NAD SERVICE MANUAL

3220PE
3020e
INTEGRATED AMPLIFIERS

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3220PE/3020e

d.
not in U.K. version).

nd.

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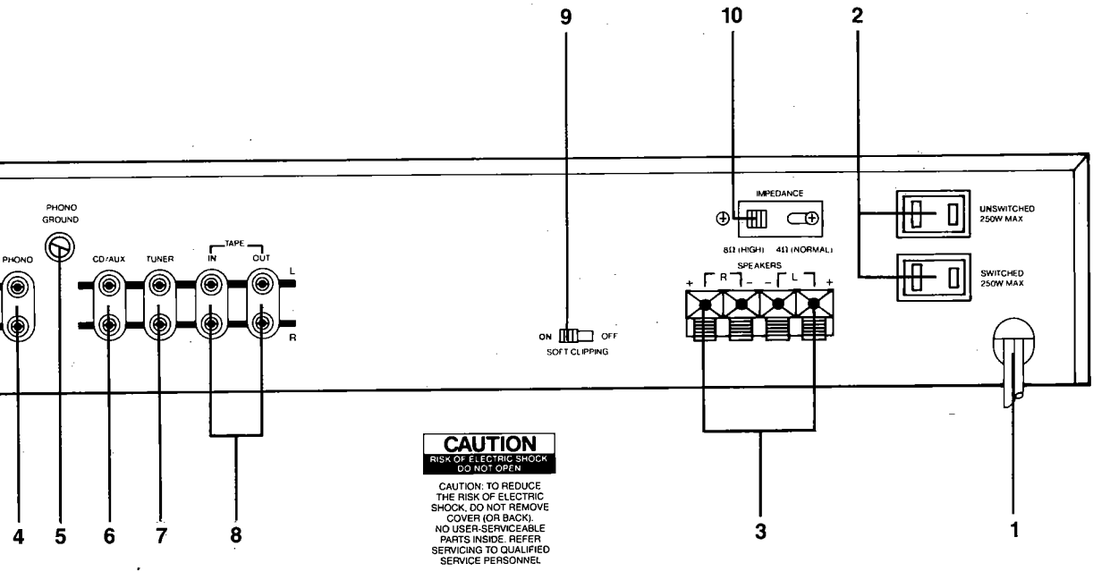
9. Soft Clipping.
10. Speaker Impedance.



6. Input Selector.
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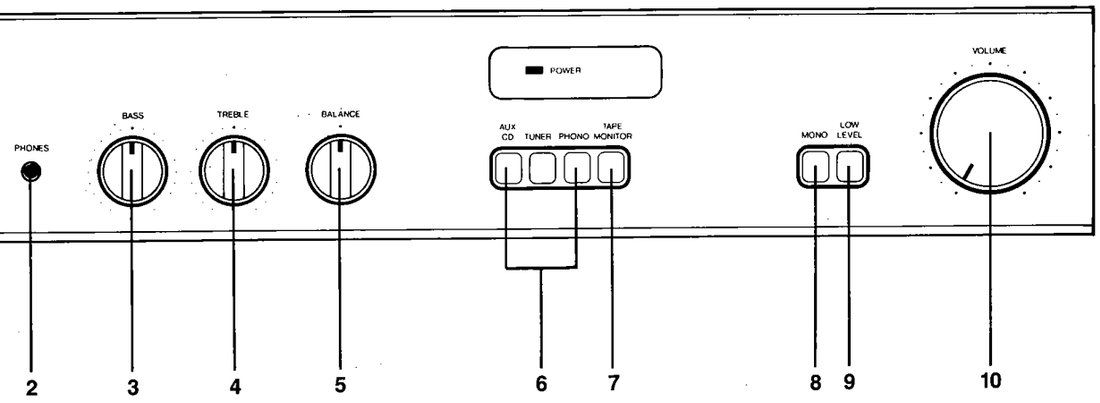


SPECIFICATIONS

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	+4.4dB	+ 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/usc
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 idiling current.
INITIAL ADJUSTMENT (No load connected)

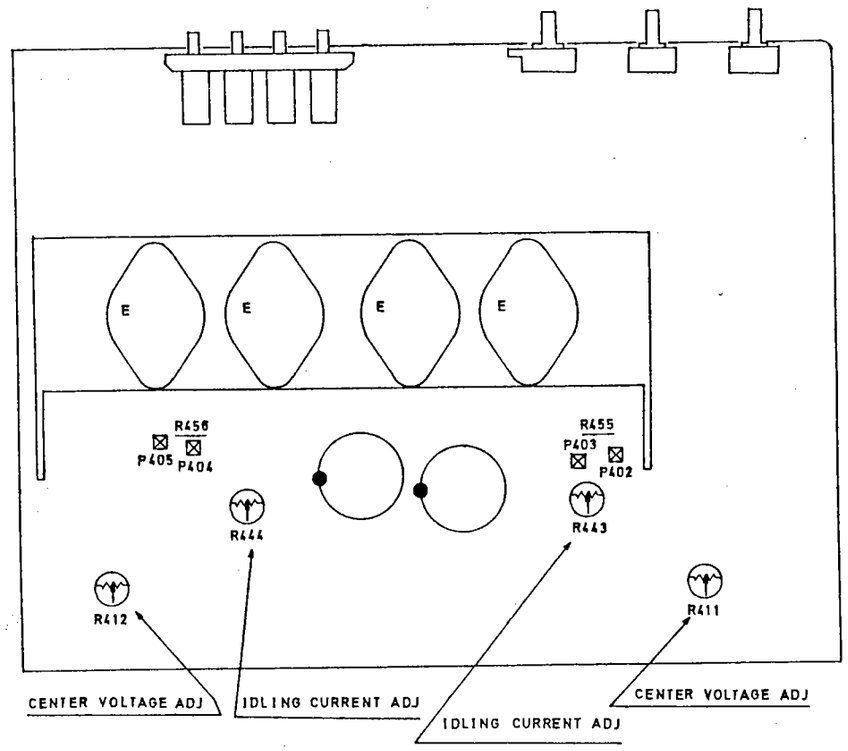
A. CENTER VOLTAGE
1. Connector DC millivoltmeter to L channel output terminal.
2. Turn on and adjust to 0 V+/-30mV with R411(100 ohm). Connect DC millivoltmeter to R channel output terminal and adjust R412 to 0 V+/-30mV.

