



SERVICE MANUAL

MONITOR SERIES

3100

INTEGRATED
AMPLIFIER



PAGE

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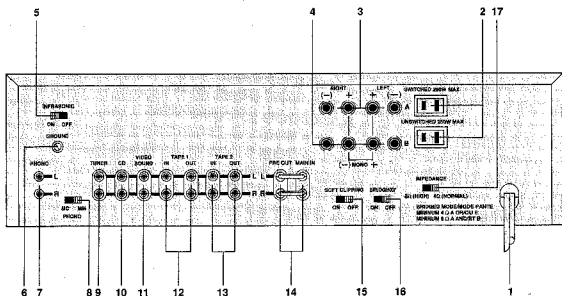
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REAR PANEL

- | | |
|-----------------------------------|--------------------------|
| 1. AC Line Cord | 10. CD Input |
| 2. AC Outlets (not in all models) | 11. Video Sound Input |
| 3. Speakers A | 12. Tape 1 Input/Output |
| 4. Speakers B | 13. Tape 2 Input/Output |
| 5. Infrasonic Filter | 14. Preamp Out/Normal In |
| 6. Ground | 15. Soft Clipping |
| 7. Phono Input | 16. Bridging |
| 8. MM/IC Selector | 17. Speaker Impedance |
| 9. Tuner Input | |

ATTENTION!
 This product contains a laser beam. Do not stare into the beam or allow it to reflect off surfaces. Avoid direct eye contact. Do not use this product if you are wearing contact lenses.

CAUTION
 HIGH VOLTAGE
 RISK OF ELECTRIC SHOCK
 DO NOT OPEN
 RISK OF ELECTRIC SHOCK
 DO NOT TOUCH THE INSIDE WHEN THE COVER IS REMOVED
 NEVER USE FLAMMABLE SOLVENTS FOR CLEANING

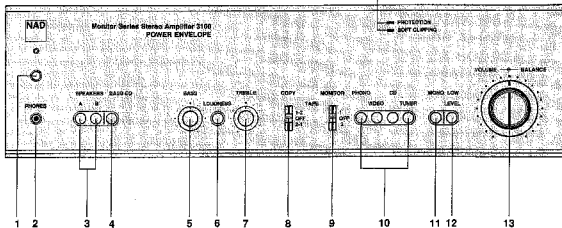


⚠ The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of unenclosed "live parts" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

⚠ 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.

FRONT PANEL

- | | |
|--------------------------|--|
| 1. Power | 8. Tape Copy |
| 2. Phones | 9. Tape Monitor |
| 3. Speakers A/B | 10. Input Selector (Phono, CD, Video, Tuner) |
| 4. Bass EQ | 11. Mono |
| 5. Bass | 12. Low Level |
| 6. Loudness Compensation | 13. Volume/Balance |
| 7. Treble | 14. Status Indicators |



NAD 3100 INTEGRATED AMPLIFIERS
SPECIFICATIONS

Note: Specifications are measured in accordance with EIA Standard RS-490 (IIF A-202). Measurements referred to 8 ohms are taken with the Speaker Impedance selector set to 8 ohm (High). Measurements for 4 and 2 ohm are taken with Impedance selector at 4 ohm (Normal).

POWER AMPLIFIER SECTION

Stereo Mode		
CONTINUOUS AVERAGE POWER OUTPUT INTO 8 OHMS (Min. RMS power per channel, 20Hz-20kHz, both channels driven, with no more than the rated distortion.)		50 W(17 dBW)
Rated Distortion (THD 20 Hz-20 kHz)		0.03%
Clipping Power (maximum continuous power per channel)	8 ohms	70 W
	4 ohms	
IHF Dynamic Headroom at 8 ohms		+6 dB
IHF Dynamic Power (maximum short-term power per channel)	8 ohms	200 W(23 dBW)
	4 ohms	250 W(24 dBW)
	2 ohms	330 W(25 dBW)
Damping Factor (ref 8 ohms, 50 Hz)		100
Slew Factor		>50
Slew Rate		>38V/ussec
THD (Total Harmonic Distortion, 20 Hz-20kHz, from 250 mW to rated output)		<0.03%
SMPTE I.M. (Intermodulation distortion, 60Hz & 7kHz, 4:1, from 250mW to rated output)		<0.03%
IHF I.M. (CCIF IM Distortion 15 + 20kHz at rated output)		<0.03%
Input Impedance		R=10 kohms/C=600pF
Input sensitivity for 1 Watt/50 Watts out		120 mV/850 mV
Voltage Gain		x23(27 dB)
Frequency Response Lab Input		4 Hz-100 kHz
		+0, -3 dB
		100 dB ref. 1W
		117 dB ref. 50W
Signal/Noise Ratio, A-weighted		
Bridged (Monophonic) Mode		
CONTINUOUS AVERAGE POWER OUTPUT INTO 8 OHMS (Min. RMS power per channel, 20Hz-20kHz, one channel driven, with no more than the rated distortion.)		100 W(20 dBW)
IHF Dynamic Headroom at 8 ohms		+7 dB
IHF Dynamic Power (maximum short-term power per channel)	8 ohms	500 W(27 dBW)
	4 ohms	680 W(28 dBW)

