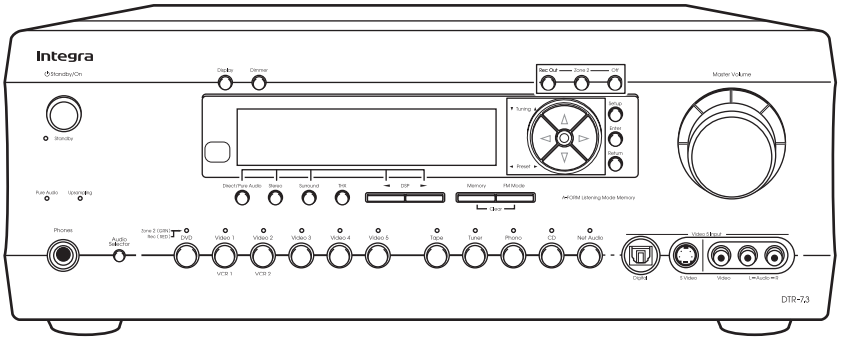
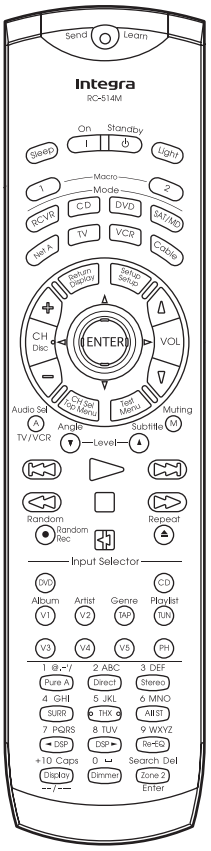
Ref. No. 3758
Nov., 2002

Integra SERVICE MANUAL

AV RECEIVER
MODEL DTR-7.3





Black model

BUDD	120V AC, 60Hz
BUPA	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.

SPECIFICATIONS

AMPLIFIER SECTION

Continuous average power output (FTC)

All channels:	**100 W per channel min. RMS at 8 Ohm, 2 channels driven from 20Hz to 20 kHz with no more than 0.08% total harmonic distortion.**
	130 W min. RMS at 6Ohm, 2 channels driven from 1 kHz with no more than 0.1% total harmonic distortion.
Continuous power output (DIN)	135 W at 6 Ohm
Maximum power output (EIAJ)	160 W at 6 Ohm
Dynamic power output (stereo)	2 x 250 W at 3 Ohm
	2 x 210 W at 4 Ohm
	2 x 130 W at 8 Ohm
Total harmonic distortion:	0.08% at rated power
	0.08% at 1 W output
IM distortion:	0.08% at rated power
	0.08% at 1 W output
Damping factor:	60 at 8 Ohm
Input sensitivity and impedance	
PHONO:	2.5 mV, 50 kohm
LINE (CD, TAPE, DVD, VIDEO 1-5):	200 mV, 50 kohm
MULTICHANNEL INPUT (FRONT L/C/R, SURROUND L/R, SURROUND BACK L/R):	200 mV, 50 kohm
(SUBWOOFER):	36 mV, 50 kohm
COAXIAL 1, 2, 3 (DIGITAL):	0.5 Vp-p, 75 Ohm
DVD, VIDEO 1, 2, 3, 4, 5:	1 Vp-p, 75 Ohm
	1 Vp-p, 75 Ohm (Y)
	0.28 Vp-p, 75 Ohm (C)
COMPONENT VIDEO 1, 2:	1 Vp-p, 75 Ohm (Y)
	0.7 Vp-p, 75 Ohm (P_B, P_R)
Output level and impedance	
Rec out (TAPE, VIDEO 1, 2):	
	200 mV, 470 Ohm
Pre out:	1 V, 470 Ohm
VIDEO (VIDEO 1, 2, MONITOR OUT, ZONE 2 OUT):	1 Vp-p, 75 Ohm
	1 Vp-p, 75 Ohm (Y)
	0.28 p-p, 75 Ohm (C)
COMPONENT VIDEO OUT:	1 Vp-p, 75 Ohm (Y)
	0.7 Vp-p, 75 Ohm (P_B, P_R)
Phono overload:	120 mV RMS at 1 kHz, 0.5% T.H.D.
Frequency response:	5 Hz to 100 kHz : +1/ -3 dB (CD in Direct mode)
RIAA deviation:	20 Hz to 20 kHz : ±0.8 dB
Tone Control	
Bass:	±10 dB at 50 Hz
Treble:	±10 dB at 20,000 Hz
Signal-to-noise ratio (Direct)	
Phono:	80 dB (IHF A, 5 mV input)
Line:	110 dB (IHF A, 0.5 V input)
Muting:	Due to setup menu

TUNER SECTION

FM

Tuning range	
USA & Canadian models:	87.5–108.0 MHz (100-kHz steps)
Australian models:	87.50 –108.00 MHz (50-kHz steps)
Usable sensitivity	
Mono:	11.2 dBf, 1.0 µV (75 Ohm IHF)
	0.9 µV (75 Ohm DIN)
Stereo:	17.2 dBf, 2.0 µV (75 Ohm IHF)
	23 µV (75 Ohm DIN)
50 dB quieting sensitivity	
Mono:	17.2 dBf, 2.0 µV (75 Ohm)
Stereo:	37.2 dBf, 20 µV (75 Ohm)
Capture ratio:	2.0 dB
Image rejection ratio	
USA & Canadian models:	40 dB
Australian models:	85 dB
IF rejection ratio:	90 dB
Signal-to-noise ratio	
Mono:	76 dB
Stereo:	70 dB
Alternate channel attenuation:	55 dB
Selectivity:	50 dB (DIN)
AM suppression ratio:	50 dB
Total harmonic distortion	
Mono:	0.2%
Stereo:	0.3%
Frequency response:	30 Hz–15 kHz, ±1.0 dB
Stereo separation:	45 dB at 1 kHz
	30 dB at 100 Hz–10 kHz

AM

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

GENERAL

Power supply	
USA & Canadian models:	AC 120 V, 60 Hz
Australian models:	AC 230 –240 V, 50 Hz
Power consumption	
USA & Canadian models:	8.1 A
Australian models:	655 W
Dimensions (WxH x D):	435 x175 x 460 mm
	17-1/8"x 6-7/8"x 18-1/18"
Weight:	38.4 lbs. (17.4 kg)

REMOTE CONTROLLER

Transmitter:	Infrared
Signal range:	Approx. 16 ft., 5 meters
Power supply:	Two "AA" batteries (1.5 Vx2)

Specifications and features are subject to change without notice.

SERVICE PROCEDURES

1. Replacing the fuses

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

Ce symbole indique que le fusible utlise est a rapide. Pour une protection permanente, n'untiliser que fusibles de meme type. Ce darnier est la qu le present symbol est appse.

CIRCUIT NO.	PART NO.	DESCRIPTION
F6901,F6902	252199	10A-UL, Fuse <D>
	252100	10A-EAK, Fuse <A>
F901	252199	10A-UL, Fuse <D>
F902	252077,	4A-SE-EAK,
	252243 or	4A-SE-TL250V or
	252277	4A-SE-TL250V, Fuse <A>
F903	252075,	2.5A-SE-EAK,
	252241 or	2.5A-SE-TL250V or
	252275	2.5A-SE-TL250V, Fuse <A>
F9501,F9502	252160 or	2.5A-UL/T-237 or
	252254	2.5A-T/UL-ST2, Fuse <D>
	252075,	2.5A-SE-EAK,
	252241 or	2.5A-SE-TL250V or
	252275	2.5A-SE-TL250V, Fuse <A>
F9503,F9504	252158 or	1.6A-UL/T-237 or
	252252	1.6A-T/UL-ST2, Fuse <D>
	252073,	1.6A-SE-EAK,
	252239 or	1.6A-SE-TL250V or
	252273	1.6A-SE-TL250V, Fuse <A>

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

2. To initialize the unit

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

1.Press the STANDBY ON button to turn on the unit.
2.Press and hold down the VIDEO 1 button, then press the STANDBY/ON button.
3.After "CLEAR" is displayed, the preset memory and each mode stored in the memory, such as surround, are initialized and will return to the factory setting.
4.Unplug the power supply cord.

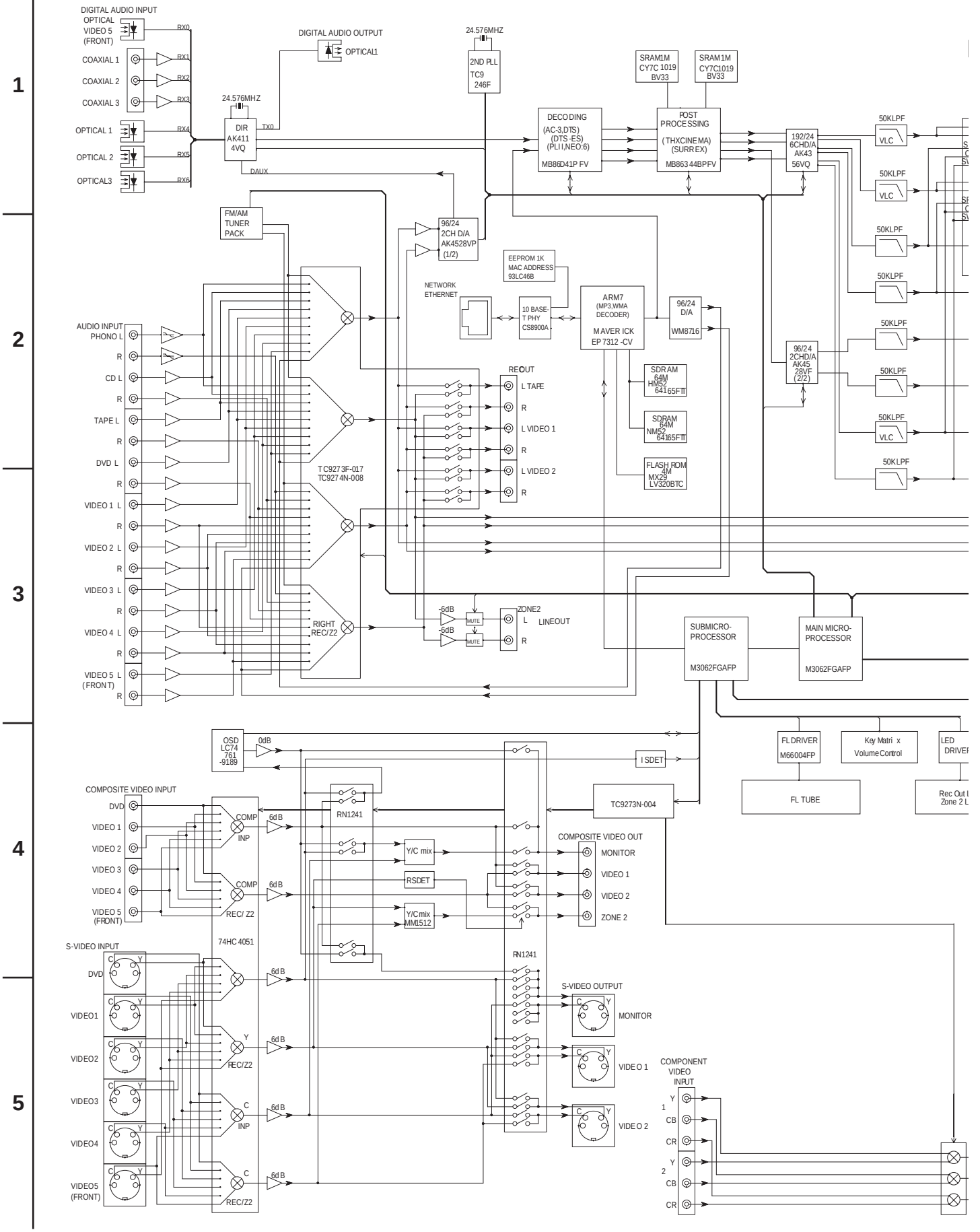
3. Safety-check out

(Only U.S.A. model)
After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and screw on the back panel. Specifications: 3.3Mohm+/-10% at 500V.

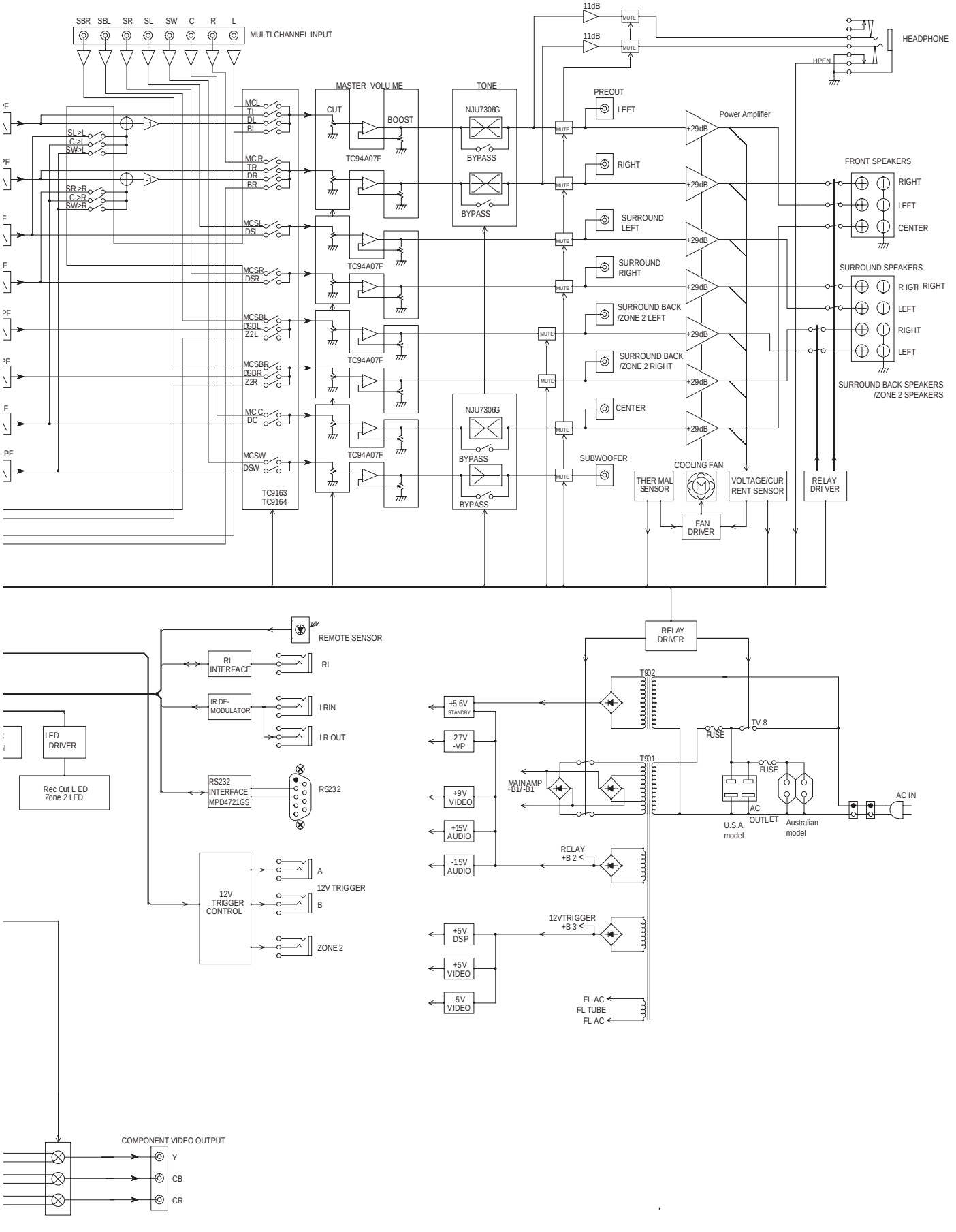
4. Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged.The unit must be plugged in order to charge the back-up system.
The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged.This period is shorter when the unit is exposed to a highly humid climate.

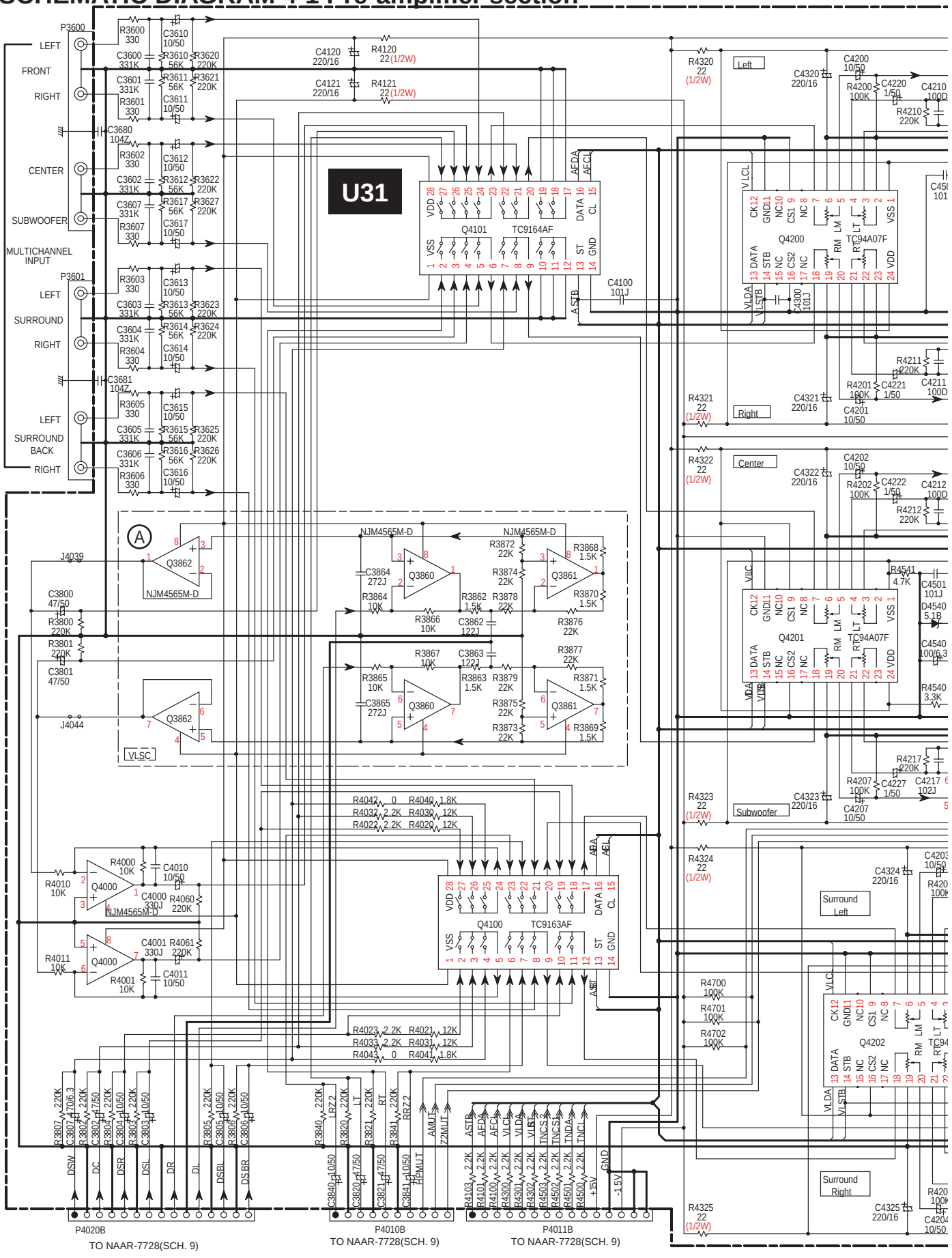
BLOCK DIAGRAM



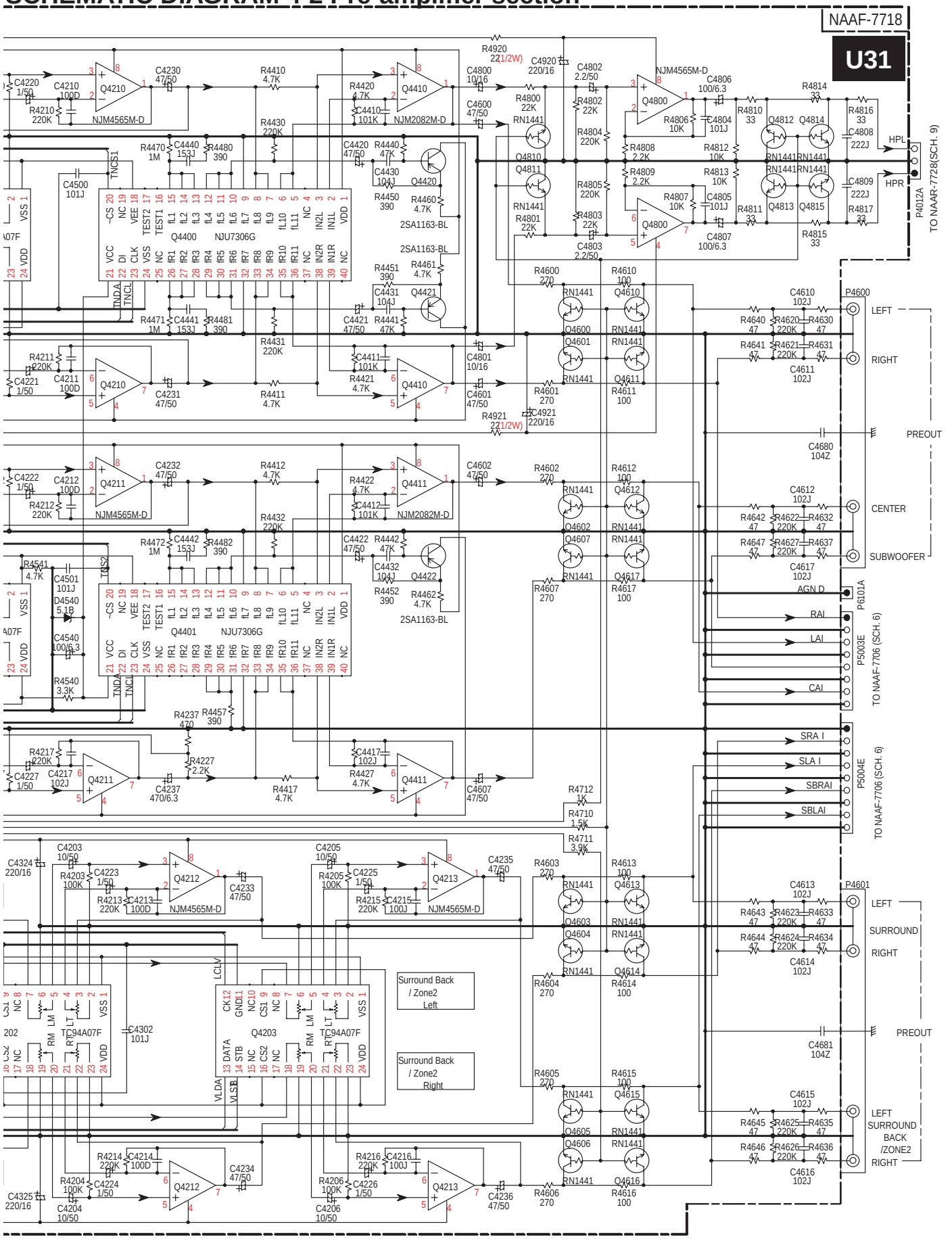
BLOCK DIAGRAM



SCHEMATIC DIAGRAM 4-1 Pre-amplifier section



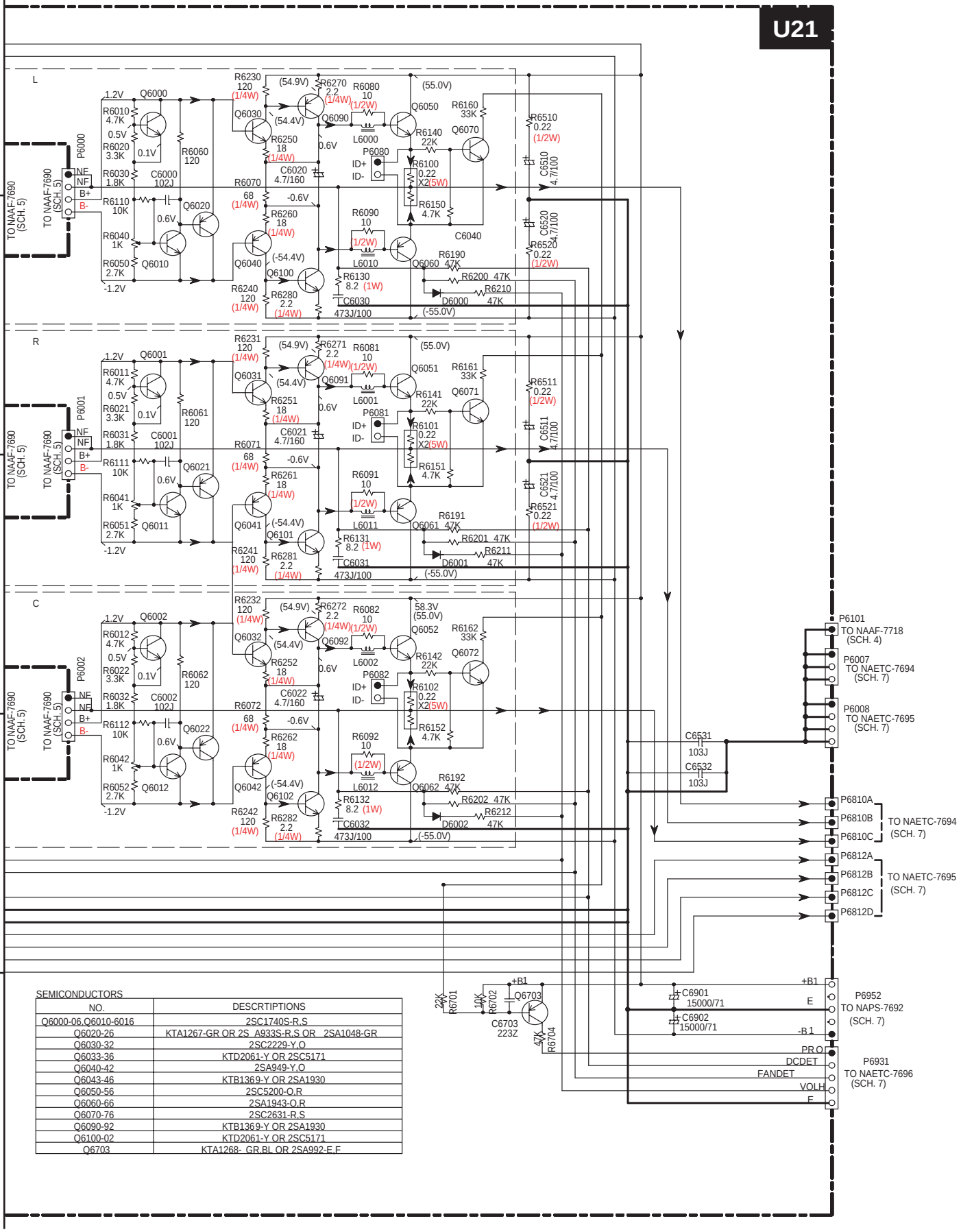
SCHEMATIC DIAGRAM 4-2 Pre-amplifier section



SCHEMATIC DIAGRAM 6-2

Power amplifier Section

U21

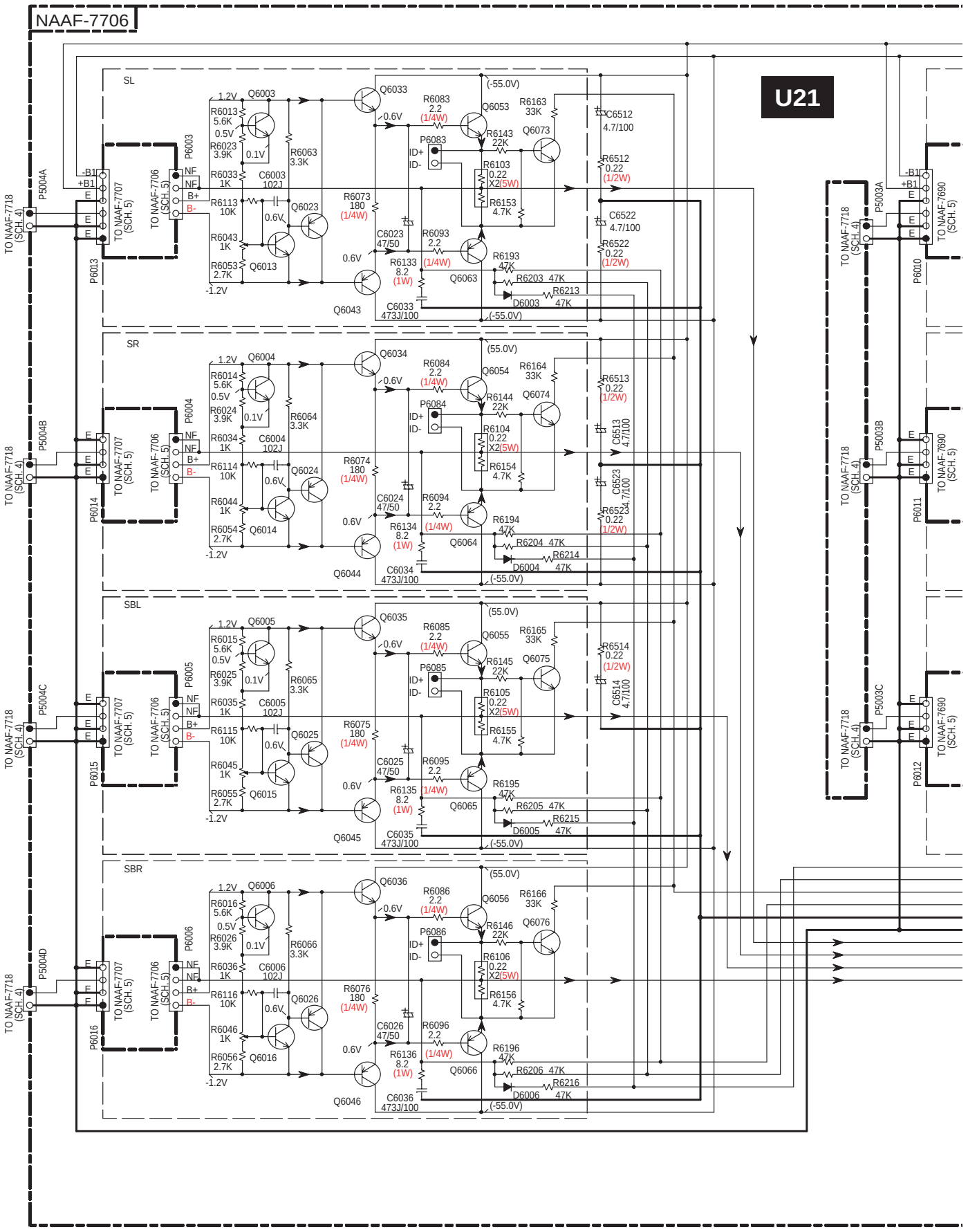


SEMICONDUCTORS

NO.	DESCRTIPTIONS
Q6000-06,Q6010-6016	2SC1740S-R,S
Q6020-26	KTA1267-GR OR 2S A933S-R,S OR 2SA1048-GR
Q6030-32	2SC2229-Y,O
Q6033-36	KTD2061-Y OR 2SC5171
Q6040-42	2SA949-Y,O
Q6043-46	KTB1369-Y OR 2SA1930
Q6050-56	2SC5200-O,R
Q6060-66	2SA1943-O,R
Q6070-76	2SC2631-R,S
Q6090-92	KTB1369-Y OR 2SA1930
Q6100-02	KTD2061-Y OR 2SC5171
Q6703	KTA1268- GR,BL OR 2SA992-E,F

