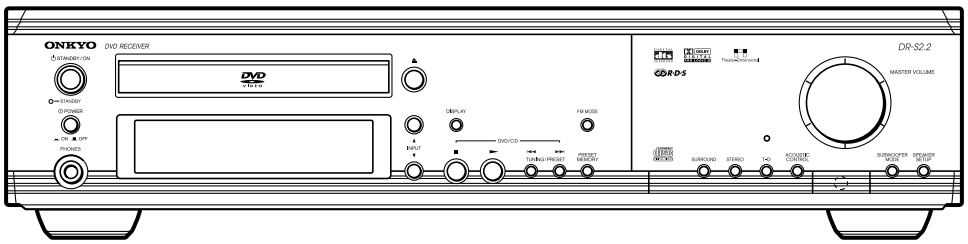
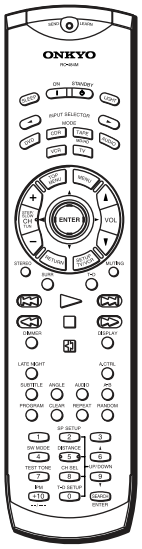
Ref. No. 3721
42002

ONKYO SERVICE MANUAL

DVD RECEIVER
MODEL DR-S2.2





RC-484M

Titanium color model

UDD1N, UDT3P, UDS4P	120V AC, 60Hz
UGK3P, UGR6P	220-230V AC, 50/60Hz
UPP2P, UPA4P	230-240V AC, 50/60Hz

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.

ONKYO®
IMAGINATIVE SIGHT & SOUND

SPECIFICATIONS

AMPLIFIER SECTION

Power Output (FTC) All channels 40 watts per channel min. RMS. into 6 ohms two channel driven, 1,000 Hz with no more than 5 % total harmonic distortion.

Continuous power output (DIN) All channels 30 watts per channel min. RMS. into 6 ohms two channel driven, 1,000 Hz

Continuous Power output (EIAJ) All channel 45 watts per channel min. RMS. into 6 ohms two channel driven, 1,000 Hz

Dynamic Power 6 ohms: 42 W (L/R)
8 ohms: 35 W (L/R)

Total Harmonic Distortion 5 % at rated power
0.2 % at 1 watt output

IM Distortion 5 % at rated power
0.2 % at 1 watt output

Damping Factor 40 at 8 ohms

Input Sensitivity and Impedance

VIDEO 1 DIGITAL INPUT (OPT)	–21 to –15 dBm
VIDEO 2 DIGITAL INPUT (COAX)	0.5 Vp-p, 75 ohms
LINE (VIDEO 1, VIDEO 2/CDR/PC, TV/LINE, TAPE/MD/HD)	200 mV/50 kohms
Composite (VIDEO 1, VIDEO 2/CDR/PC)	1 Vp-p, 75 ohms
S-VIDEO (VIDEO 1, VIDEO 2/CDR/PC)	Y: 1 Vp-p, 75 ohms C: 0.28 Vp-p, 75 ohms

Output Level and Impedance

DIGITAL OUTPUT (OPT)	–21 to –15 dBm
REC OUT (TAPE/MD/HD, VIDEO 2/CDR/PC)	200 mV, 2.2 kohms
PRE OUT (SUBWOOFER)	1 V, 470 ohms
Composite (MON OUT , VIDEO 1)	1 Vp-p, 75 ohms
S-VIDEO (MON OUT , VIDEO 1)	Y: 1 Vp-p, 75 ohms C: 0.28 Vp-p, 75 ohms
COMPONENT VIDEO OUTPUT (Except European model)	Y: 1.0 Vp-p, 75 ohms PB/PR: 0.7 Vp-p, 75 ohms
RGB (European model)	0.7 Vp-p, 75 ohms

Frequency Response 20 to 30,000 Hz : +/ – 0.8 dB

Acoustic Control 1: +9 dB at 120 Hz
2: +9 dB at 120 Hz
+6 dB at 10,000 Hz

Signal-to-noise Ratio 100 dB (0.5 V INPUT LINE)

Muting –50 dB

DVD SECTION

Signal readout system Optical non-contact

Linear velocity 3.49 m/s (Single Layer)
3.84 m/s (Dual Layer)

Error correction system Reed Solomon Product Code

Signal system North American model: NTSC
Other models: PAL/Auto

Regional restriction code USA and Canadian area: 1
European area: 2
South-east Asian area: 3
Australian and South American area: 4
PRC: 6

Laser Semiconductor laser
, wavelength DVD 650 nm CD 780nm

Frequency response 10 Hz to 44 kHz (96 kHz)

Signal-to-noise ratio (digital audio) More than 100 dB

Audio dynamic range (digital audio) More than 93 dB

Harmonic distortion (digital audio) Less than 0.025%

Wow and flutter Below threshold of measurability

Operating conditions Temperature: 5°C to 35°C (41°F to 95°F),
Operation status: Horizontal

TUNER SECTION

Tuning Range

FM:	87.50 to 108.00 MHz (50 kHz steps)		
AM:	(North American and South American models) 530 to 1710 kHz (10 kHz steps)	(Other models) 522 to 1611 kHz (9 kHz steps)	

Usable Sensitivity

FM:	Mono	11.2 dBf,	1.0 µV (75 ohms IHF) 0.9 µV (75 ohms DIN)
	Stereo	17.2 dBf,	2.0 µV (75 ohms IHF) 23 µV (75 ohms DIN)
AM:	30 µV		

50 dB Quieting Sensitivity

FM:	Mono	17.2 dBf,	2.0 µV (75 ohms)
	Stereo	37.2 dBf,	20.0 µV (75 ohms)

Capture Ratio FM: 2.0 dB

Image Rejection Ratio

FM:	(North American and South American models) 40 dB	(Other models) 85 dB
AM:	40 dB	

IF Rejection Ratio

FM:	90 dB
AM:	40 dB

Signal-to-noise Ratio

FM:	Mono	73 dB, IHF
	Stereo	67 dB, IHF
AM:	40 dB	

Alternate Channel Att. (+/ – 400 kHz) FM: Mono 55 dB, IHF

Selectivity FM: 50 dB, DIN 55dB, IHF

AM Suppression Ratio FM: 50 dB

Harmonic Distortion

FM:	Mono	0.2 %
	Stereo	0.3 %
AM:		0.7 %

Frequency response FM: 30 to 15,000 Hz (+/– 1.0 dB)

Stereo Separation FM: 45 dB at 1,000 Hz
30 dB at 100 to 10,000 Hz

Stereo Threshold FM: 17.2 dBf, 20 µV (75 ohms)

GENERAL

power Supply Rating and Power Consumption

(North American and South American models)
AC 120 V, 60Hz 2.0 A
(Other models)
AC 120V, 60Hz 170 W
AC 230-240 V, 50Hz 170 W

Dimensions (W x H x D) 435 x 101 x 428 mm (17 1/8 x 4 x 16 13/16 ins.)

Weight 8.8 kg (19.4 lb.)

Specifications and features are subject to change without notice.

SERVICE PROCEDURES-1

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs two lasers. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

SERVICE WARNING : DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICKUP BLOCK.

Laser Diode Properties

DVD
Wavelength: 650 nm
Laser output: 0.6 mW

CD
Wavelength: 780 nm
Laser output: 0.43 mW

WARNING

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.

LASER WARNING

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 TWO LASERS. 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.

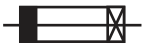
1. This unit is a CLASS 1 LASER PRODUCT and employs two lasers inside the cabinet.
2. To prevent the laser from being exposed, do not remove the cover Refer servicing to qualified personnel.

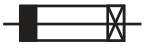
LASER BEAM CAUTION LABEL

SERVICE PROCEDURES-2

SERVICE PROCEDURE

1. Replacing the fuses

 This symbol located near the fuse indicates that the fuse used is show operating type, For continued protection against fire hazard, replace with same type fuse , For fuse rating, refer to the marking adjest to the symbol.

 Ce symbole indique que le fusible utilise est e lent. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce demier est indique la qu le present symbol est apposre.

REF NO.	DESCRIPTION	PART NO.		REMARKS
F9921	4A-SE-EAK	252077	⚠	PP2P, PT3P, GK3P, PA4P, GR6P
	4A-UL/T-237	252163	⚠	DD1N, DT3P, DS4P
	1.25A-SE-EAWK	252071	⚠	PP2P, PT3P, GK3P, PA4P, GR6P
	3.15A-UL/T-237	252162	⚠	DD1N CDT3P, DS4

[NOTES]
DD1N: North American area (Regional code-1)
PP2P: European area (Regional code-2)
GK3P: Korean area (Regional code-3)
DT3P: Some Asian area (AC 230V, Regional code-3)
PT3P: Some Asian area (AC 120V, Regional code-3)
PA4P: Australian area (Regional code-4)
DS4P: South America area (Regional code-4)
GR6P: Chinese area (Regional code-6)

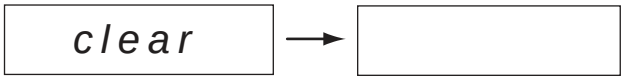
2. Safety-check out

(Only U.S.A. model)
After correcting the original service problem perform the following safety check before releasing the set to the customer
Connect the insulating-resistance tester between the plug of power supply cord and terminal GND on the back panel.
Specifications: More than 10M ohm at 500V

3. To initialize the unit.

1. Connect power supply cord to the wall outlet.
2. Press POWER to switch on the main power to put the unit in the standby mode.
   (European and some Asian models only)
3. Press STANDBY/ON the unit or remote controller to turn on unit.
4. Press the hold down SPEAKER SETUP button, the press STANDBY/ON button.

FL display



The memory of unit is initialized.
(The shipment state of the product)

5. Press POWER to switch off the main power
   (European and some Asian models only)
6. Disconnect power supply cord from the wall outlet.

4. Changing the AM band step

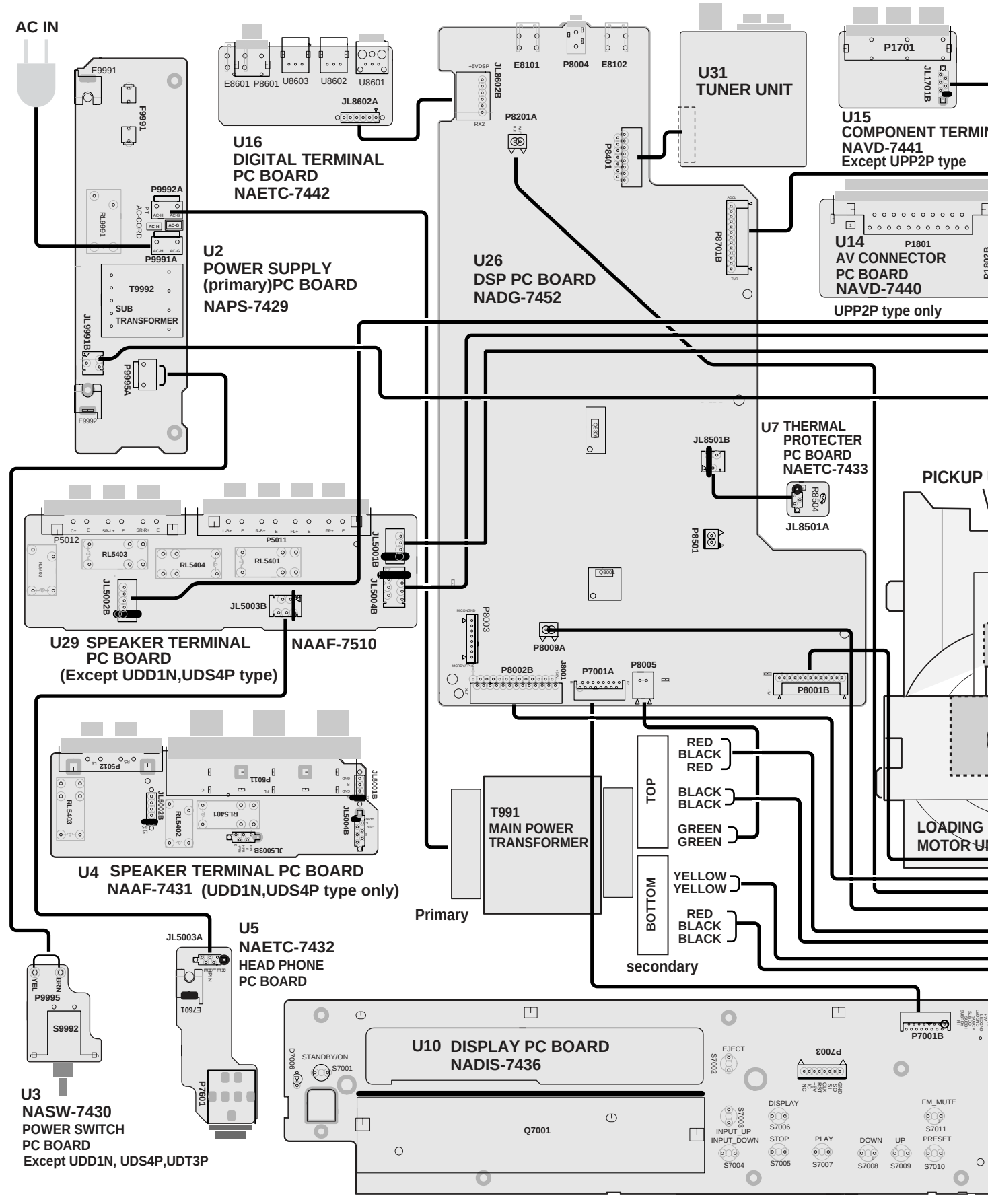
With the exception of the worldwide models, a tuning step selector switch is not provided. When you change the band step, change the parts as shown below.

	To 10kHz	To 9kHz	R8058 and R8059 on
R8058	10 k ohms	None	NADG-7452 (DSP and microprocessor PC board)
R8059	1 .5 k ohms	10 kohms	

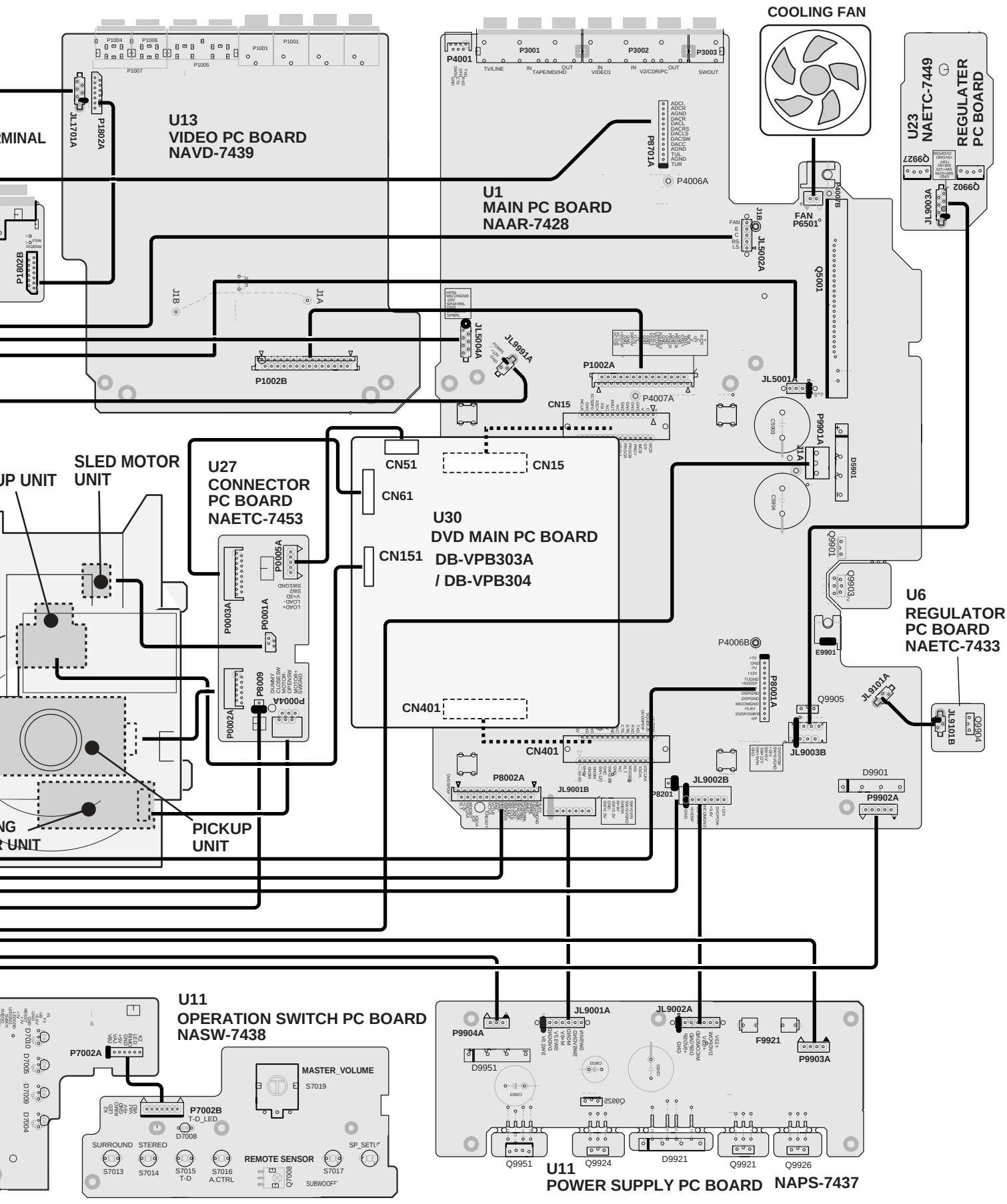
5. Regional Restriction Codes (Region Number)

Regional restriction codes are built into DVD Receivers and DVD videos for each sales region. If the regional code of the DVD Receiver does not match one of the regional codes on the DVD video, playback is not possible.
The regional number can be found on the rear panel of the DVD Receiver. (e.g.  for Region 1)

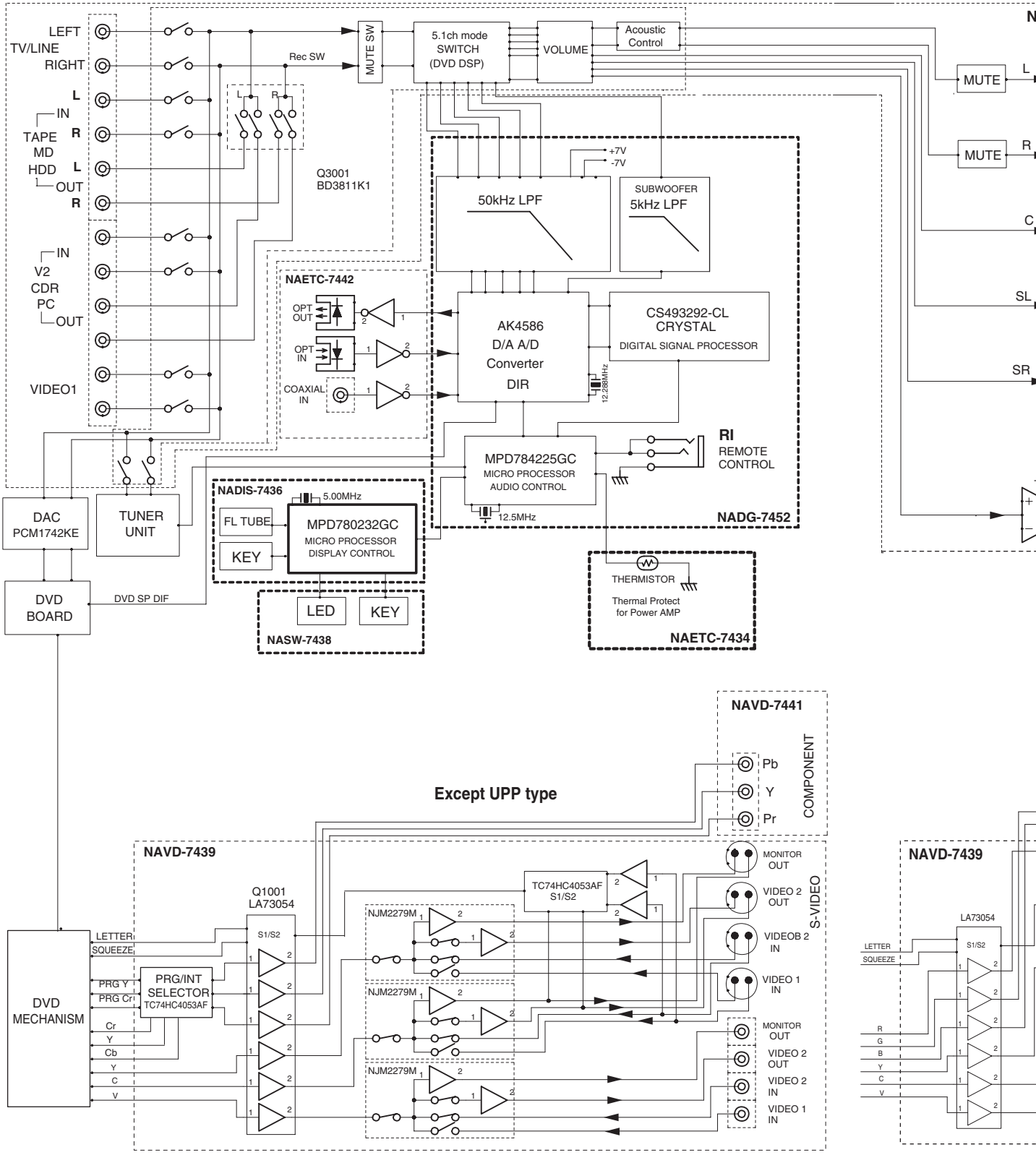
PC BOARD CONNECTION DIAGRAM

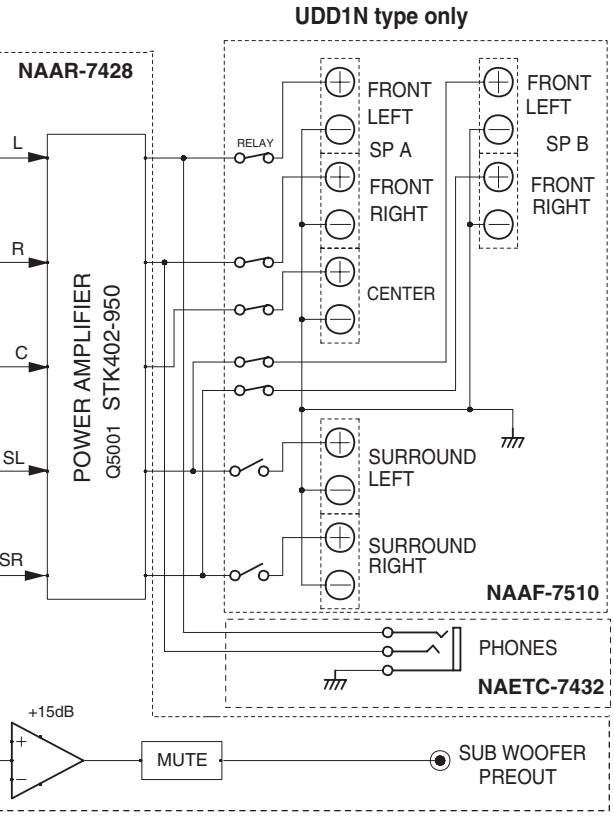


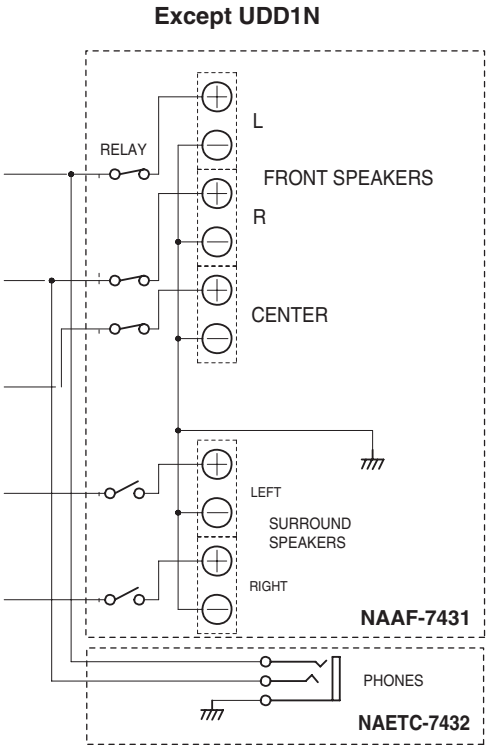
E F G H

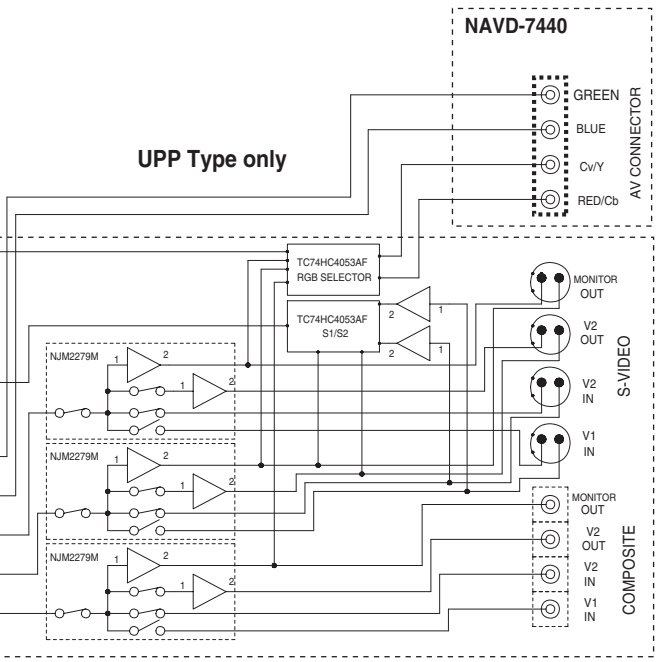

COOLING FAN
U13
VIDEO PC BOARD
NAVD-7439
U1
MAIN PC BOARD
NAAR-7428
U23
NAETC-7449
REGULATER
PC BOARD
FAN
P6501
JL5002A
JL1701A
P1802A
P1002A
P1002B
JL5001A
JL5004A
JL9901A
P4007A
P4006A
P8701A
P4001
P3001
P3002
P3003
CN15
CN51
CN61
CN151
CN401
U27
CONNECTOR
PC BOARD
NAETC-7453
U30
DVD MAIN PC BOARD
DB-VPB303A
/ DB-VPB304
SLED MOTOR
UNIT
PICKUP
UNIT
U6
REGULATOR
PC BOARD
NAETC-7433
P4006B
P8001A
P8002A
JL9003B
JL9001B
JL9002B
P8201
JL9101A
JL9101B
P9902A
D9901
E9901
Q9905
U11
OPERATION SWITCH PC BOARD
NASW-7438
P7002A
P7002B
T-D_LED
D7008
MASTER_VOLUME
S7019
SURROUND
STEREO
REMOTE SENSOR
SP_SETUP
S7013
S7014
S7015
T-D
S7016
A.CTRL
S7017
Q7006
SUBWOOFER
P9904A
D9951
JL9001A
JL9002A
F9921
P9903A
Q9951
Q9924
D9921
Q9921
Q9926
U11
POWER SUPPLY PC BOARD
NAPS-7437

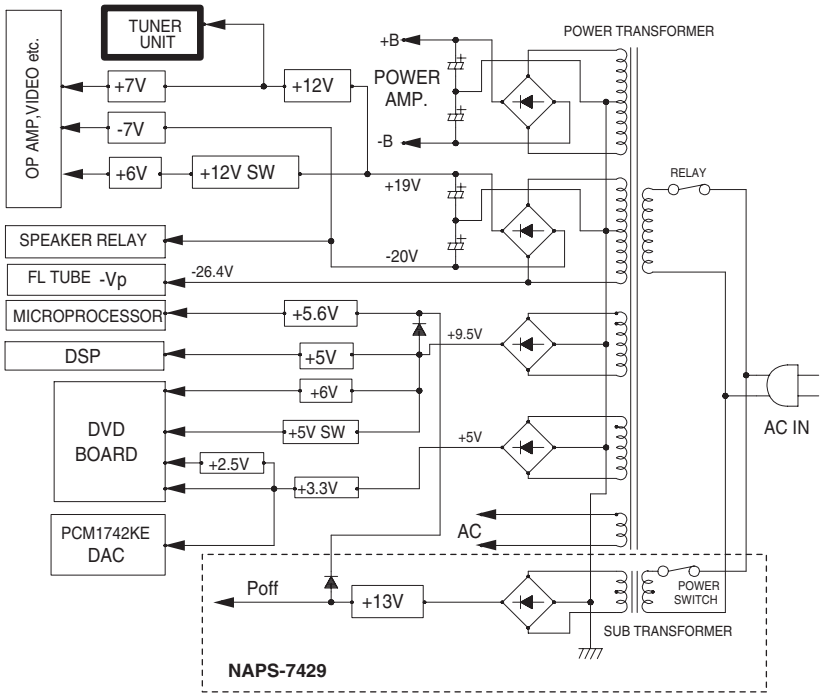
BLOCK DIAGRAMS




UDD1N type only
NAAR-7428
L
R
C
SL
SR
POWER AMPLIFIER
Q5001 STK402-950
RELAY
FRONT LEFT
SP A
FRONT RIGHT
CENTER
SURROUND LEFT
SURROUND RIGHT
NAAF-7510
FRONT LEFT
SP B
FRONT RIGHT
PHONES
NAETC-7432
+15dB
MUTE
SUB WOOFER PREOUT


Except UDD1N
RELAY
L
FRONT SPEAKERS
R
CENTER
LEFT
SURROUND SPEAKERS
RIGHT
NAAF-7431
PHONES
NAETC-7432


UPP Type only
NAVD-7440
GREEN
BLUE
Cv/Y
RED/Cb
AV CONNECTOR
TC74HC4053AF
RGB SELECTOR
TC74HC4053AF
S1/S2
NJM2279M
MONITOR OUT
V2 OUT
V2 IN
V1 IN
S-VIDEO
MONITOR OUT
V2 OUT
V2 IN
V1 IN
COMPOSITE


TUNER UNIT
OP AMP,VIDEO etc.
+7V
-7V
+6V
+12V
+12V SW
POWER AMP.
+B
-B
+19V
-20V
POWER TRANSFORMER
RELAY
SPEAKER RELAY
FL TUBE -Vp
-26.4V
MICROPROCESSOR
+5.6V
DSP
+5V
+6V
+9.5V
DVD BOARD
+5V SW
+5V
+2.5V
+3.3V
PCM1742KE DAC
AC
AC IN
Poff
+13V
POWER SWITCH
SUB TRANSFORMER
NAPS-7429

MICROPROCESSOR TERMINAL DESCRIPTION-1

Q8001: MPD784225GC-165-8BT

NO.	PIN NAME	I/O	ACTIVE	DESCRIPTION
1	TRAYIN	I	A/D	Input pin of detected signal of tray state.
2	NU			No used (Connect to ground)
3	NU			No used (Connect to ground)
4	NU			No used (Connect to ground)
5	NU			No used (Open)
6	DVDPOWER	O	H	Output pin of control signal for power supply of DVD main circuit.
7	AVREF			Input pin of reference voltage or D/A converter.
8	XS1	I	H	Input pin of latch signal from microprocessor in DVD main board.
9	NU			No used.
10	XCLK	I	CLK	Input pin of clock signal from microprocessor in DVD main board.
11	XRESET	O	H	Output pin of reset signal to microprocessor in DVD main board.
12	XSO	O	H	Output pin of data to microprocessor in DVD main board.
13	XSCLK	O	CLK	Output pin of clock signal to microprocessor in DVD main board.
14	XREADY	O	H	Output pin of communication for microprocessor in DVD main board.
15	MDRDY/FPHS	I	H	Input pin of ready data from Sub-microprocessor.
16	MCSD/FPSI	I	H	Input pin of data from sub-microprocessor.
17	MCSDO/FLSO	O	H	Output pin of data to sub-microprocessor.
18	MCCLK/FPCLK	O	CLK	Output pin of serial clock to sub-microprocessor.
19	MCRST	O	L	Output pin of reset signal for Sub-microprocessor.
20	NU			No used
21	VCTLA	O	H	Output pin-1 of control signal for video signal.
22	VCTLB	O	H	Output pin-2 of control signal for video signal.
23	NU			No used
24	TPRT	I	L	Input pin of signal from thermal detection circuit.
25	VPRT	I	H	Input pin of DC voltage detection signal from power amplifier.
26	HPIN	I	H	Input pin of detection signal from insert state of headphone plug.
27	NU		H	No used.
28	SPB	O	H	Input pin of control signal for seaker-B relay drive.
29	SWNONE	O		No use.
30	SELSDO	O	H	Output pin of serial data latch for BD3811 (volume and selector control IC).
31	SELSCLK	O	CLK	Output pin of serial data clock for BD3811 (volume and selector control IC).
32	SELMUT	O	H	Output pin of muting signal for BD3811 (volume and selector control IC).
33	VSS1		H	Ground pin.
34	SPACS	O	H	Output pin of control signal for center speaker relay and surround speaker relay drive.
35	SPAFR	O	H	Output pin of control signal for front speaker relay drive.
36	POWERL	O	H	Output spin of control signal for main power relay drive.
37	AMUT	O	H	Output pin of control signal for audio muting circuit.
38	TUMUT	O	H	Output pin of control signal for of tuner muting circuit.
39	SD	I	L	Input signal of detection signal of receiving state of broadcast.
40	STEREO	I	L	Input pin of detection signal of FM stereo pilot signal.

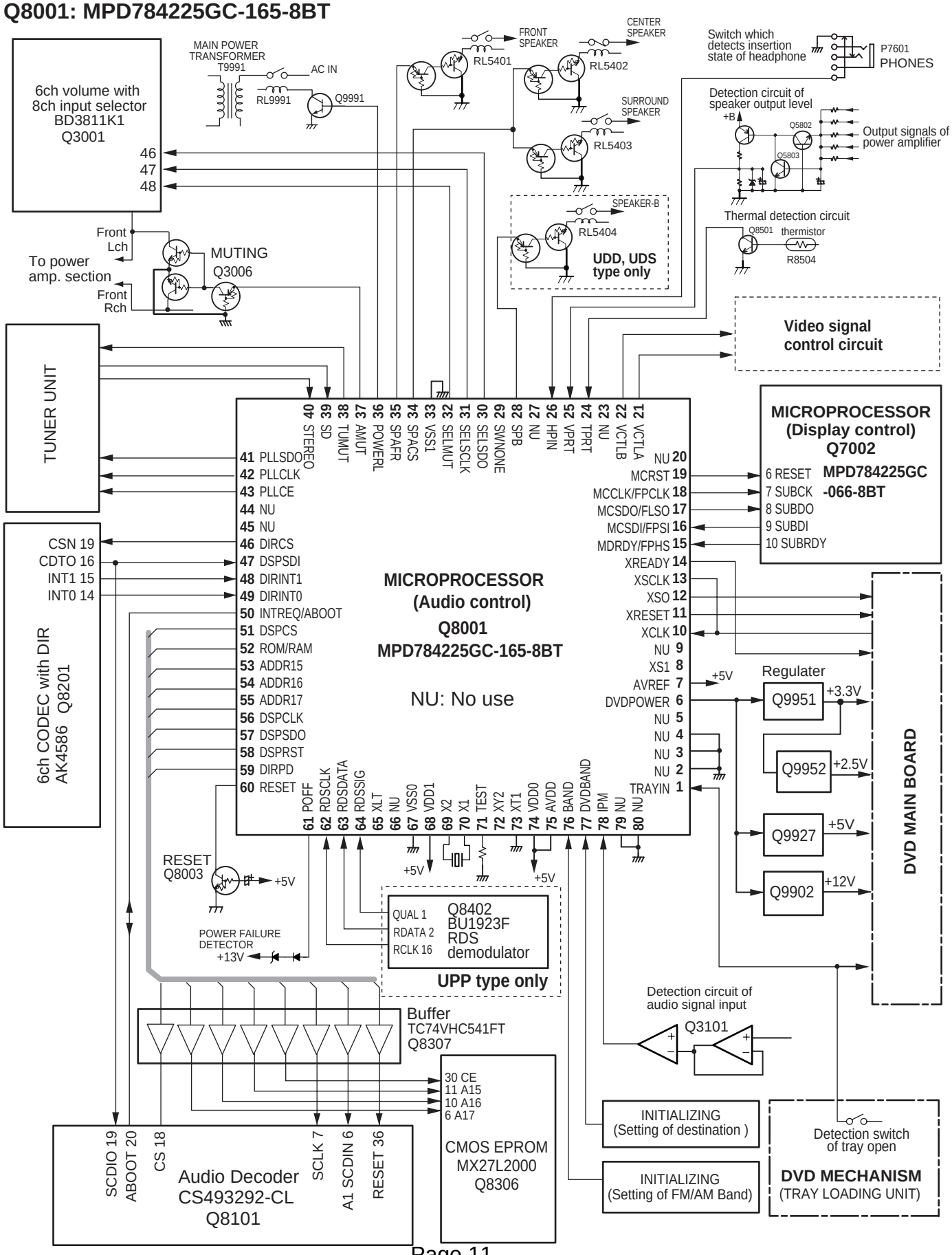
MICROPROCESSOR TERMINAL DESCRIPTION-2

Q8001: MPD784225GC-165-8BT

NO.	PIN NAME	I/O	ACTIVE	DESCRIPTION
41	PLLSDO	O	H	Output pin of serial data for PLL IC of tuner unit.
42	PLLCLK	O	CLK	Output pin of serial clock for PLL IC of tuner unit.
43	PLLCE	O	H	Output pin of serial latch for PLL IC of tuner unit.
44	NU	-	-	No used.
45	NU	-	-	No used.
46	DIRCS	O	H	Output pin of chip select signal to AK4586.
47	DSPSDI	I	H	Input pin of serial data from CS493292 and AK4586.
48	DIRINT1	I	H	Input pin of detection signal from function status of AK4586.
49	DIRINT0	I	H	Input pin of interrupt request detection signal from function status of AK4586.
50	INTREQ/ABOOT	I/O	H	Input/output pin of signal from interrupt request and auto boot of CS493292
51	DSPCS	O	L	Output pin of signal for chip select.
52	ROM/RAM	O	L/H	Output pin of signal for select ROM or RAM.
53	ADDR15	O	H	Output pin of signal for select of DSP boot ROM address 15
54	ADDR16	O	H	Output pin of signal for select of DSP boot ROM address 16
55	ADDR17	O	H	Output pin of signal for select of DSP boot ROM address 17
56	DSPCLK	O	H	Output pin of serial clock to CS493292 and AK4586.
57	DSPSDO	O	H	Output pin of serial data to CS493292 and AK4586.
58	DSPRST	O	L	Output pin of reset signal to CS493292.
59	DIRPD	O	L	Output pin of power down signal to AK4586.
60	RESET	-	-	Input pin for system reset.
61	POFF	I	L	Input pin of power failure detected signal.
62	RDSCLK	I	CLK	Input pin of clock signal from RDS demodulator.
63	RDSDATA	I	H	Input pin of data from RDS demodulator.
64	RDSSIG	I	H	Input pin of signal from RDS demodulator.
65	XLT	I	H	Input pin of latch signal from DVD main microprocessor.
66	NU	-	-	Not used. (open)
67	VSS0	-	-	Ground pin.
68	VDD1	-	-	Power supply pin.
69	X2	-	-	Connect to ceramic oscillator.
70	X1	-	-	Connect to ceramic oscillator.
71	TEST	-	-	(No connection)
72	XT2	-	-	No used. (open)
73	XT1	-	-	No used. (connect to ground)
74	VDD0	-	-	Power supply pin.
75	AVDD	-	-	Power supply pin for A/D converter.
76	BAND	I	A/D	Input pin for initial setting about destination (tuner band).
77	DVDBAND	I	A/D	Input pin for initial setting about destination (DVD region cord).
78	IPM	I	A/D	Input pin for IPM (intelligent power management) function.
79	NU	-	-	Not used. (connect to ground)
80	NU	-	-	Not used. (connect to ground)

MICROPROCESSOR CONNECTION DIAGRAM-1

Q8001: MPD784225GC-165-8BT



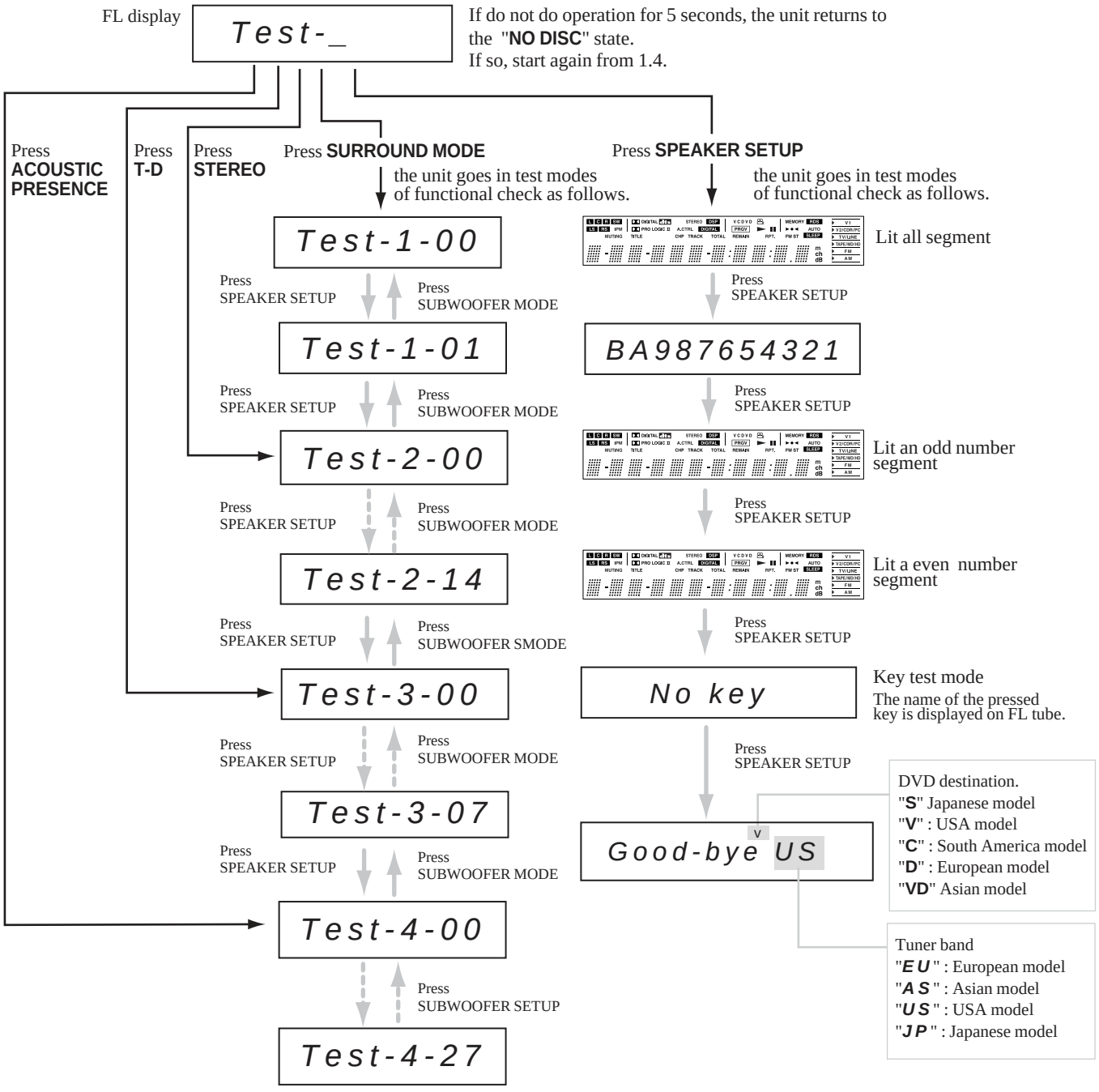
ADJUSTMENT PROCEDURES-1

TEST MODE FOR OPERATION

1. How to go in TEST MODE?

[NOTE] All memories are cleared when you go in this mode.

