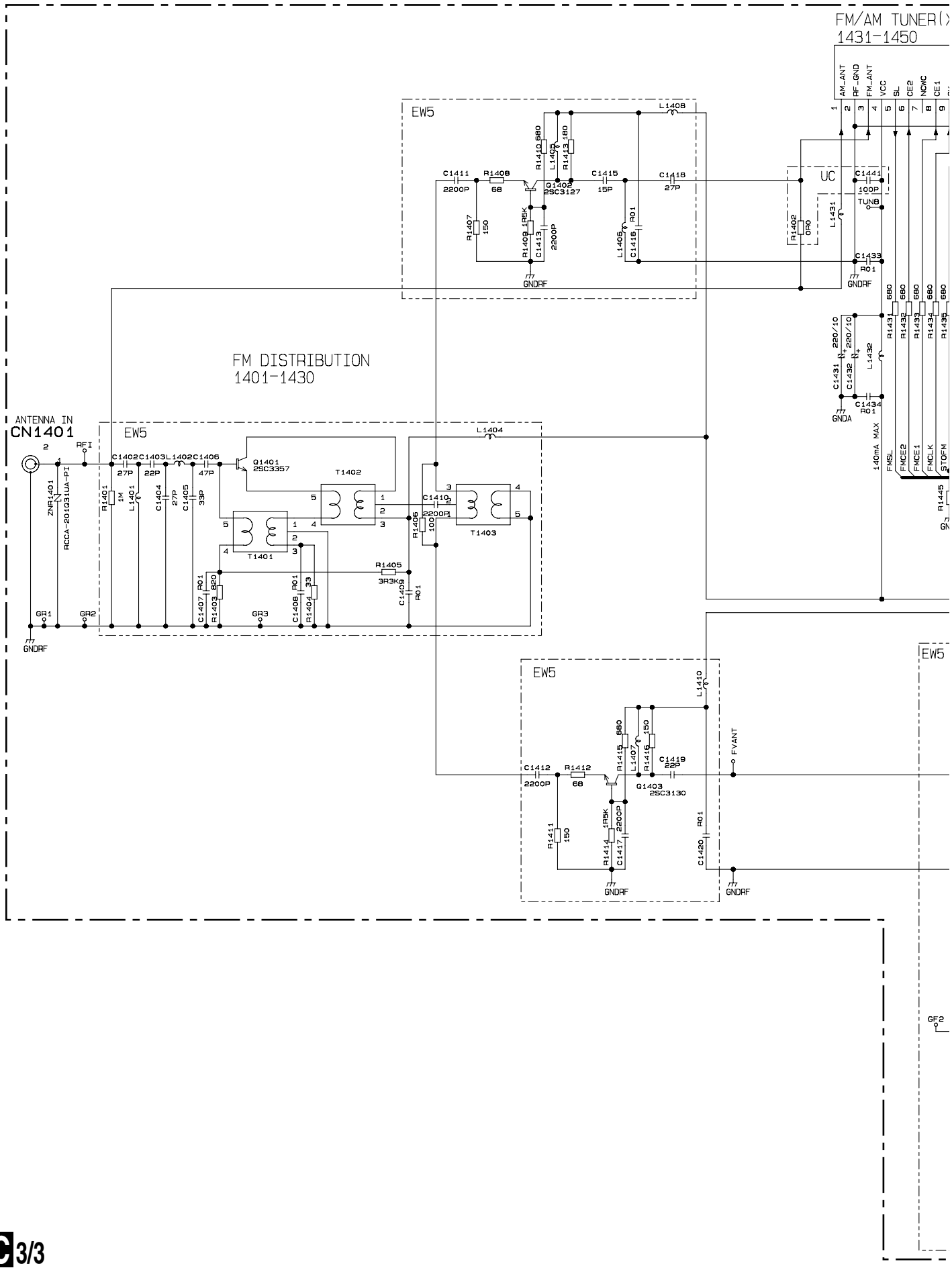
AVIC-D3/XU/UC


WIRED REMOTE(Black)
CN1721
GUIDE MIX
1131-1140
C1/3
C-b 2/3
C-a C-b
AVIC-D3/XU/UC
87

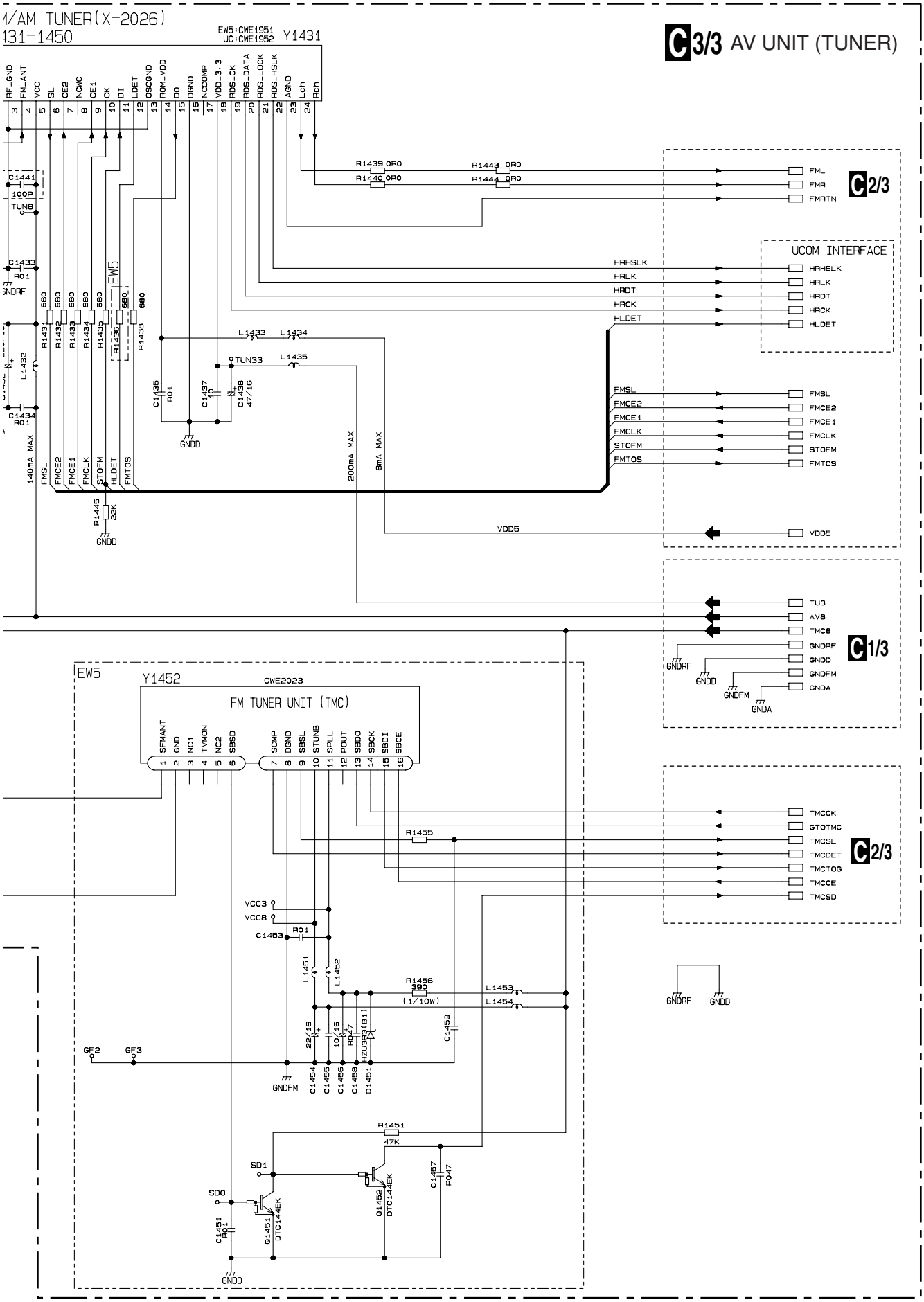

SELECTOR 1331-1340
ISOLATOR 1381-1390
ISOLATOR 1301-1315
ISOLATOR 1316-1330
DVD LPF 1001-1020
ISOLATOR 1021-1030
AU5 1876-1880
80pin I/F 1711-1790
C-a C-b
C1/3
C3/3
Source
DVD
TUNER
AV1
AV2
iPod
IP
*based on a technical note of iPod
CN2055

C-b 2/3
C-a 2/3
C3/3
A5/7
CN2055
CN1711
ISOLATOR 1021-1030
ISOLATOR 1031-1040
ISOLATOR 1041-1050
ISOLATOR
SELECTOR 1051-1060
GUIDE 1111-1130
LPF AMP 10.6kHz 18dB/oct +4.6dB
Lch MUTE
IC1051 SEQUENCE
A B OUT
L L 0 iPod
H L 1 AV1
L H 2 AV2
H H 3 OFF
BA4558RFVM Zin=1MΩ typ.
*based on a technical note of iPod
TO NAVI MOTHER UNIT:SYSTEM u-com SECTION
80pin is not available
C-a C-b
AVIC-D3/XU/UC
89

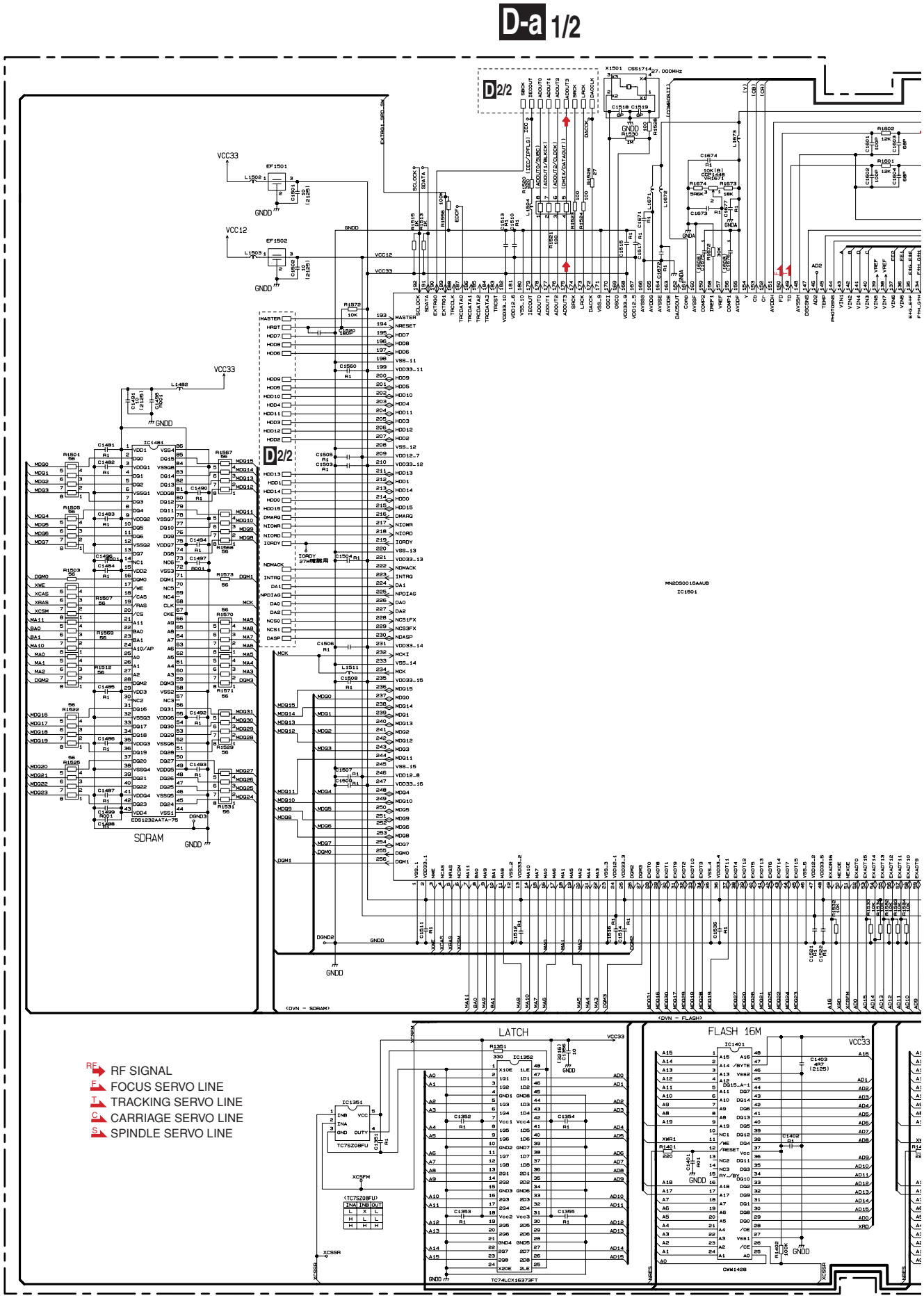
3.13 AV UNIT (TUNER)

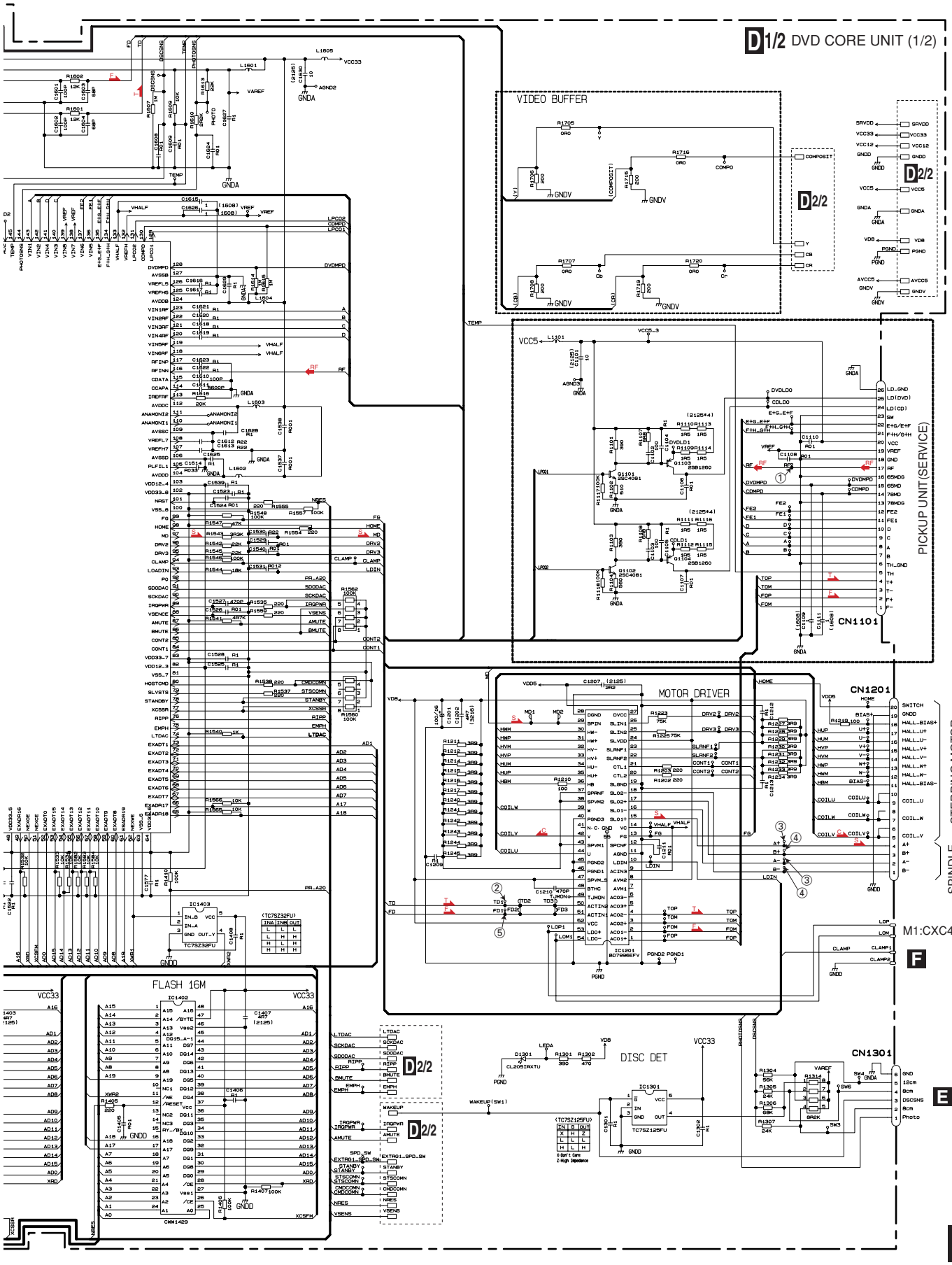


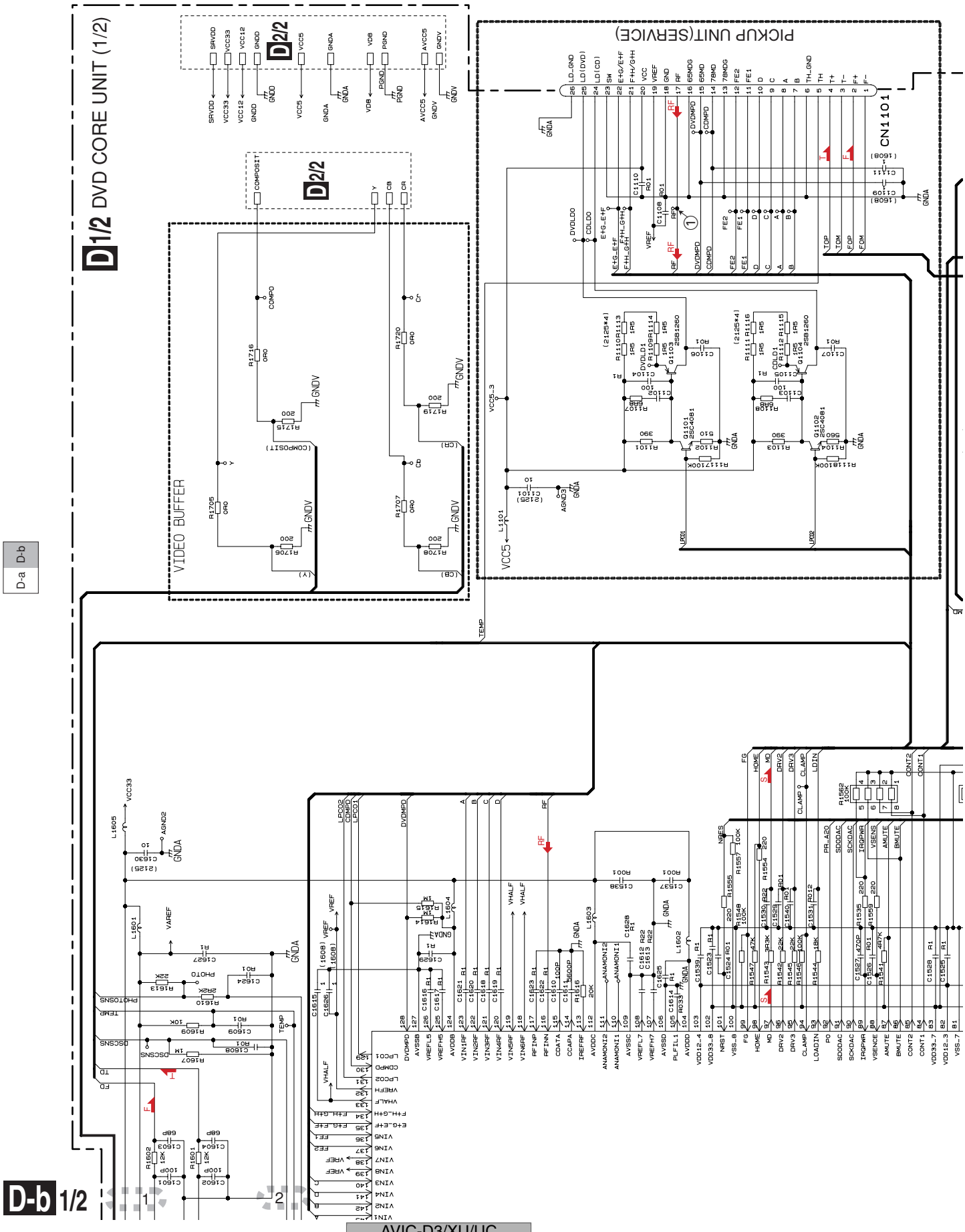
C3/3


C3/3 AV UNIT (TUNER)
EW5:CWE1951
UC:CWE1952
Y1431
RF_GND
FM_ANT
VCC
SL
CE2
NCWC
CE1
CK
DI
LDET
OSCGND
ROM_VDD
DO
DGND
NCCOMP
VDD_3.3
RDS_CK
RDS_DATA
RDS_LOCK
RDS_HSLK
AGND
Lch
Rch
R1439 0R0
R1440 0R0
R1443 0R0
R1444 0R0
FML
FMR
FMRTN
C2/3
UCOM INTERFACE
HRHSLK
HRLK
HRDT
HRCK
HLDET
FMSL
FMCE2
FMCE1
FMCLK
STOFM
FMTOS
VDD5
TU3
AV8
TMC8
GNDRF
GNDD
GNDFM
GNDA
C1/3
EW5
Y1452
CWE2023
FM TUNER UNIT (TMC)
SFMANT
GND
NC1
TVMON
NC2
SBSD
SCMP
DGND
SBSL
STUNB
SPLL
POUT
SBDO
SBCK
SBDI
SBCE
TMCCK
GTOTMC
TMCSL
TMCDET
TMCTOG
TMCCE
TMCSD
R1455
VCC3
VCC8
R1456
390
(1/10W)
L1453
L1454
GF2
GF3
R1451
47K
SD1
SDO
Q1451
DTC144EK
Q1452
DTC144EK
C3/3

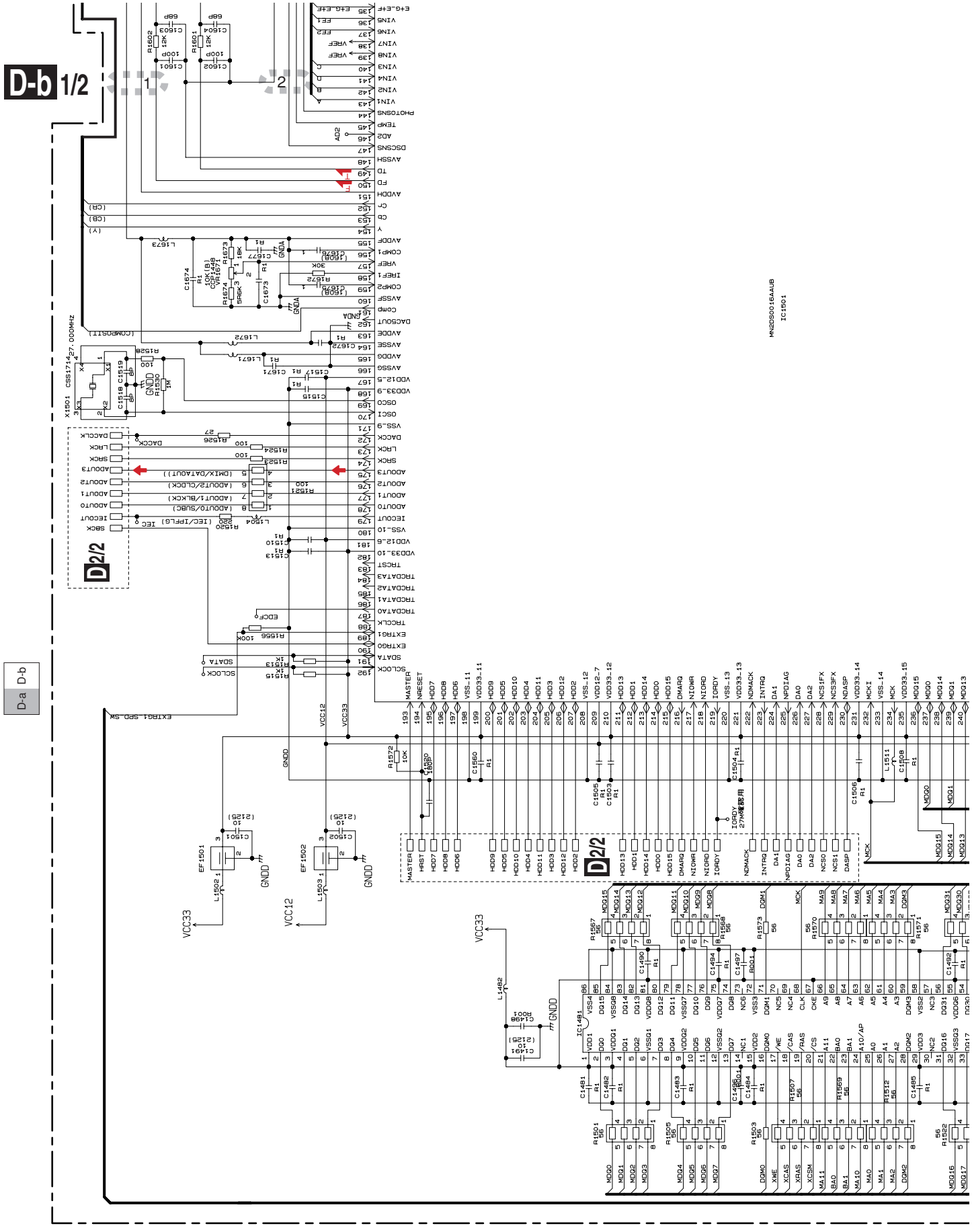
3.14 DVD CORE UNIT (1/2)(GUIDE PAGE)




D1/2 DVD CORE UNIT (1/2)
VIDEO BUFFER
PICKUP UNIT(SERVICE)
CN1101
MOTOR DRIVER
CN1201
STEPPING MOTOR M2:CXM1364
SPINDLE MOTOR M3:CXM1362
M1:CXC4912
FLASH 16M
DISC DET
CN1301
D2/2
D1/2


D1/2 DVD CORE UNIT (1/2)
D2/2
D2/2
VIDEO BUFFER
PICKUP UNIT(SERVICE)
CN1101
D-a D-b
D-b 1/2

SPINDLE MOTOR M3:CXM1362
STEPPING MOTOR M2:CXM1364
M1:CXC4912
CN1201
CN1101
CN1301
MOTOR DRIVER
DISC DET
FLASH 16M
D2/2
D2/2
D-a
D-b
D-b 1/2


D-b 1/2
D-a 1/2
D2/2
D-a D-b
MN2DS0016AUB
IC1501

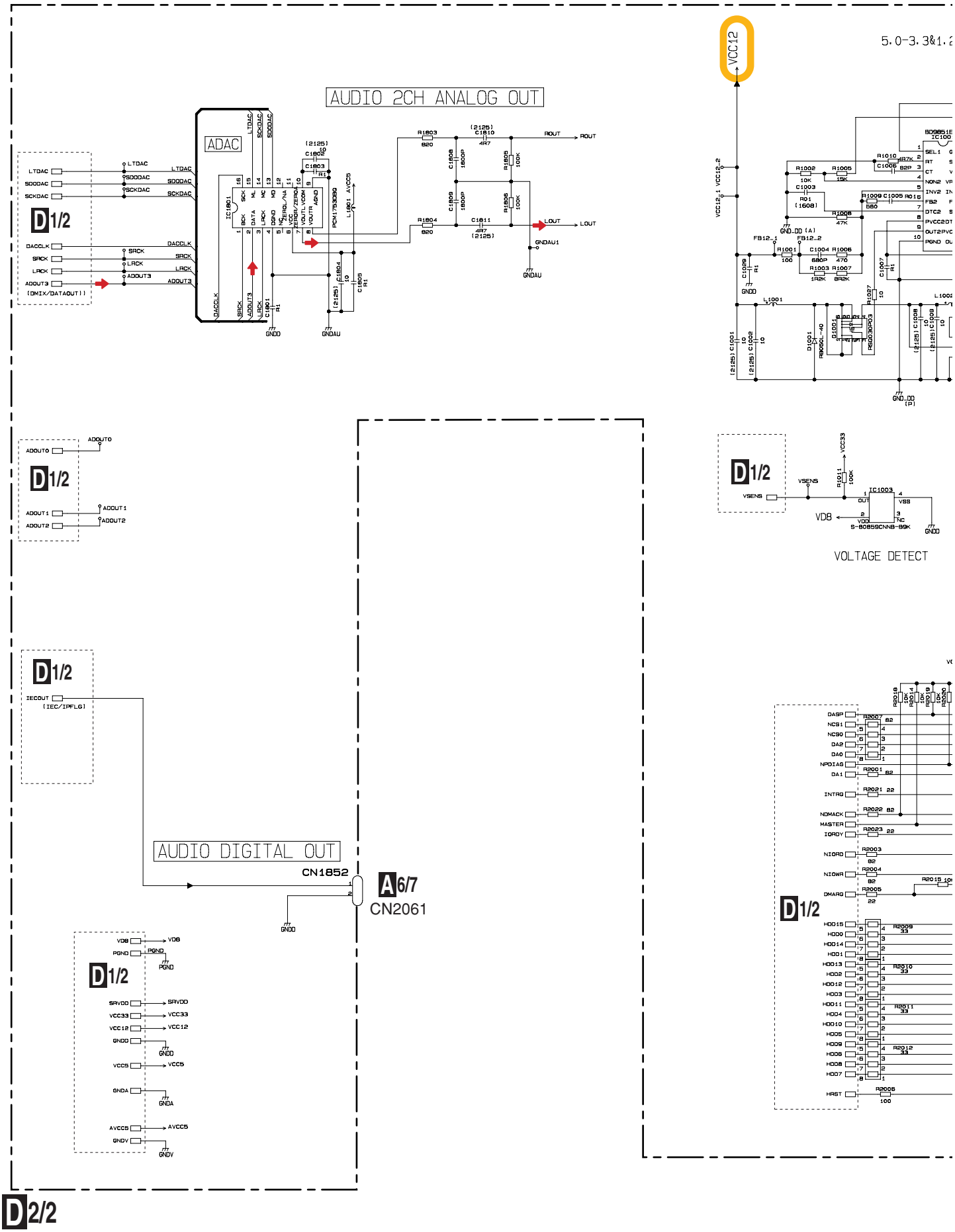
D-b 1/2

D-a D-b

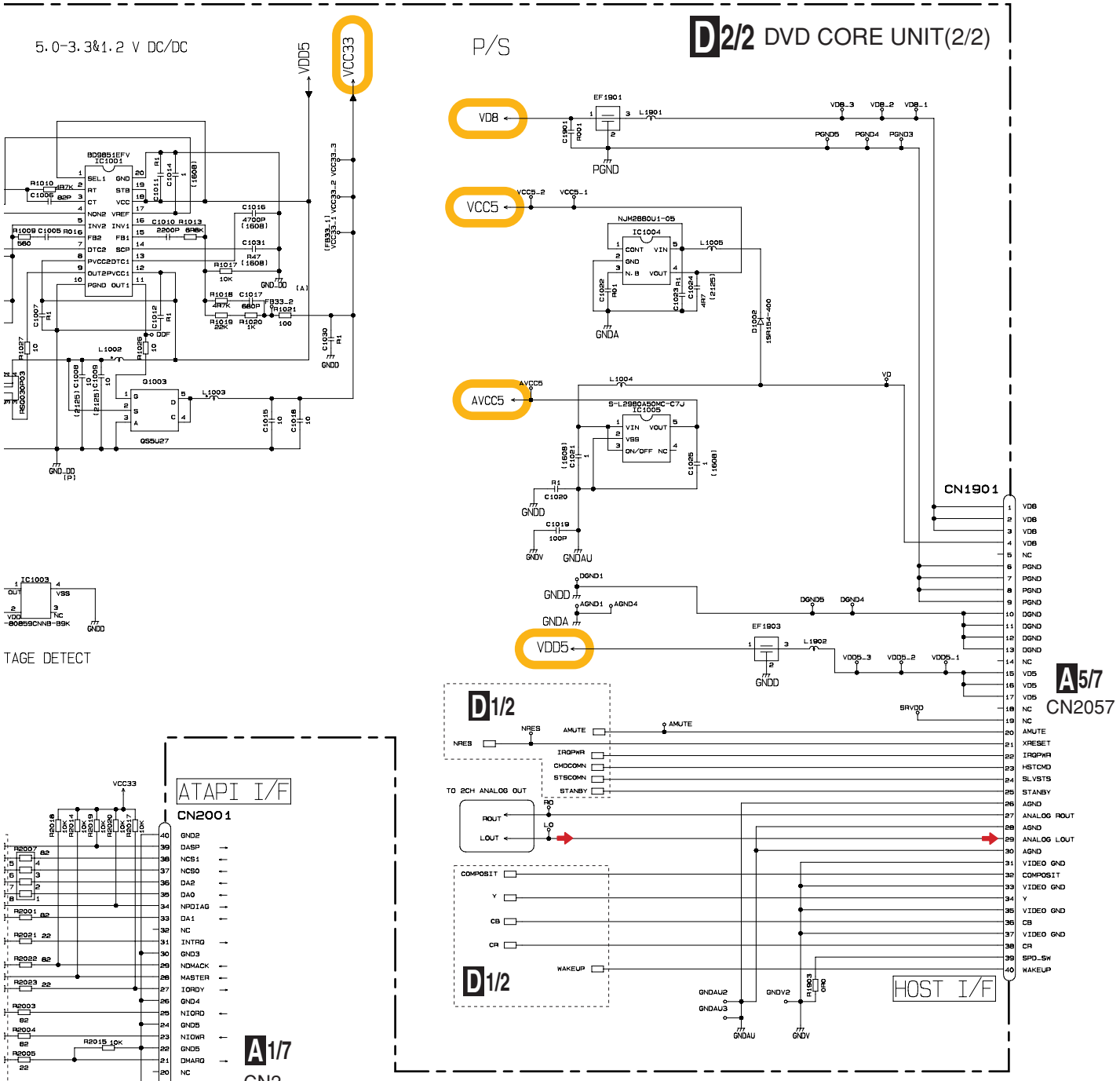
RF RF SIGNAL
F FOCUS SERVO LINE
T TRACKING SERVO LINE
C CARRIAGE SERVO LINE
S SPINDLE SERVO LINE

D-a 1/2

3.15 DVD CORE UNIT (2/2)



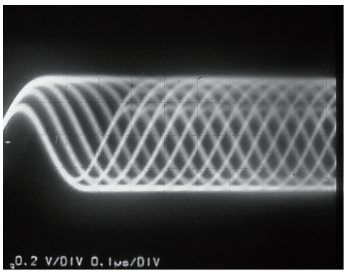
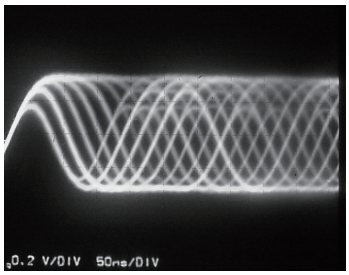
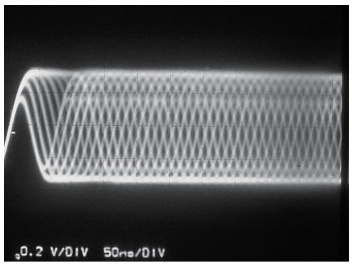
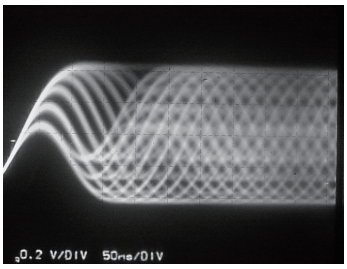
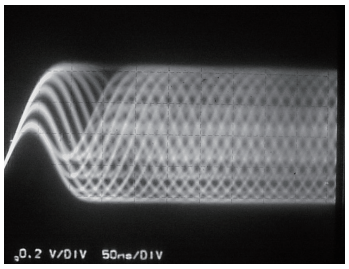
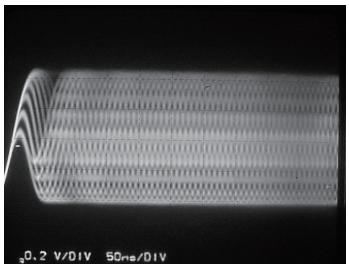
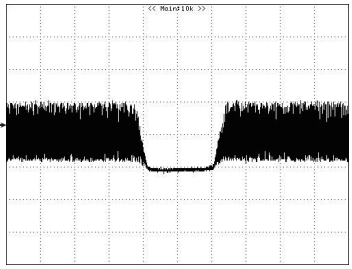
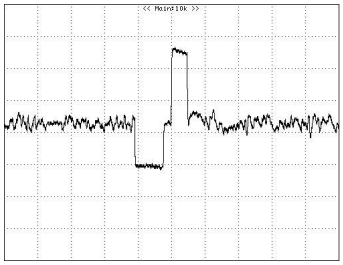
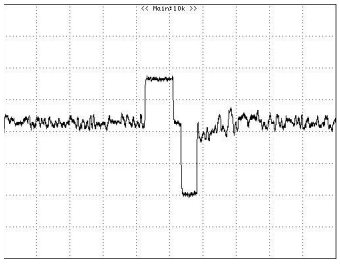
D2/2 DVD CORE UNIT(2/2)



● Waveforms

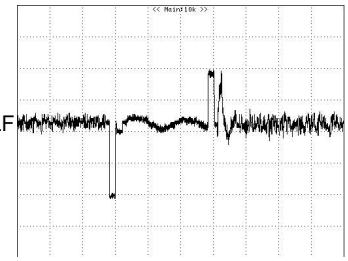
Note:1. The encircled number denote measuring points in the circuit diagram.
2. Reference voltage: 1.65 V(TD1,FD1)(=VHALF)
2.2 V(RF)(=VREF)
In the waveform, it is seeing on the GND standard.
Offset of 1.65 V or 2.2 V is put in.

1 RF
2 TD1
3 A+, A-
4 B+, B-
5 FD1

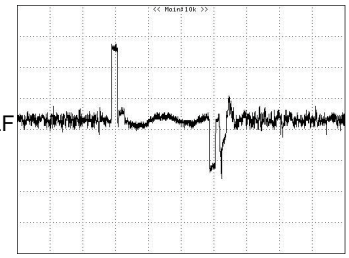
①RF 0.2 V/div(AC) 0.1 µs/div CDRF(x 4 CLV) 	①RF 0.2 V/div(AC) 50 ns/div CDRF(x 20 CAV Inner peripheral) 	①RF 0.2 V/div(AC) 50 ns/div CDRF(x 20 CAV Peripheral) 
①RF 0.2 V/div(AC) 50 ns/div DVDRF(x 1.3 ZCAV) 	①RF 0.2 V/div(AC) 50 ns/div DVDRF(x 5 CAV Inner peripheral) 	①RF 0.2 V/div(AC) 50 ns/div DVDRF(x 5 CAV Peripheral) 
①RF 0.5 V/div 100 µs/div DVDRF(BD1 mm) 2.2 V→ 	②TD1 0.1 V/div 100 µs/div Interval FWD VHALF 	②TD1 0.1 V/div 100 µs/div Interval REV VHALF 

A

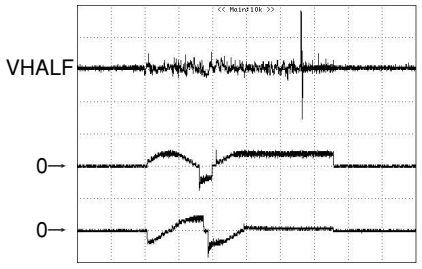
②TD1 0.1 V/div 500 µs/div
Multi 32 FWD



②TD1 0.1 V/div 500 µs/div
Multi 32 REV

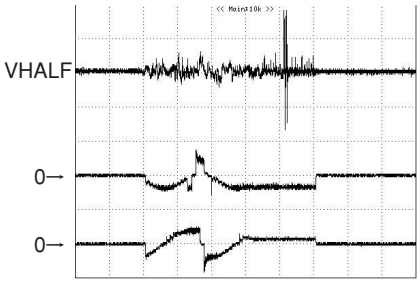


②CH1 : TD1 0.5 V/div 10 ms/div
③CH2 : A^+-A^- 10.0 V/div 10 ms/div
(LPF of the oscilloscope is set to 10 kHz)
④CH3 : B^+-B^- 10.0 V/div 10 ms/div
(LPF of the oscilloscope is set to 10 kHz)
Traverse 900 FWD(Short)

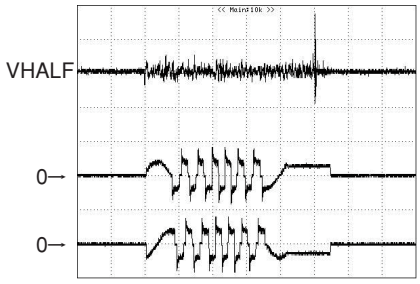


B

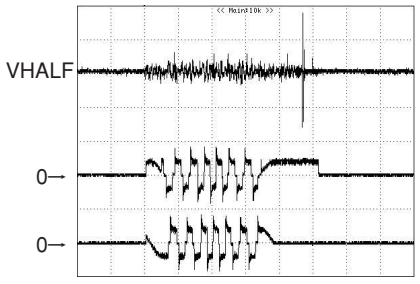
②CH1 : TD1 0.5 V/div 10 ms/div
③CH2 : A^+-A^- 10.0 V/div 10 ms/div
(LPF of the oscilloscope is set to 10 kHz)
④CH3 : B^+-B^- 10.0 V/div 10 ms/div
(LPF of the oscilloscope is set to 10 kHz)
Traverse 900 REV(Short)



②CH1 : TD1 0.5 V/div 20 ms/div
③CH2 : A^+-A^- 10.0 V/div 20 ms/div
(LPF of the oscilloscope is set to 10 kHz)
④CH3 : B^+-B^- 10.0 V/div 20 ms/div
(LPF of the oscilloscope is set to 10 kHz)
Traverse 5 000 FWD(Long)

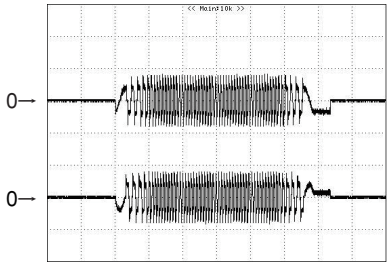


②CH1 : TD1 0.5 V/div 20 ms/div
③CH2 : A^+-A^- 10.0 V/div 20 ms/div
(LPF of the oscilloscope is set to 10 kHz)
④CH3 : B^+-B^- 10.0 V/div 20 ms/div
(LPF of the oscilloscope is set to 10 kHz)
Traverse 5 000 REV(Long)

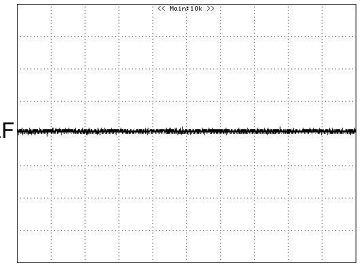


C

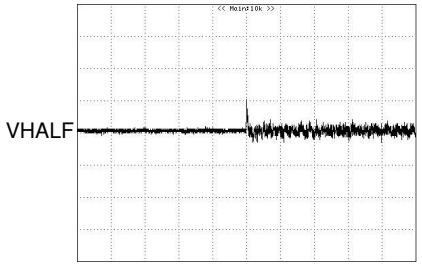
③CH : A^+-A^- 10 V/div 50 ms/div
④CH2 : B^+-B^-
ID search Inside → Outside



②TD1 0.5 Vdiv 20 ms/div
Play TD

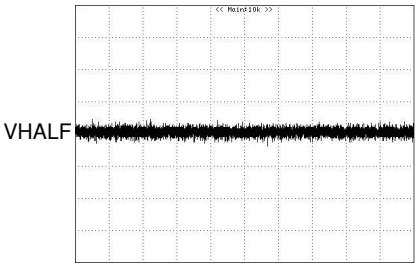


⑤FD1 0.5 V/div 1 ms/div
Focus Close

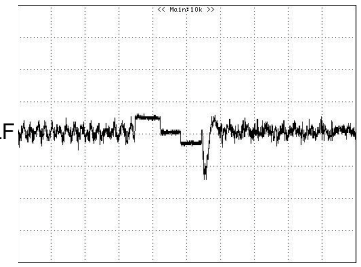


D

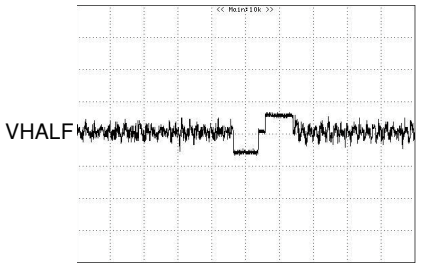
⑤FD1 0.5 V/div 20 ms/div
Play FD



⑤FD1 0.5 V/div 500 µs/div
Focus Jump L0→L1



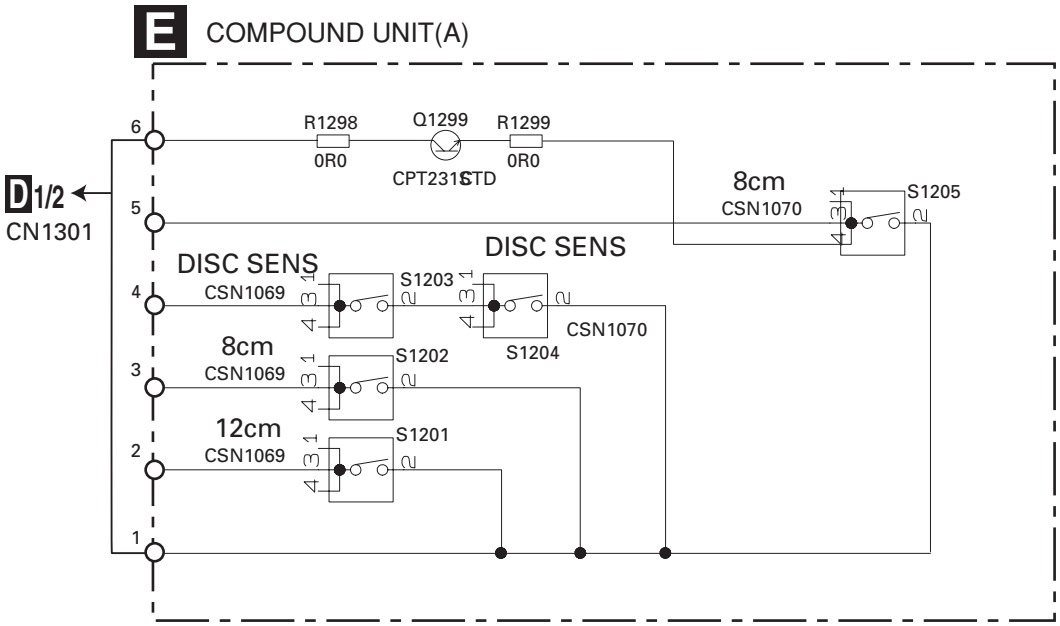
⑤FD1 0.5 V/div 500 µs/div
Focus Jump L1→L0

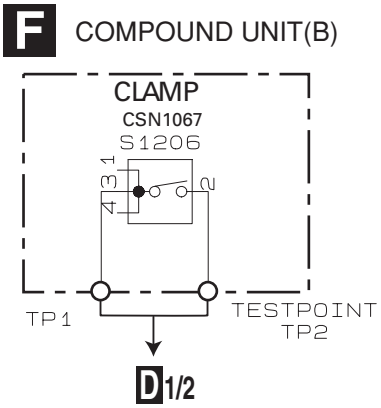


E

F

3.16 COMPOUND UNIT(A), COMPOUND UNIT(B)





E F

A

B

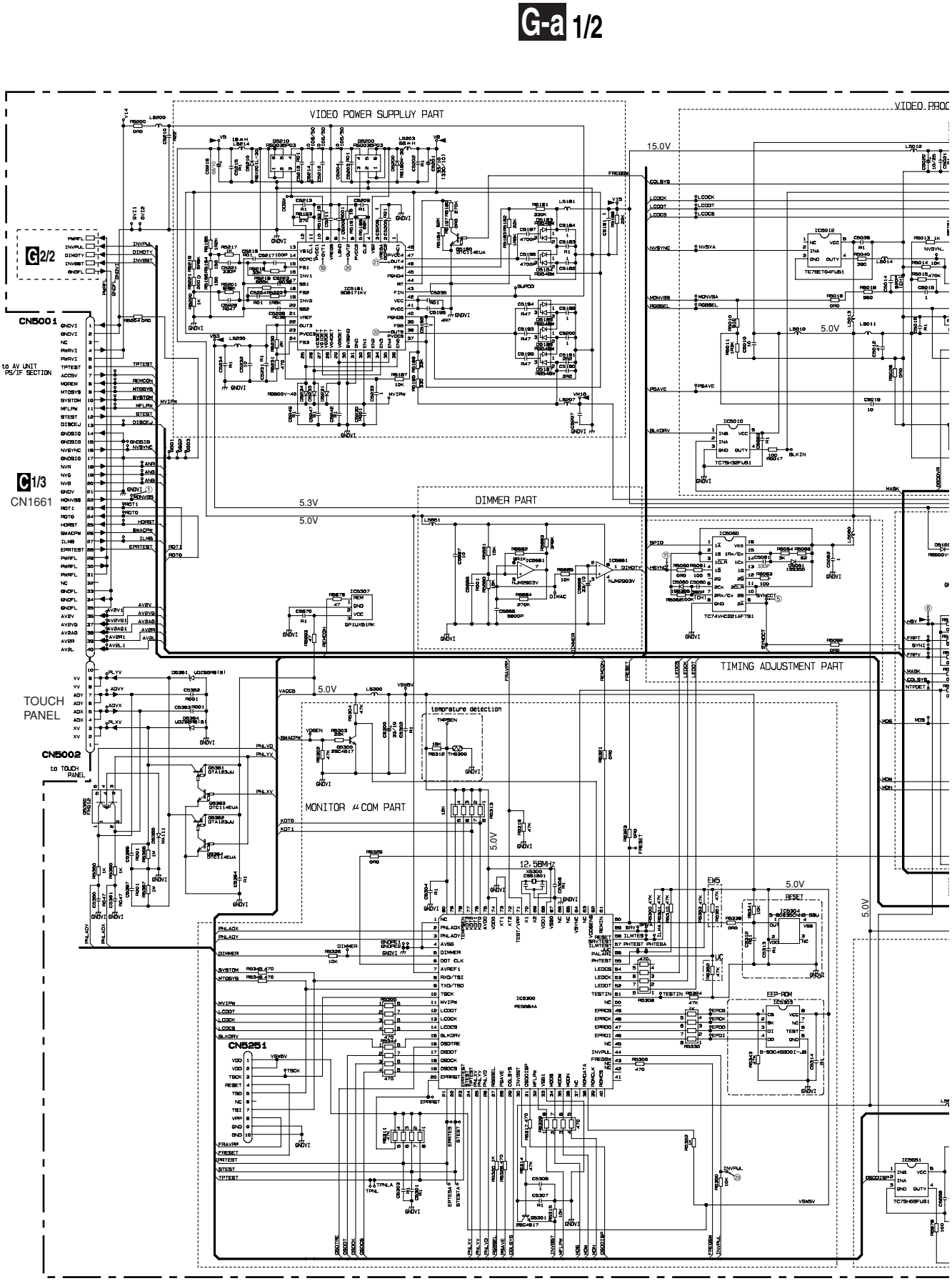
C

D

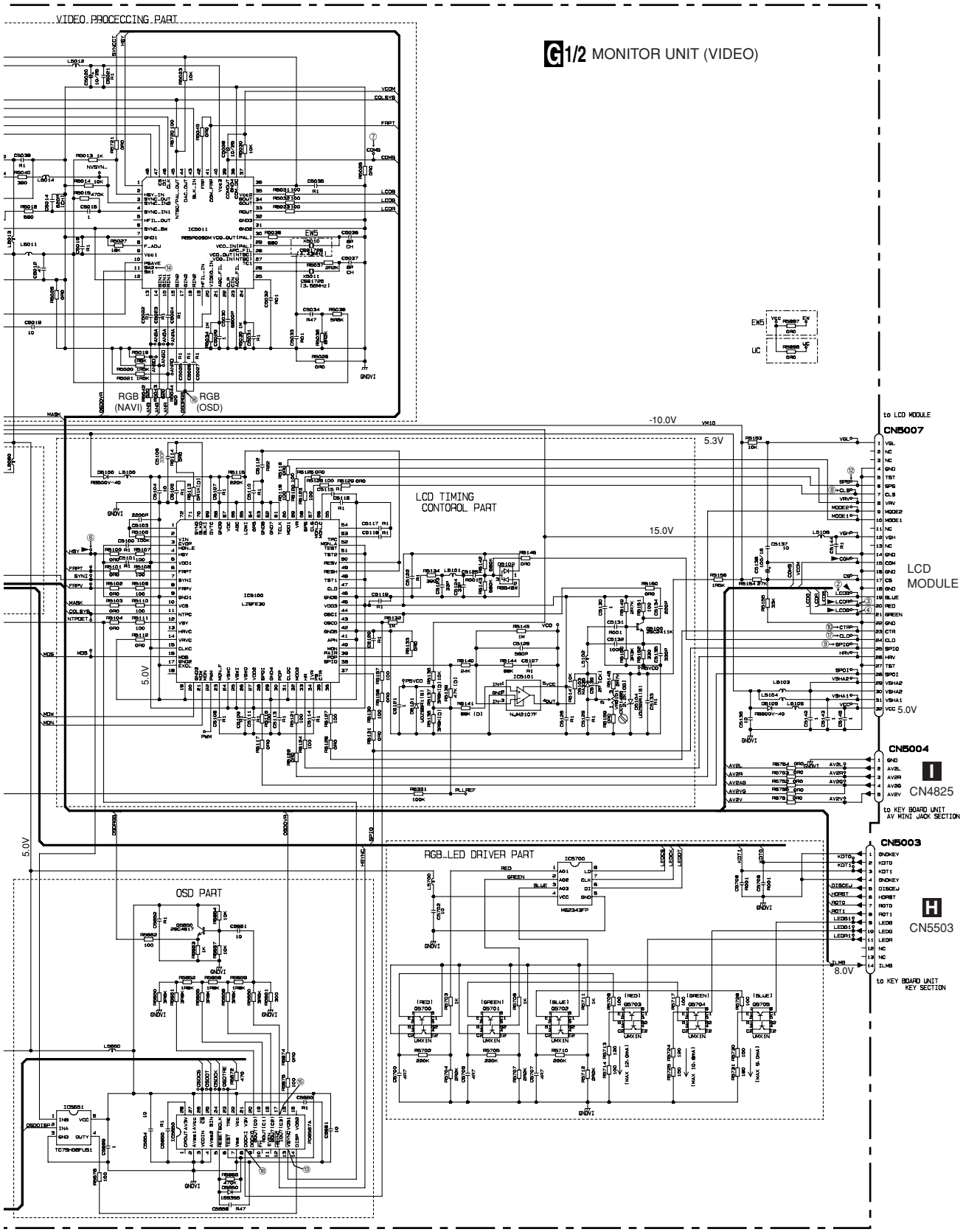
E

F

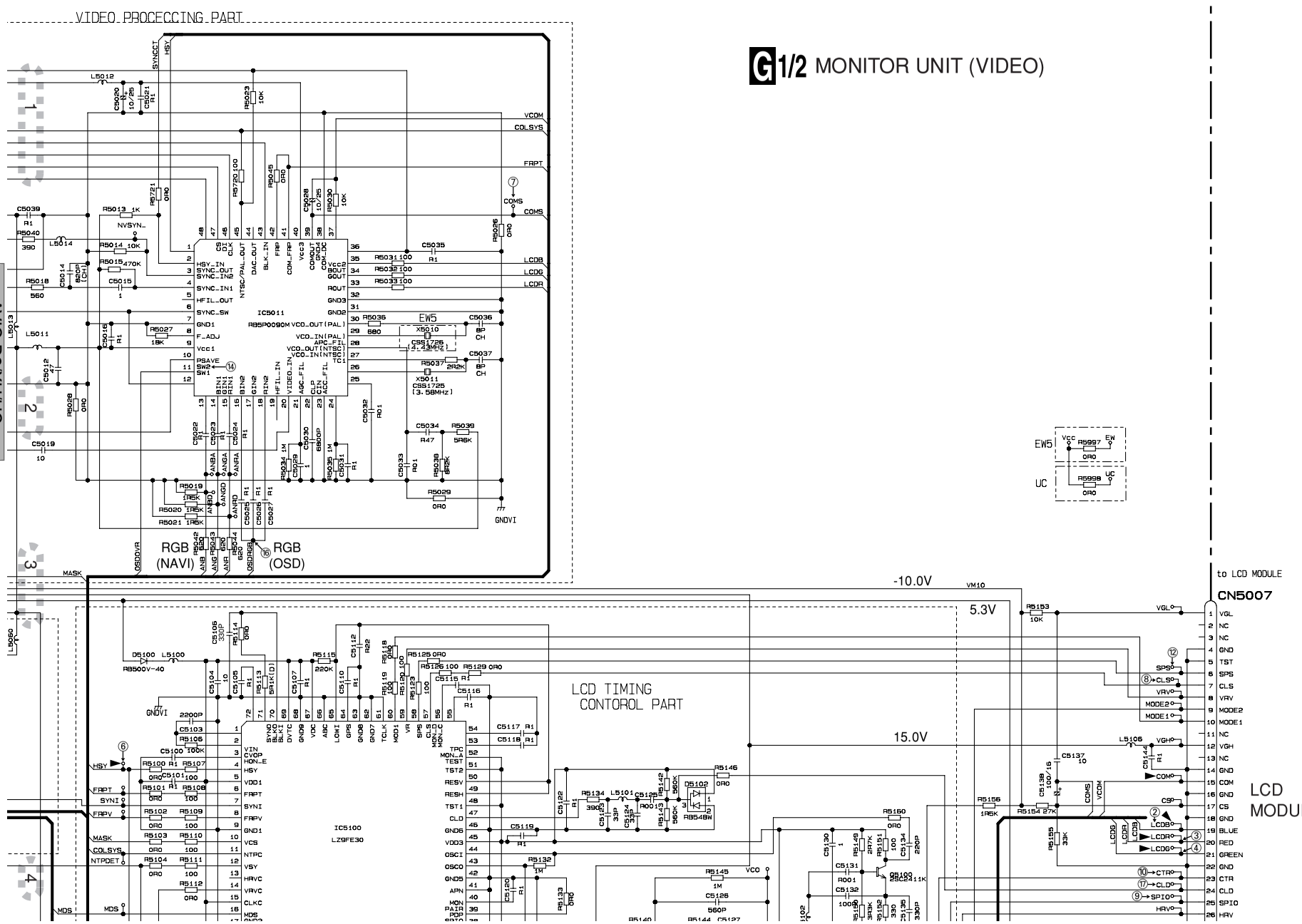
3.17 MONITOR UNIT (VIDEO)(GUIDE PAGE)

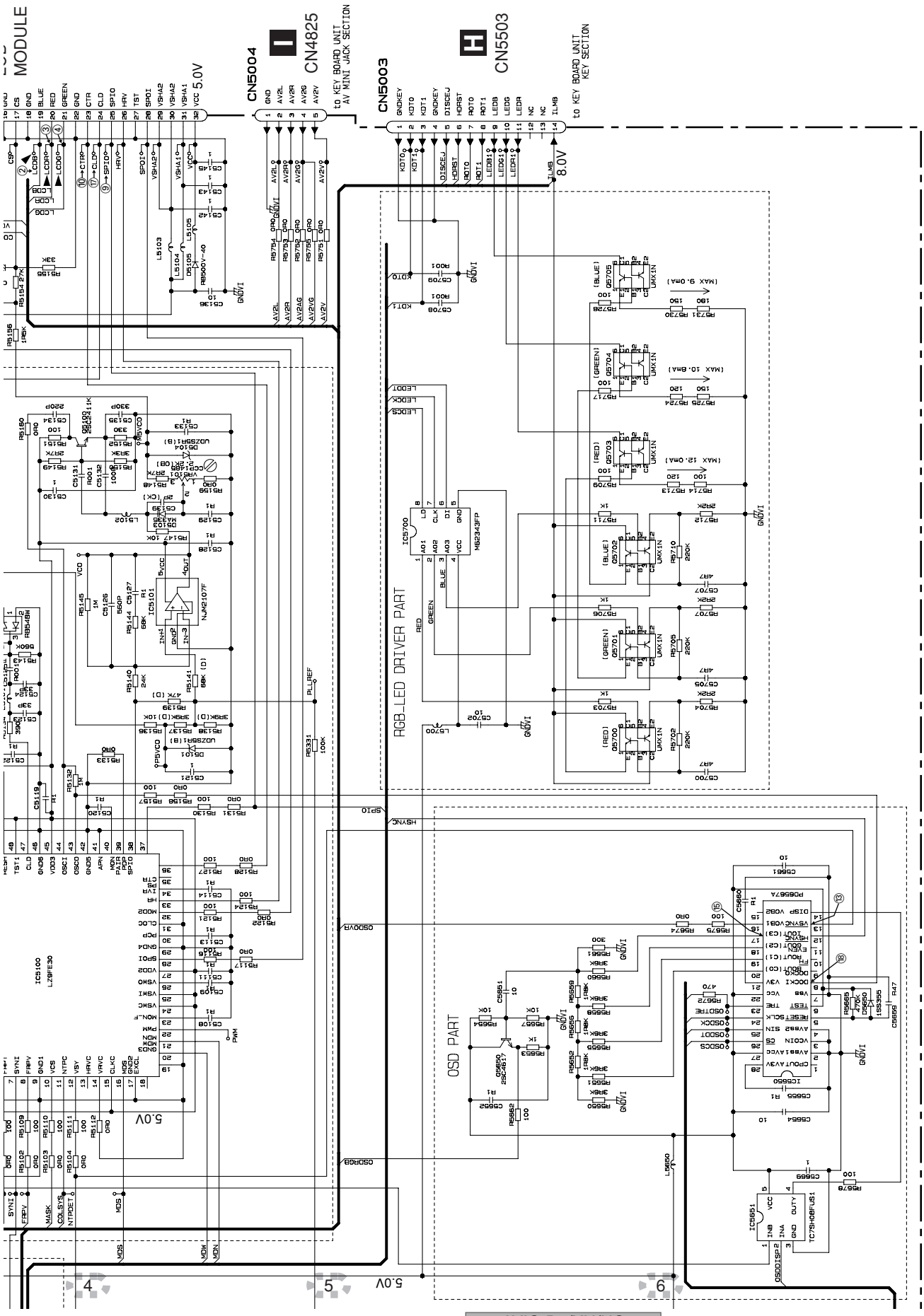


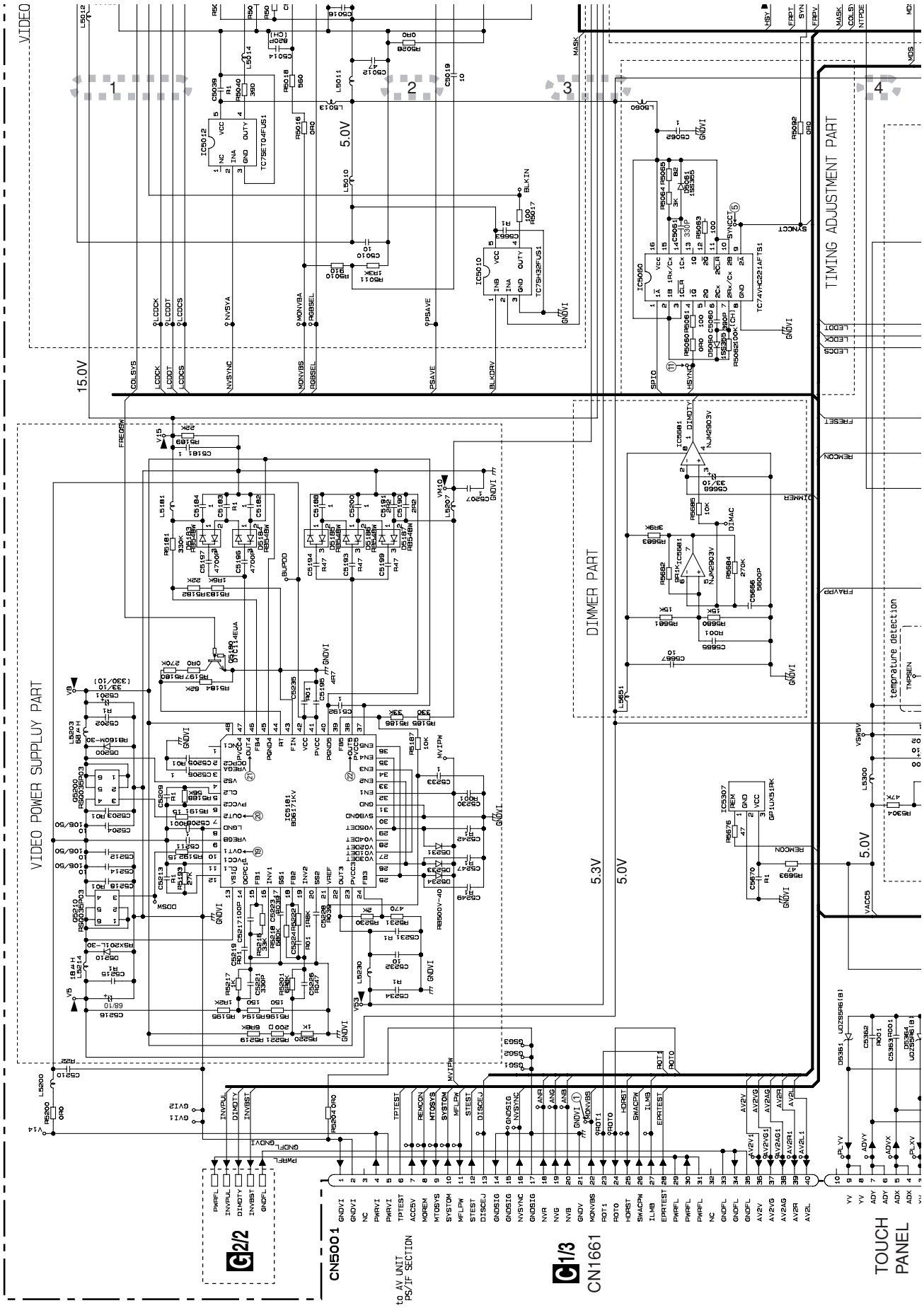
G 1/2 MONITOR UNIT (VIDEO)



G1/2 MONITOR UNIT (VIDEO)

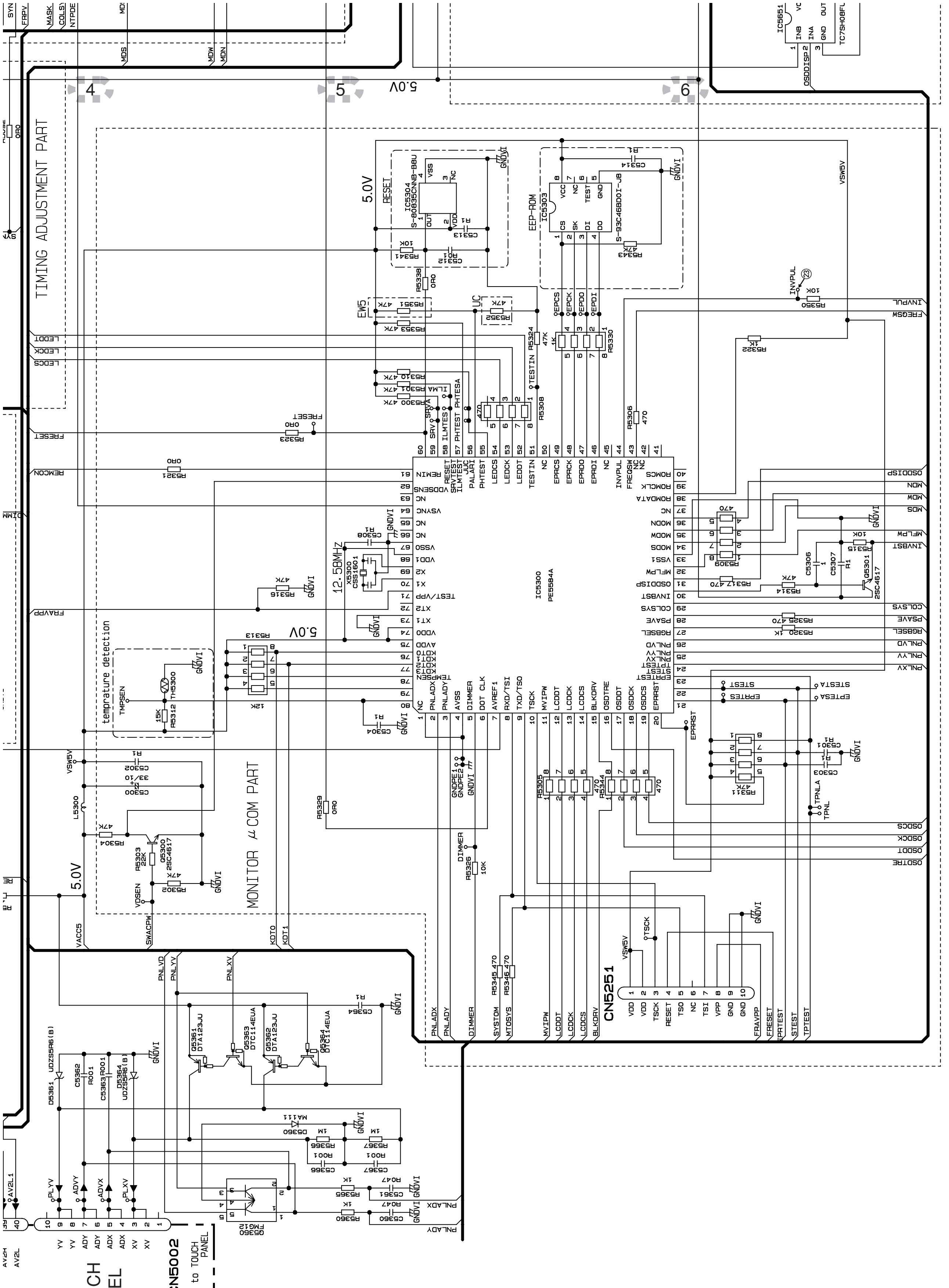



MODULE
CN5004
CN4825
to KEY BOARD UNIT
AV MINI JACK SECTION
CN5003
CN5503
to KEY BOARD UNIT
KEY SECTION
VCC 5.0V
8.0V
RGB-LED DRIVER PART
OSD PART
5.0V


VIDEO
TIMING ADJUSTMENT PART
DIMMER PART
VIDEO POWER SUPPLUY PART
TOUCH PANEL
CN5001
CN1661
G2/2
G1/3
to AV UNIT PS/IF SECTION
5.0V
5.3V
15.0V
temprature detection

A

G-b 1/2



B

C

D

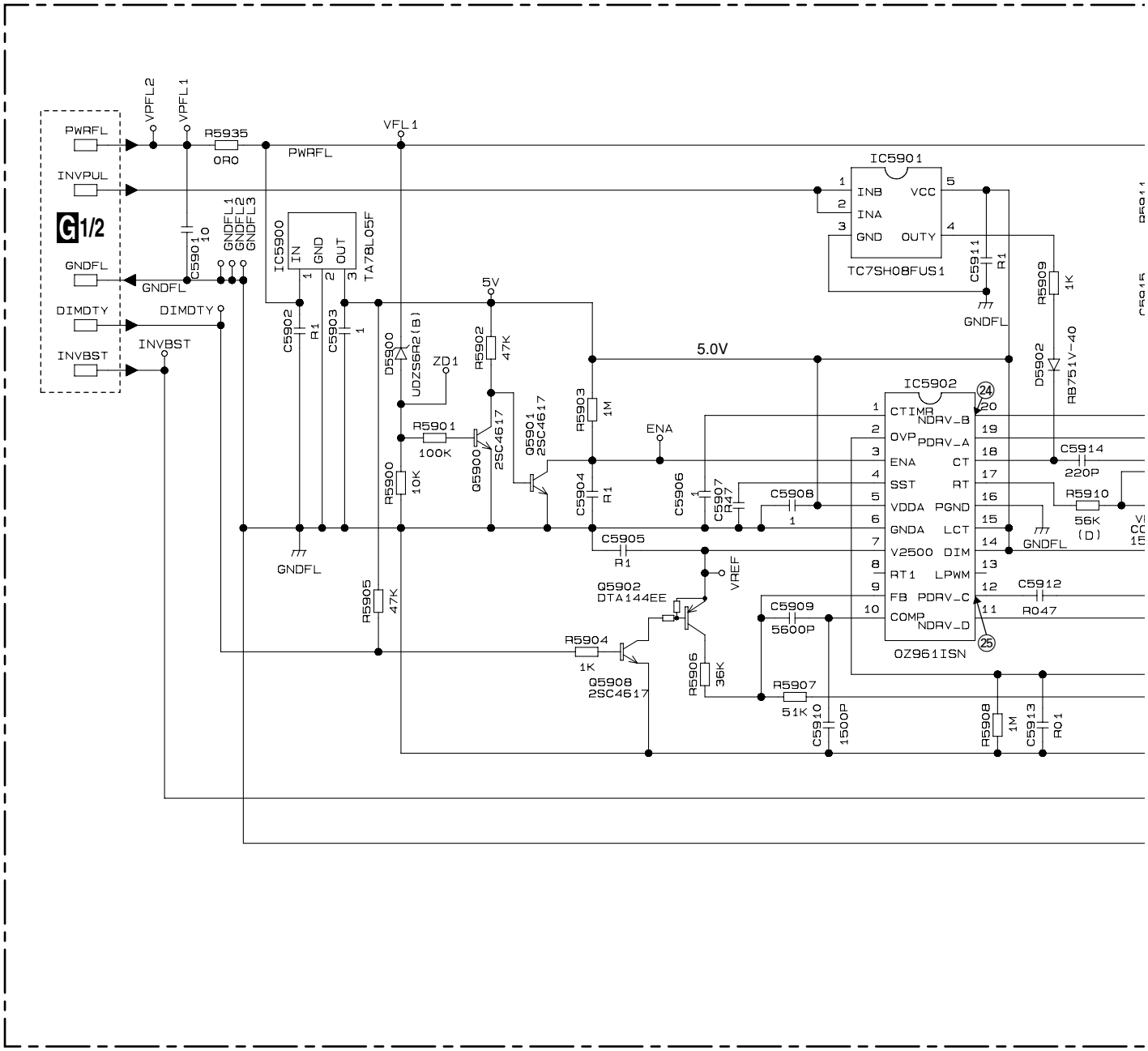
E

F

G-a G-b

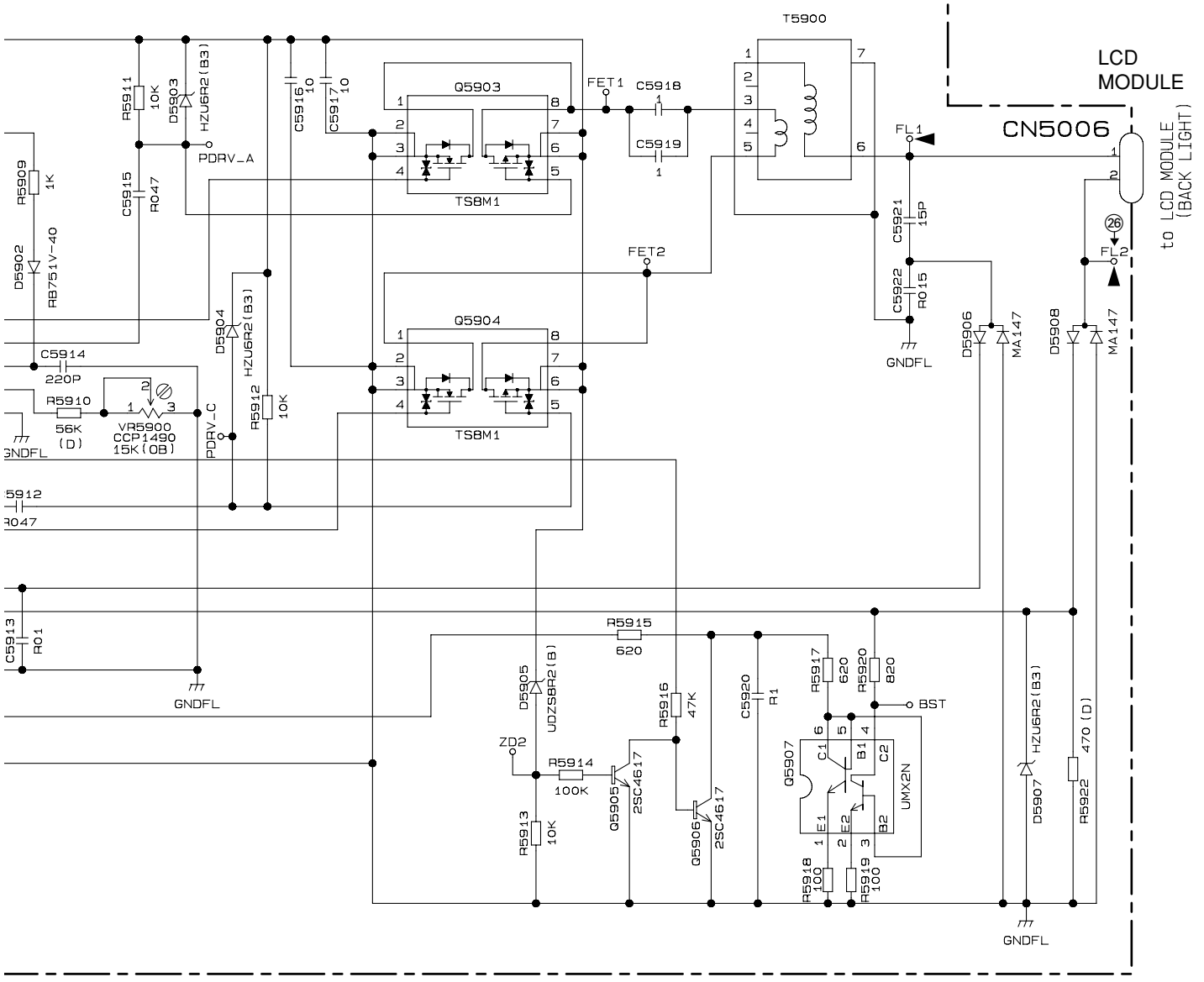
G-a 1/2

3.18 MONITOR UNIT (INVERTER)



G2/2

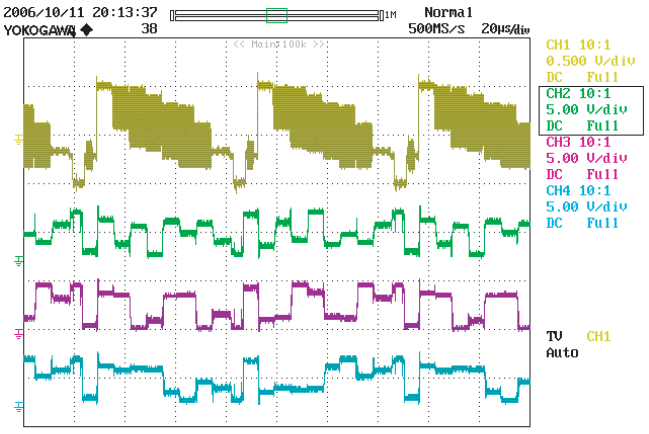
G2/2 MONITOR UNIT (INVERTER)



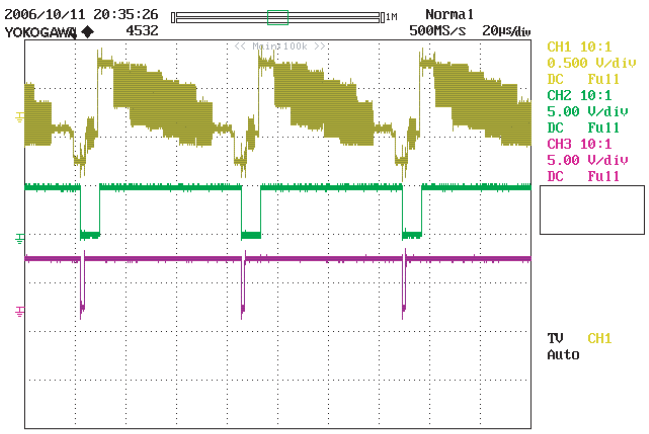
● Waveforms

The encircled number denote measuring pointes in the circuit diagram.

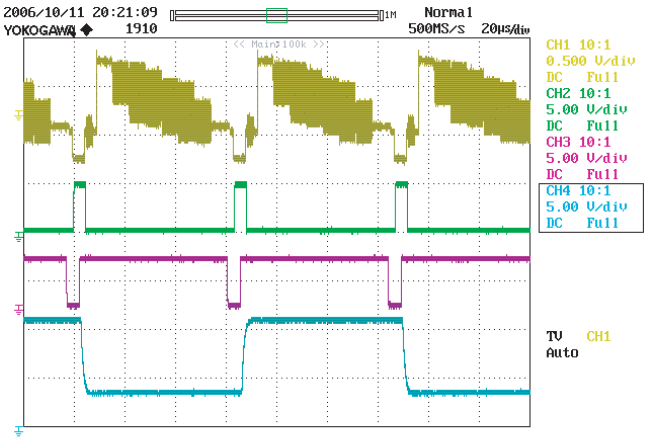
DVD TEST DISC : State of color bar display
① CH1 : MONVBS ③ CH3 : LCDR
② CH2 : LCDB ④ CH4 : LCDG



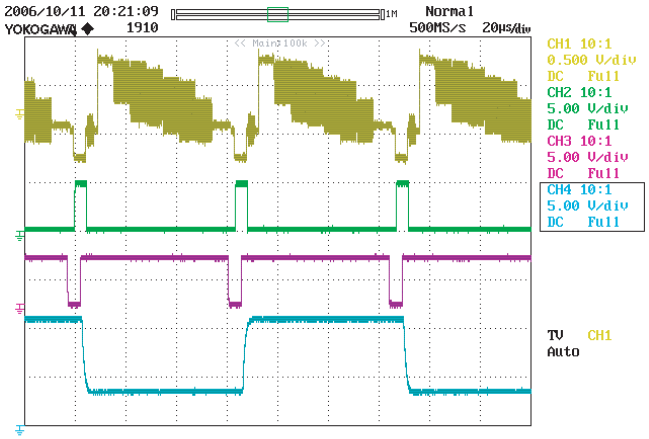
DVD TEST DISC : State of color bar display
① CH1 : MONVBS ⑪ CH3 : HSYNC
⑨ CH2 : SPIO



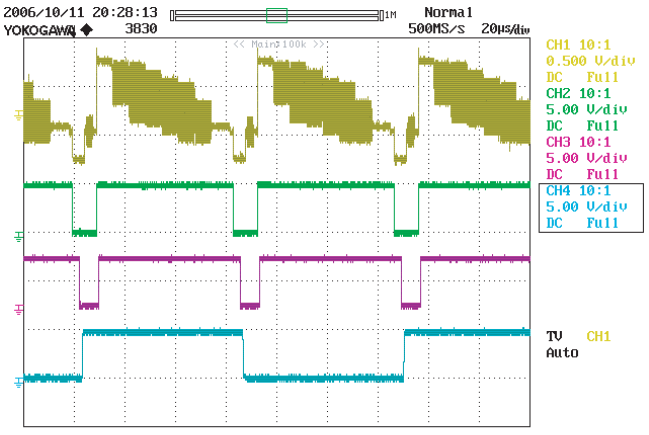
DVD TEST DISC : State of color bar display
① CH1 : MONVBS ⑥ CH3 : HSY
⑤ CH2 : SYNCCT ⑦ CH4 : COMS



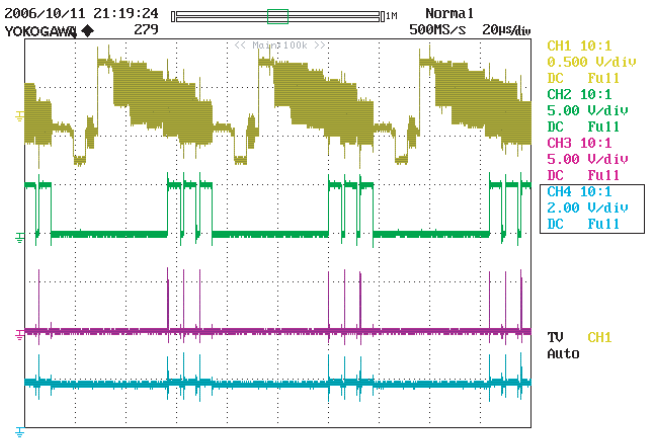
DVD TEST DISC : State of color bar display
① CH1 : MONVBS ⑬ CH3 : VSYNC
⑫ CH2 : SPS



DVD TEST DISC : State of color bar display
① CH1 : MONVBS ⑨ CH3 : SPIO
⑧ CH2 : CLS ⑩ CH4 : CTR



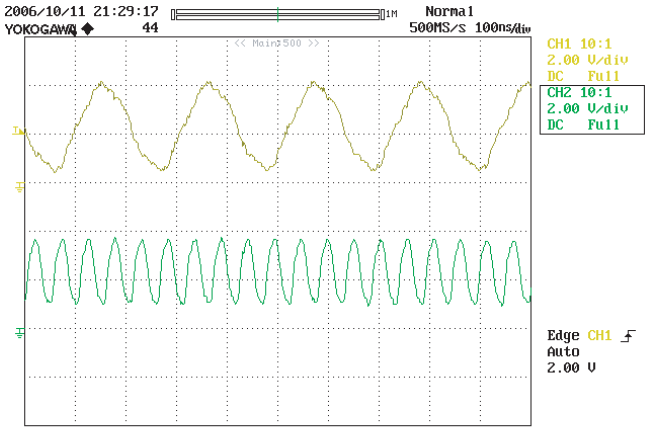
DVD TEST DISC : State of color bar display
① CH1 : MONVBS ⑮ CH3 : IOUT(C3)
⑭ CH2 : OSDOVR ⑯ CH4 : OSD RGB



DVD TEST DISC : State of color bar display

⑰ CH1 : CLD

⑱ CH2 : DOCKI

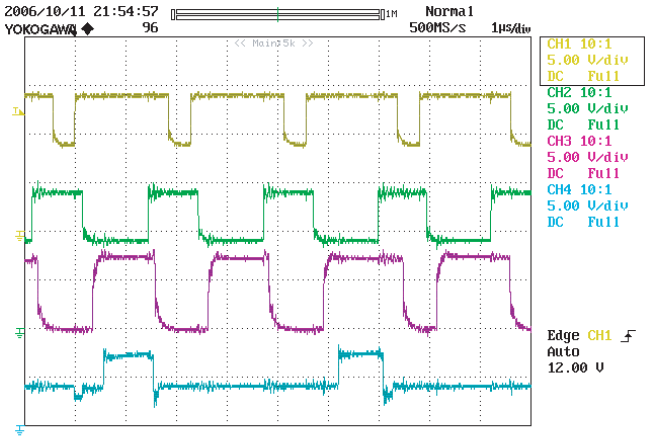


⑲ CH1 : OUT1

⑳ CH2 : OUT2

㉑ CH3 : OUT4

㉒ CH4 : OUT5

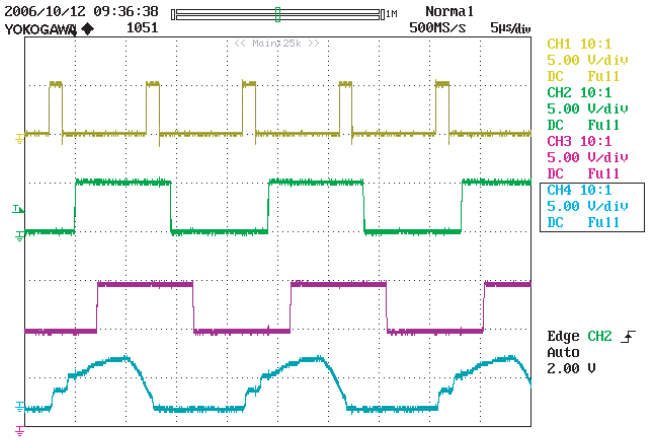


㉓ CH1 : INVPUL

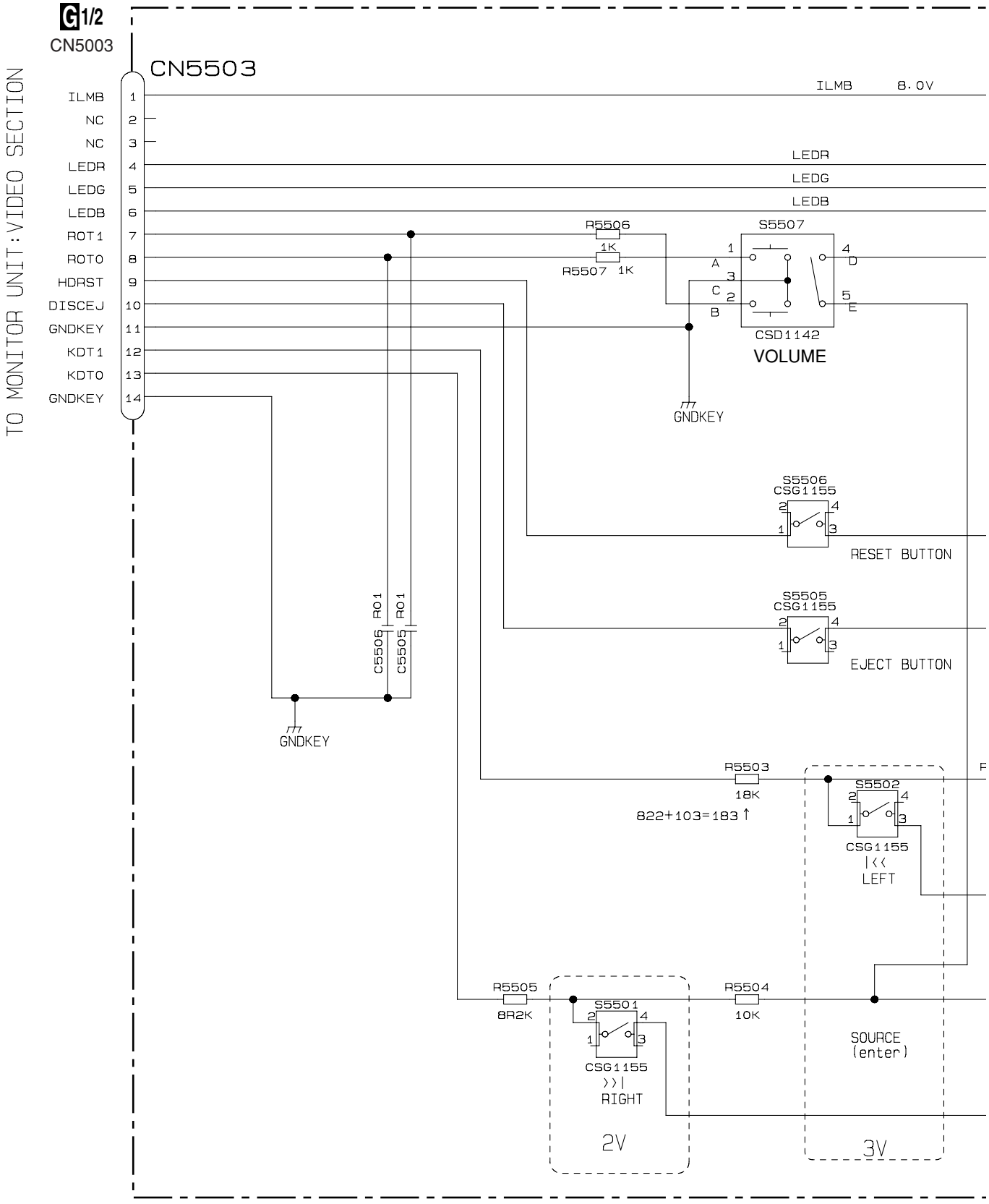
㉔ CH2 : NDRV_B

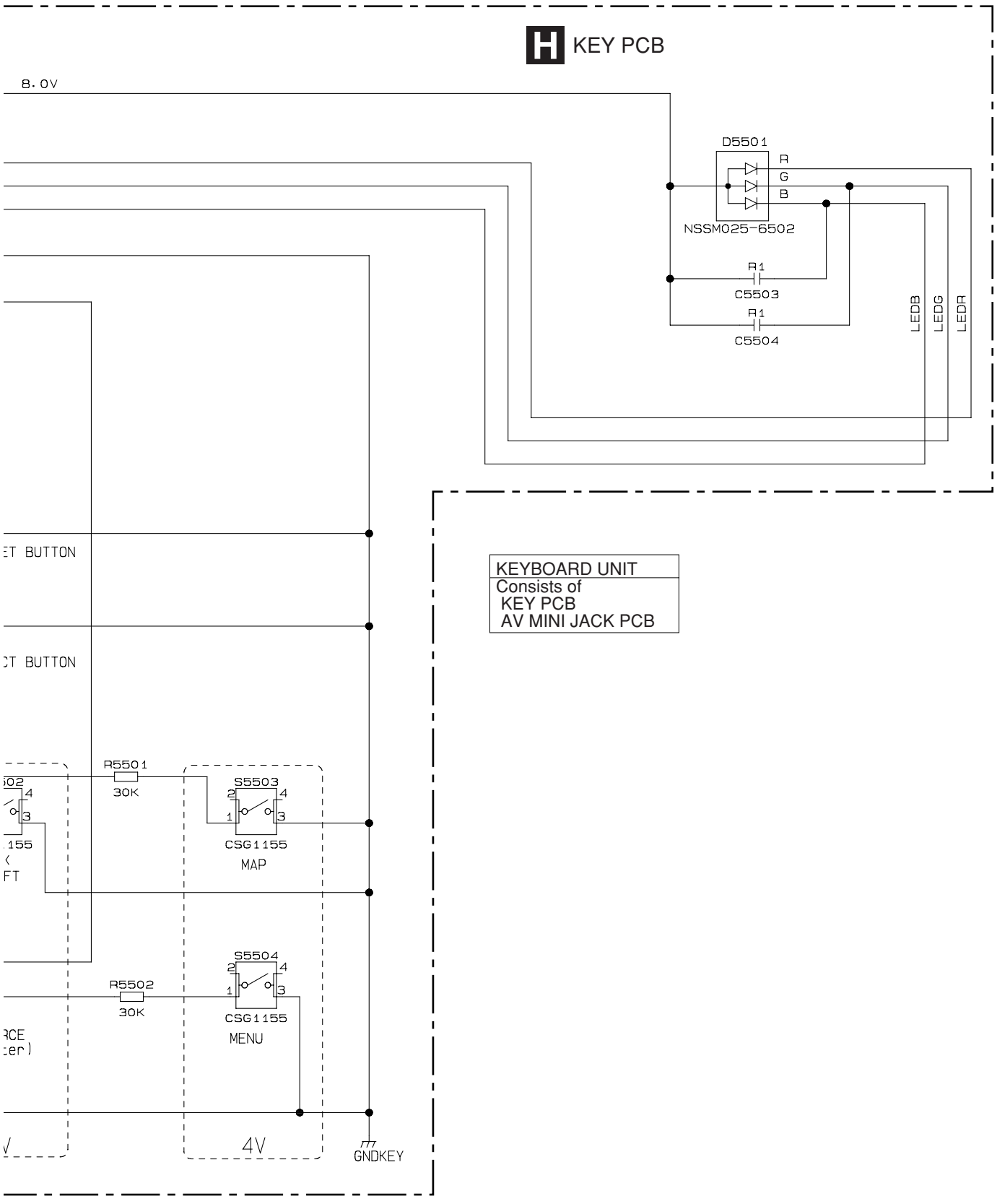
㉕ CH3 : PDRV_C

㉖ CH4 : FL2



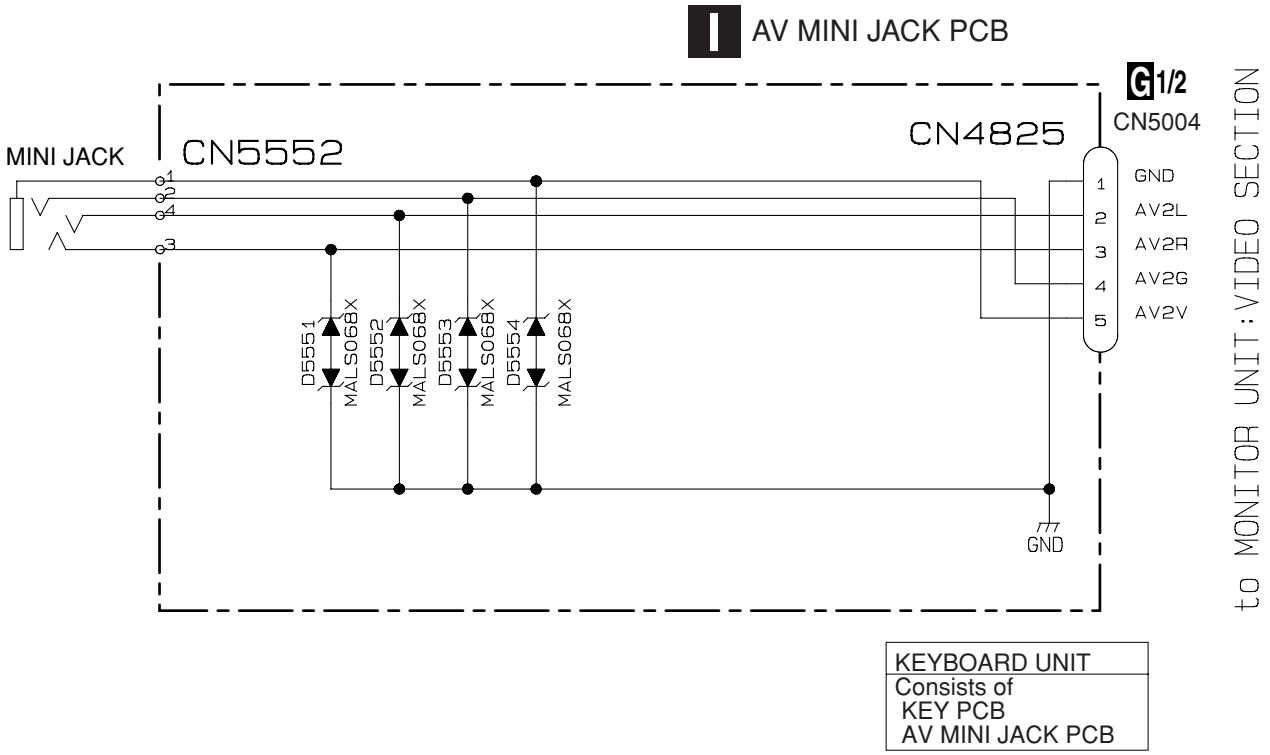
3.19 KEY PCB


G 1/2
CN5003
CN5503
TO MONITOR UNIT:VIDEO SECTION
ILMB 1
NC 2
NC 3
LEDR 4
LEDG 5
LEDB 6
ROT1 7
ROTO 8
HDRST 9
DISCEJ 10
GNDKEY 11
KDT1 12
KDTO 13
GNDKEY 14
ILMB 8.0V
LEDR
LEDG
LEDB
R5506
1K
R5507 1K
S5507
CSD1142
VOLUME
GNDKEY
S5506
CSG1155
RESET BUTTON
S5505
CSG1155
EJECT BUTTON
C5506 R01
C5505 R01
GNDKEY
R5503
18K
822+103=183
S5502
CSG1155
LEFT
R5505
8R2K
S5501
CSG1155
RIGHT
R5504
10K
SOURCE
(enter)
2V
3V



KEYBOARD UNIT
Consists of KEY PCB AV MINI JACK PCB

3.20 AV MINI JACK PCB



KEYBOARD UNIT
Consists of KEY PCB AV MINI JACK PCB

I

A

B

C

D

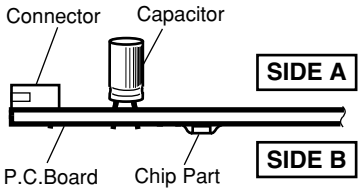
E

F

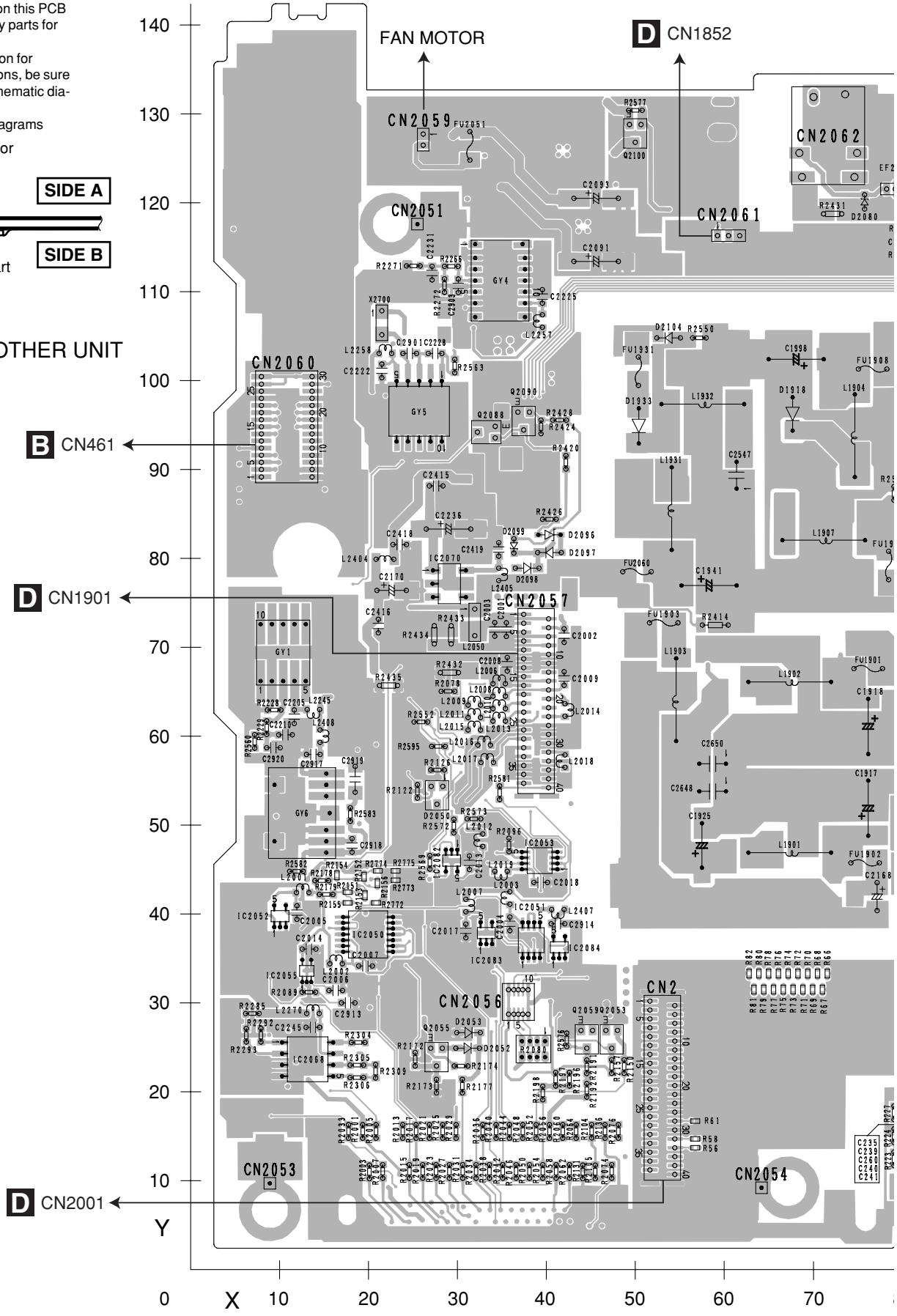
4. PCB CONNECTION DIAGRAM
4.1 NAVI MOTHER UNIT

NOTE FOR PCB DIAGRAMS

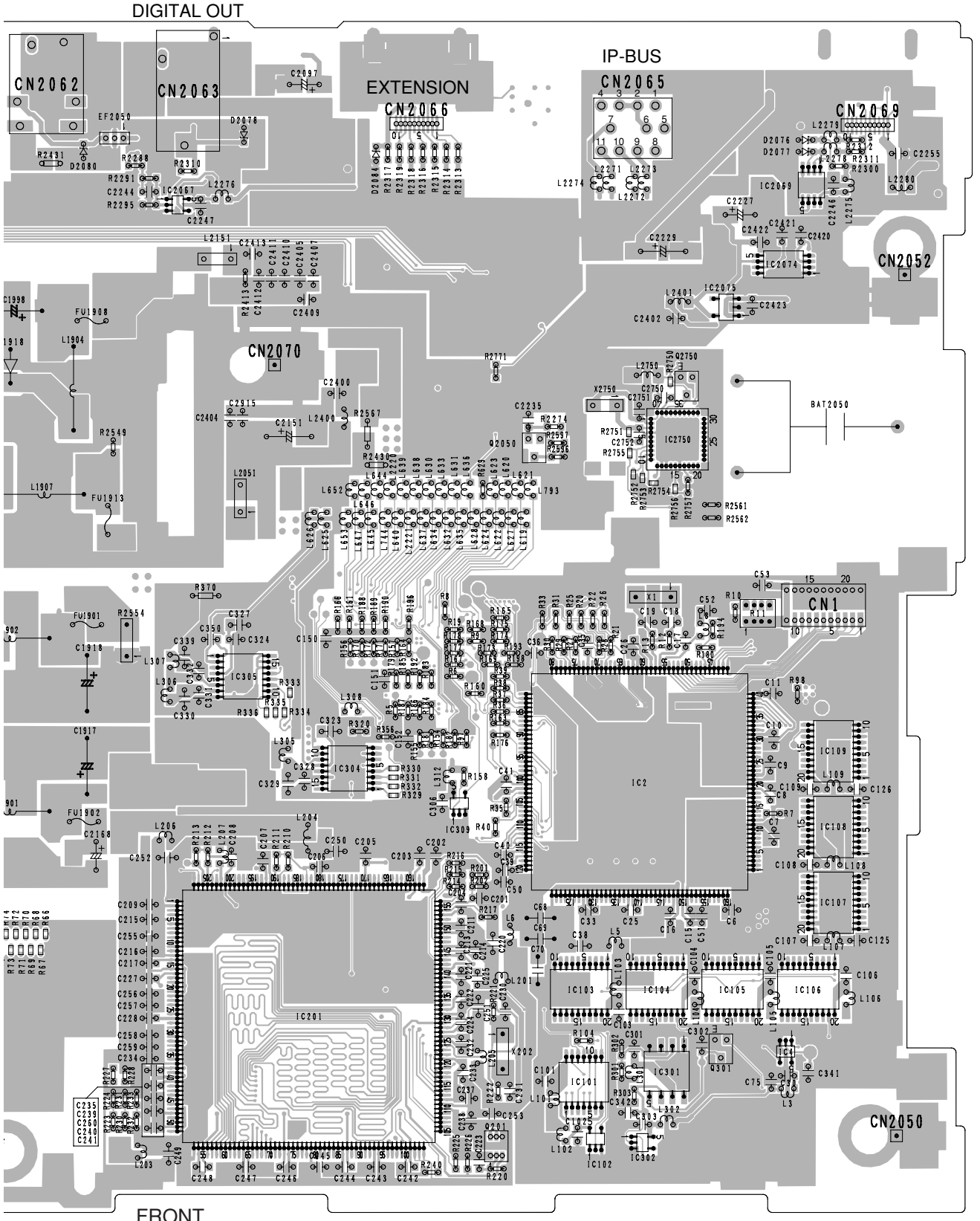
1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



