TOSHIBA

FILE NO. 810-200622GR

SERVICE MANUAL

HDD/DVD VIDEO RECORDER

RD-XS35SU
RD-XS35SC

The above models are classified as green products (*1), as indicated by the underlined serial numbers. This Service Manual describes replacement parts for the green products. When repairing these green product(s), use the part(s) described in this manual and lead-free solder (*2).

For (*1) and (*2), see the next page.

Mar., 2006 GREEN

(*1) GREEN PRODUCT PROCUREMENT

The EC is actively promoting the WEEE & RoHS Directives that define standards for recycling and reuse of Waste Electrical and Electronic Equipment and for the Restriction of the use of certain Hazardous Substances. From July 1, 2006, the RoHS Directive will prohibit any marketing of new products containing the restricted substances.

Increasing attention is given to issues related to the global environmental. Toshiba Corporation recognizes environmental protection as a key management tasks, and is doing its utmost to enhance and improve the quality and scope of its environmental activities. In line with this, Toshiba proactively promotes Green Procurement, and seeks to purchase and use products, parts and materials that have low environmental impacts.

Green procurement of parts is not only confined to manufacture. The same green parts used in manufacture must also be used as replacement parts.

(*2) LEAD-FREE SOLDER

This product is manufactured using lead-free solder as a part of a movement within the consumer products industry at large to be environmentally responsible. Lead-free solder must be used in the servicing and repair of this product.

WARNING

This product is manufactured using lead free solder.

DO NOT USE LEAD BASED SOLDER TO REPAIR THIS PRODUCT !

The melting temperature of lead-free solder is higher than that of leaded solder by 86°F to 104°F (30°C to 40°C). Use of a soldering iron designed for lead-based solders to repair product made with lead-free solder may result in damage to the component and or PCB being soldered. Great care should be made to ensure high-quality soldering when servicing this product especially when soldering large components, through-hole pins, and on PCBs as the level of heat required to melt lead-free solder is high.

LASER BEAM CAUTION LABEL

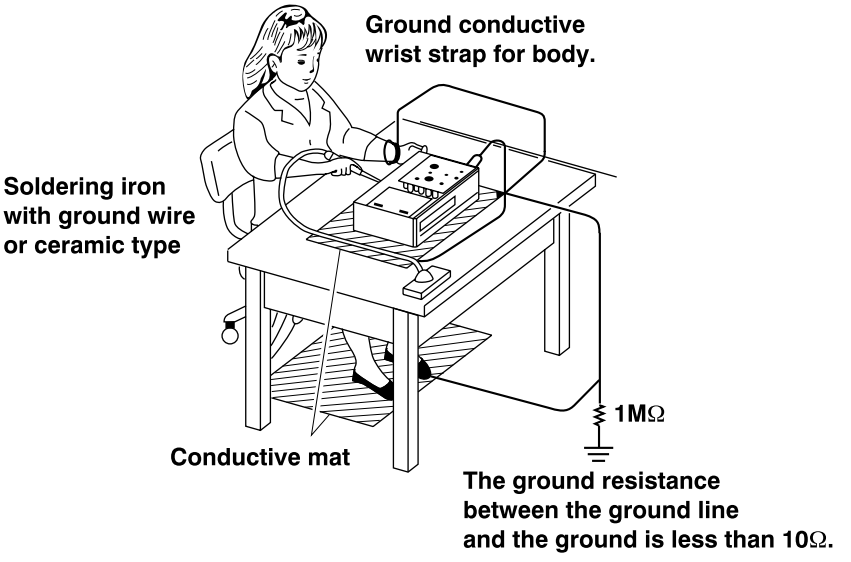
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of a laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.



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SAFETY NOTICE

SAFETY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000 Ω per volt or more sensitivity.

Connect a 1500 Ω 10 W resistor, paralleled by a 0.15 µF 150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

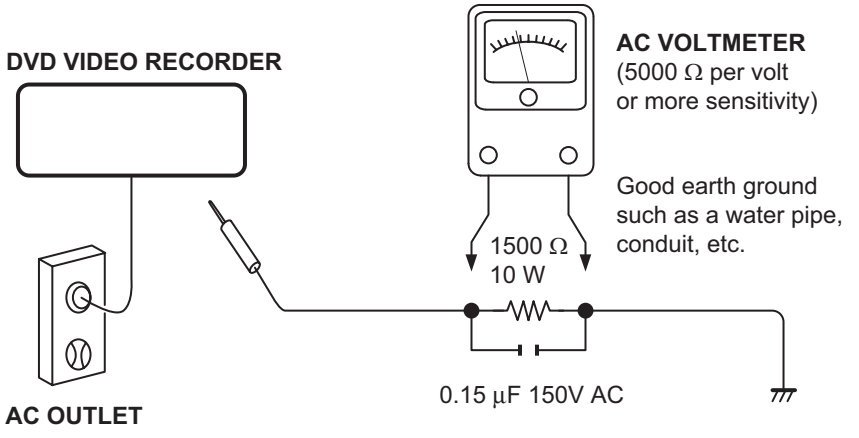
Measure the AC voltage across the 1500 Ω resistor.

The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3 V. A reading exceeding 0.3 V indicates that a dangerous potential exists, the fault must be located and corrected.

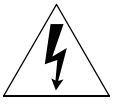
Repeat the above test with the DVD VIDEO RECORDER power plug reversed.

NEVER RETURN A DVD VIDEO RECORDER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.

READING SHOULD NOT EXCEED 0.3V



Test all exposed metal.
Voltmeter Hook-up for Leakage Current Check



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CONTENTS

SECTION 1
GENERAL DESCRIPTIONS

1. OPERATING INSTRUCTIONS

Please refer to the owner's manual about the contents.

2. LOCATION OF MAIN PARTS

2-1. Location of Main Parts

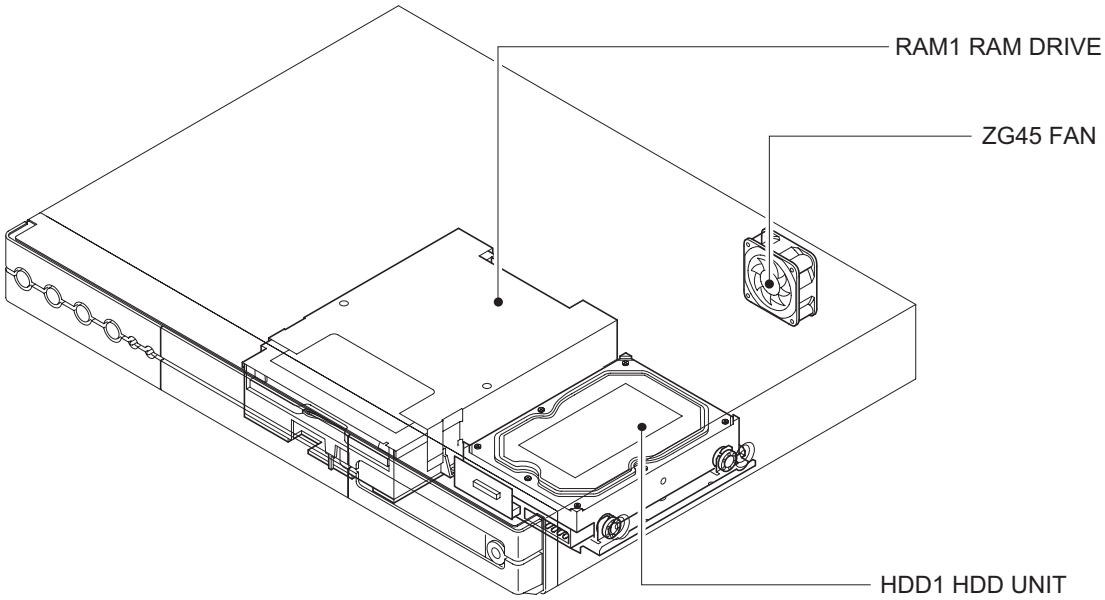


Fig. 1-2-1

2-2. Location of PC Boards

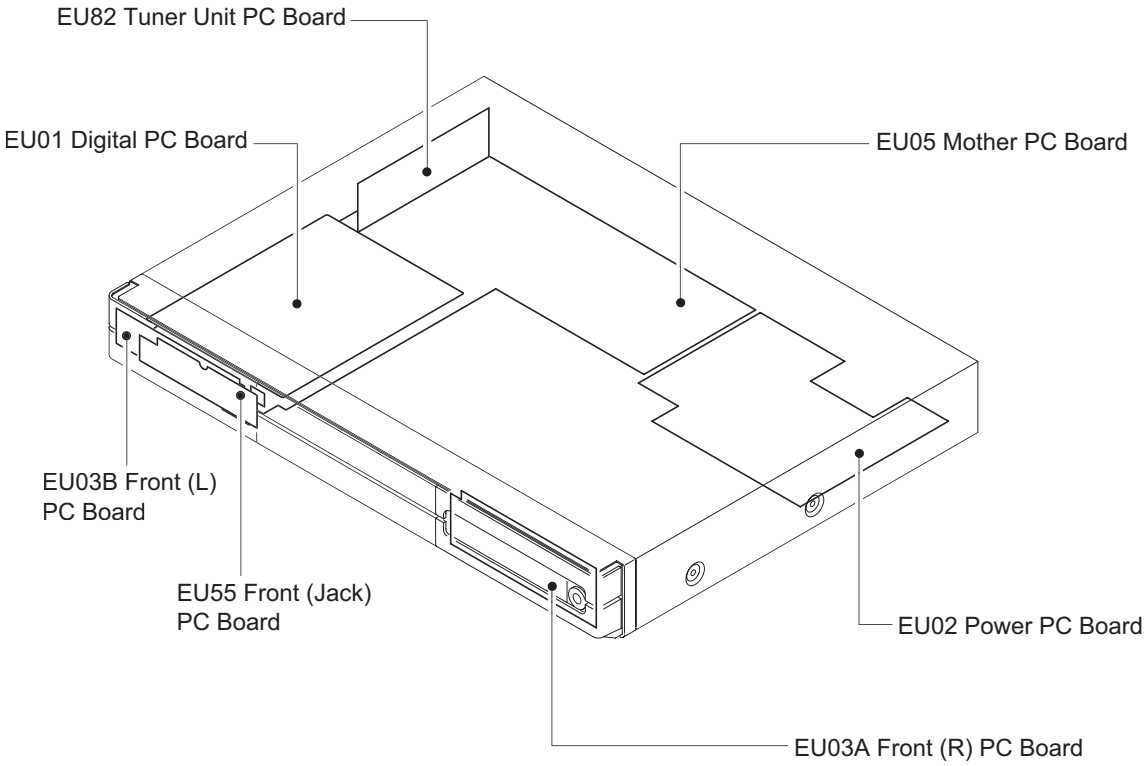


Fig. 1-2-2

SECTION 2
PART REPLACEMENT AND ADJUSTMENT PROCEDURES

CAUTIONS BEFORE STARTING PART REPLACEMENT

Electronic parts are susceptible to static electricity and may easily damaged, so do not forget to ground as required. Many screws are used inside the unit. To prevent the screws from missing or dropping, etc. always use a magnetized screwdriver in servicing. Several kinds of screws are used and some of them need special cautions. That is, take care of the tapping screws securing molded parts and fine pitch screws used to secure metal parts. If they are used improperly, the screw holes will be easily damaged and the parts can not be fixed.

1. REPLACEMENT OF MECHANICAL PARTS

1-1. Cabinet Replacement

1-1-1. Top Cover

1. Remove seven screws (1), then remove the top cover (2).

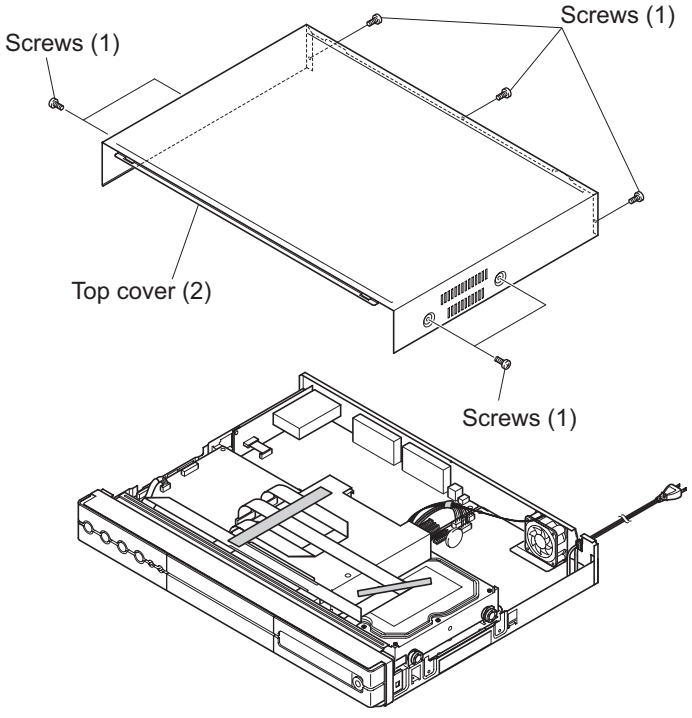


Fig. 2-1-1

1-1-2. HDD

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove two tapes (1).
3. Remove four screws (2).
4. Disconnect the flexible cable (3) and the connector (4).
5. Remove four screws (5), then remove the damper (7) and HDD (8) from the bracket (6).

Note:

- Attach the tapes (1) as they were after the HDD is replaced.

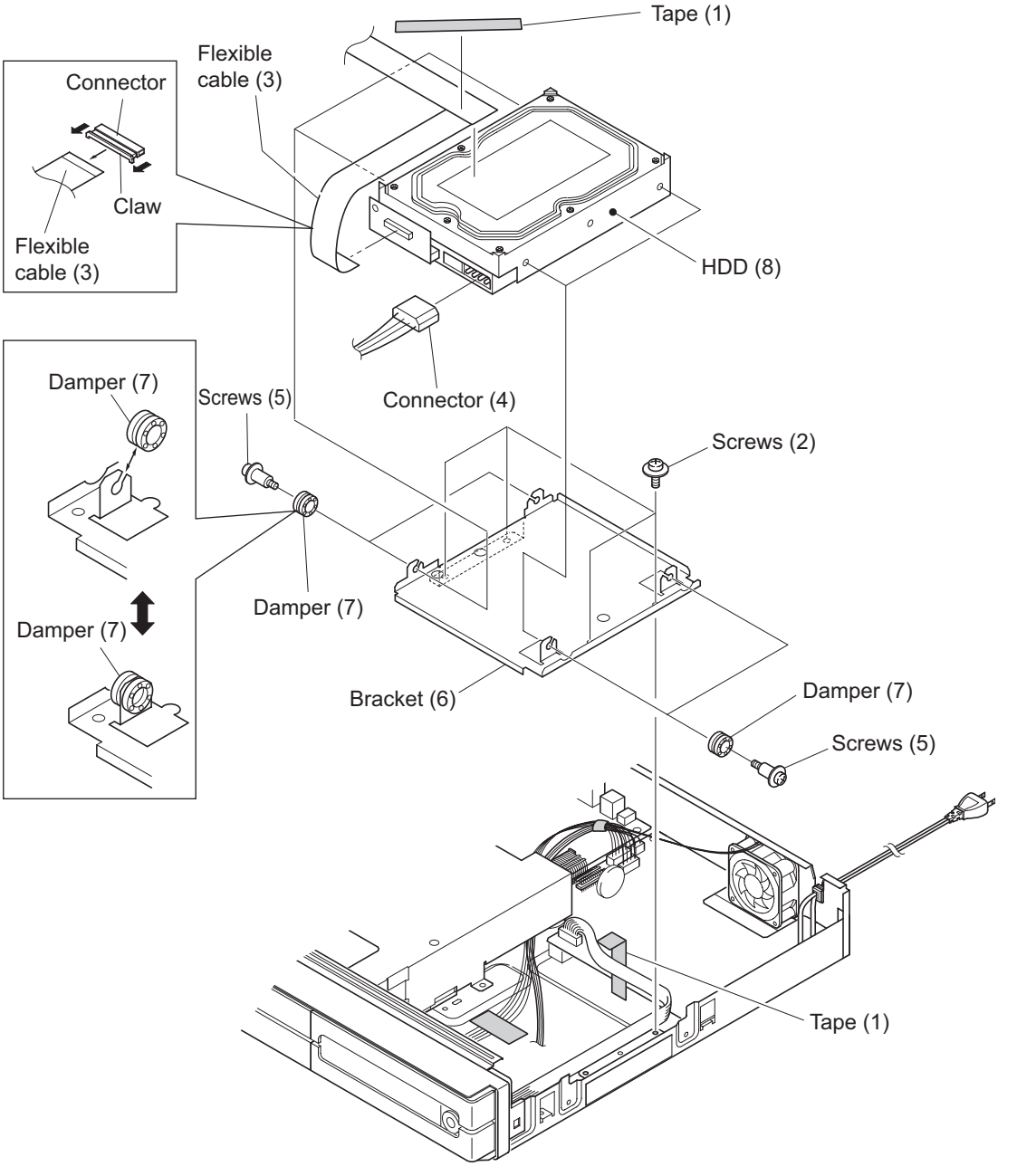


Fig. 2-1-2

1-1-3. Front Panel

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove the tape (1).
3. Disconnect two connectors (2) and two flexible cables (3).
4. Remove two screws (4), four claws, then remove the front panel (5).

Note:

- Attach the tape (1) as it was after the front panel is replaced.

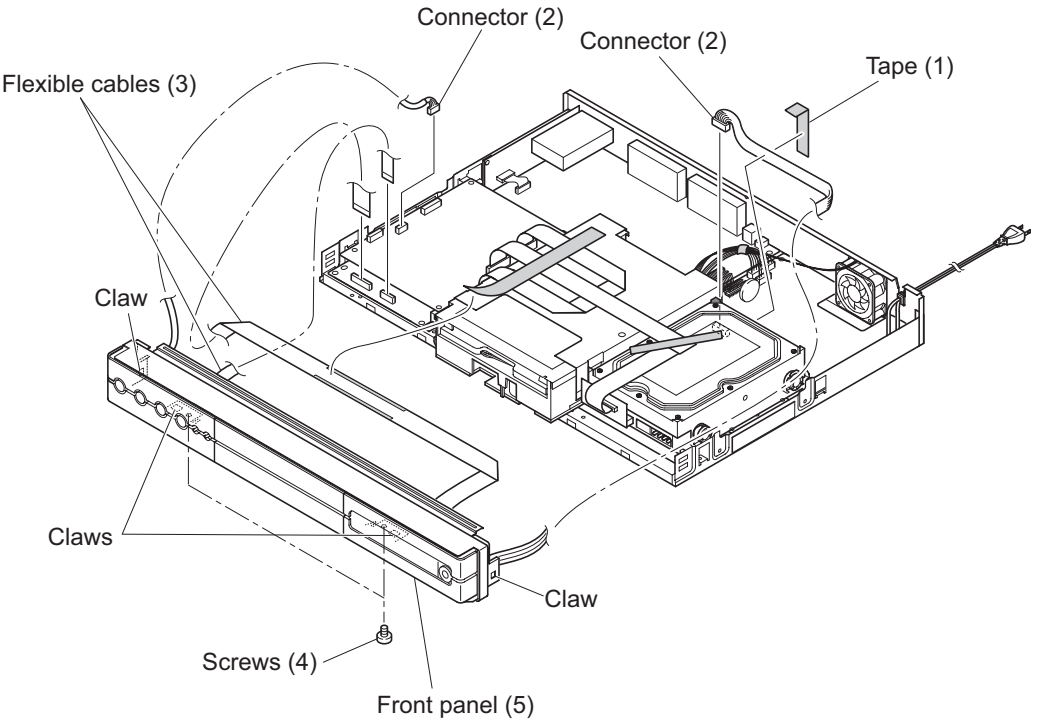


Fig. 2-1-3

1-1-4. RAM Drive

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove the HDD. (Refer to item 1-1-2.)
3. Remove the front panel. (Refer to item 1-1-3.)
4. Remove two tapes (1).
5. Disconnect two flexible cables (2) and the connector (3).
6. Remove four screws (4), then remove the RAM drive (5).
7. Remove the shield cover (6) from the RAM drive (5).

Note:

- Attach the tapes (1) as they were after the RAM drive is replaced.

