

NAD SERVICE MANUAL

SERVICE MANUAL

2026/02/18 - JL

- Corrected pinout of 2S*** type transistor to ECB (originally reversed)
- Repaired cropping of parts list
- Repaired cropping of views of front and back

PRINTED BY NAD EFEC

3220PE
3020e
INTEGRATED AMPLIFIERS

NAD ELECTRONICS
BOSTON/LONDON

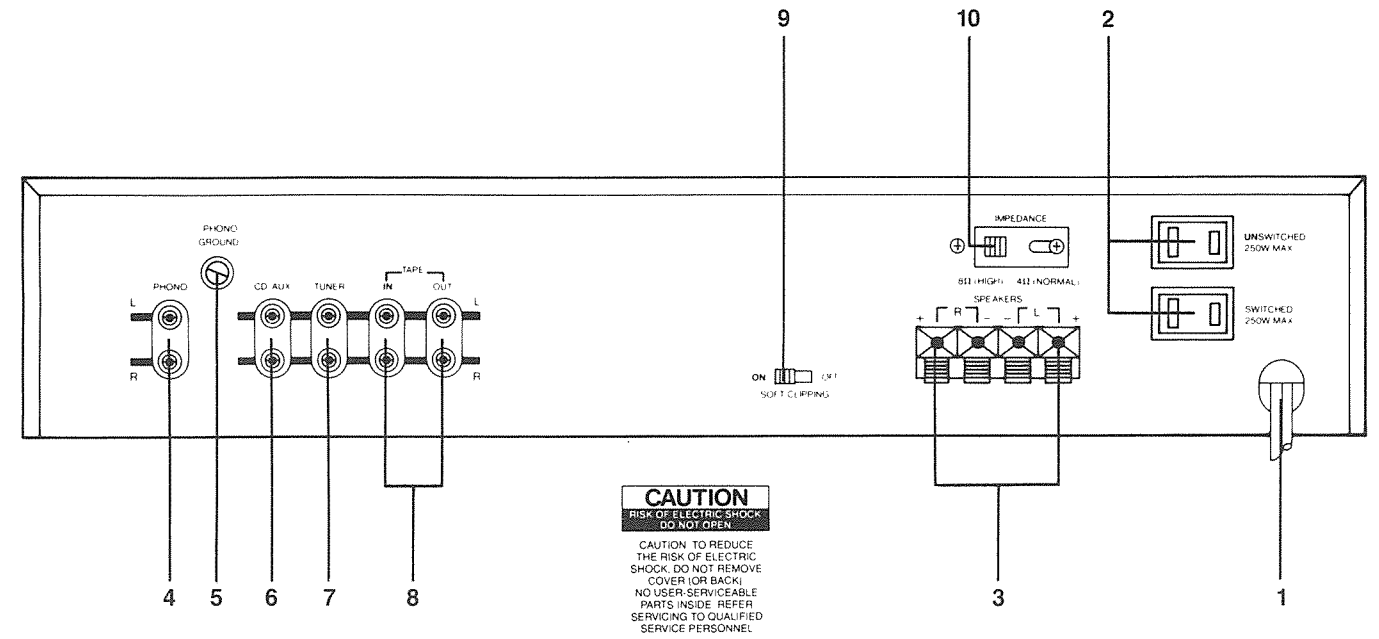
3220PE
3020e
INTEGRATED AMPLIFIERS

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3220PE/3020e

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REAR PANEL

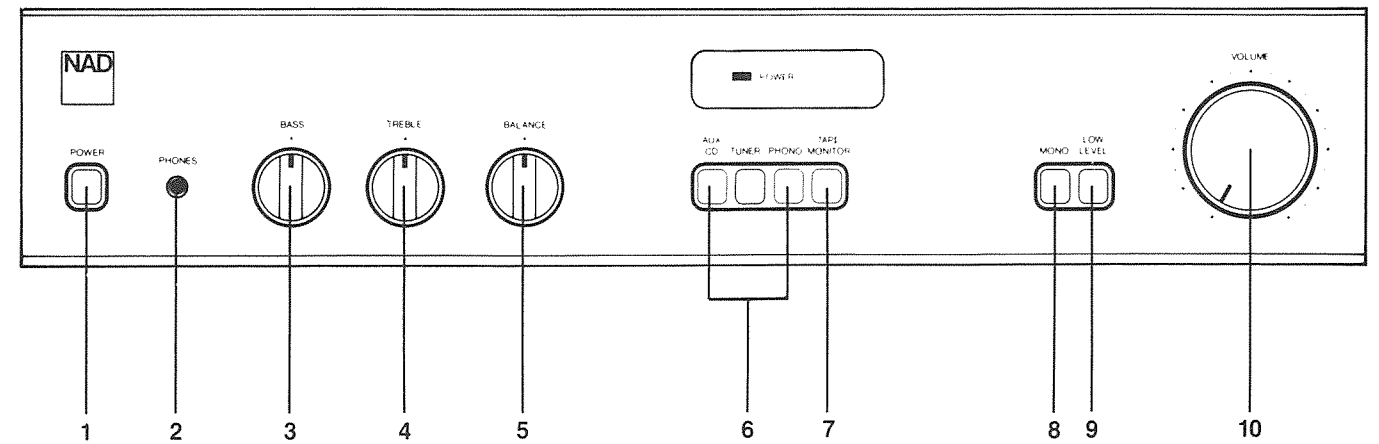
- | | |
|--------------------------------------|------------------------|
| 1. AC Line Cord. | 6. CD/Aux Input. |
| 2. AC Outlets (not in U.K. version). | 7. Tuner Input. |
| 3. Speakers. | 8. Tape Input/Output. |
| 4. Phono Input. | 9. Soft Clipping. |
| 5. Phono Ground. | 10. Speaker Impedance. |



CAUTION
 RISK OF ELECTRIC SHOCK
 DO NOT OPEN
 CAUTION TO REDUCE
 THE RISK OF ELECTRIC
 SHOCK, DO NOT REMOVE
 COVER (OR BACK).
 NO USER-SERVICEABLE
 PARTS INSIDE. REFER
 SERVICING TO QUALIFIED
 SERVICE PERSONNEL

FRONT PANEL

- | | |
|-------------|--------------------|
| 1. Power. | 6. Input Selector. |
| 2. Phones. | 7. Tape Monitor. |
| 3. Bass. | 8. Mono. |
| 4. Treble. | 9. Low Level. |
| 5. Balance. | 10. Volume. |



