2002

MITSUBISHI ELECTRIC

Service Manual

DVD Player

Model

DD-6030

CAUTION

Before servicing this chassis, it is important that the service person reads all SAFETY PRECAUTIONS and the SAFETY NOTICE in this manual.

SPECIFICATIONS

Power Supply:	120V AC, 60 Hz
Power Consumption:	17W
Weight:	5.5 lb.
External Dimensions:	17"x 2-3/4"x8-7/8" (W/H/D)
Signal System:	Standard NTSC
Laser:	Semiconductor laser, wavelength 650nm/780nm
Frequency Range:	(Digital Audio)
DVD Linear -	
48 kHZ Sampling:	4 Hz to 22 kHz
96 kHZ Sampling:	4 Hz to 44 kHz
Signal-To-Noise Ratio:	More than 112 dB (EIAJ)
Audio Dynamic Range:	More than 108 dB (EIAJ)
Harmonic Distortion:	Less than 0.002%
Wow and flutter:	Below measurable level (less than ± 0.001% (W.PEAK)) (EIAJ)
Operating conditions:	Temperature: 5°C to 35°C
Operation status:	Horizontal
Video output:	1.0 V (p-p), 75Ω, negative sync., pin jack x 1
S Video output:	(Y) 1.0 V (p-p), 75Ω, negative sync., Mini DIN 4-pin x 1 (C) 0.286 V (p-p), 75Ω
Component Video output:	(Y) 1.0 V (p-p), 75Ω, negative sync., pin jack x 1 (Cr, Pr)/(Cb, Pb) 0.7 V (p-p), 75Ω, pin jack x 2
Digital Audio output:	(Bitstream/PCM) 0.5 V (p-p), 75Ω, pin jack x 1, Optical connector x 1
Analog Audio output:	2.0 V (rms), 680Ω, pin jack 2 CH L R x 2,

MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC.
9351 Jeronimo Rd. Irvine, CA 92618

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.).

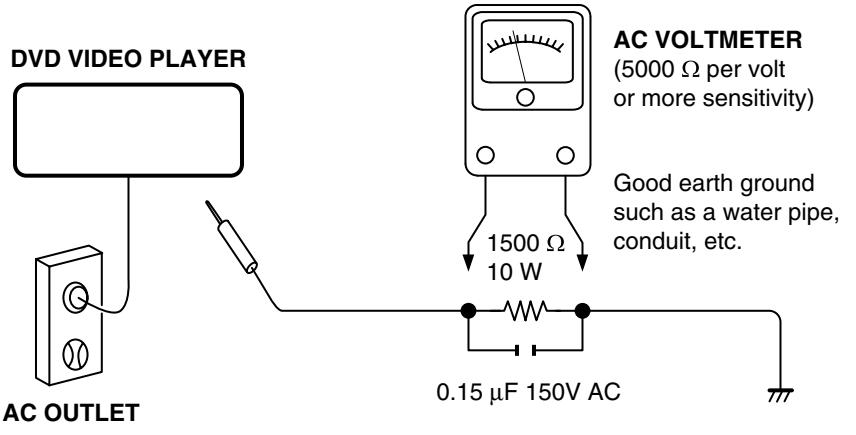
Measure the AC voltage across the 1500 Ω resistor.

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 PLAYER power plug reversed.

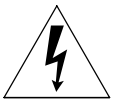
NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.

READING SHOULD NOT EXCEED 0.3V



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

SAFETY NOTICE



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.

LASER BEAM CAUTION LABEL

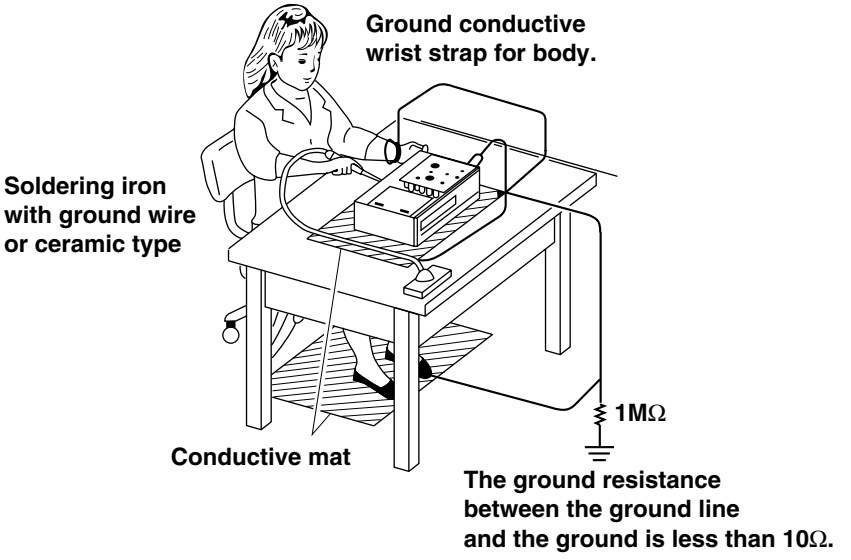
When the power supply is turned on, you may not remove this laser caution label. If it is removed, laser radiation may be recceived.

SECTION 1
GENERAL DESCRIPTIONS

1. PREPARATION FOR SERVICING

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

Although it may operate properly after replacement, if subjected to electrostatic discharge during replacement, its life might be shortened. When replacing the laser diode, LSI's and IC's, use a conductive mat, soldering iron with ground wire, etc. to protect against damage from static electricity.



2. LOCATION OF MAIN PARTS AND MECHANISM PARTS

2-1. Location of Main Parts

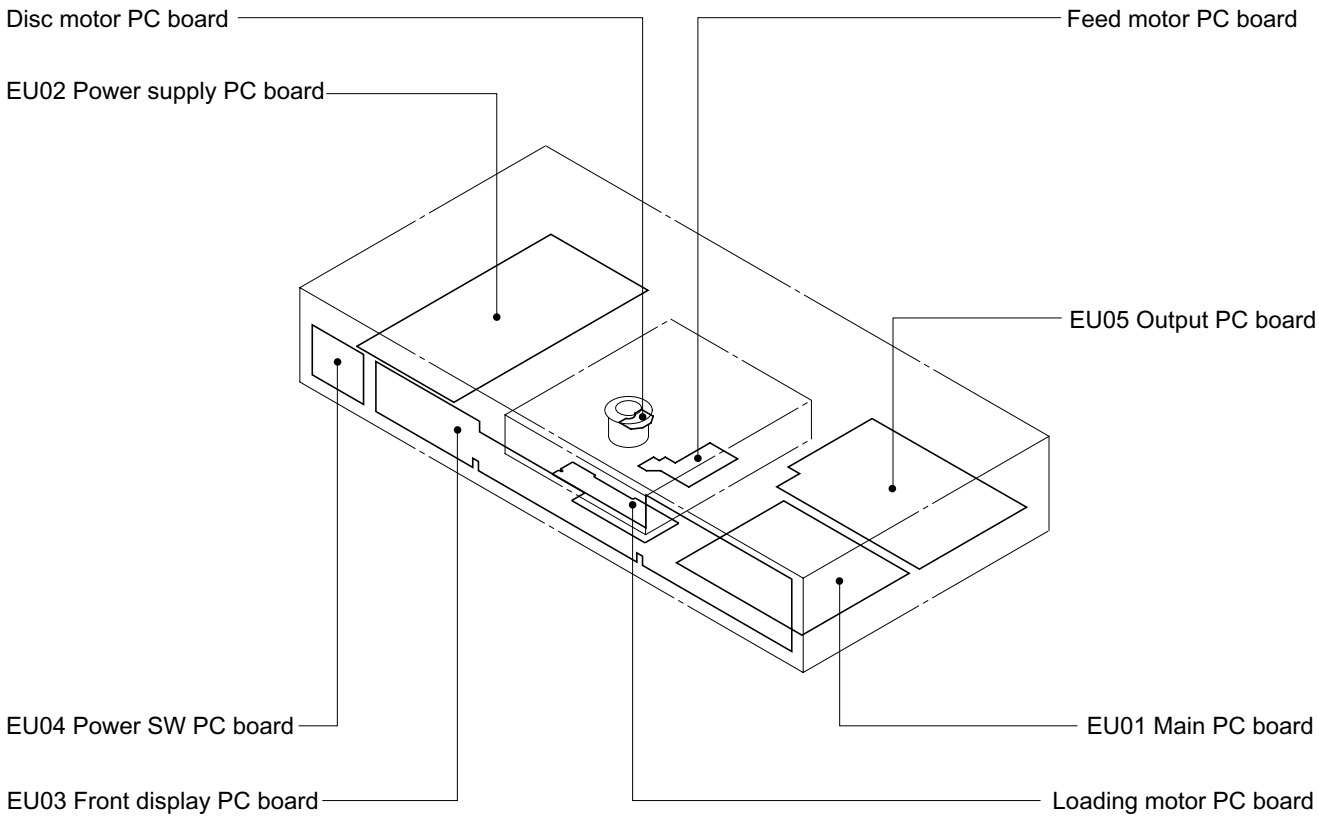


Fig. 1-2-1

2-2. Location of Mechanism Parts

2-2-1. Type A

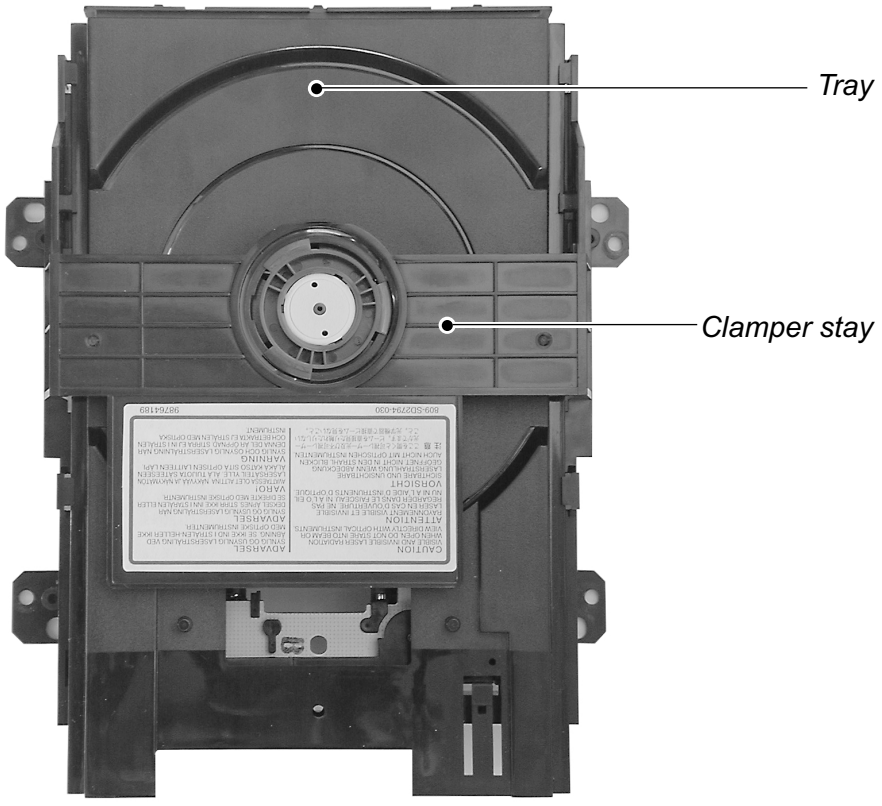


Fig. 1-2-2 Mechanism chassis assembly (Top side)

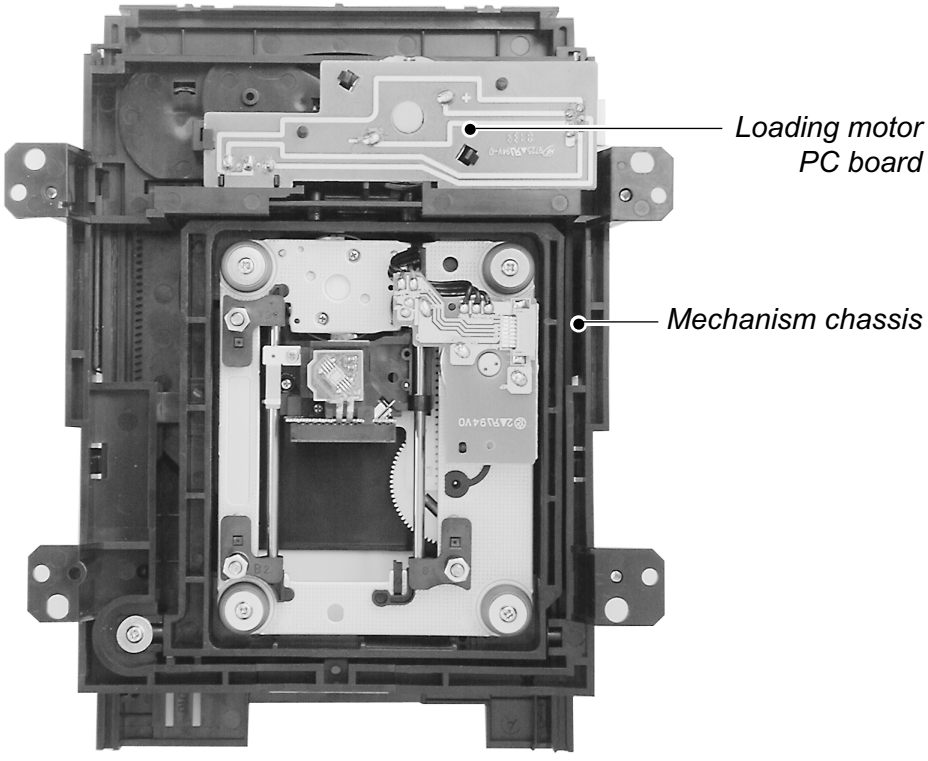


Fig. 1-2-3 Mechanism chassis assembly (Bottom side)

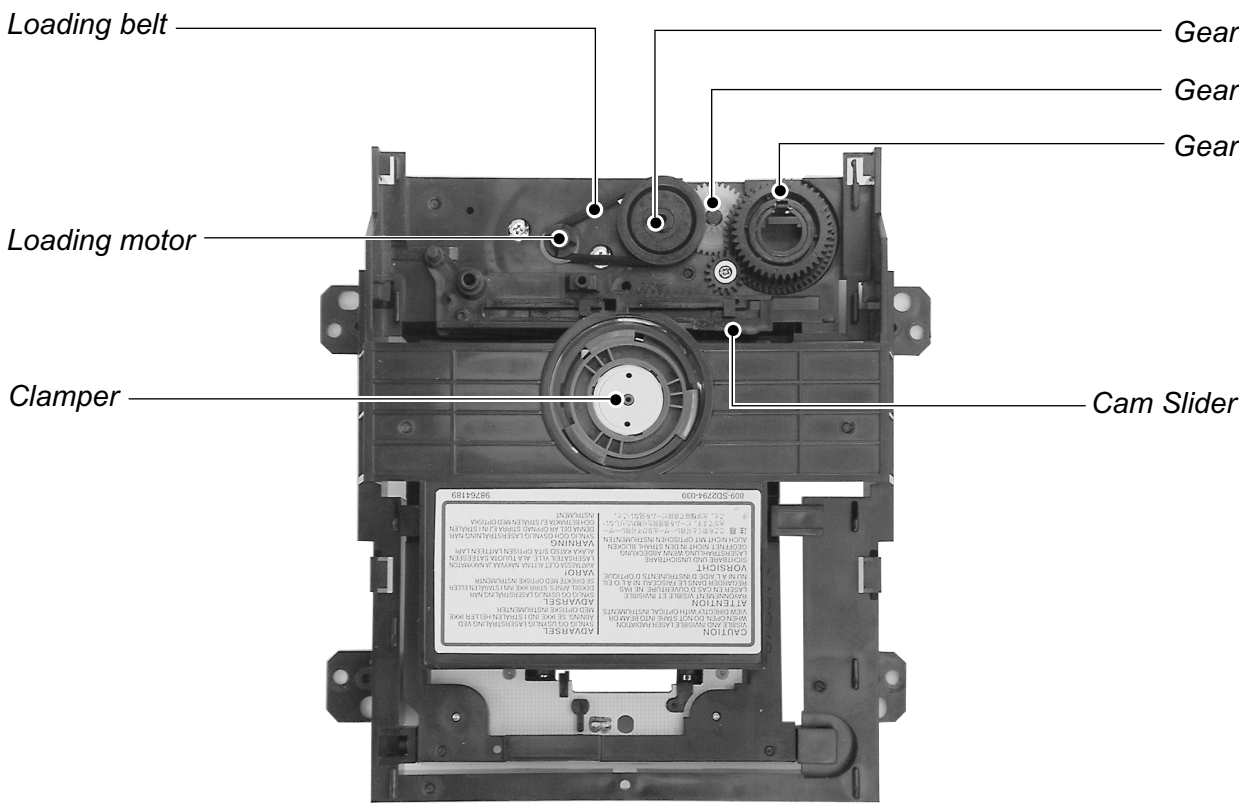


Fig. 1-2-4 Mechanism chassis assembly (Internal side)

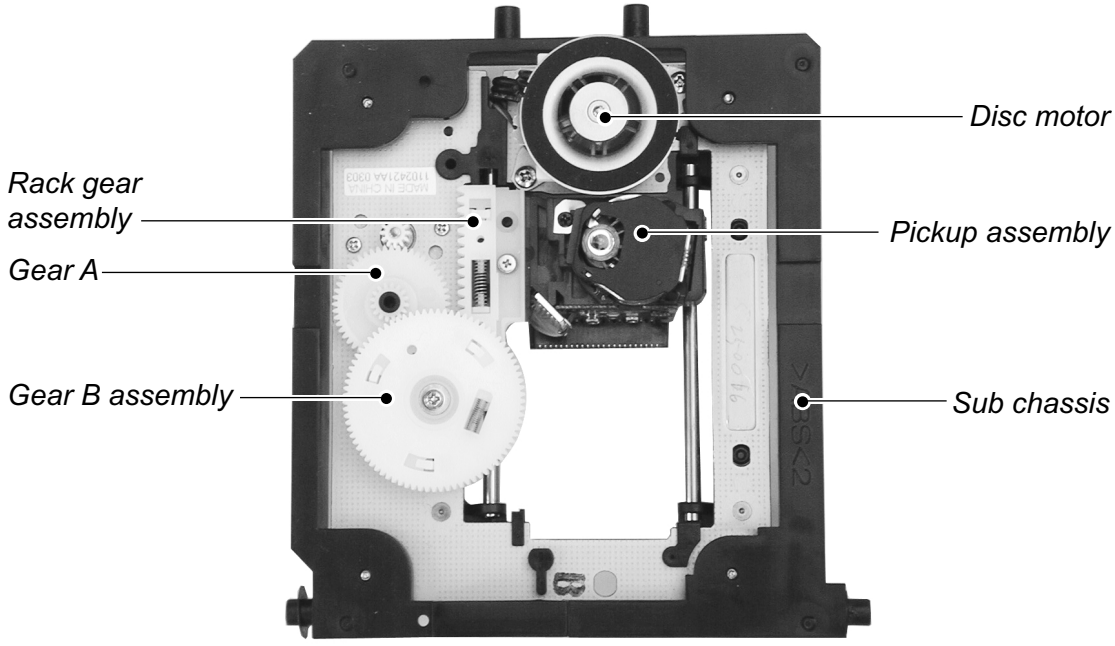


Fig. 1-2-5 Pickup mechanism chassis assembly (Top side)

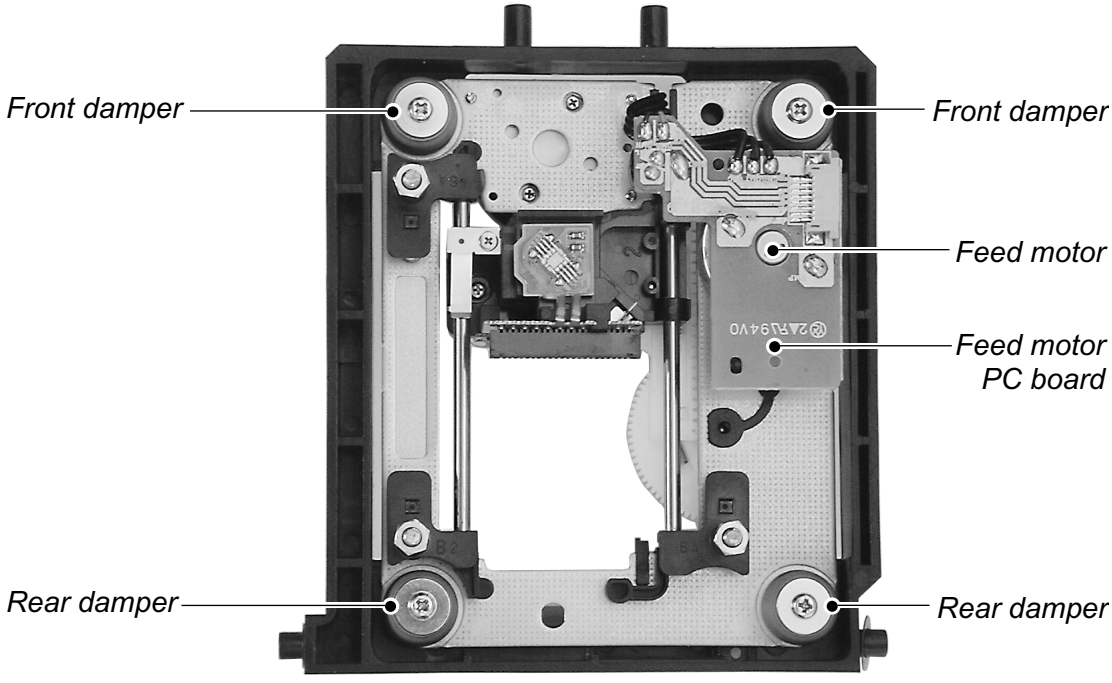


Fig. 1-2-6 Pickup mechanism chassis assembly (Bottom side)

2-2-2. Type B

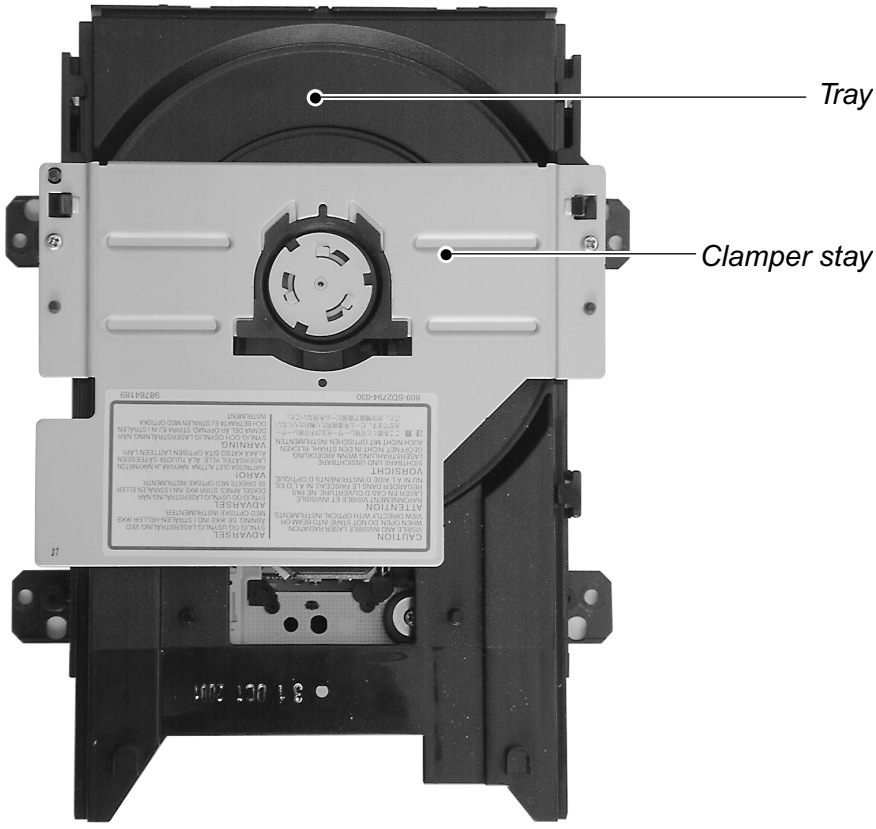


Fig. 1-2-7 Mechanism chassis assembly (Top side)

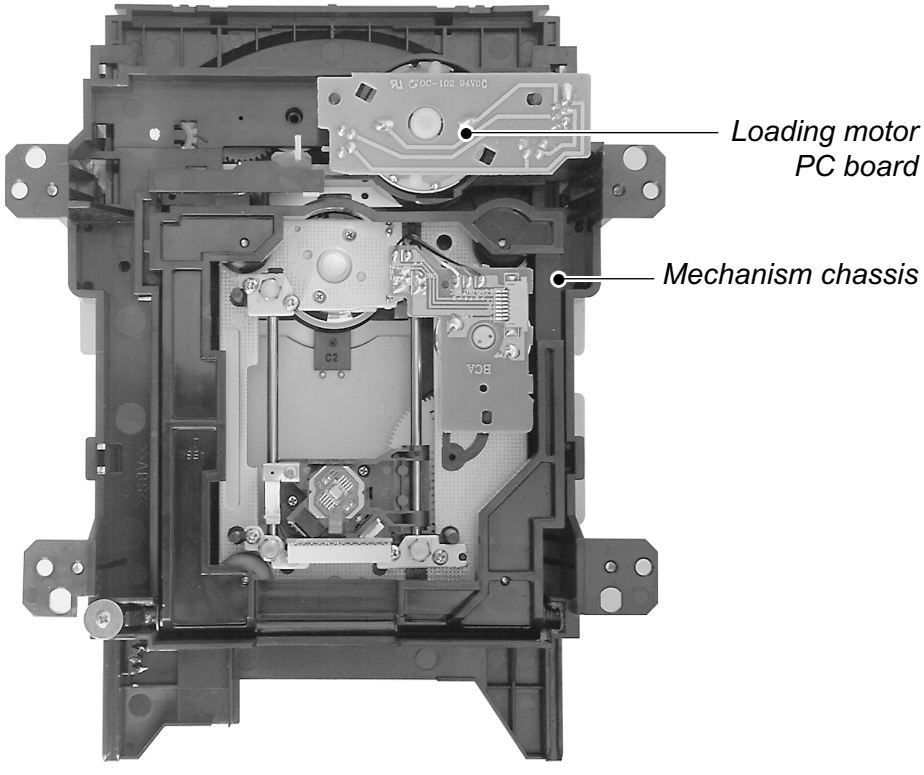


Fig. 1-2-8 Mechanism chassis assembly (Bottom side)

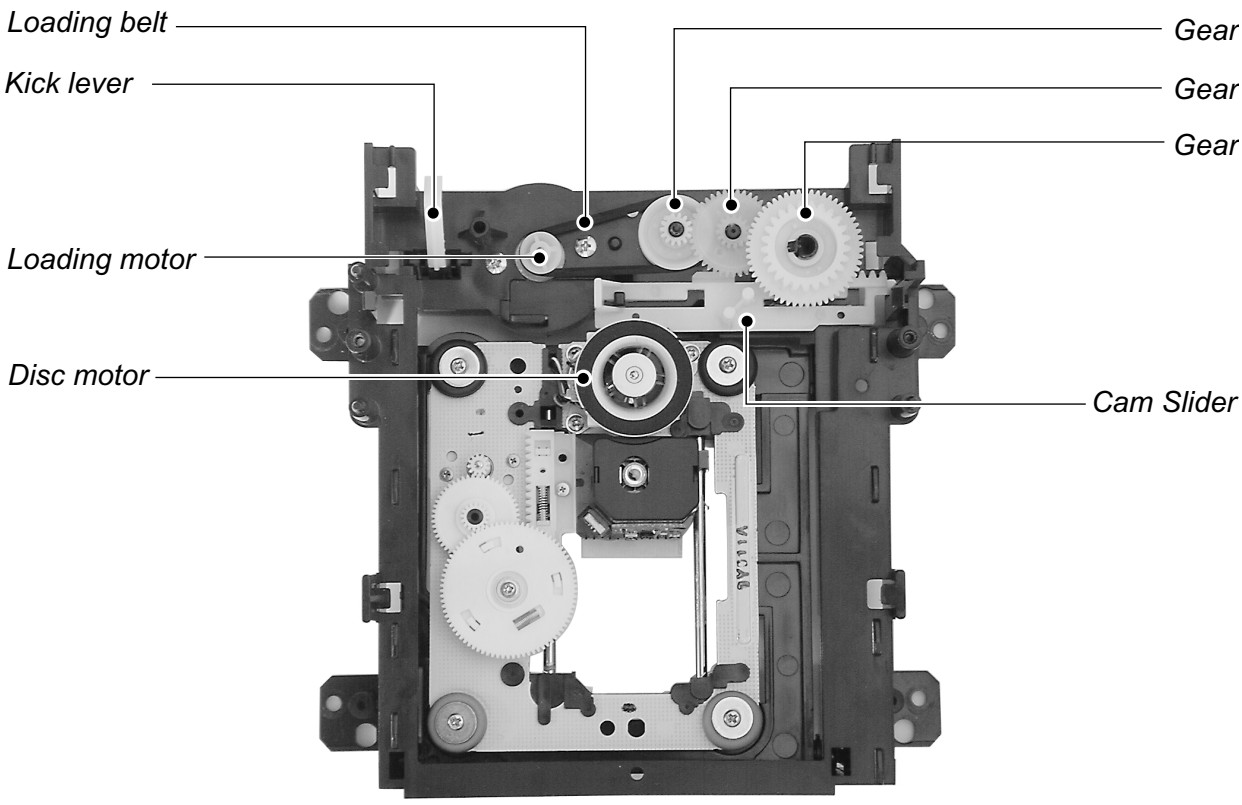


Fig. 1-2-9 Mechanism chassis assembly (Internal side)

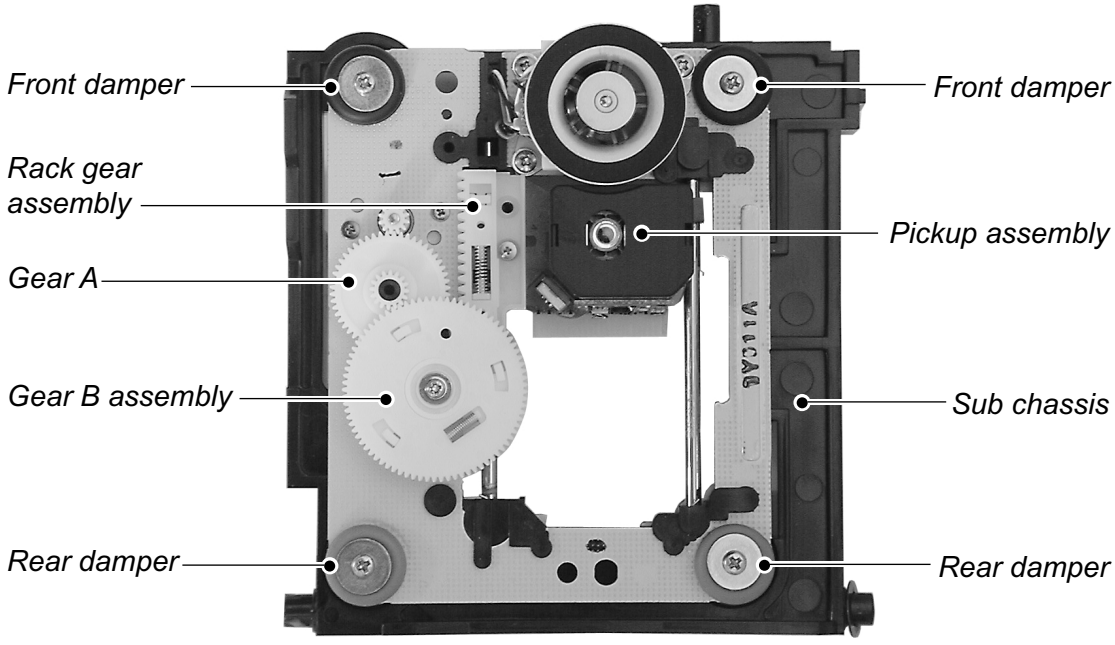


Fig. 1-2-10 Pickup mechanism chassis assembly (Top side)

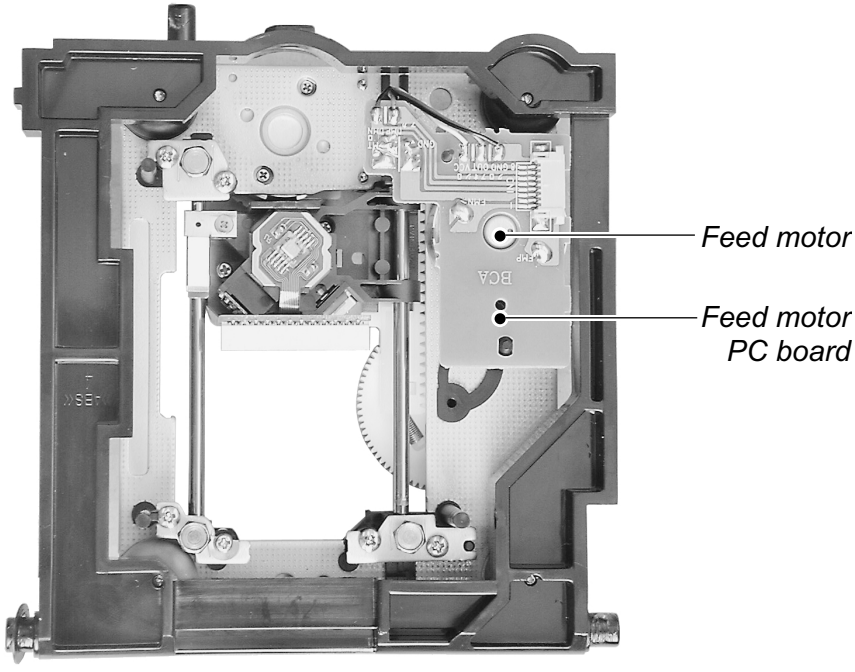


Fig. 1-2-11 Pickup mechanism chassis assembly (Bottom side)

3. TROUBLESHOOTING

3-1. Main Circuit

3-1-1. Servo System

(1) Initial Operation after Power ON

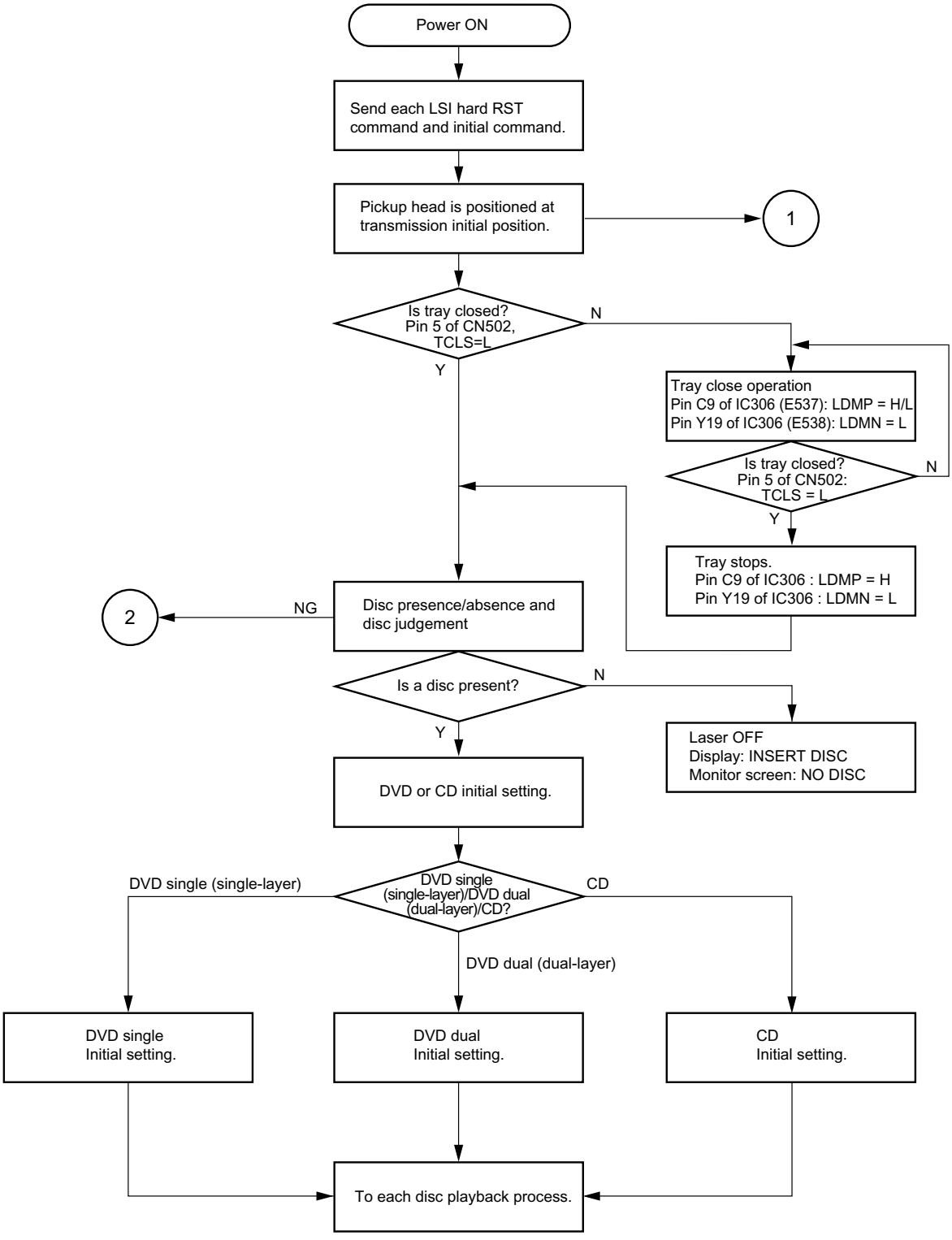


Fig. 1-3-1

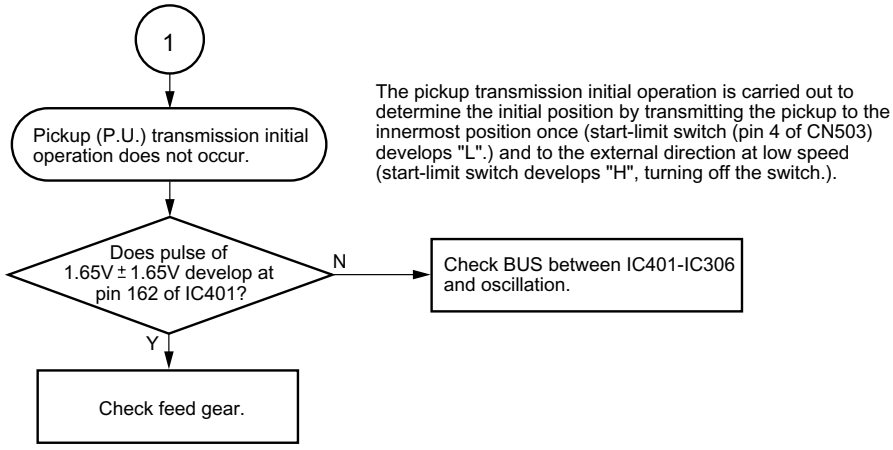


Fig. 1-3-2

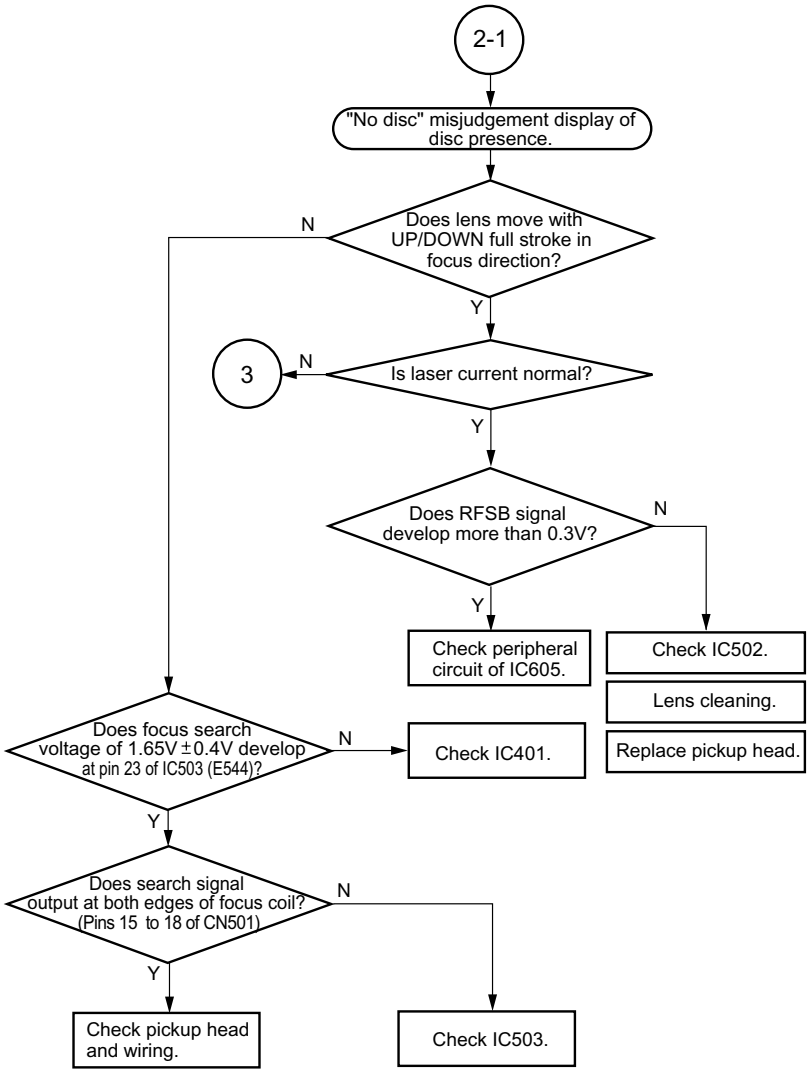


Fig. 1-3-3

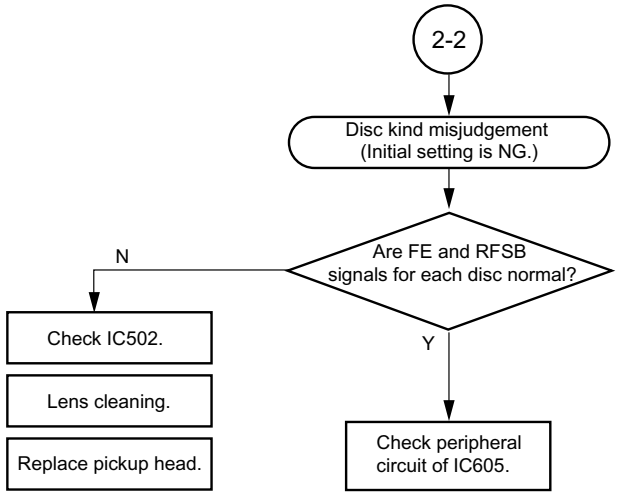
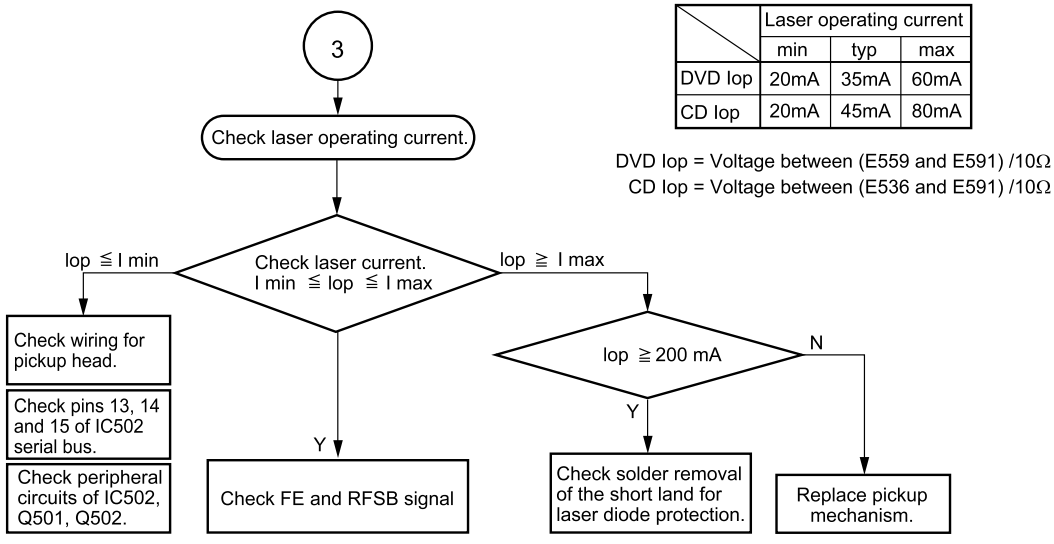


Fig. 1-3-4



	Laser operating current		
	min	typ	max
DVD Iop	20mA	35mA	60mA
CD Iop	20mA	45mA	80mA

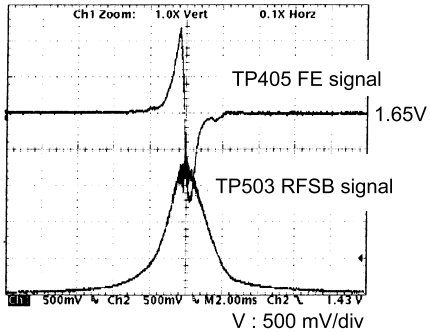
DVD Iop = Voltage between (E559 and E591) /10Ω
CD Iop = Voltage between (E536 and E591) /10Ω

To turn on each laser diode forcibly, press the following buttons on the remote controller.
DVD LD: ZOOM, 0, 3, 0, ZOOM
CD LD: ZOOM, 0, 3, 1, ZOOM
After checked the laser current, press POWER or OPEN/CLOSE button to turn it off.

