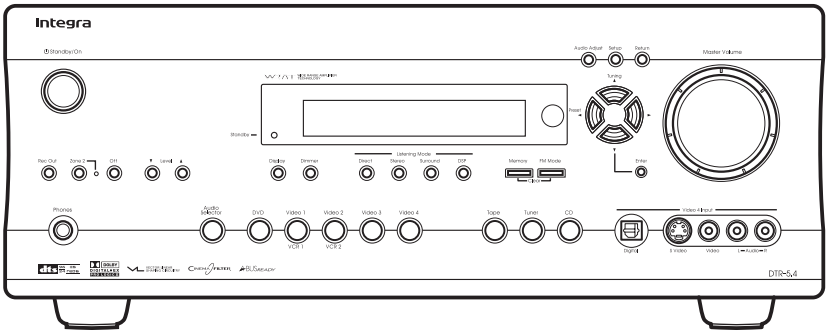
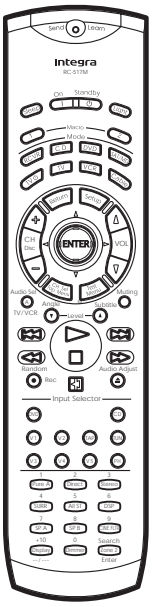
Ref. No. 3775
July, 2003

Integra SERVICE MANUAL

AV RECEIVER
MODEL DTR-5.4





RC-517M

Black model

BMDD	120V AC, 60Hz
BMPA	230V~240V AC, 50Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

Specifications (DTR-5.4)

AMPLIFIER SECTION

Continuous average power output (FTC)

All channels:	**85 W per channel min. RMS at 8 Ω, 2 channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.** **110 W min. RMS at 6 Ω, 2 channels driven from 1 kHz with no more than 0.1% total harmonic distortion.**
Continuous power output (DIN)	120 W at 6 Ω
Maximum power output (EIAJ)	150 W at 6 Ω
Dynamic power output (stereo)	2 × 220 W at 3 Ω 2 × 165 W at 4 Ω 2 × 100 W at 8 Ω
Total harmonic distortion:	0.08% at rated power 0.08% at 1 W output
IM distortion:	0.08% at rated power 0.08% at 1 W output
Damping factor:	60 at 8 Ω
Input sensitivity and impedance	
LINE (CD, TAPE, DVD, VIDEO 1-4):	200 mV, 47 kΩ
MULTICHANNEL INPUT (FRONT L/C/R, SURROUND L/R):	200 mV, 47 kΩ
(SUBWOOFER):	36 mV, 47 kΩ
COAXIAL (DIGITAL):	0.5 Vp-p, 75 Ω
DVD, VIDEO 1, 2, 3, 4:	1 Vp-p, 75 Ω 1 Vp-p, 75 Ω (Y) 0.28 Vp-p, 75 Ω (C)
COMPONENT VIDEO 1, 2:	1 Vp-p, 75 Ω (Y) 0.7 Vp-p, 75 Ω (P_B, P_R)
Output level and impedance	
Rec out (TAPE, VIDEO 1, 2):	200 mV, 470 Ω
Line out:	100 mV, 470 Ω (Zone 2)
Pre out:	1 V, 470 Ω
VIDEO (VIDEO 1, 2, MONITOR OUT):	1 Vp-p, 75 Ω 1 Vp-p, 75 Ω (Y) 0.28 p-p, 75 Ω (C)
COMPONENT VIDEO OUT:	1 Vp-p, 75 Ω (Y) 0.7 Vp-p, 75 Ω (P_B, P_R)
Frequency response:	10 Hz to 100 kHz: +1/–3 dB (Direct mode)
Tone control	
Bass:	±10 dB at 50 Hz
Treble:	±10 dB at 20,000 Hz
Signal-to-noise ratio (stereo)	
CD/Tape:	106 dB (IHF A, 0.5 V input)
Muting:	–50 dB

TUNER SECTION

FM

Tuning range:	87.5–108.0 MHz (50-kHz steps)
Usable sensitivity	
Mono:	11.2 dBf, 1.0 µV (75 Ω IHF) 0.9 µV (75 Ω DIN)
Stereo:	17.2 dBf, 2.0 µV (75 Ω IHF) 23 µV (75 Ω DIN)
50 dB quieting sensitivity	
Mono:	17.2 dBf, 2.0 µV (75 Ω)
Stereo:	37.2 dBf, 20 µV (75 Ω)
Capture ratio:	2.0 dB
Image rejection ratio	
USA & Canadian models:	40 dB
Australian models:	85 dB
IF rejection ratio:	90 dB
Signal-to-noise ratio	
Mono:	76 dB
Stereo:	70 dB
Alternate channel attenuation:	55 dB
Selectivity:	50 dB (DIN)
AM suppression ratio:	50 dB
Total harmonic distortion	
Mono:	0.2%
Stereo:	0.3%
Frequency response:	30 Hz–15 kHz, ±1.0 dB
Stereo separation:	45 dB at 1 kHz 30 dB at 100 Hz–10 kHz

AM

Tuning range	
USA & Canadian models:	530 to 1,710 kHz (10-kHz steps)
Australian models:	522 to 1,611 kHz (9-kHz steps)
Usable sensitivity:	30 µV
Image rejection ratio:	40 dB
IF rejection ratio:	40 dB
Signal-to-noise ratio:	40 dB
Total harmonic distortion:	0.7%

GENERAL

Power supply	
USA & Canadian models:	AC 120 V, 60 Hz
Australian models:	AC 230–240 V, 50 Hz
Power consumption	
USA & Canadian models:	5.3 A
Australian models:	550 W
Dimensions (W × H × D):	17-1/8" × 6-7/8" × 17" 435 × 175 × 432 mm
Weight	
USA & Canadian models:	26.9 lbs. (12.2 kg)
Australian models:	13.0 kg (28.7 lbs.)

REMOTE CONTROLLER

Transmitter:	Infrared
Signal range:	Approx. 16 ft., 5 meters
Power supply:	Two "AA" batteries (1.5 V × 2)

Specifications and features are subject to change without notice.

SERVICE PROCEDURES

1. Replacing the fuses

This symbol located near the fuses indicates that the fuse used is fast 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 a rapide. Pour une protection permanente, n'utiliser que fusibles de meme type. Ce darnier est la qu le present symbol est appse.

CIRCUIT NO.	PART NO.	DESCRIPTION
F6901,F6902	252196 or	12A-UL/T-314 or
	252301	12A-TUL-250V, Fuse <D>
	252100 or	10A-EAK or
	252307	10A-TL250V, Fuse <A>
F901	252199	10A-UL, Fuse <D>
F902	252078,	5A-SE-EAK,
	252244 or	5A-SE-TL250V or
	252278	5A-SE-TL250V, Fuse <A>
F903	252164 or	5A-UL/T-237 or
	252258	5A-T/UL-ST2,Fuse <D>
	252075,	2.5A-SE-EAK,
	252241 or	2.5A-SE-TL250V or
	252275	2.5A-SE-TL250V <A>
F9501	252160 or	2.5A-UL/T-237 or
	252254	2.5A-T/UL-ST2,Fuse <D>
	252075,	2.5A-SE-EAK,
	252241 or	2.5A-SE-TL250V or
	252275	2.5A-SE-TL250V, Fuse <A>

Note: <D>:120V model only
<A>: Australian model only

2. To initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.
To perform a result, please follow the procedure below.

1. Press and hold down the VIDEO-1 button, then press the STANDBY/ON button.
2. After "CLEAR" is displayed, the preset memory and each mode stored in the memory, such as surround, are initialized and will return to the factory setting.

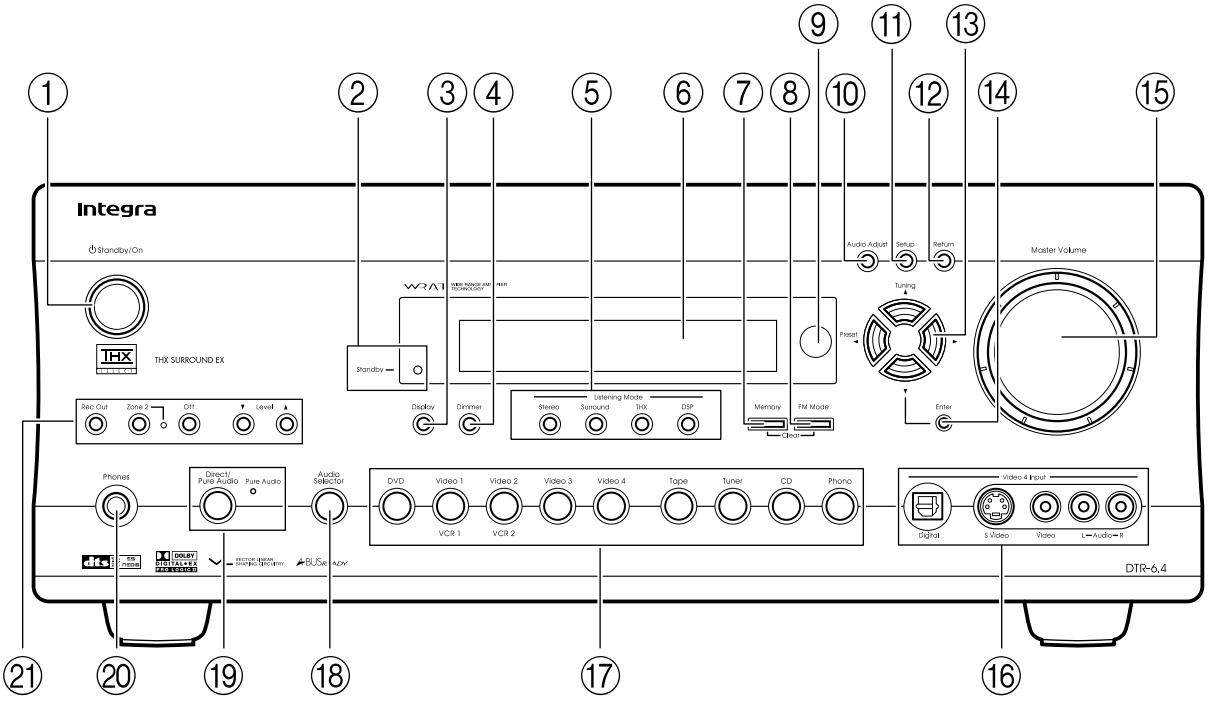
3. Safety-check out

(U.S.A. model only)
After correcting the original service problem, perform the following safety check before releasing the set to the customer.
Leakage Current Check
Measure leakage current to a known earth ground(water pipe, conduit, etc.) by connecting a leakage current tester between the earth ground and exposed metal parts of the appliance (input/output terminals, screwheads,metal overlays, etc.).
Plug the power supply cord directly into a 120V AC 60 Hz outlet and turn Standby switch on. Any current meausred must not exceed 0.5mA.

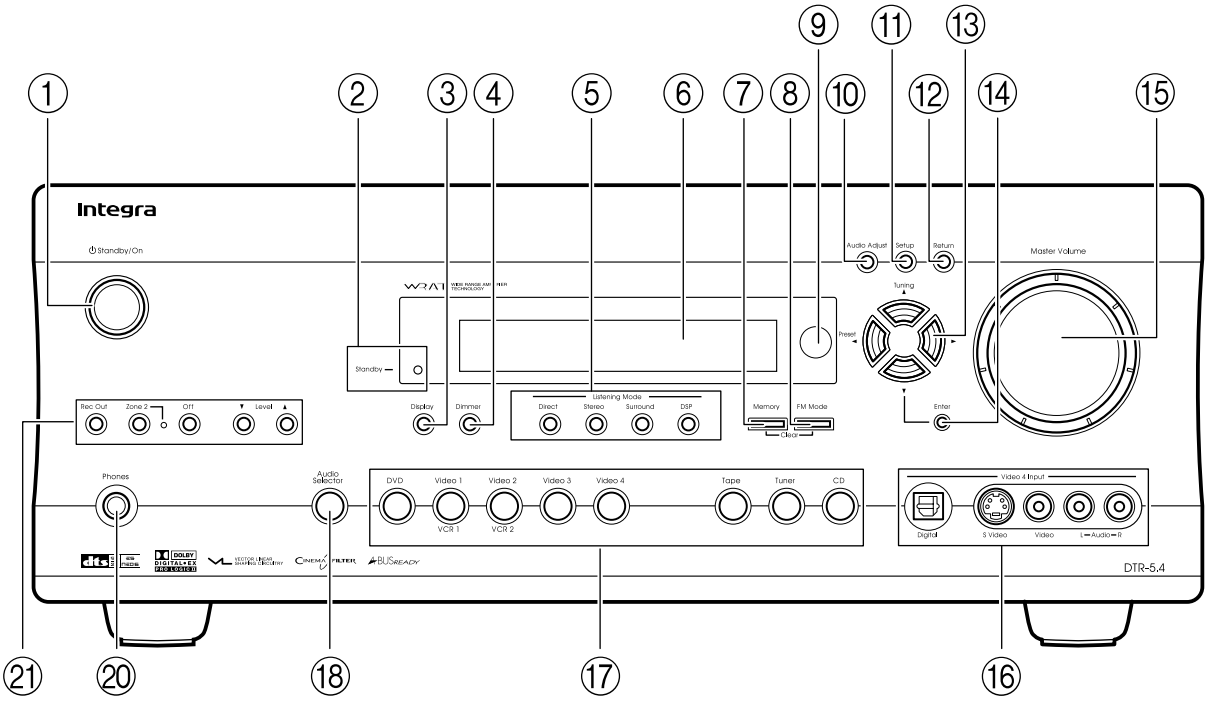
Index parts and facilities

Here is an explanation of the controls and displays on the front panel of the DTR-6.4/5.4.

DTR-6.4 Front panel



DTR-5.4 Front panel



① Standby/On button

If pressed with the Power switch turned on (with the receiver plugged in for US models), the DTR-6.4/5.4 turns on and the display lights up. If pressed again, the DTR-6.4/5.4 returns to the standby state. In the standby state, the display is turned off and the DTR-6.4/5.4 cannot be operated.

② Standby indicator

Lights when the DTR-6.4/5.4 is in the standby state and when a signal is received from the remote controller.

③ Display button

Press to display information about the current input source signal. Each time you press the display button, the screen changes to show you different information concerning the input signal.

④ Dimmer button

Press to set the brightness of the front display. There are three settings available: normal, dark, and very dark.

⑤ Listening Mode buttons

Press these buttons to select a listening mode for the current input source. Press the Direct (DTR-5.4), THX (DTR-6.4), Stereo, and Surround buttons to select a listening mode directly. Press the DSP button to select any of the possible listening modes for the input source currently selected.

Note:
During playback of a multichannel source, press the Direct button to turn off the tone control and the Surround button to turn on the tone control.

⑥ Front display

⑦ Memory button

Press to assign the radio station that you are currently tuned into to a preset channel or press to delete a previously preset station.

⑧ FM Mode button

Press to change the stereo mode from Auto to Mono and vice versa. Each time this button is pressed, the Auto indication turns on and off indicating the current mode. If you are listening to an FM radio station in stereo and the sound cuts out or there is a great deal of noise, switch from Auto to Mono.

⑨ Remote control sensor

⑩ Audio Adjust button

Press to adjust the sound quality and the listening mode.

⑪ Setup button

Press to enter the Setup Menu. The OSD Menu will appear on the TV monitor as well as the front display on the DTR-6.4/5.4.

⑫ Return button

When in the Setup Menu, press to go back one level. If pressed while at the Main Menu, you will exit the Setup Menu.

⑬ Tuning ▲/▼, Preset ◄/►, cursor (▲/▼/◄/►) buttons

To tune into a radio station, press the Tuning ▲/▼ buttons. The tuner frequency is displayed in the front display and it can be changed in 100-kHz increments for FM and 10-kHz increments for AM.
When FM is selected as the input source, you can hold down either the Tuning ▲ or ▼ button and then release it to activate the auto-search feature. It will search for a station in the direction of the button you pressed and stop when it tunes into one. When navigating through the menu settings, these buttons move the cursor up or down (or change the highlighted item).
To select a radio station that was stored using the Memory button, press the Preset ◄/► buttons.
When navigating through the menu settings, these buttons select the value or item that you selected with the Tuning ▲/▼ buttons.
When you press the Menu button, the Tuning and Preset buttons become cursor buttons to be used for Setup Menu operations.

⑭ Enter button

Press to display the screen for the item that is selected in the Setup Menu.

⑮ Master Volume dial

Use to control the volume in the main zone. The volume for the remote zone (Zone 2) is independent.

⑯ Video 4 Input terminals

For connecting a video camera or game device.

⑰ Input source buttons (DVD, Video 1–4, Tape, Tuner, CD, and Phono (DTR-6.4 only))

These buttons are used to select the input source.
Press these buttons to select the input source for the main zone.
To select the input source for the remote zone (Zone 2) or recording out (Rec Out), first press the Zone 2 or Rec Out button, and then press the desired input source button.

⑱ Audio Selector button

Press to select the type of audio input signal.

⑲ Direct/Pure Audio button and Pure Audio indicator (DTR-6.4 only)

Press to select the Pure Audio or Direct mode.
The Pure Audio indicator lights during pure audio playback.

⑳ Phones jack

This is a standard stereo jack for connecting stereo headphones.

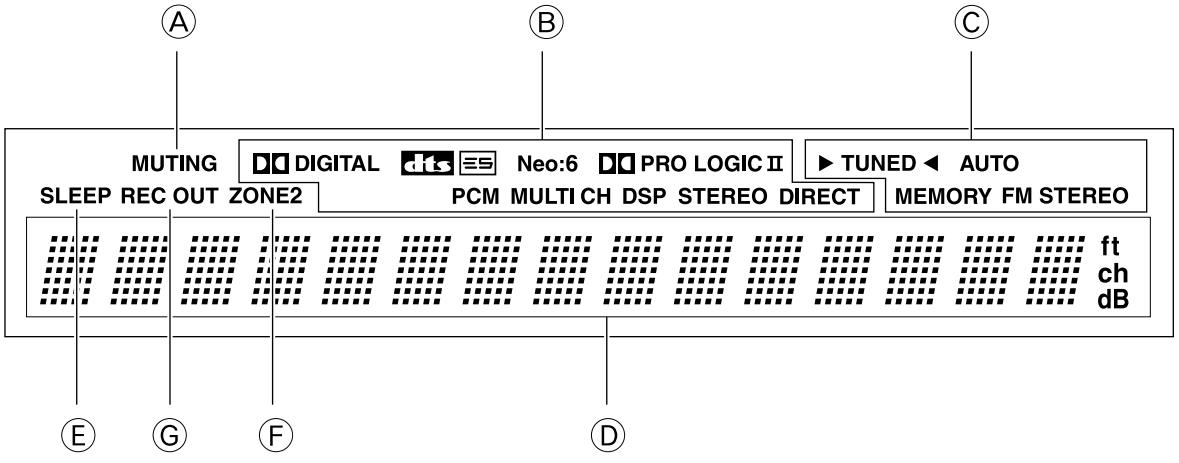
㉑ Rec Out, Zone 2, Off, Level ▼/▲ buttons, and Zone 2 indicator

The Rec Out and Zone 2 buttons allow you to use the DTR-6.4/5.4 to output to a remote zone (Zone 2) or to another component for recording (Rec Out). Press the Rec Out button to output the audio signals to a recording component for recording. Press the Zone 2 button to enjoy the output from the DTR-6.4/5.4 in a different room, which is referred to as the remote zone (Zone 2). When either button is pressed, the currently selected input source for recording or outputting to the remote zone is displayed in the front panel display. If "SOURCE" is displayed, then the same input source as that selected for the main zone will be output.
To select an input source, press the desired button (Rec Out or Zone 2) and then press one of the input source button within 5 seconds. That source will be output for recording or viewing in the remote zone.

To set the output to the source channel, press the desired button (Rec Out or Zone 2) twice in succession. To turn off the output, press the Off button. The Zone 2 indicator lights when a signal is output to the remote zone (Zone 2). When the Zone 2 indicator is off, then either output to the remote zone is turned off or Rec Out is selected. Press the Level ▼/▲ buttons to enter the mode for adjusting the volume in the remote zone (Zone 2).

Note:
The Rec Out and Zone 2 buttons use the same circuit and therefore cannot be used at the same time. When Rec Out is selected, nothing is output to Zone 2. When Zone 2 is selected, Rec Out is automatically fixed to Source.

Front panel display



Ⓐ MUTING indicator

Flashes when the mute function is turned on.

Ⓑ Listening mode or digital input format indicators

One of these indicators lights to show the format of the current input source. In addition, one of the listening mode indicators lights to indicate the current listening mode.

Ⓒ Tuning indicators

TUNED indicator
Lights when a radio station is received.

AUTO indicator
Lights when receiving FM broadcasts in the stereo mode. Turns off when placed into the monaural mode.

MEMORY indicator
Lights when the Memory button is pressed to preset a radio station.

FM STEREO indicator
Lights when an FM broadcast station is received in stereo.

Ⓓ Multi function display

During normal operation, shows the current input source and volume. When the FM or AM input is selected, shows the frequency and preset number. When the Display button is pressed, shows the listening mode and input source format. However, does not show the source format when the FM or AM source is selected.

Ⓔ SLEEP indicator

Lights when the sleep timer is turned on.

Ⓕ ZONE 2 indicator

Lights when using the remote zone (Zone 2).

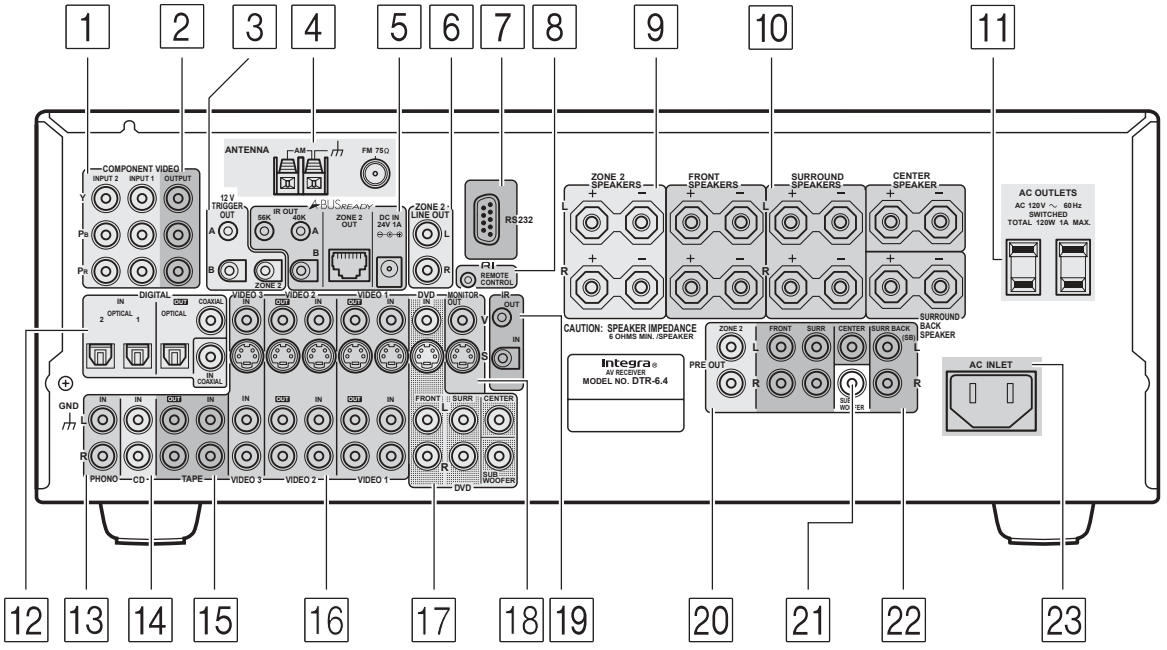
Ⓖ REC OUT indicator

Lights when recording the input source from one component to another (Rec Out)

Index parts and facilities

Rear panel

This illustration shows the DTR-6.4 shipped to the North American area. The number and shape of the terminals may be different depending on the model and shipping area.



1 COMPONENT VIDEO INPUT 1/2

These connectors are for connecting to the component video outputs of video components that have them.

2 COMPONENT VIDEO OUTPUT

These jacks are for connecting to the component video input jacks on television monitors or projectors.

3 12V TRIGGER OUT A/B/ZONE 2

These connectors are used to connect to the 12V TRIGGER IN terminal of a component in the remote zone (Zone 2) if one has one.

4 ANTENNA

These jacks are for connecting the FM indoor antenna and AM loop antenna that are supplied with the DTR-6.4/5.4.

5 A-BUS Ready

Use these terminals to connect the multi-home extension kit of the A-BUS system.

6 ZONE 2 LINE OUT

These jacks are for connecting the components that will be used in the remote zone (Zone 2).

7 RS232

This connector is for connecting to the RS-232 port of an external device.

8 RI

This jack is for connecting other Integra/Onkyo components equipped with the same RI terminal. The audio connection cables must also be connected.

9 ZONE 2 SPEAKERS

These terminals are for connecting the speakers that will be used in the remote zone (Zone 2).

10 SPEAKERS

These terminals are for connecting the speakers.

11 AC OUTLETS

This AC outlet is provided to plug in the power cord from another component.

12 DIGITAL INPUT/OUTPUT

These jacks are for connecting components with digital input and output capabilities. For more information on connection between the components, refer to each component's document.

13 PHONO IN L/R (DTR-6.4 only)

These jacks are for connecting a turntable.

14 CD IN L/R

These jacks are for connecting a CD player.

15 TAPE IN/OUT L/R

These jacks are for connecting a cassette tape deck.

16 VIDEO 1-3 IN/OUT

These connectors are for connecting to the video input and output jacks on video components.

17 DVD IN

These jacks are for connecting a DVD player.

Index parts and facilities

18 MONITOR OUT VIDEO/S VIDEO

These jacks are for connecting to the video input jacks on television monitors or projectors.

19 IR IN/OUT

These connectors are for connecting the remote sensor of a multi-room kit (sold separately).

20 PRE OUT ZONE 2

When using the power amplifier for Zone 2 speakers, connect the power amplifier to these terminals.

21 PRE OUT (SUBWOOFER)

This jack is for connecting a subwoofer with a built-in power amplifier.

22 PRE OUT (FRONT/ SURR/ CENTER/ SURR BACK) (DTR-6.4 only)

To use the DTR-6.4 as a preamplifier, connect a power amplifier to these jacks.

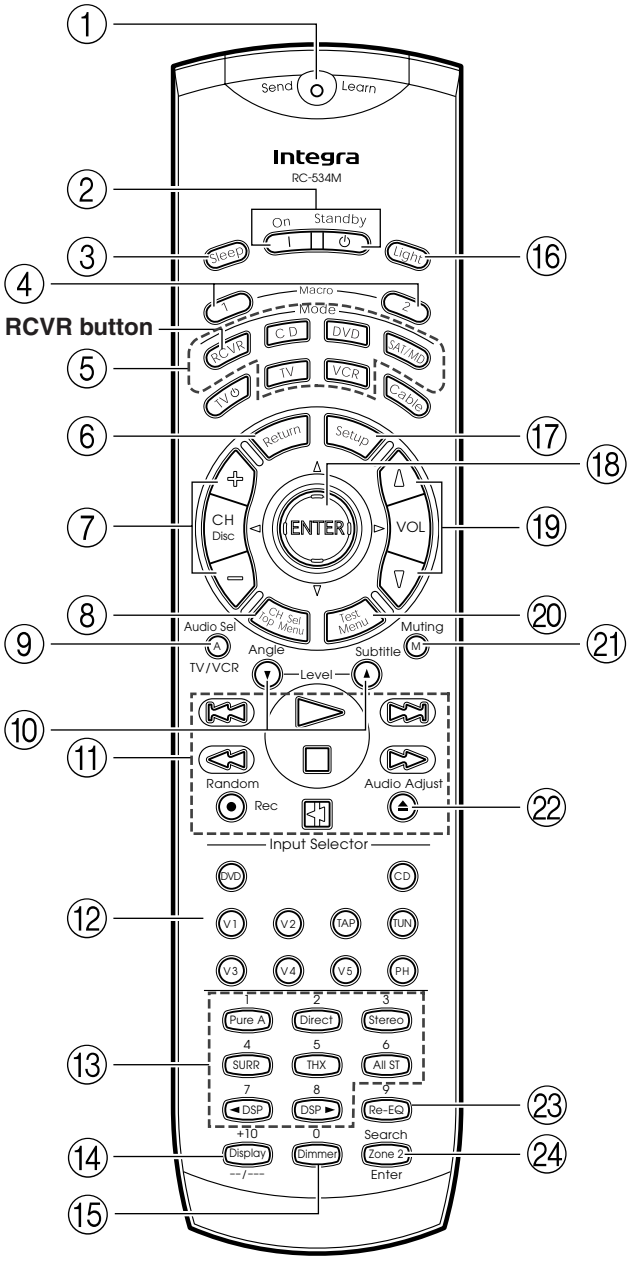
23 AC INLET

This connector is for connecting the supplied power cord.

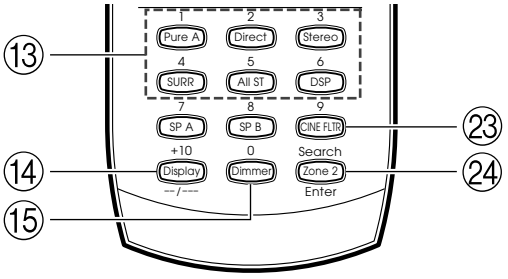
Index parts and facilities

Remote controller

RC-534M (for DTR-6.4)



RC-517M (for DTR-5.4)



Index parts and facilities

The RC-534M/517M is a multi-functional remote controller. The instructions given here only explain how to use the remote controller in conjunction with the DTR-6.4/5.4. To operate the DTR-6.4/5.4 using the remote controller, **first press the RCVR Mode button** to place the remote controller in the receiver mode.

① Send/Learn indicator
Lights red when signals are sent by the remote controller. It also flashes when a button is pressed when the battery power is low.

② On/Standby button
On: Press to turn on the DTR-6.4/5.4.
Standby: Press to place the DTR-6.4/5.4 in the standby state.
Be aware that pressing the Standby button only places the DTR-6.4/5.4 in standby and does not turn the power completely off.

③ Sleep button
Press to set the sleep function.
The Sleep button enables you to set the DTR-6.4/5.4 to turn off automatically after a specified time period.

④ Macro 1, 2 button
Press to program or execute the macro function.

⑤ Mode buttons and indicators
Press to select the component to be operated by the remote controller. When a Mode button is pressed, it will light for 8 seconds. The selected Mode button will also light whenever any other operation button is pressed.

⑥ Return button
Press to enter the selected setting and return to the previous menu.

⑦ CH +/−, Disc + button
Press to select a preset channel for the tuner (CH).

⑧ CH Sel button
Press to select a speaker channel when adjusting the speaker level (CH Sel).

⑨ Audio Sel
Press to select the audio input signal.

⑩ Level ▼ / ▲ buttons
Press to adjust the volume of the speaker selected using the CH Sel button.

⑪ Operation buttons
Press to operate other devices connected to the DTR-6.4/5.4.

⑫ Input Selector buttons
Press to select an input source.
Same as the input selector buttons on the front panel of the DTR-6.4/5.4. The input source for each button is given here. DVD:DVD, CD:CD, V1:VIDEO1, V2:VIDEO2, V3:VIDEO3, V4:VIDEO4, V5:VIDEO5 (not used with the DTR-6.4/5.4), TAP:TAPE, TUN:FM/AM, PH:PHONO (not used with the DTR-5.4).

⑬ Listening mode buttons
You can select a listening mode.

⑭ Display button
For changing the display in the front display.

⑮ Dimmer button
Adjusts the display brightness.
There are three settings available: normal, dark, and very dark.

⑯ Light button (RC-534M only)
Press to turn on and off the lights in the buttons of the remote controller.

⑰ Setup button
Press to display the Setup Menu on the TV screen and in the display. Press again to exit the menu.

⑱ ▲/▼/◄/►, ENTER button
When in the Setup Menu, press the upper and lower arrow buttons to select an item, press the right and left arrow buttons to select parameter values or modes, and press the ENTER button to advance to the next item.

⑲ VOL △/▽ button
Press to adjust the volume.

⑳ Test button
This button is used to set the speaker output levels. Use this button in conjunction with the Level ▲/▼ and CH Sel buttons to calibrate the speakers levels without entering the Setup Menu.

㉑ Muting button
Press to activate the mute function.

㉒ Audio Adjust button
Press to adjust the sound quality and the listening mode.

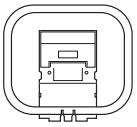
㉓ Re-EQ button (DTR-6.4)
Depending on the listening mode, you can turn the Re-EQ function on or off.

㉓ CINE FLTR button (DTR-5.4)
Depending on the listening mode, you can turn the CinemaFILTER function on or off.

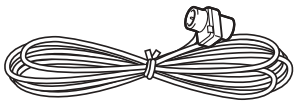
㉔ Zone 2 button
Press to perform operations on the remote zone (Zone 2).

Supplied accessories

Check that the following accessories are supplied with the DTR-6.4/5.4.

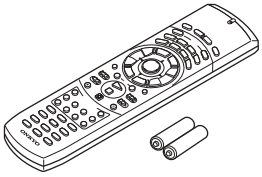


AM loop antenna 1

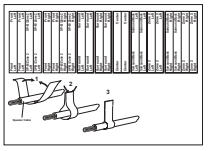


FM indoor antenna 1

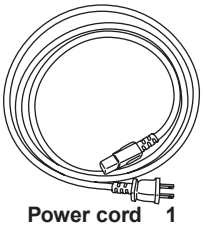
75/300 antenna adapter 1
(Australian model only)



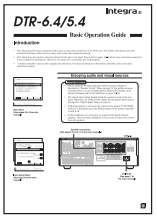
Remote controller 1
DTR-6.4: RC-534M
DTR-5.4: RC-517M
Batteries (AA or R6) 2



Speaker cable label 1

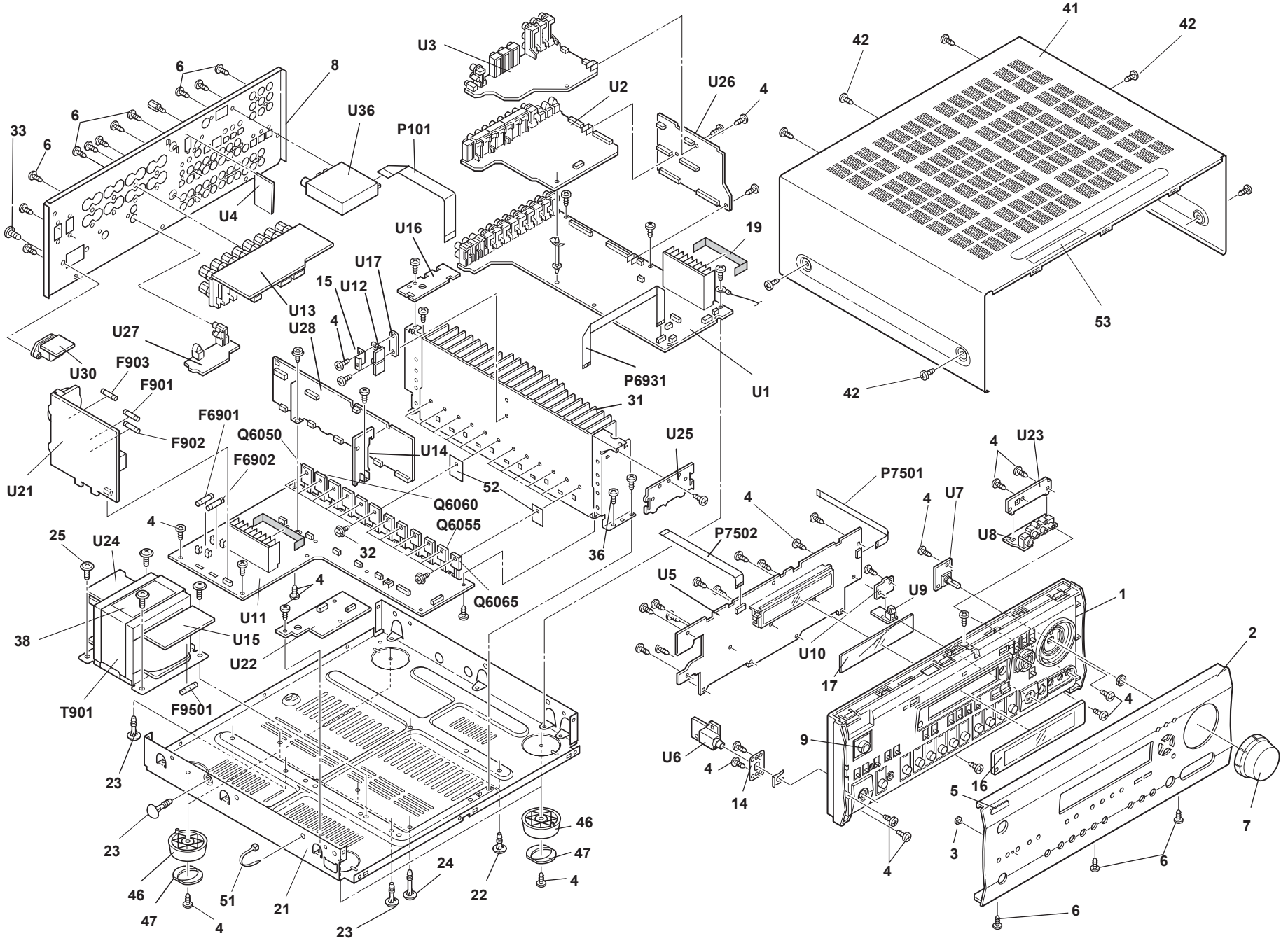


Power cord 1
(The shape of the power cord plug will be different depending on the shipping area.)