SPECIFICATIONS

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

Power Amplifier Section	3220PE	3020e
Continuous average power output at 8 ohms(min. RMS power per channel, both channels driven, with no more than the rated distortion)		
Rated distortion(THD) 20HZ-20KHZ	0.05%	0.05%
Clipping power(max. continuous power per channel)	25W(8ohm) 25W(4ohm)	25W(8ohm) 25W(4ohm)
Dynamic headroom at 8 ohm	+4.4 dB	+ 2.5 dB
Dynamic power(max. short term power channel)	55W(8ohm) 55W(4ohm)	30W(8ohm) 30W(4ohm)
Slew factor	>5	>5
Slew rate	15 V/usec	15 V/uscs
Damping factor(ref. 8ohm at 50Hz)	>	>
Input sensitivity for 1W/20W out	200mV/1V	200mV/1V
Power amp gain	22 dB	22 dB
THD(Total Harmonic Distortion,20HZ-20KHZ,from 250mW to rated output)	<0.05%	<0.05%
SMPTE I.M.(Intermodulation Distortion, 60Hz+7KHz, 4:1, from 250mW to rated output)	<0.05%	<0.05%
IHF I.M.(CCIF IM Distortion, 9+20KHz at rated output)	<0.05%	<0.05%
PREAMPLIFIER SECTION		
Phono Input		
Input Impedance	47K ohm,100 pf	47Kohm,100 pf
Input Sensitivity(1 KHz) for 20W out	2.5 mV	2.5 mV
Input overload at 20Hz/1KHz/20KHz.	18mV/180mV/1.6V	18mV/180mV/1.6V
T.H.D(20Hz-20KHz) and IMD at +30 db input level	0.05%	0.05%
RIAA Response Accuracy	+1/-0.5dB	+1/-0.5dB
Signal to Noise Ratio with cartridge connected, A-Weighted	76 dB re 5 mV	76 dB re 5 mV
HIGH-LEVEL INPUT(TUNER,AUX/CD,TAPE)		
Input Impedance	20 Kohm,220 pf	20 Kohm,220 pf
Input Sensitivity	33 mV for 1W out	33 mV for 1W out
Signal to noise ratio, A-weighted	85 dB re 1W 100 dB re 20W	85 dB re 1W 100 dB re 20W
Frequency response, 20HZ-20KHZ	+1/-0.5dB	+1/-0.5dB
Controls		
Treble control range at 10KHZ	+/-7 dB	+/-7 dB
Bass control range at 50HZ	+/-10 dB	+/-10 dB
Infrasonic filter at 15HZ	-3 dB	-3 dB
Audio muting (Low Level)	-20 dB	-20 dB
Power Consumption	150 VA	150 VA
Net Weight	5Kg	5Kg
Dimensions (Width * Height * Depth)	120*80*250(mm)	120*80*250(mm)

ALIGNMENT METHOD

AUDIO SECTION 3220PE/3020e

IMPORTANT

Speaker impedance switch should be in 8 ohm position while adjust center voltage and idling current.

INITIAL ADJUSTMENT (No load connected)

A. CENTER VOLTAGE

1. Connector DC millivoltmeter to L channel output terminal.
2. Turn on and adjust to 0 V+/-30mV with R411(100 ohm). Connect DC millivoltmeter to R channel output terminal and adjust R412 to 0 V+/-30mV.

B. IDLING CURRENT

1. Remove solder short across R455 and R456.
2. Connect DC millivoltmeter across R455 (1 ohm) (output transistor's collector resistor) and adjust R443 for 26-30mV reading on meter. Repeat adjustment with R444, connecting meter across R456 (1 ohm).
3. Leave power on for minimum 5 minutes.

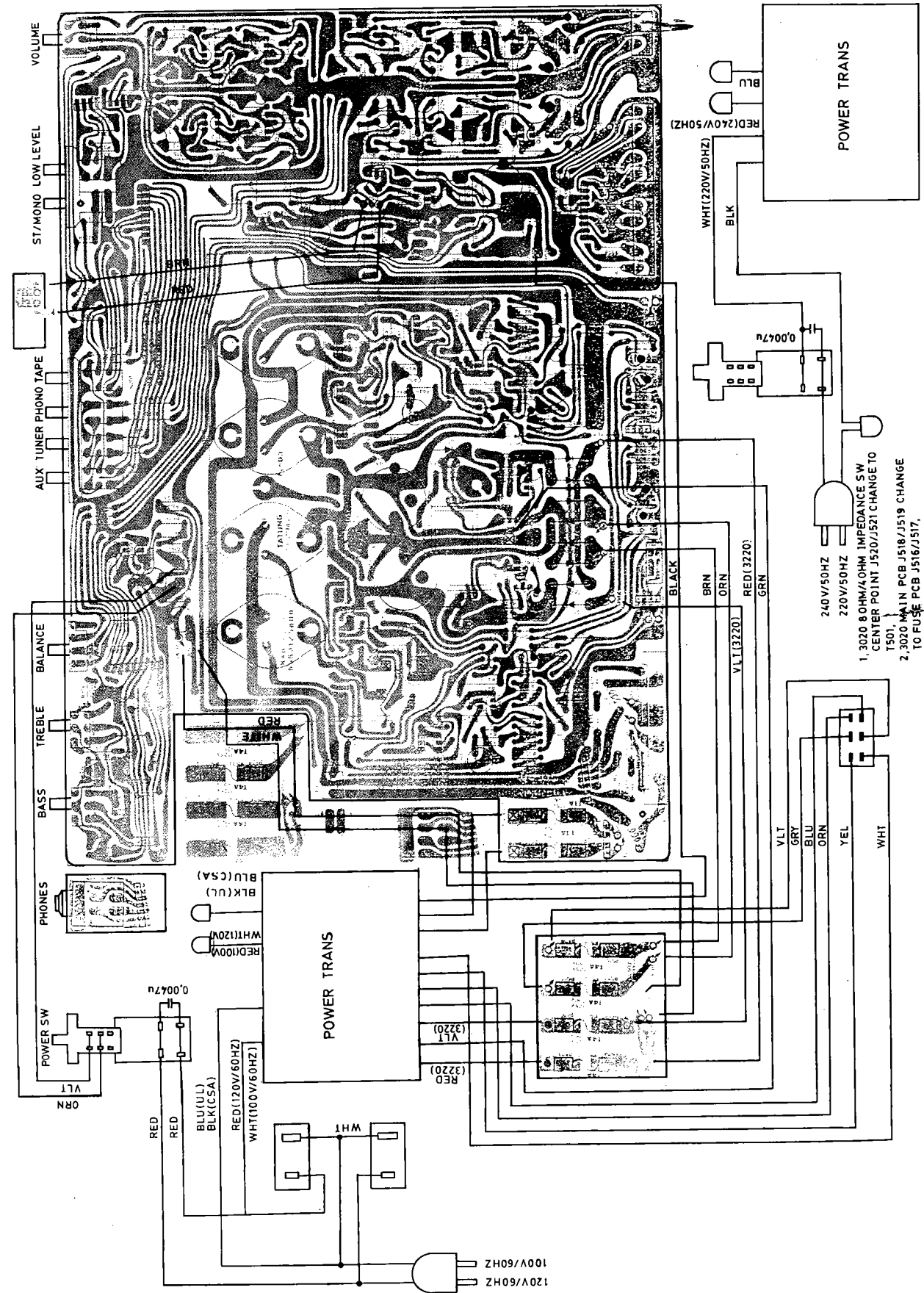
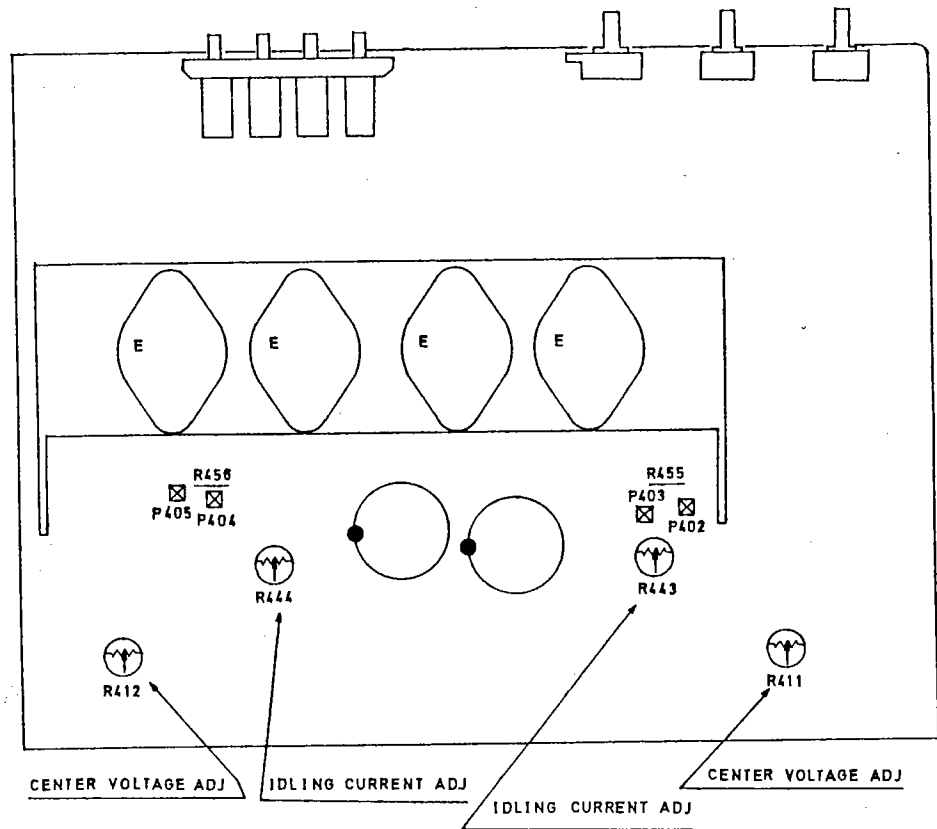
FINAL ADJUSTMENT

