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SERVICE MANUAL

NAD

302

**INTEGRATED
AMPLIFIER**


302

**INTEGRATED
AMPLIFIER**

CONTENTS

| DESCRIPTION | PAGE |
|-----------------------------------|-------|
| SPECIFICATIONS | 3 |
| REAR PANEL/FRONT PANEL VIEW | 4 |
| BLOCK DIAGRAM | 5 |
| WIRING DIAGRAM | 6 |
| AMPLIFIER ADJUSTMENT | 7 |
| TROUBLE SHOOTING GUIDE | 8 |
| SCHEMATIC DIAGRAM | 9-10 |
| PCB LAYOUT (PARTS SIDE) | 11-12 |
| EXPLODED VIEW | 13 |
| EXPLODED VIEW PARTS LIST | 14 |
| DISASSEMBLY INSTRUCTIONS | 15 |
| PARTS LIST | 16-18 |
| PACKING DIAGRAM | 19 |

SERVICE SAFETY PRECAUTIONS

1. Use exact replacement parts for critical locations, marked “  ” on parts list.
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.

SPECIFICATION

POWER AMPLIFIER SECTION

Stereo Mode

| | |
|--|---|
| CONTINUOUS AVERAGE POWER OUTPUT INTO 8 OHMS..... | 25W(14dBW) |
| (Min. power per channel, 20Hz-20kHz, both channels driven, with no more than rated distortion) | |
| Rated distortion (THD 20Hz-20kHz)..... | 0.03% |
| Clipping power (maximum continuous power per channel)..... | 40W |
| IHF dynamic headroom at 8 ohms..... | +3dB |
| IHF dynamic power (maximum short term power per channel) | |
| 8 ohms: | 50W (17dBW) |
| 4 ohms: | 60W (17.8dBW) |
| 2 ohms: | 75W (18.7dBW) |
| Slew rate..... | >20 V/usec |
| Damping factor (ref. 8 ohms 50Hz)..... | >60 |
| Input impedance..... | R=20K OHM C=820pF |
| Input sensitivity (for rated power into 8 ohms)..... | 1V |
| Voltage gain..... | x14 (23 dB) |
| Frequency response..... | 20Hz to 20kHz +/-0.3dB -3dB at 3Hz/70kHz |
| Signal/Noise ratio(A-weighted)..... | 102dB ref. 1W 116 dB ref. rated power |
| THD..... | <0.03% |
| (Total harmonic distortion, 20Hz-20kHz, from 250mW to rated output) | |
| SMPTE I.M. | <0.03% |
| (IM distortion, 60Hz+7kHz,4:1, from 250mW to rated output) | |
| IHF I.M. (CCIF IM distortion, 19+20kHz at rated output)..... | <0.03% |

PREAMPLIFIER SECTION

Phono Input

| | |
|---|----------------------|
| Input impedance (R and C)..... | 47k ohm + 200pF |
| Input sensitivity (ref. rated power, 1kHz)..... | 2.7mV |
| Input overload at 20Hz/1kHz/20kHz..... | 22mV/220mV/2V |
| THD (20Hz-20kHz) and I.M. distortion..... | <0.1% at +30dB level |
| RIAA accuracy..... | +/-0.5dB |
| Signal/Noise ratio (A-weighted with cartridge connected)..... | 77dB ref. 5mV |

Line Level Inputs (CD, Video, Tuner, Tape 1, Tape 2)

| | |
|---|--|
| Input impedance (R and C)..... | 20k ohm + 500pF |
| Input sensitivity (ref. rated power)..... | 165mV |
| Maximum input signal..... | >10V |
| Signal/Noise ratio (A-weighted)..... | 90dB ref. 1W 104dB ref. rated power |
| Frequency response, 20Hz-20kHz..... | +/-0.5dB |
| Infrasonic filter..... | -3dB at 10Hz 12dB/octave |

Line Level Output

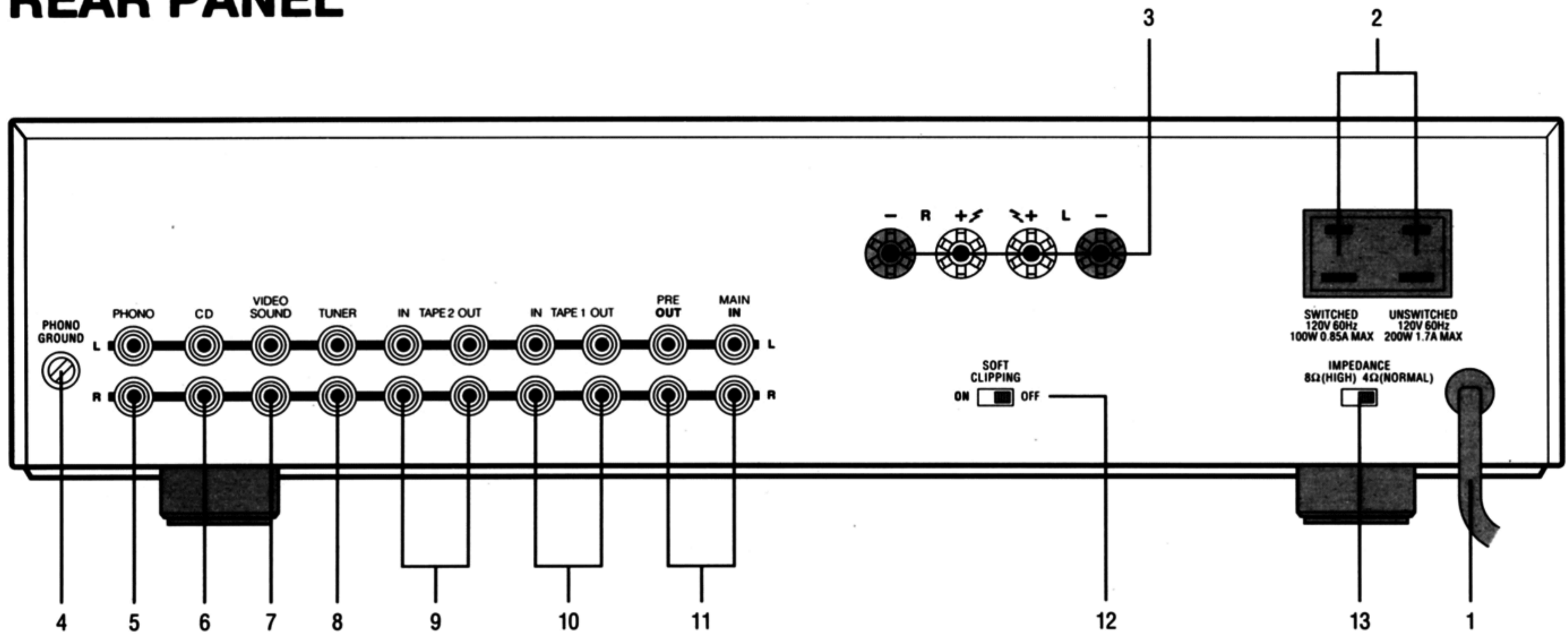
| | |
|----------------------------------|--|
| Preamp output impedance..... | 220 ohm |
| Tape output impedance..... | Source Z + 2k ohm |
| Headphones output impedance..... | 220 ohm |
| Maximum output level | |
| preamp out | >12V |
| tape out | >10V |
| headphones out | >10V into 600 ohm >500mV into 8 ohm |

Controls

| | |
|-------------|-----------------|
| Treble..... | +/-7dB at 10kHz |
| Bass..... | +/-10dB at 50Hz |