A NAVI MOTHER UNIT



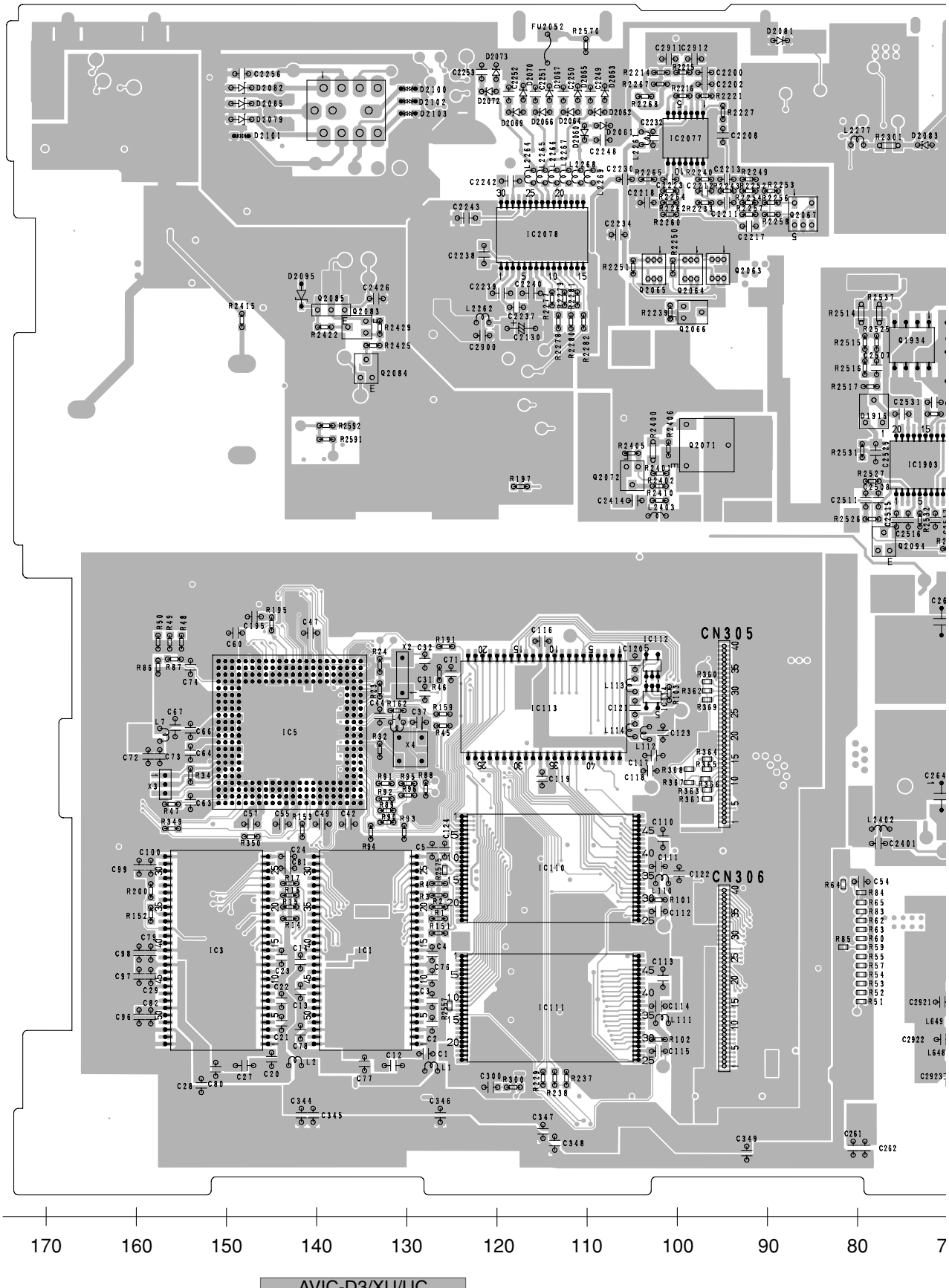
SIDE A


DIGITAL OUT
IP-BUS
EXTENSION
CN2062
CN2063
CN2065
CN2066
CN2069
CN2052
CN2070
CN1
CN2050
BAT2050
IC2
IC201
FRONT
70
80
90
100
110
120
130
140
150
160
170

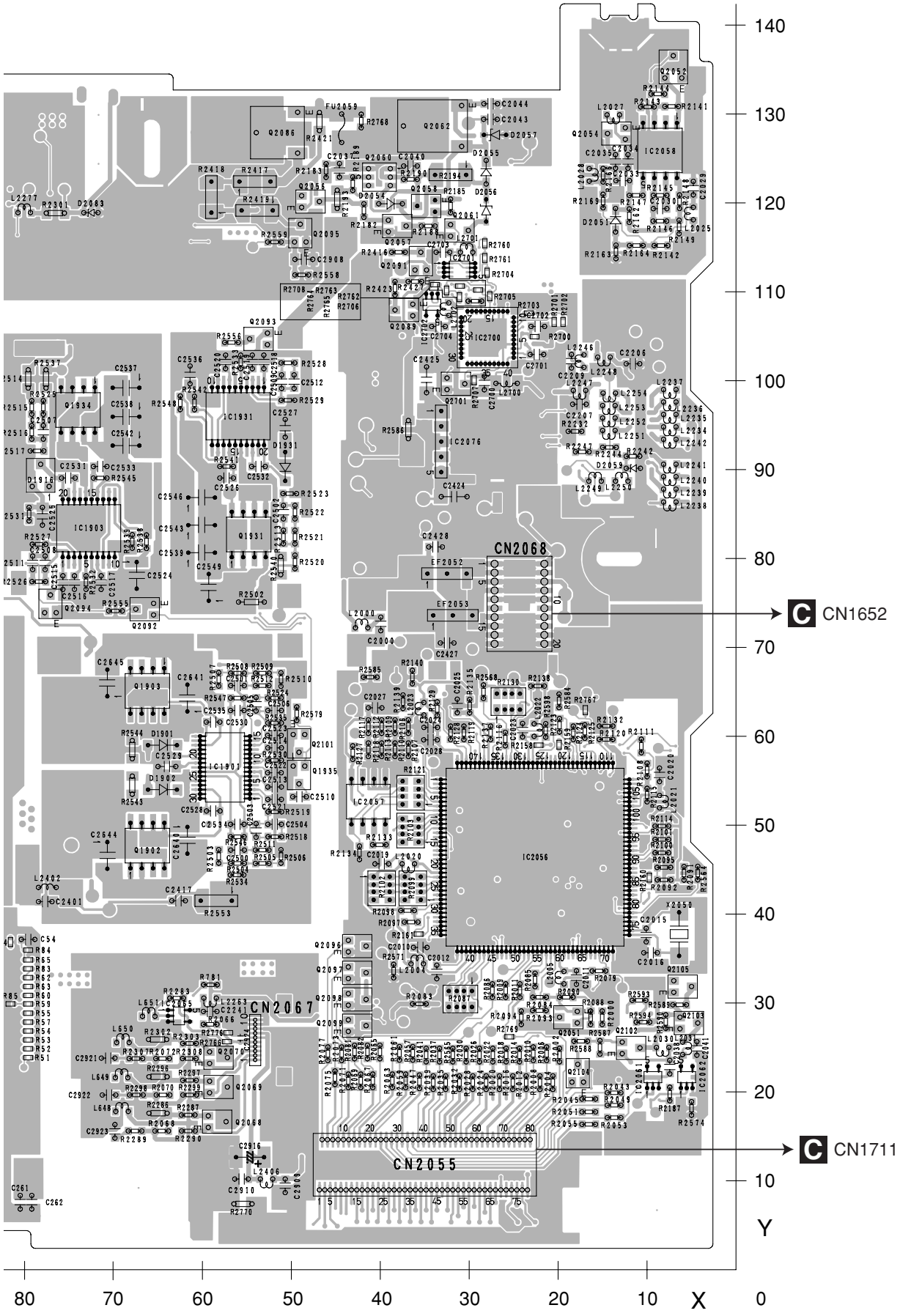
A

A

A NAVI MOTHER UNIT

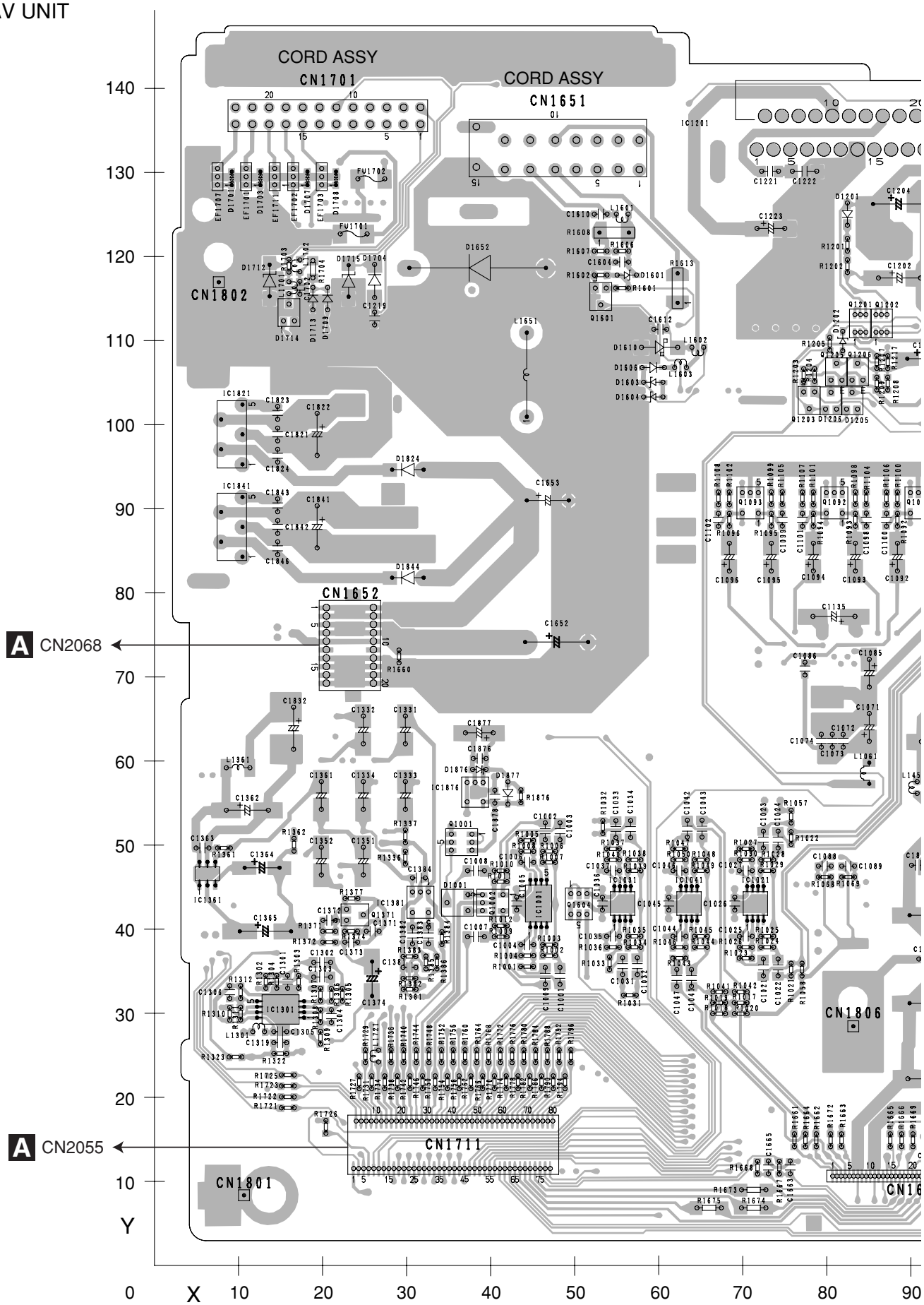


SIDE B

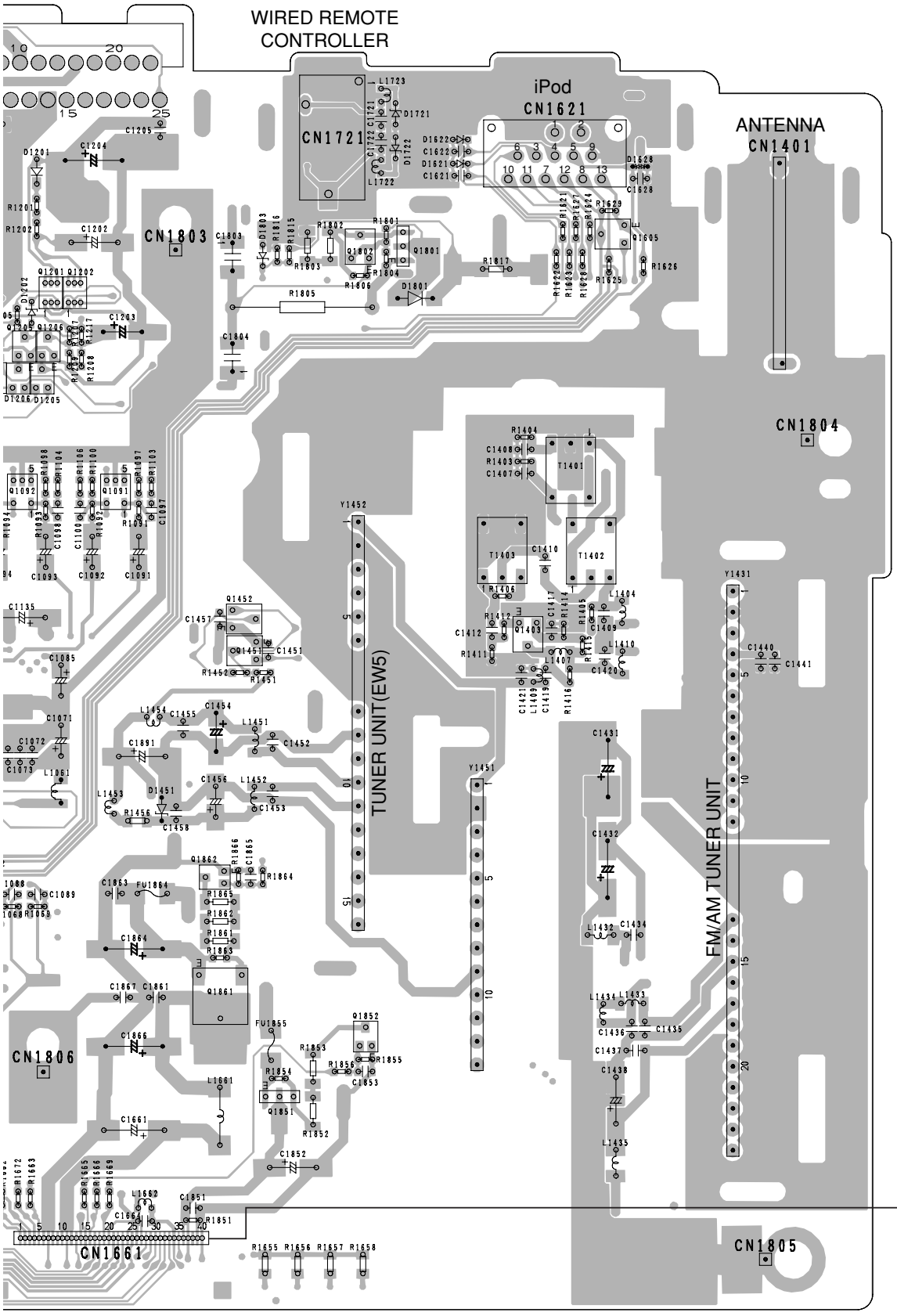

CN2068
CN2067
CN2055
IC2056
IC1931
IC1903
IC1907
IC2058
IC2076
IC2700
Q1934
Q1931
Q1903
Q1902
Q1935
Q2086
Q2062
Q2092
Q2093
Q2094
Q2095
Q2096
Q2097
Q2098
Q2099
Q2069
Q2068
Q2070
Q2101
Q2102
Q2104
Q2105
Q2052
Q2054
Q2055
Q2056
Q2057
Q2058
Q2060
Q2061
Q2089
Q2091
Q2701
D1931
D1901
D1902
D2051
D2055
D2056
D2057
D2059
C CN1652
C CN1711
X
Y
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140

4.2 AV UNIT

C AV UNIT



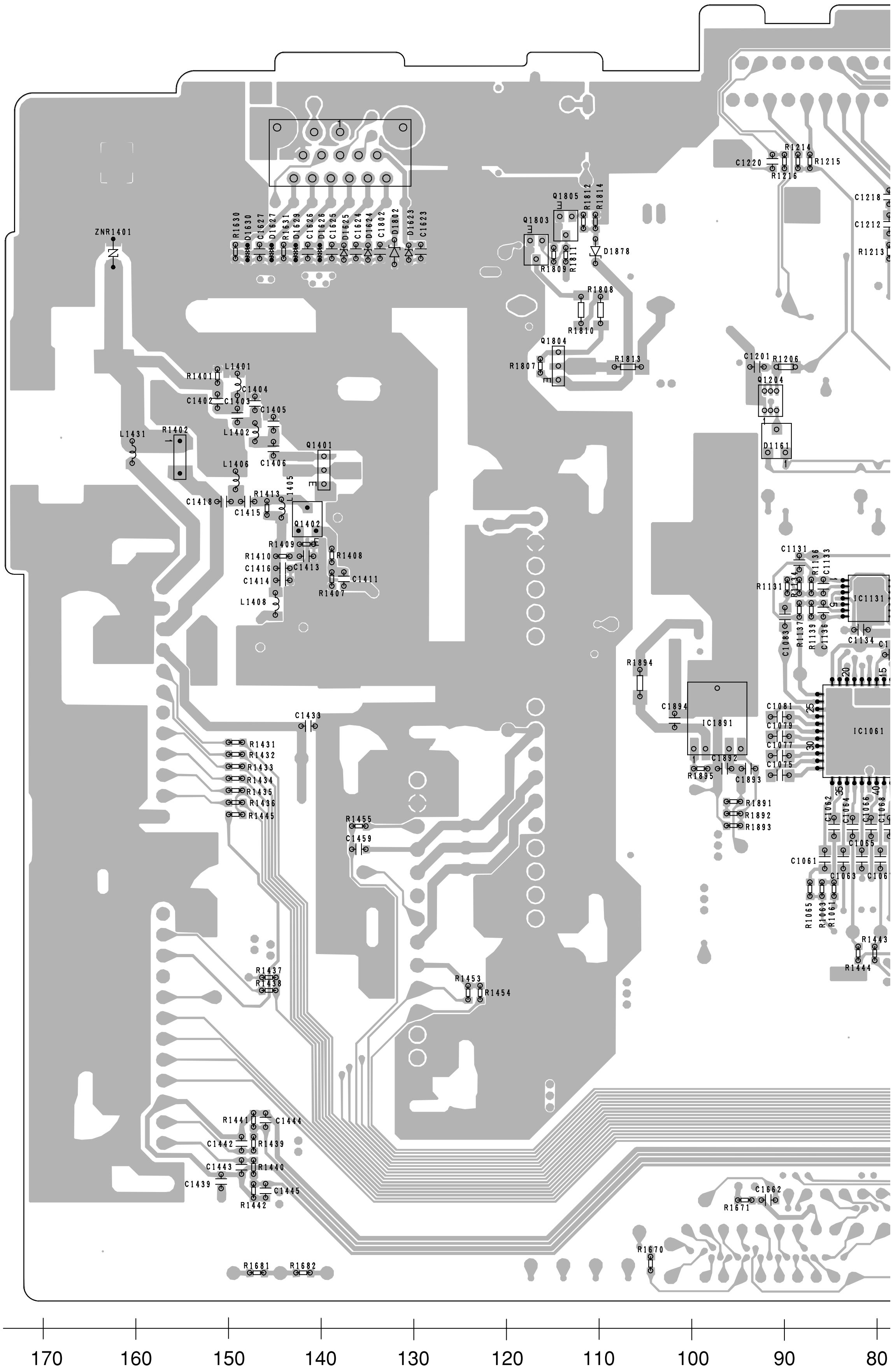
SIDE A



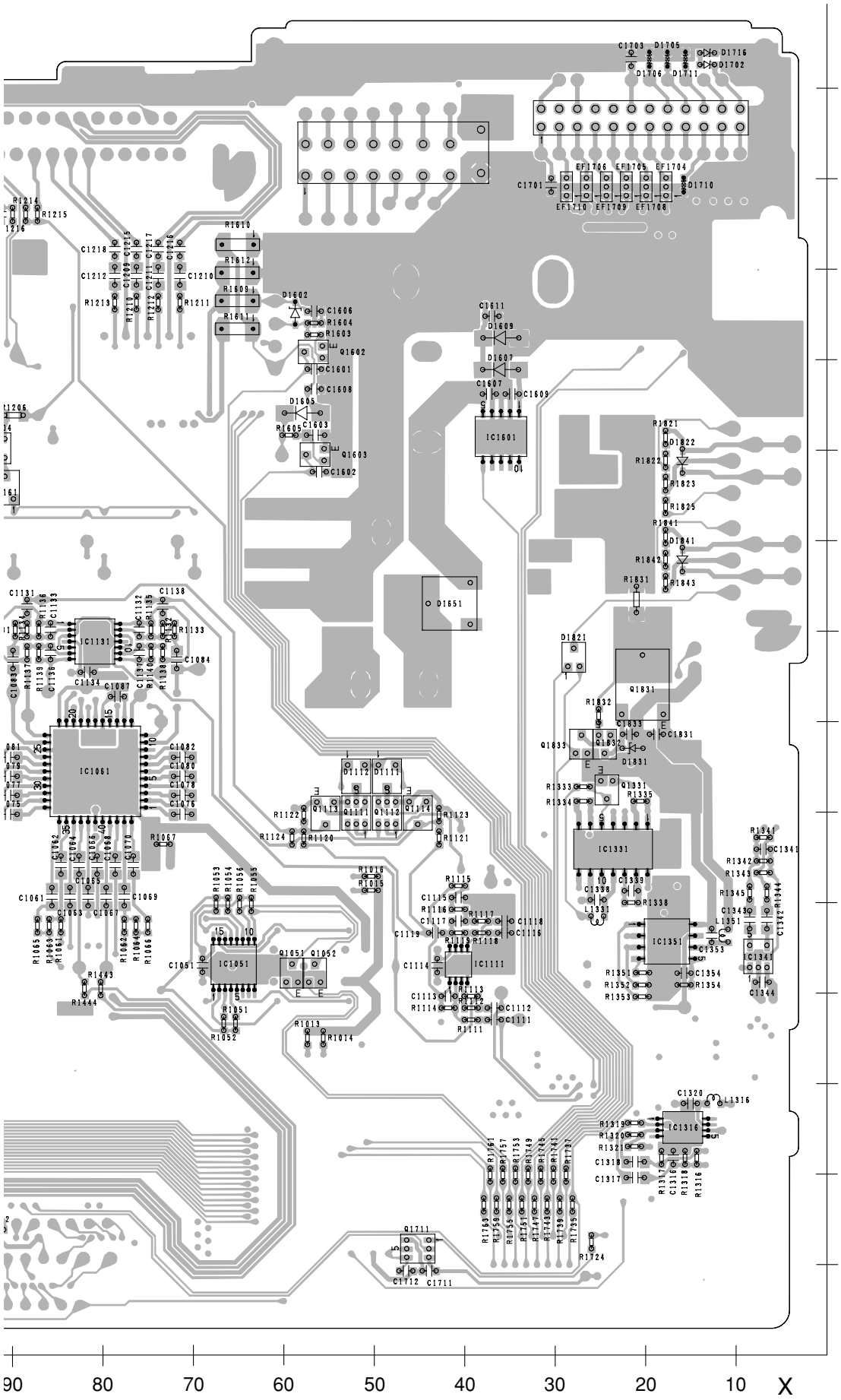
80 90 100 110 120 130 140 150 160 170

C

C AV UNIT

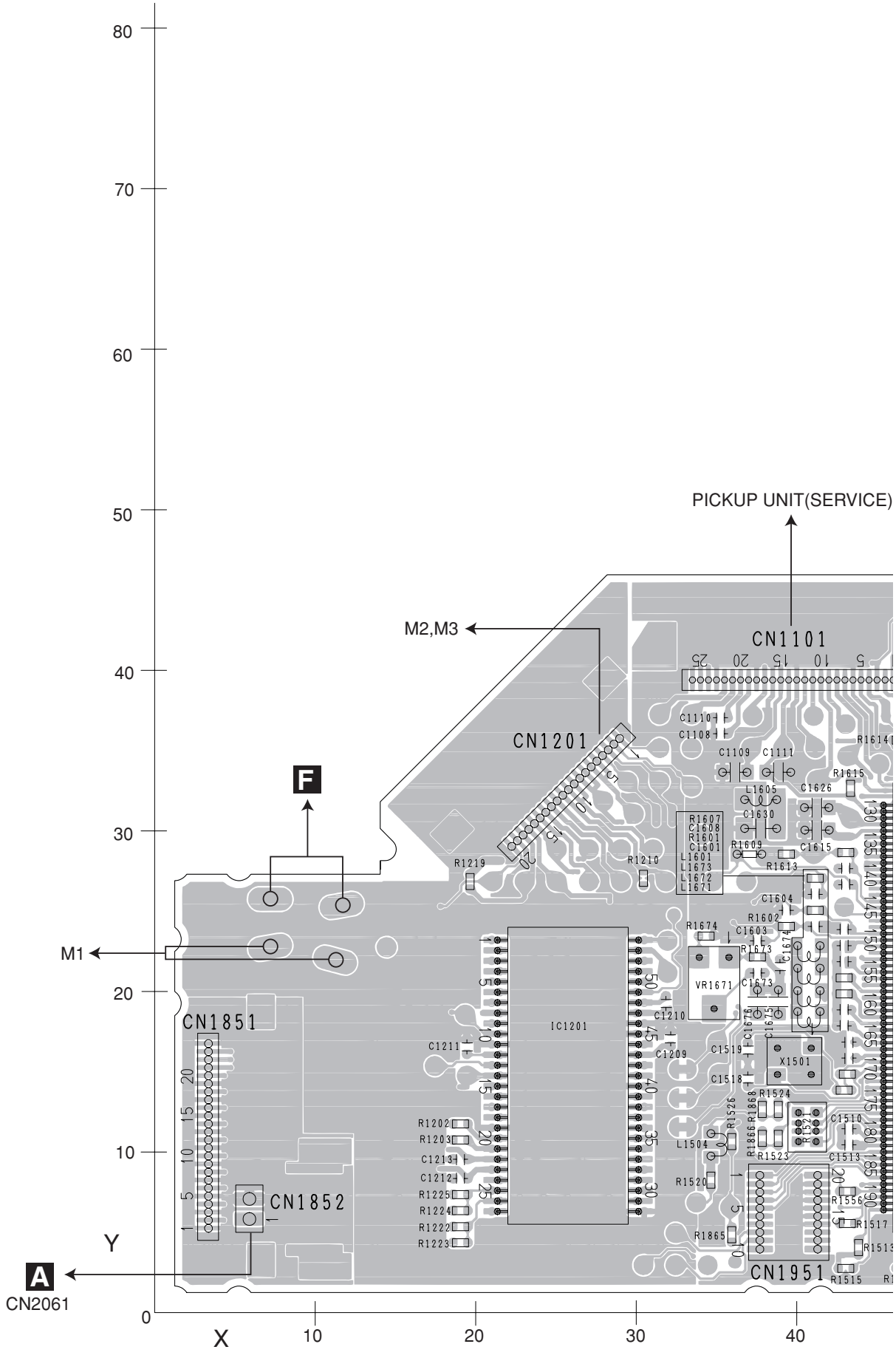

ZNR1401
R1630 D1630 C1627 D1627 R1631 D1629 C1626 D1626 C1625 D1625 C1624 D1624 C1802 D1802 D1623 C1623
Q1805 R1812 R1814 Q1803 R1809 R1811 D1878 R1808 R1810
Q1804 R1807 R1813
C1220 R1214 R1216 R1215 C1218 C1212 R1213
C1201 R1206 Q1204 D1161
L1401 R1401 C1404 C1402 C1403 C1405 L1402 L1431 R1402 Q1401 L1406 C1406 R1413 L1405 C1418 C1415 Q1402 R1409 R1410 R1408 C1416 C1413 C1414 C1411 R1407 L1408
C1131 R1136 C1133 R1131 R1137 R1139 IC1131 C1083 C1136 C1134
R1894 C1894 IC1891 C1892 R1895 C1893 R1891 R1892 R1893
C1081 C1079 C1077 C1075 IC1061 C1062 C1064 C1066 C1068 C1065 C1061 C1063 C1067 R1065 R1063 R1061 R1443 R1444
C1433 R1431 R1432 R1433 R1434 R1435 R1436 R1445 R1455 C1459
R1437 R1438 R1453 R1454
R1441 C1444 C1442 R1439 C1443 R1440 C1439 C1445 R1442
C1662 R1671 R1670 R1681 R1682
170 160 150 140 130 120 110 100 90 80

SIDE B

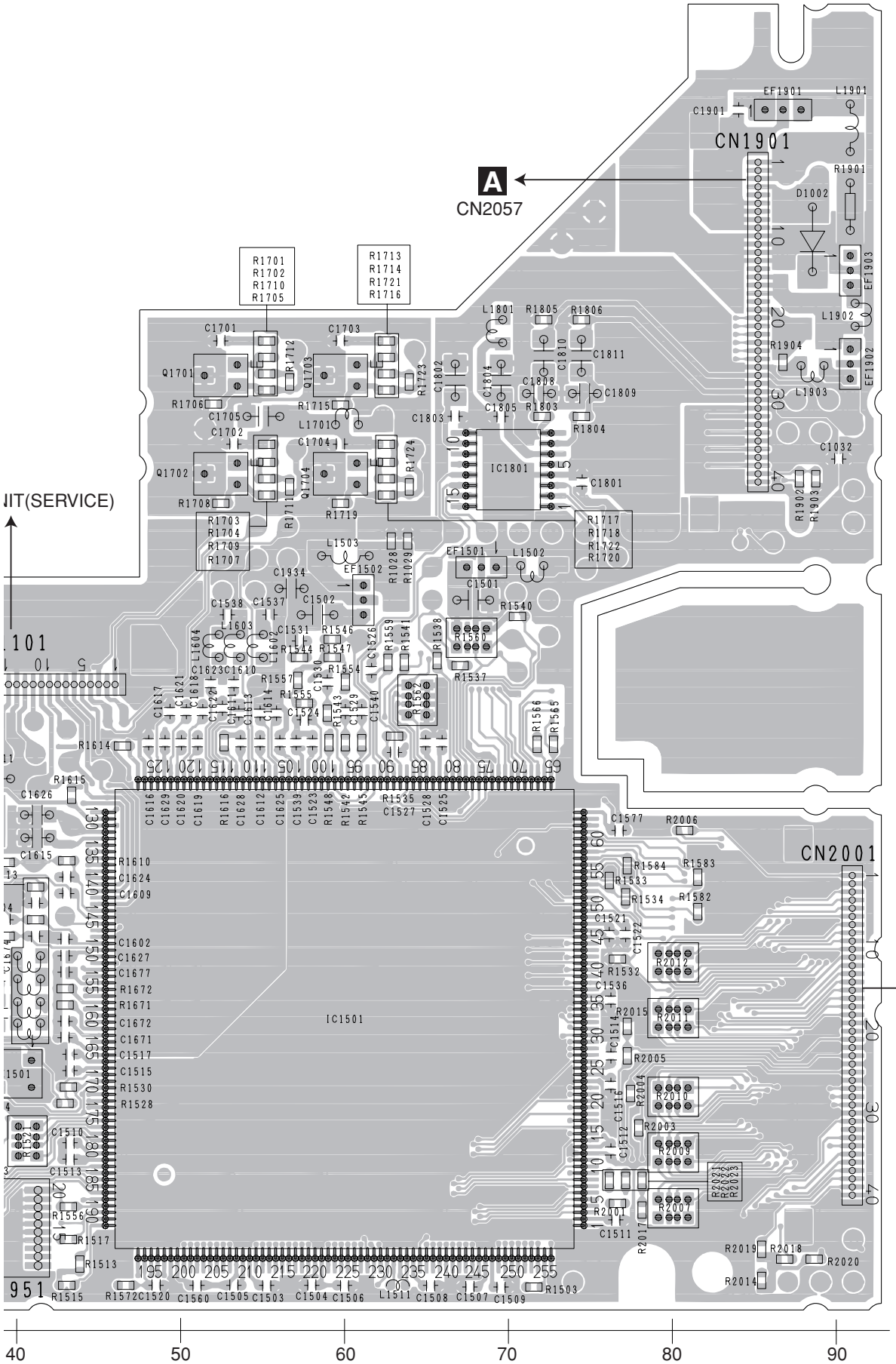

C1703 D1705 D1716
D1706 D1711 D1702
EF1706 EF1705 EF1704
C1701 D1710
EF1710 EF1709 EF1708
R1214 R1215
C1218 C1212 C1210 C1216
R1610 R1612 R1609 R1611
D1602 C1606 R1604 R1603 Q1602 C1601 C1608
D1605 R1605 C1603 Q1603 C1602
C1611 D1609 D1607 C1607 C1609
IC1601
R1821 D1822 R1822 R1823 R1825 R1841 D1841 R1842 R1843 R1831
D1651
C1131 C1138 R1133 C1084
IC1131
C1134 C1087
IC1061
C1082 C1080 C1078 C1076
R1067
C1062 C1064 C1066 C1068 C1071
C1059 C1063 C1067 C1061 C1069
R1065 R1063 R1061 R1062 R1064 R1066
R1443 R1444
R1053 R1054 R1056 R1055
C1051 IC1051 Q1051 Q1052
R1051 R1052
R1013 R1014
R1016 R1015
D1112 D1111
R1122 Q1113 Q1111 Q1112 Q1114 R1123
R1124 R1120 R1121
R1115 C1115 R1116 C1117 R1117 C1118 C1116
C1119 R1118 IC1111
C1114 R1113 R1112
C1113 R1114 C1112 C1111
R1111
D1821 Q1831 R1832 C1833 C1831
Q1833 Q1832 D1831
R1333 R1334 Q1331 R1335
IC1331 C1336 C1339
L1331 R1338
IC1351 C1353
R1351 R1352 R1353 C1354 R1354
R1341 C1341 R1342 R1343 R1345 C1343 L1351 C1342 R1344
IC1341 C1344
C1320 L1316
IC1316
R1319 R1320 R1321 C1318 C1317
R1317 C1316 R1318 R1316
R1763 R1758 R1757 R1753 R1749 R1745 R1741 R1737 R1735
R1724
Q1711 C1712 C1711
140 130 120 110 100 90 80 70 60 50 40 30 20 10 Y
90 80 70 60 50 40 30 20 10 X 0

4.3 DVD CORE UNIT

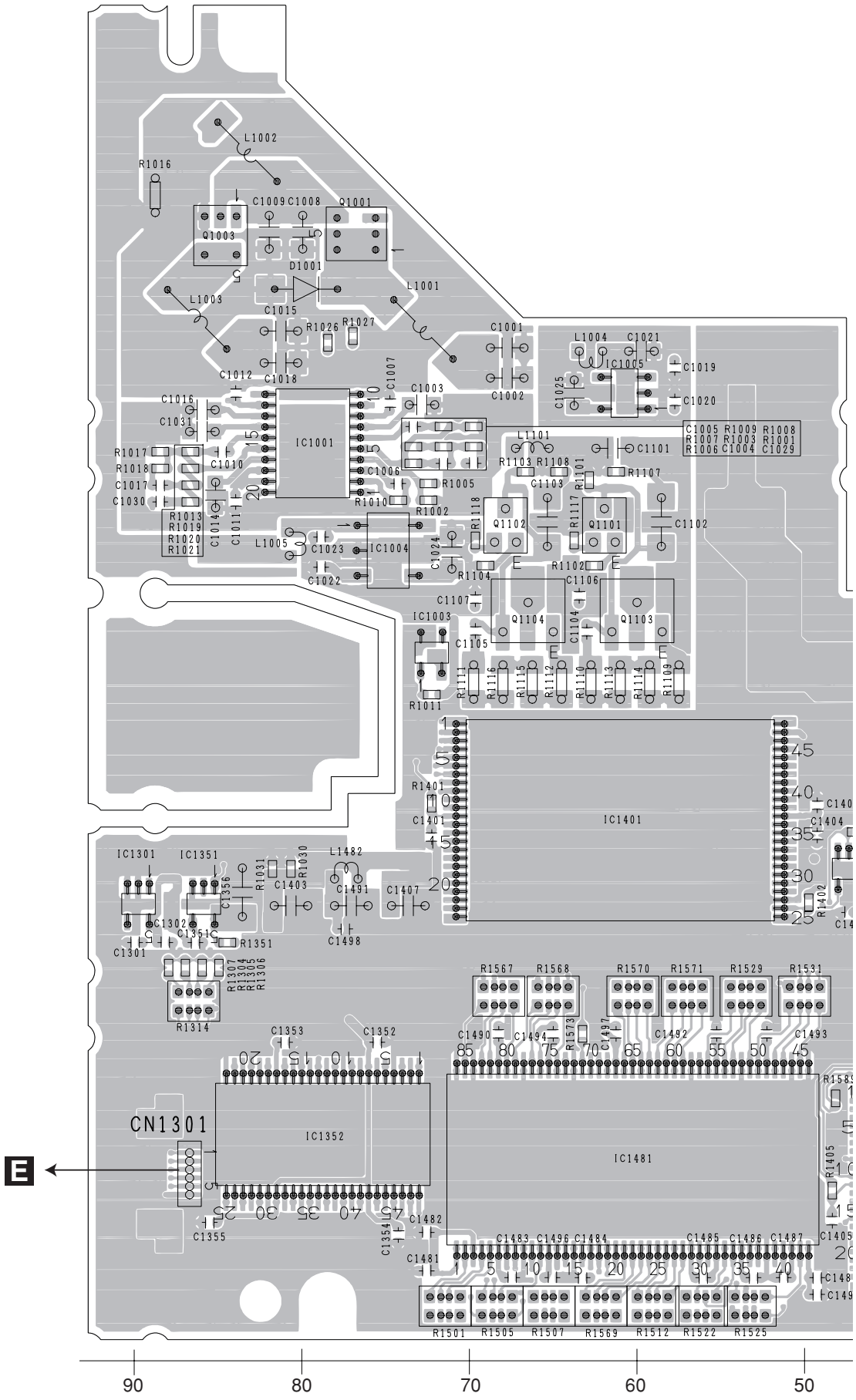
D DVD CORE UNIT



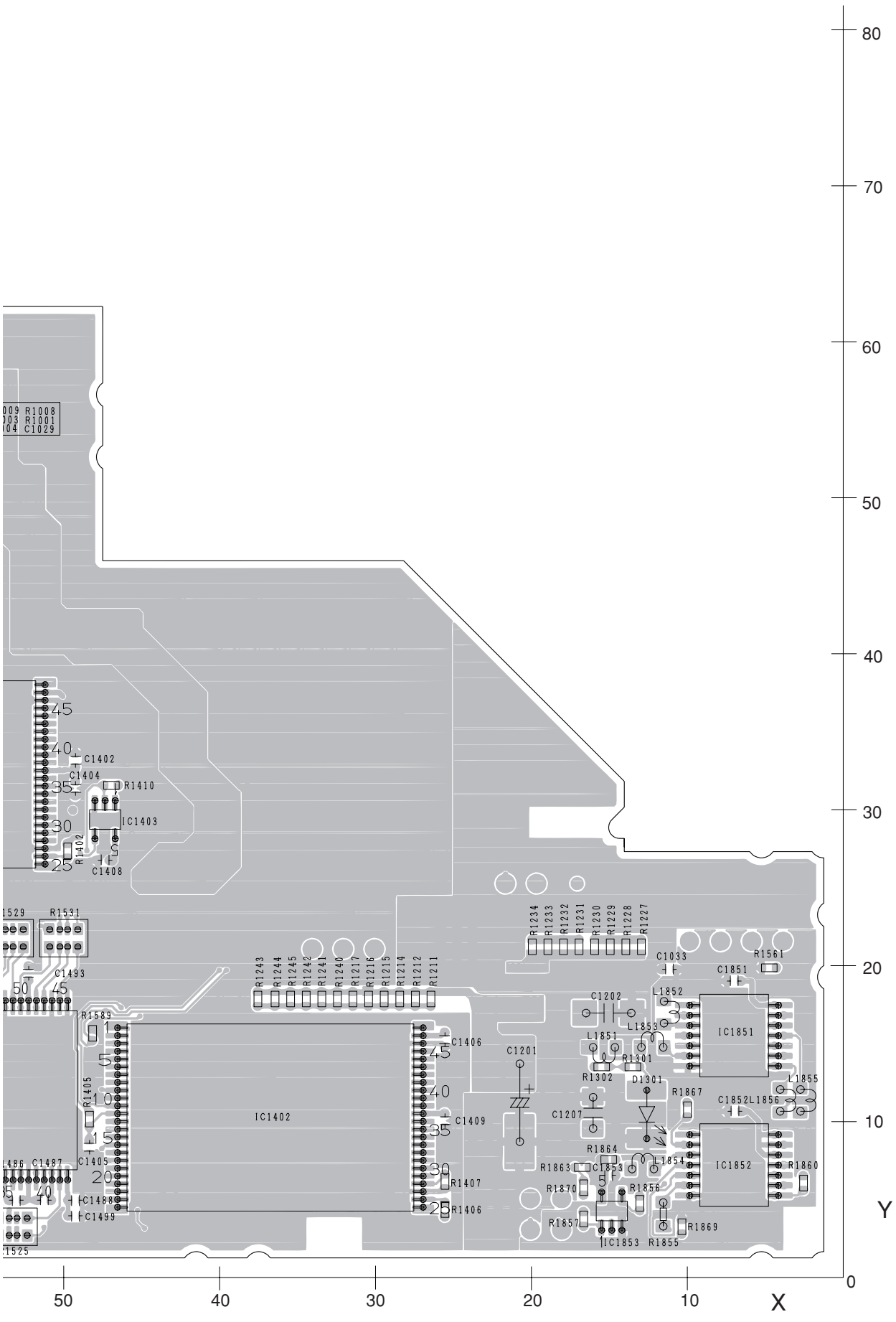
D


A
CN2057
CN1901
CN2001
A
CN2
IIT(SERVICE)
IC1501
IC1801

D DVD CORE UNIT

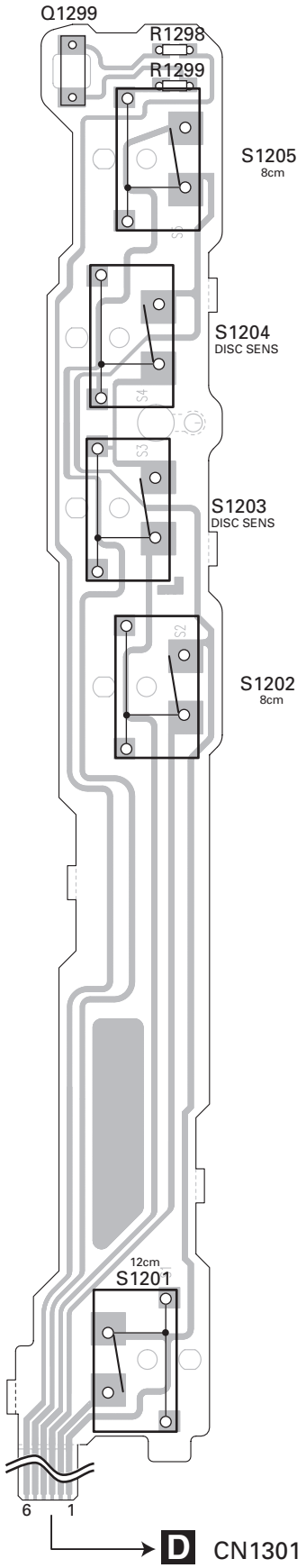


SIDE B

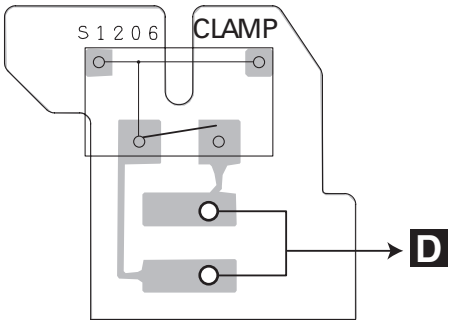

A
B
C
D
E
F
80
70
60
50
40
30
20
10
0
Y
50
40
30
20
10
X
IC1402
IC1403
IC1851
IC1852
IC1853
C1402
C1404
C1408
C1493
C1405
C1406
C1409
C1488
C1499
C1201
C1202
C1207
C1033
C1851
C1852
C1853
R1410
R1402
R1531
R1589
R1405
R1407
R1406
R1234
R1233
R1232
R1231
R1230
R1229
R1228
R1227
R1243
R1244
R1245
R1242
R1241
R1240
R1217
R1216
R1215
R1214
R1212
R1211
R1561
R1301
R1302
R1867
R1864
R1863
R1870
R1856
R1857
R1855
R1869
R1860
L1852
L1853
L1851
L1854
L1855
L1856
D1301
R1008
R1001
C1029

4.4 COMPOUND UNIT(A), COMPOUND UNIT(B)

E COMPOUND UNIT(A)



F COMPOUND UNIT(B)

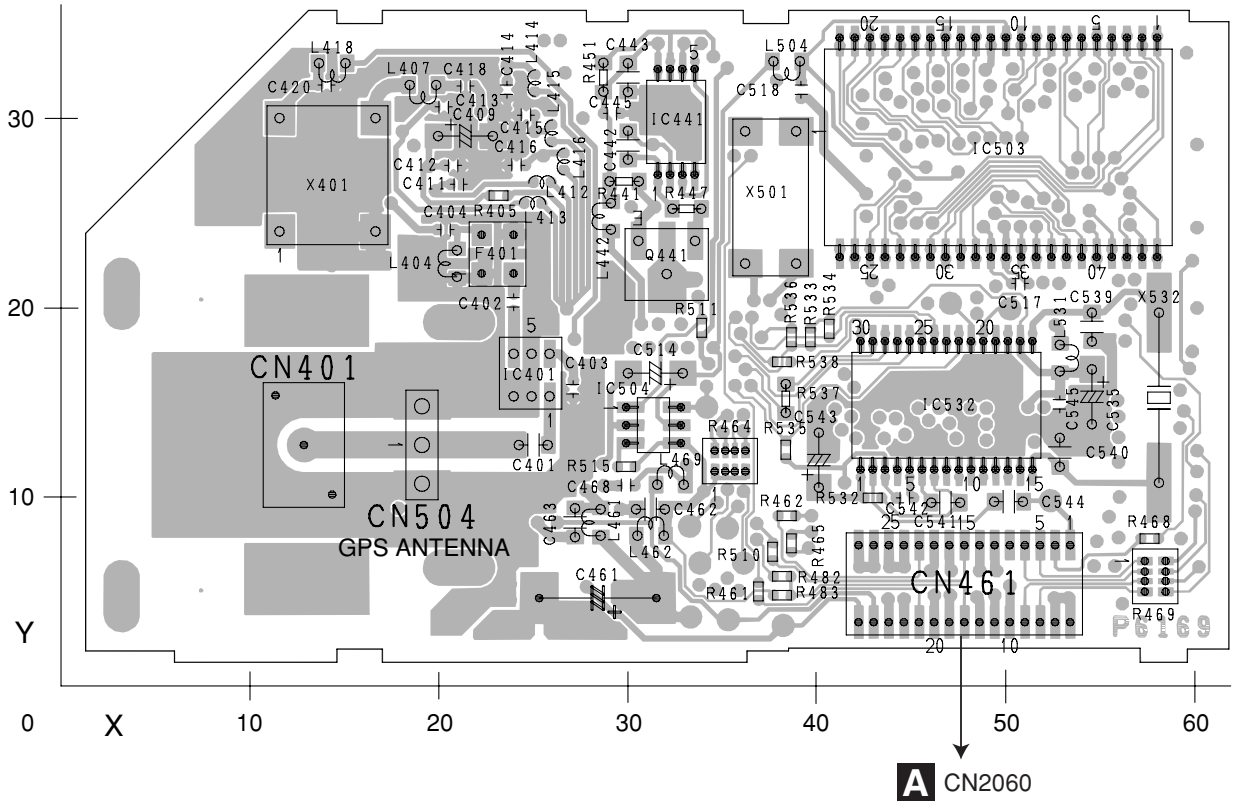


E F

4.5 GPS UNIT

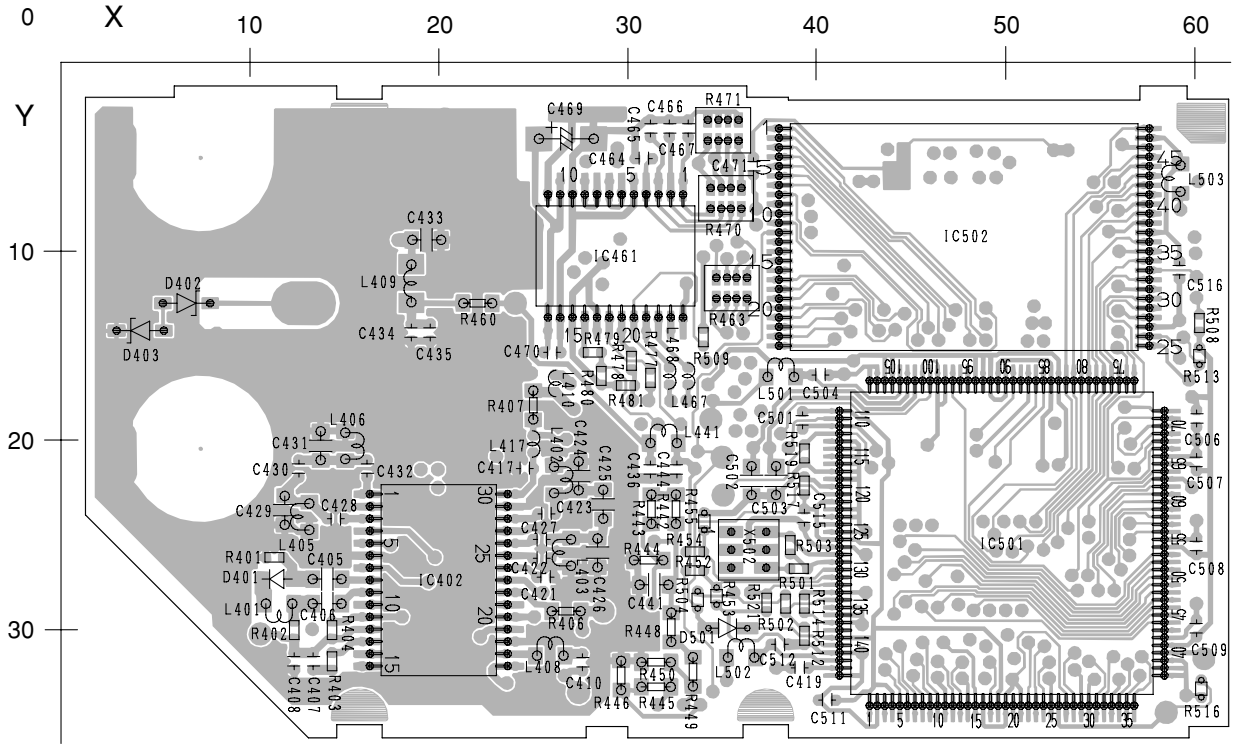
B GPS UNIT

SIDE A



B GPS UNIT

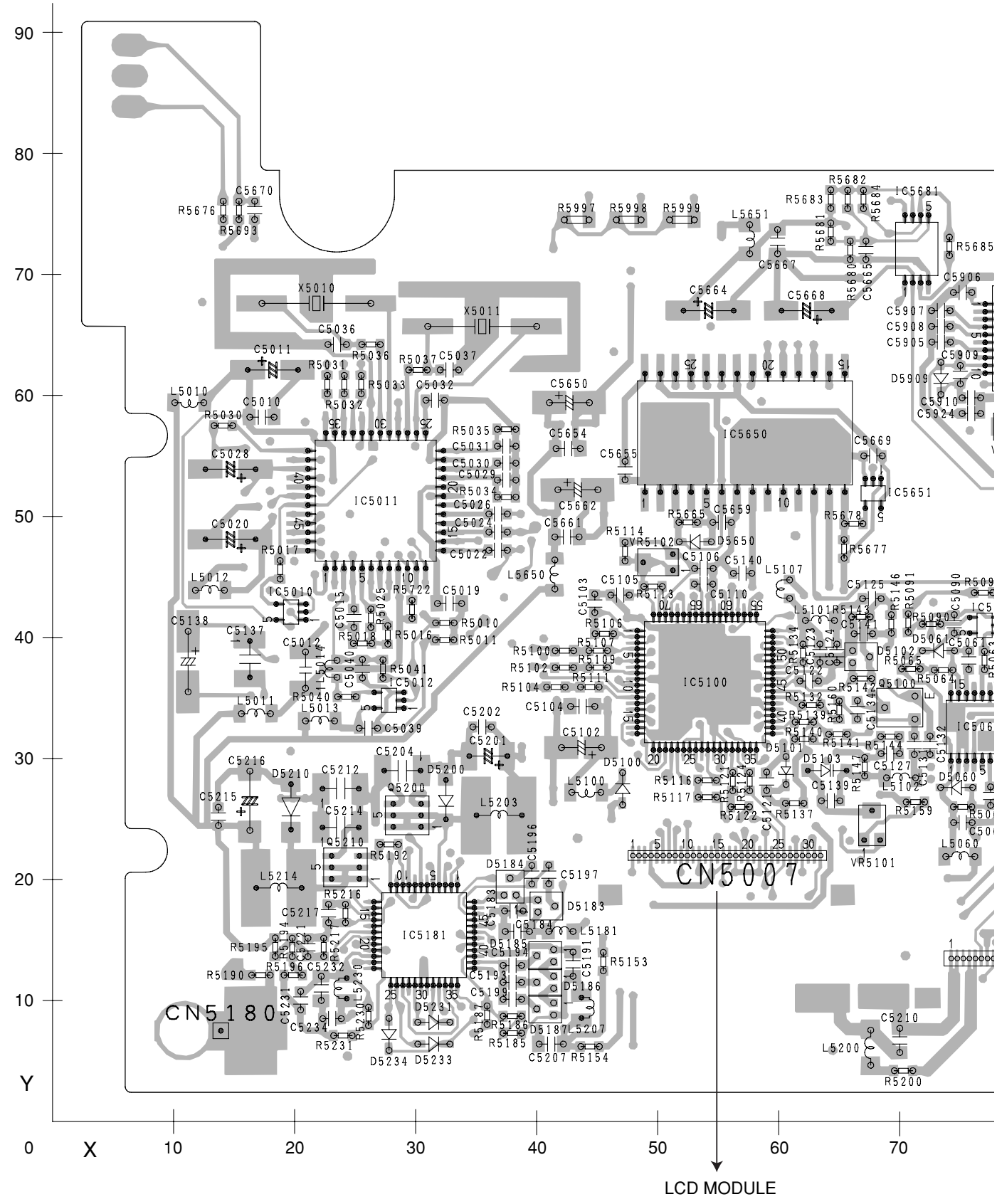
SIDE B



B

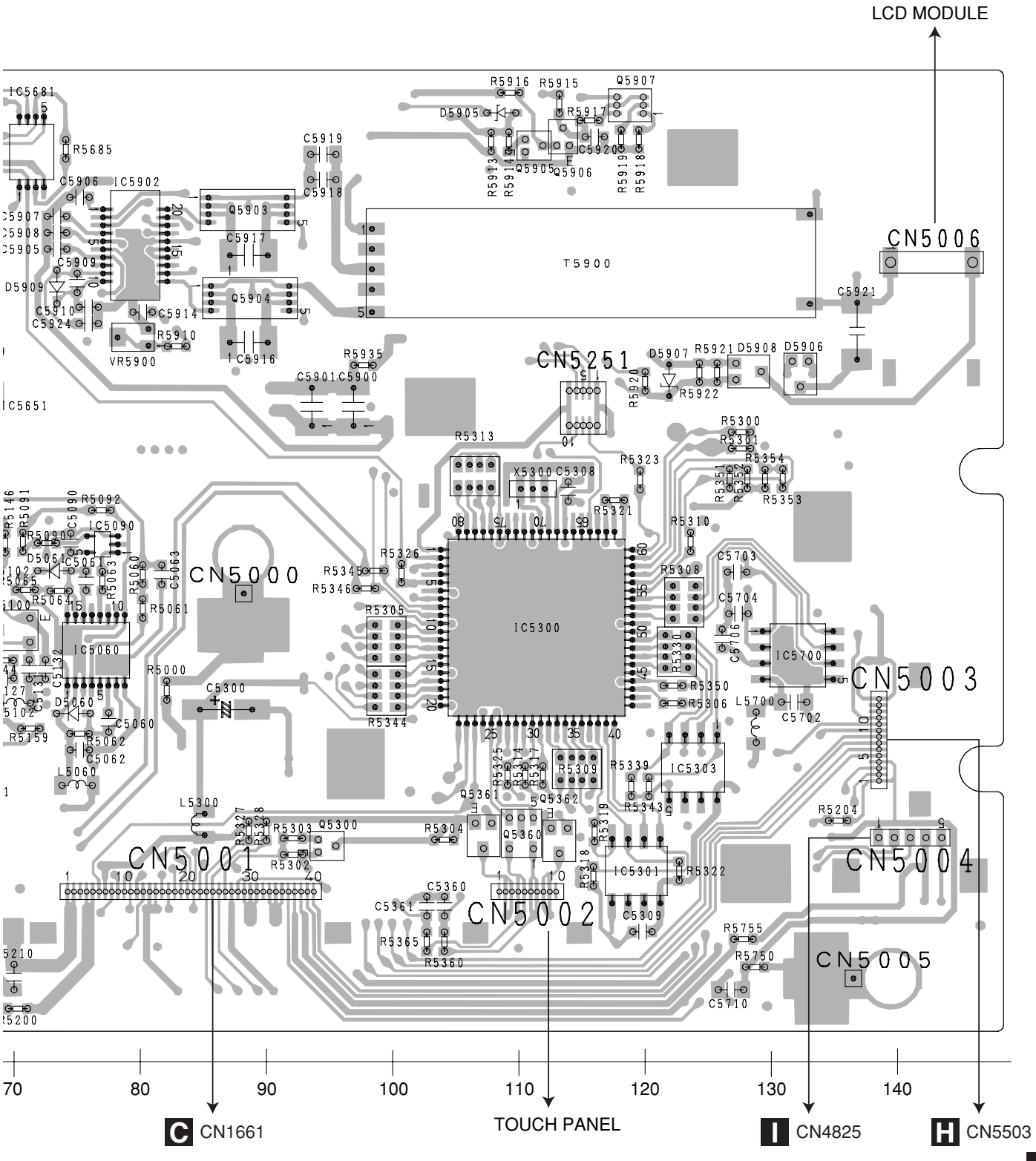
4.6 MONITOR UNIT

G MONITOR UNIT

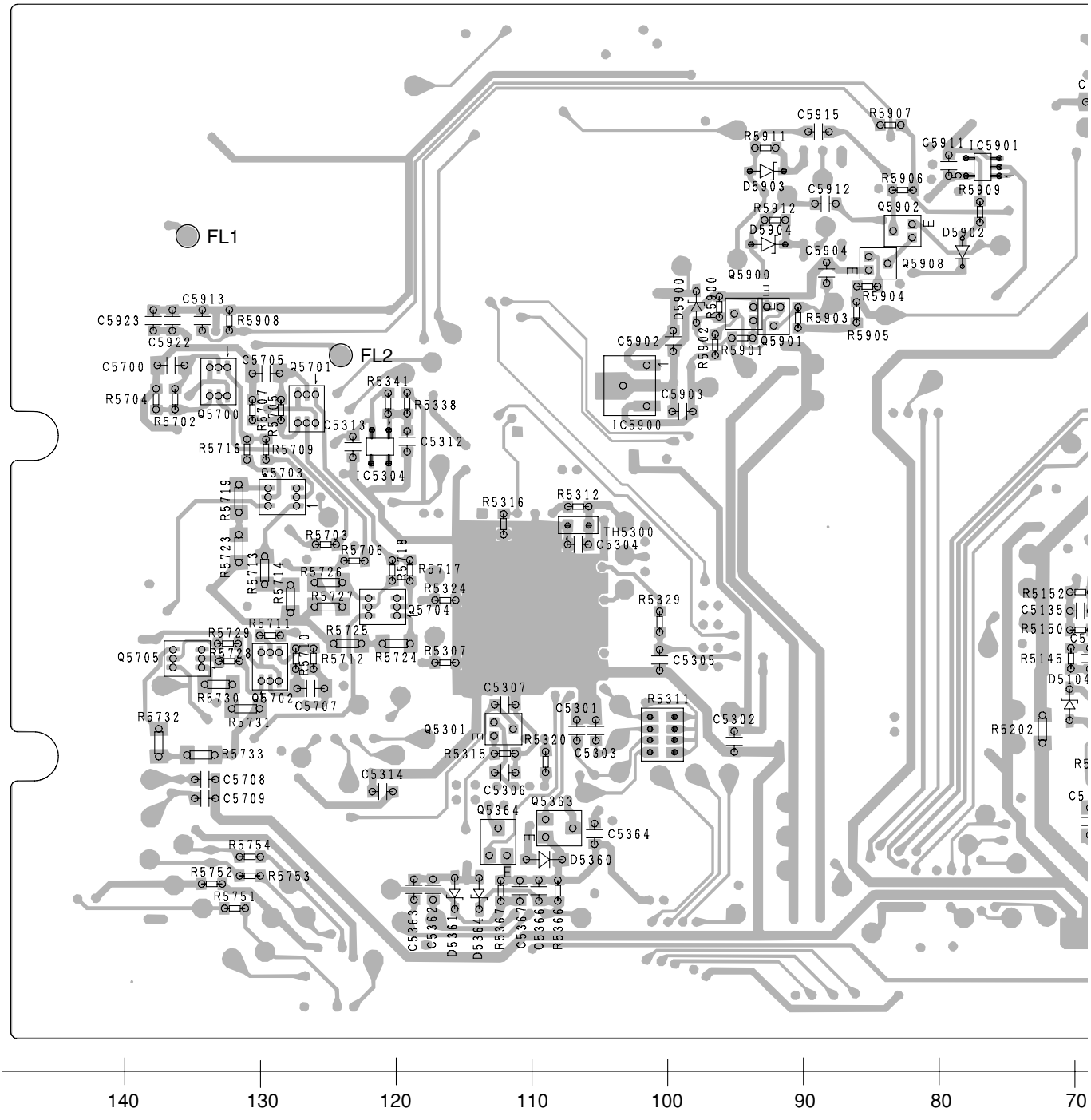


G

SIDE A


LCD MODULE
CN5006
CN5251
CN5000
CN5003
CN5001
CN5004
CN5002
CN5005
T5900
IC5300
IC5681
IC5902
IC5916
IC5651
IC5090
IC5061
IC5060
IC5700
IC5303
IC5301
VR5900
X5300
L5300
L5700
L5060
70 80 90 100 110 120 130 140
C CN1661
TOUCH PANEL
I CN4825
H CN5503

G MONITOR UNIT



SIDE B

A

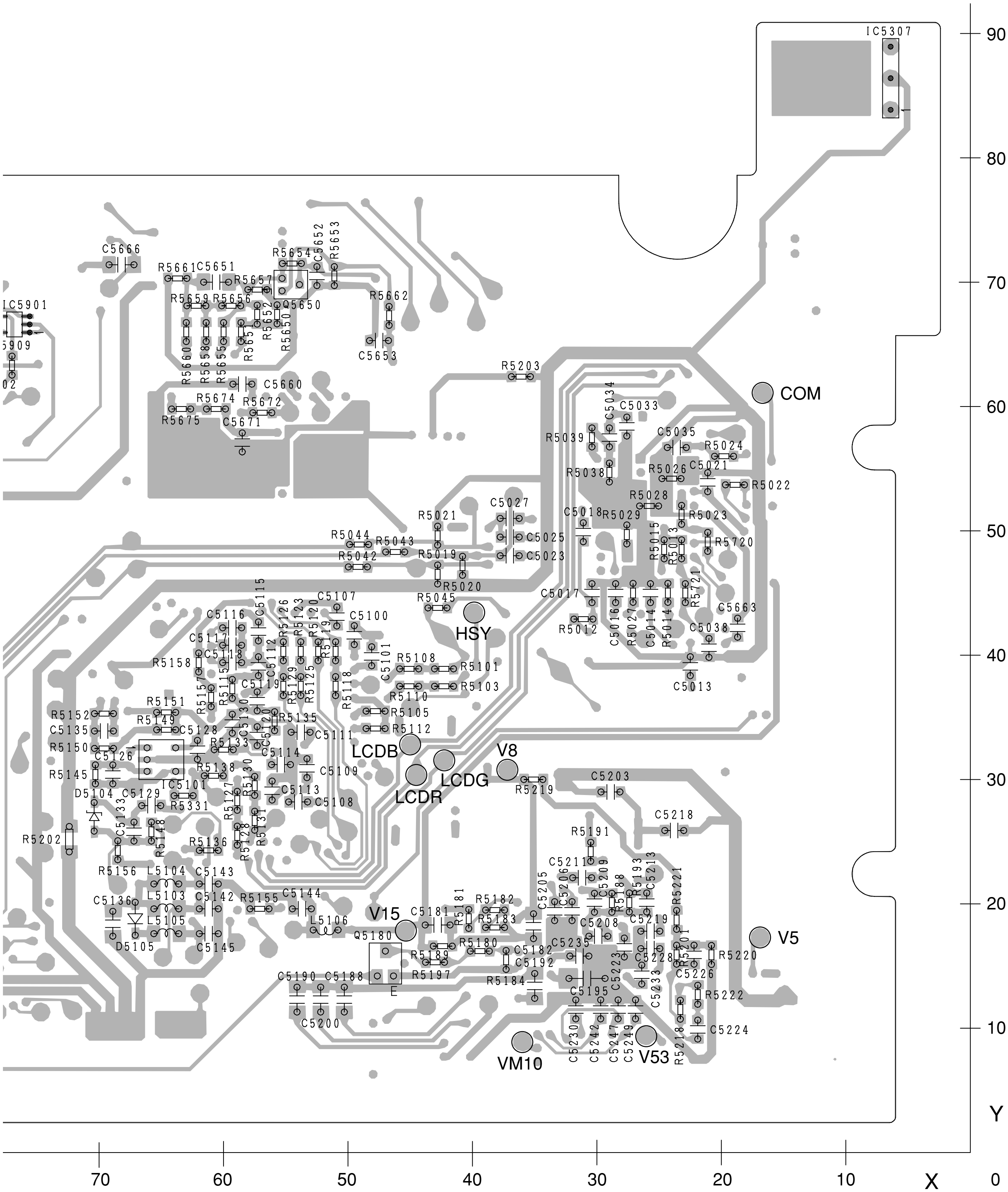
B

C

D

E

F

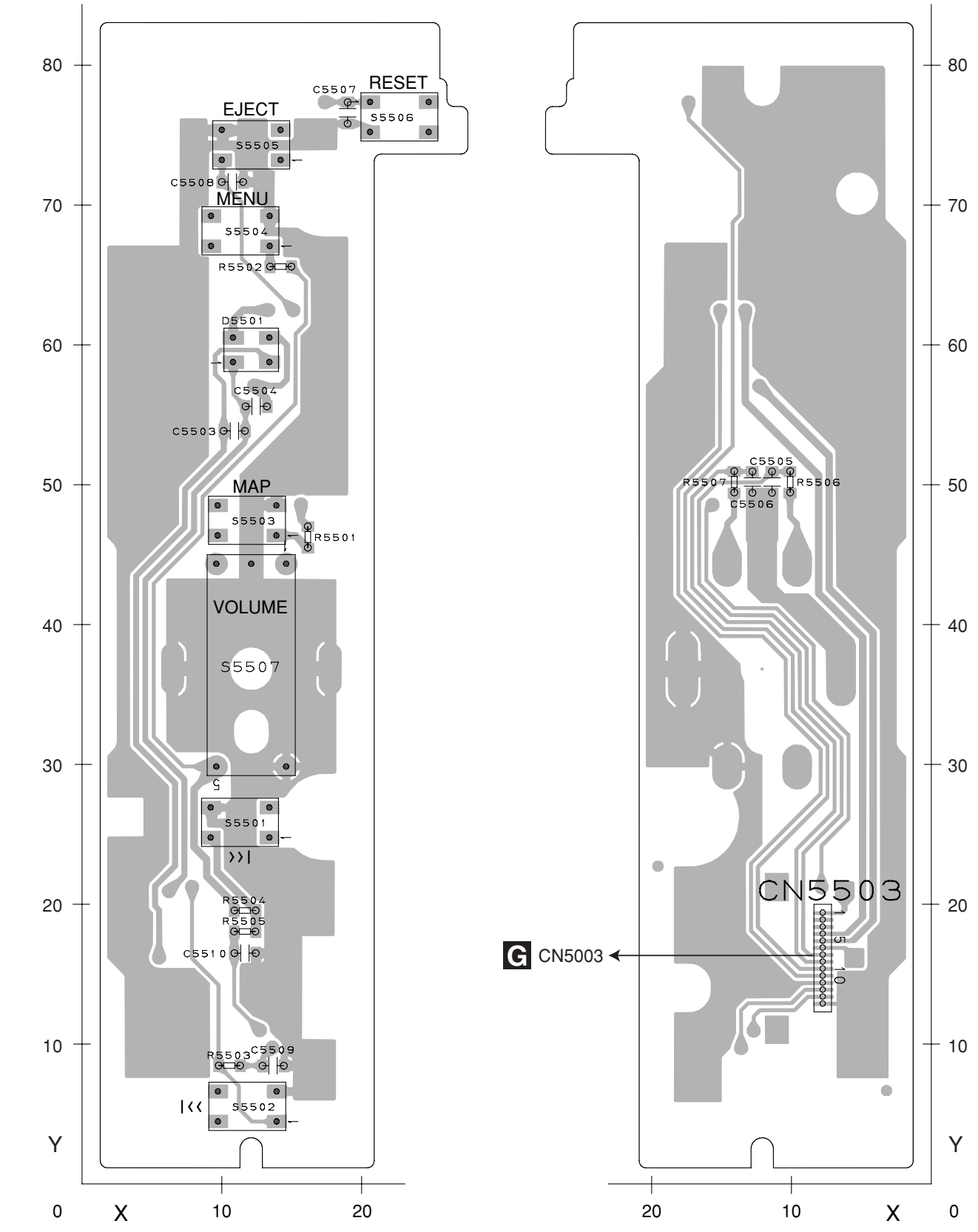


G

4.7 KEY PCB

H KEY PCB **SIDE A**

H KEY PCB **SIDE B**

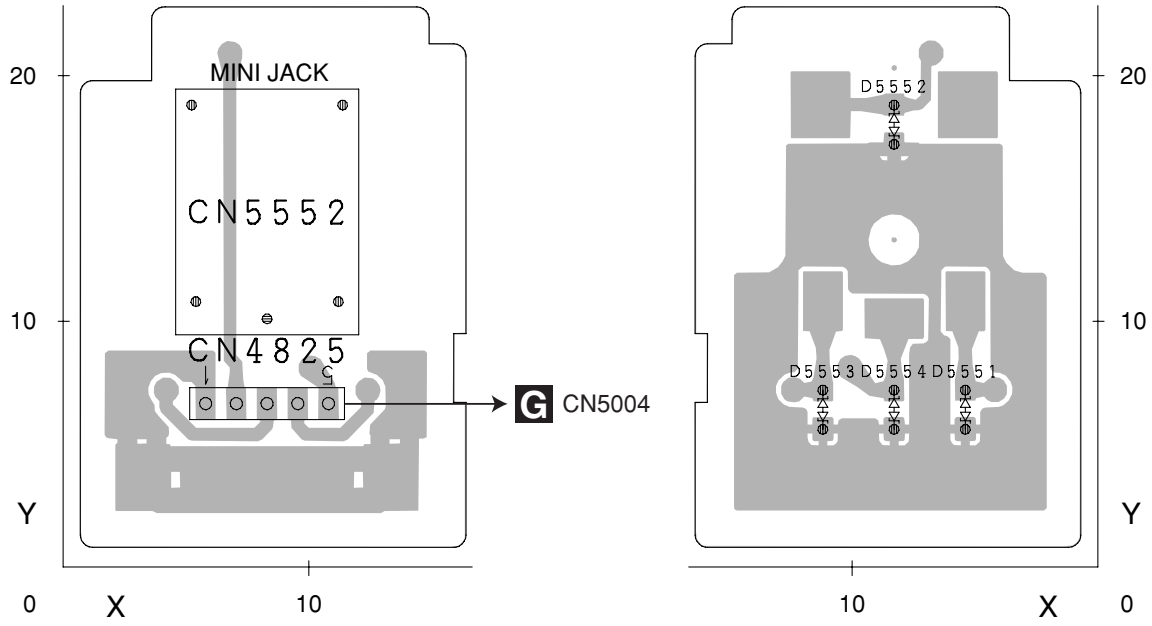


H

4.8 AV MINI JACK PCB

AV MINI JACK PCB **SIDE A**

AV MINI JACK PCB **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.....
- *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.*
- *Meaning of the figures and others in the parentheses in the parts list.*

  Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

  IC 301 (A, 91, 111) IC NJM2068V

Unit Number : CWN2189(UC)
Unit Number : CWN2089(EW5)
Unit Name : Navi Mother Unit
Unit Number : CWX3446(UC)
Unit Number : CWX3447(EW5)
Unit Name : GPS Unit
Unit Number : CWN2190(UC)
Unit Number : CWN2090(EW5)
Unit Name : AV Unit
Unit Number : CWN2188(UC)
Unit Number : CWN2091(EW5)
Unit Name : Monitor Unit
Unit Number :
Unit Name : Keyboard Unit
Unit Number : CWX3401
Unit Name : DVD Core Unit
Unit Number : CWX3154
Unit Name : Compound Unit(A)
Unit Number : CWX3394
Unit Name : Compound Unit(B)

A

Unit Number : CWN2189(UC)
Unit Number : CWN2089(EW5)
Unit Name : Navi Mother Unit

MISCELLANEOUS

Circuit Symbol and No.			Part No.
IC 1	(B,135,30)	IC	K4S561632H-UL75
IC 2	(A,138,50)	IC	UPD705103GM-180S1
IC 3	(B,151,30)	IC	HY57V561620FLTP-H
IC 4	(A,154,20)	IC	TC7SZ08FU
IC 5	(B,143,54)	IC	PD6336C
IC 101	(A,131,17)	IC	TC74LCX08FTS1
IC 102	(A,133,11)	IC	TC7SH04FUS1
IC 103	(A,131,27)	IC	TC74LCX245FTS1
IC 104	(A,139,27)	IC	TC74LCX245FTS1
IC 105	(A,148,27)	IC	TC74LCX245FTS1
IC 106	(A,156,27)	IC	TC74LCX245FTS1
IC 107	(A,159,37)	IC	TC74LCX541FTS1
IC 108	(A,159,45)	IC	TC74LCX541FTS1
IC 109	(A,159,54)	IC	TC74LCX541FTS1
IC 110	(B,114,39)	IC(UC)	PEH103B
	(B,114,39)	IC(EW5)	PEH077B
IC 111	(B,114,23)	IC(UC)	PEH104B
	(B,114,23)	IC(EW5)	PEH078B
IC 112	(B,103,61)	IC	TC7SH00FUS1
IC 113	(B,115,57)	IC	M5M5V216ATP-70HI
IC 114	(B,103,58)	IC	TC7SH08FUS1
IC 201	(A,101,24)	IC	MB86291APFVS-G-DL
IC 301	(A,141,18)	IC	M51957BFP
IC 302	(A,138,10)	IC	TC7SH08FUS1
IC 304	(A,105,52)	IC	AK4388VT
IC 309	(A,118,48)	IC	TC7SH08FUS1
IC 1901	(B,57,57)	IC	TPS5120DBT
IC 1903	(B,73,83)	IC	TPS5103IDB
IC 1931	(B,56,96)	IC	TPS5103IDB
IC 2050	(A,20,38)	IC	TC74VHCT08AFTS1
IC 2051	(A,38,37)	IC	TC7WH32FU
IC 2052	(A,10,40)	IC	TC7S32FU
IC 2053	(A,39,46)	IC	TC7WH08FU
IC 2055	(A,13,34)	IC	BD5335FVE
IC 2056	(B,23,46)	IC(UC)	PE5580A
	(B,23,46)	IC(EW5)	PE5581A
IC 2058	(B,9,126)	IC	NJM2904M
IC 2061	(B,9,22)	IC	TC7SH08FUS1
IC 2062	(B,6,22)	L-MOS AND Gate	TC7SET08FUS1
IC 2065	(B,63,29)	IC	TC7SH04FUS1
IC 2067	(A,86,114)	L-MOS AND Gate	TC7SET08FUS1
IC 2068	(A,13,24)	IC	HA12241FP
IC 2070	(A,29,77)	IC	S-814A50AUC-BDO

Circuit Symbol and No.		Part No.
IC 2075	(A,147,103) IC	S-L2980A33MC-C6S
IC 2076	(B,28,93) IC	BD3931HFP
IC 2078	(B,115,109) IC	UPD4723GSS1
IC 2083	(A,33,38) IC	TC7SH14FUS1
IC 2084	(A,41,36) IC	TC7SH04FUS1
Q 201	(A,122,10) Transistor	UMD2N
Q 301	(A,147,21) Transistor	DTC114EUA
Q 1902	(B,66,48) FET	SP8K10S
Q 1903	(B,66,65) FET	SP8K10S
Q 1931	(B,55,83) FET	SP8K10S
Q 1934	(B,74,97) FET	SP8K2
Q 1935	(B,49,56) FET	2SK1827
Q 2050	(A,126,87) Transistor	2SA1576A
Q 2051	(B,19,28) Transistor	2SA1576A
Q 2052	(B,7,135) Transistor	DTC114WK
Q 2053	(A,47,26) Transistor	DTC124EUA
Q 2054	(B,13,128) Transistor	DTC114EUA
Q 2055	(A,28,24) Transistor	2SA1576A
Q 2056	(B,48,120) Transistor	DTA114EUA
Q 2057	(B,38,117) Transistor	DTC114EUA
Q 2058	(B,35,120) Transistor	2SA1587
Q 2059	(A,45,26) Transistor	DTC124EUA
Q 2060	(B,40,123) Transistor	IMX1
Q 2061	(B,31,117) Transistor	DTC114EUA
Q 2062	(B,36,129) Transistor	2SD1760F5
Q 2068	(B,58,17) Transistor	2SA1576A
Q 2069	(B,58,21) Transistor	2SA1576A
Q 2070	(B,58,24) Transistor	2SA1576A
Q 2071	(B,94,86) Transistor	2SA1834F5
Q 2072	(B,105,82) Transistor	2SC4081
Q 2088	(A,33,94) Transistor	2SC4081
Q 2089	(B,37,108) Transistor	DTC114EUA
Q 2090	(A,37,95) Transistor	2SC4081
Q 2091	(B,35,113) Transistor	2SA1576A
Q 2092	(B,67,74) Transistor	DTC114EUA
Q 2093	(B,54,105) Transistor	DTC114EUA
Q 2094	(B,77,75) Transistor	DTC114EUA
Q 2095	(B,49,117) Transistor	2SC4081
Q 2096	(B,43,36) Transistor(EW5)	DTC124EUA
Q 2097	(B,43,33) Transistor(EW5)	DTC124EUA
Q 2098	(B,43,30) Transistor(EW5)	DTC124EUA
Q 2099	(B,43,27) Transistor(EW5)	DTC124EUA
Q 2100	(A,50,128) Transistor	2SA1576A
Q 2101	(B,49,59) Transistor	DTC114EUA
Q 2102	(B,12,25) Transistor	2SA1576A
Q 2103	(B,5,28) Transistor	2SA1576A
Q 2104	(B,18,22) Transistor	DTC114EUA
Q 2105	(B,6,32) Transistor	DTC114EUA
D 1901	(B,65,59) Diode	RB160M-40
D 1902	(B,65,54) Diode	RB160M-40
D 1916	(B,78,89) Diode	RB400D
D 1918	(A,68,96) Diode	RB060L-40
D 1931	(B,51,90) Diode	RB160M-40
D 1933	(A,50,95) Diode	RB083L-20
D 2050	(A,28,53) Diode	DAN202U
D 2051	(B,14,118) Diode	1SS355
D 2052	(A,31,25) Diode	1SS355
D 2054	(B,39,120) Diode	RB500V-40
D 2055	(B,28,123) Diode	RB500V-40
D 2056	(B,28,119) Diode	HZU8R2(B1)

Circuit Symbol and No.		Part No.
D 2057	(B,27,128) Diode	HZU11(B2)
D 2059	(B,12,90) Diode	EDZ5R6(B)
D 2060	(B,110,120) Diode	EDZ13(B)
D 2061	(B,108,121) Diode	EDZ13(B)
D 2062	(B,109,123) Diode	EDZ13(B)
D 2063	(B,108,125) Diode	EDZ13(B)
D 2064	(B,112,123) Diode	EDZ13(B)
D 2065	(B,111,125) Diode	EDZ13(B)
D 2066	(B,115,123) Diode	EDZ13(B)
D 2067	(B,114,125) Diode	EDZ13(B)
D 2069	(B,118,123) Diode	EDZ13(B)
D 2070	(B,117,125) Diode	EDZ13(B)
D 2072	(B,121,125) Diode	EDZ13(B)
D 2073	(B,120,127) Diode	EDZ13(B)
D 2078	(A,94,122) Diode	EDZ5R6(B)
D 2079	(B,148,122) Diode	UDZS18(B)
D 2081	(B,89,131) Diode	EDZ5R6(B)
D 2082	(B,148,125) Diode	UDZS18(B)
D 2084	(A,108,120) Diode	EDZ6R8(B)
D 2085	(B,148,124) Diode	UDZS18(B)
D 2096	(A,40,83) Diode	HZU7R5(B3)
D 2097	(A,40,81) Diode	RB500V-40
D 2098	(A,38,79) Diode	RB500V-40
D 2099	(A,36,81) Diode	EDZ20(B)
D 2100	(B,130,125) Diode	MALS068X
D 2101	(B,148,120) Diode	MALS068X
D 2102	(B,130,124) Diode	MALS068X
D 2103	(B,130,122) Diode	MALS068X
D 2104	(A,54,105) Diode	RB500V-40
L 1	(B,127,16) Inductor	CTF1558
L 2	(B,142,17) Inductor	CTF1558
L 3	(A,154,16) Inductor	CTF1410
L 5	(A,135,32) Inductor	CTF1556
L 6	(A,123,33) Inductor	CTF1295
L 7	(B,157,53) Inductor	CTF1558
L 8	(A,144,67) Inductor	CTF1556
L 101	(A,128,15) Chip Ferrite Bead	CTF1557
L 102	(A,129,11) Chip Ferrite Bead	CTF1557
L 103	(A,135,27) Chip Ferrite Bead	CTF1557
L 104	(A,144,26) Chip Ferrite Bead	CTF1557
L 105	(A,152,26) Chip Ferrite Bead	CTF1557
L 106	(A,160,26) Chip Ferrite Bead	CTF1557
L 107	(A,159,33) Chip Ferrite Bead	CTF1557
L 108	(A,159,41) Chip Ferrite Bead	CTF1557
L 109	(A,159,49) Chip Ferrite Bead	CTF1557
L 110	(B,102,37) Inductor	CTF1556
L 111	(B,102,21) Inductor	CTF1556
L 112	(B,103,54) Inductor	CTF1556
L 113	(B,105,59) Chip Ferrite Bead	CTF1557
L 114	(B,105,54) Chip Ferrite Bead	CTF1557
L 201	(A,122,28) Inductor	CTF1556
L 203	(A,82,9) Inductor	CTF1556
L 204	(A,101,44) Inductor	CTF1488
L 205	(A,120,20) Inductor	CTF1556
L 206	(A,85,44) Inductor	CTF1556
L 207	(A,91,42) Inductor	CTF1379
L 301	(A,137,18) Chip Ferrite Bead	CTF1557
L 302	(A,141,12) Chip Ferrite Bead	CTF1557
L 305	(A,99,53) Inductor	CTF1556
L 308	(A,106,58) Inductor	CTF1334

Circuit Symbol and No.		Part No.
L 312	(A,117,51) Inductor	CTF1410
L 619	(A,125,79) Inductor	CTF1306
L 620	(A,123,83) Inductor	CTF1306
L 621	(A,124,83) Inductor	CTF1306
L 622	(A,122,79) Inductor	CTF1334
L 623	(A,122,83) Inductor	CTF1387
L 624	(A,121,79) Inductor	CTF1334
L 625	(A,103,79) Inductor	CTF1306
L 626	(A,101,79) Inductor	CTF1306
L 627	(A,124,79) Inductor	CTF1306
L 628	(A,119,79) Inductor	CTF1306
L 630	(A,114,83) Inductor	CTF1306
L 631	(A,117,83) Inductor	CTF1334
L 632	(A,117,79) Inductor	CTF1334
L 633	(A,116,83) Inductor	CTF1334
L 634	(A,115,79) Inductor	CTF1334
L 635	(A,118,79) Inductor	CTF1306
L 636	(A,119,83) Inductor	CTF1334
L 637	(A,114,79) Inductor	CTF1306
L 638	(A,113,83) Inductor	CTF1306
L 639	(A,112,83) Inductor	CTF1306
L 640	(A,111,79) Inductor	CTF1306
L 644	(A,109,83) Inductor	CTF1306
L 645	(A,108,79) Inductor	CTF1306
L 646	(A,107,83) Inductor	CTF1334
L 647	(A,107,79) Inductor	CTF1334
L 648	(B,69,18) Inductor	CTF1378
L 649	(B,69,22) Inductor	CTF1378
L 650	(B,69,26) Inductor	CTF1378
L 651	(B,66,29) Inductor	CTF1378
L 652	(A,106,83) Inductor	CTF1334
L 653	(A,105,79) Inductor	CTF1467
L 744	(A,110,79) Inductor	CTF1334
L 793	(A,126,83) Inductor	CTF1334
L 1901	(A,67,47) Inductor	CTH1257
L 1902	(A,67,66) Inductor	CTH1257
L 1903	(A,55,64) Inductor	CTH1253
L 1904	(A,75,94) Inductor	CTH1255
L 1907	(A,71,82) Inductor	CTH1257
L 1931	(A,54,86) Inductor	CTH1255
L 1932	(A,58,97) Inductor	CTH1257
L 2000	(B,42,72) Inductor	CTF1357
L 2001	(A,13,42) Inductor	CTF1410
L 2002	(A,16,34) Inductor	CTF1410
L 2003	(A,36,42) Inductor	CTF1410
L 2004	(B,36,34) Inductor	CTF1410
L 2005	(B,19,33) Inductor	CTF1410
L 2006	(A,35,66) Inductor	CTF1463
L 2007	(A,31,41) Inductor	CTF1410
L 2009	(A,32,64) Inductor	CTF1306
L 2010	(A,35,63) Inductor	CTF1306
L 2011	(A,32,62) Inductor	CTF1306
L 2012	(A,33,48) Inductor	CTF1410
L 2013	(A,35,62) Inductor	CTF1306
L 2014	(A,42,63) Inductor	CTF1306
L 2015	(A,32,61) Inductor	CTF1306
L 2016	(A,33,59) Inductor	CTF1306
L 2017	(A,33,57) Inductor	CTF1306
L 2018	(A,42,57) Inductor	CTF1306
L 2019	(A,35,45) Inductor	CTF1410

Circuit Symbol and No.		Part No.
L 2020	(B,37,46) Inductor	CTF1410
L 2021	(B,9,53) Inductor	CTF1410
L 2022	(B,23,61) Inductor	CTF1410
L 2023	(B,35,63) Inductor	CTF1410
L 2025	(B,5,119) Inductor	CTF1334
L 2027	(B,14,130) Inductor	CTF1334
L 2028	(B,17,123) Inductor	CTF1334
L 2030	(B,8,25) Inductor	CTF1410
L 2031	(B,6,25) Inductor	CTF1410
L 2050	(A,32,73) Inductor	CTF1453
L 2051	(A,93,82) Inductor	CTF1453
L 2151	(A,91,108) Inductor	CTF1453
L 2220	(A,110,83) Inductor	CTF1334
L 2221	(A,112,79) Inductor	CTF1334
L 2234	(B,7,95) Inductor	CTF1334
L 2235	(B,7,96) Inductor	CTF1334
L 2236	(B,7,98) Inductor	CTF1334
L 2237	(B,7,99) Inductor	CTF1334
L 2238	(B,7,86) Inductor(EW5)	CTF1334
L 2239	(B,7,88) Inductor(EW5)	CTF1334
L 2240	(B,7,89) Inductor(EW5)	CTF1334
L 2241	(B,7,91) Inductor(EW5)	CTF1334
L 2242	(B,7,93) Inductor(EW5)	CTF1334
L 2245	(A,14,63) Inductor	CTF1334
L 2246	(B,17,102) Inductor	CTF1334
L 2247	(B,18,99) Inductor	CTF1334
L 2248	(B,15,103) Inductor	CTF1463
L 2249	(B,16,89) Inductor(EW5)	CTF1334
L 2250	(B,13,89) Inductor(EW5)	CTF1334
L 2251	(B,14,94) Inductor	CTF1334
L 2252	(B,14,96) Inductor	CTF1334
L 2253	(B,14,97) Inductor	CTF1334
L 2254	(B,14,99) Inductor	CTF1334
L 2257	(A,40,107) Inductor	CTF1334
L 2262	(B,122,99) Inductor	CTF1410
L 2263	(B,59,31) Inductor	CTF1410
L 2264	(B,116,115) Inductor	CTF1334
L 2265	(B,115,115) Inductor	CTF1334
L 2266	(B,113,115) Inductor	CTF1334
L 2267	(B,112,115) Inductor	CTF1334
L 2268	(B,111,115) Inductor	CTF1334
L 2269	(B,109,115) Inductor	CTF1334
L 2270	(A,14,29) Inductor	LCYC2R2K1608
L 2271	(A,134,117) Inductor	CTF1334
L 2272	(A,137,117) Inductor	CTF1334
L 2273	(A,138,117) Inductor	CTF1334
L 2274	(A,133,117) Inductor	CTF1334
L 2276	(A,91,115) Inductor	CTF1379
L 2400	(A,105,91) Inductor	CTF1393
L 2401	(A,142,103) Chip Ferrite Bead	CTF1399
L 2402	(B,77,43) Inductor	CTF1393
L 2403	(B,102,78) Inductor	CTF1393
L 2404	(A,22,80) Inductor	CTF1393
L 2405	(A,35,78) Inductor	CTF1357
L 2406	(B,53,10) Inductor	CTF1410
L 2407	(A,41,41) Inductor	CTF1410
X 1	(A,139,71) Radiator 30.000 MHz	CSS1633
X 2	(B,131,60) Radiator 33.000 MHz	CSS1634
X 3	(B,157,48) Radiator 33.868 8 MHz	CSS1551
X 202	(A,122,20) Radiator 14.318 18 MHz	CSS1632

Circuit Symbol and No.		Part No.
X 2050	(B,6,38) Radiator 18.874 368 MHz	CSS1622
⚠FU1901	(A,76,68) Fuse 2 A	CEK1257
⚠FU1902	(A,76,46) Fuse 2 A	CEK1257
⚠FU1903	(A,53,73) Fuse 2.5 A	CEK1258
⚠FU1908	(A,77,101) Fuse 2.5 A	CEK1258
⚠FU1913	(A,79,79) Fuse 2.5 A	CEK1258
⚠FU1931	(A,50,101) Fuse 2.5 A	CEK1258
⚠FU2051	(A,31,126) Fuse 1 A	CEK1254
⚠FU2052	(B,114,130) Fuse 2 A	CEK1257
⚠FU2060	(A,50,79) Fuse 3.15 A	CEK1259
GY1	(A,10,69) Sensor	CSX1122
GY4	(A,35,111) Sensor	CSX1118
EF2052	(B,33,78) EMI Filter	CCG1172
EF2053	(B,32,74) EMI Filter	CCG1172

RESISTORS

R 1	(B,127,33)	RS1/16S0R0J
R 3	(B,127,36)	RS1/16S0R0J
R 5	(A,110,58)	RS1/16S473J
R 6	(A,117,62)	RS1/16S473J
R 7	(A,152,47)	RS1/16S220J
R 8	(A,116,69)	RS1/16S473J
R 9	(A,119,66)	RS1/16S473J
R 10	(A,148,69)	RS1/16S104J
R 11	(A,151,69)	RAB4C473J
R 12	(A,141,66)	RS1/16S105J
R 13	(A,139,66)	RS1/16S151J
R 14	(B,143,33)	RS1/16S0R0J
R 16	(B,143,36)	RS1/16S0R0J
R 19	(A,117,67)	RS1/16S473J
R 20	(A,131,68)	RS1/16S101J
R 21	(A,134,65)	RS1/16S101J
R 22	(A,132,68)	RS1/16S101J
R 23	(B,133,58)	RS1/16S105J
R 24	(B,133,61)	RS1/16S151J
R 25	(A,130,68)	RS1/16S101J
R 26	(A,134,68)	RS1/16S101J
R 27	(A,130,65)	RS1/16S101J
R 28	(A,133,65)	RS1/16S101J
R 29	(A,129,65)	RS1/16S101J
R 30	(A,128,65)	RS1/16S101J
R 31	(A,128,68)	RS1/16S101J
R 32	(B,133,52)	RS1/16S473J
R 33	(A,127,68)	RS1/16S473J
R 34	(B,154,49)	RS1/16S105J
R 35	(A,123,47)	RS1/16S104J
R 36	(A,122,58)	RS1/16S101J
R 37	(A,122,59)	RS1/16S101J
R 38	(A,122,61)	RS1/16S101J
R 39	(A,122,62)	RS1/16S101J
R 40	(A,122,45)	RS1/16S470J
R 45	(B,126,54)	RS1/16S104J
R 46	(B,126,60)	RS1/16S104J
R 47	(B,156,46)	RS1/16S104J
R 48	(B,155,64)	RS1/16S104J
R 49	(B,156,64)	RS1/16S104J
R 50	(B,158,64)	RS1/16S104J
R 51	(B,80,24)	RS1/16SS101J
R 52	(B,80,25)	RS1/16SS101J
R 53	(B,80,26)	RS1/16SS101J

Circuit Symbol and No.		Part No.
R 54	(B,80,27)	RS1/16SS101J
R 55	(B,80,29)	RS1/16SS101J
R 57	(B,80,28)	RS1/16SS101J
R 59	(B,80,30)	RS1/16SS101J
R 60	(B,80,31)	RS1/16SS101J
R 61	(A,57,17)	RS1/16SS0R0J
R 62	(B,80,33)	RS1/16SS101J
R 63	(B,80,32)	RS1/16SS101J
R 64	(B,82,37)	RS1/16SS101J
R 65	(B,80,35)	RS1/16SS101J
R 66	(A,72,33)	RS1/16SS101J
R 67	(A,71,32)	RS1/16SS101J
R 68	(A,71,33)	RS1/16SS101J
R 69	(A,70,32)	RS1/16SS101J
R 70	(A,69,33)	RS1/16SS101J
R 71	(A,69,32)	RS1/16SS101J
R 72	(A,68,33)	RS1/16SS101J
R 73	(A,68,32)	RS1/16SS101J
R 74	(A,67,33)	RS1/16SS101J
R 75	(A,67,32)	RS1/16SS101J
R 76	(A,66,33)	RS1/16SS101J
R 77	(A,66,32)	RS1/16SS101J
R 78	(A,65,33)	RS1/16SS101J
R 79	(A,64,32)	RS1/16SS101J
R 80	(A,64,33)	RS1/16SS101J
R 81	(A,63,32)	RS1/16SS101J
R 82	(A,63,33)	RS1/16SS101J
R 84	(B,80,36)	RS1/16SS562J
R 85	(B,82,30)	RS1/16SS103J
R 87	(B,156,62)	RS1/16S104J
R 88	(B,128,47)	RS1/16S104J
R 89	(B,132,45)	RS1/16S0R0J
R 90	(B,132,44)	RS1/16S0R0J
R 93	(B,130,43)	RS1/16S153J
R 94	(B,134,43)	RS1/16S153J
R 95	(B,130,48)	RS1/16S153J
R 96	(B,130,47)	RS1/16S153J
R 97	(A,118,55)	RS1/16S473J
R 98	(A,155,60)	RS1/16S473J
R 101	(B,102,35)	RS1/16S473J
R 102	(B,102,20)	RS1/16S473J
R 103	(B,101,58)	RS1/16S473J
R 104	(A,131,21)	RS1/16S220J
R 151	(B,127,31)	RS1/16S0R0J
R 152	(B,158,34)	RS1/16S0R0J
R 153	(B,142,43)	RS1/16S471J
R 154	(A,116,55)	RS1/16S473J
R 155	(A,113,55)	RS1/16S473J
R 156	(A,105,65)	RS1/16S473J
R 158	(A,118,51)	RS1/16S473J
R 159	(B,126,56)	RS1/16S473J
R 160	(A,119,60)	RS1/16S473J
R 161	(A,105,68)	RS1/16S103J
R 162	(B,131,56)	RS1/16S473J
R 163	(A,122,57)	RS1/16S560J
R 164	(A,112,65)	RS1/16S473J
R 165	(A,122,68)	RS1/16S473J
R 166	(A,104,68)	RS1/16S473J
R 167	(A,117,63)	RS1/16S473J
R 170	(A,107,65)	RS1/16S473J

Circuit Symbol and No.		Part No.	Circuit Symbol and No.		Part No.
R 171	(A,109,65)	RS1/16S473J	R 365	(B,97,50)	RS1/16SS473J
R 172	(A,108,65)	RS1/16S473J	R 366	(B,97,49)	RS1/16SS473J
R 174	(A,122,66)	RS1/16S473J	R 367	(B,99,48)	RS1/16SS473J
R 175	(A,122,67)	RS1/16S473J	R 368	(B,99,50)	RS1/16SS473J
R 176	(A,122,55)	RS1/16S0R0J	R 369	(B,97,57)	RS1/16SS473J
R 177	(A,117,64)	RS1/16S473J	R 370	(A,89,71)	RS1/8S0R0J
R 180	(A,145,65)	RS1/16S101J	R 629	(A,120,83)	RS1/16S681J
R 181	(A,114,55)	RS1/16S473J	R 781	(B,59,32)	RS1/16S0R0J
R 182	(A,117,55)	RS1/16S473J	R 2000	(B,15,28)	RS1/16S0R0J
R 183	(A,114,62)	RS1/16S473J	R 2001	(A,19,16)	RS1/16S0R0J
R 184	(A,114,58)	RS1/16S473J	R 2002	(B,20,24)	RS1/16S0R0J
R 185	(A,112,62)	RS1/16S473J	R 2003	(A,20,11)	RS1/16S0R0J
R 186	(A,113,58)	RS1/16S473J	R 2004	(B,21,21)	RS1/16S0R0J
R 187	(A,112,58)	RS1/16S473J	R 2005	(A,21,16)	RS1/16S0R0J
R 188	(A,107,68)	RS1/16S473J	R 2006	(B,21,24)	RS1/16S0R0J
R 189	(A,108,68)	RS1/16S473J	R 2007	(A,22,11)	RS1/16S0R0J
R 190	(A,109,68)	RS1/16S473J	R 2008	(B,22,21)	RS1/16S0R0J
R 191	(B,126,63)	RS1/16S473J	R 2009	(B,26,31)	RS1/16S0R0J
R 192	(A,113,62)	RS1/16S473J	R 2010	(B,23,24)	RS1/16S0R0J
R 193	(A,123,64)	RS1/16S473J	R 2011	(B,24,31)	RS1/16S0R0J
R 194	(A,146,67)	RS1/16S390J	R 2012	(B,24,21)	RS1/16S0R0J
R 196	(A,112,68)	RS1/16S473J	R 2014	(B,24,24)	RS1/16S0R0J
R 198	(A,124,63)	RS1/16S473J	R 2015	(A,25,11)	RS1/16S0R0J
R 201	(A,120,40)	RN1/16SE1502D	R 2016	(B,25,21)	RS1/16S0R0J
R 202	(A,120,39)	RN1/16SE1202D	R 2017	(A,25,16)	RS1/16S0R0J
R 210	(A,99,41)	RS1/16S104J	R 2018	(B,26,24)	RS1/16S0R0J
R 211	(A,97,41)	RS1/16S104J	R 2019	(A,26,11)	RS1/16S0R0J
R 212	(A,90,42)	RS1/16S104J	R 2020	(B,27,21)	RS1/16S0R0J
R 213	(A,88,42)	RS1/16S104J	R 2021	(A,27,16)	RS1/16S0R0J
R 217	(A,121,35)	RS1/16S272J	R 2022	(B,27,24)	RS1/16S0R0J
R 220	(A,122,7)	RS1/16S223J	R 2023	(A,28,11)	RS1/16S0R0J
R 221	(A,121,25)	RS1/16S105J	R 2024	(B,28,21)	RS1/16S0R0J
R 222	(A,122,16)	RS1/16S151J	R 2025	(A,28,16)	RS1/16S0R0J
R 224	(A,79,15)	RS1/16S0R0J	R 2026	(B,29,24)	RS1/16S0R0J
R 225	(A,117,8)	RS1/16S104J	R 2027	(A,29,11)	RS1/16S0R0J
R 226	(A,118,8)	RS1/16S104J	R 2028	(B,30,21)	RS1/16S0R0J
R 227	(A,79,18)	RS1/16S104J	R 2029	(A,30,16)	RS1/16S0R0J
R 228	(A,80,18)	RS1/16S104J	R 2030	(B,30,24)	RS1/16S0R0J
R 229	(B,115,15)	RS1/16S560J	R 2031	(A,31,11)	RS1/16S0R0J
R 230	(A,80,12)	RS1/16S104J	R 2032	(B,31,21)	RS1/16S0R0J
R 232	(A,82,12)	RS1/16S104J	R 2033	(A,18,16)	RS1/16S0R0J
R 237	(B,112,15)	RS1/16S104J	R 2034	(A,32,11)	RS1/16S0R0J
R 238	(B,114,15)	RS1/16S330J	R 2035	(B,33,21)	RS1/16S0R0J
R 240	(A,114,7)	RS1/16S104J	R 2036	(A,33,16)	RS1/16S0R0J
R 301	(A,136,18)	RS1/16S123J	R 2037	(B,33,24)	RS1/16S0R0J
R 302	(A,136,21)	RS1/16S103J	R 2038	(A,34,11)	RS1/16S0R0J
R 303	(A,137,15)	RS1/16S473J	R 2039	(B,34,21)	RS1/16S0R0J
R 320	(A,106,56)	RS1/16S103J	R 2040	(A,34,16)	RS1/16S0R0J
R 329	(A,110,49)	RS1/16SS821J	R 2041	(B,35,24)	RS1/16S0R0J
R 330	(A,110,52)	RS1/16SS221J	R 2042	(A,35,11)	RS1/16S0R0J
R 331	(A,110,51)	RS1/16SS221J	R 2043	(B,14,20) (EW5)	RS1/16S0R0J
R 332	(A,110,50)	RS1/16SS472J	R 2044	(A,36,16)	RS1/16S0R0J
R 349	(B,156,43)	RS1/16S473J	R 2045	(B,17,19) (EW5)	RS1/16S0R0J
R 350	(B,147,42)	RS1/16S473J	R 2046	(A,37,11)	RS1/16S0R0J
R 356	(A,109,55)	RS1/16S0R0J	R 2047	(B,36,21) (EW5)	RS1/16S0R0J
R 360	(B,97,59)	RS1/16SS473J	R 2048	(A,37,16)	RS1/16S0R0J
R 361	(B,97,46)	RS1/16SS473J	R 2049	(B,14,19) (EW5)	RS1/16S0R0J
R 362	(B,97,58)	RS1/16SS473J	R 2050	(A,38,11)	RS1/16S0R0J
R 363	(B,97,47)	RS1/16SS473J	R 2051	(B,17,18) (EW5)	RS1/16S0R0J
R 364	(B,97,51)	RS1/16SS473J	R 2052	(A,39,16)	RS1/16S0R0J