1. Connect the power supply cord to a wall outlet.
2. Press **POWER** to switch on the main power to put the unit in the standby mode. (European and some Asian models only)
3. Press **STANDBY/ON** toturn on the unit.
4. Press **SUBWOOFER MODE** as pressing down **SPEAKER SETUP** and **STANDBY/ON** together.



2. How to cancel TEST MODE?

1. Press **STANDBY/ON**

ADJUSTMENT PROCEDURES-2

OPERATION TEST-1

1. Speaker relays

1. Speaker relays turn ON approximately 5 seconds after **STANDBY/ON** is pressed.
2. Speaker relays turn OFF immediately after **STANDBY/ON** is pressed OFF.

2. DC detection circuit

1. Set the unit to "TEST-1-00." (Refer to **TEST MODE OPERATION**)
2. Apply DC voltage (+1.5 to - 3V) to **TAPE PLAY** terminal, each channel.
3. Check the speaker relays turn OFF immediately.
4. Apply DC voltage (from -1.5 to -3V) to **TAPE PLAY** terminal, each channel.
5. Check the speaker relays turn OFF immediately.

[NOTE1] Limit time to apply voltage is 0.5 - 1.0 seconds each channel.
When protection operation does not occur at once, try several times.
[NOTE2] Don't connect speakers or any load. Don't short speaker terminals.
[NOTE3] The relay recovers in one second in "TEST-1-00." So it is not held OFF.

3. Headphones insertion detection.

The SURROUND MODE changes to "STEREO" when headphones are inserted to **phones jack**.

4. IPM (Intelligent power Management) operation

1. Set the unit to the state of "TEST-1-01. " (Refer to **TEST MODE OPERATION**)
2. Apply -60dBV signal to **TV/LINE** terminals.
3. Intercept the input signal.
4. Check the following operation.

FL display

5. Thermal protection circuit

1. Set the unit to the state of "TEST-1-00". (Refer to **TEST MODE FOR OPERATION**)
2. Connect a resister 100 ohms /1W at P8501(test point) in NADG-7452.
3. The speaker relays turn OFF immediately.

6. Cooling fan operation

A. Low speed mode

The cooling fan is always rotating slowly.

1. The cooling fan is always rotating slowly after STANDBY/ON is pressed.

B. High speed mode

1. Set the unit to "TEST-1-00. " (Refer to **TEST MODE OPERATION**)
2. Apply 1kHz, -20dBV sine wave to **TAPE PLAY** terminals.
3. The cooling fan is rotating quickly.

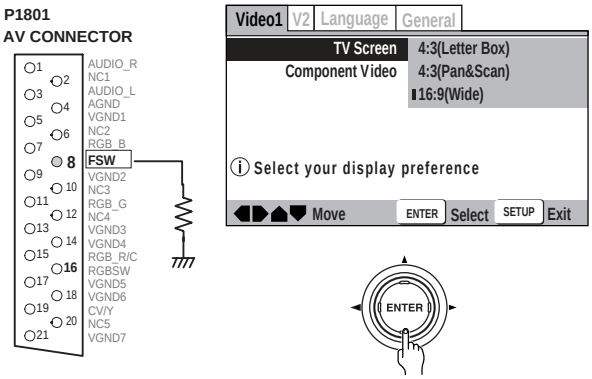
ADJUSTMENT PROCEDURES-3

OPERATION TEST-2

7. The control voltage of AV connector (UPP type only)

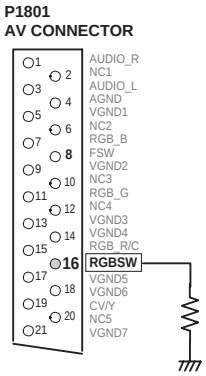
1. FSW voltage.

1. Connect a dummyload, 10 kohms to No.8 pin of AV connector.
2. Play a DVD disk of 16:9 aspect ratio (width-old-heigt-ratio).
3. Go into setup menu.
   Check No.8 pin voltage as changing aspect ratio in TV Screen of Video 1.
   4 : 3 -------- from 9.5 to 12 V DC
   16 :9 -------- from 5 to 8 V DC



2. RGB switching voltage

1. Connect the dummy load, 75 ohms to the No.16 pin of AV connector.
2. Change video mode with setup menu.
   Check No.16 pin voltage as changing Video Mode in SETUP menu
   Video/S-Video ----- 0.4V DC max.
   RGB ----- 1.0V DC min.



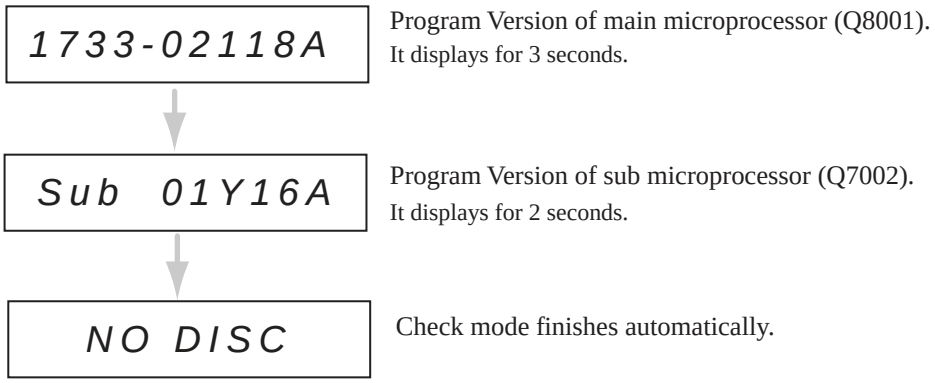
SPECIAL OPERATION

1. How to check the program version of microprocessor

1. Press **STANDBY/ON** while pressing down **SUBWOOFER MODE** in POWER ON.

[Example]

FL display



2. How to check the version of DVD firmware

Refer to "**UPGRADE FIRMWARE-4**"

Caution: After adjustment, lock all adjusted screws with screw tightening agent

ADJUSTMENT PROCEDURES-4

ADJUSTMENT OF DVD MECHANISM-1

1. Adjustment items and location

■ Adjustment Items

[Mechanism Part]

❶ Tangential and Radial Height Coarse Adjustment

❷ DVD Jitter Adjustment

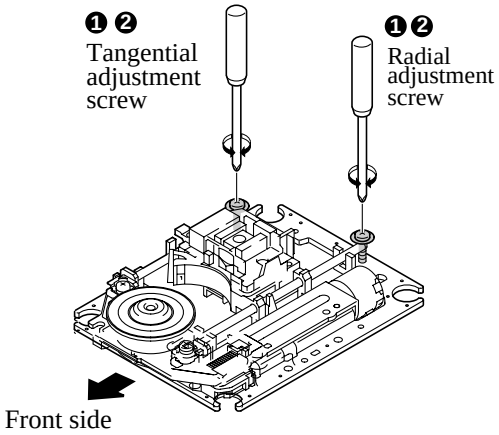
❸ How to initialize the Focus Sweep Setting

[Electrical Part]

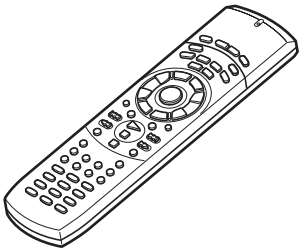
Electrical adjustments are not required.

■ Adjustment Points (Mechanism Part)

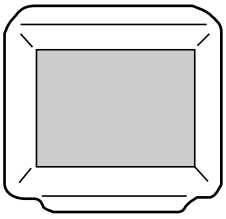
Cautions: After adjustment, lock all adjusted screws with screw tightening agent.



2. JIGS and measuring instruments

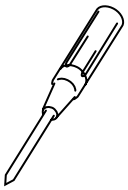


Remote controller
RC-484M
Part No. 24140484

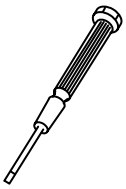


TV monitor

DVD test disc
(GGV1025)



⊕ Screwdriver (medium)



⊕ Precise screwdriver

3. Necessary adjustment points

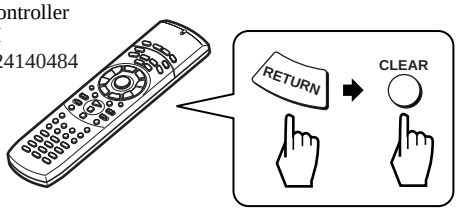
When	Adjustment Points		
■ Exchange Parts of Mechanism Assy Parts			
Pickup	Mechanical point	❶❷✻❸	After adjustment, screw locks with the Screw tight.
	Electric point	———	
Traverse Mechanism	Mechanical point	❸	After adjustment, screw locks with the Screw tight.
	Electric point	———	
Spindle Motor	Mechanical point	❷✻❸	After adjustment, screw locks with the Screw tight.
	Electric point	———	
■ Exchange of PCB Assy			
Exchange PC Board SSIB, LOAB, DVDM ASSY	Mechanical point	———	After adjustment, screw locks with the Screw tight.
	Electric point	———	

✻ Purpose: To adjust individual Traverse Mechanism to it best sweep.

When you replace Pickup, Traverse Mechanism or Spindle Motor press RETURN and then press CLEAR at the last stage.

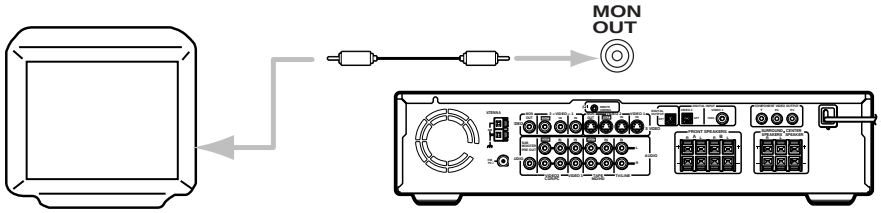
(It is necessary when you performed procedure ❷ adjustment.)

Remote controller
RC-484M
Part No. 24140484



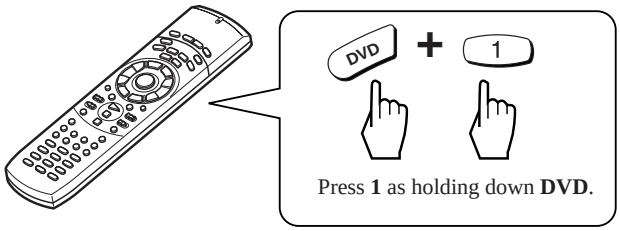
ADJUSTMENT PROCEDURES-5
ADJUSTMENT OF DVD MECHANISM-2

4. Connection

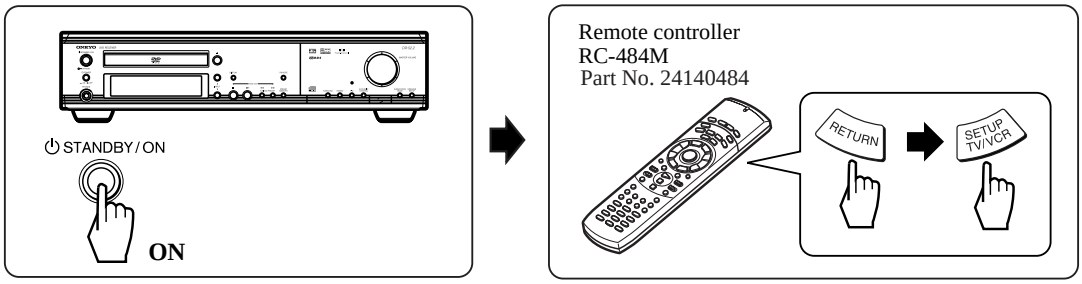


5. Test mode

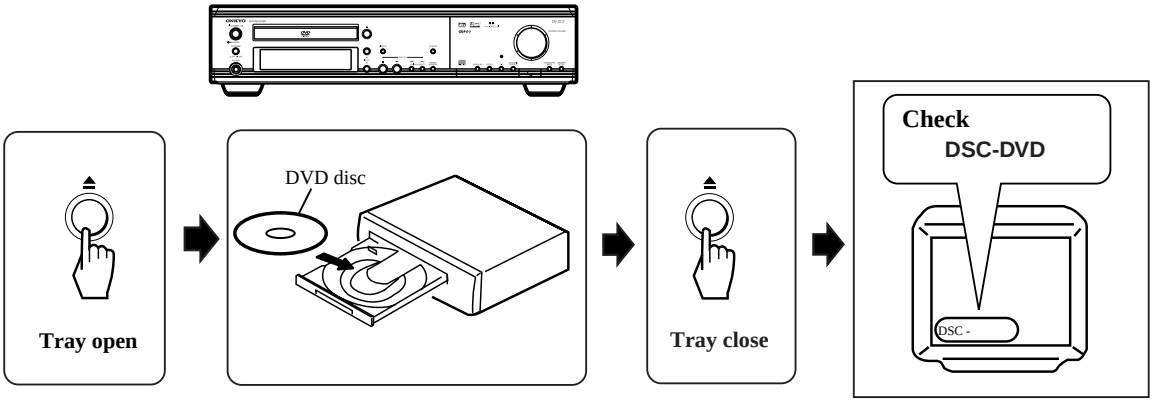
SETTING REMOTE CONTROLER



TEST MODE: ON



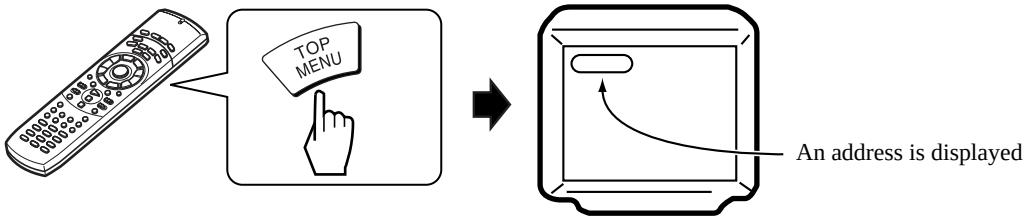
TEST MODE: DISC SET



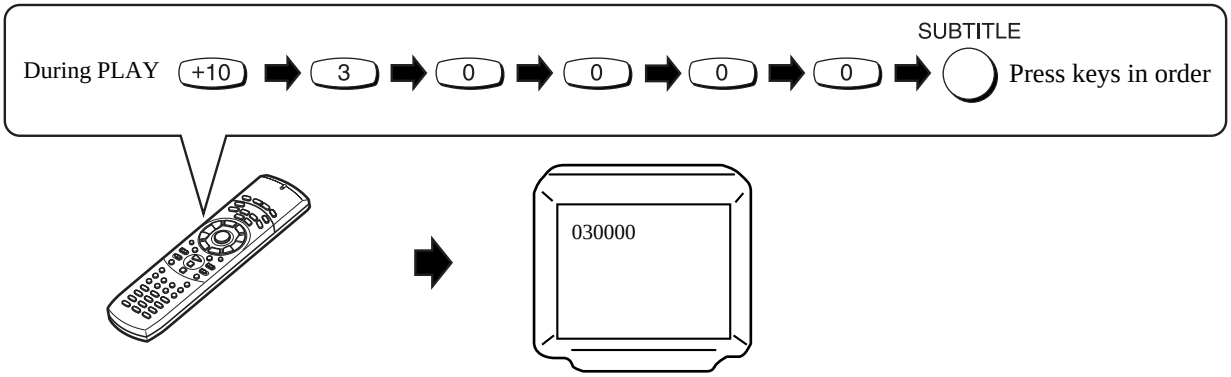
ADJUSTMENT PROCEDURES-6

ADJUSTMENT OF DVD MECHANISM-3

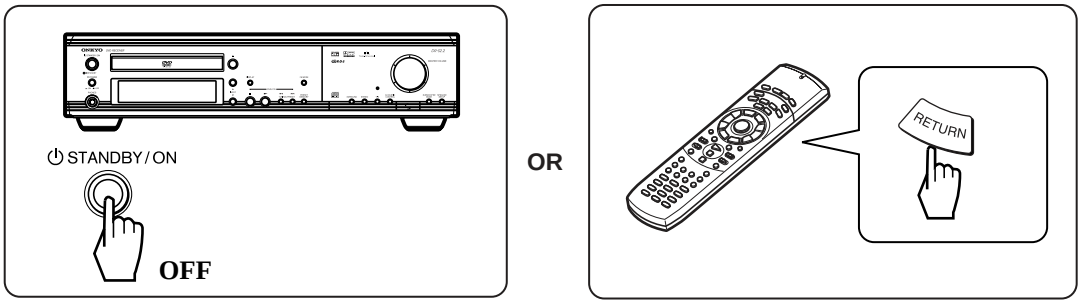
TEST MODE: PLAY



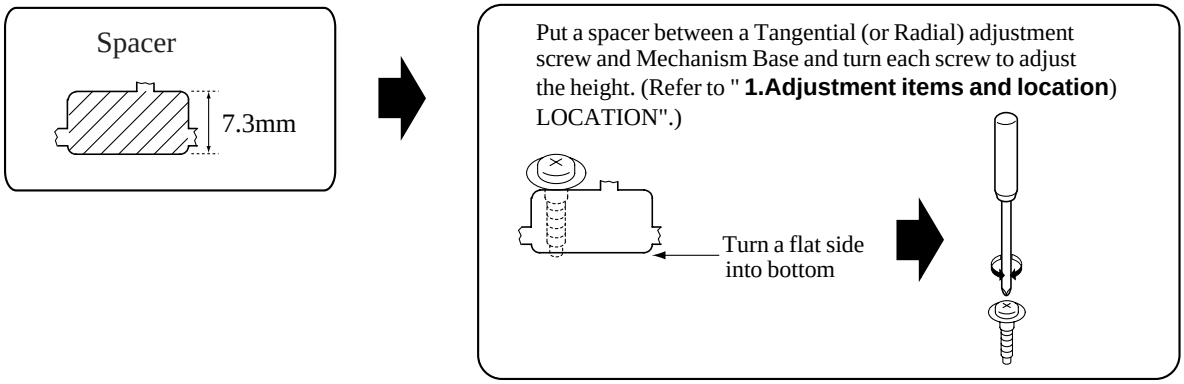
< When playback with the target address of disc (DVD)>
For example, when playback with # 30000



TEST MODE: OFF



Tangential and Radial Height Coarse Adjustment



ADJUSTMENT PROCEDURES-7

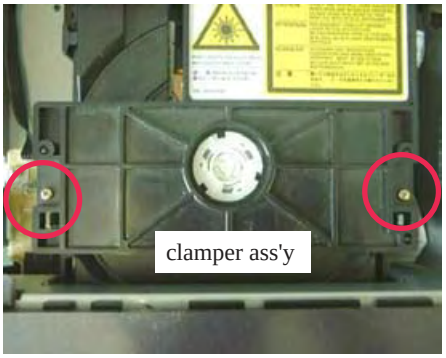
ADJUSTMENT OF DVD MECHANISM-4

❷ DVD jitter Adjustment

Preparation of adjustment

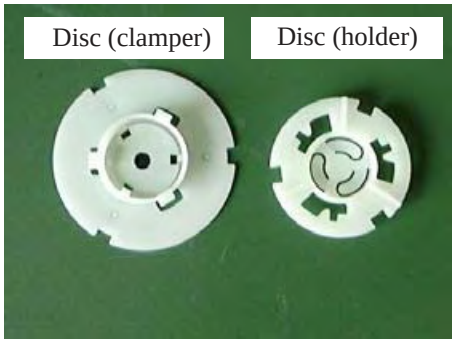
Remove table(disc) in order to adjustment Tangential screw and Radial screw.

1 Remove two screws.
And remove clamper ass'y from mechanism.



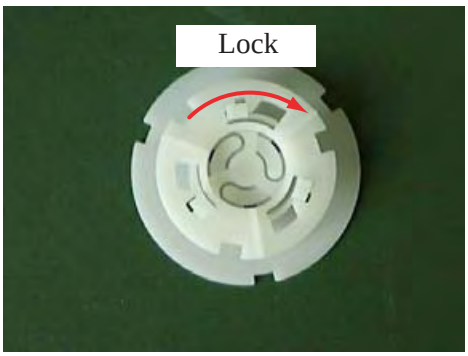
2 Remove Disc(clamper) and Disc(holder).

3

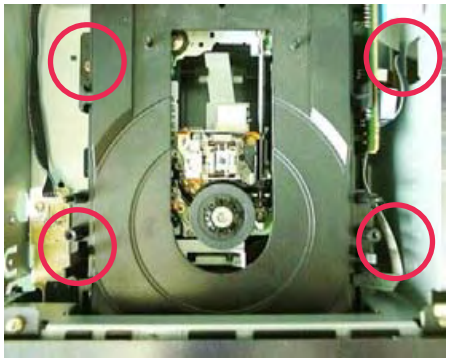


4 Asembling Disc(clamper) and Disc(holder).

5

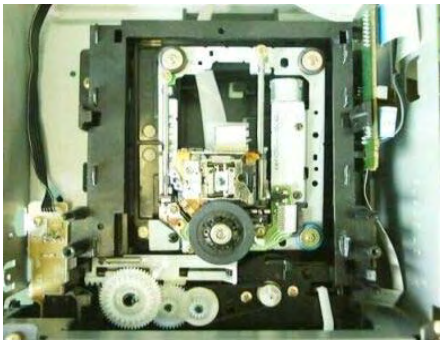


6 Remove four screws.
And remove DVD Mechanism from chasis.



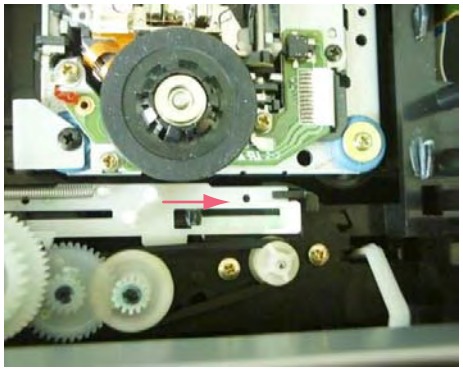
7 Pull out Table (disc)

8 Atttach DVD Mechanism to Chasis.

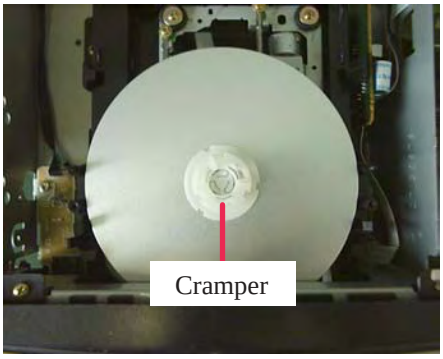


ADJUSTMENT PROCEDURES-8
ADJUSTMENT OF DVD MECHANISM-5
❷ DVD jitter Adjustment

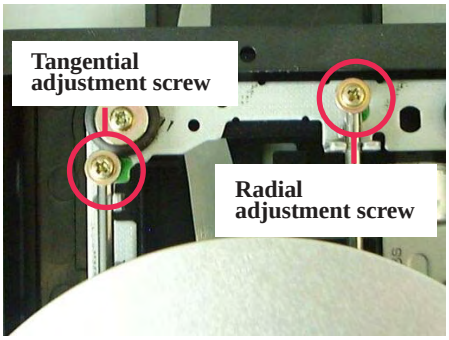
9 Move slider to the arrow direction.



10 Set the test disk and the Disc(cramper).



11 View of Adjustment screws.



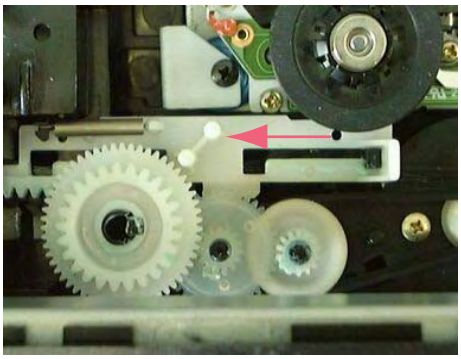
12 Refer to the next page
(**ADJUSTMENT PROCEDURES-9**)

After adjustment

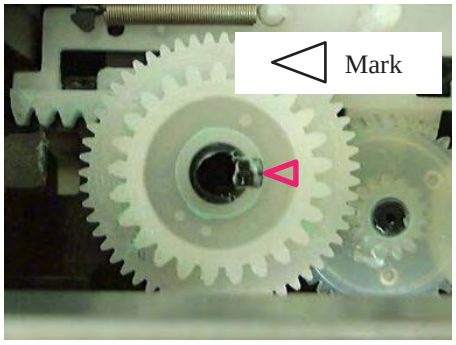
After you complete sdjustment attach Table(disc) in reverce procedure.
Take care to re-assemble the procedure.

The position of the gear

1 Move slider to arrow.



2 The position of the gear is as follows.



ADJUSTMENT PROCEDURES-9

ADJUSTMENT OF DVD MECHANISM-6

❷ DVD Jitter Adjustment

- Playback method of inner and outer address for the purpose is refererd to "**5. TEST MODE**".

Use disc: GGV1025

Test mode
Play the DVD test disc at outer track
(around #200000)
J4 : Min

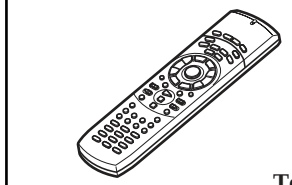
Mechanism Assy
Adjust the **Tangential Adjustment** Screw so that jitter becomes minimum.

Test mode
Play the DVD test disc at innerouter track
(around #30000)
J4 : Min

Mechanism Assy
Adjust the **Radial Adjustment** Screw so that jitter becomes minimum.

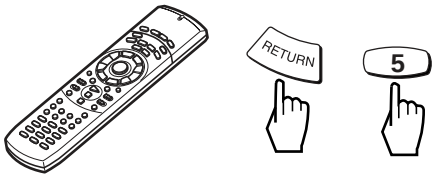
Test mode
Play the DVD test disc at outer track
(around #200000)
J4 : Min

Mechanism Assy
Adjust the **Tangential Adjustment** Screw so that jitter becomes minimum.



Test mode end

Disc playback normally.
• The measurement of block error rate



Check

Confirm the error rate that is displayed "**OK**"
(Example **ER (av): 2.5e - 5-*OK**)

OK

If error rate is OK, locks a root of tangential and radial adjustment screws with the Screw tight, and go to step ❸

Screw tight : GYL1001

NG

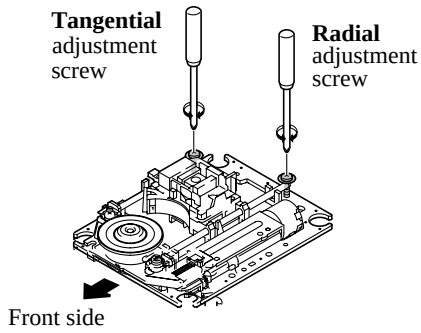
Turn the POWER OFF in case of NG once, and

perform the adjustment once again.

Monitor

J4 :

J4 : - - - -

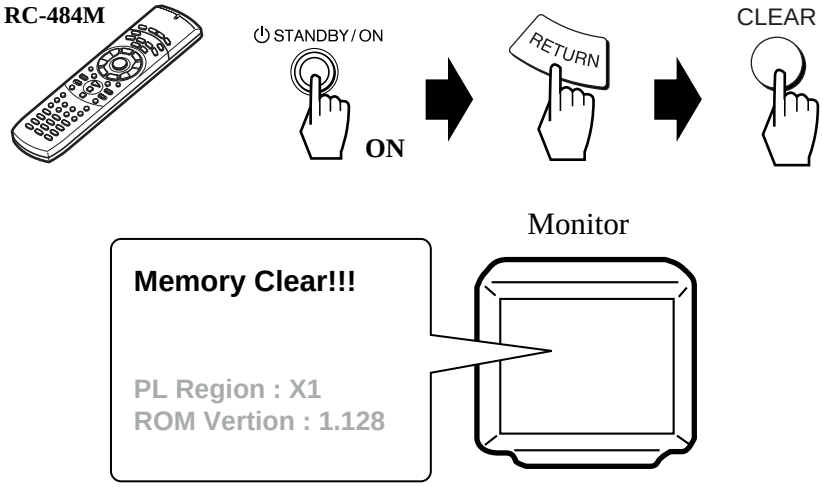


ADJUSTMENT PROCEDURES-10

ADJUSTMENT OF DVD MECHANISM-7

❸ Initialize the Focus Sweep Setting

Purpose: To set the sweep which was correct with the individual Traverse mechanism.

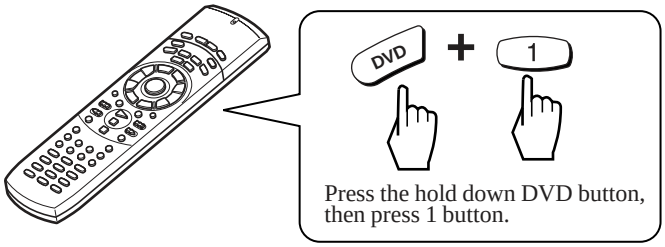


Note: Be sure to perform this step when replaced the Pickup or Traverse mechanism.

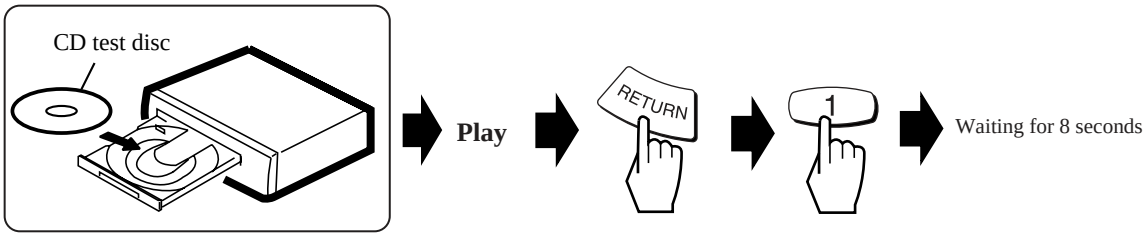
ADJUSTMENT PROCEDURES-11

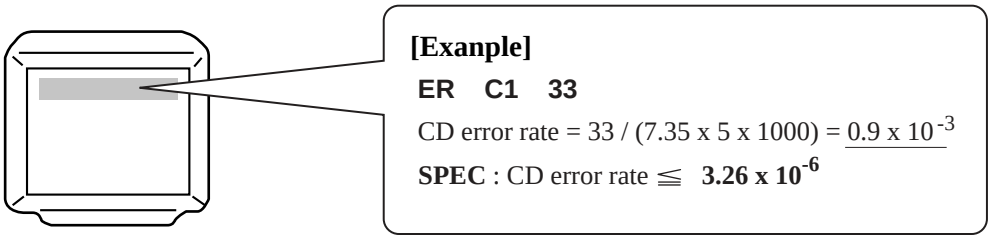
CHECK THE ERROR RATE

Setting remote controller

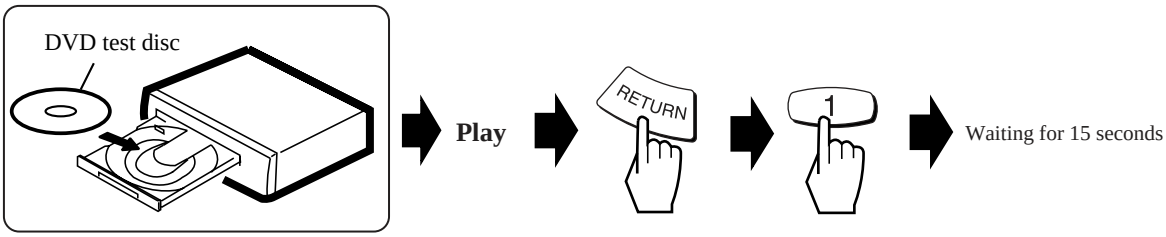


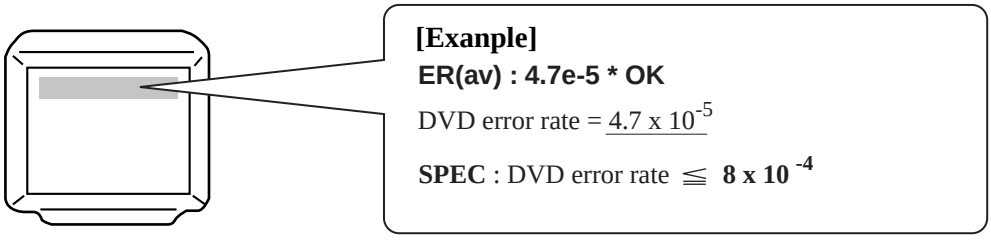
Check the CD error rate



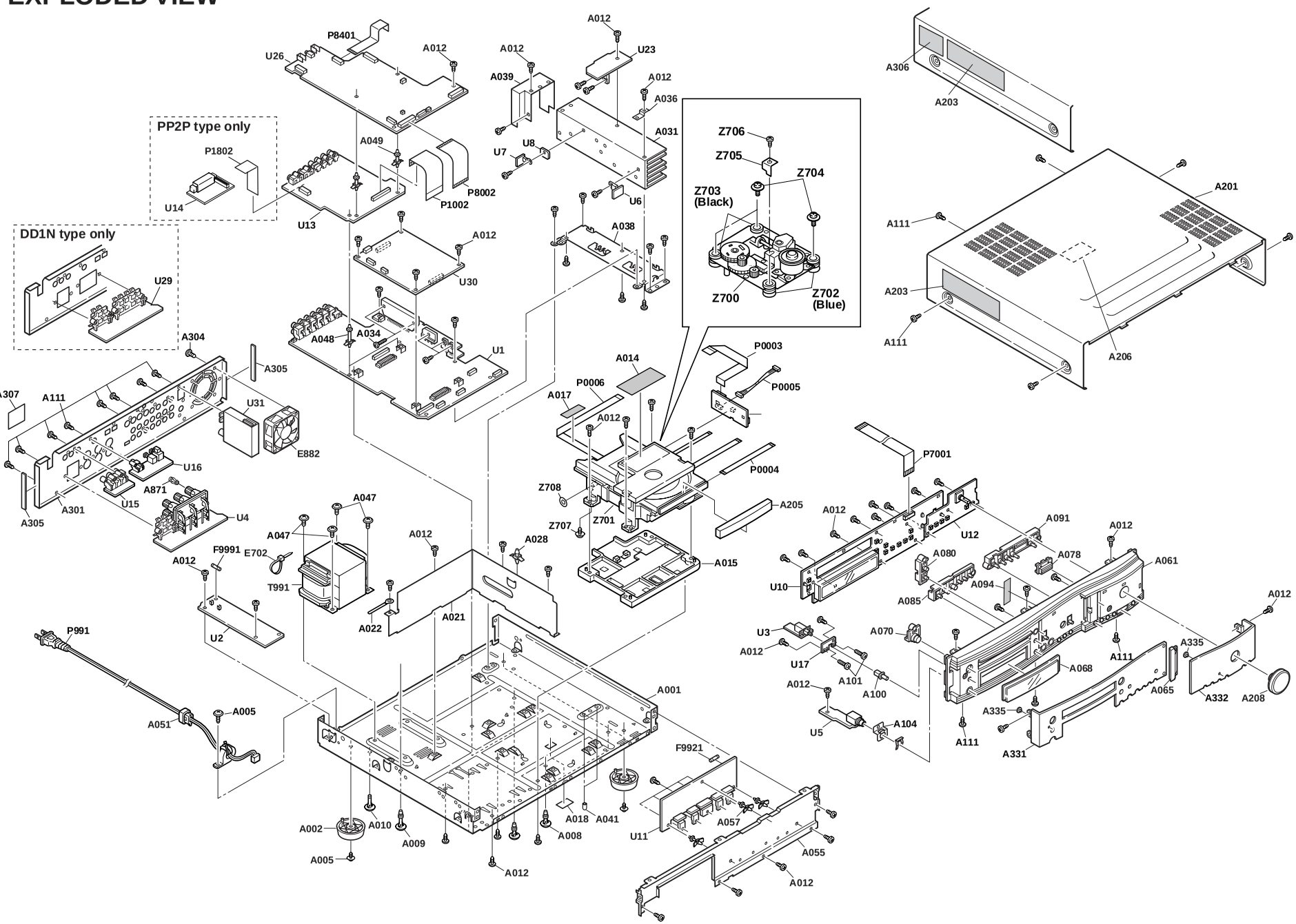


Check the DVD error rate





EXPLODED VIEW



EXPLODED VIEW PARTS LIST-1

REF NO.	NAME	DESCRIPTION	PART NO.	REMARKS
A001	Chassis		27100417	
A002	Bottom leg	(AS)	27175392	
A005	Taping screw	3TTW+8B(BC)	831430088	
A008	Holder	KGLS-16RF	27190511	
A009	Holder	KGLS-18RF	27190657	
A010	Holder	KGPS-18RF	27191128	
A012	Taping screw	3TTB+8B	838130088	
A014	Label	(DVD2)	29362648	
A015	Holder	(DVD)	27190926	
A017	Tape	(CROSS-16U)	29110083	
A018	Label	(BTM)	29362541	
A021	Bracket	(L)	27130878	
A022	Clip	CS-1U	27255004	
A028	Holder	KGLS-4S	27190009	
A031	Heat sink	RAD-163	27160498A	
A034	Taping screw	3TTB+16S(BC)	838430167	
A036	Retainer	(S)	27141805	
A038	Bracket	(H)	27130858	
A039	Retainer	(HD)	27141780	
A041	Cap	(SCREW)	28330135A	
A047	Taping screw	4TTC+6C(BC)	830440069	
A048	Holder	KGLS-18S	27190470	
A049	Holder	KGLS-12S	27190062	
A051	Bushing	S-RELIEF #2271	27300750	⚠
A055	Bracket	(F)	27130862B	
A057	Holder	KGLS-6S	27190011	
A061	Front bracket	(AS)	27111187C	
A065	Facet	(LIGHT)	28198951	
A068	Clear plate	DR-S2.2	28191959	
A070	Knob	(POW)AS	28325874A	
A078	Clear plate	(RE)	28191907	
A080	Knob	(INP-1)AS	28325878	
A085	Knob	(INP-2)AS	28325880A	
A091	Knob	(INP-3)AS	28325882	
A100	Knob	(POW)	28325868	PP2P, PT3P, GK3P, PA4P, GR6P

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

REF NO.	NAME	DESCRIPTION	PART NO.	REMARKS
A101	Pan head screw	3P+10FN(BC)	82143010	
A104	Retainer	(HP)	27141781	
A111	Taping screw	3TTB+8B(BC)	838430088	
A201	Top cover		28184800A	
A203	Label	(PATENT)	29362760A	
A205	Door	(TRAY)	28148464	
A206	Isolated plate		28175286	
A208	Knob	(VOL)AS	28326000	
A301	Rear panel	UDD1N	27122950A	DD1N
A301	Rear panel	UPP2P	27122951A	PP2P
A301	Rear panel	UDT/PT/GK3P	27122960A	DT3P, PT3P, GK3P
A301	Rear panel	UDS4P/UPA4P	27122961A	PA4P
A301	Rear panel	UGR6P	27122962A	GR6P
A301	Rear panel	UDS4P	27122991A	DS4P
A304	Special screw	5STP+10BQ(BC)	833450102	
A305	Cushion		28141447	
A306	Label	(UD)	29362938	DD1N
A307	Specification label	UDT3P/UDS4P	29363062	DT3P
	Specification label	UPT3P	29363063	PT3P
	Specification label	UGK3P	29363064	GK3P
	Specification label	UPA4P	29363065	PA4P
A331	Front panel	(A)UDD	27212374	DD1N, DT3P, DS4P
	Front panel	(A)UPP	27212375	PP2P, PT3P, GK3P, PA4P, GR6P
A332	Front panel	(B)UDD	27212376	DD1N
	Front panel	(B)UPP	27212377	PP2P
	Front panel	(B)UDT	27212381	DT3, PT3P, GK3P, PA4P, GR6P
	Front panel	(B)UDS	27212405	DS4P
A335	Facet	(1P)	28198918	
A871	Rivet	P-RIVET NRP-345	880009	PP2P, PT3P, GK3P, PA4P, GR6P
A094	Tape	(CU)	29110167	
E702	Wire tie	UL	260208	
E882	Cooling fan	9A0624F403	24502315	

[NOTES]

UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

DR-S2.2

EXPLODED VIEW PARTS LIST-2

REF NO.	NAME	DESCRIPTION	PART NO.		REMARKS
F9921	FUSE	4A-SE-EAK	252077	⚠	PP2P, PT3P, GK3P, PA4P, GR6P
	FUSE	4A-UL/T-237	252163	⚠	DD1N, DT3P, DS4P
F9991	FUSE	1.6A-SE-EAWK	252071	⚠	PP2P, PT3P, GK3P, PA4P, GR6P
	FUSE	3.15A-UL/T-237	252162	⚠	DD1N CDT3P, DS4P
P003	Flexible flat cable	NCFC5-172012	2045172012		
P004	Flexible flat cable	NCFC6-061012	2046061012		
P005	SOCKET AS	NSAS-10P1025	20022391015		
P006	Flexible flat cable	NCFCD-26002	204D26002HIT		
P102	Flexible flat cable	NCFC7-291012	2047291012		
P1802	Flexible flat cable	NCFC5-131012	2045131012		PP2P
P7001	Flexible flat cable	NCFC5-161512	2045161512		
P8002	Flexible flat cable	NCFC7-251012	2047251012		
P8401	Flexible flat cable	NCFC7-151012	2047151012		
P991	Power supply cord	AS-CEE or	253237HIT or	⚠	PP2P, PT3P
	Power supply cord	AS-CEE	253314HRK	⚠	PP2P, PT3P
	Power supply cord	AS-CEE-2	253246KAW	⚠	GK3P
	Power supply cord	AS-CCEE or	253287HIT or	⚠	GR6P
	Power supply cord	AS-CCEE	253288VOL	⚠	GR6P
	Power supply cord	AS-UC-2#18	253294HDK	⚠	DD1N, DT3P, DS4P
	Power supply cord	AS-SAA	253315HRK	⚠	PA4P
T991	Power transformer	NPT-1437D	2301580	⚠	DD1N, DT3P, DS4P
T991	Power transformer	NPT-1437P	2301581	⚠	PP2P, PT3P, PA4P
T991	Power transformer	NPT-1437G	2301582	⚠	GK3P, GR6P
Z700	DVD mechanism (traverse unit)	DB-VTV301	24801013		
Z701	DVD mechanism (DVD tray loading mehcanism)	DT1300	24801014		
Z702	Insulator	A	24818049		
Z703	Insulator	B	24818050		
Z704	Special screw	(A)	801589		
Z705	Retainer		24822043		
Z706	Self taping screw	2.6TTB+8B(BC)	838426088		
Z707	Special screw	(B)	801590		
Z708	Washer	(C)	24834041		

REF NO.	NAME	DESCRIPTION	PART NO.	REMARKS
U1	Main PC board ass'y	NAAR-7428-1A	1H487528-1A	DD1N, DS4P
	Main PC board ass'y	NAAR-7428-1B	1H487528-1B	PP2P, PT3P, PA4P
	Main PC board ass'y	NAAR-7428-1C	1H487528-1C	GK3P, GR6P
	Main PC board ass'y	NAAR-7428-1D	1H487528-1D	DT3P
U2	Power supply (primary) PC board ass'y	NAPS-7429-1A	1H487529-1A	DD1N, DS4P
	Power supply (primary) PC board ass'y	NAPS-7429-1B	1H487529-1B	PP2P, PT3P, PA4P
	Power supply (primary) PC board ass'y	NAPS-7429-1C	1H487529-1C	GK3P, GR6P
	Power supply (primary) PC board ass'y	NAPS-7429-1D	1H487529-1D	DT3P
U3	Power switch PC board ass'y	NASW-7430-1A	1H487530-1A	DD1N, DS4P
	Power switch PC board ass'y	NASW-7430-1B	1H487530-1B	PP2P, PT3P, PA4P
	Power switch PC board ass'y	NASW-7430-1C	1H487530-1C	GK3P, GR6P
	Power switch PC board ass'y	NASW-7430-1D	1H487530-1D	DT3P
U4	Speaker terminal PC board ass'y	NAAF-7431-1B	1H487531-1B	PP2P, PT3P, PA4P
	Speaker terminal PC board ass'y	NAAF-7431-1C	1H487531-1C	GK3P, GR6P
	Speaker terminal PC board ass'y	NAAF-7431-1D	1H487531-1D	DT3P
U5	Head phone terminal PC board ass'y	NAETC-7432-1A	1H4875232-1A	DD1N, DS4P
	Head phone terminal PC board ass'y	NAETC-7432-1B	1H4875232-1B	PP2P, PT3P, PA4P
	Head phone terminal PC board ass'y	NAETC-7432-1C	1H4875232-1C	GK3P, GR6P
	Head phone terminal PC board ass'y	NAETC-7432-1D	1H4875232-1D	DT3P
U6	Regulator IC PC board ass'y	NAETC-7433-1A	1H487533-1A	DD1N, DS4P
	Regulator IC PC board ass'y	NAETC-7433-1B	1H487533-1B	PP2P, PT3P, PA4P
	Regulator IC PC board ass'y	NAETC-7433-1C	1H487533-1C	GK3P, GR6P
	Regulator IC PC board ass'y	NAETC-7433-1D	1H487533-1D	DT3P
U7	Thermal detection PC board ass'y	NAETC-7434-1A	1H487534-1A	DD1N, DS4P
	Thermal detection PC board ass'y	NAETC-7434-1B	1H487534-1B	PP2P, PT3P, PA4P
	Thermal detection PC board ass'y	NAETC-7434-1C	1H487534-1C	GK3P, GR6P
	Thermal detection PC board ass'y	NAETC-7434-1D	1H487534-1D	DT3P
U8	Holder PC board ass'y	NAETC-7435-1A	1H487535-1A	
U10	Display PC board ass'y	NADIS-7436-1A	1H487536-1A	DD1N
	Display PC board ass'y	NADIS-7436-1B	1H487536-1B	PP2P
	Display PC board ass'y	NADIS-7436-1C	1H487536-1C	PT3P, GK3P, PA4P, GR6P
	Display PC board ass'y	NADIS-7436-1D	1H487536-1D	DT3P, DS4P

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

[NOTES]

UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

DR-S2.2

EXPLODED VIEW PARTS LIST-3

REF NO.	NAME	DESCRIPTION	PART NO.	REMARKS
U11	Power supply (Secondary) PC board ass'y	NAPS-7437-1A	1H487537-1A	DD1N
	Power supply (Secondary) PC board ass'y	NAPS-7437-1B	1H487537-1B	PP2P
	Power supply (Secondary) PC board ass'y	NAPS-7437-1C	1H487537-1C	PT3P, GK3P, PA4P, GR6P
	Power supply (Secondary) PC board ass'y	NAPS-7437-1D	1H487537-1D	DT3P, DS4P
U12	Operation switch PC board ass'y	NASW-7438-1A	1H487538-1A	DD1N
	Operation switch PC board ass'y	NASW-7438-1B	1H487538-1B	PP2P
	Operation switch PC board ass'y	NASW-7438-1C	1H487538-1C	PT3P, GK3P, PA4P, GR6P
	Operation switch PC board ass'y	NASW-7438-1D	1H487538-1D	DT3P, DS4P
U13	Video PC board ass'y	NAVD-7439-1A	1H487539-1A	DD1N
	Video PC board ass'y	NAVD-7439-1B	1H487539-1B	PP2P
	Video PC board ass'y	NAVD-7439-1C	1H487539-1C	PT3P, GK3P, PA4P, GR6P
	Video PC board ass'y	NAVD-7439-1D	1H487539-1D	DT3P, DS4P
U14	AV connector PC board ass'y	NAVD-7440-1B	1H487540-1B	PP2P
U15	Component terminal PC board ass'y	NAVD-7441-1A	1H487541-1A	DD1N
	Component terminal PC board ass'y	NAVD-7441-1C	1H487541-1C	PT3P, GK3P, PA4P, GR6P
	Component terminal PC board ass'y	NAVD-7441-1D	1H487541-1D	DT3P, DS4P
U16	Digital terminal PC board ass'y	NAETC-7442-1A	1H487542-1A	DD1N
	Digital terminal PC board ass'y	NAETC-7442-1B	1H487542-1B	PP2P
	Digital terminal PC board ass'y	NAETC-7442-1C	1H487542-1C	PT3P, GK3P, PA4P, GR6P
	Digital terminal PC board ass'y	NAETC-7442-1D	1H487542-1D	DT3P, DS4P
U17	Holder PC board ass'y	NAETC-7443-1A	1H487543-1A	
U23	Regulator IC PC board ass'y	NAETC-7449-1A	1H487549-1A	DD1N
	Regulator IC PC board ass'y	NAETC-7449-1B	1H487549-1B	PP2P
	Regulator IC PC board ass'y	NAETC-7449-1C	1H487549-1C	PT3P, GK3P, PA4P, GR6P
	Regulator IC PC board ass'y	NAETC-7449-1D	1H487549-1D	DT3P, DS4P
U26	DSP and Microprocessor PC board ass'y	NADG-7452-1A	1H487552-1A	DD1N
	DSP and Microprocessor PC board ass'y	NADG-7452-1B	1H487552-1B	PP2P
	DSP and Microprocessor PC board ass'y	NADG-7452-1C	1H487552-1C	DS4P
	DSP and Microprocessor PC board ass'y	NADG-7452-1D	1H487552-1D	PA4P
	DSP and Microprocessor PC board ass'y	NADG-7452-1E	1H487552-1E	DT3P, PT3P, GK3P, R6P
U29	Speaker terminal PC board ass'y	NAAF-7510-1A	1H487510-1A	DD1N, DS4P
U30	DVD Main PC board ass'y	DB-VPB303A	24150026	PP2P, DT3P, PT3P, GK3P, DS4P, PA4P CGR6P
	DVD Main PC board ass'y	DB-VPB304	24150027	DD1N
U31	Tuner unit	TFCE1U114B or	240134A or	DD1N, DS4P
	Tuner unit	FAE350-A13F	240141	DD1N, DS4P
	Tuner unit	TFCE1E512A or	240135 or	PP2P, DT3P, PT3P, GK3P, GR6P
	Tuner unit	FAE404-E13F	240142	PP2P, DT3P, PT3P, GK3P, GR6P

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

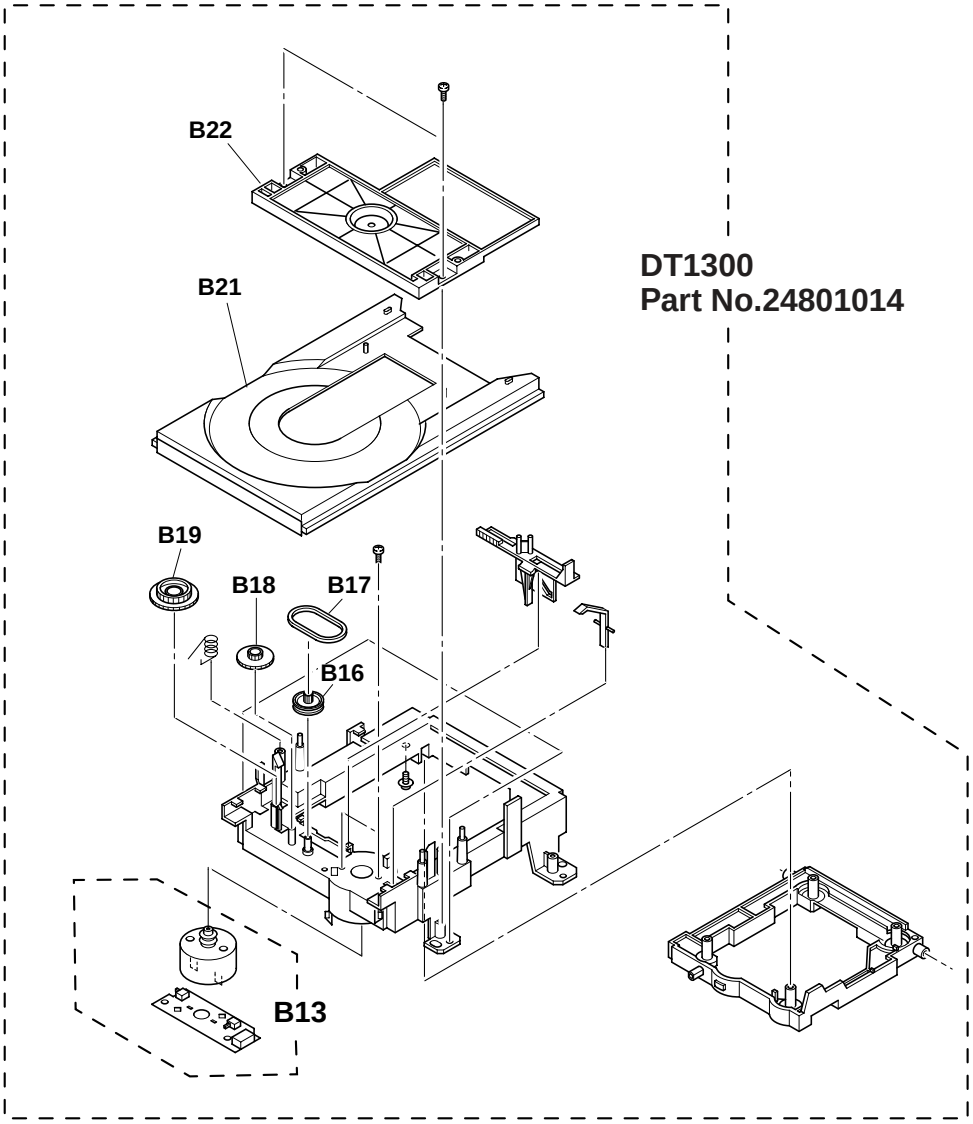
[NOTES]

UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

DR-S2.2

EXPLODED VIEWS OF MECHANISM

DVD TRAY LOADING MECHANISM : DT1300

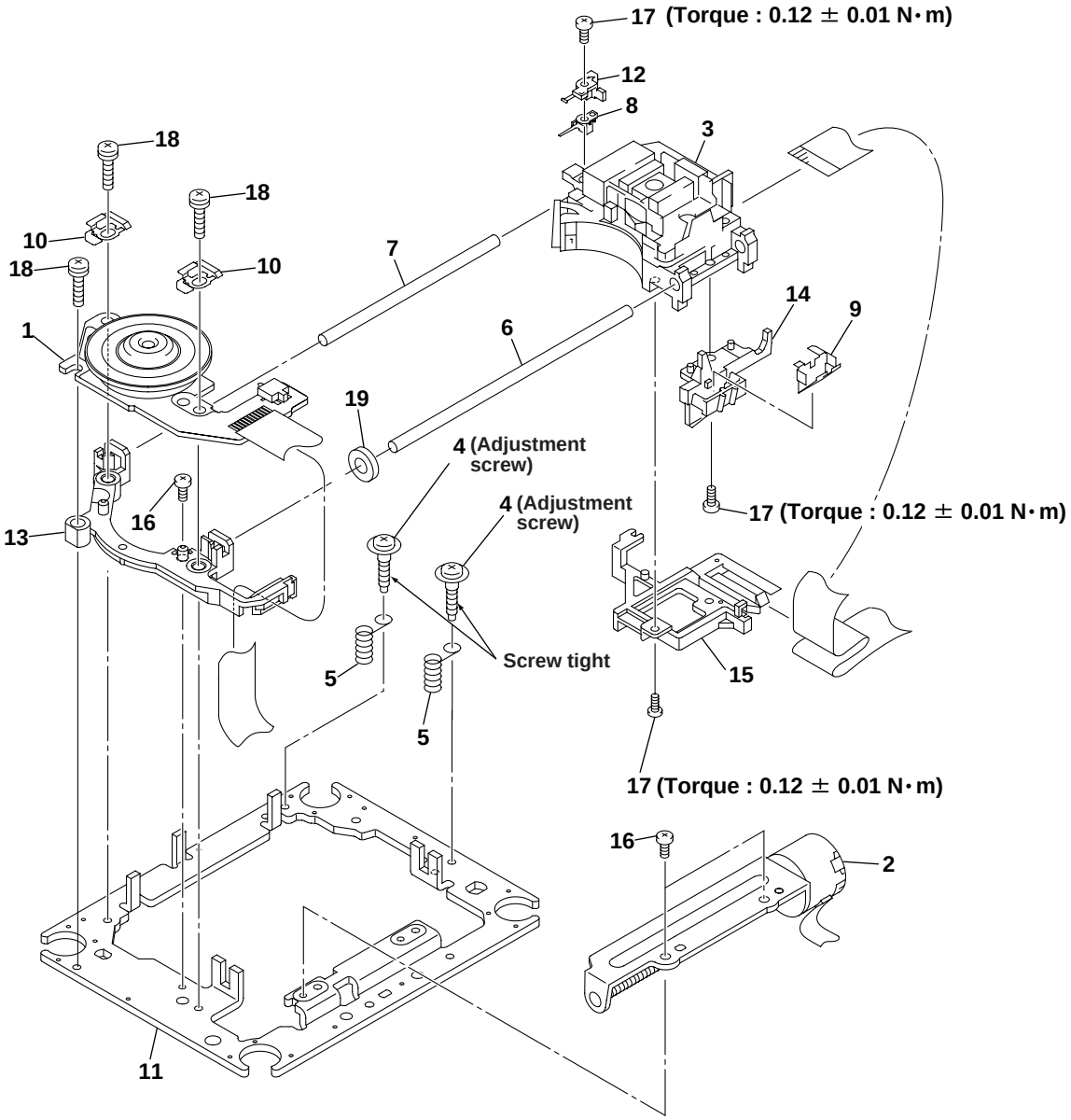


PARTS LIST

REF NO.	PART NO.	DESCRIPTION
B13	70300470B	LOADING MOTOR AS
B16	70333502B	PULLEY, GEAR
B17	70342118	BELT
B18	70333503C	GEAR, LOADING
B19	70333504D	GEAR, CONNECTOR
B21	70366204	TABLE DISK-B DVD
B22	70300615	CLAMPER AS B

EXPLODED VIEWS OF MECHANISM

TRAVERSE UNIT: DB-VTV301

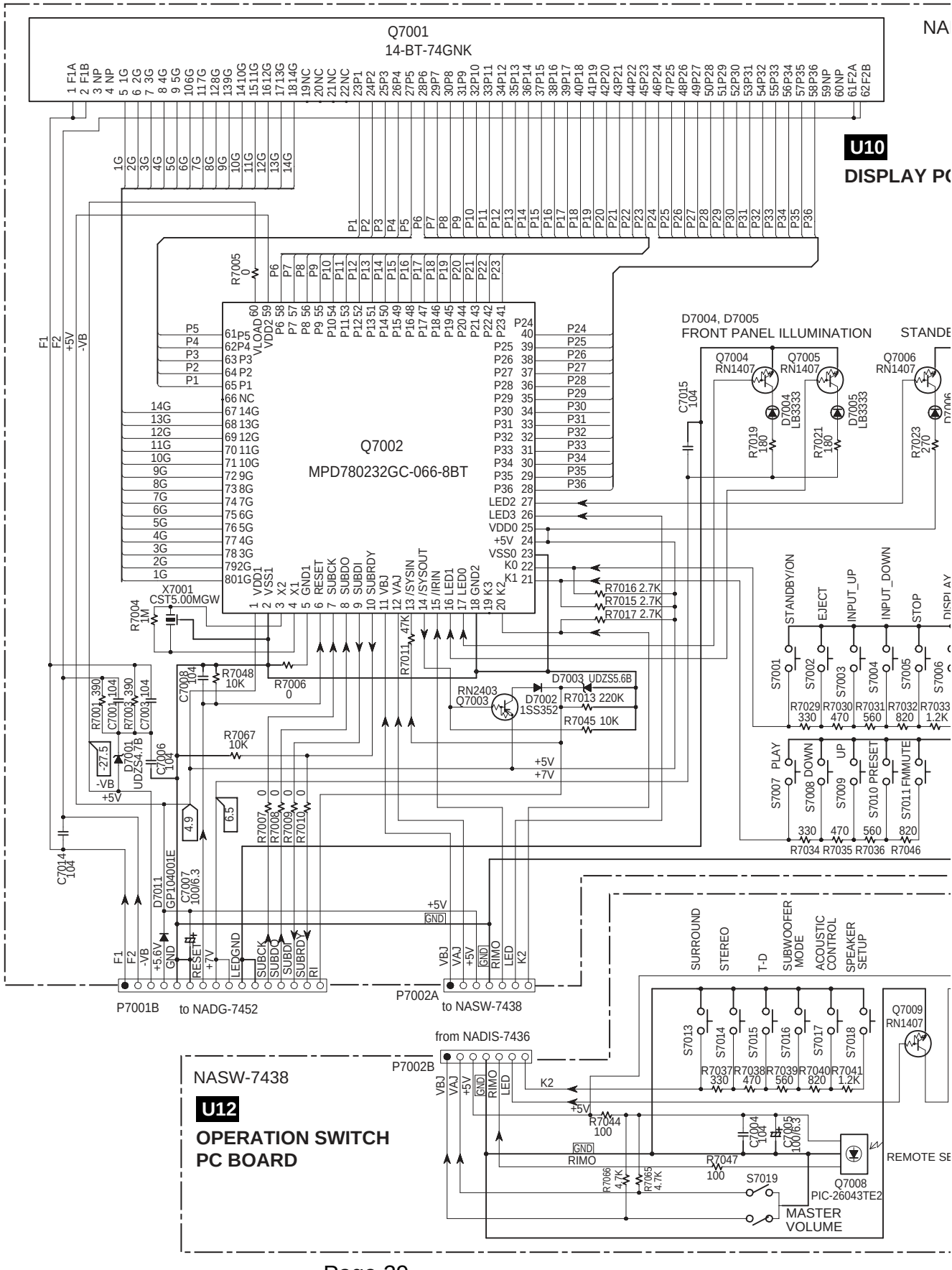


The mechanical parts with no part number in the exploded views are not supplied.

PARTS LIST

REF NO.	DESCRIPTION	PART NO.
1	Spindle Motor	VXM1088 (or VXM1089)
2	Stepping Motor (CARRIAGE)	VXM1090 (or VXM1091)
3	Pickup Assy-S	OXX8003
4	Skew Screw	VBA1080
5	Skew Spring	VBH1335
6	Guide Bar	VLL1514
7	Sub Guide Bar	VLL1515
8	Hold Spring	VNC1017
9	Joint Spring	VNC1019
10	Support Spring	VNC1020
11	Mechanism Chassis	---
12	Slider	VNL1811
13	Spacer	VNL1913
14	Joint	VNL1914
15	FFC Holder	VNL1915
16	Screw	BBZ20P050FZK
17	Screw	OBA8009
18	Screw	PMA26P100FMC
19	Damper Sheet	VEB1335

SCHEMATIC DIAGRAMS-1
DISPLAY SECTION



E F G H

ADIS-7436

PC BOARD

DBY/ON

D7006 SEL2110R-TP6

DISPLAY

+5V

T-D D7008 SEL2810A-TP2

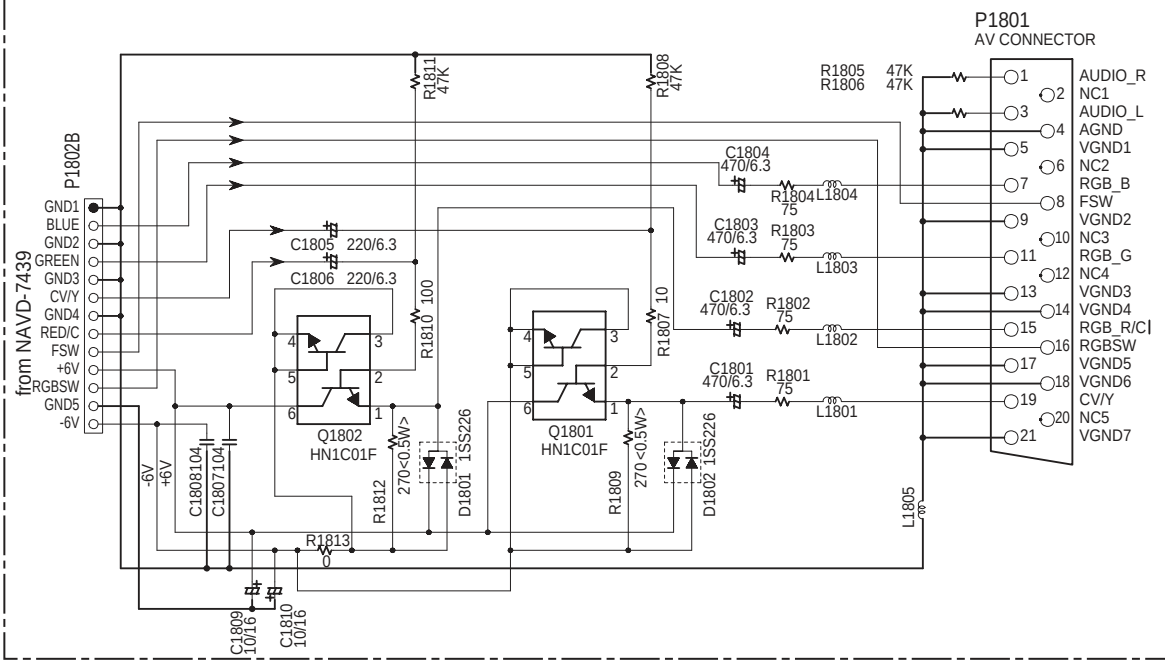
R7043 270

SENSOR

NAVD-7440 PP2P Type only

U14

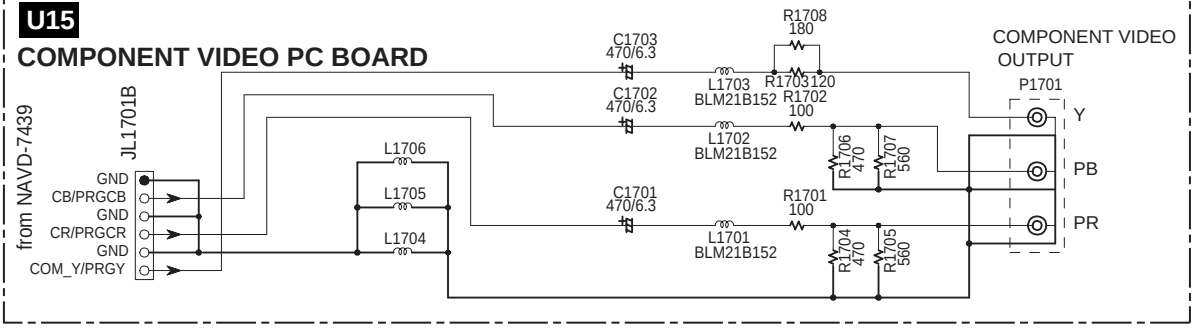
AV CONNECTOR PC BOARD



NAVD-7441 Except PP2P Type

U15

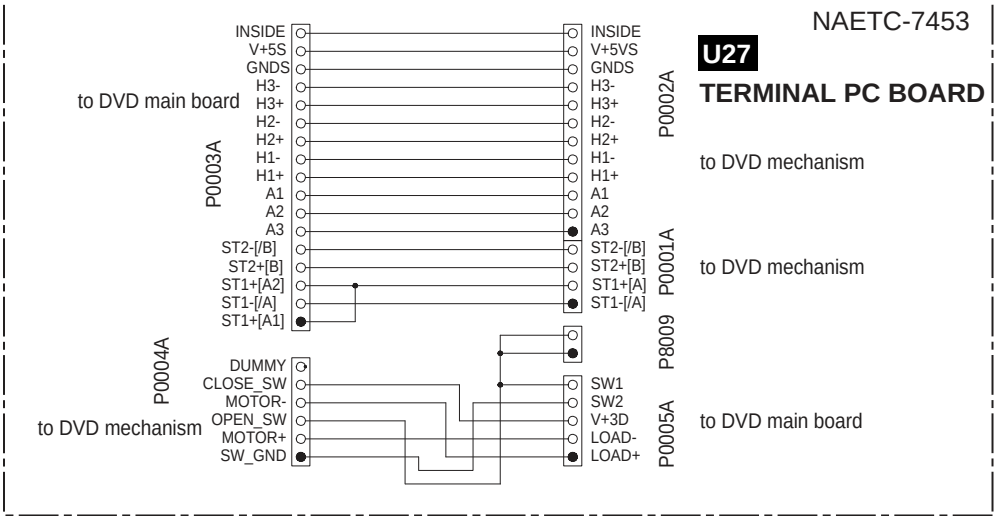
COMPONENT VIDEO PC BOARD



NAETC-7453

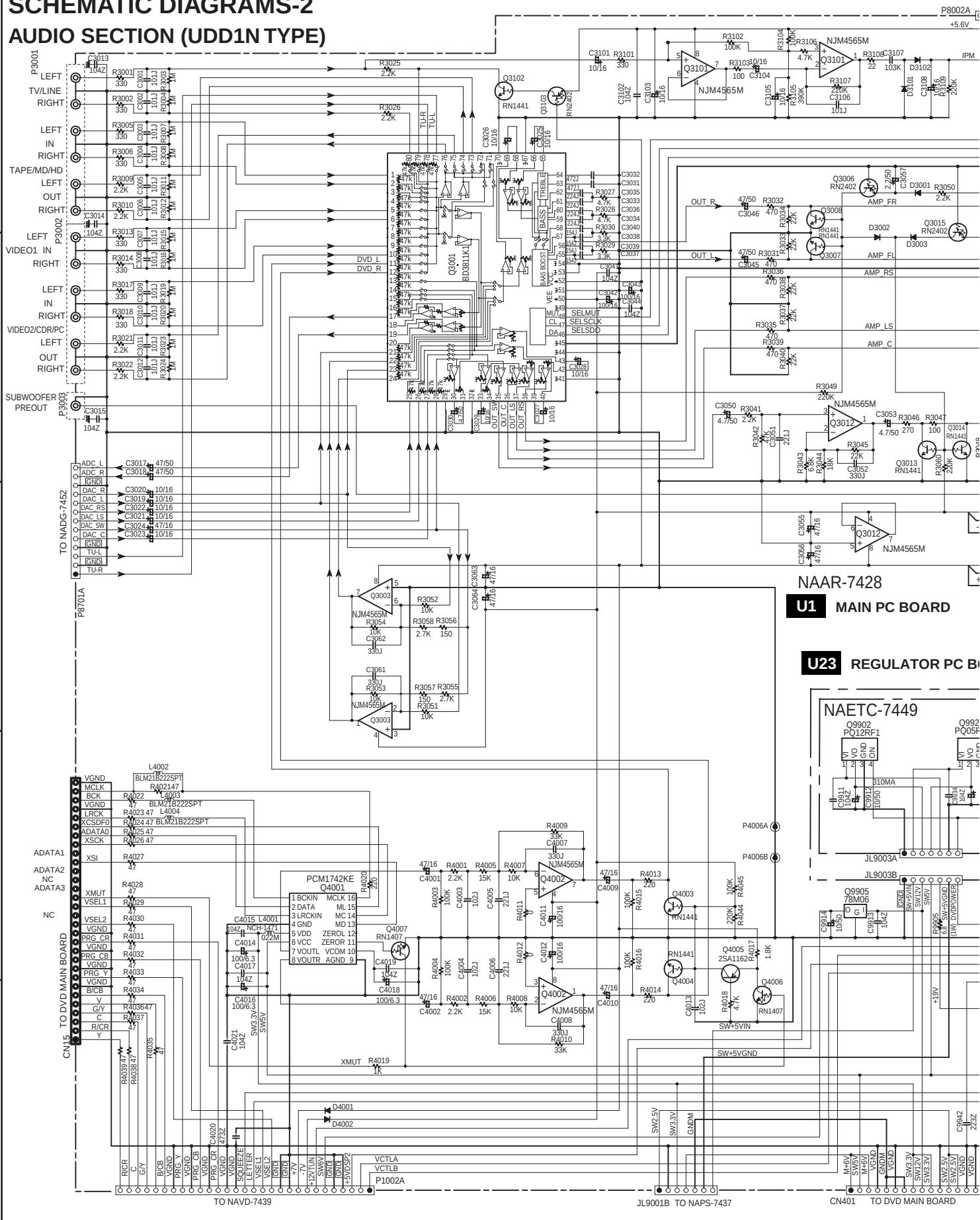
U27

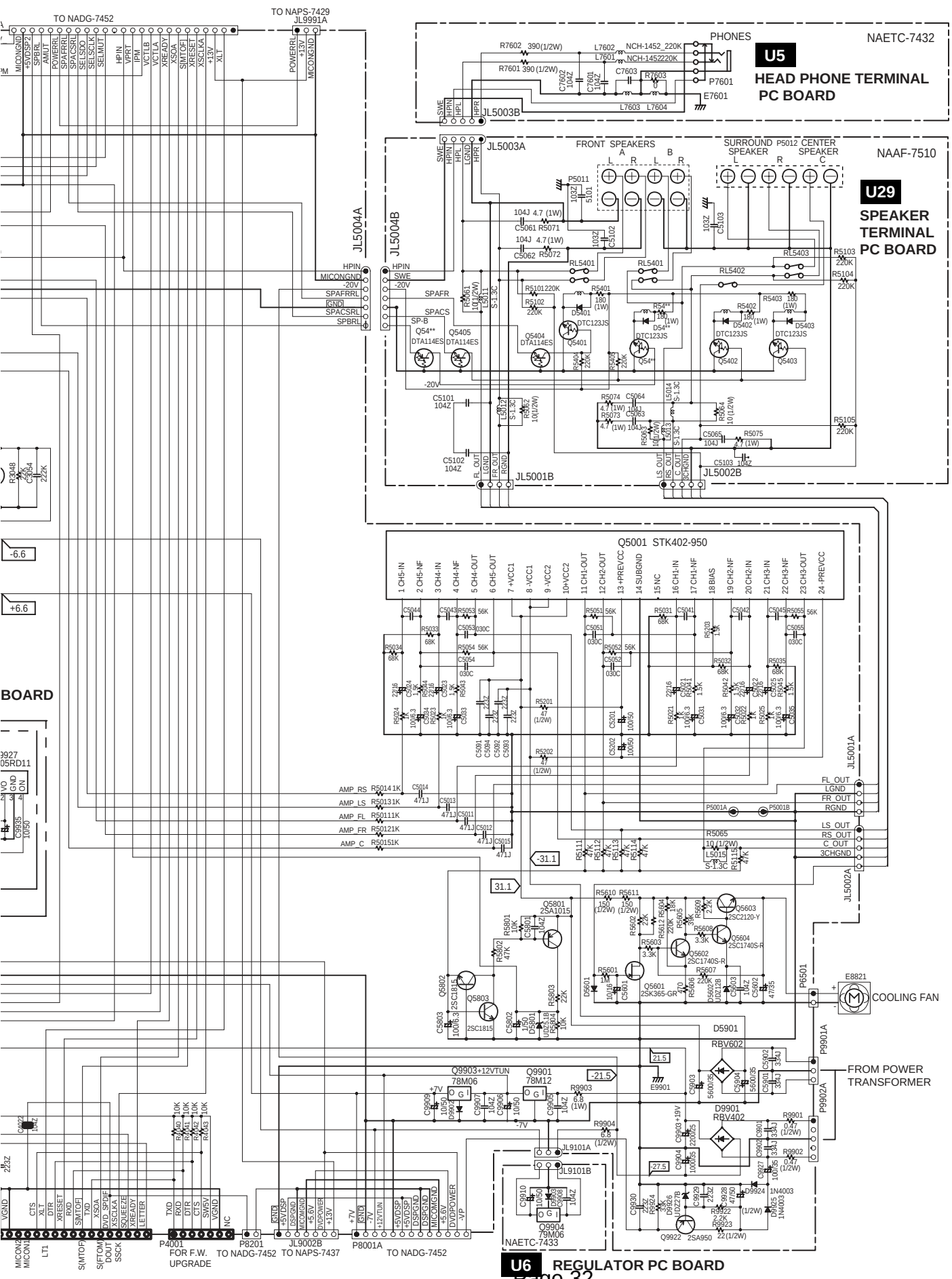
TERMINAL PC BOARD



SCHEMATIC DIAGRAMS-2

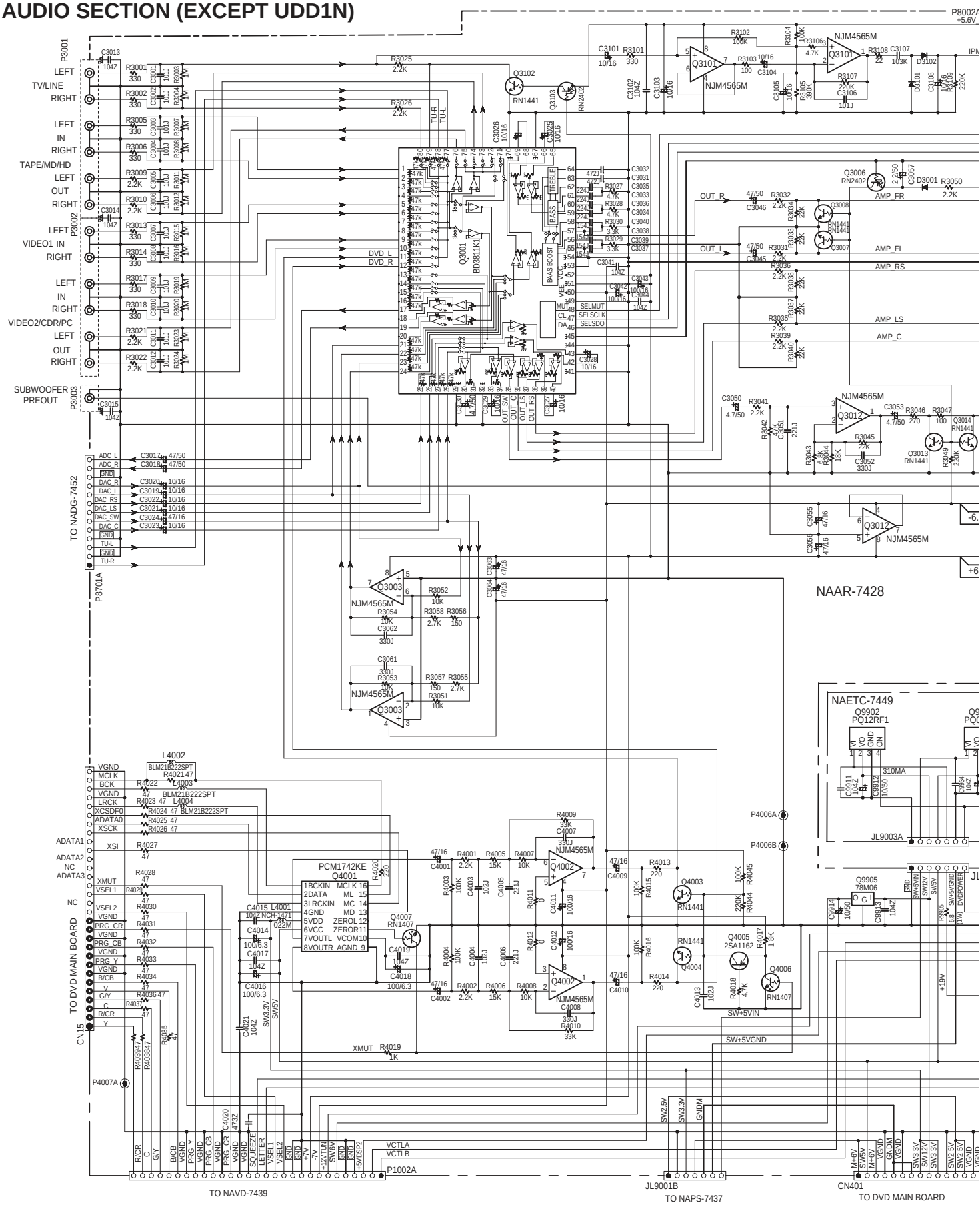
AUDIO SECTION (UDD1N TYPE)

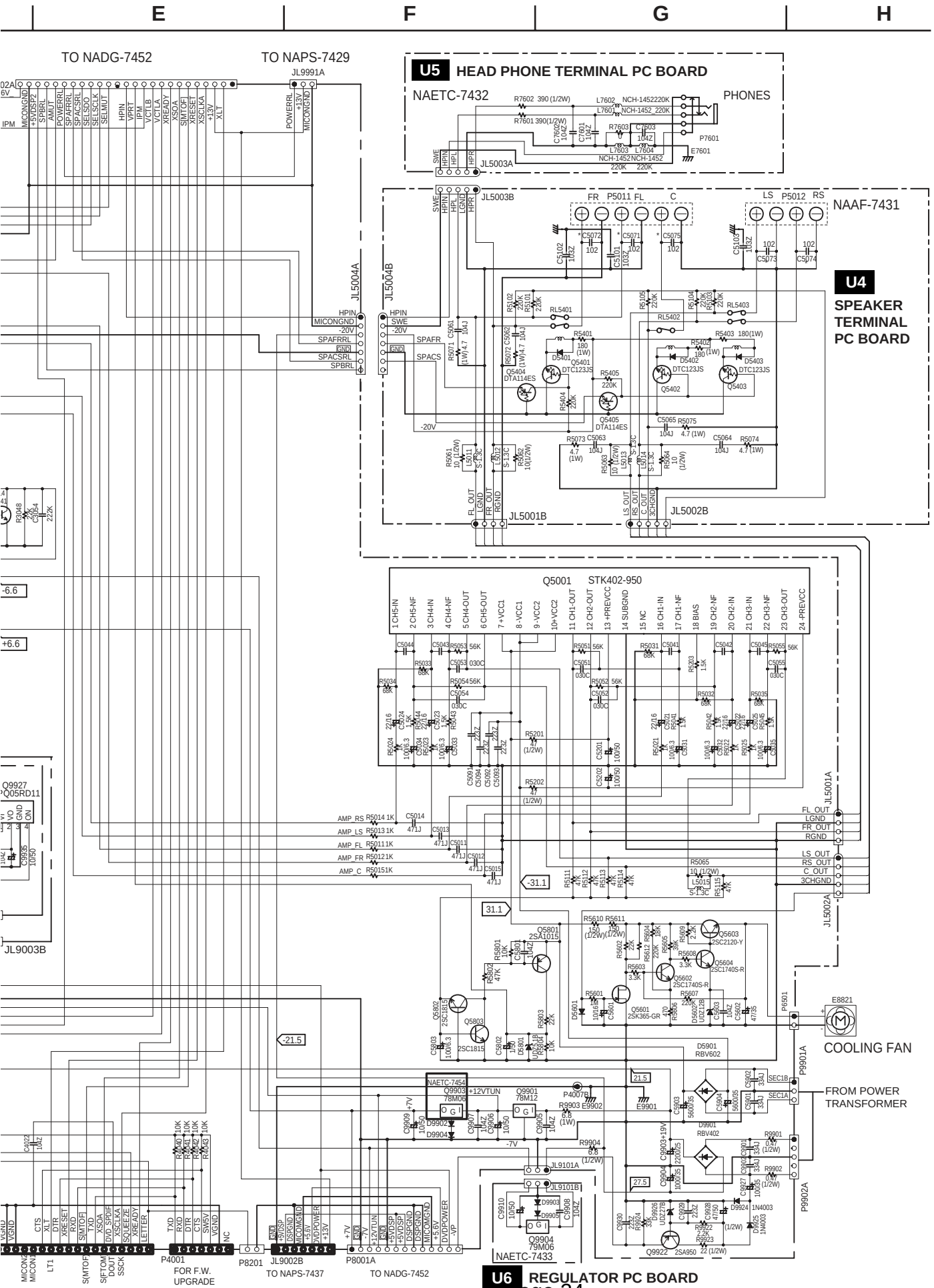



E
F
G
H
TO NADG-7452
TO NAPS-7429
JL9991A
PHONES
NAETC-7432
U5
HEAD PHONE TERMINAL
PC BOARD
JL5003B
JL5003A
FRONT SPEAKERS
SURROUND SPEAKER
CENTER SPEAKER
P5012
NAAF-7510
U29
SPEAKER TERMINAL PC BOARD
JL5004A
JL5004B
JL5001B
JL5002B
Q5001 STK402-950
JL5001A
JL5002A
FL_OUT
LGND
FR_OUT
RGND
LS_OUT
RS_OUT
C_OUT
3CHGND
COOLING FAN
FROM POWER TRANSFORMER
P9901A
P9902A
P6501
E8821
D5901
RBV602
D9901
RBV402
Q9903+12VTUN
78M06
Q9901
78M12
Q9904
79M06
NAETC-7433
U6
REGULATOR PC BOARD
P4001
FOR F.W. UPGRADE
P8201
TO NADG-7452
JL9002B
TO NAPS-7437
P8001A
TO NADG-7452