PREAMPLIFIER SECTION

PHONO INPUT

Input Impedance	MM:	R = 47 kohms, C = 100 pF
	MC:	R = 100 ohms, C = 100 pF
Input Sensitivity (1 kHz)	MM:	0.35 mV
	MC:	0.025 mV
Input Overload at 20 Hz/1kHz/20kHz	MM:	20mV/180mV/1.5V
	MC:	1.4mV/13mV/100mV
Signal/Noise Ratio, IHF A-weighted, with cartridge connected	MM:	75 dB ref. 5 mV
	MC:	75 dB ref. 0.5mV
THD(20Hz-20kHz) AND IM distortion at +30 dB level		<0.04%
RIAA Accuracy		±0.5 dB
LINE LEVEL INPUTS (CD, VIDEO, TAPE, TUNER)		
Input Impedance		R=50 kohms, C=500 pF
Input Sensitivity ref. 1W/rated output		20 mV/150 mV
Maximum Input Signal		10V
Signal/Noise Ratio, A-weighted		94 dB ref. 1W
		111 dB ref. 50W out
Frequency Response, 20 Hz-20 kHz		0.5 dB

OUTPUTS

Front Output Impedance		600 ohms
Maximum Output Level		10V
Tape Output Impedance		100 (buffered)
Tape Output Infrasonic Filter		-3 dB at 12 Hz
		12 dB/octave

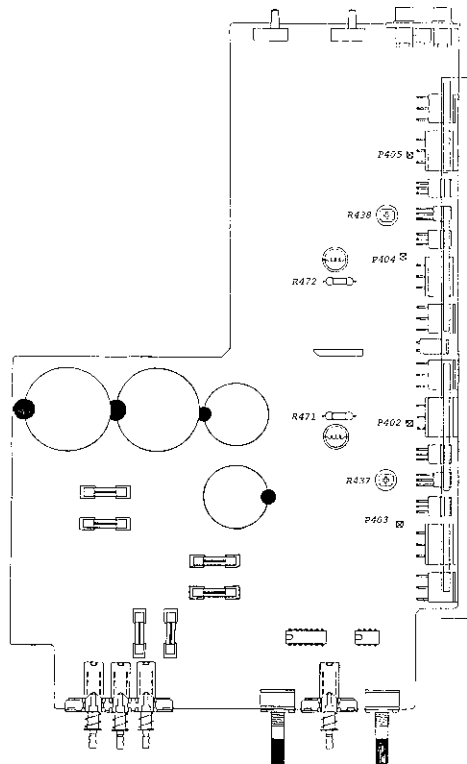
CONTROLS

Treble		±9 dB at 10kHz
Bass		±10 dB at 50 Hz
Bass Equalization		+3 dB at 55 Hz
		+6 dB at 36 Hz
		-3 dB at 12 Hz
Infrasonic Filter (switchable)		12 dB/octave

PHYSICAL SPECIFICATIONS

Width x Height x Depth		43.5 x 10.8 x 38.1 cm. (17.1 x 4.25 x 15 in.)
Net Weight		10.5 kg (23.2 lbs)
Shipping Weight		11.5 kg (25.5 lbs)
Power Consumption		50/60 Hz at 110,120, 220 or 240 VAC/220 VA.

MAIN AMPLIFIER ADJUSTMENT POINT



5

MAIN AMPLIFIER ADJUSTMENT

IMPORTANT NOTES:

- 1) Before adjusting, remove input signal and load, and set Speaker impedance switch to 8 ohms (reset to 4 ohms when finished).
- 2) These adjustments are always necessary after repair to main amplifier.
- 3) After repair, it is recommended to use current limiter (70-100W lightbulb) in mains line, for initial turn-on.