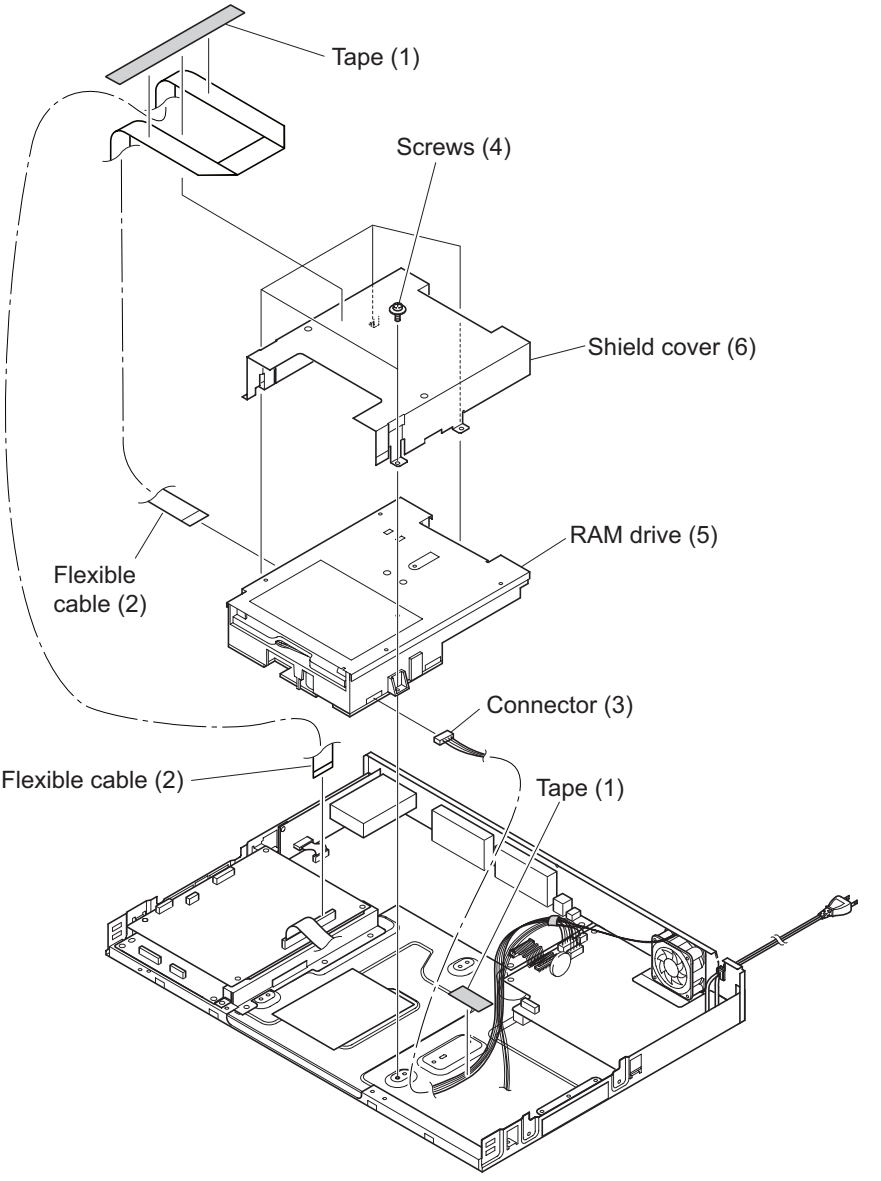


Fig. 2-1-4

1-1-5. Rear Panel

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove the screw (1), screw (2), and five screws (3).
3. Remove the bushing of the power plug (4).
4. Remove two claws, then remove the rear panel (5).
5. Remove two screws (6), then remove the fan (7).

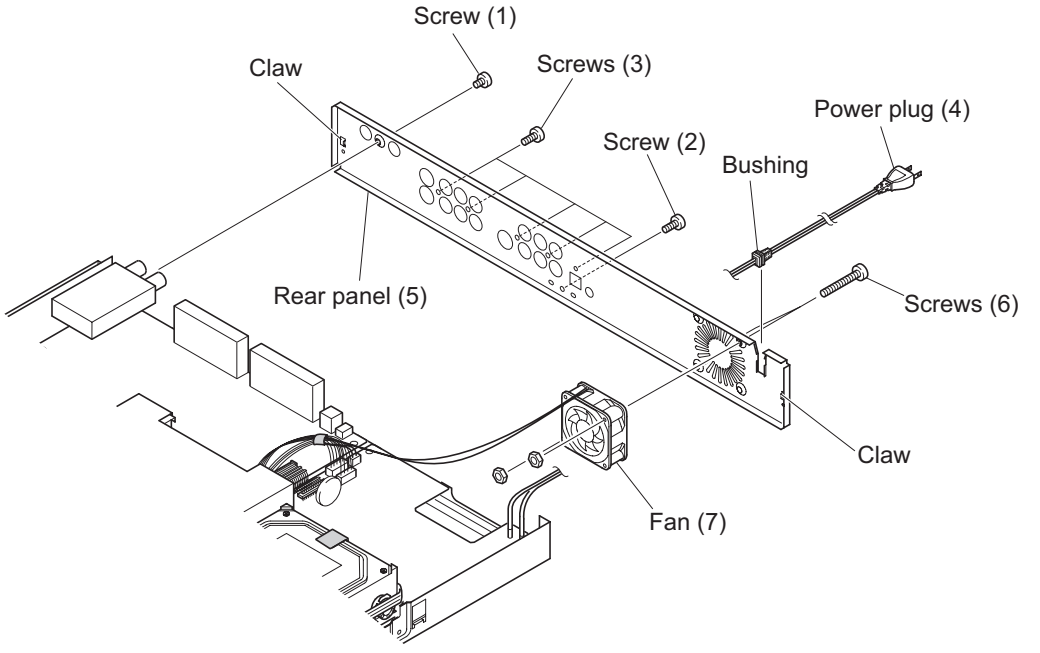


Fig. 2-1-5

1-1-6. Fan

1. Remove the top cover. (Refer to item 1-1-1.)
2. Disconnect the connector (1).
3. Remove the cable tie (2).
4. Remove two screws (3), then remove the fan (4).

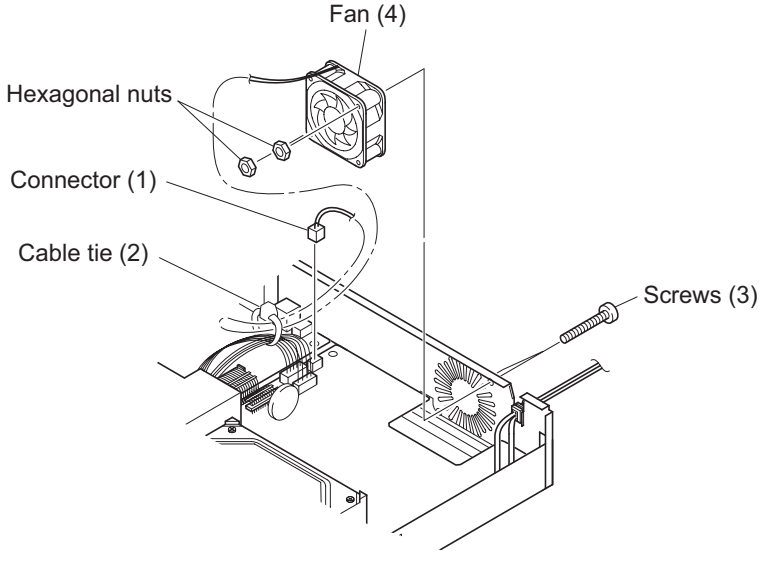


Fig. 2-1-6

1-2. PC Board Replacement

1-2-1. Tuner Unit PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Disconnect the flexible cable (1).
3. Remove the screw (2), screw (3), then remove the Tuner Unit PC board (4).

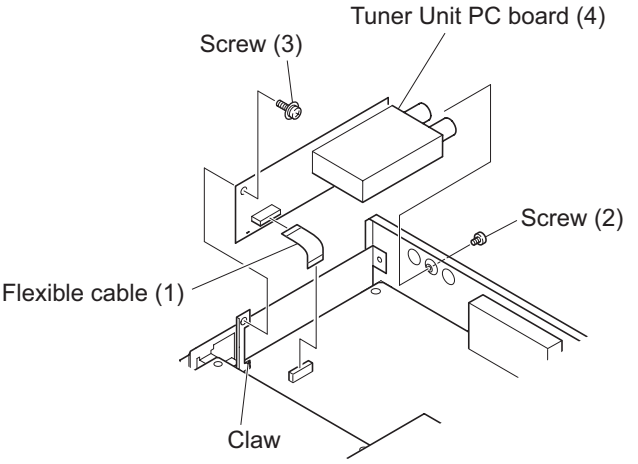


Fig. 2-1-7

1-2-2. Digital PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Disconnect the two flexible cables (1).
3. Disconnect the connector (2).
4. Remove four screws (3), then remove the Digital PC board (4).

Note:

- Be careful when removing the Digital PC board as it is connected to the Mother PC board (5) with the four connectors (6).

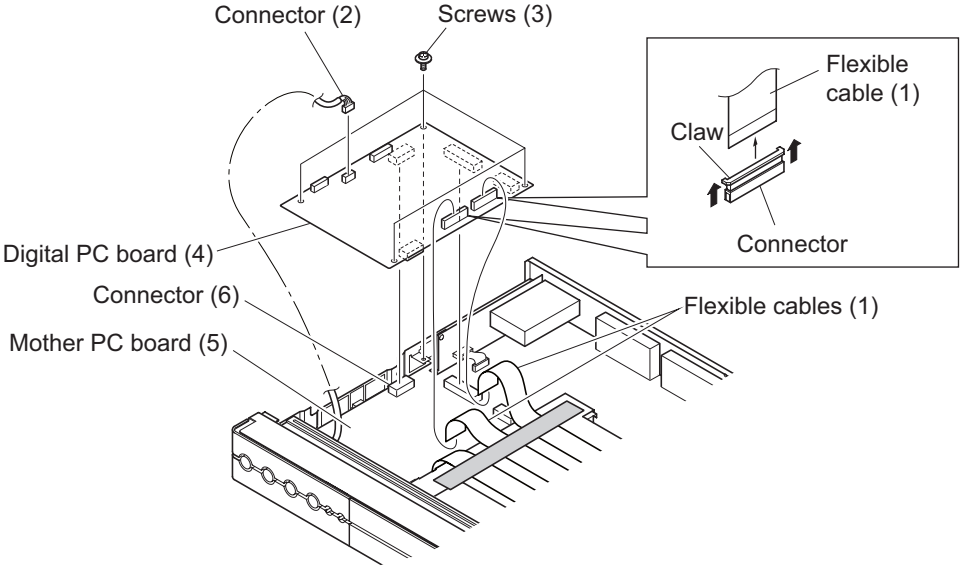


Fig. 2-1-8

1-2-3. Mother PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove the front panel. (Refer to item 1-1-3.)
3. Remove the rear panel. (Refer to item 1-1-5.)
4. Remove the Tuner Unit PC board. (Refer to item 1-2-1.)
5. Remove the Digital PC board. (Refer to item 1-2-2.)
6. Disconnect the connector (1).
7. Remove six screws (2).
8. Draw the Mother PC board (3) backward (direction of arrow) to remove it.

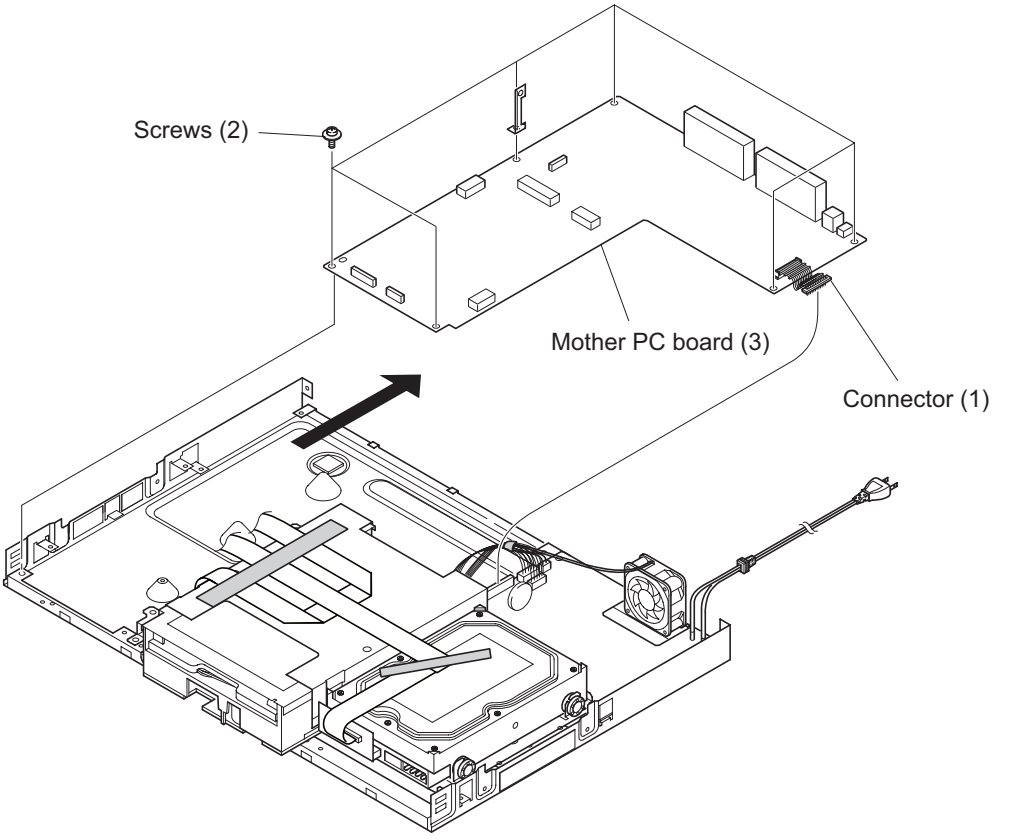


Fig. 2-1-9

1-2-4. Power PC Board

Cautions :

- Danger of explosion if battery is incorrectly replaced.
  Replace only with the same or equivalent type.

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove the HDD. (Refer to item 1-1-2.)
3. Remove the front panel. (Refer to item 1-1-3.)
4. Remove the RAM drive. (Refer to item 1-1-4.)
5. Disconnect the connector (1) and four connectors (2).
6. Remove the bushing of the power plug (4) from the rear panel (3).
7. Remove four screws (5), then remove the Power PC board (6).

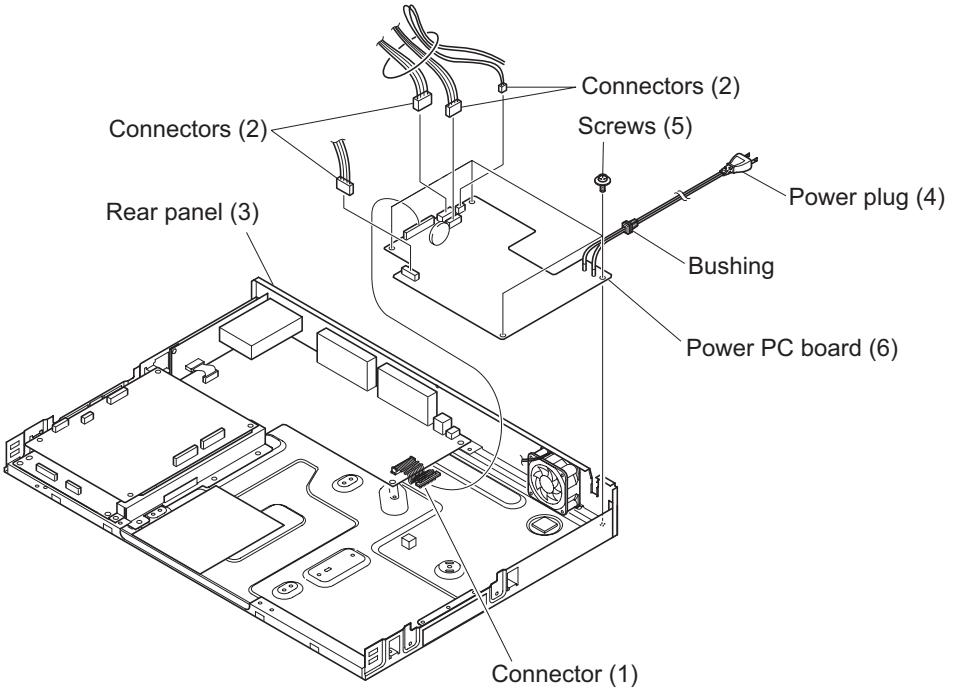


Fig. 2-1-10

1-2-5. Front (R), Front (L), and Front (Jack) PC Boards

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove the front panel. (Refer to item 1-1-3.)
3. Remove four screws (1), then remove the stay (2).
4. Remove three screws (3), then remove the Front (R) PC board (4).
5. Remove three screws (5), then remove the Front (Jack) PC board (6).
6. Remove four screws (7), then remove the Front (L) PC board (8).

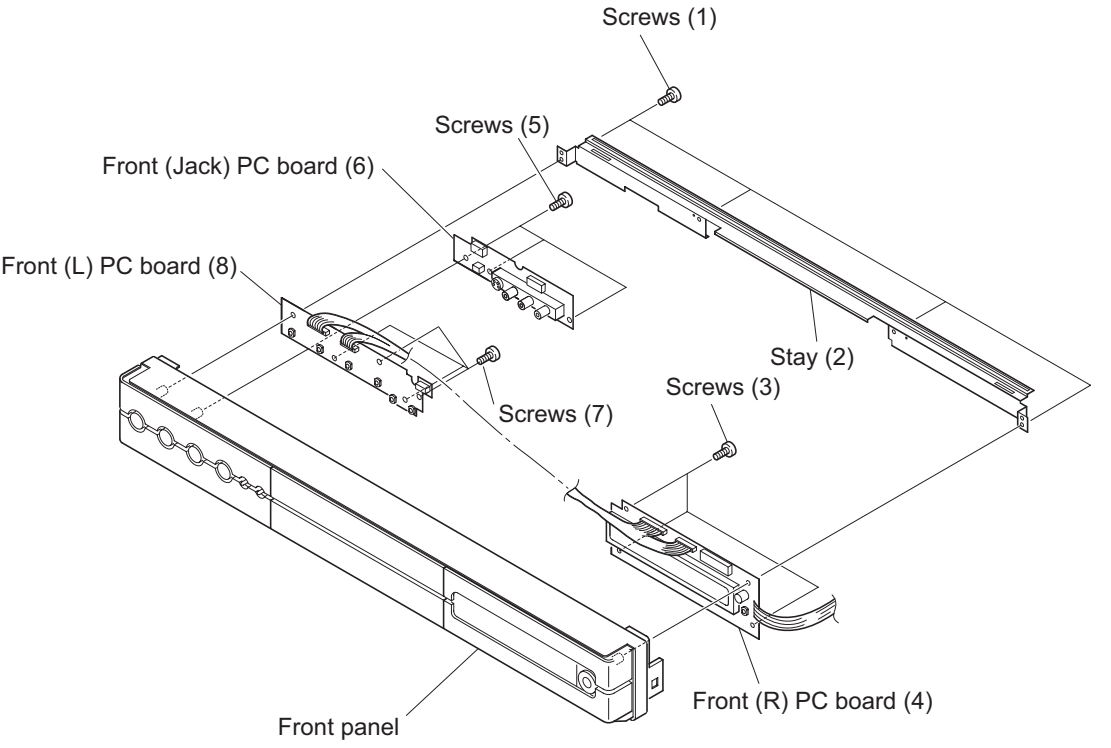


Fig. 2-1-11

2. WIRING CONNECTION DIAGRAM

After the servicing is complete, return the wiring to its original state by using the below diagram as a reference.

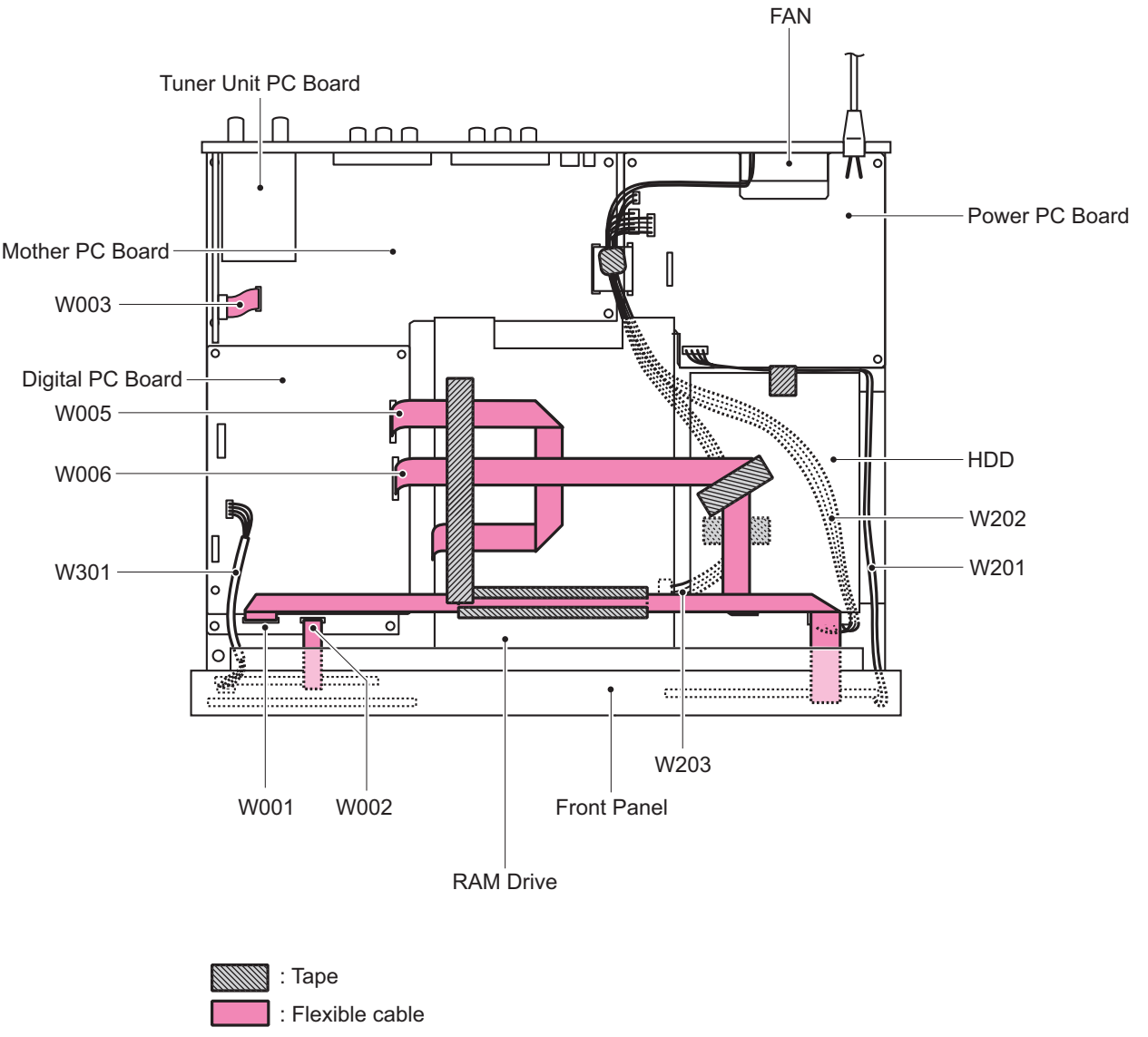


Fig. 2-2-1

SECTION 3
SERVICING DIAGRAMS

1. CIRCUIT SYMBOLS AND SUPPLEMENTARY EXPLANATION

1-1. Precautions for Part Replacement

- In the schematic diagram, parts marked ⚠ (ex. ⚠ F801) are critical part to meet the safety regulations, so always use the parts bearing specified part codes (SN) when replacing them.
- Using the parts other than those specified shall violate the regulations, and may cause troubles such as operation failures, fire etc.