CAUTION
- The laser ray emitting out from the pickup head is very harmful to your eyes.
  Keep your eyes from the objective lens at least 300mm distance during the pickup head operating.
- When you perform solder removal work, please turn OFF a set power supply and perform the ground of human body and a tool.

Fig. 1-3-5

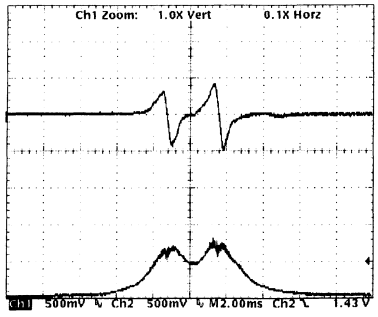
DVD single (single-layer) disc detection waveform



V : 500 mV/div
H : 2 ms/div

Fig. 1-3-6

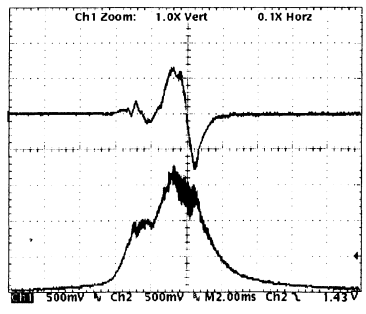
DVD dual (dual-layer) disc detection waveform



V : 500 mV/div
H : 2 ms/div

Fig. 1-3-7

CD disc detection waveform



V : 500 mV/div
H : 2 ms/div

Fig. 1-3-8

(2) Picture appears (PLAY)

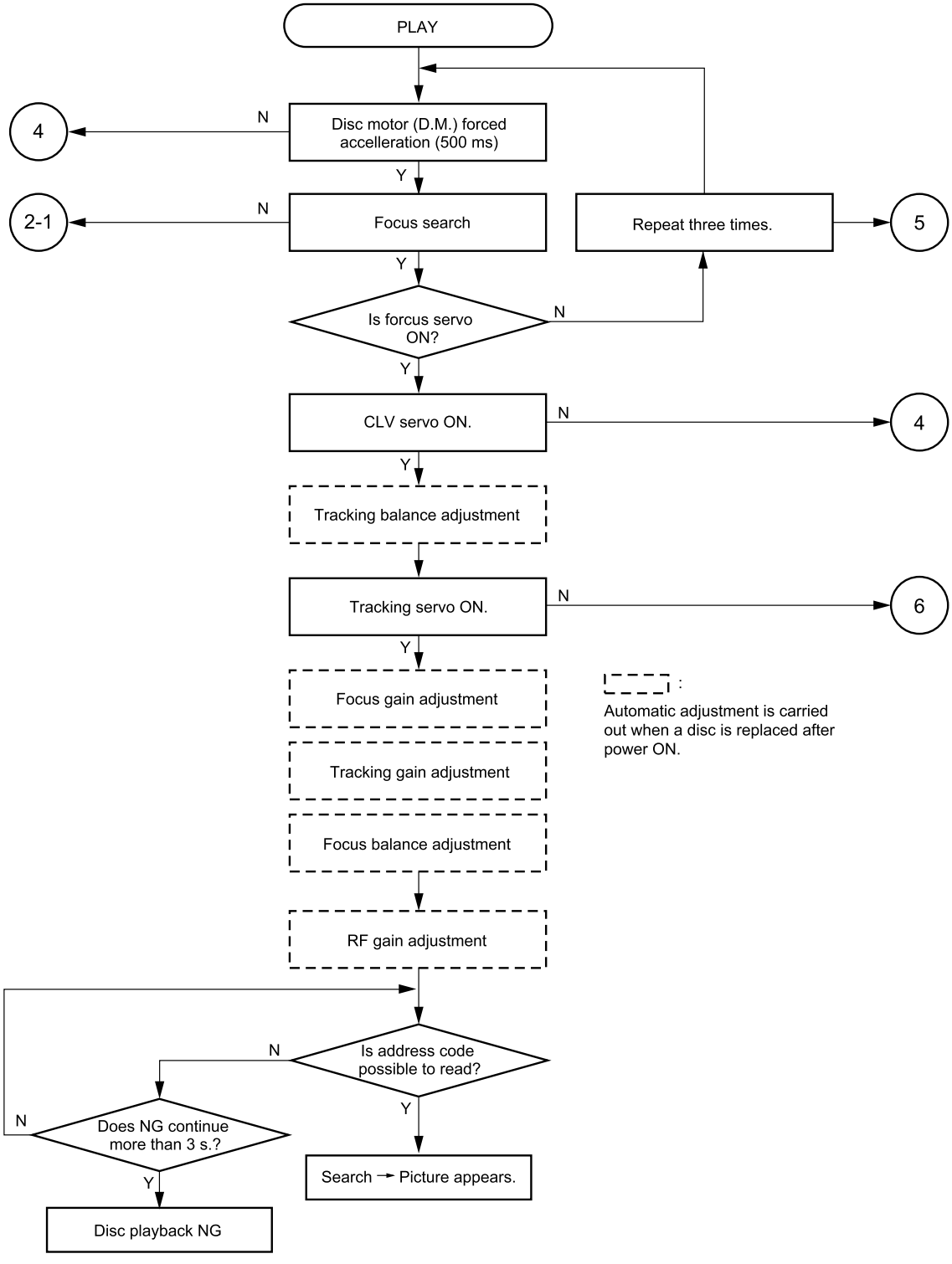


Fig. 1-3-9

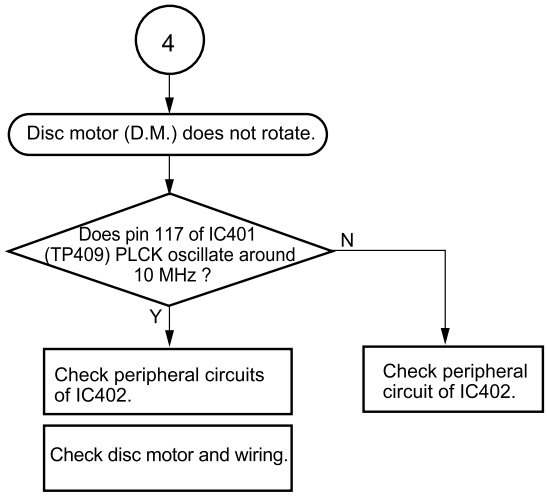


Fig. 1-3-10

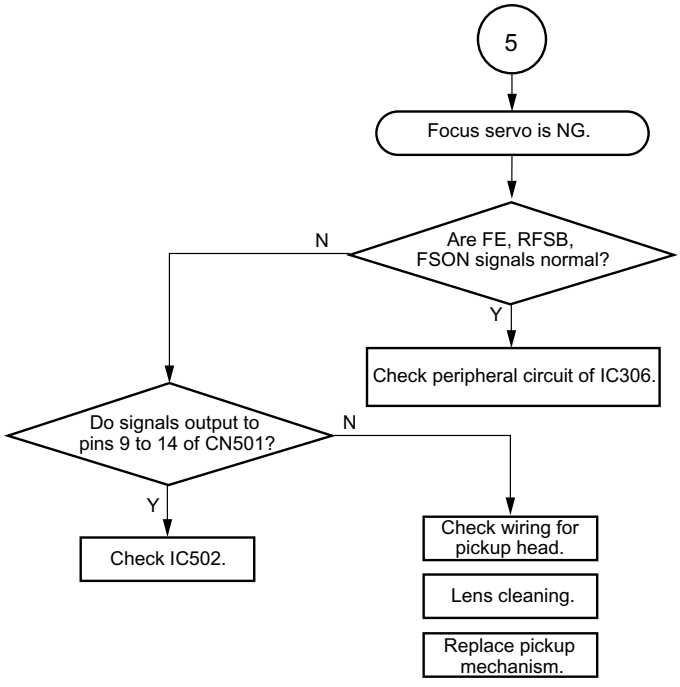


Fig. 1-3-11

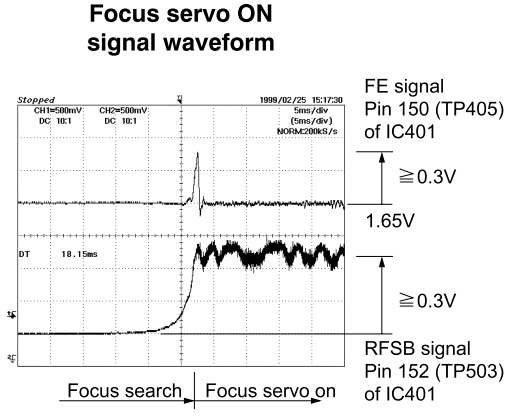


Fig. 1-3-12

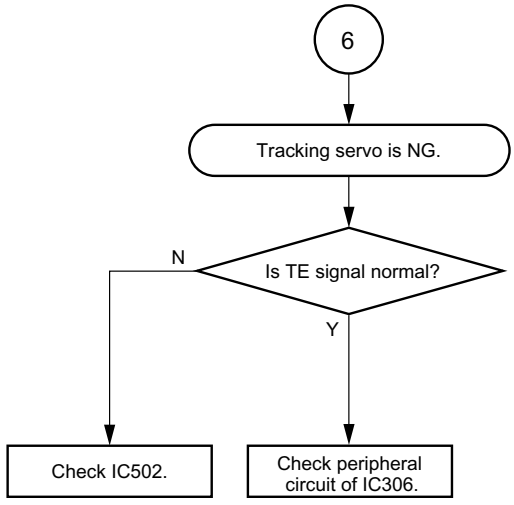
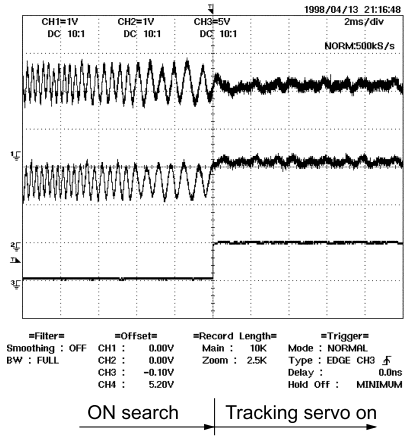


Fig. 1-3-13

Signal waveform at tracking servo ON (CD)



TE signal
Pin 151 (TP406) of IC401
1.65V

RFRP signal
Pin 153 (TP408) of IC401

Search ON (SRCH)
Pin 38 (TP411) of IC401

Fig. 1-3-14

Signal waveform at tracking servo ON (DVD)

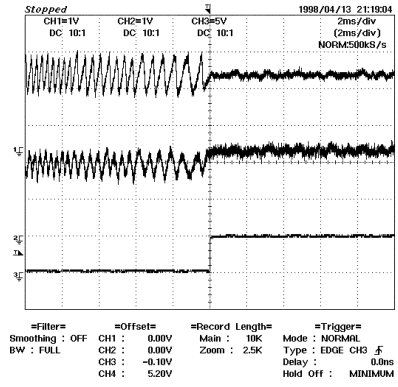


Fig. 1-3-15

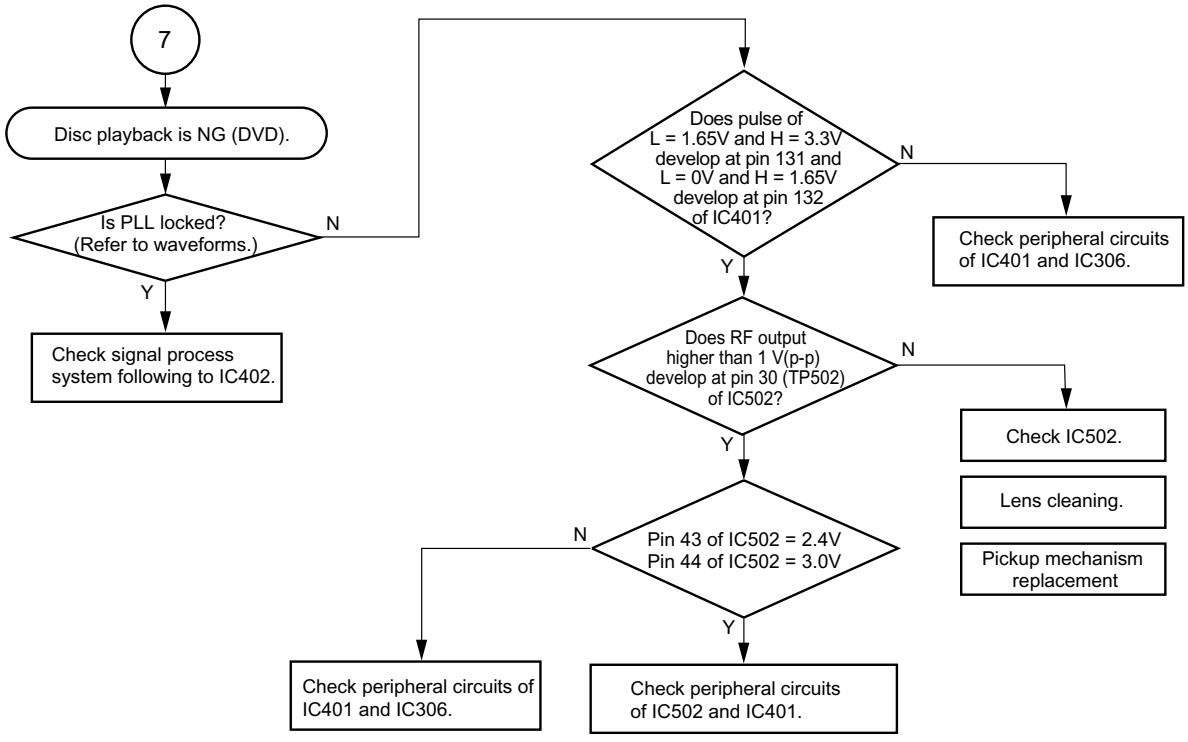
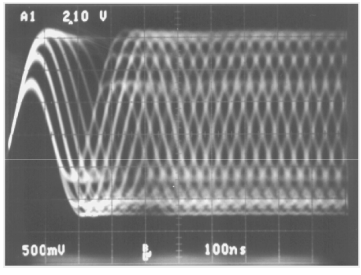


Fig. 1-3-16

PLL works as a servo loop to generate a clock signal for reading RF signal binary data. With the PLL locked, the eye pattern is identified clearly when triggered with the read clock PLCK.

DVD RF signal

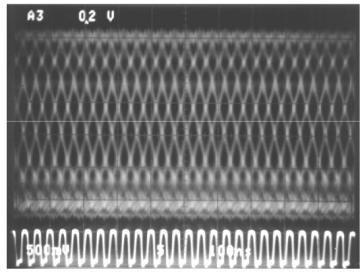


DVD RF signal
Pin 30 (TP502) of IC502

V : 500 mV/div
H : 50 ns/div

Fig. 1-3-17

DVD playback waveform



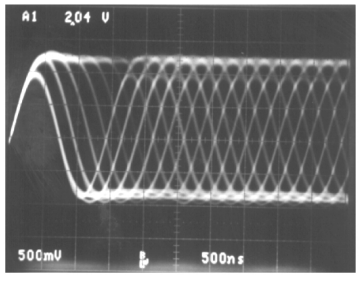
DVD RF signal
Pin 30 (TP502) of IC502

DVD PLCK
Pin 117 (TP409) of IC401

CH1 : TP502 DVDRF 500 mV/div
CH2 : TP409 DVDPLCK 5 V/div
50 ns/div

Fig. 1-3-19

CD RF signal

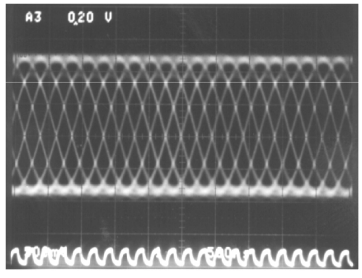


CD RF signal
Pin 30 (TP502) of IC502

V : 500 mV/div
H : 100 ns/div

Fig. 1-3-18

CD playback waveform



CD RF signal
Pin 30 (TP502) of IC502

CD PLCK
Pin 117 (TP409) of IC401

CH1 : TP502 CDRF 500 mV/div
CH2 : TP409 CDPLCK 5 V/div
100 ns/div

Fig. 1-3-20

3-1-2. Location Diagram of Servo Test Point

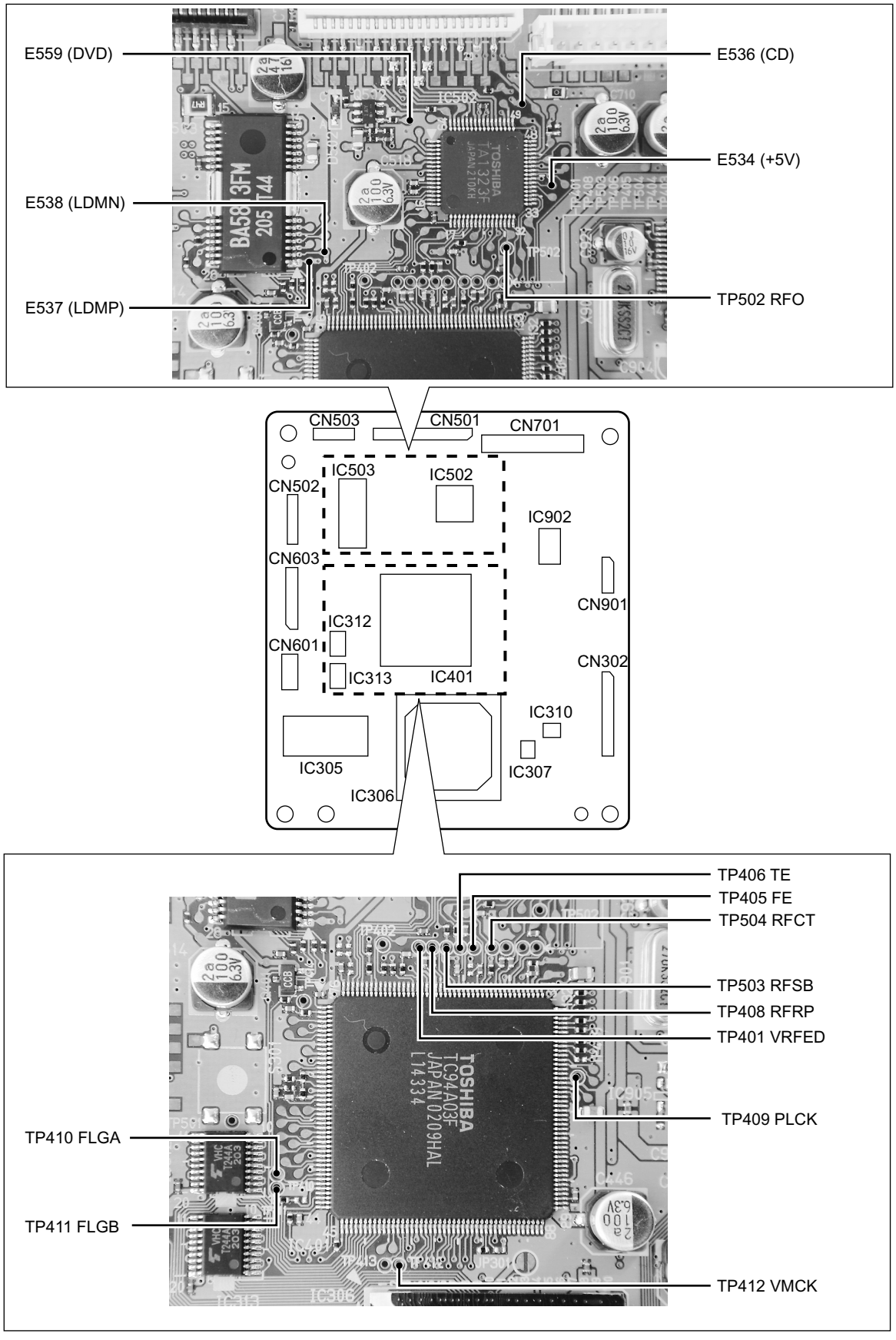


Fig. 1-3-21

SECTION 2
PART REPLACEMENT AND ADJUSTMENT PROCEDURES

CAUTIONS BEFORE STARTING SERVICING

Electronic parts are susceptible to static electricity and may easily damaged, so do not forget to take a proper grounding treatment as required.

Many screws are used inside the unit. To prevent missing, dropping, etc. of the screws, 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 (TYPE A)

1-1. Cabinet Replacement

1-1-1. Top Cover

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

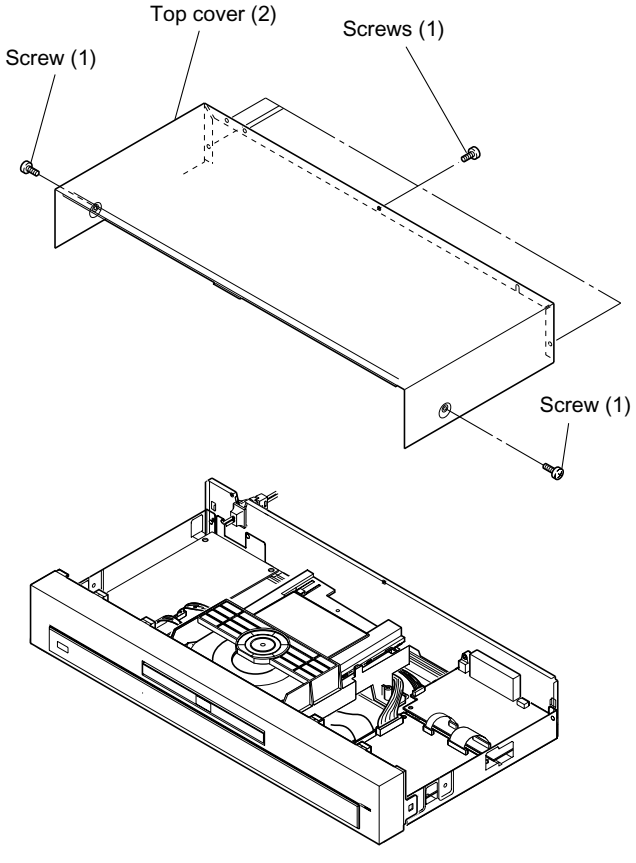


Fig. 2-1-1

1-1-2. Tray Panel

<Tray Ejection>

1. Insert a paper clip, etc. into the hole A to eject the tray (1).

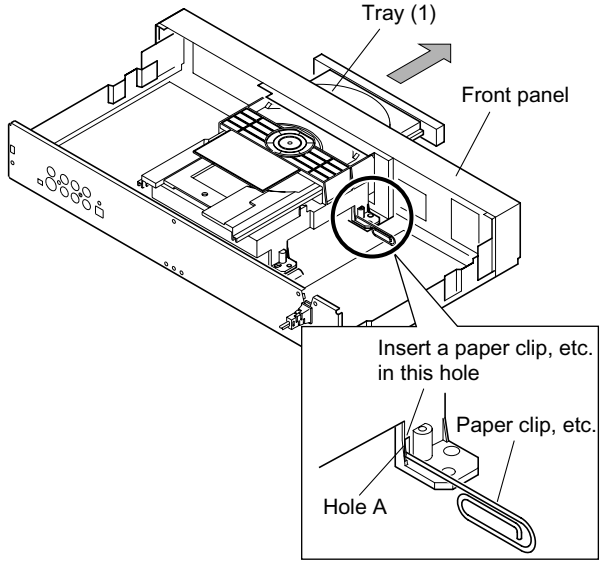


Fig. 2-1-2

<Tray Panel Removal>

1. Eject the tray (1). (Refer to item 1-1-2.)
2. Twist the tray panel (2) a little in the arrow A direction with the tray (1) hold by hand to release two claws and lift up the tray panel (2) in the arrow B direction, then the tray panel (2) is removed.
3. When mounting the tray panel (2), insert the tray panel (2) along the grooves of the both sides of the tray (1) until clicking.

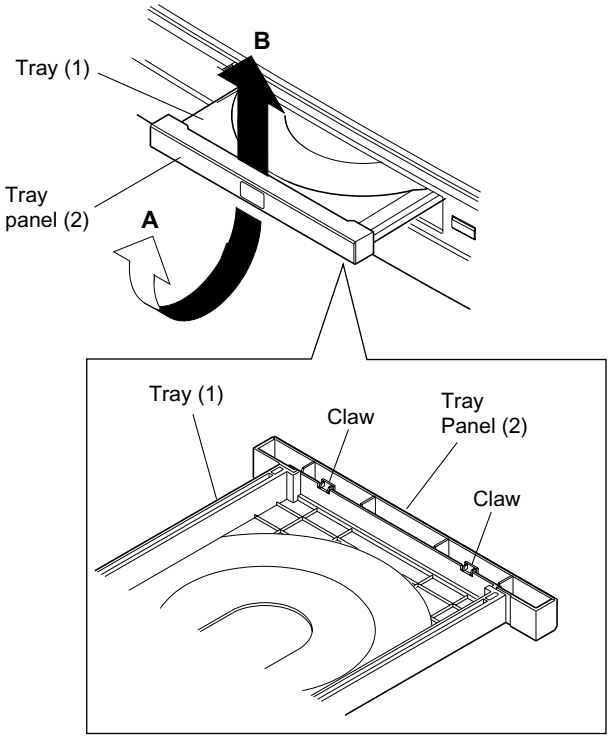


Fig. 2-1-3

1-1-3. Front Panel

1. Remove one flexible cable (1).
2. Release four claws, then remove the front panel (2).

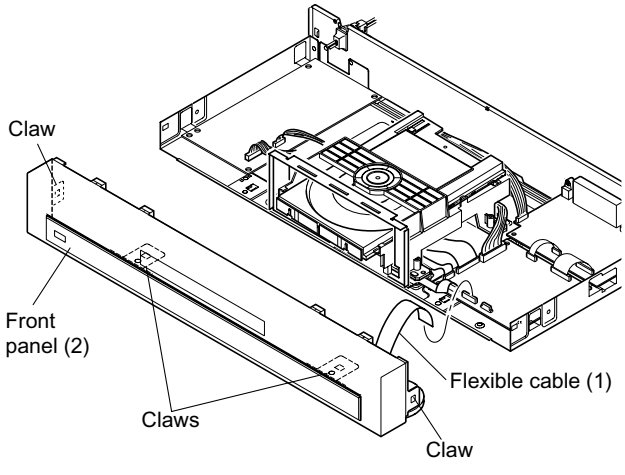


Fig. 2-1-4

1-1-4. Tray

1. Pull out the tray (1) towards you until it stops.
2. Lift up claw A with a minus screwdriver, and pull out the tray (1) towards you, then remove the tray (1).

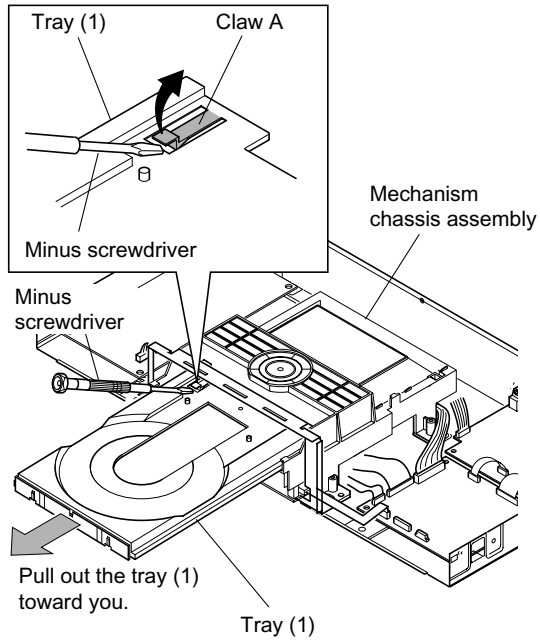


Fig. 2-1-5

1-1-5. Rear Panel

1. Remove the bush (1).
2. Remove four screws (2), then remove the rear panel (3).

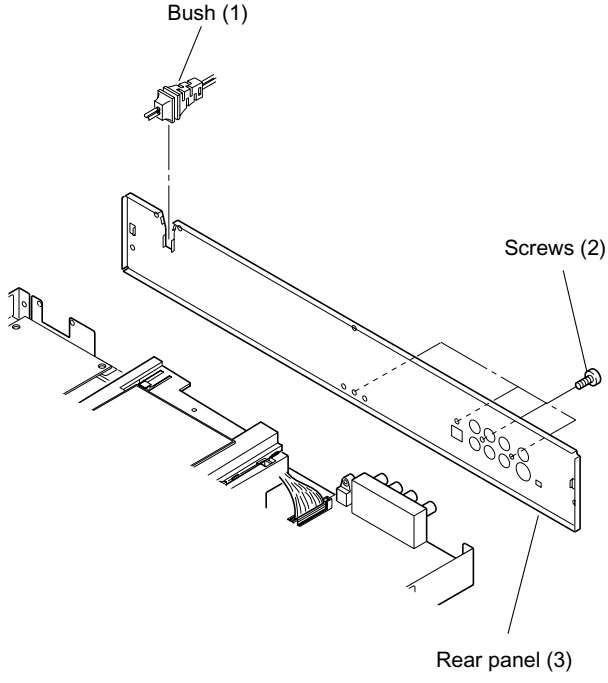


Fig. 2-1-6

1-2. PC Board Replacement

1-2-1. Main PC Board

Note:

- Before removing the main PC board (4), be sure to short-circuit the laser diode output land.

  After replacing, open the land as it was after inserting the flexible cables (1).

1. Remove the top cover. (Refer to item 1-1-1.)
2. Eject the tray. (Refer to item 1-1-2.)
3. Remove six flexible cables (1) and remove one connector (2).
4. Remove four screws (3), then remove the main PC board (4).

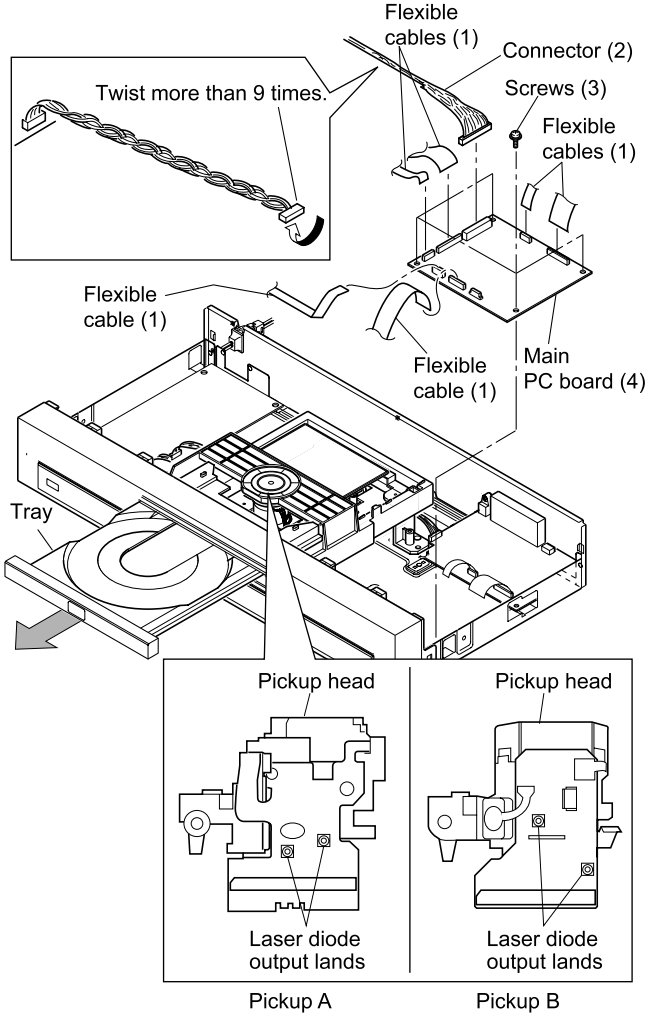


Fig. 2-1-7

1-2-2. Output PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off two tapes (1) and remove the connector (2).
3. Remove two flexible cables (3).
4. Remove five screws (4), then remove the output PC board (5).

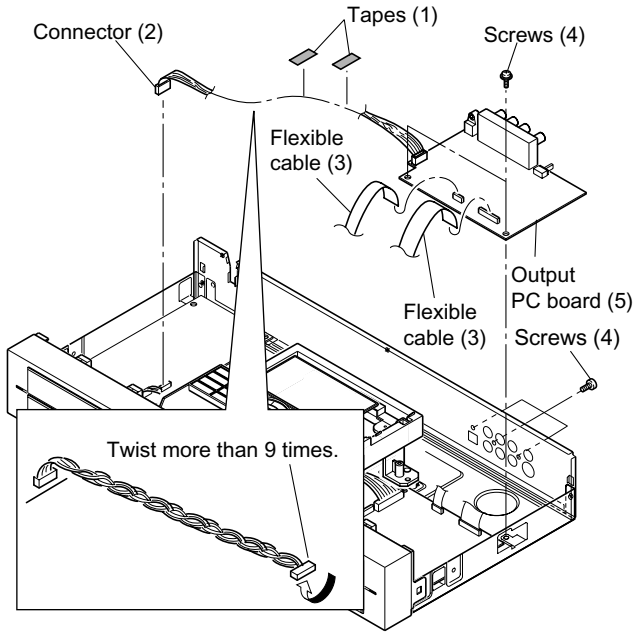


Fig. 2-1-8

1-2-3. Power PC board

1. Remove the bush (1).
2. Peel off two tapes (2) and remove two connectors (3).
3. Remove four screws (4), then remove the power supply PC board (5).

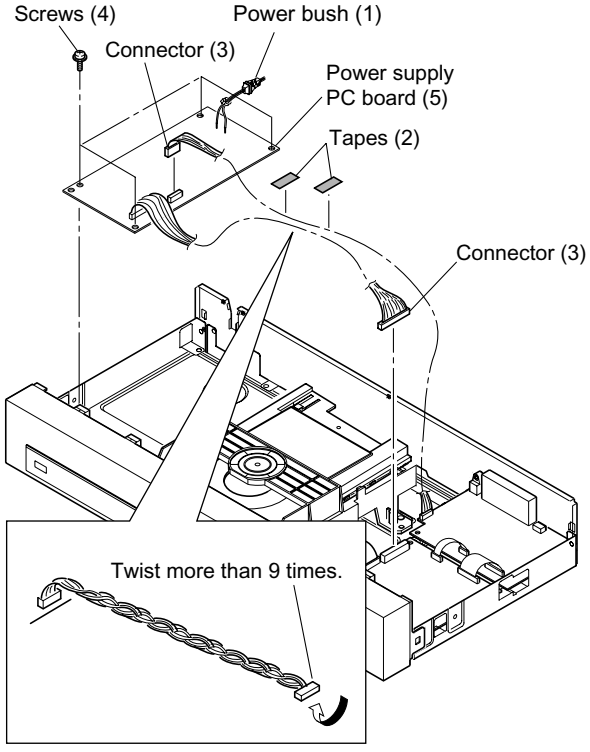


Fig. 2-1-9

1-2-4. Front PC Board

1. Remove the front panel. (Refer to item 1-1-3.)
2. Remove the flexible cable (1).
3. Remove nine screws (2), then remove the front display PC board (3).
4. Remove two screws (4), then remove the power switch PC board (5).
5. Remove three screws (6), then remove the ENTER switch (7).

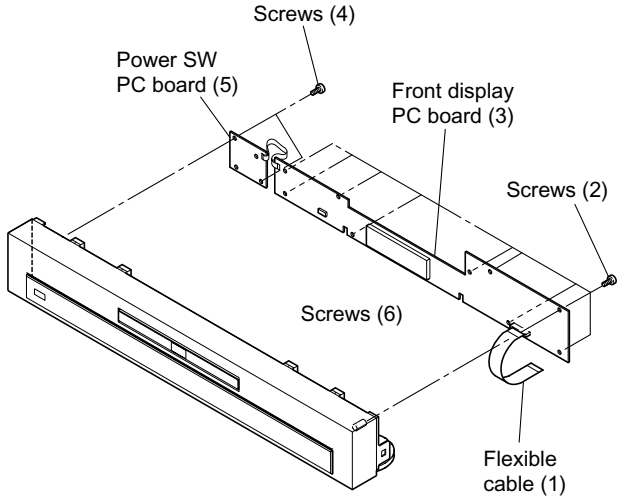


Fig. 2-1-10

1-3. Mechanism Parts

1-3-1. Mechanism Chassis Assembly

Note:

- When removing the mechanism chassis assembly (3), be sure to short-circuit the laser diode output land before removing the connector and the flexible cables.

  After replacing, open the land as it was after inserting the connector and flexible cables.

1. Remove the front panel. (Refer to item 1-1-3.)
2. Remove three flexible cables (1).
3. Remove four screws (2), then remove the mechanism chassis assembly (3).

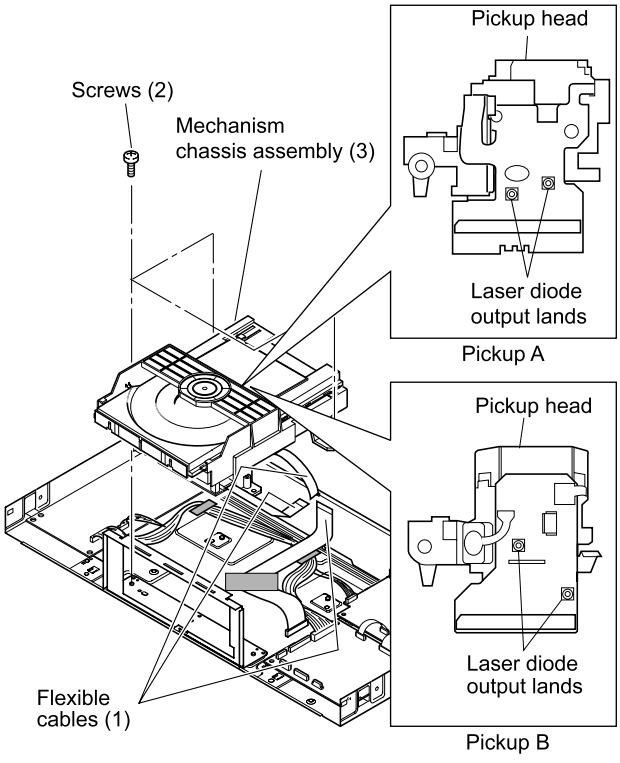


Fig. 2-1-11

2. REPLACEMENT OF MECHANICAL PARTS (TYPE B)

2-1. Cabinet Replacement

2-1-1. Top Cover

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

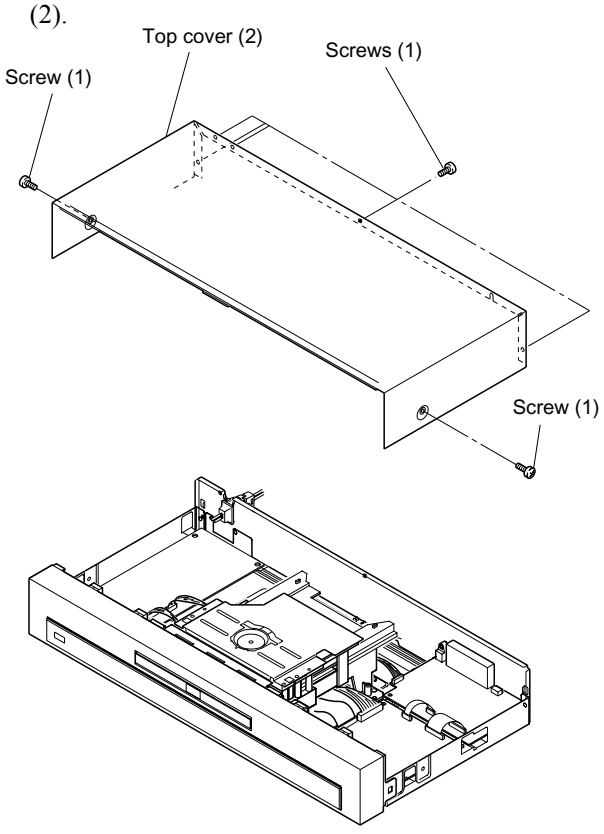


Fig. 2-1-12

2-1-2. Clamper Stay

<Removal>

1. Remove two screws (1).
2. Release two claws and remove the clamper stay (2).

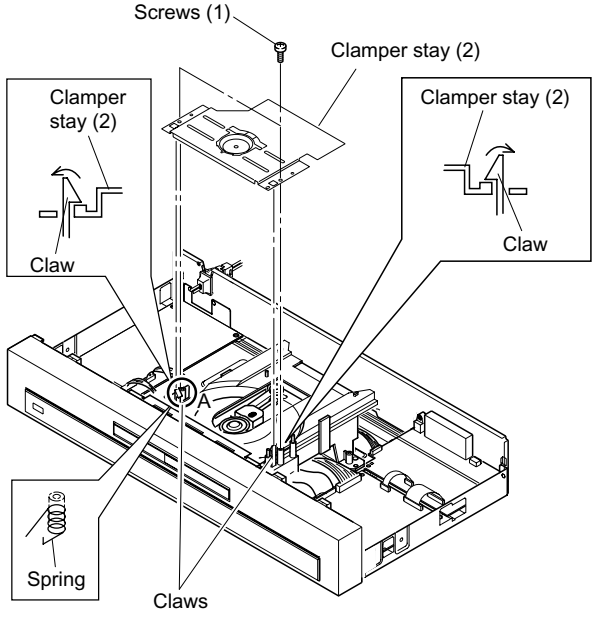


Fig. 2-1-13

<Mounting >

1. The spring for tray side pressure is inserted into the portion “A”. (Refer to Fig. 2-1-13.)
2. By referring to Fig. 2-1-14, insert the spring normally and mount the clamper stay.

