

## SERVICE SAFETY PRECAUTIONS (UL)

1. Use exact replacement parts for critical locations marked "⚠"
2. Return lead dress to original position and re-install protective covers.
3. Before returning to customer, test for shock hazard; use either method A or B:
  - A. Leakage test "cold":
    1. Unplug the AC cord; turn power switch ON.
    2. Connect one lead of High Voltage Insulation Tester to both prongs of the AC plug.
    3. Touch other lead to all exposed metal parts.
    4. Impedance measurement must be 0.3-5.0 Megohms.
  - B. Leakage test, "live":
    1. Plug unit directly into the AC outlet; do not use isolation transformer.
    2. Connect one lead of the Leakage Current Tester to earth ground.
    3. Touch other lead to all exposed metal parts.
    4. Leakage measurement must be less than 0.5 milliamps.

# SERVICE SAFETY PRECAUTIONS

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2. Return lead dress to original position, and re-install protective covers.
3. Before returning to customer, test for shock hazard; use either method A or B:


## A. Leakage test, "cold":


1. Unplug AC cord, turn power switch ON.
2. Connect one lead of High Voltage Insulation Tester to both prongs of AC plug.
3. Touch other lead to all exposed metal parts.
4. Impedance measurement must be 0.3 - 5.0 Megohms.

## B. Leakage test, "live":

1. Plug unit directly into AC outlet; do not use isolation transformer.
2. Connect one lead of Leakage Current Tester to earth ground.
3. Touch other lead to all exposed metal parts.
4. Leakage measurement must be less than 0.5 milliamps.

## 4. Replacing the fuses

 This symbol located near the fuse 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 utilise est a rapide.

Pour une protection permanents, n'utiliser que des fusibles de meme type.

Ce dernier est indique la qu le present symbol est appose.

For continued protection against fire hazard, replace with same type fuse.

For fuse rating refer to the marking adjacent to the symbol.

Circuit No.	Part No.	Description
F901	252164Y	5A-UL/T-237, Primary <AH>
F902	252076	3.15A-SE-EAK, Primary <C>
F903	252075	2.5A-SE-EAK, Primary <C>
F921	252156Y	1A-UL/T-237, Secondary <AH>
	252070	1A-SE-EAK, Secondary <C>
F922	252156Y	1A-UL/T-237, Secondary <AH>
	252070	1A-SE-EAK, Secondary <C>

## 5. 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 reset, please follow the procedure below.

1. Press and hold down the CD button, then press the POWER button.
2. Take the power supply cord from the socket while "TEST-" is displayed.
3. After "clear" is displayed, the preset memory and each mode stored in then memory, such as surround, are initialized and will return to the factory settings.

## 6. 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 the screw on the back panel.

Specifications : 3.3Mohm  $\pm$  10% at 500V.

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## SPECIFICATIONS

### AMPLIFIER SECTION

#### STEREO MODE:

Continuous Power

into 8  $\Omega$  75W

into 4  $\Omega$  75W

Dynamic Power:

into 8  $\Omega$  100W

into 4  $\Omega$  170W

(Min. RMS power per channel, 20Hz-20kHz, both channels driven, with no more than rated distortion)

Front L/R and Center Channels

50W into 8  $\Omega$

Rear Channels

15W per channel into 8 $\Omega$ , 1kHz: 0.3% THD

THD 20Hz-20kHz

0.08% (Front) (stereo mode)

IM distortion

0.08% (Front) (stereo mode)

Damping factor

60 at 8  $\Omega$  (Front)

Input sensitivity and Impedance:

Phono: 2.5mV, 47k ohms

Line: 150mV, 18k ohms

Video: 1Vp-p, 75 ohms

Output level and Impedance

Tape 1,2 Line Out: 150mV, 2.2k ohms

Video 2 Line Out: 150mV, 2.2k ohms

Pre Out: 1V, 2.2k ohms (Subwoofer)

Video: 1Vp-p, 75 ohms (Video 2, Monitor)

Phono Overload 1kHz, 0.5% THD

120mV RMS

Frequency response 5Hz to 50kHz

$\pm 0.8$ dB

RIAA Deviation 20Hz-20kHz

$\pm 0.8$ dB

Tone control

Bass:  $\pm 8$ dB at 100Hz

Treble:  $\pm 8$ dB at 10kHz

Signal/Noise ratio

Phono 80dB (IHF A, 5mV input)

CD/Tape: 100dB (IHF A)

Muting:

-40dB

#### Remote Control

Power, Master Volume Up/Down, Mute, Sleep, Surround Mode, Delay Time, Test Tone, Center Volume Up/Down,

Rear Volume, Up/Down, Input Selector (CD, Phono, Tuner, Tape 1, Tape 2, Video 1, Video 2)

Deck A/B, (Play, Reverse Play, Stop, Record/Pause, Fast Forward, Rewind)

CD: (Play, Pause, Stop, Disc, Skip Forward/Back)

Tuner: (Bank, Preset Up/Down)

#### Physical Specification

Dimensions in mm (WxHxD)

435 x 145 x 330

Net weight

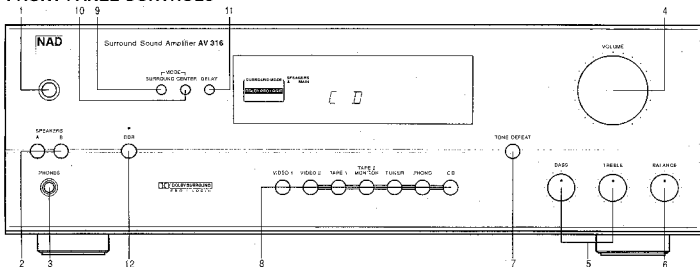
9.6kg

Shipping weight

10.7kg

**WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

### FRONT PANEL CONTROLS



- |                     |  |             |
|---------------------|--|-------------|
| 1. POWER            | 5. BASS & TREBLE CONTROLS                              | 9. SURROUND |
| 2. SPEAKERS A B     | 6. BALANCE   | 10. CENTER  |
| 3. HEADPHONE SOCKET | 7. TONE DEFEAT   | 11. DELAY   |
| 4. VOLUME           | 8. VIDEO 1, VIDEO 2, TAPE 1, TAPE 2 MONITOR, TUNER, CD | 12. CDR     |

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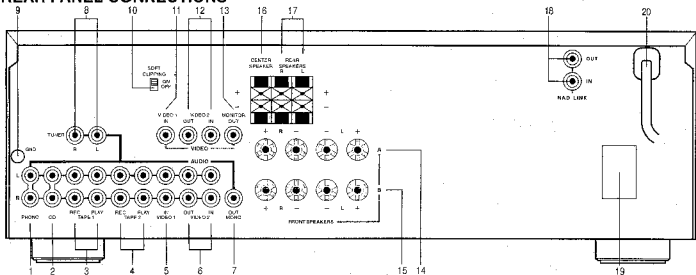


The lightning flash with arrowhead, within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

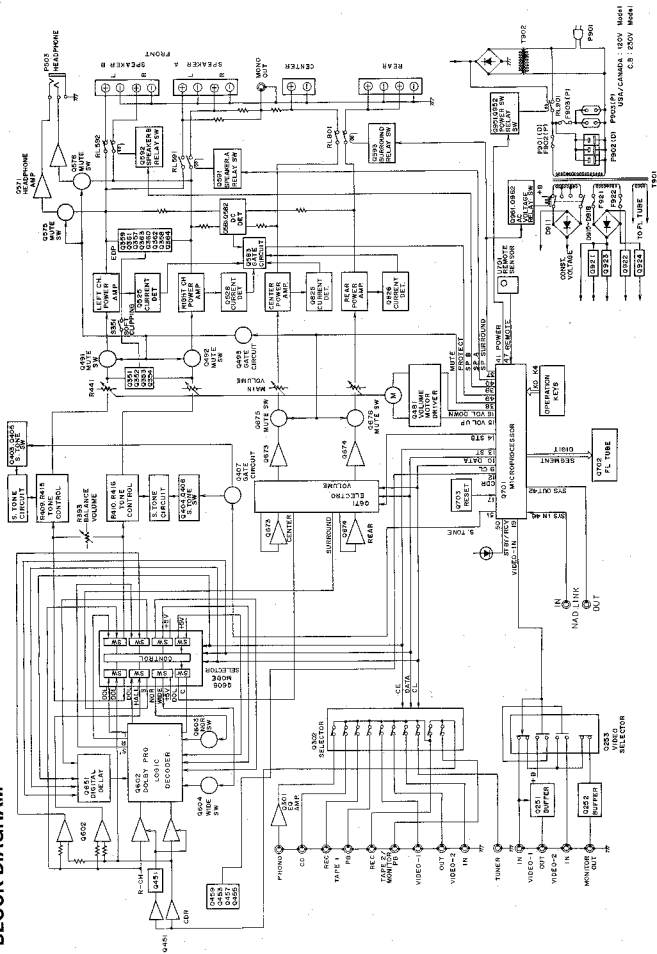
### REAR PANEL CONNECTIONS



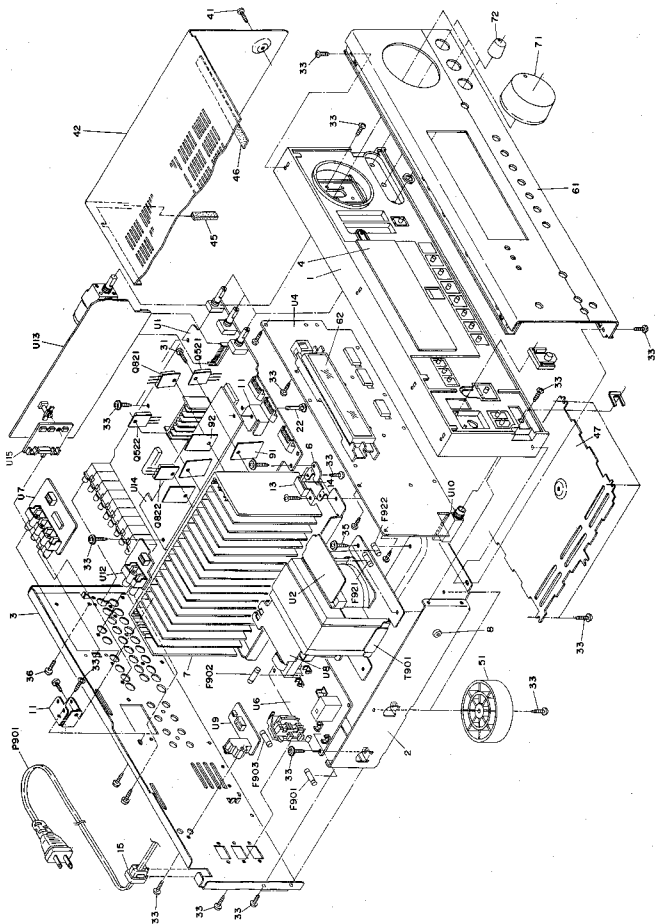
- |                |                          |  |
|----------------|--------------------------|--|
| 1. PHONO INPUT | 8. TUNER                 | 15. FRONT SPEAKERS B                           |
| 2. CD INPUT    | 9. GROUND TERMINAL       | 16. CENTER SPEAKER                             |
| 3. TAPE 1      | 10. SOFT CLIPPING        | 17. REAR SPEAKERS                              |
| 4. TAPE 2      | 11. VIDEO 1              | 18. NAD-LINK IN OUT                            |
| 5. VIDEO 1     | 12. VIDEO 2              | 19. AC OUTLETS (EUROPEAN AND US VERSIONS ONLY) |
| 6. VIDEO 2     | 13. MONITOR VIDEO OUTPUT | 20. AC POWER CORD CONNECTOR                    |
| 7. MONO OUT    | 14. FRONT SPEAKERS A     |  |