Quick Setup Guide 1

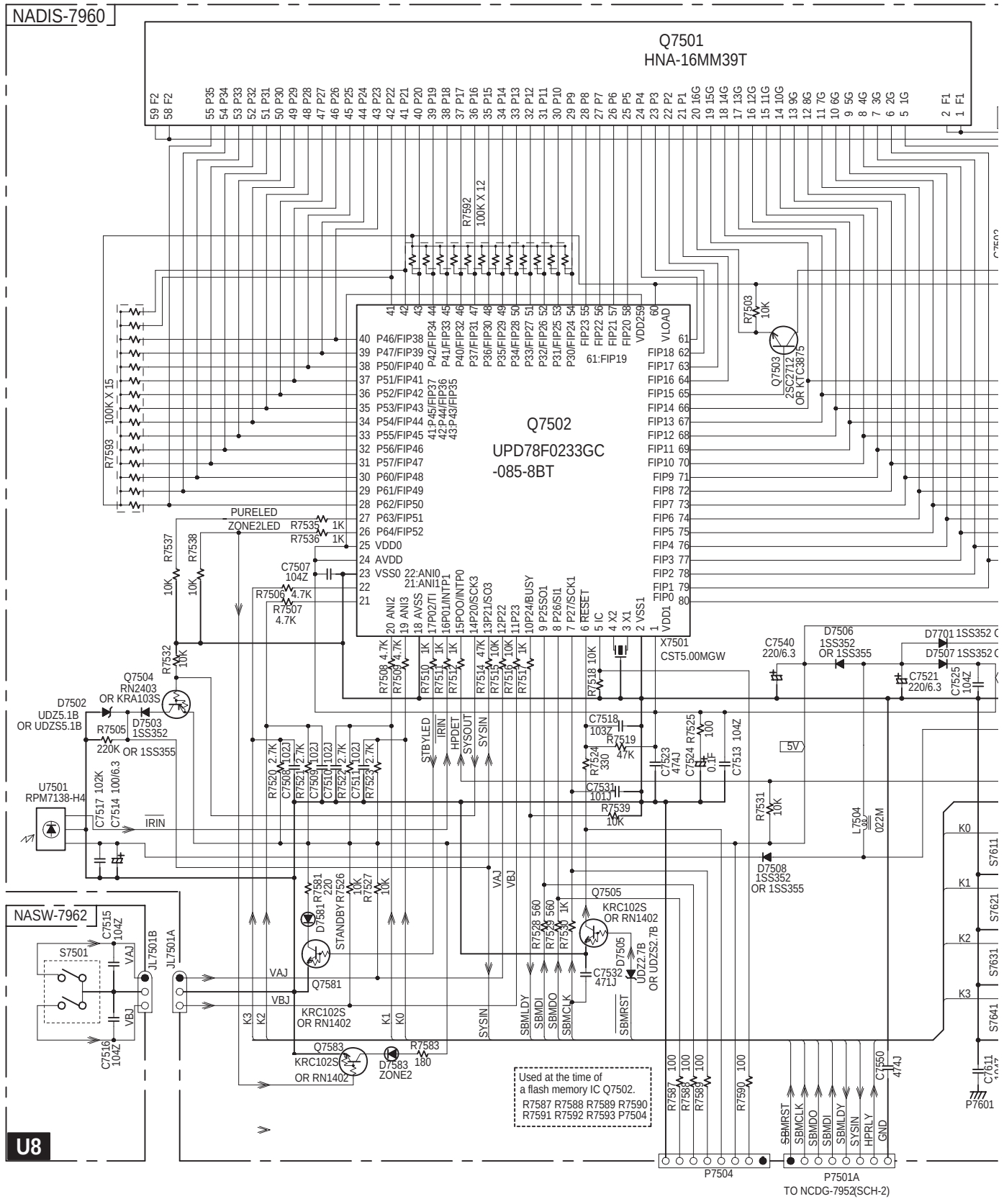
EXPLODED VIEW



DTR-5.4

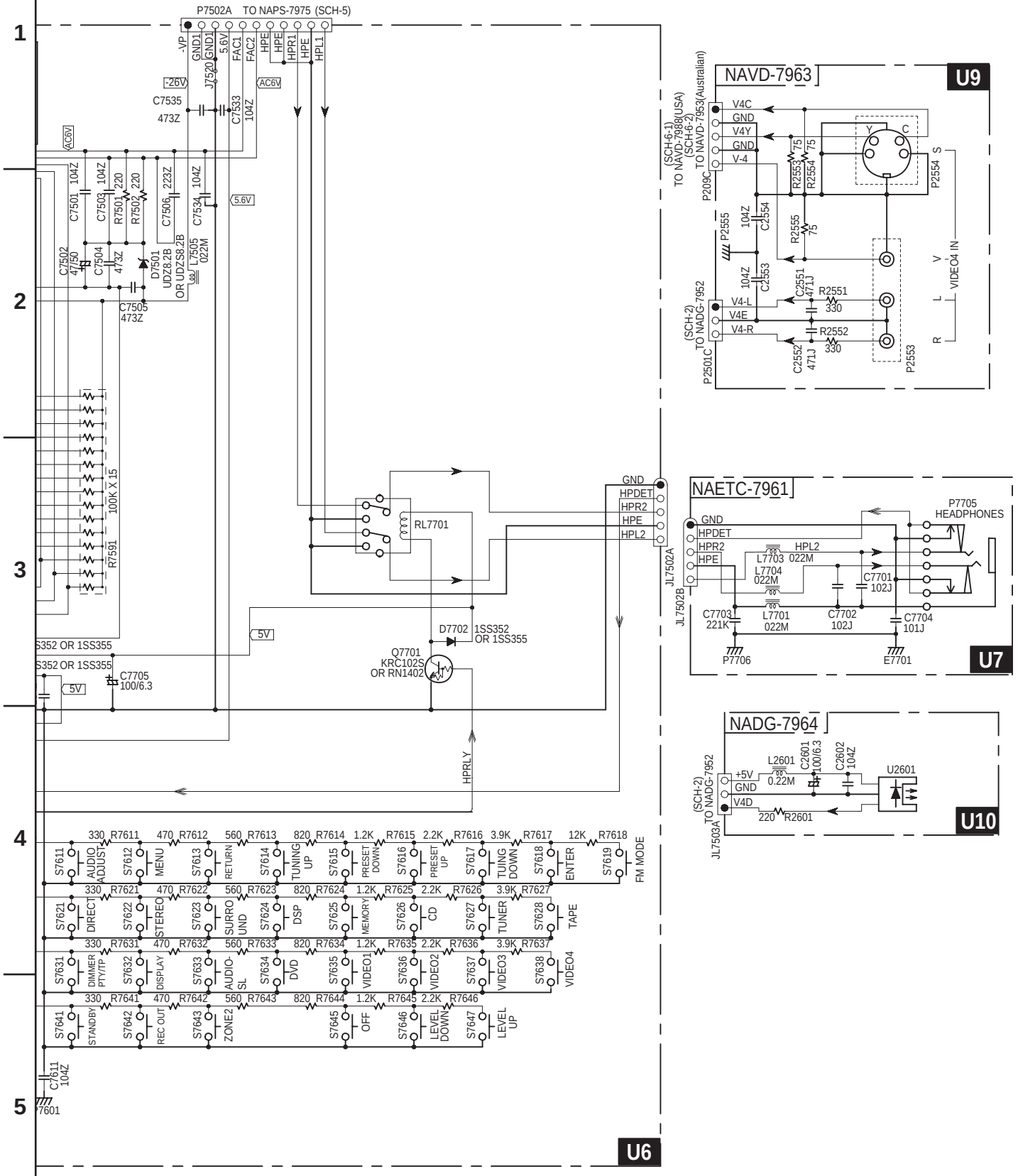
SCHEMATIC DIAGRAM 1

Front panel section

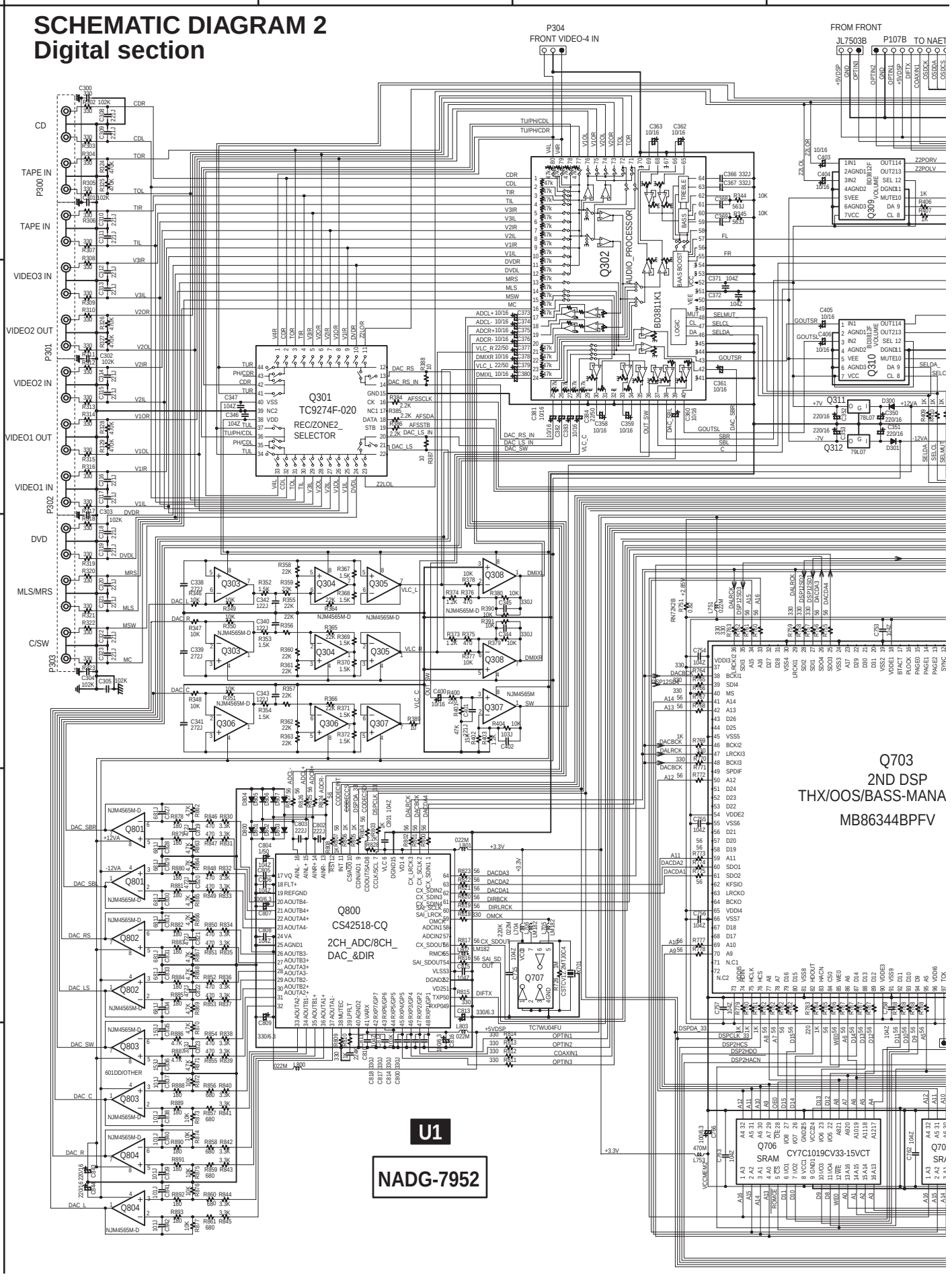


SCHEMATIC DIAGRAM 1

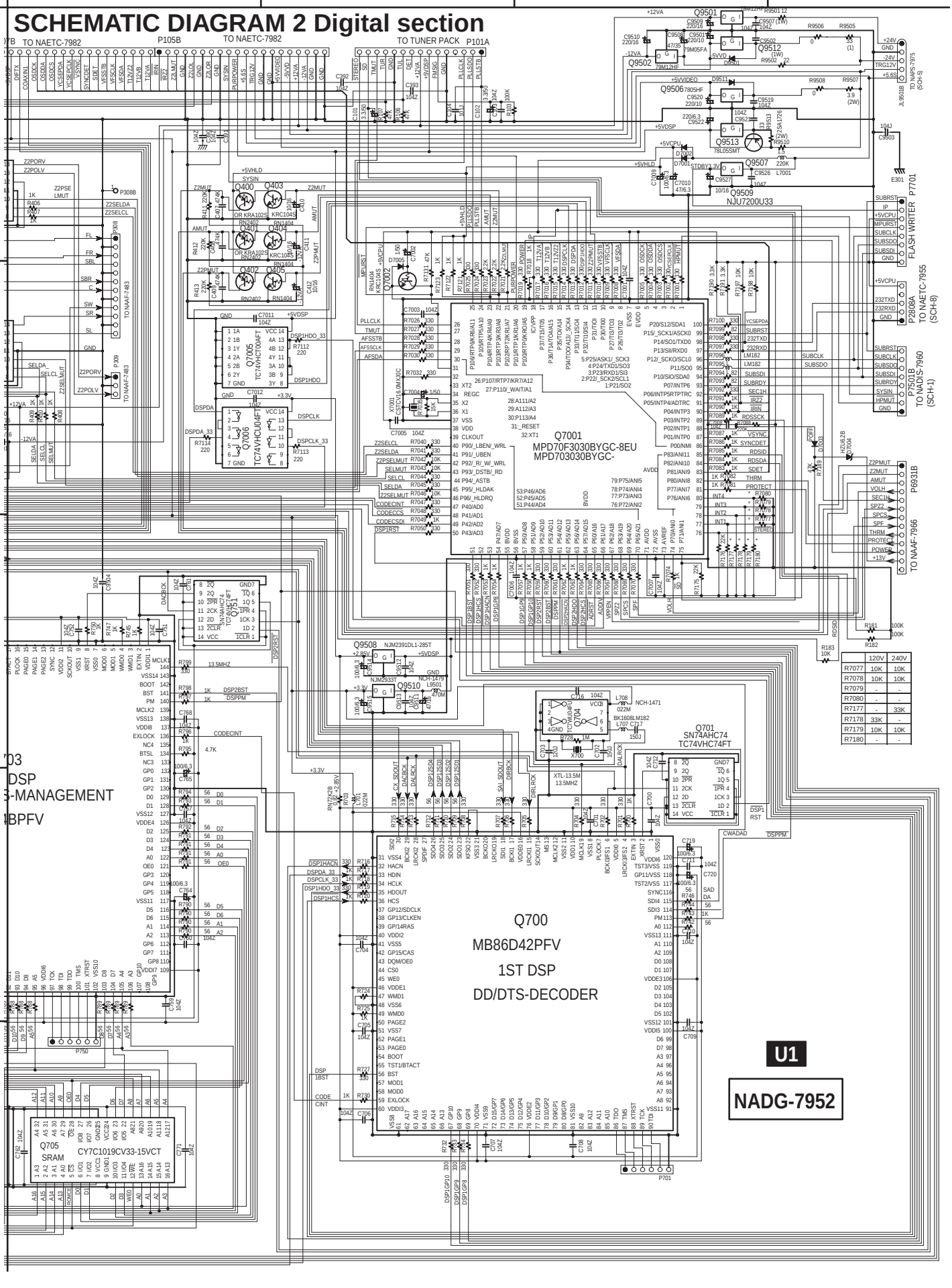
Front panel section



SCHEMATIC DIAGRAM 2
Digital section

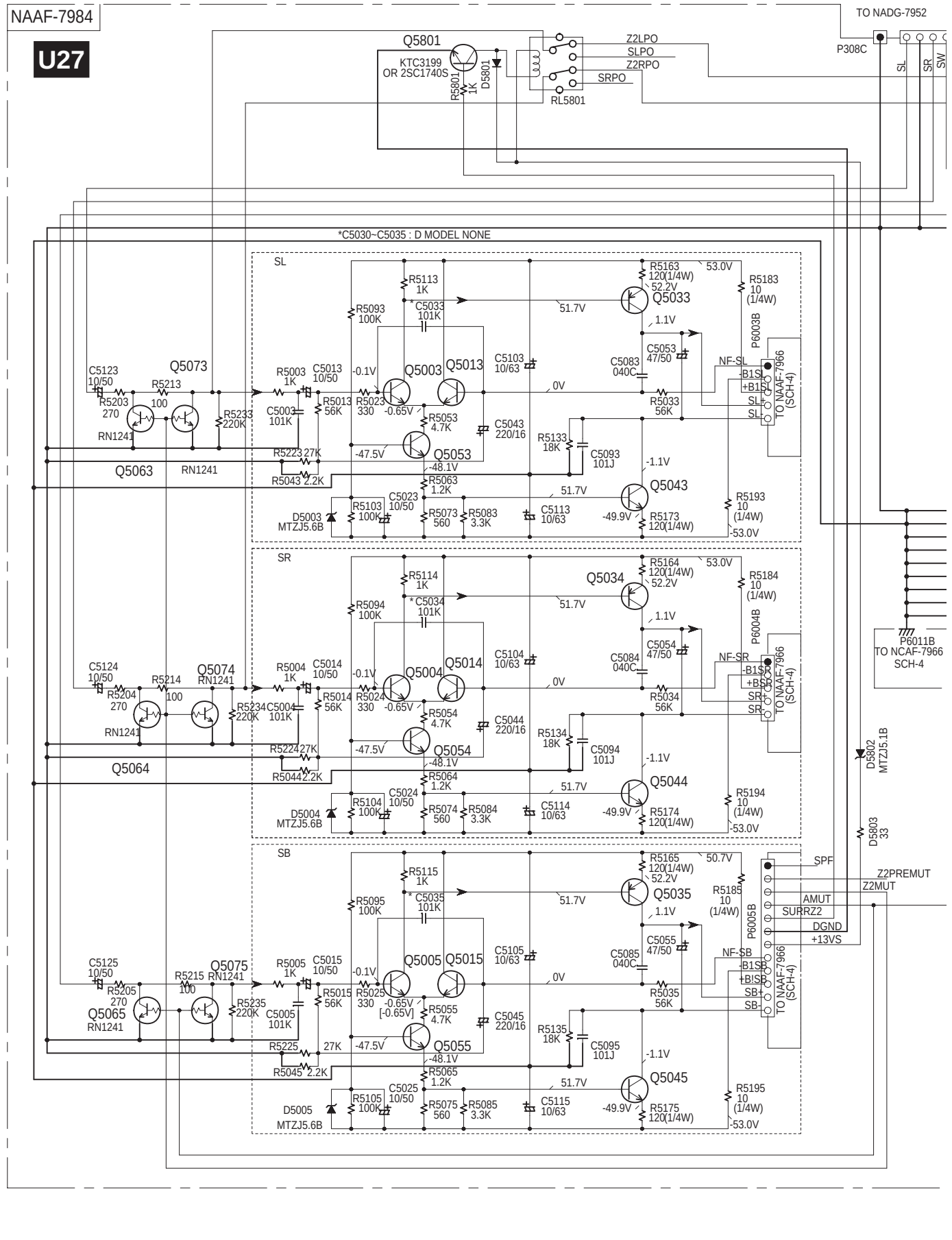


SCHEMATIC DIAGRAM 2 Digital section

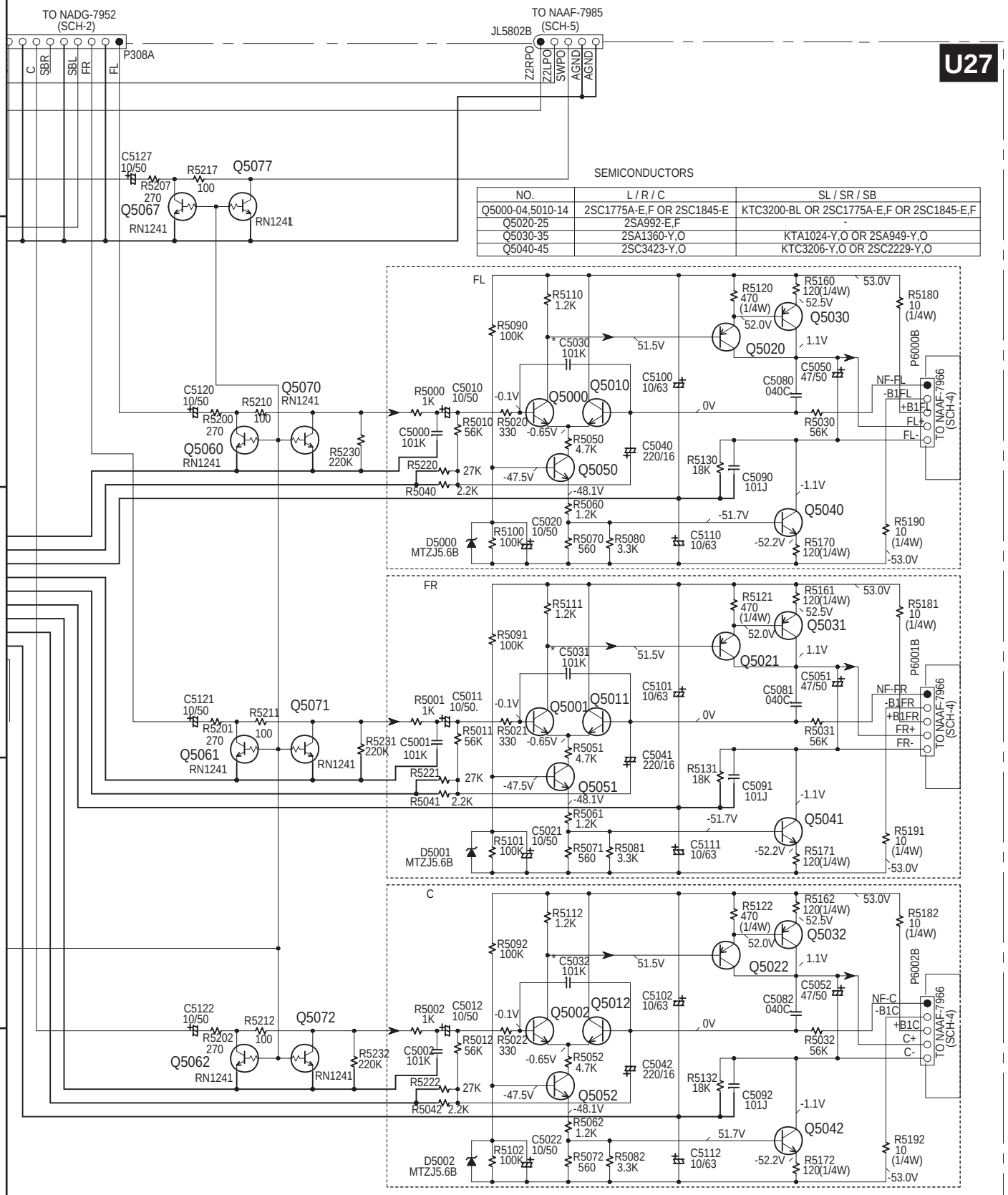


	120V	240V
R7077	10K	10K
R7078	10K	10K
R7079	-	-
R7080	-	-
R7177	-	33K
R7178	33K	-
R7179	10K	10K
R7180	-	-

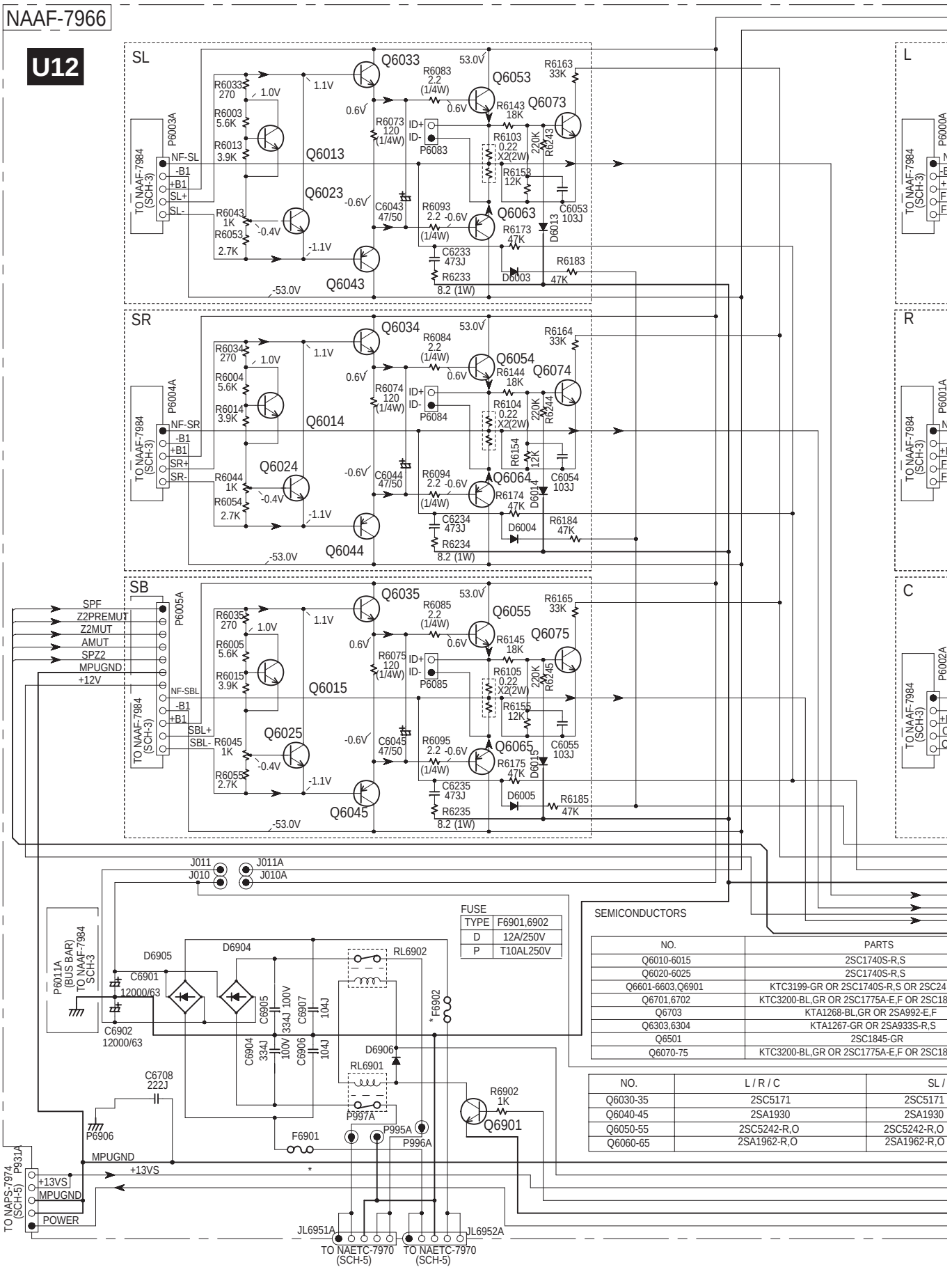
SCHEMATIC DIAGRAM 3 Driver circuit section



SCHEMATIC DIAGRAM 3 Driver circuit section



SCHEMATIC DIAGRAM 4 Power amplifier section



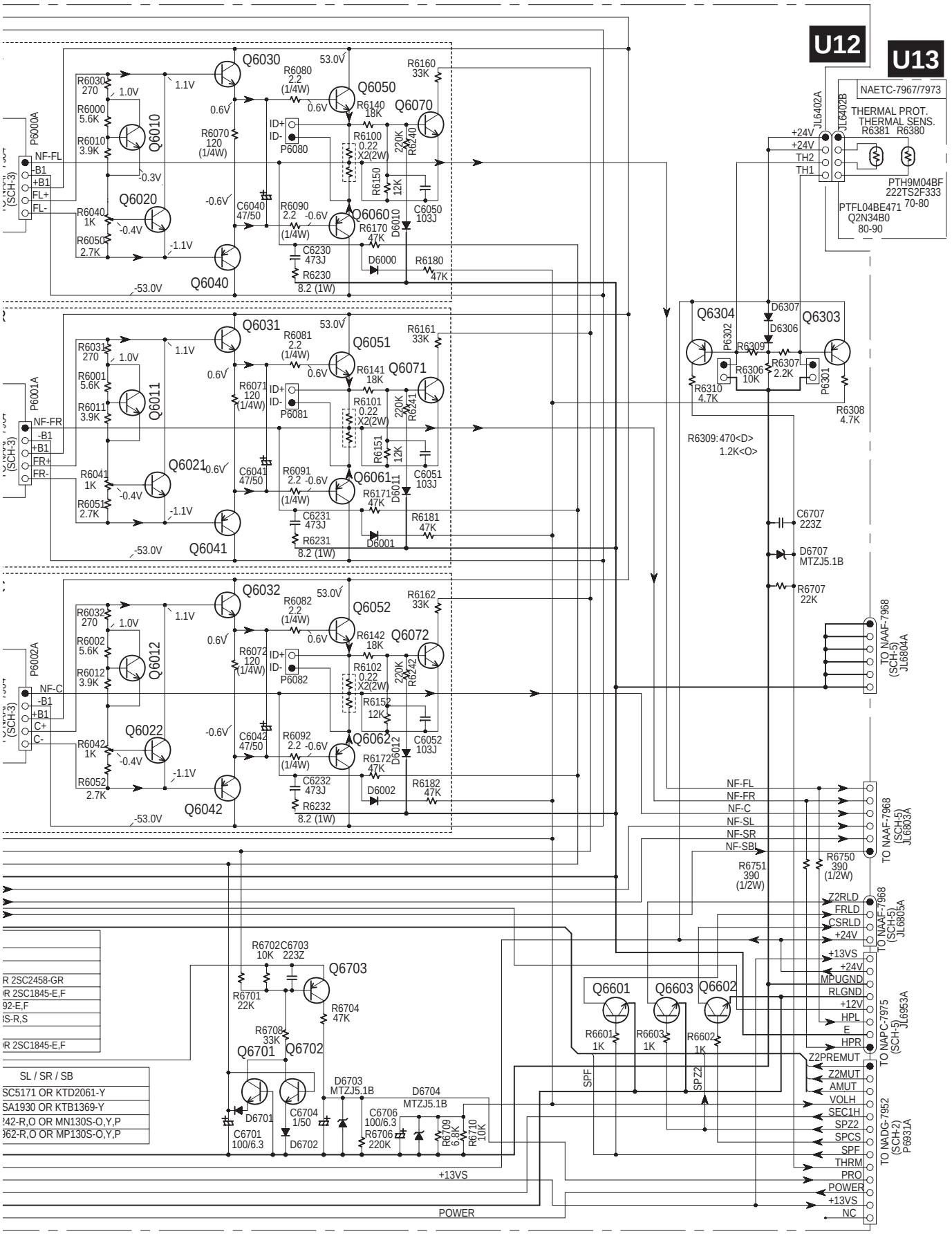
FUSE	
TYPE	F6901,6902
D	12A/250V
P	T10AL250V

SEMICONDUCTORS

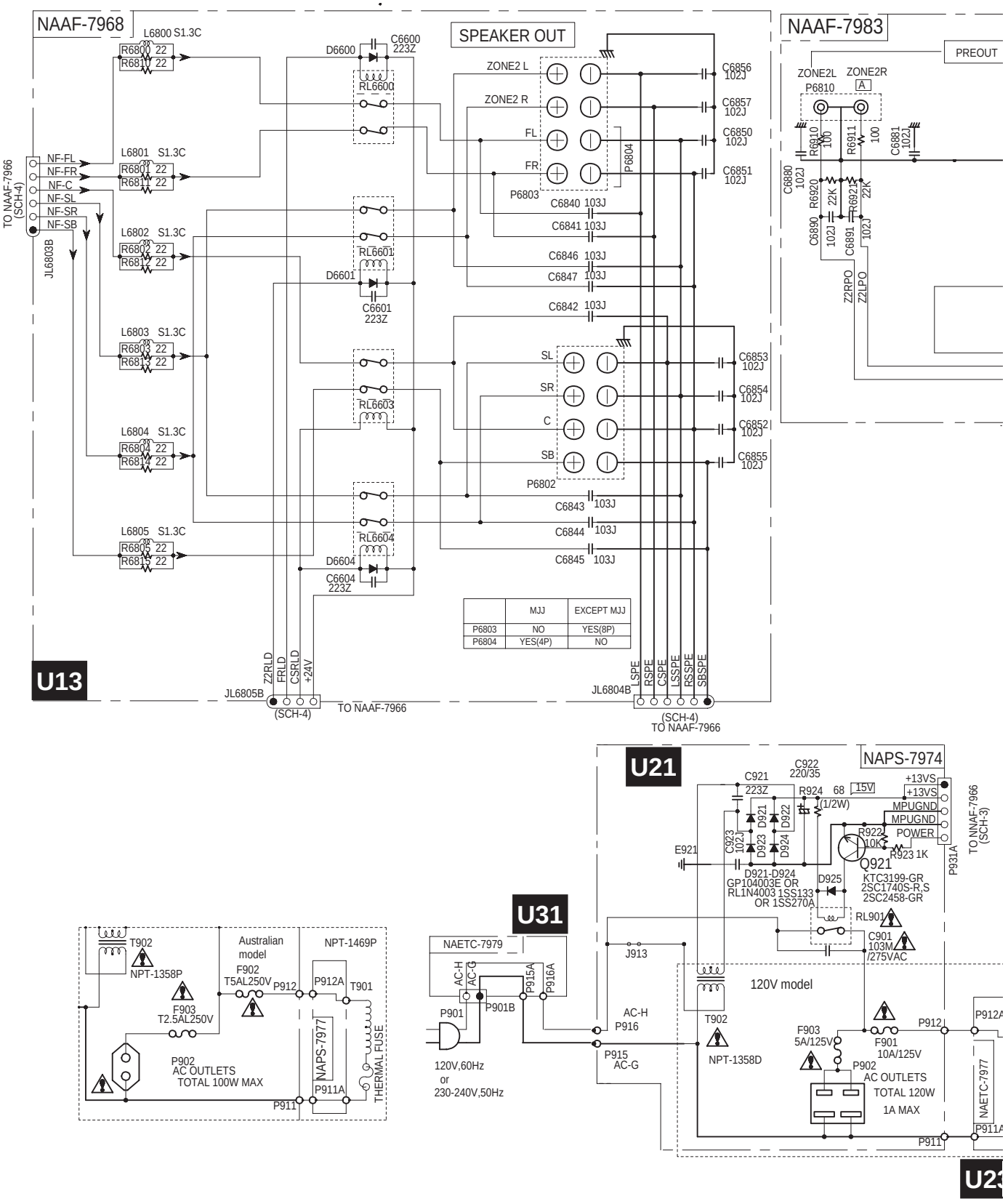
NO.	PARTS
Q6010-6015	2SC1740S-R,S
Q6020-6025	2SC1740S-R,S
Q6601-6603,Q6901	KTC3199-GR OR 2SC1740S-R,S OR 2SC24
Q6701,6702	KTC3200-BL,GR OR 2SC1775A-E,F OR 2SC18
Q6703	KTA1268-BL,GR OR 2SA992-E,F
Q6303,6304	KTA1267-GR OR 2SA933S-R,S
Q6501	2SC1845-GR
Q6070-75	KTC3200-BL,GR OR 2SC1775A-E,F OR 2SC18

NO.	L / R / C	SL /
Q6030-35	2SC5171	2SC5171
Q6040-45	2SA1930	2SA1930
Q6050-55	2SC5242-R,O	2SC5242-R,O
Q6060-65	2SA1962-R,O	2SA1962-R,O

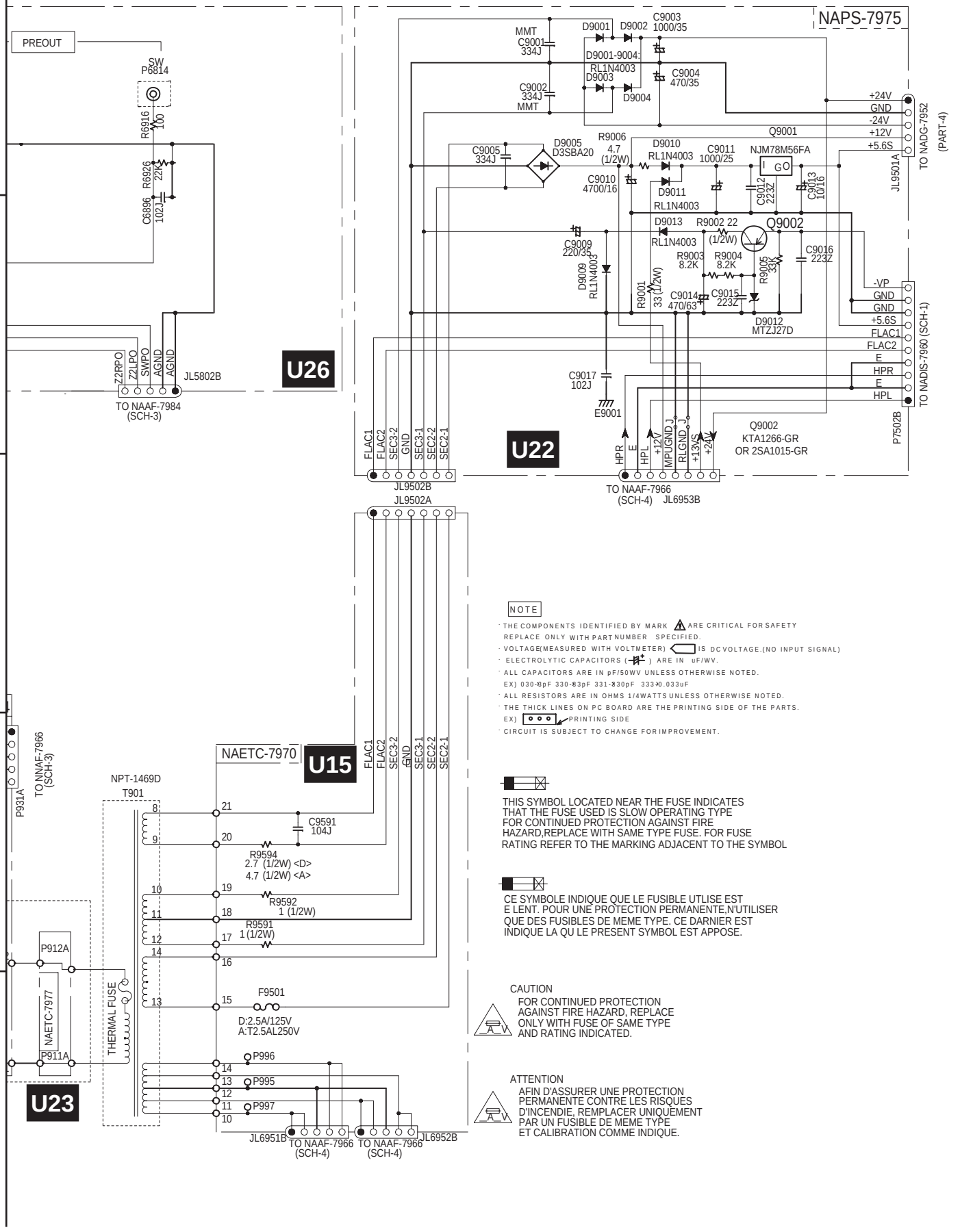
SCHEMATIC DIAGRAM 4 Power amplifier section



SCHEMATIC DIAGRAM 5 Power supply and speaker terminal sections



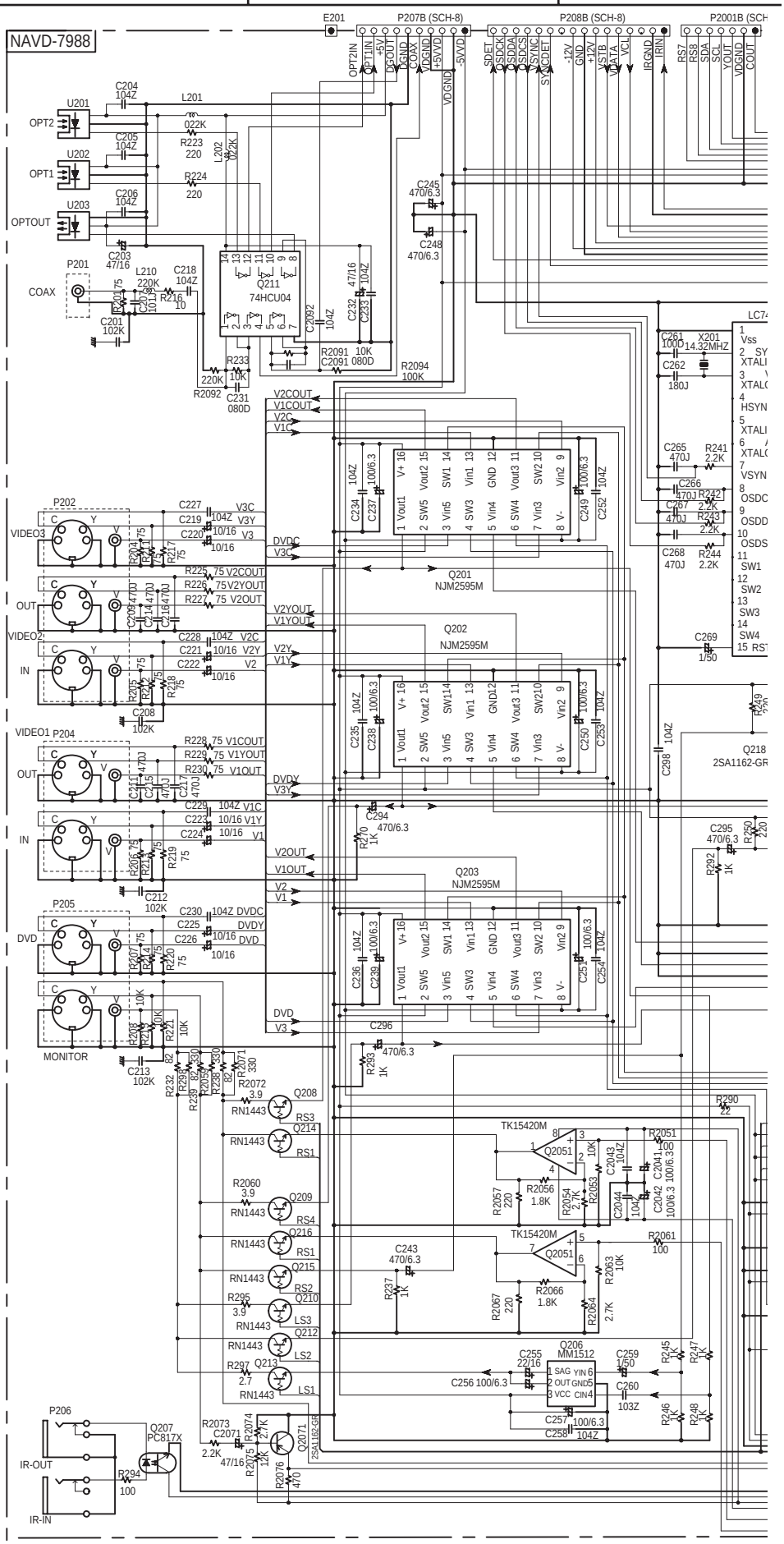
SCHEMATIC DIAGRAM 5 Power supply and speaker terminal sections