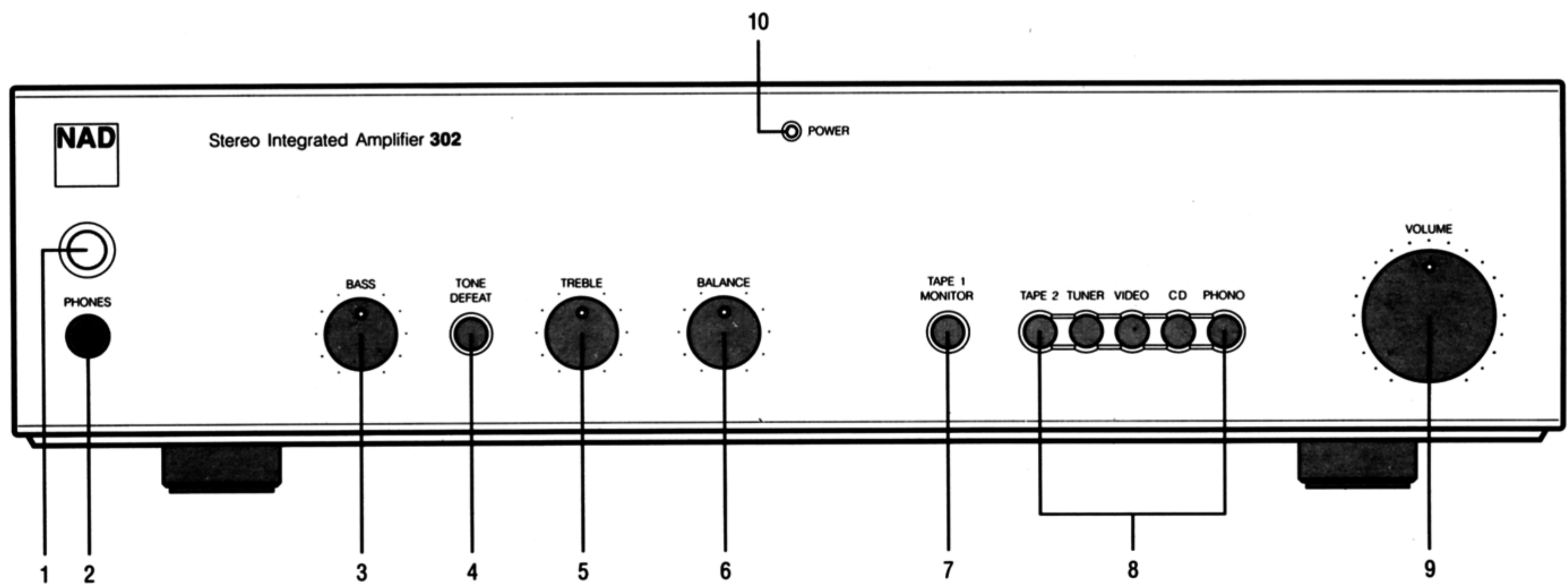
REAR PANEL/FRONT PANEL VIEW

REAR PANEL



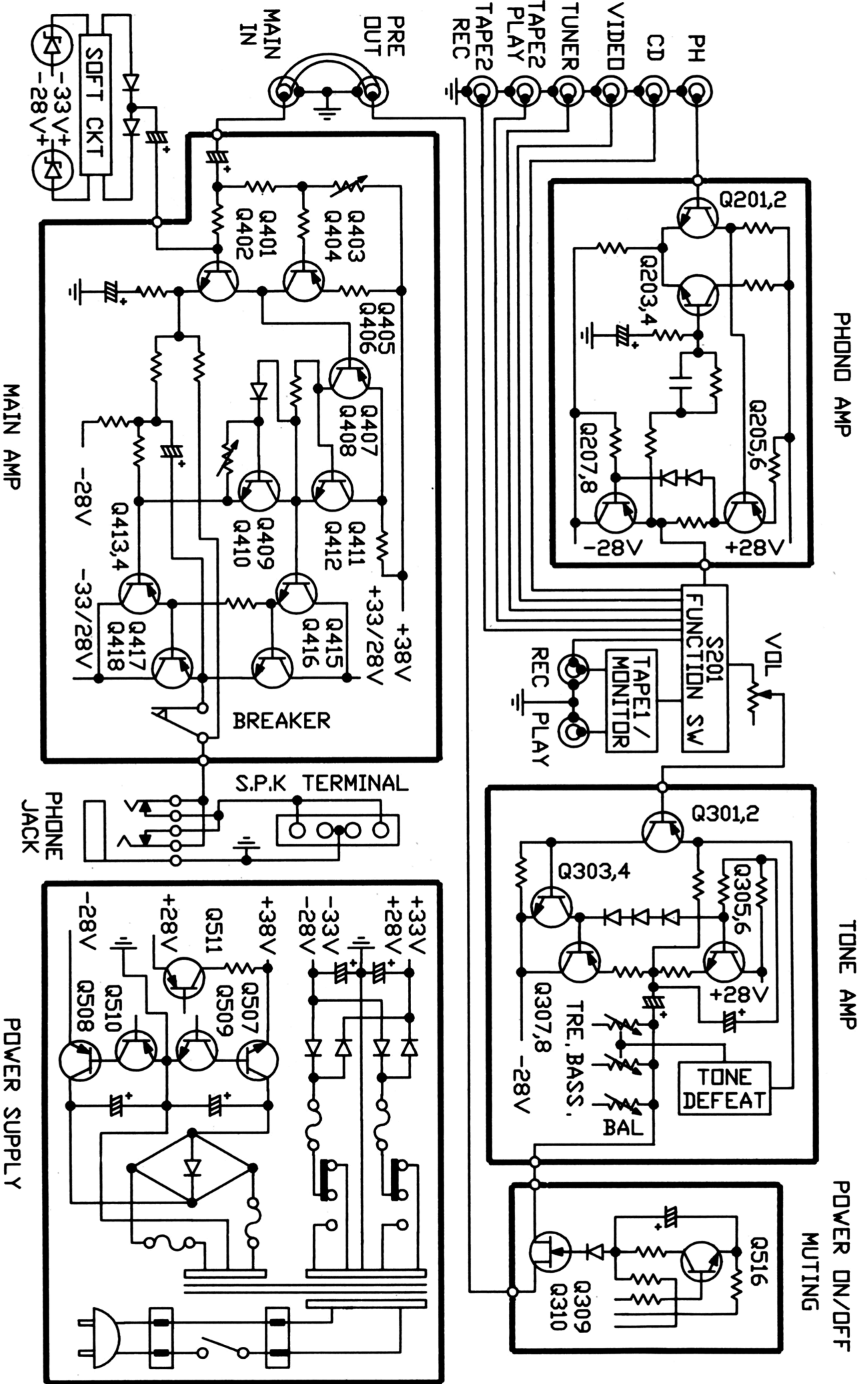
- | | |
|--|---|
| <ol style="list-style-type: none"> 1. AC LINE CORD 2. AC OUTLETS(ONLY IN 120V MODEL) 3. SPEAKER TERMINALS 4. PHONO GROUND 5. PHONO INPUT 6. CD INPUT 7. VIDEO SOUND INPUT | <ol style="list-style-type: none"> 8. TUNER INPUT 9. TAPE 2 INPUT/OUTPUT 10. TAPE 1 INPUT/OUTPUT 11. PRE-AMP OUTPUT/MAIN AMP INPUT 12. SOFT CLIPPING 13. IMPEDANCE SELECTOR |
|--|---|

FRONT PANEL

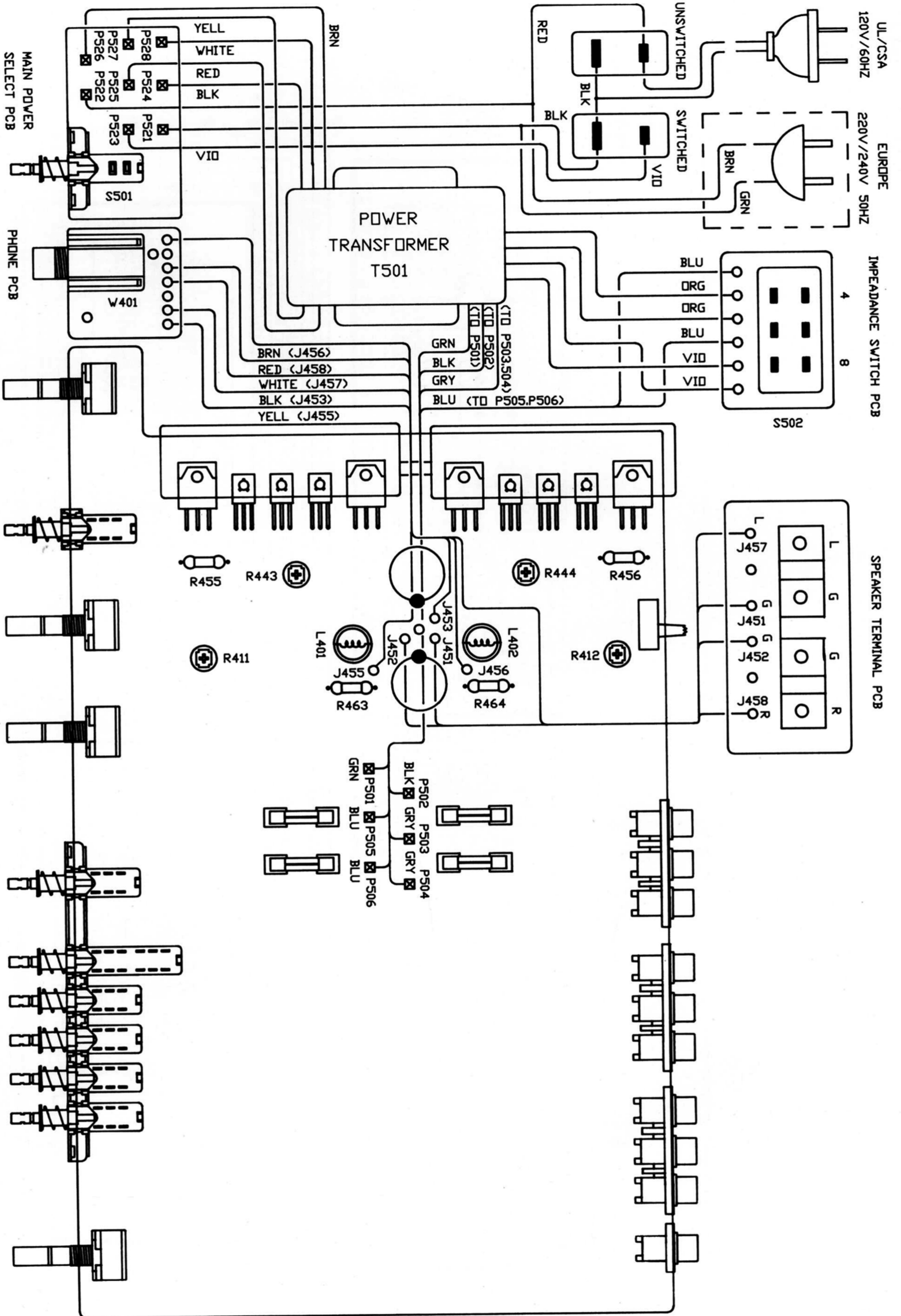


- | | |
|--|---|
| <ol style="list-style-type: none"> 1. POWER SWITCH 2. PHONES 3. BASS CONTROL 4. TONE DEFEAT 5. TREBLE CONTROL | <ol style="list-style-type: none"> 6. BALANCE CONTROL 7. TAPE 1 MONITOR 8. INPUT SELECTOR (TAPE 2, TUNER, VIDEO, CD, PHONO.) 9. VOLUME CONTROL 10. POWER INDICATOR |
|--|---|