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# BLOCK DIAGRAM



# EXPLODED VIEW



# PARTS LIST

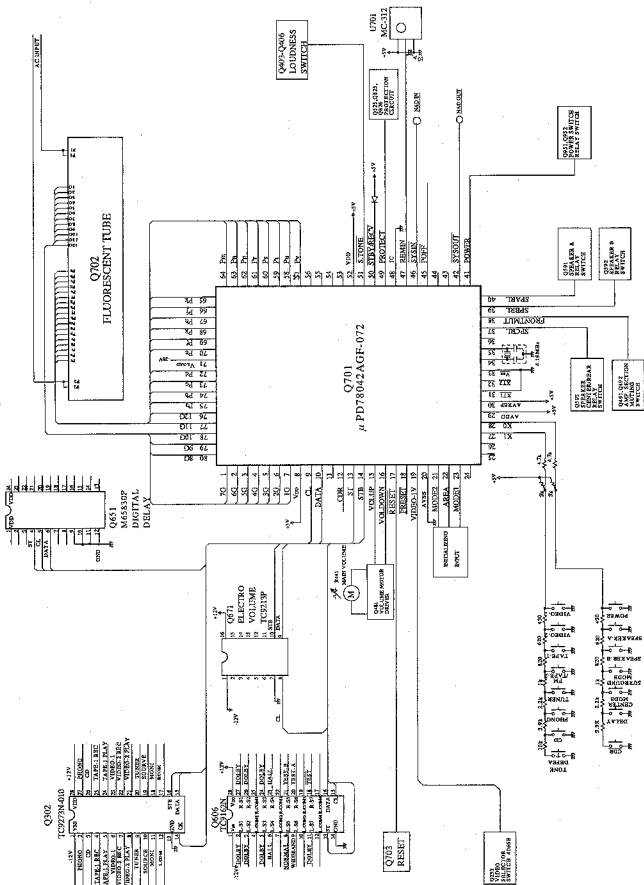
REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
1	27110872Y	Front bracket	P504	2560004-4	NANTWA-5*14	U2	1A600597-4Y	NAETC-5397-4, Power secondary supply circuit pe board ass'y <AH>
2	27100298AY	Chassis	P901	253192HT or 253194MAY	AS-LUC-6*18 or AS-LUC-6*18		1A600597-4AY	NAETC-5397-4A, Power secondary supply circuit pe board ass'y <C>
3	27102096AY	Rear panel <AH>	P2102	253092-1A	AS-CBE-2, Power supply cord <AH>	U4	1A600567-1Y	NADIS-5467-1, Display circuit pe board ass'y <AH>
4	27102097AY	Rear panel <C>	P2103	253198HT	AS-RS, Power supply cord <B>	U6	1A600569-1Y	NADIS-5467-1A, Display circuit pe board ass'y <C>
6	27102107AY	Rear panel <B>	P2104	253197HT	AS-SAA, Power supply cord <B1>		1A600569-1Y	NAPS-5469-1, Power primary supply circuit pe board ass'y <AH>
7	27100330CY	Bracket H	P901	252106T	3A-UUT-257, Primary fuse <AH>		1A600569-1AY	NAPS-5469-1A, Power primary supply circuit pe board ass'y <C>
8	27100331CY	Radator <AH>	P902	252076	31SA-SE-EAK, Primary fuse <C>		1A600569-1BY	NAPS-5469-1B, Power primary supply circuit pe board ass'y <B>
11	2710623Y	Radator <C>	P903	252075	25A-SE-EAK, Primary fuse <C>	U7	1A600570-1Y	NAETC-5470-1, Video circuit pe board ass'y
12	27141530AY	Resistor H	P921	252156Y	1A-UUT-257, Secondary fuse <AH>	U8	1A600571-1Y	NAETC-5471-1, Primary circuit pe board ass'y
13	27141654Y	Resistor H, H, 2	P922	252157Y	1A-SE-EAK, Secondary fuse <AH>	U9	1A600572-1Y	NAETC-5472-1, NAP LINK terminal pe board ass'y
14	27100730Y	Resistor	P922	252155Y	1A-UUT-237, Secondary fuse <C>	U10	1A600573-1Y	NAETC-5473-1, Headphone terminal pe board ass'y <AH>
15	27300730Y	Cord bushing, #2271	Q21, 522	252070Y	1A-SE-EAK, Secondary fuse <C>	U12	1A600575-1Y	NAETC-5475-1, Tuner terminal pe board ass'y <AH>
16	88009	Plastic rivet <C>	Q21, 522	252073 or 252074	25C3300-O or 25C3300-O	U13	1A600576-1Y	NAEAF-5476-1, Surround circuit pe board ass'y
21	27190524	HGLS-16RF, Holder	Z201483	252075 or 252076	25C3281-O, Power amplifier transistor	U14	1A600577-1Y	NAEAF-5477-1, Center and rear amplifier circuit pe board ass'y <AH>
22	27190062	Holder	Q22, 524	2202813 or 2201473	25A1943-O or 25A1943-O	U15	1A600578-1Y	NAETC-5478-1, BDP circuit pe board ass'y
31	801-433	3MSRW, SW-14(B)(C), Semi screw	Q22, 524	2201473	25A1943-O or 25A1943-O			
33	83130088	3TTB-83, Self-tapping screw	Q21, 822	2202433 or 2202503	25C3197-O or 25C3197-O			
35	82040089	4TTB-8C(B)(C), Self-tapping screw	Q21, 822	2202433 or 2202503	25C467-O or 25C467-O			
41	834430088	3TTB-83(B)(C), Self-tapping screw	Q22, 524	2202503 or 2202504	25C3181N-O or 25C3181N-O			
42	28184386ZY	Top cover	Q22, 524	2202503 or 2202504	25C467-Y or 25C467-Y			
44	28143306Y	Cushion, 4x5x50	Q22, 524	2202506 or 2202507	25C467-P, Power amplifier transistor			
45	28143311Y	Cushion, 4x10x20	Q22, 524	2202506 or 2202507	25C467-P, Power amplifier transistor			
46	28140546Y	Cushion, 4x3x10x390	Q22, 824	2202633 or 2202634	25A1694-O or 25A1694-O			
47	27170304AY	Bacon board	Q22, 824	2202633 or 2202634	25A1694-O or 25A1694-O			
51	27175305Y	Leg ass'y	Q22, 824	2202633 or 2202634	25A1694-O or 25A1694-O			
61	1A600121Y	Front panel ass'y	Q22, 824	2202634 or 2202635	25A1694-Y or 25A1694-Y			
62	18191718Y	Clear plate	R597	2202346	25A1694-P, Power amplifier transistor			
71	28325155	Knob, volume	T901	2301118Y	PT19M04BC22, Potentiometer			
72	28325004AY	Knob, tone	T901	2301118Y	NFT-1243D, Power transformer <AH>			
73	28325141Y	Knob, power	T901	2301119Y	NFT-1243P, Power transformer <C>			
91	2232021	Insulation sheet, Q221-Q224	U1	1A600596-4Y	NAAR-5396-4A, Main circuit pe board ass'y <AH>			
92	260208	Wire tie						
93	2232023	Insulation sheet, Q231-Q234						
94	28173221Y	Insulation plate <C>						

NOTE: <AH>: U.S.A., Canadian model only  
<B>: U.K. model only  
<B1>: Australian model only  
<C>: European model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK  $\Delta$  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 base group (HFT) as the original type.

# MICROPROCESSOR-CONNECTION DIAGRAM





# MICROPROCESSOR TERMINAL DESCRIPTION

Q701: # PD78042AGF-072

Pin No.	Function	I/O	Description
17	TG1G	O	Grid control output pin. On at the high level.
8	VDD		Power supply pin (+5V).
9	CL	O	Clock output pin. Connect to the terminals CK of function switch Q302, surround mode switch Q606, electro volume Q671 and digital delay Q651.
10	DATA	O	Data output pin. Connect to the terminals DATA of function switch Q302, surround mode switch Q606, electro volume Q671 and digital delay Q651.
11	PLL		Not used.
12	CDR	O	Chip enable output pin for Q459.
13	ST	O	Chip enable output pin. Connect to the terminals ST of function switch Q302, surround mode switch Q606, electro volume Q671 and digital delay Q651.
14	STB	O	Chip enable output pin for electro volume Q671.
15	VOLUP	O	Volume control output pin. Volume up
16	VOLDOWN	O	Volume control output pin. Volume down (Refer table 1.)
17	RESET	I	System reset input pin
18	PRESET		Not used.
19	VIDEO IN	O	Video input selector output pin.
20	AVSS		Ground pin of A/D converter
21	MODE 2	I	Initializing input of operation mode
22	AREA	I	Initializing input of area region
23	MODE 1	I	Initializing input of operation mode
24	K4	I	Not used.
25	K3	I	Not used.
26	K2	I	Not used.
27	K1	I	Operation key connection pin
28	K0	I	Operation key connection pin
29	AVDD		Analogous power supply of A/D converter
30	AVREF		Reference voltage input pin of A/D converter
31	XT1		Crystal connection pin for sub system clock resonator
32	XT2		Not used.
33	VSS		Ground pin
34	X1		Resonator connection terminal for main system clock
35	X2		Connect the ceramic resonator 4.19MHz.
36	TUMUT	O	Not used.
37	SPCRL	O	Relay control pin for speaker.
38	FRONT MUT	O	Muting output pin for amplifier section
39	SPBRL	O	Relay control pin for speaker.
40	SPARL	O	Relay control pin for speaker
41	PW	O	Power source control output pin
42	SYSOUT	O	System code output pin. (NAD OUT)
43	RDSDATA		Not used.
44	RDSCLK		Not used.
45	POFF	I	Power stoppage detector input pin
46	SYSIN	I	System code input pin (NAD IN)
47	REMIN	I	Remote control signal input pin
48	IC		Internal connection pin. Connect to the ground terminal.
49	PROTECT	I	Detector input pin of protection circuit. H:On
50	STBY/RCV	O	Stand-by and received indicator output pin
51	STONE/TONEB	O	Tone defeat control output pin.
52	VDD		Power supply pin (+5V)
53	STEREO		Not used.
54	SD		Not used.
55	RDS SIG		Not used.
56	RFIN		Not used.
57-70	PVPE	O	Segment output pins. On at the high level.
71	VLOAD	I	Pull-down resistor connection pin of controller and driver of FL.
72-75	PD/PA	O	Segment output pins. On at the high level.
76-80	I2G/8G	O	Grid control output pin. On at the high level.

