SERVICEANLEITUNG

Service Manual. Manuel de Service. Manuale di Servizio.
Instrucciones de servicio. Service-instructies.

BRD Player
230- 98287.012

BLUTECH VISION
Art.-Nr. 67501

BLUTECH VISION

LOEWE.

SERVICE MANUAL

BLU-RAY DISC PLAYER

67501 T 00

MODELS 67501 D 00

In the interests of user-safety (Required by safety regulation in some countries) the set should be restored to its original conditions and only parts identical to those specified should be used.

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[1] PACKING PARTS 7-1

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

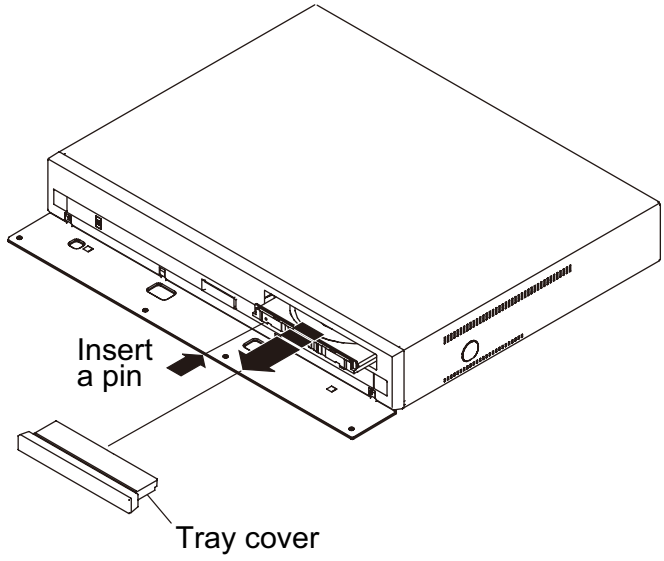
This document has been published to be used for after sales service only.
The contents are subject to change without notice.

CHAPTER 1. REMOVING OF MAJOR PARTS

[1] REMOVING OF MAJOR PARTS

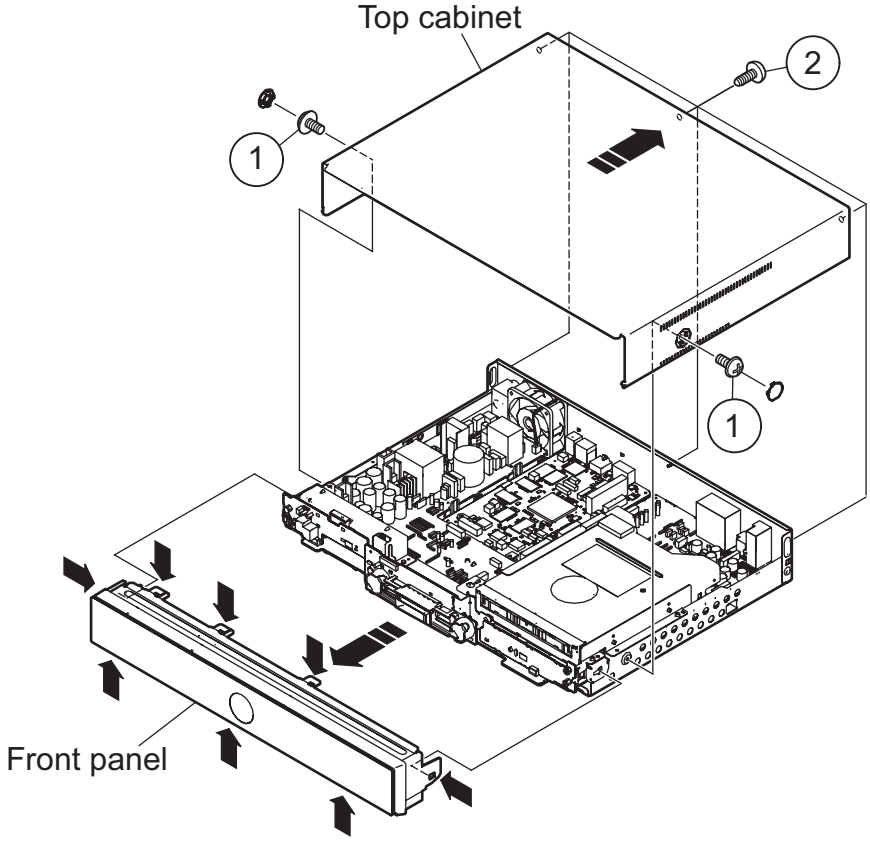
1. Removing the tray cover

1. Eject the tray by inserting a pin into the compulsory eject hole, then remove the tray cover.



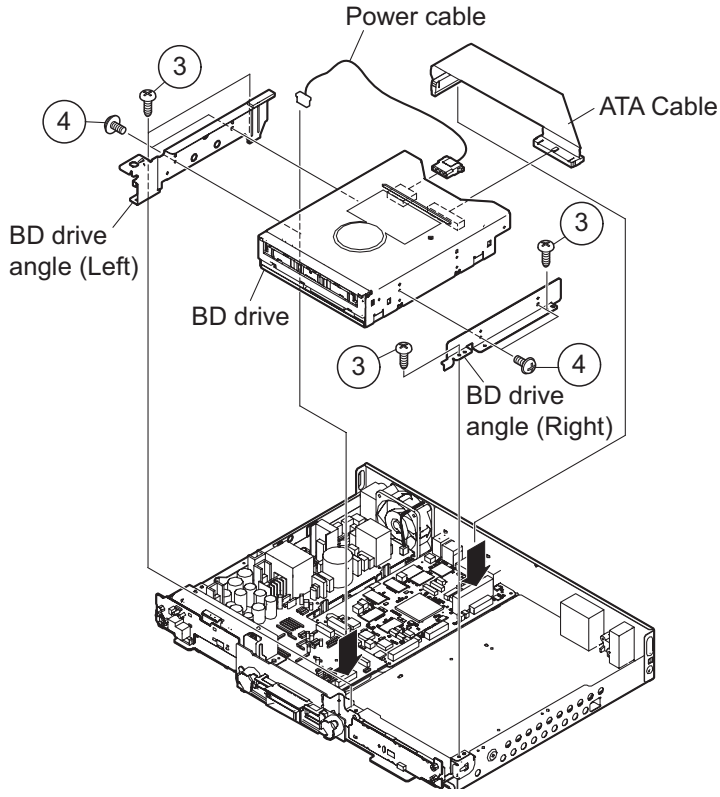
2. Removing the cabinet and the panel

1. Remove two screws ① and three screws ② from the top cabinet.
2. Unhook claws of the front panel and remover the front panel.



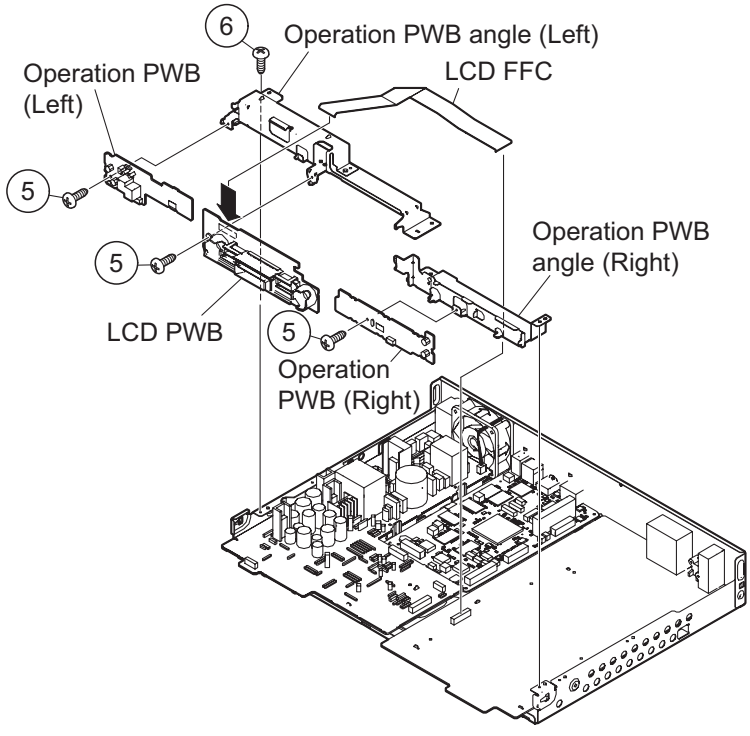
3. Removing the BD drive

1. Disconnect the ATA cable and power cable.
2. Remove four screws ③ and remove the BD unit (with the angle) upward.
3. Remove four screws ④ and remove the BD unit.



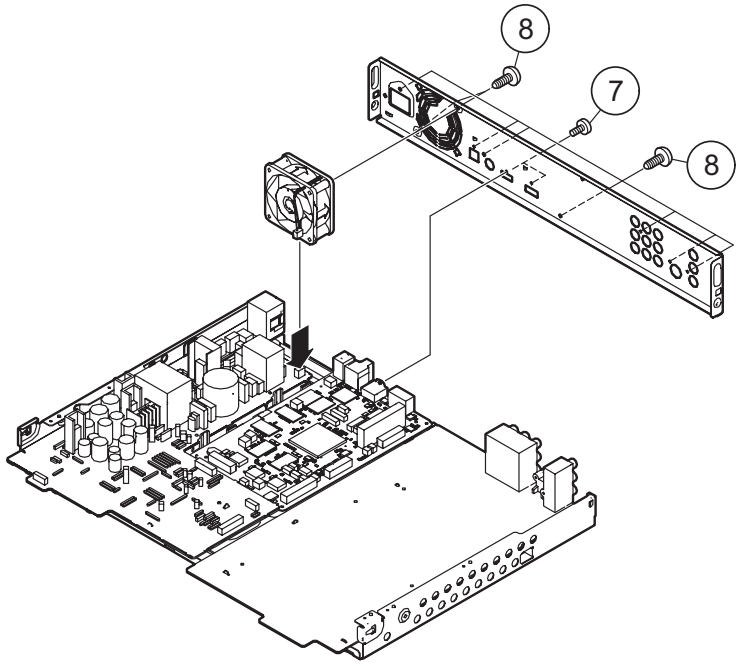
4. Removing the front PWB

1. Disconnect the LCD FFC between the LCD PWB and analog PWB.
2. Remove three screws ⑤ .
3. Remove one screw ⑥ .
4. Remove the operation PWB angles (left and right).



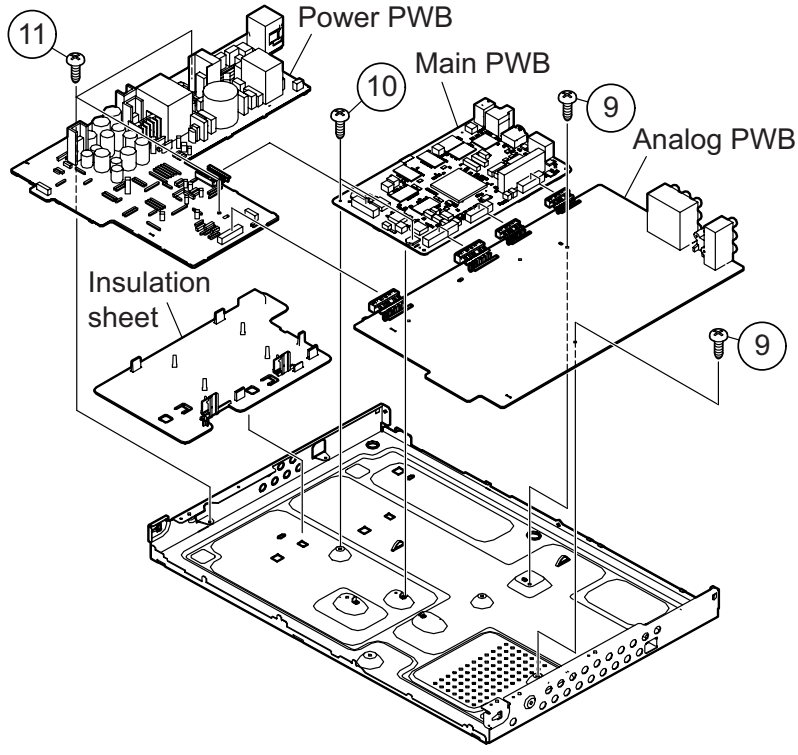
5. Removing the fan and the rear terminal board

1. Remove two screws ⑦ .
2. Remove nine screws ⑧ .
3. Disconnect the fan cable connector and remove the fan.

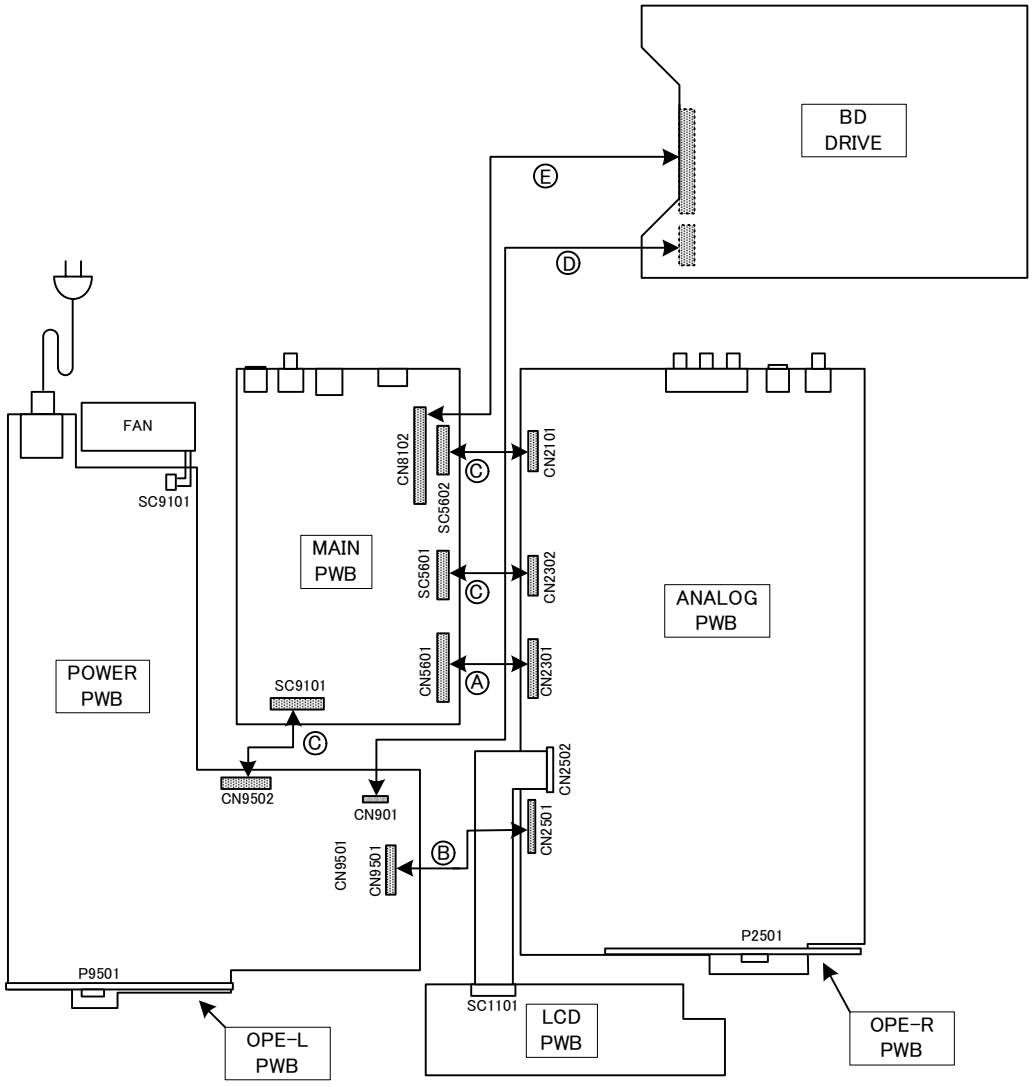


6. Removing each PWB

1. Disconnect the board to board connectors from each PWB.
2. Disconnect the board to board connectors (three) from the main PWB and analog PWB, then remove two screws ⑨ . Disconnect the board to board connector (one) between the analog PWB and power PWB.
3. Remove two screws ⑩ .
4. Remove three screws ⑪ .
5. Remove the insulation sheet.

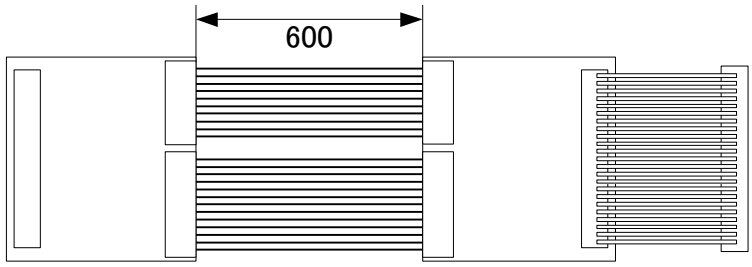


[2] EXTENSION CABLE CONNECTION DIAGRAM

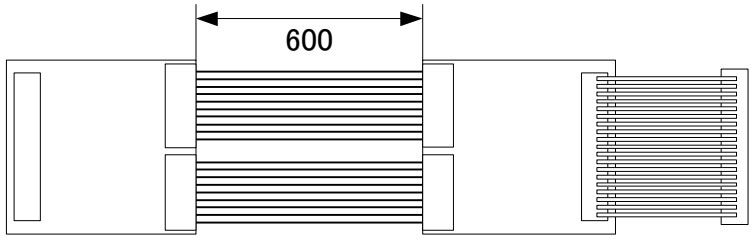


	Parts Code	Name/Description	Pin
Ⓐ	QCNW-E227WJPZ	CN5601 <=> CN2301	23
Ⓑ	QCNW-E228WJPZ	CN2501 <=> CN9501	19
Ⓒ	QCNW-E229WJPZ	SC5601 <=> CN2302, SC5602 <=> CN2101, SC9101 <=> CN9502	15
Ⓓ	QCNW-E573WJPZ	CN901 <=> BD DRIVE	4
Ⓔ	-	ATA66 Cable (Commercially available) CN8102 <=> BD DRIVE	40

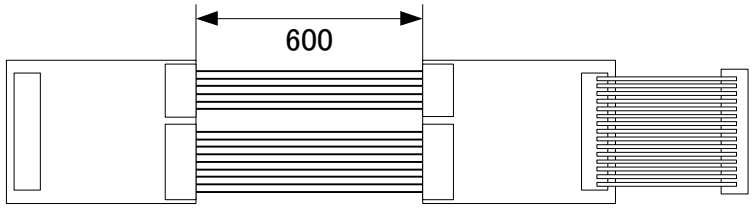
Ⓐ QCNW-E227WJPZ
CN5601⇔CN2301
Used in the above one place. (23Pin)



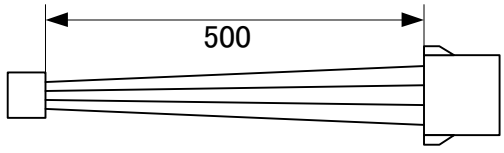
Ⓑ QCNW-E228WJPZ
CN2501⇔CN9501
Used in the above one places. (19Pin)



Ⓒ QCNW-E229WJPZ
SC5601⇔CN2302
SC5602⇔CN2101
SC9101⇔CN9502
Used in the above three places. (15Pin)



Ⓓ QCNW-E573WJPZ
CN901⇔BD DRIVE
Used in the above one places. (4Pin)



Ⓔ ATA66 Cable (Commercially available)
CN8102⇔BD DRIVE
Used in the above one places. (40Pin)

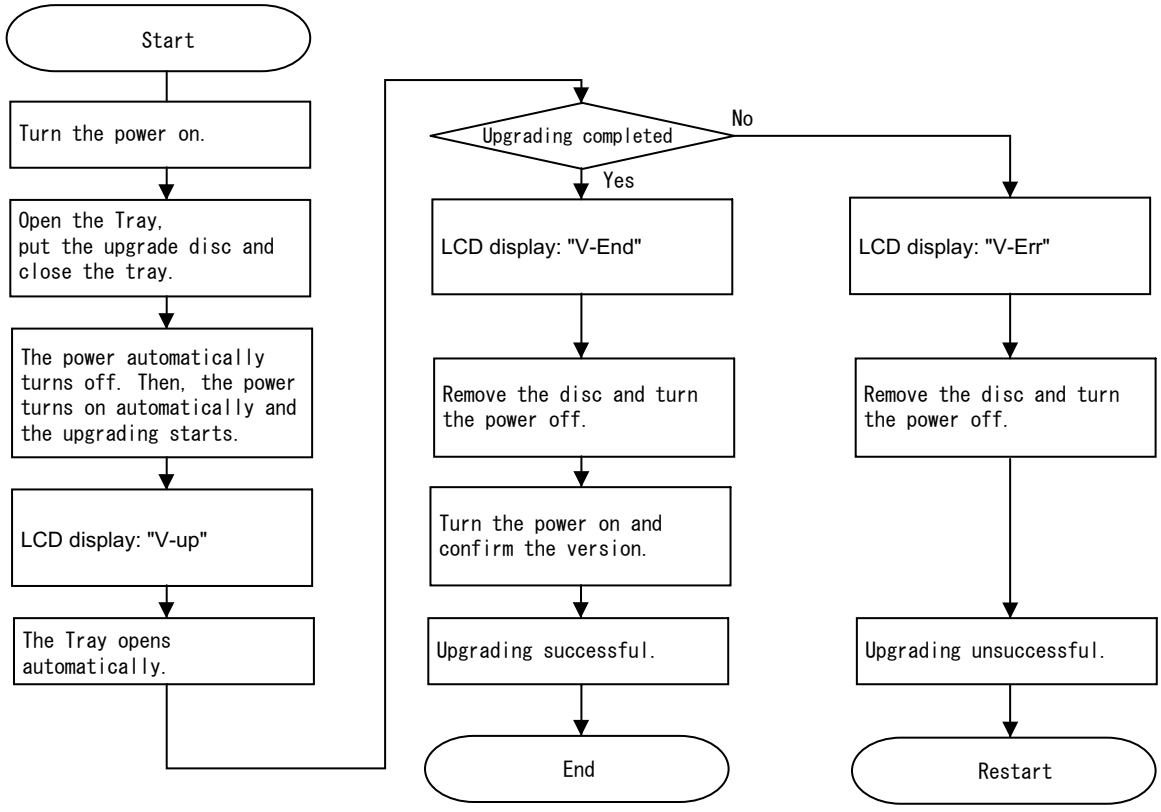
[3] IMPORTANT SERVICE NOTICE

1. To replace the Main CBA, perform the items 9 - 12 of [4] Upgrading and confirm the version: it is necessary to upgrade with a disc to the latest version if the CBA version is old.
2. When replacing the NOR Flash Memories for SIGMA (IC8503, IC8504), even if one of them is to be replaced, both memories need to be replaced. When replacing the Flash Memories, use ones with the same version.
3. SIGMA (IC8104) and the E2PROMs for SIGMA (IC7601) and (IC7602) cannot be replaced independently as a single part, because the system information needs to be written. (The whole CBA needs to be replaced.)
4. After replacing the E2PROM for front-end software (IC2505), perform Menu - Miscellaneous Settings - Reset Settings.

[4] UPGRADING

Consult with your Services Company as we cannot provide the upgrading software.

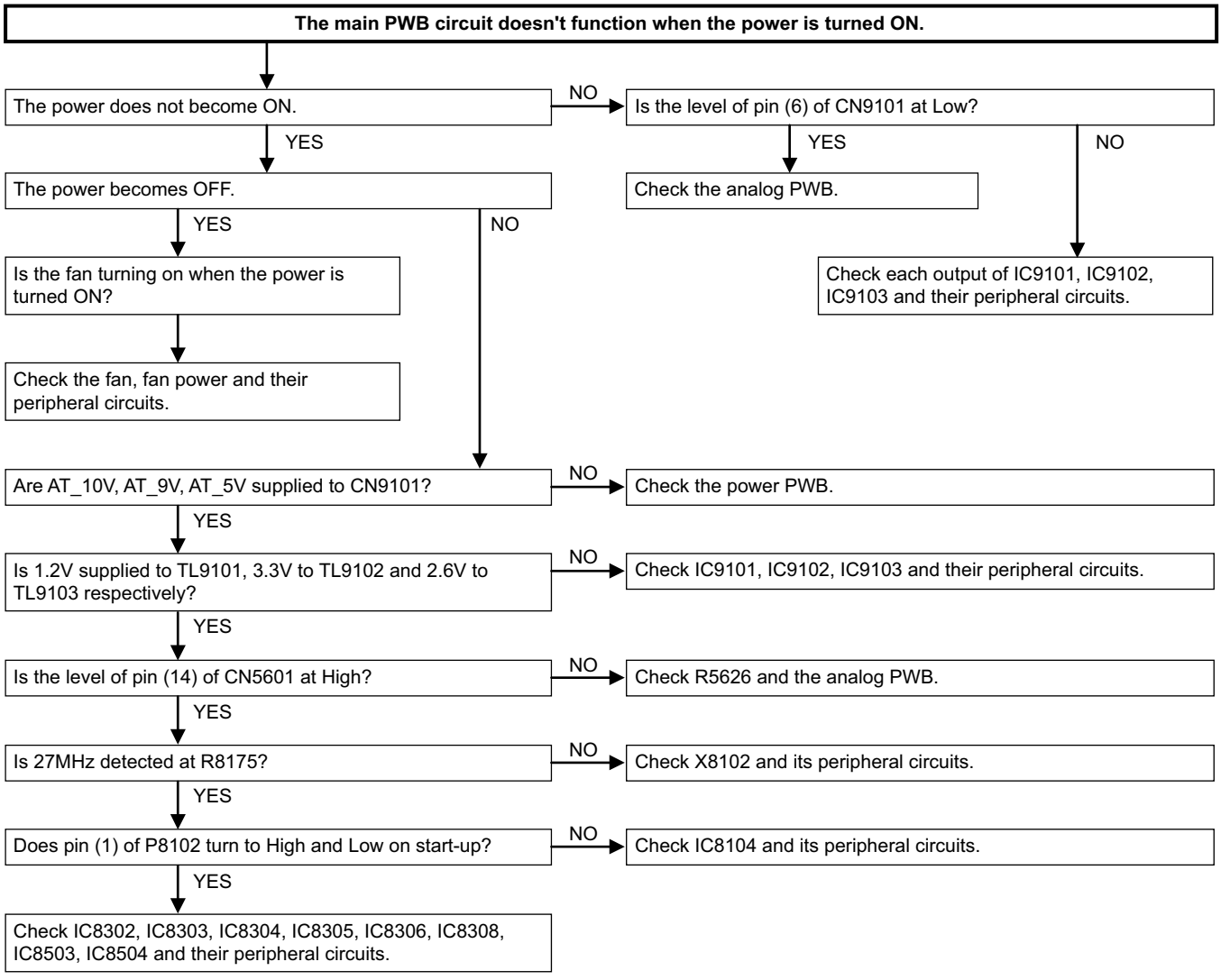
1. Press [Power] button to turn the switch on, then wait till the BD_LED changes from blinking to lit.
2. Press [Tray Open/Close] button to open the Tray, put the upgrade disc on the tray and close the tray.
3. The power automatically turns off. Then it turns on again and the upgrading with the disc will start.
4. During the upgrading, the status changes from blinking DVD_LED (white) to blinking BD_LED (white) as “V-up” message keeps blinking on LCD.
5. When upgrading with the disc is completed, the Tray automatically opens.
   * If the front-end software was upgraded, BD_LED (white) will blink ; then DVD_LED and BD_LED will turn blue, red, etc.; the Tray will open after the upgrading is completed and the power will turn off. (Go to step 8.)
6. When the upgrading is completed, the LCD will display as follows:
   (1) Upgrading successful:”V-End” will light.
   (2) Upgrading unsuccessful: “V-Err” will light.
7. Remove the disc from the Tray and press any other button of the Main Unit than [Power], then the Tray will close and the power will automatically turn off. (Confirm the power-off by stop of the Cooling Fan.)
   * If [Power] button is pressed, the power will turn off with the Tray open.
   * If the upgrading was unsuccessful, perform the procedure again from the step 1.
8. Press [Power] button to turn the power on, then wait till the BD_LED changes from blinking to lit.
9. Switch to [Main Diagnostic Menu] using [F4] button of the special remote control for servicing.
10. Looking at the version numbers in SIGMA Ver. and FRONT Ver., confirm that the upgrading to the desired version was completed.
11. Quit [Main Diagnostic Menu] by pressing [Green] button of the remote control.
12. Press [Power] button to turn the power off. (Confirm the power-off by stop of the cooling fan.)


