

NAD SERVICE MANUAL

3225PE
3020i
INTEGRATED AMPLIFIERS

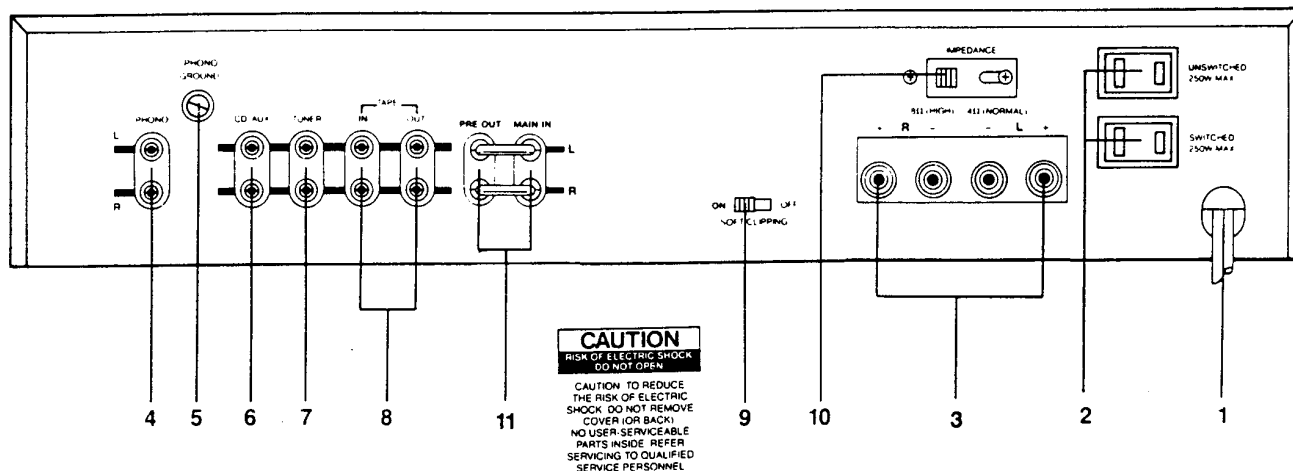
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3225PE/3020i

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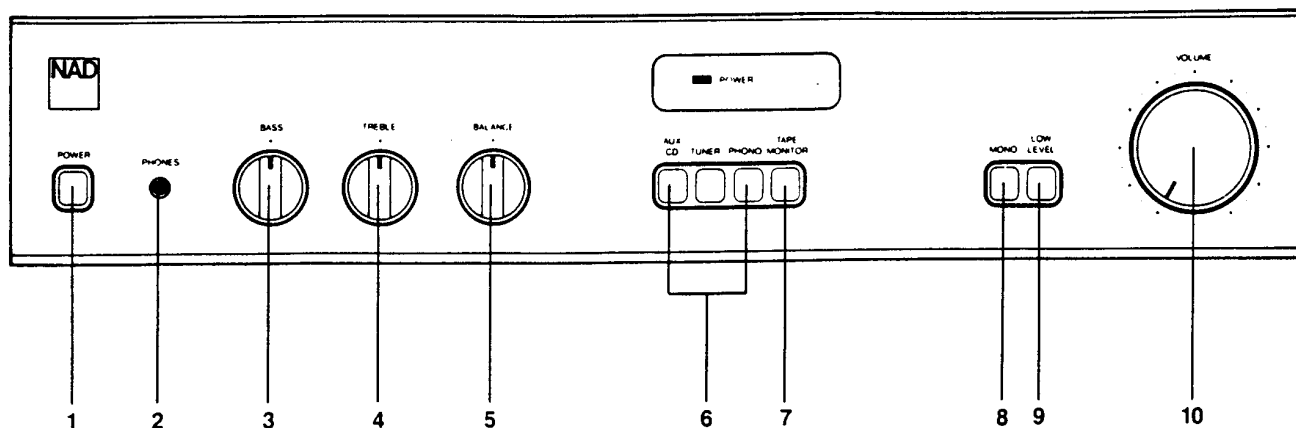
REAR PANEL

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



FRONT PANEL

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



INTEGRATED AMPLIFIER SPECIFICATION NAD 3020i/3225PE

Power Amplifier Section Stereo Mode

		3020i	3225PE
CONTINUOUS AVERAGE POWER		20W (13dbW)	25W (14dbW)
OUTPUT INTO 8 OHMS			
(Min. Power per channel, 20Hz-20KHz, both channels driven, with no more than rated distortion)			
Rated Distortion		0.03 %	0.03 %
(THD 20Hz-20KHz)			
Clipping Power		30W	40W
(Maximum continuous power per channel)			
IHF Dynamic Headroom at 8 ohms		+3db	+4db
IHF Dynamic Power (Maximum short term power per channel)			
8 ohms:		40W(16dbW)	60W(18dbW)
4 ohms:		40W(16dbW)	85W(19dbW)
2 ohms:		50W(17dbW)	90W(19.5dbW)
Slew Factor		> 50	> 50
Slew Rate		15V/uSec	15V/uSec
Damping Factor		> 40	> 40
(ref. 8 ohms 50 Hz)			
Input Impedance		R=20Kohm C=470pf	R=20Kohm C=820pf
Input Sensitivity	1W	200mV	1V
at 8 ohms	20W	900mV	
	25W		
Voltage Gain		X14 (23db)	X14 (23db)
Frequency Response		6Hz to 80KHz +0,—3db	6Hz to 60KHz +0,—3db
Signal/Noise ratio, A Weighted			
Ref. 1W		100db	100db
Ref. Rated power		113db	114db
THD		< 0.03 %	< 0.03 %
(Total Harmonic Distortion 20Hz-20KHz, from 250mW to rated output)			
SMPTE I.M.		< 0.03 %	< 0.03 %
(Intermodulation Distortion, 60Hz+7KHz, 4:1 From 250mW to rated output)			
IHF I.M.		< 0.03 %	< 0.03 %
(CCIF IM Distortion, 19+20KHz at rated output)			
Preamplifier Section			
Phono Input			
Input Impedance (R and C)	MM:	47Kohm + 300pf	47Kohm + 300pf
Input Sensitivity ref. 1W/20W	MM:	0.55mV/2.4mV	
1W/25W 1KHz	MM:		0.52mV/2.5mV
Input Overload at 20Hz	MM:	20mV	20mV
1KHz		200mV	200mV
20KHz		1.7V	1.7V
RIAA Accuracy		+/-0.5db	+/-0.5db
Signal/Noise ratio (A-Weighted with cartridge connected)			
ref. 5mV in.	MM:	75db	75db
Line Level Inputs (CD, Video, Tape)			
Input Impedance (R and C)		40Kohm + 440pf	40Kohm + 440pf
Input Sensitivity ref. 1W/20W		33mV/150mV	
1W/25W			34mV/160mV
Maximum Input Signal		> 10V	> 10V
Signal/Noise ratio (ref. 1W)		87db	87db
(A Weighted)		100db	101db
(ref. rated power)			
Frequency Response, 20Hz-20KHz		+0.5db, —1db	+0.5db, —1db
Infrasonic Filter		—3db at 12Hz	—3db at 12Hz
		18db/Octave	18db/Octave
THD (20Hz-20KHz at 5V RMS Out)		0.01 %	0.01 %
Line Level Outputs			
Preamp Output Impedance		600 ohms	600 ohms
Maximum Output Level		14V	12V
Tape output Impedance		Source Z + 2K ohms	Source Z + 2K ohms
Controls			
Treble	10KHz	+/- 7db	+/- 7db
Bass	50Hz	+/- 10db	+/- 10db
Audio Muting (Low Level)		—20db	—20db
Power Consumption			
Net Weight		140W	150W
Dimension (Width x Height x Depth)		5Kg	5Kg
		420x80x250mm	420x80x250mm

ALIGNMENT METHOD

AUDIO SECTION 3225PE/3020i

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 \pm 30mV with R411 (470 ohm). Connect DC millivoltmeter to R channel output terminal and adjust R412 to 0 V \pm 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.

