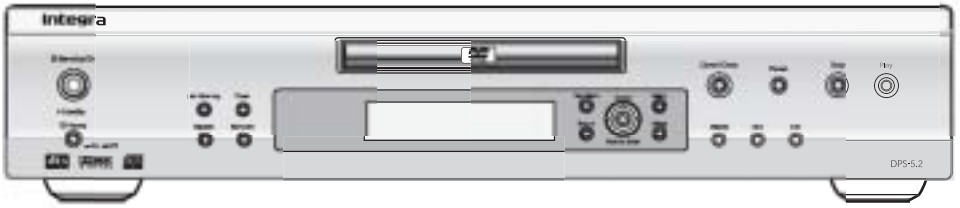
Ref. No.3686

Integra SERVICE MANUAL

Jul, 2001

DVD Player

DPS-5.2



RC-451DV

MDD	120V AC, 60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.
MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

SPECIFICATIONS

■ DVD Player

Power supply	AC 120 V, 60 Hz	
Power consumption	14 W	
Weight	3.4 kg, 7.5 lbs.	
External dimensions	435 x 91 x 312 mm (W/H/D), 17-1/8" x 3-9/16" x 12-5/16"	
Signal system	Standard NTSC	
Regional restriction code	1	
Laser	Semiconductor laser, wavelength 650 nm	
Frequency range (digital audio)	DVD linear sound:	48 kHz sampling 4 Hz to 22 kHz 96 kHz sampling 4 Hz to 44 kHz
	Audio CD:	4 Hz to 20 kHz
Signal-to-noise ratio (digital audio)	More than 100 dB	
Audio dynamic range (digital audio)	More than 96 dB	
Harmonic distortion (digital audio)	Less than 0.015 %	
Wow and flutter	Below measurable level (less than ±0.001 % (W.PEAK))	
Operating conditions	Temperature: 5˚C to 35˚C (41˚F to 95˚F), Operation status: Horizontal	

■ Outputs

Video output	1.0 V (p-p), 75 ohm, negative sync., pin jack 1
S-video output	(Y) 1.0 V (p-p), 75 ohm, negative sync., Mini DIN 4-pin 1 (C) 0.286 V (p-p), 75 ohm
Component video output	(Y) 1.0 V (p-p), 75 ohm, negative sync., pin jack 1 (P_B)/(P_R) 0.7 V (p-p), 75 ohm
Audio output (digital output Optical)	-22.5 dBm 1
Audio output (digital output Coaxial)	0.5 V (p-p), 75 ohm, pin jack 1
Audio output (analog audio)	2.0 V (rms), 470 ohm, pin jack (L, R) 2
Audio output (Mono)	2.0 V (rms), 470 ohm, pin jack 1

Specifications and features are subject to change without notice.

SERVICE GUIDE 1

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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.

This unit contains a semiconductor laser system and is classified as a "CLASS 1 LASER PRODUCT". So, to use this model properly, read this Instruction Manual carefully. In case of any trouble, please contact the store where you purchased the unit. To prevent being exposed to the laser beam, do not try to open the enclosure.

CAUTION:
VISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. DO NOT STARE INTO BEAM.

CAUTION:
THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

The label on the right is applied on the rear panel except for USA and Canadian models.

1. This unit is a CLASS 1 LASER PRODUCT and employs a laser inside the cabinet.
2. To prevent the laser from being exposed, do not remove the cover. Refer servicing to qualified personnel.

NOTES ON DISC

Playable Disc

This DVD Player can playback the following discs.

	Disc mark
DVD videos	DVD VIDEO
VIDEO CDs	COMPACT disc DIGITAL VIDEO
Audio CDs	COMPACT disc DIGITAL AUDIO; COMPACT disc DIGITAL AUDIO Recordable *1; COMPACT disc DIGITAL AUDIO ReWritable *1

*1 This unit can play CD-R and CD-RW discs recorded in CD Audio or Video CD format, or with MP3 audio files.

*You cannot playback discs other than those listed above. You cannot play discs such as CD-ROM, DVD-RAM, DVD-RW, etc., even if the marks in the above table are labeled on those discs.

*This DVD Player uses the PAL/NTSC color system, and cannot playback DVD videos recorded in any other color system (SECAM, etc.).

*Avoid using heart-shaped or octagonal discs. Playing irregularly shaped discs may damage the internal mechanism of the DVD Player.

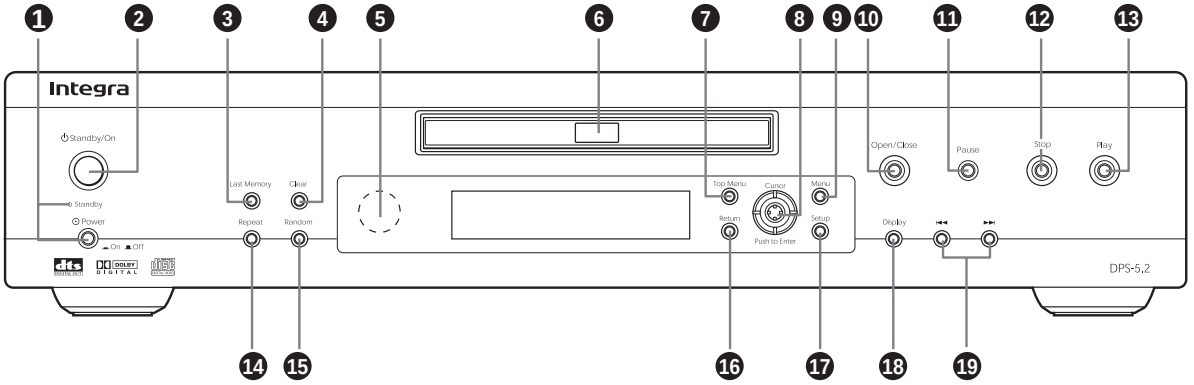
About VIDEO CDs

This DVD Player supports VIDEO CDs equipped with the PBC (Version 2.0) function. (PBC is the abbreviation of Playback Control.) You can enjoy two playback variations depending on the type of disc.

* **VIDEO CD not equipped with PBC function (Version 1.1)**
  Sound and movies can be played on this DVD Player in the same way as an audio CD.
* **VIDEO CD equipped with PBC function (Version 2.0)**
  In addition to operation of the VIDEO CD not equipped with the PBC function, you can enjoy playback with interactive software and search function using the menu displayed on the TV screen (Menu Playback). Some of the functions described in this Instruction Manual may not work with some discs.

PANEL VIEW

FRONT PANEL



1 Power switch and Standby indicator
Turns on the main power supply for the DPS-5.2. The DPS-5.2 enters standby state and the Standby indicator lights up. Pressing the switch again to the off position (Off) shuts down the main power supply into the DPS-5.2.
- Before turning on the power, make sure all cables are properly connected.

2 Standby/On button
When Standby/On button is pressed to On while the Power switch is set to On, the DPS-5.2 turns on and the Standby indicator turns off. Pressing the button again returns the DPS-5.2 to the standby state.

3 Last Memory button
You can resume DVD or Video CD playback from the point you last watched even if the disc is removed from the player. Press Last Memory during playback to set a Last Memory point. When you want to resume playback of that disc, press Last Memory in the stop mode and playback starts from the memorized point. Last Memory locations can be stored for up to 5 DVDs and 1 Video CD.

4 Clear button
Works in conjunction with a number of player functions. Use to cancel repeat and random playback, and to edit programs.

5 Remote control sensor
Point the remote control toward the remote sensor to operate the player.

6 Disc tray
When loading a disc, place discs in the disc tray with the label side facing up.

7 Top Menu button
Press to call up the top menu programmed on the DVD. Depending on the DVD, the top menu may be identical to the DVD menu.

8 Cursor (◄/►/▲/▼) button/Enter button
Use ◄/►/▲/▼ to move through the options on menu screens and to change settings. Use Enter to implement settings selected with the cursor buttons or to set items highlighted in a menu.

9 Menu button
Use to display or close the DVD menu or MP3 Navigator screen.

10 Open/Close button
Press to open and close the disc tray.

11 Pause button
Press during playback to pause. Press again to resume playback.

12 Stop button
Press to stop playback. Pressing once enables playback to resume from a point shortly before the location where it stopped. Pressing twice causes the disc to return to the beginning of the disc if playback starts again.

13 Play button
Press to start or resume playback.

14 Repeat button
Use to set the repeat mode.

15 Random button
Press to play chapters/tracks in random order.

16 Return button
Use to go one menu back (current settings are maintained). Use RETURN when you do not want to change the option setting in a menu.

17 Setup button
Press when the player is in either play or stop mode to open and close the Setup screen.

18 Display button
Press during playback to display statistical disc information. Press repeatedly to display different information.

19 ⏮ / ⏭ button
Press to go back or advance to previous chapters/tracks. Press and hold to perform fast-reverse/fast-forward playback scanning.

SERVICE GUIDE 2

1. Laser diode shorting

1-1 Remove the top cover.

1-2 Laser diode shorting switch is "S" position. (Fig-1)

1-3 Remove three FFCs.

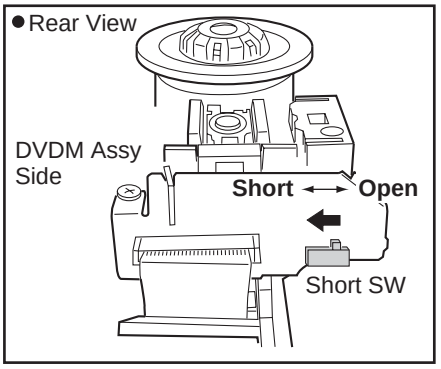


Fig.-1

2. Replacing the fuse

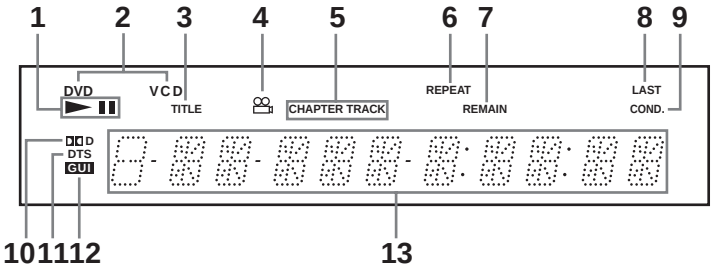
THIS SYMBOL LOCATED NEAR THE FUSE INDICATES
THAT THE FUSE USED IS SLOW OPERATING TYPE
FOR CONTINUED PROTECTION AGAINST FIRE
HAZARD,REPLACE WITH SAME TYPE FUSE. FOR FUSE
RATING REFER TO THE MARKING ADJACENT TO THE SYMBOL

CE SYMBOLE INDIQUE QUE LE FUSIBLE UTLISE EST
E LENT. POUR UNE PROTECTION PERMANENTE,N'UTILISER
QUE DES FUSIBLES DE MEME TYPE. CE DARNIER EST
INDIQUE LA QU LE PRESENT SYMBOL EST APPOSE.

CIRCUIT NO.	PART NO.	DESCRIPTION
F1	252252 or 252147	1.6A-T/UL-ST2 or 1.6A-TSC

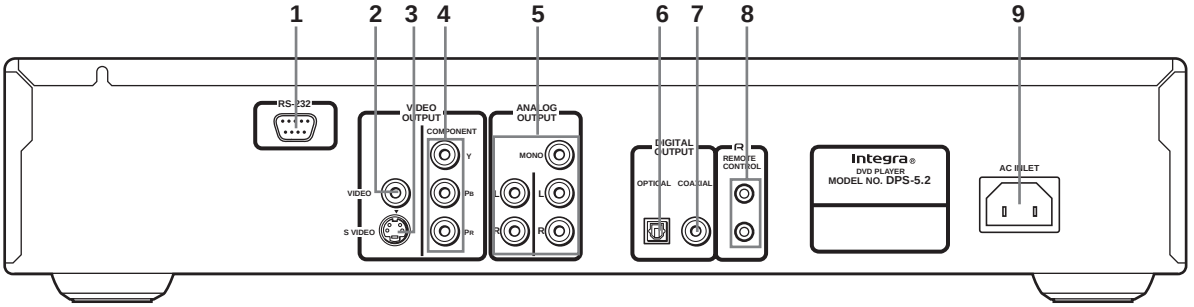
PANEL VIEW

Display



1 ►/❚❚ indicator
2 Inserted disc indicator
3 TITLE indicator
4 Angle icon indicator
5 CHAPTER/TRACK indicator
6 REPEAT indicator
7 REMAIN indicator
8 LAST indicator
9 COND. indicator
10 D indicator
11 DTS indicator
12 GUI indicator
13 Multifunctional indicator
(e.g. operating status and error messages)

Rear panel



1. RS-232 port
This port is to be used in conjunction with an external controller to control the operation of the DPS-5.2 using an external device.

2. VIDEO OUTPUT VIDEO jack
Connect to the video input on a TV or monitor or AV amplifier or receiver with video input capability.

3. VIDEO OUTPUT S VIDEO jack
If your TV or monitor has an S video input, clear picture reproduction is possible by connecting the player to your TV or monitor via the S Video jack.
You can switch between [S1] and [S2] S-video output from the Setup menu.

4. VIDEO OUTPUT COMPONENT jacks
If your TV or monitor has component video inputs, you can produce a higher quality picture on your TV or monitor by connecting to the component video outputs on this unit.

5. ANALOG OUTPUT jacks
Use to output two-channel audio (analog) to the audio stereo inputs on a TV or stereo amplifier. If you are connecting to a receiver that has both digital and analog input jacks for DVD player connection, it may be beneficial to make both connections.

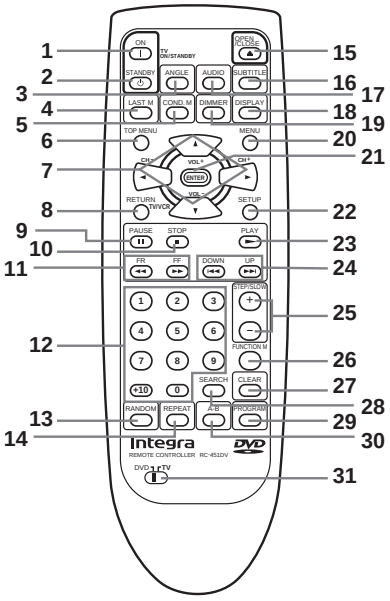
6. DIGITAL OUTPUT OPTICAL jack
Use to output the digital audio signal recorded on discs. You can output the digital signal via the optical output jack to an AV amplifier or receiver.

7. DIGITAL OUTPUT COAXIAL jack
Use to output the digital audio signal recorded on discs. You can output the digital signal via the coaxial output jack to an AV amplifier or receiver.

8. R jack
Use to connect this player to another component bearing the mark. This lets you control this unit as though it were a component in a system.

9. AC INLET
Use to connect the power cord to the wall outlet.

REMOTE CONTROLLER



1 ON button
Press to switch the player on.

2 STANDBY button
Press to put the player in standby.

3 ANGLE button
Some DVDs are recorded with various camera angle playback options. Press ANGLE repeatedly to display different camera angles.

4 LAST M button
You can resume DVD or Video CD playback from the point you last watched even if the disc is removed from the player. Press LAST M during playback to set a Last Memory point. When you want to resume playback of that disc, press LAST M in the stop mode and playback starts from the memorized point. Last Memory locations can be stored for up to 5 DVDs and 1 Video CD.

5 COND. M button
You can store in memory the settings for up to 15 DVDs. Press COND. M during DVD playback to memorize the settings.

6 TOP MENU button*
Press to call up the top menu programmed on the DVD. Depending on the DVD, the top menu may be identical to the DVD menu.

7 Cursor buttons (◄/►/▲/▼)*
VOL +/- buttons
Use to move through the options on menu screens and to change settings.
CH +/- , VOL +/- buttons

8 RETURN button*
Use to go one menu back (current settings are maintained). Use RETURN when you do not want to change the option setting in a menu.
TV/VCR button

9 PAUSE ▌▌ button
Press to pause playback of a disc. Press again to resume playback.

10 STOP ■ button
Press to stop playback. Pressing once enables playback to resume from a point shortly before the location where it was stopped. Pressing twice causes the disc to return to the beginning of the disc when playback starts again.

11 FR/FF ◄◄ / ►► buttons
During playback of DVD and Video CD, press ►► to perform fast forward scanning or ◄◄ to perform fast reverse scanning of DVD and Video CD. When a CD or MP3 is loaded, audio scanning is performed.

12 Number buttons (1-9, 0, +10)*
Use to perform direct title/folder and chapter/track searches, and to input numerical values.

13 RANDOM button
Press to play chapters/tracks in random order.

14 REPEAT button
Use to set the repeat mode.

15 ⏏ button
Press to open or close the disc tray.

16 SUBTITLE button
Press repeatedly to select one of the subtitle languages programmed on a DVD or to turn the subtitles off.

17 AUDIO button
Press repeatedly to select one of the audio languages programmed on a DVD.
For Video CD, CD and MP3, each press changes the audio output as follows.

Stereo 1L(Left) 2/R(Right)

18 DISPLAY button
Press during playback to display statistical disc information. Press repeatedly to display different information.

19 DIMMER button
Toggle to control the lightness of the display.

20 MENU button*
Use to display or close the DVD menu or MP3 Navigator screen.

21 ENTER button*
Use to implement settings selected with the cursor buttons or to set items highlighted in a menu.

22 SETUP button*
Press when the player is in either play or stop mode to open and close the Setup screen.

23 PLAY ►
Press to start or resume playback.

24 UP/DOWN |◄◄ / ►►|
During playback, press |◄◄ to go back to a previous chapter/track and ►►| to advance to the next chapter/track .

25 STEP/SLOW +/ - buttons
Press STEP/SLOW + or Ð during playback to view still frame. Press and hold STEP/SLOW + or Ð during playback to view slow playback. In still frame, press STEP/SLOW + to advance DVDs and Video CDs frame by frame and STEP/SLOW Ð to back up a few frames at a time (DVD only).