Start
Turn the power on.
Open the Tray,
put the upgrade disc and
close the tray.
The power automatically
turns off. Then, the power
turns on automatically and
the upgrading starts.
LCD display: "V-up"
The Tray opens
automatically.
Upgrading completed
No
Yes
LCD display: "V-End"
Remove the disc and turn
the power off.
Turn the power on and
confirm the version.
Upgrading successful.
End
LCD display: "V-Err"
Remove the disc and turn
the power off.
Upgrading unsuccessful.
Restart

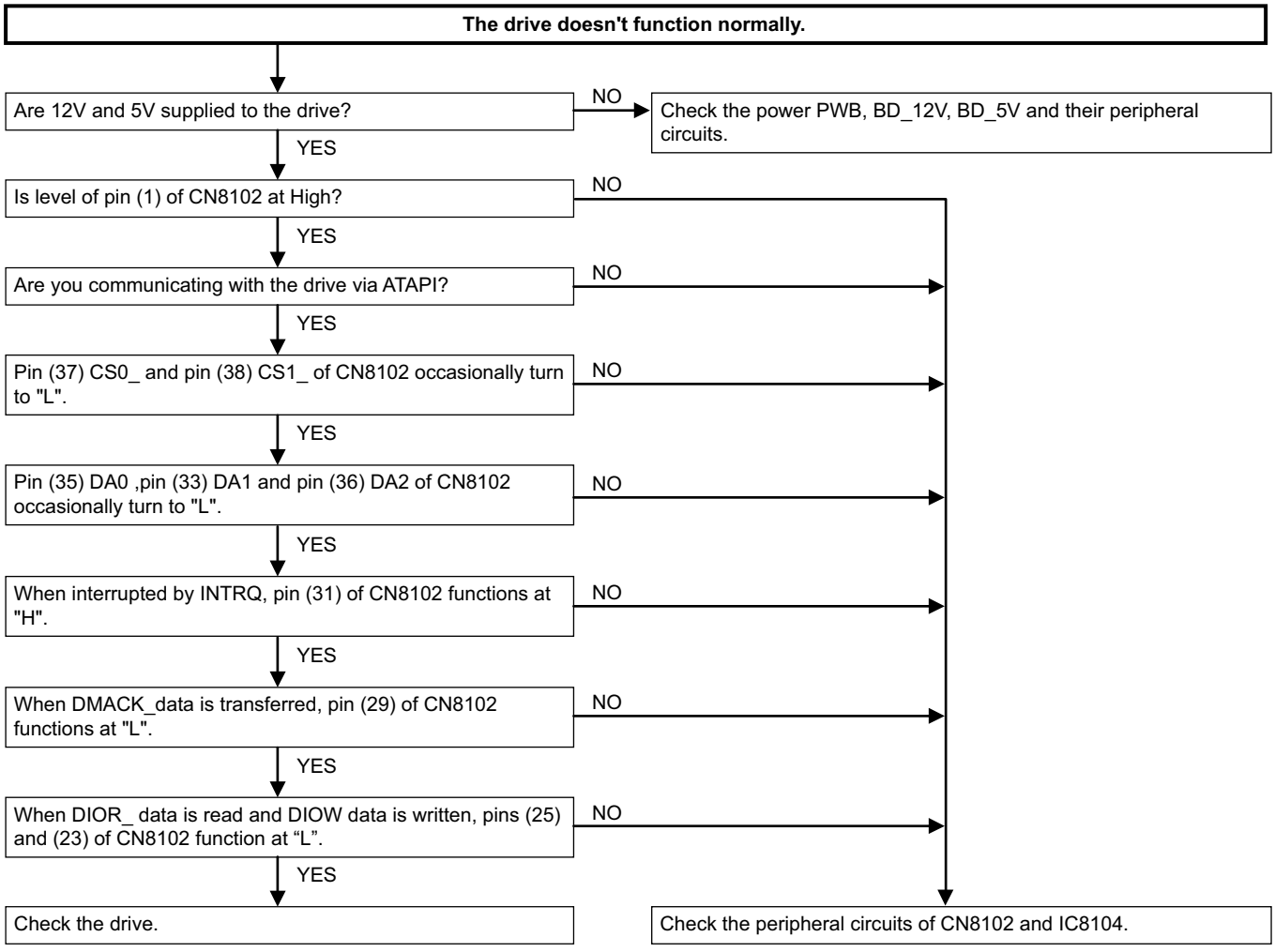
CHAPTER 2. TROUBLE SHOOTING TABLE

[1] MAIN

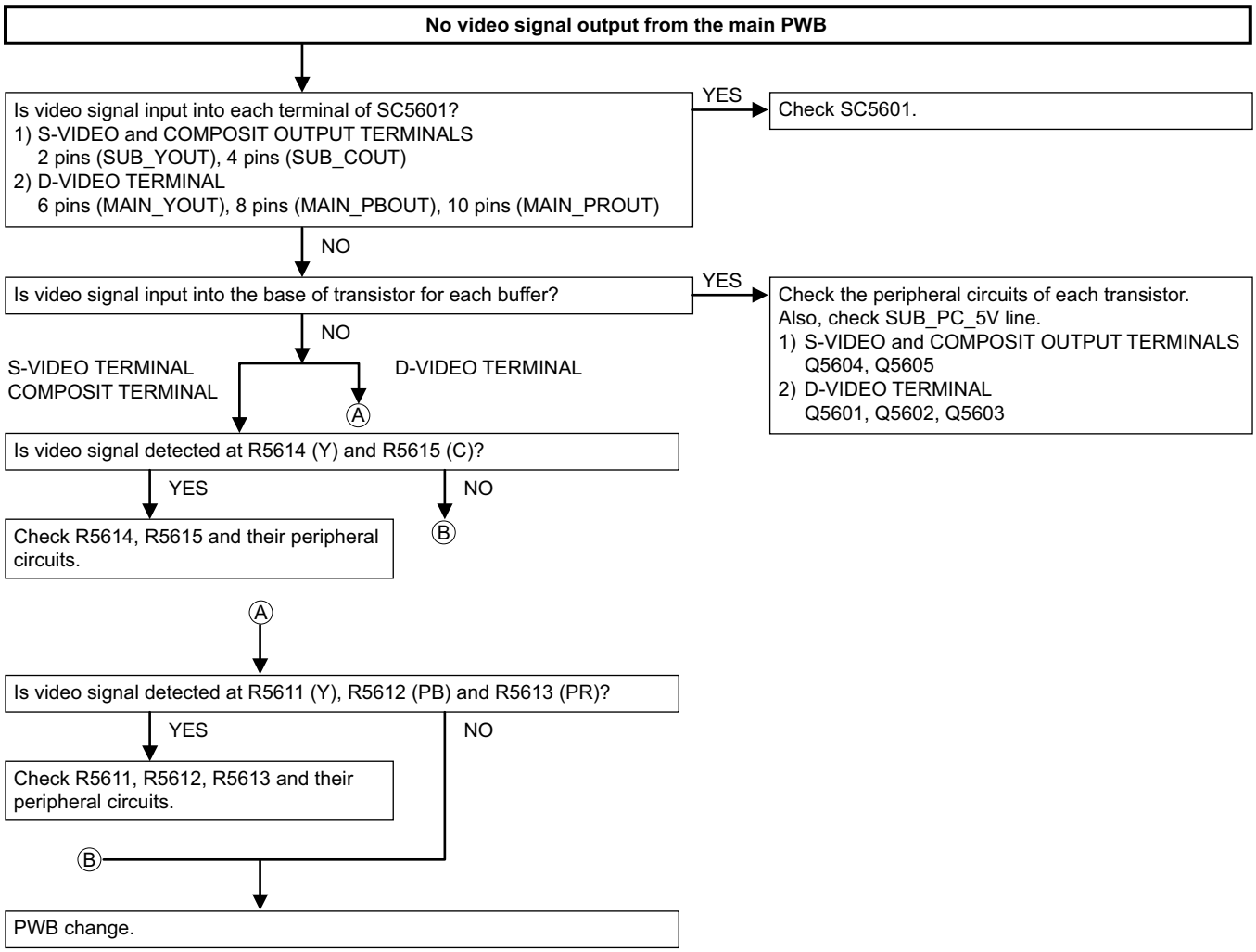
FLOW CHART No.1



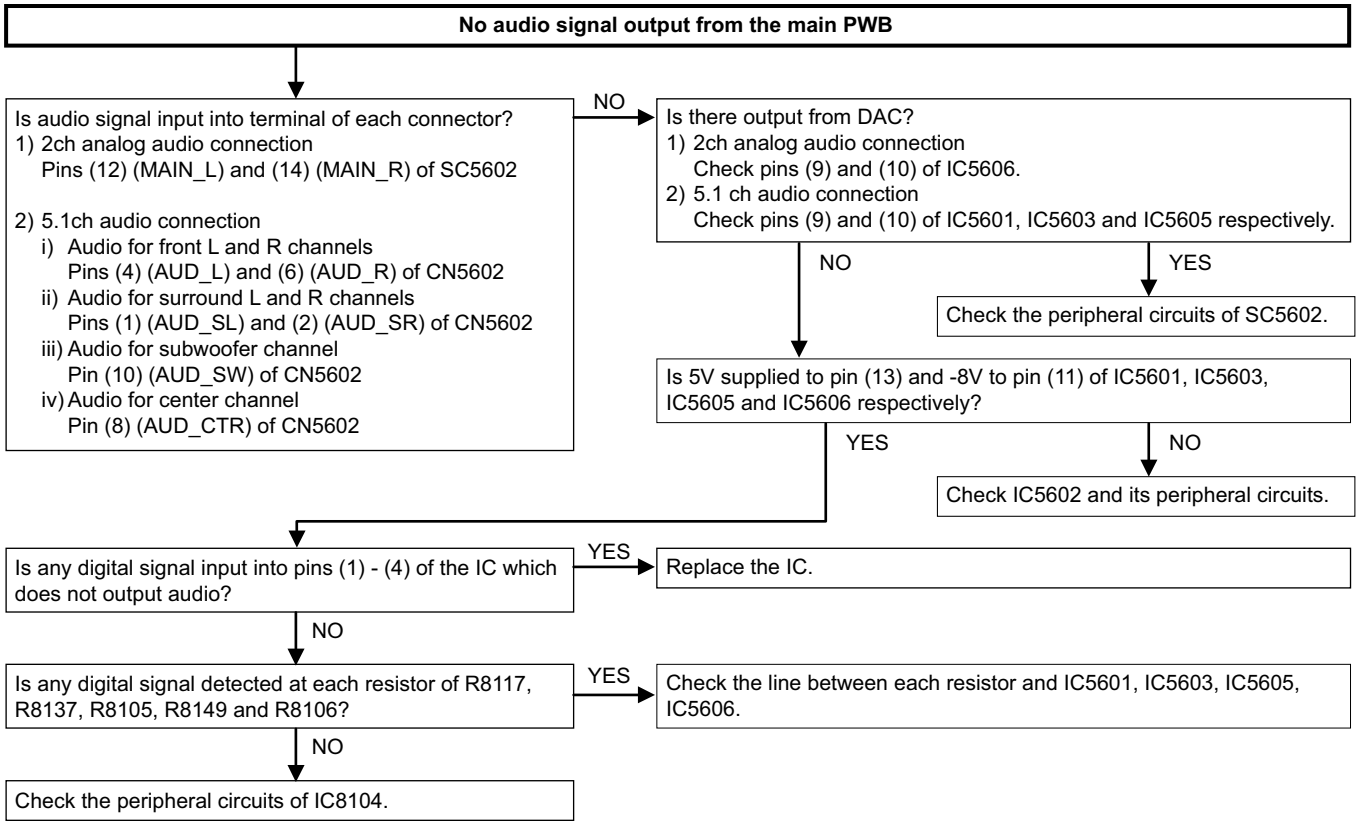
FLOW CHART No.2



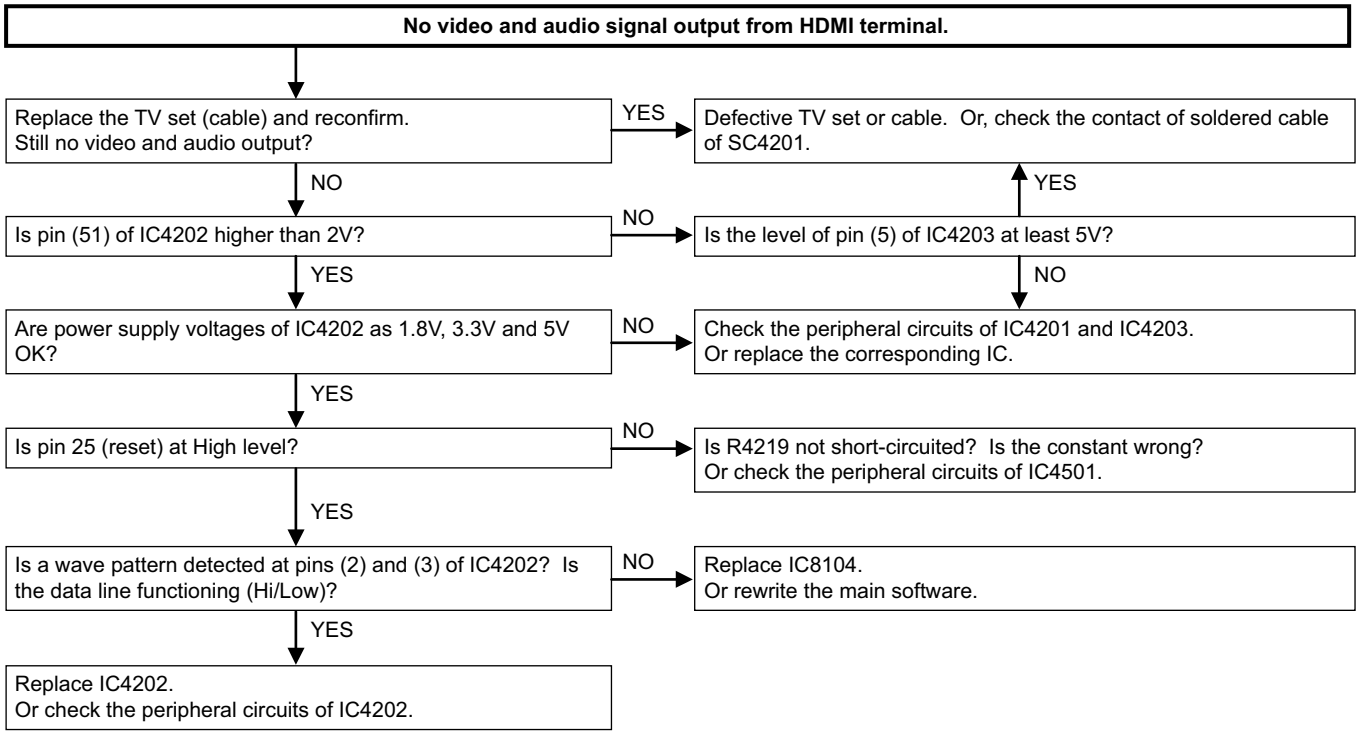
FLOW CHART No.3



FLOW CHART No.4

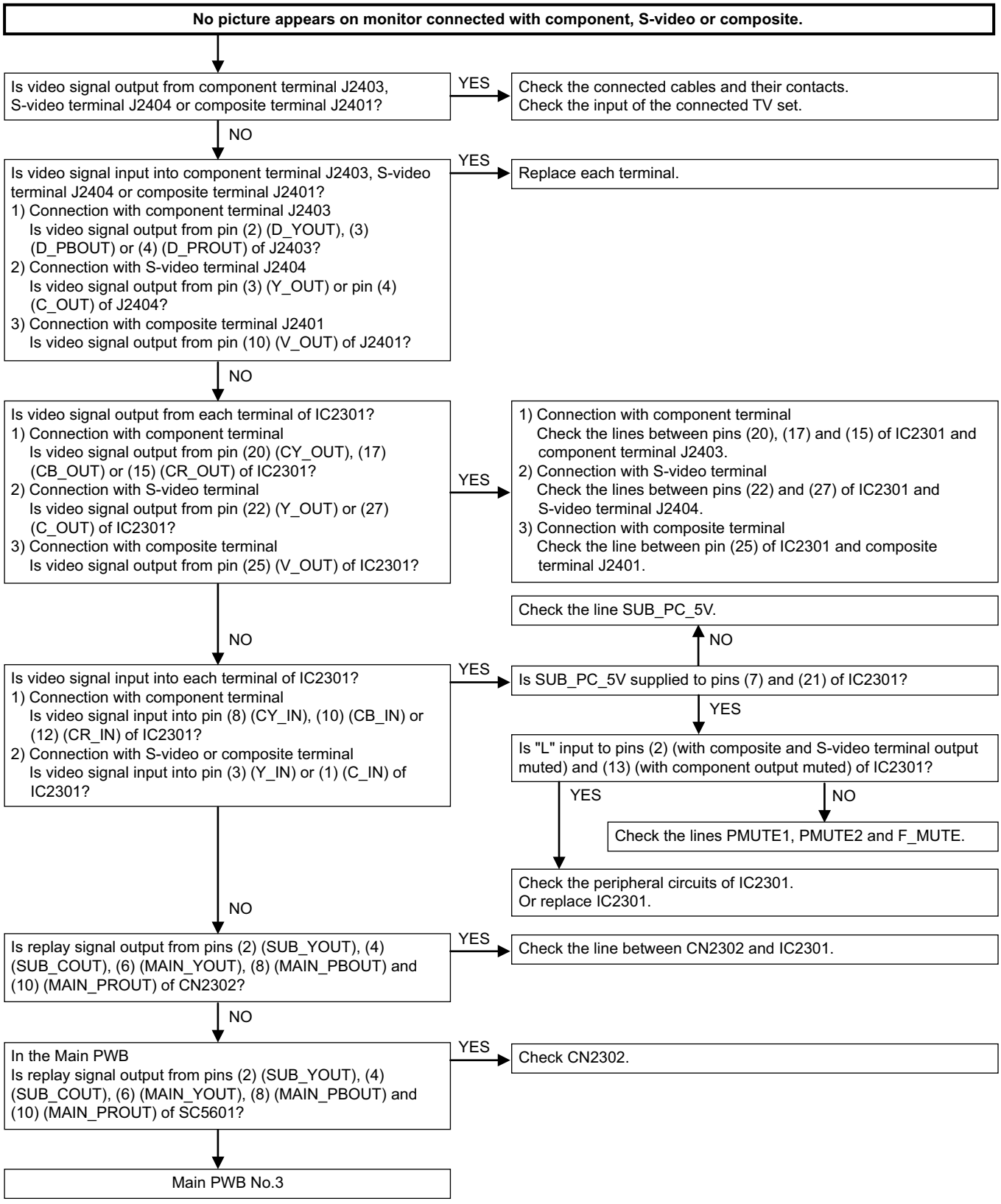


FLOW CHART No.5



[2] ANALOG

FLOW CHART No.1



FLOW CHART No.2

No replay audio output from each audio output terminal.

Is audio output from each audio output terminal?
J2401

YES → Check the connected cables and their contacts.
Check the input of the connected TV set or amplifier.

NO

Is audio signal input into each audio output terminal?

1) 2ch analog audio connection
Is audio signal input into pins (2) (AUD_MIN_L) and (7) (AUD_MIX_R) of J2401?
2) 5.1ch audio connection
Is audio signal input into pins (4) (AUD_L), (8) (AUD_R), (6) (AUD_SL), (9) (AUD_SR), (11) (AUD_CTR) and (12) (AUD_SW) of J2401?

YES → Check each terminal or replace them.

NO

Is audio signal output from each terminal of CN2101?

1) 2ch analog audio connection
Pins (12) (AUD_MAIN_L) and (14) (AUD_MAIN_R) of CN2101
2) 5.1ch audio connection
i) Audio for front L and R channels
Pins (4) (AUD_L) and (6) (AUD_R) of CN2101
ii) Audio for surround L and R channels
Pins (1) (AUD_SL) and (2) (AUD_SR) of CN2101
iii) Audio for subwoofer channel
Pin (10) (AUD_SW) of CN2101
iv) Audio for center channel
Pin (8) (AUD_CTR) of CN2101

YES → Is the audio muted? Q2102 collector "H"

YES → Check the audio mute circuits (Q2101, Q2102, D2101 and D2102).
Or check F_MUTE and AUDMAINMUTE lines.

NO → Check each audio line.

NO

Is audio signal output from each connector pin in the main PWB?

1) 2ch analog audio connection
Pins (12) (AUD_MAIN_L) and (14) (AUD_MAIN_R) of SC5602
2) 5.1ch audio connection
i) Audio for front L and R channels
Pins (4) (AUD_L) and (2) (AUD_R) of CN5602
ii) Audio for surround L and R channels
Pins (1) (AUD_SL) and (2) (AUD_SR) of CN5602
iii) Audio for subwoofer channel
Pin (10) (AUD_SW) of CN5602
iv) Audio for center channel
Pin (8) (AUD_CTR) of CN5602

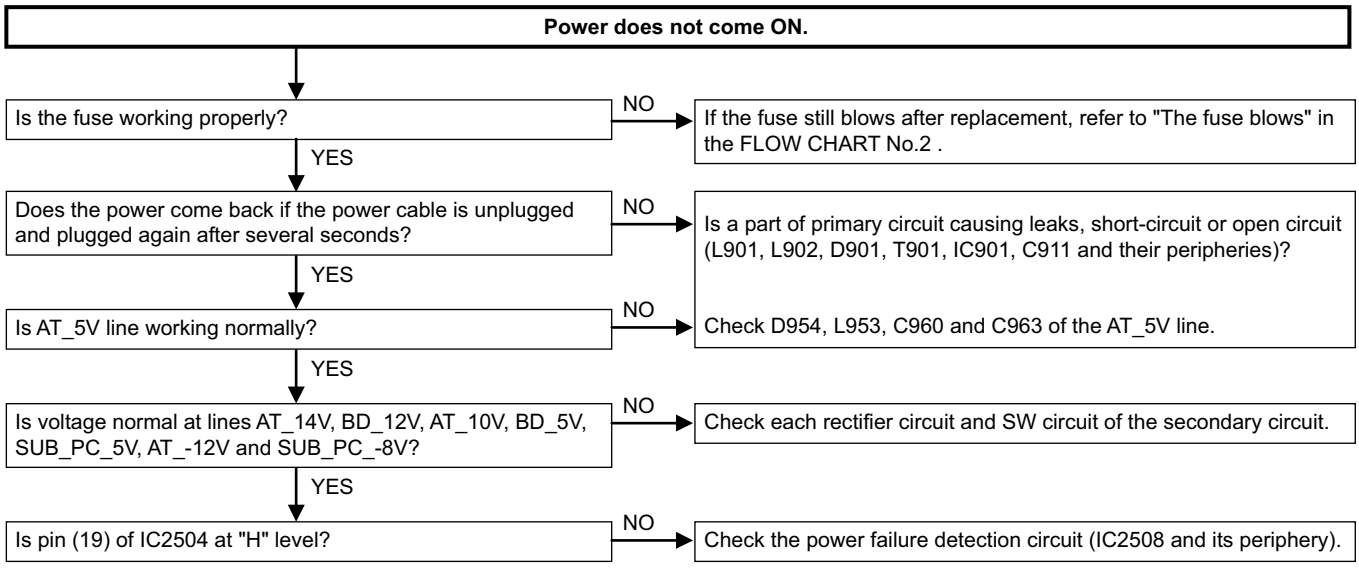
YES → Check SC5602.

NO

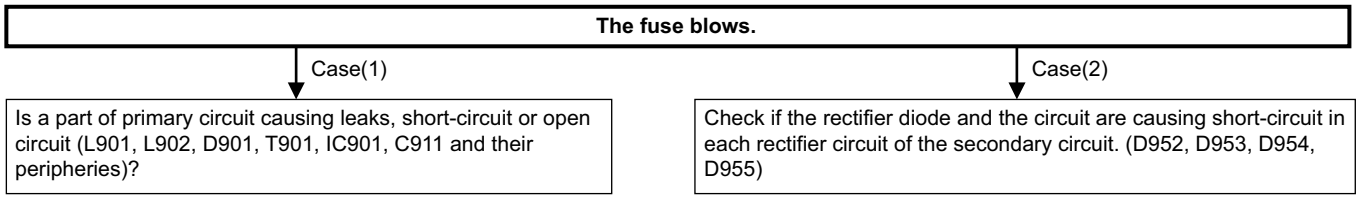
Main PWB No.4

[3] POWER

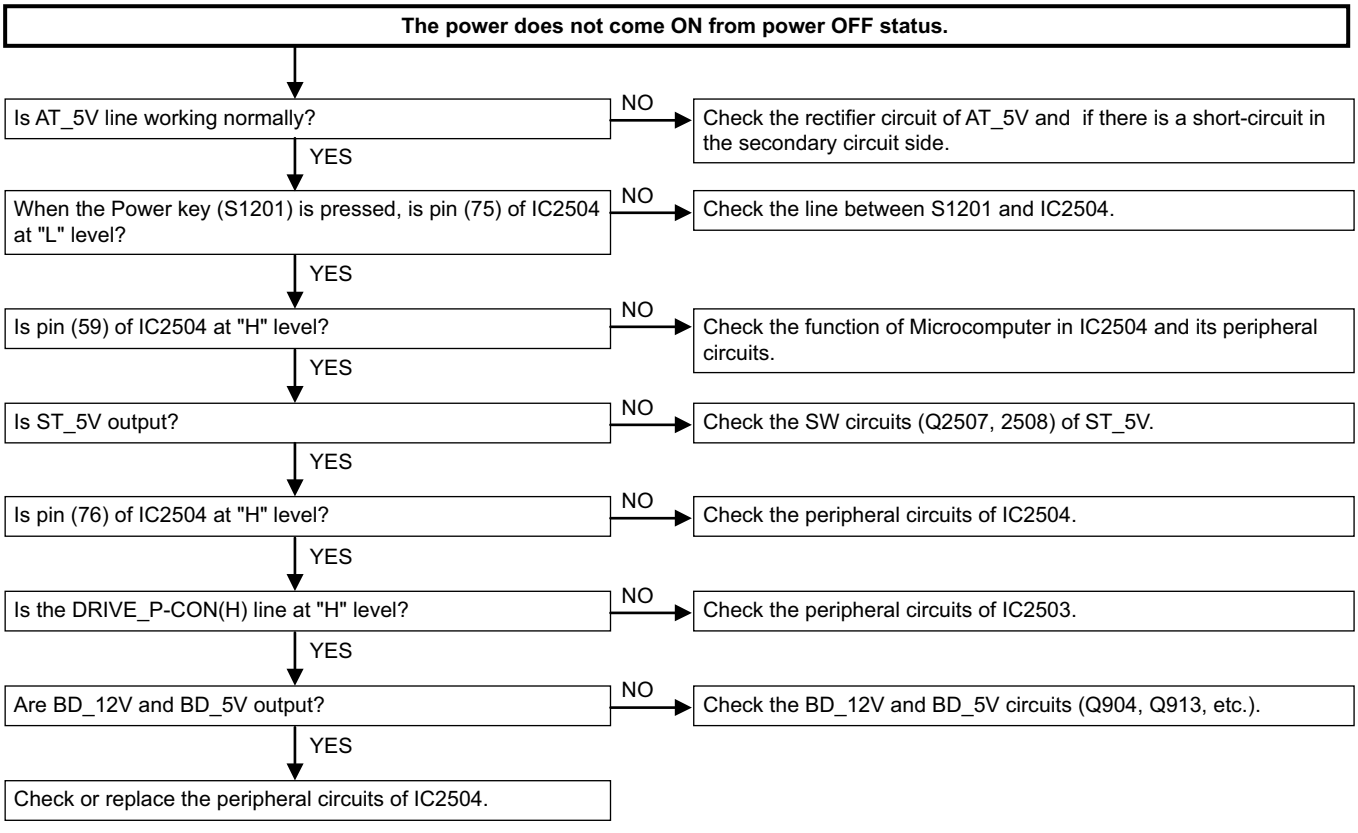
FLOW CHART No.1



FLOW CHART No.2



FLOW CHART No.3



FLOW CHART No.4

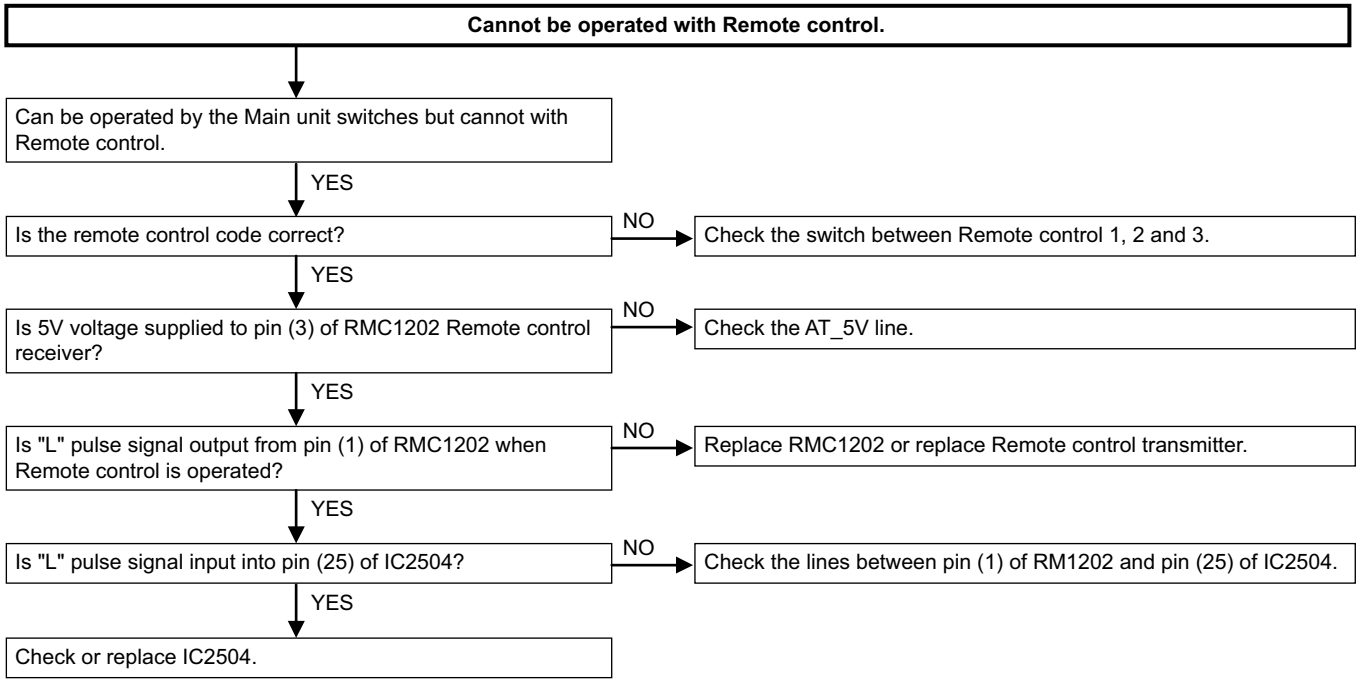
Buzzing sound is generated near the power circuit.

↓

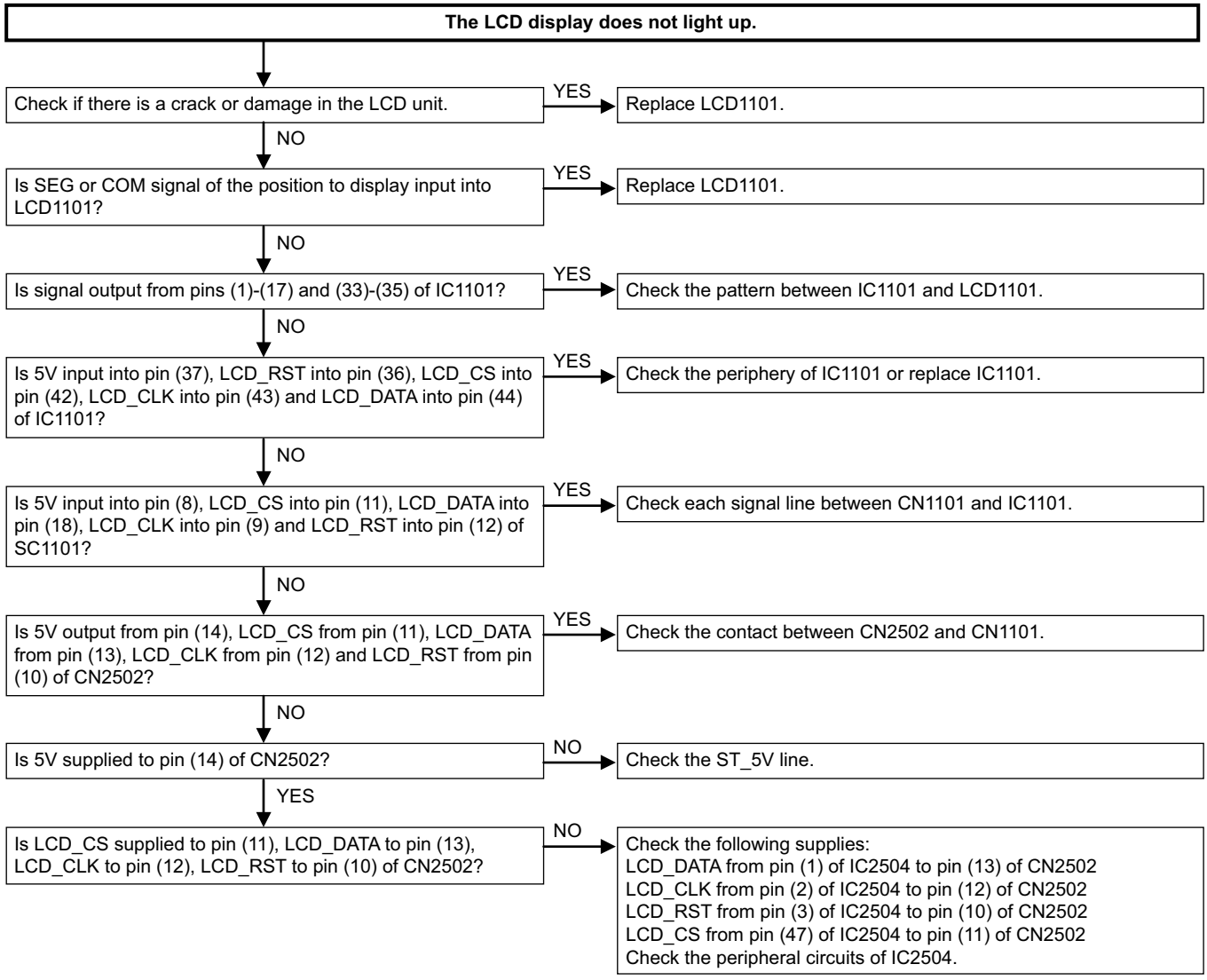
Check if the rectifier diode and the circuit are causing short-circuit, or if the shunt regulator circuit is defective, in each rectifier circuit of the secondary circuit (around D952, 953, 954, 955 and 951).