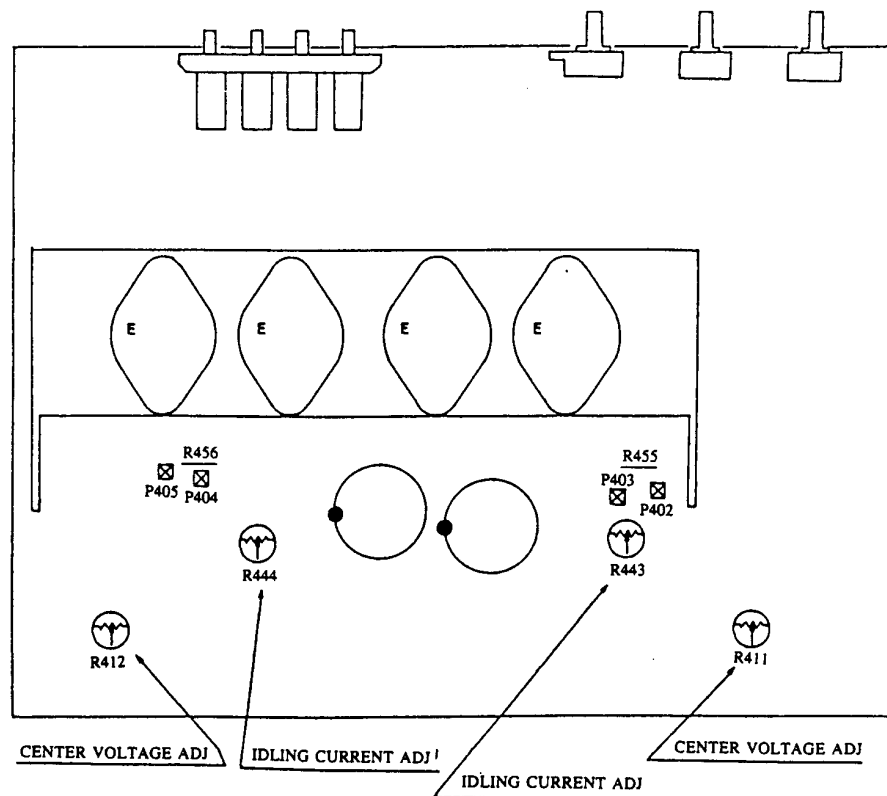
FINAL ADJUSTMENT

C. CENTER VOLTAGE

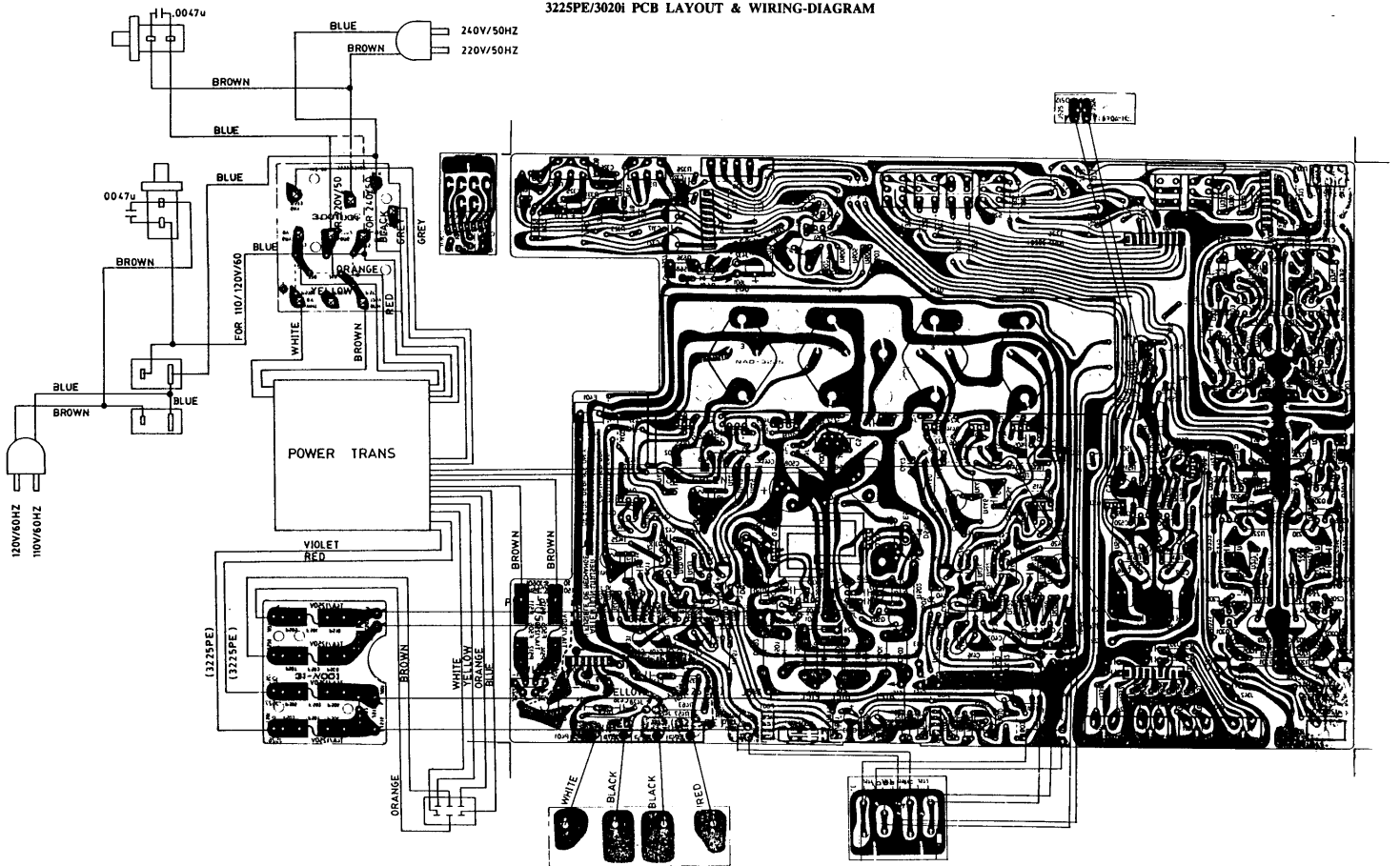
1. Repeat step A about.

D. IDLING CURRENT

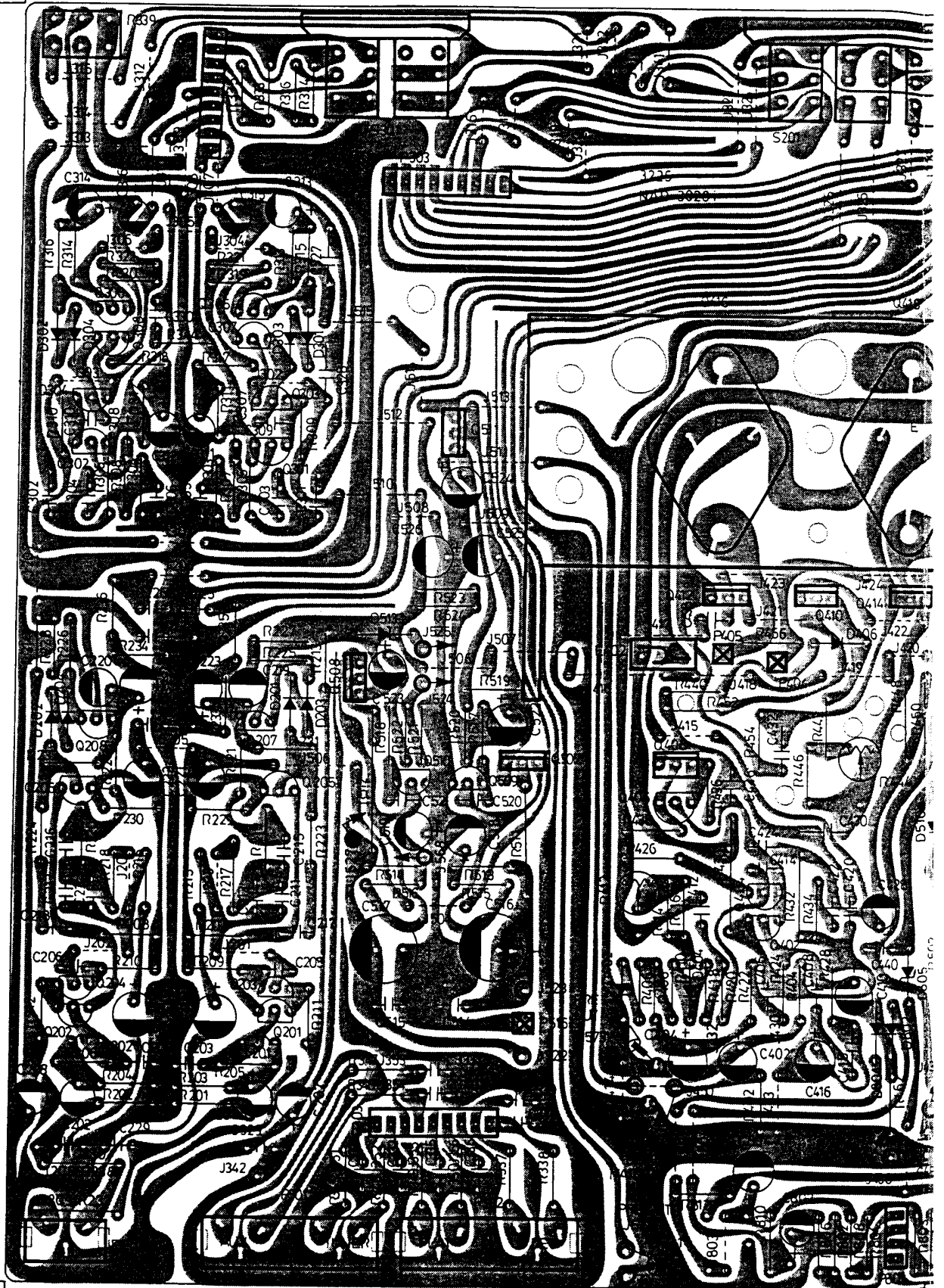
1. Repeat step B and adjust with R443, R444 for 30mV reading on meter.
2. After the alignment is finished, 1 ohm resistor R455, R456 is shorted by solder short.