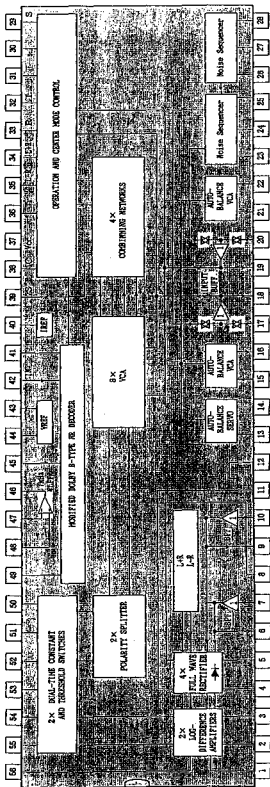
Operation	#15	#16
VOLUME UP	H	L
VOLUME DOWN	L	H
STOP	H	H

Table 1

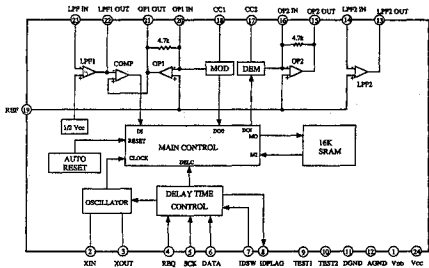
# IC BLOCK DIAGRAM AND DESCRIPTIONS

Q602: NJM2177L / M69032P (Dolby Pro Logic)

C-RECT-OUT	1	56	S-RECT-OUT
R-RECT-OUT	2	55	VLR-TC2
L-RECT-OUT	3	54	VLR-TC1
S-RECT-TC	4	53	VCS-TC1
C-RECT-TC	5	52	VCS-TC2
L-BPP-OUT	6	51	VCS-TC3
L-BPP-IN	7	50	VLR-TC3
L-RECT-TC	8	49	NR-TC
R-BPP-OUT	9	48	LPP-NINV-IN LPP non-inversion input
R-BPP-IN	10	47	LPP-INV-IN LPP inversion input
R-RECT-TC	11	46	LPP-OUT LPP output
QND	12	45	NR-WT
AB-GATE	13	44	VREF
AB-HOLD-TC	14	43	VREF
L-AB-IN	15	42	NR-IN NR input
Auto balance L ch input	16	41	NR-VCF
L-AB-OUT	17	40	IREF
Auto balance L ch output	18	39	S'-OUT Surround output before delay processing
L-IN	19	38	C-OUT Center channel output
Left channel input	20	37	Vcc
L-INBUF-OUT	21	36	CENTER-MODE
R ch input/Buffer output	22	35	L-R-OUT Subsector output (L-R)
R-IN	23	34	L+R-OUT Adder output (L+R)
Right channel input	24	33	R-OUT Right channel output
R-INBUF-OUT	25	32	L-OUT Left channel output
R ch input/Buffer output	26	31	MODE-CNT 32/24 channels switch
L-AB-OUT	27	30	CENTER-CNT Center channel ON/OFF switch
Auto balance R ch output	28	29	S-OUT Surround output

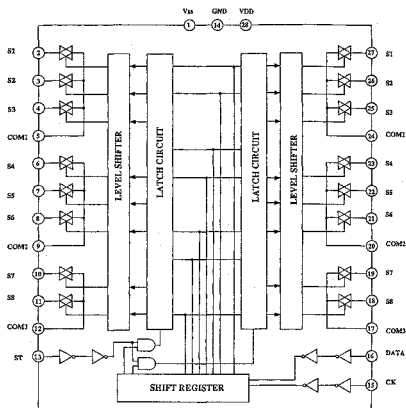


G651: NJU9701D / M65830P (Digital Delay)

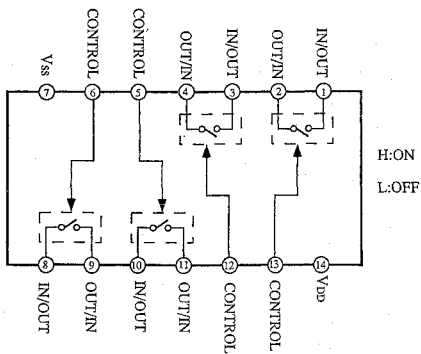


Pin No.	Mark	Function	I/O	Description
1	VDD	Digital power supply	-	
2	XIN	Resonator input	I	Connect the 2MHz ceramic resonator
3	XOUT	Resonator output	O	
4	REQ	Request	I	Data request input
5	SCK	Shift lock	I	Serial data shift clock input
6	DATA	Data	I	Serial data input
7	IDSW	ID switch	I	External input of 4th bit of ID code
8	IDFLAG	ID flag	O	Data input confirmation pulse and serial data output
9	TEST1	Test 1	-	Normal mode when low level
10	TEST2	Test 2	-	Normal mode when low level
11	D.GND	Digital ground	-	
12	A.GND	Analog ground	-	
13	LFP2 OUT	LFP filter 2 output	O	
14	LFP2 IN	LFP filter 2 input	I	
15	OP2 OUT	Operation amp. 2 output	O	
16	OP2 IN	Operation amp. 2 input	I	
17	CC2	Current control 2	-	Demodulation ADM control
18	CC1	Current control 1	-	Modulation ADM control
19	REF	Reference	-	Analog reference voltage=1/2VCC
20	OP1 IN	Operation amp. 1 input	I	
21	OP1 OUT	Operation amp. 1 output	O	
22	LFP1 OUT	LFP filter 1 output	O	
23	LFP1 IN	LFP filter 1 input	I	
24	VCC	Analog power supply	-	

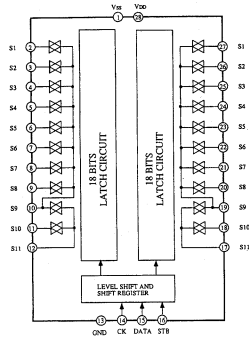
**Q606: TC9162N / NJU7311L (Function Switch)**



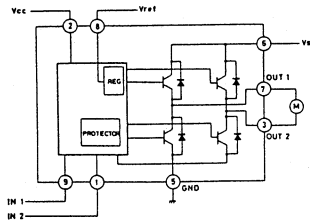
**Q253: 4066B (Analog Switch)**



Q302: TC9273N-010 (Function Switch)



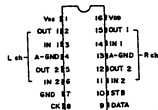
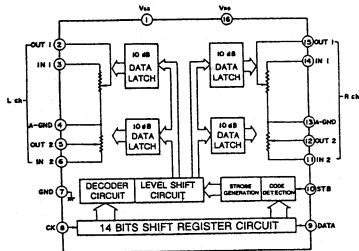
Q481: TA7291S (Volume driver)



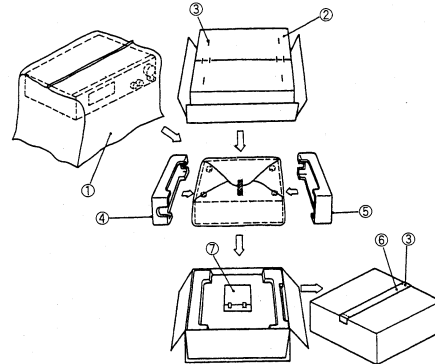
INPUT		OUTPUT		MODE
IN 1	IN 2	OUT 1	OUT 2	
0	0	H	H	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

CCW: Counter clockwise direction  
 CW: Clockwise direction

Q671: TC9213P (Electro Volume)



## PACKING VIEW

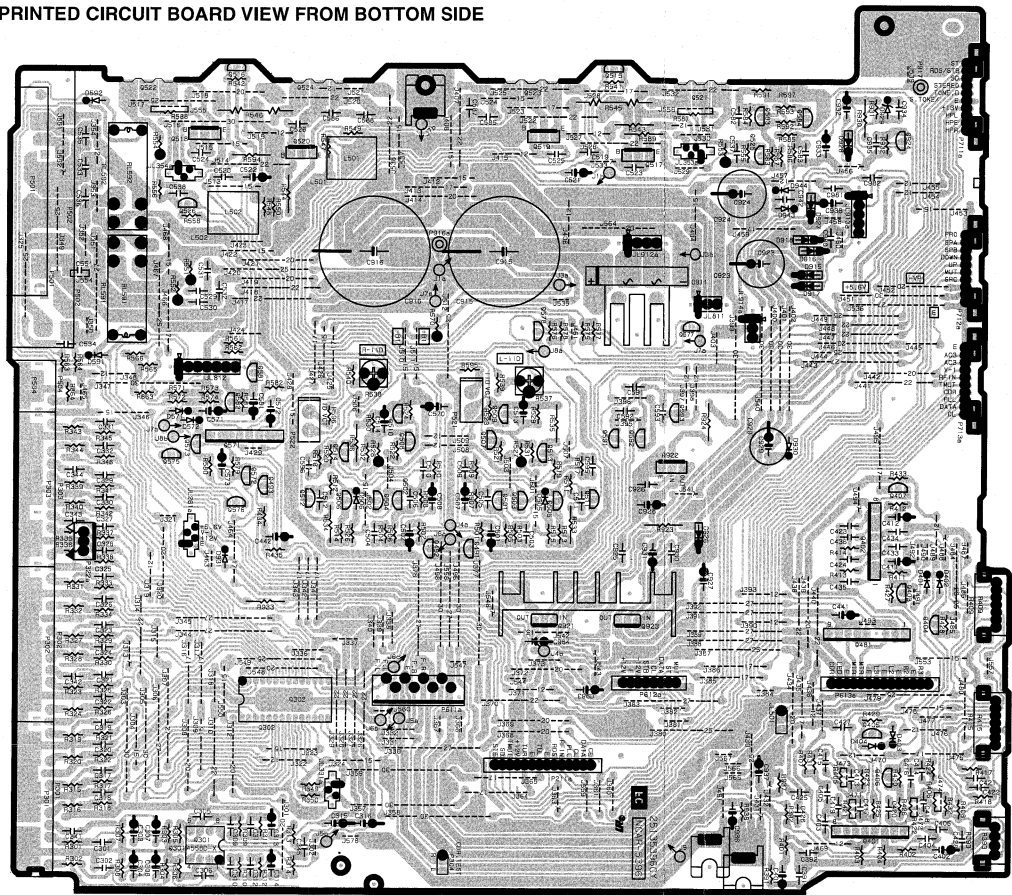


### PACKING PARTS LIST

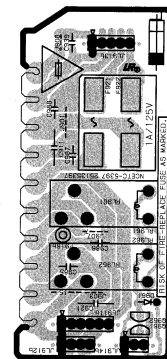
REF.NO.	PART NO.	DESCRIPTION
1	2910034-1Y	Styren bag, 850x650
2	29052900AY	Carton Box
3	282321 or 282301	Staple
4	29091694Y	Pad, L
5	29091695Y	Pad, R
6	29110071 or 29110098	PP tape, W=50
7	Accessory bag ass'y	
	29100097-1Y	Styren bag, 350x250
	24140300Y	RC-300S, Remote control transmitter
	3010194	UM-3, Two batteries
	29342165Y	Instruction manual, U6
	2010317Y	Remote control cable, NAD LINK
	29355233Y	Instruction sheet <AH>
	29365043Y	Warranty card <B1>
	29360778Y	Label, Flash <AH>
	29361573Y	Label, PE-LD <C>
	29361759Y	Label, UL/C-UL <AH>
	29361573Y	Label, PE-LD <C>

NOTE: <AH>: U.S.A., Canadian model only  
 <B>: U.K. model only  
 <B1>: Australian model only  
 <C>: European model only

PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



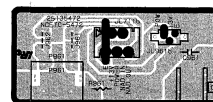
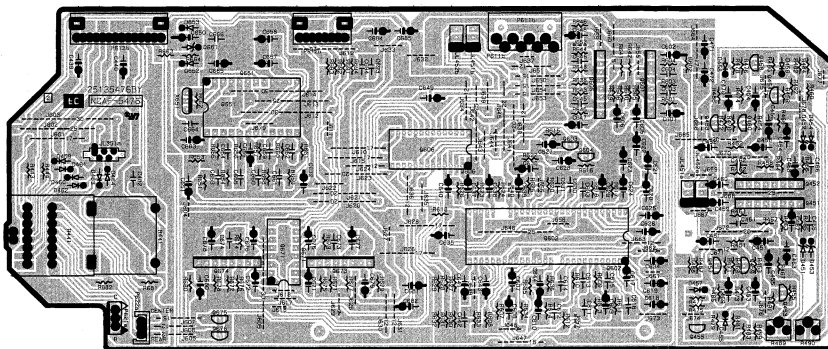
MAIN CIRCUIT PC BOARD (NAAR-5396)



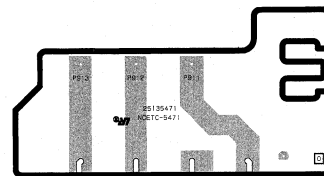
POWER SECONDARY SUPPLY CIRCUIT  
PC BOARD (NAETC-5397)

**PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE**

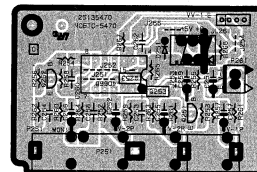
**SURROUND CIRCUIT PC BOARD (NAAF-5476)**



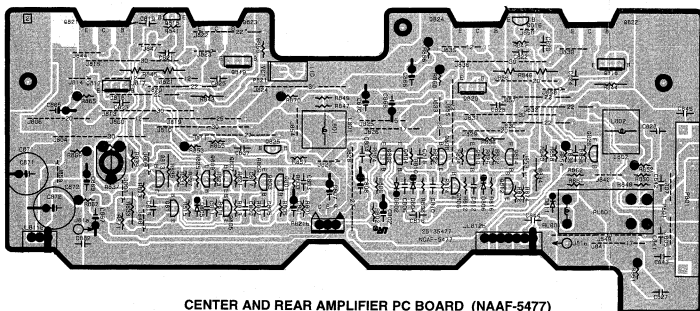
**NADLINK TERMINAL PC BOARD  
(NAETC-5472)**