A. CENTER VOLTAGE CHECK

1. Connect DMM between Ground and R-471 (L channel)(R-472, R channel)(amplifier output).
2. Turn on, and read voltage. Specification $0V \pm 100mVDC$.

B. IDLE CURRENT ADJUSTMENT

1. Connect DMM across P-402(+) and P-403(-), and adjust R-437 for reading of $15mV \pm 2.5mVDC$.
2. Repeat, using P-404(+) and P-405(-), adjust R-438.

C. FINAL ADJUSTMENT

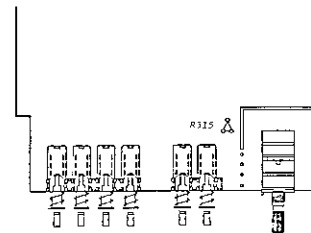
1. Leave power on minimum 5 minutes.
2. Repeat center voltage check and idle current adjustments.

PREAMPLIFIER ADJUSTMENT

A. CHANNEL BALANCE

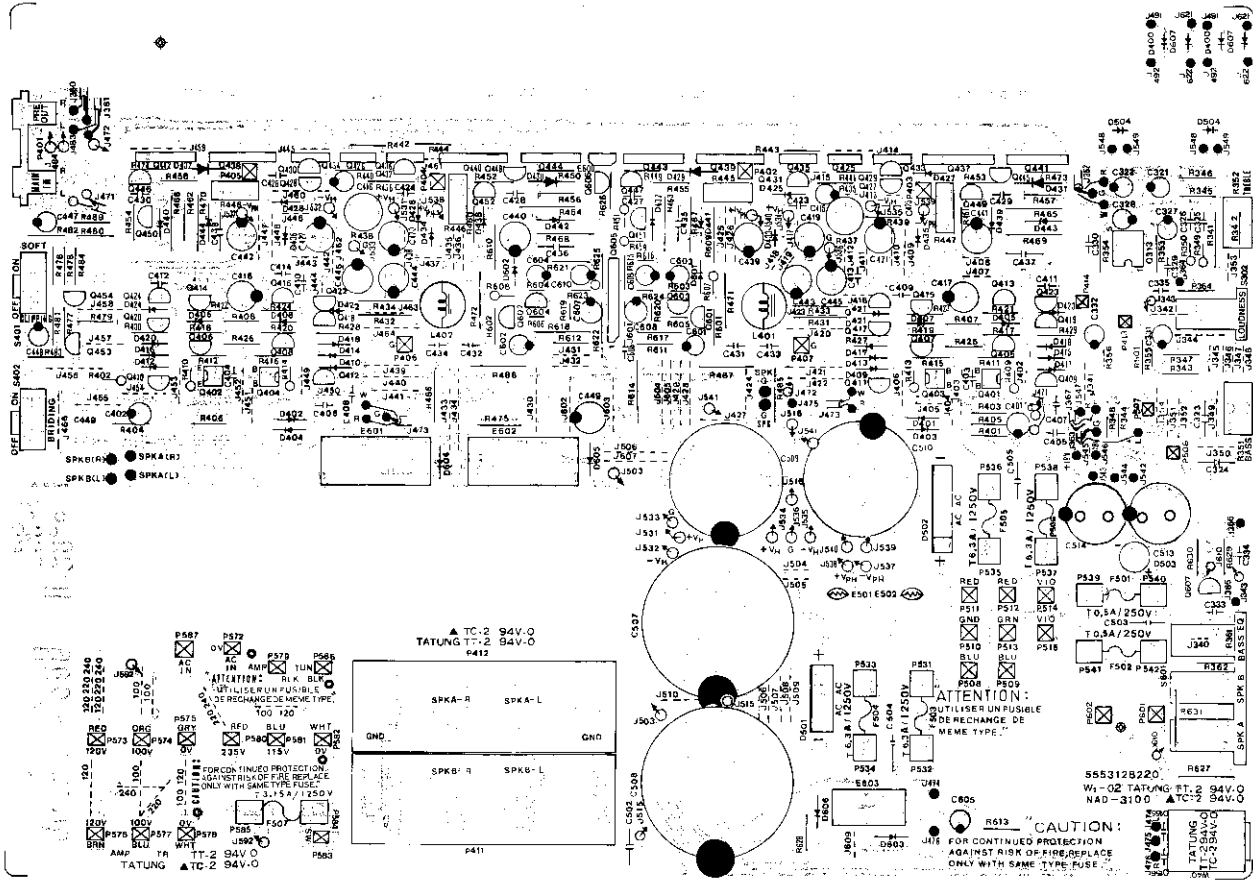
1. Feed 1kHz, 100mV to CD input; connect AC VTVM's to preamp output.
2. Set volume to maximum, balance to center, low level off.
3. Adjust R-315 so that both channels have same output level $\pm 0.25dB$.