Circuit Symbol and No.		Part No.
R 2053	(B,14,17) (EW5)	RS1/16S0R0J
R 2054	(A,40,11)	RS1/16S0R0J
R 2055	(B,17,16) (EW5)	RS1/16S0R0J
R 2056	(A,40,16)	RS1/16S0R0J
R 2057	(B,36,24)	RS1/16S0R0J
R 2058	(A,41,11)	RS1/16S0R0J
R 2059	(B,37,21)	RS1/16S0R0J
R 2060	(A,42,16)	RS1/16S0R0J
R 2061	(B,38,24)	RS1/16S0R0J
R 2062	(A,43,11)	RS1/16S0R0J
R 2063	(B,39,21)	RS1/16S0R0J
R 2064	(A,43,16)	RS1/16S0R0J
R 2065	(B,40,25)	RS1/16S0R0J
R 2066	(B,59,28)	RS1/16S0R0J
R 2067	(B,41,21)	RS1/16S0R0J
R 2068	(B,65,16)	RS1/16S0R0J
R 2069	(B,42,21)	RS1/16S0R0J
R 2070	(B,64,20)	RS1/16S0R0J
R 2071	(B,44,21) (EW5)	RS1/16S0R0J
R 2072	(B,65,24)	RS1/16S0R0J
R 2073	(B,44,24) (EW5)	RS1/16S0R0J
R 2074	(A,47,11)	RS1/16S0R0J
R 2075	(B,45,22) (EW5)	RS1/16S0R0J
R 2076	(A,48,16)	RS1/16S0R0J
R 2077	(B,46,24) (EW5)	RS1/16S0R0J
R 2078	(A,29,65)	RS1/16S104J
R 2079	(B,15,34)	RS1/16S104J
R 2081	(B,43,25)	RS1/16S471J
R 2082	(B,41,25)	RS1/16S471J
R 2083	(B,36,30)	RS1/16S471J
R 2084	(B,22,31) (EW5)	RS1/16S223J
R 2085	(B,23,33) (EW5)	RS1/16S681J
R 2086	(B,27,31) (EW5)	RS1/16S681J
R 2087	(B,31,30)	RAB4C104J
R 2088	(B,16,28)	RS1/16S472J
R 2089	(A,13,31)	RS1/16S102J
R 2090	(B,19,31)	RS1/16S472J
R 2091	(B,6,45)	RS1/16S104J
R 2093	(B,22,29)	RS1/16S102J
R 2094	(B,24,28)	RS1/16S473J
R 2095	(B,8,45)	RS1/16S104J
R 2096	(A,36,48)	RS1/16S104J
R 2097	(B,37,39)	RS1/16S102J
R 2098	(B,37,40)	RS1/16S103J
R 2099	(B,36,43) (EW5)	RAB4C681J
R 2100	(B,8,47)	RS1/16S220J
R 2101	(B,8,48)	RS1/16S220J
R 2102	(B,40,43) (EW5)	RAB4C223J
R 2103	(B,37,49)	RAB4C681J
R 2104	(A,45,16)	RS1/16S822J
R 2105	(A,46,11)	RS1/16S822J
R 2107	(B,37,59)	RS1/16S104J
R 2108	(B,10,56)	RS1/16S220J
R 2110	(B,38,59)	RS1/16S104J
R 2111	(B,11,59)	RS1/16S220J
R 2113	(B,40,59)	RS1/16S104J
R 2114	(B,8,50)	RS1/16S104J
R 2115	(B,10,53)	RS1/16S104J
R 2116	(B,26,60)	RS1/16S102J
R 2118	(B,41,59)	RS1/16S104J

Circuit Symbol and No.		Part No.
R 2119	(B,31,60)	RS1/16S104J
R 2120	(B,15,60)	RS1/16S681J
R 2121	(B,37,54)	RAB4C0R0J
R 2122	(A,26,54)	RS1/16S681J
R 2123	(B,20,61)	RS1/16S220J
R 2124	(B,18,60)	RS1/16S220J
R 2125	(B,17,61)	RS1/16S220J
R 2126	(A,28,56)	RS1/16S0R0J
R 2127	(B,43,58)	RS1/16S473J
R 2129	(B,34,63)	RS1/16S104J
R 2130	(B,26,64)	RAB4C104J
R 2132	(B,15,61)	RS1/16S103J
R 2135	(B,30,63)	RS1/16S103J
R 2137	(B,28,60)	RS1/16S102J
R 2138	(B,22,66)	RS1/16S104J
R 2139	(B,37,64)	RS1/16S104J
R 2141	(B,7,131)	RS1/16S104J
R 2142	(B,8,115)	RS1/16S473J
R 2143	(B,10,131)	RS1/16S563J
R 2144	(B,9,132)	RS1/16S513J
R 2145	(B,9,121)	RS1/16S104J
R 2146	(B,9,118)	RS1/16S513J
R 2147	(B,11,121)	RS1/16S513J
R 2148	(B,6,120)	RS1/16S102J
R 2149	(B,6,117)	RS1/16S102J
R 2150	(A,49,23)	RS1/16S102J
R 2151	(A,18,42)	RS1/16SS0R0J
R 2152	(A,20,44)	RS1/16SS0R0J
R 2157	(A,47,23)	RS1/16S104J
R 2160	(B,10,44)	RS1/16SS0R0J
R 2162	(B,12,119)	RS1/16S564J
R 2163	(B,14,115)	RS1/16S202J
R 2164	(B,11,115)	RS1/16S822J
R 2166	(B,15,123)	RS1/16S203J
R 2169	(B,15,120)	RS1/16S333J
R 2172	(A,25,24)	RS1/16S101J
R 2173	(A,28,21)	RS1/16S471J
R 2174	(A,30,23)	RS1/16S103J
R 2177	(A,31,21)	RS1/16S272J
R 2182	(B,42,119)	RS1/16S472J
R 2183	(B,46,124)	RS1/16S103J
R 2185	(B,32,120)	RS1/16S103J
R 2187	(B,7,20)	RS1/16S102J
R 2188	(B,35,117)	RS1/16S512J
R 2189	(B,43,122)	RS1/16S224J
R 2190	(B,37,123)	RS1/16S472J
R 2191	(A,45,23)	RS1/16S393J
R 2192	(A,45,20)	RS1/16S514J
R 2193	(B,45,120)	RS1/10S221J
R 2194	(B,32,123)	RS1/4S471J
R 2196	(A,43,21)	RS1/16S472J
R 2197	(A,41,21)	RS1/16S104J
R 2198	(A,40,20)	RS1/16S472J
R 2228	(A,9,63)	RS1/16S104J
R 2229	(A,9,61)	RS1/16S202J
R 2232	(B,18,94)	RS1/16S104J
R 2242	(B,12,92)	RS1/16S1001D
R 2244	(B,14,93)	RS1/16S1001D
R 2247	(B,17,92)	RS1/16S1101D
R 2266	(A,29,113)	RS1/16S0R0J

Circuit Symbol and No.		Part No.
R 2272	(A,29,111)	RS1/16S0R0J
R 2274	(A,128,90)	RS1/16S103J
R 2277	(B,114,102)	RS1/16S101J
R 2278	(B,113,99)	RS1/16S101J
R 2279	(B,113,102)	RS1/16S101J
R 2280	(B,112,99)	RS1/16S101J
R 2281	(B,111,102)	RS1/16S101J
R 2282	(B,110,99)	RS1/16S101J
R 2285	(A,7,29)	RS1/16S472J
R 2286	(B,65,18)	RS1/10S1000F
R 2287	(B,62,17)	RS1/16S100J
R 2288	(A,82,119)	RS1/16S221J
R 2289	(B,68,16)	RS1/16S102J
R 2290	(B,62,16)	RS1/16S0R0J
R 2291	(A,83,117)	RS1/16S621J
R 2292	(A,8,26)	RS1/16S101J
R 2293	(A,6,26)	RS1/16S101J
R 2295	(A,83,114)	RS1/16S473J
R 2296	(B,65,22)	RS1/10S1000F
R 2297	(B,61,21)	RS1/16S100J
R 2298	(B,67,20)	RS1/16S102J
R 2299	(B,61,20)	RS1/16S0R0J
R 2302	(B,65,26)	RS1/10S1000F
R 2303	(B,61,25)	RS1/16S100J
R 2304	(A,19,26)	RS1/16S102J
R 2305	(A,19,23)	RS1/16S101J
R 2306	(A,19,22)	RS1/16S101J
R 2307	(B,68,24)	RS1/16S102J
R 2308	(B,62,24)	RS1/16S0R0J
R 2309	(A,21,22)	RS1/16S620J
R 2310	(A,87,118)	RS1/16S121J
R 2313	(A,117,120)	RS1/16S681J
R 2314	(A,116,120)	RS1/16S681J
R 2315	(A,115,120)	RS1/16S681J
R 2316	(A,113,120)	RS1/16S681J
R 2317	(A,110,120)	RS1/16S101J
R 2318	(A,112,120)	RS1/16S681J
R 2319	(A,111,120)	RS1/16S681J
R 2400	(B,103,85)	RS1/10S330J
R 2401	(B,102,82)	RS1/16S330J
R 2402	(B,102,81)	RS1/16S330J
R 2405	(B,105,85)	RS1/16S102J
R 2406	(B,101,85)	RS1/16S103J
R 2410	(B,102,79)	RS1/16S392J
R 2413	(A,94,106)	RS1/16S0R0J
R 2414	(A,59,73)	RS1/4SA561J
R 2416	(B,38,114)	RS1/16S222J
R 2419	(B,54,119)	RS1/4S182J
R 2420	(A,42,91)	RS1/16S473J
R 2423	(B,38,110)	RS1/16S682J
R 2424	(A,39,95)	RS1/16S103J
R 2426	(A,40,84)	RS1/16S104J
R 2427	(B,36,111)	RS1/16S332J
R 2428	(A,42,96)	RS1/16S103J
R 2430	(A,108,85)	RS1/10S0R0J
R 2431	(A,72,119)	RS1/10S0R0J
R 2432	(A,29,67)	RS1/10S0R0J
R 2433	(A,29,71)	RS1/10S0R0J
R 2434	(A,27,71)	RS1/10S0R0J
R 2435	(A,22,66)	RS1/10S0R0J

Circuit Symbol and No.		Part No.
R 2503	(B,58,47)	RS1/16S0R0J
R 2504	(B,56,46)	RS1/16S1800D
R 2505	(B,53,46)	RS1/16S1801D
R 2506	(B,51,47)	RS1/16S1001D
R 2507	(B,58,66)	RS1/16S0R0J
R 2508	(B,56,67)	RS1/16S3900D
R 2509	(B,53,67)	RS1/16S4701D
R 2510	(B,51,66)	RS1/16S1001D
R 2511	(B,53,47)	RS1/16S122J
R 2512	(B,53,66)	RS1/16S132J
R 2513	(B,51,82)	RS1/16S331J
R 2514	(B,80,100)	RS1/10S0R0J
R 2515	(B,79,97)	RS1/16S5600D
R 2516	(B,79,94)	RS1/16S2401D
R 2517	(B,79,92)	RS1/16S1601D
R 2518	(B,52,49)	RS1/16S332J
R 2519	(B,52,52)	RS1/16S104J
R 2520	(B,50,80)	RS1/16S0R0J
R 2521	(B,50,82)	RS1/16S5600D
R 2522	(B,50,85)	RS1/16S8201D
R 2523	(B,50,87)	RS1/16S1501D
R 2524	(B,52,64)	RS1/16S332J
R 2525	(B,78,97)	RS1/16S101J
R 2526	(B,78,77)	RS1/16S332J
R 2527	(B,78,82)	RS1/16S104J
R 2528	(B,50,102)	RS1/16S332J
R 2529	(B,50,98)	RS1/16S104J
R 2531	(B,80,85)	RS1/16S473J
R 2532	(B,73,77)	RS1/16S1503D
R 2533	(B,56,102)	RS1/16S1503D
R 2534	(B,56,44)	RS1/16S473J
R 2535	(B,52,62)	RS1/16S104J
R 2537	(B,78,100)	RS1/10S100J
R 2538	(B,66,82)	RS1/16S100J
R 2540	(B,51,79)	RS1/10S100J
R 2541	(B,57,90)	RS1/16S184J
R 2543	(B,68,55)	RS1/10S150J
R 2544	(B,68,59)	RS1/10S150J
R 2545	(B,72,89)	RS1/16S184J
R 2546	(B,56,49)	RS1/16S224J
R 2547	(B,56,64)	RS1/16S224J
R 2548	(B,63,98)	RS1/16S100J
R 2549	(A,79,87)	RS1/16S105J
R 2550	(A,57,105)	RS1/16S105J
R 2552	(A,26,62)	RS1/16S104J
R 2553	(B,58,42)	RS1/4S101J
R 2554	(A,81,66)	RS1/4S221J
R 2555	(B,70,74)	RS1/16S8203D
R 2556	(B,57,104)	RS1/16S8203D
R 2557	(B,125,23)	RS1/16SS0R0J
R 2558	(B,49,112)	RS1/16S104J
R 2559	(B,52,116)	RS1/16S104J
R 2560	(A,7,59)	RS1/16S0R0J
R 2561	(A,146,81) (EW5)	RS1/16S0R0J
R 2562	(A,146,79) (UC)	RS1/16S0R0J
R 2564	(B,4,45)	RS1/16S473J
R 2565	(B,32,24)	RS1/16S0R0J
R 2567	(A,107,89)	RS1/8S0R0J
R 2568	(B,28,65)	RS1/16S472J
R 2569	(A,27,46)	RS1/16S0R0J

Circuit Symbol and No.			Part No.
R 2571	(B,39,34)		RS1/16S104J
R 2574	(B,5,18)		RS1/16S104J
R 2575	(B,126,38)		RS1/16SS0R0J
R 2577	(A,50,130)		RS1/16S473J
R 2579	(B,49,63)		RS1/16S104J
R 2581	(A,35,54)		RS1/16S104J
R 2584	(B,20,64)		RS1/16S104J
R 2585	(B,41,67)		RS1/16S0R0J
R 2586	(B,37,95)		RS1/10S0R0J
R 2587	(B,15,25)		RS1/16S472J
R 2588	(B,17,26)		RS1/16S472J
R 2589	(B,6,30)		RS1/16S472J
R 2590	(B,8,28)		RS1/16S472J
R 2591	(B,139,86)	(EW5)	RS1/16S0R0J
R 2592	(B,139,88)	(UC)	RS1/16S0R0J
R 2594	(B,10,28)		RS1/16S104J
R 2595	(A,28,59)		RS1/16S104J
R 2596	(A,128,86)		RS1/16S471J
R 2597	(A,128,88)		RS1/16S101J
R 2766	(B,57,26)		RS1/16SS101J
R 2768	(B,42,129)		RS1/16S0R0J
R 2770	(B,55,7)		RS1/10S0R0J
R 2776	(B,57,27)		RS1/16SS473J

CAPACITORS

C 1	(B,128,18)		CKSRYB104K16
C 2	(B,127,21)		CKSRYB104K16
C 3	(B,127,24)		CKSRYB104K16
C 4	(B,127,29)		CKSRYB104K16
C 5	(B,127,41)		CKSRYB104K16
C 6	(A,148,36)		CKSRYB104K16
C 7	(A,152,44)		CKSRYB104K16
C 8	(A,152,49)		CKSRYB104K16
C 9	(A,152,52)		CKSRYB104K16
C 10	(A,152,55)		CKSRYB104K16
C 11	(A,152,60)		CKSRYB104K16
C 12	(B,132,17)		CKSQYB106K6R3
C 13	(B,142,25)		CKSRYB104K16
C 14	(B,142,28)		CKSRYB104K16
C 15	(A,143,35)		CKSRYB104K16
C 16	(A,141,35)		CKSRYB104K16
C 17	(A,143,66)		CKSRYB104K16
C 18	(A,141,68)		CCSRCH100D50
C 19	(A,138,68)		CCSRCH100D50
C 20	(B,145,17)		CKSRYB104K16
C 21	(B,144,21)		CKSRYB104K16
C 22	(B,144,24)		CKSRYB104K16
C 23	(B,144,29)		CKSRYB104K16
C 24	(B,143,40)		CKSRYB104K16
C 25	(A,137,36)		CKSRYB104K16
C 26	(A,137,65)		CKSRYB104K16
C 27	(B,148,17)		CKSQYB106K6R3
C 28	(B,153,15)		CKSRYB104K16
C 29	(B,158,27)		CKSRYB104K16
C 30	(A,154,18)		CKSRYF104Z25
C 31	(B,128,58)		CCSRCH9R0D50
C 32	(B,128,62)		CCSRCH9R0D50
C 33	(A,132,36)		CKSRYB104K16
C 35	(A,132,65)		CKSRYB104K16
C 36	(A,126,64)		CKSRYB104K16

Circuit Symbol and No.			Part No.
C 38	(A,131,32)		CKSQYB106K6R3
C 39	(A,123,40)		CKSRYB104K16
C 40	(A,122,42)		CKSRYB104K16
C 41	(A,123,50)		CKSRYB104K16
C 42	(B,137,44)		CKSRYB104K16
C 44	(B,133,56)		CKSRYB104K16
C 47	(B,141,65)		CKSRYB104K16
C 49	(B,139,44)		CKSRYB104K16
C 51	(A,144,35)		CKSRYB224K10
C 54	(B,80,37)		CCSRCH121J50
C 55	(B,144,44)		CKSRYB104K16
C 57	(B,147,44)		CKSRYB104K16
C 60	(B,149,65)		CKSRYB104K16
C 63	(B,154,46)		CKSRYB104K16
C 64	(B,154,51)		CKSRYB104K16
C 66	(B,154,54)		CKSRYB104K16
C 67	(B,156,54)		CKSQYB106K6R3
C 68	(A,127,35)	22 µF	CCG1178
C 69	(A,127,33)	22 µF	CCG1178
C 70	(A,126,29)	22 µF	CCG1178
C 71	(B,125,60)		CKSRYF103Z50
C 72	(B,159,51)		CKSRYF103Z50
C 73	(B,157,51)		CKSRYF104Z25
C 74	(B,154,61)		CKSRYF104Z25
C 75	(A,152,17)		CKSRYF104Z25
C 76	(B,127,27)		CKSRYB103K16
C 77	(B,135,17)		CKSRYB103K16
C 78	(B,142,20)		CKSRYB103K16
C 79	(B,158,29)		CKSRYB103K50
C 80	(B,151,16)		CKSRYB103K50
C 81	(B,143,39)		CKSRYB224K10
C 82	(B,158,22)		CKSRYB103K50
C 96	(B,160,22)		CKSRYB224K10
C 97	(B,160,27)		CKSRYB224K10
C 98	(B,160,29)		CKSRYB224K10
C 101	(A,127,17)		CKSRYB104K16
C 102	(A,131,11)		CKSRYB104K16
C 103	(A,135,25)		CKSRYB104K16
C 104	(A,144,29)		CKSRYB104K16
C 105	(A,152,29)		CKSRYB104K16
C 106	(A,160,29)		CKSRYB104K16
C 107	(A,156,33)		CKSRYB104K16
C 108	(A,156,41)		CKSRYB104K16
C 109	(A,156,49)		CKSRYB104K16
C 110	(B,102,42)		CKSQYB106K6R3
C 111	(B,102,39)		CKSRYB104K16
C 112	(B,102,34)		CKSRYF224Z16
C 113	(B,102,26)		CKSQYB106K6R3
C 114	(B,102,23)		CKSRYB104K16
C 115	(B,102,18)		CKSRYF224Z16
C 116	(B,115,64)		CKSRYF104Z25
C 117	(B,103,51)		CKSQYB106K6R3
C 118	(B,103,49)		CKSRYB104K16
C 119	(B,115,49)		CKSRYF104Z25
C 120	(B,105,61)		CKSRYF104Z25
C 121	(B,105,56)		CKSRYF104Z25
C 122	(B,100,38)		CKSRYF104Z25
C 123	(B,102,54)		CKSRYF103Z50
C 124	(B,126,41)		CCSRCH101J50
C 125	(A,162,33)		CKSRYF104Z25

Circuit Symbol and No.		Part No.
C 126	(A,162,49)	CKSRYF104Z25
C 201	(A,120,37)	CKSRYB104K16
C 202	(A,115,42)	CKSRYB104K16
C 203	(A,113,42)	CKSRYB104K16
C 204	(A,118,37)	CKSRYB104K16
C 205	(A,107,42)	CKSRYB104K16
C 206	(A,102,41)	CKSRYB104K16
C 207	(A,96,41)	CKSRYB104K16
C 208	(A,92,42)	CKSRYB104K16
C 209	(A,83,37)	CKSRYB104K16
C 211	(A,118,34)	CKSRYB104K16
C 213	(A,118,31)	CKSRYB104K16
C 214	(A,119,32)	CKSRYB104K16
C 215	(A,83,35)	CKSRYB104K16
C 216	(A,83,31)	CKSRYB104K16
C 217	(A,83,30)	CKSRYB104K16
C 220	(A,121,32)	CKSQYB106K6R3
C 221	(A,118,29)	CKSRYB104K16
C 222	(A,118,26)	CKSRYB104K16
C 223	(A,120,8)	CKSRYB224K10
C 224	(A,118,24)	CKSRYB104K16
C 225	(A,120,28)	CKSRYB104K16
C 227	(A,83,28)	CKSRYB104K16
C 228	(A,83,24)	CKSRYB104K16
C 230	(A,123,25)	CCSRCH150J50
C 231	(A,123,16)	CCSRCH120J50
C 232	(A,118,21)	CKSRYB104K16
C 233	(A,118,18)	CKSRYB104K16
C 234	(A,83,19)	CKSRYB104K16
C 235	(A,84,18)	CKSRYB104K16
C 237	(A,119,15)	CKSRYB104K16
C 238	(A,119,13)	CKSRYB104K16
C 239	(A,84,16)	CKSRYB104K16
C 240	(A,84,14)	CKSRYB104K16
C 241	(A,84,12)	CKSRYB104K16
C 242	(A,112,7)	CKSRYB104K16
C 243	(A,108,7)	CKSRYB104K16
C 244	(A,105,7)	CKSRYB104K16
C 245	(A,102,7)	CKSRYB104K16
C 246	(A,98,7)	CKSRYB104K16
C 247	(A,94,7)	CKSRYB104K16
C 248	(A,89,7)	CKSRYB104K16
C 249	(A,85,9)	CKSQYB106K6R3
C 250	(A,104,42)	CKSQYB106K6R3
C 251	(A,120,25)	CKSQYB106K6R3
C 252	(A,85,42)	CKSQYB106K6R3
C 253	(A,121,13)	CKSRYF104Z25
C 255	(A,83,33)	CKSRYB103K50
C 256	(A,83,27)	CKSRYB103K50
C 257	(A,83,25)	CKSRYB103K50
C 258	(A,83,22)	CKSRYB103K50
C 259	(A,83,21)	CKSRYB103K50
C 260	(A,84,15)	CKSRYB103K50
C 261	(B,81,8)	CKSRYB103K50
C 262	(B,79,8)	CKSRYB103K50
C 301	(A,137,21)	CKSRYF104Z25
C 302	(A,144,21)	CKSRYB334K10
C 303	(A,138,12)	CKSRYF104Z25
C 306	(A,116,48)	CKSRYF104Z25
C 323	(A,103,56)	CKSQYB106K6R3

Circuit Symbol and No.		Part No.
C 328	(A,100,50)	CKSRYB104K16
C 329	(A,99,50) 10 µF	CCG1203
C 341	(A,156,18)	CCSRCH101J50
C 342	(A,136,13)	CKSRYF104Z25
C 344	(B,142,11)	CKSRYF103Z50
C 345	(B,140,11)	CKSRYF104Z25
C 346	(B,126,11)	CKSRYF103Z50
C 347	(B,115,9)	CKSRYF103Z50
C 348	(B,114,8)	CKSRYF104Z25
C 349	(B,92,7)	CKSRYF103Z50
C 1917	(A,76,52) 330 µF/6.3 V	CCH1366
C 1918	(A,76,61) 330 µF/10 V	CCH1623
C 1925	(A,58,48) 27 µF/20 V	CCH1744
C 1941	(A,58,77) 220 µF/10 V	CCH1409
C 1998	(A,68,102) 330 µF/6.3 V	CCH1366
C 2000	(B,40,73)	CKSRYB104K25
C 2001	(A,36,72)	CKSRYB104K25
C 2002	(A,42,71)	CKSRYF104Z25
C 2003	(A,34,72)	CKSRYF104Z25
C 2004	(A,36,39)	CKSRYB104K16
C 2005	(A,12,40)	CKSRYB104K16
C 2006	(A,16,31)	CKSRYB153K50
C 2007	(A,20,34)	CKSRYB104K16
C 2008	(A,36,68)	CKSRYF104Z25
C 2010	(B,36,36)	CKSRYB104K16
C 2011	(B,18,33)	CKSRYB104K50
C 2012	(B,34,34)	CKSRYB105K10
C 2013	(A,31,46)	CKSRYB104K16
C 2014	(A,13,36)	CKSRYB104K16
C 2015	(B,10,38)	CCSRCH7R0D50
C 2016	(B,10,36)	CCSRCH6R0D50
C 2017	(A,31,38)	CKSRYB104K50
C 2018	(A,39,44)	CKSRYB104K16
C 2019	(B,40,46)	CKSRYB104K16
C 2020	(B,9,56)	CKSRYB104K16
C 2023	(B,24,61)	CKSRYB104K16
C 2024	(B,34,61)	CKSRYB104K16
C 2025	(B,31,63)	CKSRYB104K16
C 2028	(B,34,60)	CKSRYB104K16
C 2029	(B,5,122)	CKSRYB104K50
C 2030	(B,9,119)	CKSRYB102K50
C 2033	(B,13,123)	CKSRYB104K50
C 2034	(B,12,125)	CKSRYB103K50
C 2035	(B,14,125)	CKSRYB823K16
C 2037	(B,45,124)	CKSRYB104K50
C 2038	(B,7,23)	CKSRYB104K50
C 2040	(B,37,124)	CKSRYB472K50
C 2041	(B,4,25)	CKSRYB104K50
C 2043	(B,28,129)	CKSRYB103K50
C 2044	(B,28,131)	CKSRYB103K50
C 2091	(A,46,113)	CEVW470M16
C 2093	(A,46,121)	CEVW101M16
C 2130	(B,117,99)	CSZSR330M10
C 2151	(A,99,88)	CEVW101M16
C 2168	(A,77,42)	CSZSR101M6R3
C 2170	(A,23,76)	CEVW100M16
C 2205	(A,12,62)	CKSRYB104K50
C 2206	(B,12,102)	CKSRYB102K50
C 2207	(B,18,97)	CKSRYB102K50
C 2209	(B,19,102)	CKSRYB102K50

Circuit Symbol and No.		Part No.
C 2210	(A,11,60)	CKSRYB474K16
C 2225	(A,40,109)	CKSRYB104K50
C 2227	(A,149,113)	CEVW100M16
C 2235	(A,125,90)	CKSRYB104K50
C 2236	(A,29,83)	CEVW101M16
C 2237	(B,118,101)	CKSRYB105K6R3
C 2238	(B,121,107)	CKSQYB105K16
C 2239	(B,120,102)	CKSQYB105K16
C 2240	(B,116,102)	CKSQYB105K16
C 2241	(B,59,29)	CKSRYB104K16
C 2242	(B,119,115)	CKSQYB105K16
C 2243	(B,123,111)	CKSQYB105K16
C 2244	(A,83,116)	CCSRCH150J50
C 2245	(A,14,27)	CKSRYB472K50
C 2247	(A,89,114)	CKSRYB104K16
C 2248	(B,108,119)	CKSRYB102K50
C 2249	(B,110,125)	CKSRYB102K50
C 2250	(B,113,125)	CKSRYB102K50
C 2251	(B,116,125)	CKSRYB102K50
C 2252	(B,119,125)	CKSRYB102K50
C 2253	(B,122,127)	CKSRYB102K50
C 2256	(B,148,127)	CKSRYB104K50
C 2400	(A,104,93)	CKSRYB104K50
C 2401	(B,78,41)	CKSRYB104K50
C 2402	(A,142,102)	CKSRYB104K50
C 2404	(A,92,91)	CKSRYB104K16
C 2405	(A,100,106)	CKSRYF104Z25
C 2407	(A,101,106)	CKSRYF103Z50
C 2409	(A,101,104)	CKSRYF103Z50
C 2410	(A,98,106)	CKSRYF104Z25
C 2411	(A,97,106)	CKSRYF103Z50
C 2412	(A,95,106)	CKSRYF103Z50
C 2413	(A,95,109)	CKSRYB104K50
C 2414	(B,105,79)	CKSRYB104K50
C 2415	(A,28,88)	CKSRYB103K50
C 2416	(A,21,72)	CKSRYB104K16
C 2417	(B,63,42)	CCSRCH680J50
C 2418	(A,24,82)	CKSRYB104K16
C 2419	(A,35,81)	CKSRYB334K10
C 2422	(A,151,110)	CKSRYB104K16
C 2423	(A,150,103)	CKSRYB104K16
C 2424	(B,32,87)	CKSYB105K16
C 2425	(B,35,100)	CKSYB105K25
C 2427	(B,33,71)	CKSRYB104K50
C 2428	(B,34,81)	CKSRYB104K50
C 2500	(B,56,47)	CKSRYB103K50
C 2501	(B,56,66)	CKSRYB472K50
C 2502	(B,51,85)	CKSRYB103K25
C 2503	(B,54,49)	CCSRCH101J50
C 2504	(B,52,50)	CKSRYB224K16
C 2505	(B,54,64)	CCSRCH221J50
C 2506	(B,52,63)	CKSRYB104K50
C 2507	(B,78,94)	CKSRYB103K25
C 2508	(B,78,80)	CCSRCH102J50
C 2509	(B,51,100)	CCSRCH101J50
C 2510	(B,49,53) 15 pF	CCG1240
C 2511	(B,79,80)	CKSRYB104K16
C 2512	(B,50,100)	CKSRYB104K50
C 2513	(B,52,54) 27 pF	CCG1241
C 2514	(B,52,59)	CKSRYB104K50

Circuit Symbol and No.		Part No.
C 2515	(B,76,77)	CKSRYB473K50
C 2516	(B,74,77) 30 pF	CCG1252
C 2517	(B,71,77)	CKSRYB105K10
C 2518	(B,53,102)	CKSRYB473K50
C 2519	(B,54,102) 30 pF	CCG1252
C 2520	(B,57,102)	CKSRYB105K10
C 2521	(B,52,53)	CKSRYB473K50
C 2522	(B,52,56)	CKSRYB105K10
C 2523	(B,52,60)	CKSRYB473K50
C 2524	(B,67,78) 4.7 µF	CCG1111
C 2525	(B,78,85)	CKSQYB475K10
C 2526	(B,57,89)	CKSRYF104Z25
C 2527	(B,51,95) 4.7 µF	CCG1222
C 2528	(B,59,52)	CKSRYF474Z16
C 2529	(B,64,57) 4.7 µF	CCG1222
C 2530	(B,59,62)	CKSRYF474Z16
C 2531	(B,75,89)	CKSRYF474Z16
C 2532	(B,54,90)	CKSRYF474Z16
C 2533	(B,72,90)	CKSRYB104K16
C 2534	(B,56,50)	CKSRYF104Z25
C 2535	(B,56,63)	CKSRYF104Z25
C 2536	(B,61,101) 4.7 µF	CCG1222
C 2537	(B,69,99) 10 µF	CCG1223
C 2538	(B,69,96) 10 µF	CCG1223
C 2539	(B,60,81) 4.7 µF	CCG1111
C 2542	(B,69,93) 10 µF	CCG1223
C 2543	(B,60,84) 4.7 µF	CCG1111
C 2546	(B,60,87) 4.7 µF	CCG1111
C 2547	(A,61,89) 10 µF	CCG1223
C 2549	(B,59,77) 4.7 µF	CCG1111
C 2640	(B,62,48) 4.7 µF	CCG1111
C 2641	(B,62,64) 4.7 µF	CCG1111
C 2644	(B,71,47) 4.7 µF	CCG1111
C 2645	(B,71,66) 4.7 µF	CCG1111
C 2648	(A,59,54) 10 µF	CCG1223
C 2650	(A,59,57) 10 µF	CCG1223
C 2900	(B,122,98)	CKSRYB105K6R3
C 2903	(A,30,111)	CKSRYB334K10
C 2908	(B,49,114)	CKSQYB105K10
C 2909	(B,51,9)	CKSRYB104K50
C 2910	(B,56,10)	CKSRYB104K50
C 2913	(A,18,30)	CKSRYB104K25
C 2914	(A,41,39)	CKSRYB104K50
C 2915	(A,93,91)	CKSRYB104K50
C 2916	(B,55,13) 100 µF/6.3 V	DCH1164
C 2920	(A,9,59)	CKSRYB474K16
C 2921	(B,71,24)	CKSRYB104K16
C 2922	(B,71,20)	CKSRYB104K16
C 2923	(B,70,16)	CKSRYB104K16

B

Unit Number : CWX3446(UC)
Unit Number : CWX3447(EW5)
Unit Name : GPS Unit

MISCELLANEOUS

IC 401	(A,25,16) IC	UPC2749T
IC 402	(B,20,27) IC	UPB1027GS

Circuit Symbol and No.			Part No.
IC 441	(A,33,30)	IC	NJM2100V
IC 461	(B,29,10)	IC	ADC12H034CIMSAS1
IC 501	(B,50,25)	IC	PD3390A
IC 502	(B,48,9)	IC(UC)	PEH100A8
	(B,48,9)	IC(EW5)	PEH101A8
IC 503	(A,50,29)	IC	M5M5V216ATP-70HI
IC 504	(A,31,14)	IC	MAX6364PUT29
IC 532	(A,47,15)	IC(EW5)	LC72720YVSS1
Q 441	(A,32,22)	Transistor	2SB1132
D 401	(B,11,27)	Diode	1SV314
D 501	(B,35,30)	Diode	RB751V-40
L 401	(B,12,29)	Inductor	CTF1549
L 402	(B,26,22)	Inductor	LCYC1R2K1608
L 403	(B,27,26)	Inductor	LCYC1R2K1608
L 404	(A,21,22)	Inductor	LCSA3N3R1608
L 405	(B,13,24)	Inductor	LCYB22NJ1608
L 406	(B,15,20)	Inductor	LCYB22NJ1608
L 407	(A,19,32)	Inductor	CTF1410
L 408	(B,26,31)	Inductor(UC)	CTF1556
	(B,26,31)	Inductor(EW5)	CTF1410
L 409	(B,19,12)	Inductor	LCYC1R0K2125
L 410	(B,26,17)	Inductor	CTF1547
L 412	(A,25,27)	Inductor	CTF1547
L 413	(A,25,26)	Inductor	CTF1547
L 414	(A,25,32)	Inductor	CTF1547
L 415	(A,26,29)	Inductor	CTF1547
L 416	(A,27,28)	Inductor	CTF1547
L 417	(B,25,20)	Inductor	CTF1547
L 418	(A,14,33)	Inductor	CTF1410
L 441	(B,32,20)	Inductor	CTF1410
L 442	(A,29,25)	Inductor	CTF1410
L 461	(A,29,9)	Inductor	CTF1410
L 462	(A,31,8)	Inductor	CTF1410
L 467	(B,33,17)	Inductor	CTF1547
L 468	(B,32,17)	Inductor	CTF1547
L 469	(A,32,11)	Inductor	CTF1410
L 501	(B,38,17)	Inductor	CTF1410
L 502	(B,36,32)	Inductor	CTF1410
L 503	(B,59,6)	Inductor	CTF1410
L 504	(A,38,33)	Inductor	CTF1410
L 531	(A,53,17)	Inductor	CTF1410
X 401	(A,14,27)	TCXO 16.368 MHz	CWX2381
X 501	(A,38,26)	Radiator 32.768 kHz	CSS1319
X 502	(B,36,26)	Radiator 20.00 MHz	CSS1549
X 532	(A,58,15)	Radiator 4.332 MHz(EW5)	CSS1550
F 401	(A,23,23)	Filter	CTF1548

RESISTORS

R 401	(B,11,26)		RS1/16SS472J
R 402	(B,12,30)		RS1/16SS472J
R 403	(B,14,32)		RS1/16SS122J
R 404	(B,14,30)		RS1/16SS622J
R 405	(A,23,26)		RS1/16SS100J
R 406	(B,27,29)		RS1/16S271J
R 407	(B,25,18)		RS1/16S2R2J
R 441	(A,30,27)		RN1/16SC10R0D
R 442	(B,33,24)		RN1/16SE1501D
R 443	(B,31,24)		RN1/16SE2402D
R 444	(B,31,26)		RN1/16SE3302D
R 445	(B,32,33)		RN1/16SE4702D
R 446	(B,30,32)		RN1/16SE4702D
R 447	(A,33,25)		RS1/16S432J
R 448	(B,32,30)		RN1/16SE1002D
R 449	(B,33,32)		RN1/16SE2202D
R 450	(B,32,32)		RN1/16SE3302D
R 451	(A,29,32)		RS1/16S103J
R 452	(B,34,27)		RS1/16SS102J
R 454	(B,34,26)		RS1/16SS102J
R 460	(B,22,13)		RS1/16S0R0J
R 461	(A,37,5)		RS1/16SS102J
R 462	(A,38,9)		RS1/16SS102J
R 463	(B,36,12)		RAB4CQ102J
R 464	(A,35,12)		RAB4CQ333J
R 465	(A,39,8)		RS1/16SS102J
R 468	(A,58,8)	(EW5)	RS1/16SS471J
R 469	(A,58,6)	(EW5)	RAB4CQ471J
R 470	(B,35,7)		RAB4CQ471J
R 471	(B,35,4)		RAB4CQ104J
R 477	(B,31,17)		RS1/16SS222J
R 478	(B,30,16)		RS1/16SS222J
R 479	(B,28,15)		RS1/16SS222J
R 480	(B,29,17)		RS1/16SS332J
R 481	(B,30,17)		RS1/16SS332J
R 482	(A,38,6)		RS1/16SS223J
R 483	(A,38,5)		RS1/16SS473J
R 501	(B,39,27)		RS1/16SS0R0J
R 502	(B,38,29)		RS1/16SS102J
R 503	(B,39,26)		RS1/16SS154J
R 508	(B,60,14)	(UC)	RS1/16SS103J
	(B,60,14)	(EW5)	RS1/16SS472J
R 509	(B,34,15)		RS1/16SS473J
R 510	(A,38,7)		RS1/16SS102J
R 511	(A,34,19)		RS1/16SS103J
R 512	(B,39,30)		RS1/16SS473J
R 513	(B,60,16)		RS1/16SS103J
R 514	(B,39,29)		RS1/16SS473J
R 515	(A,30,12)		RS1/16SS473J
R 517	(B,39,22)		RS1/16SS103J
R 519	(B,39,21)		RS1/16SS473J
R 521	(B,37,29)		RS1/16SS473J
R 532	(A,43,10)	(EW5)	RS1/16SS104J
R 533	(A,40,18)	(UC)	RS1/16SS103J
	(A,40,18)	(EW5)	RS1/16SS332J
R 534	(A,41,19)		RS1/16SS103J
R 535	(A,38,13)		RS1/16SS103J
R 536	(A,39,18)		RS1/16SS0R0J
R 537	(A,38,15)	(EW5)	RS1/16S0R0J
R 538	(A,38,17)	(EW5)	RS1/16SS0R0J

CAPACITORS

C 401	(A,25,13)		CCSRCH100D50
C 402	(A,24,20)		CCSSCH101J50
C 403	(A,27,16)		CKSSYB104K10
C 404	(A,20,24)		CCSSCH101J50
C 405	(B,14,27)		CCSRUJ220J50
C 406	(B,14,29)		CCSRUJ220J50
C 407	(B,13,32)		CKSSYB333K16
C 408	(B,12,32)		CKSSYB182K50
C 409	(A,21,29)		CSZS100M6R3

Circuit Symbol and No.		Part No.
C 410	(B,28,32)	CKSSYB103K16
C 411	(A,21,27)	CKSSYB102K50
C 412	(A,21,28)	CKSSYB102K50
C 413	(A,20,31)	CKSSYB104K10
C 414	(A,24,32)	CKSSYB104K10
C 415	(A,25,30)	CKSSYB104K10
C 416	(A,24,28)	CKSSYB104K10
C 417	(B,25,22)	CKSSYB104K10
C 418	(A,21,32)	CKSSYB102K50
C 419	(B,39,32)	CKSSYB104K10
C 420	(A,14,32)	CKSSYB104K10
C 421	(B,26,27)	CKSSYB102K50
C 422	(B,25,26)	CKSSYB103K16
C 423	(B,26,24)	CKSSYB104K10
C 424	(B,27,22)	CCSRCH102J50
C 425	(B,29,23)	CCSRCH271J50
C 426	(B,28,26)	CCSRCH102J50
C 427	(B,25,25)	CKSSYB104K10
C 428	(B,15,24)	CKSSYB103K16
C 429	(B,12,24)	CCSRCH301J50
C 430	(B,13,22)	CCSSCH120J50
C 431	(B,14,20)	CCSRCH301J50
C 432	(B,16,22)	CKSSYB103K16
C 433	(B,19,9)	CCSRCH101J50
C 434	(B,19,14)	CKSSYB102K50
C 435	(B,20,14)	CKSSYB103K16
C 436	(B,31,22)	CKSSYB104K10
C 441	(B,31,28)	CKSRYB104K16
C 442	(A,30,29)	CCSRCH101J50
C 443	(A,30,32)	CKSRYB104K16
C 444	(B,33,22)	CKSSYB103K16
C 445	(A,29,30)	CKSSYB104K10
C 461	(A,28,5) 22 µF/6.3 V	CCH1408
C 462	(A,31,9)	CKSRYB104K16
C 463	(A,27,9)	CKSRYB104K16
C 464	(B,31,5)	CKSSYB103K16
C 465	(B,31,4)	CKSSYB103K16
C 466	(B,32,4)	CKSSYB103K16
C 467	(B,33,4)	CKSSYB103K16
C 468	(A,30,11)	CKSSYB104K10
C 469	(B,27,4)	CSZS100M10
C 470	(B,26,15)	CKSSYB104K10
C 471	(B,37,6)	CCSSCH101J50
C 501	(B,39,19)	CKSSYB104K10
C 502	(B,37,22)	CCSRCH150J50
C 503	(B,38,22)	CCSRCH150J50
C 504	(B,40,17)	CKSSYB104K10
C 506	(B,60,19)	CKSSYB104K10
C 507	(B,60,21)	CKSSYB104K10
C 508	(B,60,26)	CKSSYB104K10
C 509	(B,60,30)	CKSSYB104K10
C 511	(B,41,34)	CKSSYB104K10
C 512	(B,38,31)	CKSSYB104K10
C 514	(A,31,17)	CSZS100M6R3
C 515	(B,39,24)	CKSSYB104K10
C 516	(B,59,11)	CKSSYB104K10
C 517	(A,51,21)	CKSSYB104K10
C 518	(A,39,32)	CKSSYB104K10
C 535	(A,55,15) (EW5)	CSZS100M6R3
C 539	(A,55,19) (EW5)	CCSRCH100D50
C 540	(A,53,12) (EW5)	CCSRCH100D50
C 541	(A,47,10) (EW5)	CCSRCH561J50
C 542	(A,45,10) (EW5)	CKSSYB104K10
C 543	(A,40,12) (EW5)	CSZS100M6R3
C 544	(A,50,10) (EW5)	CCSRCH331J50
C 545	(A,53,15) (EW5)	CKSSYB104K10

C

Unit Number : CWN2190(UC)
Unit Number : CWN2090(EW5)
Unit Name : AV Unit

MISCELLANEOUS

IC 1001	(A,46,43)	IC	NJM4558V
IC 1021	(A,72,43)	IC	BA4558RFVM
IC 1031	(A,56,43)	IC	BA4558RFVM
IC 1041	(A,64,43)	IC	BA4558RFVM
IC 1051	(B,66,43)	IC	TC4052BFT
IC 1061	(B,81,65)	IC	PML009A
IC 1111	(B,41,43)	IC	BA4558RFVM
IC 1131	(B,81,79)	IC	NJM2060V
IC 1201	(A,84,139)	IC	PAL007C
IC 1301	(A,15,30)	IC	NJM2137V
IC 1316	(B,16,25)	IC	NJM2136V
IC 1331	(B,24,56)	IC	BA7649AF
IC 1341	(B,8,44)	IC	NJM2505F
IC 1351	(B,18,46)	IC	NJM2235M
IC 1361	(A,6,47)	IC	TK15405BMI
IC 1381	(A,32,43)	IC	NJM2505F
IC 1601	(B,36,102)	IC	TPD1018F
IC 1821	(A,9,99)	IC	BA00CC0WCP-V5
IC 1841	(A,9,88)	IC	BA00CC0WCP-V5
IC 1876	(A,38,56)	IC	NJM2125F
IC 1891	(B,97,67)	Regulator(EW5)	BA00CC0WFP
Q 1001	(A,37,50)	Transistor	IMD3A
Q 1002	(A,40,43)	Transistor	FMG12
Q 1051	(B,59,42)	Transistor	DTC114EUA
Q 1052	(B,57,42)	Transistor	DTC114EUA
Q 1091	(A,91,91)	Transistor	FMG12
Q 1092	(A,81,91)	Transistor	FMG12
Q 1093	(A,71,91)	Transistor	FMG12
Q 1112	(B,49,60)	Transistor	IMD3A
Q 1114	(B,45,60)	Transistor	DTC323TK
Q 1201	(A,84,112)	Transistor	UMD2N
Q 1202	(A,87,112)	Transistor	UMD2N
Q 1203	(A,78,103)	Transistor	2SC4081
Q 1204	(B,92,100)	Transistor	UMD2N
Q 1205	(A,81,106)	Transistor	DTC124EUA
Q 1206	(A,84,106)	Transistor	DTC114EUA
Q 1331	(B,24,62)	Transistor	DTC114EUA
Q 1401	(B,138,93)	Transistor(EW5)	2SC3357
Q 1402	(B,142,87)	Transistor(EW5)	2SC3127
Q 1403	(A,135,75)	Transistor(EW5)	2SC3130
Q 1451	(A,105,74)	Transistor(EW5)	DTC144EK
Q 1452	(A,105,77)	Transistor(EW5)	DTC144EK
Q 1601	(A,53,115)	Transistor	2SC4116
Q 1602	(B,57,111)	Transistor	2SC4116
Q 1603	(B,57,100)	Transistor	DTC114EUA

Circuit Symbol and No.		Part No.
Q 1711	(B,45,12) Transistor	IMD2A
Q 1801	(A,123,117) Transistor	2SA1797
Q 1802	(A,117,117) Transistor	2SA1162
Q 1803	(B,117,117) Transistor	2SC4081
Q 1804	(B,113,104) Transistor	2SA1797
Q 1805	(B,114,119) Transistor	DTC114EUA
Q 1831	(B,20,76) Transistor	2SD1760F5
Q 1832	(B,25,68) Transistor	DTA114EUA
Q 1833	(B,27,68) Transistor	DTC114EUA
Q 1851	(A,109,24) Transistor	2SA1797
Q 1852	(A,118,32) Transistor	2SC4081
Q 1861	(A,102,34) Transistor	2SA1385-ZS1
Q 1862	(A,102,49) Transistor	2SC4081
D 1001	(A,36,43) Diode	DAP202K
D 1111	(B,49,64) Diode	DAN202K
D 1161	(B,91,96) Diode	DAP202K
D 1201	(A,82,125) Diode	MA111
D 1202	(A,82,110) Diode	UDZS8R2(B)
D 1205	(A,83,103) Diode	DAN202U
D 1206	(A,81,103) Diode	DAN202U
D 1451	(A,96,57) Diode(EW5)	HZU3R3(B1)
D 1601	(A,56,118) Diode	UDZS5R1(B)
D 1602	(B,59,115) Diode	HZU8R2(B1)
D 1603	(A,59,105) Diode	UDZS18(B)
D 1604	(A,59,103) Diode	UDZS18(B)
D 1605	(B,58,104) Diode	1SR154-400
D 1606	(A,59,107) Diode	1SS355
D 1607	(B,36,109) Diode	1SR154-400
D 1609	(B,36,112) Diode	1SR154-400
D 1610	(A,60,109) Diode	PTZ18A
D 1621	(A,128,126) Diode	EDZ6R8(B)
D 1622	(A,128,129) Diode	EDZ6R8(B)
D 1623	(B,131,116) Diode	EDZ6R8(B)
D 1624	(B,135,116) Diode	EDZ6R8(B)
D 1625	(B,138,116) Diode	EDZ6R8(B)
D 1626	(B,140,116) Diode	MALS068X
D 1627	(B,145,116) Diode	MALS068X
D 1628	(A,147,126) Diode	MALS068X
D 1629	(B,143,116) Diode	MALS068X
D 1630	(B,148,116) Diode	MALS068X
D 1651	(B,44,83) Diode	KS926S2
D 1652	(A,38,119) Diode	5KP22A
D 1701	(A,9,129) Diode	MALS068X
D 1702	(B,13,143) Diode	EDZ6R8(B)
D 1703	(A,13,129) Diode	MALS068X
D 1704	(A,26,117) Diode	1SR154-400
D 1705	(B,18,143) Diode	MALS068X
D 1706	(B,20,143) Diode	MALS068X
D 1707	(A,18,129) Diode	MALS068X
D 1708	(A,22,129) Diode	MALS068X
D 1709	(A,21,115) Diode	1SS355
D 1710	(B,16,129) Diode	MALS068X
D 1711	(B,16,143) Diode	MALS068X
D 1712	(A,14,117) Diode	PTZ27(B)
D 1713	(A,19,115) Diode	1SS355
D 1714	(A,16,113) Diode	DAN202U
D 1715	(A,23,117) Diode	PTZ20(B)
D 1716	(B,13,144) Diode	EDZ20(B)
D 1721	(A,121,131) Diode	UDZS5R6(B)
D 1722	(A,121,128) Diode	UDZS5R6(B)

Circuit Symbol and No.		Part No.
D 1801	(A,123,111) Diode	RB060L-40
D 1802	(B,132,116) Diode	UDZS27(B)
D 1821	(B,28,77) Diode	DAN202U
D 1824	(A,30,95) Diode	RB060L-40
D 1831	(B,22,67) Diode	UDZS5R6(B)
D 1844	(A,30,82) Diode	RB060L-40
D 1876	(A,39,59) Diode	EDZ4R3(B)
D 1877	(A,42,56) Diode	1SS355
D 1878	(B,110,116) Diode	UDZS22(B)
ZNR1401	(B,163,116) Surge Protector	RCCA-201Q31UA-PI
L 1061	(A,85,59) Inductor	LCYA2R2J2520
L 1301	(A,12,28) Inductor	CTF1410
L 1316	(B,13,28) Inductor	CTF1410
L 1331	(B,25,49) Inductor	CTF1410
L 1351	(B,11,46) Inductor	CTF1410
L 1361	(A,10,59) Inductor	LCTAW100J3225
L 1401	(B,149,102) Inductor(EW5)	LCTAWR12J2520
L 1402	(B,147,97) Inductor(EW5)	LCYCR10K2125
L 1404	(A,145,78) Inductor(EW5)	LCTAW101J2520
L 1405	(B,144,89) Inductor(EW5)	LCTCR22K2125
L 1406	(B,149,92) Inductor(EW5)	LCTCR10K2125
L 1407	(A,139,74) Inductor(EW5)	LCTCR15K2125
L 1408	(B,145,78) Inductor(EW5)	LCTAW101J2520
L 1410	(A,145,72) Chip Coil(EW5)	LCTAW1R0J2520
L 1431	(B,160,95) Chip Coil	LCTAW4R7J2520
L 1432	(A,143,43) Inductor	LCTAW2R2J3225
L 1433	(A,146,36) Inductor	LCTAW2R2J2520
L 1434	(A,143,35) Chip Ferrite Bead	CTF1399
L 1435	(A,145,19) Inductor	LCTAW2R2J3225
L 1451	(A,106,64) Chip Coil(EW5)	LCTAW1R0J2520
L 1452	(A,106,58) Inductor(EW5)	LCTAW2R2J2520
L 1453	(A,91,57) Chip Ferrite Bead(EW5)	CTF1557
L 1454	(A,95,67) Chip Ferrite Bead(EW5)	CTF1557
L 1601	(A,56,125) Inductor	CTF1410
L 1602	(A,65,109) Inductor	CTF1410
L 1603	(A,63,107) Inductor	CTF1410
L 1651	(A,44,106) Choke Coil 600 µH	CTH1347
L 1661	(A,102,24) Inductor	CTH1256
L 1662	(A,94,14) Inductor	CTF1306
L 1701	(A,16,116) Inductor	LCTC2R2K1608
L 1702	(A,17,119) Inductor	CTF1556
L 1721	(A,27,25) Inductor	CTF1379
L 1722	(A,119,126) Inductor	CTF1334
L 1723	(A,119,133) Inductor	CTF1334
T 1401	(A,140,93) Coil(EW5)	CTC1194
T 1402	(A,142,84) Coil(EW5)	CTC1193
T 1403	(A,132,84) Coil(EW5)	CTC1192
⚠FU1701	(A,24,123) Fuse 4 A	CEK1260
⚠FU1702	(A,26,129) Fuse 4 A	CEK1260
⚠FU1855	(A,108,31) Fuse 400 mA	CEK1250
⚠FU1864	(A,95,48) Fuse 1 A	CEK1254
Y 1452	(A,115,67) Tuner Unit(EW5)	CWE2023
Y 1431	(A,157,80) FM/AM Tuner Unit(UC)	CWE1952
	(A,157,80) FM/AM Tuner Unit(EW5)	CWE1951
EF1701	(A,11,130) EMI Filter	CCG1067
EF1702	(A,17,130) EMI Filter	CCG1067
EF1703	(A,20,130) EMI Filter	CCG1067
EF1704	(B,18,129) EMI Filter	CCG1067
EF1705	(B,22,129) EMI Filter	CCG1067
EF1706	(B,27,129) EMI Filter	CCG1067
EF1707	(A,8,130) EMI Filter	CCG1067

Circuit Symbol and No.			Part No.
EF1708	(B,20,129)	EMI Filter	CCG1067
EF1709	(B,24,129)	EMI Filter	CCG1067
EF1710	(B,29,129)	EMI Filter	CCG1067
EF1711	(A,14,130)	EMI Filter	CCG1067
⚠	Fuse 10 A		CEK1208

RESISTORS

R 1001	(A,44,36)	RS1/16S473J
R 1002	(A,47,37)	RS1/16S473J
R 1003	(A,47,38)	RS1/16S473J
R 1004	(A,44,37)	RS1/16S473J
R 1005	(A,44,51)	RS1/16S473J
R 1006	(A,47,49)	RS1/16S473J
R 1007	(A,47,48)	RS1/16S473J
R 1008	(A,44,49)	RS1/16S473J
R 1009	(A,41,39)	RS1/16S182J
R 1010	(A,41,47)	RS1/16S182J
R 1011	(A,41,46)	RS1/16S473J
R 1012	(A,41,40)	RS1/16S473J
R 1023	(A,70,37)	RS1/16S103J
R 1024	(A,73,38)	RS1/16S103J
R 1025	(A,73,39)	RS1/16S103J
R 1026	(A,70,38)	RS1/16S103J
R 1027	(A,70,50)	RS1/16S103J
R 1028	(A,73,48)	RS1/16S103J
R 1029	(A,73,47)	RS1/16S103J
R 1030	(A,70,48)	RS1/16S103J
R 1033	(A,54,36)	RS1/16S103J
R 1034	(A,57,38)	RS1/16S103J
R 1035	(A,57,39)	RS1/16S103J
R 1036	(A,55,38)	RS1/16S103J
R 1037	(A,55,50)	RS1/16S103J
R 1038	(A,57,48)	RS1/16S103J
R 1039	(A,57,47)	RS1/16S103J
R 1040	(A,55,48)	RS1/16S103J
R 1043	(A,62,37)	RS1/16S103J
R 1044	(A,65,38)	RS1/16S103J
R 1045	(A,65,39)	RS1/16S103J
R 1046	(A,62,38)	RS1/16S103J
R 1047	(A,62,50)	RS1/16S103J
R 1048	(A,65,48)	RS1/16S103J
R 1049	(A,65,47)	RS1/16S103J
R 1050	(A,62,48)	RS1/16S103J
R 1051	(B,65,37)	RS1/16S104J
R 1052	(B,67,37)	RS1/16S104J
R 1053	(B,68,50)	RS1/16S104J
R 1054	(B,66,50)	RS1/16S104J
R 1055	(B,64,50)	RS1/16S473J
R 1056	(B,65,50)	RS1/16S473J
R 1061	(B,85,47)	RS1/16S181J
R 1062	(B,78,47)	RS1/16S181J
R 1063	(B,86,47)	RS1/16S223J
R 1064	(B,76,47)	RS1/16S223J
R 1065	(B,87,47)	RS1/16S102J
R 1066	(B,75,47)	RS1/16S102J
R 1067	(B,73,56)	RS1/16S0R0J
R 1068	(A,80,46)	RS1/16S331J
R 1069	(A,83,46)	RS1/16S331J
R 1091	(A,93,89)	RS1/16S821J
R 1092	(A,88,89)	RS1/16S821J
R 1093	(A,83,89)	RS1/16S821J
R 1094	(A,78,89)	RS1/16S821J
R 1095	(A,73,89)	RS1/16S821J
R 1096	(A,68,89)	RS1/16S821J
R 1097	(A,93,91)	RS1/16S223J
R 1098	(A,83,91)	RS1/16S223J
R 1099	(A,73,91)	RS1/16S223J
R 1100	(A,88,91)	RS1/16S223J
R 1101	(A,78,91)	RS1/16S223J
R 1102	(A,68,91)	RS1/16S223J
R 1103	(A,95,91)	RS1/16S471J
R 1104	(A,85,91)	RS1/16S471J
R 1105	(A,75,91)	RS1/16S471J
R 1106	(A,87,91)	RS1/16S471J
R 1107	(A,77,91)	RS1/16S471J
R 1108	(A,67,91)	RS1/16S471J
R 1111	(B,39,37)	RS1/16S103J
R 1112	(B,39,38)	RS1/16S103J
R 1113	(B,39,40)	RS1/16S103J
R 1114	(B,42,38)	RS1/16S103J
R 1115	(B,41,52)	RS1/16S102J
R 1116	(B,41,49)	RS1/16S104J
R 1117	(B,38,48)	RS1/16S104J
R 1118	(B,38,47)	RS1/16S683J
R 1119	(B,41,47)	RS1/16S473J
R 1121	(B,43,57)	RS1/16S821J
R 1123	(B,43,60)	RS1/16S104J
R 1124	(B,59,57)	RS1/16S0R0J
R 1131	(B,90,80)	RS1/16S472J
R 1132	(B,73,80)	RS1/16S562J
R 1133	(B,72,80)	RS1/16S472J
R 1134	(B,88,80)	RS1/16S562J
R 1135	(B,75,80)	RS1/16S472J
R 1136	(B,87,80)	RS1/16S472J
R 1137	(B,88,78)	RS1/16S472J
R 1138	(B,73,78)	RS1/16S472J
R 1139	(B,87,78)	RS1/16S472J
R 1140	(B,75,78)	RS1/16S472J
R 1201	(A,82,121)	RS1/16S391J
R 1202	(A,82,119)	RS1/16S391J
R 1203	(A,77,106)	RS1/16S473J
R 1204	(A,79,106)	RS1/16S223J
R 1205	(A,80,110)	RS1/16S103J
R 1206	(B,90,104)	RS1/10S102J
R 1207	(A,86,107)	RS1/16S103J
R 1208	(A,87,105)	RS1/16S221J
R 1209	(A,86,105)	RS1/16S103J
R 1210	(B,76,116)	RS1/16S101J
R 1211	(B,72,116)	RS1/16S101J
R 1212	(B,74,116)	RS1/16S101J
R 1213	(B,79,116)	RS1/16S101J
R 1214	(B,89,126)	RS1/16S103J
R 1215	(B,87,126)	RS1/16S103J
R 1216	(B,90,126)	RS1/16S103J
R 1217	(A,87,107)	RS1/16S101J
R 1302	(A,13,34)	RS1/16S750J
R 1303	(A,17,34)	RS1/16S103J
R 1304	(A,15,34)	RS1/16S103J
R 1305	(A,22,32)	RS1/16S4701D

Circuit Symbol and No.		Part No.
R 1306	(A,21,32)	RS1/16S4701D
R 1307	(A,20,32)	RS1/16S4701D
R 1308	(A,20,30)	RS1/16S4701D
R 1309	(A,20,27)	RS1/16S101J
R 1310	(A,9,30)	RS1/16S102J
R 1311	(A,10,30)	RS1/16S563J
R 1312	(A,10,33)	RS1/16S473J
R 1316	(B,14,22)	RS1/16S750J
R 1317	(B,18,22)	RS1/16S103J
R 1318	(B,16,22)	RS1/16S103J
R 1319	(B,21,26)	RS1/16S4701D
R 1320	(B,21,24)	RS1/16S4701D
R 1321	(B,21,23)	RS1/16S4701D
R 1322	(A,15,25)	RS1/16S4701D
R 1323	(A,10,25)	RS1/16S101J
R 1333	(B,27,63)	RS1/16S104J
R 1338	(B,22,50)	RS1/16S105J
R 1341	(B,7,57)	RS1/16S750J
R 1342	(B,7,55)	RS1/16S473J
R 1343	(B,7,53)	RS1/16S473J
R 1344	(B,7,51)	RS1/16S101J
R 1345	(B,9,51)	RS1/16S101J
R 1351	(B,20,42)	RS1/16S105J
R 1352	(B,20,41)	RS1/16S105J
R 1353	(B,20,40)	RS1/16S105J
R 1354	(B,16,41)	RS1/16S105J
R 1361	(A,8,50)	RS1/16S105J
R 1362	(A,17,50)	RS1/16S750J
R 1372	(A,21,38)	RS1/16S0R0J
R 1381	(A,30,33)	RS1/16S750J
R 1382	(A,30,34)	RS1/16S473J
R 1383	(A,30,37)	RS1/16S473J
R 1385	(A,32,36)	RS1/16S101J
R 1386	(A,34,36)	RS1/16S101J
R 1401	(B,151,103) (EW5)	RS1/16S105J
R 1402	(B,155,94) (UC)	RS1/4S0R0J
R 1403	(A,135,94) (EW5)	RS1/16S821J
R 1404	(A,135,97) (EW5)	RS1/16S330J
R 1405	(A,142,78) (EW5)	RS1/16S332J
R 1406	(A,132,80) (EW5)	RS1/16S101J
R 1407	(B,139,81) (EW5)	RS1/16S151J
R 1408	(B,139,84) (EW5)	RS1/16S680J
R 1409	(B,142,85) (EW5)	RS1/16S152J
R 1410	(B,144,83) (EW5)	RS1/16S681J
R 1411	(A,131,73) (EW5)	RS1/16S151J
R 1412	(A,133,76) (EW5)	RS1/16S680J
R 1413	(B,146,89) (EW5)	RS1/16S181J
R 1414	(A,139,76) (EW5)	RS1/16S152J
R 1415	(A,141,74) (EW5)	RS1/16S681J
R 1416	(A,140,71) (EW5)	RS1/16S151J
R 1431	(B,149,63)	RS1/16S681J
R 1432	(B,149,62)	RS1/16S681J
R 1433	(B,149,61)	RS1/16S681J
R 1434	(B,149,59)	RS1/16S681J
R 1435	(B,149,58)	RS1/16S681J
R 1436	(B,149,57) (EW5)	RS1/16S681J
R 1438	(B,146,37)	RS1/16S681J
R 1439	(B,147,20)	RS1/16S0R0J
R 1440	(B,147,17)	RS1/16S0R0J
R 1443	(B,80,41)	RS1/16S0R0J

Circuit Symbol and No.		Part No.
R 1444	(B,82,41)	RS1/16S0R0J
R 1445	(B,149,56)	RS1/16S223J
R 1451	(A,107,71) (EW5)	RS1/16S473J
R 1455	(B,136,54) (EW5)	RS1/16S221J
R 1456	(A,93,55) (EW5)	RS1/10S391J
R 1601	(A,56,116)	RS1/16S473J
R 1602	(A,53,118)	RS1/16S104J
R 1603	(B,57,113)	RS1/16S473J
R 1604	(B,57,114)	RS1/16S104J
R 1605	(B,60,102)	RS1/16S103J
R 1606	(A,56,121)	RS1/16S102J
R 1607	(A,53,121)	RS1/16S472J
R 1608	(A,55,123)	RS1/4S102J
R 1609	(B,65,117)	RS1/4S102J
R 1610	(B,65,123)	RS1/4S472J
R 1611	(B,65,113)	RS1/4S102J
R 1612	(B,65,120)	RS1/4S472J
R 1613	(A,62,116)	RS1/4S472J
R 1621	(A,139,119)	RS1/16S0R0J
R 1622	(A,138,116)	RS1/16S0R0J
R 1623	(A,140,116)	RS1/16S0R0J
R 1624	(A,142,119)	RS1/16S0R0J
R 1625	(A,144,115)	RS1/16S0R0J
R 1626	(A,148,115)	RS1/16S0R0J
R 1627	(A,140,119)	RS1/16S0R0J
R 1628	(A,141,116)	RS1/16S0R0J
R 1629	(A,144,121)	RS1/16S0R0J
R 1655	(A,107,8) (EW5)	RS1/10S0R0J
R 1656	(A,110,8) (UC)	RS1/10S0R0J
R 1660	(A,29,72)	RS1/16S473J
R 1661	(A,76,15)	RS1/16S0R0J
R 1662	(A,79,15)	RS1/16S0R0J
R 1663	(A,82,15)	RS1/16S0R0J
R 1664	(A,77,15)	RS1/16S0R0J
R 1665	(A,88,15)	RS1/16S0R0J
R 1666	(A,89,15)	RS1/16S101J
R 1667	(A,74,12)	RS1/16S0R0J
R 1668	(A,72,12)	RS1/16S0R0J
R 1669	(A,90,15)	RS1/16S0R0J
R 1670	(B,105,7)	RS1/16S0R0J
R 1671	(B,94,14)	RS1/16S0R0J
R 1672	(A,80,15)	RS1/16S0R0J
R 1673	(A,71,9)	RS1/8S0R0J
R 1674	(A,71,7)	RS1/8S0R0J
R 1675	(A,66,7)	RS1/8S0R0J
R 1703	(A,16,119)	RS1/16S153J
R 1704	(A,19,119)	RS1/10S103J
R 1721	(A,16,19)	RS1/16S0R0J
R 1722	(A,16,20)	RS1/16S0R0J
R 1723	(A,16,21)	RS1/16S0R0J
R 1724	(B,26,13)	RS1/16S0R0J
R 1725	(A,16,23)	RS1/16S0R0J
R 1726	(A,20,17)	RS1/16S0R0J
R 1727	(A,24,22)	RS1/16S0R0J
R 1729	(A,25,25)	RS1/16S0R0J
R 1731	(A,26,22)	RS1/16S0R0J
R 1734	(A,27,22)	RS1/16S0R0J
R 1735	(B,28,17)	RS1/16S0R0J
R 1736	(A,28,25)	RS1/16S0R0J
R 1737	(B,29,20)	RS1/16S0R0J

Circuit Symbol and No.		Part No.
R 1738	(A,29,22)	RS1/16S0R0J
R 1739	(B,30,17)	RS1/16S0R0J
R 1740	(A,30,25)	RS1/16S0R0J
R 1741	(B,30,20)	RS1/16S0R0J
R 1742	(A,30,22)	RS1/16S0R0J
R 1743	(B,31,17)	RS1/16S0R0J
R 1744	(A,31,25)	RS1/16S0R0J
R 1745	(B,32,20)	RS1/16S0R0J
R 1746	(A,32,22)	RS1/16S0R0J
R 1747	(B,32,17)	RS1/16S0R0J
R 1748	(A,33,25)	RS1/16S0R0J
R 1749	(B,33,20)	RS1/16S0R0J
R 1750	(A,33,22)	RS1/16S0R0J
R 1751	(B,34,17)	RS1/16S0R0J
R 1752	(A,34,25)	RS1/16S0R0J
R 1753	(B,34,20)	RS1/16S0R0J
R 1754	(A,35,22)	RS1/16S0R0J
R 1755	(B,35,17)	RS1/16S0R0J
R 1756	(A,36,25)	RS1/16S0R0J
R 1757	(B,36,20)	RS1/16S0R0J
R 1758	(A,36,22)	RS1/16S0R0J
R 1759	(B,37,17)	RS1/16S0R0J
R 1760	(A,37,25)	RS1/16S0R0J
R 1761	(B,37,20)	RS1/16S0R0J
R 1762	(A,38,22) (EW5)	RS1/16S0R0J
R 1763	(B,38,17)	RS1/16S0R0J
R 1764	(A,38,25) (EW5)	RS1/16S0R0J
R 1766	(A,39,22) (EW5)	RS1/16S0R0J
R 1768	(A,40,25) (EW5)	RS1/16S0R0J
R 1770	(A,40,22) (EW5)	RS1/16S0R0J
R 1772	(A,41,25) (EW5)	RS1/16S0R0J
R 1774	(A,42,22) (EW5)	RS1/16S0R0J
R 1776	(A,43,25)	RS1/16S0R0J
R 1778	(A,43,22)	RS1/16S0R0J
R 1780	(A,44,25)	RS1/16S0R0J
R 1782	(A,45,22)	RS1/16S0R0J
R 1784	(A,45,25)	RS1/16S0R0J
R 1786	(A,46,22) (EW5)	RS1/16S0R0J
R 1788	(A,47,25)	RS1/16S0R0J
R 1790	(A,47,22) (EW5)	RS1/16S0R0J
R 1792	(A,48,25) (EW5)	RS1/16S0R0J
R 1794	(A,49,22) (EW5)	RS1/16S0R0J
R 1796	(A,50,25) (EW5)	RS1/16S0R0J
R 1801	(A,120,118)	RS1/16S103J
R 1802	(A,114,117)	RS1/4SA271J
R 1803	(A,112,117)	RS1/4SA271J
R 1804	(A,120,116)	RS1/16S102J
R 1805	(A,111,111)	RS2PMFR47J
R 1806	(A,117,114)	RS1/16S103J
R 1807	(B,116,104)	RS1/16S103J
R 1808	(B,110,110)	RS1/4SA271J
R 1809	(B,115,116)	RS1/16S103J
R 1810	(B,112,110)	RS1/4SA271J
R 1811	(B,114,116)	RS1/16S103J
R 1812	(B,112,120)	RS1/16S222J
R 1813	(B,107,104)	RS1/8S0R0J
R 1814	(B,110,120)	RS1/16S124J
R 1817	(A,132,115)	RS1/8S0R0J
R 1821	(B,18,101)	RN1/16SE1002D
R 1822	(B,18,99)	RN1/16SE2701D
R 1823	(B,18,96)	RN1/16SE2201D
R 1825	(B,18,94)	RS1/16S104J
R 1831	(B,21,84)	RS1/8S0R0J
R 1832	(B,25,71)	RS1/16S471J
R 1841	(B,18,90)	RS1/16S8200D
R 1842	(B,18,88)	RS1/16S1201D
R 1843	(B,18,85)	RS1/16S1201D
R 1851	(A,99,13)	RS1/16S153J
R 1852	(A,112,24)	RS1/4SA331J
R 1853	(A,112,29)	RS1/4SA331J
R 1854	(A,108,28)	RS1/16S153J
R 1855	(A,118,30)	RS1/16S103J
R 1856	(A,115,29)	RS1/16S153J
R 1861	(A,102,43)	RS1/4SA151J
R 1862	(A,102,45)	RS1/4SA151J
R 1863	(A,102,41)	RS1/16S153J
R 1864	(A,107,49)	RS1/16S123J
R 1865	(A,102,47)	RS1/4SA151J
R 1866	(A,104,49)	RS1/16S103J
R 1876	(A,44,56)	RS1/16S102J
R 1891	(B,96,57) (EW5)	RS1/16S5601D
R 1892	(B,96,56) (EW5)	RS1/16S1000D
R 1893	(B,96,54) (EW5)	RS1/16S1001D
R 1894	(B,106,70) (EW5)	RS1/8S0R0J
R 1895	(B,99,60) (EW5)	RS1/16S103J

CAPACITORS

C 1001	(A,48,34) 10 µF	CCG1203
C 1002	(A,47,52) 10 µF	CCG1203
C 1003	(A,48,52) 10 µF	CCG1203
C 1004	(A,44,38)	CCSRCH330J50
C 1005	(A,43,43)	CKSRYB104K50
C 1006	(A,44,48)	CCSRCH330J50
C 1007	(A,38,39) 10 µF	CCG1203
C 1008	(A,38,47) 10 µF	CCG1203
C 1009	(A,47,34) 10 µF	CCG1203
C 1021	(A,72,35) 10 µF	CCG1203
C 1022	(A,74,35) 10 µF	CCG1203
C 1023	(A,72,51) 10 µF	CCG1203
C 1024	(A,74,51) 10 µF	CCG1203
C 1025	(A,70,39)	CCSRCH100D50
C 1026	(A,69,43)	CKSRYB104K50
C 1027	(A,70,47)	CCSRCH100D50
C 1031	(A,56,36) 10 µF	CCG1203
C 1032	(A,57,36) 10 µF	CCG1203
C 1033	(A,55,52) 10 µF	CCG1203
C 1034	(A,57,52) 10 µF	CCG1203
C 1035	(A,55,39)	CCSRCH100D50
C 1036	(A,53,43)	CKSRYB104K50
C 1037	(A,55,47)	CCSRCH100D50
C 1041	(A,64,34) 10 µF	CCG1203
C 1042	(A,63,52) 10 µF	CCG1203
C 1043	(A,65,52) 10 µF	CCG1203
C 1044	(A,62,39)	CCSRCH100D50
C 1045	(A,61,43)	CKSRYB104K50
C 1046	(A,62,47)	CCSRCH100D50
C 1047	(A,62,34) 10 µF	CCG1203
C 1051	(B,69,43)	CKSRYB104K50
C 1061	(B,86,51) 10 µF	CCG1203
C 1062	(B,85,54) 10 µF	CCG1203

Circuit Symbol and No.		Part No.
C 1063	(B,84,51) 10 µF	CCG1203
C 1064	(B,83,54)	CKSQYB105K16
C 1065	(B,82,51) 10 µF	CCG1203
C 1066	(B,81,54) 10 µF	CCG1203
C 1067	(B,80,51)	CKSQYB105K16
C 1068	(B,79,54) 10 µF	CCG1203
C 1069	(B,78,51) 10 µF	CCG1203
C 1070	(B,77,54) 10 µF	CCG1203
C 1071	(A,85,64)	CEVW100M16
C 1072	(A,82,62)	CKSRYB104K25
C 1073	(A,81,62)	CKSRYB104K25
C 1074	(A,79,62)	CKSRYB104K25
C 1075	(B,91,60)	CKSQYB475K10
C 1076	(B,71,60)	CKSQYB475K10
C 1077	(B,91,62)	CKSQYB475K10
C 1078	(B,71,62)	CKSQYB475K10
C 1079	(B,91,64)	CKSQYB475K10
C 1080	(B,71,64)	CKSQYB475K10
C 1081	(B,91,66)	CKSQYB475K10
C 1082	(B,71,66)	CKSQYB475K10
C 1083	(B,90,77)	CKSQYB475K10
C 1084	(B,72,77)	CKSQYB475K10
C 1085	(A,85,70)	CEVW100M16
C 1086	(A,77,71)	CKSRYB104K25
C 1087	(B,78,73)	CKSRYB104K25
C 1088	(A,80,48)	CKSRYB103K50
C 1089	(A,83,48)	CKSRYB103K50
C 1091	(A,93,84)	CEVW100M16
C 1092	(A,88,84)	CEVW100M16
C 1093	(A,83,84)	CEVW100M16
C 1094	(A,78,84)	CEVW100M16
C 1095	(A,73,84)	CEVW100M16
C 1096	(A,68,84)	CEVW100M16
C 1097	(A,95,89)	CKSRYB222K50
C 1098	(A,85,89)	CKSRYB222K50
C 1099	(A,75,89)	CKSRYB222K50
C 1100	(A,87,89)	CKSRYB222K50
C 1101	(A,77,89)	CKSRYB222K50
C 1102	(A,67,89)	CKSRYB222K50
C 1111	(B,37,37)	CKSRYB105K10
C 1112	(B,37,38)	CKSRYB105K10
C 1113	(B,42,40)	CCSRCH221J50
C 1114	(B,43,43)	CKSRYB104K25
C 1115	(B,41,51)	CKSRYB103K50
C 1116	(B,36,47)	CKSRYB104K50
C 1117	(B,41,48)	CCSRCH151J50
C 1118	(B,36,48)	CCSRCH151J50
C 1119	(B,43,47)	CKSRYB105K10
C 1131	(B,88,83)	CKSRYB105K10
C 1132	(B,76,80)	CCSRCH221J50
C 1133	(B,86,80)	CCSRCH221J50
C 1134	(B,82,75)	CKSRYB104K25
C 1135	(A,81,77)	CEVW101M16
C 1136	(B,86,78)	CCSRCH221J50
C 1137	(B,76,78)	CCSRCH221J50
C 1138	(B,73,83)	CKSRYB105K10
C 1201	(B,93,104)	CKSRYB104K50
C 1202	(A,89,117)	CEVW470M16
C 1203	(A,92,108)	CEVW330M10
C 1205	(A,96,130)	CKSRYB104K50

Circuit Symbol and No.		Part No.
C 1209	(B,76,119)	CKSQYB105K16
C 1210	(B,72,119)	CKSQYB105K16
C 1211	(B,74,119)	CKSQYB105K16
C 1212	(B,79,119)	CKSQYB105K16
C 1215	(B,76,122)	CKSRYB105K10
C 1216	(B,72,122)	CKSRYB105K10
C 1217	(B,74,122)	CKSRYB105K10
C 1218	(B,79,122)	CKSRYB105K10
C 1219	(A,26,113)	CKSRYB104K50
C 1220	(B,91,126)	CKSRYB105K10
C 1221	(A,73,130)	CKSQYB225K10
C 1222	(A,77,130)	CKSYB225K16
C 1223	(A,73,123)	CEVW100M16
C 1301	(A,16,34)	CKSRYB473K50
C 1302	(A,20,36) 10 µF	CCG1203
C 1303	(A,20,34) 10 µF	CCG1203
C 1304	(A,21,30)	CCSRCH5R0C50
C 1305	(A,15,28)	CKSRYB104K16
C 1306	(A,9,33)	CKSRYB105K10
C 1316	(B,17,22)	CKSRYB473K50
C 1317	(B,21,20) 10 µF	CCG1203
C 1318	(B,21,21) 10 µF	CCG1203
C 1319	(A,15,27)	CCSRCH5R0C50
C 1320	(B,15,28)	CKSRYB104K16
C 1331	(A,30,64)	CEVWNP100M10
C 1332	(A,25,64)	CEVWNP100M10
C 1333	(A,30,56)	CEVWNP100M10
C 1334	(A,25,56)	CEVWNP100M10
C 1338	(B,25,50)	CKSRYB104K25
C 1339	(B,22,51)	CKSRYB104K25
C 1341	(B,7,56)	CKSRYB473K50
C 1342	(B,7,48) 10 µF	CCG1203
C 1343	(B,9,48) 10 µF	CCG1203
C 1344	(B,7,41)	CKSRYB104K25
C 1351	(A,25,48)	CEVWNP100M10
C 1352	(A,20,48)	CEVWNP100M10
C 1353	(B,13,46)	CKSRYB104K25
C 1354	(B,16,42)	CKSRYB104K25
C 1361	(A,20,56)	CEVWNP100M10
C 1362	(A,11,54)	CEVW101M16
C 1363	(A,6,50)	CKSRYB104K25
C 1364	(A,13,47)	CEVW220M16
C 1365	(A,13,40)	CEVW221M10
C 1374	(A,26,34)	CEVQW101M10
C 1382	(A,31,39) 10 µF	CCG1203
C 1383	(A,33,39) 10 µF	CCG1203
C 1384	(A,31,46)	CKSRYB104K25
C 1402	(B,151,100) (EW5)	CCSRCH270J50
C 1403	(B,149,99) (EW5)	CCSRCH220J50
C 1404	(B,147,100) (EW5)	CCSRCH270J50
C 1405	(B,145,98) (EW5)	CCSRCH330J50
C 1406	(B,145,95) (EW5)	CCSRCH470J50
C 1407	(A,135,93) (EW5)	CKSRYB103K50
C 1408	(A,135,95) (EW5)	CKSRYB103K50
C 1409	(A,143,78) (EW5)	CKSRYB103K50
C 1410	(A,137,83) (EW5)	CKSRYB222K50
C 1411	(B,138,81) (EW5)	CKSRYB222K50
C 1412	(A,131,76) (EW5)	CKSRYB222K50
C 1413	(B,142,83) (EW5)	CKSRYB222K50
C 1415	(B,148,89) (EW5)	CCSRCH150J50

Circuit Symbol and No.		Part No.
C 1416	(B,144,82) (EW5)	CKSRYB103K50
C 1417	(A,138,76) (EW5)	CKSRYB222K50
C 1418	(B,151,89) (EW5)	CCSRCH270J50
C 1419	(A,137,71) (EW5)	CCSRCH220J50
C 1420	(A,143,73) (EW5)	CKSRYB103K50
C 1431	(A,144,61)	CEVW221M10
C 1432	(A,144,50)	CEVW221M10
C 1433	(B,141,65)	CKSRYB103K50
C 1434	(A,147,43)	CKSRYB103K50
C 1435	(A,148,33)	CKSRYB103K50
C 1437	(A,147,31) 10 µF	CCG1203
C 1438	(A,145,25)	CEVW470M16
C 1441	(A,162,73) (UC)	CCSRCH101J50
C 1451	(A,107,74) (EW5)	CKSRYB103K50
C 1453	(A,108,58) (EW5)	CKSRYB103K50
C 1454	(A,102,65) (EW5)	CEVW220M16
C 1455	(A,98,65) (EW5)	CKSRYB103K50
C 1456	(A,102,57) (EW5)	CEVW100M16
C 1457	(A,102,77) (EW5)	CKSRYB473K50
C 1458	(A,97,56) (EW5)	CKSRYB473K50
C 1459	(B,136,52) (EW5)	CCSRCH221J50
C 1603	(B,57,102)	CKSQYB105K16
C 1604	(A,56,119)	CKSRYB102K50
C 1606	(B,57,115)	CKSRYB104K50
C 1607	(B,37,106)	CKSRYB104K50
C 1608	(B,57,107)	CKSRYB102K50
C 1609	(B,35,106)	CKSRYB102K50
C 1610	(A,53,125)	CKSRYB102K50
C 1611	(B,37,115)	CKSRYB102K50
C 1612	(A,60,111)	CKSRYB102K50
C 1652	(A,48,74)	CEAT103M16
C 1653	(A,47,91) 3 300 µF/16 V	CCH1018
C 1661	(A,93,22)	CEVW221M16
C 1701	(B,31,129)	CKSRYB102K50
C 1702	(A,17,116)	CKSRYF103Z50
C 1703	(B,22,143)	CKSRYB104K25
C 1711	(B,44,9)	CKSRYB104K25
C 1712	(B,47,9)	CKSRYB104K25
C 1721	(A,119,131)	CKSRYB102K50
C 1722	(A,119,128)	CKSRYB102K50
C 1802	(B,134,116)	CKSRYB102K50
C 1803	(A,103,116) 10 µF	CCG1223
C 1804	(A,103,105) 10 µF	CCG1223
C 1821	(A,15,99)	CCSRCH102J50
C 1822	(A,19,99) 100 µF/16 V	CCH1565
C 1824	(A,15,96)	CKSRYB104K50
C 1831	(B,19,69)	CKSRYB104K50
C 1832	(A,17,64)	CEVW101M16
C 1833	(B,22,69)	CKSRYB104K50
C 1841	(A,19,88) 100 µF/16 V	CCH1565
C 1842	(A,15,88)	CKSRYB103K50
C 1846	(A,15,85)	CKSRYB104K50
C 1851	(A,99,14)	CKSRYB104K50
C 1852	(A,110,18)	CEVW101M16
C 1853	(A,118,29)	CKSRYB683K50
C 1861	(A,95,36)	CKSRYB104K50
C 1863	(A,91,48)	CKSRYB104K50
C 1864	(A,93,42)	CEVW101M25
C 1865	(A,105,49)	CKSRYB104K50
C 1866	(A,93,31)	CEVW101M25
C 1876	(A,39,60)	CKSRYB103K50
C 1877	(A,39,63)	CEVW100M16
C 1878	(A,41,56)	CKSRYB104K50
C 1891	(A,94,62) (EW5)	CEVW101M16
C 1892	(B,97,60) (EW5)	CKSRYB103K50
C 1894	(B,102,66) (EW5)	CKSRYB104K50

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Unit Number : CWN2188(UC)
Unit Number : CWN2091(EW5)
Unit Name : Monitor Unit

MISCELLANEOUS

IC 5010	(A,20,42) 1 Chip or Gate	TC7SH32FUS1
IC 5011	(A,27,51) IC	RB5P0090M
IC 5012	(A,28,35) IC	TC7SET04FUS1
IC 5060	(A,77,33) IC	TC74VHC221AFTS1
IC 5100	(A,54,36) IC	LZ9FE30
IC 5101	(B,65,32) IC	NJM2107F
IC 5181	(A,31,15) IC	BD6171KV
IC 5300	(A,111,34) IC	PE5584A
IC 5303	(A,124,23) IC	S-93C46BD0I-J8
IC 5304	(B,121,46) IC	S-80835CNNB-B8U
IC 5307	(B,12,86) Remote IC	GP1UX51RK
IC 5650	(A,57,57) IC	PD6567A
IC 5651	(A,68,52) IC	TC7SH08FUS1
IC 5681	(A,71,72) IC	NJM2903V
IC 5700	(A,132,32) IC	M62343FP
IC 5900	(B,103,51) IC	TA78L05F
IC 5901	(B,77,67) IC	TC7SH08FUS1
IC 5902	(A,80,65) IC	OZ961ISN
Q 5100	(A,70,34) Transistor	2SC2411K
Q 5180	(B,47,15) Transistor	DTC114EUA
Q 5200	(A,29,25) FET	RSQ035P03
Q 5210	(A,24,21) FET	RSQ035P03
Q 5300	(A,95,17) Transistor	2SC4617
Q 5301	(B,112,25) Transistor	2SC4617
Q 5360	(A,110,18) Transistor	FMG12
Q 5361	(A,107,18) Transistor	DTA123JU
Q 5362	(A,113,18) Transistor	DTA123JU
Q 5363	(B,108,18) Transistor	DTC114EUA
Q 5364	(B,113,17) Transistor	DTC114EUA
Q 5650	(B,55,70) Transistor	2SC4617
Q 5700	(B,133,51) Transistor	UMX1N
Q 5701	(B,127,49) Transistor	UMX1N
Q 5702	(B,129,30) Transistor	UMX1N
Q 5703	(B,128,42) Transistor	UMX1N
Q 5704	(B,121,34) Transistor	UMX1N
Q 5705	(B,135,30) Transistor	UMX1N
Q 5900	(B,94,56) Transistor	2SC4617
Q 5901	(B,92,56) Transistor	2SC4617
Q 5902	(B,83,62) Transistor	DTA144EE
Q 5903	(A,89,68) FET	TS8M1
Q 5904	(A,89,61) FET	TS8M1
Q 5905	(A,111,73) Transistor	2SC4617
Q 5906	(A,114,73) Transistor	2SC4617
Q 5907	(A,119,76) Transistor	UMX2N
Q 5908	(B,85,60) Transistor	2SC4617

Circuit Symbol and No.		Part No.
D 5060	(A,75,28) Diode	1SS355
D 5061	(A,73,39) Diode	1SS355
D 5100	(A,47,28) Diode	RB500V-40
D 5101	(A,61,29) Diode	UDZS5R1(B)
D 5102	(A,67,38) Diode	RB548W
D 5103	(A,64,29) Diode	MA335
D 5104	(B,70,27) Diode	UDZS5R1(B)
D 5105	(B,67,19) Diode	RB500V-40
D 5183	(A,41,18) Diode	RB548W
D 5184	(A,38,19) Diode	RB548W
D 5185	(A,41,14) Diode	RB548W
D 5186	(A,41,12) Diode	RB548W
D 5187	(A,41,9) Diode	RB548W
D 5200	(A,33,27) Diode	RB160M-30
D 5210	(A,20,26) Diode	RSX201L-30
D 5231	(A,32,8) Diode	RB500V-40
D 5233	(A,32,6) Diode	RB500V-40
D 5234	(A,28,7) Diode	RB500V-40
D 5360	(B,109,16) Diode	MA111
D 5361	(B,116,13) Diode	UDZS5R6(B)
D 5364	(B,114,13) Diode	UDZS5R6(B)
D 5650	(A,53,48) Diode	1SS355
D 5900	(B,98,56) Diode	UDZS6R2(B)
D 5902	(B,78,60) Diode	RB751V-40
D 5903	(B,93,66) Diode	HZU6R2(B3)
D 5904	(B,93,61) Diode	HZU6R2(B3)
D 5905	(A,109,75) Diode	UDZS8R2(B)
D 5906	(A,132,55) Diode	MA147
D 5907	(A,122,54) Diode	HZU6R2(B3)
D 5908	(A,128,55) Diode	MA147
L 5010	(A,11,59) Chip Coil	LCTAW100J2520
L 5011	(A,17,34) Chip Coil	LCTAW100J2520
L 5012	(A,13,44) Chip Coil	LCTAW100J2520
L 5013	(A,22,33) Chip Coil	LCTAW100J2520
L 5014	(A,24,37) Inductor	CTF1334
L 5060	(A,75,22) Chip Coil	LCTAW100J2520
L 5100	(A,44,27) Chip Coil	LCTAW100J2520
L 5101	(A,63,41) Inductor	LCTAW150J2520
L 5102	(A,70,28) Inductor	LCTAW2R7J2520
L 5103	(B,65,20) Chip Inductor(10U)	DTL1096
L 5104	(B,65,22) Chip Inductor(10U)	DTL1096
L 5105	(B,65,18) Inductor	LCTC120K2125
L 5106	(B,52,18) Inductor	LCTC120K2125
L 5181	(A,42,16) Chip Inductor(10U)	DTL1096
L 5200	(A,68,6) Inductor	CTF1488
L 5203	(A,37,25) Choke Coil 68 µH	CTH1318
L 5207	(A,44,9) Inductor	CTF1635
L 5214	(A,19,19) Choke Coil 18 µH	CTH1250
L 5230	(A,24,11) Inductor	CTF1635
L 5300	(A,85,19) Inductor	CTF1635
L 5650	(A,42,45) Chip Coil	LCTAW100J2520
L 5651	(A,58,73) Inductor	LCKBW100K2520
L 5700	(A,129,27) Chip Coil	LCTAW100J2520
T 5900	(A,116,64) Transformer	CTT1130
TH5300	(B,107,40) Thermistor	CCX1051
X 5010	(A,22,68) Radiator 4.43 MHz(EW5)	CSS1726
X 5011	(A,36,66) Radiator 3.58 MHz	CSS1725
X 5300	(A,111,45) Radiator 12.58 MHz	CSS1601
VR5101	(A,68,25) Semi-fixed 2.2 kΩ(OB)	CCP1485
VR5900	(A,79,57) Semi-fixed 15 kΩ(OB)	CCP1490

Circuit Symbol and No.		Part No.
RESISTORS		
R 5010	(A,32,41)	RS1/16S9100D
R 5011	(A,32,40)	RS1/16S1301D
R 5013	(B,23,49)	RS1/16S102J
R 5014	(B,24,45)	RS1/16S103J
R 5015	(B,25,49)	RS1/16S474J
R 5016	(A,28,40)	RS1/16S0R0J
R 5017	(A,19,46)	RS1/16S101J
R 5018	(A,26,40)	RS1/16S561J
R 5019	(B,43,47)	RS1/16S1501D
R 5020	(B,41,47)	RS1/16S1501D
R 5021	(B,43,50)	RS1/16S1501D
R 5023	(B,23,51)	RS1/16S103J
R 5026	(B,24,54)	RS1/16S0R0J
R 5027	(B,27,45)	RS1/16S1802F
R 5028	(B,26,52)	RS1/16S0R0J
R 5029	(B,28,50)	RS1/16S0R0J
R 5030	(A,14,58)	RS1/16S103J
R 5031	(A,23,61)	RS1/16S101J
R 5032	(A,24,61)	RS1/16S101J
R 5033	(A,26,61)	RS1/16S101J
R 5034	(A,38,52)	RS1/16S105J
R 5035	(A,38,57)	RS1/16S105J
R 5036	(A,26,64)	RS1/16S681J
R 5037	(A,30,62)	RS1/16S222J
R 5038	(B,29,55)	RS1/16S822J
R 5039	(B,30,58)	RS1/16S562J
R 5040	(A,24,35)	RS1/16S391J
R 5042	(B,49,47)	RS1/16S6200D
R 5043	(B,46,48)	RS1/16S6200D
R 5044	(B,49,49)	RS1/16S6200D
R 5045	(B,42,43)	RS1/16S0R0J
R 5060	(A,80,39)	RS1/16S0R0J
R 5061	(A,80,36)	RS1/16S101J
R 5062	(A,75,26)	RS1/16S104J
R 5063	(A,77,38)	RS1/16S101J
R 5064	(A,74,37)	RS1/16S3001D
R 5065	(A,71,37)	RS1/16S82R0F
R 5092	(A,77,44)	RS1/16S0R0J
R 5100	(A,42,39)	RS1/16S0R0J
R 5101	(B,42,39)	RS1/16S0R0J
R 5102	(A,42,38)	RS1/16S0R0J
R 5103	(B,42,38)	RS1/16S0R0J
R 5104	(A,42,36)	RS1/16S0R0J
R 5106	(A,46,40)	RS1/16S1003F
R 5107	(A,45,39)	RS1/16S101J
R 5108	(B,45,39)	RS1/16S101J
R 5109	(A,45,38)	RS1/16S101J
R 5110	(B,45,38)	RS1/16S101J
R 5111	(A,44,36)	RS1/16S101J
R 5112	(B,48,34)	RS1/16S0R0J
R 5113	(A,50,44)	RS1/16S5101D
R 5114	(A,47,47)	RS1/16S0R0J
R 5115	(B,59,37)	RS1/16S224J
R 5116	(A,54,28)	RS1/16S101J
R 5117	(A,54,27)	RS1/16S0R0J
R 5118	(B,51,38)	RS1/16S0R0J
R 5119	(B,51,40)	RS1/16S101J
R 5120	(B,52,40)	RS1/16S101J

Circuit Symbol and No.		Part No.
R 5121	(A,56,28)	RS1/16S101J
R 5122	(A,57,26)	RS1/16S0R0J
R 5123	(B,54,40)	RS1/16S101J
R 5124	(A,58,28)	RS1/16S101J
R 5125	(B,54,38)	RS1/16S0R0J
R 5126	(B,55,40)	RS1/16S101J
R 5127	(B,59,28)	RS1/16S101J
R 5128	(B,59,26)	RS1/16S0R0J
R 5129	(B,55,38)	RS1/16S0R0J
R 5130	(B,58,30)	RS1/16S101J
R 5131	(B,58,27)	RS1/16S0R0J
R 5132	(A,63,34)	RS1/16S105J
R 5133	(B,60,32)	RS1/16S0R0J
R 5134	(A,62,39)	RS1/16S391J
R 5136	(B,61,24)	RS1/16S103J
R 5137	(A,61,26)	RS1/16S3901D
R 5138	(B,61,30)	RS1/16S3901D
R 5139	(A,62,33)	RS1/16S4702D
R 5140	(A,62,32)	RS1/16S243J
R 5141	(A,65,32)	RS1/16S6802D
R 5142	(A,67,37)	RS1/16S564J
R 5143	(A,67,42)	RS1/16S564J
R 5144	(A,69,32)	RS1/16S683J
R 5145	(B,70,30)	RS1/16S105J
R 5146	(A,69,41)	RS1/16S0R0J
R 5147	(A,67,29)	RS1/16S103J
R 5148	(B,66,26)	RS1/16S272J
R 5149	(B,65,34)	RS1/16S272J
R 5150	(B,70,33)	RS1/16S332J
R 5151	(B,65,35)	RS1/16S101J
R 5152	(B,70,35)	RS1/16S331J
R 5153	(A,46,13)	RS1/16S103J
R 5154	(A,44,6)	RS1/16S273J
R 5155	(B,57,20)	RS1/16S333J
R 5156	(B,69,24)	RS1/16S152J
R 5157	(B,61,37)	RS1/16S101J
R 5158	(B,62,39)	RS1/16S0R0J
R 5159	(A,71,26)	RS1/16S0R0J
R 5160	(A,65,34)	RS1/16S0R0J
R 5180	(B,39,16)	RS1/16S2703D
R 5181	(B,40,19)	RS1/16S3303D
R 5182	(B,38,20)	RS1/16S2202F
R 5183	(B,38,18)	RS1/16S1601F
R 5184	(B,37,16)	RS1/16S6202D
R 5185	(A,38,7)	RS1/16S3300F
R 5186	(A,38,9)	RS1/16S3302F
R 5187	(A,36,9)	RS1/16S1002F
R 5188	(B,29,20)	RS1/16S563J
R 5189	(B,42,17)	RS1/16S223J
R 5191	(B,31,24)	RS1/16S150J
R 5192	(A,28,23)	RS1/16S150J
R 5193	(B,27,20)	RS1/16S273J
R 5194	(A,20,14)	RS1/16S1500F
R 5195	(A,18,14)	RS1/16S1201F
R 5196	(A,20,12)	RS1/16S1500F
R 5197	(B,43,15)	RS1/16S0R0J
R 5200	(A,70,4)	RS1/16S0R0J
R 5201	(B,24,16)	RS1/16S682J
R 5204	(A,135,19)	RS1/16S0R0J
R 5216	(A,24,17)	RS1/16S333J

Circuit Symbol and No.		Part No.
R 5217	(A,22,14)	RS1/16S102J
R 5218	(B,23,12)	RS1/16S684J
R 5219	(B,35,30)	RS1/16S6801F
R 5220	(B,21,16)	RS1/16S1001F
R 5221	(B,24,19)	RS1/16S2000D
R 5222	(B,22,13)	RS1/16S182J
R 5230	(A,26,9)	RS1/16S2001F
R 5231	(A,24,7)	RS1/16S4700F
R 5300	(A,128,50)	RS1/16S473J
R 5301	(A,128,49)	RS1/16S473J
R 5302	(A,92,16)	RS1/16S473J
R 5303	(A,92,18)	RS1/16S223J
R 5304	(A,104,18)	RS1/16S473J
R 5305	(A,100,33)	RAB4C471J
R 5306	(A,122,28)	RS1/16S471J
R 5308	(A,123,36)	RAB4C471J
R 5309	(A,115,23)	RAB4C471J
R 5310	(A,124,41)	RS1/16S473J
R 5311	(B,100,25)	RAB4C473J
R 5312	(B,107,42)	RS1/16S153J
R 5313	(A,107,46)	RAB4C123J
R 5314	(A,111,23)	RS1/16S473J
R 5315	(B,112,23)	RS1/16S103J
R 5316	(B,112,40)	RS1/16S473J
R 5317	(A,112,23)	RS1/16S471J
R 5320	(B,109,23)	RS1/16S102J
R 5321	(A,118,45)	RS1/16S0R0J
R 5322	(A,123,15)	RS1/16S102J
R 5323	(A,120,46)	RS1/16S0R0J
R 5324	(B,116,35)	RS1/16S473J
R 5325	(A,109,23)	RS1/16S471J
R 5326	(A,101,39)	RS1/16S103J
R 5329	(B,101,33)	RS1/16S0R0J
R 5330	(A,123,33)	RAB4C102J
R 5331	(B,63,29)	RS1/16S104J
R 5338	(B,119,49)	RS1/16S0R0J
R 5341	(B,121,49)	RS1/16S103J
R 5343	(A,120,22)	RS1/16S473J
R 5344	(A,100,29)	RAB4C471J
R 5345	(A,99,39)	RS1/16S471J
R 5346	(A,98,38)	RS1/16S471J
R 5350	(A,122,30)	RS1/16S103J
R 5351	(A,127,46) (EW5)	RS1/16S473J
R 5352	(A,128,46) (UC)	RS1/16S473J
R 5353	(A,131,46)	RS1/16S473J
R 5360	(A,104,10)	RS1/16S102J
R 5365	(A,103,10)	RS1/16S102J
R 5366	(B,108,13)	RS1/16S105J
R 5367	(B,112,13)	RS1/16S105J
R 5650	(B,56,67)	RS1/16S362J
R 5651	(B,59,66)	RS1/16S362J
R 5652	(B,57,67)	RS1/16S182J
R 5653	(B,51,71)	RS1/16S102J
R 5654	(B,55,72)	RS1/16S103J
R 5655	(B,60,66)	RS1/16S362J
R 5656	(B,59,68)	RS1/16S182J
R 5657	(B,57,69)	RS1/16S103J
R 5658	(B,61,66)	RS1/16S362J
R 5659	(B,62,68)	RS1/16S182J
R 5660	(B,63,66)	RS1/16S362J

Circuit Symbol and No.		Part No.
R 5661	(B,64,70)	RS1/16S301J
R 5662	(B,47,67)	RS1/16S101J
R 5665	(A,53,50)	RS1/16S474J
R 5672	(B,57,60)	RS1/16S471J
R 5674	(B,61,60)	RS1/16S0R0J
R 5675	(B,63,60)	RS1/16S101J
R 5676	(A,14,75)	RS1/16S470J
R 5678	(A,66,49)	RS1/16S101J
R 5680	(A,66,72)	RS1/16S153J
R 5681	(A,64,74)	RS1/16S153J
R 5682	(A,66,76)	RS1/16S912J
R 5683	(A,64,76)	RS1/16S392J
R 5684	(A,67,76)	RS1/16S2703F
R 5685	(A,74,72)	RS1/16S103J
R 5693	(A,15,75)	RS1/16S470J
R 5702	(B,136,50)	RS1/16S224J
R 5703	(B,125,39)	RS1/16S102J
R 5704	(B,138,50)	RS1/16S222J
R 5705	(B,129,49)	RS1/16S224J
R 5706	(B,123,38)	RS1/16S102J
R 5707	(B,131,49)	RS1/16S222J
R 5709	(B,130,46)	RS1/16S101J
R 5710	(B,127,30)	RS1/16S224J
R 5711	(B,129,32)	RS1/16S102J
R 5712	(B,126,30)	RS1/16S222J
R 5713	(B,130,37)	RS1/10S121J
R 5714	(B,128,35)	RS1/10S101J
R 5717	(B,119,37)	RS1/16S101J
R 5720	(B,21,49)	RS1/16S101J
R 5721	(B,23,45)	RS1/16S0R0J
R 5724	(B,120,32)	RS1/10S121J
R 5725	(B,124,32)	RS1/10S151J
R 5728	(B,132,30)	RS1/16S101J
R 5730	(B,133,29)	RS1/10S151J
R 5731	(B,131,27)	RS1/10S181J
R 5751	(B,132,12)	RS1/16S0R0J
R 5752	(B,134,14)	RS1/16S0R0J
R 5753	(B,131,14)	RS1/16S0R0J
R 5754	(B,131,16)	RS1/16S0R0J
R 5755	(A,128,10)	RS1/16S0R0J
R 5900	(B,96,56)	RS1/16S103J
R 5901	(B,95,54)	RS1/16S104J
R 5902	(B,97,54)	RS1/16S473J
R 5903	(B,90,56)	RS1/16S105J
R 5904	(B,85,58)	RS1/16S102J
R 5905	(B,86,56)	RS1/16S473J
R 5906	(B,83,65)	RS1/16S363J
R 5907	(B,84,70)	RS1/16S513J
R 5908	(B,132,55)	RS1/16S105J
R 5909	(B,77,63)	RS1/16S102J
R 5910	(A,83,57)	RS1/16S5602D
R 5911	(B,93,68)	RS1/16S103J
R 5912	(B,92,63)	RS1/16S103J
R 5913	(A,108,73)	RS1/16S103J
R 5914	(A,109,73)	RS1/16S104J
R 5915	(A,113,76)	RS1/16S621J
R 5916	(A,109,77)	RS1/16S473J
R 5917	(A,116,75)	RS1/16S621J
R 5918	(A,120,73)	RS1/16S101J
R 5919	(A,118,73)	RS1/16S101J

Circuit Symbol and No.		Part No.
R 5920	(A,120,54)	RS1/16S821J
R 5922	(A,124,55)	RS1/16S4700D
R 5935	(A,98,55)	RS1/16S0R0J
R 5997	(A,43,75) (EW5)	RS1/10S0R0J
R 5998	(A,48,75) (UC)	RS1/10S0R0J

CAPACITORS

C 5010	(A,17,58) 10 µF	CCG1203
C 5012	(A,21,37) 47 µF	CCG1233
C 5014	(B,26,45)	CCSRCH821J50
C 5015	(A,25,42)	CKSRYB105K10
C 5016	(B,29,45)	CKSRYB104K50
C 5019	(A,33,43) 10 µF	CCG1203
C 5020	(A,15,48)	CEVW100M25
C 5021	(B,21,54)	CKSRYB104K50
C 5022	(A,37,47)	CKSRYB104K16
C 5023	(B,37,48)	CKSRYB104K16
C 5024	(A,37,49)	CKSRYB104K16
C 5025	(B,37,50)	CKSRYB104K50
C 5026	(A,37,50)	CKSRYB104K50
C 5027	(B,37,51)	CKSRYB104K50
C 5028	(A,15,54)	CEVW100M25
C 5029	(A,38,53)	CKSRYB105K10
C 5030	(A,38,54)	CKSRYB682K25
C 5031	(A,38,56)	CKSRYB104K50
C 5032	(A,32,60)	CKSRYB103K50
C 5033	(B,28,58)	CKSRYB103K50
C 5034	(B,29,58)	CKSRYB474K16
C 5035	(B,24,57)	CKSRYB104K50
C 5036	(A,24,64)	CCSRCH8R0D50
C 5037	(A,33,62)	CCSRCH8R0D50
C 5039	(A,26,33)	CKSRYB104K50
C 5060	(A,78,27)	CCSRCH391J50
C 5061	(A,76,38) 330 pF	CCG1247
C 5062	(A,75,25)	CKSRYB105K10
C 5100	(B,50,42)	CKSRYB104K50
C 5101	(B,48,40)	CKSRYB104K50
C 5103	(A,45,43)	CKSRYB222K50
C 5104	(A,44,34) 10 µF	CCG1203
C 5105	(A,47,44)	CKSRYB104K50
C 5106	(A,54,46) 330 pF	CCG1247
C 5107	(B,51,43)	CKSRYB104K50
C 5108	(B,54,28)	CKSRYB104K50
C 5109	(B,53,31)	CKSRYB104K50
C 5110	(A,54,44)	CKSRYB104K50
C 5111	(B,54,34)	CKSRYB104K50
C 5112	(B,57,39)	CKSRYB224K16
C 5113	(B,56,29)	CKSRYB104K50
C 5114	(B,55,31)	CKSRYB104K50
C 5115	(B,57,42)	CKSRYB104K50
C 5116	(B,59,42)	CKSRYB104K50
C 5117	(B,59,41)	CKSRYB104K50
C 5118	(B,59,39)	CKSRYB104K50
C 5119	(B,57,36)	CKSRYB104K50
C 5120	(B,57,34)	CKSRYB104K50
C 5121	(A,59,28)	CKSRYB105K10
C 5122	(A,63,36)	CKSRYB104K50
C 5123	(A,63,39)	CCSRCH330J50
C 5124	(A,65,39)	CCSRCH330J50