[4] OPERATION

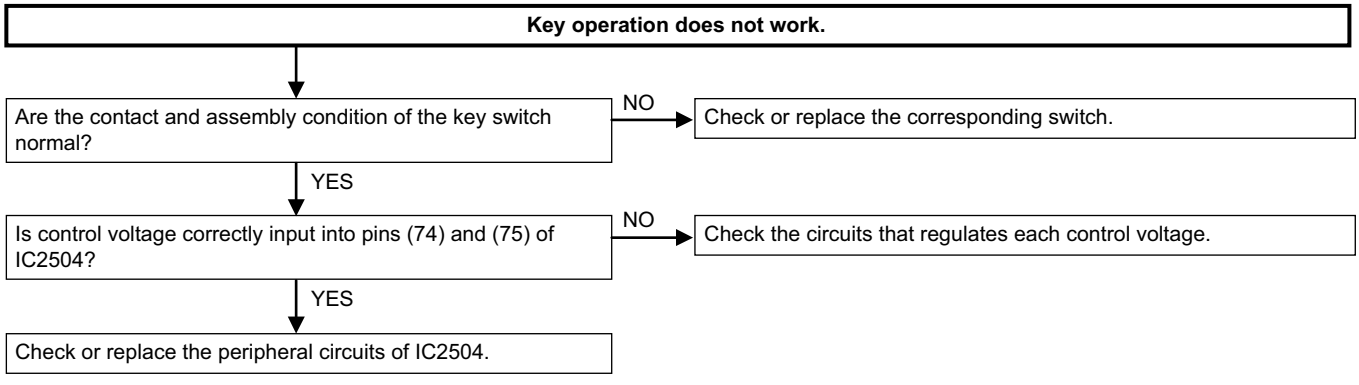
FLOW CHART No.1



FLOW CHART No.2

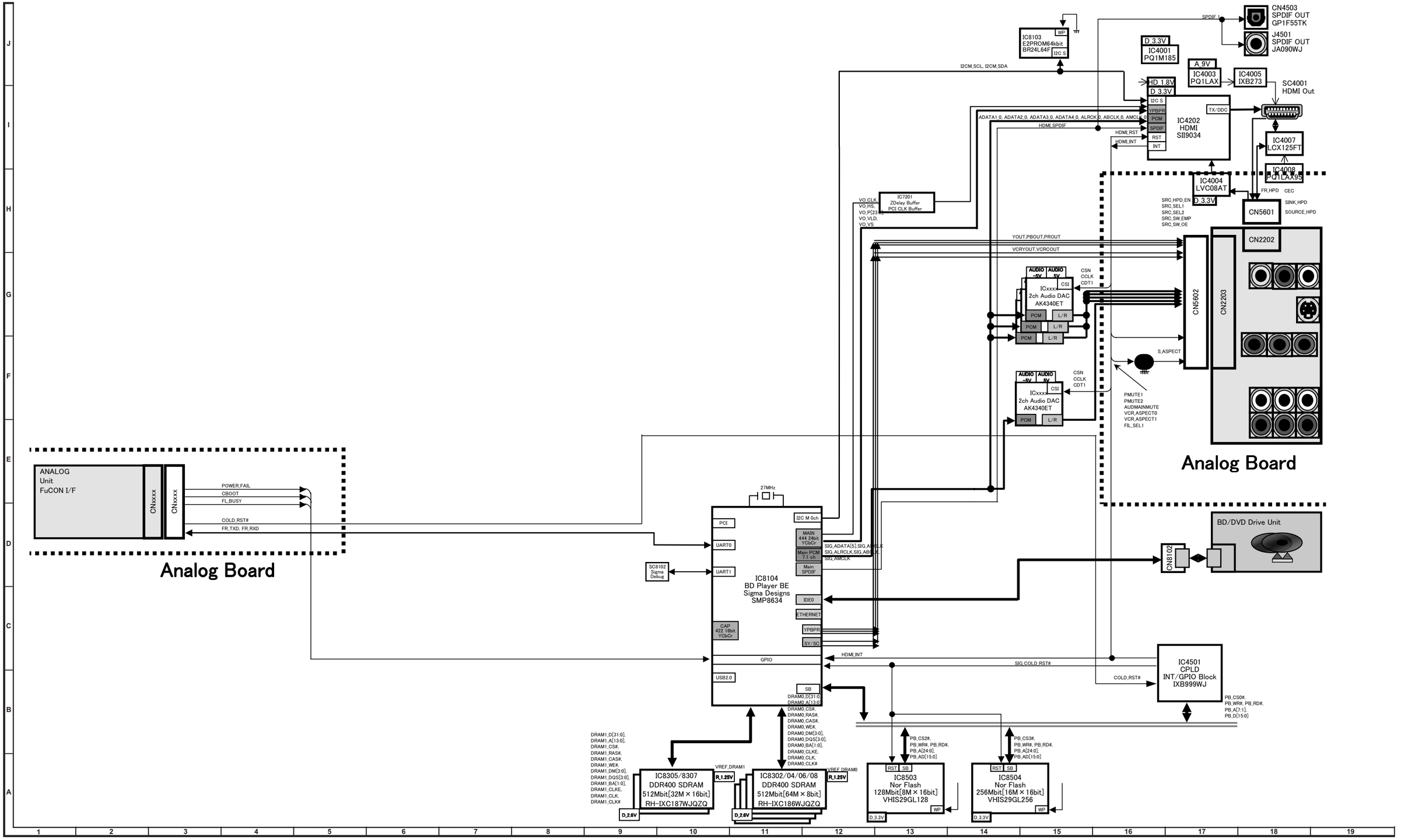


FLOW CHART No.3



CHAPTER 3. BLOCK DIAGRAMS

[1] MAIN BLOCK DIAGRAM



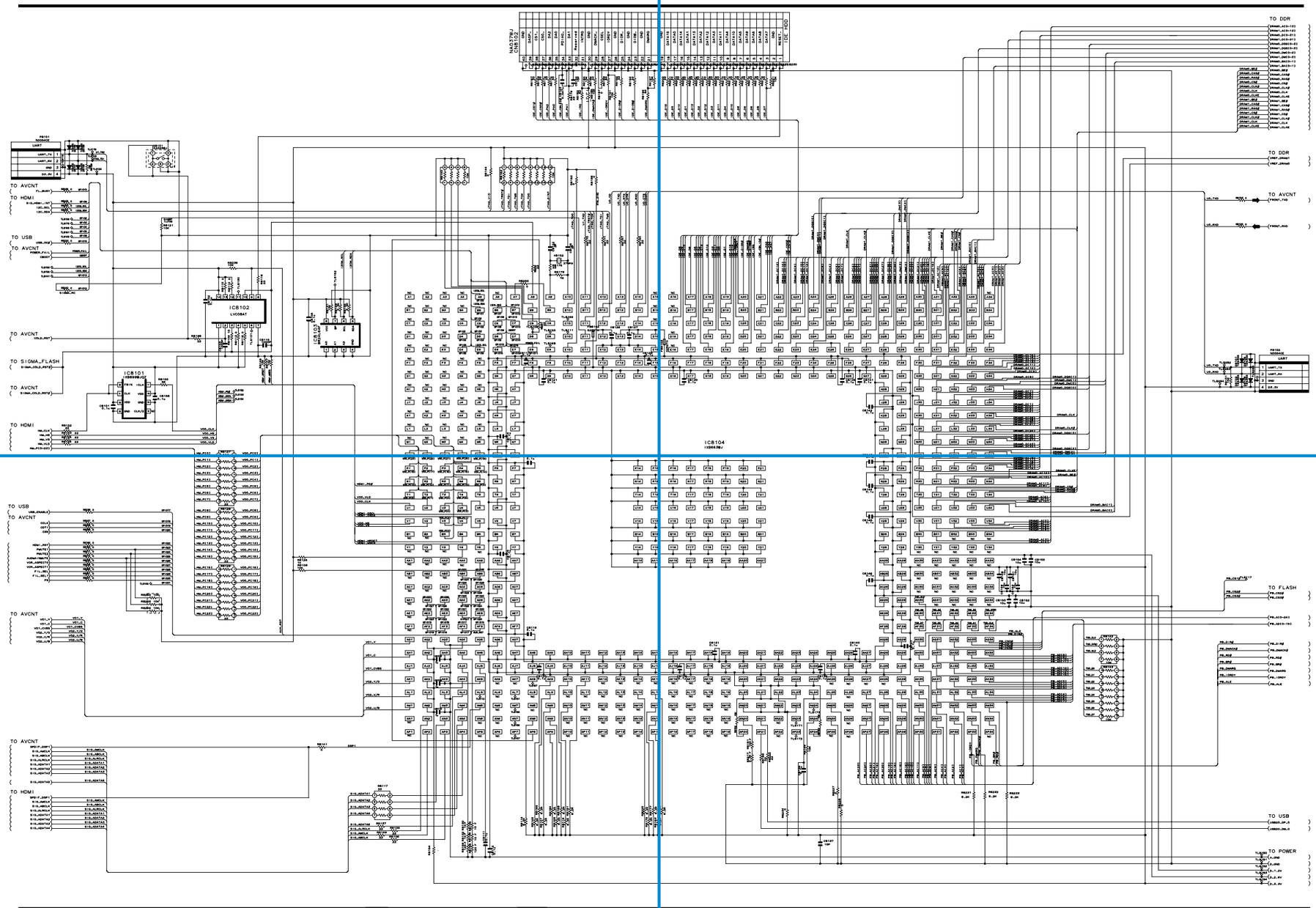
CHAPTER 4. SCHEMATIC DIAGRAMS

[1] MAIN unit

MAIN unit - 1/9

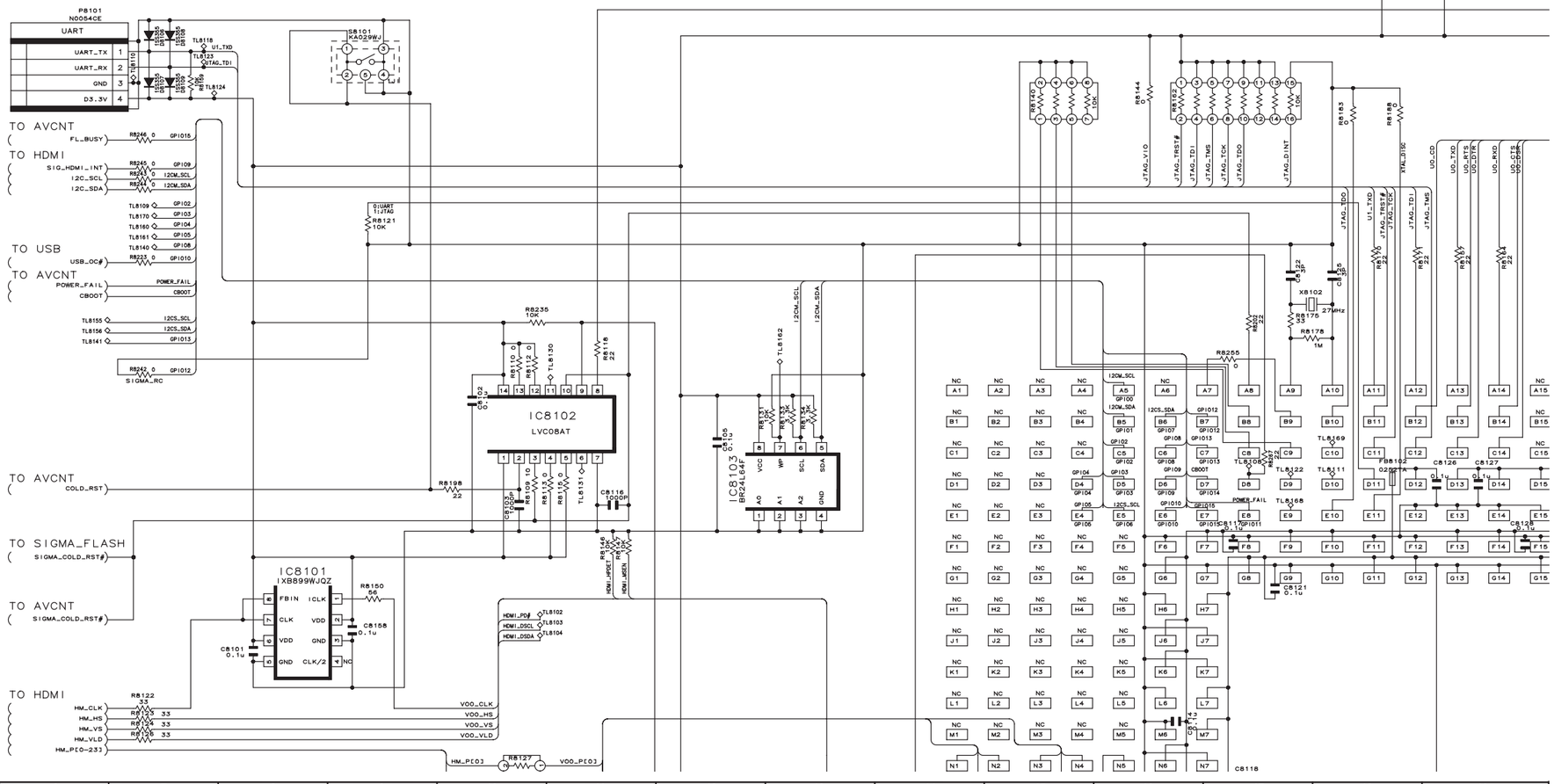
(1/4) Please peel off and refer to page 4-2.

(2/4) Please peel off and refer to page 4-3.

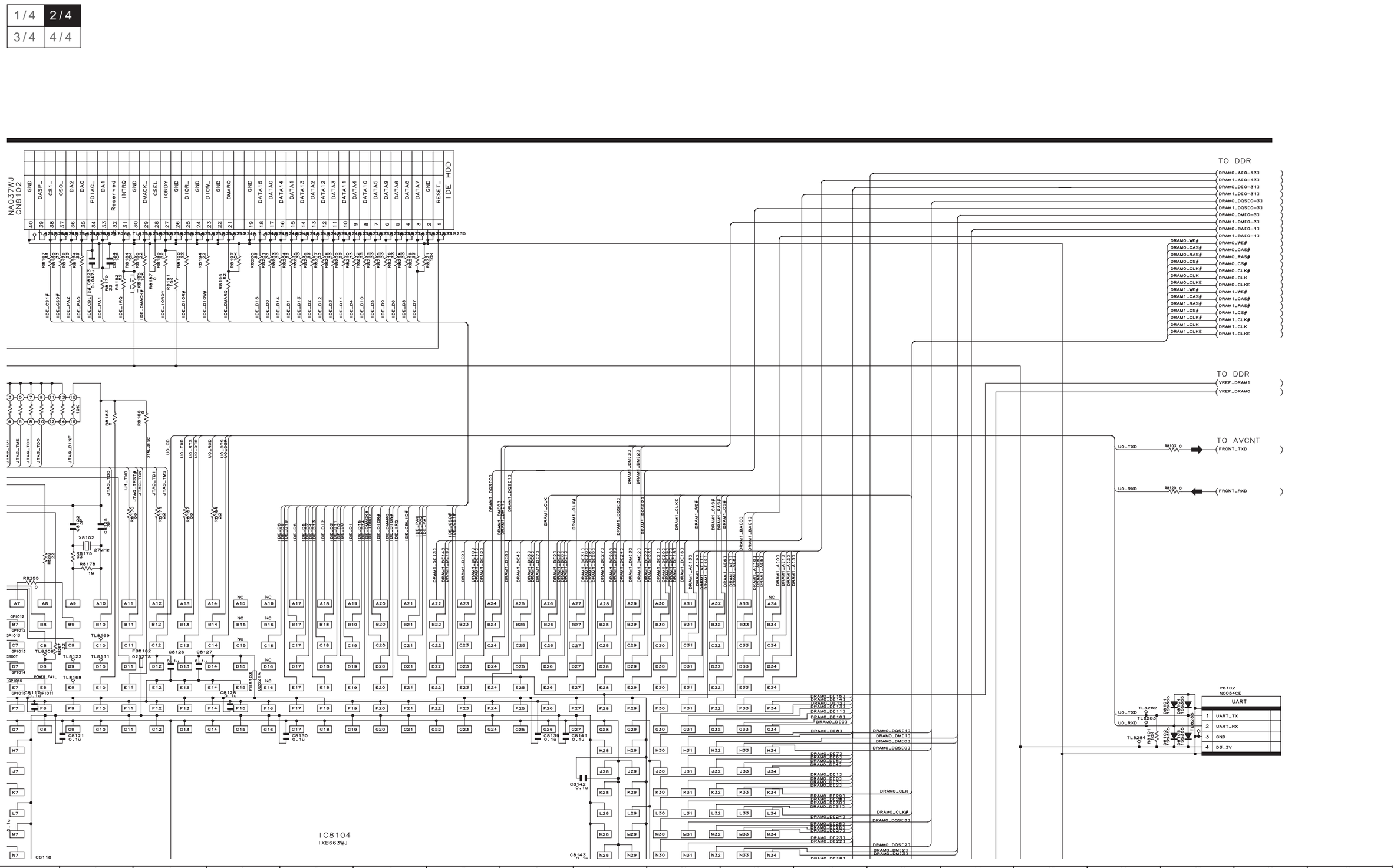


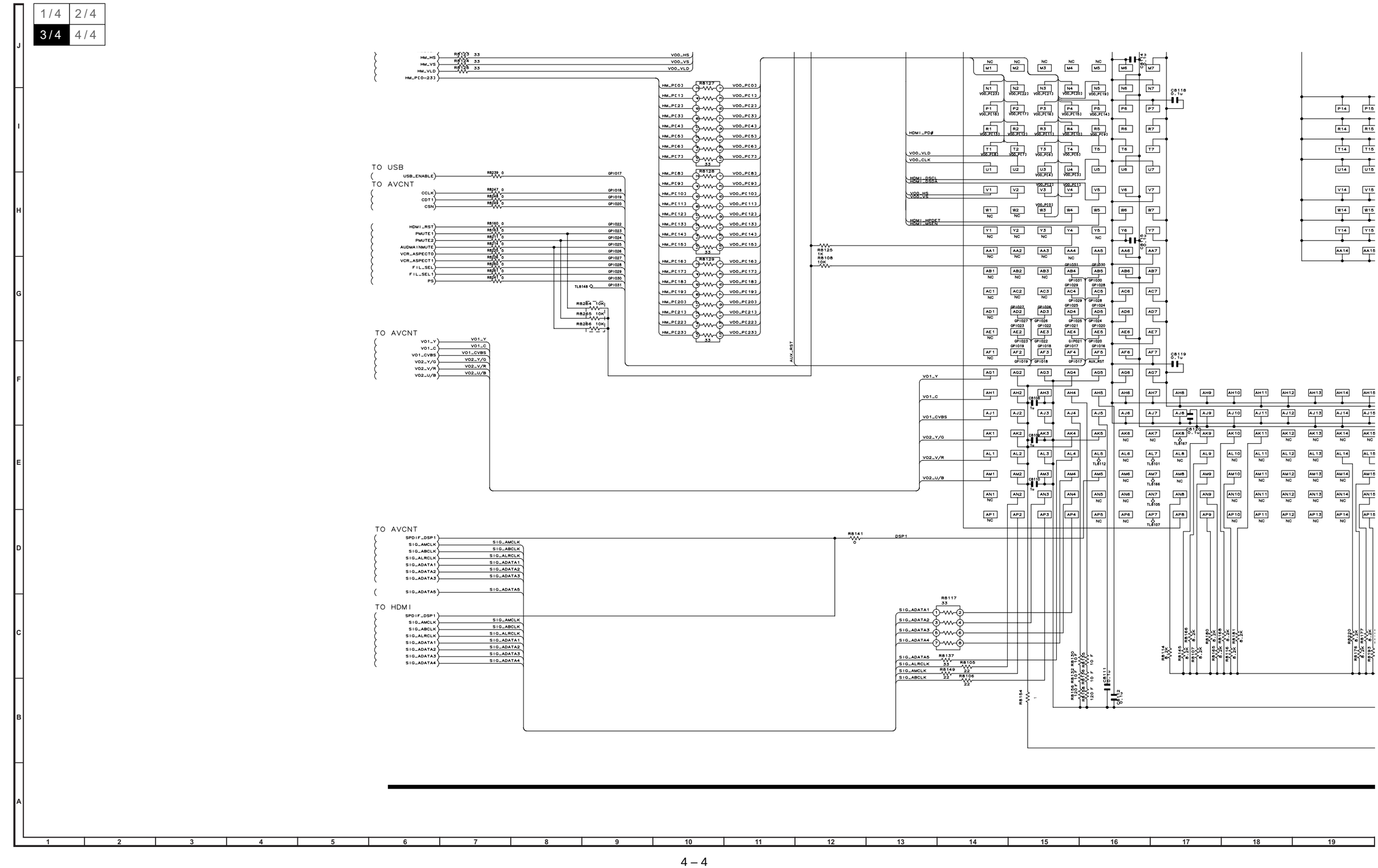
(3/4) Please peel off and refer to page 4-4.

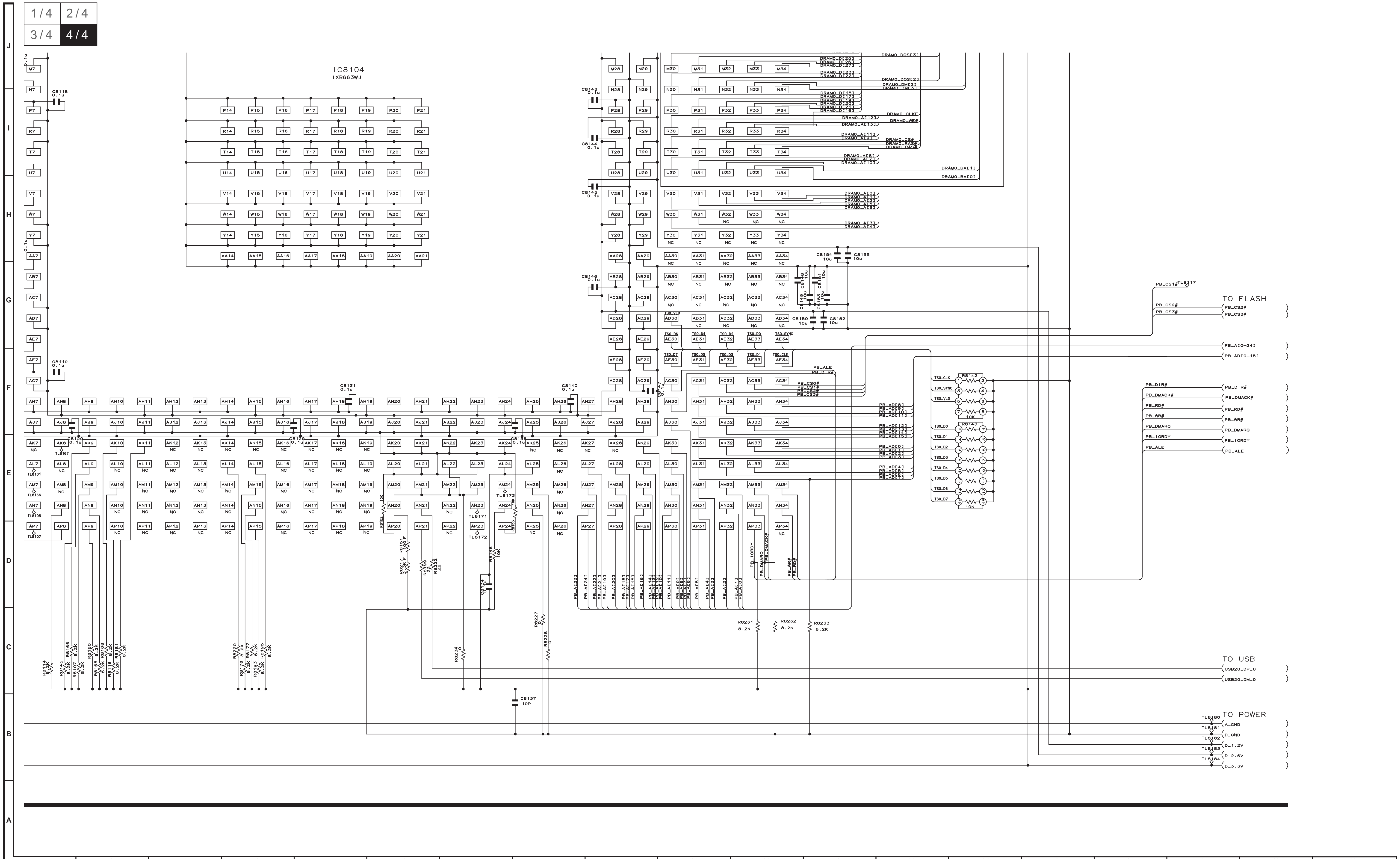
(4/4) Please peel off and refer to page 4-5.


P8101
N0054CE
UART
UART_TX 1
UART_RX 2
GND 3
D3.3V 4
IS8101
KA029WJ
TO AVCNT
FL_BUSY
TO HDMI
SIG_HDMI_INT
I2C_SCL
I2C_SDA
TO USB
USB_OC#
TO AVCNT
POWER_FAIL
CBOOT
SIGMA_RC
TO AVCNT
COLD_RST
TO SIGMA_FLASH
SIGMA_COLD_RST#
TO AVCNT
SIGMA_COLD_RST#
TO HDMI
HM_CLK
HM_HS
HM_VS
HM_VLD
HM_PIO-23
IC8101
IX8899WJQZ
IC8102
LVC08AT
IC8103
BR24L64F
NA037WJ
CN8102
X8102
27MHz
IC8116
IC8117
IC8118
IC8119
IC8120
IC8121
IC8122
IC8123
IC8124
IC8125
IC8126
IC8127
IC8128
IC8129
IC8130
IC8131
IC8132
IC8133
IC8134
IC8135
IC8136
IC8137
IC8138
IC8139
IC8140
IC8141
IC8142
IC8143
IC8144
IC8145
IC8146
IC8147
IC8148
IC8149
IC8150
IC8151
IC8152
IC8153
IC8154
IC8155

1/4 | 2/4
3/4 | 4/4


NA037WJ
CN8102
IDE HDD
TO DDR
TO DDR
TO AVCNT
IC8104
IXB663WJ
P8102
N0054CE
UART
UART_TX
UART_RX
GND
D3.3V

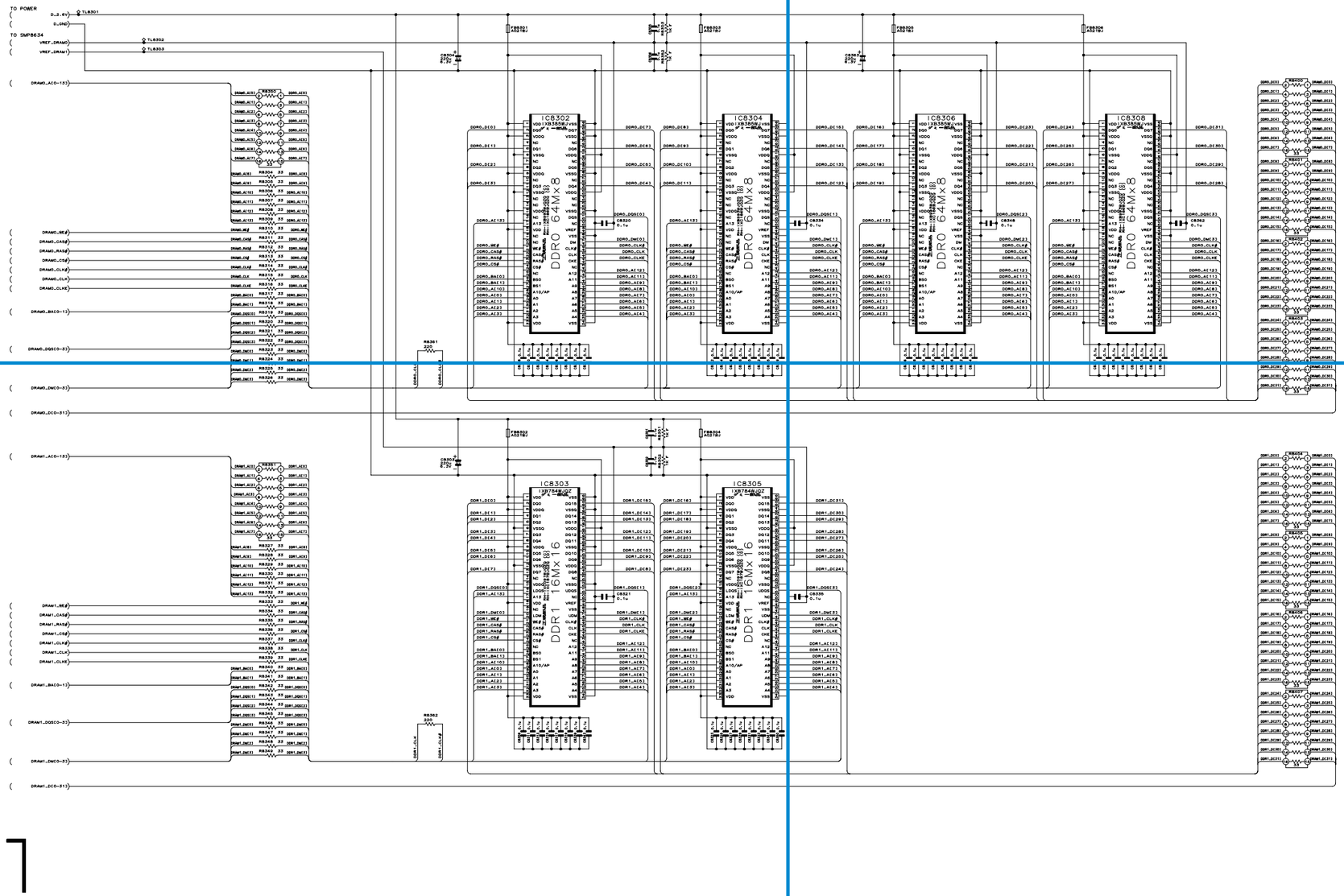

TO USB
TO AVCNT
TO AVCNT
TO HDMI
HDMI_RST
PMUTE1
PMUTE2
AUDMAINMUTE
VCR_ASPECT0
VCR_ASPECT1
FIL_SEL
FIL_SEL1
PS
USB_ENABLE
CCLK
CDT1
CSN
HM_HS
HM_VS
HM_VLD
HM_PI0~23
VO1_Y
VO1_C
VO1_CVBS
VO2_Y/G
VO2_V/R
VO2_U/B
SPDIF_DSP1
SIG_AMCLK
SIG_ABCLK
SIG_ALRCLK
SIG_ADATA1
SIG_ADATA2
SIG_ADATA3
SIG_ADATA4
SIG_ADATA5
DSP1
AUX_RST
HDMI_PD#
HDMI_DSCL
HDMI_DSDA
HDMI_HPDET
HDMI_MSEN
VOO_HS
VOO_VS
VOO_VLD
VOO_CLK
VOO_PI0~23
VOO_PC0~23
VOO_PE0~23
VOO_PF0~23
R8125 1K
R8108 10K
R8141 0
R8154 1
R8117 33
R8137 33
R8105 22
R8149 22
R8106 22
R8264 10K
R8265 10K
R8266 10K
C8118 0.1u
C8119 0.1u
C8120 0.1u
C8109 1u
C8110 1u
C8111 0.1u
C8112 0.1u
TL8167
TL8101
TL8166
TL8105
TL8107
TL8112


1/4
2/4
3/4
4/4
IC8104
IXB663WJ
TO FLASH
PB_CS2#
PB_CS3#
PB_A[0-24]
PB_AD[0-15]
PB_DIR#
PB_DMACK#
PB_RD#
PB_WR#
PB_DMARQ
PB_IORDY
PB_ALE
TO USB
USB20_DP_0
USB20_DM_0
TO POWER
A_GND
D_GND
D_1.2V
D_2.6V
D_3.3V

MAIN unit – 2/9

(1/4) Please peel off and refer to page 4-7.