1-2. Solid Resistor Indication

Unit	None .....Ω K .....kΩ M .....MΩ
Tolerance	None .....±5% B .....±0.1% C .....±0.25% D .....±0.5% F .....±1% G .....±2% K .....±10% M .....±20%
Rated Wattage	(1) Chip Parts None .....1/16W (2) Other Parts None .....1/6W Other than above, described in the Circuit Diagram.
Type	None .....Carbon film S .....Solid R .....Oxide metal film M .....Metal film W .....Cement FR .....Fusible

Eg. 1

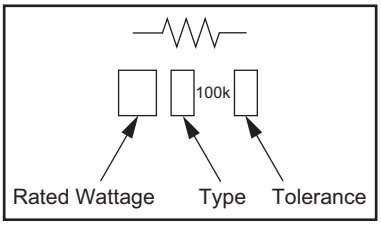


Fig. 3-1-1

1-3. Capacitance Indication

Symbol	.....Electrolytic, Special electrolytic .....Non polarity electrolytic .....Ceramic, plastic .....Film .....Trimmer
Unit	None .....F µ .....µF p .....pF
Rated voltage	None .....50V For other than 50V and electrolytic capacitors, described in the Circuit Diagram.
Tolerance	(1) Ceramic, plastic, and film capacitors of which capacitance are more than 10 pF. None .....±5% or more B .....±0.1% C .....±0.25% D .....±0.5% F .....±1% G .....±2% (2) Ceramic, plastic, and film capacitors of which capacitance are 10 pF or less. None .....more than ±5 pF B .....±0.1 pF C .....±0.25 pF (3) Electrolytic, Trimmer Tolerance is not described.
Temperature characteristic (Ceramic capacitor)	None .....SL For others, temperature characteristics are described. (For capacitors of 0.01 µF and no indications are described as F.)
Static electricity capacity (Ceramic capacitor)	Sometimes described with abbreviated letters as shown in Eg. 3.

Eg. 2

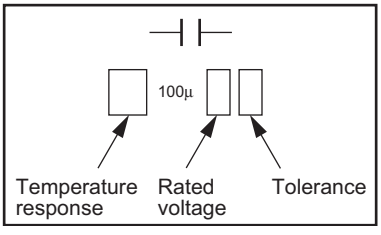


Fig. 3-1-2

Eg. 3

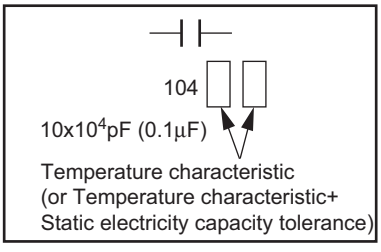


Fig. 3-1-3

1-4. Inductor Indication

Unit	None ..... H μ ..... μH m ..... mH
Tolerance	None ..... ±5% B ..... ±0.1% C ..... ±0.25% D ..... ±0.5% F ..... ±1% G ..... ±2% K ..... ±10% M ..... ±20%

Eg. 4

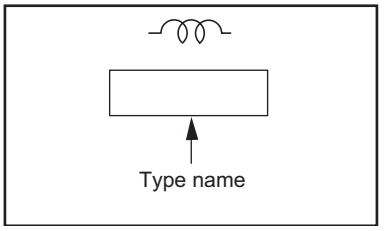


Fig. 3-1-4

1-5. Waveform and Voltage Measurement

- The waveforms for CD/DVD and RF shown in the circuit diagrams are obtained when a test disc is played back.
- All voltage values except the waveforms are expressed in DC and measured by a digital voltmeter.

Eg. 5

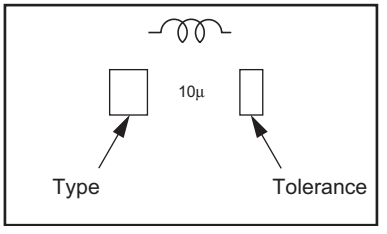
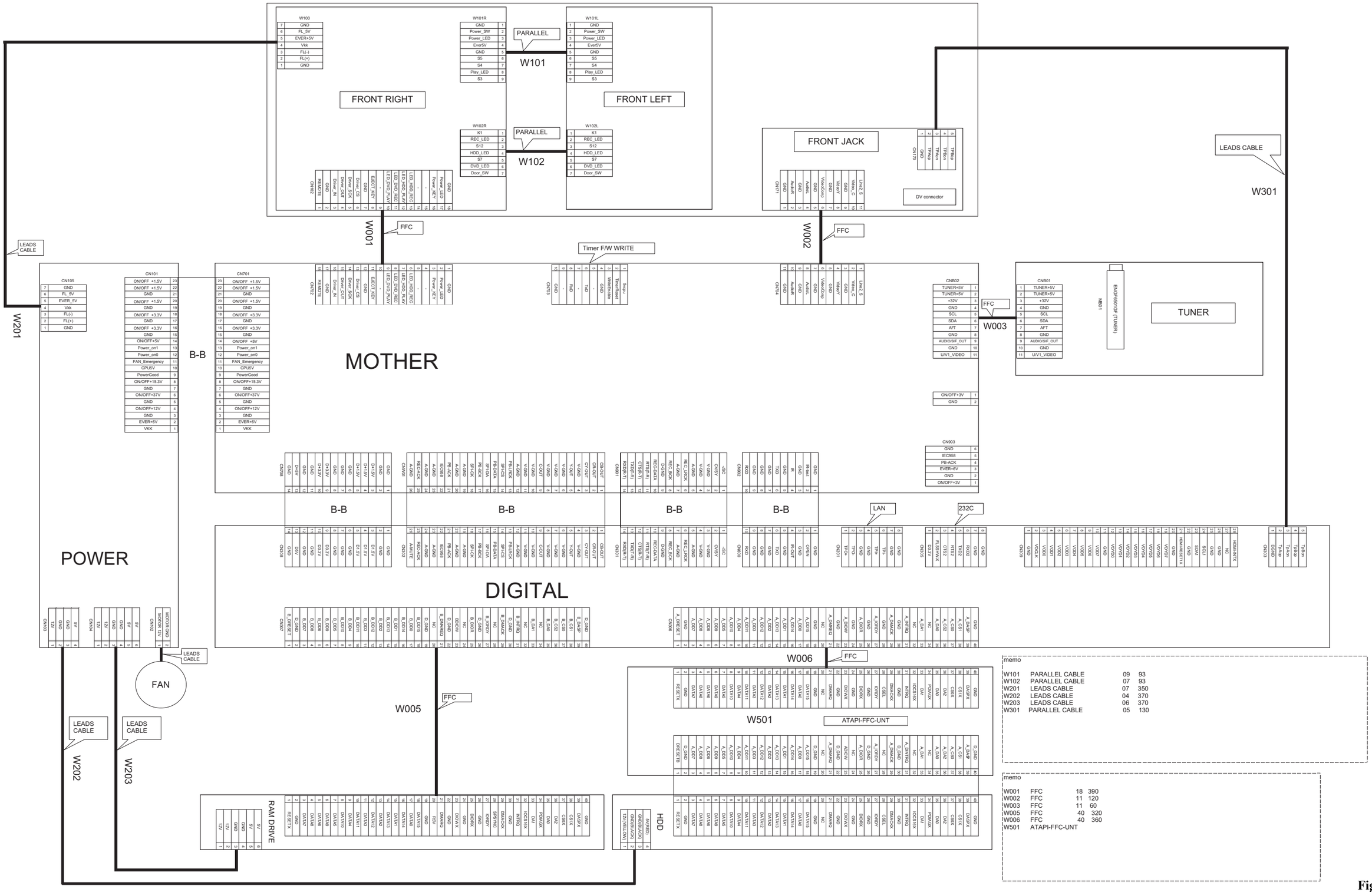


Fig. 3-1-5

1-6. Others

- The parts indicated with "NC" or "KETU" etc. are not used in the circuits of this model.

2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM



memo

W101	PARALLEL CABLE	09	93
W102	PARALLEL CABLE	07	93
W201	LEADS CABLE	07	350
W202	LEADS CABLE	04	370
W203	LEADS CABLE	06	370
W301	PARALLEL CABLE	05	130

memo

W001	FFC	18	390
W002	FFC	11	120
W003	FFC	11	60
W005	FFC	40	320
W006	FFC	40	360
W501	ATAPI-FFC-UNT		

Fig. 3-2-1

3. BLOCK DIAGRAMS

3-1. Overall Block Diagram

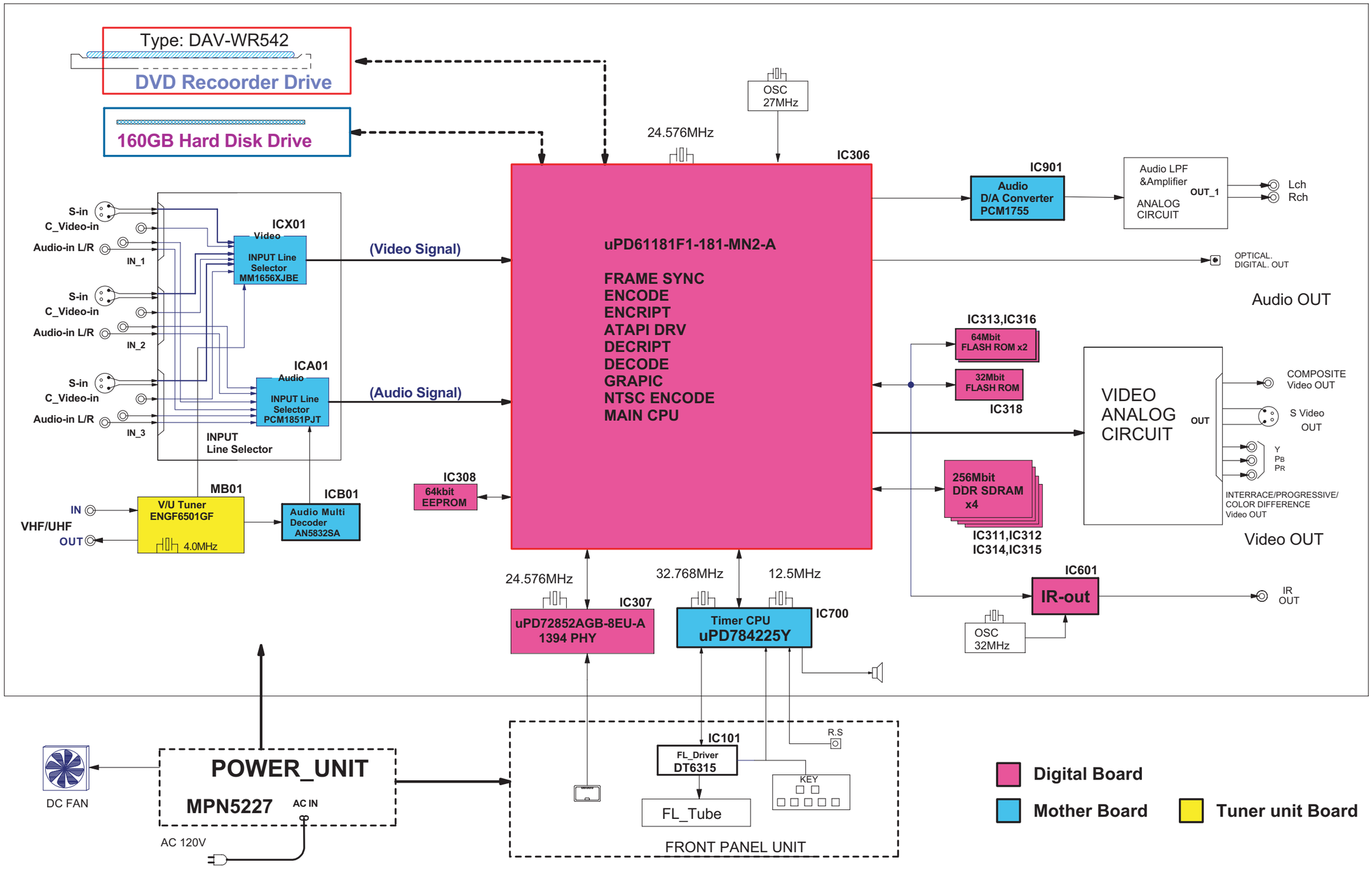


Fig. 3-3-1

4. CIRCUIT DIAGRAMS

4-1. Power Supply Circuit Diagram

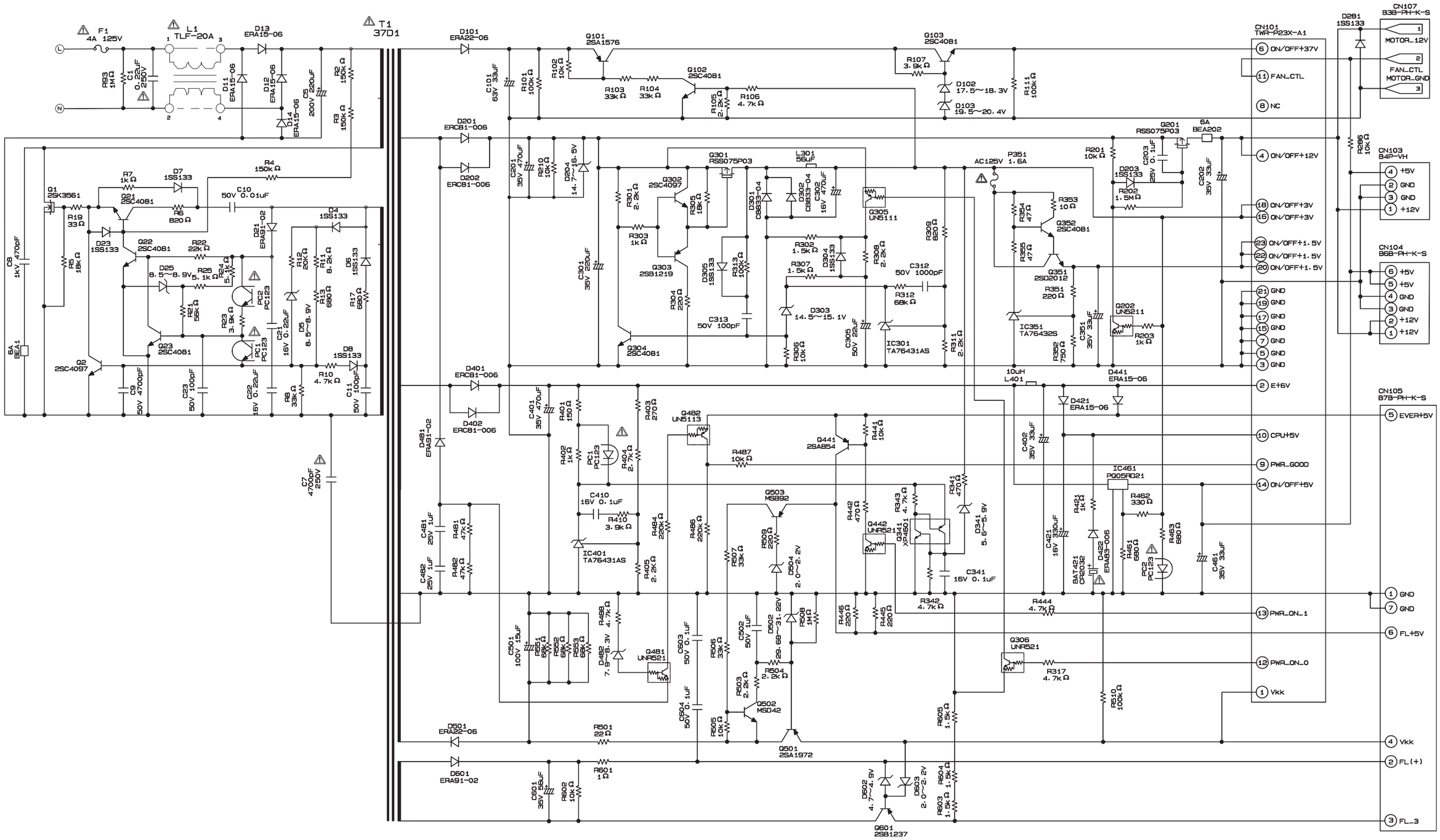


Fig. 3-4-1

4-2. Front Circuit Diagram

4-2-1. Front Circuit Diagram (L/R)