C. CENTER VOLTAGE

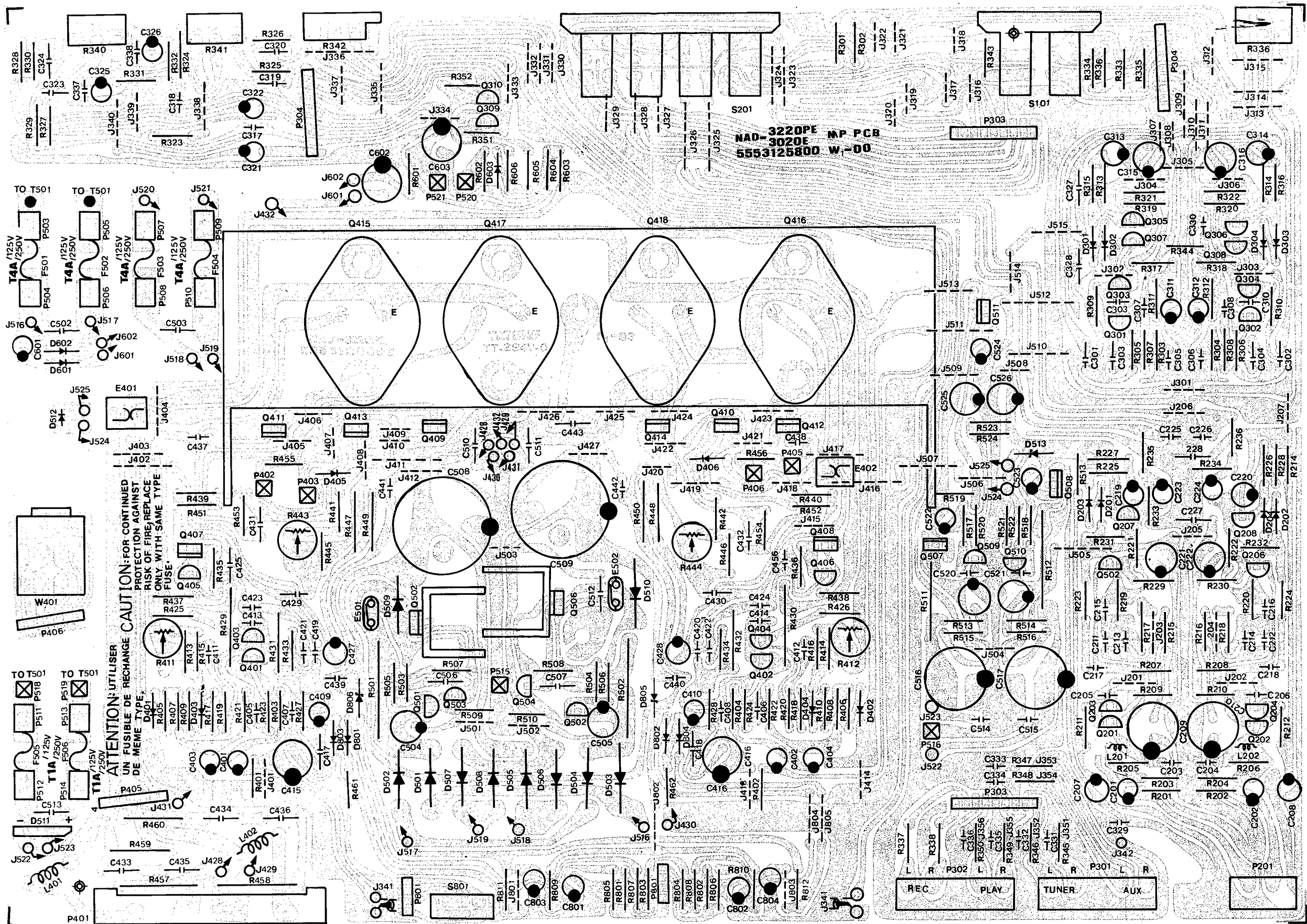
1. Repeat step A about.

D. IDLING CURRENT

1. Repeat step B and adjust with R443,R444 for 30mV reading on meter.
2. After the alignment is finished, 1 ohm resistor R455,R456 is shorted by solder short.