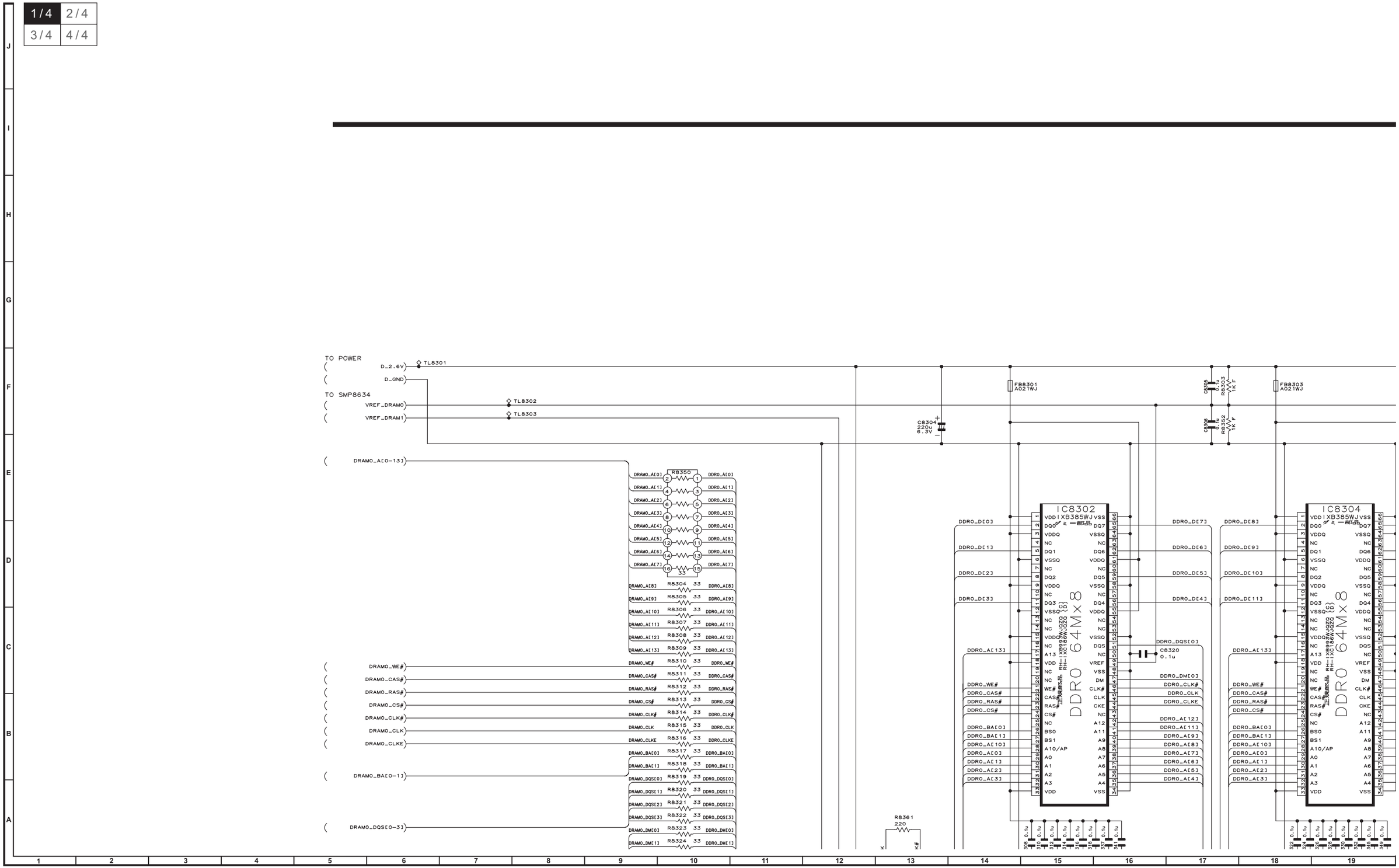
(2/4) Please peel off and refer to page 4-8.

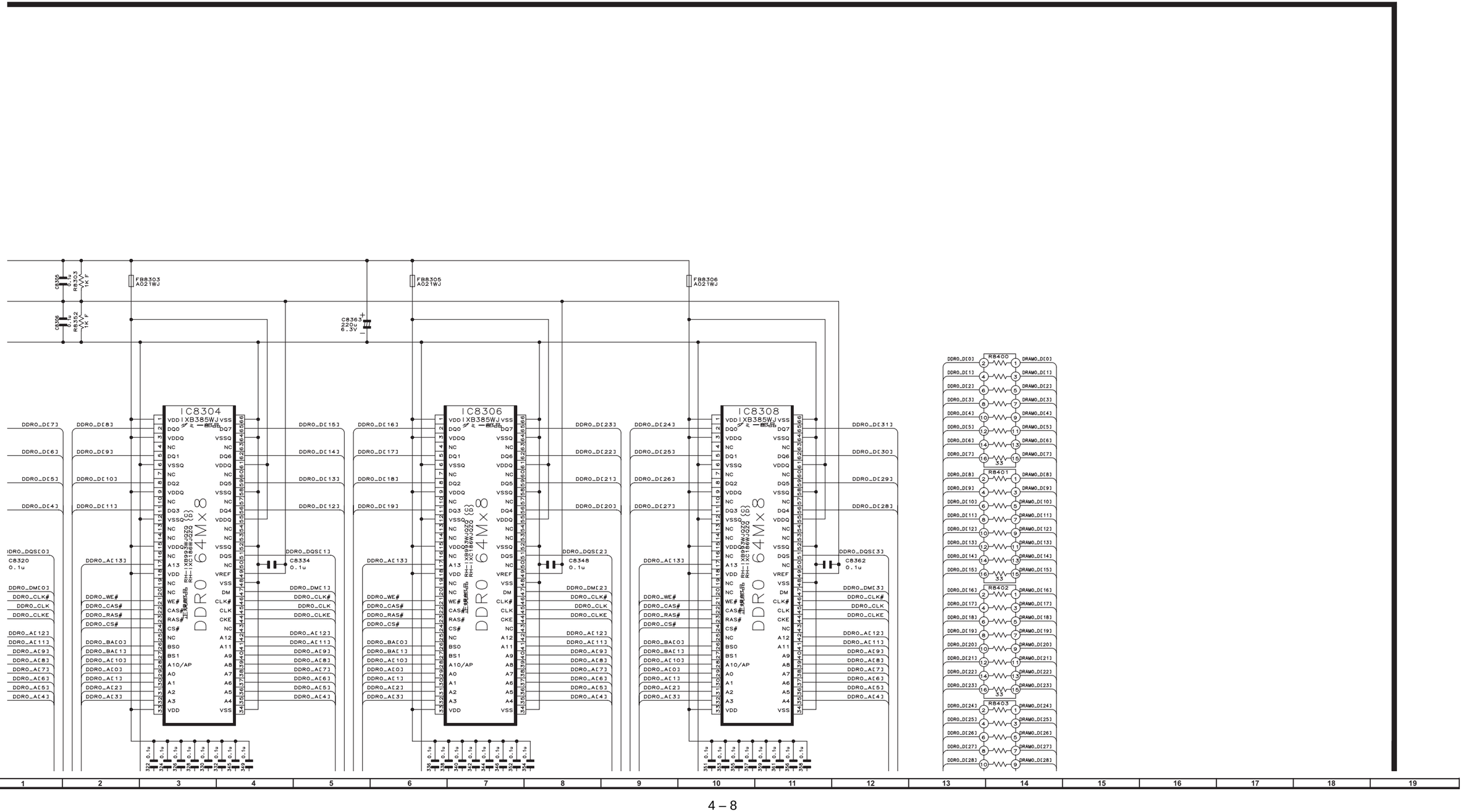


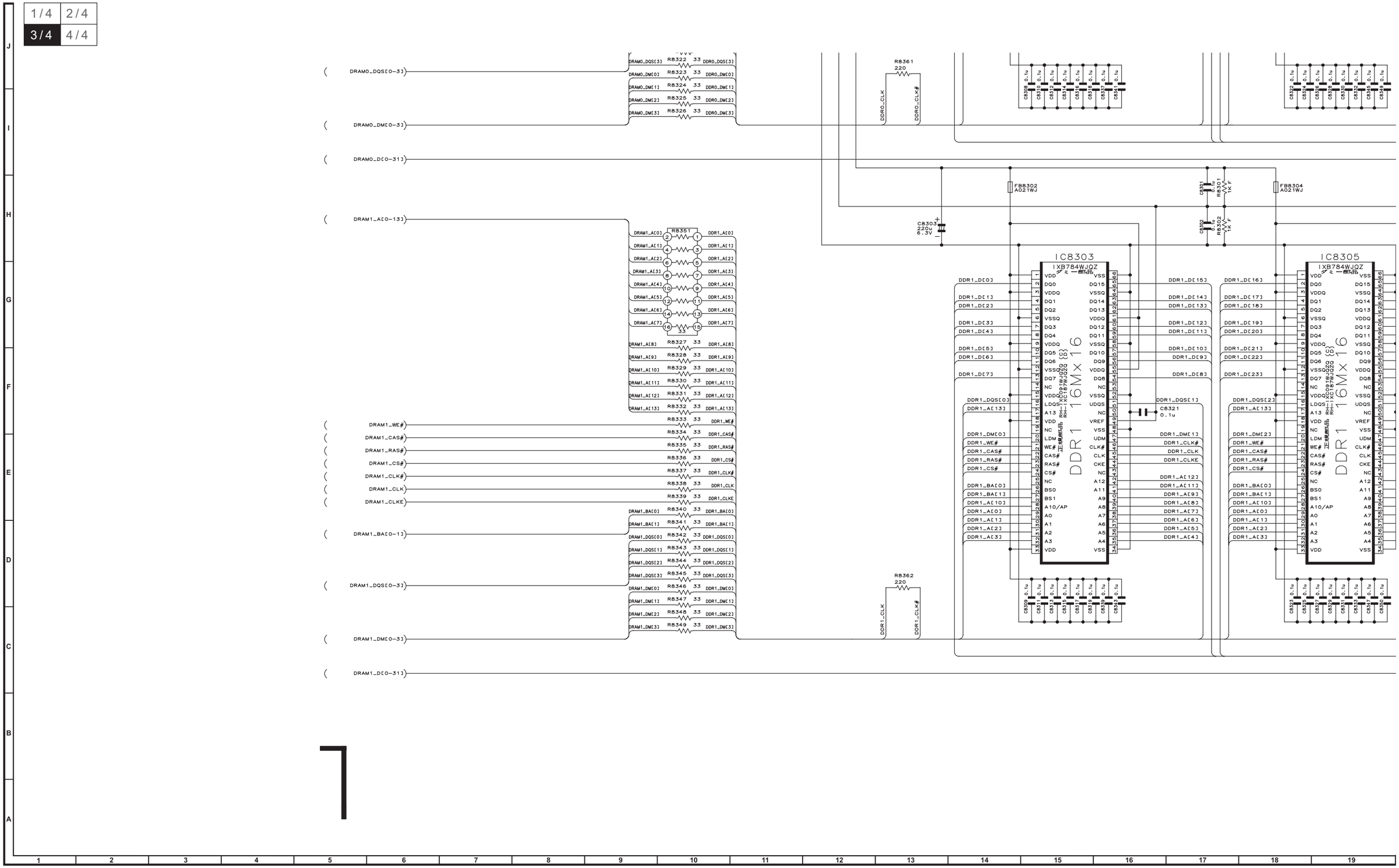
(3/4) Please peel off and refer to page 4-9.

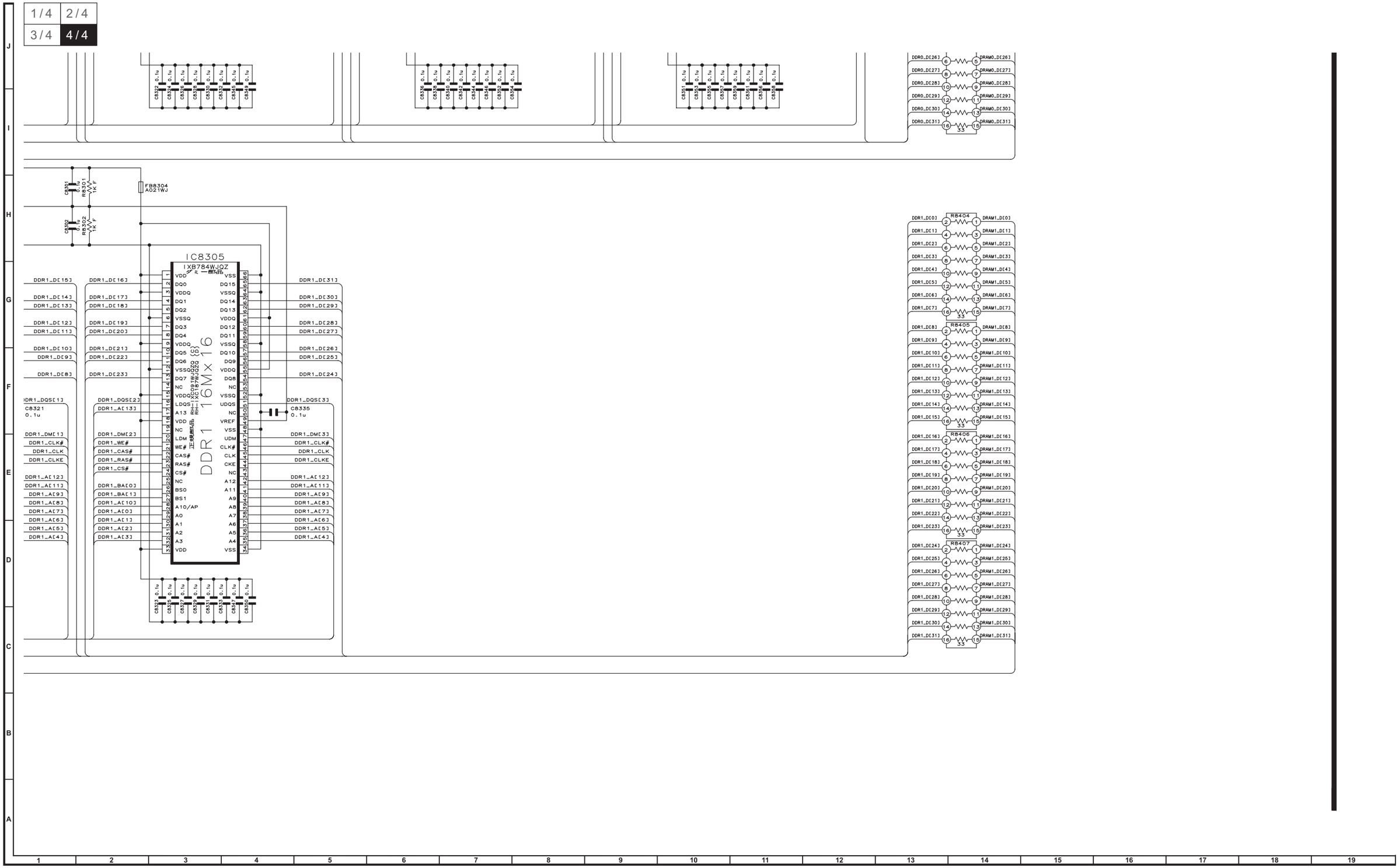
(4/4) Please peel off and refer to page 4-10.

1/4	2/4
3/4	4/4

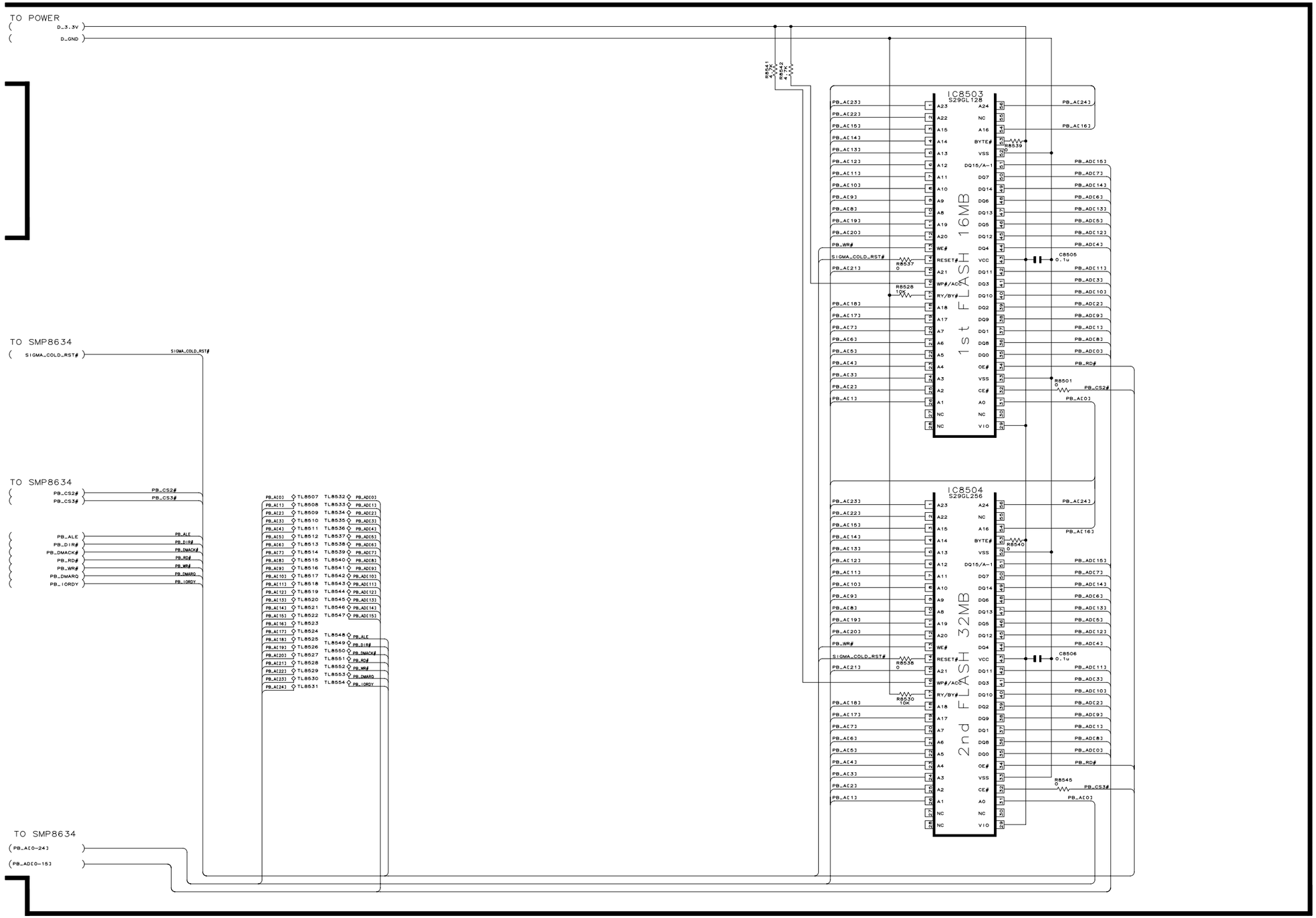

TO POWER
D_2.6V
D_GND
TO SMP8634
VREF_DRAM0
VREF_DRAM1
DRAM0_A[0-13]
DRAM0_WE#
DRAM0_CAS#
DRAM0_RAS#
DRAM0_CS#
DRAM0_CLK#
DRAM0_CLK
DRAM0_CLKE
DRAM0_BA[0-1]
DRAM0_DQS[0-3]
TL8301
TL8302
TL8303
R8350
R8304
R8305
R8306
R8307
R8308
R8309
R8310
R8311
R8312
R8313
R8314
R8315
R8316
R8317
R8318
R8319
R8320
R8321
R8322
R8323
R8324
R8361
220
C8304
220u
6.3V
FB8301
A021WJ
FB8303
A021WJ
C8305
R8303
C8306
R8352
IC8302
IC8304
DDRO 64Mx8
DDRO_DQS[0]
C8320
0.1u


C8305 0.1u
R8303 1K F
C8306 0.1u
R8302 1K F
FB8303 A021WJ
FB8305 A021WJ
FB8306 A021WJ
C8363 220u 6.3V
IC8304
IC8306
IC8308
XB385WJ
DDRO 64MX8
C8320 0.1u
C8334 0.1u
C8348 0.1u
C8362 0.1u
R8400
R8401
R8402
R8403
33


1/4
2/4
3/4
4/4
IC8303
IC8305
IXB784WJQZ
DDR1 16Mx16
DRAM0_DQS[0-3]
DRAM0_DM[0-3]
DRAM0_D[0-31]
DRAM1_A[0-13]
DRAM1_WE#
DRAM1_CAS#
DRAM1_RAS#
DRAM1_CS#
DRAM1_CLK#
DRAM1_CLK
DRAM1_CLKE
DRAM1_BA[0-1]
DRAM1_DQS[0-3]
DRAM1_DM[0-3]
DRAM1_D[0-31]
R8361
220
R8362
220
C8303
220u
6.3V
C8321
0.1u
FB8302
A021WJ
FB8304
A021WJ
R8351
33

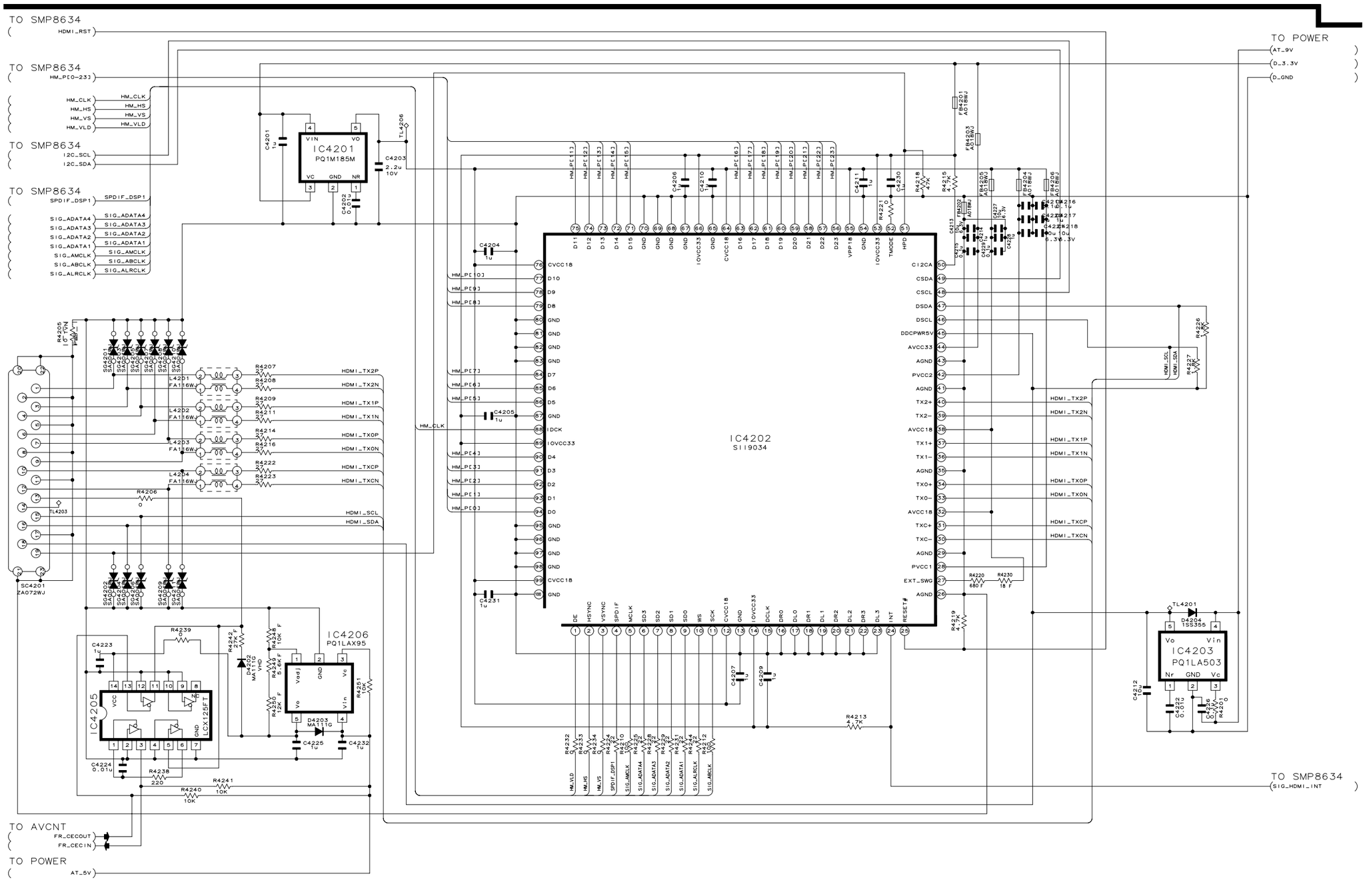

1/4
2/4
3/4
4/4
IC8305
IXB784WJQZ
DDR1 16MX16
FB8304
A021WJ
R8404
R8405
R8406
R8407
C8321
0.1u
C8335
0.1u

MAIN unit - 3/9


TO POWER
D_3.3V
D_GND
R8541 47K
R8542 47K
IC8503
S29GL128
1st FLASH 16MB
IC8504
S29GL256
2nd FLASH 32MB
A23 A22 A15 A14 A13 A12 A11 A10 A9 A8 A19 A20 WE# RESET# A21 WP#/ACC RY/BY# A18 A17 A7 A6 A5 A4 A3 A2 A1 NC NC
A24 NC A16 BYTE# VSS DQ15/A-1 DQ7 DQ14 DQ6 DQ13 DQ5 DQ12 DQ4 VCC DQ11 DQ3 DQ10 DQ2 DQ9 DQ1 DQ8 DQ0 OE# VSS CE# A0 NC VIO
PB_A[23] PB_A[22] PB_A[15] PB_A[14] PB_A[13] PB_A[12] PB_A[11] PB_A[10] PB_A[9] PB_A[8] PB_A[19] PB_A[20] PB_WR# SIGMA_COLD_RST# PB_A[21] PB_A[18] PB_A[17] PB_A[7] PB_A[6] PB_A[5] PB_A[4] PB_A[3] PB_A[2] PB_A[1]
PB_A[24] PB_A[16] PB_AD[15] PB_AD[7] PB_AD[14] PB_AD[6] PB_AD[13] PB_AD[5] PB_AD[12] PB_AD[4] PB_AD[11] PB_AD[3] PB_AD[10] PB_AD[2] PB_AD[9] PB_AD[1] PB_AD[8] PB_AD[0] PB_RD# PB_CS2# PB_A[0]
R8539 0
R8540 0
R8537 0
R8538 0
R8528 10K
R8530 10K
C8505 0.1u
C8506 0.1u
R8501 0
R8545 0
TO SMP8634
SIGMA_COLD_RST#
PB_CS2#
PB_CS3#
PB_ALE
PB_DIR#
PB_DMACK#
PB_RD#
PB_WR#
PB_DMARQ
PB_IORDY
TL8507 TL8508 TL8509 TL8510 TL8511 TL8512 TL8513 TL8514 TL8515 TL8516 TL8517 TL8518 TL8519 TL8520 TL8521 TL8522 TL8523 TL8524 TL8525 TL8526 TL8527 TL8528 TL8529 TL8530 TL8531
TL8532 TL8533 TL8534 TL8535 TL8536 TL8537 TL8538 TL8539 TL8540 TL8541 TL8542 TL8543 TL8544 TL8545 TL8546 TL8547
TL8548 TL8549 TL8550 TL8551 TL8552 TL8553 TL8554
PB_AD[0] PB_AD[1] PB_AD[2] PB_AD[3] PB_AD[4] PB_AD[5] PB_AD[6] PB_AD[7] PB_AD[8] PB_AD[9] PB_AD[10] PB_AD[11] PB_AD[12] PB_AD[13] PB_AD[14] PB_AD[15]
TO SMP8634
PB_A[0-24]
PB_AD[0-15]

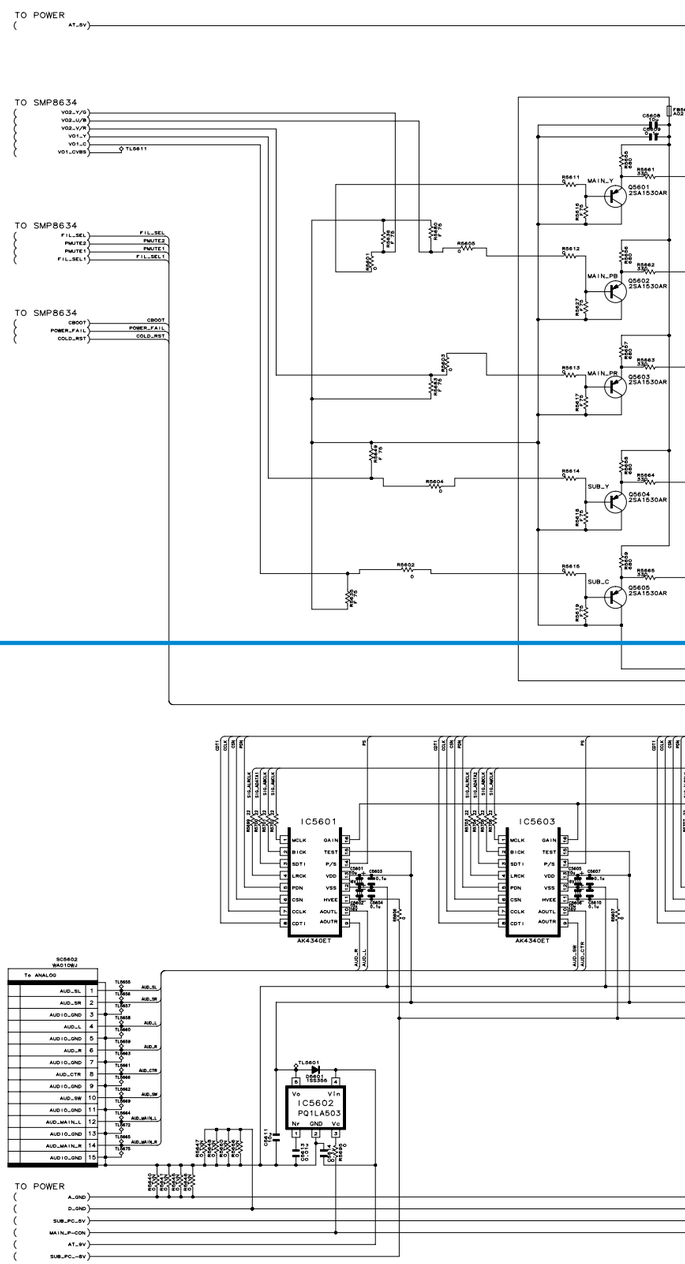
CAUTION: MAIN unit 4 is not used.

MAIN unit – 5/9

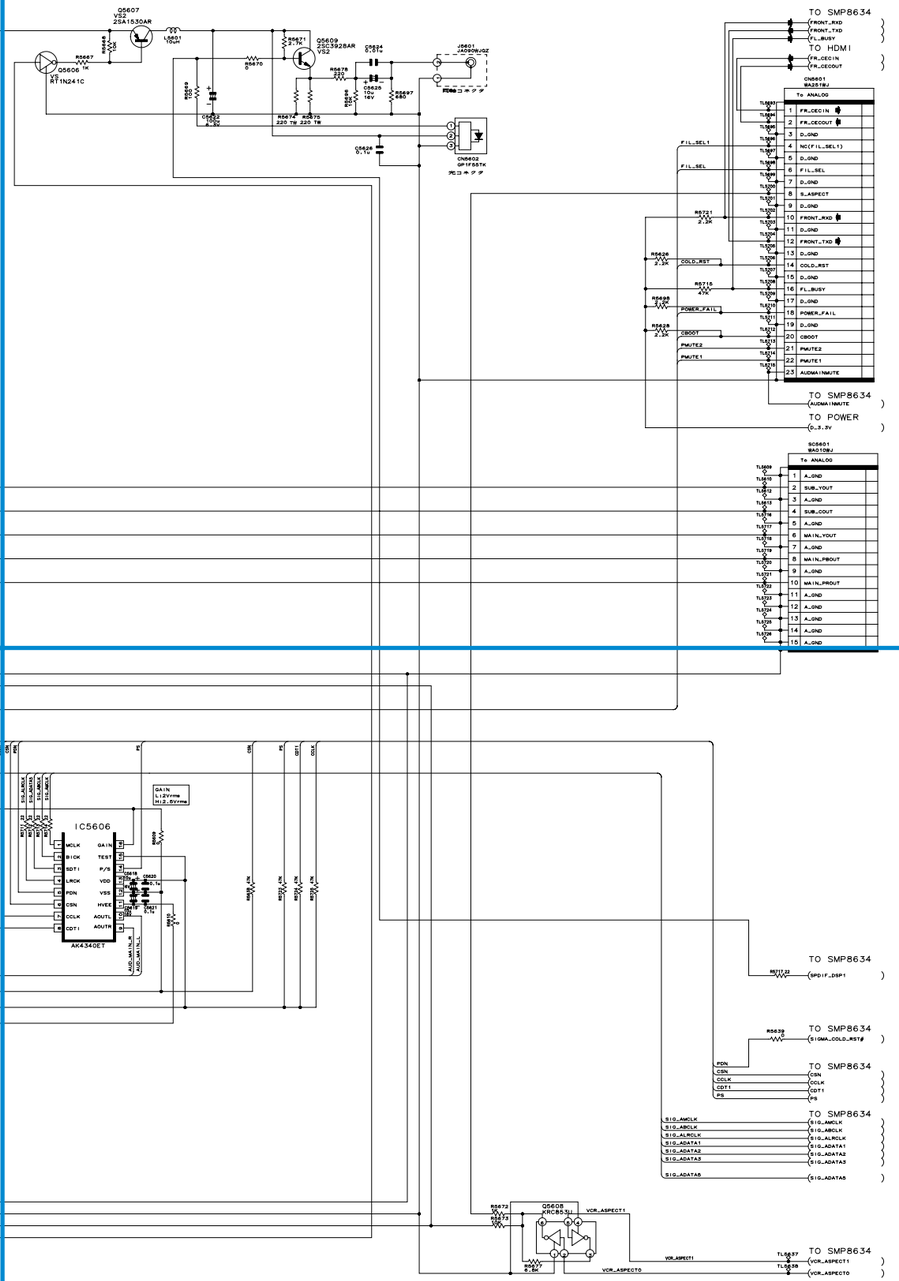


MAIN unit – 6/9

(1/4) Please peel off and refer to page 4-14.