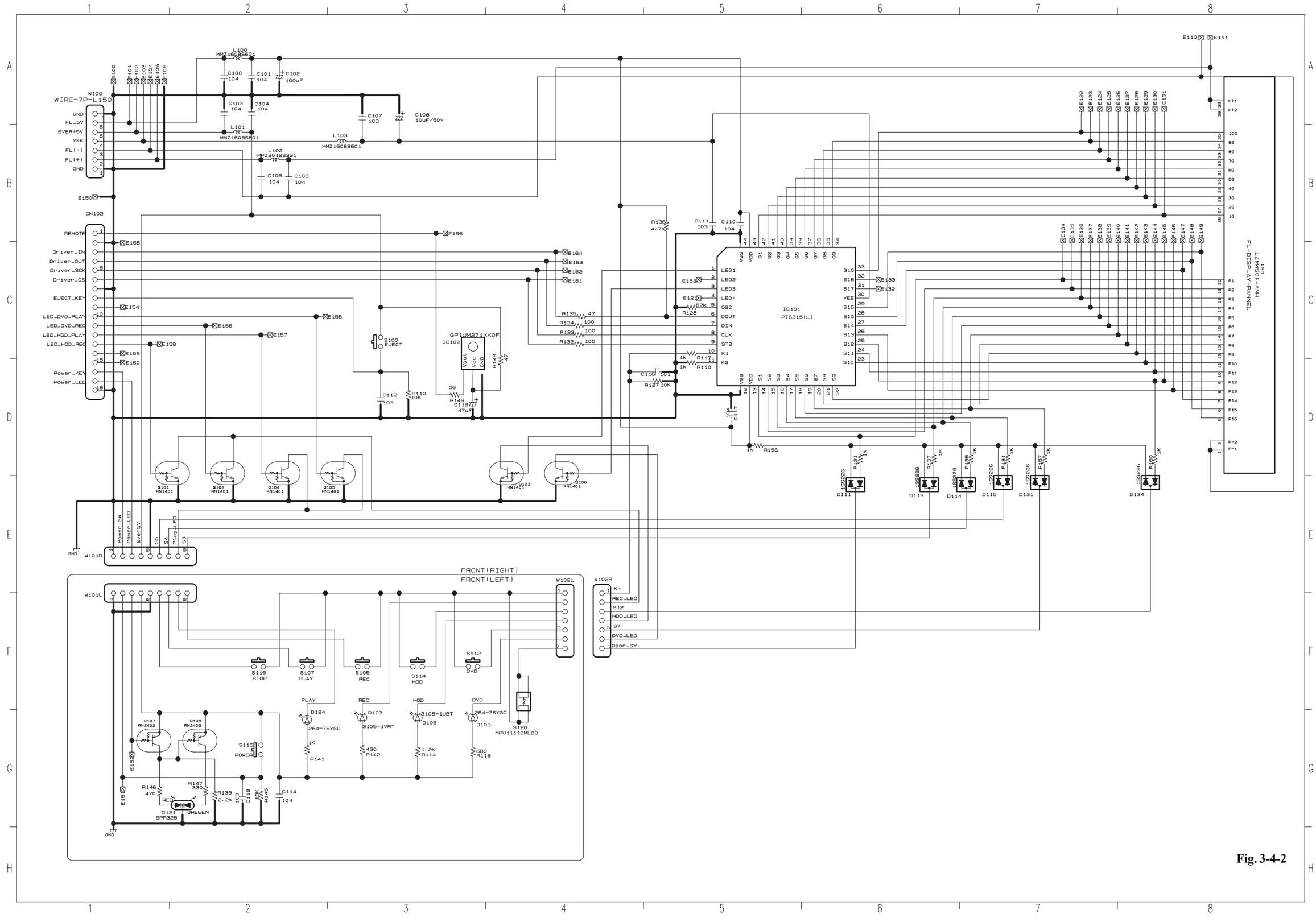


Fig. 3-4-2

4-2-2. Front Jack Circuit Diagram

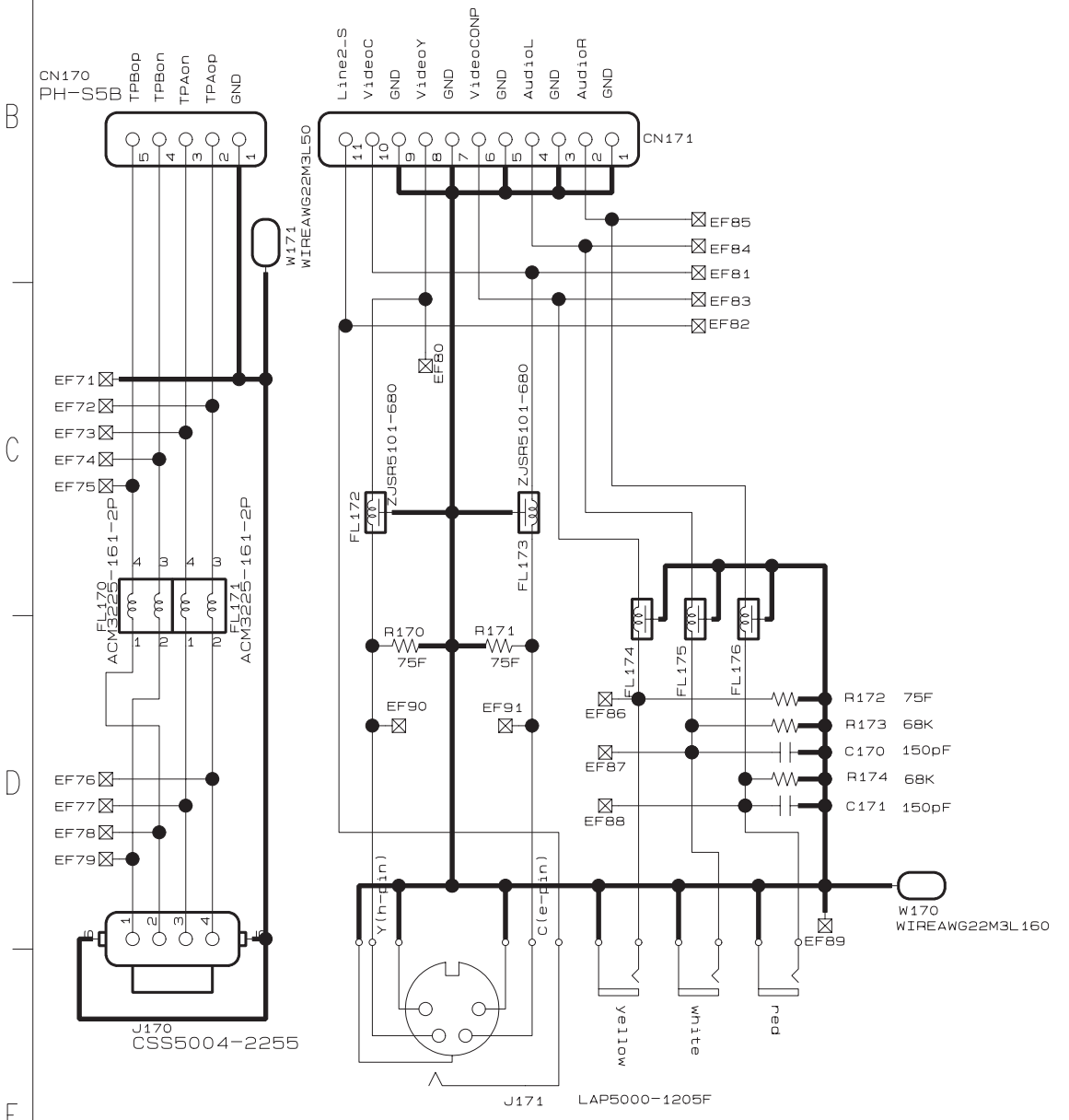


Fig. 3-4-3

4-3. Digital Circuit Diagram

4-3-1. Digital 1 Circuit Diagram

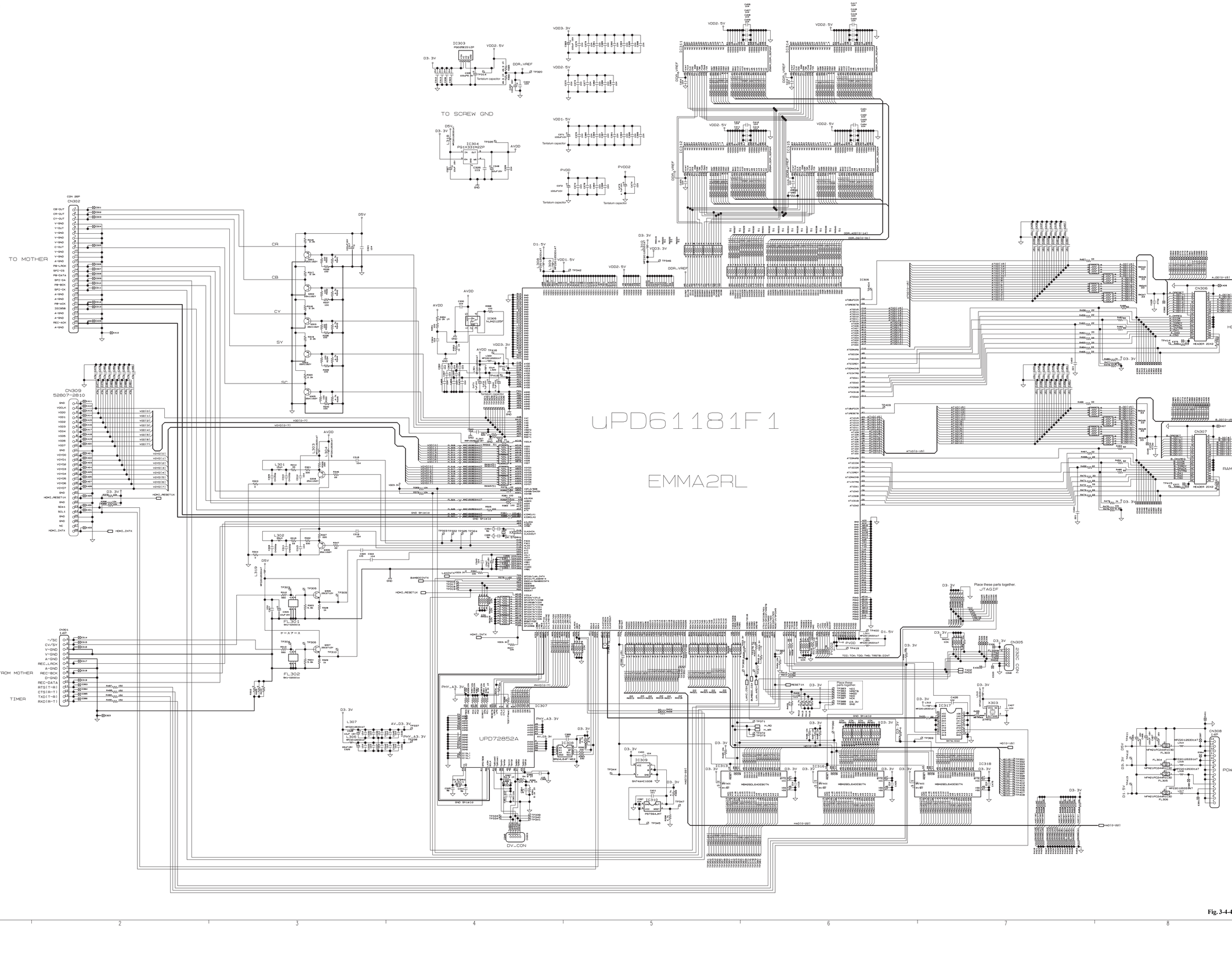
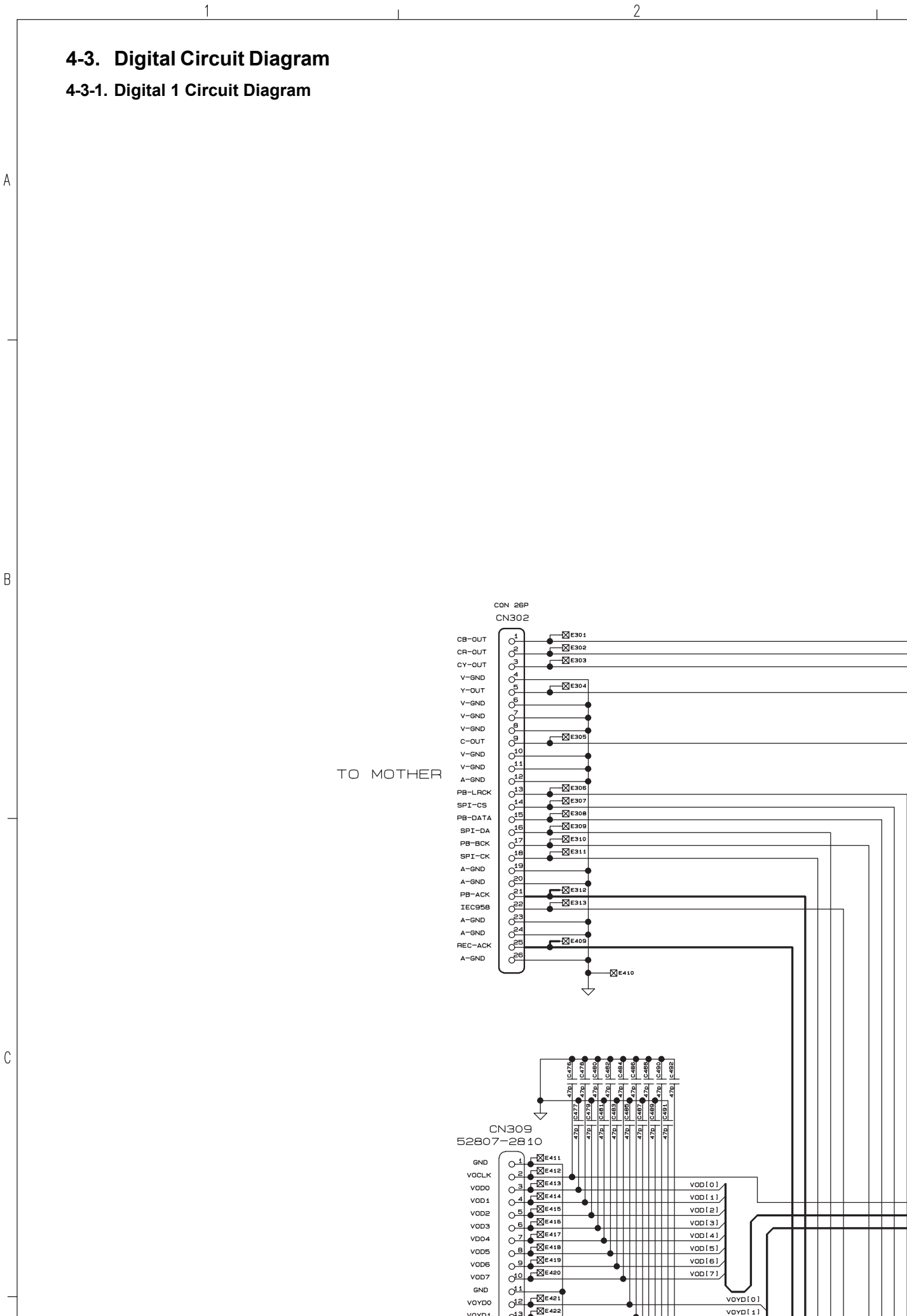
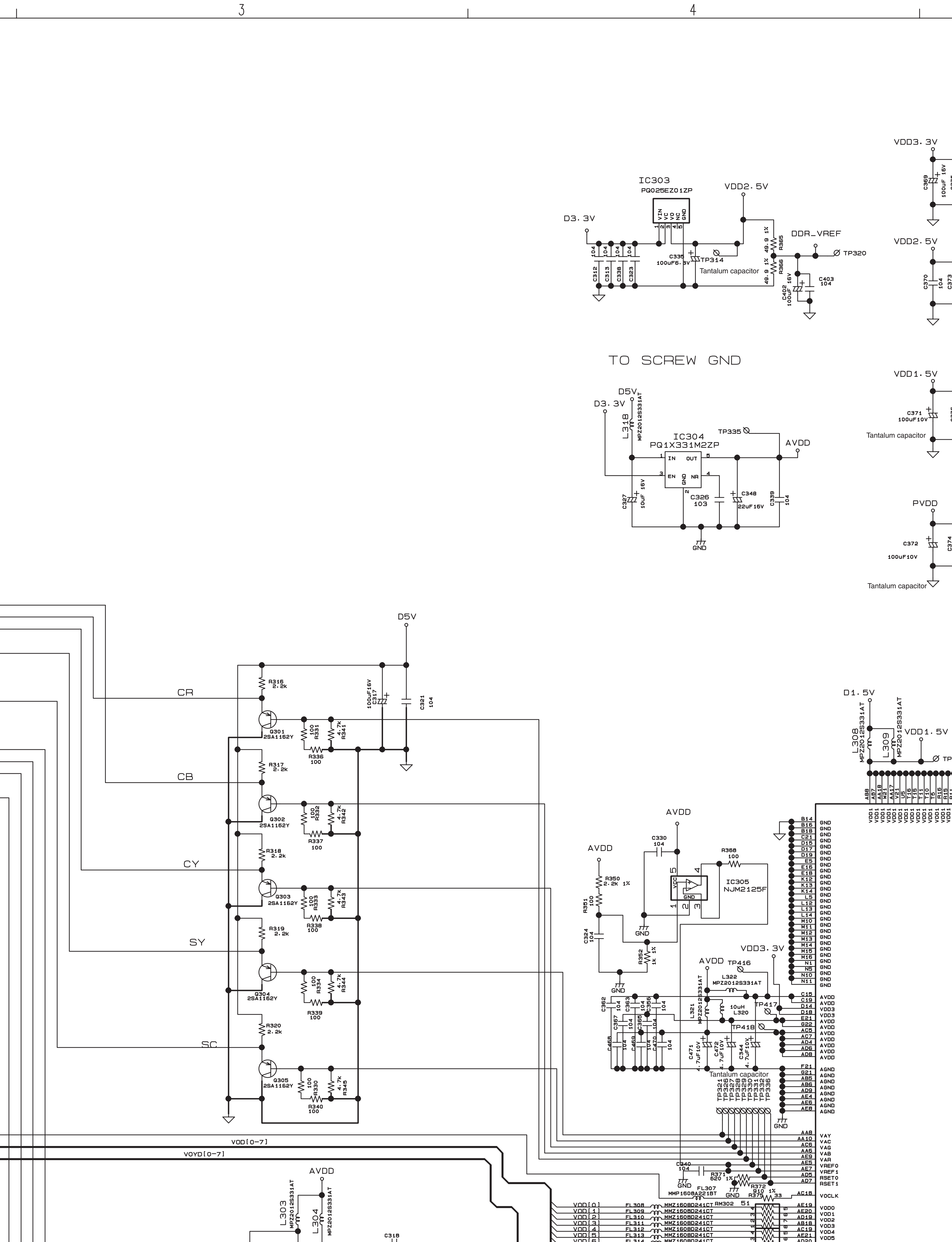