SCHEMATIC DIAGRAMS-3

AUDIO SECTION (EXCEPT UDD1N)




E
F
G
H
TO NADG-7452
TO NAPS-7429
JL9991A
U5 HEAD PHONE TERMINAL PC BOARD
NAETC-7432
PHONES
JL5003A
JL5003B
NAAF-7431
U4 SPEAKER TERMINAL PC BOARD
JL5004A
JL5004B
JL5001B
JL5002B
Q5001 STK402-950
JL5001A
JL5002A
JL9003B
-31.1
31.1
-21.5
21.5
27.5
COOLING FAN
FROM POWER TRANSFORMER
P9901A
P9902A
NAETC-7454
NAETC-7433
P4001
FOR F.W. UPGRADE
P8201
JL9002B
TO NAPS-7437
P8001A
TO NADG-7452
U6 REGULATOR PC BOARD

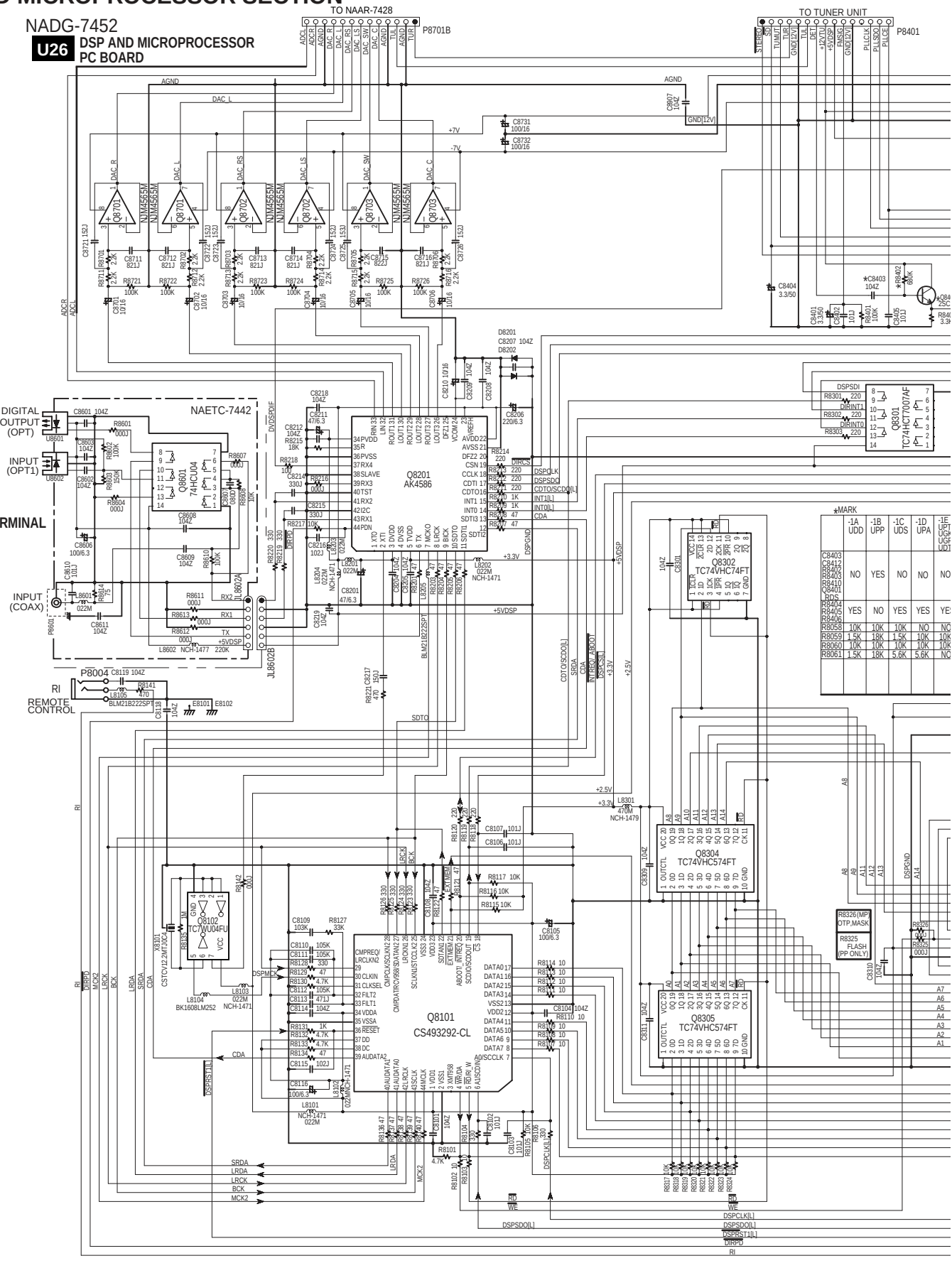
SCHEMATIC DIAGRAMS-4

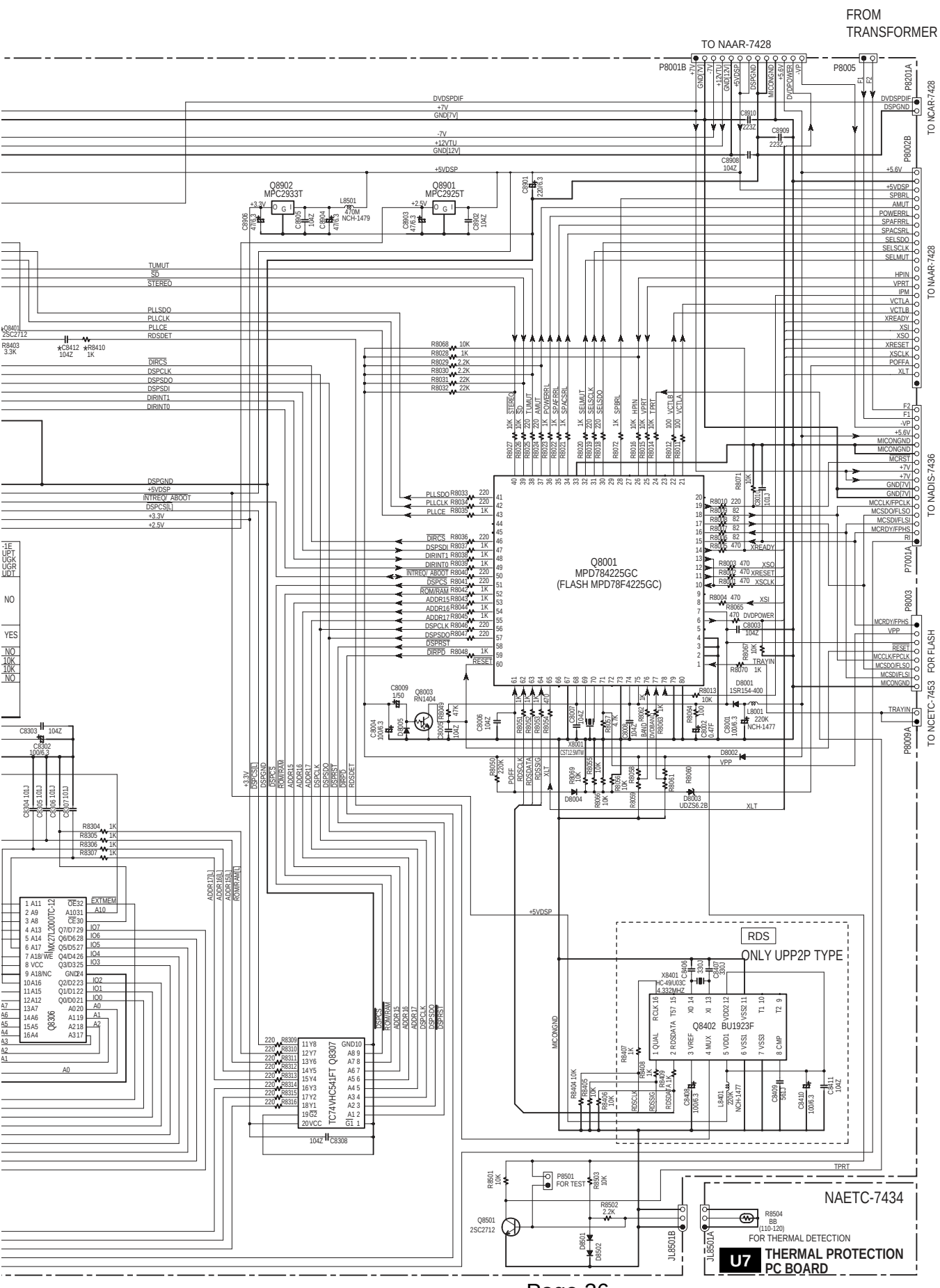
DSP AND MICROPROCESSOR SECTION

NADG-7452

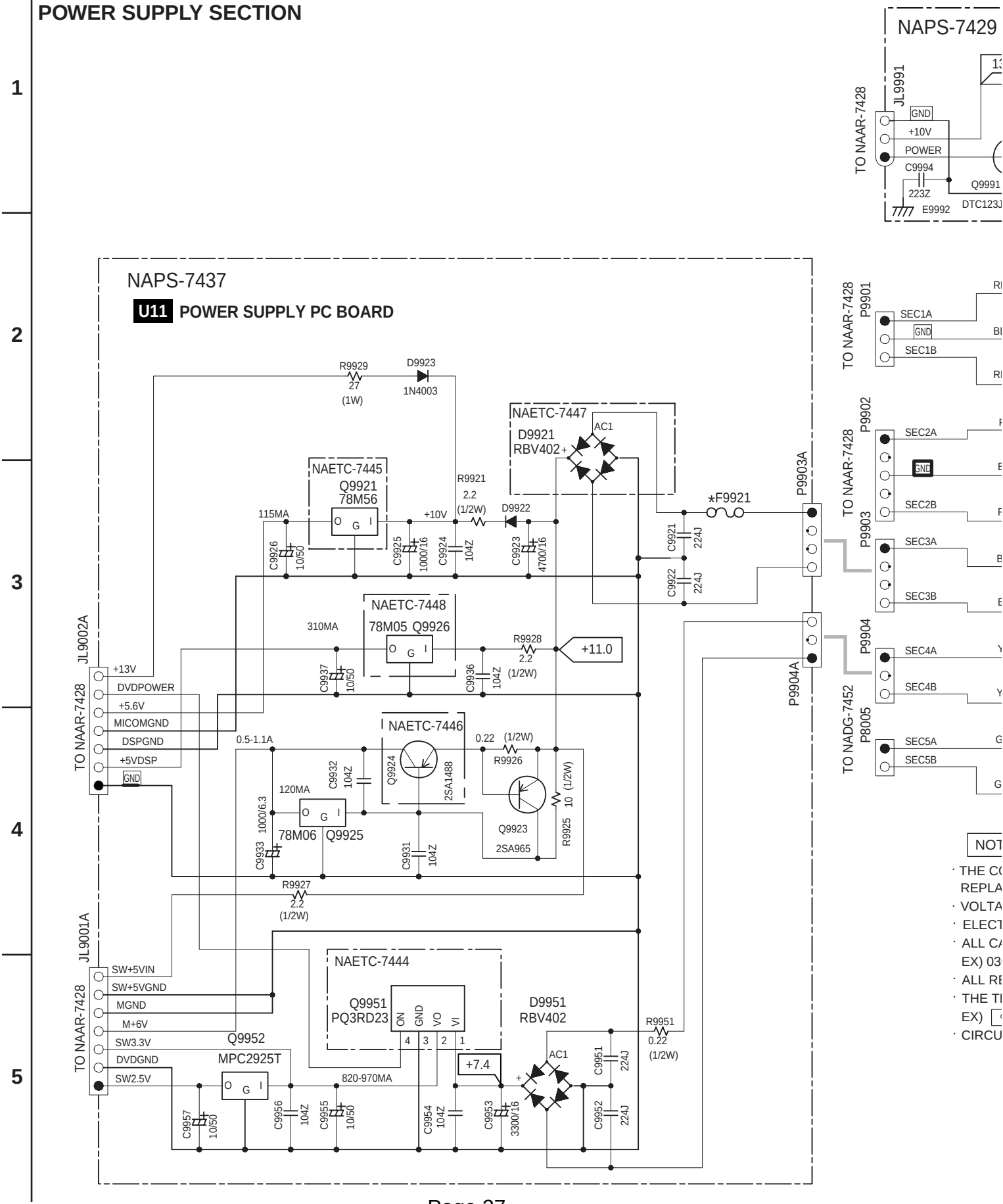
U26 DSP AND MICROPROCESSOR PC BOARD

U16 DIGITAL TERMINAL PC BOARD

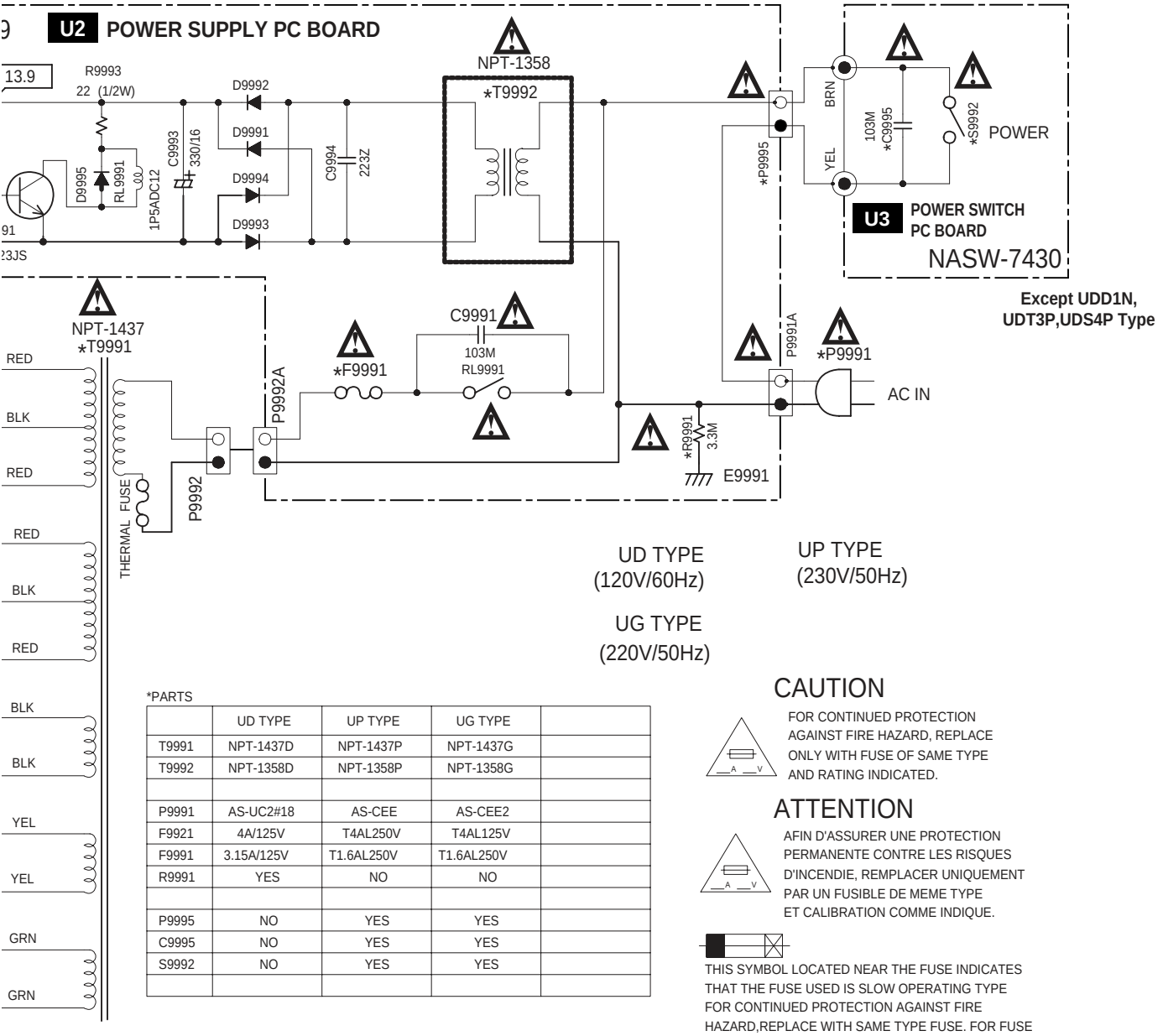



E
F
G
H
FROM TRANSFORMER
TO NAAR-7428
TO NCAR-7428
TO NADIS-7436
TO NCETC-7453 FOR FLASH
P8001B
P8005
P8201A
P8002B
P7001A
P8003
P8009A
Q8001
MPD784225GC
(FLASH MPD78F4225GC)
Q8902
MPC2933T
Q8901
MPC2925T
Q8402 BU1923F
RDS
ONLY UPP2P TYPE
Q8306
TC74VHC541FT
Q8307
Q8501
2SC2712
NAETC-7434
R8504
BB
(110-120)
FOR THERMAL DETECTION
U7
THERMAL PROTECTION
PC BOARD
P8501
FOR TEST
JL8501A
JL8501B

SCHEMATIC DIAGRAMS-5
POWER SUPPLY SECTION



E F G H



UD TYPE (120V/60Hz)

UP TYPE (230V/50Hz)

UG TYPE (220V/50Hz)

*PARTS

	UD TYPE	UP TYPE	UG TYPE	
T9991	NPT-1437D	NPT-1437P	NPT-1437G	
T9992	NPT-1358D	NPT-1358P	NPT-1358G	
P9991	AS-UC2#18	AS-CEE	AS-CEE2	
F9921	4A/125V	T4AL250V	T4AL125V	
F9991	3.15A/125V	T1.6AL250V	T1.6AL250V	
R9991	YES	NO	NO	
P9995	NO	YES	YES	
C9995	NO	YES	YES	
S9992	NO	YES	YES	

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.

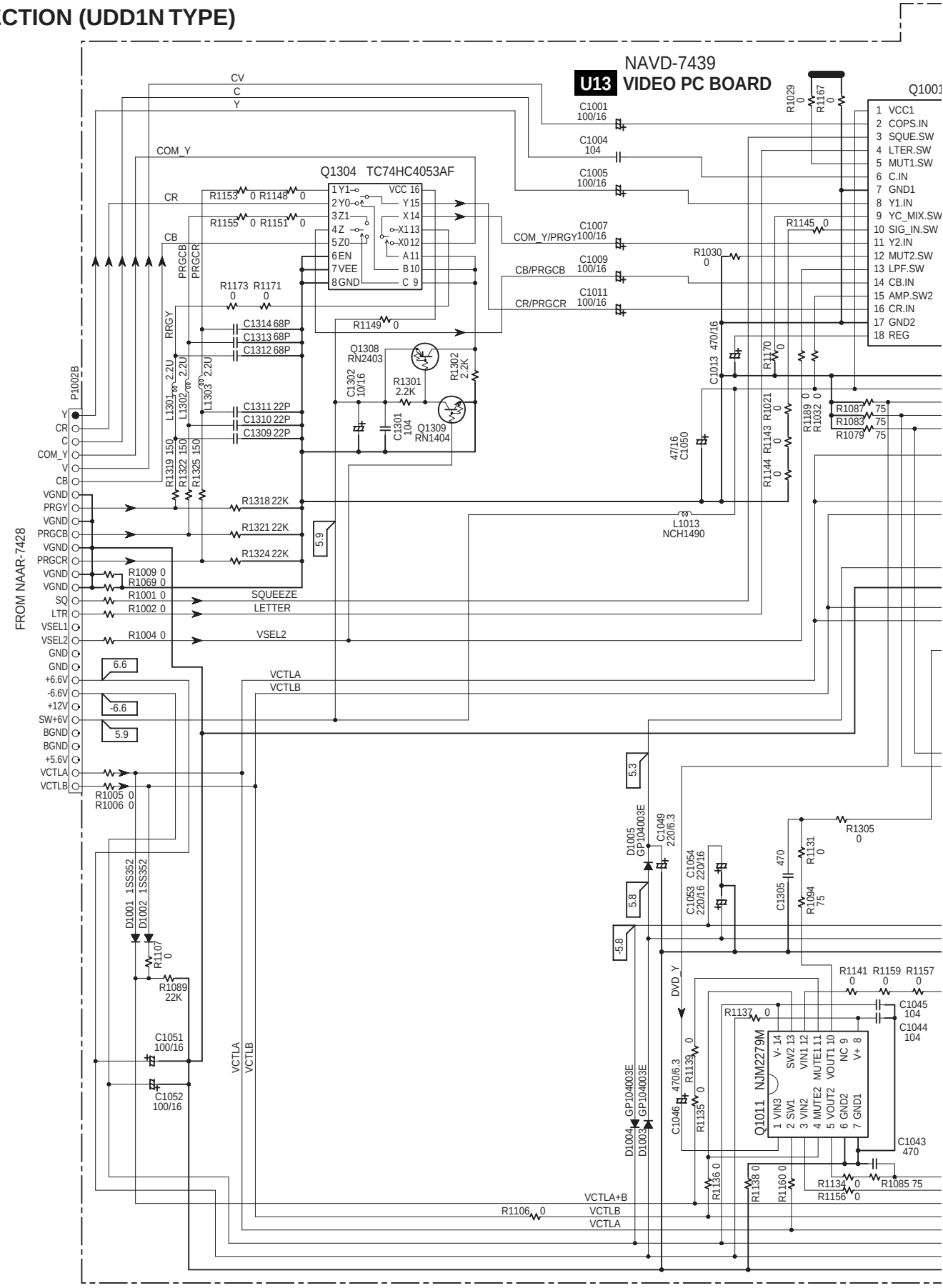
CE SYMBOLE INDIQUE QUE LE FUSIBLE UTLISE EST E LENT.POUR UNE PROTECTION PERMANENTE,N'UTILISER QUE DES FUSIBLES DE MEME TYPE. CE DARNIER EST INDIQUE LA QU LE PRESENT SYMBOL EST APPOSE.

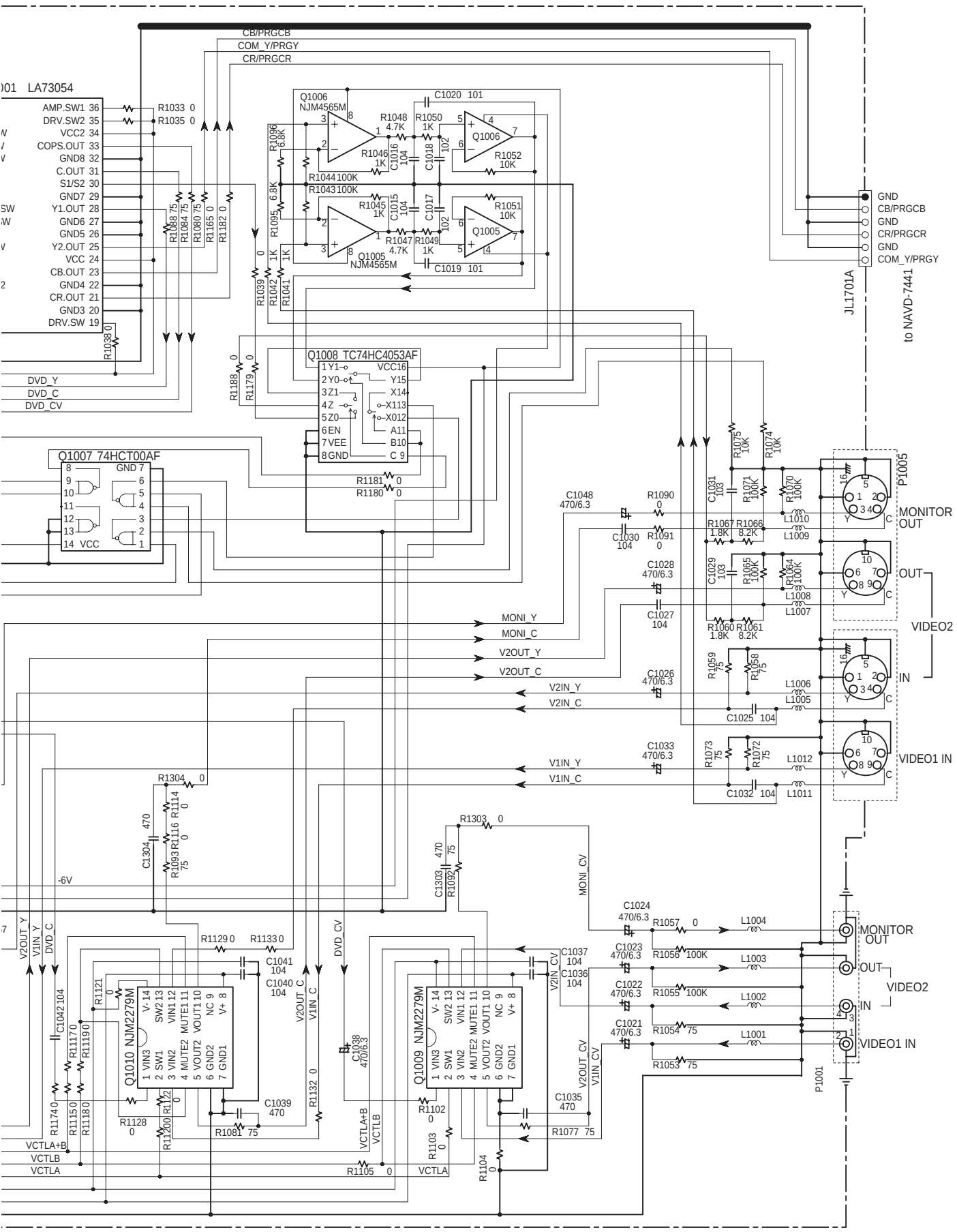
OTE

COMPONENTS IDENTFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY.
LACE ONLY WITH PART NUMBER SPECIFIED.
TAGE(MEASURED WITH VOLTMETER) ⟨ ⟩ IS DC VOLTAGE. (NO INPUT SIGNAL)
CTROLYTIC CAPACITORS (⊣⊢) ARE IN uF/WV.
CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
030 ➝ 3pF 330 ➝ 33pF 331 ➝ 330pF 333 ➝ 0.033uF
RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
PRINTING SIDE
CUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

SCHEMATIC DIAGRAMS-6

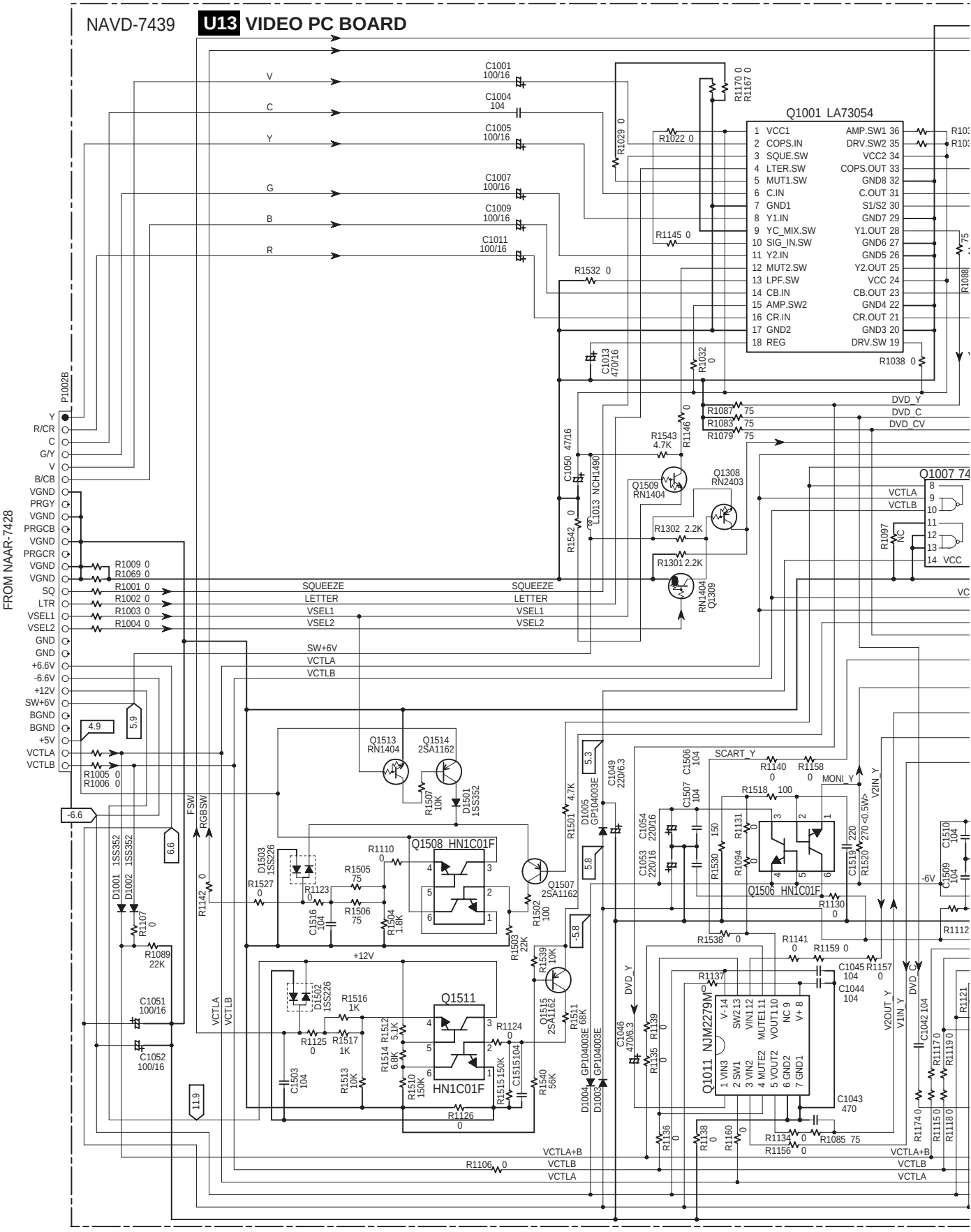
VIDEO SECTION (UDD1N TYPE)

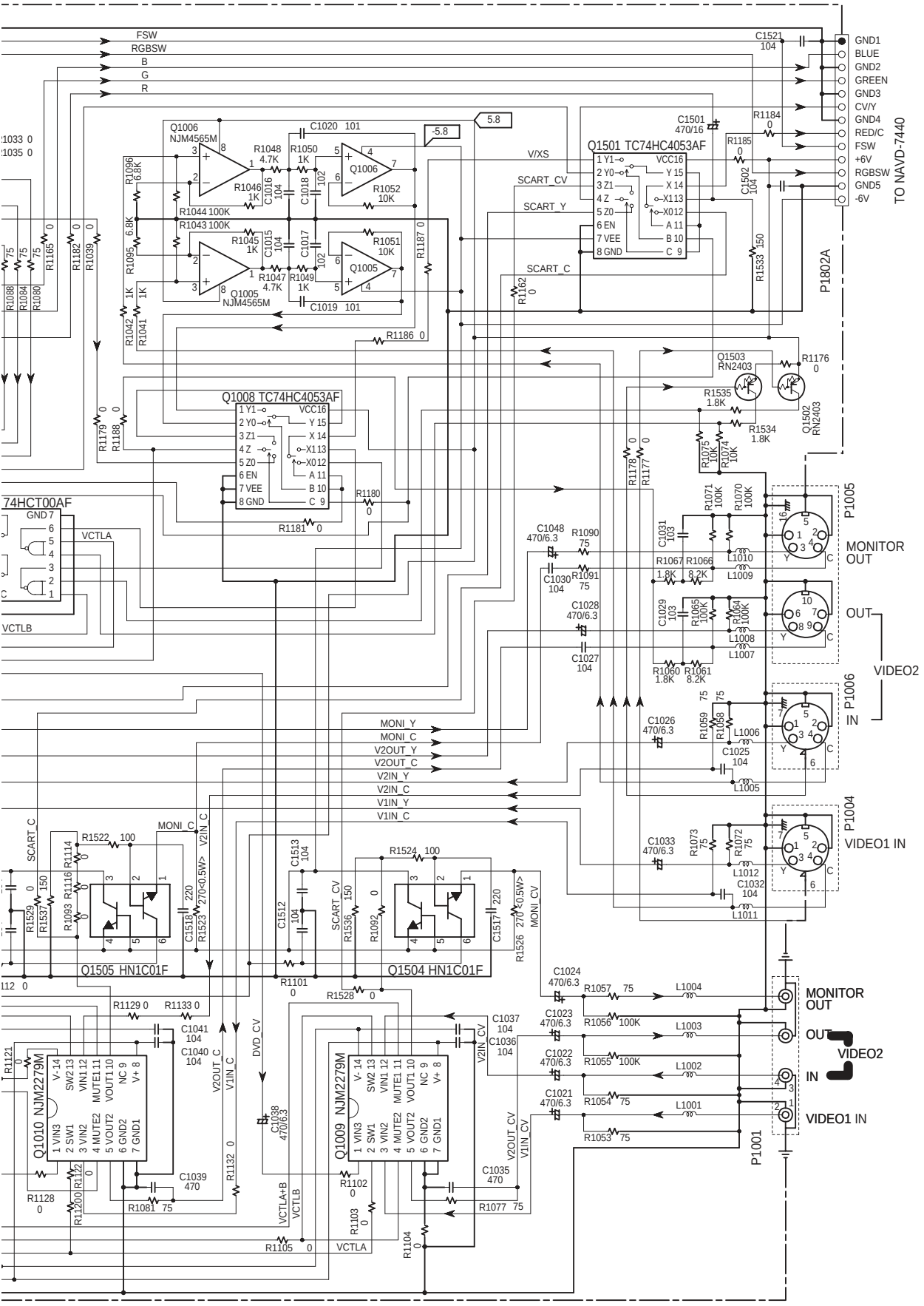



E
F
G
H
CB/PRGCB
COM_Y/PRGY
CR/PRGCR
LA73054
AMP.SW1 36
DRV.SW2 35
VCC2 34
COPS.OUT 33
GND8 32
C.OUT 31
S1/S2 30
GND7 29
Y1.OUT 28
GND6 27
GND5 26
Y2.OUT 25
VCC 24
CB.OUT 23
GND4 22
CR.OUT 21
GND3 20
DRV.SW 19
Q1006 NJM4565M
Q1005 NJM4565M
Q1008 TC74HC4053AF
Q1007 74HCT00AF
Q1010 NJM2279M
Q1009 NJM2279M
JL1701A
to NAVD-7441
P1005
P1001
DVD_Y
DVD_C
DVD_CV
MONI_Y
MONI_C
V2OUT_Y
V2OUT_C
V2IN_Y
V2IN_C
V1IN_Y
V1IN_C
MONI_CV
V2OUT_CV
V1IN_CV
-6V
VCTLA+B
VCTLB
VCTLA
MONITOR OUT
OUT
VIDEO2
IN
VIDEO1 IN

SCHEMATIC DIAGRAMS-7

VIDEO SECTION (UPP2P TYPE)

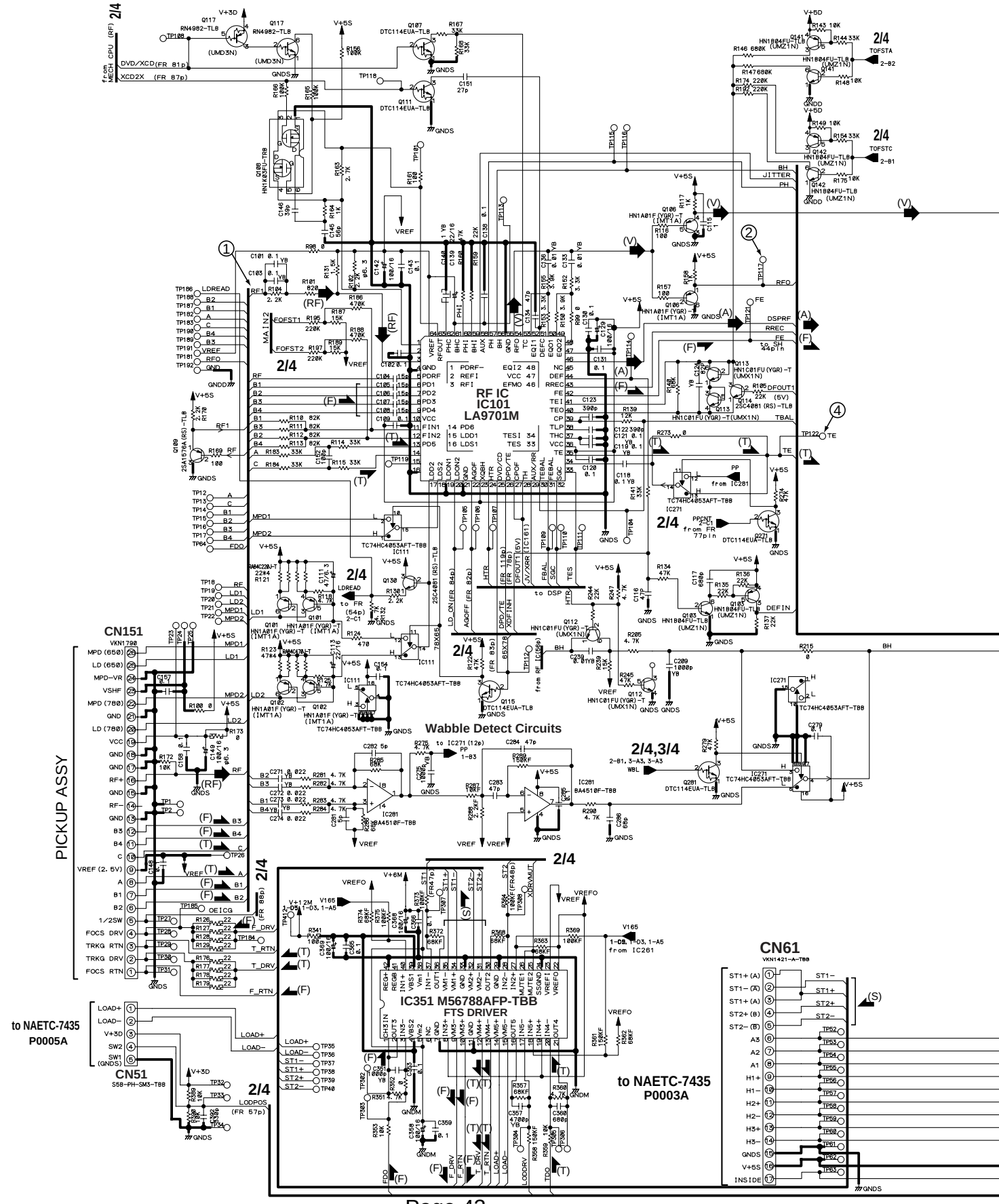


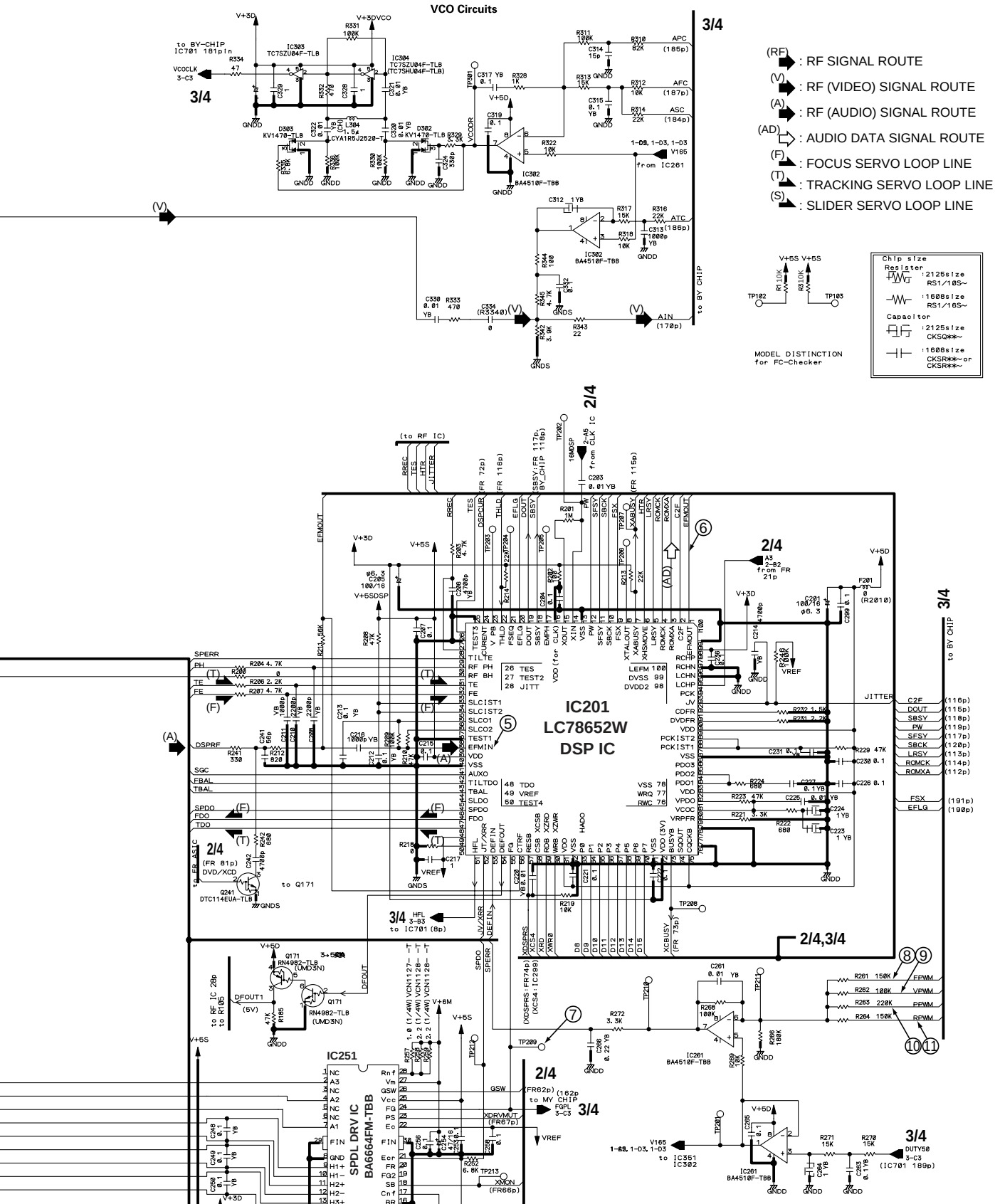

E
F
G
H
FSW
RGBSW
B
G
R
GND1
BLUE
GND2
GREEN
GND3
CV/Y
GND4
RED/C
FSW
+6V
RGBSW
GND5
-6V
TO NAVD-7440
P1802A
Q1006 NJM4565M
Q1005 NJM4565M
Q1501 TC74HC4053AF
Q1008 TC74HC4053AF
V/XS
SCART_CV
SCART_Y
SCART_C
Q1503 RN2403
Q1502 RN2403
74HCT00AF
VCTLA
VCTLB
P1005
MONITOR OUT
OUT
VIDEO2
P1006
IN
P1004
VIDEO1 IN
MONI_Y
MONI_C
V2OUT_Y
V2OUT_C
V2IN_Y
V2IN_C
V1IN_Y
V1IN_C
Q1505 HN1C01F
Q1504 HN1C01F
Q1010 NJM2279M
Q1009 NJM2279M
DVD_CV
V2IN_CV
V2OUT_CV
V1IN_CV
MONITOR OUT
OUT
VIDEO2
IN
VIDEO1 IN
P1001