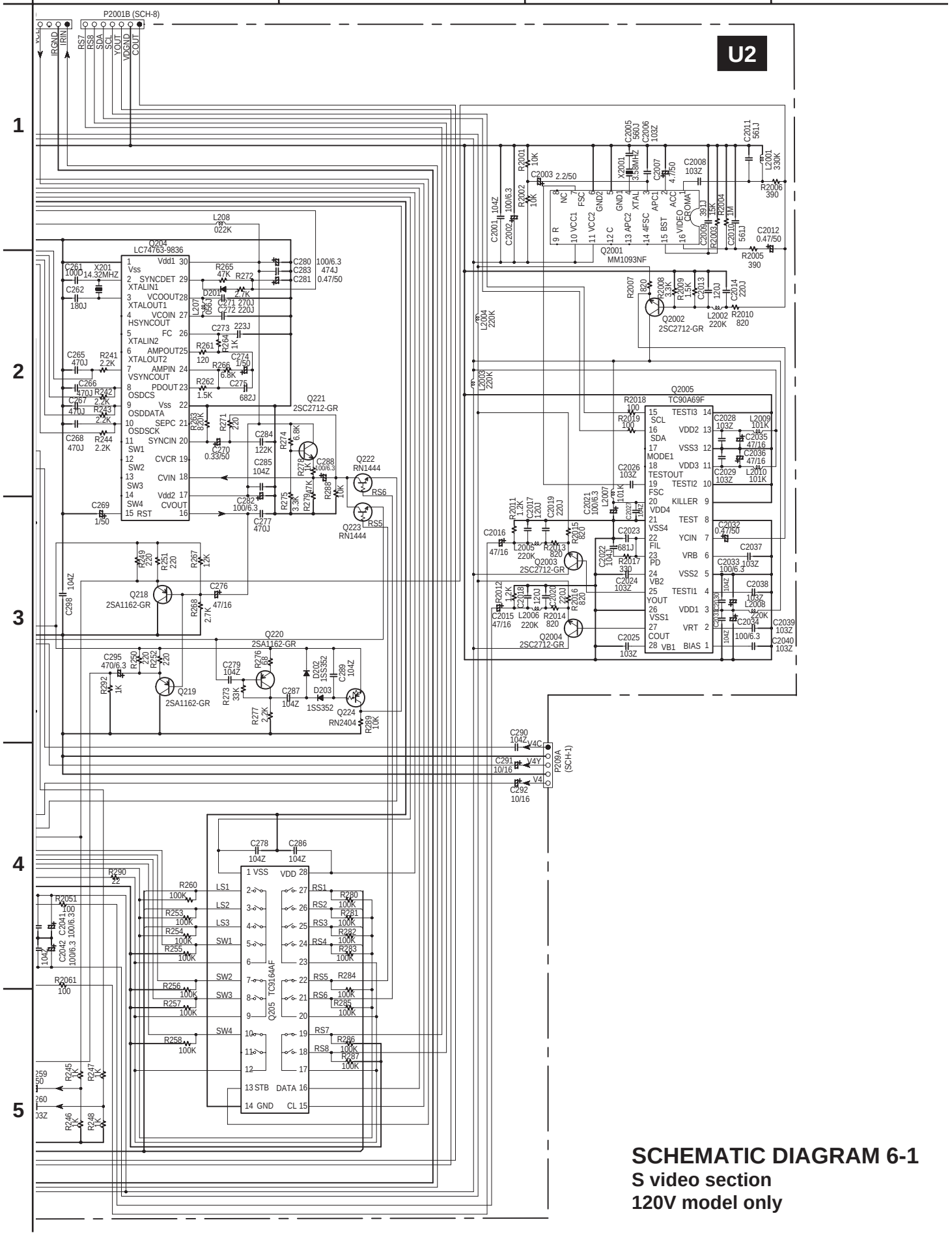


SCHEMATIC DIAGRAM 6-1

S video section

120V model only



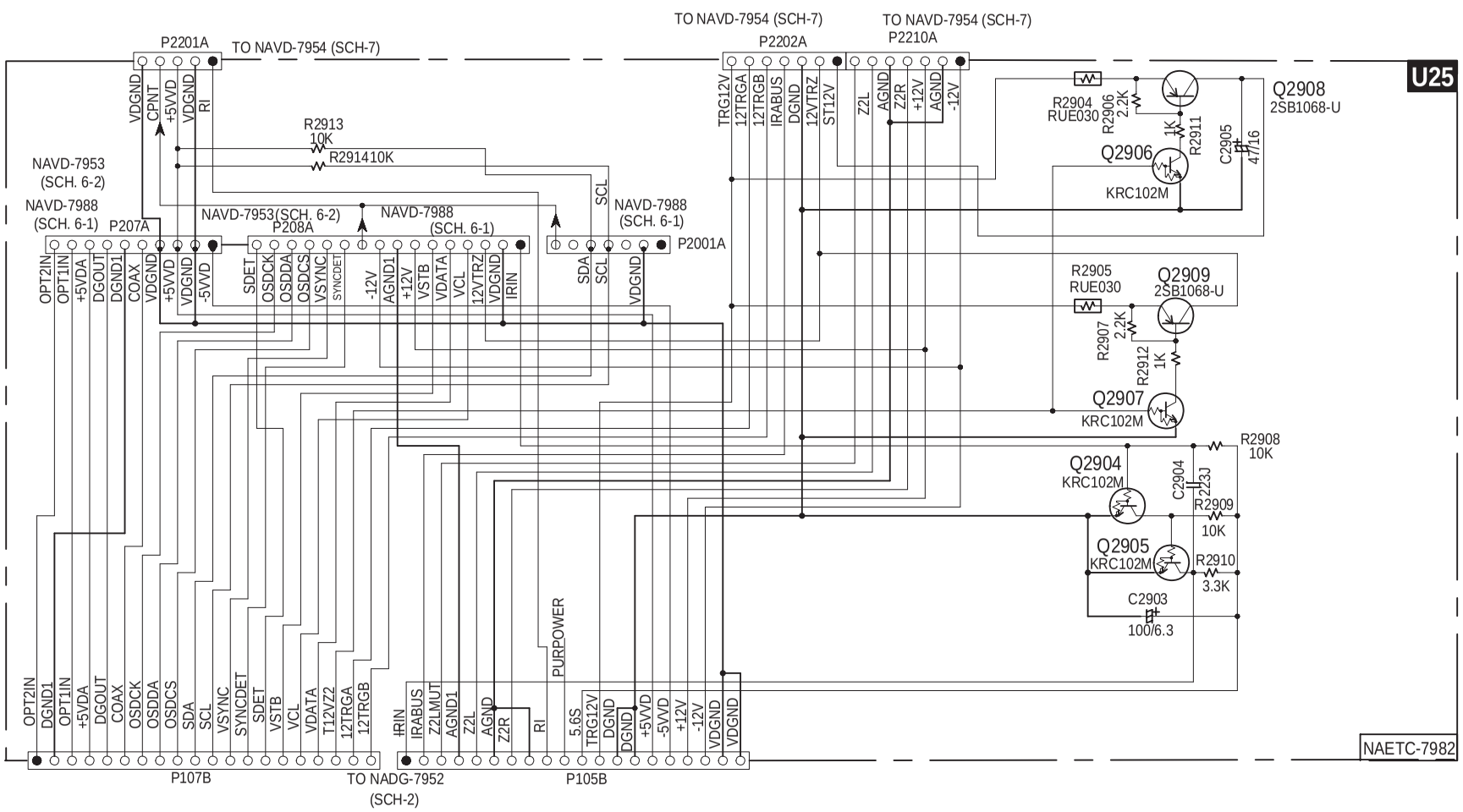


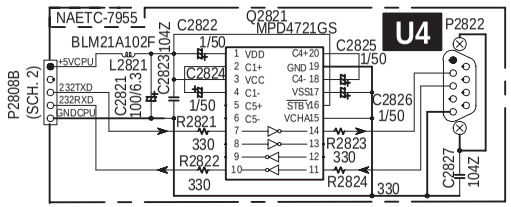
SCHEMATIC DIAGRAM 6-1

S video section

120V model only

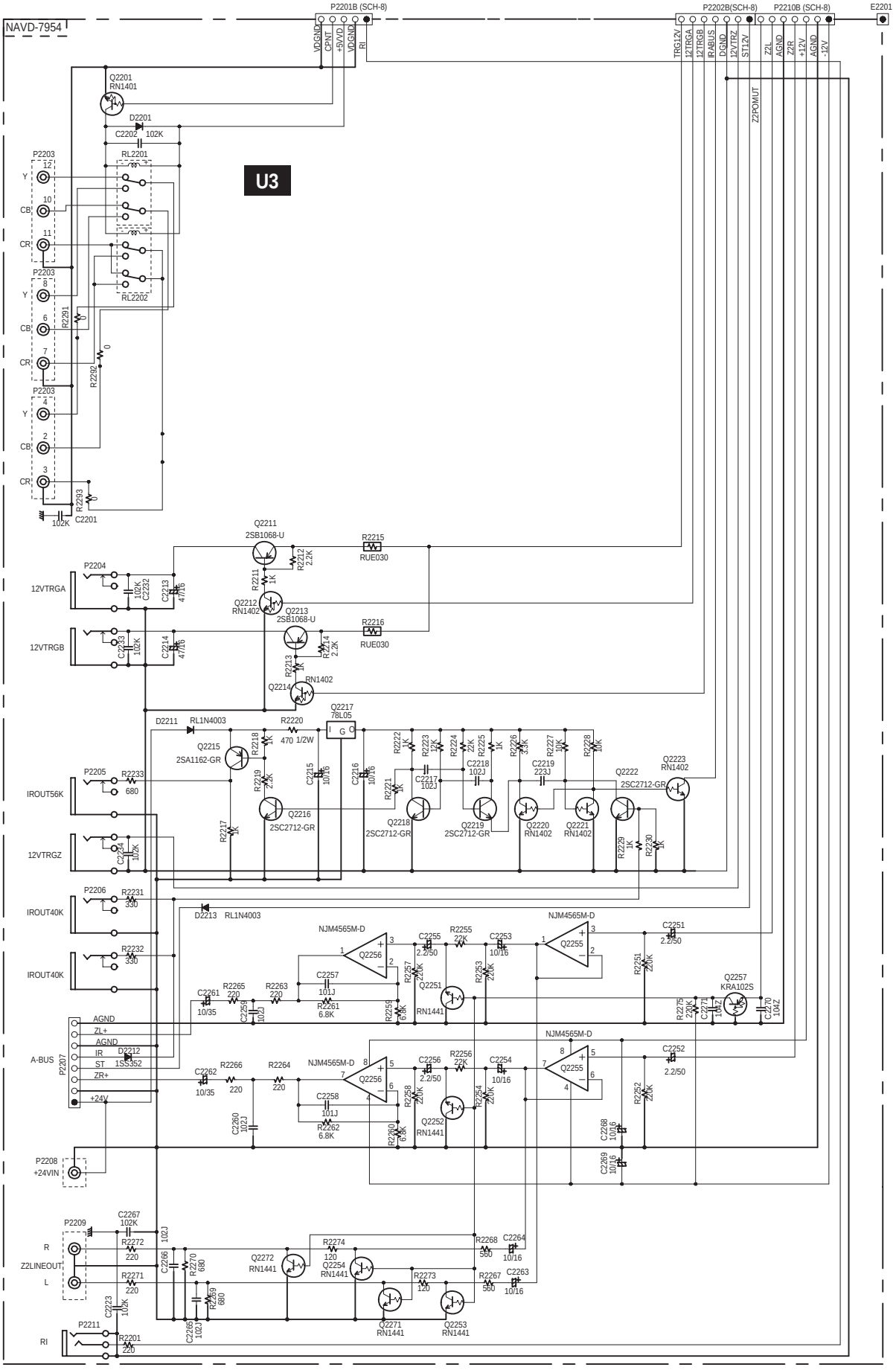
SCHEMATIC DIAGRAM 8
Connector section



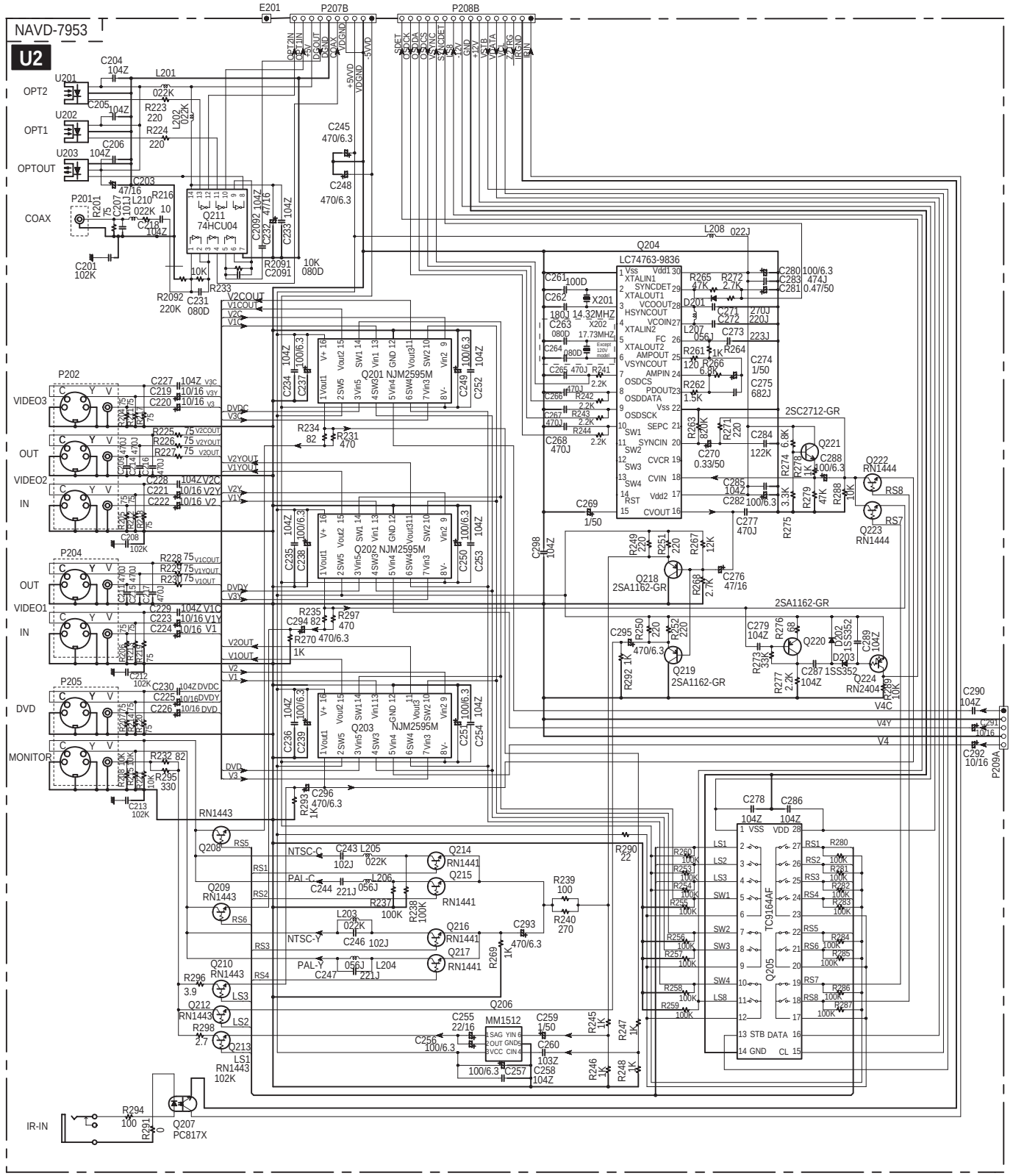


DTR-5.4

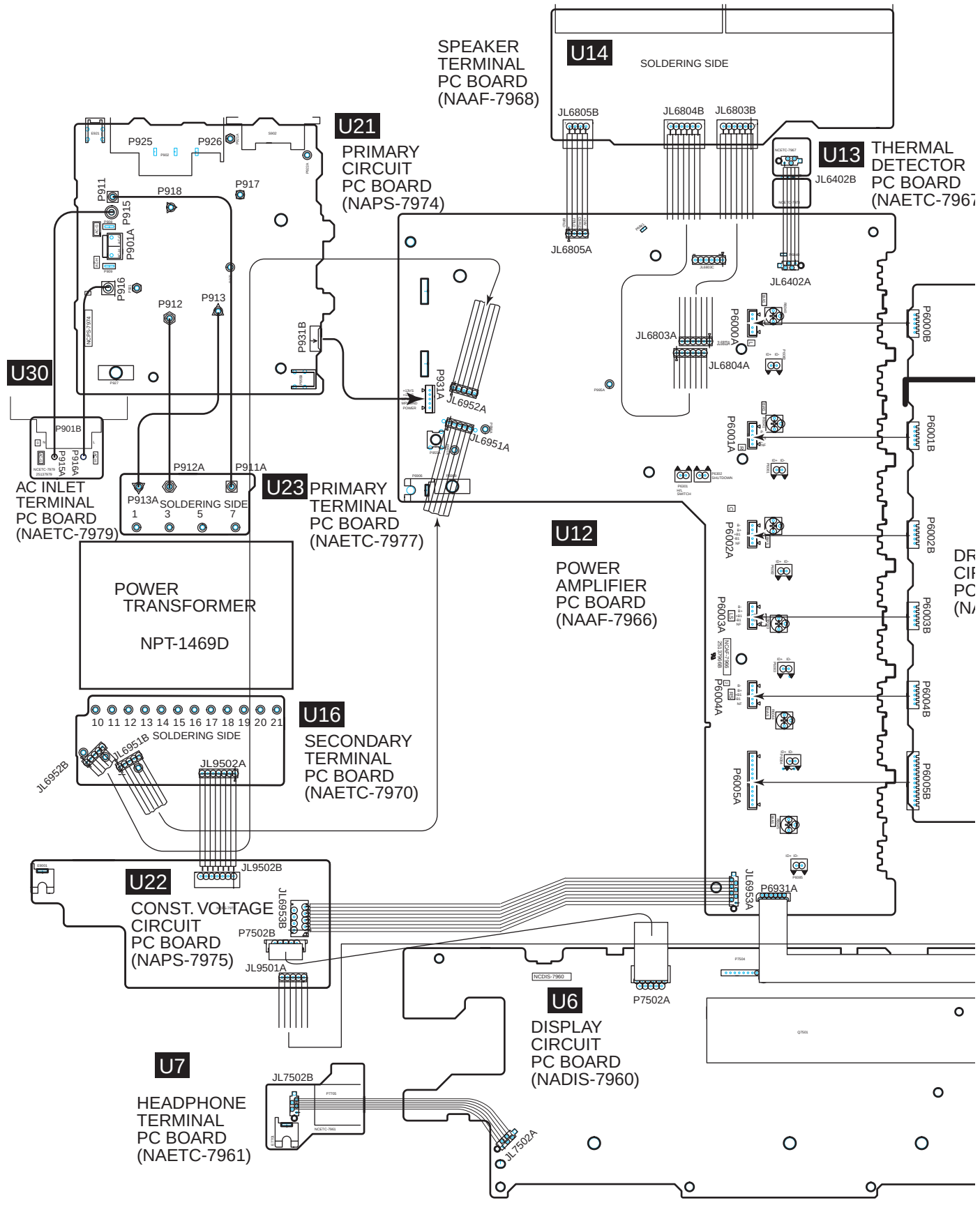
SCHEMATIC DIAGRAM 7 Component video section



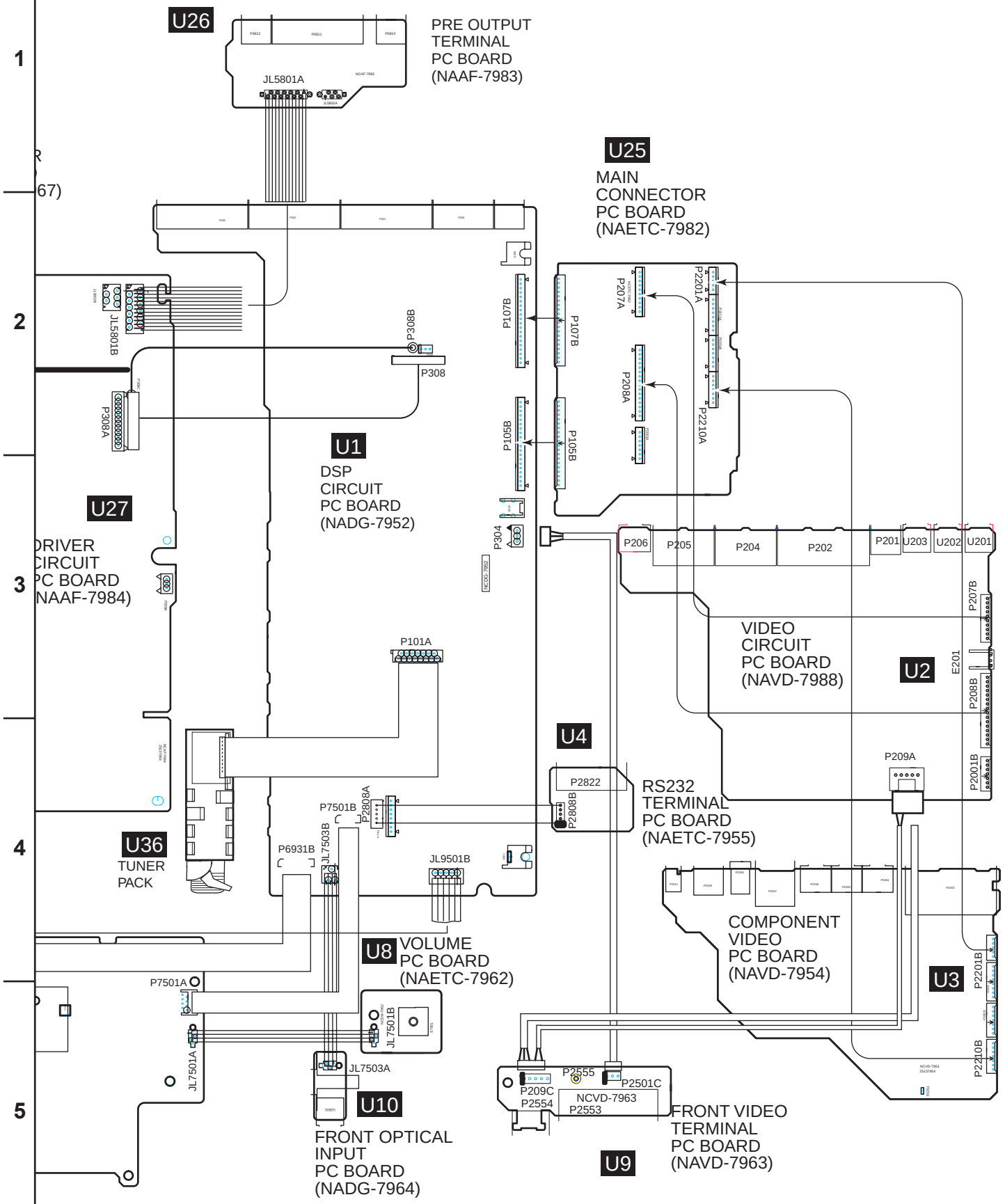
SCHEMATIC DIAGRAM 6 Video and bus line sections (Australian model)



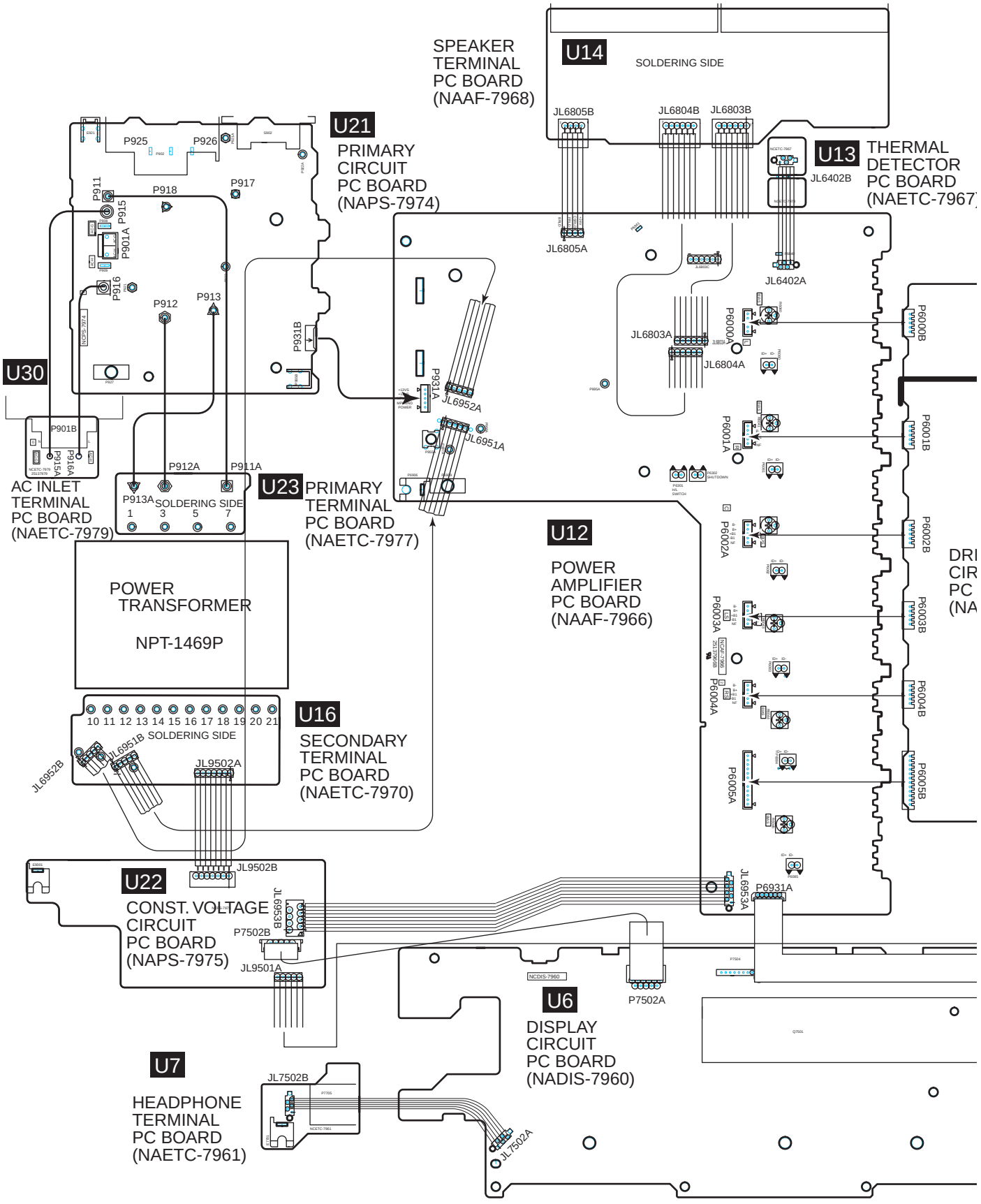
WIRING VIEW (U.S.A. model)



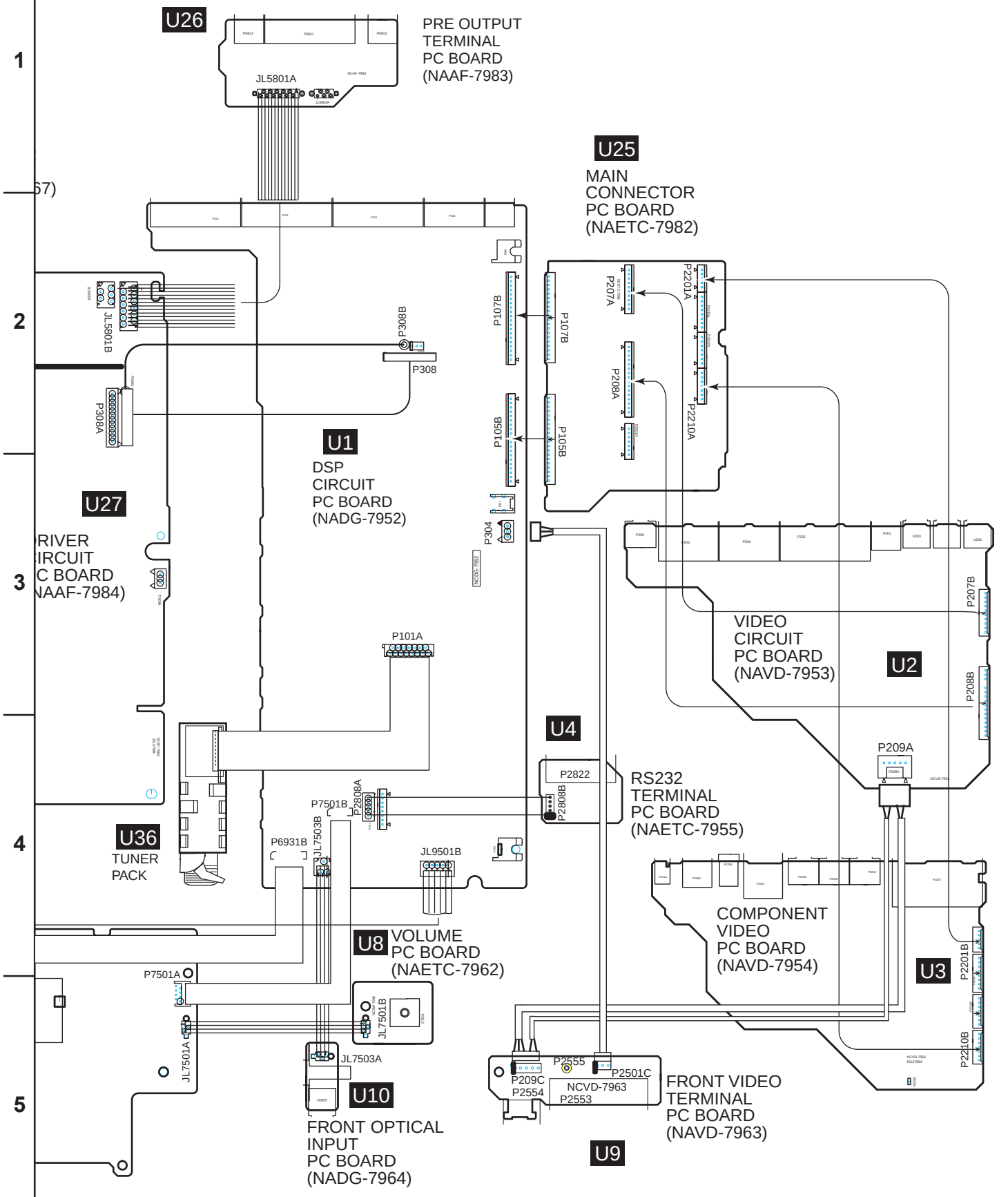
WIRING VIEW (U.S.A. model)



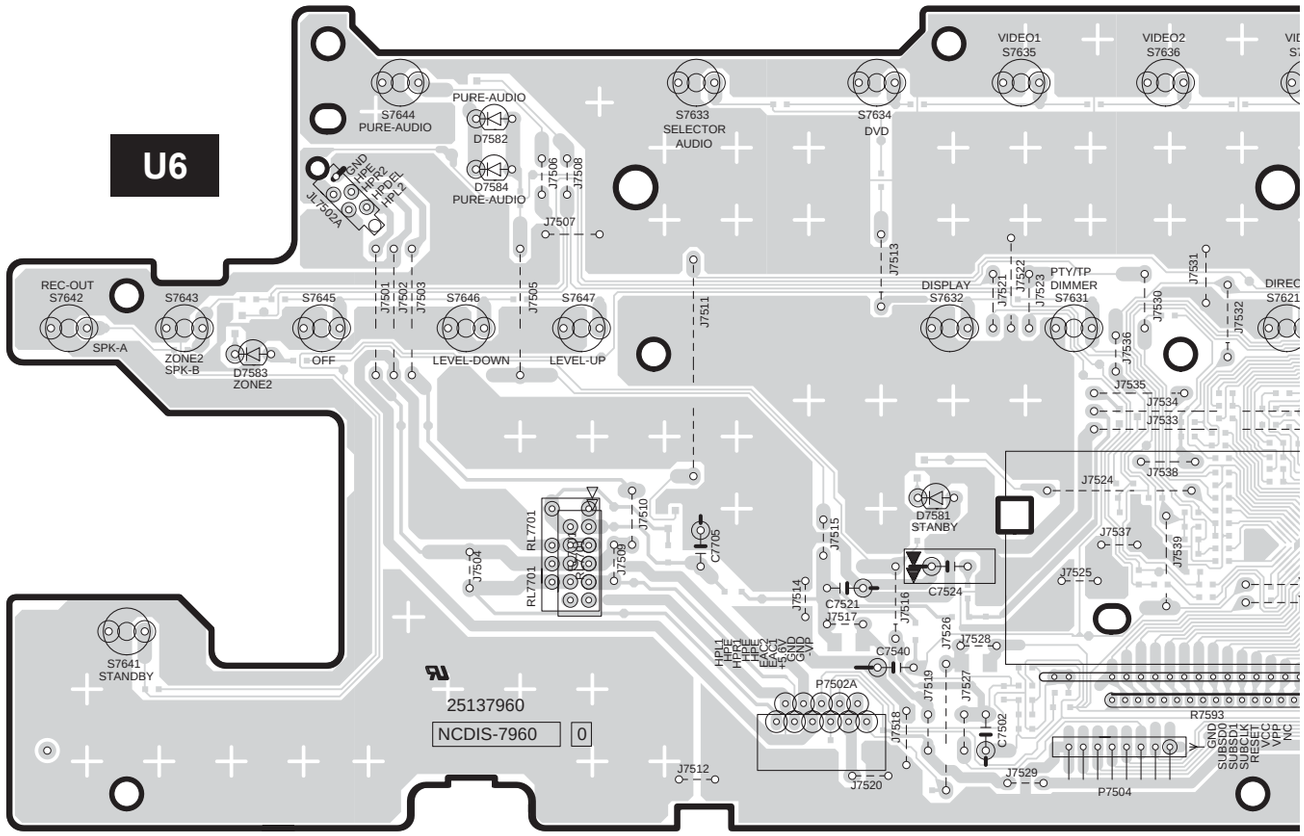
WIRING VIEW (Australian model)



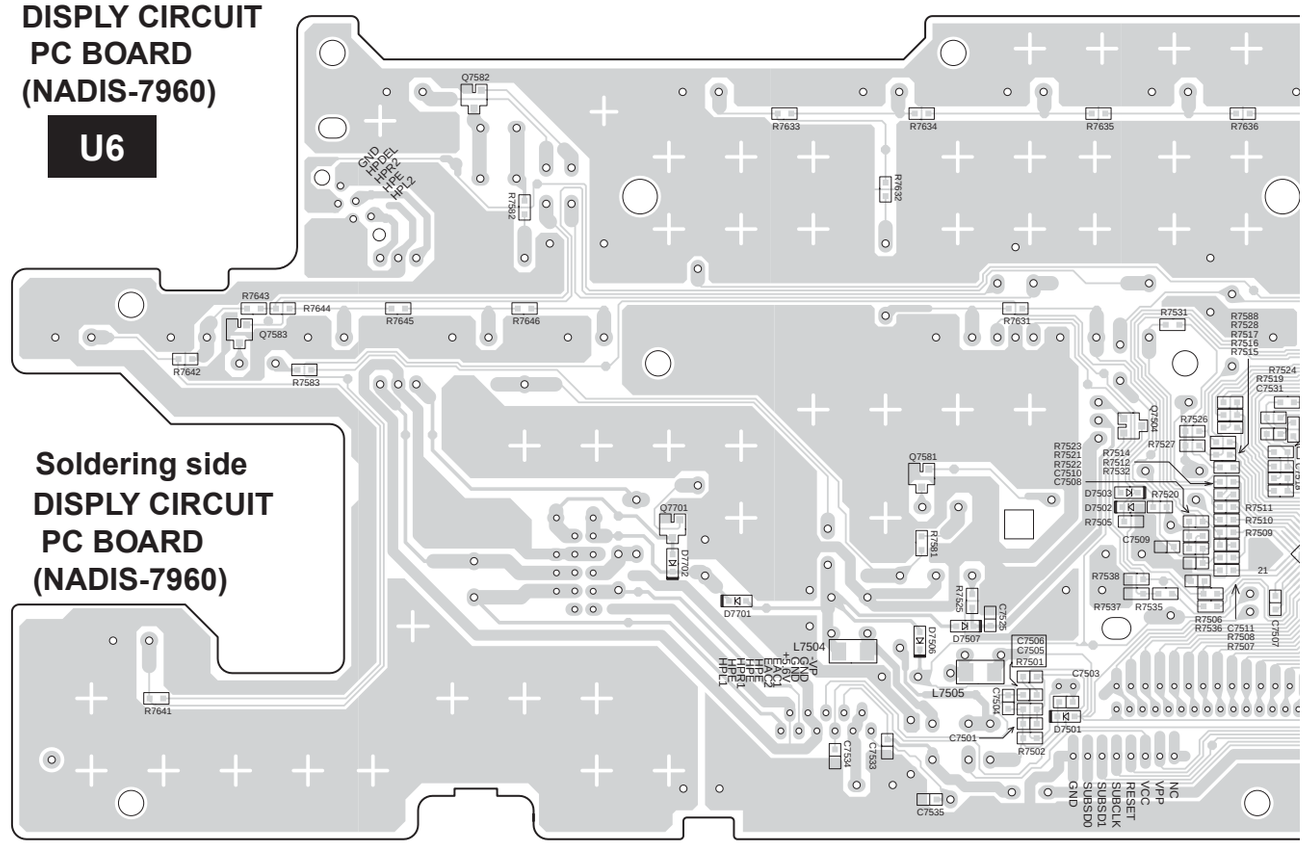
WIRING VIEW (Australian model)



PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 1

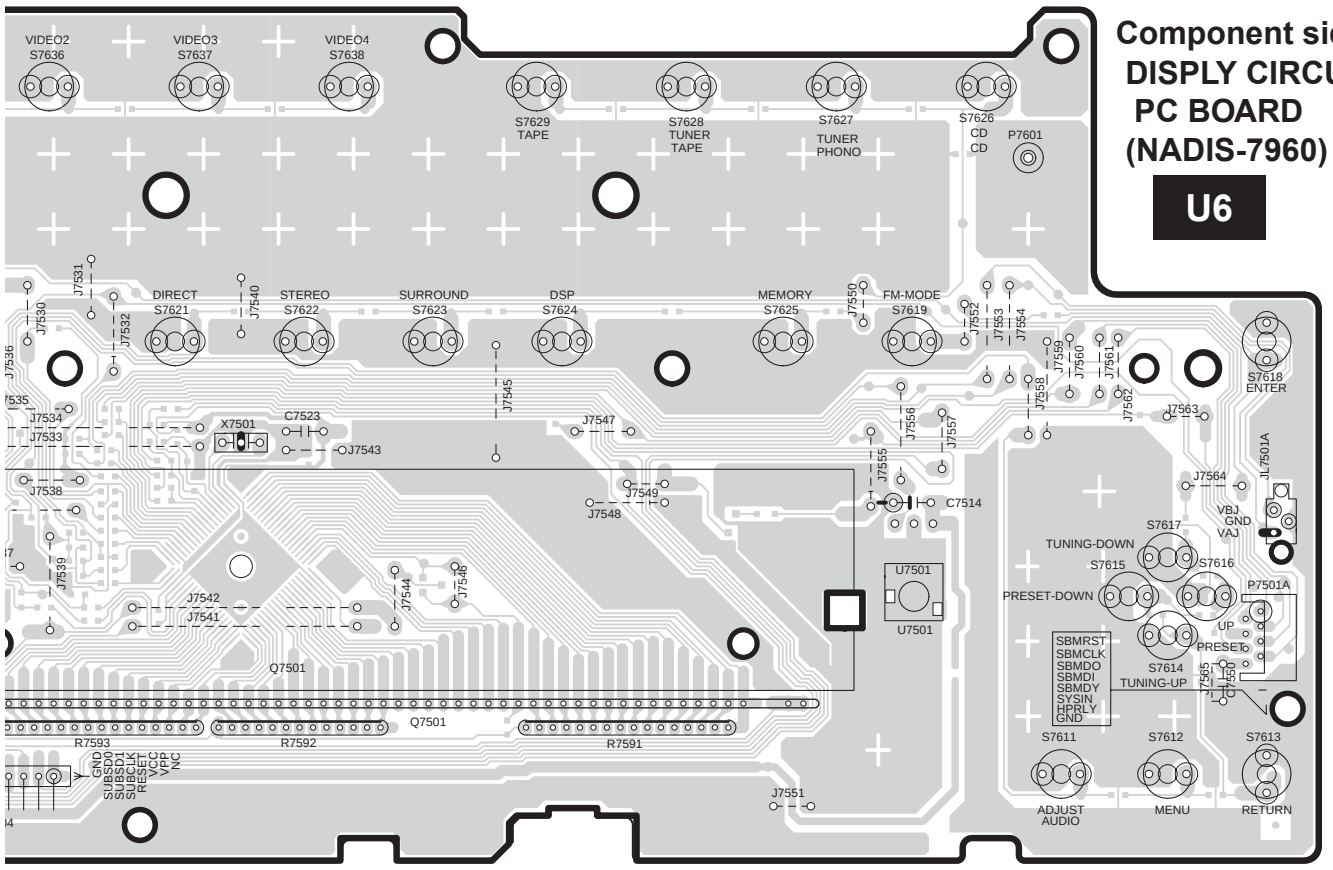


Component side
DISPLY CIRCUIT
PC BOARD
(NADIS-7960)



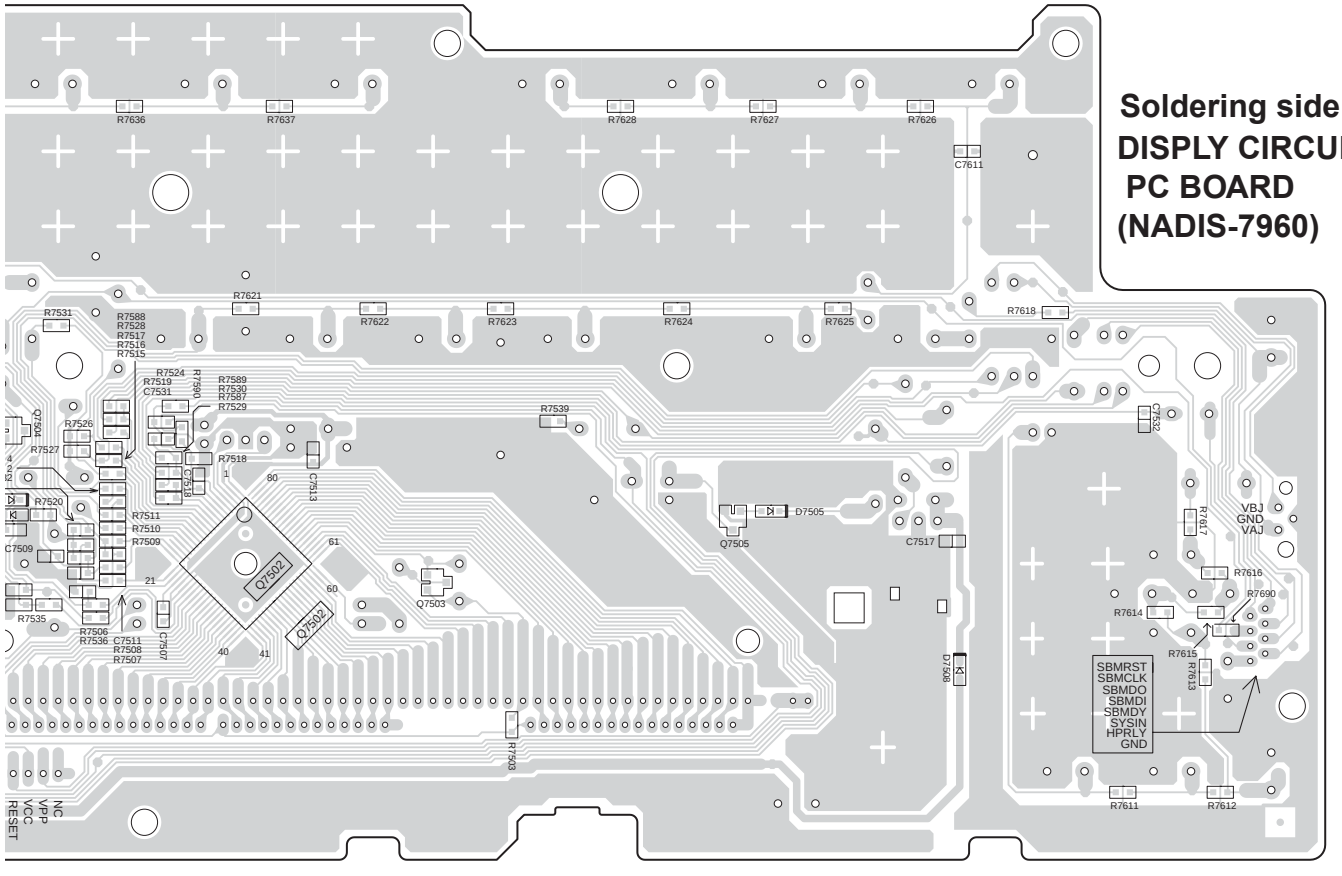
Soldering side
DISPLY CIRCUIT
PC BOARD
(NADIS-7960)