Fig. 3-4-4

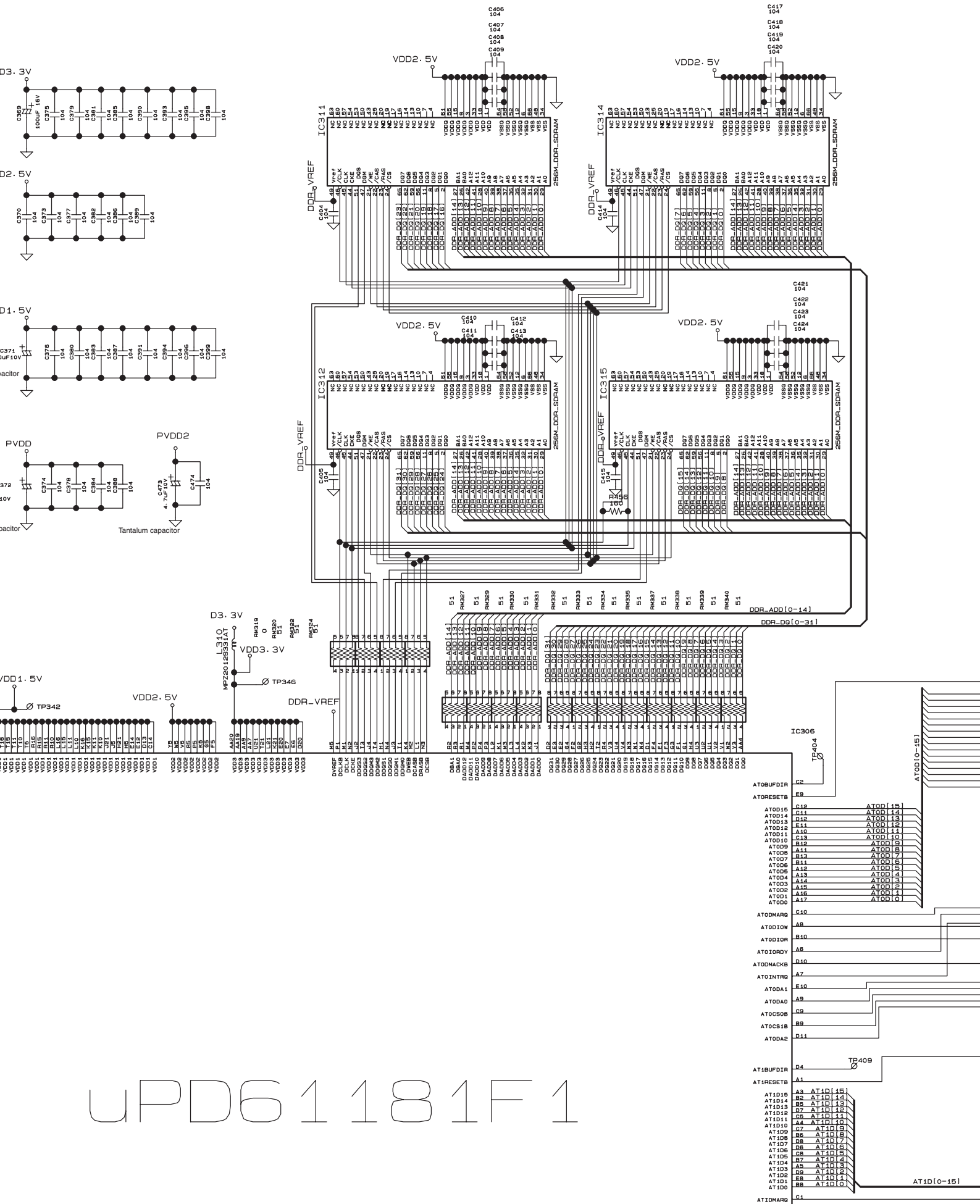
4-3. Digital Circuit Diagram

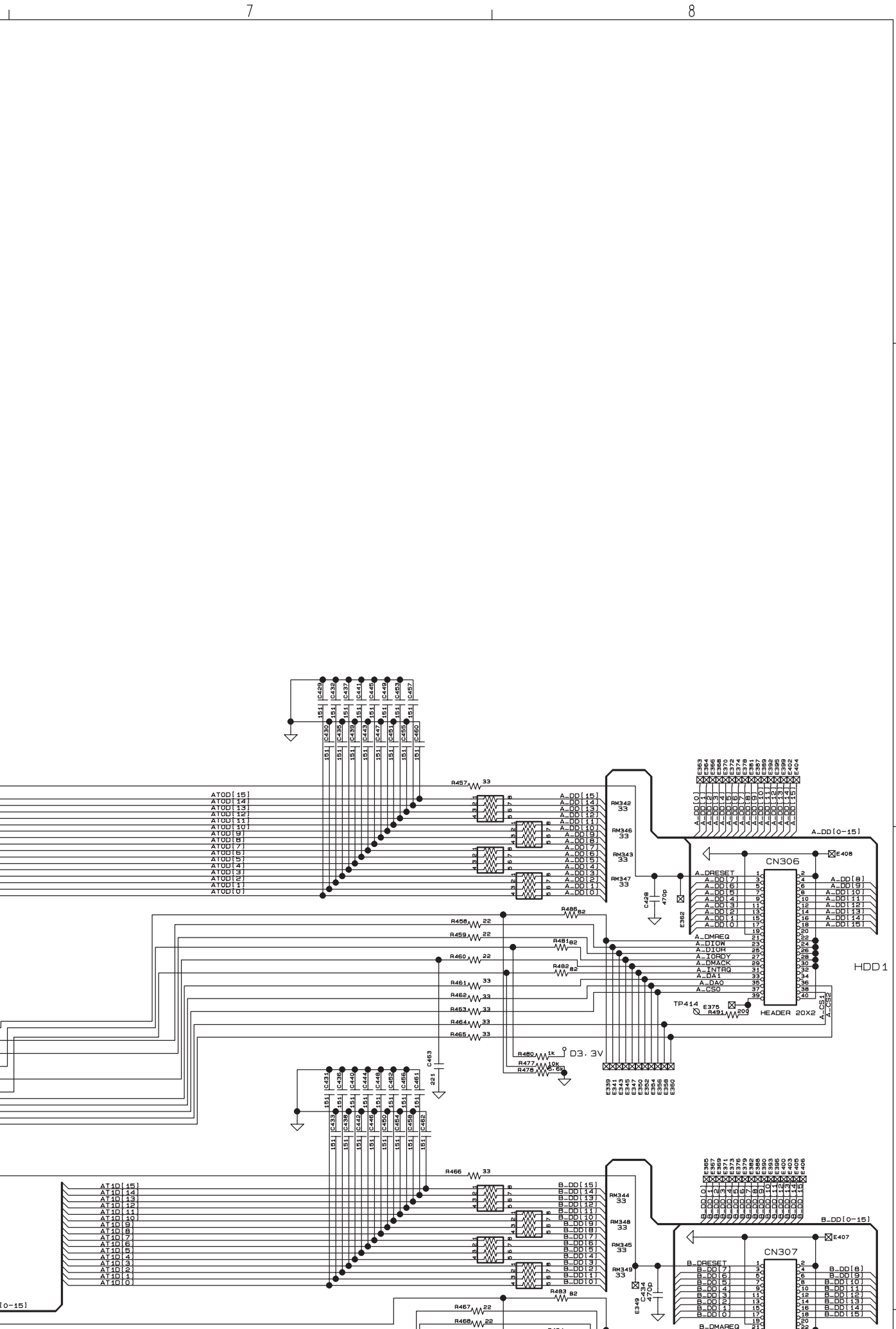
4-3-1. Digital 1 Circuit Diagram

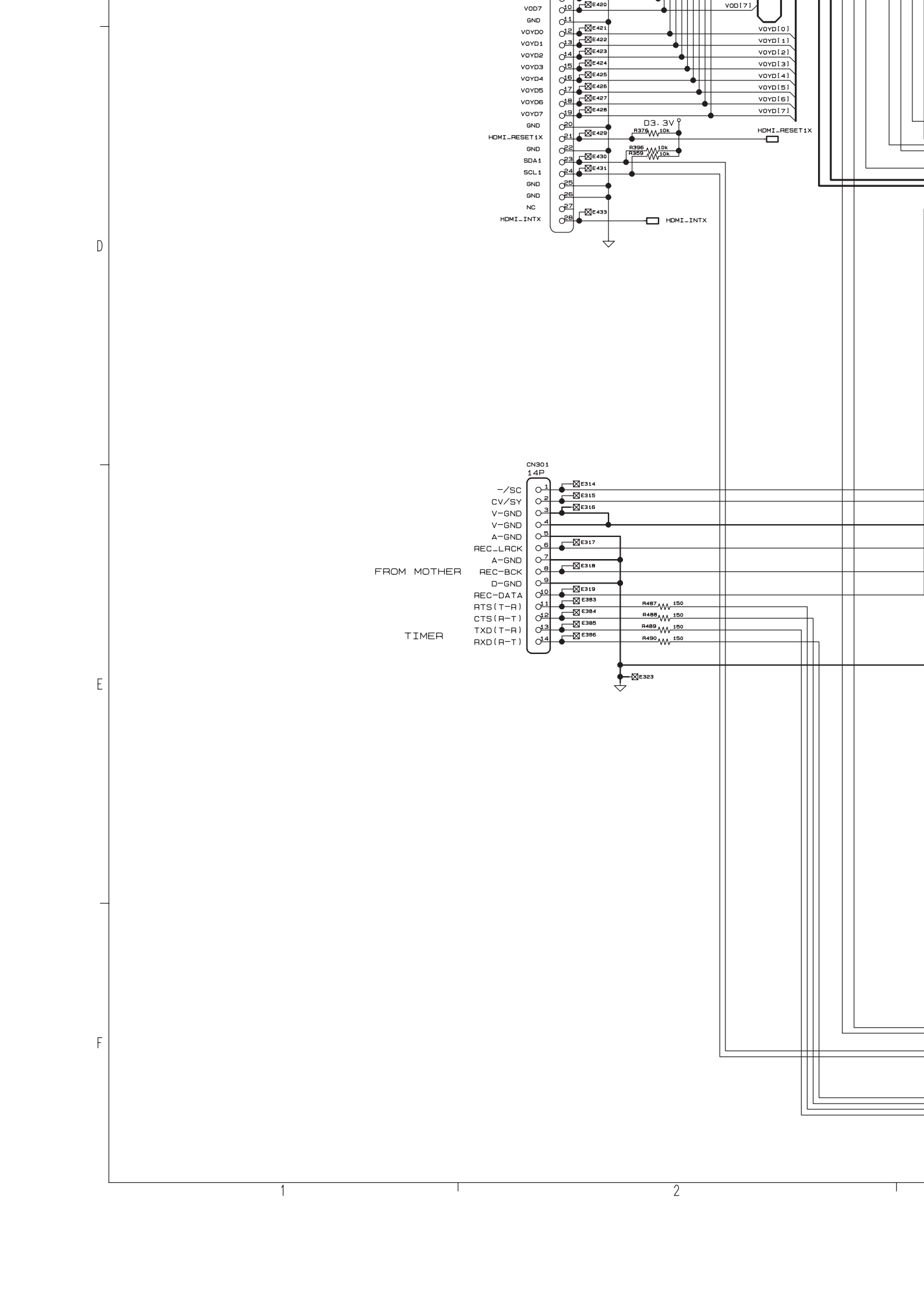


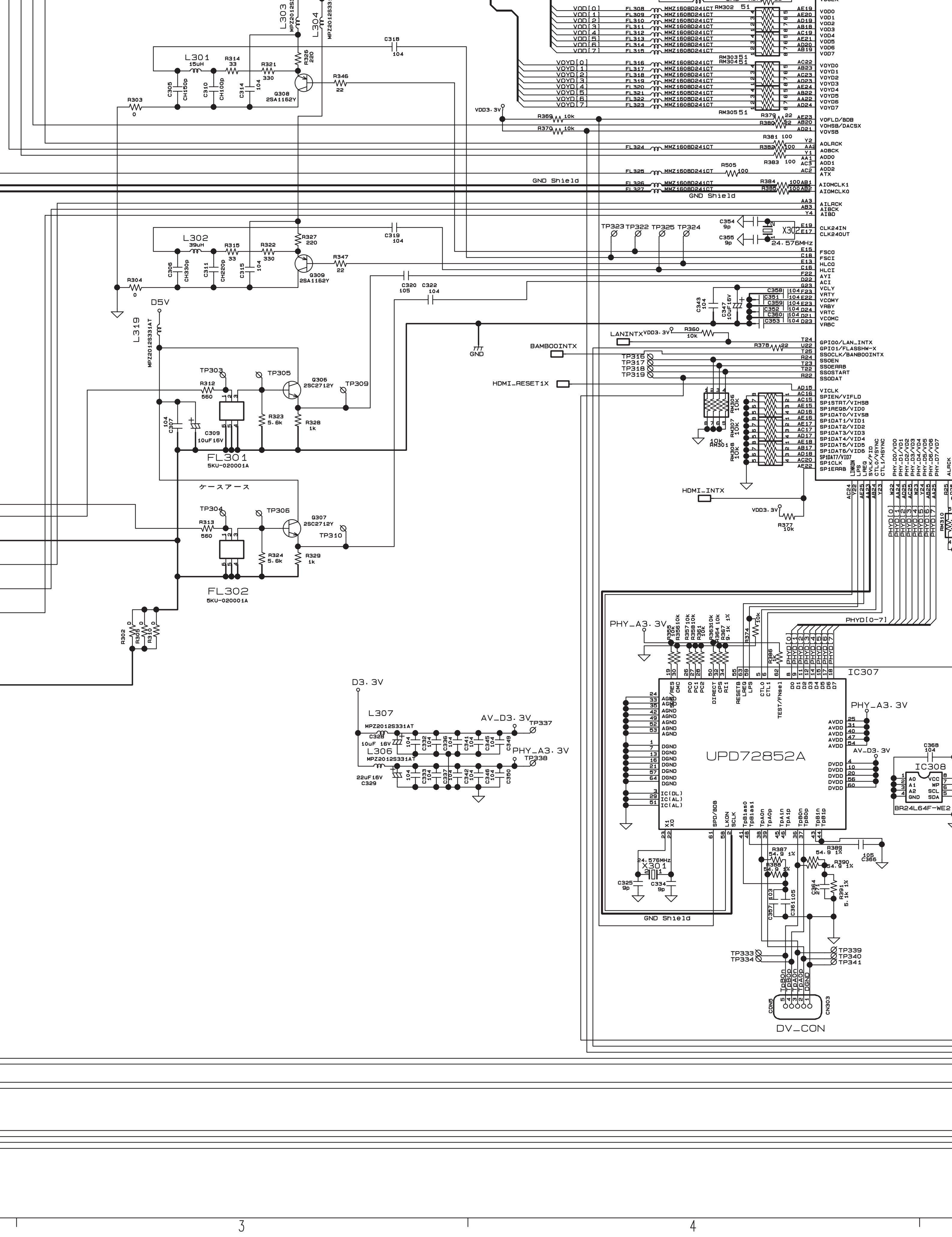


3
4
IC303
PQ025EZ01ZP
VDD2.5V
D3.3V
DDR_VREF
TP320
TP314
Tantalum capacitor
VDD3.3V
VDD2.5V
TO SCREW GND
D5V
D3.3V
L318
IC304
PQ1X331M2ZP
TP335
AVDD
C326
103
C348
22uF16V
GND
VDD1.5V
Tantalum capacitor
PVDD
Tantalum capacitor
D5V
CR
CB
CY
SY
SC
Q301
2SA1162Y
Q302
2SA1162Y
Q303
2SA1162Y
Q304
2SA1162Y
Q305
2SA1162Y
D1.5V
L308
L309
VDD1.5V
AVDD
AVDD
IC305
NJM2125F
VDD3.3V
AVDD
TP416
L322
MPZ2012S331AT
TP417
TP418
L320
Tantalum capacitor
VOD[0-7]
VOYD[0-7]
AVDD
L303
L304
FL307
RM302


VDD2.5V
VDD3.3V
VDD1.5V
PVDD
PVDD2
IC311
IC312
IC314
IC315
256M_DDR_SDRAM
DDR_VREF
DDR_ADD[0-14]
DDR_DQ[0-31]
IC306
ATODBUFDIR
ATORESETB
ATODMARQ
ATODIOW
ATODIOR
ATOIORDY
ATODMACKB
ATOINTRQ
ATODA1
ATODA0
ATOCS0B
ATOCS1B
ATODA2
AT1BUFDIR
AT1RESETB
AT1DIDMARQ
ATOD[0-15]
AT1D[0-15]
TP342
TP346
TP404
TP409
Tantalum capacitor
uPD61181F1

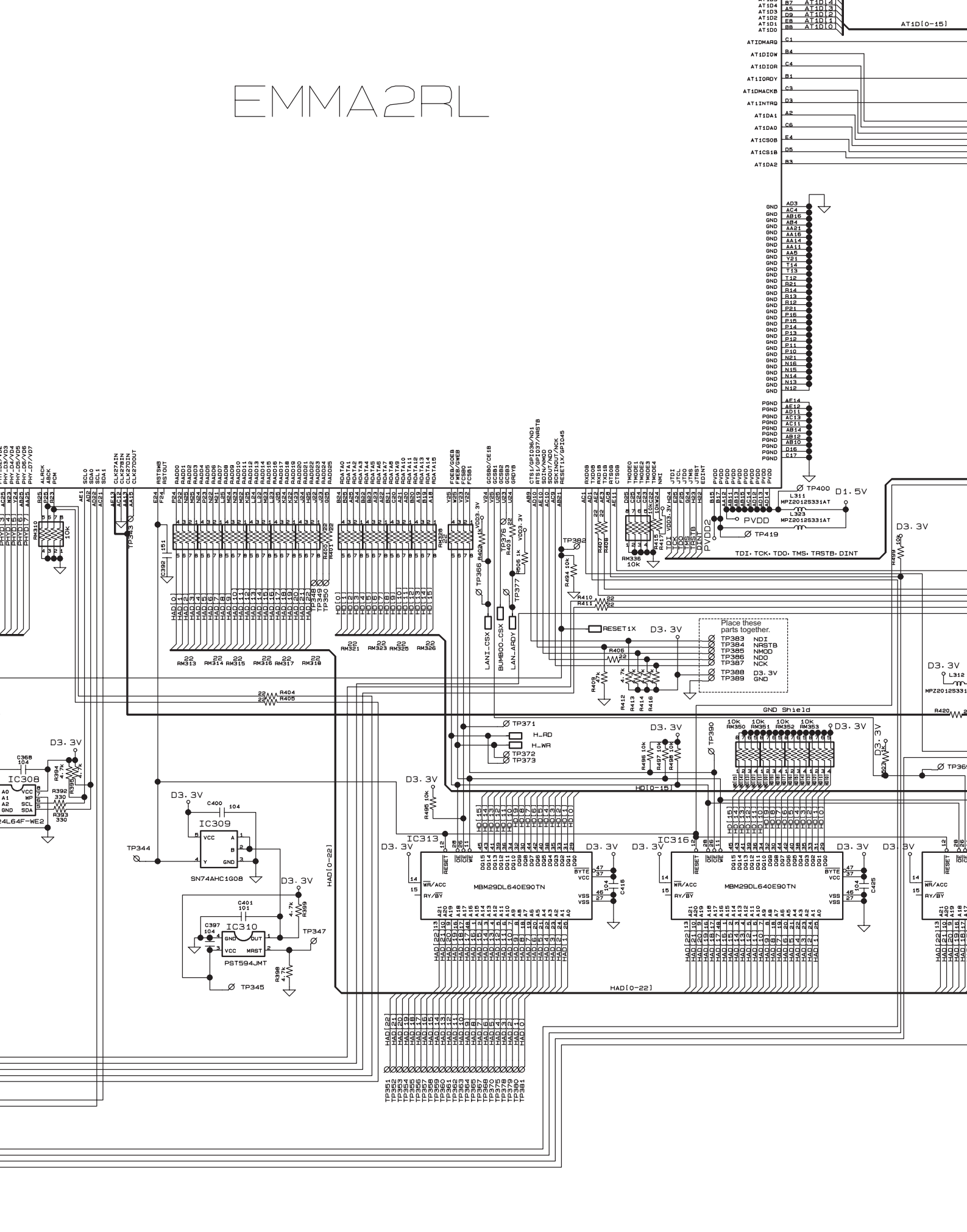

7
8
A
B
C
HDD1
CN306
CN307
HEADER 20X2
D3.3V
A_DD[0-15]
B_DD[0-15]
ATOD[15]
ATOD[14]
ATOD[13]
ATOD[12]
ATOD[11]
ATOD[10]
ATOD[9]
ATOD[8]
ATOD[7]
ATOD[6]
ATOD[5]
ATOD[4]
ATOD[3]
ATOD[2]
ATOD[1]
ATOD[0]
AT1D[15]
AT1D[14]
AT1D[13]
AT1D[12]
AT1D[11]
AT1D[10]
AT1D[9]
AT1D[8]
AT1D[7]
AT1D[6]
AT1D[5]
AT1D[4]
AT1D[3]
AT1D[2]
AT1D[1]
AT1D[0]
A_DRESET
A_DMREQ
A_DIOW
A_DIOR
A_IORDY
A_DMACK
A_INTRQ
A_DA1
A_DA0
A_CS0
A_CS1
A_CS2
B_DRESET
B_DMAREQ
TP414
E375
E407
E408
R457
R458
R459
R460
R461
R462
R463
R464
R465
R466
R467
R468
R477
R478
R480
R481
R482
R483
R486
R491
RM342
RM343
RM344
RM345
RM346
RM347
RM348
RM349
C428
C434
C463
470p
221
33
22
82
1k
10k
6.8k
200


VOD7
GND
VOYD0
VOYD1
VOYD2
VOYD3
VOYD4
VOYD5
VOYD6
VOYD7
GND
HDMI_RESET1X
GND
SDA1
SCL1
GND
GND
NC
HDMI_INTX
E420
E421
E422
E423
E424
E425
E426
E427
E428
E429
E430
E431
E433
VOD[7]
VOYD[0]
VOYD[1]
VOYD[2]
VOYD[3]
VOYD[4]
VOYD[5]
VOYD[6]
VOYD[7]
D3.3V
R375 10k
R396 10k
R359 10k
HDMI_RESET1X
HDMI_INTX
CN301
14P
-/SC
CV/SY
V-GND
V-GND
A-GND
REC_LACK
A-GND
REC-BCK
D-GND
REC-DATA
RTS(T-R)
CTS(R-T)
TXD(T-R)
RXD(R-T)
E314
E315
E316
E317
E318
E319
E383
E384
E385
E386
E323
R487 150
R488 150
R489 150
R490 150
FROM MOTHER
TIMER
D
E
F
1
2



L301
15uH
L302
39uH
L303
L304
R303
R304
Q308
2SA1162Y
Q309
2SA1162Y
D5V
L319
MPZ2012S331AT
TP303
TP304
TP305
TP306
TP309
TP310
Q306
2SC2712Y
Q307
2SC2712Y
FL301
5KU-020001A
FL302
5KU-020001A
ケースアース
GND
GND Shield
VDD3.3V
LANINTX
BAMBOOINTX
HDMI_RESET1X
HDMI_INTX
X302
24.576MHz
D3.3V
L307
L306
MPZ2012S331AT
AV_D3.3V
PHY_A3.3V
TP337
TP338
UPD72852A
IC307
IC308
BR24L64F-WE2
X301
24.576MHz
PHYD[0-7]
DV_CON
CN303
MMZ1608D241CT
3
4

EMMA2RL


AT1D[0-15]
PVDD
D1.5V
D3.3V
TDI, TCK, TDO, TMS, TRSTB, DINT
Place these parts together.
TP383 NDI
TP384 NRSTB
TP385 NMOD
TP386 NDO
TP387 NCK
TP388 D3.3V
TP389 GND
RESET1X
LANI_CSX
BUMBOO_CSX
LAN_ARDY
H_RD
H_WR
GND Shield
HD[0-15]
HAD[0-22]
IC308
IC309
IC310
IC313
IC316
SN74AHC1G08
PST594JMT
MBM29DL640E90TN

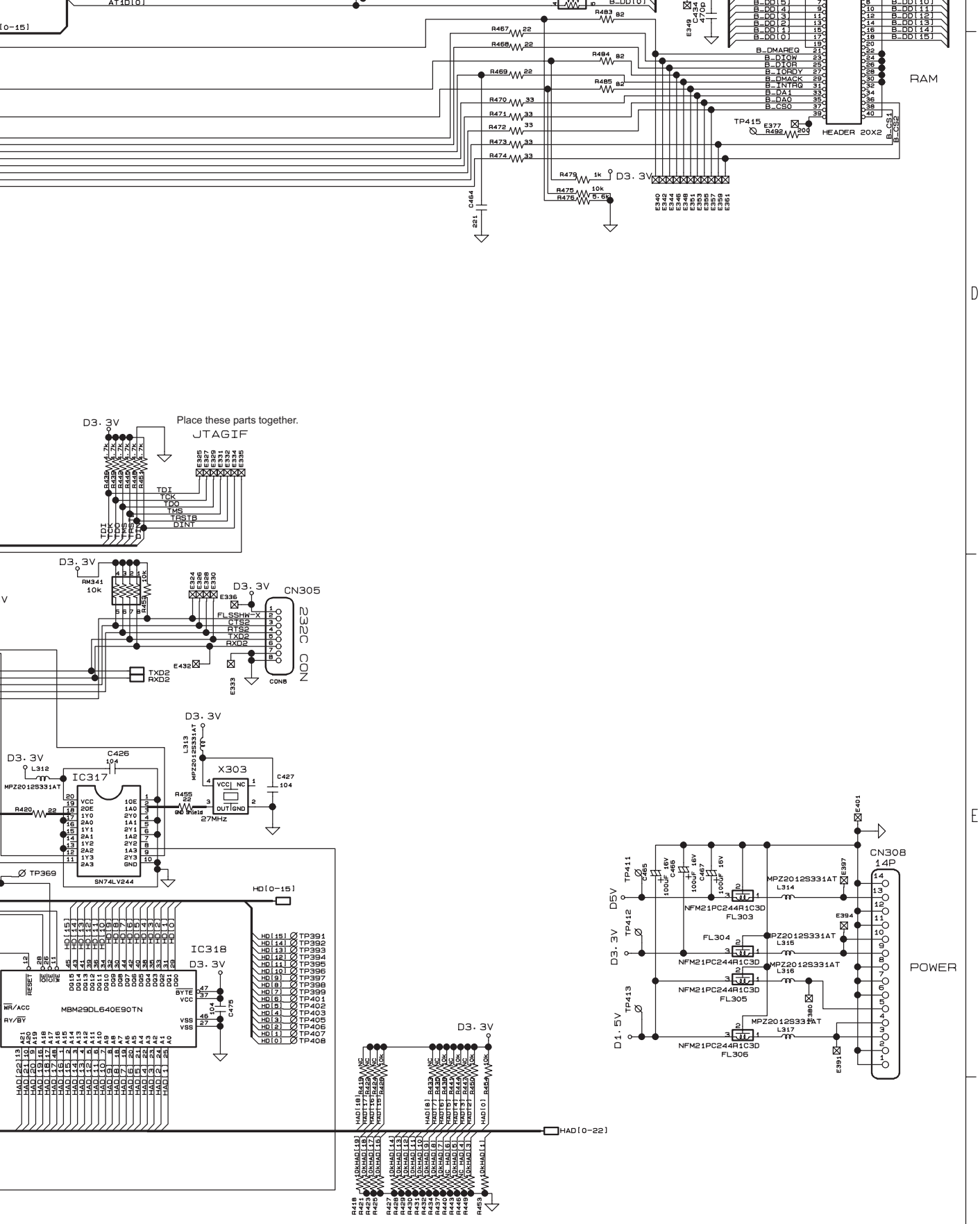

RAM
HEADER 20X2
Place these parts together.
JTAGIF
TDI
TCK
TDO
TMS
TRSTB
DINT
CN305
CON8
FLSSHW_X
CTS2
RTS2
TXD2
RXD2
IC317
SN74LV244
X303
27MHz
IC318
MBM29DL640E90TN
HD[0-15]
HAD[0-22]
CN308
14P
POWER
NFM21PC244R1C3D
MPZ2012S331AT