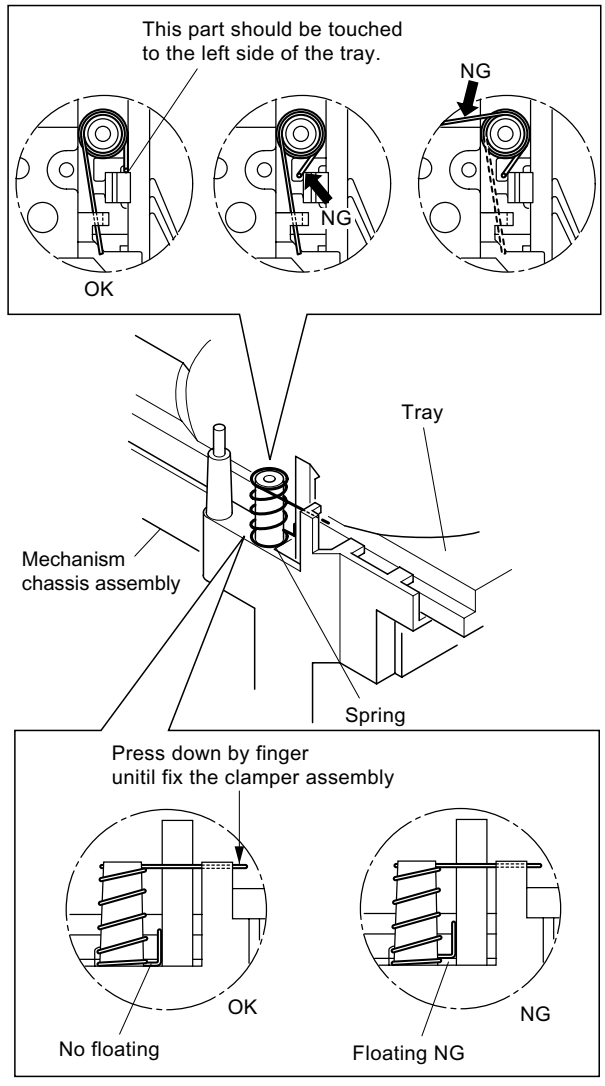


Fig. 2-1-14

2-1-3. Tray Panel

<Tray Ejection>

1. Slide the slider (2) of the mechanism chassis assembly (1) with a screwdriver, etc. in the arrow direction, so that the tray (3) is ejected.

Note:

- Take care not to damage the pickup and other parts.

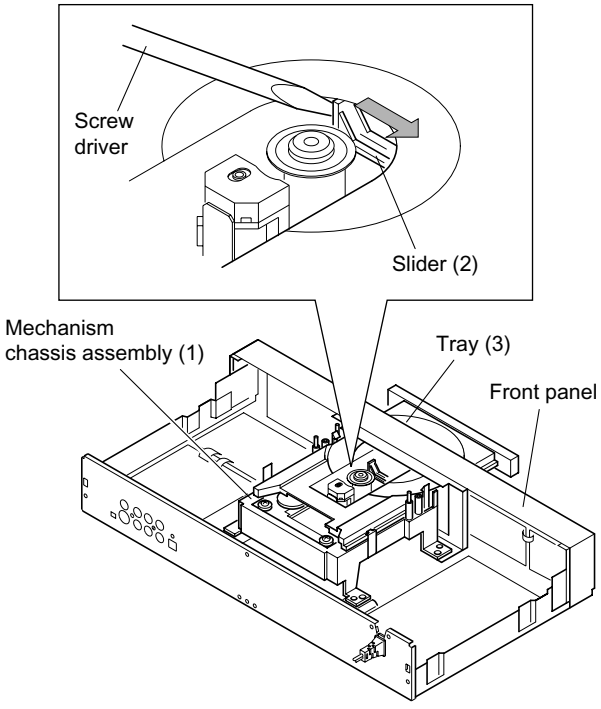


Fig. 2-1-15

<Tray Panel Removal>

1. Eject the tray (3).
2. Twist the tray panel (4) a little in the arrow A direction with the tray (3) hold by hand to release two claws and lift up the tray panel (4) in the arrow B direction, then the tray panel (4) is removed. (Refer to Fig. 2-1-16.)
3. When mounting the tray panel (4), insert the tray panel (4) along the grooves of the both sides of the tray (3) until clicking.

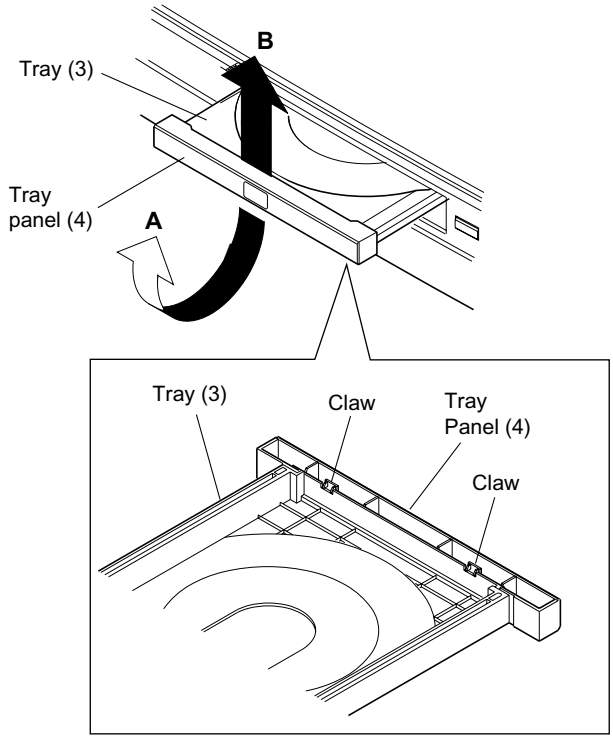


Fig. 2-1-16

2-1-4. Front Panel and Tray

1. Remove the flexible cable (1).
2. Release four claws and remove the front panel (2).
3. Pull out the tray (3) towards you.

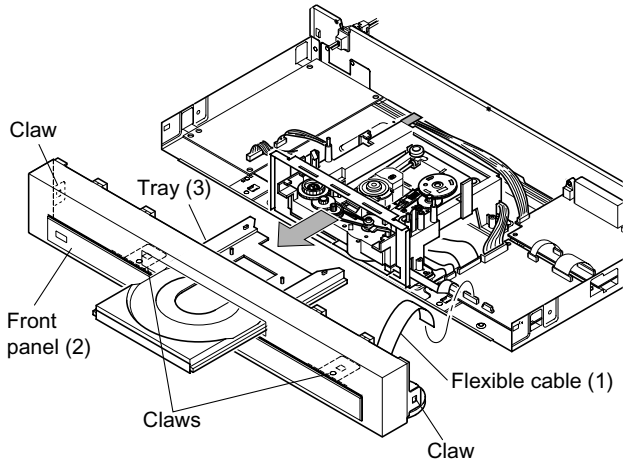


Fig. 2-1-17

Note:

- Insert the tray (3) with the front side of the pickup mechanism assembly descended. (The slider positions to the left side.)
- The gears are required to match their phases each other. After setting the gear (4) as shown in the figure “A”, insert the tray (3). When inserting a tray (3), push the rack gear side shown by the arrow.

- Confirm that the mark of the gear matches with the triangle mark on the reverse side of the tray in the tray close status. (The gear is rotated with the slider locks.) (Refer to Fig. B.)

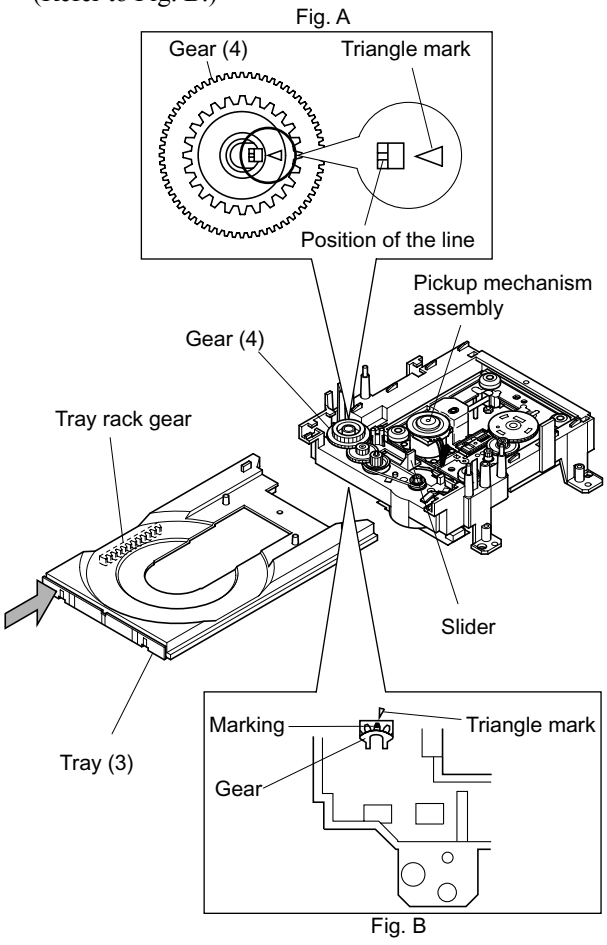


Fig. 2-1-18

2-1-5. Rear Panel

1. Remove the bush (1).
2. Remove four screws (2), then remove the rear panel (3).

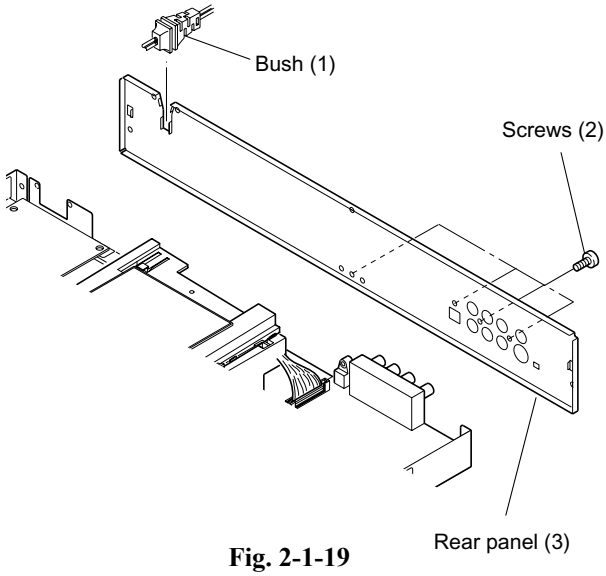


Fig. 2-1-19

2-2. PC Board Replacement

2-2-1. Main PC Board

Note:

- Before removing the main PC board (4), be sure to short-circuit the laser diode output land.

  After replacing, open the land as it was after inserting the flexible cables (1).

1. Remove the top cover. (Refer to item 2-1-1.)
2. Eject the tray. (Refer to item 2-1-3.)
3. Remove six flexible cables (1) and remove one connector (2).
4. Remove four screws (3), then remove the main PC board (4).

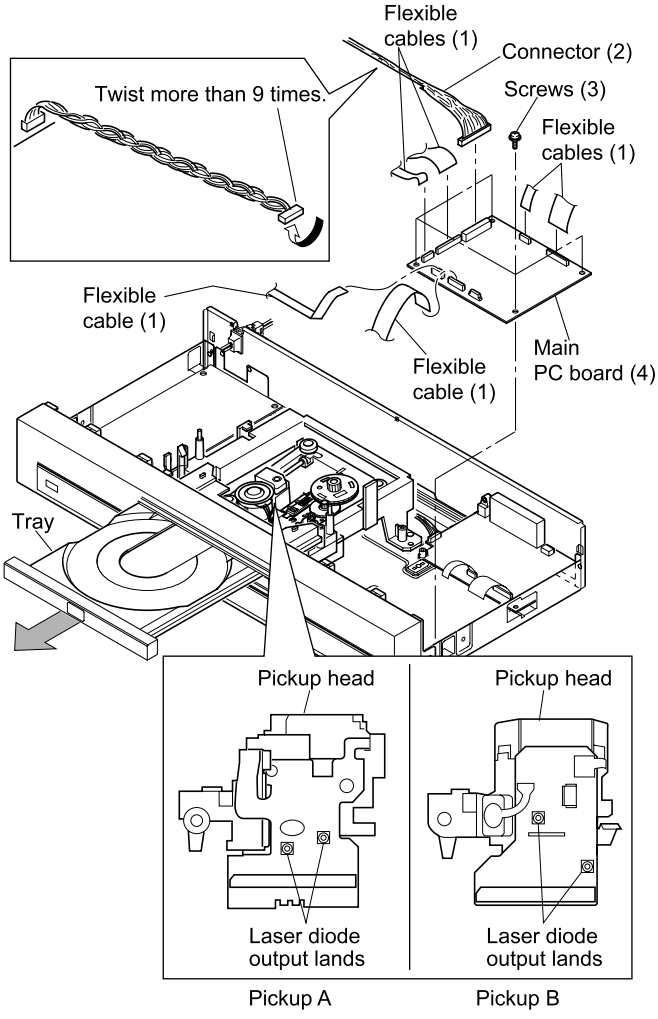


Fig. 2-1-20

2-2-2. Output PC Board

1. Remove the top cover. (Refer to item 2-1-1.)
2. Peel off two tapes (1) and remove the connector (2).
3. Remove two flexible cables (3).
4. Remove five screws (4), then remove the output PC board (5).

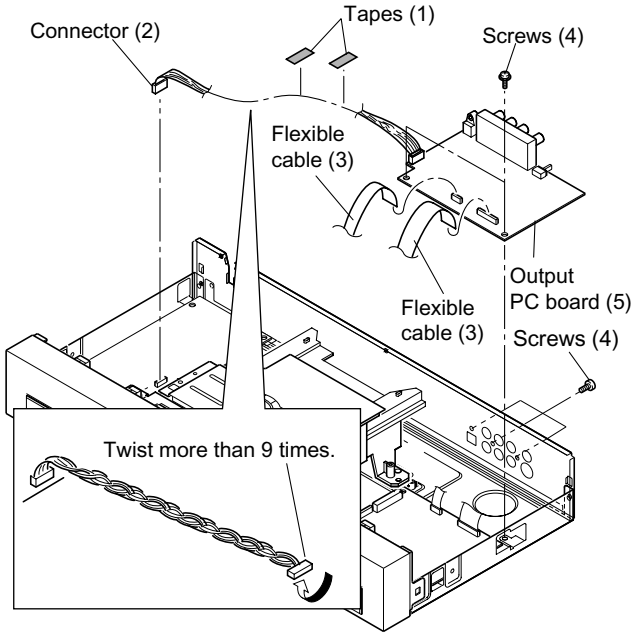


Fig. 2-1-21

2-2-3. Power PC board

1. Remove the power bush (1).
2. Peel off two tapes (2) and remove two connectors (3).
3. Remove four screws (4), then remove the power supply PC board (5).

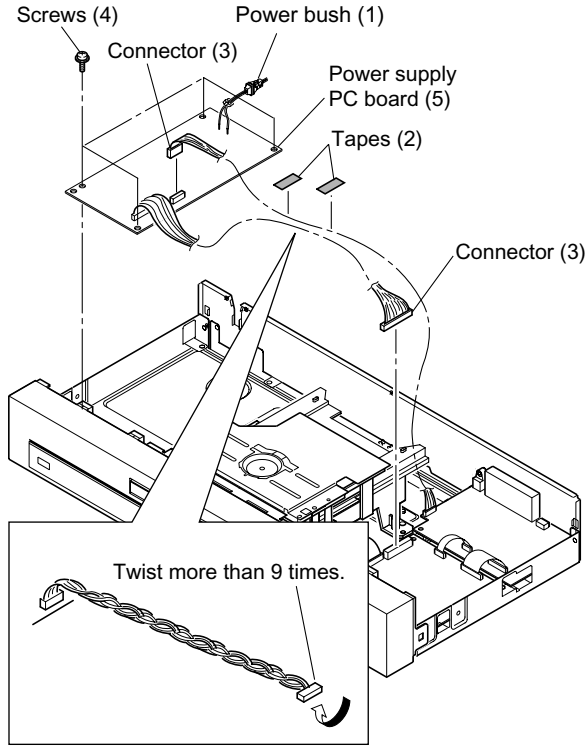


Fig. 2-1-22

2-2-4. Front PC Board

1. Remove the front panel. (Refer to item 2-1-4.)
2. Remove the flexible cable (1).
3. Remove six screws (2), then remove the front display PC board (3).
4. Remove two screws (4), then remove the power switch PC board (5).
5. Remove three screws (6), then remove the ENTER switch (7).

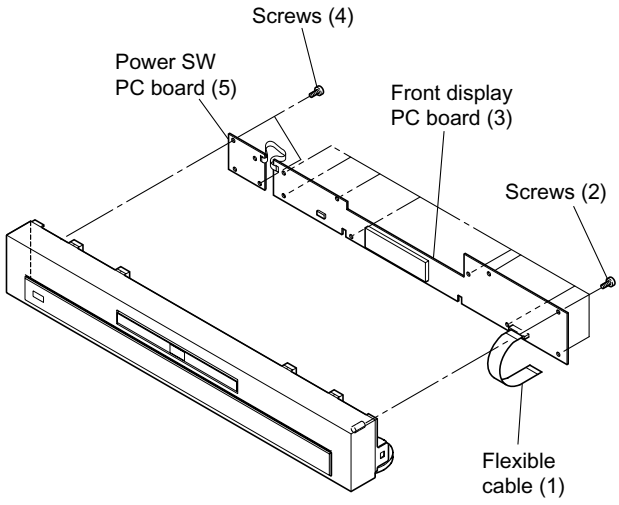


Fig. 2-1-23

2-3. Mechanism Parts

2-3-1. Mechanism Chassis Assembly

Note:

- When removing the mechanism chassis assembly (3), be sure to short-circuit the laser diode output land before removing the connector and the flexible cables.

  After replacing, open the land as it was after inserting the connector and flexible cables.

1. Remove the tray. (Refer to items 2-1-3 and 2-1-4.)
2. Remove three flexible cables (1).
3. Remove four screws (2), then remove the mechanism chassis assembly (3).

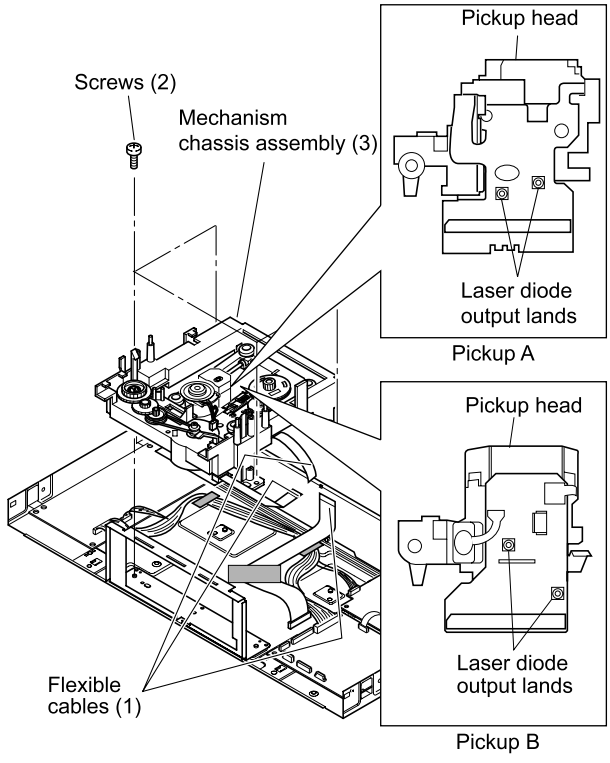


Fig. 2-1-24

SECTION 3
SERVICING DIAGRAMS

1. STANDING PC BOARDS FOR SERVICING

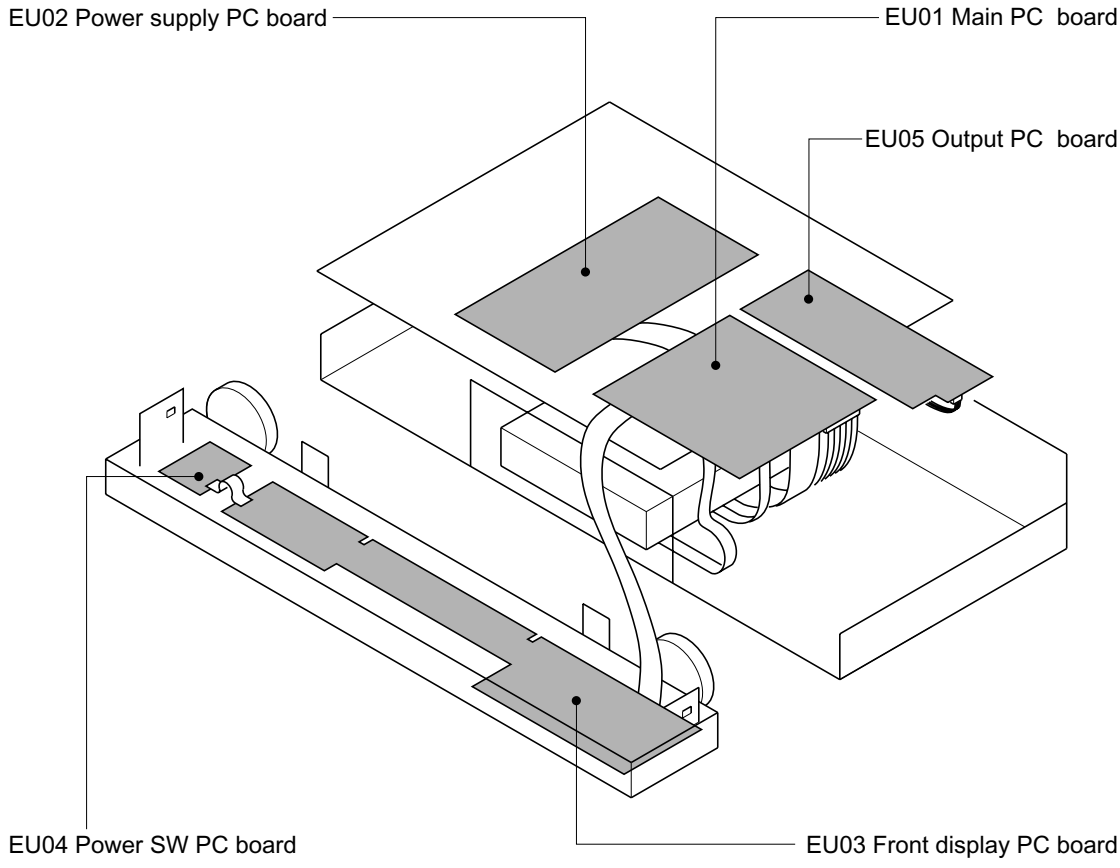


Fig. 3-1-1

2. CIRCUIT SYMBOLS AND SUPPLEMENTARY EXPLANATION

2-1. 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.

2-2. 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 W .....Metal film W .....Cement FR .....Fusible

Eg. 1

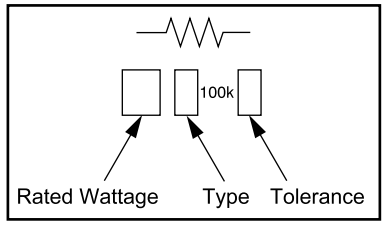


Fig. 3-2-1

2-3. Capacitance Indication

Symbol	.....Electrolytic, Special electrolytic NP .....Non polarity electrolytic .....Ceramic, plastic M .....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