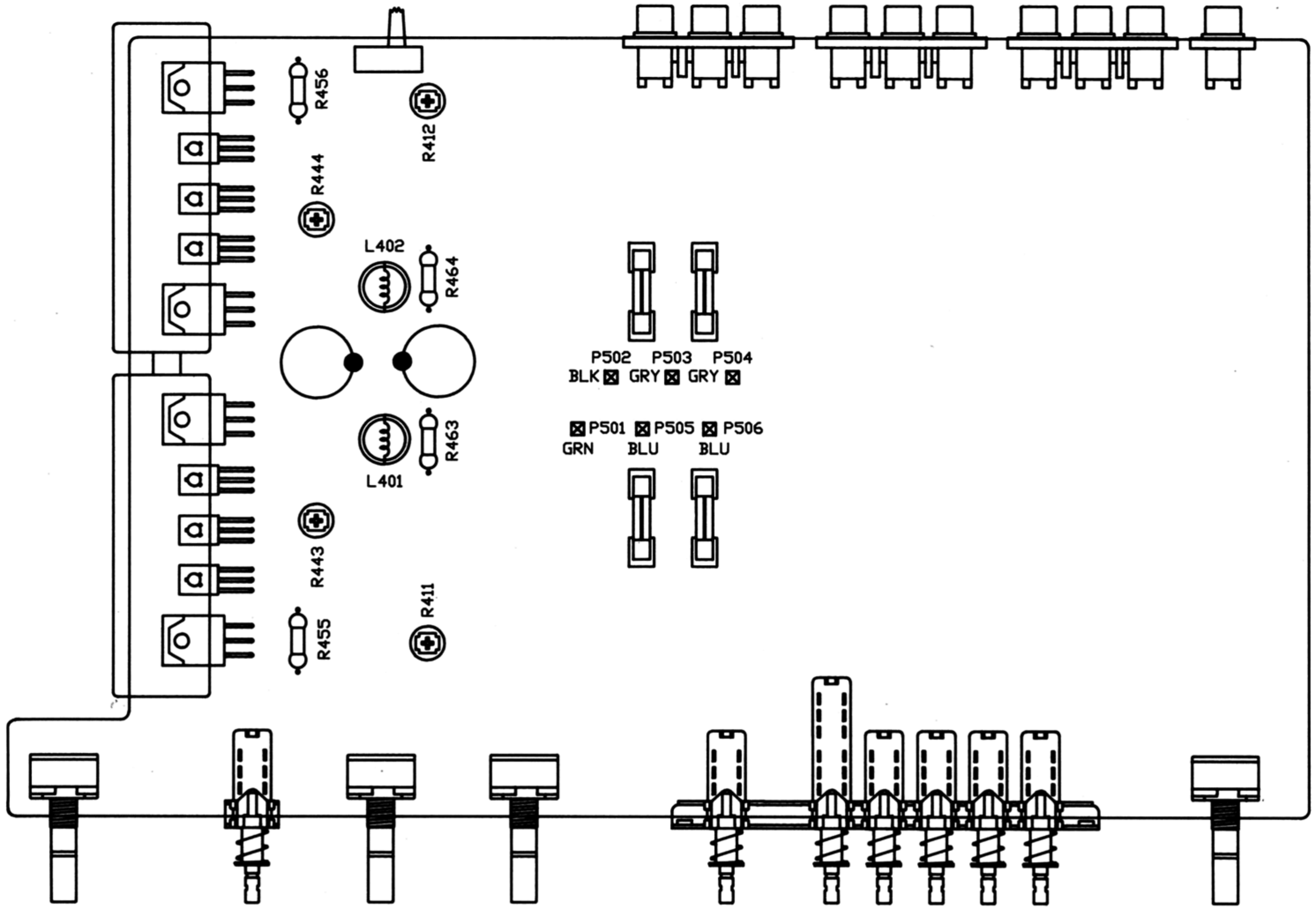
BLOCK DIAGRAM



WIRING DIAGRAM



AMPLIFIER ADJUSTMENT



IMPORTANT

Speaker impedance switch should be in 8 ohms position while adjust center voltage and idling current. Reset switch after adjustment procedure is completed.

INITIAL ADJUSTMENT (No load connected)

A. CENTER VOLTAGE

1. Connect DC millivoltmeter to L channel output terminal.
2. Turn on and adjust to $0V \pm 30mV$ with R411 (220 ohm). Connect DC millivoltmeter to R channel output terminal and adjust R412 to $0V \pm 30mV$.

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 25-35mV reading on meter. Repeat adjustment with R444, connecting meter across R456 (1 ohm).
3. Leave power on for minimum 5 minutes.