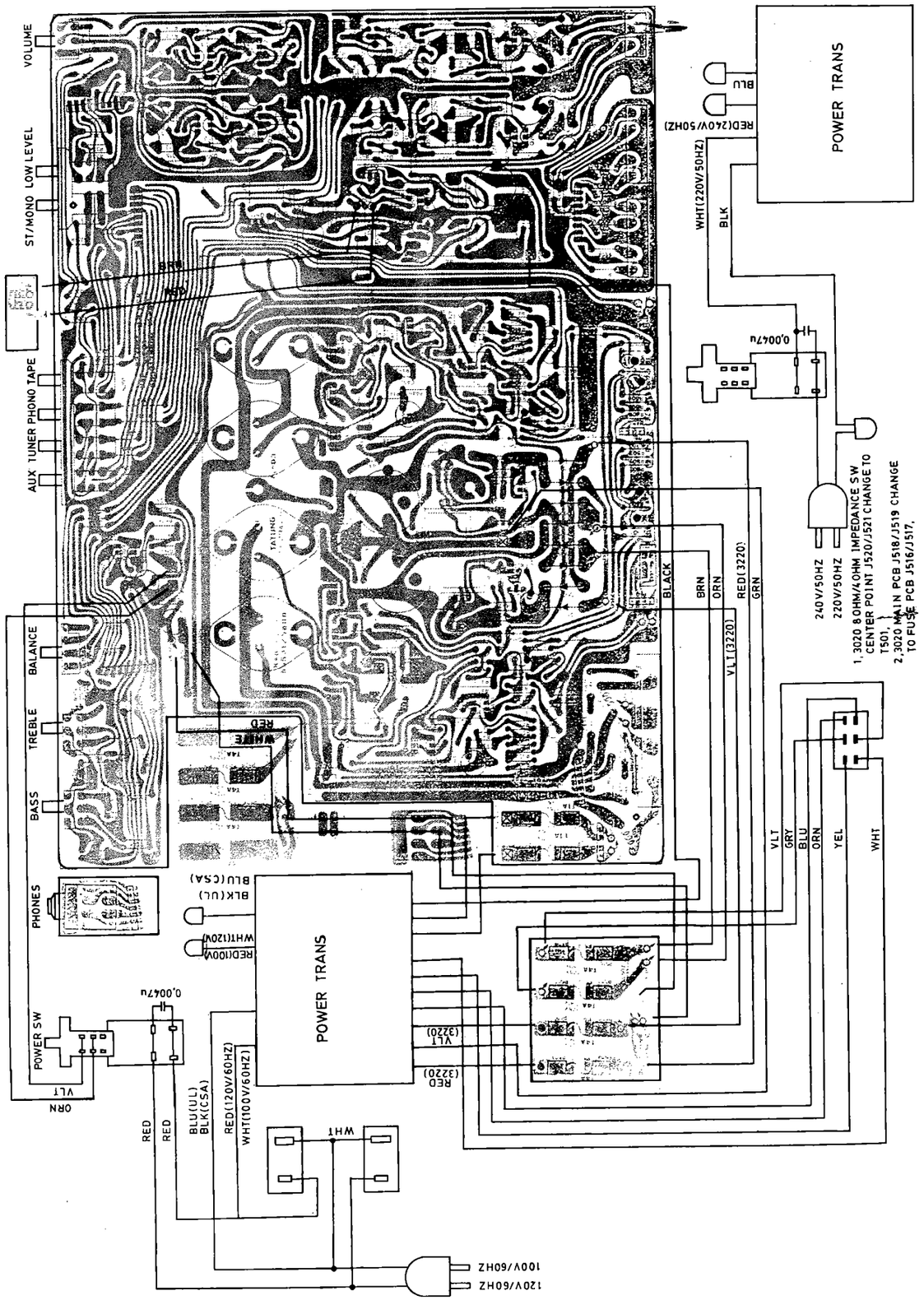
B. IDILING CURRENT
1. Remove solder short across R455 and R456.
2. Connect DC millivoltmeter across R455 (1 ohm) (output transistor's collector resistor) and adjust R443 for 26-30mV reading on meter. Repeat adjustment with R444, connecting meter across R456 (1 ohm).
3. Leave power on for minimum 5 minutes.

FINAL ADJUSTMENT

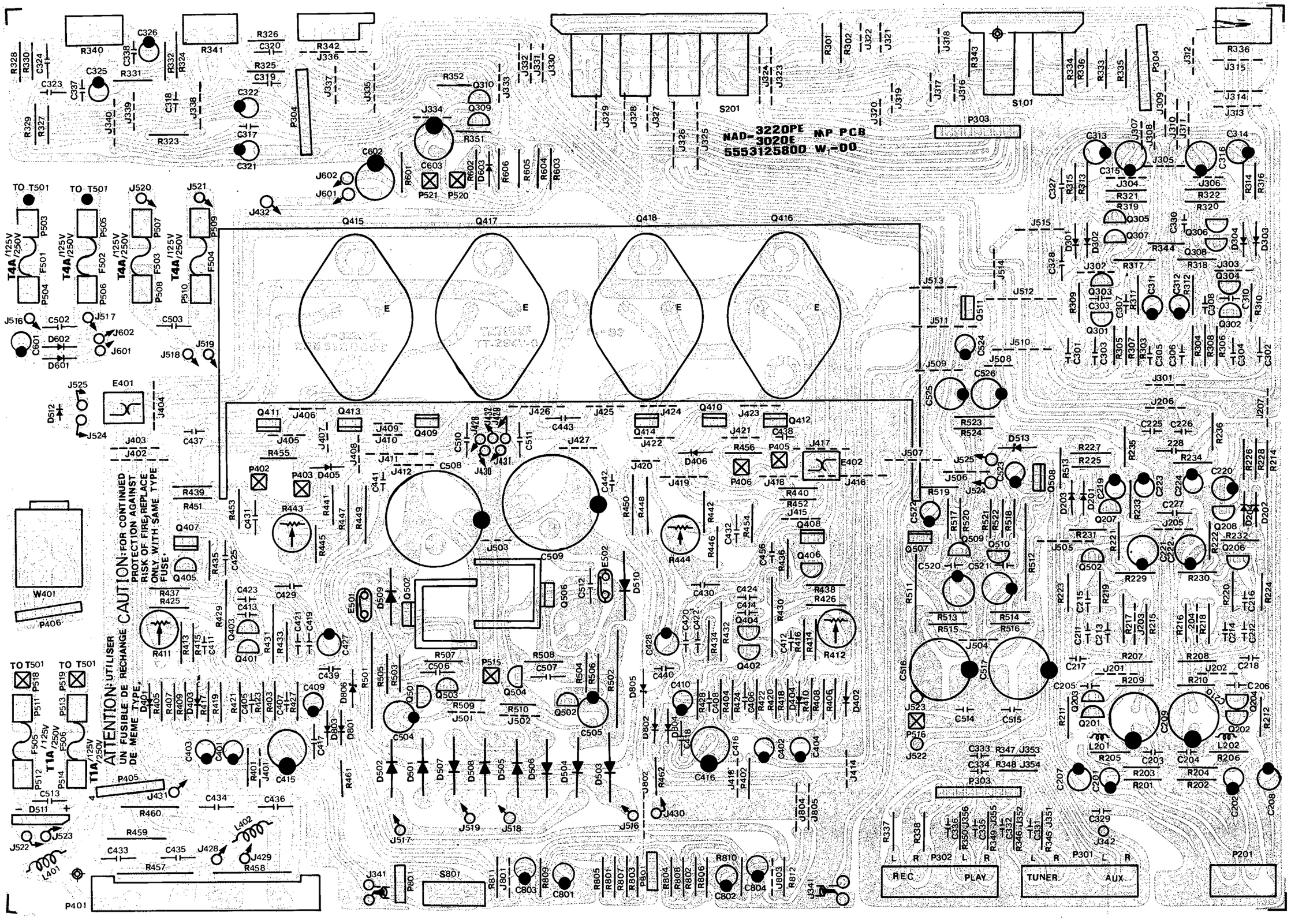
C. CENTER VOLTAGE
1. Repeat step A about.