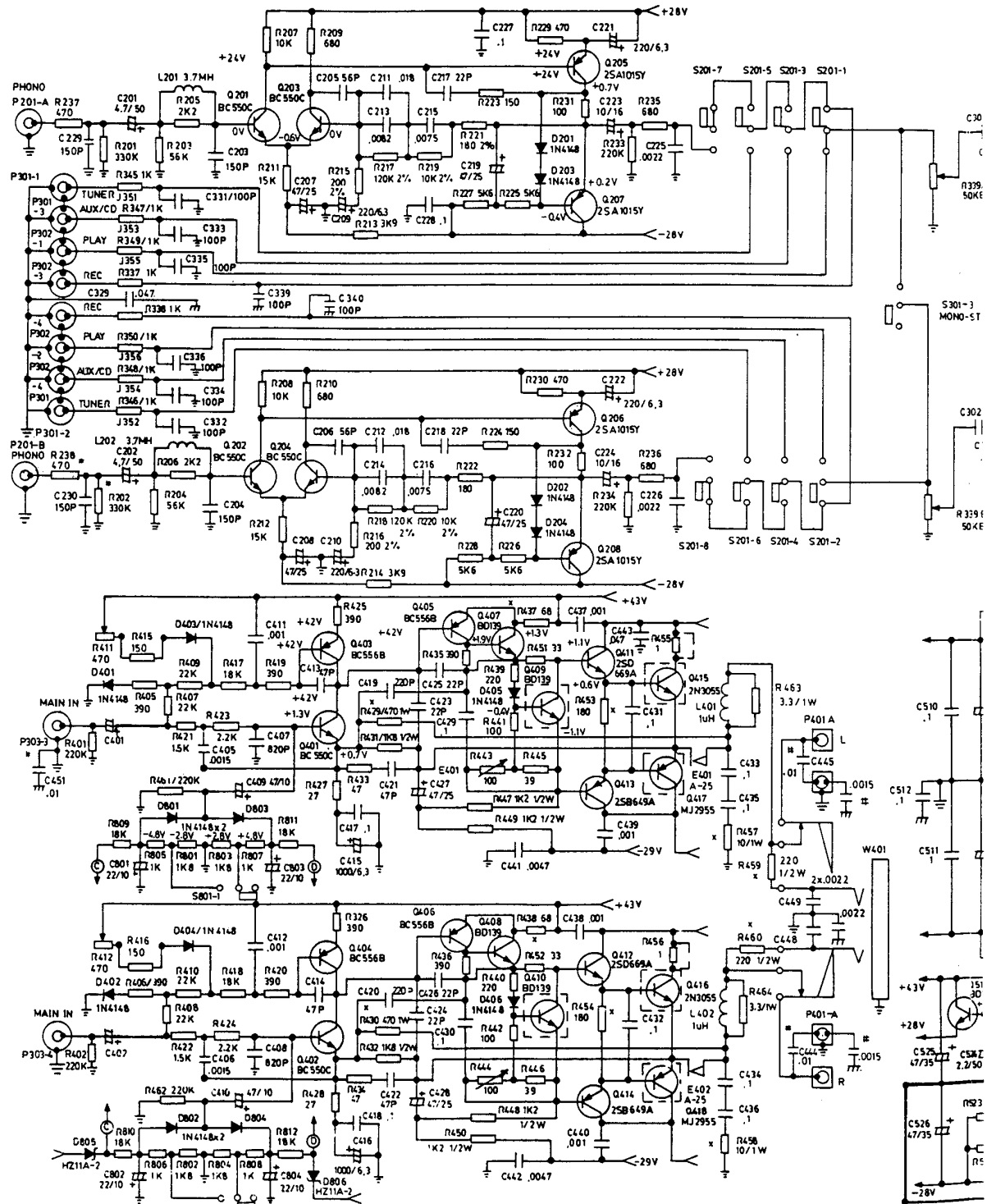
3225PE/3020i PCB LAYOUT & WIRING-DIAGRAM