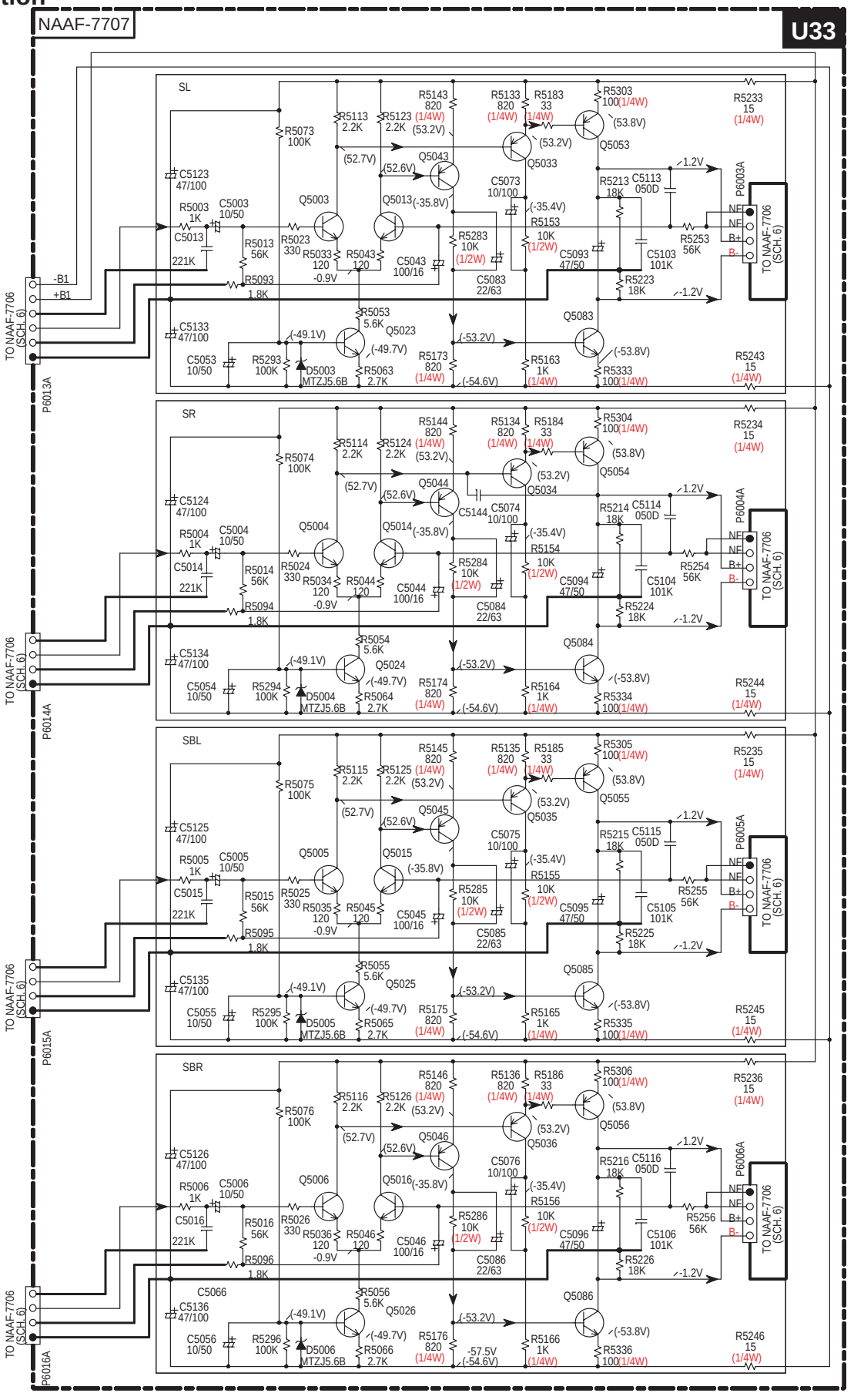
SCHEMATIC DIAGRAM 6-1

Power amplifier Section

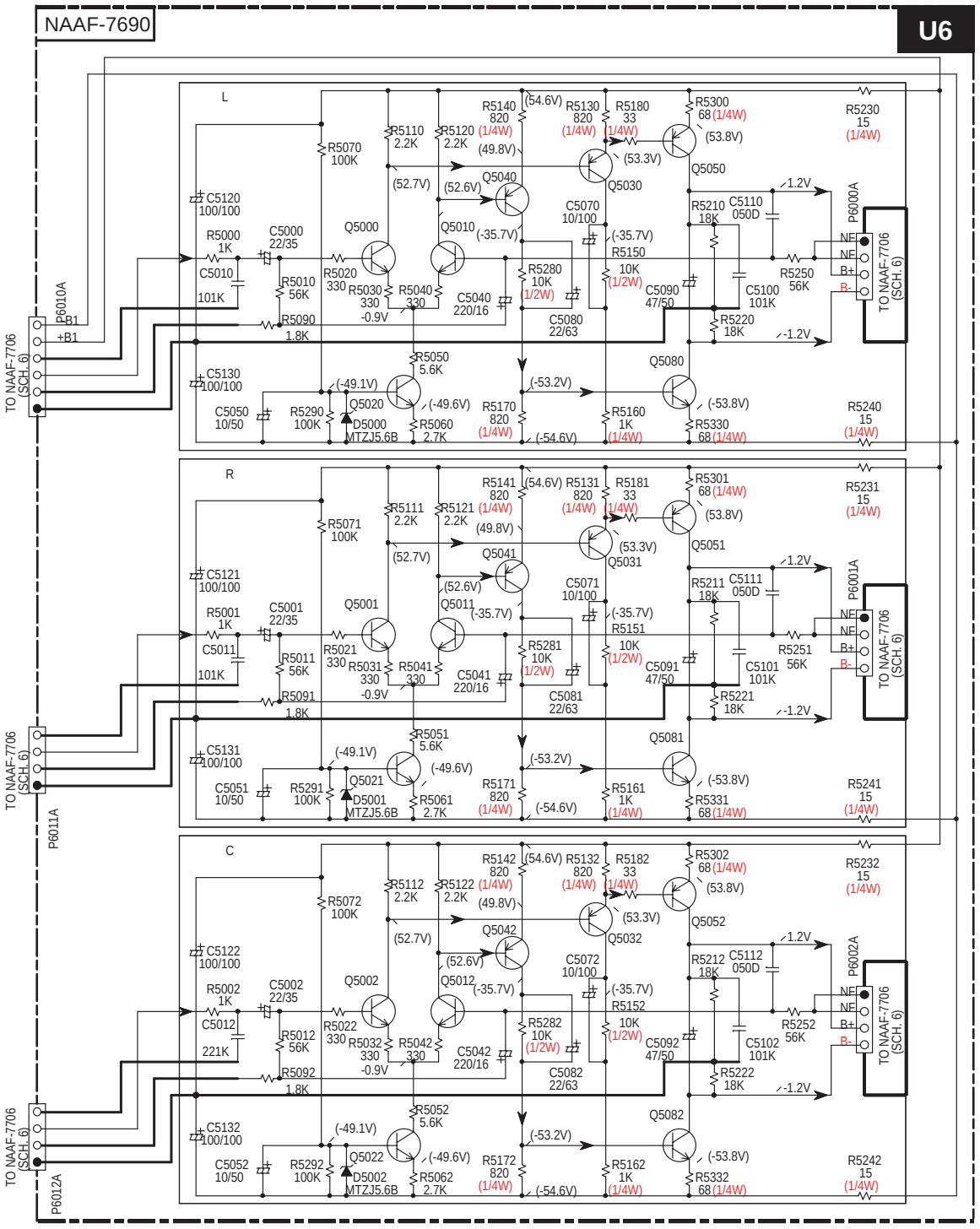


SCHEMATIC DIAGRAM 5-2

Driver Circuit Section



SCHEMATIC DIAGRAM 5-1
Driver Circuit Section



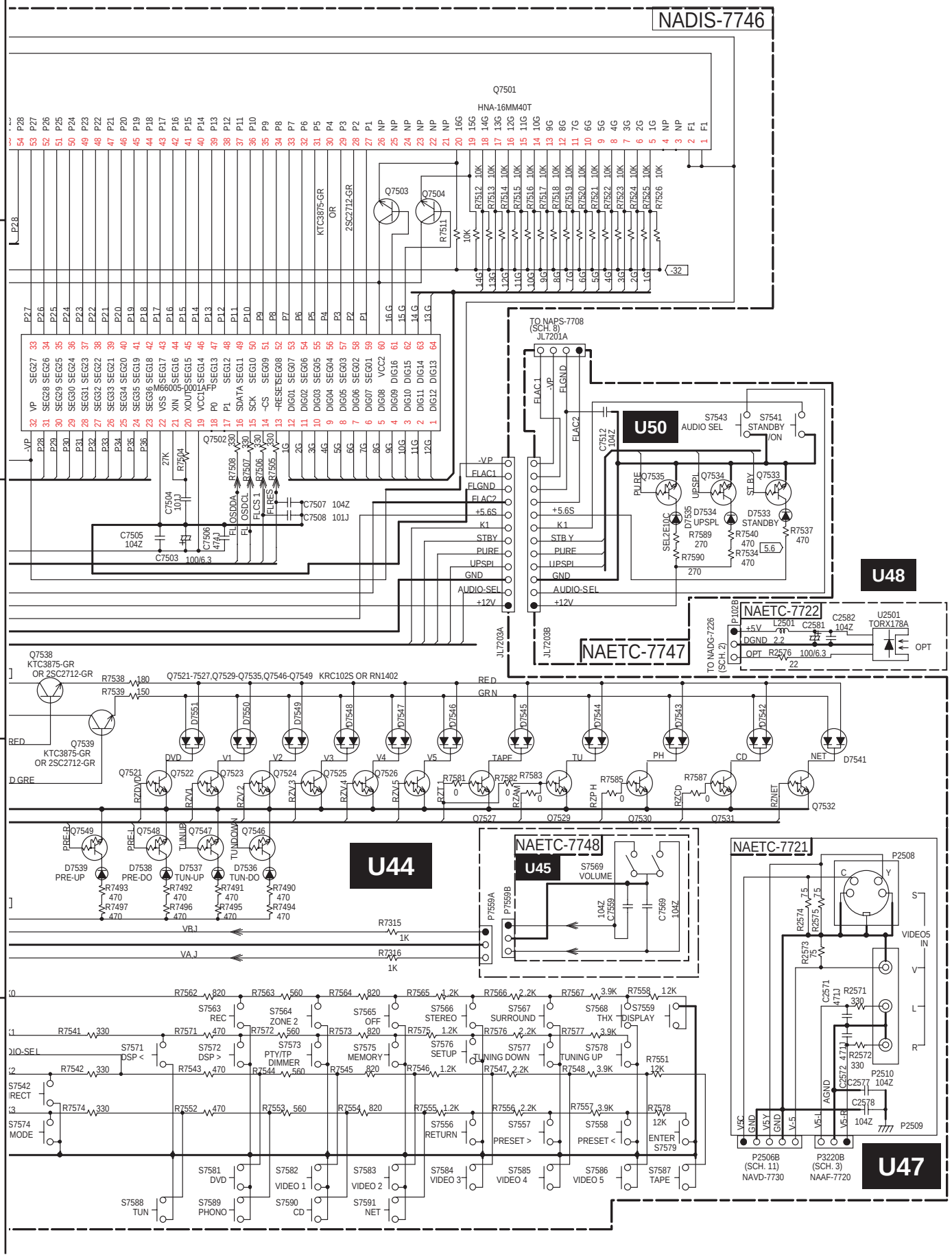
SEMICONDUCTORS

NO	
Q5000-06,Q5010-16	KTC3200-BL, 2SC1775A-E,F OR 2SC1845-E
Q5020-26	KTC3200-BL, 2SC1775A-E,F OR 2SC1845-E
Q5030-36,Q5040-46	KTA1024-Y,O OR 2SA949-Y,O
Q5050-52	2SA1360-Y,O
Q5053-56,Q5073-76	KTA1024-Y,O OR 2SA949-Y,O
Q5060-62	2SC3423-Y,O
Q5063-66,Q5080-83	KTC3206-Y,O OR 2SC2229Y,O

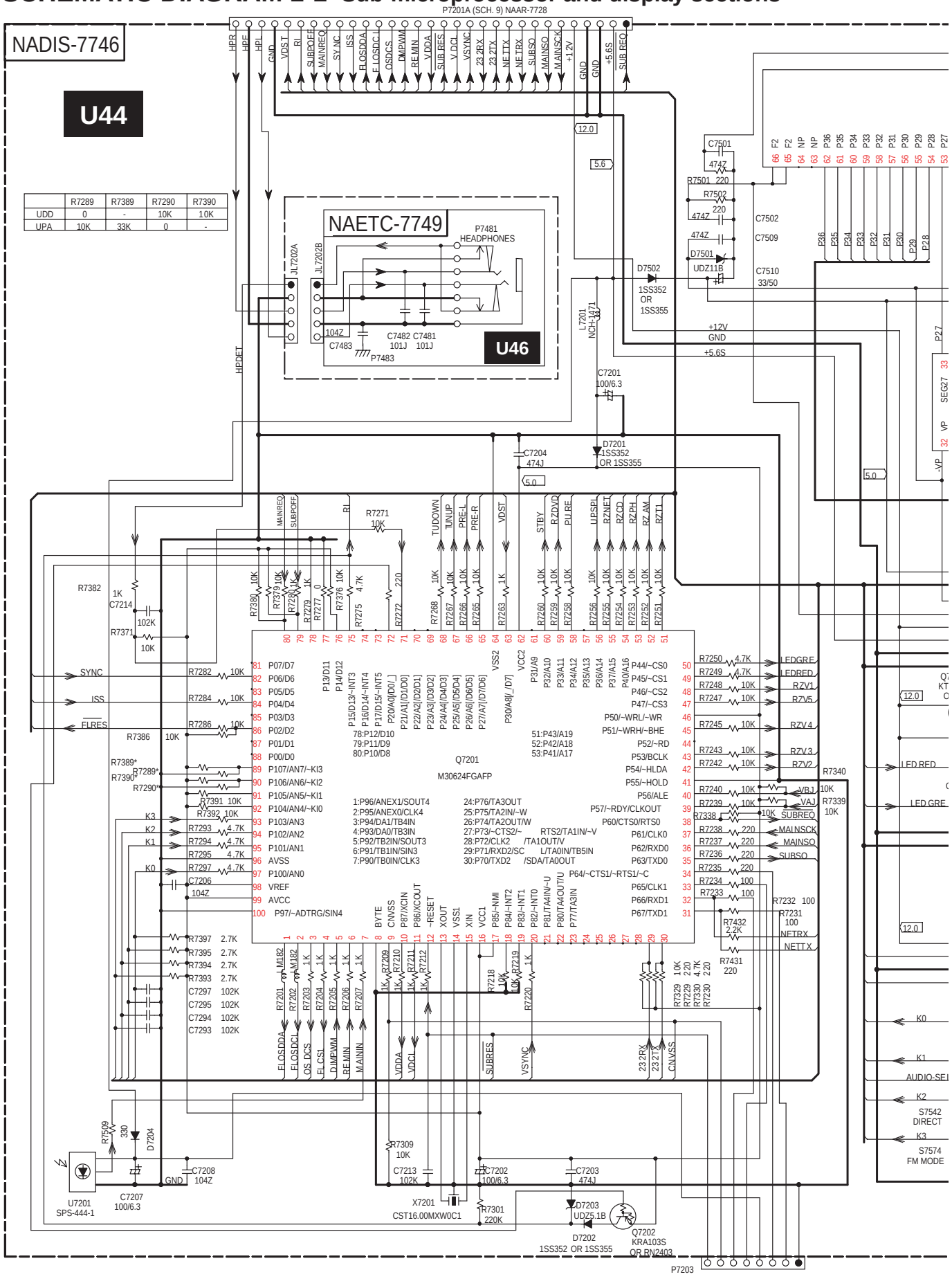
NOTE

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

SCHEMATIC DIAGRAM 1-2 Sub-microprocessor and display sections



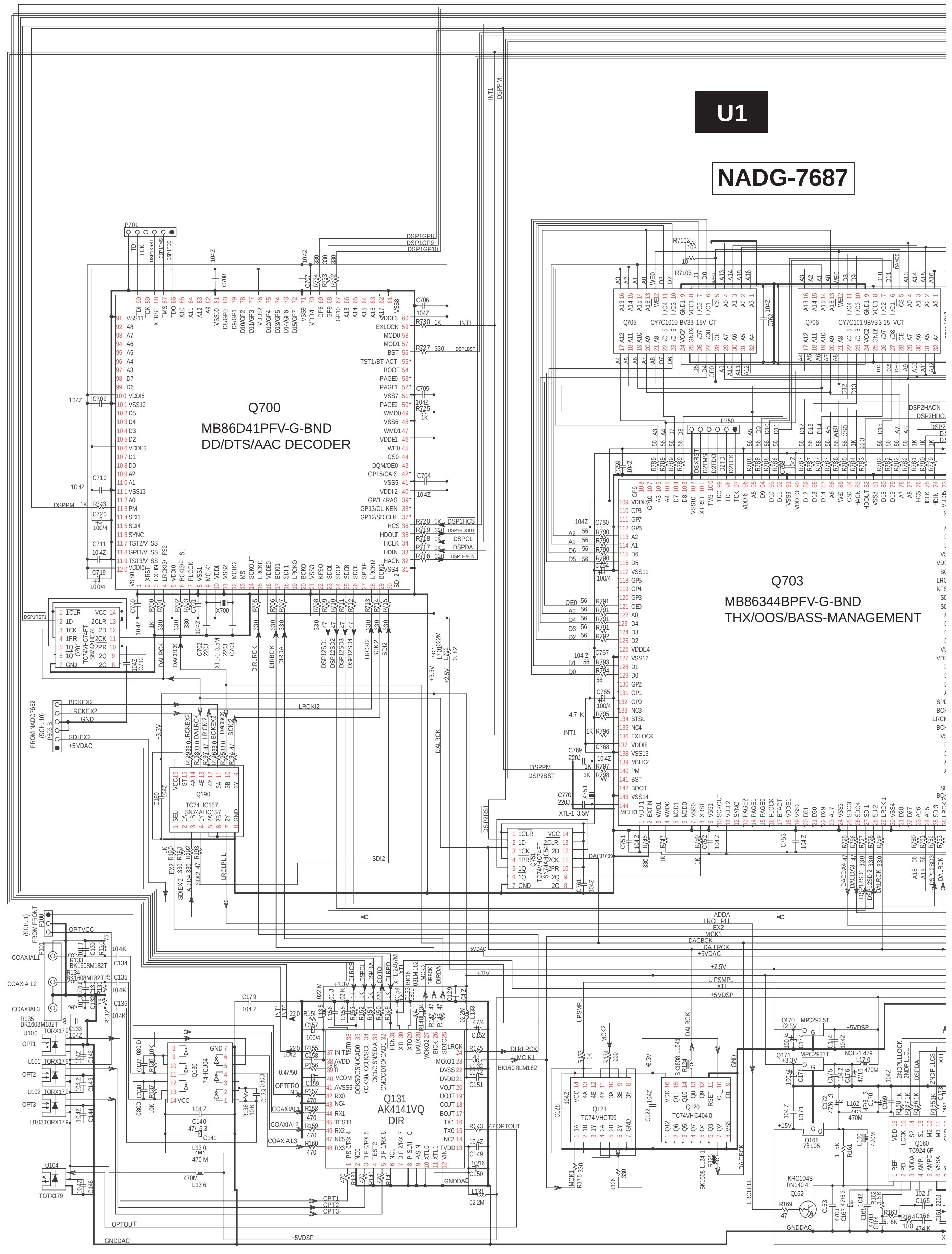
SCHEMATIC DIAGRAM 1-1 Sub-microprocessor and display sections



A B C D

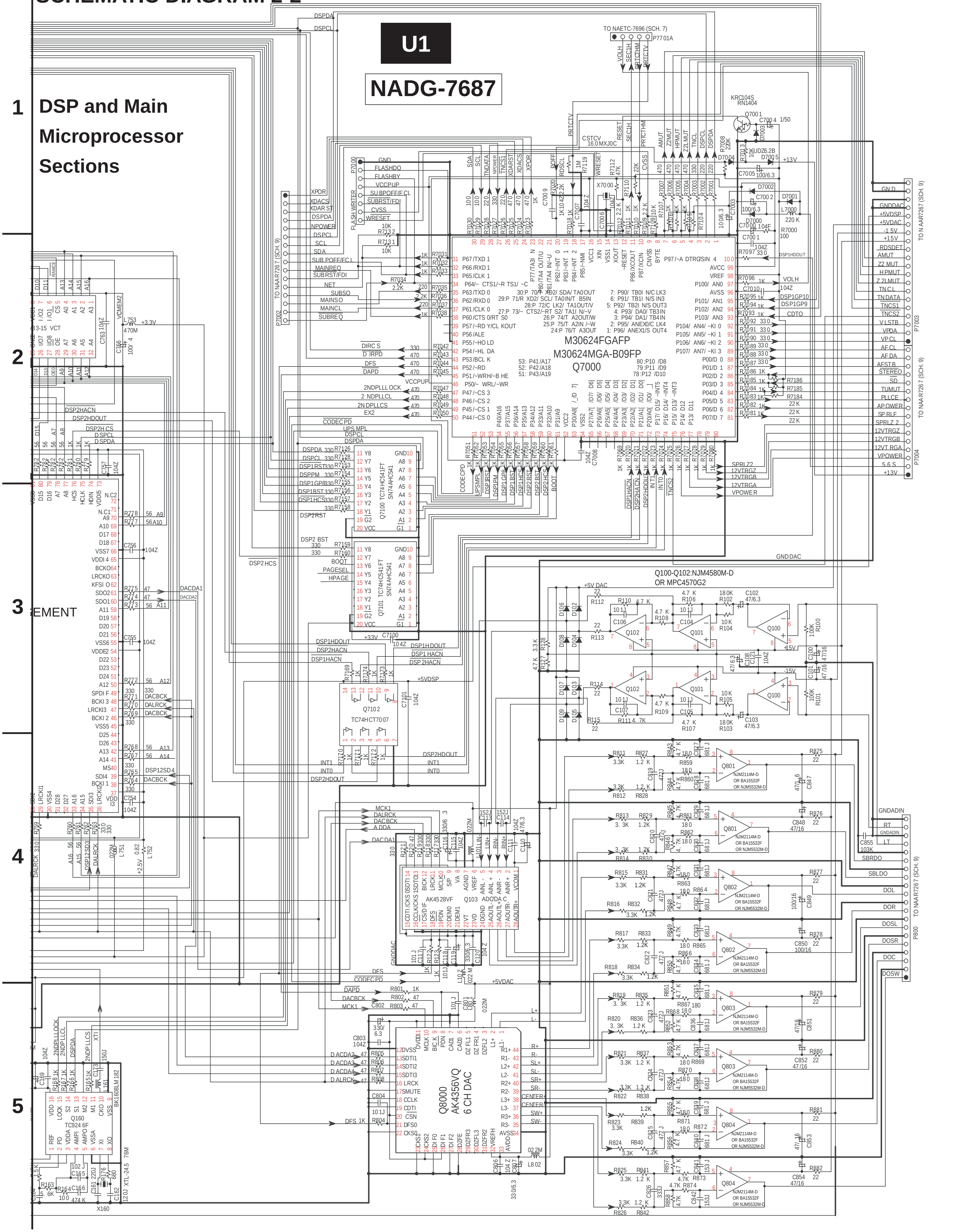
SCHEMATIC DIAGRAM 2-1 DSP and Main Microprocessor Sections

1 2 3 4 5



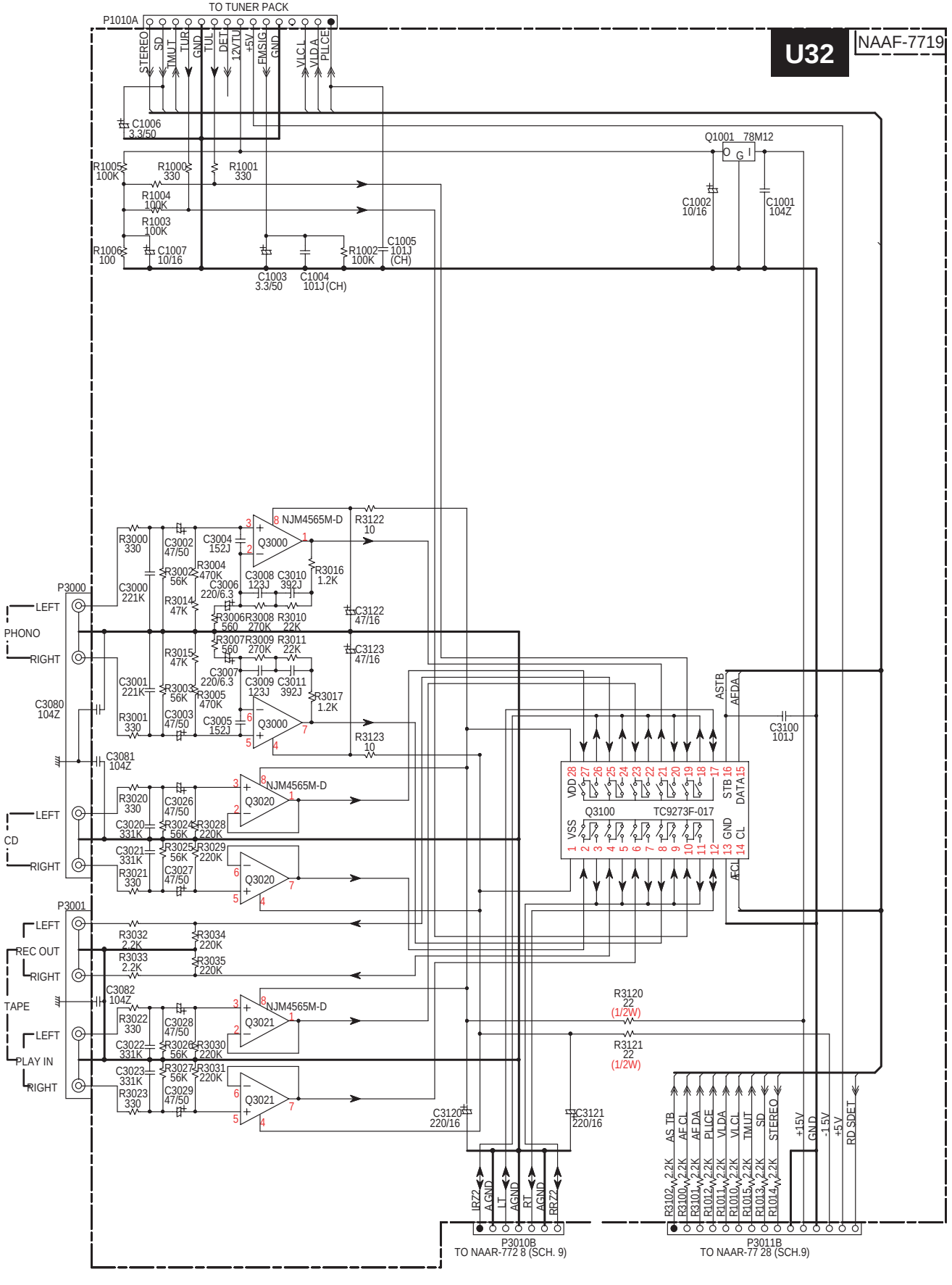
A B C D

SCHEMATIC DIAGRAM 2-2



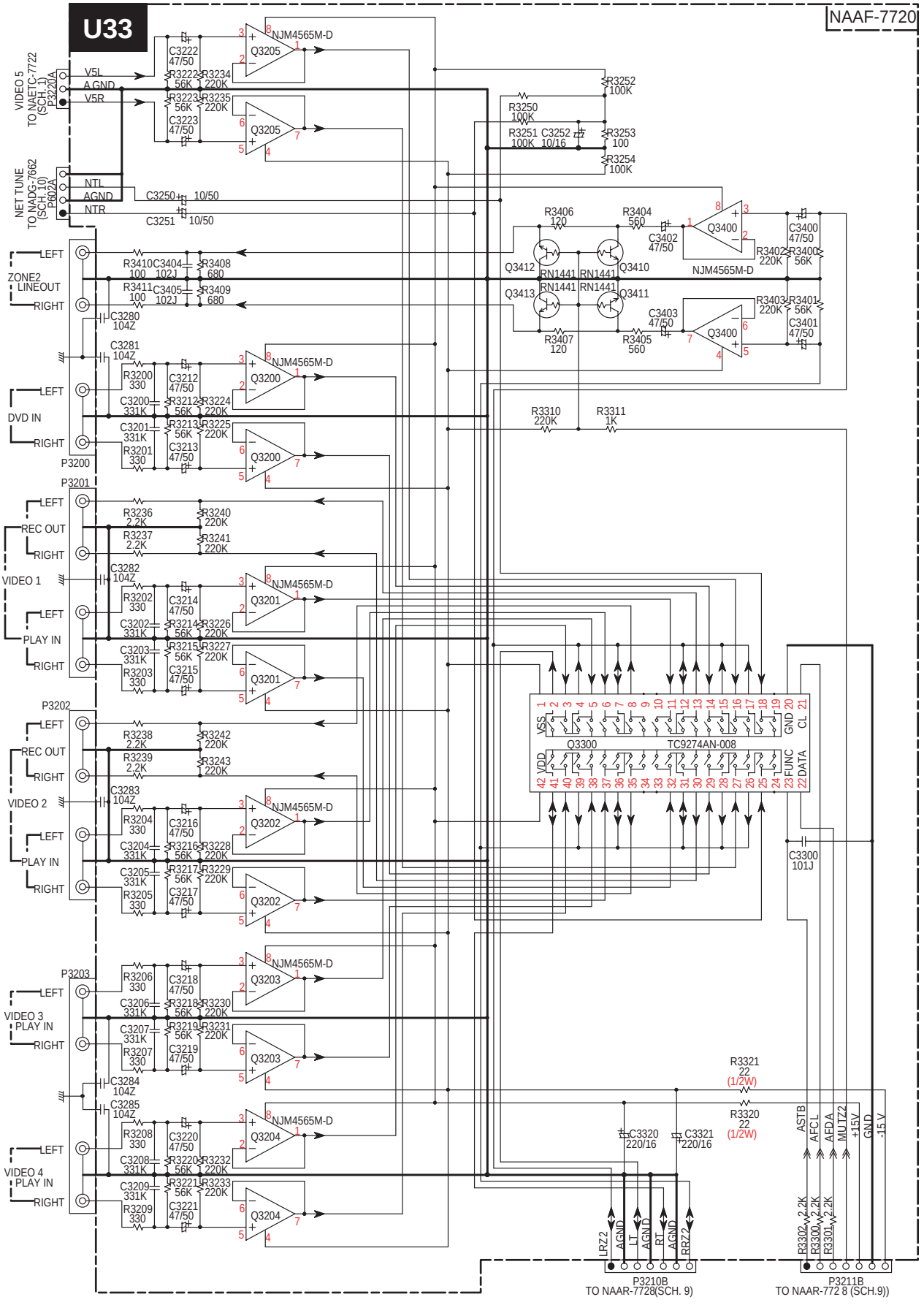
SCHEMATIC DIAGRAM 3-2

Audio Input/Output

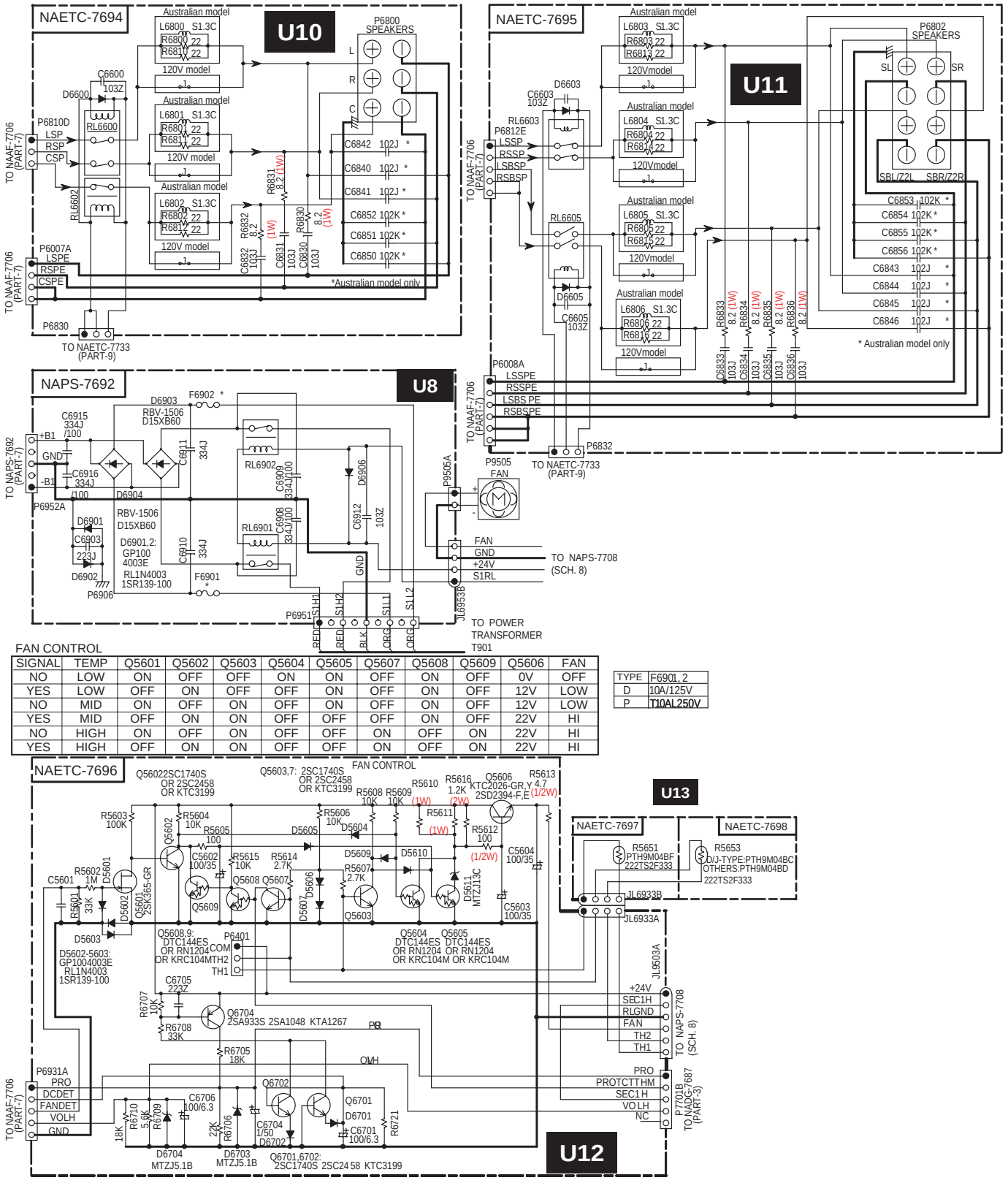


SCHEMATIC DIAGRAM 3-1

Audio Input/Output



SCHEMATIC DIAGRAM 7 Speaker terminal and fan drive sections



FAN CONTROL											
SIGNAL	TEMP	Q5601	Q5602	Q5603	Q5604	Q5605	Q5607	Q5608	Q5609	Q5606	FAN
NO	LOW	ON	OFF	OFF	ON	ON	OFF	ON	OFF	0V	OFF
YES	LOW	OFF	ON	OFF	OFF	ON	OFF	ON	OFF	12V	LOW
NO	MID	ON	OFF	ON	OFF	ON	OFF	ON	OFF	12V	LOW
YES	MID	OFF	ON	ON	OFF	OFF	OFF	ON	OFF	22V	HI
NO	HIGH	ON	OFF	ON	OFF	OFF	ON	OFF	ON	22V	HI
YES	HIGH	OFF	ON	ON	OFF	OFF	ON	OFF	ON	22V	HI