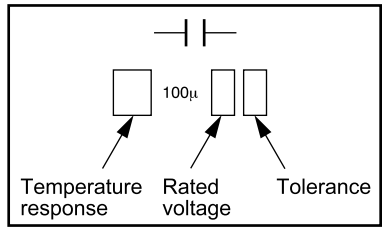


Fig. 3-2-2

Eg. 3

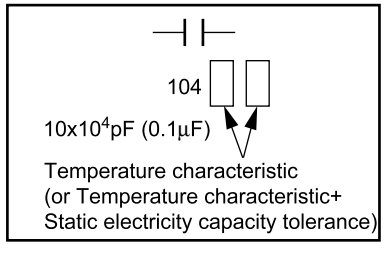


Fig. 3-2-3

2-4. 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

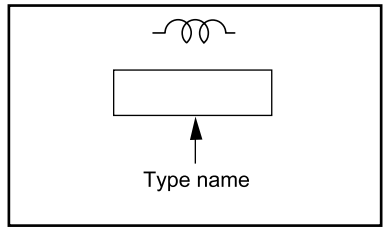


Fig. 3-2-4

2-5. 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

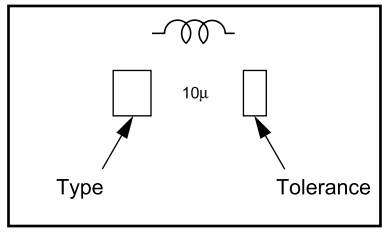


Fig. 3-2-5

2-6. Others

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

3. (A) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM - DD-6030

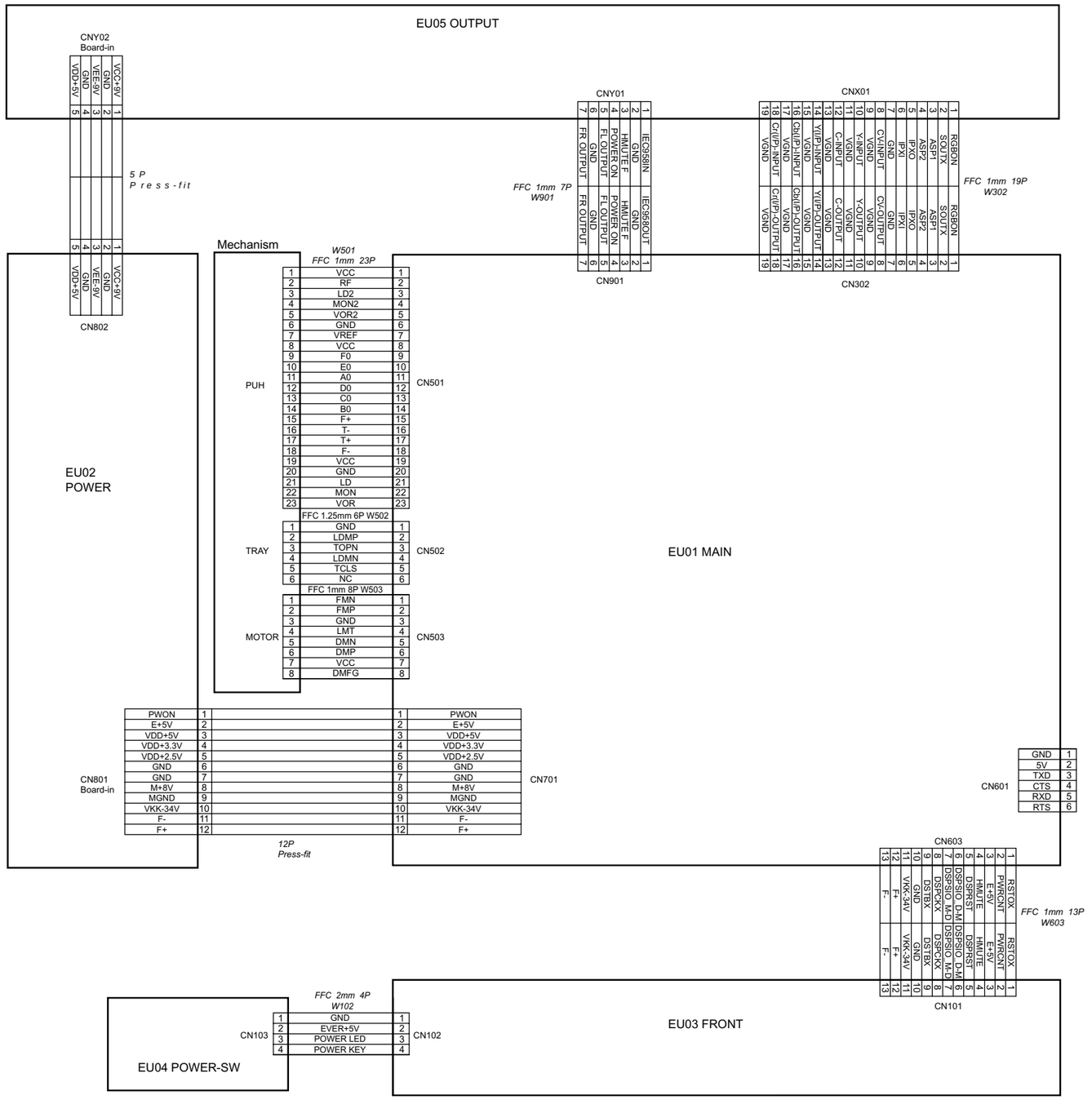


Fig. 3-3-1-A

3. (B) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM - DD-8030

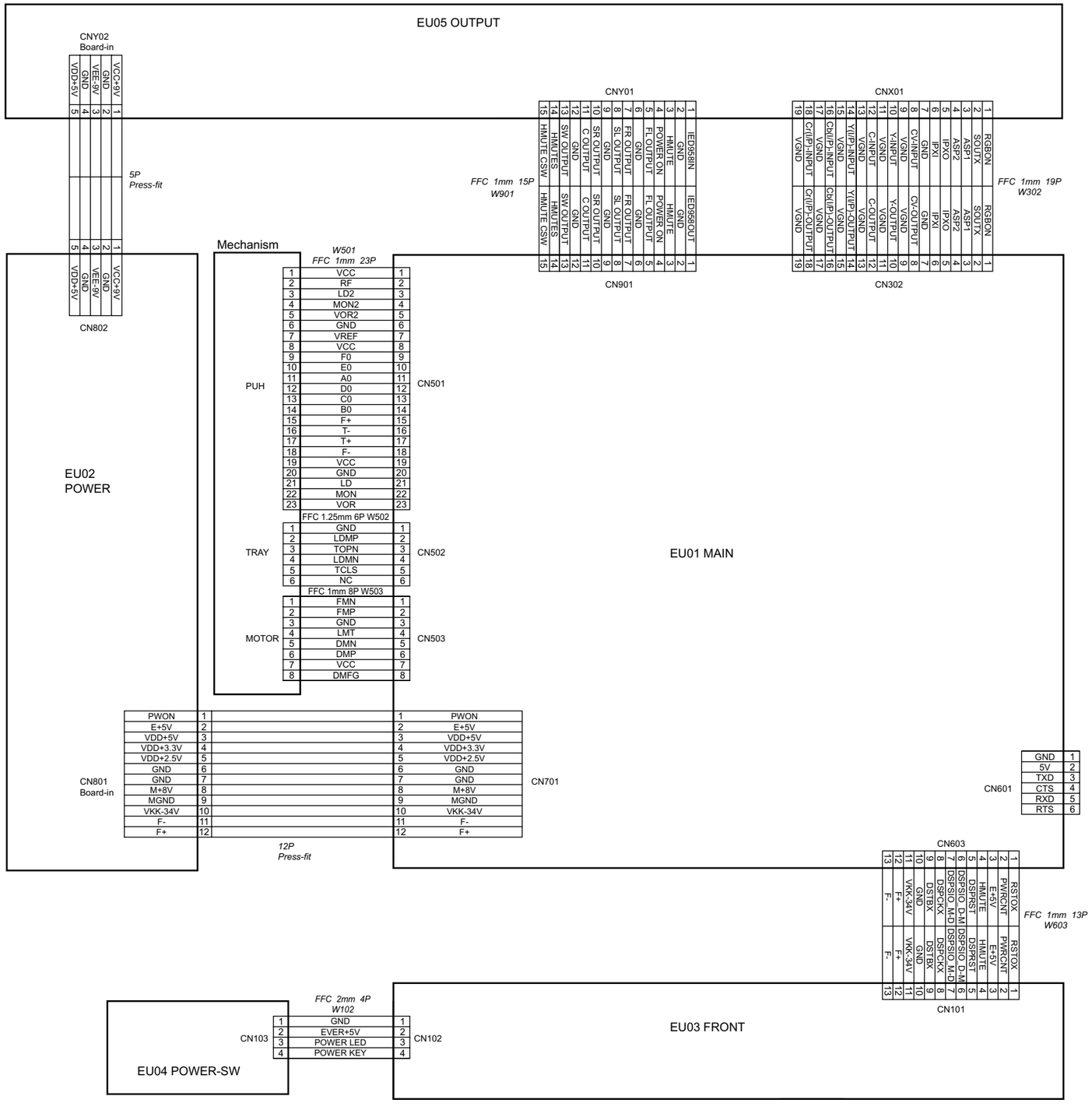


Fig. 3-1-1-B

4. BLOCK DIAGRAMS

4-1. (A) Overall Block Diagram - DD-6030

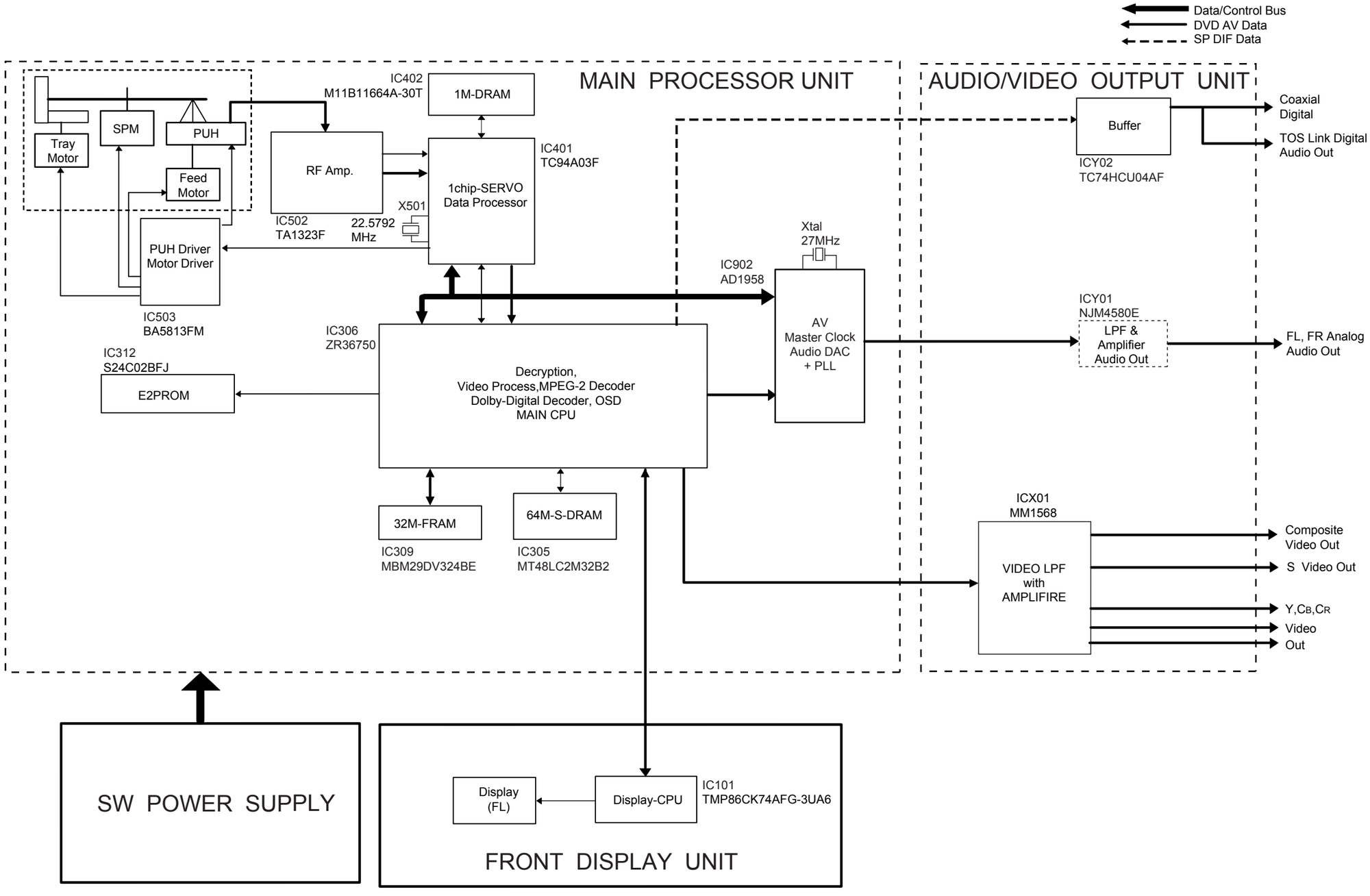


Fig.3-4-1-A

2-1. (B) Overall Block Diagram - DD-8030

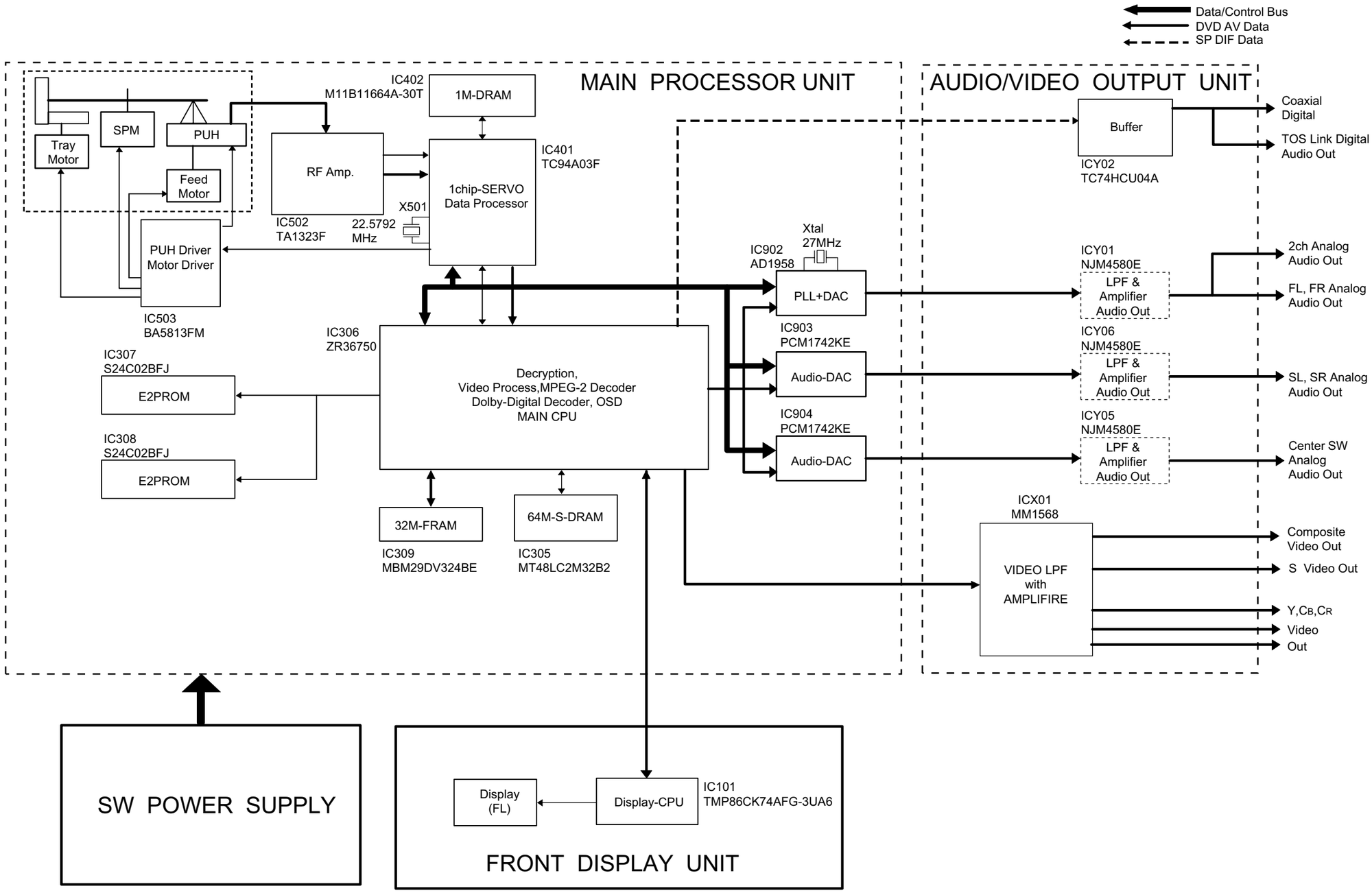


Fig.3-4-1-B

4-2. Power Supply Block Diagram

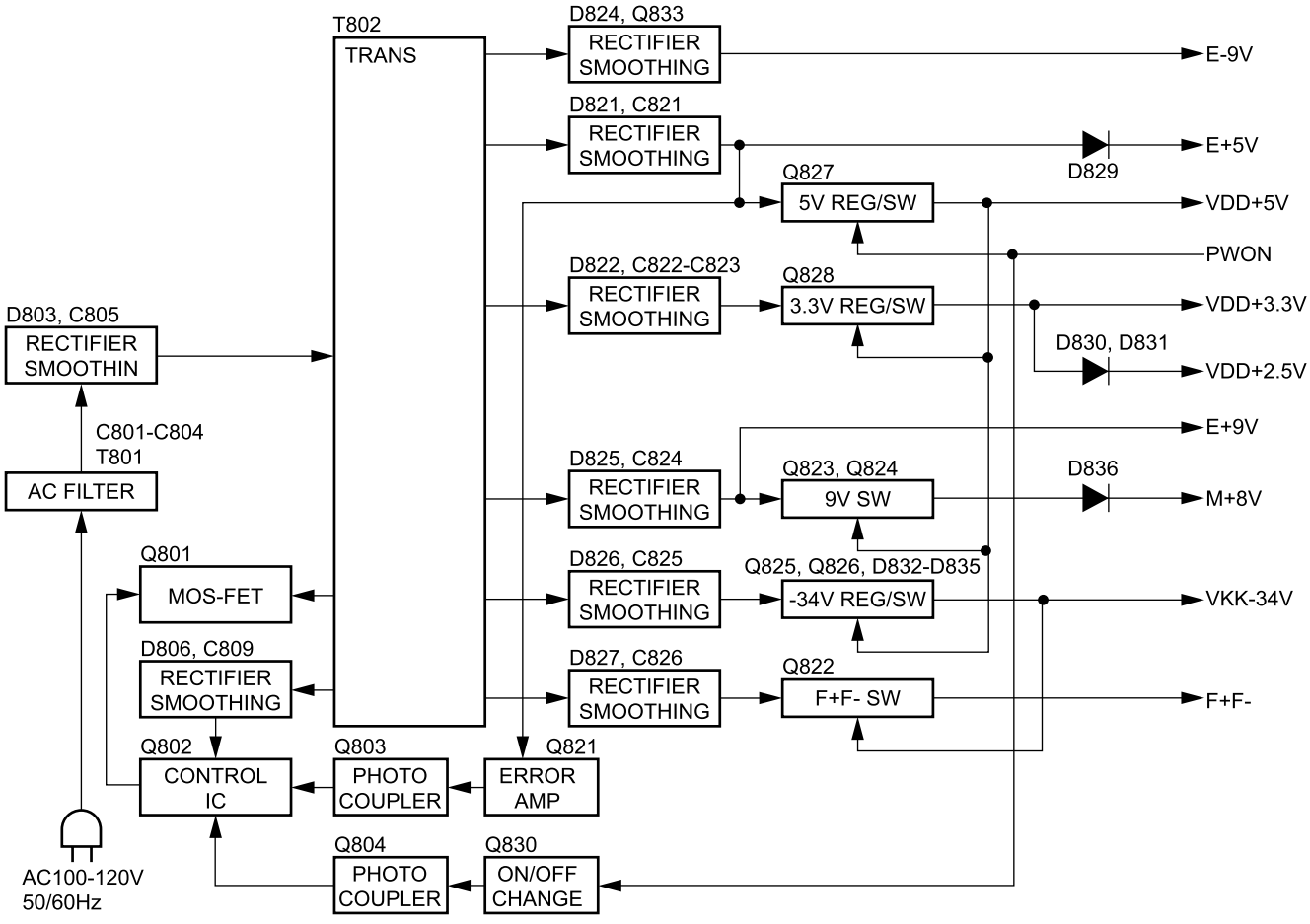


Fig. 3-4-2

4-3. Front Display, Power Switch Block Diagram

4-3-1. Front Display

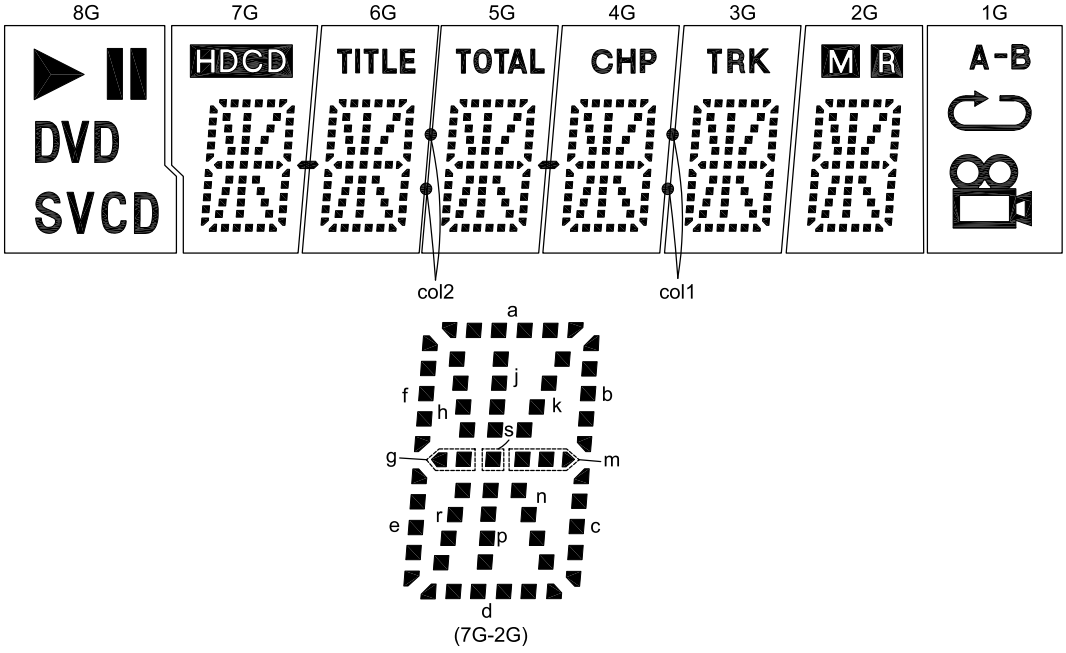


Fig. 3-4-3

4-3-2. Front Display Pattern

	8G	7G	6G	5G	4G	3G	2G	1G
P1	▶	a	a	a	a	a	a	A
P2	❚❚	f	f	f	f	f	f	-B
P3	DVD	h	h	h	h	h	h	↻
P4	S	j	j	j	j	j	j	🎥
P5	V	k	k	k	k	k	k	–
P6	CD	b	b	b	b	b	b	–
P7	–	g	g	g	g	g	g	–
P8	–	s	s	s	s	s	s	–
P9	–	m	m	m	m	m	m	–
P10	–	e	e	e	e	e	e	–
P11	–	r	r	r	r	r	r	–
P12	–	p	p	p	p	p	p	–
P13	–	n	n	n	n	n	n	–
P14	–	c	c	c	c	c	c	–
P15	–	d	d	d	d	d	d	–
P16	–	–	col2		col1		M	–
P17	–	⬬		⬬		–	R	–
P18	–	HDCD	TITLE	TOTAL	CHP	TRK	–	–

Fig. 3-4-4

4-3-3. Front Display , Power Switch Block Diagram

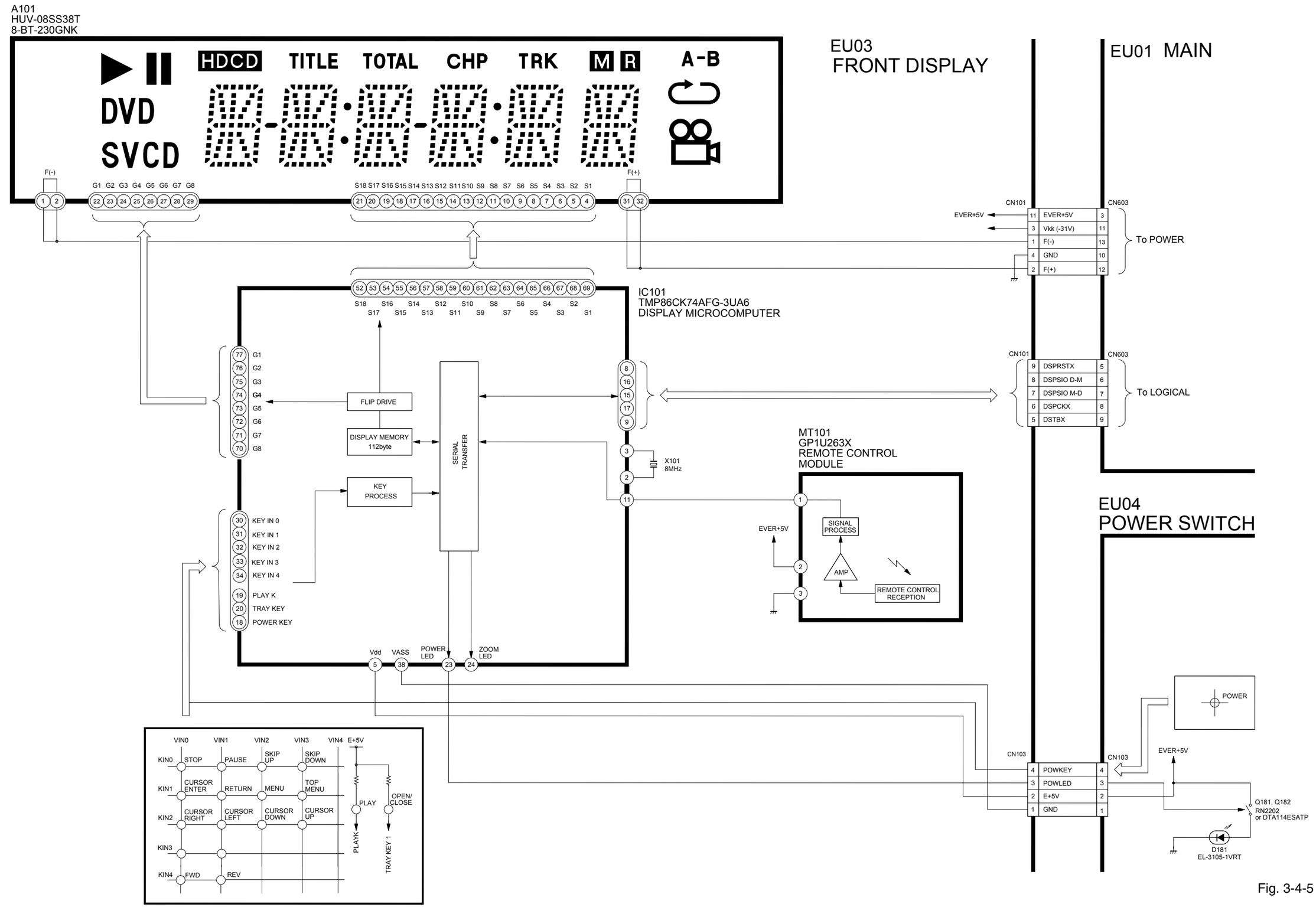


Fig. 3-4-5

4-4. Main Block Diagrams

4-4-1. Servo System Block Diagram

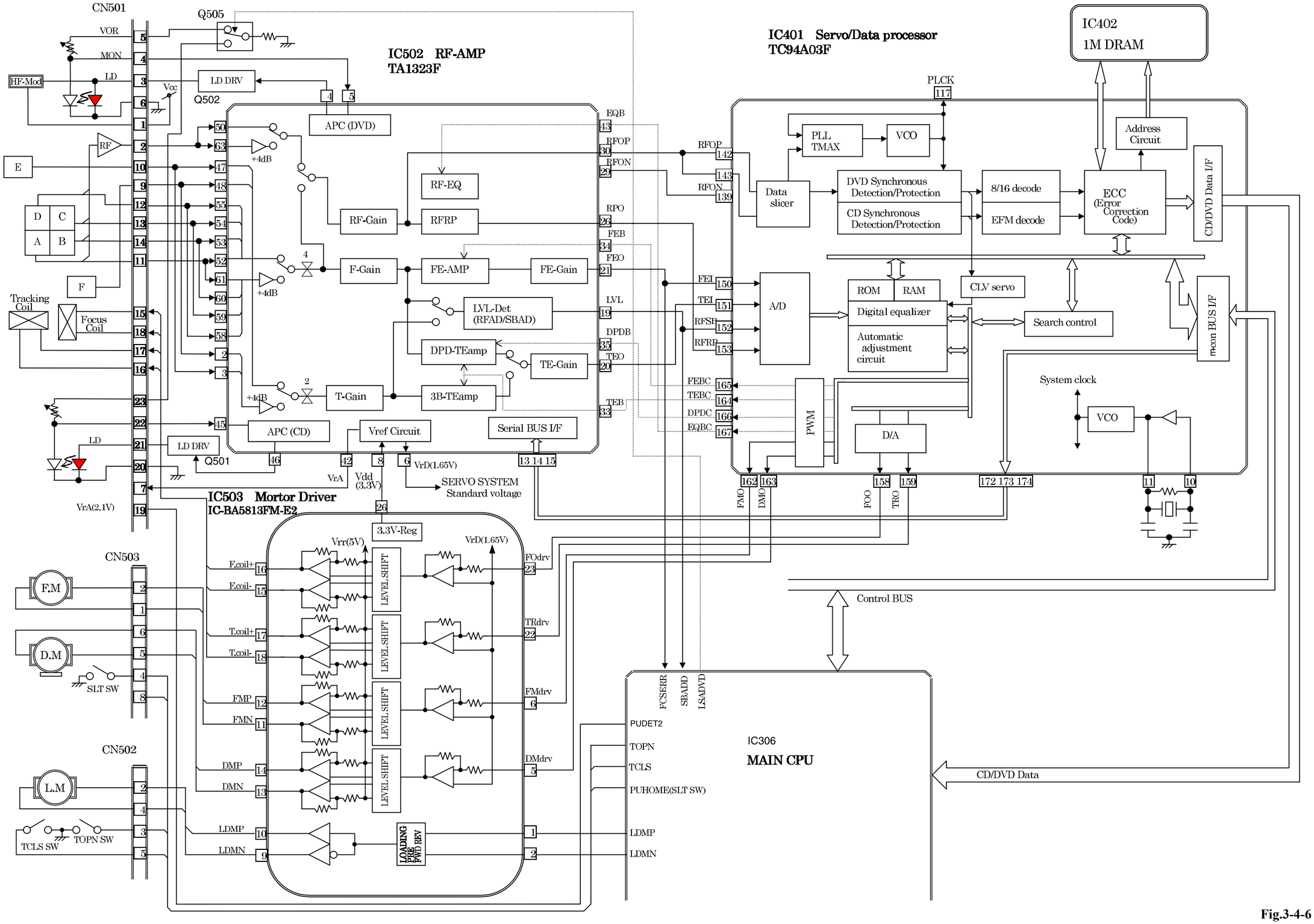


Fig.3-4-6

4-4-2. Logical System Block Diagram

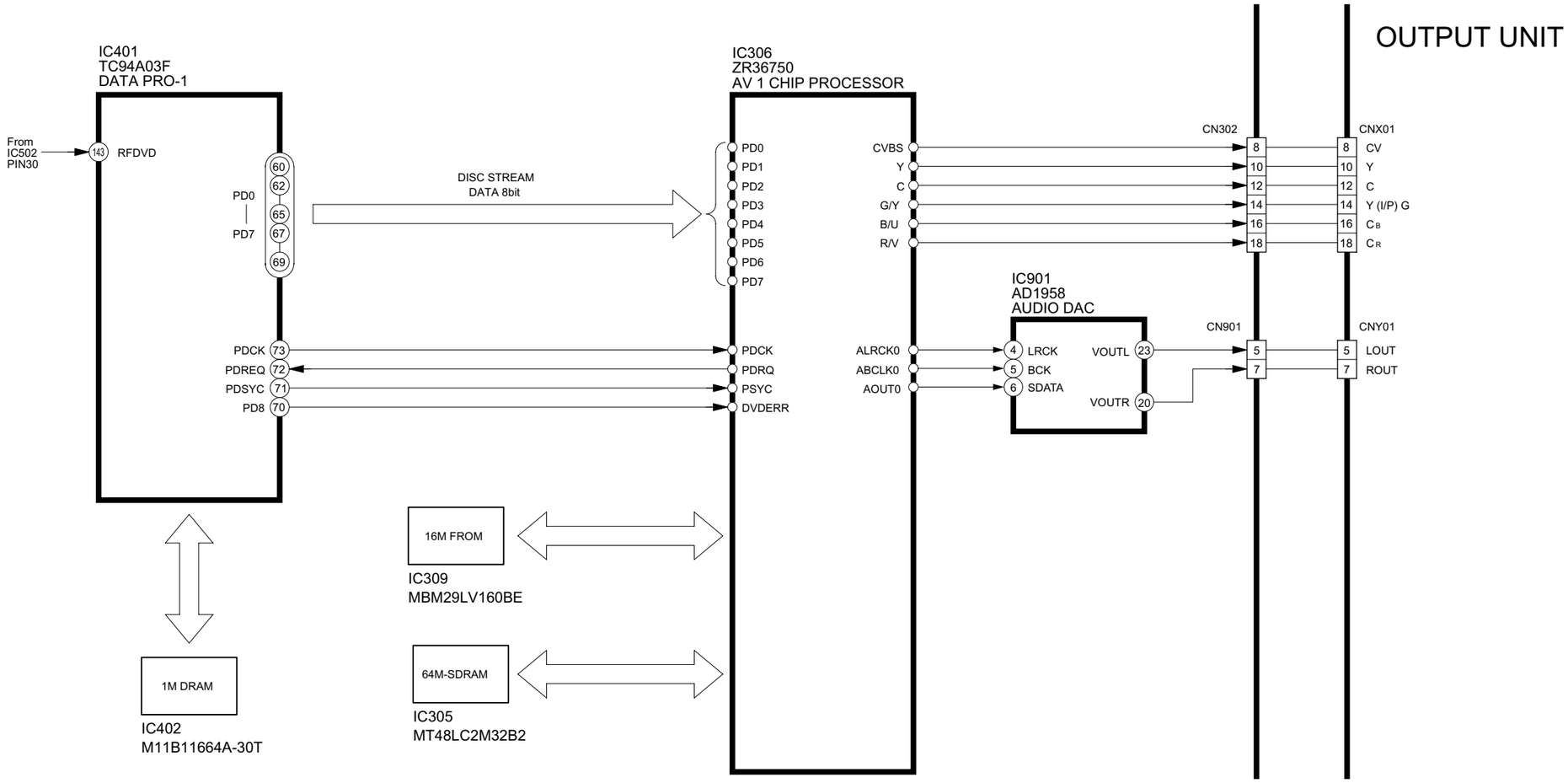


Fig. 3-4-7

4-5. (A) Output Block Diagram - DD-6030

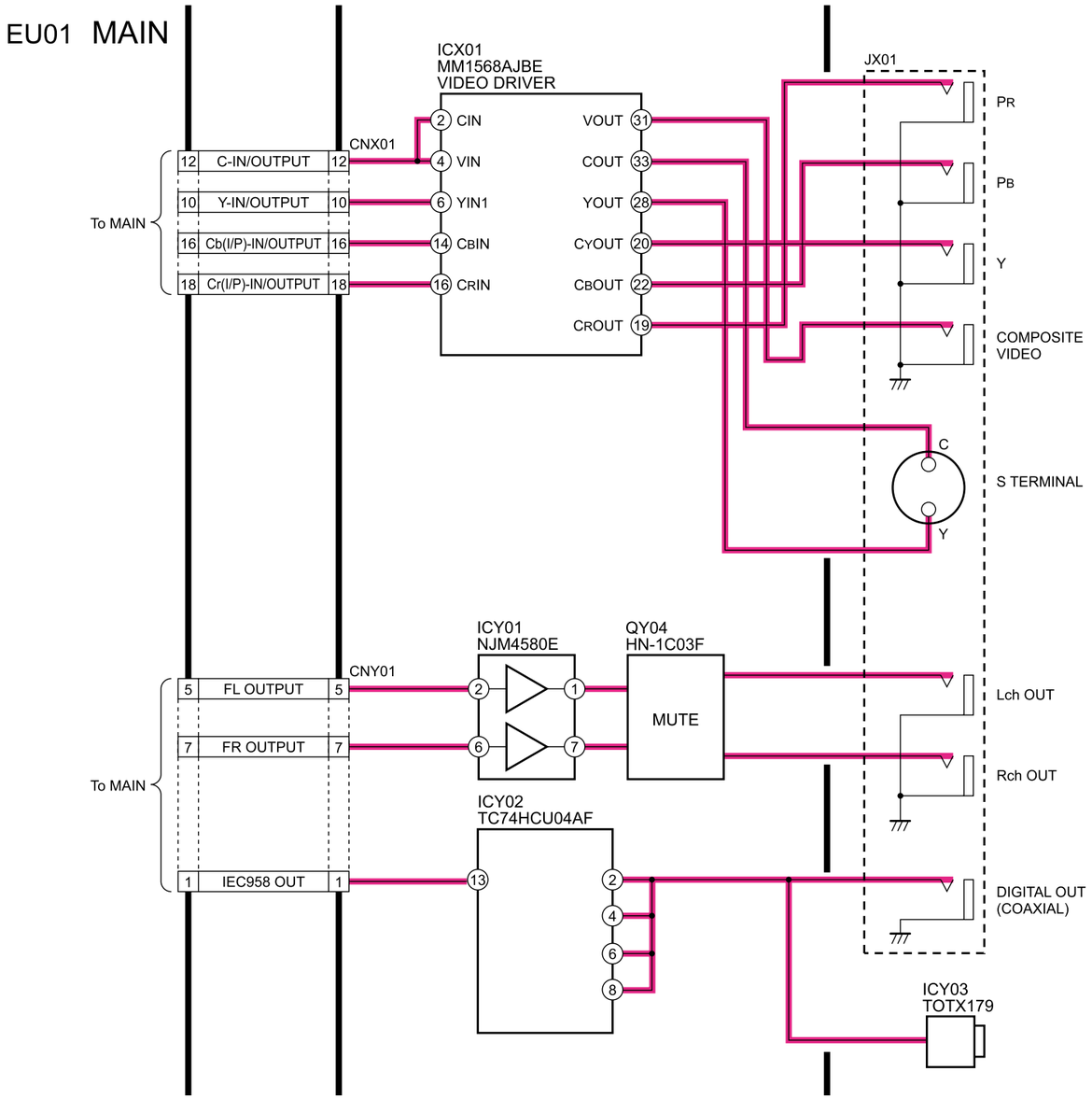


Fig. 3-4-8-A

4-5. (B) Output Block Diagram - DD-8030

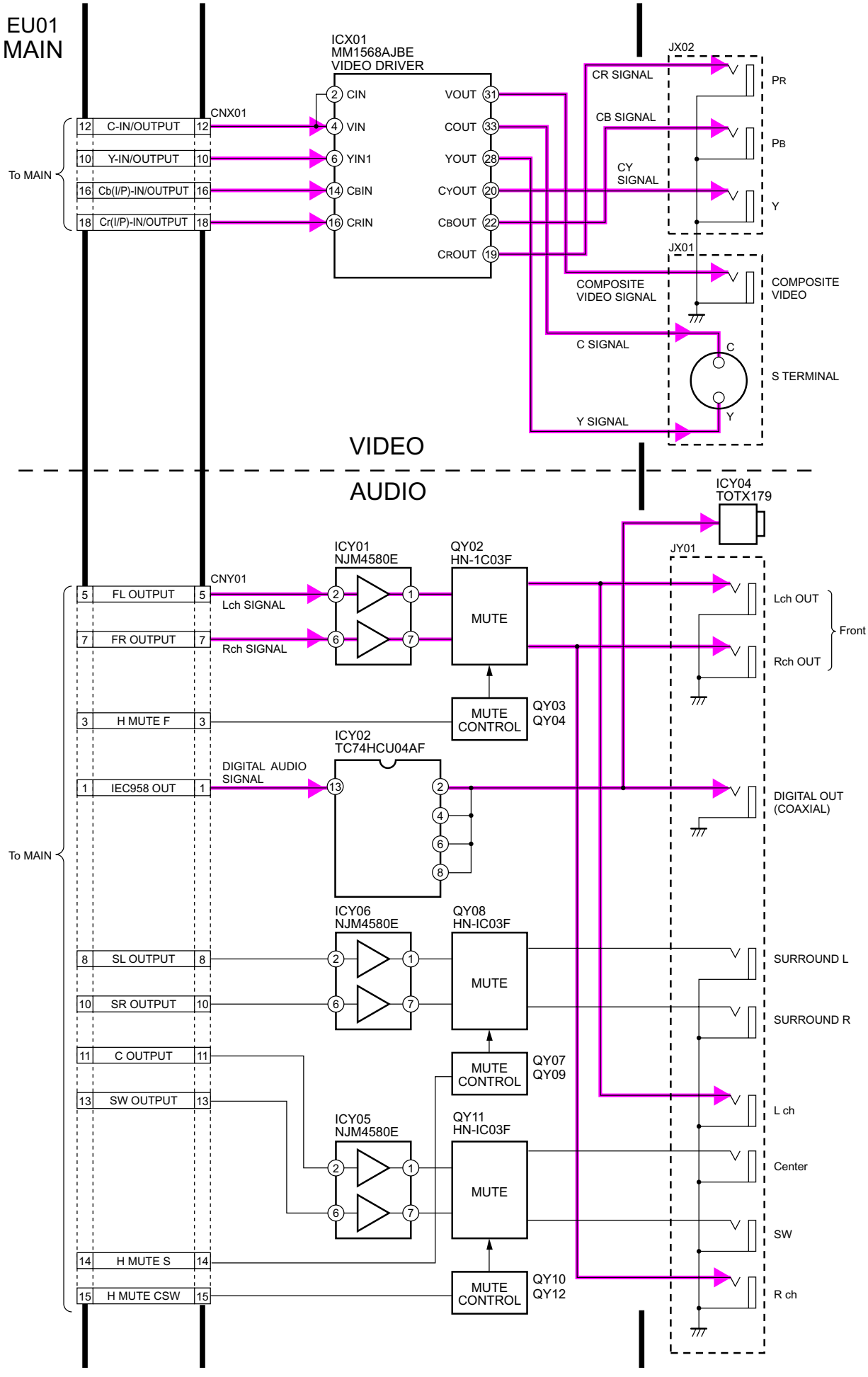


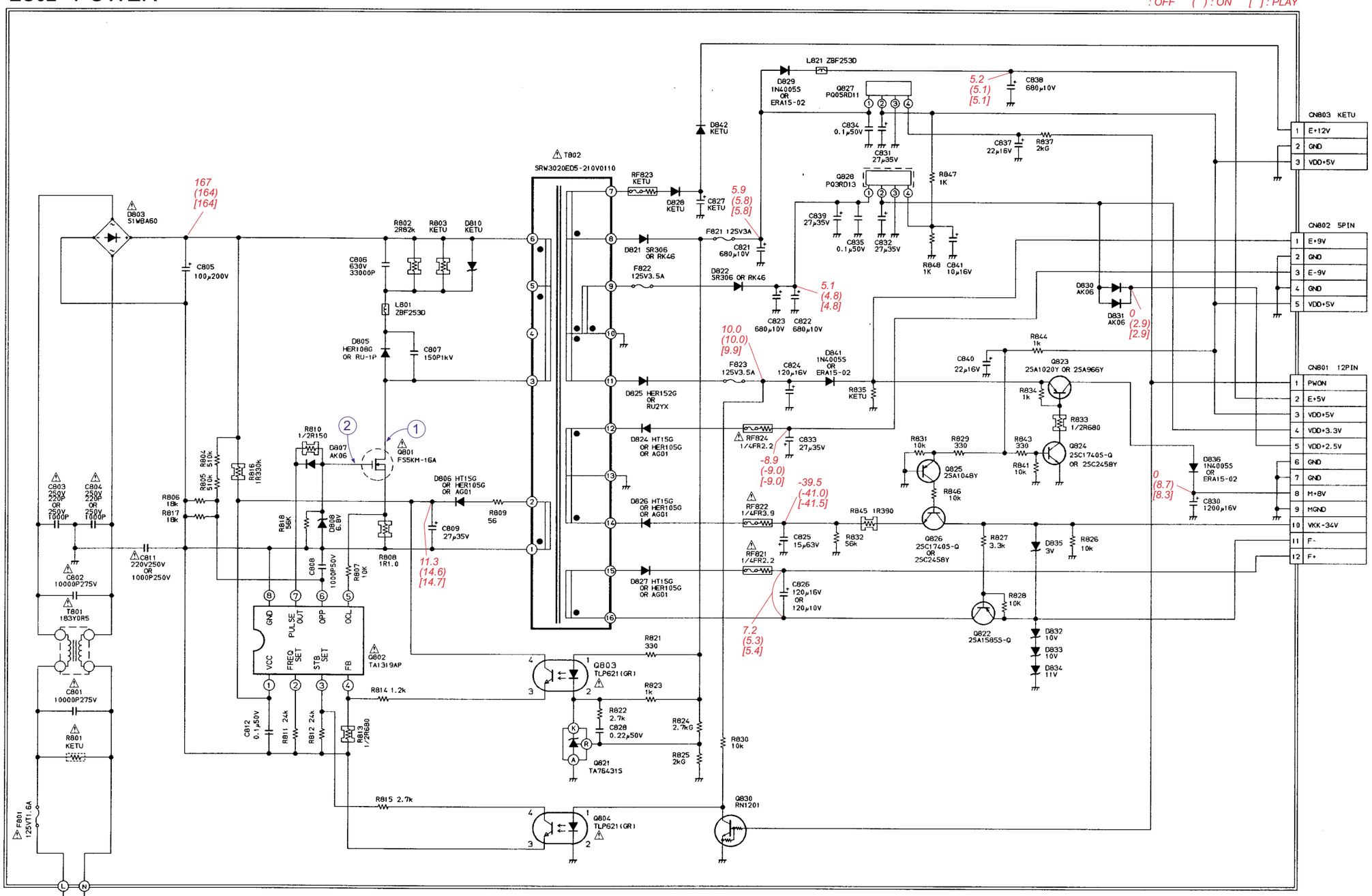
Fig. 3-4-8-B

5. CIRCUIT DIAGRAMS

5-1. Power Supply Circuit Diagram

EU02 POWER

: OFF ( ) : ON [ ] : PLAY



	Q802						Q821			Q822			Q823			Q824			Q825		
	①	②	③	④	⑥	⑧	K	R	A	E	C	B	E	C	B	E	C	B	E	C	B
OFF	11.3	1.5	0.5	2.8	1.5	0	3.9	2.5	0	0	-7.2	0	9.2	0	9.2	0	9.2	0	0	-39.0	0
ON	14.6	1.0	1.7	2.0	1.5	0	4.1	2.5	0	-30.3	-30.4	-31.0	9.4	9.3	8.7	0	0.1	0.7	0.7	-13.3	0
PLAY	14.7	1.0	1.7	2.0	1.5	0	4.1	2.5	0	-30.3	-30.4	-31.0	9.1	9.0	8.4	0	0.1	0.7	0.7	-13.3	0

	Q826			Q827				Q828				Q830		
	E	C	B	①	②	③	④	①	②	③	④	E	C	B
OFF	-39.5	0	-39.0	5.9	5.0	0	0	5.1	3.3	0	0	0	1.0	0
ON	-34.0	-34.0	-33.0	5.8	5.0	0	5.0	4.8	3.3	0	2.5	0	0.01	5.0
PLAY	-34.0	-34.0	-33.0	5.8	5.0	0	5.0	4.8	3.3	0	2.5	0	0.01	5.0

NOTE:"KETU" MEANS "NOT USED" ON THIS MODEL

Fig. 3-5-1

Power Supply Circuit Diagram

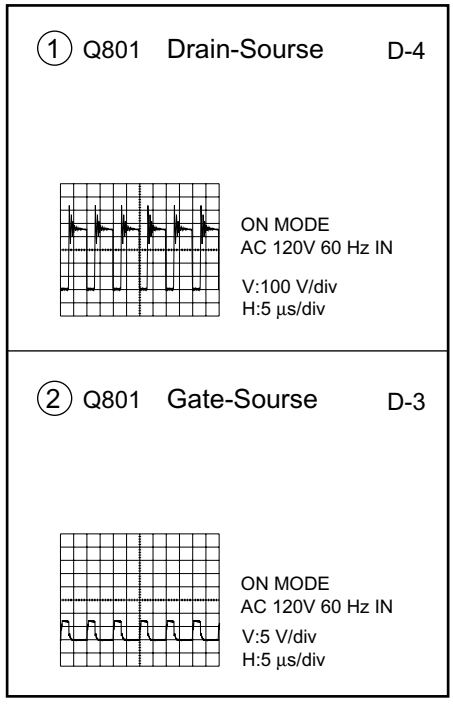


Fig. 3-5-2

5-2. Front Display , Power Switch Circuit Diagram

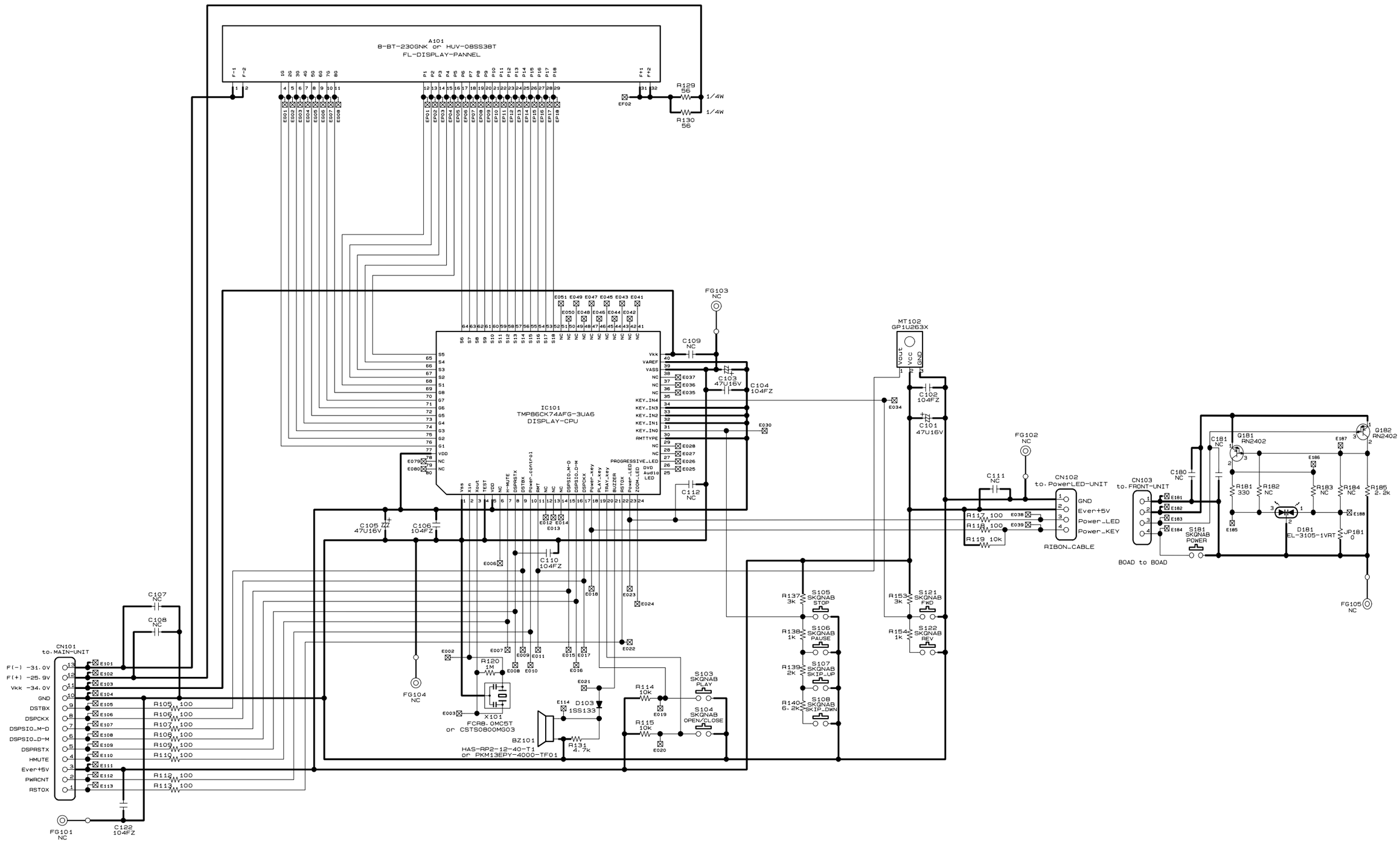


Fig. 3-5-3

Front Display, Power Switch Circuit Diagram

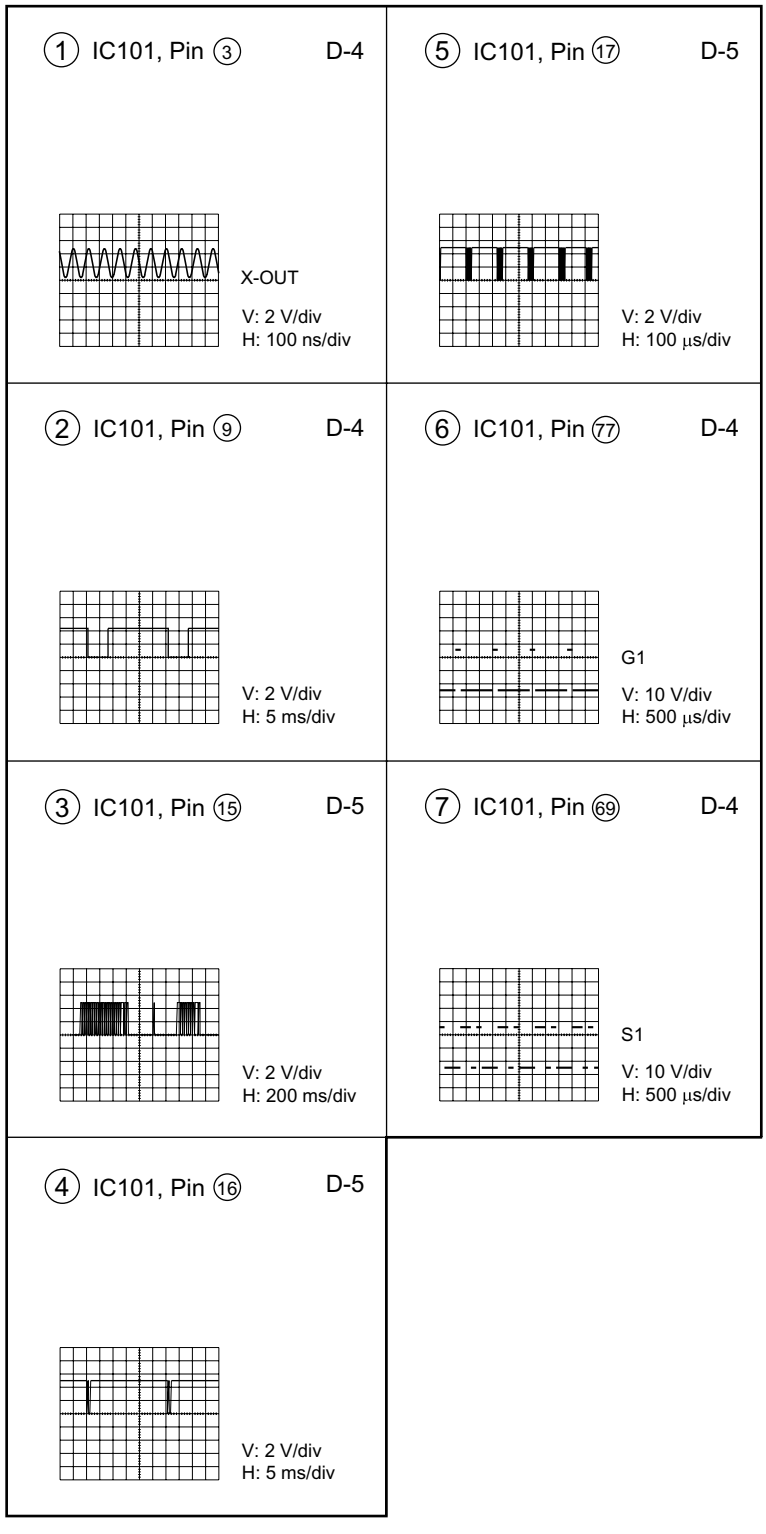
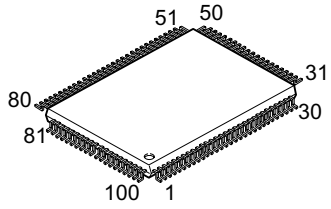