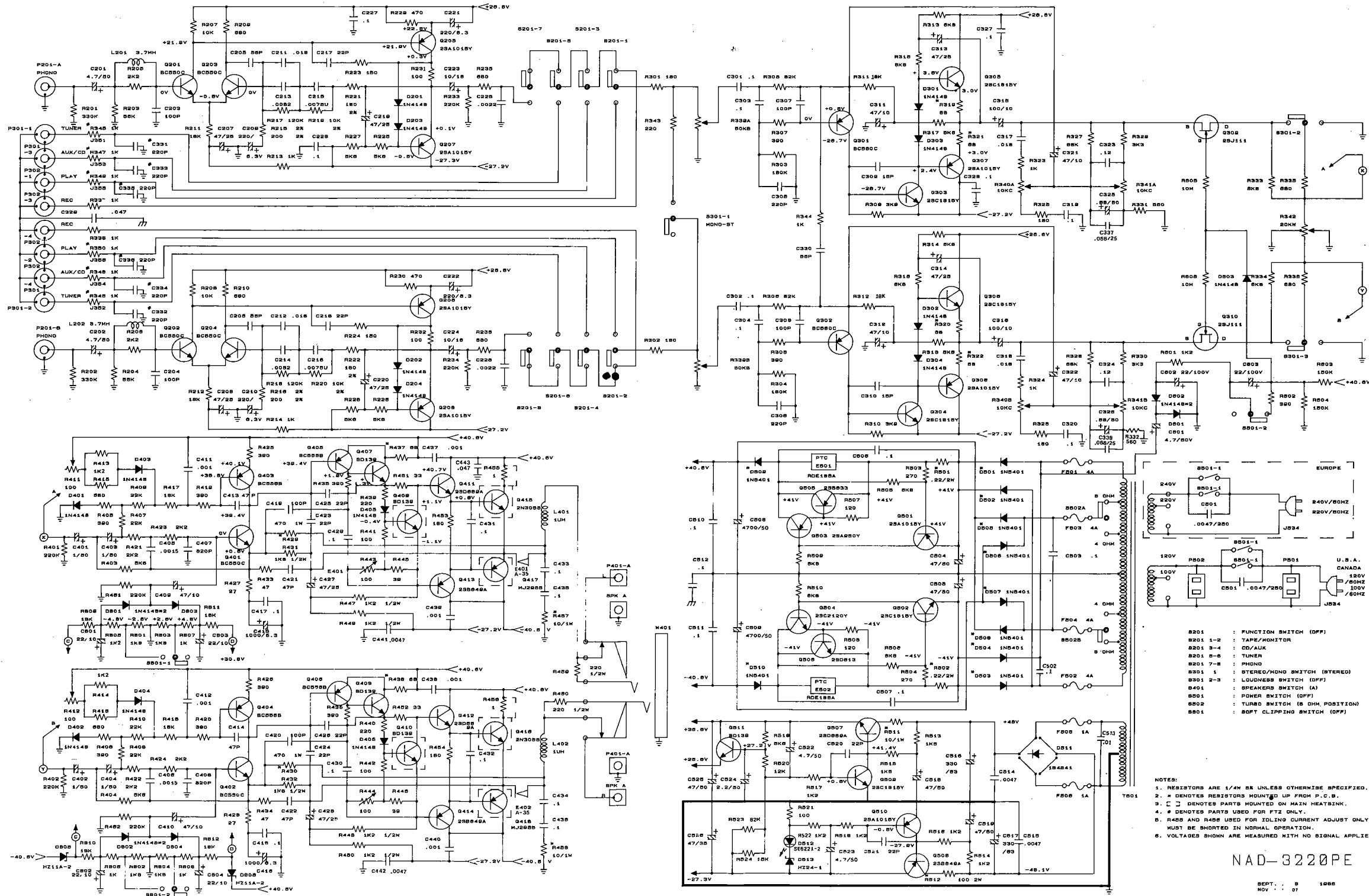


NAD 3220PE AMPLIFIER PCB LAYOUT



ATTENTION: UTILISER
UN FUSIBLE DE RECHANGE
DE MEME TYPE.
RISK OF FIRE/REPLACE
ONLY WITH SAME TYPE
FUSE.

SCHEMATIC DIAGRAM NAD3220PE AMPLIFIER



- 2N3055 MJ2955
- 2SB669 2SD649 2SA496 BD139
- 2SJ11
- BC550C BC556B BC560C
- 2SA950 2SA1015 2SC1815 2SC2120
- BCE
- 2SB633 2SD613

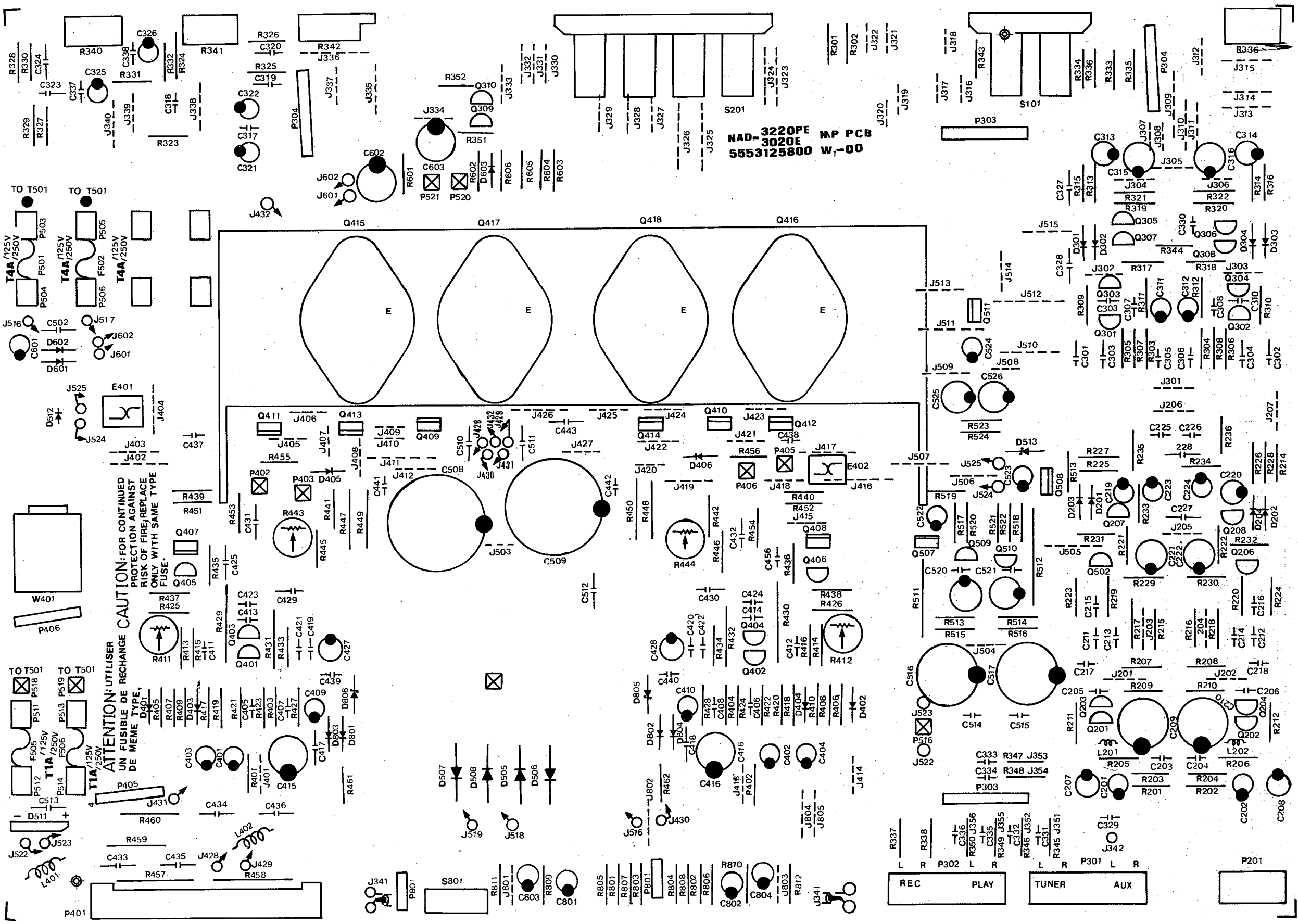
- S201 : FUNCTION SWITCH (OFF)
- S201-2 : TAPE/MONITOR
- S201-3-4 : CD/AUX
- S201-5-6 : TUNER
- S201-7-8 : PHONO
- S201-1 : STEREO/MONO SWITCH (BYERED)
- S201-9-8 : LOUDNESS SWITCH (OFF)
- S401 : SPEAKERS SWITCH (A)
- S501 : POWER SWITCH (OFF)
- S502 : TURBO SWITCH (8 OHM POSITION)
- S501 : SOFT CLIPPING SWITCH (OFF)

NOTES:
 1. RESISTORS ARE 1/4W 5% UNLESS OTHERWISE SPECIFIED.
 2. * DENOTES RESISTORS MOUNTED UP FROM P.C.B.
 3. C DENOTES PARTS MOUNTED ON MAIN HEATSINK.
 4. # DENOTES PARTS USED FOR FTZ ONLY.
 5. R428 AND R426 USED FOR IDLING CURRENT ADJUST ONLY MUST BE SHORTED IN NORMAL OPERATION.
 6. VOLTAGES SHOWN ARE MEASURED WITH NO SIGNAL APPLIED.