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 1



Component side
DISPLY CIRCUIT
PC BOARD
(NADIS-7960)

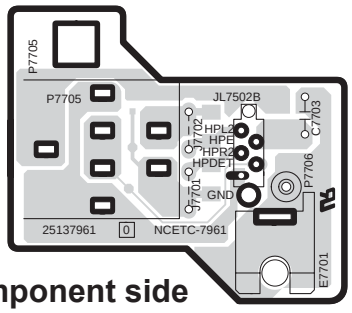
U6



Soldering side
DISPLY CIRCUIT
PC BOARD
(NADIS-7960)

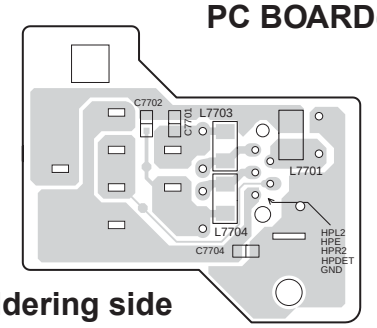
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 1-2

U7



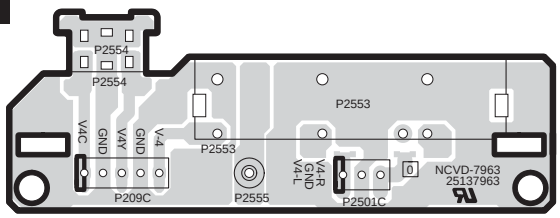
Component side

HEADPHONE TERMINAL PC BOARD(NAETC-7961)



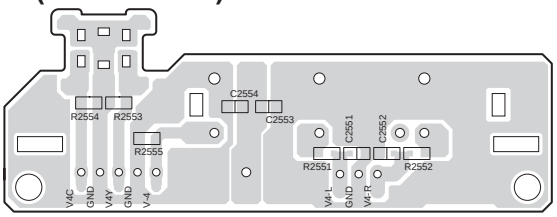
Soldering side

U9



Component side

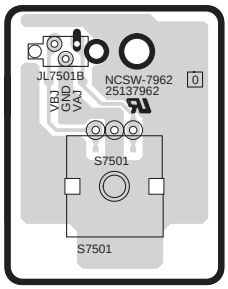
FRONT VIDEO TERMINAL PC BOARD (NAVD-7963)



Soldering side

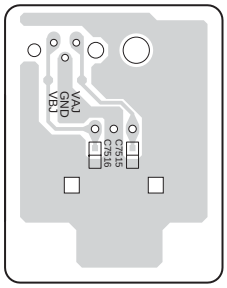
FRONT VIDEO TERMINAL PC BOARD (NAVD-7963)

U8



Component side

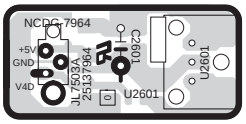
VOLUME PC BOARD (NASW-7962)



Soldering side

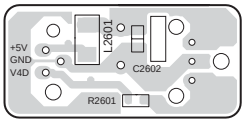
VOLUME PC BOARD (NASW-7962)

U10



Component side

FRONT OPTICAL INPUT PC BOARD (NADG-7964)



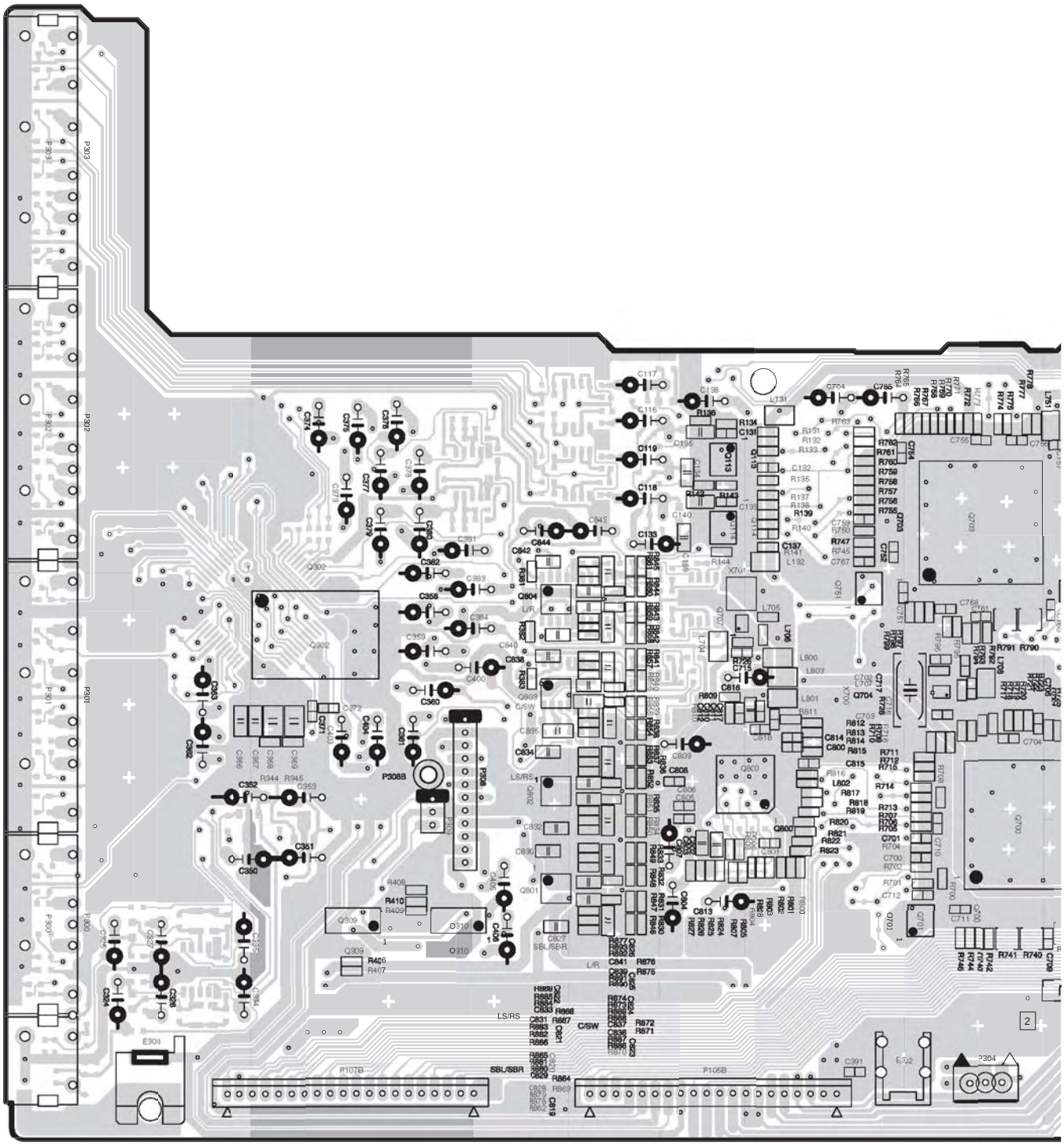
Soldering side

FRONT OPTICAL INPUT PC BOARD (NADG-7964)

A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW 2



U1 DSP CIRCUIT PC BOARD(NADG-7952)

A B C D

1

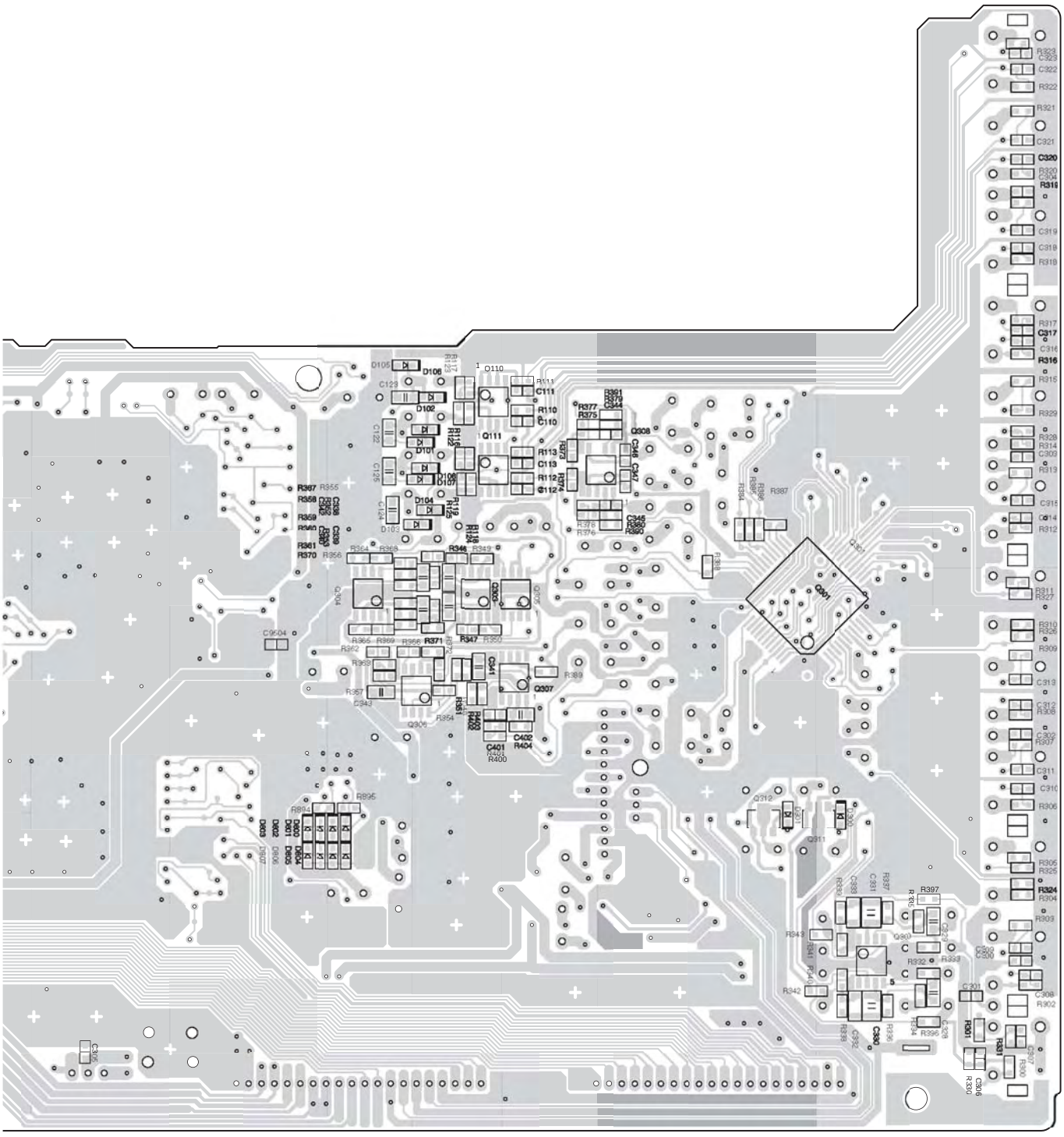
2

3

4

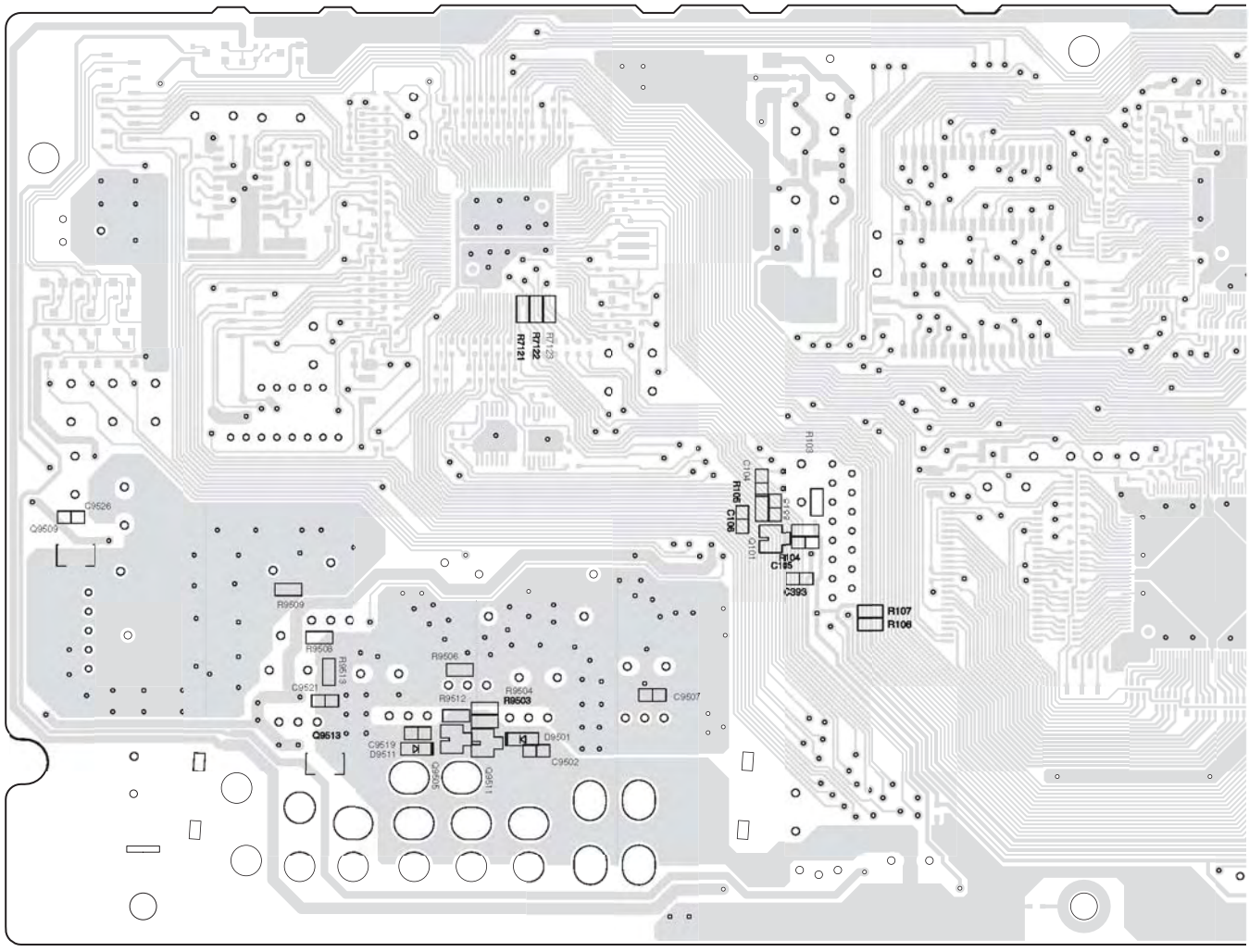
5

PRINTED CIRCUIT BOARD VIEW 2



U1 DSP CIRCUIT PC BOARD(NADG-7952)

PRINTED CIRCUIT BOARD VIEW 2

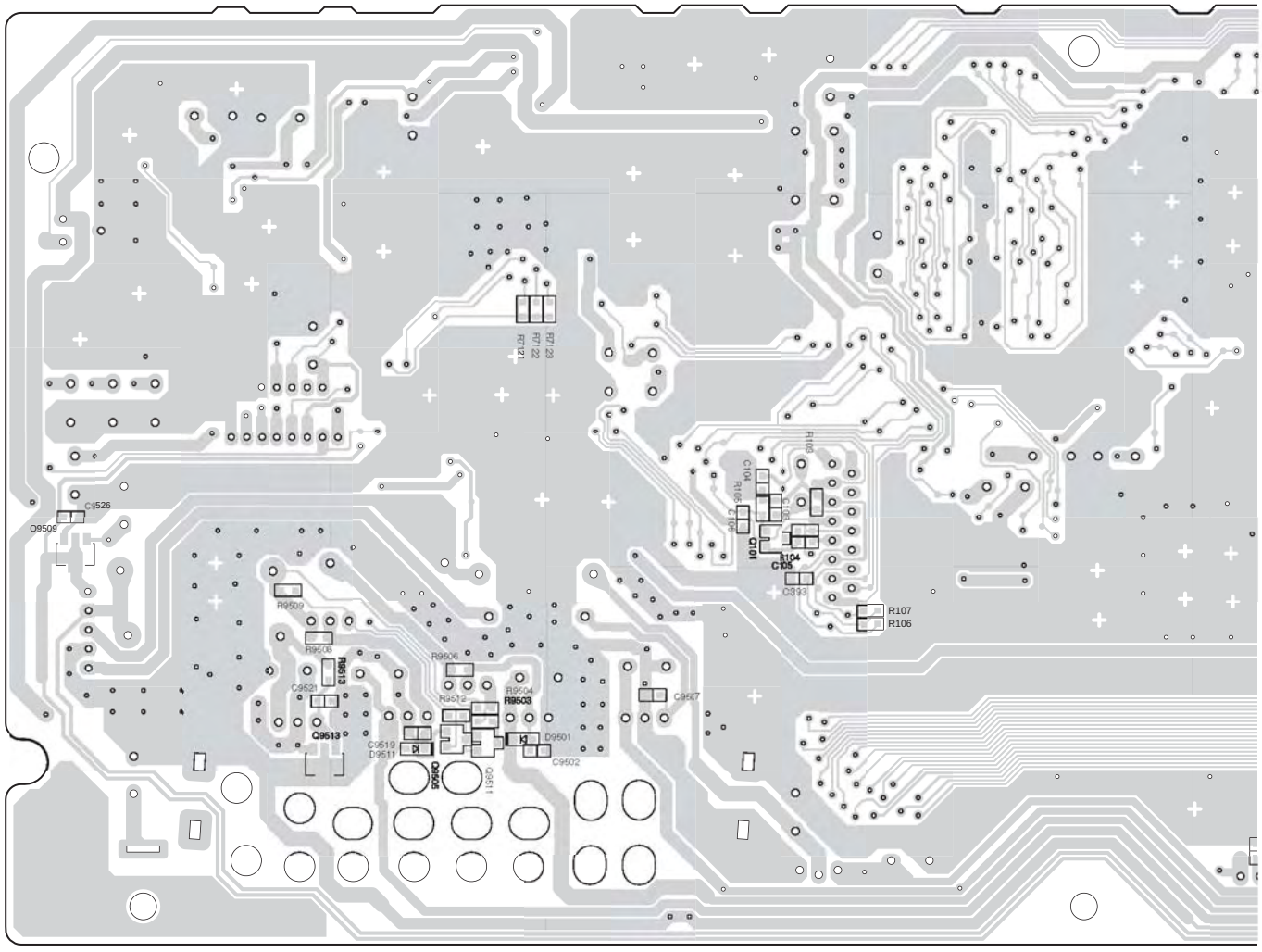


U1 DSP CIRCUIT PC BOARD(NADG-7952)

A B C D

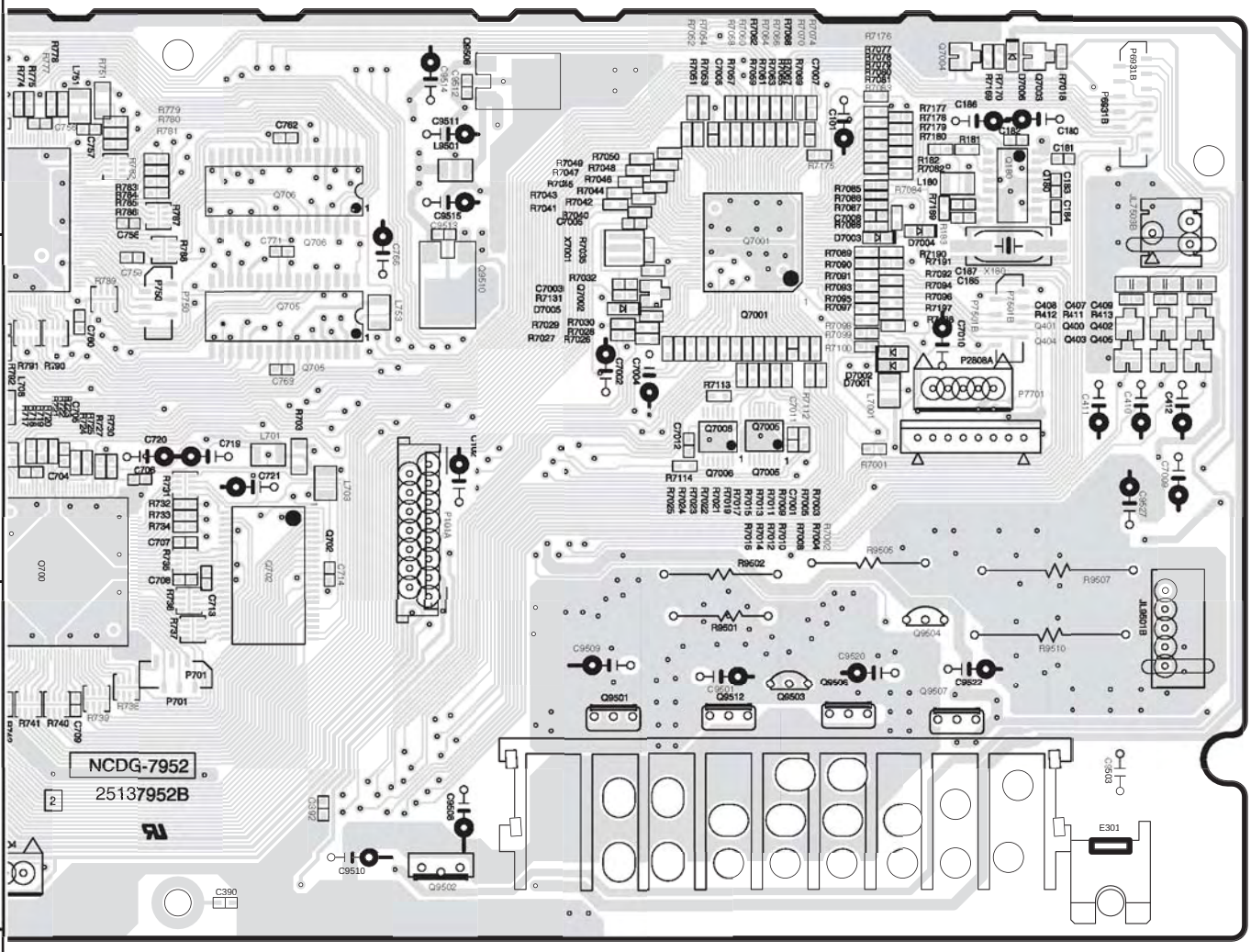
1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW 2



U1 **DSP CIRCUIT PC BOARD(NADG-7952)**

PRINTED CIRCUIT BOARD VIEW 2

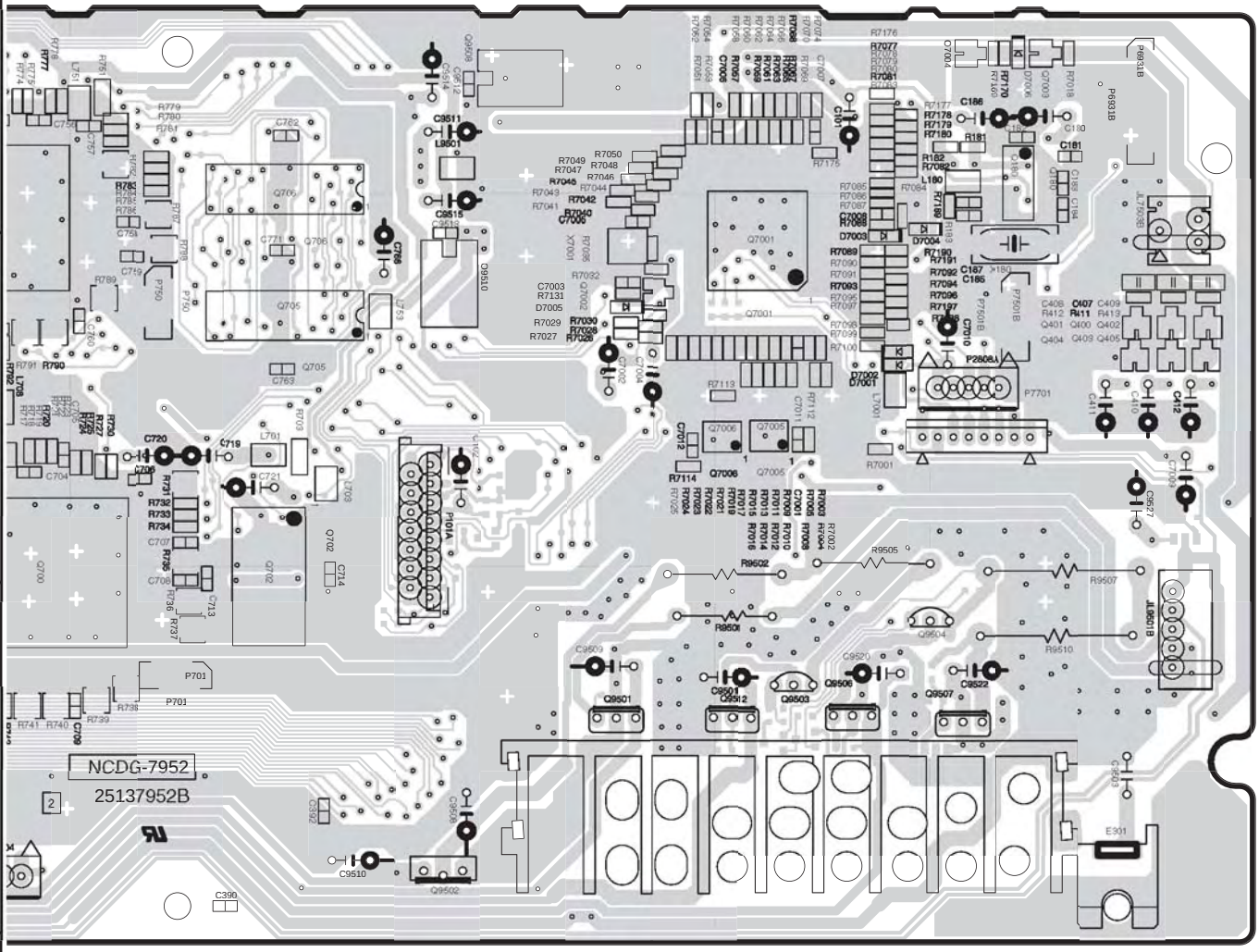


U1 DSP CIRCUIT PC BOARD(NADG-7952)

A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW 2

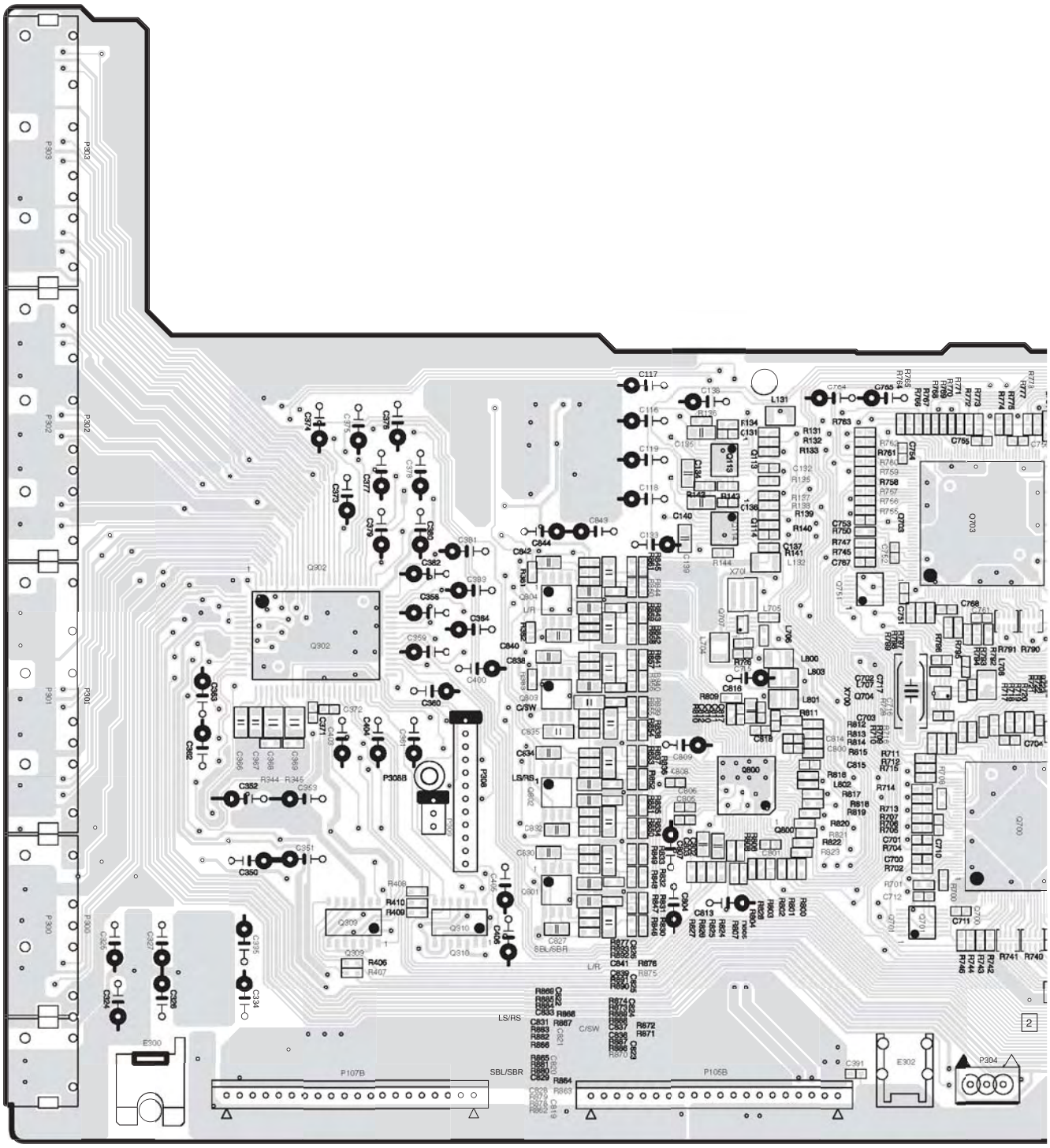


U1 **DSP CIRCUIT PC BOARD(NADG-7952)**

A B C D

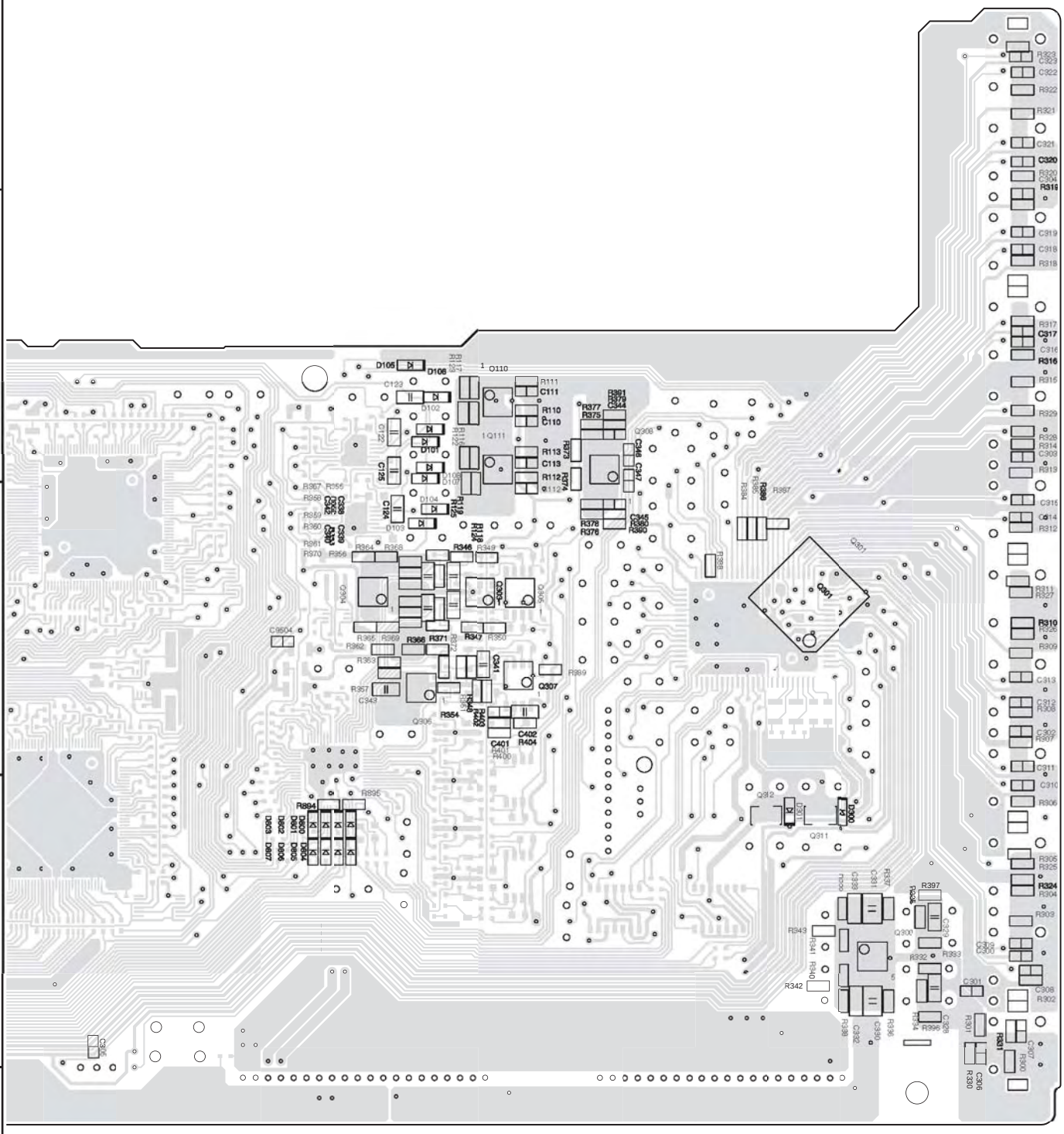
1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW 2



U1 DSP CIRCUIT PC BOARD(NADG-7952)

PRINTED CIRCUIT BOARD VIEW 2

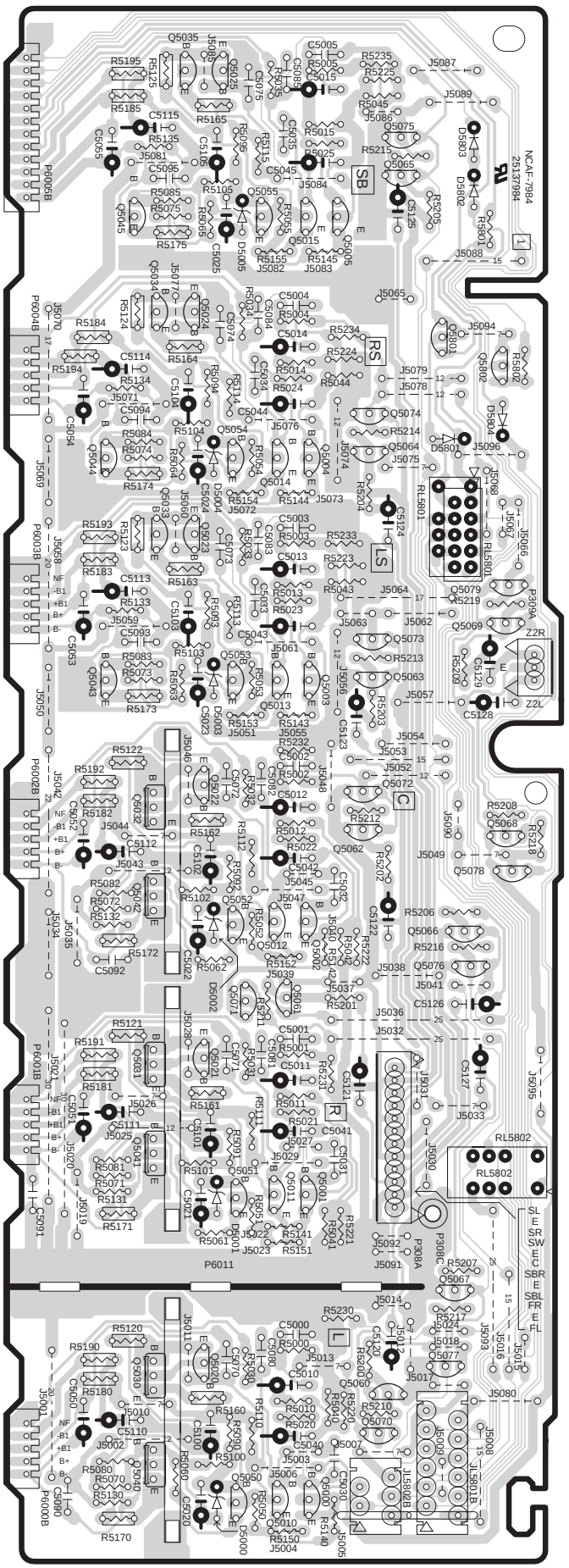


U1 DSP CIRCUIT PC BOARD(NADG-7952)

A B C D

1 2 3 4 5

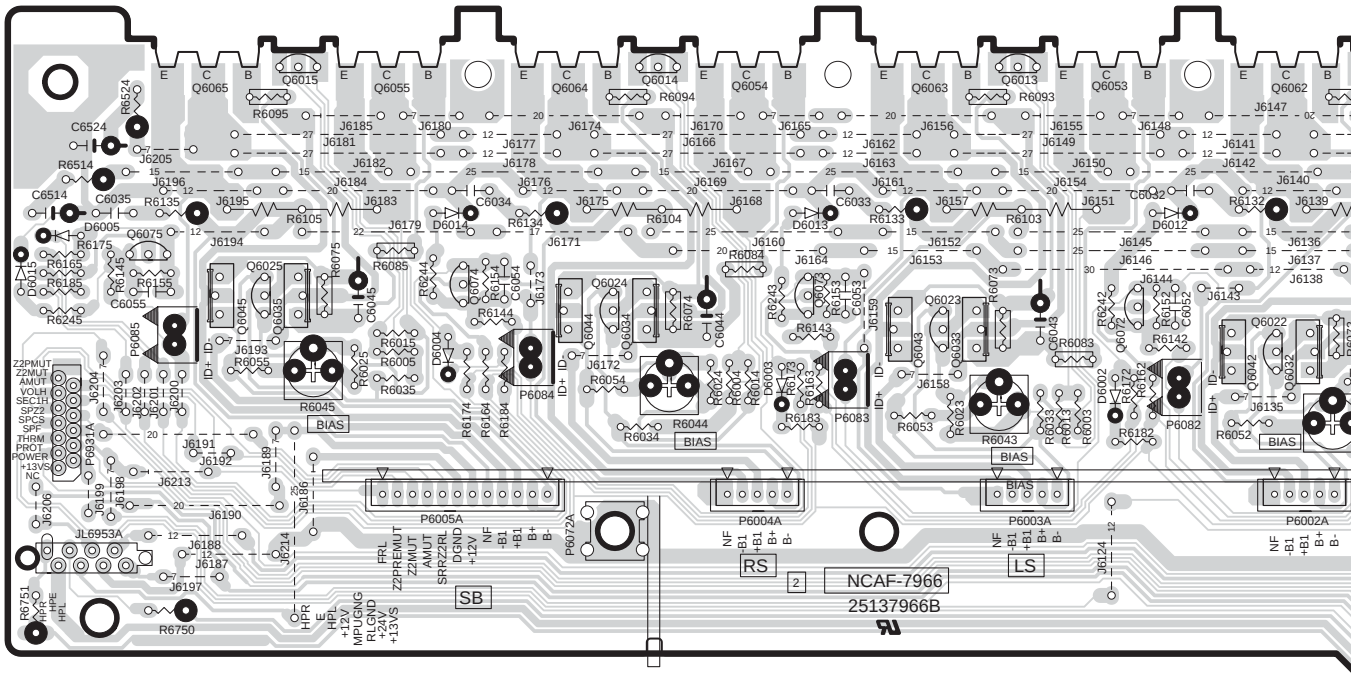
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 3



U27

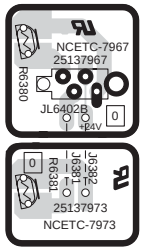
DRIVER CIRCUIT PC BOARD (NAAF-7984)