26 FUNCTION M button
You can store in memory up to 5 settings. Press FUNCTION M to memorize and recall the settings.

27 CLEAR button
Works in conjunction with a number of player functions. Use to cancel repeat and random playback, and to edit programs.

28 SEARCH button
Press to perform a title/folder, chapter/track or elapsed time search.

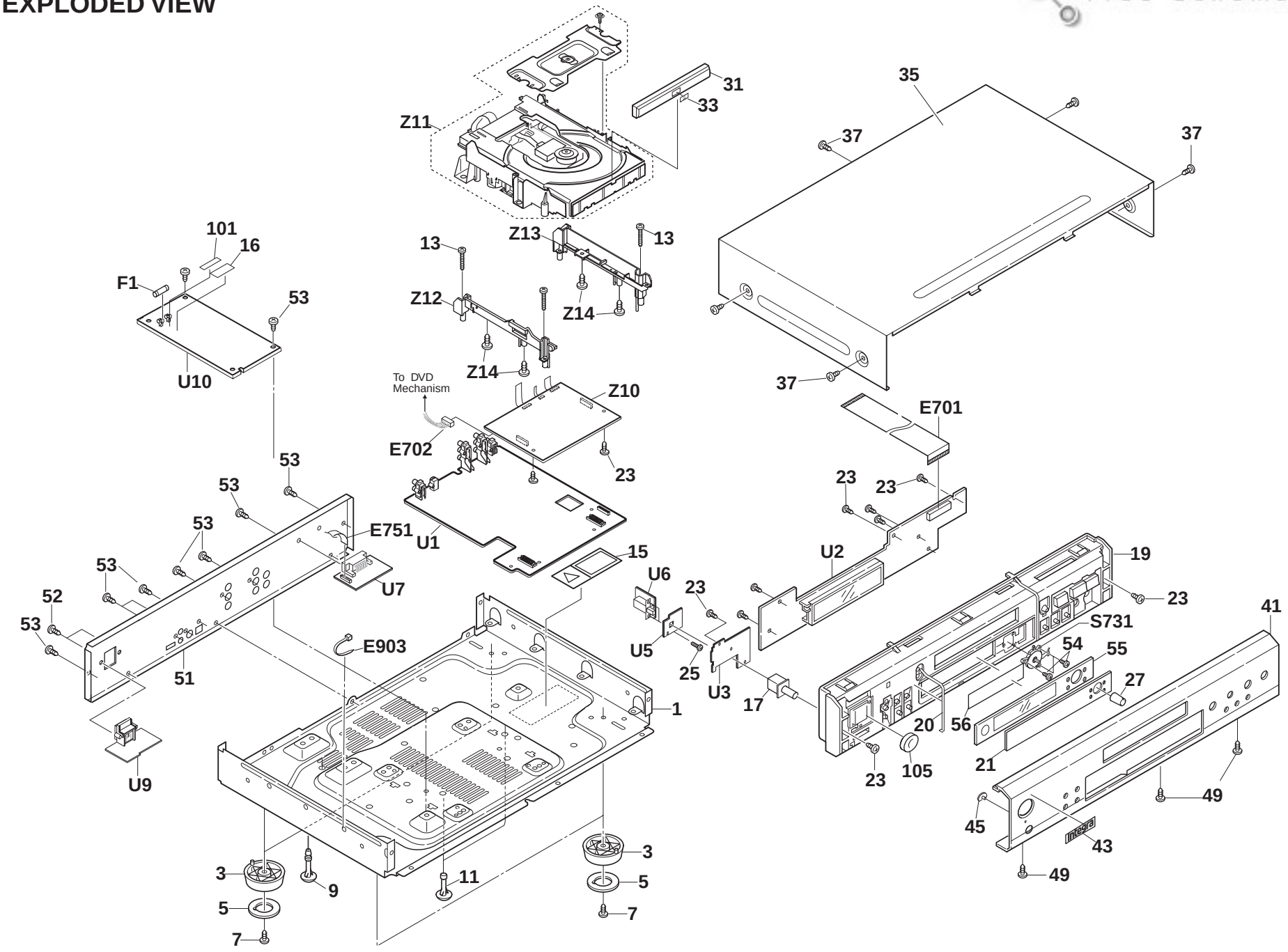
29 PROGRAM button
You can program titles, chapters, or tracks to play back in a desired order. Programs can be a maximum of 24 steps. Additionally, DVD programs for up to 24 discs can be stored in the player's memory for future use.

30 A-B button
Press at the beginning and end of the section you want to repeat or to mark a location you want to return to.

31 DVD/TV switch

(Buttons indicated with * are used for menu operation.)

EXPLODED VIEW

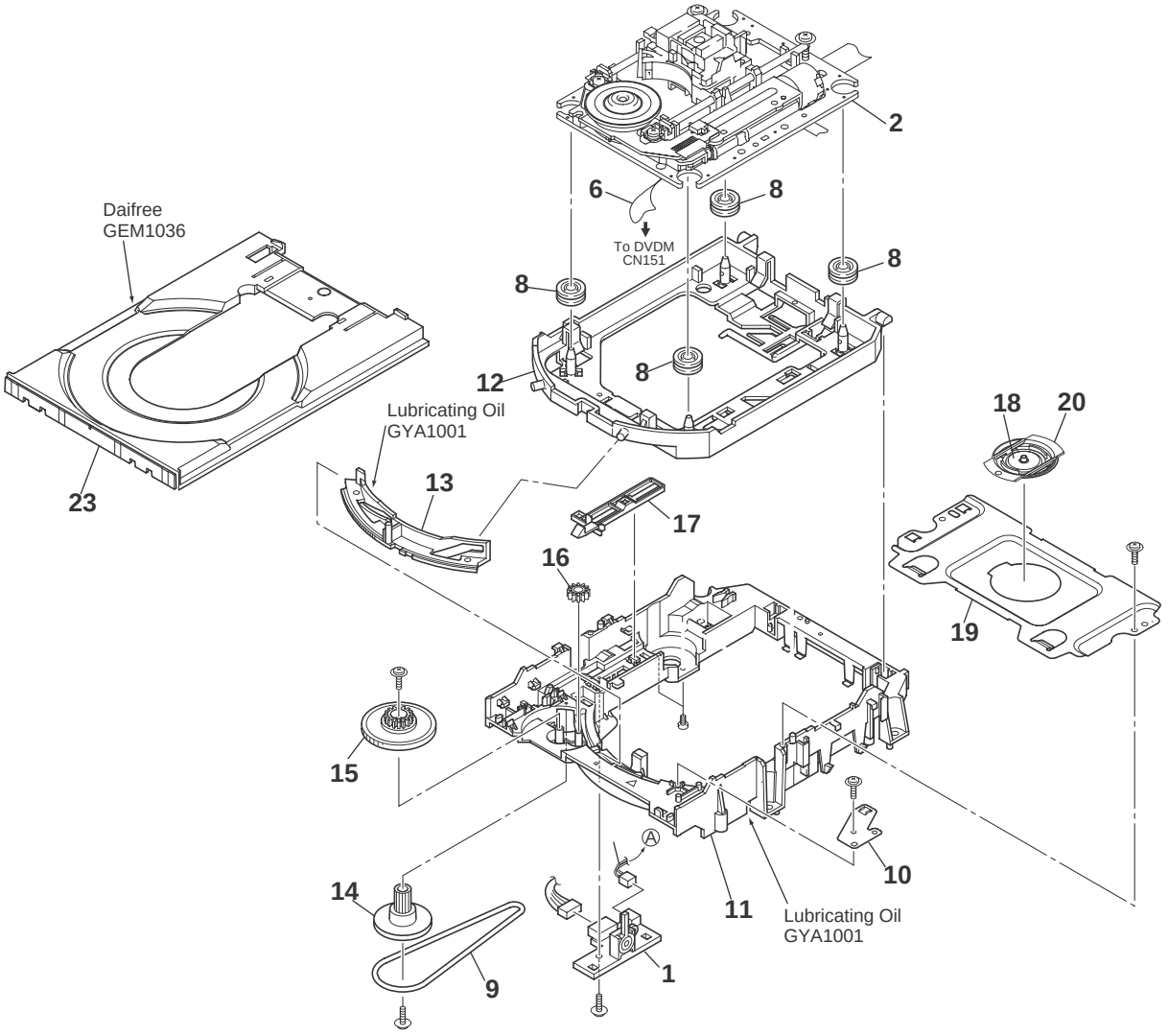


EXPLODED VIEW PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
1	27100399A	Chassis
3	27175316B	Leg
5	28141332	Cushion
7	838130088	3TTB+8B, Self tapping screw
9	27190428A	KGLS-10RF, Holder
11	27191112	KGPS-6RF,Holder
13	838130208	3TTB+20B, Self tapping screw
~~15~~	~~29362584~~	~~Label (DVD)~~ Part No. 29362648
16	29363012	Label, RISK
17	28325753	Knob (POWER)
19	27111221A	Front bracket
20	29110161	Tape CU
21	28191928	Clear plate
23	838130088	3TTB+8B, Self tapping screw
25	82143010	3P+10FN(BC), Self tapping screw
27	28325933	Knob, CRS
31	28148479	Door
33	27262651	Plate
35	28184808	Top cover
37	838430088	3TTB+8B(BC), Self tapping screw
41	27212326	Front panel
43	28135278	Badge
45	28198906	Facet
49	838430088	3TTB+8B(BC), Self tapping screw
51	27122865	Rear panel
52	838440089	4TTB+8C(BC), Self tapping screw
54	838126088	2.6TTB+8B, Self tapping screw
55	27191142A	Holder, PLATE
56	28133398	Back plate
105	28325756	Knob (STANDBY)
E701	2045222012	NCFC5-222012, Flexible flat cable
E702	2009990691UL	NSAS-10P0959, Socket AS
E751	2045081212	NCFC5-081212, Flexible flat cable
E903	260208	Wire tie
F1	⚠ 252252 or	1.6A-T/UL-ST2 or
F1	⚠ 252147	1.6A-TSC, Fuse
S731	25035710	NPS-115-S673, Joy switch
U1	1H474581-1G	NAAR-7181-1G, Output terminal PC board assy
U2	1H474582-1G	NADIS-7182-1G, Display circuit PC board assy
U3	1H474583-1G	NADIS-7183-1G, Standby LED PC board assy
U9	1H474584-1G	NAPS-7184-1G, AC Inlet terminal PC board assy
U5	1H474585-1G	NAETC-7185-1G, Support PC board
U6	1H474586-1G	NASW-7186-1G, Power switch PC board assy
U7	1H474588-1G	NAETC-7188-1G, RS-232C connector PC board assy
U10	24150020A	NGPS-0020-120V, Power supply unit
Z10	24150019	DB-VPB301, Main circuit PC board assy
Z11	24801010	DB-VLD301-006, DVD mechanism
Z12	24840149A	DB-VAC301, Adapter L
Z13	24840150A	DB-VAC302, Adapter R
Z14	838130088	3TTB+8B, Self tapping screw

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

EXPLODED VIEW (LOADING MECHANISM)

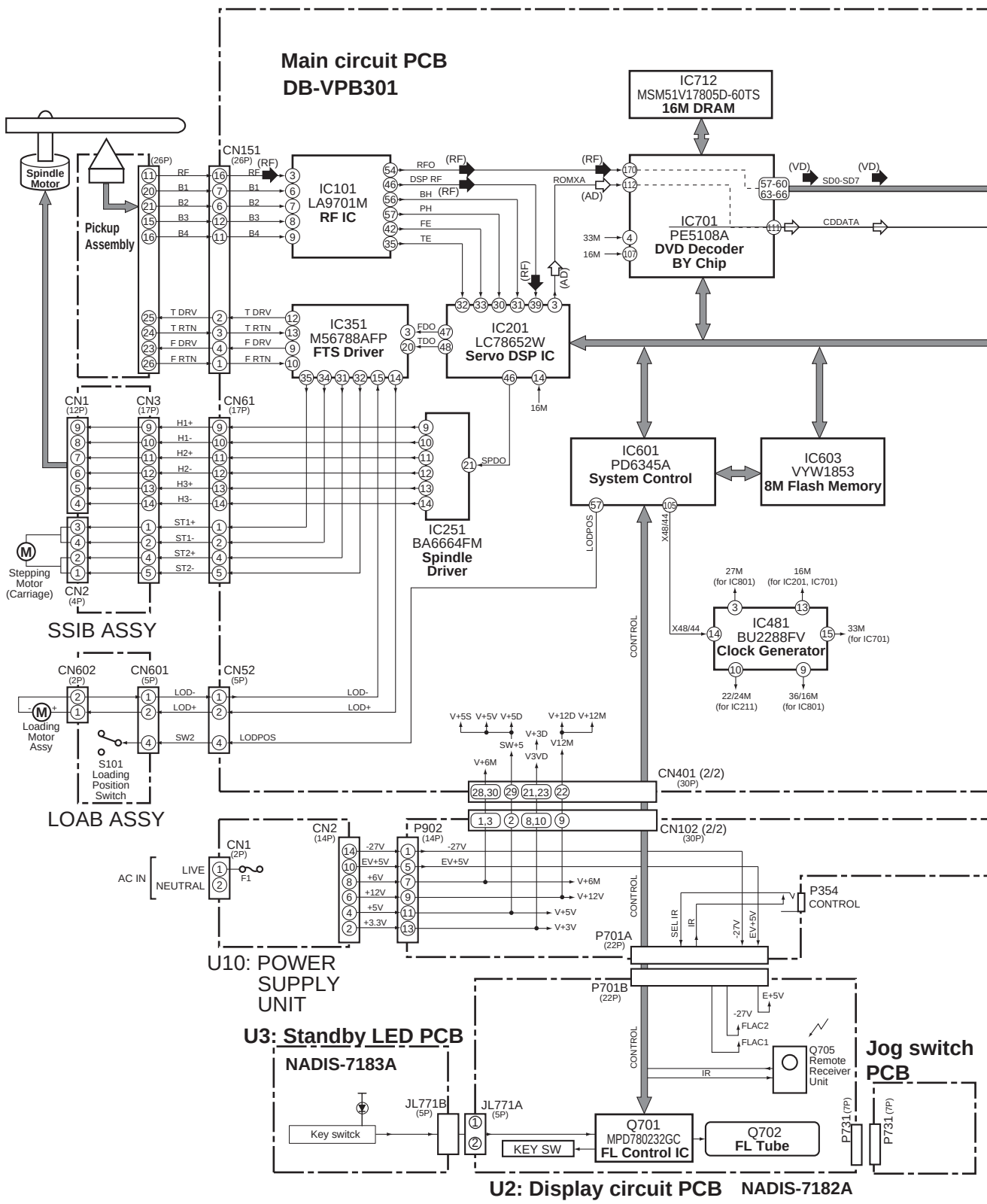


LOADING MECHANISM PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
1	VNP1836	Loading PC board assy
2	VXX2782	Traverse mechanism assy-S
6	VDA1864	Flexible cable 26P
8	VEB1327	Float rubber
9	VEB1328	Belt
10	VNE2253	Stabilizer
11	VNL1917	Loading base
12	VNL1918	Float base DVD
13	VNL1919	Drive cam
14	VNL1921	Gear pulley
15	VNL1922	Loading gear
16	VNL1923	Drive gear
17	VNL1925	SW lever
18	VNE2251	Clamper plate
19	VNE2252	Bridge
20	VNL1924	Clamper
23	VNL1920	Tray

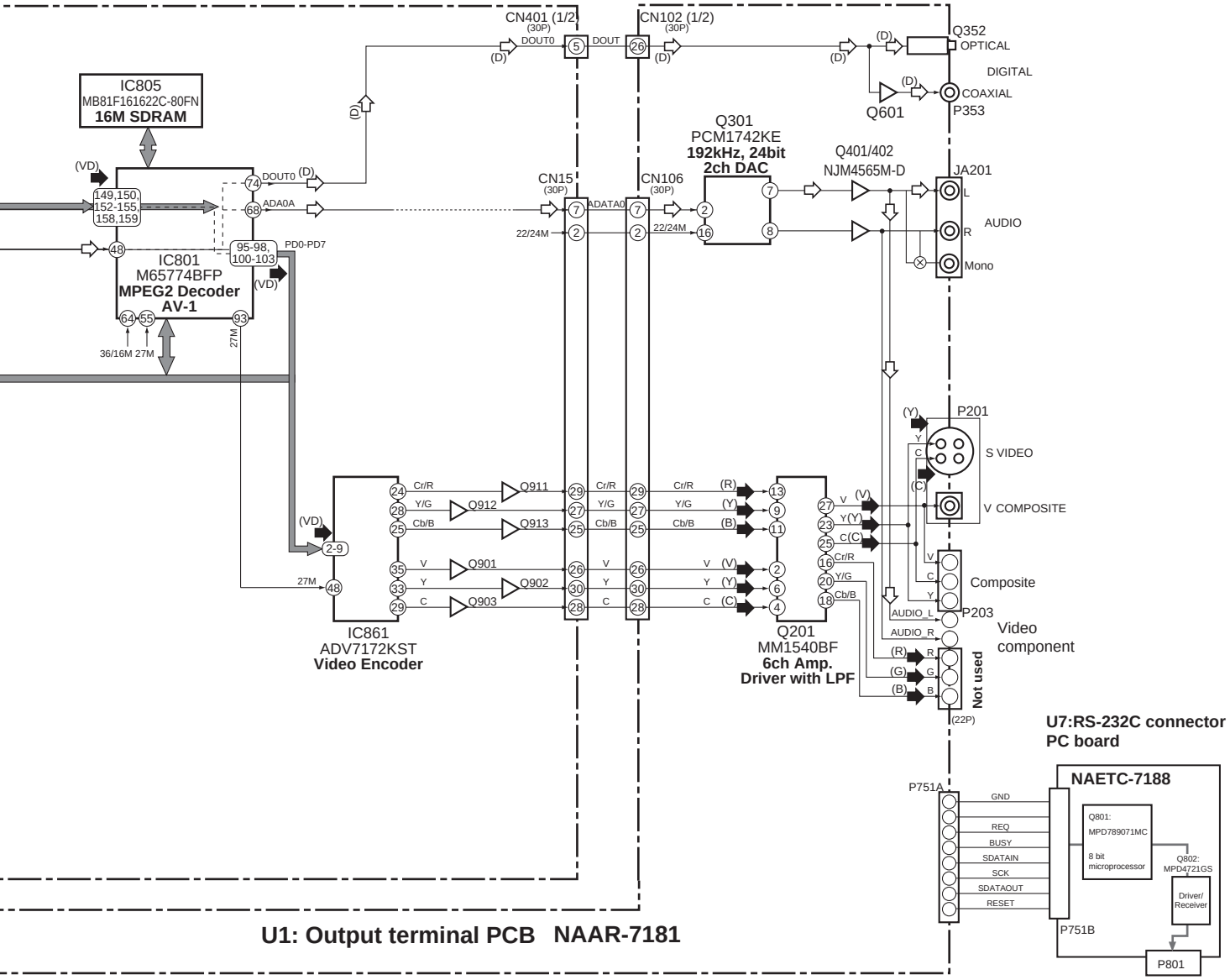
BLOCK DIAGRAM

Overall



E F G H

(RF) : RF SIGNAL ROUTE
(AD) : AUDIO DATA SIGNAL ROUTE
: AUDIO SIGNAL ROUTE
(D) : AUDIO (DIGITAL) SIGNAL ROUTE
(VD) : VIDEO DATA SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
(V) : V SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(R) : R SIGNAL ROUTE
(G) : G SIGNAL ROUTE
(B) : B SIGNAL ROUTE