PREAMPLIFIER ADJUSTMENT POINT



6

MAIN AMPLIFIER PCB LAYOUT



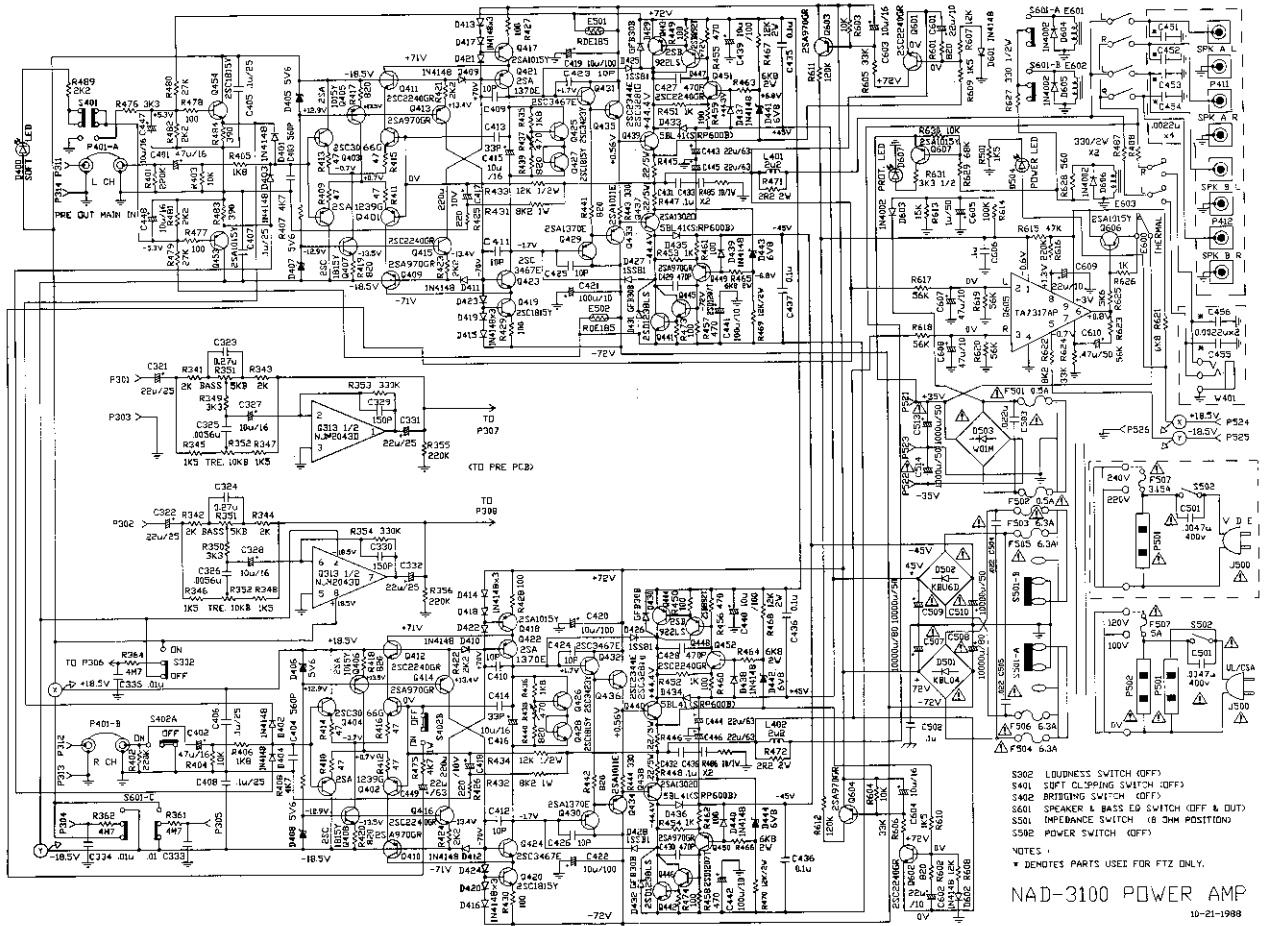
- 0400 ●
- 0401 ●
- 0402 ●
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P570 AC 125V
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▲ TC-2 94V-0
 TATUNG TT-2 94V-0
 6412
 SPKA-R SPKA-L
 GND GND
 SPKB-R SPKB-L
 6411