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 4



U12 **POWER AMPLIFIER PC BOARD (NAAF-7966)**

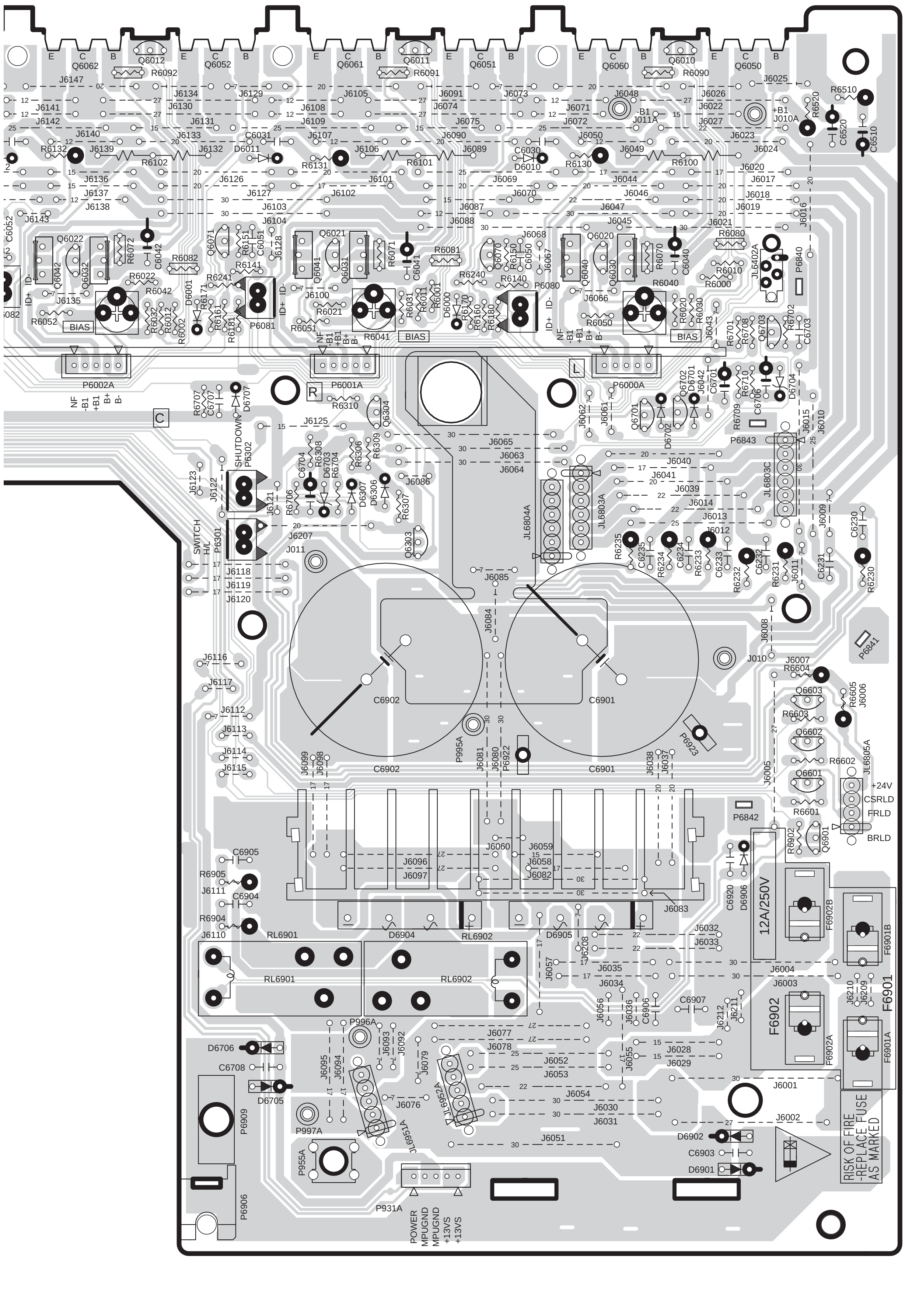
U13



THERMAL DETECTOR PC BOARD (NAETC-7967)

A	B	C	D

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 4

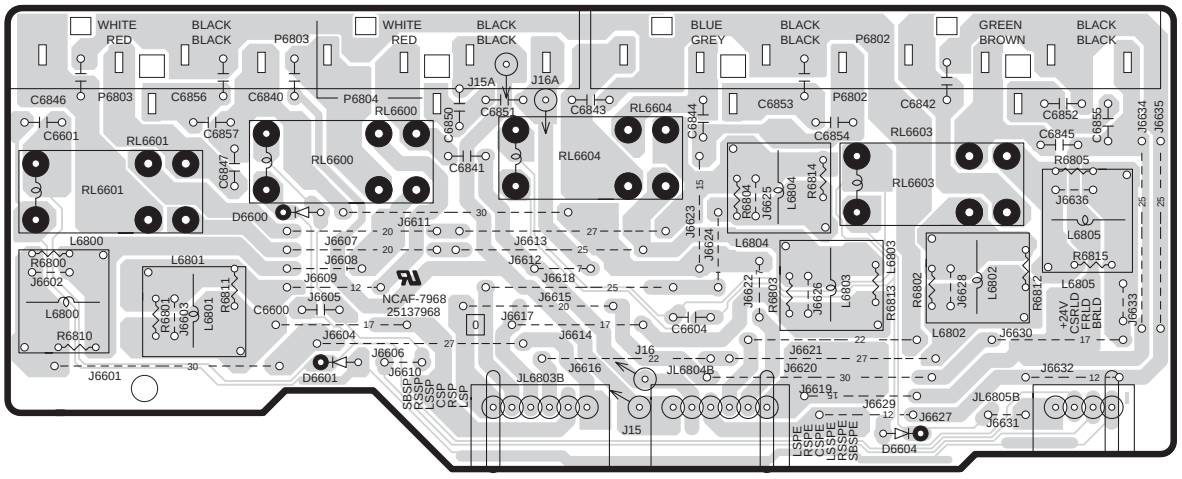


A B C D

1 2 3 4 5

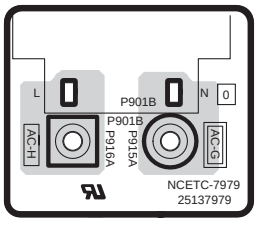
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 5

U14



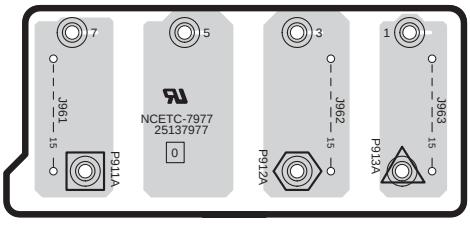
SPEAKER TERMINAL PC BOARD
(NAAF-7968)

U30



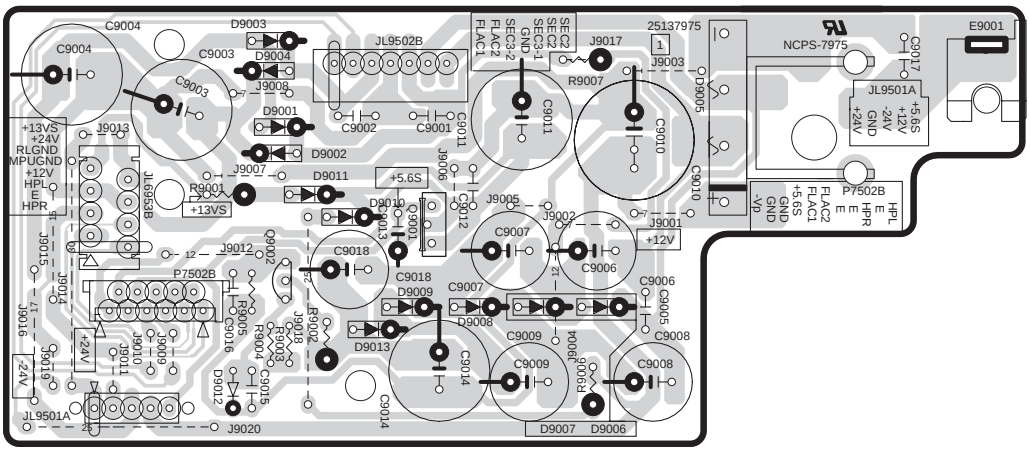
AC INLET TERMINAL PC BOARD
(NAETC-7979)

U23



PRIMARY TERMINAL PC BOARD
(NAETC-7977)

U22



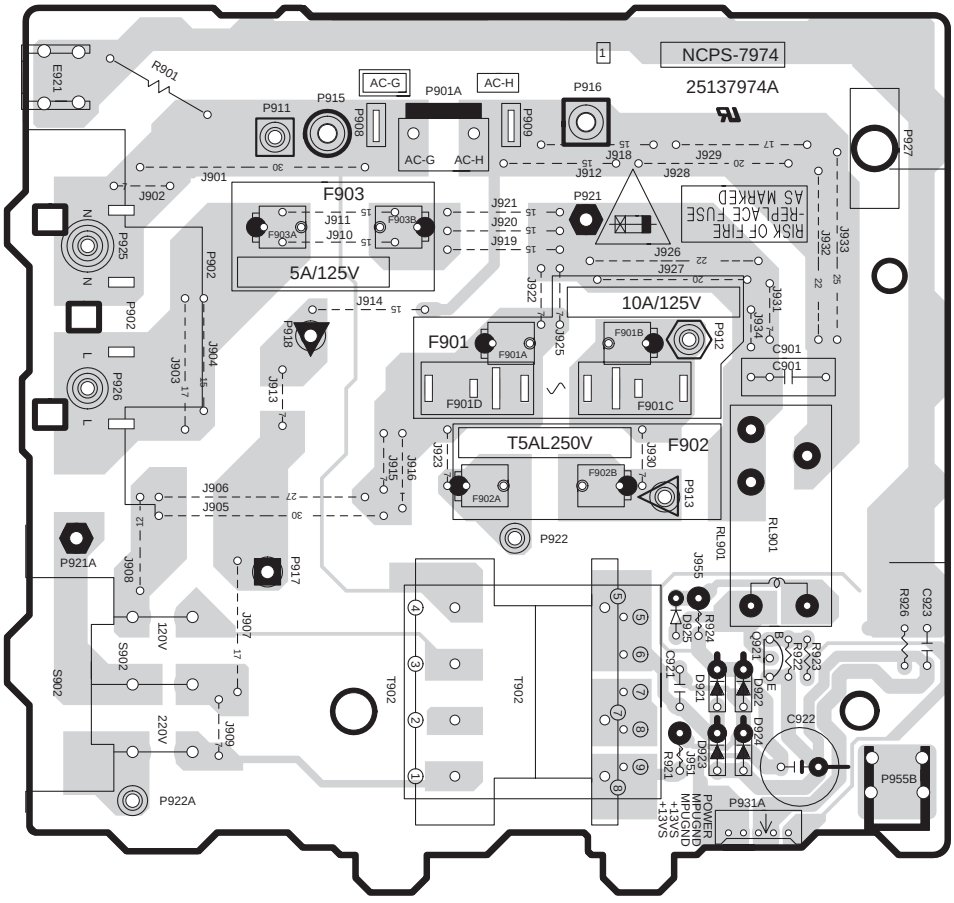
CONSTANT VOLTAGE CIRCUIT PC BOARD
(NAPS-7975)

A B C D

1 2 3 4 5

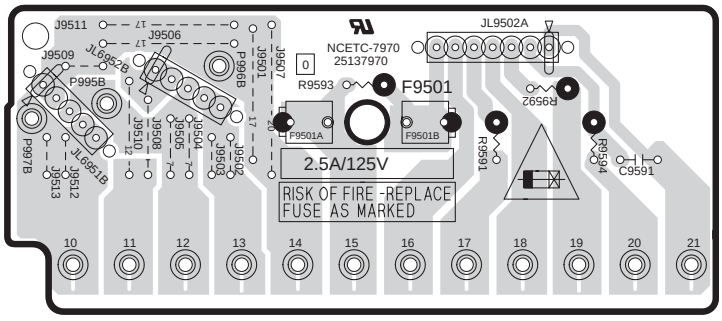
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 1

U21



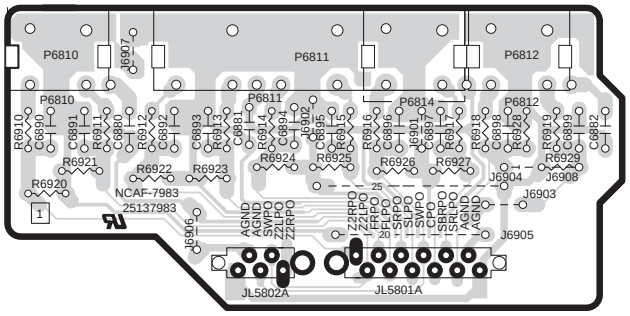
U15

PRIMARY CIRCUIT PC BOARD (NAPS-7974)



SECONDARY TERMINAL PC BOARD (NAETC-7970)

U26



PRE OUTPUT TERMINAL PC BOARD (NAAF-7983)

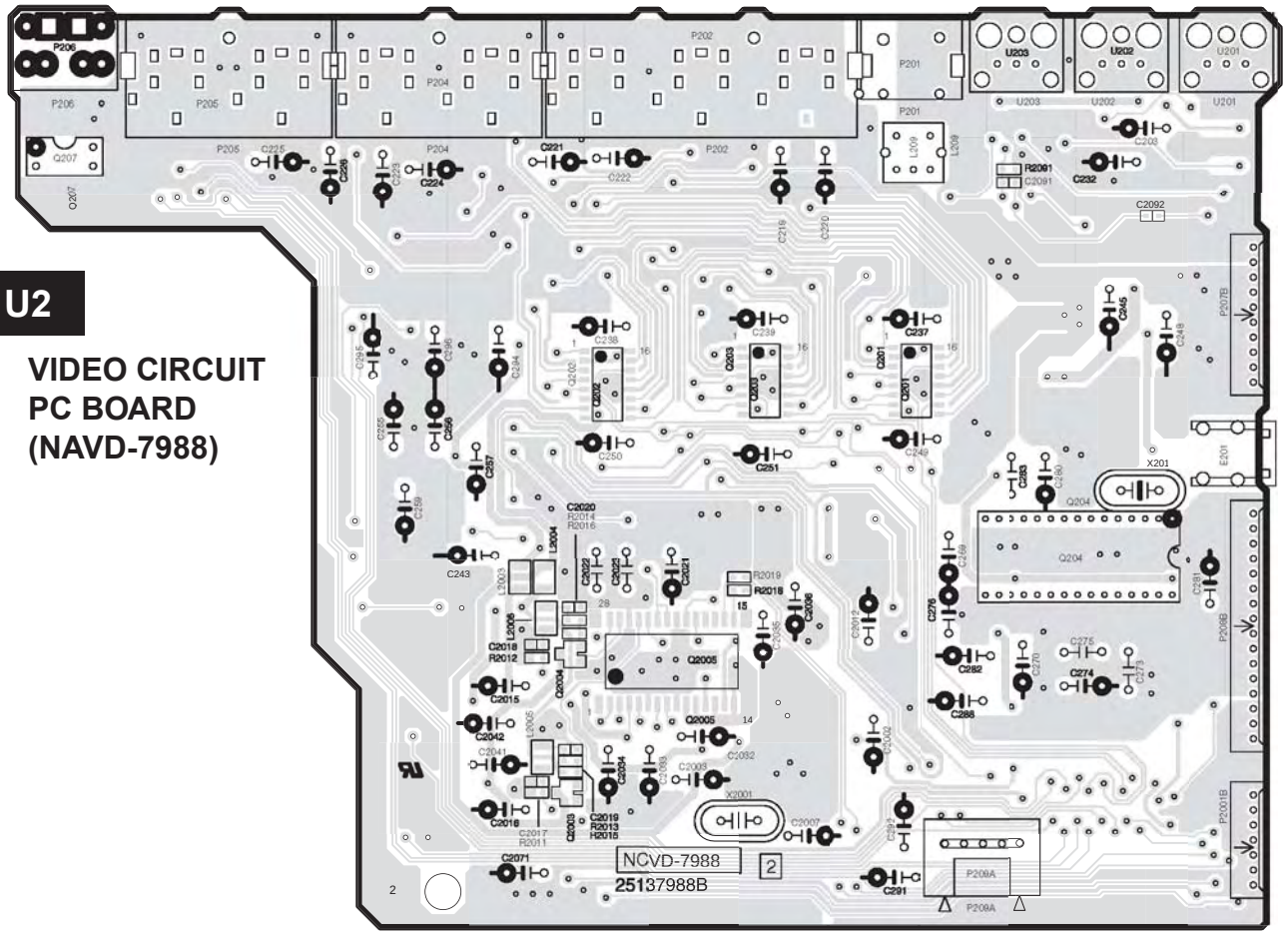
A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD 6-1 (U.S.A. model)

U2

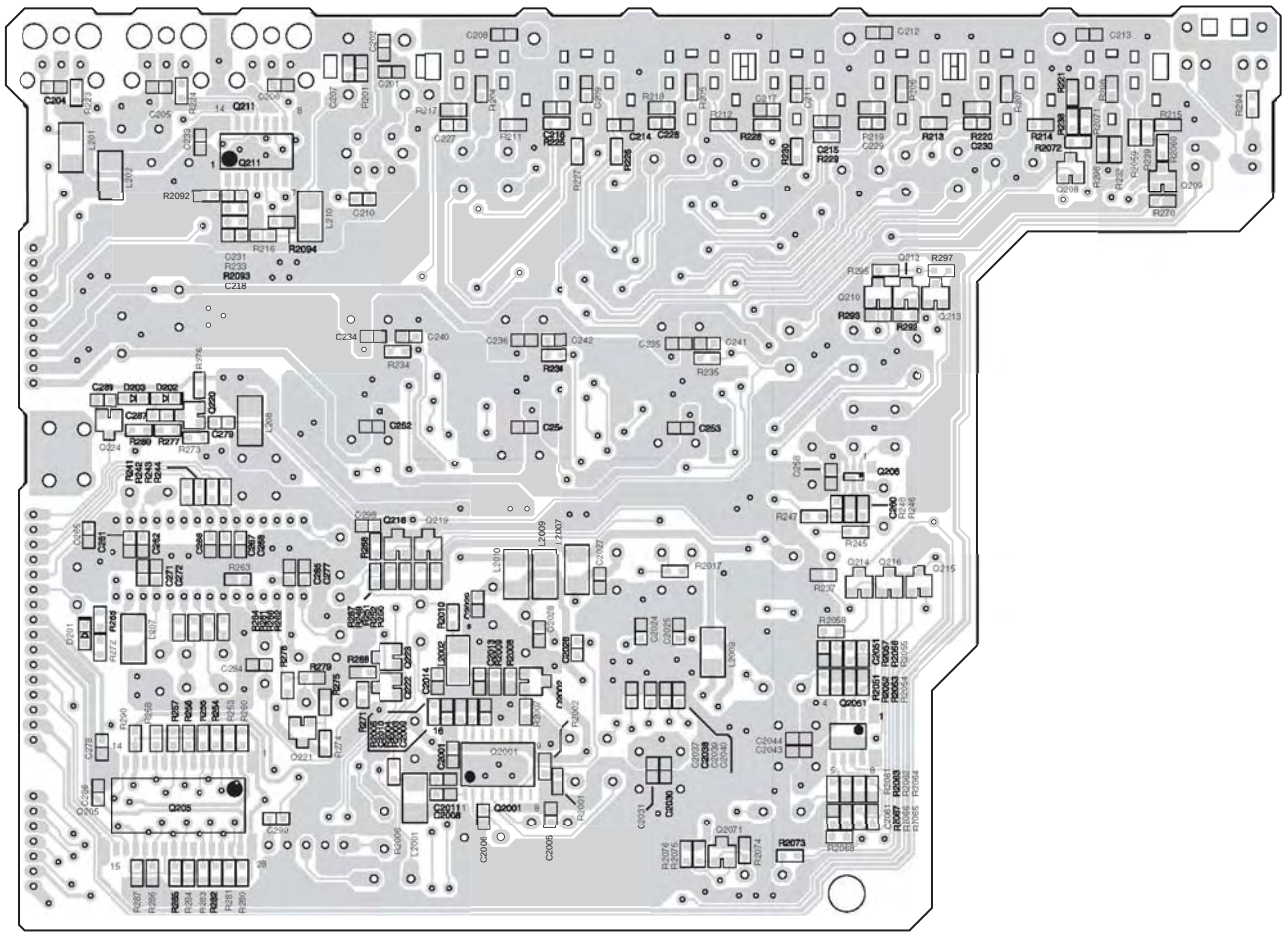
VIDEO CIRCUIT PC BOARD (NAVD-7988)



A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW 6-1 (U.S.A. model)



U2

VIDEO CIRCUIT PC BOARD
(NAVD-7988)

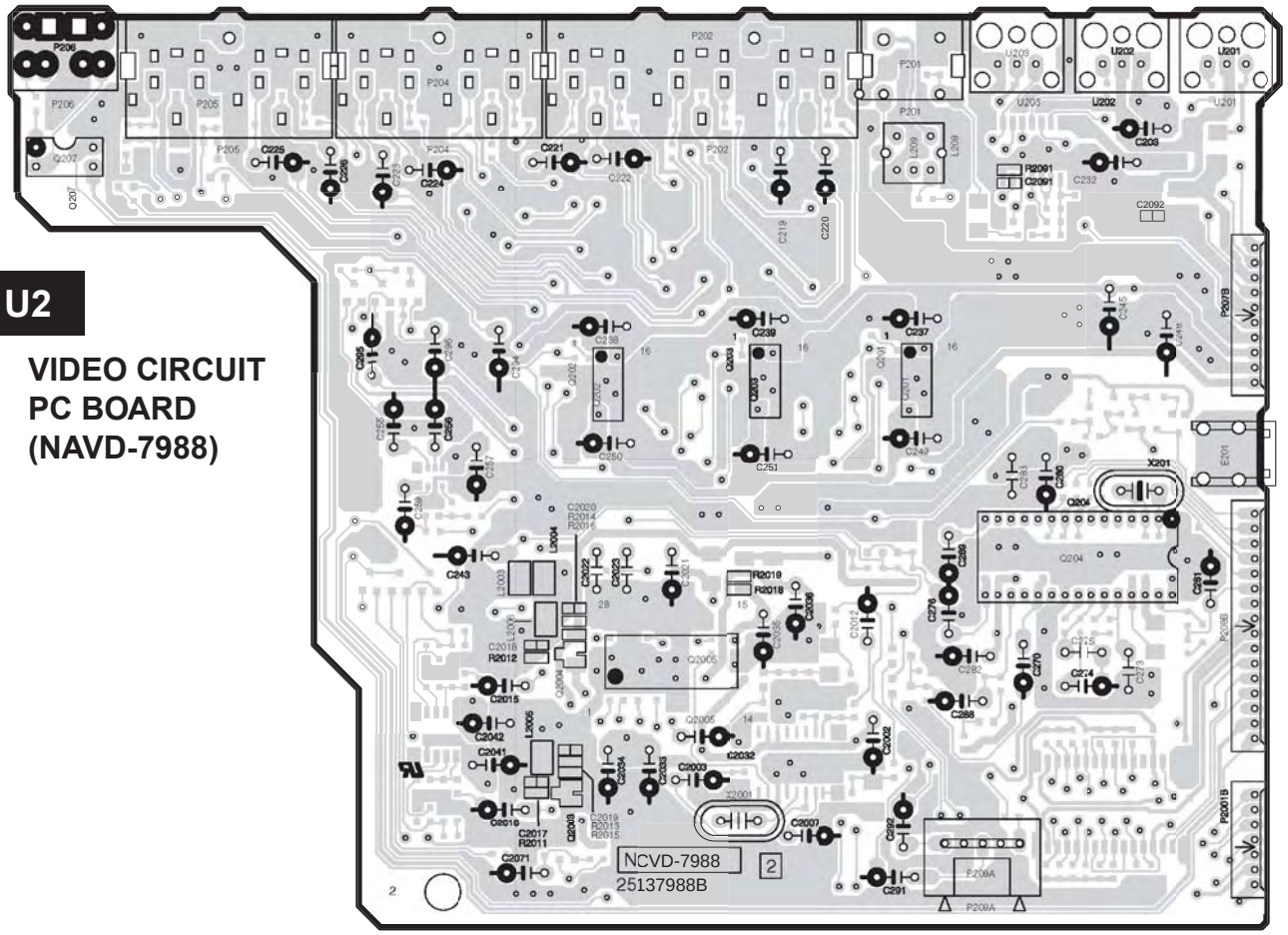
A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD 6-1 (U.S.A. model)

U2

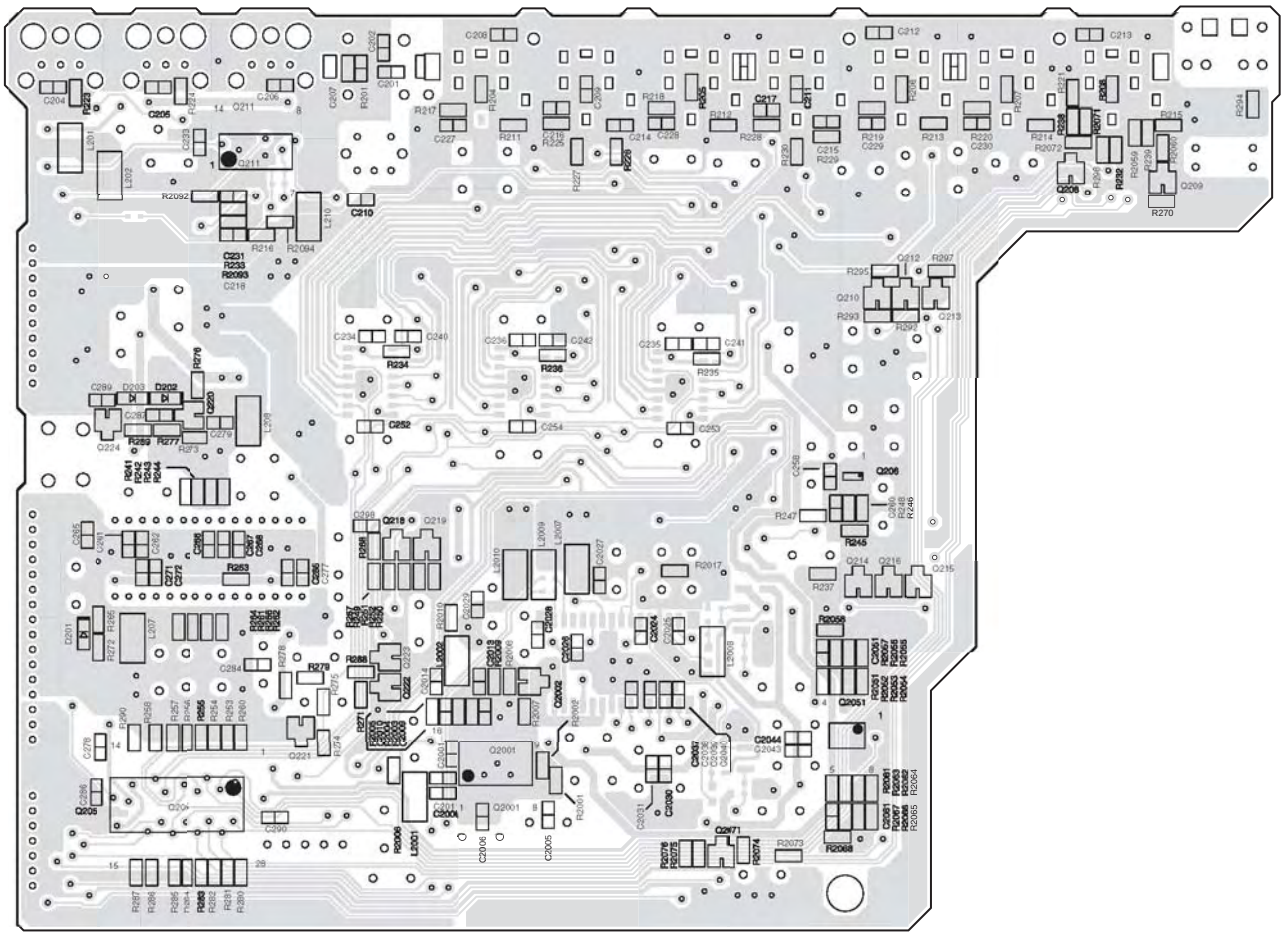
VIDEO CIRCUIT PC BOARD (NAVD-7988)



A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD 6-1 (U.S.A. model)



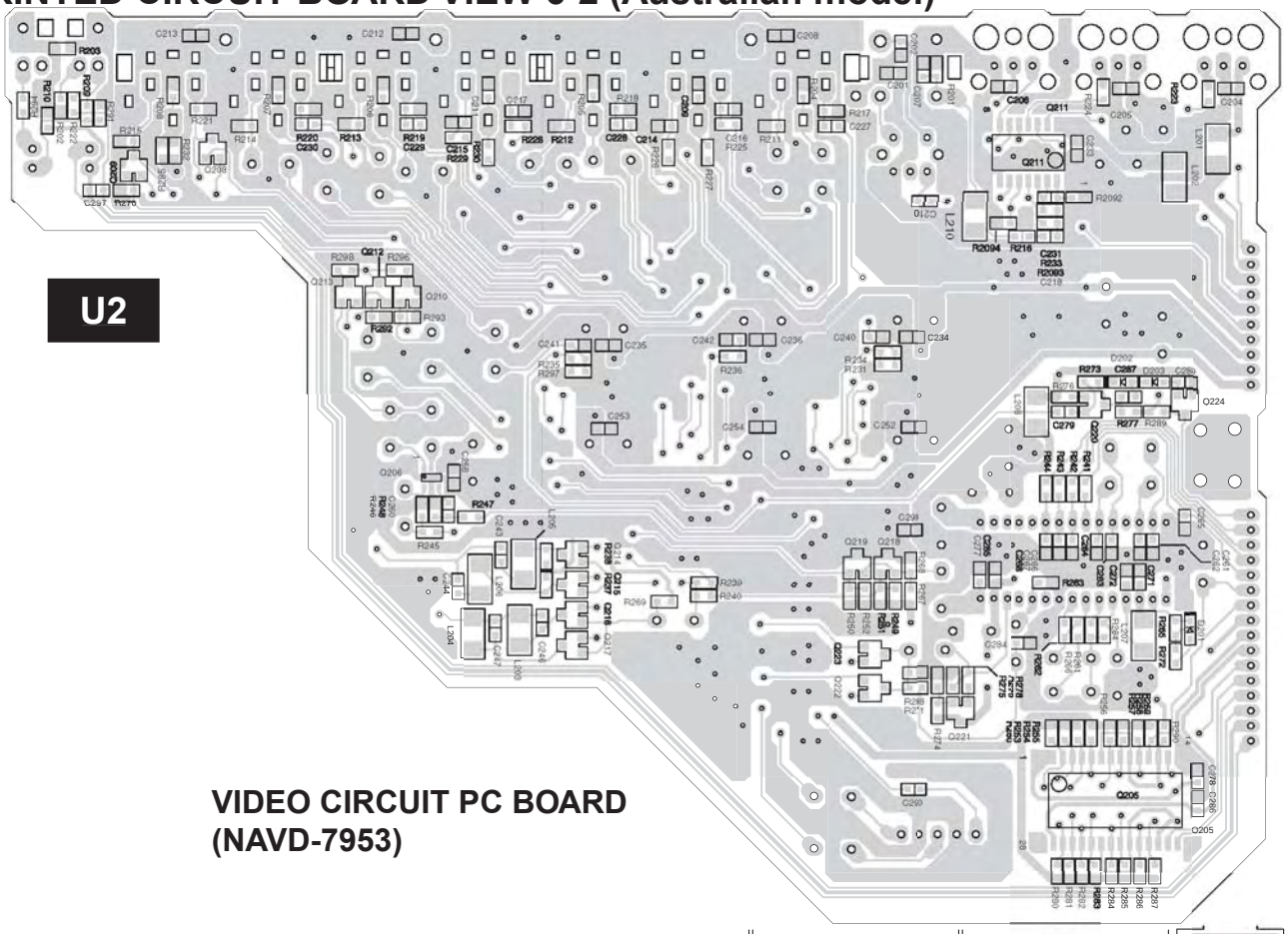
U2

VIDEO CIRCUIT PC BOARD
(NAVD-7988)

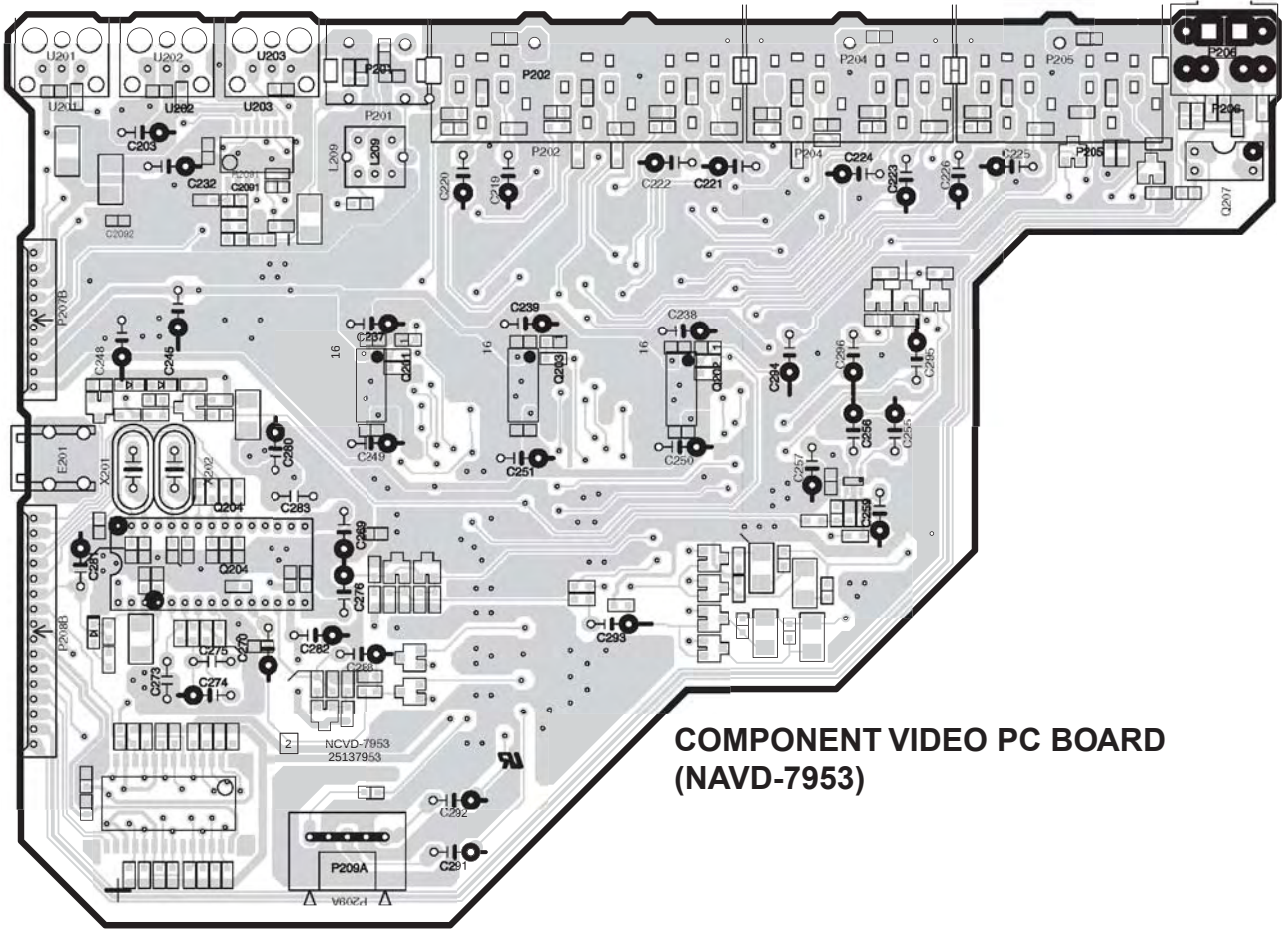
A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW 6-2 (Australian model)

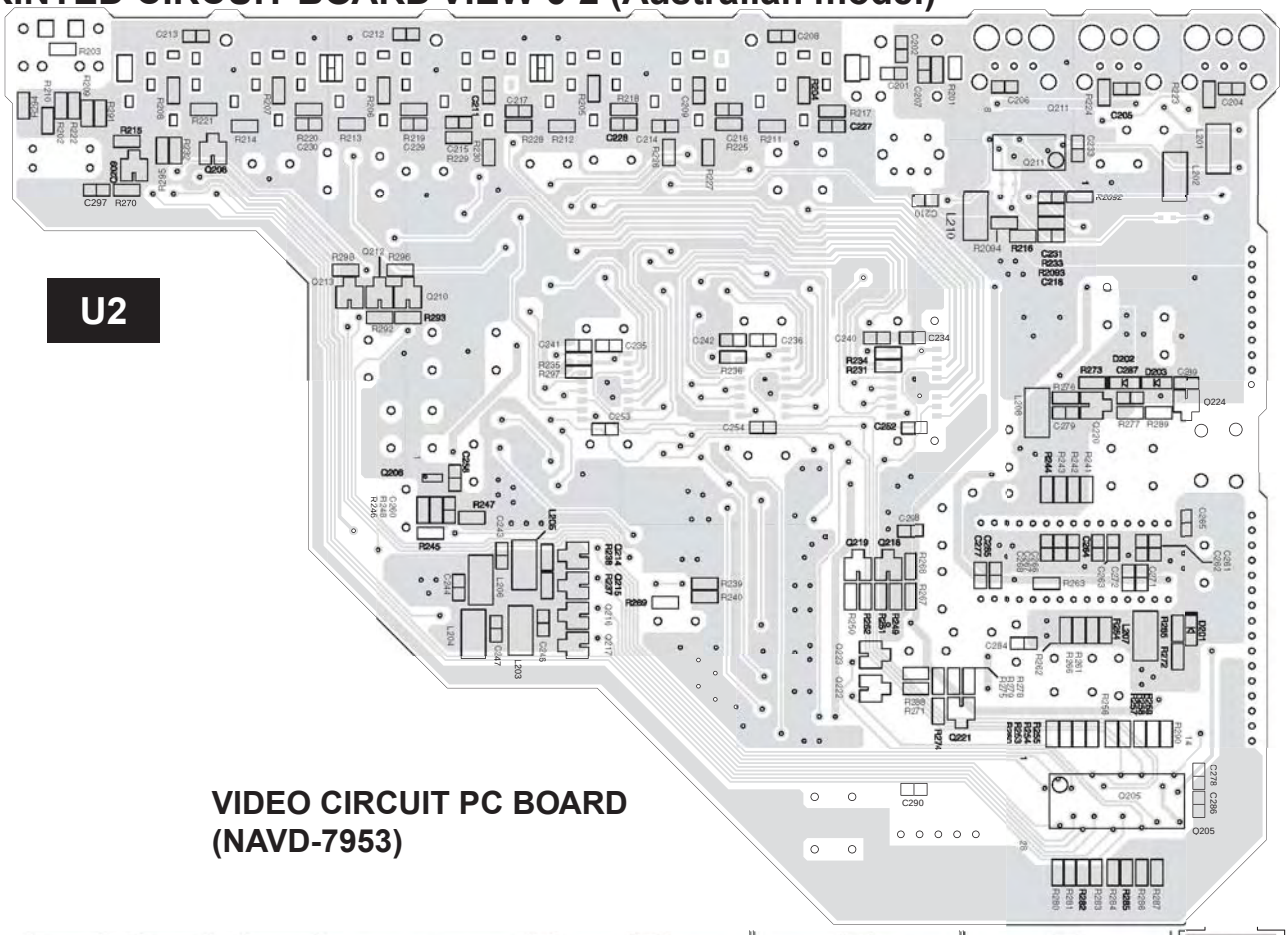


VIDEO CIRCUIT PC BOARD
(NAVD-7953)