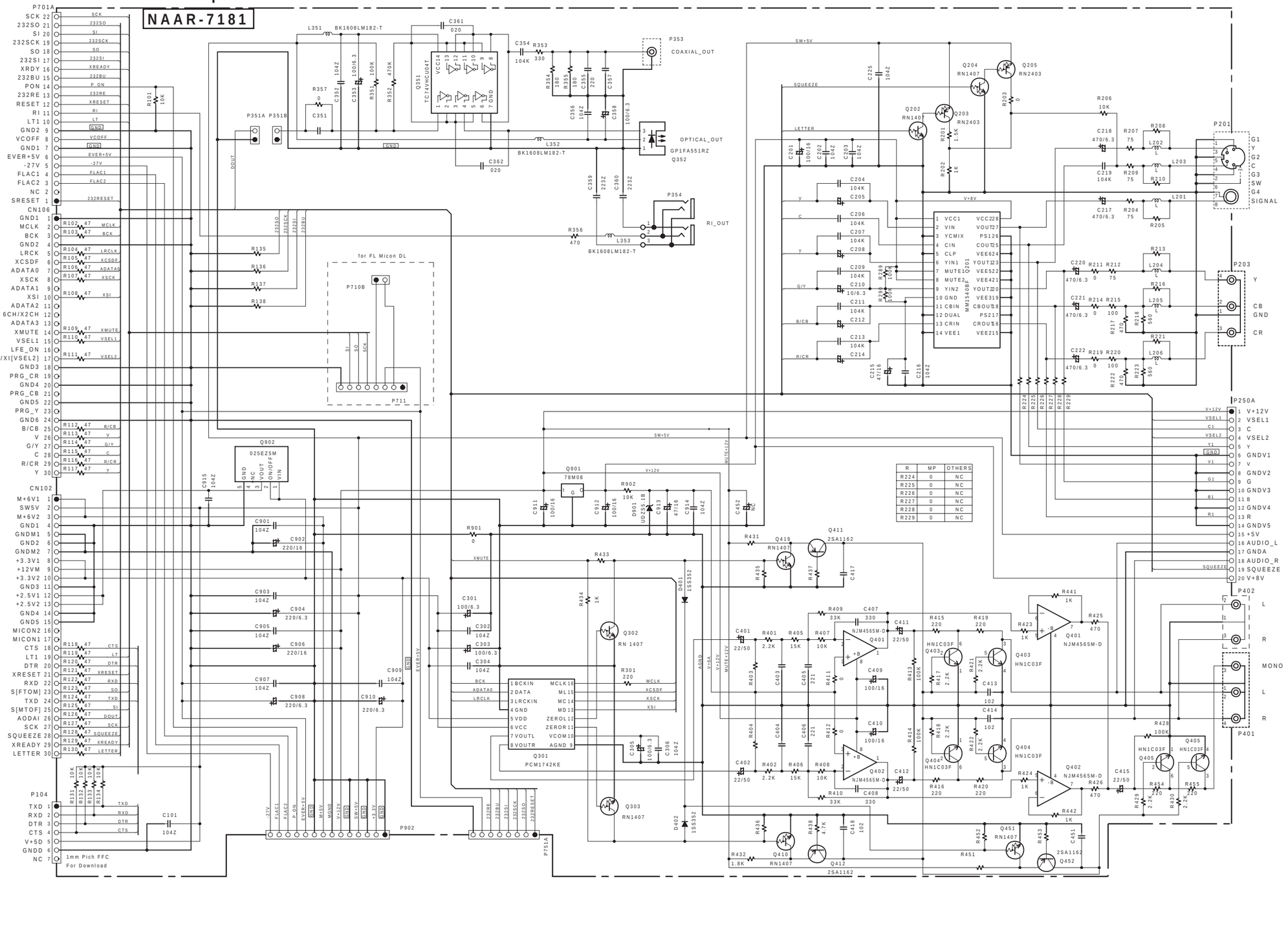


U1: Output terminal PCB NAAR-7181

SCHEMATIC DIAGRAM

U1:Output Terminal PC board

NAAR-7181

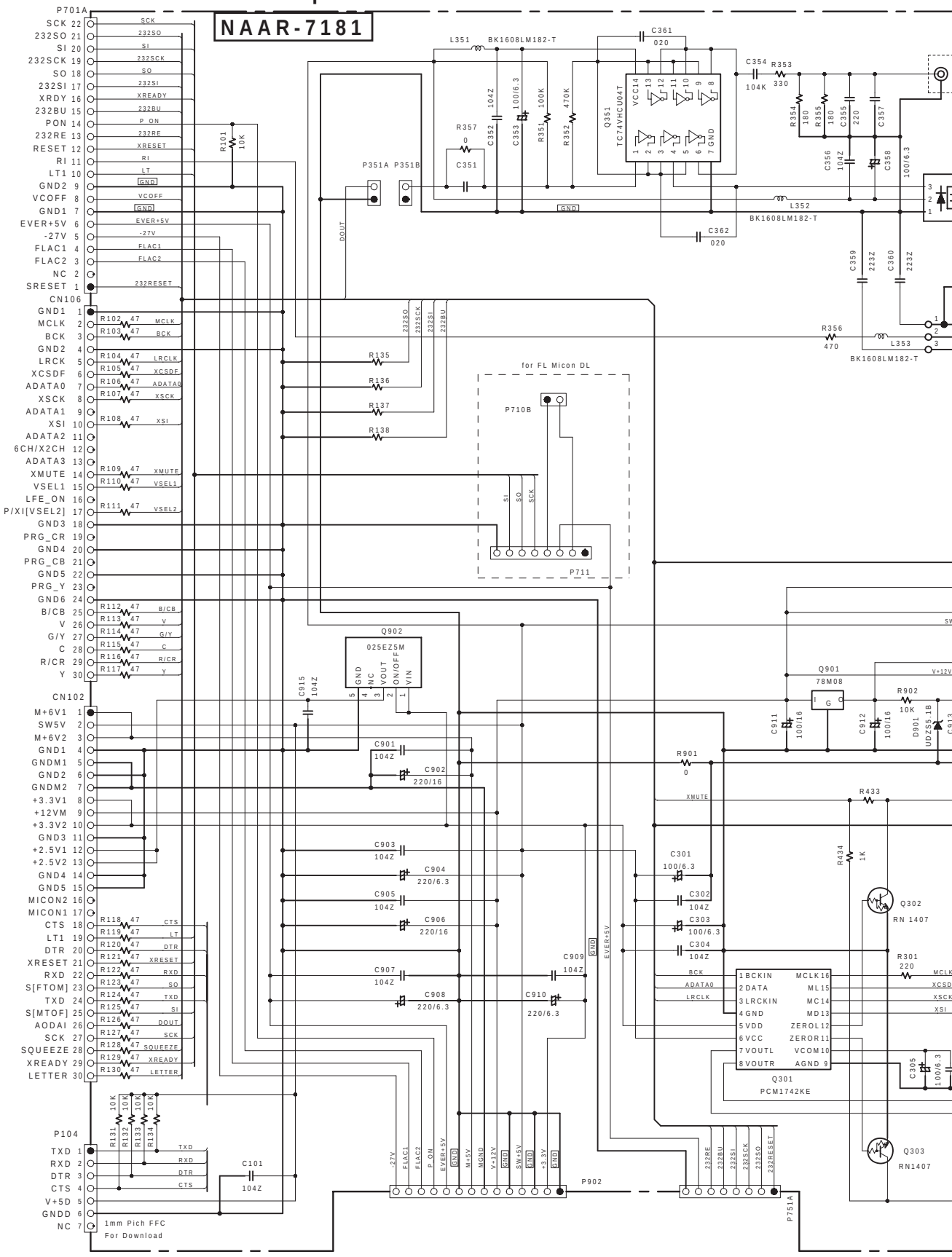


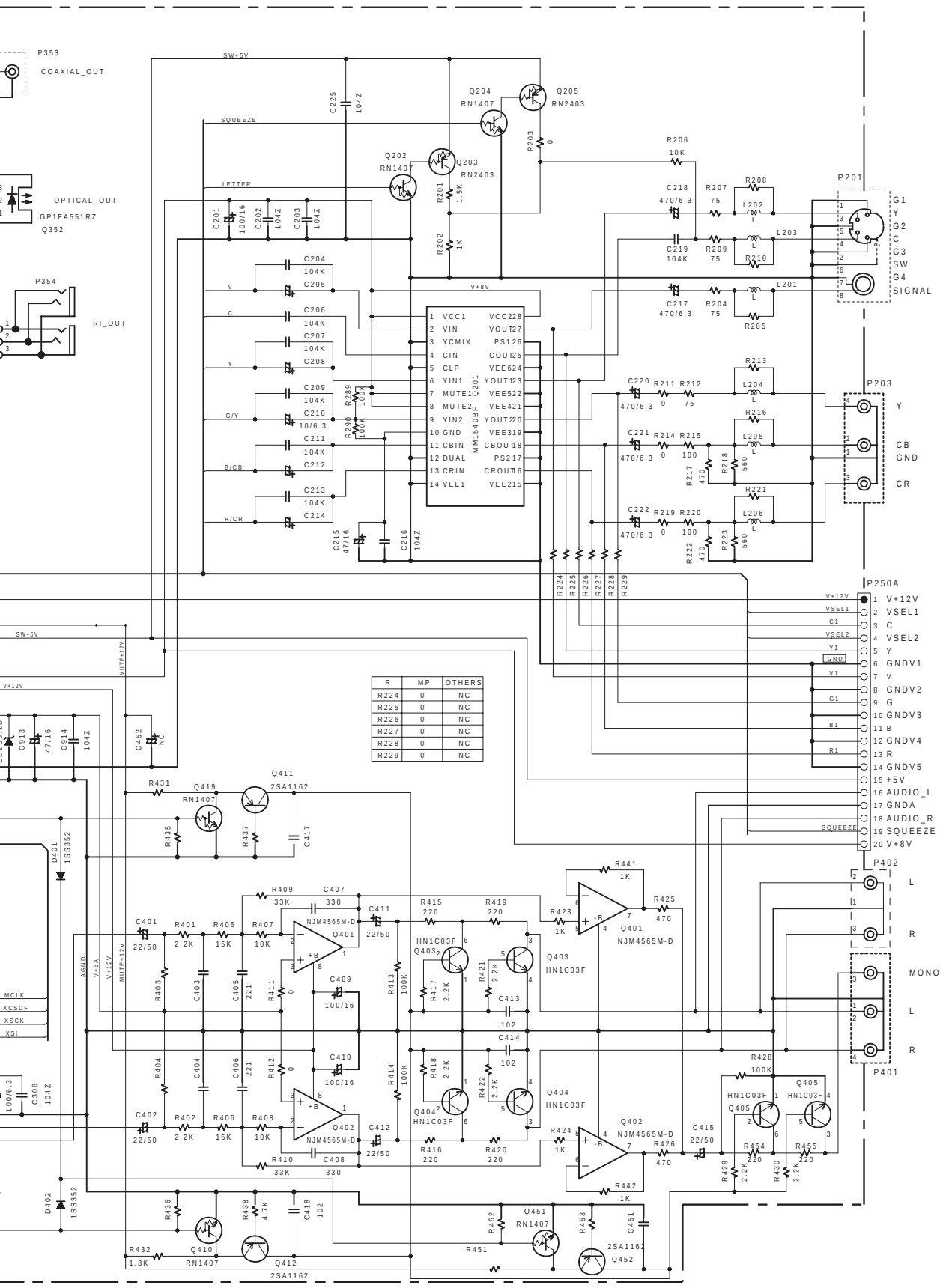
R	MP	OTHERS
R224	0	NC
R225	0	NC
R226	0	NC
R227	0	NC
R228	0	NC
R229	0	NC

SCHEMATIC DIAGRAM

U1:Output Terminal PC board

NAAR-7181



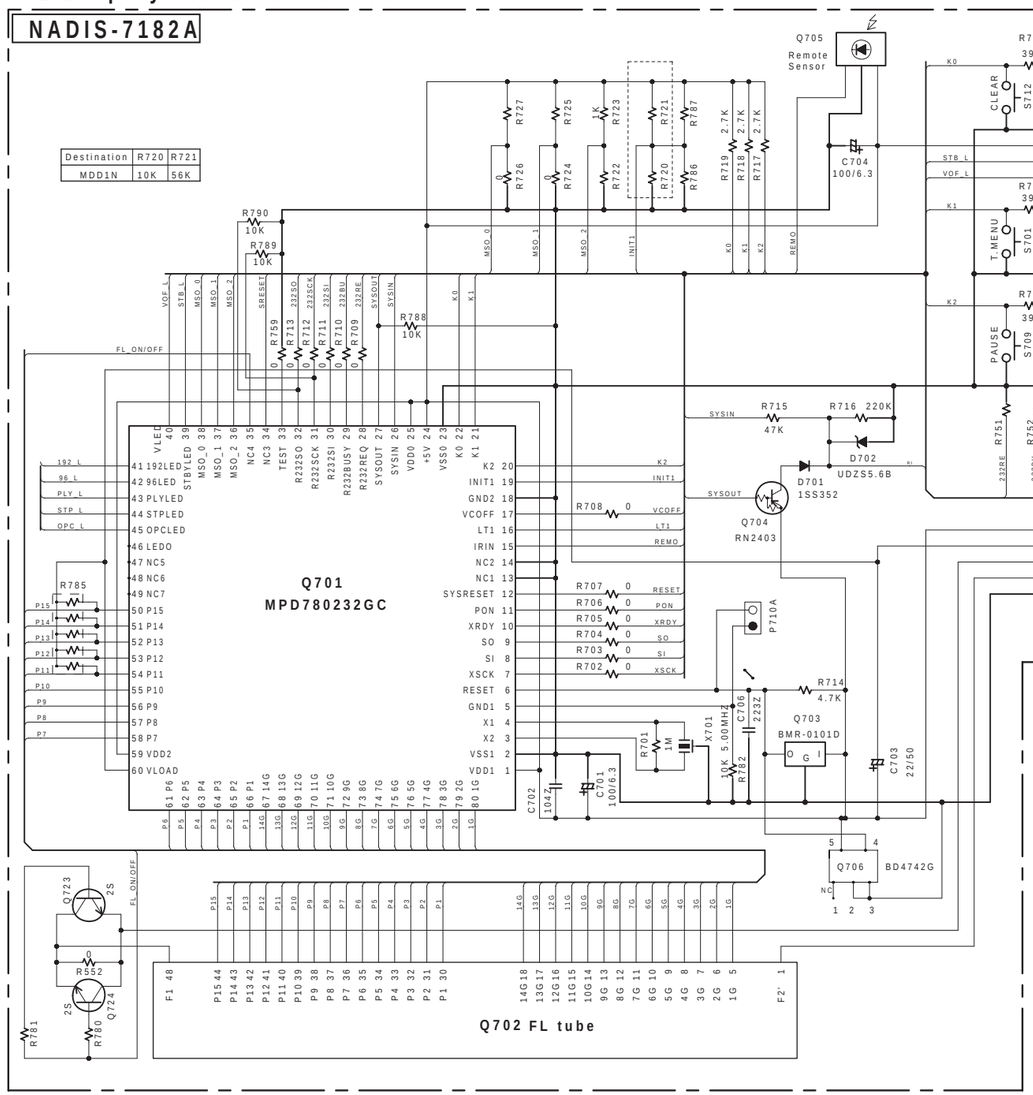


R	MP	OTHERS
R224	0	NC
R225	0	NC
R226	0	NC
R227	0	NC
R228	0	NC
R229	0	NC

SCHEMATIC DIAGRAM

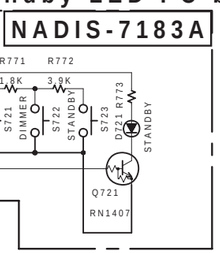
U2:Display circuit PC board

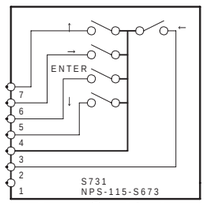
NADIS-7182A



U3:Standby LED PC board

NADIS-7183A





Jog Switch

To P902 (Output terminal PC board)

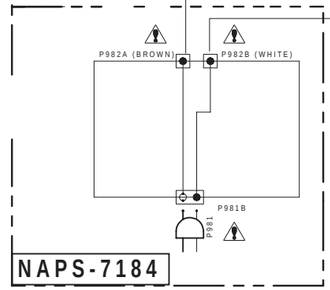
CN2

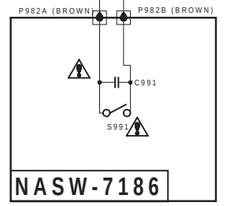
U10:POWER SUPPLY UNIT

24150020

CN1

U9:AC inlet terminal PC board





U6:Power switch PC board

To Out put terminal PC board

CAUTION

FOR CONTINUED PROTECTION
AGAINST FIRE HAZARD, REPLACE
ONLY WITH FUSE OF SAME TYPE
AND RATING INDICATED.