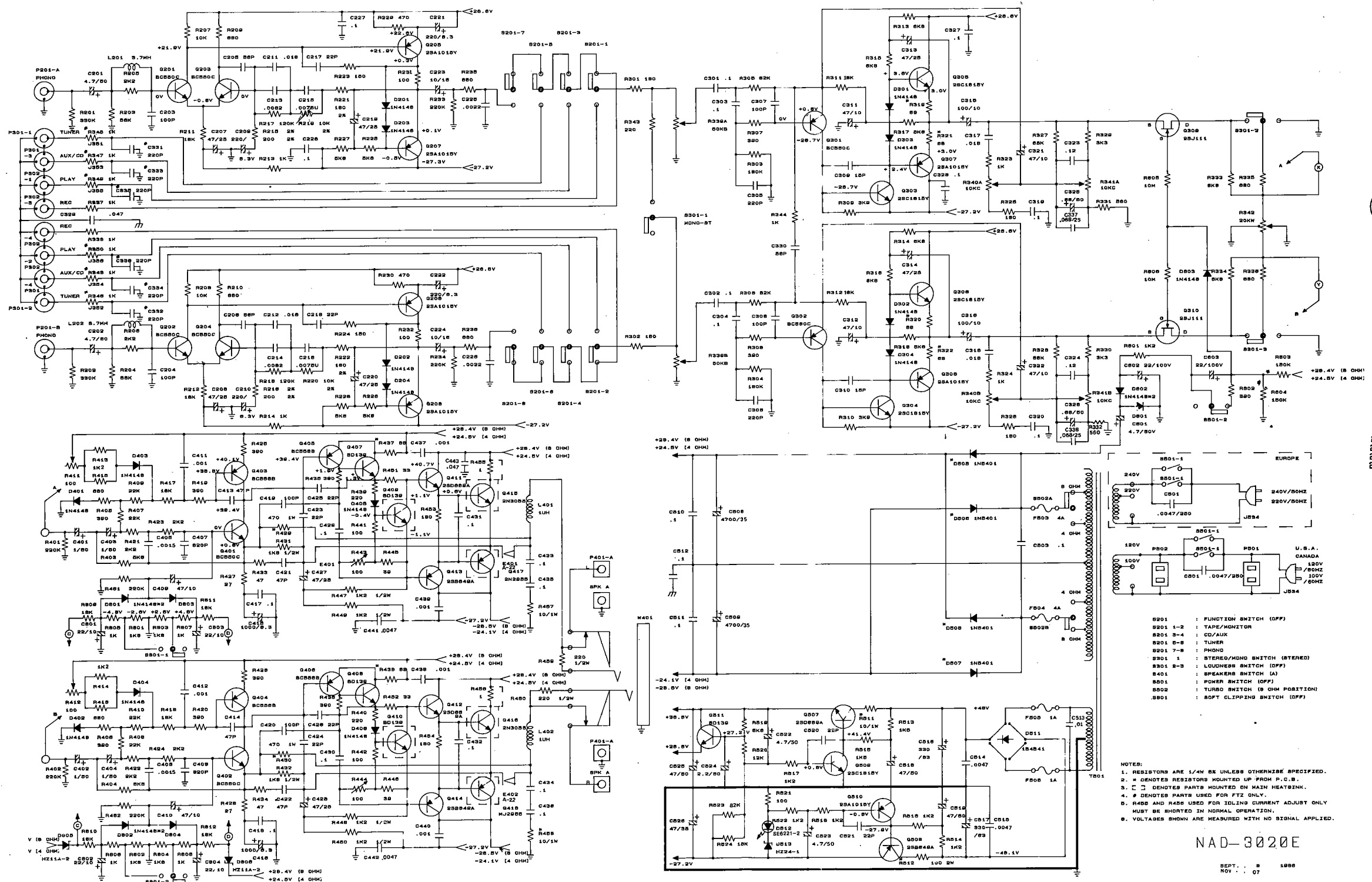
NAD-3220PE

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 NOV. 07

NAD3020e AMPLIFIER PCB LAYOUT



SCHEMATIC DIAGRAM NAD3020E AMPLIFIER



-  2N3055
MJ2955
-  BD139
2SB669
2SD649
-  2SJ111
-  BC550C
BC556B
BC560C
-  2SA950
2SA1015
2SC1815
2SC2120

- S201 : FUNCTION SWITCH (OFF)
- S201 1-2 : TAPE/MONITOR
- S201 3-4 : CD/AUX
- S201 5-6 : TUNER
- S201 7-8 : PHONO
- S201 9 : STEREO/MONO SWITCH (STEREO)
- S201 10 : VOLUME SWITCH (OFF)
- S201 11 : LOUDNESS SWITCH (OFF)
- S401 : SPEAKER SWITCH (A)
- S801 : POWER SWITCH (OFF)
- S802 : TURBO SWITCH (0 OHM POSITION)
- S801 : SOFT CLIPPING SWITCH (OFF)

NOTES:
 1. RESISTORS ARE 1/4W UNLESS OTHERWISE SPECIFIED.
 2. * DENOTES RESISTORS MOUNTED UP FROM P.C.B.
 3. □ DENOTES PARTS MOUNTED ON MAIN HEATSINK.
 4. # DENOTES PARTS USED FOR FTZ ONLY.
 5. R440 AND R450 USED FOR IDLING CURRENT ADJUST ONLY MUST BE SHORTED IN NORMAL OPERATION.
 6. VOLTAGES SHOWN ARE MEASURED WITH NO SIGNAL APPLIED.