ATTENTION:
 UTILISER UN FUSIBLE
 DE RECHANGE DE
 MEME TYPE.

5553128220
 W1-02 TATUNG TT-2 94V-0
 NAD-310
 CAUTION:
 FOR CONTINUED PROTECTION
 AGAINST RISK OF FIRE REPLACE
 ONLY WITH SAME TYPE FUSE

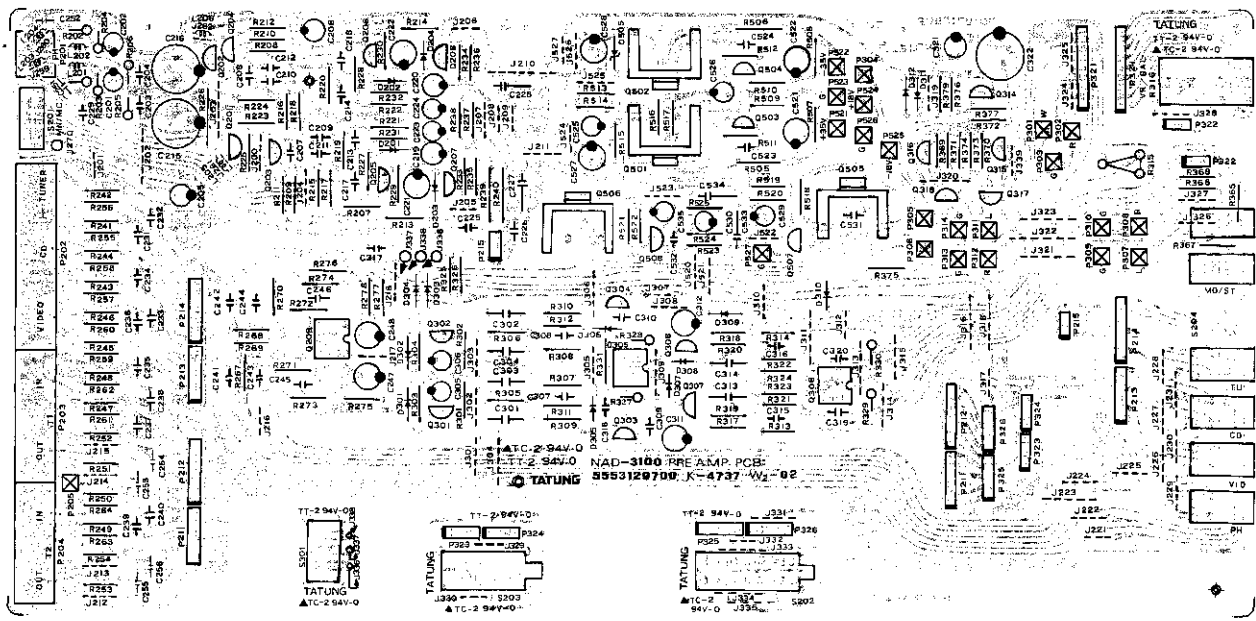


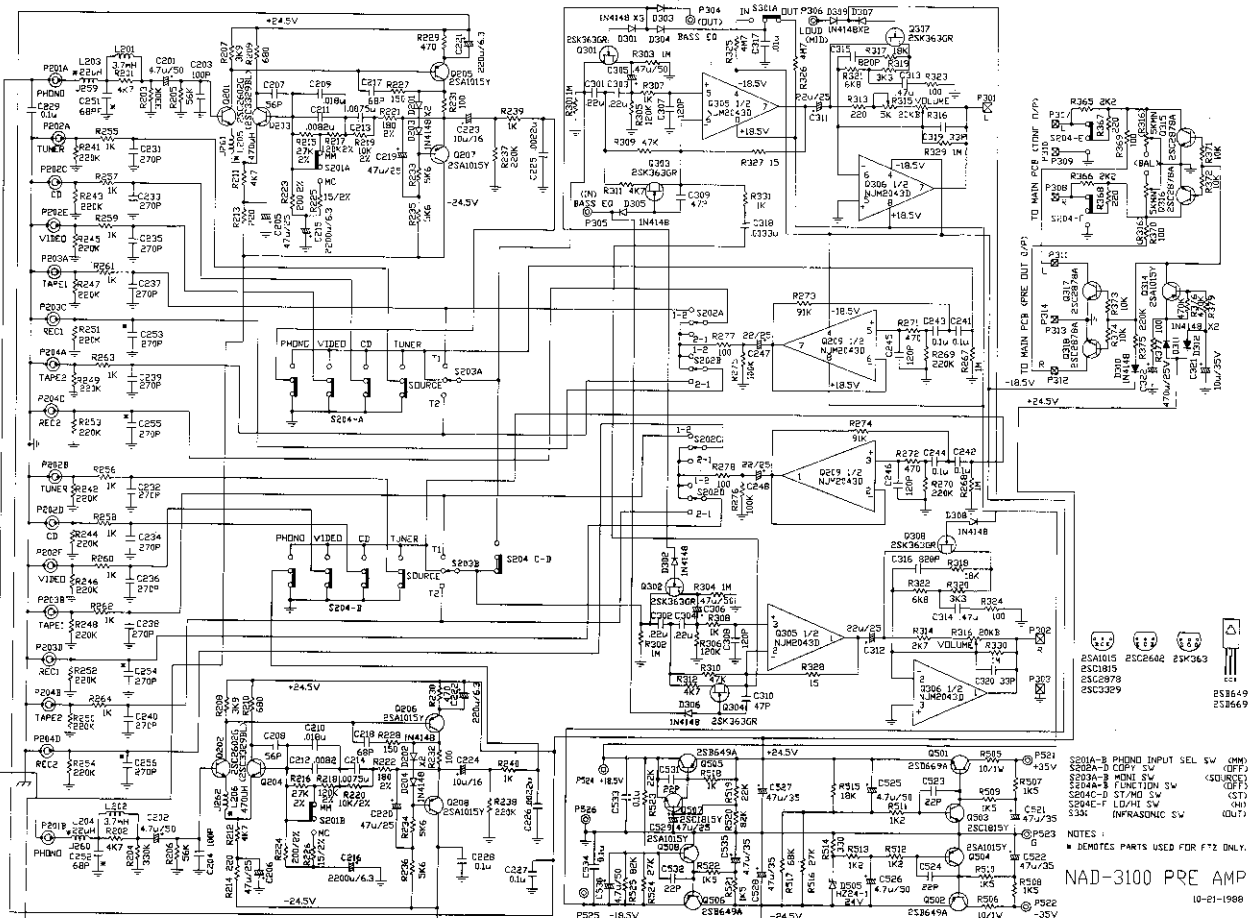
- S302 LOUDNESS SWITCH (OFF)
- S401 SOFT CLIPPING SWITCH (OFF)
- S402 BRIDGING SWITCH (OFF)
- S601 SPEAKER & BASS EQ SWITCH (OFF & BUT)
- S501 IMPEDANCE SWITCH (8 OHM POSITION)
- S502 POWER SWITCH (OFF)

NOTES:
 * DENOTES PARTS USED FOR FTZ ONLY.