ATTENTION

AFIN D'ASSURER UNE PROTECTION
PERMANENTE CONTRE LES RISQUES
D'INCENDIE, REMPLACER UNIQUEMENT
PAR UN FUSIBLE DE MEME TYPE
ET CALIBRATION COMME INDIQUE.

THIS SYMBOL LOCATED NEAR THE FUSE INDICATES
THAT THE FUSE USED IS SLOW OPERATING TYPE
FOR CONTINUED PROTECTION AGAINST FIRE
HAZARD,REPLACE WITH SAME TYPE FUSE. FOR FUSE
RATING REFER TO THE MARKING ADJACENT TO THE SYMBOL.

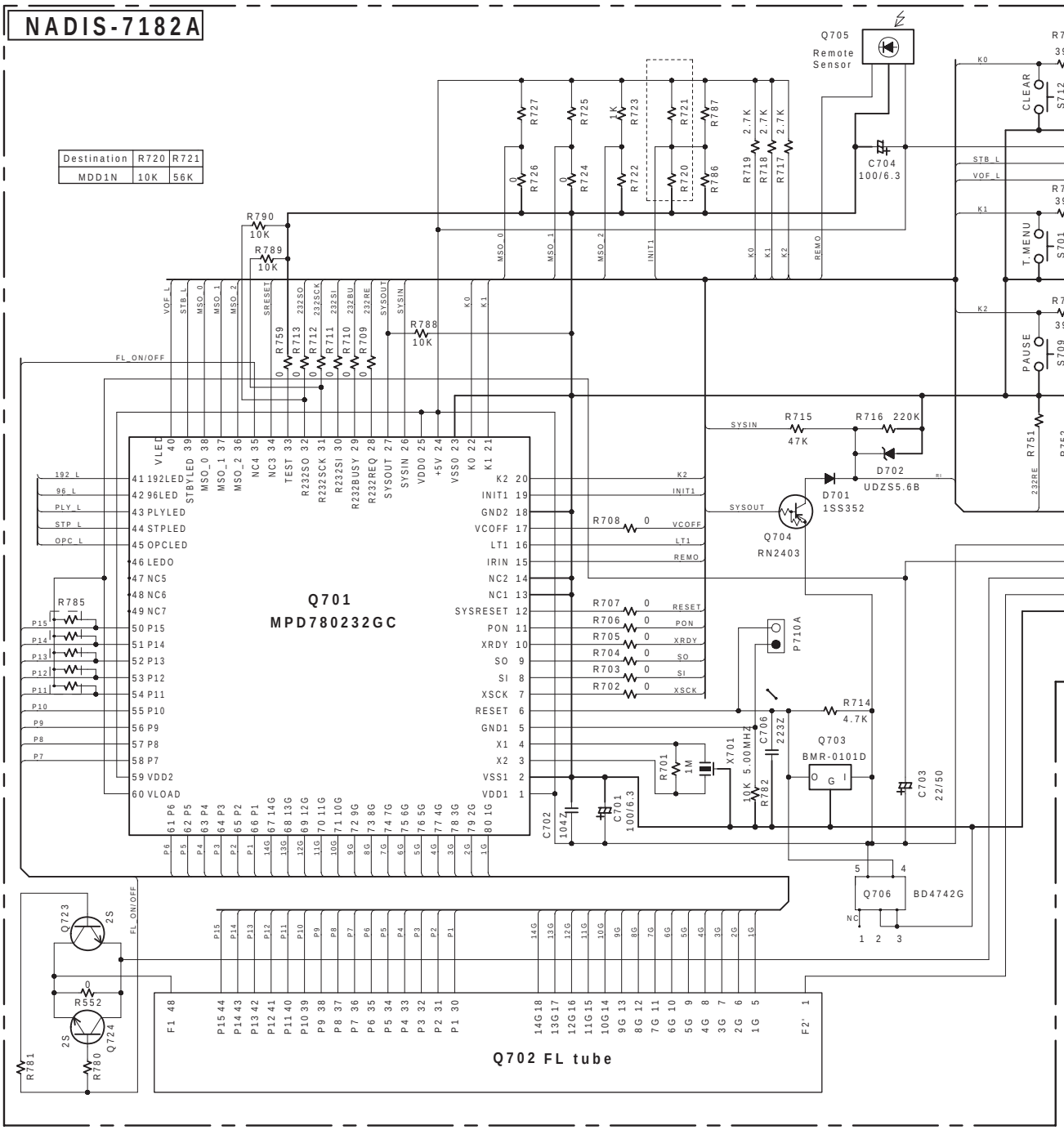
CE SYMBOLE INDIQUE QUE LE FUSIBLE UTLISE EST
E LENT.POUR UNE PROTECTION PERMANENTE,N'UTILISER
QUE DES FUSIBLES DE MEME TYPE. CE DARNIER EST
INDIQUE LA QU LE PRESENT SYMBOL EST APPOSE.

NOTE

- THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) ⬭ IS DC VOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS (⊣⊢) ARE IN uF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
  EX) 030→3pF 330→ 33pF 331 330pF 333→0.033uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
  EX) ○○○ PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

SCHEMATIC DIAGRAM

U2:Display circuit PC board



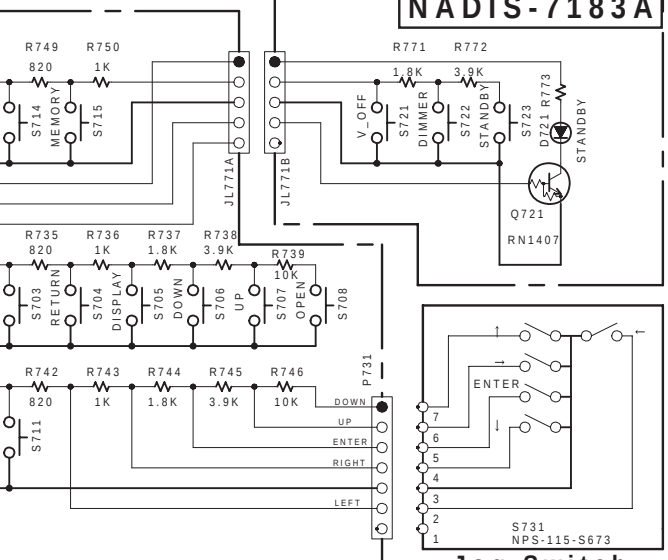
NOTE

- THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) ▭ IS DC VOLTAGE. (NO INPUT SIGNAL)
- ELECTROLYTIC CAPACITORS (⊣⊢) ARE IN uF/WV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
  EX) 030→3pF 330→33pF 331 330pF 333→0.033uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
  EX) ▭ PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

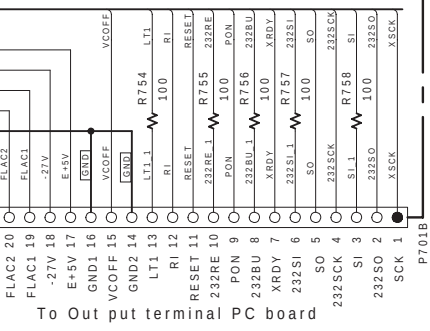
E F G H

U3:Standby LED PC board

NADIS-7183A



Jog Switch



To Out put terminal PC board

To P902 (Output terminal PC board)

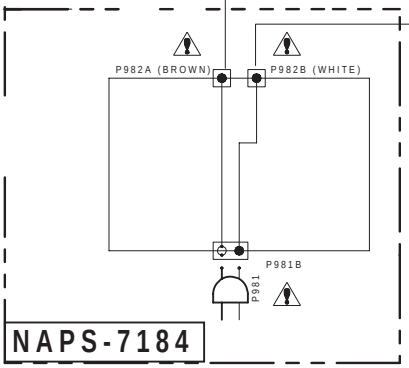
CN2

U10:POWER SUPPLY UNIT

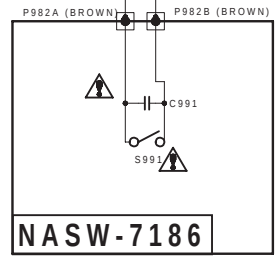
24150020

CN1

U9:AC inlet terminal PC board



NAPS-7184



NASW-7186

U6:Power switch PC board

CAUTION

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.

ATTENTION

AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET CALIBRATION COMME INDIQUE.

THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE MARKING ADJACENT TO THE SYMBOL.

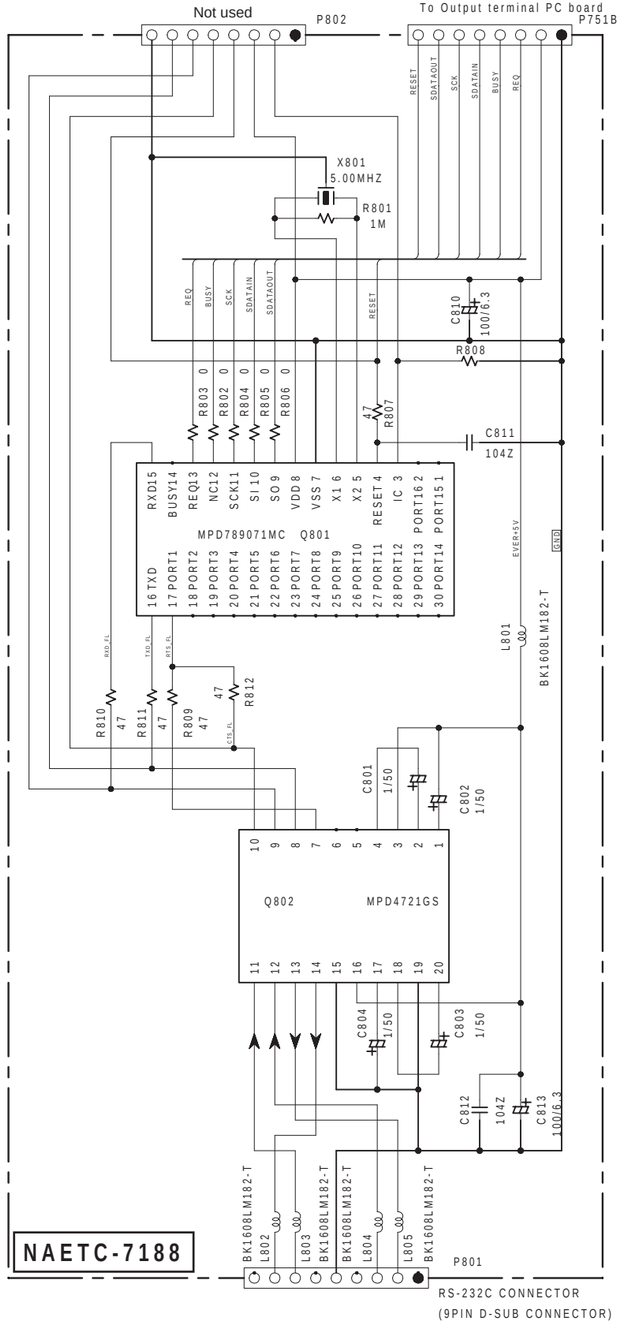
CE SYMBOLE INDIQUE QUE LE FUSIBLE UTLISE EST E LENT.POUR UNE PROTECTION PERMANENTE,N'UTILISER QUE DES FUSIBLES DE MEME TYPE. CE DARNIER EST INDIQUE LA QU LE PRESENT SYMBOL EST APPOSE.