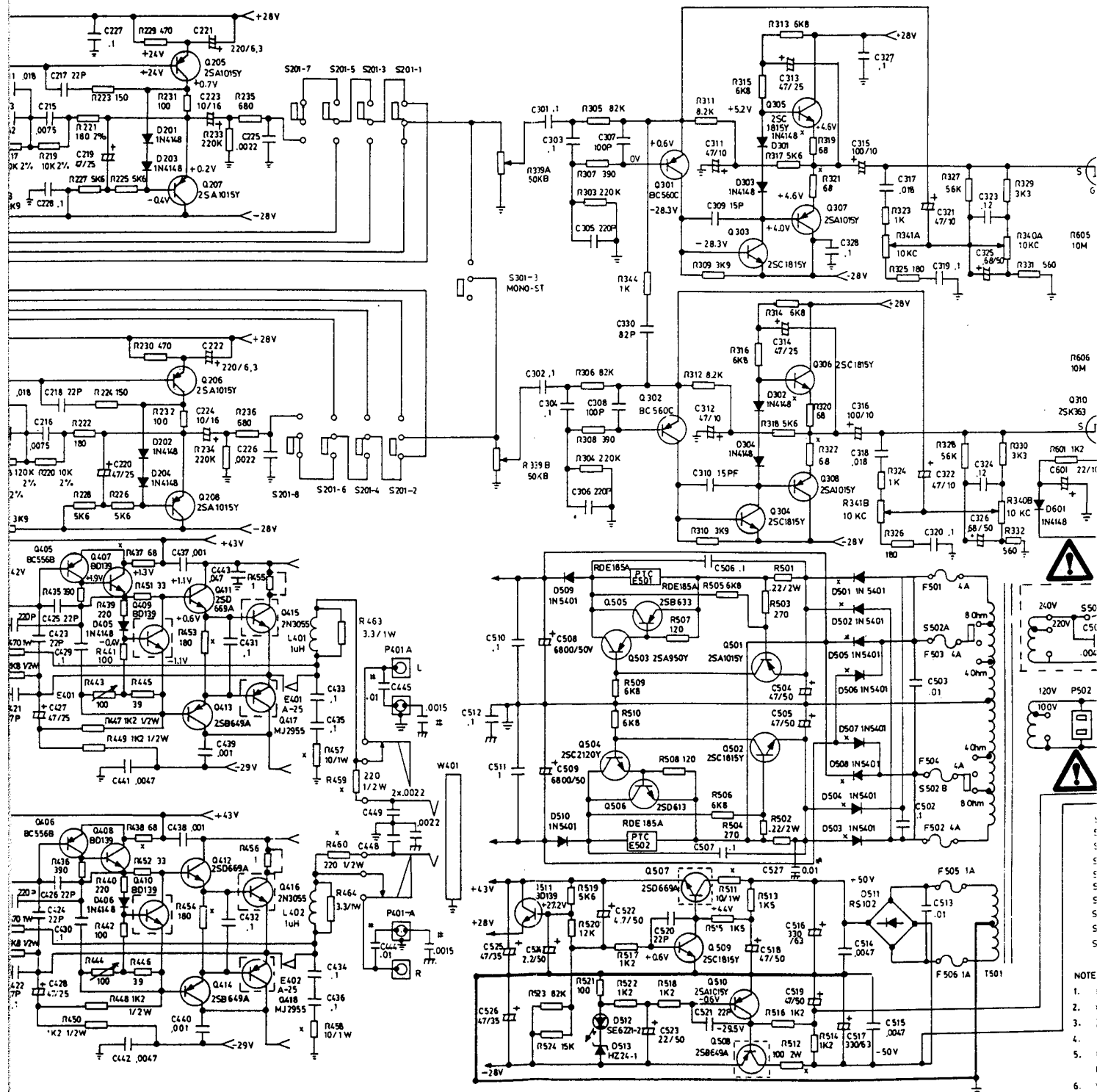
NAD3225PE AMPLIFIER PCB LAYOUT



SCHEMATIC DIAGRAM NAD3225PE AMI

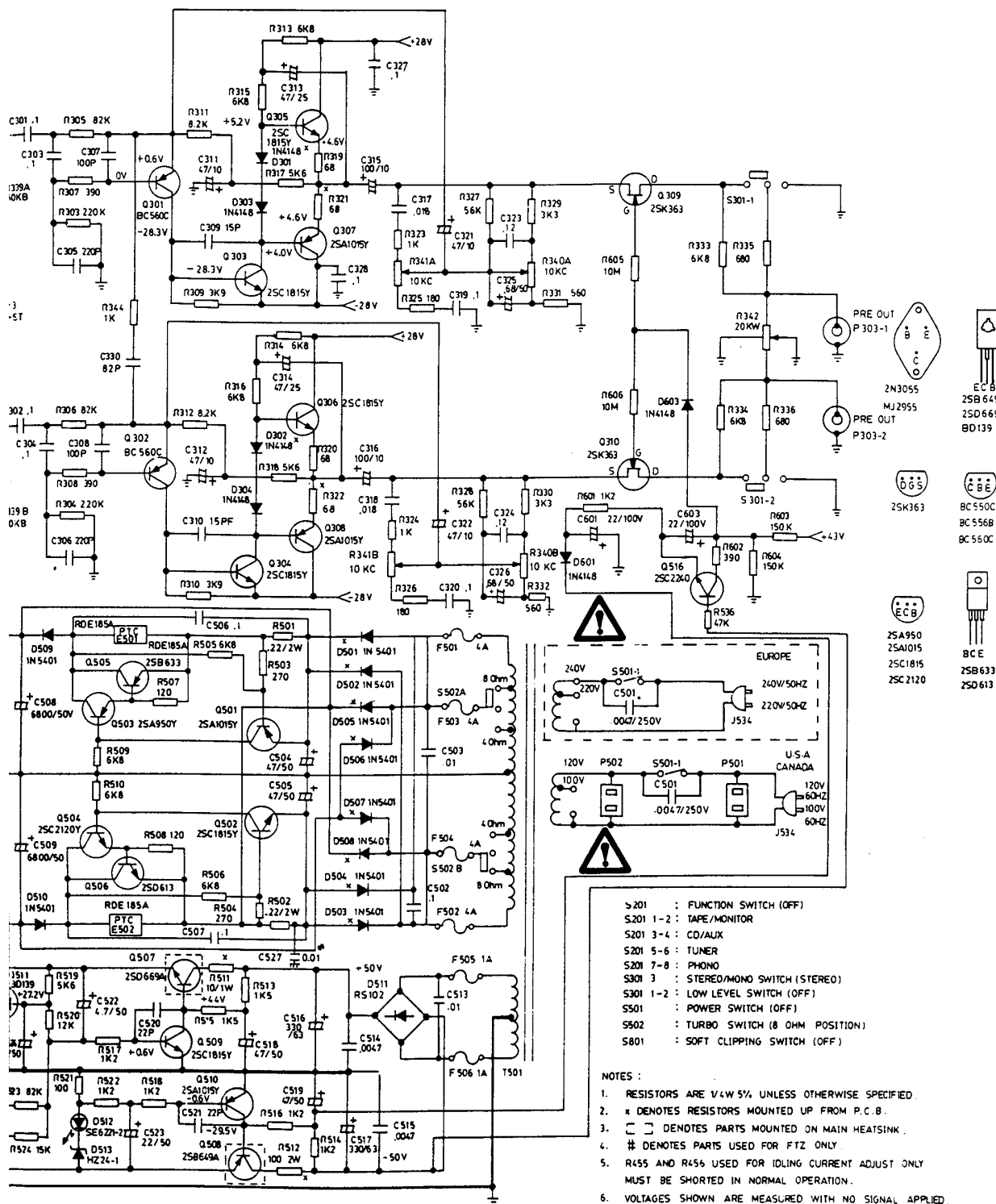


IATIC DIAGRAM NAD3225PE AMPLIFIER

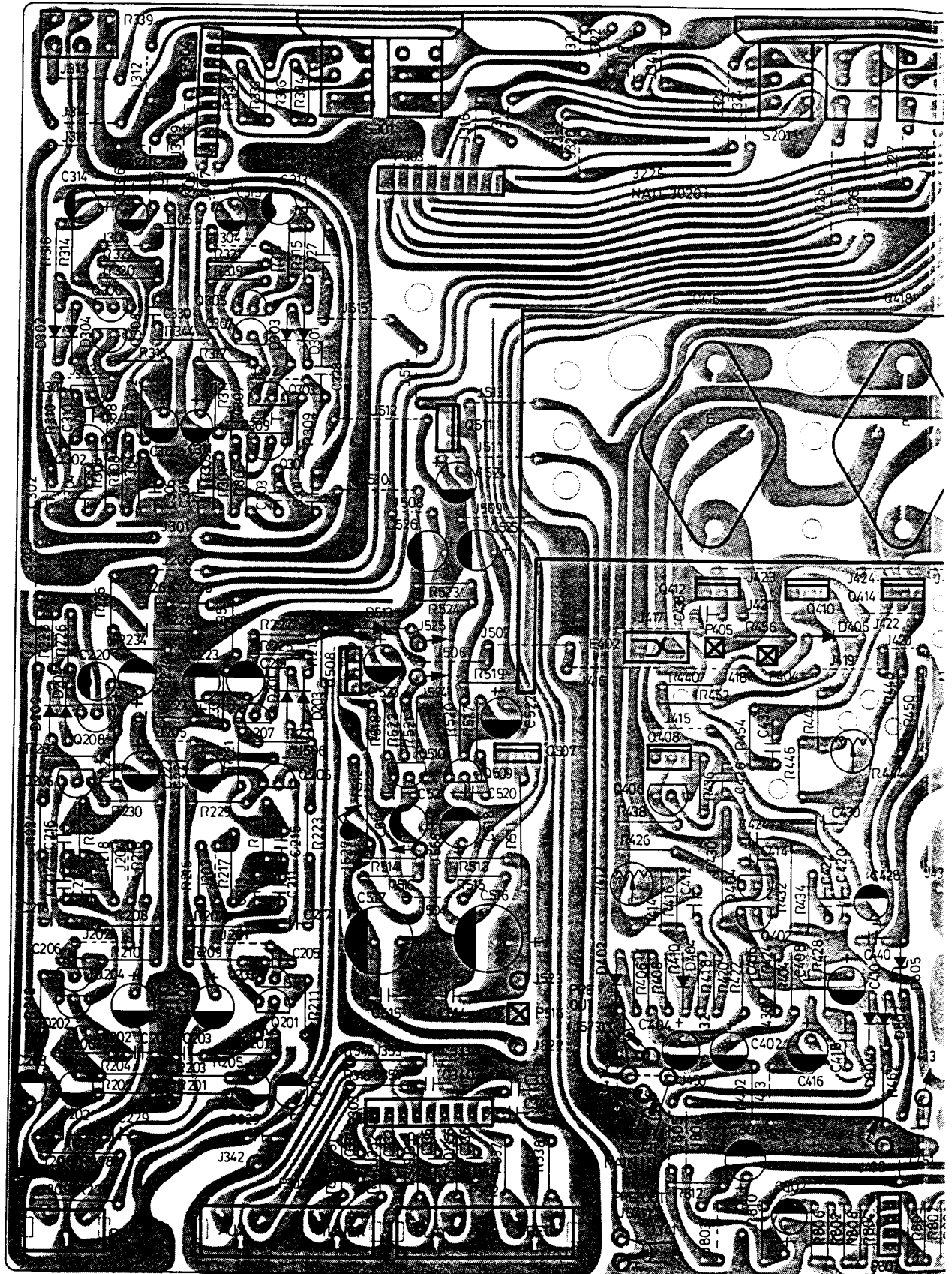


NOTE
1. 1
2. 1
3. 1
4. 1
5. 1
6. 1

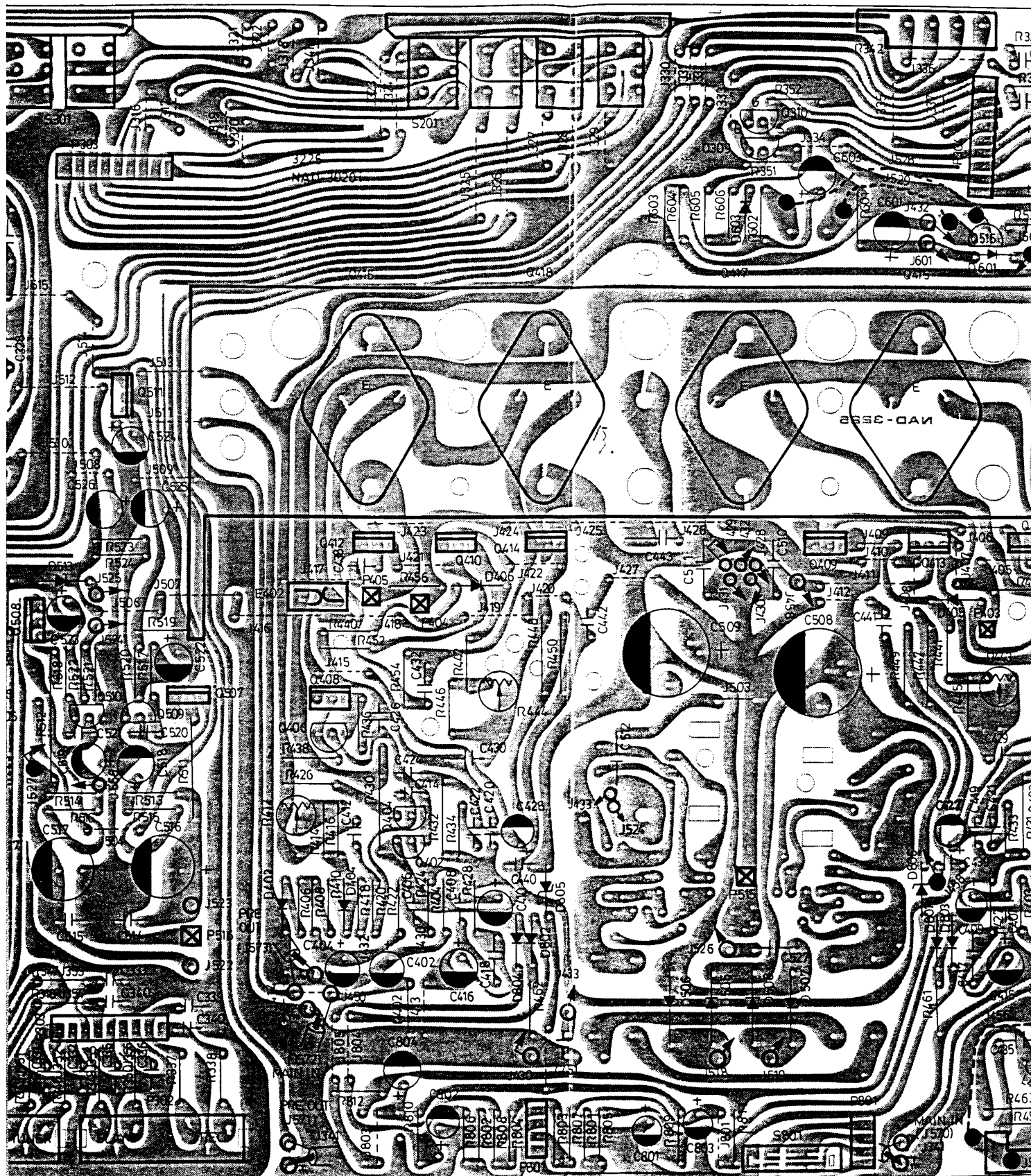
AMPLIFIER



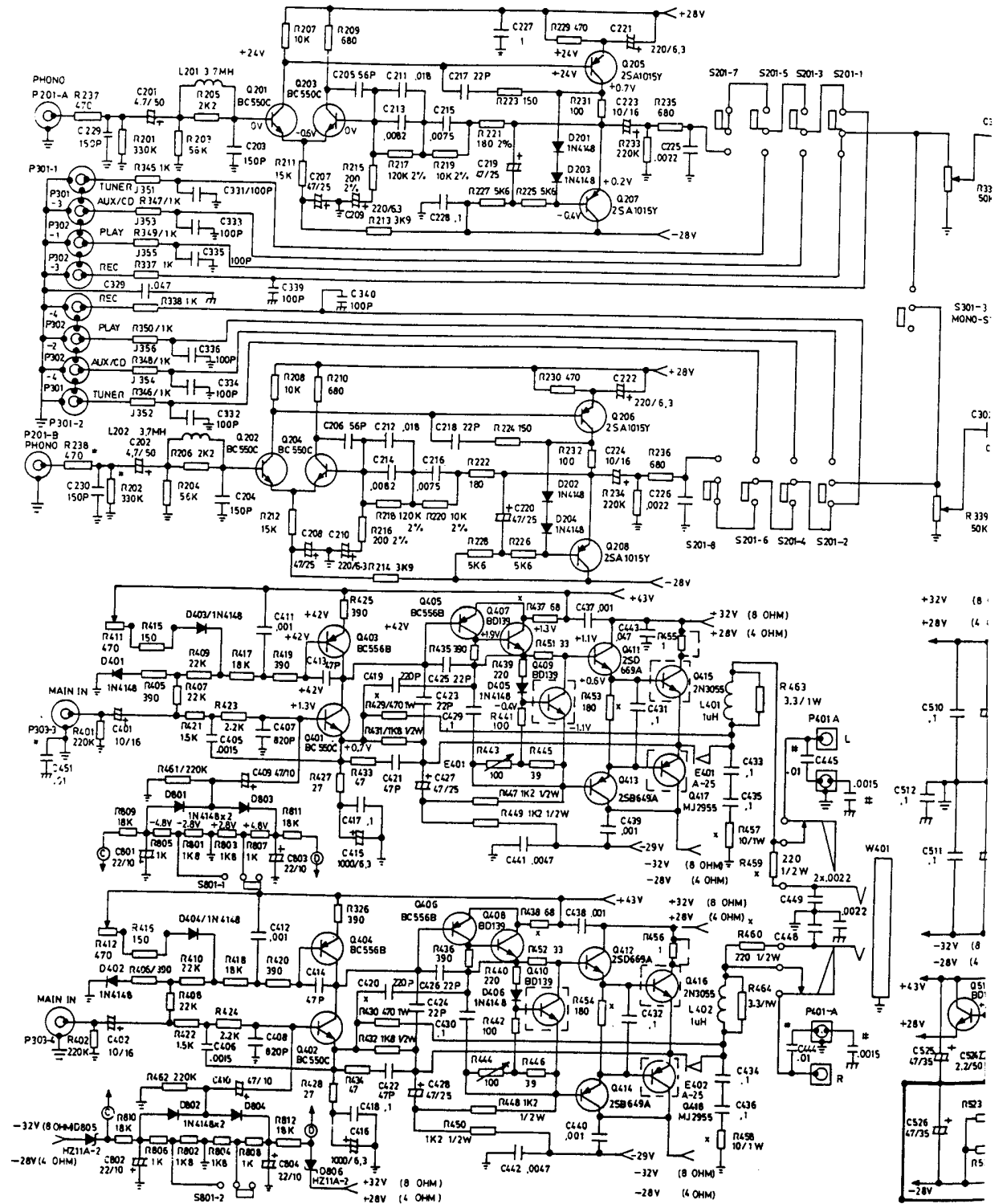
NAD3020i AMPLIFIER PCB LAYOUT



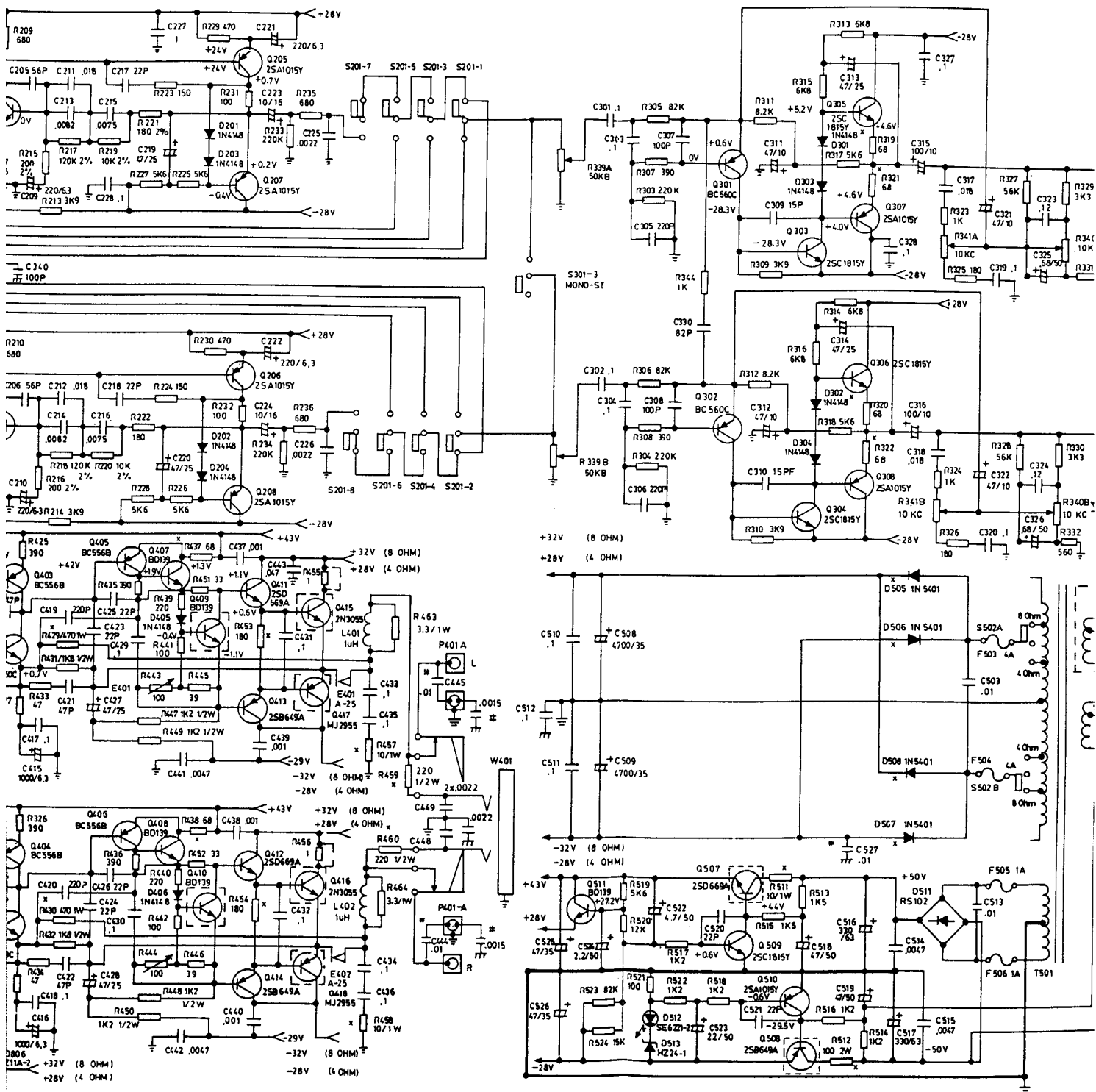
AMPLIFIER PCB LAYOUT



SCHEMATIC DIAGRAM NAD3020i AMPLIFIER



SCHEMATIC DIAGRAM NAD3020i AMPLIFIER



3225PE/3020i PARTS LIST

SYMBOL	PART NO.	DESCRIPTION	REF.
C201 C202	573-11M7547	Ele. Cap. 4.7uF +20%	50V
C203 C204	571-071150	Cer. Cap. 150PF +5%	50V
C205 C206	571-070560	Cer. Cap. 56PF +5%	50V
C207 C208	573-11M5647	Ele. Cap. 47uF +20%	25V
C209 C210	573-11M3722	Ele. Cap. 220uF +20%	100V
C211 C212	572-110318	Mylar Cap. 0.018uF +5%	100V
C213 C214	572-110318	Mylar Cap. 0.0082uF +5%	100V
C215 C216	572-110318	Mylar Cap. 0.0075uF +5%	100V
C217 C218	571-070220	Cer. Cap. 22PF +5%	50V
C219 C220	573-11M5647	Ele. Cap. 47uF +20%	25V
C221 C222	573-11M3722	Ele. Cap. 220uF +20%	100V
C223 C224	573-11M4610	Ele. Cap. 10uF +20%	16V
C225 C226	572-110222	Mylar Cap. 0.0022uF +5%	100V
C227 C228	571-0274100	Cer. Cap. 150PF +5%	100V
C229 C230	571-071150	Cer. Cap. 150PF +5%	50V
C301 C302	572-110410	Mylar Cap. 0.1uF +5%	100V
C303 C304	572-110410	Mylar Cap. 0.1uF +5%	100V
C305 C306	571-071120	Cer. Cap. 220PF +5%	50V
C307 C308	571-071100	Cer. Cap. 100PF +5%	50V
C309 C310	571-070150	Cer. Cap. 15PF +5%	50V
C311 C312	573-11M3647	Ele. Cap. 47uF +20%	25V
C313 C314	573-11M5647	Ele. Cap. 47uF +20%	25V
C315 C316	573-11M3710	Ele. Cap. 100uF +20%	10V
C317 C318	572-110318	Mylar Cap. 0.018uF +5%	100V
C319 C320	572-110410	Ele. Cap. 0.1uF +5%	100V
C321 C322	573-11M3647	Ele. Cap. 47uF +20%	10V
C323 C324	572-110412	Mylar Cap. 0.12uF +5%	100V
C325 C326	573-11M7468	Ele. Cap. 0.68uF +20%	50V
C327 C328	571-0274100	Cer. Cap. 150PF +5%	100V
C329 C443	571-0273470	Cer. Cap. 0.1uF +80-20%	50V
C330	571-0K70820	Cer. Cap. 82PF +5%	50V
C331 C332	571-071100	Cer. Cap. 100PF +5%	50V