Circuit Symbol and No.			Part No.
C 5125	(A,68,43)		CCSRCH102J50
C 5126	(B,69,30)		CCSRCH561J50
C 5127	(A,69,30)		CKSRYB104K50
C 5128	(B,62,32)		CKSRYB104K50
C 5129	(B,66,28)		CKSRYB104K50
C 5130	(B,59,35)		CKSRYB105K10
C 5131	(A,71,31)		CCSRCH102J50
C 5132	(A,73,31)		CCSRCH101J50
C 5133	(B,67,26)		CKSRYB104K50
C 5134	(A,67,34)		CCSRCH221J50
C 5135	(B,70,34)		CCSRCH331J50
C 5136	(B,69,18)	10 µF	CCG1203
C 5137	(A,16,38)	10 µF	CCG1223
C 5138	(A,11,38)		CEVW101M16
C 5139	(A,64,27)		CCSRCK2R0C50
C 5142	(B,61,20)		CKSRYB105K10
C 5143	(B,61,22)		CKSRYB105K10
C 5144	(B,54,20)		CKSRYB104K50
C 5145	(B,61,18)		CKSRYB105K10
C 5181	(B,43,18)		CKSQYF105Z25
C 5182	(B,35,18)		CKSQYF105Z25
C 5183	(A,38,17)		CKSRYB104K25
C 5184	(A,38,16)		CKSQYF105Z25
C 5188	(B,50,12)		CKSQYB105K16
C 5190	(B,54,12)		CKSQYF225Z16
C 5191	(A,43,13)		CKSQYF225Z16
C 5192	(B,35,13)		CKSQYF105Z25
C 5193	(A,38,12)		CKSRYF474Z16
C 5194	(A,38,13)		CKSRYF474Z16
C 5195	(B,31,14)		CKSYF475Z16
C 5196	(A,40,20)		CKSRYB472K50
C 5197	(A,41,20)		CKSRYB472K50
C 5199	(A,38,10)		CKSRYF474Z16
C 5200	(B,52,12)		CKSQYB105K16
C 5201	(A,36,30)	33 µF/10 V	CCH1586
C 5202	(A,36,33)		CKSRYB104K25
C 5203	(B,29,29)		CKSRYB103K50
C 5204	(A,29,29)	10 µF	CCG1223
C 5205	(B,33,19)		CKSRYB103K50
C 5206	(B,32,19)		CKSRYB105K10
C 5207	(A,41,6)		CKSQYF105Z25
C 5208	(B,30,17)		CCSRCH102J50
C 5209	(B,30,20)		CKSRYB104K25
C 5210	(A,70,7)		CKSQYF224Z25
C 5211	(B,31,22)		CKSRYB105K10
C 5212	(A,24,28)	10 µF	CCG1223
C 5213	(B,26,20)		CKSRYB104K25
C 5214	(A,24,24)	10 µF	CCG1223
C 5215	(A,14,25)		CKSRYB104K25
C 5216	(A,16,27)	68 µF/10 V	CCH1635
C 5217	(A,23,17)		CCSRCH101J50
C 5218	(B,24,26)		CKSRYB103K50
C 5219	(B,26,18)		CKSRYB103K50
C 5221	(A,21,14)		CCSRCH331J50
C 5223	(B,28,17)		CKSRYB393K16
C 5224	(B,22,10)		CKSRYB103K50
C 5226	(B,22,16)		CKSRYB473K50
C 5228	(B,26,16)		CKSRYB393K16
C 5230	(B,32,12)		CCSRCH102J50
C 5231	(A,21,10)		CKSRYB104K25

Circuit Symbol and No.			Part No.
C 5232	(A,22,11)	10 µF	CCG1203
C 5233	(B,26,14)		CKSRYB105K10
C 5234	(A,23,9)		CKSRYB104K25
C 5235	(B,31,16)		CKSRYB103K50
C 5242	(B,30,12)		CKSRYB104K25
C 5247	(B,28,12)		CKSRYB104K25
C 5249	(B,27,12)		CKSRYB104K25
C 5300	(A,87,28)		CEVW330M10
C 5301	(B,107,25)		CKSRYF104Z16
C 5302	(B,95,24)		CKSRYF104Z16
C 5303	(B,105,25)		CKSRYF104Z16
C 5304	(B,107,39)		CKSRYB104K25
C 5306	(B,112,22)		CKSRYB105K6R3
C 5307	(B,112,27)		CKSRYF104Z50
C 5308	(A,114,45)		CKSRYF104Z16
C 5312	(B,119,46)		CKSRYB103K50
C 5313	(B,123,46)		CKSRYF104Z16
C 5314	(B,121,21)		CKSRYF104Z16
C 5360	(A,104,12)		CKSRYB473K50
C 5361	(A,103,12)		CKSRYB473K50
C 5362	(B,117,13)		CKSRYB102K50
C 5363	(B,119,13)		CKSRYB102K50
C 5364	(B,105,18)		CKSRYB104K10
C 5366	(B,110,13)		CKSRYB102K50
C 5367	(B,111,13)		CKSRYB102K50
C 5651	(B,61,70)	10 µF	CCG1203
C 5652	(B,53,71)		CKSRYB104K16
C 5654	(A,43,56)	10 µF	CCG1203
C 5655	(A,47,54)		CKSRYB104K50
C 5659	(A,55,50)		CKSRYB474K10
C 5660	(B,59,62)		CKSRYB104K50
C 5661	(A,43,48)	10 µF	CCG1203
C 5663	(B,19,42)		CKSRYB104K50
C 5665	(A,67,72)		CCSRCH102J50
C 5666	(B,68,71)		CFHXSQ562J16
C 5667	(A,60,73)	10 µF	CCG1203
C 5668	(A,62,67)		CEVW330M10
C 5669	(A,68,55)		CKSRYB105K10
C 5670	(A,17,75)		CKSRYB104K16
C 5700	(B,137,52)		CKSQYB475K6R3
C 5702	(A,132,29)	10 µF	CCG1203
C 5705	(B,130,51)		CKSQYB475K6R3
C 5707	(B,126,28)		CKSQYB475K6R3
C 5708	(B,134,22)		CKSRYB102K50
C 5709	(B,134,20)		CKSRYB102K50
C 5901	(A,94,52)	10 µF	CCG1223
C 5902	(B,100,54)		CKSRYB104K25
C 5903	(B,99,49)		CKSRYB105K10
C 5904	(B,88,59)		CKSRYB104K25
C 5905	(A,73,64)		CKSRYB104K25
C 5906	(A,75,69)		CKSRYB105K10
C 5907	(A,73,67)		CKSRYB474K10
C 5908	(A,73,66)		CKSRYB105K10
C 5909	(A,75,62)		CKSRYB562K50
C 5910	(A,76,60)		CKSRYB152K50
C 5911	(B,79,67)		CKSRYB104K25
C 5912	(B,88,64)		CKSRYB473K50
C 5913	(B,134,55)		CKSRYB103K50
C 5914	(A,80,59)		CKSRYB221K50
C 5915	(B,89,69)		CKSRYB473K50

Circuit Symbol and No.			Part No.
C 5916	(A,89,57)	10 µF	CCG1223
C 5917	(A,89,64)	10 µF	CCG1223
C 5918	(A,95,70)		CKSQYB105K16
C 5919	(A,95,72)		CKSQYB105K16
C 5920	(A,116,73)		CKSRYB104K25
C 5921	(A,137,58)	15 pF	CCG1194
C 5922	(B,137,55)		CKSRYB153K50

Keyboard Unit
Consists of
Key PCB
AV Mini Jack PCB

H I

Unit Number :
Unit Name : Keyboard Unit

MISCELLANEOUS

D 5501	(A,12,60)	LED	NSSM025-6502
D 5551	(B,5,6)	Diode	MALS068X
D 5552	(B,8,18)	Diode	MALS068X
D 5553	(B,11,6)	Diode	MALS068X
D 5554	(B,8,6)	Diode	MALS068X
S 5501	(A,11,26)	Push Switch	CSG1155
S 5502	(A,12,6)	Push Switch	CSG1155
S 5503	(A,12,47)	Push Switch	CSG1155
S 5504	(A,11,68)	Push Switch	CSG1155
S 5505	(A,12,74)	Push Switch	CSG1155
S 5506	(A,23,76)	Push Switch	CSG1155
S 5507	(A,12,37)	Rotary Switch(VOLUME)	CSD1142

RESISTORS

R 5501	(A,16,46)		RS1/16S303J
R 5502	(A,14,66)		RS1/16S303J
R 5503	(A,11,8)		RS1/16S183J
R 5504	(A,12,20)		RS1/16S103J
R 5505	(A,12,18)		RS1/16S822J
R 5506	(B,10,50)		RS1/16S102J
R 5507	(B,14,50)		RS1/16S102J

CAPACITORS

C 5503	(A,11,54)		CKSRYB104K25
C 5504	(A,12,56)		CKSRYB104K25
C 5505	(B,11,50)		CKSRYB103K50
C 5506	(B,13,50)		CKSRYB103K50

D

Unit Number : CWX3401
Unit Name : DVD Core Unit

MISCELLANEOUS

IC 1001	(B,79,55)	IC	BD9851EFV
IC 1003	(B,72,42)	IC	S-80859CNNB-B9K
IC 1004	(B,75,48)	Regulator IC	NJM2880U1-05
IC 1005	(B,61,58)	IC	S-L2980A50MC-C7J
IC 1201	(A,26,15)	IC	BD7996EFV

Circuit Symbol and No.			Part No.
IC 1301	(B,90,27)	IC	TC7SZ125FU
IC 1351	(B,86,27)	IC	TC7SZ08FU
IC 1352	(B,79,14)	IC	TC74LCX16373FT
IC 1401	(B,61,32)	Flash ROM Unit	CWW1428
IC 1402	(B,37,10)	Flash ROM Unit	CWW1429
IC 1403	(B,47,29)	IC	TC7SZ32FU
IC 1481	(B,60,12)	IC	EDS1232AATA-75
IC 1501	(A,60,19)	IC	MN2DS0016AAUB
IC 1801	(A,70,53)	D/A Converter	PCM1753DBQ
Q 1001	(B,77,67)	FET	RSQ030P03
Q 1003	(B,85,67)	FET	QS5U27
Q 1101	(B,62,50)	Transistor	2SC4081
Q 1102	(B,68,50)	Transistor	2SC4081
Q 1103	(B,60,45)	Transistor	2SB1260
Q 1104	(B,67,45)	Transistor	2SB1260
D 1001	(B,80,64)	Chip Diode	RB050L-40
D 1002	(A,89,67)	Diode	1SR154-400
D 1301	(B,13,10)	Chip LED	CL205IRXTU
L 1001	(B,73,62)	Inductor	CTF1678
L 1002	(B,83,72)	Inductor	CTF1677
L 1003	(B,86,62)	Inductor	CTF1681
L 1004	(B,63,60)	Inductor	CTF1558
L 1005	(B,81,49)	Inductor	CTF1558
L 1101	(B,66,54)	Inductor	CTF1305
L 1482	(B,77,29)	Inductor	CTF1473
L 1502	(A,71,47)	Inductor	CTF1378
L 1503	(A,60,47)	Inductor	CTF1487
L 1504	(A,35,10)	Inductor	CTF1387
L 1511	(A,63,3)	Inductor	CTF1680
L 1601	(A,41,23)	Inductor	CTF1473
L 1602	(A,55,42)	Inductor	CTF1473
L 1603	(A,54,42)	Inductor	CTF1473
L 1604	(A,52,42)	Inductor	CTF1473
L 1605	(A,38,32)	Inductor	CTF1395
L 1671	(A,41,19)	Inductor	CTF1473
L 1672	(A,41,20)	Inductor	CTF1473
L 1673	(A,41,21)	Inductor	CTF1473
L 1801	(A,70,61)	Inductor	CTF1473
L 1901	(A,91,73)	Inductor	CTF1487
L 1902	(A,91,62)	Inductor	CTF1558
X 1501	(A,40,16)	Clystal 27.000 MHz	CSS1714
VR1671	(A,35,20)	Semi-fixed 10 kΩ(B)	CCP1448
EF1501	(A,68,47)	Chip EMI Filter	DTL1106
EF1502	(A,61,45)	Chip EMI Filter	DTL1106
EF1901	(A,87,74)	Chip EMI Filter	DTF1106
EF1903	(A,91,65)	Chip EMI Filter	DTL1106

RESISTORS

R 1001	(B,70,55)	RS1/16SS101J
R 1002	(B,72,51)	RS1/16SS103J
R 1003	(B,72,55)	RS1/16SS122J
R 1005	(B,72,52)	RS1/16SS153J
R 1006	(B,73,54)	RS1/16SS471J
R 1007	(B,73,55)	RS1/16SS8201D
R 1008	(B,70,56)	RS1/16SS4702D
R 1009	(B,72,56)	RS1/16SS561J
R 1010	(B,74,51)	RS1/16SS472J
R 1011	(B,72,40)	RS1/16SS104J
R 1013	(B,87,54)	RS1/16SS682J

Circuit Symbol and No.		Part No.
R 1017	(B,88,54)	RS1/16SS1002D
R 1018	(B,88,53)	RS1/16SS472J
R 1019	(B,87,53)	RS1/16SS2202D
R 1020	(B,87,52)	RS1/16SS102J
R 1021	(B,87,51)	RS1/16SS101J
R 1026	(B,78,61)	RS1/16SS100J
R 1027	(B,77,61)	RS1/16SS100J
R 1101	(B,63,53)	RS1/16SS391J
R 1102	(B,63,47)	RS1/16SS511J
R 1103	(B,67,53)	RS1/16SS391J
R 1104	(B,69,47)	RS1/16SS561J
R 1107	(B,61,53)	RS1/16SS6R8J
R 1108	(B,65,53)	RS1/16SS6R8J
R 1109	(B,58,41)	RS1/10S1R5J
R 1110	(B,63,41)	RS1/10S1R5J
R 1111	(B,70,41)	RS1/10S1R5J
R 1112	(B,65,41)	RS1/10S1R5J
R 1113	(B,61,41)	RS1/10S1R5J
R 1114	(B,59,41)	RS1/10S1R5J
R 1115	(B,66,41)	RS1/10S1R5J
R 1116	(B,68,41)	RS1/10S1R5J
R 1117	(B,64,49)	RS1/16SS104J
R 1118	(B,70,49)	RS1/16SS104J
R 1202	(A,19,12)	RS1/16SS221J
R 1203	(A,19,11)	RS1/16SS221J
R 1210	(A,30,27)	RS1/16SS101J
R 1211	(B,26,18)	RS1/16SS3R9J
R 1212	(B,27,18)	RS1/16SS3R9J
R 1214	(B,28,18)	RS1/16SS3R9J
R 1215	(B,29,18)	RS1/16SS3R9J
R 1216	(B,30,18)	RS1/16SS3R9J
R 1217	(B,31,18)	RS1/16SS3R9J
R 1219	(A,20,27)	RS1/16SS101J
R 1223	(A,19,4)	RS1/16SS753J
R 1225	(A,19,7)	RS1/16SS753J
R 1227	(B,13,21)	RS1/16SS3R9J
R 1228	(B,14,21)	RS1/16SS3R9J
R 1229	(B,15,21)	RS1/16SS3R9J
R 1230	(B,16,21)	RS1/16SS3R9J
R 1231	(B,17,21)	RS1/16SS3R9J
R 1232	(B,18,21)	RS1/16SS3R9J
R 1233	(B,19,21)	RS1/16SS3R9J
R 1234	(B,20,21)	RS1/16SS3R9J
R 1240	(B,32,18)	RS1/16SS3R9J
R 1241	(B,33,18)	RS1/16SS3R9J
R 1242	(B,34,18)	RS1/16SS3R9J
R 1243	(B,38,18)	RS1/16SS3R9J
R 1244	(B,36,18)	RS1/16SS3R9J
R 1245	(B,35,18)	RS1/16SS3R9J
R 1301	(B,14,14)	RS1/16SS391J
R 1302	(B,16,14)	RS1/16SS471J
R 1304	(B,87,23)	RS1/16SS563J
R 1305	(B,86,23)	RS1/16SS243J
R 1306	(B,85,23)	RS1/16SS683J
R 1307	(B,88,23)	RS1/16SS243J
R 1314	(B,86,21)	RAB4CQ822J
R 1351	(B,84,25)	RS1/16SS331J
R 1401	(B,72,33)	RS1/16SS221J
R 1402	(B,50,27)	RS1/16SS104J
R 1405	(B,48,10)	RS1/16SS221J

Circuit Symbol and No.		Part No.
R 1406	(B,26,4)	RS1/16SS104J
R 1407	(B,26,6)	RS1/16SS104J
R 1410	(B,47,32)	RS1/16SS104J
R 1501	(B,71,3)	RAB4CQ560J
R 1503	(A,72,3)	RS1/16SS560J
R 1505	(B,68,3)	RAB4CQ560J
R 1507	(B,65,3)	RAB4CQ560J
R 1512	(B,59,3)	RAB4CQ560J
R 1513	(A,44,4)	RS1/16SS102J
R 1515	(A,43,3)	RS1/16SS102J
R 1520	(A,35,8)	RS1/16SS221J
R 1521	(A,41,12)	RAB4CQ101J
R 1522	(B,56,3)	RAB4CQ560J
R 1523	(A,39,11)	RS1/16SS101J
R 1524	(A,39,13)	RS1/16SS101J
R 1525	(B,53,3)	RAB4CQ560J
R 1526	(A,36,11)	RS1/16SS270J
R 1528	(A,43,14)	RS1/16SS101J
R 1529	(B,54,22)	RAB4CQ560J
R 1530	(A,43,15)	RS1/16SS105J
R 1531	(B,50,22)	RAB4CQ560J
R 1532	(A,77,23)	RS1/16SS103J
R 1533	(A,76,27)	RS1/16SS103J
R 1534	(A,77,26)	RS1/16SS103J
R 1535	(A,63,36)	RS1/16SS221J
R 1537	(A,67,41)	RS1/16SS221J
R 1538	(A,66,41)	RS1/16SS221J
R 1540	(A,71,44)	RS1/16SS102J
R 1541	(A,64,41)	RS1/16SS472J
R 1542	(A,60,36)	RS1/16SS223J
R 1543	(A,59,38)	RS1/16SS332J
R 1544	(A,57,41)	RS1/16SS183J
R 1545	(A,61,36)	RS1/16SS223J
R 1546	(A,59,42)	RS1/16SS104J
R 1547	(A,59,41)	RS1/16SS473J
R 1548	(A,59,36)	RS1/16SS104J
R 1554	(A,60,40)	RS1/16SS221J
R 1555	(A,58,38)	RS1/16SS221J
R 1556	(A,43,8)	RS1/16SS104J
R 1557	(A,57,40)	RS1/16SS104J
R 1559	(A,63,41)	RS1/16SS221J
R 1560	(A,68,42)	RAB4CQ104J
R 1562	(A,64,38)	RAB4CQ104J
R 1565	(A,73,36)	RS1/16SS103J
R 1566	(A,72,36)	RS1/16SS103J
R 1567	(B,68,22)	RAB4CQ560J
R 1568	(B,65,22)	RAB4CQ560J
R 1569	(B,62,3)	RAB4CQ560J
R 1570	(B,60,22)	RAB4CQ560J
R 1571	(B,57,22)	RAB4CQ560J
R 1572	(A,47,3)	RS1/16SS103J
R 1573	(B,63,20)	RS1/16SS560J
R 1582	(A,82,26)	RS1/16SS103J
R 1583	(A,82,28)	RS1/16SS103J
R 1584	(A,77,28)	RS1/16SS103J
R 1601	(A,41,25)	RS1/16SS123J
R 1602	(A,39,24)	RS1/16SS123J
R 1607	(A,41,27)	RS1/16SS105J
R 1609	(A,37,29)	RN1/16SE1002D
R 1610	(A,43,29)	RS1/16SS222J

Circuit Symbol and No.			Part No.
R 1613	(A,39,29)		RS1/16SS223J
R 1614	(A,46,36)		RS1/16SS105J
R 1615	(A,43,33)		RS1/16SS105J
R 1616	(A,53,36)		RS1/16SS2002D
R 1672	(A,43,21)		RS1/16SS303J
R 1673	(A,38,22)		RS1/16SS183J
R 1674	(A,34,23)		RS1/16SS562J
R 1705	(A,55,57)		RS1/16SS0R0J
R 1706	(A,52,57)		RS1/16SS201J
R 1707	(A,55,51)		RS1/16SS0R0J
R 1708	(A,52,50)		RS1/16SS201J
R 1715	(A,60,56)		RS1/16SS201J
R 1716	(A,63,57)		RS1/16SS0R0J
R 1719	(A,60,50)		RS1/16SS201J
R 1720	(A,63,51)		RS1/16SS0R0J
R 1803	(A,72,56)		RS1/16SS821J
R 1804	(A,74,56)		RS1/16SS821J
R 1805	(A,72,62)		RS1/16SS104J
R 1806	(A,74,62)		RS1/16SS104J
R 1903	(A,89,52)		RS1/16SS0R0J
R 2001	(A,77,8)		RS1/16SS820J
R 2003	(A,78,12)		RS1/16SS820J
R 2004	(A,77,14)		RS1/16SS820J
R 2005	(A,77,17)		RS1/16SS220J
R 2006	(A,81,31)		RS1/16SS101J
R 2007	(A,80,7)		RAB4CQ820J
R 2009	(A,80,11)		RAB4CQ330J
R 2010	(A,80,14)		RAB4CQ330J
R 2011	(A,80,19)		RAB4CQ330J
R 2012	(A,80,22)		RAB4CQ330J
R 2014	(A,85,3)		RS1/16SS103J
R 2015	(A,77,19)		RS1/16SS103J
R 2017	(A,78,7)		RS1/16SS103J
R 2018	(A,87,4)		RS1/16SS103J
R 2019	(A,85,5)		RS1/16SS103J
R 2020	(A,89,4)		RS1/16SS103J
R 2021	(A,76,9)		RS1/16SS220J
R 2022	(A,77,9)		RS1/16SS820J
R 2023	(A,78,9)		RS1/16SS220J

CAPACITORS

C 1001	(B,68,60)	10 µF	CCG1171
C 1002	(B,68,59)	10 µF	CCG1171
C 1003	(B,73,57)		CKSRYB103K50
C 1004	(B,72,54)		CKSSYB681K50
C 1005	(B,73,56)		CKSSYB103K16
C 1006	(B,74,52)		CCSSCH820J50
C 1007	(B,75,57)		CKSSYB104K10
C 1008	(B,80,67)	10 µF	CCG1192
C 1009	(B,82,67)	10 µF	CCG1192
C 1010	(B,85,54)		CKSSYB222K50
C 1011	(B,84,51)		CKSSYB104K10
C 1012	(B,84,58)		CKSSYB104K10
C 1014	(B,85,52)		CKSRYB105K10
C 1015	(B,81,61)	10 µF	CCG1171
C 1016	(B,86,57)		CKSRYB472K50
C 1017	(B,88,52)		CKSSYB681K50
C 1018	(B,81,60)	10 µF	CCG1171
C 1019	(B,58,59)		CCSSCH101J50
C 1020	(B,58,57)		CKSSYB104K10
C 1021	(B,60,60)		CKSRYB105K10
C 1022	(B,79,47)		CKSSYB103K16
C 1023	(B,79,49)		CKSSYB104K10
C 1024	(B,71,48)		CKSQYB475K10
C 1025	(B,64,58)		CKSRYB105K10
C 1029	(B,70,54)		CKSSYB104K10
C 1030	(B,88,51)		CKSSYB104K10
C 1031	(B,86,55)		CKSRYB474K10
C 1101	(B,61,54)	10 µF	CCG1192
C 1102	(B,59,50)	100 µF	CCG1232
C 1103	(B,65,50)	100 µF	CCG1232
C 1104	(B,63,44)		CKSSYB104K10
C 1105	(B,70,44)		CKSSYB104K10
C 1106	(B,63,46)		CKSSYB103K16
C 1107	(B,70,45)		CKSSYB103K16
C 1108	(A,35,36)		CKSSYB103K16
C 1109	(A,36,34)		CKSRYB105K10
C 1110	(A,35,37)		CKSSYB103K16
C 1111	(A,39,34)		CKSRYB105K10
C 1201	(B,21,11)		CEVW101M16
C 1202	(B,15,17)		CKSYB475K16
C 1207	(B,16,11)		CKSQYB225K10
C 1209	(A,32,17)		CKSSYB104K10
C 1210	(A,32,19)		CKSSYB471K50
C 1211	(A,19,17)		CKSSYB103K16
C 1212	(A,19,8)		CKSSYB104K10
C 1213	(A,19,10)		CKSSYB104K10
C 1301	(B,90,25)		CKSSYB104K10
C 1302	(B,88,25)		CKSSYB104K10
C 1351	(B,86,25)		CKSSYB104K10
C 1352	(B,76,19)		CKSSYB104K10
C 1353	(B,81,19)		CKSSYB104K10
C 1354	(B,74,8)		CKSSYB104K10
C 1355	(B,86,8)		CKSSYB104K10
C 1356	(B,84,28)		CKSYB106K6R3
C 1401	(B,72,31)		CKSSYB103K16
C 1402	(B,49,33)		CKSSYB104K10
C 1403	(B,81,27)		CKSQYB475K6R3
C 1405	(B,48,8)		CKSSYB103K16
C 1406	(B,26,15)		CKSSYB104K10
C 1407	(B,74,27)		CKSQYB475K6R3
C 1408	(B,47,27)		CKSSYB104K10
C 1481	(B,73,5)		CKSSYB104K10
C 1482	(B,73,8)		CKSSYB104K10
C 1483	(B,67,5)		CKSSYB104K10
C 1484	(B,63,5)		CKSSYB104K10
C 1485	(B,56,5)		CKSSYB104K10
C 1486	(B,53,5)		CKSSYB104K10
C 1487	(B,51,5)		CKSSYB104K10
C 1488	(B,49,5)		CKSSYB104K10
C 1490	(B,68,20)		CKSSYB104K10
C 1491	(B,77,27)		CKSQYB106K6R3
C 1492	(B,55,20)		CKSSYB104K10
C 1493	(B,52,20)		CKSSYB104K10
C 1494	(B,65,20)		CKSSYB104K10
C 1496	(B,65,5)		CKSSYB102K50
C 1497	(B,61,20)		CKSSYB102K50
C 1498	(B,77,26)		CKSSYB102K50
C 1499	(B,49,4)		CKSSYB102K50
C 1501	(A,68,45)		CKSQYB106K6R3

Circuit Symbol and No.			Part No.
C 1502	(A,58,44)		CKSQYB106K6R3
C 1503	(A,55,3)		CKSSYB104K10
C 1504	(A,58,3)		CKSSYB104K10
C 1505	(A,53,3)		CKSSYB104K10
C 1506	(A,60,3)		CKSSYB104K10
C 1507	(A,68,3)		CKSSYB104K10
C 1508	(A,65,3)		CKSSYB104K10
C 1509	(A,70,3)		CKSSYB104K10
C 1510	(A,43,11)		CKSSYB104K10
C 1511	(A,77,7)		CKSSYB104K10
C 1512	(A,76,11)		CKSSYB104K10
C 1513	(A,43,10)		CKSSYB104K10
C 1514	(A,76,17)		CKSSYB104K10
C 1515	(A,43,16)		CKSSYB104K10
C 1516	(A,76,15)		CKSSYB104K10
C 1517	(A,43,17)		CKSSYB104K10
C 1518	(A,37,15)		CCSSCH8R0D50
C 1519	(A,37,16)		CCSSCH8R0D50
C 1520	(A,49,3)		CCSSCH181J25
C 1521	(A,76,24)		CKSSYB104K10
C 1522	(A,77,24)		CKSSYB104K10
C 1523	(A,58,36)		CKSSYB104K10
C 1524	(A,58,37)		CKSSYB103K16
C 1525	(A,66,36)		CKSSYB104K10
C 1526	(A,62,40)		CKSSYB103K16
C 1527	(A,63,35)		CKSSYB471K50
C 1528	(A,65,36)		CKSSYB104K10
C 1529	(A,60,38)		CKSSYB103K16
C 1530	(A,59,40)		CKSSYB224K6R3
C 1531	(A,57,42)		CKSSYB123K16
C 1536	(A,76,20)		CKSSYB104K10
C 1537	(A,55,44)		CKSSYB102K50
C 1538	(A,53,44)		CKSSYB102K50
C 1539	(A,57,36)		CKSSYB104K10
C 1540	(A,61,38)		CKSSYB103K16
C 1560	(A,51,3)		CKSSYB104K10
C 1577	(A,77,31)		CKSSYB104K10
C 1601	(A,41,24)		CCSSCH101J50
C 1602	(A,43,24)		CCSSCH101J50
C 1603	(A,38,23)		CCSSCH680J50
C 1604	(A,39,25)		CCSSCH680J50
C 1608	(A,41,26)		CKSSYB103K16
C 1609	(A,43,27)		CKSSYB103K16
C 1610	(A,53,39)		CCSSCH101J50
C 1611	(A,54,38)		CKSSYB562K25
C 1612	(A,55,36)		CKSSYB224K6R3
C 1613	(A,55,38)		CKSSYB224K6R3
C 1614	(A,56,38)		CKSSYB333K16
C 1615	(A,41,30)		CKSRYB105K10
C 1616	(A,48,36)		CKSSYB104K10
C 1617	(A,49,38)		CKSSYB104K10
C 1618	(A,51,38)		CKSSYB104K10
C 1619	(A,51,36)		CKSSYB104K10
C 1620	(A,50,36)		CKSSYB104K10
C 1621	(A,50,38)		CKSSYB104K10
C 1622	(A,53,38)		CKSSYB104K10
C 1623	(A,52,39)		CKSSYB104K10
C 1624	(A,43,28)		CKSSYB103K16
C 1625	(A,56,36)		CKSSYB104K10
C 1626	(A,41,31)		CKSRYB105K10
C 1627	(A,43,23)		CKSSYB104K10
C 1628	(A,54,36)		CKSSYB104K10
C 1629	(A,49,36)		CKSSYB104K10
C 1630	(A,38,30)		CKSQYB106K6R3
C 1671	(A,43,18)		CKSSYB104K10
C 1672	(A,43,19)		CKSSYB104K10
C 1673	(A,38,21)		CKSSYB104K10
C 1674	(A,39,22)		CKSSYB104K10
C 1675	(A,39,19)		CKSRYB105K10
C 1676	(A,38,19)		CKSRYB105K10
C 1677	(A,43,22)		CKSSYB104K10
C 1801	(A,75,52)		CKSSYB104K10
C 1802	(A,67,58)	10 µF	CCG1192
C 1803	(A,67,56)		CKSSYB104K10
C 1804	(A,70,58)	10 µF	CCG1192
C 1805	(A,70,56)		CKSSYB104K10
C 1808	(A,72,57)		CCSRCH182J50
C 1809	(A,75,57)		CCSRCH182J50
C 1810	(A,72,59)		CKSQYB475K6R3
C 1811	(A,74,59)		CKSQYB475K6R3
C 1901	(A,84,74)		CKSSYB102K50

E

Unit Number : CWX3154
Unit Name : Compound Unit(A)

Q 1299	Photo-taransistor	CPT231SCTD
S 1201	Spring Switch(12cm)	CSN1069
S 1202	Spring Switch(8cm)	CSN1069
S 1203	Spring Switch(DISC SENS)	CSN1069
S 1204	Spring Switch(DISC SENS)	CSN1070
S 1205	Spring Switch(8cm)	CSN1070
R 1298		RS1/16S0R0J
R 1299		RS1/16S0R0J

F

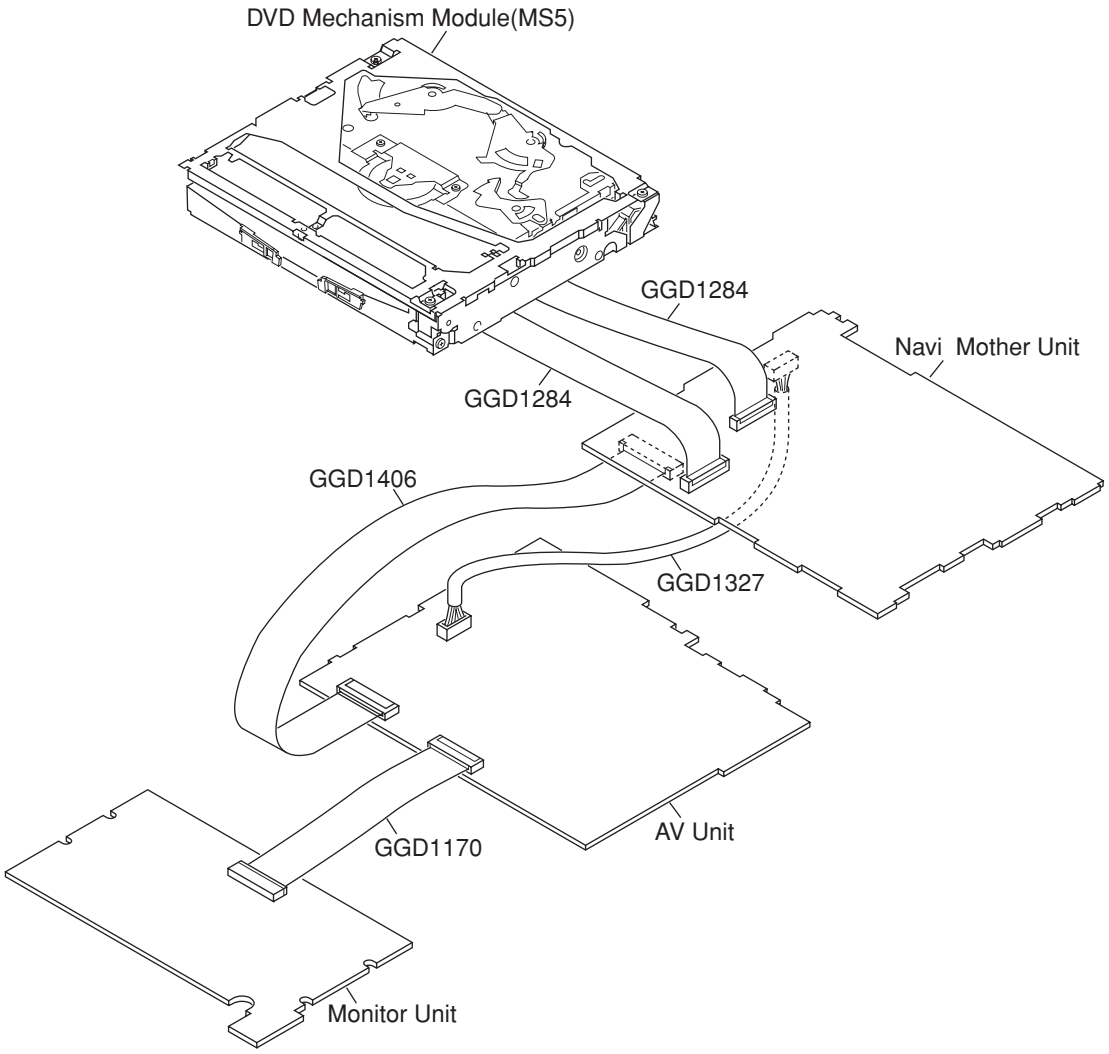
Unit Number : CWX3394
Unit Name : Compound Unit(B)

S 1206	Switch(CLAMP)	CSN1067

Miscellaneous Parts List

	Pickup Unit(Service)	CXX2118
M 1	Motor Unit(LOADING)	CXC4912
M 2	Motor(STEPPING)	CXM1364
M 3	Motor(SPINDLE)	CXM1362

6. ADJUSTMENT
6.1 JIG CONNECTION DIAGRAM



● **Jigs List**

Name	Jig No.	Remarks
40P FFC BBR	GGD1284	DVD Core Unit (CN2001) <---> Navi Mother Unit (CN2)
40P FFC BBR	GGD1284	DVD Core Unit (CN1901) <---> Navi Mother Unit (CN2057)
20P Extension Cable	GGD1327	Navi Mother Unit (CN2068) <---> AV Unit (CN1652)
80P FPC	GGD1406	Navi Mother Unit (CN2055) <---> AV Unit (CN1711)
40P FFC BB	GGD1170	Monitor Unit (CN5001) <---> AV Unit (CN1661)
TEST DISC	GGV1303	Operation check
Remote Control Uint	CXC6317	Operation for adjustment
TORX driver (T2)	GGK1095	SKEW adjustment (DVD)
Bond	GEM1033	SKEW adjustment (DVD)
Bond (Produced by THREE BOND)	1401M	SKEW adjustment (DVD)
TEST DISC	GGV1018	SKEW adjustment (DVD)

6.2 DVD ADJUSTMENT

1) Precautions

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

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.

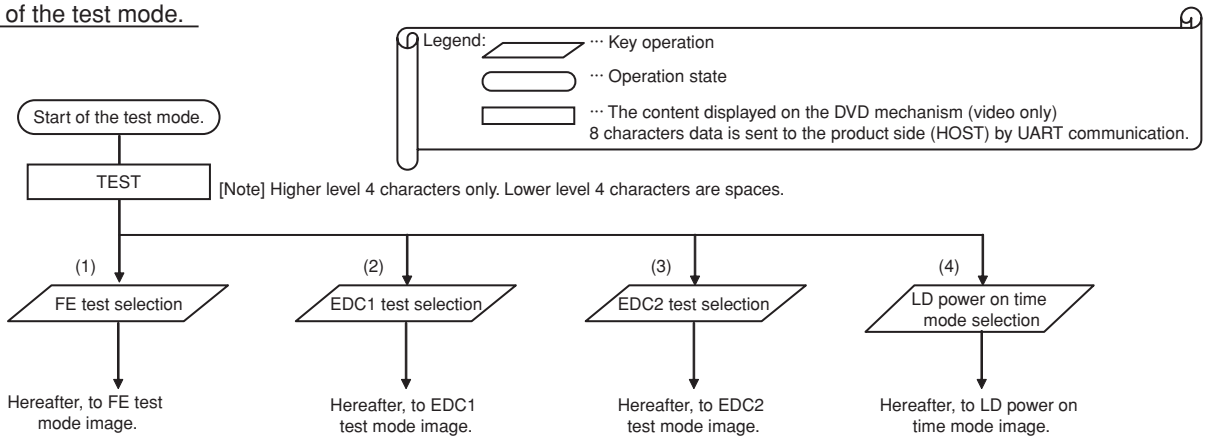
- Remove the filters and wires used for measurements only after the regulator has been turned OFF.
- For stable circuit operation, keep the mechanism operating for about one minute or more after the regulator is turned on.
- Whenever the product is in the test mode, the software will not take any protective 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.
- 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.

Attention)

- Test mode starting procedure
  Please select "MS5 check" to start test mode.
- Test mode stopping procedure
  ACC and Backup OFF.

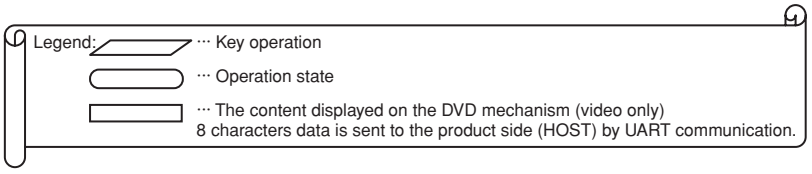
A B C D E F

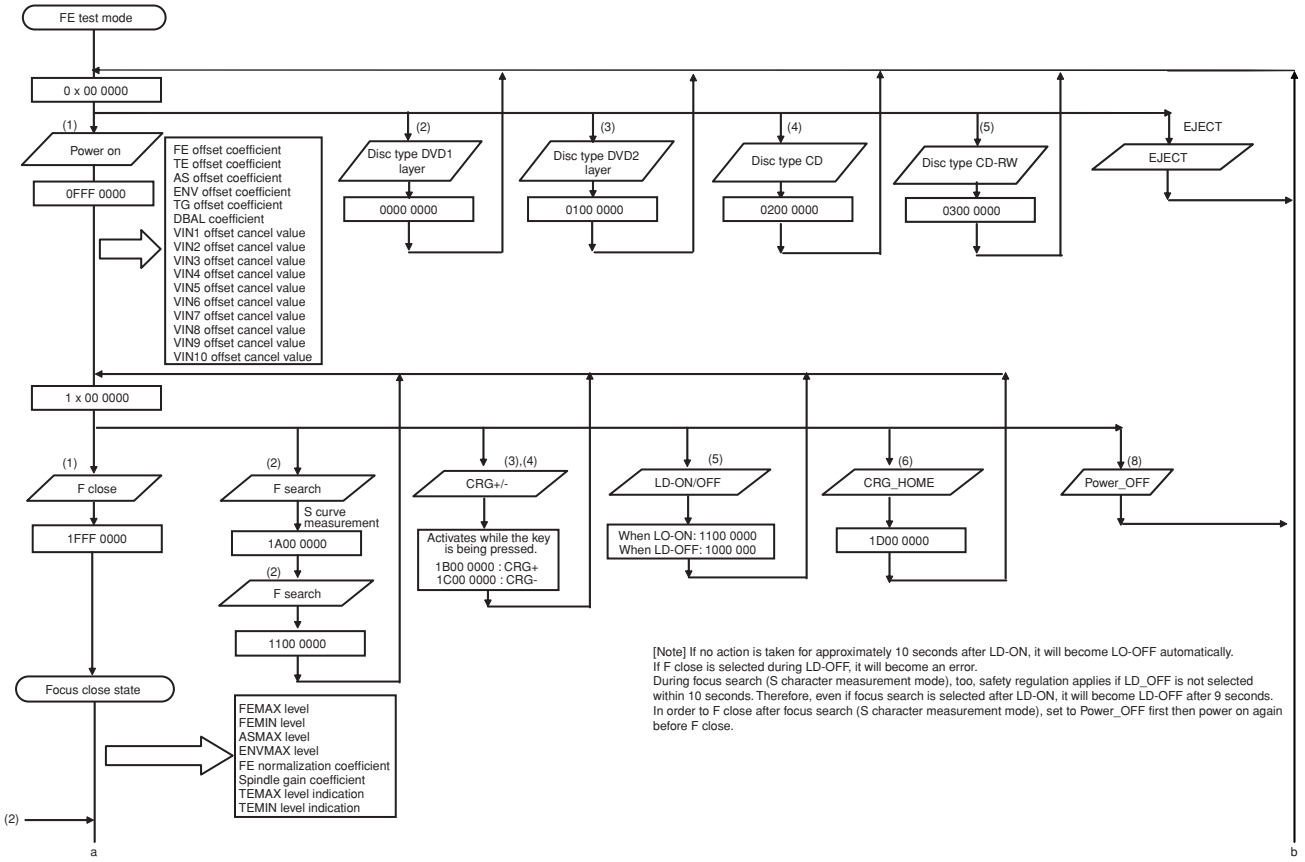
Image of the test mode.

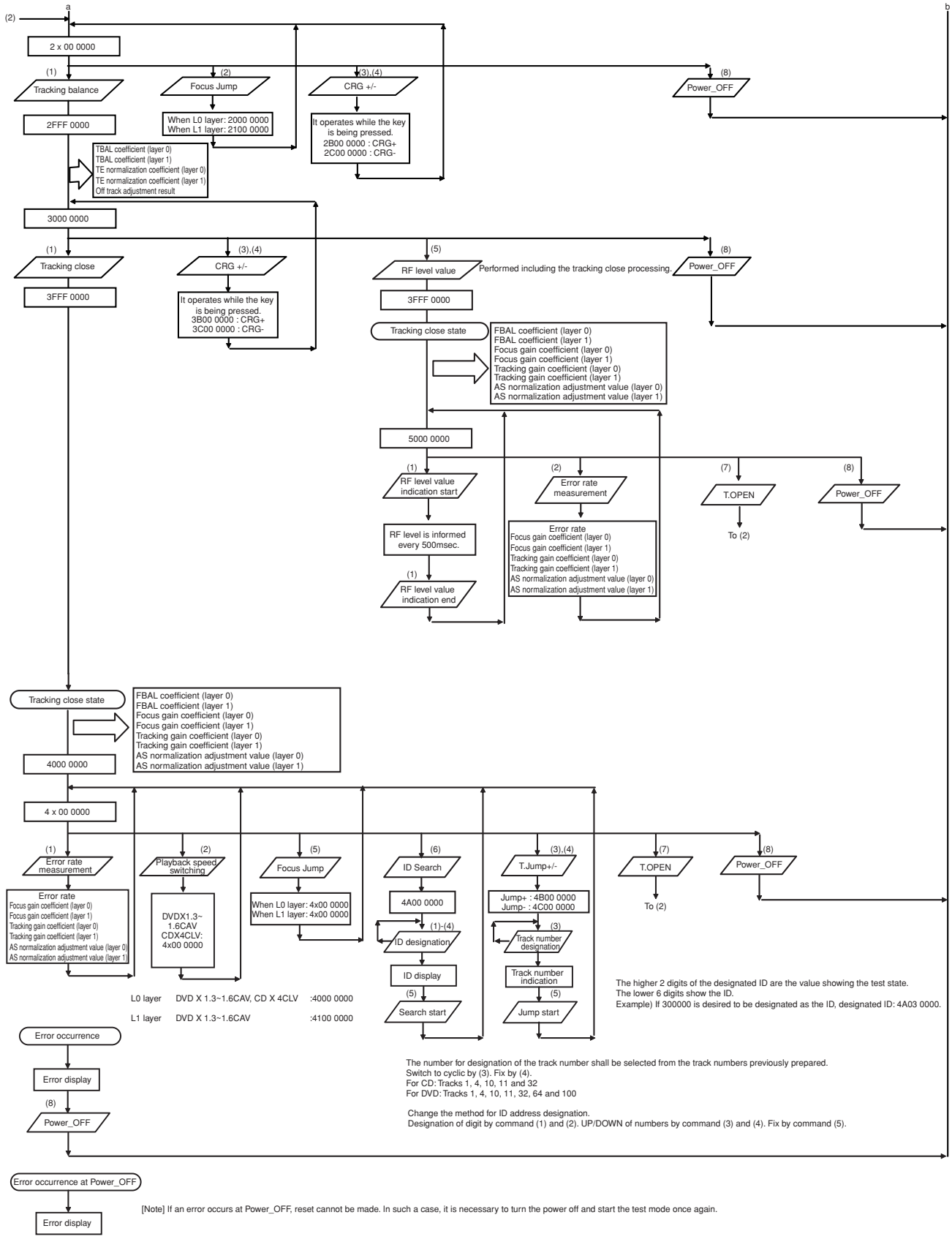


[Note] In order to move on to another test after selecting a test (FE/EDC1/EDC2), it is necessary to restart the DVD mechanism in the test mode.

Image of the front end test mode.






(2)
a
2 x 00 0000
(1)
Tracking balance
2FFF 0000
TBAL coefficient (layer 0)
TBAL coefficient (layer 1)
TE normalization coefficient (layer 0)
TE normalization coefficient (layer 1)
Off track adjustment result
(2)
Focus Jump
When L0 layer: 2000 0000
When L1 layer: 2100 0000
(3),(4)
CRG +/-
It operates while the key is being pressed.
2B00 0000 : CRG+
2C00 0000 : CRG-
(8)
Power_OFF
3000 0000
(1)
Tracking close
3FFF 0000
(3),(4)
CRG +/-
It operates while the key is being pressed.
3B00 0000 : CRG+
3C00 0000 : CRG-
(5)
RF level value
Performed including the tracking close processing.
3FFF 0000
Tracking close state
FBAL coefficient (layer 0)
FBAL coefficient (layer 1)
Focus gain coefficient (layer 0)
Focus gain coefficient (layer 1)
Tracking gain coefficient (layer 0)
Tracking gain coefficient (layer 1)
AS normalization adjustment value (layer 0)
AS normalization adjustment value (layer 1)
5000 0000
(1)
RF level value indication start
RF level is informed every 500msec.
(1)
RF level value indication end
(2)
Error rate measurement
Error rate
Focus gain coefficient (layer 0)
Focus gain coefficient (layer 1)
Tracking gain coefficient (layer 0)
Tracking gain coefficient (layer 1)
AS normalization adjustment value (layer 0)
AS normalization adjustment value (layer 1)
(7)
T.OPEN
To (2)
(8)
Power_OFF
Tracking close state
FBAL coefficient (layer 0)
FBAL coefficient (layer 1)
Focus gain coefficient (layer 0)
Focus gain coefficient (layer 1)
Tracking gain coefficient (layer 0)
Tracking gain coefficient (layer 1)
AS normalization adjustment value (layer 0)
AS normalization adjustment value (layer 1)
4000 0000
4 x 00 0000
(1)
Error rate measurement
Error rate
Focus gain coefficient (layer 0)
Focus gain coefficient (layer 1)
Tracking gain coefficient (layer 0)
Tracking gain coefficient (layer 1)
AS normalization adjustment value (layer 0)
AS normalization adjustment value (layer 1)
(2)
Playback speed switching
DVDX1.3~1.6CAV
CDX4CLV:
4x00 0000
(5)
Focus Jump
When L0 layer: 4x00 0000
When L1 layer: 4x00 0000
(6)
ID Search
4A00 0000
(1)-(4)
ID designation
ID display
(5)
Search start
(3),(4)
T.Jump+/-
Jump+ : 4B00 0000
Jump- : 4C00 0000
(3)
Track number designation
Track number indication
(5)
Jump start
(7)
T.OPEN
To (2)
(8)
Power_OFF
L0 layer DVD X 1.3~1.6CAV, CD X 4CLV :4000 0000
L1 layer DVD X 1.3~1.6CAV :4100 0000
The higher 2 digits of the designated ID are the value showing the test state.
The lower 6 digits show the ID.
Example) If 300000 is desired to be designated as the ID, designated ID: 4A03 0000.
The number for designation of the track number shall be selected from the track numbers previously prepared.
Switch to cyclic by (3). Fix by (4).
For CD: Tracks 1, 4, 10, 11 and 32
For DVD: Tracks 1, 4, 10, 11, 32, 64 and 100
Change the method for ID address designation.
Designation of digit by command (1) and (2). UP/DOWN of numbers by command (3) and (4). Fix by command (5).
Error occurrence
Error display
(8)
Power_OFF
b
Error occurrence at Power_OFF
Error display
[Note] If an error occurs at Power_OFF, reset cannot be made. In such a case, it is necessary to turn the power off and start the test mode once again.

EDC. Image of the test mode

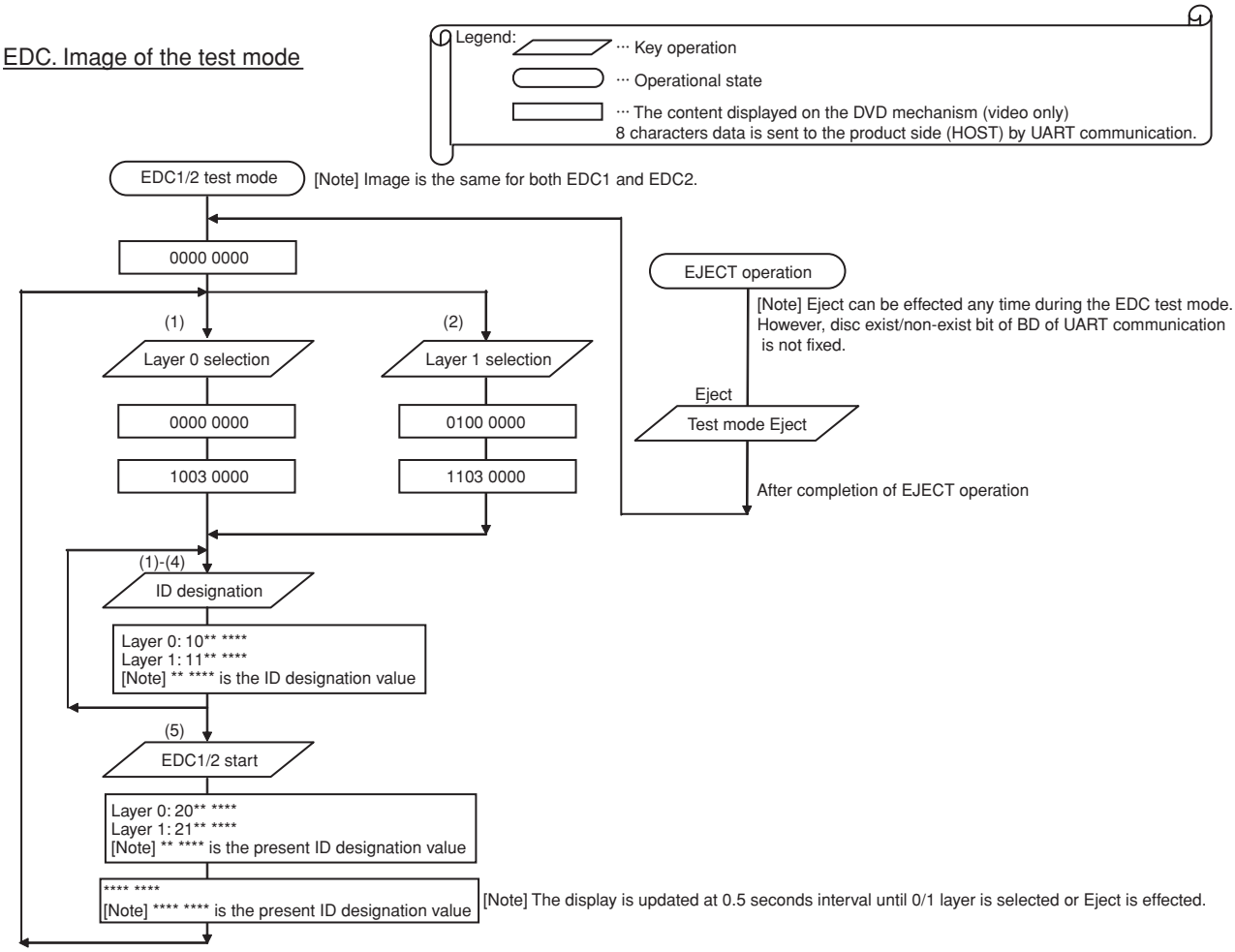
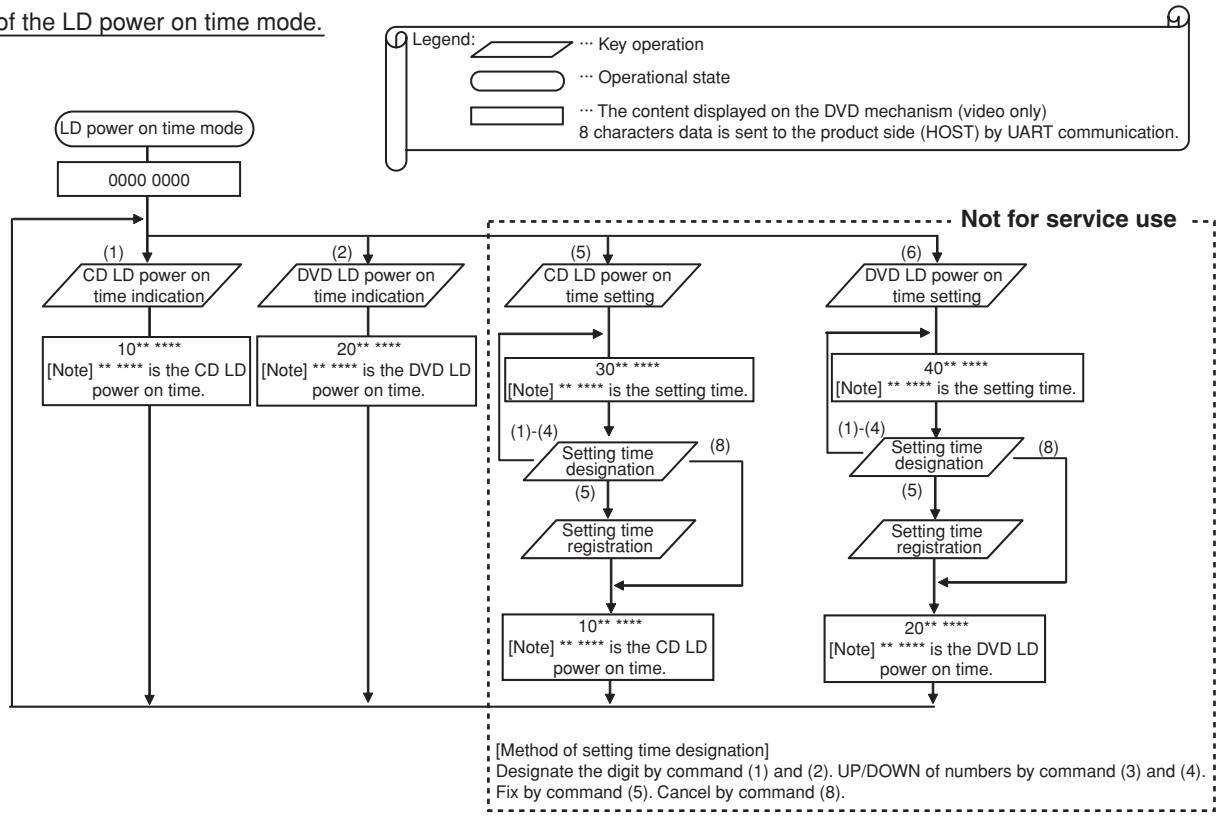


Image of the LD power on time mode.



[Note] If the power on time is 999999 hours or more, it is always reported as 999999 hours.
[Note] If the power on time is " *E** **** ", the value may not be correct due to the life of the flash memory.

Error status	OSD *1	UART *2	Meaning	Method of reset			
				ACC Off/On	Source Off/On	Eject	Play Key
Media Error	It is a disc unable to be played back. NON-PLAYABLE DISC	00h	A disc containing the unplayable Format only.	X	X	X	-
Open	(No display)	10h	Door open error	*	*	*	*
Read Error	ERROR-02-99	20h	Transfer start error	X	X	X	X
Focus Error(Focus Error in mechanism set up)	ERROR-02-90	21h	Focus error	X	X	X	X
Surface Error	ERROR-02-9E	22h	Focus error during set up (A focus has never been achieved with that disc.)	X	X	X	X
Address not found (Invalid Track)	ERROR-02-80	23h	Address not found.	X	X	X	X
Spindle Lock	ERROR-02-91	24h	Spindle lock NG (the disc cannot rotate)	X	X	X	X
Carriage HOME	ERROR-02-92	25h	Carriage home NG (The pick up tries to return to carriage home, but it cannot go back and stopped.)	X	X	X	X
ID/SUBCODE Read Error	ERROR-02-94	26h	ID/SUBCODE Read Error (ID/SUBCODE cannot be read due to scratch or stain.)	X	X	X	X
AV CHIP decode Error	ERROR-02-9A	2Ah	AV CHIP decode NG (AV chip cannot be decoded.)	X	X	X	X
AV CHIP Recovery NG	ERROR-02-9B	2Bh	AV CHIP recovery NG	X	X	X	X
Error of PLAY BACK Mode Status	ERROR-02-9C	2Ch	Playback state error (An error due to software bug.)	X	X	X	X
Disc Data Error	ERROR-02-9D	2Dh	Disc Data NG	X	X	X	X
Temp Error (In Case of High Temperature)	Temperature protection circuit is being activated. THERMAL PROTECTION IN MOTION	30h	High temperature (Playback is stopped because the pick up temperature is 89 °C or higher.)	X	-	-	-
No Disc (including Disc loading and ejecting)	(No display)	40h	Disc has not been inserted. (Including Load in process or Eject in process.)	*	*	*	*
Loading_Mecha Error	(No display)	50h	Loading mechanism error (The disc cannot be clamped.)	X	-	X	-
DRM Error	It is a protected disc. PROTECTED DISC	70h	DRM error (All music cannot be played back due to DRM.)	-	-	X	-
Region code Error NG	Region code is incorrect. DIFFERENT REGION DISC	90h	Region code NG (Unable to be played back due to incorrect mechanism region.)	-	-	X	-
CPPM*3 Key Error *4	It is a disc unable to be played back. NON-PLAYABLE DISC	91h	Key Error for playback	-	-	X	-
CPRM Key Error *7	NON-PLAYABLE DISC	93h	Key Error for playback	-	-	X	-
AWM*5 Error *4	(No display)	*6	Playback the illegally copied disc by DVD-A (Mute the sound on the mechanism side.)	X	X	X	-
REQUEST error	ERROR-02-A0	A0h	REQUEST error	X	X	X	X
Failure in issuing read command (chip dependent)	ERROR-02-A1	A1h	Failure in issuing the read command	X	X	X	X
Adjustment of L0 is NG.	ERROR-02-A2	A2h	L0 adjustment is NG.	X	X	X	X
Adjustment of L1 is NG.	ERROR-02-A3	A3h	L1 adjustment is NG	X	X	X	X
LD system NG	ERROR-02-A4	A4h	LD system NG	X	X	X	X
Gain adjustment system NG.	ERROR-02-A5	A5h	Gain adjustment system NG.	X	X	X	X
Gain determining system NG.	ERROR-02-A6	A6h	Gain determining system NG.	X	X	X	X
Servo initial setting related items NG.	ERROR-02-A7	A7h	Servo initial setting related items NG.	X	X	X	X
Disc is not clamped yet.	ERROR-02-A8	A8h	Disc is not clamped yet.	X	X	X	X
Tracking system NG.	ERROR-02-A9	A9h	Tracking system NG	X	X	X	X
Media setting system NG.	ERROR-02-AA	AAh	Media setting system NG	X	X	X	X
Focus Error	ERROR-02-AB	ABh	JUMP over layers NG	X	X	X	X
Error of PLAY BACK Mode Status	ERROR-02-B0	B0h	Navigation command error	X	X	X	X
Error of PLAY BACK Mode Status	ERROR-02-B1	B1h	Retry over	X	X	X	X
Undefined Error	ERROR-FF-FF	FFh	Undefined error	X	X	X	X

X: Cancel the error by operation. -: Error is not cancelled by operation. *: No setting

*1 A content displayed on OSD. As for the items having multiple display patterns, the upper row is for the Japanese version Full GUI, and the lower row is for the Touch Panel model and Full GUI (English version).

*2 A parameter of UART command, such as "receipt error notice", that the DVD mechanism transmits.

*3 CPPM(Content Protection for Prerecorded Media) : A copyright protection technique used in DVD-A. The protection is realized by using the keys recorded on the media and the device key held by the player.

*4 DVD-A compatible model only.
When an error has occurred, only the audio output will be muted but playback operation will continue. Furthermore, acceptance of the user operation will be the same as usual.

*5 AWM (Audio WaterMark): Electronic watermark. Information on the copyright owner or CCI (copy control information) are recorded so that illegally copied discs can be identified.

*6 Notice as an error status will not be given

*7 CPRM(Content Protection for Recordable Media) : A copyright protection technique for digital contents used for re-writable DVD or memory card. (DVD-VR model only)

● SKEW adjustment

When one of the following replacements has taken place, SKEW adjustment for the pick up will be required.

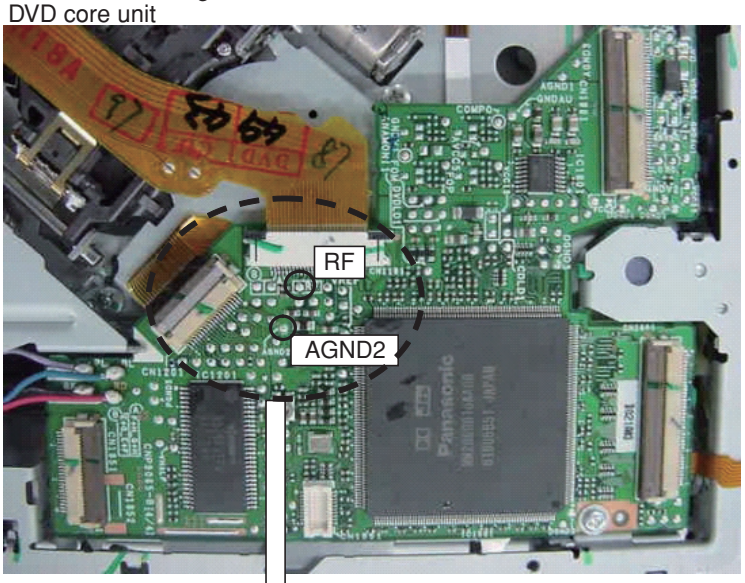
(1) Replacement of the pick up unit
(2) Replacement of the spindle motor
(3) Replacement of the carriage chassis
(4) Replacement of the main shaft of the pick up unit
(5) Replacement of the sub shaft of the pick up unit

・Measurement equipment and tools/jigs: Oscilloscope
Driver for SKEW adjustment → TORX driver (T2) (GGK1095)
Bond for fixing the SKEW (GEM1033)
Bond for locking the screw (Locking agents (1401M : produced by THREE BOND))

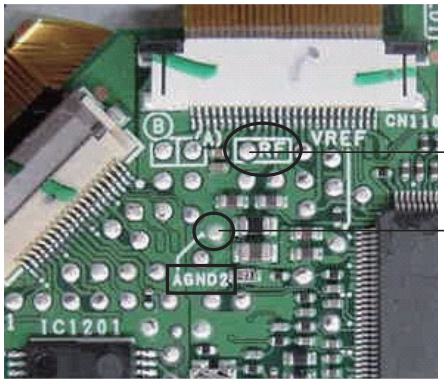
・Disc used: GGV1018

・Measurement reference: AGND2
・Measurement point: RF

・Connection drawing
DVD core unit



Enlargement



Oscilloscope

Symptom in case the adjustment is not adequate: Worsening of the error rate 10-3
(Normally 10-4 or less.)
Large RF jitter
RF waveform distortion
Tracking drawing/Unstable servo

* Caution: Do not look into the laser light during adjustment.

There are two methods for adjustment, a method whereby the adjustment is made while monitoring the RF waveform using the oscilloscope (method ①) and a method whereby the adjustment is made while checking the RF level in value by OSD (method ②).

The adjustment procedure is shown below. Refer to the paragraph for the service test mode regarding entering of the test mode and the operation procedure.

Adjustment procedure:

1. Turn the DVD mechanism module upside down so that the pick up can be adjusted.
   When the module is turned upside down, there is a possibility that the disc is rubbed.
   So, first place a coin with the thickness of approximately 1.5mm on a desk, and set the module upside down in a way that section ① in the illustration below comes right above the coin.

2. Install the pick up. (Refer to the section regarding removal of the pick up from the mechanism unit.)
   As for the precautions in handling the pick up, refer to the precautions in handling the PU as described below.

3. Method ①:
   Connect the oscilloscope by referring to the connection drawing so that the RF signal can be monitored with AGND2 as the reference.
   Method ②:
   There is no need for setting of any equipment. Proceed to step 4.

4. Turn the power ON, and load the disc for adjustment.(GGV1018)

5. After setting the disc type to DVD layer 1 in the front end test mode, turn the power ON, and move the pick up to the inner periphery. (CRG - Home)

6. Turn the LD ON.

7. Set to focus close, and make auto adjustment for all items under that state, then set to tracking close.
   And make auto adjustment for all items under that state as well.

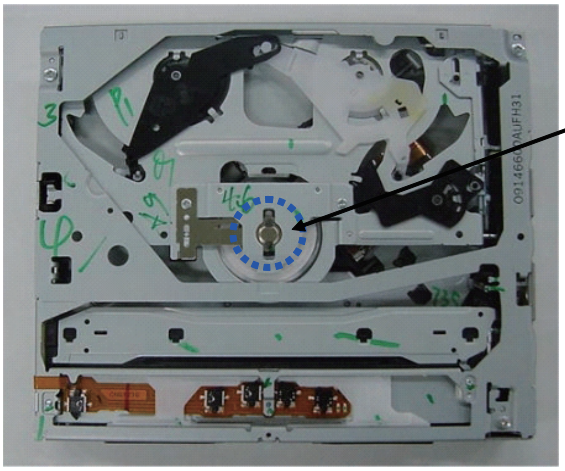
8. Make an intermediate periphery (ID: 100 000) search, and move the PU to intermediate periphery.

9. Method ①:
   Proceed to step 10.
   Method ②:
   After setting to Tracking Open, make all auto adjustments, and set to Tracking Close this time with a command that can be RF displayed. Make auto adjustment for all items under that state as well.

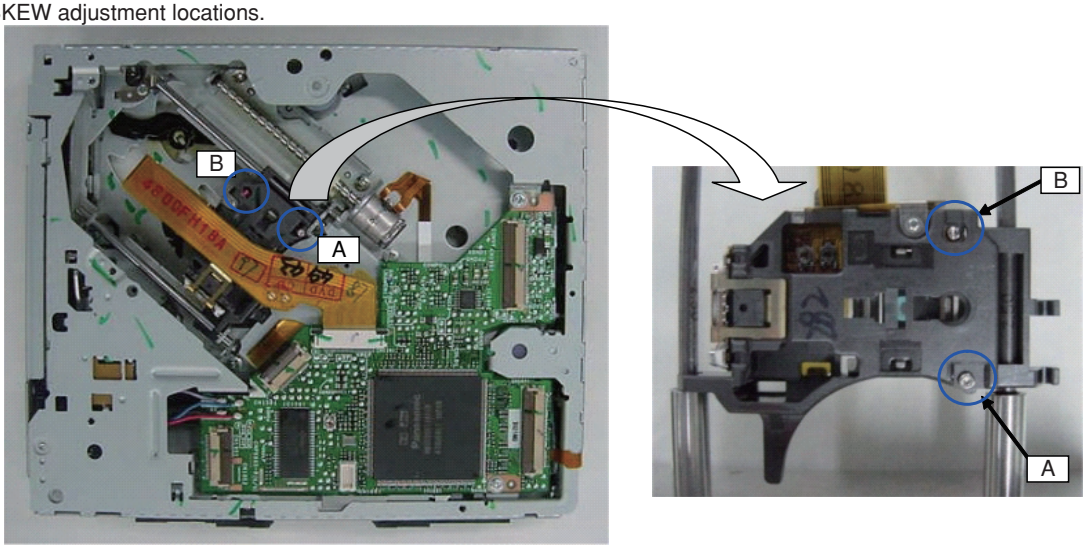
10. Use TORX driver (T2) (GGK1095) for the following.
    Method ①:
    While monitoring the RF waveform on the oscilloscope, turn SKEW adjustment screw A just a little bit in a way that the level will reach the maximum.
    While the pick up is at the intermediate periphery, turn SKEW adjustment screw B just a little bit in a way that the level will reach the maximum.
    While the pick up is at the intermediate periphery, turn SKEW adjustment screw A just a little bit in a way that the level will reach the maximum.
    (Make adjustment in the order of A -> B -> A, Please end the each adjustment by turning screw clockwise.)
    Method ②:
    While monitoring the RF level value on the OSD display, turn the SKEW adjustment screw A just a little bit in a way that the level will reach the maximum.
    While the pick up is at the intermediate periphery, turn SKEW adjustment screw B just a little bit in a way that the level will reach the maximum.
    While the pick up is at the intermediate periphery, turn SKEW adjustment screw A just a little bit in a way that the level will reach the maximum.
    (Make adjustment in the order of A -> B -> A, Please end the each adjustment by turning screw clockwise.)
    If the error rate is not good, please perform Method ① again.

11. Turn the power OFF in the test mode, and after confirming that the disc has stopped, eject the disc.

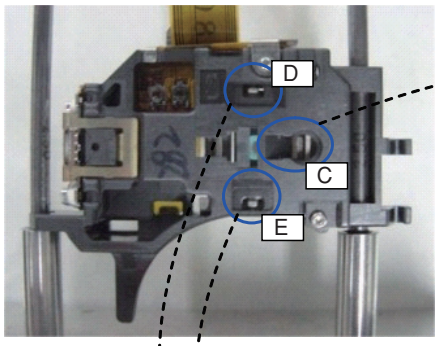
12. Apply adhesive for fixing the SKEW and lock the screw.
    Refer to the illustration below for the adhesion points.



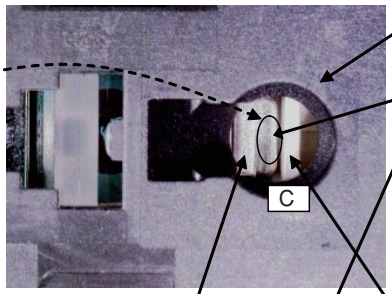
SKEW adjustment locations.



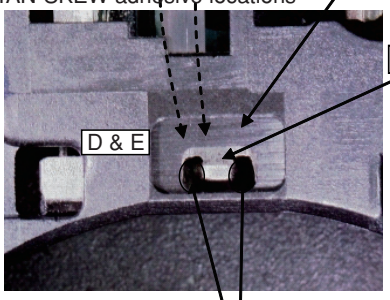
SKEW adhesive locations (GEM1033)



RAD-SKEW adhesive locations



TAN-SKEW adhesive locations

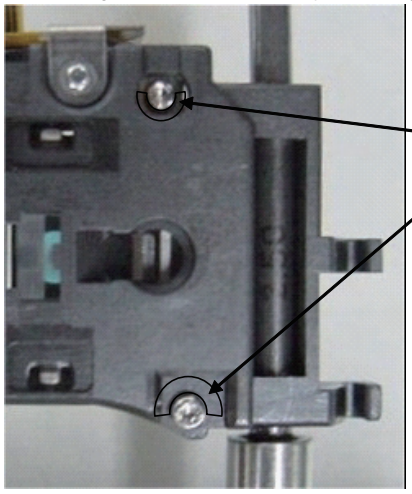


Cross section of R-SKEW adhesive locations.

* Caution: Make a cross link to both the resin section and the sheet metal section.

* Caution: Make a cross link to both the case section and the sheet metal section.

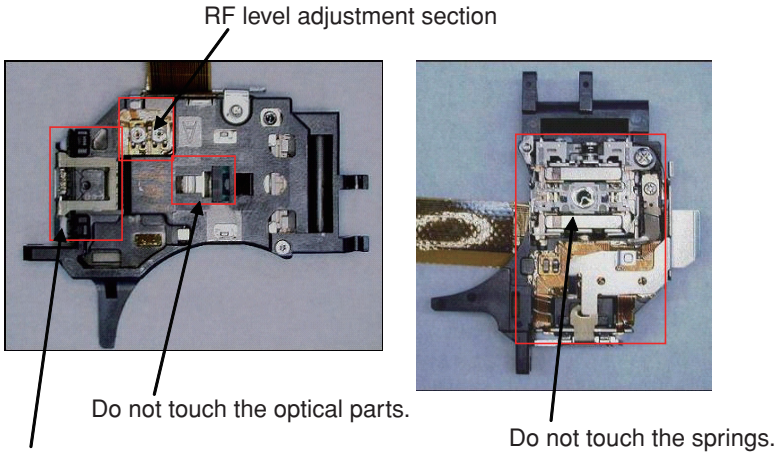
Screw locking adhesive location (1401M : produced by THREE BOND)



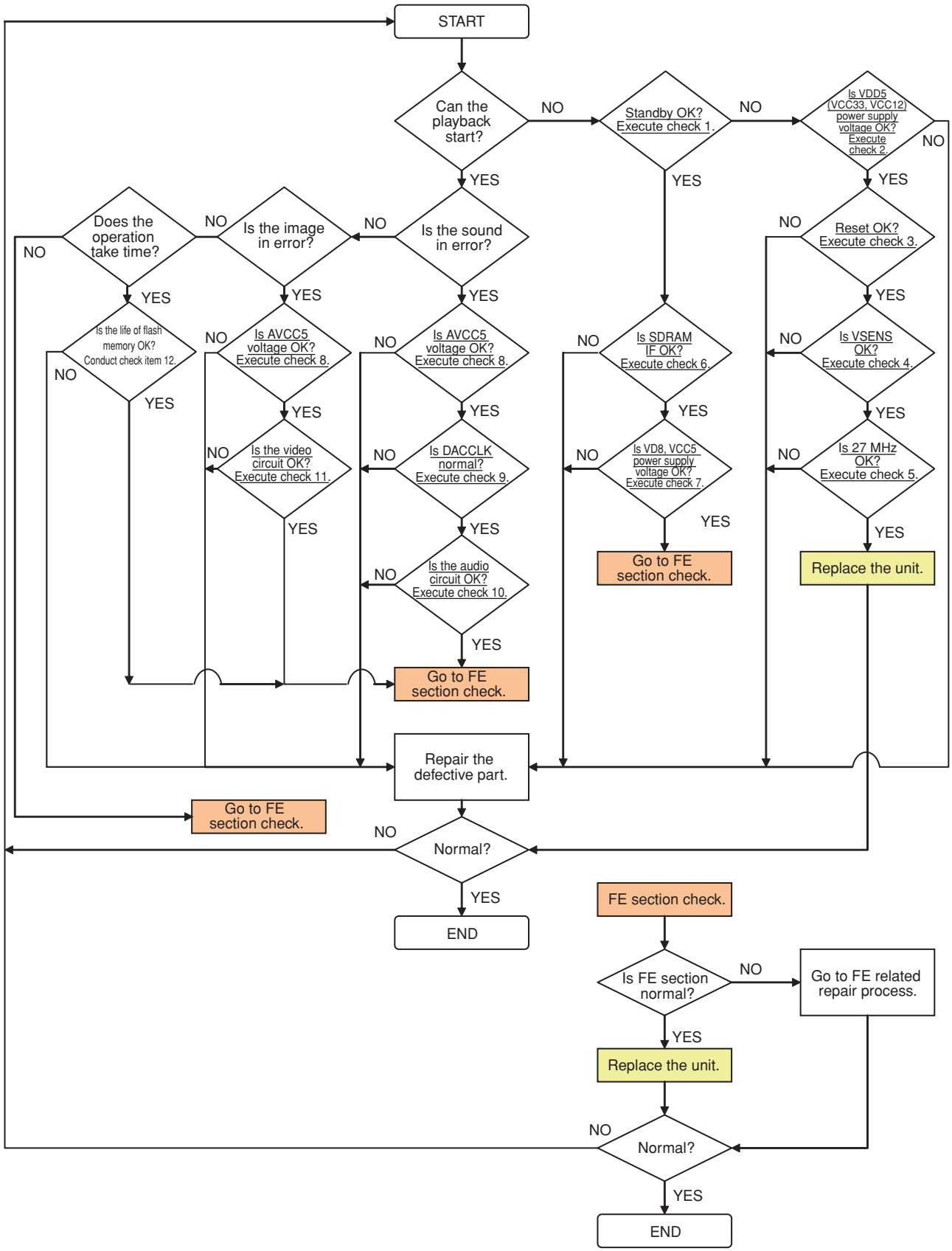
Screw locking adhesive location
Apply the locking agent for more than half of the screw head circumference.
* Caution: The locking agent shall not overflow to outside of the PU case.

Precautions in handling the PU.

* Caution: Do not touch the shaded section in the drawing below.



BACK END section flow



Check 1: Standby OK?

<Check> Check the voltage at the "STANBY" test point while the power is on.
Use the "DGND1" test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	STANBY-DGND1	ALL	VCC33 V- 0.6 V or more	V

Side A

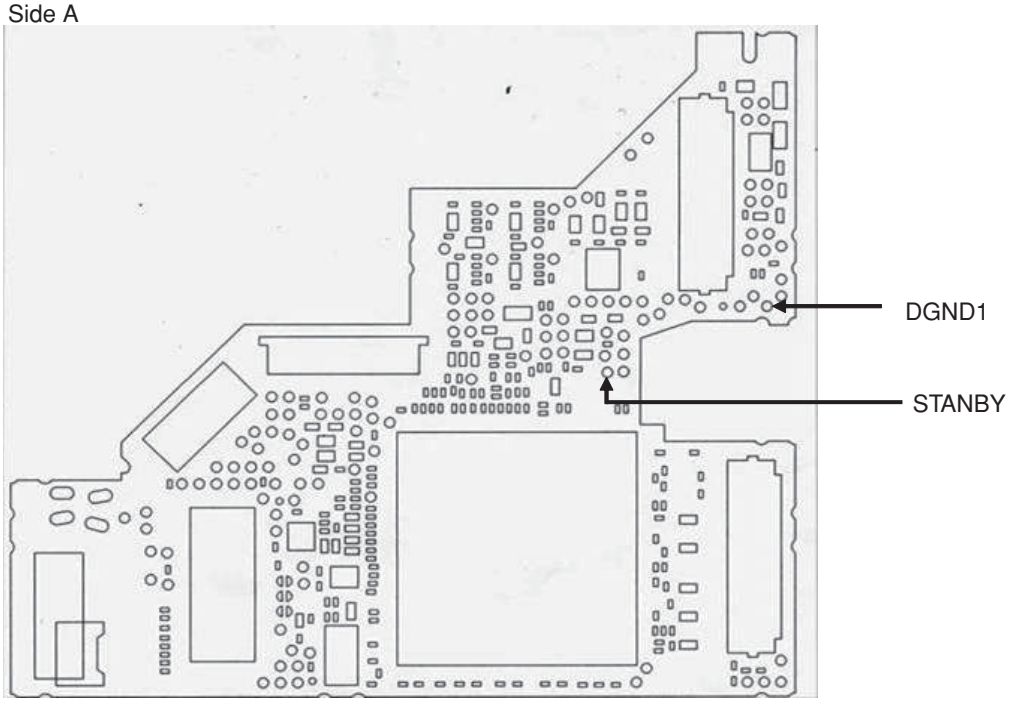


Fig 1.1: STANBY check point

Check 2: Is VDD5 (VCC33, VCC12) power supply voltage OK?

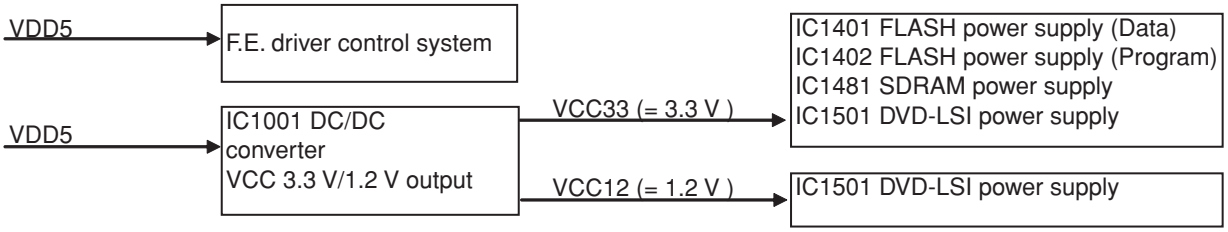


Fig 2.1: Power supply configuration

<Check> Check the voltage at the "VDD5_3, VCC33_3 and VCC12_1" test point while the power is on.
Use the "DGND1" test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	VDD5_3 - DGND1	ALL	5.0 ± 0.4	V
2	VCC33_3 - DGND1	ALL	3.3 ± 0.15	V
3	VCC12_1 - DGND1	ALL	1.2 ± 0.12	V

Side A

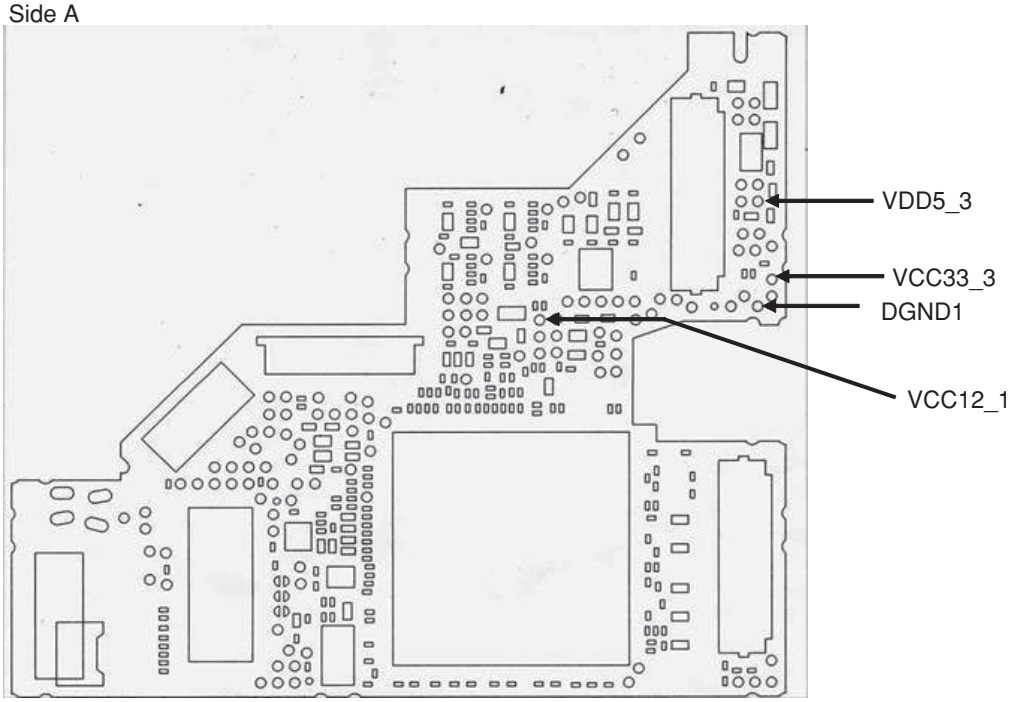


Fig 2.2: VDD5, VCC33, VCC12 voltage check points

Check 3: Reset OK?

<Check> Check the voltage at the "XRES" test point while the power is on.
Use the "DGND1" test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	XRES-DGND1	ALL	VCC33 x 0.7 or more	V

Side A

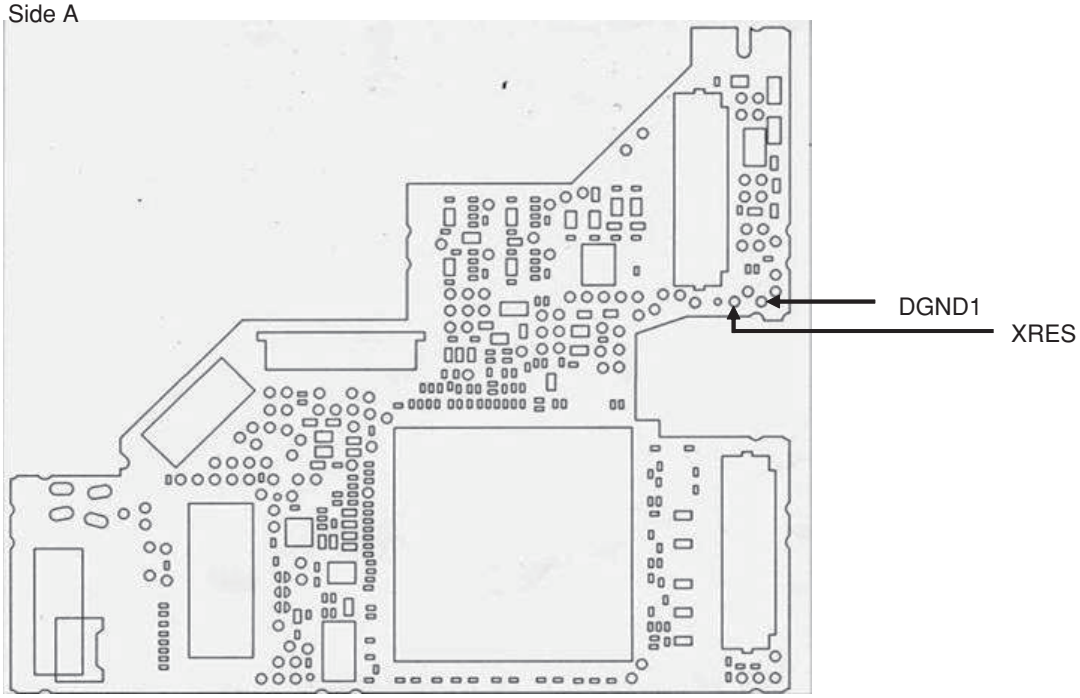


Fig 3.1: RESET check point

Check 4: Is VSENS OK?

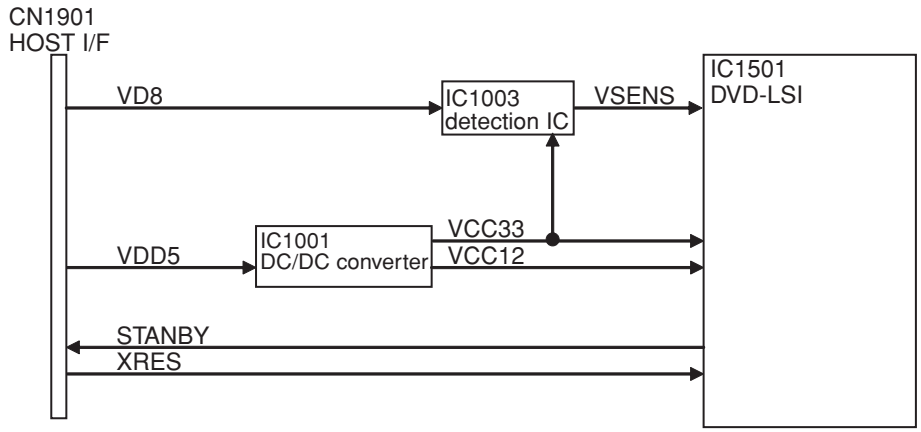


Fig 4.1: Power supply configuration and VSENS

<Check> Check the voltage at the "VSENS" test point while the power is on.
Use the "DGND1" test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	VSENS - DGND1	ALL	VCC33 x 0.7 or more	V

Side A

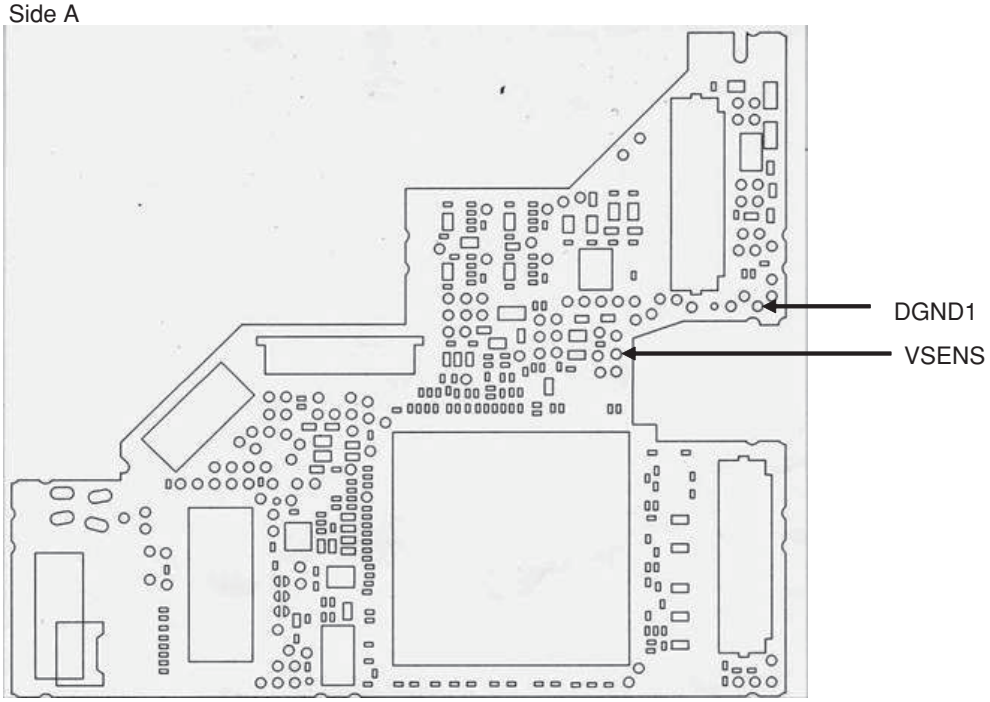


Fig 4.2: VSENS check point

Check 5: 27 MHz Normal?

<Outline> Each clock is created inside the IC1501 using the 27 MHz master crystal oscillator (X1501).

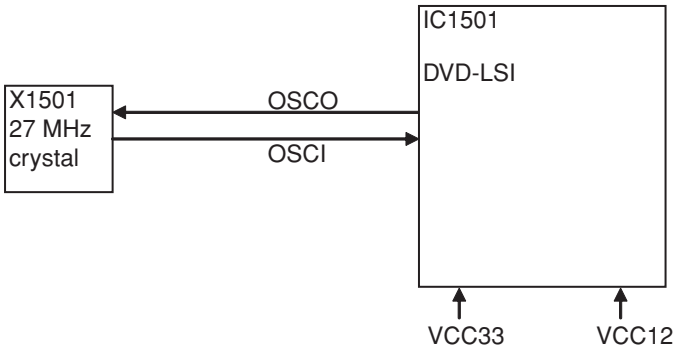


Fig 5.1: Clock configuration

<Check method> Turn the power on, and check with DGND being the reference.
In case of NG, check the applicable line, periphery of IC1501,
soldering of the peripheral components and defective components.

NO.	Check point	Module No.	Specification value	Unit
2	IC1501 169pin	ALL	27 MHz ± 50 ppm	ppm

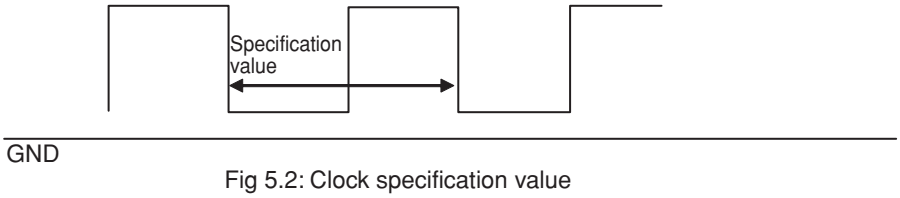


Fig 5.2: Clock specification value

Side A

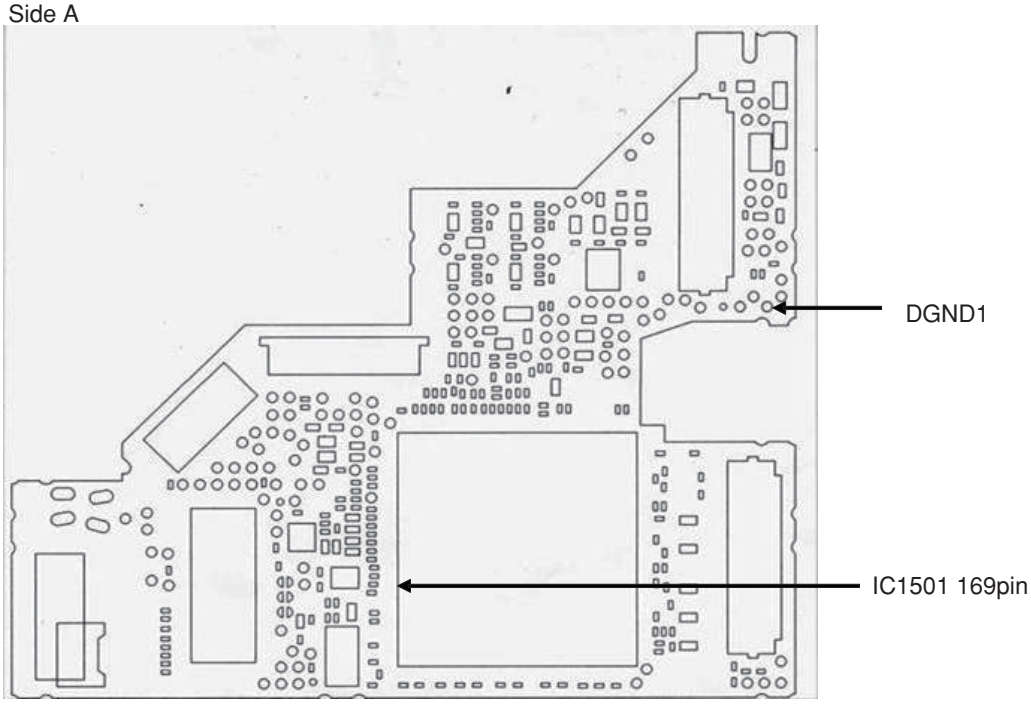


Fig 5.3: 27 MHz check point

Check 6: Is SDRAM I/F OK?

<Outline> In order to secure the MPEG stream data as the buffer,
the capacity of communication I/F SDRAM between the LSI and the memory is 128Mbit.
Be careful as XCSM, XWE, XCAS, XRAS and XSCM of IC1481 are called differently in IC1501,
namely NCSM, NWE, NCAS, NRAS, NCSM.

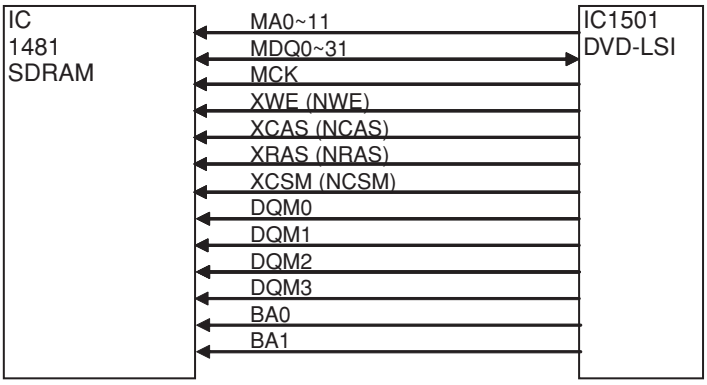
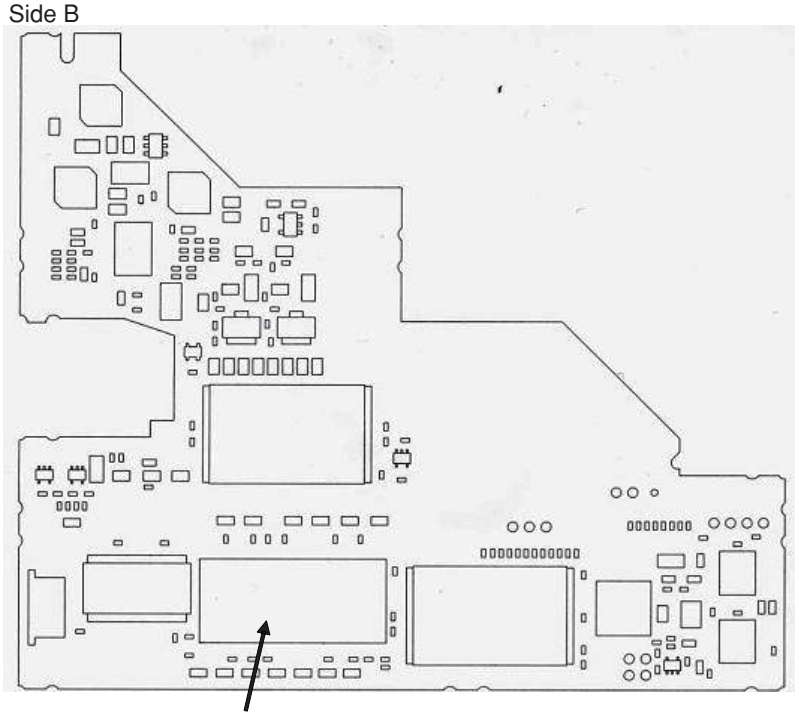


Fig 6.1: SDRAM I/F

<Check> Check the conductivity at "check point 1" and "check point 2" without power.
In case of NG, check the soldering and defective components throughout the "output → input" of the applicable section.

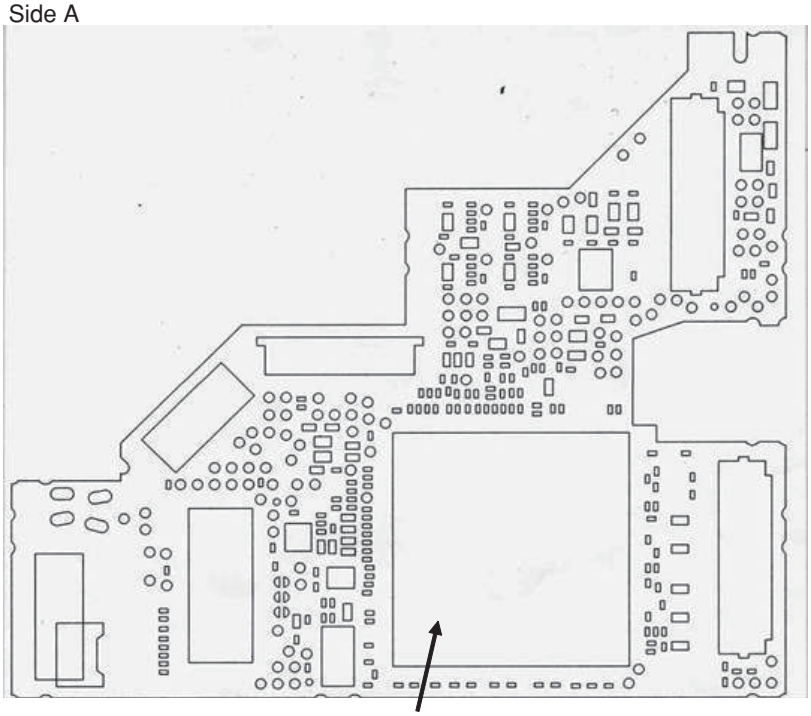
NO.	Signal name	Check point 1		Check point 2		Specification value
1	MA0	IC1481	25pin	IC1501	16pin	56 Ω ± 5 %
2	MA1	IC1481	26pin	IC1501	18pin	56 Ω ± 5 %
3	MA2	IC1481	27pin	IC1501	20pin	56 Ω ± 5 %
4	MA3	IC1481	60pin	IC1501	22pin	56 Ω ± 5 %
5	MA4	IC1481	61pin	IC1501	21pin	56 Ω ± 5 %
6	MA5	IC1481	62pin	IC1501	19pin	56 Ω ± 5 %
7	MA6	IC1481	63pin	IC1501	17pin	56 Ω ± 5 %
8	MA7	IC1481	64pin	IC1501	15pin	56 Ω ± 5 %
9	MA8	IC1481	65pin	IC1501	11pin	56 Ω ± 5 %
10	MA9	IC1481	66pin	IC1501	9pin	56 Ω ± 5 %
11	MA10	IC1481	24pin	IC1501	14pin	56 Ω ± 5 %
12	MA11	IC1481	21pin	IC1501	7pin	56 Ω ± 5 %
13	MDQ0	IC1481	2pin	IC1501	237pin	56 Ω ± 5 %
14	MDQ1	IC1481	4pin	IC1501	239pin	56 Ω ± 5 %
15	MDQ2	IC1481	5pin	IC1501	241pin	56 Ω ± 5 %
16	MDQ3	IC1481	7pin	IC1501	243pin	56 Ω ± 5 %
17	MDQ4	IC1481	8pin	IC1501	248pin	56 Ω ± 5 %
18	MDQ5	IC1481	10pin	IC1501	250pin	56 Ω ± 5 %
19	MDQ6	IC1481	11pin	IC1501	252pin	56 Ω ± 5 %
20	MDQ7	IC1481	13pin	IC1501	254pin	56 Ω ± 5 %
21	MDQ8	IC1481	74pin	IC1501	253pin	56 Ω ± 5 %
22	MDQ9	IC1481	76pin	IC1501	251pin	56 Ω ± 5 %
23	MDQ10	IC1481	77pin	IC1501	249pin	56 Ω ± 5 %
24	MDQ11	IC1481	79pin	IC1501	244pin	56 Ω ± 5 %
25	MDQ12	IC1481	80pin	IC1501	242pin	56 Ω ± 5 %
26	MDQ13	IC1481	82pin	IC1501	240pin	56 Ω ± 5 %
27	MDQ14	IC1481	83pin	IC1501	238pin	56 Ω ± 5 %
28	MDQ15	IC1481	85pin	IC1501	236pin	56 Ω ± 5 %
29	MDQ16	IC1481	31pin	IC1501	29pin	56 Ω ± 5 %
30	MDQ17	IC1481	33pin	IC1501	31pin	56 Ω ± 5 %
31	MDQ18	IC1481	34pin	IC1501	33pin	56 Ω ± 5 %
32	MDQ19	IC1481	36pin	IC1501	37pin	56 Ω ± 5 %
33	MDQ20	IC1481	37pin	IC1501	39pin	56 Ω ± 5 %
34	MDQ21	IC1481	39pin	IC1501	41pin	56 Ω ± 5 %
35	MDQ22	IC1481	40pin	IC1501	43pin	56 Ω ± 5 %
36	MDQ23	IC1481	42pin	IC1501	45pin	56 Ω ± 5 %
37	MDQ24	IC1481	45pin	IC1501	44pin	56 Ω ± 5 %
38	MDQ25	IC1481	47pin	IC1501	42pin	56 Ω ± 5 %
39	MDQ26	IC1481	48pin	IC1501	40pin	56 Ω ± 5 %
40	MDQ27	IC1481	50pin	IC1501	38pin	56 Ω ± 5 %
41	MDQ28	IC1481	51pin	IC1501	34pin	56 Ω ± 5 %
42	MDQ29	IC1481	53pin	IC1501	32pin	56 Ω ± 5 %
43	MDQ30	IC1481	54pin	IC1501	30pin	56 Ω ± 5 %
44	MDQ31	IC1481	56pin	IC1501	28pin	56 Ω ± 5 %
45	MCK	IC1481	68pin	IC1501	234pin	0.17 Ω ± or lower
46	XWE	IC1481	17pin	IC1501	3pin	56 Ω ± 5 %
47	XCAS	IC1481	18pin	IC1501	4pin	56 Ω ± 5 %
48	XRAS	IC1481	19pin	IC1501	5pin	56 Ω ± 5 %
49	XCSM	IC1481	20pin	IC1501	6pin	56 Ω ± 5 %
50	DQM0	IC1481	16pin	IC1501	255pin	56 Ω ± 5 %
51	DQM1	IC1481	71pin	IC1501	256pin	56 Ω ± 5 %
52	DQM2	IC1481	28pin	IC1501	26pin	56 Ω ± 5 %
53	DQM3	IC1481	59pin	IC1501	27pin	56 Ω ± 5 %
54	BA0	IC1481	22pin	IC1501	8pin	56 Ω ± 5 %
55	BA1	IC1481	23pin	IC1501	10pin	56 Ω ± 5 %

Side B



Check point 1 (IC1481)

Side A



Check point 2 (IC1501)

Fig 6.2: SDRAM I/F check point

Check 7: Is VD8, VCC5 power supply voltage OK?