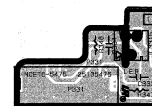
**PRIMARY CIRCUIT PC BOARD  
(NAETC-5471)**



**VIDEO CIRCUIT PC BOARD  
(NAETC-5470)**



**CENTER AND REAR AMPLIFIER PC BOARD (NAAF-5477)**

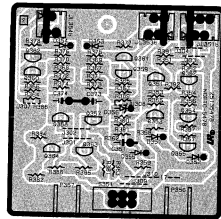
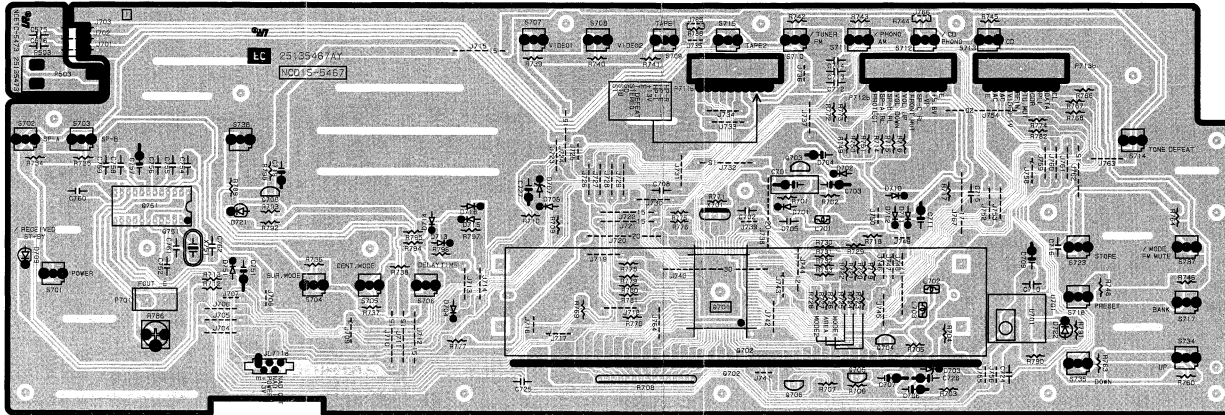


**TUNER TERMINAL CIRCUIT PC BOARD  
(NAETC-5475)**

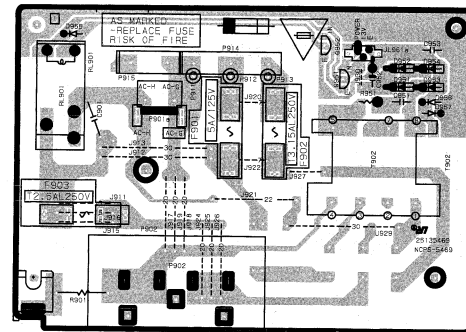
**PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE**

**HEADPHONE TERMINAL PC BOARD  
(NAETC-5473)**

**DISPLAY CIRCUIT PC BOARD (NADIS-5467)**



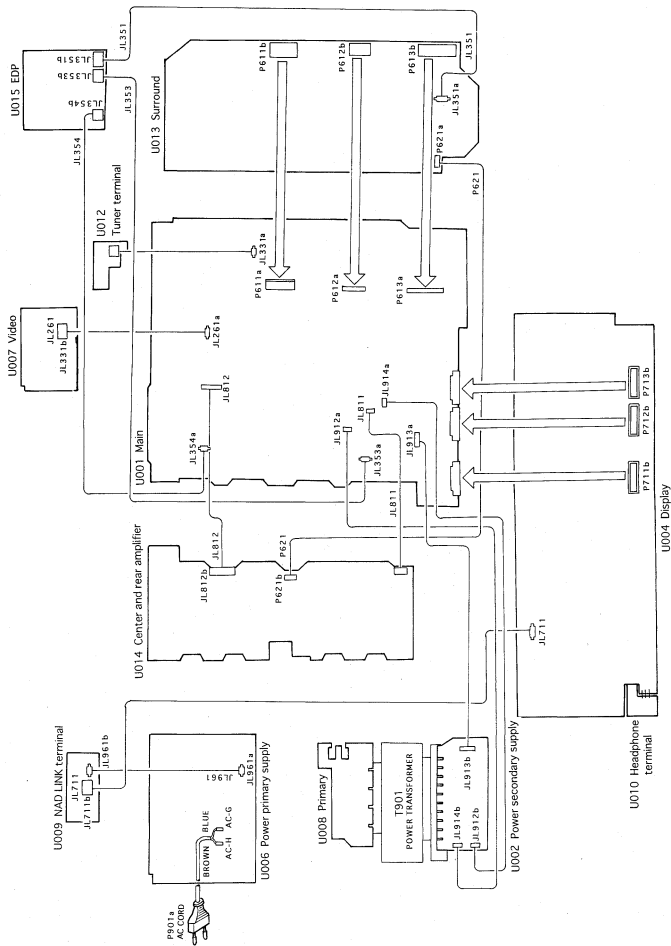
**EDP CIRCUIT PC BOARD (NAETC-5478)**



**POWER PRIMARY SUPPLY CIRCUIT PC BOARD  
(NAPS-5469)**



# WIRING DIAGRAM



# PRINTED CIRCUIT BOARD-PARTS LIST

## MAIN CIRCUIT PC BOARD (NAAR-5396-4/4A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301	222502	NJM4558D-X
Q302	22240881	TC9273N-010
Q401, Q402	22240247 or 22240293	BA15218N or NJM4558L-D
Q481	22240239	TA7291S
Q571	22240752	NJM4556L
Q921	22278012SNEC	MPC78M12AHF
Q922	22279012S	79M12HF
Q923	22278056JRC	NJM78M56FA
	Transistors	
Q403-Q406	2211945	2SK246-GR
Q407	2213510	DTA114ES
Q491, Q492	2213631 or 2213632	RN1241-A or RN1241-B
Q493	2213510	DTA114ES
Q501-Q504	2211733 or 2211732	2SC1845-E or 2SC1845-F
Q505, Q506	2213354	2SA933S-R
Q507, Q508	2211733 or 2211732	2SC1845-E or 2SC1845-F
Q509, Q510	2213284	2SC1740S-R
Q511, Q512	2211353 or 2211354	2SA949-O or 2SA949-Y
Q513, Q514	2211633 or 2211634	2SC2229-O or 2SC2229-Y
Q515, Q516	2213284	2SC1740S-R
Q517, Q518	2203010 or 2202034	2SC5171 or 2SD1763A-D
Q519, Q520	2203000 or 2202024	2SA1930 or 2SB1186A-D
Q525, Q526	2211633 or 2211634	2SC2229-O or 2SC2229-Y
Q572	221282	DTC144ES
Q573	2211164	2SC2120-Y
Q575-Q576	2213631 or 2213632	RN1241-A or RN1241-B
Q581, Q582	2211733 or 2211732	2SC1845-E or 2SC1845-F
Q583	2211792 or 2211793	2SA992-F or 2SA992-E
Q584	2213284	2SC1740S-R
Q924	2211455	2SA1015-GR
Q591-Q593	2213640	DTC1231S
	Diodes	
D401-Q404	223163	1SS133
D505, D506	223163	1SS133
D571, D572	223163	1SS133
D591, D592	223163	1SS133
D911	2238003R	RBV602
D915-D918	22380032	1SR139-100
D926-D928	22380032	1SR139-100
D929	224473304	MTZ133D
D930, D931	223163	1SS133
	Coils	
L501, L502	231176S	S-13C
	Capacitors	
C303, C304	354741009	10 $\mu$ F, 16V, Elect.
C307, C308	354721019	100 $\mu$ F, 6.3V, Elect.
C309, C310	374726224	6200pF, $\pm$ 5%, 50V, Plastic
C311, C312	374721824	1800pF, $\pm$ 5%, 50V, Plastic
C313-C316	354741009	10 $\mu$ F, 16V, Elect.
C391, C392	374721015	100pF, $\pm$ 10%, 50V, Plastic
C401, C402	354741009	10 $\mu$ F, 16V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
C411, C412	354741009	10 $\mu$ F, 16V, Elect.
C427, C428	374721534	0.015 $\mu$ F, $\pm$ 5%, 50V, Plastic
C433, C434	374721534	0.015 $\mu$ F, $\pm$ 5%, 50V, Plastic
C435, C436	374721015	100pF, $\pm$ 10%, 50V, Plastic
C441	354721019	100 $\mu$ F, 6.3V, Elect.
C442	354780109	1 $\mu$ F, 50V, Elect.
C501, C502	354741009	10 $\mu$ F, 16V, Elect.
C503, C504	374721015	100pF, $\pm$ 10%, 50V, Plastic
C507, C508	354724719	470 $\mu$ F, 6.3V, Elect.
C513, C514	354722219	220 $\mu$ F, 6.3V, Elect.
C521, C522	354772209	22 $\mu$ F, 6.3V, Elect.
C529-C532	374721044	0.01 $\mu$ F, $\pm$ 5%, 50V, Plastic
C570	354791019	100 $\mu$ F, 100V, Elect.
C571-C573	354741009 or 355741009	10 $\mu$ F, 16V, Elect. 10 $\mu$ F, 16V, Elect.
C581	354721019	100 $\mu$ F, 3V, Elect.
C915, C916	3504286	12000 $\mu$ F, 6.3V, Elect.
C923	354761029	1000 $\mu$ F, 35V, Elect.
C924	354763319	330 $\mu$ F, 35V, Elect.
C927, C928	354741009	10 $\mu$ F, 16V, Elect.
C931	354741009	10 $\mu$ F, 16V, Elect.
C932, C933	354781019	100 $\mu$ F, 50V, Elect.
C936, C937	354741009	10 $\mu$ F, 16V, Elect.
C938	354781009	10 $\mu$ F, 50V, Elect.
C983, C984	354741009	10 $\mu$ F, 16V, Elect.
	Resistors	
R393	5104288	N11RLC250KWT20Z, Balance
R409, R415	5104356	N14RLC100KWT20Z, Tone
R527, R528	443524734	47 kohm $\pm$ 5%, 1/2W, Metal oxide
R535, R536	4500095	100 ohm $\pm$ 5%, 1/4W, Metal
R537, R538	5210259	N06HR 2KBC, Trim
R543, R544	4500107	330 ohm $\pm$ 5%, 1/4W, Metal
R545, R546	4000132	RCG55 0.22 OHMK, Metal plate
R551, R552	453630824	8.2 ohm $\pm$ 5%, 1W, Metal
R553, R554	443523924	3.9 kohm $\pm$ 5%, 1/2W, Metal
R570	443522204	22 ohm $\pm$ 5%, 1/2W, Metal oxide
R587, R588	4500001	BPR2FK 0.10 ohm, Metal plate
R923	4500055	2.2 ohm $\pm$ 5%, 1/4W, Metal
R924	4500069	8.2 ohm $\pm$ 5%, 1/4W, Metal
R930	4500079	22 ohm $\pm$ 5%, 1/4W, Metal
R933	4500087	47 ohm $\pm$ 5%, 1/4W, Metal
	Relays	
RL591, RL592	25065339	NRL-2PSA-DC24-046
	Pin Jacks	
P301-P303	25045458Y or 25045300Y	NPJ-6PDBL279 or NPJ-6PDBL159
P504	25045459Y or 25045302	NPJ-1PDBL280 or NPJ-1PDBL161
	Plugs	
P304	25055405	NPLG-3P387
P611a	25055678	NPLG-8P634
P612a	25055649	NPLG-8P605
P613a	25055652	NPLG-14P608
	Sockets	
P711a-P713a	25051046	NSCT-10P833
	Wire holders	
JL261a	25051088	NSCT-4P875
JL331a	25051087	NSCT-3P874
JL353a	25051088	NSCT-4P875
JL354a	25051087	NSCT-3P874
JL811a	25051107	NSCT-3P894
JL812a	25051111	NSCT-7P898
JL912a	25051108	NSCT-4P895