(2/4) Please peel off and refer to page 4-15.



(3/4) Please peel off and refer to page 4-16.

(4/4) Please peel off and refer to page 4-17.

TO POWER
AT_5V

TO SMP8634
VO2_Y/G
VO2_U/B
VO2_V/R
VO1_Y
VO1_C
VO1_CVBS
TL5611

TO SMP8634
FIL_SEL
PMUTE2
PMUTE1
FIL_SEL1

TO SMP8634
CBOOT
POWER_FAIL
COLD_RST

R5601 0
R5636 F 75
R5637 F 75
R5605 0
R5603 0
R5638 F 75
R5639 F 75
R5604 0
R5602 0
R5635 F 75

FB5605 A021WJ
C5608 10u
C5609 0

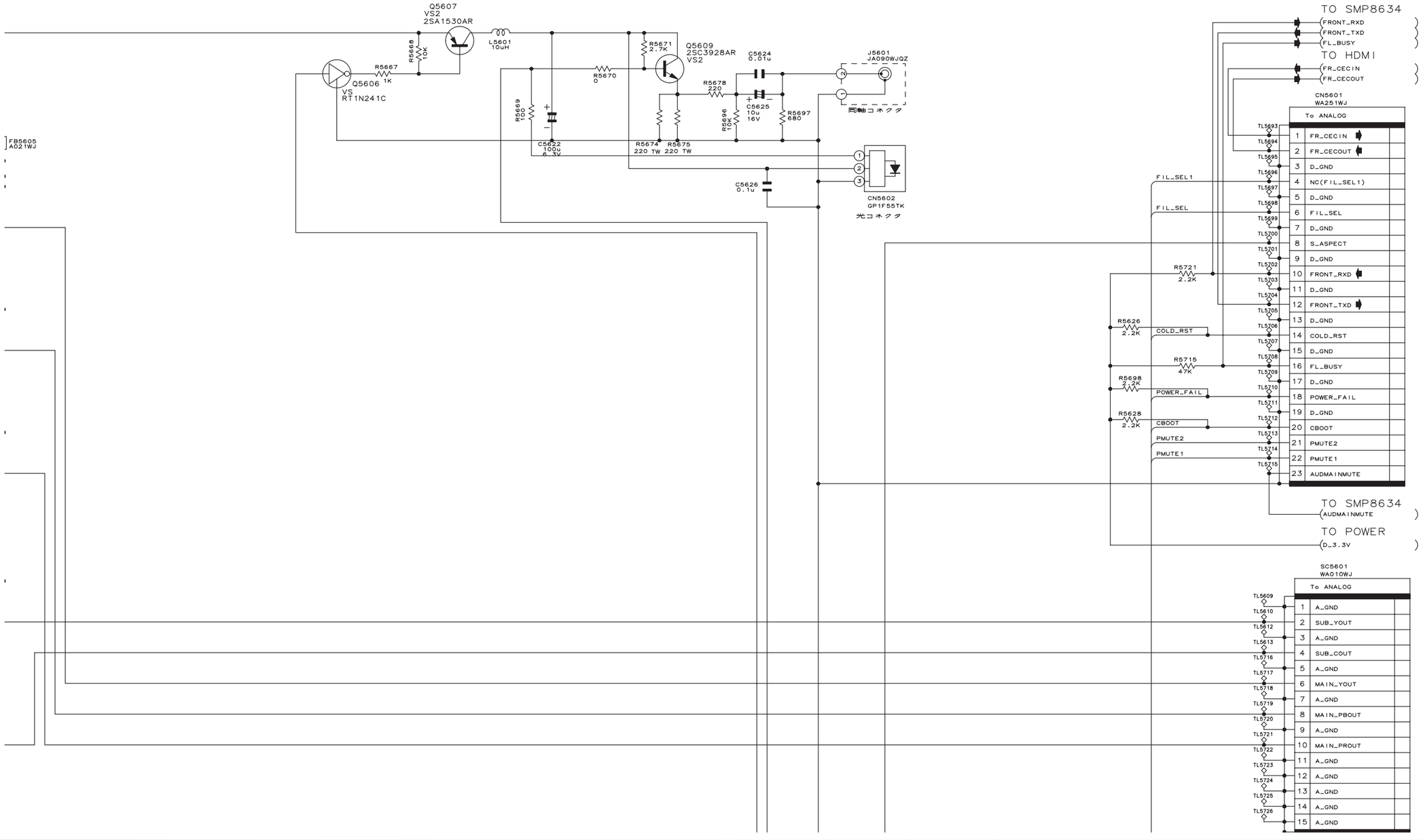
R5611 0
R5656 680
R5661 330
MAIN_Y
Q5601 2SA1530AR
R5618 75

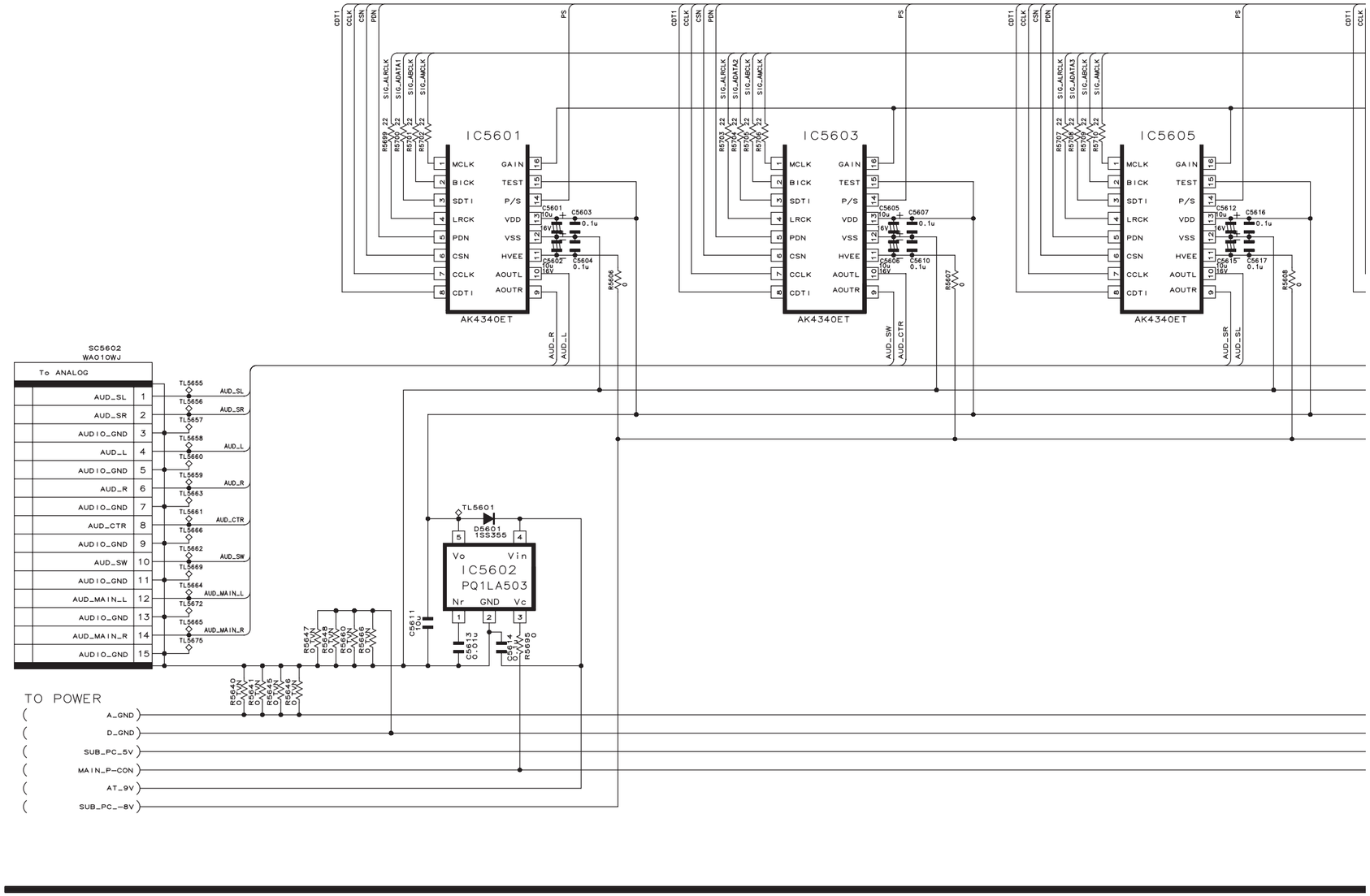
R5612 0
R5657 680
R5662 330
MAIN_PB
Q5602 2SA1530AR
R5627 75

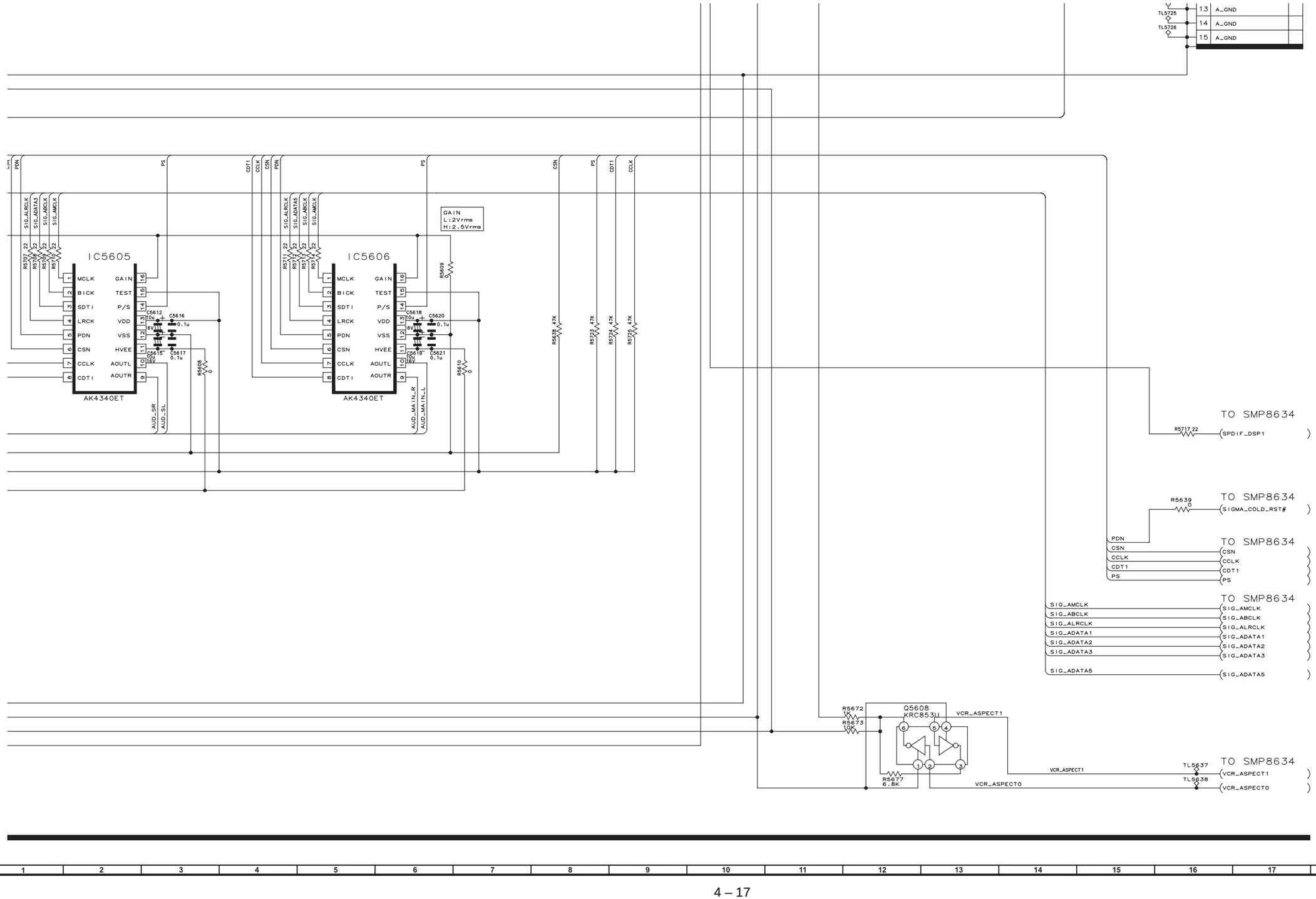
R5613 0
R5658 680
R5663 330
MAIN_PR
Q5603 2SA1530AR
R5617 75

R5614 0
R5659 680
R5664 330
SUB_Y
Q5604 2SA1530AR
R5619 75

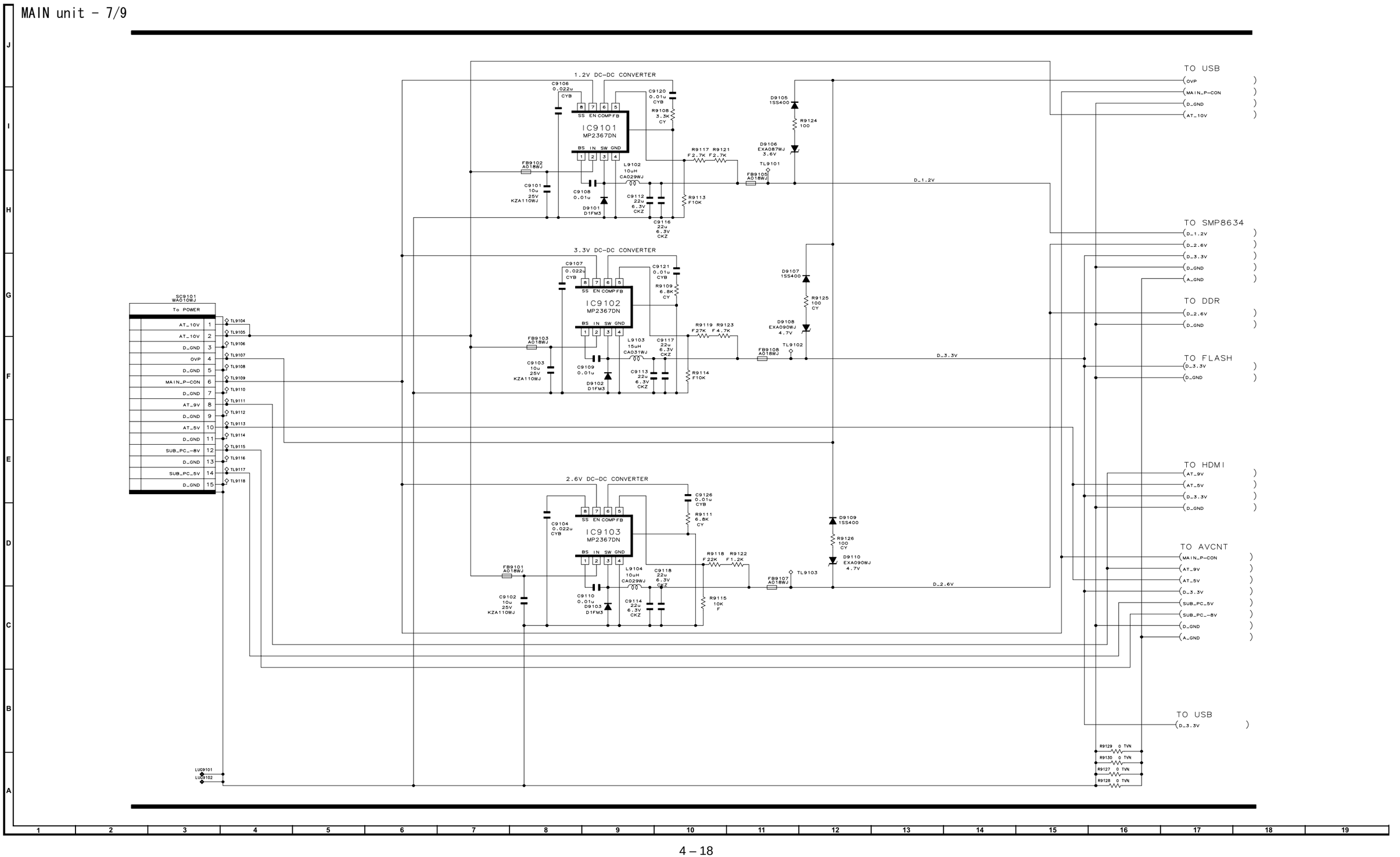
R5615 0
R5660 680
R5665 330
SUB_C
Q5605 2SA1530AR
R5619 75


Q5607
VS2
2SA1530AR
L5601
10uH
R5668
10K
R5667
1K
Q5606
VS
RT1N241C
R5669
100
C5622
100u
6.3V
R5670
0
R5671
2.7K
Q5609
2SC3928AR
VS2
R5678
220
R5674
220 TW
R5675
220 TW
R5696
10K
C5624
0.01u
C5625
10u
16V
R5697
680
J5601
JA090WJQZ
同軸コネクタ
C5626
0.1u
CN5602
GP1F55TK
光コネクタ
FB5605
A021WJ
TO SMP8634
FRONT_RXD
FRONT_TXD
FL_BUSY
TO HDMI
FR_CECIN
FR_CECOUT
CN5601
WA251WJ
To ANALOG
1 FR_CECIN
2 FR_CECOUT
3 D_GND
4 NC(FIL_SEL1)
5 D_GND
6 FIL_SEL
7 D_GND
8 S_ASPECT
9 D_GND
10 FRONT_RXD
11 D_GND
12 FRONT_TXD
13 D_GND
14 COLD_RST
15 D_GND
16 FL_BUSY
17 D_GND
18 POWER_FAIL
19 D_GND
20 CBOOT
21 PMUTE2
22 PMUTE1
23 AUDMAINMUTE
FIL_SEL1
FIL_SEL
R5721
2.2K
R5626
2.2K
COLD_RST
R5715
47K
R5698
2.2K
POWER_FAIL
R5628
2.2K
CBOOT
PMUTE2
PMUTE1
TO SMP8634
AUDMAINMUTE
TO POWER
D_3.3V
SC5601
WA010WJ
To ANALOG
1 A_GND
2 SUB_YOUT
3 A_GND
4 SUB_COUT
5 A_GND
6 MAIN_YOUT
7 A_GND
8 MAIN_PBOUT
9 A_GND
10 MAIN_PROUT
11 A_GND
12 A_GND
13 A_GND
14 A_GND
15 A_GND


IC5601
IC5603
IC5605
AK4340ET
MCLK
BICK
SDTI
LRCK
PDN
CSN
CCLK
CDTI
GAIN
TEST
P/S
VDD
VSS
HVEE
AOUTL
AOUTR
SIG_ALRCLK
SIG_ADATA1
SIG_ABCLK
SIG_AMCLK
SIG_ADATA2
SIG_ADATA3
CDTI
CCLK
CSN
PDN
PS
AUD_R
AUD_L
AUD_SW
AUD_CTR
AUD_SR
AUD_SL
SC5602
WA010WJ
To ANALOG
AUD_SL
AUD_SR
AUDIO_GND
AUD_L
AUD_R
AUD_CTR
AUD_SW
AUD_MAIN_L
AUD_MAIN_R
TL5601
D5601
1SS355
IC5602
PQ1LA503
Vo
Vin
Nr
GND
Vc
TO POWER
A_GND
D_GND
SUB_PC_5V
MAIN_P-CON
AT_9V
SUB_PC_-8V

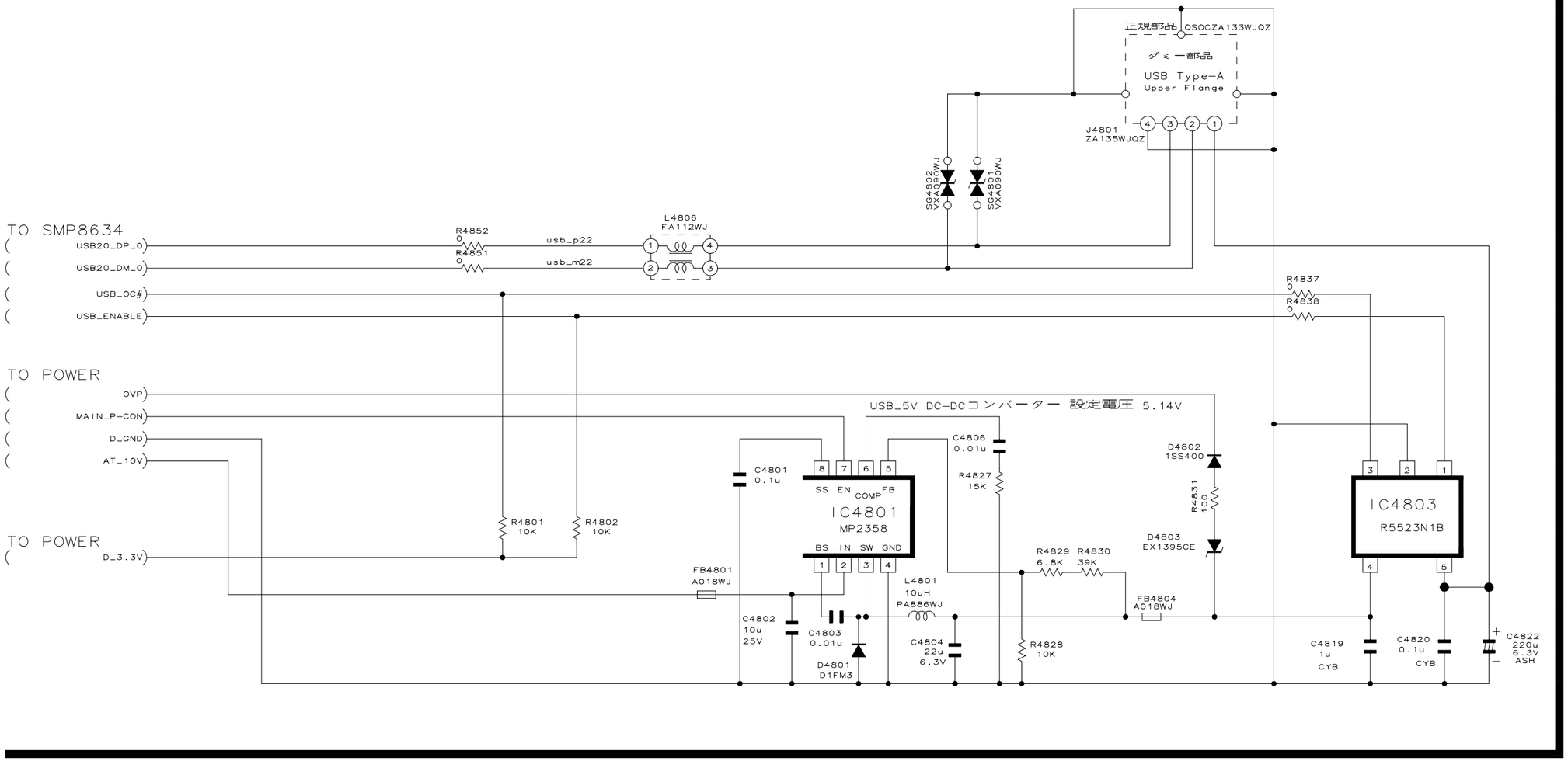

IC5605
IC5606
AK4340ET
MCLK
BICK
SDTI
LRCK
PDN
CSN
CCLK
CDTI
GAIN
TEST
P/S
VDD
VSS
HVEE
AOUTL
AOUTR
GAIN
L:2Vrms
H:2.5Vrms
SIG_ALRCLK
SIG_ADATA3
SIG_ABCLK
SIG_AMCLK
AUD_SR
AUD_SL
AUD_MAIN_R
AUD_MAIN_L
R5609
R5608
R5610
R5538 47K
R5723 47K
R5724 47K
R5725 47K
TL5725
TL5726
A_GND
TO SMP8634
R5717 22
SPDIF_DSP1
R5639
SIGMA_COLD_RST#
PDN
CSN
CCLK
CDT1
PS
SIG_AMCLK
SIG_ABCLK
SIG_ALRCLK
SIG_ADATA1
SIG_ADATA2
SIG_ADATA3
SIG_ADATA5
Q5608
KRC853U
R5672 15K
R5673 10K
R5677 6.8K
VCR_ASPECT1
VCR_ASPECT0
TL5637
TL5638

MAIN unit - 7/9


1.2V DC-DC CONVERTER
C9106 0.022u CYB
C9120 0.01u CYB
R9108 3.3K CY
IC9101 MP2367DN
SS EN COMP FB
BS IN SW GND
L9102 10uH CA029WJ
R9117 F2.7K
R9121 F2.7K
D9105 1SS400
R9124 100
D9106 EXA087WJ 3.6V
TL9101
FB9102 A018WJ
FB9105 A018WJ
C9101 10u 25V KZA110WJ
C9108 0.01u
D9101 D1FM3
C9112 22u 6.3V CKZ
R9113 F10K
C9116 22u 6.3V CKZ
D_1.2V
3.3V DC-DC CONVERTER
C9107 0.022u CYB
C9121 0.01u CYB
R9109 6.8K CY
IC9102 MP2367DN
D9107 1SS400
R9125 100 CY
D9108 EXA090WJ 4.7V
R9119 F27K
R9123 F4.7K
FB9103 A018WJ
L9103 15uH CA031WJ
C9117 22u 6.3V CKZ
TL9102
FB9108 A018WJ
C9103 10u 25V KZA110WJ
C9109 0.01u
D9102 D1FM3
C9113 22u 6.3V CKZ
R9114 F10K
D_3.3V
2.6V DC-DC CONVERTER
C9126 0.01u CYB
C9104 0.022u CYB
IC9103 MP2367DN
R9111 6.8K CY
D9109 1SS400
R9126 100 CY
R9118 F22K
R9122 F1.2K
D9110 EXA090WJ 4.7V
FB9101 A018WJ
L9104 10uH CA029WJ
C9118 22u 6.3V CKZ
TL9103
FB9107 A018WJ
C9102 10u 25V KZA110WJ
C9110 0.01u
D9103 D1FM3
C9114 22u 6.3V CKZ
R9115 10K F
D_2.6V
SC9101 WA010WJ
To POWER
AT_10V 1
AT_10V 2
D_GND 3
OVP 4
D_GND 5
MAIN_P-CON 6
D_GND 7
AT_9V 8
D_GND 9
AT_5V 10
D_GND 11
SUB_PC_-8V 12
D_GND 13
SUB_PC_5V 14
D_GND 15
TL9104
TL9105
TL9106
TL9107
TL9108
TL9109
TL9110
TL9111
TL9112
TL9113
TL9114
TL9115
TL9116
TL9117
TL9118
LU9101
LU9102
TO USB
OVP
MAIN_P-CON
D_GND
AT_10V
TO SMP8634
D_1.2V
D_2.6V
D_3.3V
D_GND
A_GND
TO DDR
D_2.6V
D_GND
TO FLASH
D_3.3V
D_GND
TO HDMI
AT_9V
AT_5V
D_3.3V
D_GND
TO AVCNT
MAIN_P-CON
AT_9V
AT_5V
D_3.3V
SUB_PC_5V
SUB_PC_-8V
D_GND
A_GND
TO USB
D_3.3V
R9129 0 TVN
R9130 0 TVN
R9127 0 TVN
R9128 0 TVN

CAUTION: MAIN unit 8 is not used.

