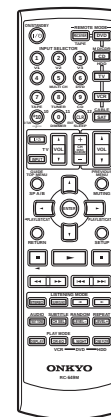
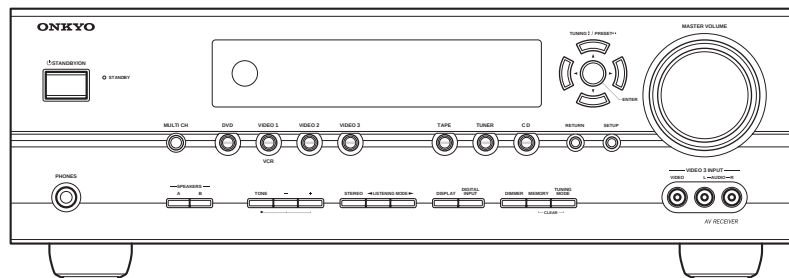


# ONKYO SERVICE MANUAL

## AV RECEIVER MODEL HT-R540



RC-649M

### Black and Silver models

|       |                   |
|-------|-------------------|
| B MDD | 120V AC, 60Hz     |
| B MDC | 120V AC, 60Hz     |
| B MPA | 230-240V AC, 50Hz |

|       |                   |
|-------|-------------------|
| ---   | ---               |
| S MDC | 120V AC, 60Hz     |
| S MPA | 230-240V AC, 50Hz |

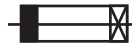
### SAFETY-RELATED COMPONENT WARNING!!

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.

# SERVICE PROCEDURE

## 1. Replacing the fuses

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

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

| REF NO.  | PART NAME | DESCRIPTION      | PART NO. | REMARKS     |
|----------|-----------|------------------|----------|-------------|
| F901     | FUSE      | 8A-UL/T-233      | 252329GR | !, <DD, DC> |
| F901 or  | FUSE      | 8A-T/UL-ST2      | 252261GR | !, <DD, DC> |
| F901     | FUSE      | 4A-SE-EAK FUSE   | 252077GR | !, <PA>     |
| F901 or  | FUSE      | 4A-SE-TL250V     | 252277GR | !, <PA>     |
| F903     | FUSE      | 5A-UL/T-233      | 252326GR | !, <DD, DC> |
| F903 or  | FUSE      | 5A-T/UL-ST2      | 252258GR | !, <DD, DC> |
| F903     | FUSE      | 2.5A-SE-EAK FUSE | 252075GR | !, <PA>     |
| F903 or  | FUSE      | 2.5A-SE-TL250V   | 252275GR | !, <PA>     |
| F6901    | FUSE      | 10A-UL/T-233     | 252330GR | !           |
| F6901 or | FUSE      | 10A-T/UL-ST2     | 252333GR | !           |
| F6902    | FUSE      | 10A-UL/T-233     | 252330GR | !           |
| F6902 or | FUSE      | 10A-T/UL-ST2     | 252333GR | !           |

### <Notes>

<DD> : USA model

<DC> : Canadian model

<PA> : Australian model

## 2. To initialize the unit

1. Press and hold down VIDEO 1/VCR button, then press STANDBY/ON button when the unit is powered on.
2. After " *Clear* " is displayed, the preset memory and each mode stored in the memory, are initialized and will return to the factory settings.

## 3. To check version of microprocessor

### <Note>

Main microprocessor Q701 only.

1. Press and hold down DISPLAY button, then press STANDBY/ON button when the unit is powered on.  
The version will be displayed on FL display only for 3 seconds.

Ex.

*Ver. 1.01/05305a*

2. Press STANDBY/ON button to power off.

## 4. Memory Backup

The AV receiver uses a battery-less memory backup system in order to retain radio presets and other settings when it is unplugged or in the case of a power failure.

Although no batteries are required, the AV receiver must be plugged into a wall outlet in order to charge the backup system. Once it has been charged, the AV receiver will retain the settings for several weeks, although this depends on the environment and will be shorter in humid climates.

## OPERATION CHECK-1

### SPEAKER PROTECT-1 (DC VOLTAGE DETECTION)

#### [When]

1. Exchange power transistors (Q6050 - Q6056, Q6060 - Q6066).
2. Exchange amplifier PC board ass'y (NAAF-8779).

#### [Procedure]

<Note> No load. No input.

1. Press and hold down CD button, then press STANDBY/ON button while the unit is powered on.  
" Test - \_ " is displayed only for 5 seconds.

Test -  Blinks

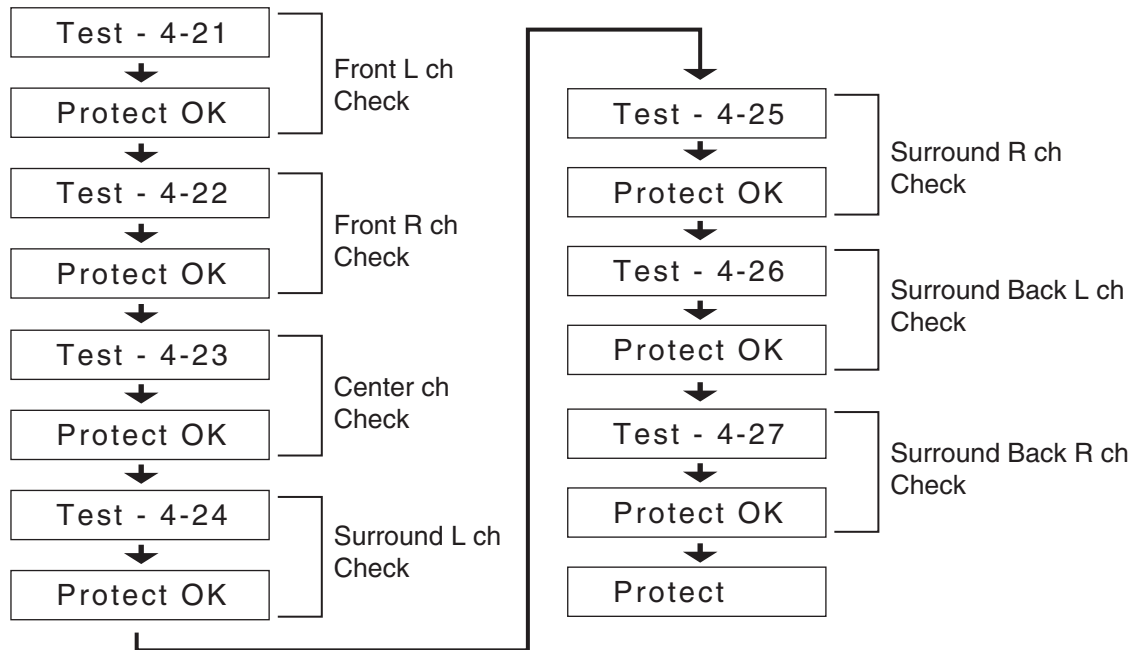
2. Press VIDEO 3 button while the characters of " Test - \_ " are displayed.  
The unit will be in the state of " Test-4-00 ".

Test - 4-00

3. Repeatedly press +(TONE) button until the characters of " Test-4-21 " are displayed.

Test - 4-21

Check whether the operation starts and continues automatically as follows.



If all channels are OK, the characters of " Test-4-35 " are displayed.

Test - 4-35

4. Press STANDBY/ON button.

Clear → Turn off

## OPERATION CHECK-2

### SPEAKER PROTECT-2 (CURRENT DETECTION)

#### [When]

1. Exchange power transistors (Q6050 - Q6056, Q6060 - Q6066).
2. Exchange amplifier PC board ass'y (NAAF-8779).

#### [Procedure]

<Note> No input.

Do not check two or more channels at the same time.

Do not connect a dummy load to speaker terminal longer than 2 seconds.

1. Press and hold down CD button, then press STANDBY/ON button while the unit is powered on.  
" Test - \_ " is displayed only for 5 seconds.

Test -  Blinks

2. Press VIDEO 3 button, while " Test - \_ " is displayed.  
The unit will be in the state of " Test-4-00 ".

Test - 4-00

3. Repeatedly press +(TONE) button until " Test-4-35 " is displayed.

Test - 4-35

4. Connect the dummy load of 3 ohms to the Front L ch speaker terminals.  
At this time, confirm that the speaker relay is not turned off.

Test - 4-35

5. Connect the dummy load of 1 ohm to the Front L ch speaker terminals.  
At this time, confirm that the speaker relay is turned off and " Protect " is displayed.

Protect

Disconnect the dummy load immediately after checking the display of " Protect ".

Test - 4-35

6. Check other channels according to the same procedure as 4 and 5.

7. Press the STANDBY/ON button.

Clear →  Turn off

## OPERATION CHECK-3

### CONTROL OF POWER SUPPLY (OUTPUT SENSOR AND THERMAL SENSOR)

#### [When]

1. Exchange power transistors (Q6050 - Q6056, Q6060 - Q6066).
2. Exchange power amplifier PC board ass'y (NAAF-8779).
3. Exchange thermal sensor PC board ass'y (NAETC-8781).

#### [Procedure]

<Note> No output. No input.

#### Output sensor

1. Press and hold down CD button, then press STANDBY/ON button while the unit is powered on.  
" Test - \_ " is displayed only for 5 seconds.

Test - \_ Blinks

2. Press VIDEO 3 button while " Test - \_ " is displayed.  
The unit will be in the state of " Test-4-00 ".

Test - 4-00

3. Repeatedly press +(TONE) button until " Test-4-36 " is displayed.

Test - 4-36

4. At this time, confirm that the red characters of " FM STEREO " is displayed.  
And, confirm that the relays RL6901 and RL6902 are turned off in 2 or 3 seconds.

Test - 4-36 FM STEREO

5. Press +(TONE) button and confirm that the red characters of " FM STEREO " is displayed.  
And, confirm that the relays RL6901 and RL6902 are turned off in 2 or 3 seconds.

Test - 4-37 FM STEREO

6. Press STANDBY/ON button.

Clear → Turn off

#### Thermal sensor

1. Press and hold down DISPLAY button, then press STANDBY/ON button when the unit is powered on.  
The microprocessor version will be displayed for 3 seconds.

<Ex.> Ver. 1.01/06222A

2. Press TONE button while the version is displayed.

<Ex.> T: 25°C/ 77°F

3. Confirm that the displayed temperature is within +/-20 °C from the ambient temperature.

4. Press STANDBY/ON button.

Clear → Turn off

## OPERATION CHECK-4

### DEBUG MODE-1

The operations of DSP and DIR etc are able to checked by the information displayed on FL in this debug mode.  
This information will help to analysing digital audio no sound trouble.

#### To set in Debug mode

1. Press and hold down DISPLAY button, then press STANDBY/ON button while the unit is powered on.

The version number of microprocessor is displayed only for 3 seconds.

<Ex.> Ver. 101/06222A

1. Press TONE+ button within 3 seconds above, the version number of DSP will be displayed for 5 seconds.

<Ex.> DSP :06206A

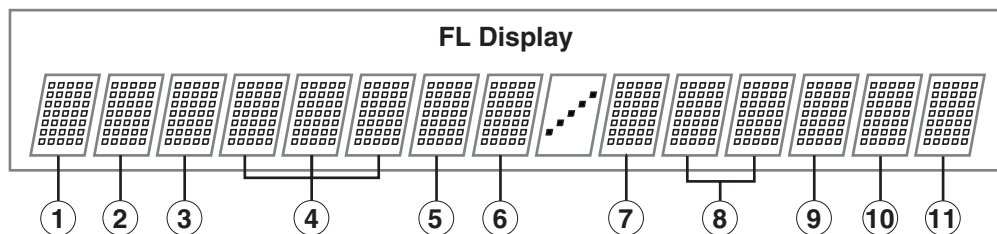
2. Press DISPLAY button while the DSP version is displayed. The status of DSP and DIR etc will be displayed.

<Ex.> E1A48K0N/OFFPoO

#### To exit

Press STANDBY/ON button.

#### Content of Display



| ----- DIR -----                                                                                                      |                                                                                                                                                                                                                                                                                                                                |                                                                                                          |  |  |  | ----- DSP -----                                                                          |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--|--|--|------------------------------------------------------------------------------------------|--|--|--|--|--|--|
| ① <b>DIR Input</b><br>E = UNLOCK<br>= LOCK                                                                           | ④ <b>Sampling Frequency and Emphasis</b><br>32K = 32 kHz without Emphasis<br>44K = 44.1 kHz without Emphasis<br>48K = 48kHz without Emphasis<br>64K = 64 kHz<br>88K = 88.2 kHz<br>96K = 96 kHz<br>176 = 176.4 kHz<br>192 = 192 kHz<br>32e = 32 kHz with Emphasis<br>44e = 44.1 kHz with Emphasis<br>48e = 48 kHz with Emphasis | ⑦ <b>DSP Port</b><br>0 = NIC<br>1 = DEC<br>2 = BUSY<br>3 = EXEC WAIT                                     |  |  |  |                                                                                          |  |  |  |  |  |  |
| ② <b>Digital Selector</b><br>0 = None<br>1 = COAXIAL<br>2 =<br>3 = OPT 1<br>4 = OPT 2<br>5 =<br>6 = OPT 3<br>7 =     | ⑤ <b>CODEC Clock Mode</b><br>N = Normal<br>U = Up Sampling<br>H = High Sampling (Double Rate)<br>D = Down Sampling<br>Q = Quad Rate                                                                                                                                                                                            | ⑧ <b>DSP Sequence</b><br>04 = Boot<br>11 = Restart<br>FF = Free                                          |  |  |  |                                                                                          |  |  |  |  |  |  |
| ③ <b>DIR Status</b><br>D = Digital<br>A = Analog<br>M = Multich<br>P = Multich PCM<br>p = PCM Fixed<br>d = DTS Fixed | ⑥ <b>DIR Detect Type</b><br>0 = Analog<br>1 = PCM<br>2 = Not PCM<br>3 = Data<br>4 = DTS CD (Not used)<br>5 = Multich<br>6 = Not Decided                                                                                                                                                                                        | ⑨ <b>DSP Detect Format</b><br>P = PCM (Analog)<br>D = Dolby Digital<br>d = DTS<br>A = AAC<br>? = Unknown |  |  |  |                                                                                          |  |  |  |  |  |  |
|                                                                                                                      |                                                                                                                                                                                                                                                                                                                                |                                                                                                          |  |  |  | ⑩ <b>DSP Decode</b><br>o = Decode OK<br>x = Decode NG                                    |  |  |  |  |  |  |
|                                                                                                                      |                                                                                                                                                                                                                                                                                                                                |                                                                                                          |  |  |  | ----- Main Microprocessor -----                                                          |  |  |  |  |  |  |
|                                                                                                                      |                                                                                                                                                                                                                                                                                                                                |                                                                                                          |  |  |  | ⑪ <b>Mute output IC</b><br>0 = Selector IC(Q5501)<br>1<br>2 = DSP(Q201)<br>3 = DIR(Q301) |  |  |  |  |  |  |

## OPERATION CHECK-5

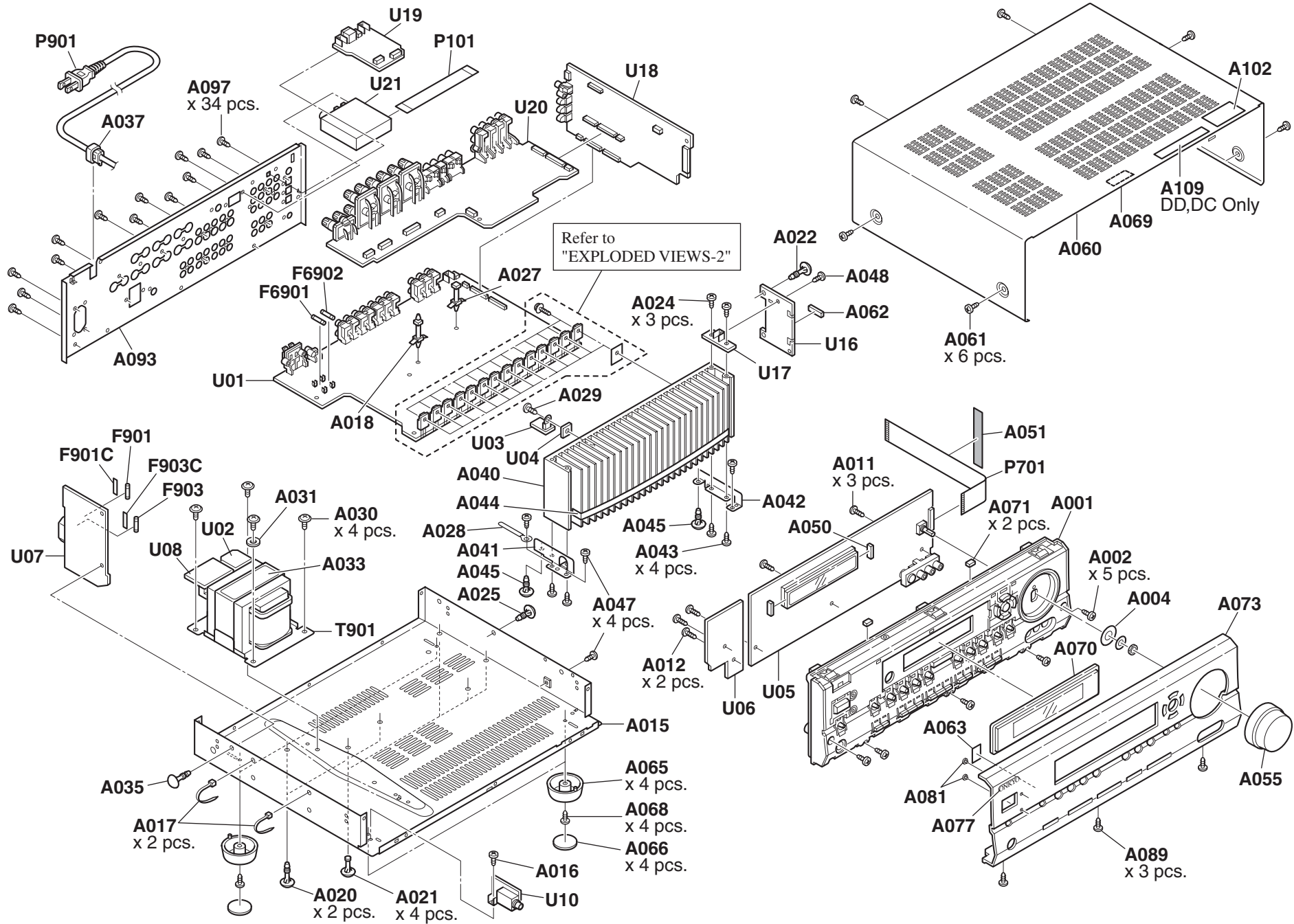
### DEBUG MODE-2

#### Trouble Cause Analysis by Debug Mode

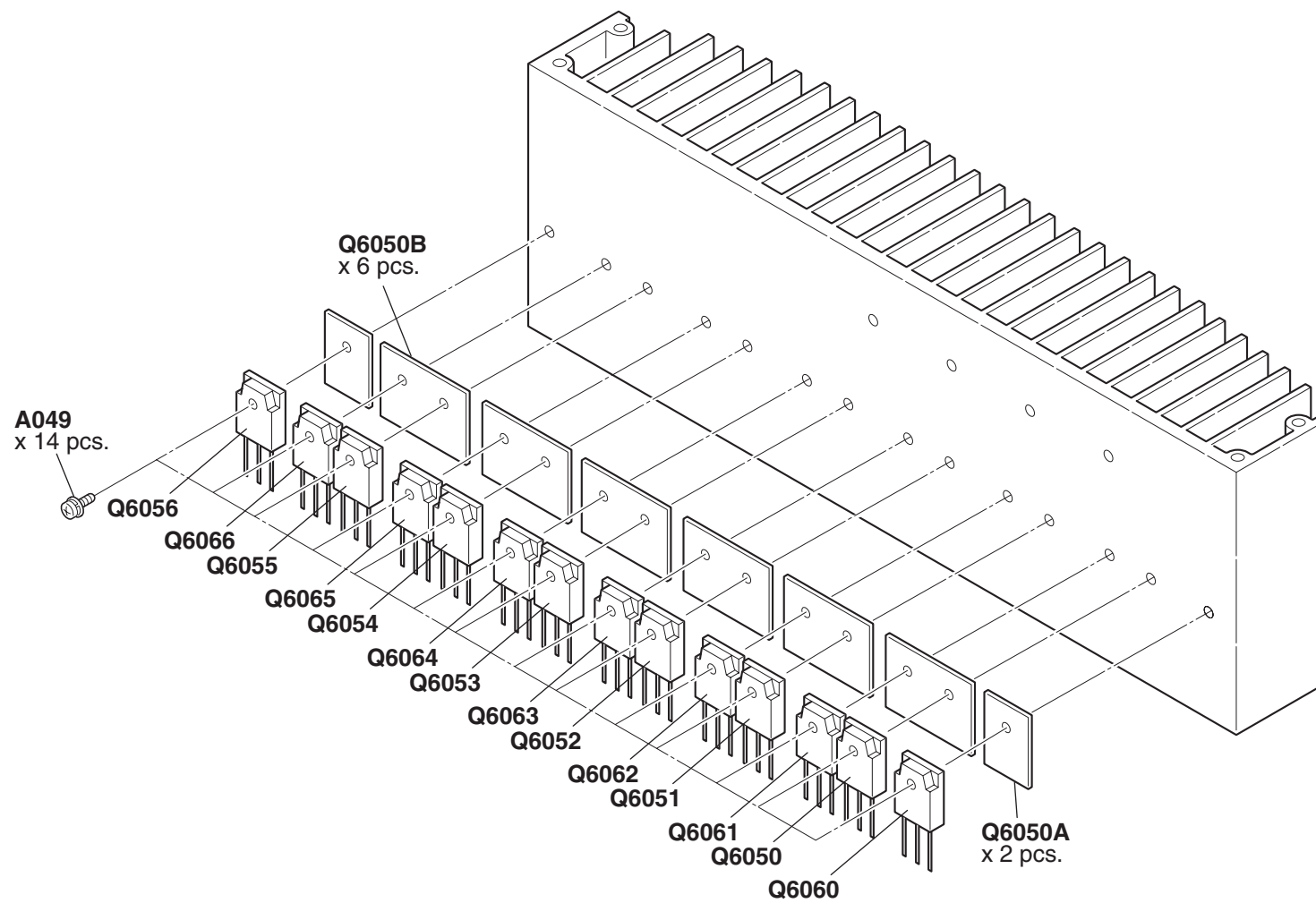
This debug mode will help in analysing digital audio no sound trouble.  
Check information on FL display and the related devices or circuits.

| Digit No. on FL | Symptom on Display                                     | Cause                                               | Check                                      |
|-----------------|--------------------------------------------------------|-----------------------------------------------------|--------------------------------------------|
| ①               | "E" is displayed                                       | No input signal to DIR                              | Related devices from digital input to Q301 |
| ④               | Displayed freq. is different from input signal freq.   | No input signal to DIR                              | Related devices from digital input to Q301 |
| ⑥               | Displayed format is different from input signal format | No input signal to DIR                              | Related devices from digital input to Q301 |
| ⑧               | "04" or "11" do not change to "FF"                     | ROM or RAM error                                    | Q281, Q282 & related devices               |
| ⑨               | Displayed format is different from input signal format | Input signal to DSP is no good                      | Related devices from Q301 to Q201          |
| ⑩               | "x" is displayed                                       | Interface between DSP and Microprocessor is no good | Related devices from Q701 to Q201          |
| ⑪               | This identifies IC which outputs error                 | The IC outputs error to main microprocessor         | Q5501, Q201, Q301 & related devices        |

## EXPLODED VIEWS-1

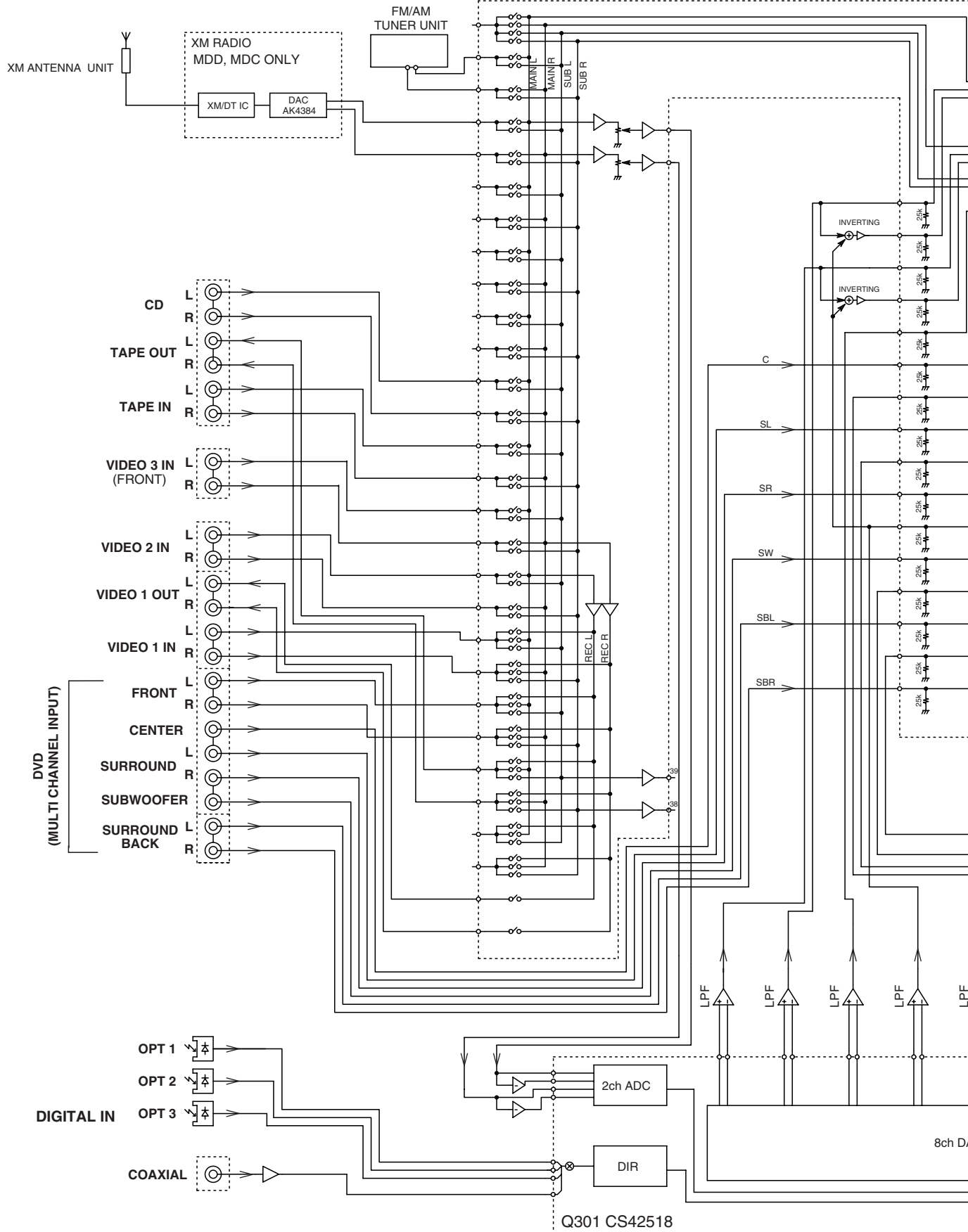


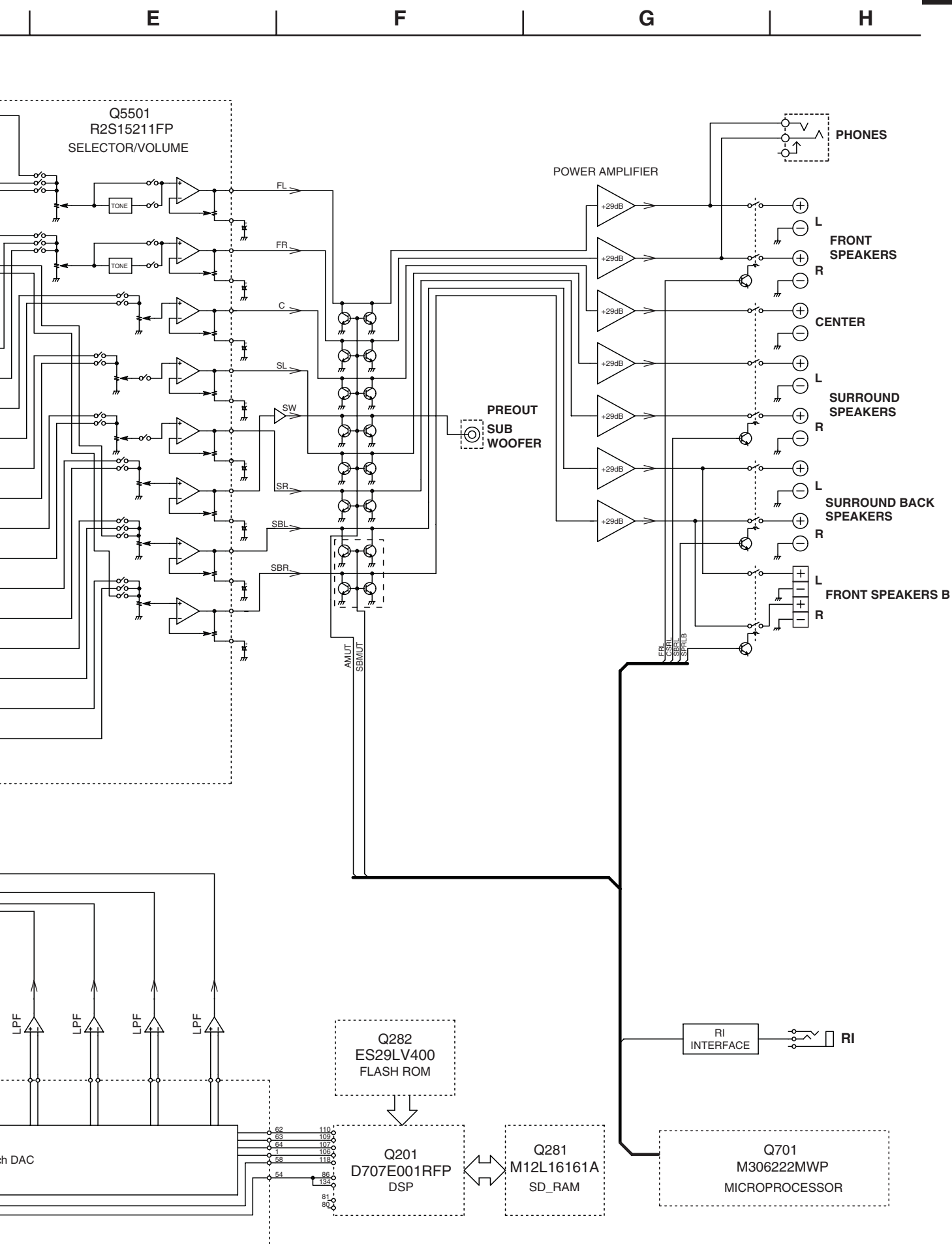
## EXPLODED VIEWS-2

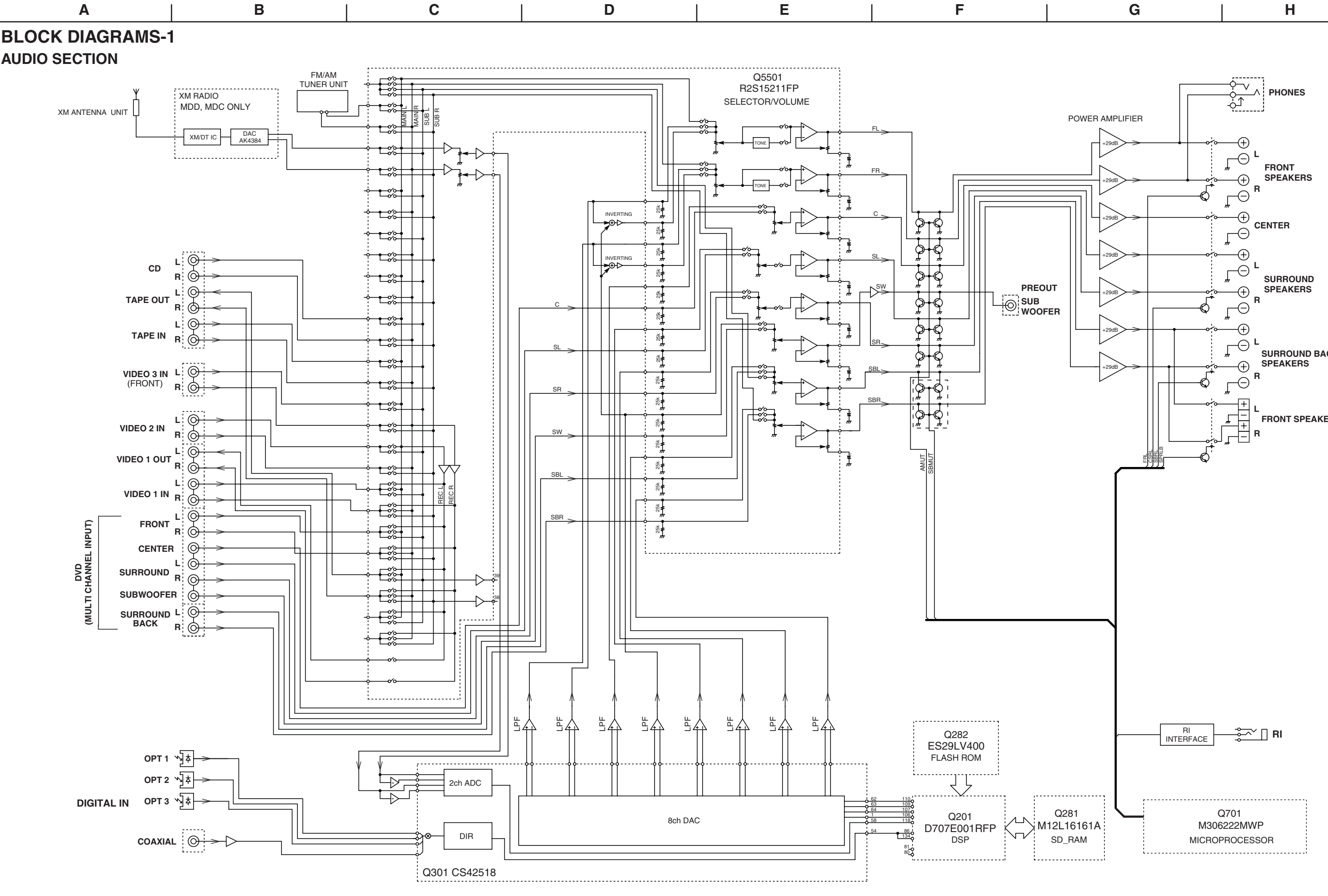


# BLOCK DIAGRAMS-1

## AUDIO SECTION

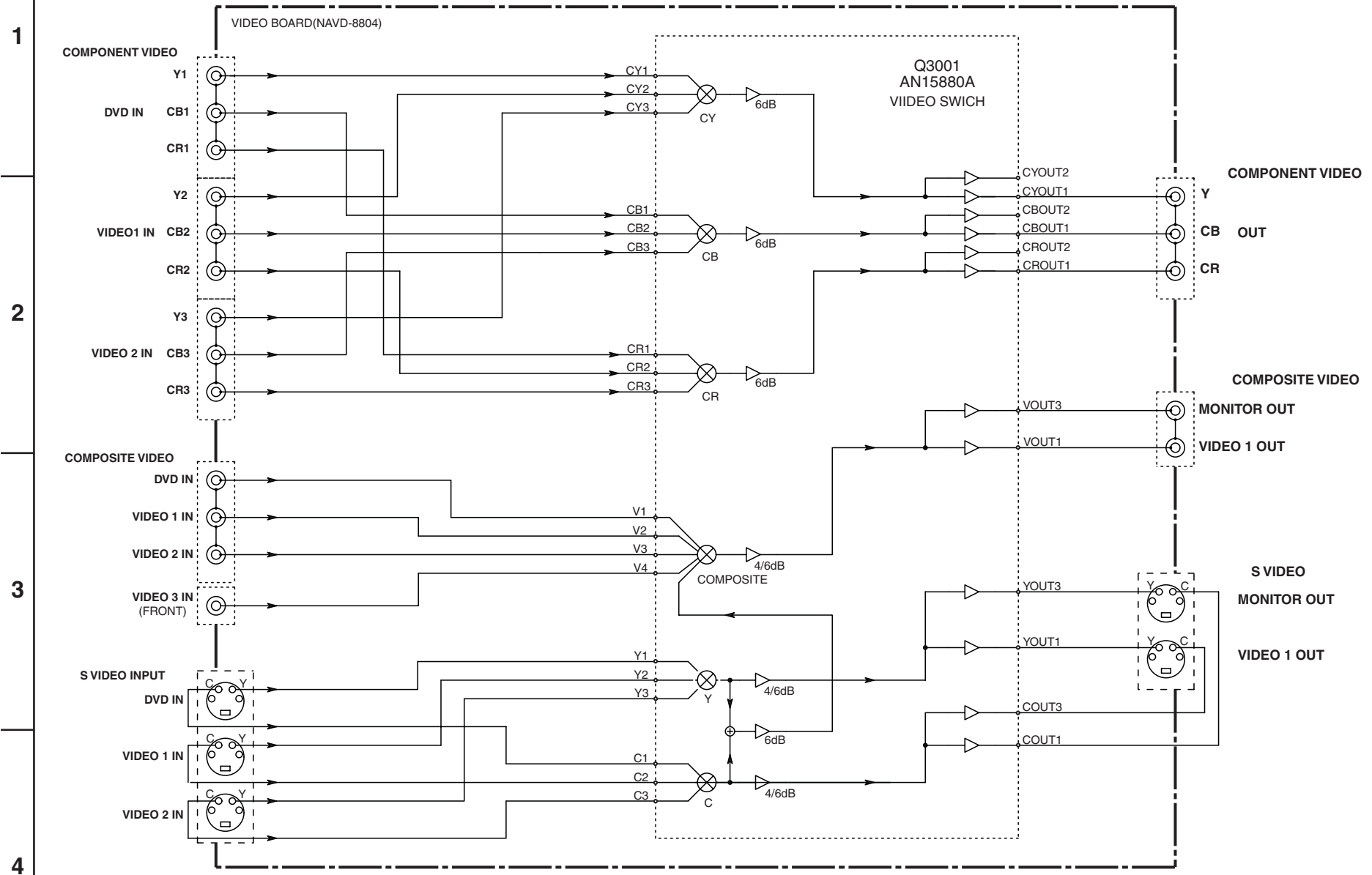






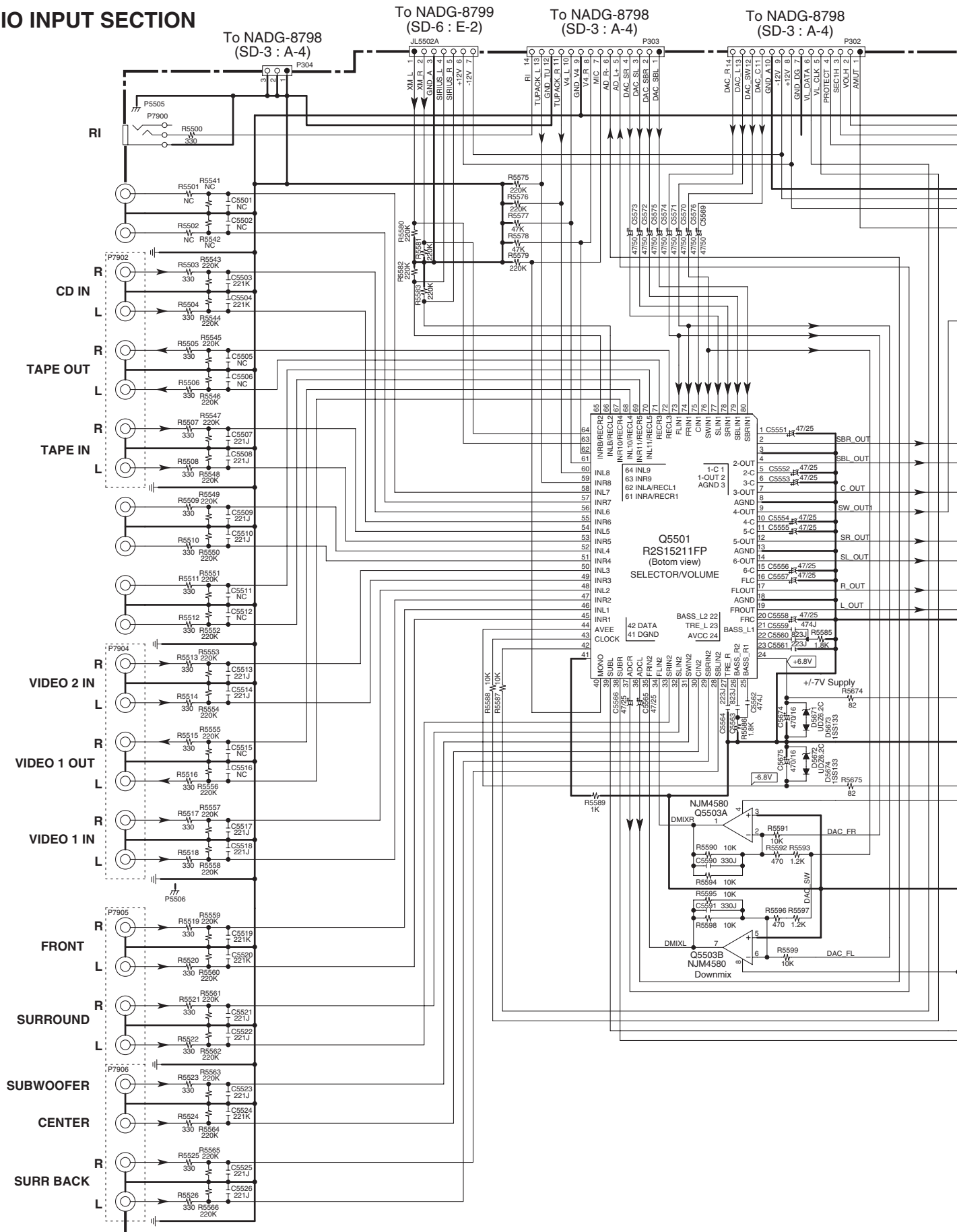
# BLOCK DIAGRAMS-2

## VIDEO SECTION



## SCHEMATIC DIAGRAMS-1

## AUDIO INPUT SECTION



E

F

G

H

## &lt;Note&gt;

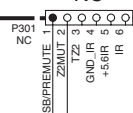
NC = No mount of parts.

SD-Z : XY

Location of connected terminal in schematic diagrams.

SD-Z = Schematic diagrams-Z. X = A to H, Y = 1 to 5.

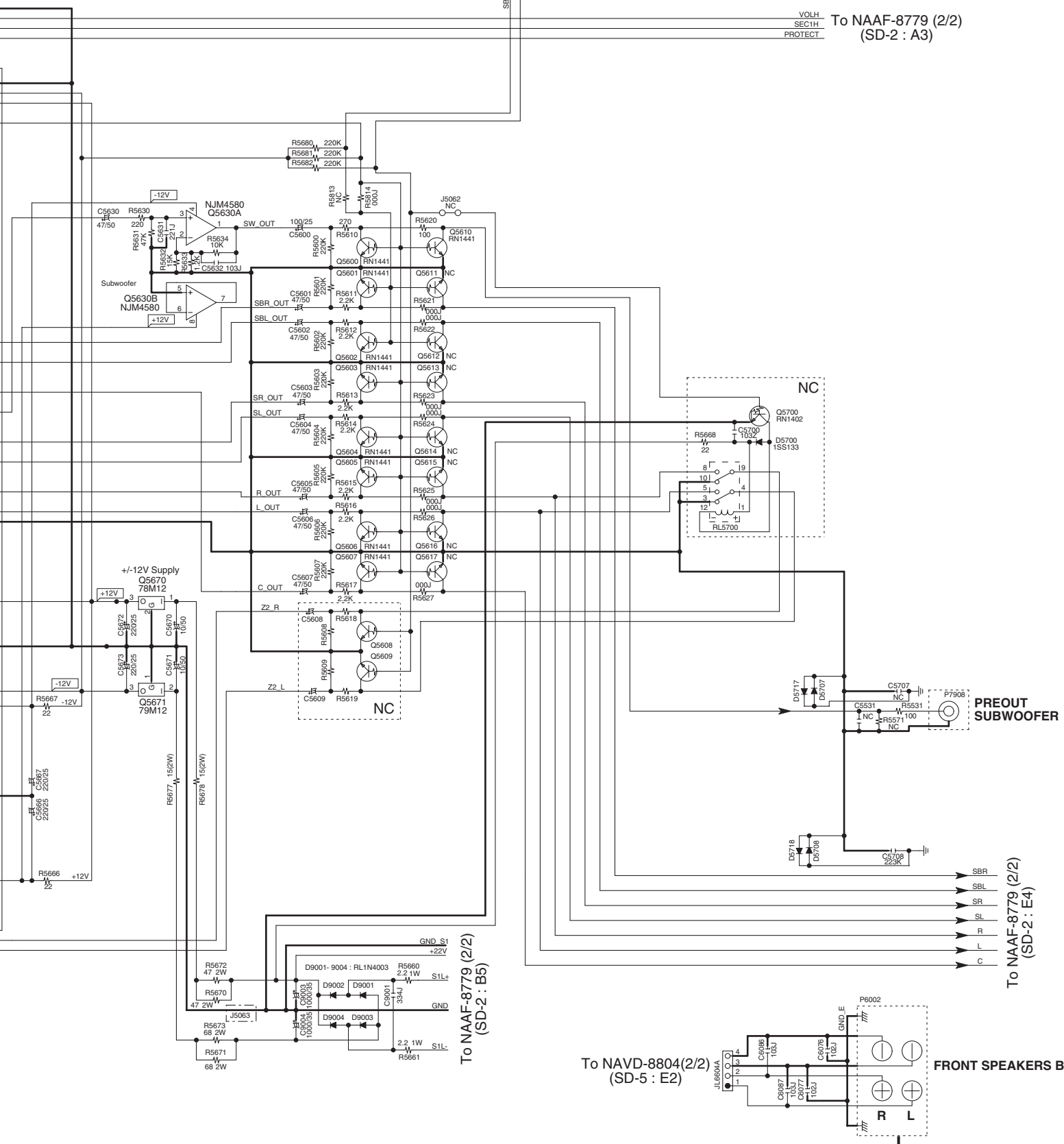
NC



U01

NAAF-8779 (1/2)

## AMPLIFIER PC BOARD

VOLH  
SEC1H  
PROTECTTo NAAF-8779 (2/2)  
(SD-2 : A3)PREOUT  
SUBWOOFERTo NAAF-8779 (2/2)  
(SD-2 : E4)

FRONT SPEAKERS B

SCHEMATIC DIAGRAMS-1  
AUDIO INPUT SECTION

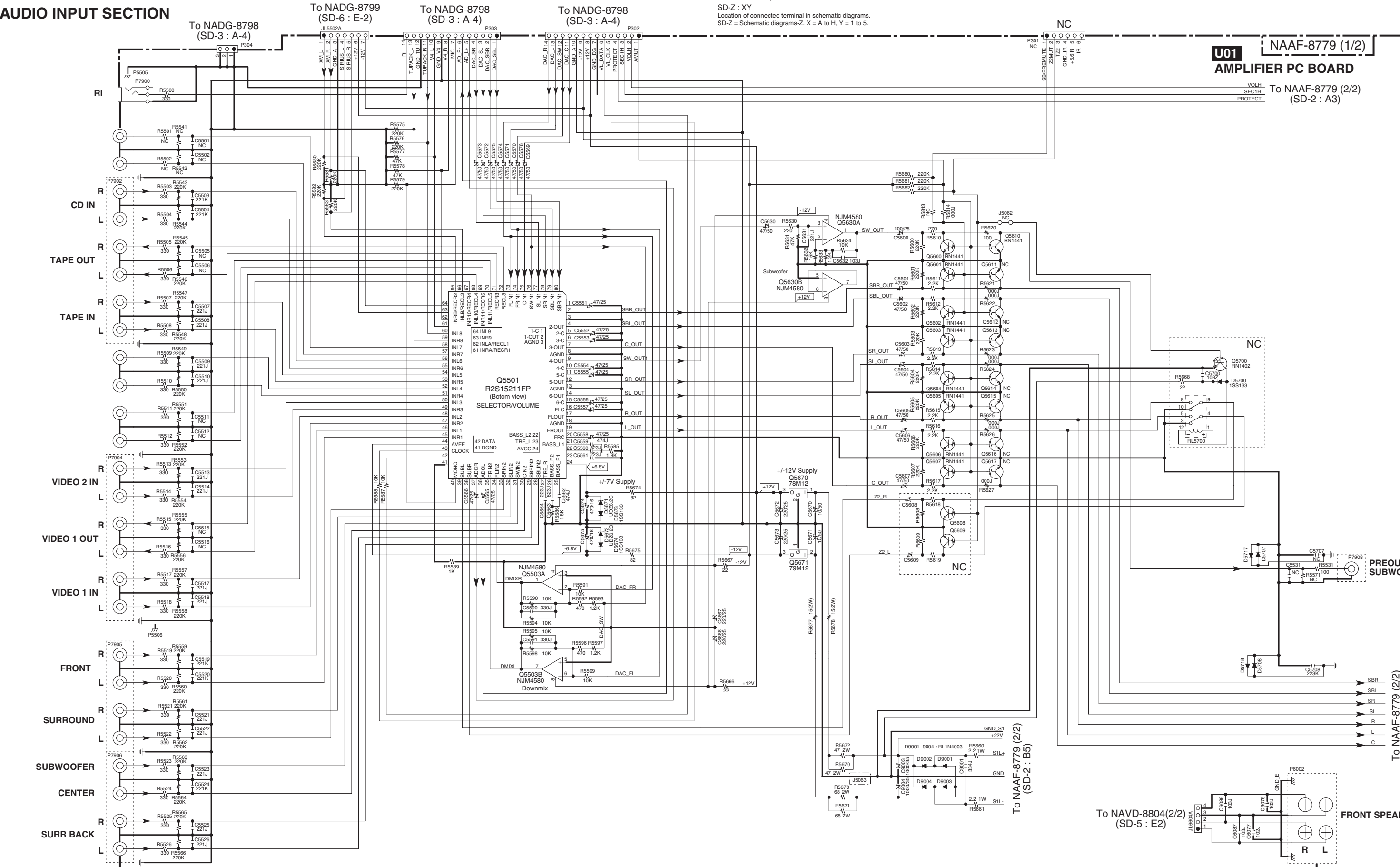
1

2

3

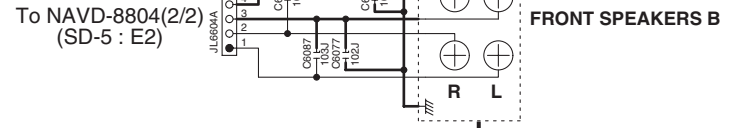
4

5



<Note>  
NC = No mount of parts.  
SD-Z : XY  
Location of connected terminal in schematic diagrams.  
SD-Z = Schematic diagrams-Z. X = A to H, Y = 1 to 5.

**U01** NAAF-8779 (1/2)  
**AMPLIFIER PC BOARD**  
VOLH  
SECTH  
PROTECT  
To NAAF-8779 (2/2)  
(SD-2 : A3)



To NAAF-8779 (2/2)  
(SD-2 : E4)

FRONT SPEAKERS B

# SCHEMATIC DIAGRAMS-2 POWER AMPLIFIER SECTION

<Note>

NC = No mount of parts.

SD-Z : XY

Location of connected terminal in schematic diagrams.

SD-Z = Schematic diagrams-Z. X = A to H, Y = 1 to 5.