Fig. 3-5-4

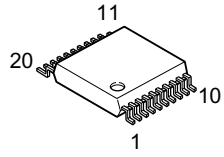
5-3. Main Circuit Diagrams

5-3-1. Main ICs Information

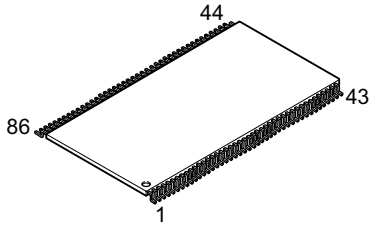
TMP86CK74AFG



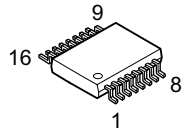
TC74VHCT
244AFT



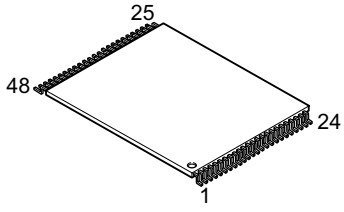
W986432DH



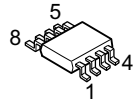
PCM1742



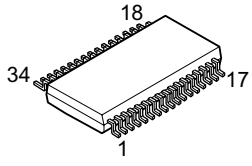
MBM29DL3240BE



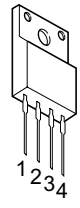
S24C02AFJA



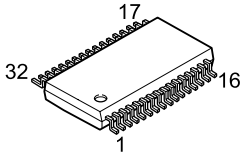
MM1568AJ



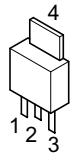
PQ3RD23
PQ05RD11



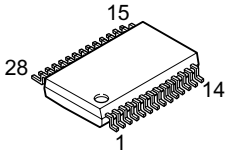
BH7863



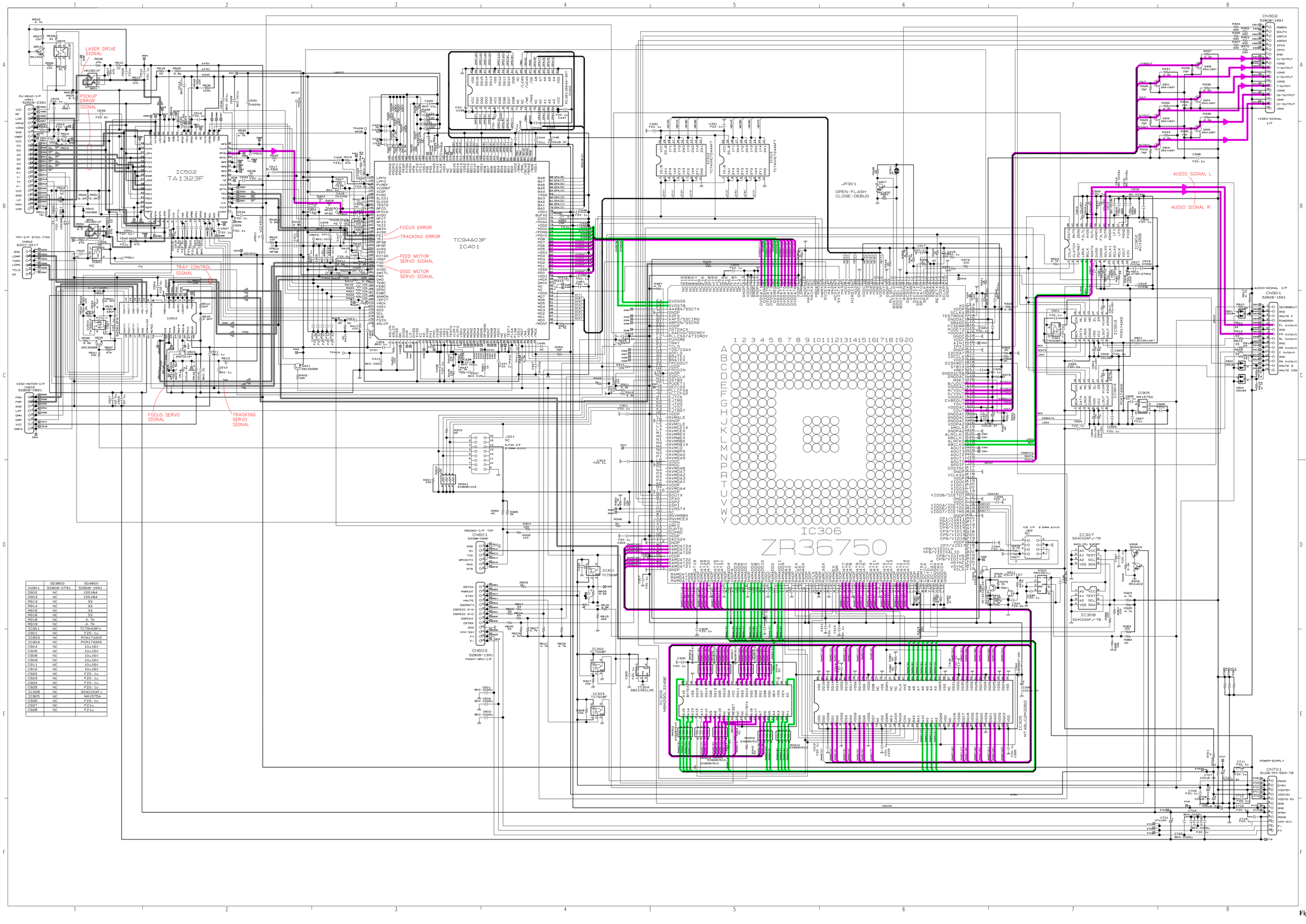
MPC2948T



AD1958YRS



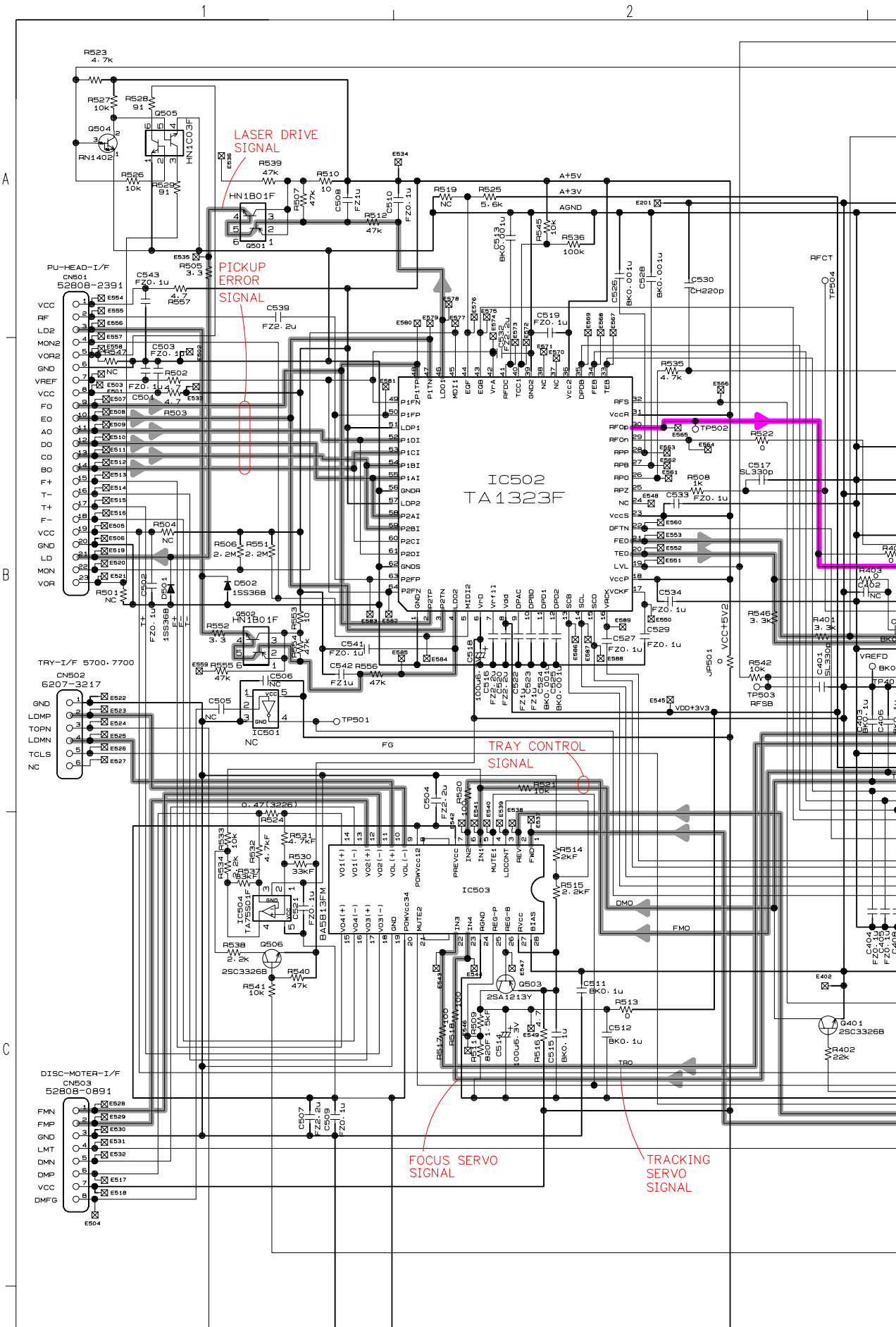
5-3-2. Main Circuit Diagram

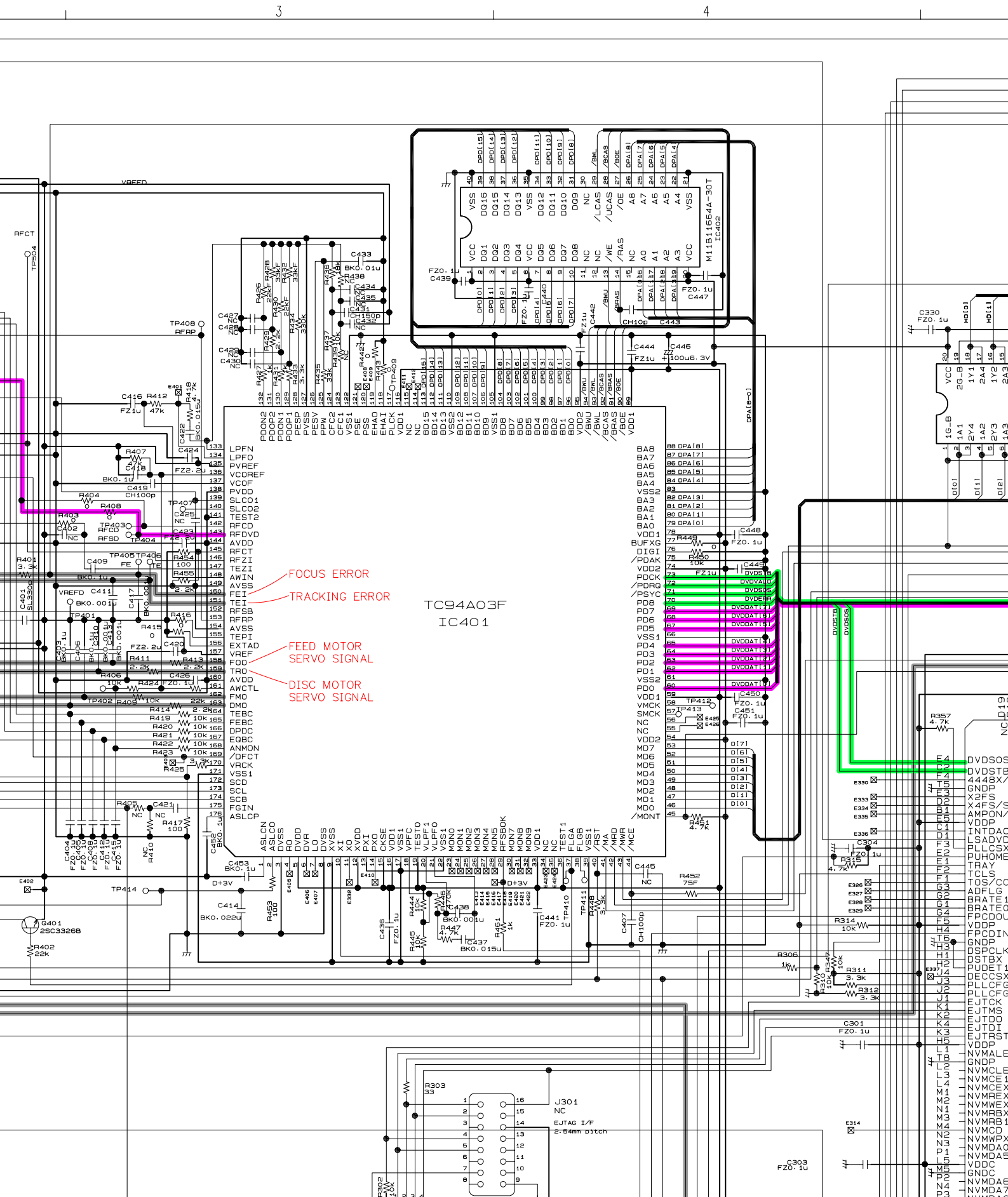


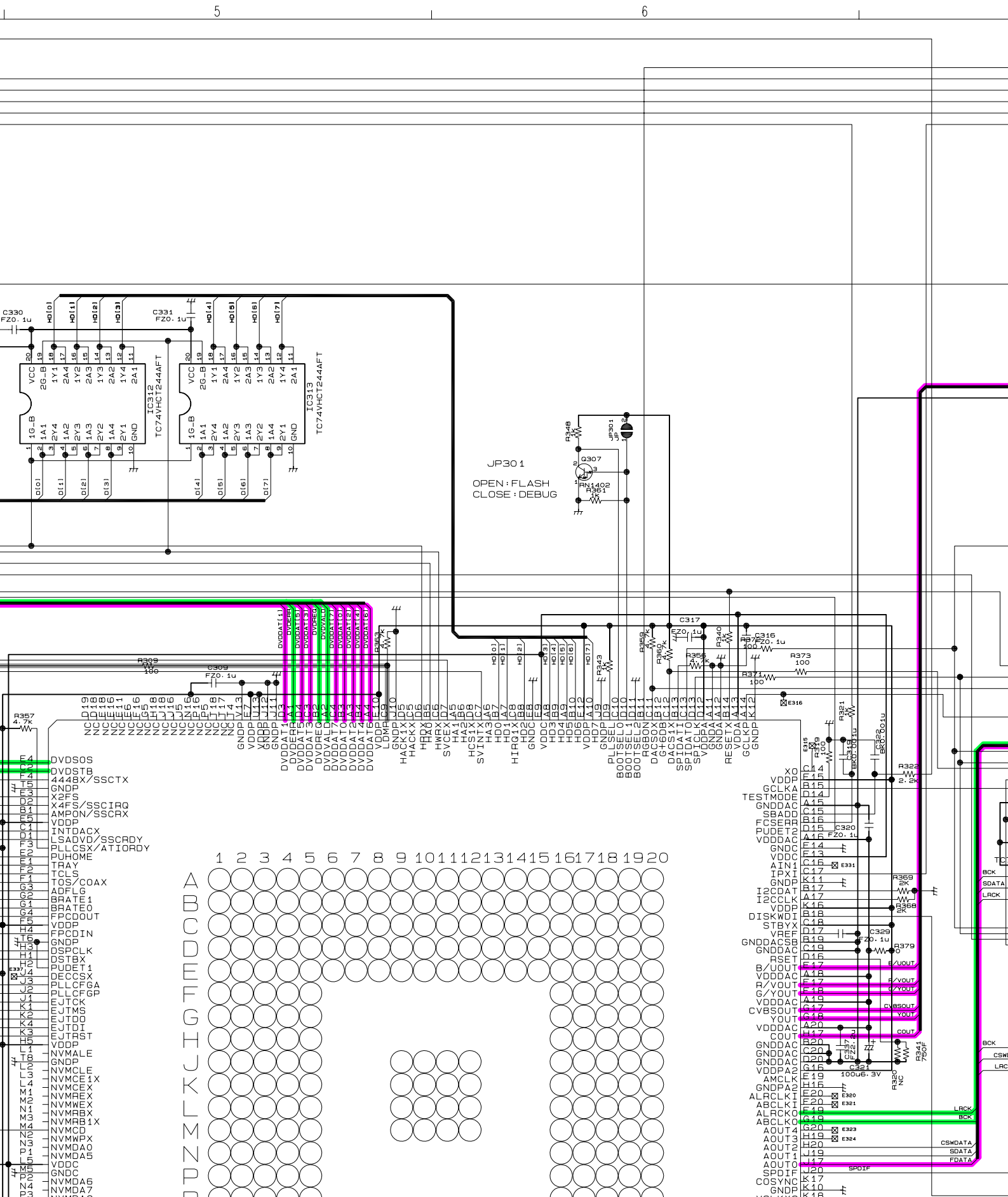
	SD3800	SD4800
CN901	52808-0791	52808-1591
D902	NC	1SS184
D903	NC	1SS184
R913	NC	33
R914	NC	33
R915	NC	33
R916	NC	33
R918	NC	4.7k
R919	NC	4.7k
IC901	NC	TC75W08FU
C901	NC	FZ0.1u
IC903	NC	PCM1742KE
IC904	NC	PCM1742KE
C904	NC	10u16V
C905	NC	10u16V
C908	NC	10u16V
C909	NC	10u16V
C911	NC	10u16V
C912	NC	10u16V
C922	NC	FZ0.1u
C923	NC	FZ0.1u
C924	NC	FZ0.1u
C925	NC	FZ0.1u
IC308	NC	S24C02AFJ
IC905	NC	MM1575A
C926	NC	FZ0.1u
C927	NC	FZ1u
C928	NC	FZ1u

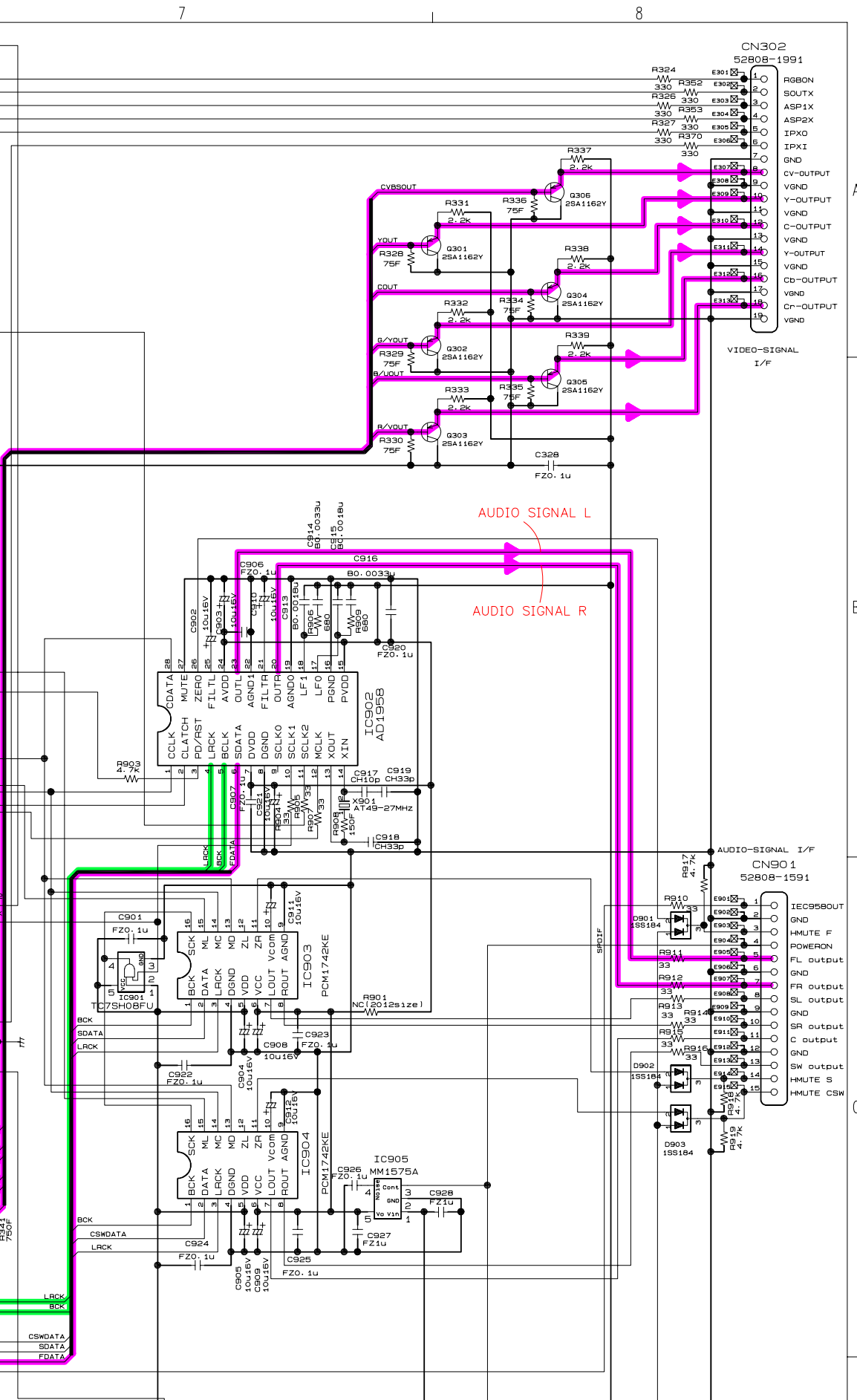
Fig. 3-5-5

5-3-2. Main Circuit Diagram




3
4
TC94A03F
IC401
FOCUS ERROR
TRACKING ERROR
FEED MOTOR SERVO SIGNAL
DISC MOTOR SERVO SIGNAL
M11B116564A-30T
IC402
J301
NC
EJTAG I/F
2.54mm pitch
Q401
2SC3326B


5
6
C330 FZ0.1u
C331 FZ0.1u
IC312 TC74VHCT244AFT
IC313 TC74VHCT244AFT
JP301
OPEN:FLASH
CLOSE:DEBUG
Q307
RN1402
C317 FZ0.1u
C316 FZ0.1u
C309 FZ0.1u
C320 FZ0.1u
C329 FZ0.1u
C321 100u6.3V
DVDSOS
DVDSTB
4448X/SSCTX
GNDP
X2FS
X4FS/SSCIRQ
AMPON/SSCRX
VDDP
INTDACX
LSADVD/SSCRDY
PLLCSX/ATIORDY
PUHOME
TRAY
TCLS
TOS/COAX
ADFLG
BRATE1
BRATE0
FPCDOUT
VDDP
FPCDIN
GNDP
DSPCLK
DSTBX
PUDET1
DECCSX
PLLCFGA
PLLCFGP
EJTCK
EJTMS
EJTDO
EJTDI
EJTRST
VDDP
NVMALE
GNDP
NVMCLE
NVMCE1X
NVMCEX
NVMAREX
NVMWEX
NVMABX
NVMAB1X
NVMCD
NVMWPX
NVMDA0
NVMDA5
VDDC
GNDC
NVMDA6
NVMDA7
XO
VDDP
GCLKA
TESTMODE
GNDDAC
SBADD
FCSERR
PUDET2
VDDDAC
GNDC
VDDC
AIN1
IPXI
GNDP
I2CDAT
I2CCLK
VDDP
DISKWDI
STBYX
VREF
GNDDACSB
GNDDAC
RSET
B/UOUT
VDDDAC
R/VOUT
G/YOUT
VDDDAC
CVBSOUT
YOUT
VDDDAC
COUT
GNDDAC
GNDDAC
GNDDAC
VDDPA2
AMCLK
GNDPA2
ALRCLKI
ABCLKI
ALRCKO
ABCLKO
AOUT4
AOUT3
AOUT2
AOUT1
AOUT0
SPDIF
COSYNC
GNDP
LRCK
BCK
SDATA
FDATA
CSWDATA
SPDIF


7
8
A
B
C
CN302
52808-1991
RGBON
SOUTX
ASP1X
ASP2X
IPXO
IPXI
GND
CV-OUTPUT
VGND
Y-OUTPUT
VGND
C-OUTPUT
VGND
Y-OUTPUT
VGND
Cb-OUTPUT
VGND
Cr-OUTPUT
VGND
VIDEO-SIGNAL
I/F
CVBSOUT
YOUT
COUT
G/YOUT
B/VOUT
R/VOUT
Q301 2SA1162Y
Q302 2SA1162Y
Q303 2SA1162Y
Q304 2SA1162Y
Q305 2SA1162Y
Q306 2SA1162Y
C328 FZ0.1u
AUDIO SIGNAL L
AUDIO SIGNAL R
IC902 AD1958
IC903 PCM1742KE
IC904 PCM1742KE
IC905 MM1575A
IC901 TC7SH08FU
X901 AT49-27MHz
AUDIO-SIGNAL I/F
CN901
52808-1591
IEC958OUT
GND
HMUTE F
POWERON
FL output
GND
FR output
SL output
GND
SR output
C output
GND
SW output
HMUTE S
HMUTE CSW
D901 1SS184
D902 1SS184
D903 1SS184
SPDIF
BCK
SDATA
LRCK
CSWDATA
FDATA

	SD3800	SD4800
CN901	52808-0791	52808-1591
D902	NC	1SS184
D903	NC	1SS184
R913	NC	33
R914	NC	33
R915	NC	33
R916	NC	33
R918	NC	4.7k
R919	NC	4.7k
IC901	NC	TC7SH08FU
C901	NC	FZ0.1u
IC903	NC	PCM1742KE
IC904	NC	PCM1742KE
C904	NC	10u16V
C905	NC	10u16V
C908	NC	10u16V
C909	NC	10u16V
C911	NC	10u16V
C912	NC	10u16V
C922	NC	FZ0.1u
C923	NC	FZ0.1u
C924	NC	FZ0.1u
C925	NC	FZ0.1u
IC308	NC	S24C02AFJ
IC905	NC	MM1575A
C926	NC	FZ0.1u
C927	NC	FZ1u
C928	NC	FZ1u

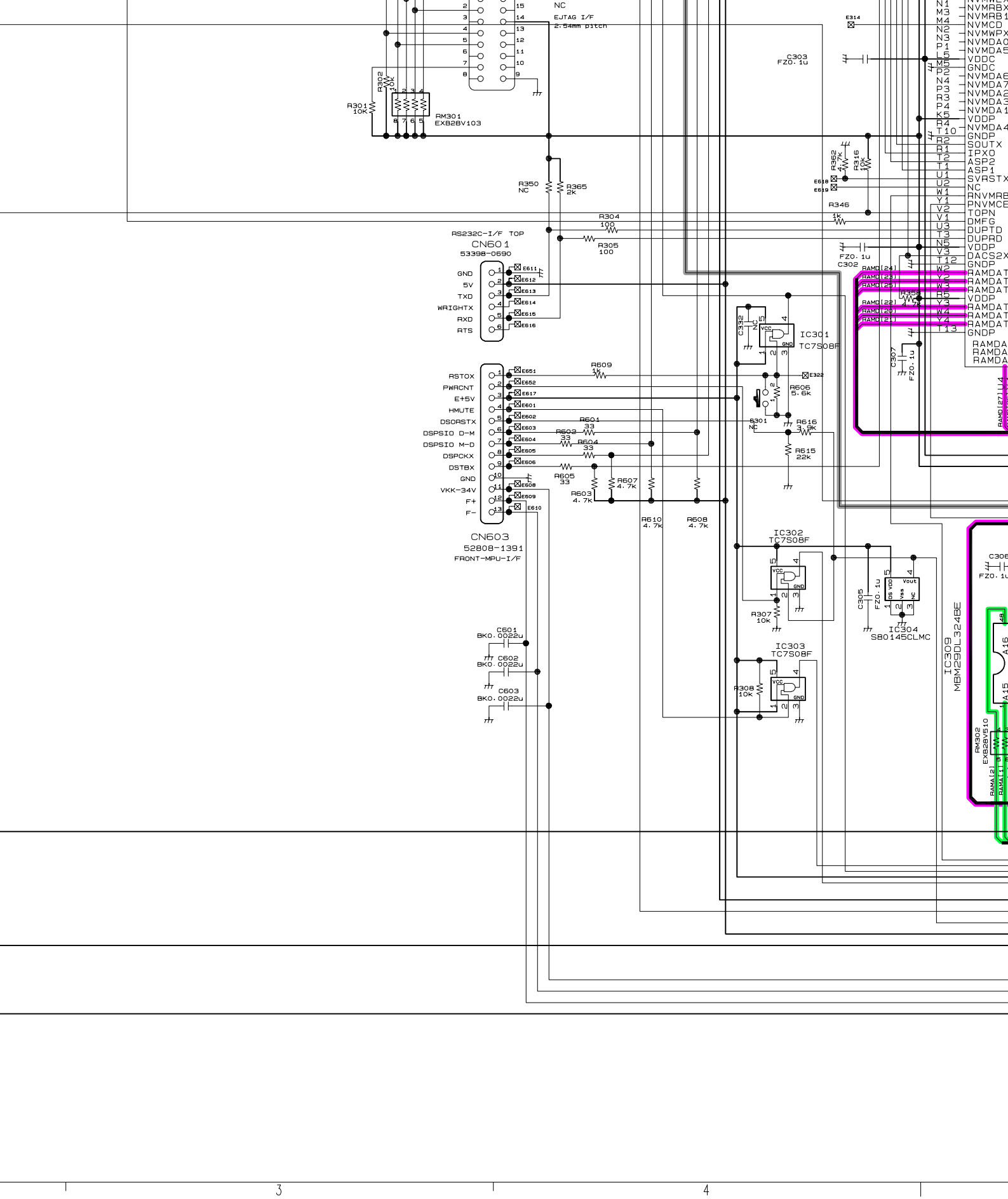
D

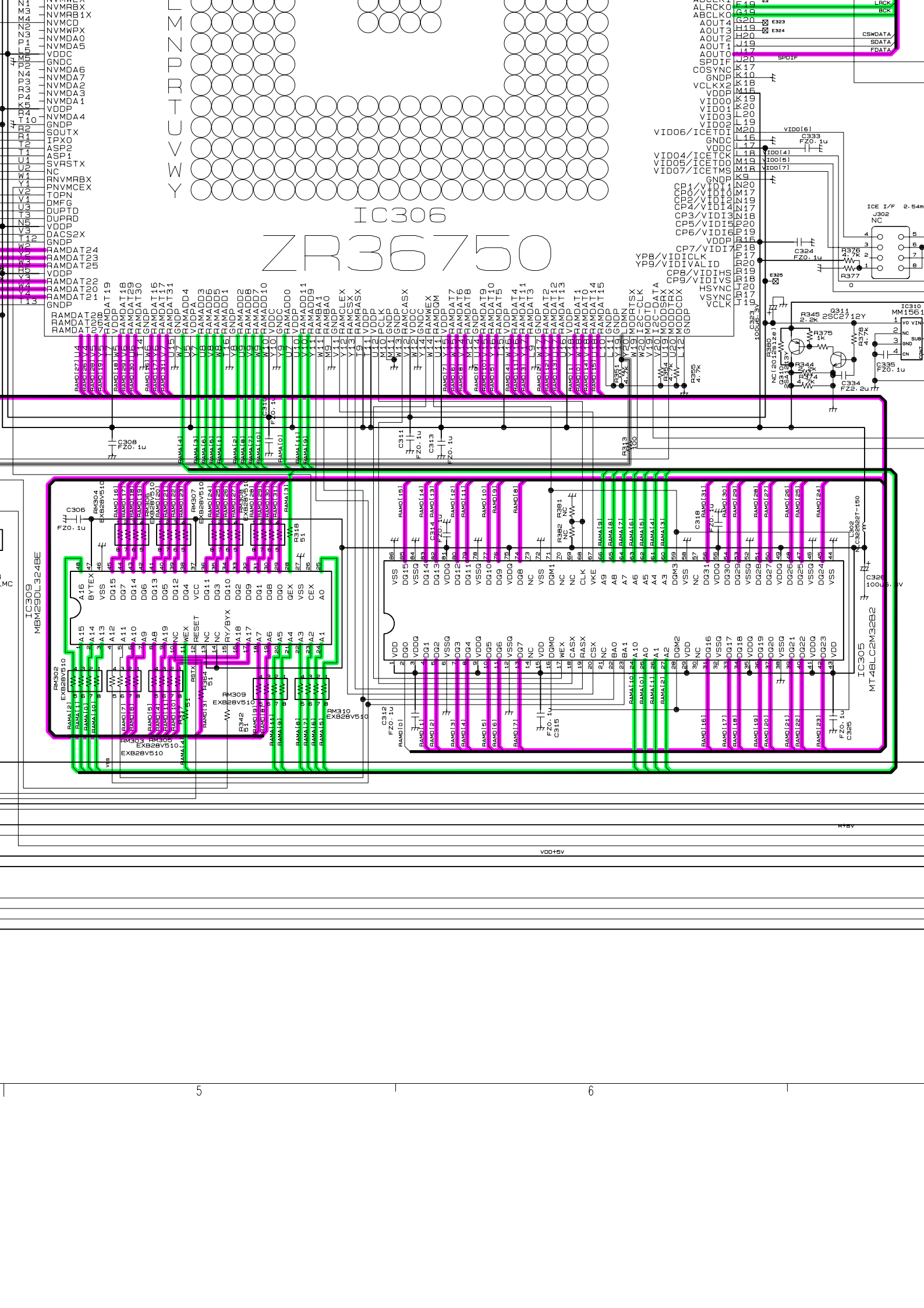
E

F

1

2


NC
EJTAG I/F
2.54mm pitch
R302
10k
R301
10K
RM301
EXB28V103
R350
NC
R365
0k
R304
100
R305
100
RS232C-I/F TOP
CN601
53398-0690
GND
5V
TXD
WRIGHTX
RXD
RTS
CN603
52808-1391
FRONT-MPU-I/F
RSTOX
PWRCNT
E+5V
HMUTE
DSORSTX
DSPSIO D-M
DSPSIO M-D
DSPCKX
DSTBX
GND
VKK-34V
F+
F-
R609
1k
R601
33
R602
33
R604
33
R605
33
R603
4.7k
R607
4.7k
R610
4.7k
R608
4.7k
C501
BK0.0022u
C602
BK0.0022u
C603
BK0.0022u
C303
FZ0.1u
R362
4.7k
R316
1k
R346
1k
C302
FZ0.1u
C307
FZ0.1u
C332
NC
IC301
TC7S08F
S301
NC
R606
5.6k
R616
3.9k
R615
22k
IC302
TC7S08F
R307
10k
C305
FZ0.1u
IC304
S80145CLMC
IC303
TC7S08F
R308
10k
IC309
MBM29DL324BE
RM302
EXB28V510
RAMD[27]
RAMD[26]
RAMD[25]
RAMD[24]
RAMD[23]
RAMD[22]
RAMD[21]
RAMD[20]
RAMD[2]
RAMA[2]
RAMA[1]
NVMRB
NVMCD
NVMWPX
NVMDA0
NVMDA5
VDDC
GNDC
NVMDA6
NVMDA7
NVMDA2
NVMDA0
NVMDA1
VDDP
NVMDA4
GNDP
SOUTX
IPXO
ASP2
ASP1
SYRSTX
NC
RNVMRB
RNVMCE
TOPN
OMFG
OUPTD
OUPRD
VDDP
DACS2X
GNDP
RAMDAT
RAMDAT
RAMDAT
VDDP
RAMDAT
RAMDAT
RAMDAT
GNDP
RAMDA
RAMDA
RAMDA


IC306
ZR36750
IC309
MBM29DL324BE
IC305
MT48LC2M32B2
IC310
MM1561
ICE I/F 2.54m
J302
NC
Q311
2SC2712Y
Q310
2SA1213Y
VDD+5V

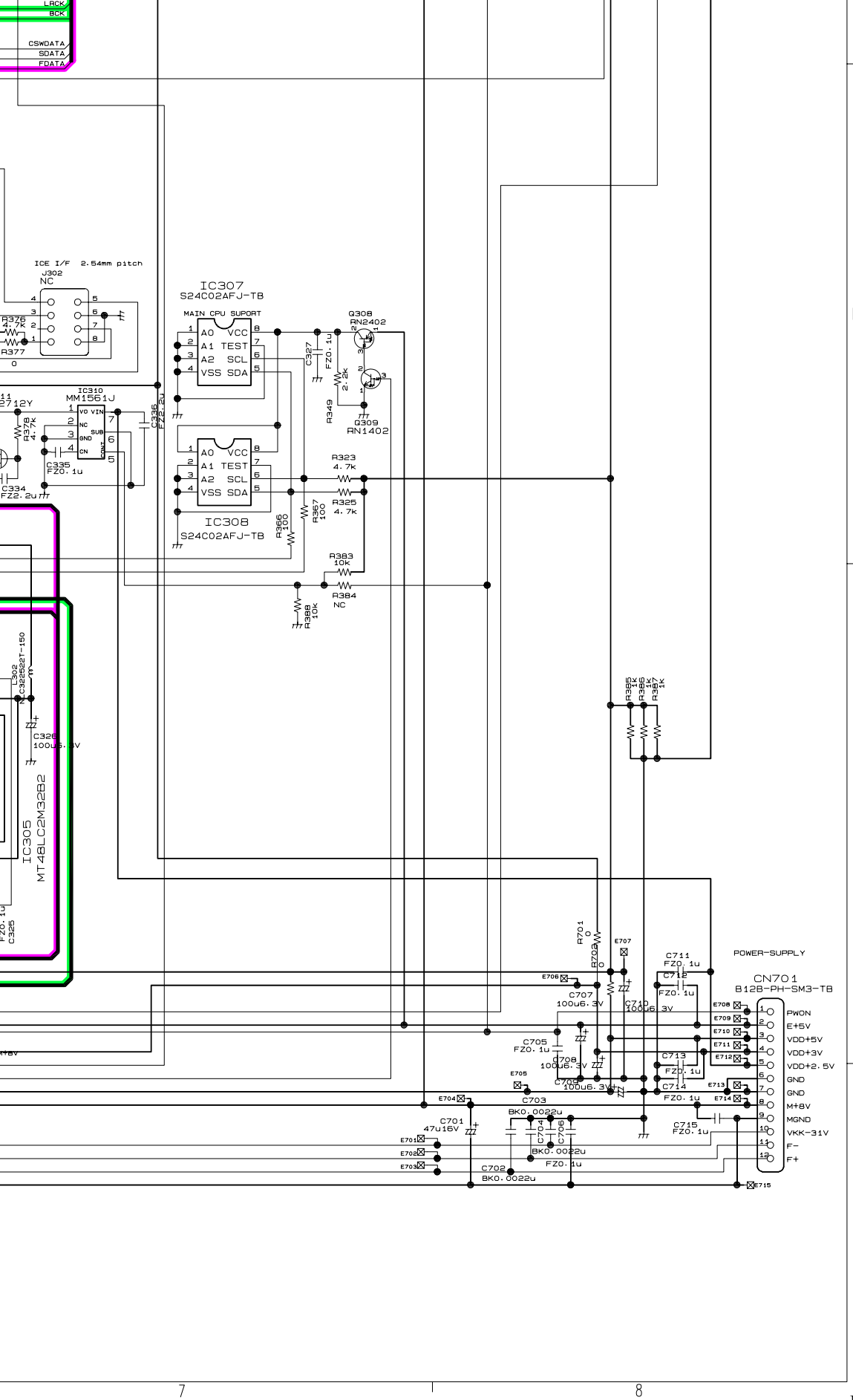

LRCK
BCK
CSWDATA
SDATA
FDATA
ICE I/F 2.54mm pitch
J302
NC
R376
4.7K
R377
0
IC307
S24C02AFJ-TB
MAIN CPU SUPORT
A0 VCC
A1 TEST
A2 SCL
VSS SDA
C327
FZ0.1u
Q308
RN2402
2.2k
R349
Q309
RN1402
IC310
MM1561J
VO VIN
NC
SUB
GND
CONT
C336
FZ2.2u
R378
4.7k
C335
FZ0.1u
C334
FZ2.2u
R323
4.7k
R325
4.7k
IC308
S24C02AFJ-TB
R366
100
R367
100
R383
10k
R384
NC
R388
10k
L302
C325
100u6.3V
IC305
MT48LC2M32B2
FZ0.1u
C325
R385
R386
R387
R701
0
R702
0
E707
E706
C707
100u6.3V
C710
100u6.3V
C711
FZ0.1u
C712
FZ0.1u
C705
FZ0.1u
C708
100u6.3V
C709
100u6.3V
C713
FZ0.1u
C714
FZ0.1u
E705
E704
C703
BK0.0022u
C701
47u16V
C715
FZ0.1u
C716
BK0.0022u
C717
FZ0.1u
C702
BK0.0022u
E701
E702
E703
E715
POWER-SUPPLY
CN701
B12B-PH-SM3-TB
E708
E709
E710
E711
E712
E713
E714
PWON
E+5V
VDD+5V
VDD+3V
VDD+2.5V
GND
GND
M+8V
MGND
VKK-31V
F-
F+
D
E
F
7
8