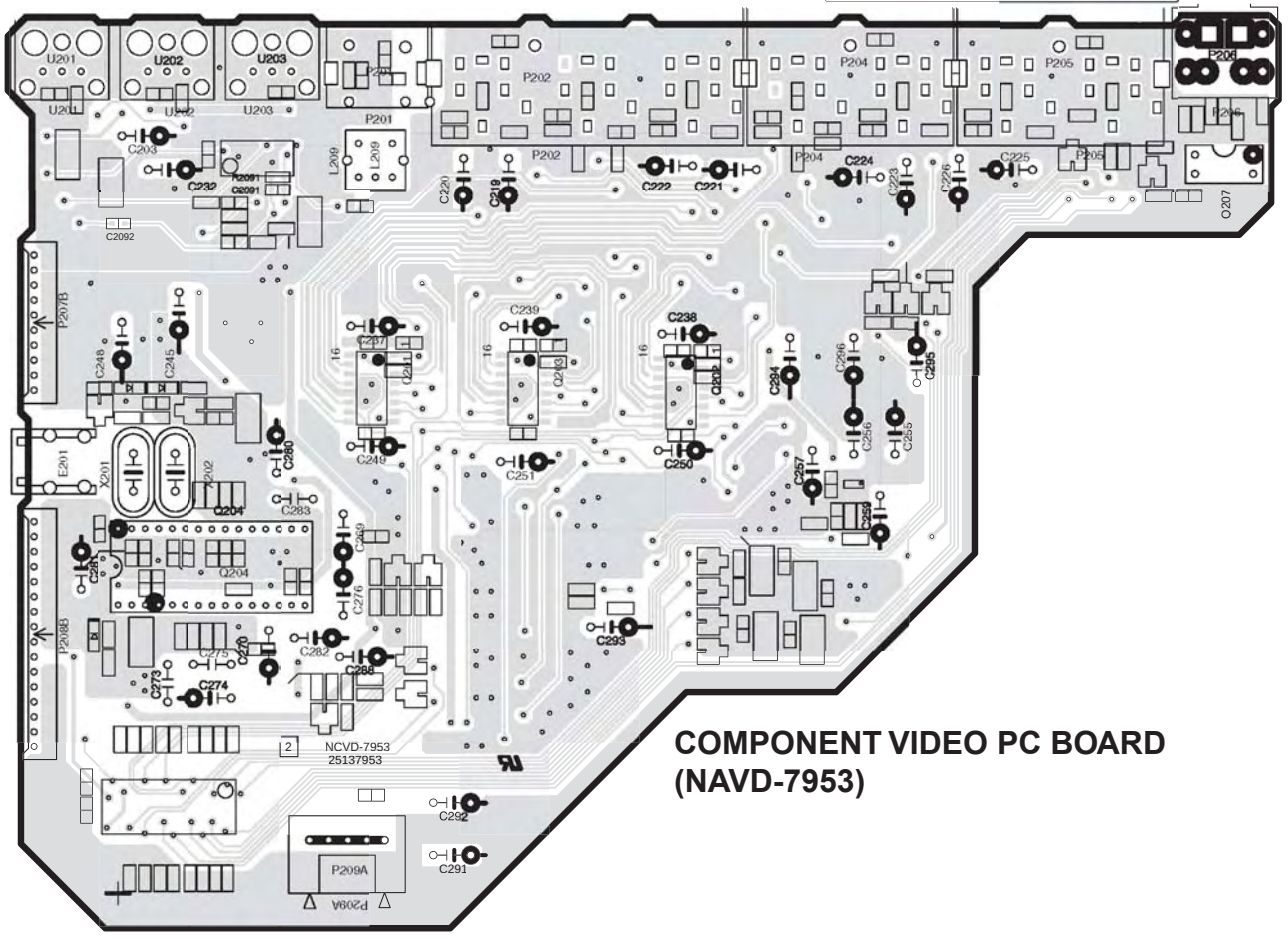


COMPONENT VIDEO PC BOARD
(NAVD-7953)

PRINTED CIRCUIT BOARD VIEW 6-2 (Australian model)



VIDEO CIRCUIT PC BOARD
(NAVD-7953)

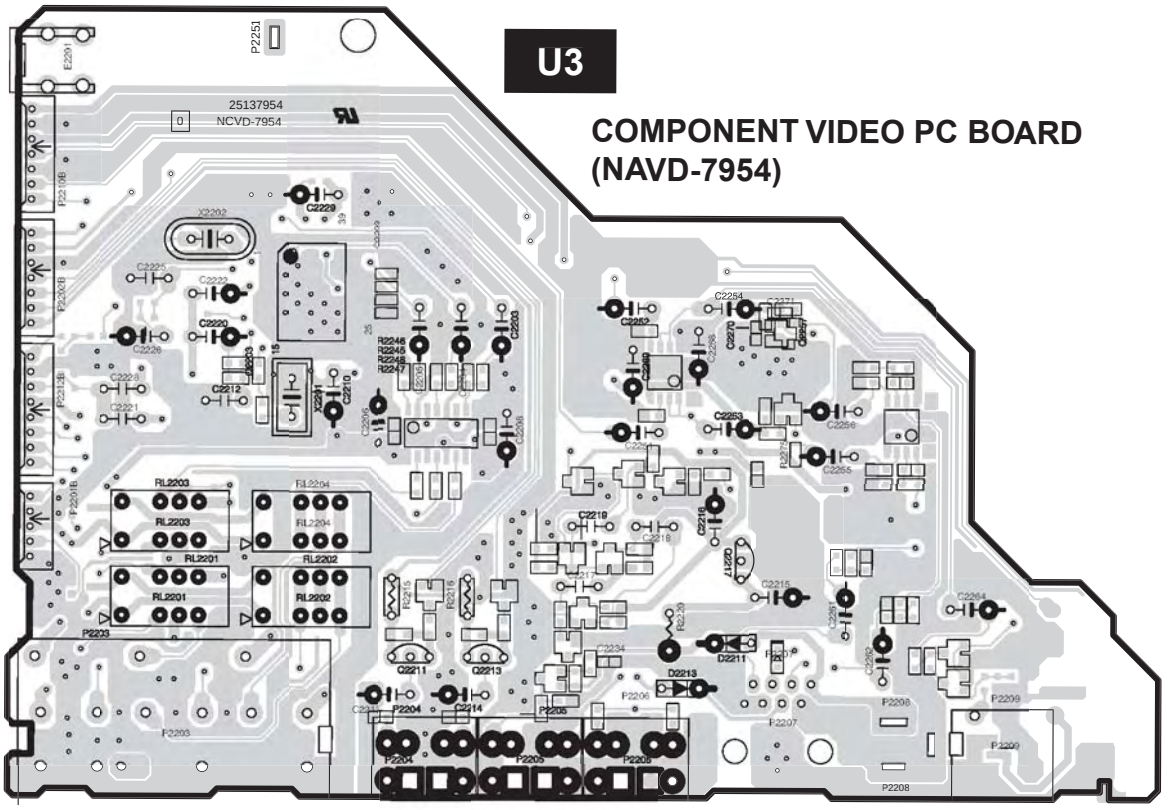


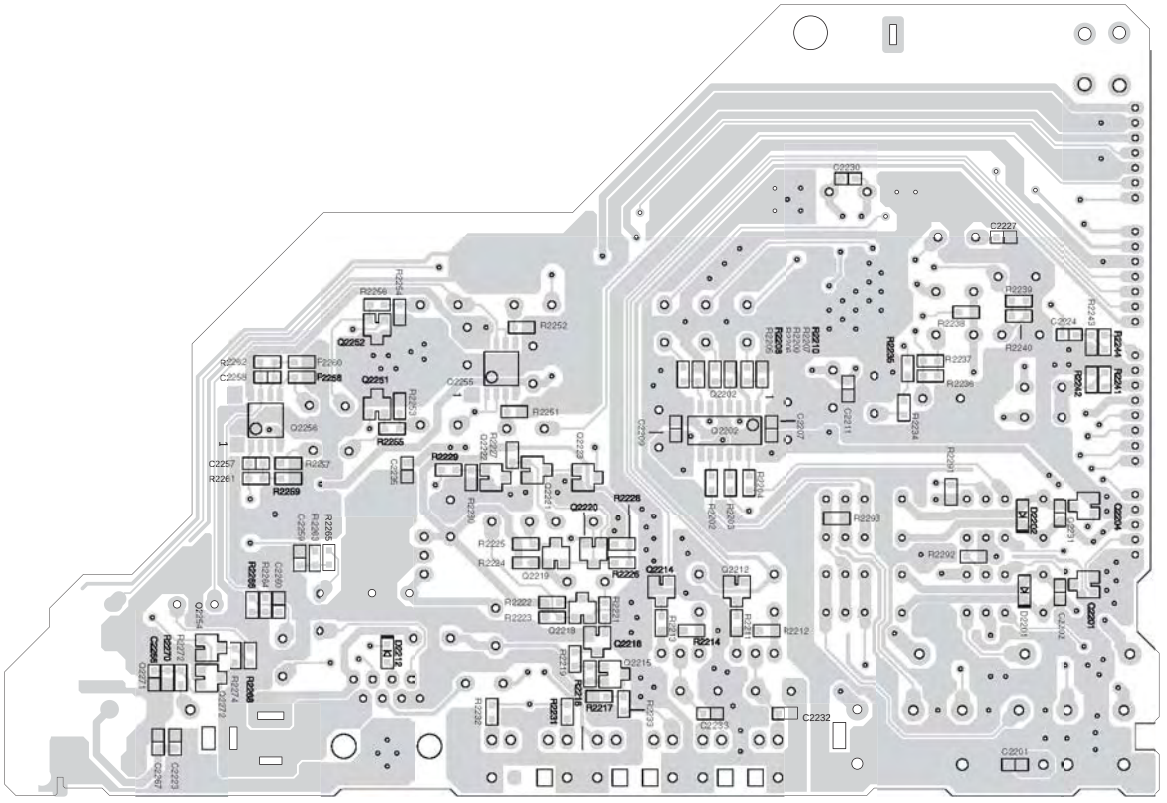
COMPONENT VIDEO PC BOARD
(NAVD-7953)

A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW 7

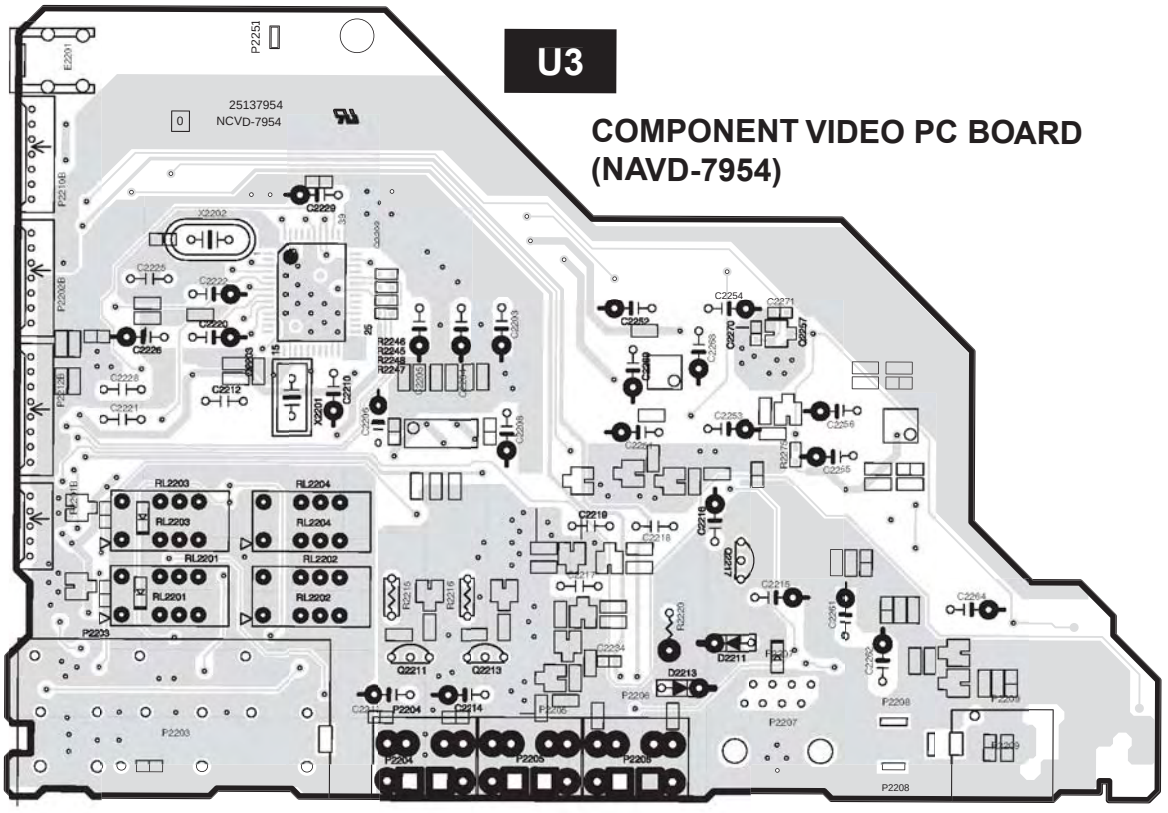


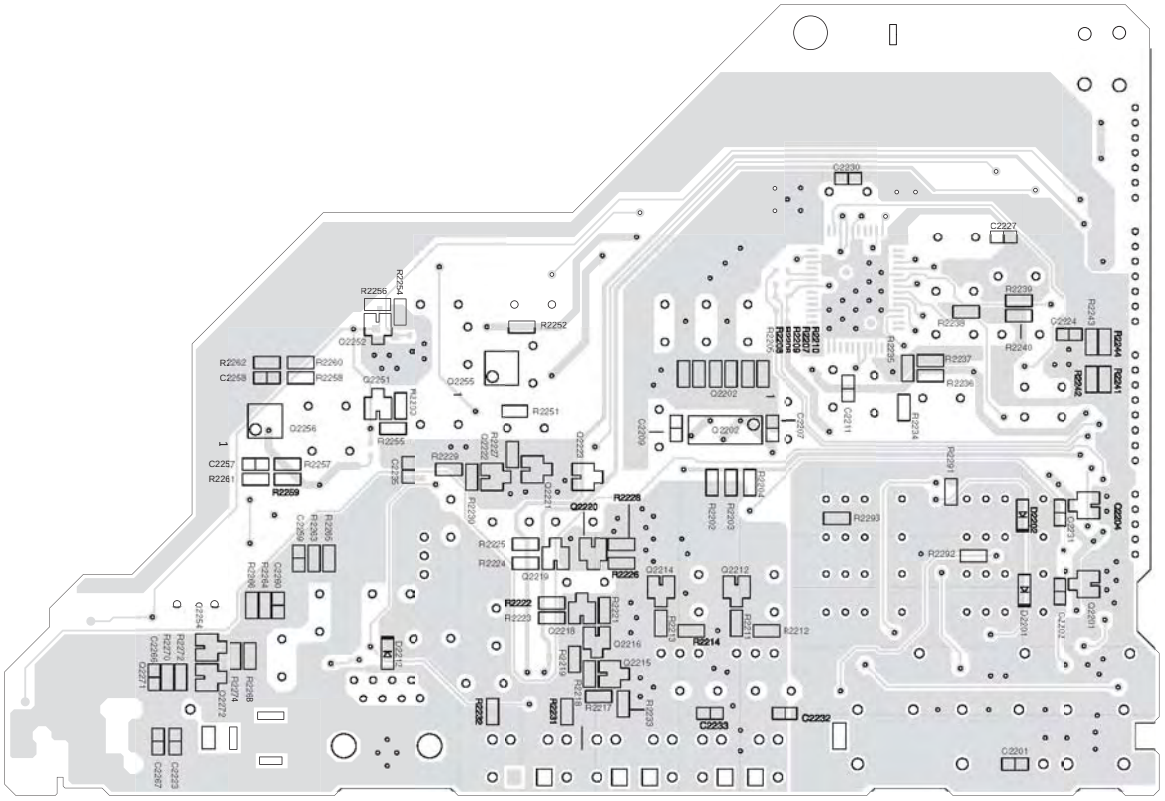


A B C D

1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW 7



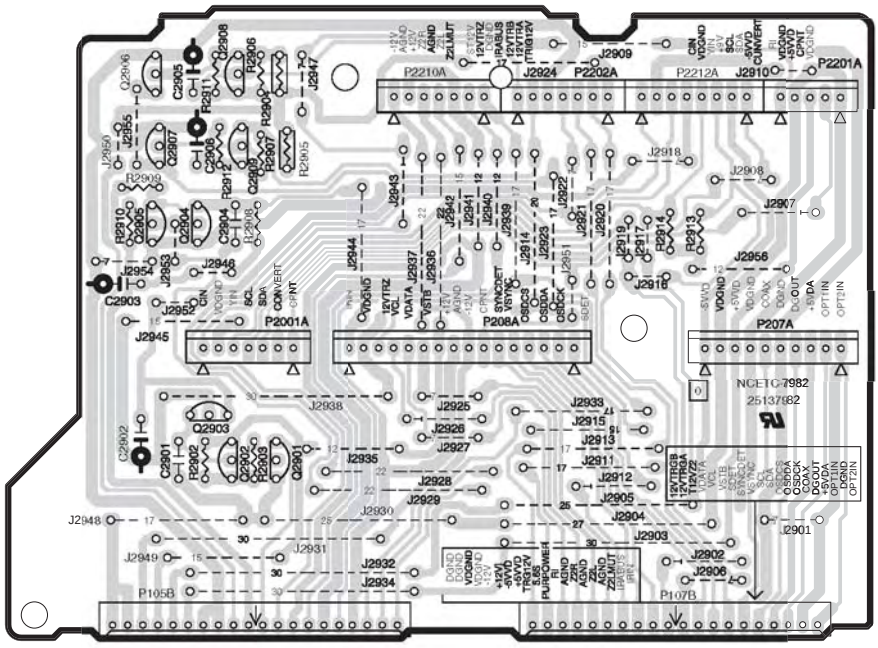


A B C D

1 2 3 4 5

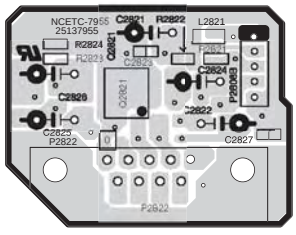
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 8

U25



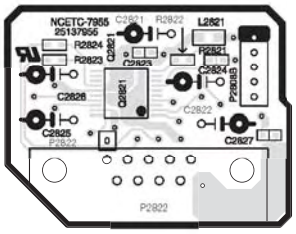
MAIN CONNECTOR PC BOARD (NAETC-7982)

U4



RS232 TERMINAL PC BOARD (NAETC-7955)

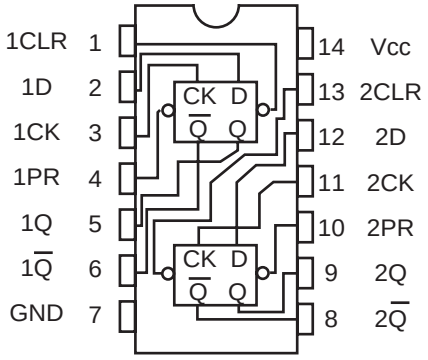
U4



RS232 TERMINAL PC BOARD (NAETC-7955)

IC BLOCK DIAGRAMS AND DESCRIPTIONS

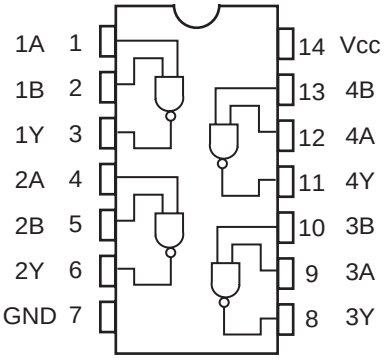
TC74VHC74FT(Dual D-FF with preset and clear)



INPUTS				OUTPUTS		FUNCTION
$\overline{CLR}$	$\overline{PR}$	D	CK	Q	$\overline{Q}$	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	———
H	H	L	↑	L	H	———
H	H	H	↑	H	L	———
H	H	X	↓	Qn	Qn	NO CHANGE

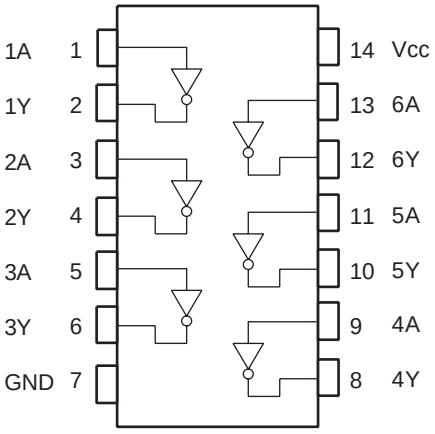
X: Don't care

TC74VHCT00AFT(2-input NAND gate)



A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

74HC04F/TC74VHCU04FT(Hex Inverters)

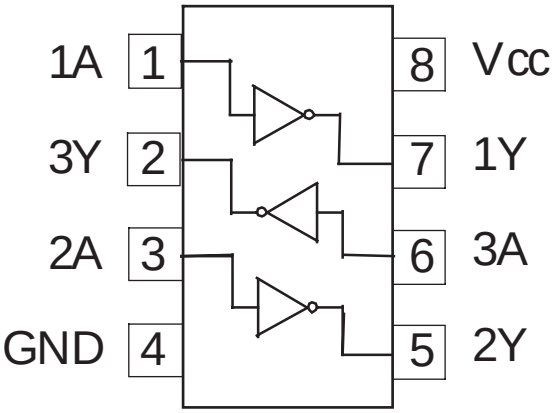


(TOP VIEW)

Truth table

A	Y
L	H
H	L

TC7WU04F(3 Inverters)

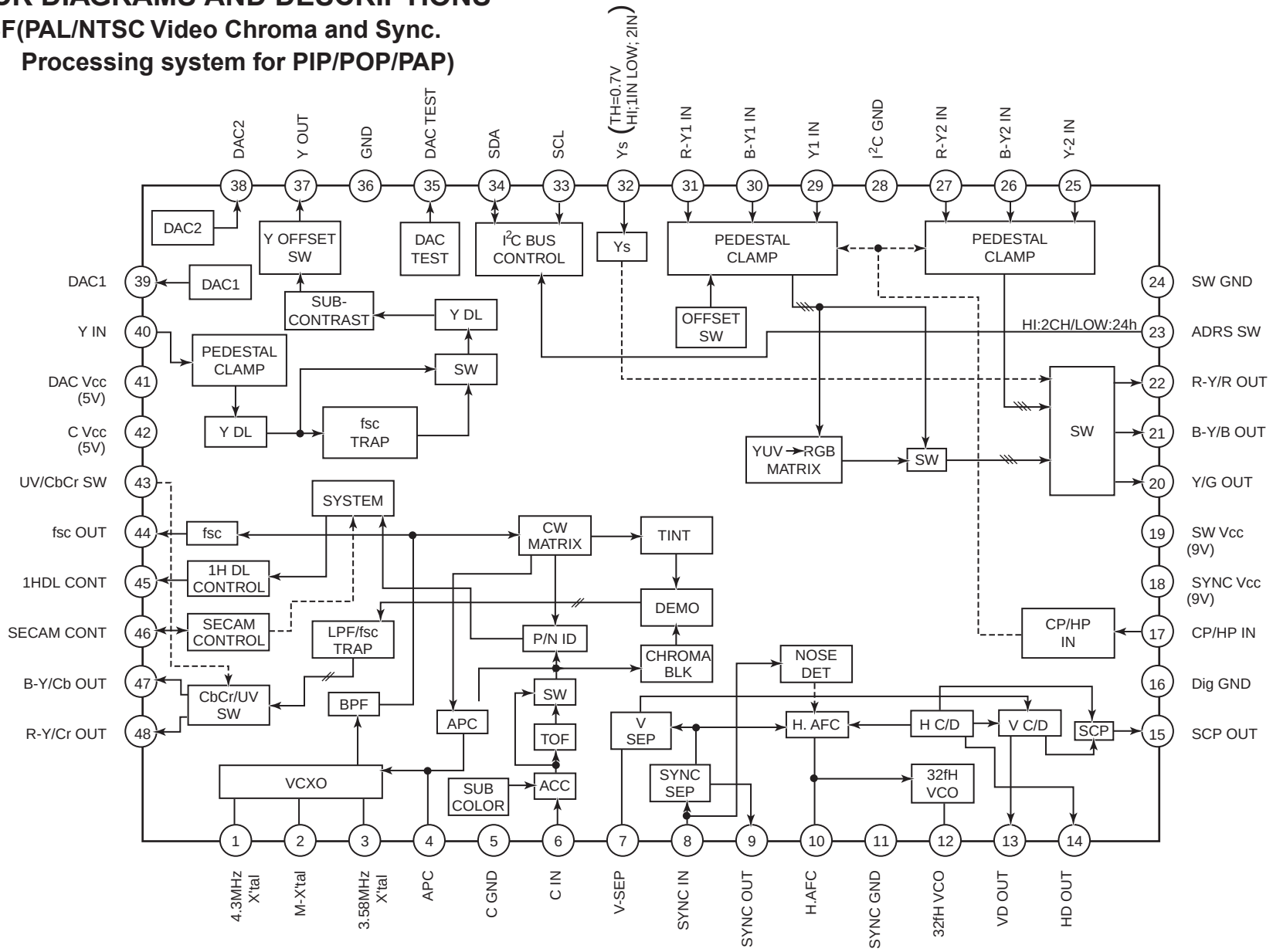


Truth Table

A	Y
L	H
H	L

IC BLOCK DIAGRAMS AND DESCRIPTIONS

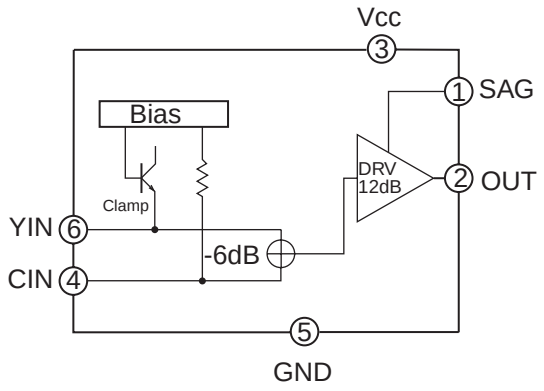
TA1270BF(PAL/NTSC Video Chroma and Sync. Processing system for PIP/POP/PAP)



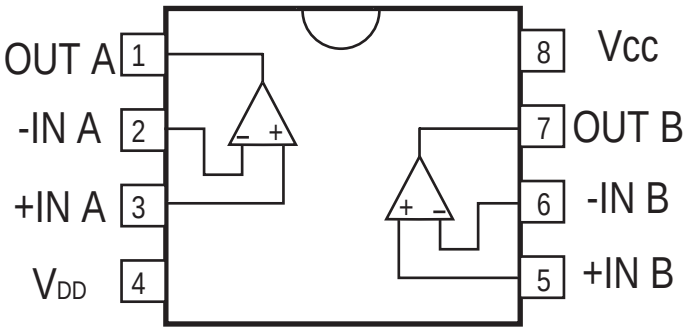
DTR-5.4

IC BLOCK DIAGRAMS AND DESCRIPTIONS

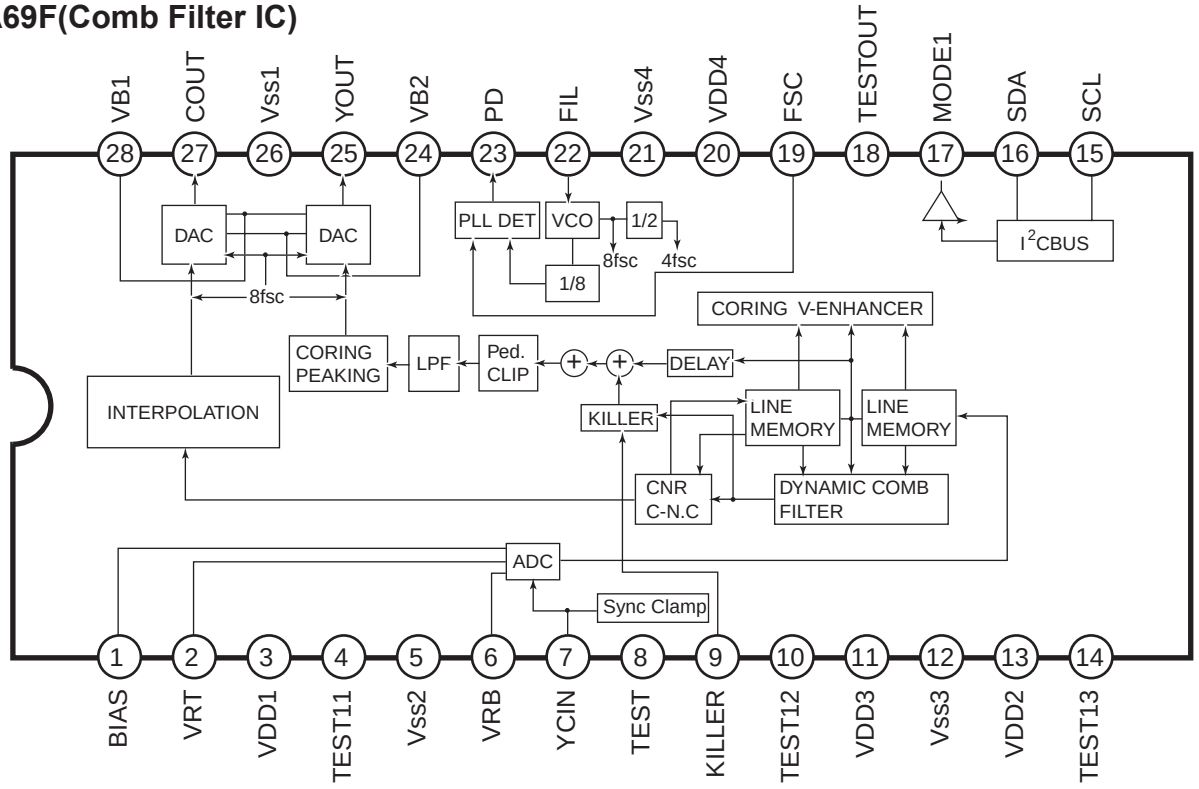
MM1512(Y-C mixer circuit)



TK15420(Operation amplifier)

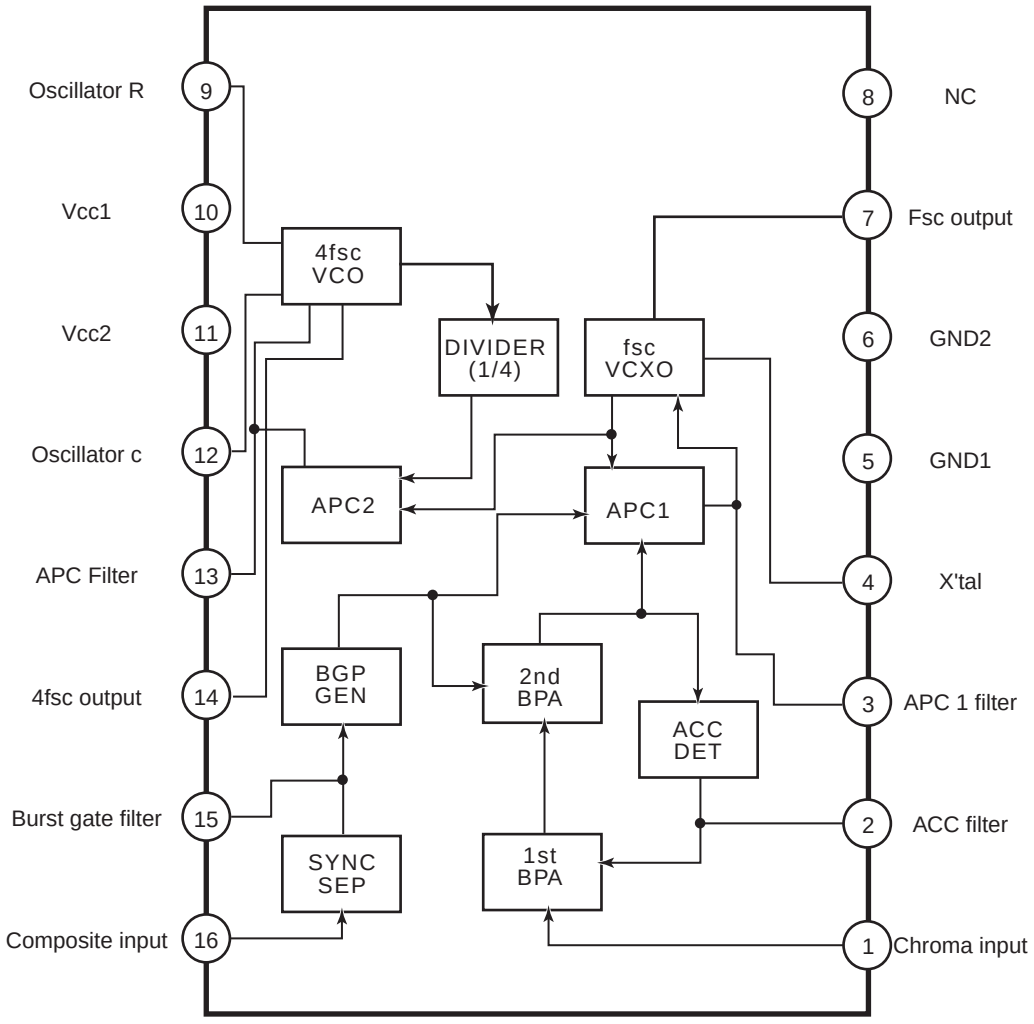


TC90A69F(Comb Filter IC)

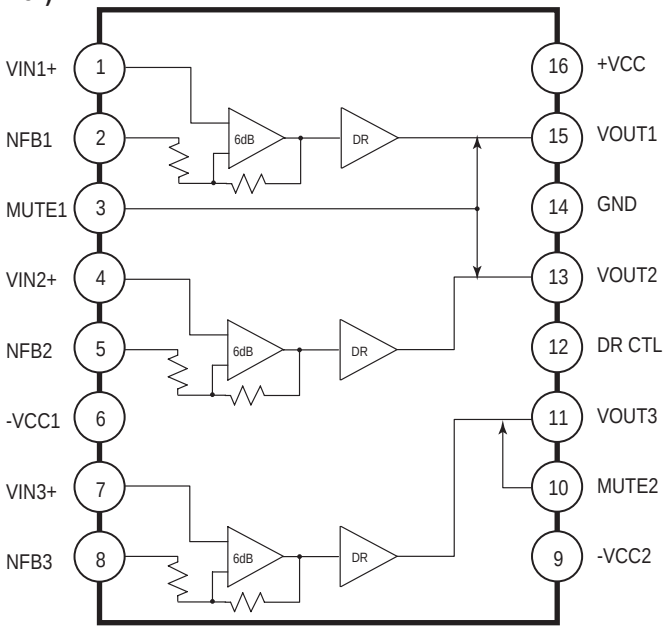


IC BLOCK DIAGRAMS AND DESCRIPTIONS

MM1093(4fsc Clock Generator)

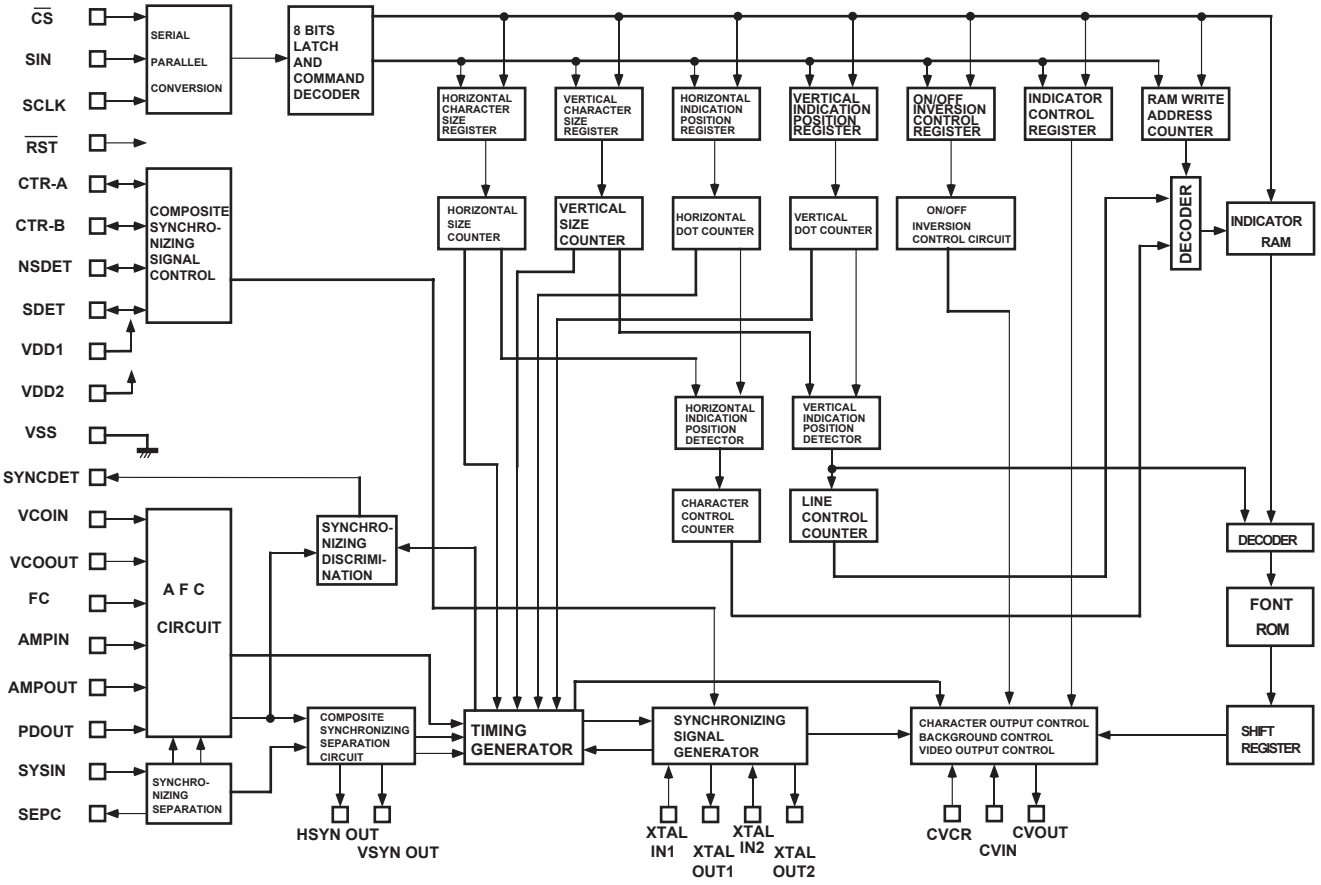


LA7106MFP(75 ohm video driver)



IC BLOCK DIAGRAMS AND DESCRIPTIONS

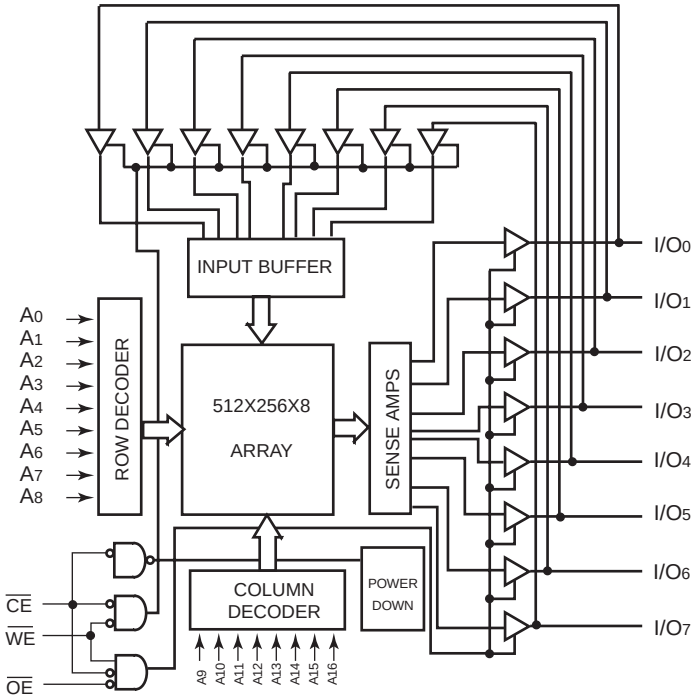
LC74763-9836(On-screen and controller)

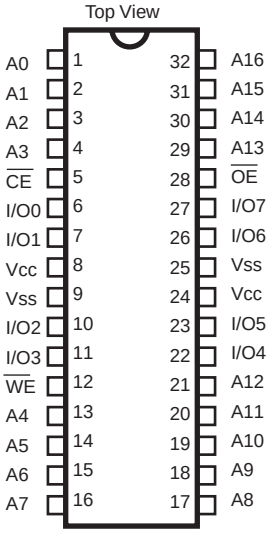


No.	Symbol	Description	No.	Symbol	Description
1	VSS	Ground terminal	16	CVOUT	Composite video output terminal
2	XTALIN1	Crystal oscillator connection terminals for internal synchronizing signal generator	17	VDD2	Power supply terminal for composite video signal
3	XTALOUT1		18	CVIN	Composite video signal input terminal
4	HSYNCOUT	Horizontal synchronizing signal output terminal	19	CVCR	Cromatic signal input terminal
5	XTALIN2	Crystal oscillator connection terminals for. internal synchronizing signal generator	20	SYNCIN	Video signal input terminal for internal synchronizing separation circuit
6	XTALOUT2		21	SEPC	Bias output pin for internal synchronizing separation circuit
7	VSYNCOUT	Vertical synchronizing signal output terminal	22	VSS	Ground terminal
8	CS	Chip enable input terminal	23	PDOUT	Power supply output terminal for AFC circuit
9	SIN	Serial data input terminal	24	AMPIN	Filter connection terminals
10	SCLK	Clock input terminal for serial data	25	AMPOUT	
11	CTR-A	Video control output terminal	26	FC	Power supply output terminal
12	CTR-B	Video control output terminal	27	VCOIN	LC resonator connection terminals for VCO
13	NSDET	Selection pin for PAL or NTSC	28	VCOOUT	
14	SDET	Signal detection terminal	29	SYNCDET	External synchronizing signal discrimination output terminal
15	RST	System reset input terminal	30	VDD1	Power supply terminal