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

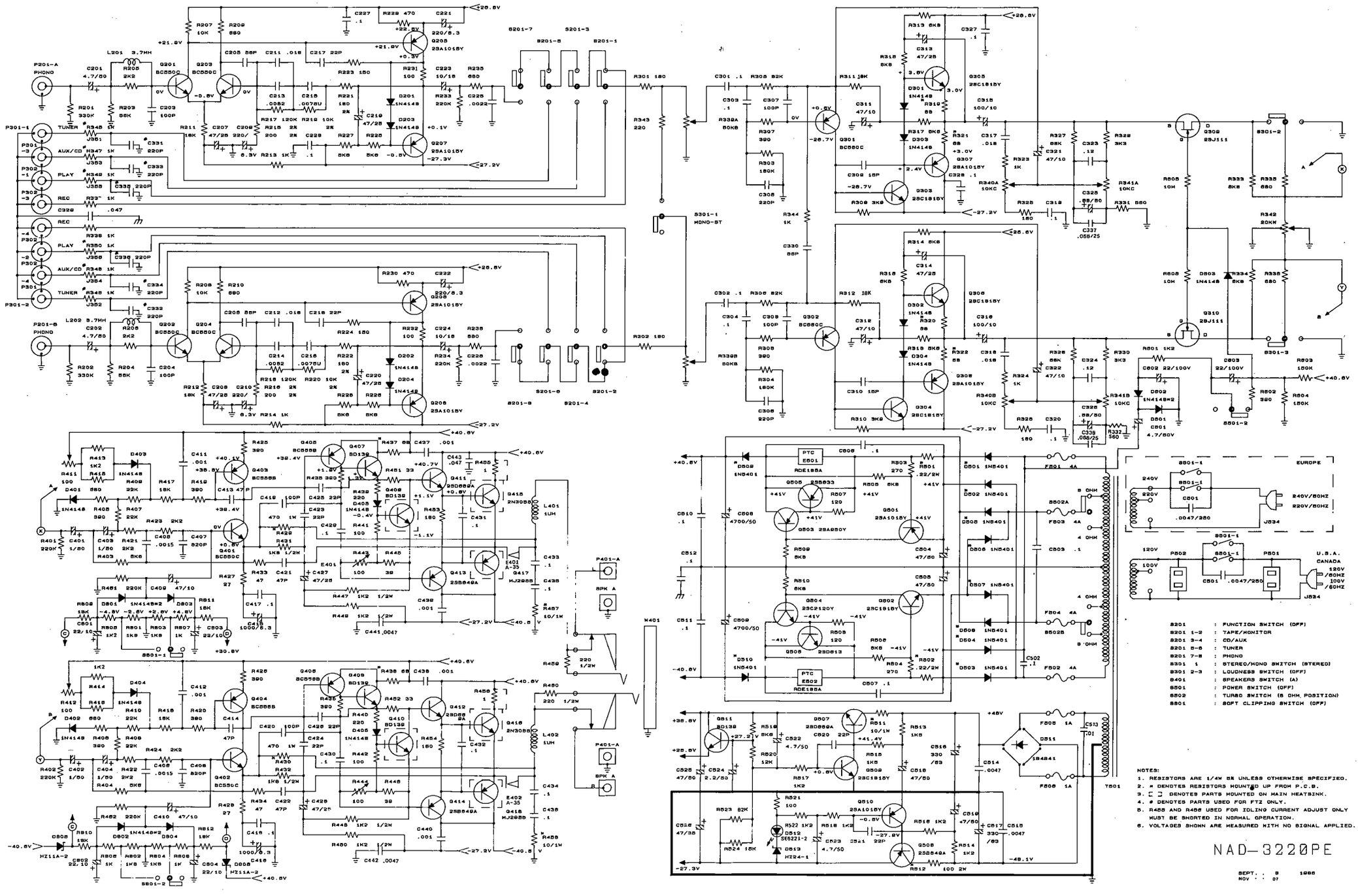


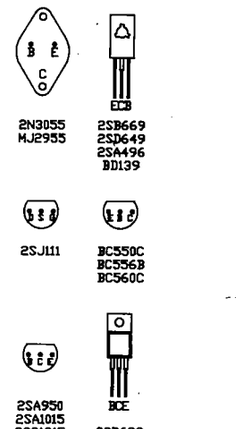


NAD 3220PE AMPLIFIER PCB LAYOUT

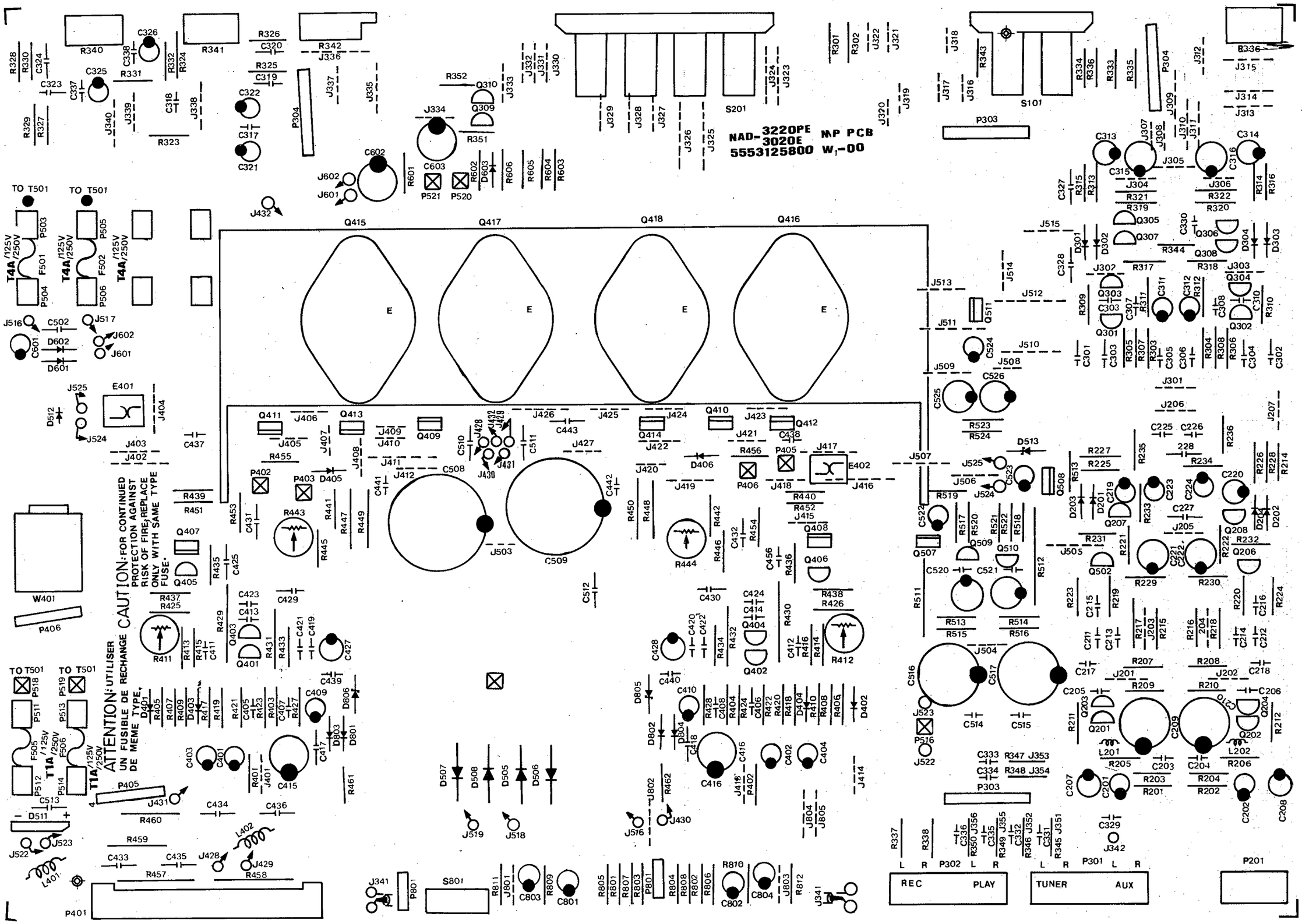


SCHEMATIC DIAGRAM NAD3220PE AMPLIFIER

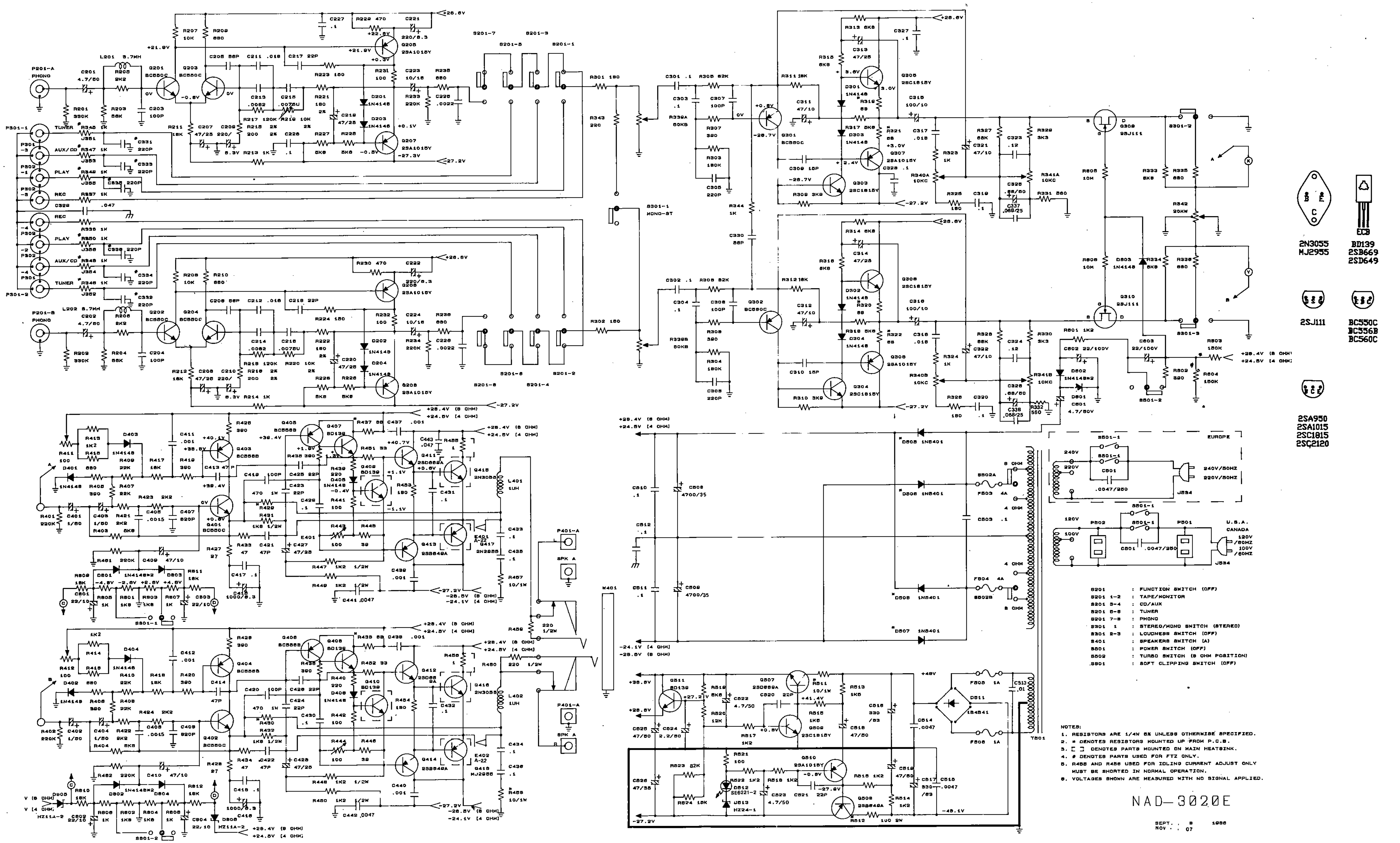




NAD3020e AMPLIFIER PCB LAYOUT



SCHEMATIC DIAGRAM NAD3020e AMPLIFIER



S201	:	FUNCTION SWITCH (OFF)
S201 1-2	:	TAPE/MONITOR
S201 3-4	:	CD/AUX
S201 5-6	:	TUNER
S201 7-8	:	PHONO
S301 1	:	STEREO/MONO SWITCH (STEREO)
S301 2-3	:	LOUDNESS SWITCH (OFF)
S401	:	SPEAKERS SWITCH (A)
S501	:	POWER SWITCH (OFF)
S502	:	TURBO SWITCH (8 OHM POSITION)
S801	:	SOFT CLIPPING SWITCH (OFF)

NOTES:
1. RESISTORS ARE 1/4W 5% 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. R455 AND R456 USED FOR IDLING CURRENT ADJUST ONLY MUST BE SHORTED IN NORMAL OPERATION.
6. VOLTAGES SHOWN ARE MEASURED WITH NO SIGNAL APPLIED.

NAD-3020E

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OPE/3020e PARTS LIST

PART NO	DESCRIPTION	REF
5213647991	Cap.El. 4.7uF +75-50% 50V	
5247010191	Cap.Cer. 100P +/-5% 50WV	
5247056091	Cap.Cer. 56P +/-5% 50WV	
5213447091	Cap.El. 47uF +50-10% 25V	
5213122191	Cap.El. 220uF +50-10% 6.3V	
5222118391	Cap.Poly. 18000PF +/-5% 50WV	
5222182291	Cap.Poly. 8200PF +/-5% 50WV	
5222175291	Cap.Poly. 7500PF +/-5% 50WV	
5247022091	Cap.Cer. 22PF +/-5% 50WV	
5213447012	Cap.El. 47uF +50-10% 25V	
5213122191	Cap.El. 220uF +50-10% 6.3V	
5213310091	Cap.El. 10uF +50-10% 16V	
5222122291	Cap.Poly. 2200PF +/-5% 50WV	