C333 C334	571-071100	Cer. Cap. 100PF +5%	50V
C335 C336	571-071100	Cer. Cap. 100PF +5%	50V
C339 C340	571-071100	Cer. Cap. 100PF +5%	50V
C401 C402	573-11M4610	Ele. Cap. 10uF +20%	16V
C405 C406	572-110215	Mylar Cap. 0.0015uF +5%	100V
C407 C408	571-0711820	Cer. Cap. 820PF +5%	50V
C409 C410	573-11M3647	Ele. Cap. 47uF +20%	10V
C411 C412	572-110210	Mylar Cap. 0.001uF +5%	50V
C413 C414	571-070470	Cer. Cap. 47PF +5%	50V
C415 C416	573-11M3810	Ele. Cap. 1000uF +20%	50V
C417 C418	571-0274100	Cer. Cap. 0.1uF +80-20%	50V
C419 C420	571-0711220	Cer. Cap. 22PF +5%	50V
C421 C422	571-070470	Cer. Cap. 22PF +5%	50V
C423 C424	571-070220	Cer. Cap. 22PF +5%	50V
C425 C426	571-070220	Cer. Cap. 22PF +5%	50V
C427 C428	573-11M5647	Ele. Cap. 47uF +20%	25V
C429 C430	572-110410	Mylar Cap. 0.1uF +5%	100V
C431 C432	572-110410	Mylar Cap. 0.1uF +5%	100V
C433 C434	571-0274100	Cer. Cap. 0.1uF +80-20%	50V
C436 C437	571-0274100	Cer. Cap. 0.1uF +80-20%	50V
C437 C438	571-0M72100	Cer. Cap. 0.001uF +20%	50V
C439 C440	571-0M72100	Cer. Cap. 0.001uF +20%	50V
C441 C442	571-0K72500	Cer. Cap. 0.005uF +10%	50V
C444 C445	571-0K73100	Cer. Cap. 0.005uF +10%	50V
C446 C447	571-0712150	Cer. Cap. 0.0015uF +5%	50V
C448 C449	571-0712220	Cer. Cap. 0.0022uF +5%	50V
C450	571-0712220	Cer. Cap. 0.0022uF +5%	50V
C451 C527	571-0K73100	Cer. Cap. 0.001uF +10%	50V
C501	571-0ME2410	Cer. Cap. 0.0047uF +20%	400V
C502 C503	572-1M5030	Mylar Cap. 0.01uF +5%	500V
C504 C505	573-11M7647	Ele. Cap. 47uF +20%	50V
C506 C507	571-0274100	Cer. Cap. 0.1uF +80-20%	50V
C508 C509	573-11M647	Ele. Cap. 47uF +20%	35V
C509 C510	573-11T7868	Ele. Cap. 4700uF +50-10%	50V
C510 C511	571-0274100	Cer. Cap. 0.1uF +80-20%	50V
C512	571-0274100	Cer. Cap. 0.1uF +80-20%	50V
C513	572-M50310	Mylar Cap. 0.01uF +5%	500V
C514 C515	571-0K73500	Cer. Cap. 0.005uF +10%	50V
C516 C517	573-11M8733	Cer. Cap. 330uF +20%	63V
C518 C519	573-11M7647	Ele. Cap. 47uF +20%	50V
C520 C521	571-070220	Cer. Cap. 22PF +5%	50V
C522	573-11M7547	Ele. Cap. 4.7uF +20%	50V
C523	573-11M7622	Ele. Cap. 22uF +20%	50V
C524	573-11M7522	Ele. Cap. 2.2uF +20%	50V
C525	573-11M7647	Ele. Cap. 47uF +20%	50V
C526	573-11M6647	Ele. Cap. 47uF +20%	50V