FINAL ADJUSTMENT

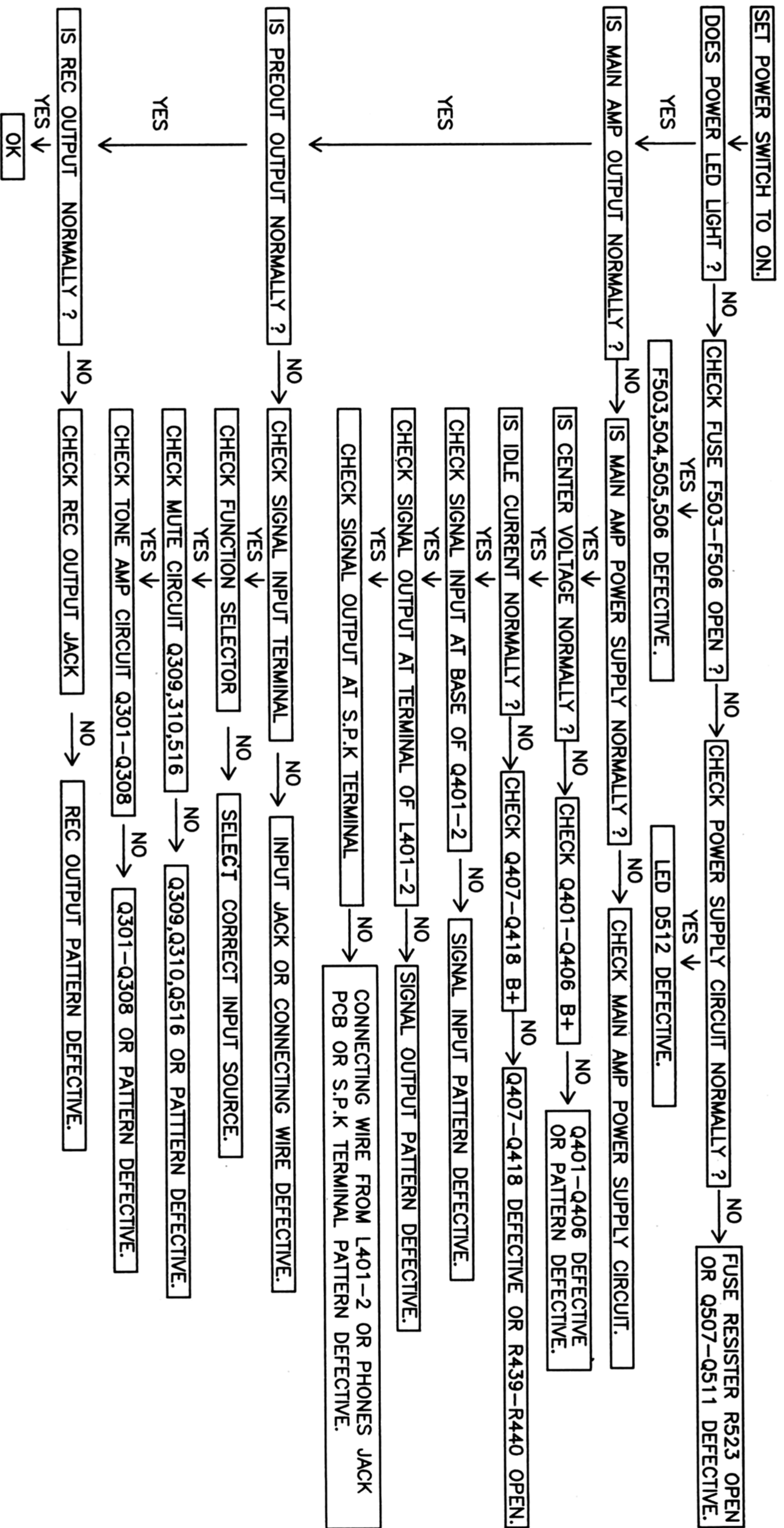
C. CENTER VOLTAGE

1. Repeat step A above.

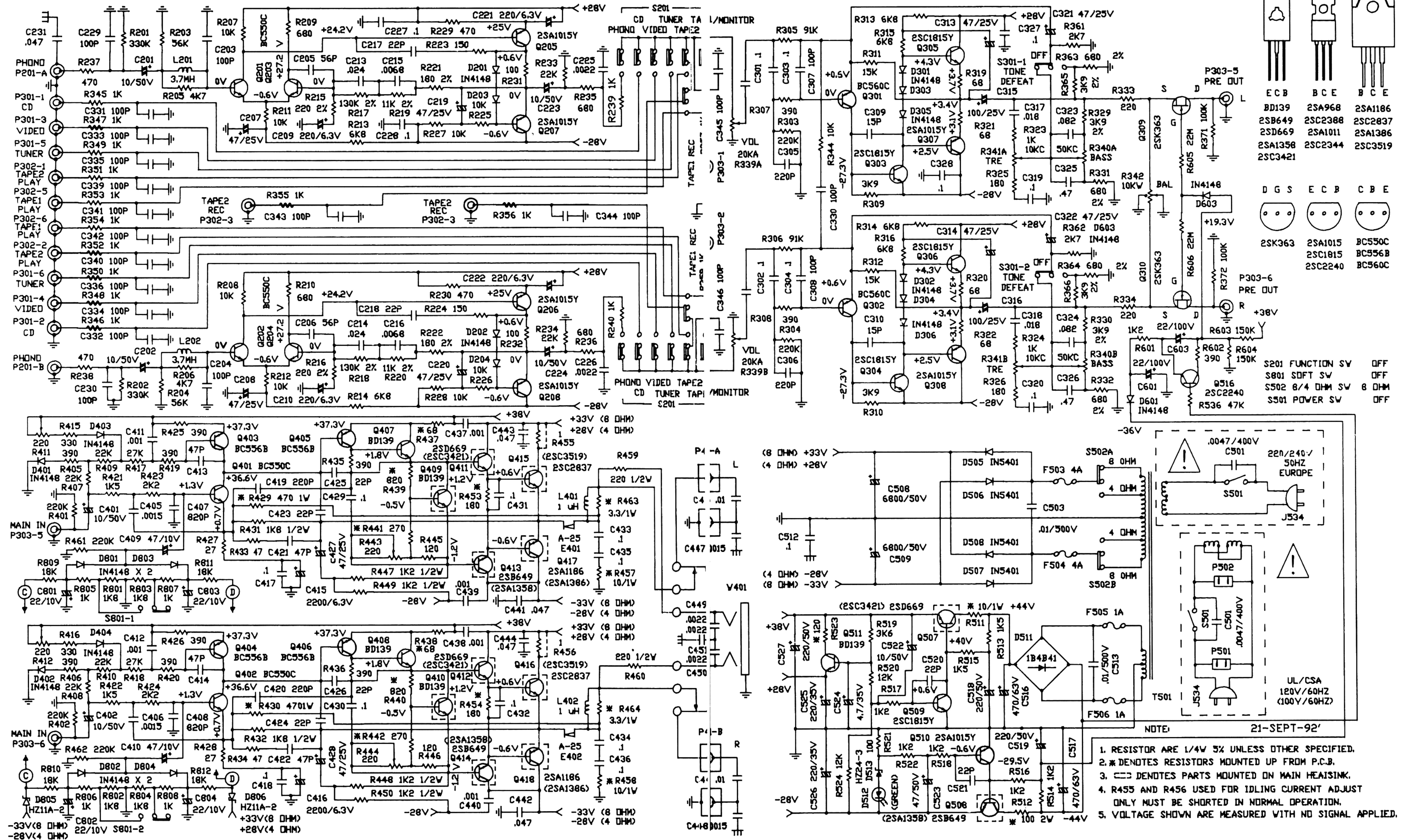
D. IDLING CURRENT

1. Repeat step B and adjust with R443, R444 for 25-35mV reading on meter.
2. After the alignment is finished, 1 ohm resistor R455, R456 is shorted by solder short.

TROUBLE SHOOTING GUIDE



SCHEMATIC DIAGRAM



EXPLODED VIEW PARTS LIST

| ITEM | PARTS NO. | DESCRIPTION | Q'TY |
|--------|------------|-----------------------------|------|
| 1 | 5541309000 | FRONT PANEL | 1 |
| 2 | 5541003600 | TOP COVER | 1 |
| 3 | 5547139600 | CHASSIS | 1 |
| 4*AH | 5547139700 | BACK PLATE (120V/50Hz) | 1 |
| 4*B1,C | 5547139710 | BACK PLATE (220-240V/50Hz) | 1 |
| 5 | 5545310200 | HEAT SINK | 2 |
| 6 | 5545310500 | TRANSISTOR HEAT SINK | 1 |
| 7 | 5547534200 | POWER SW. SHIELD | 1 |
| 8 | 5541548700 | POWER BUTTON | 1 |
| 9 | 5541546900 | PUSH BUTTON | 7 |
| 10 | 5547612600 | POINTER | 4 |
| 11 | 5541547100 | VOL. KNOB | 1 |
| 12 | 5541547000 | CONTROL KNOB | 3 |
| 13 | 5547501200 | POWER CORD BUSHING | 1 |
| 14 | 5542234500 | FOOT | 4 |
| 15 | 5547024210 | LOCK BRACKET | 2 |
| 16 | 5556200800 | LUG (3.1) | 2 |
| 17 | 5547033610 | TERMINAL CONNECTOR A | 2 |
| 18 | 5546121400 | TERMINAL | 1 |
| 19 | 5547528400 | SWITCH LOCK PLATE | 1 |
| 20 | 5556200810 | LUG (4.1) | 1 |
| 21 | 5547139610 | CHASSIS A | 1 |
| 22 | 5542001700 | HEMELON C | 2 |
| 23 | 7001170616 | SCREW (PAN M3.0x6) BLACK | 6 |
| 24 | 7190550003 | SCREW (BID M4.0x6 WASHER) | 4 |
| 25 | 7134161152 | SCREW (M3.0x8 S TITE) | 6 |
| 26 | 7134161452 | SCREW (BRZ M3.0x10 S TITE) | 4 |
| 27 | 7000305012 | SCREW (RUD M3.0x8 WASHER) | 6 |
| 28 | 7033160652 | SCREW (RUD M3.0x6 TS) | 2 |
| 29 | 7033161156 | SCREW (RUD M3.0x8 TS) BLACK | 37 |
| 30 | 7101200302 | GEAR WASHER 3.0 | 1 |
| 31 | 7101200352 | GEAR WASHER 3.5 | 1 |
| 32 | 7096210006 | WASHER 3.5 BLACK | 1 |
| 33 | 7076210012 | NUT M3.5 | 1 |
| 34 | 7033251152 | SCREW (RUD M4.0x6 TS) | 4 |
| 35 | 7033161452 | SCREW (RUD M3.0x10 TS) | 8 |
| 36 | 7033160656 | SCREW (RUD M3.0x6 TS BLACK) | 5 |

DISASSEMBLY INSTRUCTIONS

TOP COVER REMOVAL

1. Remove parts in order of disassembly as numbered.
 - a. ①-④ Machine screw M 4.0x6.0 (See Fig. 1.)
 - b. ⑤ Tapping screw M 3.0x8.0 (See Fig. 1.)

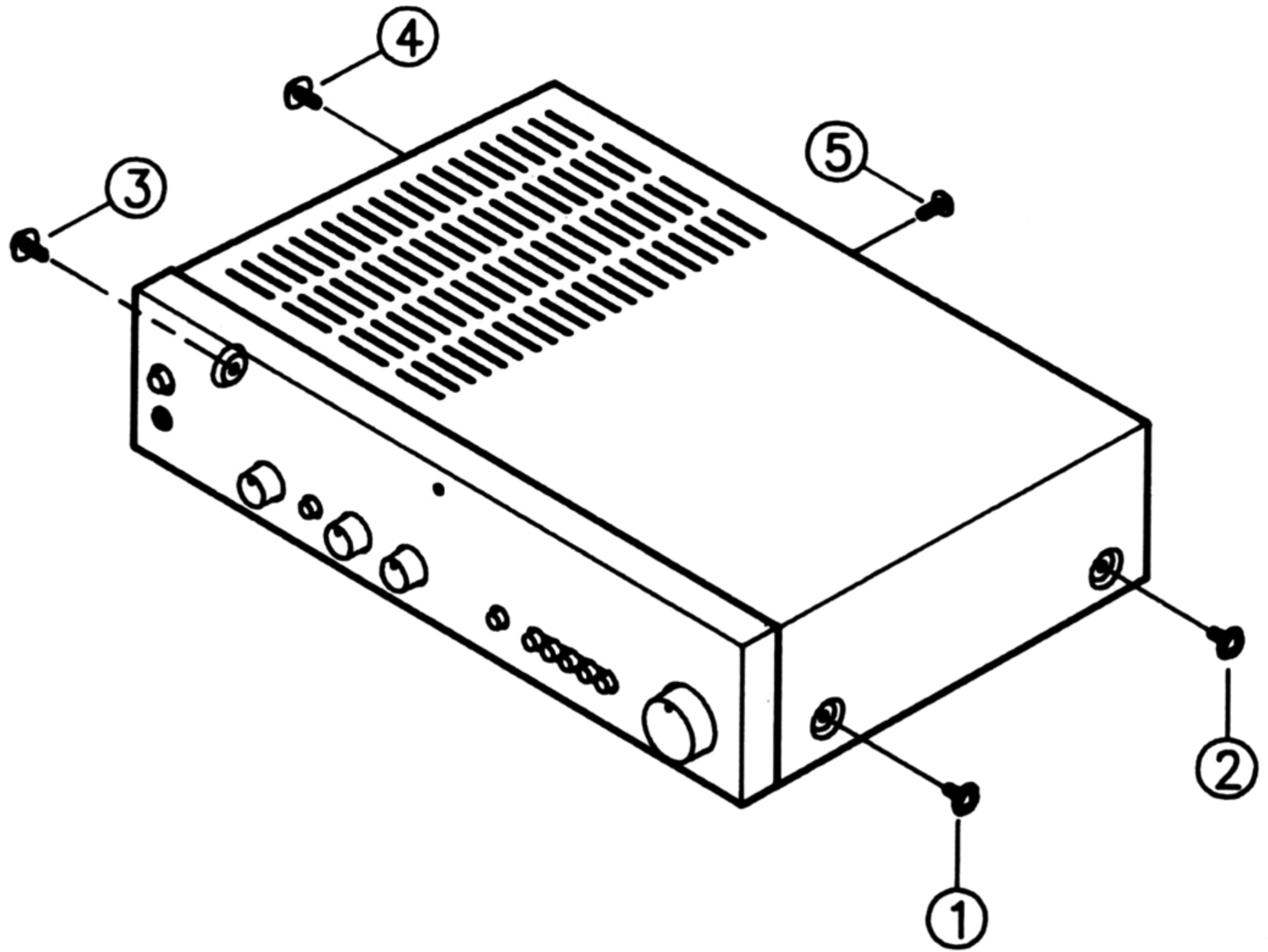


Fig. 1.