5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
5222110491	Cap.Poly. 0.1uF +/-5% 50WV	
5222110491	Cap.Poly. 0.1uF +/-5% 50WV	
5247122191	Cap.Cer. 220PF +/-5% 50WV	
5247010191	Cap.Cer. 100PF +/-5% 50WV	
5247015091	Cap.Cer. 15PF +/-5% 50WV	
5213247091	CaT.El. 47uF +50-10% 10V	
5213447091	Cap.El. 47uF +50-10% 25V	
5213210191	Cap.El. 100uF +50-10% 10V	
5222118391	Cap.Poly. 18000PF +/-5% 50WV	
5222110491	CaP.Poly. 0.1UF +/-5% 50WV	
5213447091	CaP.El. 47UF +50-10% 10V	
5222112401	Cap.Poly. 0.12uF +/-5% 50WV	
5215001391	Cap.El. 0.68uF +/-10% 50V	
5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
5231847391	Cap.Cer. 47000PF +80-20% 50WV	
5247056091	Cap.Cer. 56PF +/-5% 50WV	
5247122191	Cap.Cer. 220PF +/-10% 50WV	FTZ USE
5247122191	Cap.Cer. 220PF +/-10% 50WV	FTZ USE
5247122191	Cap.Cer. 220PF +/-10% 50WV	FTZ USE
5236168301	Sem.Cer. 0.068uF +/-10% 25WV	
5213601091	Cap.El. 1uF +75-10% 50V	
5213601091	Cap.El. 1uF +75-10% 50WV	
5222115291	Cap.Poly. 1500PF +/-5% 50WV	
5231382191	Cap.Cer. 820PF +/-10% 50WV	
5213247091	Cap.El. 47uF +50-10% 10V	
5222110291	Cap.Poly. 1000PF +/-5% 50WV	
5247047091	Cap.Cer. 47PF +/-5% 50WV	
5213110212	Cap.El. 1000uF +50-10% 6.3V	
5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
5247010191	Cap.Cer. 100PF +/-5% 50WV	
5247047091	Cap.Cer. 47PF +/-5% 50WV	
5247022091	Cap.Cer. 22PF +/-5% 50WV	
5247022091	Cap.Cer. 22PF +/-5% 50WV	
5213447091	Cap.El. 47uF +50-10% 25V	
5222110491	Cap.Poly. 0.1uF +/-5% 50WV	
5222110491	Cap.Poly. 0.1uF +/-5% 50WV	