A B C D E F G H

1 2 3 4 5

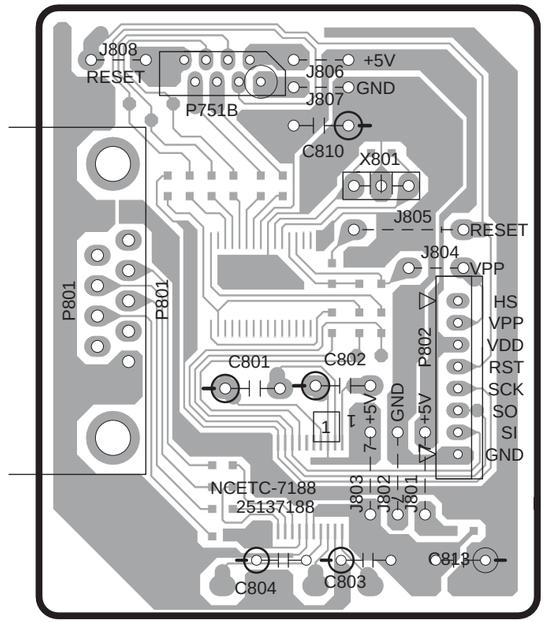
SCHEMATIC DIAGRAM

U7: RS-232C connector PC board
NAETC-7188

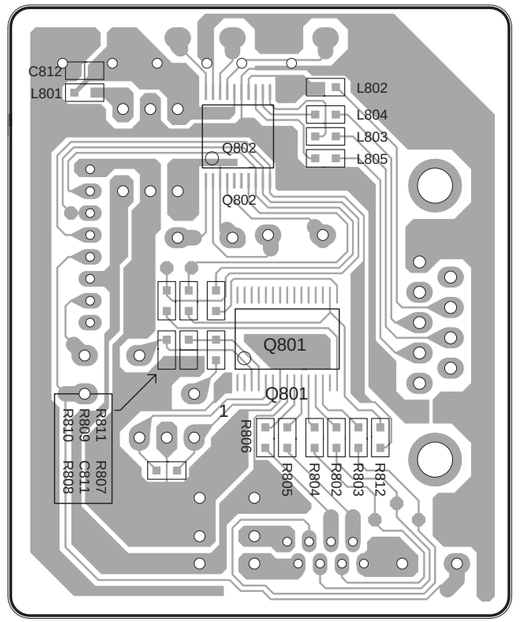


PRINTED CIRCUIT BOARD VIEWS

U7: RS-232C connector PC board NAETC-7188



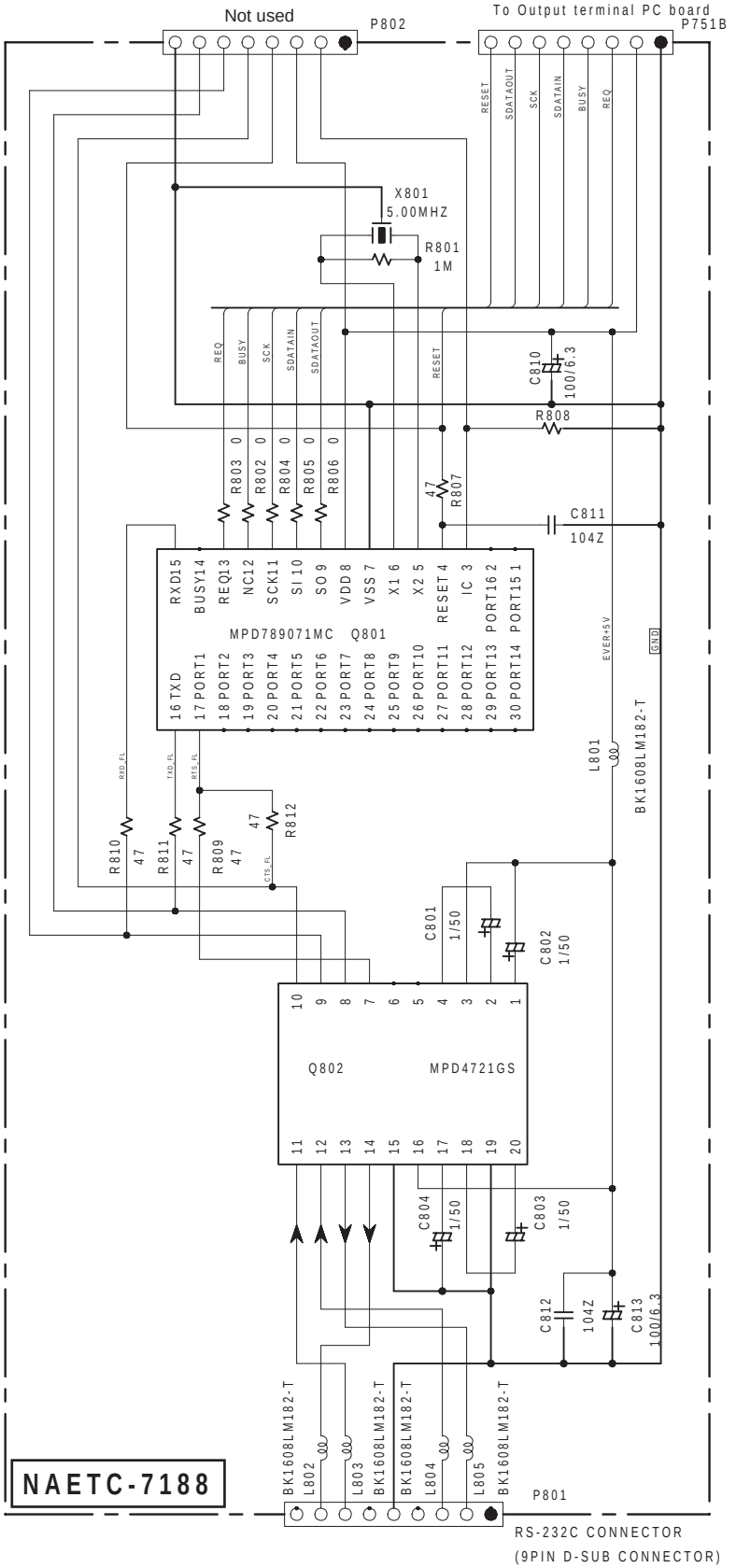
Component side view



Soldering side view

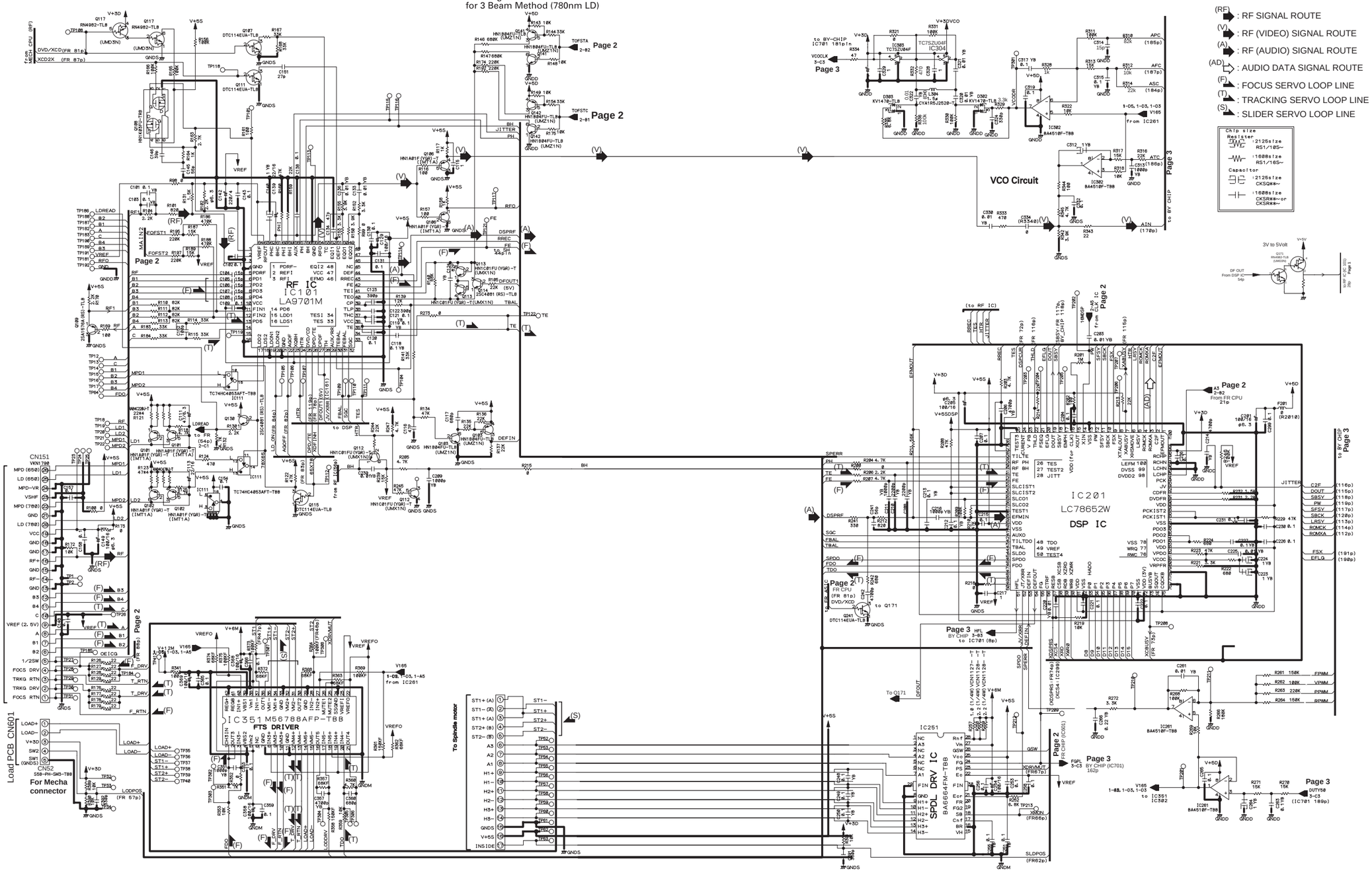
SCHEMATIC DIAGRAM

U7: RS-232C connector PC board
NAETC-7188



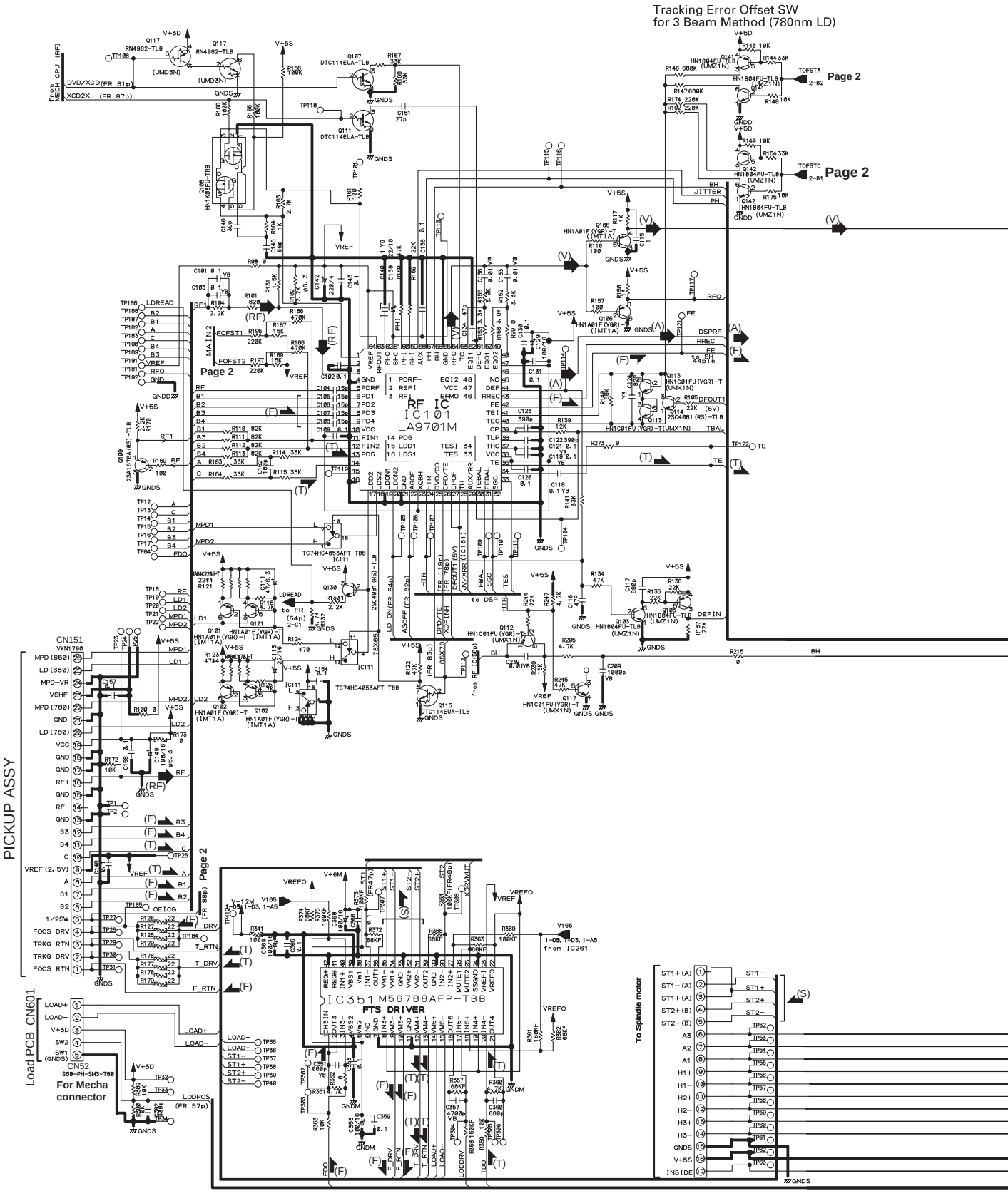
SCHEMATIC DIAGRAM (Page 1)

Main circuit PC board

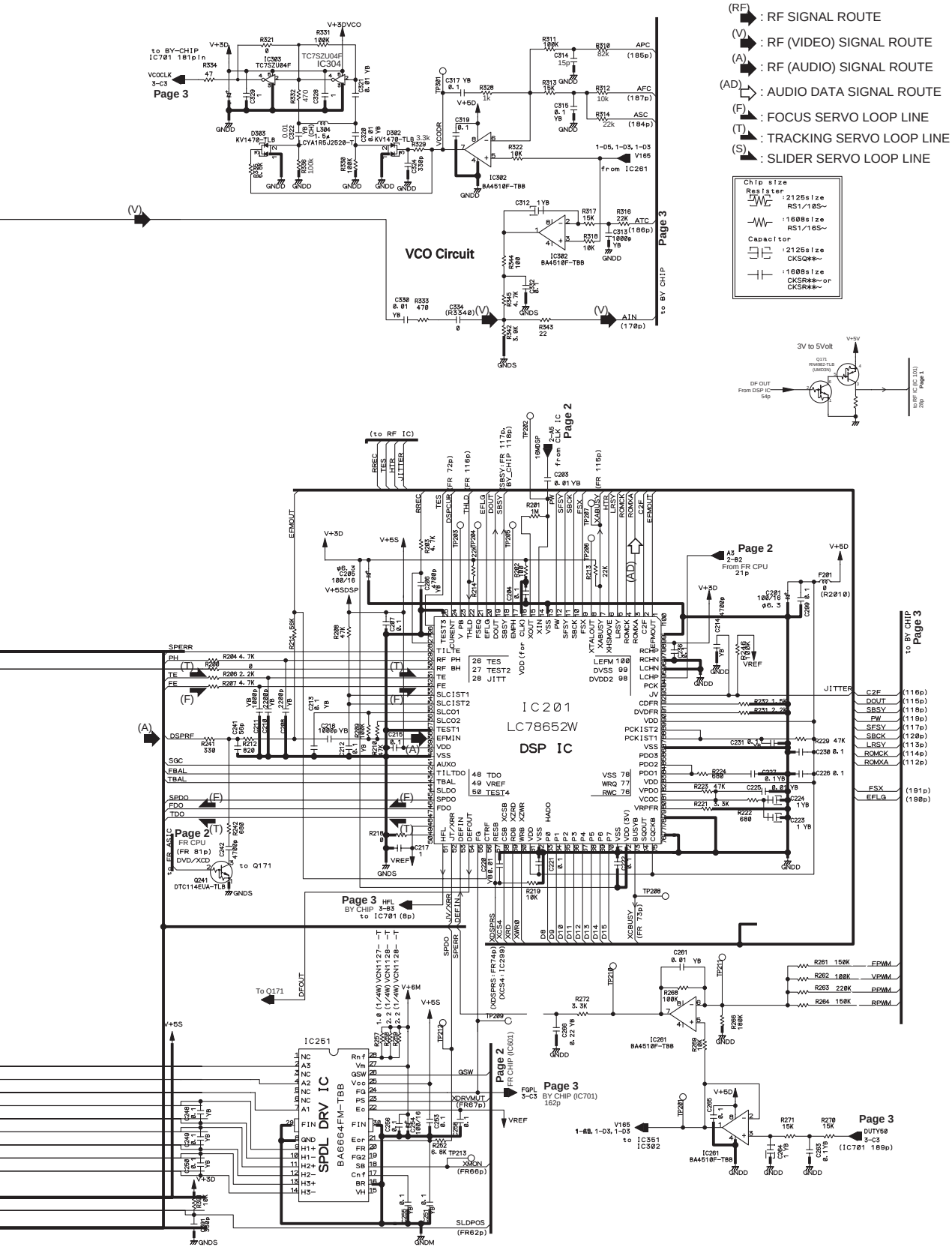


SCHEMATIC DIAGRAM (Page 1)

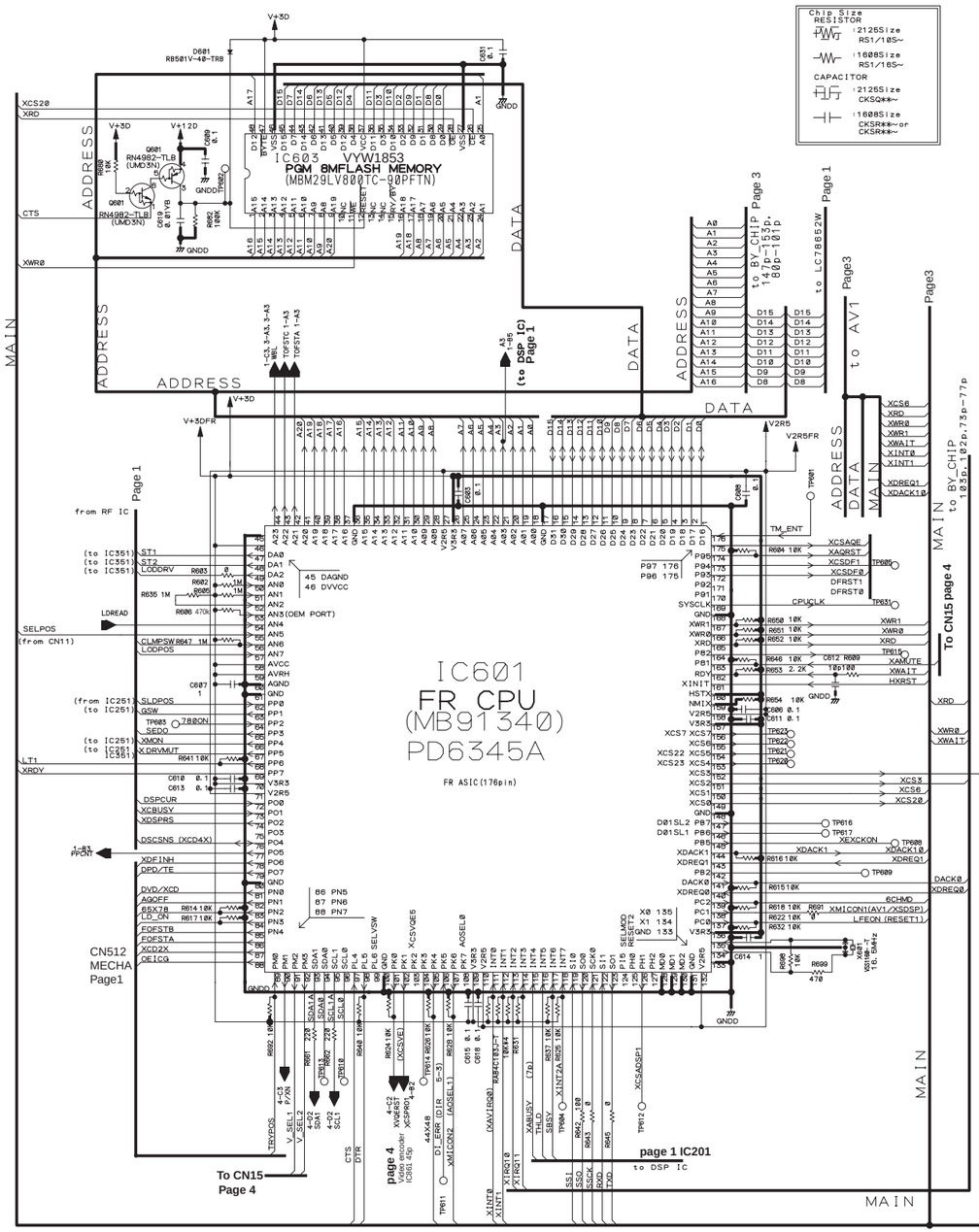
Main circuit PC board

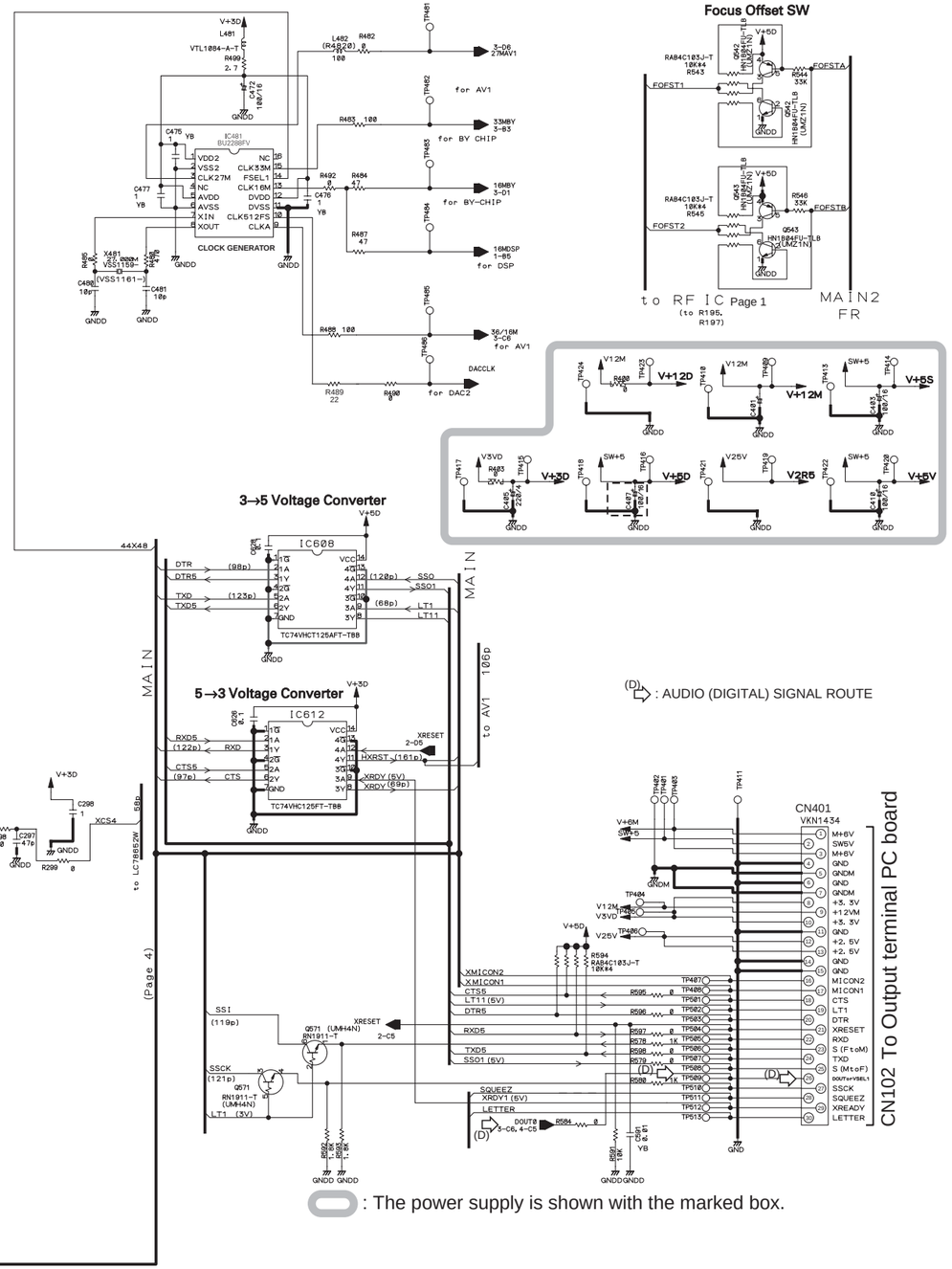


(RF) : RF SIGNAL ROUTE
(V) : RF (VIDEO) SIGNAL ROUTE
(A) : RF (AUDIO) SIGNAL ROUTE
(AD) : AUDIO DATA SIGNAL ROUTE
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(S) : SLIDER SERVO LOOP LINE