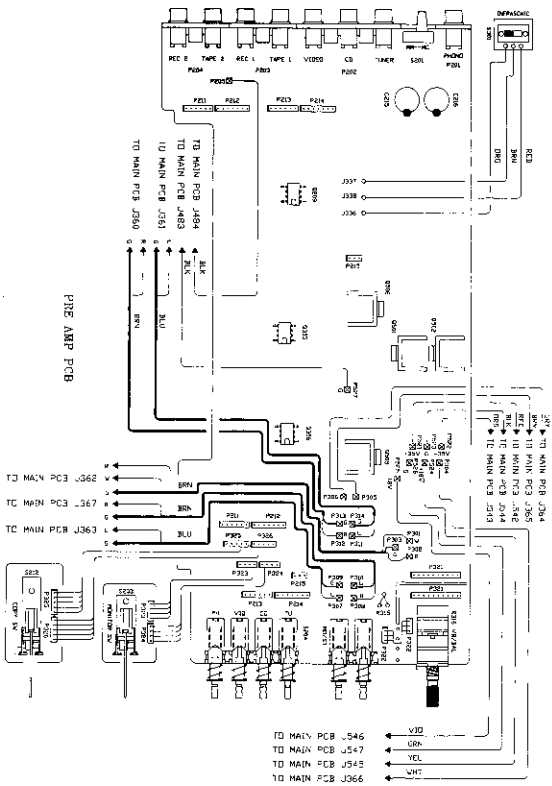
NAD-3100 POWER AMP
 10-21-1988

PREAMPLIFIER PCB LAYOUT

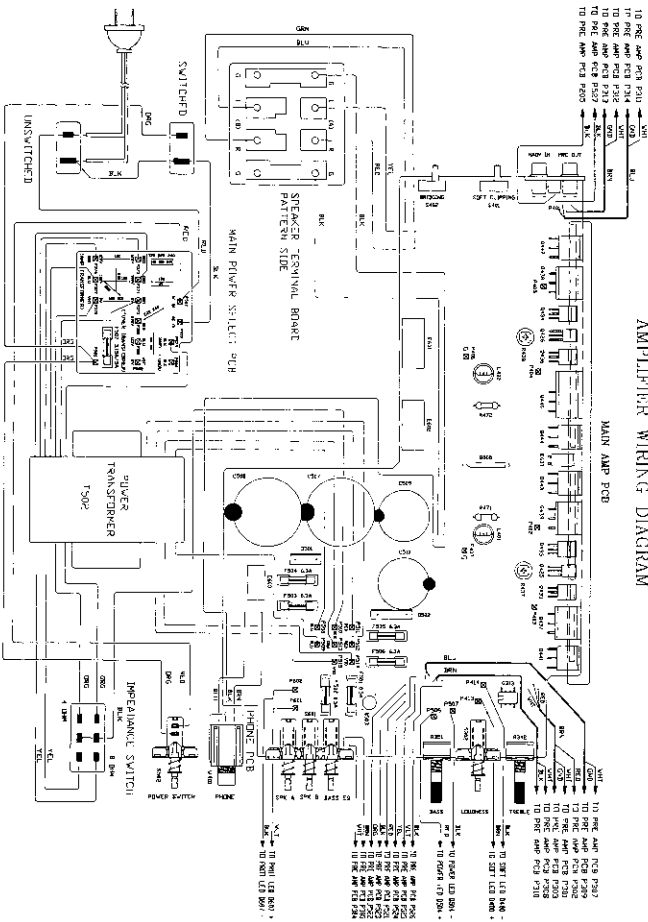




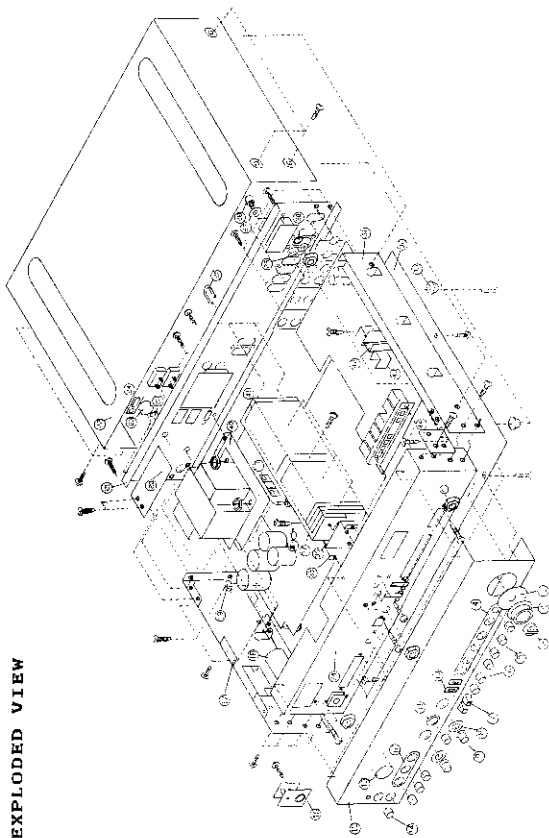
PRE AMP WIRING DIAGRAM



AMPLIFIER WIRING DIAGRAM

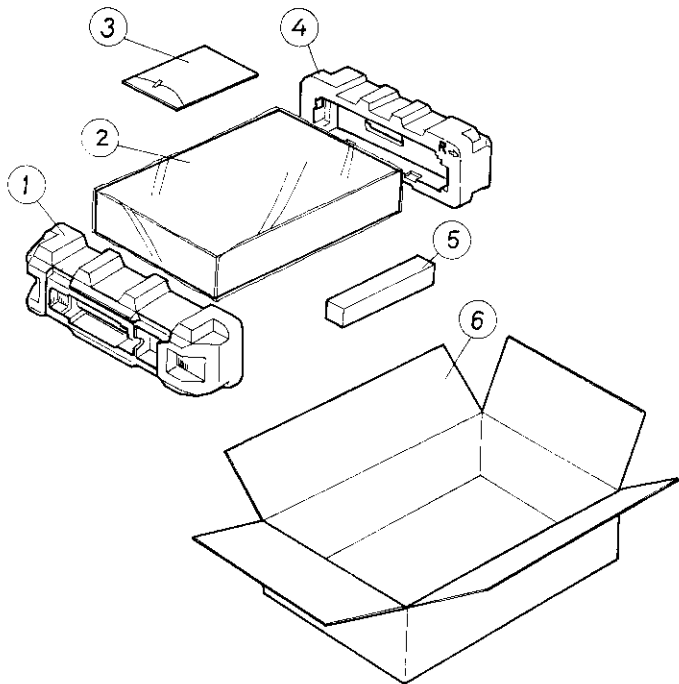


EXPLODED VIEW



NAD-3100 ITEM	EXPLODED PARTS PARTS NO.	LIST : PARTS NAME	Q'TY
1	5542006130	HEMELON(L)	1
2	5541540000	VOL. KNOB	1
	5542228400	KNOB HOLDER, VOL.	1
3	5541539900	BAL. KNOB	1
4	5542227000	FUNCTION, BEZEL	1
5	5541537710	PUSH BUTTON(W)	4
6	5541537700	PUSH BUTTON(B)	6
7	5541537800	TOGGLE CAP	2
8	5542006100	HEMELON (S)	2
9	5541537510	CONTROL, KNOB	2
10	5542225200	BEZEL, COPY	2
11	5542225000	BEZEL, LOUDNESS	1
12	5542225100	BEZEL, SPEAKER	1
13	5535448300	LABEL, FRONT	1
14	5541539000	POWER, KNOB	1
15	5541307400	PANEL, FRONT	1
16	5542226100	BEZEL, POWER	1
17	5547131600	LEFT PLATE	1
18	5547528600	TUBE	1
19	5547504600	VFS	1
20	5545403700	SHIELD COVER	1
21	5547133600	BACK PLATE, 120V	1
	{5547133610}	OR 240V	1