2. Pull both sides of TOP COVER outward and turning about 35° (shown as arrow ⑥) then remove as arrow ⑦ shown. (See Fig. 2.)

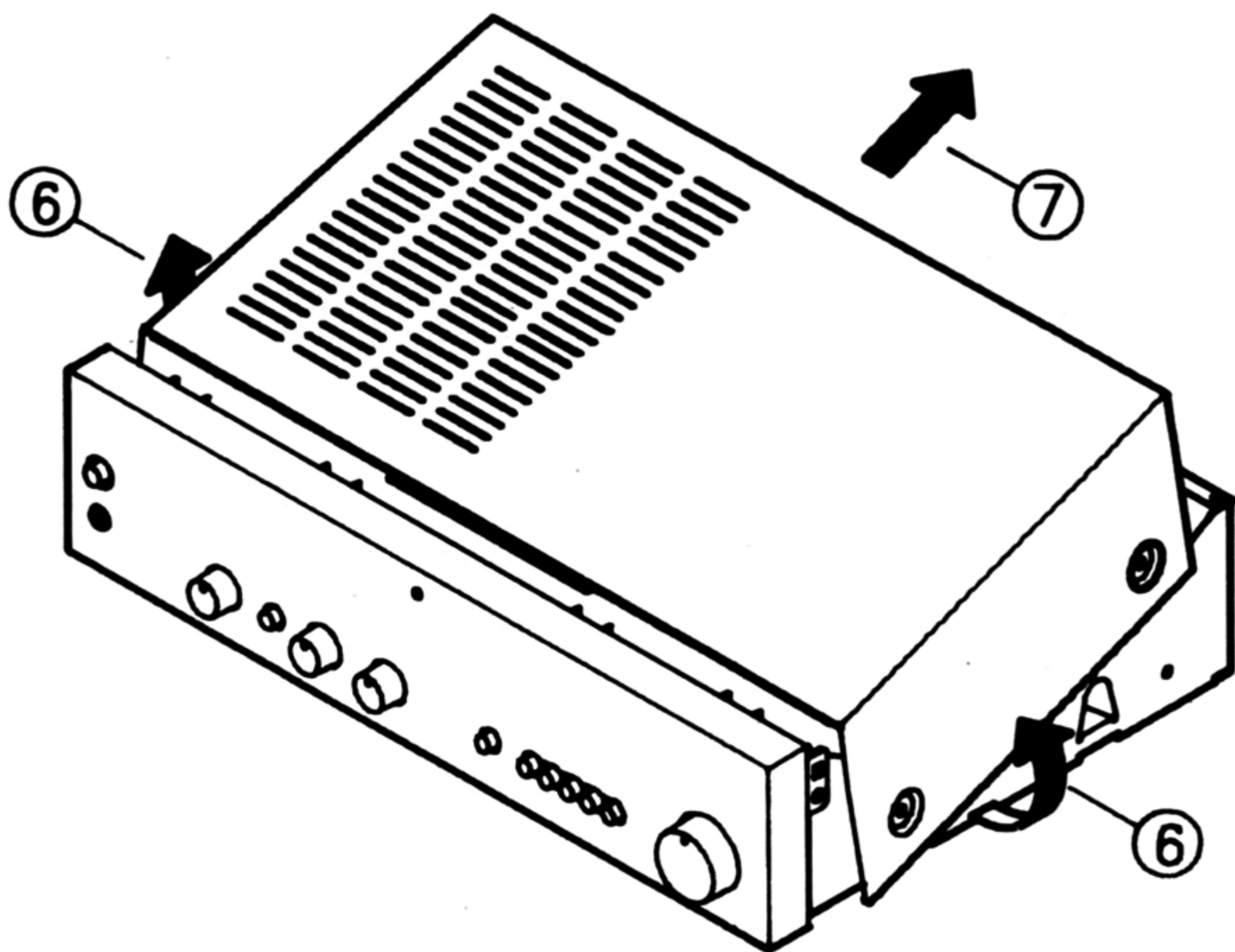


Fig. 2.