C601 C603	573-11MA622	Ele. Cap. 22uF +20%	100V
C801 C802	573-11M4622	Ele. Cap. 22uF +20%	16V
C803 C804	573-11M4622	Ele. Cap. 22uF +20%	16V
D201 D202	501-21N4148	Diode 1N4148	
D203 D204	501-21N4148	Diode 1N4148	
D301 D302	501-21N4148	Diode 1N4148	
D303 D304	501-21N4148	Diode 1N4148	
D401 D402	501-21N4148	Diode 1N4148	
D403 D404	501-21N4148	Diode 1N4148	
D405 D406	501-21N4148	Diode 1N4148	
D501 D502	501-11N5401	Diode 1N5401	3A 100V
D503 D504	501-11N5401	Diode 1N5401	3A 100V
D505 D506	501-11N5401	Diode 1N5401	3A 100V
D507 D508	501-11N5401	Diode 1N5401	3A 100V
D509 D510	501-11N5401	Diode 1N5401	3A 100V
D511	501-7RS102	Diode 1N5401	1A 100V
D512	502-1R251	LED TLG208	Green
D513	501-40240-005	Zener 24V	0.5W
D601 D603	501-21N4148	Diode 1N4148	
D801 D802	501-21N4148	Diode 1N4148	
D803 D804	501-21N4148	Diode 1N4148	
D805 D806	501-40110-005	Zener 11V	0.5W
E401 E402	530-35400-B	Breaker 2.5A	
E401 E402	530-35400-B	Breaker 1.85A	
E501 E502	549-21831	PTC	
F501 F502	530-40418	Fuse 4A/250V	Semko
F501 F502	530-4051A	Fuse 4A/125V	UL/CSA
F503 F504	530-40418	Fuse 4A/250V	Semko
F503 F504	530-4051A	Fuse 4A/125V	UL/CSA
F505 F506	530-1041	Fuse 1A/250V	Semko
F505 F506	530-1051A	Fuse 1A/250V	UL/CSA
J534	529-51A01	AC Cord	UL/CSA
J534	529-53B01	AC Cord	UL/CSA
J534	529-53M01	AC Cord	UL/CSA
J534	529-53S01	AC Cord	UL/CSA
L201 L202	524-4372231	Coil 3.7 mH	+20%
L401 L402	524-108051	Coil 1uH	
P201	527-421201	Jack Signal	Gold Plated
P301 P302	527-441101	Jack Signal	4P
P303	527-441101	Jack Signal	4P
P303	563-1260922	Ribbon Connector	220mm 9P
P304	563-1260923	Ribbon Connector	330mm 9P
P406	563-1240727	Ribbon Connector	270mm 7P
P501 P502	527-3123U	AC Outlet	
P503 P504	538-0520	Fuse Clip	
P505 P506	538-0520	Fuse Clip	
P507 P508	538-0520	Fuse Clip	
P509 P510	538-0520	Fuse Clip	
P511 P512	538-0520	Fuse Clip	
P513 P514	538-0520	Fuse Clip	
P515 P516	527-5011	Pin	
P518 P519	527-5100	Bushing	Power
P801	563-1260412	Ribbon Connector	120mm 4P
Q201 Q202	517-BC550C	Tr. BC550C	
Q203 Q204	517-BC550C	Tr. BC550C	
Q205 Q206	517-25A1015Y	Tr. 25A1015Y	
Q207 Q208	517-25A1015Y	Tr. 25A1015Y	
Q301 Q302	517-BC560C	Tr. BC560C	