1

SCHEMATIC DIAGRAMS-9

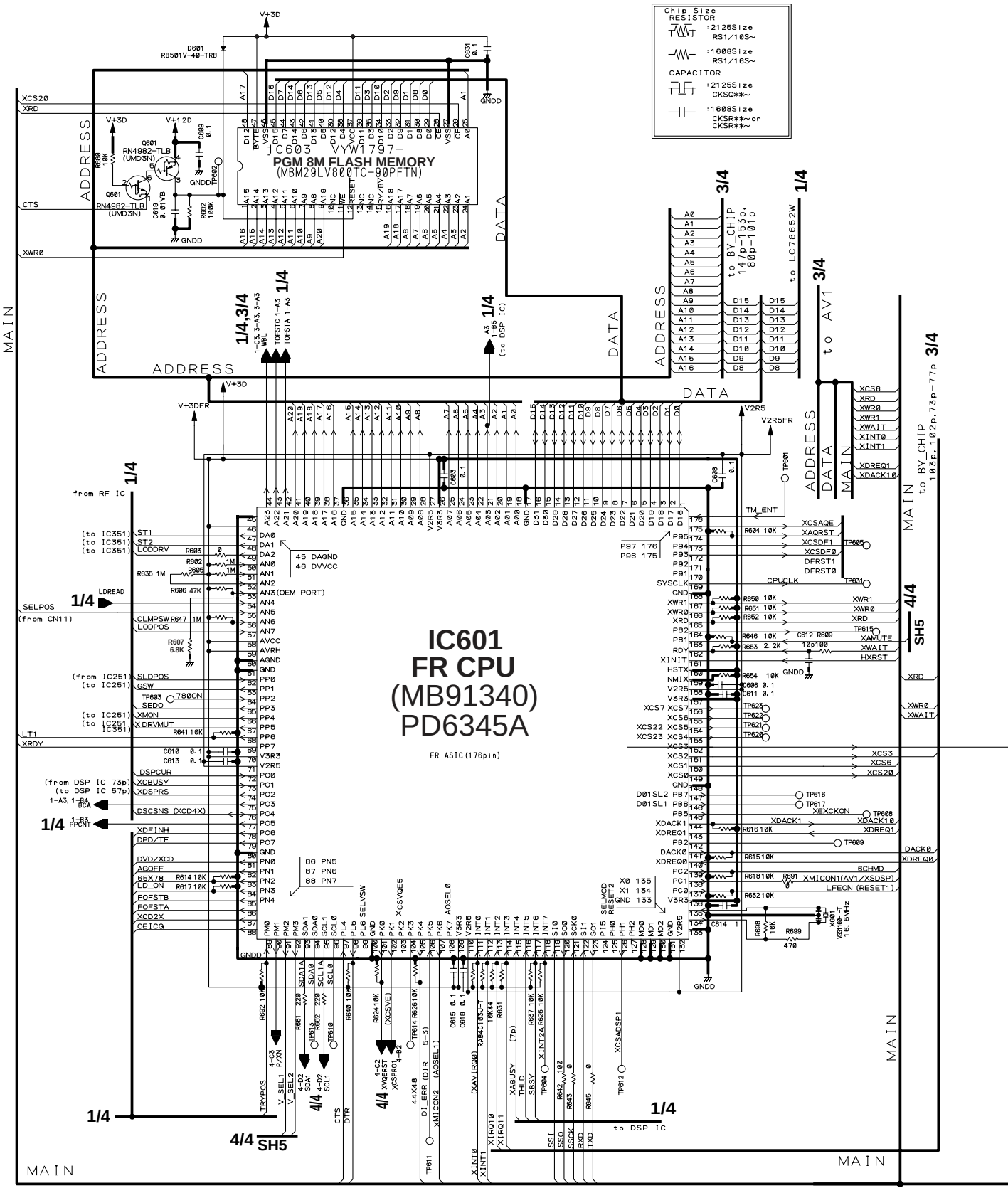
DVD MAIN BOARD : DB-VPB303A / DB-VPB304 (1/4)

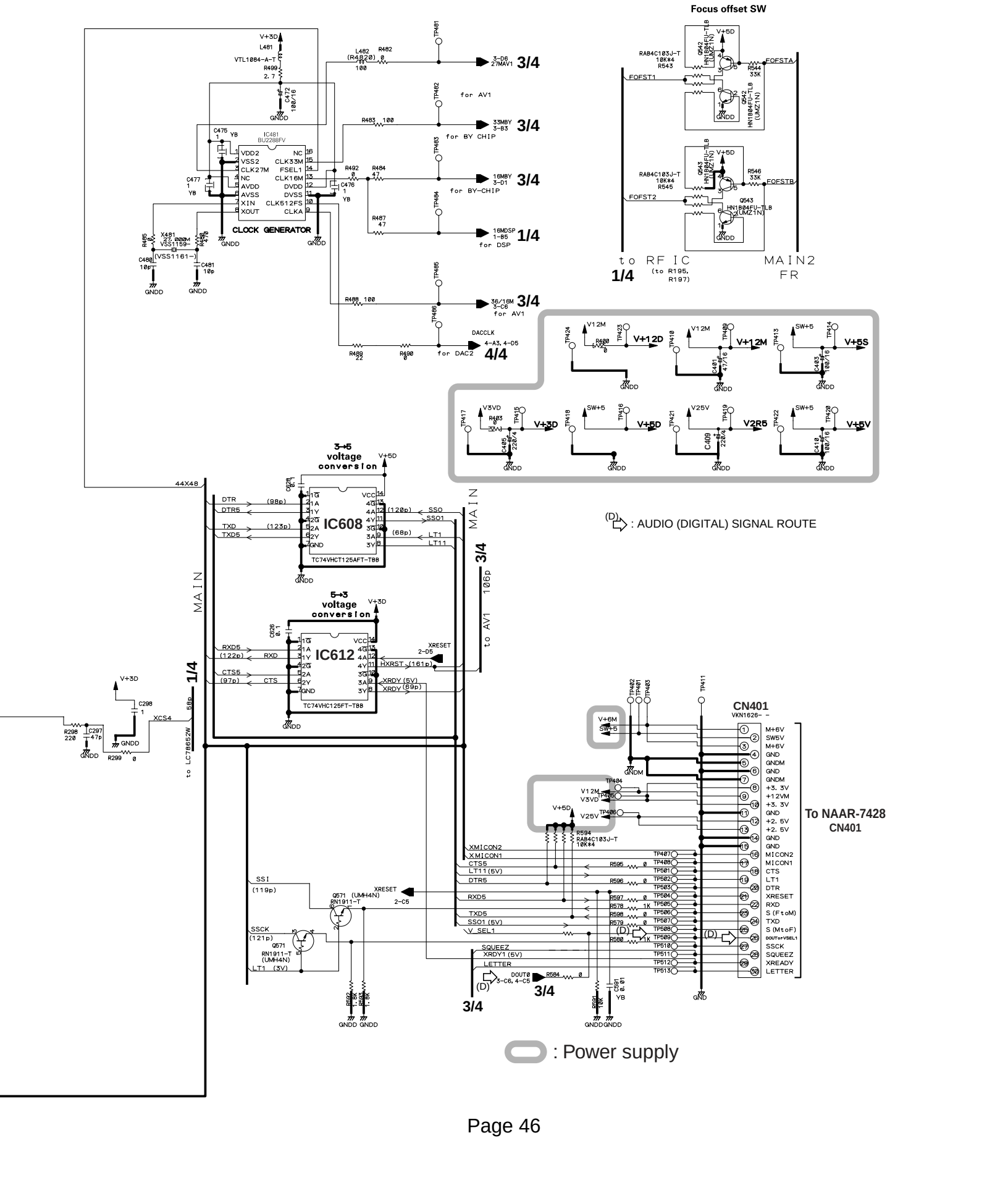



VCO Circuits
3/4
IC302
BA4510F-TBB
IC303
TC7SZU04F-TLB
IC304
TC7SZU04F-TLB
(TC7SHU04F-TLB)
D303
KV1470-TLB
D302
KV1470-TLB
L304
CYA1R5J2520-T
to BY-CHIP
IC701 181pin
VCOCLK
3-C3
from IC261
V165
1-DB, 1-D3, 1-D3
APC (185p)
AFC (187p)
ASC (184p)
ATC (186p)
AIN (170p)
to BY CHIP
(RF) : RF SIGNAL ROUTE
(V) : 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
MODEL DISTINCTION
for FC-Checker
Chip size
Resister
:2125size
RS1/10S~
:1608size
RS1/16S~
Capacitor
:2125size
CKSQ**~
:1608size
CKSR**~or
CKSR**~
2/4
IC201
LC78652W
DSP IC
IC251
SPDL DRV IC
BA6664FM-TBB
IC261
BA4510F-TBB
to Q171
to RF IC 28p
to R105
to IC701 (8p)
to MV CHIP
to IC351
IC302
2/4,3/4
3/4
Page 44

SCHEMATIC DIAGRAMS-10

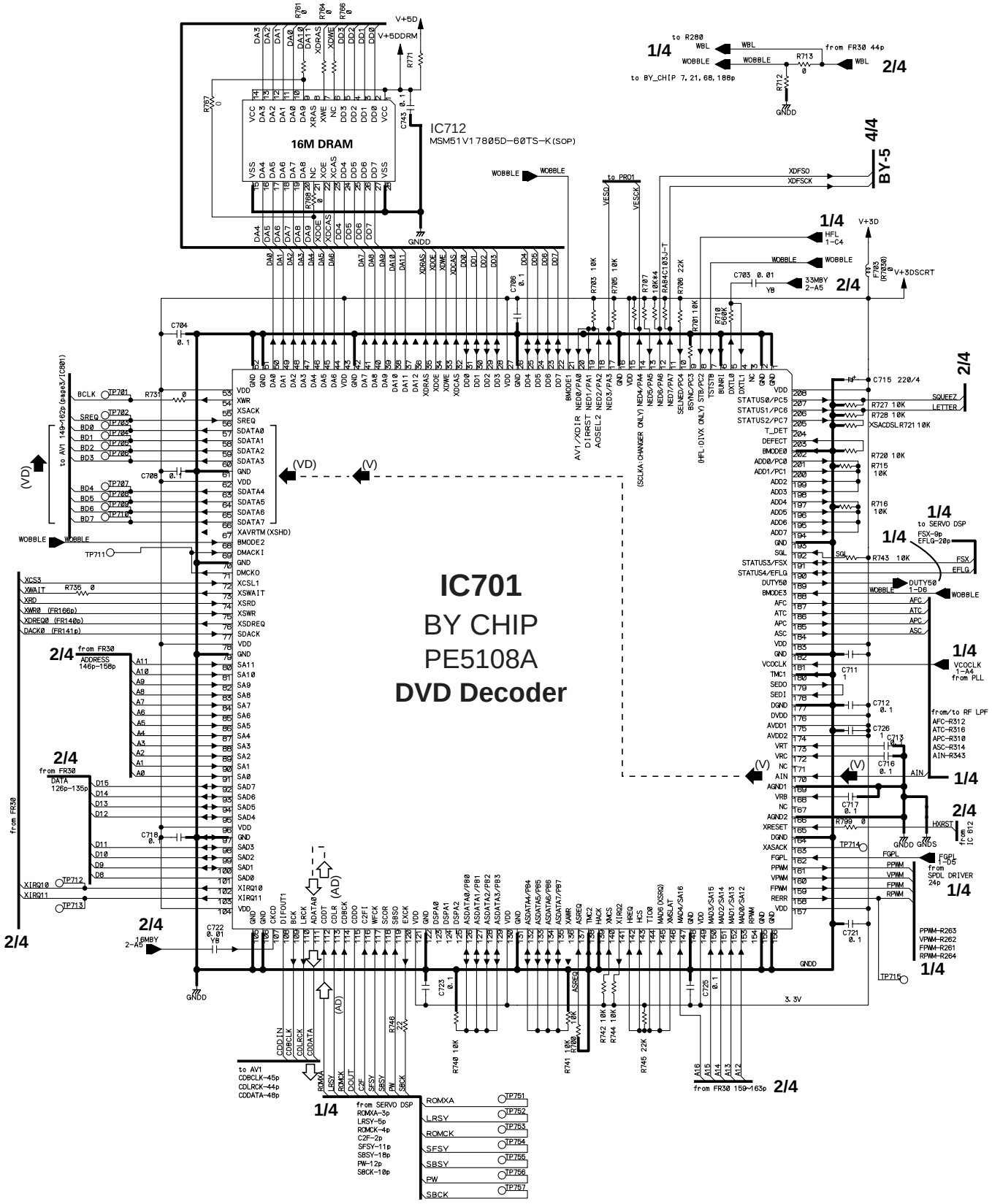
DVD MAIN BOARD : DB-VPB303A / DB-VPB304 (2/4)

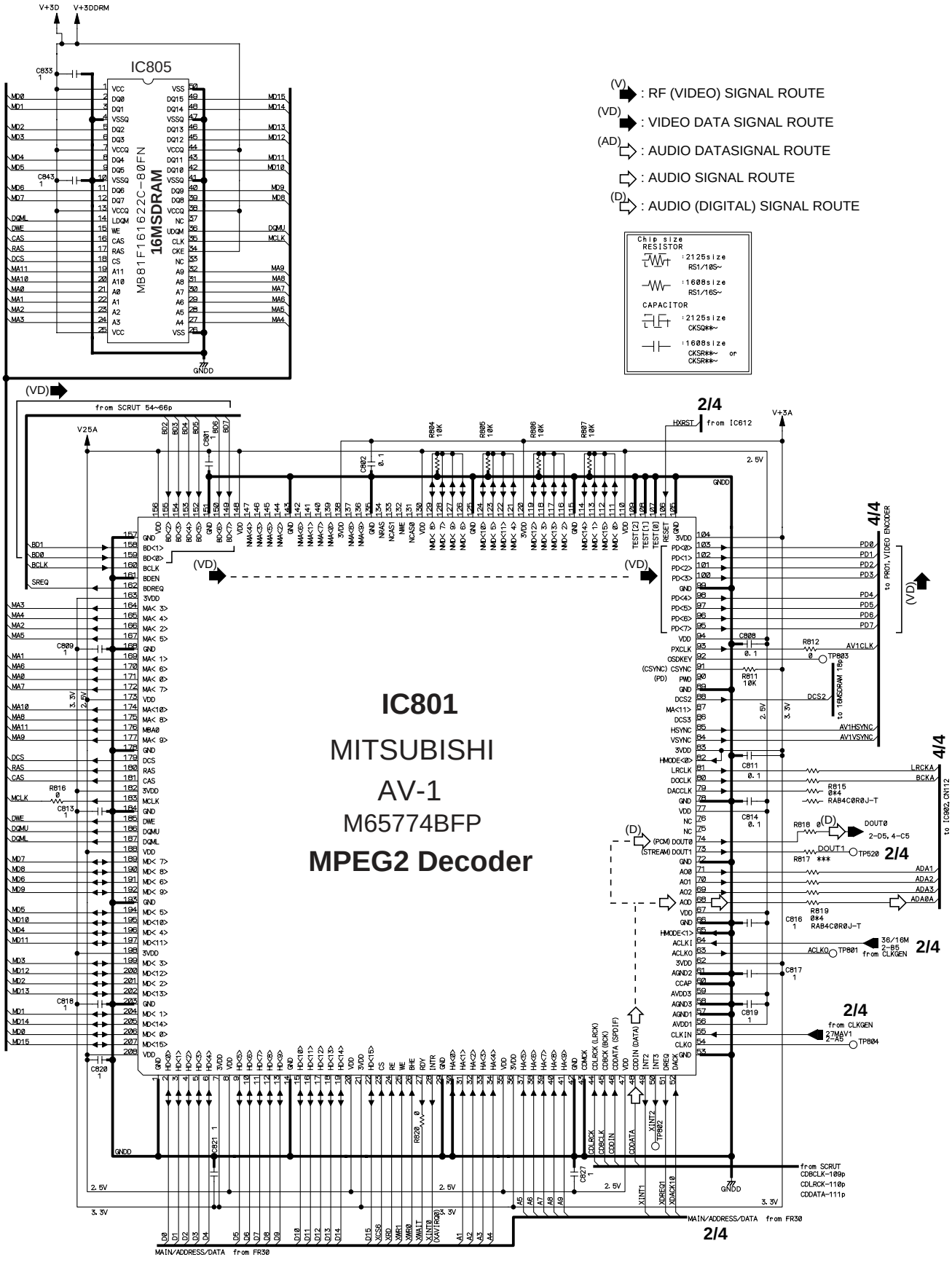



5
6
7
8
Focus offset SW
CLOCK GENERATOR
IC481
BU2288FV
to RF IC
1/4
(to R195, R197)
MAIN2
FR
3/4
4/4
for AV1
for BY CHIP
for BY-CHIP
for DSP
for DAC2
V+12D
V+12M
V+5S
V+3D
V+5D
V2R5
V+5V
3→5 voltage conversion
5→3 voltage conversion
IC608
TC74VHC125AFT-TBB
IC612
TC74VHC125FT-TBB
MAIN
to AV1 106p
to LC78652W
CN401
VKN1626- -
To NAAR-7428 CN401
(D) : AUDIO (DIGITAL) SIGNAL ROUTE
: Power supply

SCHEMATIC DIAGRAMS-11

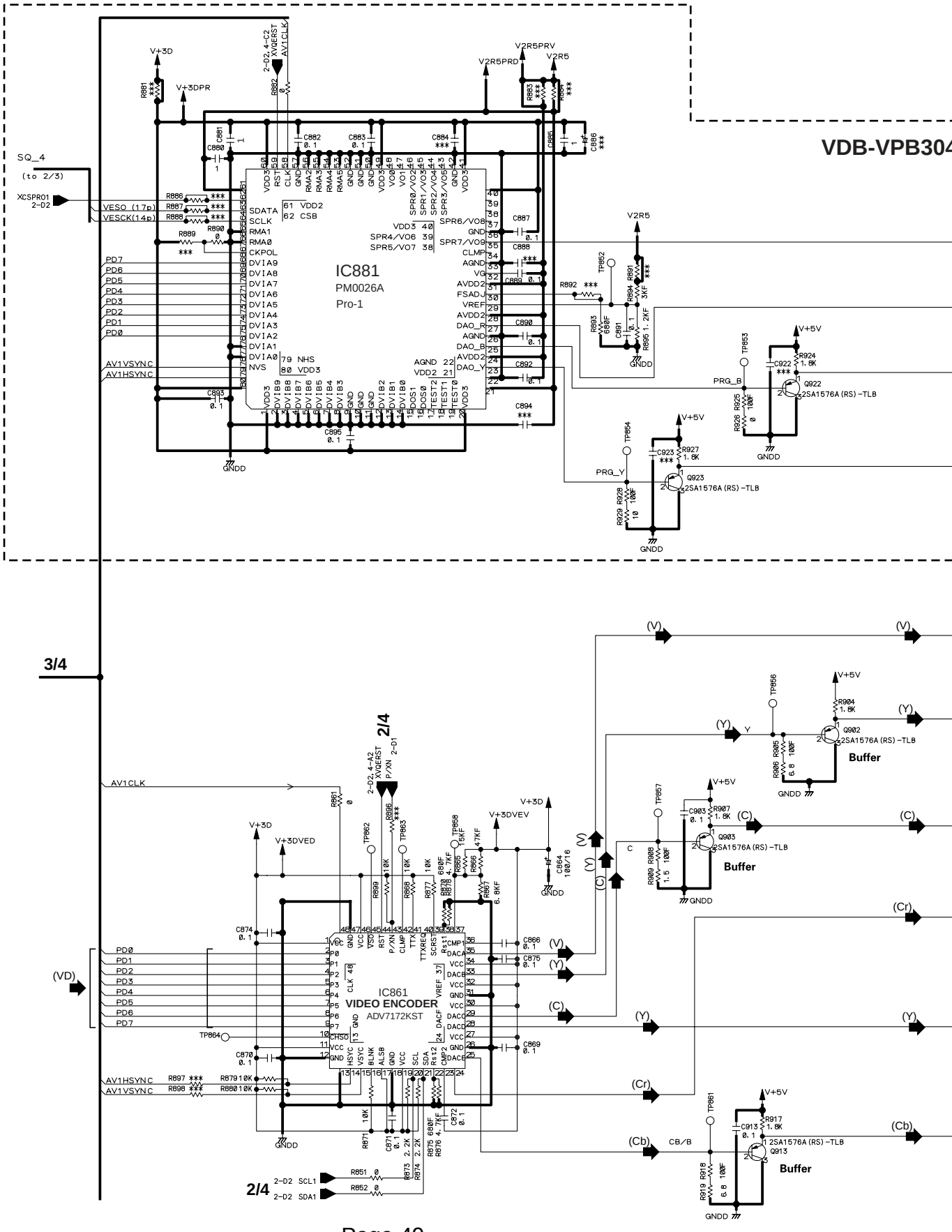
DVD MAIN BOARD : DB-VPB303A / DB-VPB304 (3/4)

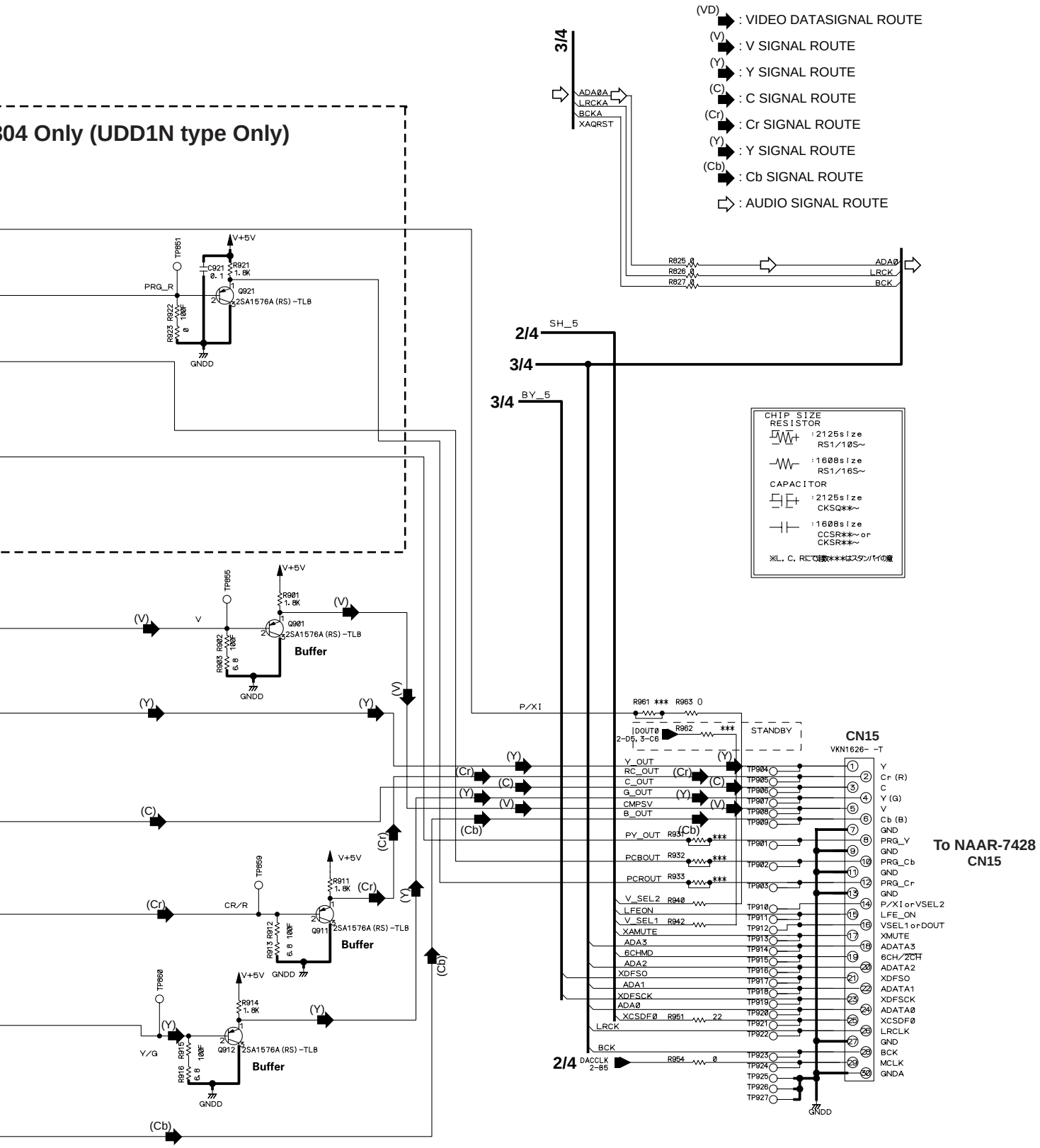



IC805
16MSDRAM
MB81F161622C-80FN
(V) : RF (VIDEO) SIGNAL ROUTE
(VD) : VIDEO DATA SIGNAL ROUTE
(AD) : AUDIO DATASIGNAL ROUTE
: AUDIO SIGNAL ROUTE
(D) : AUDIO (DIGITAL) SIGNAL ROUTE
Chip size RESISTOR
CAPACITOR
IC801
MITSUBISHI
AV-1
M65774BFP
MPEG2 Decoder
2/4
4/4
from SCRUT 54~66p
from IC612
to PR01, VIDEO ENCODER
to 16MSDRAM 16p
to IC902,CN112
from CLKGEN
MAIN/ADDRESS/DATA from FR30
from SCRUT
CDBCLK-109p
CDLRCK-110p
CDDATA-111p

SCHEMATIC DIAGRAMS-12

DVD MAIN BOARD : DB-VPB303A / DB-VPB304 (4/4)




5
6
7
8
(VD) : VIDEO DATASIGNAL ROUTE
(V) : V SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(Cr) : Cr SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(Cb) : Cb SIGNAL ROUTE
: AUDIO SIGNAL ROUTE
3/4
ADA0A
LRCKA
BCKA
XAQRST
R825 0
R826 0
R827 0
ADA0
LRCK
BCK
2/4 SH_5
3/4
3/4 BY_5
CHIP SIZE
RESISTOR
:2125size RS1/10S~
:1608size RS1/16S~
CAPACITOR
:2125size CKSQ**~
:1608size CCSR**~ or CKSR**~
※L, C, R□□の数***はスタンバイの値
804 Only (UDD1N type Only)
V+5V
TP851
C921 0.1
R921 1.8K
PRG_R
Q921 2SA1576A (RS) -TLB
R923 0
R922 100F
GNDD
V+5V
TP855
R901 1.8K
(V)
V
Q901 2SA1576A (RS) -TLB
R903 6.8
R902 100F
Buffer
GNDD
(Y)
(Y)
(V)
P/XI
(Y)
(Cr)
(C)
(Y)
(V)
(Cb)
(C)
(Cr)
V+5V
TP859
R911 1.8K
(Cr)
CR/R
Q911 2SA1576A (RS) -TLB
R913 6.8
R912 100F
Buffer
GNDD
(Y)
(Cb)
V+5V
TP860
R914 1.8K
(Y)
Y/G
Q912 2SA1576A (RS) -TLB
R916 6.8
R915 100F
Buffer
GNDD
(Cb)
R961 *** R963 0
IDOUT0 2-D5, 3-C6
R962 ***
STANDBY
Y_OUT
RC_OUT
C_OUT
G_OUT
CMPSV
B_OUT
PY_OUT R931 ***
PCBOUT R932 ***
PCROUT R933 ***
V_SEL2 R940
LFEON
V_SEL1 R942
XAMUTE
ADA3
6CHMD
ADA2
XDFSO
ADA1
XDFSCK
ADA0
XCSDF0 R951 22
LRCK
BCK
2/4 DACCLK 2-B5
R954 0
TP904
TP905
TP906
TP907
TP908
TP909
TP901
TP902
TP903
TP910
TP911
TP912
TP913
TP914
TP915
TP916
TP917
TP918
TP919
TP920
TP921
TP922
TP923
TP924
TP925
TP926
TP927
GNDD
CN15
VKN1626- -T
1 Y
2 Cr (R)
3 C
4 Y (G)
5 V
6 Cb (B)
7 GND
8 PRG_Y
9 GND
10 PRG_Cb
11 GND
12 PRG_Cr
13 GND
14 P/XI or VSEL2
15 LFE_ON
16 VSEL1 or DOUT
17 XMUTE
18 ADATA3
19 6CH/2CH
20 ADATA2
21 XDFSO
22 ADATA1
23 XDFSCK
24 ADATA0
25 XCSDF0
26 LRCLK
27 GND
28 BCK
29 MCLK
30 GNDA
To NAAR-7428 CN15

PRINTED CIRCUIT BOARD PARTS LIST-1

U1 MAIN PC BOARD NAAR-7428-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	ICs			
Q3001	IC	BD3811K1	22241761R3	
Q3003, Q3012, Q3101, Q4002	IC	NJM4565M-D	22241383R2	
Q4001	IC	PCM1742KE	22241776R2	
	IC	NJM4565M-D	22241383R2	
Q5001	IC	STK402-950	222123	Power ampifier
Q9901	IC	AN7812F	222780124MAT	
Q9901 or	IC	MPC7812HF	222780124NEC	
Q9903	IC	NJM78M06FA	222780065JRC	
Q9905	IC	NJM78M06FA	222780065JRC	
Q9905 or	IC	AN78M06F	222780065MAT	
	Transistors			
Q3006, Q3103	Transistor	RN2402	2214530R2	
Q3007, Q3008, Q3013, Q3014, Q3102	Transistor	RN1441	2215410R2	
Q4003, Q4004	Transistor	RN1441	2215410R2	
Q4005	Transistor	2SA1162-O or	2214373R2 or	
	Transistor	2SA1162-Y	2214374R2	
Q4006, Q4007	Transistor	RN1407	2216260R2	
Q5601	Transistor	2SK365-GR	2212445	
Q5602, Q5604	Transistor	2SC1740S-R	2213284	
Q5603	Transistor	2SC2120-Y	2211164	
Q5801, Q5802, Q5803	Transistor	2SC1815-GR	2211255	
Q9922	Transistor	2SA950-Y	2211504	
	Diodes			
D3001, D3101, D3102	Chip diode	1SS352	223234R2	
D4001, D4002	Diode	RL1N4003 or	22380260 or	
	Diode	GP104003E	22380035	
D5601, D9902, D9904, D9905	Chip diode	1SS352 or	223234R2 or	
	Chip diode	1SS355	223269R2	
D5602	Zener diode	UDZ12B	224491200R2	
D5801	Zener diode	UDZ5.1B	224490510R2	
D5901	Diode	RBV602	22380038S	
D9901	Diode	RBV402 or	22380022F or	
	Diode	D3SBA20	22380271F	
D9924, D9925	Diode	RL1N4003 or	22380260 or	
	Diode	GP104003E	22380035	
D9926	Zener diode	UDZ27B	224492700R2	
	Coils			
L4001	Choke coil	NCH-1471	231237M022R2	
L4002 - L4004	Choke coil	BLM21B222SPT	230921R2	
L5015	S coil	S-1.3C	231176S	
	Capacitors			
C3017, C3018, C3045, C3046, C9928	Electric capacitor	CE04W50V-47uF	354784709	
C3019- C3023, C3025- C3029	Electric capacitor	CE04W16V-10uF	354741009	
C3024, C3055, C3056	Electric capacitor	CE04W16V-47uF	354744709	
C3030,C3050,C3053	Electric capacitor	CE04W50V-4.7uF	354780479	
C3031,C3032	Plastic film capacitor	ECQ-B50V-472J	374724724	
C3033 - C3036	Plastic film capacitor	ECQ-V50V-224J	374722244	
C3037 - C3040	Plastic film capacitor	ECQ-V50V-154J	374721544	
C3042, C3043	Electric capacitor	CE04W16V-100uF	354741019	
C3057	Electric capacitor	CE04W50V-2.2uF	354780229	

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

PRINTED CIRCUIT BOARD PARTS LIST-2

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
C3063, C3064	Electric capacitor	CE04W16V-47uF	354744709	
C3101, C3108, C5601, C3103- C3105	Electric capacitor	CE04W16V-10uF	354741009	
C4001, C4002, C4009, C4010	Electric capacitor	CE04W16V-47uF	355744709	
C4011, C4012	Electric capacitor	CE04W16V-100uF	355741019	
C4014, C4016, C4018	Electric capacitor	CE04W6.3V-100uF	355721019	
C5021 - C5025	Electric capacitor	CE04W16V-22uF(VX)	393342207	
C5031, C5035	Electric capacitor	CE04W6.3V-100uF(VX)	393321017	
C5061	Plastic film capacitor	ECQ-V50V-104J	374721044	PP2P, PT3P, PA4P
C5201,C5202	Electric capacitor	CE04W50V-100uF	354781019	
C5602	Electric capacitor	CE04W35V-47uF	354764709	
C5802	Electric capacitor	CE04W50V-1uF	354780109	
C5803	Electric capacitor	CE04W6.3V-100uF	354721019	
C5901, C5902, C9901, C9902	Plastic film capacitor	ECQ-V50V-334J	374723344	
C5903, C5904	Electric capacitor	CE69W35V-5600uF	3504370	
C9903	Electric capacitor	CE04W25V-2200uF	354752229S	
C9904	Electric capacitor	CE04W35V-1000uF	354761029S	
C9906,C9909, C9910	Electric capacitor	CE04W50V-10uF	354781009	
C9927	Electric capacitor	CE04W35V-100uF	354761019	
	Resistors			
R5065	Metal oxide resistor	RS1/2WBJ-10 ohm	443521004	
R5201, R5202	Metal oxide resistor	RS1/2WBJ-47 ohm	443524704	
R5610, R5611	Metal oxide resistor	RS1/2WBJ-150 ohm	443521514	
R9901, R9902	Metal resistor	RNU1/2WCJ-0.47 ohm	453534794	
R9903, R9905	Metal resistor	RNU1WCJ-6.8 ohm	453630684	
R9904	Metal resistor	RNU1/2WCJ-6.8 ohm	453530684	
R9922	Metal oxide resistor	RS1/2WBJ-2.2 kohm	443522224	
R9923	Metal oxide resistor	RS1/2WBJ-22 ohm	443522204	
	Jack, Terminals			
P3001, P3002	Jack	NPJ-6PDBL159	25045300	
P3003	Pin jack	NPJ-1PDBL382	25045567	
P4002 - P4005	Terminal	NTM-1P253	25060322	
	Sockets			
CN15, CN401	Socket	NSCT-30P-2507	25052610	
JL5001A	Wire holder	NSCT-4P895	25051108	
JL5002A	Wire holder	NSCT-5P896	25051109	
JL5004A	Wire holder	NSCT-7P878	25051091	
JL9001B, JL9002B	Socket	NSCT-7P99	25050271	
JL9101A	Wire holder	NSCT-3P874	25051087	
P1002A	Socket	NSCT-29P2122	25052225	
P4001	Socket	NSCT-7P2241	25052344	
P8001A, P8701A	Socket AS	NSAS-26P1005	2002A262615	
P8002A	Socket	NSCT-25P2118	25052221	
	Plugs			
JL9003B	Wire trap	NPLG-7P590	25055628	
JL9991B	Wire trap	NPLG-3P586	25055624	
P5001	Retainer	(BUS)	27141818	
P6501	Plug	NPLG-2P83	25055099	
P8201	Socket AS	NSAS-4P1029	2009990735UL	
P9901A	Plug	NPLG-3P150	25055166	
P9902A	Plug	NPLG-5P119	25055135	
A5001	Tape	CROSS-16U	29110083	

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

PRINTED CIRCUIT BOARD PARTS LIST-3

U2 POWER SUPPLY PC BOARD NAPS-7429-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.		REMARKS
	Transistor				
Q9991	Transistor	DTC123JS	2213640		
	Diodes				
D9991 - D9994 o	Diode	GP104003E or	22380035 or		
	Diode	RL1N4003	22380260		
D9995	Chip diode	1SS352 or	223234R2 or		
	Chip diode	1SS355	223269R2		
	Transformer				
T9992	Power transformer	NPT-1358D	2301381	⚠	DD1N, DS4P, DT3P
	Power transformer	NPT-1358P	2301382	⚠	PP2P, PT3P, PA4P
	Power transformer	NPT-1358DG	2301383	⚠	GK3P, GR6P
	Capacitors				
C9991	IS capacitor	RE275V-103M	3500196S	⚠	
C9993	Electric capacitor	CE04W16V-330uF	354743319		
	Resistors				
R9993	Metal oxide resistor	RS1/2WBJ-22 ohm	443522204		
	Resistor				
R9991	Solid resistor	RC1/2GFKUL-3.3 Mohm	431533355	⚠	DD1N, DS4P, DT3P
	Relay				
RL9991	Relay	NRL-1P5A-DC12-139 or	25065583 or	⚠	
	Relay	NRL-1P5A-DC12-161	25065633	⚠	
	Sockets				
F9991A, F9991B	Fuse holder	NSCT-1P2031	25052133	⚠	
JL9991A	Wire holder	NSCT-3P874	25051087		
P9995	Socket AS	NSAS-2P0903	2009990649UL	⚠	PP2P, PT3P, PA4P, GK3P, GR6P
	Plugs				
P9991A, P9992A	Plug	NPLG-2P631	25055675	⚠	
P9995A	Plug	NPLG-2P631	25055675	⚠	PP2P, PT3P, PA4P, GK3P, GR6P
	Label				
F9991C	Fuse label	T1.25AL250V	29361580	⚠	PP2P, PT3P, PA4P, GK3P, GR6P

U3 POWER SWITCH PC BOARD NASW-7430-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.		REMARKS
C9995	IS capacitor	RE275V-103M	3500196S	⚠	PP2P, PT3P, PA4P, GK3P, GR6P POWER
S9992	Push switch	NPS-121-L665P	25035702	⚠	PP2P, PT3P, PA4P, GK3P, GR6P POWER

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

PRINTED CIRCUIT BOARD PARTS LIST-4

U4 SPEAKER TERMINAL PC BOARD NAAF-7431-1A/-1B/-1C/-1D (PP2P, PT3P, PA4P, GK3P, GR6P, DT3P Type only)