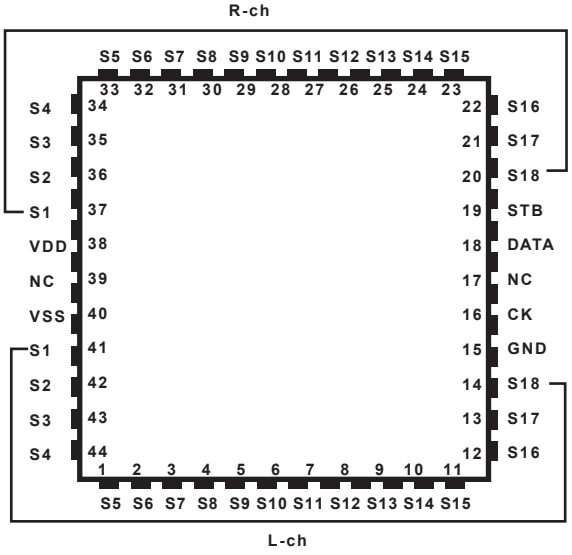
IC BLOCK DIAGRAMS AND DESCRIPTIONS

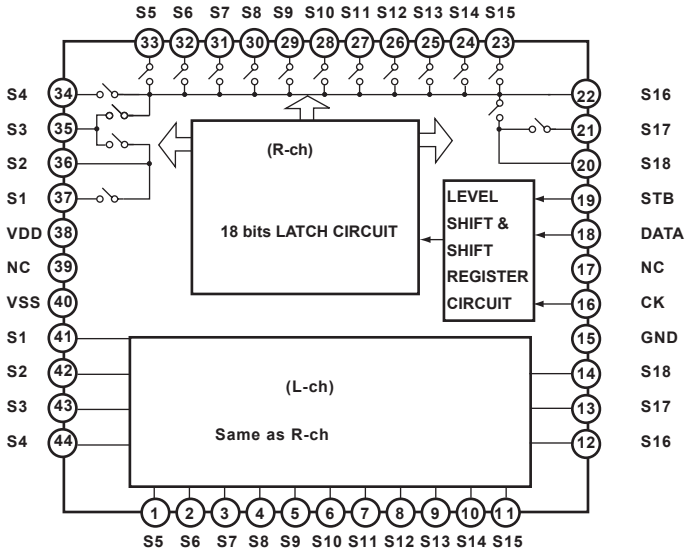
CY7C1019BV/CV33-15VCT(128KX8 static RAM)





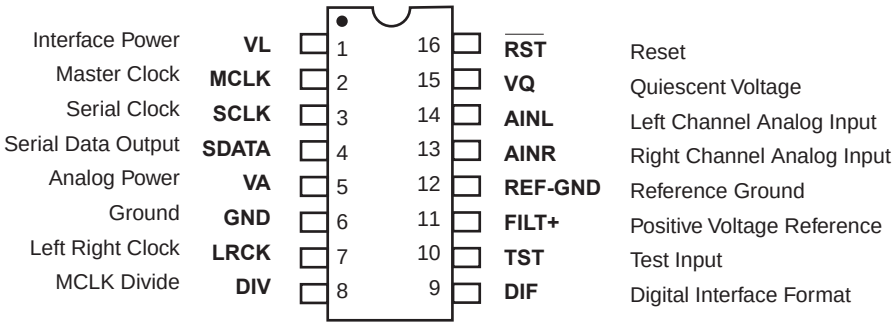
TC9274F-020 (Analog switch)

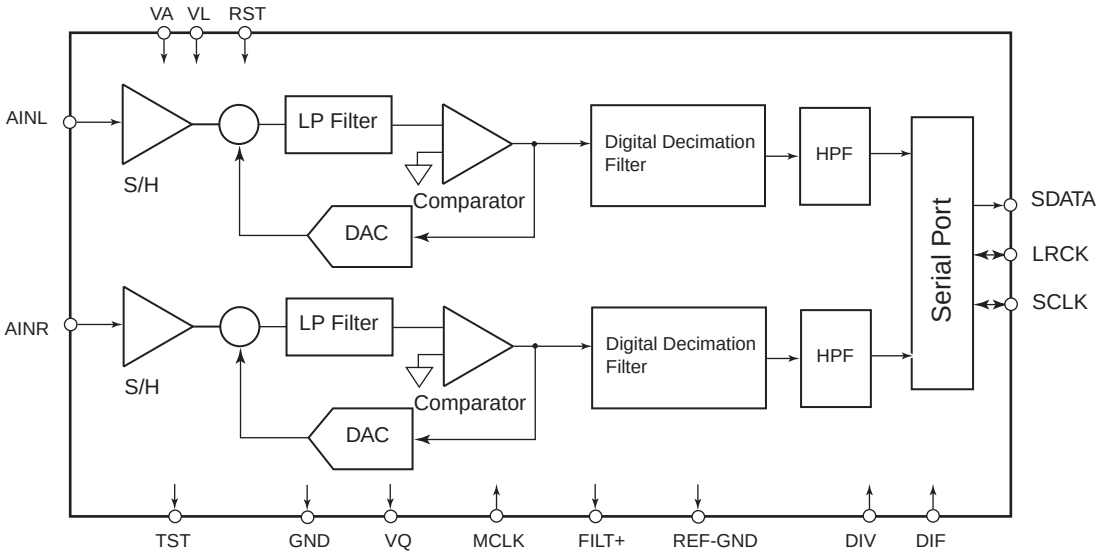




IC BLOCK DIAGRAMS AND DESCIRPIONS

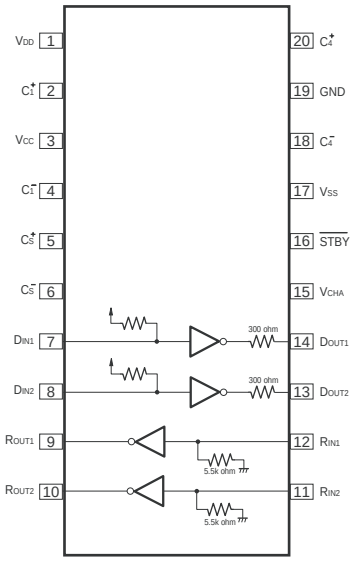
CS5333(24-Bit, 96 kHz Stereo A/D Converter)





uPD4721GS (RS-232C Driver/ Receiver)

Block diagram



Truth table

Driver

$\overline{STBY}$	DIN	DOUT	Remarks
L	X	Z	Standby mode (DC/DC converter is stopped)
H	L	H	Space level output
H	H	L	Mark level output

Receiver

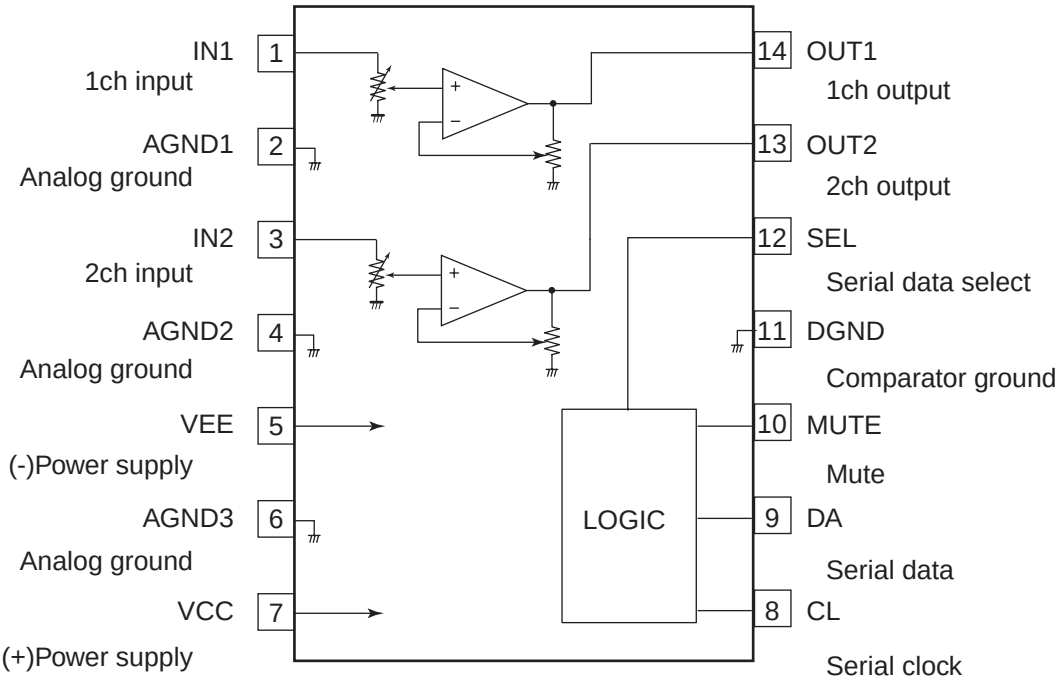
$\overline{STBY}$	RIN	ROUT	Remarks
L	X	H	Standby mode (DC/DC converter is stopped)
H	L	H	Space level input
H	H	L	Space level input

3 V/5 V switching

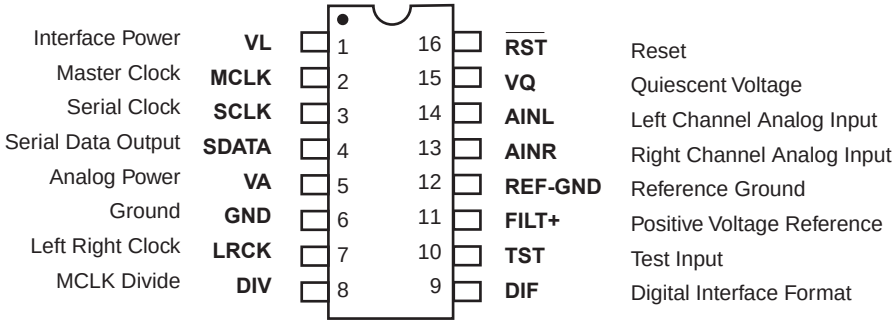
VCHA	Operating mode
L	5 V mode (double step-up)
H	3 V mode (3 times step-up)

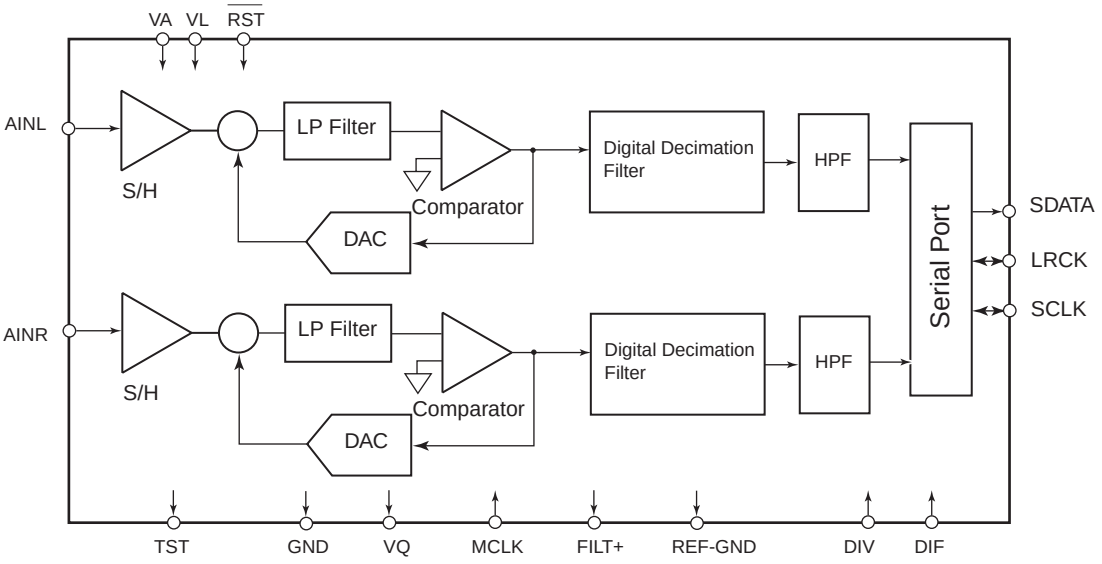
IC BLOCK DIAGRAMS AND DESCRIPTIONS

BD3812F(Audio Sound Processor)



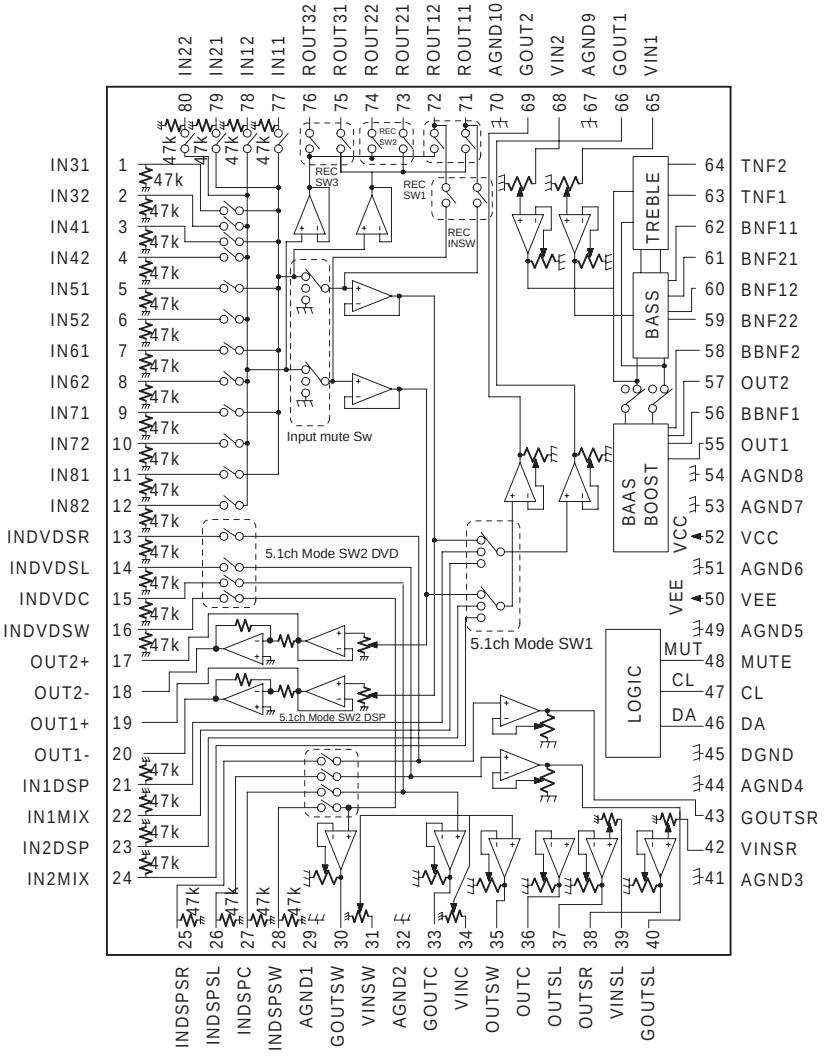
CS5333(24-Bit, 96 kHz Stereo A/D Converter)





IC BLOCK DIAGRAMS AND DESCRIPTIONS

BD3811K1(6ch Volume with 8ch input selector)

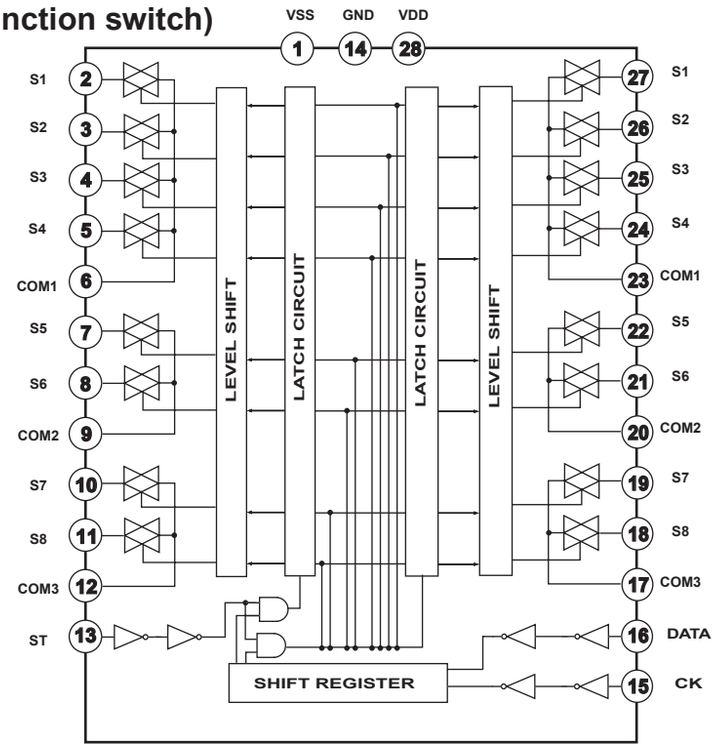


No.	Terminal	Description
1	IN31	1ch input terminal 3
2	IN32	2ch input terminal 3
3	IN41	1ch input terminal 4
4	IN42	2ch input terminal 4
5	IN51	1ch input terminal 5
6	IN52	2ch input terminal 5
7	IN61	1ch input terminal 6
8	IN62	2ch input terminal 6
9	IN71	1ch input terminal 7
10	IN72	2ch input terminal 7
11	IN81	1ch input terminal 8
12	IN82	2ch input terminal 8
13	INDVDSR	DVD surround Rch input terminal
14	INDVDSL	DVD surround Lch input terminal
15	INDVDC	DVD center input terminal
16	INDVDSW	DVD sub woofer input terminal
17	OUT2(+)	2ch (+) A/D output terminal
18	OUT2(-)	2ch (-) A/D output terminal
19	OUT1(+)	1ch (+) A/D output terminal
20	OUT1(-)	1ch (-) A/D output terminal
21	IN1DSP	1ch DSP input terminal
22	IN1MIX	1ch DSP MIX input terminal
23	IN2DSP	2ch DSP input terminal
24	IN2MIX	2ch DSP MIX input terminal
25	INDSPSR	DSP surround Rch input terminal

No.	Terminal	Description
26	INDSPSL	DSP surround Lch input terminal
27	INDSPC	DSP center input terminal
28	INDSPSW	DSP sub woofer input terminal
29	AGND1	Analog ground terminal
30	GOUTSW	Sub woofer input gain output terminal
31	VINSW	Sub woofer volume input terminal
32	AGND2	Analog ground terminal
33	GOUTC	Center input gain out put terminal
34	VINC	Center volume input terminal
35	OUTSW	Sub woofer output terminal
36	OUTC	Center output terminal
37	OUTSL	Surround Lch output terminal
38	OUTSR	Surround Rch output terminal
39	VINSL	Surround Lch volume input terminal
40	GOUTSL	Surround Lch input gain output terminal
41	AGND3	Analog ground terminal
42	VINSR	Surround Rch volume input terminal
43	GOUTSR	Surround Rch input gain output terminal
44	AGND4	Analog ground terminal
45	DGND	Ground terminal for comparator
46	DA	Serial data and latch input terminal
47	CL	Serial clock input terminal
48	MUTE	Mute terminal
49	AGND5	Analog ground terminal
50	VEE	(-) Power supply terminal
51	AGND6	Analog ground terminal
52	VCC	(+) Power supply terminal
53	AGND7	Analog ground terminal
54	AGND8	Analog ground terminal
55	OUT1	1ch output terminal
56	BBNF1	1ch bass boost filter terminal
57	OUT2	2ch output terminal
58	BBNF2	2ch bass boost filter terminal
59	BNF22	2ch bass filter terminal 2
60	BNF12	2ch bass filter terminal 1
61	BNF21	1ch bass filter terminal 2
62	BNF11	1ch bass filter terminal 1
63	TNF1	1ch treble filter terminal 1
64	TNF2	2ch treble filter terminal 1
65	VIN1	1ch(Lch) volume input terminal
66	GOUT1	1ch(Lch) input gain output terminal
67	AGND9	Analog ground terminal
68	VIN2	2ch(Rch) volume input terminal
69	GOUT2	2ch(Rch) input gain output terminal
70	AGND10	Analog ground terminal
71	ROUT11	1ch recording input/output terminal 1
72	ROUT12	2ch recording input/output terminal 1
73	ROUT21	1ch recording output terminal 2
74	ROUT22	2ch recording output terminal 2
75	ROUT31	1ch recording output terminal 3
76	ROUT32	2ch recording output terminal 3
77	IN11	1ch input terminal 1
78	IN12	2ch input terminal 1
79	IN21	1ch input terminal 2
80	IN22	2ch input terminal 2

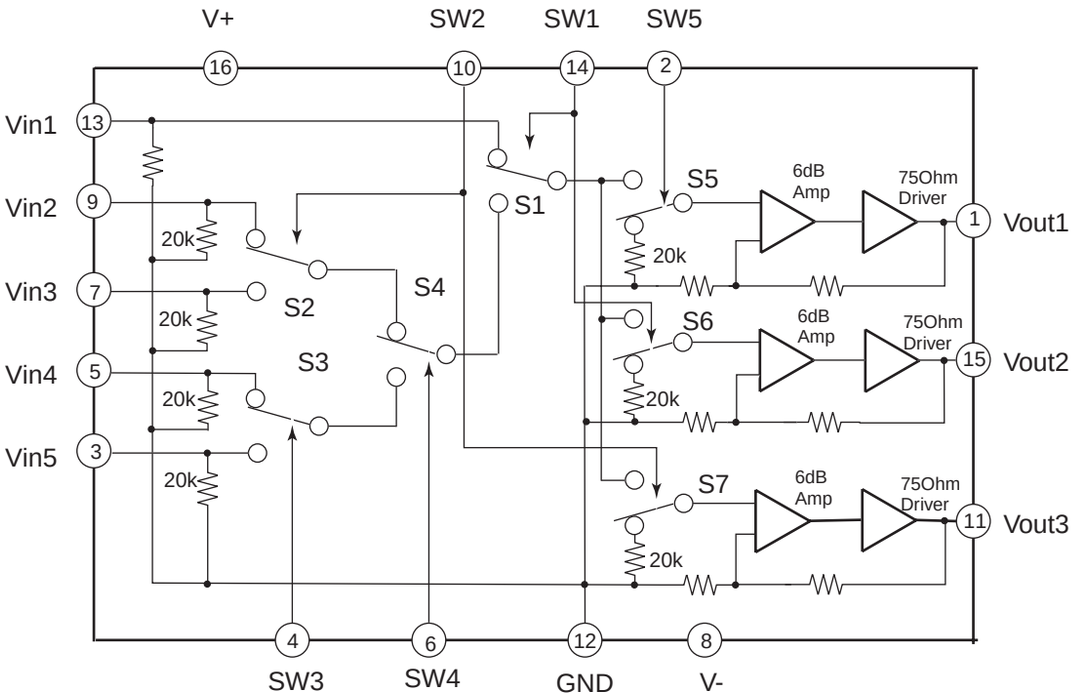
IC BLOCK DIAGRAMS AND DESCRIPTIONS

TC9164AF(Function switch)



Pin No.	Symbol	Function
1	Vss	Negative power supply
14	GND	Ground
28	VDD	Positive power supply
2,3,4,6,7,8,10,11	S1~S8	Input/output terminals
27,26,25,23,22,21,19,18	S1~S8	Input/output terminals
5,9,12	COM1 ~ COM3	Common terminals
24,20,17	COM1 ~ COM3	Common terminals
13	ST	Strobe input terminal for data reading
15	C K	Clock input terminal for data transfer
16	DAT A	Data input terminal for switch

NJM2595M(Video Selector Switch)



ADJUSTMENT AND CONFIRMATION PROCEDURES 1

Idling current adjustment

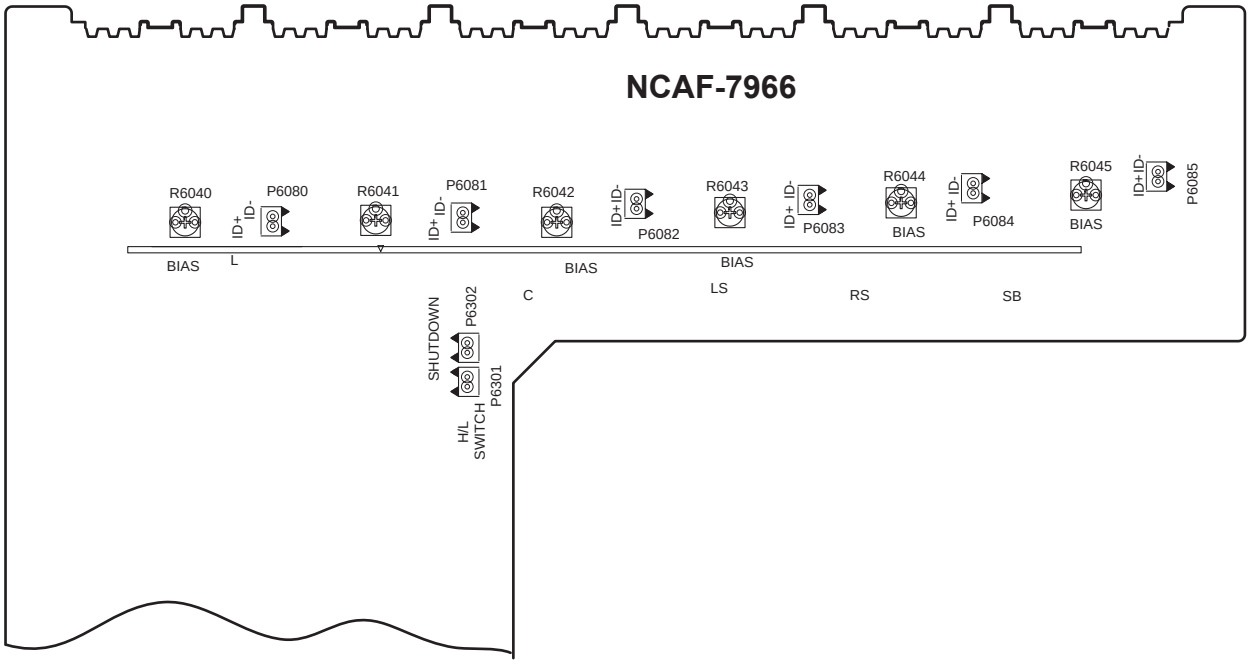
Before Idling adjustment, turn the trimming resistors R6040 to R6045 to counter clockwise.
Connect the DC voltmeter to sockets P6080 to P6085.
After turn POWER to ON, adjust the trimming resistors R6040, R6041 and R6042 so that the reading of voltmeter becomes 2.5 mV. (Front and center channels)
Adjust the trimming resistors R6043, R6044 and R6045 so that the reading of voltmeter becomes 1.5 mV. (Surround and surround back channels)
After adjustment, attach the top cover.
Confirm the voltage of points above after about five minutes.

Front and center channels

When less than 10.0 mV, readjust the resistors above so that the voltage becomes 10.0 mV.
When 10.0 mV to 12.0 mV, you are not necessary to adjust.
When more than 12.0 mV, readjust the resistors above so that the voltage becomes 12.0 mV.

Surround and surround back channels

When less than 7.0 mV, readjust the resistors above so that the voltage becomes 7.0 mV.
When 7.0 mV to 9.0 mV, you are not necessary to adjust.
When more than 9.0 mV, readjust the resistors above so that the voltage becomes 9.0 mV.
Note: No load and No signal



Confirmation of protection circuit

1. Confirmation of operation of speaker relay

Confirm that the speaker relays turn ON approximate. 5 seconds after the power switch is turned ON.
Confirm that the speaker relays turn OFF immediately after the power switch is turned OFF.

2. Confirmation of DC detection circuit

Press and hold down CD button, then press STANDBY/ON button to set the unit to "Test-1" mode.
After "Test-1" on the FL tube light on, press VIDEO 1 button to set the unit to "Test-1-00".
Apply DC 1.5 to 3V to DVD INPUT terminal with no load.
Confirm that the speaker relay turns OFF.
Apply DC -1.5 to -3V to DVD INPUT terminal with no load.
Confirm that the speaker relay turns OFF.
After "Test-1" on the FL tube light on, press REC OUT button two times to set the unit to "Test-1-02".
Apply DC 1.5 to 3V to DVD INPUT terminal with no load. Confirm that the speaker relay turns OFF.
Apply DC -1.5 to -3V to DVD INPUT terminal with no load. Confirm that the speaker relay turns OFF.
Caution: Don't apply DC voltage more than 1 sec..

ADJUSTMENT AND CONFIRMATION PROCEDURES 2

3. Confirmation of Current detection circuit

Set the unit to "Test-1-00".

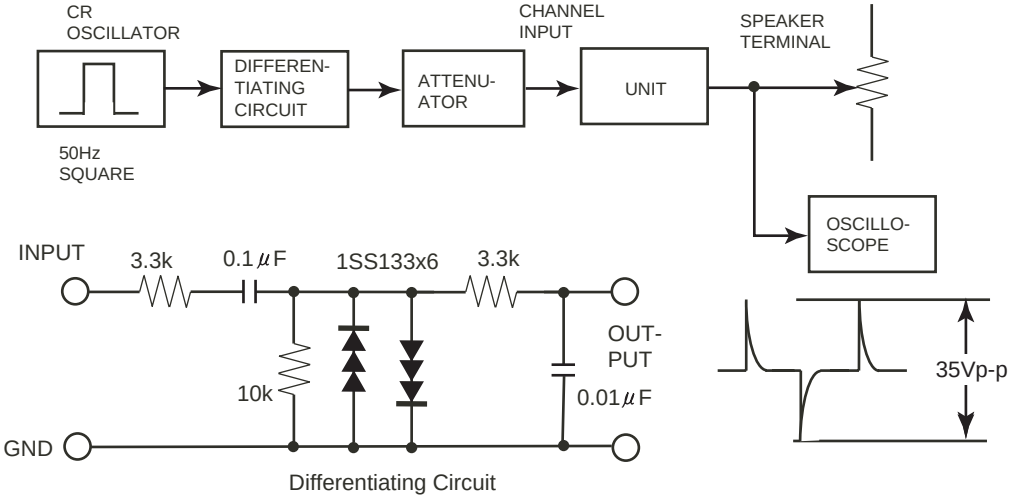
Connect the differentiating circuit and apply the 50Hz square signal to DVD INPUT terminal of each channel.

Adjust the attenuator or Volume so that the output level becomes 35V p-p.

Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.

Confirm that the speaker relay turns off when a 1.5 ohm load is connected.

Caution:Don't continue more than 3 seconds.



Differentiating Circuit

Set the unit to "Test-1-02".

Connect the differentiating circuit and apply the 50Hz square signal to the center channel of DVD terminal.

Adjust the attenuator or Volume so that the output level of surround back becomes 35V p-p.

Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.

Confirm that the speaker relay turns off when a 1.5 ohm load is connected.

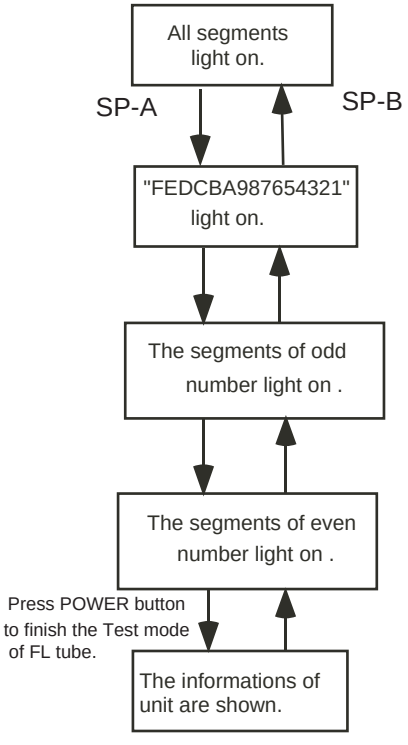
Caution:Don't continue more than 3 seconds.

Test Mode

1. Turn POWER button on.
2. Press and hold down CD button, then press STANDBY/ON button.
3. After "Test-1" on the FL tube is displayed, press CD button to set the unit to the Test mode of FL tube.

Note: VIDEO 1:Test-1 VIDEO 2 :Test-2 REC OUT: UP
VIDEO 3 :Test-3 VIDEO 4:Test-4 ZONE 2: DOWN

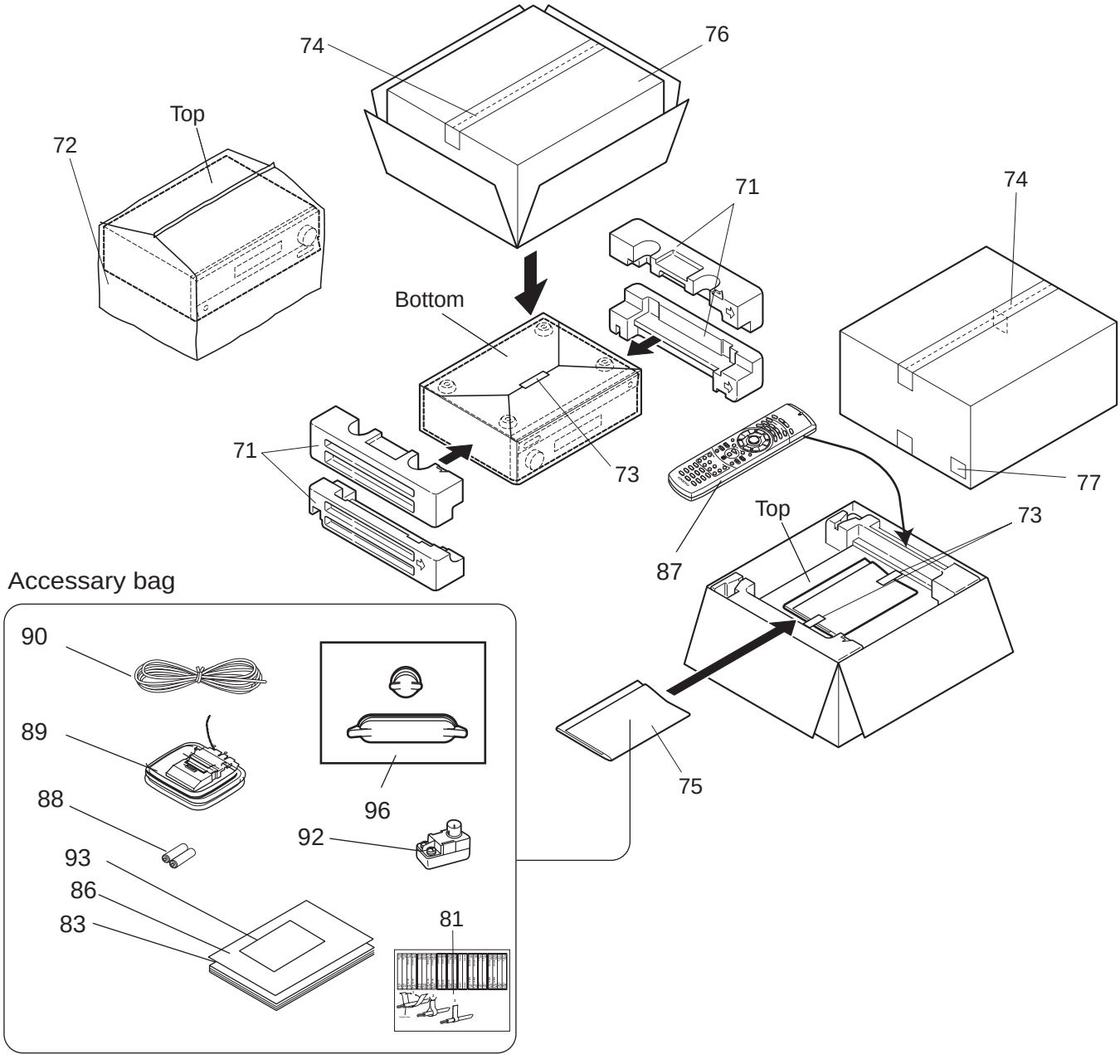
Test mode of FL tube



Confirmation of voltage sensor

1. Set the unit to Test-4-35 or Test-4-36.
2. Confirm that the FM STEREO is displayed.
   Confirm that the speaker relays of RL6901 and RL6902 turn off.
3. When connect the resistor 2.7 kohm/1 W between the terminals COM and TH1 of P6301, confirm that "FM STEREO" light on.
   Note: No input signal.
4. When connect the resistor 2.2 kohm/1 W between the terminals of P6302, confirm that "MEMORY" on FL tube lights on and the protection circuit operates.
   Note: No input signal.

PACKING VIEW



Put the label 81 between page 2 and page 3 of instruction manual E.

REF.NO.	PART NO.	DESCRIPTION
1	27111275A	Front bracket
2	27212500	Front panel
3	28198905	Facet
4	838130088	3TTB+8B,Self-tapping screw
5	28135278	Badge
6	838430088	3TTB+8B(BC),Self-tapping screw
7	28326016	Knob, volume
8	27123101A	Rear panel <D>
8	27123102A	Rear panel <A>
9	28325756	Knob, standby
14	27141787	Retainer, headphone
15	27141881	Retainer RT
16	28191961A	Clear plate
17	28133402	Back plate
19	29110083	Cloth tape
21	27100418B	Chassis
22	27190693A	KGLS-6RT,Holder
23	27190266	KGLS-12RT,Holder
24	27190657	KGLS-18RT,Holder
25	838440089	4TTB+8C(BC),Self-tapping screw
31	27160530-1	Heat sink
32	801606	3SMH10W.SW+15B(CU),Special screw
33	830440089	4TTC+8C(BC),Self-tapping screw
36	838430068	3TTB+6B(BC), Self-tapping screw
37	801606	3SMH10W.SW+15B(CU), Special screw
38	29363409-1	Label, transformer
41	28184835	Top cover
42	838430088	3TTB+8B(BC),Self-tapping screw
46	27175319B	Leg
47	28141494	Cushion
51	260208	Wire tie
71	29092052	Pad
72	29100153	1020x720,Polybag
73	29110149	Sello tape
74	29110148	PP tape
75	29100097-1A	350*250,Polybag
76	29054044	Carton box
77	29363387	Label UPC
81	29363059A	Label, cable
83	29343499	Instruction manual, English
86	29343500	Instruction manual, digest
87	24140517	RC-517M,Remote controller
88	3010194	R6/AA(UM-3), Two batteries
89	232140	NMA-3057,AM loop antenna
90	292191	FM antenna
92	25065462	YAE21-0237,Antenna adapter <A>
93	29365089	Warranty card <D>
95	29363195	Label INTEGRA <D>
96	292186	Accessory ass'y
97	28330137	Cap, front
98	28330146	Cap, optical

F6901,F6902	252196 or	!	12A-UL/T-314 or
F6901,F6902	252301	!	12A-TUL-250V, Fuse <D>
F6901,F6902	252100 or	!	10A-EAK or
F6901,F6902	252307	!	10A-TL250V, Fuse <A>
F901	252199	!	10A-UL, Fuse <D>
F902	252078,	!	5A-SE-EAK,
F902	252244 or	!	5A-SE-TL250V or
F902	252278	!	5A-SE-TL250V, Fuse <A>
F903	252164 or	!	5A-UL/T-237 or
F903	252258	!	5A-T/UL-ST2,Fuse <D>
F903	252075,	!	2.5A-SE-EAK,
F903	252241 or	!	2.5A-SE-TL250V or
F903	252275	!	2.5A-SE-TL250V <A>
F9501	252160 or	!	2.5A-UL/T-237 or
F9501	252254	!	2.5A-T/UL-ST2,Fuse <D>
F9501	252075,	!	2.5A-SE-EAK,
F9501	252241 or	!	2.5A-SE-TL250V or
F9501	252275	!	2.5A-SE-TL250V, Fuse <A>
P101	2047152522		NCFC7-152522,Flexible cable
P6931	2045133012		NCFC5-133012,Flexible cable
P7501	2045081512		NCFC5-081512,Flexible cable
P7502	2047111512		NCFC7-111512,Flexible cable
P901	253297KAW	!	AS-UC-2 or
P901	253311VOL	!	AS-SAA, Power supply cord <A>
P901	253352TES	!	AS-UC-2,Power supply cord <D>
Q6050~Q6052	2202843	*	2SC5242-O or
Q6050~Q6052	2202842	*	2SC5242-R,Transistor
Q6053~Q6055	2203663,	*	MN130S-O,
Q6053~Q6055	2203664,	*	MN130S-Y,
Q6053~Q6055	2203666,	*	MN130S-P,
Q6053~Q6055	2202843 or	*	2SC5242-O or
Q6053~Q6055	2202842	*	2SC5242-R,Transistor
Q6060~Q6062	2202833 or	*	2SA1962-O or
Q6060~Q6062	2202832	*	2SA1962-R
Q6063~Q6065	2203673,	*	MP130S-O,
Q6063~Q6065	2203674,	*	MP130S-Y,
Q6063~Q6065	2203676,	*	MP130S-P,
Q6063~Q6065	2202833 or	*	2SA1962-O or
Q6063~Q6065	2202832	*	2SA1962-R
T901	2301692	!	NPT-1469D,Power transformer <D>
T901	2301693	!	NPT-1469P,Power transformer <A>
U1	1A972552-2M		NADG-7952-2M,DSP circuit PC board ass'y <D>
U1	1A972552-2N		NADG-7952-2N,DSP circuit PC board ass'y <A>
U2	1A972588-1M		NAVD-7988-1M, Video circuit PC board ass'y
U3	1A972554-2M		NAVD-7954-2M,Component video PC board ass'y
U3	1A972554-2N		NAVD-7954-2N,Component video PC board ass'y
U4	1A972555-2M		NAETC-7955-2M,RS232 terminal PC board ass'y
U4	1A972555-2N		NAETC-7955-2N,RS232 terminal PC board ass'y
U5	1A972560-1N		NADIS-7960-1N,Display circuit PC board ass'y
U6	1A972561-1N		NAETC-7961-1N,Headphone terminal PC board
U7	1A972562-1N		NAETC-7962-1N,Volume PC board ass'
U8	1A972563-1N		NAVD-7963-1N , Front Video terminal PC board Ass'y

U9	1A972564-1N	NADG-7964-1N,Front opto. Input PC board ass'y
U10	1A972565-1N	NAETC-7965-1N,PC board for holder
U11	1A972566-1P	NAAF-7966-1P,Power amplifier PC board ass'y
U11	1A972566-1Q	NAAF-7966-1Q,Power amplifier PC board ass'y
U12	1A972567-1P	NAETC-7967-1P,Thermal detector PC board ass'y
U12	1A972567-1Q	NAETC-7967-1Q,Thermal detector PC board ass'y
U13	1A972568-1P	NAAF-7968-1P,Speaker terminal PC board ass'y
U13	1A972568-1Q	NAAF-7968-1Q,Speaker terminal PC board ass'y
U14	1A972569-1P	NAETC-7969-1P,PC board for holder <D>
U14	1A972569-1Q	NAETC-7969-1Q,PC board for holder <A>
U15	1A972570-1P	NAETC-7970-1P,Secondary terminal PC board ass'y <D>
U15	1A972570-1Q	NAETC-7970-1Q,Secondary terminal PC board ass'y <A>
U16	1A972571-1P	NAETC-7971-1P,PC board for cord Clamper <D>
U16	1A972571-1Q	NAETC-7971-1Q,PC board for cord Clamper <A>
U17	1A972572-1P	NAETC-7972-1P, PC board for cord stopper <D>
U17	1A972572-1Q	NAETC-7972-1Q, PC board for cord stopper <A>
U18	1A972573-1P	NAETC-7973-1P,Thermal detector PC board ass'y
U18	1A972573-1Q	NAETC-7973-1Q,Thermal detector PC board ass'y
U21	1A972574-1U	NAPS-7974-1U,Primary circuit PC board ass'y <D>
U21	1A972574-1V	NAPS-7974-1V,Primary circuit PC board ass'y <A>
U22	1A972575-1U	NAPS-7975-1U, Constant voltage circuit PC board ass'y <D>
U22	1A972575-1V	NAPS-7975-1V, Constant voltage circuit PC board ass'y <A>
U23	1A972577-1U	NAETC-7977-1U,Primary terminal PC board ass'y
U23	1A972577-1V	NAETC-7977-1V,Primary terminal PC board ass'y
U24	1A972581-1U	NAETC-7981-1U, PC board for holder <D>
U24	1A972581-1V	NAETC-7981-1V, PC board for holder <A>
U25	1A972582-1U	NAETC-7982-1U,Main connector PC board ass'y
U25	1A972582-1V	NAETC-7982-1V,Main connector PC board ass'y
U26	1A972583-1U	NAAF-7983-1U, Pre-output terminal PC board ass'y
U26	1A972583-1V	NAAF-7983-1V, Pre-output terminal PC board ass'y
U27	1A972584-1U	NAAF-7984-1U,Driver circuit PC board ass'y <D>
U27	1A972584-1V	NAAF-7984-1V,Driver circuit PC board ass'y <A>
U29	1A972563-1N	NAVD-7963-1N,Front video terminal PC board ass'y
U30	1A972587-1U	NASW-7987-1U,Power switch PC board ass'y <D>
U30	1A972587-1V	NASW-7987-1V,Power switch PC board ass'y <A>U311A97
U36	240138A,	ENG06501QR,
U36	240134A or	TFCE1U114B or
U36	240146	FAE385-A02F,Tuner unit <D>
U36	240139A,	ENG07501QR,
U36	240135 or	TFCE1E512A or
U36	240147	FAE485-E02F, Tuner unit <A>

PRINTED CIRCUIT BOARD-PARTS LIST

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

CAUTION: Replacement for transistor of mark *, if necessary must be made from the same beta group (h_{FE}) as the original type.