5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
5231510291	Cap.Cer. 1000PF +/-20% 50WV	
5231510291	Cap.Cer. 1000PF +/-20% 50WV	
5231547291	Cap.Cer. 4700PF +/-20% 50WV	
5231847391	Cap.Cer. 47000PF +80-20% 50WV	
5270103000	Cap.Poly. 4700PF +/-20% 250V	
5232000101	Cap.Cer. 10000PF +80-20% 500V	
5232000101	Cap.Cer. 10000PF +80-20% 500V	3220
5213647091	Cap.El. 47uF +50-10% 50V	3220
5231810401	Cap.Cer. 0.1uF +80-20% 50WV	3220
5210701601	Cap.El. 4700uF +50-10% 50V	3220
5210701801	Cap.El. 4700uF +50-10% 35V	3020
5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
5231810401	Cap.Cer. 0.1uF +80-20% 50WV	
5232000101	Cap.Cer. 10000PF +80-20% 500V	
5231547291	Cap.Cer. 4700PF +/-20% 50WV	
5213733112	Cap.El. 330uF +50-10% 63V	
5213647091	Cap.El. 47uF +50-10% 50V	
5247022091	Cap.Cer. 22PF +/-5% 50WV	
5213647991	Cap.El. 4.7uF +75-10% 50V	
5213622991	Cap.El. 2.2uF +75-10% 50V	
5213647091	Cap.El. 47uF +50-10% 50V	
5213547091	Cap.El. 47uF +50-10% 35V	
5213647991	Cap.El. 4.7uF +75-10% 50V	
5214122012	Cap.El. 22uF +50-10% 10V	
5213222091	Cap.El. 22uF +50-10% 10V	
5213222091	Cap.El. 22uF +50-10% 10V	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6611000800	Diode. 1N5401 3A 100V	3220
6611000800	Diode. 1N5401 3A 100V	3220
6611000800	Diode. 1N5401 3A 100V	
6611000800	Diode. 1N5401 3A 100V	
6611000800	Diode. 1N5401 3A 100V	3220
6611012400	Diode. 1B4B41 1A 100V	
6618005002	LED. SE6221-1 Green	
6615016101	Zener. HZ-24-1	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6613003030	Diode. 1N4148	
6615007900	Zener. HZ-11A-2	