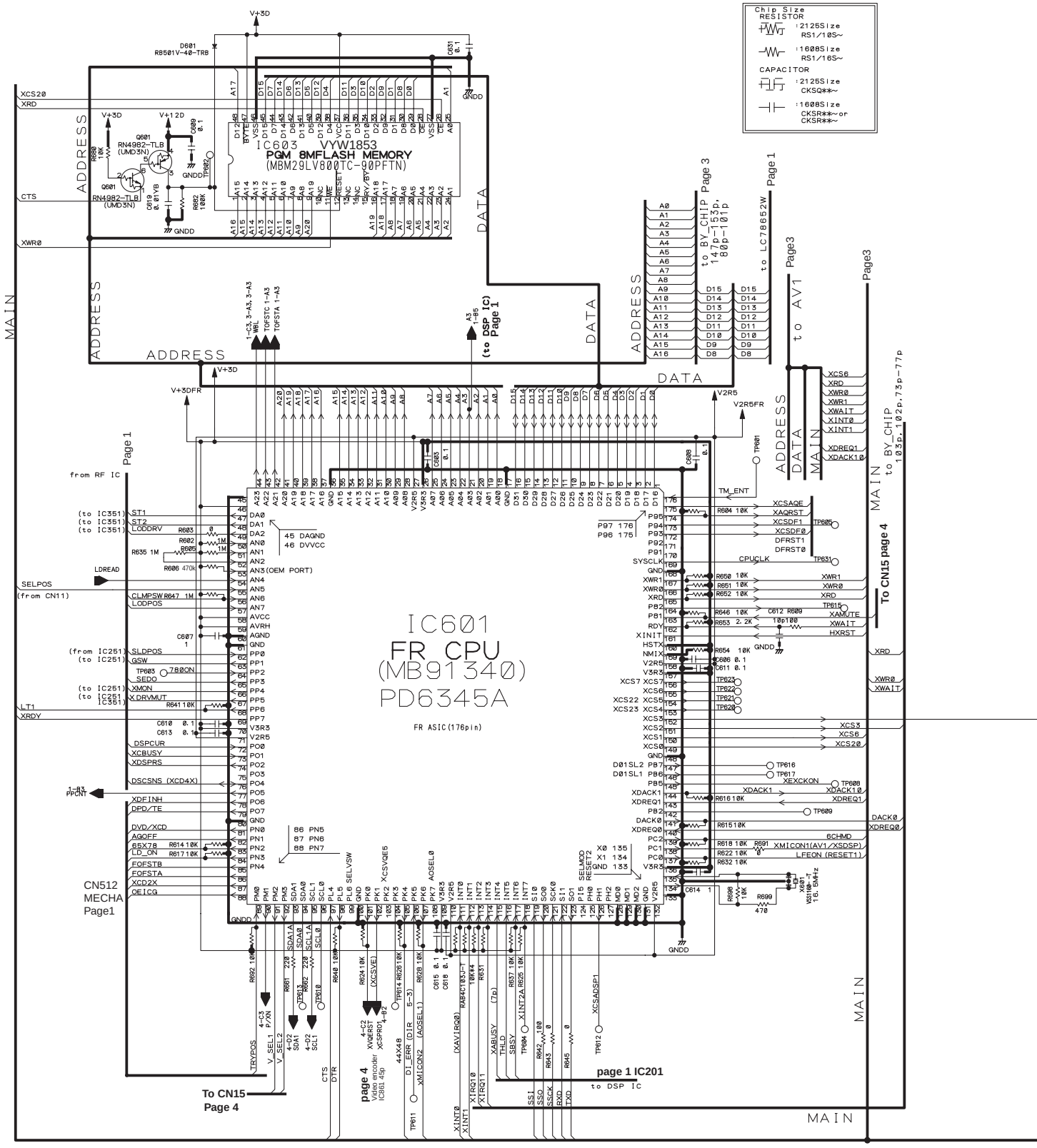


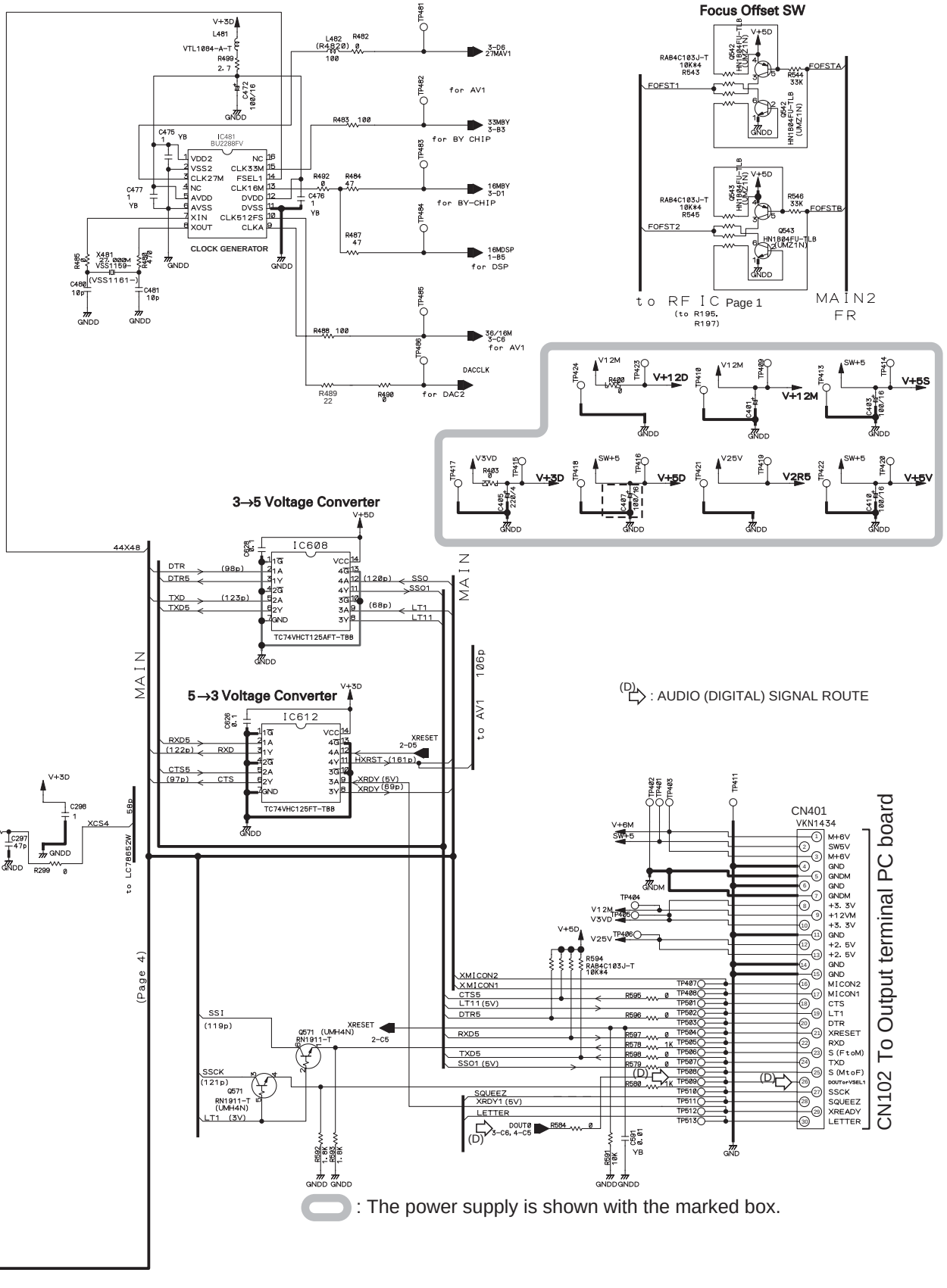
SCHEMATIC DIAGRAM (Page 2)



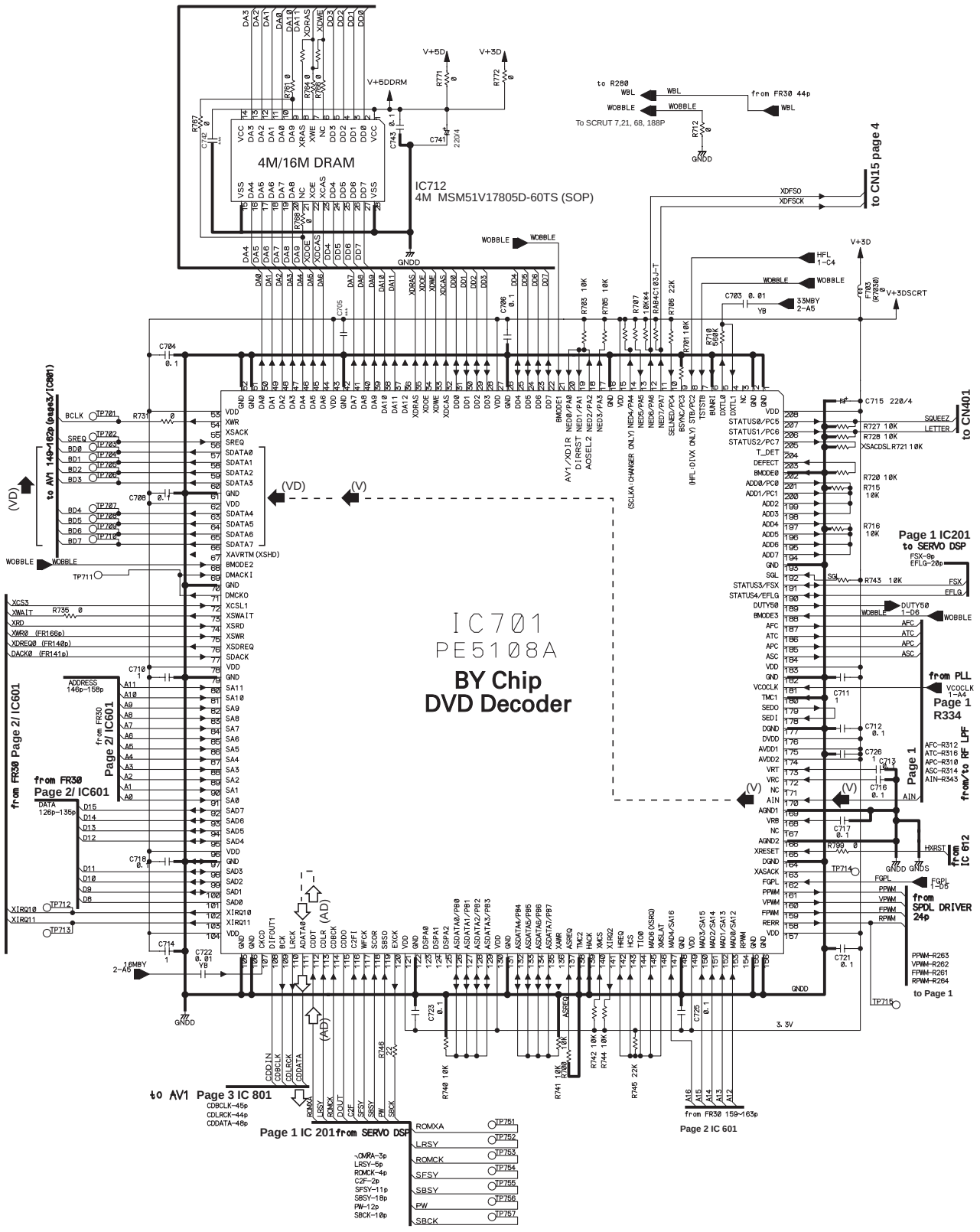


SCHEMATIC DIAGRAM (Page 2)

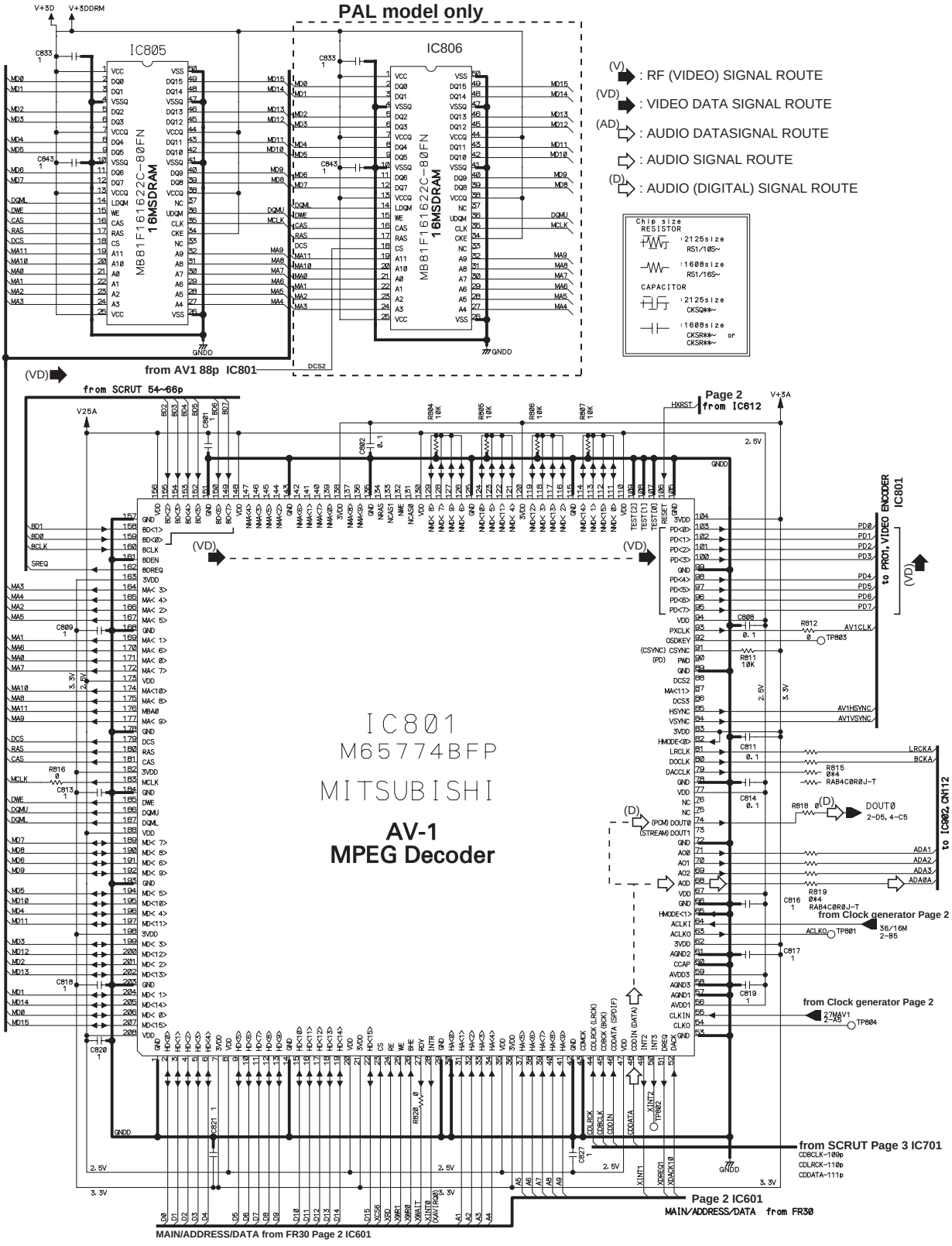




SCHEMATIC DIAGRAM (Page 3)



SCHEMATIC DIAGRAM (Page 3)



SCHEMATIC DIAGRAM (Page 4)

