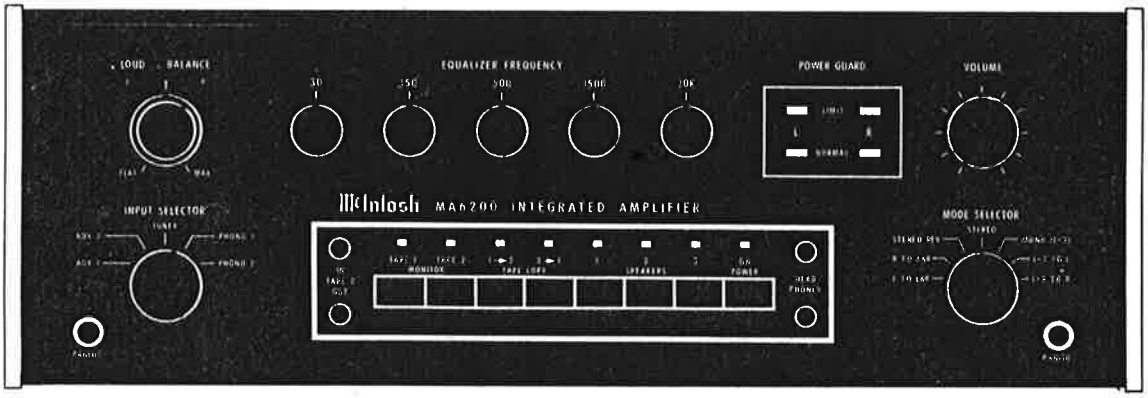
# McIntosh

# MA 6200

## INTEGRATED AMPLIFIER




# SERVICE INFORMATION

## FOR SERIAL NUMBER BX1001 to BX5301

# PERFORMANCE LIMITS

## POWER OUTPUT

100 Watts minimum sine wave continuous average power output, per channel, both channels operating into 4 ohms, 20Hz to 20kHz with no more than .05% total Harmonic Distortion.

75 Watts minimum sine wave continuous average power output, per channel, both channels operating into 8 ohms, 20Hz to 20kHz with no more than .05% total Harmonic Distortion.

## OUTPUT LOAD IMPEDANCE

4 ohms, 8 ohms

## RATED POWER BAND

20Hz to 20kHz

## TOTAL HARMONIC DISTORTION

.05% maximum at any power level from 250mW to rated power per channel, 20Hz to 20kHz, both channels operating.

## INTERMODULATION DISTORTION

.05% maximum at any power level from 250mW to rated power per channel with both channels operating for any combination of frequencies 20Hz to 20kHz.

## FREQUENCY RESPONSE

20Hz to 20kHz +0 -0.5dB at rated power

## HUM AND NOISE

Power Amp: 105dBA, 100dB unweighted, below rated output

Tape & Aux Input: 100dBA, 95dB unweighted, below rated output

Phono Input: 85dBA, 80dB unweighted, below 10mV input.

## DAMPING FACTOR

Greater than 30

## INPUT SENSITIVITY AND IMPEDANCE

| | | |
|---|---|---|
| Power Amp: | 2.5 Volts | 22,000 ohms |
| Tape & Aux: | 250m Volts | 100,000 ohms |
| Phono: | 2m Volts | 47,000 ohms, 100pF |

## TAPE OUTPUT

| | |
|---|---|
| Aux. Tape: | 250mV with rated input |
| Phono: | 250mV with rated input |

## PROGRAM EQUALIZER

± 12dB at 30, 150, 500, 1,500, and 10,000 Hz

## POWER REQUIREMENT

120 Volts, 50/60 Hz, 0.5 to 5 Amperes

## MECHANICAL INFORMATION

SIZE: Front Panel measures 16 inches wide (40.6 cm) by 5-7.16 inches high (13.8 cm). Knob clearance required is 1-1/4 inches (3.2 cm) in front of the mounting panel.

WEIGHT: 30 lbs. Net

# PARTS LIST

* Parts marked with an asterisk (*) are replacement parts stocked by our Service Department and must be ordered from McIntosh. These parts must be ordered by part number. Parts not marked may be obtained from electronic parts suppliers.