Fig. 3-4-4

4-3-2. Digital 2 Circuit Diagram

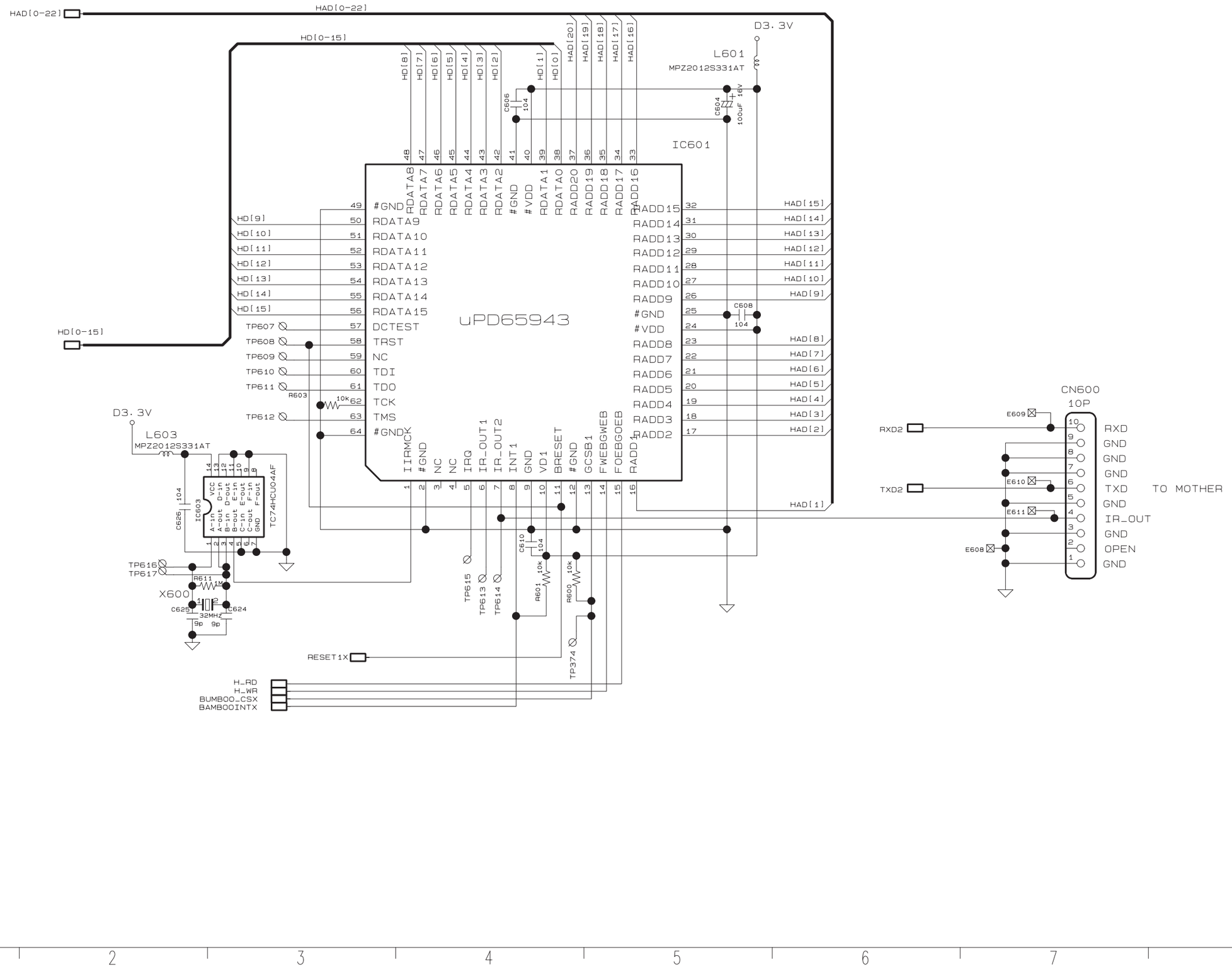


Fig. 3-4-5

4-4. Mother Circuit Diagram

4-4-1. Tuner Circuit Diagram

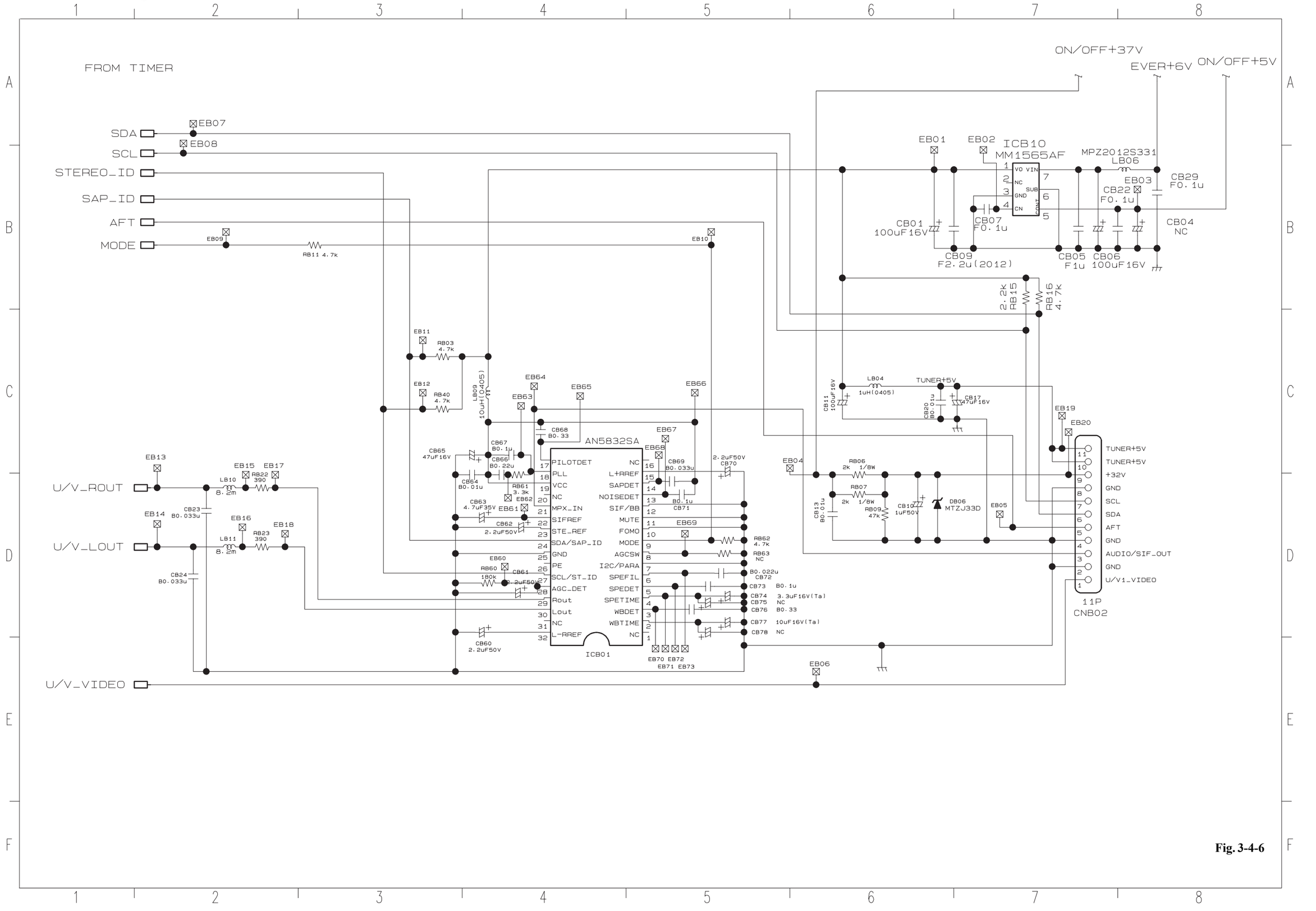


Fig. 3-4-6

4-4-2. Audio Circuit Diagram

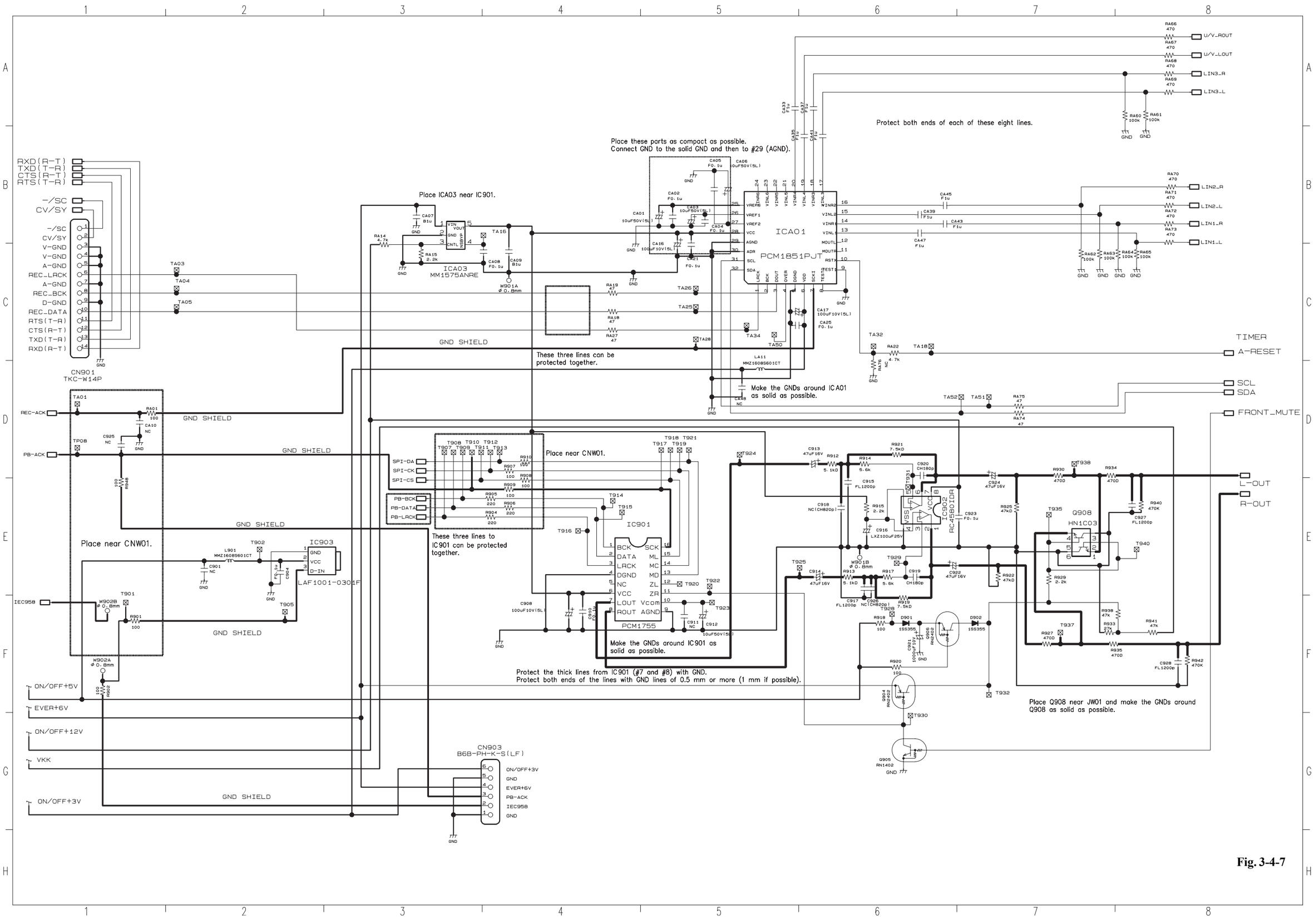


Fig. 3-4-7

4-4-3. Timer Circuit Diagram

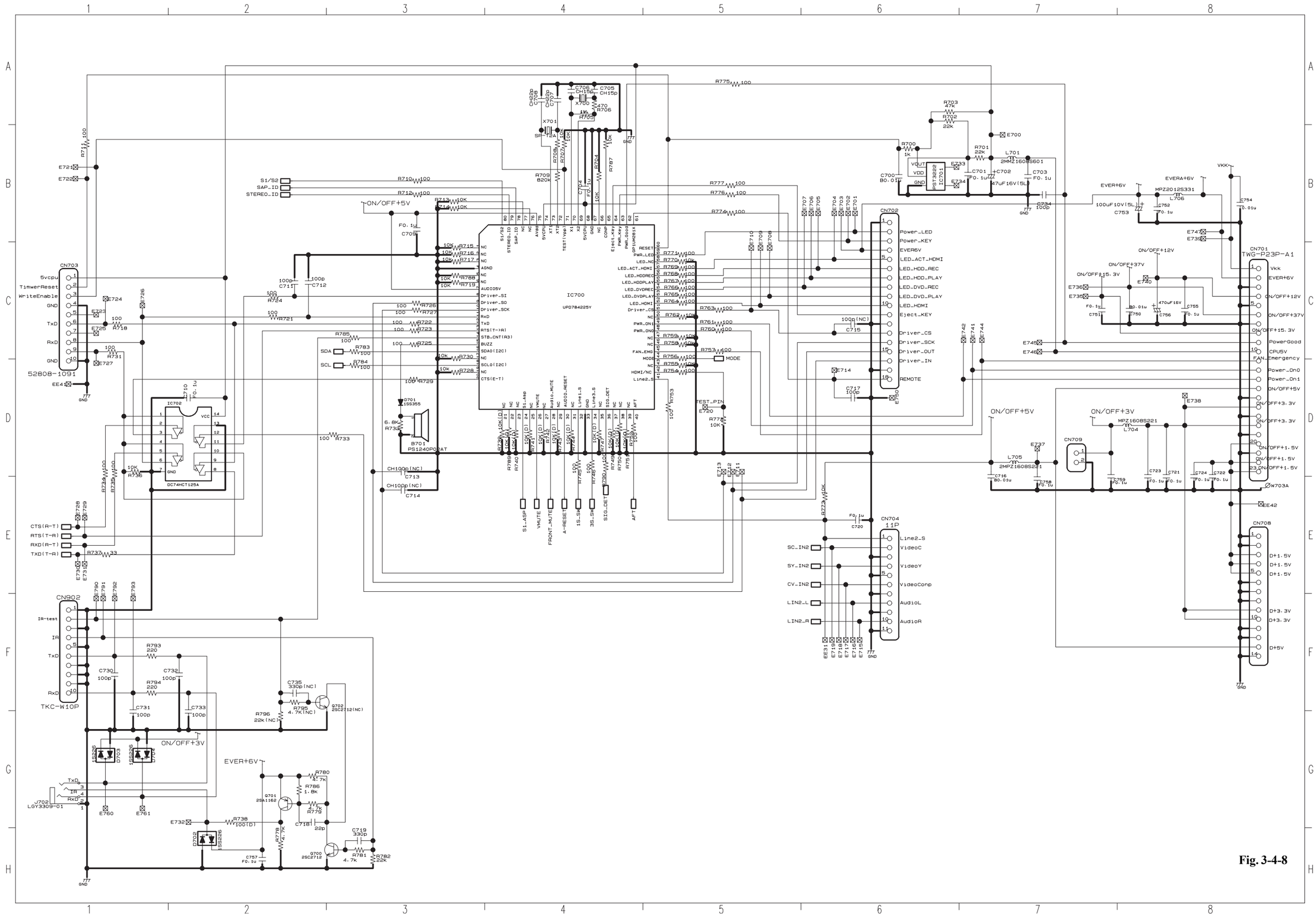


Fig. 3-4-8

4-4-4. Video Circuit Diagram

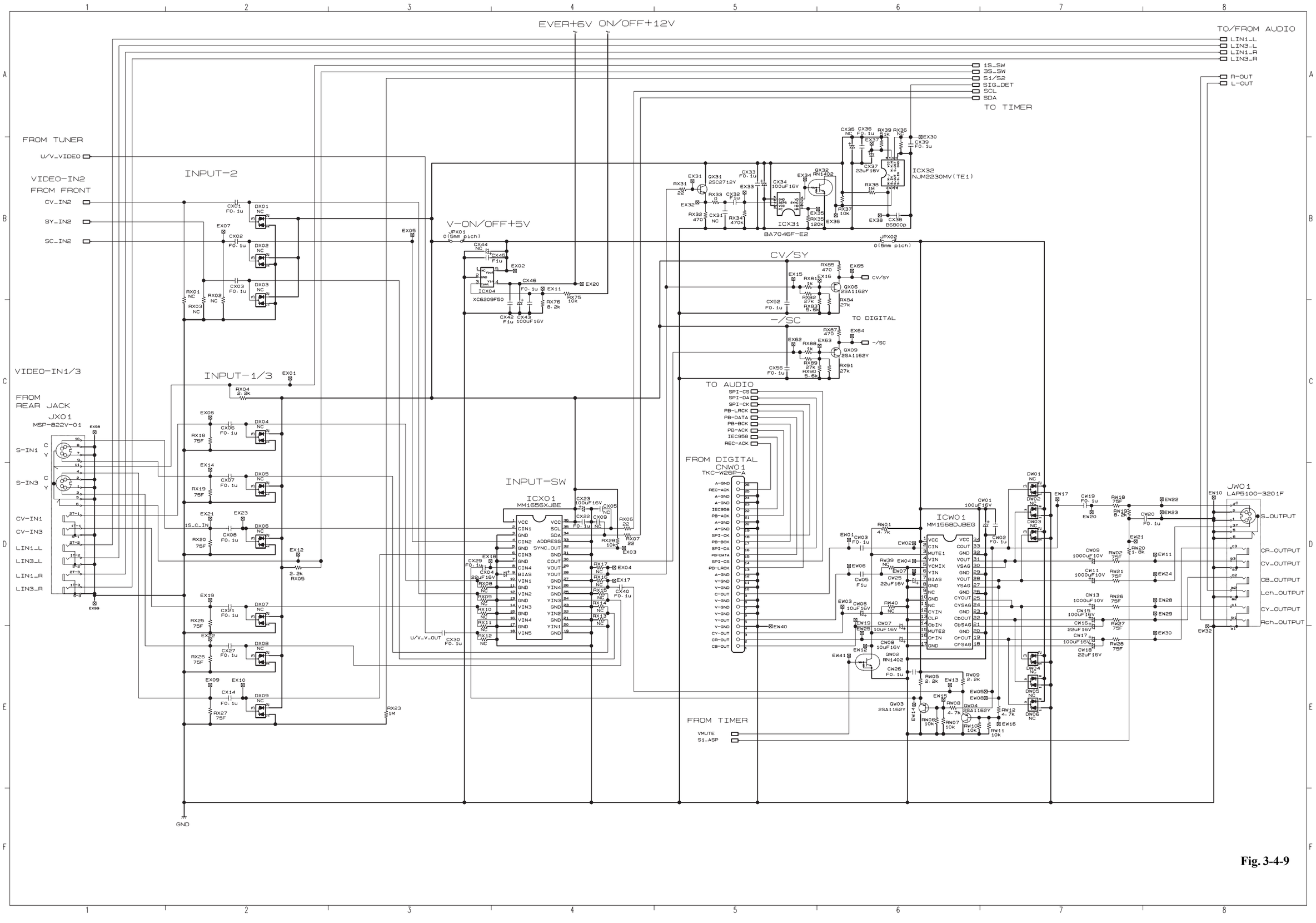


Fig. 3-4-9

4-5. Tuner Unit Circuit Diagram

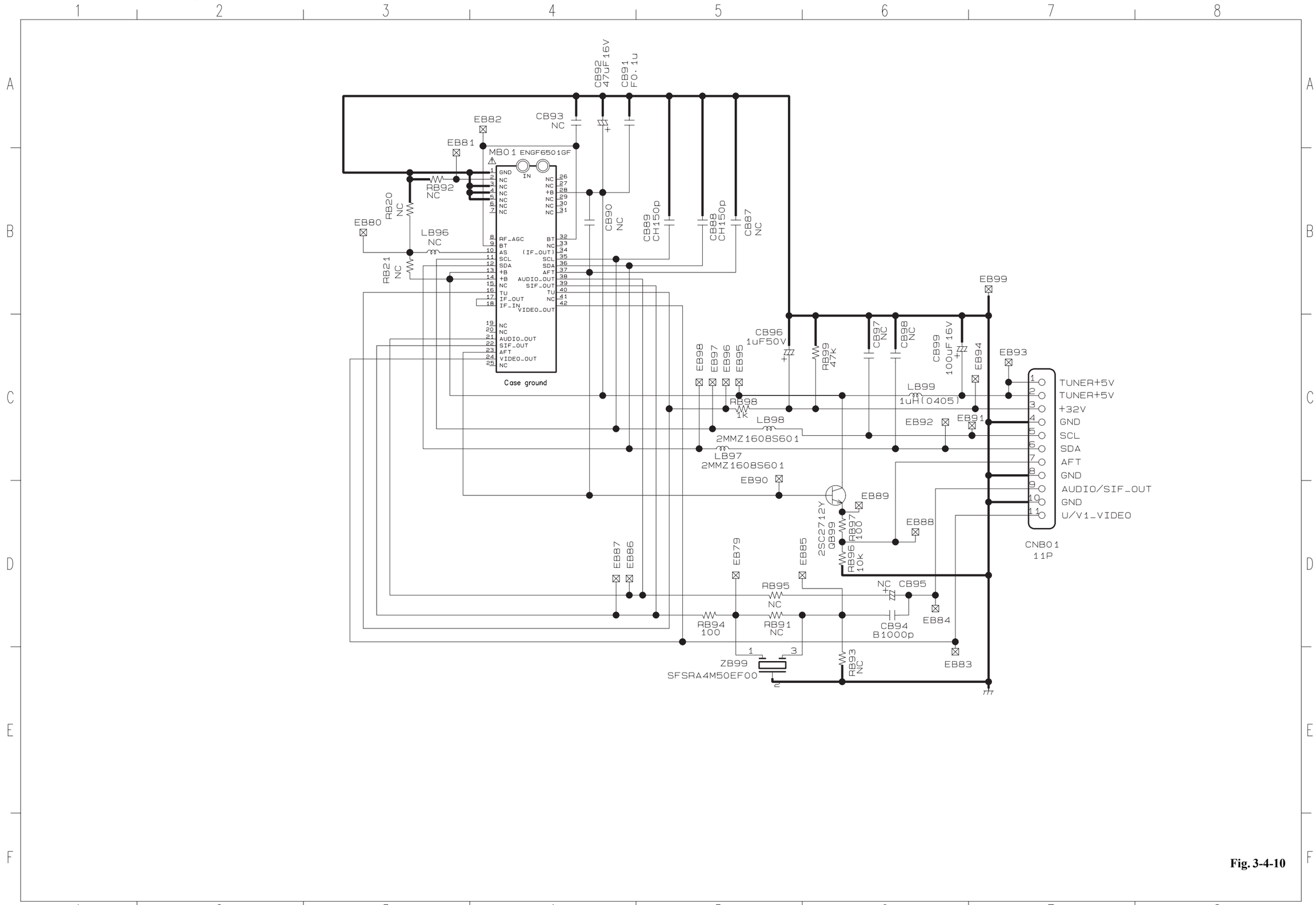


Fig. 3-4-10

5. PC BOARDS

5-1. Front Jack PC Board

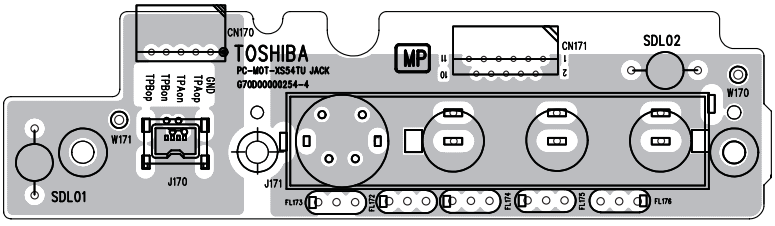


Fig. 3-5-1 EU55 Front Jack PC Board (Top side)