NOTE: <D>: 120V model only <A>: Australian model only

DSP CIRCUIT PC BOARD (NADG-7952-2M/2N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301	22241787R3	TC9274F-020
Q302	22241761R3	BD3811K1
Q303~Q308	22241383R2 or	NJM4565M-D or
	22240581R2	NJM4565M
Q309,Q310	22241785R2	BD3812F
Q311	222780073R2	78L07(SMT)
Q312	222790073R2	79L07(SMT)
Q700	22241947R3	MB86D42PFV
Q7001	22241982R3 or	MPD703030BYGC-J03-8EU or
	22241950R3	MPD703030BYGC-J04-8EU
Q7005	22274000GR2TO	TC74VHCT00AFT
Q7006	22274004HR2TO	TC74VHCU04FT
Q701	22274074ER2TO or	TC74VHC74FT or
	22274074IR2TI	SN74AHC74PWR
Q703	22241847R3	MB86344BPFV
Q704	22240935R2	TC7WU04FU
Q705,Q706	22241887R2 or	CY7C1019CV33-15VCT or
	22241612R2	CY7C1019BV33-15VCT
Q707	22240935R2	TC7WU04FU
Q751	22274074ER2TO or	TC74VHC74FT or
	22274074IR2TI	SN74AHC74PWR
Q800	22241944R3	CS42518-CQ
Q801~Q804	22241383R2 or	NJM4565M-D or
	22240581R2	NJM4565M
Q9501	222780125	78M12HF
Q9502	222790125	79M12HF
Q9506	222780054NEC	MPC7805HF
Q9508	22278028DR2JR	NJM2391DL1-285
Q9509	22278033BR2JR	NJU7200U33
Q9510	22278033DR2NE or	MPC2933T or
	22278033DR2JR	NJM2391DL1-33
Q9512	222790055	79M05FA
Q9513	222780053R2JR	NJM78L05UA
	Transistors	
Q400,Q401	2214530R2 or	RN2402 or
Q402,Q9511	2216220R2	KRA102S
Q403,Q404	2214490R2 or	RN1404 or
Q405,Q7002	2216210R2	KRC104S
Q9507	2202314 or	2SA1726-Y or
	2202315	2SA1726-P
	Diodes	
D300,D301	223234R2 or	1SS352 or
D7001~D7003	223269R2	1SS355
D7004	224660624R2,	HZU6.2B,
	224550620R2 or	UDZS6.2B or
	224490620R2	UDZ6.2B
D7005	223234R2 or	1SS352 or
D800~D807	223269R2	1SS355
	Oscillators	
X700	3010368R2	XTL-13.5M,Crystal
X7001	3010329R2	CSTCV16.00MXJ0C,Ceramic
X701	3010324R2	CSTCV12.2MTJ0C4,Ceramic
	Coils and Filters	
L708,L751	233533M022R2	NCH-1587-022M
L7001,L701	231237K220R2 or	NCH-1477 or
L704	233533K220R2	NCH-1587-220K
L705~L707	230958R1	BK1608LM182-T
L753	231237K470R2 or	NCH-1479 or
	233533K470R2	NCH-1587-470K
L800,L801	231237M022R2 or	NCH-1471 or

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils and Filters	
L803	233533M022R2	NCH-1587-022M
R7095,R7096	230958R1	BK1608LM182-T
	Capacitors	
C101,C102	394680337 or	CE04W50V-3.3M(VR) or
	394780337	CE04W50V3.3M(SC),Elect.
C116	393344707	CE04W16V-47M(VX),Elect.
C338,C339	373022724R2	ECHU50V-272J,Plastic
C340	373021224R2	ECHU50V-122J,Plastic
C341	373022724R2	ECHU50V-272J,Plastic
C342,C343	373021224R2	ECHU50V-122J,Plastic
C350~C353	394642217 or	CE04W16V-220M(VR) or
	394742217	CE04W16V220M(SC),Elevt.
C358~C363	393341007	CE04W16V-10M(VX),Elect.
C366,C367	373023324R2	ECHU50V-332J,Plastic
C368,C369	373045634R2	ECHU16V-563J,Plastic
C373~C376	393341007	CE04W16V-10M(VX),Elect.
C377,C379	393382207	CE04W50V-22M(VX),Elect.
C378,C400	393341007	CE04W16V-10M(VX),Elect.
C380~C383	393341007	CE04W16V-10M(VX),Elect.
C384	393382207	CE04W50V-22M(VX),Elect.
C403,C404	393341007	CE04W16V-10M(VX),Elect.
C405,C406	393341007	CE04W16V-10M(VX),Elect.
C410,C411	394641007 or	CE04W16V-10M(VR) or
C412	394741007	CE04W16V10M(SC),Elect.
C7002,C7004	394680107 or	CE04W50V-1M(VR) or
	394780107	CE04W50V1.0M(SC),Elect.
C7009 ,C719	394621017 or	CE04W6.3V-100M(VR) or
C720,C721	394721017	CE04W6.3V100M(SC),Elect.
C7010	394624707 or	CE04W6.3V-47M(VR) or
	394624707	CE04W6.3V-47M(VR),Elect.
C764~C766	394621017 or	CE04W6.3V-100M(VR) or
C807,C816	394721017	CE04W6.3V100M(SC),Elect.
C802,C803	373022224R2	ECHU50V-222J,Plastic
C804	394680107 or	CE04W50V-1M(VR) or
	394780107	CE04W50V1.0M(SC),Elect.
C809,C813	394623317 or	CE04W6.3V-330M(VR) or
	394723317	CE04W6.3V330M(SC),Elect.
C819~C822	373024724R2	ECHU50V-472J,Plastic
C823	373043334R2	ECHU16V-333J,Plastic
C835,C836	373041534R2	ECHU16V-153J,Plastic
C843,C844	394642217 or	CE04W16V-220M(VR) or
C9501	394742217	CE04W16V220M(SC),Elect.
C9503	375521044	MMT50V-104J,Plastic
C9508	394664707 or	CE04W35V-47M(VR) or
	394764707	CE04W35V47M(SC),Elect.
C9509,C9510	394542217	CE04W16V-220M(VZ),Elect.
C9511	394644707 or	CE04W16V-47M(VR) or
	394744707	CE04W16V47M(SC),Elect.
C9514,C9515	394621017 or	CE04W6.3V-100M(VR) or
	394721017	CE04W6.3V100M(SC),Elect.
C9520,C9522	394522217	CE04W6.3V-220M(VZ)
C9527	394641007 or	CE04W16V-10M(VR) or
	394741007	CE04W16V10M(SC),Elect.
	Resistors	
R782	43474056004R1 or	RM0KJ560X04 or
R787~R791	43474456004R1	RM4KJ560X4,Array
R9501	442621204	RS1WBJ-12,Metal oxide
R9502	441622204	RS1WBJ-22,Metal oxide
R9505	441623304	RS1WBJ-33,Metal oxide
R9507	441720394	RS2WBJ-3.9,Metal oxide
R9510	441720154	RS2WBJ-1.5,Metal oxide
	Terminals	
P300	25045491 or	NPJ-4PDBL308 or
	25045582	NPJ-4PDRW393
P301,P302	25045565 or	NPJ-6PDBL380 or
	25045583	NPJ-6PDRW394
P303	25045734	NPJ-6PDWRLEGP522
	Sockets	
JL9501B	25050269	NSCT-5P97
P101A	25052211 or	NSCT-15P2108 or
	25051822	NSCT-15P1609
P308	2009990788UL	NSAS-26P1149

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
P309	2009990789UL	NSAS-6P1150
P6931B	25052579R2	NSCT-13P2476
P7501B	25052574R2	NSCT-8P2471
	Plugs	
P105B,P107B	25055712	NPLG-20P668
P2808A	25055149	NPLG-5P133
P304	25055133	NPLG-3P117
P7503B	25055624	NPLG-3P586
P7701	25055704	NPLG-8P660
	Heat sink	
Q9501B	27160500	RAD-165
	Isolated sheet	
Q9507B	223026	ISO SHEET
	Isolated washer	
Q9507C	223032	TO-66(1)
	Pan head screws	
D9005B,Q9501A	82143010	3P+10FN(BC)
Q9506A,Q9507A	82143010	3P+10FN(BC)

VIDEO CIRCUIT PC BOARD (NADG-7953-2N)
Australian model only

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q201~Q203	22241946R2	NJM2595M
Q204	22241779	LC74763-9836
Q205	22241221R2	TC9164AF
Q206	22241849R2	MM1512
Q211	222740046R2	74HCU04F
	Photo couplers	
Q207	24120080	PC817X
U201,U202	24120101	TORX179L
U203	24120102	TOTX179L
	Transistors	
Q208~Q210	2215510R2	RN1443
Q212~Q217	2215510R2	RN1443
Q218~Q220	2214375R2	2SA1162-GR
Q221	2213145R2	2SC2712-GR
Q222,Q223	2216031R2	RN1444-A
Q224	2214550R2 or	RN2404 or
	2216220R2	KRA102S
	Diodes	
D201~D203	223234R2 or	1SS352 or
	223269R2	1SS355
	Oscillators	
X201	3010363	HC-49/U0314.318M,Crystal
X202	3010364	HC-49/U0317.734M
	Coils and Filters	
L201~L203	231237K022R2 or	NCH-1471 or
L205,L208	233533K022R2	NCH-1587-022K
L204,L207	231292J056R2	NCH-1572
L206	231292J056R2	NCH-1572
L210	231237K022R2 or	NCH-1471 or
	233533K022R2	NCH-1587-022K
	Capacitors	
C203,C232	394644707 or	CE04W16V-47M(VR) or
C276	394744707	CE04W16V47M(SC),Elect.
C219~C226	394641007 or	CE04W16V-10M(VR) or
C291,C292	394741007	CE04W16V10M(SC),Elect.
C237~C239	394621017 or	CE04W6.3V-100M(VR) or
C249,C250	394721017	CE04W6.3V100M(SC),Elect.
C245,C248	394624717 or	CE04W6.3V-470M(VR) or
	394724717	CE04W6.3V470M(SC),Elect.
C251	394621017 or	CE04W6.3V-100M(VR) or
C256,C257	394721017	CE04W6.3V100M(SC),Elect.
C255	394642207 or	CE04W16V-22M(VR) or
	394742207	CE04W16V22M(SC),Elect.
C259,C269	394680107 or	CE04W50V-1M(VR) or
	394780107	CE04W50V1.0M(SC),Elect.
C270	394683397	CE04W50V-0.33M(VR),Elect.
C273	375522234	MMT50V-223J,Plastic
C274	394680107	CE04W50V-1M(VR) or
	394780107	CE04W50V1.0M(SC),Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C275	374726824	ECQ-B50V-682J,Plastic
C280,C282	394621017 or	CE04W6.3V-100M(VR) or
C288	394721017	CE04W6.3V100M(SC),Elect.
C281	394684797 or	CE04W50V-0.47M(VR) or
	394784797	CE04W50V0.47M(SC),Elect.
C283	375524744	MMT50V-474J,Plastic
C293~C296	394624717 or	CE04W6.3V-470M(VR) or
	394724717	CE04W6.3V470M(SC),Elect.
	Terminals	
P201	25045478	NPJ-1PDOR296
P202	25045728	NPJ-15PDBY516
P204,P205	25045730	NPJ-10PDBY518
P206	25045647	HSJ1002-01-1020
	Sockets	
P207B	25051235	NSCT-10P1025
P208B	25051527	NSCT-16P1314

COMPONENT VIDEO PC BOARD (NADG-7954-2M/2N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2217	222780053	78L05
Q2255,Q2256	22241383R2	NJM4565M-D
	Transistors	
Q2201	2214460R2 or	RN1401 or
	2216330R2	KRC101S
Q2211,Q2213	2212855 or	2SB1068-U or
	2212853	2SB1068-K
Q2212,Q2214	2216190R2 or	KRC102S or
	2214470R2	RN1402
Q2215	2216185R2 or	KTA1504-GR or
	2214375R2	2SA1162-GR
Q2216,Q2218	2216175R2 or	KTC3875-GR or
Q2219,Q2222	2213145R2	2SC2712-GR
Q2220,Q2221	2216190R2 or	KRC102S or
Q2223	2214470R2	RN1402
Q2251,Q2252	2215410R2	RN1441
Q2253,Q2254	2215410R2	RN1441
Q2257	2216220R2 or	KRA102S or
Q2257 or	2214530R2	RN2402
Q2271,Q2272	2215410R2	RN1441
	Diodes	
D2201	223234R2 or	1SS352 or
D2212	223269R2	1SS355
D2211,D2213	22380260 or	RL1N4003 or
	22380035	GP104003E
	Capacitors	
C2215,C2216	394641007 or	CE04W16V-10M(VR) or
	394741007	CE04W16V10M(SC),Elect.
C2217,C2218	374721024	ECQ-B50V-102J,Plastic
C2251,C2252	393380227	CE04W50V-2.2M(VX),Elect.
C2253,C2254	393341007	CE04W16V-10M(VX),Elect.
C2255,C2256	393380227	CE04W50V-2.2M(VX),Elect.
C2261,C2262	393361007	CE04W35V-10M(VX),Elect.
C2263,C2264	393341007	CE04W16V-10M(VX),Elect.
C2268,C2269	394641007 or	CE04W16V-10M(VR) or
	394741007	CE04W16V10M(SC),Elect.
	Thermistors	
R2215,R2216	4000195	RXE030
	Resistor	
R2220	443524714	RS1/2WBJ-470,Metal oxide
	Relays	
RL2201,RL2202	25065645	NPL-2P1A-DC4.5-169
	Terminals	
P2203	25045732	NPJ-9PDGLR520
P2204~P2206	25045647	HSJ1002-01-1020
P2208	25045598	HEC0470-01-630
P2209	25045424	NPJ-2PDBL249
P2211	25045696	LGY2502-0200C
	Sockets	
P2201B	25051230	NSCT-5P1020
P2202B,P2210B	25051232	NSCT-7P1022
P2207	25052662	NSCT-8P2558

RS232 TERMINAL PC BOARD (NAETC-7955-2M/2N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q2821	22241537R2	MPD4721GS
	Coil	
L2821	230948R2	BLM21A102F
	Capacitors	
C2821	394621017 or	CE04W6.3V-100M(VR) or
	394721017	CE04W6.3V100M(SC),Elect.
C2822,C2824	394680107 or	CE04W50V-1M(VR) or
C2825,C2826	394780107	CE04W50V1.0M(SC),Elect.
	Sockets	
P2808B	2002A391040	NSAS-10P1152
P2822	25052379	NSCT-9P2277

DISPLAY CIRCUIT PC BOARD (NADIS-7960-1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q7501	212229	HNA-16MM39T
	ICs	
Q7502	22241971R3	MPD780232GC-085-8BT
	Remote sensor	
U7501	241348	RPM7138-H9
	Transistors	
Q7503	2216175R2 or	KTC3875-GR or
	2213145R2	2SC2712-GR
Q7504	2216230R2 or	KRA103S or
	2214540R2	RN2403
Q7505,Q7581	2216190R2 or	KRC102S or
Q7583,Q7701	2214470R2	RN1402
	Diodes	
D7501	224490820R2,	UDZ8.2B,
	224550820R2 or	UDZS8.2B or
	224660824R2	HZU8.2B
D7502	224490510R2,	UDZ5.1B,
	224550510R2 or	UDZS5.1B or
	224660514R2	HZU5.1B
D7503	223234R2 or	1SS352 or
	223269R2	1SS355
D7505	224490270R2,	UDZ2.7B,
	224660274R2 or	HZU2.7B or
	224550270R2	UDZS 2.7B
D7506~D7508	223234R2 or	1SS352 or
D7701,D7702	223269R2	1SS355
D7581	225290	SEL4110R
D7583	225291D	SEL4910D-D
	Oscillator	
X7501	3010242	CST5.00MGW,Ceramic
	Coils and Filters	
L7504	231237M022R2	NCH-1471
L7505	231237M022R2	NCH-1471
	Capacitors	
C7502	394684707 or	CE04W50V-47M(VR) or
	394784707	CE04W50V47M(SC),Elect.
C7514,C7705	394621017 or	CE04W6.3V-100M(VR) or
	394721017	CE04W6.3V100M(SC),Elect.
C7521,C7540	394622217 or	CE04W6.3V-220M(VR) or
	394722217	CE04W6.3V220M(SC),Elect.
C7523,C7550	375524744	MMT50V-474J,Plastic
C7524	3000120 or	FMC0H104Z or
	3000121	SCDA5R5104A,Super for back-up
	Resistors	
R7591,R7593	49163104415	RM1/10IJ-100K*15,Array
R7592	49163104412	RM1/10IJ-100K*12,Array
	Relay	
RL7701	25065610 or	NRL-2P1A-DC4.5-156 or
	25065645	NPL-2P1A-DC4.5-169
	Switches	
S7611~S7619	25035699 or	NPS-111-S662 or
S7621~S7628	25035714	NPS-111-S677
S7641~S7643	25035699 or	NPS-111-S662 or
S7645~S7647	25035714	NPS-111-S677

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
JL7501A	25051087	NSCT-3P874
JL7502A	25051089	NSCT-5P876
P7501A	25052345	NSCT-8P2242
P7502A	25052244	NSCT-11P2141
	Plugs	
P7504	25056056	NPLG-8P1006
	Holder	
Q7501A	27190989A	(FL)

HEADPHONE TERMINAL PC BOARD (NAETC-7961-1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils	
L7701	231237M022R2	NCH-1471
L7703,L7704	231237M022R2	NCH-1471
	Capacitor	
C7703	374722215	ECQ-B50V-221K,Plastic
	Terminal	
P7705	25045385	YKB26-5153
	Socket	
JL7502B	25051089	NSCT-5P876

VOLUME PC BOARD (NASW-7962-1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Rotary encoder	
S7501	25065628	EC12E24C25
	Socket	
JL7501B	25051087	NSCT-3P874

FRONT VIDEO PC BOARD (NAVD-7963-1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P2553	25045678	NPJ-3PDB475
	Sockets	
P209C	2009990792UL	NSAS-10P1159
P2501C	2009990513UL	NSAS-6P0675
P2554	25051569	NSCT-4P1356

FRONT OPTICAL INPUT PC BOARD (NADG-7964-1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo coupler	
U2601	24120108	GP1FA513RZ
	Coil	
L2601	231237M022R2	NCH-1471
	Capacitor	
C2601	394621017 or 394721017	CE04W6.3V-100M(VR) or CE04W6.3V100M(SC),Elect.
	Resistor	
R2601	435032214R1	RN72K1J-221JE
	Socket	
JL7503A	25051087	NSCT-3P874

POWER AMPLIFIER PC BOARD (NAAF-7966-1P/1Q)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q6010~Q6015	2213284 or	2SC1740S-R or
Q6020~Q6025	2213285	2SC1740S-S
Q6030~Q6032	2203010	2SC5171
Q6033~Q6035	2203434 or 2203010	KTD2061-Y or 2SC5171
Q6040~Q6042	2203000	2SA1930
Q6043~Q6045	2203424 or 2203000	KTB1369-Y or 2SA1930
Q6070~Q6075	2215896, 2215895, 2210755, 2210756, 2211733 or 2211732	KTC3200-BL, KTC3200-GR, 2SC1775A-E, 2SC1775A-F, 2SC1845-E or 2SC1845-F
Q6303,Q6304	2215995, 2213354 or 2213355	KTA1267-GR, 2SA933S-R or 2SA933S-S

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q6601~Q6603	2215864,	KTC3199-GR,
Q6901	2213284,	2SC1740S-R,
	2213285 or	2SC1740S-S or
	2212115	2SC2458-GR
Q6701,Q6702	2215896,	KTC3200-BL,
	2215895,	KTC3200-GR,
	2210755,	2SC1775A-E,
	2210756,	2SC1775A-F,
	2211733 or	2SC1845-E or
	2211732	2SC1845-F
Q6703	2215885,	KTA1268-GR,
	2215886,	KTA1268-BL,
	2211793 or	2SA992-E or
	2211792	2SA992-F
	Diodes	
D6000~D6005	223163,	1SS133,
D6010~D6015	223205 or	1SS270A or
D6306,D6307	223222	WG713A
D6701,D6702	223163,	1SS133,
D6906	223205 or	1SS270A or
	223222	WG713A
D6703,D6704	224470512	MTZJ5.1B
D6707	224470512	MTZJ5.1B
D6904,D6905	22380337	D10XB60H
	Capacitors	
C604~C6045	394684707	CE04W50V-47M(VR),Elect.
C6050~C6055	374721034	ECQ-B50V-103J,Plastic
C6230~C6235	374724734	ECQ-V50V-473J,Plastic
C6701,C6706	394621017 or	CE04W6.3V-100M(VR) or
	394721017	CE04W6.3V100M(SC),Elect.
C6704	394680107 or	CE04W50V-1M(VR) or
	394780107	CE04W50V1.0M(SC),Elect.
C6708	374722224	ECQ-B50V-222J,Plastic
C6901,C6902	3504376	CE69W63V-12000M,Elect.
C6904,C6905	374733344	ECQ-V100-334J,Plastic
C6906,C6907	374721044	ECQ-V50V-104J,Plastic
	Resistors	
R6040~R6045	5210258	N06HR1KBC,Trimming
R6070~R6075	415471214	R25J-120,NF carbon
R6080~R6085	415470224	R25J-2.2,NF carbon
R6090~R6095	415470224	R25J-2.2,NF carbon
R6100~R6105	4000201,	RF-5EGKR22,
	4000132 or	RGC55 0.22 or
	4500245	BPR55FK0.22,Metal plate
R6230~R6235	453630824	RNU1WCJ-8.2,Metal
R6750,R6751	443523914	RS1/2WBJ-390,Metal oxide
	Relays	
RL6901	25065584,	NRL-1P10A-DC12-140,
RL6902	25065516 or	NRL-1P10A-DC12-097 or
	25065588	NRL-1P10A-DC12-143
	Fuse holders	
F6901A,F6901B	25052133	NSCT-1P2031 <A>
	250113	SN5051 <D>
F6902A,F6902B	25052133	NSCT-1P2031 <A>
	250113	SN5051 <D>
	Sockets	
JL6402A	25051088	NSCT-4P875
JL6803A,JL6804A	25051110	NSCT-6P897
JL6805A	25051108	NSCT-4P895
JL6951A,JL6952A	25051109	NSCT-5P896
JL6953A	25051092	NSCT-8P879
P6931A	25052313	NSCT-13P2210
	Plugs	
P6000A~P6004A	25056010	NPLG-5P0960
P6005A	25056017	NPLG-12P0967
P6080~P6085	25055038	NPLG-2P29
P6301,P6302	25055038	NPLG-2P29
P931A	25055701	NPLG-5P657
	Label	
F6901C	29362801	T10AL250V <A>
	Heat sink	
D6904A	27160499	RAD-164

CIRCUIT NO.	PART NO.	DESCRIPTION
	Bar	
P6011A	27141860	(BUS-D)
	Pan head screws	
Q9512A	82143010	3P+10FN(BC)
D6904B	82143010	3P+10FN(BC)

THERMAL DETECTOR PC BOARD (NAETC-7967-1P/1Q)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Thermistors	
R6380	4000153	PTH9M04BF222TS2F333
R6381	4000150	PTH9M04BC222TS2F333 <A>
	4000218	PTFL04BE471Q2N34B0 (90） <D>
	Socket	
JL6402B	25051088	NSCT-4P875

SPEAKER TERMINAL PC BOARD (NAETC-7968-1P/1Q)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D6600,D6604	223163,	1SS133,
	223205 or	1SS270A or
	223222	WG713A
D6601	223163,	1SS133,
	223205 or	1SS270A or
	223222	WG713A
	Coils and Filters	
L6800~L6805	231176S	S-1.3C
	Capacitors	
C6840~C6847	374721034	ECQ-B50V-103J,Plastic
C6850~C6857	374721024	ECQ-B50V-102J,Plastic
	Resistors	
RL6600,RL6603	25065563,	NRL-2P5A-DC24-129,
RL6604	25065586,	NRL-2P5A-DC24-142,
	25065517 or	NRL-2P5A-DC24-098 or
	25065636	NRL-2P5A-DC24-164
RL6601	25065563,	NRL-2P5A-DC24-129,
	25065586,	NRL-2P5A-DC24-142,
	25065517 or	NRL-2P5A-DC24-098 or
	25065636	NRL-2P5A-DC24-164
	Terminals	
P6802	25060334	NTM-8PDMN265 <D>
	25060327	NTM-8PDMN258 <A>
P6803	25060333	NTM-8PDMN264 <D>
	25060329	NTM-8PDMN260 <A>
	Sockets	
JL6803B,JL6804B	25050283	NSCT-6P111
JL6805B	25050281	NSCT-4P109

SECONDARY TERMINAL PC BOARD (NAETC-7970-1P/1Q)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitor	
C9591	374721044	ECQ-V50V-104J,Plastic
	Resistors	
R9591,R9592	453530104	RNU1/2WCJ-1,Metal
R9594	453530104	RNU1/2WCJ-2.7 <D>
	453530104	RNU1/2WCJ-4.7 <A>
	Fuse holders	
F9501A,F9501B	25052133 !	NSCT-1P2031
	Sockets	
JL6951B,JL6952B	25051109	NSCT-5P896
JL9502A	25051111	NSCT-7P898
	Label	
F9501C	29361747	T2.5AL250V <A>

PRIMARY CIRCUIT PC BOARD (NAPS-7974-1U/1V)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q921	2215864,	KTC3199-GR,
	2213284,	2SC1740S-R,
	2213285 or	2SC1740S-S or
	2212115	2SC2458-GR
	Diodes	
D921~D924	22380260 or	RL1N4003 or
	22380035	GP104003E

CIRCUIT NO.	PART NO.		DESCRIPTION
	Diodes		
D925	223163 or		1SS133 or
	223205		1SS270A,Diode
	Power transformer		
T902	2301381	!	NPT-1358D <D>
	2301382	!	NPT-1358P <A>
	Capacitors		
C901	3500196S	!	RE275V-103M,IS
C922	394662217		CE04W35V-220M(VR),Elect.
C923	374721024		ECQ-B50V-102J,Plastic
	Resistors		
R924	443526804		RS1/2WBJ-68,Metal
	Relay		
RL901	25065584 or	!	NRL-1P10A-DC12-140 or
	25065516	!	NRL-1P10A-DC12-097
	Fuse holders		
F902A,F902B	25052133	!	NSCT-1P2031 <A>
	Terminal		
P902	25051126	!	NSCT-4P913 <D>
	25052115	!	NSCT-2P2013 <A>
	Sockets		
P931A	25051230		NSCT-5P1020
	Plugs		
P901A	25055675 or	!	NPLG-2P631 or
	25056028	!	NPLG-2P0978
	Label		
F903C	29361747		T2.5AL250V <A>

CONSTANT VOLTAGE CIRCUIT PC BOARD (NAPS-7975-1U/1V)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q9001	222780565JRC	NJM78M56FA
	Transistor	
Q9002	2215975 or	KTA1266-GR or
	2211455	2SA1015-GR
	Diodes	
D9001~D9004	22380260 or	RL1N4003 or
D9009~D9011	22380035	GP104003E
D9005	22380271,	D3SBA20,
	22380285 or	RS403M or
	22380022	RBV402
D9012	224472704	MTZJ27D
D9013	22380260 or	RL1N4003 or
	22380035	GP104003E
	Capacitors	
C9001,C9002	375523344	MMT50V-334J,Plastic
C9003	394661027S	CE04W35V-1000M(VR),Elect.
C9004	394664717	CE04W35V-470M(VR),Elect.
C9005	375523344	MMT50V-334J,Plastic
C9009	394662217	CE04W35V-220M(VR),Elect.
C9010	394644727S	CE04W16V-4700M(VR),Elect.
C9011	394651027S	CE04W25V-1000M(VR),Elect.
C9013	394641007	CE04W16V-10M(VR),Elect.
C9014	394674717S	CE04W63V-470M(VR),Elect.
C9017	374721024	ECQ-B50V-102J,Plastic
	Resistors	
R9001	443523304	RS1/2WBJ-33,Metal oxide
R9002	443522204	RS1/2WBJ-22,Metal oxide
R9006	453530474	RNU1/2WCJ-4.7,Metal
	Sockets	
JL9501A	25051109	NSCT-5P896
JL9502B	25050271	NSCT-7P99
P7502B	25052207	NSCT-11P2104
	Plug	
JL6953B	25055629	NPLG-8P591
	Heat sink	
D9005A	27160211	RAD-68
	Pan head screw	
D6905B	82143010	3P+10FN(BC)

AC INLET TERMINAL PC BOARD (NAETC-7979-1H/1I)

CIRCUIT NO.	PART NO.		DESCRIPTION
P901B	25055960	!	NPLG-2P913,Inlet

MAIN CONNECTOR PC BOARD (NAETC-7982-1U/1V)

CIRCUIT NO.	PART NO.		DESCRIPTION
	Transistors		
Q2904,Q2905	2215960 or		KRC102M or
	2213290		DTC114ES
Q2906,Q2907	2215960 or		KRC102M or
	2213290		DTC114ES
Q2908,Q2909	2212855 or		2SB1068-U or
	2212853		2SB1068-K
	Capacitors		
C2903	394621017		CE04W6.3V-100M(VR),Elect.
C2904	374722234		ECQ-B50V-223J,Plastic
C2905	394644707 or		CE04W16V-47M(VR) or
	394744707		CE04W16V47M(SC),Elect.
	Thermistors		
R2904,R2905	4000195		RXE030
	Sockets		
P105B,P107B	25051241		NSCT-20P1031
	Plugs		
P2001A	25055703		NPLG-7P659 <D>
P207A	25055706		NPLG-10P662
P208A	25055805		NPLG-16P761
P2201A	25055701		NPLG-5P657
P2202A,P2210A	25055703		NPLG-7P659
P2210A	25055703		NPLG-7P659

PRE OUTPUT TERMINAL PC BOARD (NAAF-7983-1U/1V)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C6880,C6881	374721024	ECQ-B50V-102J,Plastic
C6890,C6891	374721024	ECQ-B50V-102J,Plastic
C6896	374721024	ECQ-B50V-102J,Plastic
	Terminals	
P6810	25045424	NPJ-2PDBL249
P6814	25045738	NPJ-1PDP526
	Sockets	
JL5802A	25051089	NSCT-5P876

DRIVER CIRCUIT PC BOARD (NAAF-7984-1U/1V)

CIRCUIT NO.	PART NO.		DESCRIPTION
	Transistors		
Q5000~Q5002	2211733 or	*	2SC1845-E or
	2211732	*	2SC1845-F
Q5003~Q5005	2215896,	*	KTC3200-BL,
	2210755,	*	2SC1775A-E,
	2210756 or	*	2SC1775A-F or
	2211733	*	2SC1845-E
Q5010~Q5012	2211733 or	*	2SC1845-E or
	2211732	*	2SC1845-F
Q5013~Q5015	2215896,	*	KTC3200-BL,
	2210755,	*	2SC1775A-E,
	2210756 or	*	2SC1775A-F or
	2211733	*	2SC1845-E
Q5020~Q5022	2211793 or		2SA992-E or
	2211792		2SA992-F
Q5030~Q5032	2202094 or		2SA1360-Y or
	2202093		2SA1360-O
Q5033~Q5035	2215844,		KTA1024-Y,
	2215843,		KTA1024-O,
	2211354 or		2SA949-Y or
	2211353		2SA949-O
Q5040~Q5042	2202104 or		2SC3423-Y or
	2202103		2SC3423-O
Q5043~Q5045	2215854,		KTC3206-Y,
	2215853,		KTC3206-O,
	2211634 or		2SC2229-Y or
	2211633		2SC2229-O
Q5050~Q5052	2212115,		2SC2458-GR,
	2213284 or		2SC1740S-R or
	2213285		2SC1740S-S
Q5053~Q5055	2215864,		KTC3199-GR,
Q5801,Q5802	2213284,		2SC1740S-R,
	2213285 or		2SC1740S-S or
	2212115		2SC2458-GR

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q5060~Q5065	2213631 or	RN1241-A or
	2213632	RN1241-B
Q5067~Q5075	2213631 or	RN1241-A or
Q5077~Q5079	2213632	RN1241-B
	Diodes	
D5000~D5005	224470562	MTZJ5.6B
D5801	223163 or	1SS133 or
	223205	1SS270A
D5802	224470512	MTZJ5.1B
	Capacitors	
C5000~C5005	374721015	ECQ-B50V-101K,Plastic
C5010~C5015	393381007	CE04W50V-10M(VX),Elect.
C5020~C5025	394681007	CE04W50V-10M(VR),Elect.
C5030~C5035	374721015	ECQ-B50V-101K,Plastic <A>
C5040~C5045	393342217	CE04W16V-220M(VX),Elect.
C5050~C5055	394684707	CE04W50V-47M(VR),Elect.
C5100~C5105	394671007	CE04W63V-10M(VR),Elect.
C5110~C5115	394671007	CE04W63V-10M(VR),Elect.
C5120~C5125	393381007	CE04W50V-10M(VX),Elect.
C5127	393381007	CE04W50V-10M(VX),Elect.
C5128,C5129	393381007	CE04W50V-10M(VX),Elect.
	Resistors	
D5803	417343304	R16J-33,Carbon
R5120~R5122	415474714	R25J-470,NF carbon
R5160~R5165	415471214	R25J-120,NF carbon
R5170~R5175	415471214	R25J-120,NF carbon
R5180~R5185	415471004	R25J-10,NF carbon
R5190~R5195	415471004	R25J-10,NF carbon
	Relay	
RL5801	25065645	NPL-2P1A-DC4.5-169
	Sockets	
P6000B~P6004B	25052288	NSCT-5P2185
P6005B	25052295	NSCT-12P2192
	Plugs	
JL5802B	25055626	NPLG-5P588
P308A	25055156	NPLG-12P140
P309A	25055147	NPLG-3P131
	Bar	
P6011B	27141859	(BUS-U)

VIDEO CIRCUIT PC BOARD (NAVDG-7988-1M)
120V model only

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2001	22241858R2	MM1093NF
Q2005	22241850R2	TC90A69F
Q201~Q203	22241946R2	NJM2595M
Q204	22241779	LC74763-9836
Q205	22241221R2	TC9164AF
Q2051	22241443R2	TK15420M
Q206	22241849R2	MM1512
Q211	222740046R2	74HCU04F
	Photo couplers	
Q207	24120080	PC817X
U201,U202	24120101	TORX179L
U203	24120102	TOTX179L
	Transistors	
Q2002~Q2004	2216175R2 or	KTC3875-GR or
Q221	2213145R2	2SC2712-GR
Q208~Q210	2215510R2	RN1443
Q212~Q216	2215510R2	RN1443
Q218~Q220	2216185R2 or	KTA1504-GR or
	2214375R2	2SA1162-GR
Q222,Q223	2216031R2	RN1444-A
Q224	2216220R2 or	KRA102S or
	2214550R2	RN2404
	Diodes	
D201~D203	223234R2 or	1SS352 or
	223269R2	1SS355
	Oscillators	
X2001	3010369	HC-49/U033.579545M,Crystal
X201	3010363	HC-49/U0314.318M,Crystal

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils	
L2001	231237K330R2	NCH-1478
L2002~L2006	231237K220R2 or	NCH-1477 or
L2008	233533K220R2	NCH-1587-220K
L2007,L2009	231237K101R2 or	NCH-1481 or
L2010	233533K101R2	NCH-1587-101K
L201,L202	231237K022R2 or	NCH-1471 or
L208,L210	233533K022R2	NCH-1587-022K
L207	231292J056R2	NCH-1572
	Capacitors	
C2002	394621017 or	CE04W6.3V-100M(VR) or
	394721017	CE04W6.3V100M(SC),Elect.
C2003	394680227 or	CE04W50V-2.2M(VR) or
	394780227	CE04W50V2.2M(SC),Elect.
C2007	394680477 or	CE04W50V-4.7M(VR) or
	394780477	CE04W50V4.7M(SC),Elect.
C2012,C2032	394684797 or	CE04W50V-0.47M(VR) or
	394784797	CE04W50V0.47M(SC),Elect.
C2015,C2016	394644707 or	CE04W16V-47M(VR) or
C203	394744707	CE04W16V47M(SC),Elect.
C2021,C2033	394621017 or	CE04W6.3V-100M(VR) or
C2034	394721017	CE04W6.3V100M(SC),Elect.
C2022	375521044	MMT50V-104J,Plastic
C2023	374726814	ECQ-B50V-681J,Plastic
C2035,C2036	394644707 or	CE04W16V-47M(VR) or
C276	394744707	CE04W16V47M(SC),Elect.
C2041,C2042	394621017 or	CE04W6.3V-100M(VR) or
C237~C239	394721017	CE04W6.3V100M(SC),Elect.
C219~C226	394641007 or	CE04W16V-10M(VR) or
C291,C292	394741007	CE04W16V10M(SC),Elect.
C232	394644707 or	CE04W16V-47M(VR) or
	394744707	CE04W16V47M(SC),Elect.
C243,C245	394624717 or	CE04W6.3V-470M(VR) or
C248	394724717	CE04W6.3V470M(SC),Elect.
C249~C251	394621017 or	CE04W6.3V-100M(VR) or
C256,C257	394721017	CE04W6.3V100M(SC),Elect.
C255	394642207 or	CE04W16V-22M(VR) or
	394742207	CE04W16V22M(SC),Elect.
C259,C269	394680107 or	CE04W50V-1M(VR) or
C274	394780107	CE04W50V1.0M(SC),Elect.
C270	394683397	CE04W50V-0.33M(VR),Elect.
C273	375522234	MMT50V-223J,Plastic
C275	374726824	ECQ-B50V-682J,Plastic
C280,C282	394621017 or	CE04W6.3V-100M(VR) or
C288	394721017	CE04W6.3V100M(SC),Elect.
C281	394684797 or	CE04W50V-0.47M(VR) or
	394784797	CE04W50V0.47M(SC),Elect.
C283	375524744	MMT50V-474J,Plastic
C294~C296	394624717 or	CE04W6.3V-470M(VR) or
	394724717	CE04W6.3V470M(SC)
	Terminals	
P201	25045478	NPJ-1PDOR296
P202	25045728	NPJ-15PDBY516
P204,P205	25045730	NPJ-10PDBY518
P206	25045647	HSJ1002-01-1020
	Sockets	
P2001B	25051232	NSCT-7P1022
P207B	25051235	NSCT-10P1025
P208B	25051527	NSCT-16P1314
	Plugs	
P209A	25055236	NPLG-5P220

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