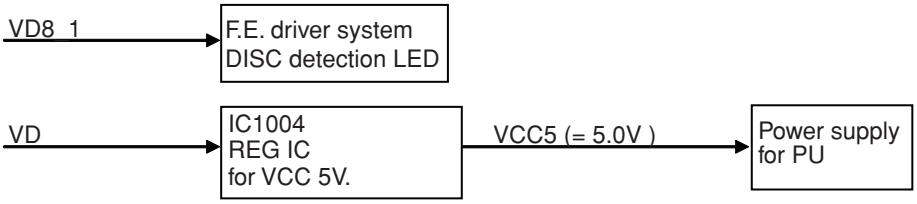


Fig 7.1: Power supply configuration

<Check> Check the voltage at the "VD8_1, VD and VCC5_1" test point while the power is on.
Use the "PGND3 and AGND1" test point at the reference.

NO.	Check point	Module No.	Specification value	Unit
1	VD8_1 - PGND3	ALL	8.0 ± 0.4	V
2	VD - PGND3	ALL	8.0 ± 0.4	V
3	VCC5_1- AGND1	ALL	5.0 ± 0.1	V

Side A

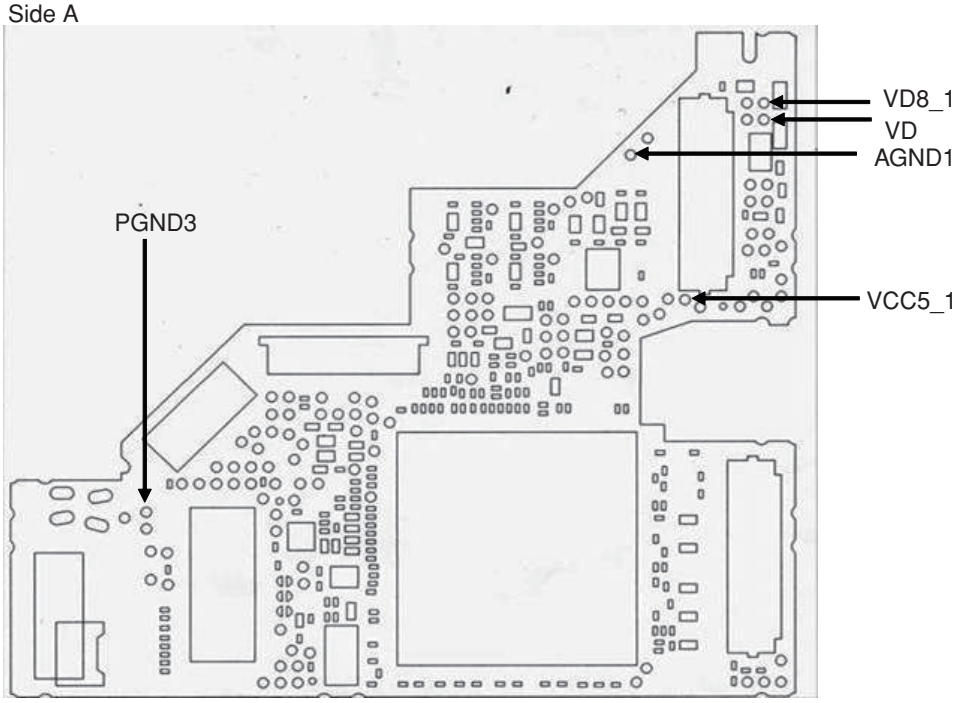


Fig 7.2: VD8, VCC5 voltage check points

Check 8: Is AVCC5 voltage OK?

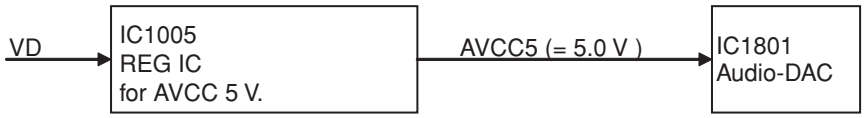


Fig 8.1: Power supply configuration

<Check> Playback DVD-REF-A1 TITLE 1 and check the voltage at the stylus.
Check with PGND and GNDAU being the reference.

NO.	Check point	Module No.	Specification value	Unit
1	VD - PGND_3	ALL	8.0 ± 0.4	V
2	AVCC5 - GNDAU1	ALL	5.0 ± 0.1	V

Side A

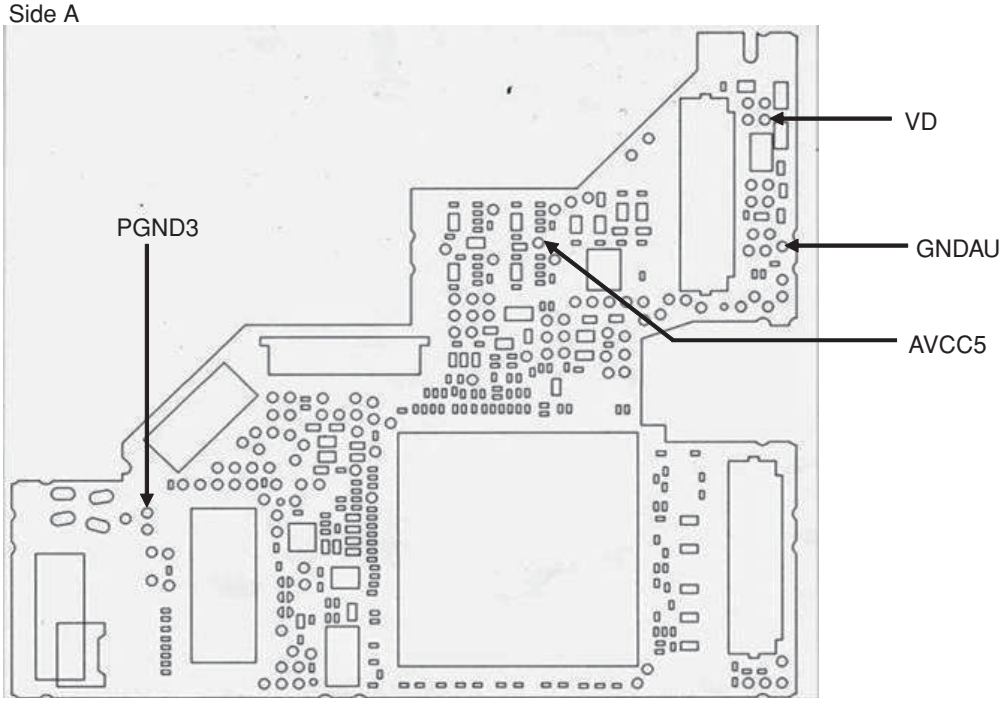


Fig 8.2: VD8, AVCC5 voltage check points

Check 9: Is DACCLK normal?

<Outline> DACCLK for Audio-DAC is created by IC1501 using the 27 MHz master crystal oscillator (X1501).

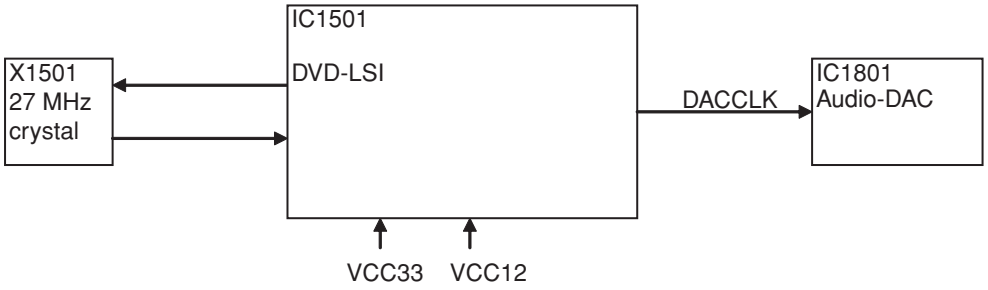


Fig 9.1: Clock configuration

<Check method>
DVD: DVD-REF-A1 TITLE 1
CD: Playback a normal CDDA.
Common to all DVD-V compatible modules.
Check with DGND being the reference.
In case of NG, check the applicable line, the periphery of IC1501, soldering of the peripheral components and defective components.

NO.	Check point 1 (stylus)	Media	Specification value 1	Specification value 2	Specification value 3
1	DACCK	DVD	2.0 V~VCC33 V	DGND~0.8 V	36.864 0 MHz ± 300 ppm
2	DACCK	CD	2.0 V~VCC33 V	DGND~0.8 V	33.868 8 MHz ± 300 ppm

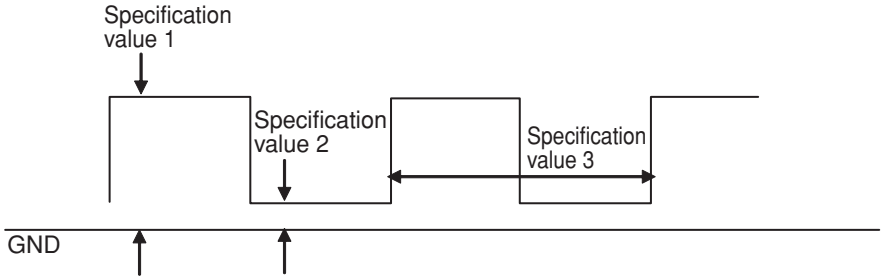


Fig 9.2: Clock specification value

Side A

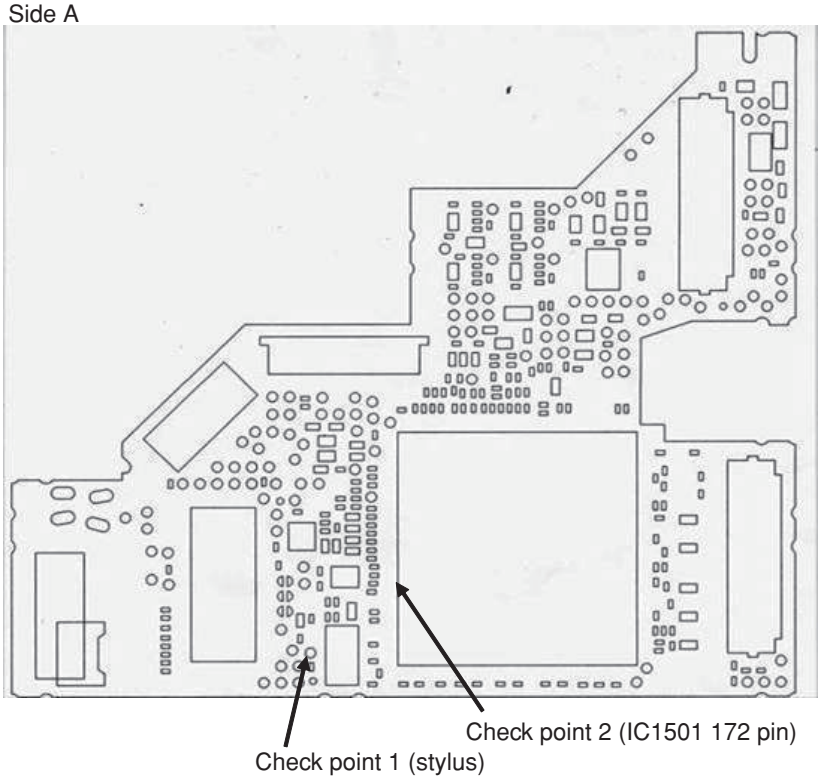


Fig 9.3: 27 MHz, DACCLK check point

Check 10: Is the audio circuit OK?

<Outline> The serial 3 lines digital output + DACCLK, output from DVD-LSI (IC1501), are converted to analog audio signal at Audio-DAC (IC1801) and are output from the HOST I/F (CN1901).
Simultaneously, the analog MUTE signal is also output from DVD-LSI (IC1501) via the HOST I/F.
The digital audio signal (IECOUT), output from DVD-LSI (IC1501), is output via CN1852.

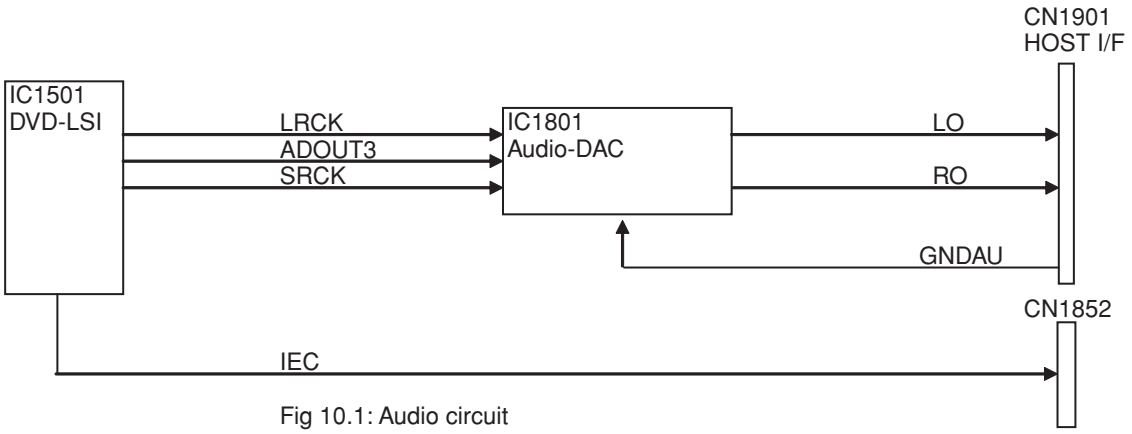


Fig 10.1: Audio circuit

<Check method> Playback DVD-REF-A1 TITLE 2 CHAPTER 1 (48 k/16 bit 1 kHz 0 dB), and check with DGND being the reference.
In case of NG, check the applicable line, periphery of major components as described in the above drawing, soldering of the peripheral components and defective components.

NO.	Check point 1 (stylus)	Specification value 1	Specification value 2	Reference waveform
1	ADOUT3	VCC33 V-0.6 V or higher	0.4 V or lower	Waveform 1
2	SRCK	VCC33 V-0.6 V or higher	0.4 V or lower	Waveform 2
3	LRCK	VCC33 V-0.6 V or higher	0.4 V or lower	Waveform 3

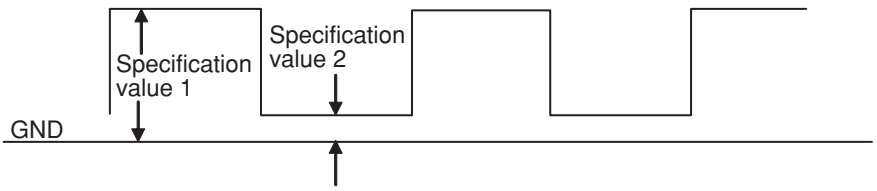


Fig 10.2: Serial 3 lines specification value

Side A

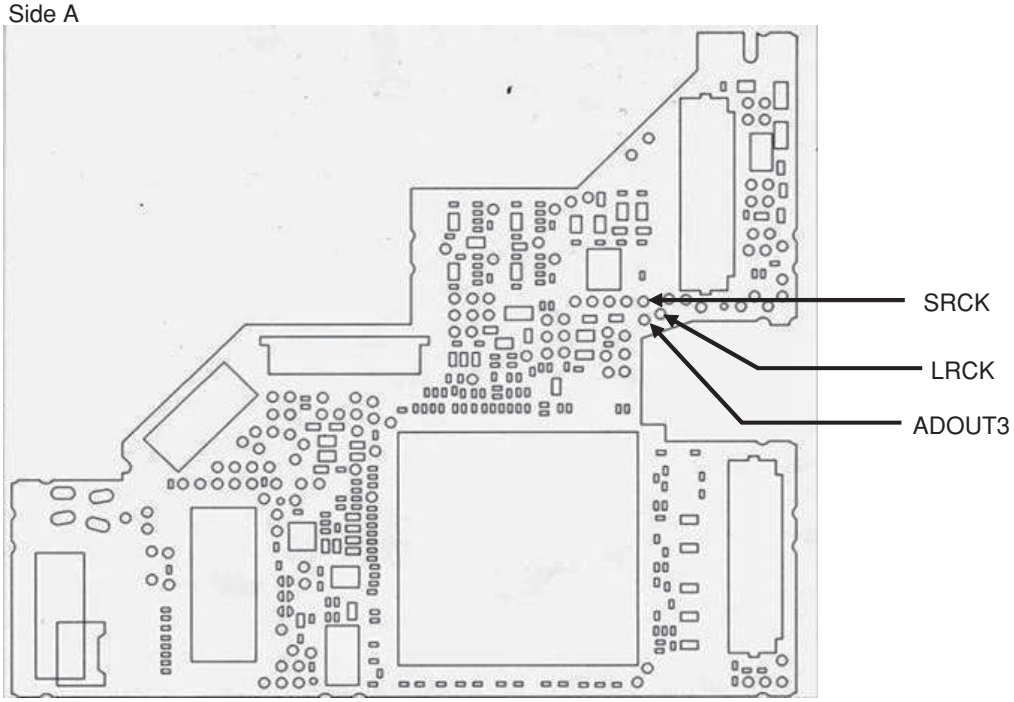
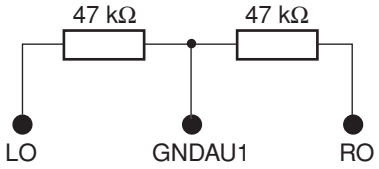


Fig 10.3: Serial 3 lines check points

The following checks shall be conducted using the following measurement circuits with GNDAU1 being the reference.



NO.	Check point 1 (stylus)	Specification value (rms)	Reference waveform
4	LO	1 400 ± 150 mV	Waveform 4
5	RO	1 400 ± 150 mV	Waveform 4

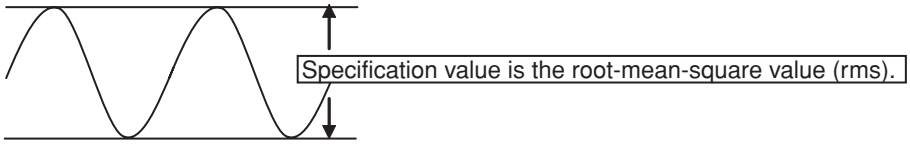


Fig 10.4: Analog audio out (LO, RO) specification value.

Side A

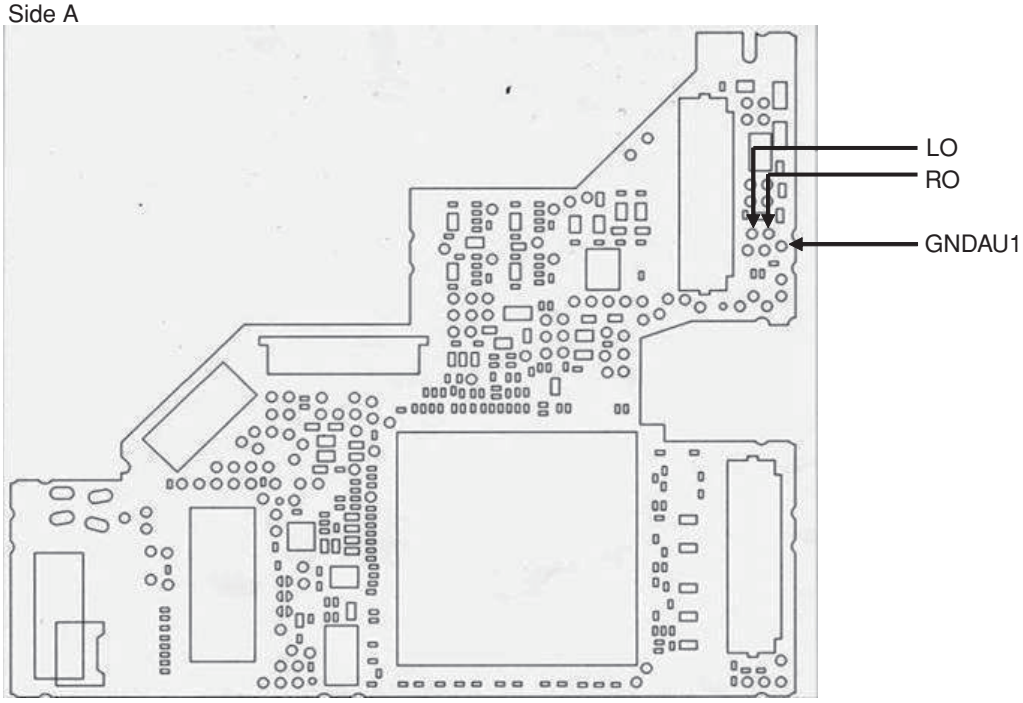


Fig 10.5: Analog audio out check point

Check with DGND being the reference.
Check 2pin cord after connecting it to a jig, etc.

NO.	Check point 1 (stylus)	Specification value 1	Specification value 2	Reference waveform
6	IEC	VCC33 V-0.6 V or higher	0.4 V or lower	Waveform 5

Side A

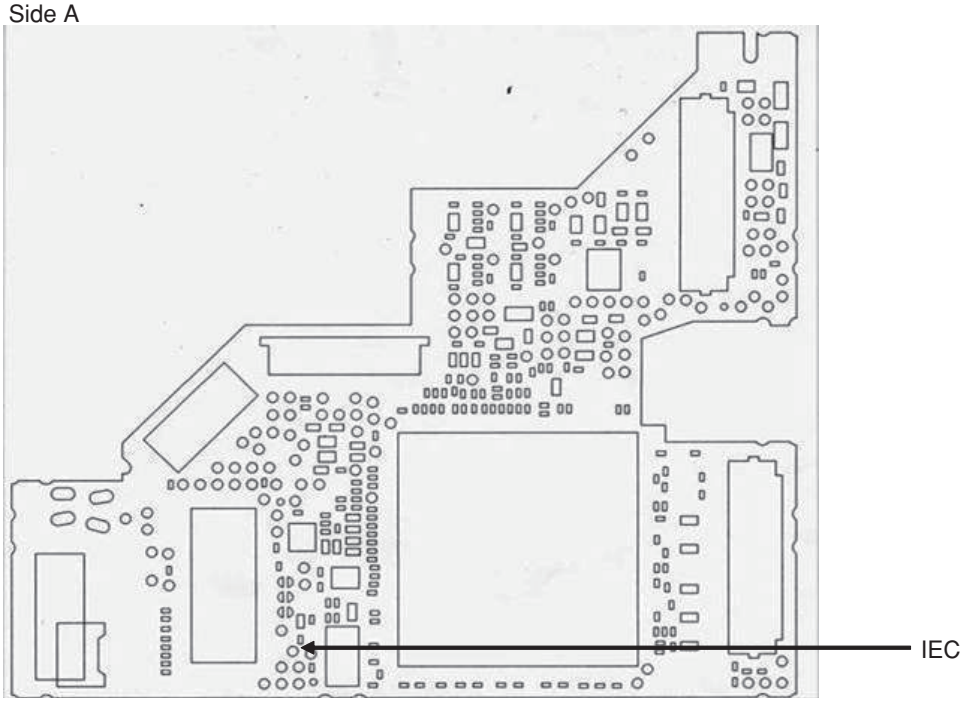
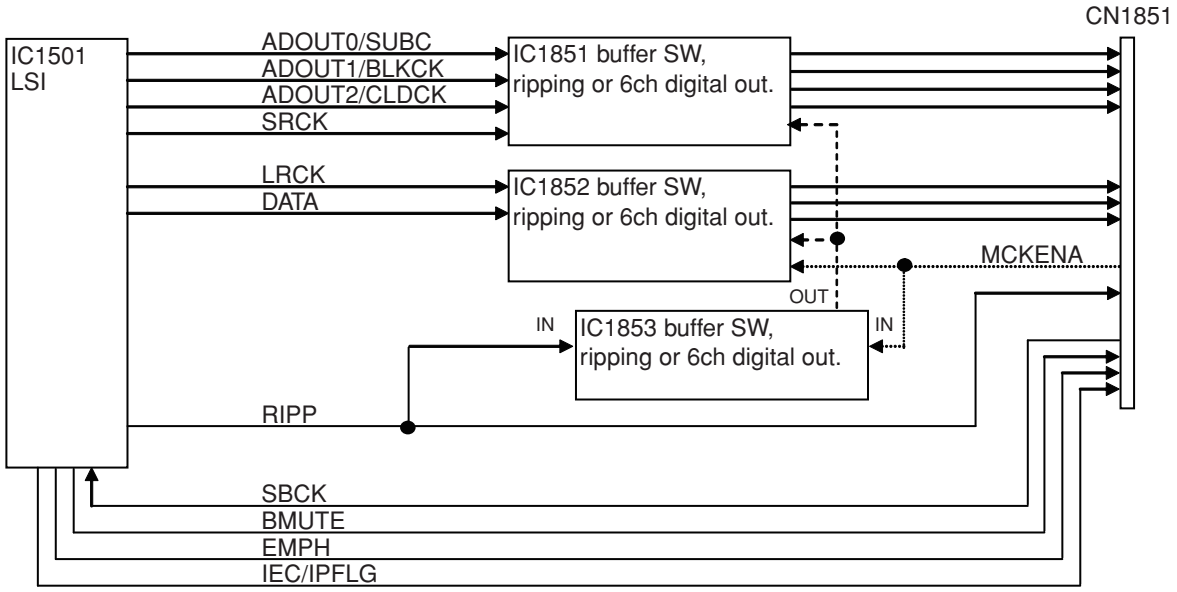


Fig 10.6: Digital audio signal (IECOUT) check point

<Outline> At the time of 6ch digital out, the serial 6 lines output from DVD-LSI (IC1501) is output via CN1581. Furthermore, at the time of ripping, the serial 3 lines digital output + SUBC, output from DVD-LSI (IC1501), is output in 4 times speed via CN1851.



The signal at CN1851 for 6ch digital out/Ripping.

Pin No.	Pin name	6ch digital out	Ripping
2	SRCK	SRCK	SRCK
4	LRCK	LRCK	LRCK
6	AD0/SUBC	ADOUT0	SUBC
8	AD1/BLK	ADOUT1	BLKCK
10	AD2/CLD	ADOUT2	CLDCK
12	AD3/DATA	ADOUT3	DATA
14	IEC/IPFLG	IEC	IPFLG
16	-	-	-
18	SBCK	-	SBCK
20	BMUTE	BMUTE	-
21	MCKENA	Low	High
22	RIPP	High	Low
23	EMPH	EMPH	EMPH
Pins 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 and 24 are GNDD.			

Fig 10.7: 6ch digital out/Ripping circuit

Playback DVD-REF-A1 TITLE22 CHAPTER 1, and check with GNDD being the reference.
In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

Check 24pin FFC after connecting it to a jig, etc.

NO.	Check point 1 (stylus)	Specification value 1	Specification value 2
7	SRCK	VCC33 V-0.6 V or higher	0.4 V or lower
8	LRCK	VCC33 V-0.6 V or higher	0.4 V or lower
9	ADOUT0	VCC33 V-0.6 V or higher	0.4 V or lower
10	ADOUT1	VCC33 V-0.6 V or higher	0.4 V or lower
11	ADOUT2	VCC33 V-0.6 V or higher	0.4 V or lower
12	IEC	VCC33 V-0.6 V or higher	0.4 V or lower
13	MCKENA	-	VCC33 V x 0.3 V or lower

Rip common CDDA, and check with GNDD being the reference.
In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

Check 24pin FFC after connecting it to a jig, etc.

NO.	Check point 1 (stylus)	Specification value 1	Specification value 2
14	SRCK	VCC33 V-0.6 V or higher	0.4 V or lower
15	LRCK	VCC33 V-0.6 V or higher	0.4 V or lower
16	SUBC	VCC33 V-0.6 V or higher	0.4 V or lower
17	BLKCK	VCC33 V-0.6 V or higher	0.4 V or lower
18	CLDCK	VCC33 V-0.6 V or higher	0.4 V or lower
19	DATA	VCC33 V-0.6 V or higher	0.4 V or lower
20	SBCK	VCC33 V-0.6 V or higher	0.4 V or lower
21	RIPP	-	VCC33 V x 0.3 V or lower

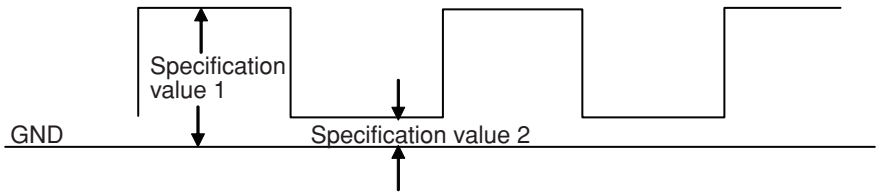
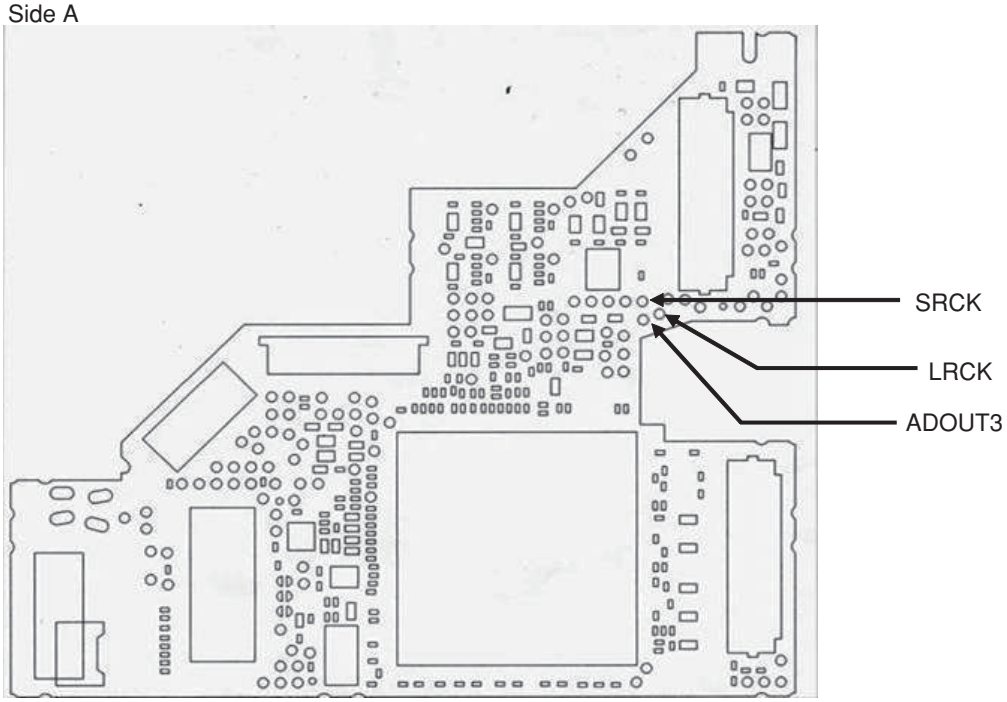


Fig 10.8: 6ch digital out/Ripping specification value

Side A



Side B

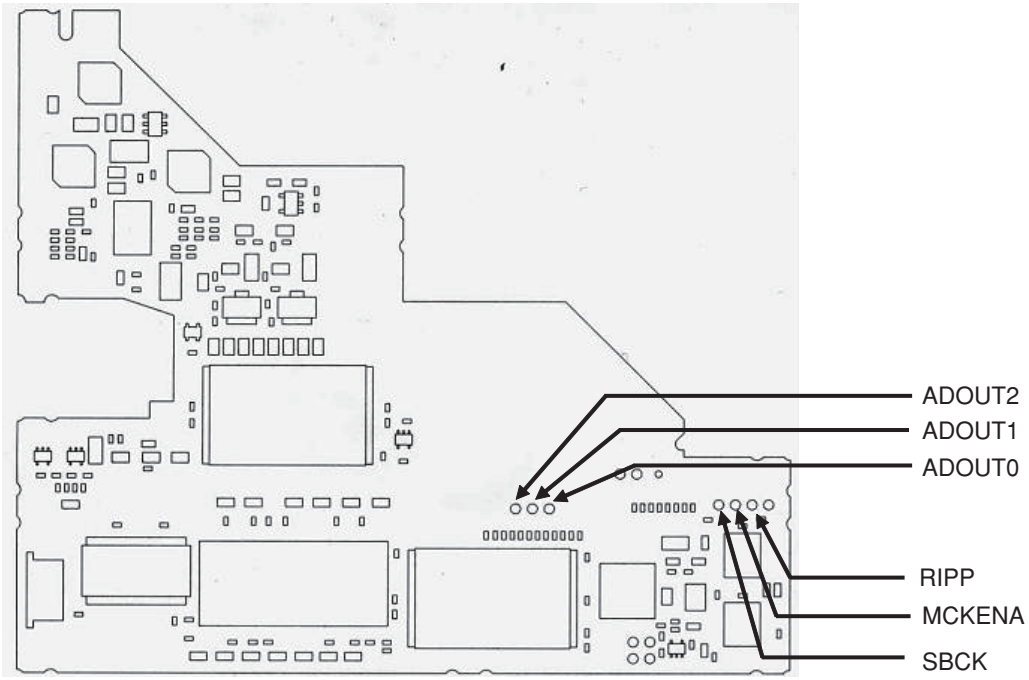


Fig 10.9: 6ch digital out/Ripping check point

Check 11: Is the video circuit OK?

<Outline> Composite signal and component signal are output from DVD-LSI (IC1501), and are output from the HOST I/F (CN1901) via a buffer circuit.

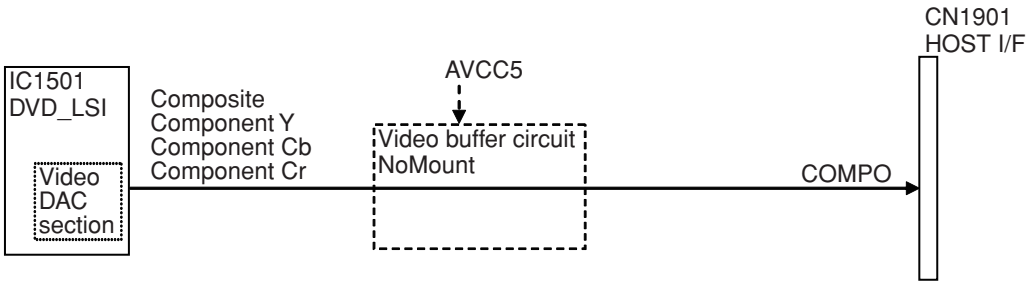


Fig 11.1: Video circuit

<Checking method> Playback DVD-REF-A1 TITLE2 CHAPTER5 (WHITE 100%), and monitor COMPO signal with an oscilloscope with GNDV1 (stylus) being the reference. Set the trigger mode to "TV trigger" and the trigger line to "150 line".

Check point 1 (stylus)

NO.		Specification value	Reference waveform
1	COMPO	1 000 mVpp ± 5 %	Waveform 6

In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

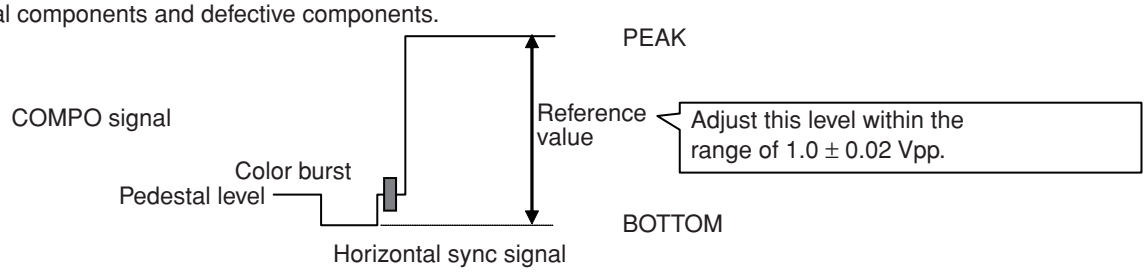


Fig 11.2: Waveform for the case of composite white 100% output

<Video level readjustment method>
In case the video composite output is outside of the specification value, readjust the level according to the method described below.
Turn the volume (VR1671) to adjust the video level within the range of 1.0 ± 0.02 Vpp.
The adjustment specification is 1.0 ± 0.02 Vpp.

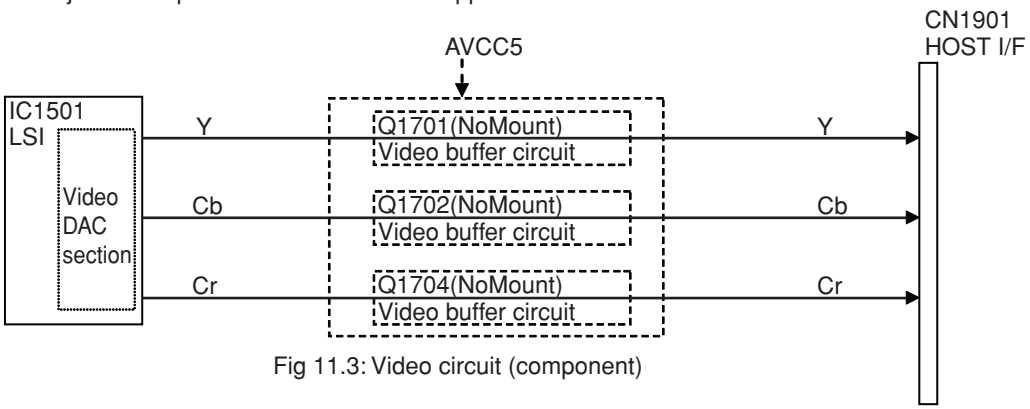


Fig 11.3: Video circuit (component)

<Checking method> Playback DVD-REF-A1 TITLE2 CHAPTER19 (100% Color Bars), and monitor Y, Cb, and Cr signal with an oscilloscope with GNDV1 (stylus) being the reference. Set the trigger mode to "TV trigger" and the trigger line to "150 line".

NO.	Check point 1 (stylus)	Specification value	Reference waveform
2	Y	1 000 mVpp ± 5%	Waveform 7
3	Cb	700 mVpp ± 5%	Waveform 7
4	Cr	700 mVpp ± 5%	Waveform 7

In case of NG, check the applicable line, the periphery of the major components in the drawing above, soldering of the peripheral components and defective components.

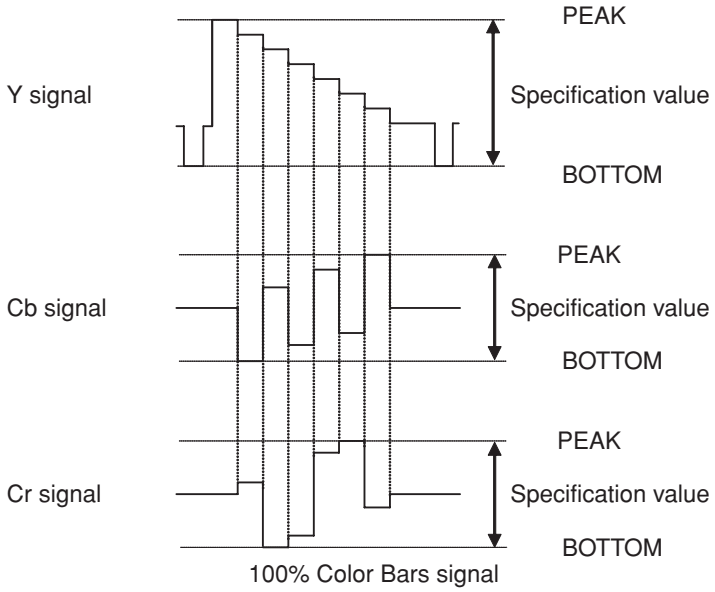


Fig 11.4 Waveform for the case of component 100% Color Bars output

Side A

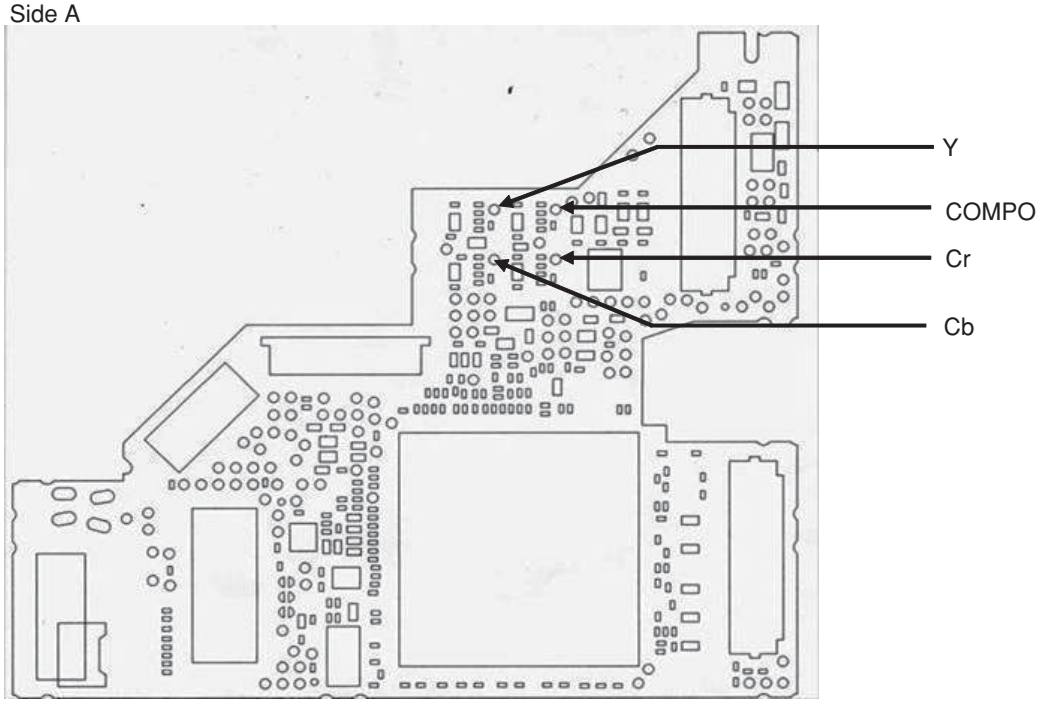


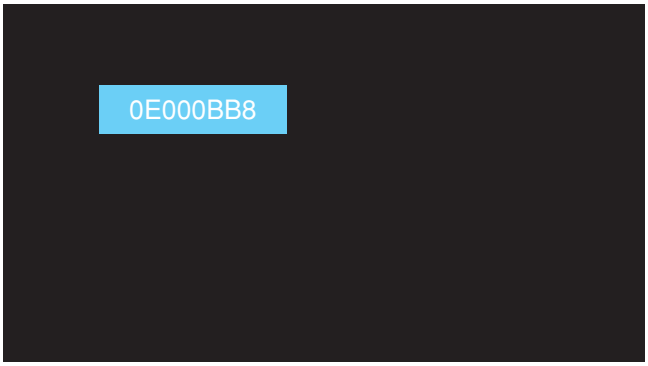
Fig 11.5: VIDEO signal check point

Check 12:How to judge whether the flash memory has reached its life or not.

If the reaction to user operation is slow or operation is slow in general, there is a possibility that the flash memory has reached its life.
Make judgment regarding the flash memory life by looking at the display of the LD energizing time.

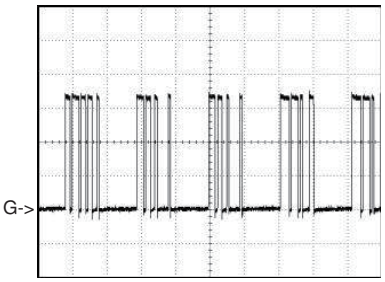
1.Let the LD energizing time displayed.
(Refer to the FE test mode for the method of displaying the LD energizing time.)
2.If the second digit from the left of the energizing time display is showing E,
such as "＊E＊＊　＊＊＊＊", it means that the flash memory has reached its life.

Example:



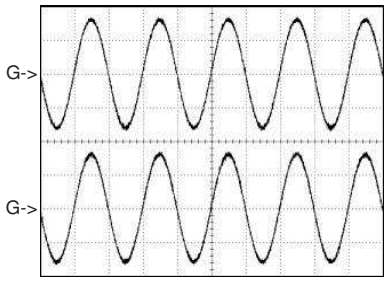
AUDIO VIDEO

CH1 : ADOUT3
Reference voltage: DGND2 1 V/div. 5 µsec/div



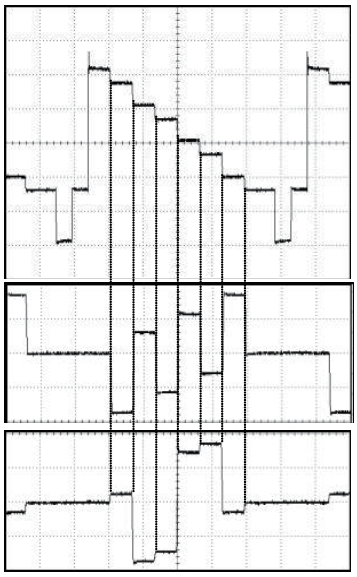
Waveform 1

CH1 : LO
CH2 : RO
Reference voltage: GNDAU2 1 V/div. 500 µsec/div



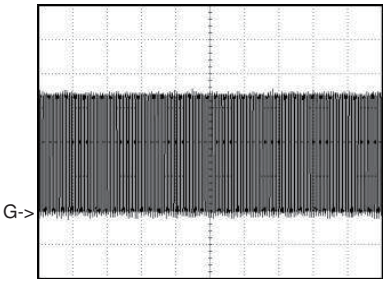
Waveform 4

[100% Color Bars]
CH1 : Y
CH2 : Cb
CH3 : Cr
Reference voltage: GNDV1 200 mV/div. 5 µsec/div



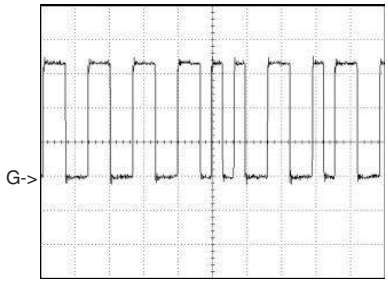
Waveform 7

CH1 : SRCK
Reference voltage: DGND2 1 V/div. 5 µsec/div



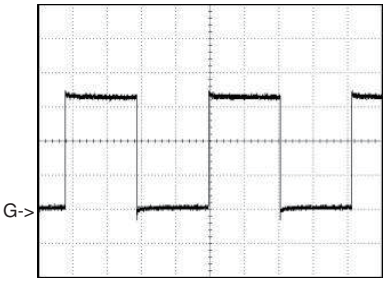
Waveform 2

CH1 : IECOUT
Reference voltage: DGND2 1 V/div. 500 nsec/div



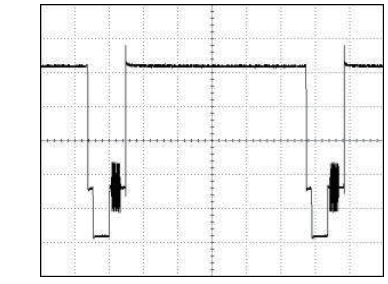
Waveform 5

CH1 : LRCK
Reference voltage: DGND2 1 V/div. 5 µsec/div



Waveform 3

[WHITE 100IRE]
CH1 : COMPO
Reference voltage: GNDV1 200 mV/div. 10 µsec/div

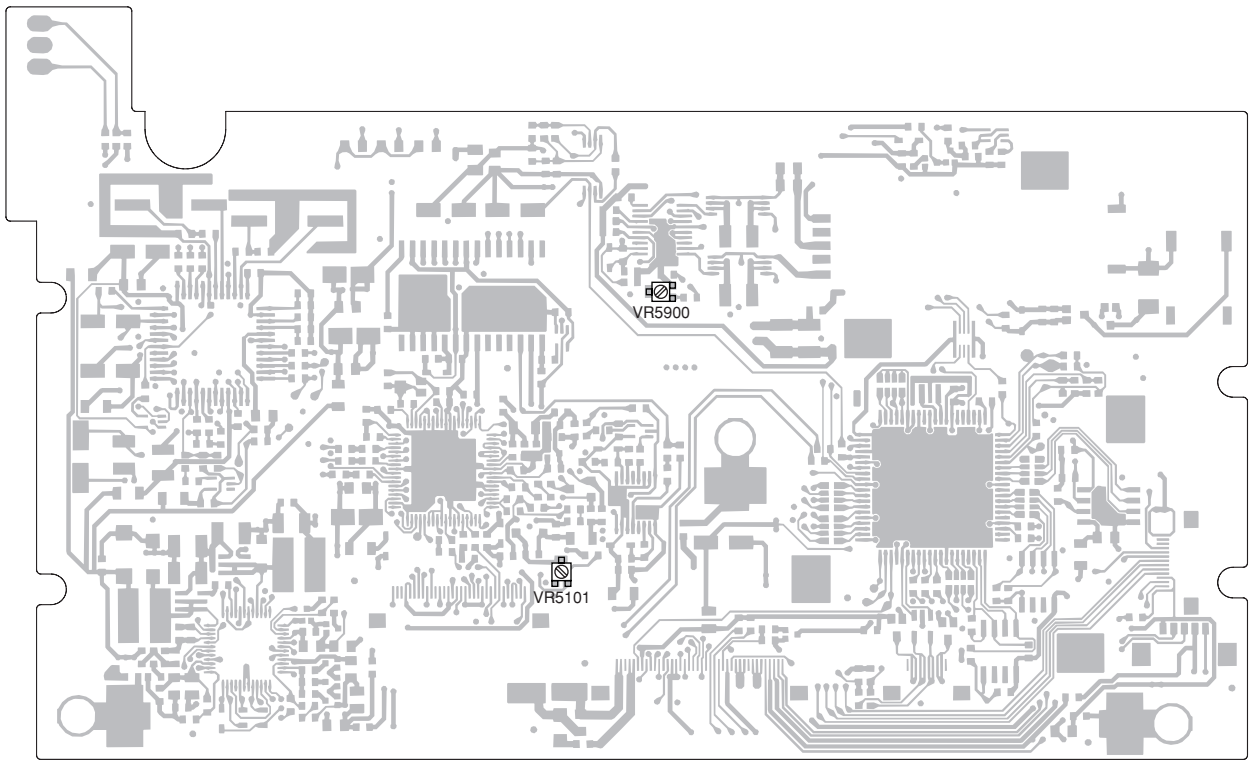


Waveform 6

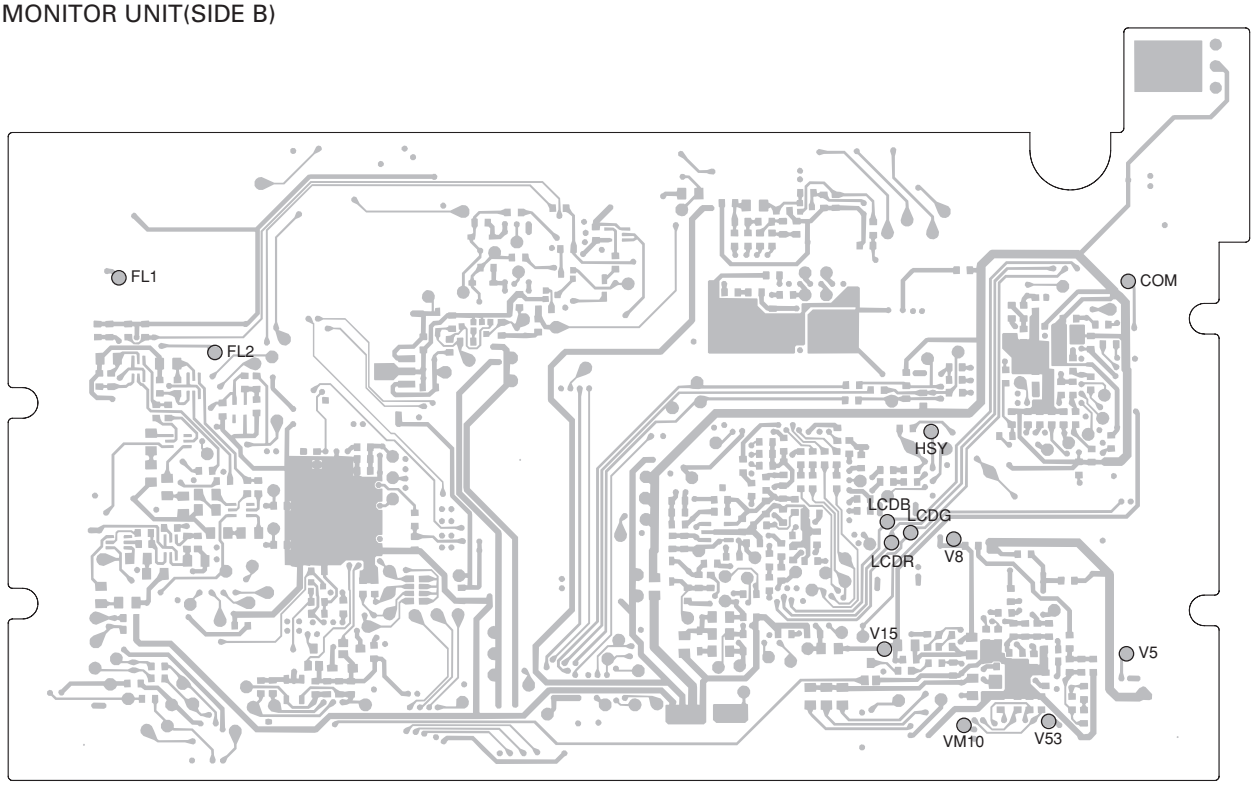
6.3 MONITOR UNIT ADJUSTMENT

● **Adjustment point**

MONITOR UNIT(SIDE A)



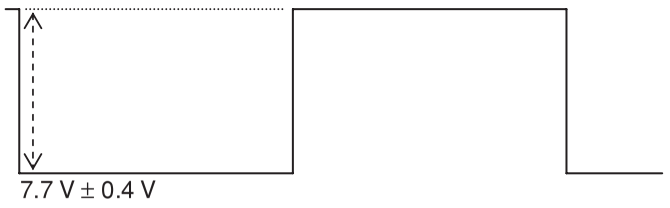
MONITOR UNIT(SIDE B)

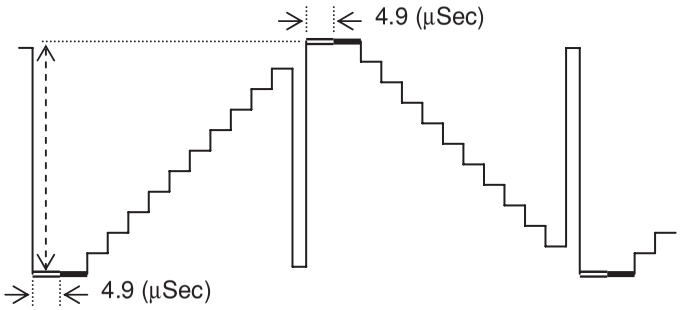
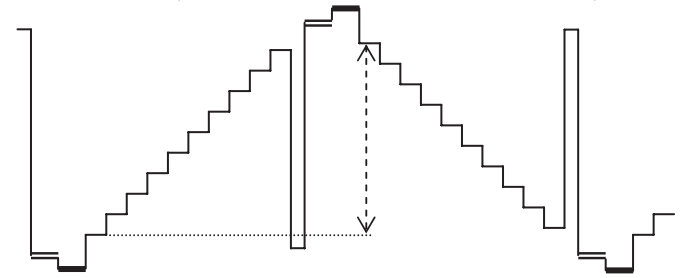
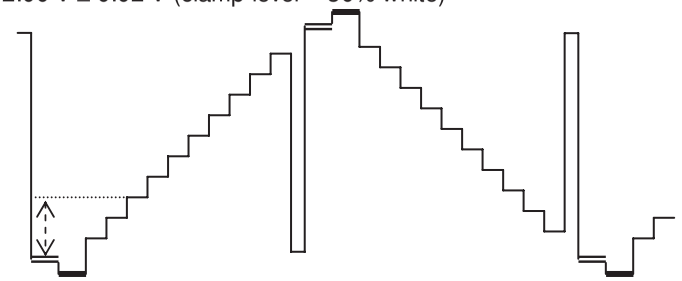


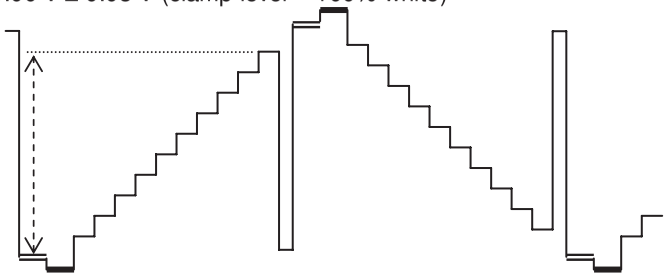
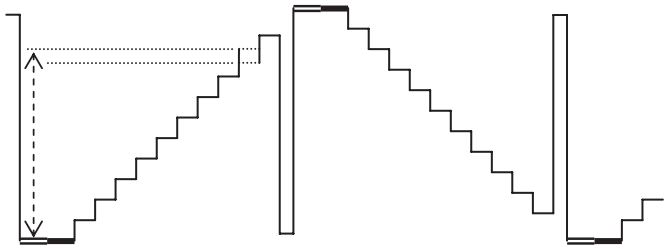
● Power supply check

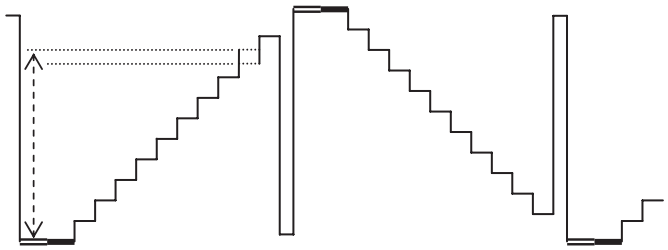
	Adjustment item	Measuring point	Adjusting point	Measuring method and specs.	Remarks
1	5 V power supply verification	TP_V5		5.0 V ± 0.3 V DC	
2	8 V power supply verification	TP_V8		8.0 V ± 0.5 V DC	
3	5.3 V power supply verification	TP_V53		5.3 V ± 0.5 V DC	
4	15 V power supply verification	TP_V15		15.0 V ± 0.7 V DC	
5	-10 V power supply verification	TP_VM10		-10.0 V ± 0.8 V DC	

● Image related adjustment

	Adjustment item	Measuring point	Adjusting point	Measuring method and specs.	Remarks
6	PLL free run adjustment	TP_HSY	VR5101	f = 15.820 kHz to 15.830 kHz	Set TP_SYNI to Low. (Release it after PLL free run adjustment.) [Effect of deviation from the adjusted value] • No sync on the screen. • Displayed position on the screen shifts substantially to the left or to the right.
7	Register temporary setting	IC5011	IC5011 register	COM DC : 84 BRIGHT : 128 CONT-RGB1 : 255 RGB AMPLITUDE : 255 COM AMPLITUDE : 188 GAMMA 1 : 255 GAMMA 2 : 255 SUB-BRIGHT R : 128 SUB-BRIGHT B : 128 CONT-VIDEO : 221 COLOR : 100 PICTURE : 16 TINT : 141 (NTSC) PALTINT : 150 (PAL) PHASE : 42 CONT-RGB2 : 221 INPUT MODE/SW : 00000000	When you replaced EEPROM(IC5303), set it after executing reset of EEPROM. Procedure of reset 1. IC5300_pin20(EPRRST) is connected with GND. 2. Power-on of the product. 3. Power-off of the product. 4. IC5300_pin20(EPRRST) is opened.
8	COM AMP level verification	TP_COM			[Effect of deviation from the adjusted value] • Dark screen (large amplitude) • Bright screen (small amplitude)

	Adjustment item	Measuring point	Adjusting point	Measuring method and specs.	Remarks
9	RGB AMP adjustment	TP_LCDG	IC5011 register RGB AMPLITUDE (10h)	10 STEP signal (RGB 525 lines / 60 Hz) input 3.80 V ± 0.02 V (clamp level ~ clamp level of the next line) 	═ : section is the clamp level period. The signal inverting timing being the reference, the following periods are indicated. Forward rotation side…4.9 (µsec) Backward rotation side…4.9 (µsec) It is different from the black level during the image display period. [Effect of deviation from the adjusted value] The side panel brightness at the time of screen mode (normal) is affected. • Floating white (small amplitude) • Sinking black (large amplitude)
10	Bright adjustment	TP_LCDG	IC5011 register BRIGHT (11h)	10 STEP signal (RGB 525 lines / 60 Hz) input 2.00 V ± 0.02 V (10% white ~ 10% white of the next line) 	[Effect of deviation from the adjusted value] • The screen is whitish (small amplitude) • The screen is dark (large amplitude)
11	Gamma 1 adjustment	TP_LCDG	IC5011 register GAMMA 1 (08h)	10 STEP signal (RGB 525 lines / 60 Hz) input 2.00 V ± 0.02 V (clamp level ~ 30% white) 	═ : section is the clamp level period. If there are the black section and the white 30% section during 1 horizontal scanning, it is OK even if it is not a 10 STEP signal. [Effect of deviation from the adjusted value] • The screen is whitish (high voltage) • The screen is dark (low voltage)

	Adjustment item	Measuring point	Adjusting point	Measuring method and specs.	Remarks
12	Gamma 2 adjustment	TP_LCDG	IC5011 register GAMMA 2 (09h)	10 STEP signal (RGB 525 lines / 60 Hz) input 4.00 V ± 0.03 V (clamp level ~ 100% white) 	═ : section is the clamp level period. If there are the black section and the white 100% section during 1 horizontal scanning, it is OK even if it is not a 10 STEP signal. [Effect of deviation from the adjusted value] • The bright section is scattered white (high voltage) • The screen is dark (low voltage)
13	Register setting	IC5011	IC5011 register	CONT-RGB1(06h) : DDh ····· *1	*1 : A value set to IC5011 when the user contrast adjustment step is 00.
14	Sub bright R adjustment	TP_LCDG TP_LCDR	IC5011 register SUB-BRIGHT R (12h)	10 STEP signal (RGB 525 lines / 60 Hz) input Adjust SUB-BRIGHT R in a way that the difference of the following two will be within ± 0.02 V. • The clamp level to 90% white level of TP_LCDG. • The clamp level to 90% white level of TP_LCDR. 	If there are the clamp level and the white 90% section during 1 horizontal scanning, it is OK even if it is not a 10 STEP signal. [Effect of deviation from the adjusted value] • The screen is reddish (high voltage on the LCDR side) • The screen is bluish (low voltage on the LCDR side)

	Adjustment item	Measuring point	Adjusting point	Measuring method and specs.	Remarks
15	Sub-bright B adjustment	TP_LCDG TP_LCDB	IC5011 register SUB-BRIGHT B (13h)	10 STEP signal (RGB 525 lines / 60 Hz) input Adjust SUB-BRIGHT B in a way that the difference of the following two will be within ± 0.02 V. • The clamp level to 90% white level of TP_LCDG. • The clamp level to 90% white level of TP_LCDB. 	If there are the clamp level and the white 90% section during 1 horizontal scanning, it is OK even if it is not a 10 STEP signal. [Effect of deviation from the adjusted value] • The screen is bluish (high voltage on the LCDR side) • The screen is yellowish (low voltage on the LCDR side)
16	PAL demodulation adjustment (COLOR preliminary adjustment)	TP_LCDR	IC5011 register COLOR (02h)	100% color bar signal (PAL) input Execute step ① “Method of color adjustment (RB5P0090M)” after entering “PHASE ADJUSTMENT”.	**AVIC-D3/XU/EW5 only** 100% color bar signal… A color bar of which the brightness level of the white section is 100% and the color carrier amplitude is 100% modulation. (EIA color bar, BBC color bar) An adjustment with the rise up edge of the FRPV signal being the trigger is recommended. The result of color adjustment is not saved in the EEPROM. [Effect of deviation from the adjusted value] PALTINT and PHASE adjustment can no longer be made appropriately.
17	PAL demodulation adjustment (PALTINT)	TP_LCDR	IC5011 register TINT (03h)	100% color bar signal (PAL) input Execute step ② “Method of color adjustment (RB5P0090M)” after entering “PHASE ADJUSTMENT”.	**AVIC-D3/XU/EW5 only** An adjustment with the rise up edge of the FRPV signal being the trigger is recommended. [Effect of deviation from the adjusted value] Color flickering or horizontal stripes are observed during PAL image display.

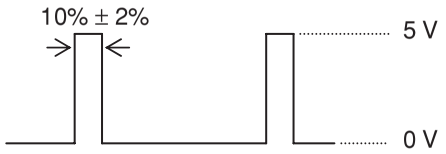
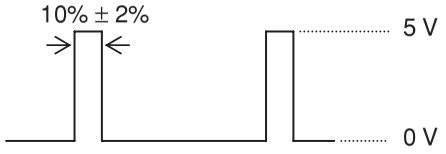
	Adjustment item	Measuring point	Adjusting point	Measuring method and specs.	Remarks
18	PAL demodulation adjustment (PHASE)	TP_LCDB	IC5011 register PHASE (04h)	100% color bar signal (PAL) input Execute step ③ “Method of color adjustment (RB5P0090M)” after entering “PHASE ADJUSTMENT”.	**AVIC-D3/XU/EW5 only** An adjustment with the rise up edge of the FRPV signal being the trigger is recommended. [Effect of deviation from the adjusted value] Color flickering or horizontal stripes are observed during PAL image display.

*) Because step signal of the test disc (GGV1303) is interval in each step is not even, use the step which is near to the designated level referring to "Step signal level table".

Step signal level table

10 step	32 step	White level (%)
10	31	100.0%
	30	96.9%
	29	93.8%
9	28	90.6%
	27	87.5%
	26	84.4%
8	25	81.3%
	24	78.1%
	23	75.0%
7	22	71.9%
	21	68.8%
	20	65.7%
6	19	62.5%
	18	59.4%
	17	56.3%
5	16	53.2%
	15	50.1%
	14	46.9%
4	13	43.8%
	12	40.7%
	11	37.6%
3	10	34.4%
	9	31.3%
	8	28.2%
2	7	25.1%
	6	22.0%
	5	18.8%
1	4	15.7%
	3	12.2%
	2	9.2%
	1	6.2%
0	0	0.0%

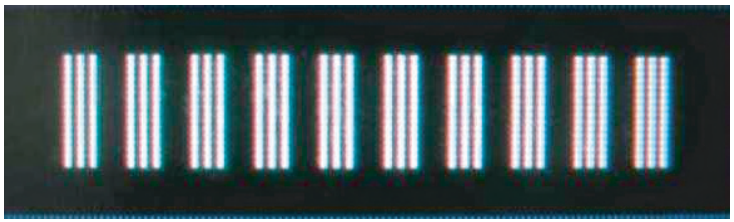
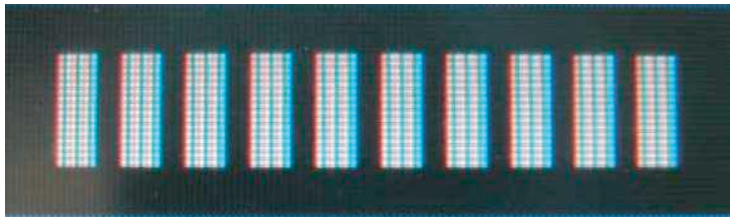
● Inverter adjustment

	Adjustment item	Measuring point	Adjusting point	Measuring method and specs.	Remarks
19	Backlight inverter basic driving frequency adjustment	TP_FL1 TP_FL2	VR5900	Set to IC5300 pin44 (INVPUL) = Low.	Connect a cold cathode tube equivalent to CWX3454-A between TP_FL1 and FL2. Measure at the waveform of TP_FL1 output after the voltage division or at TP_FL2. Do not measure TP_FL1 directly. (The measuring equipment may be damaged due to high voltage.)
20	Backlight inverter frequency switching check 1	TP_FL1 TP_FL2		Set to IC5300 pin44 (INVPUL) = High impedance. Input the following waveform of 98.0 kHz ± 1.0 kHz to TP_INVPUL.  The output frequency of TP_FL1/FL2 shall be 49.0 kHz ± 0.5 kHz.	Connect a cold cathode tube equivalent to CWX3454-A between TP_FL1 and FL2. Measure at the waveform of TP_FL1 output after the voltage division or at TP_FL2. Do not measure TP_FL1 directly. (The measuring equipment may be damaged due to high voltage.)
21	Backlight inverter frequency switching check 2	TP_FL1 TP_FL2		Set to IC5300 pin44 (INVPUL) = High impedance. Input the following waveform of 104.0 kH ± 1.0 kHz to TP_INVPUL.  The output frequency of TP_FL1/FL2 shall be 52.0 kHz ± 0.5 kHz.	Connect a cold cathode tube equivalent to CWX3454-A between TP_FL1 and FL2. Measure at the waveform of TP_FL1 output after the voltage division or at TP_FL2. Do not measure TP_FL1 directly. (The measuring equipment may be damaged due to high voltage.)

● Flicker adjustment

	Adjustment item	Measuring point	Adjusting point	Measuring method and specs.	Remarks
22	Aging			Input the entire screen white signal (or the moving image). Leave the equipment in the operational state for 30 minutes or more.	
23	Flicker adjustment	Screen	IC5011 register COM DC (15h)	Input a signal for flicker adjustment (RGB 525 line / 60 Hz). Make adjustment in a way that the screen flickering will become minimum.	A signal for flicker adjustment… An image where white 50% and black is displayed alternately for each horizontal scanning line. Please refer to the "6.4 SERVICE ADJUSTMENT".

● Dot clock adjustment

	Adjustment item	Measuring point	Adjusting point	Measuring method and specs.	Remarks
24	Calling out of line adjustment mode			Make the following operation. 1) Reset while pushing the two buttons, [SOURCE] and [←]. (BUP and ACC on while pushing the buttons will also do.) 2) Release the key when “PLEASE PUSH THE [RESET]” is displayed on the screen. 3) Push in the order of [→], [→], [←] and [←]. 4) Make sure that “PLEASE PUSH THE [RESET]” goes away.	If “PLEASE PUSH THE [RESET]” is not displayed in 2), it means a failure of succession. So, repeat from 1). If “PLEASE PUSH THE [RESET]” did not go away in 4), it means a failure of succession. So, repeat from 1).
25	Calling out of Dot clock adjustment mode			Enter the Initial setting menu, and call out the (Dot clock) adjustment screen.	Succession is not possible in the state of parking off.
26	Dot clock adjustment	Test pattern on the screen	Touch key [-], [+], STEP 0~7.	• In case of vertical stripe display The vertical stripes of the test pattern shall be displayed clearly without rolling. OK  NG  Pressing "Back" or "ESC" key, setting value is stored in EEPROM. Then turn off the unit.	

● Color adjustment method (RB5P0090M) (for PAL mode)

Step ① (Fig.1)

1. Input the EIA color bar signal.
2. Monitor the ROUT terminal using an oscilloscope.
3. Adjust the COLOR register value in a way that the average level of white, yellow, magenta and red will be almost the same.

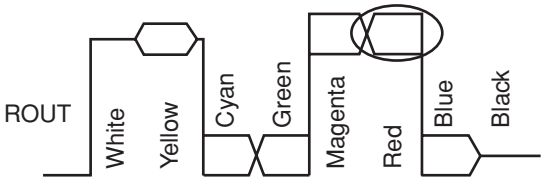


Fig. 1

Step ② (Fig.2)

4. Adjust the TINT register value in a way that the level being shifted for each horizontal period will match.

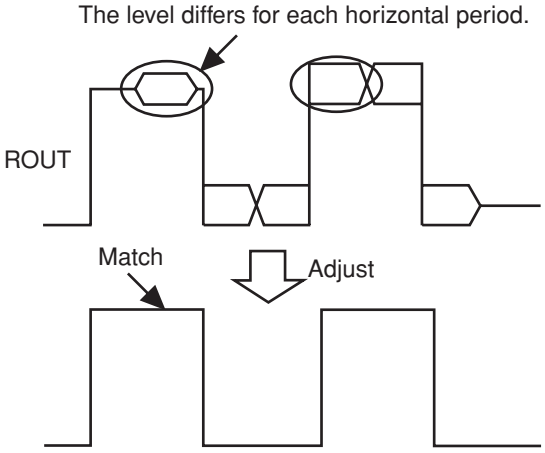


Fig.2

Step ③ (Fig.3)

5. Next, monitor the BOUT terminal.
6. Adjust the PHASE register value in a way that the shifting of cyan, green and magenta region for each horizontal period will match.

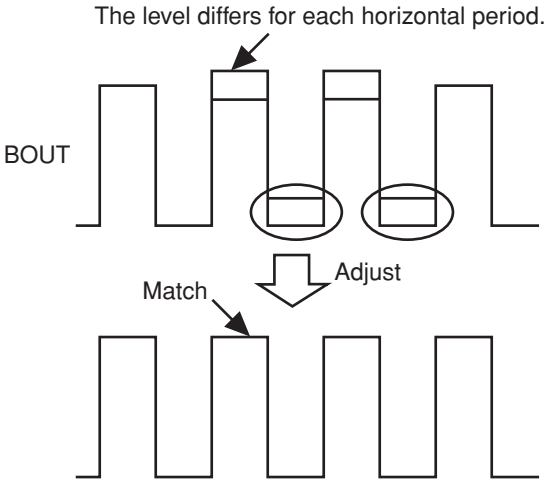


Fig.3

Reference value after adjustment

COLOR : 90
TINT : 152
PHASE : 40

: The points easier to be used for adjustment

ROUT...TP_LCDR
BOUT...TP_LCDB

*) Because the result of adjustment will vary depending on the product, the value will not necessarily be close to the “Reference value after adjustment”.

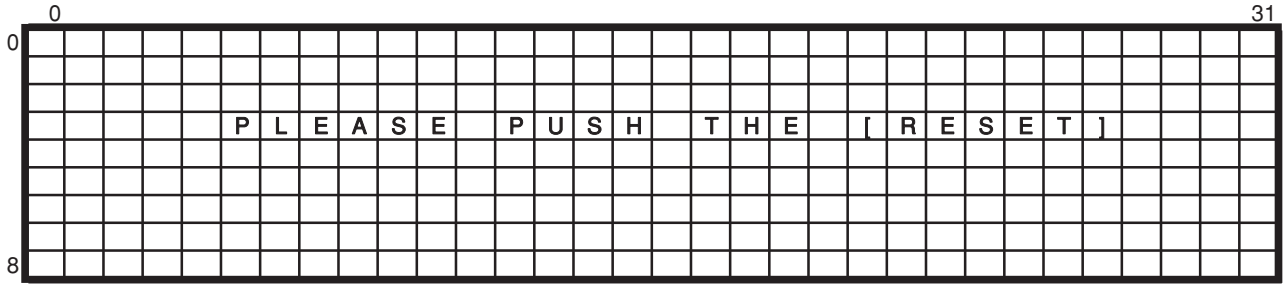
6.4 SERVICE ADJUSTMENT

[Operational specifications]

• After replacing the LCD Module or Monitor Unit, this "SERVICE ADJUSTMENT" must be performed.

• Method1

If the monitor microcomputer is reset by double pressing of the SOURCE key + the [|<<] key, the following screen will be displayed on the OSD.



At this time, if the keys are pressed in the order of MENU → |<< → >>| → MAP, the system will proceed to the [Adjustment mode for service].

• Method2

If the monitor microcomputer is reset with the [SRVTEST] terminal set to Low, the system will proceed to the [Adjustment mode for service].
(You can get the same result by resetting, but it is not recommended as you will lose the user data.)
*) When the succession is made by the terminal, the OSD display screen below will not be displayed.

• The key operations under this test mode are as follows.

(1): Main body key

Key	Operation	Remarks
|<<	Adjustment value DOWN on the selected item	
>>|	Adjustment value UP on the selected item	

(2): Remote controller key (CXC6317 SW1 : AVH, SW2 : AVH)

Key	Operation	Remarks
←	Adjustment value UP on the selected item	
→	Adjustment value DOWN on the selected item	

• A method to cancel [Adjustment mode for service] is described below.
ACC OFF → ON. (BUP OFF → ON will do too.)

*) The preset value is first written in the EEPROM, then read out and displayed.
Writing and reading are made in 16 bits. Depending on the setting item, the number of bit may be different.

● Adjustment mode for service

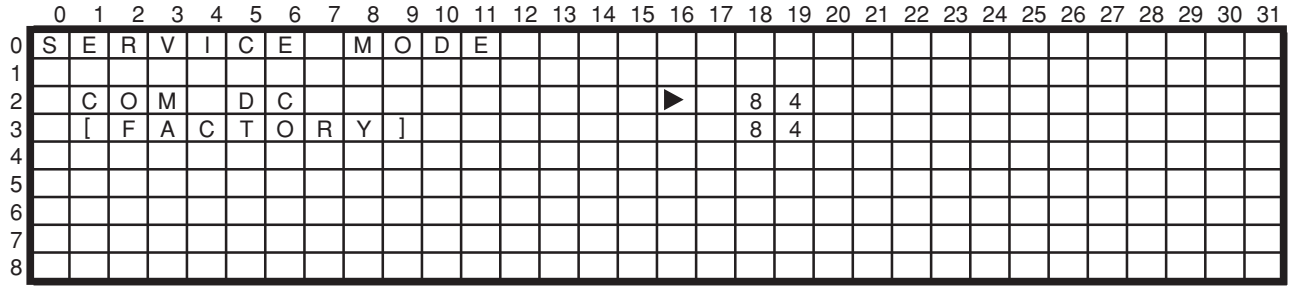
[Picture source preparation]

After entering "Adjustment mode", insert TEST DISC (GGV1303) to the unit and select "11. Horizontal Line1" in the "19. Picture check MENU 2/2".

The specifications of the item adjusted on this page are as follows.

Adjustment item	Adjustment range	Adjustable name	Settings or written data (DEC)
Common inverted output center value	[0 to 255]	COM DC	84
Common inverted output center setting value (FACTORY preset value)	[0 to 255]	FACTORY	84

The actual image of the OSD display screen is as follows.



*) The above characters are displayed in black with white rim.
*) "▶" mark indicates the selected item (cursor).
*) There is no CS (check sum) display.

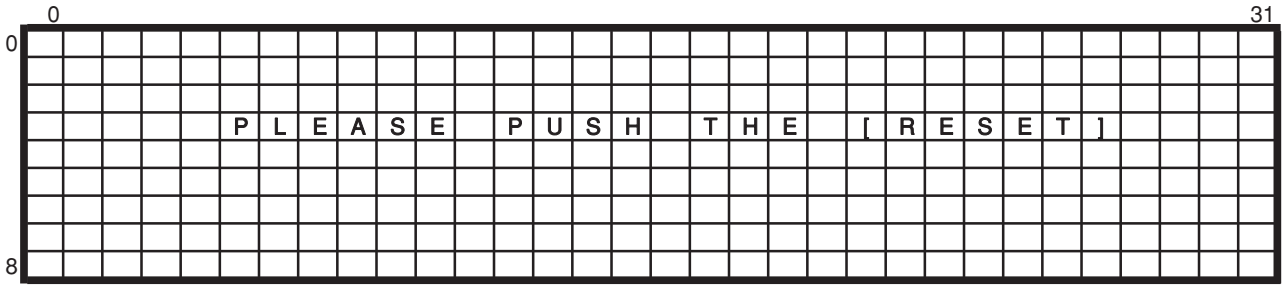
Note 1: The content of [FACTORY] is the default setting value for adjustment for each product adjusted in the line. (Rewriting can be done in EEPROM adjustment mode only.)

6.5 EEPROM ADJUSTMENT

[Operational specifications]

- **Method1**

If the monitor microcomputer is reset by double pressing of the SOURCE key + the [|<<] key, the following screen will be displayed on the OSD.



At this time, if the keys are pressed in the order of |<< → MENU → >>| → MAP, the system will proceed to the [Flicker adjustment mode].

- **Method2**

If the monitor microcomputer is reset while the [EPRTEST] terminal is set to Low, the system will proceed to [Flicker adjustment mode].
(You can get the same result by resetting, but it is not recommended as you will lose the user data.)
*) When the succession is made by the terminal, the OSD display screen below will not be displayed.

- The key operations under this test mode are as follows.

(1): Main body key

Key	Operation	Remarks
SOURCE	Page turning	The screen succeeds in the order of [Flicker adjustment mode] → [Line adjustment mode1] → [Line adjustment mode2] → [Flicker adjustment mode].
MENU	Upward search of selection item	If pressed when the cursor is pointing the top item in a page, the cursor will move to the lowest item.
MAP	Downward search of selection item	If pressed when the cursor is pointing the lowest item in a page, the cursor will move to the top item.
|<<	Adjustment value DOWN on the selected item	
>>|	Adjustment value UP on the selected item	

(2): Remote controller key (CXC6317 SW1 : AVH, SW2 : AVH)

Key	Operation	Remarks
MENU	Page turning	The screen succeeds in the order of [Flicker adjustment mode] → [Line adjustment mode1] → [Line adjustment mode2] → [Flicker adjustment mode].
↑	Upward search of selection item	If pressed when the cursor is pointing the lowest item in a page, the cursor will move to the top item.
↓	Downward search of selection item	If pressed when the cursor is pointing the top item in a page, the cursor will move to the lowest item.
←	Adjustment value UP on the selected item	
→	Adjustment value DOWN on the selected item	

- A method to cancel [E2PROM adjust mode] is described below.
ACC OFF → ON. (BUP OFF → ON will do too.)

*) The preset value is first written in the EEPROM, then read out and displayed.
Writing and reading are made in 16 bits. Depending on the setting item, the number of bit may be different.

*) When a value subject to CS (check sum) computation is changed, it takes the exclusive (XOR) in 8 bit, and conducts writing.
This CS value, too, is read out after being written into the EEPROM, and that read out value is displayed.

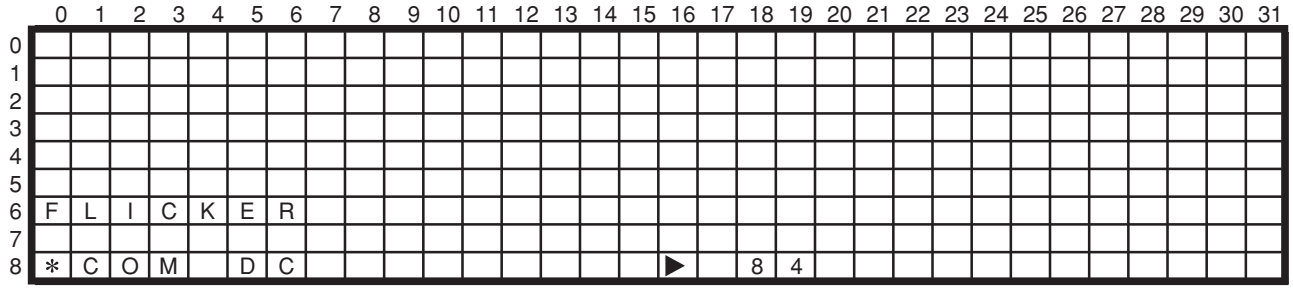
● Flicker adjustment mode

The specifications of the item adjusted on this page are as follows.

Adjustment item	Adjustment range	Adjustable name	Settings or written data (DEC)
Common inverted output center value	[0 to 255]	* COM DC	84

"*" is indicated if a value is adjusted regardless of the magnitude.

The actual image of the OSD display screen is as follows.



*) The above characters are displayed in black with white rim.
*) "▶" mark indicates the selected item (cursor).

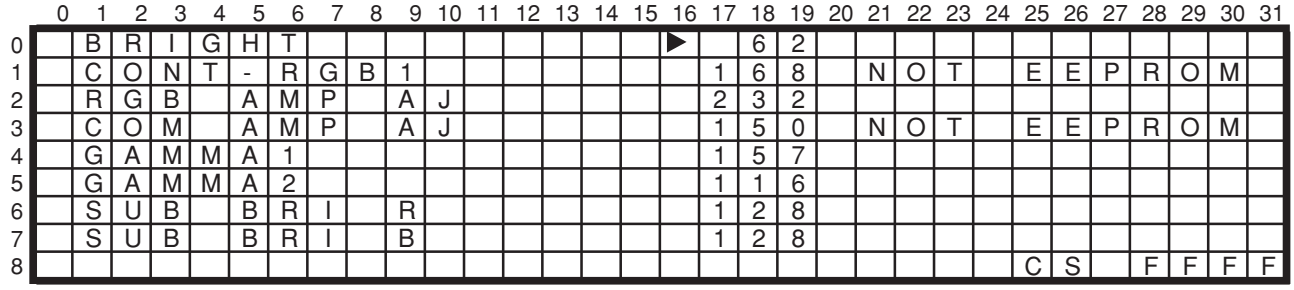
• Note 1: The content of [COM DC] is also reflected to the common inverted output center reference value (Refer to 07-2: EEPROM memory arrangement.xls.).
(The common inverted output center reference value is treated as the initial value set in the line.)

● Line 1 adjustment mode

The specifications of the item adjusted on this page are as follows.

Adjustment item	Adjustment range	Adjustable name	Settings or written data (DEC)
Bright	[0 to 255]	BRIGHT	62
RGB1 contrast	[0 to 255]	CONT-RGB1	168
Black amplitude	[0 to 255]	RGB AMP AJ	232
Output amplitude	[0 to 255]	COM AMP AJ	150
GAMMA 1	[0 to 255]	GAMMA 1	157
GAMMA 2	[0 to 255]	GAMMA 2	116
Sub brightness R	[0 to 255]	SUB BRI R	128
Sub brightness B	[0 to 255]	SUB BRI B	128

The actual image of the OSD display screen is as follows.



*) The above characters are displayed in black with white rim.
*) "▶" mark indicates the selected item (cursor).
*) CS: Check Sum

• Note 1: The content of [CONT-RGB1] and [COM AMP AJ] are the reference value (adjustable) for adjusting other items, and they are not saved in the EEPROM.
(It is so expressed by displaying “NOT EEPROM” as shown in the above OSD display screen image.)

● Line 2 adjustment mode

The specifications of the item adjusted on this page are as follows.

Adjustment item	Adjustment range	Adjustable name	Settings or written data (DEC)
VIDEO contrast	[0 to 255]	CONT-VIDEO	150
VIDEO color density	[0 to 255]	COLOR	168
VIDEO coloring (NTSC)	[0 to 255]	TINT	100
VIDEO coloring (PAL)	[0 to 255]	PALTINT	150
VIDEO sharpness	[0 to 31]	PICTURE	16
VIDEO PAL demodulation	[0 to 63]	PHASE	42
OSD contrast	[0 to 255]	CONT-RGB2	221
Operational mode	Note 2	INPUT MODE	00000000

The actual image of the OSD display screen is as follows.

(1) When a mode other than the “operational mode” is selected.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0		C	O	N	T	-	V	I	D	E	O						▶	1	5	0		N	O	T		E	E	P	R	O	M	
1		C	O	L	O	R											▶	1	6	8		N	O	T		E	E	P	R	O	M	
2		T	I	N	T													1	0	0		N	O	T		E	E	P	R	O	M	
3		P	A	L	T	I	N	T										1	5	0												
4		P	I	C	T	U	R	E											1	6												
5		P	H	A	S	E													4	2												
6		C	O	N	T	-	R	G	B	2								2	2	1												
7		I	N	P	U	T		M	O	D	E		0	0	0	0	0	0	0	0												
8																										C	S		F	F	F	F

(2) When the “operational mode” is selected.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
0		C	O	N	T	-	V	I	D	E	O							1	5	0		N	O	T		E	E	P	R	O	M	
1		C	O	L	O	R												1	6	8		N	O	T		E	E	P	R	O	M	
2		T	I	N	T													1	0	0		N	O	T		E	E	P	R	O	M	
3		P	A	L	T	I	N	T										1	5	0												
4		P	I	C	T	U	R	E											1	6												
5		P	H	A	S	E													4	2												
6		C	O	N	T	-	R	G	B	2								2	2	1												
7		I	N	P	U	T		M	O	D	E		0	0	0	0	0	0	0	0												
8													▲													C	S		F	F	F	F

*) The above characters are displayed in black with white rim.
*) "▶" mark indicates the selected item (cursor).
*) CS: Check Sum

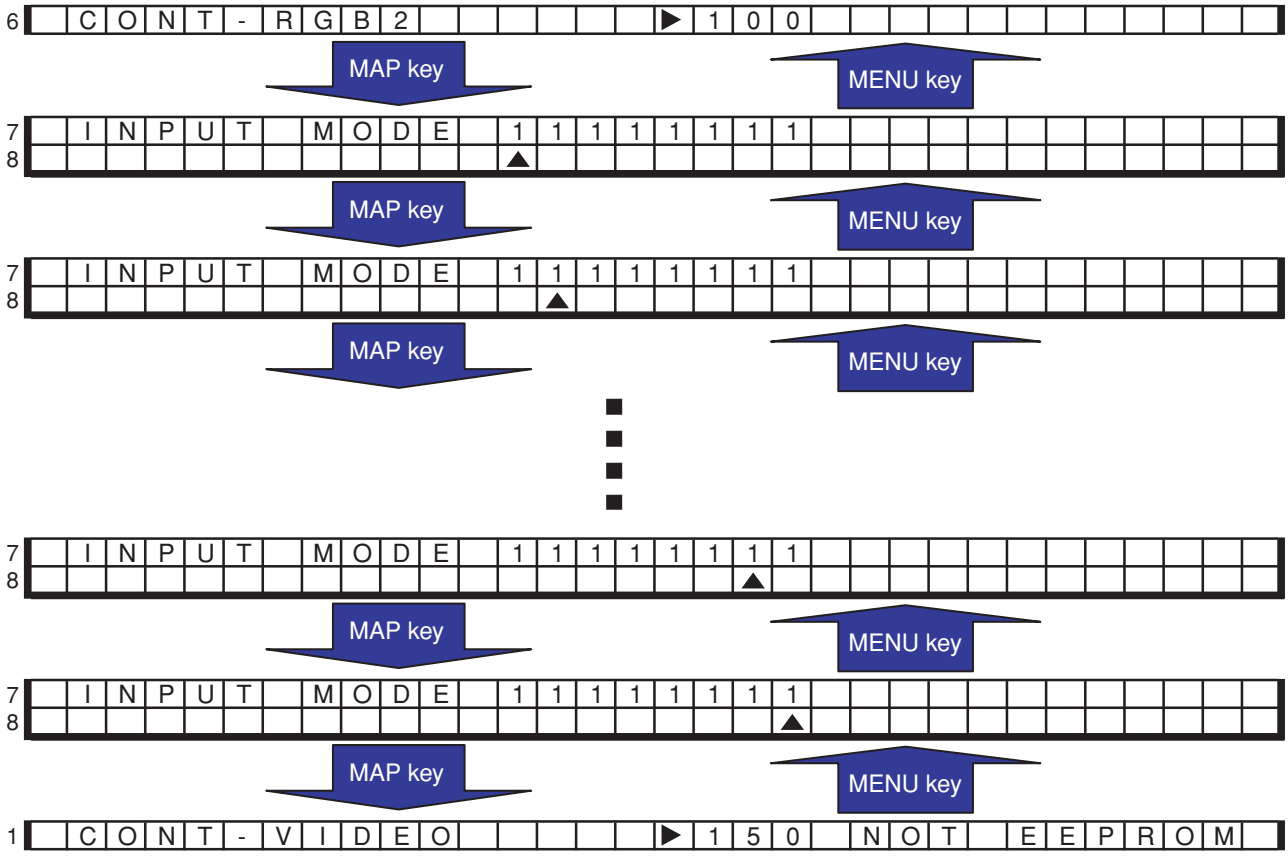
• Note 1: The content of the following items are the reference value (adjustable) for adjusting other items, and they are not saved in the EEPROM.
(It is so expressed by displaying “NOT EEPROM” as shown in the above OSD display screen image.)

· CONT-VIDEO
· COLOR
· TINT

• Note 2: Adjustment of the operational mode
The precautions for adjustment of the operational mode are as follows.

· Indicated in binary notation, and adjustable by bit only. (no carrying)
· Not subject to CS computation.

While the basic operation is as described in the operational specifications sheet, the cursor movement is made according to the operation/succession shown below.
(The following descriptions are for the cases when the main body keys are operated.)



● Memory item list and EEPROM

EEPROM memory alignment chart (S-93C46BD0I-J8)

	ADDRESS	Bit15	Bit14	Bit13	Bit12	Bit11	Bit10	Bit9	Bit8	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Adjustment value of LCD	0	COM DC (0x54)								*1 (0x00)	Don't care (0x00)	PICTURE (0x54)					
	1	Don't care (0x00)								GAMMA 1 (0x9D)							
	2	GAMMA 2 (0x74)								RGB AMPLITUDE (0xE8)							
	3	SUB BRIGHT R (0x80)								SUB BRIGHT B (0x80)							
	4	BRIGHT (0x3E)								CONT RGB 2 (0xDD)							
	5	*2 (0x00)	*3 (0x00)	PHASE (0x2A)						PALTINT (0x96)							
	6	Checksum (LCD)															
Adjustment value of Touch panel	7	Outermost circumference X min (0x2A)								Outermost circumference Y min (0x33)							
	8	Outermost circumference X max (0xF7)								Outermost circumference Y max (0xEE)							
	9	Touch panel X coordinate 1 (0x00)								Touch panel Y coordinate 1 (0x04)							
	A	Touch panel X coordinate 2 (0x00)								Touch panel Y coordinate 2 (0x02)							
	B	Touch panel X coordinate 3 (0xFF)								Touch panel Y coordinate 3 (0x01)							
	C	Touch panel X coordinate 4 (0x00)								Touch panel Y coordinate 4 (0xFF)							
	D	Touch panel X coordinate 5 (0x01)								Touch panel Y coordinate 5 (0xFD)							
	E	Touch panel X coordinate 6 (0x01)								Touch panel Y coordinate 6 (0x00)							
	F	Touch panel X coordinate 7 (0x01)								Touch panel Y coordinate 7 (0x01)							
	10	Touch panel X coordinate 8 (0x01)								Touch panel Y coordinate 8 (0x04)							
	11	Touch panel X coordinate 9 (0x01)								Touch panel Y coordinate 9 (0x05)							
	12	Touch panel X coordinate 10 (0x01)								Touch panel Y coordinate 10 (0x02)							
	13	Touch panel X coordinate 11 (0x01)								Touch panel Y coordinate 11 (0x00)							
	14	Touch panel X coordinate 12 (0x01)								Touch panel Y coordinate 12 (0xFD)							
	15	Touch panel X coordinate 13 (0x02)								Touch panel Y coordinate 13 (0xFD)							
	16	Touch panel X coordinate 14 (0x02)								Touch panel Y coordinate 14 (0x00)							
	17	Touch panel X coordinate 15 (0x02)								Touch panel Y coordinate 15 (0x01)							
	18	Touch panel X coordinate 16 (0x02)								Touch panel Y coordinate 16 (0x04)							
	19	Line touch panel confirmation result (0x00)				Calibration adjustment result (0x00)				Touch panel outermost circumference adjustment result (0x00)							
	1A	Checksum (Touch panel)															
	1B	INPUT MODE (LCD IC) (0x00)								COM DC (Factory value) (0x01)							
Adjustment value of Touch panel (USER)	1C	Outermost circumference X min [USER] (0x00)								Outermost circumference Y min [USER] (0x00)							
	1D	Outermost circumference X max [USER] (0x00)								Outermost circumference Y max [USER] (0x00)							
	1E	Touch panel X coordinate 1 [USER] (0x00)								Touch panel Y coordinate 1 [USER] (0x00)							
	1F	Touch panel X coordinate 2 [USER] (0x00)								Touch panel Y coordinate 2 [USER] (0x00)							
	20	Touch panel X coordinate 3 [USER] (0x00)								Touch panel Y coordinate 3 [USER] (0x00)							
	21	Touch panel X coordinate 4 [USER] (0x00)								Touch panel Y coordinate 4 [USER] (0x00)							
	22	Touch panel X coordinate 5 [USER] (0x00)								Touch panel Y coordinate 5 [USER] (0x00)							
	23	Touch panel X coordinate 6 [USER] (0x00)								Touch panel Y coordinate 6 [USER] (0x00)							
	24	Touch panel X coordinate 7 [USER] (0x00)								Touch panel Y coordinate 7 [USER] (0x00)							
	25	Touch panel X coordinate 8 [USER] (0x00)								Touch panel Y coordinate 8 [USER] (0x00)							
	26	Touch panel X coordinate 9 [USER] (0x00)								Touch panel Y coordinate 9 [USER] (0x00)							
	27	Touch panel X coordinate 10 [USER] (0x00)								Touch panel Y coordinate 10 [USER] (0x00)							
	28	Touch panel X coordinate 11 [USER] (0x00)								Touch panel Y coordinate 11 [USER] (0x00)							
	29	Touch panel X coordinate 12 [USER] (0x00)								Touch panel Y coordinate 12 [USER] (0x00)							
	2A	Touch panel X coordinate 13 [USER] (0x00)								Touch panel Y coordinate 13 [USER] (0x00)							
	2B	Touch panel X coordinate 14 [USER] (0x00)								Touch panel Y coordinate 14 [USER] (0x00)							
	2C	Touch panel X coordinate 15 [USER] (0x00)								Touch panel Y coordinate 15 [USER] (0x00)							
	2D	Touch panel X coordinate 16 [USER] (0x00)								Touch panel Y coordinate 16 [USER] (0x00)							
	2E	Calibration adjustment result [USER] (0x00)								Touch panel outermost circumference adjustment result [USER] (0x00)							

	ADDRESS	Bit15	Bit14	Bit13	Bit12	Bit11	Bit10	Bit9	Bit8	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
RGB user preset	2F	USER1															
		ACT	RED					GREEN					BLUE				
		1	11111					00000					00000				
	30	USER2															
		ACT	RED					GREEN					BLUE				
		1	00000					11111					00000				
	31	USER3															
		ACT	RED					GREEN					BLUE				
		1	00000					00000					11111				
RGB preset	32	PRESET1 (Honda/White)															
		ACT	RED					GREEN					BLUE				
		1	11101					11101					11111				
	33	PRESET2 (Volvo/Light Green)															
		ACT	RED					GREEN					BLUE				
		1	00110					11100					00100				
	34	PRESET3 (Ford/Green)															
		ACT	RED					GREEN					BLUE				
		1	00100					11111					00010				
	35	PRESET4 (VW/Violet)															
		ACT	RED					GREEN					BLUE				
		1	00110					00110					11111				
	36	PRESET5 (Toyota/Blue)															
		ACT	RED					GREEN					BLUE				
		1	00000					00010					11111				
	37	PRESET6 (Nissan/Yellow)															
		ACT	RED					GREEN					BLUE				
		1	11111					11110					00000				
	38	PRESET7 (Peugeot/Orange)															
		ACT	RED					GREEN					BLUE				
		1	11111					00100					00000				
	39	PRESET8 (Audi/Red)															
		ACT	RED					GREEN					BLUE				
		1	11111					00001					00000				
	3A	Reservation 1															
		ACT	RED					GREEN					BLUE				
		0	11111					11111					11111				
	3B	Reservation 2															
		ACT	RED					GREEN					BLUE				
		0	11111					11111					11111				
	3C	Reservation 3															
		ACT	RED					GREEN					BLUE				
		0	11111					11111					11111				
	3D	Reservation 4															
		ACT	RED					GREEN					BLUE				
		0	11111					11111					11111				
	3E	Checksum (RGB Illumination)															
Adjustment of DOTCLK	3F	Don't care (0x00)							*4 (0x00)	Step value when DOTCLK is high temperature (0x00)				Step value when DOTCLK is low temperature (0x00)			

The value of ( ) is different according to the adjustment result of an individual product.

*1 : Flicker adjustment
*2 : PHASE adjustment
*3 : PALTINT adjustment
*4 : DOTCLK adjustment

6.6 PHASE ADJUSTMENT

[Operational specifications]

• If the monitor microcomputer is reset while the [PHTEST] terminal is set to Low, the system will proceed to [PHASE adjustment mode]. (You can get the same result by resetting, but it is not recommended as you will lose the user data.)

• The key operations under this test mode are as follows.

(1): Main body key

Key	Operation	Remarks
MENU	Upward search of selection item	If pressed when the cursor is pointing the top item in a page, the cursor will move to the lowest item.
MAP	Downward search of selection item	If pressed when the cursor is pointing the lowest item in a page, the cursor will move to the top item.
|<<	Adjustment value DOWN on the selected item	
>>|	Adjustment value UP on the selected item	

(2): Remote controller key (CXC6317 SW1 : AVH, SW2 : AVH)

Key	Operation	Remarks
↑	Upward search of selection item	If pressed when the cursor is pointing the lowest item in a page, the cursor will move to the top item.
↓	Downward search of selection item	If pressed when the cursor is pointing the top item in a page, the cursor will move to the lowest item.
←	Adjustment value UP on the selected item	
→	Adjustment value DOWN on the selected item	

• A method to cancel [PHASE adjustment mode] is described below.

ACC OFF → ON. (BUP OFF → ON will do too.)

* The preset value is first written in the EEPROM, then read out and displayed.
Writing and reading are made in 16 bits. Depending on the setting item, the number of bit may be different.

● PHASE adjustment mode

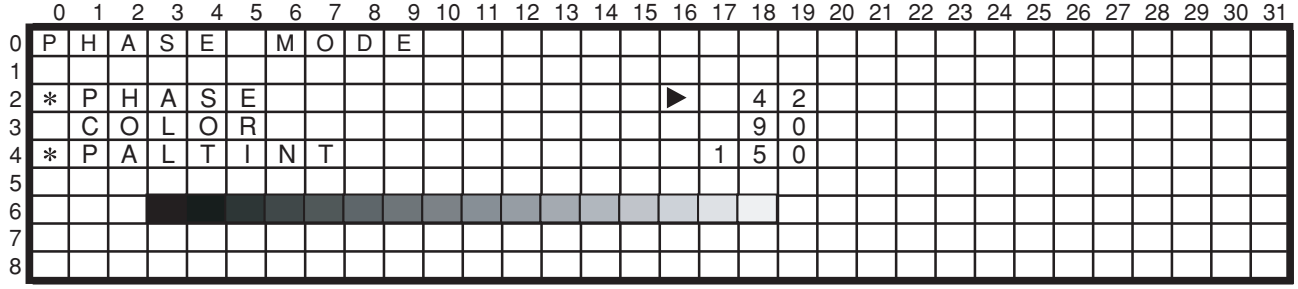
"*" is indicated if a value is adjusted regardless of the magnitude.

The specifications of the item adjusted on this page are as follows.

Adjustment item	Adjustment range	Adjustable name	Settings or written data (DEC)
VIDEO PAL demodulation	[0 to 63]	* PHASE	42
VIDEO color density	[0 to 255]	COLOR	90
VIDEO coloring (PAL)	[0 to 255]	* PALTINT	150
OSD color total display	—		—

"*" is indicated if a value is adjusted regardless of the magnitude.

The actual image of the OSD display screen is as follows.



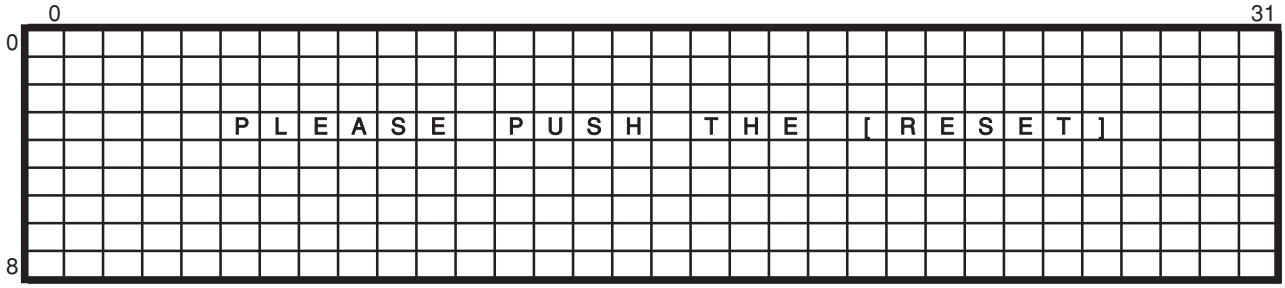
*) The above characters are displayed in black with white rim.
*) "▶" mark indicates the selected item (cursor).
*) There is no CS (check sum) display.

6.7 RGB ILLUMINATION ADJUSTMENT

[Operational specifications]

- **Method1**

If the monitor microcomputer is reset by double pressing of the SOURCE key + the [|<<] key, the following screen will be displayed on the OSD.



At this time, if the keys are pressed in the order of SOURCE → >>| → MENU → |<<, the system will proceed to the [RGB illumination test mode].

- **Method2**

If the monitor microcomputer is reset with the [ILMTEST] terminal set to Low, the system will proceed to the [RGB illumination test mode].
(You can get the same result by resetting, but it is not recommended as you will lose the user data.)
*) When the succession is made by the terminal, the OSD display screen below will not be displayed.

- The key operations under this test mode are as follows.

(1): Main body key

Key	Operation	Remarks
SOURCE	Page turning	The screen succeeds in the order of [RGB preset 1 setting mode] → [RGB preset 2 setting mode] → [RGB preset 11 setting mode] → [RGB preset 12 setting mode] → [RGB preset 1 setting mode].
MENU	Upward search of selection item	If pressed when the cursor is pointing the top item in a page, the cursor will move to the lowest item.
MAP	Downward search of selection item	If pressed when the cursor is pointing the lowest item in a page, the cursor will move to the top item.
|<<	Adjustment value DOWN on the selected item	In the case of ON/OFF setting item, set to OFF.
>>|	Adjustment value UP on the selected item	In the case of ON/OFF setting item, set to ON.

(2): Remote controller key (CXC6317 SW1 : AVH, SW2 : AVH)

Key	Operation	Remarks
MENU	Page turning	The screen succeeds in the order of [RGB preset 1 setting mode] → [RGB preset 2 setting mode] → [RGB preset 11 setting mode] → [RGB preset 12 setting mode] → [RGB preset 1 setting mode].
↑	Upward search of selection item	If pressed when the cursor is pointing the lowest item in a page, the cursor will move to the top item.
↓	Downward search of selection item	If pressed when the cursor is pointing the top item in a page, the cursor will move to the lowest item.
←	Adjustment value UP on the selected item	In the case of ON/OFF setting item, set to OFF.
→	Adjustment value DOWN on the selected item	In the case of ON/OFF setting item, set to ON.

- A method to cancel [RGB illumination test mode] is described below.
ACC OFF → ON. (BUP OFF → ON will do too.)

*) The preset value is first written in the EEPROM, then read out and displayed.