(VD) : VIDEO DATASIGNAL ROUTE
(V) : V SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(R) : R SIGNAL ROUTE
(G) : G SIGNAL ROUTE
(B) : B SIGNAL ROUTE
: AUDIO SIGNAL ROUTE

CHIP SIZE
RESISTOR
: 2125size RS1/10S~
: 1608size RS1/16S~
CAPACITOR
: 2125size CKSQ**~
: 1608size CCSR**~or CKSR**~

from AV 1 MPEG decoder (IC801) page 3

Page 2 FR CPU 101p

IC861 VIDEO ENCODER ADV7172KST

Buffer

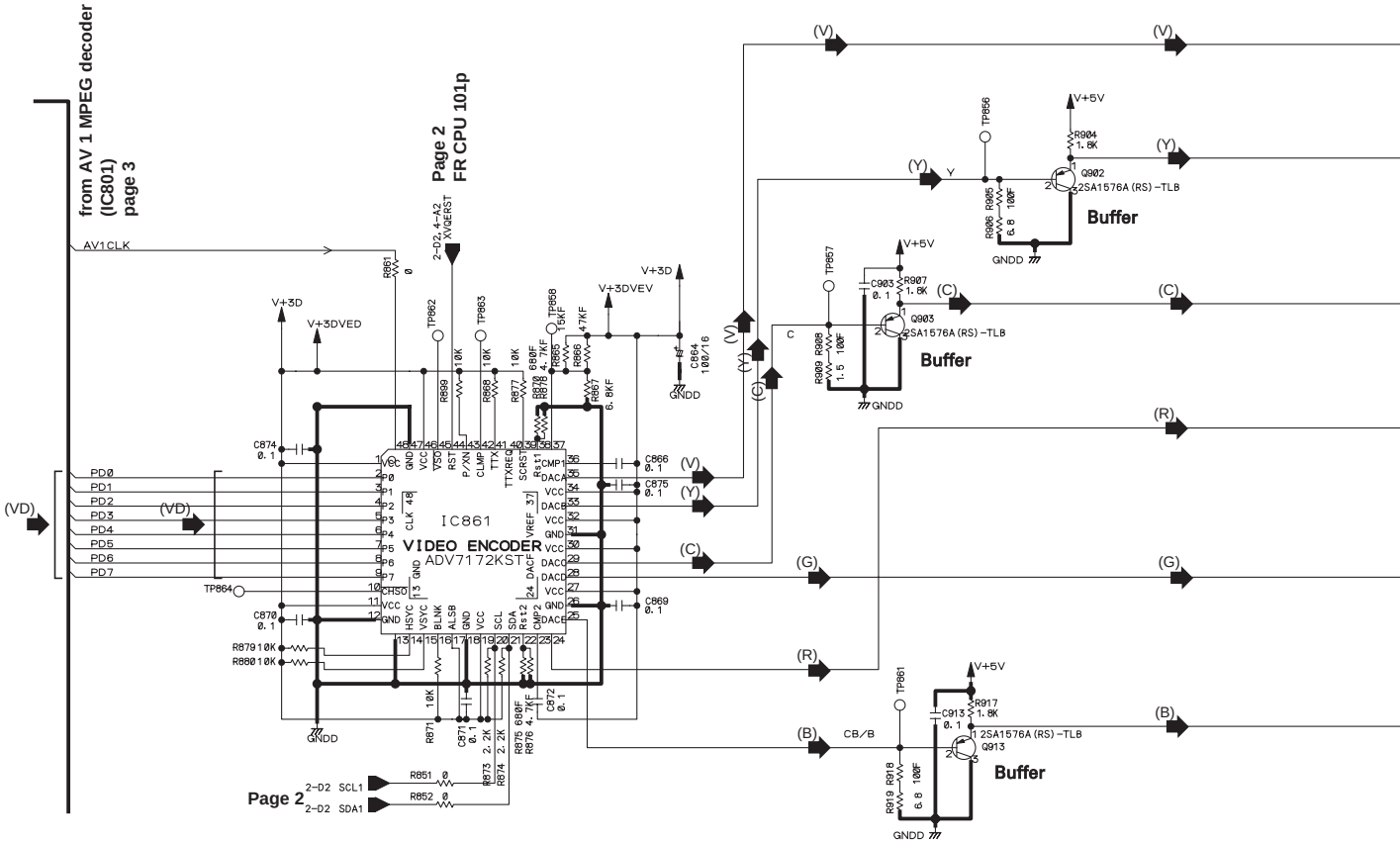
page 2 FR CPU

page 3

CN15 VKN1434

CN106

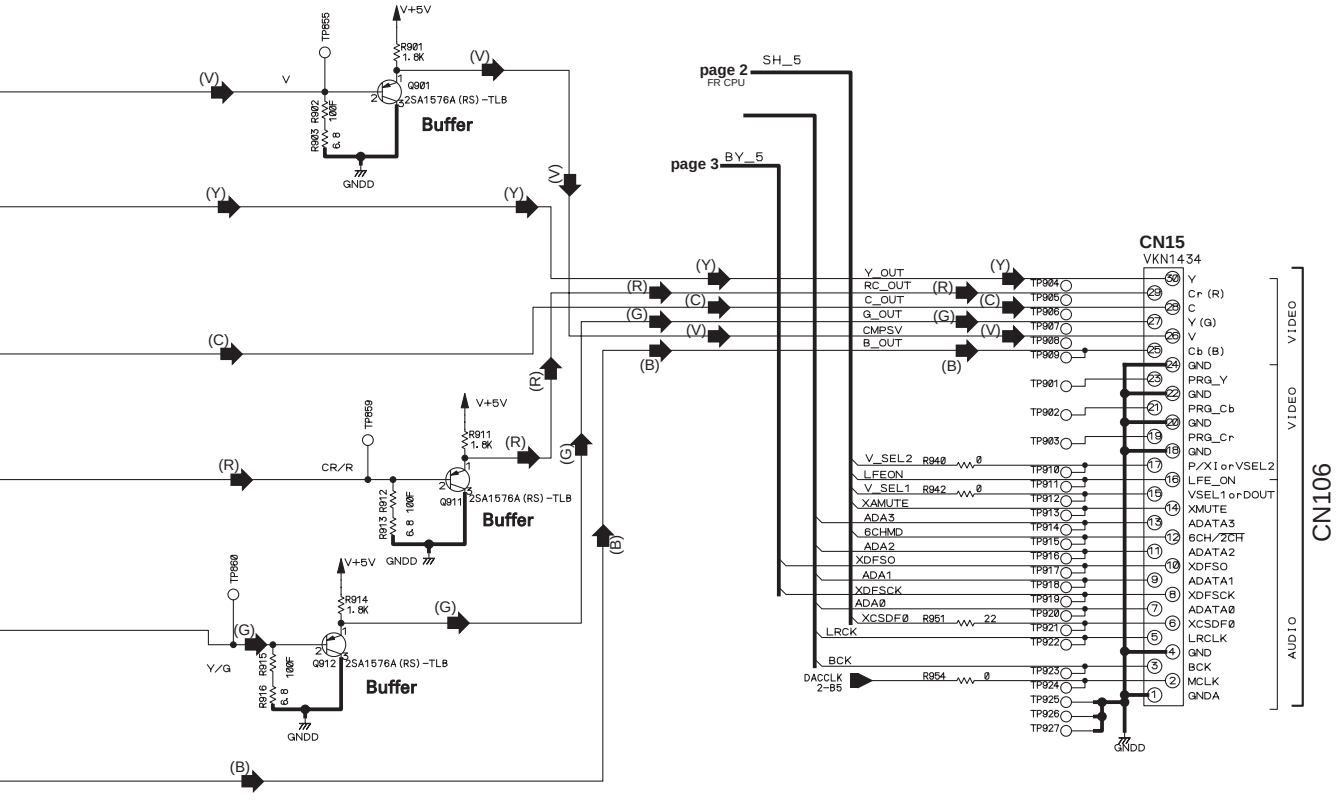
SCHEMATIC DIAGRAM (Page 4)



E F G H

(VD) : VIDEO DATASIGNAL ROUTE
(V) : V SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(R) : R SIGNAL ROUTE
(G) : G SIGNAL ROUTE
(B) : B SIGNAL ROUTE
: AUDIO SIGNAL ROUTE

CHIP SIZE
RESISTOR
:2125size RS1/10S~
:1608size RS1/16S~
CAPACITOR
:2125size CKSQ**~
:1608size CCSR**~or CKSR**~



PRINTED CIRCUIT BOARD PARTS LIST

Output terminal PC board (NAAR-7181-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q201	22241623R2	MM1540BF
Q301	22241617R2	PCM-1742KE
Q351	22274004HR2O	TC74VHCU04FT
Q401,Q402	22240581R2 or 22241383R2	NJM4565M or NJM4565M-D
Q901	222780085	78M08HF
Q902	22241515R2	PQ025EZ5MZP
	Transistors	
Q202,Q204, Q303,Q410	2216340R2 or 2216260R2	KRC107S or RN1407
Q203,Q205	2216230R2 or 2214540R2	KRA103S or RN2403
Q403-Q405	2216141R2	HN1C03F-B
Q412	2214373R2 or 2214374R2 or 2216183R2 or 2216184R2 or 2216185R2	2SA1162-O or 2SA1162-Y or KTA1504-O or KTA1504-Y or KTA1504-GR
	Photo coupler	
Q352	24120093	JFJ3000
	Diodes	
D402	223234R2 or 223269R2	1SS352 or 1SS355
D901	224550510R2	UDZS5.1B, Zener
	Coils	
L201-L206, L351-L353	230958R1	BK1608LM182-T
	Capacitors	
C201,C409, C410,C912, C911	354741019	100uF, 16V, Elect.
C210	354741009	10uF, 16V, Elect.
C215,C913	354744709	47uF, 16V, Elect.
C217,C218, C221,C222	354724719	470uF, 6.3V, Elect.
C220	354721029	1000uF, 6.3V, Elect.
C301,C303, C305,C353, C358	354721019	100uF, 6.3V, Elect.
C401,C402, C411,C412, C415	354782209	22uF, 50V, Elect.
C902,C904, C906	354742219	220uF, 16V, Elect.
C908,C910	354722219	220uF, 6.3V, Elect.
	Sockets	
CN102,CN106	25052610	NSCT-30P-2507
P104	25052344 or 25051889 or 25052528	NSCT-7P2241 or NSCT-7P1676 or NSCT-7P2425
P751A	25052308 or 25052502	NSCT-8P2205 or NSCT-8P2399 or
	25052502	NSCT-8P2399

CIRCUIT NO.	PART NO.	DESCRIPTION
	Socket AS	
P351A	200BB190415UL	NSAS-4P0816
P902	2002A392815	NSAS-28P0742
	Jacks	
P201	25045658	NPJ-5PDBY457, S-Video
P203	25045661	NPJ-3PDGLR460, Component
P353	25045592	NPJ-1PDOR403, Coaxial
P354	25045330 or 25045481	NPJ-2PDBL184 or NPJ-2PDBL299, RI
P401	25045662	NPJ-3PDBRW461, Analog out 3P
P402	25045593	NPJ-2PDWR404, Analog out 2P

Display circuit PC board (NADIS-7182-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q701	22241727R3	MPD780232GC-045-8BT
Q706	22241713R2	BD4742G
	FL tube	
Q702A	212219	14-BT-68GNK
	Transistors	
Q704	2216230R2 or 2214540R2	KRA103S or RN2403
	Remote sensor	
Q705	241336	PIC-37043TH2 or
	241329	PIC-26043TH2
	Resonator	
X701	3010242	CST5.00MGW
	Diodes	
D701	223234R2 or 223269R2	1SS3522 or 1SS355
D702	224550560R2	UDZS5.6B, Zener
	Sockets	
JL771A	25051089	NSCT-5P876
P701A	25052322 or	NSCT-22P2219 or
	25051946 or	NSCT-22P1733 or
	25052516	NSCT-22P2413
P701B	25052359 or	NSCT-22P2256 or
	25051904 or	NSCT-22P1691 or
	25052543	NSCT-22P2440
P731	25052344 or	NSCT-7P2241 or
	25051889 or	NSCT-7P1676 or
	25052528	NSCT-7P2425
	Capacitors	
C701,C704	355721019	100uF,6.3V,Elect
C703	355782209	22uF,50V,Elect
	Switches	
S701-S715	25035699	NPS-111-S662
	FL holder	
Q702B	27191141	

PRINTED CIRCUIT BOARD PARTS LIST

Standby LED PC board (NADIS-7183-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q721	2216340R2 or 2216260R2	KRC107S or RN1407
	LED	
D721	225290	SEL4110R
	Switch	
S723	25035699	NPS-111-S662, STANDBY

Inlet terminal PC board (NAPS-7184-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P981B ⚠	25055960	NPLG-2P913, AC inlet
	Socket AS	
P982A	2069943301UL	
P982B	2009990661UL	NSAS-2P0921

Power switch PC board (NAPS-7186-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switch	
S991 ⚠	25035703	NPS-111-L666P or
⚠	25035550	NPS-111-L512P
	Capacitor	
C991 ⚠	3500196S	RE275V-103M, ISC

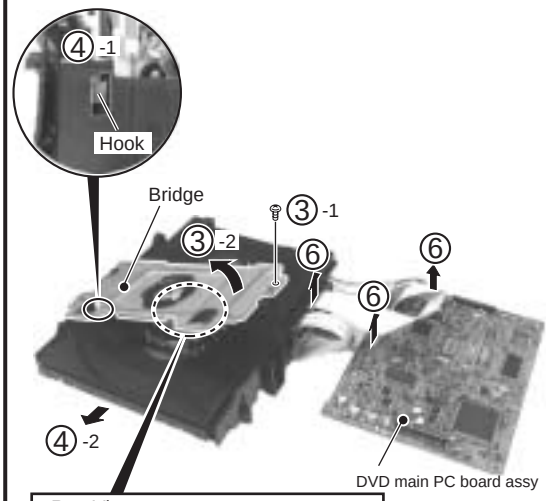
RS-232C connector PC board (NAETC-7188-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q801	22241624R2	MPD789071MC-011-5A4
Q802	22241537R2	MPD4721GS
	Resonator	
X801	3010242	CST5.00MGW
	Filters	
L801-L805	230958R1	BK1608LM182-T
	Capacitors	
C801-C804	354780109	1uF,50V, Elect.
C810,C813	354721019	100uF,6.3V, Elect.
	Sockets	
P751B	25052308 or	NSCT-8P2205 or
	25052502 or	NSCT-8P2399 or
	25052502	NSCT-8P2399
P801	25052379	NSCT-9P2277

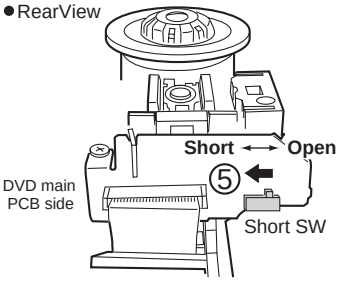
NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

Disassembly of the Traverse Mechanism Assy

① Remove the top cover and Tray Panel.
② Remove the Tray panel and Front Panel.
③ Remove the Bridge (Screw1).
④ Pull out the Tray and remove it while unhooking a Hook.
⑤ Turn the Short SW to Short side.
⑥ Remove three connectors.

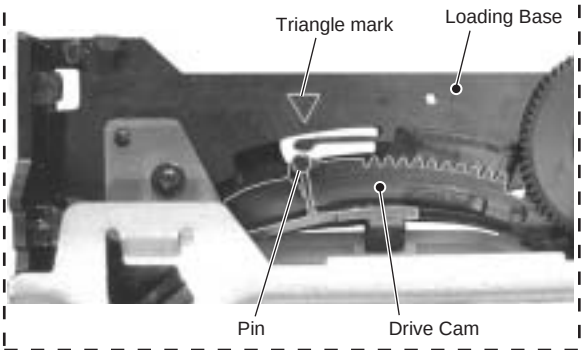


●RearView



☞**Caution in the tray insertion**

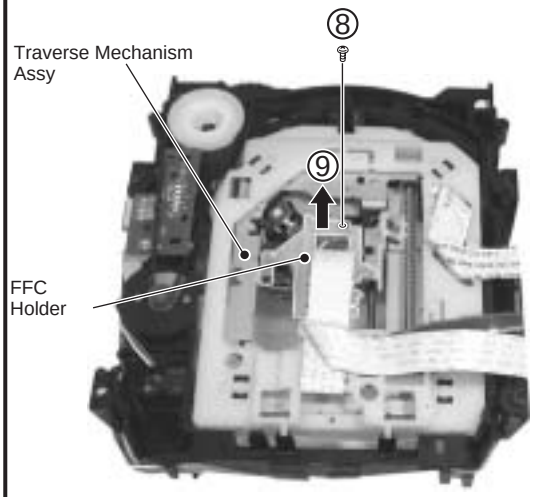
In the Tray insertion, insert it after matching a triangle mark of the Loading Base and a position of pin of the Drive Cam.



⑦ Remove the Loading Mechanism Assy (Screws 4).
⑧ Remove a screw.

Cautions:
Screw is locked with Silicone Adhesive.
Please lock it with Silicone Adhesive when installs it.

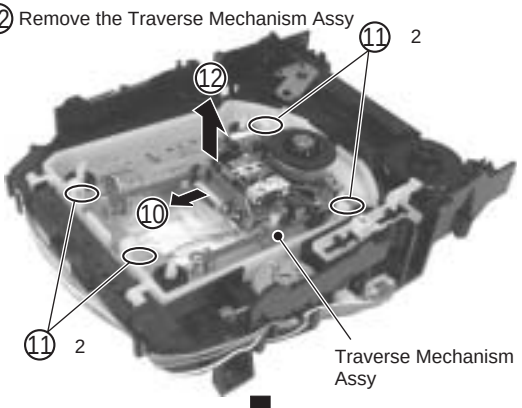
⑨ Remove the FFC Holder with the state which Flexible Cable was attached.