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	Transistors			
Q5401 - Q5403	Transistor	DTC123JS	2213640	
Q5404, Q5405	Transistor	DTA114ES	2213510	
	Diodes			
D5401 - D5403	Chip diode	1SS352 or	223234R2 or	
	Chip diode	1SS355	223269R2	
	Coils			
L5011 - L5014	S coil	S-1.3C	231176S	
	Capacitors			
C5061 - C5065	Plastic film capacitor	ECQ-V50V-104J	374721044	
	Resistors			
R5061 - R5064	Metal oxide resistor	RS1/2WBJ-10 ohm	443521004	
R5071 R5075	Metal resistor	RNU1WCJ-4.7 ohm	453630474	
R5401, R5403	Metal oxide resistor	RS1WBJ-220 ohm	443622214	
R5402	Metal oxide resistor	RS1WBJ-560 ohm	443625614	
	Relays			
RL5401, RL5403	Relay	NRL-2P5A-DC12-155 or	25065607 or	FRONT/ SR
	Relay	NRL-2P8A-DC12-147 or	25065597 ro	
	Relay	NRL-2P5A-DC12-160	25065632	
RL5402	Relay	NRL-1P5A-DC12-135	25065578	CENTER
	Terminals			
P5011	Terminal	NTM-6PDMN251	25060320	FL,/ FR/ C
P5012	Terminal	NTM-4PDML252	25060321	LS/ RS
	Holders			
JL5001B	Wire holder	NSCT-4P895	25051108	
JL5002B	Wire holder	NSCT-5P896	25051109	
JL5003B	Wire holder	NSCT-5P876	25051089	
JL5004B	Wire holder	NSCT-7P878	25051091	

U5 HEAD PHONE TERMINAL PC BOARD NAETC-7432-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
L7601, L7602	Choke coil	BLM21B222SPT	230921R2	
R7601, R7602	Metal oxide resistor	RS1/2WBJ-390 ohm	443523914	
P7601	Jack	YKB26-5005	25045514	PHONES
JL5003A	Wire holder	NSCT-5P876	25051089	

U6 REGULATOR IC PC BOARD NAETC-7433-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
Q9904	IC	NJM79M06FA	222790065JRC	
D9903	Chip diode	1SS352 or	223234R2 or	
	Chip diode	1SS355	223269R2	
C9914	Electric capacitor	CE04W50V-10uF	354781009	
JL9101B	Wire holder	NSCT-3P874	25051087	

U7 TERMAL PROTECTION PC BOARD NAETC-7434-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
R8504	Thermistor	PTH9M04BB222TS2F333	4000149	
JL8501A	Wire holder	NSCT-3P874	25051087	

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

PRINTED CIRCUIT BOARD PARTS LIST-5

U10 DISPLAY PC BOARD NADIS-7436-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	FL tube			
Q7001	FL tube	14-BT-74GNK	212227	
	IC			
Q7002	IC	MPD780232GC-066-8BT	22241769R3	
	Transistors			
Q7003	Transistor	RN2403	2214540R2	
Q7004 - Q7006	Transistor	RN1407	2216260R2	
	Diodes			
D7001	Zener diode	UDZS4.7B	224550470R2	
D7002	Chip diode	1SS352 or	223234R2 or	
	Chip diode	1SS355	223269R2	
D7003	Zener diode	UDZS5.6B	224550560R2	
D7006	LED	SEL2110R-TP6	225389	STANDBY/ON
D7011	Diode	RL1N4003 or	22380260 or	
	Diode	GP104003E	22380035	
D7004, D7005	LED	LB3333	225411	Front panel illumination
	Oscillator			
X7001	Ceramic resonator	CST5.00MGW	3010242	
	Capacitor			
C7007	Electric capacitor	CE04W6.3V-100uF(S)	353721019	
	Push switchs			
S7001 - S7011	Push switch	NPS-111-S662	25035699	
	Sockets			
P7001B	Socket	NSCT-16P2250 or	25052353 or	
	Socket	NSCT-16P2434	25052537	
P7002A	Socket AS	NSAS-14P0863	2002A391450	
	Plugs			
P7003	Plug	NPLG-8P660	25055704	
	Holder			
Q7001A	FL holder	(FL)	27191129A	

U11 POWER SUPPLY PC BOARD NAPS-7437-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	ICs			
Q9921	IC	78M56	222780565	
Q9925	IC	NJM78M06FA	222780065JRC	
Q9926	IC	MPC78M05HF	222780055NEC	
Q9951	IC	PQ3RD23	22241771	
Q9952	IC	MPC2925T	22278025DR2NE	
	Transistors			
Q9923	Transistor	2SA965-O or	2211643 or	
	Transistor	2SA965-Y	2211644	
Q9924	Transistor	2SA1488-Y or	2203394 or	
	Transistor	2SA1488-O or	2203393 or	
	Transistor	2SA1488-G	2203395	
	Diodes			
D9921	Diode	RBV402 or	22380022 or	
	Diode	D3SBA20	22380271	
D9951	Diode	RBV402 or	22380022F or	
	Diode	D3SBA20	22380271F	

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

PRINTED CIRCUIT BOARD PARTS LIST-6

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	Capacitors			
C9921, C9922	Plastic film capacitor	ECQ-V50V-224J	374722244	
C9925	Electric capacitor	CE04W16V-1000uF	354741029S	
C9926, C9937, C9955, C9957	Electric capacitor	CE04W50V-10uF	354781009	
C9933	Electric capacitor	CE04W6.3V-1000uF	354721029	
C9951, C9952	Plastic film capacitor	ECQ-V50V-224J	374722244	
C9953	Electric capacitor	CE04W16V-3300uF	354743329S	
C9923	Electric capacitor	CE04W16V-4700uF	354744729S	
	Resistors			
R9921, R9927, R9928	Metal resistor	RNU1/2WCJ-2.2 ohm	453530224	
R9925	Metal oxide resistor	RS1/2WBJ-10 ohm	443521004	
R9926, R9951	Metal resistor	RNU1/2WCJ-0.22 ohm	453532294	
R9929	Metal oxide resistor	RS1WBJ-27 ohm	443622704	
	Holders			
F9921A, F9921B	Fuse holder	NSCT-1P2031	25052133	
JL9001A, JL9002A	Wire holder	NSCT-7P898	25051111	
	Plugs			
P9904A	Plug	NPLG-3P117	25055133	
P9903A	Plug	NPLG-4P118	25055134	
	Label			
F9921C	Fuse label	T4AL250V	29361732A	PP2P, PT3P, GK3P, PA4P, GR6P

U12 OPERATION SWITCH PC BOARD NASW-7438-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
Q7008	Remote sensor	PIC-37043TE2	241337	
Q7009	Transistor	RN1407	2216260R2	
D7008	LED	SEL2810A-TP2	225388	T-D
C7005	Electric capacitor	CE04W6.3V-100uF(S)	353721019	
S7013 - S7018	Push switch	NPS-111-S662	25035699	
S7019	Rotary encoder	EC16B24C25	25065611	VOLUME
P7002B	Plug	NPLG-7P135	25055151	

U13 VIDEO PC BOARD NAVD-7439-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	ICs			
Q1001	IC	LA73054	22241767R2	
Q1005, Q1006	IC	NJM4565M	22240581R2	
Q1007	IC	TC74HCT00AF	222740007R2TO	
Q1008	IC	TC4053BF	222840531R2TO	
Q1009 - Q1011	IC	NJM2279M	22241368R2	
Q1304	IC	TC4053BF	222840531R2TO	DD1N
Q1501	IC	TC4053BF	222840531R2TO	PP2P
	Transistors			
Q1308	Transistor	RN2403	2214540R2	DD1N, PP2P
Q1309	Transistor	RN1404	2214490R2	DD1N, PP2P
Q1502, Q1503	Transistor	RN2403	2214540R2	PP2P
Q1504 - Q1506, Q1508, Q1511	Transistor	HN1C01F-GR	2215925R2	PP2P
Q1507,Q1514, Q1515	Transistor	2SA1162-Y	2214374R2	PP2P
Q1509, Q1513	Transistor	RN1404	2214490R2	PP2P

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

PRINTED CIRCUIT BOARD PARTS LIST-7

U13 VIDEO PC BOARD NAVD-7439-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	Diodes			
D1001, D1002	Chip diode	1SS352 or	223234R2 or	
	Chip diode	1SS355	223269R2	
D1003 - D1005, D9922, D9923	Diode	GP104003E or	22380035 or	
	Diode	RL1N4003	22380260	
D1501 - D1503	Chip diode	1SS352 or	223234R2 or	PP2P
	Chip diode	1SS355	223269R2	PP2P
L1001 - L1012	Choke coil	BLM21B222SPT	230921R2	
	Coils			
L1701 - L1703	EMI filer	BLM21BD152SN1D	230967R2	DD1N, PT3P, GK3P, PA4P, GR6P, DT3P, DS4P
L8601	Choke coil	NCH-1471	231237M022R2	
L1013	Choke coil	NCH-1490	231253K100	
	Capacitors			
C1001, C1005, C1007	Electric capacitor	CE04W16V-100uF	354741019	
C1009, C1011, C1051, C1052	Electric capacitor	CE04W16V-100uF	354741019	
C1013	Electric capacitor	CE04W16V-470uF	354744719	
C1021 - C1024, C1026, C1028	Electric capacitor	CE04W6.3V-470uF	354724719	
C1033, C1038, C1046, C1048	Electric capacitor	CE04W6.3V-470uF	354724719	
C1049	Electric capacitor	CE04W6.3V-220uF	354722219	
C1050	Electric capacitor	CE04W16V-47uF	354744709	
C1053, C1054	Electric capacitor	CE04W16V-220uF	354742219	
C1302	Electric capacitor	CE04W16V-10uF	354741009	DD1N
C1501	Electric capacitor	CE04W16V-470uF	354744719	PP2P
C1702, C1703	Electric capacitor	CE04W6.3V-470uF	354724719	DD1N, PT3P, GK3P, PA4P, GR6P, DT3P, DS4P
	Resistors			
R1520, R1523, R1526	Metal oxide resistor	RS1/2WBJ-270 ohm	443522714	PP2P
	Jack			
	Pin jack	NPJ-4PDY480	25045683	VIDEO
	Holder			
JL1701A	Wire holder	NSCT-6P877	25051090	DD1N, PT3P, GK3P, PA4P, GR6P, DT3P, DS4P
	Sockets			
P1002B	Socket	NSCT-29P2122	25052225	
P1004, P1006	Socket	NSCT-4P2171	25052274	PP2P
P1005	Socket	NSCT-8P1535	25051748	
P1007	Socket	NSCT-8P1535	25051748	DD1N, PT3P, GK3P, PA4P, GR6P, DT3P, DS4P
P1802A	Socket	NSCT-13P2404	25052507	PP2P
P1802Aor	Socket	NSCT-13P2210	25052313	PP2P

U14 VIDEO PC BOARD NAVD-7440-1B (PP2P Type only)

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	Transistors			
Q1801, Q1802	Transistor	HN1C01F-GR	2215925R2	PP2P
	Diodes			
D1801, D1802	Diode	1SS226	223266R2	PP2P
	Coils			
L1801 - L1805	Choke coil	BLM21B222SPT	230921R2	PP2P
	Capacitors			
C1801 - C1804	Electric capacitor	CE04W6.3V-470uF	354724719	PP2P
C1805, C1806	Electric capacitor	CE04W6.3V-220uF	354722219	PP2P
C1809, C1810	Electric capacitor	CE04W16V-10uF	354741009	PP2P
	Resistors			
R1809, R1812	Metal oxide resistor	RS1/2WBJ-270 ohm	443522714	PP2P
	Sockets			
P1801	Socket	NSCT-21P2557	25052660	PP2P AV CONNECTOR
P1802B	Socket	NSCT-13P2404 or	25052507 or	PP2P
	Socket	NSCT-13P2210	25052313	PP2P

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

PRINTED CIRCUIT BOARD PARTS LIST-8

U15 COMPONENT TERMINAL PC BOARD NAVD-7440-1A/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
L1704 - L1706	Choke coil	BLM21B222SPT	230921R2	DD1N, PT3P, GK3P, PA4P, GR6P, DT3P, DS4P
L1301 - L1303	Choke coil	NCH-1471	231237M022R2	DD1N
C1701	Electric capacitor	CE04W6.3V-470uF	354724719	DD1N, PT3P, GK3P, PA4P, GR6P, DT3P, DS4P
P1701	Pin jack	NPJ-3PDB401	25045590	DD1N, PT3P, GK3P, PA4P, GR6P, DT3P, DS4P
JL1701B	Wire holder	NSCT-6P877	25051090	DD1N, PT3P, GK3P, PA4P, GR6P, DT3P, DS4P

U16 DIGITAL TERMINAL PC BOARD NAETC-7442-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
Q8601	IC	TC74HCU04F	222740046R2TO	
U8602	Photo coupler	GP1FH501RZ	24120084	OPTICAL IN
U8601	Photo coupler	GP1FA551TZ or	24120085 or	OPTICAL OUT
	Photo coupler	TOTX179	24120094	
L8602	Choke coil	NCH-1477	231237K220R2	
C8606	Electric capacitor	CE04W6.3V-100uF	354721019	
P8601	Pin jack	NPJ-1PDOR369	25045548	COAXIAL IN
JL8602A	Wire holder	NSCT-6P897	25051110	

U23 REGULATOR IC PC BOARD NAETC-7449-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
Q9927	IC	PQ05RD11	22241495	
Q9902	IC	PQ12RF1	22241770	
C9912, C9935	Electric capacitor	CE04W50V-10uF	354781009	
JL9003A	Wire holder	NSCT-7P878	25051091	

U26 DSP AND MICROPROCESSOR PC BOARD NADG-7452-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	ICs			
Q8001	IC	MPD784225GC-165-8BT	22241773R3	
Q8101	IC	CS493292-CL	22241455R2	
Q8102	IC	TC7WU04FU	22240935R2	
Q8201	IC	AK4586	22241620R3	
Q8301	IC	TC74HCT7007AF	222740077R2TO	
Q8302	IC	TC74VHC74FT	22274074ER2TO	
Q8304, Q8305	IC	TC74VHC574FT	22274574ER2TO	
Q8306	IC	MX27L2000TC-12	18091002301AD	FLASH ROM
Q8307	IC	TC74VHC541FT	22274541ER2TO	
Q8402	IC	BU1923F	22241297R2	PP2P
Q8701 - Q8703	IC	NJM4565M-D	22241383R2	
Q8901	IC	MPC2925T	22278025DR2NE	
Q8902	IC	MPC2933T	22278033DR2NE	
	Transistors			
Q8003	Transistor	RN1404	2214490R2	
Q8401	Transistor	2SC2712-O	2213143R2	PP2P
Q8501	Transistor	2SC2712-O	2213143R2	
	Diodes			
D8001	Chip diode	1SR154-400	22380284R2	
D8002, D8004, D8005, D8201, D8202	Chip diode	1SS352 or	223234R2 or	
	Chip diode	1SS355	223269R2	
D8003	Zener diode	UDZS6.2B	224550620R2	
D8501, D8502	Chip diode	1SS352 or	223234R2 or	
	Chip diode	1SS355	223269R2	

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

PRINTED CIRCUIT BOARD PARTS LIST-9

U26 DSP AND MICROPROCESSOR PC BOARD NADG-7452-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	Oscillators			
X8001	Ceramic resonator	CSTCE12M5G52-R0	3010361R2	
X8101	Ceramic resonator	CSTCV12.2MTJ0C4	3010324R2	
X8401	Crystal	HC-49/U03C4.332MHz	3010332R2	PP2P
	Coils			
L8001	Choke coil	NCH-1477	231237K220R2	
L8101 - L8103, L8201 - L8204	Choke coil	NCH-1471	231237M022R2	
L8104	EMI filter	BK1608LM252-T	230956R2	
L8105, L8205	Choke coil	BLM21B222SPT	230921R2	
L8301, L8501	Choke coil	NCH-1479	231237K470R2	
L8401	Choke coil	NCH-1477	231237K220R2	PP2P
	Capacitors			
C8001, C8004, C8105, C8116, C8302	Electric capacitor	CE04W6.3V-100uF	355721019	
C8002	Capacitor	FGH0H474Z	3000122	
C8009	Electric capacitor	CE04W50V-1uF	355780109	
C8201, C8211, C8903, C8904, C8906	Electric capacitor	CE04W6.3V-47uF	355724709	
C8206, C8901	Electric capacitor	CE04W6.3V-220uF	355722219	
C8210, C8701 - C8706	Electric capacitor	CE04W16V-10uF	355741009	
C8401, C8404	Electric capacitor	CE04W50V-3.3uF	355780339	
C8408, C8410	Electric capacitor	CE04W6.3V-100uF	355721019	PP2P
C8715	Plastic film capacitor	ECQ-B50V-822J	374728224	
C8721 - C8724, C8726	Plastic film capacitor	ECQ-B50V-152J	374721524	
C8725	Plastic film capacitor	ECQ-B50V-153J	374721534	
C8731, C8732	Electric capacitor	CE04W16V-100uF	355741019	
	Jack			
P8004	Jack	LGY2502-0200C	25045696	
	Sockets			
JL8602B	Socket	NSCT-6P111	25050283	
P7001A	Socket	NSCT-16P2434 or	25052537 or	
	Socket	NSCT-16P2250	25052353	
P8002B	Socket	NSCT-25P2155	25052258	
P8401	Socket	NSCT-15P2145	25052248	
	Plugs			
JL8501B	Wire trap	NPLG-3P586	25055624	
P8001B, P8701B	Plug	NPLG-13P360	25055377	
P8003	Plug	NPLG-8P660	25055704	
P8005	Plug	NPLG-2P217	25055233	
P8009A, P8201A	Plug	NPLG-2P130	25055146	
P8501	Plug	NPLG-2P29	25055038	
	Clamps			
P8006 - P8008	Clamp	CP-1S	260224	

U27 TERMINAL PC BOARD NAETC-7453-1A/-1B/-1C/-1D

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	Sockets/ Plugs			
P0001A	Socket	NSCT-4P2201 or	25052304 or	
	Socket	NSCT-4P2395	25052498	
P0002A	Socket	NSCT-12P2246 or	25052349 or	
	Socket	NSCT-12P2430	25052533	
P0003A	Socket	NSCT-17P2251 or	25052354 or	
	Socket	NSCT-17P2435	25052538	
P0004A	Socket	NSCT-6P2136	25052239	
P8009	Socket AS	NSAS-4P0754	2002A390420	
P0005A	Plug	NPLG-5P133	25055149	

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

PRINTED CIRCUIT BOARD PARTS LIST-10

U29 SPEAKER TERMINAL PC BOARD NAAF-7510-1A (UDD1N, UDS4P Type only))

CIRCUIT NO.	NAME	DESCRIPTION	PART NO.	REMARKS
	Transistors			
Q5404, Q5405, Q5407	Transistor	DTA114ES	2213510	
Q5401,Q5402, Q5403, Q5406	Transistor	DTC123JS	2213640	
	Diodes			
D5401 - D5404	Chip diode	1SS352 or	223234R2 or	
	Chip diode	1SS355	223269R2	
	Coils			
L5011 - L5014	S coil	S-1.3C	231176S	
	Capacitors			
C5061 - C5065	Plastic film capacitor	ECQ-V50V-104J	374721044	
	Resistors			
R5061 - R5064	Metal oxide resistor	RS1/2WBJ-10 ohm	443521004	
R5071 - R5075	Metal resistor	RNU1WCJ-4.7 ohm	453630474	
R5401, R5403, R5406	Metal oxide resistor	RS1WBJ-220 ohm	443622214	
R5402	Metal oxide resistor	RS1WBJ-560 ohm	443625614	
	Relays			
RL5401, RL5403, RL5404	Relay	NRL-2P5A-DC12-155 or	25065607 or	FRONT/ SR
	Relay	NRL-2P8A-DC12-147 or	25065597 or	
	Relay	NRL-2P5A-DC12-160	25065632	
RL5402	Relay	NRL-1P5A-DC12-135	25065578	CENTER
	Terminals			
P5011	Terminal	NTM-8PDML254	25060323	SP-A,/ SP-B
P5012	Terminal	NTM-6PDML255	25060324	C/ SL/ SR
	Sockets			
JL5001B	Socket	NSCT-4P96	25050268	
JL5002B	Socket	NSCT-5P97	25050269	
JL5003B	Wire trap	NPLG-5P588	25055626	
JL5004B	Wire trap	NPLG-7P590	25055628	

[**NOTES]**
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UDS4P: South America area (Regional code-4)
UGR6P: Chinese area (Regional code-6)

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

A

PRINTED CIRCUIT BOARD VIEWS-9

U11 POWER SUPPLY PC BOARD (NAPS-7437)

1

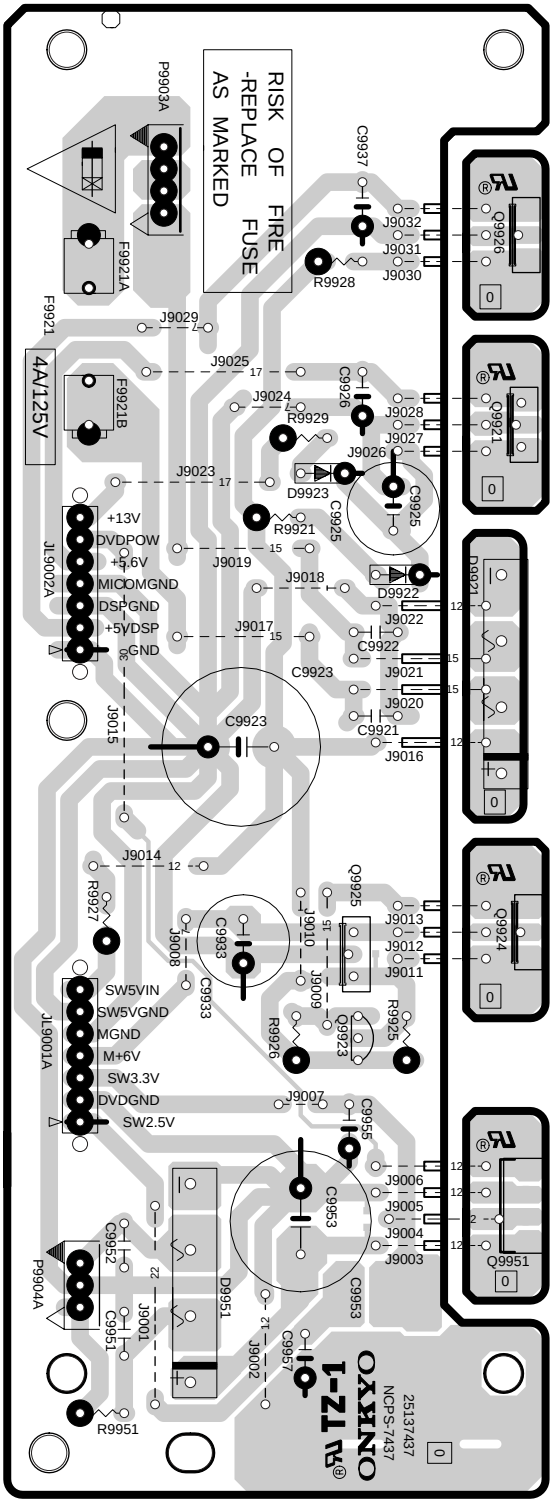
2

3

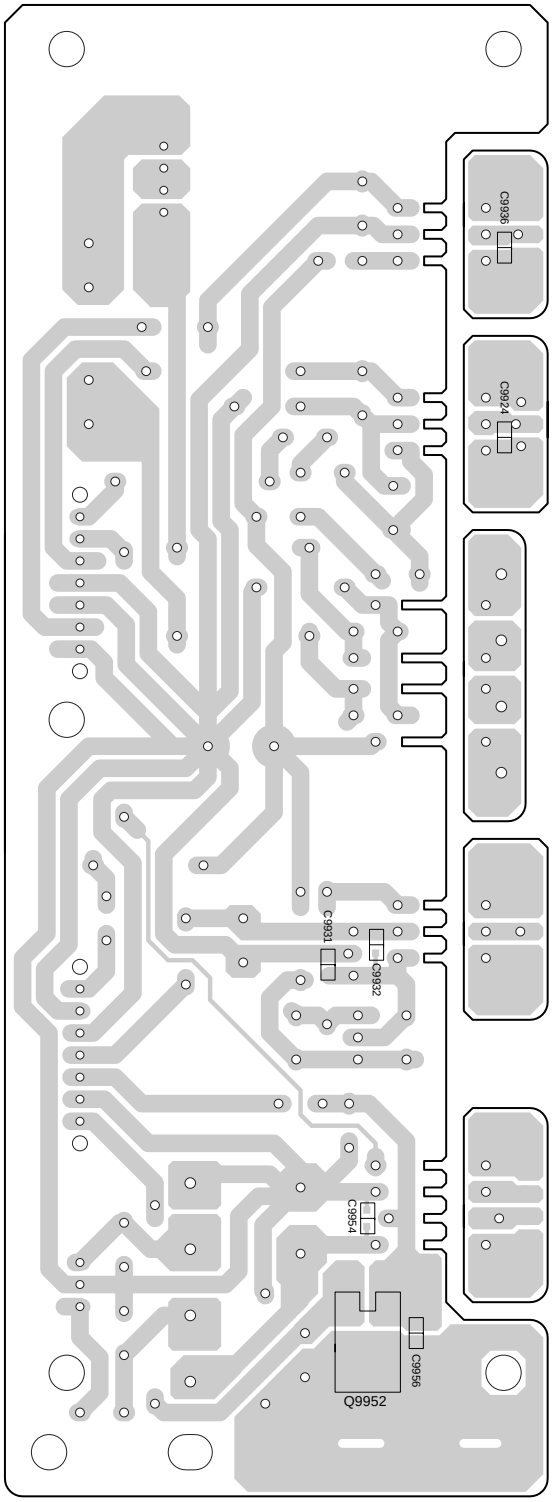
4

5

Component side



Soldering side



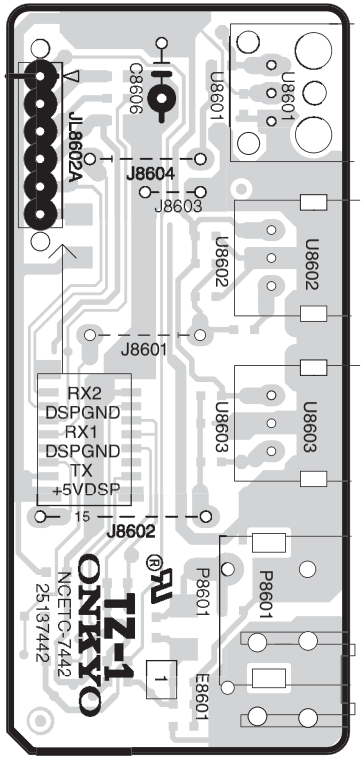
A B C D E

PRINTED CIRCUIT BOARD VIEWS-8

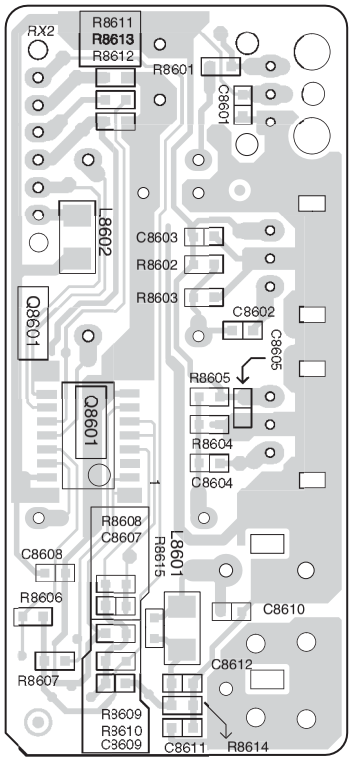
U16 DIGITAL TERMINAL PC BOARD (NAETC-7442)

1

Component side



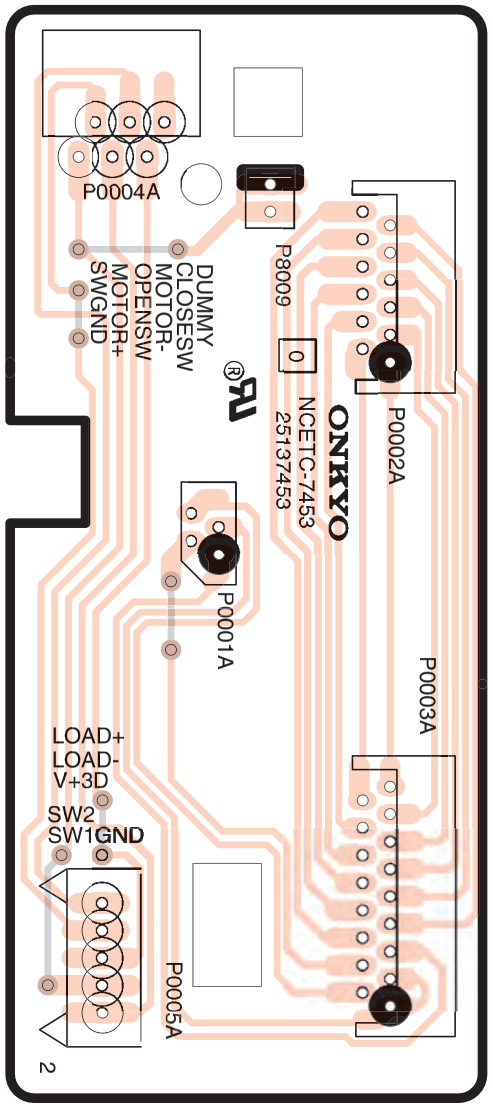
Soldering side



2 Page 62

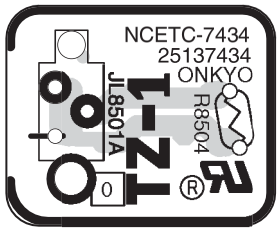
3

U27 TERMINAL PC BOARD (NAETC-7453)



U7 TERMAL PROTECTION PC BOARD (NAETC-7434)

Component side



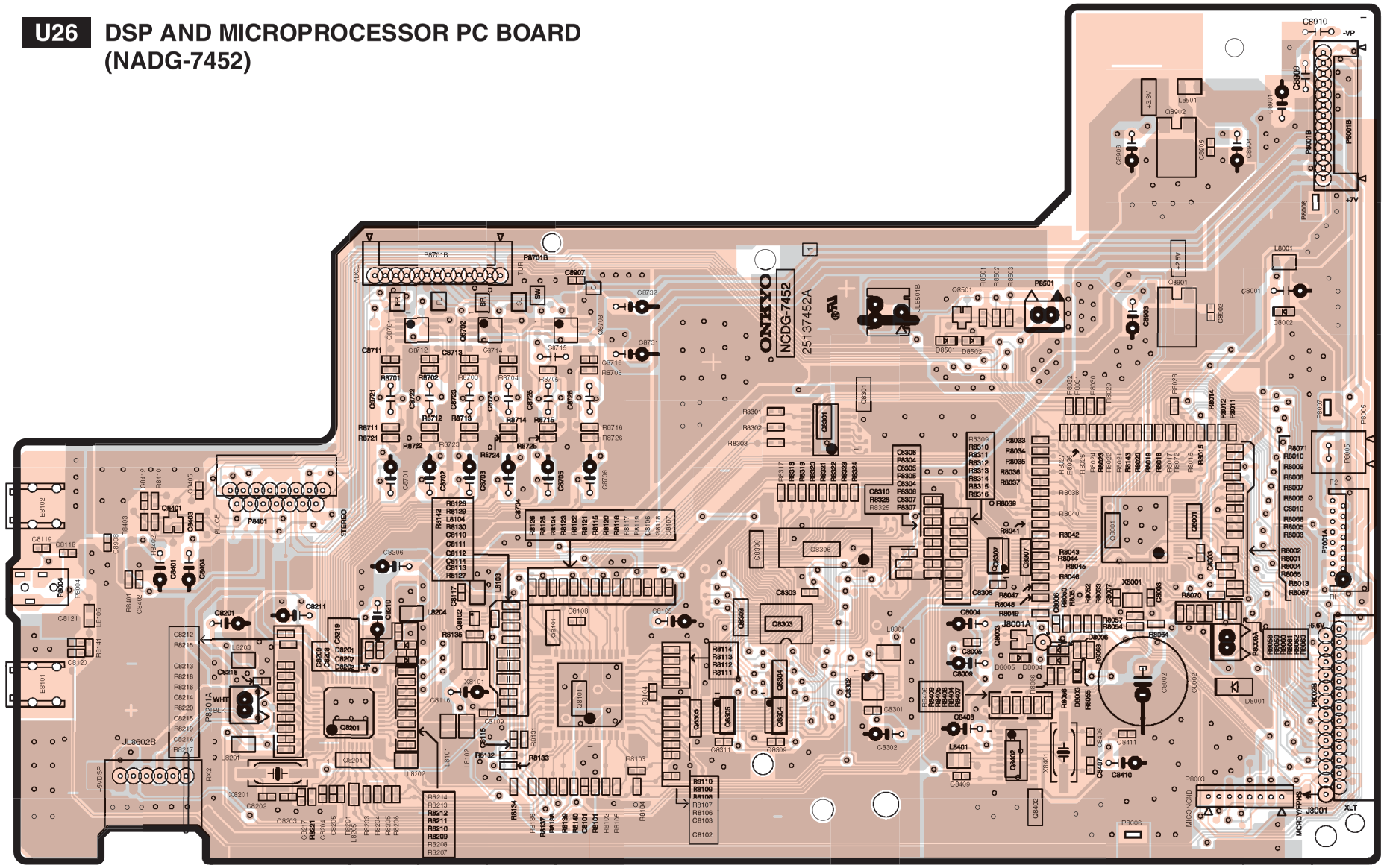
4

A B C D E

PRINTED CIRCUIT BOARD VIEWS-7

1

U26 DSP AND MICROPROCESSOR PC BOARD (NADG-7452)



2

Page 63

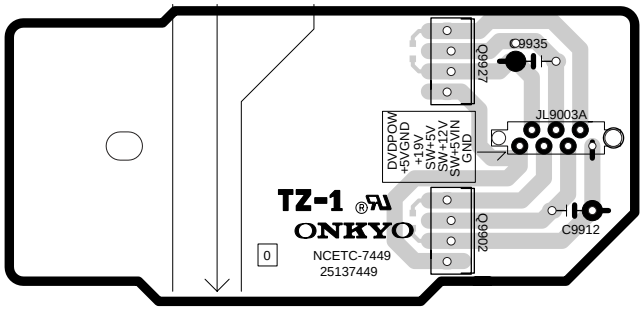
3

4

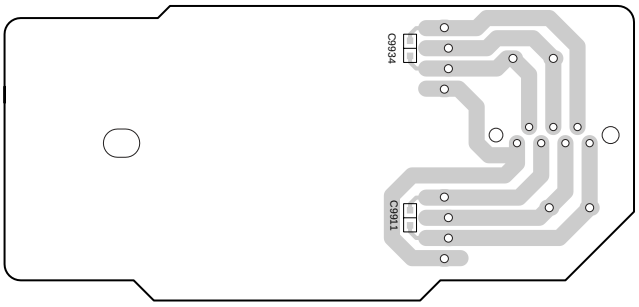
PRINTED CIRCUIT BOARD VIEWS-6

U23 REGULATOR IC PC BOARD (NAETC-7449)

Component side

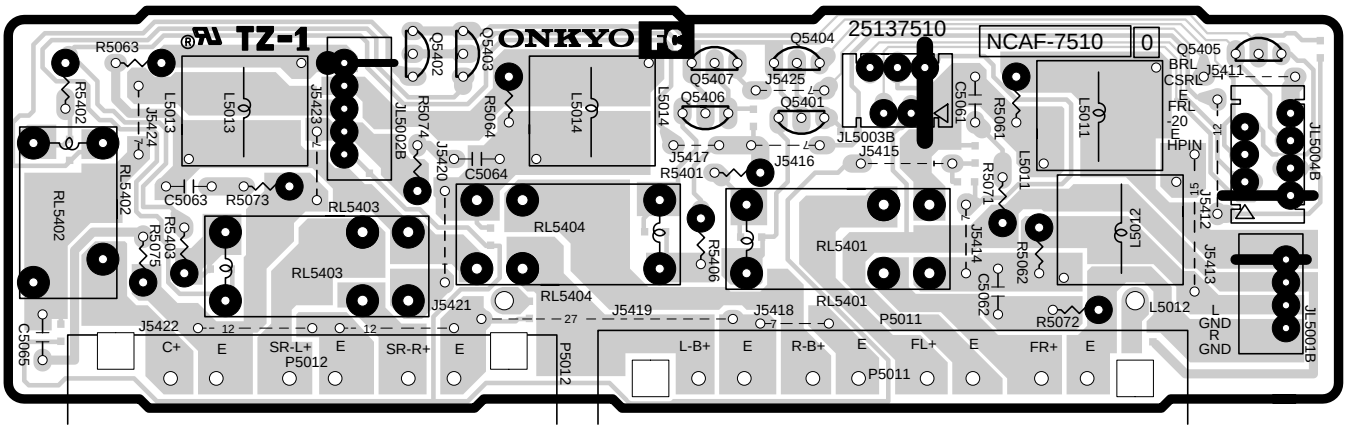


Soldering side

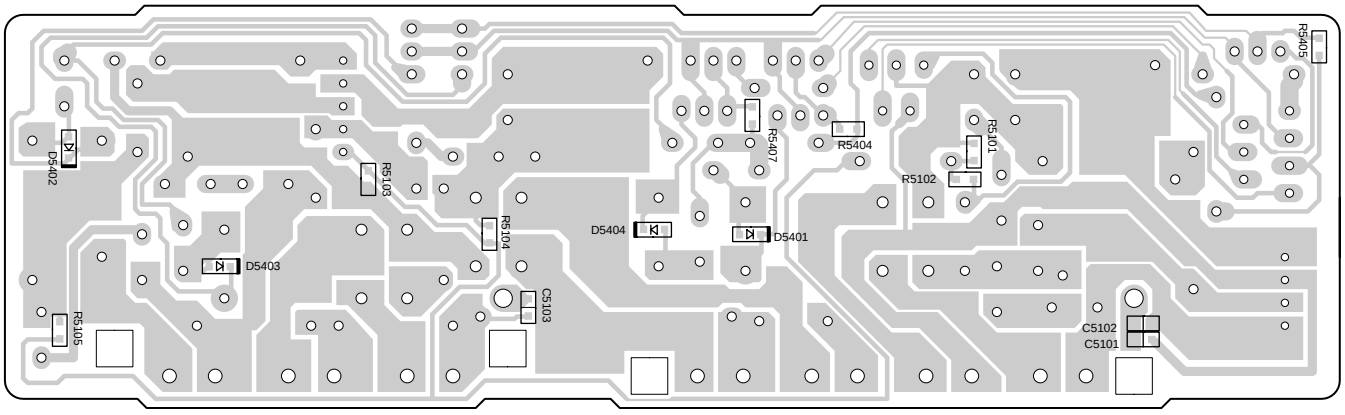


U29 SPEAKER TERMINAL PC BOARD (NAAF-7510) UDD1N, UDS4P Type only

Component side



Soldering side

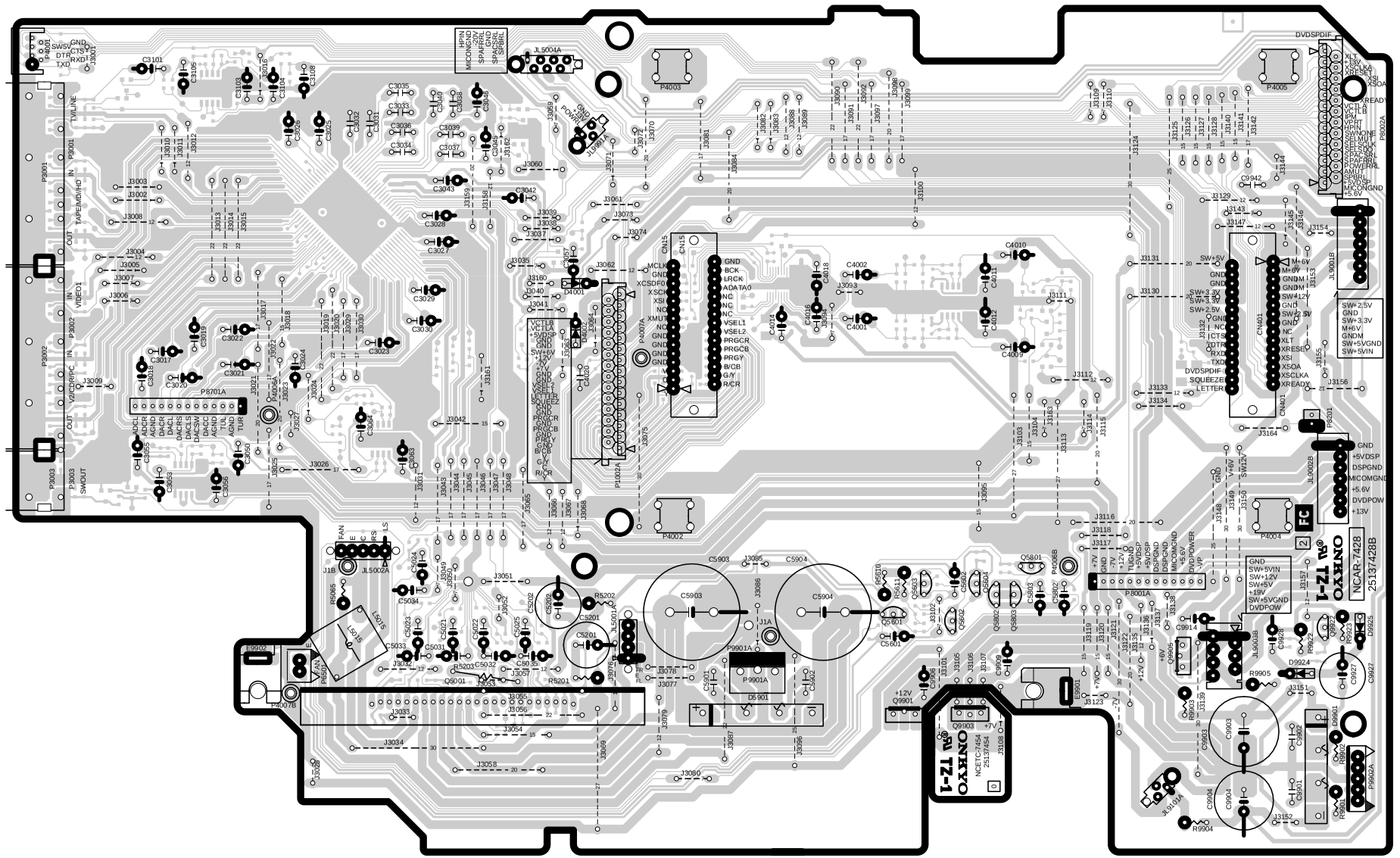


A B C D E

PRINTED CIRCUIT BOARD VIEWS-5

1

U1 MAIN PC BOARD (NAAR-7428) Component side



2

Page 65

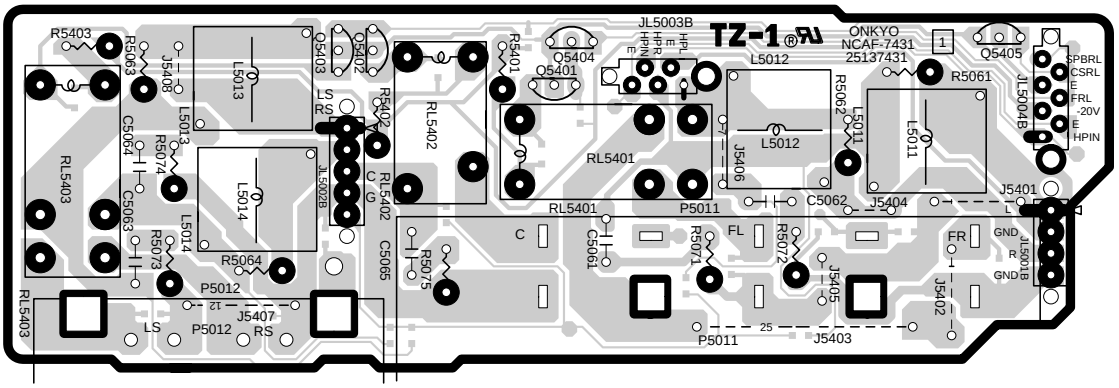
3

4

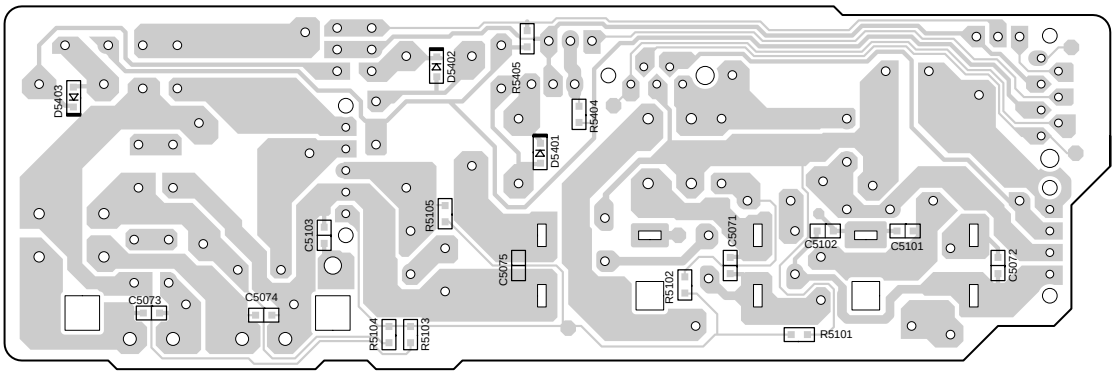
PRINTED CIRCUIT BOARD VIEWS-4

U4 SPEAKER TERMINAL PC BOARD (NAAF-7431)