NAD-3020E

SEPT. 8 1988
NOV. 07

3220PE/3020e PARTS LIST

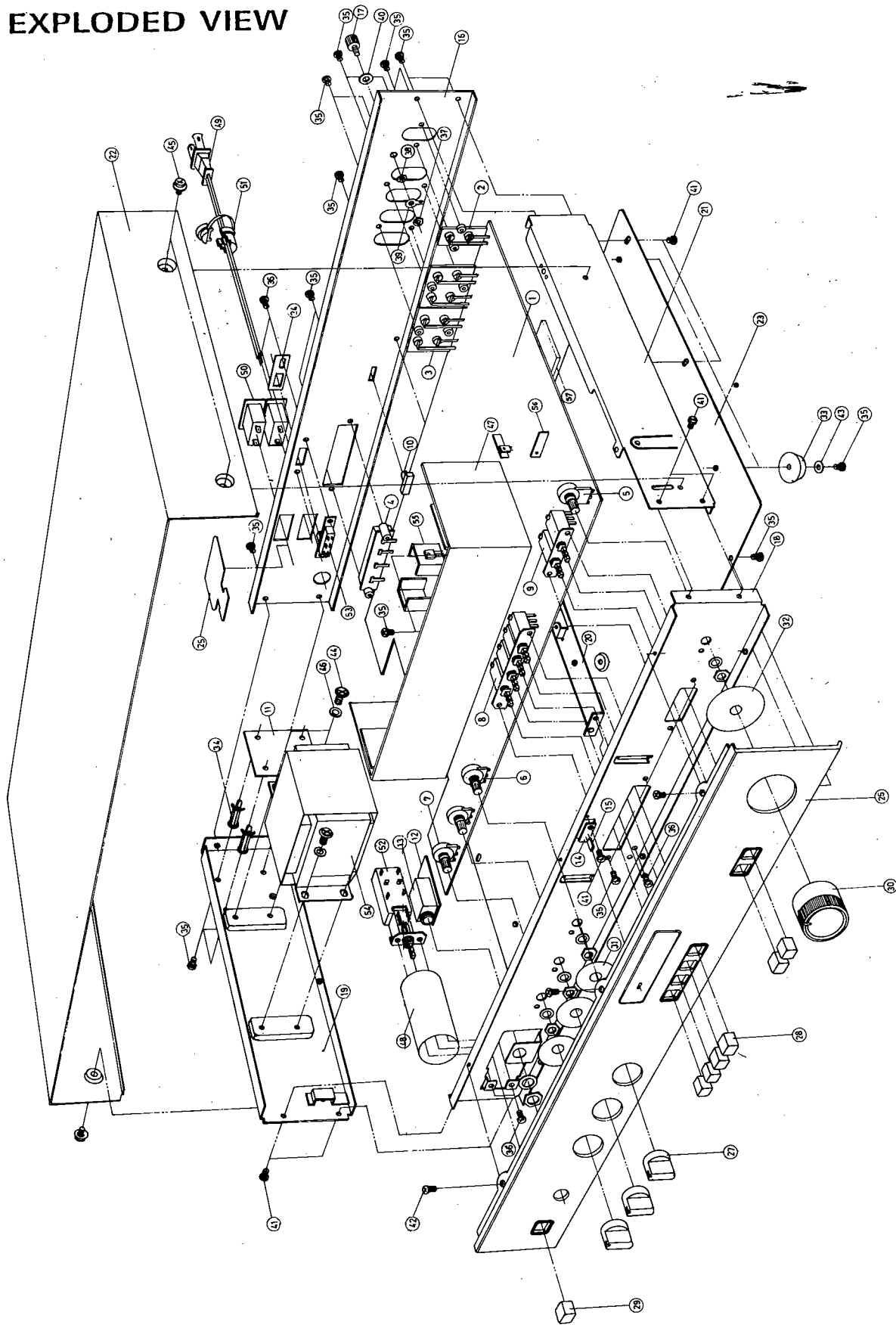
SYMBOL NO	PART NO	DESCRIPTION	REF
C201 C202	5213647991	Cap.El. 4.7uF +75-50% 50V	
C203 C204	5247010191	Cap.Cer. 100P +/-5% 50WV	
C205 C206	5247056091	Cap.Cer. 56P +/-5% 50WV	
C207 C208	5213447091	Cap.El. 47uF +50-10% 25V	
C209 C210	5213122191	Cap.El. 220uF +50-10% 6.3V	
C211 C212	522218391	Cap.Poly. 18000PF +/-5% 50WV	
C213 C214	5222182291	Cap.Poly. 8200PF +/-5% 50WV	
C215 C216	5222175291	Cap.Poly. 7500PF +/-5% 50WV	
C217 C218	5247022091	Cap.Cer. 22PF +/-5% 50WV	
C219 C220	5213447012	Cap.El. 47uF +50-10% 25V	
C221 C222	5213122191	Cap.El. 220uF +50-10% 6.3V	
C223 C224	5213310091	Cap.El. 10uF +50-10% 16V	
C225 C226	5222122291	Cap.Poly. 2200PF +/-5% 50WV	
C227 C228	5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
C301 C302	5222110491	Cap.Poly. 0.1uF +/-5% 50WV	
C303 C304	5222110491	Cap.Poly. 0.1uF +/-5% 50WV	
C305 C306	5247122191	Cap.Cer. 220PF +/-5% 50WV	
C307 C308	5247010191	Cap.Cer. 100PF +/-5% 50WV	
C309 C310	5247015091	Cap.Cer. 15PF +/-5% 50WV	
C311 C312	5213247091	Cap.El. 47uF +50-10% 10V	
C313 C314	5213447091	Cap.El. 47uF +50-10% 25V	
C315 C316	5213210191	Cap.El. 100uF +50-10% 10V	
C317 C318	5222118391	Cap.Poly. 18000PF +/-5% 50WV	
C319 C320	5222110491	Cap.Poly. 0.1uF +/-5% 50WV	
C321 C322	5213447091	Cap.El. 47uF +50-10% 10V	
C323 C324	5222112401	Cap.Poly. 0.12uF +/-5% 50WV	
C325 C326	5215001391	Cap.El. 0.68uF +/-10% 50V	
C327 C328	5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
C329	5231847391	Cap.Cer. 47000PF +80-20% 50WV	
C330	5247056091	Cap.Cer. 56PF +/-5% 50WV	
C331 C332	5247122191	Cap.Cer. 220PF +/-10% 50WV	
C333 C334	5247122191	Cap.Cer. 220PF +/-10% 50WV	
C335 C336	5247122191	Cap.Cer. 220PF +/-10% 50WV	
C337 C338	5236168301	Sem.Cer. 0.068uF +/-10% 25WV	
C401 C402	5213601091	Cap.El. 1uF +75-10% 50V	
C403 C404	5213601091	Cap.El. 1uF +75-10% 50V	
C405 C406	5222115291	Cap.Poly. 1500PF +/-5% 50WV	
C407 C408	5231382191	Cap.Cer. 820PF +/-10% 50WV	
C409 C410	5213247091	Cap.El. 47uF +50-10% 10V	
C411 C412	5222110291	Cap.Poly. 1000PF +/-5% 50WV	
C413 C414	5247047091	Cap.Cer. 47PF +/-5% 50WV	
C415 C416	5213110212	Cap.El. 1000uF +50-10% 6.3V	
C417 C418	5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
C419 C420	5247010191	Cap.Cer. 100PF +/-5% 50WV	
C421 C422	5247047091	Cap.Cer. 47PF +/-5% 50WV	
C423 C424	5247022091	Cap.Cer. 22PF +/-5% 50WV	
C425 C426	5247022091	Cap.Cer. 22PF +/-5% 50WV	
C427 C428	5213447091	Cap.El. 47uF +50-10% 25V	
C429 C430	5222110491	Cap.Poly. 0.1uF +/-5% 50WV	
C431 C432	5222110491	Cap.Poly. 0.1uF +/-5% 50WV	
C433 C434	5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
C435 C436	5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
C437 C438	5231510291	Cap.Cer. 1000PF +/-20% 50WV	
C439 C440	5231510291	Cap.Cer. 1000PF +/-20% 50WV	
C441 C442	5231547291	Cap.Cer. 4700PF +/-20% 50WV	
C443	5231847391	Cap.Cer. 47000PF +80-20% 50WV	
C501	5270103000	Cap.Poly. 4700PF +/-20% 250V	
C502	5232000101	Cap.Cer. 10000PF +80-20% 500V	
C503	5232000101	Cap.Cer. 10000PF +80-20% 500V	
C504 C505	5213647091	Cap.El. 47uF +50-10% 50V	
C506 C507	5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
C508 C509	5210701601	Cap.El. 4700uF +50-10% 50V	
C509 C509	5210701801	Cap.El. 4700uF +50-10% 35V	
C510 C511	5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
C512	5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
C513	5232000101	Cap.Cer. 10000PF +80-20% 500V	
C514 C515	5231547291	Cap.Cer. 4700PF +/-20% 50WV	
C516 C517	5213733112	Cap.El. 330uF +50-10% 63V	
C518 C519	5213647091	Cap.El. 47uF +50-10% 50V	
C520 C521	5247022091	Cap.Cer. 22PF +/-5% 50WV	
C522 C523	5213647991	Cap.El. 4.7uF +75-10% 50V	
C524	5213622991	Cap.El. 2.2uF +75-10% 50V	
C525	5213647091	Cap.El. 47uF +50-10% 50V	
C526	5213547091	Cap.El. 47uF +50-10% 35V	
C601	5213647991	Cap.El. 4.7uF +75-10% 50V	
C602 C603	5214122012	Cap.El. 22uF +50-10% 10V	
C801 C802	5213222091	Cap.El. 22uF +50-10% 10V	
C803 C804	5213222091	Cap.El. 22uF +50-10% 10V	
D201 D202	6613003030	Diode. 1N4148	
D203 D204	6613003030	Diode. 1N4148	
D301 D302	6613003030	Diode. 1N4148	
D303 D304	6613003030	Diode. 1N4148	
D401 D402	6613003030	Diode. 1N4148	
D403 D404	6613003030	Diode. 1N4148	
D405 D406	6613003030	Diode. 1N4148	
D406	6613003030	Diode. 1N4148	
D501 D502	6611000800	Diode. 1N5401 3A 100V	
D503 D504	6611000800	Diode. 1N5401 3A 100V	
D505 D506	6611000800	Diode. 1N5401 3A 100V	
D507 D508	6611000800	Diode. 1N5401 3A 100V	
D509 D510	6611000800	Diode. 1N5401 3A 100V	
D511	6611012400	Diode. 1B4B41 1A 100V	
D512	6618005002	LED. SE6221-1 Green	
D513	6611016101	Zener. HZ-24-1	
D601 D602	6613003030	Diode. 1N4148	
D603	6613003030	Diode. 1N4148	
D801 D802	6613003030	Diode. 1N4148	
D803 D804	6613003030	Diode. 1N4148	
D805 D806	6615007900	Zener. HZ-11A-2	