TYPE	F6901, 2
D	10A/125V
P	T10AL250V

A B C D

SCHEMATIC DIAGRM 8 Power Supply Section

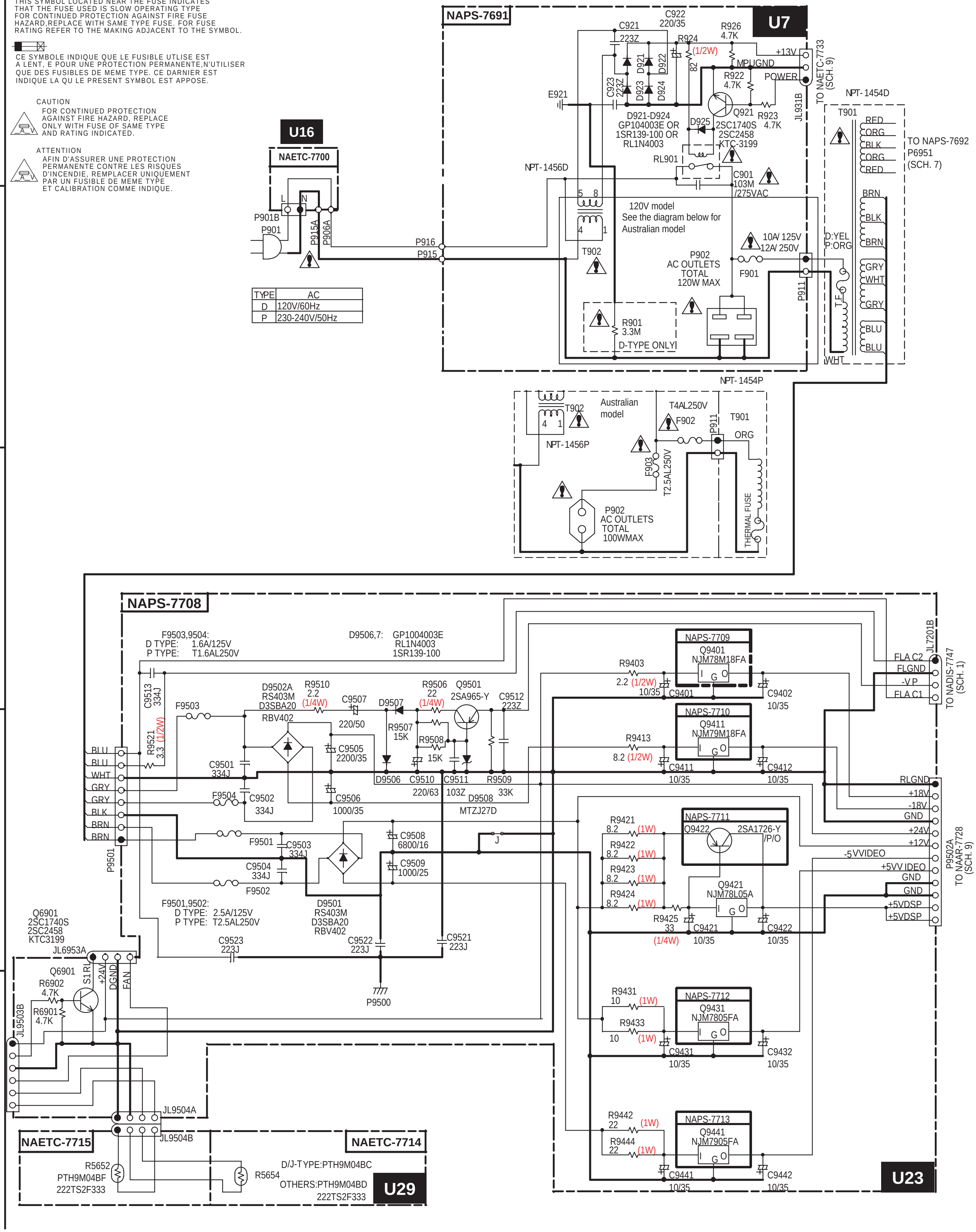
THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGAINST FIRE FUSE HAZARD,REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE MAKING ADJACENT TO THE SYMBOL.

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

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

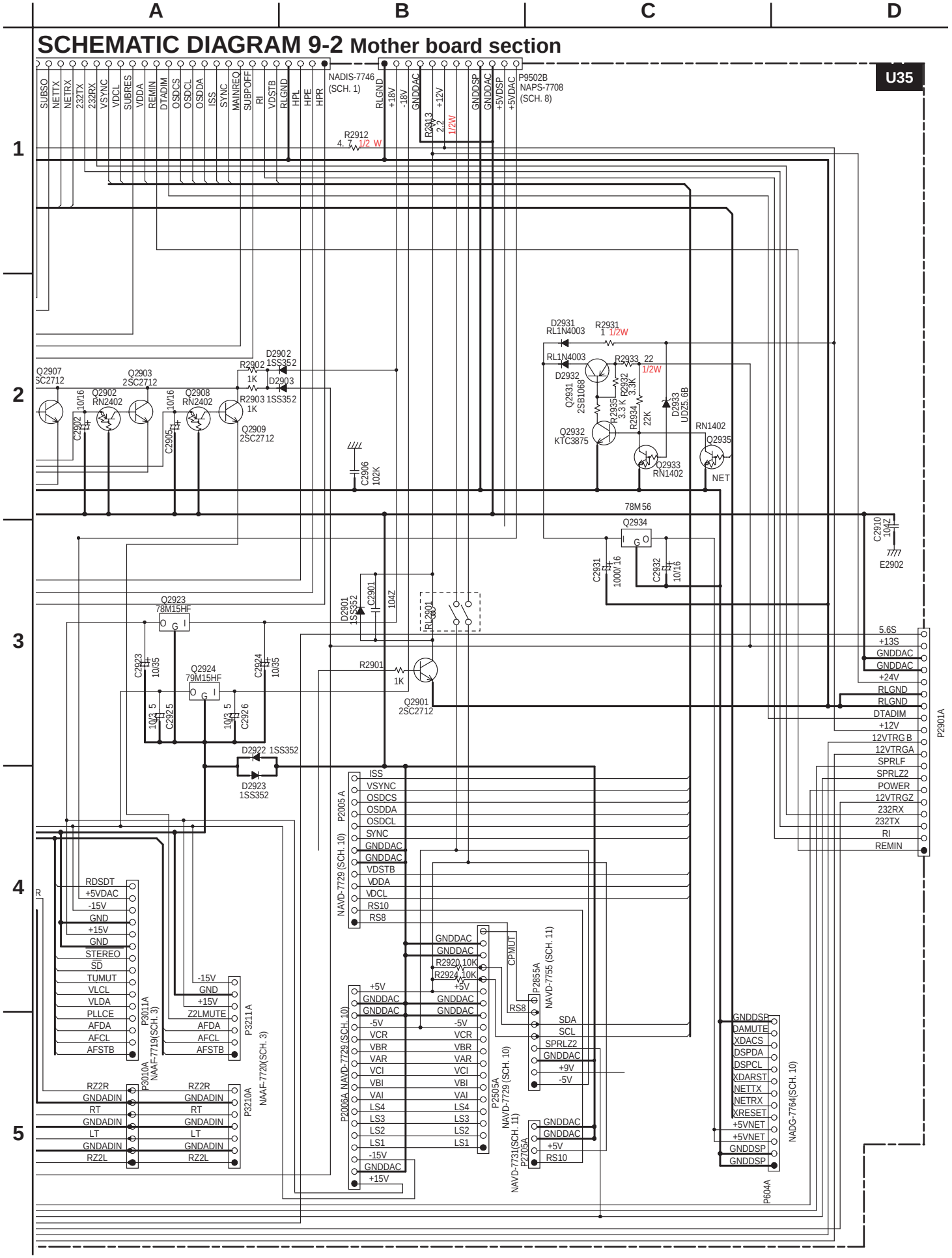
ATTENTIION
AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET CALIBRATION COMME INDIQUE.

1
2
3
4
5

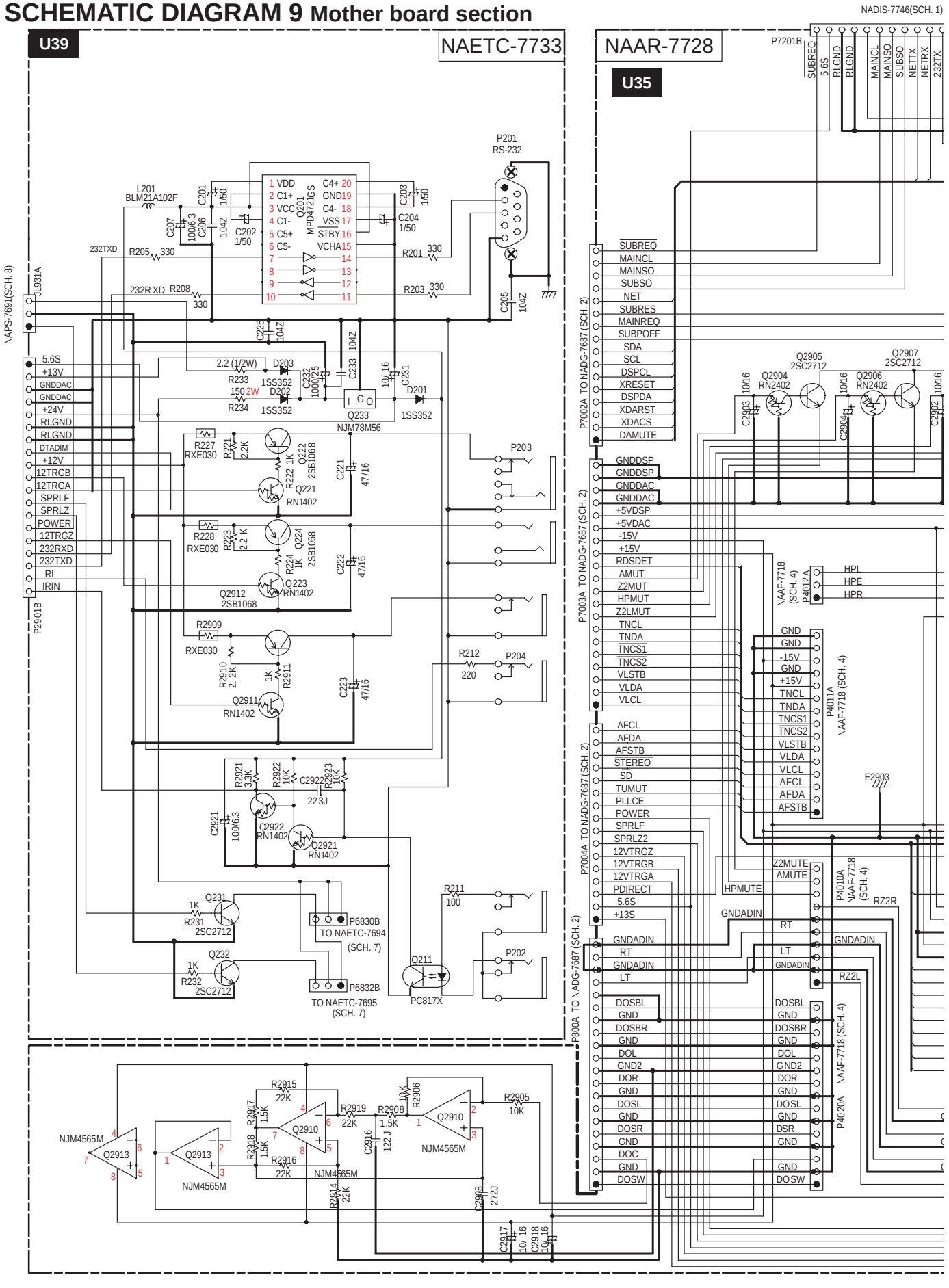


NAPS-7691
U7
C921 223Z
C922 220/35
R924 82 (1/2W)
R926 4.7K
+13V
MPUGND
POWER
R922 4.7K
D921 D922 D923 D924
C923 223Z
E921
D921-D924 GP104003E OR 1SR139-100 OR RL1N4003
D925
Q921 2SC1740S 2SC2458 KTC-3199
R923 4.7K
JL931B
TO NAETC-7733 (SCH. 9)
RL901
C901 103M /275VAC
NPT-1456D
120V model
See the diagram below for Australian model
T902
P902 AC OUTLETS TOTAL 120W MAX
10A/ 125V 12A/ 250V
F901
P911
R901 3.3M
D-TYPE ONLY
NPT-1454D
T901
RED ORG BLK ORG RED
BRN BLK BRN GRY WHT GRY BLU BLU WHT
D:YEL P:ORG
T.F
TO NAPS-7692 P6951 (SCH. 7)
U16
NAETC-7700
L N
P901B
P901
P915A
P906A
P916
P915
TYPE AC
D 120V/60Hz
P 230-240V/50Hz
NPT-1454P
Australian model
T4AL250V
F902
T902
NPT-1456P
F903
T2.5AL250V
ORG
P902 AC OUTLETS TOTAL 100WMAX
THERMAL FUSE
NAPS-7708
F9503,9504: D TYPE: 1.6A/125V P TYPE: T1.6AL250V
D9506,7: GP1004003E RL1N4003 1SR139-100
C9513 334J
R9521 3.3 (1/2W)
F9503
D9502A RS403M D3SBA20 RBV402
R9510 2.2 (1/4W)
C9507 220/50
D9507
R9506 22 (1/4W)
Q9501 2SA965-Y
C9512 223Z
R9507 15K
R9508 15K
C9505 2200/35
C9501 334J
F9504
C9502 334J
C9506 1000/35
D9506 C9510 220/63 C9511 103Z D9508 MTZJ27D R9509 33K
BLU BLU WHT GRY GRY BLK BRN BRN
P9501
F9501
C9503 334J
C9504 334J
F9502
C9508 6800/16
C9509 1000/25
J
F9501,9502: D TYPE: 2.5A/125V P TYPE: T2.5AL250V
D9501 RS403M D3SBA20 RBV402
C9523 223J
C9522 223J
C9521 223J
P9500
NAPS-7709 Q9401 NJM78M18FA
R9403 2.2 (1/2W)
C9401 10/35
C9402 10/35
NAPS-7710 Q9411 NJM79M18FA
R9413 8.2 (1/2W)
C9411 10/35
C9412 10/35
JL7201B
FLA C2 FLGND -V P FLA C1
TO NADIS-7747 (SCH. 1)
RLGND +18V -18V GND +24V +12V -5VVIDEO +5VVIDEO GND GND +5VDSP +5VDSP
P9502A
TO NAAR-7728 (SCH. 9)
R9421 8.2 (1W)
R9422 8.2 (1W)
R9423 8.2 (1W)
R9424 8.2 (1W)
NAPS-7711 Q9422 2SA1726-Y /P/O
Q9421 NJM78L05A
R9425 33 (1/4W)
C9421 10/35
C9422 10/35
Q6901 2SC1740S 2SC2458 KTC3199
JL6953A
S1 RL +24V DGND FAN
Q6901
R6902 4.7K
R6901 4.7K
JL9503B
JL9504A
JL9504B
R9431 10 (1W)
R9433 10 (1W)
NAPS-7712 Q9431 NJM7805FA
C9431 10/35
C9432 10/35
R9442 22 (1W)
R9444 22 (1W)
NAPS-7713 Q9441 NJM7905FA
C9441 10/35
C9442 10/35
U23
NAETC-7715
R5652 PTH9M04BF 222TS2F333
NAETC-7714
R5654
D/J-TYPE:PTH9M04BC OTHERS:PTH9M04BD 222TS2F333
U29

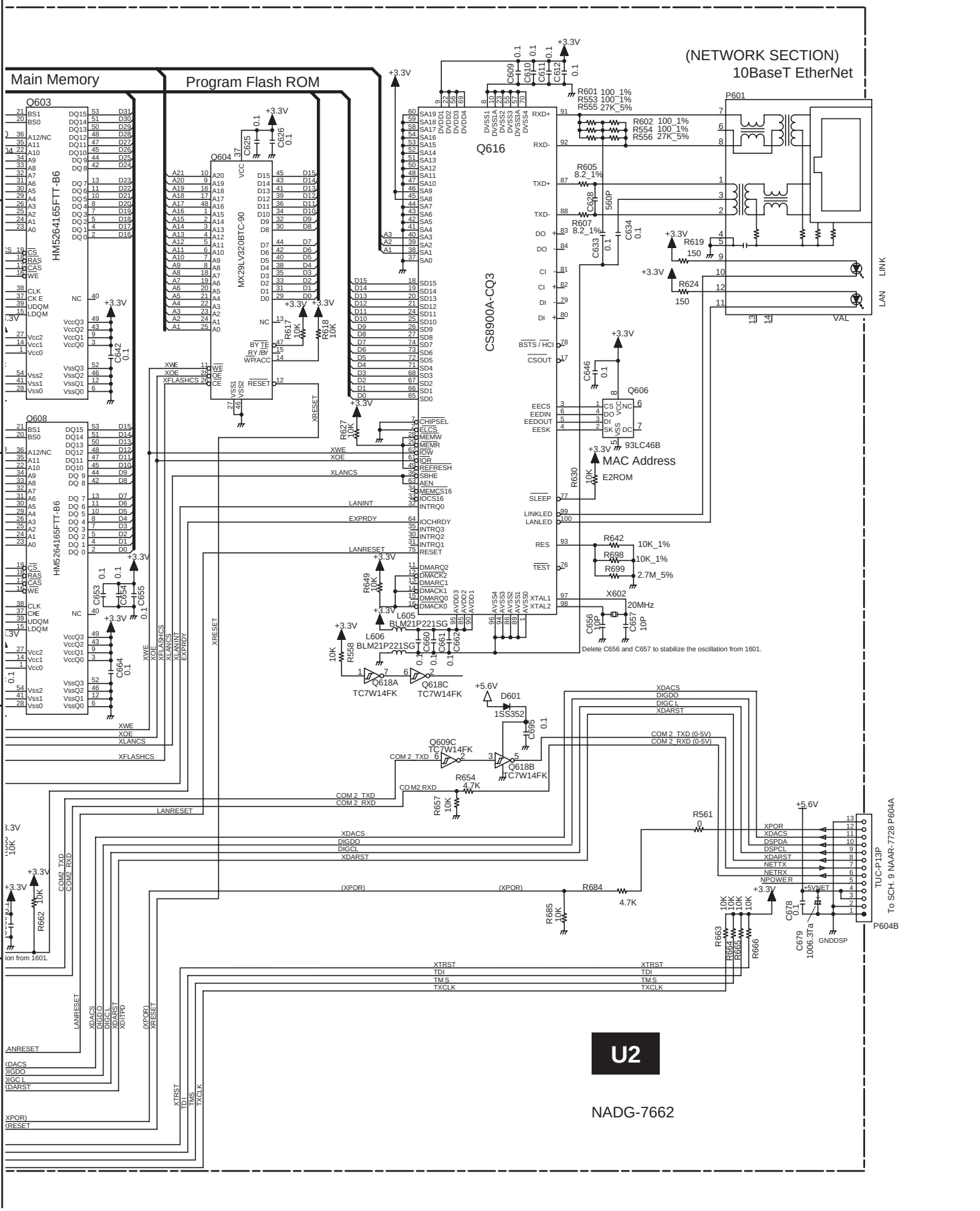
SCHEMATIC DIAGRAM 9-2 Mother board section



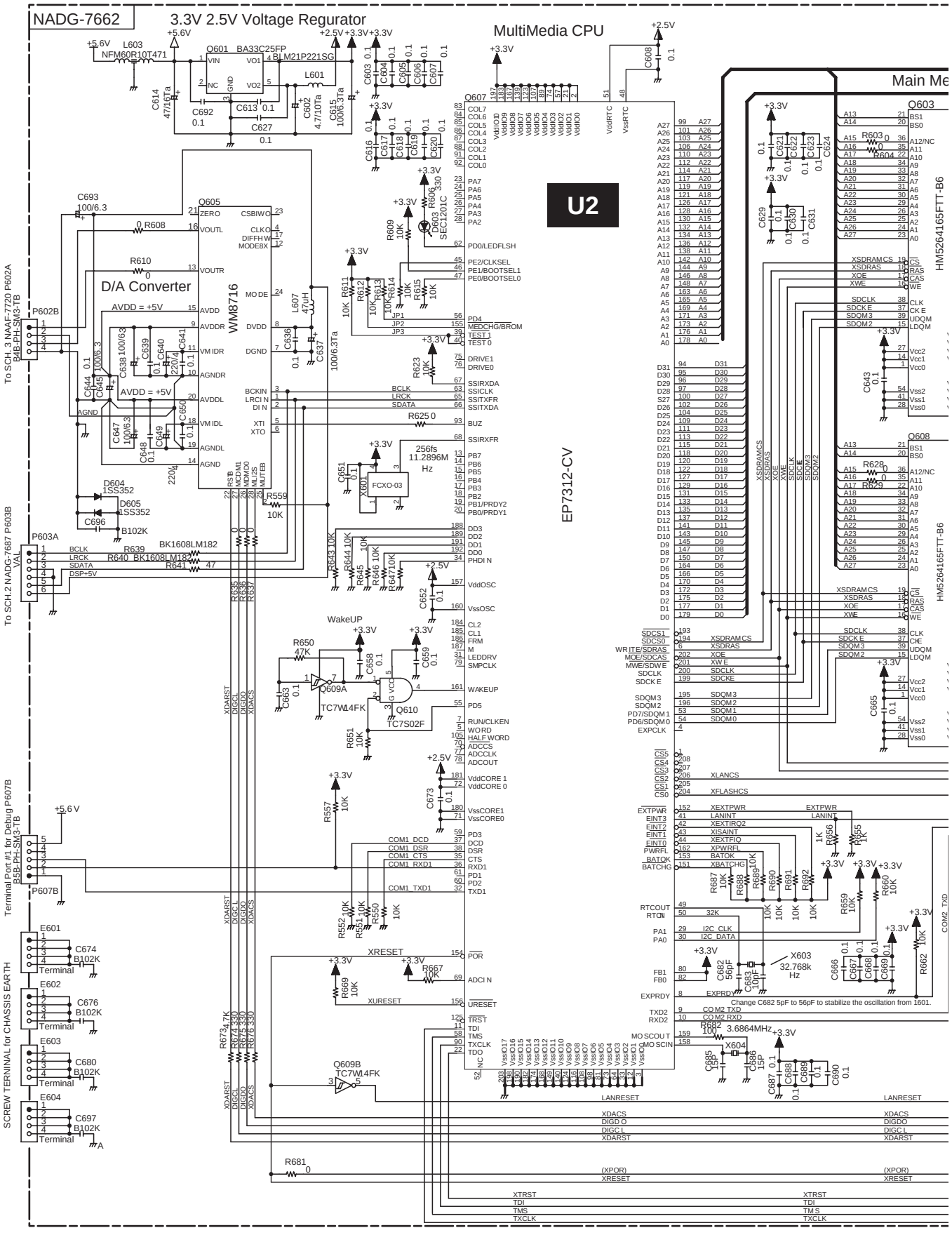
SCHEMATIC DIAGRAM 9 Mother board section



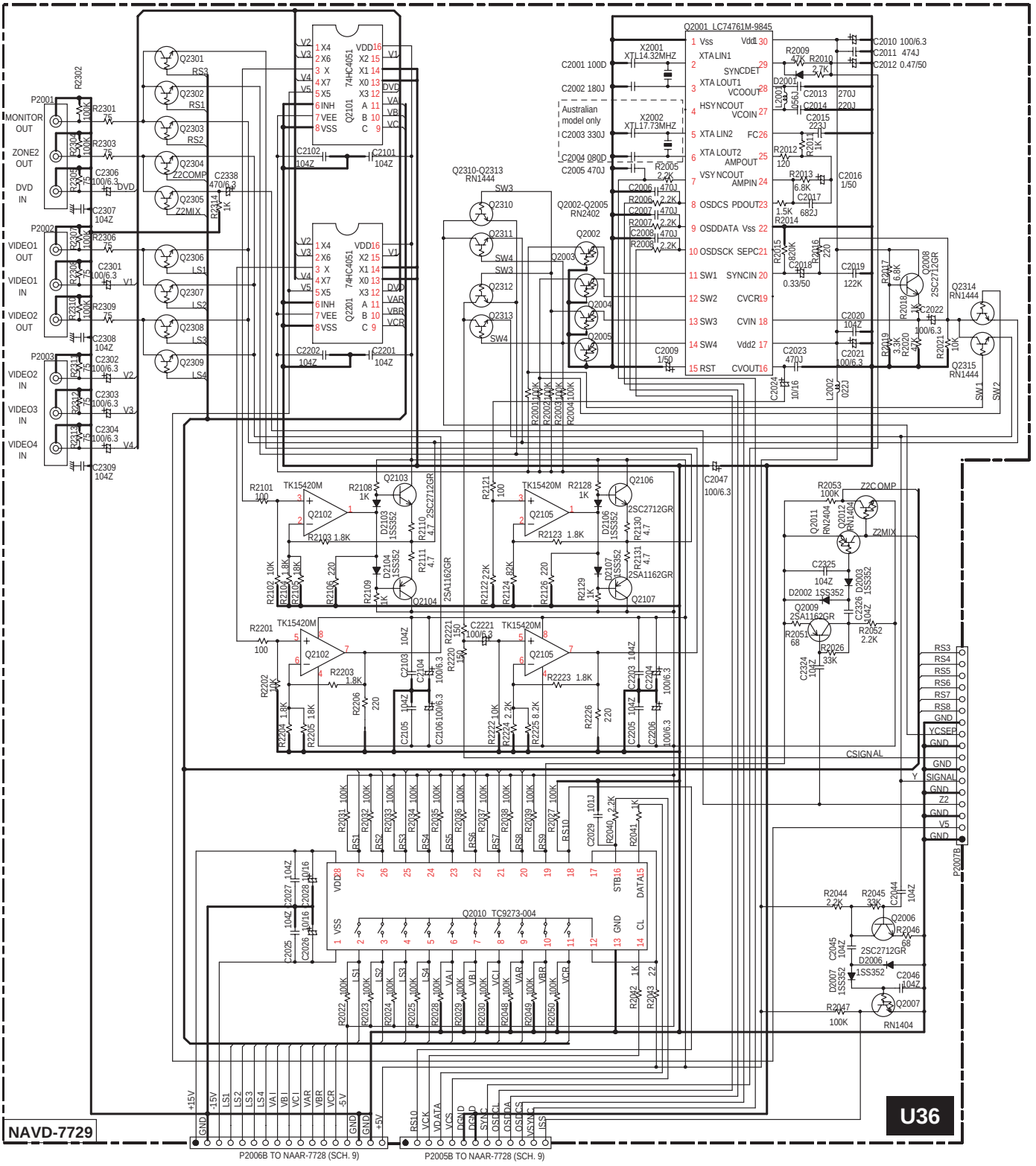
SCHEMATIC DIAGRAM 10-2 Net-tune circuit section



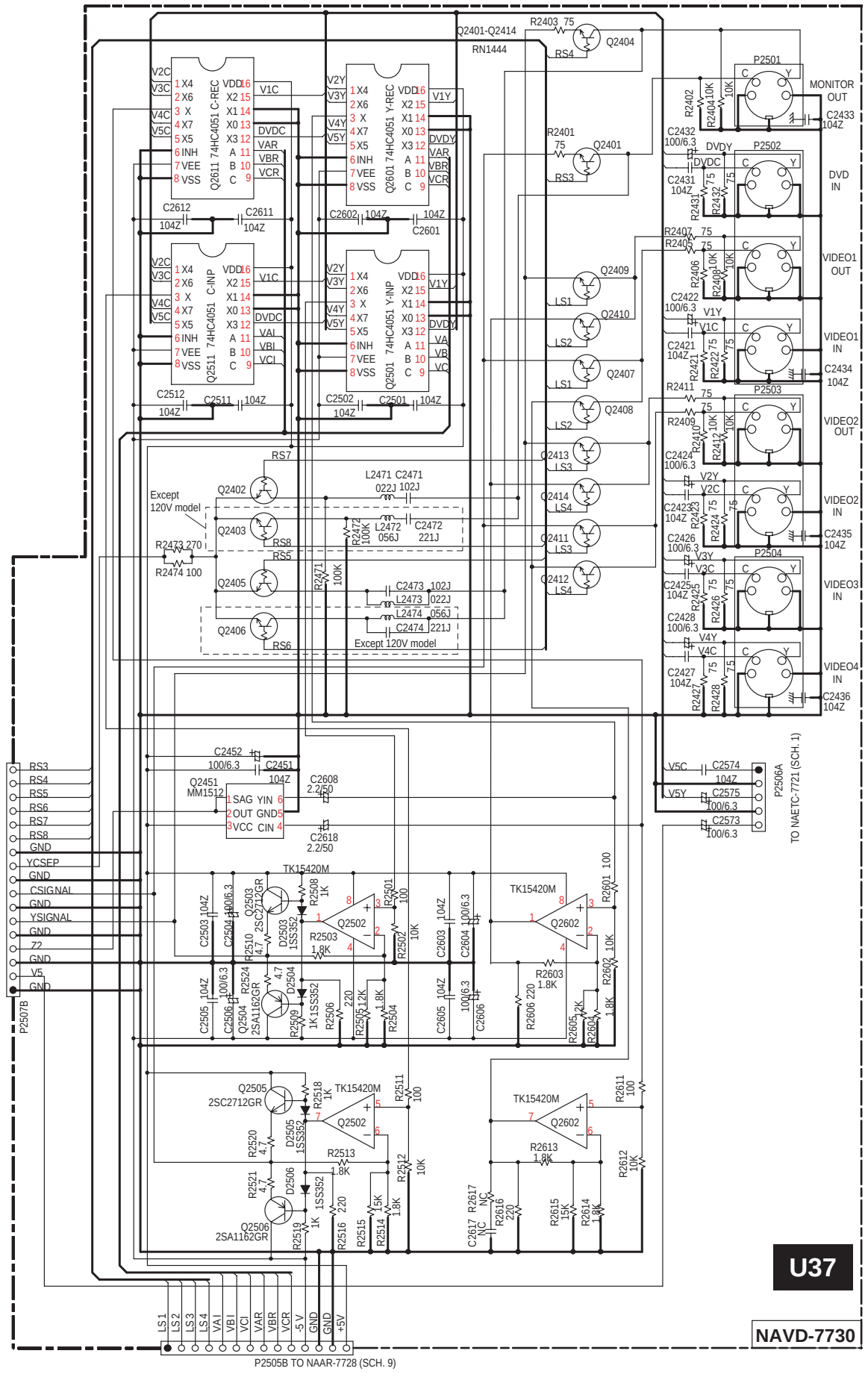
SCHEMATIC DIAGRAM 10-1 Net-tune circuit section