PARTS LIST

NAD-302 PARTS LIST

| SYMBOL NO | REF. NO. | PART NO. | DESCRIPTION | Q'TY | |
|------------------------|------------|--------------|------------------------|-------------------------|---|
| MAIN PCB ASS'Y | | (5090406078) | NAD-302 | 1 | |
| MAIN AMP. PCB BLOCK | | (5090906192) | NAD-302 | 1 | |
| PC BOARD B201 | 5553138000 | 5553138000 | MAIN PCB. | NO COMPONENTS | 1 |
| CAPACITORS | | | | | |
| C201, C202 | 5213610091 | 5213610091 | CAP. EL. | 10uFM +/-20% 50V | 2 |
| C203, C204 | 5247010191 | 5247010191 | CAP. CER. | 100PFJ +/-5% 50V | 2 |
| C205, C206 | 5247056091 | 5247056091 | CAP. CER. | 56PFJ +/-5% 50V | 2 |
| C207, C208 | 5213447091 | 5213447091 | CAP. EL. | 47uFM +/-20% 25V | 2 |
| C209, C210 | 5213122191 | 5213122191 | CAP. EL. | 220uFM +/-20% 6.3V | 2 |
| C213, C214 | 5225324391 | 5225324391 | CAP. POLY. | 24000PFJ +/-5% 50V | 2 |
| C215, C216 | 5225368291 | 5225368291 | CAP. POLY. | 6800PFJ +/-5% 50V | 2 |
| C217, C218 | 5247022091 | 5247022091 | CAP. CER. | 22PFJ +/-5% 50V | 2 |
| C219, C220 | 5213447091 | 5213447091 | CAP. EL. | 47uFM +/-20% 25V | 2 |
| C221, C222 | 5213122191 | 5213122191 | CAP. EL. | 220uFM +/-20% 6.3V | 2 |
| C223, C224 | 5213610091 | 5213610091 | CAP. EL. | 10uFM +/-20% 50V | 2 |
| C225, C226 | 5222122291 | 5222122291 | CAP. POLY. | 2200PFJ +/-5% 50V | 2 |
| C227, C228 | 5231810400 | 5231810400 | CAP. CER. | 0.1uFZ +80-20% 50V | 2 |
| C229, C230 | 5247010191 | 5247010191 | CAP. CER. | 100PFJ +/-5% 50V | 2 |
| C231 | 5231847391 | 5231847391 | CAP. CER. | 47000PFZ +80-20% 50V | 1 |
| C301-C304 | 5222110491 | 5222110491 | CAP. POLY. | 0.1MFJ +/-5% 50V | 4 |
| C305, C306 | 5247122191 | 5247122191 | CAP. CER. | 220PFK +/-10% 50V | 2 |
| C307, C308 | 5247010191 | 5247010191 | CAP. CER. | 100PFJ +/-5% 50V | 2 |
| C309, C310 | 5247015091 | 5247015091 | CAP. CER. | 15PFJ +/-5% 50V | 2 |
| C313, C314 | 5213447091 | 5213447091 | CAP. EL. | 47uFM +/-20% 25V | 2 |
| C315, C316 | 5213410191 | 5213410191 | CAP. EL. | 100uFM +/-20% 25V | 2 |
| C317, C318 | 5222118391 | 5222118391 | CAP. POLY. | 18000PFJ +/-5% 50V | 2 |
| C319, C320 | 5222110491 | 5222110491 | CAP. POLY. | 0.1MFJ +/-5% 50V | 2 |
| C321, C322 | 5213447091 | 5213447091 | CAP. EL. | 47uFM +/-20% 25V | 2 |
| C323, C324 | 5222182391 | 5222182391 | CAP. POLY. | 82000PFJ +/-5% 50V | 2 |
| C325, C326 | 5270203101 | 5270203101 | CAP. META. | 0.47MFJ +/-5% 50V | 2 |
| C327, C328 | 5231810400 | 5231810400 | CAP. CER. | 0.1uFZ +80-20% 50V | 2 |
| C330-C336 | 5247010191 | 5247010191 | CAP. CER. | 100PFJ +/-5% 50V | 7 |
| C339-C346 | 5247010191 | 5247010191 | CAP. CER. | 100PFJ +/-5% 50V | 8 |
| C401, C402 | 5213610091 | 5213610091 | CAP. EL. | 10uFM +/-20% 50V | 2 |
| C405, C406 | 5222115291 | 5222115291 | CAP. POLY. | 1500PFJ +/-5% 50V | 2 |
| C407, C408 | 5231382191 | 5231382191 | CAP. CER. | 820PFK +/-10% 50V | 2 |
| C409, C410 | 5213247091 | 5213247091 | CAP. EL. | 47uFM +/-20% 10V | 2 |
| C411, C412 | 5222110291 | 5222110291 | CAP. POLY. | 1000PFJ +/-5% 50V | 2 |
| C413, C414 | 5247047091 | 5247047091 | CAP. CER. | 47PFJ +/-5% 50V | 2 |
| C415, C416 | 5213122212 | 5213122212 | CAP. EL. | 2200uFM +/-20% 6.3V | 2 |
| C417, C418 | 5222110491 | 5222110491 | CAP. POLY. | 0.1MFJ +/-5% 50V | 2 |
| C419, C420 | 5247122191 | 5247122191 | CAP. CER. | 220PFK +/-10% 50V | 2 |
| C421, C422 | 5247047091 | 5247047091 | CAP. CER. | 47PFJ +/-5% 50V | 2 |
| C423-C426 | 5247022091 | 5247022091 | CAP. CER. | 22PFJ +/-5% 50V | 4 |
| C427, C428 | 5213447091 | 5213447091 | CAP. EL. | 47uFM +/-20% 25V | 2 |
| C429-C432 | 5222110491 | 5222110491 | CAP. POLY. | 0.1MFJ +/-5% 50V | 4 |
| C433-C436 | 5231810400 | 5231810400 | CAP. CER. | 0.1uFZ +80-20% 50V | 4 |
| C437-C440 | 5231510291 | 5231510291 | CAP. CER. | 1000PFM +/-20% 50V | 4 |
| C441-C444 | 5231847391 | 5231847391 | CAP. CER. | 47000PFZ +80-20% 50V | 4 |
| C503 | 5232710301 | 5232710301 | CAP. CER. | 10000PFM +/-20% 50V | 2 |
| C508, C509 | 5210308100 | 5210308100 | CAP. EL. | 6800uFM +/-20% 50V | 2 |
| C512 | 5231810400 | 5231810400 | CAP. CER. | 0.1uFZ +80-20% 50V | 1 |
| C513 | 5232710301 | 5232710301 | CAP. CER. | 10000PFM +/-20% 50V | 2 |
| C516, C517 | 5213747113 | 5213747113 | CAP. EL. | 470uFM +/-20% 63V | 2 |
| C518, C519 | 5213622112 | 5213622112 | CAP. EL. | 220uFM +/-20% 50V | 2 |
| C520, C521 | 5247022091 | 5247022091 | CAP. CER. | 22PFJ +/-5% 50V | 2 |
| C522 | 5213610091 | 5213610091 | CAP. EL. | 10uFM +/-20% 50V | 1 |
| C523 | 5213647091 | 5213647091 | CAP. EL. | 47uFM +/-20% 50V | 1 |
| C524 | 5213647991 | 5213647991 | CAP. EL. | 4.7uFM +/-20% 50V | 1 |
| C525, C526 | 5213522112 | 5213522112 | CAP. EL. | 220uFM +/-20% 35V | 2 |
| C527 | 5213622112 | 5213622112 | CAP. EL. | 220uFM +/-20% 50V | 1 |
| C601, C603 | 5214122012 | 5214122012 | CAP. EL. | 22uFM +/-20% 100V | 2 |
| C801-C804 | 5213222091 | 5213222091 | CAP. EL. | 22uFM +/-20% 10V | 4 |
| DIODES | | | | | |
| D201-D204 | 1N4148 | 6613003030 | DIODE SWITCHING | 1N4148 | 5 |
| D301-D306 | 1N4148 | 6613003030 | DIODE SWITCHING | 1N4148 | 6 |
| D401-D404 | 1N4148 | 6613003030 | DIODE SWITCHING | 1N4148 | 4 |
| D505-D508 | 1N5401 | 6611000800 | DIODE RECTIFIER | 1N5401 100V 3.0A G | 4 |
| D511 | 1B4B41 | 6611012400 | DIODE RECTIFIER | 1B4B41 100V 1.0A G | 1 |
| D513 | HZ-24-3 | 6615016100 | DIODE ZENER | HZ-24-3 24.3-25.5V | 1 |
| D601, D603 | 1N4148 | 6613003030 | DIODE SWITCHING | 1N4148 | 2 |
| D801-D804 | 1N4148 | 6613003030 | DIODE SWITCHING | 1N4148 | 4 |
| D805, D806 | HZ-11A-2 | 6615007900 | DIODE ZENER | HZ-11A-2 9.7-10.1V 0.5W | 2 |
| CIRCUIT BREAKER | | | | | |
| E401, E402 | 5554432230 | 5554432230 | CIRCUIT BREAKER SWITCH | A-25 2.5A | 2 |
| FUSES | | | | | |
| F503*AH | 5554309800 | 5554309800 | FUSE, UL/CSA 5MT4 | 125V 4A 5.2x20 | 1 |
| F503*B1 | 5554307400 | 5554307400 | FUSE, T51 | 250V 4A 5.2x20 | 1 |
| F503*C | 5554307400 | 5554307400 | FUSE, T51 | 250V 4A 5.2x20 | 1 |
| F504*AH | 5554309800 | 5554309800 | FUSE, UL/CSA 5MT4 | 125V 4A 5.2x20 | 1 |