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
JL913a	25051109	NSCT-5P896			
JL914a	25051107	NSCT-3P894	L701-L703	233454K220	NCH-1452 220K
	<b>Terminals</b>				
P501	25060125 or 25060125	NTM-8PDMN058 or NTM-8PDMN058	X701	Ceramic lock 3010163	CST4.19MGW
P521,P522	25060062	2P-5, WW terminal			
	<b>Crimp ass'y</b>				
P916	2069915360ULY				
	<b>Radiators</b>				
D911a	27160227	RAD-076	C701	3000075	0.047F, 5.5V, Super
Q921a	27160209	RAD-67	C702	375524744	0.47 $\mu$ F $\pm$ 5%, 50V, Plastic
	838430107	3TTB+10S(BC), Self-tapping screw	C703	354721019	100 $\mu$ F, 6.3V, Elect.
	27141059Y	Plate, GND	C704	355780109	1 $\mu$ F, 50V, Elect.
			C706	355780109	1 $\mu$ F, 50V, Elect.
			C707	355780109	1 $\mu$ F, 50V, Elect.
			C709	355721019	100 $\mu$ F, 6.3V, Elect.
			C711	355721019	100 $\mu$ F, 6.3V, Elect.
			C726,C727	355741009	10 $\mu$ F, 16V, Elect.
<b>POWER SECONDARY SUPPLY CIRCUIT PC BOARD</b>					
(NAETC-5397-4/4A)					
CIRCUIT NO.	PAR NO.	DESCRIPTION			
	<b>Transistors</b>				
Q961	221282	DTC144ES	S701-S706	25035652	NPS-111-S604
Q962	2213640	DTC123JS	S708-S712	25035652	NPS-111-S604
			S714,S716	25035652	NPS-111-S604
			S738	25035652	NPS-111-S604
	<b>Diode</b>				
D961	223163	ISS133	P711b-P713b	25055659	NPLG-10P615
	<b>Capacitors</b>				
C987,C988	374731044	0.1 $\mu$ F, 100V, Plastic	JL711a	25051089	NSCT-5P876
	<b>Relays</b>				
RL961,RL962	25065503	NRL-1P10A-DC24-091	Q702a	27190937AY	FL
	<b>Fuse holders</b>		<b>POWER PRIMARY SUPPLY PC BOARD (NAPS-5469-1/1A)</b>		
F921a,F922a	25050065	YSH403T	CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Wire holders</b>				
JL912b	25051107	NSCT-4P895			
JL913b	25051109	NSCT-5P896			
JL914b	25051107	NSCT-3P894			
A961	29360398	LABEL(FUSE) <C>			
	<b>Transistors</b>				
Q951	221282	DTC144ES			
Q952	2213650	DTD113ZS			
	<b>Diodes</b>				
D951-D954	22380032	1SR139-100			
D955	223163	ISS133			
	<b>Transformers</b>				
T902	2300670A	NPT-1111D <AH>			
T902	2300671AY	NPT-1111P <C><B>			
	<b>Capacitor</b>				
C901	3500191	DE7150F-103M AC400V/125V			
C952	354742219	220 $\mu$ F, 16V, Elect.			
	<b>Resistor</b>				
R951	453530824	8.2 ohm, 1/2W, Metal			
	<b>Plug</b>				
P901a	25055675	NPLG-2P631 <AH>			
	<b>Socket</b>				
P902	25051124	NSCT-6P911 <AH>			
P902	25051125	NSCT-4P912 <C>			
	<b>Relay</b>				
RL901	25065483	NRL-1P5A DC12-084			
	<b>Fuse holders</b>				
F901a	25050065	YSH403T <AH>			
F902a,F903a	25050065	YSH403T <C>			
F902a	25050065	YSH403T <B>			
<b>DISPLAY CIRCUIT PC BOARD (NADIS-5467-1/1A)</b>					
CIRCUIT NO.	PART NO.	DESCRIPTION			
	<b>Remote sensor</b>				
U701	24130010	HC-312			
	<b>FL tube</b>				
Q702	212143	FIP13QM8			
	<b>ICs</b>				
Q701	22240950	MPD78042AGF-072			
	<b>Transistors</b>				
Q703	221282	DTC144ES			
Q704-Q706	2213284	2SC1740S-R			
Q708	221282	DTC144ES			
	<b>Diodes</b>				
D701,Q702	223163	ISS133			
D703	224470913	MTZJ9.1C			
D704	223163	ISS133			
D707	224470562	MTZJ5.6B			
D708	223163	ISS133			
D709	225292D	SEL4310G-D			
D710-D716	223163	ISS133			
D721	225291D	SEL4910D-D			

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
	Wire holder		Q606	2240795 or	NIU7311L or
JL961a	25051087	NSCT-3P874		2240398	TC9162N
	Cover		Q651	22240687 or	NIU9701D or
	27301216	SB-1925A, Capacitor <C>		22240686	M65830P
	Terminal		Q671	22240266	TC9213P
	25060092	NTM-1S33 <C>	Q673,Q674	22240247 or	BA15218N or
				22240293	NJM4558L-D
				Transistors	
VIDEO CIRCUIT PC BOARD (NAETC-5470-1)			Q453,Q454	2212524	2SK363-GR
CIRCUIT NO.	PART NO.	DESCRIPTION	Q455,Q456	2213284	2SC1740S-R
			Q457,Q458	2213354	2SA933S-R
			Q459,Q460	2213631	RN1241-A
			Q603,Q604	2213631	RN1241-A
Q251,Q252	2213284 or	2SC1740S-R or	Q675,Q676	2213631	RN1241-A
	2212115	2SC2458-GR			
Q253	222840661	4066B			
				Diodes	
			D451-D454	224470332	MTZJ3.3B
D251	223163	1SS133	D455-D464	223163	1SS133
			D651	224470562	MTZJ5.6B
			D652,Q653	223163	1SS133
				Resonator	
C251,C252	354721019	100 $\mu$ F, 6.3V, Elect.	X651	3010217	CS72.04MG040, Ceramic
C255,C256	354724719	470 $\mu$ F, 6.3V, Elect.			
C257,C259	354721019	100 $\mu$ F, 6.3V, Elect.			
	Terminal		C432,C440	354741009	10 $\mu$ F, 16V, Elect.
P251	25045339Y	NPI-4PDYIE190	C451,C452	354744709	47 $\mu$ F, 16V, Elect.
	Wire trap		C453-C458	354741019	100 $\mu$ F, 16V, Elect.
JL261	25055625	NPLG-4P587	C459,C460	354741009	10 $\mu$ F, 16V, Elect.
			C461,C462	374721015	100pF, $\pm$ 10%, 50V, Plastic
NAD LINK TERMINAL PC BOARD (NAETC-5472-1)			C463,C464	354741019	100 $\mu$ F, 16V, Elect.
CIRCUIT NO.	PART NO.	DESCRIPTION	C465,C466	374721015	100pF, $\pm$ 10%, 50V, Plastic
			C467,C468	354741009	10 $\mu$ F, 16V, Elect.
			C469,C470	354780479	4.7 $\mu$ F, 50V, Elect.
	Jack		C471,C472	354741009	10 $\mu$ F, 16V, Elect.
P961	25045395	NPI-2PDYIE221	C601,C602	354780229	2.2 $\mu$ F, 50V, Elect.
	Wire trap		C605,C606	354741009	10 $\mu$ F, 16V, Elect.
JL711b	25055626	NPLG-5P588	C607-C610	354781099	0.1 $\mu$ F, 50V, Elect.
	Wire holder		C613,C614	374724734	0.047 $\mu$ F, $\pm$ 5%, 50V, Plastic
JL961b	25051087	NSCT-3P874	C615,C616	374722234	0.022 $\mu$ F, $\pm$ 5%, 50V, Plastic
			C617-C620	354781099	0.1 $\mu$ F, 50V, Elect.
HEADPHONE TERMINAL PC BOARD (NAETC-5473-1)			C621,C622	354780479	4.7 $\mu$ F, 50V, Elect.
CIRCUIT NO.	PART NO.	DESCRIPTION	C623-C627	354782299	0.22 $\mu$ F, 50V, Elect.
			C628	354741009	10 $\mu$ F, 16V, Elect.
	Jack		C629	354786899	0.68 $\mu$ F, 50V, Elect.
P503	25045255	YKB21-5009	C630	374724734	0.047 $\mu$ F, $\pm$ 5%, 50V, Plastic
			C631	374725624	5600pF, $\pm$ 5%, 50V, Plastic
TUNER TERMINAL PC BOARD (NAETC-5475-1/1A)			C632,C634	354780229	2.2 $\mu$ F, 50V, Elect.
CIRCUIT NO.	PART NO.	DESCRIPTION	C635	354741019	100 $\mu$ F, 16V, Elect.
			C636-C641	354741009	10 $\mu$ F, 16V, Elect.
	Jacks		C642	374724724	4700pF, $\pm$ 5%, 50V, Plastic
P331	25045463 or	NPI-2PDWH284 or	C643	354741009	10 $\mu$ F, 16V, Elect.
	25045360	NPI-2PDWH206	C644	391141007	10 $\mu$ F, 16V, Elect.
	Wire trap		C647-C650	354741009	10 $\mu$ F, 16V, Elect.
JL331b	25055624	NPLG-3P586	C651	354780229	2.2 $\mu$ F, 50V, Elect.
			C653	374723924	3900pF, $\pm$ 5%, 50V, Plastic
			C655	374726834	0.068 $\mu$ F, $\pm$ 5%, 50V, Plastic
SURROUND CIRCUIT PC BOARD (NAAF-5476-1)			C656	354744709	47 $\mu$ F, 16V, Elect.
CIRCUIT NO.	PART NO.	DESCRIPTION	C657,C658	354781099	0.1 $\mu$ F, 50V, Elect.
			C659	374726834	0.068 $\mu$ F, $\pm$ 5%, 50V, Plastic
	ICs		C660	374725624	5600pF, $\pm$ 5%, 50V, Plastic
Q451,Q452	22240250	NJM2068L-D	C661	374724724	4700pF, $\pm$ 5%, 50V, Plastic
Q601	22240247 or	BA15218N or	C663,C665	354721019	100 $\mu$ F, 6.3V, Elect.
	22240293	NJM4558L-D	C666	375524744	0.47 $\mu$ F, $\pm$ 5%, 50V, Plastic
Q602	22240683 or	NJM2177L or	C671,C672	354780229	2.2 $\mu$ F, 50V, Elect.
	22240692	M69032P	C675,C676	354741009	10 $\mu$ F, 16V, Elect.
Q605	22240247 or	BA15218N or	C677,C678	354780229	2.2 $\mu$ F, 50V, Elect.
	22240293	NJM4558L-D	C679-C682	354741009	10 $\mu$ F, 16V, Elect.
			C684,C685	354741009	10 $\mu$ F, 16V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R441	5104347	N16RQL100KB725F
R489,R490	5210292	N06HR 10KBE, Trim
	Sockets	
P611b	25051127	NSCT-8P914
P612b	25050983Y	NSCT-8P770
P613b	25050986Y	NSCT-14P773
	Socket ass'y	
P621a	2000802AUL	NSAS-6P758
	Plug	
P622a	25055405	NPLG-3P387
	Wire holder	
JL351a	25051089	NSCT-5P876