NAAF-8779 (2/2)

U01

AMPLIFIER PC BOARD

To NAAF-8779 (1/2)  
(SD-1 : G1)

NAETC-8781

U03  
THERMAL SENSOR  
PC BOARD

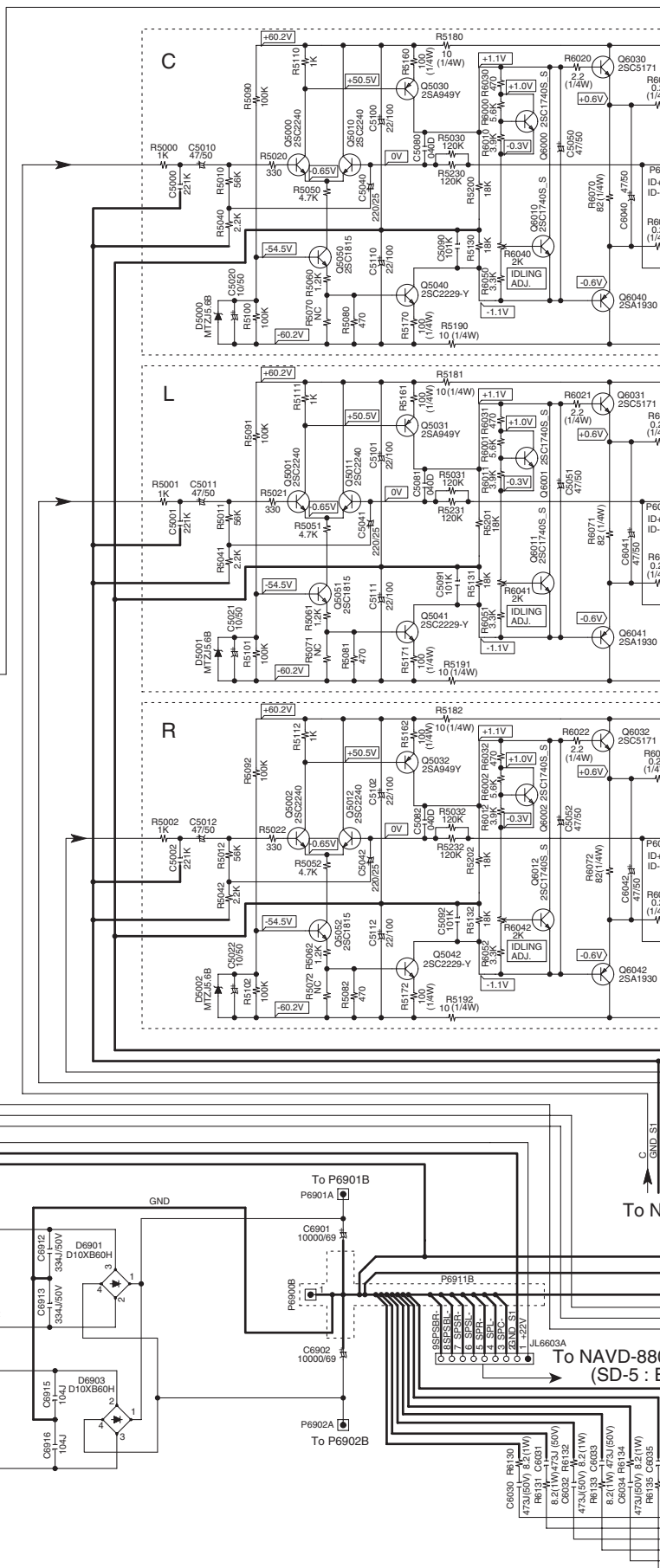
To NADG-8798  
(SD-3 : D1)

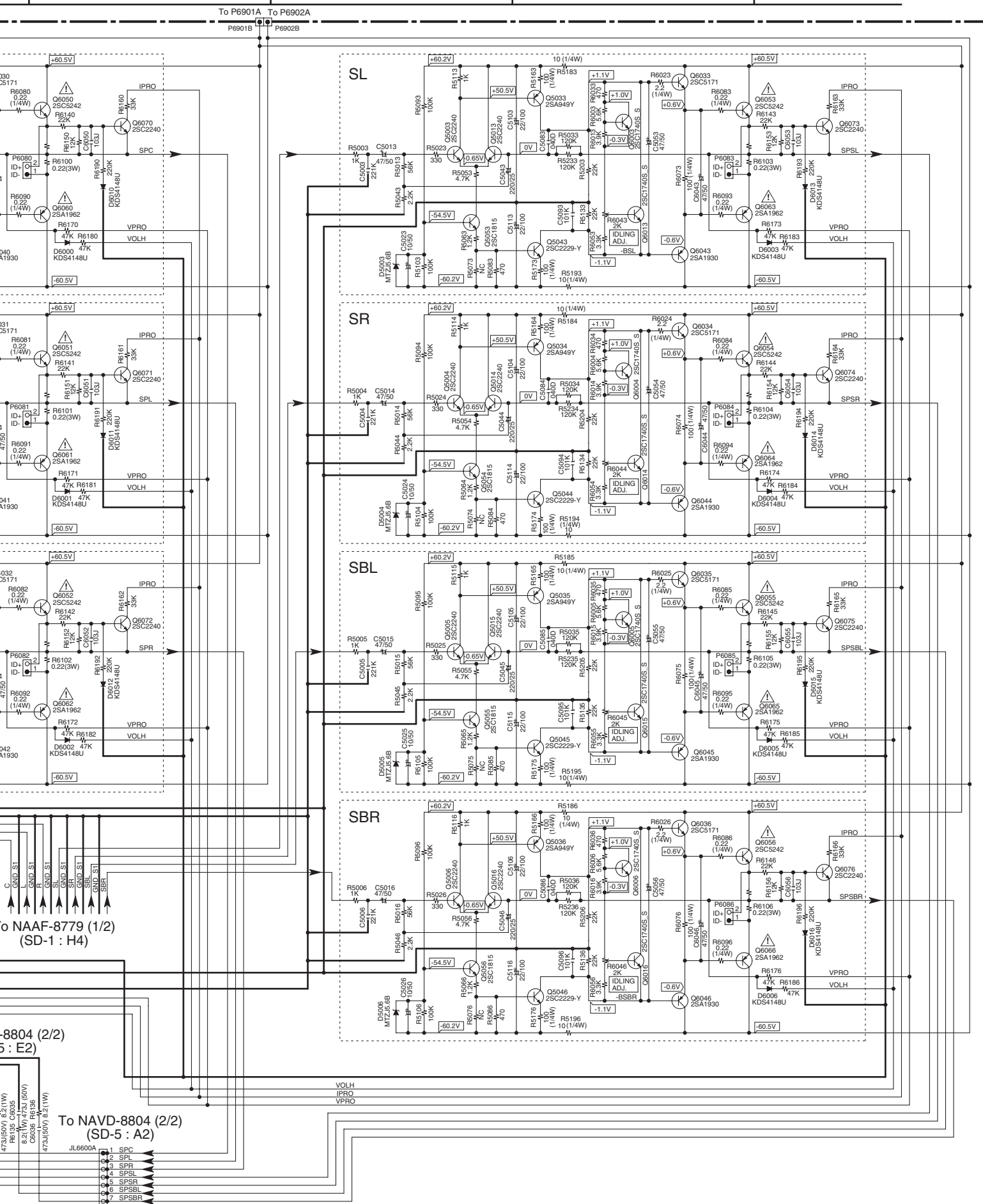
NAPS-8780

U02  
TRANS SEC. TERMINAL  
PC BOARD

To TRANS.T901  
(SD-8 : E3)

To NAAF-8779 (1/2)  
(SD-1 : F-5)





# SCHEMATIC DIAGRAMS-2

## POWER AMPLIFIER SECTION

<Note>  
 NC = No mount of parts.  
 SD-Z : XY  
 Location of connected terminal in schematic diagrams.  
 SD-Z = Schematic diagrams-Z. X = A to H, Y = 1 to 5.

NAAF-8779 (2/2)

**U01**  
 AMPLIFIER PC BOARD

To NAAF-8779 (1/2)  
 (SD-1 : G1)

NAETC-8781

**U03**  
 THERMAL SENSOR  
 PC BOARD

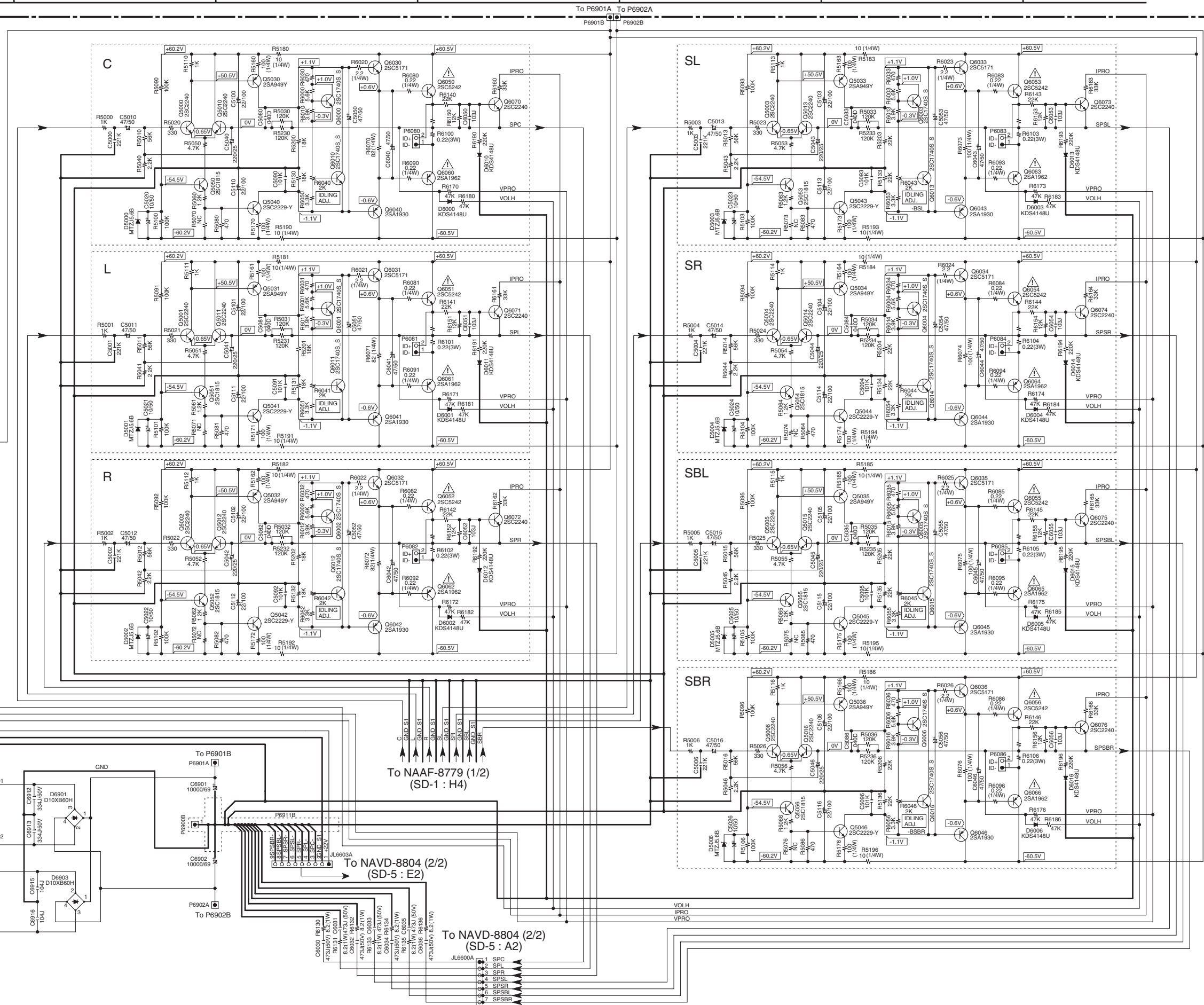
To NADG-8798  
 (SD-3 : D1)

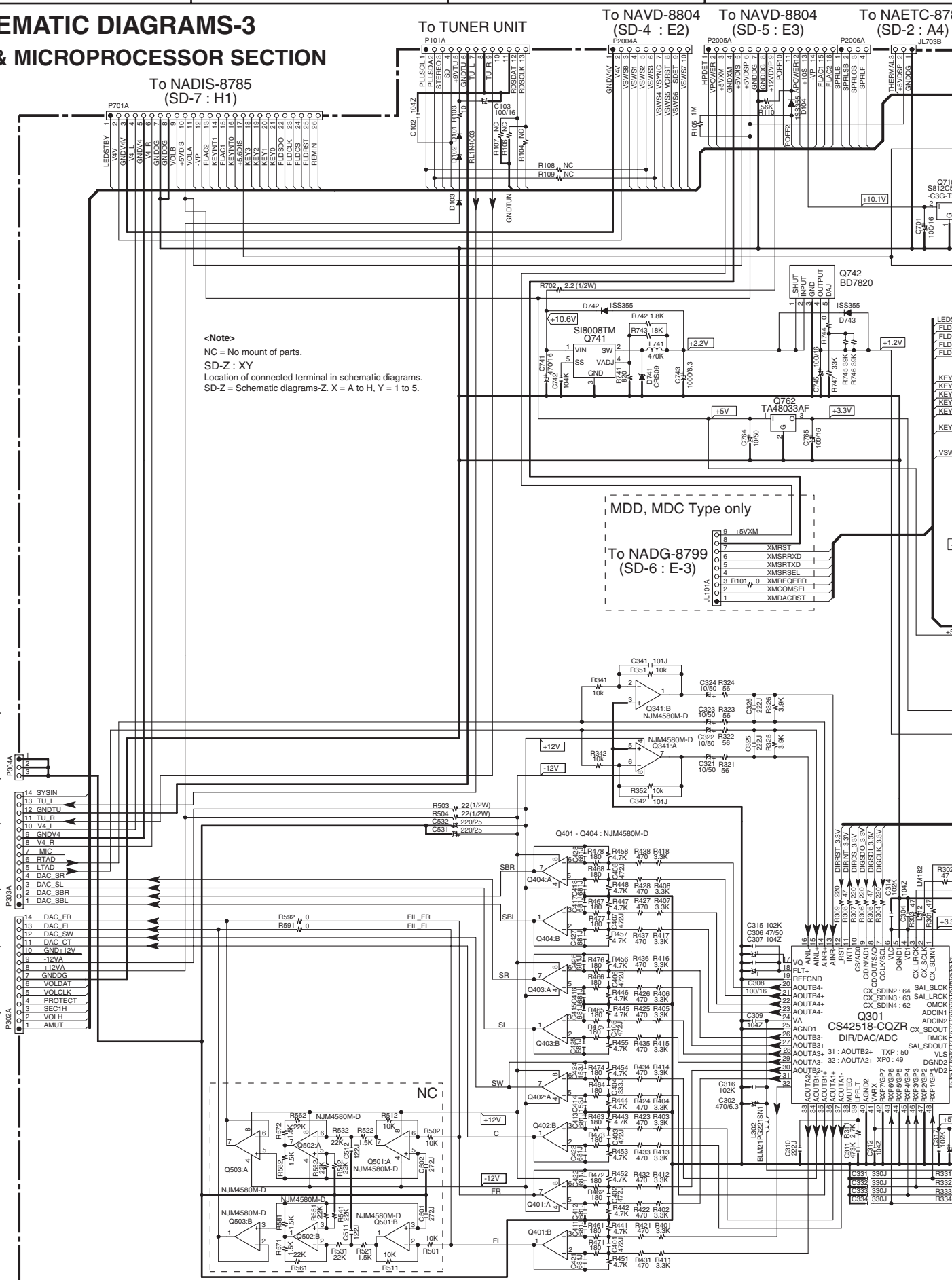
NAPS-8780

**U02**  
 TRANS SEC. TERMINAL  
 PC BOARD

To TRANS.T901  
 (SD-8 : E3)

To NAAF-8779 (1/2)  
 (SD-1 : F-5)





E

F

G

H

-8781  
A4)  
33B

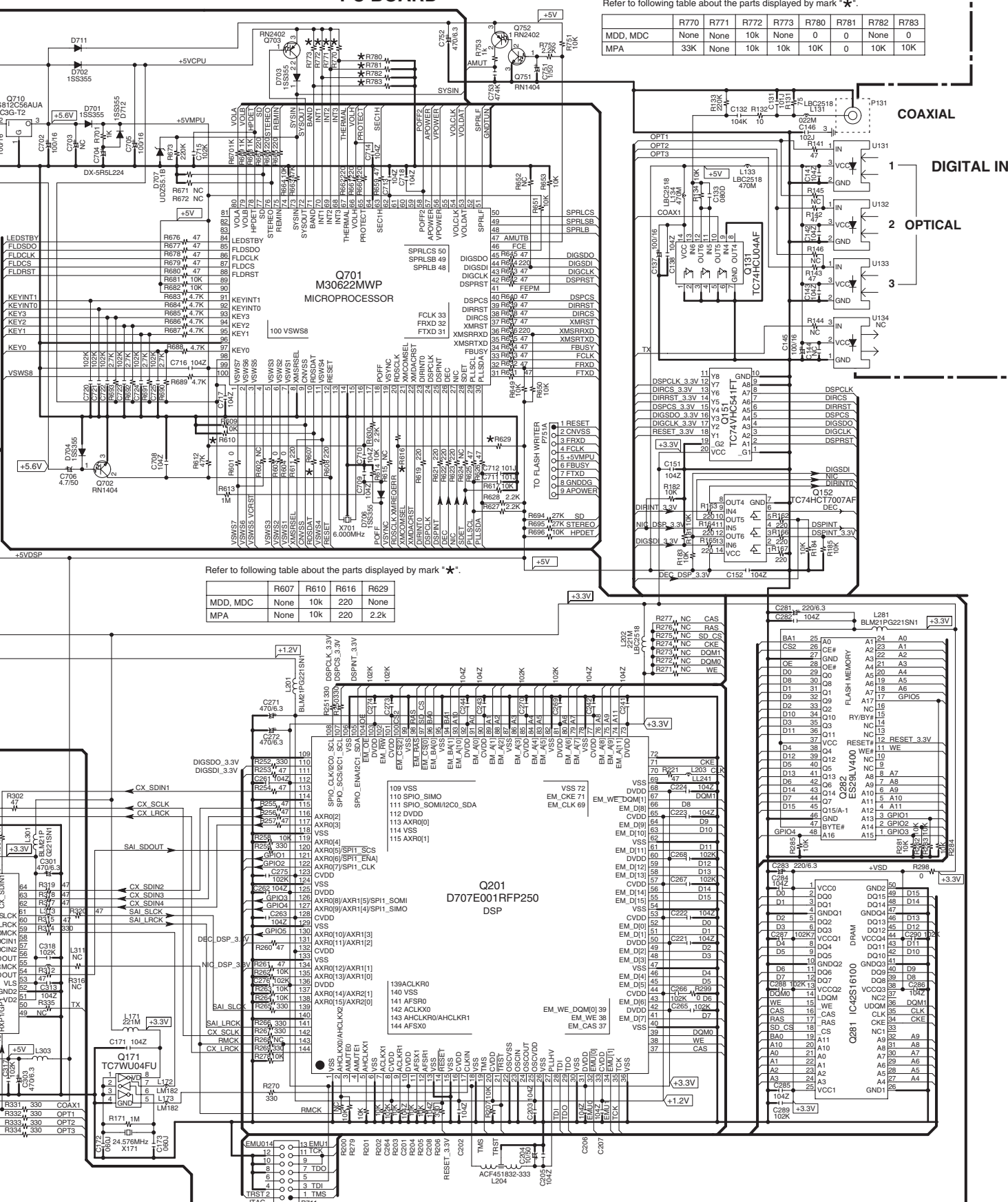
NADG-8798

U18

# DSP & MICROPROCESSOR PC BOARD

Refer to following table about the parts displayed by mark "★".

|          | R770 | R771 | R772 | R773 | R780 | R781 | R782 | R783 |
|----------|------|------|------|------|------|------|------|------|
| MDD, MDC | None | None | 10k  | None | 0    | 0    | None | 0    |
| MPA      | 33K  | None | 10k  | 10k  | 10K  | 0    | 10K  | 10K  |



# SCHEMATIC DIAGRAMS-3

## DSP & MICROPROCESSOR SECTION

1

2

3

4

5

To NADIS-8785  
(SD-7 : H1)

To TUNER UNIT

To NAVD-8804  
(SD-4 : E2)To NAVD-8804  
(SD-5 : E3)To NAETC-8781  
(SD-2 : A4)

NADG-8798

**U18**  
**DSP & MICROPROCESSOR**  
**PC BOARD**

Refer to following table about the parts displayed by mark "★".

|          | R770 | R771 | R772 | R773 | R780 | R781 | R782 | R783 |
|----------|------|------|------|------|------|------|------|------|
| MDD, MDC | None | None | 10k  | None | 0    | 0    | None | 0    |
| MPA      | 33K  | None | 10k  | 10k  | 10K  | 0    | 10K  | 10K  |

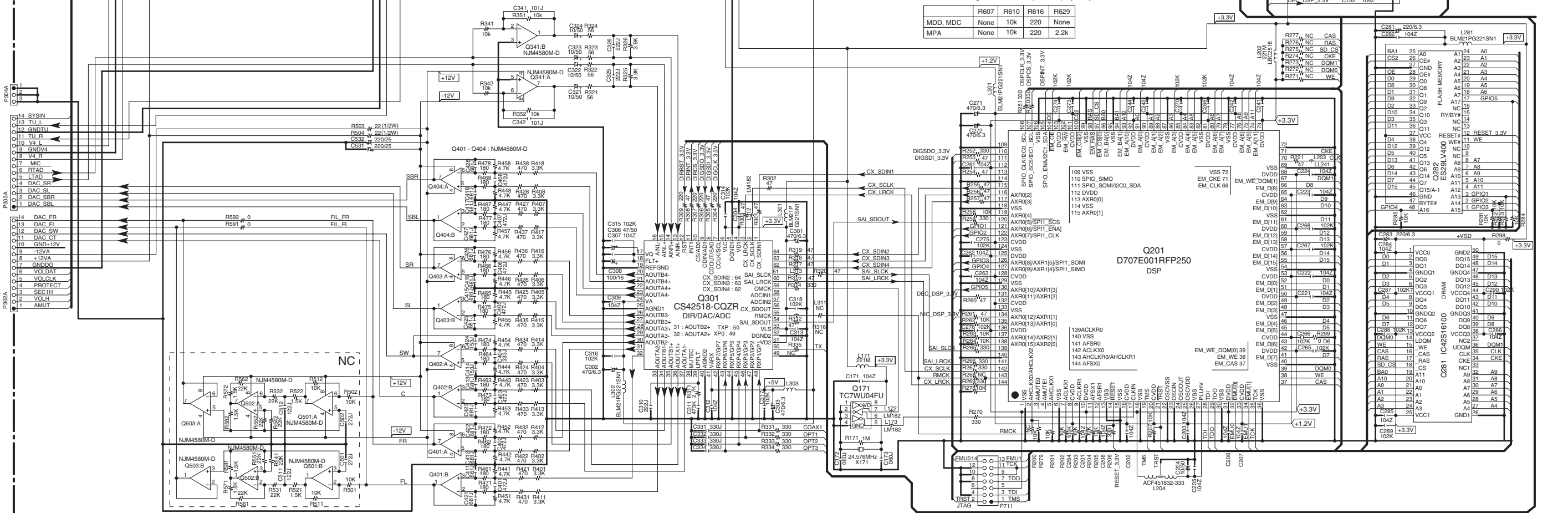
<Note>  
 NC = No mount of parts.  
 SD-Z : XY  
 Location of connected terminal in schematic diagrams.  
 SD-Z = Schematic diagrams-Z. X = A to H, Y = 1 to 5.

MDD, MDC Type only

To NADG-8799  
(SD-6 : E-3)

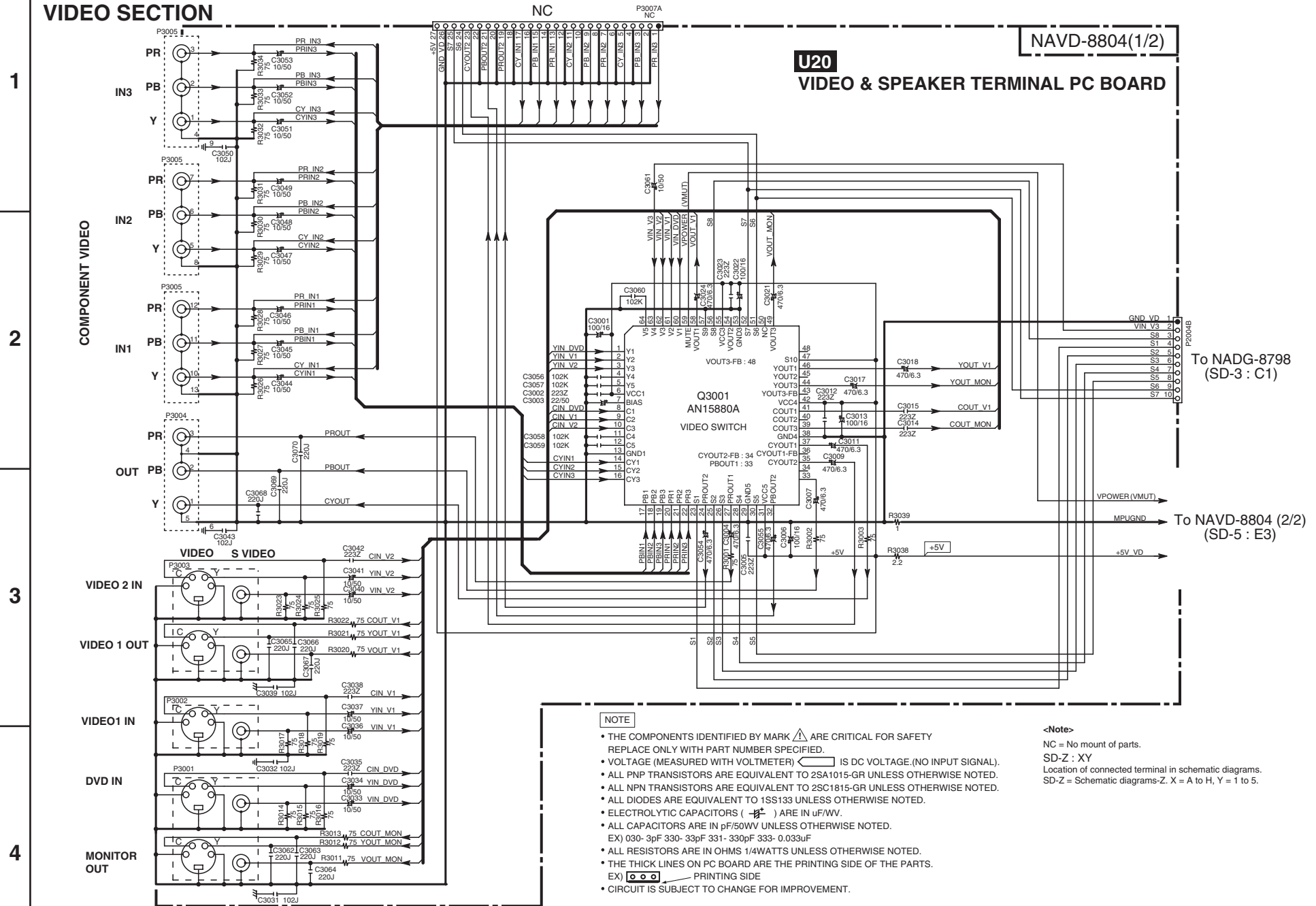
Refer to following table about the parts displayed by mark "★".

|          | R607 | R610 | R616 | R629 |
|----------|------|------|------|------|
| MDD, MDC | None | 10k  | 220  | None |
| MPA      | None | 10k  | 220  | 2.2k |

 To NAAF-8779 To NAAF-8779  
 (SD-1 : C1) (SD-1 : B1)  
 To NAAF-8779  
 (SD-1 : D1)


# SCHEMATIC DIAGRAMS-4

## VIDEO SECTION



## NOTE

- THE COMPONENTS IDENTIFIED BY MARK  $\Delta$  ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER)  $\Delta$  IS DC VOLTAGE.(NO INPUT SIGNAL).
- ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-GR UNLESS OTHERWISE NOTED.
- ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS (  $\Delta$  ) ARE IN  $\mu$ F/WV.
- ALL CAPACITORS ARE IN pF/50VWV UNLESS OTHERWISE NOTED.
- EX) 030-3pF 330-33pF 331-330pF 333-0.033uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX)  $\Delta$  PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

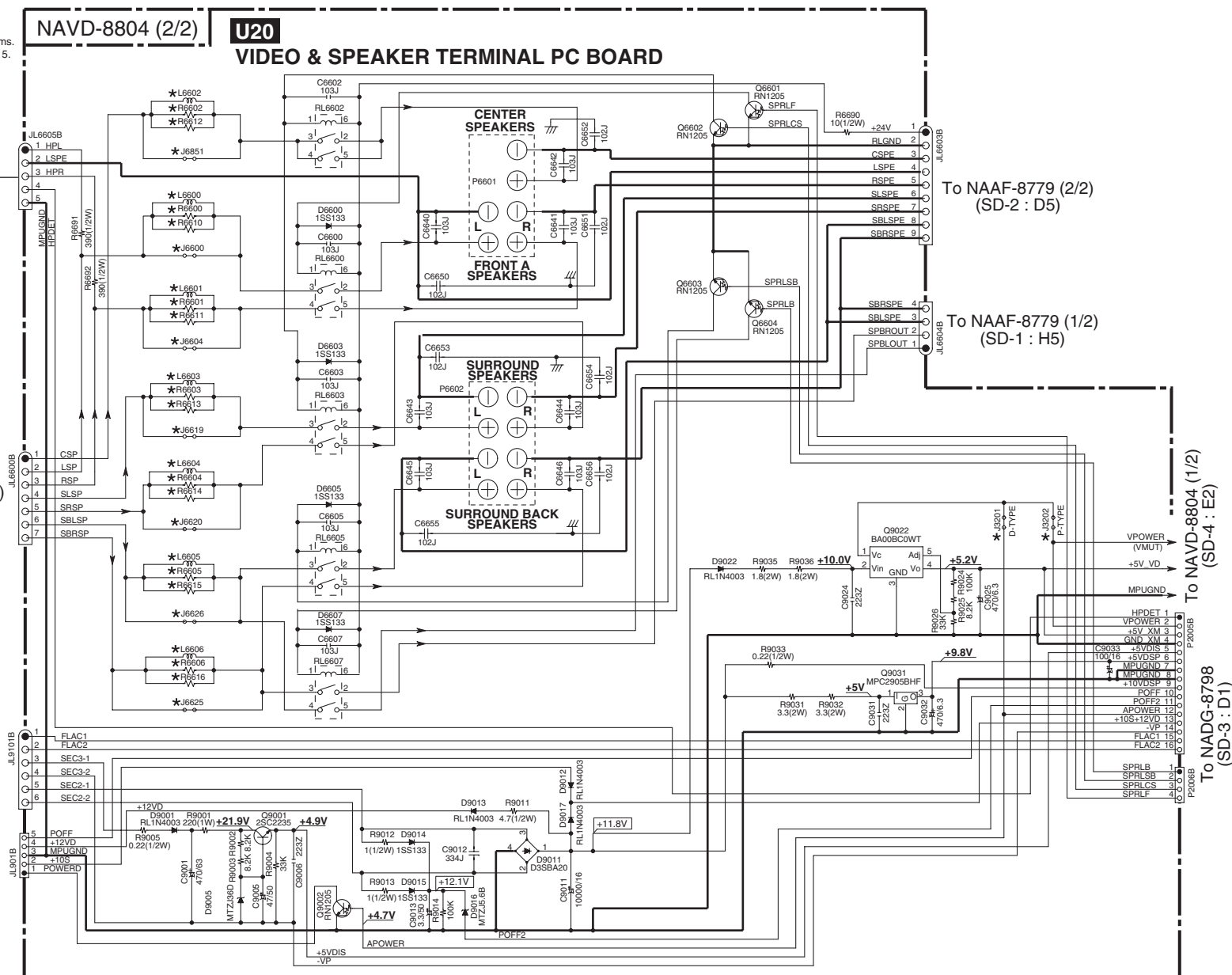
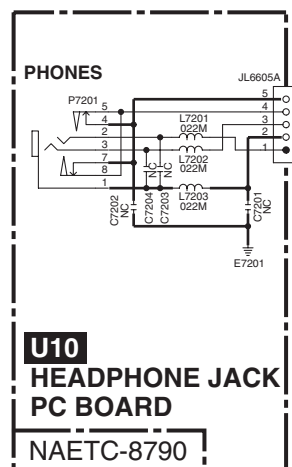
## &lt;Note&gt;

NC = No mount of parts.  
SD-Z : XY  
Location of connected terminal in schematic diagrams.  
SD-Z = Schematic diagrams-Z. X = A to H, Y = 1 to 5.

**<Note>**  
NC = No mount of parts.  
SD-Z : XY  
Location of connected terminal in schematic diagrams.  
SD-Z = Schematic diagrams-Z. X = A to H. Y = 1 to 5.

Refer to following table about the parts displayed by mark "★".

|          |              |                              |                              |                            |       |
|----------|--------------|------------------------------|------------------------------|----------------------------|-------|
|          | L6600 - 6606 | R6600 - 6606<br>R6610 - 6616 | J6851, J3201<br>J6600, J6604 | J6619, 6620<br>J6625, 6626 | J3201 |
| MDD, MDC | NC           | NC                           | YES                          | YES                        | NC    |
| MPA      | S1.3C        | 22                           | NC                           | NC                         | YES   |



## SCHEMATIC DIAGRAMS-6

## XM DIGITAL TRANSCEIVER SECTION (MDD, MDC Type only)

&lt;Note&gt;

NC = No mount of parts.

SD-Z : XY

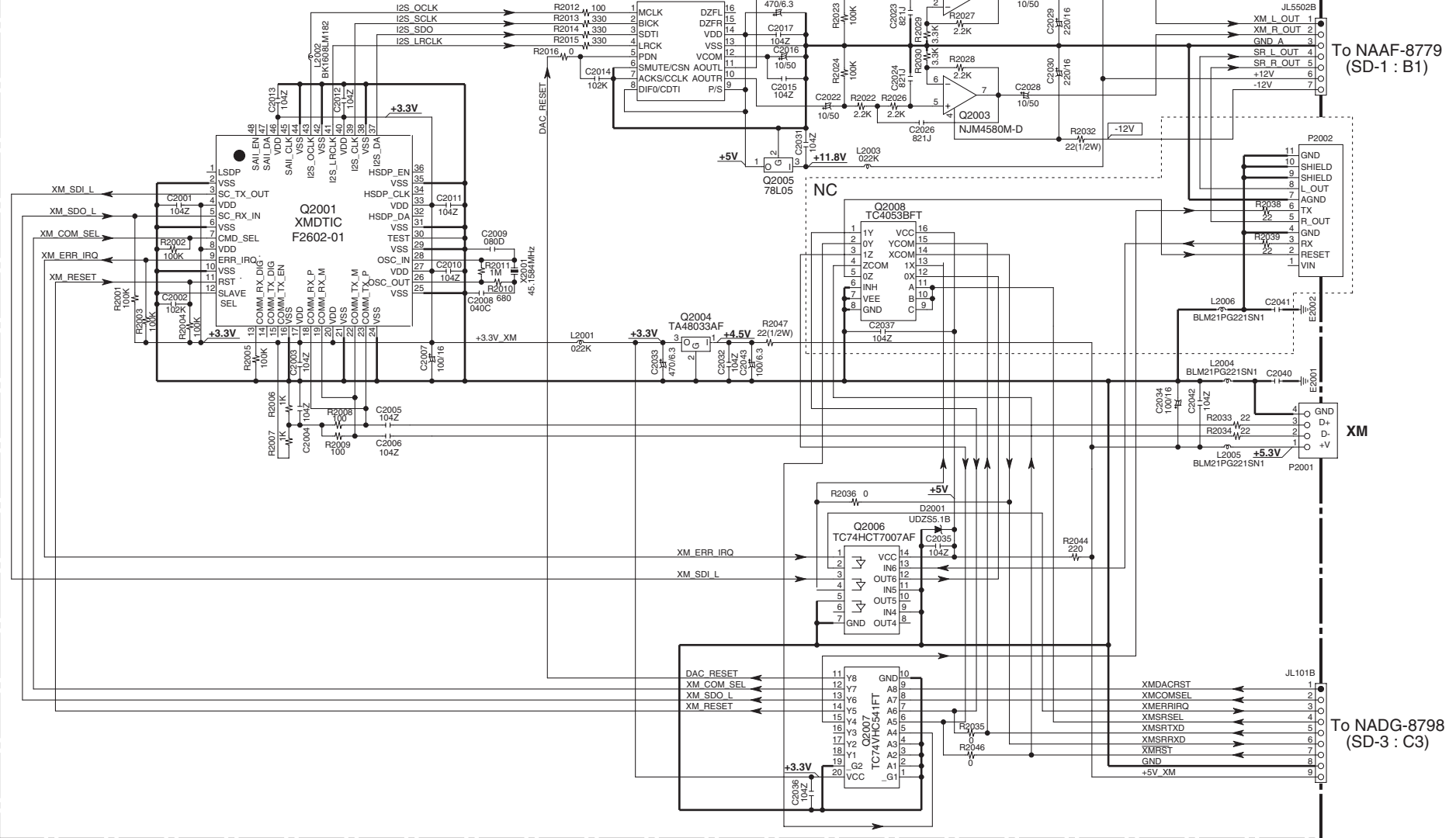
Location of connected terminal in schematic diagrams.

SD-Z = Schematic diagrams-Z. X = A to H, Y = 1 to 5.

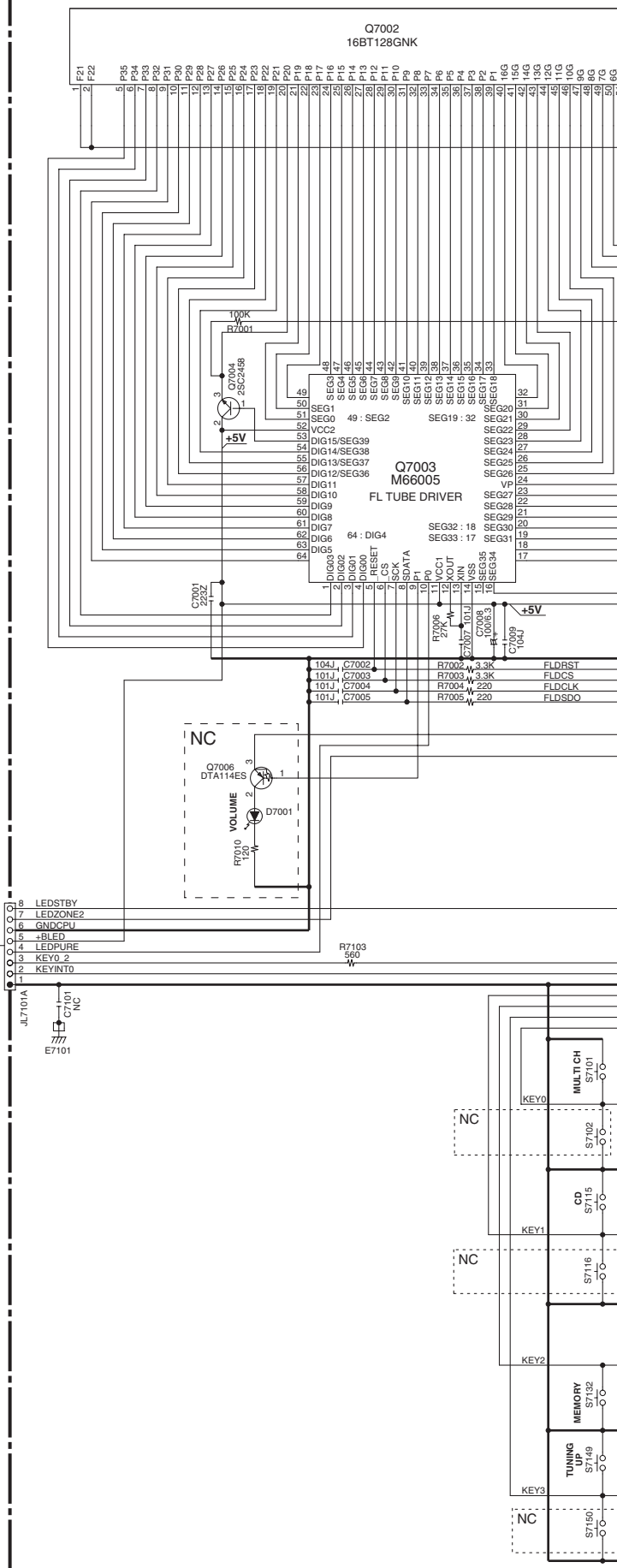
NADG-8799

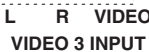
U19

## XM DIGITAL TRANSCEIVER PC BOARD



## 5

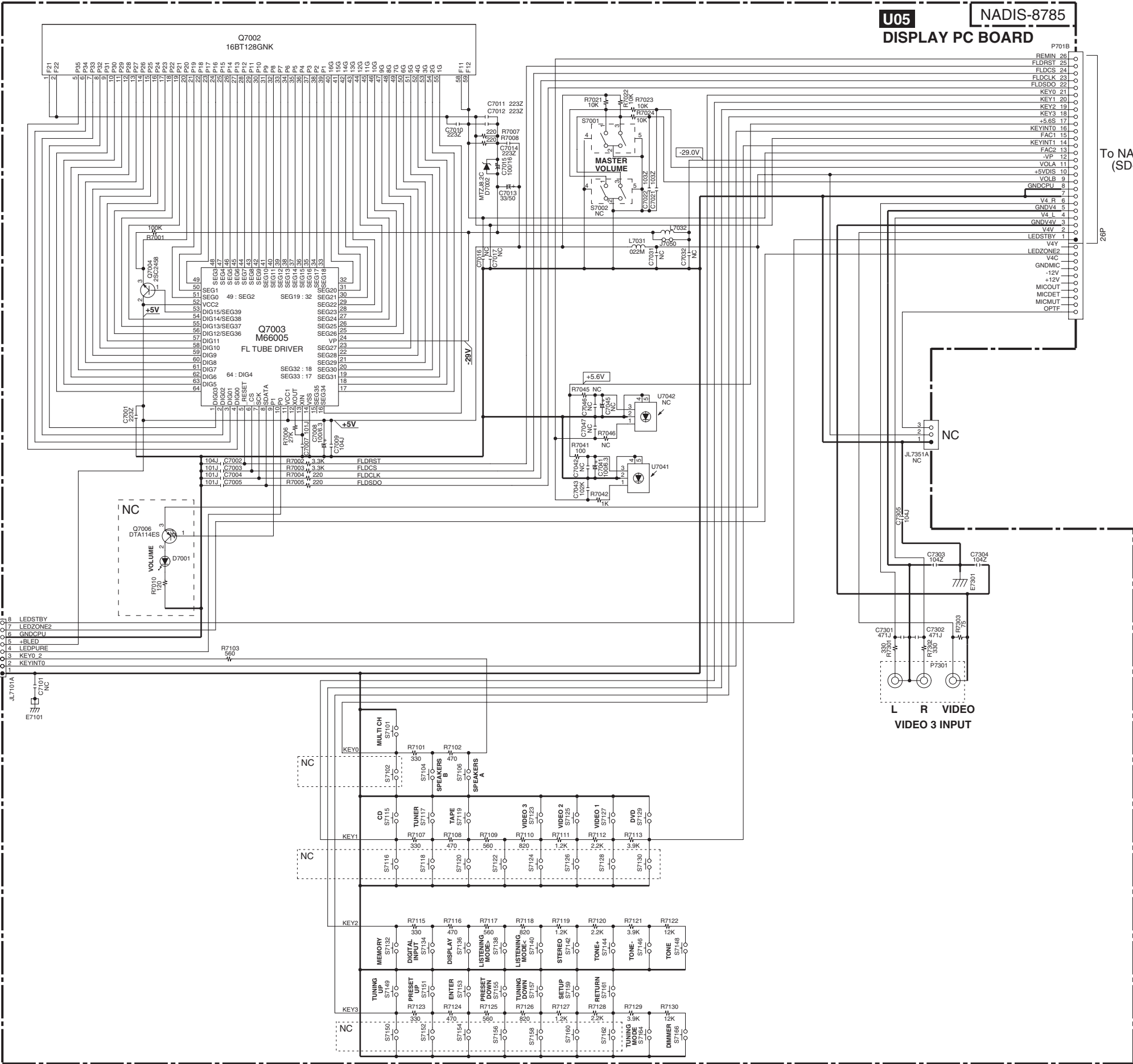
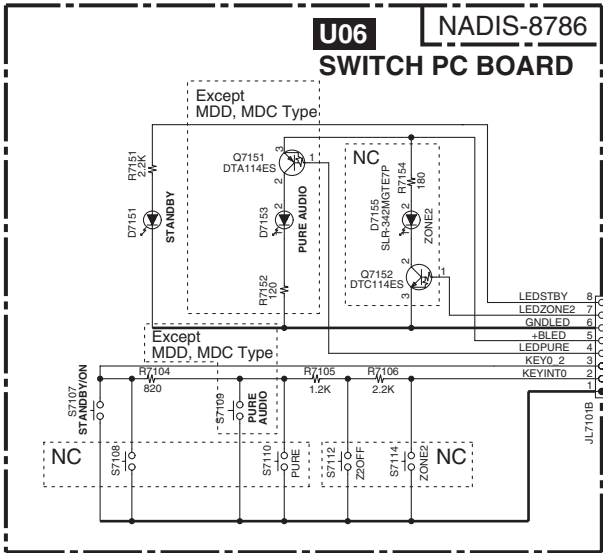




SCHEMATIC DIAGRAMS-7  
DISPLAY SECTION

- NOTE
- THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
  - VOLTAGE (MEASURED WITH VOLTMETER)  IS DC VOLTAGE.(NO INPUT SIGNAL).
  - ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-GR UNLESS OTHERWISE NOTED.
  - ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
  - ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
  - ELECTROLYTIC CAPACITORS (  ) ARE IN uF/WV.
  - ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.  
EX) 030- 3pF 330- 33pF 331- 330pF 333- 0.033uF
  - ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
  - THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.  
EX)  PRINTING SIDE
  - CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

<Note>  
NC = No mount of parts.  
SD-Z : XY  
Location of connected terminal in schematic diagrams.  
SD-Z = Schematic diagrams-Z. X = A to H, Y = 1 to 5.



# SCHEMATIC DIAGRAMS-8

## POWER SUPPLY SECTION

## NOTE

- THE COMPONENTS IDENTIFIED BY MARK  $\triangle$  ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER)  $\overline{\quad}$  IS DC VOLTAGE.(NO INPUT SIGNAL).
- ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-GR UNLESS OTHERWISE NOTED.
- ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS (  $\overline{\quad}$  ) ARE IN  $\mu$ F/VV.
- ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.  
EX) 030- 3pF 330- 33pF 331- 330pF 333- 0.033uF
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.  
EX)  $\overline{\quad}$  PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

## &lt;Note&gt;

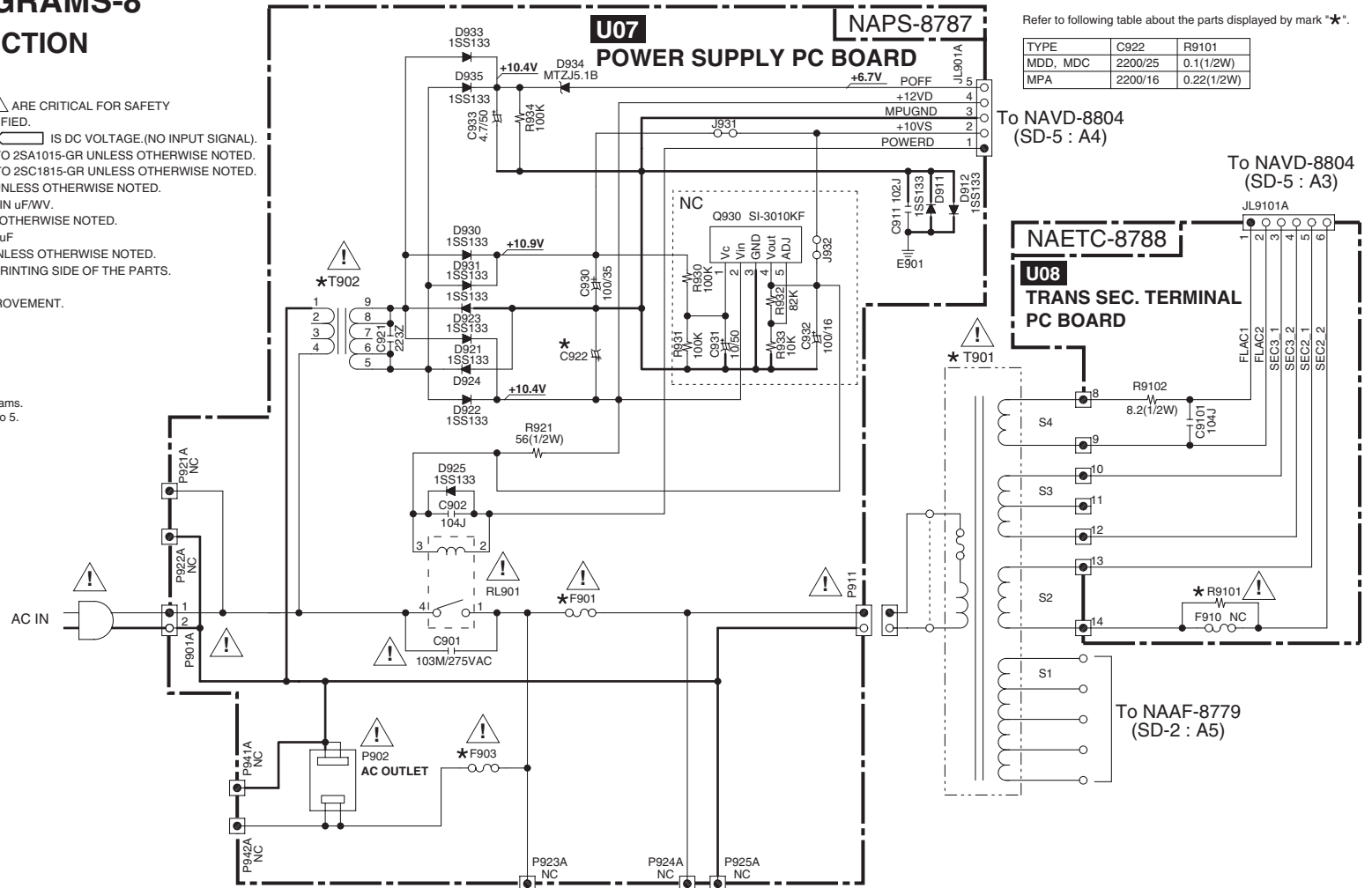
NC = No mount of parts.

SD-Z : XY

Location of connected terminal in schematic diagrams.

SD-Z = Schematic diagrams-Z. X = A to H, Y = 1 to 5.

| TYPE     | AC IN          |
|----------|----------------|
| MDD, MDC | 120V, 60Hz     |
| MPA      | 230-240V, 50Hz |



Refer to following table about the parts displayed by mark "★".

| TYPE     | C922    | R9101      |
|----------|---------|------------|
| MDD, MDC | 2200/25 | 0.1(1/2W)  |
| MPA      | 2200/16 | 0.22(1/2W) |

To NAVD-8804  
(SD-5 : A4)To NAVD-8804  
(SD-5 : A3)

NAETC-8788

U08

TRANS SEC. TERMINAL

PC BOARD

To NAAF-8779  
(SD-2 : A5)

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



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



## CAUTION

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



## ATTENTION

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

Refer to following table about the parts displayed by mark "★".