Fig. 3-5-5

5-4. (A) Output Circuit Diagram - DD-6030

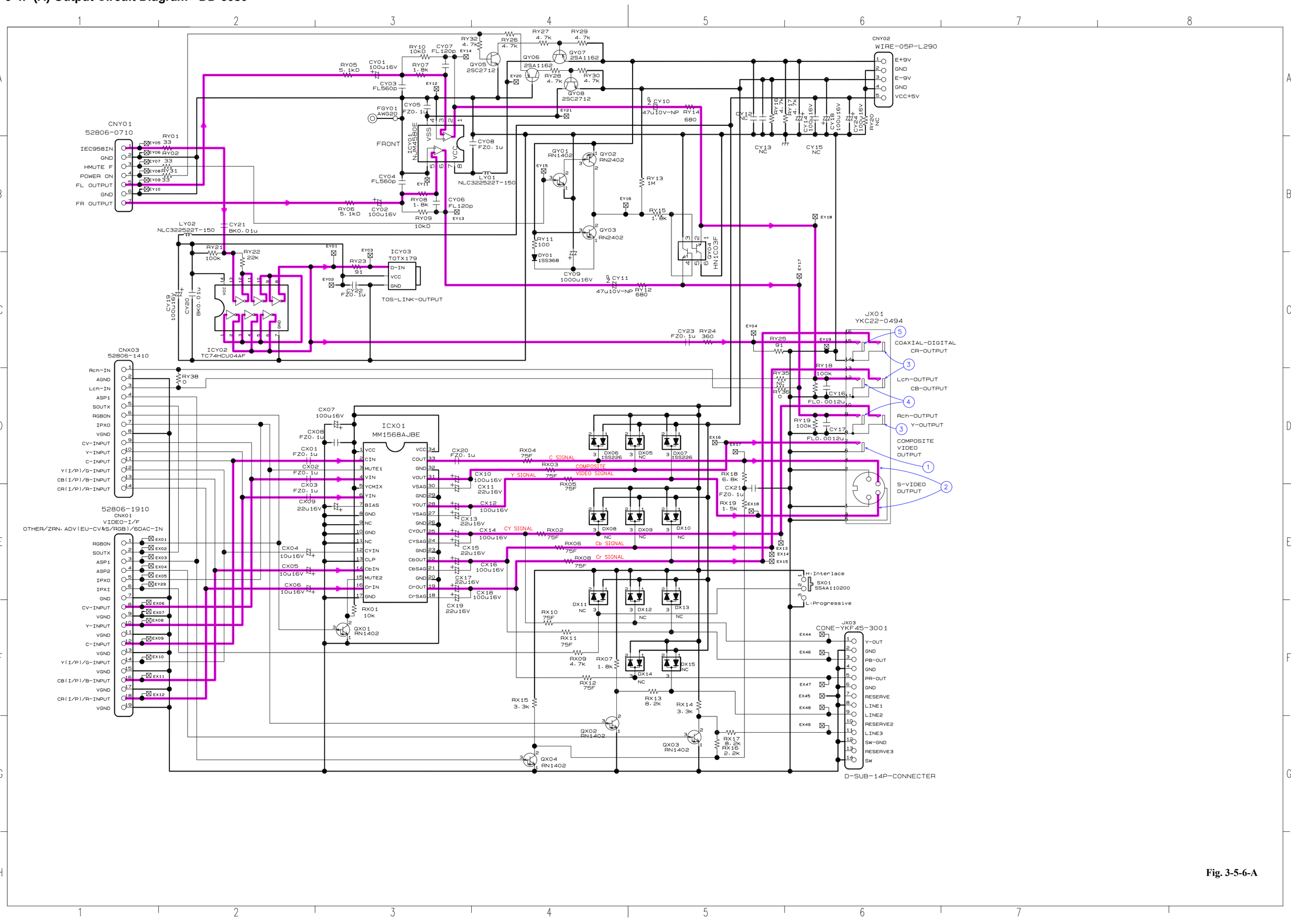
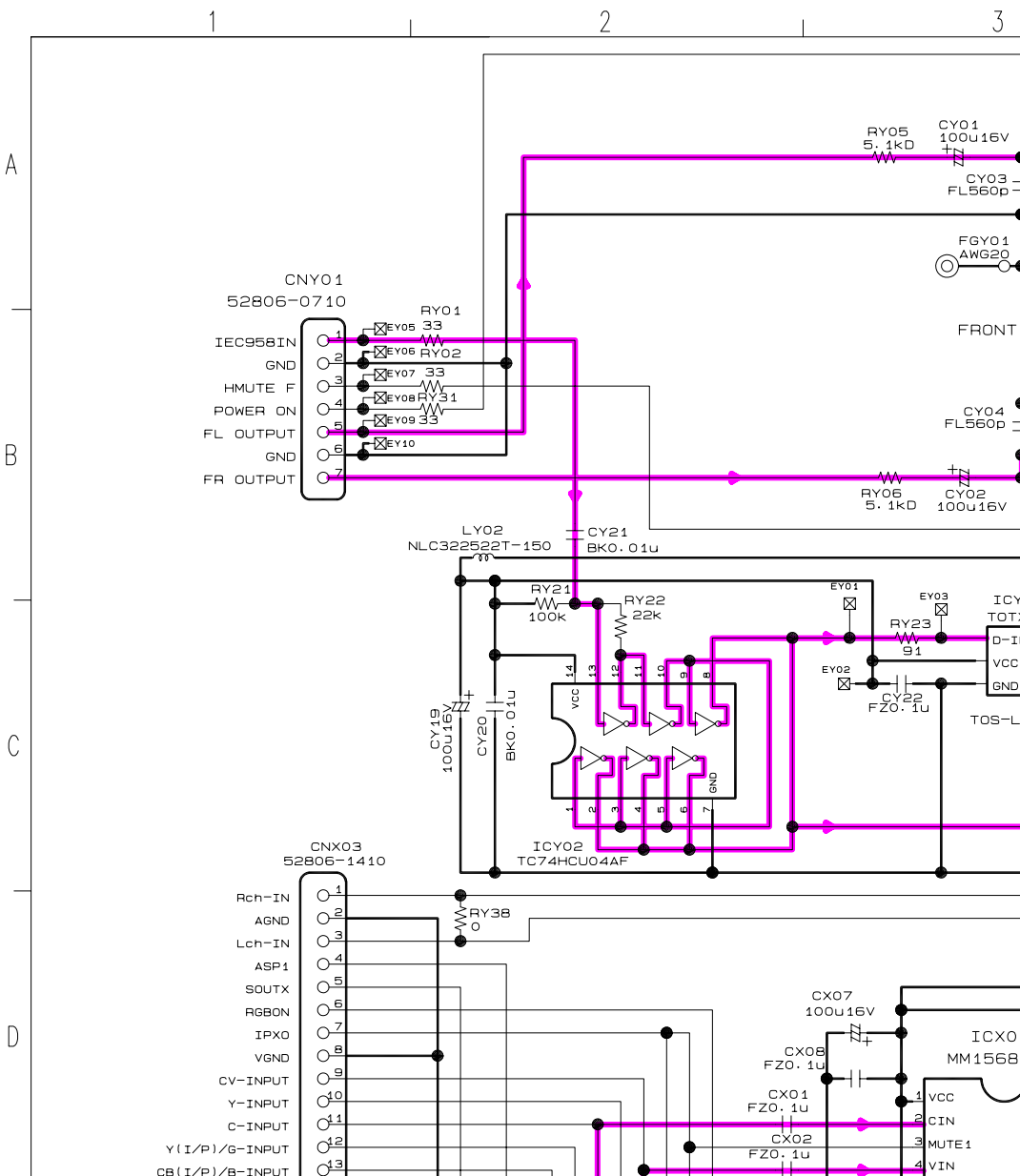
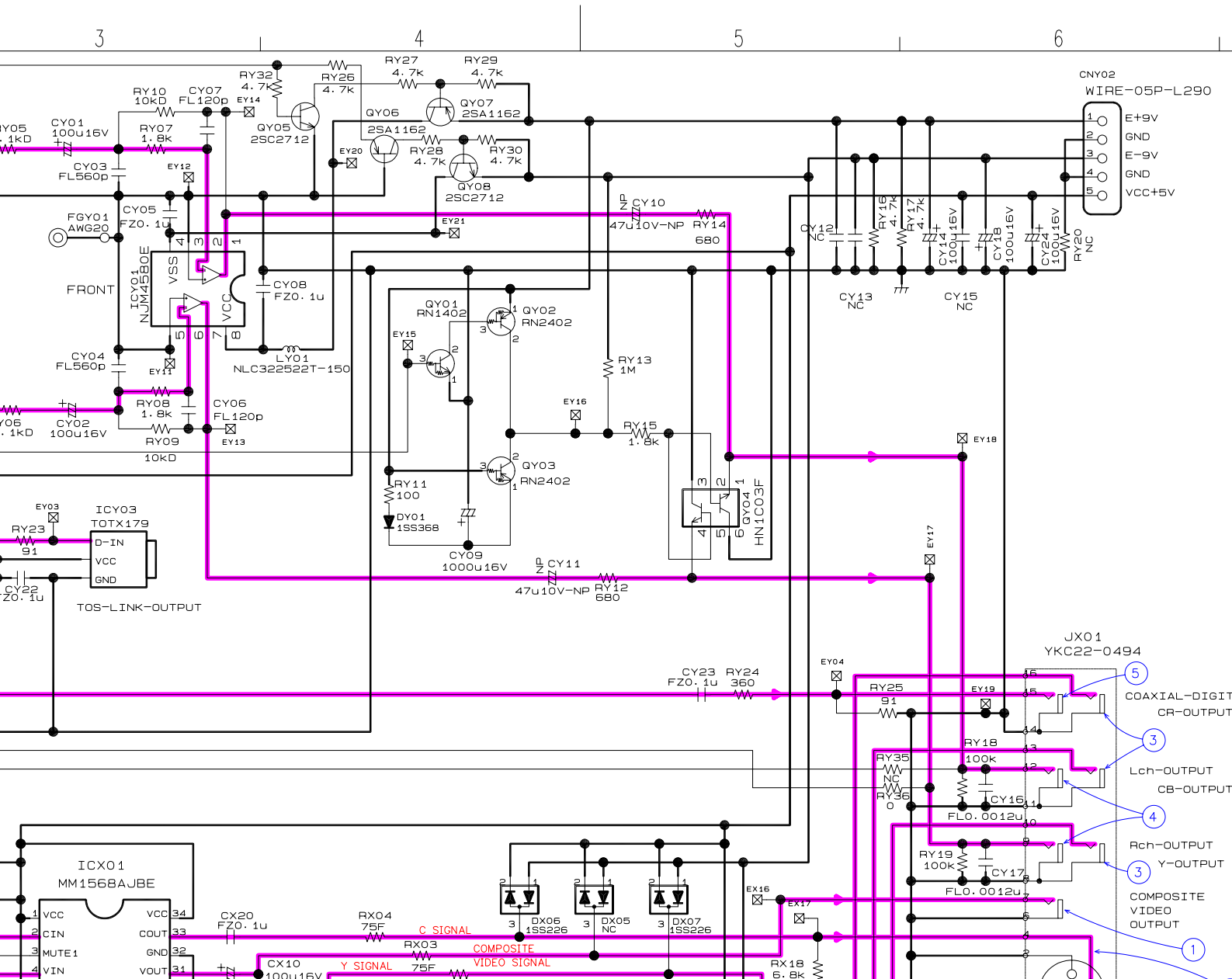


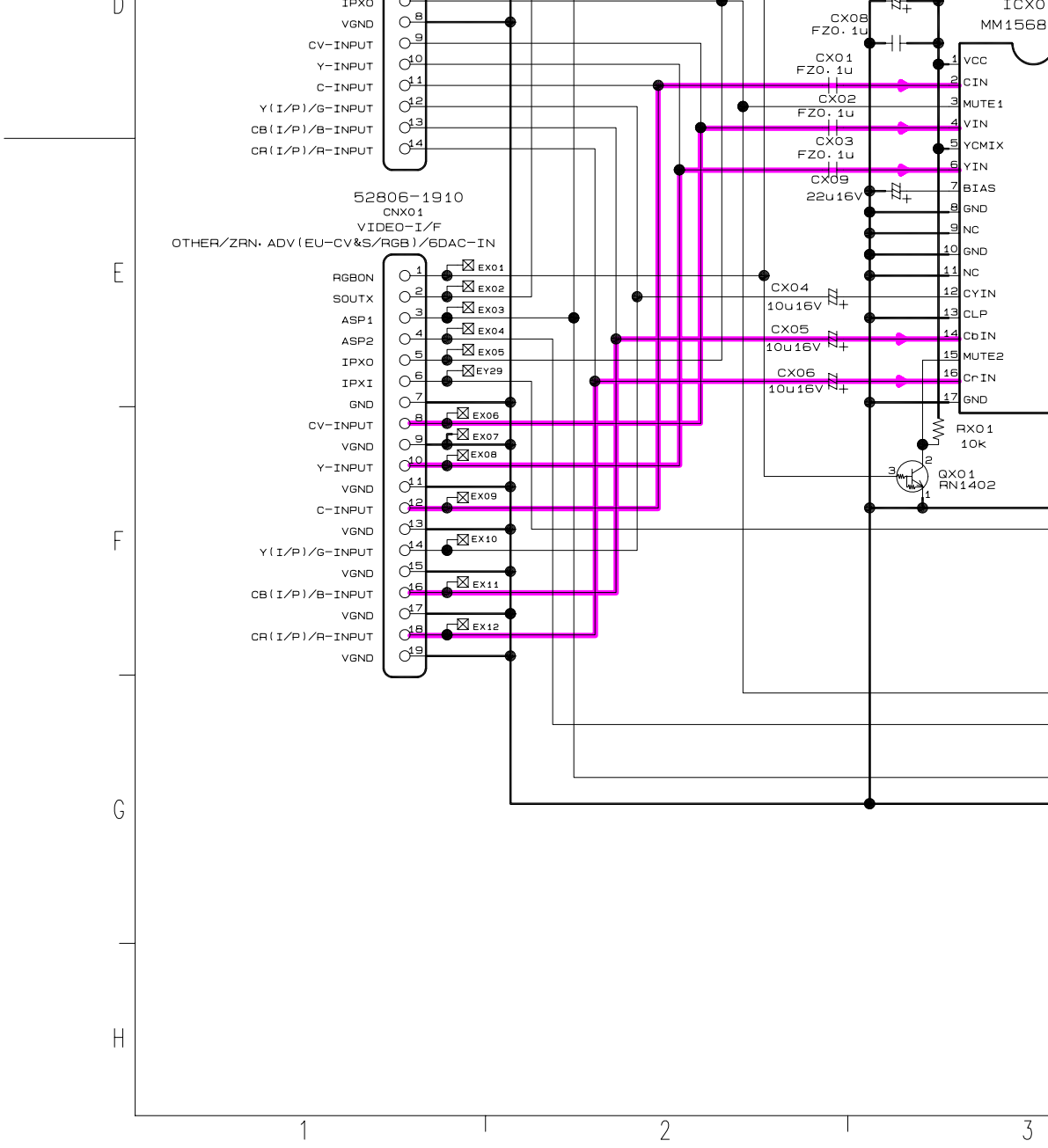
Fig. 3-5-6-A

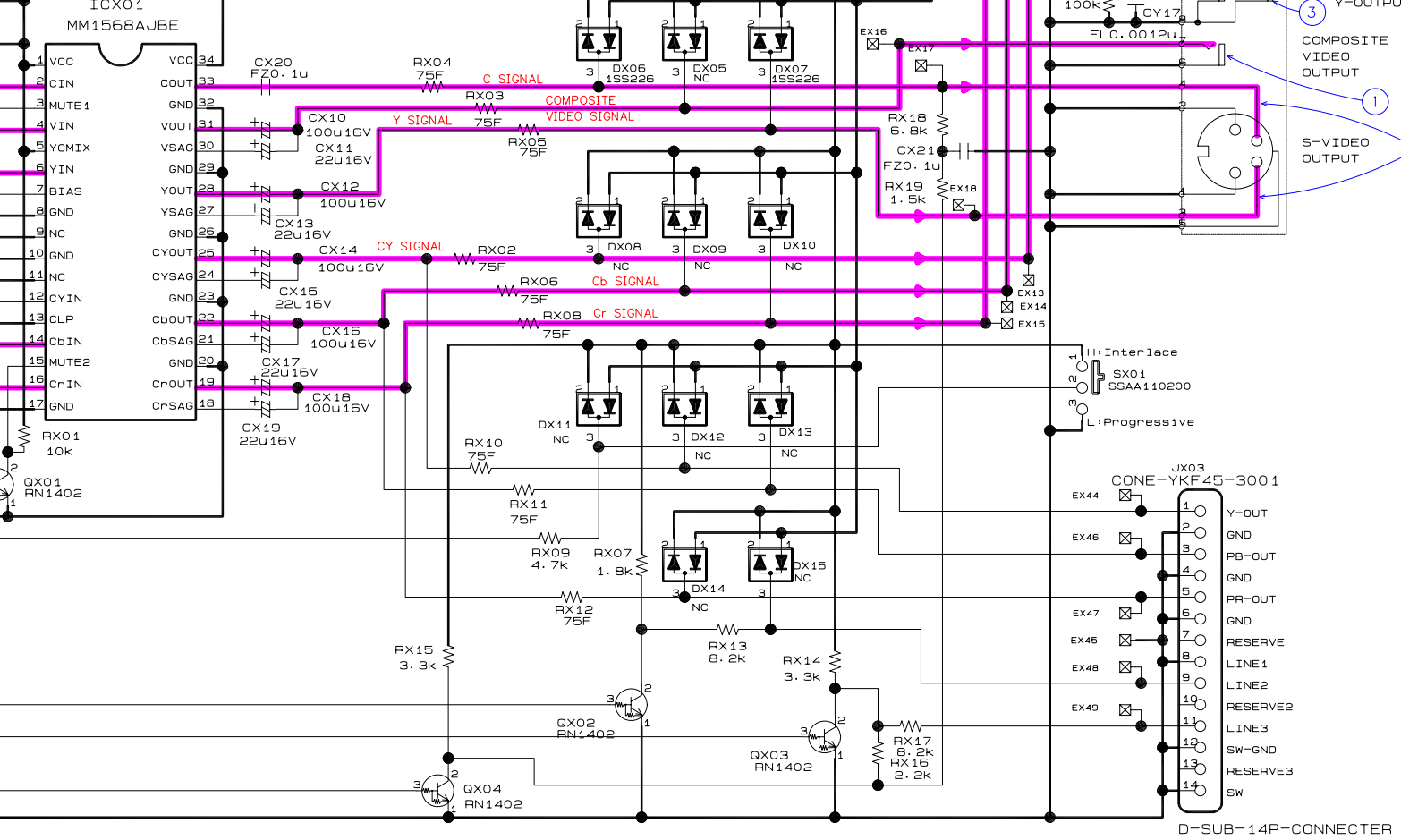
5-4. (A) Output Circuit Diagram - DD-6030




3
4
5
6
CNY02
WIRE-05P-L290
E+9V
GND
E-9V
GND
VCC+5V
FRONT
FGY01
AWG20
ICY01
NJM4580E
VSS
VCC
LY01
NLC322522T-150
QY01
RN1402
QY02
RN2402
QY03
RN2402
QY04
HN1C03F
DY01
1SS368
ICY03
TOTX179
D-IN
VCC
GND
TOS-LINK-OUTPUT
JX01
YKC22-0494
COAXIAL-DIGIT
CR-OUTPUT
Lch-OUTPUT
CB-OUTPUT
Rch-OUTPUT
Y-OUTPUT
COMPOSITE
VIDEO
OUTPUT
ICX01
MM1568AJBE
VCC
CIN
MUTE1
VIN
COUT
GND
VOUT
C SIGNAL
Y SIGNAL
COMPOSITE
VIDEO SIGNAL
DX05
1SS226
DX05
NC
DX07
1SS226


7
8
E-05P-L290
E+9V
GND
E-9V
GND
VCC+5V
494
5
COAXIAL-DIGITAL
CR-OUTPUT
3
Lch-OUTPUT
CB-OUTPUT
4
Rch-OUTPUT
Y-OUTPUT
3
COMPOSITE
VIDEO
OUTPUT
1
A
B
C
D


IPXO
VGND
CV-INPUT
Y-INPUT
C-INPUT
Y(I/P)/G-INPUT
CB(I/P)/B-INPUT
CR(I/P)/R-INPUT
52806-1910
CNX01
VIDEO-I/F
OTHER/ZRN. ADV(EU-CV&S/RGB)/6DAC-IN
RGBON
SOUTX
ASP1
ASP2
IPXO
IPXI
GND
CV-INPUT
VGND
Y-INPUT
VGND
C-INPUT
VGND
Y(I/P)/G-INPUT
VGND
CB(I/P)/B-INPUT
VGND
CR(I/P)/R-INPUT
VGND
EX01
EX02
EX03
EX04
EX05
EY29
EX06
EX07
EX08
EX09
EX10
EX11
EX12
CX08
FZ0.1u
CX01
FZ0.1u
CX02
FZ0.1u
CX03
FZ0.1u
CX09
22u16V
CX04
10u16V
CX05
10u16V
CX06
10u16V
ICX0
MM1568
VCC
CIN
MUTE1
VIN
YCMIX
YIN
BIAS
GND
NC
GND
NC
CYIN
CLP
CbIN
MUTE2
CrIN
GND
RX01
10K
QX01
RN1402
D
E
F
G
H
1
2
3


ICX01
MM1568AJBE
VCC 34
CIN 33
MUTE1 32
VIN 31
YCMIX 30
YIN 29
BIAS 28
GND 27
NC 26
GND 25
NC 24
CYIN 23
CLP 22
CbIN 21
MUTE2 20
CrIN 19
GND 18
VCC
COUT
GND
VOUT
VSAG
GND
YOUT
YSAG
GND
CYOUT
CYSAG
GND
CbOUT
CbSAG
GND
CrOUT
CrSAG
RX01 10k
QX01 RN1402
CX20 FZ0.1u
CX10 100u16V
CX11 22u16V
CX12 100u16V
CX13 22u16V
CX14 100u16V
CX15 22u16V
CX16 100u16V
CX17 22u16V
CX18 100u16V
CX19 22u16V
RX04 75F
RX03 75F
RX05 75F
RX02 75F
RX06 75F
RX08 75F
RX10 75F
RX11 75F
RX09 4.7k
RX07 1.8k
RX12 75F
RX15 3.3k
RX13 8.2k
RX14 3.3k
RX17 8.2k
RX16 2.2k
C SIGNAL
COMPOSITE VIDEO SIGNAL
Y SIGNAL
CY SIGNAL
Cb SIGNAL
Cr SIGNAL
DX06 1SS226
DX05 NC
DX07 1SS226
DX08 NC
DX09 NC
DX10 NC
DX11 NC
DX12 NC
DX13 NC
DX14 NC
DX15 NC
QX02 RN1402
QX03 RN1402
QX04 RN1402
EX16
EX17
RX18 6.8k
CX21 FZ0.1u
RX19 1.5k
EX18
EX13
EX14
EX15
100k
CY17 FLO.0012u
Y-OUTPUT
COMPOSITE VIDEO OUTPUT
S-VIDEO OUTPUT
H:Interlace
SX01 SSAA110200
L:Progressive
JX03
CONE-YKF45-3001
EX44
EX46
EX47
EX45
EX48
EX49
Y-OUT
GND
PB-OUT
GND
PR-OUT
GND
RESERVE
LINE1
LINE2
RESERVE2
LINE3
SW-GND
RESERVE3
SW
D-SUB-14P-CONNECTER

3 4 5 6

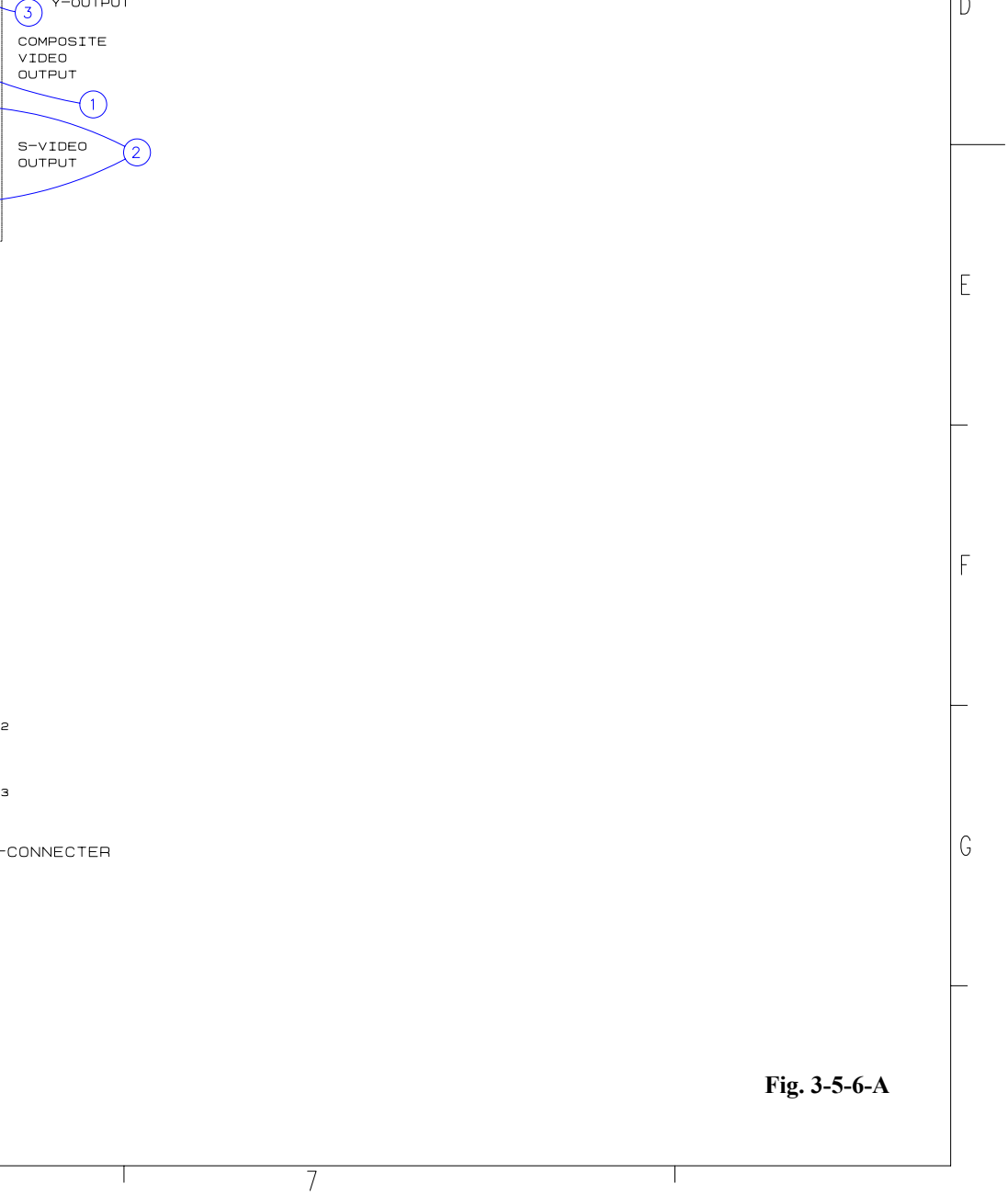

Y-OUTPUT
3
COMPOSITE
VIDEO
OUTPUT
1
S-VIDEO
OUTPUT
2
D
E
F
G
2
3
-CONNECTER
7

Fig. 3-5-6-A

Output Circuit Diagram - DD-6030

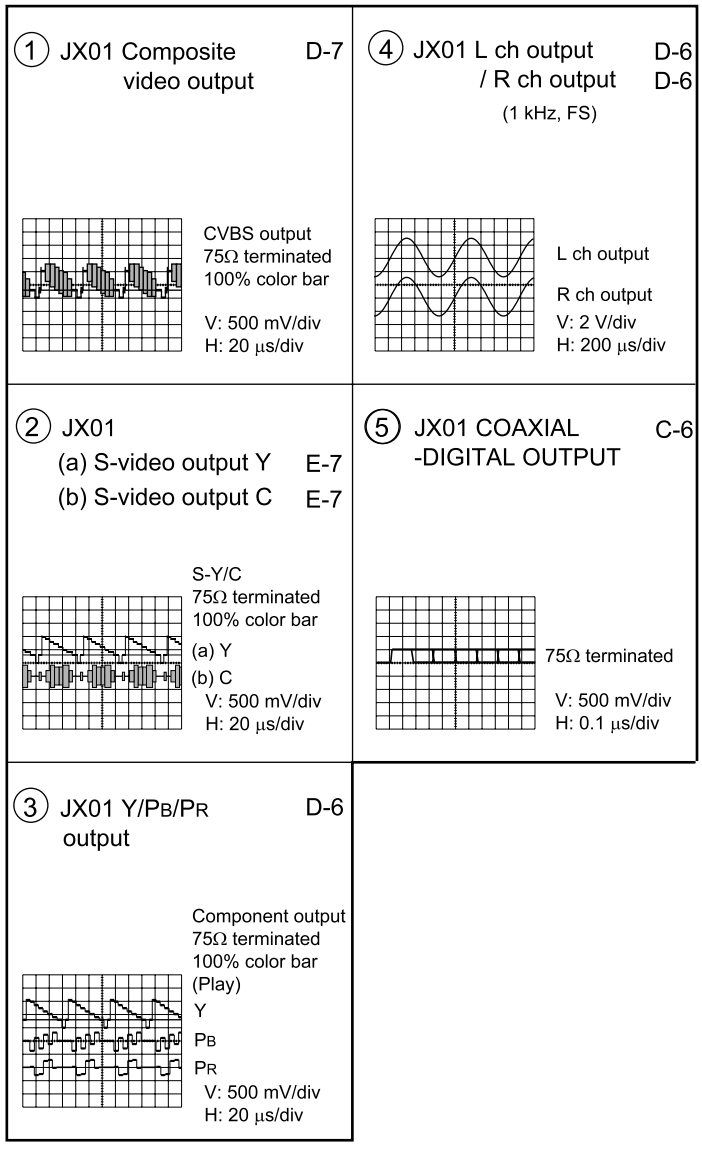


Fig. 3-5-7-A

5-4. (B) Output Circuit Diagram - DD-8030

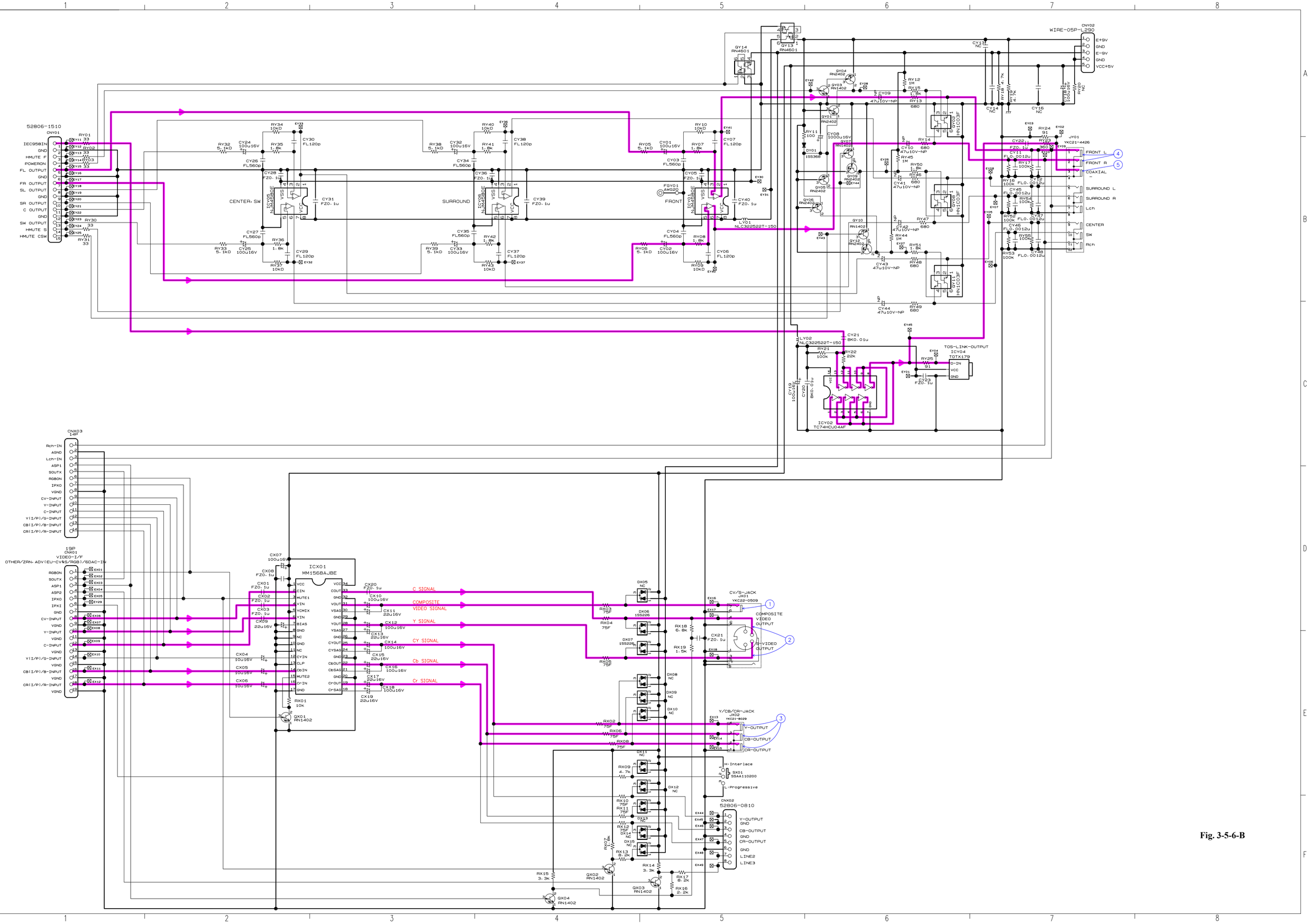
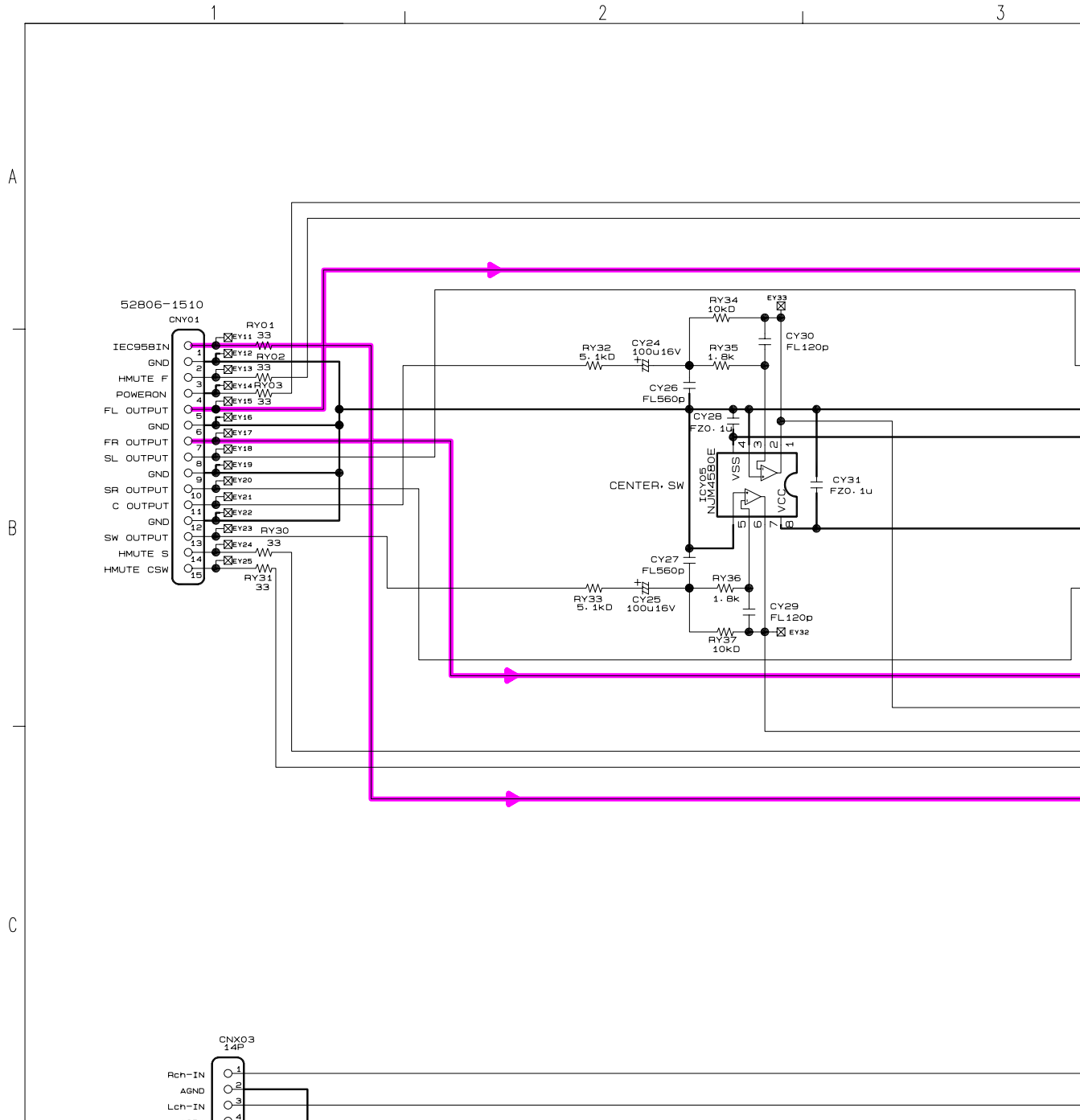
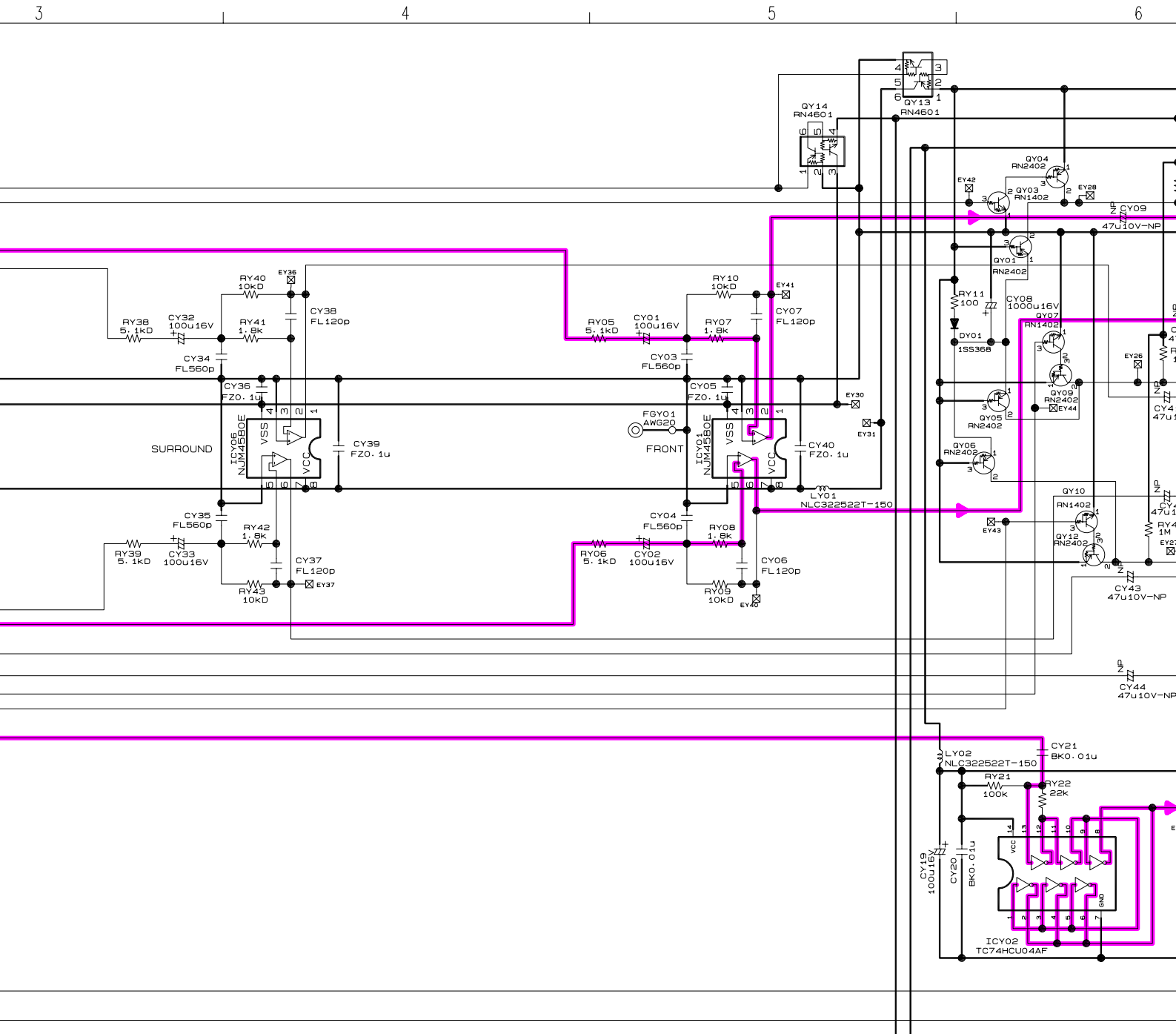
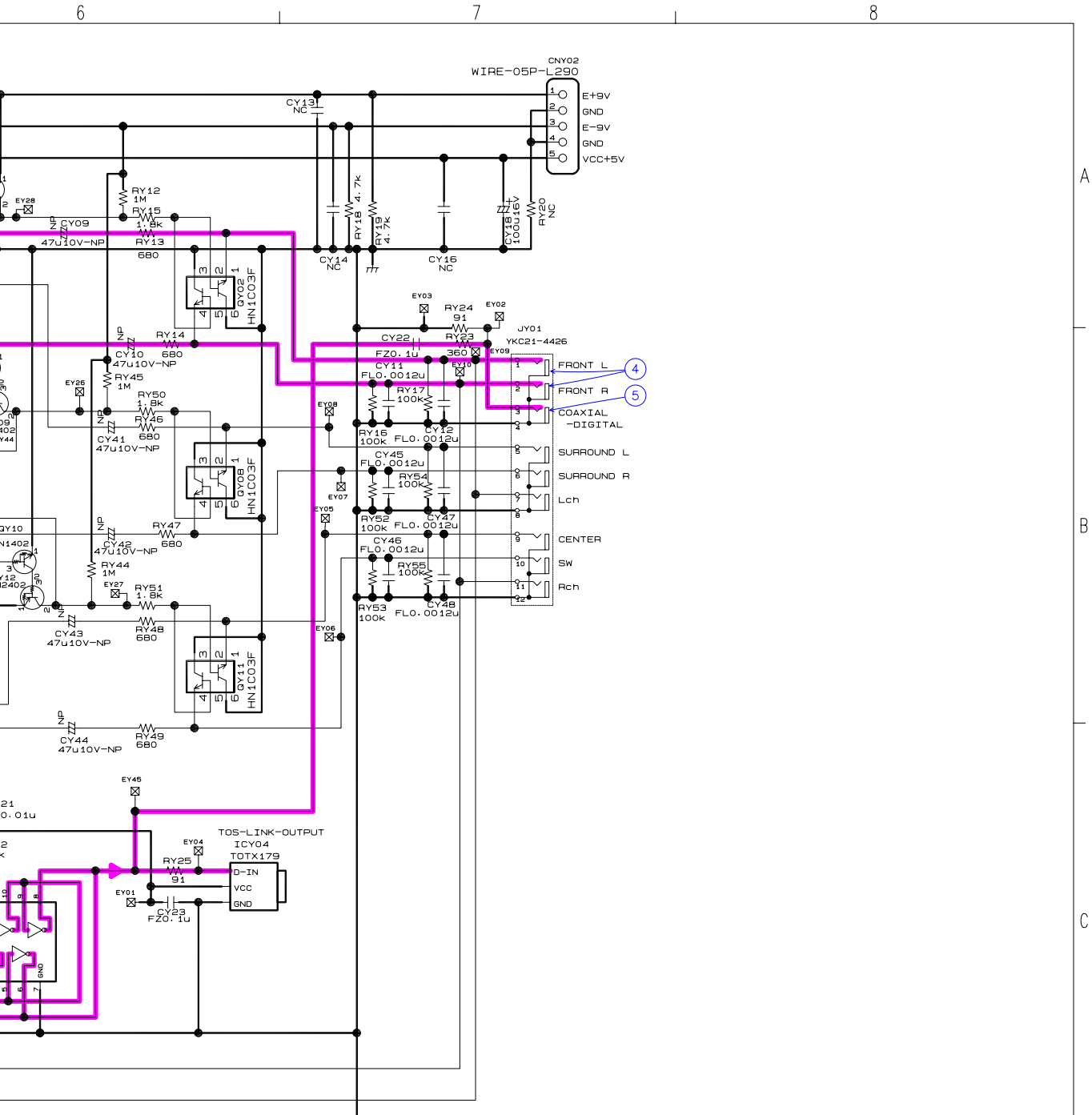