● RGB illumination test mode

The specifications of the items adjustable on each preset page are as follows.

Adjustment item	Adjustment range	Adjustable name	Settings or written data (DEC)
Setting of USED/UNUSED	ON/OFF	ACTIVITY	ON
RED adjustment value	[0 to 31]	RED	29
GREEN adjustment value	[0 to 31]	GREEN	29
BLUE adjustment value	[0 to 31]	BLUE	31

The actual image of the OSD display screen is as follows. (Preset 1 display screen is shown as an example.)

```
   0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
0  R G B   I L M   M O D E
1
2    P R E S E T _ 0 1
3
4          A C T I V I T Y        ▶ O N
5          R E D                    2 9
6          G R E E N                2 9
7          B L U E                  3 1
8
```

*) The above characters are displayed in black with white rim.
*) "▶" mark indicates the selected item (cursor).
*) The above display screen is common to all preset screens except that the preset number changes.

Note 1: When changed, writing into the E2PROM is done for each preset unit.

Default setting value

PRESET Number	ACTIVITY	RED	GREEN	BLUE	Remarks
PRESET_01	ON	29	29	31	White
PRESET_02	ON	6	28	4	Light Green
PRESET_03	ON	4	31	2	Green
PRESET_04	ON	6	6	31	Violet
PRESET_05	ON	0	2	31	Blue
PRESET_06	ON	31	30	0	Yellow
PRESET_07	ON	31	4	0	Orange
PRESET_08	ON	31	1	0	Red
PRESET_09	OFF	31	31	31	N/A
PRESET_10	OFF	31	31	31	N/A
PRESET_11	OFF	31	31	31	N/A
PRESET_12	OFF	31	31	31	N/A

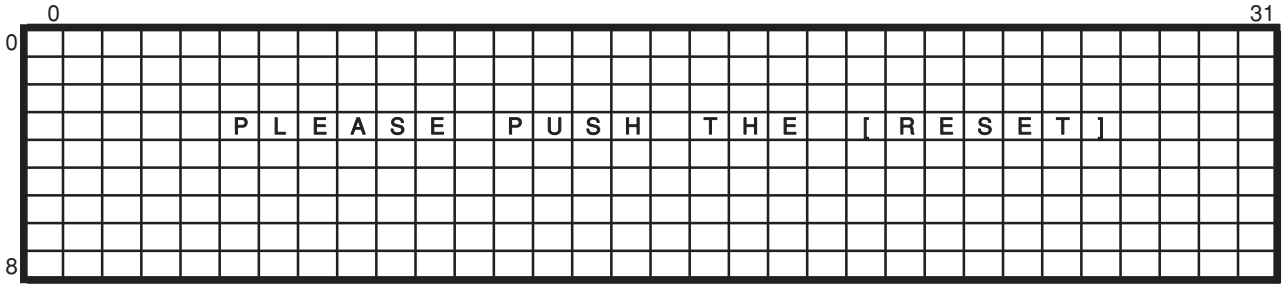
6.8 TOUCH PANEL TEST MODE

[Operational specifications]

• After replacing the LCD Module or Monitor Unit.
"1. TP EFFECTIVE RANGE" and "4. LINE TOUCH PANEL" must be performed.
If "4. LINE TOUCH PANEL" is failed, "2. CALIBRATION" must be performed.

• Method1

If the monitor microcomputer is reset by double pressing of the SOURCE key + the [|<<] key, the following screen will be displayed on the OSD.



At this time, if the keys are pressed in the order of MAP → SOURCE → >>| → MENU, the system will proceed to the [touch panel test mode].

• Method2

If the monitor microcomputer is reset with the [TPTEST] terminal set to Low, the system will proceed to the [touch panel test mode]. (You can get the same result by resetting, but it is not recommended as you will lose the user data.)

*) When the succession is made by the terminal, the OSD display screen below will not be displayed.

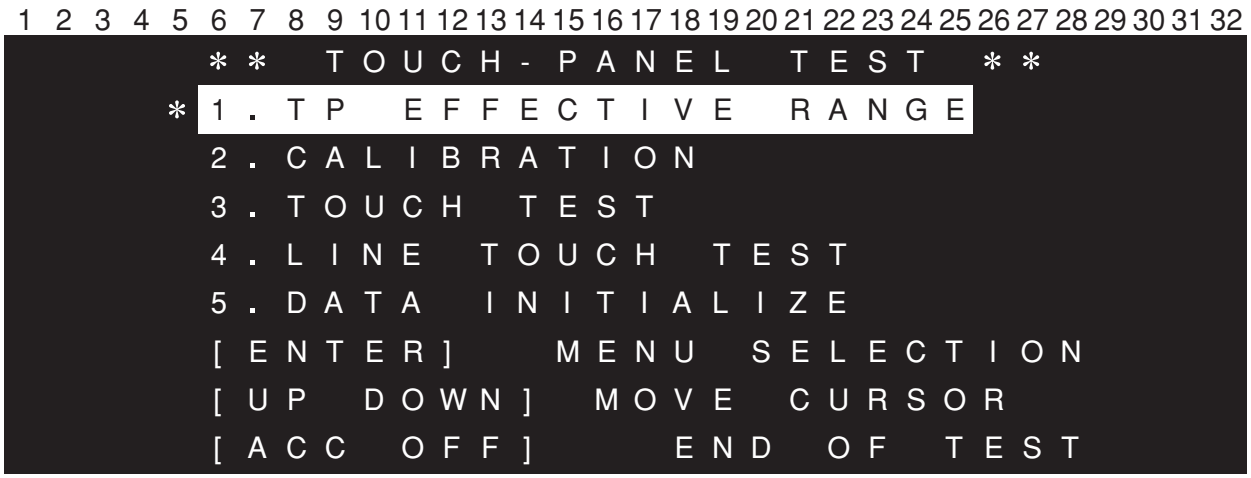
• Key Operation

Main body key	Remote controller key	Operation
SOURCE	MENU	Select item
MENU	↑	Upward the cursor
MAP	↓	Downward the cursor

*) Remote controller : CXC6317 (SW1:AVH, SW2: AVH)

● MAIN MENU

Screen configuration
Select each item of the touch panel test mode.



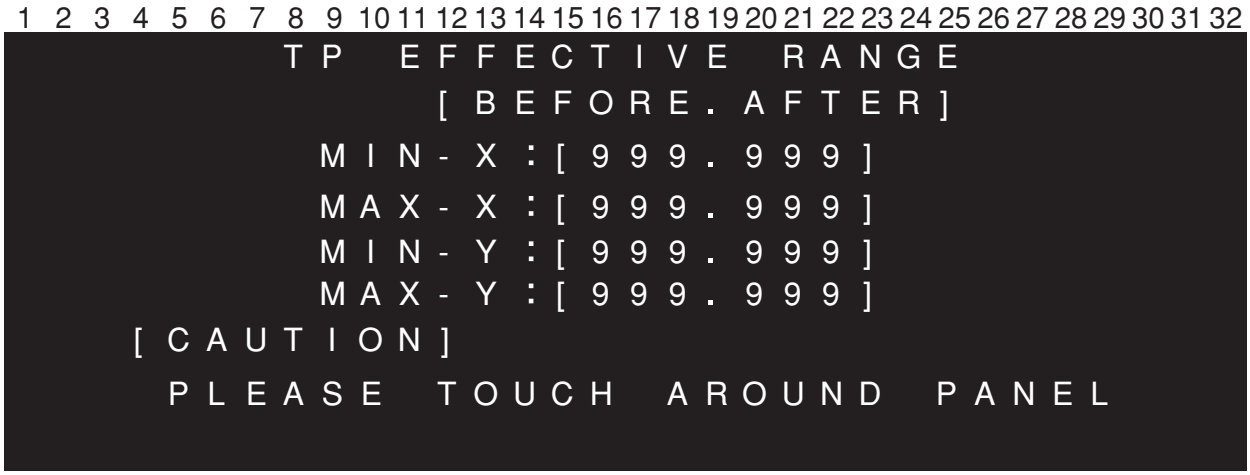
• Conditions for the adjusted mark (✻) to light on.
1. TP EFFECTIVE RANGE
→When the outermost circumference adjustment has been completed correctly.
2. CALIBRATION
→When the calibration has been completed correctly.
→When the line touch panel test has been completed correctly.
*) If one of the above conditions is met, the light will turn on.
4. LINE TOUCH TEST
→When the line touch panel test has been completed correctly.

• Conditions for the adjusted mark (✻) to go out.
1. TP EFFECTIVE RANGE
→If the outermost circumference adjustment has never been made.
→When the EEPROM initialization is made.
→When the outermost circumference adjustment value initialization is made in the initialization menu.
→When the outermost circumference adjustment has failed.
2. CALIBRATION
→If the calibration adjustment has never been conducted.
→When the EEPROM initialization is made.
→When the calibration adjustment value initialization is made in the initialization menu.
→When the calibration adjustment has failed.
→When the line touch panel verification has failed.
4. LINE TOUCH TEST
→If the line touch panel verification has never been conducted.
→When the EEPROM initialization is made.
→When the calibration adjustment value initialization is made in the initialization menu.
→When the line touch panel verification has failed.

● TP EFFECTIVE RANGE

Screen configuration

Trace the white line displayed on the each four corner of touch panel with a soft stick(ex. wooden toothpick), and the setting values are saved in the EEPROM.



Operational specifications

Touch on the touch panel, and check the outermost circumference.
OK (NG) is displayed in the screen center by the SOURCE key, and 2 seconds later, the screen will return to the top MENU.

Details of the process

After pressing the SOURCE key, the setting values are judged.
If the value is within the allowable range, the upper limit and the lower limit of the setting value and the normal ending information are saved in the EEPROM and OK is displayed. After 2 seconds, the screen will return to the top MENU.
If the setting value is outside of the range, the upper limit and the lower limit values are not saved in the EEPROM, NG ending information is saved and NG is displayed. After 2 seconds, the screen will return to the top MENU.
The initial values and the setting value allowable range are as shown below.

[The list of AFTER initial value]

Coordinate	Minimum value	Maximum value
X	126	161
Y	126	161

[The list of initial setting value at the time of EEPROM reset]

Coordinate	Minimum value	Maximum value
X	42	247
Y	51	238

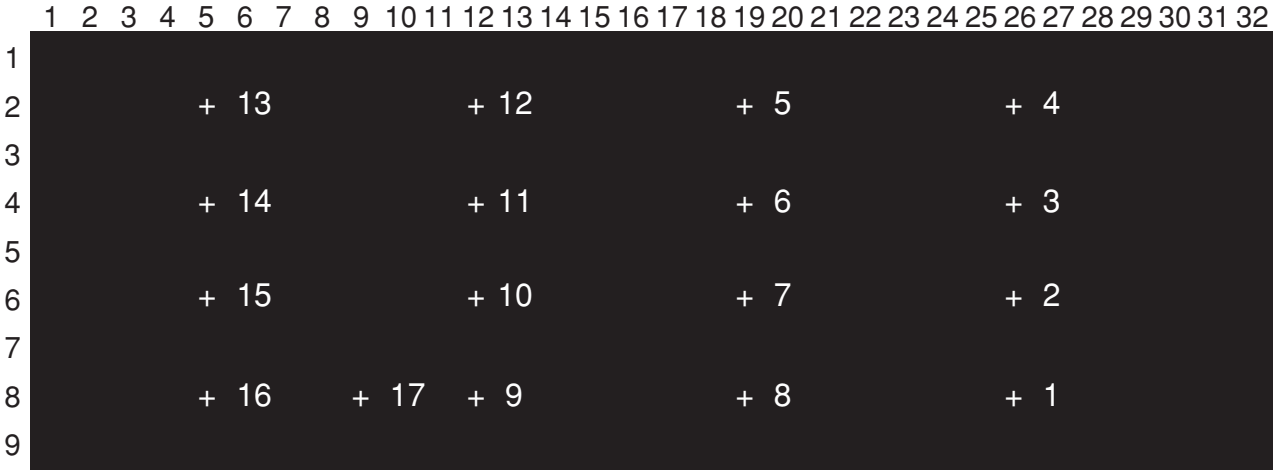
[The list of AFTER setting allowable range]

Coordinate	Minimum value	Maximum value
X	0 to 125	162 to 255
Y	0 to 125	162 to 255

● CALIBRATION

Outline

Press “+” cursors on the screen one by one for calibration, and the setting values are saved in the EEPROM.



*) The numbers above indicate the order of the cursors being displayed.

Operational specifications

Press the cursors displayed at 16 locations on the screen one by one for calibration, and the process will be completed by pressing the last cursor (total 17 locations).

After the 17th location has been displayed, “FINISHED” will be displayed in the center of the screen. After 2 seconds, the screen will return to the top MENU.

The cursor is displayed only one at a time, and the next cursor will be displayed when the previous one has been pressed correctly.

If the SOURCE key is pressed before pressing 17 locations, NG will be displayed, and after 2 seconds, the screen will return to the top MENU.

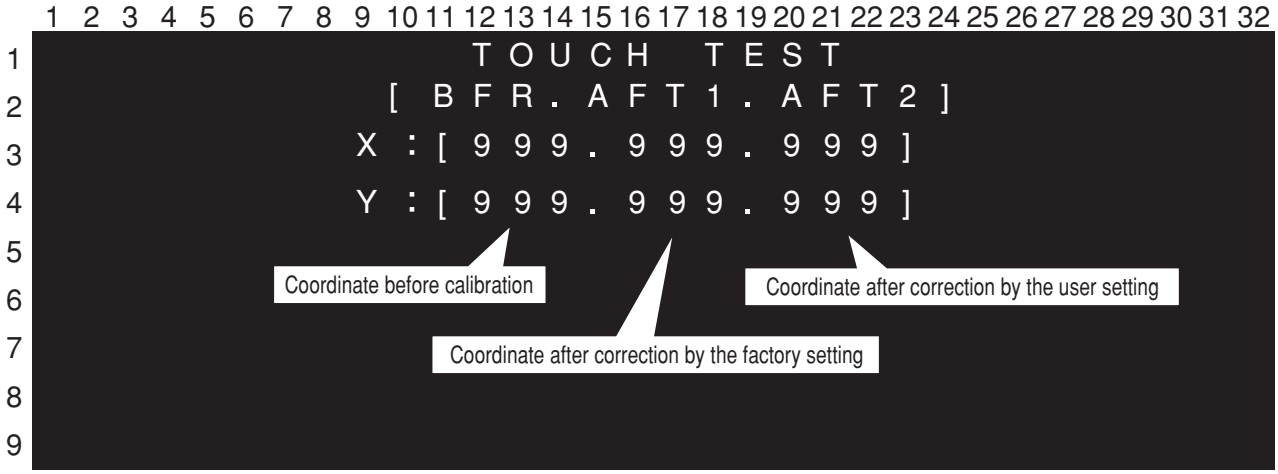
Details of the process

When the 17th location is pressed, the setting values and normal ending information are saved in the EEPROM, and “FINISHED” will be displayed.

If the SOURCE key is pressed during the process and the inspection is finished, the EEPROM will save the NG ending information, and “NG” is displayed.

● TOUCH TEST

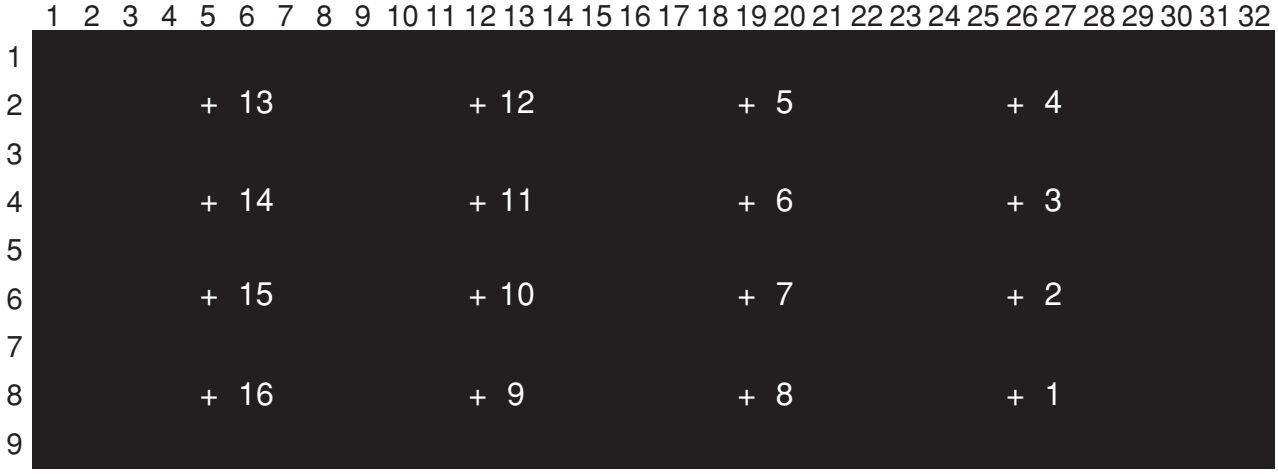
Screen configuration
The coordinate before correction and after correction at the time of the touch panel pressing are displayed to verify the operation.



Operational specifications
Touch the touch panel to display the coordinate. Verify the coordinate before correction and the coordinate after correction by the factory setting. Return to the top MENU by pressing the SOURCE key.

● LINE TOUCH TEST

Outline
Press the "+" cursors on the screen one by one to judge OK/NG of the touch panel.

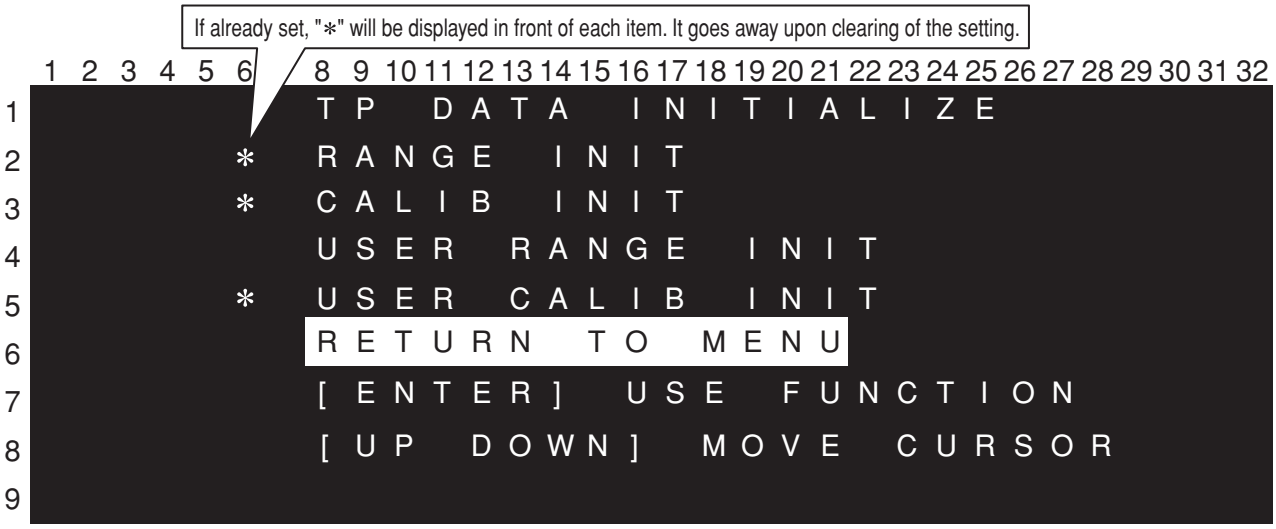


*) The above numbers indicate the order that the cursors are displayed.

Operational specifications
Press the cursors displayed at 16 locations on the screen one by one for inspection.
After the 16th location has been displayed, "OK" will be displayed in the center of the screen. After 2 seconds, the screen will return to the top MENU.
The cursor is displayed only one at a time, and the next cursor will be displayed when the previous one has been pressed correctly.
If not pressed correctly (if not within the OK range), "OUTSIDE OF THE RANGE" will be displayed.
If the SOURCE key is pressed before pressing 16 locations, NG will be displayed, and after 2 seconds, the screen will return to the top MENU.

● TP DATA INITIALIZE

Screen configuration
Outermost circumference and 16 point calibration data are returned to the initial value.



The functions by the items selected are as follows.

RANGE INIT	The factory preset outermost circumference setting is initialized.
CALIB INIT	The factory preset calibration is initialized.
USER RANGE INIT	The user preset outermost circumference setting is initialized. By this action, the factory preset outermost circumference setting is used.
USER CALIB INIT	The user preset calibration setting is initialized. By this action, the factory preset outermost circumference setting is used.

• Conditions for the adjusted mark (∗) to light on.
RANGE INIT
→The same condition as the item for outermost circumference adjustment in the top MENU.
CALIB INIT
→The same condition as the item for line touch panel verification in the top MENU.
USER RANGE INIT
→In case the user outermost circumference adjustment made a normal ending.
USER CALIB INIT
→In case the user calibration made a normal ending.

• Conditions for the adjusted mark (∗) to go out.
RANGE INIT
→The same condition as the item for outermost circumference adjustment in the top MENU.
CALIB INIT
→The same condition as the item for line touch panel verification in the top MENU.
USER RANGE INIT
→In case the user outermost circumference adjustment has never been conducted.
→When the EEPROM initialization is made.
→In case the user outermost circumference adjustment value initialization was conducted in the initialization menu.
→In case the outermost circumference adjustment made a normal ending.
→In case the calibration adjustment made a normal ending.
USER CALIB INIT
→In case the user calibration adjustment has never been conducted.
→When the EEPROM initialization is made.
→In case the user calibration adjustment value initialization was conducted in the initialization menu.
→In case the outermost circumference adjustment made a normal ending.
→In case the calibration adjustment made a normal ending.

Operational specifications
Select each item by the MENU key and the MAP key.
The function of the item selected by the SOURCE key is executed.
When “RETURN TO MENU” is executed, the screen will return to the top MENU.

6.9 NAVIGATION TEST MODE

1. Key operation

Use the remote controller for operation. (Part No. : CXC6317 (Operation mode switch : SW1 : AVH, SW2 : DVD))

Basic operation method in the remote controller.

- [↑] (The cursor is moved up) ..... [2] key
- [↓] (The cursor is moved down) ..... [8] key
- [←] (The cursor is moved left) ..... [4] key
- [→] (The cursor is moved right) ..... [6] key
- [OK], [ENTER] ..... [5] key
- [BACK] ..... [C] key
- [NAVI] ..... [7] key
- [MENU] ..... [0] key

2. How to start the test mode

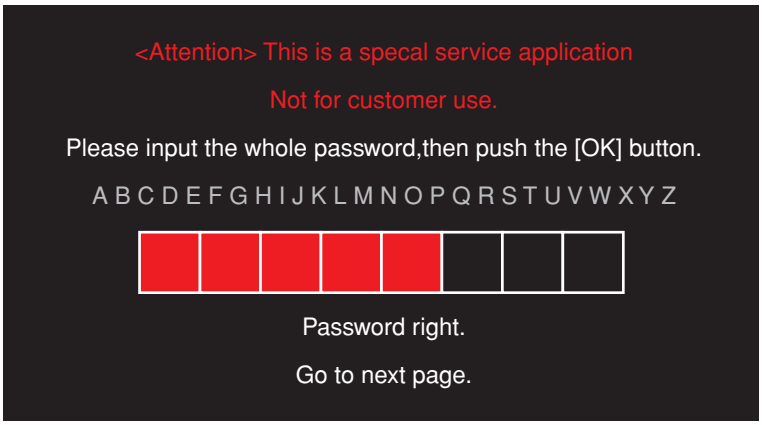
1. When +Battery and ACC are ON, push RESET and EJECT buttons simultaneously.
2. Release RESET button only.
3. When “password entry screen” is displayed, release EJECT button.
4. Enter the password.
5. When the password has been entered, press [ENTER] key.
6. If the correct password has been entered, the test mode menu will be displayed.

* The password entry screen, as the one used in the previous model, is no longer displayed.

<< Password for the service >>
[8]→[1]→[8]→[3]→[7]→[2]→[0]→[8].
If 8 digits or more are entered and [ENTER] key is pressed, it will be treated as a password error.

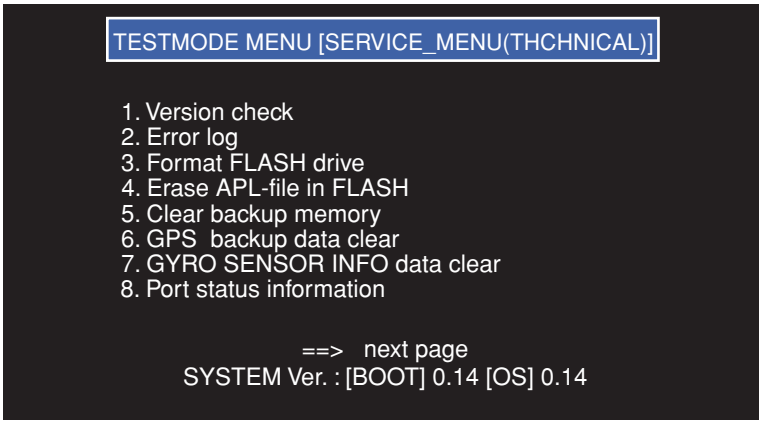
- Password entry screen

- Password OK : After 2 seconds or so, the screen will automatically move on to the menu screen.

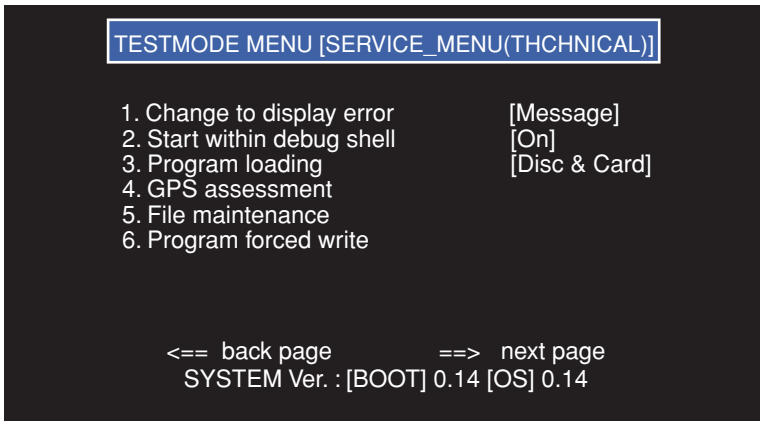


- Password NG : Nothing will be displayed, and reboot action will be taken.

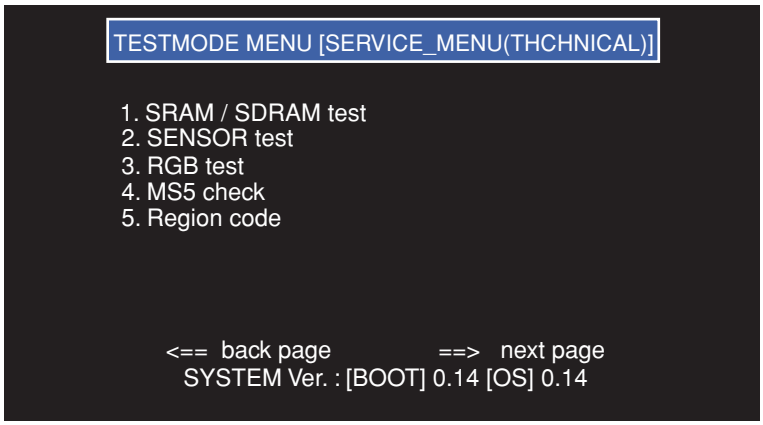
3. Test mode menu



No.	Inspection item	Outline of inspection	Content if inspection
1	Version check	Version information check	Display of various version information. (system software, GPS, system microprocessor, microprocessor for mechanism control, microprocessor for timer). The screen will return to “menu” by BACK key.
2	ERROR log	Error history entry	History of system software errors stored in SRAM is displayed. Maximum 8 events from the error last occurred can be displayed. The screen will return to “menu” by BACK key.
3	Format FLASH drive	FLASH format	FLASH domain used by the system soft is initialized. When the job is done, the screen will return to “menu”.
4	Erase APL-file in FLASH	Application file inside FLASH is clear	Application file inside FLASH is clear. *(Except voice data and SRAM backup variable) When the job is done, the screen will return to “menu”.
5	Clear backup memory	Back up variables initialization	SRAM domain used by the system software is initialized. When the job is done, reboot action will be taken.
6	GPS backup data clear	GPS back up data clear	SRAM domain used by GPS is initialized. When the job is done, the screen will return to “menu”.
7	GYRO SENSOR INFO data clear	Learned data inside gyro sensor is clear	Learned data inside gyro sensor is cleared. When the job is done, the screen will return to “menu”.
8	Port status information	Port status display	Port status is displayed. (reverse, parking, pulse, SDRAM capacity.)



No.	Inspection item	Outline of inspection	Content if inspection		
1	Change to display error	Switching of error information display	Display setting for error cases. (for debugging) Message/Information (error information) selectable.		
2	Start within debug shell	Switching of debug shell start	Setting for debug shell start. (for debugging) Off (no initial start)/On (initial start) selectable.		
3	Program loading	Switching of program loading	Recognition method for boot up program write is changed.		
			Disc (default)	System program	Write when the version No. in the disc is higher.
				System data	Write when the version No. in the disc is higher.
				GPS program	Write when the version No. in the disc is higher.
				Application program	Write when the version information is different from the one in disc.
			Disc & Card (for debug)	System program	Write when the version No. in disc or card is higher.
				System data	Write when the version No. in disc or card is higher.
				GPS program	Write when the version No. in disc or card is higher.
				Application program	Write when the version No. in disc or card is higher.
4	GPS assessment	GPS assessment system start	GPS assessment system can be used. The system will return to “menu” by BACK key.		
5	File maintenance	File maintenance function	File maintenance operations are made. Formatting of SRAM drive and PC card (ATA Flash Card) are made. SRAM data is retrieved and copied to PC card. Data retrieved from SRAM is copied to SRAM from PC card.		
6	Program forced write	Program forced write	Rewriting of SYS (system), GPS (GPS) and APL (application) software are done by force. (Joystick is used) The system will return to “menu” by BACK key.		



No.	Inspection item	Outline of inspection	Content if inspection
1	SRAM/SDRAM test	Memory inspection	SRAM : Device inspection and bus inspection are performed against all SRAM domains. Data will be protected. (applicable to both 32M and 64M) SDRAM : Device inspection and bus inspection are performed against all SDRAM domains. Data will be protected for both BIOS domain and USER domain. The function for SDRAM all domain inspection will activate by the built-in instruction RAM.
2	SENSOR test	Sensor inspection	G sensor, gyro, power supply voltage and installation condition are displayed. The system will return to “menu” by BACK key.
3	RGB test	Image RGB inspection	RGB inspection (Upper half, 8 colors. Black/blue/red/pink/green/light blue/yellow/white display. Lower half, 3 colors. Red/green/blue.) → red (FULL) → green (FULL) → blue (FULL) Switching can be made by [←] and [→] keys. The system will return to “menu” by BACK key.
4	MS5 check	MS5 check	MS5 mechanism test mode inspection.
5	Region code	Region code display	Region code display.

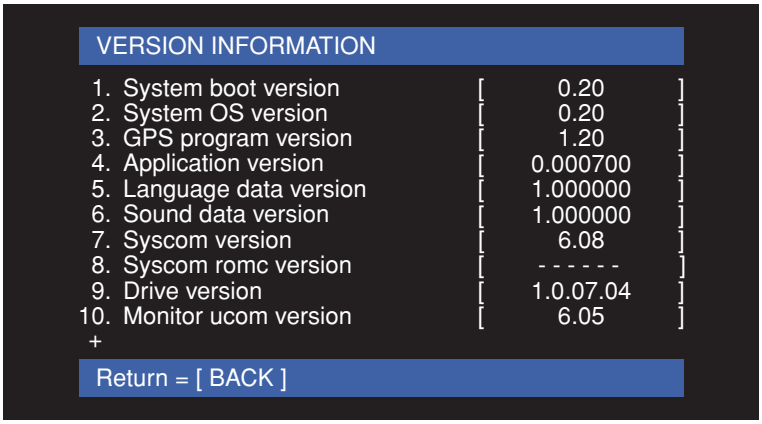
4. How to select test mode menu

Select a desired menu by [↑] and [↓] keys, and execute by pressing [ENTER] key.
Pages can be changed by [←] and [→] keys.

5. Version information

Version No. for BOOT section = X.XX System software does not exist in SDRAM.
Version No. for BOOT section = X.XX Version No. for SDRAM = Y.YY

● Version check



	Item	Content	Information display	File name
1	System boot version	The version information of the system software boot section (FLASH) is displayed.	[**.**]→The version information of the system software boot section.	EW070BOT.PRG UC070BOT.PRG
2	System OS version	The version information of the system software OS section (FLASH) is displayed.	[**.**]→The version information of the system software OS section. [NG]→There is no system program.	EW070SYS.PRG UC070SYS.PRG
3	GPS program version	The version information of the GPS program (DRAGON) is displayed.	[**.**]→The version information of the GPS program. [NG]→There is no GPS program.	EW070GPS.PRG UC070GPS.PRG
4	Application version	The version information of the application program (FLASH) is displayed.	[**.**]→The version information of the application program. [NG]→There is no application program.	EU070APL.PRG
5	Language data version	The version information of the data by language (FLASH) is displayed.	[**.**]→The version information of the data by language. [NG]→There is no data by language.	EW070DAT.xxx (xxx: Extension is determined for each language. GBR, DEU, FRA, ITA, NLD, ESP, SWE, DNK.) UC070DAT.yyy (yyy: Extension is determined for each language. USA, FRA, ESP.)
6	Sound data version	The version information of the sound data by language (FLASH) is displayed.	[**.**]→The version information of the sound data by language. [NG]→There is no sound data by language.	EW070SDF.xxx (xxx: Extension is determined for each language. GBR, DEU, FRA, ITA, NLD, ESP, SWE, DNK BEL.) UC070SDF.yyy (yyy: Extension is determined for each language. USA, FRA, ESP.)
7	Syscom version	The version information of the system microcomputer is displayed.	[**.**]→The version information of the system microcomputer. [NG]→The communication with the system microcomputer is not established.	
8	Syscom romc version	The ROM Correction version information of the system microcomputer is displayed.	[**.**]→The ROM Correction version information of the system microcomputer. [-----]→There is no ROM Correction attached.	
9	Drive version	The core version information of the mechanism microcomputer is displayed.	[**.**]→The core version information of the mechanism microcomputer. [NG]→The communication with the mechanism microcomputer is not established. [-----]→The region of the mechanism is different.	
10	Monitor ucom version	The version information of the monitor microcomputer is displayed.	[**.**]→ The version information of the monitor microcomputer. [NG]→ The communication with the monitor microcomputer is not established.	
11	Monitor ucom romc version	The ROM Correction version information of the monitor microcomputer is displayed.	[**.**]→The ROM Correction version information of the monitor microcomputer. [------]→There is no ROM Correction attached.	
12	System program	The system software file is displayed.	[EW070SYS.PRG]→System software file for EW. [UC070SYS.PRG]→ System software file for UC. [NG]→There is no system software file.	
13	Application language	The data file by language is displayed.	[EW070DAT.xxx]→ Data file by language for EW. [UC070DAT.yyy]→ Data file by language for UC. [NG]→There is no data by language.	EW070DAT.xxx (xxx: Extension is determined for each language. GBR, DEU, FRA, ITA, NLD, ESP, SWE, DNK.) UC070DAT.yyy (yyy: Extension is determined for each language. USA, FRA, ESP.)
14	Sound data language	The sound data file by language is displayed	[EW070SDF.xxx]→ Sound data file by language for EW. [UC070SDF.yyy]→ Sound data file by language for UC. [NG]→There is no sound data by language.	EW070SDF.xxx (xxx: Extension is determined for each language. GBR, DEU, FRA, ITA, NLD, ESP, SWE, DNK. BEL) UC070SDF.yyy (yyy: Extension is determined for each language. USA, FRA, ESP.)

● 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.
3. Reset activated by the Watch Dog Timer function. This occurs when the program ceases to function properly.

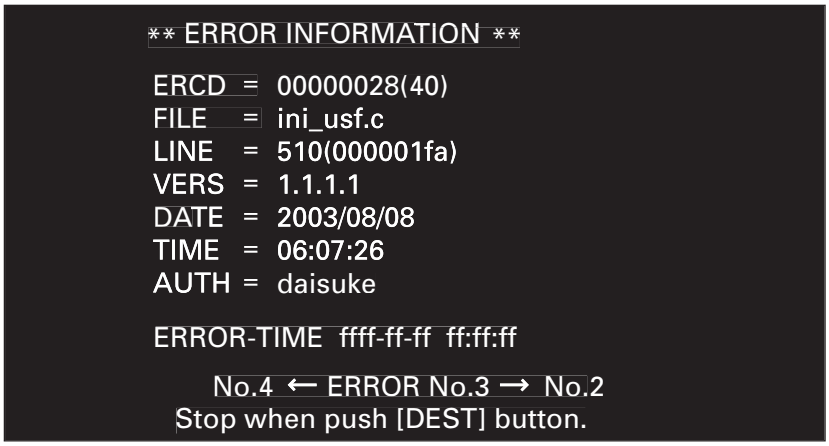
2. Error Log's Entry Function

Up to twenty-four 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.

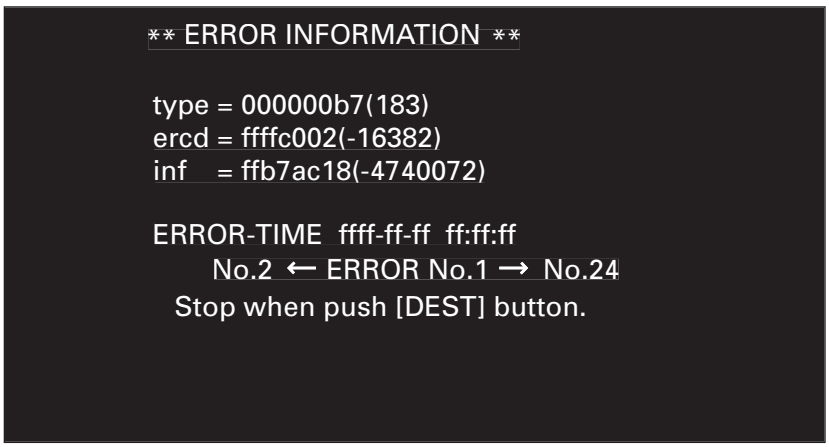
The display will vary when the argument provided to hi_sysdwn( ), depending on whether detailed information (such as program name, version number, creation date, creation time and creator name) exists or not.

1. When detailed information exists:



ERCD	Error Code (If the FILE column is "int_wdt.c", ID of the task in operation is displayed when the last 4 digits are reset)
FILE	Name of the program where the error occurred (In case of "int_wdt.c", it shows that reset is activated by the Watch Dog Timer. In this case, ERCD shows other information than error information).
LINE	Program line number where the error occurred
VERS	Version number of the program where the error occurred
DATE	Date of creation of the program where the error occurred
TIME	Time of creation of the program where the error occurred
AUTH	Creator of the program where the error occurred
ERROR - TIME	Time of error occurrence

2. When detailed information does not exist:



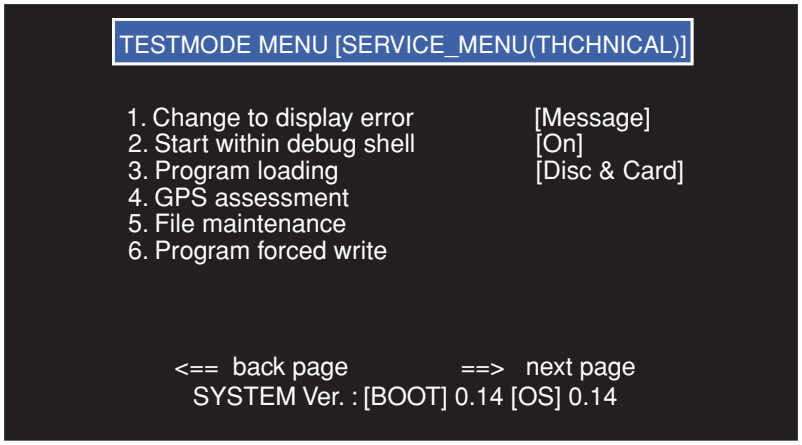
type	Error occurring program line number.
ercd	Error code.
inf	System down information.
ERROR-TIME	Error occurrence date and time.

3. Error Information Switch

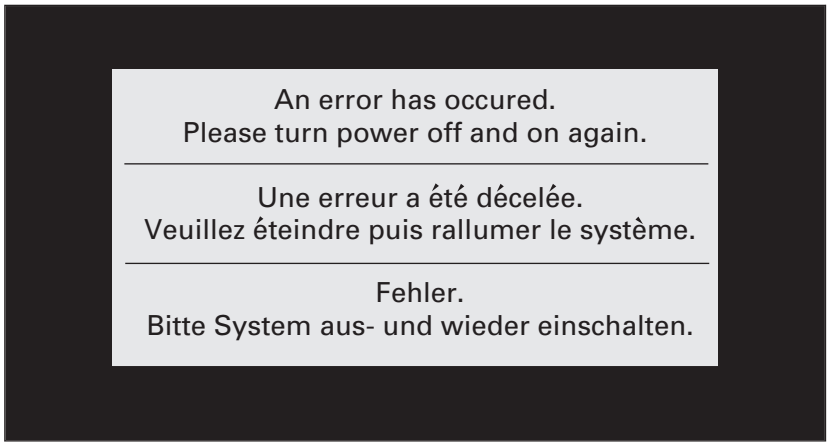
The product (with default settings) will display error messages to the user if an error occurs.
Error information can be displayed if an error occurs by switching the error information in the test mode.
In either case, the error log entry display will be the same.

1) Error message display (default settings):

• Setting in the test mode:

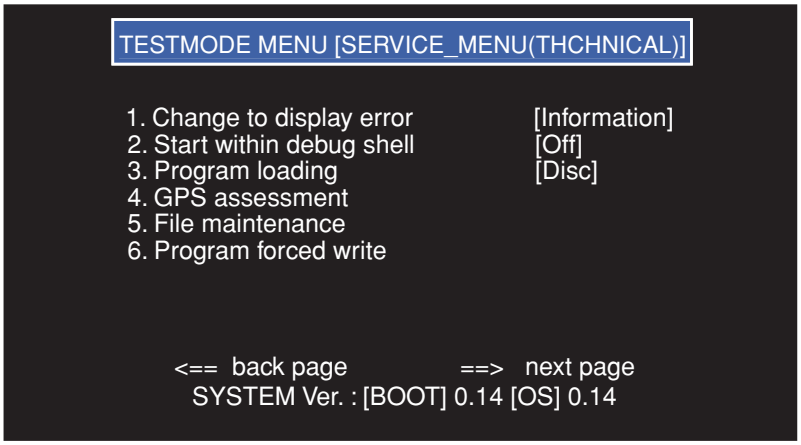


• Display when an error occurs:



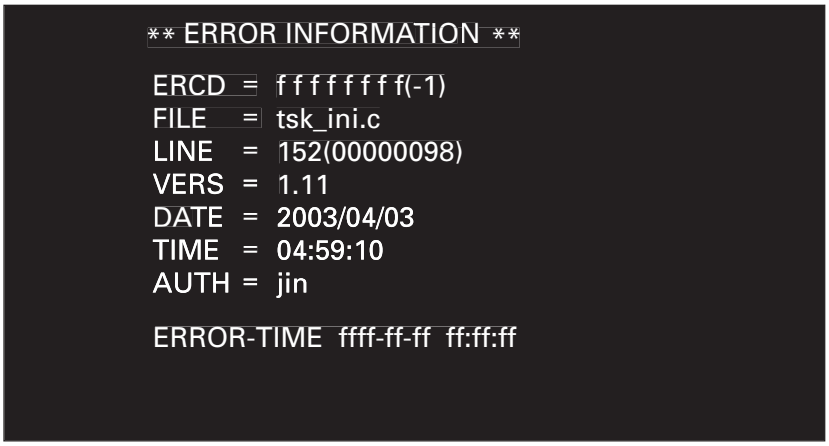
2) Error information display

• Settings in the test mode:

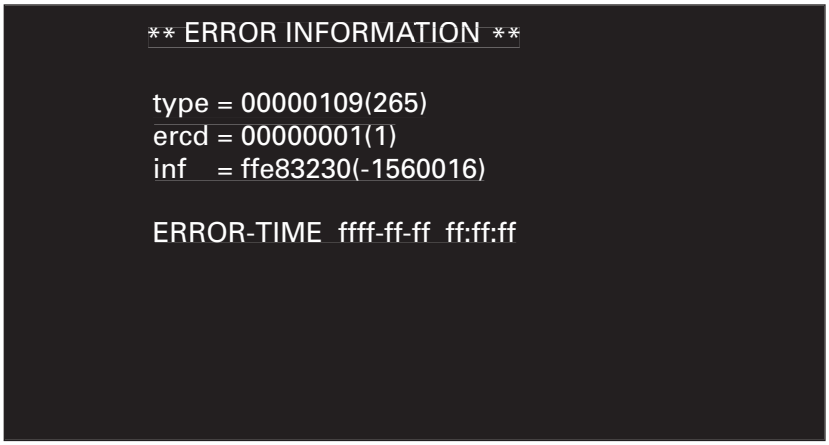


Display when an error occurs:

• If error information exists:



• If error information does not exist:



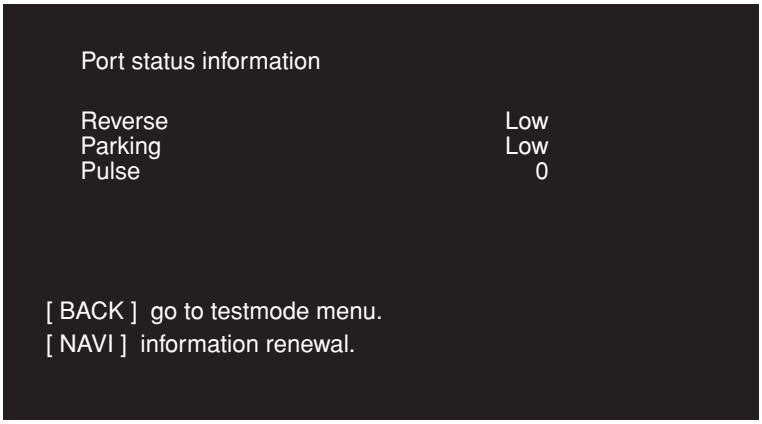
4. Watch dog timer

This product has a built-in mechanism to monitor at a certain interval whether the software is correctly operating or not.

Once this mechanism becomes inoperable, “reset request” will be sent to the power supply microprocessor when a preset time (approximately 4 seconds) has elapsed.

In order to record operational situation of such an occasion, a special code which is not an error code is recorded in the ERCD.

● Port status information

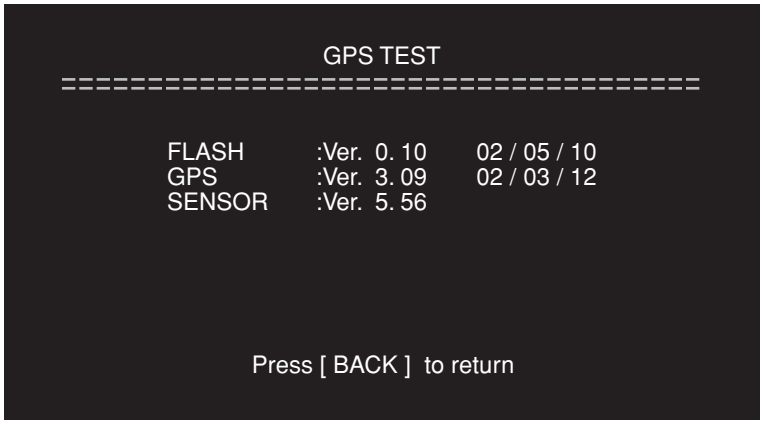


Display	Content of inspection
Reverse	Reverse port status
Parking	Parking port status
Pulse	Pulse status

The pulse number of vehicle speed is indicated at 1/5 value of input frequency for vehicle speed signal.
For example, when vehicle speed signal is 100Hz, the value becomes 20.

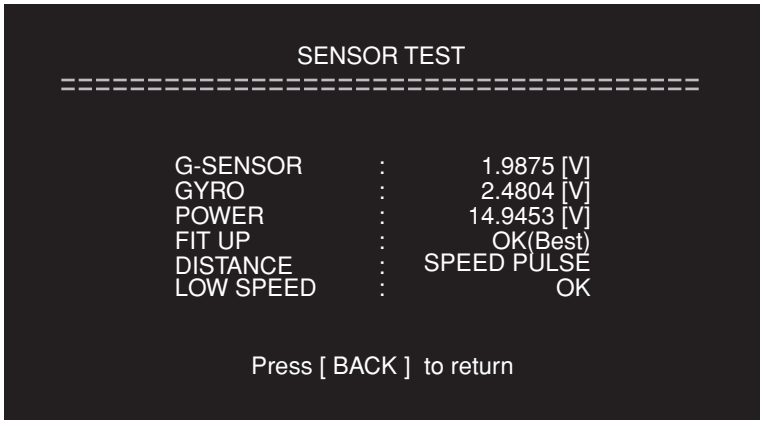
How to operate.
[BACK] : Return to the test mode menu.
[NAVI] : Update of the port status.

● GPS assessment



FLASH	Display of DRAGON FLASH ROM version information.
GPS	Display of GPS version information.
SENSOR	Display of sensor version information.

● SENSOR test



G-SENSOR	Display of G sensor voltage		
GYRO	Display of gyro voltage		
POWER	Display of power supply voltage		
FIT UP	Display of installation status		
	Display	Status	
	• NG	Installation position is NG.	
	• OK	Installation position is OK. (3rd best)	
	• OK (Better)	Installation position is OK. (2nd best)	
	• OK (Best)	Installation position is OK. (Best)	
DISTANCE	Display of distance calculation status.		
	Display	Status	
	• INITIALIZE	Sensor initial learning is under way.	
	• GPS	GPS distance. (Model without G sensor. No pulse connection.)	
	• G-SENSOR	G sensor distance. (simple hybrid.)	
	• ND-PG1	ND-PG1 distance.	
	• SPEED PULSE	Vehicle speed pulse distance.	
LOW SPEED	Display of minimum output speed of a low speed NG vehicle. (Depends on DISTANCE status.)		
	DISTANCE status	SPEED PULSE status	Display
	SPEED PULSE	Low vehicle speed pulse learning is under way.	CHECK
		Low vehicle speed pulse is OK.	OK
		Low vehicle speed is NG.	NG xx[km/h]
	Others		- - - - -

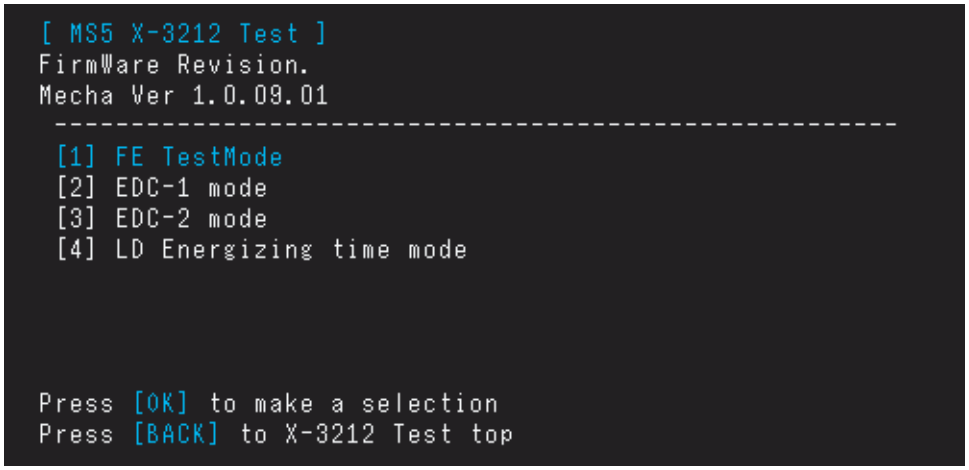
● MS5 check (DVD Mechanism Module test mode)

*) Caution
During the servo test, the protection against runaway of the mechanism will not be effective. If the runaway state is left as it is, it may cause a critical damage. When a strange sound is heard during test, turn the power OFF immediately.

The keys used

[OK]	decision key
[BACK]	return key
[Direction key]	up, down, left and right of the joystick

[MS5 X-3212 Test] Initial screen of the test mode



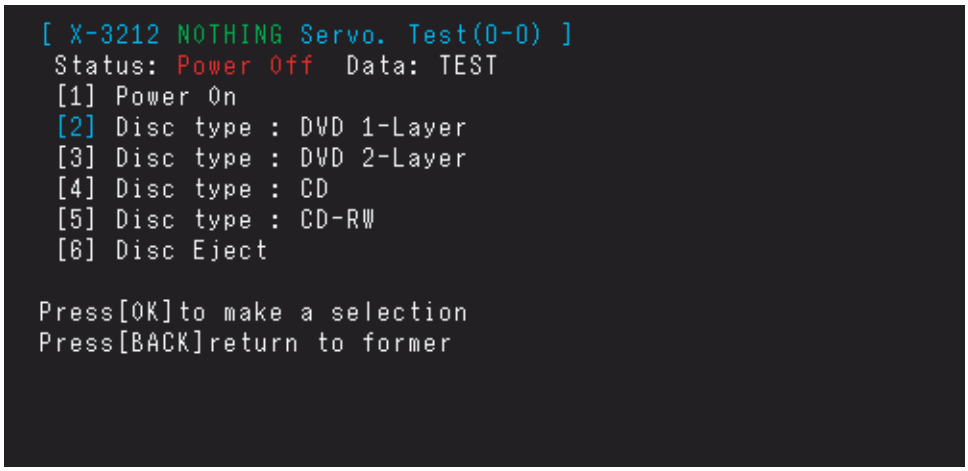
Mecha Ver: Software version of the MS5 mechanism.

[1]	Start of FE test
[2]	Start of EDC-1 test
[3]	Start of EDC-2 test
[4]	Start of LD energizing time mode
[OK]	Execute
[BACK]	Exit from X-3212 test mode

FE test operational specifications

*) Caution
During the servo test, the protection against runaway of the mechanism will not be effective. If the runaway state is left as it is, it may cause a critical damage. When a strange sound is heard during test, turn the power OFF immediately.
When E is displayed at the head digit of the data, operation other than [BACK] is not possible.

1. [X-3212 Servo Test]: The screen in the power off state.

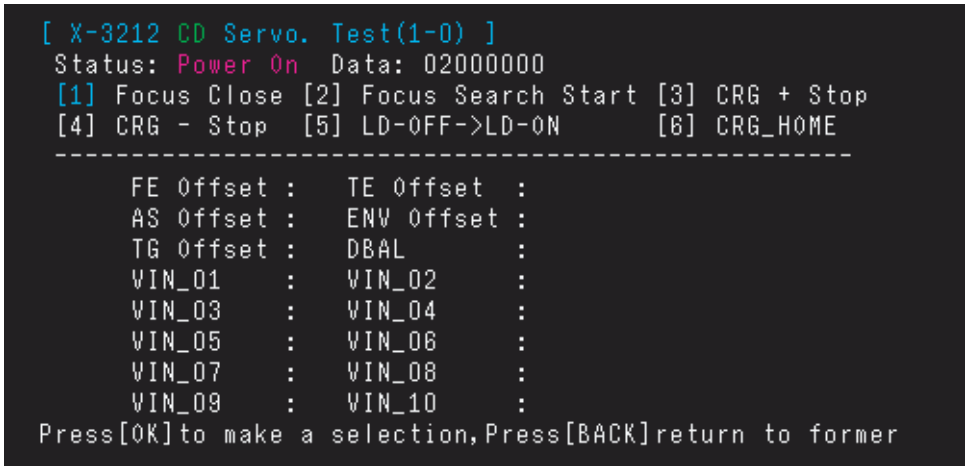


- NOTHING is changed by selecting [2] to [5] below.
- Each display is changed to the compatible media type.
- Status is unchanged at Power Off.
- The value of the data changes according to the executed command.

Note) [1] cannot be selected for execution unless one of the commands among [2] to [5] is executed once.

[1] Succeeds to Power On state.
[2] Specify DVD layer 1
[3] Specify DVD layer 2
[4] Specify CD
[5] Specify CD-RW
[6] Eject Disc
[OK] Execute
[BACK] Exit from X-3212 test mode

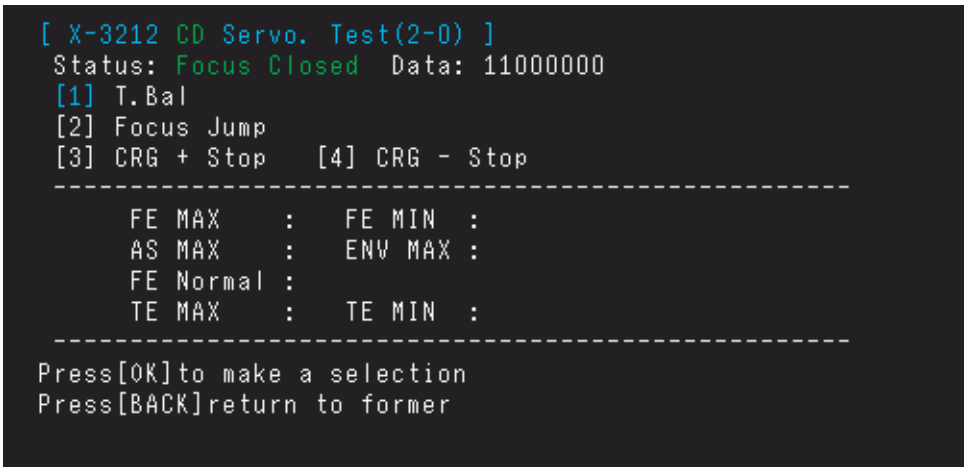
2. [X-3121 Servo Test(1-0)]: The screen in the power on state.



Note) If no action is taken for approximately 10 seconds after LD-ON, it will be switched to LD-OFF automatically.
If F close is selected in LD-OFF state, it will become an error.
Because it will be in conflict with the safety regulation if LD_OFF is not selected within 10 seconds during focus search (S character measurement mode), too, it will switch to LD-OFF after 9 seconds even if the focus search is conducted after LD-ON.
If F close is to be selected after focus search (S character measurement mode), select Power_OFF once then power on again before F close.
Operation cannot be made until completion of displaying the value from FE Offset to VIN_10.
[1] cannot be executed unless [5] command is executed once.

[1] Succeed to Focus Close 1 state.
[2] Execution and stop of Focus Search
[3] Execution and stop of CRG+
[4] Execution and stop of CRG-
[5] On/Off of LD
[6] Execution of CRG_HOME
[OK] Execution/stop
[BACK] 1, [X-3212 Servo Test]: Return to Power Off state screen.

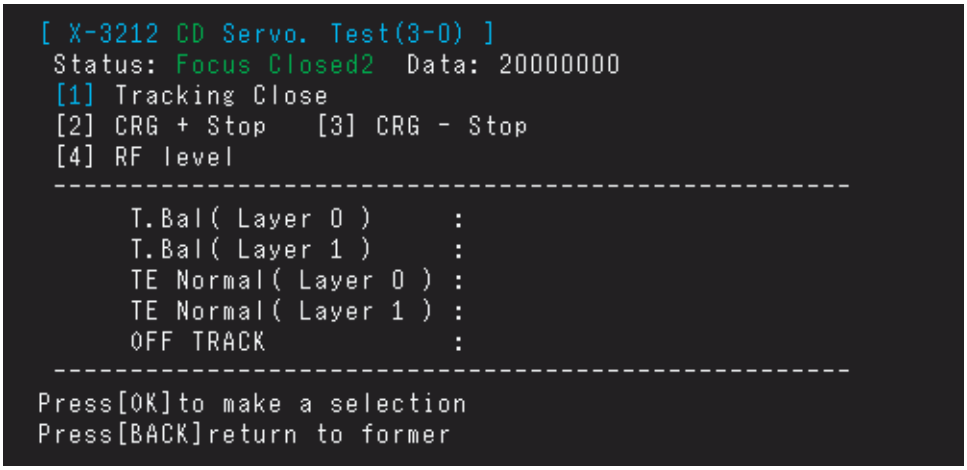
3. [x-3212 Servo Test (2-0)]: Focus Close 1 state screen



Note) Value of the data will change upon execution of the command.
Operation cannot be made until completion of displaying the value from FE MAX to TE MIN.

[1] Succeed to Focus Close 2 state.
[2] Execution of Focus Jump
[3] Execution and stop of CRG+
[4] Execution and stop of CRG-
[OK] Execution/stop
[BACK] 1, [X-3212 Servo Test]: Return to Power Off state screen.

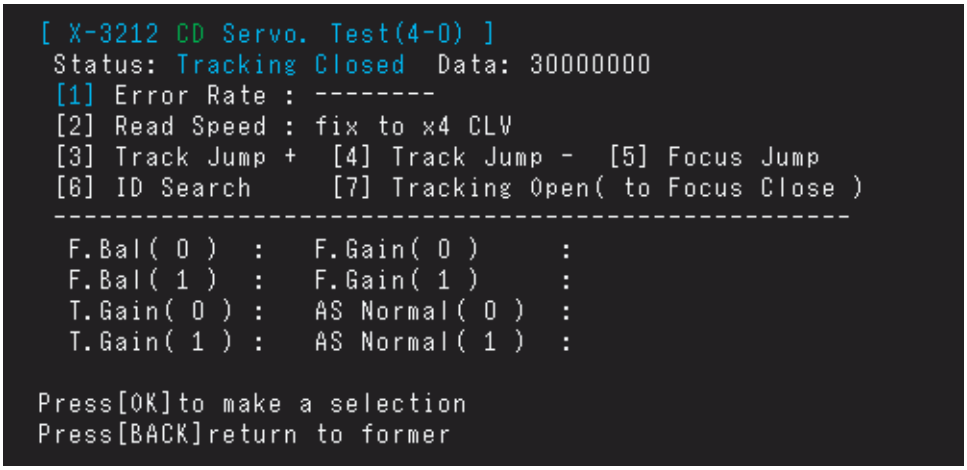
4. [X-3212 Servo Test (3-0)]: Focus Close 2 state screen



Note) Value of the data will change upon execution of the command.
Operation cannot be made until completion of displaying the value from T. Bal to OFF TRACK.

[1] Succeed to Tracking Close state.
[2] Execution and stop of CRG+
[3] Execution and stop of CRG-
[4] Succeed to RF Level display state.
[OK] Execution/stop
[BACK] 1, [X-3212 Servo Test]: Return to Power Off state screen.

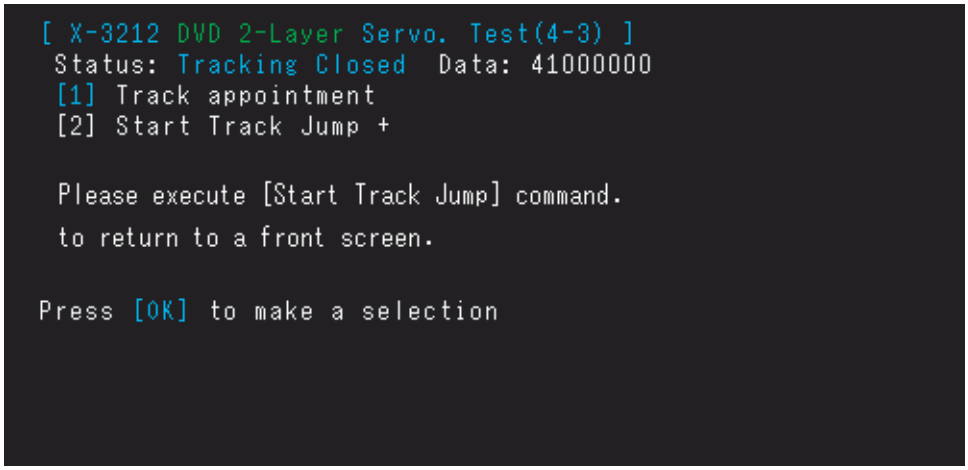
5. [X-3212 Servo Test (4-0)]: Tracking Close state screen



Note) Value of the data will change upon execution of the command.
Operation cannot be made until completion of displaying the value from F. Bal(0) to AS Normal(1).

[1] Error Rate display (Operation cannot be made for approximately 10 seconds after execution.)
[2] Read speed change (Fixed speed for CD.)
[3] Go to Track Jump + screen.
[4] Go to Track Jump – screen.
[5] Execution of Focus Jump
[6] Go to ID Search screen.
[7] 3, [x-3212 Servo Test (2-0):] Succeed to Focus Close 1 state screen
[OK] Execution/stop
[BACK] 1, [X-3212 Servo Test]: Return to Power Off state screen.

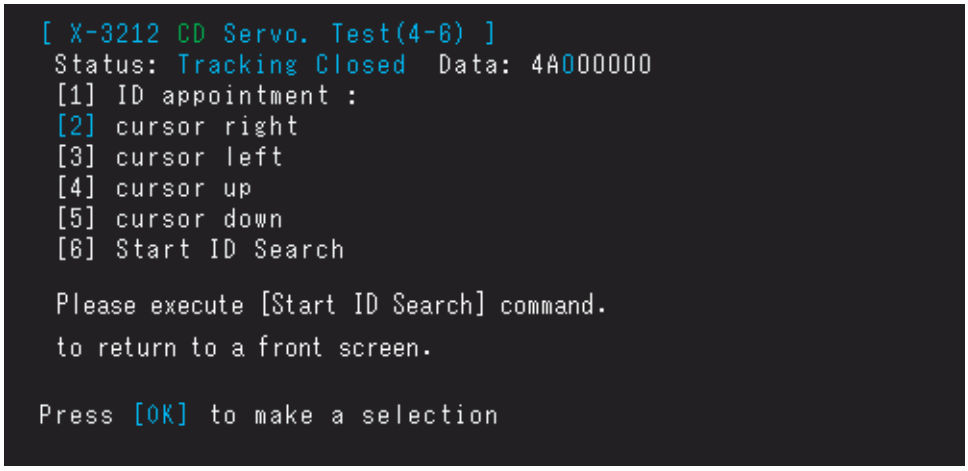
6. [X-3212 Servo Test (4-3)]: Track Jump +/- screen



Note) Value of the data will change upon execution of the command.

[1] The value of the data is switched to cyclic for each execution.
For CD: 1→ 4 →10 →11 →32 →1→ … [track]
For DVD: 1→ 4 →10 →11 →32 →64 →100 →1→ … [track]
[2] Execution of Track Jump +/-.
[OK] Execution
[BACK] 5, [X-3212 Servo Test (4-0): Return to Tracking Close state screen
(Selectable only after execution of Track Jump.)

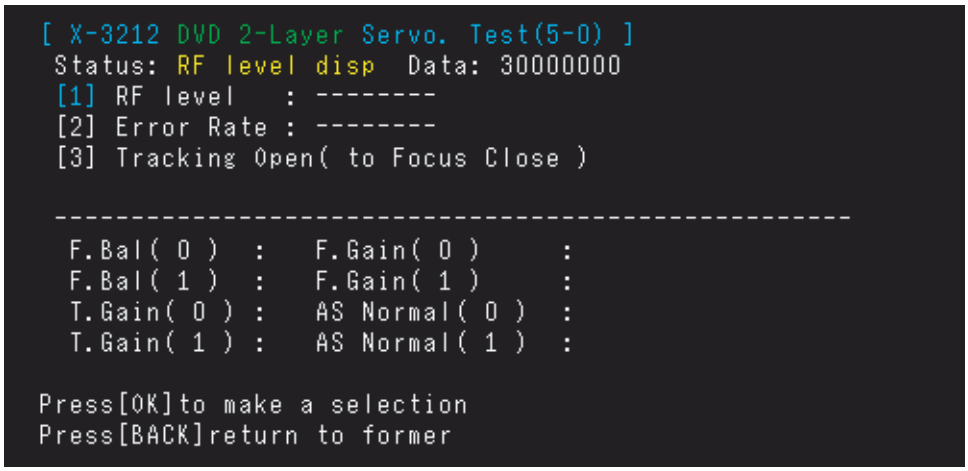
7. [X-3212 Servo Test (4-5)]: ID Search screen



Note) Value of the data will change upon execution of the command.

[1] Display of ID
[2] Blue digit of the Data is shifted to the right by one digit.
[3] Blue digit of the Data is shifted to the left by one digit.
(Shifting can be made only up to the 3rd digit from the left.)
[4] The number of the blue digit of the data is increased by 1.
[5] The number of the blue digit of the data is decreased by 1.
[6] Start of ID Search
[OK] Execution
[BACK] 5, [X-3212 Servo Test (4-0): Return to Tracking Close state screen
(Selectable only after execution of ID Search.)

8. [X-3212 Servo Test (5-0)]: RF level display state screen



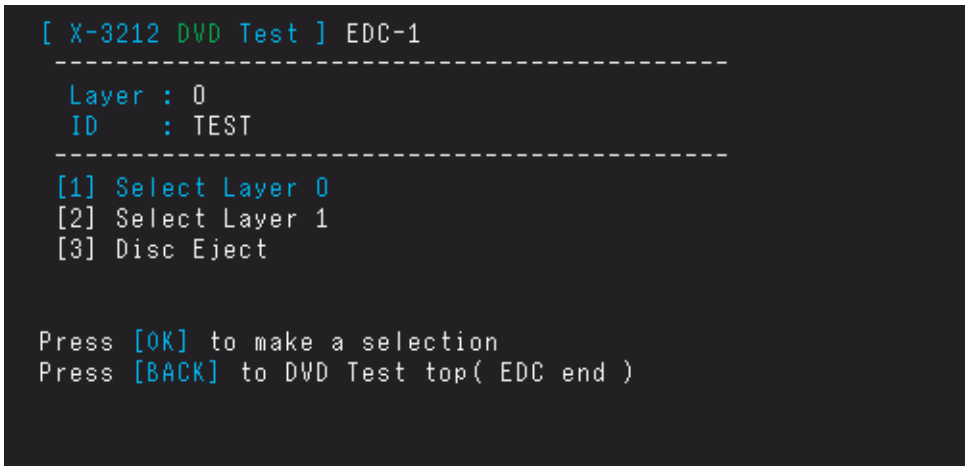
Note) Value of the data will change upon execution of the command.
Operation cannot be made until completion of displaying the value from F. Bal (0) to AS Normal (1).

[1] Display of RF level
[2] Display of Error rate
[3] Succeed to Focus Close 1 state screen
[OK] Execution/stop
[BACK] 5, [X-3212 Servo Test (4-0)]: Return to Tracking Close state screen.

EDC test operational specifications

Note) The operational method is common to both EDC-1 and EDC-2 tests.

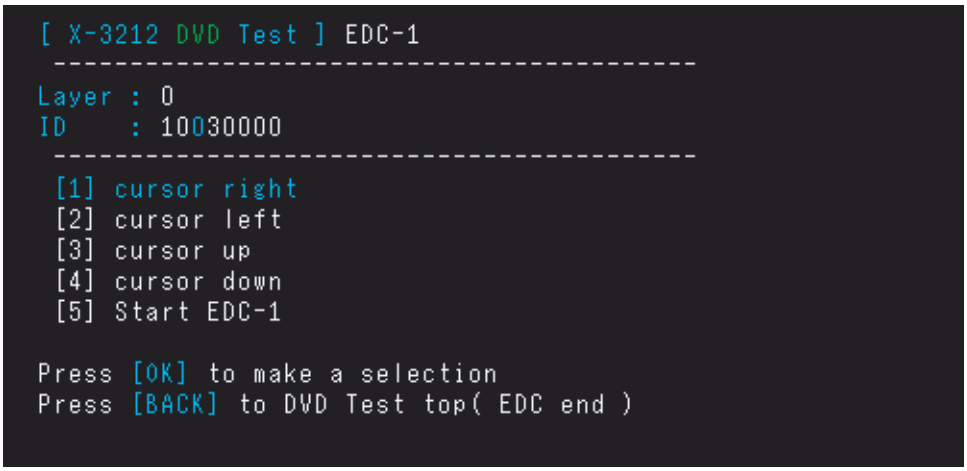
1. [X-3212 EDC-1/2 TEST]: Initial screen



Note) Value of the ID will change upon execution of the command.

[1] Go to setting screen of 2, [X-3212 EDC-1/2 Test Layer 0]
[2] Go to setting screen of 3, [X-3212 EDC-1/2 Test Layer 1]
[3] Ejection of the disc
[OK] Execution
[BACK] Exit from MS5 check.

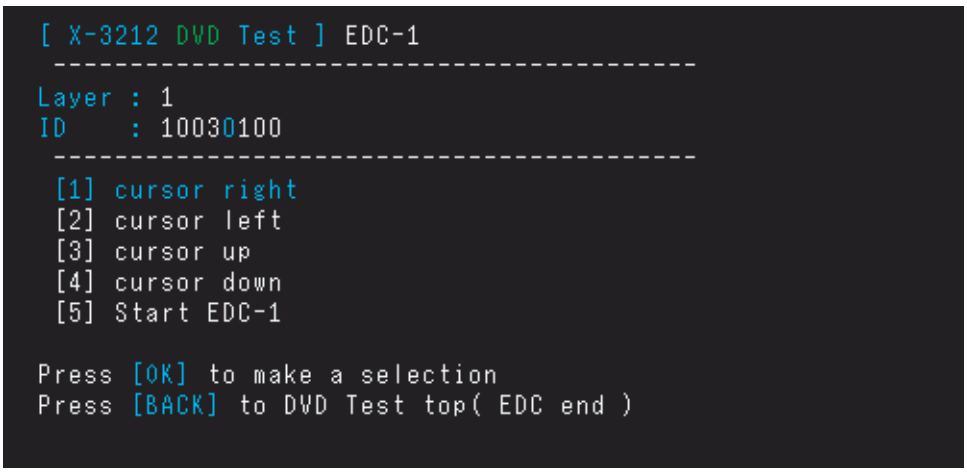
2. [X-3212 EDC-1/2 Test Layer 0]



Note) Value of the ID will change upon execution of the command.

[1] Shift the blue digit of the ID to the right by one digit.
[2] Shift the blue digit of the ID to the left by one digit.
(Shifting can be made up to the 3rd digit from the left.)
[3] The number of the blue digit of the ID is increased by 1.
[4] The number of the blue digit of the ID is decreased by 1.
[5] Start of EDC test
[OK] Execution
[BACK] Exit from MS5 check.

3. X-3212 EDC-1/2 Test Layer 1]

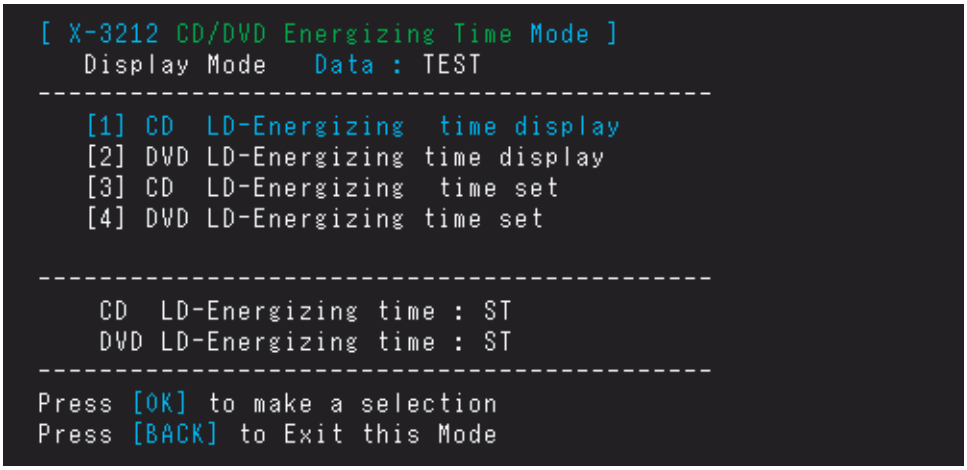


Note) Value of the ID will change upon execution of the command.

[1] Shift the blue digit of the ID to the right by one digit.
[2] Shift the blue digit of the ID to the left by one digit.
(Shifting can be made up to the 3rd digit from the left.)
[3] The number of the blue digit of the ID is increased by 1.
[4] The number of the blue digit of the ID is decreased by 1.
[5] Start of EDC test
[OK] Execution
[BACK] Exit from MS5 check.

Operational specifications for the LD energizing time setting

1. [x-3212 CD/DVD Energizing Time Mode]: LD initial screen



Note) Value of the data will change upon execution of the command.

[1] The current CD energizing preset time is displayed.
[2] The current DVD energizing preset time is displayed.
[3] Go to CD energizing time setting screen. (Not for service use)
[4] Go to DVD energizing time setting screen. (Not for service use)
[OK] Execution
[BACK] Exit from MS5 check.

6.10 USING THE TEST DISC

TEST DISC Part No. : GGV1303
Remote Control Uint Part No. : CXC6317 (Operation mode switch : SW1 : AVH, SW2 : DVD)

1. Start / Termination

1-1. Start

After insertion of test disk, the title “NN700 TEST DISC” is displayed.
(If CD-ROM is the media for TESTDISC, background of the title will be red.)
If the [C] key on the remote controller is pressed while the title is being displayed, the menu screen appears.
If no key is pressed during the period, the first screen of test screens for line appears.

Title screen

1-2. Termination

No action is taken.

2. Key operation

Use the remote controller for operation.

Basic operation method in the remote controller.

- ↑ (The cursor is moved up) ..... [2] key
- ↓ (The cursor is moved down) ..... [8] key
- ← (The cursor is moved left) ..... [4] key
- → (The cursor is moved right) ..... [6] key
- Decision (Enter) ..... [5] key
- Return and cancellation (Cancel) ..... [C] key
- Inspection execution and re-inspection ..... [0] key

1. Use [4] and [6] keys to select the menu screen.
2. Use [2] and [8] keys to select the test items and select [5] key and move to the testing screen.
3. Use [C] key to return to the menu screen.

* Please refer to explanation on each screen for details.

Menu screens

```
--- Self Test Menu ---

1. External Connection
2. Data Communication (Short Circuit) Check
3. Data Communication (Open Circuit) Check
4. Natural Drawing
5. Back Camera check
6. VTR1 In check
7. VTR2 In check
8. FM Multiplex Tuner Error Rate
9. GPS  Self check

[ 2 / 8 ] : Change cursol ,   [ 4 / 6 ] : Change page
[ 5 ]  : Select item
```

```
--- Self Test Menu ---

10. Monitor adjustment check
11. Language Flag setup mode
12. Memory all cleay

[ 2 / 8 ] : Change cursol ,   [ 4 / 6 ] : Change page
[ 5 ]  : Select item
```

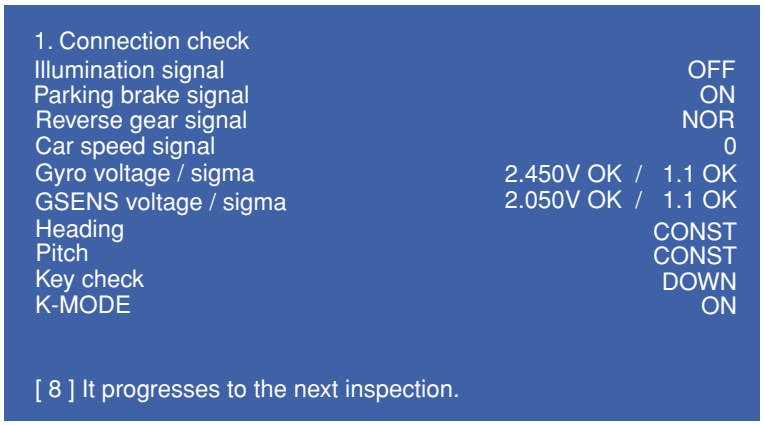
```
--- Self Test Menu ---

13. Software version display
14. Picture RGB check
15. GPS information
16. GPS sensitivity measurement
17. Sound play
18. File Maintenance mode
19. Picture check
20. Device check(Design engineer only)
21. Memory all clear (for Service)
22. BackUp Memory clear

[ 2 / 8 ] : Change cursol ,   [ 4 / 6 ] : Change page
[ 5 ]  : Select item
```

3. Inspection screen

1. Connection check



- The status of above items is updated approximately every single second.
- Set ANTON port to H when starting the inspection and set to L when ending.
- When the gyro is in operation, a BEEP sound will be made when the G sensor is activated.
  Right: 500 Hz, Left: 700 Hz, Up: 800 Hz, Down: 600 Hz
- Conditions for moving on to the next inspection
  Illumination status is changing between ON and OFF.
  Parking brake status is changing between ON and OFF.
  Reverse status is changing between NOR and REV.
  Pulse is changing to a value other than 0/0.
  K-mode status is changing between ON and OFF.

Standard value for other items

- GYRO voltage
  OK: 2.5 ± 0.15
  USABLE: 2.5 ± 0.30
- GYRO variation
  OK: Less than 30
- G sensor voltage
  OK: 2.5 ± 0.15
  USABLE: 2.5 ± 0.30
- G sensor variation
  OK: Less than 60

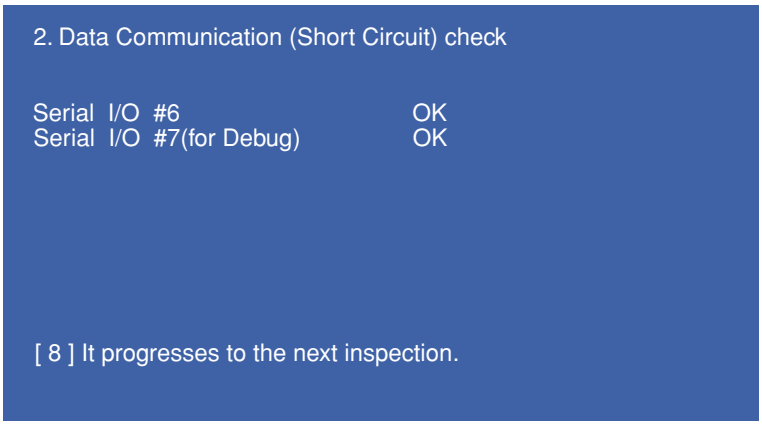
- Only when all the conditions are met, you can move on to the next inspection by the [8] key on the remote controller. It should be noted, however, that you will not be able to move on to the next inspection if there is an error (background color is red) even if the conditions are met.

- Checking of “K-MODE” is available only on the UC model.
  “K-MODE” will not be displayed on the EW model.

<Supplemental explanation regarding error display>

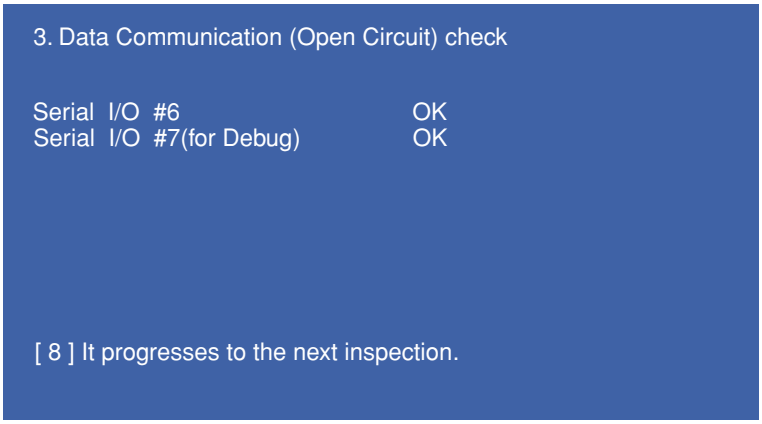
Displayed message	Details of the error
Structure data error	An error that is generated when data cannot be received from the AD converter. The possible cause is the device error in the AD converter. This error is also generated when the car speed pulse cannot be measured. (rare case)
DRAGON unconnected	An error that is generated when communication is not established with DRAGON. The possible cause is the hardware error causing interruption of communication. It is highly likely that this results from the hardware error of DRAGON.
Command error	A response timeout error for BIOS call. The possible cause is the hardware error causing interruption of communication. It is highly likely that this results from the hardware error of DRAGON.
Unknown error	Error of unknown causes.

2. Data Communication (Short Circuit) check (Not for service)



- Short circuit in SIO connection is checked.
- Loopback in 6CH and 7 CH is checked.
- A “wait” screen is displayed until the check is completed.
- While the test result screen is being displayed, press the [0] key to perform retesting.
- Only when “OK” is displayed, you can go on to the next test with the [8] key.

3. Data Communication (Open Circuit) check (Not for service)



- Open circuit in SIO connection is checked.
- 6CH and 7CH are checked.
- Do not connect anything to the terminal. In the released state, ”OK” will be displayed.
- A “wait” screen is displayed until the check is completed.
- While the test result screen is being displayed, press the [0] key to perform retesting.
- Only when “OK” is displayed, go on to the next test with the [8] key.

4. Natural Drawing

- Nature images with 256 colors are drawn on the BG surface.
- The ADPCM 1 kHz sine wave, which sampling rate is 19 kHz, is output for 30 seconds.
- With the [NAVI] key, GUIDEON terminal can be switched between “H” / “L” with a toggle.
- With the [4] key or the [6] key, the volume can be changed.
  [JPEG file name: ZHITO1.JPEG]
  [Audio file name: A19K01KS.WAV]
- Press the [8] key to go on to the next test.

5. Back Camera check

Images in the back camera

In this test, check with eyes that images in the back camera is being displayed.
- Images in the back camera are displayed.
- Press the [8] key to go on to the next test.

6. VTR1 In check

External input image

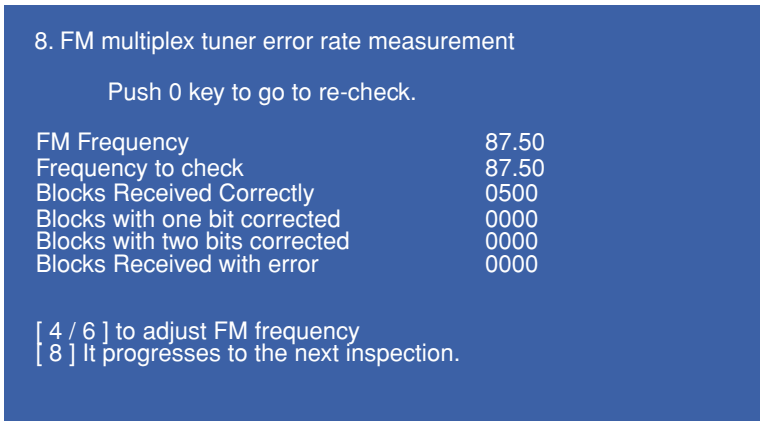
• On the screen, external input video (Front VTR image) is displayed.
• Press the [8] key to go on to the next test.

7. VTR2 In check

External input image

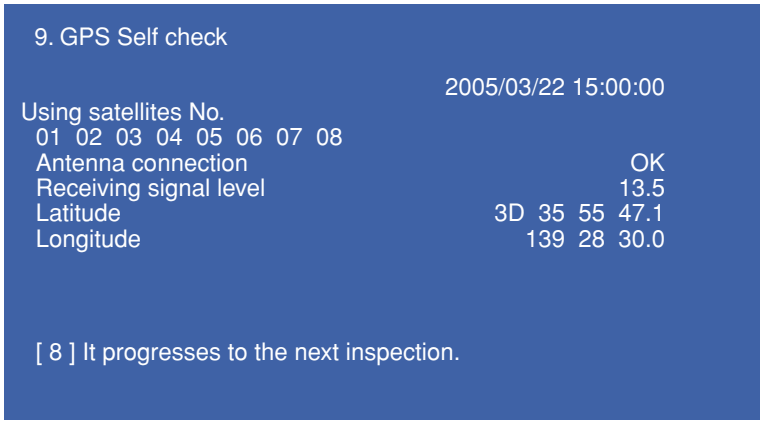
• On the screen, external input video (Rear VTR image) is displayed.
• Press the [8] key to go on to the next test.

8. FM multiplex tuner error rate measurement



- FM multiplexing error is measured.
- In the case of UC model, this inspection is not performed and the system will move on to the next inspection.
- Default frequency is 87.5 MHz.
- When entering this mode for the first time, the result of measurement at the time of test disc boot up will be displayed.
- After the measurement is taken, the frequency can be changed by the [4] and [6] keys.
- 500 blocks will be measured, and if there are 450 or more blocks without error, then it will be determined as OK.
- Only when “OK” is displayed, you can go on to the next test with the [8] key.
- Use the [0] key to start re-inspection.

9. GPS Self check



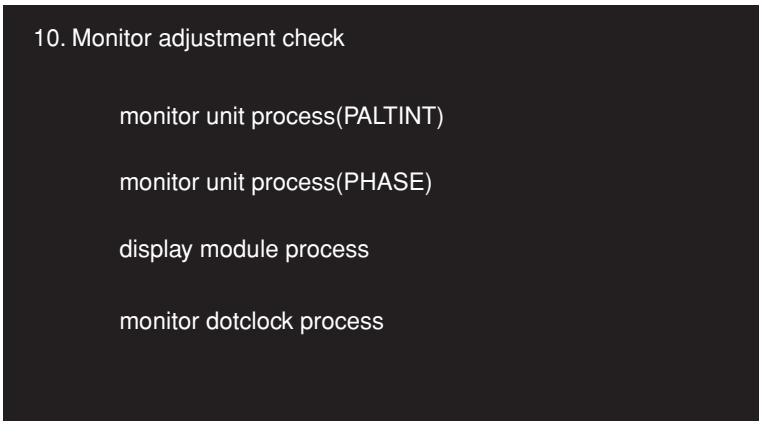
- The GPS reception state is displayed.
- Conditions to go on to the next test
  - The antenna connection is “OK”.
  - Data is obtained from one or more satellites.
  - Time is being displayed.
- When all of the above conditions are satisfied, the background color changes into blue.
- Only when all of the above conditions are satisfied, go on to the next test with the [8] key. However, in case of error occurs (background: red), you cannot go on to the next test even if all conditions are satisfied.
- In case a command error has occurred during GPS signal receiving inspection, the detailed screen of the command error will be displayed.
- There are two screens for the command error detailed screen, a screen that displays the state of BIOS call used in GPS signal receiving in real-time and a screen which displays the history from the time of command error occurrence up to 40 times, and the screen can be switched between these two by [5] key.

To save the error information, it is so designed that you cannot return from the command error detailed screen to the normal inspection screen. If you desire to resume the inspection, eject the disc once, and insert the test disc once again.

<Supplemental explanation regarding error display>

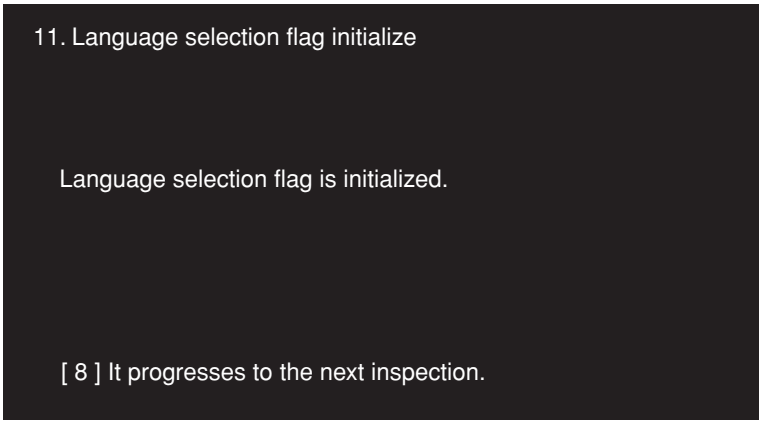
Displayed message	Details of the error
No connection to DRAGON	This is an error when communication with DRAGON is not established. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.
Command error	Time out error for response to BIOS call. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.
Invalid data	This is an error when request is made while the data for response is not prepared (not obtained from DRAGON). Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.

10. Monitor adjustment check



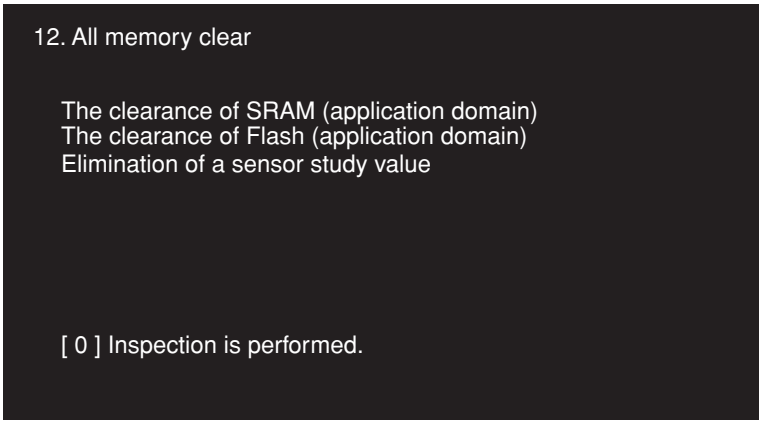
- Each state of “PHASE adjusted flag”, “PALTINT adjusted flag”, “Flicker adjusted flag” and “dotclock adjusted flag” is obtained from the microcomputer, and the result of whether the monitor has been adjusted or not will be displayed.
- While there is no difference between the EW model and the UC model in terms of the screen specifications, the monitor is judged to be adjusted if all adjusted flags are ON for the EW model and if “PHASE adjusted flag” and “PALTINT adjusted flag” are OFF but “Flicker adjusted flag” is ON for the UC model, and you can proceed to the next inspection by pressing the [8] key.
- If the above conditions for the EW and the UC models are not met, the monitor is judged to be unadjusted and NG screen will be displayed.

11. Language Flag setup mode



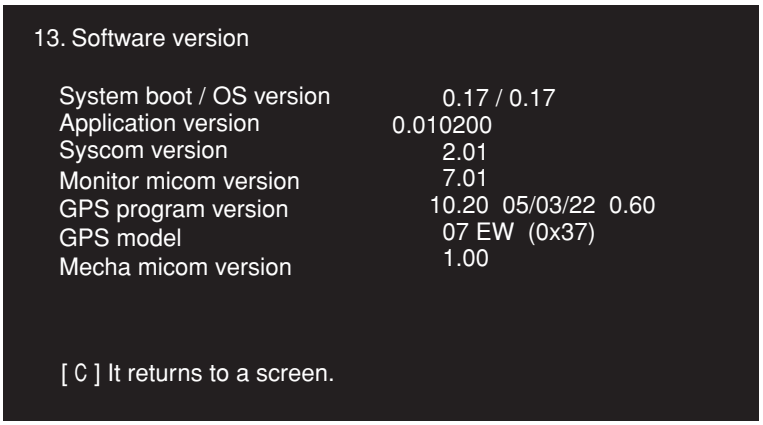
- When the system enters into this inspection, language selection will be set to the original setting made at the time of shipment (i.e. no setting).
  * The setting is made to display the screen for selecting the language to be used at the initial boot up after the shipment out of the factory.
- The setting is made when the system enters into this inspection.
- Press the [8] key to go on to the next test.

12. Memory all clear (Not for service)



- SRAM (application domain) is cleared.
- FLASH (application domain) is cleared.
- Sensor learning level is cleared.
- If SRAM clear is not successful, FLASH will not be cleared.
- After displaying the test screen, press the [0] key to execute the above processing.
- The execution results are displayed.
- Only when all is “OK”, press the [8] key to end the production engineering test and return to the menu screen.

13. Software version display

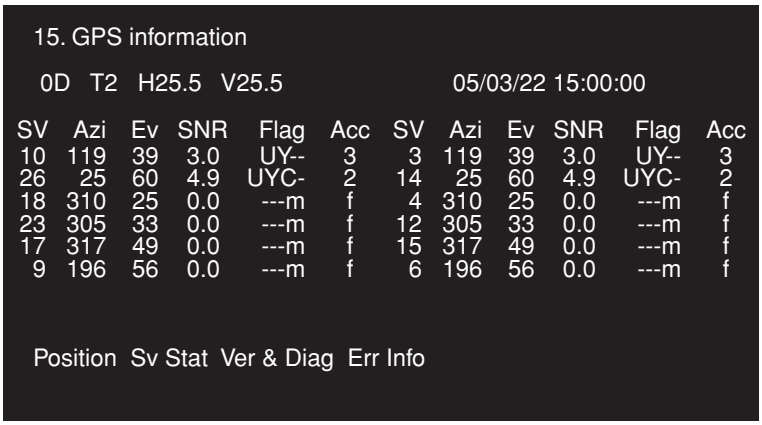


- The software versions are displayed.
- As for the GPS model, it will be considered OK if "07 EW (0x37)" is displayed in the case of EW model and if "07 UC (0x38)" is displayed for UC model.

14. Picture RGB check

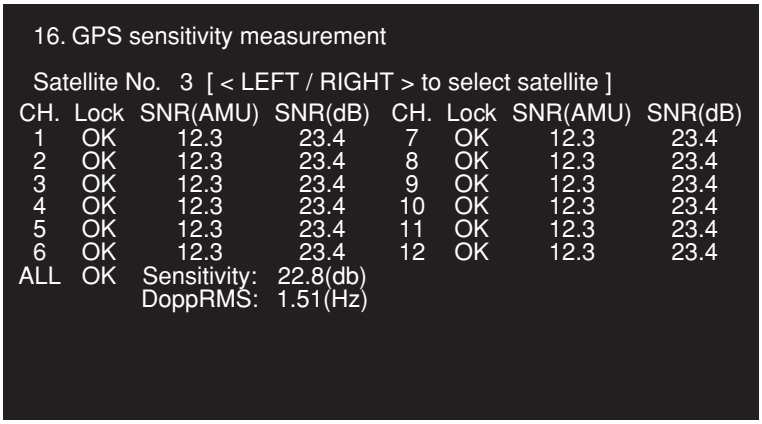
- Bridge tests are performed for RGB.
- Pressing the [4] key or the [6] key switches the screens.
- RGB is plotted in the following pattern: R100% -> R50% -> G100% -> G50% -> B100% -> B50%
- 6 screens are displayed in total.

15. GPS information



- The information displayed switches with the [4] key and the [6] key.
- Pressing the [5] key while the cursor is placed at “Position” displays the “position information”.
- Pressing the [5] key while the cursor is placed at “Sv Stat” displays the “status information”.
- Pressing the [5] key while the cursor is placed at “Ver&Diag” displays the “diagnostic information”.
- Pressing the [5] key while the cursor is placed at “Err Info” displays the “error information”.
- In the test, “status information” (above screen) is displayed first.

16. GPS sensitivity measurement

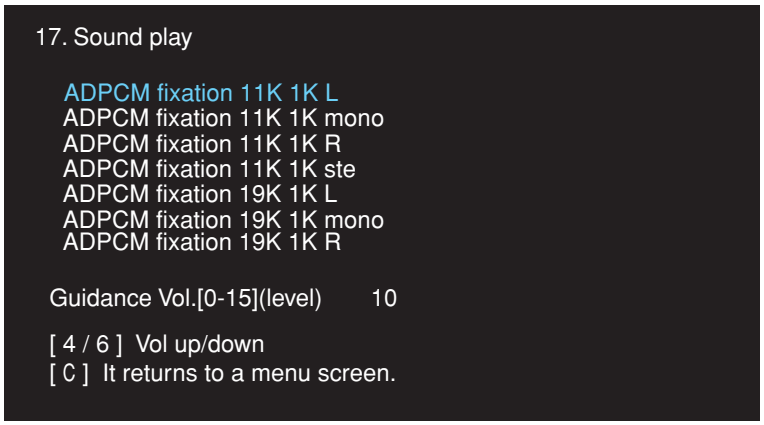


- Press the [4] key or the [6] key to change GPS.
- The GPS sensitivity selected with the [5] key is displayed.
- If communication with the GPS unit fails, an error screen is displayed.

<Supplemental explanation regarding error display>

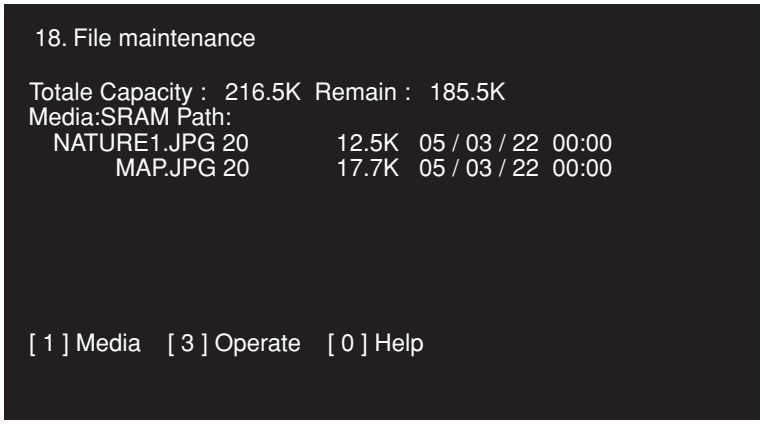
Displayed message	Details of the error
No connection to DRAGON	This is an error when communication with DRAGON is not established. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.
Command error	Time out error for response to BIOS call. Communication error due to a hardware problem could be the cause. It is highly possible that the hardware on the DRAGON side is defective.

17. Sound play



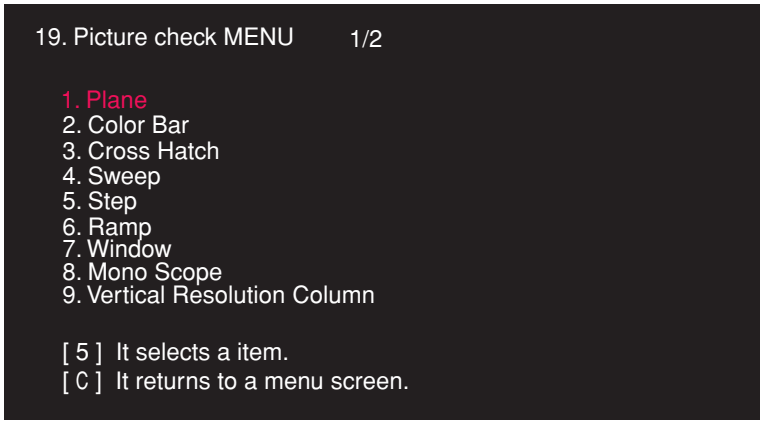
- Audio files (in WAVE format) are played back.
- When entering the screen, set the GUIDEON terminal to “H”, and reset to “L” when exiting it.
- Press the [5] key to play back the selected audio.
- Press the [4] key or the [6] key to change the volume.

18. File Maintenance mode



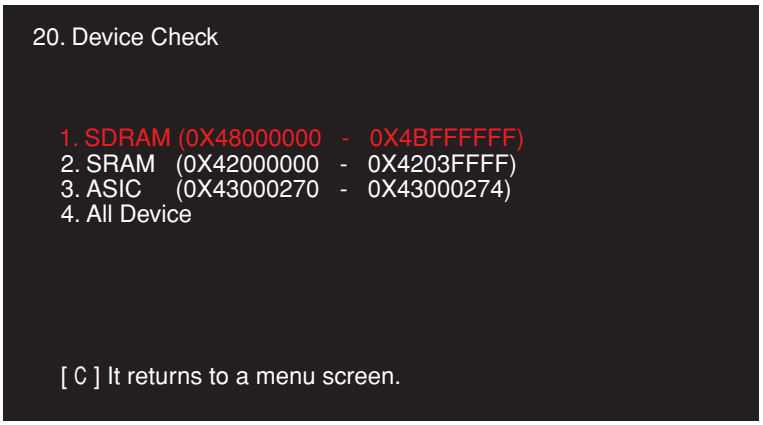
- Files can be copied, deleted, or dumped.
  See HELP for usage of each function.

19. Picture check



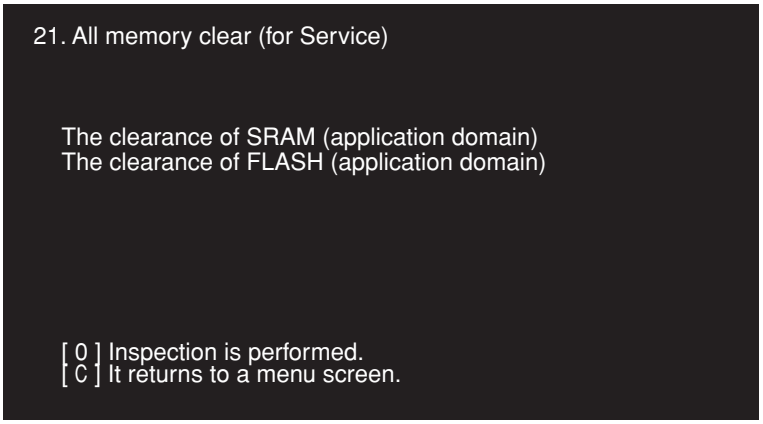
- Select a pattern with the [2 / 8] key and press the [5] key to display the image.

20. Device Check(Design engineer only)



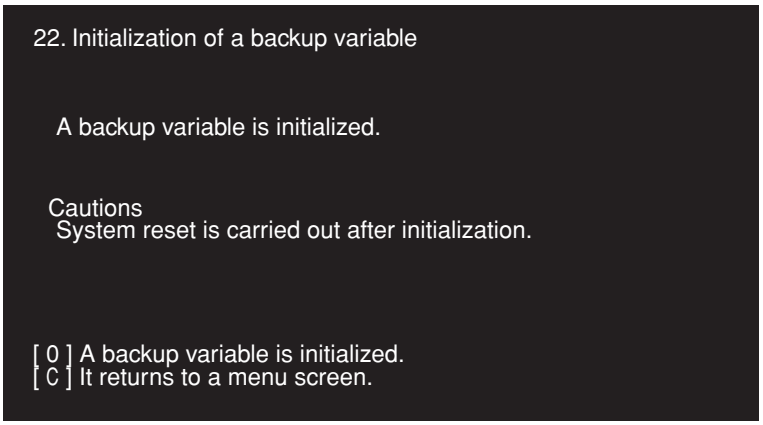
- The above devices will be inspected for engineering purpose.
- A device is selected by the [2] and [8] keys on the remote controller, and cleared by the [5] key.
- On each device screen, a pattern is selected by the [2] and [8] keys, and inspection is started by the [5] key.

21. Memory all clear (for Service)



- SRAM (application region) is cleared.
- FLASH (application region) is cleared.
- If SRAM clear is not successful, FLASH will not be cleared.
- After displaying the test screen, press the [0] key to execute the above processing.
- The execution results are displayed.