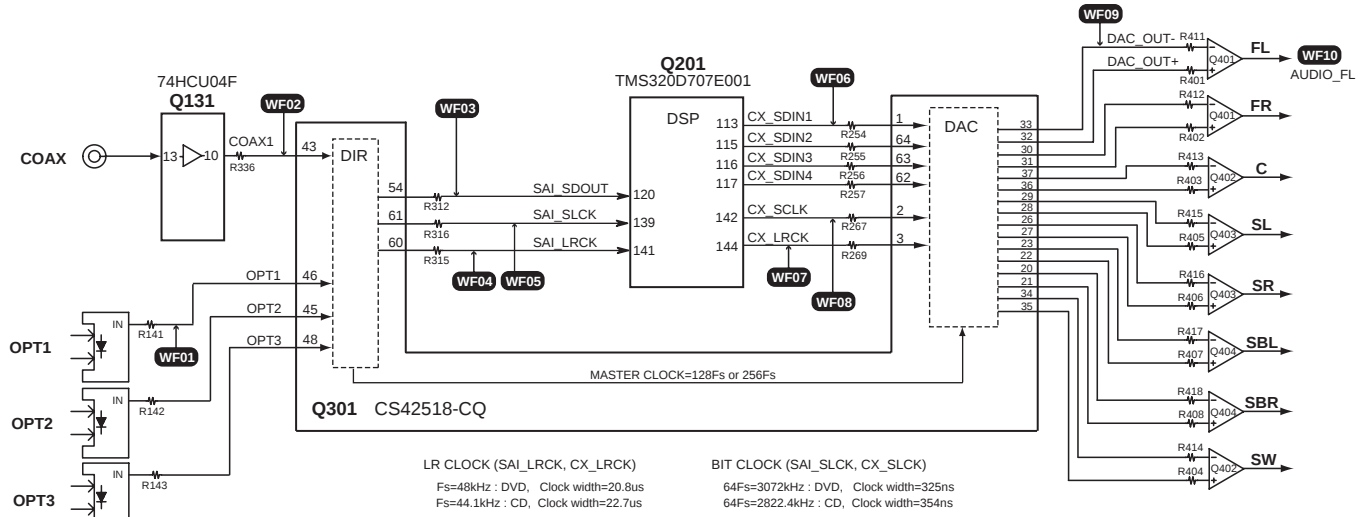
| TYPE     | F901     | F903       | T901      | T902       |
|----------|----------|------------|-----------|------------|
| MDD, MDC | 8A 125V  | 5A 125V    | NPT-1517D | NPT-1520JQ |
| MPA      | T4AL250V | T2.5AL250V | NPT-1517P | NPT-1519GQ |

# SCHEMATIC DIAGRAMS-9

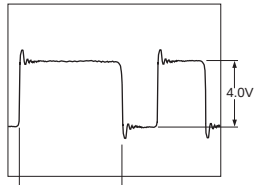
## DIGITAL AUDIO WAVE FORM SECTION

NOTE:

1. (WF01) is short for (WaveForm01).
2. See SD-6(SCHEMATIC DIAGRAM-6) for details

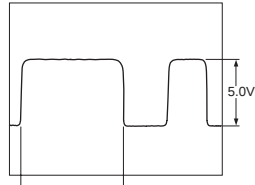


WF01 OPT1



Duty varies according to audio data

WF02 COAX1



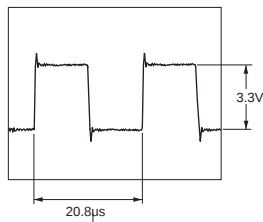
Duty always varies according to audio data

WF03 SAI\_SDOUT

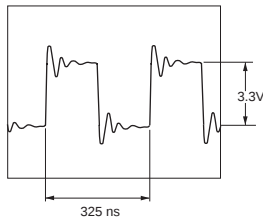


Duty varies according to audio data

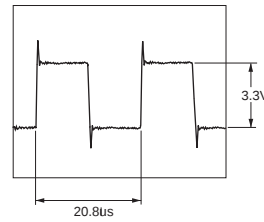
WF04 SAI\_LRCK



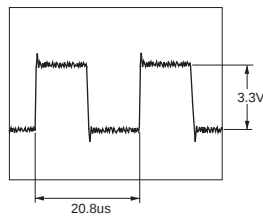
WF05 SAI\_SCLK



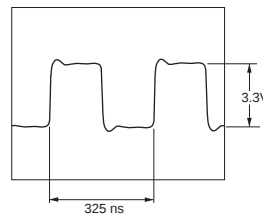
WF06 CX\_SDIN1



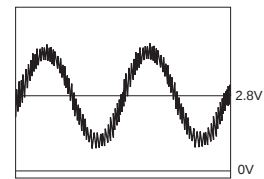
WF07 CX\_LRCK



WF08 CX\_SCLK

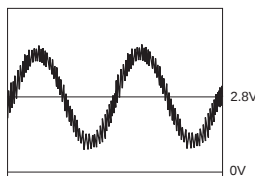


WF09 DAC\_OUT-



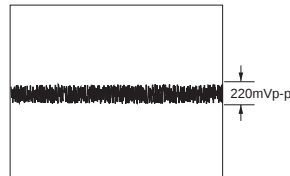
Analog audio wave form with aliasing noise

WF10 AUDIO\_FL



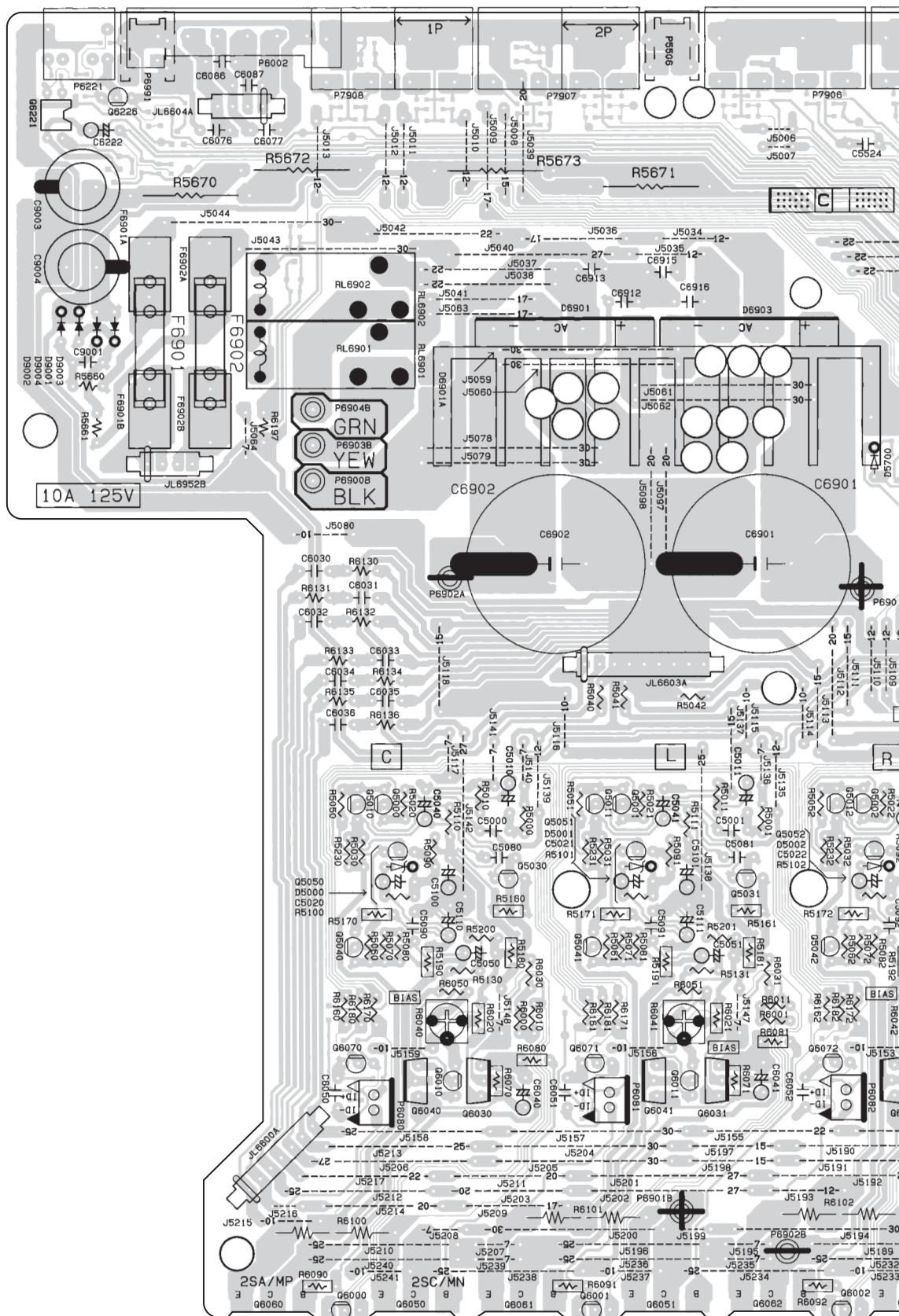
Analog audio wave form with aliasing noise

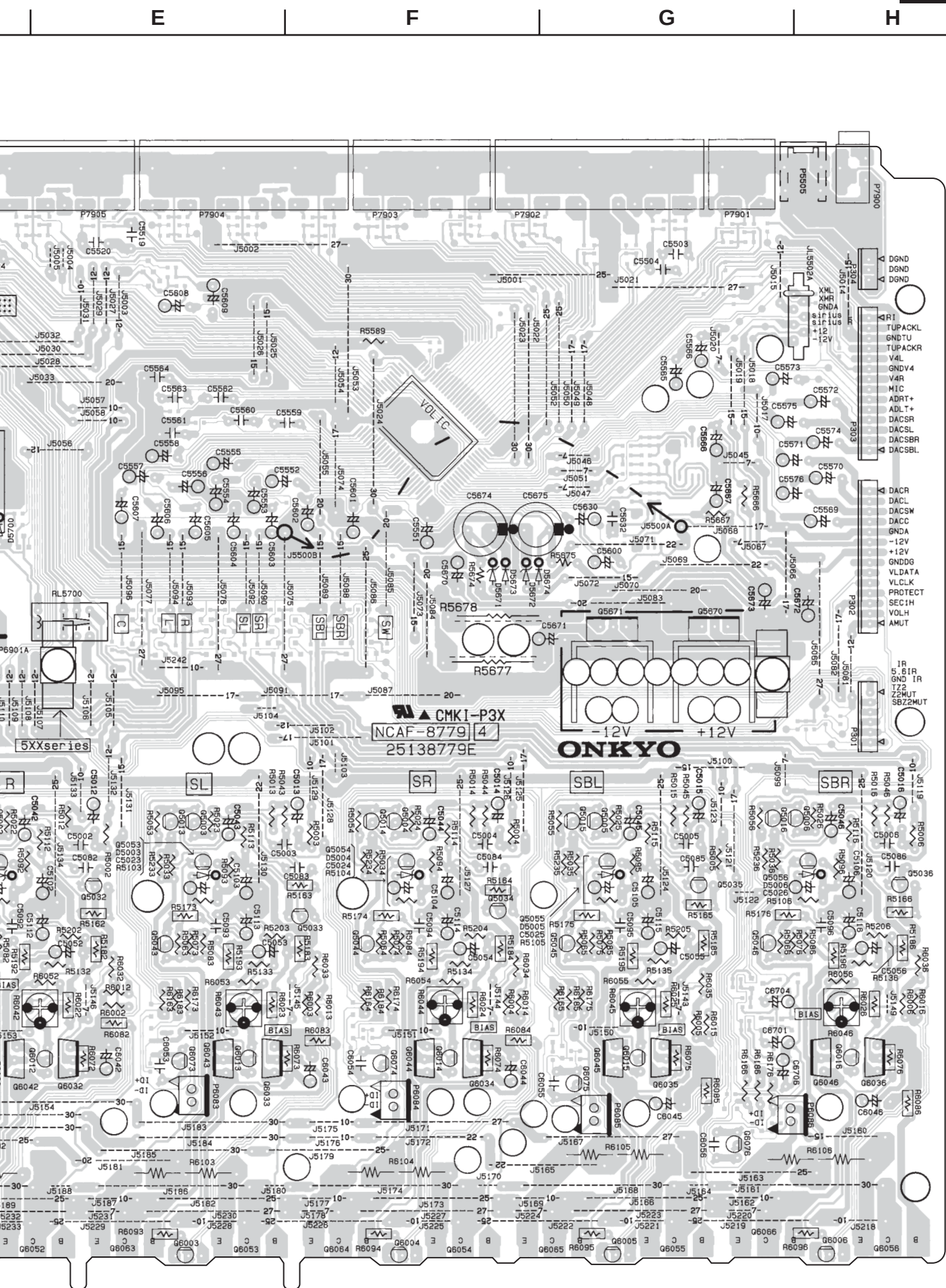
WF10 AUDIO\_FL



Aliasing noise in no audio data

### Component side

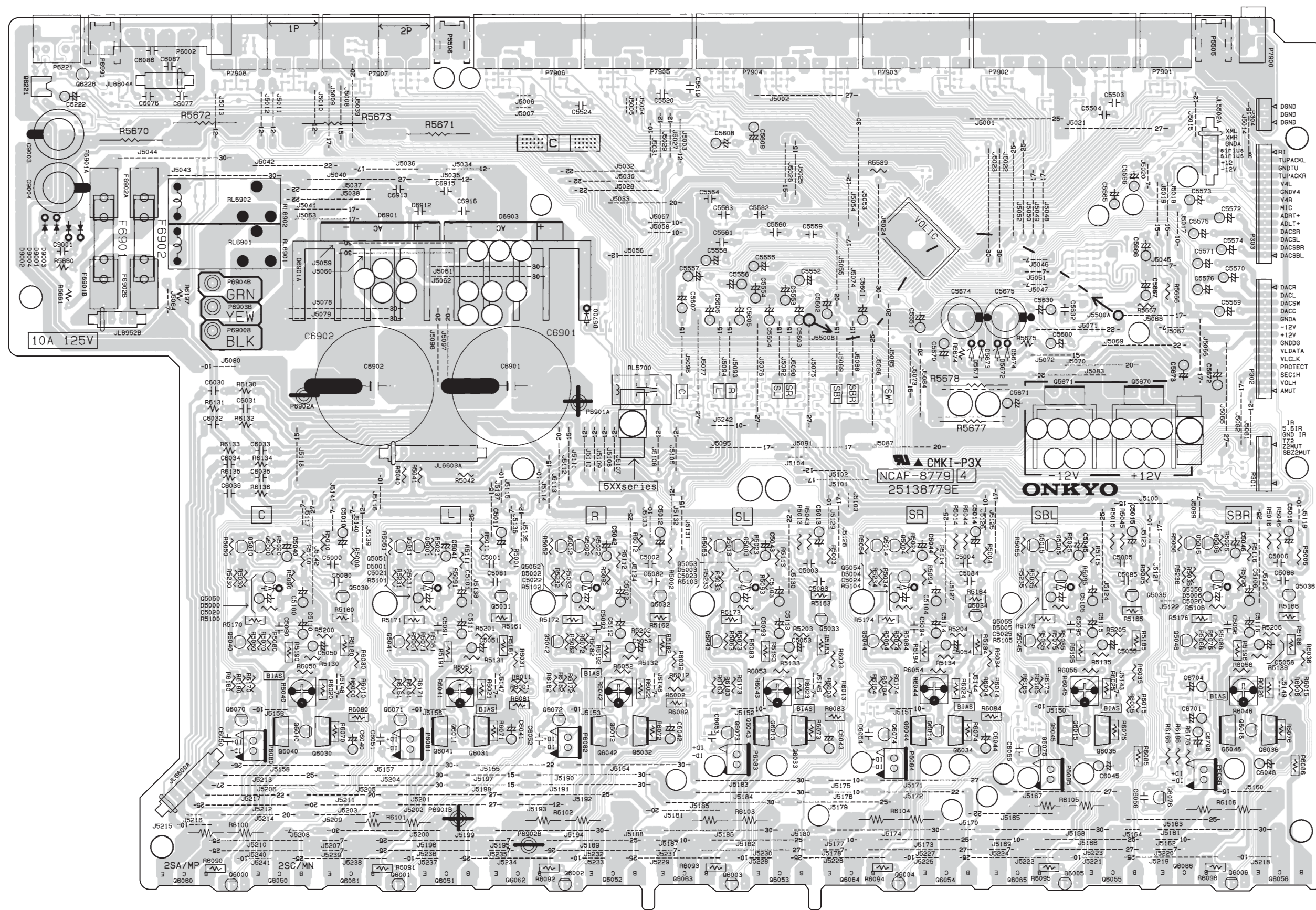




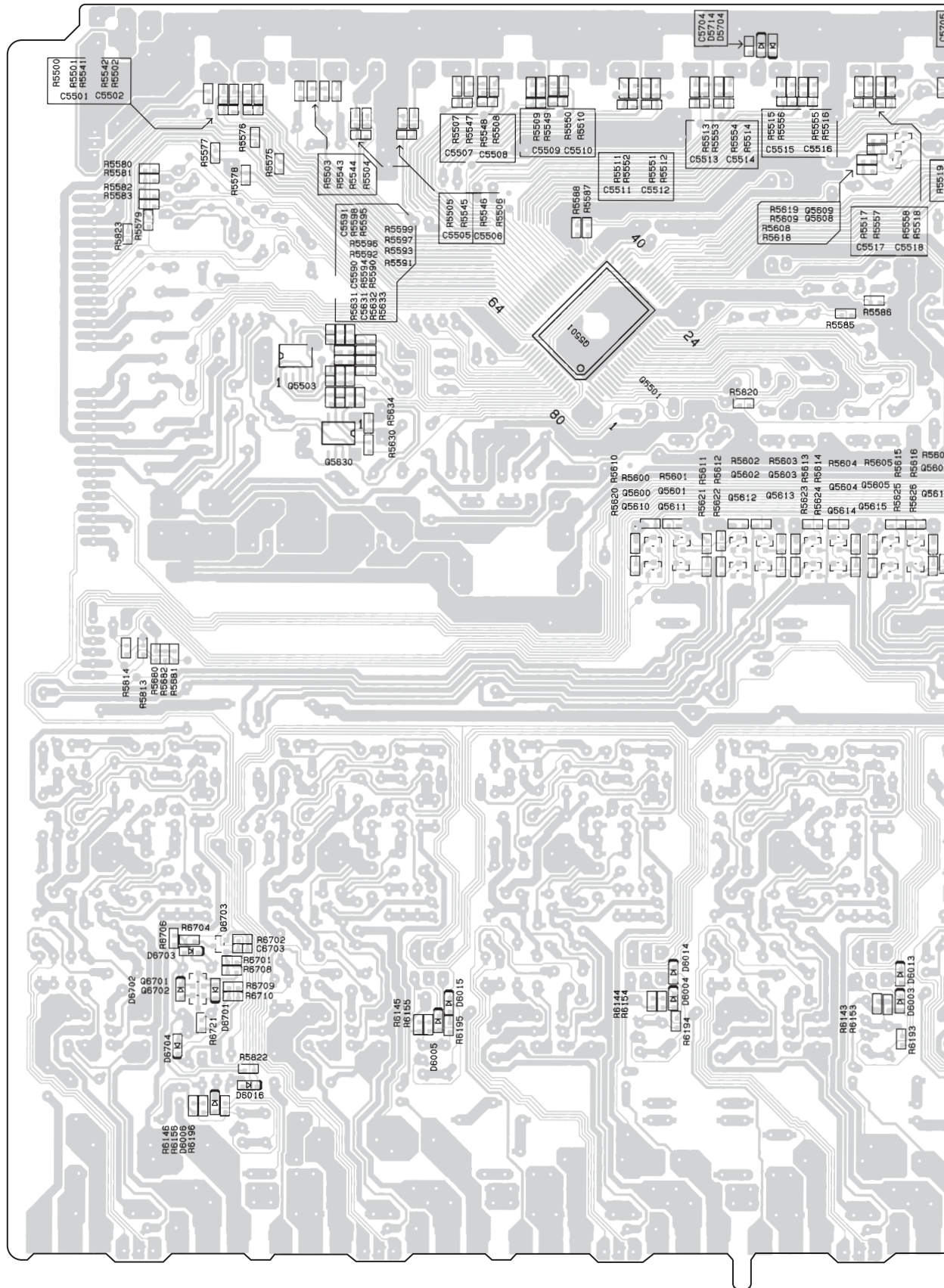
## PRINTED CIRCUIT BOARD VIEWS-1

## U01 AMPLIFIER PC BOARD (NAAF-8779)

### Component side



### Soldering side

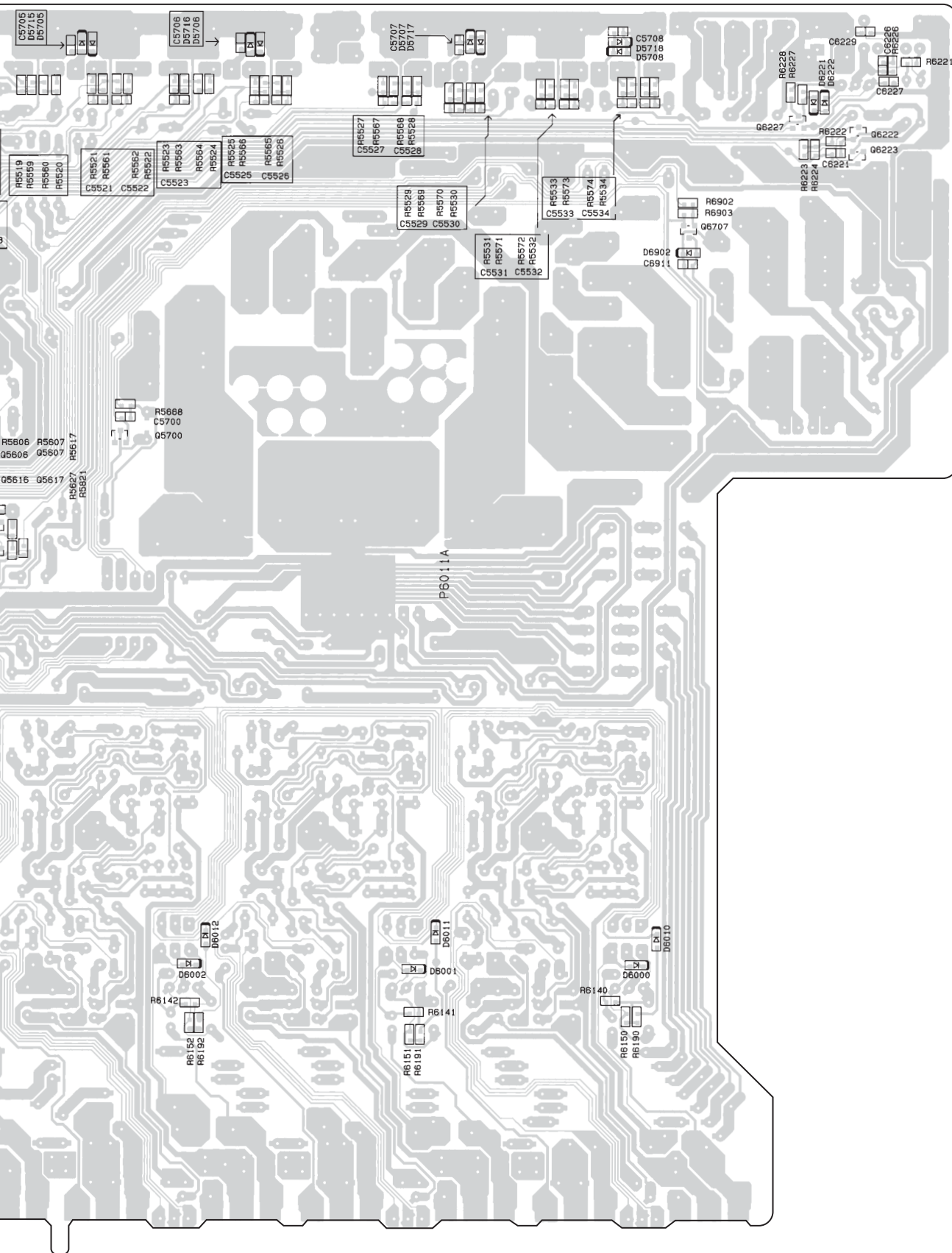


E

F

G

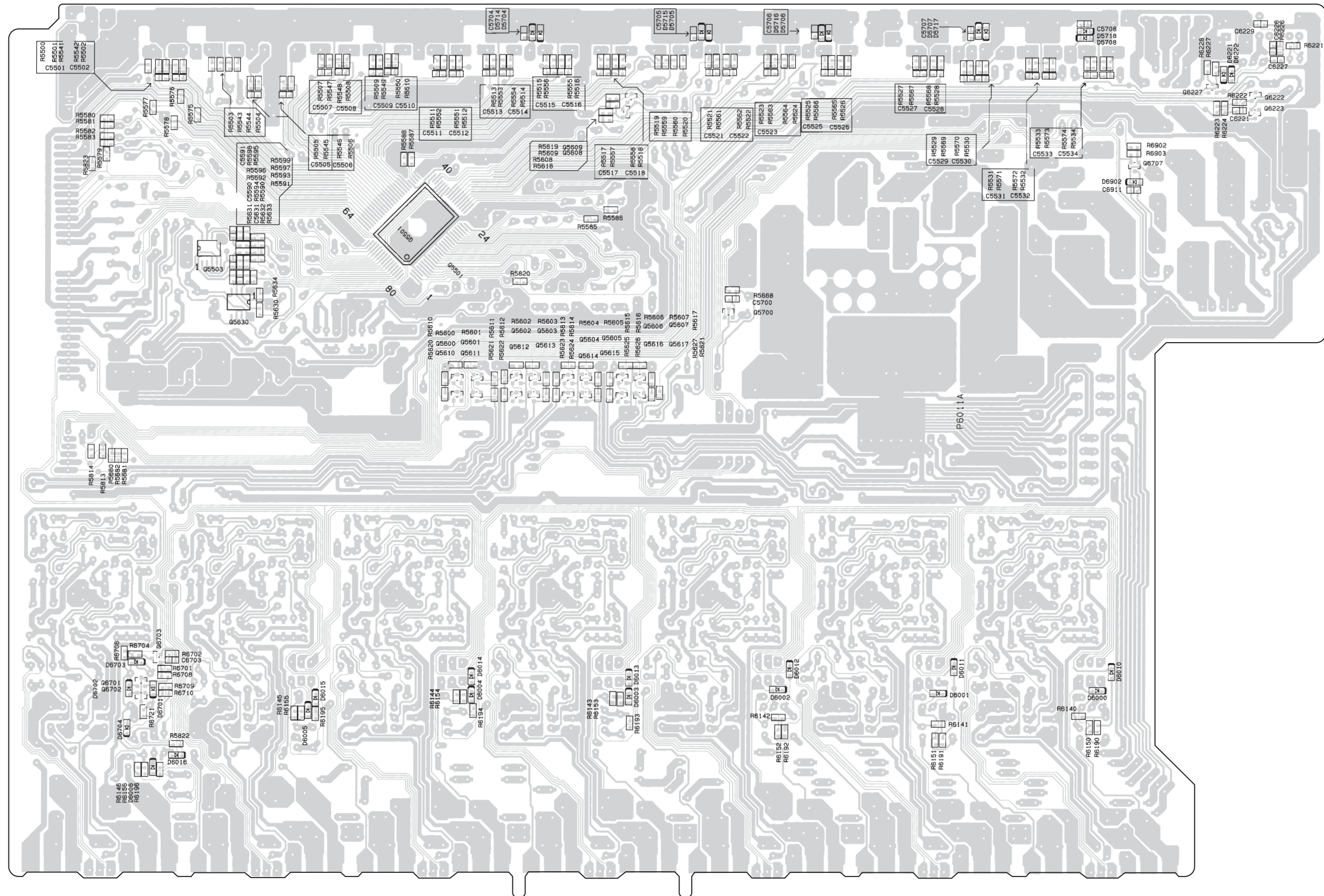
H



| A                             | B |
|-------------------------------|---|
| PRINTED CIRCUIT BOARD VIEWS-2 |   |

## U01 AMPLIFIER PC BOARD (NAAF-8779)

**Soldering side**



A

B

C

D

## PRINTED CIRCUIT BOARD VIEWS-3

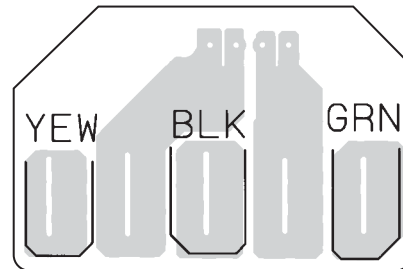
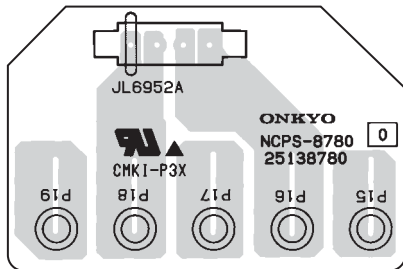
**U02** TRANS SEC. TERMINAL PC BOARD (NAPS-8780)

1

Component side

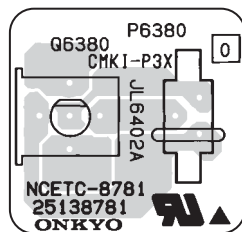
Soldering side

2

**U03** THERMAL SENSOR PC BOARD (NAETC-8781)

3

Component side



4

5

A

B

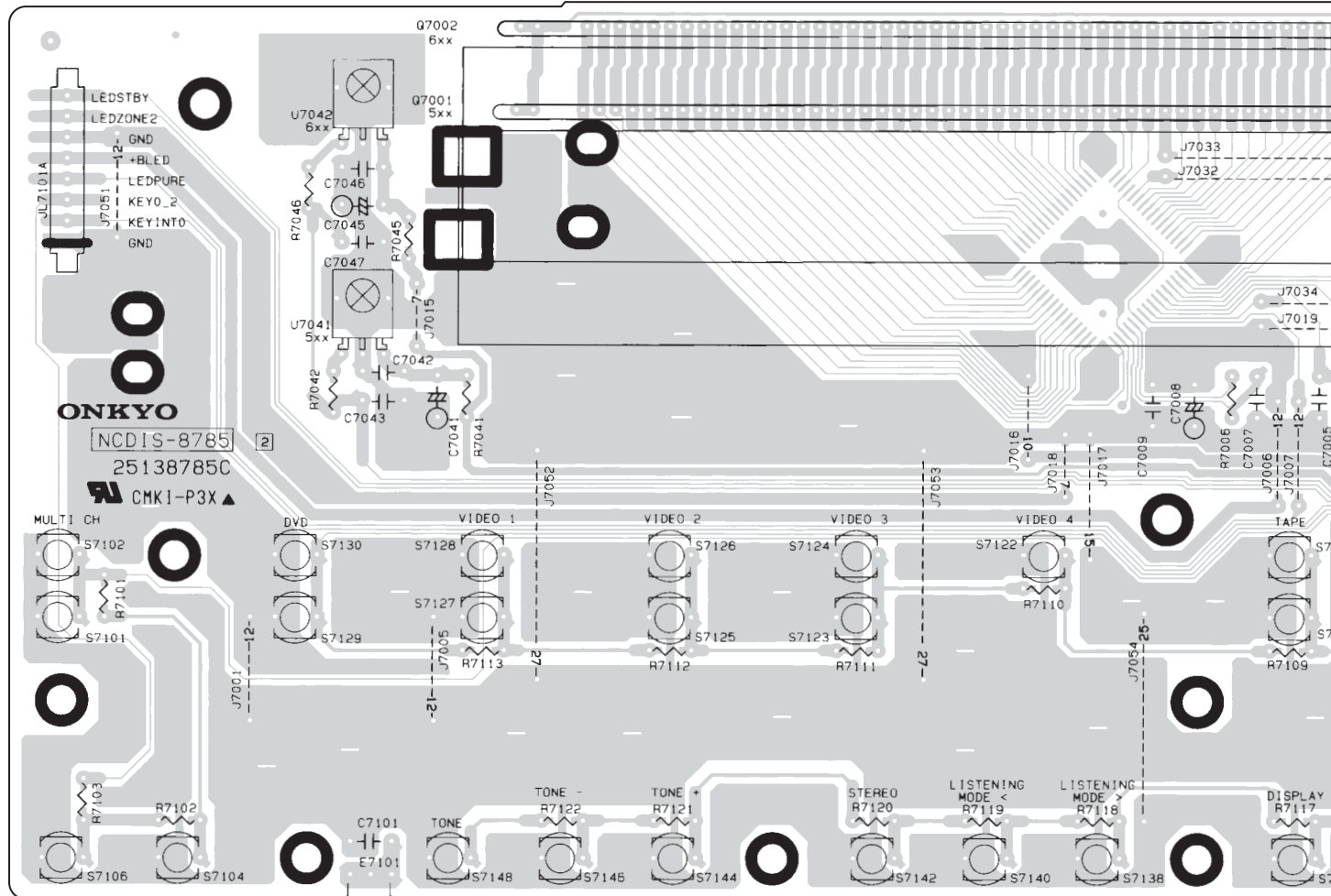
C

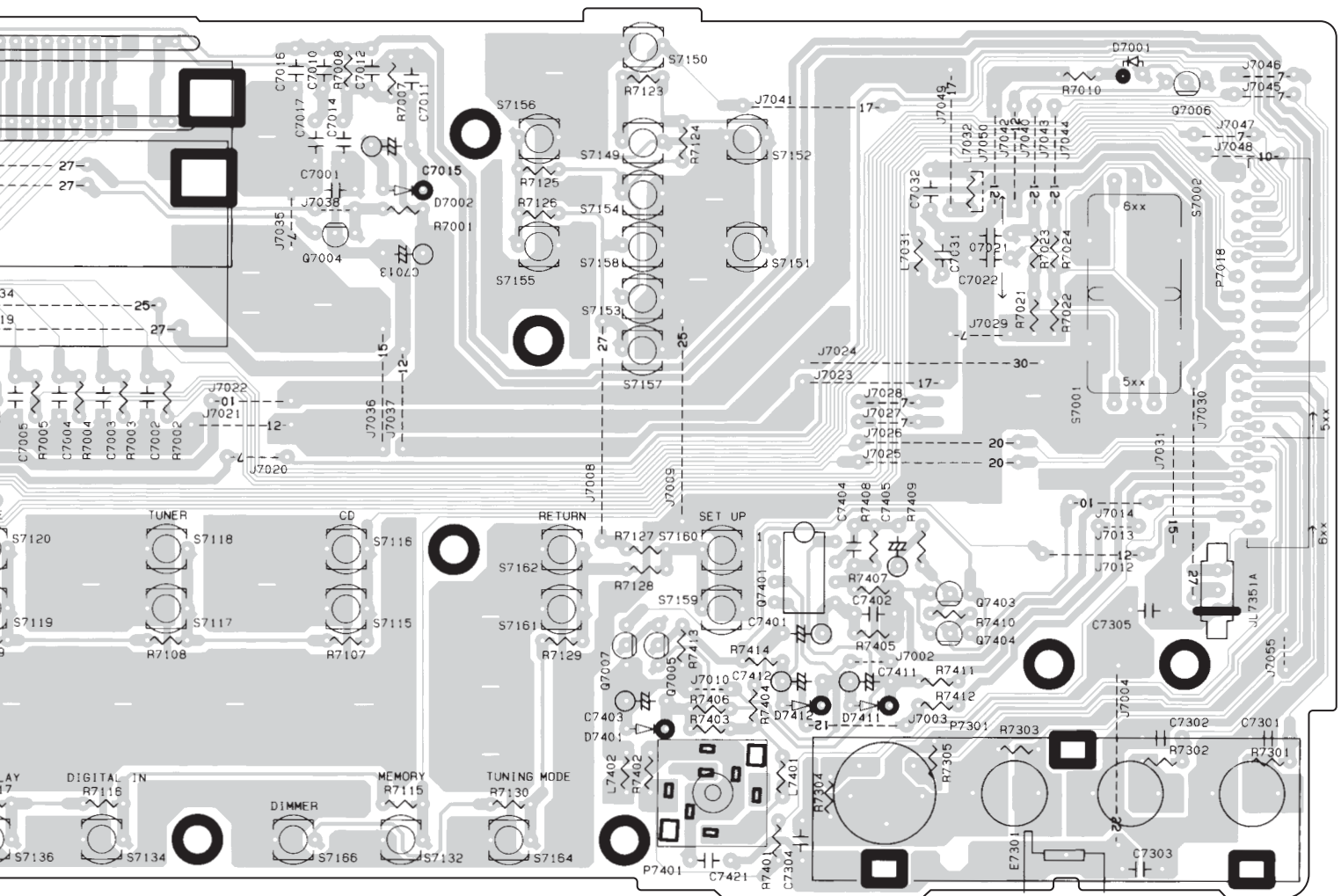
D

## PRINTED CIRCUIT BOARD VIEWS-4

**U05** DISPLAY PC BOARD (NADIS-8785)

Component side



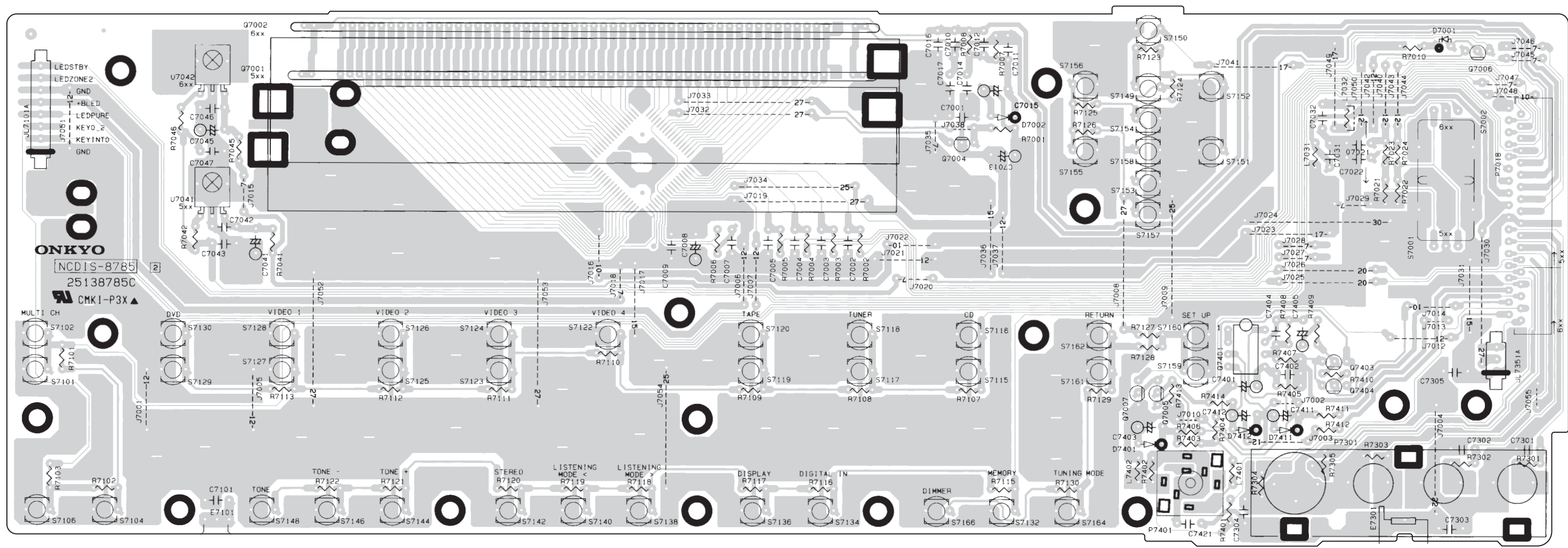


A B C D E F G H

PRINTED CIRCUIT BOARD VIEWS-4

U05 DISPLAY PC BOARD (NADIS-8785)