CENTER AND REAR AMPLIFIER CIRCUIT PC BOARD  
(NAAF-5477-1/1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q801-Q804	2211733 or 2211732	2SC1845-E or 2SC1845-F
Q805,Q806	2213354	2SA933S-R
Q807,Q808	2211733 or 2211732	2SC1845-E or 2SC1845-F
Q809,Q810	2213284	2SC1740S-R
Q811,Q812	2211353	2SA949-O
Q813,Q814	2211633	2SC2229-O
Q815,Q816	2213284	2SC1740S-R
Q817,Q818	2203010	2SC5171
Q819,Q820	2203000	2SA1930
Q825,Q826	2211733 or 2211732	2SC1845-E or 2SC1845-F
	Diodes	
D805,D806	223163	1SS133
D811	223163	1SS133
	Coils	
L801,L802	2311765	S-1.3C
	Capacitors	
C801,C802	354741009	10 $\mu$ F, 16V, Elect.
C807	354742219	220 $\mu$ F, 16V, Elect.
C808	354744709	47 $\mu$ F, 16V, Elect.
C821,C822	374724734	0.047 $\mu$ F, $\pm 5\%$ , 50V, Plastic
C827,C828	374724734	0.047 $\mu$ F, $\pm 5\%$ , 50V, Plastic
C865-C870	354700109	1 $\mu$ F, 160V, Elect.
C871,C872	354774709	47 $\mu$ F, 63V, Elect.
	Resistors	
R826	443524734	47 k ohm, 1/2W, Metal oxide
R833,R834	4500081	27 ohm, 1/4W, Metal
R835,R836	4500095	100 ohm, 1/4W, Metal
R837	5215043	2KBC
R843,R844	4500107	330 ohm, 1/4W, Metal
R845	4000132	0.22 OHMK, Metal plate
R846	4000131	0.22 OHMK, Metal plate
R851,R852	453630824	8.2 ohm, 1W, Metal
R853,R854	443523924	3.9 kohm, 1/2W, Metal oxide
R865,R866	453530224	2.2 ohm, 1/2W, Metal
R867-R870	443522204	22 ohm, 1/2W, Metal oxide
	Plug	
P621b	25055234	NPLG-3P218
	Relay	
RL801	25065485	NRL-2P2A-DC24-086

CIRCUIT NO.	PART NO.	DESCRIPTION
	Wire trap	
JL811b	25050280	NSCT-3P108
JL812b	25050284	NSCT-7P112
	Terminal	
P801	25060234	NTM-6PDM1.56
P821	25060062	2P-5

EDP CRUCUIT PC BOARD (NAETC-5478-1)  
CIRCUIT NO. PART NO. DESCRIPTION

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q351	2213284	2SC1740S-R
Q352	2213354	2SA933S-R
Q353	2213284	2SC1740S-R
Q354,Q355	2213354	2SA933S-R
Q357,Q358	2213284	2SC1740S-R
Q359-Q362	2213354	2SA933S-R
Q363,Q364	2213284	2SC1740S-R
	Diodes	
D351-D355	223163	1SS133
D356	224470512	MTZJ5.1B
	Capacitors	
C351	354741009	10 $\mu$ F, 16V, Elect.
C373,C374	354741019	100 $\mu$ F, 16V, Elect.
	Slide switch	
S351	25065286Y	NSS-22112
	Screw trim	
P356,P357	25065425	M3
	Wire trap	
JL351b	25055626	NPLG-5P588
JL353b	25055625	NPLG-4P587
JL354b	25055624	NPLG-3P586

CAUTION: Replacement for transistor of mark "\*", if necessary, must be made from the same beta group (HFE) as the original type.

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

# ADJUSTMENT PROCEDURES

## Preparation

### 1. Outputs

Connect the non-inductive type resistors of 8 ohms to the speaker terminals A unless otherwise noted.

### 2. Standard Knob Positions

Master Volume Control .....	Maximum
Bass Control .....	Center
Treble Control .....	Center
Balance Control .....	Center
Input Selector.....	CD
Tape 2 Monitor .....	Off
Muting .....	Off
Tone Defeat.....	Off
Speaker A.....	On
Speaker B.....	Off
Center Mode.....	Wide Band
Delay Time.....	20 ms
Center Level .....	0 dB
Rear Level .....	0 dB
Surround Mode .....	Off
CDR .....	Off
Soft Clipping .....	Off

## IDLING CURRENT ADJUSTMENT

1. Connect the DC voltmeter to the terminals P521, P522 (VCT and IID) on the main circuit pc board, and P821 on the center and rear amp. pc board.

2. Adjust the trim resistors R537, R538 and R837 so that the indicator of voltmeter becomes  $3.25\text{mV} \pm 0.25\text{mV}$ .

NOTE: Adjust after switching on for 5 minutes. Set Volume knob to the minimum position.

## CDR ADJUSTMENT

1. Set the volume to minimum position.

2. Connect the Dual Channel Voltmeter to test point (P304) on main pc board.

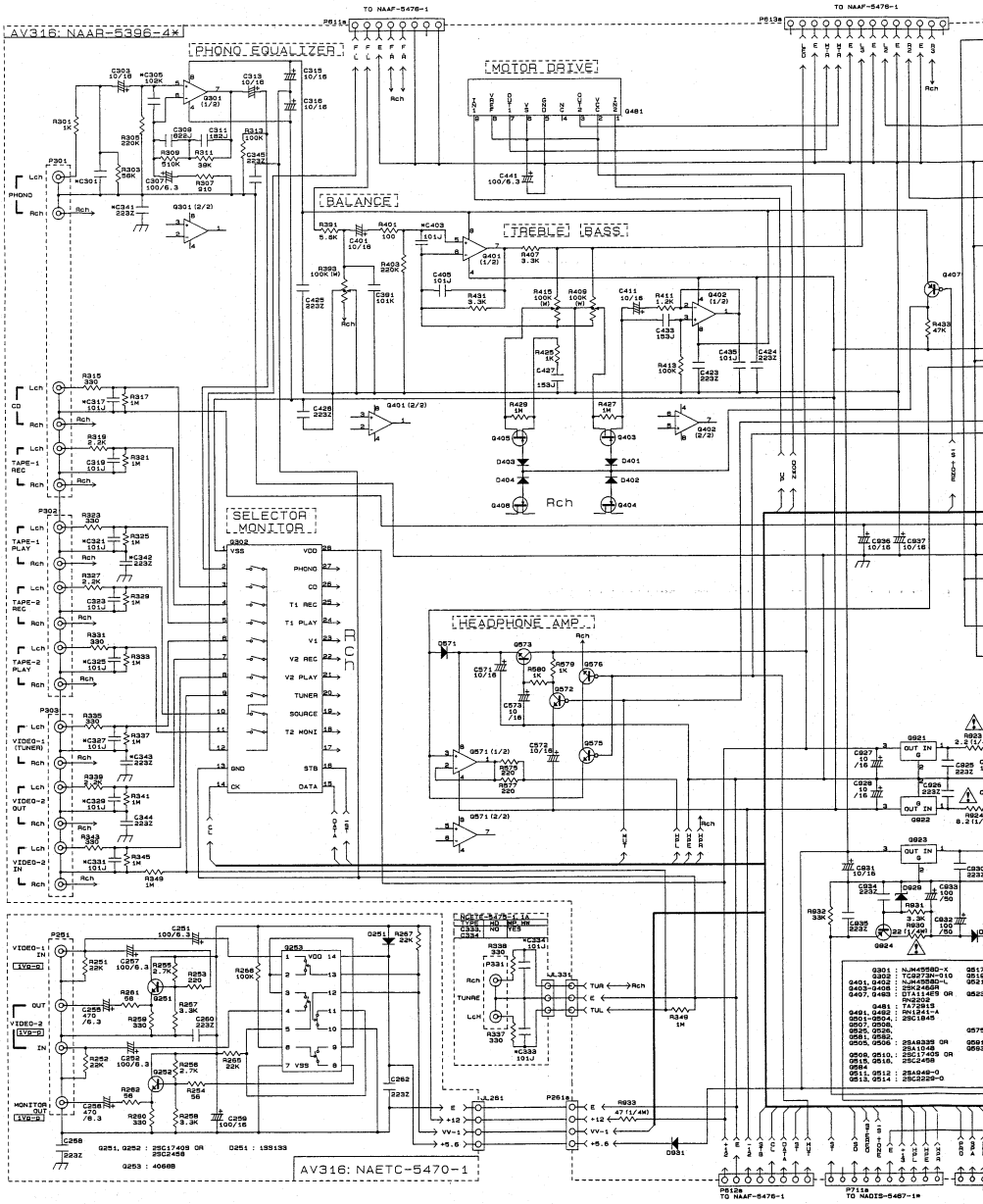
3. Set the function to "CD" position. Input the signal (1kHz-15dBV).

4. Turn "CDR" on, adjust the output level at "L ch" with "R489 on surround pc board" until it reaches "-11dBV".

5. Adjust the output level (both channel) with "R490" to "-11dBV  $\pm$  1.0dBV" on test point (P304) slowly & Precisely.

(The difference between "L ch" and "R ch" should be  $0 \pm 0.5\text{dB}$ .)

SCHEMATIC DIAGRAM

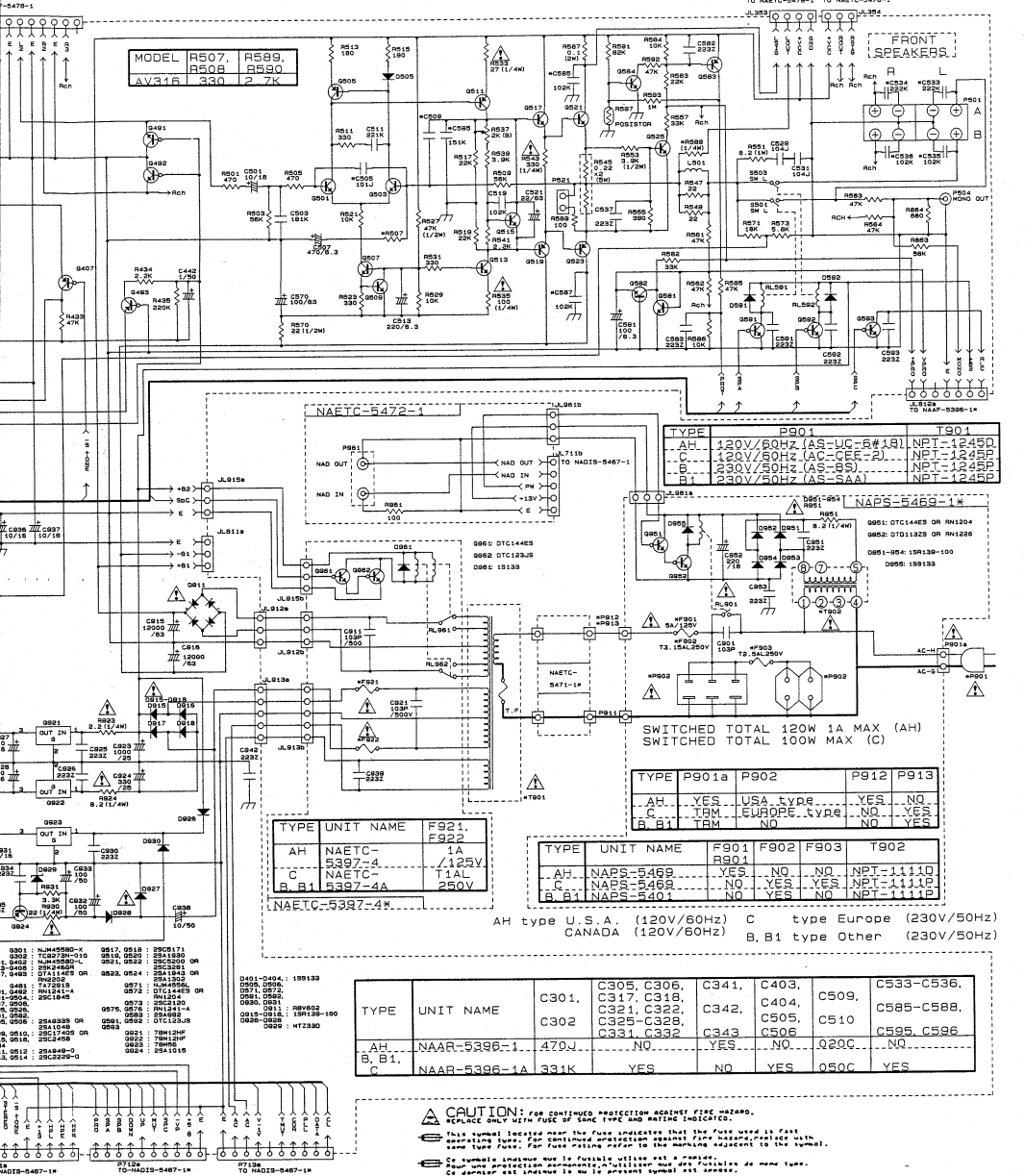


0301	NH45590-X	0517	0518
0401	0402	NH45590-D10	0519
0403	0404	05C2657-A	0520
0407	0408	DT1145-OR	0521
0501	0502	05C1945	0522
0503	0504	05C1945	0523
0505	0506	05C1945	0524
0508	0509	05C1945	0525
0510	0511	05C1945	0526
0512	0513	05C1945	0527
0514	0515	05C1945	0528
0517	0518	05C1945	0529
0519	0520	05C1945	0530
0521	0522	05C1945	0531
0523	0524	05C1945	0532
0525	0526	05C1945	0533
0527	0528	05C1945	0534
0529	0530	05C1945	0535
0531	0532	05C1945	0536
0533	0534	05C1945	0537
0535	0536	05C1945	0538
0537	0538	05C1945	0539
0539	0540	05C1945	0540