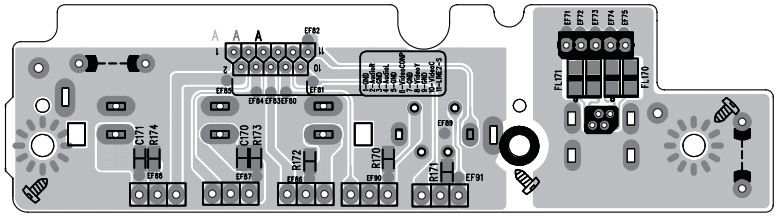


Fig. 3-5-2 EU55 Front Jack PC Board (Bottom side)

5-2. Front (L) PC Board

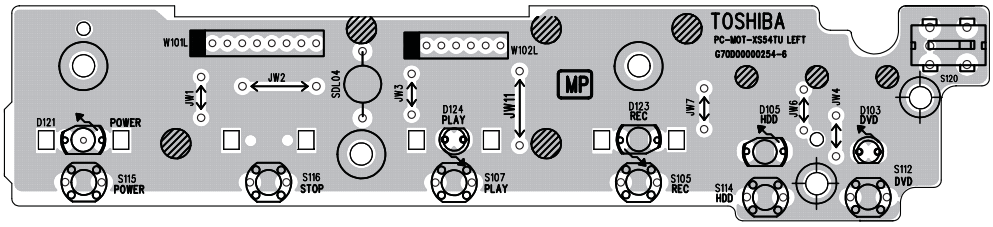


Fig. 3-5-3 EU03B Front (L) PC Board (Top side)

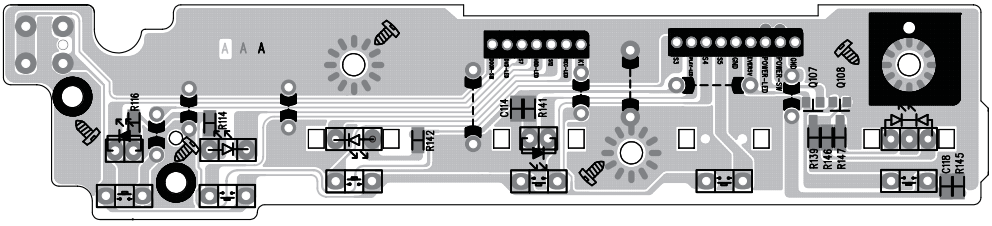


Fig. 3-5-4 EU03B Front (L) PC Board (Bottom side)

5-3. Front (R) PC Board

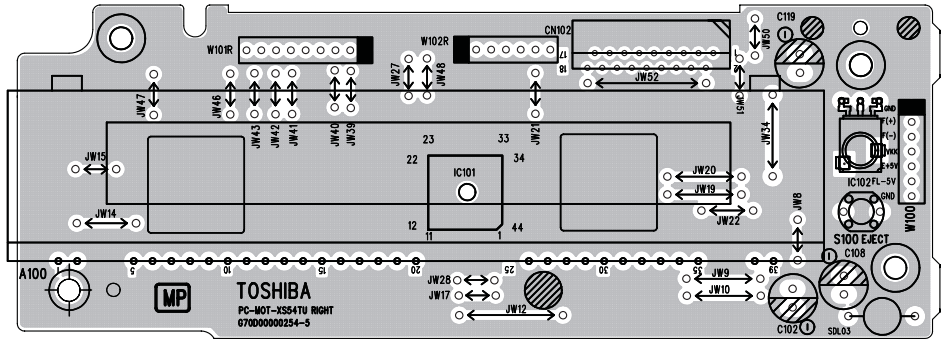


Fig. 3-5-5 EU03A Front (R) PC Board (Top side)

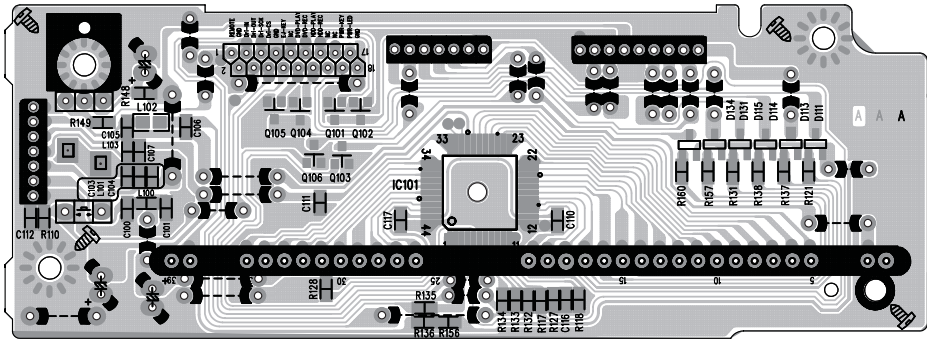


Fig. 3-5-6 EU03A Front (R) PC Board (Bottom side)

5-4. Tuner Unit PC Board

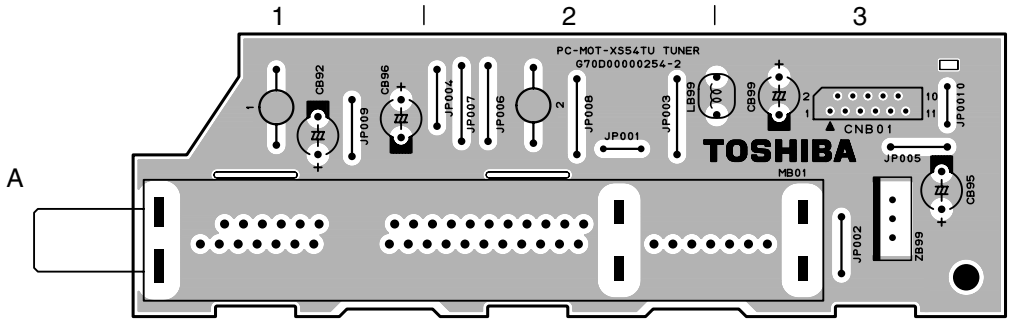


Fig. 3-5-7 EU82 Tuner Unit PC Board (Top side)

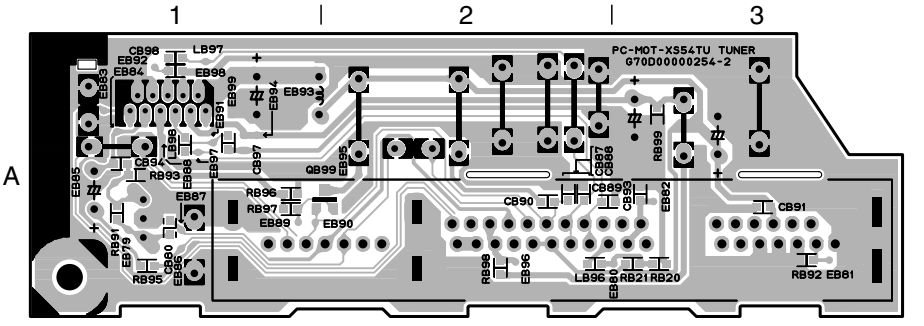


Fig. 3-5-8 EU82 Tuner Unit PC Board (Bottom side)

5-5. Digital PC Board

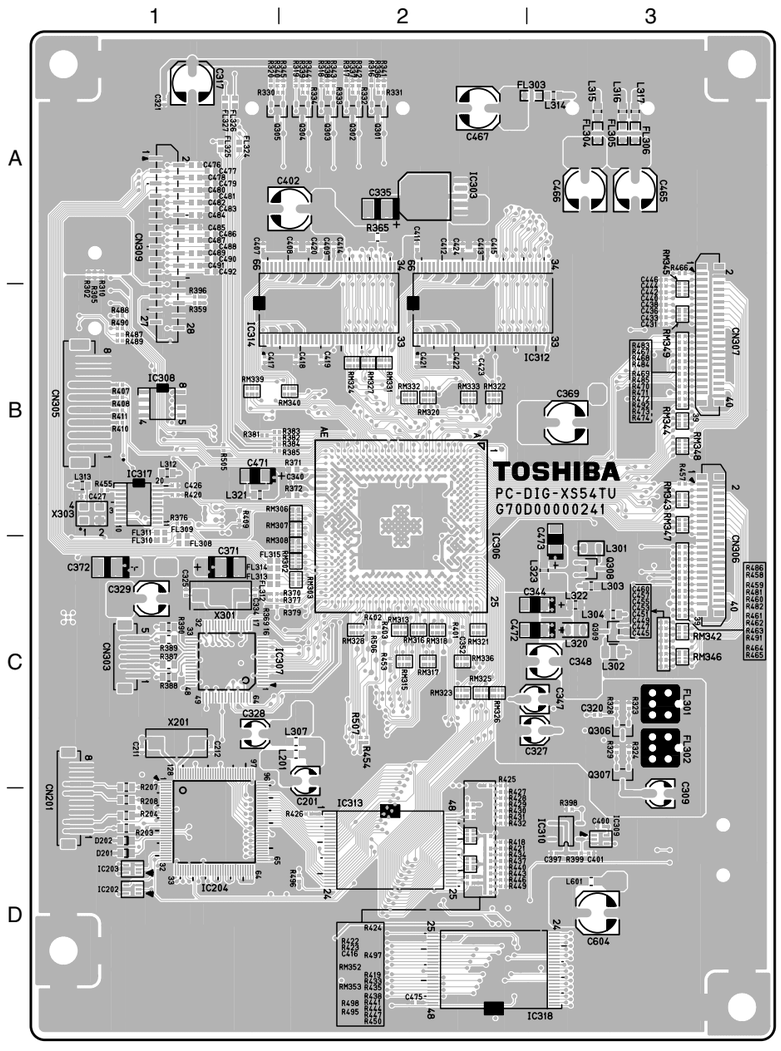


Fig. 3-5-9 EU01 Digital PC Board (Top side)

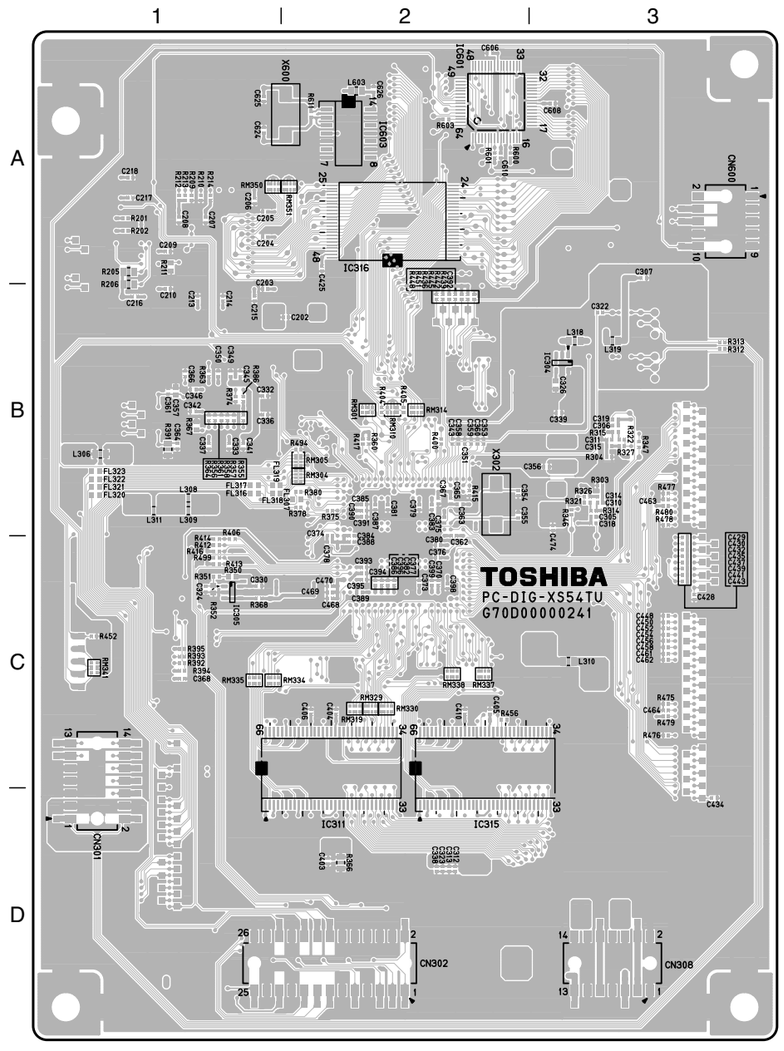


Fig. 3-5-10 EU01 Digital PC Board (Bottom side)

5-6. Mother PC Board

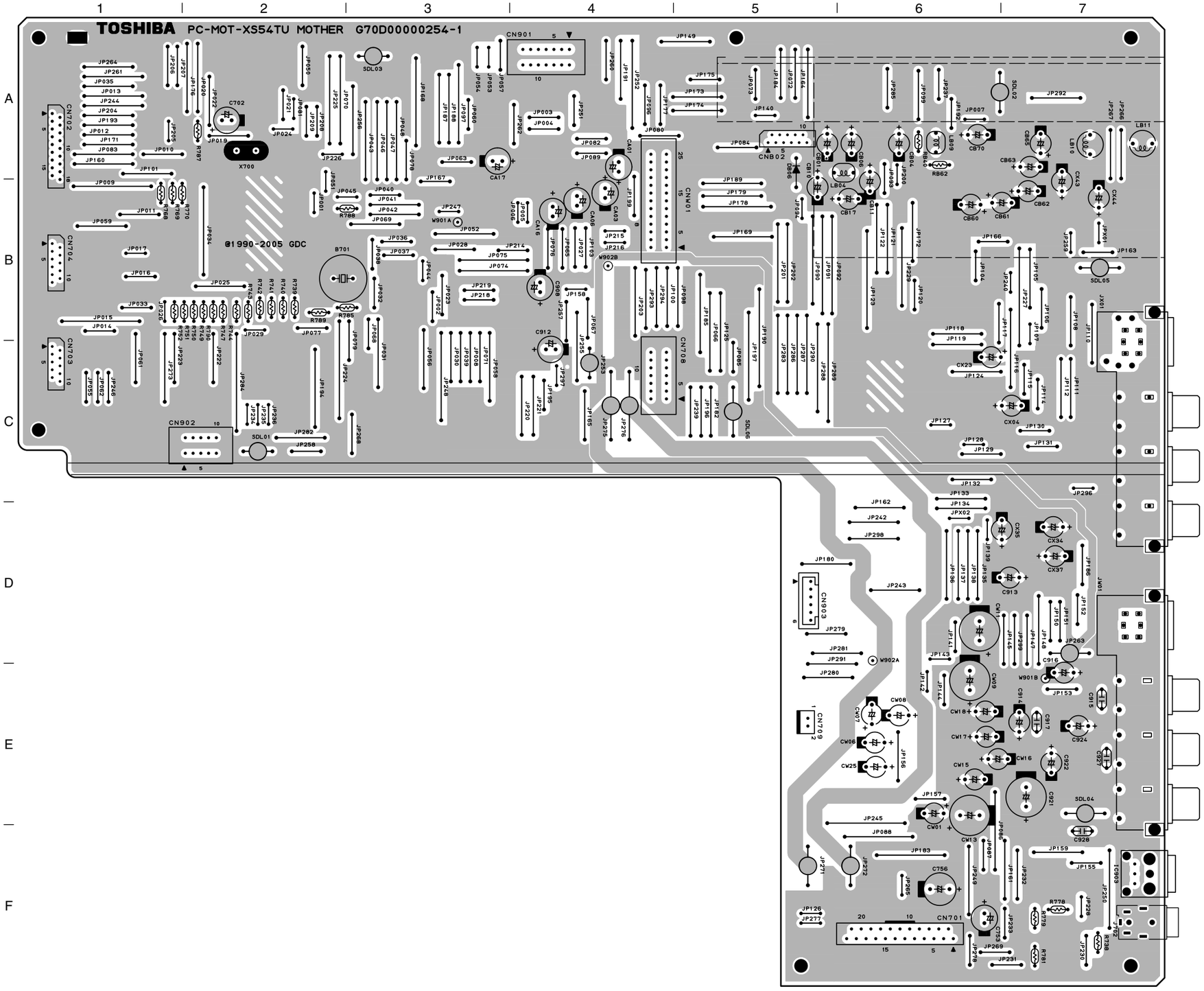


Fig. 3-5-11 EU05 Mother PC Board (Top side)

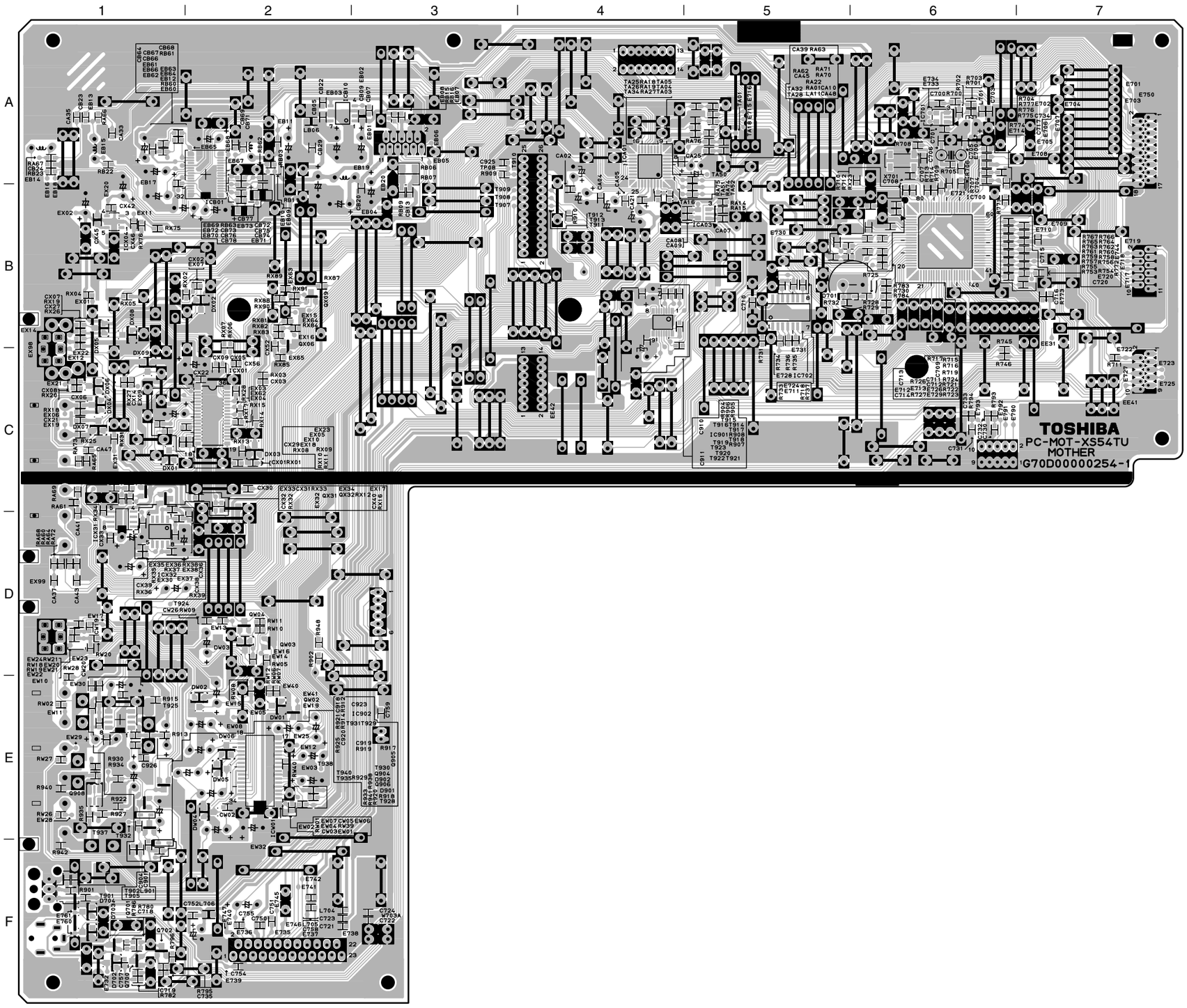


Fig. 3-5-12 EU05 Mother PC Board (Bottom side)

SECTION 4
PARTS LIST

SAFETY PRECAUTION

The parts identified by ! (⚠) mark are critical for safety. Replace only with part number specified.