SYMBOL NO	PART NO	DESCRIPTION	REF
E401 E402	5554432210	Breaker. A-35 3.5A	3220
E501 E502	5554432200	Breaker. A-22 2.2A	3020
F501 F502	5554432500	PTC SW. RDE185A 1.85A	3220
F503 F504	5554309800	Fuse. 4A/125V UL/CSA	A/A1
F501 F502	5554307400	Fuse. 4A/250V SEMIKO	B/B1/C/C1
F503 F504	5554309800	Fuse. 4A/125V UL/CSA	A/A1 3220
F503 F504	5554307400	Fuse. 4A/250V SEMIKO	B/B1/C/C1 3220
F505 F506	5554309810	Fuse. 1A/125V UL/CSA	A/A1
F505 F506	5554306800	Fuse. 1A/250V SEMIKO	B/B1/C/C1
L201 L202	5564401300	Coil. 3.7mH	
L401 L402	5562000500	Coil. 1uH	
P201	5556204700	Jack. Signal 2P	
P301 P302	5556204600	Jack. Signal 4P	
P303	5556900810	Wire. Parallel 9P	
P304	5556900800	Wire. Parallel 9P	
P401	5556204400	Terminal 4P	
P406	5556900630	Wire. Parallel 7P	
P501P502	5556308320	Socket. Power AC	A/A1
P503 P504	5547032210	Fuse Clip.CQ-203S	
P505 P506	5547032210	Fuse Clip.CQ-203S	
P507 P508	5547032210	Fuse Clip.CQ-203S	
P509 P510	5547032210	Fuse Clip.CQ-203S	
P511 P512	5547032210	Fuse Clip.CQ-203S	
P513 P514	5547032210	Fuse Clip.CQ-203S	
P517	5547501200	Bushing SR-4P-4	Power
P522	5556400600	Fasten Top S-1	
P523	5556400601	Fasten Top M-1	
P524	5556400600	Fasten Top S-1	
P801	5556900340	Wire. Parallel 4P	
Q201 Q202	6621029500	Tr. BC550C	
Q203 Q204	6621029500	Tr. BC550C	
Q205 Q206	6623002050	Tr. 2SA1015-Y	
Q207 Q208	6623002050	Tr. 2SA1015-Y	
Q301 Q302	6623009700	Tr. BC560C	
Q303 Q304	6621015332	Tr. 2SC1815-Y	
Q305 Q306	6621015332	Tr. 2SC1815-Y	
Q307 Q308	6623002050	Tr. 2SA1015-Y	
Q309 Q310	6625003000	Tr. FET J111	
Q401 Q402	6621029500	Tr. BC550C	
Q403 Q404	6623005200	Tr. BC556B	
Q405 Q406	6623005200	Tr. BC556B	
Q407 Q408	6622016700	Tr. BD139	
Q409 Q410	6622016700	Tr. BD139	
Q411 Q412	6622012802	Tr. 2SD669A-C	
Q413 Q414	6624009401	Tr. 2SB649A-C	
Q415 Q416	6622002501	Tr. 2N3055	
Q417 Q418	6624004901	Tr. HJ2955	
Q501	6623002020	Tr. 2SA1015-Y	3220
Q502	6621015302	Tr. 2SC1815-Y	3220
Q503	6623002801	Tr. 2SA950-Y	3220
Q504	6621007401	Tr. 2SC2120-Y	3220
Q505	6624309900	Tr. 2SB633D	3220
Q506	6622016900	Tr. 2SD613D	3220
Q507	6622012802	Tr. 2SD699A-C	
Q508	6624009401	Tr. 2SB649A-C	
Q509	6621015332	Tr. 2SC1815-Y	
Q510	6623002050	Tr. 2SA1015-Y	
Q511	6622016700	Tr. BD139	
R201 R202	5142833490	Res.Carb 330K +/-5% 1/4W	
R203 R204	5142856390	Res.Carb 56K +/-5% 1/4W	
R205 R206	5142822290	Res.Carb 2.2K +/-5% 1/4W	
R207 R208	5142810390	Res.Carb 10K +/-5% 1/4W	
R209 R210	5142868190	Res.Carb 680 +/-5% 1/4W	
R211 R212	5142818390	Res.Carb 18K +/-5% 1/4W	
R213 R214	5142810290	Res.Carb 1K +/-5% 1/4W	
R215 R216	5141820190	Res.Carb 200 +/-2% 1/4W	
R217 R218	5141812490	Res.Carb 120K +/-2% 1/4W	
R219 R220	5141810390	Res.Carb 10K +/-2% 1/4W	
R221 R222	5141818190	Res.Carb 180 +/-2% 1/4W	
R223 R224	5142815190	Res.Carb 150 +/-5% 1/4W	
R225 R226	5142856290	Res.Carb 9.6K +/-5% 1/4W	
R227 R228	5142856290	Res.Carb 5.6K +/-5% 1/4W	
R229 R230	5142847190	Res.Carb 470 +/-5% 1/4W	
R231 R232	5142810190	Res.Carb 100 +/-5% 1/4W	
R233 R234	5142822490	Res.Carb 220K +/-5% 1/4W	
R235 R236	5142868190	Res.Carb 680 +/-5% 1/4W	
R301 R302	5142818190	Res.Carb 180 +/-5% 1/4W	
R303 R304	5142818490	Res.Carb 180K +/-5% 1/4W	
R305 R306	5142882390	Res.Carb 82K +/-5% 1/4W	
R307 R308	5142839190	Res.Carb 390 +/-5% 1/4W	
R309 R310	5142839290	Res.Carb 3.9K +/-5% 1/4W	
R311 R312	5142818390	Res.Carb 18K +/-5% 1/4W	
R313 R314	5142868290	Res.Carb 6.8K +/-5% 1/4W	
R315 R316	5142868290	Res.Carb 6.8K +/-5% 1/4W	
R317 R318	5142856290	Res.Carb 5.6K +/-5% 1/4W	
R319 R320	5142868000	Res.Carb 68 +/-5% 1/4W	
R321 R322	5142868000	Res.Carb 68 +/-5% 1/4W	
R323 R324	5142810290	Res.Carb 1K +/-5% 1/4W	
R325 R326	5142818190	Res.Carb 180 +/-5% 1/4W	
R327 R328	5142868390	Res.Carb 68K +/-5% 1/4W	
R329 R330	5142833290	Res.Carb 3.3K +/-5% 1/4W	
R331 R332	5142856190	Res.Carb 560 +/-5% 1/4W	
R333 R334	5142868290	Res.Carb 6.8K +/-5% 1/4W	
R335 R336	5142868190	Res.Carb 680 +/-5% 1/4W	
R337 R338	5142810290	Res.Carb 1K +/-5% 1/4W	
R339	5169020261	Res.VR 50KB*2	
R340 R341	5169020301	Res.VR 10KC*2	
R342	5169010361	Res.VR 20KW	
R343	5142822190	Res.Carb 220 +/-5% 1/4W	
R344	5142810290	Res.Carb 1K +/-5% 1/4W	
R345 R346	5142810290	Res.Carb 1K +/-5% 1/4W	