AV316: NAETC-5470-1

TO NAEP-5476-1 TO NAEP-5476-1 TO NAEP-5476-1

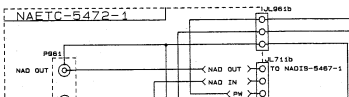
A  
B  
C  
D  
E  
F



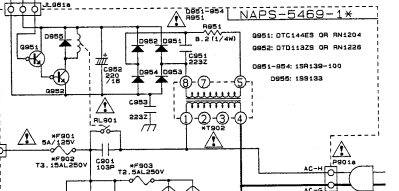
MODEL R507, R589, R508, R590  
AV31A 330 2 7K

TO NAETC-5478-1 TO NAETC-5478-1

FRONT SPEAKERS



TYPE	P901	T901
AH	120V/60HZ (AS-UC-6#18)	NPT-1245D
B	120V/60HZ (AC-CEE-2)	NPT-1245P
C	230V/50HZ (AS-SS)	NPT-1245B
B	230V/50HZ (AS-SAA)	NPT-1245P



SWITCHED TOTAL 120W 1A MAX (AH)  
SWITCHED TOTAL 100W MAX (C)

TYPE	P901a	P902	P912	P913
AH	YES	USA type	YES	NO
C	TRM	EUROPE type	NO	YES
B	B1	TRM	NO	YES

TYPE	UNIT NAME	F921	F922
AH	NAETC-5397-4	1A	125V
C	NAETC-5397-4	11A	250V
B	B1 5397-4A	250V	

TYPE	UNIT NAME	F901	F902	F903	T902
AH	NAPS-5469	YES	NO	NO	NPT-1111D
C	NAPS-5469	NO	YES	YES	NPT-1111P
B	B1 NAPS-5401	NO	YES	NO	NPT-1111P

AH type U.S.A. (120V/60Hz) C type Europe (230V/50Hz)  
CANADA (120V/60Hz) B, B1 type Other (230V/50Hz)

TYPE	UNIT NAME	C301	C305, C306, C317, C318, C321, C322, C325-C328, C331, C332	C341	C403, C404, C505, C506	C509	C533-C536, C585-C588, C595, C510, C595, C596
AH	NAAR-5396-1	.470J	NO	YES	NO	Q20C	NO
B	B1	NAAR-5396-1A	331K	YES	NO	Q50C	YES

**CAUTION:** For continued protection against fire hazard, REPLACE ONLY WITH PART NUMBER SPECIFIED. Do not use any other type of fuse.

- This symbol located near the fuse indicates that the fuse used is fast blowing type. The conventional designation against time delay fuses in this operating fuse. For fuse rating refer to the marking adjacent to the symbol.
- Do symbol insulator use is fusible unless not a warning.
- Four wire protection arrangement, of all other use see footnotes of same type.
- Do symbol not indicate it is to be present or not.

**NOTE**

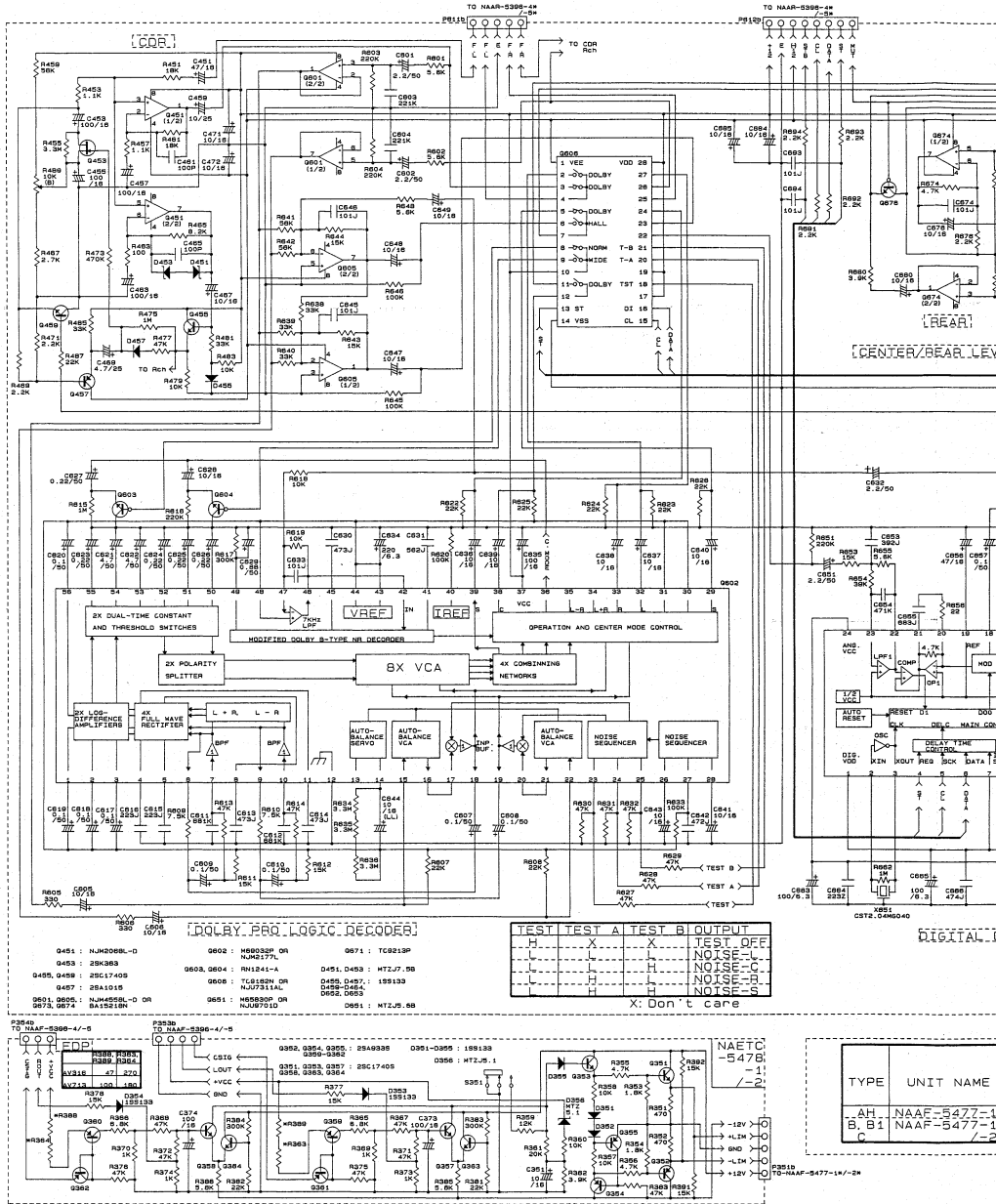
THE COMPONENTS IDENTIFIED BY NAME ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED. (DO NOT SUBSTITUTE MULTIPLE COMPONENTS.) ALL CAPACITORS ARE IN µF UNLESS OTHERWISE NOTED. ALL CAPACITORS ARE IN µF UNLESS OTHERWISE NOTED. ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE NOTED. ALL THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS CASE. THIS PRINTING IS SUBJECT TO CHANGE FOR IMPROVEMENT.



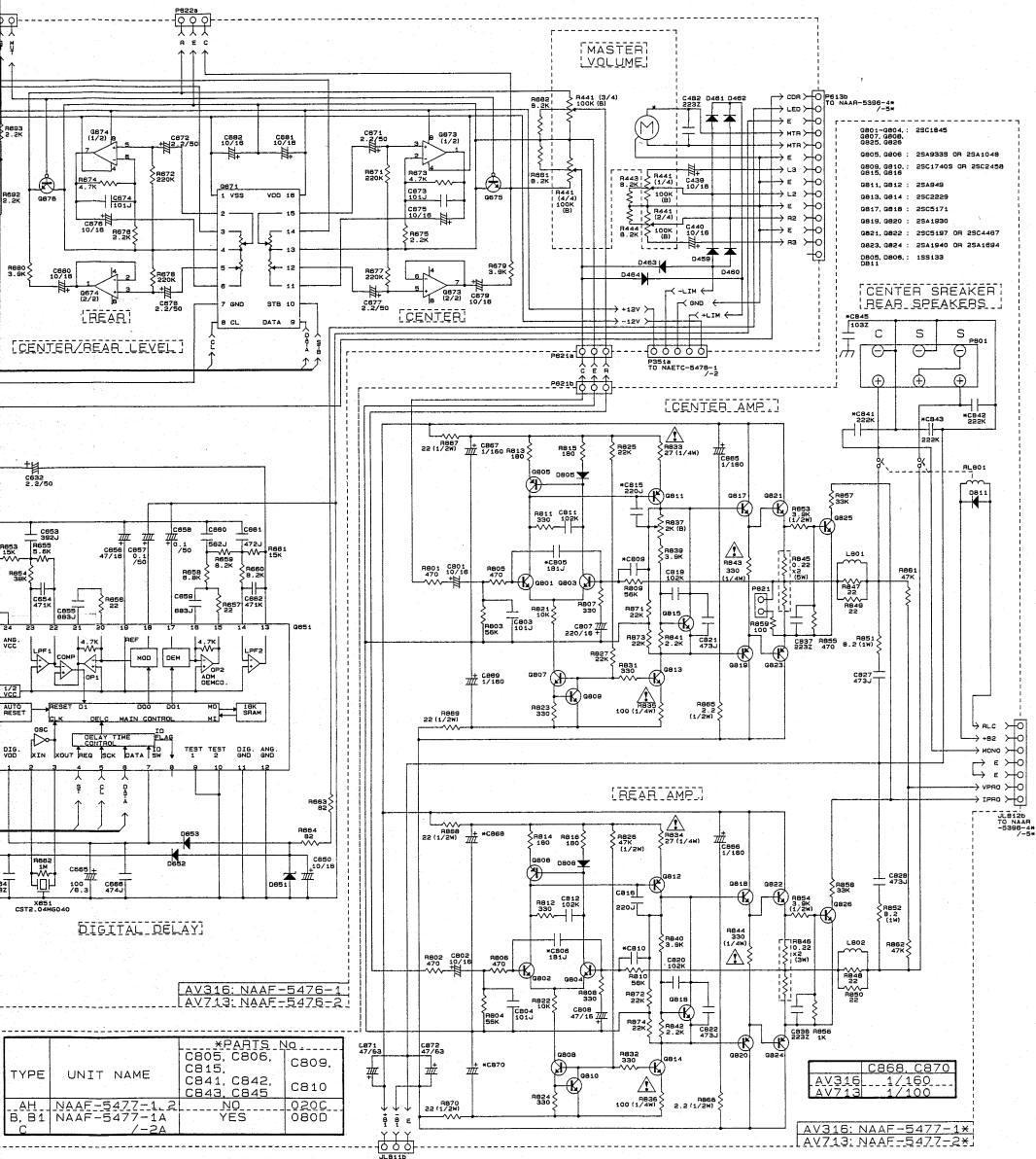
SCHEMATIC DIAGRAM

A  
B  
C  
D  
E  
F

1 2 3 4



TYPE	UNIT NAME
AH	NAAF-5477-1
B, B1	NAAF-5477-1
C	NAAF-5477-1



[CENTER/REAR LEVEL]

[MASTER VOLUME]

[CENTER SPEAKER]  
[REAR SPEAKERS]

[CENTER AMP.]