22. BackUp Memory clear



- Press the [0] key to initialize the backup variables and to reset the system.
- Press the [C] key to return to the menu screen.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

● **Removing the Case (not shown)**

1. Remove the Case.

● **Removing the Grille Assy (Fig.1)**

1 Remove the six screws.

Disconnect the connector and then remove the Grille Assy.

*) When attaching the Grille Assy onto the main body, make the Grille Assy stick to the main body by hand (there shall be no gap), and fix them using the screws.

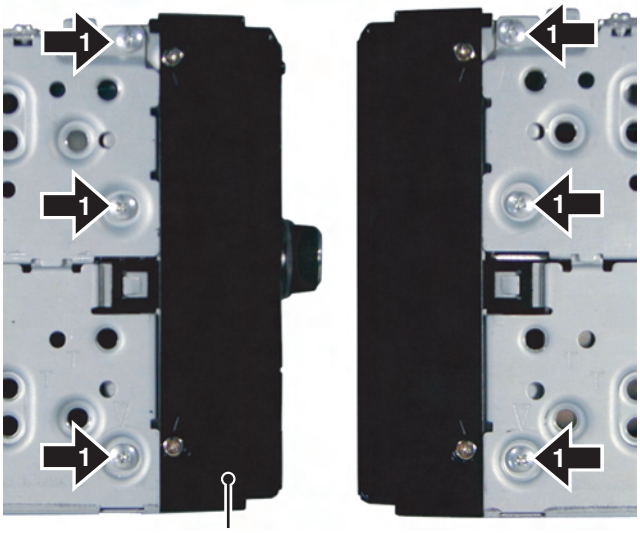


Fig.1

● **Removing the Monitor Unit (Fig.2)**

1 Remove the five screws.

Disconnect the connector and then remove the Monitor Unit.

*) Be sure to place the remote controller with the optical receiver facing up. Otherwise the leads of the optical receiver may be bent.

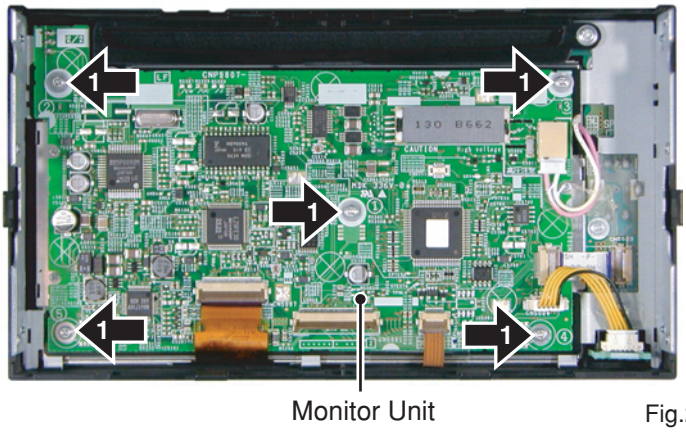


Fig.2

● Removing the LCD Assy (Fig.3)

1 Remove the four screws.

2 There is a gap between the Holder and the Grille. Put your finger in the gap and push out the Grille toward outside to release the fixed section of the Grille and the Holder. (both left and right)

*) Do not bend the Holder.

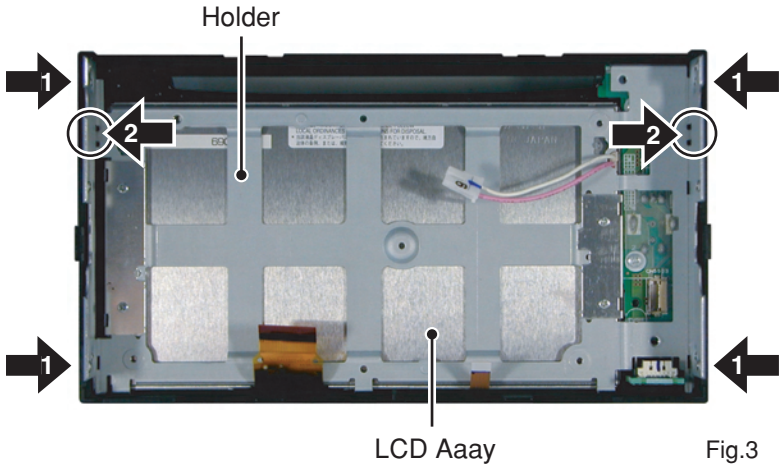


Fig.3

● Installation of the LCD Assy (Fig.4)

1 Match the three claws as shown on the drawing to the corresponding sections of the Grille. When doing so, put the Holder onto the Grille in a way that the broken-out section of the Holder will be totally hidden.

2 Push the two locations as shown on the drawing, and push all the way to the back so that the claws of the Holder and the Grille snaps in.

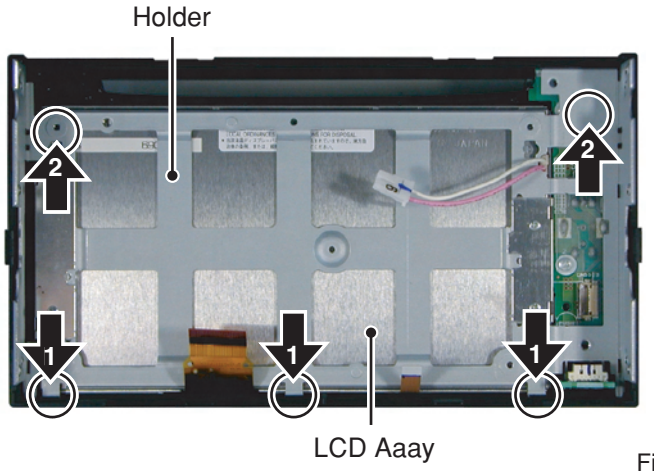


Fig.4

● Removing the DVD Mechanism Module (Fig.5)

1 Remove the four screws.

Disconnect the connector and then remove the DVD Mechanism Module.

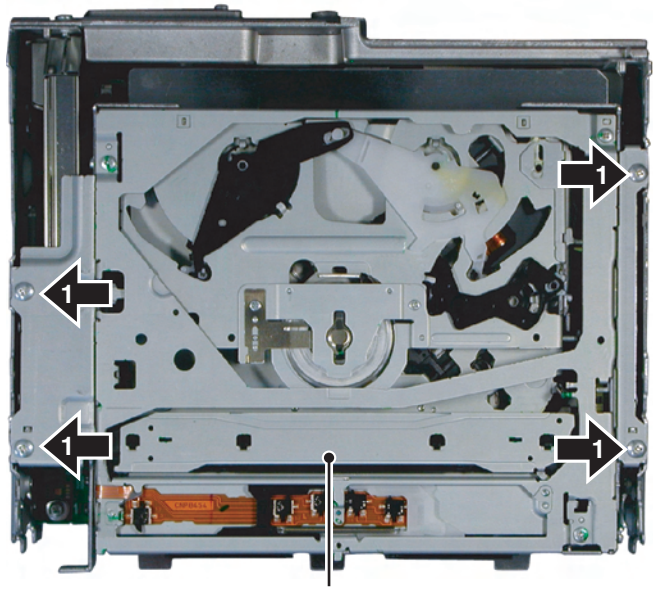


Fig.5

● Removing the Heat Sink (Fig.6)

1 Remove the two screws.

2 Remove the ten screws and then remove the Heat Sink.

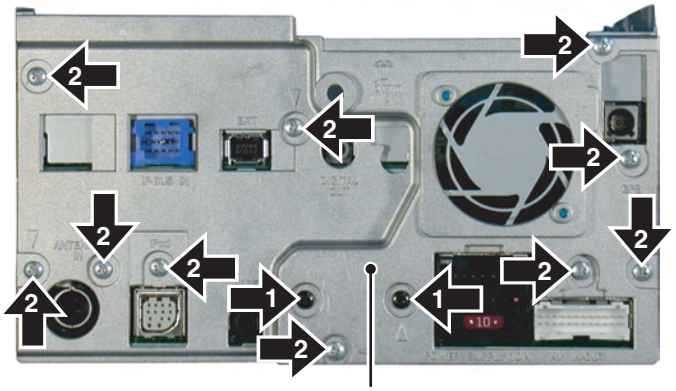


Fig.6

● Removing the Chassis (Fig.7)

1 Remove the three screws.

Disconnect the connector and then remove the Chassis.

● Removing the Navi Mother Unit (Fig.7)

2 Remove the six screws and then remove the Navi Mother Unit.

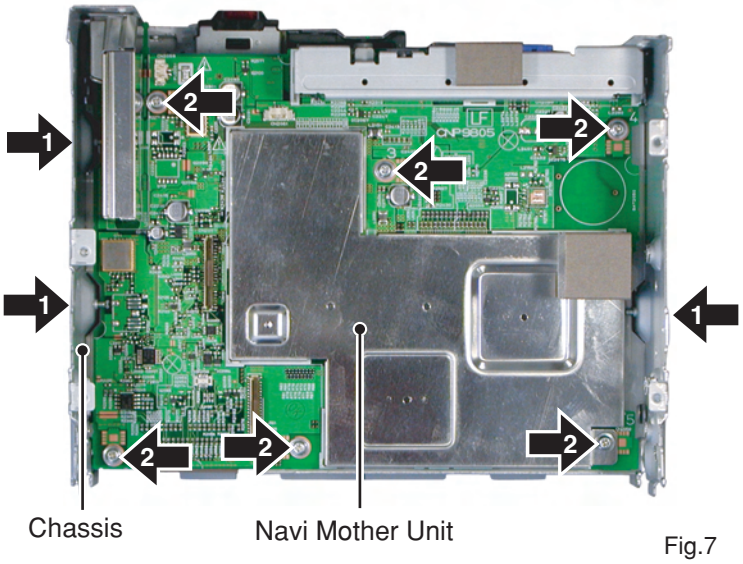


Fig.7

● Removing the AV Unit (Fig.8)

1 Remove the screw.

2 Straighten the tab at location indicated.

3 Remove the six screws and then remove the AV Unit.

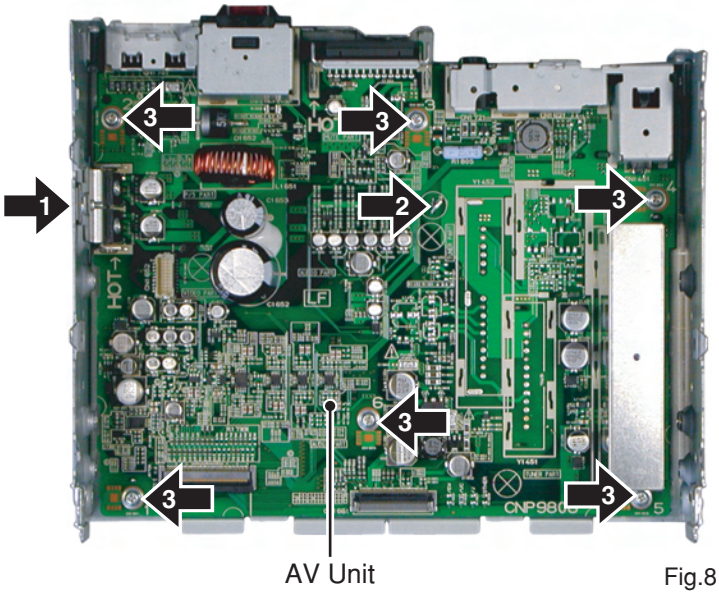


Fig.8

● How to hold the mechanism section (Fig.9)

1. Hold the main frame and the top frame.
2. As the mechanical strength of the front part of the top frame is not strong, do not hold this part.
3. Do not touch the switches provided on the top face of the mechanism section.
4. Be careful not to pull the flexible PCB on the side face.

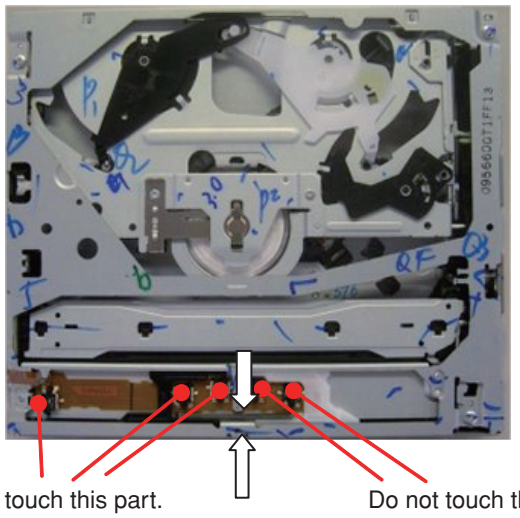


Fig.9

● How to remove the module PCB (Fig.10, Fig.11)

1. Put the mechanism section in locked state (disc load standby position).
2. Hold the mechanism module with its top face down.
3. Make the lands at 2 locations on the pick up flexible PCB short.
4. Disconnect the connectors of the pick up flexible PCB and the SPDL flexible PCB.
   (Be sure to disconnect the connectors as the flexible PCB will be damaged if the PCB is removed without removing the flexible PCB.)
5. Remove the solder joint of the lead wire of the load motor and the clamp SW.
6. Remove the two screws, and then remove the module PCB.
   (Lift up point A slightly and remove it toward B direction. Be careful as the point C is connected with a flexible PCB.)
7. Disconnect the connector of the 8-12 detection flexible PCB from the PCB.

Fig.10

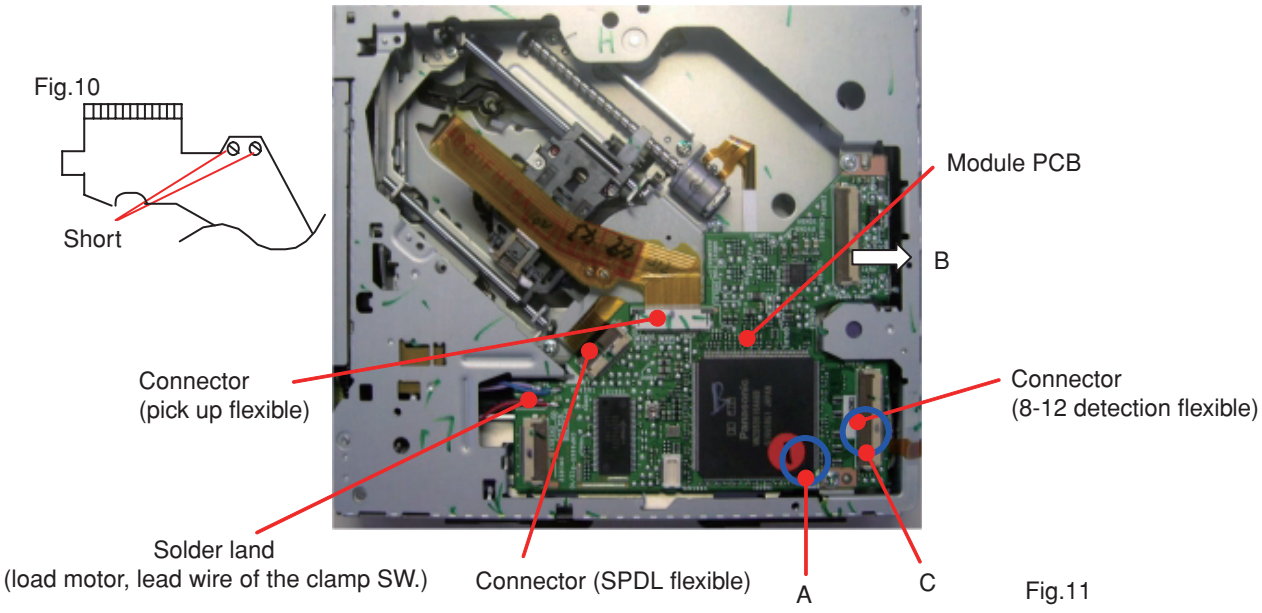


Fig.11

● How to remove the CRG motor assy (Fig.12)

1. Remove the module PCB according to the instructions in ìHow to remove the module PCBî.
2. Remove the Mylar tape.
3. Remove the flexible PCB of the CRG motor from the connector of the spindle motor.
4. Remove the two screws, and then remove the CRG motor assy.

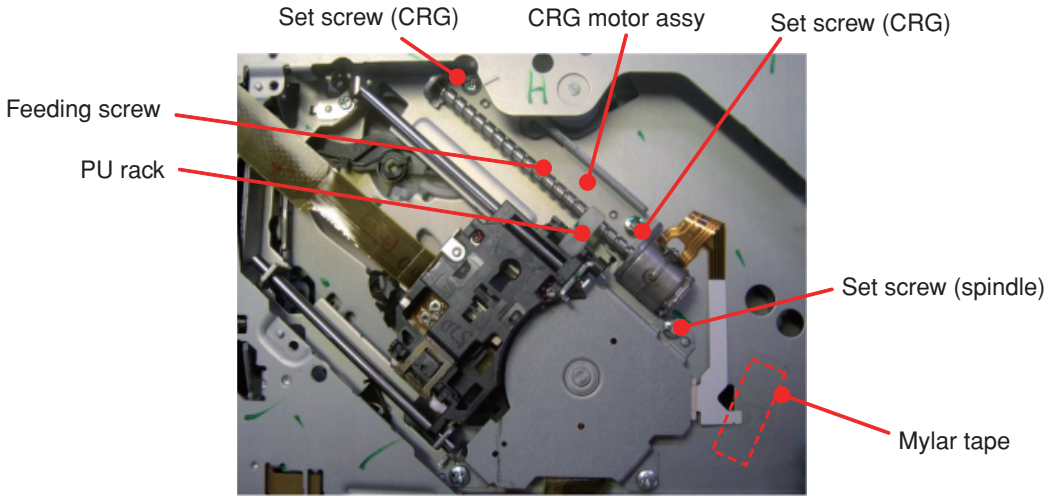


Fig.12

● How to remove the PU unit (Fig.13)

1. Remove the module PCB according to the instructions in "How to remove the module PCB".
2. Hang the main shaft holding spring to the CRG chassis temporary hanger.
3. Remove the CRG motor assy according to the instructions in "How to remove the CRG motor assy".
4. Remove the holding plate spring of the main shaft.
5. While lifting up the tip of the pick up rack, slide the main shaft, and remove the PU unit.

(Note) When mounting the PU unit again, make sure to do the adjustments of the devices mounted thereon according to the descriptions of the service manual. Furthermore, make sure to hang the main shaft holding spring permanently.

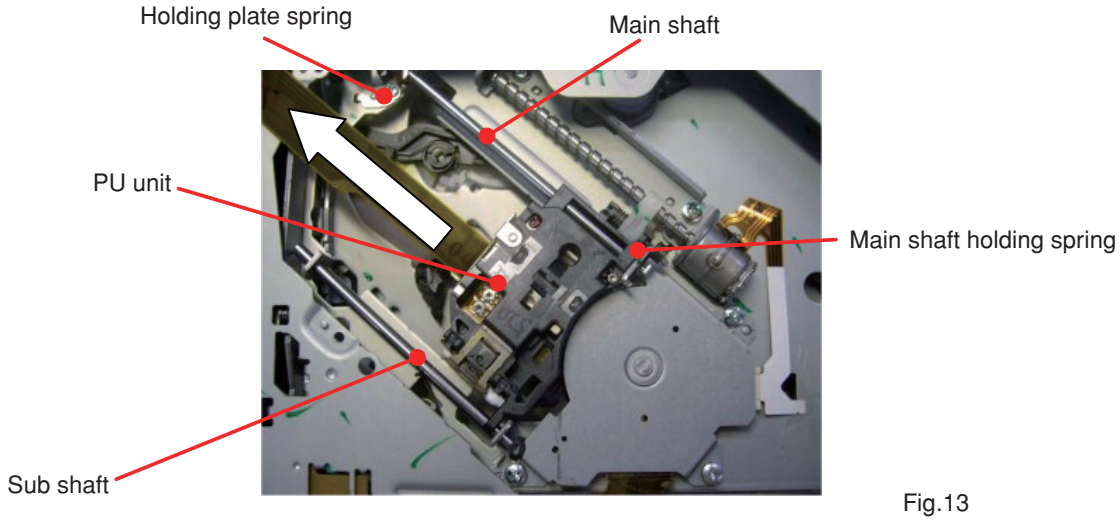
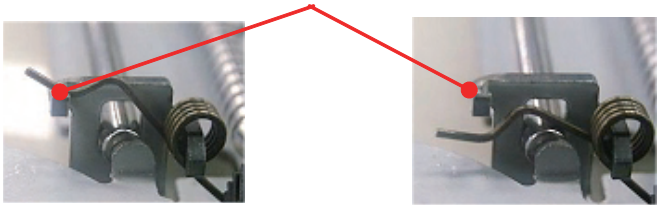


Fig.13

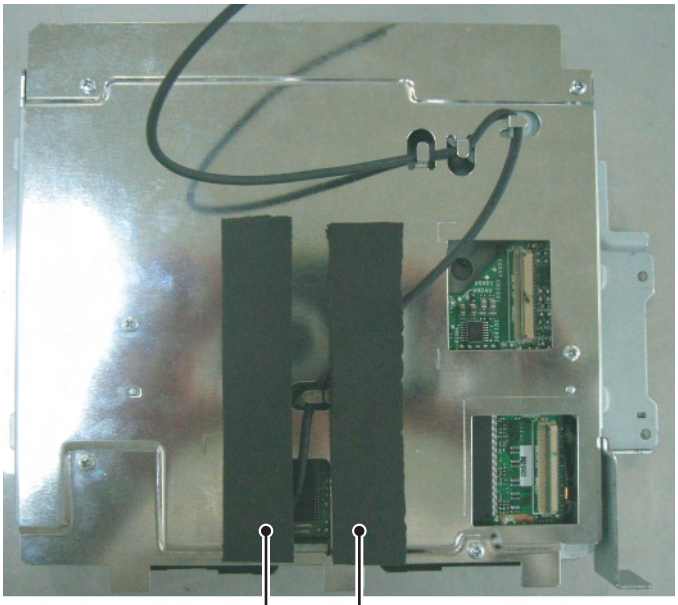
CRG chassis temporary hanging section



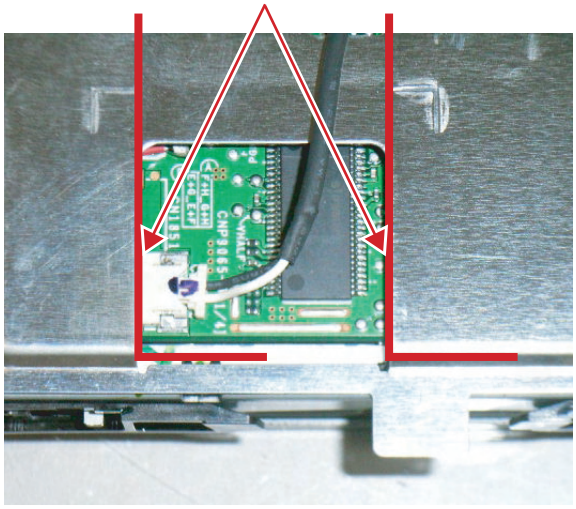
Temporary hanging

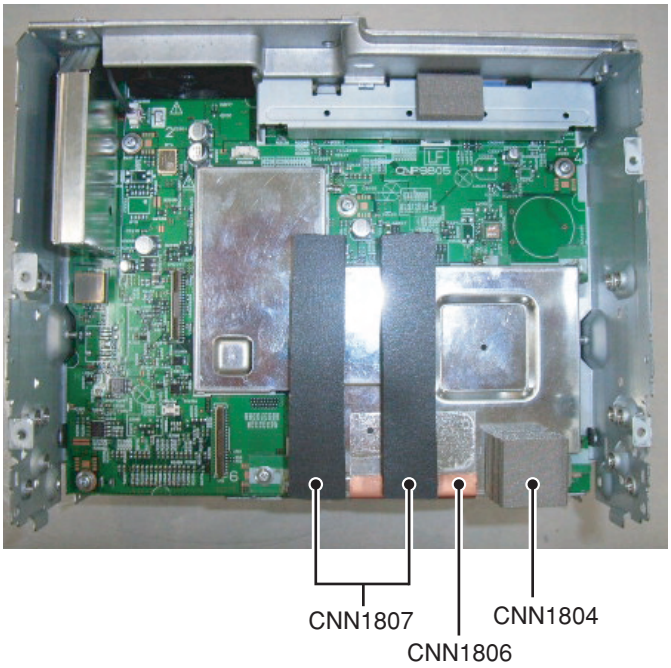
Permanent hanging

● How to install the gasket, cushion and shield



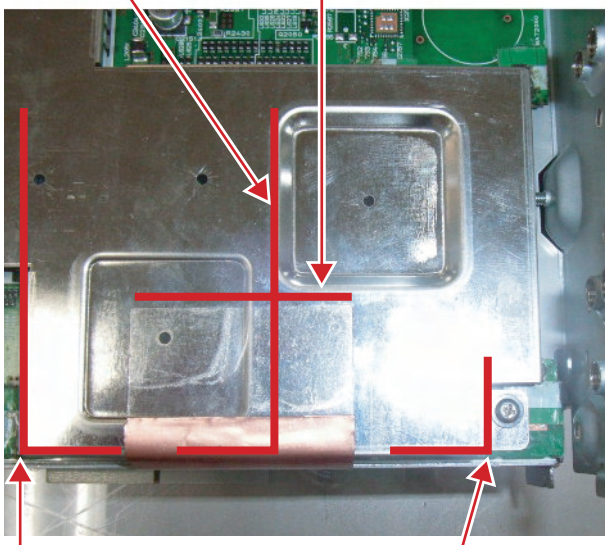
CNN1807
· Position to put :
Edge of slit





CNN1807
· Position to put :
Edge of dent

CNN1806
· Position to put(Right and left) :
During CNN1804 and CNN1807
· Position to put(Depth) :
Edge of dent



CNN1807
· Position to put :
Set it to the position
of the corner.

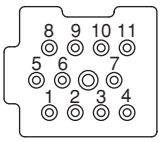
CNN1804
· Position to put :
Set it to the position
of the corner.

*** Caution**

CNN1806 : Recycling is not possible, use the new shield.
Put it not to slack.
CNN1807 : When the adhesive strength is weak, use the new cushion.

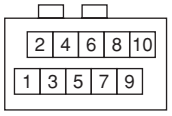
7.1.2 CONNECTOR FUNCTION DESCRIPTION

IP-BUS IN

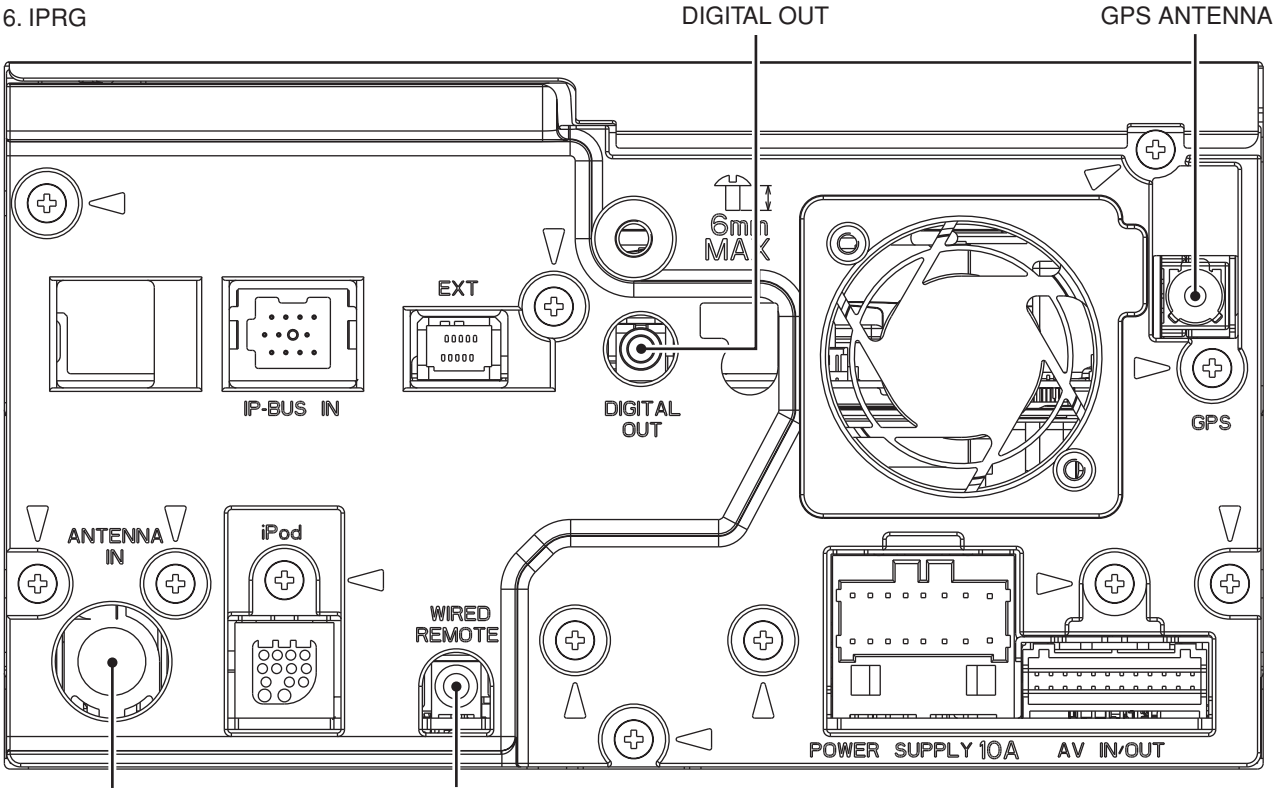


1. IPBUS+
2. IPBUSG
3. IPLG
4. NC
5. IPBUS-
6. IPRG
7. IPL+
8. ASENBO
9. IPR+
10. IPR-
11. IPL-

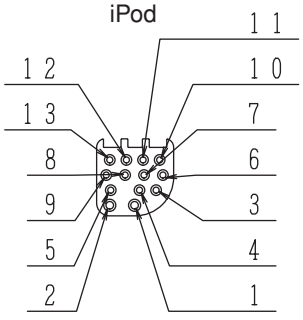
EXTENSION



1. GTOEX
2. EXTOG
3. GND
4. CTOEX
5. EXTOC
6. HYOKA
7. CTOETC
8. ETCTOC
9. NC
10. GND

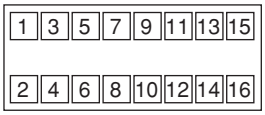


iPod



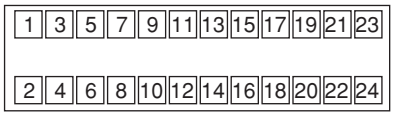
1. F/W GND
2. F/W PWR
3. TXiPod
4. ACCID
5. LOUT
6. RXiPod
7. VOUT
8. ROUT
9. GNDD
10. ACCPW
11. ACCDET
12. V_RETURN
13. A_RETURN

POWER SUPPLY



1. FR+
2. RR+
3. FR-
4. RR-
5. FL+
6. RL+
7. FL-
8. RL-
9. PKB
10. PULSE
11. REV
12. ILM
13. AANT
14. ACC
15. GND
16. BUP

AV IN/OUT



1. TELMUTE
2. NC(Reserved?)
3. RR
4. NC
5. RL
6. REARGND
7. FR
8. NC
9. FL
10. FRONTGND
11. SWR
12. BREM
13. SWL
14. SWGND
15. VTR1R
16. VTR1RGND
17. VTR1L
18. VTR1LGND
19. VTR1V
20. VTR1VGND
21. REARVOUT
22. GNDV
23. BCV
24. BCVGND

7.2 IC

K4S561632H-UL75
HY57V561620FLTP-H
UPD705103GM-180S1
TC74LCX08FTS1
TC7SH04FUS1
PD6336C
PEH103A
PEH077A
PEH104A
PEH078A
AK4388VT
MB86291APFVS-G-DL
TC7WH32FU
BD5335FVE
PE5580A
PE5581A
BD3931HFP
S-814A50AUC-BDO
UPD4723GSS1
TPS5120DBT
UPB1027GS
PEH100A8
PEH101A8
PD3390A
LC72720YVSS1
ADC12H034CIMSAS1
BA00CCWCP-V5
BA00CCWFP
NJM2505F
BA4558RFVM
PAL007C
RB5P0090M
TC74VHC221AFTS1
GP1UX51RK
PE5584A
S-93C46BR0I-J8
PD6567A
LZ9FE30
S-80859CNNB-B9K
BD9851EFV
EDS1232AATA-75
PCM1753DBQ
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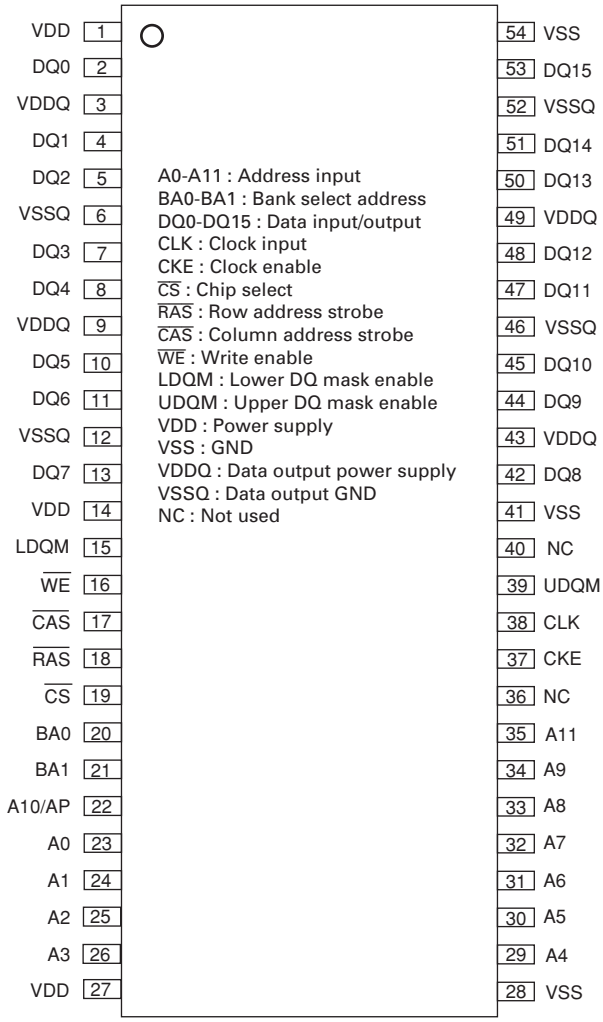
MN2DS0016
BD7996EFV

K4S561632H-UL75



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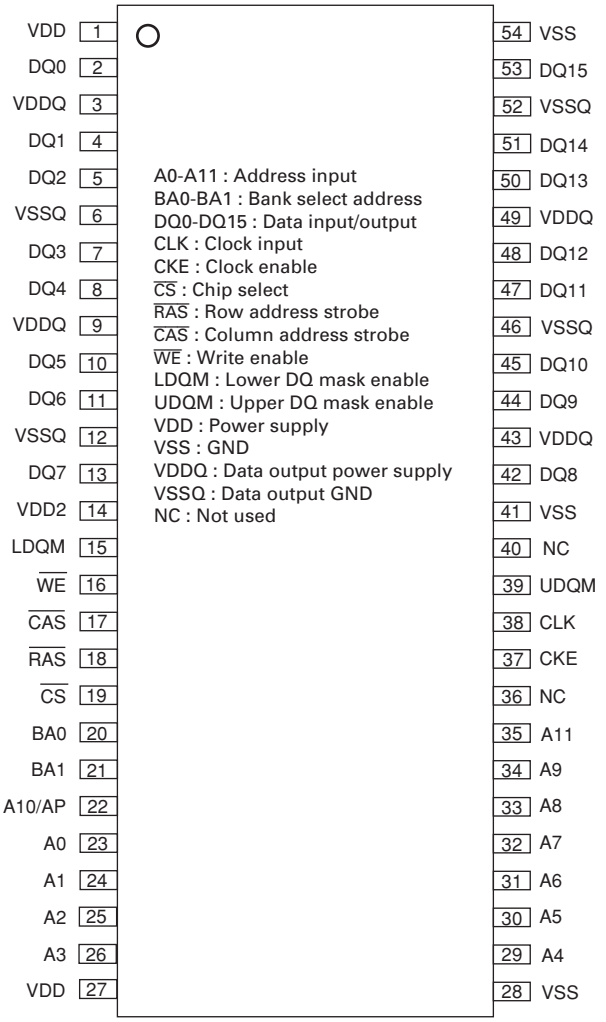

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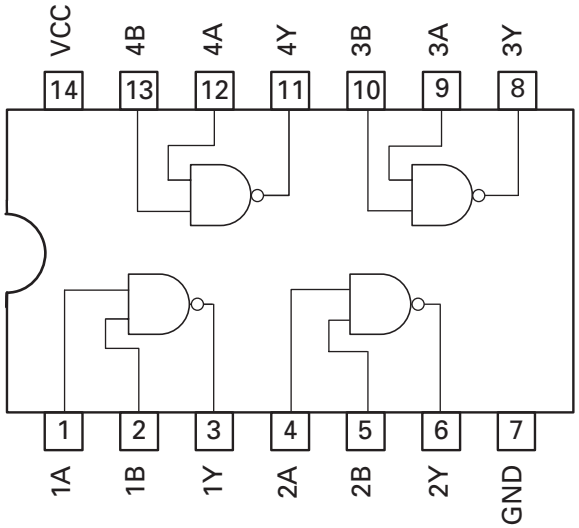

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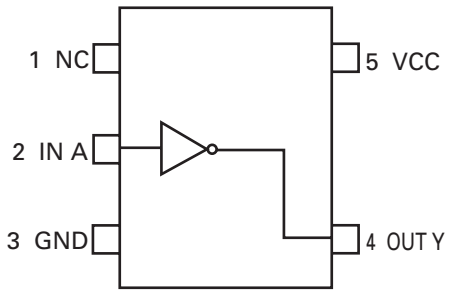


PD6336C

● Pin Arrangement Chart

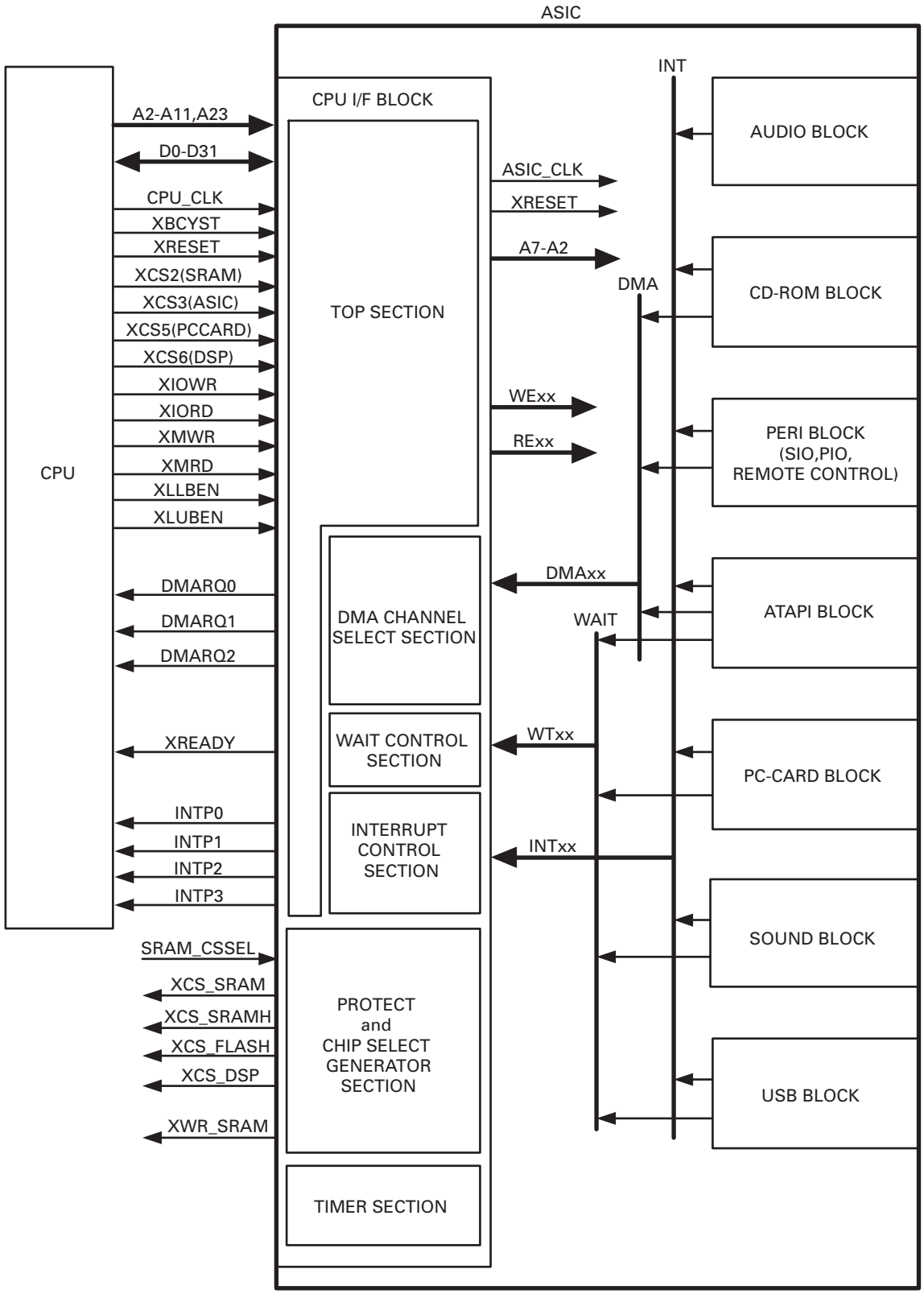
1	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64
2	85	160	159	158	157	156	155	154	153	152	151	150	149	148	147	146	145	144	143	142	63
3	86	161	228	227	226	225	224	223	222	221	220	219	218	217	216	215	214	213	212	141	62
4	87	162	229	288	287	286	285	284	283	282	281	280	279	278	277	276	275	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

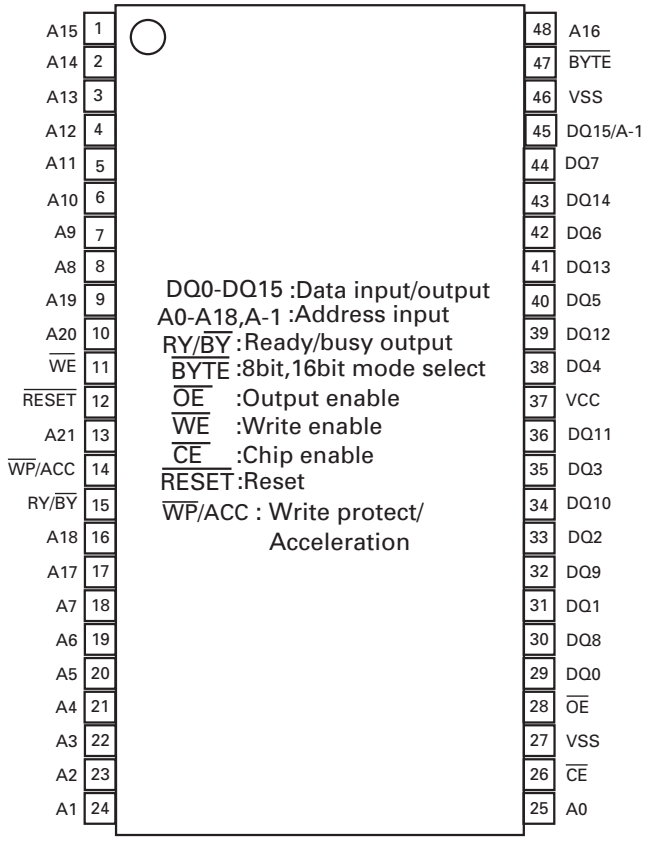
VSS	PIO27	DSP_BCLKI	PIO25	PIO24	PIO22	OVDD3	DSP_BDI	DSP_BFSI	DSP_XHINT	DSP_HRDY	OVSS6	DSP_BFSO	DSP_BCLKO	XCS_SRAMH	OVDD2	DSP_XRS	DSP_ATTCNT	D31	CD_MCLK	ADC_GCNT2	VSS
PIO29	PIO28	PIO26	D4	D6	OVSS7	D10	XCS_DSP	D14	PIO23	D18	D20	DSP_BDO	D24	PIO_OUT	OVSS5	TEST1	CD_LRCLK	CD_BLK	ADC_GCNT0	ADC_GCNT1	ADC_DATA
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

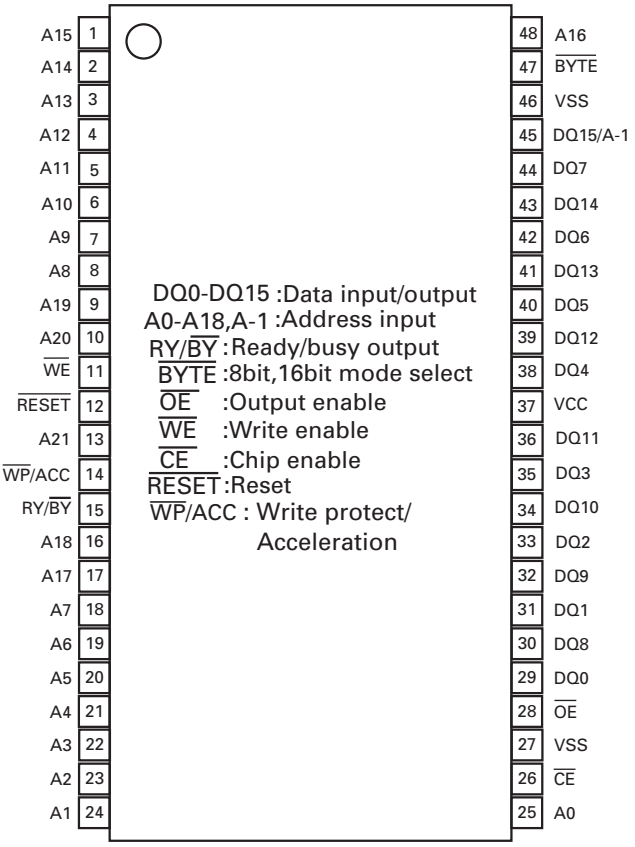
● Block Diagram Chart



PEH103A (UC)
PEH077A (EW5)



PEH104A (UC)
PEH078A (EW5)



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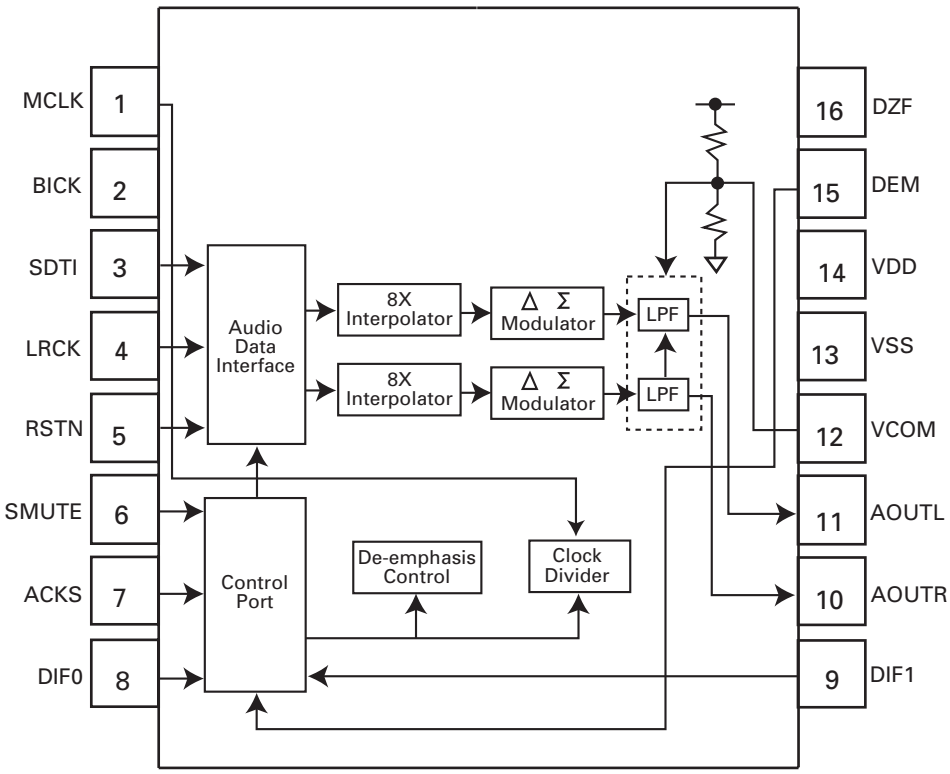

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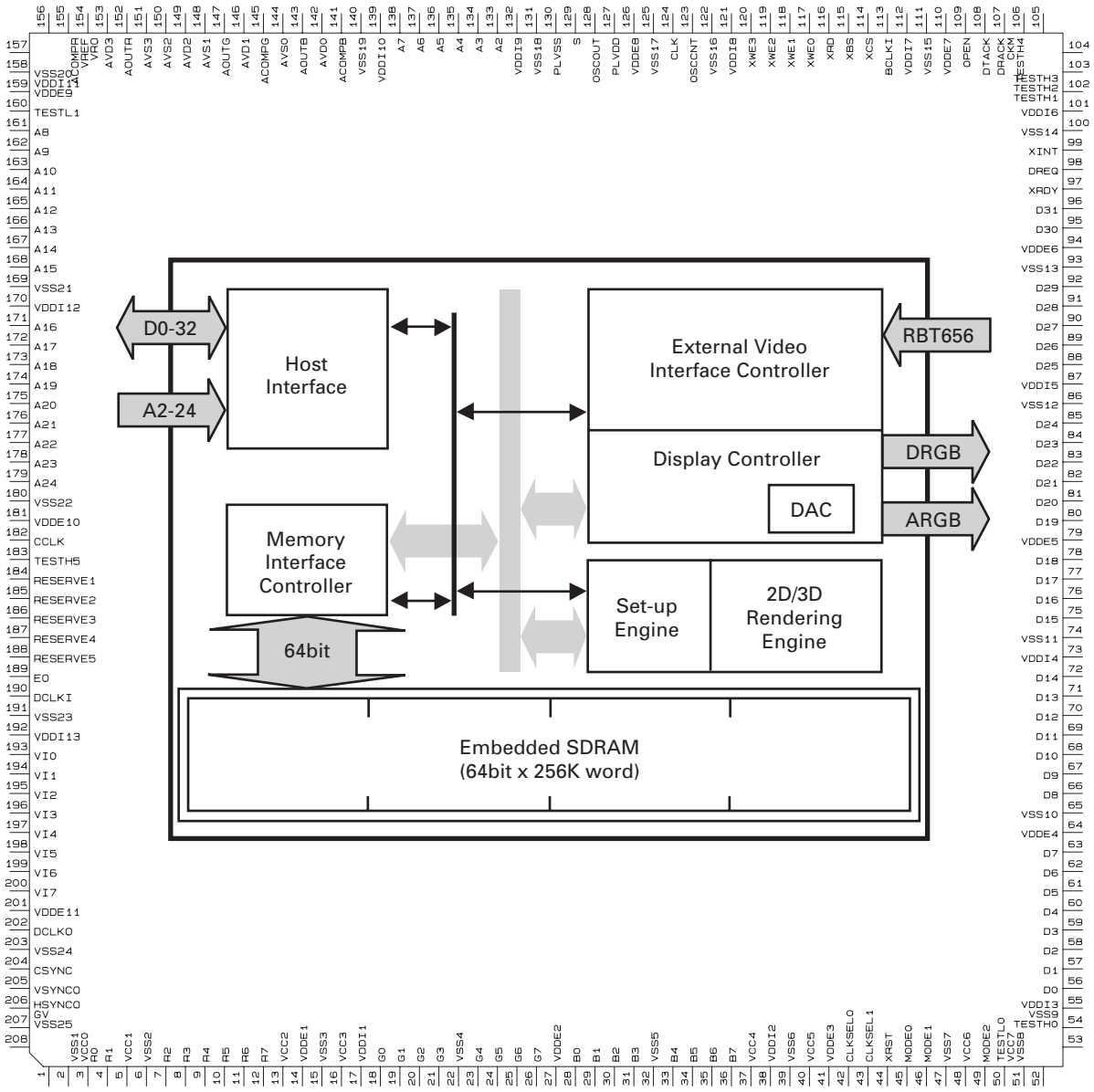

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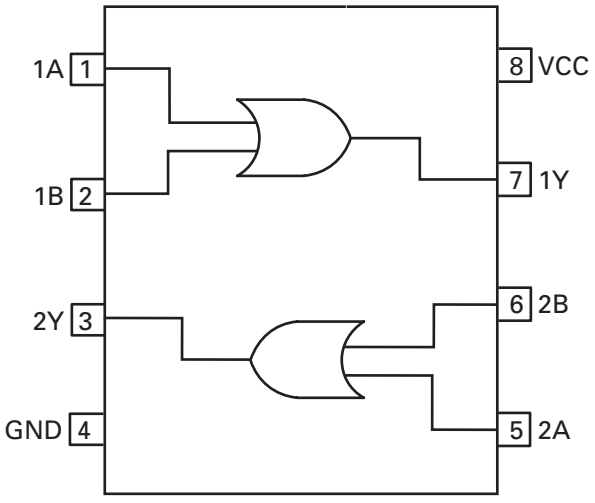

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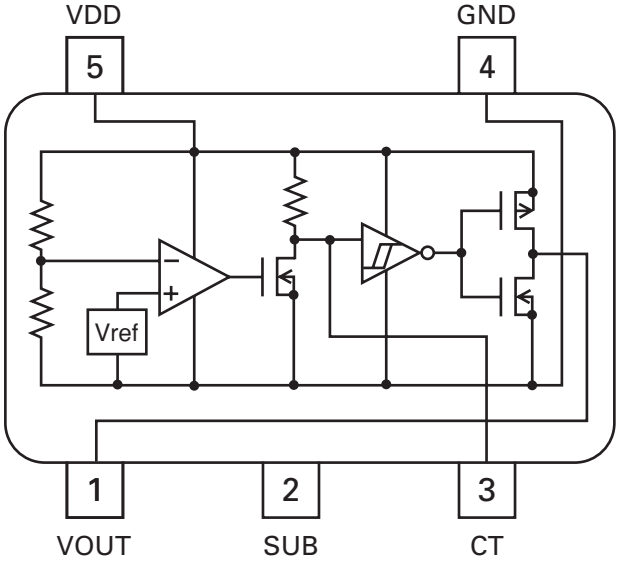


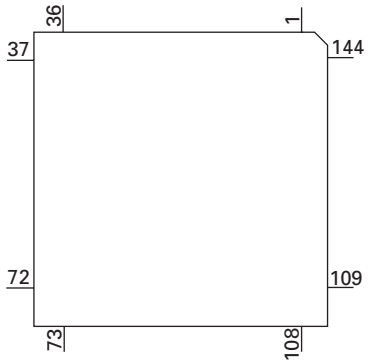
● Pin Functions (UC : PE5580A, EW5 : PE5581A)

Pin No.	Pin Name	I/O	Function and Operation
1	SIMUKE3	I	Type input
2	SIMUKE0	I	Type input
3	SIMUKE1	I	Type input
4	SIMUKE2	I	Type input
5	GND0		GND
6	ROMCS	O	ROM collection chip select output
7	ROMCLK	O	ROM collection clock output
8	ROMDATA	I/O	ROM collection data input/output
9	VDT	O	E. volume data output
10	VCK	O	E. volume data clock output
11	MUTEVO	O	E. volume mute output
12	VST	O	E. volume strobe output
13	ROT1	I	Rotary encoder input
14	ROT2	I	Rotary encoder input
15-21	NC		Not used
22	VDD0		Power supply
23	RDT	I	RDS : Data input (EW model)
24	RDS57K	I	RDS : 57 kHz pulse count input (EW model)
25	RDSLK	I	RDS : Lock signal input (EW model)
26-28	NC		Not used
29	$\overline{\text{WCONT}}$	I	Wired remote control SEL input
30-32	NC		Not used
33	DALMON	O	For consumption current reduction output
34	DD8CONT	O	MS5 power supply control output
35	NC		Not used
36	CLKOUT	O	System clock output
37	GND0		GND
38	CPUREG		CPU regulator connection
39	VDD0		Power supply
40	RESET	I	System reset input
41	VPP		Flash ROM writing voltage supply
42	FLASH1	I	Flash ROM writing data input
43	FLASH2	O	Flash ROM writing data output
44	FLASH3	O	Flash ROM writing clock output
45	LDET	I	RDS : PLL lock signal input (EW model)
46	TUNDI	I	FM/AM tuner data input
47	TUNDO	O	FM/AM tuner data output
48	TUNCLK	O	FM/AM tuner clock output
49-51	NC		Not used
52	MUTENS		Not used
53	NOSELL	O	L ch guide mute control output
54	NOSELR	O	R ch guide mute control output
55	NC		Not used
56	PGSEL		Not used
57	RCK	I	RDS : Data clock input (EW model)
58	TELIN	I	Mobile phone mute input
59	VPPON	O	Voltage supply control output
60	VDD1		Power supply
61	SREMOT	O	Control output for system remote
62	SYSPWR	O	System power supply control output
63	FANCONT	O	Fan output control output
64	ANTON	O	Control output for auto antenna
65	XVMUTE	O	Composition mute output
66	NC		Not used
67	FCONT	O	Control output for DD converter
68	NC		Not used
69	$\overline{\text{BLSENS}}$	I	B. up power supply sense input
70	XT2		Not used
71	XT1		Not used
72	GND2		GND
73	X1		Crystal oscillating element connection
74	X2		Crystal oscillating element connection
75	NMI		Not used

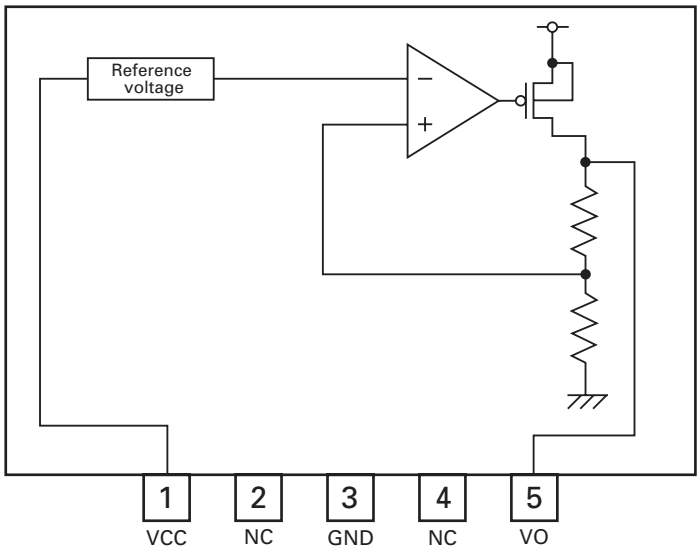
Pin No.	Pin Name	I/O	Function and Operation
76	ACONTA	O	Audio switch control output
77	ACONTB	O	Audio switch control output
78	DRAMPW	O	DRAM power supply control output
79	CCON	O	Navigation power supply control output
80	SIMUKE4	I	Type input
81-83	NC		Not used
84	VSEL1	O	Picture selector control output 1
85	VSEL2	O	Picture selector control output 2
86	BCVSW	O	Picture selector control output (Back camera)
87	NC		Not used
88	ASENBO	O	ASENBO output for IP-BUS output
89	IPPW	O	IP-BUS driver power supply control output
90	RX	I	IP-BUS data input
91	TX	O	IP-BUS data output
92	GND1		GND
93-95	NC		Not used
96	$\overline{\text{ASENS}}$	I	ACC power supply sense input
97	DEQON	O	DEQ connect enable output
98	MUTE	O	Mute output
99	GUIDEMUTE		Not used
100	TUNCE1	O	Chip enable output for FM/AM tuner
101	TUNCE2	O	Chip enable output for FM/AM tuner
102	VDD2		Power supply
103	CPUWDT	I	Watch dog timer input
104	RSTOUT	O	RSTOUT output
105	XCCSTBY	I	OFF processing completion input
106	RST3		Not used
107	MTOSYS	I	Monitor microcomputer UART communication (Reception) input
108	SYSTOM	O	Monitor microcomputer UART communication (Transmission) output
109	SWACPW	O	Monitor microcomputer power supply control output
110	PRGON	I	System microcomputer self programing mode ON input
111	RXIPOD	I	iPod : UART communication input
112	TXIPOD	O	iPod : UART communication output
113	IRQPWR	O	B. up OFF output
114	RSTOUT		NC
115	NC		NC
116	$\overline{\text{PSENS}}$	I	iPod : Connect sense input (communication)
117	CTOSYS	I	Navigation UART communication (Reception) input
118	SYSTOC	O	Navigation UART communication (Transmission) output
119	CPRESET		Not used
120	OPTON	O	Optical digital output
121,122	NC		Not used
123	PID	O	iPod : Communication mode notification output
124	PPW	O	iPod : Power supply control output
125	$\overline{\text{PSENSG}}$	I	iPod : Connect sense input (connector)
126	$\overline{\text{ILLSNS}}$	I	Illumination sense input
127	CPREADY		Not used
128	VDD1		Power supply
129	PBSNS	I	Parking brake sense input
130	$\overline{\text{BKSNS}}$	I	Back gear sense input
131	GND1		GND
132	$\overline{\text{OPTSNS}}$	I	Optical cable detection input
133	$\overline{\text{DVEJKY}}$	I	MS3 eject key input
134	NC		Not used
135	TUNSL	I	Signal level inptut for FM/AM tuner
136	BLEVSNS		Not used
137	WREMIN	I	Wired remote control AD input
138	REVMDL	I	Model type reversing switch input
139	FWSNS	I	iPod : Control input
140	NC		Not used
141	TESTIN	I	Testmode input
142	TIMEOUT	I	Time out input
143	ADCVDD		A/D converter power supply

Pin No.	Pin Name	I/O	Function and Operation
144	ADCGND		A/D converter GND

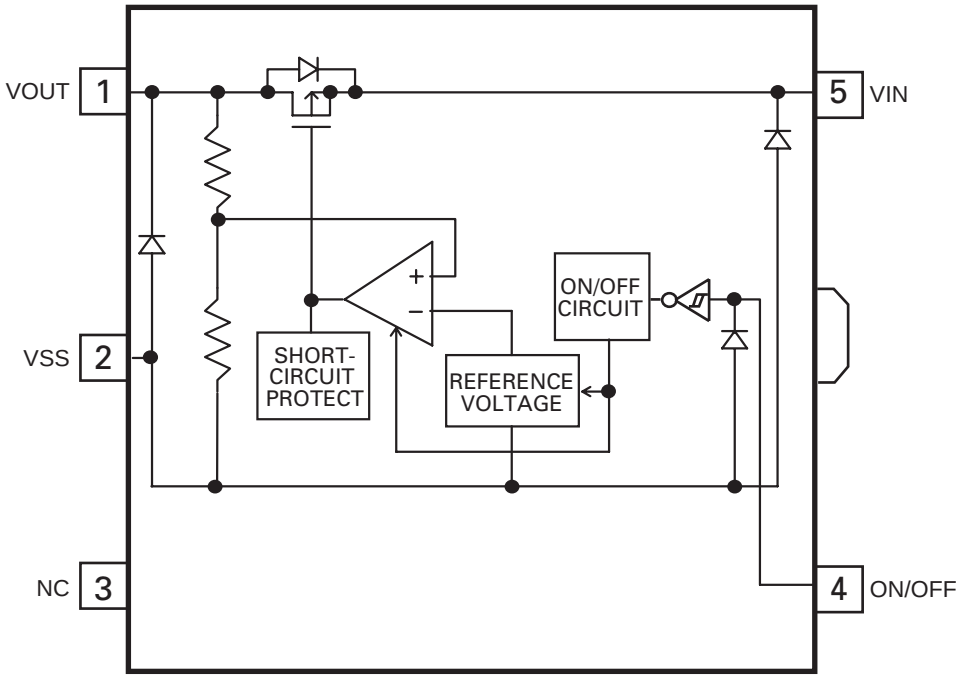
PE5580A (UC)
PE5581A (EW5)



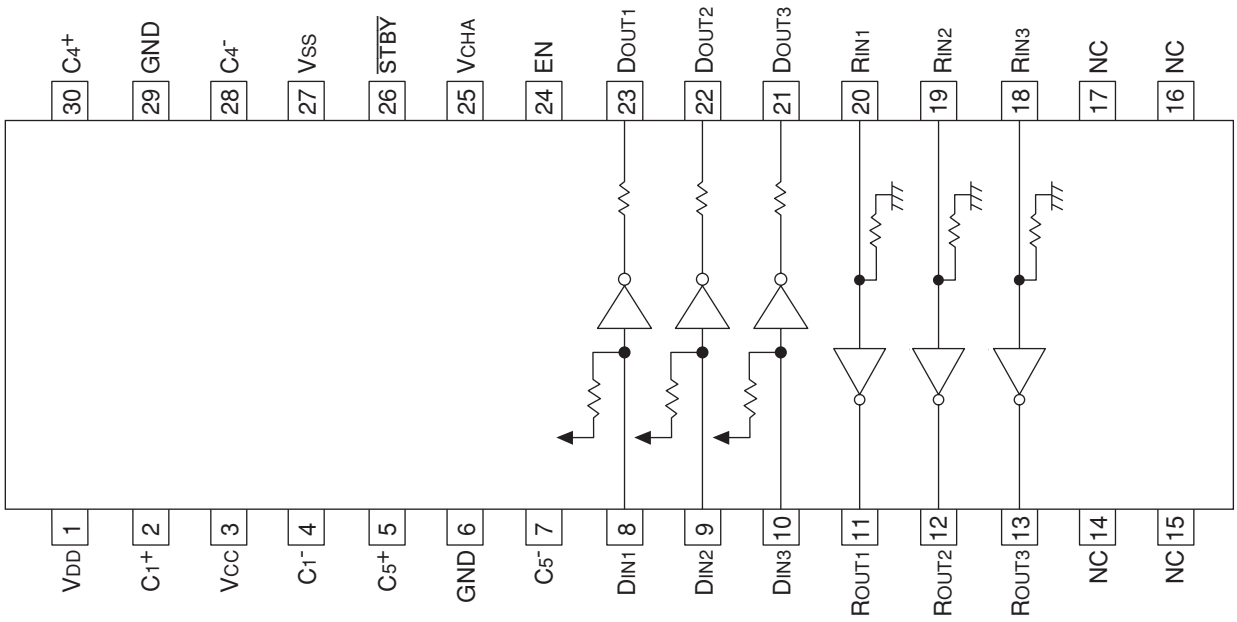
BD3931HFP



S-814A50AUC-BDO

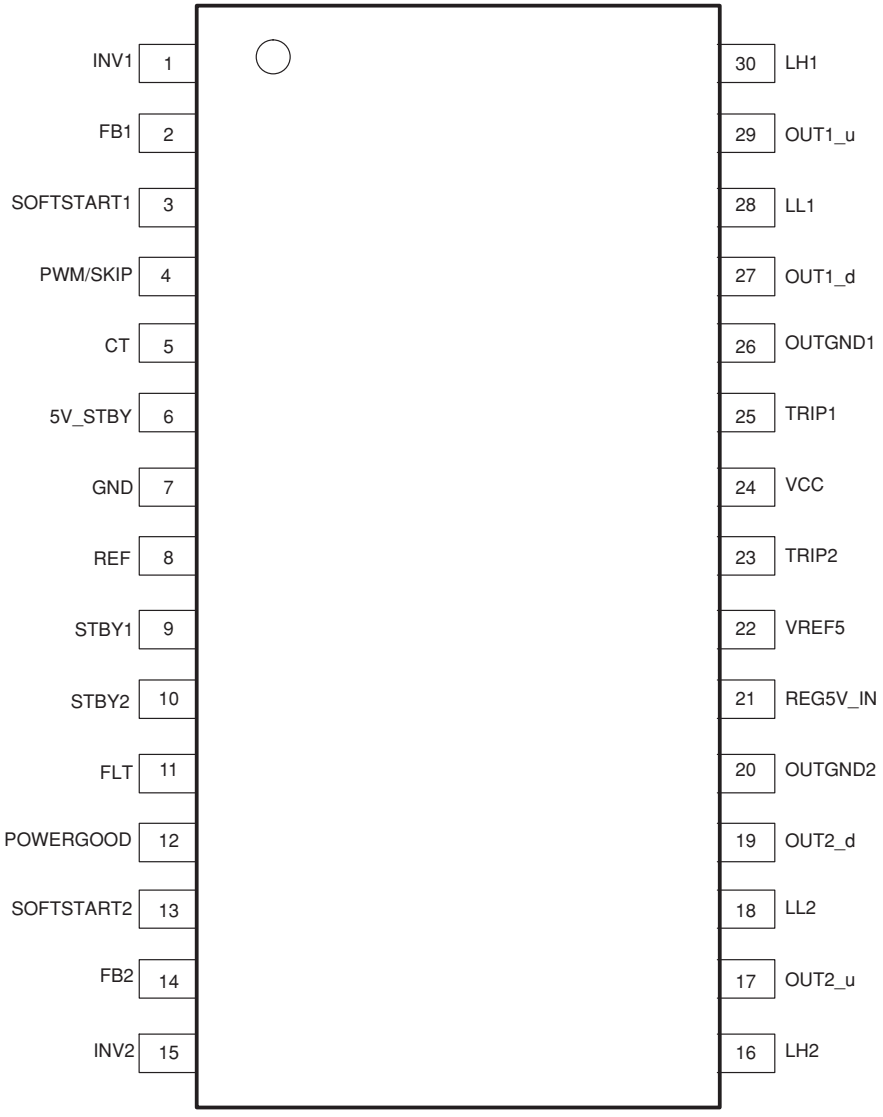


UPD4723GSS1

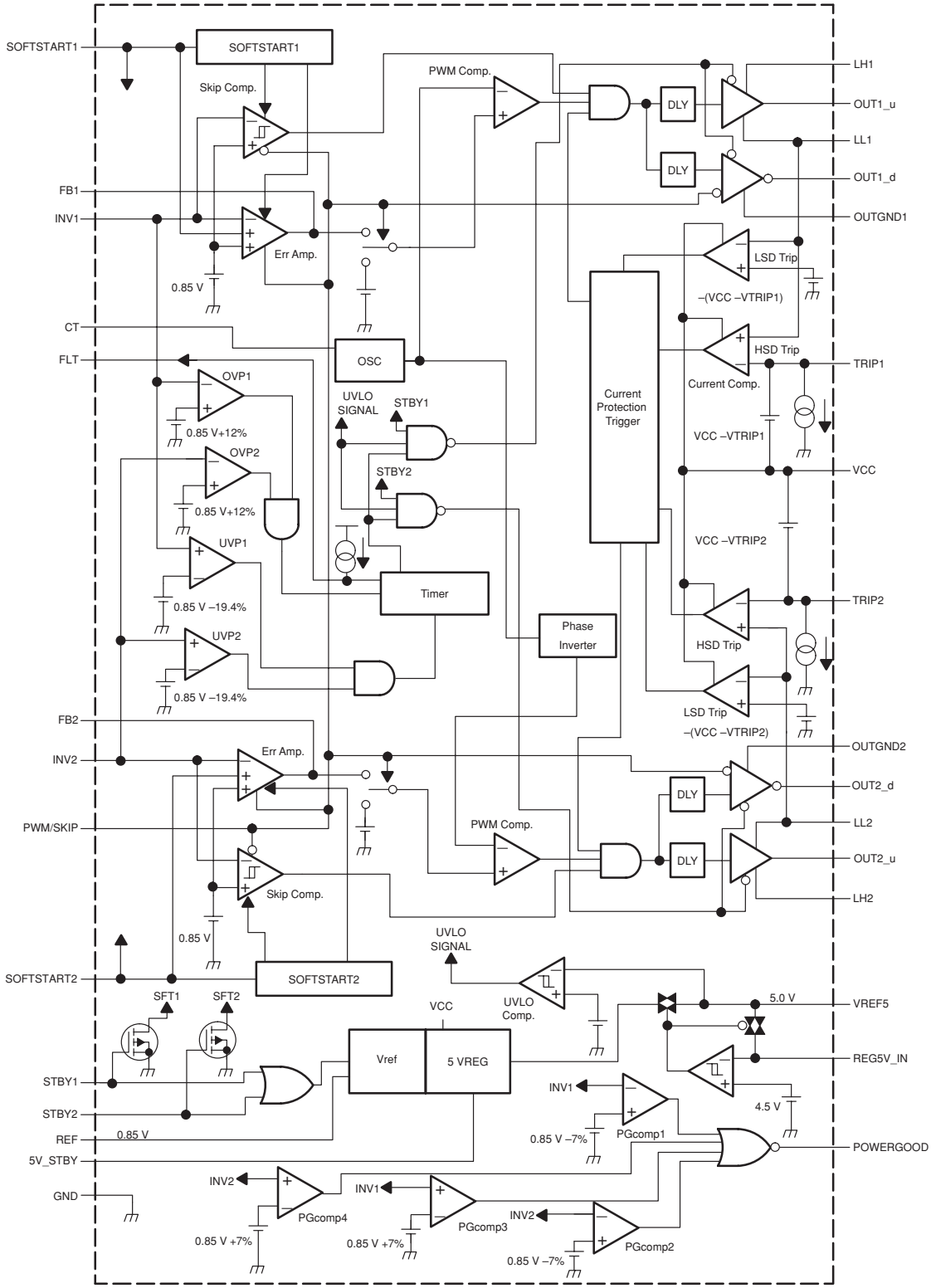


TPS5120DBT

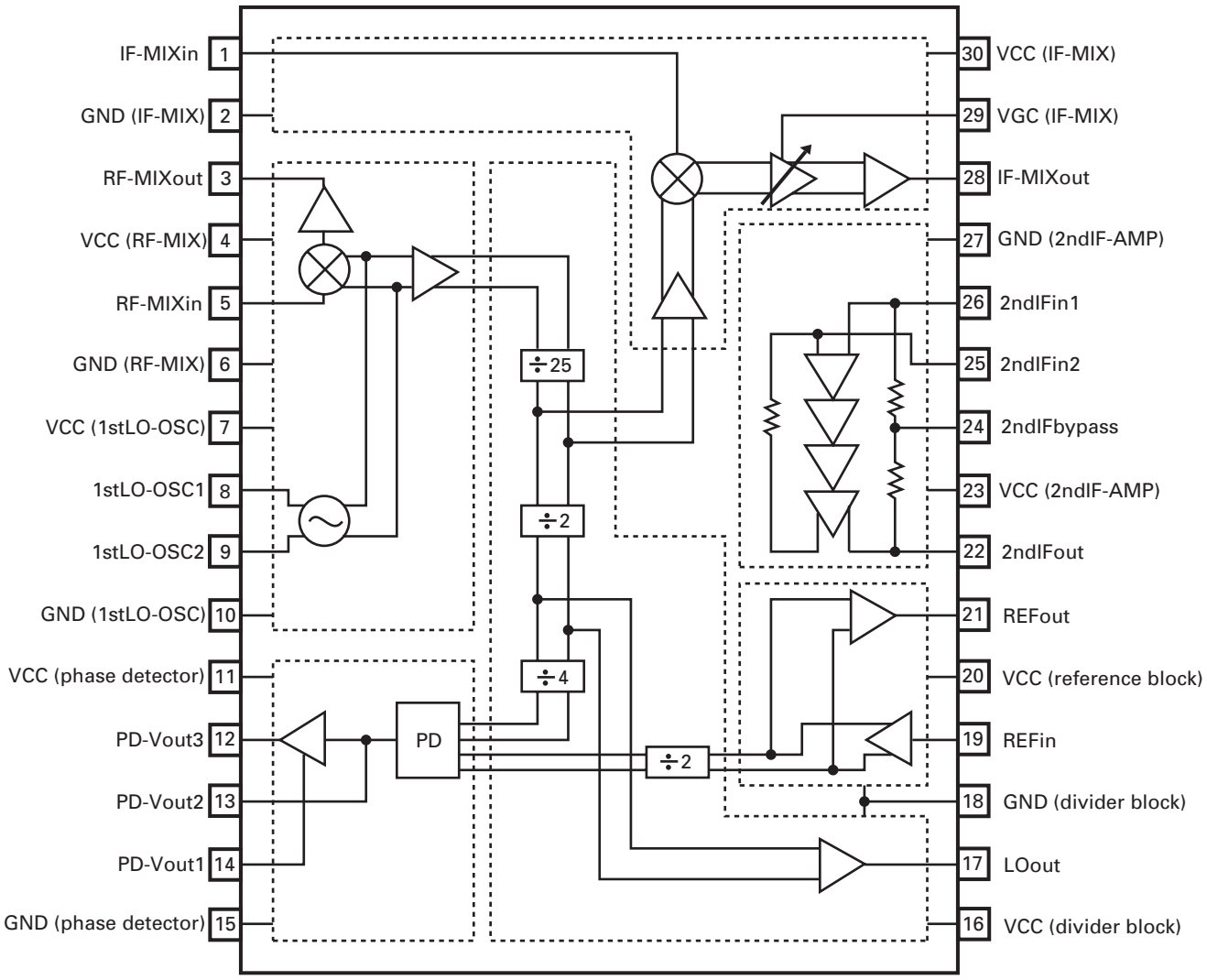
● Pin Arrangement Chart



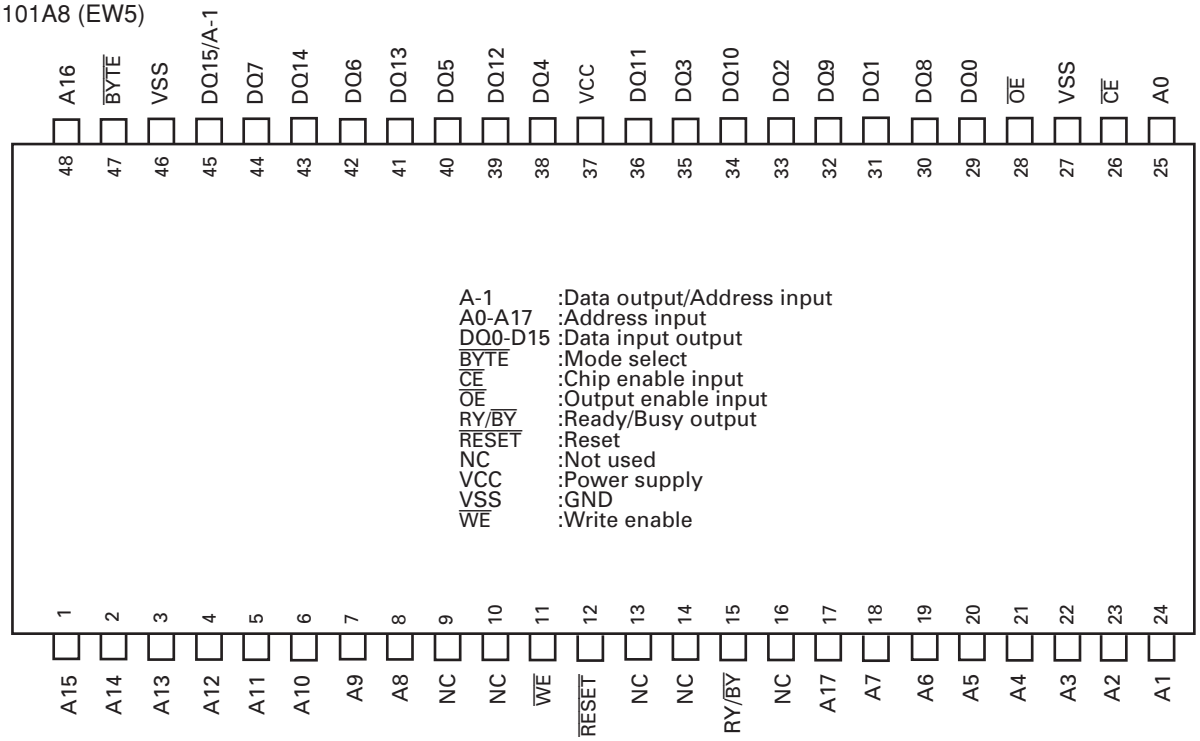
● Block Diagram Chart



UPB1027GS



PEH100A8 (UC)
PEH101A8 (EW5)



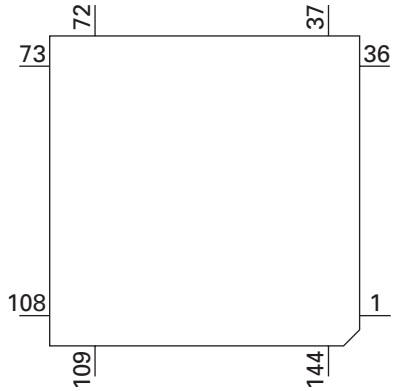
●Pin Functions(PD3390A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	VCC0			Power supply (3.3V)
2	VSS0			GND
3	TXD2	I/O		SIO2 Transmission data input / output
4	RXD2	I/O		SIO2 Reception data input / output
5	TXD1	O	C	SIO1 Transmission data output
6	RXD1	I		SIO1 Reception data input
7	TXD0	O	C	SIO0 Transmission data output
8	RXD0	I		SIO0 Reception data input
9	SPEED	I		SP I/F input
10	ADCSB	O	C	AD I/F output
11	ADSCK	O	C	AD I/F output
12	ADTXD	O	C	AD I/F output
13	ADRXD	I		AD I/F input
14	ADSRX	I		AD I/F input
15	ADIO0	I/O		AD I/F input / output
16	ADIO1	I/O		AD I/F input / output
17	ADIO2	I/O		AD I/F input / output
18	VCC1			Power supply (3.3V)
19	VSS1			GND
20	PWM	O		PWM signal output
21	PLINT	I		PLL I/F input
22	PLCE	O	C	PLL I/F output
23	PLSCK	O	C	PLL I/F output
24	PLTX	O	C	PLL I/F output
25	PLRX	I		PLL I/F input
26	PLIO0	I/O		PLL I/F input / output
27	PLIO1	I/O		PLL I/F input / output
28	PLIO2	I/O		PLL I/F input / output
29	DDINT	I		DARC I/F input
30	DDCE	O	C	DARC I/F output
31	DDSCK	O	C	DARC I/F output
32	DDTX	O	C	DARC I/F output
33	DDRX	I		DARC I/F input
34	DDIO0	I/O		DARC I/F input / output
35	DDIO1	I/O		DARC I/F input / output
36	DDIO2	I/O		DARC I/F input / output
37	TIOA0	I/O		Parallel input / output
38	TIOA1	I/O		Parallel input / output
39	TIOB0	I/O		Parallel input / output
40	TIOB1	I/O		Parallel input / output
41	VCC2			Power supply (3.3V)
42	VSS2			GND
43-53	A19-9	I/O		Address bus input / output
54	VCC3			Power supply (3.3V)
55	VSS3			GND
56-64	A8-0	I/O		Address bus input / output
65	VCC4			Power supply (3.3V)
66	VSS4			GND
67-82	D0-15	I/O		Address bus input / output
83	VCC5			Power supply (3.3V)
84	VSS5			GND
85	WRHB	I/O		Upper data write strobe input / output
86	WRLB	I/O		Lower data write strobe input / output
87	RDB	I/O		Read data strobe input / output
88	CS2B	I/O		Chip select aria 1 for external storage input / output
89	CS0B	I/O		Chip select aria 0 for ROM input / output
90	VCC6			Power supply (3.3V)

Pin No.	Pin Name	I/O	Format	Function and Operation
91	VSS6			GND
92	TEST2			Test mode
93	CKOEB	I		CK output enable input
94	CK	O	C	CPU clock output
95	CS5B	O	C	DRAM low address strobe output
96	CS3B	O	C	DRAM column address strobe output
97	CS1B	O	C	DRAM column address upper byte strobe output
98	RTCVSS1			Power supply (3.3V)
99	SRAMB	I		Backup memory select input
100	STANBYB	I		Stand by signal input
101	RTCVSS0			GND
102	XRTCIN	I		Sub crystal oscillator input (RTC)
103	XRTCOUT	O	C	Sub crystal oscillator output (RTC)
104	RTCVCC			Power supply (3.3V)
105	PCKSEL0	I		Processor clock select input
106	PCKSEL1	I		Processor clock select input
107	CCKSEL	I		CRCK signal select input
108	CCKDIR	I/O		Carrier clock direct input / inverter amp output
109	CCKVCC			Power supply (3.3V)
110	CRCK	I		Carrier clock input
111	CCKGND			GND
112-118	PC0-6	I/O		Parallel input / output
119	NMI			Connect to VCC
120	RESETB	I		System reset input
121	MSTRSTB	I		Test reset input
122	TEST0	I		Test mode input
123	TEST1	I		Test mode input
124	REFSEL	I		GPS reference clock select input
125	REFCK	I		Reference clock input
126	VCC7			Power supply (3.3V)
127	VSS7			GND
128	XAUXIN	I		Sub crystal oscillator output input (AUX)
129	XAUXOUT	O	C	Sub crystal oscillator output (AUX)
130-133	PIN0-3	I		Parallel input
134-137	PIO4-7	I/O		Parallel input / output
138	TXD3	I/O		SIO3 Transmission data input / output
139	RXD3	I/O		SIO3 Reception data input / output
140	BOWWOWB	O	C	Watch dog timer output
141	IFDIR	I/O		IF direct input / IF inverter amp output
142	IFVCC			Power supply (3.3V)
143	IF	I		IF input
144	IFGND	I		IF amp GND input

PD3390A

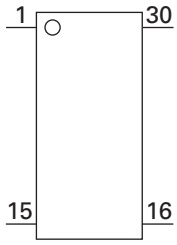
Format	Meaning
C	CMOS



● Pin Functions(LC72720YVSS1 : EW5)

Pin No.	Pin Name	I/O	Function and Operation
1	VREF	O	Reference voltage output
2	MPXIN	I	Base band (multiplexed) signal input
3	Vdda		Analog system power supply (+ 5 V)
4	NC		Not used
5	Vssa		Analog system GND
6	FLOUT	O	Sub carrier output (filter output)
7	CIN	I	Sub carrier input (comparator input)
8	NC		Not used
9	T1	I	Test input (connect to GND)
10	T2	I	Test input (stand-by control)
11	T3	O	RDS clock output
12	NC		Not used
13	T4	O	RDS data output
14	T5	O	Soft-decision control data output
15	XOUT	O	Crystal oscillator output
16	XIN	I	Crystal oscillator input
17	Vddd		Digital system power supply (+ 5 V)
18	Vssd		Digital system GND
19	NC		Not used
20	T6	O	Error status,regenerated carrier and error block count outputs
21	T7	O	Error correction status, SK detection and error block count outputs
22	SYNC	O	Block synchronization detection output
23	NC		Not used
24	RDS-ID	O	RDS detection output
25	DO	O	Data output
26	CL	I	Clock input
27	NC		Not used
28	DI	I	Data input
29	CE	I	Chip enable input
30	SYR	I	Synchronization and RAM address reset input

LC72720YVSS1 (EW5)



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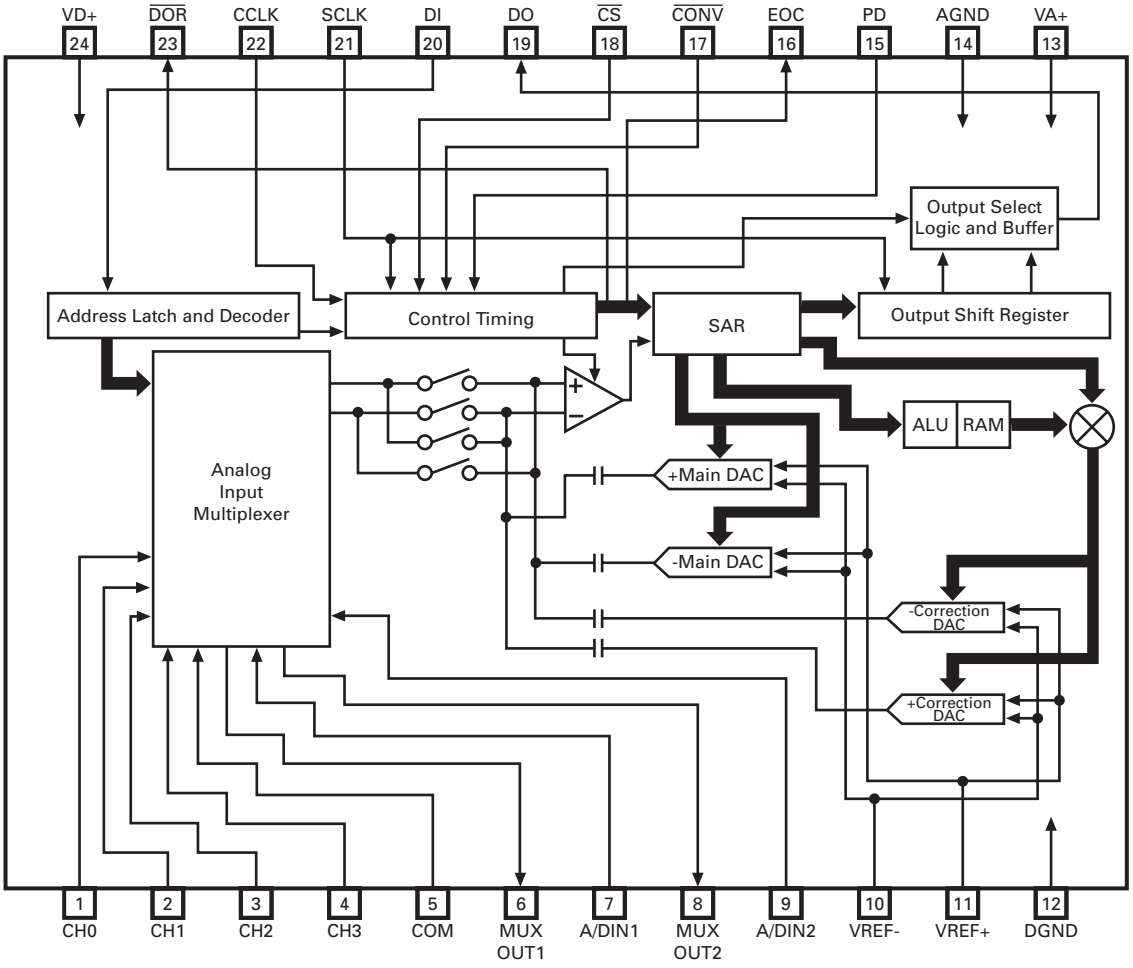

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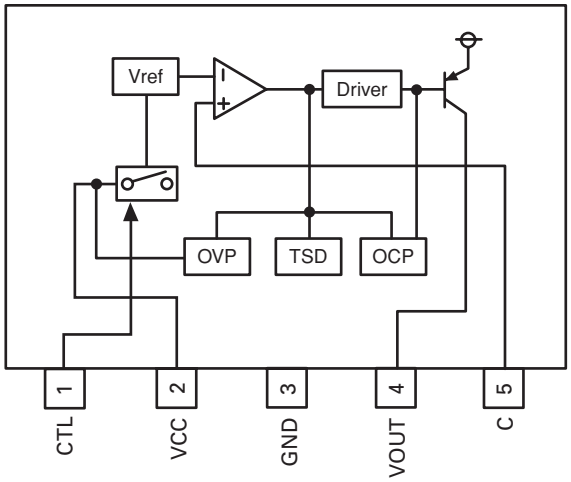

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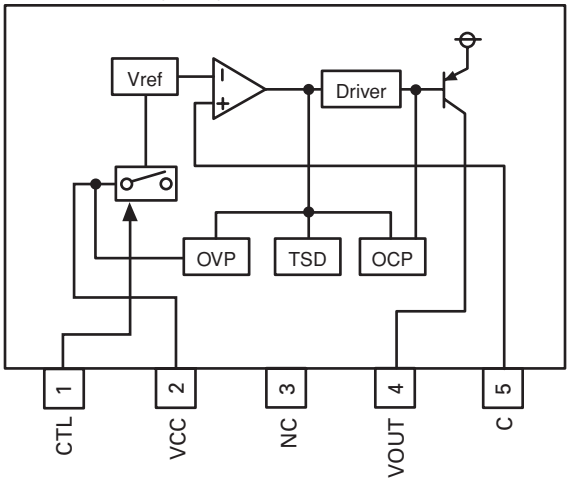

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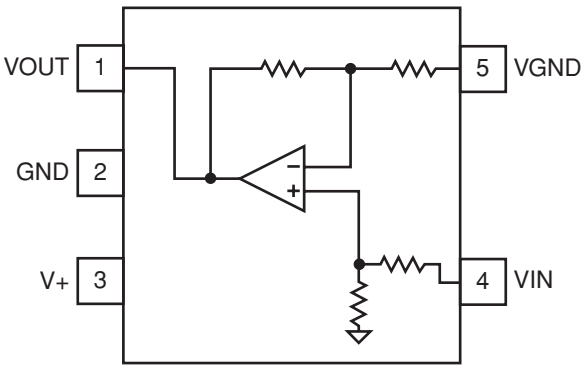

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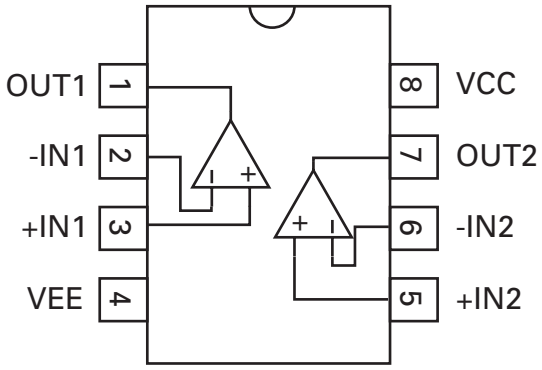

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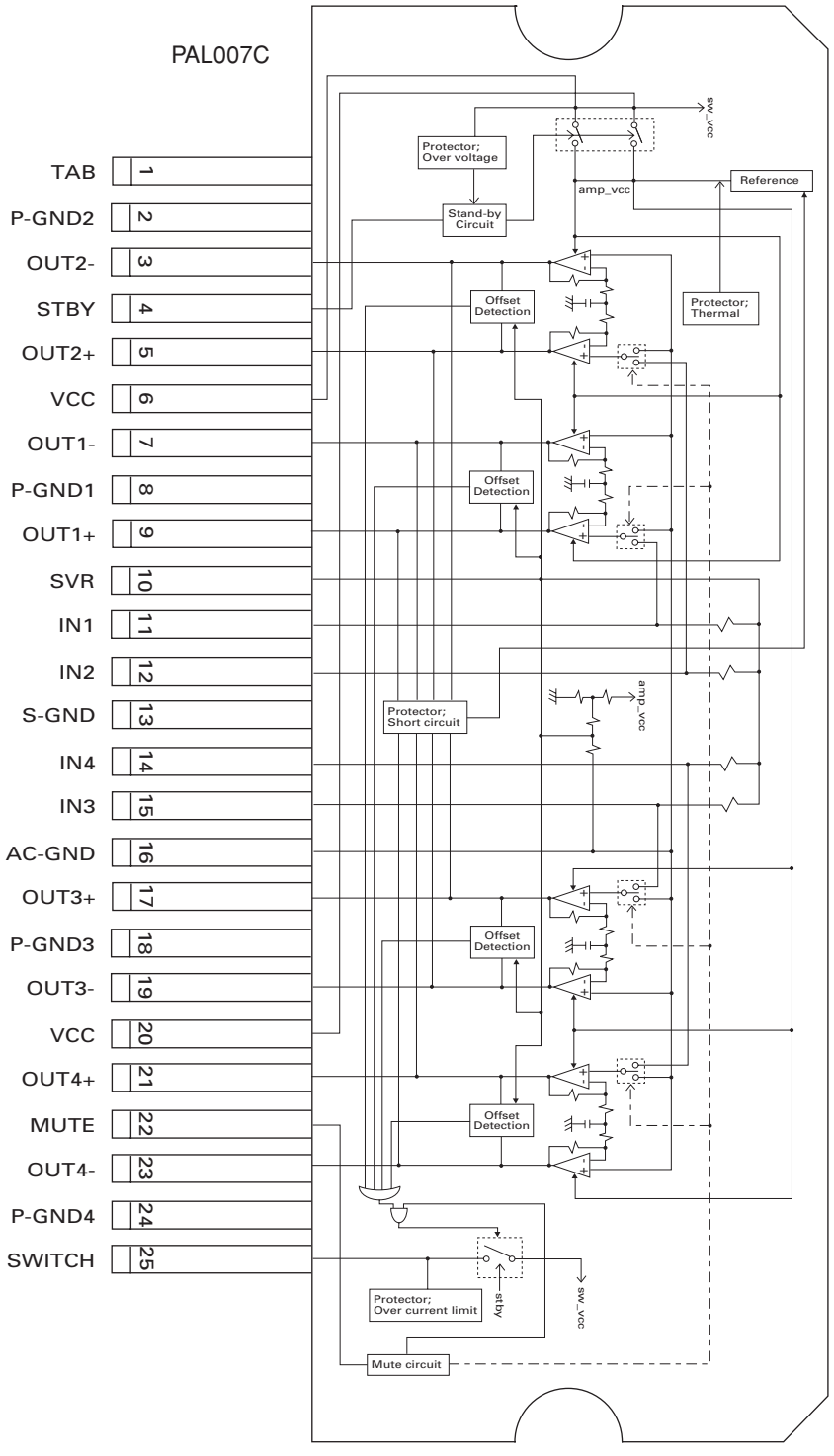
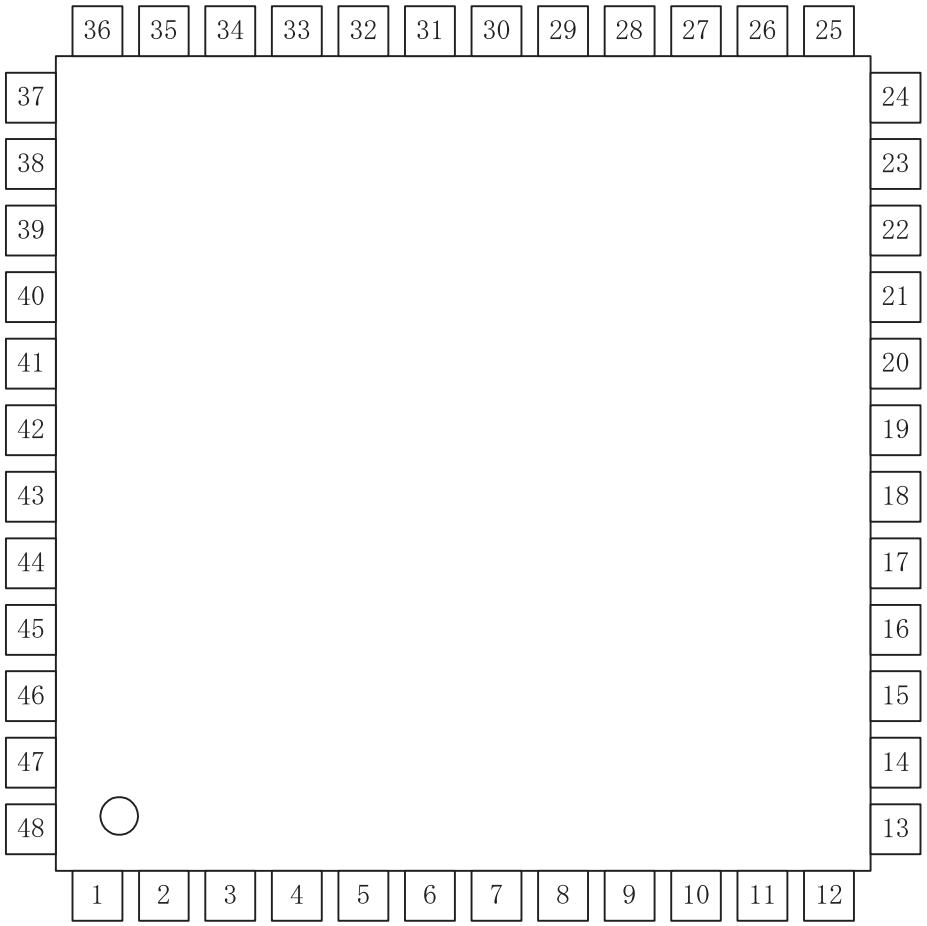


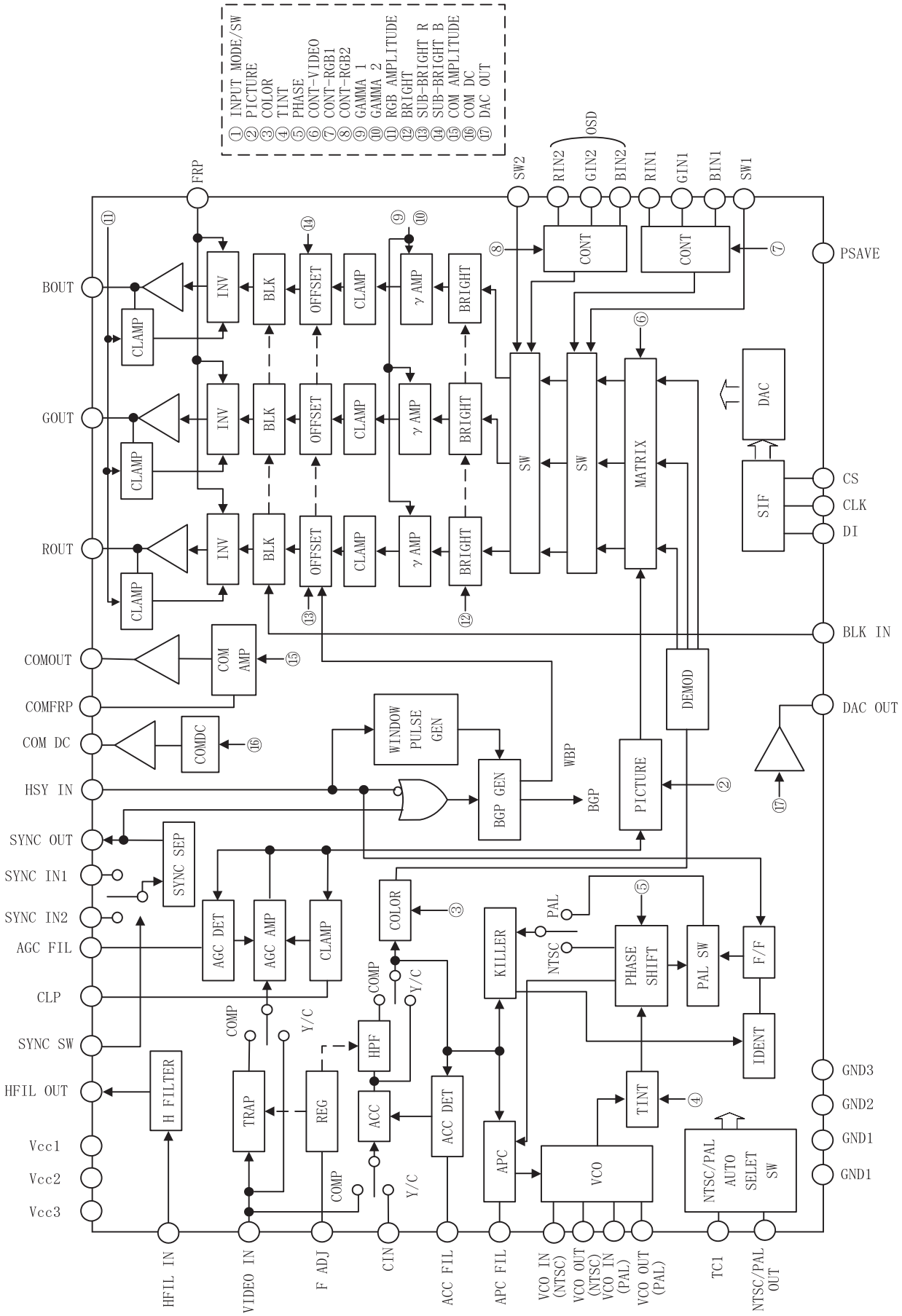
RB5P0090M

● Pin Arrangement Chart

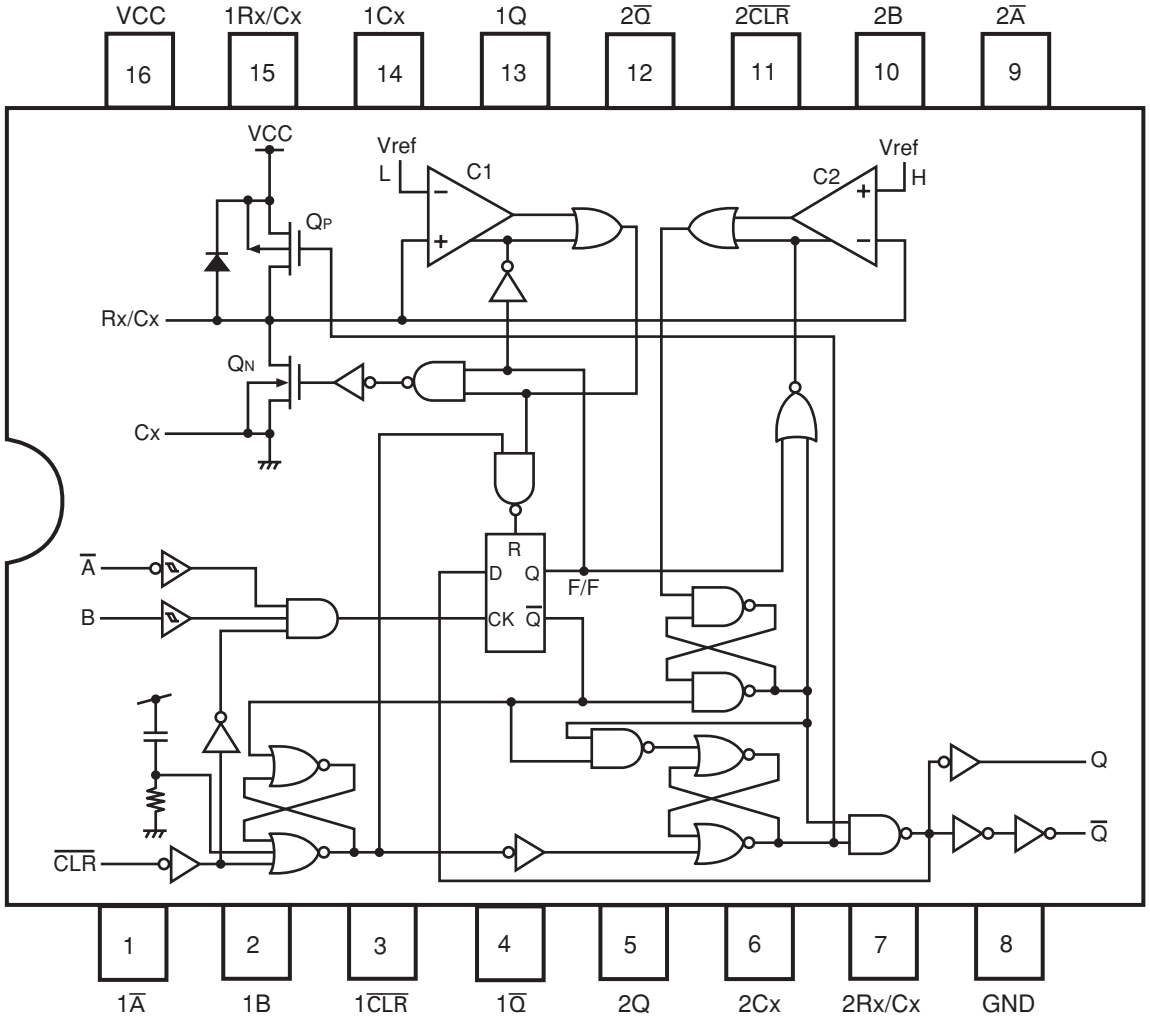
Pin No.	Pin Name	Pin No.	Pin Name	Pin No.	Pin Name
1	HSY IN	17	GIN2	33	ROUT
2	SYNC OUT	18	RIN2	34	GOUT
3	SYNC IN2	19	HFIL IN	35	BOUT
4	SYNC IN1	20	VIDEO IN	36	Vcc2
5	HFIL OUT	21	AGC FIL	37	COM DC
6	SYNC SW	22	CLP	38	GND3
7	GND1	23	CIN	39	COMOUT
8	F ADJ	24	ACC FIL	40	Vcc3
9	Vcc1	25	TC1	41	COM FRP
10	PSAVE	26	VCO IN(NTSC)	42	FRP
11	SW2	27	VCO OUT(NTSC)	43	BLK IN
12	SW1	28	APC FIL	44	DAC OUT
13	BIN1	29	VCO IN(PAL)	45	NTSC/PAL OUT
14	GIN1	30	VCO OUT(PAL)	46	CLK
15	RIN1	31	GND1	47	DI
16	BIN2	32	GND2	48	CS