Component side

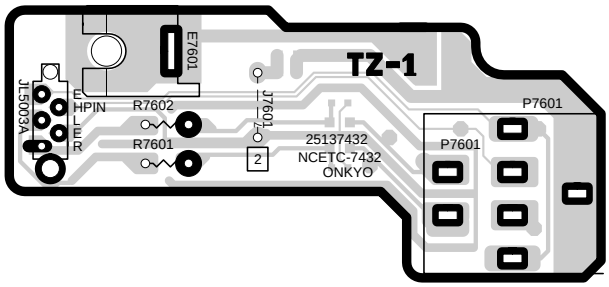


Soldering side

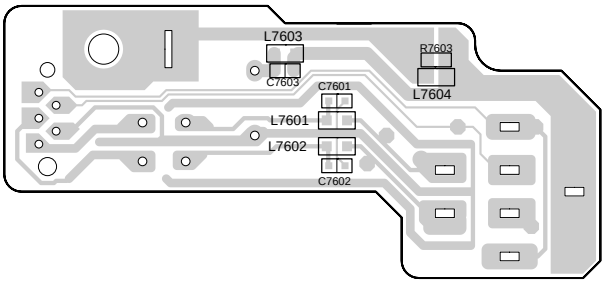


U5 HEAD PHONE TERMINAL PC BOARD (NAETC-7432)

Component side

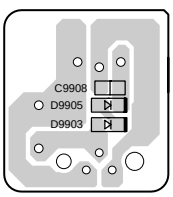


Soldering side

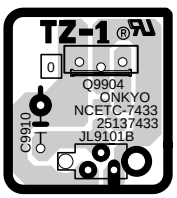


U6 REGULATOR IC PC BOARD (NAETC-7433)

Soldering side



Component side

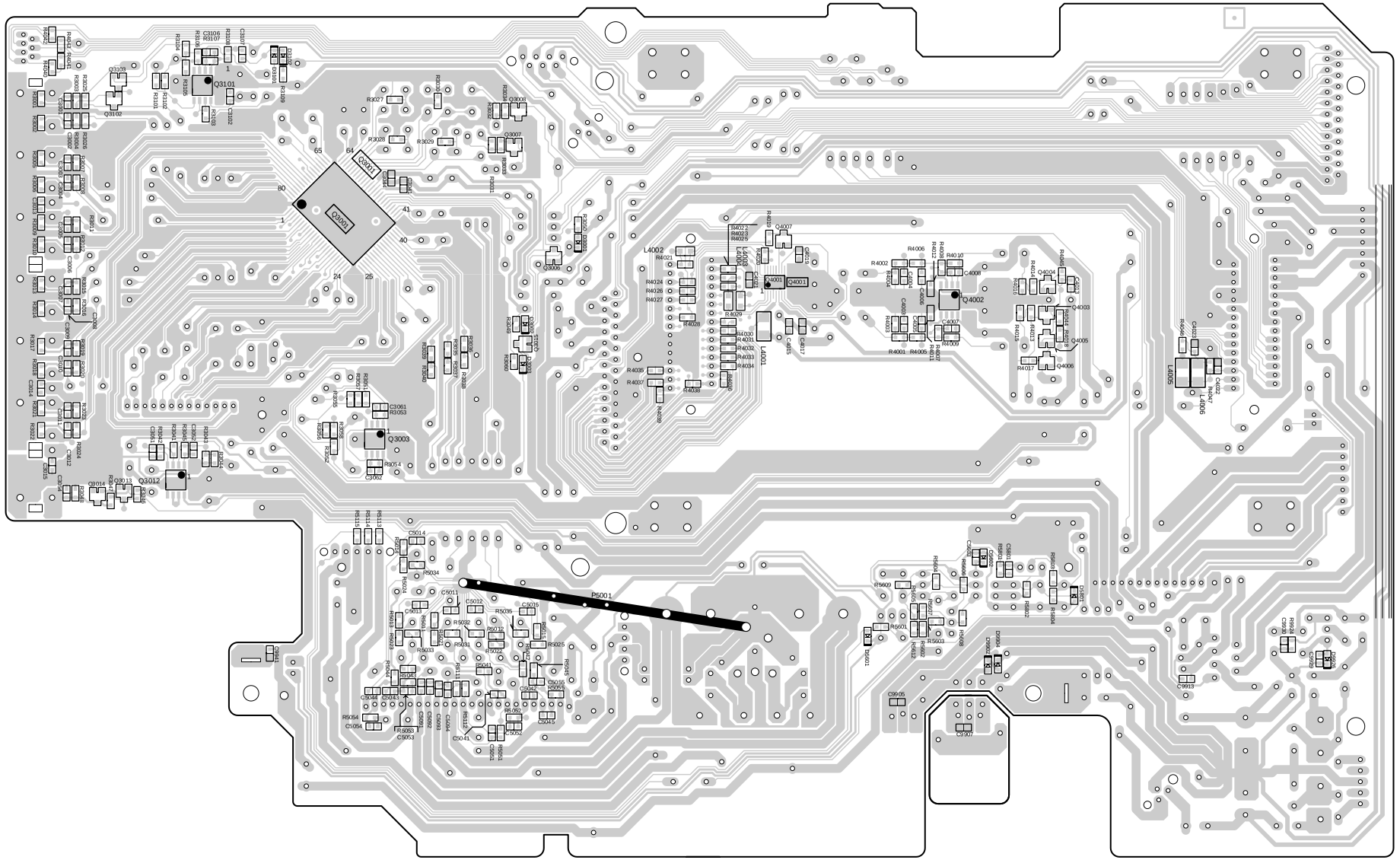


A B C D E

PRINTED CIRCUIT BOARD VIEWS-3

1

U1 MAIN PC BOARD (NAAR-7428) Soldering side



2

3

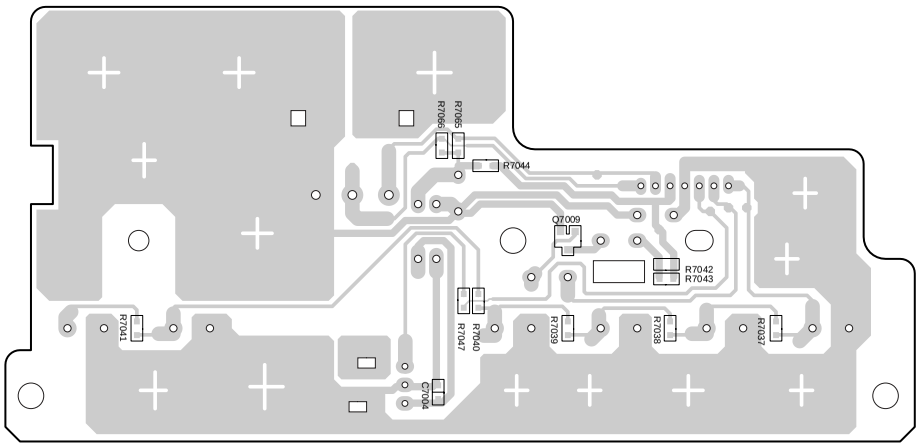
4

A B C D E

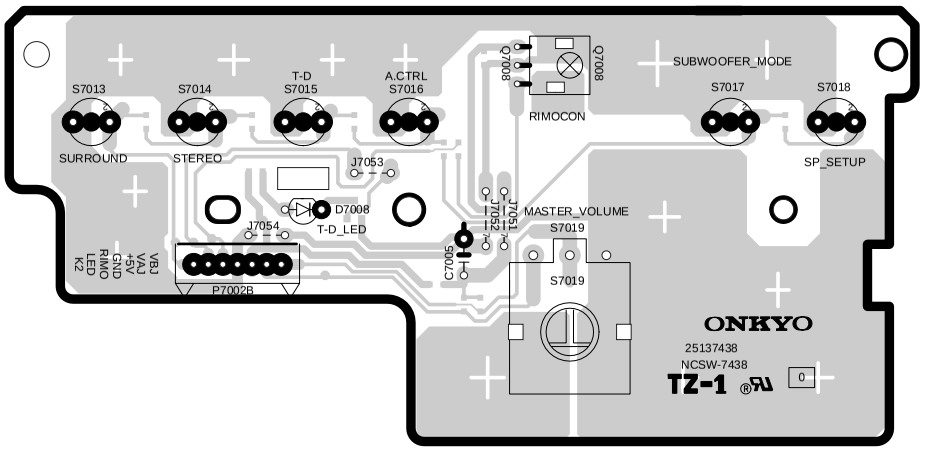
PRINTED CIRCUIT BOARD VIEWS-2

U12 OPERATION SWITCH PC BOARD (NASW-7438)

Soldering side

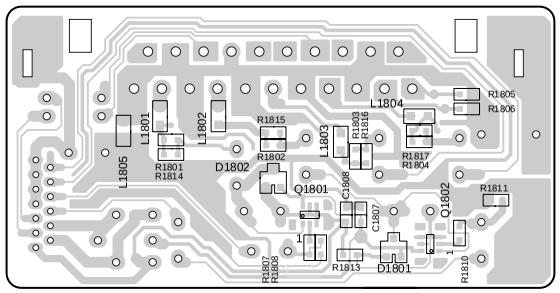


Component side

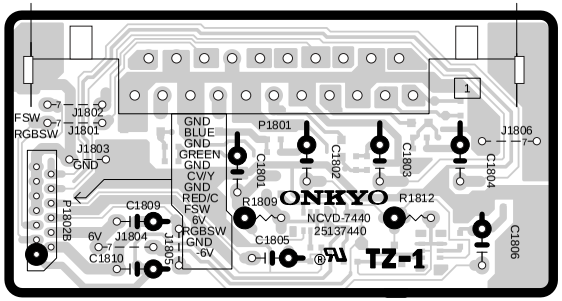


U14 AV CONNECTOR PC BOARD (NAVD-7440) UPP2P Type only

Soldering side

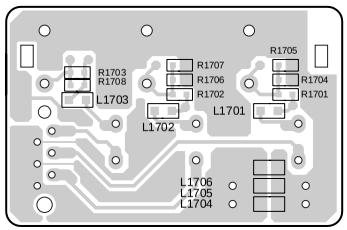


Component side

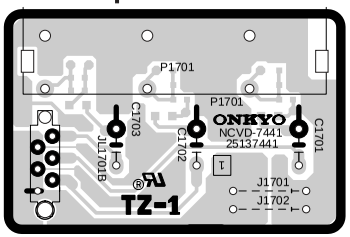


U15 COMPONENT TERMINAL PC BOARD (NAVD-7441)

Soldering side



Component side

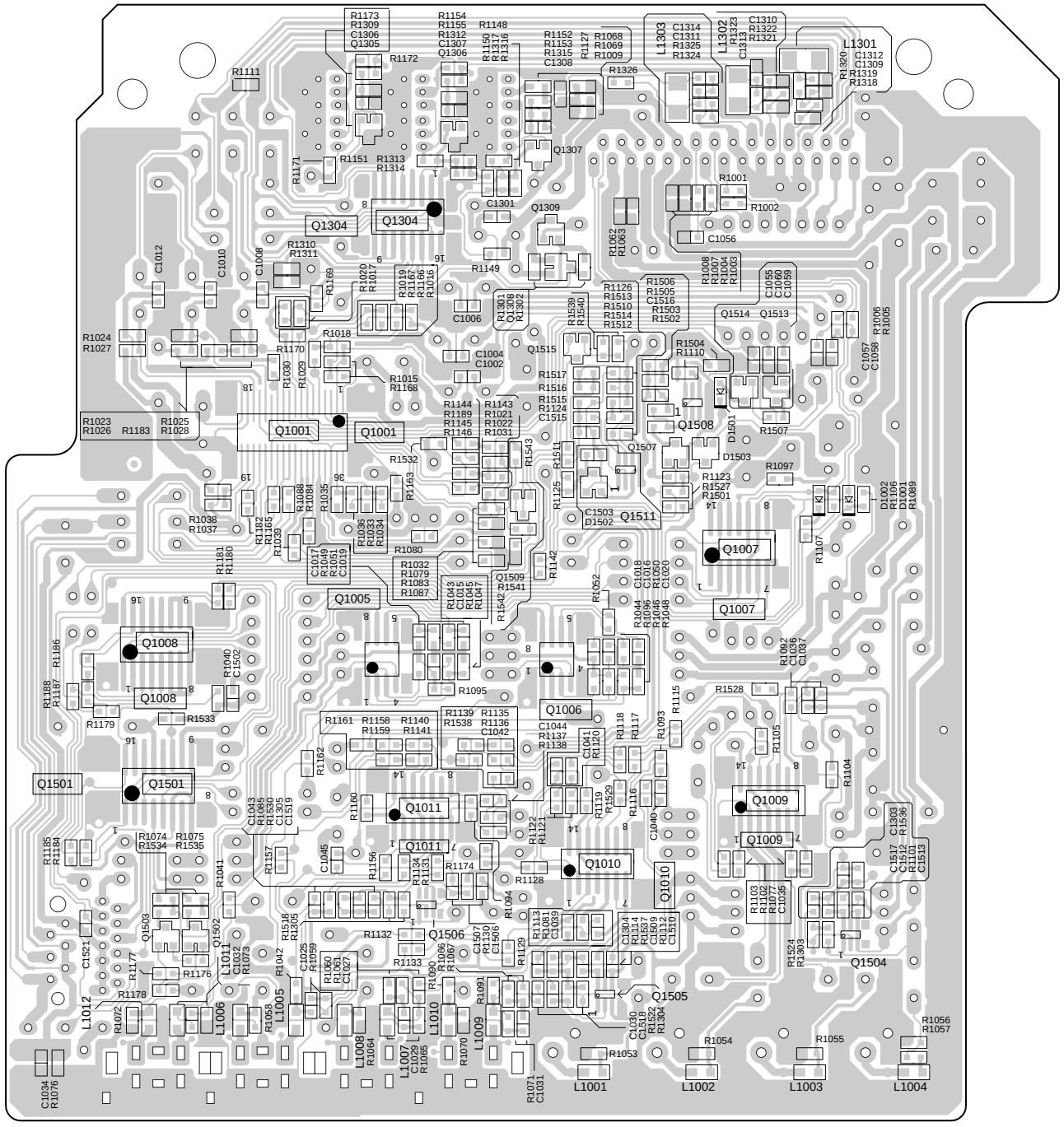


DR-S2.2

PRINTED CIRCUIT BOARD VIEWS-12

U13 VIDEO PC BOARD (NAVD-7439)

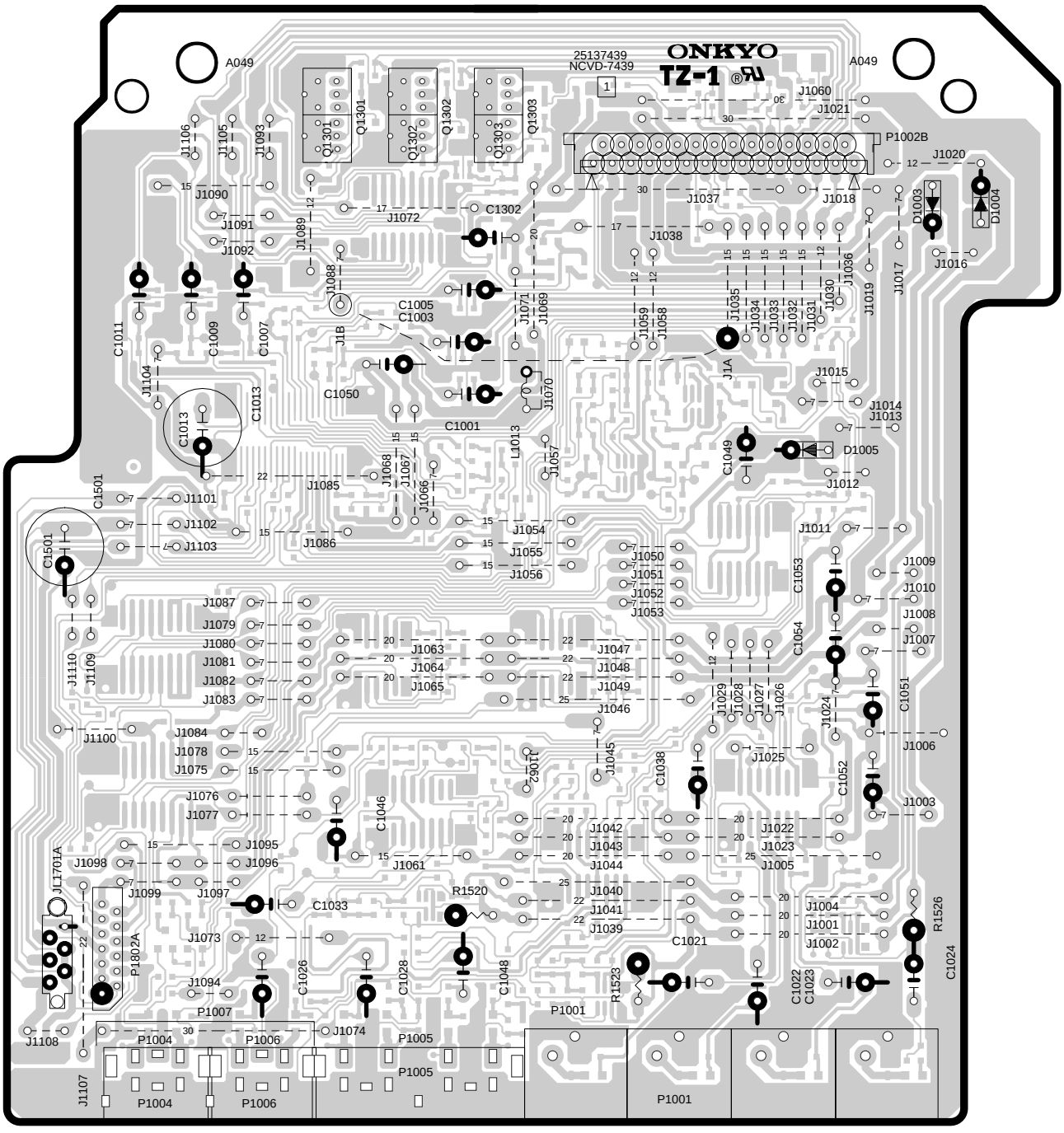
Soldering side



PRINTED CIRCUIT BOARD VIEWS-11

U13 VIDEO PC BOARD (NAVD-7439)

Component side



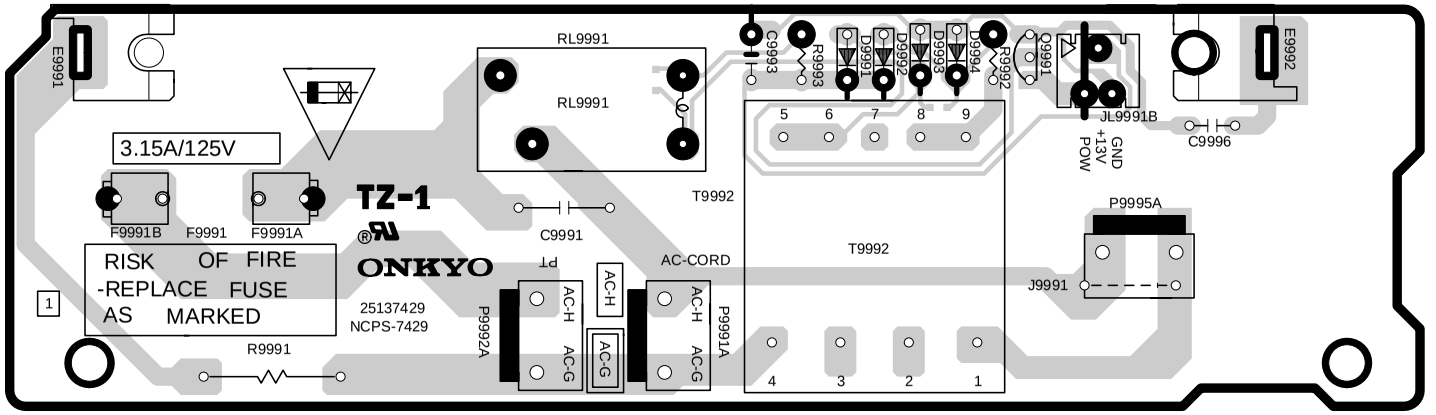
A B C D E

PRINTED CIRCUIT BOARD VIEWS-10

U2 POWER SUPPLY PC BOARD (NAPS-7429)

1

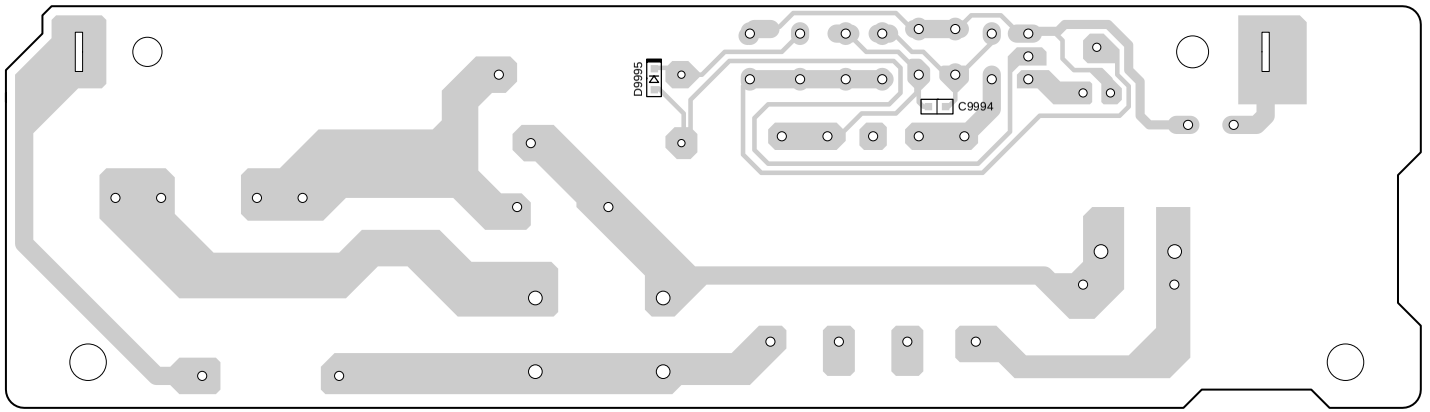
Component side



2

Page 71

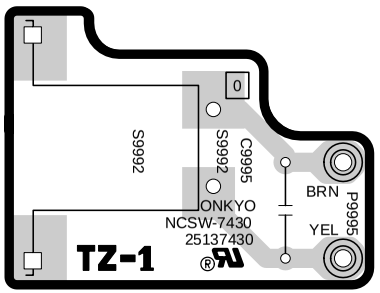
Soldering side



3

U3 POWER SWITCH PC BOARD (NASW-7430)

Component side



4

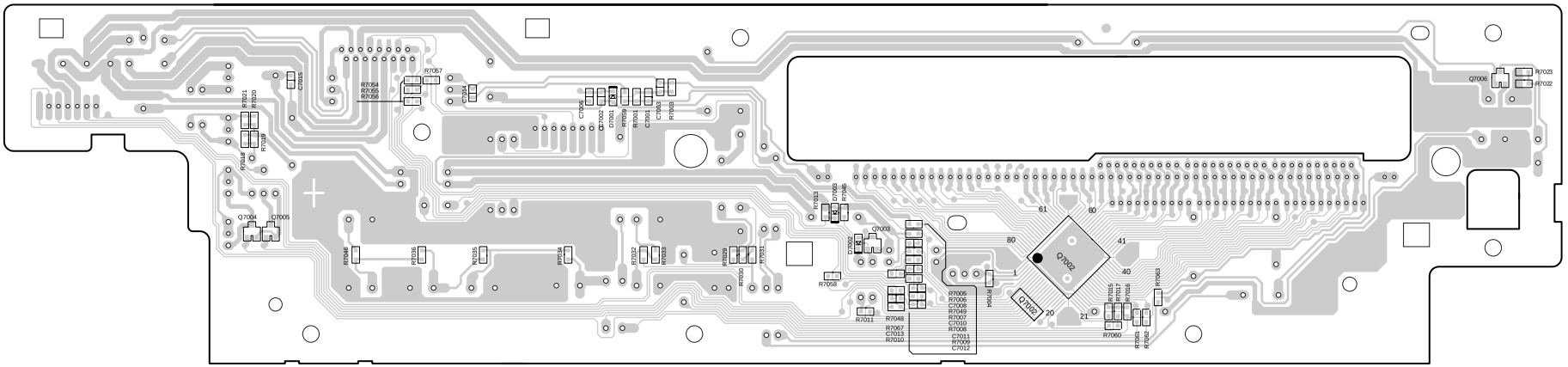
A B C D E

PRINTED CIRCUIT BOARD VIEWS-1

U10 DISPLAY PC BOARD (NADIS-7436)

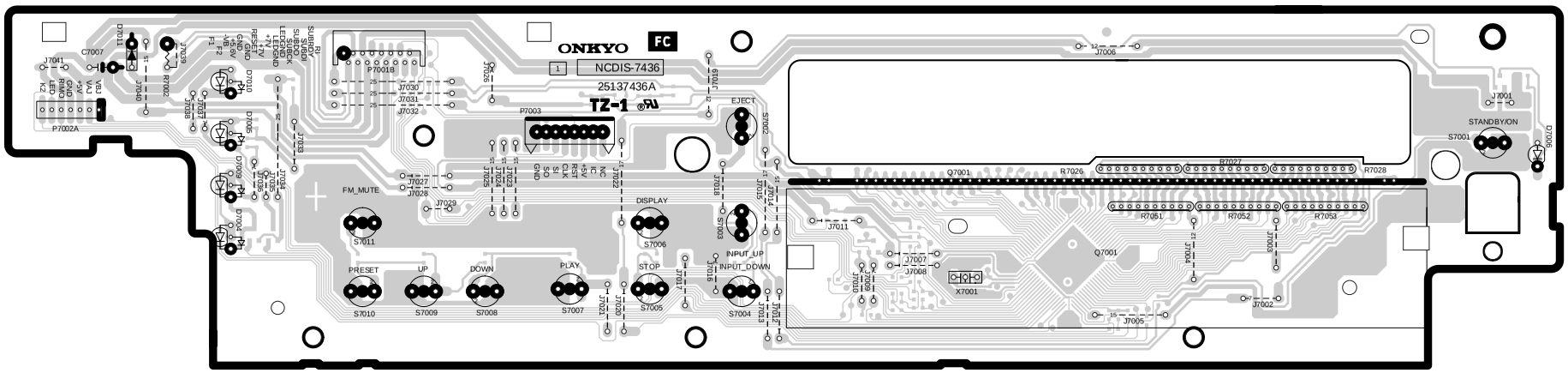
1

Soldering side



2

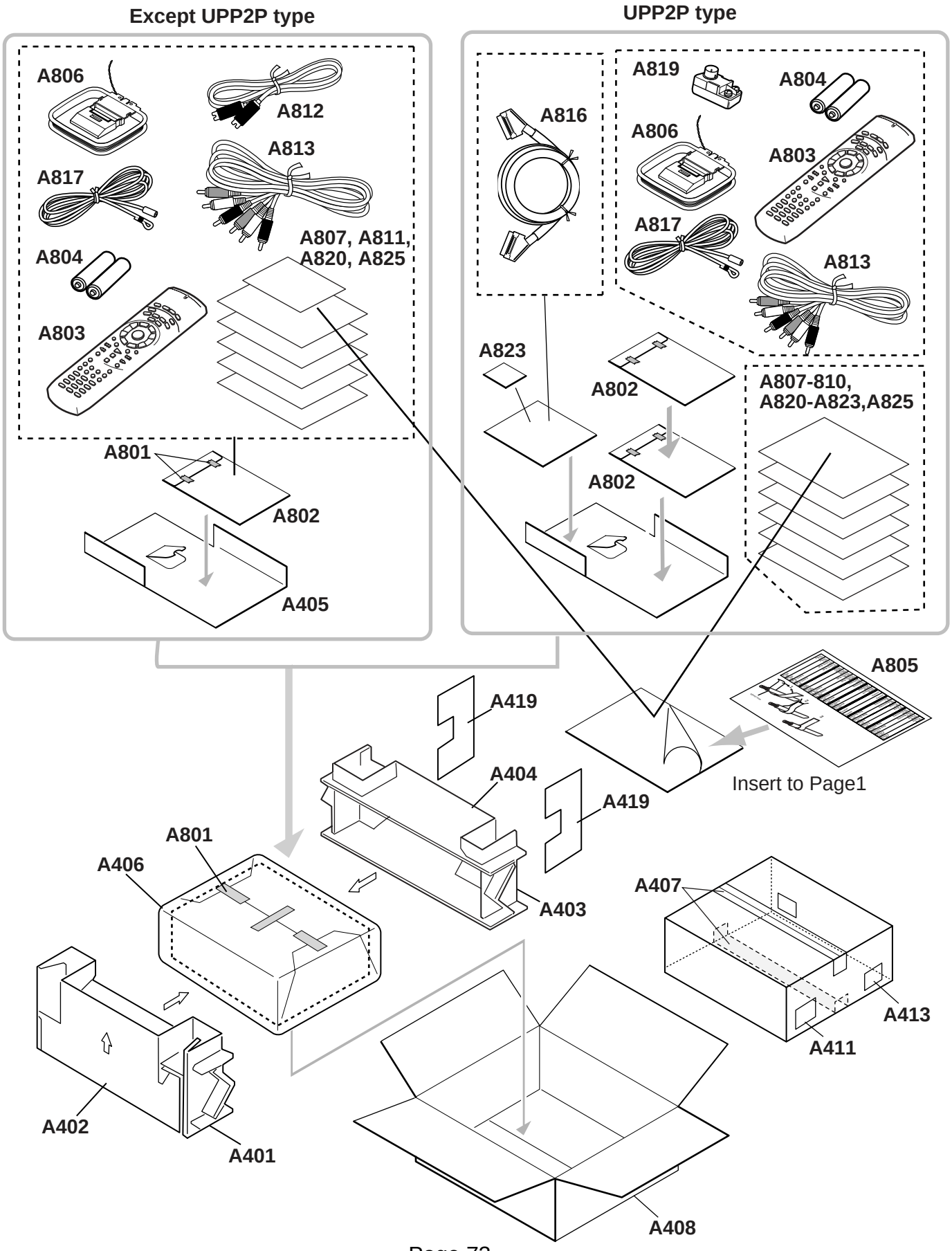
Component side



3

4

PACKING VIEW



PACKING VIEW PARTS LIST

REF NO.	NAME	DESCRIPTION	PART NO.	REMARKS
A401	Pad	(B)	29091951	
A402	Pad	(S)	29091952A	
A403	Pad	(B)	29091960A	
A404	Pad	(S)	29091962A	
A405	Sheet	(Accessories)	29095889	
A406	Sheet		29095847	
A407	TAPE	W50 x L100	29110141	DT3P, PT3P, GK3P, DS4P, PA4P GR6P
A408	Carton box	DR-S2.2	29053874	DD1N
	Carton box	DR-S2.2UDD1N	29053875	PP2P
	Carton box	DR-S2.2UPP2P	29053876	PP2P, DT3P, PT3P, GK3P, DS4P, GR6P
A411	EAN label	DR-S2.2(T)	29363060	DD1N, PA4P
	UPC Label	DR-S2.2(T)	29363061	PT3P
A413	Label	UPT3P	29363067	GR6P
	Label	UGR6P	29363068	DT3P
	Label	UDT3P	29363069	GK3P
	Label	UGK3P	29363070	PA4P
	Label	UPA4P	29363071	DS4P
	Label	UDS4P	29363072	
A419	Sheet	(A)	29095924	
A801	TAPE	NO.29	29110149	
A802	POLY BAG	350 x 250	29100097-1A	
A803	Remote controller	RC-484M	24140484	
A804	Battery	UM-3	3010054	
A805	Label	(SP CODE)	29363059	
A806	AM loop antenna	NMA-3057	232140	
A807	Instruction manual	E(DR-S2.2)	29343279	
A808	Instruction manual	F(DR-S2.2)	29343280	PP2P
A809	Instruction manual	G(DR-S2.2)	29343281	PP2P
A810	Instruction manual	I(DR-S2.2)	29343282	PP2P
A811	Instruction manual	CT(DR-S2.2)	29343283	DT3P, PT3P, GR6P
A812	CORD AS	TPX3000	2010360	DD1N, DT3P, PT3P, GK3P, DS4P, PA4P, GR6P
A813	Audio cable ass'y	RCA-3P(YWR) or	2010359 or	DD1N, DT3P, PT3P, GK3P, DS4P, PA4P, GR6P
	Audio cable ass'y	RCA-3P(YWR) or	2010359TAIDA or	DD1N, DT3P, PT3P, GK3P, DS4P, PA4P, GR6P
	Audio cable ass'y	RCA-3P(YWR)	2010359TES	DD1N, DT3P, PT3P, GK3P, DS4P, PA4P, GR6P
A816	RGB CORD	YAF11-0697	2010368	PP2P
A817	FM antenna	P	292116	PP2P, DT3P, PT3P, GK3P, PA4P, GR6P
	FM antenna	Type D	292160	DD1N DS4P
A819	FM adpter	YAE21-0237	25065462	DT3P, PT3P, GK3P, DS4P, PA4P, GR6P
A820	Instruction manual	S(DR-S2.2)	29343319	PP2P, DS4P
A821	Instruction manual	D(DR-S2.2)	29343320	PP2P
A822	Instruction manual	SW(DR-S2.2)	29343321	PP2P
A823	Label	(PE-LD)	29361573	PP2P
A824	Instruction manual	CS(DR-S2.2)	29343284	GR6P
A825	Instruction sheet	U9(DRS22)	29355397	

[NOTES]
UDD1N: North American area (Regional code-1)
UPP2P: European area (Regional code-2)
UPT3P: Some Asian area (AC 120V, Regional code-3)
UPA4P: Australian area (Regional code-4)
UGR6P: Chinese area (Regional code-6)
UGK3P: Korean area (Regional code-3)
UDT3P: Some Asian area (AC 230V, Regional code-3)
UDS4P: South America area (Regional code-4)

ONKYO CORPORATION
Sales & Product Planning Div. : 2-1, Nisshin-cho, Neyagawa-shi, OSAKA 572-8540, JAPAN
Tel: 072-831-8111 Fax: 072-833-5222

ONKYO U.S.A. CORPORATION
18 Park Way, Upper Saddle River, N.J. 07458, U.S.A.
Tel: 201-785-2600 Fax: 201-785-2650 E-mail: onkyo@onkyousa.com

ONKYO EUROPE ELECTRONICS GmbH
Industriestrasse 20, 82110 Germering, GERMANY
Tel: 089-849-320 Fax: 089-849-3265 E-mail: info@onkyo.de

ONKYO CHINA LIMITED
Units 2102-2107, Metroplaza Tower I, 223 Hing Fong Road, Kwai Chung,
N.T., HONG KONG Tel: 852-2429-3118 Fax: 852-2428-9039

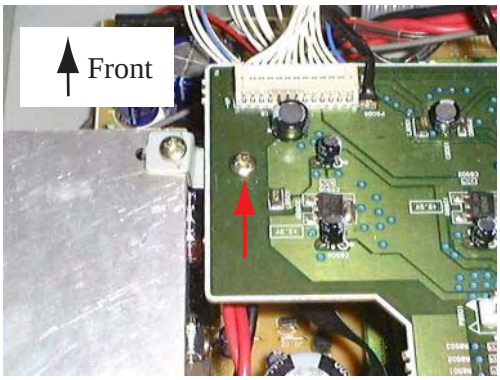
ONKYO
HOMEPAGE
http://www.onkyo.co.jp/

DISASSEMBLING PROCEDURES-1

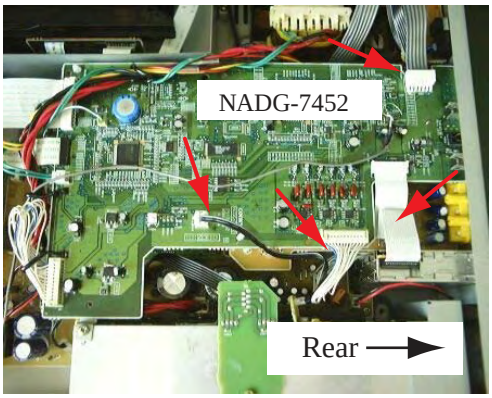
REPLACEMENT OF POWER AMPLIFIER IC (Q5001)

1 Remove the screws.

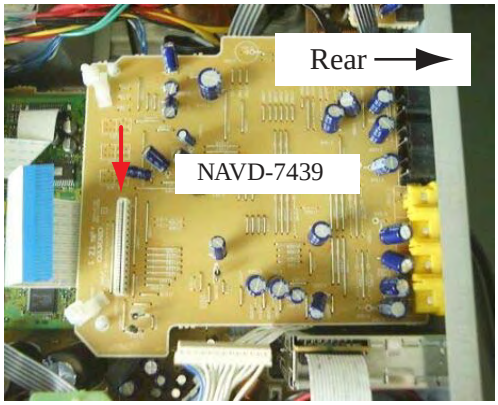
2 Remove the screw.



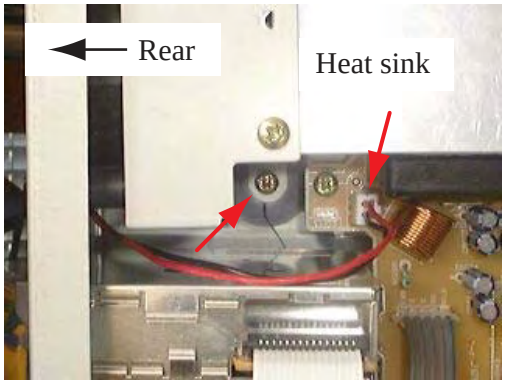
3 1. Disconnect the wire.
2. Remove DSP PC board ass'y (NADG-7452).



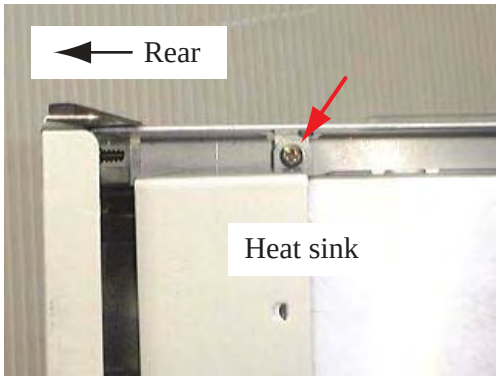
4 1. Disconnect the FLAT cable.
2. Remove video PC board ass'y (NAVD-7439).



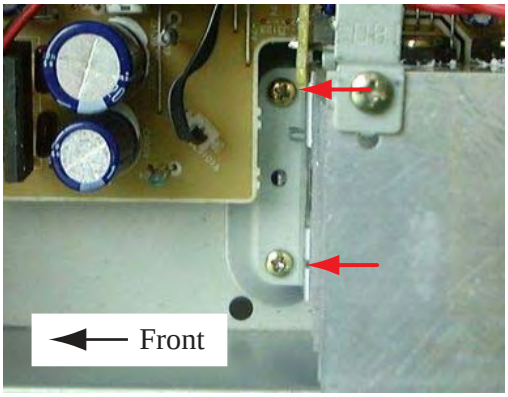
5 1. Remove the screw.
2. Disconnect wire.