SCHEMATIC DIAGRAM 10-1 Composite Video Section



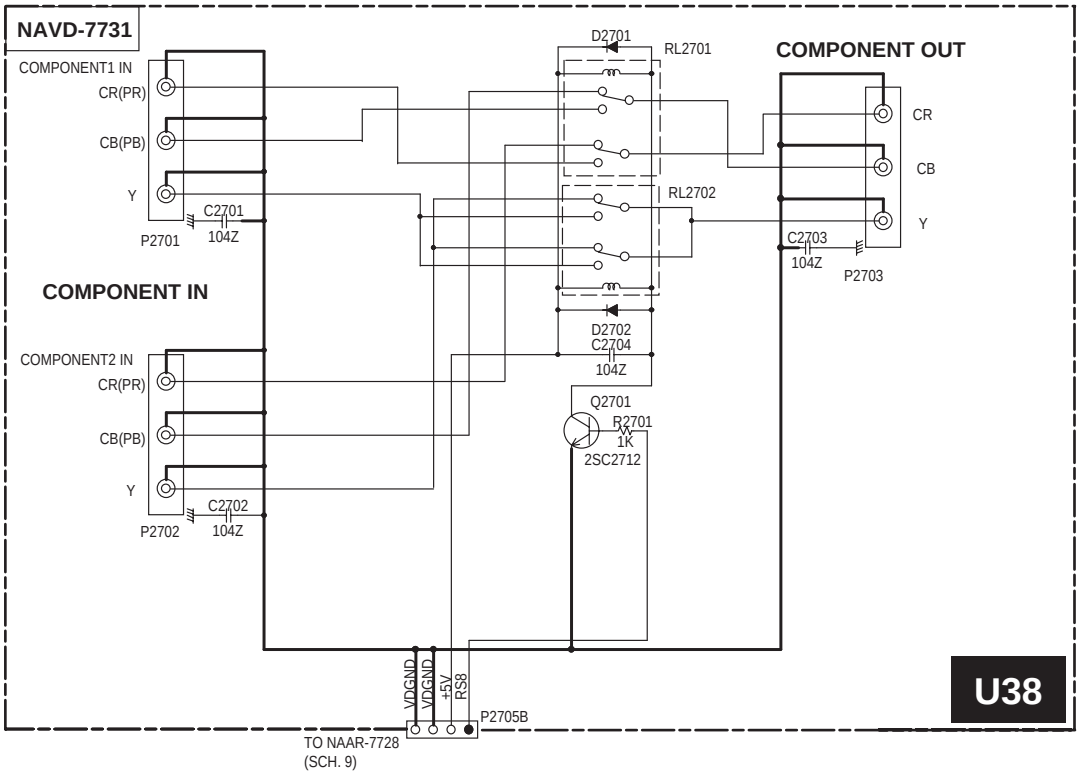
SCHEMATIC DIAGRAM 10-2 S Video Section



A B C D

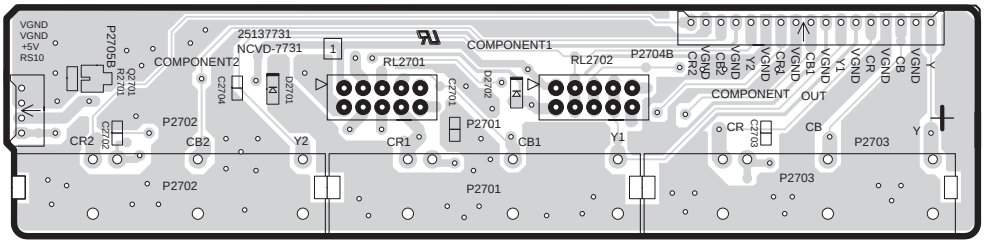
SCHEMATIC DIAGRAM 12

Component video section

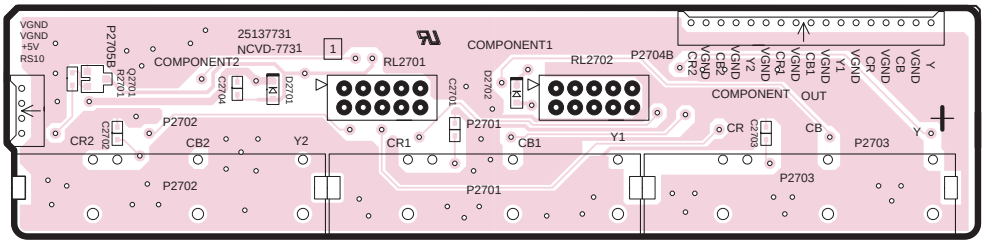


PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 13

U38



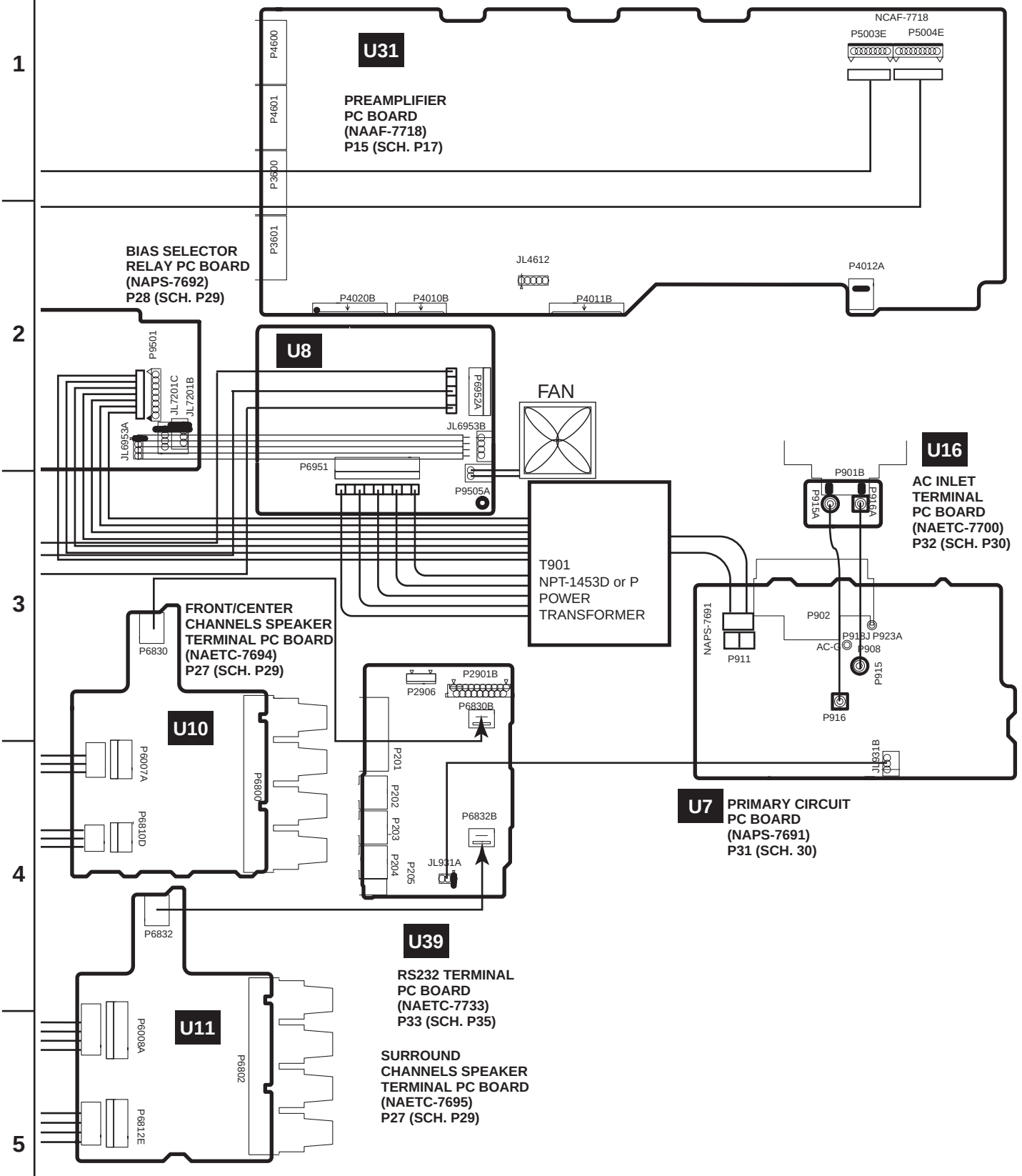
Component parts view



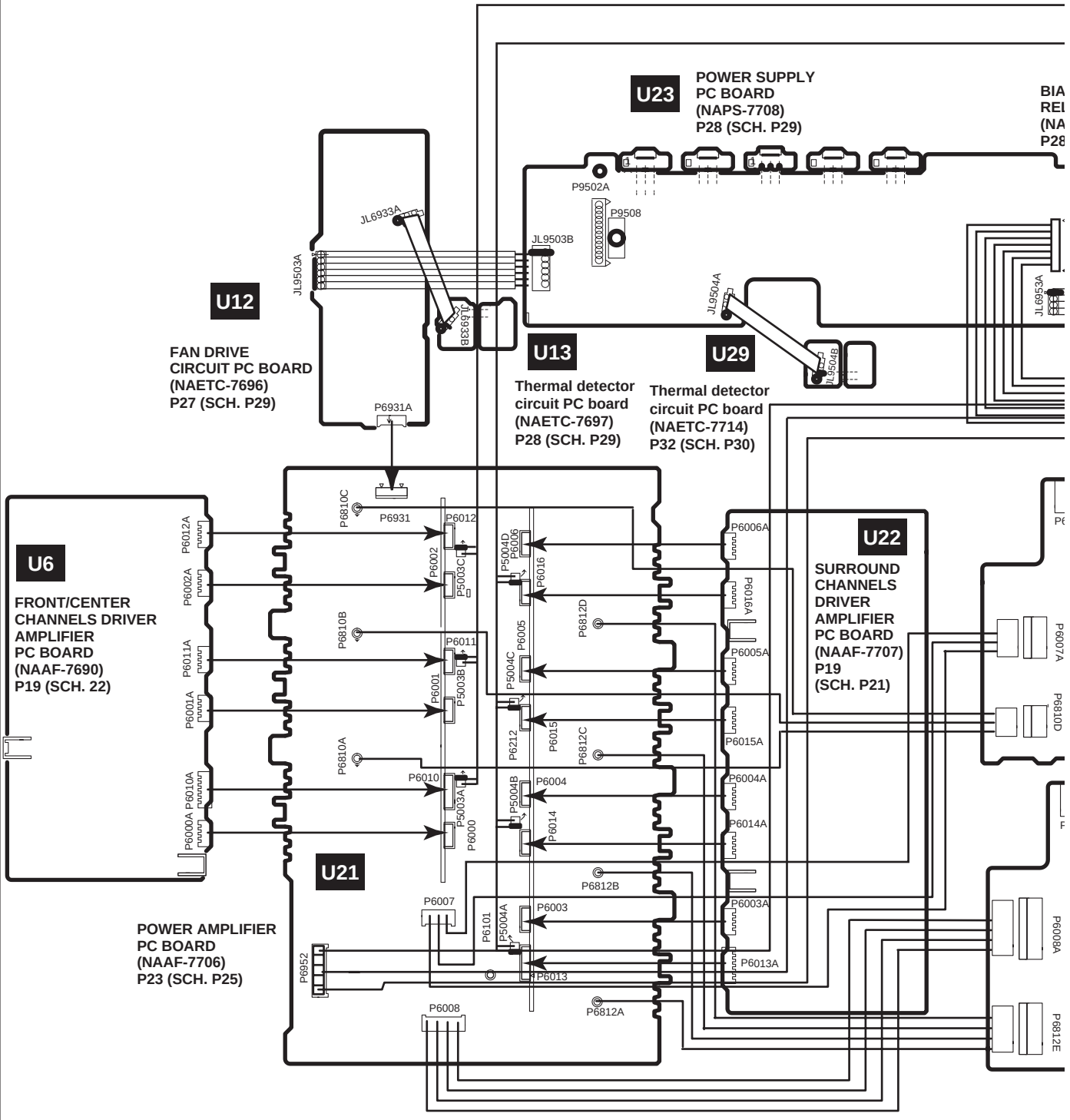
Chip parts view

COMPONENT VIDEO PC BOARD(NAVD-7731)

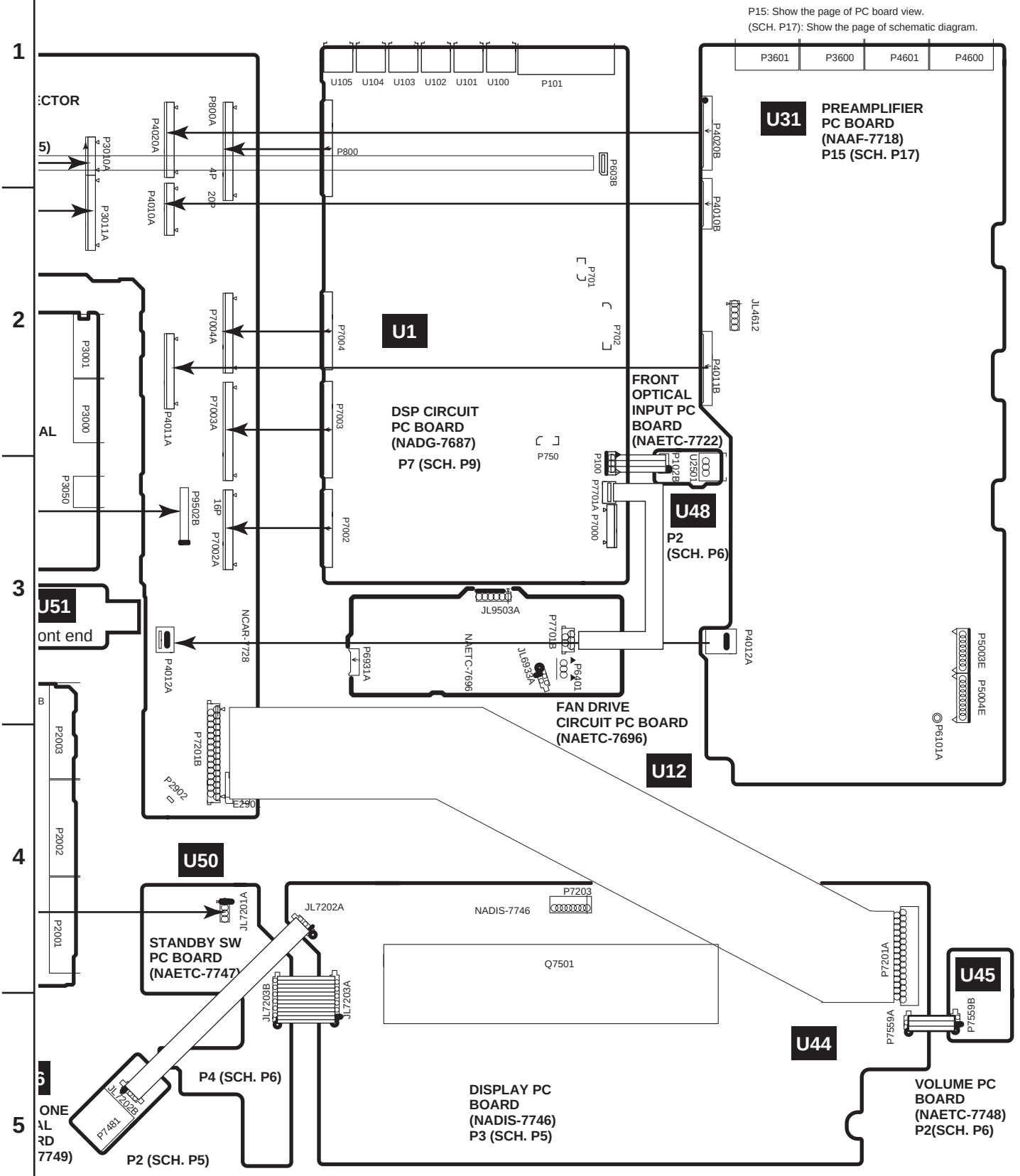
WIRING VIEW 2-2



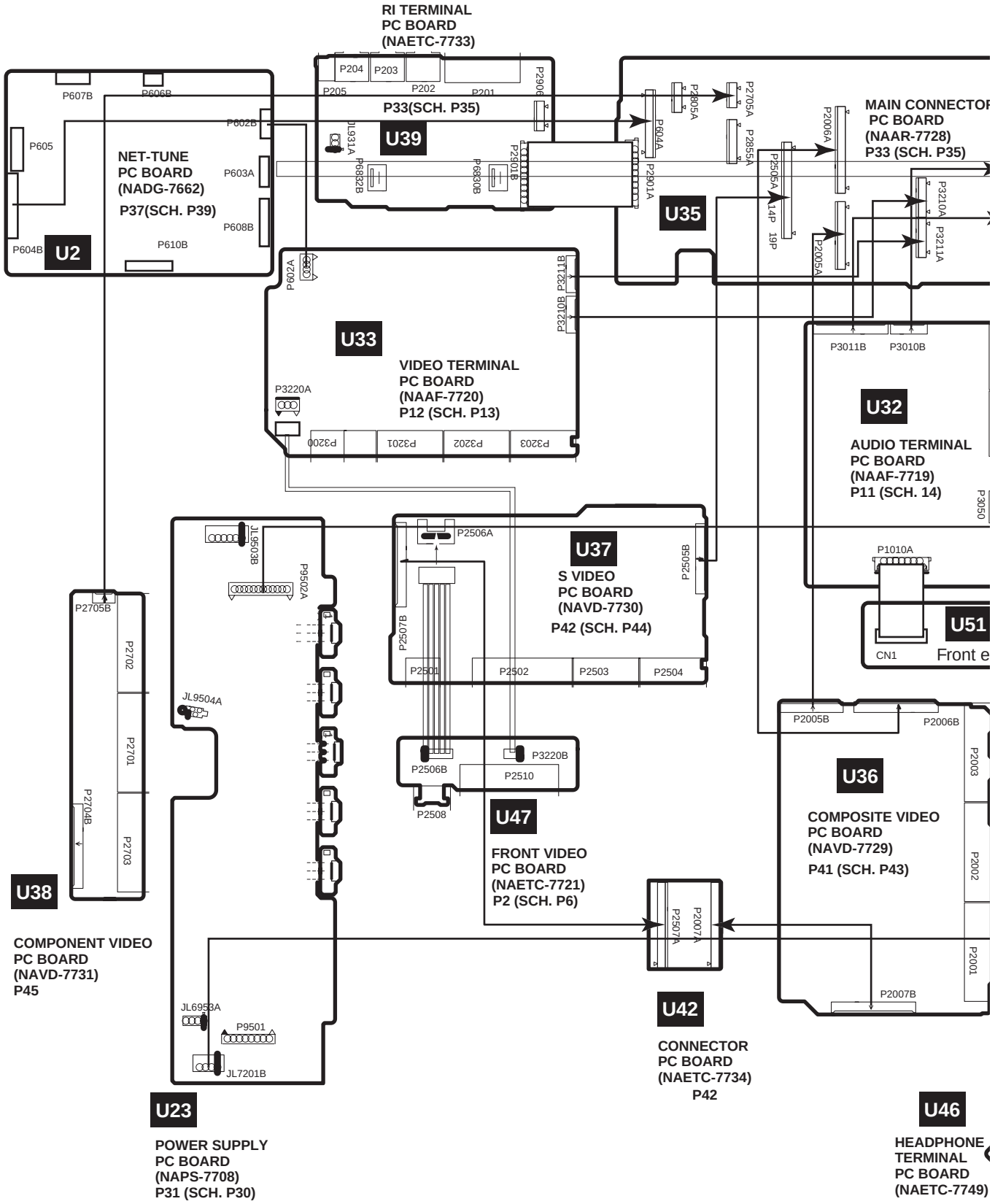
WIRING VIEW 2-1



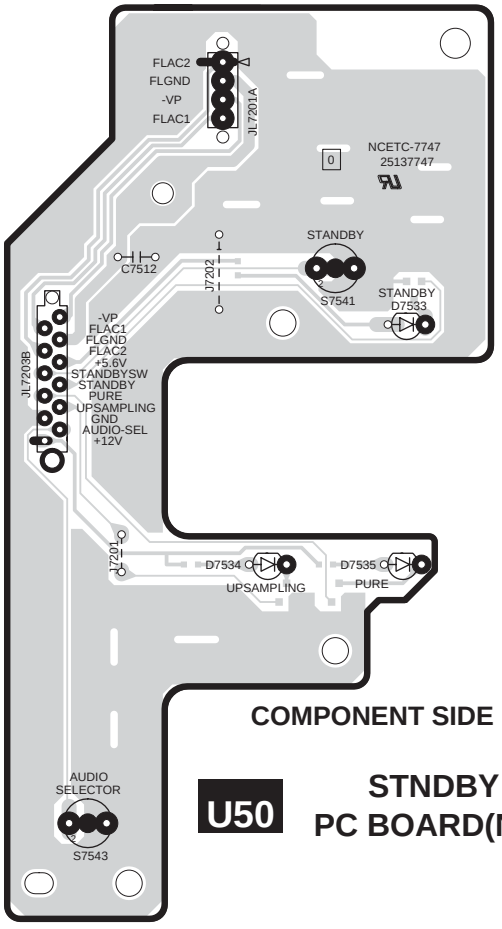
WIRING VIEW 1-2



WIRING VIEW 1-1

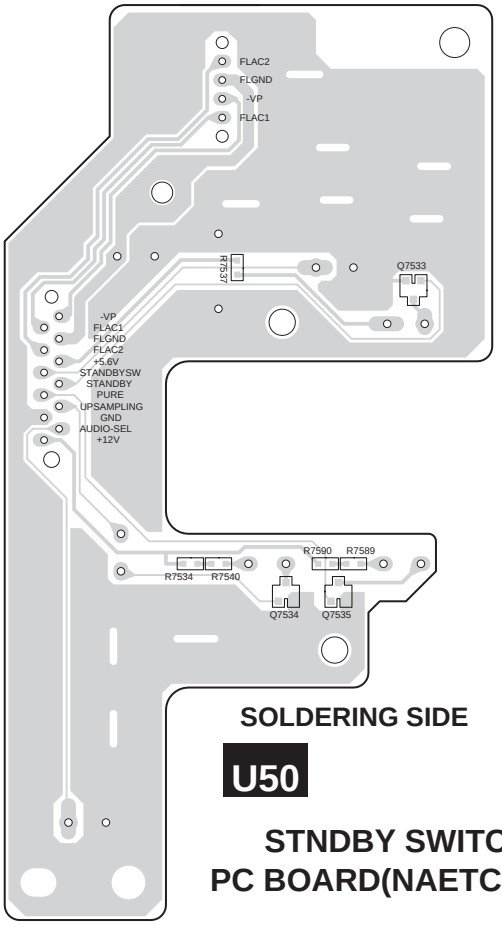


PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 2-3



COMPONENT SIDE

U50 STNDBY SWITCH PC BOARD(NAETC-7747)

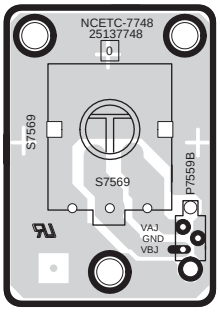


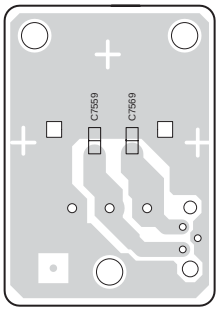
SOLDERING SIDE

U50 STNDBY SWITCH PC BOARD(NAETC-7747)

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 1

U45

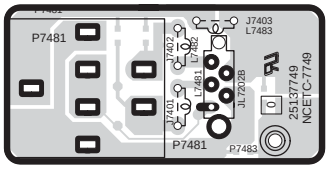


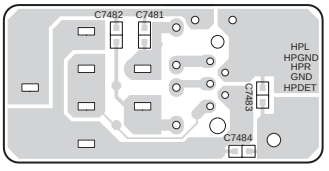


COMPONENT SIDE SOLDERING SIDE

VOLUME PC BOARD(NAETC-7748)

U46

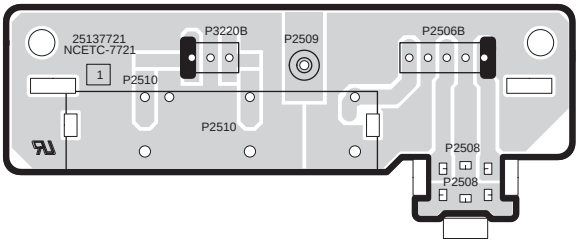


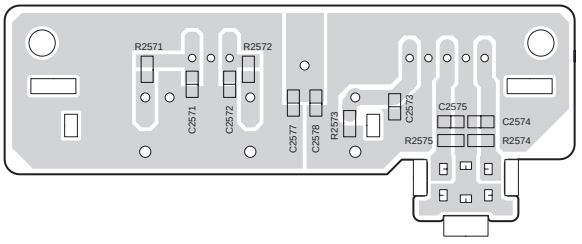


COMPONENT SIDE SOLDERING SIDE

HEADPHONE TERMINAL PC BOARD(NAETC-7749)

U47

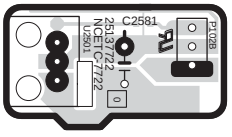


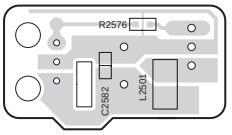


COMPONENT SIDE SOLDERING SIDE

FRONT VIDEO PC BOARD(NAETC-7721)

U48





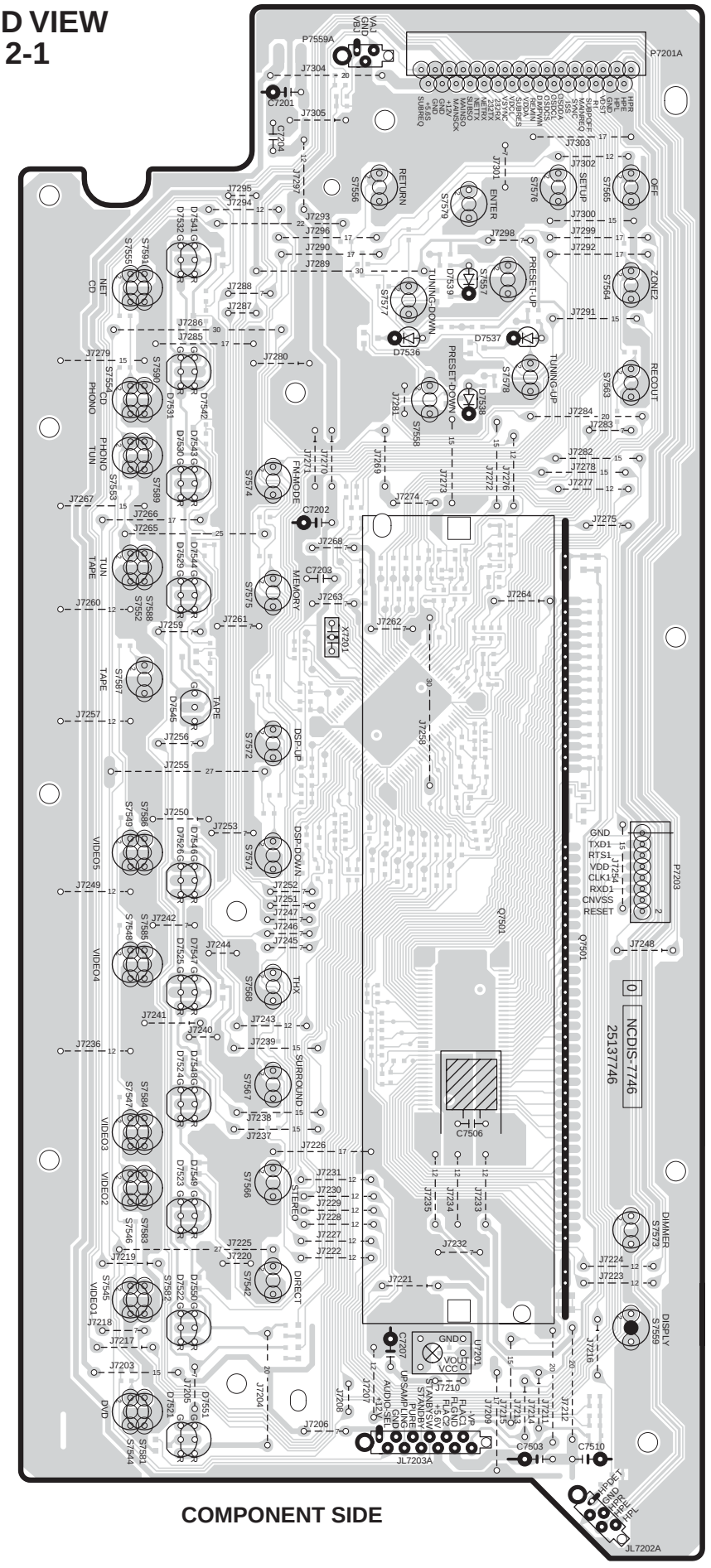
COMPONENT SIDE SOLDERING SIDE

FRONT OPTICAL INPUT PC BOARD(NAETC-7722)

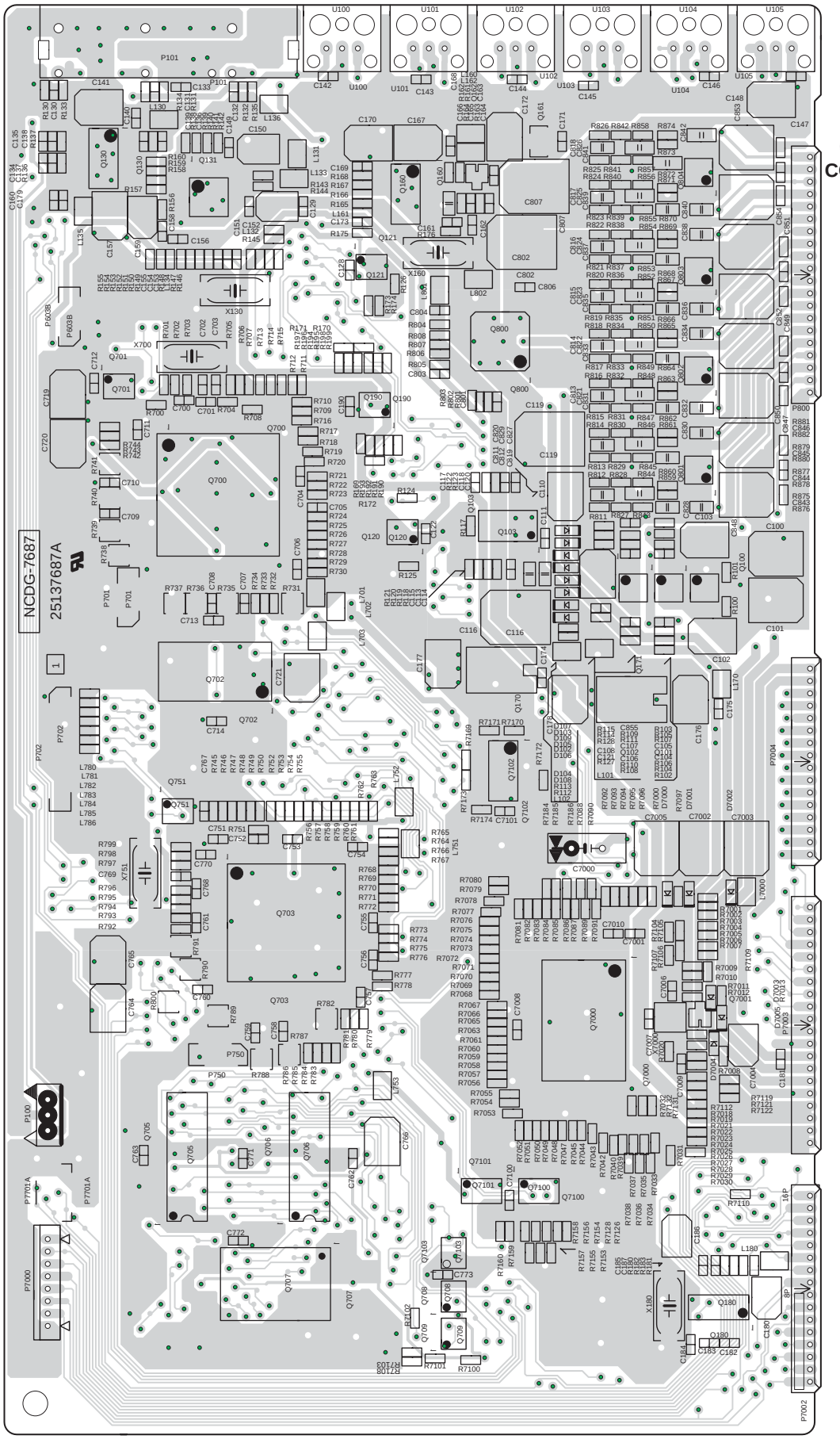
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 2-1

U44

DISPLAY CIRCUIT PC BOARD (NADIS-7746)