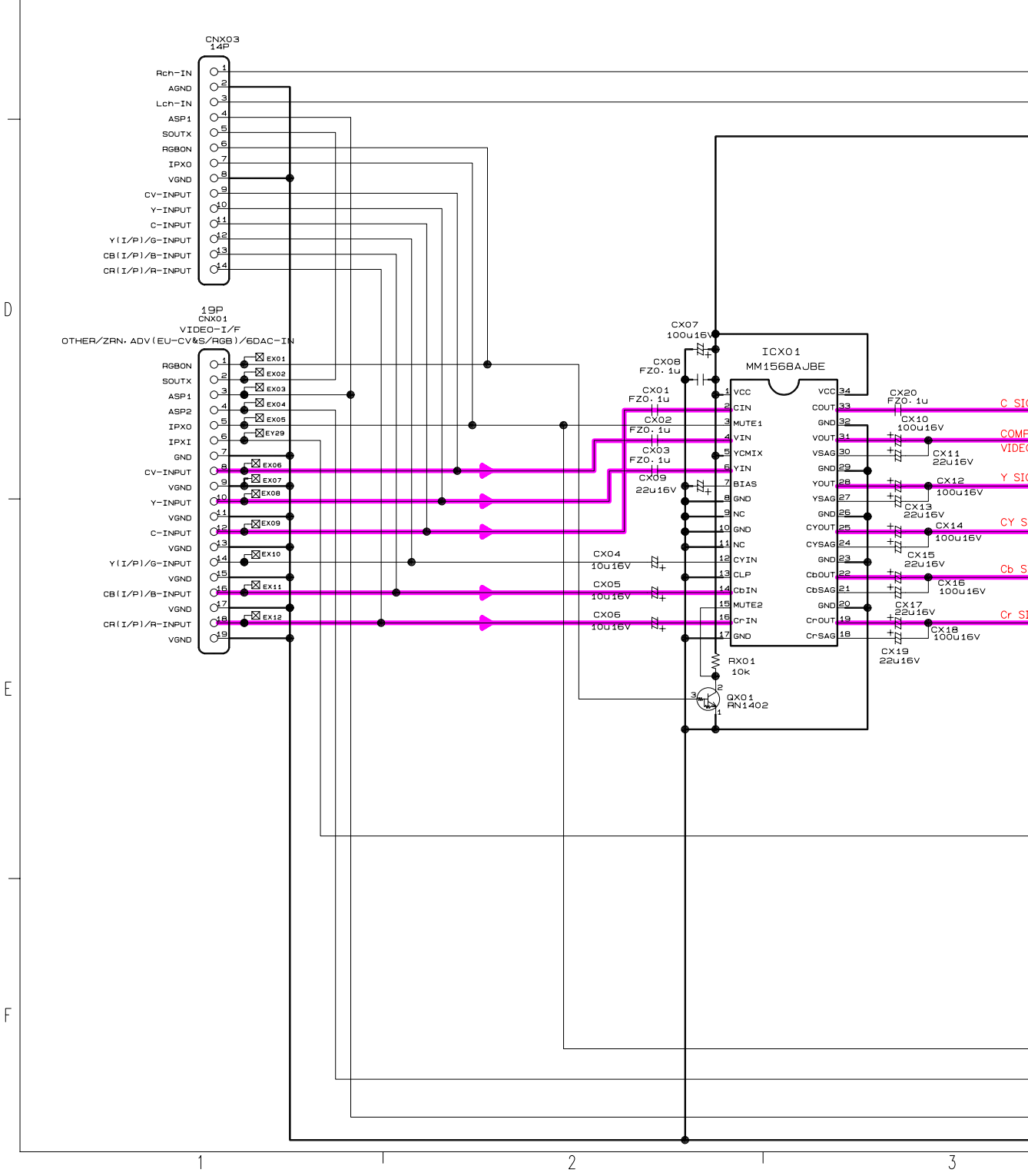
Fig. 3-5-6-B

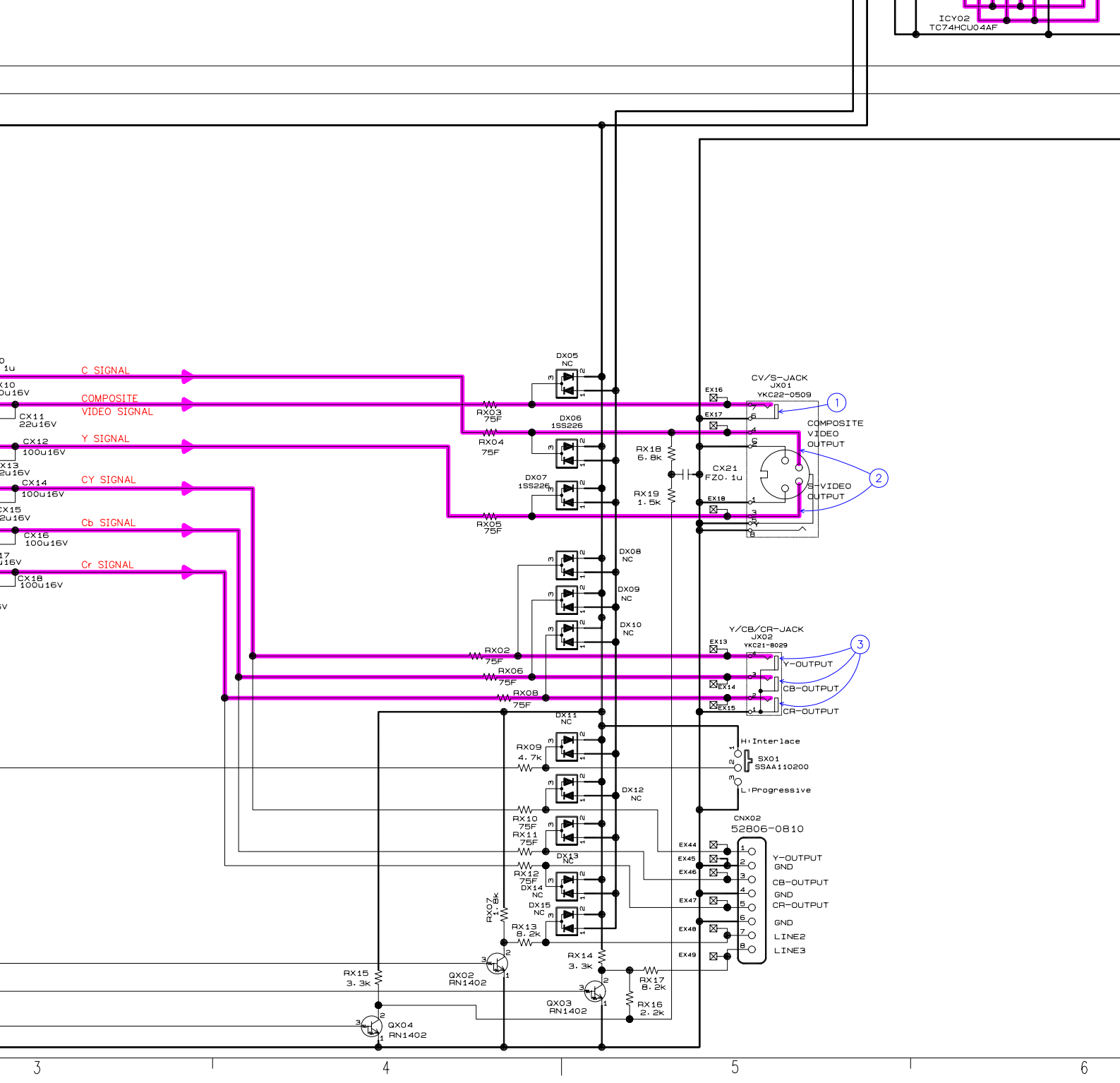
5-4. (B) Output Circuit Diagram - DD-8030




3
4
5
6
SURROUND
FRONT
FGY01
AWG20
ICY06
NJM4580F
ICY01
NJM4580F
ICY02
TC74HCU04AF
LY01
NLC322522T-150
LY02
NLC322522T-150
QY13
RN4601
QY14
RN4601
QY01
RN2402
QY03
RN1402
QY04
RN2402
QY05
RN2402
QY06
RN2402
QY07
RN1402
QY09
RN2402
QY10
RN1402
QY12
RN2402
DY01
1SS368
CY09
47u10V-NP
CY43
47u10V-NP
CY44
47u10V-NP


6
7
8
A
B
C
CNY02
WIRE-05P-L290
E+9V
GND
E-9V
GND
VCC+5V
CY13 NC
RY12 1M
RY15 1.8k
CY09 47u10V-NP
RY13 680
RY18 4.7k
RY19 4.7k
CY14 NC
CY16 NC
CY18 100u16V
RY20 NC
GY02 HN1C03F
RY14 680
CY10 47u10V-NP
RY24 91
RY23 360
CY22 FZ0.1u
JY01 YKC21-4426
CY11 FL0.0012u
RY17 100k
RY16 100k
CY12 FL0.0012u
FRONT L
FRONT R
COAXIAL
-DIGITAL
RY45 1M
RY50 1.8k
RY46 680
CY41 47u10V-NP
GY08 HN1C03F
CY45 FL0.0012u
RY54 100k
RY52 100k
CY47 FL0.0012u
SURROUND L
SURROUND R
Lch
RY47 680
CY42 47u10V-NP
CY46 FL0.0012u
RY55 100k
RY53 100k
CY48 FL0.0012u
CENTER
SW
Rch
RY44 1M
RY51 1.8k
CY43 47u10V-NP
RY48 680
GY11 HN1C03F
CY44 47u10V-NP
RY49 680
TOS-LINK-OUTPUT
ICY04
TOTX179
D-IN
VCC
GND
RY25 91
CY23 FZ0.1u
4
5


CNX03
14P
Rch-IN
AGND
Lch-IN
ASP1
SOUTX
RGBON
IPXO
VGND
CV-INPUT
Y-INPUT
C-INPUT
Y(I/P)/G-INPUT
CB(I/P)/B-INPUT
CR(I/P)/R-INPUT
19P
CNX01
VIDEO-I/F
OTHER/ZRN, ADV(EU-CV&S/RGB)/6DAC-IN
RGBON
SOUTX
ASP1
ASP2
IPXO
IPXI
GND
CV-INPUT
VGND
Y-INPUT
VGND
C-INPUT
VGND
Y(I/P)/G-INPUT
VGND
CB(I/P)/B-INPUT
VGND
CR(I/P)/R-INPUT
VGND
EX01
EX02
EX03
EX04
EX05
EY29
EX06
EX07
EX08
EX09
EX10
EX11
EX12
ICX01
MM1568AJBE
VCC
CIN
MUTE1
VIN
YCMIX
YIN
BIAS
GND
NC
GND
NC
CYIN
CLP
CbIN
MUTE2
CrIN
GND
COUT
GND
VOUT
VSAG
GND
YOUT
YSAG
GND
CYOUT
CYSAG
GND
CbOUT
CbSAG
GND
CrOUT
CrSAG
CX01 FZ0.1u
CX02 FZ0.1u
CX03 FZ0.1u
CX04 10u16V
CX05 10u16V
CX06 10u16V
CX07 100u16V
CX08 FZ0.1u
CX09 22u16V
CX10 100u16V
CX11 22u16V
CX12 100u16V
CX13 22u16V
CX14 100u16V
CX15 22u16V
CX16 100u16V
CX17 22u16V
CX18 100u16V
CX19 22u16V
CX20 FZ0.1u
RX01 10k
QX01 RN1402
C SIG
COMP
VIDEO
Y SIG
CY SIG
Cb SIG
Cr SIG
D
E
F
1
2
3


ICY02
TC74HCU04AF
C SIGNAL
COMPOSITE
VIDEO SIGNAL
Y SIGNAL
CY SIGNAL
Cb SIGNAL
Cr SIGNAL
CX11
22u16V
CX12
100u16V
CX14
100u16V
CX16
100u16V
CX18
100u16V
DX05
NC
DX06
1SS226
DX07
1SS226
DX08
NC
DX09
NC
DX10
NC
DX11
NC
DX12
NC
DX13
NC
DX14
NC
DX15
NC
RX03
75F
RX04
75F
RX05
75F
RX02
75F
RX06
75F
RX08
75F
RX09
4.7k
RX10
75F
RX11
75F
RX12
75F
RX13
8.2k
RX14
3.3k
RX15
3.3k
RX16
2.2k
RX17
8.2k
RX18
6.8k
RX19
1.5k
RX07
1.8k
CX21
FZ0.1u
CV/S-JACK
JX01
YKC22-0509
COMPOSITE
VIDEO
OUTPUT
S-VIDEO
OUTPUT
Y/CB/CR-JACK
JX02
YKC21-8029
Y-OUTPUT
CB-OUTPUT
CR-OUTPUT
H:Interlace
SX01
SSAA110200
L:Progressive
CNX02
52806-0810
Y-OUTPUT
GND
CB-OUTPUT
GND
CR-OUTPUT
GND
LINE2
LINE3
QX02
RN1402
QX03
RN1402
QX04
RN1402
3
4
5
6

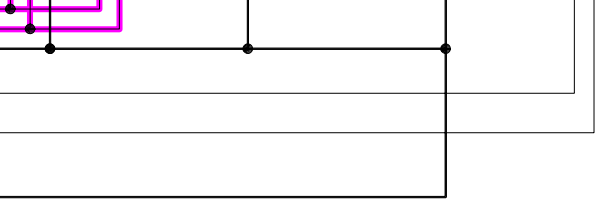


Fig. 3-5-6-B

Output Circuit Diagram - DD-8030

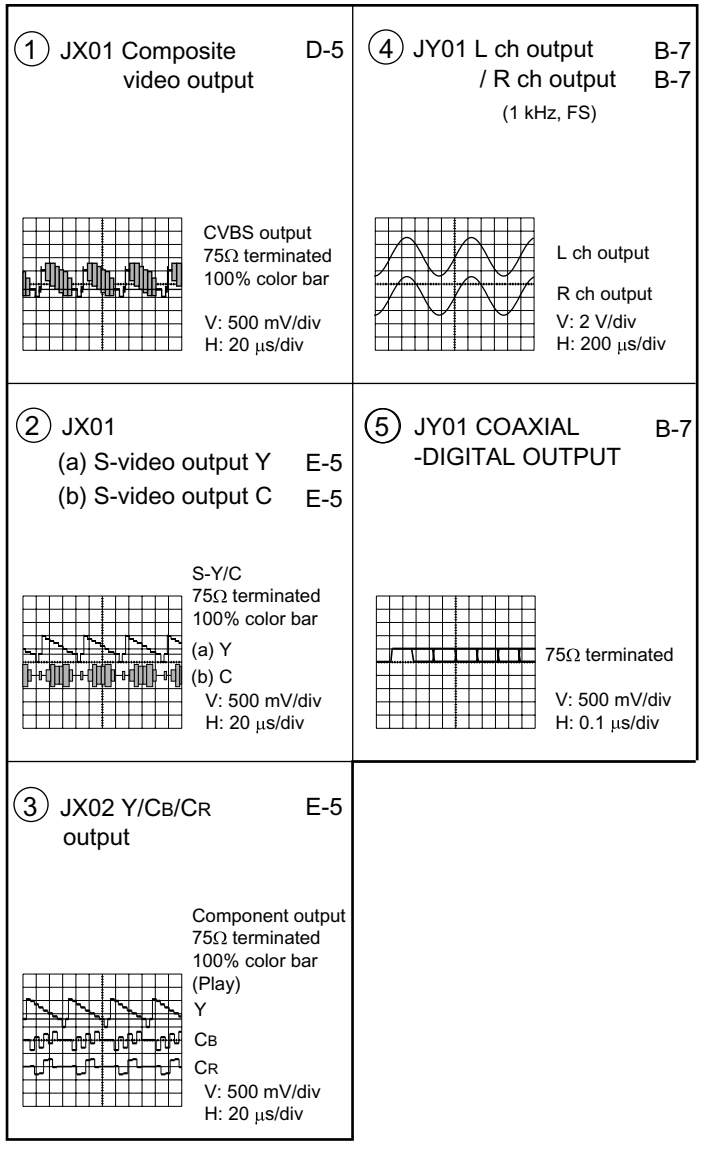


Fig. 3-3-7-B

5-5. Motor System Circuit Diagram

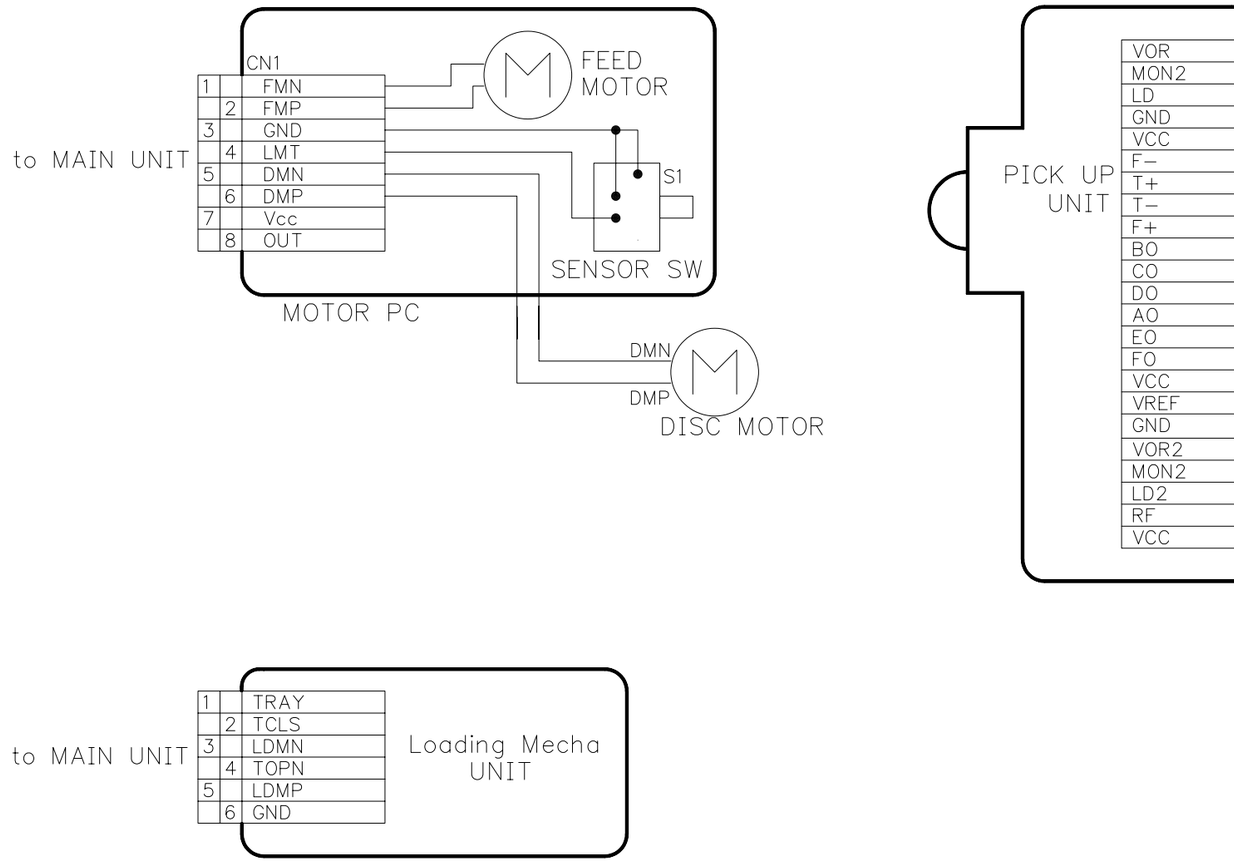
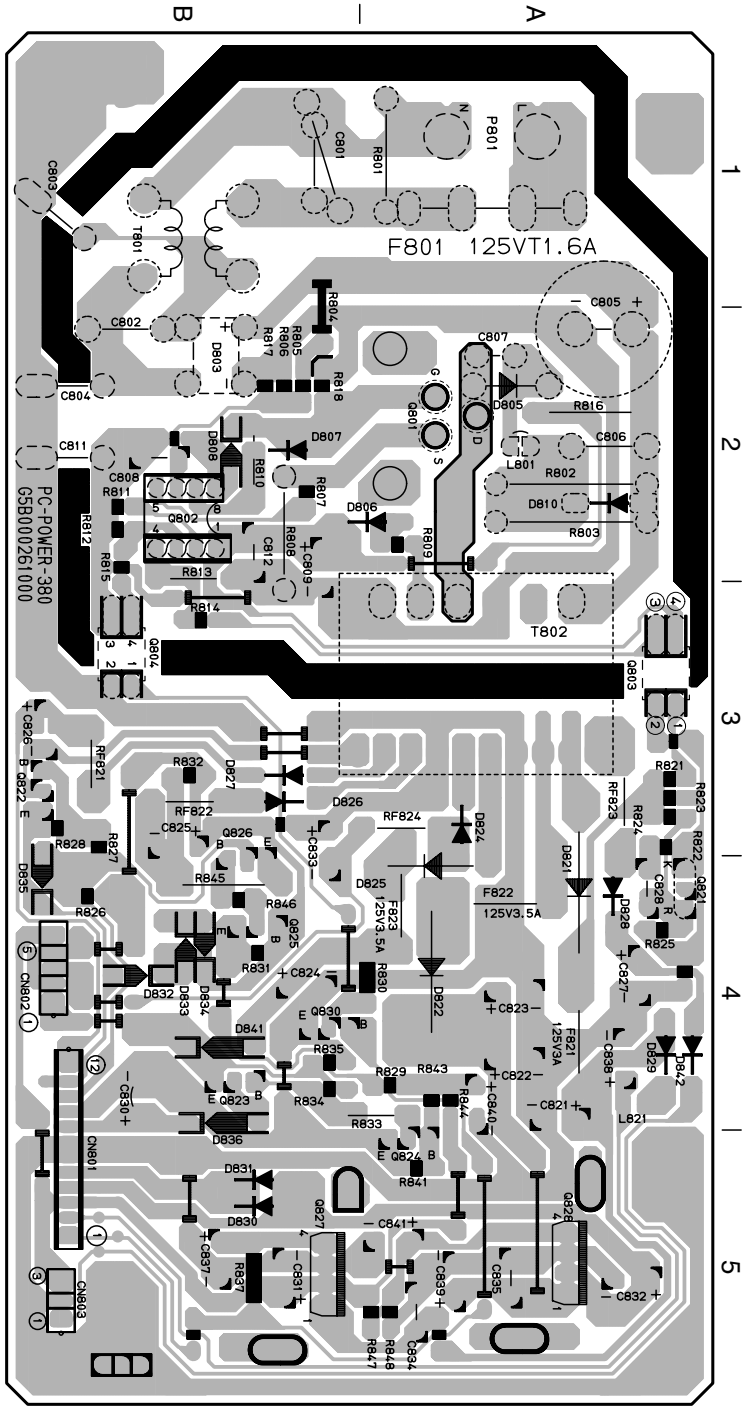


Fig. 3-5-8

6. PC BOARDS

6-1. Power Supply PC Board



Part No.	Location	Part No.	Location
C801	B1	P801	A1
C802	B2	Q801	A2
C803	B1	Q802	B2
C804	B2	Q804	B3
C805	A1	Q821	A4
C806	A2	Q822	B3
C807	A2	Q823	B4
C808	B2	Q824	A5
C809	B2	Q825	B4
C811	B2	Q826	B3
C812	B2	Q827	B5
C821	A4	Q828	A5
C822	A4	Q830	B4
C823	A4	R801	A1
C824	B4	R802	A2
C825	B3	R803	A2
C826	B3	R804	B1
C827	A4	R805	B2
C828	A4	R806	B2
C830	B4	R807	B2
C831	B5	R808	B2
C832	A5	R809	A2
C833	B3	R810	B2
C834	A5	R811	B2
C835	A5	R812	B2
C837	B5	R813	B2
C838	A4	R814	B3
C839	A5	R815	B2
C840	A4	R816	A2
C841	A5	R817	B2
CN801	B5	R818	B2
CN802	B4	R821	A3
CN803	B5	R822	A3
D803	B2	R823	A3
D805	A2	R824	A3
D806	A2	R825	A4
D807	B2	R826	B4
D808	B2	R827	B3
D810	A2	R828	B3
D821	A4	R829	A4
D822	A4	R830	A4
D824	A3	R831	B4
D825	A4	R832	B3
D826	B3	R833	A4
D827	B3	R834	B4
D828	A4	R835	B4
D829	A4	R837	B5
D830	B5	R841	A5
D831	B5	R843	A4
D832	B4	R844	A4
D833	B4	R845	B4
D834	B4	R846	B4
D835	B4	R847	A5
D836	B5	R848	A5
D841	B4	RF821	B3
D842	A4	RF822	B3
F821	A4	RF823	A3
F822	A4	RF824	A3
F823	A4	T801	B1
L801	A2	T802	A3
L821	A4		

Fig. 3-6-1 EU02 Power Supply PC Board (Bottom side)

6-3. Main PC Board

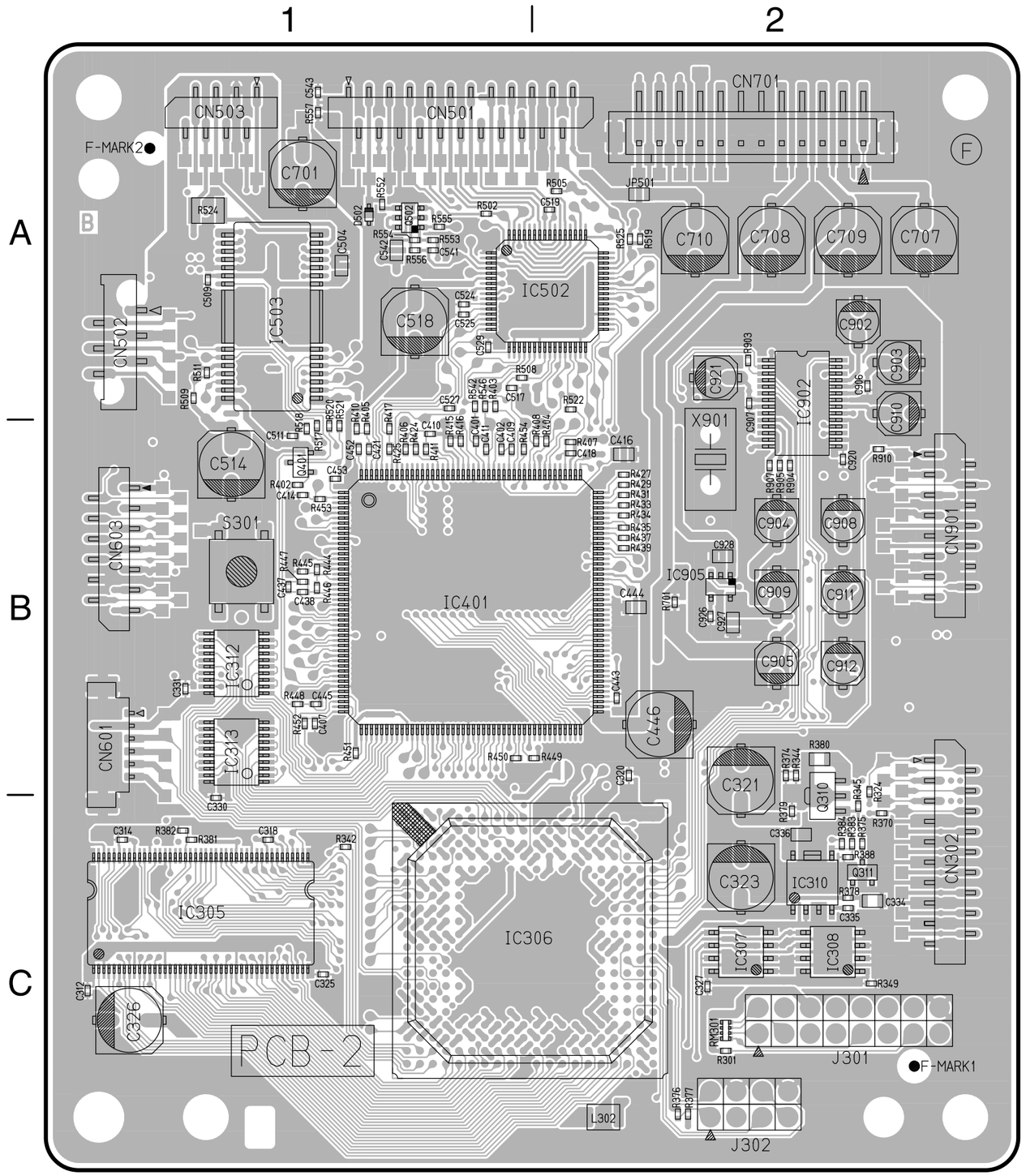


Fig. 3-6-4 EU01 Main PC Board (Top pattern and Top parts location diagram)

Main PC Board (Top Side)

Part No.	Location
C312	C1
C314	C1
C318	C1
C320	B2
C321	B2
C323	C2
C325	C1
C326	C1
C327	C2
C330	C1
C331	B1
C334	C2
C335	C2
C336	C2
C401	B1
C402	B1
C407	B1
C409	B1
C410	B1
C411	B1
C414	B1
C416	B2
C418	B2
C421	B1
C437	B1
C438	B1
C443	B2
C444	B2
C445	B1
C446	B2
C452	B1
C453	B1
C504	A1
C509	A1
C511	B1
C514	B1
C517	A1
C518	A1
C519	A2
C524	A1
C525	A1
C527	A1
C529	A1
C541	A1
C542	A1
C543	A1
C701	A1
C707	A2
C708	A2
C709	A2
C710	A2
C902	A2
C903	A2
C904	B2
C905	B2
C906	A2
C907	A2
C908	B2
C909	B2
C910	A2
C911	B2
C912	B2
C920	B2
C921	A2
C926	B2
C927	B2
C928	B2
CN302	C2
CN501	A1
CN502	A1
CN503	A1
CN601	B1
CN603	B1
CN701	A2
CN901	B2
D502	A1
E201	B2
E301	B2
E302	B2
E303	B2
E304	B2
E305	C2
E306	C2
E307	C2
E308	C2
E309	C2
E310	C2
E311	C2
E312	C2
E313	C2
E314	C1
E315	B2
E316	B2
E320	C2
E321	C2
E322	B1
E323	C2
E324	C2
E325	C2
E326	C1
E327	C1
E328	C1
E329	C1
E330	C1
E331	C2
E332	B1
E333	C1
E334	C1
E335	C1
E336	C1
E337	C1
E401	B2
E402	B1
E403	A1
E405	B1
E406	B1
E407	B1
E408	B2
E409	B2
E410	B1
E411	B2
E412	B2
E413	B1
E414	B1
E415	B1
E416	B1
E417	B1
E418	B1
E419	B1
E420	B1
E421	B1
E422	B1
E423	B1
E424	B1
E425	B1
E426	B1
E501	A1
E502	A1
E503	A1
E504	A1
E505	A2
E506	A2
E507	A1
E508	A1
E509	A1
E510	A1
E511	A1
E512	A1
E513	A1
E514	A1
E515	A1
E516	A1
E517	A1
E518	A1
E519	A2
E520	A2
E521	A2
E522	A1
E523	A1
E524	A1
E525	A1
E526	A1
E527	A1
E528	A1
E529	A1
E530	A1
E531	A1
E532	A1
E533	A2
E534	A1
E535	A2
E536	A2
E537	A1
E538	A1
E539	A1
E540	A1
E541	A1
E542	A1
E543	A1
E544	A1
E545	A2
E546	A1
E547	A1
E548	A2
E549	A1
E550	A1
E551	A1
E552	A1
E553	A1
E554	A1
E555	A1
E556	A1
E557	A1
E558	A1
E559	A1
E560	A1
E561	A2
E562	A2
E563	A2
E564	A2
E565	A2
E566	A2
E567	A2
E568	A2
E569	A2
E570	A2
E571	A2
E572	A2
E573	A2
E574	A2
E575	A2
E576	A2
E577	A2
E578	A2
E579	A1
E580	A1
E581	A1
E582	A1
E583	A2
E584	A1
E585	A1
E586	A1
E587	A1
E588	A1
E589	A1
E601	B1
E602	B1
E603	B1
E604	B1
E605	B1
E606	B1
E608	B1
E609	B1
E610	B1
E611	B1
E612	B1
E613	B1
E614	B1
E615	B1
E616	C1
E617	B1
E618	C1
E619	C1
E651	B1
E652	B1
E701	A2
E702	A2
E703	A2
E704	A1
E705	A2
E706	A2
E707	A2
E708	A2
E709	A2
E710	A2
E711	A2
E712	A2
E713	A2
E714	A2
E715	A2
E901	B2
E902	B2
E903	B2
E904	B2
E905	B2
E906	B2
E907	B2
E908	B2
E909	B2
E910	B2
E911	B2
E912	B2
E913	B2
E914	B2
E915	B2
F-MARK1	C2
F-MARK2	A1
IC305	C1
IC306	C1
IC307	C2
IC308	C2
IC310	C2
IC312	B1
IC313	B1
IC401	B1
IC502	A2
IC503	A1
IC902	A2
IC905	B2
J301	C2
J302	C2
JP301	B2
JP501	A2
L302	C2
Q310	C2
Q311	C2
Q401	B1
Q502	A1
R301	C2
R324	B2
R342	C1
R344	B2
R345	C2
R349	C2
R370	C2
R374	B2
R375	C2
R376	C2
R377	C2
R378	C2
R379	C2
R380	B2
R381	C1
R382	C1
R383	C2
R384	C2
R388	C2
R402	B1
R403	A1
R404	B2
R405	B1
R406	B1
R407	B2
R408	B2
R410	B1
R411	B1
R415	B1
R416	B1
R417	B1
R424	B1
R425	B1
R427	B2
R429	B2
R431	B2
R433	B2
R434	B2
R435	B2
R437	B2
R439	B2
R444	B1
R445	B1
R446	B1
R447	B1
R448	B1
R449	B2
R450	B1
R451	B1
R452	B1
R453	B1
R454	B1
R502	A1
R505	A2
R508	A1
R509	A1
R511	A1
R517	B1
R518	B1
R519	A2
R520	B1
R521	B1
R522	A2
R524	A1
R525	A2
R542	A1
R546	A1
R552	A1
R553	A1
R554	A1
R555	A1
R556	A1
R557	A1
R701	B2
R903	A2
R904	B2
R905	B2
R907	B2
R910	B2
RM301	C2
S301	B1
TP401	B1
TP402	B1
TP403	B2
TP404	B2
TP405	B1
TP406	B1
TP407	B2
TP408	B1
TP409	B2
TP410	B1
TP411	B1
TP412	B1
TP413	B1
TP414	B1
TP501	B1
TP502	A2
TP503	B1
TP504	B1
X901	B2

Main PC Board (Bottom Side)

Part No.	Location
C301	C1
C302	C2
C303	C1
C304	C2
C305	B2
C306	B2
C307	C1
C308	C1
C309	C2
C310	C2
C311	C1
C313	C2
C315	C2
C316	C2
C317	C2
C319	C1
C322	C1
C324	C1
C328	C1
C329	C1
C332	B2
C333	C2
C337	C1
C403	B2
C404	B2
C405	B2
C406	B2
C408	B2
C412	B2
C413	B2
C415	B2
C417	A2
C419	B1
C420	B2
C422	B1
C423	B2
C424	B1
C425	B1
C426	B1
C427	B1
C428	B1
C429	B1
C430	B1
C431	B1
C432	B1
C433	B1
C434	B1
C435	B1
C436	B2
C439	B1
C440	B1
C441	B2
C442	B1
C447	B2
C448	B1
C449	B2
C450	B2
C451	B2
C501	A2
C502	A2
C503	A2
C505	A2
C506	A2
C507	A2
C508	A1
C510	A1
C512	B2
C513	A1
C515	A2
C516	A2
C520	A2
C521	A2
C522	A1
C523	A1
C526	A1
C528	A1
C530	A2
C532	A1
C533	A1
C534	A2
C539	A2
C601	B2
C602	B2
C603	B2
C702	A1
C703	A1
C704	A1
C705	A1
C706	A1
C711	A1
C712	A1
C713	A1
C714	A1
C715	A1
C901	B1
C913	A1
C914	A1
C915	B1
C916	B1
C917	B1
C918	B1
C919	B1
C922	B1
C923	B1
C924	B1
C925	B1
D501	A1
D901	B1
D902	B1
D903	B1
F-MARK3	C1
F-MARK4	A2
IC301	B2
IC302	B2
IC303	B2
IC304	B2
IC309	B2
IC402	B2
IC501	A2
IC504	A2
IC901	B1
IC903	B1
IC904	B1
Q301	C1
Q302	C1
Q303	C1
Q304	C1
Q305	C1
Q306	C1
Q307	C2
Q308	C1
Q309	C1
Q501	A1
Q503	B2
Q504	A2
Q505	A2
Q506	A2
R302	C2
R303	C1
R304	C2
R305	C2
R306	C1
R307	B2
R308	B2
R309	C2
R310	C1
R311	C2
R312	C2
R313	C1
R314	C2
R315	C2
R316	C2
R317	C2
R318	C2
R319	C1
R320	C1
R321	C1
R322	C1
R323	C1
R325	C1
R326	B1
R327	C1
R328	C1
R329	C1
R330	C1
R331	C1
R332	C1
R333	C1
R334	C1
R335	C1
R336	C1
R337	C1
R338	C1
R339	C1
R340	B2
R341	C1
R343	C2
R346	C2
R347	C2
R348	C2
R350	C2
R351	C1
R352	B1
R353	B1
R354	C1
R355	C1
R356	C1
R357	C2
R358	C2
R359	C1
R360	C1
R361	C2
R362	C2
R363	C2
R364	C2
R365	C2
R366	C1
R367	C1
R368	C1
R369	C1
R371	C1
R372	C1
R373	B1
R385	A1
R386	A1
R387	A1
R401	A2
R409	B2
R412	B1
R413	B2
R414	B2
R418	B1
R419	B2
R420	B2
R421	B2
R422	B2
R423	B2
R426	B1
R428	B1
R430	B1
R432	B1
R436	B1
R438	B1
R442	B1
R443	B1
R455	B2
R461	B2
R501	A2
R503	A2
R504	A2
R506	A1
R507	A1
R510	A1
R512	A1
R513	B2
R514	A2
R515	A2
R516	A2
R523	A2
R526	A2
R527	A2
R528	A2
R529	A2
R530	A2
R531	A2
R532	A2
R533	A2
R534	A2
R535	A1
R536	A1
R537	A2
R538	A2
R539	A1
R540	A2
R541	A2
R545	A1
R547	A2
R551	A2
R601	B2
R602	B2
R603	B2
R604	B2
R605	B2
R606	B2
R607	B2
R608	B2
R609	B2
R610	B2
R615	B2
R616	B2
R702	A1
R901	B1
R906	B1
R908	B1
R909	B1
R911	B1
R912	B1
R913	B1
R914	B1
R915	B1
R916	B1
R917	B1
R918	B1
R919	B1
RM302	C2
RM303	C2
RM304	C2
RM305	C2
RM306	C2
RM307	C2
RM308	C2
RM309	C2
RM310	C2

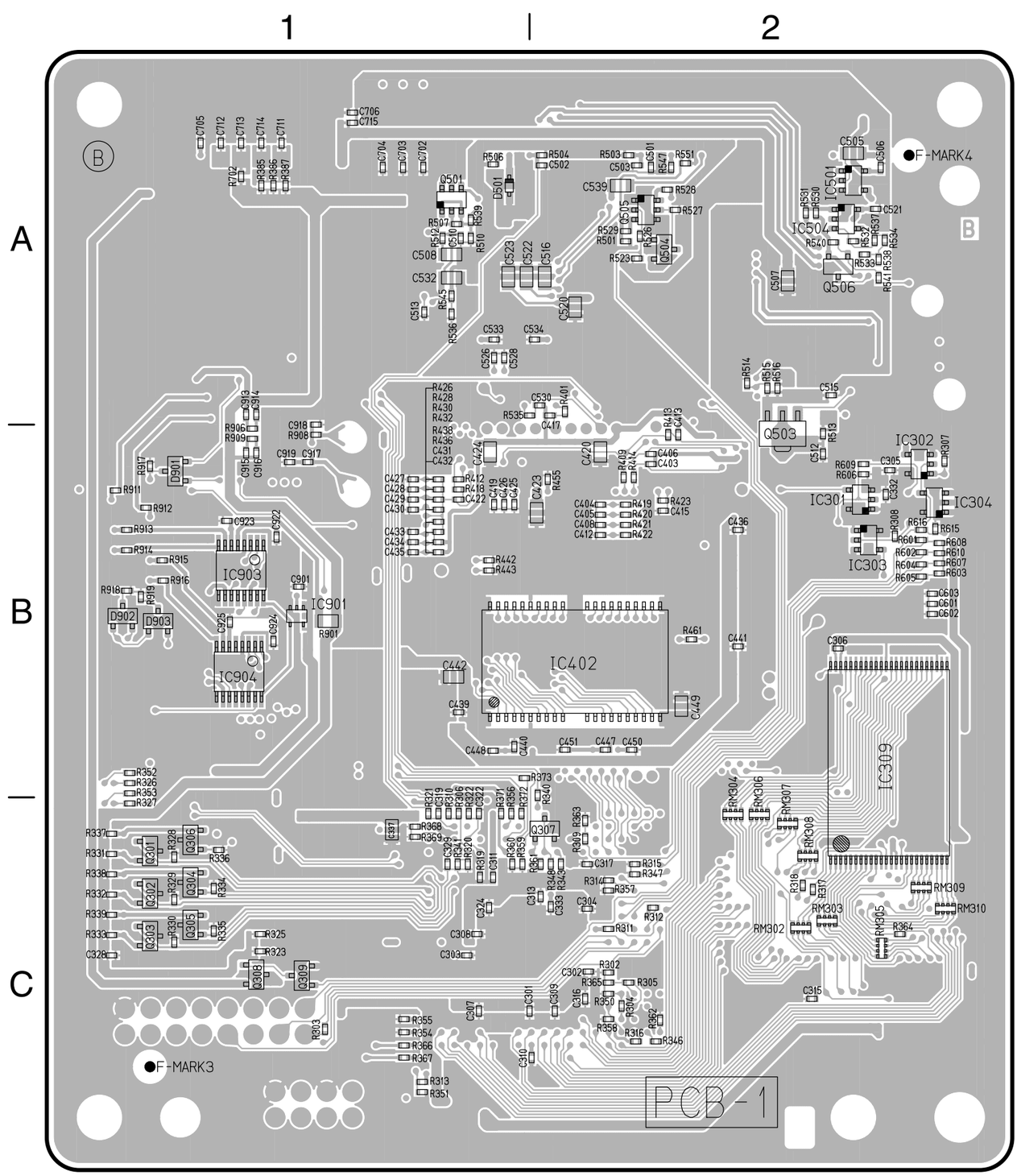


Fig. 3-6-5 EU01 Main PC Board (Bottom pattern and bottom parts location diagram)