● Block Diagram Chart



TC74VHC221AFTS1



GP1UX51RK

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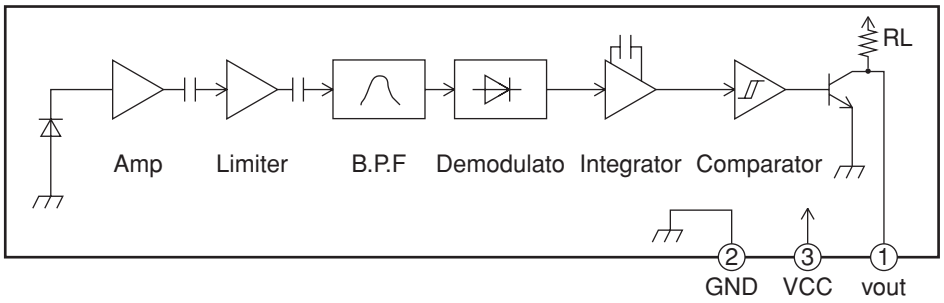
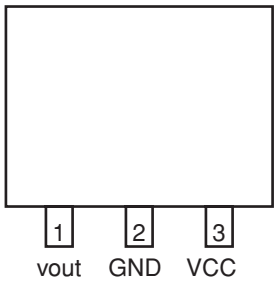


● Pin Arrangement Chart

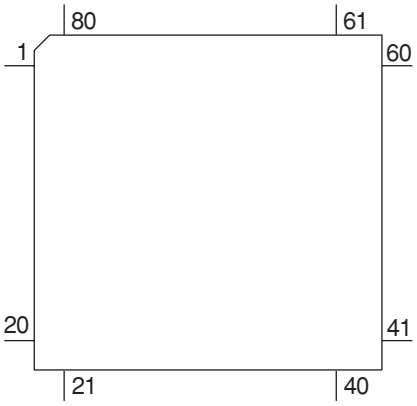


● Pin Functions (PE5584A)

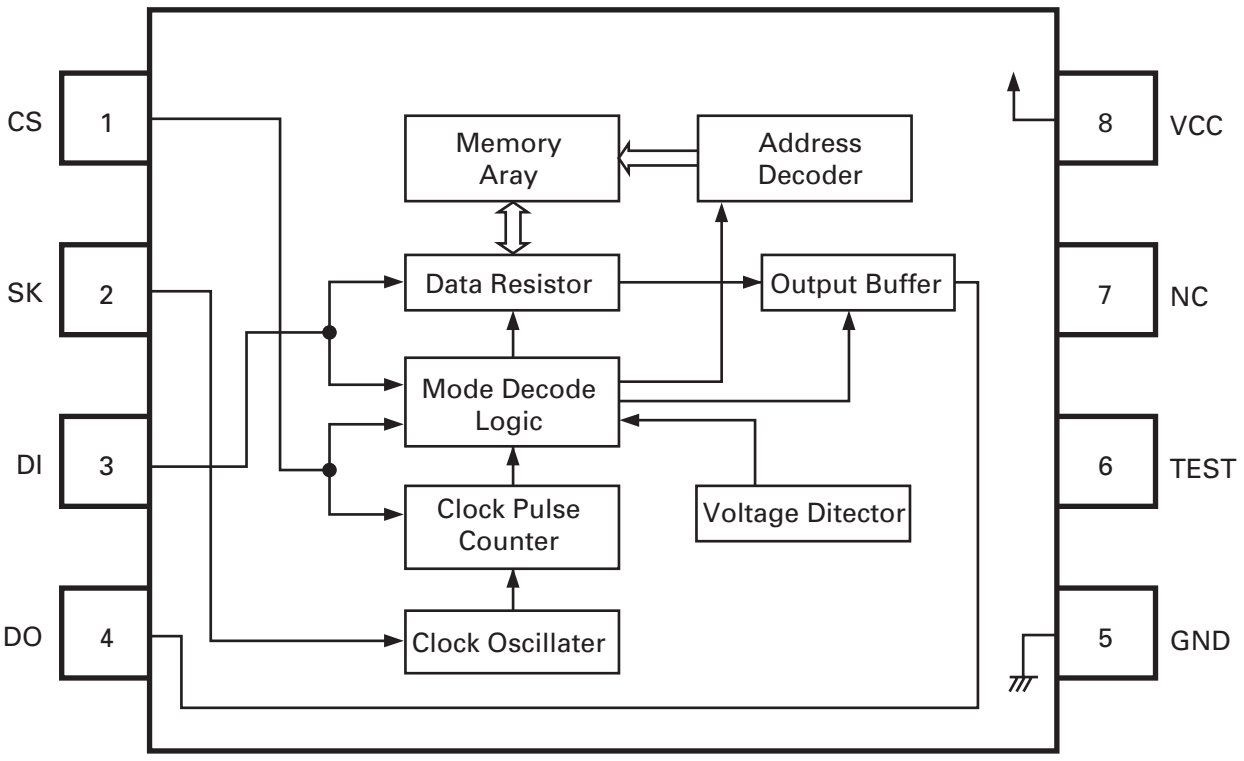
Pin No.	Pin Name	I/O	Function and Operation
1	NC		Not used
2	PNLADX	I	Touch panel X directions A/D input
3	PNLADY	I	Touch panel Y directions A/D input
4	AVSS		A/D converter GND
5	DIMMER	O	Dimmer analog output
6	DOTCLK		Pixel align
7	AVREF1		D/A converter standard voltage
8	RXD	I	Data input from system microcomputer
9	TXD	O	Data output from system microcomputer
10	TSCK	I	Test mode clock input
11	MVIPW	O	Video power control output
12	LCDDT	I/O	LCD data input/output
13	LCDCK	O	LCD clock output
14	LCDCS	O	LCD chip select output
15	BLKDRV	O	Mute output
16	OSDTRE		Not used
17	OSDDT	O	OSD data output
18	OSDCK	O	OSD clock output
19	OSDCS	O	OSD chip select output
20	EPRRST	I	EEPROM data initialization mode input
21	EPRTEST	I	EEPROM data setting mode input
22	STEST	I	The monitor independent mode input for aging
23	TPTEST	I	Touch panel test mode input
24	PNLXV	O	Touch panel X directions power supply control output
25	PNLYV	O	Touch panel Y directions power supply control output
26	PNLVD	O	Touch panel power supply control output
27	RGBSEL	O	RGB/ C. Video select output
28	PSAVE	O	LCD IC power save output
29	COLSYS	O	NTSC/PAL detect output
30	INVBST	O	CCFL current boost output
31	OSDDIPS	O	OSD display control output
32	MFLPW	O	Back light power supply control output
33	VSS1		GND
34	MODS	O	Screen mode select output
35	MODW	O	Screen mode select output
36	MODN	O	Screen mode select output
37	NC		Not used
38	ROMDATA	I/O	ROM collection data input/output
39	ROMCLK	O	ROM collection clock output
40	ROMCS	O	ROM collection chip select output
41,42	NC		Not used
43	FREQSW	O	DC convertor select output
44	INVPUL	O	Inverter pulse output
45	NC		Not used
46	EPRDI	I	EEPROM serial data input
47	EPRDO	O	EEPROM serial data output
48	EPRCK	O	EEPROM serial clock output
49	EPRCS	O	EEPROM chip select output
50	NC		Not used
51	TESTIN	I	Chip test input
52	LEDDT	I/O	LED data input/output
53	LEDCK	O	LED clock output
54	LEDCS	O	LED chip select output
55	PHTEST	I	PHASE adjustment mode input
56	PALARI	I	Model type detect input
57	JUC	I	Model type detect input
58	ILMTEST	I	RGB illumination test mode input
59	SRVTEST	I	Adjustment mode input for service
60	RESET	I	Reset input
61	REMIN	I	Remote control data input

Pin No.	Pin Name	I/O	Function and Operation
62	VDDSENS	I	EEPROM power supply sense input
63	NC		Not used
64	VSYNC	I	Vertical synchronizing signal input
65,66	NC		Not used
67	VSS0		GND
68	VDD1		Power supply
69	X2		Crystal oscillating element connection
70	X1		Crystal oscillating element connection
71	VPP	I	Flash writing input
72	XT2		Not used
73	XT1		GND
74	VDD0		Power supply
75	AVDD		A/D converter power supply
76	KDT0	I	Analog key data intput
77	KDT1	I	Analog key data intput
78	KDT2	I	Analog key data intput
79	KDT3	I	Analog key data intput
80	TEMPSEN	I	Temperature detection input

PE5584A

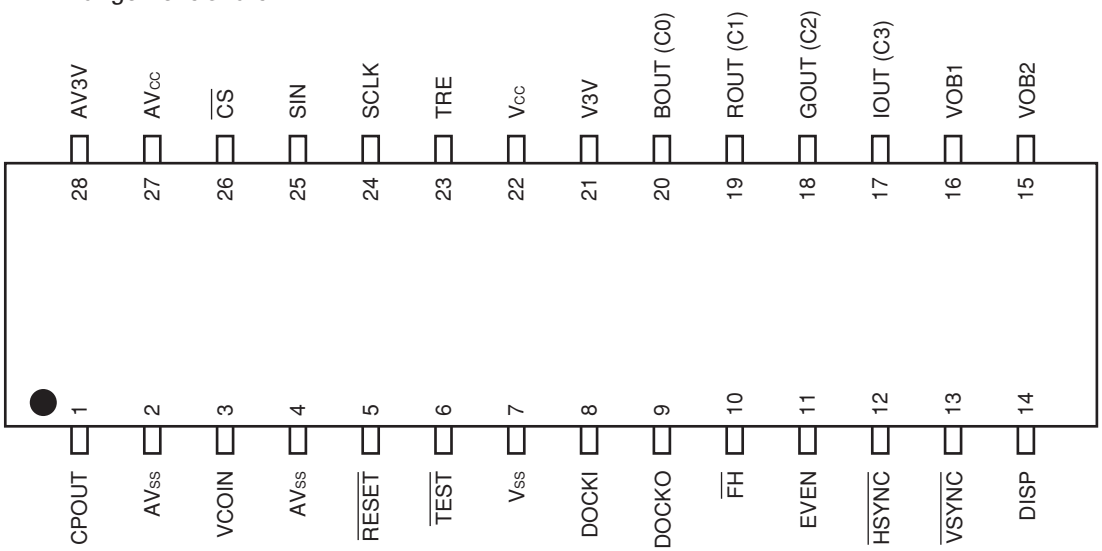


S-93C46BR0I-J8

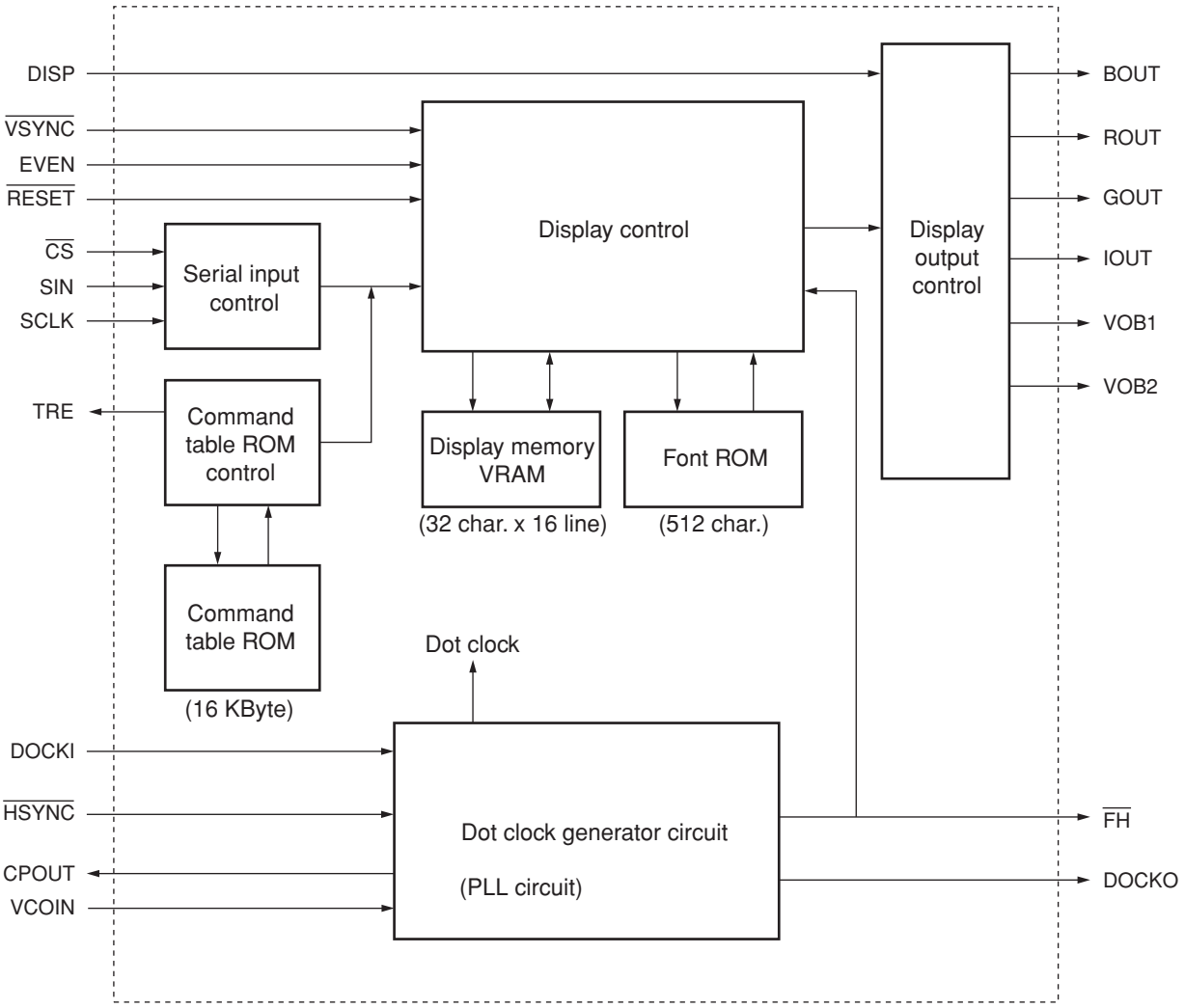


PD6567A

● Pin Arrangement Chart



● Block Diagram Chart

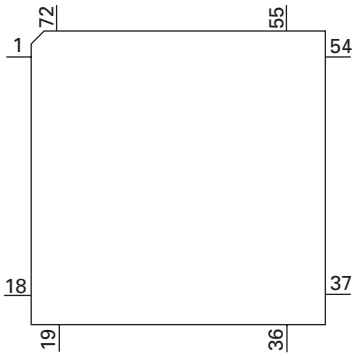


● Pin Functions (LZ9FE30)

Pin No.	Pin Name	I/O	Function and Operation
1	VIN	I	Vertical synchronizing signal input
2	CVOP	O	Vertical synchronous separation signal output
3	HON_E	O	Test setting output
4	HSY	I/O	Horizontal synchronizing signal input/output
5	VDD1		Power supply
6	FRPT	O	Polarity reversing signal output (common electrode)
7	SYNI	I	Compound synchronous signal input
8	FRPV	O	Polarity reversing signal output (video signal)
9	GND1		GND
10	VCS	O	Normal mode mask signal output
11	NTPC	I	NTSC/PAL setting input
12	VSY	I/O	Vertical synchronizing signal input/output
13	HRVC	I	Horizontal scanning direction setting input
14	VRVC	I	Vertical scanning direction setting input
15	CLKC	I	Clock synchronous signal I/O setting input
16	MDS	I	Display mode setting input
17	GND2		GND
18	EXCL	I/O	Clock input/output
19	GND3		GND
20	MDW	I	Display mode setting input
21	MDN	I	Display mode setting input
22	PWM	O	Backlight control signal output
23	MON_F	O	Test setting output
24	VSWC	I	VSWO output control input
25	VSWI	I	Video system switch input
26	VSWO	O	Video system switch output
27	VDD2		Power supply
28	SPOI	I/O	Start signal input/output for source driver
29	GND4		GND
30	PCP	O	Test setting output
31	CLOC	I	EXCL port output mode switch input
32	MOD2	O	Control signal output for gate driver
33	HR	O	Horizontal scanning setting output for source driver
34	IVR	O	Vertical scanning setting output for gate driver
35	PS	O	Control signal output for source driver
36	CTR	O	Control signal output for source driver
37	SPIO	I/O	Start signal input/output for source driver
38	PDP	O	Phase comparison output
39	PAIR	I	Pairing setting siganl input
40	MON	O	Test setting output
41	APN	I	Horizontal display position setting input
42	GND5		GND
43	OSCO	O	Clock oscillation circuit output
44	OSCI	I	Clock oscillation circuit input
45	VDD3		Power supply
46	GND6		GND
47	CLD	O	Clock signal output for source driver
48	TST1	I	Test setting input
49	RESH	I	Horizontal counter reset input
50	RESV	I	Vertical counter reset input
51	TST2	I	Test setting input
52	TEST	I	Test setting input
53	MON_A	O	Test setting output
54	TPC	O	Touch panel control signal output
55	MON_C	O	Test setting output
56	MON_D	O	Test setting output
57	CLS	O	Clock signal output for gate driver
58	SPS	O	Reset signal output for gate driver
59	VR	O	Scanning setting output for gate driver
60	MOD1	O	Control signal output for gate driver
61	TCLK	I	Test setting input
62	GND7		GND
63	GND8		GND

Pin No.	Pin Name	I/O	Function and Operation
64	GPS	O	Signal output for gate power supply
65	LOWI	I	Control signal input for gate driver
66	ABC	I	Output setting input
67	VDC		Power supply
68	GND9		GND
69	DVTC	O	Test setting output
70	BLKI	I	Screen position adjustment input
71	BLKO	O	Screen position adjustment output
72	SYNO	O	Compound synchronous signal output

LZ9FE30



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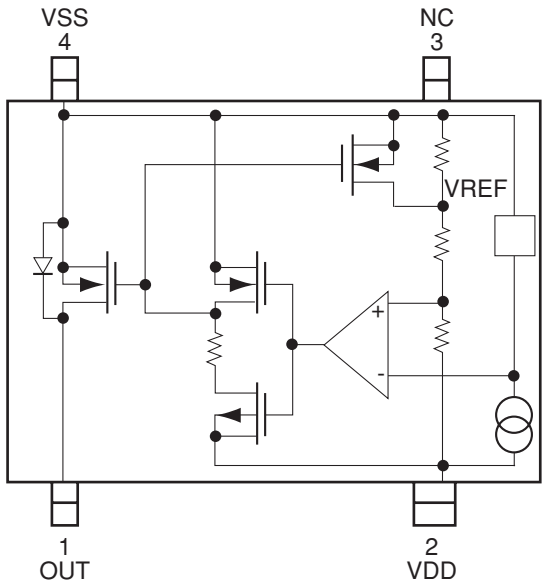
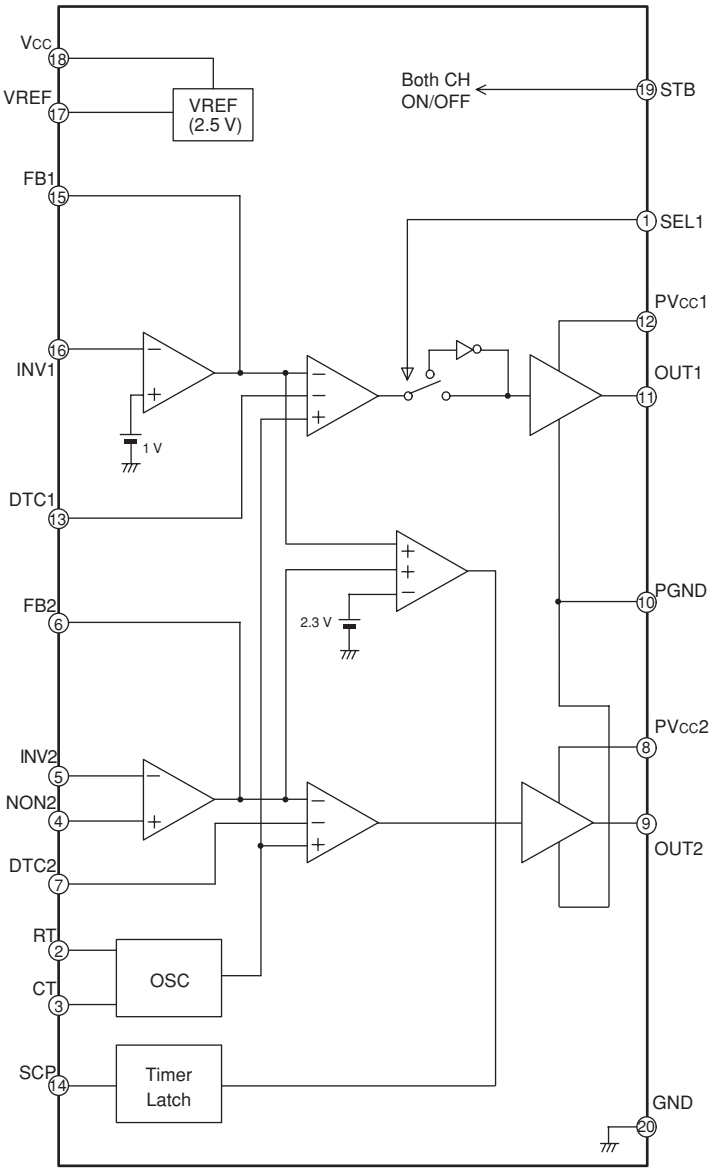


BD9851EFV

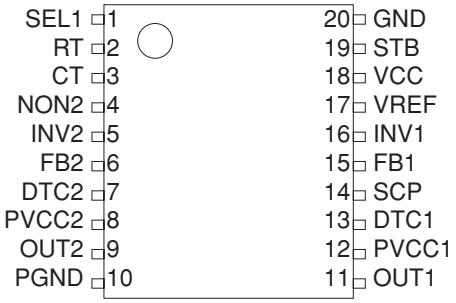
● Block Diagram



EDS1232AATA-75

VDD	1	86	VSS
DQ0	2	85	DQ15
VDDQ	3	84	VSSQ
DQ1	4	83	DQ14
DQ2	5	82	DQ13
VSSQ	6	81	VDDQ
DQ3	7	80	DQ12
DQ4	8	79	DQ11
VDDQ	9	78	VSSQ
DQ5	10	77	DQ10
DQ6	11	76	DQ9
VSSQ	12	75	VDDQ
DQ7	13	74	DQ8
NC	14	73	NC
VDD	15	72	VSS
DQM0	16	71	DQM1
/WE	17	70	NC
/CAS	18	69	NC
/RAS	19	68	CLK
/CS	20	67	CKE
A11	21	66	A9
BA0	22	65	A8
BA1	23	64	A7
A10(AP)	24	63	A6
A0	25	62	A5
A1	26	61	A4
A2	27	60	A3
DQM2	28	59	DQM3
VDD	29	58	VSS
NC	30	57	NC
DQ16	31	56	DQ31
VSSQ	32	55	VDDQ
DQ17	33	54	DQ30
DQ18	34	53	DQ29
VDDQ	35	52	VSSQ
DQ19	36	51	DQ28
DQ20	37	50	DQ27
VSSQ	38	49	VDDQ
DQ21	39	48	DQ26
DQ22	40	47	DQ25
VDDQ	41	46	VSSQ
DQ23	42	45	DQ24
VDD	43	44	VSS

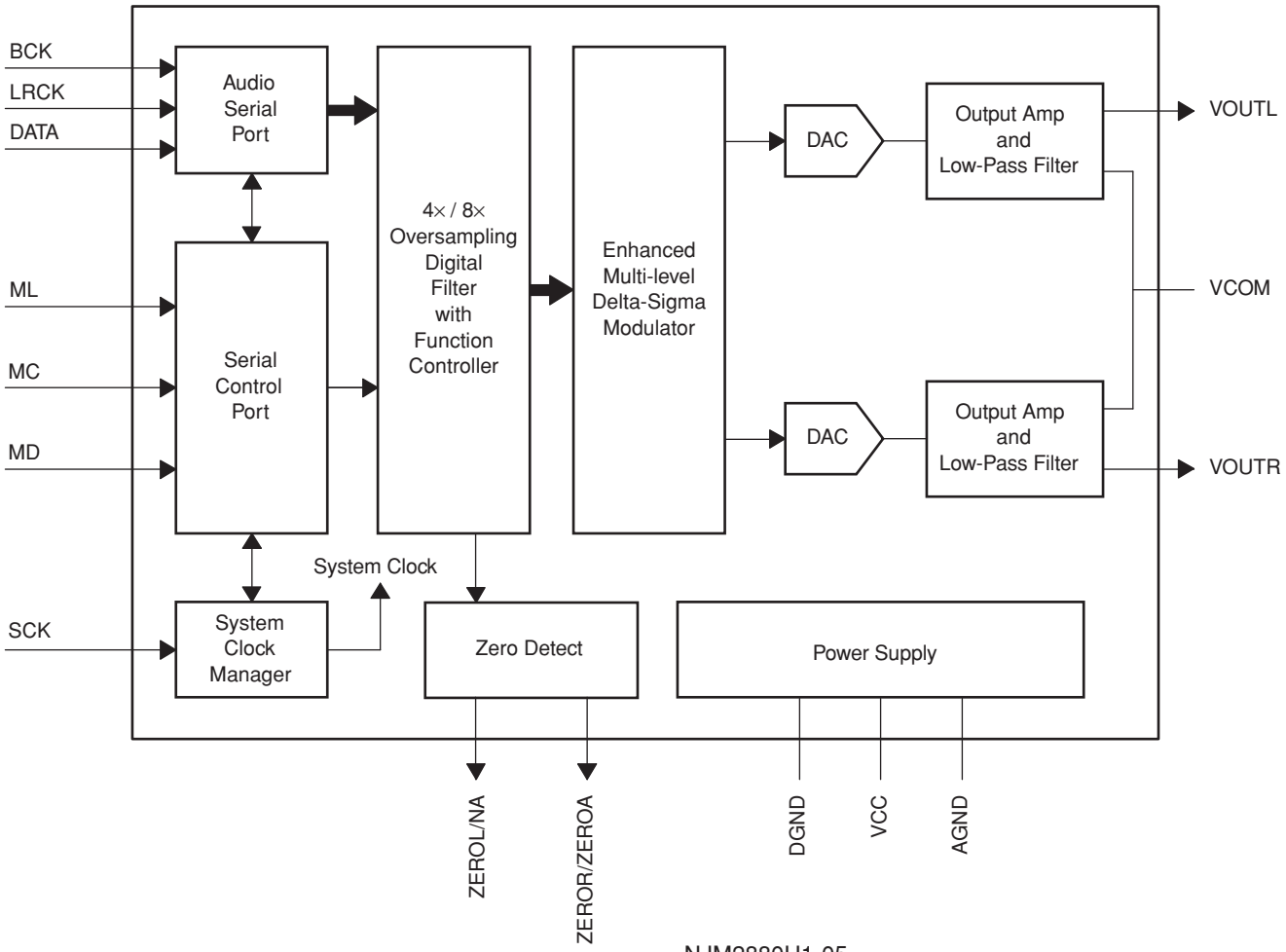
● Pin Layout



A0 to A11	Address Inputs	DQM0 to DQM3	DQ mask enable
BA0,BA1	Bank select	CKE	Clock enable
DQ0 to DQ31	Data Input/output	CLK	Clock Input
/CS	Chip select	VDD	Supply voltage
/RAS	Row address atrobe	VSS	Ground
/CAS	Column address strobe	VDDQ	Supply voltage for DQ
/WE	Write enable	VSSQ	Ground for DQ
		NC	No connection

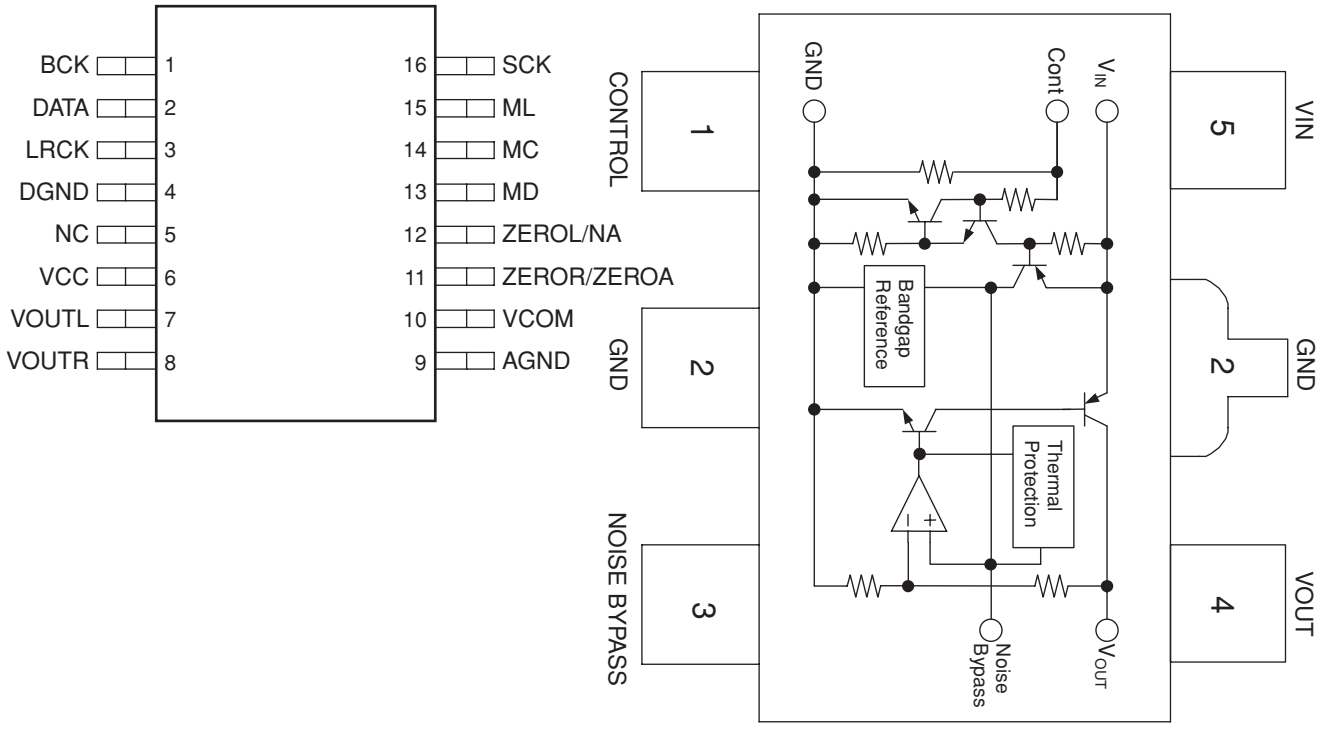
PCM1753DBQ

● Block Diagram



NJM2880U1-05

● Pin Layout



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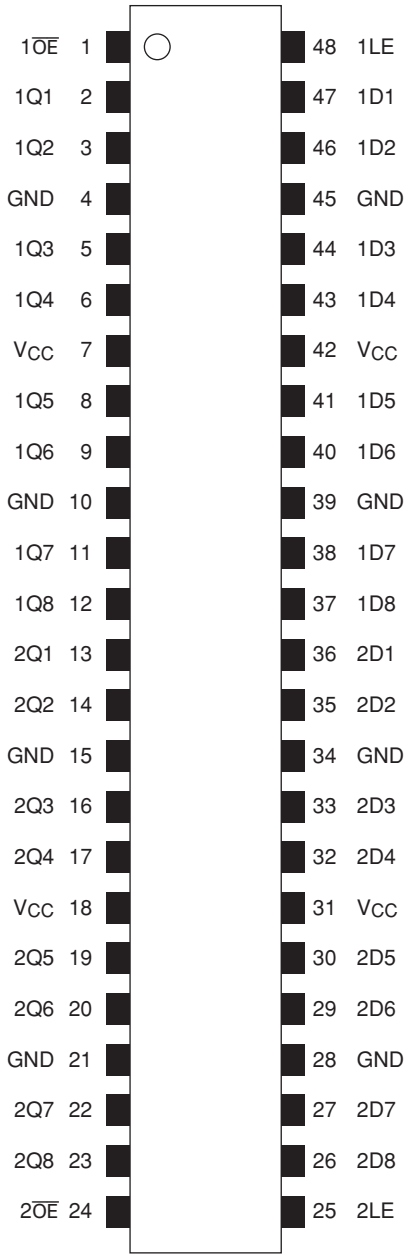
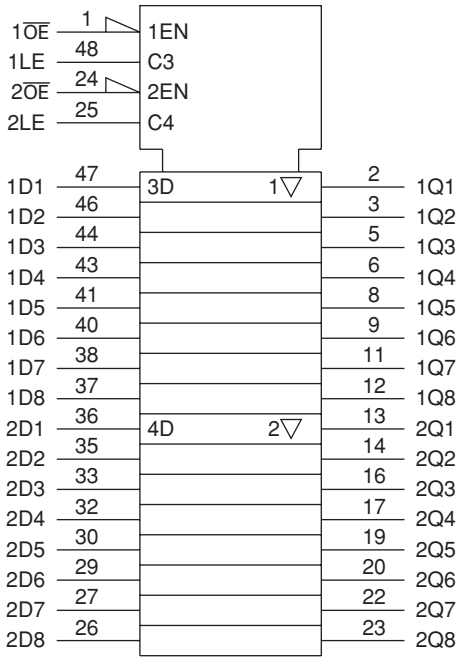
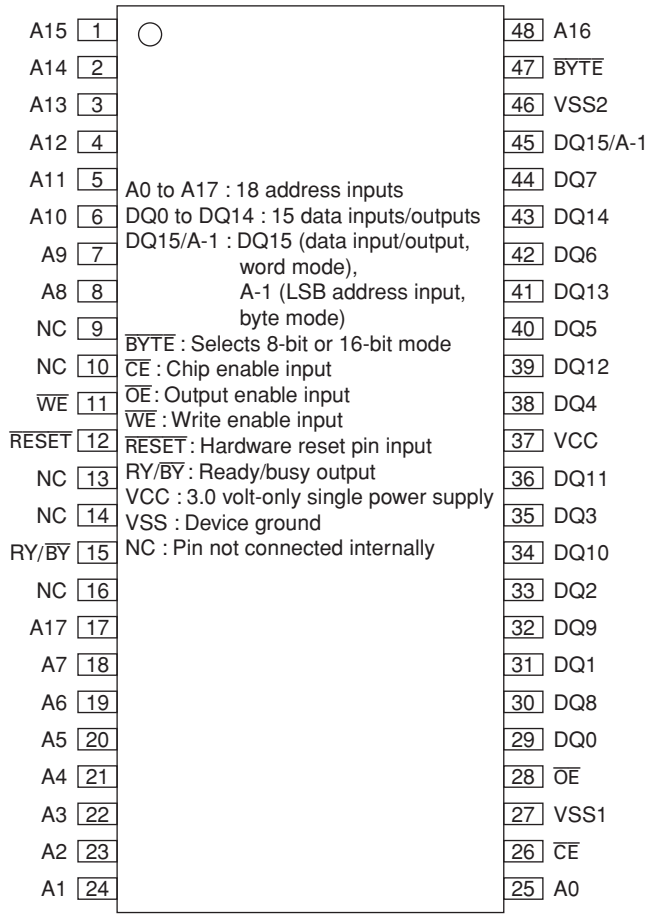
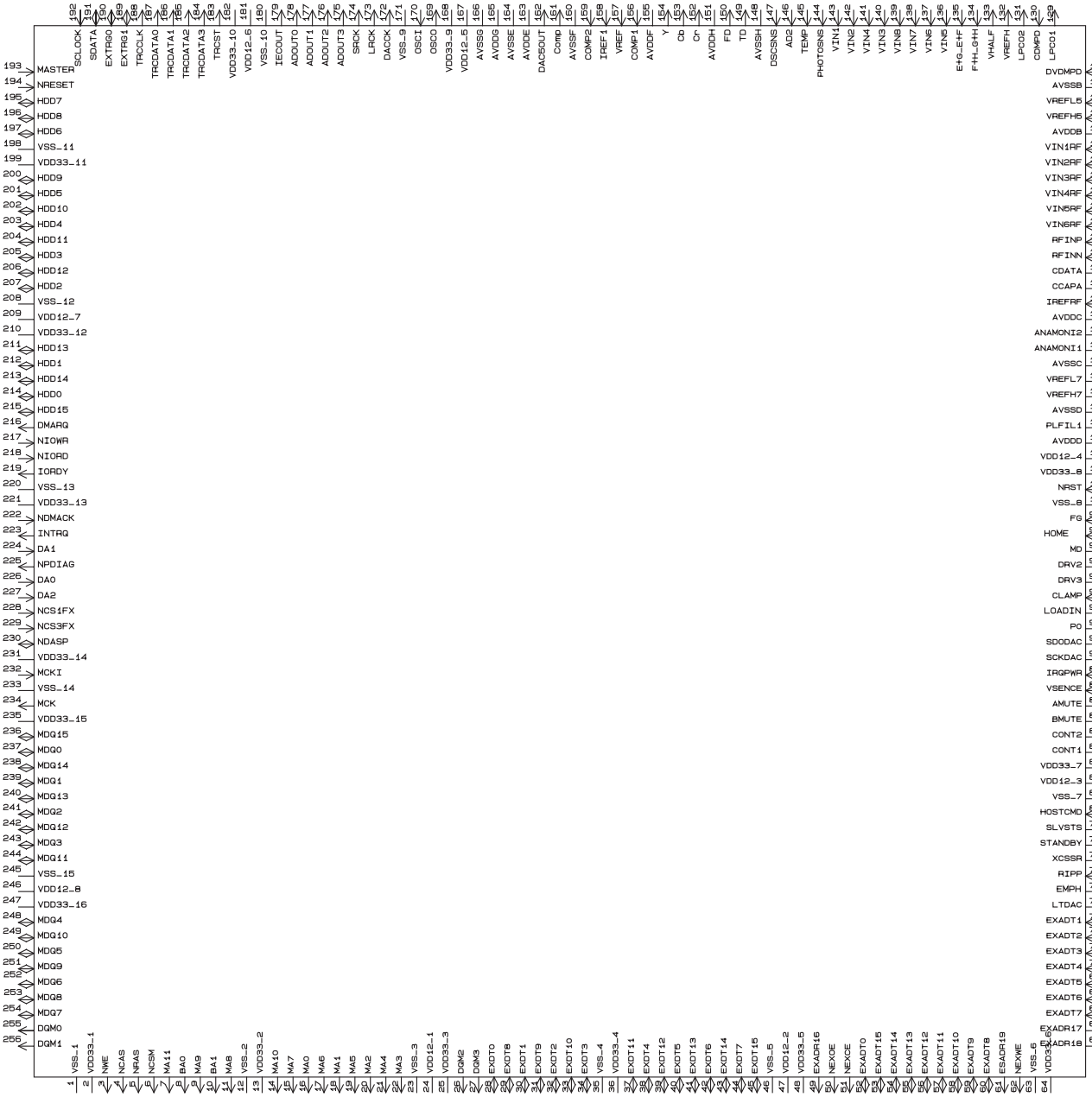




CWW1423
CWW1424



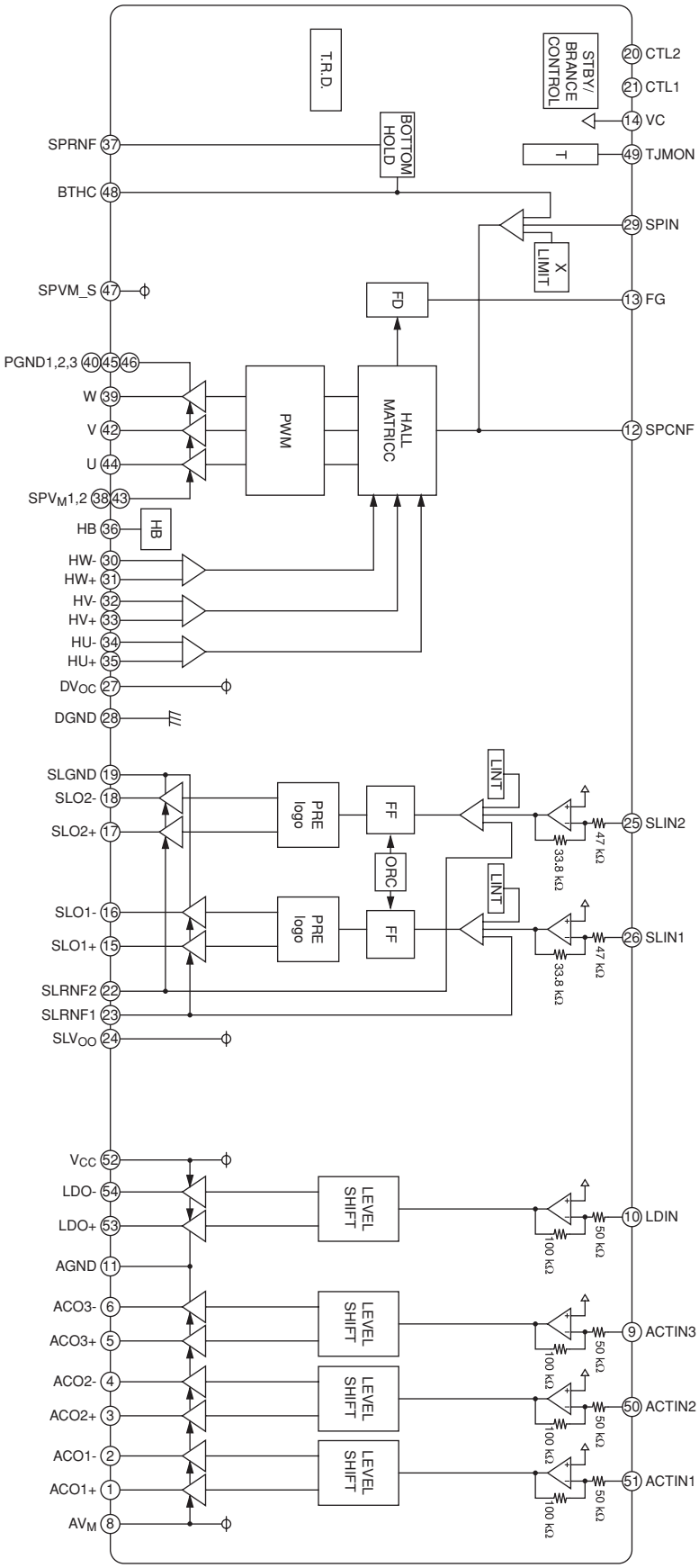
MN2DS0016



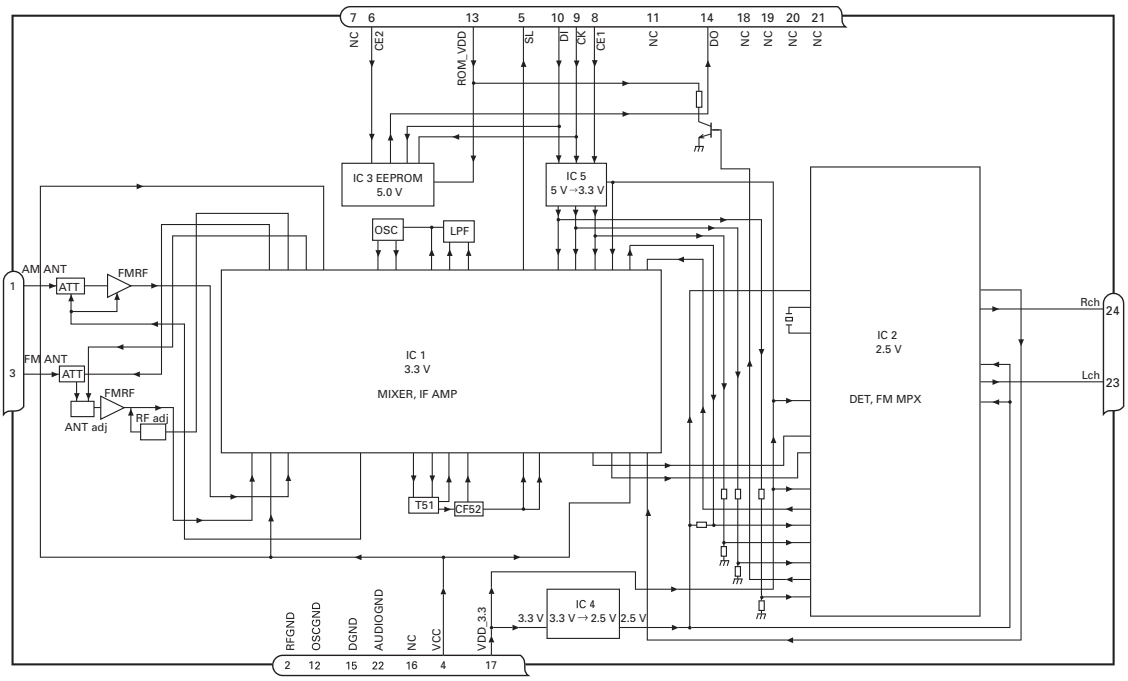
VSS	GND	
VDD	Power supply	
NWE	SDRAM write enable	O
NCAS	SDRAM Column address strobe	O
NRAS	SDRAM low address strobe	O
NCSM	SDRAM chip select	O
MA	SDRAM address	I/O
BA	SDRAM bank address	O
DQM	SDRAM data mask	I/O
EXDT	External memory data	I/O
EXADR	External memory address	I/O
NEXOE	External memory output chip enable	O
NEXCE	External memory chip select	O
EXADT	External memory address	I/O
NEXWE	External memory write enable	O
P	General port	I/O
DRV	Servo port	I/O
FG	Motor FG	I/O
NRST	Master reset	I
AVDD	Analog power supply	
PLFIL	Connect for DRC-VCO	O
AVSS	Analog GND	
VREFH	ADC reference voltage for DRC(TOP)	O
VREFL	ADC reference voltage for DRC(BTM)	O
ANAMONI	Analog monitor	O
IREFRF	Reference voltage	I
CCAPA	Inline capa connect	O
CDATA	Inline data connect	O
RFINN	External RF input	I
RFINP	External RF input	I
VINRF	RF input	I
LPC	DVD/CD LPC input	I
LPCO	DVD/CD LPC output	O
VHALF	Reference voltage	O

AD	Servo AD input	I
PWM	Tracking (Focus) drive output	O
DACOUT	RGB analog signal	O
COMP	DAC stabilization connect pin	I
VREF	DAC reference input	I
IREF	DAC bias current setting pin	I
OSCO	Resonator output	O
OSCI	Resonator input	I
DACCK	Audio clock	I/O
LRCK	LR chann clock output	O
SRCK	Bit clock output	O
ADOUT	Audio down mix output	I/O
IECOUT	Digital audio output	I/O
TRCST	Output trace status for debugging	I/O
TRCDATA	Output trace data for debugging	I/O
TRCCLK	Output trace clock for debugging	I/O
EXTRG	I/O trigger for debugging	I/O
SDATA	Data for debugging	I/O
SCLOCK	Input clock for debugging	I
MASTER	ATAPI master slave signal input	I/O
NRESET	ATAPI reset input signal	I
HDD	ATAPI I/O data	I/O
DMARQ	ATAPI host DMA request output	I/O
NIOWR	ATAPI host write signal	I/O
NIORD	ATAPI host read signal	I/O
IORDY	ATAPI host ready output	I/O
NDAMCK	ATAPI host DMA acnorigge input	I
INTRQ	ATAPI host interrupt output	I/O
DA	ATAPI host address	I/O
NPDIAG	ATAPI diagnosis signal	I/O
NCSFX	ATAPI host chip select input	I
MCKI	SDRAM input clock	I
MCK	SDRAM clock	O
MDQ	SDRAM data	I/O

BD7996EFV

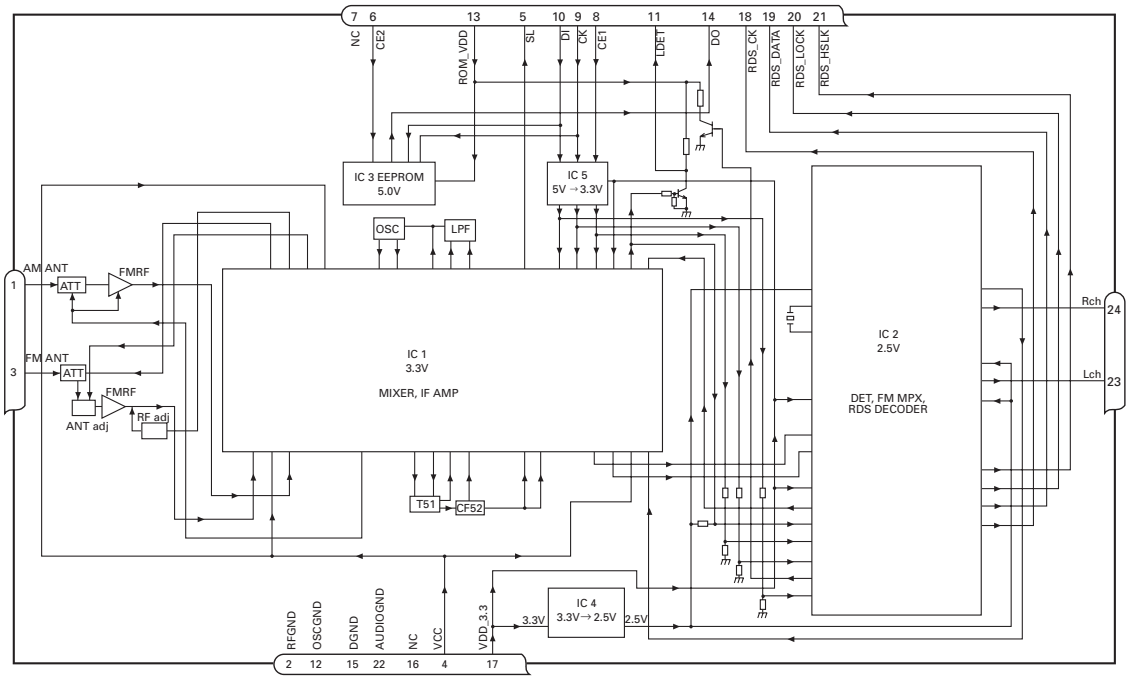

T.R.D.
STBY/ BRANCE CONTROL
BOTTOM HOLD
T
X LIMIT
FD
PWM
HALL MATRICC
HB
PRE logo
FF
ORC
LINT
LEVEL SHIFT
20 CTL2
21 CTL1
14 VC
49 TJMON
29 SPIN
13 FG
12 SPCNF
25 SLIN2
26 SLIN1
10 LDIN
9 ACTIN3
50 ACTIN2
51 ACTIN1
47 kΩ
33.8 kΩ
50 kΩ
100 kΩ
SPRNF 37
BTHC 48
SPVM_S 47
PGND1,2,3 40 45 46
W 39
V 42
U 44
SPVM1,2 38 43
HB 36
HW- 30
HW+ 31
HV- 32
HV+ 33
HU- 34
HU+ 35
DVOC 27
DGND 28
SLGND 19
SLO2- 18
SLO2+ 17
SLO1- 16
SLO1+ 15
SLRNF2 22
SLRNF1 23
SLVOO 24
VCC 52
LDO- 54
LDO+ 53
AGND 11
ACO3- 6
ACO3+ 5
ACO2- 4
ACO2+ 3
ACO1- 2
ACO1+ 1
AVM 8

● FM/AM Tuner Unit (UC)



No.	Symbol	I/O	Explain	
1	AMANT	I	AM antenna input	AM antenna input high impedance AMANT pin is connected with an all antenna by way of 4.7 μH. (LAU type inductor)A series circuit including an inductor and a resistor is connected with RF ground for the countermeasure against the hum of power transmission line.
2	RFGND		RF ground	Ground of antenna block
3	FMANT	I	FM antenna input	Input of FM antenna 75 Ω Surge absorber(DSP-201M-S00B)is necessary.
4	VCC		power supply	The power supply for analog block. D.C 8.4 V± 0.3 V
5	SL	O	signal level	Output of FM/AM signals level
6	CE2	I	chip enable-2	Chip enable for EEPROM "Low" active
7	NC		non connection	Not used
8	CE1	I	chip enable-1	Chip enable for AF•RF "High" active
9	CK	I	clock	Clock
10	DI	I	data in	Data input
11	NC		non connection	Not used
12	OSCGND		osc ground	Ground of oscillator block
13	ROM_VDD		power supply	Power supply for EEPROM pin 13 is connected with a power supply of micro computer.
14	DO	O	data out	Data output
15	DGND		digital ground	Ground of digital block
16	NC		non connection	Not used
17	VDD_3.3		power supply	The power supply for digital block. 3.3 V ± 0.2 V
18	NC		non connection	Not used
19	NC		non connection	Not used
20	NC		non connection	Not used
21	NC		non connection	Not used
22	AUDIOGND		audio ground	Ground of audio block
23	L ch	O	L channel output	FM stereo "L-ch" signal output or AM audio output
24	R ch	O	R channel output	FM stereo "R-ch" signal output or AM audio output

● FM/AM Tuner Unit (EW5)



No.	Symbol	I/O	Explain	
1	AMANT	I	AM antenna input	AM antenna input high impedance AMANT pin is connected with an all antenna by way of 4.7 μH. (LAU type inductor) A series circuit including an inductor and a resistor is connected with RF ground for the countermeasure against the hum of power transmission line.
2	RFGND		RF ground	Ground of antenna block
3	FMANT	I	FM antenna input	Input of FM antenna 75 Ω Surge absorber(DSP-201M-S00B)is necessary.
4	VCC		power supply	The power supply for analog block. D.C 8.4 V ± 0.3 V
5	SL	O	signal level	Output of FM/AM signals level
6	CE2	I	chip enable-2	Chip enable for EEPROM "Low" active
7	NC		non connection	Not used
8	CE1	I	chip enable-1	Chip enable for AF•RF "High" active
9	CK	I	clock	Clock
10	DI	I	data in	Data input
11	LDET	O	lock detector	"Low" active
12	OSCGND		osc ground	Ground of oscillator block
13	ROM_VDD		power supply	Power supply for EEPROM pin 13 is connected with a power supply of micro computer.
14	DO	O	data out	Data output
15	DGND		digital ground	Ground of digital block
16	NC		non connection	Not used
17	VDD_3.3		power supply	The power supply for digital block. 3.3 V± 0.2 V
18	RDS_CK	O	RDS clock	Output of RDS clock(2.5 V)
19	RDS_DATA	O	RDS data	Output of RDS data(2.5 V)
20	RDS_LOCK	O	RDS lock	Output unit "High" active(2.5 V) (RDS_LOCK turns over by the external transistor. "Low" active)
21	RDS_HSLK	O	RDS high speed lock	Output unit "High" active(2.5 V)(RDS_HSLK turns over by the external transistor. "Low" active)
22	AUDIOGND		audio ground	Ground of audio block
23	L ch	O	L channel output	FM stereo "L-ch" signal output or AM audio output
24	R ch	O	R channel output	FM stereo "R-ch" signal output or AM audio output

7.3 EXPLANATION
7.3.1 CIRCUIT DESCRIPTIONS

● FireWire PWR

FireWire : Power supply circuit to supply electricity to iPod.

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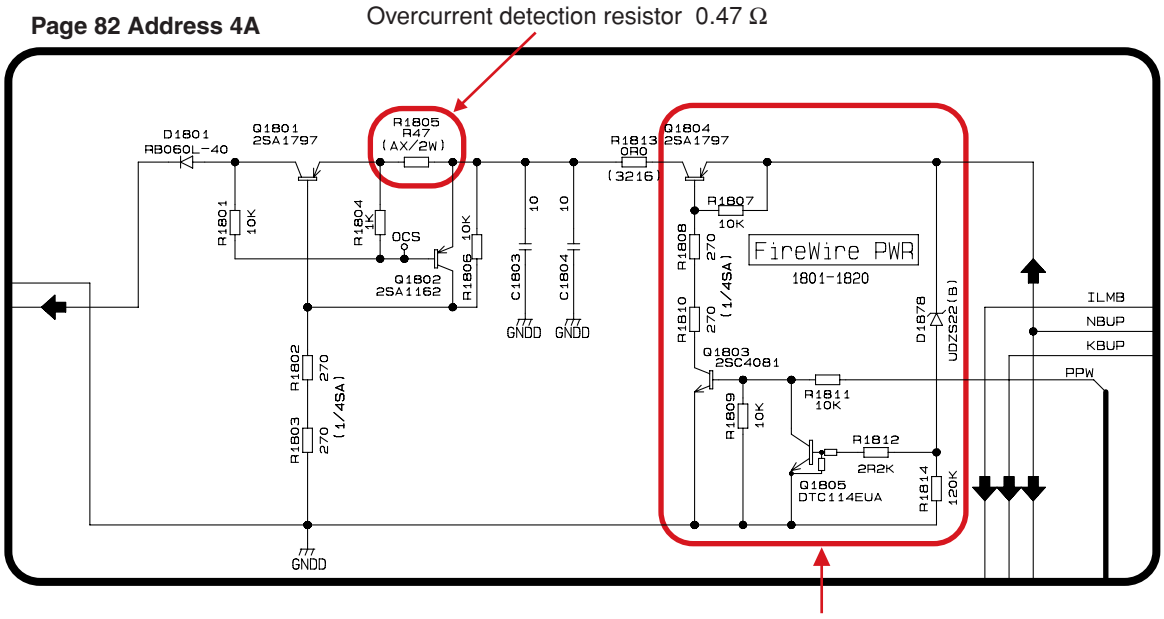


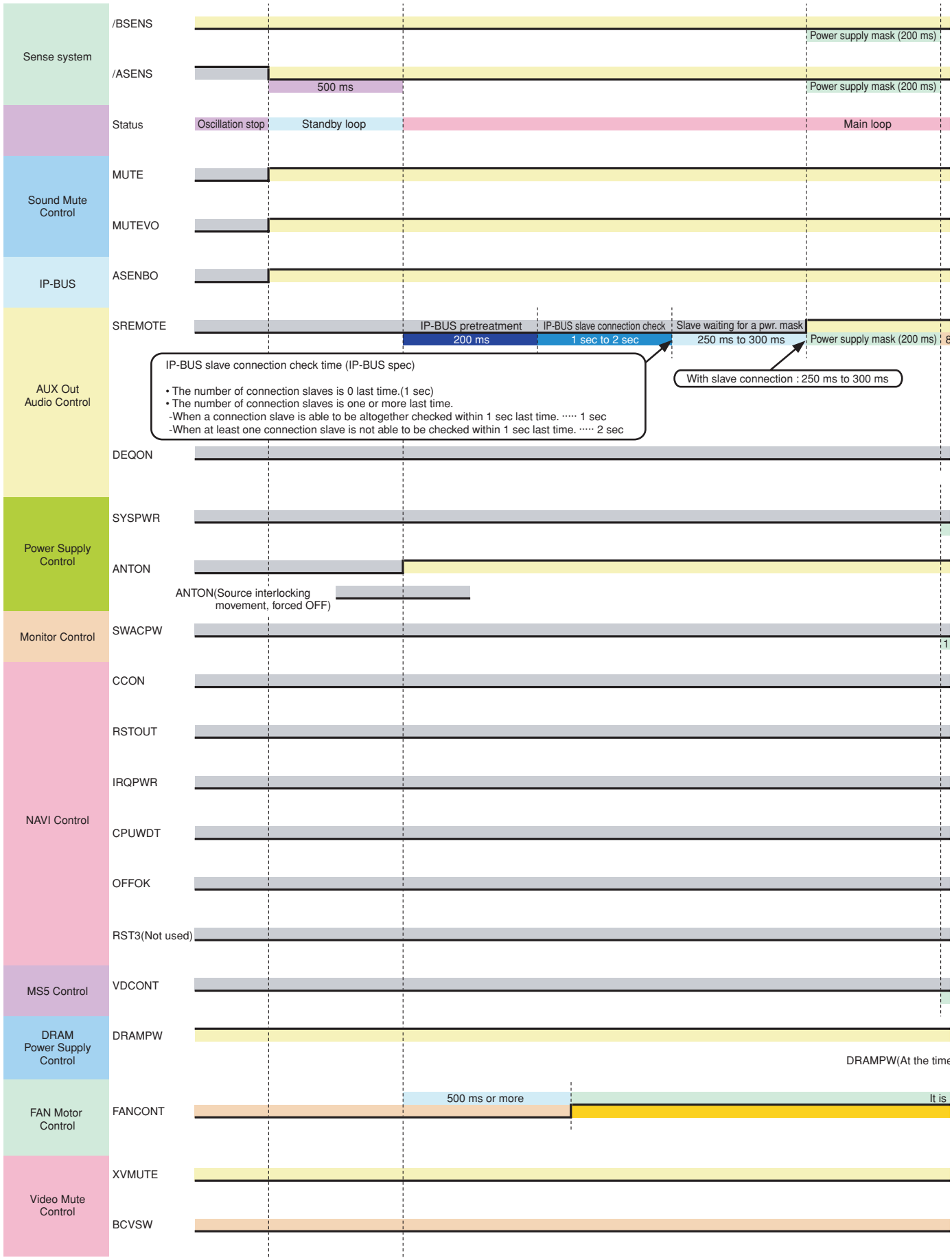
A popular switch circuit.
When there is an overvoltage, D1878 will be ON and PPW will be dropped down to Low level by force so that the overvoltage will not be applied to the iPod side.

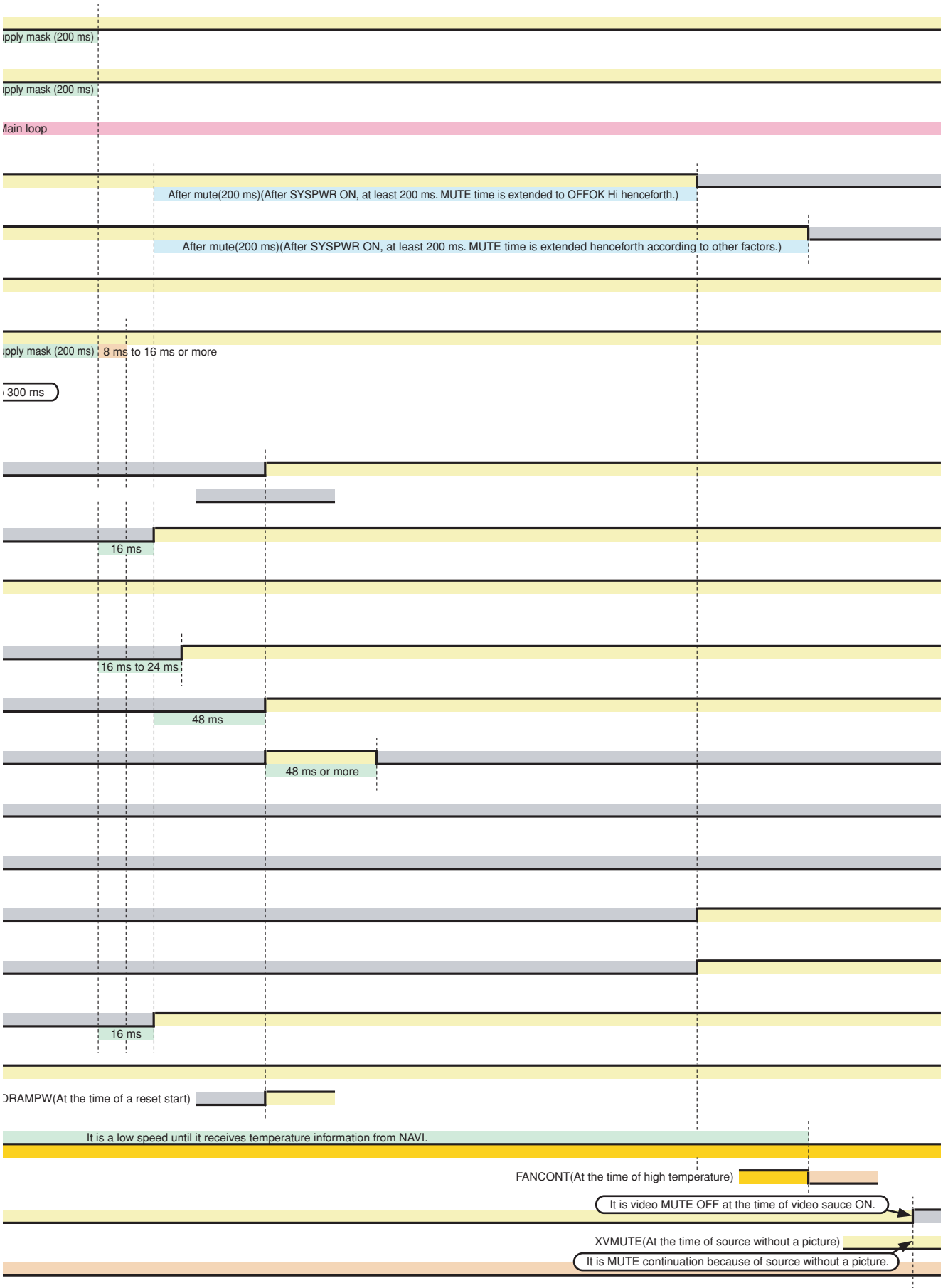
Overcurrent detection mechanism

1. The current exceeding the allowable range flows to the load side (=iPod).
2. The difference of electrical potential at both ends of R1805 becomes large exceeding approximately 0.6 V.
3. As a result of the difference of potential between the emitter and the base of Q1802, the current starts to flow from the emitter to the base, and the difference of potential between the emitter and the collector becomes almost zero.
4. The difference of potential between the emitter and the base of Q1801 no longer exists, and Q1801 will close.
5. It is designed in a way that, if the output is grounded, the current will start flowing to Q1802 even before that and that Q1801 will close.

7.3.2 OPERATIONAL FLOW CHART

● Acc ON(Normal Acc ON)(Reference)

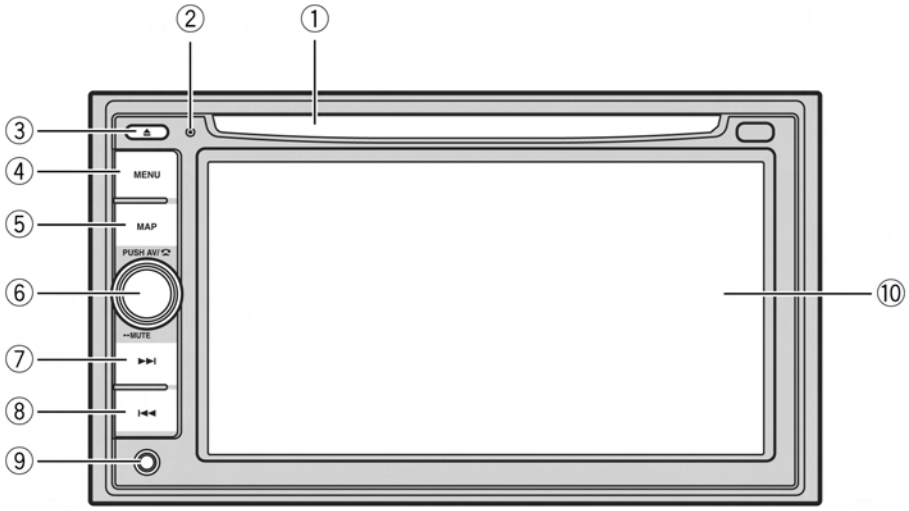



pply mask (200 ms)
pply mask (200 ms)
Main loop
After mute(200 ms)(After SYSPWR ON, at least 200 ms. MUTE time is extended to OFFOK Hi henceforth.)
After mute(200 ms)(After SYSPWR ON, at least 200 ms. MUTE time is extended henceforth according to other factors.)
pply mask (200 ms)
8 ms to 16 ms or more
300 ms
16 ms
16 ms to 24 ms
48 ms
48 ms or more
16 ms
DRAMPW(At the time of a reset start)
It is a low speed until it receives temperature information from NAVI.
FANCONT(At the time of high temperature)
It is video MUTE OFF at the time of video sauce ON.
XVMUTE(At the time of source without a picture)
It is MUTE continuation because of source without a picture.

8. OPERATIONS

Navigation unit

This section gives information about the names of the parts and the main features using the buttons.



① **Disc loading slot**

➲ "Inserting/Ejecting a Disc"

② **RESET button**

➲ "Resetting the Microprocessor"

③ **EJECT button**

④ **MENU button**
Press to display the navigation menu or audio menu.

⑤ **MAP button**
Press to view the map or change view mode.

⑥ **VOLUME knob**
Turn to adjust the AV volume or press to change AV source.

⑦ **Fast forward button**

⑧ **Backward button**

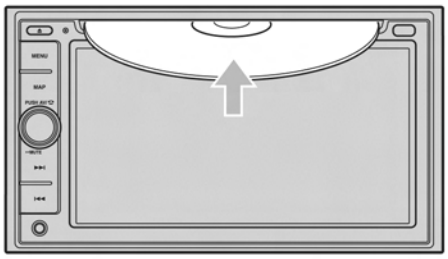
⑨ **Mini jack**
This is the AV-2 input terminal. Use the CD-RM10 (sold separately) to connect the external video component.

⑩ **LCD display**

Inserting/Ejecting a Disc

Inserting a disc

1 Insert a disc into the disc loading slot.



- ❒ The DVD drive plays one standard 12-cm or 8-cm (single) disc at a time. Do not use an adapter when playing 8-cm discs.
- ❒ Do not insert anything other than a disc into the disc loading slot.
- ➲ "Playable Discs"
- ❒ If you cannot insert a disc completely or if a inserted disc is not recognized, check that the label side of the disc is up. Also, press the **EJECT** button to eject the disc, and check the disc for damage before inserting the disc again.
- ❒ If the built-in DVD drive does not operate properly, an error message such as Error-02 may be displayed.
- ➲ "Error Messages"

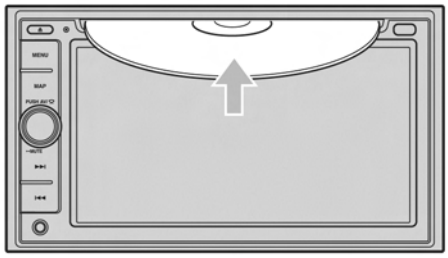
Ejecting a disc

1 Press the EJECT button.
The disc is ejected.

Flow from Startup to Termination

1 Start the engine.
After some time, the navigation opening screen comes on for a few seconds. Then, a message screen is displayed.

2 Insert the Pioneer DVD Map Disc to the disc loading slot.



3 Check the details of the caution message and touch "OK".
You can operate the navigation system by touching keys displayed on the screen.
If the route is already set, it changes to route guidance mode. The map of your surroundings is displayed.
- ➲ How to read the current position screen
- ➲ Setting the time

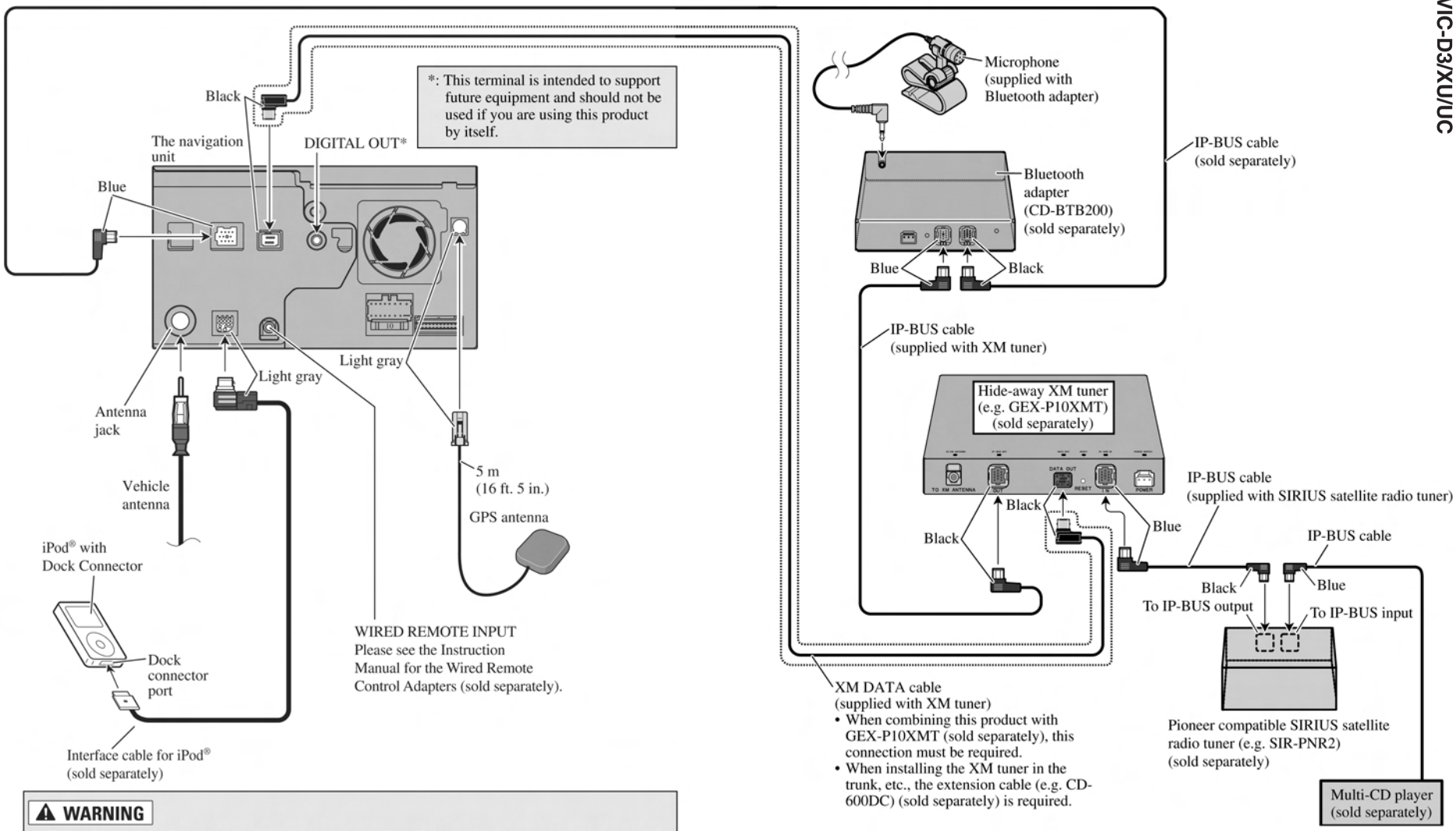
4 Press the MENU button in the map screen.
Displays the NAVI MENU.

5 Allows you to assign a destination and begin route guidance.

- ➲ Specifying the address and searching the destination
- ➲ Other search methods

6 Turn off the vehicle engine.
This navigation system is also turned off.
- ❒ Until the vicinity of the destination is reached, the set route will not be deleted even if the engine is turned off.

Connecting the system



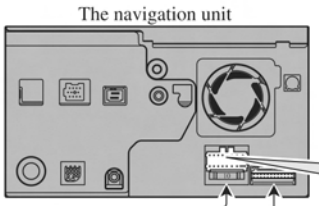
⚠ WARNING

- **To avoid the risk of accident and the potential violation of applicable laws, this product should never be used while the vehicle is being driven except for navigation purposes. And, also Rear Displays should not be in a location where it is a visible distraction to the driver.**
- **In some countries, or states the viewing of images on a display inside a vehicle even by persons other than the driver may be illegal. Where such regulations apply they must be obeyed and this product's video source should not be used.**

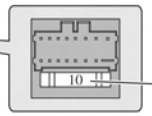
Note:
The XM tuner and SIRIUS satellite radio tuner will not receive their service when you drive outside of their coverage area.

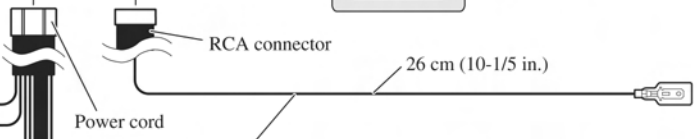
Connecting the power cord (1)

Note:
Cords for this navigation system and those for other products may be different colors even if they have the same function. When connecting this navigation system to another product, refer to the supplied manuals of both products and connect cords that have the same function.



⚠ WARNING
When replacing the fuse, be sure to only use a fuse of the rating prescribed on this product.





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

Red
To electric terminal controlled by ignition switch (12 V DC) ON/OFF.

Orange/white
To lighting switch terminal.

Black (ground)
To vehicle (metal) body.

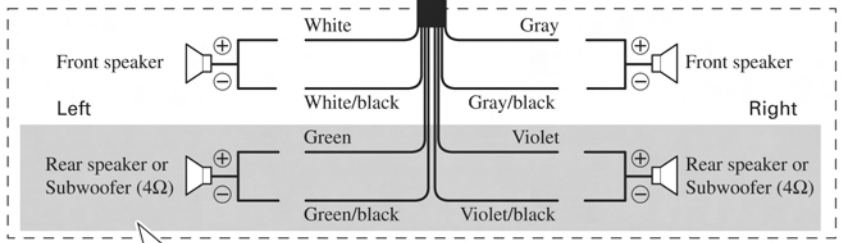
Yellow/black
If you use an equipment with mute function, connect that equipment to the Audio Mute lead. If not, keep the Audio Mute lead free of any connections.

Note:
Audio source will be set to mute or attenuate, while the following sounds will not be muted or attenuated.
- voice guidance of the navigation
- incoming Ringtone and incoming voice of the cellular phone that is connected to this navigation system via Bluetooth wireless technology

Note:
When a subwoofer is connected to this navigation system instead of a rear speaker, change the rear output setting in the Initial Setting.
The subwoofer output of this navigation system is monaural.

Note:
The antenna will automatically retract, yet the timing varies depending on the setting.
For more detailed information on changing the "**ANT CTRL**" mode.

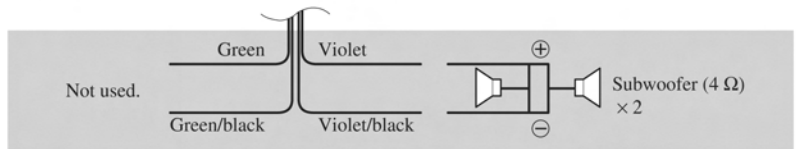
With a 2 speaker system, do not connect anything to the speaker leads that are not connected to speakers.



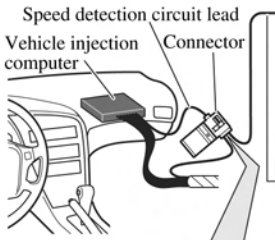
Blue
To Auto-antenna relay control terminal.
If the vehicle has a glass antenna, connect to the antenna booster power control terminal (max. 300 mA 12 V DC).

For information on other leads

When using a subwoofer of 70 W (2 Ω), be sure to connect with Violet and Violet/black leads of this navigation unit. Do not connect anything with Green and Green/black leads.

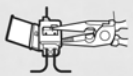


Connecting the power cord (2)



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.

Pink (CAR SPEED SIGNAL INPUT)

The mobile navigation system is connected here to detect the distance the vehicle travels. Always connect the vehicle's speed detection circuit or the ND-PG1 speed pulse generator, sold separately. Failure to make this connection will increase errors in the location display.

⚠ WARNING

IMPROPER CONNECTION MAY RESULT IN SERIOUS DAMAGE OR INJURY INCLUDING ELECTRICAL SHOCK, AND INTERFERENCE WITH THE OPERATION OF THE VEHICLE'S ANTILOCK BRAKING SYSTEM, AUTOMATIC TRANSMISSION AND SPEEDOMETER INDICATION.

⚠ CAUTION

- **It is strongly suggested that the speed pulse wire be connected for accuracy of navigation and better performance of interlock.**
- **If the speed pulse wire is unavailable for some reason, it is recommended that the pulse generator (ND-PG1) be used.**

Note:
The position of the speed detection circuit and the position of the parking brake switch vary depending on the vehicle model. For details, consult your authorized Pioneer dealer or an installation professional.

Light green

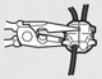
Used to detect the ON/OFF status of the parking brake. This lead must be connected to the power supply side of the parking brake switch. **If this connection is made incorrectly or omitted, certain functions of your navigation system will be unusable.**

⚠ WARNING

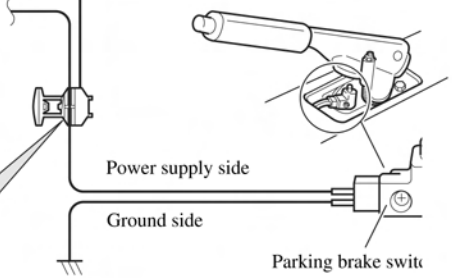
LIGHT GREEN LEAD AT POWER CONNECTOR IS DESIGNED TO DETECT PARKED STATUS AND MUST BE CONNECTED TO THE POWER SUPPLY SIDE OF THE PARKING BRAKE SWITCH. IMPROPER CONNECTION OR USE OF THIS LEAD MAY VIOLATE APPLICABLE LAW AND MAY RESULT IN SERIOUS INJURY OR DAMAGE.

Connection method

Clamp the parking brake switch power supply side lead.

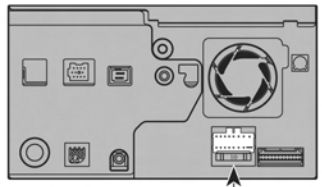


Clamp firmly with needle-nosed pliers.



Extension lead (for speed signal) 5 m (16 ft. 5 in.)

Note:
Cords for this product and those for other products may be different colors even if they have the same function. When connecting this product to another product, refer to the supplied manuals of both products and connect cords that have the same function.



Power cord

For information on other leads

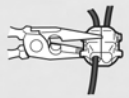
Violet/white (REVERSEGEAR SIGNAL INPUT)

This is connected so that the navigation system can detect whether the vehicle is moving forwards or backwards. Connect the violet/white lead to the lead whose voltage changes when the shift lever is put in reverse. Unless connected, the sensor may not detect your vehicle traveling forward/backward properly, and thus the position of your vehicle detected by the sensor may be misaligned from the actual position.

Note:
When you use the ND-PG1 speed pulse generator (sold separately), please make sure to connect this lead.
When you use a rear view camera, please make sure to connect this lead. Otherwise you cannot switch to rear view camera picture.

Connection method

Clamp the backup light lead.



Clamp firmly with needle-nosed pliers.

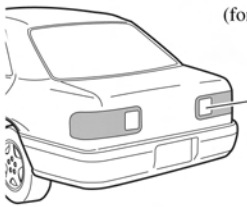
⚠ CAUTION

Be sure to use only the supplied extension lead. Use of another lead could cause fire, smoke and/or damage this navigation system.

Backup light lead

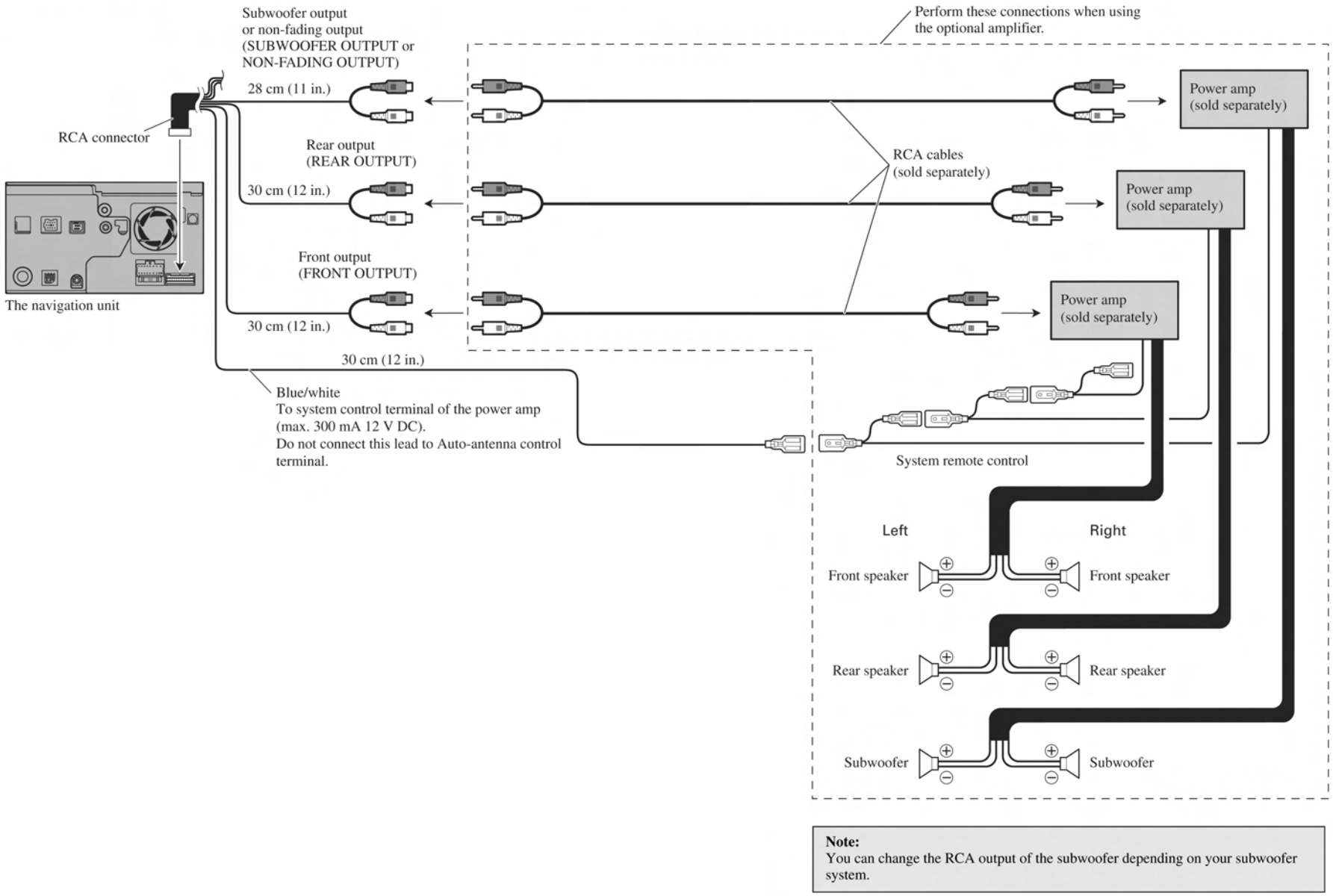
Fuse resistor

Extension lead (for reverse signal) 5 m (16 ft. 5 in.)



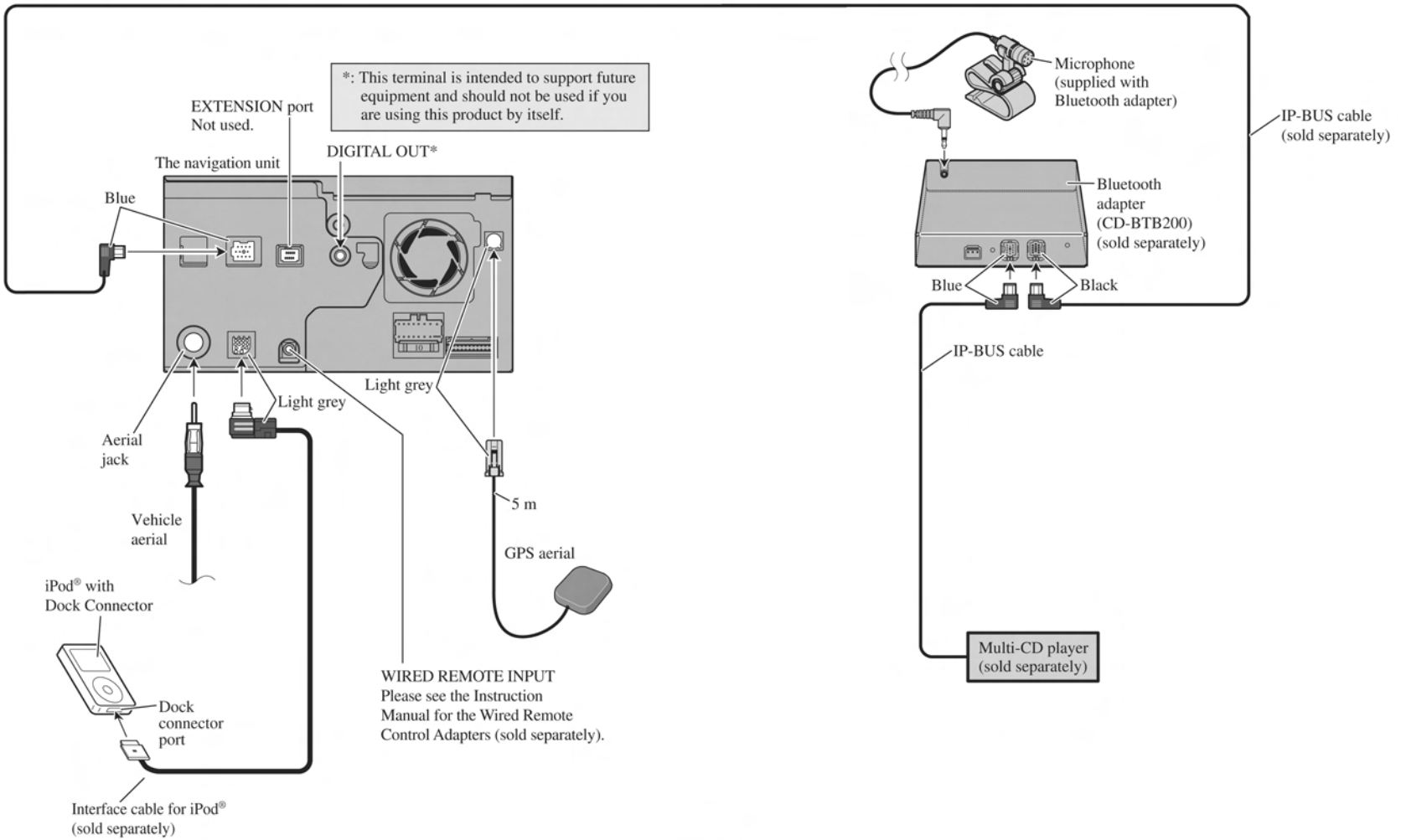
Check the position of your vehicle's backup light (the one that lights up when the shift lever is in reverse [R]) and find the backup light lead in the trunk.

When connecting to separately sold power amp



Note:
You can change the RCA output of the subwoofer depending on your subwoofer system.

Connecting the system



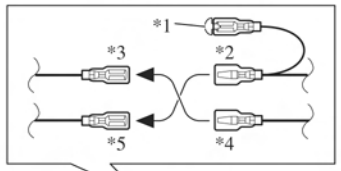
⚠ WARNING

- **To avoid the risk of accident and the potential violation of applicable laws, this product should never be used while the vehicle is being driven except for navigation purposes. And, also Rear Displays should not be in a location where it is a visible distraction to the driver.**
- **In some countries, the viewing of images on a display inside a vehicle even by persons other than the driver may be illegal. Where such regulations apply they must be obeyed and this product's video source should not be used.**

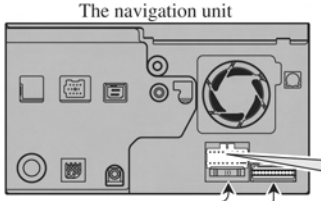
Connecting the power cord (1)

Note:
Depending on the kind of vehicle, the function of *3 and *5 may be different. In this case, be sure to connect *2 to *5 and *4 to *3.

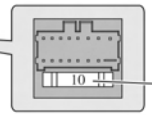
Notes:
- When a subwoofer (*9) is connected to this navigation system instead of a rear speaker, change the rear output setting in the Initial Setting.
  The subwoofer output of this navigation system is monaural.
- When using a subwoofer of 70W (2Ω), be sure to connect with violet and violet/black leads of this navigation system. Do not connect anything with Green and Green/Black leads.



The navigation unit



Note:
Cords for this navigation system and those for other products may be different colours even if they have the same function. When connecting this navigation system to another product, refer to the supplied manuals of both products and connect cords that have the same function.



FUSE (10A)

RCA connector

⚠ WARNING
When replacing the fuse, be sure to only use a fuse of the rating prescribed on this product.

Power cord

26 cm

(*8)

Connect leads of the same colour to each other.

Cap (*1)
When not using this terminal, do not remove the cap.

Yellow/black
If you use an equipment with mute function, connect that equipment to the Audio Mute lead. If not, keep the Audio Mute lead free of any connections.

Yellow (*3)
Back-up
(or accessory)

Yellow (*2)
To terminal always supplied with power regardless of ignition switch position.

Note:
Audio source will be set to mute or attenuate, while the following sounds will not be muted or attenuated.
- voice guidance of the navigation
- incoming ringtone and incoming voice of the mobile phone that is connected to this navigation system via Bluetooth wireless technology

Red (*5)
Accessory
(or back-up)

Red (*4)
To electric terminal controlled by ignition switch (12 V DC) ON/OFF.

Note:
The aerial will automatically retract, yet the timing varies depending on the setting.
For more detailed information on changing the "**ANT CTRL**" mode.

Orange/white
To lighting switch terminal.

Black (earth)
To vehicle (metal) body.

For information on other leads

ISO connector

Yellow/black
If the vehicle can send a mute signal to this terminal, the mute function can be activated on this navigation system when the terminal is connected to *8.

Speaker leads

White:	Front left ⊕
White/black:	Front left ⊖
Grey:	Front right ⊕
Grey/black:	Front right ⊖
Green:	Rear left ⊕ or Subwoofer ⊕ (*9)
Green/black:	Rear left ⊖ or Subwoofer ⊖ (*9)
Violet:	Rear right ⊕ or Subwoofer ⊕ (*9)
Violet/black:	Rear right ⊖ or Subwoofer ⊖ (*9)

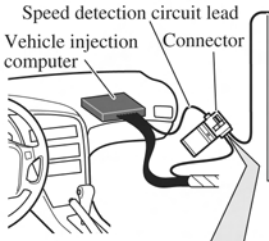
Blue (*6)

Blue (*7)
To Auto-aerial relay control terminal (max. 300 mA 12 V DC).

Note:
In some vehicles, the ISO connector may be divided into two. In this case, be sure to connect to both connectors.

The pin position of the ISO connector will differ depending on the type of vehicle. Connect *6 and *7 when Pin 5 is an aerial control type. In other types of vehicle, never connect *6 and *7.

Connecting the power cord (2)

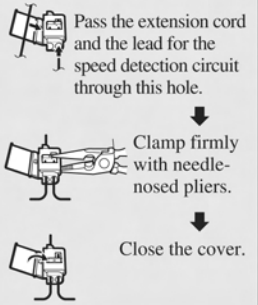


Pink (CAR SPEED SIGNAL INPUT)
The mobile navigation system is connected here to detect the distance the vehicle travels. Always connect the vehicle's speed detection circuit or the ND-PG1 speed pulse generator, sold separately. Failure to make this connection will increase errors in the location display.

⚠ WARNING

IMPROPER CONNECTION MAY RESULT IN SERIOUS DAMAGE OR INJURY INCLUDING ELECTRICAL SHOCK, AND INTERFERENCE WITH THE OPERATION OF THE VEHICLE'S ANTILOCK BRAKING SYSTEM, AUTOMATIC GEARBOX AND SPEEDOMETER INDICATION.

Connection method



⚠ CAUTION

- **It is strongly suggested that the speed pulse wire be connected for accuracy of navigation and better performance of interlock.**
- **If the speed pulse wire is unavailable for some reason, it is recommended that the pulse generator (ND-PG1) be used.**

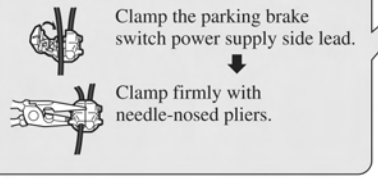
Note:
The position of the speed detection circuit and the position of the parking brake switch vary depending on the vehicle model. For details, consult your authorised Pioneer dealer or an installation professional.

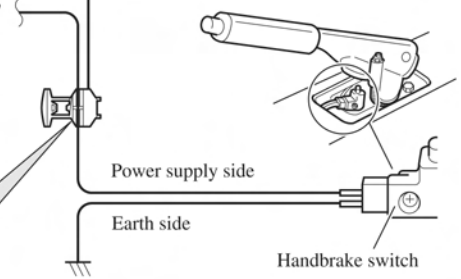
Light green
Used to detect the ON/OFF status of the handbrake. This lead must be connected to the power supply side of the handbrake switch.
If this connection is made incorrectly or omitted, certain functions of your navigation system will be unusable.

⚠ WARNING

LIGHT GREEN LEAD AT POWER CONNECTOR IS DESIGNED TO DETECT PARKED STATUS AND MUST BE CONNECTED TO THE POWER SUPPLY SIDE OF THE HANDBRAKE SWITCH. IMPROPER CONNECTION OR USE OF THIS LEAD MAY VIOLATE APPLICABLE LAW AND MAY RESULT IN SERIOUS INJURY OR DAMAGE.

Connection method





Extension lead (for speed signal) 5 m

Note:
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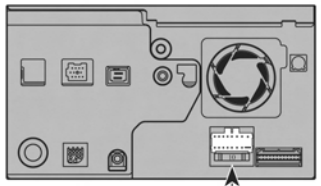
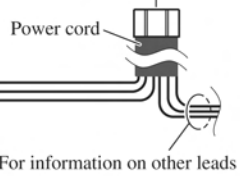
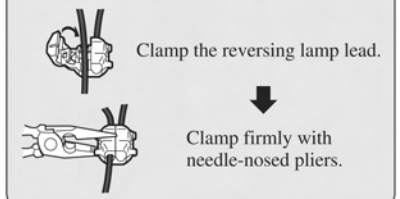




Violet/white (REVERSEGEAR SIGNAL INPUT)
This is connected so that the navigation system can detect whether the vehicle is moving forwards or backwards. Connect the violet/white lead to the lead whose voltage changes when the reverse gear is engaged. Unless connected, the sensor may not detect your vehicle travelling forward/backward properly, and thus the position of your vehicle detected by the sensor may be misaligned from the actual position.

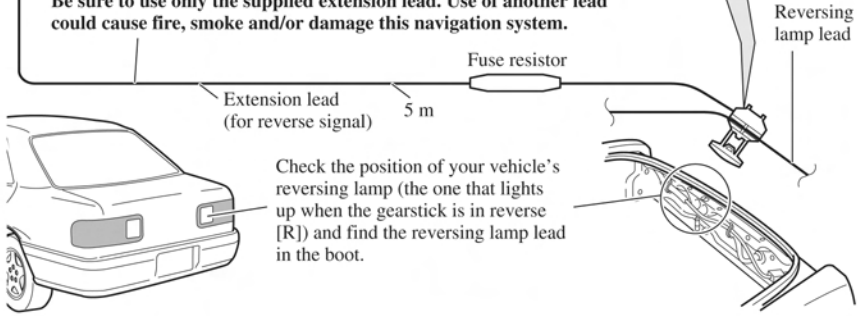
Note:
When you use the ND-PG1 speed pulse generator (sold separately), please make sure to connect this lead.
When you use a rear view camera, please make sure to connect this lead. Otherwise you cannot switch to rear view camera picture.

Connection method

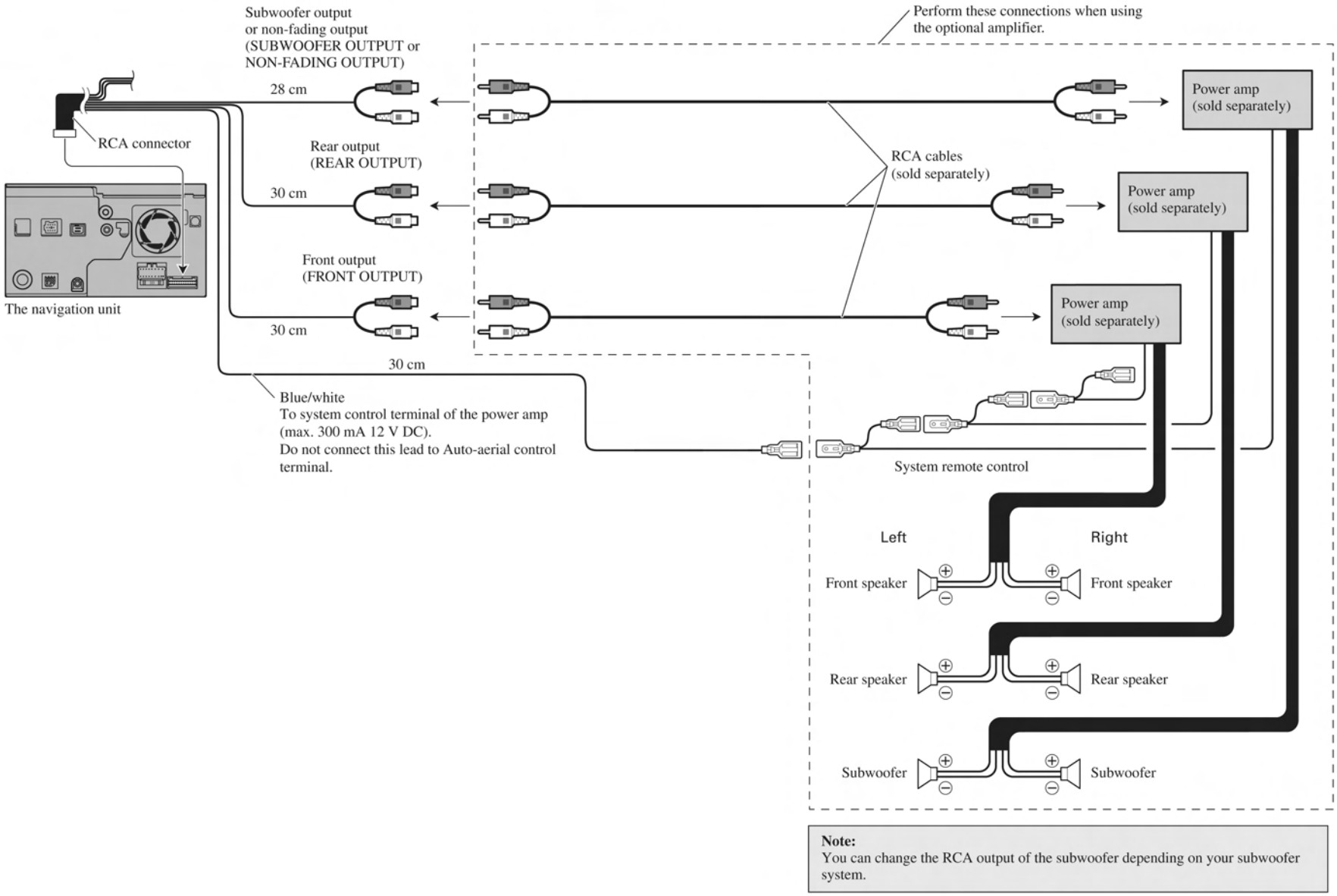


⚠ CAUTION

Be sure to use only the supplied extension lead. Use of another lead could cause fire, smoke and/or damage this navigation system.



When connecting to separately sold power amp



Note:
You can change the RCA output of the subwoofer depending on your subwoofer system.

● Jigs List

Name	Jig No.	Remarks
40P FFC BBR	GGD1284	DVD Core Unit (CN2001) <---> Navi Mother Unit (CN2)
40P FFC BBR	GGD1284	DVD Core Unit (CN1901) <---> Navi Mother Unit (CN2057)
20P Extension Cable	GGD1327	Navi Mother Unit (CN2068) <---> AV Unit (CN1652)
80P FPC	GGD1406	Navi Mother Unit (CN2055) <---> AV Unit (CN1711)
40P FFC BB	GGD1170	Monitor Unit (CN5001) <---> AV Unit (CN1661)
TEST DISC	GGV1303	Operation check
Remote Control Uint	CXC6317	Operation for adjustment
TORX driver (T2)	GGK1095	SKEW adjustment (DVD)
Bond	GEM1033	SKEW adjustment (DVD)
Bond (Produced by THREE BOND)	1401M	SKEW adjustment (DVD)
TEST DISC	GGV1018	SKEW adjustment (DVD)

● Grease List

Name	Grease No.	Remarks
Grease	GEM1024	DVD Mechanism Module
Grease	GEM1043	DVD Mechanism Module
Grease	GEM1045	DVD Mechanism Module
Grease	GEM1050	DVD Mechanism Module

Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
DVD pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

Portions to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008