SYMBOL		PART NO.	DESCRIPTION		REF.
Q303	Q304	517-25C1815Y	Tr.	25C1815Y	
Q305	Q306	517-25C1815Y	Tr.	25C1815Y	
Q307	Q308	517-25A1015Y	Tr.	25A1015Y	
Q309	Q310	517-25K363BL	Tr.	25K363BL	
Q401	Q402	517-BC550C	Tr.	BC550C	
Q403	Q404	517-BC556B	Tr.	BC556B	
Q405	Q406	517-BC556B	Tr.	BC556B	
Q407	Q408	517-BD139-10	Tr.	BD139-10	
Q409	Q410	517-BD139-10	Tr.	BD139-10	
Q411	Q412	517-25D669AC	Tr.	25D669AC	
Q413	Q414	517-25B649A-C	Tr.	25B649A-C	
Q415	Q416	517-2N3055	Tr.	2N3055	
Q417	Q418	517-MJ2955	Tr.	MJ2955	
Q501		517-25A1015Y	Tr.	25A1015Y	3225
Q502		517-25C1815Y	Tr.	25C1815Y	3225
Q503		517-25A950Y	Tr.	25A950Y	3225
Q504		517-25C2120Y	Tr.	25C2120Y	3225
Q505		517-25B633D	Tr.	25B633D	3225
Q506		517-25D613D	Tr.	25D613D	3225
Q507		517-25D669AC	Tr.	25D669AC	3225
Q508		517-25B649A-C	Tr.	25B649A-C	
Q509		517-25C1815Y	Tr.	25C1815Y	
Q510		517-25A1015Y	Tr.	25A1015Y	
Q511		517-BD139-10	Tr.	BD139-10	
Q516		517-25C2240GR	Tr.	25C2240GR	
R201	R202	704-13J3530	Res. Carb.	330K 1/4W	+5%
R203	R204	704-13J4560	Res. Carb.	56K 1/4W	+5%
R205	R206	704-13J3220	Res. Carb.	2.2K 1/4W	+5%
R207	R208	704-13J4100	Res. Carb.	10K 1/4W	+5%
R209	R210	704-13J2680	Res. Carb.	680 1/4W	+5%
R211	R212	704-13J4150	Res. Carb.	15K 1/4W	+5%
R213	R214	704-13J3390	Res. Carb.	3.9K 1/4W	+5%
R215	R216	704-13J2200	Res. Carb.	200 1/4W	+2%
R217	R218	704-13J5120	Res. Carb.	120K 1/4W	+2%
R219	R220	704-13J4120	Res. Carb.	10K 1/4W	+2%
R221	R222	704-13J2180	Res. Carb.	180 1/4W	+2%
R223	R224	704-13J2150	Res. Carb.	150 1/4W	+5%
R225	R226	704-13J3560	Res. Carb.	5.6K 1/4W	+5%
R227	R228	704-13J3560	Res. Carb.	5.6K 1/4W	+5%
R229	R230	704-13J2470	Res. Carb.	470 1/4W	+5%
R231	R232	704-13J2100	Res. Carb.	100 1/4W	+5%
R233	R234	704-13J5220	Res. Carb.	220K 1/4W	+5%
R235	R236	704-13J2680	Res. Carb.	680 1/4W	+5%
R237	R238	704-13J2470	Res. Carb.	470 1/4W	+5%
R303	R304	704-13J5220	Res. Carb.	220K 1/4W	+5%
R305	R306	704-13J4820	Res. Carb.	82K 1/4W	+5%
R307	R308	704-13J2390	Res. Carb.	390 1/4W	+5%
R309	R310	704-13J3390	Res. Carb.	3.9K 1/4W	+5%
R311	R312	704-13J3820	Res. Carb.	8.2K 1/4W	+5%
R313	R314	704-13J3680	Res. Carb.	6.8K 1/4W	+5%
R315	R316	704-13J2680	Res. Carb.	5.6K 1/4W	+5%
R317	R318	704-13J3560	Res. Carb.	6.8K 1/4W	+5%
R319	R320	704-13J1680	Res. Carb.	68 1/4W	+5%
R321	R322	704-13J1680	Res. Carb.	68 1/4W	+5%
R323	R324	704-13J3100	Res. Carb.	1K 1/4W	+5%
R325	R326	704-13J2180	Res. Carb.	180 1/4W	+5%
R327	R328	704-13J4560	Res. Carb.	56K 1/4W	+5%
R329	R330	704-13J3330	Res. Carb.	3.3K 1/4W	+5%
R331	R332	704-13J2560	Res. Carb.	560 1/4W	+5%
R333	R334	704-13J3680	Res. Carb.	6.8K 1/4W	+5%
R335	R336	704-13J2680	Res. Carb.	680 1/4W	+5%
R337	R338	704-13J3100	Res. Carb.	1K 1/4W	+5%
R339		507-3503B21	Res. VR	50KB x 2	
R340	R341	507-3103C21	Res. VR	10KC x 2	
R342		507-3203W11-T	Res. VR	20KW	
R345	R346	704-13J3100	Res. Carb.	1K 1/4W	+5%
R347	R348	704-13J3100	Res. Carb.	1K 1/4W	+5%
R349	R350	704-13J3100	Res. Carb.	1K 1/4W	+5%
R401	R402	704-13J3220	Res. Carb.	220K 1/4W	+5%
R403	R404	704-13J2390	Res. Carb.	390 1/4W	+5%
R407	R408	704-13J4220	Res. Carb.	22K 1/4W	+5%
R409	R410	704-13J4220	Res. Carb.	22K 1/4W	+5%
R411	R412	508-A004	Res. SVR	470	
R415	R416	704-13J2150	Res. Carb.	150 1/4W	+5%
R417	R418	704-13J4180	Res. Carb.	18K 1/4W	+5%
R419	R420	704-13J2390	Res. Carb.	390 1/4W	+5%
R421	R422	704-13J3150	Res. Carb.	1.5K 1/4W	+5%
R423	R424	704-13J3220	Res. Carb.	2.2K 1/4W	+5%
R425	R426	704-13J2390	Res. Carb.	390 1/4W	+5%
R427	R428	704-13J1270	Res. Carb.	27 1/4W	+5%
R429	R430	705-15J2470	Res. MOF	470 1/4W	+5%
R431	R432	704-14J3180	Res. Carb.	1.8K 1/2W	+5%
R433	R434	704-13J1470	Res. Carb.	47 1/4W	+5%
R435	R436	704-13J2390	Res. Carb.	390 1/4W	+5%
R437	R438	704-13J1680	Res. Carb.	68 1/4W	+5%
R439	R440	704-13J2220	Res. Carb.	220 1/4W	+5%
R441	R442	704-13J3100	Res. Carb.	100 1/4W	+5%
R443	R444	508-A003	Res. SVR	100	
R445	R446	704-13J1390	Res. Carb.	39 1/4W	+5%
R447	R448	704-14J3120	Res. Carb.	1.2K 1/2W	+5%
R449	R450	704-14J3120	Res. Carb.	1.2K 1/2W	+5%
R451	R452	704-13J1330	Res. Carb.	33 1/4W	+5%
R453	R454	704-13J2180	Res. Carb.	180 1/4W	+5%
R455	R456	704-13J0100	Res. Carb.	1 1/4W	+5%
R457	R458	705-15J1100	Res. MOF	10 1W	+5%
R459	R460	704-14J2220	Res. Carb.	220 1/2W	+5%
R461	R462	704-13J5220	Res. Carb.	220K 1/4W	+5%
R463	R464	705-15J0330	Res. Carb.	3.3 1W	+5%
R501	R502	704-16M0022	Res. MOF	0.22 2W	+5%
R503	R504	704-13J2270	Res. Carb.	270 1/4W	+5%
R505	R506	704-13J3680	Res. Carb.	6.8K 1/4W	+5%
R507	R508	704-13J2120	Res. Carb.	120 1/4W	+5%
R509	R510	704-13J3680	Res. Carb.	6.8K 1/4W	+5%
R511		705-15J1100	Res. MOF	10 1W	+5%
R512		705-16J2100	Res. MOF	100 2W	+5%
R513	R514	704-13J3150	Res. Carb.	1.5K 1/4W	+5%
R515	R516	704-13J3120	Res. Carb.	1.2K 1/4W	+5%
R517	R518	704-13J3120	Res. Carb.	1.2K 1/4W	+5%
R519		704-13J3560	Res. Carb.	5.6K 1/4W	+5%
R520		704-13J4120	Res. Carb.	12K 1/4W	+5%
R521		704-13J2100	Res. Carb.	100 1/4W	+5%
R522	R601	704-13J3120	Res. Carb.	1.2K 1/4W	+5%
R523		704-13J4820	Res. Carb.	82K 1/4W	+5%
R524		704-13J4150	Res. Carb.	15K 1/4W	+5%
R525		704-13J4470	Res. Carb.	47K 1/4W	+5%
R526		704-13J2390	Res. Carb.	390 1/4W	+5%
R527	R504	704-13J5150	Res. Carb.	150K 1/4W	+5%
R528	R506	704-13J7100	Res. Carb.	10M 1/4W	+5%
R529	R602	704-13J3180	Res. Carb.	1.8K 1/4W	+5%
R530	R504	704-13J3180	Res. Carb.	1.8K 1/4W	+5%
R531	R506	704-13J3100	Res. Carb.	1K 1/4W	+5%
R532	R508	704-13J3100	Res. Carb.	1K 1/4W	+5%
R533	R810	704-13J4180	Res. Carb.	18K 1/4W	+5%
R534	R812	704-13J4180	Res. Carb.	18K 1/4W	+5%
R535		526-3107	SW Push	4P	
R536		526-3103	SW Push	2P	
R537		526-3103	SW Push	2P	
R538		526-3105	SW Slide	2PT	
R539		526-52205	SW Slide	2PT	
R540		527-4020	Jack Headphone		