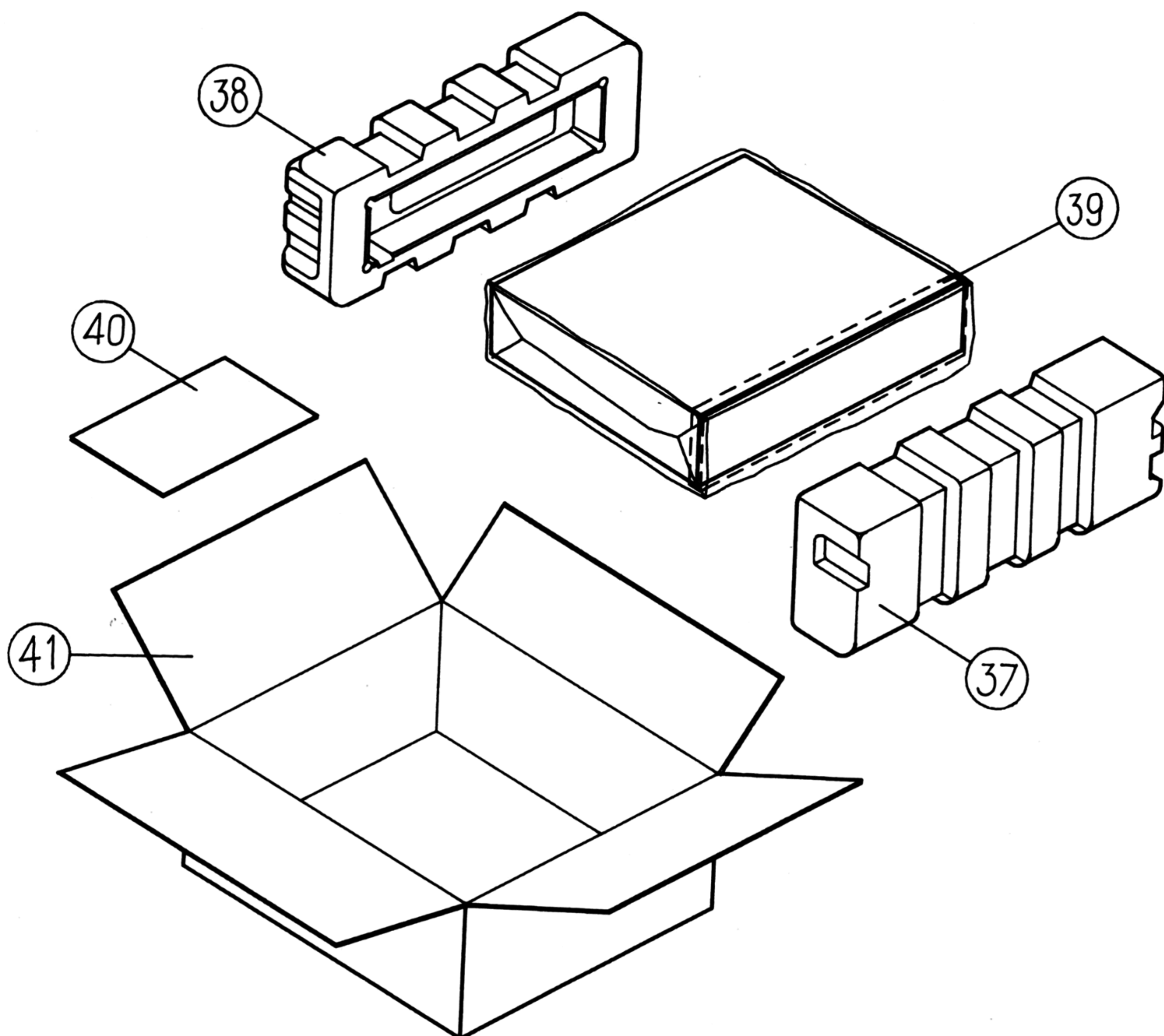
NAD-302 PARTS LIST

| SYMBOL NO | REF. NO. | PART NO. | DESCRIPTION | Q'TY |
|--------------------|--------------|------------|---|------|
| F504*B1 | 5554307400 | 5554307400 | FUSE, T51 250V 4A 5.2x20 | 1 |
| F504*C | 5554307400 | 5554307400 | FUSE, T51 250V 4A 5.2x20 | 1 |
| F505*AH | 5554309810 | 5554309810 | FUSE, UL/CSA 5MT1 125V 1A 5.2x20 | 1 |
| F505*B1 | 5554306800 | 5554306800 | FUSE, T51 250V 1A 5.2x20 | 1 |
| F505*C | 5554306800 | 5554306800 | FUSE, T51 250V 1A 5.2x20 | 1 |
| F506*AH | 5554309810 | 5554309810 | FUSE, UL/CSA 5MT1 125V 1A 5.2x20 | 1 |
| F506*B1 | 5554306800 | 5554306800 | FUSE, T51 250V 1A 5.2x20 | 1 |
| F506*C | 5554306800 | 5554306800 | FUSE, T51 250V 1A 5.2x20 | 1 |
| COILS | | | | |
| L201,L202 | 5564401300 | 5564401300 | TRAP COIL TWS-384-407 L=3.7MH+-30%10KHz | 2 |
| L401,L402 | 5562001200 | 5562001200 | COIL SPRING 9.5#Px1.0#Px13ZIT | 2 |
| TRANSISTORS | | | | |
| Q201-Q204 | BC550C | 6621029500 | TR. NPN HF BC550C | 4 |
| Q205-Q208 | 2SA1015-Y | 6623002050 | TR. PNP HF 2SA1015-Y TPE2 TAPING | 4 |
| Q301,Q302 | BC560C | 6623009700 | TR. PNP HF BC560C | 2 |
| Q303-Q306 | 2SC1815-Y | 6221015332 | TR. NPN HF 2SC1815-Y TPE2 | 4 |
| Q307,Q308 | 2SA1015-Y | 6623002050 | TR. PNP HF 2SA1015-Y TPE2 TAPING | 2 |
| Q309,Q310 | 2SK363GR | 6625003730 | TR. FET 2SK363GR VGDS=-40 TAPING | 2 |
| Q401,Q402 | BC550C | 6621029500 | TR. NPN HF BC550C | 2 |
| Q403-Q406 | BC556B | 6623005200 | TR. PNP HF BC556B | 4 |
| Q407-Q410 | BD139 | 6622016700 | TR. NPN LF BD139 W/ACC TO-126 | 4 |
| Q411*A | 2SD669AC | 6622012802 | TR. NPN LF 2SD669AC W/ACC TO-126 | 1 |
| Q411*B | 2SC3421Y | 6621002600 | TR. NPN HF 2SC3421Y | 1 |
| Q412*A | 2SD669AC | 6622012802 | TR. NPN LF 2SD669AC W/ACC TO-126 | 1 |
| Q412*B | 2SC3421Y | 6621002600 | TR. NPN HF 2SC3421Y | 1 |
| Q413*A | 2SB649A-C | 6624009401 | TR. PNP LF 2SB649A-C 1W 160V | 1 |
| Q413*B | 2SA1358Y | 6623001700 | TR. PNP HF 2SA1358Y | 1 |
| Q414*A | 2SB649A-C | 6624009401 | TR. PNP LF 2SB649A-C 1W 160V | 1 |
| Q414*B | 2SA1358Y | 6623001700 | TR. PNP HF 2SA1358Y | 1 |
| Q415*A | 2SC2837 | 6621008000 | TR. NPN HF 2SC2837 W/ACC TO-3PB | 1 |
| Q415*B | 2SC3519Y | 6621037000 | TR. NPN HF 2SC3519Y W/ACC238 | 1 |
| Q416*A | 2SC2837 | 6621008000 | TR. NPN HF 2SC2837 W/ACC TO-3PB | 1 |
| Q416*B | 2SC3519Y | 6621037000 | TR. NPN HF 2SC3519Y W/ACC238 | 1 |
| Q417*A | 2SA1186 | 6623003500 | TR. PNP HF 2SA1186 W/ACC TO-3PB | 1 |
| Q417*B | 2SA1386Y | 6623012600 | TR. PNP HF 2SA1386Y W/ACC238 | 1 |
| Q418*A | 2SA1186 | 6623003500 | TR. PNP HF 2SA1186 W/ACC TO-3PB | 1 |
| Q418*B | 2SA1386Y | 6623012600 | TR. PNP HF 2SA1386Y W/ACC238 | 1 |
| Q507*A | 2SD669AC | 6622012802 | TR. NPN LF 2SD669AC W/ACC TO-126 | 1 |
| Q507*B | 2SC3421Y | 6621002600 | TR. NPN HF 2SC3421Y | 1 |
| Q507*C | 5547024210 | 5547024210 | HEAT SINK NAD-7220/3220 | 1 |
| Q508*A | 2SB649A-C | 6624009401 | TR. PNP LF 2SB649A-C 1W 160V | 1 |
| Q508*B | 2SA1358Y | 6623001700 | TR. PNP HF 2SA1358Y | 1 |
| Q508*C | 5547024210 | 5547024210 | HEAT SINK NAD-7220/3220 | 1 |
| Q509 | 2SC1815-Y | 6621015332 | TR. NPN HF 2SC1815-Y TPE2 | 1 |
| Q510 | 2SA1015-Y | 5563002050 | TR. PNP HF 2SA1015-Y TPE2 TAPING | 1 |
| Q511 | BD139 | 6622016700 | TR. NPN LF BD139 W/ACC TO-126 | 1 |
| Q516 | 2SC2240-GR | 6621016701 | TR. NPN HF 2SC2240-GR LOW NOISE | 1 |
| RESISTORS | | | | |
| R201,R202 | 5142833490 | 5142833490 | RES. CARBON FILM 330KJ +/-5% 1/4W | 2 |
| R203,R204 | 5142856390 | 5142856390 | RES. CARBON FILM 56KJ +/-5% 1/4W | 2 |
| R205,R206 | 5142847290 | 5142847290 | RES. CARBON FILM 4.7KJ +/-5% 1/4W | 2 |
| R207,R208 | 5142810390 | 5142810390 | RES. CARBON FILM 10KJ +/-5% 1/4W | 2 |
| R209,R210 | 5142868190 | 5142868190 | RES. CARBON FILM 680J +/-5% 1/4W | 2 |
| R211,R212 | 5142810390 | 5142810390 | RES. CARBON FILM 10KJ +/-5% 1/4W | 2 |
| R213,R214 | 5142868290 | 5142868290 | RES. CARBON FILM 6.8KJ +/-5% 1/4W | 2 |
| R215,R216 | 5141822190 | 5141822190 | RES. CARBON FILM 220G +/-2% 1/4W | 2 |
| R217,R218 | 5141813490 | 5141813490 | RES. CARBON FILM 130KG +/-2% 1/4W | 2 |
| R219,R220 | 5141811390 | 5141811390 | RES. CARBON FILM 11KG +/-2% 1/4W | 2 |
| R221,R222 | 5141818190 | 5141818190 | RES. CARBON FILM 180G +/-2% 1/4W | 2 |
| R223,R224 | 5142822390 | 5142822390 | RES. CARBON FILM 22KJ +/-5% 1/4W | 2 |
| R225-R228 | 5142810390 | 5142810390 | RES. CARBON FILM 10KJ +/-5% 1/4W | 4 |
| R229,R230 | 5142847190 | 5142847190 | RES. CARBON FILM 470J +/-5% 1/4W | 2 |
| R231,R232 | 5142810190 | 5142810190 | RES. CARBON FILM 100J +/-5% 1/4W | 2 |
| R223,R224 | 5142815190 | 5142815190 | RES. CARBON FILM 150J +/-5% 1/4W | 2 |
| R235,R236 | 5142868190 | 5142868190 | RES. CARBON FILM 680J +/-5% 1/4W | 2 |
| R237,R238 | 5142847190 | 5142847190 | RES. CARBON FILM 470J +/-5% 1/4W | 2 |
| R239,R240 | 5142810290 | 5142810290 | RES. CARBON FILM 1.0KJ +/-5% 1/4W | 2 |
| R303,R304 | 5142822490 | 5142822490 | RES. CARBON FILM 220KJ +/-5% 1/4W | 2 |
| R305,R306 | 5142891390 | 5142891390 | RES. CARBON FILM 91KJ +/-5% 1/4W | 2 |
| R307,R308 | 5142839190 | 5142839190 | RES. CARBON FILM 390J +/-5% 1/4W | 2 |
| R309,R310 | 5142839290 | 5142839290 | RES. CARBON FILM 3.9KJ +/-5% 1/4W | 2 |
| R311,R312 | 5142815390 | 5142815390 | RES. CARBON FILM 15KJ +/-5% 1/4W | 2 |
| R313-R316 | 5142868290 | 5142868290 | RES. CARBON FILM 6.8KJ +/-5% 1/4W | 4 |
| R319-R322 | 5142868090 | 5142868090 | RES. CARBON FILM 68J +/-5% 1/4W | 4 |
| R323,R324 | 5142810290 | 5142810290 | RES. CARBON FILM 1.0KJ +/-5% 1/4W | 2 |
| R325,R326 | 5142818190 | 5142818190 | RES. CARBON FILM 180J +/-5% 1/4W | 2 |
| R329,R330 | 5141839290 | 5141839290 | RES. CARBON FILM 3.9KG +/-2% 1/4W | 2 |
| R331,R332 | 5141868190 | 5141868190 | RES. CARBON FILM 680G +/-2% 1/4W | 2 |
| R333,R334 | 5142822190 | 5142822190 | RES. CARBON FILM 220J +/-5% 1/4W | 2 |
| R335,R336 | 5142810490 | 5142810490 | RES. CARBON FILM 100KJ +/-5% 1/4W | 2 |
| VAR. RES. | | | | |
| R339 | RK16312AR294 | 5169020482 | VAR. RES. 20Kax2 VOLUME | 1 |