PRINTED CIRCUIT BOARD VIEW 3-1



U1

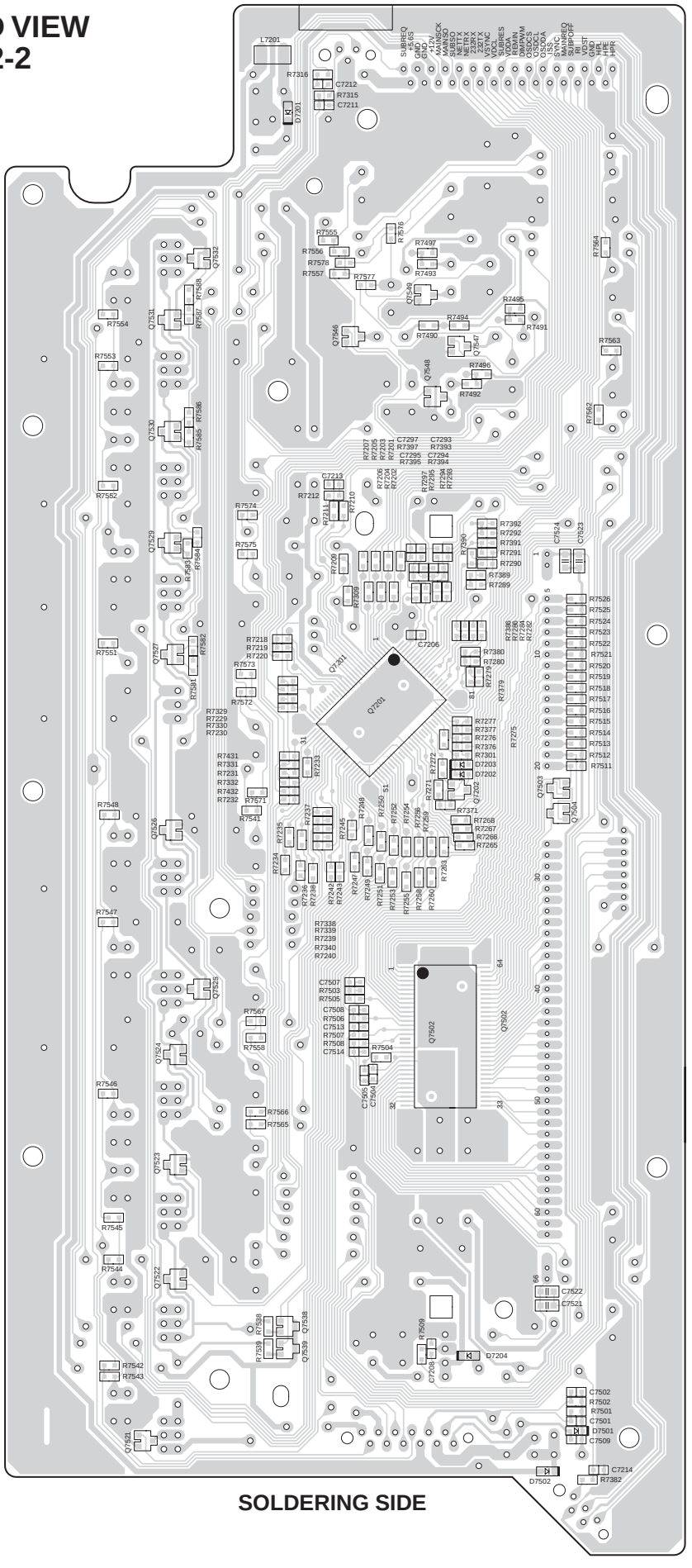
DSP CIRCUIT PC BOARD (NADG--7687)

COMPONENT PARTS SIDE

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 2-2

U44

DISPLAY CIRCUIT PC BOARD (NADIS-7746)



SOLDERING SIDE

A B C D

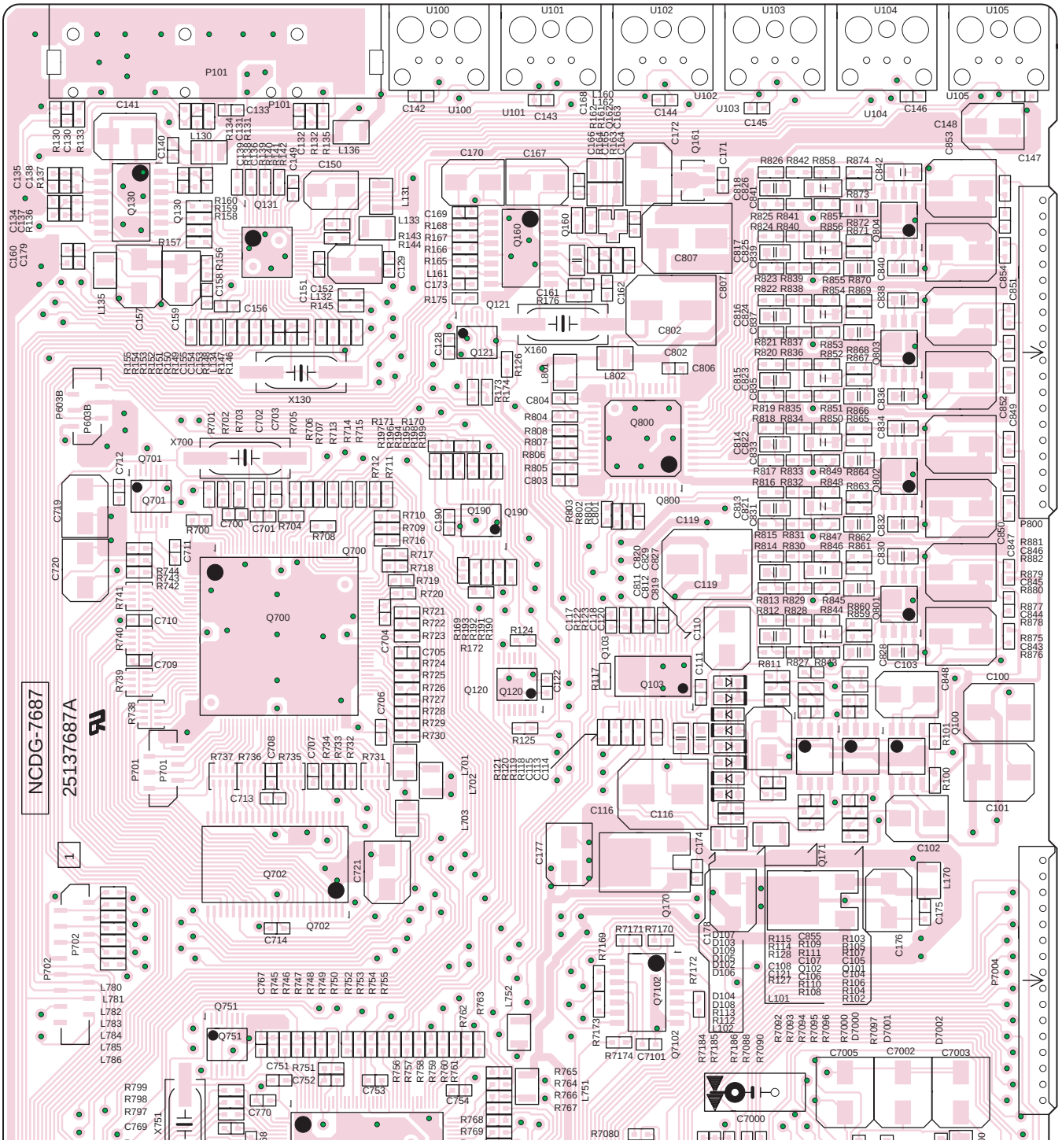
1 2 3 4 5

PRINTED CIRCUIT BOARD VIEW 3-2

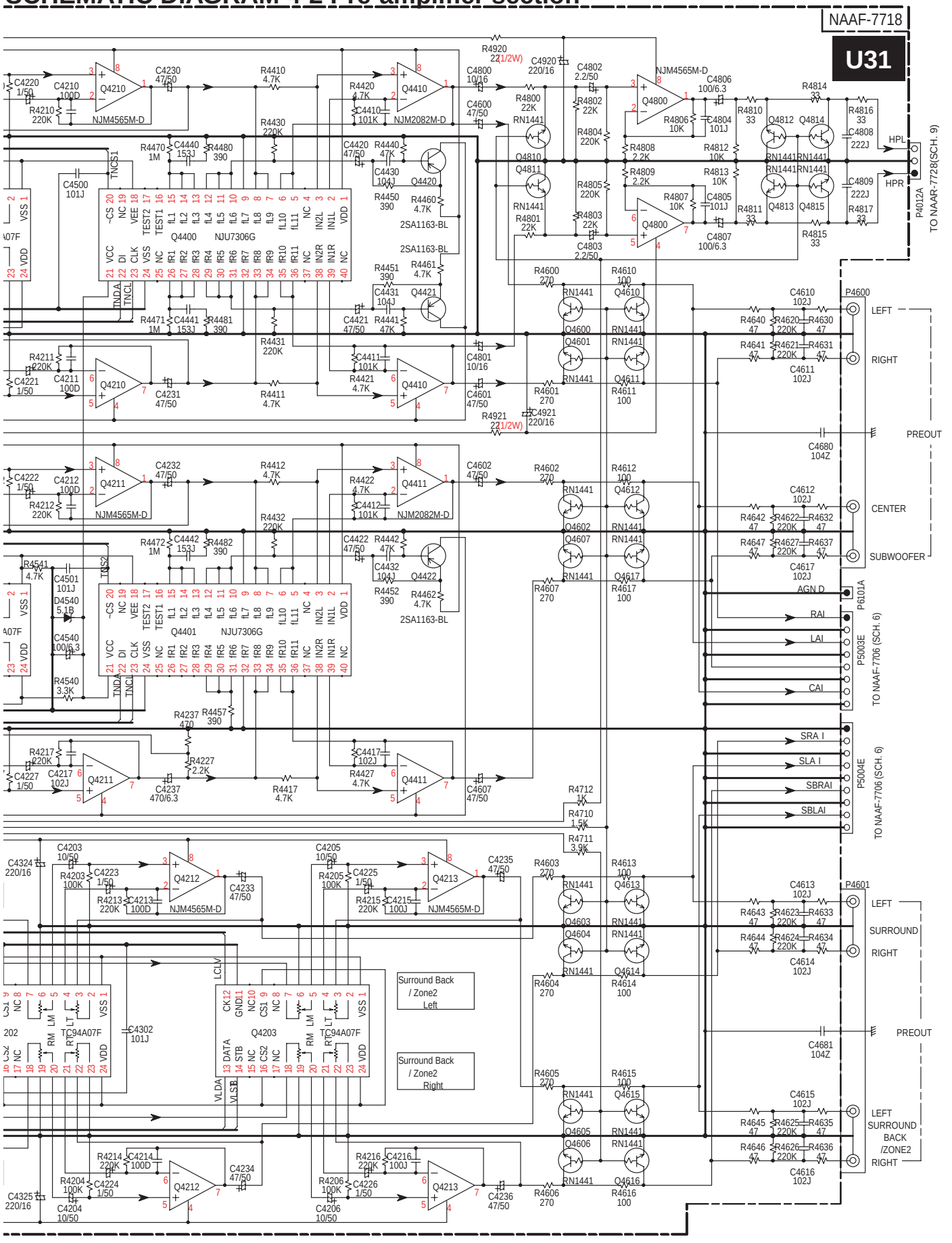
U1

DSP CIRCUIT PC BOARD (NADG-7687)

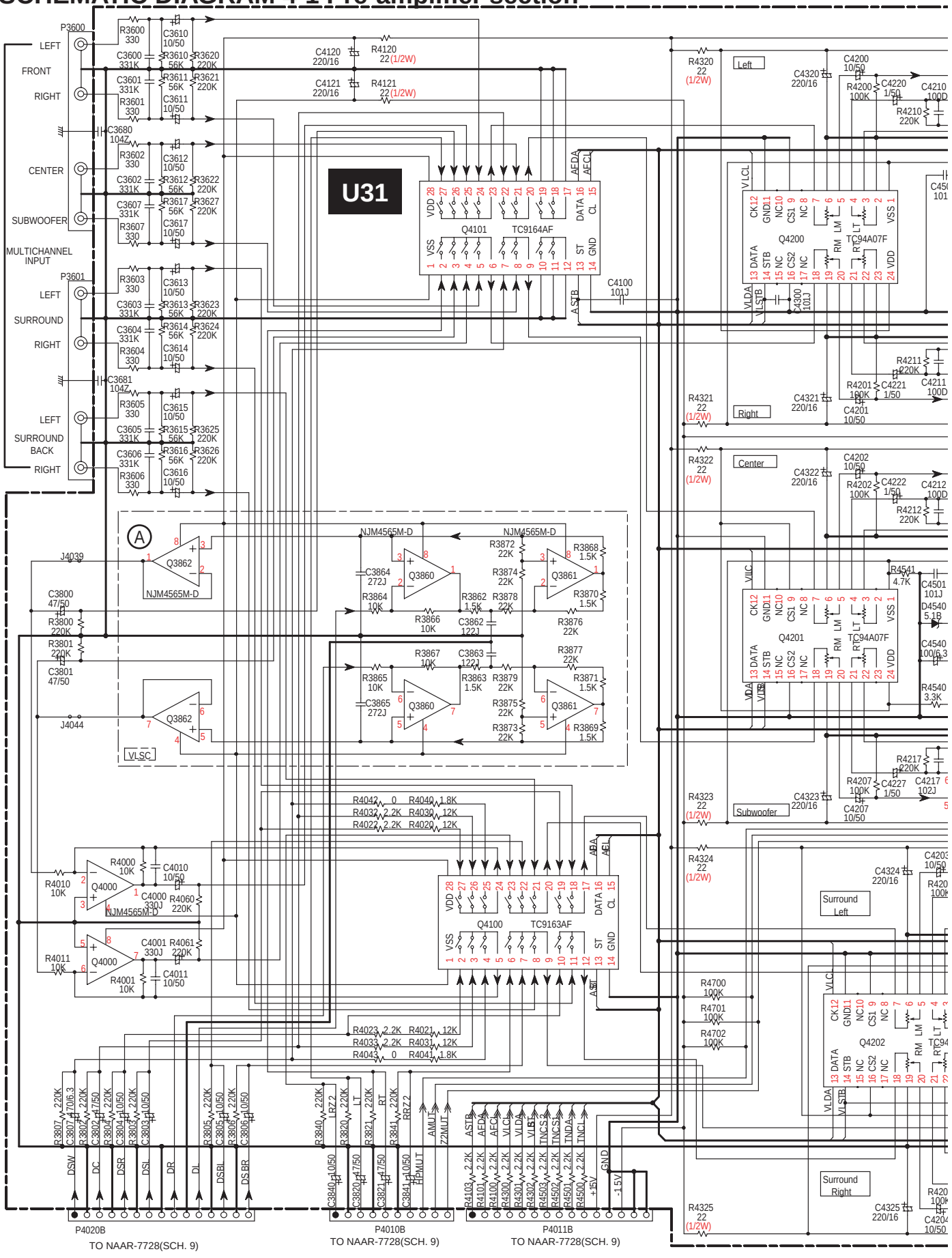
CHIP PARTS SIDE



SCHEMATIC DIAGRAM 4-2 Pre-amplifier section

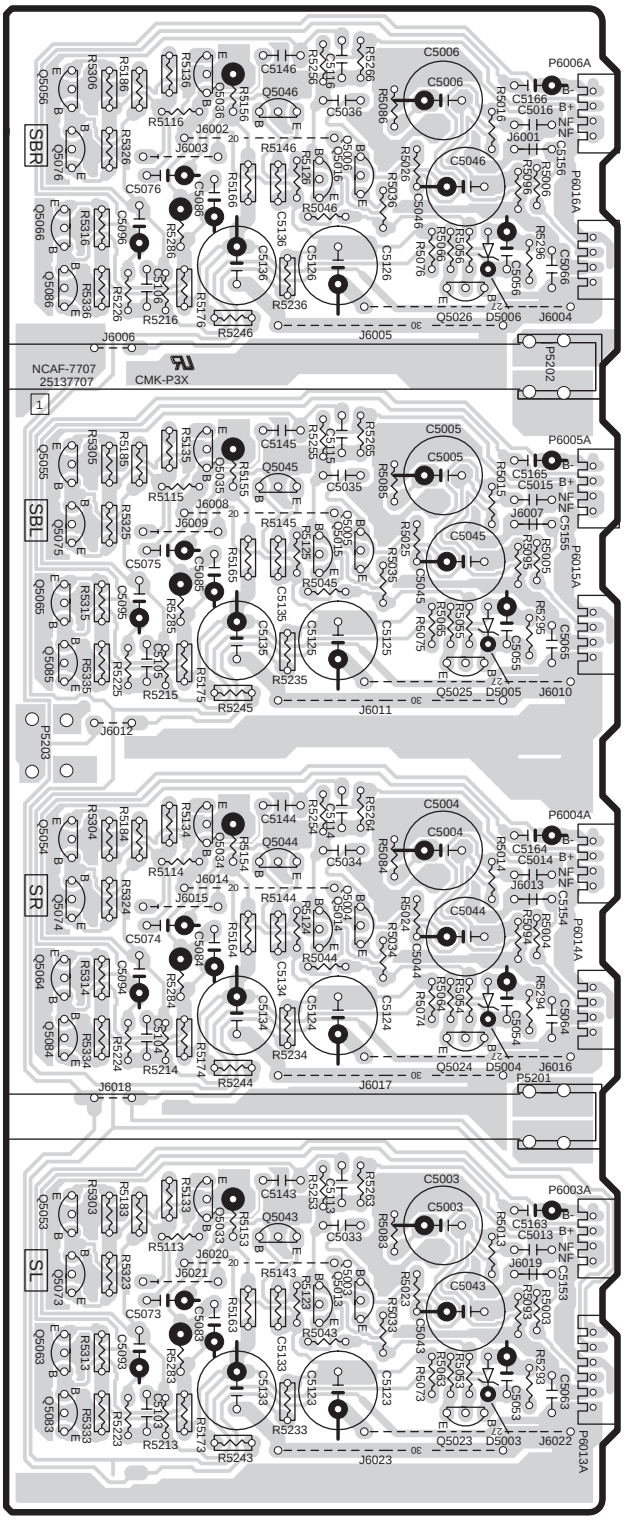


SCHEMATIC DIAGRAM 4-1 Pre-amplifier section



PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 6-1

U22

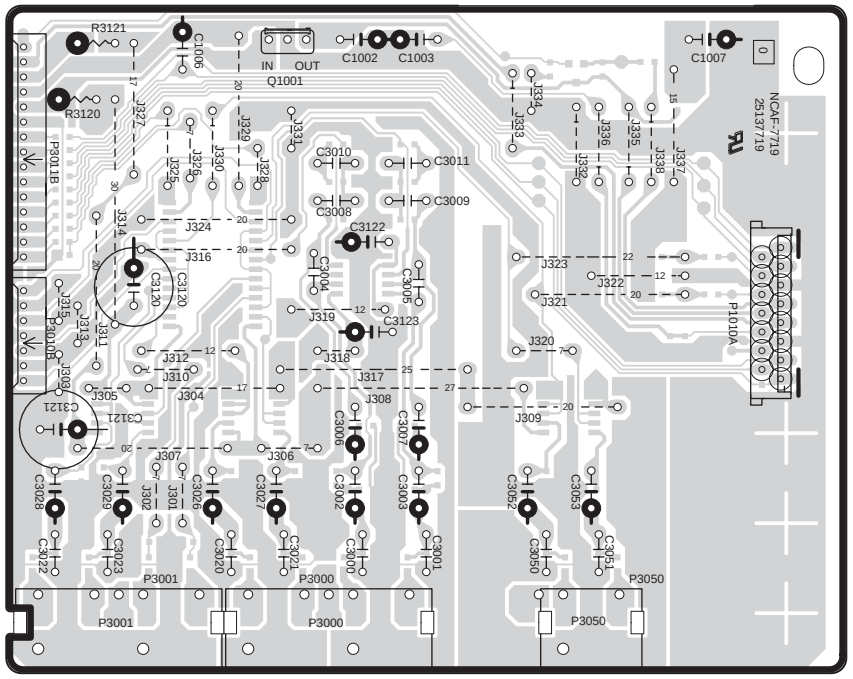


SURROUND CHANNEL DRIVER AMPLIFIER PC BOARD(NAAF-7707)

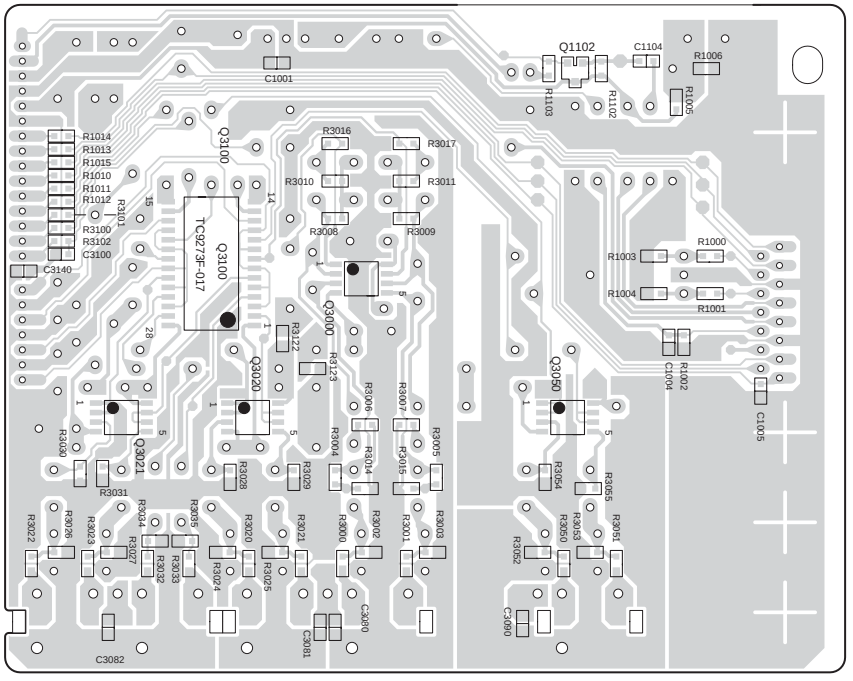
A B C D

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 4-1

U32



COMPONENT SIDE

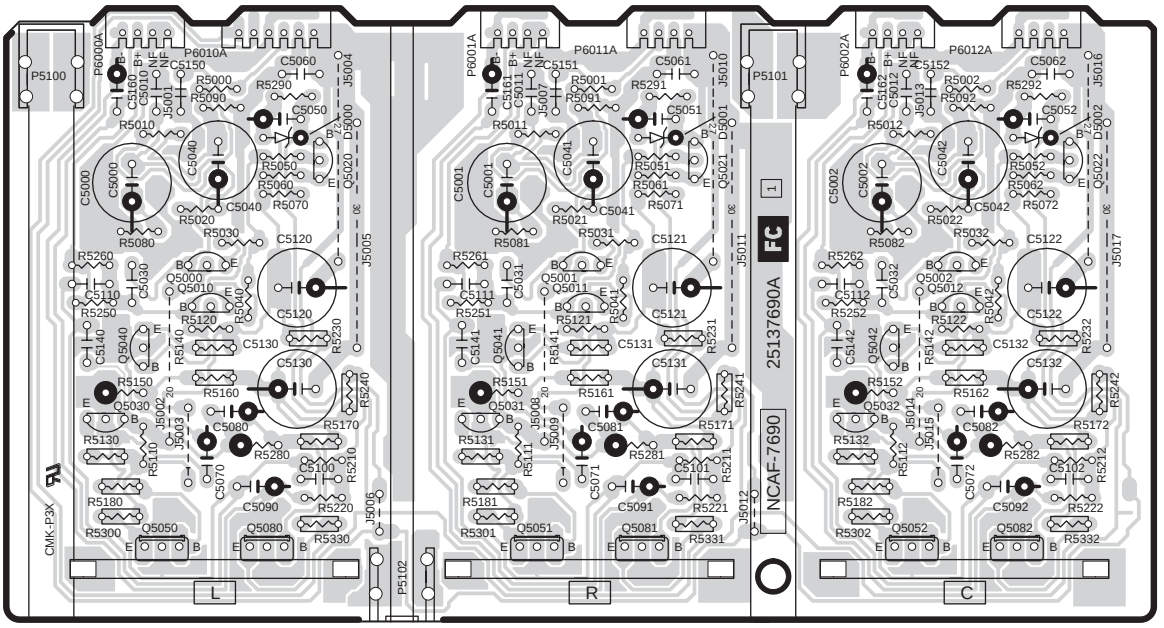


SOLDERING SIDE

AUDIO TERMINAL PC BOARD(NAAF-7719)

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 6-2

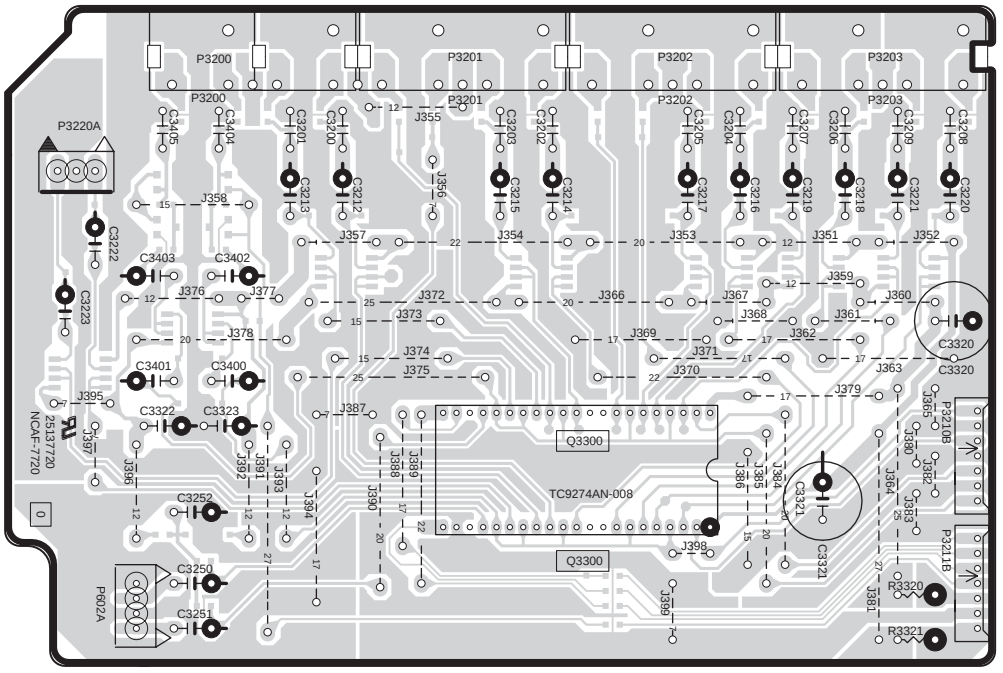
U6



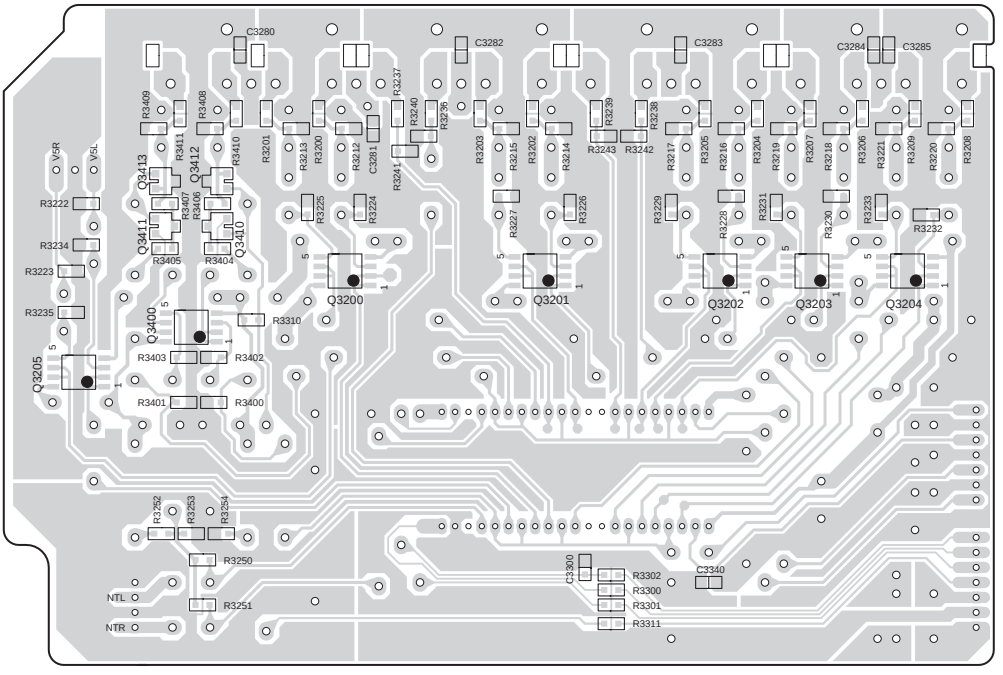
FRONT/CENTER CHANNELS DRIVER AMPLIFIER PC BOARD(NAAF-7690)

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 4-2

U33



COMPONENT SIDE



SOLDERING SIDE

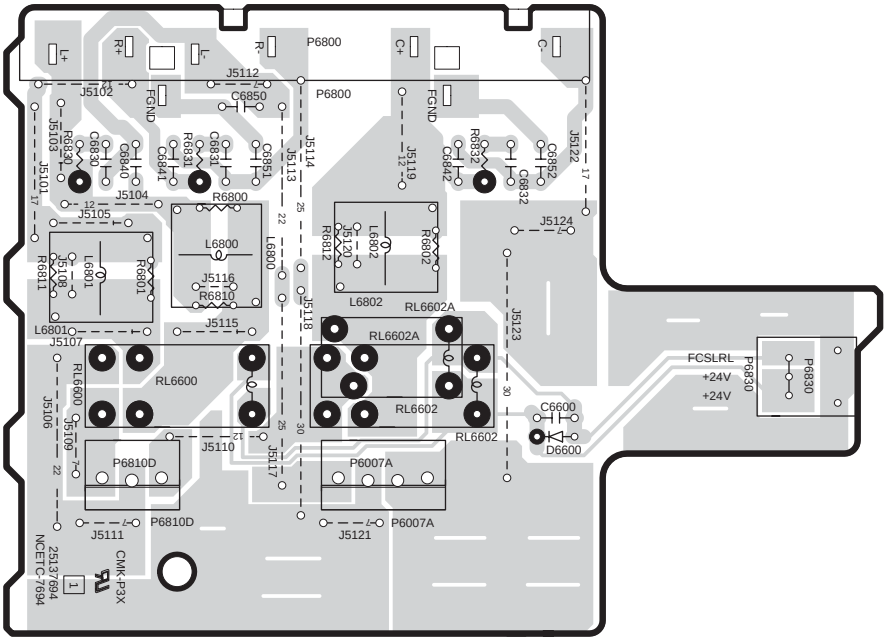
VIDEO TERMINAL PC BOARD(NAAF-7720)

A B C D

1 2 3 4 5

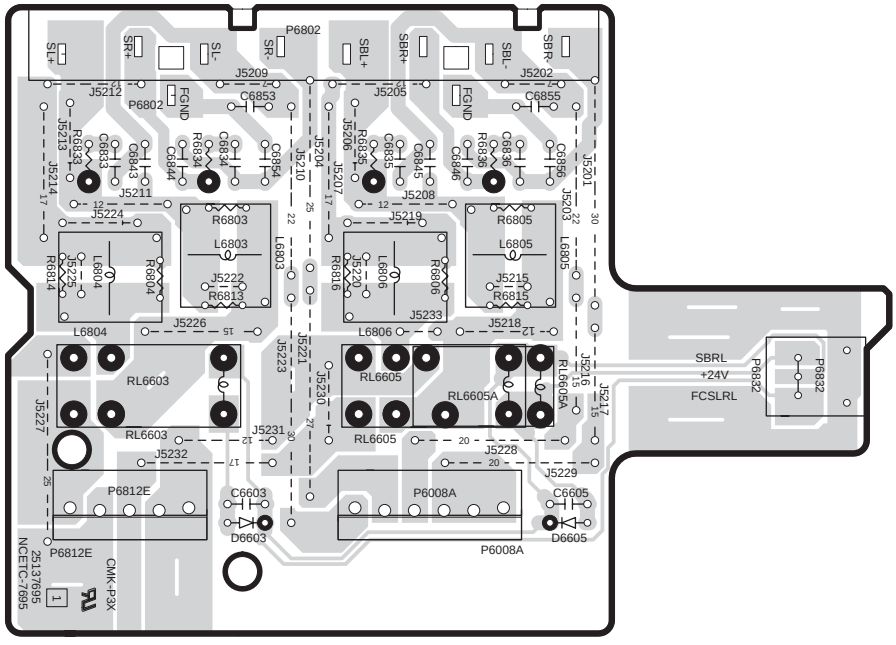
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 8-1

U10



FRONT/CENTER CHANNELS SPEAKER TERMINAL PC BOARD(NAETC-7694)

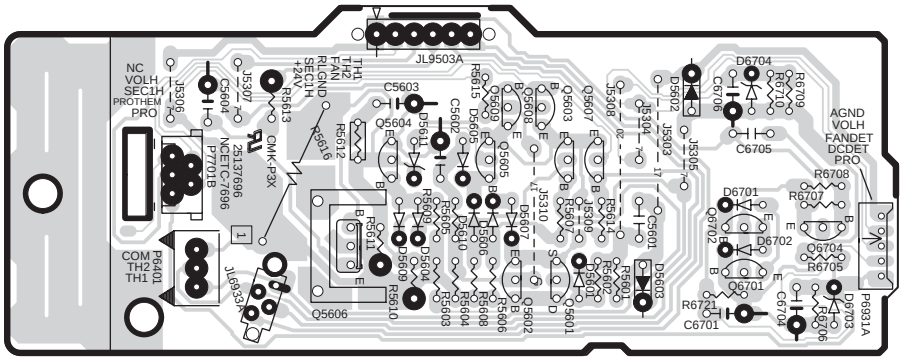
U11



SURROUND CHANNELS SPEAKER TERMINAL PC BOARD(NAETC-7695)