[REAR AMP.]

DIGITAL DELAY

AV316: NAAF-5476-1  
 AV713: NAAF-5476-2

TYPE	UNIT NAME	PARTS No.
		C805, C806, C809.
		C815,
		C841, C842, C810
		C843, C845
AH	NAAF-5477-1A	NO 020C
B, B1	NAAF-5477-1A	YES 080D
C	--2A	

C868, C870  
 AV316: ---4150  
 AV713: ---4100

AV316: NAAF-5477-1A  
 AV713: NAAF-5477-2A

IC810 TO NAAF-5396-4A  
 IC811 TO NAAF-5396-4A

SCHEMATIC DIAGRAM

VOLTAGE CHARTS (ALL VOLTS)

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Q451	0.0	0.0	0.0	-11.8	0.0	0.0	0.0	11.8						
Q461	0.0	0.0	0.0	-11.8	0.0	0.0	0.0	11.8						
Q502	4.0	4.0	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	0.0	11.0	3.4
No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.4	0.7	0.7	4.1	4.2	2.7	
No.	29	30	31	32	33	34	35	36	37	38	39	40	41	42
	4.1	4.1	4.1	4.1	4.1	4.1	4.1	11.8	4.1	4.1	1.4	4.1	4.1	
No.	43	44	45	46	47	48	49	50	51	52	53	54	55	56
	4.1	4.1	4.1	4.1	4.1	4.1	0.0	4.1	4.1	4.1	4.1	4.1	4.1	
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Q605	0.0	0.0	0.0	-11.8	0.0	0.0	0.0	11.8						
Q606	-11.8	0.0	0.0	0.0	0.0	0.0	11.4	-0.9	11.8	0.0	0.0	0.0	0.0	0.0
No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	0.0	0.0	11.8	11.8	11.8	0.7	0.7	0.0	0.0	0.0	0.0	0.0	11.8	
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Q651	5.0	2.2	2.3	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	2.5	2.5	
No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	2.5	2.5	0.7	0.7	2.5	2.5	2.5	2.5	5.0					
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Q671	-11.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
No.	15	16												
	0.0	11.8												
No.	1	2	3	4	5	6	7	8						
Q673	0.0	0.0	0.0	-11.8	0.0	0.0	0.0	11.8						
Q674	0.0	0.0	0.0	-11.8	0.0	0.0	0.0	11.8						

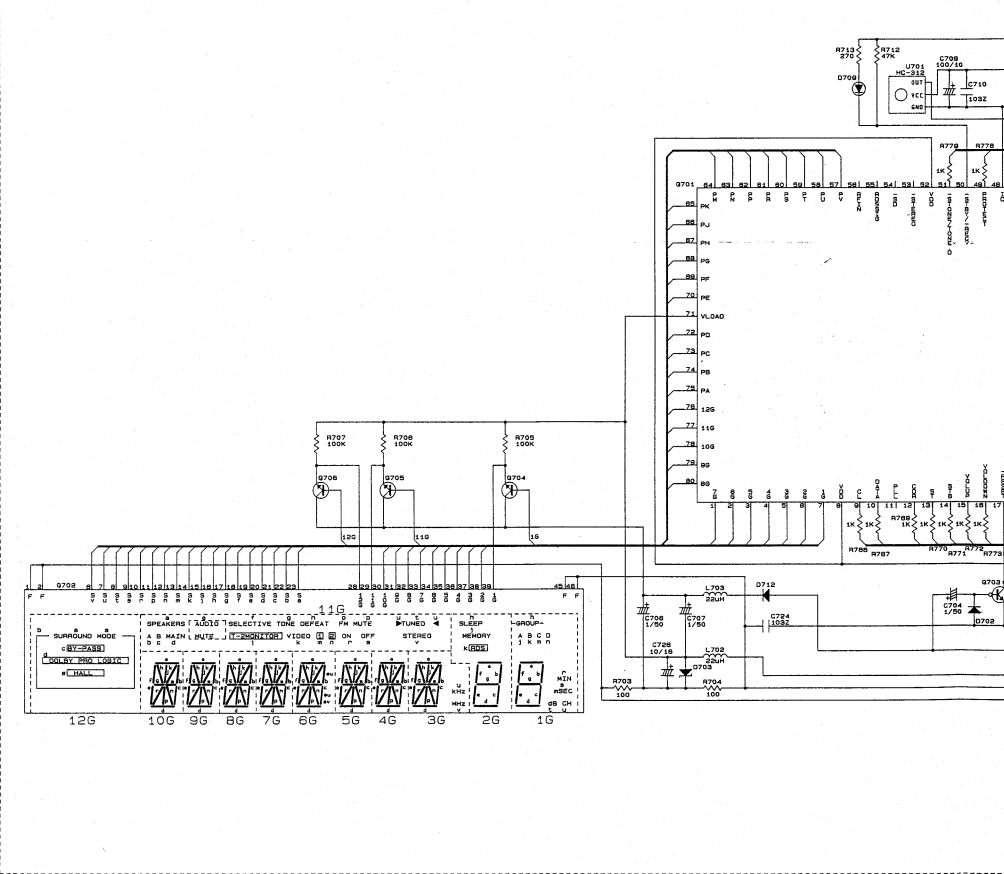
VOLTAGE CHARTS (ALL VOLTS)

No.	1	2	3	4	5	6	7
Q233	5.5	5.5	5.5	1.1	0.0	0.0	0.0
Q301	0.0	0.0	0.0	-11.8	0.0	0.0	0.0
Q302	-11.8	0.0	0.0	0.0	0.0	0.0	0.0
No.	15	16	17	18	19	20	21
Q302	0.0	0.0	0.0	0.0	0.0	0.0	0.0
No.	1	2	3	4	5	6	7
Q401	0.0	0.0	0.0	-11.8	0.0	0.0	0.0
Q402	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Q481	-4.8	-5.6	0.6	0.6	0.6	5.6	0.6
Q571	0.0	0.0	0.0	-11.8	0.0	0.0	0.0
Q621	26.2	0.0	11.8				
Q622	-27.2	0.0	-11.8				
Q623	25.9	0.0	5.6				

No.	E	C	B	No.	E	C	B
Q251	4.9	10.2	5.5	Q513	-43.9	-1.2	-45.1
Q252	4.9	10.2	5.5	Q515	-1.2	1.2	-0.4
Q407	11.8	-11.8	1.1	Q517	-0.6	44.8	1.1
Q491	0.0	0.0	-11.5	Q519	-0.6	44.8	-1.1
Q492	0.0	0.0	-11.5	Q521	0.0	44.8	0.0
Q493	0.4	-11.5	0.0	Q523	0.0	44.8	-0.4
Q501	-0.6	44.0	0.0	Q525	0.0	44.5	0.0
Q503	-0.6	44.0	0.0	Q527	0.0	11.7	0.0
Q505	44.6	44.0	44.0	Q573	11.0	11.8	11.0
Q507	-43.9	-19.5	-43.9	Q575	0.0	0.0	-11.1
Q509	-44.5	-43.3	-43.9	Q576	0.0	0.0	-11.1
Q511	44.6	1.2	44.0	Q581	0.0	44.5	0.0

NADTS-5467-14



(ALL VOLTS)

4	5	6	7	8	9	10	11	12	13	14	
5	-1.1	0.0	10.1	0.0	5.5	5.5	0.0	10.2	10.2	9.9	
0	-11.8	0.0	0.0	0.0	11.8						
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
18	19	20	21	22	23	24	25	26	27	28	
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8		
0	4	5	6	7	8	9	10	11	12	13	14
0	-11.8	0.0	0.0	0.0	11.8						
0	-11.8	0.0	0.0	0.0	11.8						
6	0.0	5.6	0.6	5.6	4.8						
0	-11.8	0.0	0.0	0.0	11.0						
8											
8											
8											
8											

No.	E	C	B	No.	E	C	B	No.	E	C	B	No.	E	C	B
Q351	-2.0	11.8	2.6	Q453	0.0	11.8	0.6	Q807	-43.9	-19.5	-43.3	Q820	0.6	-44.8	-1.2
Q552	-2.0	-11.8	-2.6	Q457	0.6	-11.8	0.0	Q808	-43.9	-19.5	-43.3	Q821	0.0	44.8	0.6
Q353	9.6	11.8	10.2	Q459	0.0	0.0	1.0	Q809	-44.3	-45.3	-43.9	Q822	0.0	44.8	0.6
Q354	-9.6	-11.8	-10.2	Q463	0.0	0.0	11.4	Q810	-44.3	-43.3	-43.9	Q823	0.0	-44.8	-0.6
Q355	0.0	-10.2	-0.6	Q464	0.0	0.0	-0.6	Q811	-44.4	-1.2	-43.8	Q824	0.0	-44.8	-0.6
Q357	0.0	10.6	0.0	Q675	0.0	0.0	-1.5	Q812	44.4	1.2	43.8	Q825	0.0	44.5	0.0
Q358	0.0	10.6	0.0	Q676	0.0	0.0	-1.5	Q813	-43.9	-1.2	-43.3	Q826	0.0	44.5	0.0
Q359	44.8	1.4	44.2	Q801	-0.6	43.8	0.0	Q814	-43.9	-1.2	-43.3				
Q360	44.8	1.4	44.2	Q802	-0.6	43.8	0.0	Q815	-1.2	1.2	-0.6	No. D S G			
Q361	44.8	44.2	44.2	Q803	-0.6	43.8	0.0	Q816	-1.2	1.2	-0.6	Q453	1.7	1.7	0.0
Q362	44.8	44.2	44.2	Q804	-0.6	43.8	0.0	Q817	0.6	44.8	1.2				
Q363	0.0	11.8	0.6	Q805	44.4	43.8	43.8	Q818	0.6	44.8	1.2				
Q364	0.0	11.8	0.6	Q806	44.4	43.8	43.8	Q819	-0.6	-44.8	-1.2				

No.	E	C	B	No.	E	C	B	No.	D	S	G
Q513	-43.9	-1.2	-43.3	Q582	0.0	44.5	0.0	Q403	0.0	0.0	-3.2
Q515	-1.2	1.2	-0.6	Q583	44.8	0.0	44.7	Q404	0.0	0.0	-3.2
Q1517	0.6	44.8	1.2	Q584	0.0	44.5	0.0	Q405	0.0	0.0	-3.2
Q519	-0.6	-44.8	-1.2	Q591	0.0	0.0	3.6	Q406	0.0	0.0	-3.2
Q521	0.0	44.8	0.6	Q592	0.0	26.5	0.0				
Q523	0.0	-44.8	-0.6	Q593	0.0	0.0	3.6				
Q525	0.0	44.5	0.0	Q594	-32.1	-39.8	-32.8				
Q527	0.0	11.7	0.4	Q595	3.1	13.0	4.8				
Q529	11.0	11.8	11.6	Q596	0.0	0.0	3.1				
Q535	0.0	0.0	-11.3	Q561	0.1	27.1	0.4				
Q576	0.0	0.0	-11.3	Q562	0.0	27.1	0.1				
Q581	0.0	44.5	0.0								

VOLTAGE CHARTS (ALL VOLTS)

No.	E	C	B
Q703	0.0	4.8	0.0
Q704	-29.4	5.0	-29.3
Q705	-29.4	5.0	-29.3
Q706	-29.4	5.0	-29.3
Q708	0.0	5.2	0.0