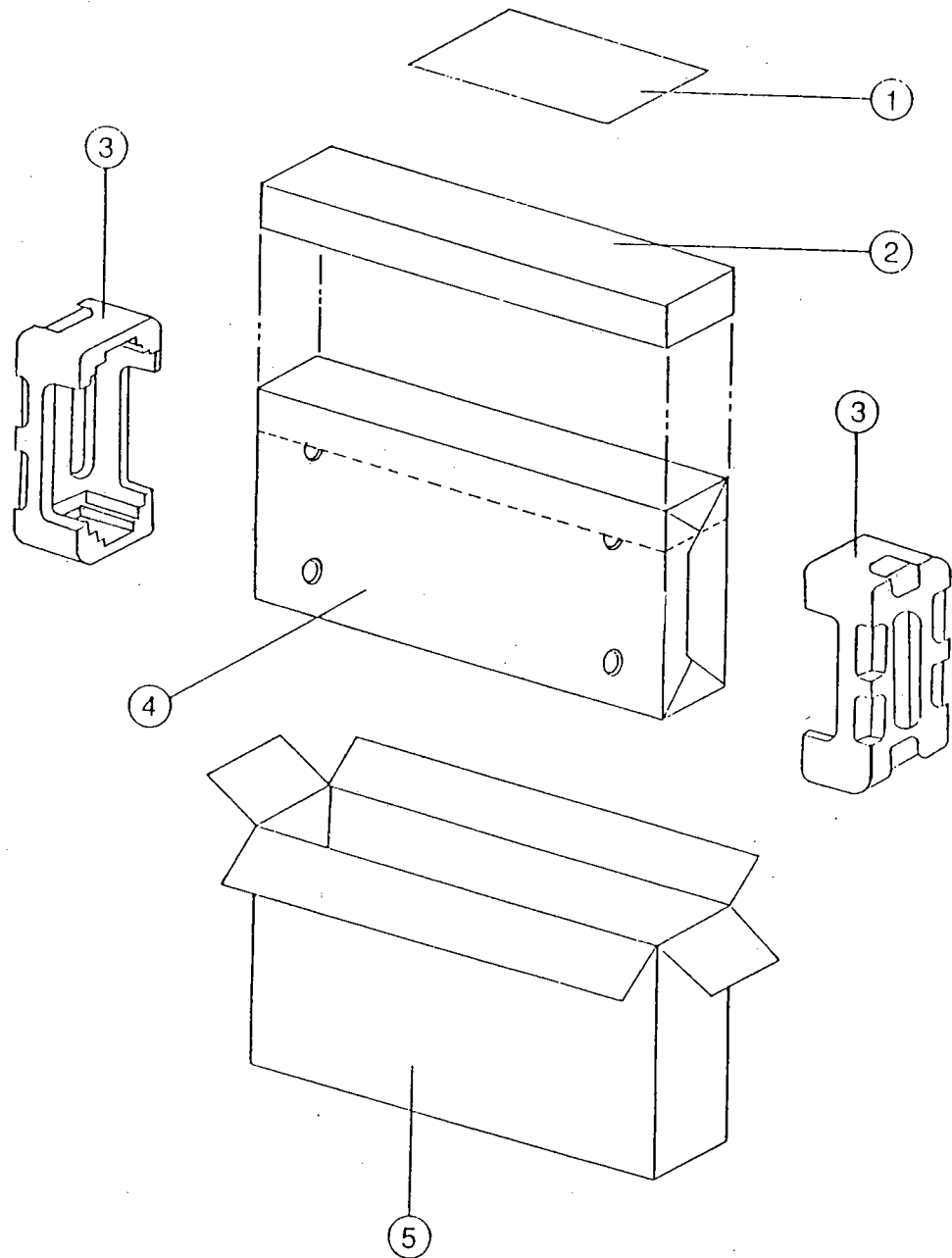
3220PE/3020e PARTS LIST

SYMBOL NO	PART NO	DESCRIPTION	REF
R347 R348	5142810290	Res.Carb 1K +/-5% 1/4W	
R349 R350	5142810290	Res.Carb 1K +/-5% 1/4W	
R401 R402	5142822490	Res.Carb 220K +/-5% 1/4W	
R403 R404	5142856290	Res.Carb 5.6K +/-5% 1/4W	
R405 R406	5142839190	Res.Carb 390 +/-5% 1/4W	
R407 R408	5142822390	Res.Carb 22K +/-5% 1/4W	
R409 R410	5142822390	Res.Carb 22K +/-5% 1/4W	
R411 R412	5162310120	Res.SVR 100	
R413 R414	5142812290	Res.Carb 1.2K +/-5% 1/4W	
R415 R416	5142868190	Res.Carb 680 +/-5% 1/4W	
R417 R418	5142818390	Res.Carb 18K +/-5% 1/4W	
R419 R420	5142839190	Res.Carb 390 +/-5% 1/4W	
R421 R422	5142822290	Res.Carb 2.2K +/-5% 1/4W	
R423 R424	5142822290	Res.Carb 2.2K +/-5% 1/4W	
R425 R426	5142839190	Res.Carb 390 +/-5% 1/4W	
R427 R428	5142827090	Res.Carb 27 +/-5% 1/4W	
R429 R430	5136347107	Res.Metal Oxide 470 +/-5% 1W	
R431 R432	5142418290		

EXPLODED VIEW



PACKING DIAGRAM



PACKING DIAGRAM FOR NAD-3220PE NAD-3020e

ITEM	PARTS NO.	NAME	Q'TY
1	5535121920	OWNS MANUAL	
2	9530520255	EPE BAG	1
3	9520520155	POLYLON	1
4	9530520155	PE BAG	2
5	9510520255	GIFT BOX (NAD-3220PE) OR	1
5	9510520155	GIFT BOX (NAD-3020e)	1