	{5547133620}	OR 220V	1
22	5541002300	TOP COVER	1
23	5547501200	POWER CORD	1
24	5547528400	PLATE, SWITCH LOCK (PVC)	2
25	5547530400	HOLDER-PCB	3
26	5547033600	TERMINAL CONNECTOR	2
27	7101200352	LOCK WASHER, TOOTH	1
28	5546121400	TERMINAL	1
29	5556200810	LUG	1
30	7096210006	WASHER	1
31	5547131700	RIGHT PLATE	1
32	5547131800	CHASSIS	1
33	5547802120	FOOT	4
34	5547133700	FRONT BRACKET	1
35	5547034110	BRACKET, H.S.	1
36	5545307700	TRANSISTOR HOLDER	1
37	5545307810	HEAT SINK (B)	1
38	5546323400	RING, TRANS.	2
39	5547034000	THERMAL PROTECTOR HOLDE	1
40	5547131100	TRS. PLATE	1
41	5545307800	HEAT SINK (A)	1
42	5545306900	HEAT SINK (L)	2
43	5545306910	HEAT SINK (S)	2
44	5547033800	RIGHT BRACKET PLATE	1

PACKING DIAGRAM



PACKING LIST FOR NAD-3100/NAD-2100

ITEM	PARTS NO.	NAME	QTY
1	9520680155	POLYVLON L.	1
2	9530680155	PE BAG	1
3	5535122011	OWNERS MANUAL	1
4	9520680255	POLYVLON R.	1
5	9520685155	POLYVLON BAR	1
6	9510680155	CARTON	1

NOTES:

SERVICE MANUAL

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