MAIN unit - 9/9

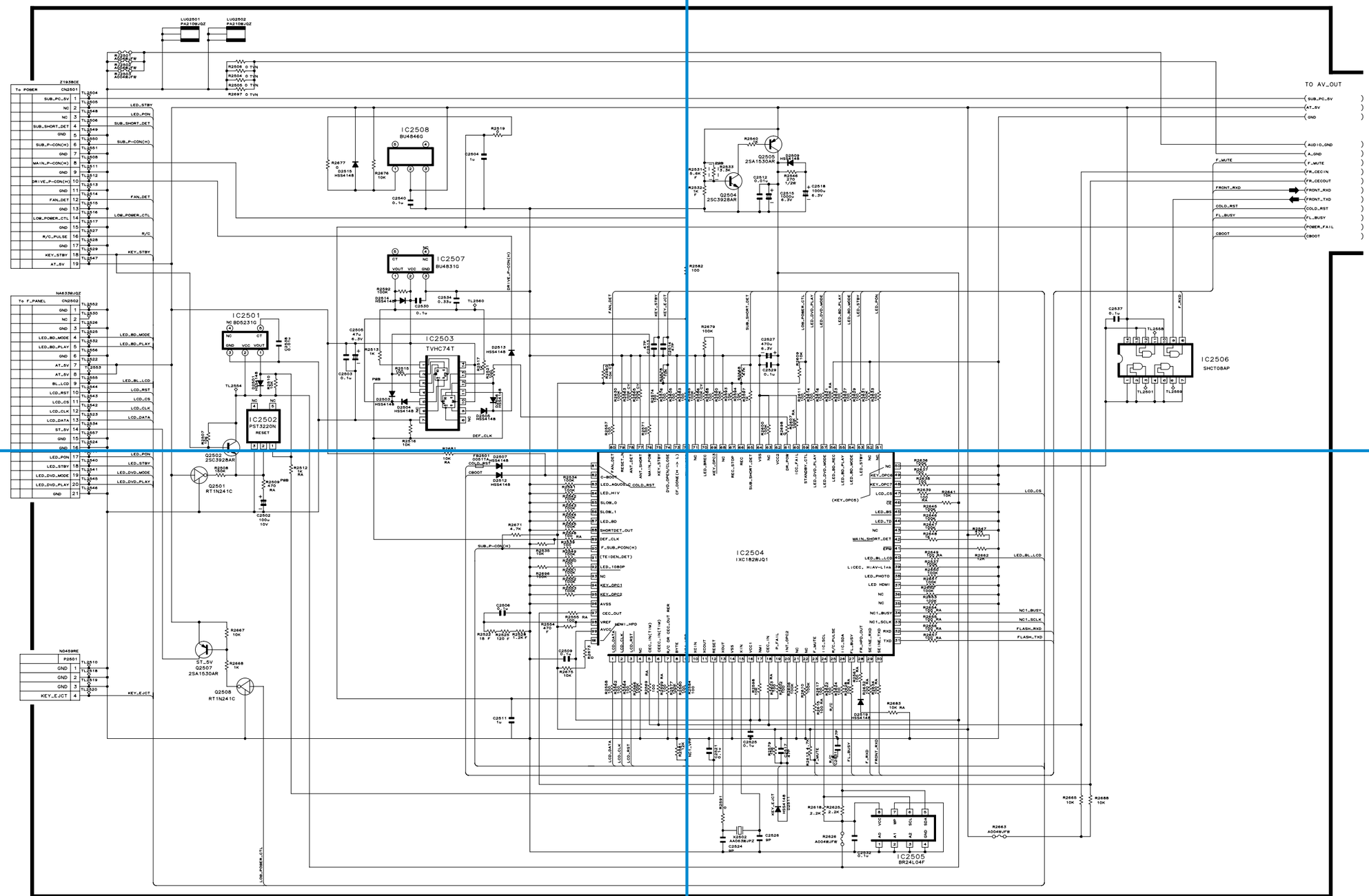


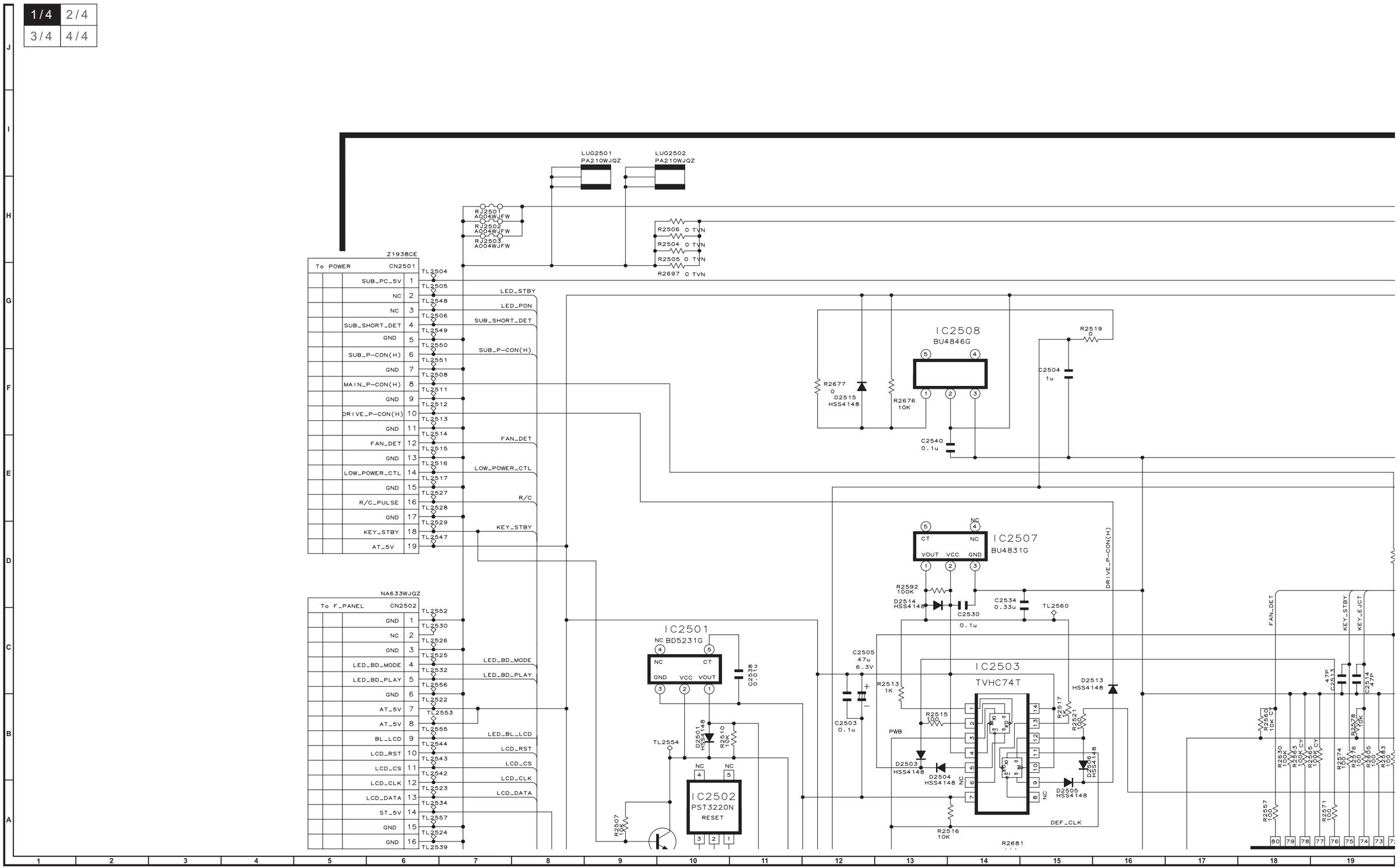
[2] ANALOG unit

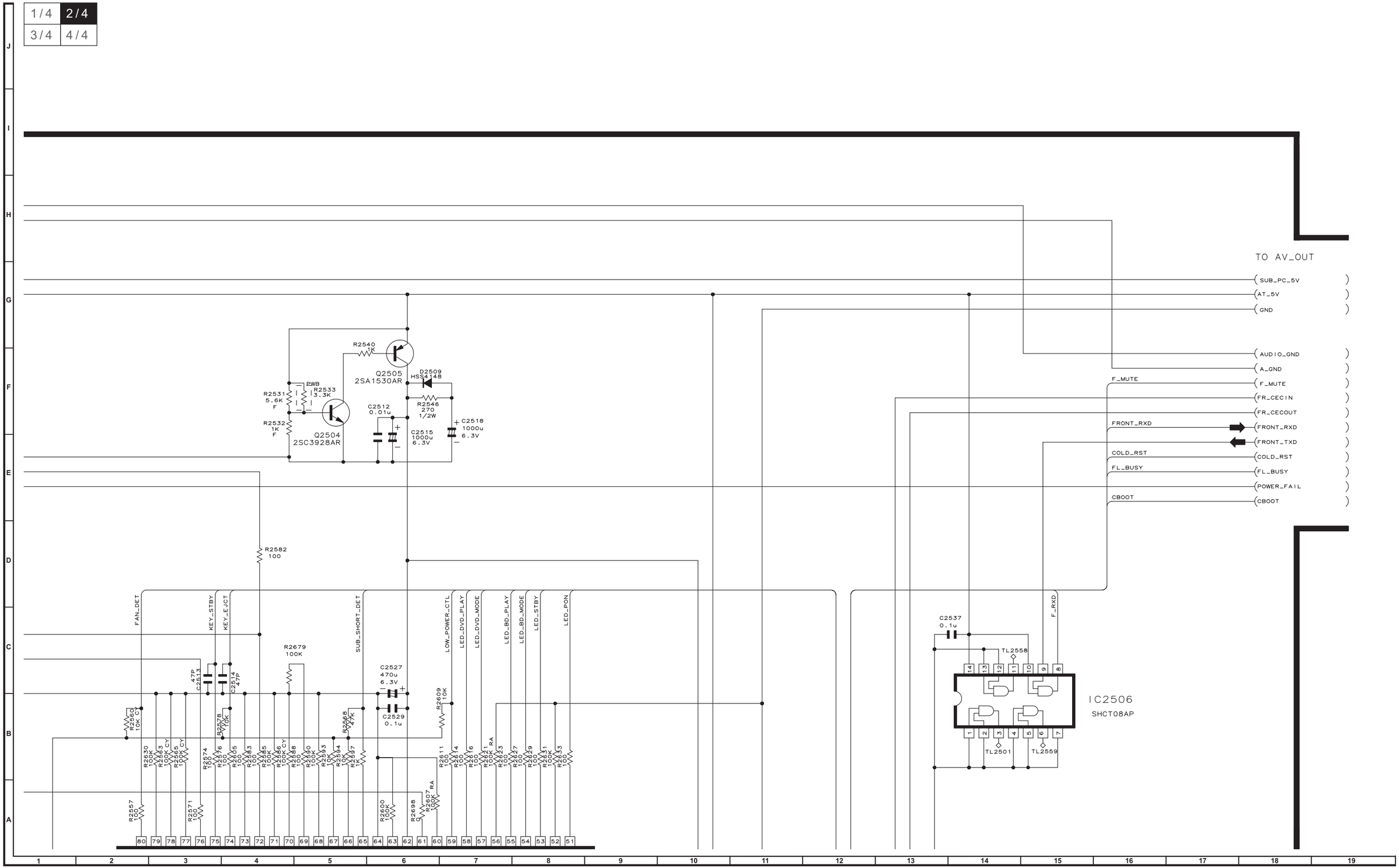
ANALOG unit - 1/2

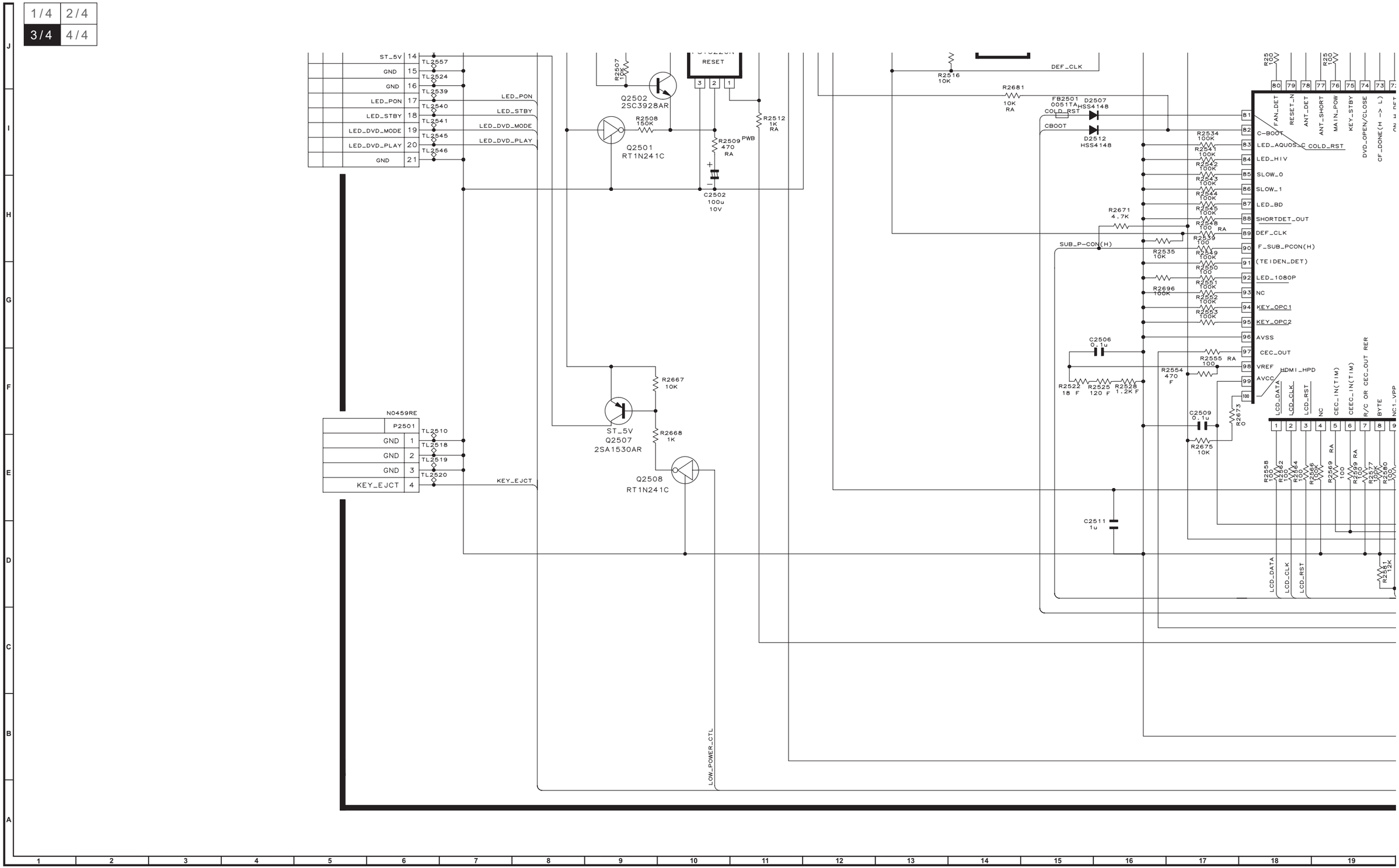
(1/4) Please peel off and refer to page 4-21.

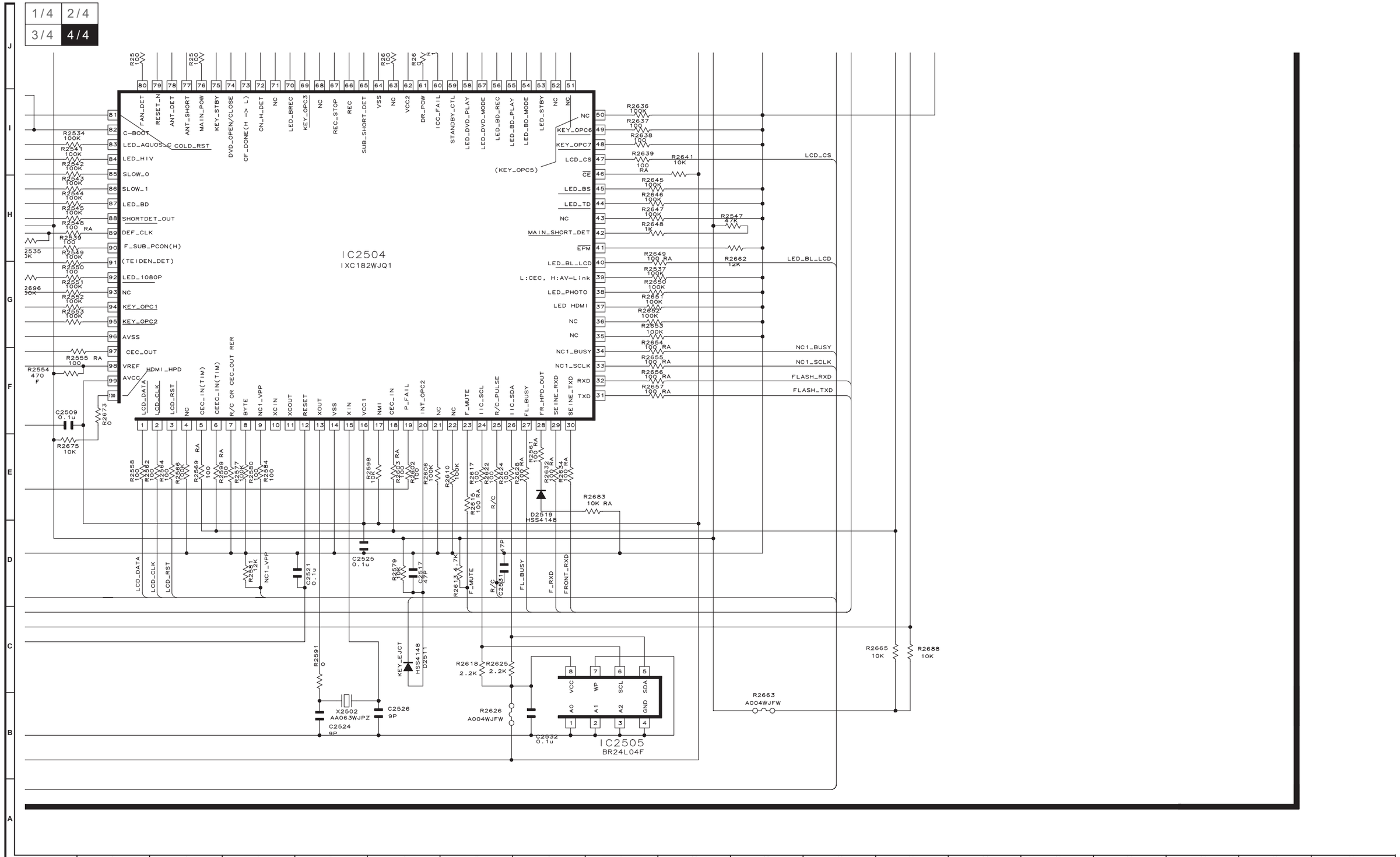
(2/4) Please peel off and refer to page 4-22.


Z1938CE
To POWER
CN2501
SUB_PC_5V
NC
NC
SUB_SHORT_DET
GND
SUB_P-CON(H)
GND
MAIN_P-CON(H)
GND
DRIVE_P-CON(H)
GND
FAN_DET
GND
LOW_POWER_CTL
GND
R/C_PULSE
GND
KEY_STBY
AT_5V
NA633WJQZ
To F_PANEL
CN2502
GND
NC
GND
LED_BD_MODE
LED_BD_PLAY
GND
AT_5V
AT_5V
BL_LCD
LCD_RST
LCD_CS
LCD_CLK
LCD_DATA
ST_5V
GND
GND
LED_PON
LED_STBY
LED_DVD_MODE
LED_DVD_PLAY
GND
N0459RE
P2501
GND
GND
GND
KEY_EJCT
LUG2501 PA210WJQZ
LUG2502 PA210WJQZ
R2520 A0048JFW
R2521 A0048JFW
R2522 A0048JFW
R2523 A0048JFW
R2506 0 TVN
R2504 0 TVN
R2505 0 TVN
R2697 0 TVN
IC2508 BU4846G
R2677 0
D2515 HSS414S
R2676 10K
R2519
C2504 1u
C2540 0.1u
IC2507 BU4831G
D2514 HSS414S
C2534 0.33u
C2530 0.1u
TL2560
IC2501 NC BD5231G
C2505 47u 6.3V
C2503 0.1u
R2513 1K
IC2503 TVHC74T
PWB
D2503 HSS414S
D2504 HSS414S
R2516 10K
D2513 HSS414S
D2505 HSS414S
DEF_CLK
R2681 10K RA
FB2201 DD517A
D2507 HSS414S
COLD_RST
CBOOT
D2512 HSS414S
R2671 4.7K
SUB_P-CON(H)
R2635 10K
R2696 100K
R2554 470 F
R2553 18 F
R2552 120 F
C2506 0.1u
C2509 0.1u
R2675 10K
C2511 1u
IC2502 PST3220N RESET
R2507 47K
Q2502 2SC3928AR
R2508 150K
Q2501 RT1N241C
R2509 470 RA
PWB
C2502 100u 10V
R2512 10 RA
ST_5V
Q2507 2SA1530AR
R2667 10K
R2668 1K
Q2508 RT1N241C
KEY_EJCT
LOW_POWER_CTL
R2540 A0048JFW
Q2505 2SA1530AR
Q2504 2SC3928AR
R2531 5.6K F
R2533 1.5K F
R2532 1K F
C2512 0.01u
R2544 270 1/2W
C2515 1500u 6.3V
C2518 1000u 6.3V
R2582 100
R2679 100K
C2527 470u 6.3V
C2529 0.1u
R2650 10K
R2648 10K
R2649 10K
R2651 10K
R2652 10K
R2653 10K
R2654 10K
R2655 10K
R2656 10K
R2657 10K
R2658 10K
R2659 10K
R2660 10K
R2661 10K
R2662 10K
R2663 10K
R2664 10K
R2665 10K
R2666 10K
R2667 10K
R2668 10K
R2669 10K
R2670 10K

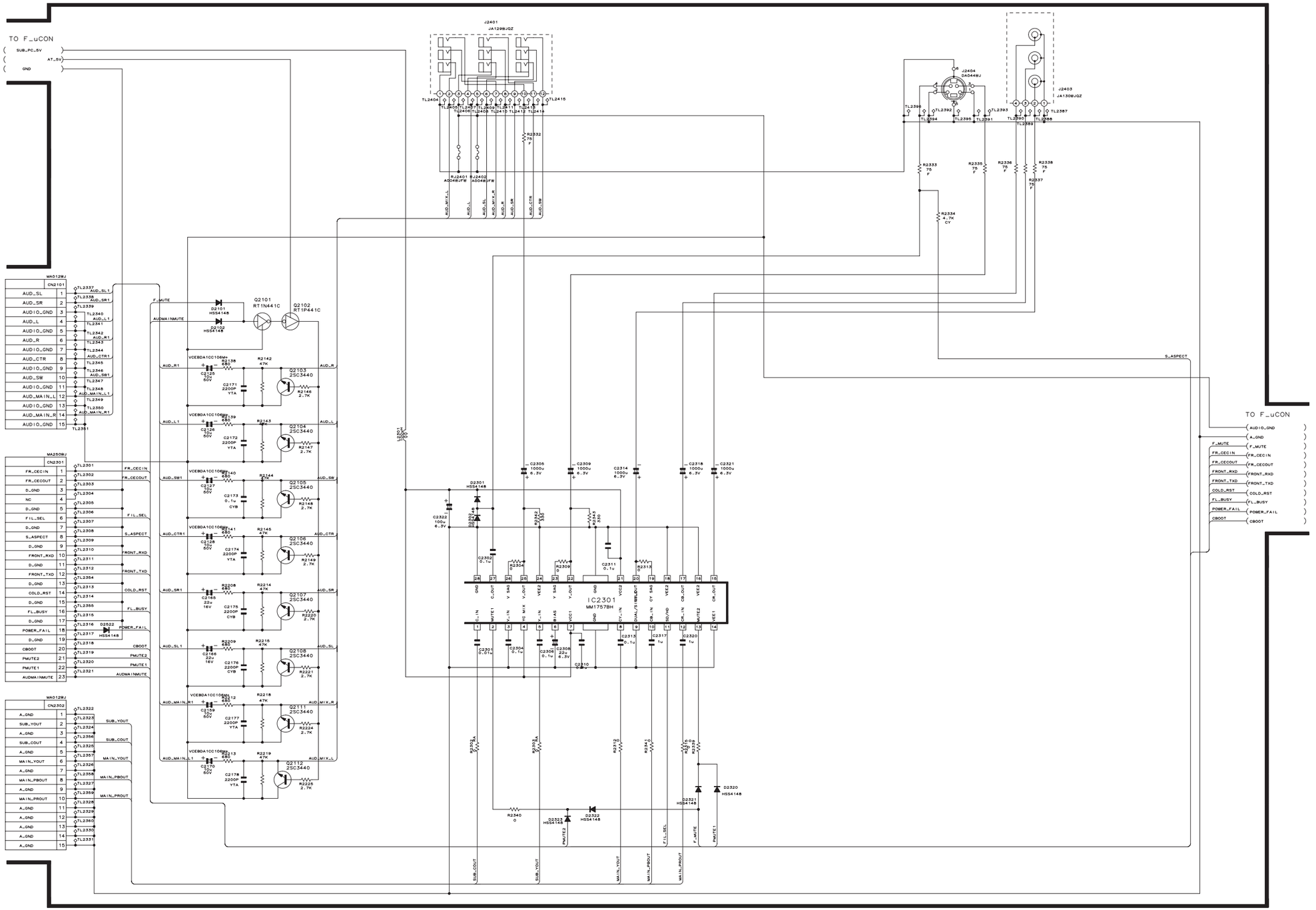

1/4
2/4
3/4
4/4
LUG2501
PA210WJQZ
LUG2502
PA210WJQZ
RJ2501
A004WJFW
RJ2502
A004WJFW
RJ2503
A004WJFW
R2506 0 TVN
R2504 0 TVN
R2505 0 TVN
R2697 0 TVN
Z1938CE
To POWER
CN2501
SUB_PC_5V
NC
NC
SUB_SHORT_DET
GND
SUB_P-CON(H)
GND
MAIN_P-CON(H)
GND
DRIVE_P-CON(H)
GND
FAN_DET
GND
LOW_POWER_CTL
GND
R/C_PULSE
GND
KEY_STBY
AT_5V
LED_STBY
LED_PON
SUB_SHORT_DET
SUB_P-CON(H)
FAN_DET
LOW_POWER_CTL
R/C
KEY_STBY
NA633WJQZ
To F_PANEL
CN2502
GND
NC
GND
LED_BD_MODE
LED_BD_PLAY
GND
AT_5V
AT_5V
BL_LCD
LCD_RST
LCD_CS
LCD_CLK
LCD_DATA
ST_5V
GND
GND
LED_BD_MODE
LED_BD_PLAY
LED_BL_LCD
LCD_RST
LCD_CS
LCD_CLK
LCD_DATA
IC2508
BU4846G
R2677
0
D2515
HSS4148
R2676
10K
C2540
0.1u
R2519
0
C2504
1u
IC2507
BU4831G
CT
NC
VOUT
VCC
GND
R2592
100K
D2514
HSS4148
C2530
0.1u
C2534
0.33u
TL2560
DRIVE_P-CON(H)
IC2501
BD5231G
NC
CT
GND
VCC
VOUT
C2538
0.01u
D2501
HSS4148
R2510
10K
TL2554
IC2502
PST3220N
RESET
R2507
10K
C2505
47u
6.3V
C2503
0.1u
R2513
1K
IC2503
TVHC74T
R2515
100
PWB
D2503
HSS4148
D2504
HSS4148
R2517
R2521
D2513
HSS4148
D2506
HSS4148
D2505
HSS4148
R2516
10K
DEF_CLK
R2681
FAN_DET
KEY_STBY
KEY_EJCT
C2513
47P
C2514
47P
R2560
10K CY
R2578
10K
R2630
100K
R2563
100K CY
R2565
100K CY
R2574
100
R2576
100
R2605
100
R2583
100
R2557
100
R2571
100


1/4
2/4
3/4
4/4
TO AV_OUT
SUB_PC_5V
AT_5V
GND
AUDIO_GND
A_GND
F_MUTE
FR_CECIN
FR_CECOUT
FRONT_RXD
FRONT_TXD
COLD_RST
FL_BUSY
POWER_FAIL
CBOOT
R2540 1K
Q2505 2SA1530AR
D2509 HSS4148
R2531 5.6K F
R2533 3.3K
R2532 1K F
Q2504 2SC3928AR
C2512 0.01u
R2546 270 1/2W
C2515 1000u 6.3V
C2518 1000u 6.3V
R2582 100
FAN_DET
KEY_STBY
KEY_EJCT
SUB_SHORT_DET
LOW_POWER_CTL
LED_DVD_PLAY
LED_DVD_MODE
LED_BD_PLAY
LED_BD_MODE
LED_STBY
LED_PON
R2679 100K
C2527 470u 6.3V
C2529 0.1u
R2609 10K
C2537 0.1u
TL2558
TL2501
TL2559
IC2506
SHCT08AP
F_RXD


ST_5V
GND
GND
LED_PON
LED_STBY
LED_DVD_MODE
LED_DVD_PLAY
GND
TL2557
TL2524
TL2539
TL2540
TL2541
TL2545
TL2546
LED_PON
LED_STBY
LED_DVD_MODE
LED_DVD_PLAY
R2507 10K
Q2502 2SC3928AR
R2508 150K
Q2501 RT1N241C
RESET
R2512 1K RA
R2509 470 RA
PWB
C2502 100u 10V
R2667 10K
ST_5V Q2507 2SA1530AR
R2668 1K
Q2508 RT1N241C
N0459RE
P2501
GND
GND
GND
KEY_EJCT
TL2510
TL2518
TL2519
TL2520
KEY_EJCT
LOW_POWER_CTL
R2516 10K
DEF_CLK
R2681 10K RA
FB2501 0051TA
D2507 HSS4148
COLD_RST
CBOOT
D2512 HSS4148
R2534 100K
R2541 100K
R2542 100K
R2543 100K
R2544 100K
R2545 100K
R2671 4.7K
R2548 100 RA
SUB_P_CON(H)
R2539 100
R2535 10K
R2549 100K
R2550 100
R2551 100K
R2696 100K
R2552 100K
R2553 100K
C2506 0.1u
R2555 RA 100
R2554 470 F
R2522 18 F
R2525 120 F
R2528 1.2K F
C2509 0.1u
R2673 0
R2675 10K
C2511 1u
R250 100
FAN_DET
RESET_N
ANT_DET
ANT_SHORT
MAIN_POW
KEY_STBY
DVD_OPEN/CLOSE
CF_DONE(H -> L)
C-BOOT
LED_AQUOS_C
COLD_RST
LED_HIV
SLOW_0
SLOW_1
LED_BD
SHORTDET_OUT
DEF_CLK
F_SUB_PCON(H)
(TEIDEN_DET)
LED_1080P
NC
KEY_OPC1
KEY_OPC2
AVSS
CEC_OUT
VREF
AVCC
HDMI_HPD
LCD_DATA
LCD_CLK
LCD_RST
NC
CEC_IN(TIM)
CEEC_IN(TIM)
R/C OR CEC_OUT RER
BYTE
NC1_VPP
R2558 100
R2562 100
R2564 100
R2566 100K
R2569 RA 100
R2579 RA 100
R2577 100K
R2580 100K
R2581 12K


IC2504
IXC182WJQ1
IC2505
BR24L04F
C-BOOT
LED_AQUOS_C
COLD_RST
LED_HIV
SLOW_0
SLOW_1
LED_BD
SHORTDET_OUT
DEF_CLK
F_SUB_PCON(H)
(TEIDEN_DET)
LED_1080P
KEY_OPC1
KEY_OPC2
AVSS
CEC_OUT
VREF
AVCC
HDMI_HPD
LCD_DATA
LCD_CLK
LCD_RST
LCD_CS
LED_BS
LED_TD
MAIN_SHORT_DET
LED_BL_LCD
LED_PHOTO
LED HDMI
NC1_BUSY
NC1_SCLK
RXD
TXD
NC1_BUSY
NC1_SCLK
FLASH_RXD
FLASH_TXD
LED_BL_LCD
LCD_CS
NC1_VPP
F_MUTE
FL_BUSY
F_RXD
FRONT_RXD
KEY_EJCT
D2511
HSS4148
D2519
HSS4148
X2502
AA063WJPZ
A004WJFW
A004WJFW
R2683
10K RA
R2663
A004WJFW
R2665
10K
R2688
10K
C2509
0.1u
C2521
0.1u
C2525
0.1u
C2526
9P
C2524
9P
C2532
0.1u
R2675
10K
R2554
470
F
R2555 RA
100
R2534
100K
R2541
100K
R2542
100K
R2543
100K
R2544
100K
R2545
100K
R2548
100 RA
R2539
100
R2549
100K
R2550
100
R2551
100K
R2552
100K
R2553
100K
R2636
100K
R2637
100
R2638
100
R2639
100
RA
R2641
10K
R2645
100K
R2646
100K
R2647
100K
R2648
1K
R2547
47K
R2649
100 RA
R2662
12K
R2537
100K
R2650
100K
R2651
100K
R2652
100K
R2653
100K
R2654
100 RA
R2655
100 RA
R2656
100 RA
R2657
100 RA
R2558
100
R2562
100
R2564
100
R2566
100K
R2569 RA
100
R2579
100
R2577
100K
R2580
100
R2584
100
R2598
10K
R2603 RA
100
R2602
100
R2606
100K
R2610
100K
R2617
100
R2615
100 RA
R2622
100
R2624
100
R2628
100
R2561
100 RA
R2632
100 RA
R2634
100 RA
R2581
12K
R2613 4.7K
R2618
2.2K
R2625
2.2K
R2591
0
R2673
0
R25
100
R26
0
R
1/4
2/4
3/4
4/4