SYMBOL NO	PART NO	DESCRIPTION	REF
E401 E402	5554432210	Breaker. A-35 3.5A	3220
E401 E402	5554432200	Breaker. A-22 2.2A	3020
E501 E502	5554432500	PTC SW. RDE185A 1.85A	3220
F501 F502	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	3220
P509 P510	5547032210	Fuse Clip.CQ-203S	3220
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	B/B1/C/C1
P524	5556400600	Fasten Top S-1	B/B1/C/C1
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. MJ2955	
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	6624009900	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	

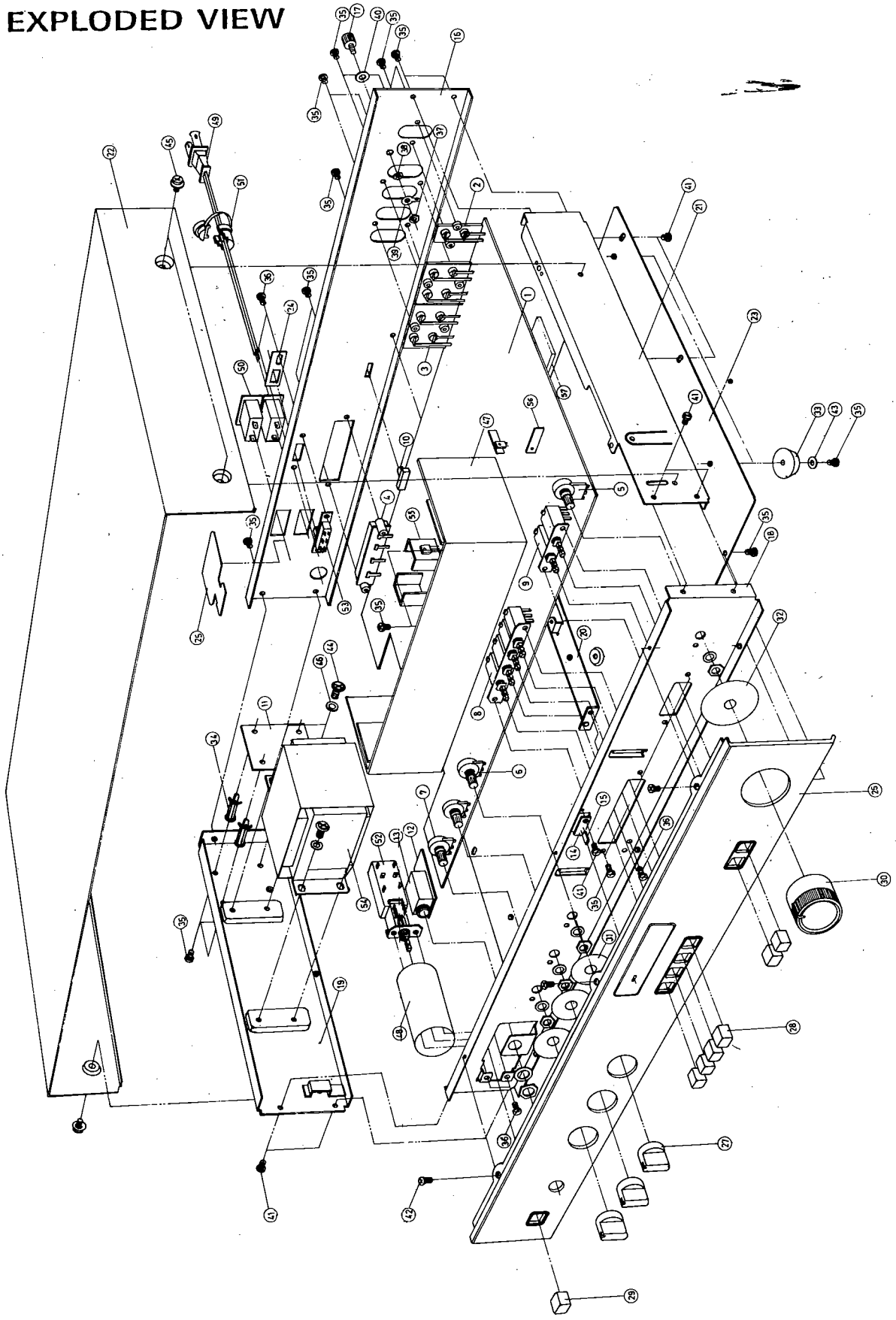
3220PE/3020e PARTS LIST

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	Res.Carb 1.8K +/-5% 1/2W	
R433 R434	5142847090	Res.Carb 47 +/-5% 1/4W	
R435 R436	5142839190	Res.Carb 390 +/-5% 1/4W	
R437 R438	5142868000	Res.Carb 68 +/-5% 1/4W	
R439 R440	5142822190	Res.Carb 220 +/-5% 1/4W	
R441 R442	5142810190	Res.Carb 100 +/-5% 1/4W	
R443 R444	5162310120	Res.SVR 100	
R445 R446	5142839090	Res.Carb 39 +/-5% 1/4W	
R447 R448	5142412290	Res.Carb 1.2K +/-5% 1/2W	
R449 R450	5142412290	Res.Carb 1.2K +/-5% 1/2W	
R451 R452	5142833090	Res.Carb 33 +/-5% 1/4W	
R453 R454	5142818100	Res.Carb 180 +/-5% 1/4W	
R455 R456	5142801090	Res.Carb 1 +/-5% 1/4W	
R457 R458	5136310007	Res.Metal Oxide 10 +/-5% 1W	
R459 R460	5142422100	Res.Carb 220 +/-5% 1/2W	
R461 R462	5142822490	Res.Carb 220K +/-5% 1/4W	
R501 R502	5136422807	Res.Metal Oxide 0.22 +/-5% 2W	3220
R503 R504	5142827190	Res.Carb 270 +/-5% 1/4W	3220
R505 R506	5142868290	Res.Carb 6.8K +/-5% 1/4W	3220