NAD-302 PARTS LIST

| SYMBOL NO | REF. NO. | PART NO. | DESCRIPTION | Q'TY |
|--|--------------|------------|--|------|
| R340 | RK163121A144 | 5169020492 | VAR. RES. 50KCx2 BASS | 1 |
| R341 | RK163121A161 | 5169020502 | VAR. RES. 10KCx2 TREBLE | 1 |
| R342 | RK163111E293 | 5169010612 | VAR. RES. 10KW BALANCE | 1 |
| R411, R412 | PN06FB221AR | 5162160420 | VAR. RES. 220 F5x5 | 2 |
| R443, R444 | PN06FB221AR | 5162160420 | VAR. RES. 220 F5x5 | 2 |
| RESISTORS | | | | |
| R344 | 5142810390 | 5142810390 | RES. CARBON FILM 10KJ +/-5% 1/4W | 1 |
| R345-R358 | 5142810290 | 5142810290 | RES. CARBON FILM 1.0KJ +/-5% 1/4W | 14 |
| R361, R362 | 5142827290 | 5142827290 | RES. CARBON FILM 2.7KJ +/-5% 1/4W | 2 |
| R363, R364 | 5141868190 | 5141868190 | RES. CARBON FILM 680G +/-2% 1/4W | 2 |
| R365, R366 | 5141839290 | 5141839290 | RES. CARBON FILM 3.9KG +/-2% 1/4W | 2 |
| R401, R402 | 5142822490 | 5142822490 | RES. CARBON FILM 220KJ +/-5% 1/4W | 2 |
| R405, R406 | 5142839190 | 5142839190 | RES. CARBON FILM 390J +/-5% 1/4W | 2 |
| R407, R410 | 5142822390 | 5142822390 | RES. CARBON FILM 22KJ +/-5% 1/4W | 4 |
| R415, R416 | 5142833190 | 5142833190 | RES. CARBON FILM 330J +/-5% 1/4W | 2 |
| R417, R418 | 5142827390 | 5142827390 | RES. CARBON FILM 27KJ +/-5% 1/4W | 2 |
| R419, R420 | 5142839190 | 5142839190 | RES. CARBON FILM 390J +/-5% 1/4W | 2 |
| R421, R422 | 5142815290 | 5142815290 | RES. CARBON FILM 1.5KJ +/-5% 1/4W | 2 |
| R423, R424 | 5142822290 | 5142822290 | RES. CARBON FILM 2.2KJ +/-5% 1/4W | 2 |
| R425, R426 | 5142839190 | 5142839190 | RES. CARBON FILM 390J +/-5% 1/4W | 2 |
| R427, R428 | 5142827090 | 5142827090 | RES. CARBON FILM 27J +/-5% 1/4W | 2 |
| R429, R430 | 5130347103 | 5130347103 | RES. METAL OXIDE FILM MINI 470J +/-5% 1W | 2 |
| R431, R432 | 5142418290 | 5142418290 | RES. CARBON FILM 1.8KJ +/-5% 1/2W | 2 |
| R433, R434 | 5142847090 | 5142847090 | RES. CARBON FILM 47J +/-5% 1/4W | 2 |
| R435, R436 | 5142839190 | 5142839190 | RES. CARBON FILM 390J +/-5% 1/4W | 2 |
| R437, R438 | 5133868003 | 5133868003 | RES. FUSIBLE 68J +/-5% 1/4W 14A | 2 |
| R439, R440 | 5133882103 | 5133882103 | RES. FUSIBLE 820J +/-5% 1/4W 14A | 2 |
| R441, R442 | 5133827103 | 5133827103 | RES. FUSIBLE 270J +/-5% 1/4W 14A | 2 |
| R445, R446 | 5142812190 | 5142812190 | RES. CARBON FILM 120J +/-5% 1/4W | 2 |
| R447, R450 | 5142412290 | 5142412290 | RES. CARBON FILM 1.2KJ +/-5% 1/2W | 4 |
| R453, R454 | 5133818103 | 5133818103 | RES. FUSIBLE 180J +/-5% 1/4W 14A | 2 |
| R455, R456 | 5142801090 | 5142801090 | RES. CARBON FILM 1.0J +/-5% 1/4W | 2 |
| R457, R458 | 5130310003 | 5130310003 | RES. METAL OXIDE FILM MINI 10J +/-5% 1W | 1 |
| R461, R462 | 5142822490 | 5142822490 | RES. CARBON FILM 220KJ +/-5% 1/4W | 2 |
| R463, R464 | 5130333903 | 5130333903 | RES. METAL OXIDE FILM MINI 3.3J +/-5% 1W | 2 |
| R511 | 5130310003 | 5130310003 | RES. METAL OXIDE FILM MINI 10J +/-5% 1W | 1 |
| R512 | 5130410103 | 5130410103 | RES. METAL OXIDE FILM MINI 100J +/-5% 2W | 1 |
| R513 | 5142815290 | 5142815290 | RES. CARBON FILM 1.5KJ +/-5% 1/4W | 1 |
| R514 | 5142812290 | 5142812290 | RES. CARBON FILM 1.2KJ +/-5% 1/4W | 1 |
| R515 | 5142815290 | 5142815290 | RES. CARBON FILM 1.5KJ +/-5% 1/4W | 1 |
| R516-R518 | 5142812290 | 5142812290 | RES. CARBON FILM 1.2KJ +/-5% 1/4W | 3 |
| R519 | 5142836290 | 5142836290 | RES. CARBON FILM 3.6KJ +/-5% 1/4W | 1 |
| R520 | 5142812390 | 5142812390 | RES. CARBON FILM 12KJ +/-5% 1/4W | 1 |
| R521 | 5142810190 | 5142810190 | RES. CARBON FILM 100J +/-5% 1/4W | 1 |
| R522 | 5142812290 | 5142812290 | RES. CARBON FILM 1.2KJ +/-5% 1/4W | 1 |
| R523 | 5133812103 | 5133812103 | RES. FUSIBLE 120J +/-5% 1/4W 14A | 1 |
| R524 | 5142812390 | 5142812390 | RES. CARBON FILM 12KJ +/-5% 1/4W | 1 |
| R536 | 5142847390 | 5142847390 | RES. CARBON FILM 47KJ +/-5% 1/4W | 1 |
| R601 | 5142812290 | 5142812290 | RES. CARBON FILM 1.2KJ +/-5% 1/4W | 1 |
| R602 | 5142839190 | 5142839190 | RES. CARBON FILM 390J +/-5% 1/4W | 1 |
| R603, R604 | 5142815490 | 5142815490 | RES. CARBON FILM 150KJ +/-5% 1/4W | 2 |
| R605, R606 | 5142822690 | 5142822690 | RES. CARBON FILM 22MJ +/-5% 1/4W | 2 |
| R801-R804 | 5142818290 | 5142818290 | RES. CARBON FILM 1.8KJ +/-5% 1/4W | 4 |
| R805-R808 | 5142810290 | 5142810290 | RES. CARBON FILM 1.0KJ +/-5% 1/4W | 4 |
| R809-R812 | 5142818390 | 5142818390 | RES. CARBON FILM 18KJ +/-5% 1/4W | 4 |
| SWITCHES | | | | |
| S201 | SPUN61K004 | 5554441100 | 6P PUSH SWITCH INPUT SELECTOR | 1 |
| S301 | SPUN12K801 | 5554440700 | 1P PUSH SWITCH TONE DEFEAT | 1 |
| S801 | FZUB22-10 | 5554431800 | SLIDE SWITCH SOFT CLIPPING | 1 |
| SPEAKER TERMINAL PCB BLOCK (5090906193) NAD-302 | | | | |
| C445, C446 | 5231810391 | 5231810391 | CAP. CER. 10000PFZ +80-20% 50V | 2 |
| C447, C448 | 5231515291 | 5231515291 | CAP. CER. 1500PFM +/-20% 50V | 2 |
| P401 | 5556207301 | 5556207301 | SPEAKER TERMINAL NAD-302 | 1 |
| PHONES PCB BLOCK (5090906194) NAD-302 | | | | |
| C449-C451 | 5231522291 | 5231522291 | CAP. CER. 2200PFM +/-20% 50V | 2 |
| R459, R460 | 5142422190 | 5142422190 | RES. CARBON FILM 220J +/-5% 1/2W | 2 |
| W401 | 5556307000 | 5556307000 | JACK EARPHONE S-G3338 & JY-062-1-D 6.3MM | 1 |
| MAINS POWER SELECT PCB BLOCK (5090906195) NAD-302 | | | | |
| C501 | 5230102701 | 5230102701 | CAP. CER. 4700PFM +/-20% 400V | 1 |
| P521-P528 | 5547034400 | 5547034400 | FLAT PIN 1.7x1.7x9.4 NAD-7100/2100 | 8 |
| S501 | SDDL1007U | 5554436100 | PUSH SWITCH POWER UL/CSA | 1 |
| S502 | SBN22-09 | 5554432400 | SLIDE SWITCH IMPEDANCE | 1 |
| T501 | 5561321600 | 5561321600 | POWER TRANSFORMER NAD-302 | 1 |
| LED PCB BLOCK (5090906196) NAD-302 | | | | |
| D512 | L-424GDT | 6618015700 | DIODE LED GREEN | 1 |

PACKING DIAGRAM



| ITEM | PARTS NO. | DESCRIPTION | Q'TY |
|------|------------|---------------|------|
| 37 | 9520980155 | EPS PAD-R | 1 |
| 38 | 9520980255 | EPS PAD-L | 1 |
| 39 | 9530700155 | EPE BAG | 1 |
| 40 | 5535122577 | OWNERS MANUAL | 1 |
| 41 | 9510980155 | RS CARTON | 1 |

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