ANALOG unit - 2/2

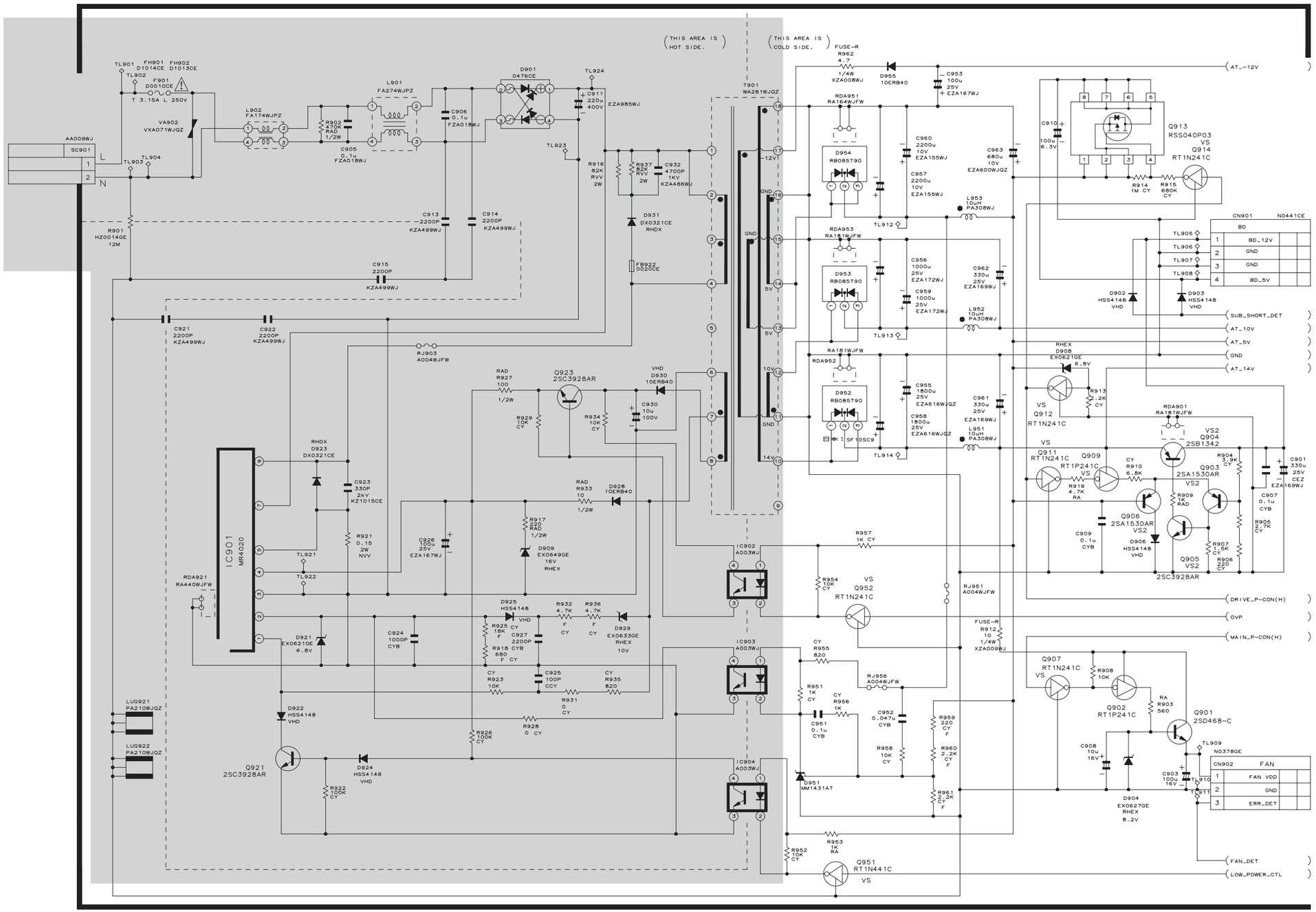


[3] POWER unit

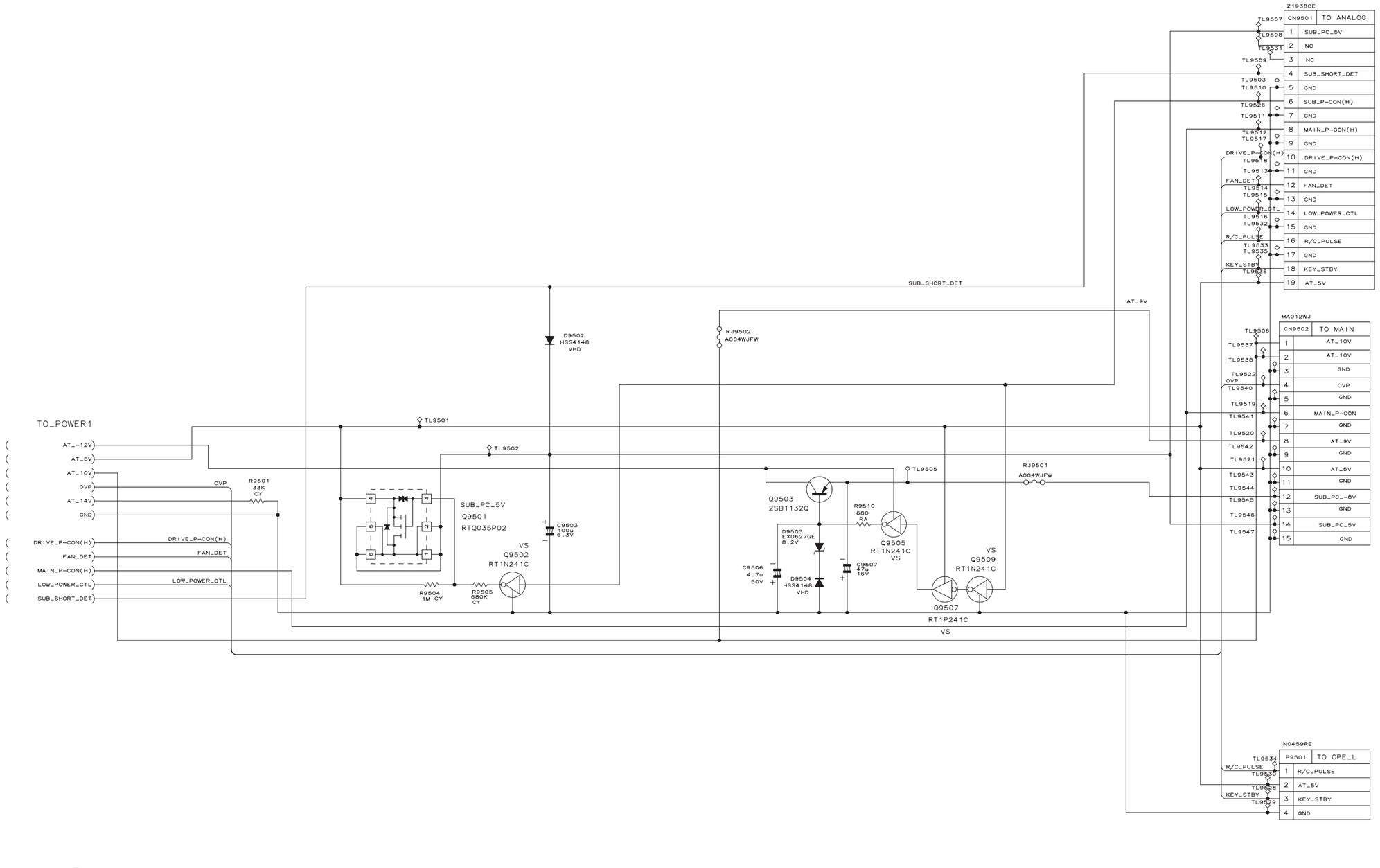
POWER unit - 1/2

⚠ AND SHADED COMPONENTS=SAFETY RELATED PARTS

Note : NOT USE

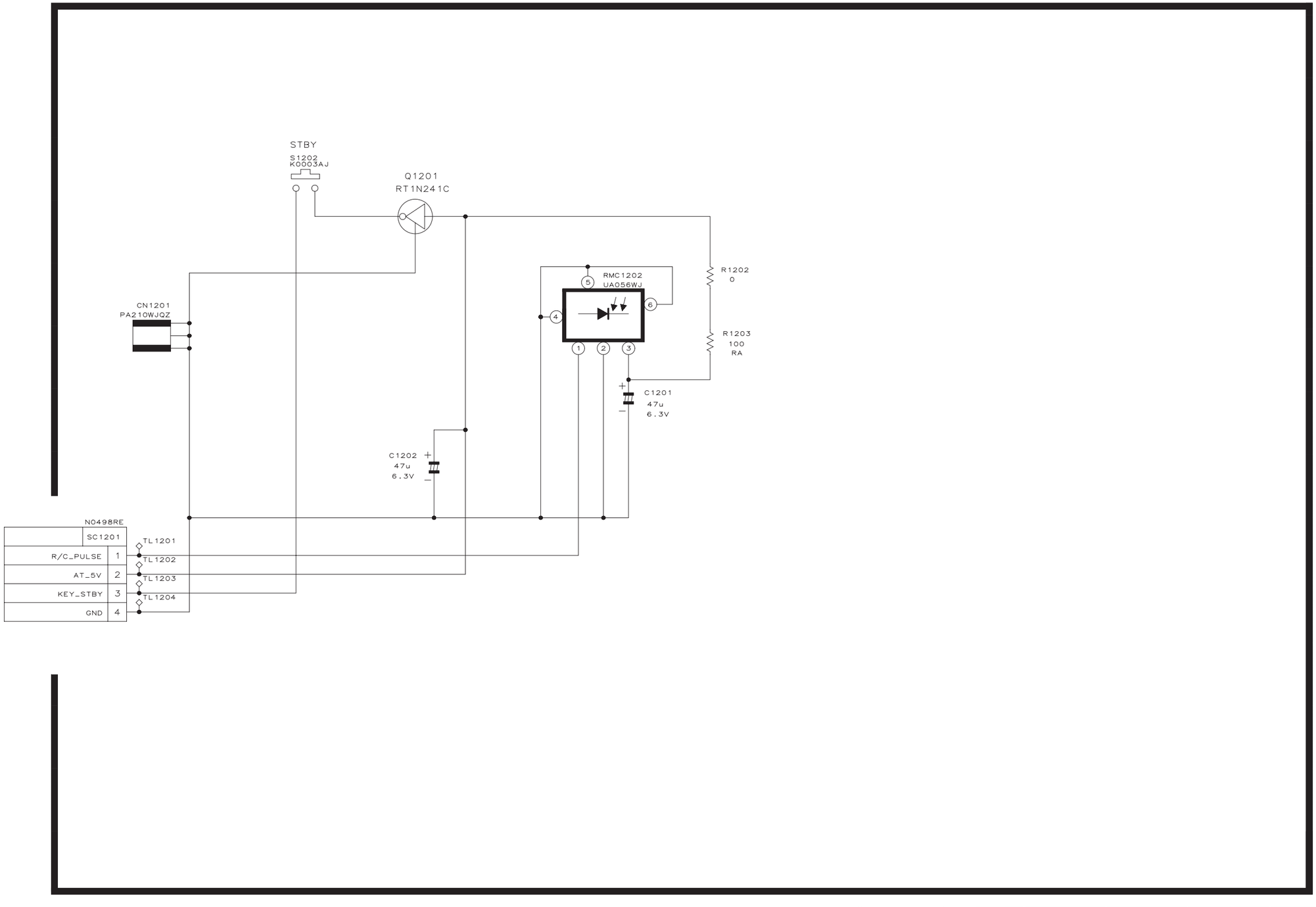


POWER unit - 2/2



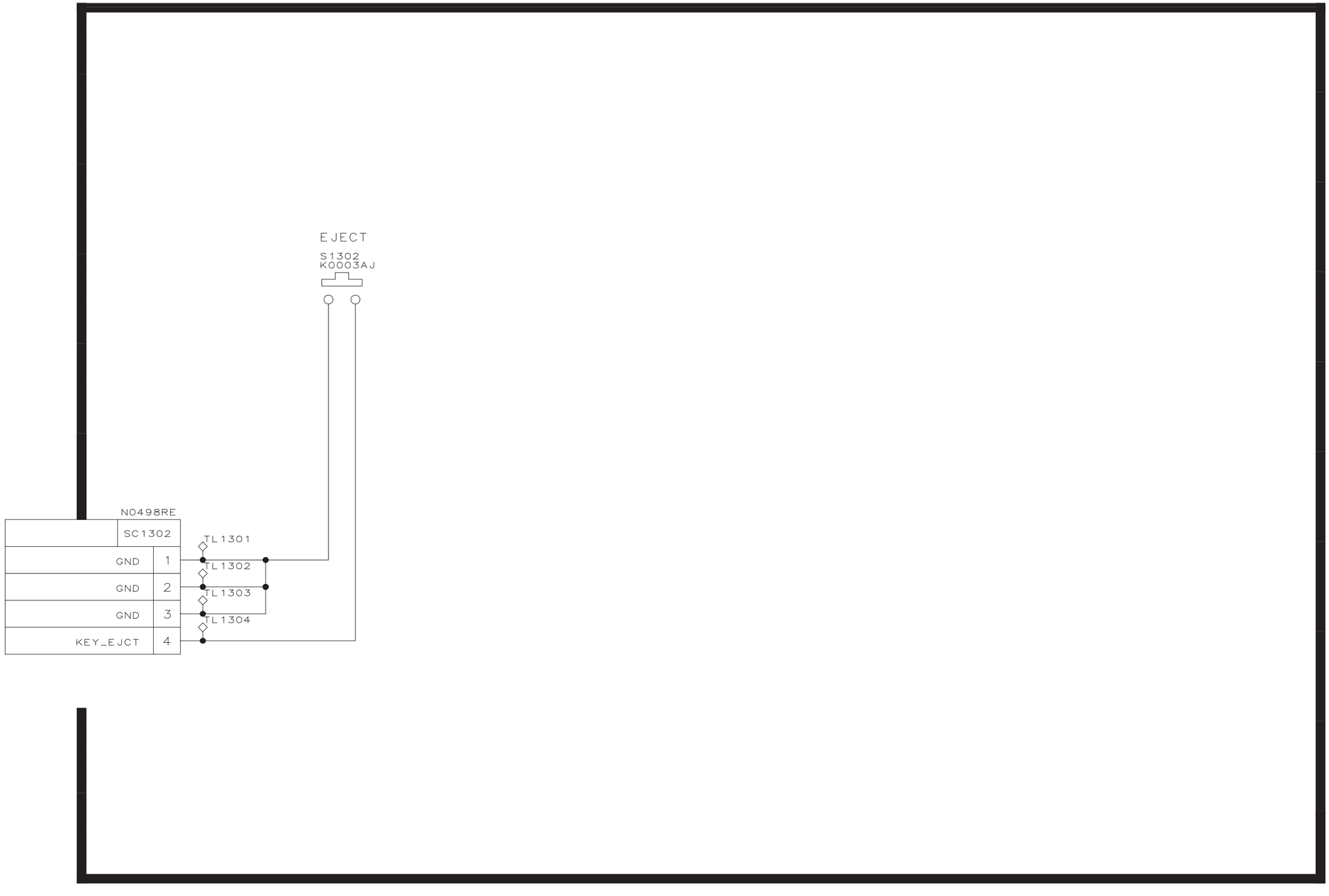
[4] OPERATION-L unit

OPELATION - L unit



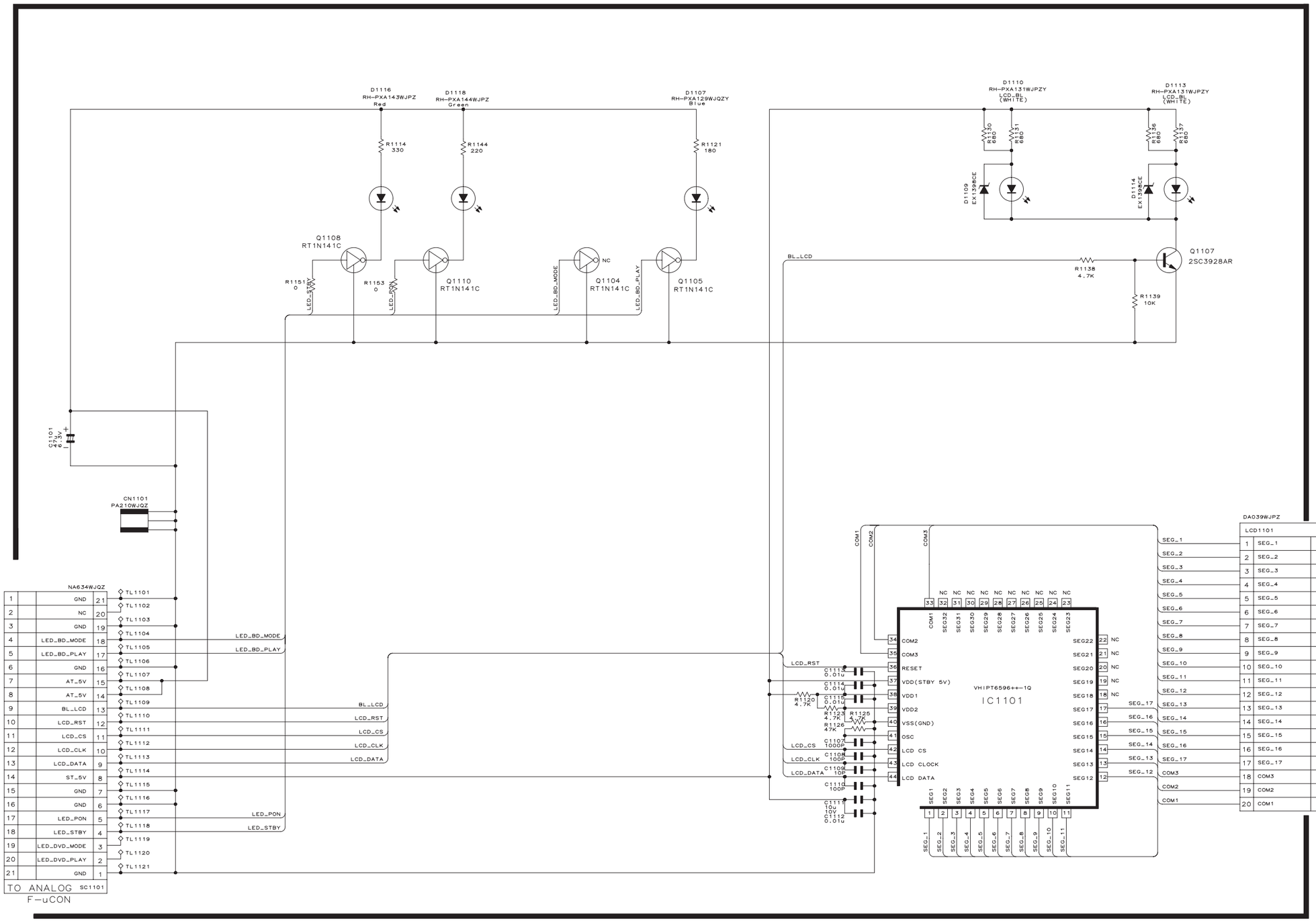
[5] OPERATION-R unit

OPELATION - R unit



[6] LCD unit

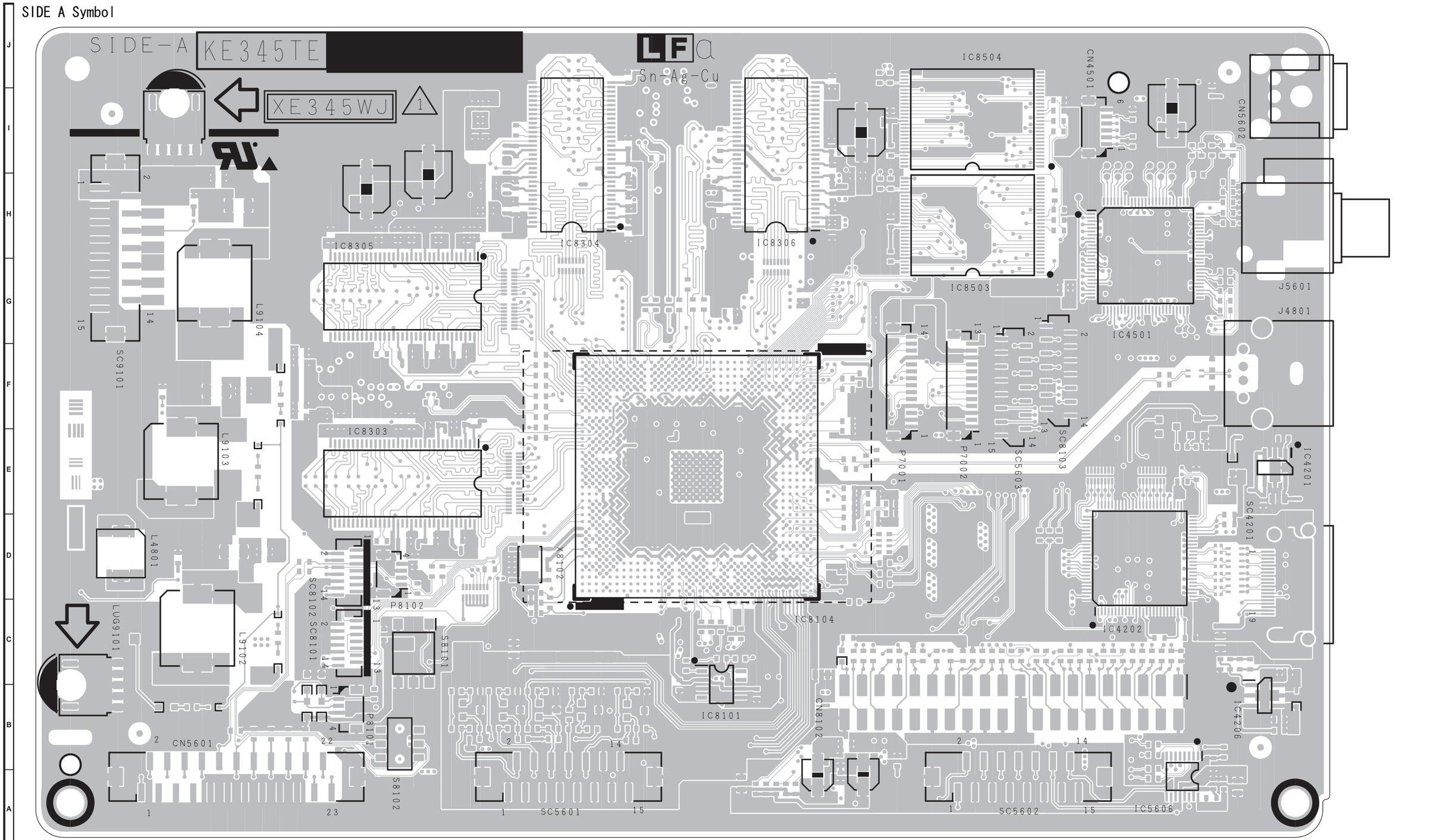
LCD unit



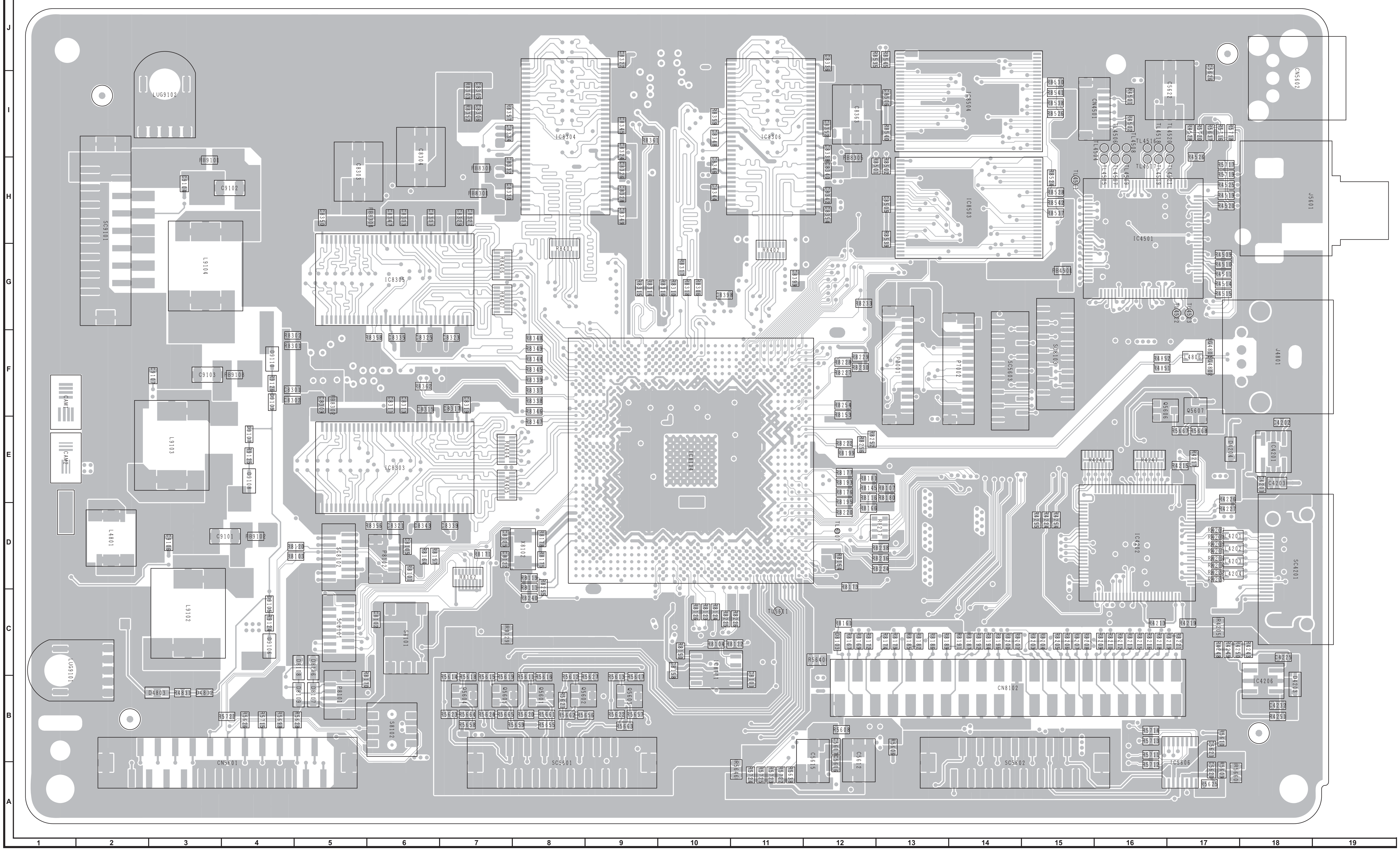
CHAPTER 5. PRINTED WIRING BOARD ASSEMBLIES

[1] MAIN PWB

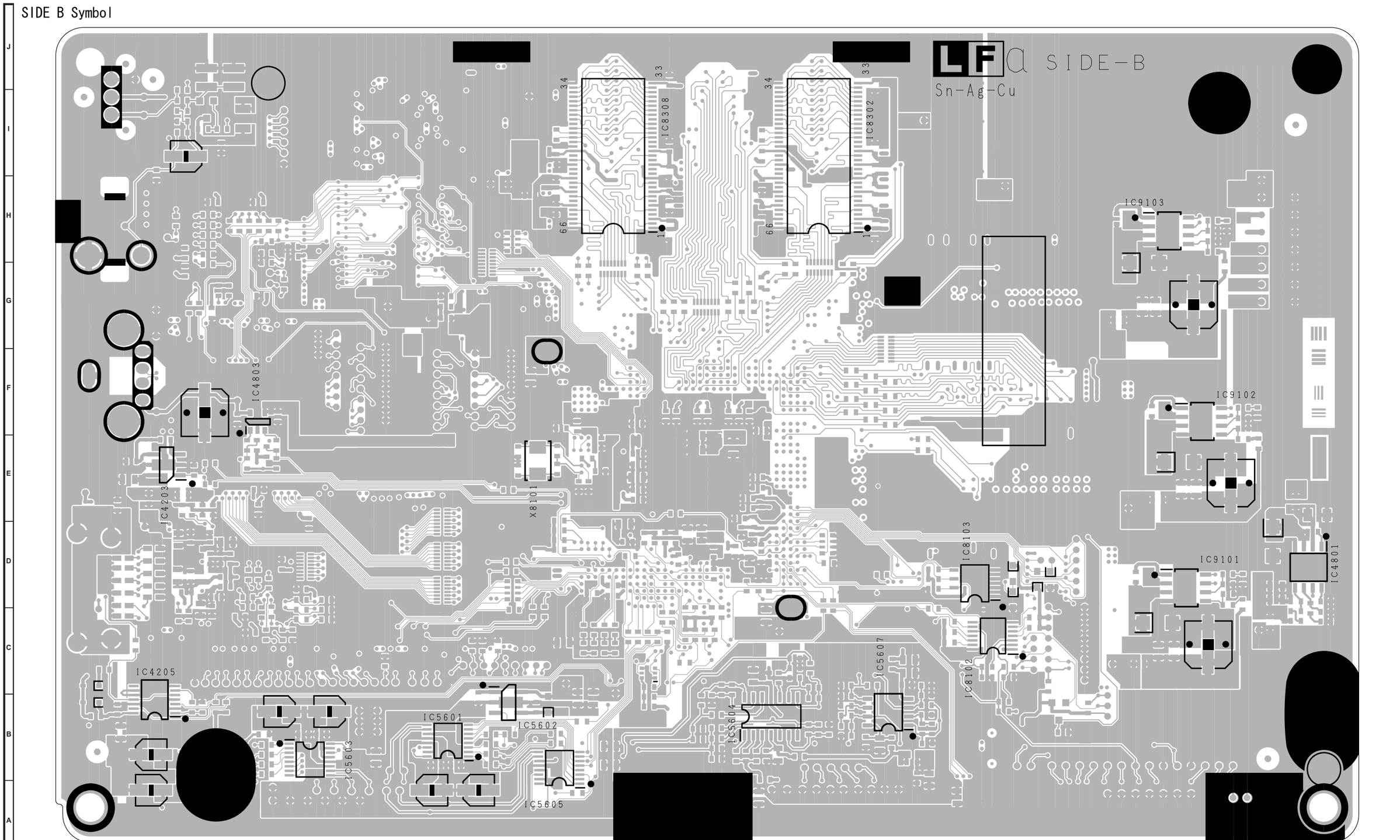
SIDE A Symbol



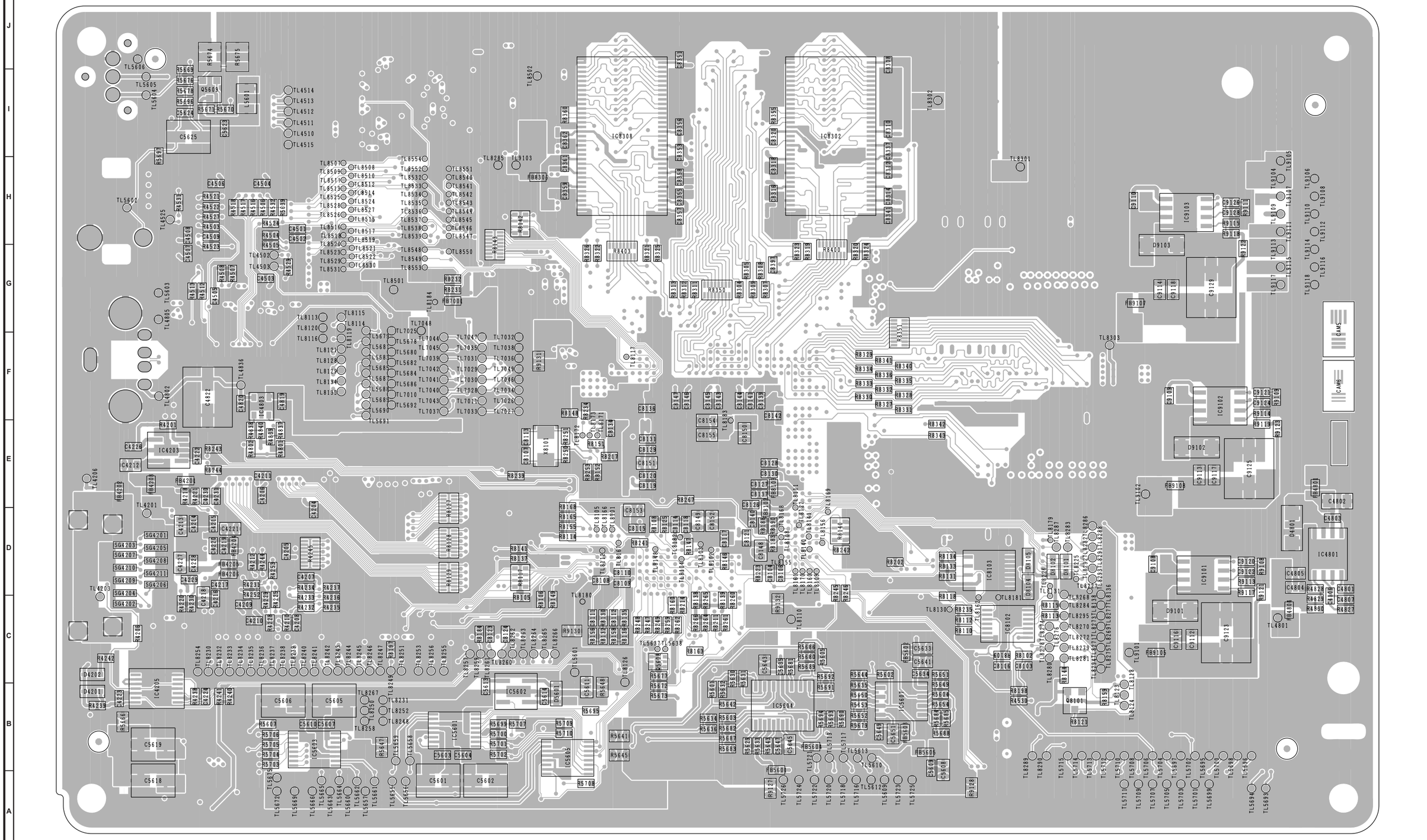
SIDE A


IC8304
IC8306
IC8305
IC8303
IC8504
IC8503
IC4501
IC4202
IC4201
IC4206
IC5606
CN8102
CN5601
SC5501
SC5602
SC9101
SC4201
J5601
J4801
L9104
L9103
L9102
L4801
LUG9102
LUG9101
CN5602
CN4501
C9102
C9103
C9101
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
A
B
C
D
E
F
G
H
I
J