The mounting position of replacement is to be identical with originals.

The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

NOTICE

The part number must be used when ordering parts in order to assist in processing, be sure to include the model number and description.

ABBREVIATIONS

1. Integrated Circuit (IC)

2. Capacitor (Cap)

- **Capacitance Tolerance (for Nominal Capacitance more than 10pF)**

Table 4-2-1

Symbol	B	C	D	F	G	J	K	M	N
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20	± 30

Symbol	P	Q	T	U	V	W	X	Y	Z
Tolerance %	+ 100 0	+ 30 – 10	+ 50 – 10	+ 75 – 10	+ 20 – 10	+ 100 – 10	+ 40 – 20	+ 150 – 10	+ 80 – 20

Ex. 10µF J = 10µF ± 5%

- **Capacitance Tolerance (for Nominal Capacitance 10pF or less)**

Table 4-2-2

Symbol	B	C	D	F	G
Tolerance pF	± 0.1	± 0.25	± 0.5	± 1	± 2

Ex. 10pF G = 10pF ± 2pF

3. Resistor (Res)

- **Resistance tolerance**

Table 4-3-1

Symbol	B	C	D	F	G	J	K	M
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20

Ex. 470ΩJ = 470Ω± 5%

4. EXPLODED VIEWS

4-1. Packing Assembly

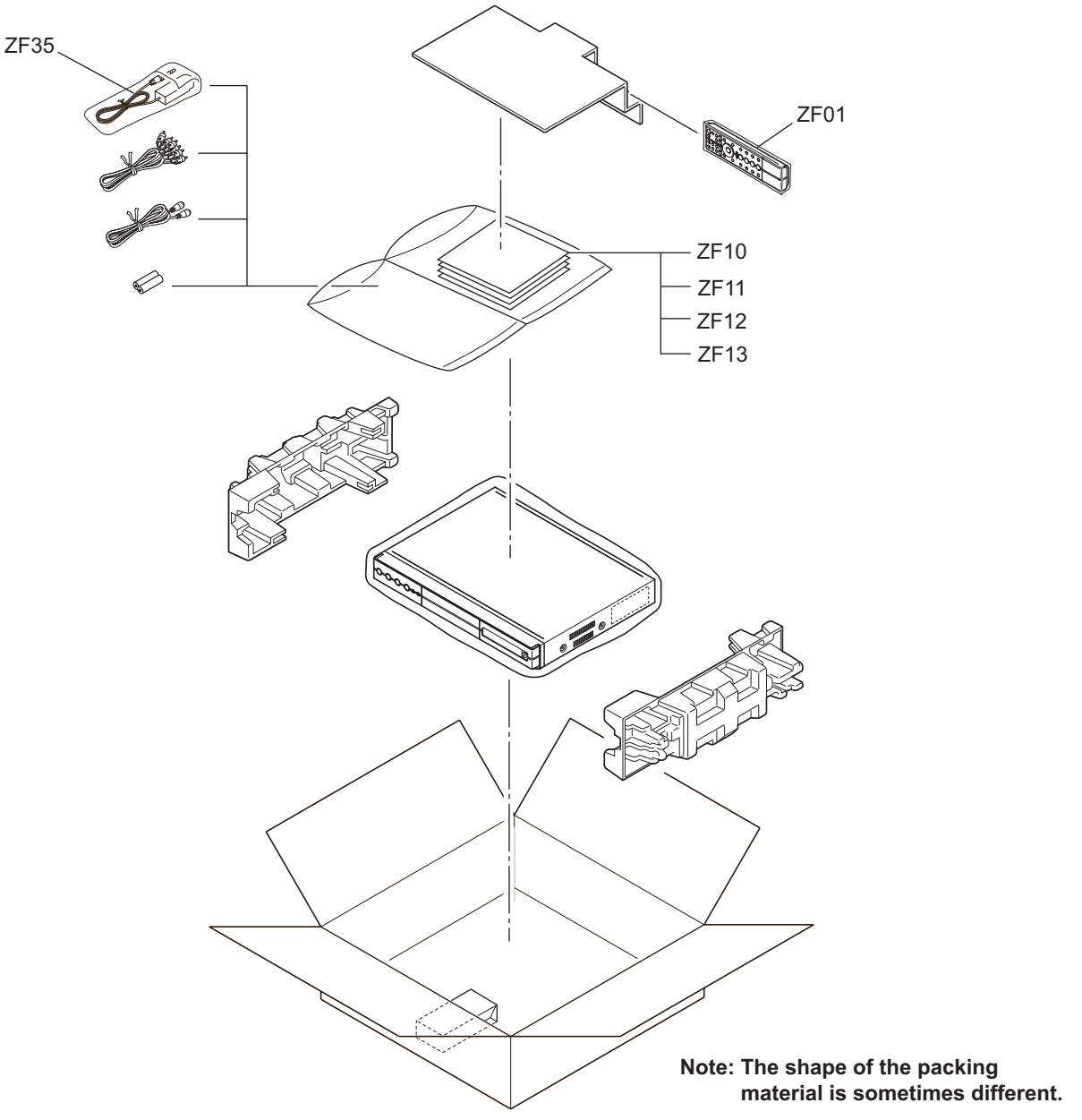


Fig. 4-4-1

4-2. Chassis Assembly

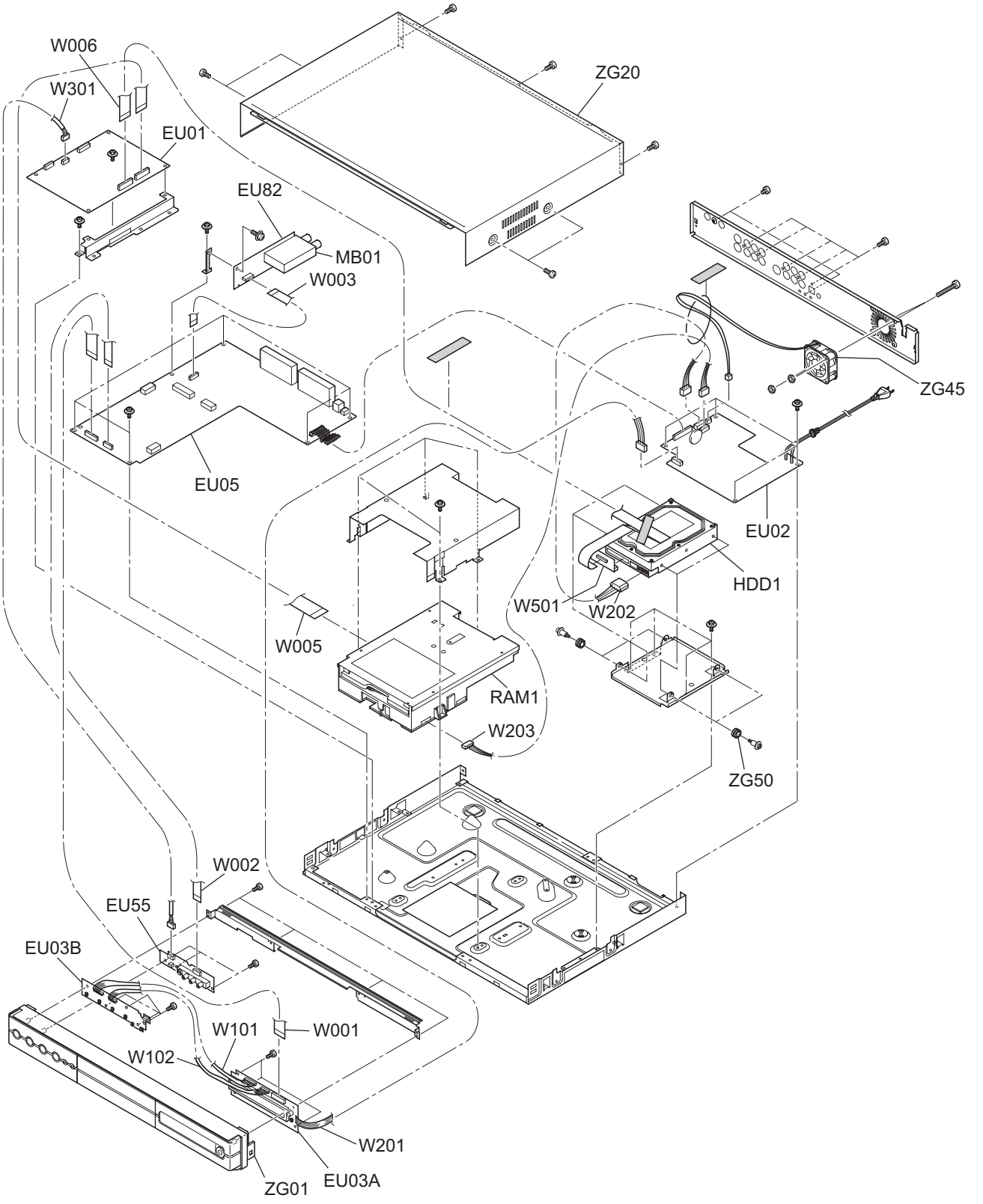


Fig. 4-4-2

5. PARTS LIST

	Location No.	Part No.	Description	
			- MECHANICAL PARTS -	
	HDD1	P000463100	HDD-160GB	ST3160022ACECS
	HDD1	P000463120	HDD-160GB	6L160P0
⚠	RAM1	P000459010	DVD-RAM DRIVE	DAV-WR542 KIT
	W001	P000463240	FFC-18P-L490	FRONT/R-MOTHER
	W002	P000463170	FFC-11P-L120	FRONT/J-MOTHER
	W003	P000463160	FFC-11P-L60	MOTHER-TUNER
	W005	P000463210	FFC-40P-L320	RAM-DIGITAL
	W006	P000463130	FFC-40P-L352	HDD-DIGITAL
	W101	P000463220	WIRE-9P	FRONT/R-FRONT/L
	W102	P000463230	WIRE-7P	FRONT/R-FRONT/L
	W201	P000463090	CABLE FLAT 7P-L350	FRONT/R-POWER
	W202	P000463190	WIRE-4P-L370	HDD-POWER
	W203	P000463200	WIRE-6P-L320	RAM-POWER
	W301	P000463110	CABLE ZHR 5P-L130	FRONT/J-DIGITAL
	W501	P000463140	ATAPI-FFC CONV UNIT	YKF43-0025
	ZF01	P000432480	Remote Control Unit	SE-R0144
⚠	ZF10	P000453930	OWNERS MANUAL,ST	ENGLISH,RD-XS35SU/SC
⚠	ZF10	P000453950	OWNERS MANUAL,ST	FRENCH,RD-XS35SC
⚠	ZF11	P000453940	OWNERS MANUAL,OP	ENGLISH,RD-XS35SU/SC
⚠	ZF11	P000453960	OWNERS MANUAL,OP	FRENCH,RD-XS35SC
⚠	ZF12	P000453970	OWNERS MANUAL,QUICK	ENGLISH,RD-XS35SU/SC
⚠	ZF13	P000453980	OWNERS MANUAL,QUICK	SPANISH,RD-XS35SU
	ZF35	P000416800	IR-BLASTER	RWS1000-0062E
	ZG01	P000463150	PANEL ASSY FRONT SILVER	
	ZG20	P000463180	COVER TOP	RD-85DTKB
	ZG45	P000432510	Fan,DC	AFB0512LDP48Z
	ZG50	P000438100	DAMPER HDD	XS43-34 MOLD RUBBER

	Location No.	Part No.	Description	
			- ELECTRICAL PARTS -	
	EU01	P000463250	PC BOARD ASSY	DIGITAL,RD-XS35SU
	EU01	P000463310	PC BOARD ASSY	DIGITAL,RD-XS35SC
			- INTEGRATED CIRCUITS -	
	IC303	P000463030	IC	PQ025EZ01ZPH
	IC304	P000391290	IC	PQ1X331M2ZPH
	IC305	P000391240	IC	NJM2125F(TE1)
	IC309	P000463080	IC	SN74AHC1G08HDCKR
	IC310	79040306	IC	PST594JMT
	IC317	P000377920	IC	SN74LV244APWR
	IC603	P000463010	IC	TC74HCU04AF
			- TRANSISTORS -	
	Q301	P000446230	Transistor,Chip	2SA1162-Y
	Q302	P000446230	Transistor,Chip	2SA1162-Y
	Q303	P000446230	Transistor,Chip	2SA1162-Y
	Q304	P000446230	Transistor,Chip	2SA1162-Y
	Q305	P000446230	Transistor,Chip	2SA1162-Y
	Q306	P000446220	Transistor,Chip	2SC2712-Y
	Q307	P000446220	Transistor,Chip	2SC2712-Y
	Q308	P000446230	Transistor,Chip	2SA1162-Y
	Q309	P000446230	Transistor,Chip	2SA1162-Y
			- MISCELLANEOUS -	
	X301	79089168	OSCILLATOR CRYSTAL	NX8045GB-24.576M
	X302	79089168	OSCILLATOR CRYSTAL	NX8045GB-24.576M
	X303	P000377990	OSCILLATOR CRYSTAL	2725T-NSA5293C-27.0M
	X600	P000446160	OSCILLATOR CRYSTAL	NX8045GB-LN-CF-001-32M
⚠	EU02	P000432520	PC BOARD ASSY	POWER
	EU03A	P000463260	PC BOARD ASSY	FRONT-R
			- INTEGRATED CIRCUITS -	
	IC101	P000416700	IC	PT6315
	IC102	P000434980	IC	GP1UM271RK0F
			- TRANSISTORS -	
	Q101	P000446250	Transistor,Chip	RN1401
	Q102	P000446250	Transistor,Chip	RN1401
	Q103	P000446250	Transistor,Chip	RN1401
	Q104	P000446250	Transistor,Chip	RN1401
	Q105	P000446250	Transistor,Chip	RN1401
	Q106	P000446250	Transistor,Chip	RN1401
			- DIODES -	
	D111	P000446270	Diode,Chip	1SS226
	D113	P000446270	Diode,Chip	1SS226
	D114	P000446270	Diode,Chip	1SS226
	D115	P000446270	Diode,Chip	1SS226
	D131	P000446270	Diode,Chip	1SS226
	D134	P000446270	Diode,Chip	1SS226
			- MISCELLANEOUS -	
	A100	P000446190	Display,FL	HNV-10SM47T
	S100	P000391050	Switch,TACT	EVQ11G04M
	EU03B	P000463270	PC BOARD ASSY	FRONT-L
			- TRANSISTORS -	
	Q107	P000446200	Transistor	RN2401
	Q108	P000446200	Transistor	RN2401
			- DIODES -	
	D103	P000416680	Diode,LED	EL-264-7SYGC/S530-E3
	D105	P000462980	Diode,LED	EL-3105-1UBT/S1142
	D121	79060033	Diode,LED	SPR-325MVWT31
	D123	P000462990	Diode,LED	EL-3105-1VRT
	D124	P000416680	Diode,LED	EL-264-7SYGC/S530-E3

	Location No.	Part No.	Description	
			- MISCELLANEOUS -	
	S105	P000391050	Switch,TACT	EVQ11G04M
	S107	P000391050	Switch,TACT	EVQ11G04M
	S112	P000391050	Switch,TACT	EVQ11G04M
	S114	P000391050	Switch,TACT	EVQ11G04M
	S115	P000391050	Switch,TACT	EVQ11G04M
	S116	P000391050	Switch,TACT	EVQ11G04M
	S120	P000377940	Switch,MICRO	MPU11110MLB0
	EU05	P000463280	PC BOARD ASSY	MOTHER
			- INTEGRATED CIRCUITS -	
	IC700	P000463020	IC	UPD784224YGC-123-8BT-A
	IC701	P000391180	IC	PST3222NR
	IC702	P000391150	IC	CD74HCT125M
	IC901	P000463060	IC	PCM1755DBQR
	IC902	P000463070	IC	RC4580IDR
	IC903	P000463000	TERMINAL, OPT,	LAF1001-0301F
	ICA01	P000416760	IC	PCM1851PJT
	ICA03	79040397	IC	MM1575ANRE
	ICB01	P000463050	IC	AN5832SA-E1V
	ICB10	P000395150	IC	MM1565AFBE
	ICW01	P000391260	IC	MM1568DJBEG
	ICX01	P000401210	IC	MM1656XJBE
	ICX04	P000463040	IC	XC6209F502PR
	ICX31	79040371	IC	BA7046F
	ICX32	P000363370	IC	NJM2230MV(TE1)
			- TRANSISTORS -	
	Q700	P000446220	Transistor,Chip	2SC2712-Y
	Q701	P000446230	Transistor,Chip	2SA1162-Y
	Q904	P000446210	Transistor,Chip	RN2402
	Q905	P000446260	Transistor,Chip	RN1402
	Q906	P000446210	Transistor,Chip	RN2402
	Q908	P000446240	Transistor,Chip	HN1C03F-B
	QW02	P000446260	Transistor,Chip	RN1402
	QW03	P000446230	Transistor,Chip	2SA1162-Y
	QW04	P000446230	Transistor,Chip	2SA1162-Y
	QX06	P000446230	Transistor,Chip	2SA1162-Y
	QX09	P000446230	Transistor,Chip	2SA1162-Y
	QX31	P000446220	Transistor,Chip	2SC2712-Y
	QX32	P000446260	Transistor,Chip	RN1402
			- DIODES -	
	D701	79060019	Diode,Chip	1SS355
	D702	P000446270	Diode,Chip	1SS226
	D703	P000446270	Diode,Chip	1SS226
	D704	P000446270	Diode,Chip	1SS226
	D901	79060019	Diode,Chip	1SS355
	D902	79060019	Diode,Chip	1SS355
	DB06	79060096	Diode,Zener	MTZJT-7733D
			- MISCELLANEOUS -	
	B701	P000377950	Buzzer	PS1240P02AT
	J702	P000462970	Jack	LGY3309-0100F
	JW01	P000402770	Jack	6PIN CONNECTOR, LAP5100-3201F
	JX01	P000401100	Jack	6PIN CONNECTOR, YKC22-0700N
	X700	P000391040	OSCILLATOR CRYSTAL	AT-41-12.5M
	X701	P000462960	OSCILLATOR CRYSTAL	SP-T2A-F 32.768KHZ
	EU82	P000463290	PC BOARD ASSY	TUNER
			- TRANSISTORS -	
	QB99	P000446220	Transistor,Chip	2SC2712-Y
			- MISCELLANEOUS -	
⚠	MB01	P000416770	Tuner	ENGF6501GF
	EU55	P000463300	PC BOARD ASSY	FRONT-JACK
			- MISCELLANEOUS -	
	J170	P000387300	DV-JACK	CSS5004-2255F
	J171	P000402780	Jack	3PIN CONNECTOR, LAP5000-1201F

SPECIFICATIONS

Power requirement during operation	34W
Power requirement at standby	17.1W (Front Display: on) 15.1W (Front Display: off)
Power supply	120V AC, 60 Hz
Mass	4.7kg
External dimension	Width 430 x Height 58 x Depth 333mm
Incoming channels	TV : 2-69CH, Cable : 1-125CH
Antenna input/output terminal	VHF/UHF : 75Ω, F Connector
Signal system	Standard NTSC Color TV system
Laser	Semiconductor laser, Wavelength : 650nm/780nm
Format	DVD-Video format
Image recording system	MPEG2
Sound recording system	Dolby Digital M1, M2, Linear PCM
Internal hard disk	160 GB
VIDEO input	1.0Vp-p (75Ω), Sync signal negative, Pin jack x 3 systems, 2 at rear, 1 in front
VIDEO output	1.0Vp-p (75Ω), Sync signal negative, Pin jack x 1 system, 1 at rear
S-VIDEO input	(Y) 1.0Vp-p (75Ω), Sync signal negative, Mini DIN4 Pin x 3 systems (C) 0.286Vp-p (75Ω), 2 at rear, 1 in front
S-VIDEO output	(Y) 1.0Vp-p (75Ω), Sync signal negative, Mini DIN4 Pin x 1 system (C) 0.286Vp-p (75Ω), 1 at rear
COMPONENT output(Y, P_B, P_R)	Y output (green), 1.0Vp-p (75Ω), Sync signal negative, Pin jack x 1 system P_B, P_R output (blue, red), 0.7Vp-p (75Ω), Pin jack x 1 system each
AUDIO input	2.0V (rms), 22kΩ or above, pin jack (L, R) x 3 systems 2 at rear, 1 in front
AUDIO output	2.0V (rms), 2.2kΩ or below, pin jack (L, R) x 1 system 1 at rear
DIGITAL AUDIO OUTPUT BITSTREAM/PCM (OPTICAL terminal)	Optical connector x 1 system
G-LINK jack	This is for connection of the supplied G-LINK cable only.
DV input	4-Pin x 1 in front
Remote control	Wireless remote control (SE-R0144)
Operating conditions	Temperature: 41°F~95°F (5°C~35°C), Position: Horizontal
Clock display	12 hour digital display
Clock accuracy	Quartz (monthly deviation: approximately ±30 seconds)

- This model complies with the below specifications.
- Designs and specifications are subject to change without notice.
- This model may not be compatible with features and/or specifications that may be added in the future.
- The Illustrations and screens described in this manual may be exaggerated or simplified for easy recognition and may be slightly different from the actual unit.

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