●Bottom View

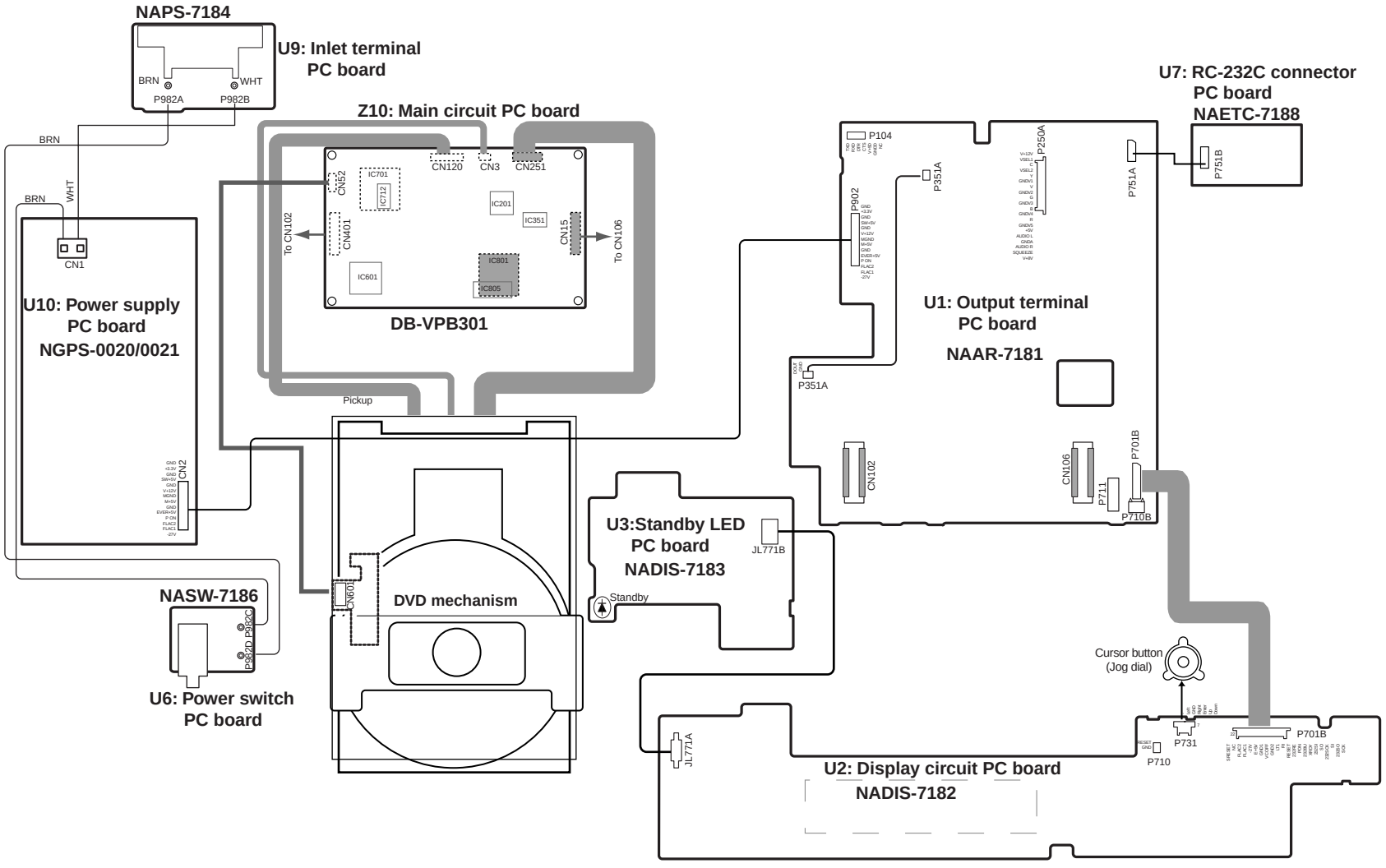
●**When Removing The Traverse Mechanism Assy**

⑩ Remove the Pickup Flexible Cable
⑪ Unhook (4)
⑫ Remove the Traverse Mechanism Assy



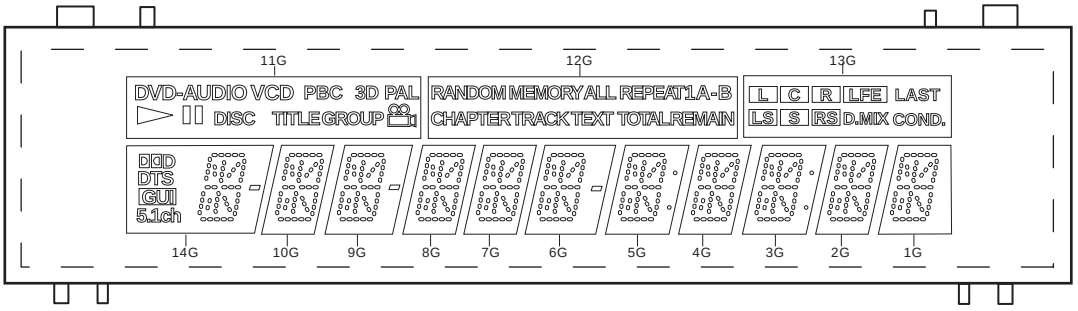
Exchange

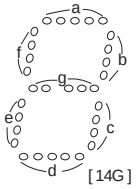
PC BOARD CONNECTION DIAGRAM



FL TUBE VIEW

Pin connection





48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
F 2	N X	N P	N P	P 15	P 14	P 13	P 12	P 11	P 10	P 9	P 8	P 7	P 6	P 5	P 4	P 3	P 2	P 1	N X	N X	N X	N X	N X	N X	N X	N X	N X	N X	N X	N X	14 G	13 G	12 G	11 G	10 G	9 G	8 G	7 G	6 G	5 G	4 G	3 G	2 G	1 G	N P	N P	N X	F 1

ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G
P1	a	a	a	a	a	a	a	a	a	a	PAL	RANDOM	L	a
P2	h	h	h	h	h	h	h	h	h	h		MEMORY	C	DD D
P3	l	j	j	j	j	j	j	j	j	j	3D	ALL	R	DTS
P4	k	k	k	k	k	k	k	k	k	k	GROUP	REPEAT	LS	GUI
P5	b	b	b	b	b	b	b	b	b	b	PBC	1	S	b
P6	f	f	f	f	f	f	f	f	f	f	TITLE	A	RS	f
P7	m	m	m	m	m	m	m	m	m	m	CD	- B	LFE	5.1ch
P8	g	g	g	g	g	g	g	g	g	g	V	TEXT	D.MIX	g
P9	c	c	c	c	c	c	c	c	c	c	DISC	–	LAST	c
P10	e	e	e	e	e	e	e	e	e	e	-AUDIO	TRACK	COND.	e
P11	r	r	e	r	r	r	r	r	r	r		CHAPTER	–	–
P12	p	p	p	p	p	p	p	p	p	p		TOTAL	–	–
P13	n	n	n	n	n	n	n	n	n	n	DVD	REMAIN	–	–
P14	d	d	d	d	d	d	d	d	d	d	–	–	–	d
P15	–	–	col	–	col		–	–		–	–	–	–	

MICROPROCESSOE TERMINAL DESCRIPTION

MPD780232GC-041-8BT

Pin No.	Symbol	Function	I/O	Description	Pin No.	Symbol	Function	I/O	Description
1	Vdd1	Vdd1	—	Power supply, +5V	41	P45/FIP37	SMP192LED	O	Sampling rate 192 LED control pin
2	Vss1	Vss1	—	Ground pin	42	P44/FIP36	SMP96LED	O	Sampling rate 96 LED control pin
3	X2	X2	—	Main clock input pin (5MHz)	43	P43/FIP35	PLYLED	O	Play LED control output pin
4	X1	X1	—	Main clock input pin (5MHz)	44	P42/FIP34	STPLED	O	Stop LED control output pin
5	IC	GND	—	Ground pin	45	P41/FIP33	OPCLLED	O	Open/ close LED control pin
6	~RESET	RESET	—	Reset pin of microprocessor	46	P40/FIP32	LED0	O	General LED control pin
7	P27/~SCK1	XSCK	O	Clock output pin for writhing of flash ROM	47	P37/FIP31		O	Not used
8	P26/SI1	SI	I	Data input pin for writhing of flash ROM	48	P36/FIP30		O	Not used
9	P25/SO1	SO	O	Data output pin for writhing of flash ROM	49	P35/FIP29		O	Not used
10	P24/BUSY	XRDY	O	XRDY output pin	50	P34/FIP28	P15	O	FL segment (P15) control output pin
11	P23	PON	O	Power ON control signal output pin (Power ON: "H")	51	P33/FIP27	P14	O	FL segment (P14) control output pin
12	P22	SYSRESET	O	Reset control output pin	52	P32/FIP26	P13	O	FL segment (P13) control output pin
13	P21/SO3		I	Not used	53	P31/FIP25	P12	O	FL segment (P12) control output pin
14	P20/~SCK3		I	Not used	54	P30/FIP24	P11	O	FL segment (P11) control output pin
15	P00/INTP0	~IRIN	I	Remote control1 signal input pin.	55	FIP23	P10	—	FL segment (P10) control output pin
16	P01/INTP1	LT1	I	LT1 data input pin	56	FIP22	P9	—	FL segment (P9) control output pin
17	P02/TI	VCOFF	O	Video circuit off control output pin	57	FIP21	P8	—	FL segment (P8) control output pin
18	AVss	GND	—	Ground pin for D/A converter	58	FIP20	P7	—	FL segment (P7) control output pin
19	ANI3	INIT1	I	Initializing input pin (Analog signal)	59	Vdd2	Vdd2	—	Power supply pin (+5V)
20	ANI2	K2	I	Key input pin	60	Vload	Vload	—	FIP control pin to connect pull down resistor
21	ANI1	K1	I	Key input pin	61	FIP19	P6	—	FL segment (P6) control output pin
22	ANI0	K0	I	Key input pin	62	FIP18	P5	—	FL segment (P5) control output pin
23	Vss0	Vss0	—	Ground pin	63	FIP17	P4	—	FL segment (P4) control output pin
24	AVdd	+5V	—	Power supply pin of D/A converter, +5V	64	FIP16	P3	—	FL segment (P3) control output pin
25	Vdd0	Vdd0	—	Power supply, +5V	65	FIP15	P2	—	FL segment (P2) control output pin
26	P64/FIP52	~SYSIN	I	System buss input pin	66	FIP14	P1	—	FL segment (P1) control output pin
27	P63/FIP51	~SYSOUT	O	System buss output pin	67	FIP13	14G	—	FL grid (G14) output pin
28	P62/FIP50	R232REQ	I	REQ input pin from microprocessor of RS-232C driver	68	FIP12	13G	—	FL grid (G13) output pin
29	P61/FIP49	R232BUSY	I	BUSY input pin from microprocessor of RS-232C driver	69	FIP11	12G	—	FL grid (G12) output pin
30	P60/FIP48	R232SI	I	SI input pin from microprocessor of RS-232C driver	70	FIP10	11G	—	FL grid (G11) output pin
31	P57/FIP47	R232SCK	O	SCK input pin from microprocessor of RS-232C driver	71	FIP9	10G	—	FL grid (G10) output pin
32	P56/FIP46	R232SO	O	SO input pin from microprocessor of RS-232C driver	72	FIP8	9G	—	FL grid (G9) output pin
33	P55/FIP45	TEST	I	Testing pin	73	FIP7	8G	—	FL grid (G8) output pin
34	P54/FIP44	R232RES	O	Reset control output pin to microprocessor of RS-232C driver	74	FIP6	7G	—	FL grid (G7) output pin
35	P53/FIP43	FLON_OFF	O	FL filament on/off control output pin	75	FIP5	6G	—	FL grid (G6) output pin
36	P52/FIP42	MS0_2	I	Model select input pin 2	76	FIP4	5G	—	FL grid (G5) output pin
37	P51/FIP41	MS0_1	I	Model select input pin 1	77	FIP3	4G	—	FL grid (G4) output pin
38	P50/FIP40	MS0_0	I	Model select input pin 0	78	FIP2	3G	—	FL grid (G3) output pin
39	P47/FIP39	STBYLED	O	Standby LED control output pin	79	FIP1	2G	—	FL grid (G2) output pin
40	P46/FIP38	VCOFFLED	O	Video circuit off LED control output pin	80	FIP0	1G	—	FL grid (G1) output pin

UPGRADE FIRMWARE

1. Data writing for DVD main board

1-1. Writing the F/W data in DVD main board

1-1-1 Set the DVD main board on the unit.

1-1-2 Connect the FFC and Jig between the DVD main board and Personal Computer.
(Using the F/W upgrade Jig board and FFC cable to P104)

1-2-3 Then the power and standby switches are turn on.

1-1-4 Run the data writing program.

EX) Save the program above in C:DPS-5.2 folder. The program name are

B1BK1048.SZ0, Down.bat, down, ok_down.exe, ok_down

① Open the DOS window

② Key input "cd DPS-5.2" and then push the ENTER key.
Turn thepower switch on and push the STANDBY switch.

③ Key input the "down b1bk1048.szo" and push ENTER.
(Space, FW file name .sz0, zero)

④ Push the ENTER again.

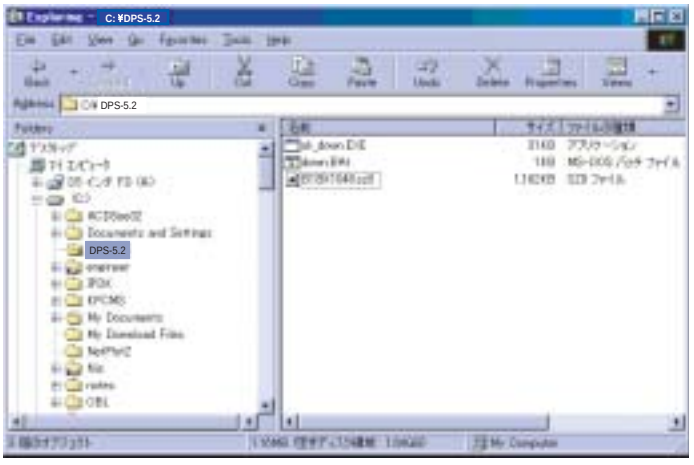
⑤ Key input "MO"and ENTER.

⑥ Key input "SZL"and ENTER.
The program of a computer running automatically.

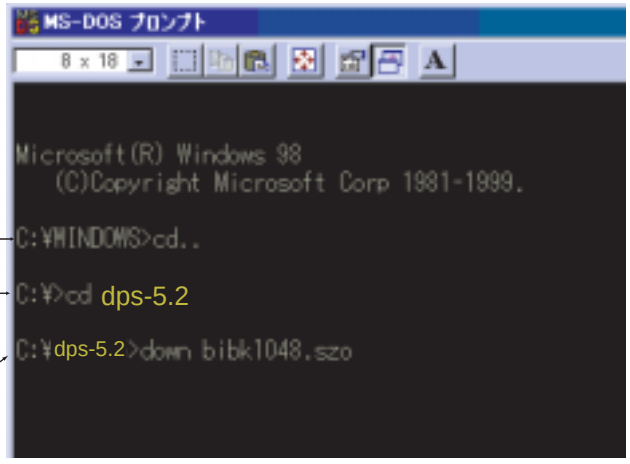
<Display of Computer>

0000000000000000000000000000

⑦ Turn off the power switch, and disconnect the upgrade kit. (Finish)



MS-DOS prompt



UPGRADE FIRMWARE

2. Setting the Region code.

2-1 Turn on the power switch and standby switch is turned on.

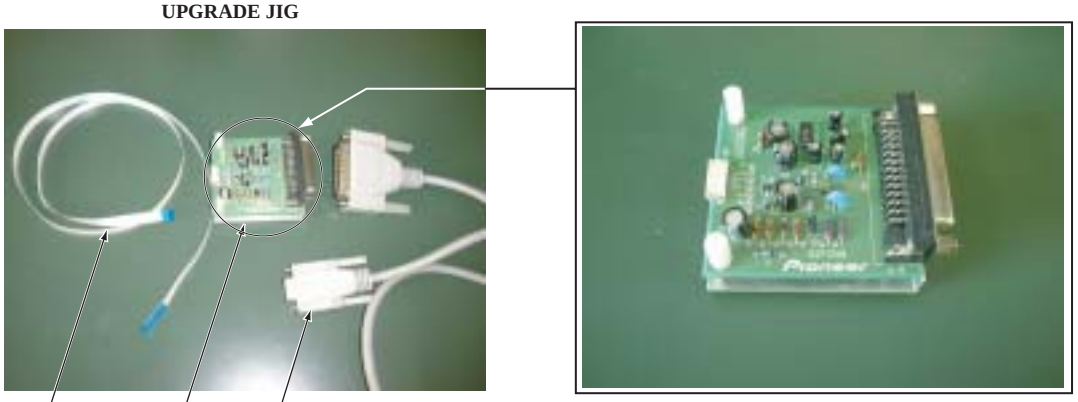
2-2 Select a regional code. (Using the remote controller **RC-449DV Part number 24140449)**

Destination	RC-449DV (Slide SW: TV position)	Transmission Code	Region
MDD1N	*	*	1

*: automatically chosen

RC449DV Remote controller Parts No. 24140449 (U.S.A remote controller)

UPGRADE JIG



3. Confirm the program

3-1 Press the [SETUP] key.

3-2 Select the "Setup Menu Mode", in the "General" menu.

3-3 Push the [DISPLAY] Button. The Region and FW Version information will appear on the TV Display.

[SETUP]
Setup Navigator Start
Auto Start Off ⏎
[ENTER]
Setup Menu Mode ⏎
[DISPLAY]
EX) "Region * / Ver:1.048 / AV:6.0/0.3"

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