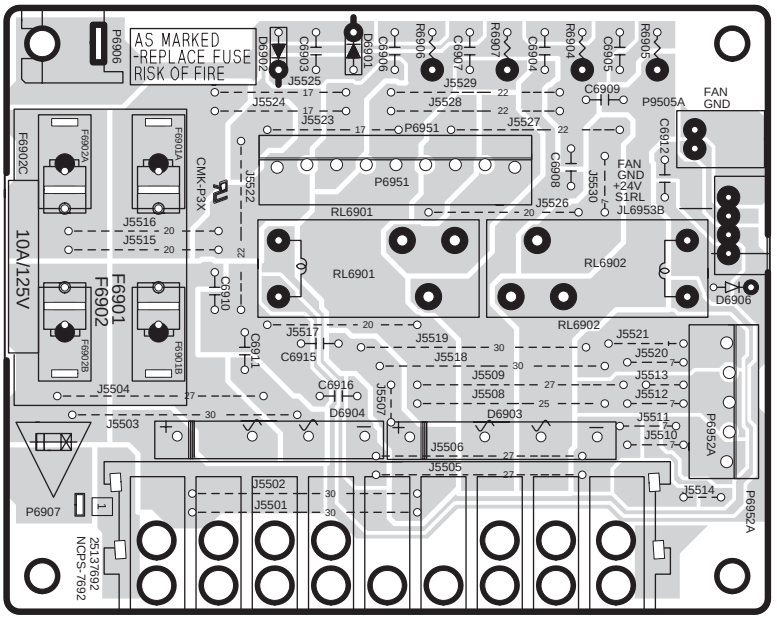
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 8-2

U12



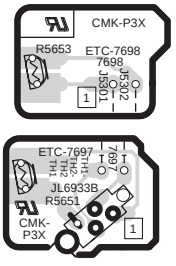
FAN DRIVE CIRCUIT PC BOARD(NAETC-7696)

U8



BIAS SELECTOR RELAY PC BOARD(NAPS-7692)

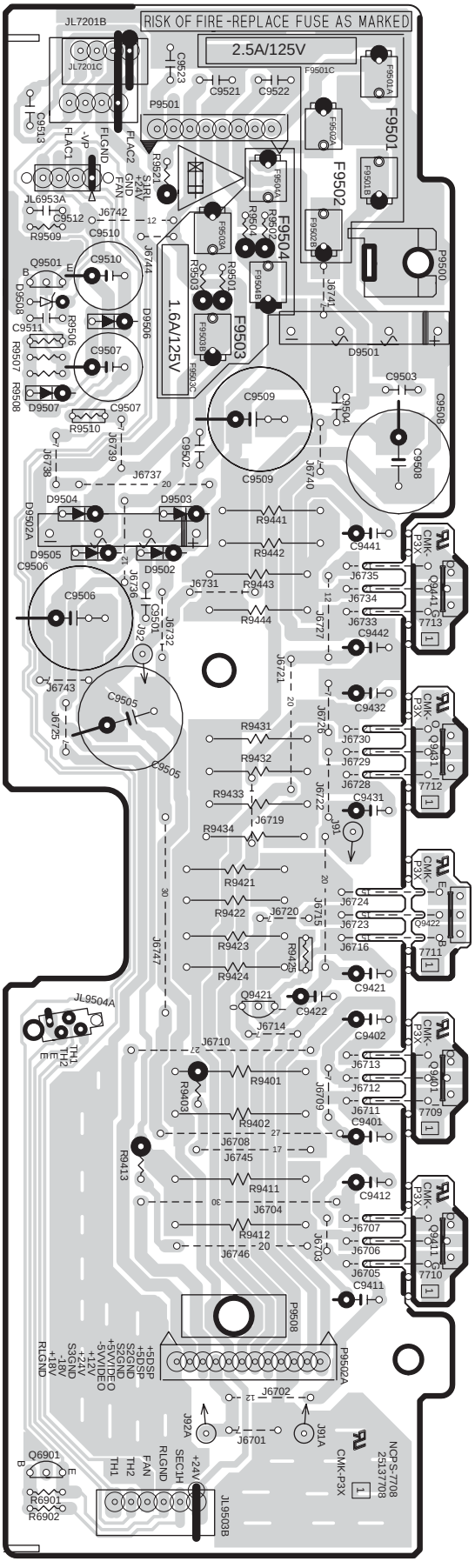
U13



THERMAL DETECTOR PC BOARD(NAETC-7697)

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 9-1

U23

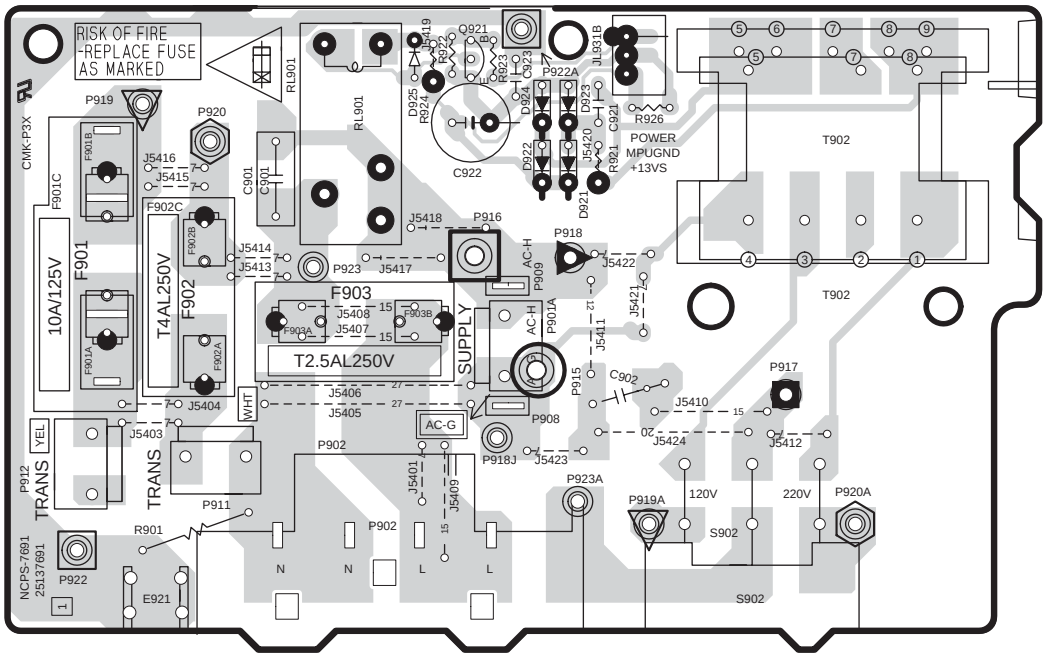


A B C D

1 2 3 4 5

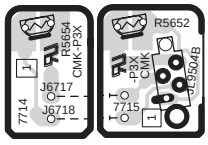
PRINTED CIRCUIT BOARD VIEW 9-2

U7



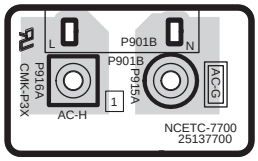
PRIMARY CIRCUIT PC BOARD(NAPS-7691)

U29



THERMAL DETECTOR PC BOARD(NAETC-7714)

U16

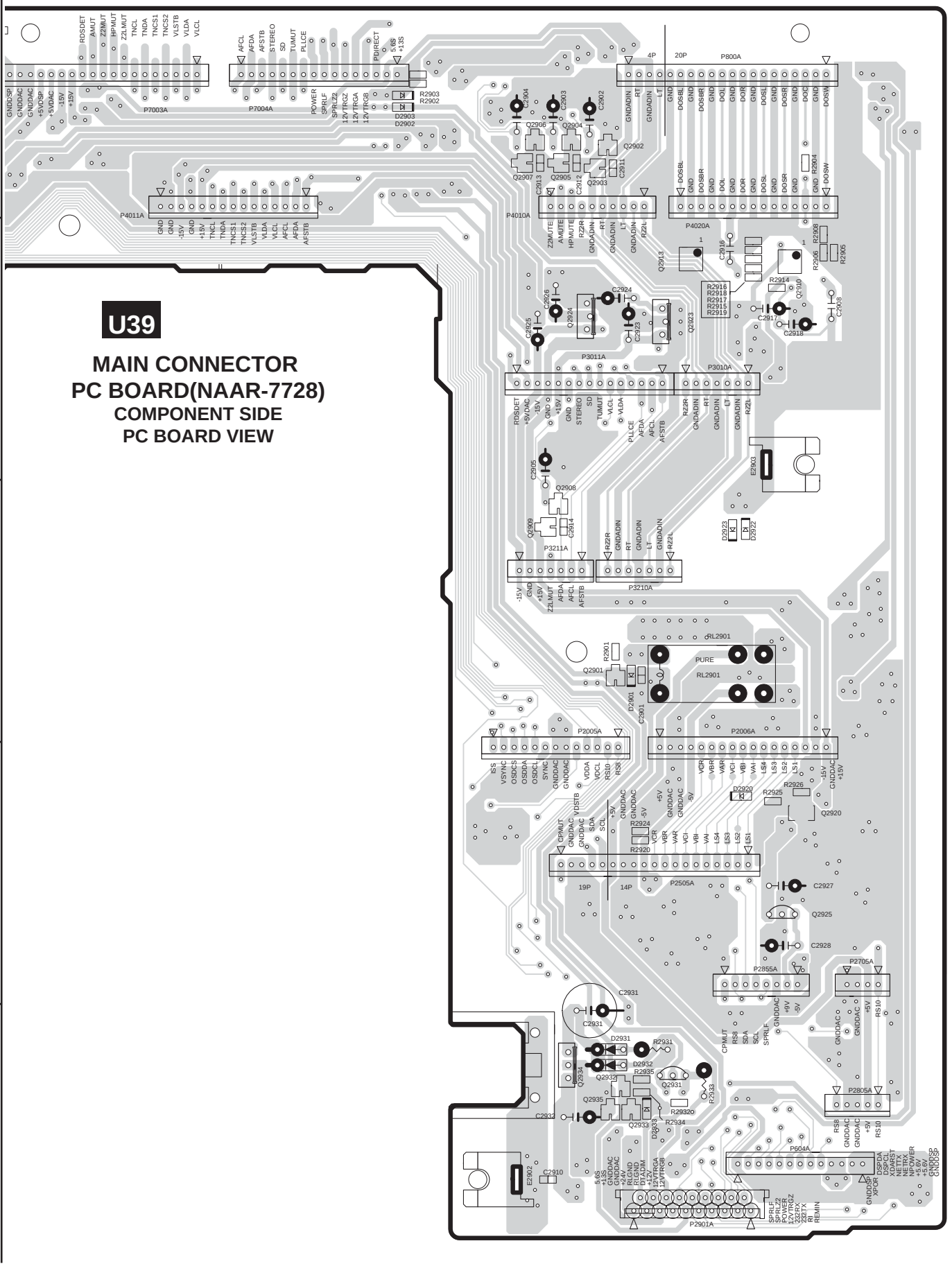


AC INLET TERMINAL PC BOARD(NAETC-7700)

PRINTED CIRCUIT BOARD VIEW 10-4

U39

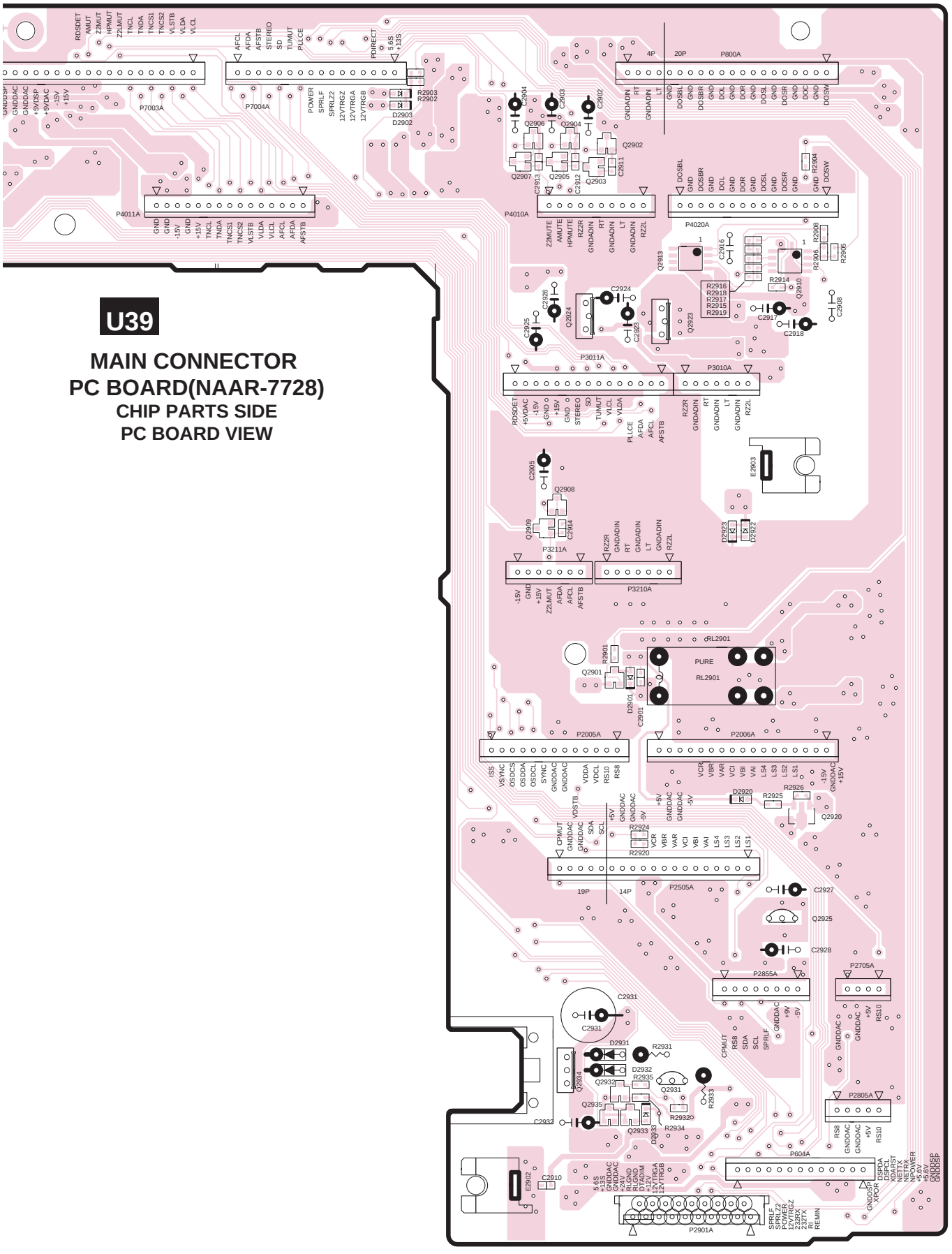
MAIN CONNECTOR
PC BOARD(NAAR-7728)
COMPONENT SIDE
PC BOARD VIEW



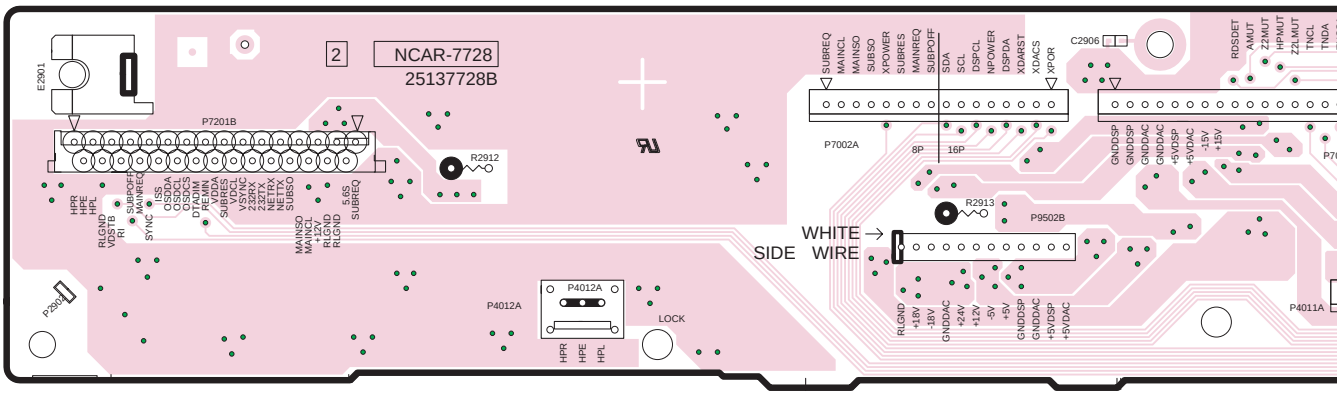
PRINTED CIRCUIT BOARD VIEW 10-3

U39

MAIN CONNECTOR
PC BOARD(NAAR-7728)
CHIP PARTS SIDE
PC BOARD VIEW

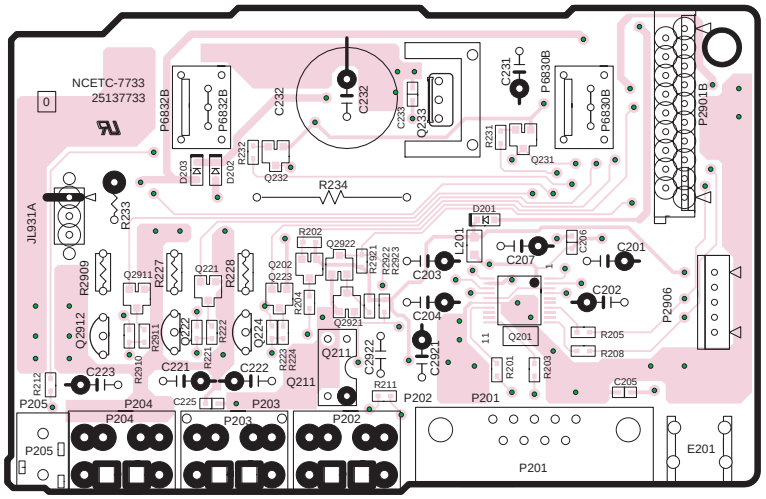


PRINTED CIRCUIT BOARD VIEW 10-2



U35

MAIN CONNECTOR
PC BOARD(NAAR-7728)
CHIP PARTS SIDE
PC BOARD VIEW

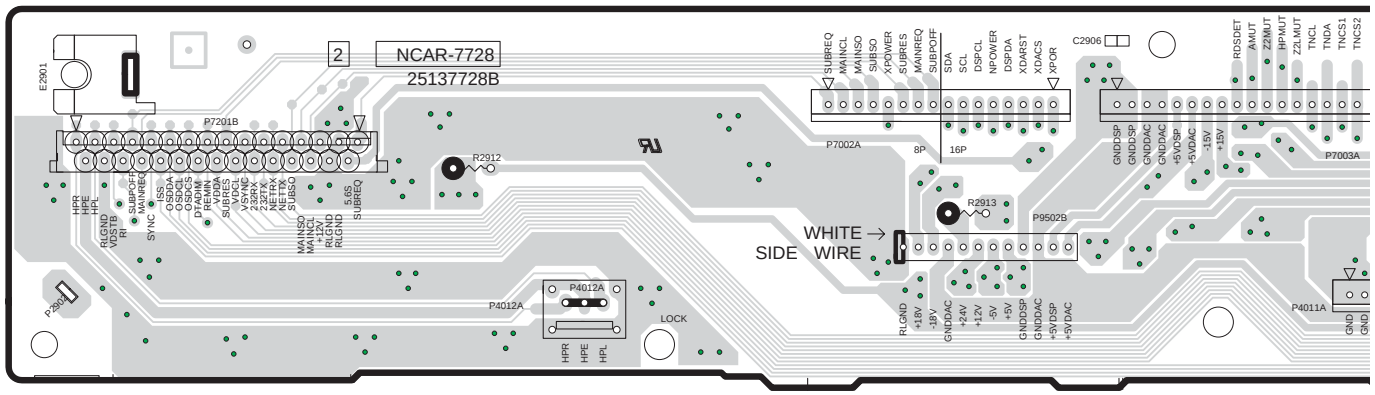


U39 **RI TERMINAL PC BOARD(NAETC-7733)**

A B C D

1 2 3 4 5

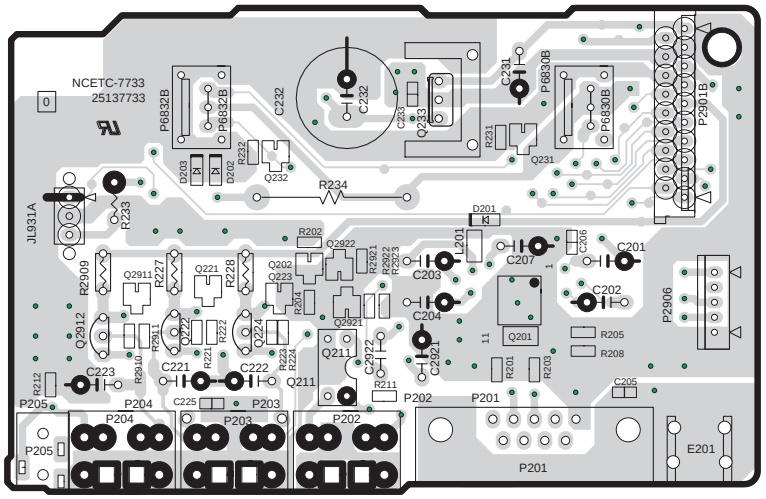
PRINTED CIRCUIT BOARD VIEW 10-1



U35

MAIN CONNECTOR PC BOARD(NAAR-7728)

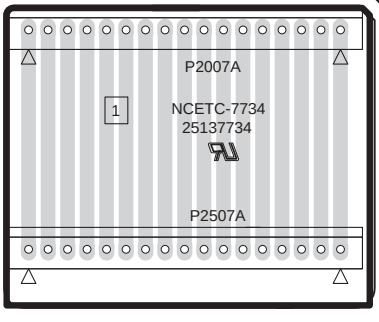
COMPONENT PARTS SIDE PC BOARD VIEW



U39 **RI TERMINAL PC BOARD(NAETC-7733)**

PRINTED CIRCUIT BOARD VIEW 11-2

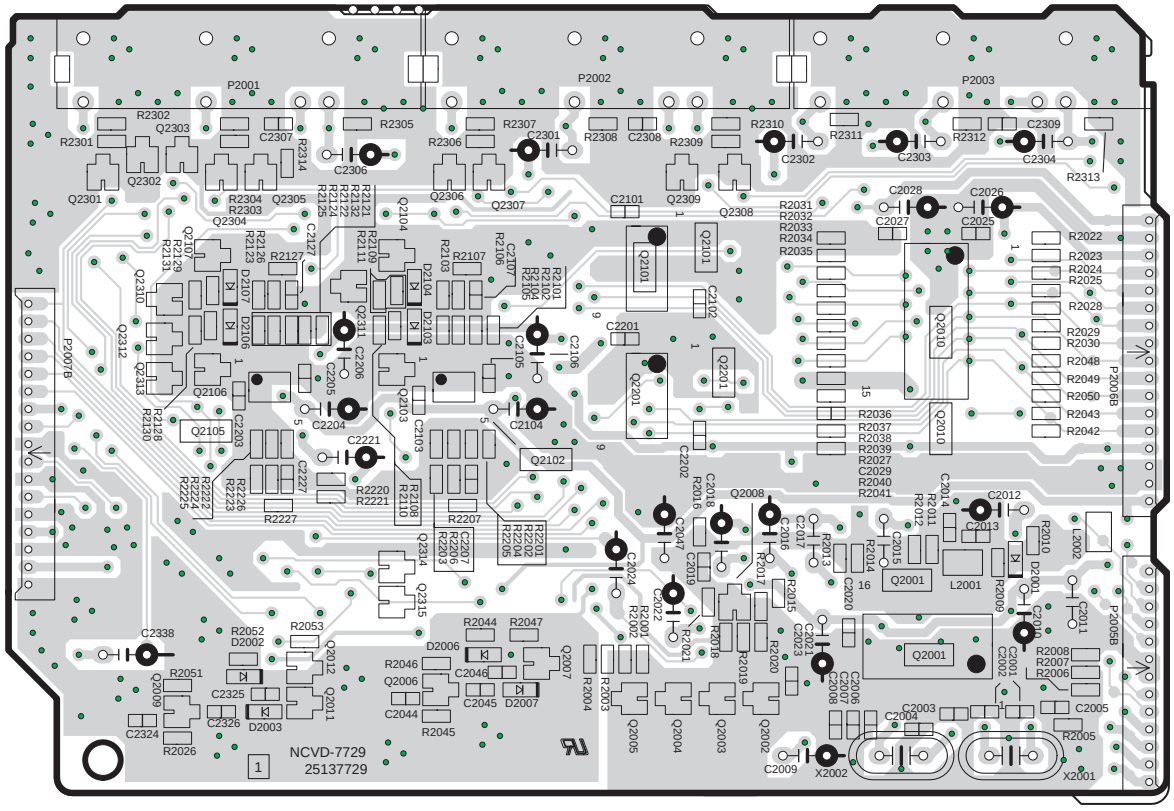
U37 S VIDEO PC BOARD (NAVD-7730)



U42 CONNECTOR PC BOARD(NAETC-7734)

PRINTED CIRCUIT BOARD VIEW 11-1

U36



COMPOSITE VIDEO PC BOARD(NAVD-7729)

EXPLODED VIEW-PARTS LIST

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

REF. NO.	PART NO.	DESCRIPTION
U11	1A956595-1R	NAETC-7695-1R, Surround ch. Speaker terminal PC board ass'y <D>
	1A956595-1T	NAETC-7695-1T, Surround ch. Speaker terminal PC board ass'y <A>
U12	1A956596-1R	NAPS-7696-1R, Fan drive circuit PC board ass'y <D>
	1A956596-1T	NAPS-7696-1T, Fan drive circuit PC board ass'y <A>
U13	1A956597-1R	NAPS-7697-1R, Thermal detector PC board ass'y <D>
	1A956597-1T	NAPS-7697-1T, Thermal detector PC board ass'y <A>
U16	1A956500-1R	NAETC-7700-1R, AC inlet terminal PC board ass'y <D>
	1A956500-1T	NAETC-7700-1T, AC inlet terminal PC board ass'y <A>
U17	1A956501-1R	NAETC-7701-1R, PC board for holder <D>
	1A956501-1T	NAETC-7701-1T, PC board for holder <A>
U18	1A956502-1R	NAETC-7702-1R, PC board for holder <D>
	1A956502-1T	NAETC-7702-1T, PC board for holder <A>
U21	1A956506-1M	NAAF-7706-1M, Power amplifier PC board ass'y <D>
	1A956506-1N	NAAF-7706-1N, Power amplifier PC board ass'y <A>
U22	1A956507-1M	NAAF-7707-1M, Surround ch. driver amplifier PC board ass'y <D>
	1A956507-1N	NAAF-7707-1N, Surround ch. driver amplifier PC board ass'y <A>
U23	1A956508-1M	NAPS-7708-1M, Power supply PC board ass'y <D>
	1A956508-1N	NAPS-7708-1N, Power supply PC board ass'y <A>
U29	1A956514-1M	NAETC-7714-1M, Thermal detector PC board ass'y <D>
	1A956514-1N	NAETC-7714-1N, Thermal detector PC board ass'y <A>
U31	1A956518-1P	NAAF-7718-1P, Pre. amplifier PC board ass'y
U32	1A956519-1P	NAAF-7719-1P, Audio terminal PC board ass'y
U33	1A956520-1P	NAAF-7720-1P, Video terminal PC board ass'y
U35	1A956528-1M	NAAR-7728-1M, Main connector PC board ass'y <D>
	1A956528-1N	NAAR-7728-1N, Main connector PC board ass'y <A>
U36	1A956529-1M	NAVD-7729-1M, Composite video PC board ass'y <D>
	1A956529-1N	NAVD-7729-1N, Composite video PC board ass'y <A>
U37	1A956530-1M	NAVD-7730-1M, S video PC board ass'y <D>
	1A956530-1N	NAVD-7730-1N, S video PC board ass'y <A>
U38	1A956531-1M	NAVD-7731-1M, Component video PC board ass'y <D>
	1A956531-1N	NAVD-7731-1N, Component video PC board ass'y <A>
U41	1A956524-1P	NAETC-7724-1P, PC board for holder
U42	1A956523-1P	NAETC-7723-1P, PC board for holder
U44	1A956546-1G	NADIS-7746-1G, Display circuit PC board ass'y <D>
	1A956546-1H	NADIS-7746-1H, Display circuit PC board ass'y <A>
U45	1A956548-1G	NAETC-7748-1G, Volume PC board ass'y <D>
	1A956548-1H	NAETC-7748-1H, Volume PC board ass'y <A>

REF. NO.	PART NO.	DESCRIPTION
U46	1A956549-1G	NAETC-7749-1G, Headphone terminal PC board ass'y <D>
	1A956549-1H	NAETC-7749-1H, Headphone terminal PC board ass'y <A>
U47	1A956521-1P	NAETC-7721-1P, Front video PC board ass'y
U48	1A956522-1P	NAETC-7722-1P, Front opto. input PC board ass'y
U50	1A956547-1G	NAETC-7747-1G, Standby switch PC board ass'y <D>
	1A956547-1H	NAETC-7747-1H, Standby switch PC board ass'y <A>
U51	240138A or 240134A	ENG06501QR or TFCE1U114B, Tuner pack <D>
	240139A or 240135	ENG07501QR or TFCE1E512A, Tuner pack <A>

EXPLODED VIEW-PARTS LIST

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

REF. NO.	PART NO.	DESCRIPTION
1	27111304	Front bracket
2	27141787	Retainer HP
3	838430088	3TTB+8B(BC), Self-tapping screw
4	838130088	3TTB+8B, Self-tapping screw
5	28325964A	Knob CL
7	28191948	Clear plate
8	28133387	Back plate
9	28198905	Facet
10	82143010	3P+10FN(BC), Pan head screw
12	28198933	Facet 5
13	28198936	Facet 6
14	28325965	Knob, tuning
15	27215363	Decorative frame
16	28135278	Badge
28	28325913	Knob, volume
30	880016	P3035B, Plastic rivet
31	27255004	CS-1U, Clip
32	28325756	Knob, standby
33	27100408-1A	Chassis
34	27130870A	Bracket, power transformer
35	27190965	Holder
36	27190693A	KGLS-6RF, Holder
37	27190266	KGLS-12RF, Holder
38	27190164	KGLS-14S, Holder
39	830440089	4TTC+8C(BC), Self-tapping screw
41	28141484	Cushion
42	27191112	KGPS-6RF, Holder
43	27141797	Retainer, fan
44	27150470	Shield plate, fan
45	838450108	5TTB+10B(BC), Self-tapping screw
47	27150471	Shield plate
49	27150474	Shield plate, wire
52	27160489A	Heat sink
53	801606	3SMH10W.SW+15B(CU), Special screw
54	27141681	Retainer, PC board
55	27141798	Retainer R, heat sink
56	27141799	Retainer L, heat sink
57	27130869	Bracket, heat sink
58	27130745	Bracket
61	838430107	3TTB+10S(BC), Self-tapping screw
62	28184817-1	Top cover
63	29362772	Label, cover
64	838440089	4TTB+8C(BC), Self-tapping screw
65	29363226	Label, display
66	838430088	3TTB+8B(BC), Self-tapping screw
67	27175319B	Leg
68	28141494	Cushion
69	831430088	3TTW+8B(BC), Self-tapping screw
70	27123041-1	Rear panel <D>
	27123043-1	Rear panel <A>
71	838430088	3TTB+8B(BC), Self-tapping screw
72	87643010	W3*10F(BC), Flat washer
73	838930088	3TTB+8B(UN), Self-tapping screw
74	838430068	3TTB+6B(BC), Self-tapping screw
75	838440089	4TTB+8C(BC), Self-tapping screw
78	28141467	Cushion
81	27212448	Front panel
83	27190470	KGLS-18S, Holder
86	260208	Binder
87	260258	Binder
91	27225149	Shield case

REF. NO.	PART NO.		DESCRIPTION
92	27150485		Shield plate
93	29362609		Label, power transformer
97	223025		AC262, Isolated sheet
98	29363264		Label MAC
E821	24502310		D09T-24PG10(EX), Fan
F6901,F6902	252100	⚠	10A-EAK, Fuse <A>
	252199	⚠	10A-UL, Fuse <D>
F901	252199	⚠	10A-UL, Fuse <D>
F902	252077,	⚠	4A-SE-EAK,
	252243 or	⚠	4A-SE-TL250V or
	252277	⚠	4A-SE-TL250V, Fuse <A>
F903	252075,	⚠	2.5A-SE-EAK,
	252241 or	⚠	2.5A-SE-TL250V or
	252275	⚠	2.5A-SE-TL250V, Fuse <A>
F9501,F9502	252160 or	⚠	2.5A-UL/T-237 or
	252254	⚠	2.5A-T/UL-ST2, Fuse <D>
	252075,	⚠	2.5A-SE-EAK,
	252241 or	⚠	2.5A-SE-TL250V or
	252275	⚠	2.5A-SE-TL250V, Fuse <A>
F9501A	29363313		T2.5AL1.6AL250V, Label, fuse <A>
F9503,F9504	252158 or	⚠	1.6A-UL/T-237 or
	252252	⚠	1.6A-T/UL-ST2, Fuse <D>
	252073,	⚠	1.6A-SE-EAK,
	252239 or	⚠	1.6A-SE-TL250V or
	252273	⚠	1.6A-SE-TL250V, Fuse <A>
P1010	2047151012		NCFC7-151012, Flexible cable
P2901	2047191012		NCFC7-191012, Flexible cable
P6009	27141825		Retainer, bus
P602	2009990753UL		NSAS-8P1059, Socket
P603	204406027		NCFC4-062512, Flexible cable
P603C	79012		Tube FFC
P6205	27141826		Retainer, bus
P7201	2047312512		NCFC7-312512, Flexible cable
P7701	2047051012		NCFC7-051012,Flexible cable
Q6050~Q6056	2202822	*	2SC5200-R, Transistor
	2202823 or	*	2SC5200-O or
Q6060~Q6066	2202812	*	2SA1943-R, Transistor
	2202813 or	*	2SA1943-O or
Q9422A	223026		Isolated sheet
Q9422B	223032		TO-66(1), Isolated washer
T901	2301653	⚠	NPT-1454D, Power transformer <D>
	2301654	⚠	NPT-1454P, Power transformer <A>
U1	1A956587-1N		NADG-7687-1N, DSP circuit PC board ass'y
U2	1A956562-2		NADG-7662-2,Net-tune circuit PC board ass'y
U6	1A956590-1R		NAAF-7690-1R, F/C ch. driver circuit PC board ass'y <D>
	1A956590-1T		NAAF-7690-1T, F/C ch. driver circuit PC board ass'y <A>
U7	1A956591-1R		NAPS-7691-1R, Primary circuit PC board ass'y <D>
	1A956591-1T		NAPS-7691-1T, Primary circuit PC board ass'y <A>
U8	1A956592-1R		NAPS-7692-1R, Bias selector relay PC board ass'y <D>
	1A956592-1T		NAPS-7692-1T, Bias selector relay PC board ass'y <A>
U10	1A956594-1R		NAETC-7694-1R, F/C ch. Speaker terminal PC board ass'y <D>
	1A956594-1T		NAETC-7694-1T, F/C ch. Speaker terminal PC board ass'y <A>

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

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

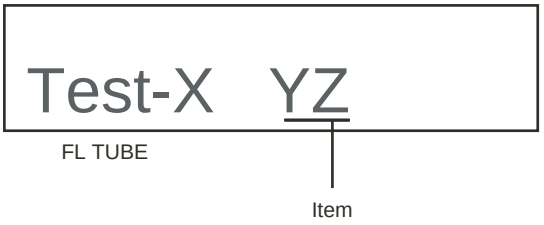
ADJUSTMENT AND CONFIRMATION PROCEDURES 3

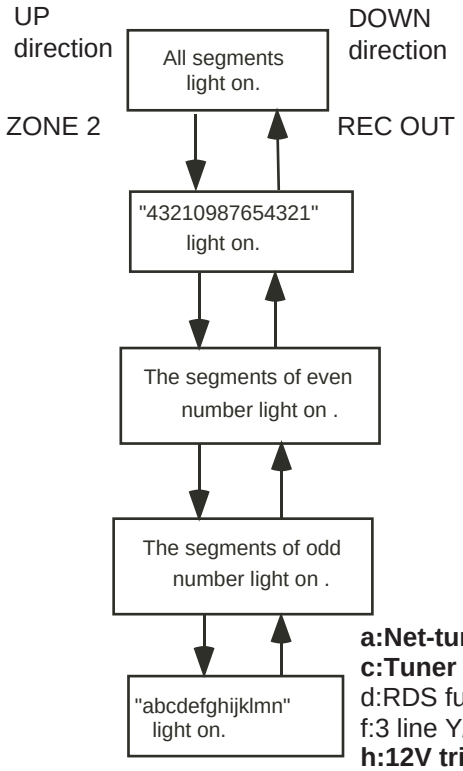
Test Mode

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

Note: VIDEO 1:TEST-1 VIDEO 2 :TEST-2
VIDEO 3 :TEST-3 VIDEO 4:TEST-4

Test mode of FL tube
ZONE 2....UP
REC OUT.....DOWN





Press POWER button
to finish the test mode of FL tube.