Component side



A

B

C

D

## PRINTED CIRCUIT BOARD VIEWS-5

**U05** DISPLAY PC BOARD (NADIS-8785)

Soldering side

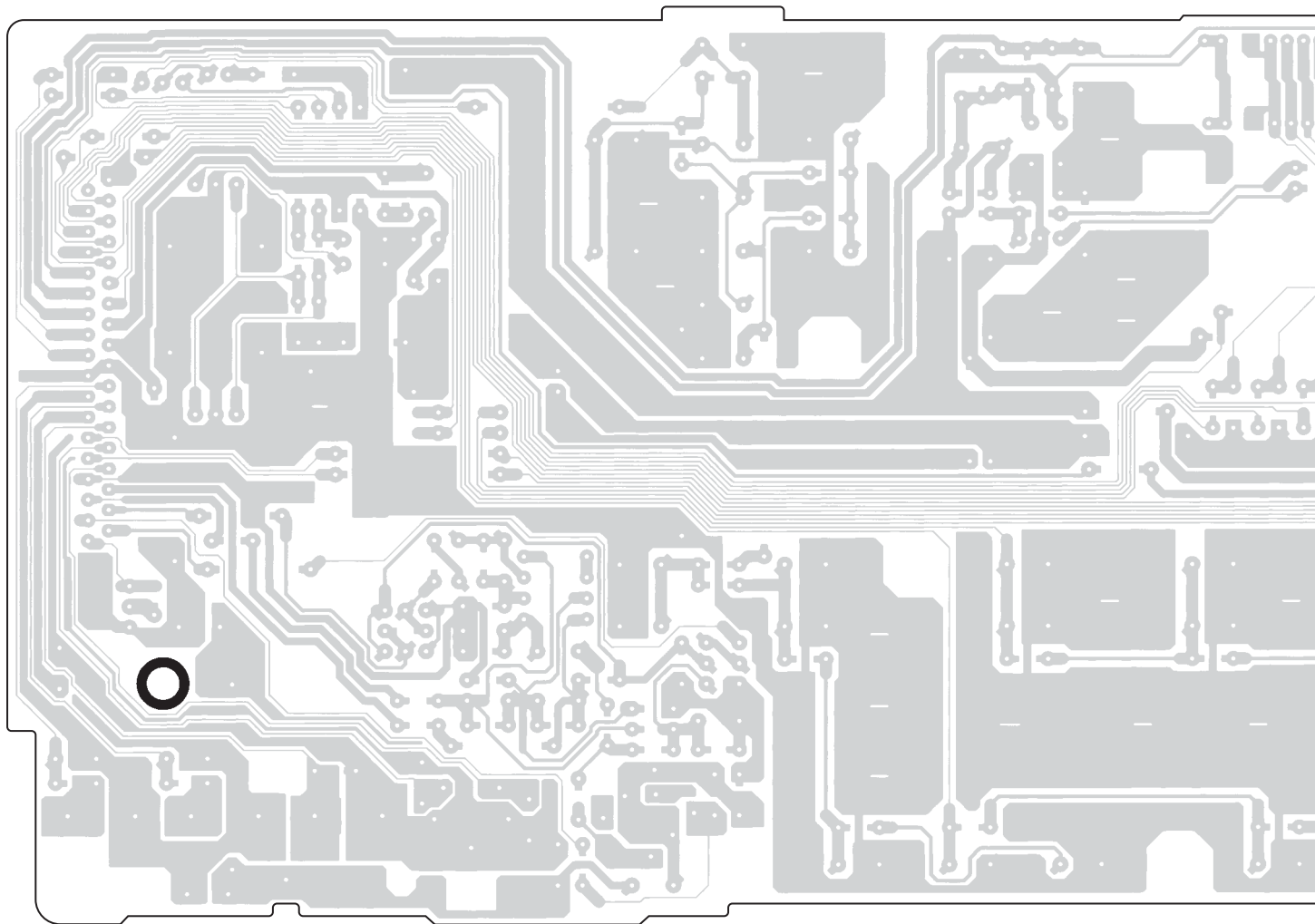
1

2

3

4

5

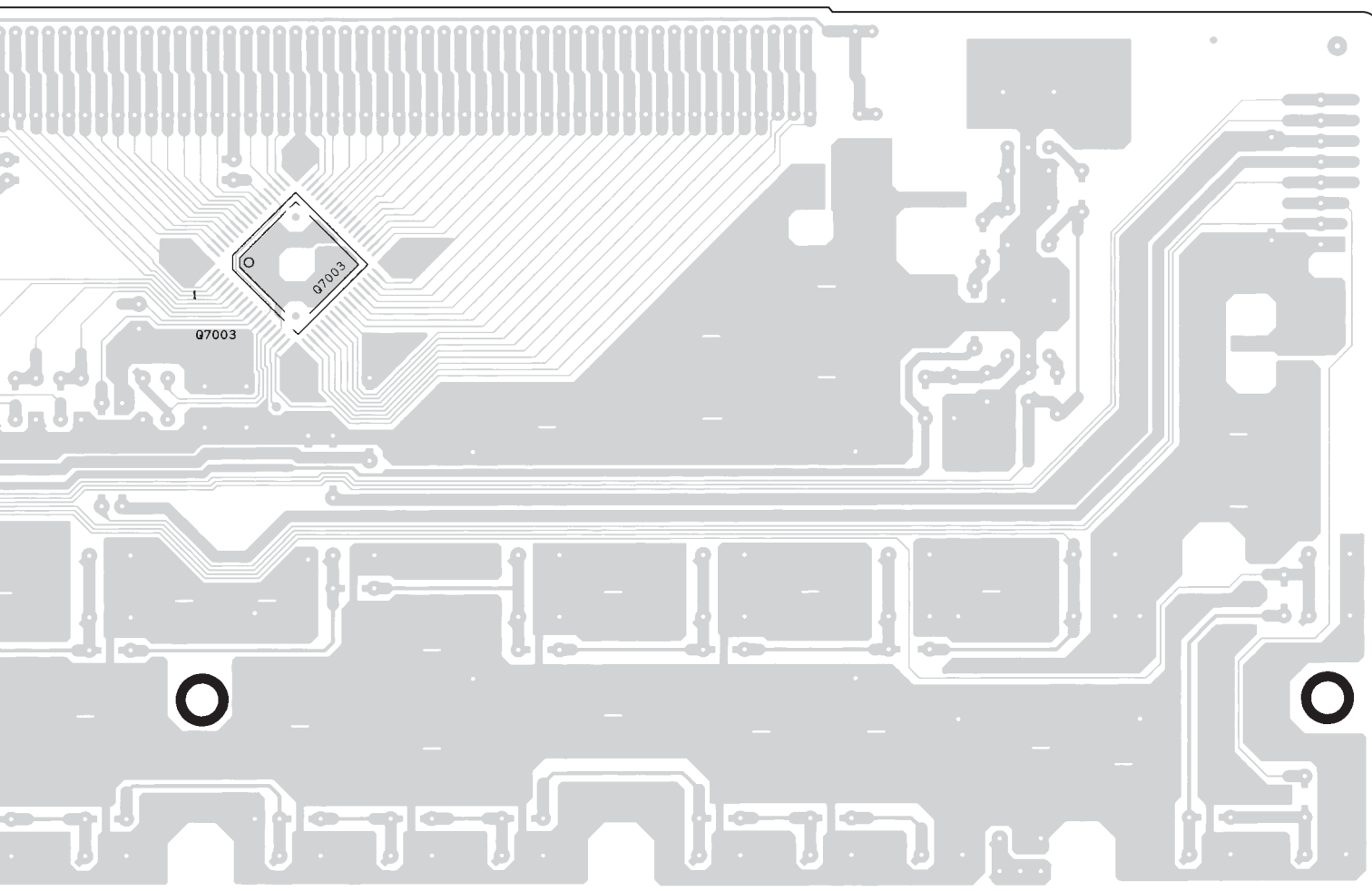


E

F

G

H



A B C D E F G H

PRINTED CIRCUIT BOARD VIEWS-5

**U05** DISPLAY PC BOARD (NADIS-8785)

Soldering side

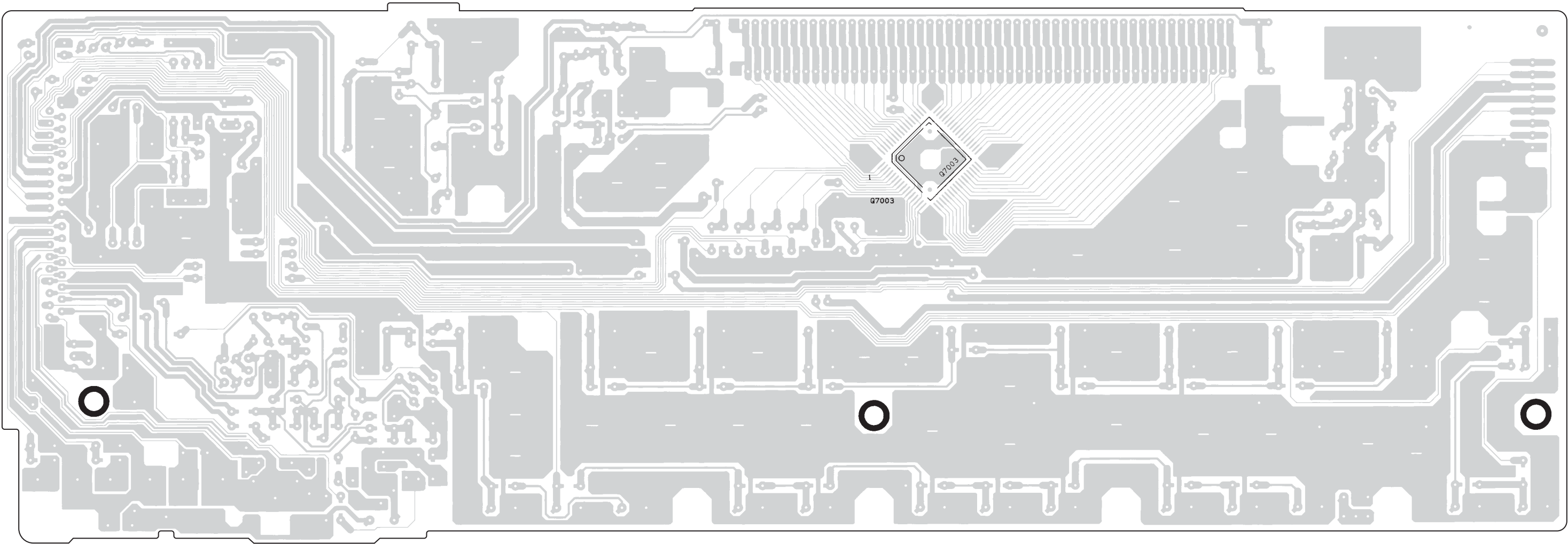
1

2

3

4

5



A

B

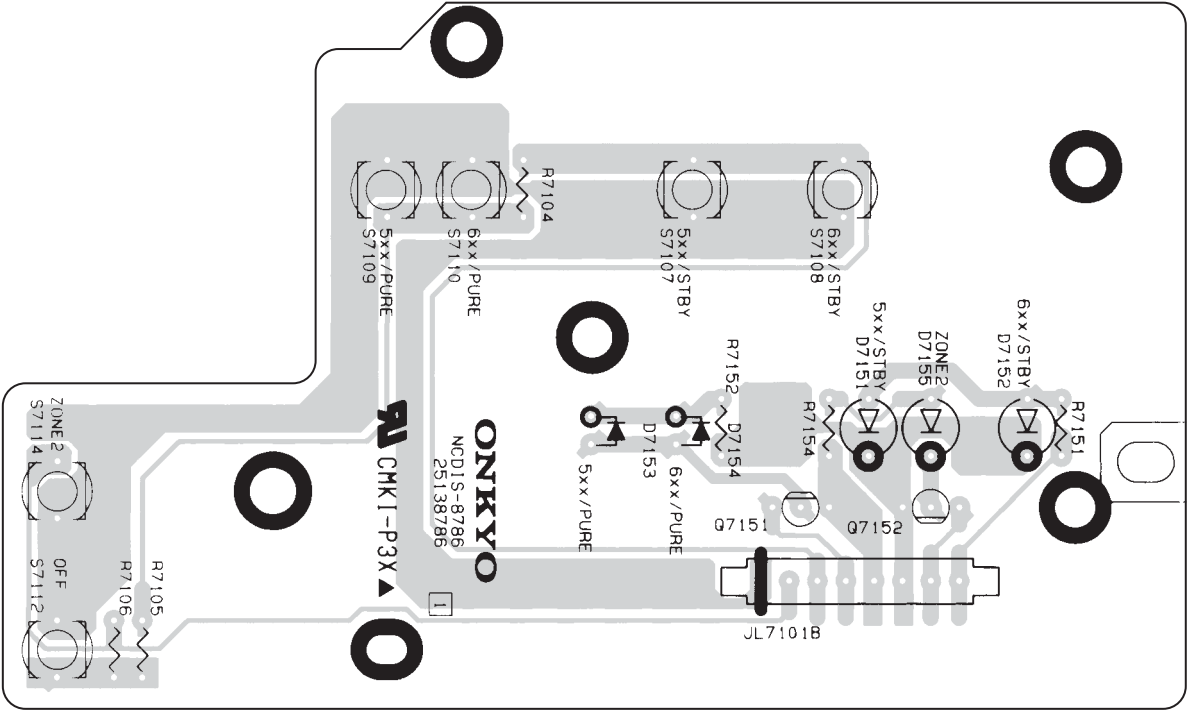
C

D

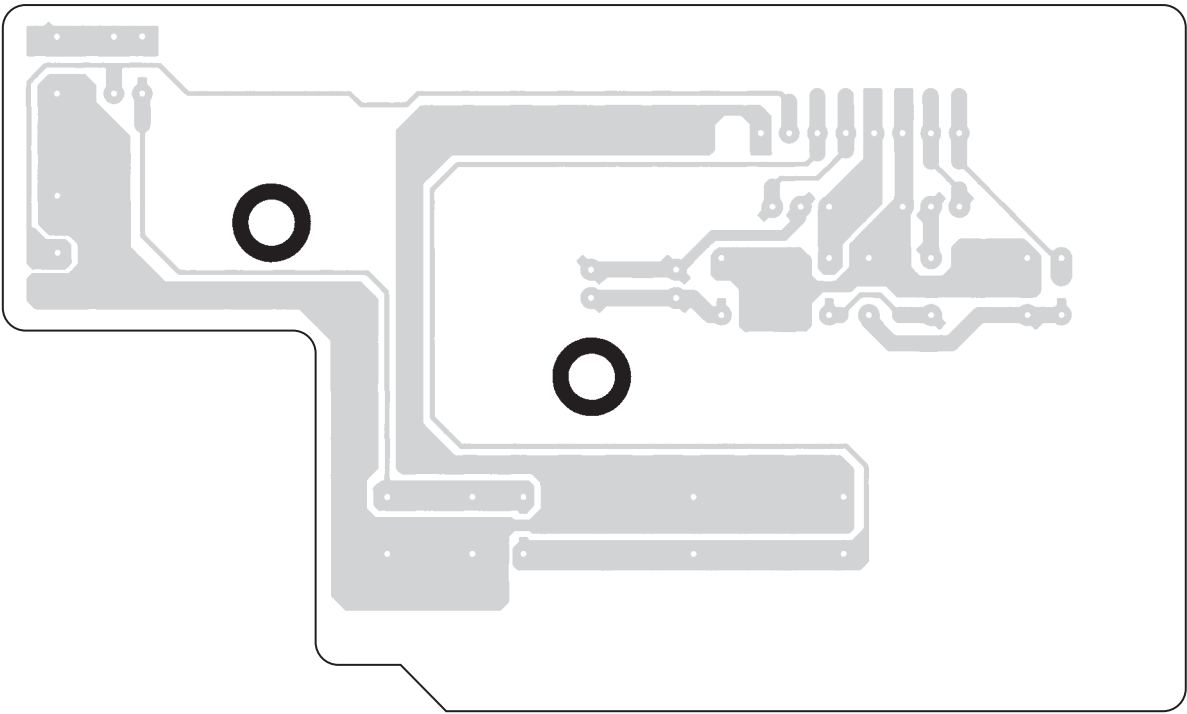
PRINTED CIRCUIT BOARD VIEWS-6

**U06** SWITCH PC BOARD (NADIS-8786)

Component side



Soldering side



A

B

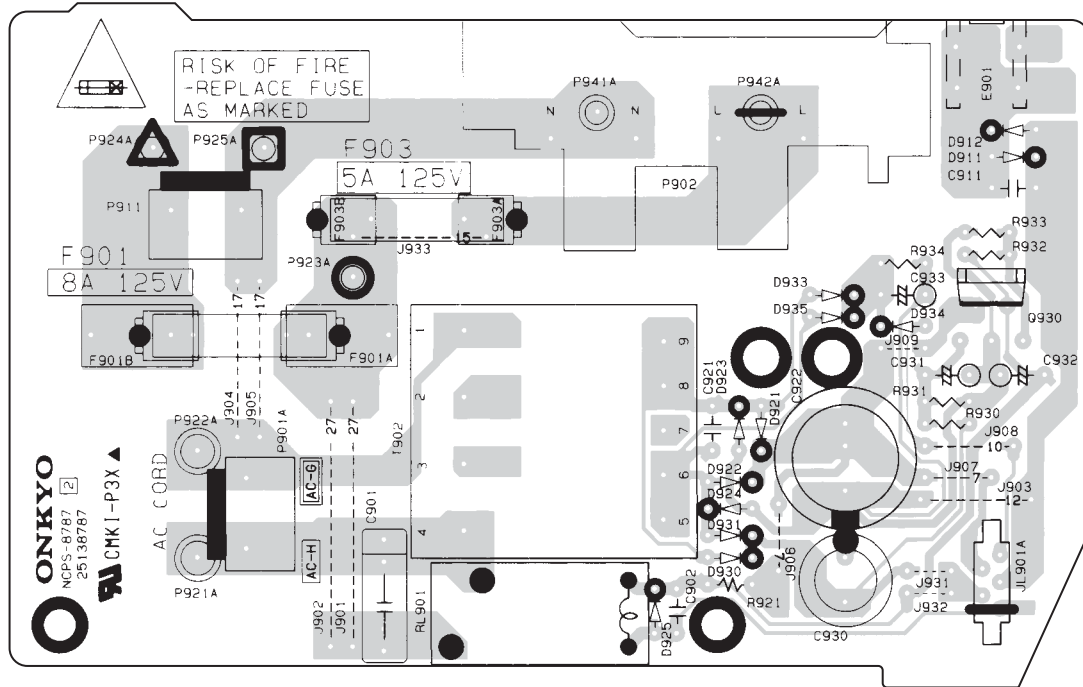
C

D

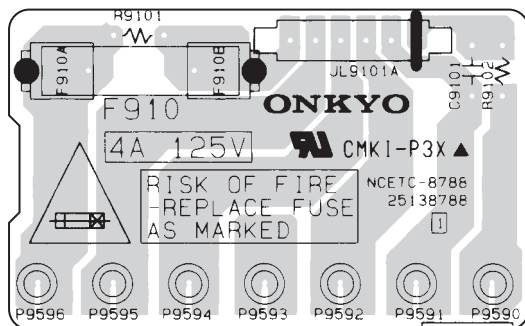
## PRINTED CIRCUIT BOARD VIEWS-7

**U07** POWER SUPPLY PC BOARD (NAPS-8787)

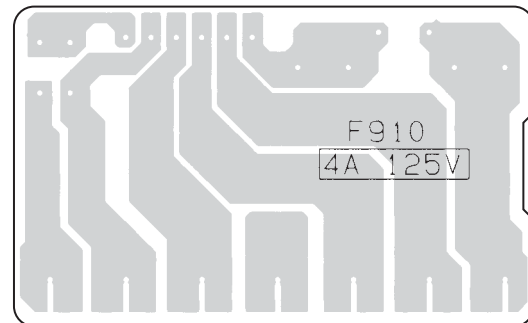
Component side

**U08** TRANS SEC. TERMINAL PC BOARD (NAETC-8788)

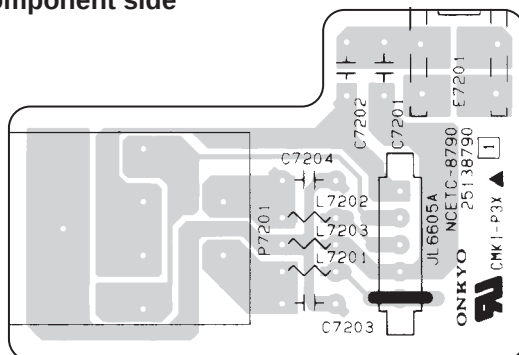
Component side



Soldering side

**U10** HEADPHONE JACK PC BOARD (NAETC-8790)

Component side



A

B

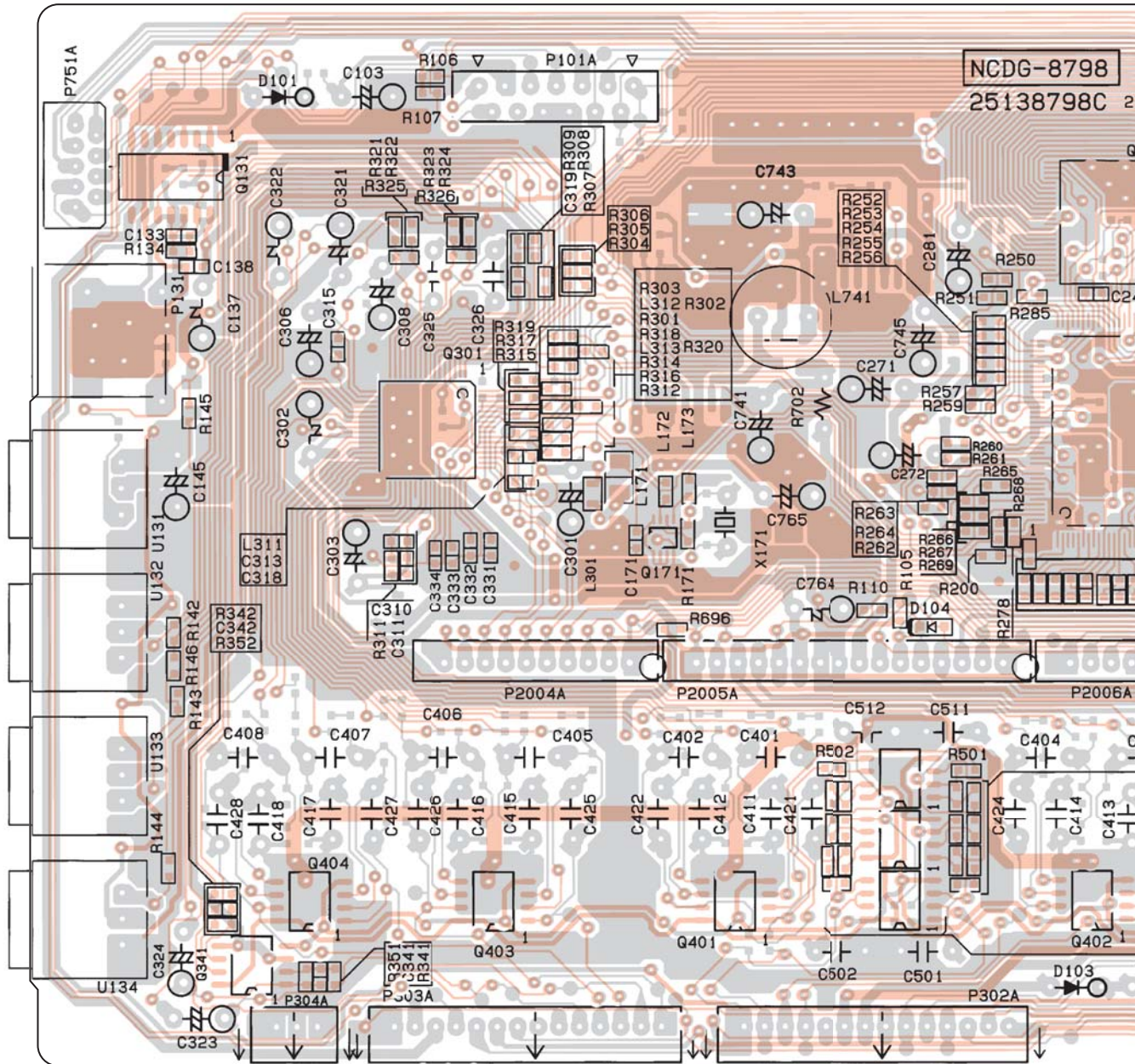
C

D

## PRINTED CIRCUIT BOARD VIEWS-8

**U18** DSP & MICROPROCESSOR PC BOARD (NADG-8798)

Side-A

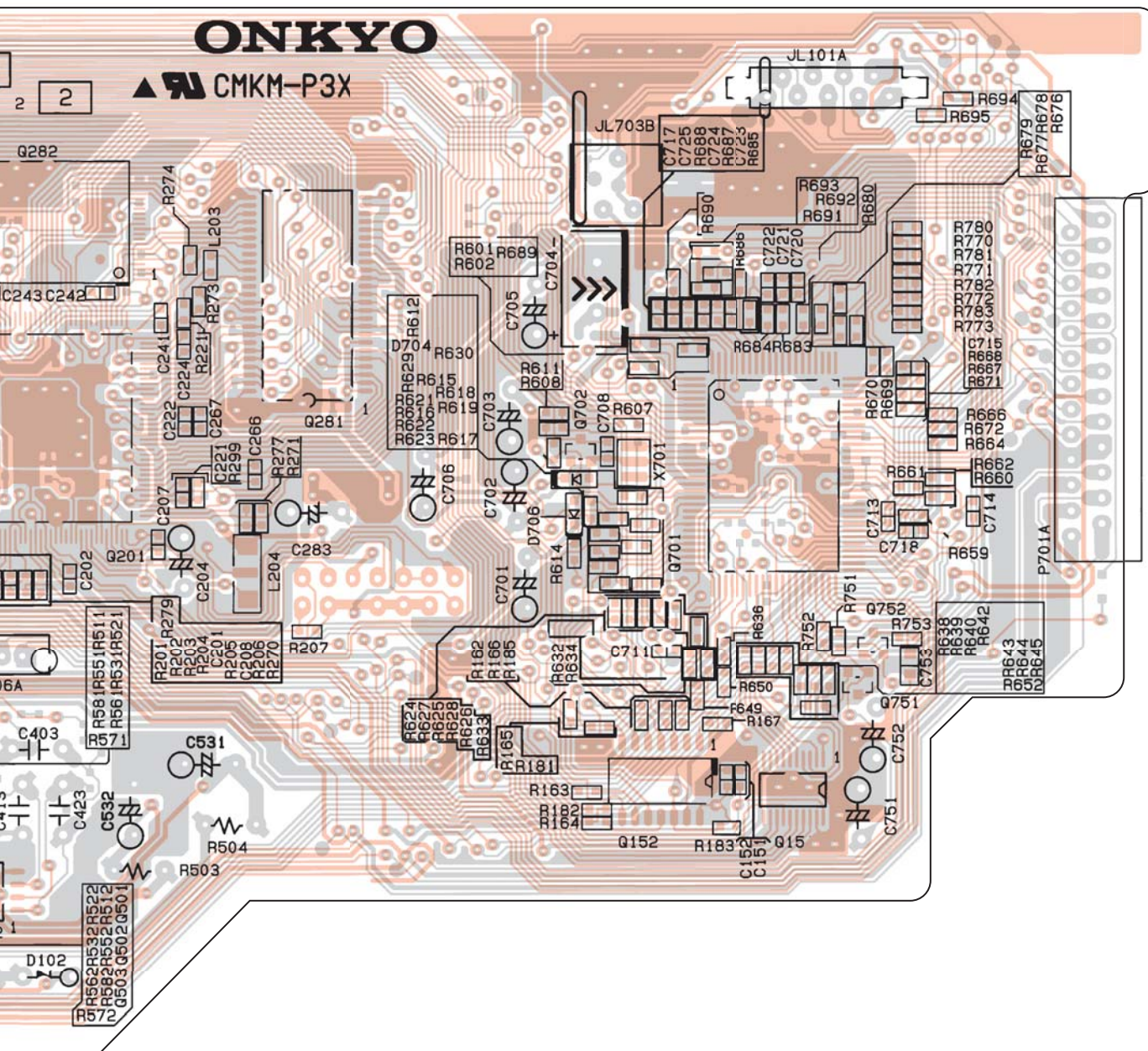


E

F

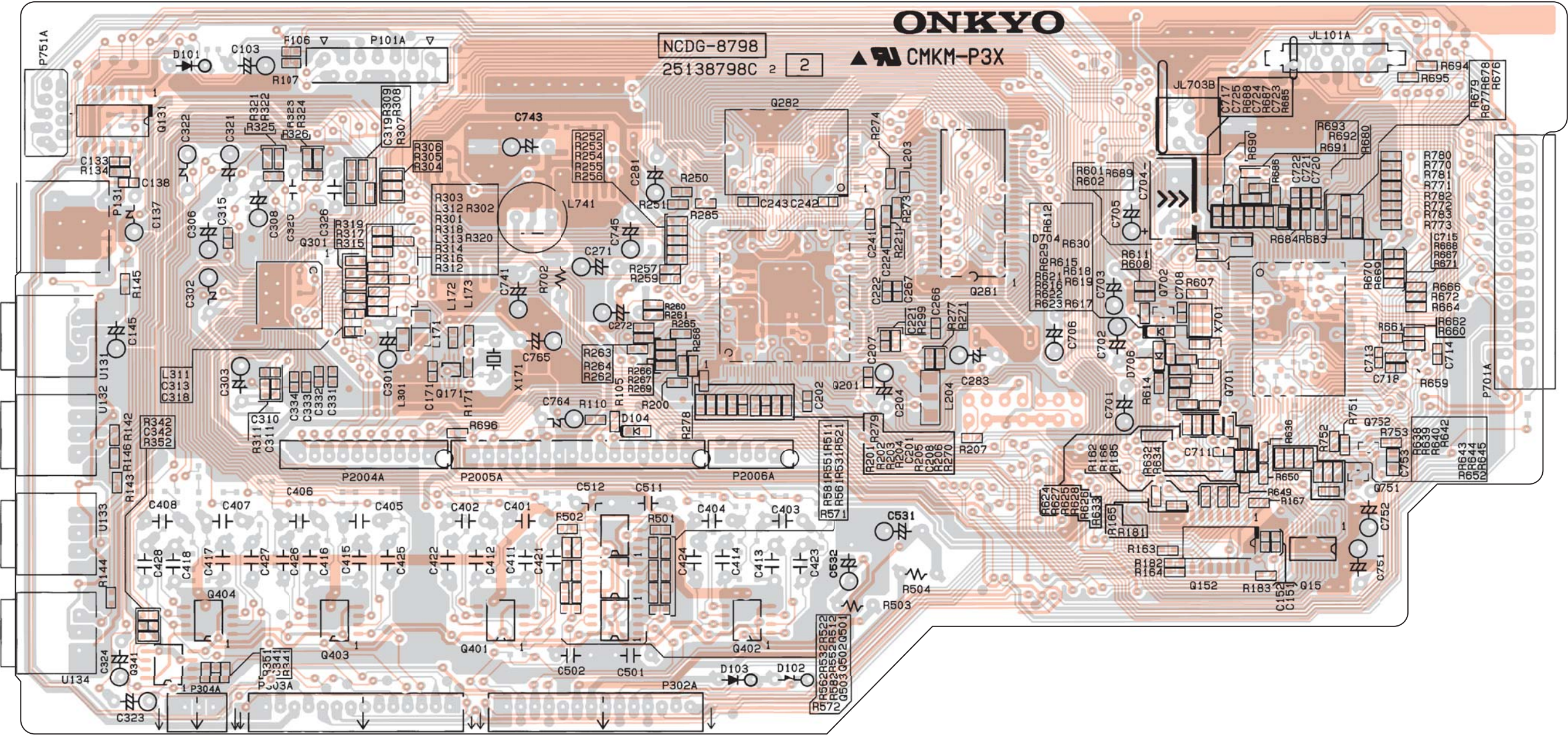
G

H



U18 DSP & MICROPROCESSOR PC BOARD (NADG-8798)

Side-A



A

B

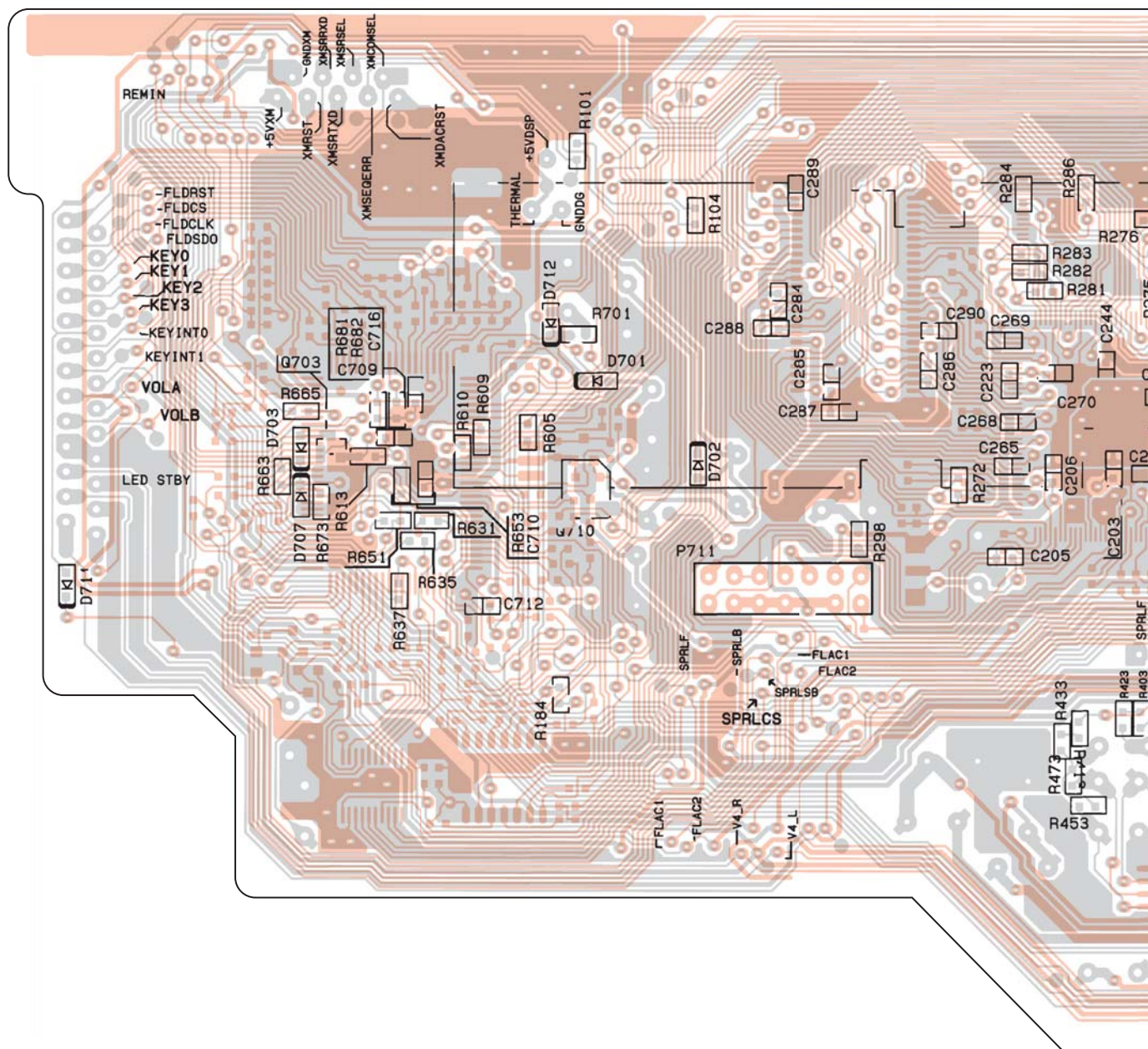
C

D

## PRINTED CIRCUIT BOARD VIEWS-9

**U18** DSP & MICROPROCESSOR PC BOARD (NADG-8798)

Side-B

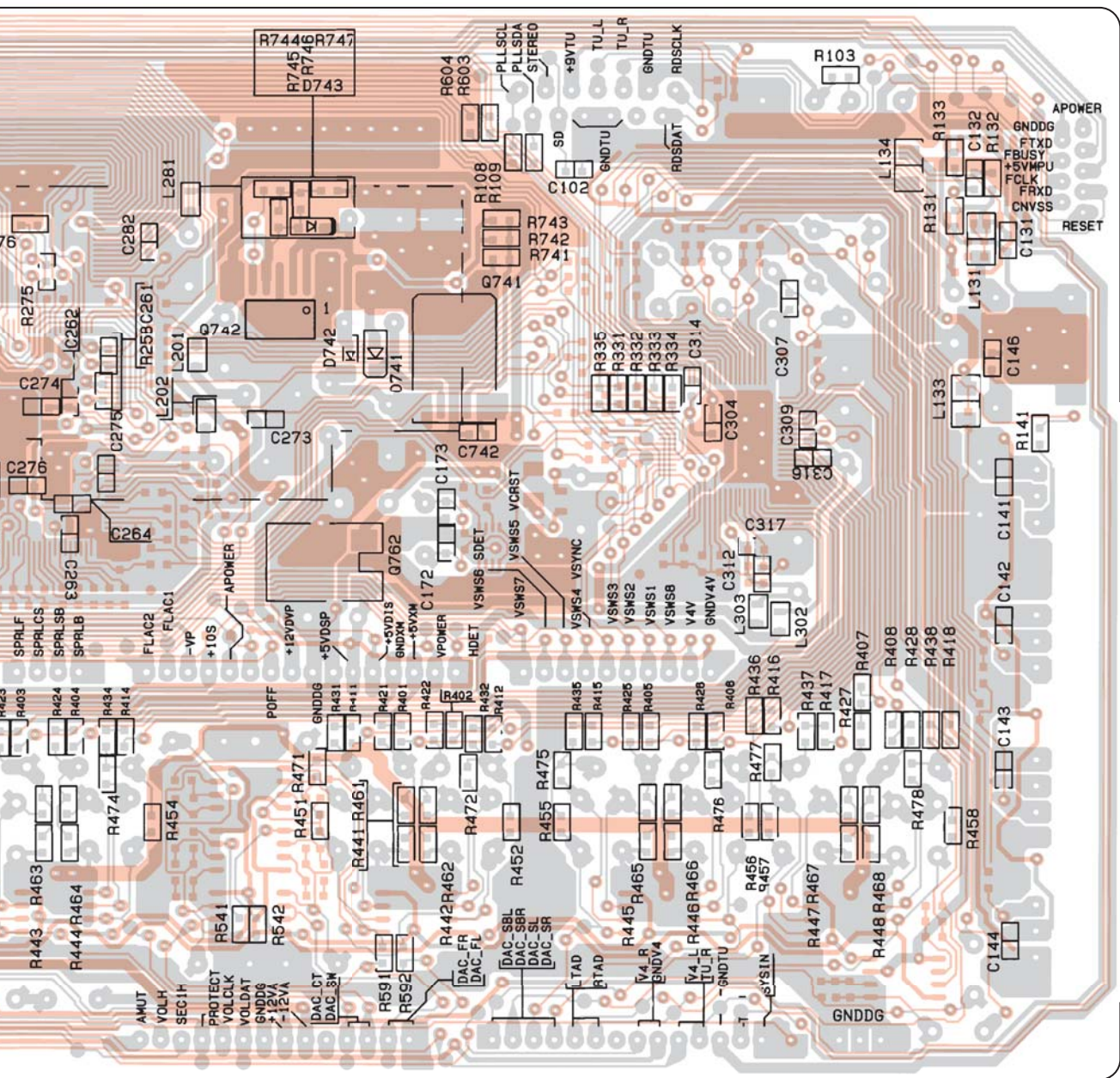


E

F

G

H



A

B

C

D

E

F

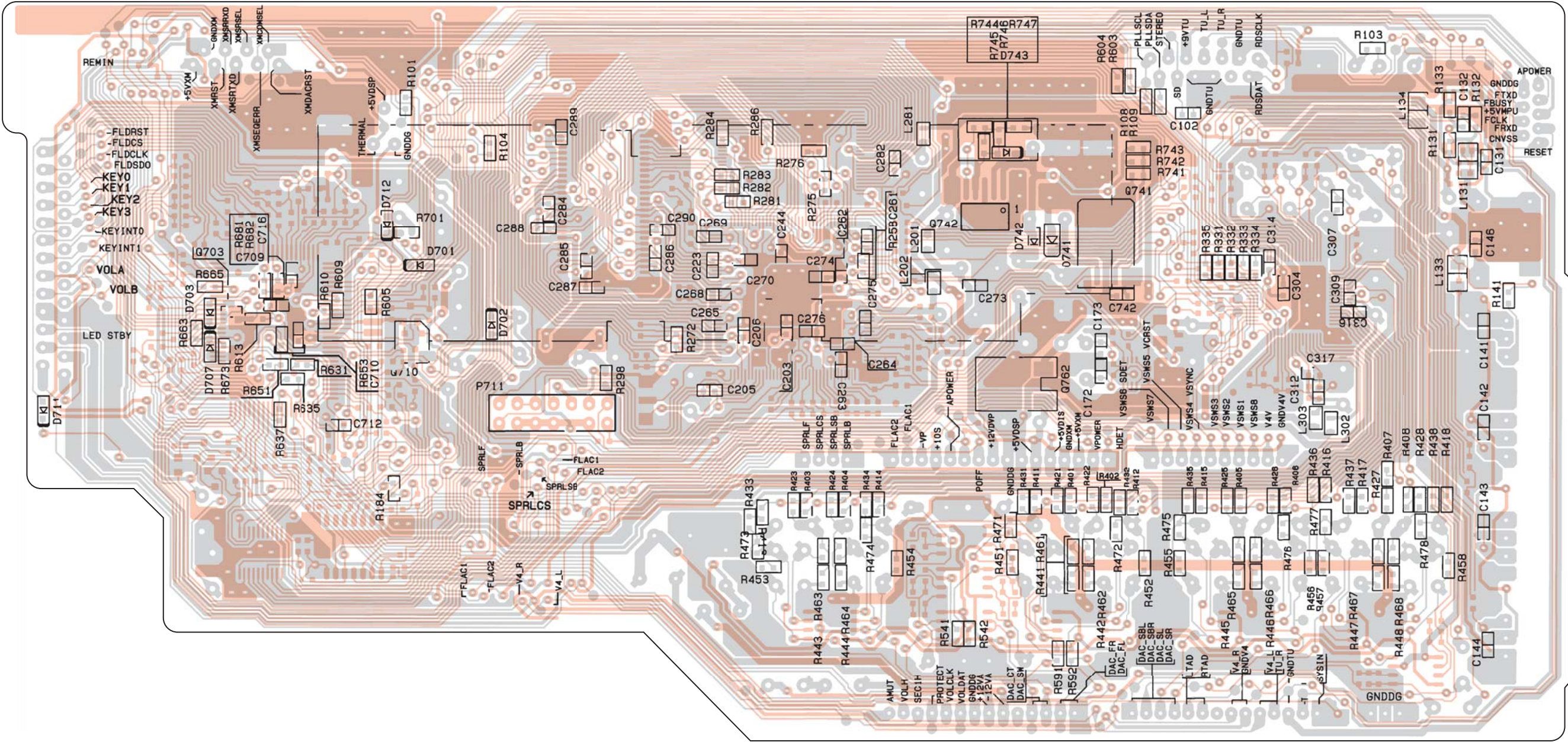
G

H

PRINTED CIRCUIT BOARD VIEWS-9

U18 DSP & MICROPROCESSOR PC BOARD (NADG-8798)

Side-B



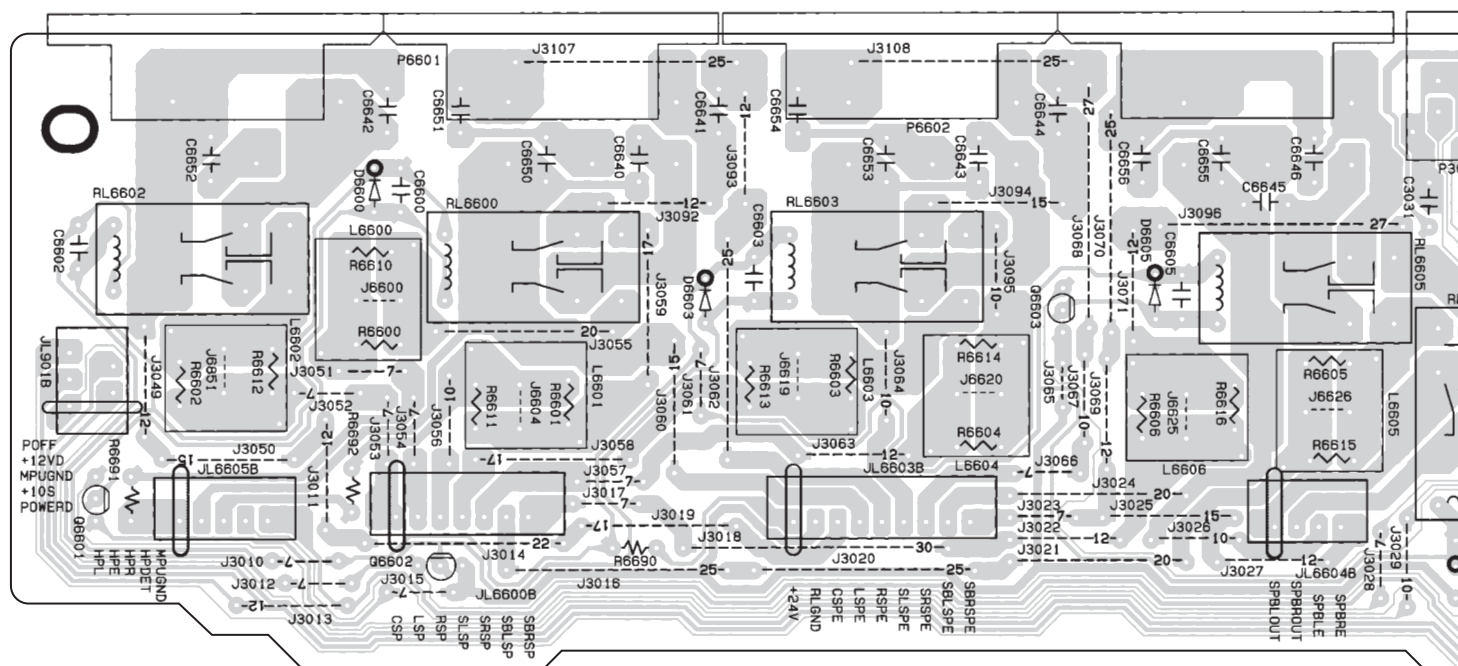
## U19 XM DIGITAL TRANSCEIVER PC BOARD (NADG-8799)

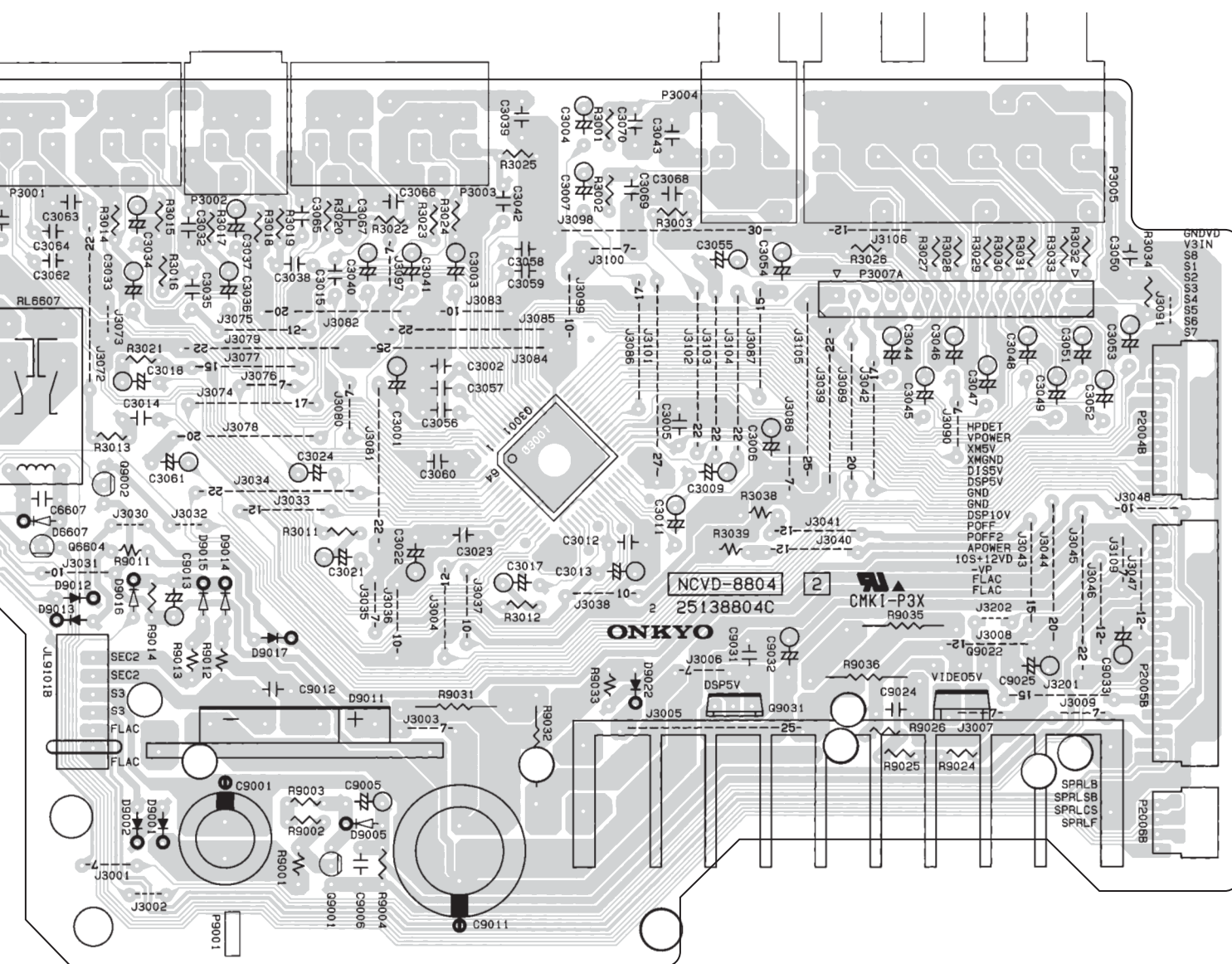
MDD. MDC Type Only

# PRINTED CIRCUIT BOARD VIEWS-11

## U20 VIDEO & SPEAKER TERMINAL PC BOARD (NAVD-8804)

Component side





A

B

C

D

E

F

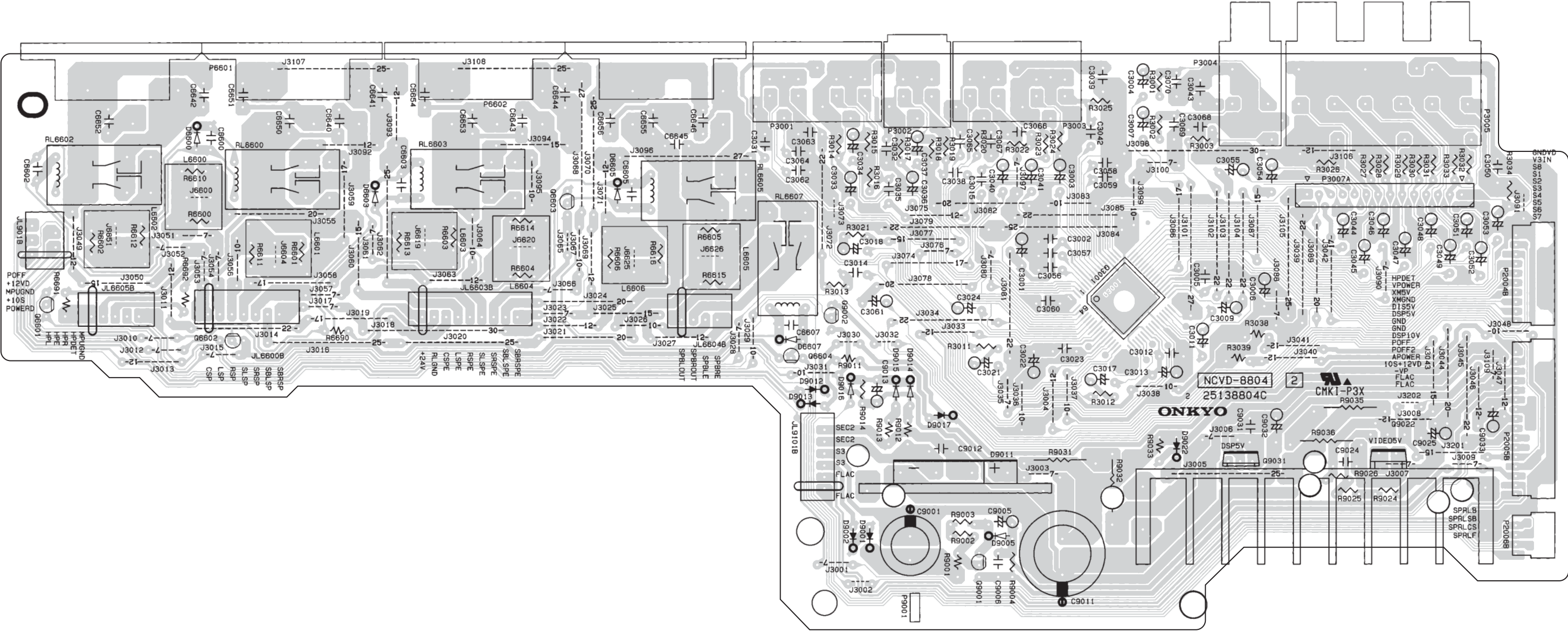
G

H

PRINTED CIRCUIT BOARD VIEWS-11

U20 VIDEO & SPEAKER TERMINAL PC BOARD (NAVD-8804)

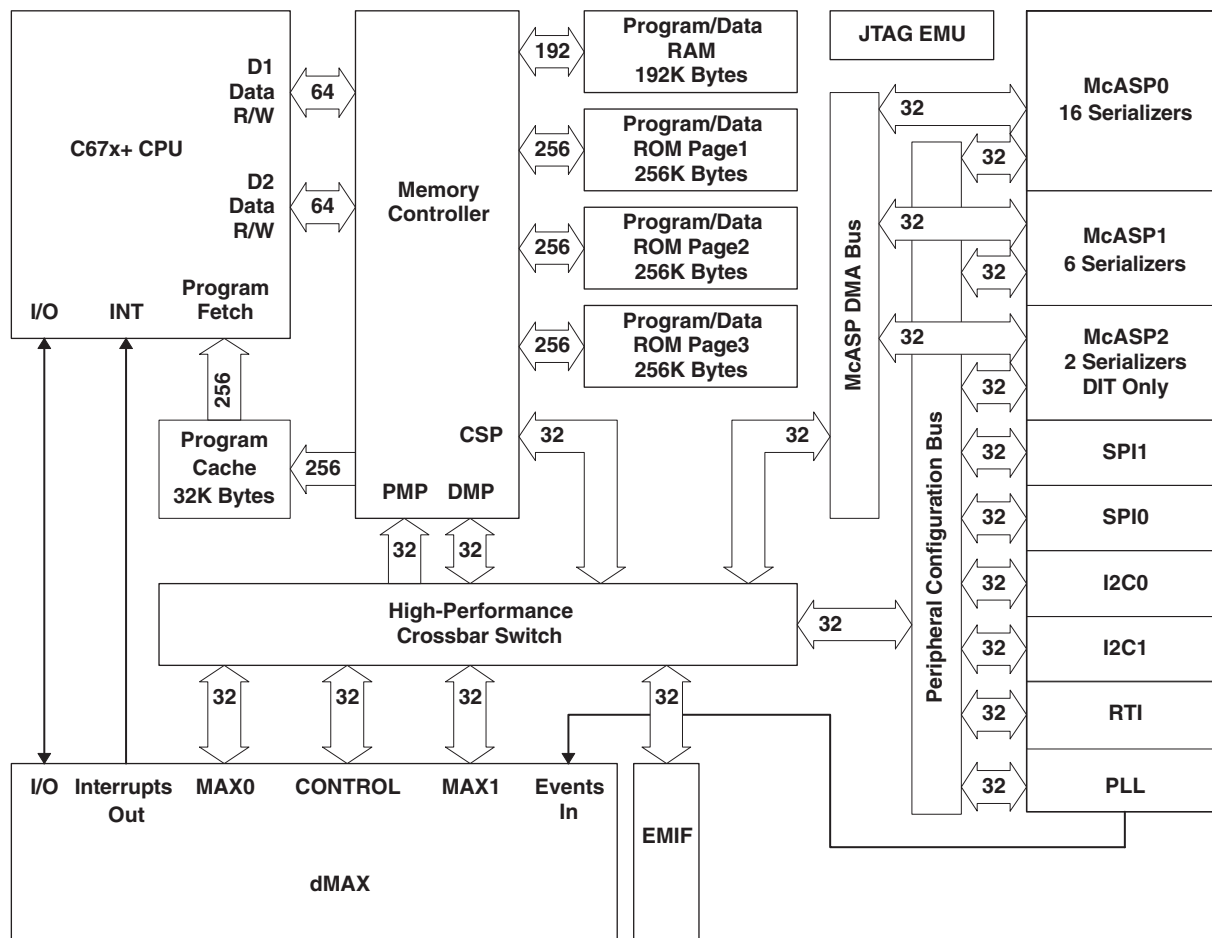
Component side



# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-1

Q201 : D707E001RFP250 (32 bit Floating-Point Digital Signal Processor)-1/7

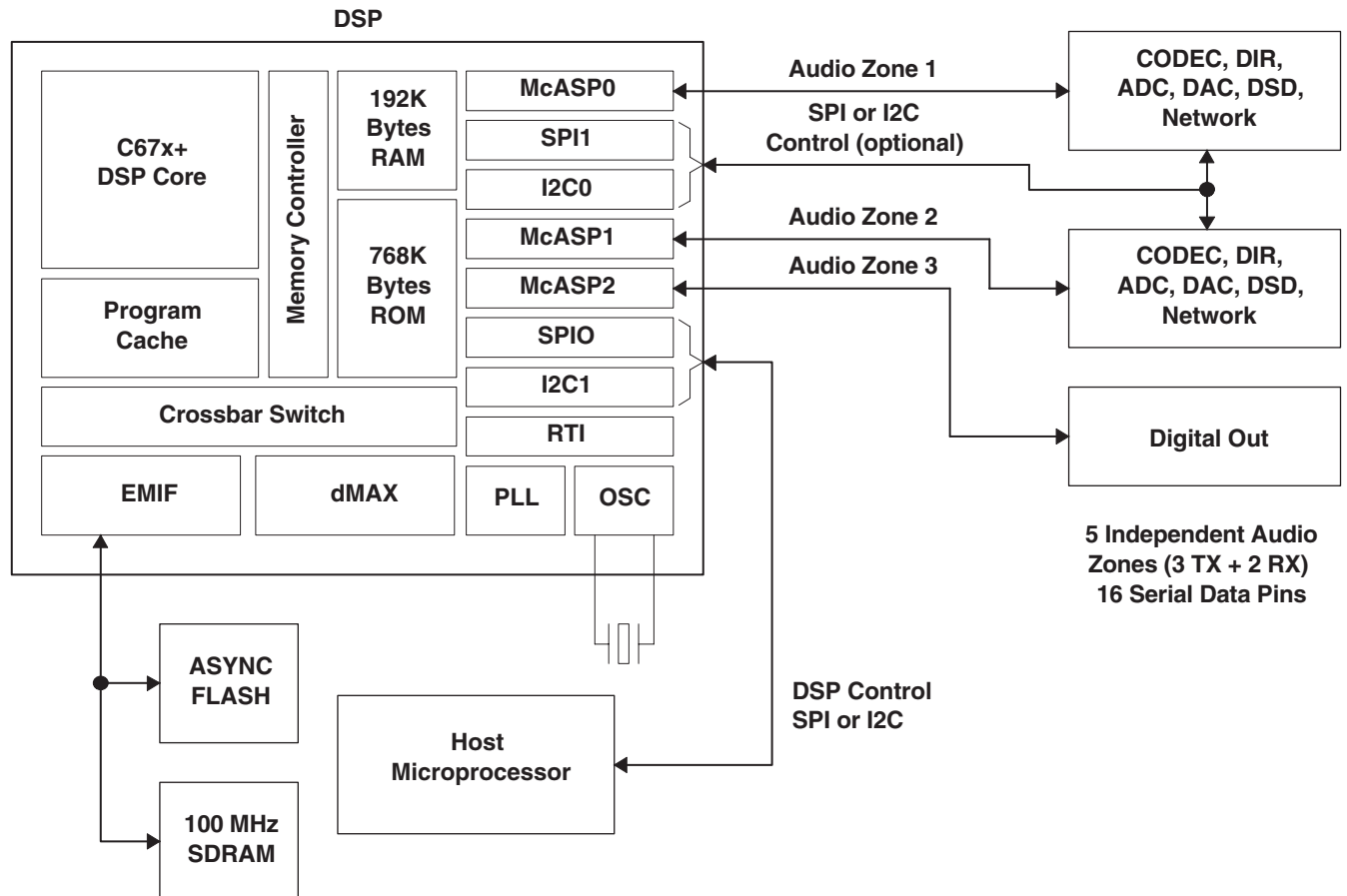
## BLOCK DIAGRAM



## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-2

Q201 : D707E001RFP250 (32 bit Floating-Point Digital Signal Processor)-2/7

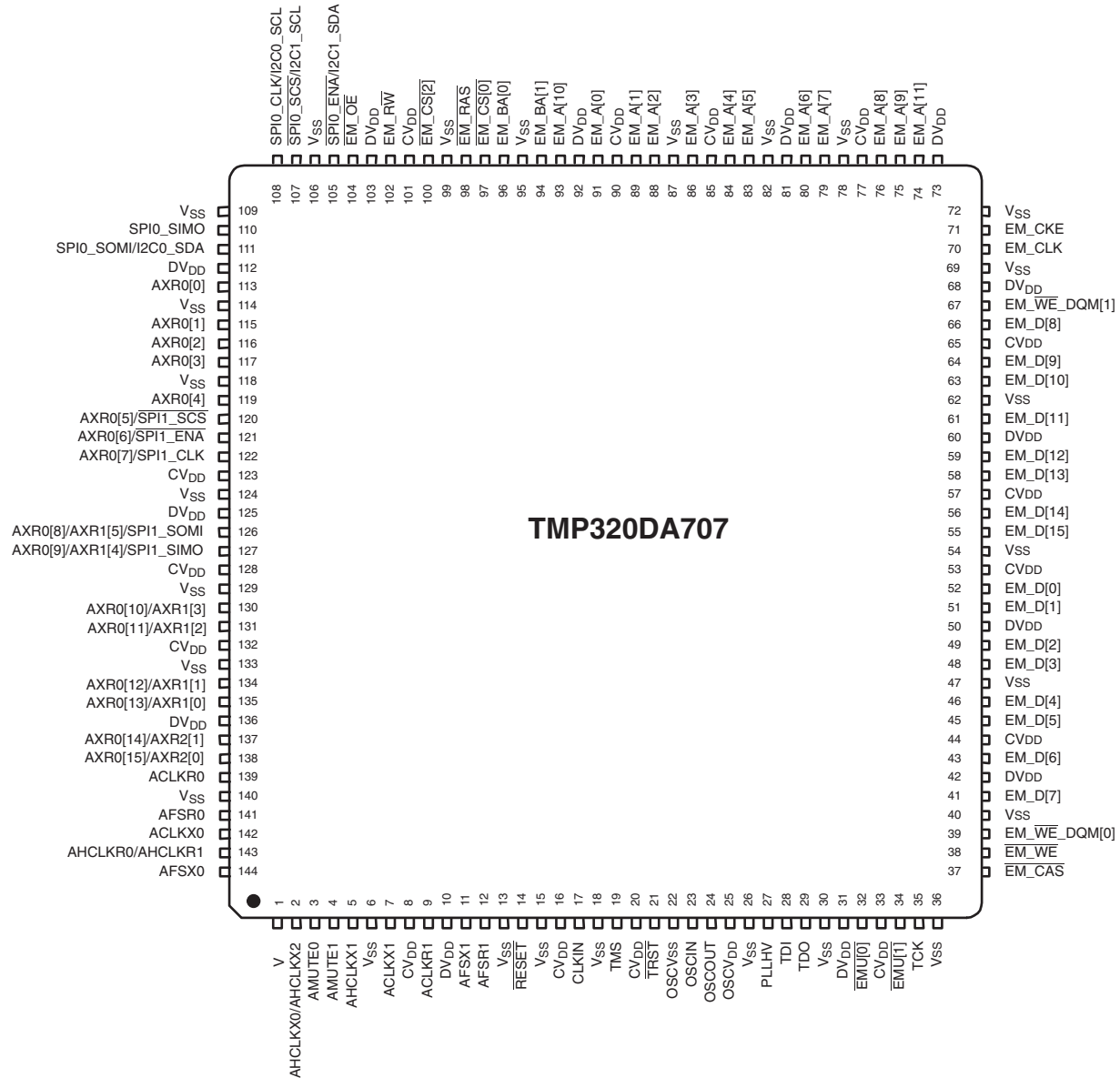
### SYSTEM DIAGRAM with PERIPHERALS



## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-3

## Q201 : D707E001RFP250 (32 bit Floating-Point Digital Signal Processor)-3/7

## PIN CONFIGURATION



## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-4

Q201 : D707E001RFP250 (32 bit Floating-Point Digital Signal Processor)-4/7

### TERMINAL DESCRIPTION (1/4)

| SIGNAL NAME                                                 | PIN NO. | TYPE | PULL | GPIO | DESCRIPTION                                |
|-------------------------------------------------------------|---------|------|------|------|--------------------------------------------|
| <b>External Memory Interface (EMIF) Address and Control</b> |         |      |      |      |                                            |
| EM_A[0]                                                     | 91      | O    | -    | N    | EMIF Address Bus                           |
| EM_A[1]                                                     | 89      | O    | -    | N    |                                            |
| EM_A[2]                                                     | 88      | O    | -    | N    |                                            |
| EM_A[3]                                                     | 86      | O    | -    | N    |                                            |
| EM_A[4]                                                     | 84      | O    | -    | N    |                                            |
| EM_A[5]                                                     | 83      | O    | -    | N    |                                            |
| EM_A[6]                                                     | 80      | O    | -    | N    |                                            |
| EM_A[7]                                                     | 79      | O    | -    | N    |                                            |
| EM_A[8]                                                     | 76      | O    | -    | N    |                                            |
| EM_A[9]                                                     | 75      | O    | -    | N    |                                            |
| EM_A[10]                                                    | 93      | O    | -    | N    |                                            |
| EM_A[11]                                                    | 74      | O    | -    | N    |                                            |
| EM_BA[0]                                                    | 96      | O    | -    | N    | SDRAM Bank Address and Asynchronous Memory |
| EM_BA[1]                                                    | 94      | O    | -    | N    | Low-Order Address                          |
| EM_CS[0]                                                    | 97      | O    | -    | N    | SDRAM Chip Select                          |
| EM_CS[2]                                                    | 100     | O    | -    | N    | Asynchronous Memory Chip Select            |
| EM_CAS                                                      | 37      | O    | -    | N    | SDRAM Column Address Strobe                |
| EM_RAS                                                      | 98      | O    | -    | N    | SDRAM Row Address Strobe                   |
| EM_WE                                                       | 38      | O    | -    | N    | SDRAM Write Enable                         |
| EM_CKE                                                      | 71      | O    | -    | N    | SDRAM Clock Enable                         |
| EM_CLK                                                      | 70      | O    | -    | N    | SDRAM Clock                                |
| EM_WE_DQM[0]                                                | 39      | O    | -    | N    | Write Enable or Byte Enable for EM_D[7:0]  |
| EM_WE_DQM[1]                                                | 67      | O    | -    | N    | Write Enable or Byte Enable for EM_D[15:8] |
| EM_OE                                                       | 104     | O    | -    | N    | SDRAM Output Enable                        |
| EM_RW                                                       | 102     | O    | -    | N    | Asynchronous Memory Read/not Write         |

## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-5

### Q201 : D707E001RFP250 (32 bit Floating-Point Digital Signal Processor)-5/7

#### TERMINAL DESCRIPTION (2/4)

| SIGNAL NAME                                      | PIN NO. | TYPE | PULL | GPIO | DESCRIPTION                 |
|--------------------------------------------------|---------|------|------|------|-----------------------------|
| <b>External Memory Interface (EMIF) Data Bus</b> |         |      |      |      |                             |
| EM_D[0]                                          | 52      | IO   | -    | N    | EMIF Data Bus [Lower16Bits] |
| EM_D[1]                                          | 51      | IO   | -    | N    |                             |
| EM_D[2]                                          | 49      | IO   | -    | N    |                             |
| EM_D[3]                                          | 48      | IO   | -    | N    |                             |
| EM_D[4]                                          | 46      | IO   | -    | N    |                             |
| EM_D[5]                                          | 45      | IO   | -    | N    |                             |
| EM_D[6]                                          | 43      | IO   | -    | N    |                             |
| EM_D[7]                                          | 41      | IO   | -    | N    |                             |
| EM_D[8]                                          | 66      | IO   | -    | N    |                             |
| EM_D[9]                                          | 64      | IO   | -    | N    |                             |
| EM_D[10]                                         | 63      | IO   | -    | N    |                             |
| EM_D[11]                                         | 61      | IO   | -    | N    |                             |
| EM_D[12]                                         | 59      | IO   | -    | N    |                             |
| EM_D[13]                                         | 58      | IO   | -    | N    |                             |
| EM_D[14]                                         | 56      | IO   | -    | N    |                             |
| EM_D[15]                                         | 55      | IO   | -    | N    |                             |

# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-6

## Q201 : D707E001RFP250 (32 bit Floating-Point Digital Signal Processor)-6/7

### TERMINAL DESCRIPTION (3/4)

| SIGNAL NAME                                          | PIN NO. | TYPE | PULL | GPIO | DESCRIPTION                                                                                     |
|------------------------------------------------------|---------|------|------|------|-------------------------------------------------------------------------------------------------|
| <b>McASP0, McASP1, McASP2, and SPI1 Serial Ports</b> |         |      |      |      |                                                                                                 |
| AHCLKR0/AHCLKR1                                      | 143     | IO   | -    | Y    | McASP0 and McASP1 Receive Master Clock                                                          |
| ACLKR0                                               | 139     | IO   | -    | Y    | McASP0 Receive Bit Clock                                                                        |
| AFSR0                                                | 141     | IO   | -    | Y    | McASP0 Receive Frame Sync (L/R Clock)                                                           |
| AHCLKX0/AHCLKX2                                      | 2       | IO   | -    | Y    | McASP0 and McASP2 Transmit Master Clock                                                         |
| ACLKX0                                               | 142     | IO   | -    | Y    | McASP0 Transmit Bit Clock                                                                       |
| AFSX0                                                | 144     | IO   | -    | Y    | McASP0 Transmit Frame Sync (L/R Clock)                                                          |
| AMUTE0                                               | 3       | O    | -    | Y    | McASP0 MUTE Output                                                                              |
| AXR0[0]                                              | 113     | IO   | -    | Y    | McASP0 Serial Data 0                                                                            |
| AXR0[1]                                              | 115     | IO   | -    | Y    | McASP0 Serial Data 1                                                                            |
| AXR0[2]                                              | 116     | IO   | -    | Y    | McASP0 Serial Data 2                                                                            |
| AXR0[3]                                              | 117     | IO   | -    | Y    | McASP0 Serial Data 3                                                                            |
| AXR0[4]                                              | 119     | IO   | -    | Y    | McASP0 Serial Data 4                                                                            |
| AXR0[5]/SPI1_SCS                                     | 120     | IO   | -    | Y    | McASP0 Serial Data 5 <b>or</b> SPI1 Slave Chip Select                                           |
| AXR0[6]/SPI1_ENA                                     | 121     | IO   | -    | Y    | McASP0 Serial Data 6 <b>or</b> SPI1 Enable (Ready)                                              |
| AXR0[7]/SPI1_CLK                                     | 122     | IO   | -    | Y    | McASP0 Serial Data 7 <b>or</b> SPI1 Serial Clock                                                |
| AXR0[8]/AXR1[5]/SPI1_SOMI                            | 126     | IO   | -    | Y    | McASP0 Serial Data 8 <b>or</b> McASP1 Serial Data 5 <b>or</b> SPI1 Data Pin Slave Out Master In |
| AXR0[9]/AXR1[4]/SPI1_SIMO                            | 127     | IO   | -    | Y    | McASP0 Serial Data 9 <b>or</b> McASP1 Serial Data 4 <b>or</b> SPI1 Data Pin Slave In Master Out |
| AXR0[10]/AXR1[3]                                     | 130     | IO   | -    | Y    | McASP0 Serial Data 10 <b>or</b> McASP1 Serial Data 3                                            |
| AXR0[11]/AXR1[2]                                     | 131     | IO   | -    | Y    | McASP0 Serial Data 11 <b>or</b> McASP1 Serial Data 2                                            |
| AXR0[12]/AXR1[1]                                     | 134     | IO   | -    | Y    | McASP0 Serial Data 12 <b>or</b> McASP1 Serial Data 1                                            |
| AXR0[13]/AXR1[0]                                     | 135     | IO   | -    | Y    | McASP0 Serial Data 13 <b>or</b> McASP1 Serial Data 0                                            |
| AXR0[14]/AXR2[1]                                     | 137     | IO   | -    | Y    | McASP0 Serial Data 14 <b>or</b> McASP2 Serial Data 1                                            |
| AXR0[15]/AXR2[0]                                     | 138     | IO   | -    | Y    | McASP0 Serial Data 15 <b>or</b> McASP2 Serial Data 0                                            |
| ACLKR1                                               | 9       | IO   | -    | Y    | McASP1 Receive Bit Clock                                                                        |
| AFSR1                                                | 12      | IO   | -    | Y    | McASP1 Receive Frame Sync (L/R)Clock                                                            |
| AHCLKX1                                              | 5       | IO   | -    | Y    | McASP1 Transmit Master Clock                                                                    |
| ACLKX1                                               | 7       | IO   | -    | Y    | McASP1 Transmit Bit Clock                                                                       |
| AFSX1                                                | 11      | IO   | -    | Y    | McASP1 Transmit Frame Sync (L/R)Clock                                                           |
| AMUTE1                                               | 4       | O    | -    | Y    | McASP1 MUTE Output                                                                              |
| <b>SPI0, I2C0, and I2C1 Serial Port Pins</b>         |         |      |      |      |                                                                                                 |
| SPI0_SOMI/I2C0_SDA                                   | 111     | IO   | -    | Y    | SPI0 Data Pin Slave Out Master In <b>or</b> I2C0 Serial Data                                    |
| SPI0_SIMO                                            | 110     | IO   | -    | Y    | SPI0 Data Pin Slave In Master Out                                                               |
| SPI0_CLK/I2C0_SCL                                    | 108     | IO   | -    | Y    | SPI0 Serial Clock <b>or</b> I2C0 Serial Clock                                                   |
| SPI0_SCS/I2C1_SCL                                    | 107     | IO   | -    | Y    | SPI0 Slave Chip Select <b>or</b> I2C1 Serial Clock                                              |
| SPI0_ENA/I2C1_SDA                                    | 105     | IO   | -    | Y    | SPI0 Enable (Ready) <b>or</b> I2C1 Serial Data                                                  |

## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-7

### Q201 : D707E001RFP250 (32 bit Floating-Point Digital Signal Processor)-7/7

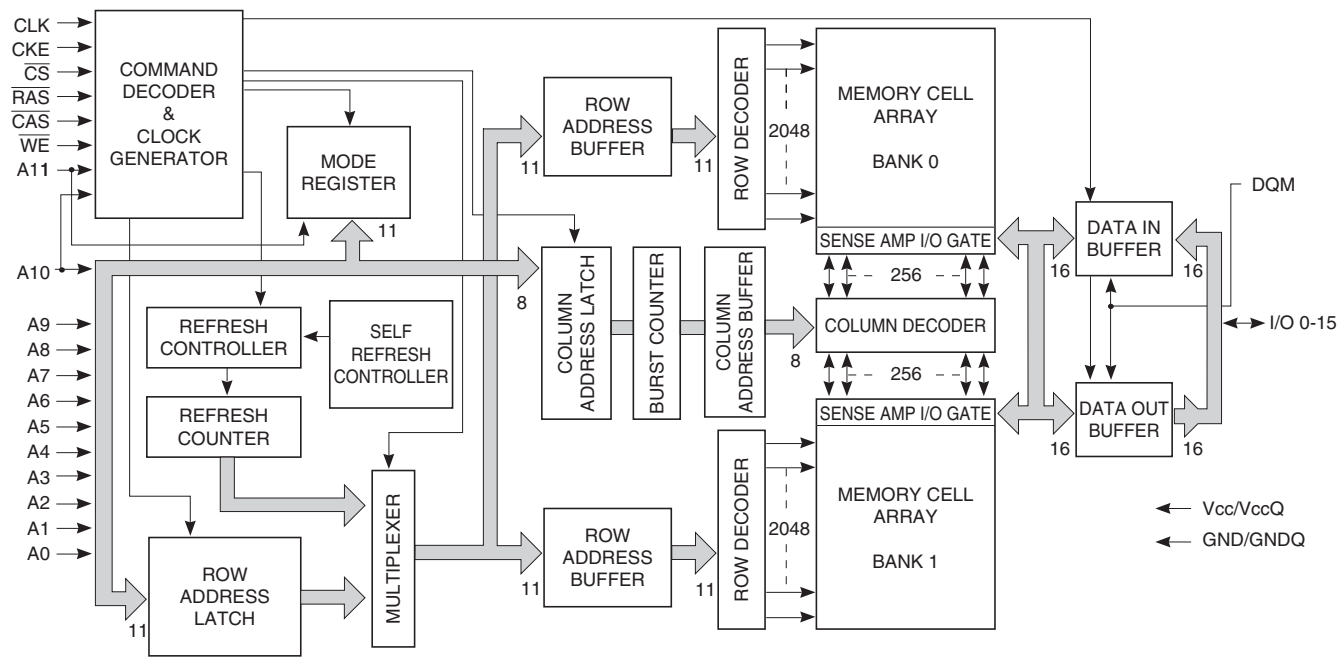
#### TERMINAL DESCRIPTION (4/4)

| SIGNAL NAME                     | PIN NO.                                                                                                          | TYPE | PULL | GPIO | DESCRIPTION                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------|------|------|------|--------------------------------------------------------------|
| <b>Clocks</b>                   |                                                                                                                  |      |      |      |                                                              |
| OSCIN                           | 23                                                                                                               | I    | -    | N    | 1.2-V Oscillator Input                                       |
| OSCOUT                          | 24                                                                                                               | O    | -    | N    | 1.2-V Oscillator Output                                      |
| OSCV <sub>DD</sub>              | 25                                                                                                               | PWR  | -    | N    | Oscillator 1.2-V V <sub>DD</sub> tap point (for filter only) |
| OSCV <sub>SS</sub>              | 22                                                                                                               | PWR  | -    | N    | Oscillator V <sub>SS</sub> tap point (for filter only)       |
| CLKIN                           | 17                                                                                                               | I    | -    | N    | Alternate clock input (3.3-V LVCMOS Input)                   |
| PLLHV                           | 27                                                                                                               | PWR  | -    | N    | PLL 3.3-V Supply Input (requires external filter)            |
| <b>Device Reset</b>             |                                                                                                                  |      |      |      |                                                              |
| RESET                           | 14                                                                                                               | I    | -    | N    | Device reset pin                                             |
| <b>Emulation/JTAG Port</b>      |                                                                                                                  |      |      |      |                                                              |
| TCK                             | 35                                                                                                               | I    | IPU  | N    | Test Clock                                                   |
| TMS                             | 19                                                                                                               | I    | IPU  | N    | Test Mode Select                                             |
| TDI                             | 28                                                                                                               | I    | IPU  | N    | Test Data In                                                 |
| TDO                             | 29                                                                                                               | OZ   | IPU  | N    | Test Data Out                                                |
| TRST                            | 21                                                                                                               | I    | IPD  | N    | Test Reset                                                   |
| EMU[0]                          | 32                                                                                                               | IO   | IPU  | N    | Emulation Pin 0                                              |
| EMU[1]                          | 34                                                                                                               | IO   | IPU  | N    | Emulation Pin 1                                              |
| <b>Power Pins</b>               |                                                                                                                  |      |      |      |                                                              |
| Core Supply (CV <sub>DD</sub> ) | 8, 16, 20, 33, 44, 53, 57, 65, 77, 85, 90, 101, 123, 128, 132                                                    |      |      |      |                                                              |
| IO Supply (DV <sub>DD</sub> )   | 10, 31, 42, 50, 60, 68, 73, 81, 92, 103, 112, 125, 136                                                           |      |      |      |                                                              |
| Ground (V <sub>SS</sub> )       | 1, 6, 13, 15, 18, 26, 30, 36, 40, 47, 54, 62, 69, 72, 78, 82, 87, 95, 99, 106, 109, 114, 118, 124, 129, 133, 140 |      |      |      |                                                              |

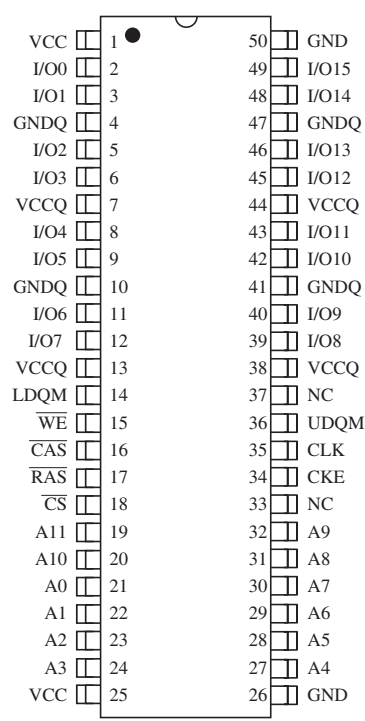
# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-8

## Q281 : IC42S16100 (16-Mbit Synchronous Dynamic RAM)-1/2

### BLOCK DIAGRAM



### PIN CONFIGURATION



## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-9

### Q281 : IC42S16100 (16-Mbit Synchronous Dynamic RAM)-2/2

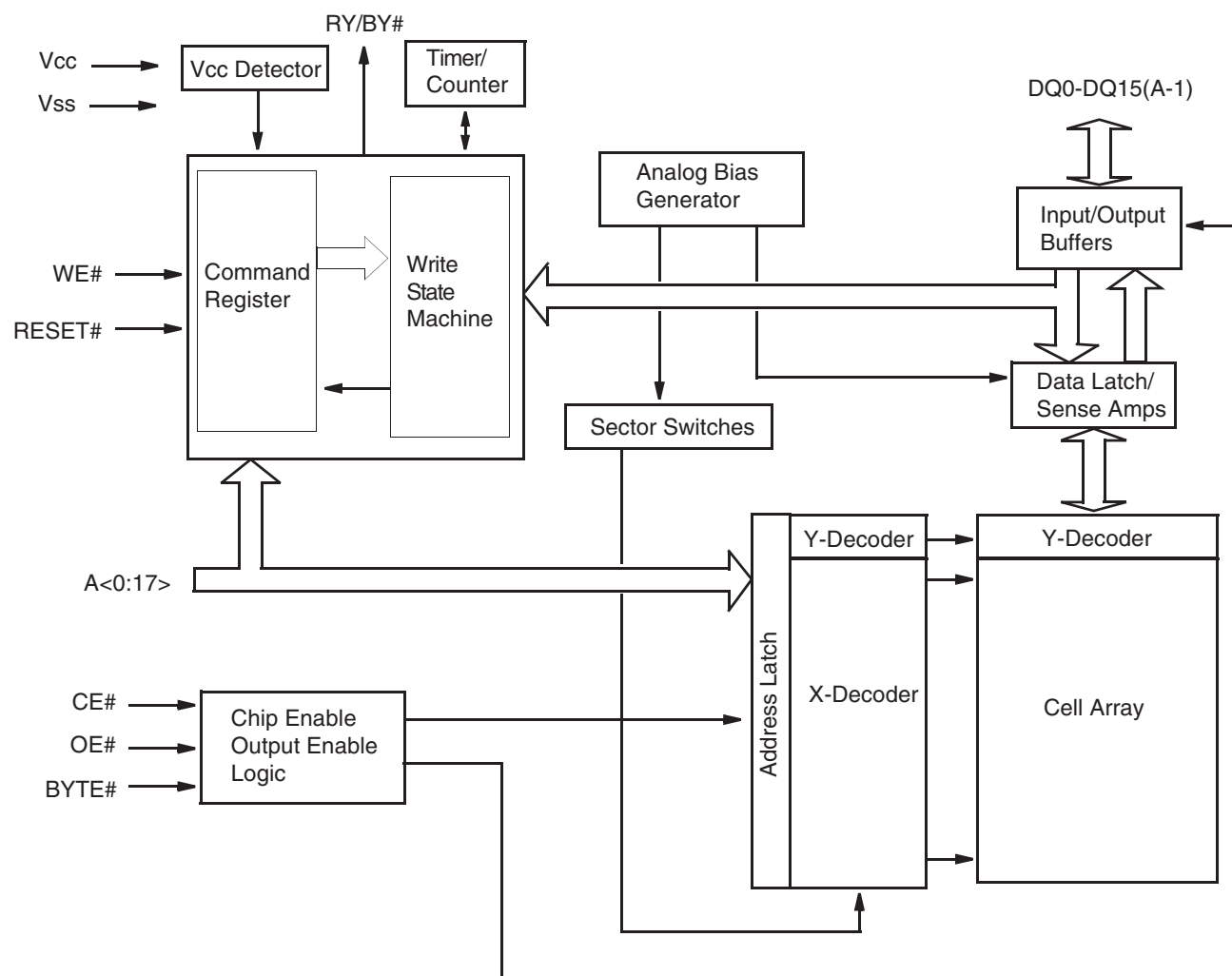
#### TERMINAL DESCRIPTION

| Pin No.                                                           | Pin name                | Function (In Detail)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20 to 24<br>27 to 32                                              | A0-A10                  | A0 to A10 are address inputs. A0-A10 are used as row address inputs during active command input and A0-A7 as column address inputs during read or write command input. A10 is also used to determine the precharge mode during other commands. If A10 is LOW during precharge command, the bank selected by A11 is precharged, but if A10 is HIGH, both banks will be precharged. When A10 is HIGH in read or write command cycle, the precharge starts automatically after the burst access.<br>These signals become part of the OP CODE during mode register set command input.                                               |
| 19                                                                | A11                     | A11 is the bank selection signal. When A11 is LOW, bank 0 is selected and when high, bank 1 is selected. This signal becomes part of the OP CODE during mode register set command input.                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 16                                                                | $\overline{\text{CAS}}$ | $\overline{\text{CAS}}$ , in conjunction with the $\overline{\text{RAS}}$ and $\overline{\text{WE}}$ , forms the device command. See the "Command Truth Table" item for details on device commands.                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 34                                                                | CKE                     | The CKE input determines whether the CLK input is enabled within the device.<br>When is CKE HIGH, the next rising edge of the CLK signal will be valid, and when LOW, invalid. When CKE is LOW, the device will be in either the power-down mode, the clock suspend mode, or the self refresh mode. The CKE is an asynchronous input.                                                                                                                                                                                                                                                                                           |
| 35                                                                | CLK                     | CLK is the master clock input for this device. Except for CKE, all inputs to this device are acquired in synchronization with the rising edge of this pin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 18                                                                | $\overline{\text{CS}}$  | The $\overline{\text{CS}}$ input determines whether command input is enabled within the device. Command input is enabled when $\overline{\text{CS}}$ is LOW, and disabled with $\overline{\text{CS}}$ is HIGH. The device remains in the previous state when $\overline{\text{CS}}$ is HIGH.                                                                                                                                                                                                                                                                                                                                    |
| 2, 3, 5, 6, 8, 9,<br>11, 12, 39, 40,<br>42, 43, 45, 46,<br>48, 49 | I/O0<br>to<br>I/O15     | I/O0 to I/O15 are I/O pins. I/O through these pins can be controlled in byte units using the LDQM and UDQM pins.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 14, 36                                                            | LDQM,<br>UDQM           | LDQM and UDQM control the lower and upper bytes of the I/O buffers. In read mode, LDQM and UDQM control the output buffer. When LDQM or UDQM is LOW, the corresponding buffer byte is enabled, and when HIGH, disabled. The outputs go to the HIGH impedance state when LDQM/UDQM is HIGH. This function corresponds to $\overline{\text{OE}}$ in conventional DRAMs. In write mode, LDQM and UDQM control the input buffer.<br>When LDQM or UDQM is LOW, the corresponding buffer byte is enabled, and data can be written to the device. When LDQM or UDQM is HIGH, input data is masked and cannot be written to the device. |
| 17                                                                | $\overline{\text{RAS}}$ | $\overline{\text{RAS}}$ , in conjunction with $\overline{\text{CAS}}$ and $\overline{\text{WE}}$ , forms the device command. See the "Command Truth Table" item for details on device commands.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 15                                                                | $\overline{\text{WE}}$  | $\overline{\text{WE}}$ , in conjunction with $\overline{\text{RAS}}$ and $\overline{\text{CAS}}$ , forms the device command. See the "Command Truth Table" item for details on device commands.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 7, 13, 38, 44                                                     | VccQ                    | VccQ is the output buffer power supply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1, 25                                                             | Vcc                     | Vcc is the device internal power supply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4, 10, 41, 47                                                     | GNDQ                    | GNDQ is the output buffer ground.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 26, 50                                                            | GND                     | GND is the device internal ground.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-10

## Q282 : ES29LV400 (4 Mbit Flash Memory)

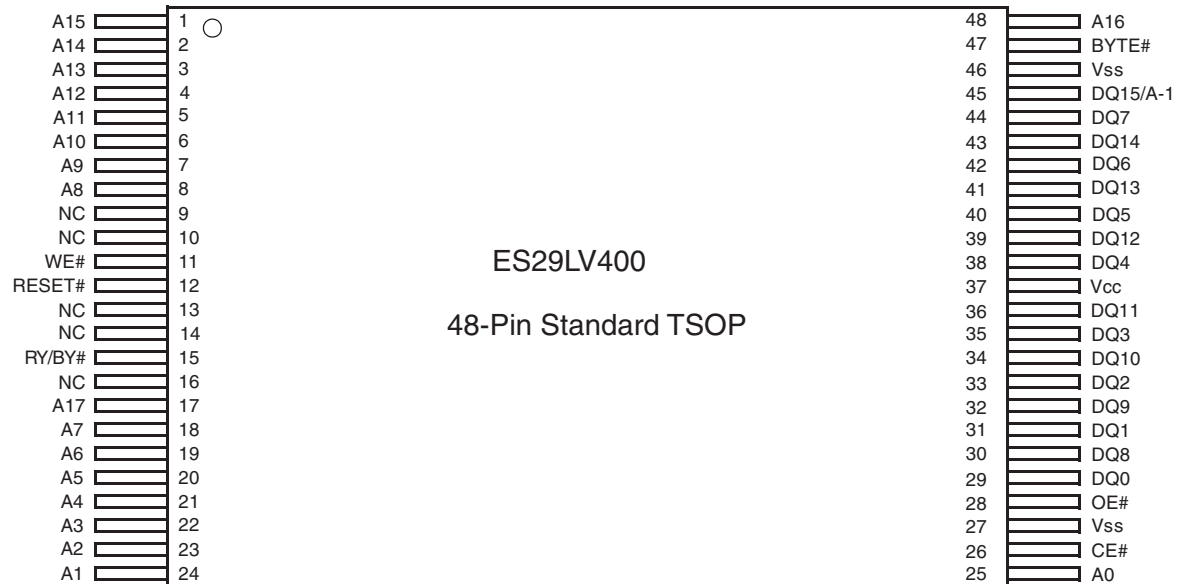
### BLOCK DIAGRAM



# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-11

## Q282 : ES29LV400 (4 Mbit Flash Memory)

### PIN CONFIGURATION



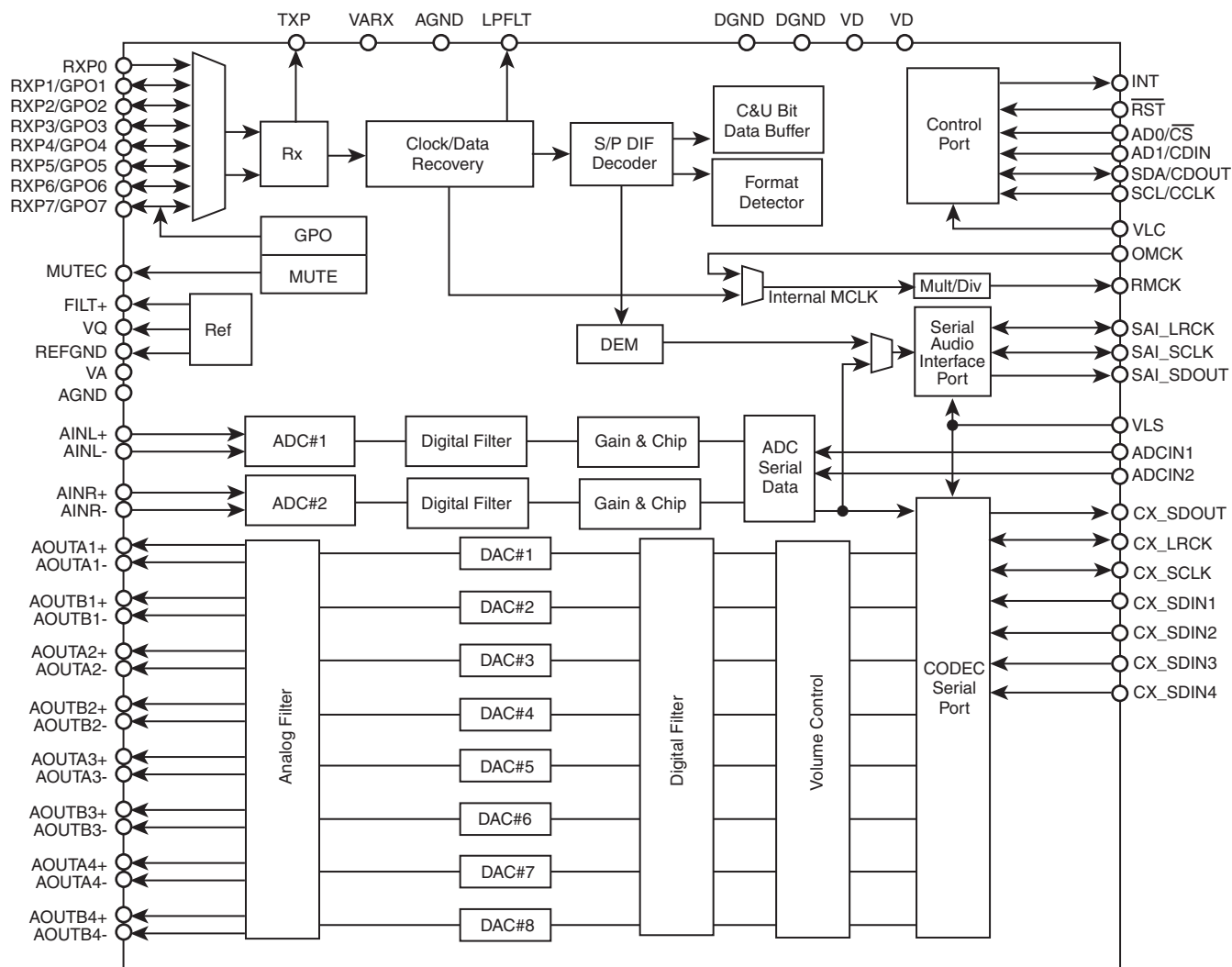
### TERMINAL DESCRIPTION

| Terminal | Description                                                                                                       |
|----------|-------------------------------------------------------------------------------------------------------------------|
| A0-A17   | 18 Addresses                                                                                                      |
| DQ0-DQ14 | 15 Data Inputs/Outputs                                                                                            |
| DQ15/A-1 | DQ15 (Data Input/Output, Word Mode)<br>A-1 (LSB Address Input, Byte Mode)                                         |
| CE#      | Chip Enable                                                                                                       |
| OE#      | Output Enable                                                                                                     |
| WE#      | Write Enable                                                                                                      |
| RESET#   | Hardware Reset Pin, Active Low                                                                                    |
| BYTE#    | Selects 8-bit or 16-bit mode                                                                                      |
| RY/BY#   | Ready/Busy Output                                                                                                 |
| Vcc      | 3.0 volt-only single power supply<br>(see Product Selector Guide for speed options and voltage supply tolerances) |
| Vss      | Device Ground                                                                                                     |
| NC       | Pin Not Connected Internally                                                                                      |

# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-12

## Q301 : CS42518 (8-ch Codec with S/PDIF Receiver)-1/4

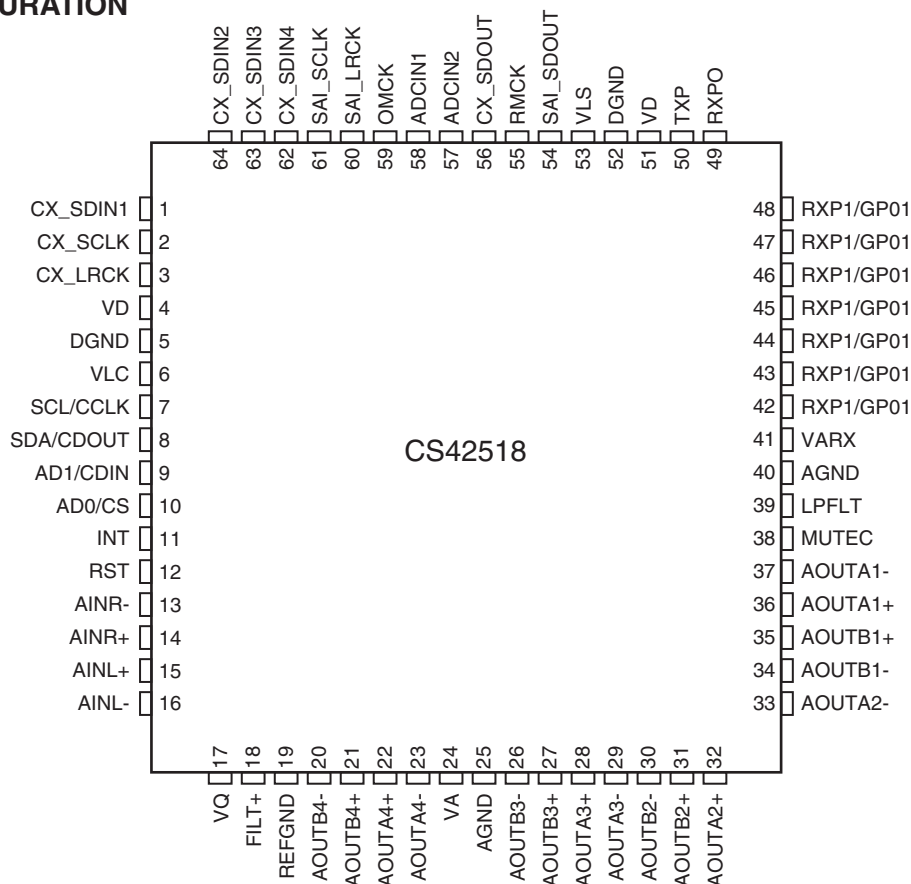
### BLOCK DIAGRAM



# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-13

## Q301 : CS42518 (8-ch Codec with S/PDIF Receiver)-2/4

### PIN CONFIGURATION



### TERMINAL DESCRIPTION(1/3)

| Pin Name   | #       | Pin Description                                                                                                                                                                                                                                                         |
|------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CX_SDIN1   | 1       | Codec Serial Audio Data Input (Input) - Input for two's complement serial audio data.                                                                                                                                                                                   |
| CX_SDIN2   | 64      |                                                                                                                                                                                                                                                                         |
| CX_SDIN3   | 63      |                                                                                                                                                                                                                                                                         |
| CX_SDIN4   | 62      |                                                                                                                                                                                                                                                                         |
| CX_SCLK    | 2       | CODEC Serial Clock (Input/Output) - Serial clock for the CODEC serial audio interface                                                                                                                                                                                   |
| CX_LRCK    | 3       | CODEC Left Right Clock (Input/ Output) - Determines which channel, Left or Right, is currently active on the CODEC serial audio data line.                                                                                                                              |
| VD         | 4<br>51 | Digital Power (Input) - Positive power supply for the digital section.                                                                                                                                                                                                  |
| DGND       | 5<br>52 | Digital Ground (Input) - Ground reference. Should be connected to digital ground.                                                                                                                                                                                       |
| VLC        | 6       | Control Port Power (Input) - Determines the required signal level for the control port.                                                                                                                                                                                 |
| SCL/CCLK   | 7       | Serial Control Port Clock (Input) - Serial clock for the serial control port. Requires an external pull-up resistor to the logic interface voltage in I2C mode as shown in the Typical Connection Diagram.                                                              |
| SDA/CDOOUT | 8       | Serial Control Data (Input/Output) - SDA is a data I/O line in IC mode and requires an external pull-up resistor to the logic interface voltage, as shown in the Typical connection Diagram. CDOOUT is the output data line for the control port interface in SPI mode. |
| AD1/CDIN   | 9       | Address Bit 1 (I2C)/Serial Control Data (SPI) (Input) - AD1 a chip address pin in I2C mode; CDIN is the input data line for control port interface in SPI mode.                                                                                                         |

# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-14

## Q301 : CS42518 (8-ch Codec with S/PDIF Receiver)-3/4

### TERMINAL DESCRIPTION(2/3)

| Pin Name    | #        | Pin Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AD0/CS      | 10       | Address Bit 0 (I2C)/Control Port Chip Select (SPI) (INput) - AD0 is a chip address pin in I2C mode; CS is the chip select signal in SPI mode.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| INT         | 11       | Interrupt (Ountput) - The CS42518 will generate an interrupt condition as per the Interrupt Mask register.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| RST         | 12       | Reset (Input) - The device enters a low power mode and all internal registers are reset to their default settings when low.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| AINR-       | 13       | Differential right Channel Analog Input (Input) - Signals are presented differentially to the delta-sigma modulators via the AINR+/- pins.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| AINR+       | 14       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| AINL-       | 15       | Differential right Channel Analog Input (Input) - Signals are presented differentially to the delta-sigma modulators via the AINR+/- pins.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| AINL+       | 16       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VQ          | 17       | Quiescent Voltage (Output) - Filter connection for internal quiescent reference voltage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FILT+       | 18       | Positive Voltage Reference (Output) - Positive reference voltage for the internal sampling circuits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| REFGND      | 19       | Reference Ground (Input) - Ground reference for the internal sampling circuits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| AOUTA1 +, - | 36, 37   | Differential Analog Output (Output) - The full-scale differential analog output level is specified in the Analog Characteristics specification table.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| AOUTB1 +, - | 35, 34   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| AOUTA2 +, - | 32, 33   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| AOUTB2 +, - | 31, 30   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| AOUTA3 +, - | 28, 29   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| AOUTB3 +, - | 27, 26   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| AOUTA4 +, - | 22, 23   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| AOUTB4 +, - | 21, 20   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| VA          | 24       | Analog Power (Input) - Positive power supply for the analog section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| VARX        | 41       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| AGND        | 25<br>40 | Analog Ground (Input) - Ground reference. Should be connected to analog ground.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MUTEC       | 38       | Mute Control (Output) - The Mute Control pin outputs high impedance following an initial power -on condition or whenever the PDN bit is set to a "1", forcing the codec into power -down mode. The signal will remain in a high impedance state as long as the part is in power-down mode. The Mute Control pin goes to the selected "active" state during reset, muting, or if the master clock to left/right clock frequency ratio is incorrect. This pin is intended to be used as a control for external mute circuits to prevent the clicks and pops that can occur in any single supply system. The use of external mute circuits are not mandatory but may be desired for designs requiring the absolute minimum in extraneous clicks and pops. |
| LPFLT       | 39       | PLL Loop Filer (Output) - An RC network should be connected between this pin and ground.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RXP7/GPO7   | 42       | S/PDIF Receiver Input/ General Purpose Output (Input/ Output) - Receiver inputs for S/PDIF encoded data. The CS42518 has an internal 8:2 multiplexer to select the active receiver port, according to the Receiver Mode Control 2 resistor. These pins can also be configured as general purpose output pins, ADC Overflow indicators or Mute Control outputs according to the RXP/General Purpose Pin Control resistors.                                                                                                                                                                                                                                                                                                                              |
| RXP6/GPO6   | 43       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RXP5/GPO5   | 44       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RXP4/GPO4   | 45       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RXP3/GPO3   | 46       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RXP2/GPO2   | 47       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RXP1/GPO1   | 48       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| RXP0        | 49       | S/PDIF Receiver Input (Input) - Dedicated receiver input for S/PDIF encoded data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TXP         | 50       | S/PDIF Transmitter Output (Output) - S/PDIF encoded data output, mapped directly from one of the receiver inputs as indicated by the Receiver Mode Control 2 resistor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| VLP         | 53       | Serial Port Interface Power (Input) - Determines the required signal level for the serial port interfaces.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SAI_SDOUT   | 54       | Serial Audio Interface Serial Data Output (Output) - Output for two's complement serial audio PCM data from the S/PDIF incoming stream. This pin can also be configured to transmit the output of the internal and external ADCs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| RMCK        | 55       | Recovered Master Clock (Output) - Recovered master clock output from the External Clock Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-15

### Q301 : CS42518 (8-ch Codec with S/PDIF Receiver)-4/4

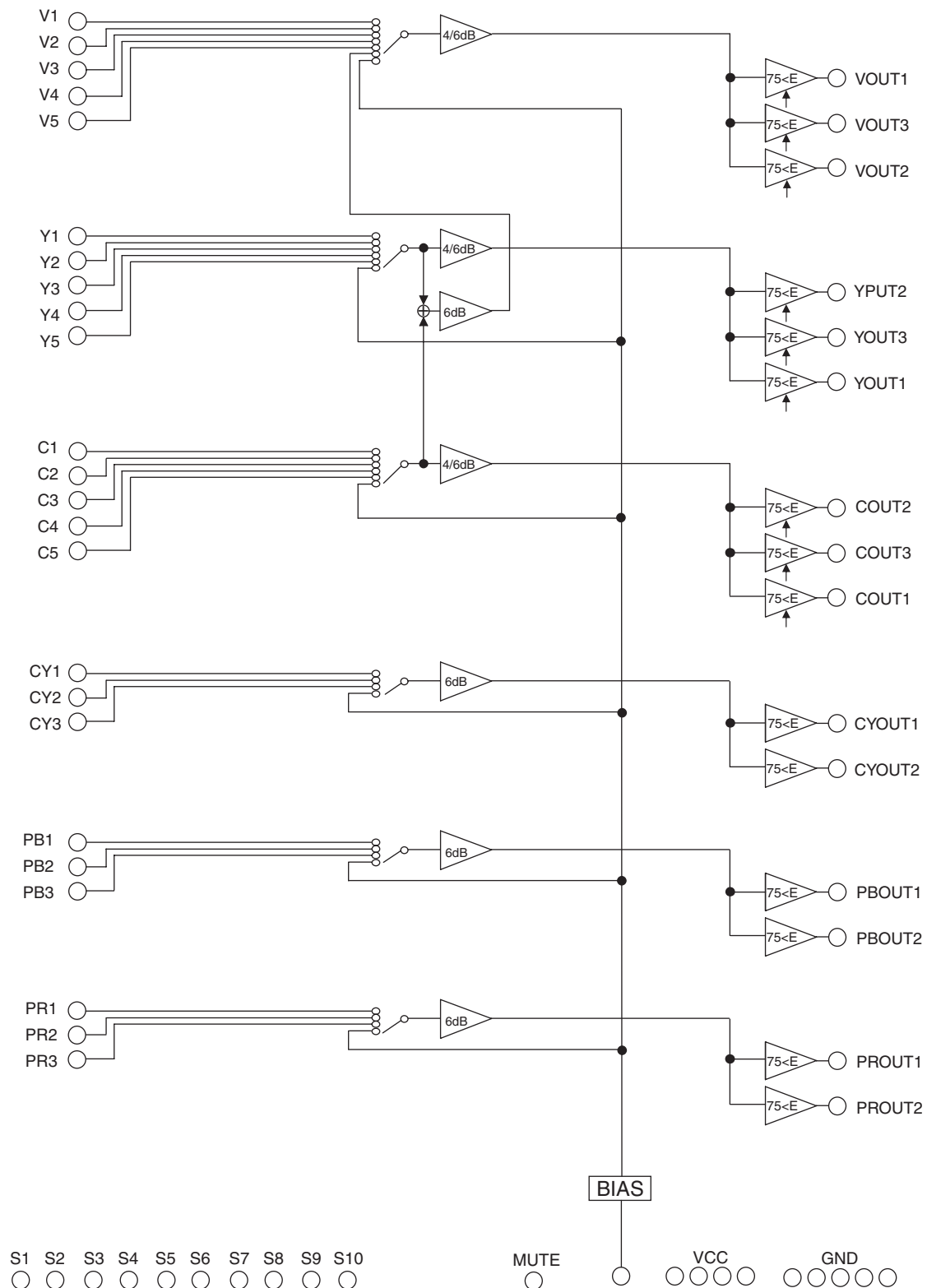
#### TERMINAL DESCRIPTION(3/3)

| Pin Name | #  | Pin Description                                                                                                                                                                                                                     |
|----------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CL_SDOUT | 56 | CODEC Serial Data Output (Output) - Output for two's complement serial audio data the internal and external ADCs.                                                                                                                   |
| ADCIN1   | 58 | External ADC Serial Input (Input) - The CS42518 provides for up two external stereo analog to digital converter inputs to provide a maximum of six channels on serial data output line when the CS42518 is placed in One Line mode. |
| ADCIN2   | 57 |                                                                                                                                                                                                                                     |
| OMCK     | 59 | External Reference Clock (Input) - External clock reference that must be within the ranges specified in currently active on the serial audio data line.                                                                             |
| SAI_LRCK | 60 | Serial Audio Interface Left/Right Clock (Input/Output) - Determines which channel, Left of Right, is currently active on the serial audio data line.                                                                                |
| SAI_LRCK | 61 | Serial Audio Interface Serial Clock (Input/Output) - Serial clock for the Serial Audio Interface                                                                                                                                    |

## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-16

## Q3001 : AN15880A (Video SW for Receiver with Multi-signal)-1/4

## BLOCK DIAGRAM



## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-17

### Q3001 : AN15880A (Video SW for Receiver with Multi-signal)-2/4

#### TERMINAL DESCRIPTION (1/2)

| Pin No. | Pin name | Type         | Description                |
|---------|----------|--------------|----------------------------|
| 1       | Y1       | Input        | Luminance signal input 1   |
| 2       | Y2       | Input        | Luminance signal input 2   |
| 3       | Y3       | Input        | Luminance signal input 3   |
| 4       | Y4       | Input        | Luminance signal input 4   |
| 5       | Y5       | Input        | Luminance signal input 5   |
| 6       | VCC1     | Power supply | 5.0 V power supply         |
| 7       | BIAS     | Output       | Bias voltage               |
| 8       | C1       | Input        | Chrominance signal input 1 |
| 9       | C2       | Input        | Chrominance signal input 2 |
| 10      | C3       | Input        | Chrominance signal input 3 |
| 11      | C4       | Input        | Chrominance signal input 4 |
| 12      | C5       | Input        | Chrominance signal input 5 |
| 13      | GND1     | Ground1      | Ground                     |
| 14      | CY1      | Input        | CY1 signal input           |
| 15      | CY2      | Input        | CY2 signal input           |
| 16      | CY3      | Input        | CY3 signal input           |
| 17      | PB1      | Input        | PB1 signal input           |
| 18      | PB2      | Input        | PB2 signal input           |
| 19      | PB3      | Input        | PB3 signal input           |
| 20      | PR1      | Input        | PR1 signal input           |
| 21      | PR2      | Input        | PR2 signal input           |
| 22      | PR3      | Input        | PR3 signal input           |
| 23      | S1       | Input        | Logic control input 1      |
| 24      | PROUT2   | Output       | PROUT2 signal output       |
| 25      | S2       | Input        | Logic control input 2      |
| 26      | S3       | Input        | Logic control input 3      |
| 27      | PROUT1   | Output       | PROUT1 signal output       |
| 28      | S4       | Input        | Logic control input 4      |
| 29      | GND5     | Ground       | Ground                     |
| 30      | S5       | Input        | Logic control input 5      |
| 31      | VCC5     | Power supply | 5.0 V power supply         |
| 32      | PBOUT2   | Output       | PBOUT2 signal output       |
| 33      | PBOUT1   | ---          | PBOUT1 signal output       |
| 34      | NC1      | Output       | No connection              |
| 35      | CYOUT2   | Output       | CYOUT2 signal output       |

## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-18

### Q3001 : AN15880A(Video SW for Receiver with Multi-signal)-3/4

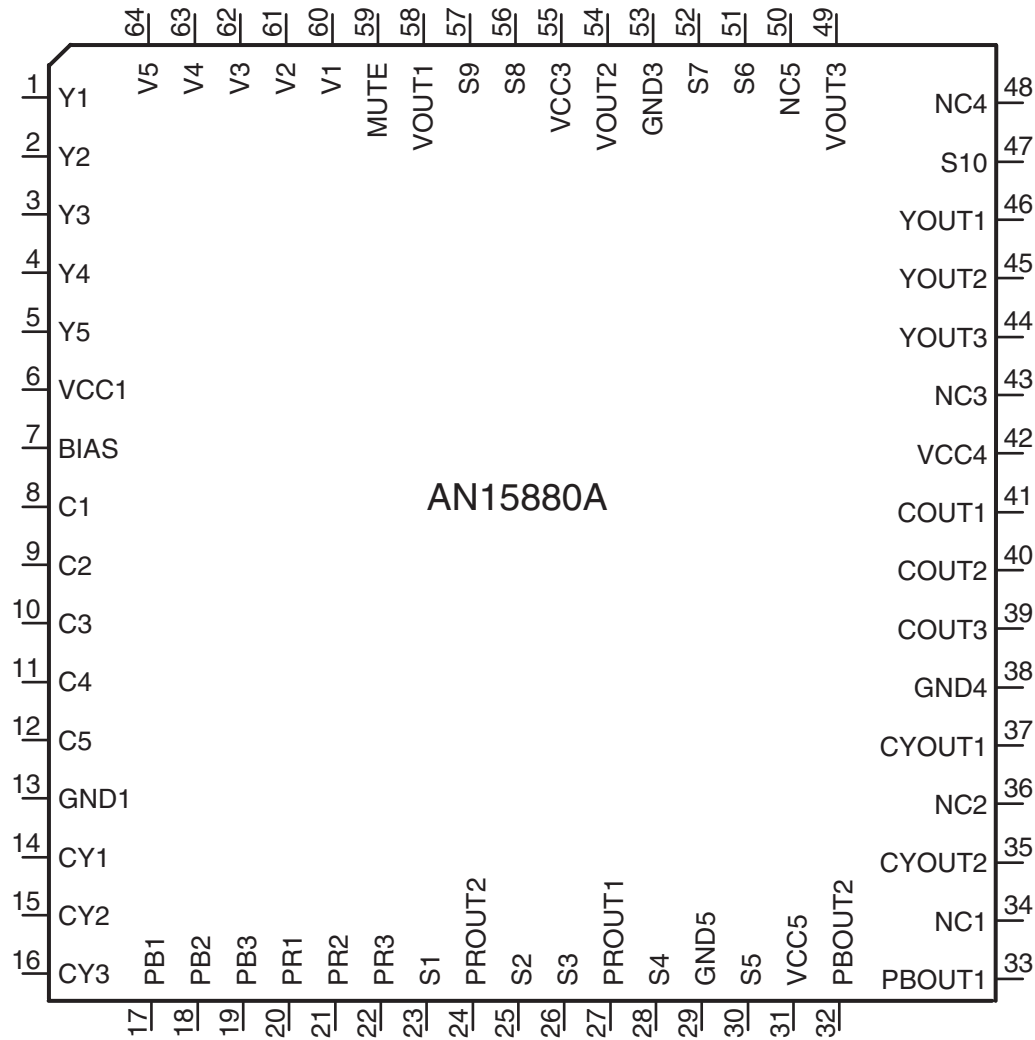
#### TERMINAL DESCRIPTION (2/2)

| Pin No. | Pin name | Type         | Description                    |
|---------|----------|--------------|--------------------------------|
| 36      | NC2      | -            | No connection                  |
| 37      | CYOUT1   | Output       | CYOUT1 signal output           |
| 38      | GND4     | Ground       | Ground                         |
| 39      | COUT3    | Output       | COUT3 signal output            |
| 40      | COUT2    | Output       | COUT2 signal output            |
| 41      | COUT1    | Output       | COUT1 signal output            |
| 42      | VCC4     | Power supply | 5.0 V power supply             |
| 43      | NC3      | -            | No connection                  |
| 44      | YOUT3    | Output       | YOUT3 signal output            |
| 45      | YOUT2    | Output       | YOUT2 signal output            |
| 46      | YOUT1    | Output       | YOUT1 signal output            |
| 47      | S10      | Input        | Logic control input 10         |
| 48      | NC4      | -            | No connection                  |
| 49      | VOUT3    | Output       | VOUT3 signal output            |
| 50      | NC5      | -            | No connection                  |
| 51      | S6       | Input        | Logic control input 6          |
| 52      | S7       | Input        | Logic control input 7          |
| 53      | GND3     | Ground       | Ground                         |
| 54      | VOUT2    | Output       | VOUT2 signal output            |
| 55      | VCC3     | Power supply | 5.0 V power supply             |
| 56      | S8       | Input        | Logic control input 8          |
| 57      | S9       | Input        | Logic control input 9          |
| 58      | VOUT1    | Output       | VOUT1 signal output            |
| 59      | MUTE     | Input        | Logic mute control input       |
| 60      | V1       | Input        | Video composite signal input 1 |
| 61      | V2       | Input        | Video composite signal input 2 |
| 62      | V3       | Input        | Video composite signal input 3 |
| 63      | V4       | Input        | Video composite signal input 4 |
| 64      | V5       | Input        | Video composite signal input 5 |

IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-19

Q3001: AN15880A (Video SW for Receiver with Multi-signal)-4/4

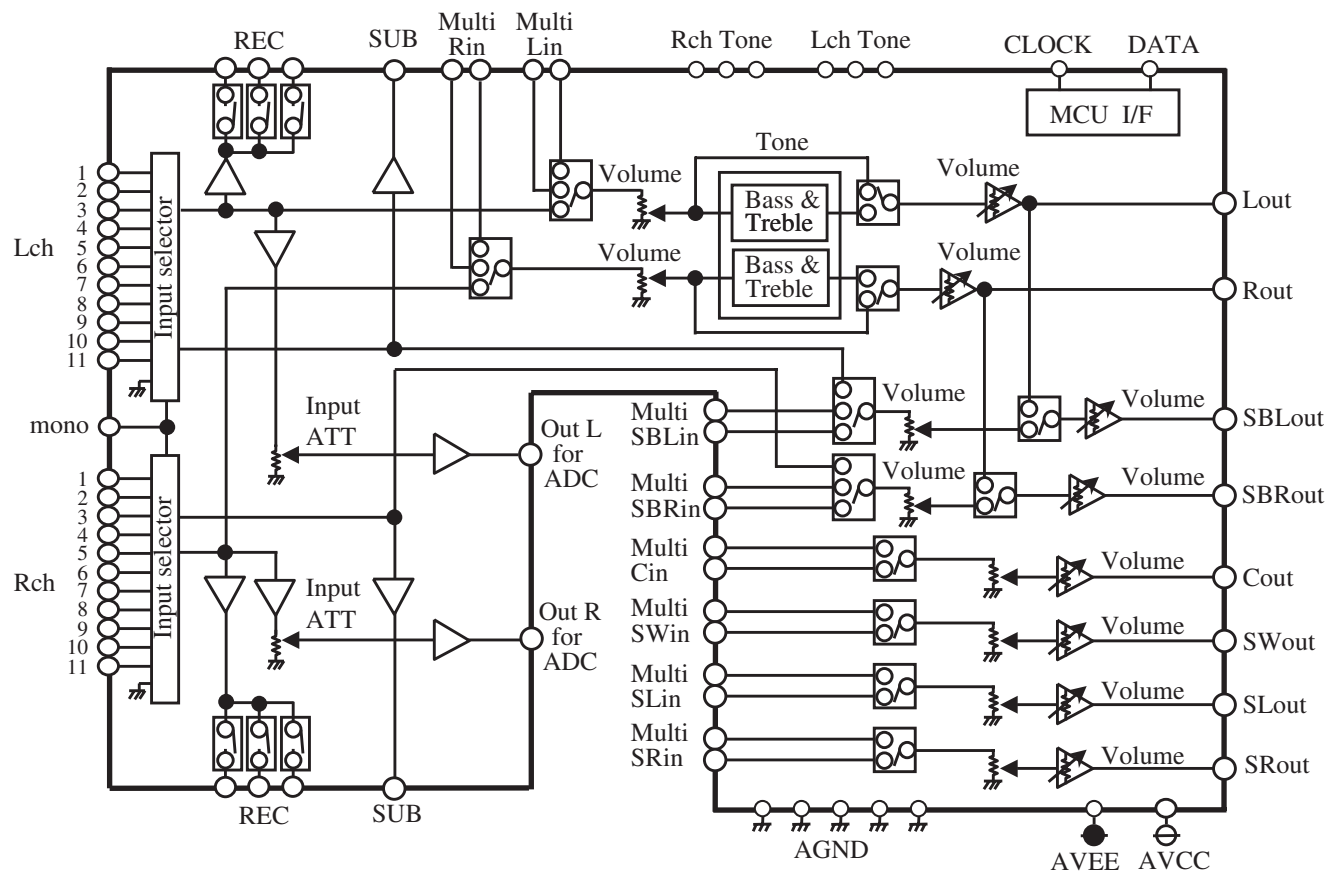
PIN CONFIGURATION



# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-20

Q5501 : R2S15211FP (8 ch Electronic Volume and 11 Input Selector and Tone Control)-1/3

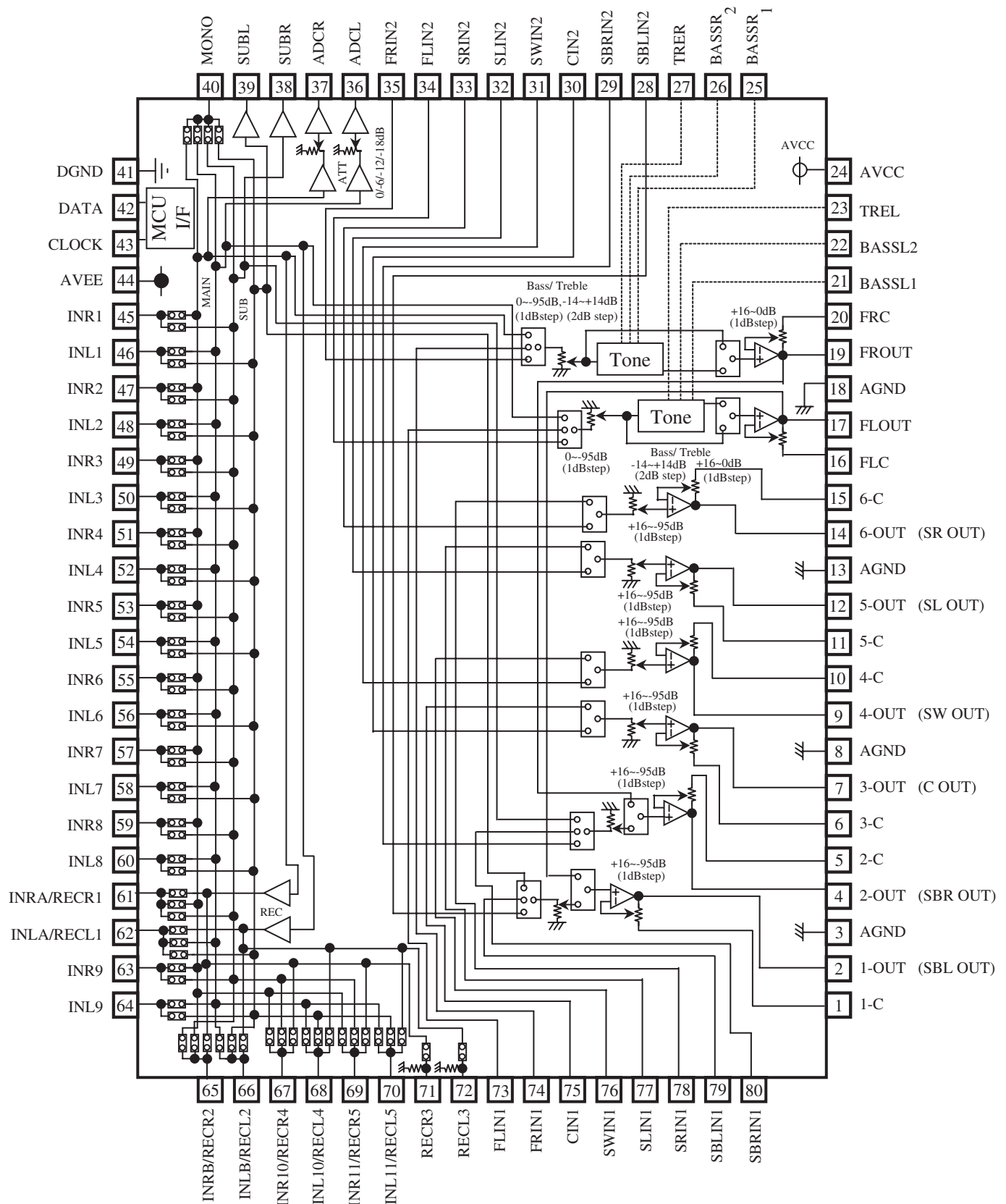
## SYSTEM BLOCK DIAGRAM



# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-21

Q5501 : R2S15211FP (8 ch Electronic Volume and 11 Input Selector and Tone Control)-2/3

## BLOCK DIAGRAM AND PIN CONFIGURATION



## IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-22

### Q5501 : R2S15211FP (8 ch Electronic Volume and 11 Input Selector and Tone Control)-3/3

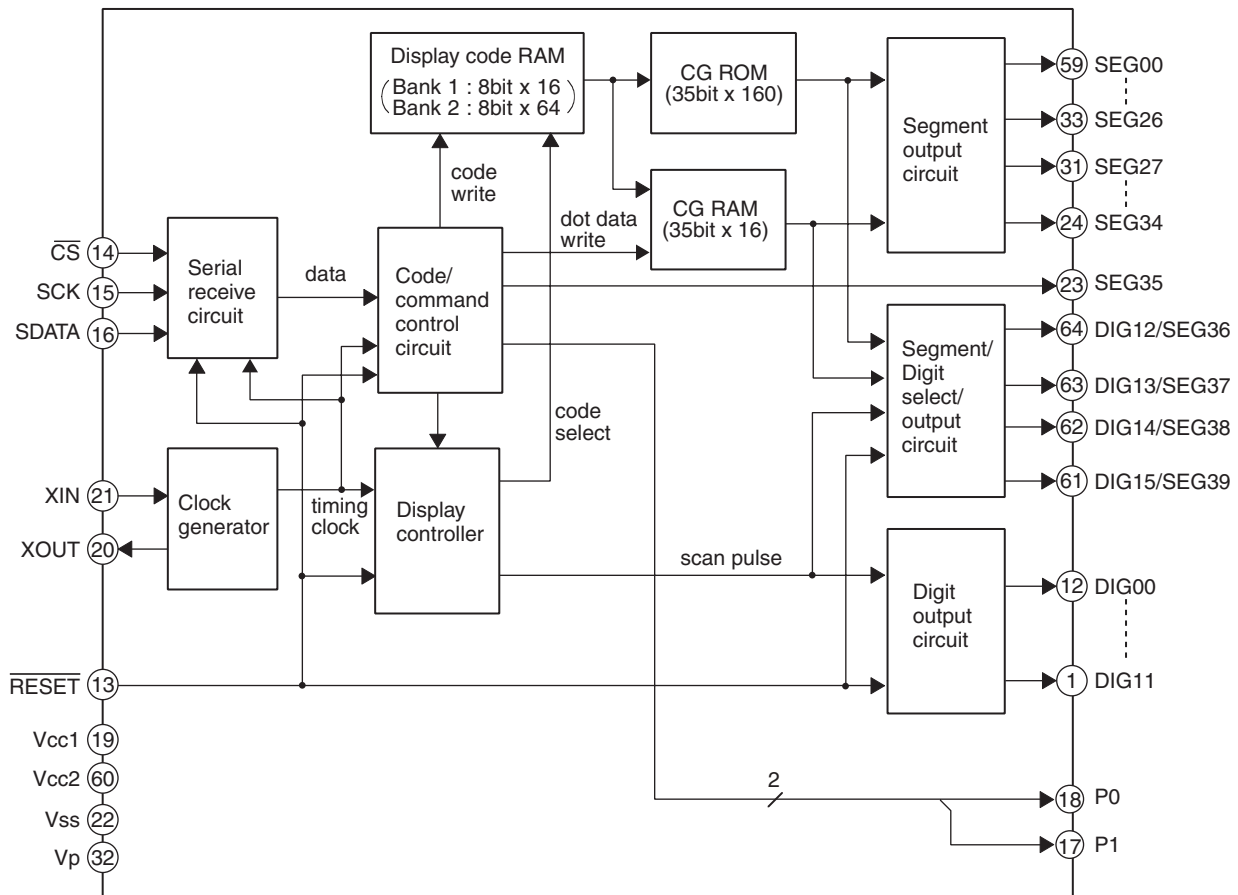
#### TERMINAL DESCRIPTION

| PIN No.                             | Name                                                                                                    | Function                                                                                |
|-------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 19,17,<br>14,12,<br>9,7,<br>4,2     | FROUT,FLOUT,<br>6-OUT,5-OUT,<br>4-OUT, 3-OUT,<br>2-OUT,1-OUT                                            | Output pin of FL/FR/C/SW/SL/SR/SBL/SBR channel                                          |
| 20,16,<br>15,11,<br>10,6,<br>5,1    | FRC,FLC,<br>6-C,5-C,<br>4-C,3-C,<br>2-C,1-C                                                             | Connects capacitor for reducing click noise of<br>L/R/C/SW/SL/SR/SBL/SBR channel volume |
| 3,8,<br>13,18                       | AGND                                                                                                    | Analog ground of internal circuit                                                       |
| 23,27                               | TREL, TRER                                                                                              | Frequency characteristic setting pin of L/R channel tone control(Treble)                |
| 21,22,<br>25,26                     | BASSL1, BASSL2<br>BASSR1, BASSR2                                                                        | Frequency characteristic setting pin of L/R channel tone control(Bass)                  |
| 24                                  | AVCC                                                                                                    | Positive power supply to internal circuit                                               |
| 35,34,<br>33,32,<br>31,30,<br>29,28 | FRIN2, FLIN2,<br>SRN2,SLIN2,<br>SWIN2,CIN2,<br>SBRIN2,SBLIN2                                            | Input pin of L/R/C/SW/SL/SR/SBL/SBR channel (Multi IN 1/2)                              |
| 73,74,<br>75,76,<br>77,78,<br>79,80 | FLIN1, FRIN1,<br>CIN1,SWIN1,<br>SLIN1,SRIN1,<br>SBLIN1,SBRIN1                                           |                                                                                         |
| 41                                  | DGND                                                                                                    | Digital ground of internal circuit                                                      |
| 42                                  | DATA                                                                                                    | Input pin of control data                                                               |
| 43                                  | CLOCK                                                                                                   | Input pin of control clock                                                              |
| 44                                  | AVEE                                                                                                    | Negative power supply to internal circuit                                               |
| 46,48,50,<br>52,54,56,<br>58,60,64  | INL1, INL2, INL3,<br>INL4, INL5, INL6,<br>INL7, INL8, INL9                                              | Input pin of L/R channel (Input Selector)                                               |
| 45,47,49,<br>51,53,55,<br>57,59,63  | INR1, INR2, INR3,<br>INR4, INR5, INR6,<br>INR7, INR8, INR9                                              |                                                                                         |
| 40                                  | MONO                                                                                                    | Input pin of monaural (Input Selector)                                                  |
| 38,39                               | SUBL,SUBR                                                                                               | Output pin for L/R channel SUB Output                                                   |
| 36,37                               | ADCL, ADCR                                                                                              | Output pin for L/R channel ADC                                                          |
| 72                                  | RECL3                                                                                                   | Output pin for L/R channel REC Output                                                   |
| 71                                  | RECR3                                                                                                   |                                                                                         |
| 61,62,<br>65,66,<br>67,68,<br>69,70 | INRA/RECR1,INLA/RECL1,<br>INRB/RECR2,INLB/RECL2,<br>INR10/RECR4,INL10/RECL4,<br>INR11/RECR5,INL11/RECL5 | Input pin of L/R channel (Input Selector)/<br>Output pin for L/R channel REC Output     |

# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-23

## Q7003 : M66005 (FL Tube Driver)

### BLOCK DIAGRAM



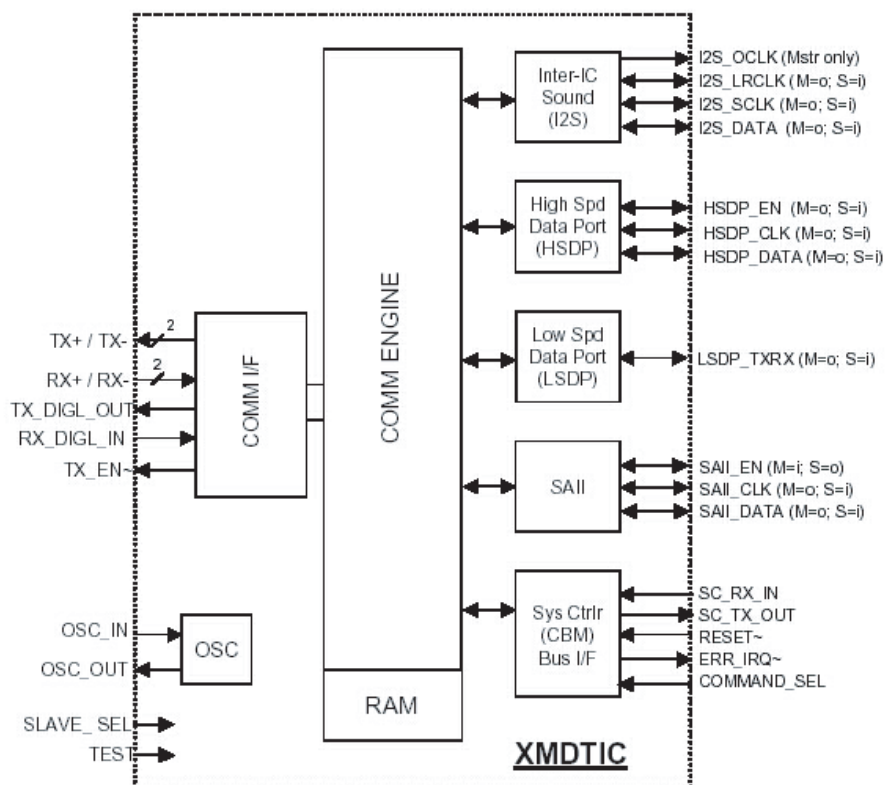
### TERMINAL DESCRIPTION

| PIN NO.        | SYMBOL                    | PIN NAME                    | DESCRIPTION                                                                                       |
|----------------|---------------------------|-----------------------------|---------------------------------------------------------------------------------------------------|
| 13             | $\overline{\text{RESET}}$ | Reset input                 | This pin is used to initialize the internal state of the M66004.                                  |
| 14             | $\overline{\text{CS}}$    | Chip select input           | "L" : Communication with the MCU is possible.<br>"H" : Any instruction from the MCU is neglected. |
| 15             | SCK                       | Shift clock input           | At the rising edge from "L" to "H", input data is shifted.                                        |
| 16             | SDATA                     | Serial data input           | Character code or command data to display is input from MSB.                                      |
| 21,<br>20      | XIN,<br>XOUT              | Clock input<br>Clock output | This pin is used to connect a resister and a capacitor externally to set oscillation frequency.   |
| 1~12<br>61~64  | DIG00 ~<br>DIG15          | Digit output                | These pins are used to connect to digit pins of VFD.                                              |
| 23~31<br>33~59 | SEG00 ~<br>SEG39          | Segment output              | These pins are used to connect to segment pins of VFD.                                            |
| 17, 18         | P0, P1                    |                             | Output port (static operation)                                                                    |
| 19             | VCC1                      |                             | Positive power supply for internal logic.                                                         |
| 60             | VCC2                      |                             | Positive power supply for high-pressure-resistant output port.                                    |
| 22             | VSS                       |                             | GND                                                                                               |
| 32             | VP                        |                             | Negative power supply for VFD drive.                                                              |

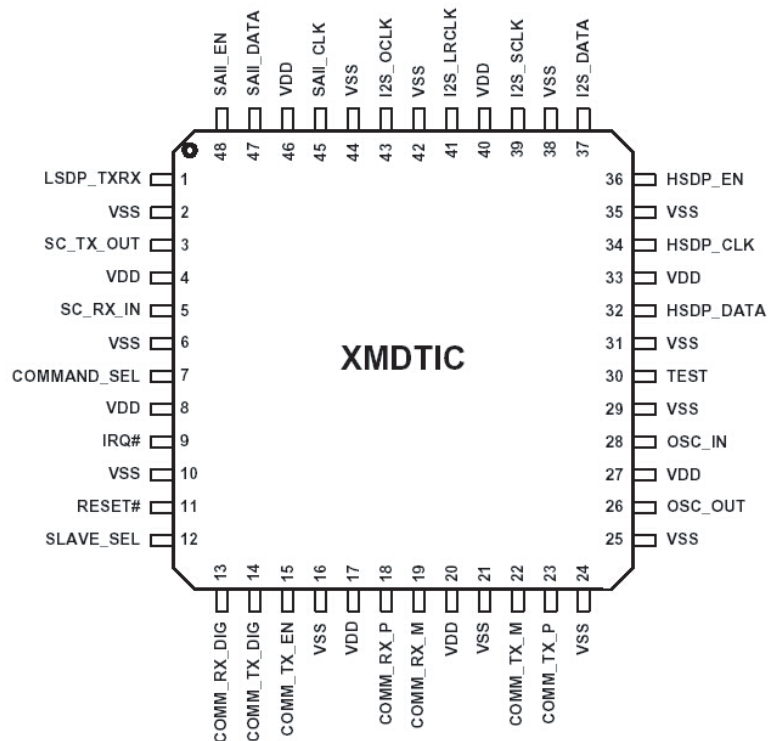
# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-24

Q2001 : F2602E(XM Digital Transceiver)-1/3

## BLOCK DIAGRAM



## PIN CONFIGURATION



# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-25

## Q2001 : F2602E(XM Digital Transceiver)-2/3

### TERMINAL DESCRIPTION(1/2)

| Pin # | Pin Name    | Type           | Function in Slave Mode                                                       | Function in Master Mode                                                      | Notes                         |
|-------|-------------|----------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------|
| 1     | LSDP_TXRX   | S=In<br>M=Out  | Low Speed Data Port Output                                                   | Low Speed Data Port Input                                                    | LVTTL S/T                     |
| 3     | SC_TX_OUT   | S=Out<br>M=Out | System Controller Bus (CBM)<br>Transmit Data Out                             | System Controller Bus (CBM)<br>Transmit Data Out                             | 4mA, SLC                      |
| 5     | SC_RX_IN    | S=In<br>M=In   | System Controller Bus (CBM)<br>Receive Data In                               | System Controller Bus (CBM)<br>Receive Data In                               | LVTTL S/T                     |
| 7     | COMMAND_SEL | S=In<br>M=In   | Command Mode Select In<br>(1= Command Mode,<br>0=Normal Mode)                | Command Mode Select In<br>(1= Command Mode,<br>0=Normal Mode)                | LVTTL S/T                     |
| 9     | IRQ#        | S=Out<br>M=Out | Interrupt Request Out<br>(Active Low)                                        | Interrupt Request Out<br>(Active Low)                                        | 4mA Open Drain                |
| 11    | RESET#      | S=In<br>M=In   | Asynchronous Reset In,<br>(Active Low)                                       | Asynchronous Reset In,<br>(Active Low)                                       | LVTTL S/T                     |
| 12    | SLAVE_SEL   | S=In<br>M=In   | M/S Mode Select In<br>(High = Slave Mode)                                    | M/S Mode Select In<br>(Low = Master Mode)                                    | LVTTL S/T                     |
| 13    | COMM_RX_DIG | S=In<br>M=In   | DT Comm Bus External<br>Transceiver Receive Data In                          | DT Comm Bus External<br>Transceiver Receive Data In                          | LVTTL S/T                     |
| 14    | COMM_TX_DIG | Output         | DT Comm Bus External<br>Transceiver Transmit Data<br>Out                     | DT Comm Bus External<br>Transceiver Transmit Data<br>Out                     | LVTTL S/T                     |
| 15    | COMM_TX_EN  | Output         | DT Comm Bus External<br>Transceiver Direction Out<br>(1=Transmit, 0=Receive) | DT Comm Bus External<br>Transceiver Direction Out<br>(1=Transmit, 0=Receive) | LVTTL S/T                     |
| 18    | COMM_RX_P   | S=In<br>M=In   | DT Comm Bus Internal<br>Receiver Differential Positive<br>In                 | DT Comm Bus Internal<br>Receiver Differential Positive<br>In                 | LVDS in+                      |
| 19    | COMM_RX_M   | S=In<br>M=In   | DT Comm Bus Internal<br>Receiver Differential<br>Negative In                 | DT Comm Bus Internal<br>Receiver Differential<br>Negative In                 | LVDS in-                      |
| 22    | COMM_TX_M   | Output         | DT Comm Bus Internal<br>Transmitter Differential<br>Negative Out             | DT Comm Bus Internal<br>Transmitter Differential<br>Negative Out             | LVDS out-                     |
| 23    | COMM_TX_P   | Output         | DT Comm Bus Internal<br>Transmitter Differential<br>Positive Out             | DT Comm Bus Internal<br>Transmitter Differential<br>Positive Out             | LVDS out+                     |
| 26    | OSC_OUT     | Output         | Crystal Output                                                               | Crystal Output                                                               | Crystal Buffer                |
| 28    | OSC_IN      | S=In<br>M=In   | Crystal Input                                                                | Crystal Input                                                                | Crystal Buffer                |
| 30    | TEST        | S=In<br>M=In   | Factory Test Mode Select<br>(1=Test, 0= Normal Oper.)                        | Factory Test Mode Select<br>(1=Test, 0= Normal Oper.)                        | LVTTL S/T                     |
| 32    | HSDP_DATA   | S=In<br>M=Out  | High Speed Data Port Data<br>Input                                           | High Speed Data Port Data<br>Output                                          | Out= 4mA, SLC<br>In=LVTTL S/T |
| 34    | HSDP_CLK    | S=In<br>M=Out  | High Speed Data Port Clock<br>Input                                          | High Speed Data Port Clock<br>Output                                         | Out= 4mA, SLC<br>In=LVTTL S/T |
| 36    | HSDP_EN     | S=Out<br>M=In  | High Speed Data Port Enable<br>Output                                        | High Speed Data Port Enable<br>Input                                         | Out= 4mA, SLC<br>In=LVTTL S/T |
| 37    | I2S_DATA    | S=In<br>M=Out  | I2S Digital Port Data In                                                     | I2S Digital Audio Port Data<br>Out                                           | Out= 4mA, SLC<br>In=LVTTL S/T |

**IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-26****Q2001 : F2602E(XM Digital Transceiver)-3/3****TERMINAL DESCRIPTION(2/2)**

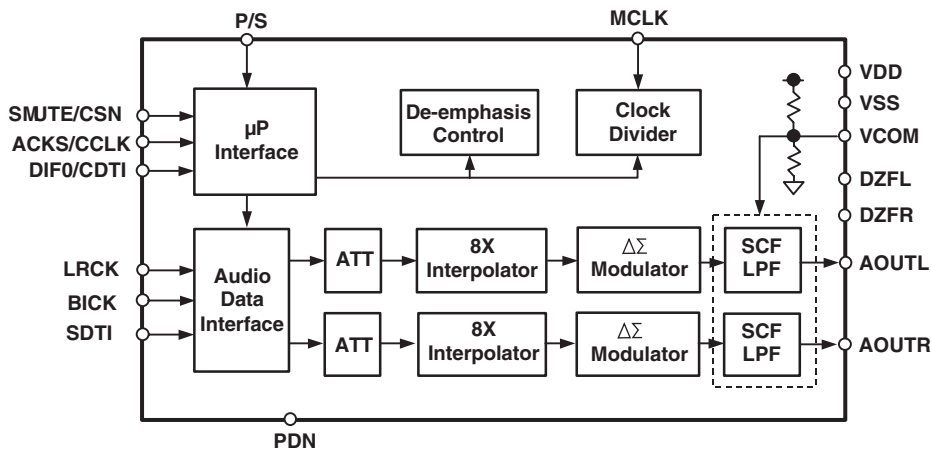
| Pin # | Pin Name  | Type          | Function in Slave Mode                                                    | Function in Master Mode                     | Notes                         |
|-------|-----------|---------------|---------------------------------------------------------------------------|---------------------------------------------|-------------------------------|
| 39    | I2S_SCLK  | S=In<br>M=Out | I2S Digital Audio Port Bit Clock In                                       | I2S Digital Audio Port Bit Clock Out        | Out= 4mA, SLC<br>In=LVTTL S/T |
| 41    | I2S_LRCLK | S=In<br>M=Out | I2S Digital Audio Port Left/Right Clock In                                | I2S Digital Audio Port Left/Right Clock Out | Out= 4mA, SLC<br>In=LVTTL S/T |
| 43    | I2S_OCLK  | S=In<br>M=Out | I2S Digital Audio Port Oversample Clock<br>(not used - connect to Gnd???) | I2S Digital Audio Port Oversample Clock Out | Out= 4mA, SLC                 |
| 45    | SAII_CLK  | S=Out<br>M=In | SAII Port Clock Output                                                    | SAII Port Clock Input                       | Out= 4mA, SLC<br>3.3V S/T     |
| 47    | SAII_DATA | S=Out<br>M=In | SAII Port Data Output                                                     | SAII Port Data Input                        | Out= 4mA, SLC<br>In=LVTTL S/T |
| 48    | SAII_REQ  | S=In<br>M=Out | SAII Port Request Input                                                   | SAII Port Request Output                    | Out= 4mA, SLC<br>In=LVTTL S/T |

| Pin#                                                      | Pin Name | Type | Function in Slave Mode | Function in Master Mode | Notes |
|-----------------------------------------------------------|----------|------|------------------------|-------------------------|-------|
| 4, 8, 17, 20,<br>27, 33, 40, 46                           | VDD      | PWR  | +3.3V Supply Voltage   | +3.3V Supply Voltage    |       |
| 2, 6, 10, 16,<br>21, 24, 25, 29,<br>31, 25, 38, 42,<br>44 | VSS      | GND  | Digital Ground         | Digital Ground          |       |

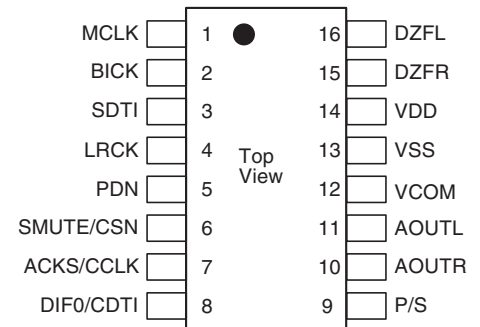
# IC BLOCK DIAGRAMS AND TERMINAL DESCRIPTIONS-27

Q2002 : AK4384 (192kHz 24-Bit 2ch DAC)

## BLOCK DIAGRAM



## PIN CONFIGURATION

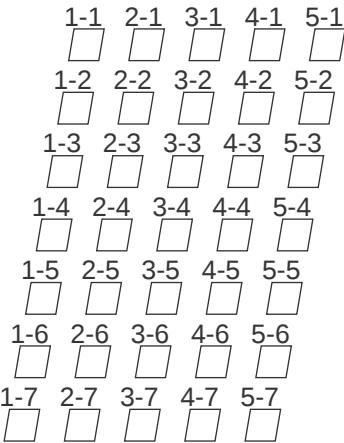
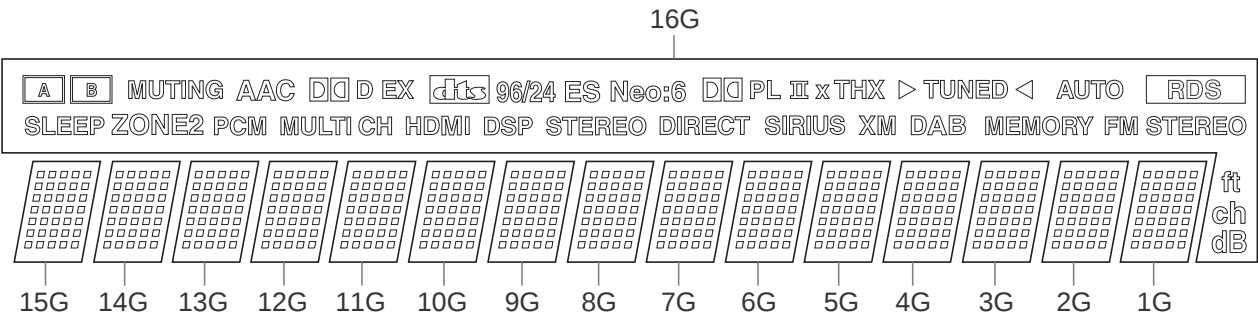


## TERMINAL DESCRIPTION

| No. | Pin Name      | I/O    | Function                                                                                                                                           |
|-----|---------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | MCLK          | I      | Master Clock Input Pin<br>An external TTL clock should be input on this pin.                                                                       |
| 2   | BICK          | I      | Audio Serial Data Clock Pin                                                                                                                        |
| 3   | SDTI          | I      | Audio Serial Data Input Pin                                                                                                                        |
| 4   | LRCK          | I      | L/R Clock Pin                                                                                                                                      |
| 5   | PDN           | I      | Power-Down Mode Pin<br>When at "L", the AK4384 is in the power-down mode and is held in reset.<br>The AK4384 should always be reset upon power-up. |
| 6   | SMUTE/<br>CSN | I<br>I | Soft Mute Pin in parallel mode<br>"H": Enable, "L": Disable<br>Chip Select Pin in serial mode                                                      |
| 7   | ACKS/<br>CCLK | I<br>I | Auto Setting Mode Pin in parallel mode<br>"L": Manual Setting Mode, "H": Auto Setting Mode<br>Control Data Clock Pin in serial mode                |
| 8   | DIF0/<br>CDTI | I<br>I | Audio Data Interface Format Pin in parallel mode<br>Control Data Input Pin in serial mode                                                          |
| 9   | P/S           | I      | Parallel/Serail Select Pin (Internal pull-up pin)<br>"L": Serial control mode, "H": Parallel control mode                                          |
| 10  | AOUTR         | O      | Rch Analog Output Pin                                                                                                                              |
| 11  | AOUTL         | O      | Lch Analog Output Pin                                                                                                                              |
| 12  | VCOM          | O      | Common Voltage Pin, VDD/2<br>Normally connected to VSS with a 0.1mF ceramic capacitor in parallel with a 10mF electrolytic cap.                    |
| 13  | VSS           | -      | Ground Pin                                                                                                                                         |
| 14  | VDD           | -      | Power Supply Pin                                                                                                                                   |
| 15  | DZFR          | O      | Rch Data Zero Input Detect Pin                                                                                                                     |
| 16  | DZFL          | O      | Lch Data Zero Input Detect Pin                                                                                                                     |

# FL TUBE VIEW

Q7001: 16BT128GNYK



(1G-15G)

|     | 16G     | 15G-1G |
|-----|---------|--------|
| P1  | A       | 1-1    |
| P2  | B       | 2-1    |
| P3  | SLEEP   | 3-1    |
| P4  | MUTING  | 4-1    |
| P5  | AAC     | 5-1    |
| P6  | ZONE2   | 1-2    |
| P7  | PCM     | 2-2    |
| P8  | DQ      | 3-2    |
| P9  | D       | 4-2    |
| P10 | MULTICH | 5-2    |
| P11 | EX      | 1-3    |
| P12 | HDMI    | 2-3    |
| P13 | 96/24   | 3-3    |
| P14 | DSP     | 4-3    |
| P15 | ES      | 5-3    |
| P16 | STEREO  | 1-4    |
| P17 | Neo:6   | 2-4    |
| P18 |         | 3-4    |

|     | 16G       | 15G-1G |
|-----|-----------|--------|
| P19 | DIRECT    | 4-4    |
| P20 | DQ PL     | 5-4    |
| P21 | II        | 1-5    |
| P22 | X         | 2-5    |
| P23 | SIRIUS    | 3-5    |
| P24 | THX       | 4-5    |
| P25 | XM        | 5-5    |
| P26 | DAB       | 1-6    |
| P27 | TUNED     | 2-6    |
| P28 | MEMORY    | 3-6    |
| P29 | AUTO      | 4-6    |
| P30 | FM STEREO | 5-6    |
| P31 | RDS       | 1-7    |
| P32 | ft        | 2-7    |
| P33 | ch        | 3-7    |
| P34 |           | 4-7    |
| P35 | dB        | 5-7    |

# MICROPROCESSOR TERMINAL DESCRIPTIONS-1

## Q701 : M30622MWP-B06

| Pin No. | Pin Name          | I/O | Act. | Description                                                              |
|---------|-------------------|-----|------|--------------------------------------------------------------------------|
| 1       | VSWS7             | O   | H    | Output control signal for video sw IC(AN15880)                           |
| 2       | VSWS6             | O   | H    | Output control signal for video sw IC(AN15880)                           |
| 3       | VSWS5             | O   | *    | Y/C Mix control output for video sw IC(AN15880)                          |
| 4       | ~VMUT             | O   | L    | Mute control output for video sw IC(AN15880)                             |
| 5       | VSWS3             | O   | H    | V/Y/C select control output for video sw IC(AN15880)                     |
| 6       | VSWS2             | O   | H    | V/Y/C select control output for video sw IC(AN15880)                     |
| 7       | VSWS1             | O   | H    | V/Y/C select control output for video sw IC(AN15880)                     |
| 8       | BYTE              | --- | ---  | Select of external bus width. Connect to ground.                         |
| 9       | CNVss             | --- | ---  | Select of processor mode.                                                |
| 10      | RDSDATA           | I   | H    | RDS data input(PP type)/Not used(other type)                             |
| 11      | VSWS4             | O   | H    | Gain control output for video sw IC(AN15880)                             |
| 12      | ~RESET            | I   | L    | Reset input                                                              |
| 13      | Xout              | --- | ---  | Connected to oscillator                                                  |
| 14      | Vss               | --- | ---  | Ground                                                                   |
| 15      | Xin               | --- | ---  | Connected to oscillator                                                  |
| 16      | Vcc1              | --- | ---  | Power supply.                                                            |
| 17      | ~NMI              | I   | L    | Not used.                                                                |
| 18      | POFF              | I   | L    | Power failure detect input                                               |
| 19      | VSYNC             | I   | L    | Not used                                                                 |
| 20      | ~XMREQERR/~RDSCLK | I   | L    | XM IC interrupt detect(D type)/RDS clock input(PP type)/Not used(others) |
| 21      | XMCOMSEL          | O   | H    | XM IC control output                                                     |
| 22      | ~XMDACRST         | O   | L    | XM DAC reset control output                                              |
| 23      | DIRINT0           | I   | H    | DIR(CS42518) unlock detect input                                         |
| 24      |                   | I   | H    | Not used                                                                 |
| 25      | ~DSPINT2          | I   | L    | DSP detect input                                                         |
| 26      | ~DSPINT1          | I   | L    | DSP detect input                                                         |
| 27      | ~DSPINT0          | I   | L    | DSP detect input                                                         |
| 28      | SDET              | I   | H    | S-video detect input                                                     |
| 29      | VCSCS/PLLSCL      | O   | CLK  | Video encoder/decoder clock output/Tuner unit clock output               |
| 30      | VCSDA/PLLSCL      | I/O | H    | Video encoder/decoder data output/Tuner unit data output                 |
| 31      | FTXD              | O   | H    | Writing port of flash microprocessor                                     |
| 32      | FRXD              | I   | H    | Writing port of flash microprocessor                                     |
| 33      | FCLK              | O   | CLK  | Writing port of flash microprocessor                                     |
| 34      | FBUSY             | O   | H    | Writing port of flash microprocessor                                     |
| 35      | XMSRTXD           | O   | H    | Data output for XM IC/SIRIUS UART                                        |
| 36      | XMSRRXD           | I   | H    | Data input from XM IC/SIRIUS UART                                        |
| 37      | ~XMRST            | O   | L    | XM IC reset control output                                               |
| 38      | ~DIRCS            | O   | L    | DIR(CS42518) chip select output                                          |
| 39      | ~DIRRST           | O   | L    | DIR(CS42518) reset control output                                        |
| 40      | ~DSPCS            | O   | L    | DSP chip select output                                                   |
| 41      | ~FEPM             | I   | H    | Writing port of flash microprocessor                                     |
| 42      | ~DSPRST           | O   | L    | Reset control output for DSP                                             |
| 43      | DIGCLK            | O   | CLK  | Clock output for DIR(CS42518)                                            |
| 44      | DIGSDI            | I   | H    | Data input from DIR(CS42518)                                             |
| 45      | DIGSDO            | O   | H    | Data output for DIR(CS42518)                                             |
| 46      | ~FCE              | I   | H    | Writing port of flash microprocessor                                     |
| 47      | AMUT              | O   | H    | Mute control output                                                      |
| 48      | SPRLB             | O   | H    | Speaker relay(SP-B) control output                                       |
| 49      | SPRLSB            | O   | H    | Speaker relay(SB) control output                                         |
| 50      | SPRLCS            | O   | H    | Speaker relay(C/S) control output                                        |

## MICROPROCESSOR TERMINAL DESCRIPTIONS-2

### Q701 : M30622MWP-B06

| Pin No. | Pin Name | I/O | Act. | Description                                     |
|---------|----------|-----|------|-------------------------------------------------|
| 51      | SPRLF    | O   | H    | Speaker relay(F) control output                 |
| 52      | ---      | O   | H    | Not used                                        |
| 53      | VOLDAT   | O   | H    | Data output for R2S15211                        |
| 54      | VOLCLK   | O   | H    | Clock output for R2S15211                       |
| 55      | ---      | O   | H    | Not used                                        |
| 56      | VPOWER   | O   | H    | Not used(D type)/Video power control output     |
| 57      | APOWER   | O   | H    | Power control output                            |
| 58      | ~POFF2   | I   | L    | POFF2 detect input                              |
| 59      | ~FANH    | O   | L    | Not used                                        |
| 60      | ~FANCTRL | O   | L    | Not used                                        |
| 61      | ---      | O   | H    | Not used                                        |
| 62      | Vcc2     | --- | ---  | Power supply.                                   |
| 63      | SEC1H    | O   | H    | Power supply control output for power amplifier |
| 64      | Vss      | --- | ---  | Ground.                                         |
| 65      | PROTECT  | I   | H    | Detect input of speaker protect                 |
| 66      | VOLH     | I   | A/D  | Detect input of speaker output voltage level    |
| 67      | THERMAL  | I   | A/D  | Thermal detect input                            |
| 68      | INIT3    | I   | A/D  | Input for initial setting                       |
| 69      | INIT2    | I   | A/D  | Input for initial setting                       |
| 70      | INIT1    | I   | A/D  | Input for initial setting                       |
| 71      | BAND     | I   | A/D  | Input for tuner frequency setting               |
| 72      | ~SYSOUT  | O   | L    | RI output                                       |
| 73      | SYSIN    | I   | H    | RI input                                        |
| 74      | ---      | I   | L    | Not used                                        |
| 75      | ~REMIN   | I   | L    | Remote control signal input                     |
| 76      | ~STEREO  | I   | L    | FM stereo detect input                          |
| 77      | ~SD      | I   | L    | FM/AM tuned detect input                        |
| 78      | HPDET    | I   | H    | Headphone detect input                          |
| 79      | VOLB     | I   | H    | Data input from rotary encoder(Master volume)   |
| 80      | VOLA     | I   | H    | Data input from rotary encoder(Master volume)   |
| 81      | ---      | O   | H    | Not used                                        |
| 82      | ---      | O   | H    | Not used                                        |
| 83      | ---      | O   | H    | Not used                                        |
| 84      | ~LEDSTBY | O   | L    | Standby LED control output                      |
| 85      | FLDSDO   | O   | H    | FL driver(M66005) data output                   |
| 86      | FLDCLK   | O   | CLK  | FL driver(M66005) clock output                  |
| 87      | ~FLDCS   | O   | L    | FL driver(M66005) chip select output            |
| 88      | ~FLDRST  | O   | L    | FL driver(M66005) reset control output          |
| 89      | ---      | I   | L    | Not used                                        |
| 90      | ---      | I   | L    | Not used                                        |
| 91      | ~KEYINT1 | I   | L    | Key interrupt input                             |
| 92      | ~KEYINT0 | I   | L    | Key interrupt input                             |
| 93      | KEY3     | I   | A/D  | Key input                                       |
| 94      | KEY2     | I   | A/D  | Key input                                       |
| 95      | KEY1     | I   | A/D  | Key input                                       |
| 96      | AVss     | --- | ---  | Ground for A/D converter                        |
| 97      | KEY0     | I   | A/D  | Key input                                       |
| 98      | Vref     | --- | ---  | Power supply for reference of A/D converter     |
| 99      | AVcc     | --- | ---  | Power supply.                                   |
| 100     | ~VSW58   | O   | L    | V1MUT control output for video sw IC(AN15880)   |

## ADJUSTMENT PROCEDURE-1

### IDLING CURRENT ADJUSTMENT

#### [When]

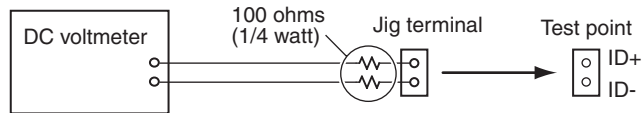
1. Exchange Power transistor (Q6050 - Q6056, Q6060 - Q6066)
2. Exchange Amplifier PC board (NAAF-8779).

#### [Procedure]

<Note> No load and No signal

Refer to " ADJUSTMENT PROCEDURE-2 " for the adjustment points and the test points.

1. Before idling adjustment, turn the trimming resistors fully to counter clockwise.
2. Connect the dc voltmeter to test points,  
using two 100 ohm resistors between the poles of the jig terminal and the dc voltmeter terminals.



3. Connect the ac power cord to a wall outlet.
4. Press **STANDBY/ON** button to turn the power on.
5. Adjust the trimming resistors as the following procedure immediately after power on.

| Channel             | Mark | Adjustment point<br>(Trimming resistor) | Measuring point<br>(Test point) | Adjustment value |
|---------------------|------|-----------------------------------------|---------------------------------|------------------|
| Center              | C    | R6040                                   | P6080                           | 2.5 mV           |
| Front Left          | L    | R6041                                   | P6081                           | 2.5 mV           |
| Front Right         | R    | R6042                                   | P6082                           | 2.5 mV           |
| Surround Left       | SL   | R6043                                   | P6083                           | 1.5 mV           |
| Surround Right      | SR   | R6044                                   | P6084                           | 1.5 mV           |
| Surround Back Left  | SBL  | R6045                                   | P6085                           | 1.5 mV           |
| Surround Back Right | SBR  | R6046                                   | P6086                           | 1.5 mV           |

6. Wait for 4 - 6 minutes. (Heat running)
7. Re-adjust the trimming resistors as the following procedure.

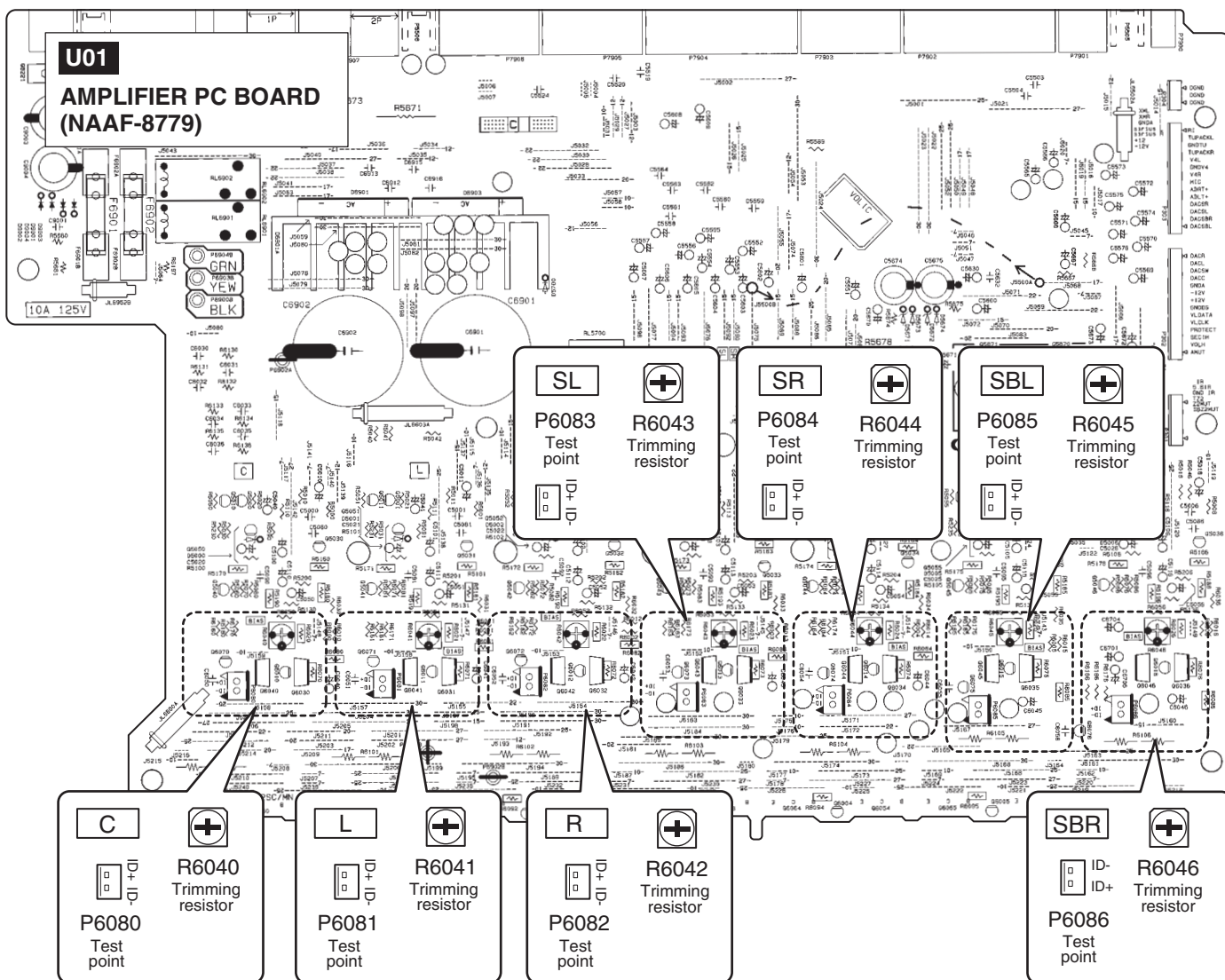
| Channel                                                                      | Adjustment point                 | Measured value                                                | Adjustment value                   | Specifications<br>(*In a stable state) |
|------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------|------------------------------------|----------------------------------------|
| Front Left, Right<br>and Center                                              | R6041, R6042<br>and R6040        | In case below 9 mV<br>In case 9 - 11 mV<br>In case over 11 mV | 9 mV<br>Leave it as it is<br>11 mV | 12 +/- 3 mV                            |
| Surround Left<br>Surround Right<br>Surround Back Left<br>Surround Back Right | R6043, R6044,<br>R6045 and R6046 | In case below 6 mV<br>In case 6 - 8 mV<br>In case over 8 mV   | 6 mV<br>Leave it as it is<br>8 mV  | 9 +/- 3 mV                             |

8. Disconnect the dc voltmeter.
9. Press **STANDBY/ON** button to turn the power off.
10. Disconnect the ac power cord.

\* Idling currents are stabilized in about 10 minutes after power on.