SIDE B Symbol

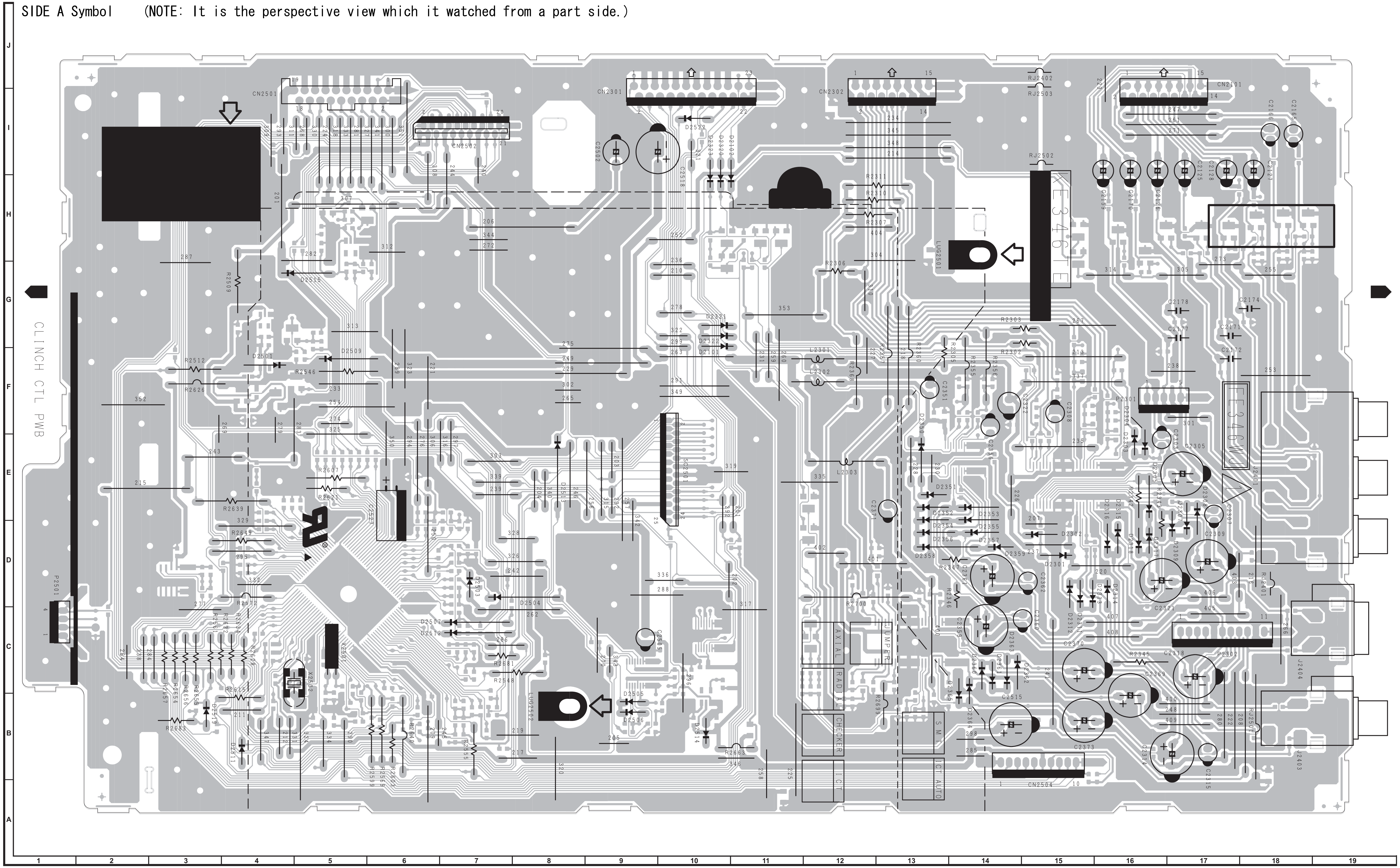


SIDE B

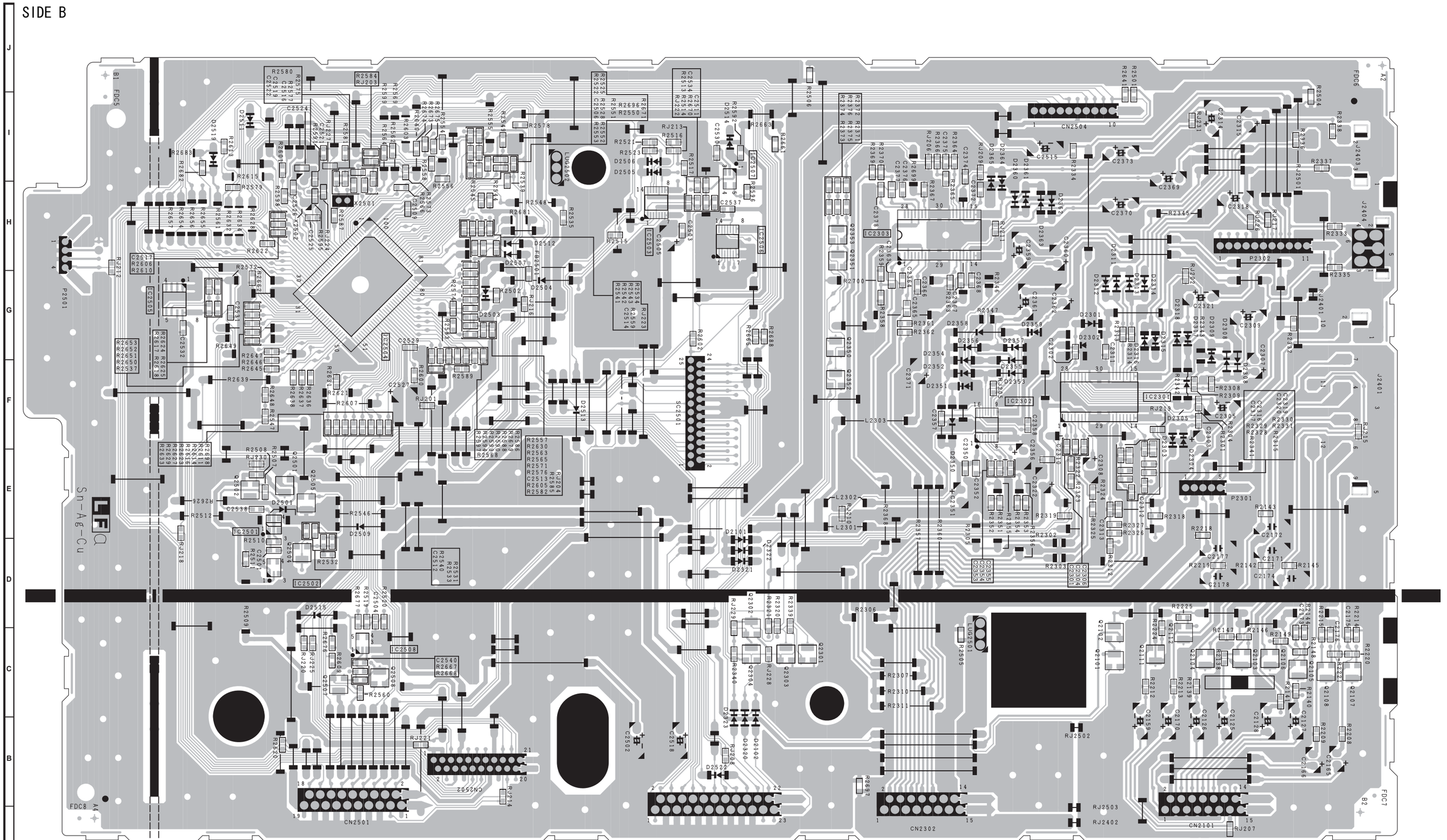


[2] ANALOG PWB

SIDE A Symbol (NOTE: It is the perspective view which it watched from a part side.)

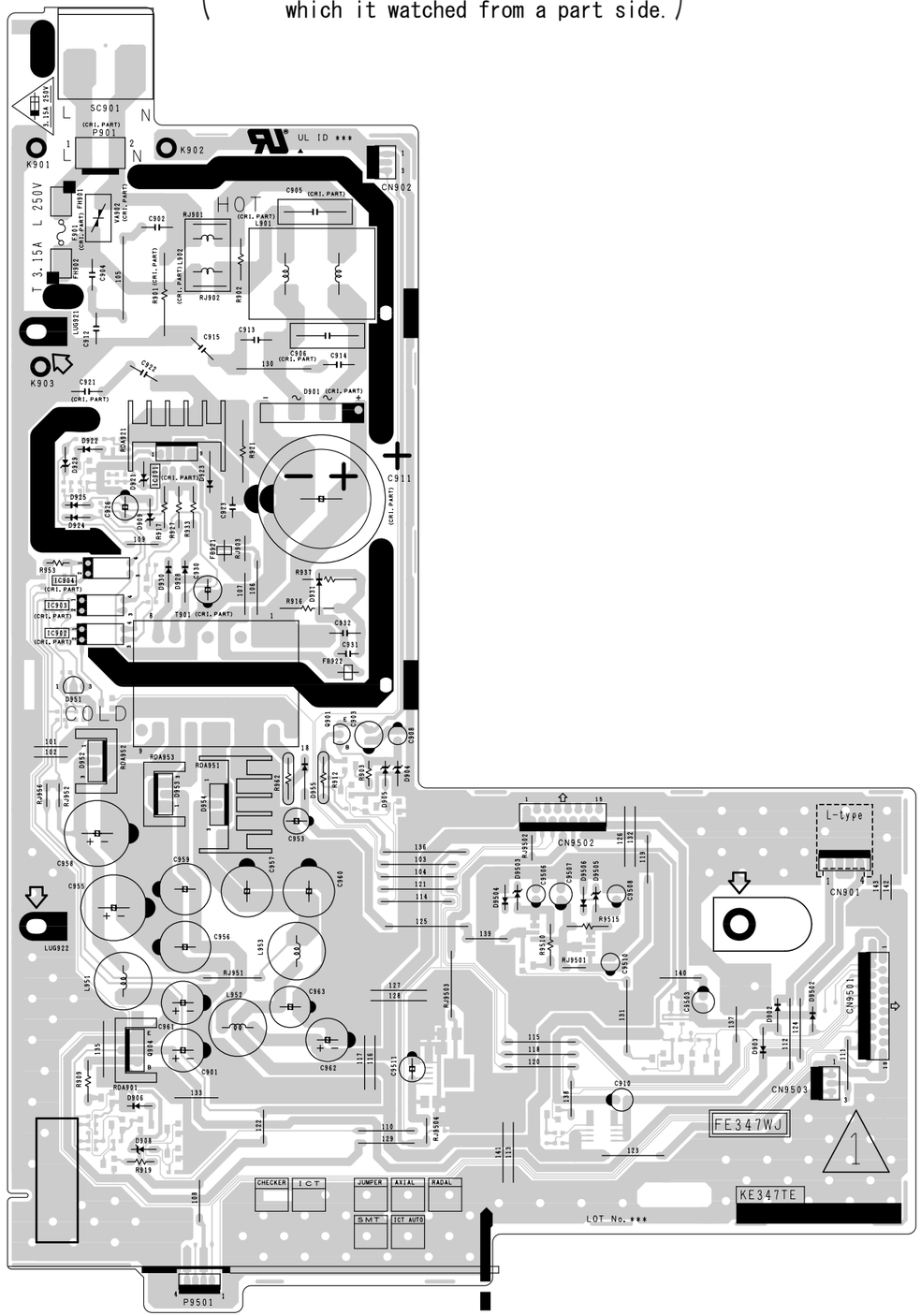


SIDE B

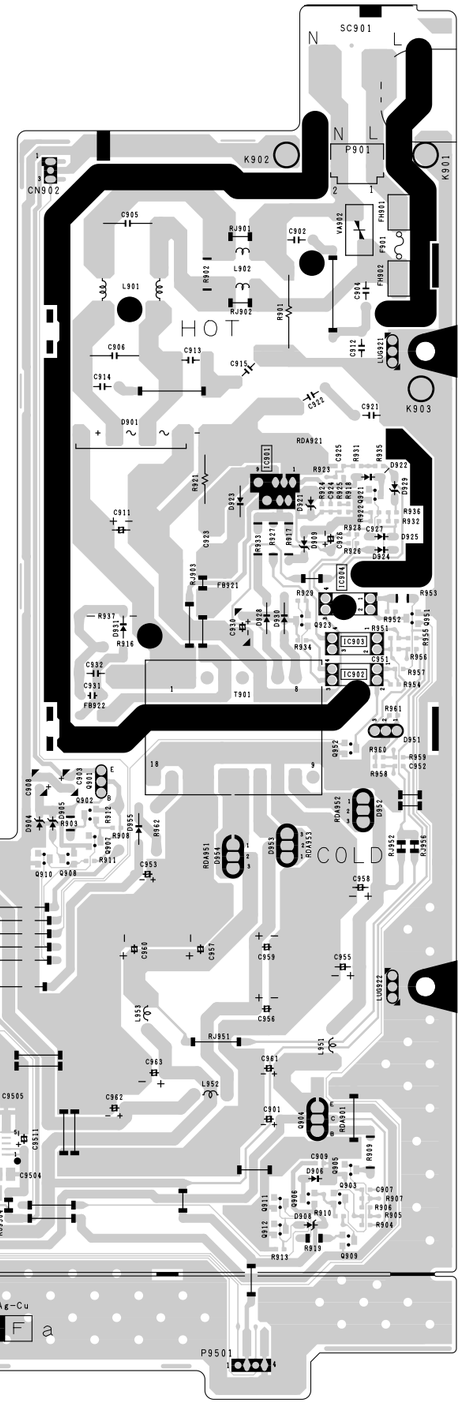

Sn-Ag-Cu
LFa
CN2501
CN2502
CN2302
CN2101
CN2504
P2301
P2302
P2501
IC2501
IC2502
IC2503
IC2504
IC2505
IC2506
IC2507
IC2508
IC2301
IC2302
IC2303
SC2501
LUG2501
LUG2502
X2501
X2502
FDC5
FDC6
FDC7
FDC8

[3] POWER PWB

COMPONENT SIDE (NOTE: It is the perspective view which it watched from a part side.)



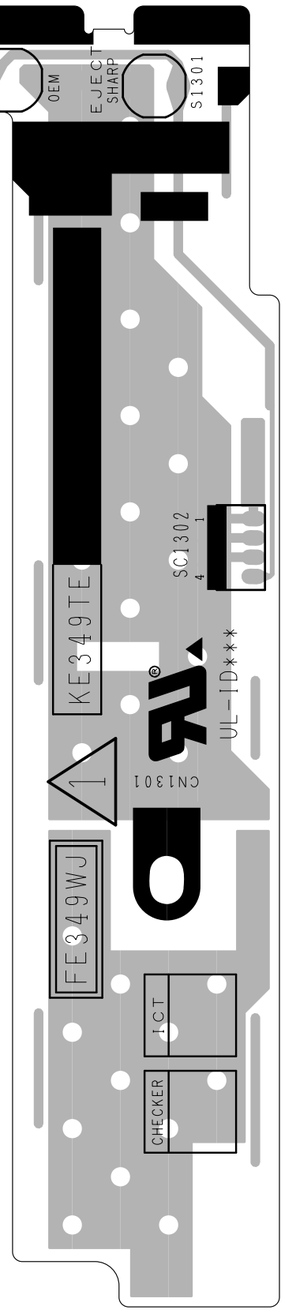
WIRING SIDE



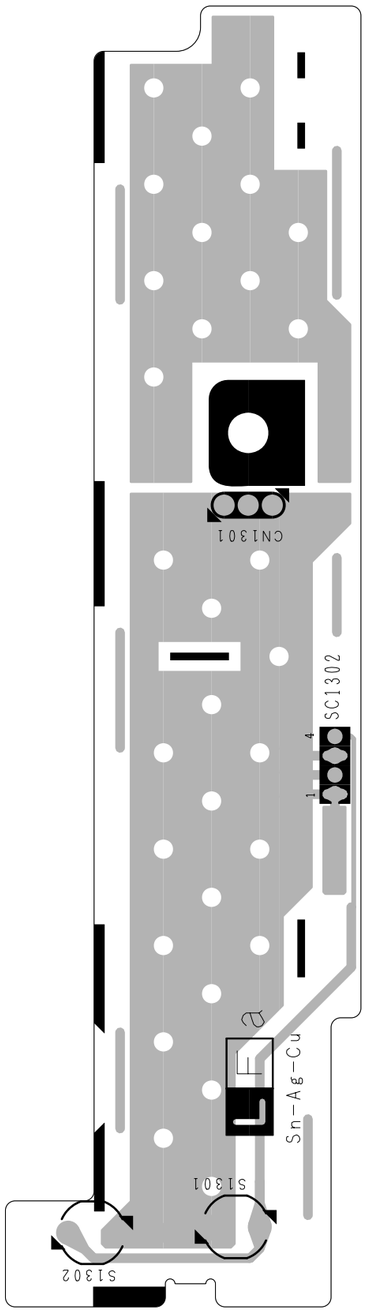
[4] OPERATION PWB

SIDE A Symbol

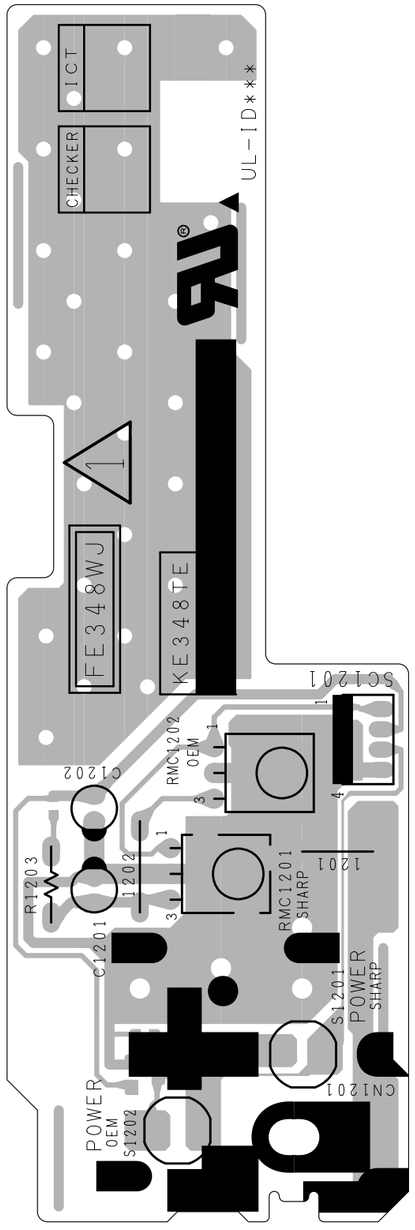
(NOTE: It is the perspective view which it watched from a part side.)



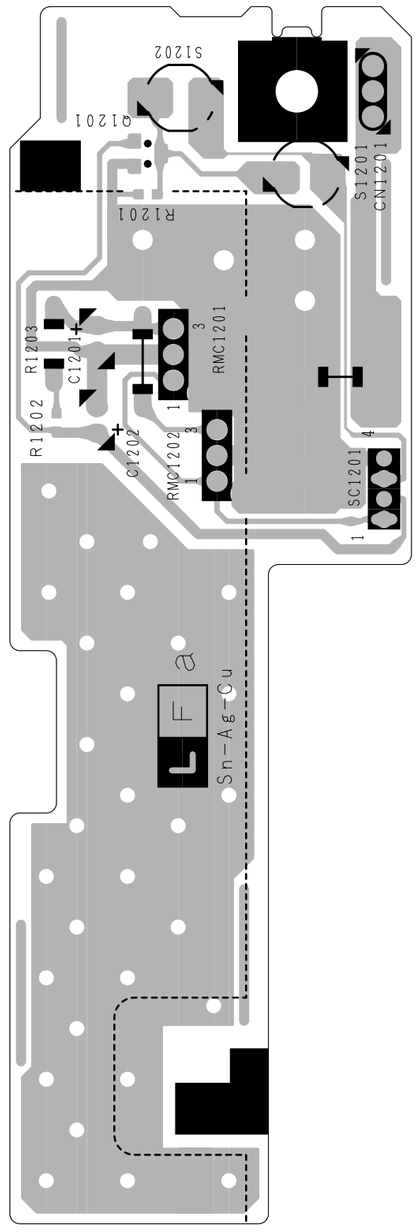
SIDE B



SIDE A Symbol

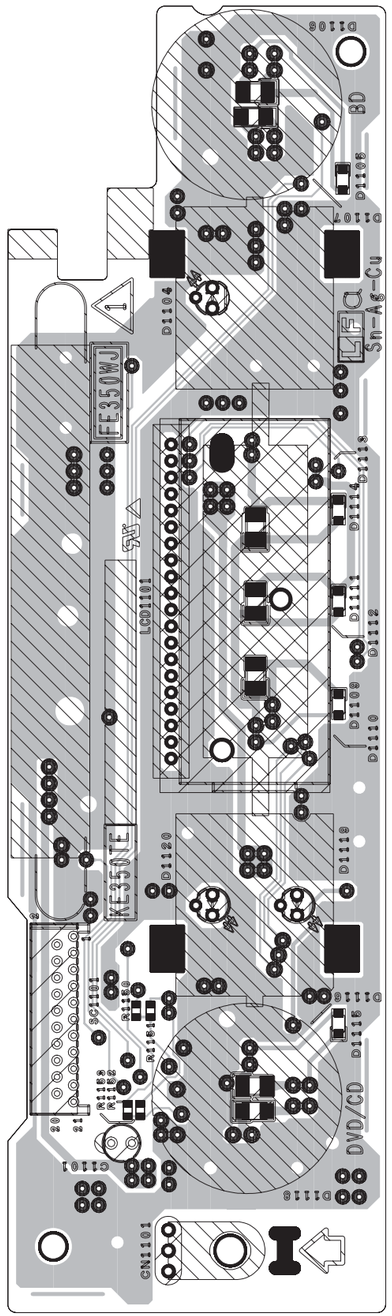


SIDE B

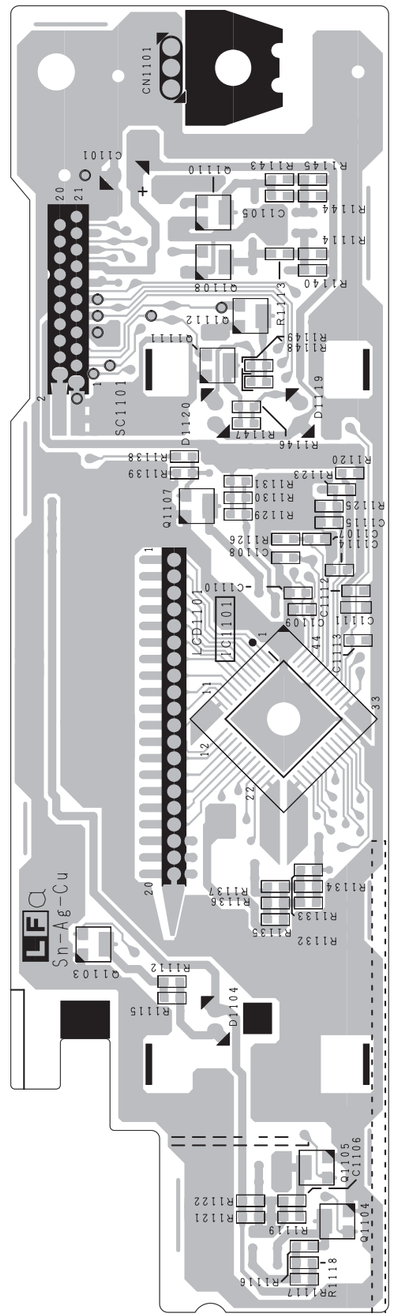


[5] LCD PWB

SIDE A Symbol

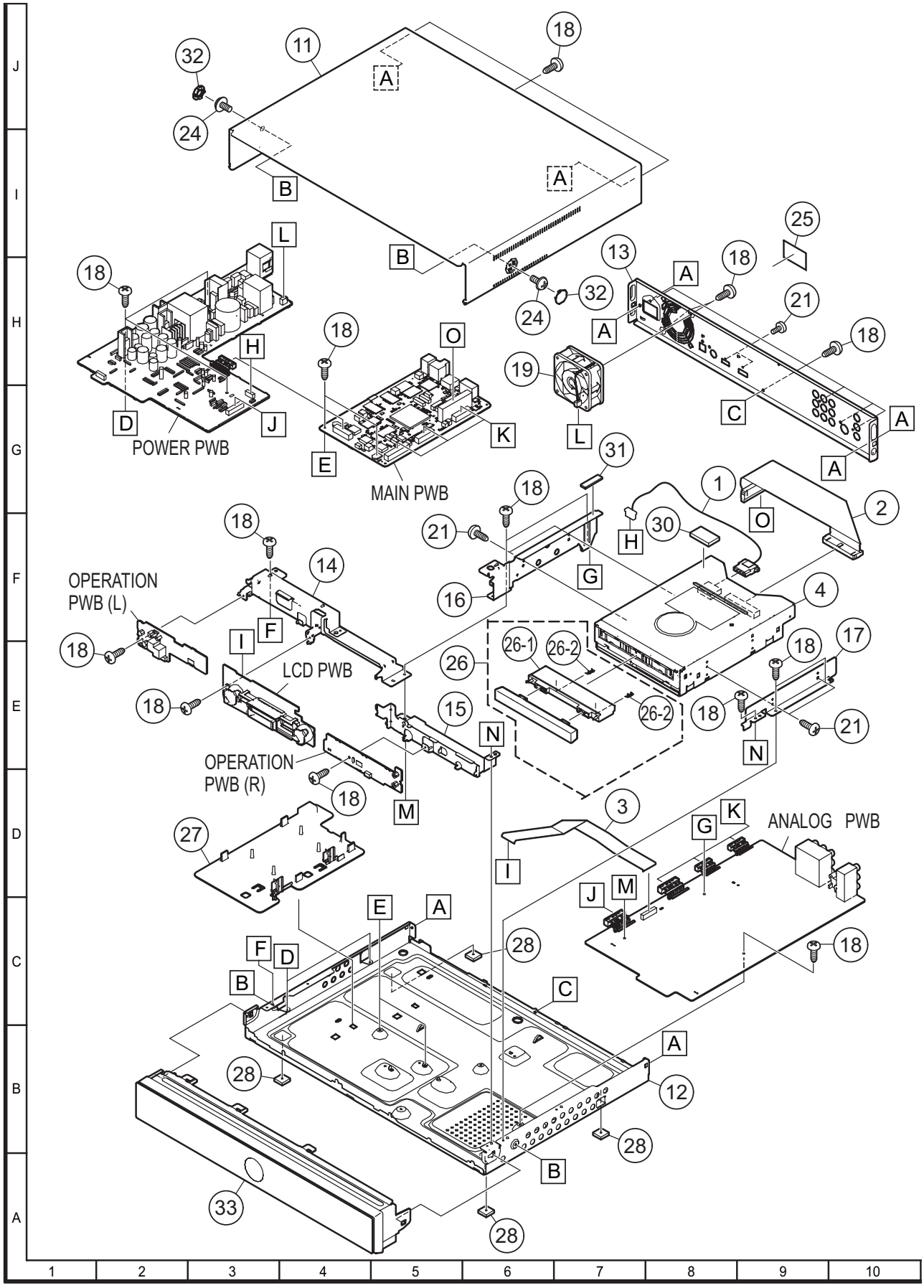


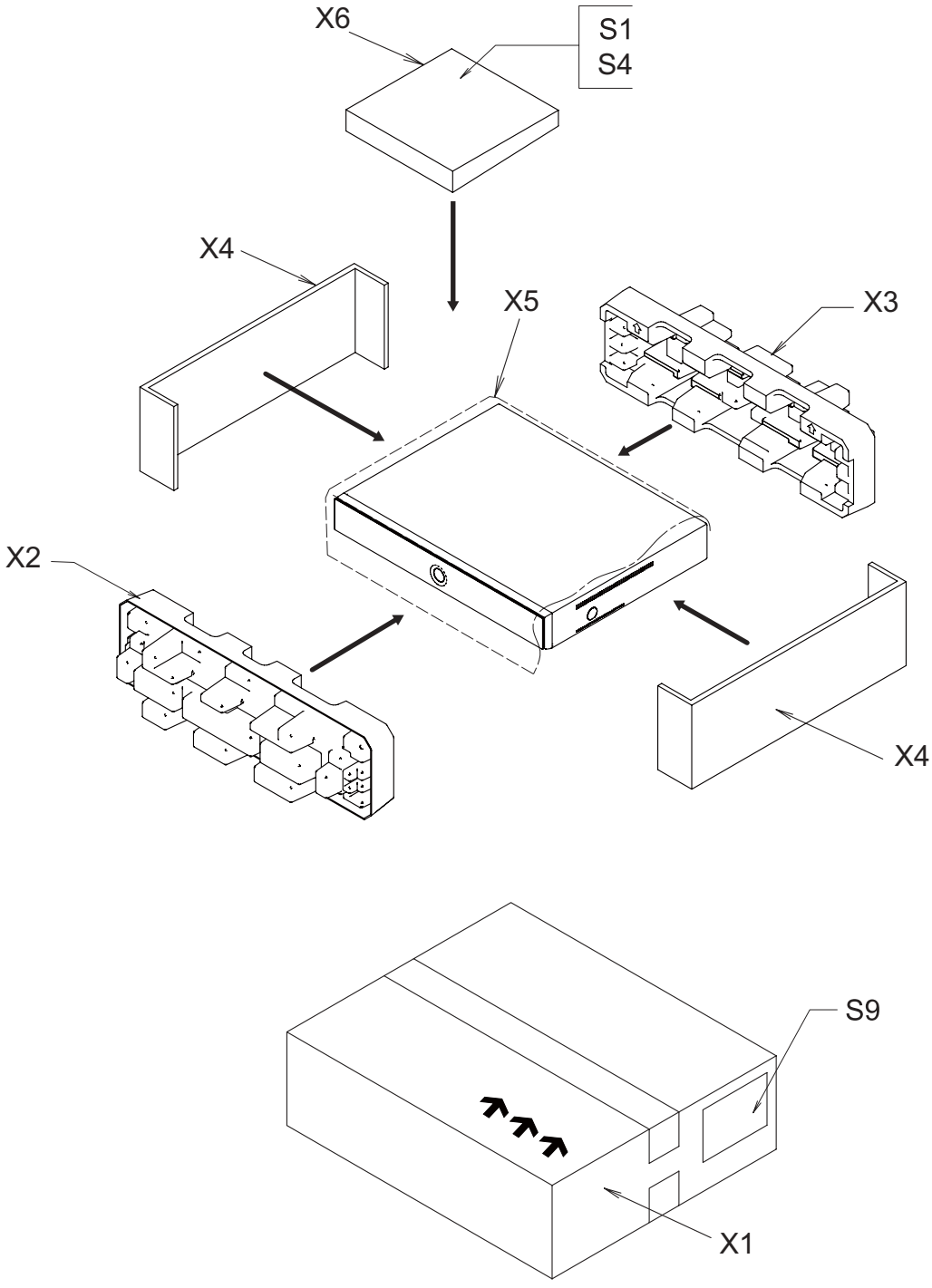
SIDE B



CHAPTER 6. CABINET PARTS

[1] CABINET PARTS



CHAPTER 7. PACKING PARTS

[1] PACKING PARTS