Confirmation of voltage sensor

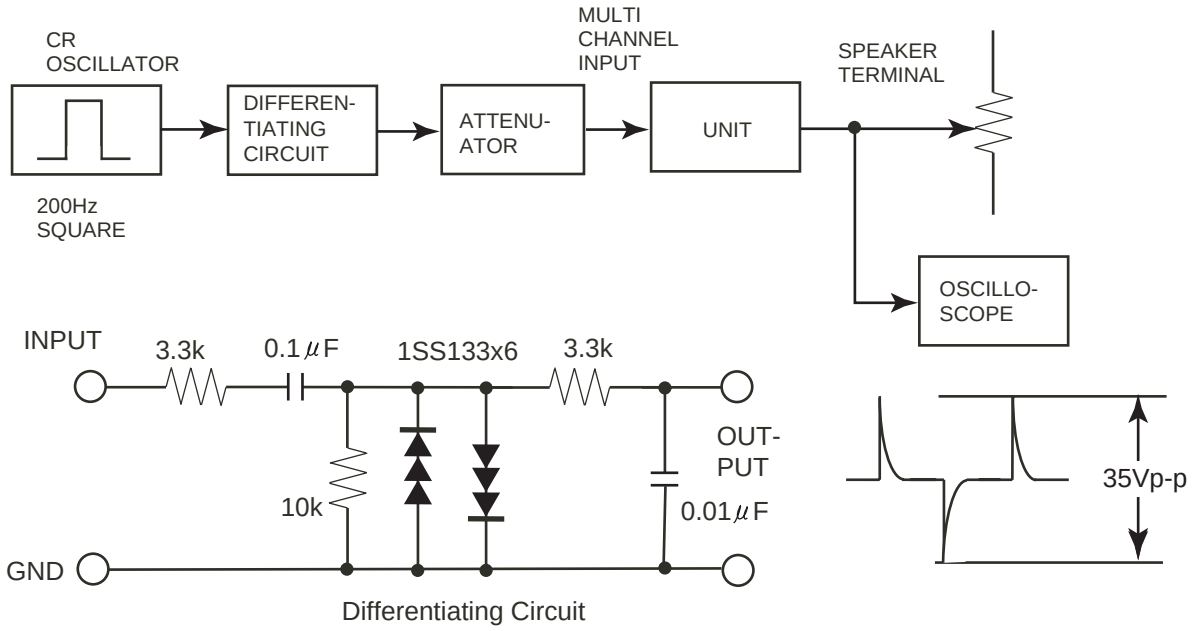
1. Set the unit to TEST-3-4.
2. Apply the signal 1kHz, -15dBV to the MULTI-CH input. Confirm that the FM STEREO is displayed. Confirm the all channels except SUBWOFFER.
3. When connect the resistor 1.2 kohm/1 W between the terminals COM and TH2 of P6401, confirm that "THX" light on.
   Note: No input signal.
4. When change set the unit to "TEST-3-05,confirm that the speaker relays of RL6901 and RL6902 turn off.
   Note: No input signal.

a:Net-tune function "N":avaiable b:Optical input 4 "4":avaiable
c:Tuner aria "U":USA and Canad "E":Europe "W":Worldiwde " _ ":Japan
d:RDS function "R":avaiable **e:Video format "P":PAL/NTSC auto "N":NTSC**
f:3 line Y/C separation function "3":avaiable g:Video converer function: "C":avaiable
h:12V trigger function "A":A/B/Zone2 "Z":Zone 2 only
i:Dimmer interlock function "D":avaiable
j:Zone 2 Lineout function "L":avaiable
k:AAC function "A":avaiable
l: Dolby headphone function "H":avaiable m: THX Ultra2:"U":avaiable n:No use
Note: All functions " ": No avaiable AAC: Japanese model only

ADJUSTMENT AND CONFIRMATION PROCEDURES 2

3. Confirmation of Current detection circuit

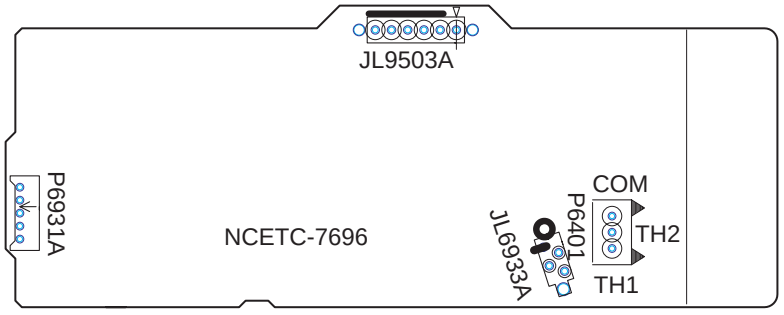
Set the unit to "TEST-1-00".
Connect the differentiating circuit and apply the 200Hz square signal to MULTI CHANNEL INPUT terminal.
of each channel.
Adjust the attenuator or Volume so that the output level becomes 35V p-p.
Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.
Confirm that the speaker relay turns OFF when a 1.5 ohm load is connected.



Differentiating Circuit

4. Confirmation of fan

Set the unit to "TEST-1-00".
Apply the 1kHz -30dBV signal to the left channel of MULTI-CH terminal with no load.
Confirm that the fan rotates slow speed after few seconds.
Confirm the operation above at all channels.
Connect the 1.2 kohm/1W resistor between terminals COM and TH-1 of P6401 with no input signal.
Confirm that the fan rotates slow speed after few seconds.
Next apply the 1kHz -30dBV signal to the left channel of MULTI-CH terminal with no load.
Confirm that the fan rotates high speed after few seconds.
Connect the 1.2 kohm/1W resistors between terminals COM-TH-1 and COM-TH-2 of P6401 respectively with no input signal.
Confirm that the fan rotates high speed after few seconds.



ADJUSTMENT AND CONFIRMATION PROCEDURES 1

Idling current adjustment

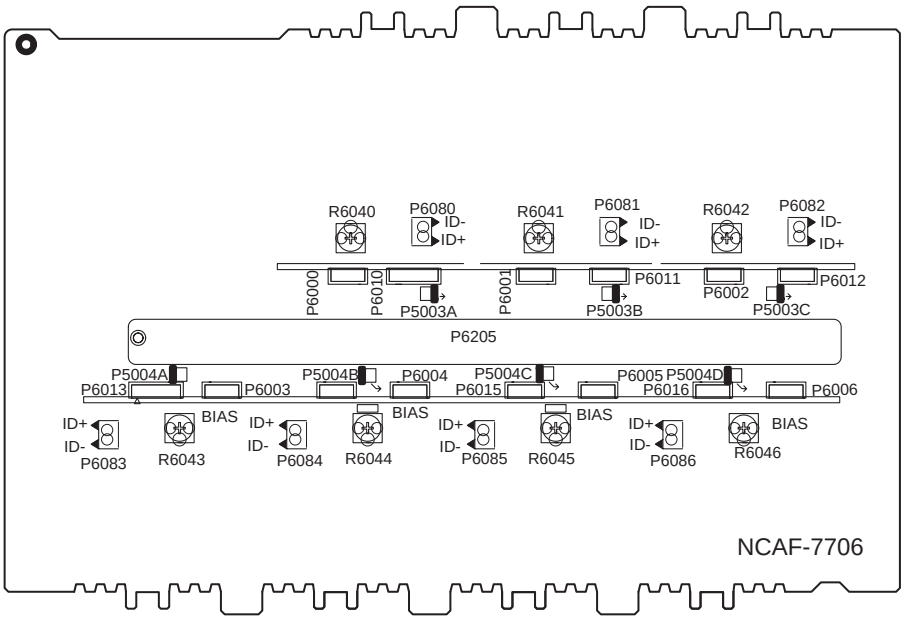
Before Idling current adjustment, turn the trimming resistors R6040 to R6046 to counter-clockwise.
Connect the DC voltmeter at the sockets P6080 to P6086.
After turn POWER to ON, adjust the trimming resistors R6040, R6041 and R6042 so that the reading of voltmeter becomes 11 mV. (Front and center channels)
Adjust the trimming resistors R6043, R6044, R6045 and R6046 so that the reading of voltmeter becomes 4.5 mV. (Surround and surround back channels)
After adjustment, attach the top cover.
Confirm the voltage of points above after about five minutes.

Front and center channels

When less than 16.5 mV, readjust the resistors above so that the voltage becomes 16.5 mV.
When 16.5 mV to 18.5 mV, you are not necessary to adjust.
When more than 18.5 mV, readjust the resistors above so that the voltage becomes 18.5 mV.

Surround and surround back channels

When less than 6.0 mV, readjust the resistors above so that the voltage becomes 6.0 mV.
When 6.0 mV to 8.0 mV, you are not necessary to adjust.
When more than 6.0 mV, readjust the resistors above so that the voltage becomes 8.0 mV.
Note: No load and No signal



Confirmation of protection circuit

1. Confirmation of operation of speaker relay

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

2. Confirmation of DC detection circuit

Press and hold down CD button, then press STANDBY/ON and DISPLAY buttons to set the unit to "Test-1" mode.
After "Test-1" on the FL tube light on, press VIDEO 1 button to set the unit to "Test-1-00".
Apply DC 1.5 to 3.5V to the MULTI-CH INPUT terminal with no load.
Confirm that the speaker relay turns OFF.
Apply DC -1.5 to -3.5 V to the MULTI-CH INPUT terminal with no load.
Confirm that the speaker relay turns OFF.
Caution: Don't apply DC voltage more than 1 sec..

PACKING VIEW VIEW-PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
101	29092063-1	Pad
103	29100035-1	720*1020, Polybag
104	29110149	Tape, cellophane
105	29110148	PP tape
111	29053953-1	Carton box
112	29363218-1	Label UPC
121	29100097-1A	350*250, Polybag
123	29343422	Instruction manual
127	29343423	Instruction manual, digits
128	29343459	Instruction E, Net-tune
135	29365089	Warranty card <D>
136	29363059A	Label, speaker cable
141	292115	FM antenna <A>
	292142	FM antenna <D>
142	232140	NMA-3057, AM loop antenna
143	3010054	UM-3, Battery
144	25065462	YAE21-0237, Antenna adapter <A>
151	24140514	RC-514M, Remote controller
152	292186	Accessory
P901	253297KAW or ⚠	AS-UC-2 or
	253352TES ⚠	AS-UC-2, Power supply cord <D>
	253311VOL ⚠	AS-SAA, Power supply cord <A>

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

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

PRINTED CIRCUIT BOARD-PART LIST 1

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

DSP circuit PC board (NADG-7687-1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q100~Q102	22241448R2	NJM4580M-D
Q103	22241522R2	AK4528VF
Q120	22274040ER2TO	TC74VHC4040FT
Q121	22274000GR2TO	TC74VHCT00AFT
Q130	222740046R2	74HCU04F
Q131	22241633R3	AK4114VQ
Q160	22240928R2	TC9246F
Q161	222780053R2JR	NJM78L05UA
Q170	22278028DR2JR	NJM2391DL1-285
Q171	22278033DR2NE or	MPC2933T or
	22278033DR2JR	NJM2391DL1-33
Q190	22274157ER2TO or	TC74VHC157FT or
	22274157IR2TI	SN74AHC157PWR
Q700	22241846R3	MB86D41PFV
Q7000	22241512	M30624FGAFP
Q701,Q751	22274074ER2TO or	TC74VHC74FT or
	22274074IR2TI	SN74AHC74PWR
Q703	22241847R3	MB86344BPFV
Q705,Q706	22241612R2 or	CY7C1019BV33-15VCT or
	22241887R2	CY7C1019CV33-15VCT
Q7100,Q7101	22274541ER2TO or	TC74VHC541FT or
	22274541IR2TI	SN74AHC541PWR
Q7102	222740077R2TO	TC74HCT7007AF
Q800	22241521R3	AK4356VQ
Q801~Q804	22241449R2,	NJM5532M-D,
	22241409R2 or	BA15532F or
	22241472R2	NJM2114M-D
	Transistors	
Q162,Q7001	2214490R2 or	RN1404 or
	2216210R2	KRC104S
	Photo couplers	
U100~U102	24120101	TORX179L
U104	24120102	TOTX179L
	Diodes	
D102~D109	223234R2 or	1SS352 or
D7000~D7004	223269R2	1SS355
D7005	224660624R2,	HZU6.2B,
	224490620R2or	UDZ6.2B or
	224550620R2	UDZS6.2B
	Oscillators	
X160	3010331R2	HC-49/U03C24.576MHz,Crystal
X700,X751	3010368R2	XTL-13.5M,Crystal
X7000	3010329R2	CSTCV16.00MXJ0C,Ceramic
	Coils	
L101,L102	231237M022R2 or	NCH-1471 or
L131,L133	233533M022R2	NCH-1587-022M
L130,L136	231237K470R2 or	NCH-1479 or
L160	233533K470R2	NCH-1587-470K
L132,L134	230958R1	BK1608LM182-T
L135	231237M022R2 or	NCH-1471 or
	233533M022R2	NCH-1587-022M
L161	230958R1	BK1608LM182-T
L162,L170	231237K470R2 or	NCH-1479 or
L753	233533K470R2	NCH-1587-470K
L7000	231237K220R2 or	NCH-1477 or
	233533K220R2	NCH-1587-220K
L701,L751	231237M022R2 or	NCH-1471 or
L801,L802	233533M022R2	NCH-1587-022M
R124,R125	230959R1	BK1608LL241-T
R133~R135	230958R1	BK1608LM182-T

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C100~C103	356744709R2	47uF,16V, Elect., chip
C108,C110	356724709R2	47uF,6.3V, Elect., chip
C113,C114	373021524R2	1500pF+/-5%,50V,Plastic
C116,C119	356723319R2	330uF,6.3V, Elect., chip
C141,C148	356724709R2	47uF,6.3V, Elect., chip
C150	356741009R2	10uF,16V, Elect., chip
C152	356724709R2	47uF,6.3V, Elect., chip
C157	3567A1019R2	100uF,4V, Elect., chip
C159	356784799R2	0.47uF,50V, Elect., chip
C167,C170	356724709R2	47uF,6.3V, Elect., chip
C172	356724709R2	47uF,6.3V, Elect., chip
C176	356744709R2	47uF,16V, Elect., chip
C177,C178	3567A1019R2	100uF,4V, Elect., chip
C7000	3000078 or	DX-5R5L104 or
	3000121	SCDA5R5104V, Super
C7002,C7003	356721019R2	100uF,6.3V, Elect., chip
C7004	356780109R2	1uF,50V, Elect., chip
C7005	356721019R2	100uF,6.3V, Elect., chip
C719,C720	3567A1019R2	100uF,4V, Elect., chip
C764~C766	3567A1019R2	100uF,4V, Elect., chip
C802,C807	356723319R2	330uF,6.3V, Elect., chip
C819,C820	373024724R2	4700pF+/-5%,50V,Plastic
C823,C824	373024724R2	4700pF+/-5%,50V,Plastic
C826	373043334R2	0.033uF+/-5%,16V,Plastic
C827~C830	373026814R2	680pF+/-5%,50V,Plastic
C831~C834	373023314R2	330pF+/-5%,50V,Plastic
C835~C838	373026814R2	680pF+/-5%,50V,Plastic
C839,C840	373023314R2	330pF+/-5%,50V,Plastic
C847,C848	356744709R2	47uF,16V, Elect., chip
C849,C850	356741019R2	100uF,16V, Elect., chip
C851~C854	356744709R2	47uF,16V, Elect., chip
	Resistors	
R782	43474056004R1	RM0KJ560X04,Array
R787~R791	43474056004R1	RM0KJ560X04,Array
	Terminal	
P101	25045624	NPJ-3PDO431
	Sockets	
P603B	25052572R2	NSCT-6P2469
P7002,P7004	25051527	NSCT-16P1314
P7003,P800	25051241	NSCT-20P1031
P7701A	25052277R2	NSCT-5P2174
	Plugs	
P100	25055133	NPLG-3P117
P7000	25056056	NPLG-8P1006
	Cushion	
Q800A	28141445	(DAC)

F/C ch.driver circuit PC board (NAAF-7690-1R/1T)

CIRCUIT NO.	PART NO.		DESCRIPTION
	Transistors		
Q5000~Q5002	2215896,	*	KTC3200-BL,
Q5010~Q5012	2210755,	*	2SC1775A-E,
	2210756 or	*	2SC1775A-F or
	2211733	*	2SC1845-E
Q5020~Q5022	2215896,		KTC3200-BL,
	2210755,		2SC1775A-E,
	2210756 or		2SC1775A-F or
	2211733		2SC1845-E
Q5030~Q5032	2215844,		KTA1024-Y,
Q5040~Q5042	2211353,		2SA949-O,
	2211354 or		2SA949-Y or
	2215843		KTA1024-O
Q5050~Q5052	2202094 or		2SA1360-Y
	2202093		2SA1360-O
Q5080~Q5082	2202104 or		2SC3423-Y or
	2202103		2SC3423-O

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

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

PRINTED CIRCUIT BOARD-PART LIST 2

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

CIRCUIT NO.	PART NO.		DESCRIPTION
	Diodes		
D5000~D5002	224470562		MTZJ5.6B
	Capacitors		
C5000~C5002	393362207		22uF,35V, Elect.
C5010,C5011	374721015		100pF+/-10%,50V,Plastic
C5012	374722215		220pF+/-10%,50V,Plastic
C5040~C5042	393342217		220uF,16V, Elect.
C5050~C5052	394681007		10uF,50V, Elect.
C5070~C5072	394691007		10uF,100V, Elect.
C5080~C5082	394672207		22uF,63V, Elect.
C5090~C5092	394684707		47uF,50V, Elect.
C5100~C5102	374721015		100pF+/-10%,50V,Plastic
C5120~C5122	394691017S		100uF,100V, Elect.
C5130~C5132	394691017S		100uF,100V, Elect.
	Resistors		
R5130~R5132	415478214		820ohm+/-5%,1/4W,NF carbon
R5140~R5142	415478214		820ohm+/-5%,1/4W,NF carbon
R5150~R5152	443521034		10kohm+/-5%, 1/2W, Metal oxide
R5160~R5162	415471024		1kohm+/-5%,1/4W,NF carbon
R5170~R5172	415478214		820ohm+/-5%,1/4W,NF carbon
R5180~R5182	415473304		33ohm+/-5%,1/4W,NF carbon
R5230~R5232	415471504		15ohm+/-5%,1/4W,NF carbon
R5240~R5242	415471504		15ohm+/-5%,1/4W,NF carbon
R5280~R5282	443521034		10kohm+/-5%, 1/2W, Metal oxide
R5300~R5302	415476804		68ohm+/-5%,1/4W,NF carbon
R5330~R5332	415476804		68ohm+/-5%,1/4W,NF carbon
	Terminals		
P5100,P5101	25060302		NTM-1P233(M1969)
P6907	260224		CP-1S,Clip
	Sockets		
P6000A~P6002A	25052287		NSCT-4P2184
P6010A	25052289		NSCT-6P2186
P6011A,P6012A	25052287		NSCT-4P2184
	Plug		
P6401	25055042		NPLG-3P32
	Radiators		
Q5050A~Q5052A	27160517		RAD-177
	Screws		
Q5050B~Q5052B	838430107		3TTB+10S(BC)
Q5080B~Q5082B	838430107		3TTB+10S(BC)

Primary circuit PC board (NAPS-7691-1R/1T)

CIRCUIT NO.	PART NO.		DESCRIPTION
	Transistor		
Q921	2215864,		KTC3199-GR,
	2212115,		2SC2458-GR,
	2213284 or		2SC1740S-R or
	2213285		2SC1740S-S
	Diodes		
D921~D924	22380260,		RL1N4003,
	22380032 or		1SR139-100 or
	22380035		GP104003E
D925	223163,		1SS133,
	223205 or		1SS270A or
	223222		WG713A
	Power transformer		
T902	2301661	!	NPT-1456D <D>
	2301662	!	NPT-1456P <A>
	Capacitors		
C901	3500196S	!	RE275V-103M,IS
C922	394662217		220uF,35V, Elect.
	Resistors		
R901	4000206S or	!	RD1/2SPH-3.3M or
R901 or	431533355	!	RC1/2GFKUL-3.3M <D>
R924	443528204		82ohm+/-5%, 1/2W, Metal oxide

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

CIRCUIT NO.	PART NO.		DESCRIPTION
	Relay		
RL901	25065584 or	!	NRL-1P10A-DC12-140 or
	25065516	!	NRL-1P10A-DC12-097
F901	252199	!	10A-UL, Fuse <D>
F902	252077,	!	4A-SE-EAK,
F902 or	252243 or	!	4A-SE-TL250V or
F902 or	252277	!	4A-SE-TL250V, Fuse <A>
F903	252075,	!	2.5A-SE-EAK,
F903 or	252241 or	!	2.5A-SE-TL250V or
F903 or	252275	!	2.5A-SE-TL250V, Fuse <A>
	Fuse holders		
F901A,F901B	25052133	!	NSCT-1P2031 <D>
F902A,F902B	25052133	!	NSCT-1P2031 <A>
F903A,F903B	25052133	!	NSCT-1P2031 <A>
	Terminals		
P908	25060092		NTM-1S33
P909	25060092		NTM-1S33
	AC outlet		
P902	25051126	!	NSCT-4P913 <D>
P902	25052115	!	NSCT-2P2013 <A>
	Sockets		
JL931B	25050267		NSCT-3P95
	Plug		
P911	25055675 or		NPLG-2P631 or
	25056028		NPLG-2P0978

Bias selector relay PC board (NAPS-7692-1R/1T)

CIRCUIT NO.	PART NO.		DESCRIPTION
	Diodes		
D6901,D6902	22380260,		RL1N4003,
	22380032 or		1SR139-100 or
	22380035		GP104003E
D6903,D6904	22380309 or		D15XB60 or
	22380044		RBV-1506
D6906	223163,		1SS133,
	223205 or		1SS270A or
	223222		WG713A
	Capacitors		
C6903	374722234		0.022uF+/-5%,50V,Plastic
C6908,C6909	374733344		0.33uF+/-5%,100V,Plastic
C6910,C6911	374723344		0.33uF+/-5%,50V,Plastic
C6915,C6916	374733344		0.33uF+/-5%,100V,Plastic
	Relays		
RL6901,RL6902	25065584 or		NRL-1P10A-DC12-140 or
RL6901,RL6902	25065516		NRL-1P10A-DC12-097
F6901,F6902	252100	!	10A-EAK, Fuse <A>
F6901,F6902	252199	!	10A-UL, Fuse <D>
	Fuse holders		
F6901A,F6901B	25052133	!	NSCT-1P2031
F6902A,F6902B	25052133	!	NSCT-1P2031
	Socket		
JL6953B	25050268		NSCT-4P96
	Plugs		
P6951	25055172		NPLG-9P156
P6952A	25055168		NPLG-5P152
P9505A	25055600		NPLG-2P568
	Fuse label		
F6902C	29362801		T10AL250V <A>
	Radiator		
D6903A	27160499		RAD-164
	Screws		
D6903B,D6904B	82143010		3P+10FN(BC), Pan head
	Washers		
D6903C,D6904C	871430		SW-3(BC), Spring
	Tape		
D6903D	29110083		Cloth

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

PRINTED CIRCUIT BOARD-PART LIST 3

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

F/C ch.speaker terminal PC board (NAETC-7694-1R/1T)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D6600	223163,	1SS133,
D6600 or	223205 or	1SS270A or
D6600 or	223222	WG713A
	Coils	
L6800~L6802	231176S	S-1.3C <A>
	Capacitors	
C6830~C6832	374731034	0.01uF+/-5%,100V,Plastic
C6840~C6842	374731024	1000pF+/-5%,100V,Plastic <A>
	Resistors	
R6830~R6832	453630824	8.2ohm+/-5%, 1W, Metal
	Relays	
RL6600,RL6602	25065563,	NRL-2P5A-DC24-129,
	25065517 or	NRL-2P5A-DC24-098 or
	25065586	NRL-2P5A-DC24-142
	Terminal	
P6800	25060337	NTM-6PDMN268 <D>
	25060338	NTM-6PDMN269 <A>
	Plugs	
P6007A	25055167	NPLG-4P151
P6810D	25055166	NPLG-3P150
P6830	25055734	NPLG-3P690

Surround ch.speaker terminal PC board (NAETC-7695-1R/1T)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D6603,D6605	223163,	1SS133,
D6603,D6605	223205 or	1SS270A or
D6603,D6605	223222	WG713A
	Coils	
L6803~L6806	231176S	S-1.3C <A>
	Capacitors	
C6833~C6836	374731034	0.01uF+/-5%,100V,Plastic
C6843~C6846	374731024	1000pF+/-5%,100V,Plastic <A>
	Resistors	
R6833~R6836	453630824	8.2ohm+/-5%, 1W, Metal
	Relays	
RL6603,RL6605	25065563,	NRL-2P5A-DC24-129,
	25065517 or	NRL-2P5A-DC24-098 or
	25065586	NRL-2P5A-DC24-142
	Terminal	
P6802	25060339	NTM-8PDMN270 <D>
P6802	25060340	NTM-8PDMN271 <A>
	Plugs	
P6008A	25055169	NPLG-6P153
P6812E	25055168	NPLG-5P152
P6832	25055734	NPLG-3P690

Fan driver circuit PC board (NAETC-7696-1R/1T)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q5601	2212445	2SK365-GR
Q5602,Q5603	2215864,	KTC3199-GR,
Q5607,Q6701	2212115,	2SC2458-GR,
Q6702	2213284 or	2SC1740S-R or
	2213285	2SC1740S-S
Q5604,Q5605	2215820,	KRC104M,
Q5608,Q5609	221282 or	DTC144ES or
	2213560	RN1204

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q5606	2203595,	KTC2026-GR,
	2202705,	2SD2394-E,
	2202706 or	2SD2394-F or
	2203594	KTC2026-Y
Q6704	2215995,	KTA1267-GR,
	2212125,	2SA1048-GR,
	2213354 or	2SA933S-R or
	2213355	2SA933S-S
	Diodes	
D5601	223163,	1SS133,
D5604~D5607	223205 or	1SS270A or
D5609,D5610	223222	WG713A
D5602,D5603	22380260,	RL1N4003,
	22380032 or	1SR139-100 or
	22380035	GP104003E
D5611	224471303	MTZJ13C
D6701,D6702	223163,	1SS133,
	223205 or	1SS270A or
	223222	WG713A
D6703,D6704	224470512	MTZJ5.1B
	Capacitors	
C5602~C5604	394661017	100uF,35V, Elect.
C6701	394621017	100uF,6.3V, Elect.
C6704	394680107	1uF,50V, Elect.
C6706	394621017	100uF,6.3V, Elect.
	Resistors	
R5612	415471014	100ohm+/-5%,1/4W,NF carbon
R5613	453530474	4.7ohm+/-5%, 1/2W, Metal
R5616	441721224F	1.2kohm+/-5%, 2W, Metal oxide
	Sockets	
P6931A	25051230	NSCT-5P1020
P7701B	25052201,	NSCT-5P2098,
	25051271,	NSCT-5P1060,
	25051812 or	NSCT-5P1599 or
	25052014	NSCT-5P1801
JL6933A	25051088	NSCT-4P875
JL9503A	25051110	NSCT-6P897

Thermal detector PC board (NAETC-7697-1R/1T)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Thermistors	
R5651	4000153	PTH9M04BF222TS2F333
R5653	4000150	PTH9M04BC222TS2F333 <D>
R5653	4000151	PTH9M04BD222TS2F333 <A>
	Socket	
JL6933B	25051088	NSCT-4P875

AC inlet PC board (NAETC-7700-1R/1T)

CIRCUIT NO.	PART NO.		DESCRIPTION
	AC inlet		
P901B	25055960	!	NPLG-2P913

Power amplifier PC board (NAAF-7706-1M/1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q6000~Q6006	2213284 or	2SC1740S-R or
Q6010~Q6016	2213285	2SC1740S-S
Q6020~Q6022	2215995,	KTA1267-GR,
	2212125,	2SA1048-GR,
	2213354 or	2SA933S-R or
	2213355	2SA933S-S
Q6023~Q6026	2211455 or	2SA1015-GR or
	2211454	2SA1015-Y
Q6030~Q6032	2211634 or	2SC2229-Y or
	2211633	2SC2229-O