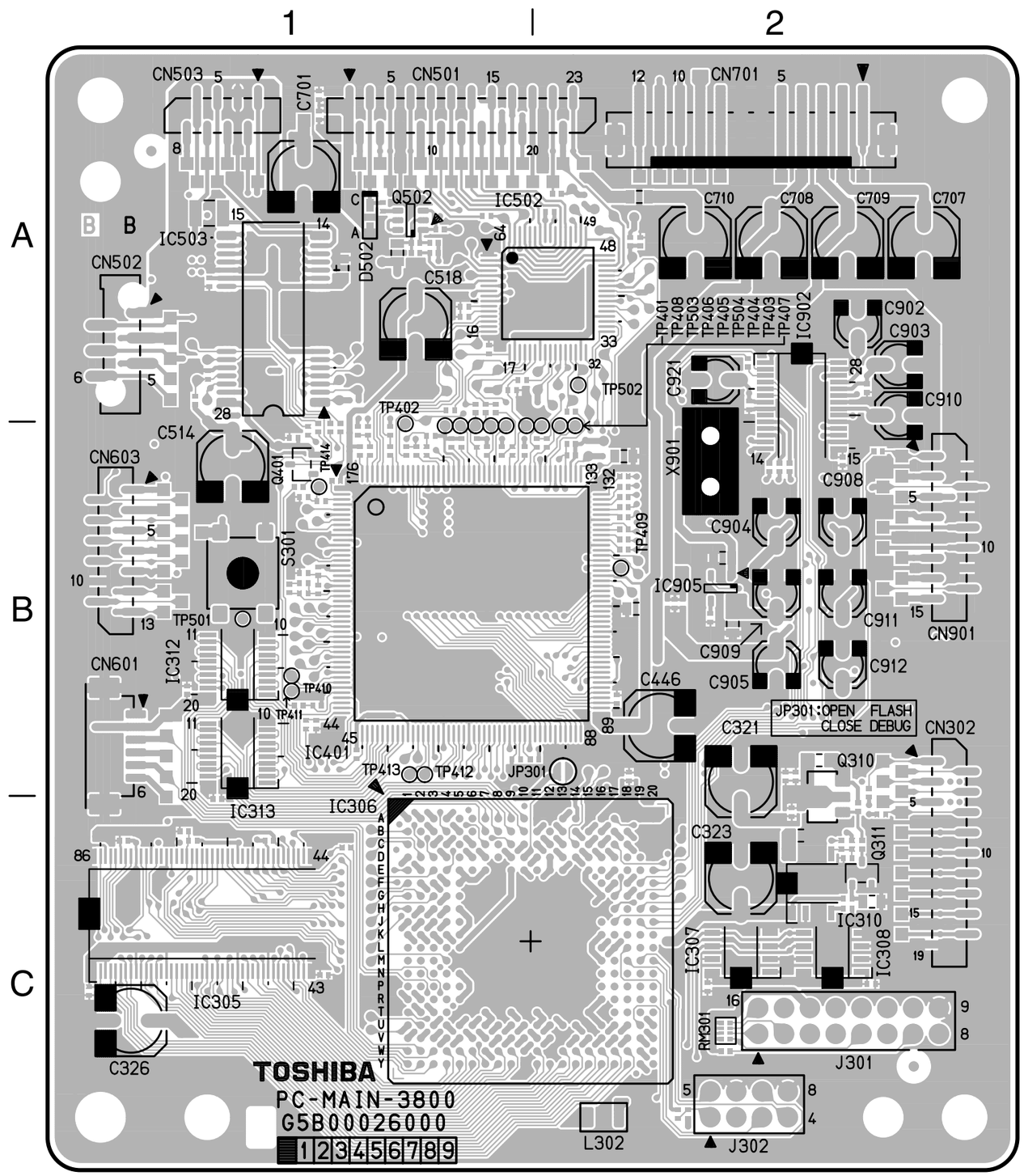


Fig. 3-6-6 EU01 Main PC Board (Top pattern, character/symbol)

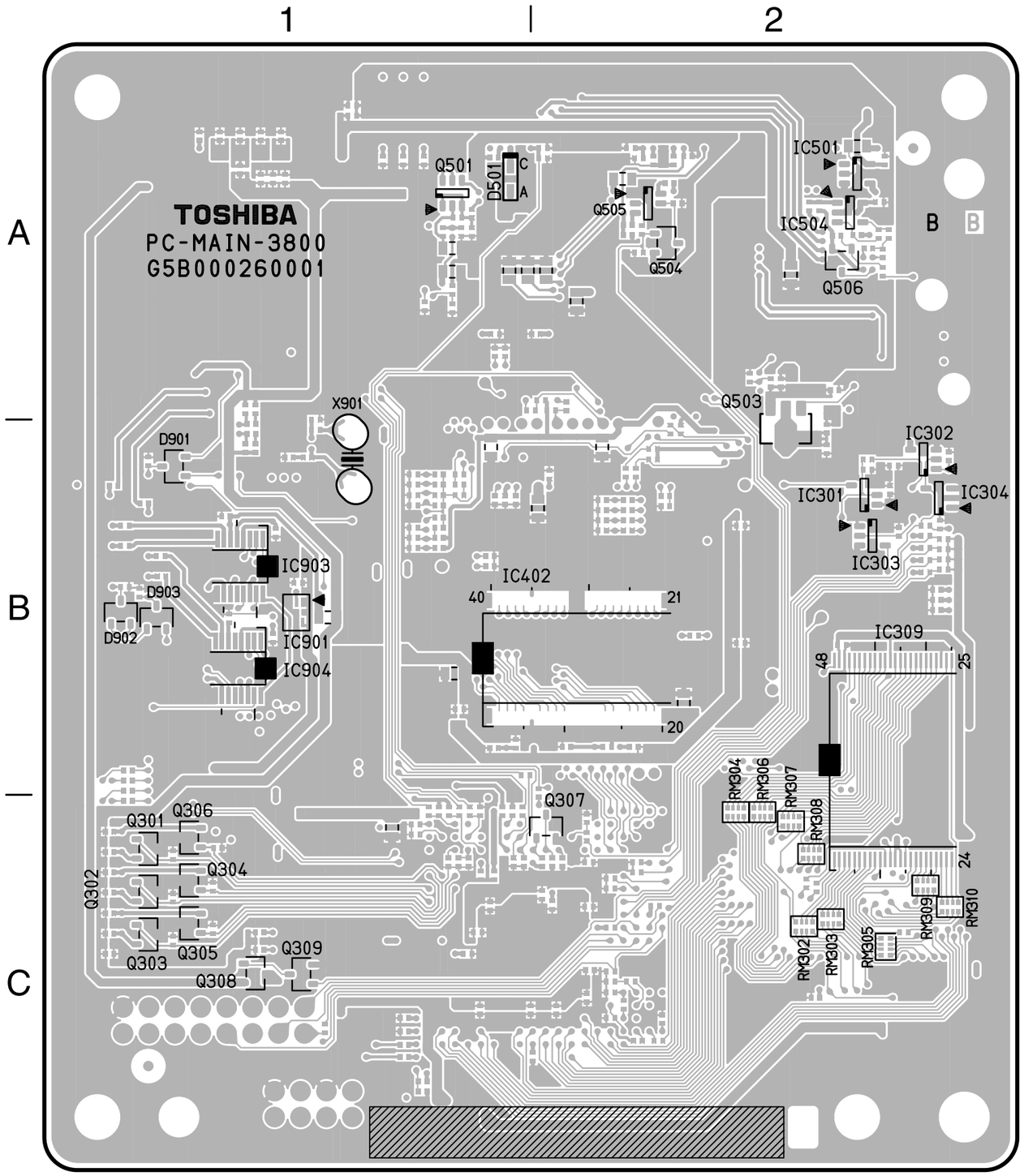


Fig. 3-6-7 EU01 Main PC Board (Bottom pattern, character/symbol)

6-4. (A) Output PC Board - DD-6030

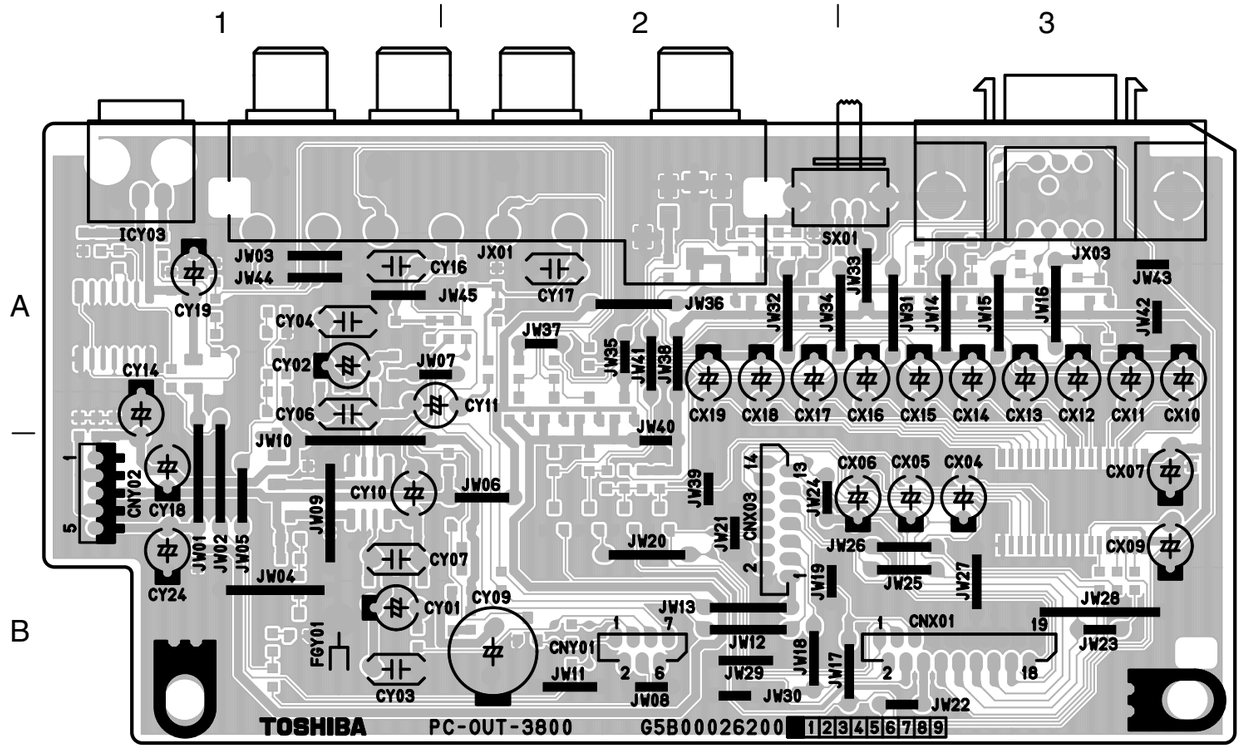


Fig. 3-6-8-A EU05 Output PC Board (Top side)

Part No.	Location	Part No.	Location
CNX01	B3	JW07	A1
CNX03	B2	JW08	B2
CNY01	B2	JW09	B1
CNY02	B1	JW10	B1
CX04	B3	JW11	B2
CX05	B3	JW12	B2
CX06	B3	JW13	B2
CX07	B3	JW14	A3
CX09	B3	JW15	A3
CX10	A3	JW16	A3
CX11	A3	JW17	B2
CX12	A3	JW18	B2
CX13	A3	JW19	B2
CX14	A3	JW20	B2
CX15	A3	JW21	B2
CX16	A3	JW22	B3
CX17	A2	JW23	B3
CX18	A2	JW24	B2
CX19	A2	JW25	B3
CY01	B1	JW26	B3
CY02	A1	JW27	B3
CY03	B1	JW28	B3
CY04	A1	JW29	B2
CY06	A1	JW30	B2
CY07	B1	JW31	A3
CY09	B2	JW32	A2
CY10	B1	JW33	A3
CY11	A2	JW34	A2
CY14	A1	JW35	A2
CY16	A2	JW36	A2
CY17	A2	JW37	A2
CY18	B1	JW38	A2
CY19	A1	JW39	B2
CY24	B1	JW40	A2
FGY01	B1	JW41	A2
ICY03	A1	JW42	A3
JW01	B1	JW43	A3
JW02	B1	JW44	A1
JW03	A1	JW45	A2
JW04	B1	JX01	A2
JW05	B1	JX03	A3
JW06	B2	SX01	A2

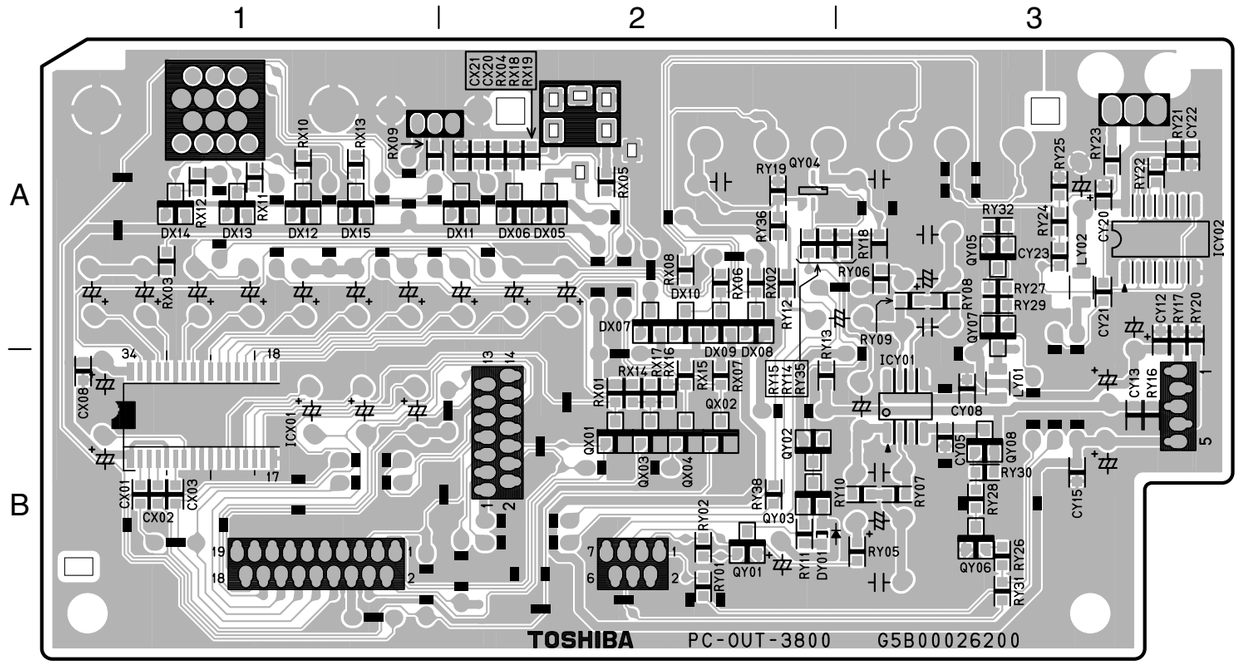


Fig. 3-6-9-B EU05 Output PC Board (Bottom side)

Part No.	Location	Part No.	Location	Part No.	Location
CX01	B1	QX01	B2	RY02	B2
CX02	B1	QX02	B2	RY05	B3
CX03	B1	QX03	B2	RY06	A3
CX08	B1	QX04	B2	RY07	B3
CX20	A2	QY01	B2	RY08	A3
CX21	A2	QY02	B2	RY09	A3
CY05	B3	QY03	B2	RY10	B3
CY08	B3	QY04	A2	RY11	B2
CY12	A3	QY05	A3	RY12	A2
CY13	B3	QY06	B3	RY13	B2
CY15	B3	QY07	A3	RY14	A2
CY20	A3	QY08	B3	RY15	A2
CY21	A3	RX01	B2	RY16	B3
CY22	A3	RX02	A2	RY17	A3
CY23	A3	RX03	A1	RY18	A3
DX05	A2	RX04	A2	RY19	A2
DX06	A2	RX05	A2	RY20	A3
DX07	A2	RX06	A2	RY21	A3
DX08	A2	RX07	B2	RY22	A3
DX09	A2	RX08	A2	RY23	A3
DX10	A2	RX09	A1	RY24	A3
DX11	A2	RX10	A1	RY25	A3
DX12	A1	RX11	A1	RY26	B3
DX13	A1	RX12	A1	RY27	A3
DX14	A1	RX13	A1	RY28	B3
DX15	A1	RX14	B2	RY29	A3
DY01	B2	RX15	B2	RY30	B3
ICX01	B1	RX16	B2	RY31	B3
ICY01	B3	RX17	B2	RY32	A3
ICY02	A3	RX18	A2	RY35	A3
LY01	B3	RX19	A2	RY36	A2
LY02	A3	RY01	B2	RY38	B2

6-4. (B) Output PC Board - DD-8030

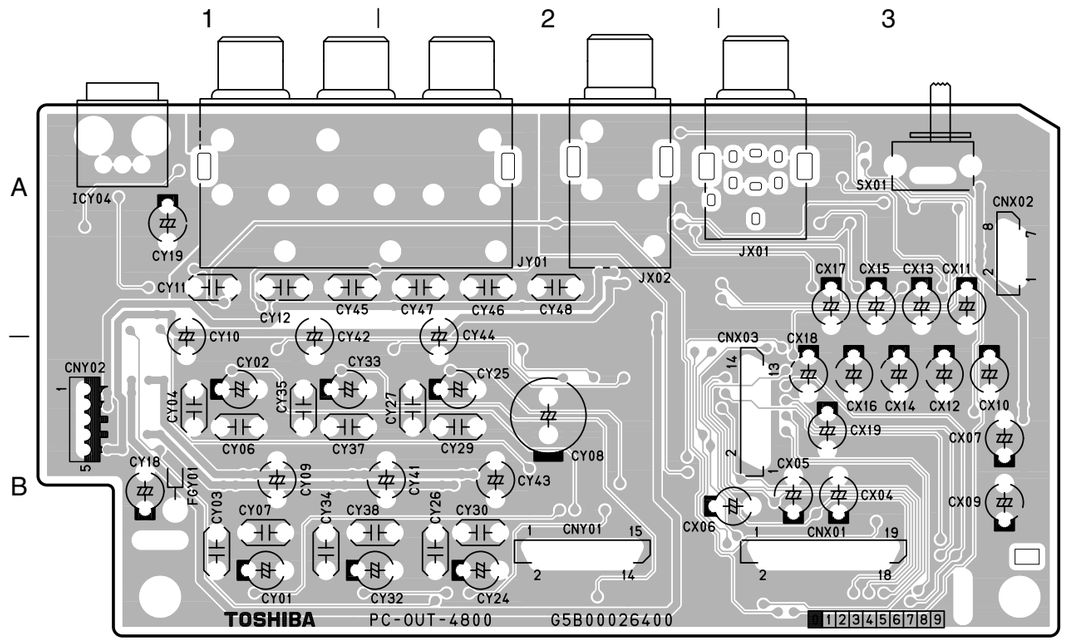


Fig. 3-6-8-B EU05 Output PC Board (Top side)

Part No.	Location	Part No.	Location
CNX01	B3	CY12	A1
CNX02	A3	CY18	B1
CNX03	B3	CY19	A1
CNY01	B2	CY24	B2
CNY02	B1	CY25	B2
CX04	B3	CY26	B2
CX05	B3	CY27	B2
CX06	B3	CY29	B2
CX07	B3	CY30	B2
CX09	B3	CY32	B1
CX10	B3	CY33	B1
CX11	A3	CY34	B1
CX12	B3	CY35	B1
CX13	A3	CY37	B1
CX14	B3	CY38	B1
CX15	A3	CY41	B2
CX16	B3	CY42	B1
CX17	A3	CY43	B2
CX18	B3	CY44	A2
CX19	B3	CY45	A1
CY01	B1	CY46	A2
CY02	B1	CY47	A2
CY03	B1	CY48	A2
CY04	B1	FGY01	B1
CY06	B1	ICY04	A1
CY07	B1	JX01	A3
CY08	B2	JX02	A2
CY09	B1	JY01	A1
CY10	B1	SX01	A3
CY11	A1		

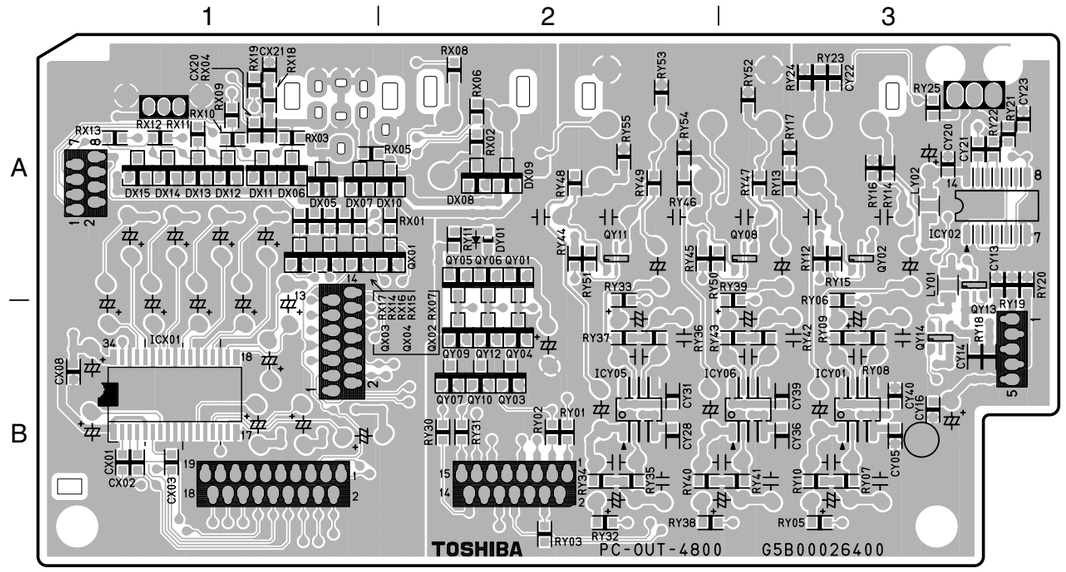


Fig. 3-6-9-B EU05 Output PC Board (Bottom side)

Part No.	Location	Part No.	Location	Part No.	Location
CX01	B1	QY01	A2	RY11	A2
CX02	B1	QY02	A3	RY12	A3
CX03	B1	QY03	B2	RY13	A3
CX08	B1	QY04	B2	RY14	A3
CX20	A1	QY05	A2	RY15	A3
CX21	A1	QY06	A2	RY16	A3
CY05	B3	QY07	B2	RY17	A3
CY13	A3	QY08	A3	RY18	B3
CY14	B3	QY09	B2	RY19	A3
CY16	B3	QY10	B2	RY20	A3
CY20	A3	QY11	A2	RY21	A3
CY21	A3	QY12	B2	RY22	A3
CY22	A3	QY13	A3	RY23	A3
CY23	A3	QY14	B3	RY24	A3
CY28	B2	RX01	A2	RY25	A3
CY31	B2	RX02	A2	RY30	B2
CY36	B3	RX03	A1	RY31	B2
CY39	B3	RX04	A1	RY32	B2
CY40	B3	RX05	A1	RY33	A2
DX05	A1	RX06	A2	RY34	B2
DX06	A1	RX07	A1	RY35	B2
DX07	A1	RX08	A2	RY36	B2
DX08	A2	RX09	A1	RY37	B2
DX09	A2	RX10	A1	RY38	B2
DX10	A2	RX11	A1	RY39	A3
DX11	A1	RX12	A1	RY40	B2
DX12	A1	RX13	A1	RY41	B3
DX13	A1	RX14	A1	RY42	B3
DX14	A1	RX15	A1	RY43	B3
DX15	A1	RX16	A1	RY44	A2
DY01	A2	RX17	A1	RY45	A2
ICX01	B1	RX18	A1	RY46	A2
ICY01	B3	RX19	A1	RY47	A3
ICY02	A3	RY01	B2	RY48	A2
ICY05	B2	RY02	B2	RY49	A2
ICY06	B3	RY03	B2	RY50	A2
LY01	A3	RY05	B3	RY51	A2
LY02	A3	RY06	A3	RY52	A3
QX01	A2	RY07	B3	RY53	A2
QX02	A1	RY08	B3	RY54	A2
QX03	A1	RY09	B3	RY55	A2
QX04	A1	RY10	B3		

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.

The parts marked with * are used for SD-220 only.

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. 10MF 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. 470ohmJ = 470ohm± 5%

4. EXPLODED VIEWS

4-1. Packing Assembly

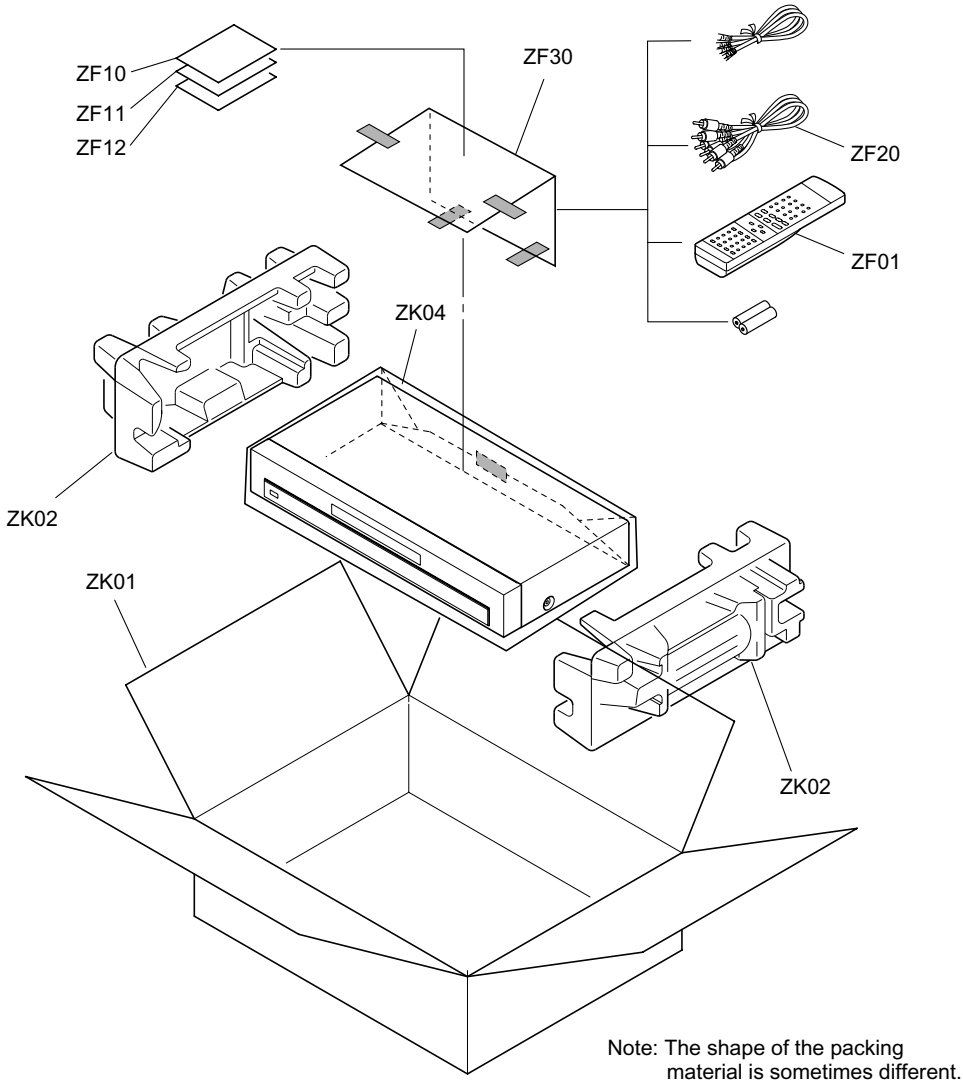


Fig. 4-4-1

4-2. Chassis Assembly (Type A)

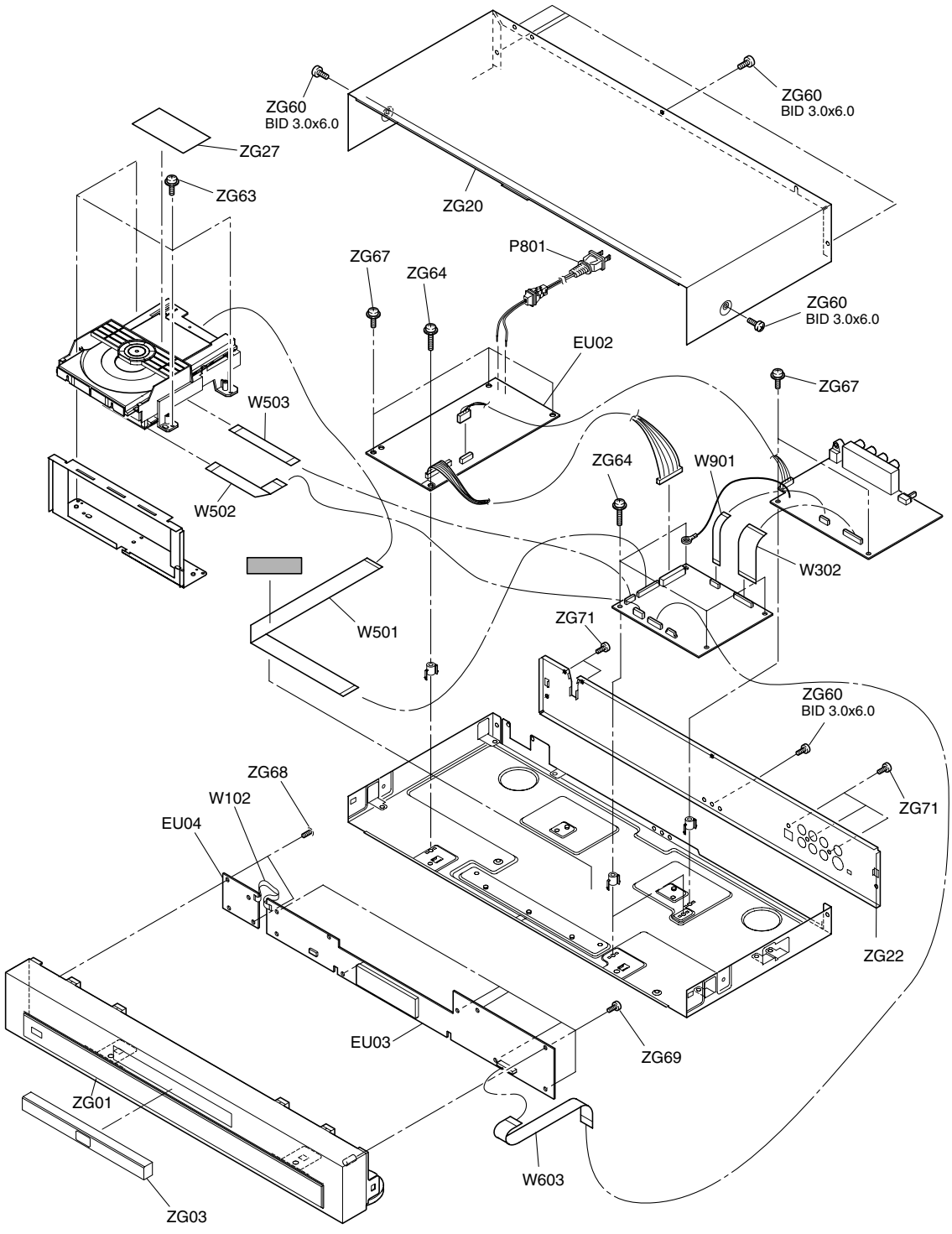


Fig. 4-4-2

4-3. Mechanism Assembly (Type A)

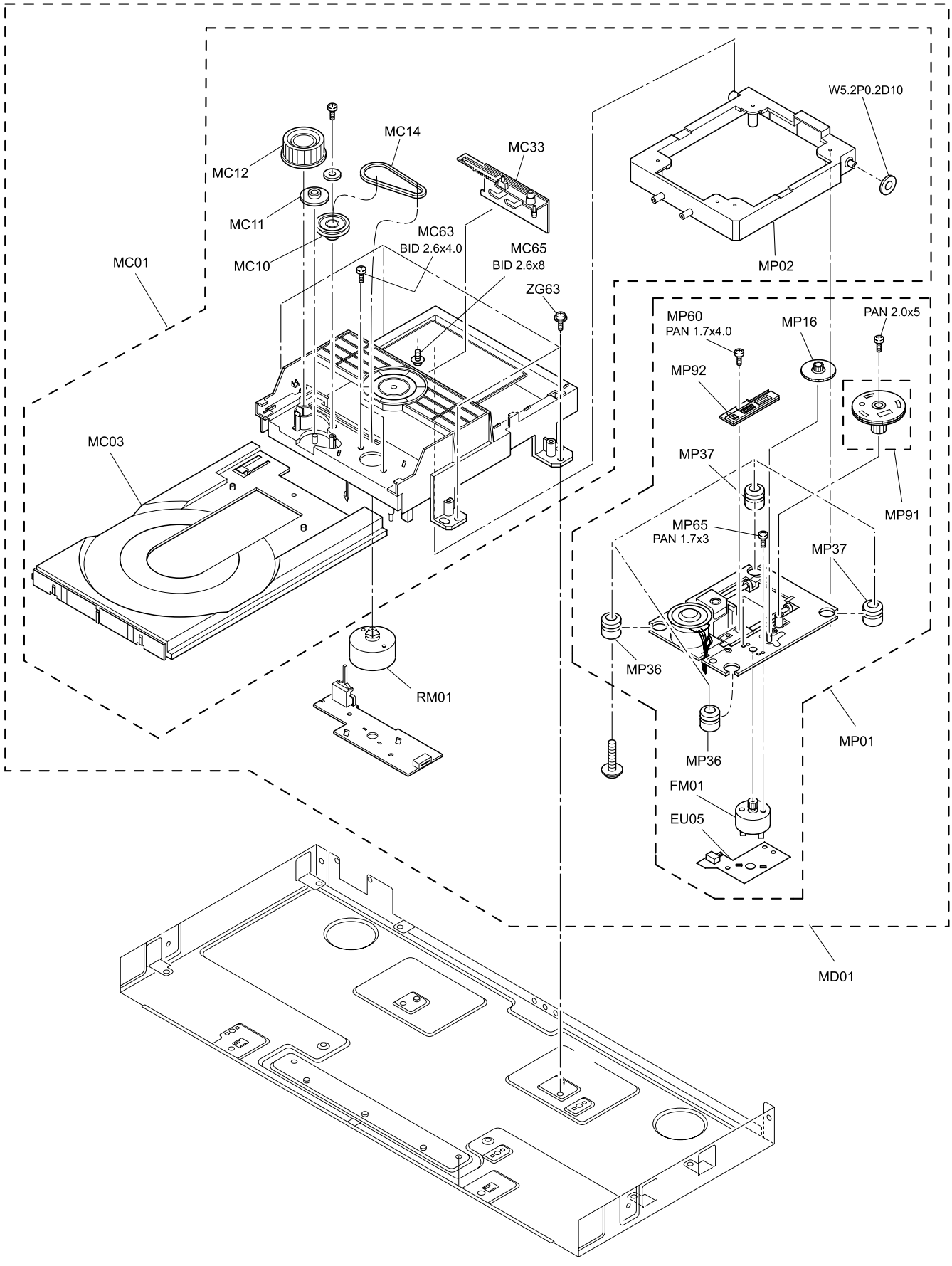


Fig. 4-4-3

4-4. Chassis Assembly (Type B)

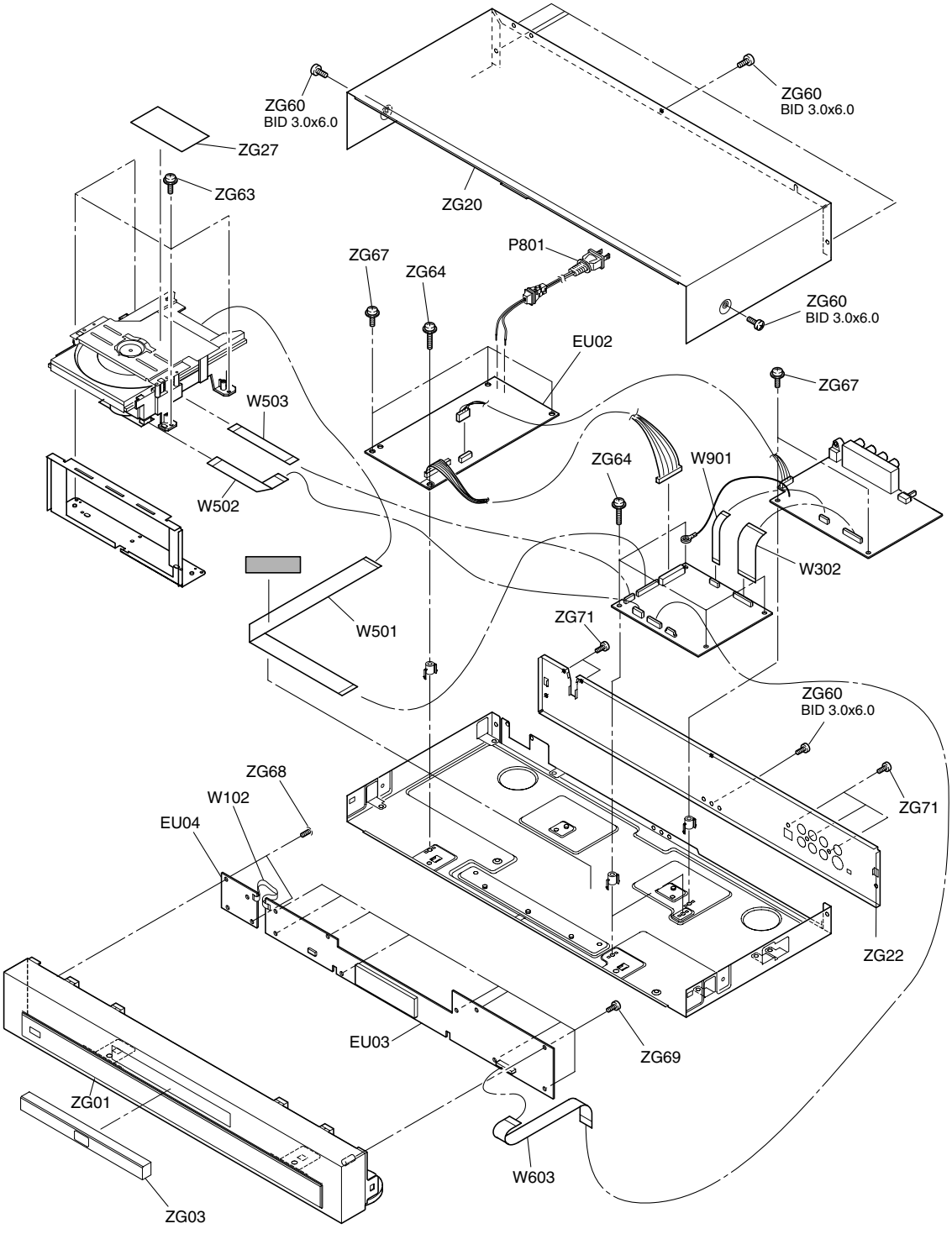


Fig. 4-4-4

4-5. Mechanism Assembly (Type B)

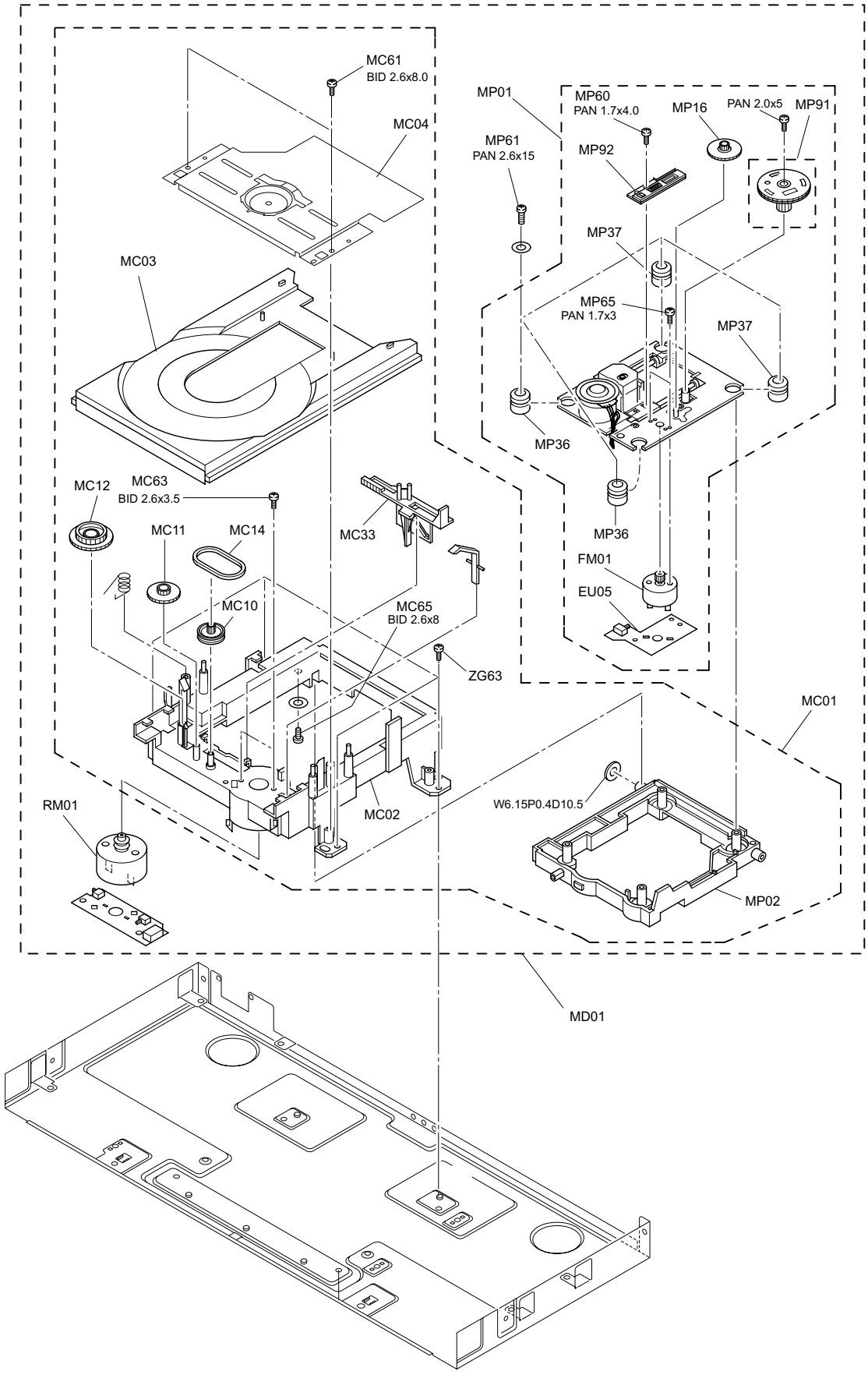


Fig. 4-4-5

5. PARTS LIST

DD-6030 PARTS	
Part Number	**Description**
I/B DD6030	I/B DD6030
79010026	TRANSF-(SRW3020ED5-210)
79060092	LED (RED EL31051VRT)
79070499	MECHA-P/U ASSY
79073095	COVER-TOP (BLACK)
79077235	MANUAL, VIEWER JPEG
79080184	CABLE (FLEXIBLE 19P-L70)
79080192	CABLE (6 pin main-chassis mech)
79080227	CABLE (FLEXIBLE 7P-L70)
79080273	CABLE
79080299	CABLE (FLEXIBLE 8P-L115)
79080299	CABLE (FLEXIBLE 8P-L115)
79080300	CABLE (FLEXIBLE 13P-L130)
79085104	PCB-POWER ASSY (AC120V)
79088028	CORD-POWER UL
79089156	BUZZER (PKM13EPY)
79089158	SWITCH-SLD-SSAA110200
79089167	DISPLAY FL (8-BT-230GNK)
79085105	PCB-OUTPUT
P000354950	PCB-FRONT
P000354960	PCB-POWER-SW
79100008	PCB-MAIN
79100012	PANEL-FRONT BLACK (DD-6030)
79100014	PANEL-TRAY BLACK (DD-6030)
79100016	REMOTE