R507 R508	5142812190	Res.Carb 120 +/-5% 1/4W	3220
R509 R510	5142868290	Res.Carb 6.8K +/-5% 1/4W	3220
R511	5136310007	Res.Metal Oxide 10 +/-5% 1W	
R512	5136410107	Res.Metal Oxide 100 +/-5% 2W	
R513	5142815290	Res.Carb 1.5K +/-5% 1/4W	
R514	5142812290	Res.Carb 1.2K +/-5% 1/4W	
R515	5142815290	Res.Carb 1.5K +/-5% 1/4W	
R516	5142812290	Res.Carb 1.2K +/-5% 1/4W	
R517 R518	5142812290	Res.Carb 1.2K +/-5% 1/4W	
R519	5142856290	Res.Carb 5.6K +/-5% 1/4W	
R520	5142812390	Res.Carb 12K +/-5% 1/4W	
R521	5142810190	Res.Carb 100 +/-5% 1/4W	
R522	5142812290	Res.Carb 1.2K +/-5% 1/4W	
R523	5142882390	Res.Carb 82K +/-5% 1/4W	
R524	5142815390	Res.Carb 15K +/-5% 1/4W	
R601	5142812290	Res.Carb 1.2K +/-5% 1/4W	
R602	5142839190	Res.Carb 390 +/-5% 1/4W	
R603 R604	5142815490	Res.Carb 150K +/-5% 1/4W	
R605 R606	5142810690	Res.Carb 10M +/-5% 1/4W	
R801 R802	5142818290	Res.Carb 1.8K +/-5% 1/4W	
R803 R804	5142818290	Res.Carb 1.8K +/-5% 1/4W	
R805 R806	5142810290	Res.Carb 1K +/-5% 1/4W	
R807 R808	5142810290	Res.Carb 1K +/-5% 1/4W	
R809 R810	5142818390	Res.Carb 18K +/-5% 1/4W	
R811 R812	5142818390	Res.Carb 18K +/-5% 1/4W	
S201	5554431910	SW Push 4P	
S301	5554432100	SW Push 2P	
S501	5554433300	SW Power 3A UL/CSA	
S501	5554432010	SW Power 5A SEMIKO	
S502	5554432400	SW Slide	
S801	5554431800	SW Slide	
T501	5561316120	Trans Power 3220 UL/CSA	A/A1
T501	5561316130	Trans Power 3020 UL/CSA	A/A1
T501	5561316100	Trans Power 3220 SEMIKO	B/B1/C/C1
T501	5561316150	Trans Power 3020 SEMIKO	B/B1/C/C1
W401	5556307000	Jack Phone	
Y801	5535121910	Owner Manual	
P402-P405	5556201900	Pin	
P515-P521	5556201900	Pin	