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

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

PRINTED CIRCUIT BOARD-PART LIST 4

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

CIRCUIT NO.	PART NO.		DESCRIPTION
	Transistors		
Q6033~Q6036	2203434 or		KTD2061-Y or
	2203010		2SC5171
Q6040~Q6042	2211354 or		2SA949-Y or
	2211353		2SA949-O
Q6043~Q6046	2203424 or		KTB1369-Y or
	2203000		2SA1930
Q6050~Q6056	2202823 or	*	2SC5200-O or
	2202822	*	2SC5200-R
Q6060~Q6066	2202813 or	*	2SA1943-O or
	2202812	*	2SA1943-R
Q6070~Q6076	2214984 or		2SC2631-R or
	2214985		2SC2631-S
Q6090~Q6092	2203424 or		KTB1369-Y or
	2203000		2SA1930
Q6100~Q6102	2203434 or		KTD2061-Y or
	2203010		2SC5171
Q6703	2215885,		KTA1268-GR,
	2211792,		2SA992-F,
	2211793 or		2SA992-E or
	2215886		KTA1268-BL
	Diodes		
D6000~D6006	223163,		1SS133,
	223205 or		1SS270A or
	223222		WG713A
	Cores		
L6000-L6002	5597-45502		
L6010~L6012	5597-45502		
	Capacitors		
C6000~C6006	374721024		1000pF+/-5%,50V,Plastic
C6020~C6022	394500477		4.7uF,160V, Elect.
C6023~C6026	394684707		47uF,50V, Elect.
C6030~C6036	374734734		0.047uF+/-5%,100V,Plastic
C6510~C6514	394690477		4.7uF,100V, Elect.
C6520~C6523	394690477		4.7uF,100V, Elect.
C6531,C6532	374721034		0.01uF+/-5%,50V,Plastic
C6901,C6902	3504373		15000uF,71V, Elect.
C6901,C6902	3504374		15000uF,71V, Elect.
C6901,C6902	3504373		15000uF,71V, Elect.
C6901,C6902	3504374		15000uF,71V, Elect.
	Resistors		
R6040~R6046	5210258		N06HR1KBC,Trimming
R6070~R6072	415476804		68ohm+/-5%,1/4W,NF carbon
R6073~R6076	415471814		180ohm+/-5%,1/4W,NF carbon
R6080~R6082	443521004		10ohm+/-5%, 1/2W, Metal oxide
R6083~R6086	415470224		2.2ohm+/-5%,1/4W,NF carbon
R6090~R6092	443521004		10ohm+/-5%, 1/2W, Metal oxide
R6093~R6096	415470224		2.2ohm+/-5%,1/4W,NF carbon
R6100~R6106	4000201,		RF-5EGKR22,
	4000132 or		RGC55 0.22 or
	4500245		BPR55FK0.22
R6130~R6136	453630824		8.2ohm+/-5%, 1W, Metal
R6230~R6232	415471214		120ohm+/-5%,1/4W,NF carbon
R6240~R6242	415471214		120ohm+/-5%,1/4W,NF carbon
R6250~R6252	415471804		18ohm+/-5%,1/4W,NF carbon
R6260~R6262	415471804		18ohm+/-5%,1/4W,NF carbon
R6270~R6272	415470224		2.2ohm+/-5%,1/4W,NF carbon
R6280~R6282	415470224		2.2ohm+/-5%,1/4W,NF carbon
R6510~R6514	453532294		0.22ohm+/-5%, 1/2W, Metal
R6520~R6523	453532294		0.22ohm+/-5%, 1/2W, Metal
	Terminals		
P5100A,P5101A	25060301		NTM-1P232(M1700)
P5201A,P5202A	25060301		NTM-1P232(M1700)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
P5003	2009990666UL	NSAS-12P0929
P5004	2009990745UL	NSAS-16P1040
P6007	2009990759UL	NSAS-6P1070
P6008	2009990760UL	NSAS-8P1071
P6810	2009990668UL	NSAS-6P0931
P6812	2009990669UL	NSAS-6P0932
P6952	2009990671UL	NSAS-6P0934
	Plugs	
P6000~P6006	25056009	NPLG-4P0959
P6010,P6013	25056011	NPLG-6P0961
P6011,P6012	25056009	NPLG-4P0959
P6014~P6016	25056009	NPLG-4P0959
P6080~P6086	25055038	NPLG-2P29
P6931	25055701	NPLG-5P657
	Bar	
P6201	27141850	BBL50
	Holder	
P6214	27190608-1	UA-0 V0
	Clamps	
P6211~P6213	260226	CP-2S
P6216	260226	CP-2S
P6301~P6303	260224	CP-1S
P6305~P6307	260224	CP-1S
	Heat sinks	
Q6090A~Q6092A	27160486	RAD-155
	Screws	
Q6090B~Q6092E	838430107	3TTB+10S(BC),Self-tapping
Q6100B~Q6102E	838430107	3TTB+10S(BC),Self-tapping

Surround ch. driver circuit PC board (NAAF-7707-1M/1N)

CIRCUIT NO.	PART NO.		DESCRIPTION
	Transistors		
Q5003~Q5006	2215896,	*	KTC3200-BL,
Q5013~Q5016	2210755,	*	2SC1775A-E,
	2210756 or	*	2SC1775A-F or
	2211733	*	2SC1845-E
Q5023~Q5026	2215896,		KTC3200-BL,
	2210755,		2SC1775A-E,
	2210756 or		2SC1775A-F or
	2211733		2SC1845-E
Q5033~Q5036	2215844,		KTA1024-Y,
Q5043~Q5046	2211353,		2SA949-O,
Q5053~Q5056	2211354 or		2SA949-Y or
	2215843		KTA1024-O
Q5083~Q5086	2215854,		KTC3206-Y,
	2211633,		2SC2229-O,
	2211634 or		2SC2229-Y or
	2215853		KTC3206-O
	Diodes		
D5003~D5006	224470562		MTZJ5.6B
	Capacitors		
C5003~C5006	393381007		10uF,50V, Elect.
C5013~C5016	374722215		220pF+/-10%,50V,Plastic
C5043~C5046	393341017		100uF,16V, Elect.
C5053~C5056	394681007		10uF,50V, Elect.
C5073~C5076	394691007		10uF,100V, Elect.
C5083~C5086	394672207		22uF,63V, Elect.
C5093~C5096	394684707		47uF,50V, Elect.
C5103~C5106	374721015		100pF+/-10%,50V,Plastic
C5123~C5126	394694707		47uF,100V, Elect.
C5133~C5136	394694707		47uF,100V, Elect.

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

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

PRINTED CIRCUIT BOARD-PART LIST 5

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

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R5133~R5136	415478214	820ohm+/-5%,1/4W,NF carbon
R5143~R5146	415478214	820ohm+/-5%,1/4W,NF carbon
R5153~R5156	443521034	10kohm+/-5%, 1/2W, Metal oxide
R5163~R5166	415471024	1kohm+/-5%,1/4W,NF carbon
R5173~R5176	415478214	820ohm+/-5%,1/4W,NF carbon
R5183~R5186	415473304	33ohm+/-5%,1/4W,NF carbon
R5233~R5236	415471504	15ohm+/-5%,1/4W,NF carbon
R5243~R5246	415471504	15ohm+/-5%,1/4W,NF carbon
R5283~R5286	443521034	10kohm+/-5%, 1/2W, Metal oxide
R5303~R5306	415471014	100ohm+/-5%,1/4W,NF carbon
R5333~R5336	415471014	100ohm+/-5%,1/4W,NF carbon
	Terminals	
P5201,P5202	25060302	NTM-1P233(M1969)
	Sockets	
P6003A~P6006A	25052287	NSCT-4P2184
P6013A	25052289	NSCT-6P2186
P6014A~P6016A	25052287	NSCT-4P2184

Power supply PC board (NAPS-7708-1M/1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q9401	222780185JRC	NJM78M18FA
Q9411	222790185JRC	NJM79M18FA
Q9421	222780053JRC	NJM78L05A
Q9431	222780054JRC	NJM7805FA
Q9441	222790054JRC	NJM7905FA
	Transistors	
Q6901	2215864,	KTC3199-GR,
	2212115,	2SC2458-GR,
	2213284 or	2SC1740S-R or
	2213285	2SC1740S-S
Q9422	2202314 or	2SA1726-Y or
	2202315	2SA1726-P
Q9501	2211644	2SA965-Y
	Diodes	
D9501,D9502A	22380285F,	RS403M,
	22380022F or	RBV402 or
	22380271F	D3SBA20
D9506,D9507	22380260,	RL1N4003,
	22380032 or	1SR139-100 or
	22380035	GP104003E
D9508	224472704	MTZJ27D
	Capacitors	
C9401,C9402	394561007	10uF,35V, Elect.
C9411,C9412	394561007	10uF,35V, Elect.
C9421,C9422	394561007	10uF,35V, Elect.
C9431,C9432	394561007	10uF,35V, Elect.
C9441,C9442	394561007	10uF,35V, Elect.
C9501~C9504	374723344	0.33uF+/-5%,50V,Plastic
C9505	394662227	2200uF,35V, Elect.
C9506	394661027	1000uF,35V, Elect.
C9507	394682217	220uF,50V, Elect.
C9508	394646827	6800uF,16V, Elect.
C9509	394651027	1000uF,25V, Elect.
C9510	394672217	220uF,63V, Elect.
C9513	374723344	0.33uF+/-5%,50V,Plastic
C9521~C9523	374722234	0.022uF+/-5%,50V,Plastic
	Resistors	
R9403	453530224	2.2ohm+/-5%, 1/2W, Metal
R9413	453530824	8.2ohm+/-5%, 1/2W, Metal
R9421~R9425	441620824	8.2ohm+/-5%, 1W, Metal oxide
R9431,R9433	441621004	10ohm+/-5%, 1W, Metal oxide
R9442,R9444	441622204	22ohm+/-5%, 1W, Metal oxide
R9506	415472204	22ohm+/-5%,1/4W,NF carbon
R9510	415470224	2.2ohm+/-5%,1/4W,NF carbon
R9521	453530334	3.3ohm+/-5%, 1/2W, Metal

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

CIRCUIT NO.	PART NO.		DESCRIPTION
	Fuses		
F9501,F9502	252160 or	!	2.5A-UL/T-237 or
F9501,F9502	252254	!	2.5A-T/UL-ST2, Fuse <D>
F9501,F9502	252075,	!	2.5A-SE-EAK,
F9501,F9502	252241 or	!	2.5A-SE-TL250V or
F9501,F9502	252275	!	2.5A-SE-TL250V, Fuse <A>
F9503,F9504	252158 or	!	1.6A-UL/T-237 or
F9503,F9504	252252	!	1.6A-T/UL-ST2, Fuse <D>
F9503,F9504	252073,	!	1.6A-SE-EAK,
F9503,F9504	252239 or	!	1.6A-SE-TL250V or
F9503,F9504	252273	!	1.6A-SE-TL250V, Fuse <A>
	Fuse holders		
F9501A,F9501B	25052133	!	NSCT-1P2031
F9502A,F9502B	25052133	!	NSCT-1P2031
F9503A,F9503B	25052133	!	NSCT-1P2031
F9504A,F9504B	25052133	!	NSCT-1P2031
	Fuse labels		
F9501C	29361747		T2.5AL250V <A>
F9503C	29361769		T1.6AL250V <A>
	Sockets		
JL6953A	25051108		NSCT-4P895
JL7201B	25050281		NSCT-4P109
JL9503B	25050270		NSCT-6P98
JL9504A	25051088		NSCT-4P875
	Plugs		
P9501	25055138		NPLG-8P122
P9502A	25055156		NPLG-12P140

Thermal detector PC board (NAETC-7714-1M/1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Socket	
JL9504B	25051088	NSCT-4P875
	Thermistors	
R5652	4000153	PTH9M04BF222TS2F333
R5654	4000150	PTH9M04BC222TS2F333 <D>
R5654	4000151	PTH9M04BD222TS2F333 <A>

Pre. amplifier PC board (NAAF-7718-1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q3860~Q3862	22241383R2 or	NJM4565M-D or
Q4000,Q4800	22240489R1NE	MPC4570G2-T1(MST)
Q4100	22240943R2	TC9163AF
Q4101	22241221R2	TC9164AF
Q4200~Q4203	22241640R2	TC94A07F
Q4210~Q4213	22241383R2 or	NJM4565M-D or
	22240489R1NE	MPC4570G2-T1(MST)
Q4400,Q4401	22241451R9	NJU7306G
Q4410,Q4411	22241450R2 or	NJM2082M-D or
	22241567R2	NJM2082M
	Transistors	
Q4420~Q4422	2216756R2	2SA1163-BL
Q4600~Q4607	2215410R2	RN1441
Q4610~Q4617	2215410R2	RN1441
Q4810~Q4815	2215410R2	RN1441
	Diode	
D4540	224490510R2	UDZ5.1B
	Capacitors	
C3600~C3607	374723315	330pF+/-10%,50V,Plastic
C3610~C3617	393381007	10uF,50V, Elect.
C3800~C3802	393384707	47uF,50V, Elect.
C3803~C3806	393381007	10uF,50V, Elect.
C3807	354724719	470uF,6.3V, Elect.
C3820,C3821	393384707	47uF,50V, Elect.
C3840,C3841	393381007	10uF,50V, Elect.

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

PRINTED CIRCUIT BOARD-PART LIST 6

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

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C3862,C3863	374721224	1200pF+/-5%,50V,Plastic
C3864,C3865	374722724	2700pF+/-5%,50V,Plastic
C4010,C4011	393381007	10uF,50V, Elect.
C4120,C4121	354742219 or	220uF,16V, Elect.or
C4320~C4325	394642217	220uF,16V, Elect.
C4200~C4207	393381007	10uF,50V, Elect.
C4217	374721024	1000pF+/-5%,50V,Plastic
C4220~C4227	393380107	1uF,50V, Elect.
C4230~C4237	393384707	47uF,50V, Elect.
C4410~C4412	374721015	100pF+/-10%,50V,Plastic
C4417	374721024	1000pF+/-5%,50V,Plastic
C4420~C4422	393384707	47uF,50V, Elect.
C4430~C4432	374721044	0.1uF+/-5%,50V,Plastic
C4440~C4442	374721534	0.015uF+/-5%,50V,Plastic
C4540	354721019 or	100uF,6.3V, Elect.or
	394621017	100uF,6.3V, Elect.
C4600~C4602	393384707	47uF,50V, Elect.
C4607	393384707	47uF,50V, Elect.
C4610~C4617	374721024	1000pF+/-5%,50V,Plastic
C4800,C4801	354741009	10uF,16V, Elect.
C4802,C4803	354780229	2.2uF,50V, Elect.
C4806,C4807	354721019	100uF,6.3V, Elect.
C4808,C4809	374722224	2200pF+/-5%,50V,Plastic
C4920,C4921	354742219 or	220uF,16V, Elect.or
	394642217	220uF,16V, Elect.
	Resistors	
R4120,R4121	443522204	22ohm+/-5%, 1/2W, Metal oxide
R4320~R4325	443522204	22ohm+/-5%, 1/2W, Metal oxide
R4920,R4921	443522204	22ohm+/-5%, 1/2W, Metal oxide
	Terminals	
P3600,P4600	25045708	NPJ-4PDGPRW503
P3601,P4601	25045710	NPJ-4PDELNT505
	Sockets	
P4010B	25051235	NSCT-10P1025
P4011B,P4020B	25051240	NSCT-15P1030
	Plugs	
P4012A	25055734	NPLG-3P690
P5003E	25055152	NPLG-8P136
P5004E	25055153	NPLG-9P137
	Bars	
J4220~J4223	27141851	BBL60
	Holders	
P4610C~P4610E	27190540-1	Clamp
P5004G	27190608-1	Clamp

Audio terminal PC board (NAAF-7719-1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q1001	222780125	78M12HF
Q3000,Q3020	22241383R2 or	NJM4565M-D or
Q3021	22240489R1NE	MPC4570G2-T1(MST)
Q3100	22241639R2	TC9273F-017
	Capacitors	
C1002,C1007	354741009 or	10uF,16V, Elect.or
	394641007	10uF,16V, Elect.
C1003,C1006	354780339 or	3.3uF,50V, Elect.or
	394680337	3.3uF,50V, Elect.
C3000,C3001	374722215	220pF+/-10%,50V,Plastic
C3002,C3003	393384707	47uF,50V, Elect.
C3004,C3005	374721524	1500pF+/-5%,50V,Plastic
C3006,C3007	354722219	220uF,6.3V, Elect.
C3008,C3009	374721234	0.012uF+/-5%,50V,Plastic
C3010,C3011	374723924	3900pF+/-5%,50V,Plastic
C3020~C3023	374723315	330pF+/-10%,50V,Plastic
C3026~C3029	393384707	47uF,50V, Elect.
C3120,C3121	354742219 or	220uF,16V, Elect.or
	394642217	220uF,16V, Elect.
C3122,C3123	354744709 or	47uF,16V, Elect.or
	394644707	47uF,16V, Elect.
	Resistors	
R3120,R3121	443522204	22ohm+/-5%, 1/2W, Metal oxide
	Terminals	
P3000,P3001	25045582 or	NPJ-4PDRW393 or
	25045491	NPJ-4PDBL308
	Sockets	
P1010A	25052248,	NSCT-15P2145,
	25051859 or	NSCT-15P1646 or
	25052061	NSCT-15P1848
P3010B	25051232	NSCT-7P1022
P3011B	25051240	NSCT-15P1030

Vidoe terminal PC board (NAAF-7720-1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q3200~Q3205	22241383R2 or	NJM4565M-D or
Q3200~Q3205	22240489R1NE	MPC4570G2-T1(MST)
Q3300	22240829	TC9274N-008
Q3400	22241383R2 or	NJM4565M-D or
	22240489R1NE	MPC4570G2-T1(MST)
	Transistors	
Q3410~Q3413	2215410R2	RN1441
	Capacitors	
C3200~C3203	374723315	330pF+/-10%,50V,Plastic
C3205~C3209	374723315	330pF+/-10%,50V,Plastic
C3212~C3223	393384707	47uF,50V, Elect.
C3250,C3251	393381007	10uF,50V, Elect.
C3252	354741009 or	10uF,16V, Elect.or
	394641007	10uF,16V, Elect.
C3320,C3321	354742219 or	220uF,16V, Elect.or
	394642217	220uF,16V, Elect.
C3400~C3403	393384707	47uF,50V, Elect.
C3404,C3405	374721024	1000pF+/-5%,50V,Plastic
	Resistors	
R3320,R3321	443522204	22ohm+/-5%, 1/2W, Metal oxide
	Terminals	
P3200~P3203	25045582 or	NPJ-4PDRW393 or
	25045491	NPJ-4PDBL308
	Sockets	
P3210B,P3211B	25051232	NSCT-7P1022
	Plugs	
P3220A	25055133	NPLG-3P117
P602A	25055148	NPLG-4P132

Front video PC board (NAETC-7721-1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P2510	25045675	NPJ-3PDB473
	Sockets	
P2506B	2009990575UL	NSAS-10P0784
P2508	25051569	NSCT-4P1356
P3220B	2009990420	NSAS-6P0564

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

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

PRINTED CIRCUIT BOARD-PART LIST 7

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

Front opto. input PC board (NAETC-7722-1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo coupler	
U2501	24120101	TORX179L
	Coil	
L2501	231237M022R2 or	NCH-1471 or
	233533M022R2	NCH-1587-022M
	Capacitor	
C2581	354721019 or	100uF,6.3V, Elect.or
	394621017	100uF,6.3V, Elect.
	Socket	
P102B	2009990513UL	NSAS-6P0675

Main connector PC bord (NAAR-7728-1M/1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2910,Q2913	22241383R2	NJM4565M-D
Q2923	222780155JRC	NJM78M15FA
Q2924	222790155JRC	NJM79M15FA
Q2934	222780565JRC	NJM78M56FA
	Transistors	
Q2901,Q2903	2216175R2 or	KTC3875-GR or
Q2905,Q2907	2213145R2	2SC2712-GR
Q2902,Q2904	2216220R2 or	KRA102S or
Q2906,Q2908	2214530R2	RN2402
Q2909,Q2932	2216175R2 or	KTC3875-GR or
	2213145R2	2SC2712-GR
Q2931	2212855 or	2SB1068-U or
	2212853	2SB1068-K
Q2933,Q2935	2216190R2 or	KRC102S or
	2214470R2	RN1402
	Diodes	
D2901~D2903	223234R2 or	1SS352 or
D2922,D2923	223269R2	1SS355
D2931,D2932	22380260 or	RL1N4003 or
	22380035	GP104003E
D2933	224490560R2	UDZ5.6B
	Capacitors	
C2902~C2905	354741009	10uF,16V, Elect.
C2908	374722724	2700pF+/-5%,50V,Plastic
C2916	374721224	1200pF+/-5%,50V,Plastic
C2917,C2918	354741009	10uF,16V, Elect.
C2923~C2926	354761009	10uF,35V, Elect.
C2931	394641027	1000uF,16V, Elect.
C2932	354741009	10uF,16V, Elect.
	Resistors	
R2912	453530474	4.7ohm+/-5%, 1/2W, Metal
R2913	453530224	2.2ohm+/-5%, 1/2W, Metal
R2931	453530104	1ohm+/-5%, 1/2W, Metal
R2933	443522204	22ohm+/-5%, 1/2W, Metal oxide
	Relay	
RL2901	25065563	NRL-2P5A-DC24-129
	Sockets	
P2901A	25051826	NSCT-19P1613
P4012A	25051255	NSCT-3P1045
P7201B	25051838	NSCT-31P1625
P9502B	2009990748UL	NSAS-24P1045
	Plugs	
P2005A	25055709	NPLG-13P665
P2006A	25055806	NPLG-17P762
P2505A	25055710	NPLG-14P666
P2705A	25055804	NPLG-4P760
P3010A	25055703	NPLG-7P659
P3011A	25055711	NPLG-15P667
P3210A,P3211A	25055703	NPLG-7P659
P4010A	25055706	NPLG-10P662
P4011A,P4020A	25055711	NPLG-15P667
P604A	25055709	NPLG-13P665
P7002A	25055805	NPLG-16P761
P7003A	25055712	NPLG-20P668
P7004A	25055805	NPLG-16P761
P800A	25055712	NPLG-20P668
	Heat sink	
Q2934A	27160472	RAD-141
	Screw	
Q2934B	82143010	3P+10FN(BC), Pan head
	Clamp	
P2902	260224	CP-1S

Composite video PC board (NAVD-7729-1M/1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2001	22241848R2	LC74761M-9845
Q2010	22241619R2	TC9273F-004
Q2101,Q2201	222740515R2	74HC4051AF
Q2102,Q2105	22241443R2	TK15420M
	Transistors	
Q2002~Q2005	2216220R2 or	KRA102S or
	2214530R2	RN2402
Q2006,Q2008	2216175R2 or	KTC3875-GR or
Q2103,Q2106	2213145R2	2SC2712-GR
Q2007,Q2012	2216210R2 or	KRC104S or
	2214490R2	RN1404
Q2009,Q2104	2216185R2 or	KTA1504-GR or
Q2107	2214375R2	2SA1162-GR
Q2011	2214550R2	RN2404
	2216175R2 or	KTC3875-GR or
Q2301~Q2315	2216031R2 or	RN1444-A or
	2216032R2	RN1444-B
	Diodes	
D2001~D2003	223234R2 or	1SS352 or
D2006,D2007	223269R2	1SS355
D2103,D2104	223234R2 or	1SS352 or
D2106,D2107	223269R2	1SS355
	Oscillators	
X2001	3010363	HC-49/U0314.318M
X2002	3010364	HC-49/U0317.734M <A>
	Capacitors	
C2009	354780109	1uF,50V, Elect.
C2010	354721019	100uF,6.3V, Elect.
C2011	375524744	0.47uF+/-5%,50V,Plastic
C2012	354784799	0.47uF,50V, Elect.
C2015	374722234	0.022uF+/-5%,50V,Plastic
C2016	354780109	1uF,50V, Elect.
C2017	374726824	6800pF+/-5%,50V,Plastic
C2018	354783399	0.33uF,50V, Elect.
C2021,C2022	354721019	100uF,6.3V, Elect.
C2024,C2026	354741009	10uF,16V, Elect.
C2028	354741009	10uF,16V, Elect.
C2047	354721019	100uF,6.3V, Elect.
C2104,C2106	354721019	100uF,6.3V, Elect.
C2204,C2206	354721019	100uF,6.3V, Elect.
C2221	354721019	100uF,6.3V, Elect.
C2301~C2304	354721019	100uF,6.3V, Elect.
C2306	354721019	100uF,6.3V, Elect.
C2338	354724719	470uF,6.3V, Elect.
	Terminals	
P2001~P2003	25045363	NPJ-3PDYE208

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

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

PRINTED CIRCUIT BOARD-PART LIST 8

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

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
P2005B	25051238	NSCT-13P1028
P2006B,P2007B	25051528	NSCT-17P1315

S video PC board (NAVD-7730-1M/1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2451	22241849R2	MM1512
Q2501,Q2511	222740515R2	74HC4051AF
Q2502,Q2602	22241443R2	TK15420M
Q2601,Q2611	222740515R2	74HC4051AF
	Transistors	
Q2401,Q2402	2216031R2 or	RN1444-A or
Q2407~Q2414	2216032R2	RN1444-B
Q2403,Q2406	2216031R2 or	RN1444-A or
Q2403,Q2406	2216032R2	RN1444-B <A>
Q2404,Q2405	2216031R2 or	RN1444-A or
	2216032R2	RN1444-B
Q2503,Q2505	2216175R2 or	KTC3875-GR or
	2213145R2	2SC2712-GR
Q2504,Q2506	2216185R2 or	KTA1504-GR or
	2214375R2	2SA1162-GR
	Diodes	
D2503~D2506	223234R2 or	1SS352 or
	223269R2	1SS355
	Coils	
L2001	231292J056R2	NCH-1572
L2002	231237K022R2 or	NCH-1471 or
	233533K022R2	NCH-1587-022K
L2471,L2473	231237K022R2	NCH-1471
L2472,L2474	231292J056R2	NCH-1572 <A>
	Capacitors	
C2422,C2424	354721019	100uF,6.3V, Elect.
C2426,C2428	354721019	100uF,6.3V, Elect.
C2432,C2452	354721019	100uF,6.3V, Elect.
C2504,C2506	354721019	100uF,6.3V, Elect.
C2573,C2575	354721019	100uF,6.3V, Elect.
C2604,C2606	354721019	100uF,6.3V, Elect.
C2608,C2618	354780229	2.2uF,50V, Elect.
	Sockets	
P2501	25051955	NSCT-4P1742
P2502	25051957	NSCT-12P1744
P2503,P2504	25051956	NSCT-8P1743
P2505B	25051239	NSCT-14P1029
P2507B	25051528	NSCT-17P1315
	Plug	
P2506A	25055236	NPLG-5P220

Component video PC board (NAVD-7731-1M/1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q2701	2216175R2 or	KTC3875-GR or
	2213145R2	2SC2712-GR
	Diodes	
D2701,D2702	223234R2 or	1SS352 or
	223269R2	1SS355
	Relays	
RL2701,RL2702	25065610	NRL-2P1A-DC4.5-156
	Terminals	
P2701~P2703	25045607	NPJ-3PDGLR414
	Socket	
P2705B	25051526	NSCT-4P1313

RS232 terminal PC board (NAETC-7733-1M/1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q201	22241537R2	MPD4721GS
Q233	222780565	78M56
	Transistors	
Q221,Q223	2216190R2 or	KRC102S or
Q2911	2214470R2	RN1402
Q222,Q224	2212855 or	2SB1068-U or
Q2912	2212853	2SB1068-K
Q231,Q232	2213145R2 or	2SC2712-GR or
	2216175R2	KTC3875-GR
Q2921,Q2922	2216190R2 or	KRC102S or
	2214470R2	RN1402
	Photo coupler	
Q211	24120080	PC817X
	Diodes	
D201~D203	223234R2 or	1SS352 or
	223269R2	1SS355
	Coil	
L201	230948R2	BLM21A102F
	Capacitors	
C201~C204	354780109	1uF,50V, Elect.
C207	354721019	100uF,6.3V, Elect.
C221~C223	354744709	47uF,16V, Elect.
C231	354741009	10uF,16V, Elect.
C232	354751029S	1000uF,25V, Elect.
C2921	354721019	100uF,6.3V, Elect.
C2922	374722234	0.022uF+/-5%,50V,Plastic
	Resistors	
R234	441721514F	150ohm+/-5%, 2W, Metal oxide
R233	453532294	0.22ohm+/-5%, 1/2W, Metal
	Thermistors	
R227,R228	4000195	RXE030
R2909	4000195	RXE030
	Terminals	
P202	25045647	HSJ1002-01-1020
P203	25045711	HSJ-1003-01-010
P204	25045647	HSJ1002-01-1020
	Sockets	
JL931A	25051107	NSCT-3P894
P201	25052379	NSCT-9P2277
P2901B	25051826	NSCT-19P1613
P6830B,P6832B	25051255	NSCT-3P1045
	Heat sink	
Q233A	27160145	RAD-51
	Screw	
Q233B	82143010	3P+10FN(BC)

Connector PC board (NAETC-7734-1M/1N)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Plugs	
P2007A,P2507A	25055806	NPLG-17P762

Display circuit PC board (NADIS-7746-1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q7501	212234	HNA-16MM40T
	Remote sensor	
U7201	241335 or	SPS-444-1 or
U7201 or	241341	SPS-444-1-E1
	ICs	
Q7201	22241512	M30624FGAFP
Q7502	22241680AR2	M66005-0001AFP

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

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

PRINTED CIRCUIT BOARD-PART LIST 9

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

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q7202	2216230R2 or	KRA103S or
	2214540R2	RN2403
Q7503,Q7504	2216175R2 or	KTC3875-GR or
Q7538,Q7539	2213145R2	2SC2712-GR
Q7521~Q7527	2216190R2 or	KRC102S or
Q7529~Q7535	2214470R2	RN1402
Q7546~Q7549	2216190R2 or	KRC102S or
	2214470R2	RN1402
	Diodes	
D7201,D7202	223234R2 or	1SS352 or
D7204,D7502	223269R2	1SS355
D7203	224490510R2 or	UDZ5.1B or
D7203 or	224550510R2	UDZS5.1B
D7501	224491100R2 or	UDZ11B or
D7501 or	224551100R2	UDZS11B
D7536~D7539	225291D	SEL4910D-D
D7541~D7551	225375	SML1216C
	Oscillator	
X7201	3010322T	CST16.00MXW0C1
	Coils	
L7201	231237M022R2 or	NCH-1471 or
	233533M022R2	NCH-1587-022M
	Filters	
R7201	230958R1	BK1608LM182-T
R7202	230958R1	BK1608LM182-T
	Capacitors	
C7201,C7202	355721019	100uF,6.3V, Elect.
C7203,C7204	375524744	0.47uF+/-5%,50V,Plastic
C7207,C7503	355721019	100uF,6.3V, Elect.
C7506	375524744	0.47uF+/-5%,50V,Plastic
C7510	355783309	33uF,50V, Elect.
	Switches	
S7542	25035714 or	NPS-111-S677 or
	25035699	NPS-111-S662
S7556~S7559	25035714 or	NPS-111-S677 or
S7563~S7568	25035699	NPS-111-S662
S7571~S7579	25035714 or	NPS-111-S677 or
S7581~S7591	25035699	NPS-111-S662
	Sockets	
P7201A	25051875	NSCT-31P1662
JL7201A	25051108	NSCT-4P895
JL7202A	25051089	NSCT-5P876
JL7203A	25051096	NSCT-12P883
P7559A	25051087	NSCT-3P874
	Plug	
P7203	25056056	NPLG-8P1006
	Holder	
Q7501A	27191074A	(FL)

Standby switch PC board (NAETC-7747-1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	LEDs	
D7533	225290	SEL4110R
D7534	225292D	SEL4310G-D
D7535	225374	SEL2E10C
	Switches	
S7541,S7543	25035714 or	NPS-111-S677 or
	25035699	NPS-111-S662
	Socket	
JL7203B	25051096	NSCT-12P883

Volume PC board (NAETC-7748-1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Rotary encoder	
S7569	25065611	EC16B24C25
	Socket	
P7559B	25051087	NSCT-3P874

Headphone terminal PC board (NAETC-7749-1G/1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P7481	25045385	YKB26-5153
	Socket	
JL7202B	25051089	NSCT-5P876

Net-tune circuit PC board (NAVD-7662-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q601	22241778R2	BA33C25FP, Regulator
Q603,Q608	22241861R3	HM5264165FTT-B6, Main memory
Q604	22241862R3	MX29LV320BTC-90, Flash ROM
Q605	22241821R2	WM8716EDS
Q606	22241872R2	93LC46BT/SN,MAC address
Q607	22241863R3	EP7312-CV, MM microprocessor
Q609,Q618	22241161R2	TC7W14FU
Q610	22241159R2	TC7S02FU
Q616	22241867R3	CS8900A-CQ3,Ethernet controller
	Diodes	
D601	223234R2 or	1SS352 or
D604,D605	223269R2	1SS355
D603	225385R2	SEC1201C
	Coils	
L601	230949R2	BLM21P221SG
L603	3030048R2	NFE31PT471F1E9
L605,L606	230949R2	BLM21P221SG
L607	231237K470R2	NCH-1479
R639,R640	230958R1	BK1608LM182-T
	Oscillators	
X601	3010374R2	DSO-751SV, Crystal
X602	3010371R2	DSX630G, Crystal
X603	3010372R2	SM-26F, Crystal
X604	3010373R2	SMD-49, Crystal
	Capacitors	
C602,C614	395530477R2	4.7uF,10V, Tantal
C615,C637	395521017R2	100uF,6.3V, Tantal
C638	356721019R2	100uF,6.3V, Elect., chip
C640	393322217	220uF,6.3V, Elect.
C641	374721044	0.1uF+/-5%,50V,Plastic
C645,C647	356721019R2	100uF,6.3V, Elect., chip
C649	393322217	220uF,6.3V, Elect.
C650	374721044	0.1uF+/-5%,50V,Plastic
C679	395521017R2	100uF,6.3V, Tantal
C693	356721019R2	100uF,6.3V, Elect., chip
	Sockets	
P601	25052724	NSCT-8P2620,LAN
P603A	25052707R2	NSCT-6P2603
P604B	25051238	NSCT-13P1028
	Plugs	
P602B	25055964R2	NPLG-4P917
P607B	25055965R2	NPLG-5P918
	Cushion	
Q605A	28141445	(DAC)

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

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