# ADJUSTMENT PROCEDURE-2

## IDLING CURRENT ADJUSTMENT



**HT-R540****<Note>**

Parts marked by '**NSP**' are generally unavailable because they are not in our Master Spare Parts List.

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

**<Notes>**

(B) : Black model

(S) : Silver model

<DD> : USA model

<DC> : Canadian model

<PA> : Australian model

**EXPLODED VIEW PARTS LIST**

|    | REF. NO. | PART NAME | DESCRIPTION       | Q'TY | PART NO. (SN) | REMARKS |
|----|----------|-----------|-------------------|------|---------------|---------|
| EV | A001     | F BRACKET | ---               | 1    | 27111442      | (B)     |
| EV | A001     | F BRACKET | ---               | 1    | 27111444      | (S)     |
| EV | A002     | SCREW     | 3TTB+8B(3CM)SR    | 5    | 801637        |         |
| EV | A004     | CUSHION   | ---               | 1    | 28141686      |         |
| EV | A011     | SCREW     | 3TTB+8B(3CM)SR    | 3    | 801637        |         |
| EV | A012     | SCREW     | 3TTB+8B(3CM)SR    | 2    | 801637        |         |
| EV | A013     | WIRE TIE  | BSK-1             | 7    | 260208        |         |
| EV | A015     | CHASSIS   | ---               | 1    | ---           | NSP     |
| EV | A016     | SCREW     | 3TTB+8B(3CM)SR    | 1    | 801637        |         |
| EV | A017     | WIRE TIE  | BINDER(CLAMPER)UL | 2    | 260258        |         |
| EV | A018     | HOLDER    | KGLS-22S          | 1    | 27190369      |         |
| EV | A020     | HOLDER    | KGLS-16RT         | 2    | 27190511      |         |
| EV | A021     | HOLDER    | HOLDER            | 4    | 27190991      |         |
| EV | A022     | HOLDER    | KGLS-10RT         | 1    | 27190428A     |         |
| EV | A024     | SCREW     | 3TTB+8B(3CM)SR    | 3    | 801637        |         |

|    |      |            |                   |     |             |     |
|----|------|------------|-------------------|-----|-------------|-----|
| EV | A025 | HOLDER     | HOLDER            | 1   | 27190965    |     |
| EV | A027 | HOLDER     | HOLDER KGLS-18S   | 1   | 27190470    |     |
| EV | A028 | CLIP       | CS-1U             | 1   | 27255004    |     |
| EV | A029 | SCREW      | 3TTB+8B(3CM)SR    | 1   | 801637      |     |
| EV | A030 | SCREW      | 4TTC+8C(3BC)      | 4   | 830440089GR |     |
| EV | A031 | SPACER     | ---               | 1   | 27270439    |     |
| EV | A033 | LABEL      | (PT)              | 1   | 29363379-1  |     |
| EV | A035 | HOLDER     | KGLS-14RT         | 1   | 27190524    |     |
| EV | A037 | BUSHING    | S-RELIEF #2271    | 1   | 27300750    | !   |
| EV | A040 | HEAT SINK  | ---               | 1   | 27160589    |     |
| EV | A041 | RETAINER   | (HL)              | 1   | 27142023    |     |
| EV | A042 | RETAINER   | (HR)              | 1   | 27142024    |     |
| EV | A043 | SCREW      | 3TTB+8B(3CM)SR    | 4   | 801637      |     |
| EV | A044 | TAPE       | TAPE(CLOTH-8U)    | (1) | 29110082    |     |
| EV | A045 | HOLDER     | KGLS-5RT          | 2   | 27191156    |     |
| EV | A047 | SCREW      | 3TTB+8B(3CM)SR    | 4   | 801637      |     |
| EV | A048 | SCREW      | 3TTB+8B(3CM)SR    | 1   | 801637      |     |
| EV | A049 | SCREW      | 3SMS8W.SW+14B(CU) | 14  | 801634      |     |
| EV | A050 | IB CUSHION | W15 x 3t TAPE     | 1   | 28141585    |     |
| EV | A051 | TAPE       | TAPE(CLOTH-16U)   | (1) | 29110083    |     |
| EV | A055 | KNOB       | (VOL)AS           | 1   | 28326289    | (B) |
| EV | A055 | KNOB       | (VOL)AS           | 1   | 28326461    | (S) |
| EV | A060 | COVER      | (B)               | 1   | 28184961    | (B) |
| EV | A060 | COVER      | (S)               | 1   | 28184962    | (S) |
| EV | A061 | SCREW      | 3TTB+8B(3BC)      | 6   | 838430088GR | (B) |
| EV | A061 | SCREW      | 3TTB+8B(3CM)      | 6   | 838130088GR | (S) |
| EV | A062 | CUSHION    | ---               | 1   | 28141681    |     |
| EV | A063 | TAPE       | TAPE(CLOTH-16U)   | (1) | 29110083    |     |
| EV | A065 | BOTTOM LEG | ---               | 4   | 27175432A   |     |
| EV | A066 | CUSHION    | ---               | 4   | 28141664    |     |
| EV | A068 | SCREW      | 3TTB+8B(3CM)SR    | 4   | 801637      |     |
| EV | A069 | CUSHION    | ---               | 1   | 28141687    |     |

|    |          |            |               |     |             |           |
|----|----------|------------|---------------|-----|-------------|-----------|
| EV | A070     | CLEAR PLT  | ---           | 1   | 28192090A   | (B)       |
| EV | A070     | CLEAR PLT  | ---           | 1   | 28192091A   | (S)       |
| EV | A071     | CUSHION    | ---           | 2   | 28141688    |           |
| EV | A073     | F PANEL    | HT-R540(B)MDD | 1   | 27212880    | (B), <DD> |
| EV | A073     | F PANEL    | HT-R540(B)MDD | 1   | 27212880    | (B), <DC> |
| EV | A073     | F PANEL    | HT-R540(B)MPA | 1   | 27212882    | (B), <PA> |
| EV | A073     | F PANEL    | HT-R540(S)MDC | 1   | 27212881    | (S), <DC> |
| EV | A073     | F PANEL    | HT-R540(S)MPA | 1   | 27212883    | (S), <PA> |
| EV | A077     | BADGE      | ---           | 1   | 28135244    | (B)       |
| EV | A077     | BADGE      | ---           | 1   | 28135298    | (S)       |
| EV | A081     | FACET      | FACET         | 1   | 28198778    |           |
| EV | A089     | SCREW      | 3TTB+8B(3BC)  | 3   | 838430088GR |           |
| EV | A093     | REAR PANEL | R540MDD       | 1   | 27123550A   | <DD, DC>  |
| EV | A093     | REAR PANEL | R540MPA       | 1   | 27123551A   | <PA>      |
| EV | A097     | SCREW      | 3TTB+8B(3BC)  | 34  | 838430088GR | <DD, DC>  |
| EV | A097     | SCREW      | 3TTB+8B(3BC)  | 33  | 838430088GR | <PA>      |
| EV | A102     | LABEL      | (COVER)       | 1   | 29364123    |           |
| EV | A109     | LABEL      | HOOKUP-ONKYO  | 1   | 29363194    | <DD, DC>  |
| EV | Q6050    | TR         | 2SC5242-O     | 1   | 2202843     |           |
| EV | Q6050 or | TR         | 2SC5242-R     | (1) | 2202842     |           |
| EV | Q6050A   | ISO SHEET  | AC238         | 2   | 223024      |           |
| EV | Q6050B   | ISO SHEET  | ISO SHEET     | 6   | 223041      |           |
| EV | Q6051    | TR         | 2SC5242-O     | 1   | 2202843     | !         |
| EV | Q6051 or | TR         | 2SC5242-R     | (1) | 2202842     | !         |
| EV | Q6052    | TR         | 2SC5242-O     | 1   | 2202843     | !         |
| EV | Q6052 or | TR         | 2SC5242-R     | (1) | 2202842     | !         |
| EV | Q6053    | TR         | 2SC5242-O     | 1   | 2202843     | !         |
| EV | Q6053 or | TR         | 2SC5242-R     | (1) | 2202842     | !         |
| EV | Q6054    | TR         | 2SC5242-O     | 1   | 2202843     | !         |
| EV | Q6054 or | TR         | 2SC5242-R     | (1) | 2202842     | !         |
| EV | Q6055    | TR         | 2SC5242-O     | 1   | 2202843     | !         |
| EV | Q6055 or | TR         | 2SC5242-R     | (1) | 2202842     | !         |

|    |                                                                                     |         |                |     |           |             |
|----|-------------------------------------------------------------------------------------|---------|----------------|-----|-----------|-------------|
| EV | Q6056                                                                               | TR      | 2SC5242-O      | 1   | 2202843   | !           |
| EV | Q6056 or                                                                            | TR      | 2SC5242-R      | (1) | 2202842   | !           |
| EV | Q6060                                                                               | TR      | 2SA1962-O      | 1   | 2202833   | !           |
| EV | Q6060 or                                                                            | TR      | 2SA1962-R      | (1) | 2202832   | !           |
| EV | Q6061                                                                               | TR      | 2SA1962-O      | 1   | 2202833   | !           |
| EV | Q6061 or                                                                            | TR      | 2SA1962-R      | (1) | 2202832   | !           |
| EV | Q6062                                                                               | TR      | 2SA1962-O      | 1   | 2202833   | !           |
| EV | Q6062 or                                                                            | TR      | 2SA1962-R      | (1) | 2202832   | !           |
| EV | Q6063                                                                               | TR      | 2SA1962-O      | 1   | 2202833   | !           |
| EV | Q6063 or                                                                            | TR      | 2SA1962-R      | (1) | 2202832   | !           |
| EV | Q6064                                                                               | TR      | 2SA1962-O      | 1   | 2202833   | !           |
| EV | Q6064 or                                                                            | TR      | 2SA1962-R      | (1) | 2202832   | !           |
| EV | Q6065                                                                               | TR      | 2SA1962-O      | 1   | 2202833   | !           |
| EV | Q6065 or                                                                            | TR      | 2SA1962-R      | (1) | 2202832   | !           |
| EV | Q6066                                                                               | TR      | 2SA1962-O      | 1   | 2202833   | !           |
| EV | Q6066 or                                                                            | TR      | 2SA1962-R      | (1) | 2202832   | !           |
| EV | <b>&lt;Note&gt;</b>                                                                 |         |                |     |           |             |
| EV | Must use the same HFE rank mutually about the following parts.                      |         |                |     |           |             |
| EV | Ref. No. : Q6051 - Q6061, Q6052 - Q6062, Q6053 - Q6063, Q6054 - Q6064, Q6055 - 6065 |         |                |     |           |             |
| EV | T901                                                                                | P TRANS | NPT-1517D      | 1   | 2301803   | !, <DD, DC> |
| EV | T901                                                                                | P TRANS | NPT-1517P      | 1   | 2301804   | !, <PA>     |
| EV | F6901                                                                               | FUSE    | 10A-UL/T-233   | 1   | 252330GR  | !           |
| EV | F6901 or                                                                            | FUSE    | 10A-T/UL-ST2   | (1) | 252333GR  | !           |
| EV | F6902                                                                               | FUSE    | 10A-UL/T-233   | 1   | 252330GR  | !           |
| EV | F6902 or                                                                            | FUSE    | 10A-T/UL-ST2   | (1) | 252333GR  | !           |
| EV | F901                                                                                | FUSE    | 8A-UL/T-233    | 1   | 252329GR  | !, <DD, DC> |
| EV | F901 or                                                                             | FUSE    | 8A-T/UL-ST2    | (1) | 252261GR  | !, <DD, DC> |
| EV | F901                                                                                | FUSE    | 4A-SE-EAK FUSE | 1   | 252077GR  | !, <PA>     |
| EV | F901 or                                                                             | FUSE    | 4A-SE-TL250V   | (1) | 252277GR  | !, <PA>     |
| EV | F901C                                                                               | LABEL   | T4AL250V       | 1   | 29361732A | !, <PA>     |
| EV | F903                                                                                | FUSE    | 5A-UL/T-233    | 1   | 252326GR  | !, <DD, DC> |
| EV | F903 or                                                                             | FUSE    | 5A-T/UL-ST2    | (1) | 252258GR  | !, <DD, DC> |

|    |         |                                    |                  |     |             |               |
|----|---------|------------------------------------|------------------|-----|-------------|---------------|
| EV | F903    | FUSE                               | 2.5A-SE-EAK FUSE | 1   | 252075GR    | !, <PA>       |
| EV | F903 or | FUSE                               | 2.5A-SE-TL250V   | (1) | 252275GR    | !, <PA>       |
| EV | F903C   | LABEL                              | T2.5AL250V       | 1   | 29361747    | !, <PA>       |
| EV | P101    | FFC                                | NCFC7-131012     | 1   | 2047131012  |               |
| EV | P6601A  | P RIVET                            | JB-407A-C        | 6   | 880052      |               |
| EV | P6602A  | P RIVET                            | JB-407A-C        | 8   | 880052      |               |
| EV | P701    | FFC                                | NCFC3-26020      | 1   | 204326020   |               |
| EV | P901    | AC CORD                            | AS-UC-2          | 1   | 253333VOL   | !, <DD, DC>   |
| EV | P901 or | AC CORD                            | AS-UC-2          | (1) | 253368LTK   | !, <DD, DC>   |
| EV | P901 or | AC CORD                            | AS-UC-2          | (1) | 253368YUN   | !, <DD, DC>   |
| EV | P901    | AC CORD                            | AS-SAA           | 1   | 253388LTK   | !, <PA>       |
| EV | P901 or | AC CORD                            | AS-SAA           | (1) | 253388FIK   | !, <PA>       |
| EV | P901 or | AC CORD                            | AS-SAA           | (1) | 253388LON   | !, <PA>       |
| EV | U01     | AMPLIFIER PC board ass'y           | NAAF-8779-1C     | 1   | 1B126579-1C | <DD, DC>      |
| EV | U01     | AMPLIFIER PC board ass'y           | NAAF-8779-1L     | 1   | 1B126579-1L | <PA>          |
| EV | U02     | TRANS SEC. TERMINAL PC board ass'y | NAPS-8780-1C     | 1   | 1B126580-1C | <DD, DC>      |
| EV | U02     | TRANS SEC. TERMINAL PC board ass'y | NAPS-8780-1L     | 1   | 1B126580-1L | <PA>          |
| EV | U03     | TERMINAL SENSOR PC board ass'y     | NAETC-8781-1C    | 1   | 1B126581-1C | NSP, <DD, DC> |
| EV | U03     | TERMINAL SENSOR PC board ass'y     | NAETC-8781-1L    | 1   | 1B126581-1L | NSP, <PA>     |
| EV | U04     | HOLDER PC board ass'y              | NAETC-8782-1C    | 1   | 1B126582-1C | NSP           |
| EV | U05     | DISPLAY PC board ass'y             | NADIS-8785-1A    | 1   | 1B126585-1A | <DD, DC>      |
| EV | U05     | DISPLAY PC board ass'y             | NADIS-8785-1B    | 1   | 1B126585-1B | <PA>          |
| EV | U06     | SWITCH PC board ass'y              | NADIS-8786-1A    | 1   | 1B126586-1A | <DD, DC>      |
| EV | U06     | SWITCH PC board ass'y              | NADIS-8786-1B    | 1   | 1B126586-1B | <PA>          |
| EV | U07     | POWER SUPPLY PC board ass'y        | NAPS-8787-1A     | 1   | 1B126587-1A | <DD, DC>      |
| EV | U07     | POWER SUPPLY PC board ass'y        | NAPS-8787-1B     | 1   | 1B126587-1B | <PA>          |
| EV | U08     | TRANS SEC. TERMINAL PC board ass'y | NAETC-8788-1A    | 1   | 1B126588-1A | NSP, <DD, DC> |
| EV | U08     | TRANS SEC. TERMINAL PC board ass'y | NAETC-8788-1B    | 1   | 1B126588-1B | NSP, <PA>     |
| EV | U10     | HEADPHONE JACK PC board ass'y      | NAETC-8790-1A    | 1   | 1B126590-1A | NSP, <DD, DC> |
| EV | U10     | HEADPHONE JACK PC board ass'y      | NAETC-8790-1B    | 1   | 1B126590-1B | NSP, <PA>     |
| EV | U16     | HOLDER PC board ass'y              | NAETC-8796-1A    | 1   | 1B126596-1A | NSP           |
| EV | U17     | HOLDER PC board ass'y              | NAETC-8797-1A    | 1   | 1B126597-1A | NSP           |

|    |        |                                         |              |     |             |          |
|----|--------|-----------------------------------------|--------------|-----|-------------|----------|
| EV | U18    | DSP & MICROPROCESSOR PC board ass'y     | NADG-8798-1E | 1   | 1B126598-1E | <DD, DC> |
| EV | U18    | DSP & MICROPROCESSOR PC board ass'y     | NADG-8798-1F | 1   | 1B126598-1F | <PA>     |
| EV | U19    | XM DIGITAL TRANSCEIVER PC board ass'y   | NADG-8799-1E | 1   | 1B126599-1E | <DD, DC> |
| EV | U20    | VIDEO & SPEAKER TERMINAL PC board ass'y | NAVD-8804-1A | 1   | 1B126504-1A | <DD, DC> |
| EV | U20    | VIDEO & SPEAKER TERMINAL PC board ass'y | NAVD-8804-1C | 1   | 1B126504-1C | <PA>     |
| EV | U21    | TUNER UNIT                              | ENG06507QFUS | 1   | 240156      | <DD, DC> |
| EV | U21 or | TUNER UNIT                              | FAE385-A11US | (1) | 240152      | <DD, DC> |
| EV | U21    | TUNER UNIT                              | ENG07506QFEX | 1   | 240159      | <PA>     |
| EV | U21 or | TUNER UNIT                              | FAE485-E12EX | (1) | 240155      | <PA>     |

## HT-R540

## PC BOARD PARTS LIST

|      |            |                                                 |
|------|------------|-------------------------------------------------|
| PCB1 | <b>U01</b> | AMPLIFIER PC BOARD (NAAF-8779-1C/ 1L)           |
| PCB1 | <b>U02</b> | TRANS SEC. TERMINAL PC BOARD (NAPS-8780-1C/ 1L) |
| PCB1 | <b>U03</b> | THERMAL SENSOR PC BOARD (NAETC-8781-1C/ 1L)     |

|      |                    |                  |                     |             |                      |                |
|------|--------------------|------------------|---------------------|-------------|----------------------|----------------|
| PCB1 | <b>CIRCUIT NO.</b> | <b>PART NAME</b> | <b>DESCRIPTION</b>  | <b>Q'TY</b> | <b>PART NO. (SN)</b> | <b>REMARKS</b> |
| PCB1 | Q5501              | IC               | R2S15211FP          | 1           | 22242297R3           |                |
| PCB1 | Q5503              | IC               | NJM4580M-D          | 1           | 22241448R2           |                |
| PCB1 | Q5630              | IC               | NJM4580M-D          | 1           | 22241448R2           |                |
| PCB1 | Q5670              | IC               | 78M12HF(NJM78M12FA) | 1           | 222780125JRC         |                |
| PCB1 | Q5670 or           | IC               | 78M12HF(MPC78M12HF) | (1)         | 222780125NEC         |                |
| PCB1 | Q5670 or           | IC               | 78M12(AN78M12F)     | (1)         | 222780125MAT         |                |
| PCB1 | Q5670A             | HEAT-SINK        | HEAT-SINK(RAD-68)   | 1           | 27160211             |                |
| PCB1 | Q5670B             | SCREW            | 3P+10FN(3BC)        | 1           | 82143010GR           |                |
| PCB1 | Q5671              | IC               | 79M12HF(NJM79M12FA) | 1           | 222790125JRC         |                |
| PCB1 | Q5671 or           | IC               | 79M12HF(MPC79M12HF) | (1)         | 222790125NEC         |                |
| PCB1 | Q5671 or           | IC               | 79M12F(AN79M12F)    | (1)         | 222790125MAT         |                |
| PCB1 | Q5671A             | HEAT-SINK        | HEAT-SINK(RAD-68)   | 1           | 27160211             |                |
| PCB1 | Q5671B             | SCREW            | 3P+10FN(3BC)        | 1           | 82143010GR           |                |
| PCB1 | Q6380              | IC               | LM61CIZ             | 1           | 22242212             |                |

|      |          |    |                    |     |         |
|------|----------|----|--------------------|-----|---------|
| PCB1 | Q5000    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5001    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5002    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5003    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5004    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5005    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5006    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5010    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5011    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5012    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5013    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5014    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5015    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5016    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5030    | TR | 2SA949-Y(TPE6_F)   | 1   | 2211354 |
| PCB1 | Q5031    | TR | 2SA949-Y(TPE6_F)   | 1   | 2211354 |
| PCB1 | Q5032    | TR | 2SA949-Y(TPE6_F)   | 1   | 2211354 |
| PCB1 | Q5033    | TR | 2SA949-Y(TPE6_F)   | 1   | 2211354 |
| PCB1 | Q5034    | TR | 2SA949-Y(TPE6_F)   | 1   | 2211354 |
| PCB1 | Q5035    | TR | 2SA949-Y(TPE6_F)   | 1   | 2211354 |
| PCB1 | Q5036    | TR | 2SA949-Y(TPE6_F)   | 1   | 2211354 |
| PCB1 | Q5040    | TR | 2SC2229-Y(TPE6_F)  | 1   | 2211634 |
| PCB1 | Q5041    | TR | 2SC2229-Y(TPE6_F)  | 1   | 2211634 |
| PCB1 | Q5042    | TR | 2SC2229-Y(TPE6_F)  | 1   | 2211634 |
| PCB1 | Q5043    | TR | 2SC2229-Y(TPE6_F)  | 1   | 2211634 |
| PCB1 | Q5044    | TR | 2SC2229-Y(TPE6_F)  | 1   | 2211634 |
| PCB1 | Q5045    | TR | 2SC2229-Y(TPE6_F)  | 1   | 2211634 |
| PCB1 | Q5046    | TR | 2SC2229-Y(TPE6_F)  | 1   | 2211634 |
| PCB1 | Q5050    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5050 or | TR | 2SC2240-GR         | (1) | 2211405 |
| PCB1 | Q5051    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q5051 or | TR | 2SC2240-GR         | (1) | 2211405 |

|      |          |    |                    |     |           |  |
|------|----------|----|--------------------|-----|-----------|--|
| PCB1 | Q5052    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406   |  |
| PCB1 | Q5052 or | TR | 2SC2240-GR         | (1) | 2211405   |  |
| PCB1 | Q5053    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406   |  |
| PCB1 | Q5053 or | TR | 2SC2240-GR         | (1) | 2211405   |  |
| PCB1 | Q5054    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406   |  |
| PCB1 | Q5054 or | TR | 2SC2240-GR         | (1) | 2211405   |  |
| PCB1 | Q5055    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406   |  |
| PCB1 | Q5055 or | TR | 2SC2240-GR         | (1) | 2211405   |  |
| PCB1 | Q5056    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406   |  |
| PCB1 | Q5056 or | TR | 2SC2240-GR         | (1) | 2211405   |  |
| PCB1 | Q5600    | TR | RN1441             | 1   | 2215410R2 |  |
| PCB1 | Q5601    | TR | RN1441             | 1   | 2215410R2 |  |
| PCB1 | Q5602    | TR | RN1441             | 1   | 2215410R2 |  |
| PCB1 | Q5603    | TR | RN1441             | 1   | 2215410R2 |  |
| PCB1 | Q5604    | TR | RN1441             | 1   | 2215410R2 |  |
| PCB1 | Q5605    | TR | RN1441             | 1   | 2215410R2 |  |
| PCB1 | Q5606    | TR | RN1441             | 1   | 2215410R2 |  |
| PCB1 | Q5607    | TR | RN1441             | 1   | 2215410R2 |  |
| PCB1 | Q5610    | TR | RN1441             | 1   | 2215410R2 |  |
| PCB1 | Q6000    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6001    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6002    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6003    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6004    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6005    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6006    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6010    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6011    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6012    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6013    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6014    | TR | 2SC1740S-S         | 1   | 2213285   |  |
| PCB1 | Q6015    | TR | 2SC1740S-S         | 1   | 2213285   |  |

|      |          |    |                    |     |         |
|------|----------|----|--------------------|-----|---------|
| PCB1 | Q6016    | TR | 2SC1740S-S         | 1   | 2213285 |
| PCB1 | Q6030    | TR | 2SC5171(ONK_Q)     | 1   | 2203010 |
| PCB1 | Q6030 or | TR | 2SC5993-Q_P        | (1) | 2217161 |
| PCB1 | Q6031    | TR | 2SC5171(ONK_Q)     | 1   | 2203010 |
| PCB1 | Q6031 or | TR | 2SC5993-Q_P        | (1) | 2217161 |
| PCB1 | Q6032    | TR | 2SC5171(ONK_Q)     | 1   | 2203010 |
| PCB1 | Q6032 or | TR | 2SC5993-Q_P        | (1) | 2217161 |
| PCB1 | Q6033    | TR | 2SC5171(ONK_Q)     | 1   | 2203010 |
| PCB1 | Q6033 or | TR | KTD2061-Y          | (1) | 2203434 |
| PCB1 | Q6034    | TR | 2SC5171(ONK_Q)     | 1   | 2203010 |
| PCB1 | Q6034 or | TR | KTD2061-Y          | (1) | 2203434 |
| PCB1 | Q6035    | TR | 2SC5171(ONK_Q)     | 1   | 2203010 |
| PCB1 | Q6035 or | TR | KTD2061-Y          | (1) | 2203434 |
| PCB1 | Q6036    | TR | 2SC5171(ONK_Q)     | 1   | 2203010 |
| PCB1 | Q6036 or | TR | KTD2061-Y          | (1) | 2203434 |
| PCB1 | Q6040    | TR | 2SA1930(ONK_Q)     | 1   | 2203000 |
| PCB1 | Q6040 or | TR | 2SA2140-Q_P        | (1) | 2217151 |
| PCB1 | Q6041    | TR | 2SA1930(ONK_Q)     | 1   | 2203000 |
| PCB1 | Q6041 or | TR | 2SA2140-Q_P        | (1) | 2217151 |
| PCB1 | Q6042    | TR | 2SA1930(ONK_Q)     | 1   | 2203000 |
| PCB1 | Q6042 or | TR | 2SA2140-Q_P        | (1) | 2217151 |
| PCB1 | Q6043    | TR | 2SA1930(ONK_Q)     | 1   | 2203000 |
| PCB1 | Q6043 or | TR | KTB1369-Y          | (1) | 2203424 |
| PCB1 | Q6044    | TR | 2SA1930(ONK_Q)     | 1   | 2203000 |
| PCB1 | Q6044 or | TR | KTB1369-Y          | (1) | 2203424 |
| PCB1 | Q6045    | TR | 2SA1930(ONK_Q)     | 1   | 2203000 |
| PCB1 | Q6045 or | TR | KTB1369-Y          | (1) | 2203424 |
| PCB1 | Q6046    | TR | 2SA1930(ONK_Q)     | 1   | 2203000 |
| PCB1 | Q6046 or | TR | KTB1369-Y          | (1) | 2203424 |
| PCB1 | Q6070    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |
| PCB1 | Q6070 or | TR | 2SC2240-GR         | (1) | 2211405 |
| PCB1 | Q6071    | TR | 2SC2240-BL(TPE2_F) | 1   | 2211406 |

|      |          |          |                     |     |            |
|------|----------|----------|---------------------|-----|------------|
| PCB1 | Q6071 or | TR       | 2SC2240-GR          | (1) | 2211405    |
| PCB1 | Q6072    | TR       | 2SC2240-BL(TPE2_F)  | 1   | 2211406    |
| PCB1 | Q6072 or | TR       | 2SC2240-GR          | (1) | 2211405    |
| PCB1 | Q6073    | TR       | 2SC2240-BL(TPE2_F)  | 1   | 2211406    |
| PCB1 | Q6073 or | TR       | 2SC2240-GR          | (1) | 2211405    |
| PCB1 | Q6074    | TR       | 2SC2240-BL(TPE2_F)  | 1   | 2211406    |
| PCB1 | Q6074 or | TR       | 2SC2240-GR          | (1) | 2211405    |
| PCB1 | Q6075    | TR       | 2SC2240-BL(TPE2_F)  | 1   | 2211406    |
| PCB1 | Q6075 or | TR       | 2SC2240-GR          | (1) | 2211405    |
| PCB1 | Q6076    | TR       | 2SC2240-BL(TPE2_F)  | 1   | 2211406    |
| PCB1 | Q6076 or | TR       | 2SC2240-GR          | (1) | 2211405    |
| PCB1 | Q6380A   | RETAINER | (PTH)               | 1   | 27141884-1 |
| PCB1 | Q6701    | TR       | 2SC2712-GR          | 1   | 2213145R2  |
| PCB1 | Q6701 or | TR       | KTC3875-GR          | (1) | 2216175R2  |
| PCB1 | Q6702    | TR       | 2SC2712-GR          | 1   | 2213145R2  |
| PCB1 | Q6702 or | TR       | KTC3875-GR          | (1) | 2216175R2  |
| PCB1 | Q6703    | TR       | 2SA1163-BL(TE85L_F) | 1   | 2216756R2  |
| PCB1 | Q6707    | TR       | 2SC2712-GR          | 1   | 2213145R2  |
| PCB1 | Q6707 or | TR       | KTC3875-GR          | (1) | 2216175R2  |
| PCB1 | D5000    | ZENER D  | DZ-5.6BSB           | 1   | 224850562  |
| PCB1 | D5000 or | ZENER D  | MTZJ5.6B            | (1) | 224470562  |
| PCB1 | D5001    | ZENER D  | DZ-5.6BSB           | 1   | 224850562  |
| PCB1 | D5001 or | ZENER D  | MTZJ5.6B            | (1) | 224470562  |
| PCB1 | D5002    | ZENER D  | DZ-5.6BSB           | 1   | 224850562  |
| PCB1 | D5002 or | ZENER D  | MTZJ5.6B            | (1) | 224470562  |
| PCB1 | D5003    | ZENER D  | DZ-5.6BSB           | 1   | 224850562  |
| PCB1 | D5003 or | ZENER D  | MTZJ5.6B            | (1) | 224470562  |
| PCB1 | D5004    | ZENER D  | DZ-5.6BSB           | 1   | 224850562  |
| PCB1 | D5004 or | ZENER D  | MTZJ5.6B            | (1) | 224470562  |
| PCB1 | D5005    | ZENER D  | DZ-5.6BSB           | 1   | 224850562  |
| PCB1 | D5005 or | ZENER D  | MTZJ5.6B            | (1) | 224470562  |
| PCB1 | D5006    | ZENER D  | DZ-5.6BSB           | 1   | 224850562  |

|      |          |         |            |     |           |
|------|----------|---------|------------|-----|-----------|
| PCB1 | D5006 or | ZENER D | MTZJ5.6B   | (1) | 224470562 |
| PCB1 | D5671    | ZENER D | DZ-6.2BSC  | 1   | 224850623 |
| PCB1 | D5671 or | ZENER D | MTZJ6.2C   | (1) | 224470623 |
| PCB1 | D5672    | ZENER D | DZ-6.2BSC  | 1   | 224850623 |
| PCB1 | D5672 or | ZENER D | MTZJ6.2C   | (1) | 224470623 |
| PCB1 | D5673    | DIODE   | 1SS133(DS) | 1   | 223280    |
| PCB1 | D5673 or | DIODE   | 1SS133     | (1) | 223163    |
| PCB1 | D5674    | DIODE   | 1SS133(DS) | 1   | 223280    |
| PCB1 | D5674 or | DIODE   | 1SS133     | (1) | 223163    |
| PCB1 | D5708    | C-DIODE | 1SS352     | 1   | 223234R2  |
| PCB1 | D5708 or | C-DIODE | KDS4148U   | (1) | 223283R2  |
| PCB1 | D5708 or | C-DIODE | 1SS355     | (1) | 223269R2  |
| PCB1 | D5718    | C-DIODE | 1SS352     | 1   | 223234R2  |
| PCB1 | D5718 or | C-DIODE | KDS4148U   | (1) | 223283R2  |
| PCB1 | D5718 or | C-DIODE | 1SS355     | (1) | 223269R2  |
| PCB1 | D6000    | C-DIODE | 1SS352     | 1   | 223234R2  |
| PCB1 | D6000 or | C-DIODE | KDS4148U   | (1) | 223283R2  |
| PCB1 | D6000 or | C-DIODE | 1SS355     | (1) | 223269R2  |
| PCB1 | D6001    | C-DIODE | 1SS352     | 1   | 223234R2  |
| PCB1 | D6001 or | C-DIODE | KDS4148U   | (1) | 223283R2  |
| PCB1 | D6001 or | C-DIODE | 1SS355     | (1) | 223269R2  |
| PCB1 | D6002    | C-DIODE | 1SS352     | 1   | 223234R2  |
| PCB1 | D6002 or | C-DIODE | KDS4148U   | (1) | 223283R2  |
| PCB1 | D6002 or | C-DIODE | 1SS355     | (1) | 223269R2  |
| PCB1 | D6003    | C-DIODE | 1SS352     | 1   | 223234R2  |
| PCB1 | D6003 or | C-DIODE | KDS4148U   | (1) | 223283R2  |
| PCB1 | D6003 or | C-DIODE | 1SS355     | (1) | 223269R2  |
| PCB1 | D6004    | C-DIODE | 1SS352     | 1   | 223234R2  |
| PCB1 | D6004 or | C-DIODE | KDS4148U   | (1) | 223283R2  |
| PCB1 | D6004 or | C-DIODE | 1SS355     | (1) | 223269R2  |
| PCB1 | D6005    | C-DIODE | 1SS352     | 1   | 223234R2  |
| PCB1 | D6005 or | C-DIODE | KDS4148U   | (1) | 223283R2  |

|      |          |         |          |     |             |
|------|----------|---------|----------|-----|-------------|
| PCB1 | D6005 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6006    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6006 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6006 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6010    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6010 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6010 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6011    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6011 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6011 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6012    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6012 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6012 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6013    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6013 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6013 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6014    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6014 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6014 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6015    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6015 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6015 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6016    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6016 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6016 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6701    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6701 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6701 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6702    | C-DIODE | 1SS352   | 1   | 223234R2    |
| PCB1 | D6702 or | C-DIODE | KDS4148U | (1) | 223283R2    |
| PCB1 | D6702 or | C-DIODE | 1SS355   | (1) | 223269R2    |
| PCB1 | D6703    | ZENER D | UDZ55.1B | 1   | 224550510R2 |

|      |          |           |                  |     |             |
|------|----------|-----------|------------------|-----|-------------|
| PCB1 | D6704    | ZENER D   | UDZS5.1B         | 1   | 224550510R2 |
| PCB1 | D6901    | DIODE     | D10XB60H         | 1   | 22380337    |
| PCB1 | D6901A   | HEAT SINK | RAD-196          | 1   | 27160545    |
| PCB1 | D6901C   | SCREW     | 3P+10FN(3BC)     | 2   | 82143010GR  |
| PCB1 | D6902    | C-DIODE   | 1SS352           | 1   | 223234R2    |
| PCB1 | D6902 or | C-DIODE   | KDS4148U         | (1) | 223283R2    |
| PCB1 | D6902 or | C-DIODE   | 1SS355           | (1) | 223269R2    |
| PCB1 | D6903    | DIODE     | D10XB60H         | 1   | 22380337    |
| PCB1 | D9001    | DIODE     | RL1N4003         | 1   | 22380260    |
| PCB1 | D9001 or | DIODE     | GP104003E        | (1) | 22380035    |
| PCB1 | D9002    | DIODE     | RL1N4003         | 1   | 22380260    |
| PCB1 | D9002 or | DIODE     | GP104003E        | (1) | 22380035    |
| PCB1 | D9003    | DIODE     | RL1N4003         | 1   | 22380260    |
| PCB1 | D9003 or | DIODE     | GP104003E        | (1) | 22380035    |
| PCB1 | D9004    | DIODE     | RL1N4003         | 1   | 22380260    |
| PCB1 | D9004 or | DIODE     | GP104003E        | (1) | 22380035    |
| PCB1 | C5000    | TF C      | ECQ-B50V-221K    | 1   | 374722215   |
| PCB1 | C5001    | TF C      | ECQ-B50V-221K    | 1   | 374722215   |
| PCB1 | C5002    | TF C      | ECQ-B50V-221K    | 1   | 374722215   |
| PCB1 | C5003    | TF C      | ECQ-B50V-221K    | 1   | 374722215   |
| PCB1 | C5004    | TF C      | ECQ-B50V-221K    | 1   | 374722215   |
| PCB1 | C5005    | TF C      | ECQ-B50V-221K    | 1   | 374722215   |
| PCB1 | C5006    | TF C      | ECQ-B50V-221K    | 1   | 374722215   |
| PCB1 | C5010    | VX C      | CE04W50V-47M(VX) | 1   | 393384707   |
| PCB1 | C5011    | VX C      | CE04W50V-47M(VX) | 1   | 393384707   |
| PCB1 | C5012    | VX C      | CE04W50V-47M(VX) | 1   | 393384707   |
| PCB1 | C5013    | VX C      | CE04W50V-47M(VX) | 1   | 393384707   |
| PCB1 | C5014    | VX C      | CE04W50V-47M(VX) | 1   | 393384707   |
| PCB1 | C5015    | VX C      | CE04W50V-47M(VX) | 1   | 393384707   |
| PCB1 | C5016    | VX C      | CE04W50V-47M(VX) | 1   | 393384707   |
| PCB1 | C5020    | VX C      | CE04W50V-10M(VX) | 1   | 393381007   |
| PCB1 | C5021    | VX C      | CE04W50V-10M(VX) | 1   | 393381007   |

|      |       |        |                   |   |           |
|------|-------|--------|-------------------|---|-----------|
| PCB1 | C5022 | VX C   | CE04W50V-10M(VX)  | 1 | 393381007 |
| PCB1 | C5023 | VX C   | CE04W50V-10M(VX)  | 1 | 393381007 |
| PCB1 | C5024 | VX C   | CE04W50V-10M(VX)  | 1 | 393381007 |
| PCB1 | C5025 | VX C   | CE04W50V-10M(VX)  | 1 | 393381007 |
| PCB1 | C5026 | VX C   | CE04W50V-10M(VX)  | 1 | 393381007 |
| PCB1 | C5040 | VX C   | CE04W25V-220M(VX) | 1 | 393352217 |
| PCB1 | C5041 | VX C   | CE04W25V-220M(VX) | 1 | 393352217 |
| PCB1 | C5042 | VX C   | CE04W25V-220M(VX) | 1 | 393352217 |
| PCB1 | C5043 | VX C   | CE04W25V-220M(VX) | 1 | 393352217 |
| PCB1 | C5044 | VX C   | CE04W25V-220M(VX) | 1 | 393352217 |
| PCB1 | C5045 | VX C   | CE04W25V-220M(VX) | 1 | 393352217 |
| PCB1 | C5046 | VX C   | CE04W25V-220M(VX) | 1 | 393352217 |
| PCB1 | C5050 | VX C   | CE04W50V-47M(VX)  | 1 | 393384707 |
| PCB1 | C5051 | VX C   | CE04W50V-47M(VX)  | 1 | 393384707 |
| PCB1 | C5052 | VX C   | CE04W50V-47M(VX)  | 1 | 393384707 |
| PCB1 | C5053 | VX C   | CE04W50V-47M(VX)  | 1 | 393384707 |
| PCB1 | C5054 | VX C   | CE04W50V-47M(VX)  | 1 | 393384707 |
| PCB1 | C5055 | VX C   | CE04W50V-47M(VX)  | 1 | 393384707 |
| PCB1 | C5056 | VX C   | CE04W50V-47M(VX)  | 1 | 393384707 |
| PCB1 | C5080 | CERA C | CC45SL50V-040D    | 1 | 345020402 |
| PCB1 | C5081 | CERA C | CC45SL50V-040D    | 1 | 345020402 |
| PCB1 | C5082 | CERA C | CC45SL50V-040D    | 1 | 345020402 |
| PCB1 | C5083 | CERA C | CC45SL50V-040D    | 1 | 345020402 |
| PCB1 | C5084 | CERA C | CC45SL50V-040D    | 1 | 345020402 |
| PCB1 | C5085 | CERA C | CC45SL50V-040D    | 1 | 345020402 |
| PCB1 | C5086 | CERA C | CC45SL50V-040D    | 1 | 345020402 |
| PCB1 | C5090 | TF C   | ECQ-B50V-101K     | 1 | 374721015 |
| PCB1 | C5091 | TF C   | ECQ-B50V-101K     | 1 | 374721015 |
| PCB1 | C5092 | TF C   | ECQ-B50V-101K     | 1 | 374721015 |
| PCB1 | C5093 | TF C   | ECQ-B50V-101K     | 1 | 374721015 |
| PCB1 | C5094 | TF C   | ECQ-B50V-101K     | 1 | 374721015 |
| PCB1 | C5095 | TF C   | ECQ-B50V-101K     | 1 | 374721015 |

|      |       |          |                   |   |             |
|------|-------|----------|-------------------|---|-------------|
| PCB1 | C5096 | TF C     | ECQ-B50V-101K     | 1 | 374721015   |
| PCB1 | C5100 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5101 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5102 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5103 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5104 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5105 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5106 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5110 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5111 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5112 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5113 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5114 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5115 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5116 | VR C     | CE04W100V-22M(VR) | 1 | 394692207   |
| PCB1 | C5503 | TF C     | ECQ-B50V-221K     | 1 | 374722215   |
| PCB1 | C5504 | TF C     | ECQ-B50V-221K     | 1 | 374722215   |
| PCB1 | C5507 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5508 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5513 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5514 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5517 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5518 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5519 | TF C     | ECQ-B50V-221K     | 1 | 374722215   |
| PCB1 | C5520 | TF C     | ECQ-B50V-221K     | 1 | 374722215   |
| PCB1 | C5521 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5522 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5523 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5524 | TF C     | ECQ-B50V-221K     | 1 | 374722215   |
| PCB1 | C5525 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5526 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5551 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |

|      |       |          |                   |   |             |
|------|-------|----------|-------------------|---|-------------|
| PCB1 | C5552 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |
| PCB1 | C5553 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |
| PCB1 | C5554 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |
| PCB1 | C5555 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |
| PCB1 | C5556 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |
| PCB1 | C5557 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |
| PCB1 | C5558 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |
| PCB1 | C5559 | TF C     | ECQ-V50V-474J     | 1 | 374724744   |
| PCB1 | C5560 | TF C     | ECQ-V50V-823J     | 1 | 374728234   |
| PCB1 | C5561 | TF C     | ECQ-B50V-223J     | 1 | 374722234   |
| PCB1 | C5562 | TF C     | ECQ-V50V-474J     | 1 | 374724744   |
| PCB1 | C5563 | TF C     | ECQ-V50V-823J     | 1 | 374728234   |
| PCB1 | C5564 | TF C     | ECQ-B50V-223J     | 1 | 374722234   |
| PCB1 | C5565 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |
| PCB1 | C5566 | VX C     | CE04W25V-47M(VX)  | 1 | 393354707   |
| PCB1 | C5569 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5570 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5571 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5572 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5573 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5574 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5575 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5576 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5590 | C-CERA C | CC725CH1H-330J1   | 1 | 342103304R1 |
| PCB1 | C5591 | C-CERA C | CC725CH1H-330J1   | 1 | 342103304R1 |
| PCB1 | C5600 | VX C     | CE04W25V-100M(VX) | 1 | 393351017   |
| PCB1 | C5601 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5602 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5603 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5604 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5605 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5606 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |

|      |       |          |                   |   |             |
|------|-------|----------|-------------------|---|-------------|
| PCB1 | C5607 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5630 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C5631 | C-CERA C | CC725CH1H-221J1   | 1 | 342102214R1 |
| PCB1 | C5632 | TF C     | ECQ-B50V-103J     | 1 | 374721034   |
| PCB1 | C5666 | VX C     | CE04W25V-220M(VX) | 1 | 393352217   |
| PCB1 | C5667 | VX C     | CE04W25V-220M(VX) | 1 | 393352217   |
| PCB1 | C5670 | VX C     | CE04W50V-10M(VX)  | 1 | 393381007   |
| PCB1 | C5671 | VX C     | CE04W50V-10M(VX)  | 1 | 393381007   |
| PCB1 | C5672 | VX C     | CE04W25V-220M(VX) | 1 | 393352217   |
| PCB1 | C5673 | VX C     | CE04W25V-220M(VX) | 1 | 393352217   |
| PCB1 | C5674 | VX C     | CE04W16V-470M(VX) | 1 | 393344717   |
| PCB1 | C5675 | VX C     | CE04W16V-470M(VX) | 1 | 393344717   |
| PCB1 | C5708 | C-CERA C | CK725B1H-222K1    | 1 | 332102225R1 |
| PCB1 | C6030 | TF C     | ECQ-V50V-473J     | 1 | 374724734   |
| PCB1 | C6031 | TF C     | ECQ-V50V-473J     | 1 | 374724734   |
| PCB1 | C6032 | TF C     | ECQ-V50V-473J     | 1 | 374724734   |
| PCB1 | C6033 | TF C     | ECQ-V50V-473J     | 1 | 374724734   |
| PCB1 | C6034 | TF C     | ECQ-V50V-473J     | 1 | 374724734   |
| PCB1 | C6035 | TF C     | ECQ-V50V-473J     | 1 | 374724734   |
| PCB1 | C6036 | TF C     | ECQ-V50V-473J     | 1 | 374724734   |
| PCB1 | C6040 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C6041 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C6042 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C6043 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C6044 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C6045 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C6046 | VX C     | CE04W50V-47M(VX)  | 1 | 393384707   |
| PCB1 | C6050 | TF C     | ECQ-B50V-103J     | 1 | 374721034   |
| PCB1 | C6051 | TF C     | ECQ-B50V-103J     | 1 | 374721034   |
| PCB1 | C6052 | TF C     | ECQ-B50V-103J     | 1 | 374721034   |
| PCB1 | C6053 | TF C     | ECQ-B50V-103J     | 1 | 374721034   |
| PCB1 | C6054 | TF C     | ECQ-B50V-103J     | 1 | 374721034   |

|      |        |            |                    |   |             |
|------|--------|------------|--------------------|---|-------------|
| PCB1 | C6055  | TF C       | ECQ-B50V-103J      | 1 | 374721034   |
| PCB1 | C6056  | TF C       | ECQ-B50V-103J      | 1 | 374721034   |
| PCB1 | C6076  | TF C       | ECQ-B50V-102J      | 1 | 374721024   |
| PCB1 | C6077  | TF C       | ECQ-B50V-102J      | 1 | 374721024   |
| PCB1 | C6086  | TF C       | ECQ-B50V-103J      | 1 | 374721034   |
| PCB1 | C6087  | TF C       | ECQ-B50V-103J      | 1 | 374721034   |
| PCB1 | C6701  | VX C       | CE04W25V-100M(VX)  | 1 | 393351017   |
| PCB1 | C6703  | C-CERA C   | CK725F1H-104Z1     | 1 | 332151040R1 |
| PCB1 | C6704  | VX C       | CE04W50V-1M(VX)    | 1 | 393380107   |
| PCB1 | C6706  | VX C       | CE04W50V-10M(VX)   | 1 | 393381007   |
| PCB1 | C6901  | ELECT C    | CE69W69V-10000MA   | 1 | 3504425     |
| PCB1 | C6901A | IB CUSHION | W15 x 3t TAPE      | 1 | 28141585    |
| PCB1 | C6902  | ELECT C    | CE69W69V-10000MA   | 1 | 3504425     |
| PCB1 | C6902A | IB CUSHION | W15 x 3t TAPE      | 1 | 28141585    |
| PCB1 | C6911  | C-CERA C   | CC725CH1H-102J1    | 1 | 342101024R1 |
| PCB1 | C6912  | TF C       | ECQ-V50V-334J      | 1 | 374723344   |
| PCB1 | C6913  | TF C       | ECQ-V50V-334J      | 1 | 374723344   |
| PCB1 | C6915  | TF C       | ECQ-V50V-104J      | 1 | 374721044   |
| PCB1 | C6916  | TF C       | ECQ-V50V-104J      | 1 | 374721044   |
| PCB1 | C9001  | MMT C      | MMT50V-334J        | 1 | 375523344   |
| PCB1 | C9003  | VR C       | CE04W35V-1000M(VR) | 1 | 394661027S  |
| PCB1 | C9004  | VR C       | CE04W35V-1000M(VR) | 1 | 394661027S  |
| PCB1 | R5000  | CARBON R   | R16J-1K            | 1 | 417341024   |
| PCB1 | R5001  | CARBON R   | R16J-1K            | 1 | 417341024   |
| PCB1 | R5002  | CARBON R   | R16J-1K            | 1 | 417341024   |
| PCB1 | R5003  | CARBON R   | R16J-1K            | 1 | 417341024   |
| PCB1 | R5004  | CARBON R   | R16J-1K            | 1 | 417341024   |
| PCB1 | R5005  | CARBON R   | R16J-1K            | 1 | 417341024   |
| PCB1 | R5006  | CARBON R   | R16J-1K            | 1 | 417341024   |
| PCB1 | R5010  | CARBON R   | R16J-56K           | 1 | 417345634   |
| PCB1 | R5011  | CARBON R   | R16J-56K           | 1 | 417345634   |
| PCB1 | R5012  | CARBON R   | R16J-56K           | 1 | 417345634   |

|      |       |          |           |   |           |
|------|-------|----------|-----------|---|-----------|
| PCB1 | R5013 | CARBON R | R16J-56K  | 1 | 417345634 |
| PCB1 | R5014 | CARBON R | R16J-56K  | 1 | 417345634 |
| PCB1 | R5015 | CARBON R | R16J-56K  | 1 | 417345634 |
| PCB1 | R5016 | CARBON R | R16J-56K  | 1 | 417345634 |
| PCB1 | R5020 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB1 | R5021 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB1 | R5022 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB1 | R5023 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB1 | R5024 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB1 | R5025 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB1 | R5026 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB1 | R5030 | CARBON R | R16J-120K | 1 | 417341244 |
| PCB1 | R5031 | CARBON R | R16J-120K | 1 | 417341244 |
| PCB1 | R5032 | CARBON R | R16J-120K | 1 | 417341244 |
| PCB1 | R5033 | CARBON R | R16J-120K | 1 | 417341244 |
| PCB1 | R5034 | CARBON R | R16J-120K | 1 | 417341244 |
| PCB1 | R5035 | CARBON R | R16J-120K | 1 | 417341244 |
| PCB1 | R5036 | CARBON R | R16J-120K | 1 | 417341244 |
| PCB1 | R5040 | CARBON R | R16J-2.2K | 1 | 417342224 |
| PCB1 | R5041 | CARBON R | R16J-2.2K | 1 | 417342224 |
| PCB1 | R5042 | CARBON R | R16J-2.2K | 1 | 417342224 |
| PCB1 | R5043 | CARBON R | R16J-2.2K | 1 | 417342224 |
| PCB1 | R5044 | CARBON R | R16J-2.2K | 1 | 417342224 |
| PCB1 | R5045 | CARBON R | R16J-2.2K | 1 | 417342224 |
| PCB1 | R5046 | CARBON R | R16J-2.2K | 1 | 417342224 |
| PCB1 | R5050 | CARBON R | R16J-4.7K | 1 | 417344724 |
| PCB1 | R5051 | CARBON R | R16J-4.7K | 1 | 417344724 |
| PCB1 | R5052 | CARBON R | R16J-4.7K | 1 | 417344724 |
| PCB1 | R5053 | CARBON R | R16J-4.7K | 1 | 417344724 |
| PCB1 | R5054 | CARBON R | R16J-4.7K | 1 | 417344724 |
| PCB1 | R5055 | CARBON R | R16J-4.7K | 1 | 417344724 |
| PCB1 | R5056 | CARBON R | R16J-4.7K | 1 | 417344724 |