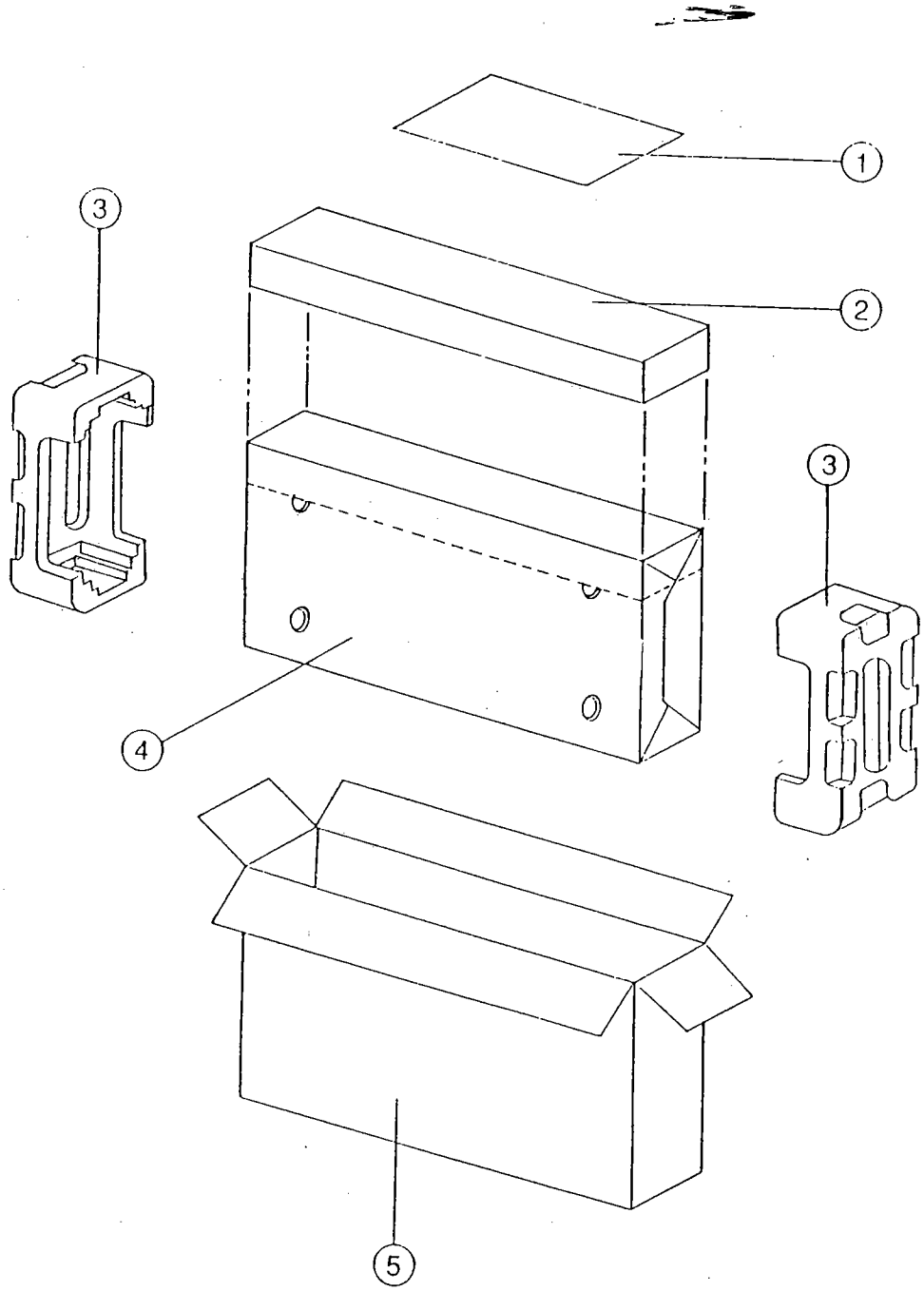
3220PE/3020e EXPLODED PARTS

ITEM	PARTS NO.	NAME	Q'TY
1	5553125800	MAIN PCB (3220PE,3020e)	1
2	5556204700	2P SIGNAL JACK	1
3	5556204600	4P SIGNAL JACK	2
4	5556204400	4P TERMINAL BARD	1
5	5169020261	RESISTOR VR. (RKDA00R409-50KBx2-TT)	1
6	5169020301	RESISTOR VR. (RKDA20A125-10KCx2-TT)	2
7	5169010361	RESISTOR VR. (RKDA10E281-20KW -TT)	1
8	5554431910	4P PUSH SWITCH	1
9	5554432100	2P PUSH SWITCH	1
10	5554431800	SLIDE SWITCH	1
11		FUSE PCB	1
12		HEADPHON PCB	1
13	5556307000	JACK,EARPHONE (JL3A) 6.3MM	1
14		LED PCB	1
15	6618005002	DIODE,LED	1
16	5547128300	BACK PLATE (3220PE-A,A1)	1
	5547128303	BACK PLATE (3220PE-B,B1)	1
	5547128302	BACK PLATE (3220PE-C,C1)	1
	5547128304	BACK PLATE (3020e -A,A1)	1
	5547128307	BACK PLATE (3020e -B,B1)	1
	5547128306	BACK PLATE (3020e -C,C1)	1
17	5546121400	TERMINAL	1
18	5547128400	FRONT PLATE	1
19	5547128700	LEFT PLATE	1
20	5547128500	BRACKET	1
21	5547128810	RIGHT PLATE	1
22	5541002100	TOP COVER	1
23	5547128200	CHASSIS	1
24	5547528400	PLATE, SWITCH LOCK (PVC)	1
25	5545403600	SHIELD COVEF (3220PE-A,A1;3020e -A,A1)	1
26	5541212300	FRONT PANEL (3220PE)	1
	5541212301	FRONT PANEL (3020e)	1
27	5541534100	CONTROL KNOB	3
28	5541534400	PUSH KNOB (BLACK)	6
29	5541534410	PUSH KNOB (GREEN)	1
30	5541533900	VOLUME KNOB	1
31	5542006100	HEMELON (28x6.5MM)	3
32	5542006110	HEMELON (25x6.5MM)	1
33	5547802100	FOOT	4
34	5542223300	HOLDER,PCB	3
35	7033161156	SCREW BRB M3.0x08 S-PC	22
36	7001171116	SCREW ISO PP M3.0x08 S-PC	12
37	7076210012	NUT ISO N3.5(2.9P) S-ZN-CC	1
38	7101200352	WASHER ,TOOTH LOCK-EXT M3.5	1
39	5556200810	LUG (4.1MM)	1
40	7096210006	WASHER MW3.5 S-PC	1
41	7033160652	SCREW BRB M3.0x06 S-ZN-CC	10
42	7034161152	SCREW BFB M3.0x08 S-ZN-CC	3
43	7096250006	WASHER MW4.0 S-PC	4
44	7000311116	SCREW ISO PPW S-PC M4.0x08	4
45	7190550003	SCREW ISO PPW S-PC M4.0x06	4
46	7098250002	SPRING WASHER SW4 S-ZN-CC	4
47	5545307100	HEAT SINK	1
48	5547528600	PVC TUBE (30x65MM)	0.065
49	5556702130	AC POWER W/PLUG PL. BLK UL/CSA (A,A1)	1
	5556701310	AC POWER CORD BLK GTBS-2F 0.75MMx2 (B)	1
	5556702010	AC POWER CORD W/PLUG BDK SAA (B1)	1
	5556700130	AC POWER CORD W/PLUG BLK VDE (C,C1)	1
50	5556308320	AC OUTLET (POLARIZED) (A,A1)	2
51	5547501200	BUSHING, POWER CORD	1
52	5554433300	POWER SWITCH (UL & CSA) (A,A1)	1
	5554432010	POWER SWITCH (B,B1,C,C1)	1
53	5554432400	SLIDE SWITCH	1
54	5561316120	POWER TRANSFORMER (A,A1)	1
	5561316100	POWER TRANSFORMER (B,B1,C,C1)	1
55	5545306900	HEAT SINK (S) (NAD3220PE)	2
56	5547024200	LOCK BRACKET	2
57	5532410120	FOAM SHEET	1

EXPLODED VIEW



PACKING DIAGRAM



PACKING DIAGRAM FOR NAD-3220PE NAD-3020e

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