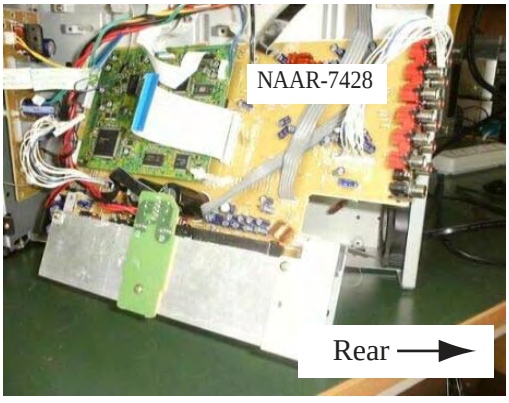
6 Remove the screw.



7 Remove two screws.



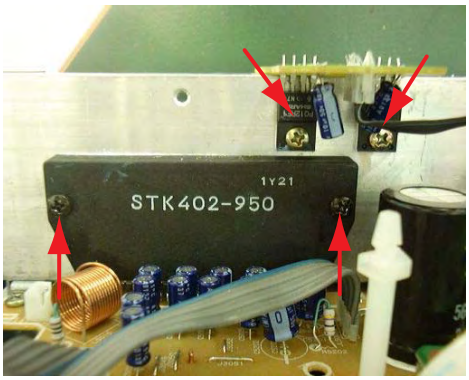
8 Remove main PC board(NAAR-7428) from main chassis.



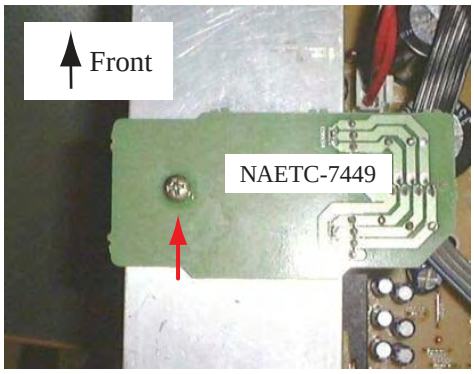
DISASSEMBLING PROCEDURES-2

REPLACEMENT OF POWER AMPLIFIER IC (Q5001)

9 Remove four screws.



10 1. Remove four screws.
2. Remove regurator PC board (NAETC-7449)



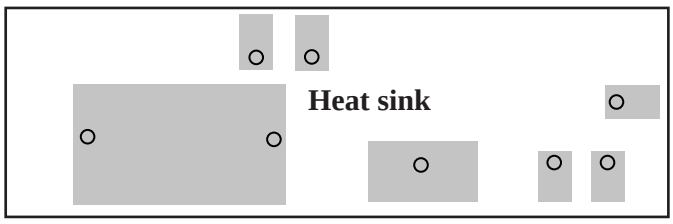
11 Replacement power amplifier IC.

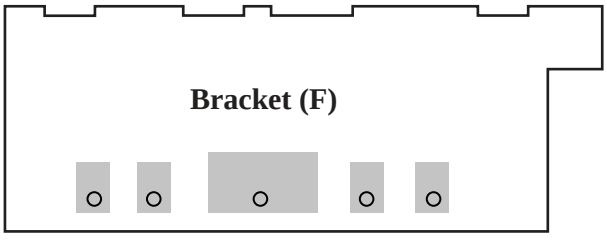
Notes in assembly

1. Compander oil

Apply compander oil between IC and heat sink.
Compander oil Description : G747
Part No. : 260483

The position to apply ---





2. Screw tightenuing

Screw tightenuing torque: 8.0 kf·cm ±1.0

DISASSEMBLING PROCEDURES-3

DVD MECHANISM: DB-VTV301 / DT-1300

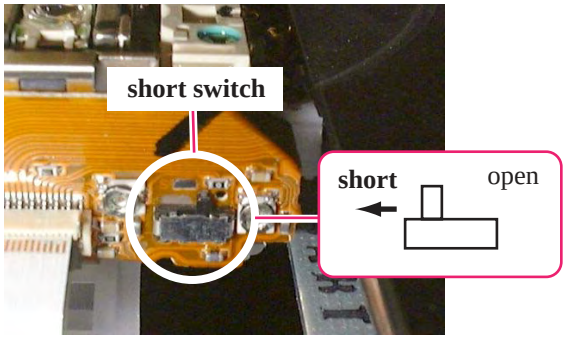
The laser diode in the optical pickup block is so sensitive to static electricity, surge current and etc. That the components are liable to be broken down or its reliability remarkably deteriorated. During repair, carefully take the following precautions.
Do not touch the optical pickup object lens with the hands.

How to remove the DVD mechanism form chassis.

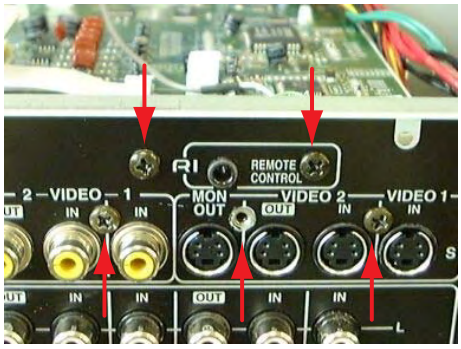
1 Remove the top cover

2 Set the pick short switch to short side.

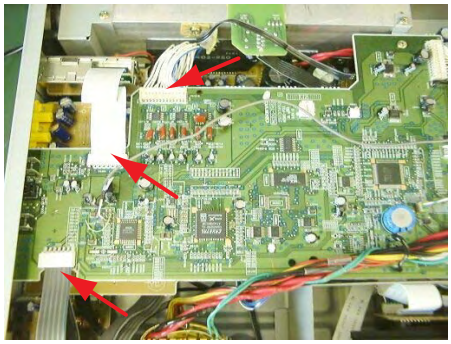
[NOTE]
Do not disconnect the FFC and wire before doing this work.



3 Remove the screws

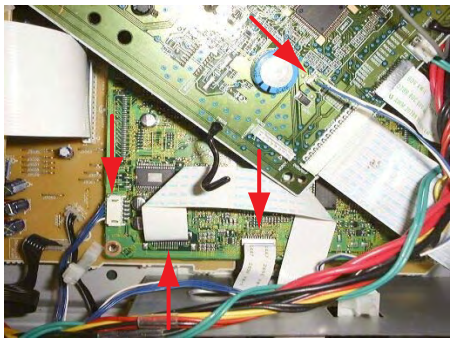


4 Disconnect the flat wires

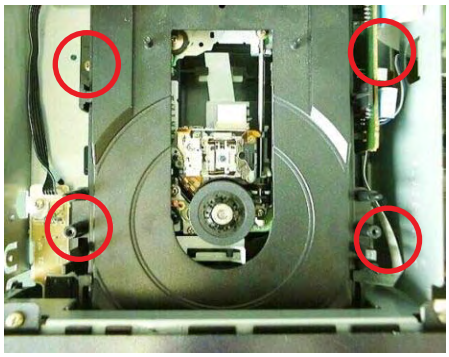


5 Remove DSP PC board and remove video PC board.

6 Disconnect flat cables and wire



6 Remove four screws

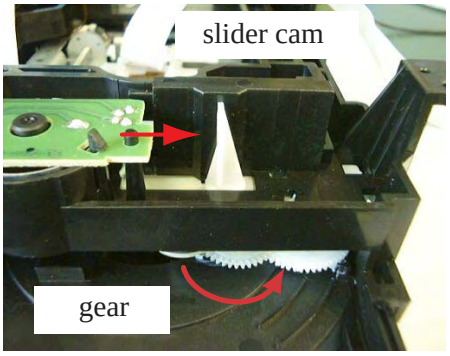


DISASSEMBLING PROCEDURES-4

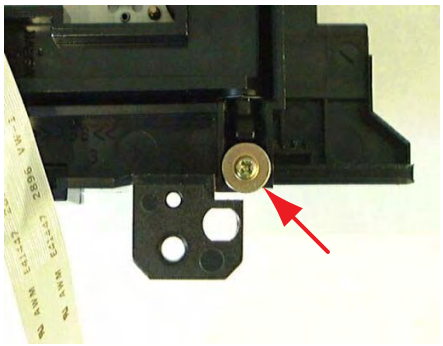
DVD MECHANISM: DB-VTV301 / DT-1300

7 Remove DVD mechanism form main chassis.

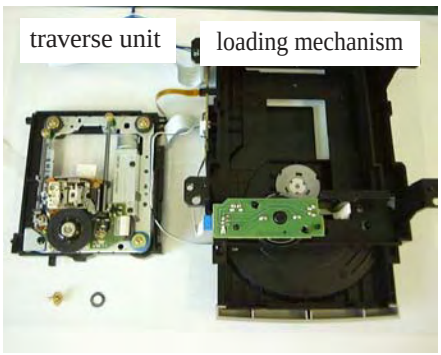
8 Rotate the gear and move slider cam to arrow mark.



9 Remove the screw.

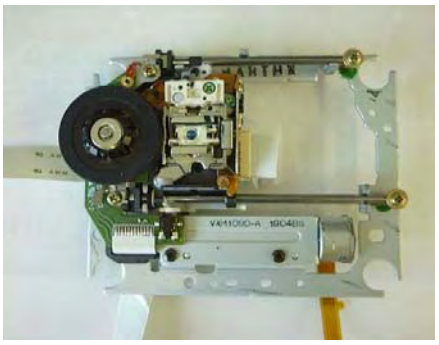


10 Remove traverse unit from loading mechanism.

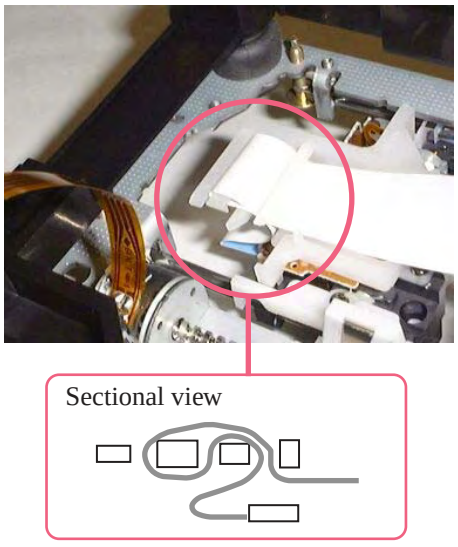


11 Remove four screws.

13 **Traverse unit**



14 **Notes at replacement flat cables**



GENERAL INFORMATION

DIAGNOSIS

SELF-DIAGNOSTIC FUNCTION OF PICKUP DEFECTIVE

This unit can confirm the laser diode current value (DVD: 650nm, CD: 780nm) of pickup on the Test Mode screen.
(Press the **RETURN** → **SETUP** keys in order on the test mode remote control unit (GGF1067) to enter the test mode.)

It's effective in case of the following condition.

Symptom

- Indicates "No Disc" in FL display.
- Player does not playback, etc..

Procedure of Self-Diagnosis

① Enter the Test mode.

② When diagnosing the 650nm laser diode:

Press the **SETUP** → **1** keys in order, and turn on the laser diode (It light-up for nine seconds.).

When diagnosing the 780nm laser diode:

Press the **SETUP** → **4** keys in order, and turn on the laser diode (It light-up for nine seconds.).

When let it turn on once again after performed ② once,
After pressed **A.CONT** key once
650nm: Press the **SETUP** → **1** keys in order
780nm: Press the **SETUP** → **4** keys in order

③ Confirm the indicated value of the laser diode current (LDI). (Refer to following figure.)

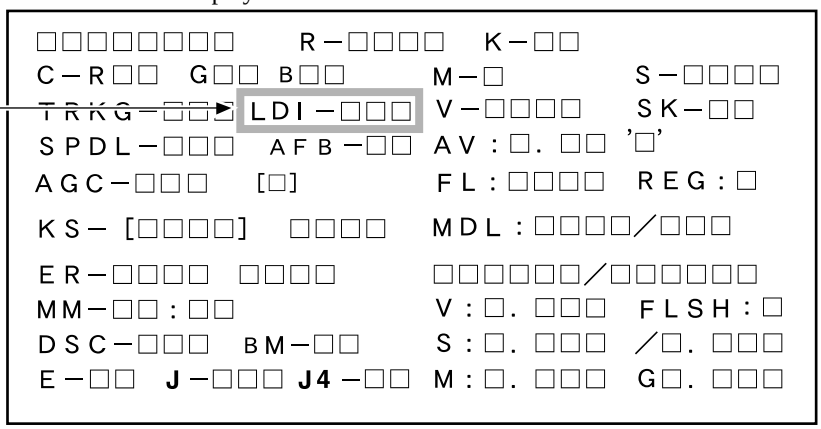
④ **When indicated value is more than 100, pickup is defective. → Replacement is necessary**

Replace the Traverse Mechanism Assy or Pickup.

Note : When a DVD disc or a CD disc is played in the test mode, this function is effective.

Character in bold : Item name
□: Information display

Laser diode current value →



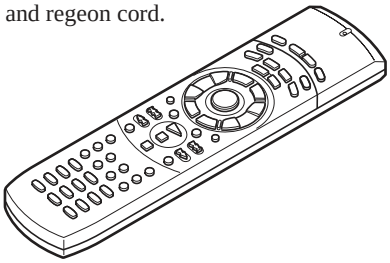
Test Mode Screen Display

UPGRADE FIRMWARE-1

Prepares for upgrade firmware

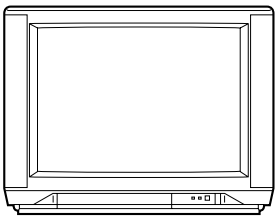
REMOTE CONTROLLER
RC-484M
Part No. 24140484

Required to carry out check firmware vertion and regeon cord.

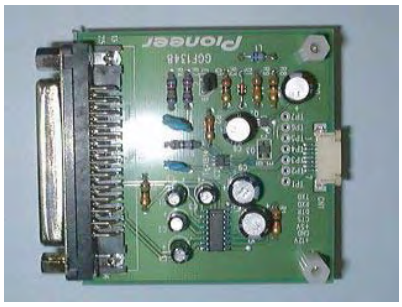


Monitor TV

Required to carry out check firmware vertion and regeon cord.

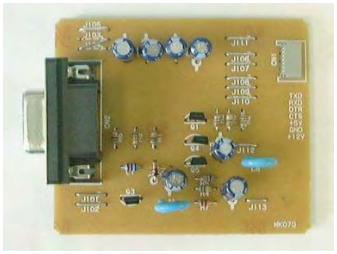


INTERFACE JIG
Part No. GGF1348



or

INTERFACE JIG (KIT)
Part No. 0J13



RS-232C Cable (Straight type Cable)

When using GGF1348

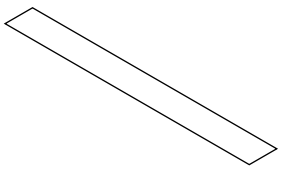
D-Sub 25pin (Female type) — D-Sub 9pin (Male type)

or

When using 0J13

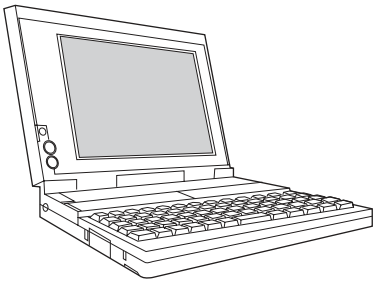
D-Sub 9pin (Female type) — D-Sub 9pin (Male type)

Flexible flat cable
Part No.:GGD1231 or 0F001



Video cable

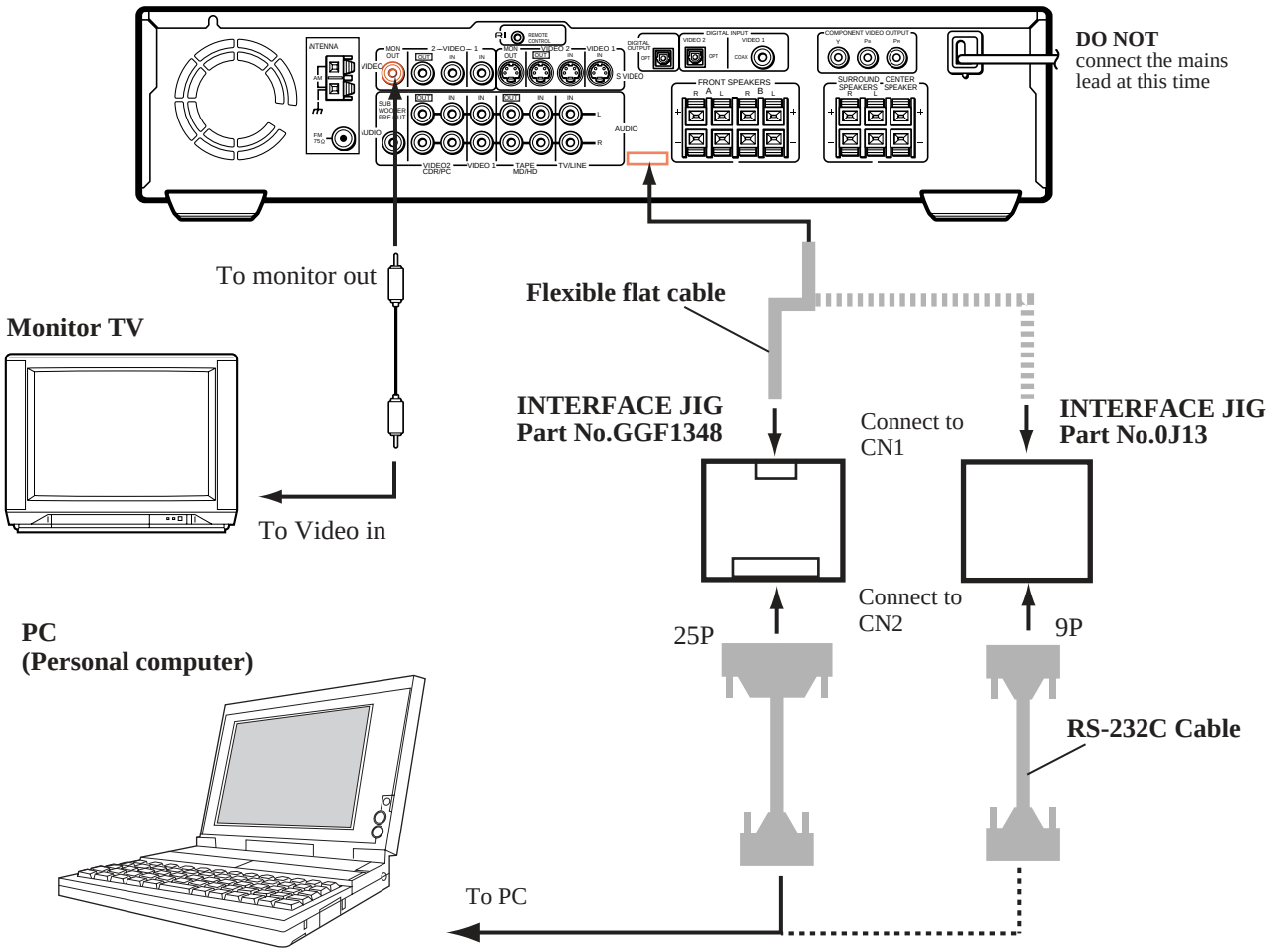
PC (Personal computer)



UPGRADE FIRMWARE-2

Connections

Rear panel view



Prepare the file required for rewriting of the firmware.

Build the folder to C drive of the hard disk of PC, and put in the file required for the folder.

The required file

NOTE: This is one example.

1. ok_down.exe
Rewriting tools

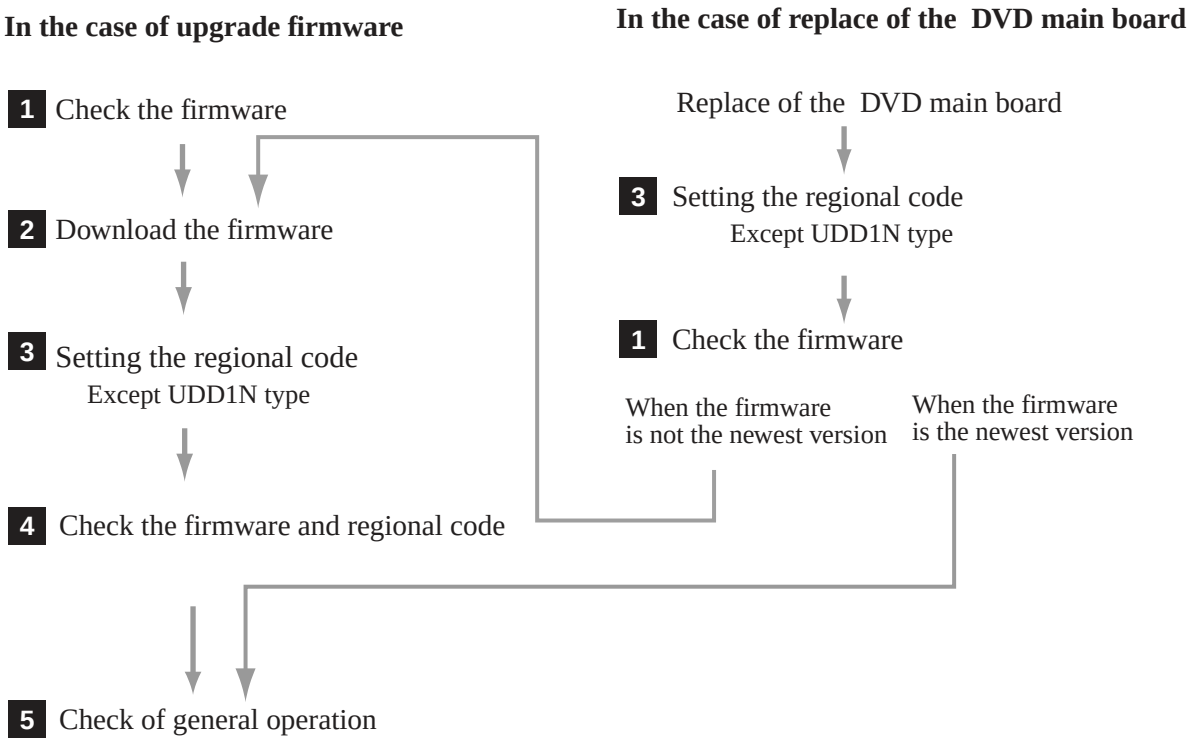
2. down.bat
Rewriting tools

3. b1bk1128.sz0
Firmware program
The file name changes with versions of the firmware.

Explorer view of PC

UPGRADE FIRMWARE-3

Flow chart



UPGRADE FIRMWARE-4

1 Check the firmware

Please operate it by remote controller (RC-484M).

1. Press the **DVD** button.

2. Press **SETUP** button.

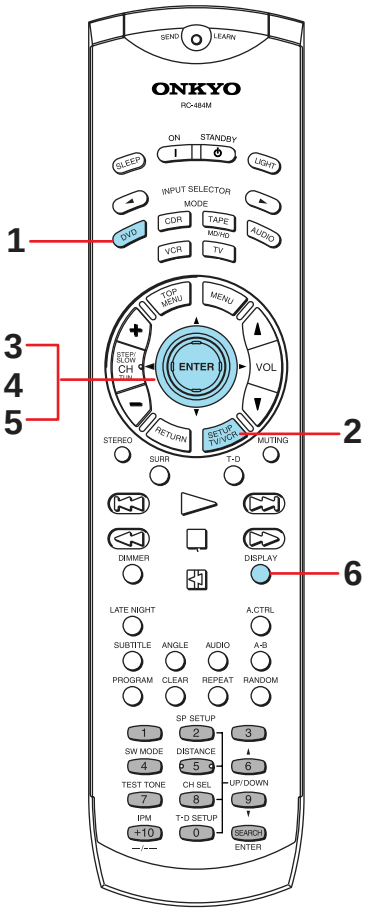
3. Operate cursor button and select **General** menu.
Refer to (A)

4. Operate cursor button and select **Setup Menu mode**.
Refer to (B)

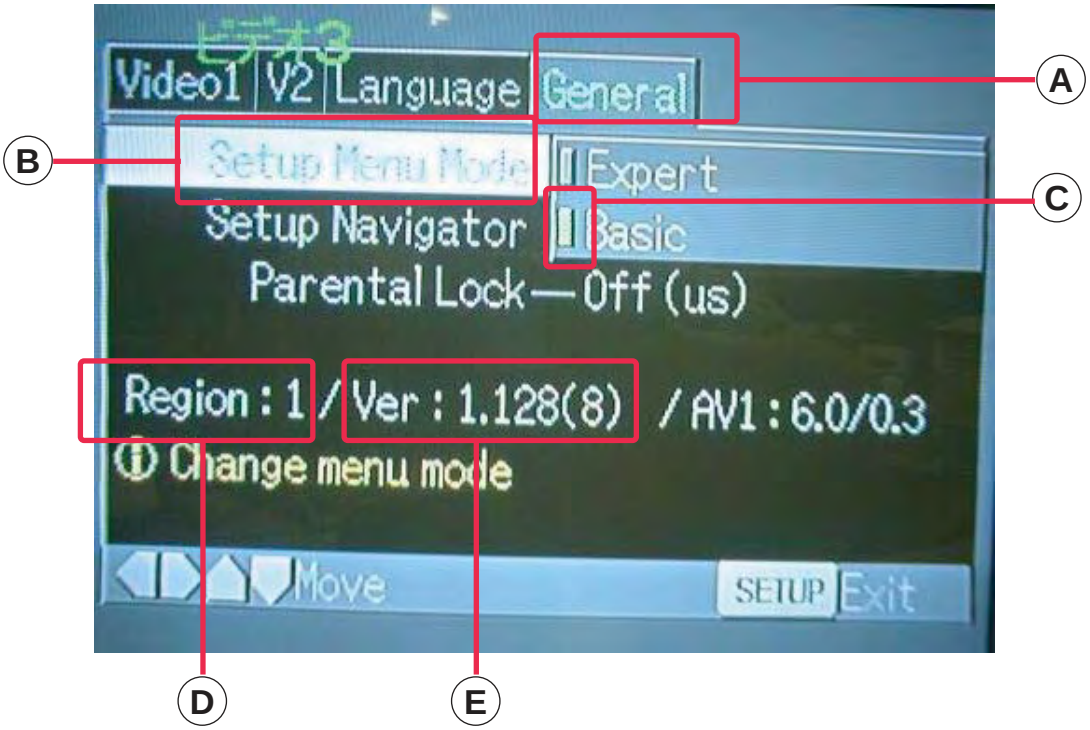
5. Operate cursor button and set as the state of **Basic**.
Refer to (C)

6. Press **DISPLAY** button.

7. Check the Region cord and the firmware vertion.
Refer to (D) (E)



TV monitor view (In case UDD1N type)



UPGRADE FIRMWARE-5

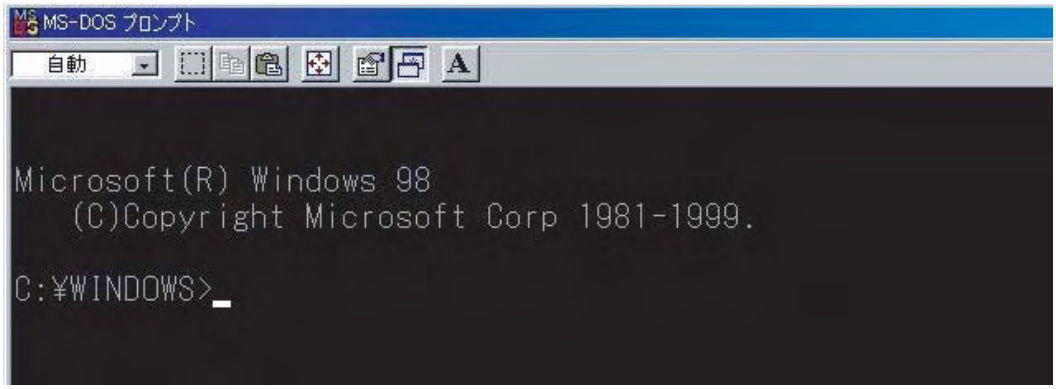
2 Download firmware

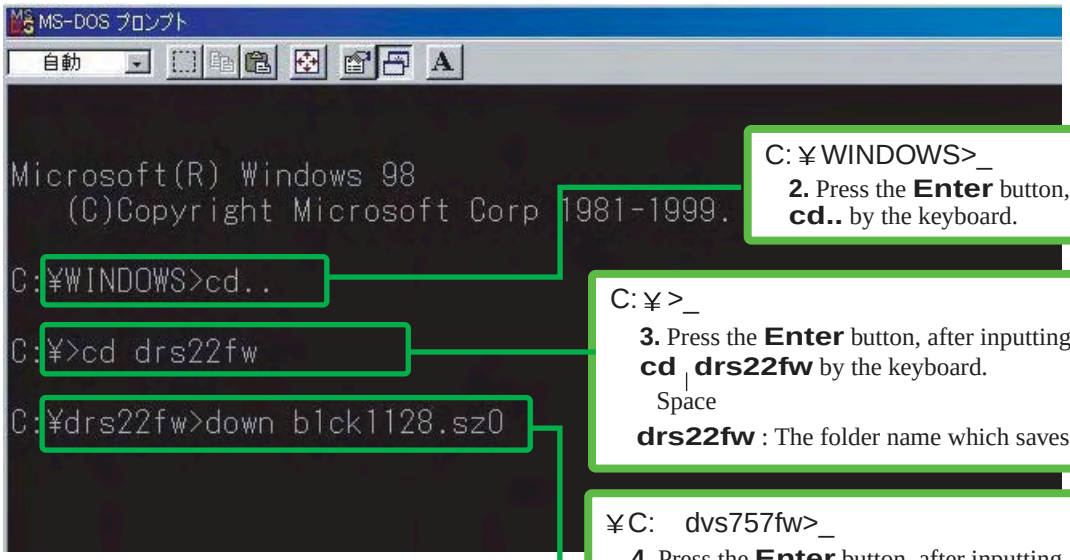
[NOTES]

This procedure document supposing using Japanese PC.
The program file name, the folder name, etc. are examples.

1. Start MS-DOS prompt using the start-up menu of PC.

Windows of **MS DOS prompt**





C:￥WINDOWS>_

2. Press the **Enter** button, after inputting **cd..** by the keyboard.

C:￥>_

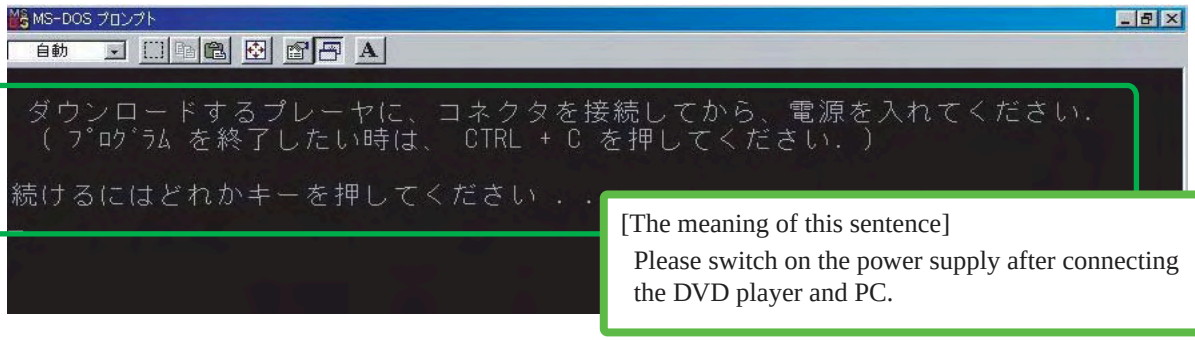
3. Press the **Enter** button, after inputting **cd** | **drs22fw** by the keyboard.
Space

drs22fw : The folder name which saves the program file

￥C: dvs757fw>_

4. Press the **Enter** button, after inputting **down** | **b1bk1128.sz0** by the keyboard.
Space Zero

b1bk1128.sz0 : The program fail name
The file name changes with firmware version.



[The meaning of this sentence]
Please switch on the power supply after connecting the DVD player and PC.

UPGRADE FIRMWARE-6

Download procedures

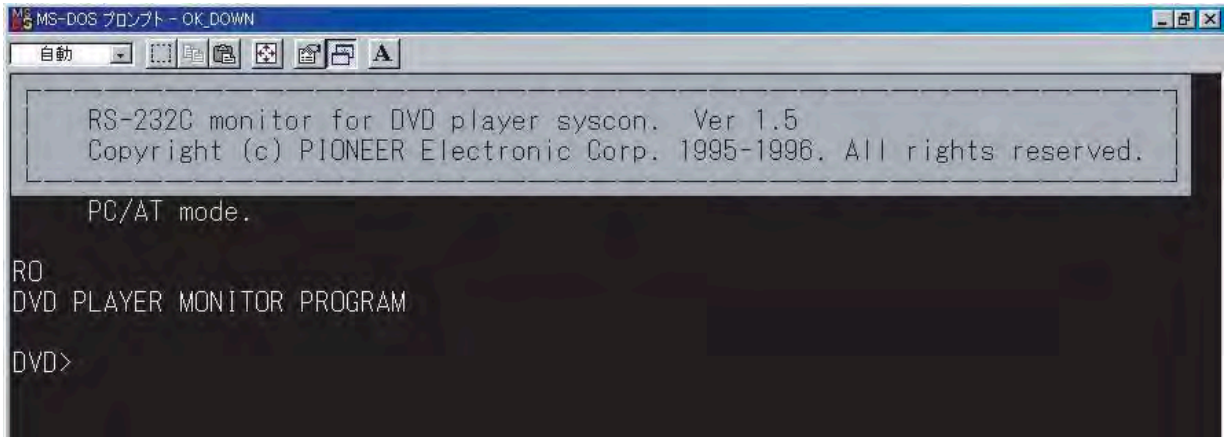
5. Check that the connection of PC with DR-S2.2.

6. Check that unit is in the state of NO DISC.

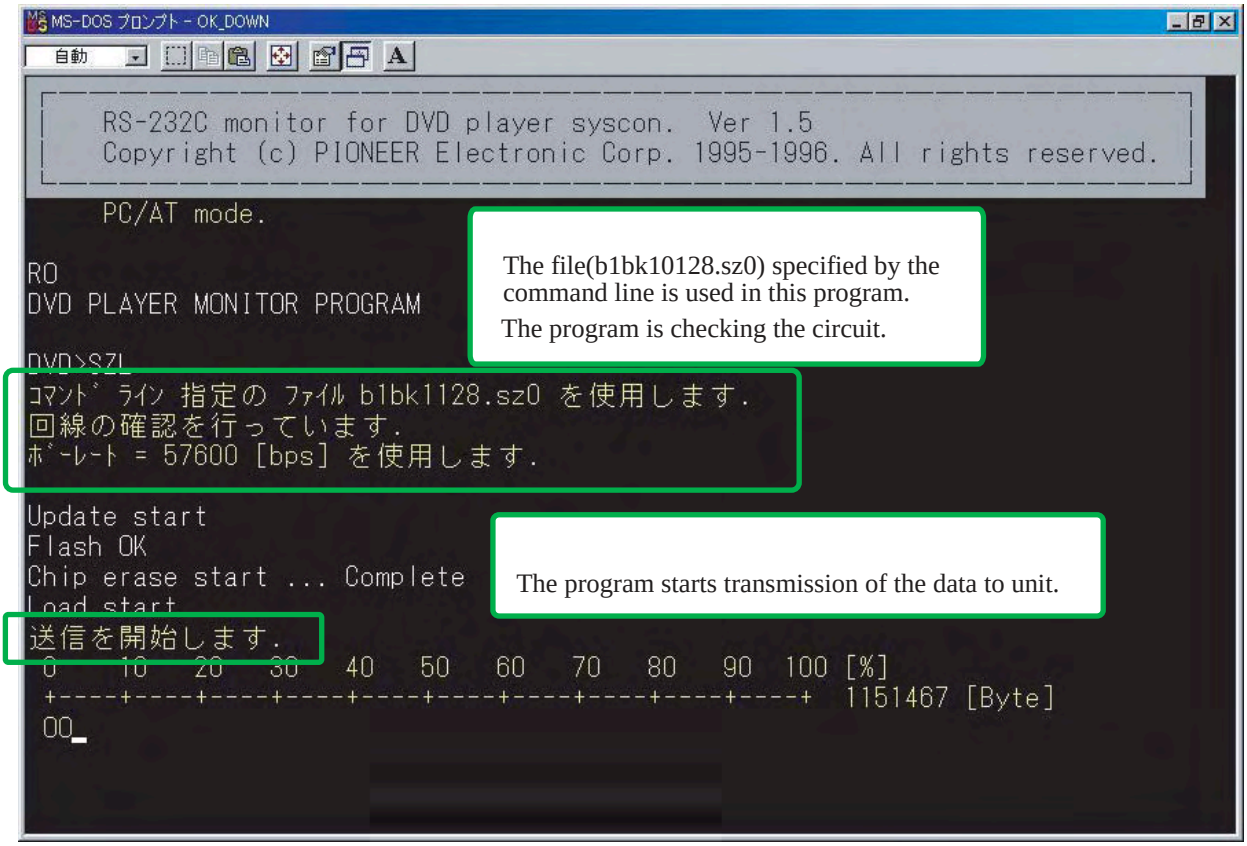
7. Turn ON the power supply switch of the unit.

8. Press the **Enter** key of PC.

9. Press the **Enter** button, after inputting **MO** by the keyboard of PC.



10. Press **ENTER** button, after inputting **SZL** by the keyboard of PC.

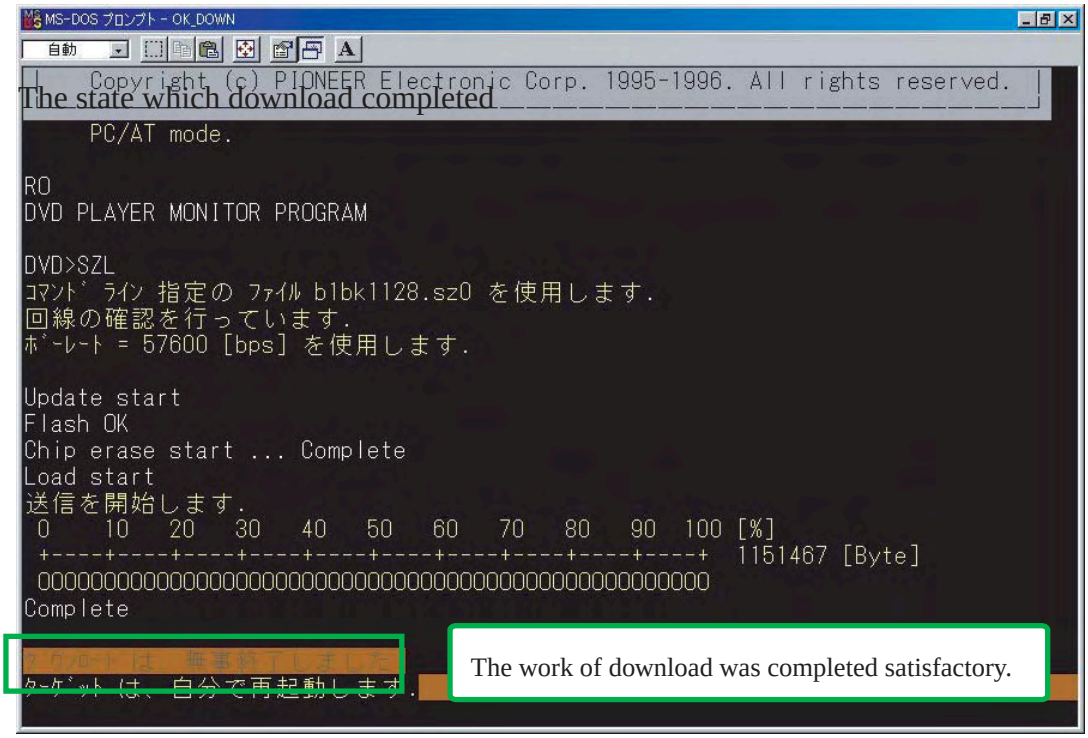


FL Display

UPGRADE FIRMWARE-7

Download procedures

State witch download completed



UPGRADE FIRMWARE-8

3 Setting the regional code

Do not need to do this work about UDD1N type.

FL display

REGION INI

TV Monitor

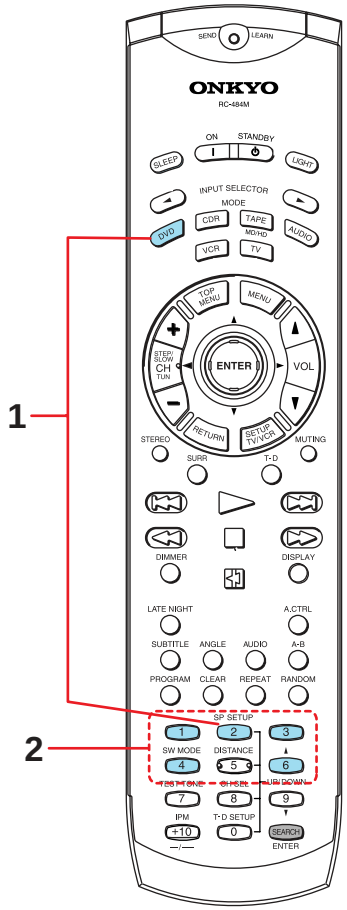
[player's Region setting]
<1> : Region 1
<2> : Region 2
<3> : Region 3
<4> : Region 4
<5> : Region 5
<6> : Region 6

Pick out any one of these!

Operate it using remote controller (RC-484M).

1. Press hold down the **DVD** button, then press **2(SP SETUP)** buton.

2. Press the **number** button which suits each destination.



Correspondence table

Destination	Operation button name	Region code
MDD1N	Region cord is set automatically.	1
MPP2P	2	2
UPT3P	3	3
UDT3P	3	3
UGK3P	3	3
UPA4P	4	4
UDS4P	4	4
UGR6P	6	6

FL display

NO DISC

3. Turn OFF power of DR-S2.2.

4. Disconnect DR-S2.2 and the PC.

4 Chack firmware and regional cord

You check whether it is set up firmware and repional cord correctly.

Refer to **1** about check procedure.