3225PE/3020i EXPLODED VIEW PARTS

ITEM	PARTS NO.	DESCRIPTION	QTY
1.	055-131A	Panel — Front	1
2.	073-1620	Button — Push	6
3.	073-1625	Button — Push (Power)	1
4.	081-1100	Knob — Volume	1
5.	081-1110	Knob — Control	3
6.	049-069A	Cover — Top	1
7.	049-0700	Cover — Bottom	1
8.	078-8120	Bracket — Middle	1
9.	078-8130	Bracket — Tuner PCB	2
10.	080-2090	Supporter — Circuit Board	3
11.	082-4490	Felt — Volume Knob	1
12.	082-4500	Felt — Control Knob	3
13.	082-4510	Rubber — Foot	4
14.	083-0710	Heat Sink	1
15.	083-0720	Heat Sink (S)	2
16.	085-1350	Thumb Screw Stud	1
17.	085-1360	Bar — Shorting	2
18.	095-7070	Plate — Left	1
19.	095-7080	Plate — Right	1
20.	095-7090	Plate — Front	1
21.	095-710E	Plate — Back (220V 50Hz 140W)	1
22.	095-7110	Plate — Switch	1
23.	095-7130	Plate — Terminal Board Cover	1
24.	099-0760	UL Heat Shrinkable Tube	0.03
25.	099-0770	UL Heat Shrinkable Tube	0.11
26.	099-0850	Loudspeaker Terminal Block	1
27.	527-060	Cable Tie 4"	8
28.	527-6002	Micro Bushing 4N40	1
29.	027-5000	Soldering Tag	2
30.	526-3110-1	Push Button Switch	1
31.	048-0620	Nut — 3.5mm	1
32.	093-3008BTBB(H)	Self-Tapping Screw 3 x 8 BTBB	
33.	571-0ME2470	Ceramic Capacitor	1
34.	093-3006BTBB(H)	Self-Tapping Screw 3 x 6 BTBB	1
35.	093-3006BTB	Self-Tapping Screw 3 x 6 BTB	8
36.	093-3008BH	Machine Screw M 3 x 0.5P x 8 BH	6
37.	093-3008BTBB	Self-Tapping Screw 3 x 8 BTBB	4
38.	093-3008KTB(H)	Self-Tapping Screw 3 x 8 KTB	3
39.	094-0740	Washer — Metal	1
40.	094-0760	Washer — External Tooth	1
41.	093-4006WHB(H)	Machine Screw M 4 x 0.7P x 6 WHB	2
42.	099-1100	Rivet	4
43.	529-51A01	AC Cord uL/CSA	1
	529-53B01	AC Cord BS	1
	529-53M01	AC Cord VDE/EMKO	1
	529-53S01	AC Cord SAA	1
44.	082-4020	Cushion	
45.	531-1054	Main Board	1
46.	531-9016	Headphone Board	1
47.	531-9015	Ext. Speaker Board	1
48.	531-2201	Ext. Pre-Amp Board	1
49.	531-V001	Fuse Board	1
50.	521-167AMV501	Power Transformer EI 67 x 55 mm	1
51.	527-4020	Headphone Jack 6.5mm	1
52.	507-3103C21	Volume 10K C (D) W/O Switch	2
53.	507-3203W11-T	Volume 20K W (S) W/O Switch	1
54.	526-3102	Push Switch 2I2I2S (SPUF41) Alps	1
55.	526-3103	Push Switch 2S2S (SPUF21) Alps	1
56.	507-3503B21	Volume 50K B (D) W/O Switch	1
57.	526-52205	Slide Switch 2P2T	1
58.	527-441101	RCA Jack 4 Pos	1
59.	527-441101	RCA Jack 4 Pos	2
60.	527-421201	RCA Jack 2 Pos	1
61.	531-U001	Terminal Board	1
62.	531-7049	Power LED Board	1
63.	094-0190	Washer — Ext. Tooth	16
64.	027-6003	Soldering Tag	1
65.	526-3105	Slide Switch 2P2T RG 10mm	1
66.	082-4530	Foam — Sheet	1
67.	027-6004	Soldering Tag	1
68.	527-3125U	AC Outlet (for UL/CSA only)	2
69.	083-0780	Heat Sink Fin (3225PE only)	4
70.	083-0790	Heat Sink Power Envelope (3225PE only)	2
71.	095-7120	Plate AC Socket Cover (UL/CSA, A/A1 only)	1

EXPLODED VIEW