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|------|-------|----------|-----------|---|-----------|
| PCB1 | R5060 | CARBON R | R16J-1.2K | 1 | 417341224 |
| PCB1 | R5061 | CARBON R | R16J-1.2K | 1 | 417341224 |
| PCB1 | R5062 | CARBON R | R16J-1.2K | 1 | 417341224 |
| PCB1 | R5063 | CARBON R | R16J-1.2K | 1 | 417341224 |
| PCB1 | R5064 | CARBON R | R16J-1.2K | 1 | 417341224 |
| PCB1 | R5065 | CARBON R | R16J-1.2K | 1 | 417341224 |
| PCB1 | R5066 | CARBON R | R16J-1.2K | 1 | 417341224 |
| PCB1 | R5080 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB1 | R5081 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB1 | R5082 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB1 | R5083 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB1 | R5084 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB1 | R5085 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB1 | R5086 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB1 | R5090 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5091 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5092 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5093 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5094 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5095 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5096 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5100 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5101 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5102 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5103 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5104 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5105 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5106 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB1 | R5110 | CARBON R | R16J-1K   | 1 | 417341024 |
| PCB1 | R5111 | CARBON R | R16J-1K   | 1 | 417341024 |
| PCB1 | R5112 | CARBON R | R16J-1K   | 1 | 417341024 |
| PCB1 | R5113 | CARBON R | R16J-1K   | 1 | 417341024 |

|      |       |             |          |   |           |  |
|------|-------|-------------|----------|---|-----------|--|
| PCB1 | R5114 | CARBON R    | R16J-1K  | 1 | 417341024 |  |
| PCB1 | R5115 | CARBON R    | R16J-1K  | 1 | 417341024 |  |
| PCB1 | R5116 | CARBON R    | R16J-1K  | 1 | 417341024 |  |
| PCB1 | R5130 | CARBON R    | R16J-22K | 1 | 417342234 |  |
| PCB1 | R5131 | CARBON R    | R16J-22K | 1 | 417342234 |  |
| PCB1 | R5132 | CARBON R    | R16J-22K | 1 | 417342234 |  |
| PCB1 | R5133 | CARBON R    | R16J-22K | 1 | 417342234 |  |
| PCB1 | R5134 | CARBON R    | R16J-22K | 1 | 417342234 |  |
| PCB1 | R5135 | CARBON R    | R16J-22K | 1 | 417342234 |  |
| PCB1 | R5136 | CARBON R    | R16J-22K | 1 | 417342234 |  |
| PCB1 | R5160 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5161 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5162 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5163 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5164 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5165 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5166 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5170 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5171 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5172 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5173 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5174 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5175 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5176 | NF CARBON R | R25J-150 | 1 | 415471514 |  |
| PCB1 | R5180 | NF CARBON R | R25J-10  | 1 | 415471004 |  |
| PCB1 | R5181 | NF CARBON R | R25J-10  | 1 | 415471004 |  |
| PCB1 | R5182 | NF CARBON R | R25J-10  | 1 | 415471004 |  |
| PCB1 | R5183 | NF CARBON R | R25J-10  | 1 | 415471004 |  |
| PCB1 | R5184 | NF CARBON R | R25J-10  | 1 | 415471004 |  |
| PCB1 | R5185 | NF CARBON R | R25J-10  | 1 | 415471004 |  |
| PCB1 | R5186 | NF CARBON R | R25J-10  | 1 | 415471004 |  |
| PCB1 | R5190 | NF CARBON R | R25J-10  | 1 | 415471004 |  |

|      |       |             |               |   |             |  |
|------|-------|-------------|---------------|---|-------------|--|
| PCB1 | R5191 | NF CARBON R | R25J-10       | 1 | 415471004   |  |
| PCB1 | R5192 | NF CARBON R | R25J-10       | 1 | 415471004   |  |
| PCB1 | R5193 | NF CARBON R | R25J-10       | 1 | 415471004   |  |
| PCB1 | R5194 | NF CARBON R | R25J-10       | 1 | 415471004   |  |
| PCB1 | R5195 | NF CARBON R | R25J-10       | 1 | 415471004   |  |
| PCB1 | R5196 | NF CARBON R | R25J-10       | 1 | 415471004   |  |
| PCB1 | R5200 | CARBON R    | R16J-22K      | 1 | 417342234   |  |
| PCB1 | R5201 | CARBON R    | R16J-22K      | 1 | 417342234   |  |
| PCB1 | R5202 | CARBON R    | R16J-22K      | 1 | 417342234   |  |
| PCB1 | R5203 | CARBON R    | R16J-22K      | 1 | 417342234   |  |
| PCB1 | R5204 | CARBON R    | R16J-22K      | 1 | 417342234   |  |
| PCB1 | R5205 | CARBON R    | R16J-22K      | 1 | 417342234   |  |
| PCB1 | R5206 | CARBON R    | R16J-22K      | 1 | 417342234   |  |
| PCB1 | R5230 | CARBON R    | R16J-120K     | 1 | 417341244   |  |
| PCB1 | R5231 | CARBON R    | R16J-120K     | 1 | 417341244   |  |
| PCB1 | R5232 | CARBON R    | R16J-120K     | 1 | 417341244   |  |
| PCB1 | R5233 | CARBON R    | R16J-120K     | 1 | 417341244   |  |
| PCB1 | R5234 | CARBON R    | R16J-120K     | 1 | 417341244   |  |
| PCB1 | R5235 | CARBON R    | R16J-120K     | 1 | 417341244   |  |
| PCB1 | R5236 | CARBON R    | R16J-120K     | 1 | 417341244   |  |
| PCB1 | R5500 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5503 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5504 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5505 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5506 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5507 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5508 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5513 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5514 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5515 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5516 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |
| PCB1 | R5517 | C-CARBON R  | RN72K1J-331JE | 1 | 435033314R1 |  |

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|------|-------|------------|---------------|---|-------------|
| PCB1 | R5518 | C-CARBON R | RN72K1J-331JE | 1 | 435033314R1 |
| PCB1 | R5519 | C-CARBON R | RN72K1J-331JE | 1 | 435033314R1 |
| PCB1 | R5520 | C-CARBON R | RN72K1J-331JE | 1 | 435033314R1 |
| PCB1 | R5521 | C-CARBON R | RN72K1J-331JE | 1 | 435033314R1 |
| PCB1 | R5522 | C-CARBON R | RN72K1J-331JE | 1 | 435033314R1 |
| PCB1 | R5523 | C-CARBON R | RN72K1J-331JE | 1 | 435033314R1 |
| PCB1 | R5524 | C-CARBON R | RN72K1J-331JE | 1 | 435033314R1 |
| PCB1 | R5525 | C-CARBON R | RN72K1J-331JE | 1 | 435033314R1 |
| PCB1 | R5526 | C-CARBON R | RN72K1J-331JE | 1 | 435033314R1 |
| PCB1 | R5531 | C-CARBON R | RN72K1J-101JE | 1 | 435031014R1 |
| PCB1 | R5541 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5542 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5543 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5544 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5545 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5546 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5547 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5548 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5553 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5554 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5555 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5556 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5557 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5558 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5559 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5560 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5561 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5562 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5563 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5564 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5565 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5566 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |

|      |       |            |               |   |             |          |
|------|-------|------------|---------------|---|-------------|----------|
| PCB1 | R5575 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5576 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5577 | C-CARBON R | RN72K1J-473JE | 1 | 435034734R1 |          |
| PCB1 | R5578 | C-CARBON R | RN72K1J-473JE | 1 | 435034734R1 |          |
| PCB1 | R5580 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 | <DD, DC> |
| PCB1 | R5581 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 | <DD, DC> |
| PCB1 | R5585 | C-CARBON R | RN72K1J-182JE | 1 | 435031824R1 |          |
| PCB1 | R5586 | C-CARBON R | RN72K1J-182JE | 1 | 435031824R1 |          |
| PCB1 | R5587 | C-CARBON R | RN72K1J-103JE | 1 | 435031034R1 |          |
| PCB1 | R5588 | C-CARBON R | RN72K1J-103JE | 1 | 435031034R1 |          |
| PCB1 | R5589 | CARBON R   | R16J-1K       | 1 | 417341024   |          |
| PCB1 | R5590 | C-CARBON R | RN72K1J-103JE | 1 | 435031034R1 |          |
| PCB1 | R5591 | C-CARBON R | RN72K1J-103JE | 1 | 435031034R1 |          |
| PCB1 | R5592 | C-CARBON R | RN72K1J-471JE | 1 | 435034714R1 |          |
| PCB1 | R5593 | C-CARBON R | RN72K1J-122JE | 1 | 435031224R1 |          |
| PCB1 | R5594 | C-CARBON R | RN72K1J-103JE | 1 | 435031034R1 |          |
| PCB1 | R5595 | C-CARBON R | RN72K1J-103JE | 1 | 435031034R1 |          |
| PCB1 | R5596 | C-CARBON R | RN72K1J-471JE | 1 | 435034714R1 |          |
| PCB1 | R5597 | C-CARBON R | RN72K1J-122JE | 1 | 435031224R1 |          |
| PCB1 | R5598 | C-CARBON R | RN72K1J-103JE | 1 | 435031034R1 |          |
| PCB1 | R5599 | C-CARBON R | RN72K1J-103JE | 1 | 435031034R1 |          |
| PCB1 | R5600 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5601 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5602 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5603 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5604 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5605 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5606 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5607 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |          |
| PCB1 | R5610 | C-CARBON R | RN72K1J-271JE | 1 | 435032714R1 |          |
| PCB1 | R5611 | C-CARBON R | RN72K1J-222JE | 1 | 435032224R1 |          |
| PCB1 | R5612 | C-CARBON R | RN72K1J-222JE | 1 | 435032224R1 |          |

|      |       |            |               |   |             |
|------|-------|------------|---------------|---|-------------|
| PCB1 | R5613 | C-CARBON R | RN72K1J-222JE | 1 | 435032224R1 |
| PCB1 | R5614 | C-CARBON R | RN72K1J-222JE | 1 | 435032224R1 |
| PCB1 | R5615 | C-CARBON R | RN72K1J-222JE | 1 | 435032224R1 |
| PCB1 | R5616 | C-CARBON R | RN72K1J-222JE | 1 | 435032224R1 |
| PCB1 | R5617 | C-CARBON R | RN72K1J-222JE | 1 | 435032224R1 |
| PCB1 | R5620 | C-CARBON R | RN72K1J-101JE | 1 | 435031014R1 |
| PCB1 | R5621 | C-CARBON R | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R5622 | C-CARBON R | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R5623 | C-CARBON R | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R5624 | C-CARBON R | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R5625 | C-CARBON R | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R5626 | C-CARBON R | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R5627 | C-CARBON R | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R5630 | C-CARBON R | RN72K1J-221JE | 1 | 435032214R1 |
| PCB1 | R5631 | C-CARBON R | RN72K1J-473JE | 1 | 435034734R1 |
| PCB1 | R5632 | C-CARBON R | RN72K1J-153JE | 1 | 435031534R1 |
| PCB1 | R5633 | C-CARBON R | RN72K1J-122JE | 1 | 435031224R1 |
| PCB1 | R5634 | C-CARBON R | RN72K1J-103JE | 1 | 435031034R1 |
| PCB1 | R5660 | METAL R    | RNU1WCJ-2.2   | 1 | 453630224   |
| PCB1 | R5661 | METAL R    | RNU1WCJ-2.2   | 1 | 453630224   |
| PCB1 | R5666 | CARBON R   | R16J-22       | 1 | 417342204   |
| PCB1 | R5667 | CARBON R   | R16J-22       | 1 | 417342204   |
| PCB1 | R5670 | METAL O R  | RS2WBJ-47     | 1 | 441724704F  |
| PCB1 | R5671 | METAL O R  | RS2WBJ-68     | 1 | 441726804F  |
| PCB1 | R5672 | METAL O R  | RS2WBJ-47     | 1 | 441724704F  |
| PCB1 | R5673 | METAL O R  | RS2WBJ-68     | 1 | 441726804F  |
| PCB1 | R5674 | METAL O R  | RS1WBJ-82     | 1 | 443628204   |
| PCB1 | R5675 | METAL O R  | RS1WBJ-82     | 1 | 443628204   |
| PCB1 | R5677 | METAL O R  | RS2WBJ-15     | 1 | 441721504F  |
| PCB1 | R5678 | METAL O R  | RS2WBJ-15     | 1 | 441721504F  |
| PCB1 | R5681 | C-CARBON R | RN72K1J-224JE | 1 | 435032244R1 |
| PCB1 | R5814 | C-CARBON R | RN72K1J-000JE | 1 | 435030004R1 |

|      |       |             |               |   |             |
|------|-------|-------------|---------------|---|-------------|
| PCB1 | R5820 | C-CARBON R  | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R5822 | C-CARBON R  | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R5823 | C-CARBON R  | RN72K1J-000JE | 1 | 435030004R1 |
| PCB1 | R6000 | CARBON R    | R16J-5.6K     | 1 | 417345624   |
| PCB1 | R6001 | CARBON R    | R16J-5.6K     | 1 | 417345624   |
| PCB1 | R6002 | CARBON R    | R16J-5.6K     | 1 | 417345624   |
| PCB1 | R6003 | CARBON R    | R16J-5.6K     | 1 | 417345624   |
| PCB1 | R6004 | CARBON R    | R16J-5.6K     | 1 | 417345624   |
| PCB1 | R6005 | CARBON R    | R16J-5.6K     | 1 | 417345624   |
| PCB1 | R6006 | CARBON R    | R16J-5.6K     | 1 | 417345624   |
| PCB1 | R6010 | CARBON R    | R16J-3.9K     | 1 | 417343924   |
| PCB1 | R6011 | CARBON R    | R16J-3.9K     | 1 | 417343924   |
| PCB1 | R6012 | CARBON R    | R16J-3.9K     | 1 | 417343924   |
| PCB1 | R6013 | CARBON R    | R16J-3.9K     | 1 | 417343924   |
| PCB1 | R6014 | CARBON R    | R16J-3.9K     | 1 | 417343924   |
| PCB1 | R6015 | CARBON R    | R16J-3.9K     | 1 | 417343924   |
| PCB1 | R6016 | CARBON R    | R16J-3.9K     | 1 | 417343924   |
| PCB1 | R6020 | NF CARBON R | R25J-2.2      | 1 | 415470224   |
| PCB1 | R6021 | NF CARBON R | R25J-2.2      | 1 | 415470224   |
| PCB1 | R6022 | NF CARBON R | R25J-2.2      | 1 | 415470224   |
| PCB1 | R6023 | NF CARBON R | R25J-2.2      | 1 | 415470224   |
| PCB1 | R6024 | NF CARBON R | R25J-2.2      | 1 | 415470224   |
| PCB1 | R6025 | NF CARBON R | R25J-2.2      | 1 | 415470224   |
| PCB1 | R6026 | NF CARBON R | R25J-2.2      | 1 | 415470224   |
| PCB1 | R6030 | CARBON R    | R16J-470      | 1 | 417344714   |
| PCB1 | R6031 | CARBON R    | R16J-470      | 1 | 417344714   |
| PCB1 | R6032 | CARBON R    | R16J-470      | 1 | 417344714   |
| PCB1 | R6033 | CARBON R    | R16J-470      | 1 | 417344714   |
| PCB1 | R6034 | CARBON R    | R16J-470      | 1 | 417344714   |
| PCB1 | R6035 | CARBON R    | R16J-470      | 1 | 417344714   |
| PCB1 | R6036 | CARBON R    | R16J-470      | 1 | 417344714   |
| PCB1 | R6040 | TRIM R      | N06HR2KBC     | 1 | 5210390     |

|      |       |             |           |   |           |
|------|-------|-------------|-----------|---|-----------|
| PCB1 | R6041 | TRIM R      | N06HR2KBC | 1 | 5210390   |
| PCB1 | R6042 | TRIM R      | N06HR2KBC | 1 | 5210390   |
| PCB1 | R6043 | TRIM R      | N06HR2KBC | 1 | 5210390   |
| PCB1 | R6044 | TRIM R      | N06HR2KBC | 1 | 5210390   |
| PCB1 | R6045 | TRIM R      | N06HR2KBC | 1 | 5210390   |
| PCB1 | R6046 | TRIM R      | N06HR2KBC | 1 | 5210390   |
| PCB1 | R6050 | CARBON R    | R16J-3.3K | 1 | 417343324 |
| PCB1 | R6051 | CARBON R    | R16J-3.3K | 1 | 417343324 |
| PCB1 | R6052 | CARBON R    | R16J-3.3K | 1 | 417343324 |
| PCB1 | R6053 | CARBON R    | R16J-3.3K | 1 | 417343324 |
| PCB1 | R6054 | CARBON R    | R16J-3.3K | 1 | 417343324 |
| PCB1 | R6055 | CARBON R    | R16J-3.3K | 1 | 417343324 |
| PCB1 | R6056 | CARBON R    | R16J-3.3K | 1 | 417343324 |
| PCB1 | R6070 | NF CARBON R | R25J-120  | 1 | 415471214 |
| PCB1 | R6071 | NF CARBON R | R25J-120  | 1 | 415471214 |
| PCB1 | R6072 | NF CARBON R | R25J-120  | 1 | 415471214 |
| PCB1 | R6073 | NF CARBON R | R25J-120  | 1 | 415471214 |
| PCB1 | R6074 | NF CARBON R | R25J-120  | 1 | 415471214 |
| PCB1 | R6075 | NF CARBON R | R25J-120  | 1 | 415471214 |
| PCB1 | R6076 | NF CARBON R | R25J-120  | 1 | 415471214 |
| PCB1 | R6080 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6081 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6082 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6083 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6084 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6085 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6086 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6090 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6091 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6092 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6093 | NF CARBON R | R25J-0.22 | 1 | 415472294 |
| PCB1 | R6094 | NF CARBON R | R25J-0.22 | 1 | 415472294 |

|      |          |             |                 |     |             |
|------|----------|-------------|-----------------|-----|-------------|
| PCB1 | R6095    | NF CARBON R | R25J-0.22       | 1   | 415472294   |
| PCB1 | R6096    | NF CARBON R | R25J-0.22       | 1   | 415472294   |
| PCB1 | R6100    | METAL PR    | MPR2W+2W 0R22   | 1   | 4000234     |
| PCB1 | R6100 or | OTHER R     | RGC22-0.22 OHMK | (1) | 4000131     |
| PCB1 | R6100 or | METAL PR    | MPC708-2WK-0.22 | (1) | 4500027     |
| PCB1 | R6101    | METAL PR    | MPR2W+2W 0R22   | 1   | 4000234     |
| PCB1 | R6101 or | OTHER R     | RGC22-0.22 OHMK | (1) | 4000131     |
| PCB1 | R6101 or | METAL PR    | MPC708-2WK-0.22 | (1) | 4500027     |
| PCB1 | R6102    | METAL PR    | MPR2W+2W 0R22   | 1   | 4000234     |
| PCB1 | R6102 or | OTHER R     | RGC22-0.22 OHMK | (1) | 4000131     |
| PCB1 | R6102 or | METAL PR    | MPC708-2WK-0.22 | (1) | 4500027     |
| PCB1 | R6103    | METAL PR    | MPR2W+2W 0R22   | 1   | 4000234     |
| PCB1 | R6103 or | OTHER R     | RGC22-0.22 OHMK | (1) | 4000131     |
| PCB1 | R6103 or | METAL PR    | MPC708-2WK-0.22 | (1) | 4500027     |
| PCB1 | R6104    | METAL PR    | MPR2W+2W 0R22   | 1   | 4000234     |
| PCB1 | R6104 or | OTHER R     | RGC22-0.22 OHMK | (1) | 4000131     |
| PCB1 | R6104 or | METAL PR    | MPC708-2WK-0.22 | (1) | 4500027     |
| PCB1 | R6105    | METAL PR    | MPR2W+2W 0R22   | 1   | 4000234     |
| PCB1 | R6105 or | OTHER R     | RGC22-0.22 OHMK | (1) | 4000131     |
| PCB1 | R6105 or | METAL PR    | MPC708-2WK-0.22 | (1) | 4500027     |
| PCB1 | R6106    | METAL PR    | MPR2W+2W 0R22   | 1   | 4000234     |
| PCB1 | R6106 or | OTHER R     | RGC22-0.22 OHMK | (1) | 4000131     |
| PCB1 | R6106 or | METAL PR    | MPC708-2WK-0.22 | (1) | 4500027     |
| PCB1 | R6130    | METAL R     | RNU1WCJ-8.2     | 1   | 453630824   |
| PCB1 | R6131    | METAL R     | RNU1WCJ-8.2     | 1   | 453630824   |
| PCB1 | R6132    | METAL R     | RNU1WCJ-8.2     | 1   | 453630824   |
| PCB1 | R6133    | METAL R     | RNU1WCJ-8.2     | 1   | 453630824   |
| PCB1 | R6134    | METAL R     | RNU1WCJ-8.2     | 1   | 453630824   |
| PCB1 | R6135    | METAL R     | RNU1WCJ-8.2     | 1   | 453630824   |
| PCB1 | R6136    | METAL R     | RNU1WCJ-8.2     | 1   | 453630824   |
| PCB1 | R6140    | C-CARBON R  | RN72K1J-223JE   | 1   | 435032234R1 |
| PCB1 | R6141    | C-CARBON R  | RN72K1J-223JE   | 1   | 435032234R1 |

|      |       |            |               |   |             |
|------|-------|------------|---------------|---|-------------|
| PCB1 | R6142 | C-CARBON R | RN72K1J-223JE | 1 | 435032234R1 |
| PCB1 | R6143 | C-CARBON R | RN72K1J-223JE | 1 | 435032234R1 |
| PCB1 | R6144 | C-CARBON R | RN72K1J-223JE | 1 | 435032234R1 |
| PCB1 | R6145 | C-CARBON R | RN72K1J-223JE | 1 | 435032234R1 |
| PCB1 | R6146 | C-CARBON R | RN72K1J-223JE | 1 | 435032234R1 |
| PCB1 | R6150 | C-CARBON R | RN72K1J-123JE | 1 | 435031234R1 |
| PCB1 | R6151 | C-CARBON R | RN72K1J-123JE | 1 | 435031234R1 |
| PCB1 | R6152 | C-CARBON R | RN72K1J-123JE | 1 | 435031234R1 |
| PCB1 | R6153 | C-CARBON R | RN72K1J-123JE | 1 | 435031234R1 |
| PCB1 | R6154 | C-CARBON R | RN72K1J-123JE | 1 | 435031234R1 |
| PCB1 | R6155 | C-CARBON R | RN72K1J-123JE | 1 | 435031234R1 |
| PCB1 | R6156 | C-CARBON R | RN72K1J-123JE | 1 | 435031234R1 |
| PCB1 | R6160 | CARBON R   | R16J-33K      | 1 | 417343334   |
| PCB1 | R6161 | CARBON R   | R16J-33K      | 1 | 417343334   |
| PCB1 | R6162 | CARBON R   | R16J-33K      | 1 | 417343334   |
| PCB1 | R6163 | CARBON R   | R16J-33K      | 1 | 417343334   |
| PCB1 | R6164 | CARBON R   | R16J-33K      | 1 | 417343334   |
| PCB1 | R6165 | CARBON R   | R16J-33K      | 1 | 417343334   |
| PCB1 | R6166 | CARBON R   | R16J-33K      | 1 | 417343334   |
| PCB1 | R6170 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6171 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6172 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6173 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6174 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6175 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6176 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6180 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6181 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6182 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6183 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6184 | CARBON R   | R16J-47K      | 1 | 417344734   |
| PCB1 | R6185 | CARBON R   | R16J-47K      | 1 | 417344734   |

|      |           |            |                    |     |             |   |
|------|-----------|------------|--------------------|-----|-------------|---|
| PCB1 | R6186     | CARBON R   | R16J-47K           | 1   | 417344734   |   |
| PCB1 | R6190     | C-CARBON R | RN72K1J-224JE      | 1   | 435032244R1 |   |
| PCB1 | R6191     | C-CARBON R | RN72K1J-224JE      | 1   | 435032244R1 |   |
| PCB1 | R6192     | C-CARBON R | RN72K1J-224JE      | 1   | 435032244R1 |   |
| PCB1 | R6193     | C-CARBON R | RN72K1J-224JE      | 1   | 435032244R1 |   |
| PCB1 | R6194     | C-CARBON R | RN72K1J-224JE      | 1   | 435032244R1 |   |
| PCB1 | R6195     | C-CARBON R | RN72K1J-224JE      | 1   | 435032244R1 |   |
| PCB1 | R6196     | C-CARBON R | RN72K1J-224JE      | 1   | 435032244R1 |   |
| PCB1 | R6197     | METAL O R  | RS1WBJ-100         | 1   | 443621014   |   |
| PCB1 | R6701     | C-CARBON R | RN72K1J-223JE      | 1   | 435032234R1 |   |
| PCB1 | R6702     | C-CARBON R | RN72K1J-103JE      | 1   | 435031034R1 |   |
| PCB1 | R6704     | C-CARBON R | RN72K1J-473JE      | 1   | 435034734R1 |   |
| PCB1 | R6706     | C-CARBON R | RN72K1J-224JE      | 1   | 435032244R1 |   |
| PCB1 | R6708     | C-CARBON R | RN72K1J-333JE      | 1   | 435033334R1 |   |
| PCB1 | R6709     | C-CARBON R | RN72K1J-562JE      | 1   | 435035624R1 |   |
| PCB1 | R6710     | C-CARBON R | RN72K1J-123JE      | 1   | 435031234R1 |   |
| PCB1 | R6902     | C-CARBON R | RN72K1J-102JE      | 1   | 435031024R1 |   |
| PCB1 | R6903     | C-CARBON R | RN72K1J-473JE      | 1   | 435034734R1 |   |
| PCB1 | RL6901    | RELAY      | NRL-1P10A-DC12-140 | 1   | 25065584    | ! |
| PCB1 | RL6901 or | RELAY      | NRL-1P10A-DC12-143 | (1) | 25065588    | ! |
| PCB1 | RL6902    | RELAY      | NRL-1P10A-DC12-140 | 1   | 25065584    | ! |
| PCB1 | RL6902 or | RELAY      | NRL-1P10A-DC12-143 | (1) | 25065588    | ! |
| PCB1 | P302      | PLUG       | NPLG-14P0969       | 1   | 25056019    |   |
| PCB1 | P303      | PLUG       | NPLG-14P0969       | 1   | 25056019    |   |
| PCB1 | P304      | PLUG       | NPLG-3P0958        | 1   | 25056008    |   |
| PCB1 | P5505     | TRM(SCREW) | NEGITANSI M3       | 1   | 25065425    |   |
| PCB1 | P6002     | TRM        | NTM-4PDML365       | 1   | 25060436    |   |
| PCB1 | P6080     | PLUG       | NPLG-2P29          | 1   | 25055038    |   |
| PCB1 | P6081     | PLUG       | NPLG-2P29          | 1   | 25055038    |   |
| PCB1 | P6082     | PLUG       | NPLG-2P29          | 1   | 25055038    |   |
| PCB1 | P6083     | PLUG       | NPLG-2P29          | 1   | 25055038    |   |
| PCB1 | P6084     | PLUG       | NPLG-2P29          | 1   | 25055038    |   |

|      |          |             |                    |     |              |     |
|------|----------|-------------|--------------------|-----|--------------|-----|
| PCB1 | P6085    | PLUG        | NPLG-2P29          | 1   | 25055038     |     |
| PCB1 | P6086    | PLUG        | NPLG-2P29          | 1   | 25055038     |     |
| PCB1 | P6900    | CRIMP AS    | CRIMP AS           | 1   | 20799162UL   |     |
| PCB1 | P6901    | CRIMP AS    | CRIMP AS           | 1   | 2069925226UL |     |
| PCB1 | P6902    | CRIMP AS    | CRIMP AS           | 1   | 2069925189UL |     |
| PCB1 | P6903    | CRIMP AS    | CRIMP AS           | 1   | 20799163UL   |     |
| PCB1 | P6904    | CRIMP AS    | CRIMP AS           | 1   | 20799164UL   |     |
| PCB1 | P6911    | RETAINER    | (BUS)              | 1   | 27142022     |     |
| PCB1 | P7900    | ST JACK     | LGY2502-0200FC     | 1   | 25045696     |     |
| PCB1 | P7902    | PIN JACK    | NPJ-6PDWWWRRR561   | 1   | 25045779     |     |
| PCB1 | P7902 or | PIN JACK    | NPJ-6PDBL159       | (1) | 25045300     |     |
| PCB1 | P7904    | PIN JACK    | NPJ-6PDWWWRRR561   | 1   | 25045779     |     |
| PCB1 | P7904 or | PIN JACK    | NPJ-6PDBL159       | (1) | 25045300     |     |
| PCB1 | P7905    | PIN JACK    | NPJ-4PDWLRE642     | 1   | 25045866     |     |
| PCB1 | P7906    | PIN JACK    | NPJ-4PDGNPT643     | 1   | 25045867     |     |
| PCB1 | P7908    | PIN JACK    | NPJ-1PDP555        | 1   | 25045773     |     |
| PCB1 | F6901A   | FUSE HOL    | NSCT-1P2031        | 1   | 25052133     | !   |
| PCB1 | F6901B   | FUSE HOL    | NSCT-1P2031        | 1   | 25052133     | !   |
| PCB1 | F6902A   | FUSE HOL    | NSCT-1P2031        | 1   | 25052133     | !   |
| PCB1 | F6902B   | FUSE HOL    | NSCT-1P2031        | 1   | 25052133     | !   |
| PCB1 | J5500    | PVC         | 1007#24 .2/7HAND B | 1   | ---          | NSP |
| PCB1 | J5500 or | PVC         | 1007#24 .2/7HAND R | (1) | ---          | NSP |
| PCB1 | JL5502   | JUMPER LEAD | JL7 400 B          | 1   | ---          | NSP |
| PCB1 | JL5502A  | WIRE HOL    | NSCT-7P878         | 1   | 25051091     |     |
| PCB1 | JL6402   | JUMPER LEAD | JL3 300 B          | 1   | ---          | NSP |
| PCB1 | JL6402A  | WIRE HOL    | NSCT-3P874         | 1   | 25051087     |     |
| PCB1 | JL6600   | JUMPER LEAD | JL7 200 H          | 1   | ---          | NSP |
| PCB1 | JL6600A  | WIRE HOL    | NSCT-7P898         | 1   | 25051111     |     |
| PCB1 | JL6603   | JUMPER LEAD | JL9 200 H          | 1   | ---          | NSP |
| PCB1 | JL6603A  | WIRE HOL    | NSCT-9P900         | 1   | 25051113     |     |
| PCB1 | JL6604   | JUMPER LEAD | JL4 200 H          | 1   | ---          | NSP |
| PCB1 | JL6604A  | WIRE HOL    | NSCT-4P895         | 1   | 25051108     |     |

|      |             |                                                  |                |      |               |             |
|------|-------------|--------------------------------------------------|----------------|------|---------------|-------------|
| PCB1 | JL6952      | JUMPER LEAD                                      | JL4 150 H      | 1    | ---           | NSP         |
| PCB1 | JL6952A     | WIRE HOL                                         | NSCT-4P895     | 1    | 25051108      |             |
| PCB1 | JL6952B     | WIRE HOL                                         | NSCT-4P895     | 1    | 25051108      |             |
| PCB2 | U05         | DISPLAY PC BOARD (NADIS-8785-1A/ 1B)             |                |      |               |             |
| PCB2 | U06         | SWITCH PC BOARD (NADIS-8786-1A/ 1B)              |                |      |               |             |
| PCB2 | U07         | POWER SUPPLY PC BOARD (NAPS-8787-1A/ 1B)         |                |      |               |             |
| PCB2 | U08         | TRANS SEC. TERMINAL PC BOARD (NAETC-8788-1A/ 1B) |                |      |               |             |
| PCB2 | U10         | HEADPHONE JACK PC BOARD (NAETC-8790-1A/ 1B)      |                |      |               |             |
| PCB2 |             |                                                  |                |      |               |             |
| PCB2 | CIRCUIT NO. | PART NAME                                        | DESCRIPTION    | Q'TY | PART NO. (SN) | REMARKS     |
| PCB2 | U7041       | REMO SENS                                        | NJL34H380A     | 1    | 241365        |             |
| PCB2 | Q7001       | FL TUBE                                          | 16-BT-128GNYK  | 1    | 212258A       |             |
| PCB2 | Q7001A      | HOLDER                                           | (FL)           | 1    | 27191222B     |             |
| PCB2 | Q7003       | IC                                               | M66005-0001AHP | 1    | 22242208R3    |             |
| PCB2 | Q7004       | TR                                               | 2SC2458-GR     | 1    | 2212115       |             |
| PCB2 | Q7004 or    | TR                                               | 2SC1740S-R     | (1)  | 2213284       |             |
| PCB2 | Q7004 or    | TR                                               | 2SC1740S-S     | (1)  | 2213285       |             |
| PCB2 | Q7151       | TR                                               | KRA102M        | 1    | 2215770       | <PA>        |
| PCB2 | Q7151 or    | TR                                               | DTA114ES       | (1)  | 2213510       | <PA>        |
| PCB2 | T902        | P TRANS                                          | NPT-1520JQ     | 1    | 2301812       | !, <DD, DC> |
| PCB2 | T902        | P TRANS                                          | NPT-1519GQ     | 1    | 2301811       | !, <PA>     |
| PCB2 | L7031       | CHOKE COIL                                       | NCH-1452 022M  | 1    | 233454M022    |             |
| PCB2 | L7031 or    | CHOKE COIL                                       | NCH-1561 022K  | (1)  | 233526K022    |             |
| PCB2 | L7201       | CHOKE COIL                                       | NCH-1452 022M  | 1    | 233454M022    |             |
| PCB2 | L7201 or    | CHOKE COIL                                       | NCH-1561 022K  | (1)  | 233526K022    |             |
| PCB2 | L7202       | CHOKE COIL                                       | NCH-1452 022M  | 1    | 233454M022    |             |
| PCB2 | L7202 or    | CHOKE COIL                                       | NCH-1561 022K  | (1)  | 233526K022    |             |
| PCB2 | L7203       | CHOKE COIL                                       | NCH-1452 022M  | 1    | 233454M022    |             |
| PCB2 | L7203 or    | CHOKE COIL                                       | NCH-1561 022K  | (1)  | 233526K022    |             |
| PCB2 | D7002       | ZENER D                                          | DZ-8.2BSC      | 1    | 224850823     |             |
| PCB2 | D7002 or    | ZENER D                                          | MTZJ8.2C       | (1)  | 224470823     |             |

|      |         |         |                |     |           |      |
|------|---------|---------|----------------|-----|-----------|------|
| PCB2 | D7151   | LED     | SLI-343URC-TE7 | 1   | 225449    |      |
| PCB2 | D7153   | LED     | SDPB3DD0C      | 1   | 225464    | <PA> |
| PCB2 | D911    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D911 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D912    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D912 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D921    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D921 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D922    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D922 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D923    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D923 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D924    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D924 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D925    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D925 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D930    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D930 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D931    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D931 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D933    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D933 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | D934    | ZENER D | DZ-5.1BSB      | 1   | 224850512 |      |
| PCB2 | D934 or | ZENER D | MTZJ5.1B       | (1) | 224470512 |      |
| PCB2 | D935    | DIODE   | 1SS133(DS)     | 1   | 223280    |      |
| PCB2 | D935 or | DIODE   | 1SS133         | (1) | 223163    |      |
| PCB2 | C901    | IS C    | ECQU2A103MLC   | 1   | 3800039S  | !    |
| PCB2 | C901 or | IS C    | RE275V-103M    | (1) | 3500196S  | !    |
| PCB2 | C901 or | IS C    | LE103-C3.5     | (1) | 3800042S  | !    |
| PCB2 | C902    | TF C    | ECQ-V50V-104J  | 1   | 374721044 |      |
| PCB2 | C911    | TF C    | ECQ-B50V-102J  | 1   | 374721024 |      |
| PCB2 | C921    | CERA C  | CK45F50V-223Z  | 1   | 335622230 |      |

|      |       |           |                    |   |            |          |
|------|-------|-----------|--------------------|---|------------|----------|
| PCB2 | C922  | VR C      | CE04W25V-2200M(VR) | 1 | 394652227S | <DD, DC> |
| PCB2 | C922  | VR C      | CE04W16V-2200M(VR) | 1 | 394642227S | <PA>     |
| PCB2 | C930  | VR C      | CE04W35V-100M(VR)  | 1 | 394661017  |          |
| PCB2 | C933  | VR C      | CE04W50V-4.7M(VR)  | 1 | 394680477  |          |
| PCB2 | C7001 | CERA C    | CK45F50V-223Z      | 1 | 335622230  |          |
| PCB2 | C7002 | MMT C     | MMT50V-104J        | 1 | 375521044  |          |
| PCB2 | C7003 | CERA C    | CC45SL50V-101J     | 1 | 345021014  |          |
| PCB2 | C7004 | CERA C    | CC45SL50V-101J     | 1 | 345021014  |          |
| PCB2 | C7005 | CERA C    | CC45SL50V-101J     | 1 | 345021014  |          |
| PCB2 | C7007 | CERA C    | CC45SL50V-101J     | 1 | 345021014  |          |
| PCB2 | C7008 | ELECT C   | CE04W6.3V-100M     | 1 | 355721019  |          |
| PCB2 | C7009 | MMT C     | MMT50V-104J        | 1 | 375521044  |          |
| PCB2 | C7010 | CERA C    | CK45F50V-223Z      | 1 | 335622230  |          |
| PCB2 | C7011 | CERA C    | CK45F50V-223Z      | 1 | 335622230  |          |
| PCB2 | C7012 | CERA C    | CK45F50V-223Z      | 1 | 335622230  |          |
| PCB2 | C7013 | ELECT C   | CE04W50V-33M       | 1 | 355783309  |          |
| PCB2 | C7014 | CERA C    | CK45F50V-223Z      | 1 | 335622230  |          |
| PCB2 | C7015 | ELECT C   | CE04W16V-100M      | 1 | 355741019  |          |
| PCB2 | C7021 | CERA C    | CK45F50V-103Z      | 1 | 335621030  |          |
| PCB2 | C7022 | CERA C    | CK45F50V-103Z      | 1 | 335621030  |          |
| PCB2 | C7041 | ELECT C   | CE04W6.3V-100M(S)  | 1 | 353721019  |          |
| PCB2 | C7043 | CERA C    | CK45B50V-102K      | 1 | 335321025  |          |
| PCB2 | C7201 | TF C      | ECQ-B50V-102J      | 1 | 374721024  |          |
| PCB2 | C7202 | TF C      | ECQ-B50V-102J      | 1 | 374721024  |          |
| PCB2 | C7203 | TF C      | ECQ-B50V-102J      | 1 | 374721024  |          |
| PCB2 | C7204 | TF C      | ECQ-B50V-102J      | 1 | 374721024  |          |
| PCB2 | C7301 | TF C      | ECQ-B50V-471J      | 1 | 374724714  |          |
| PCB2 | C7302 | TF C      | ECQ-B50V-471J      | 1 | 374724714  |          |
| PCB2 | C7303 | MMT C     | MMT50V-104J        | 1 | 375521044  |          |
| PCB2 | C7304 | MMT C     | MMT50V-104J        | 1 | 375521044  |          |
| PCB2 | C7305 | MMT C     | MMT50V-104J        | 1 | 375521044  |          |
| PCB2 | R921  | METAL O R | RS1/2WBJ-56        | 1 | 443525604  |          |

|      |       |          |           |   |           |
|------|-------|----------|-----------|---|-----------|
| PCB2 | R934  | CARBON R | R16J-100K | 1 | 417341044 |
| PCB2 | R7001 | CARBON R | R16J-100K | 1 | 417341044 |
| PCB2 | R7002 | CARBON R | R16J-3.3K | 1 | 417343324 |
| PCB2 | R7003 | CARBON R | R16J-3.3K | 1 | 417343324 |
| PCB2 | R7004 | CARBON R | R16J-220  | 1 | 417342214 |
| PCB2 | R7005 | CARBON R | R16J-220  | 1 | 417342214 |
| PCB2 | R7006 | CARBON R | R16J-27K  | 1 | 417342734 |
| PCB2 | R7007 | CARBON R | R16J-220  | 1 | 417342214 |
| PCB2 | R7008 | CARBON R | R16J-220  | 1 | 417342214 |
| PCB2 | R7021 | CARBON R | R16J-10K  | 1 | 417341034 |
| PCB2 | R7022 | CARBON R | R16J-10K  | 1 | 417341034 |
| PCB2 | R7023 | CARBON R | R16J-10K  | 1 | 417341034 |
| PCB2 | R7024 | CARBON R | R16J-10K  | 1 | 417341034 |
| PCB2 | R7041 | CARBON R | R16J-100  | 1 | 417341014 |
| PCB2 | R7042 | CARBON R | R16J-1K   | 1 | 417341024 |
| PCB2 | R7101 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB2 | R7102 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB2 | R7103 | CARBON R | R16J-560  | 1 | 417345614 |
| PCB2 | R7104 | CARBON R | R16J-820  | 1 | 417348214 |
| PCB2 | R7105 | CARBON R | R16J-1.2K | 1 | 417341224 |
| PCB2 | R7106 | CARBON R | R16J-2.2K | 1 | 417342224 |
| PCB2 | R7107 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB2 | R7108 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB2 | R7109 | CARBON R | R16J-560  | 1 | 417345614 |
| PCB2 | R7110 | CARBON R | R16J-820  | 1 | 417348214 |
| PCB2 | R7111 | CARBON R | R16J-1.2K | 1 | 417341224 |
| PCB2 | R7112 | CARBON R | R16J-2.2K | 1 | 417342224 |
| PCB2 | R7113 | CARBON R | R16J-3.9K | 1 | 417343924 |
| PCB2 | R7115 | CARBON R | R16J-330  | 1 | 417343314 |
| PCB2 | R7116 | CARBON R | R16J-470  | 1 | 417344714 |
| PCB2 | R7117 | CARBON R | R16J-560  | 1 | 417345614 |
| PCB2 | R7118 | CARBON R | R16J-820  | 1 | 417348214 |

|      |       |          |                      |   |           |          |
|------|-------|----------|----------------------|---|-----------|----------|
| PCB2 | R7119 | CARBON R | R16J-1.2K            | 1 | 417341224 |          |
| PCB2 | R7120 | CARBON R | R16J-2.2K            | 1 | 417342224 |          |
| PCB2 | R7121 | CARBON R | R16J-3.9K            | 1 | 417343924 |          |
| PCB2 | R7122 | CARBON R | R16J-12K             | 1 | 417341234 |          |
| PCB2 | R7123 | CARBON R | R16J-330             | 1 | 417343314 |          |
| PCB2 | R7124 | CARBON R | R16J-470             | 1 | 417344714 |          |
| PCB2 | R7125 | CARBON R | R16J-560             | 1 | 417345614 |          |
| PCB2 | R7126 | CARBON R | R16J-820             | 1 | 417348214 |          |
| PCB2 | R7127 | CARBON R | R16J-1.2K            | 1 | 417341224 |          |
| PCB2 | R7128 | CARBON R | R16J-2.2K            | 1 | 417342224 |          |
| PCB2 | R7129 | CARBON R | R16J-3.9K            | 1 | 417343924 |          |
| PCB2 | R7130 | CARBON R | R16J-12K             | 1 | 417341234 |          |
| PCB2 | R7151 | CARBON R | R16J-2.2K            | 1 | 417342224 |          |
| PCB2 | R7152 | CARBON R | R16J-120             | 1 | 417341214 | <PA>     |
| PCB2 | R7301 | CARBON R | R16J-330             | 1 | 417343314 |          |
| PCB2 | R7302 | CARBON R | R16J-330             | 1 | 417343314 |          |
| PCB2 | R7303 | CARBON R | R16J-75              | 1 | 417347504 |          |
| PCB2 | R9101 | METAL R  | RNU1/2WCJ-0.1        | 1 | 453531094 | <DD, DC> |
| PCB2 | R9101 | METAL R  | RNU1/2WCJ-0.22       | 1 | 453532294 | <PA>     |
| PCB2 | R9102 | METAL R  | RNU1/2WCJ-8.2        | 1 | 453530824 |          |
| PCB2 | RL901 | RELAY    | NRL-1P5A-DC9-179     | 1 | 25065669  | !        |
| PCB2 | S7001 | R ENCODE | EC12E2425WITH WASHER | 1 | 25065655W |          |
| PCB2 | S7101 | PUSH SW  | NPS-111-S681         | 1 | 25035718  |          |
| PCB2 | S7104 | PUSH SW  | NPS-111-S681         | 1 | 25035718  |          |
| PCB2 | S7106 | PUSH SW  | NPS-111-S681         | 1 | 25035718  |          |
| PCB2 | S7107 | PUSH SW  | NPS-111-S681         | 1 | 25035718  |          |
| PCB2 | S7109 | PUSH SW  | NPS-111-S681         | 1 | 25035718  | <PA>     |
| PCB2 | S7115 | PUSH SW  | NPS-111-S681         | 1 | 25035718  |          |
| PCB2 | S7117 | PUSH SW  | NPS-111-S681         | 1 | 25035718  |          |
| PCB2 | S7119 | PUSH SW  | NPS-111-S681         | 1 | 25035718  |          |
| PCB2 | S7123 | PUSH SW  | NPS-111-S681         | 1 | 25035718  |          |
| PCB2 | S7125 | PUSH SW  | NPS-111-S681         | 1 | 25035718  |          |

|      |          |            |                  |     |          |             |
|------|----------|------------|------------------|-----|----------|-------------|
| PCB2 | S7127    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7129    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7132    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7134    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7136    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7138    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7140    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7142    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7144    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7146    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7148    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7149    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7151    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7153    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7155    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7157    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7159    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7161    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7164    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | S7166    | PUSH SW    | NPS-111-S681     | 1   | 25035718 |             |
| PCB2 | P701B    | SOCKET     | NSCT-26P2156     | 1   | 25052259 |             |
| PCB2 | P901A    | PLUG       | NPLG-2P631       | 1   | 25055675 | !           |
| PCB2 | P901A or | PLUG       | 1-1123724-2      | (1) | 25056402 | !           |
| PCB2 | P902     | AC OUTLET  | AC-181-UL-11V    | 1   | 25053030 | !, <DD, DC> |
| PCB2 | P902     | AC OUTLET  | NSCT-2P2013      | 1   | 25052115 | !, <PA>     |
| PCB2 | P911     | PLUG       | NPLG-2P631       | 1   | 25055675 |             |
| PCB2 | P911 or  | PLUG       | 1-1123724-2      | (1) | 25056402 |             |
| PCB2 | P7201    | ST JACK    | MSJ-064-05A SR   | 1   | 25045783 |             |
| PCB2 | P7201 or | ST JACK    | YKB21-5005       | (1) | 25045724 |             |
| PCB2 | P7301    | PIN JACK   | NPJ-7PDB477      | 1   | 25045680 |             |
| PCB2 | E901     | TRM(SCREW) | NEGITANSI M3     | 1   | 25065425 |             |
| PCB2 | E7201    | TRM        | NTM-1P233(M1969) | 1   | 25060302 |             |

|      |         |             |              |   |          |     |
|------|---------|-------------|--------------|---|----------|-----|
| PCB2 | E7301   | RETAINER    | (S)          | 1 | 27141931 |     |
| PCB2 | E7601   | TRM(SCREW)  | NEGITANSI M3 | 1 | 25065425 |     |
| PCB2 | F901A   | FUSE HOL    | NSCT-1P2031  | 1 | 25052133 | !   |
| PCB2 | F901B   | FUSE HOL    | NSCT-1P2031  | 1 | 25052133 | !   |
| PCB2 | F903A   | FUSE HOL    | NSCT-1P2031  | 1 | 25052133 | !   |
| PCB2 | F903B   | FUSE HOL    | NSCT-1P2031  | 1 | 25052133 | !   |
| PCB2 | JL6605  | JUMPER LEAD | JL5 400 H    | 1 | ---      | NSP |
| PCB2 | JL6605A | WIRE HOL    | NSCT-5P896   | 1 | 25051109 |     |
| PCB2 | JL7101  | JUMPER LEAD | JL8 200 H    | 1 | ---      | NSP |
| PCB2 | JL7101A | WIRE HOL    | NSCT-8P899   | 1 | 25051112 |     |
| PCB2 | JL7101B | WIRE HOL    | NSCT-8P899   | 1 | 25051112 |     |
| PCB2 | JL901   | JUMPER LEAD | JL5 150 B    | 1 | ---      | NSP |
| PCB2 | JL901A  | WIRE HOL    | NSCT-5P876   | 1 | 25051089 |     |
| PCB2 | JL9101  | JUMPER LEAD | JL6 300 H    | 1 | ---      | NSP |
| PCB2 | JL9101A | WIRE HOL    | NSCT-6P897   | 1 | 25051110 |     |

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**ONKYO CORPORATION**

Sales & Product Planning Div. : 2-1, Nisshin-cho, Neyagawa-shi, OSAKA 572-8540, JAPAN  
Tel: 072-831-8023 Fax: 072-831-8124

**ONKYO U.S.A. CORPORATION**

18 Park Way, Upper Saddle River, N.J. 07458, U.S.A.  
Tel: 201-785-2600 Fax: 201-785-2650 <http://www.us.onkyo.com/>

**ONKYO EUROPE ELECTRONICS GmbH**

Liegnitzerstrasse 6, 82194 Groebenzell, GERMANY  
Tel: +49-8142-4401-0 Fax: +49-8142-4401-555 <http://www.eu.onkyo.com/>

**ONKYO EUROPE UK Office**

Suite 1, Gregories Court, Gregories Road, Beaconsfield, Buckinghamshire, HP9 1HQ  
UNITED KINGDOM Tel: +44-(0)1494-681515 Fax: +44(0)-1494-680452

**ONKYO CHINA LIMITED**

Units 2102-2107, Metroplaza Tower I, 223 Hing Fong Road, Kwai Chung,  
N.T., HONG KONG Tel: 852-2429-3118 Fax: 852-2428-9039  
<http://www.ch.onkyo.com/>