## FRONT PANEL and TRIM

| Symbol No. | Part No. | Description |
|---|---|---|
| | *045770 | Front Panel, Complete |
| | *045388 | Front Panel, Glass only |
| | *045974 | Pushbutton bezel, complete w/adhesive |
| | *018160 | End Cap, secure using 101035 screws |
| | *017230 | Pushbutton, black |
| | *017244 | Pushbutton, red |
| | *090156 | Input Selector Knob |
| | *090156 | Mode Selector Knob |
| | *090170 | Volume Knob |
| | *090171 | Equalizer Frequency Knobs |
| | *090186 | Loudness Knob (Front) |
| | *090187 | Balance Knob (Rear) |
| | *104073 | Knob felt washer, 5/8 dia. |
| | *104017 | Knob felt washer, 3/4 dia. |
| | *018155 | Top panel rail, secure using 100007 screws |
| | *043410 | Bottom panel rail, secure using 100103 screws |
| | *101054 | Tapping Screws, 6-32x1/4, Phillips, black |
| | *100103 | Machine Screw, 6/32x1/8 |
| | *100007 | Tapping Screw, 4-40x5/16, Fillister |

## INSTALLATION HARDWARE

| Symbol No. | Part No. | Description |
|---|---|---|
| | *045142 | Hardware Package |
| | *043401 | Mounting Strips |
| | *038179 | Mounting Template |
| | *043592 | Panloc Shelf Bracket, Right |
| | *045393 | Panloc Shelf Bracket, Left |
| | *017218 | Plastic Feet, secure using 101072 Screws |

## SHIPPING CARTON

| Symbol No. | Part No. | Description |
|---|---|---|
| | *033260 | Shipping carton only |
| | *101014 | Wood Screw, 10x1¾, used to mount bottom shipping pad |
| | *104033 | Washer, 10x1¾, used with 101014 screws for mounting unit for shipping |
| | *045975 | Shipping carton, Complete (including mounting hardware) |

## INTERCONNECTION

| Symbol No. | Part No. | Description |
|---|---|---|
| **CAPACITORS** (CD = Ceramic Disc, MPE = Metalized Polyeste ELECT = Electrolytic) | | |
| | C1 066314 | ELECT, 12000μF, 60VDC |
| | C2 066314 | ELECT, 12000μF, 60VDC |
| | C3 064267 | MPE, 0.22μF, 400V |
| | C4 061175 | CD, .005μF, +80 −20%, 150V, UL/CSA |
| | C5 061175 | CD, .005μF, +80 −20%, 150V, UL/CSA |
| | C6 064254 | S/N BX1001 to BX1435: MPE, 0.1μF, 10%, 63V (see schematic note 10)....(6200) |
| | C7 064254 | S/N BX1001 to BX1435: MPE, 0.1μF, 10%, 63V (see schematic note 10)....(6200) |
| **DIODES** (BRID = Bridge, RECT = Rectifier, SIG = Signal, Si = Silicon) | | |
| | *D1 070098 | Si, SIG, 175V, 500mW, FDH400 |
| | *D2 070092 | Si, BRID, RECT, 35A, 200V, MDA3502 |
| **LIGHTING DEVICES** (INC = Incandescent) | | |
| | *DS1 058069 | INC, 6.3V, 200mA, 8610 |
| | *DS2 058069 | INC, 6.3V, 200mA, 8610 |
| | *DS3 058069 | INC, 6.3V, 200mA, 8610 |
| | *DS4 058069 | INC, 6.3V, 200mA, 8610 |
| | *DS5 058069 | INC, 6.3V, 200mA, 8610 |
| **FUSES AND FUSEHOLDERS** (FA = Fast Acting, SB = Slo-Blo) | | |
| | *F1 089002 | Fuse, FA, 1A, 250V, AGC-1 |
| | *F2 089014 | S/N BX1001 to BX3969: Fuse, FA, 5A, 250V....(6931) |
| | *F2 089013 | S/N BX3970 and above: Fuse, SB, 4A, 125V....(6931) |
| | 178114 | Fuseholder, UL/CSA-Slot, Littlefuse 341-001 |
| **RELAYS** | | |
| | *K1 087019 | DPDT, 24VDC |
| | *K2 087030 | DPDT, 110VDC |
| **TRANSISTORS** (Si = Silicon) | | |
| | *Q1 132188 | Si, NPN |
| | *Q2 132189 | Si, PNP |
| | *Q3 132143 | Si, NPN, MPS-D05 |
| | *Q4 132188 | Si, NPN |
| | *Q5 132189 | Si, PNP |
| | *Q6 132143 | Si, NPN, MPS-D05 |
| **RESISTORS** (CF = Carbon Film, POT = Potentiometer) | | |
| | R1 141072 | CF, 10kΩ, 5%, 1/4W |
| | R2 141072 | CF, 10kΩ, 5%, 1/4W |
| | *R3 134395 | POT, 100kΩ, Volume Control |
| | *R4 144012 | Thermistor, 2.5Ω |
| | *R5 144012 | Thermistor, 2.5Ω |
| **SWITCHES** | | |
| | *S1 146193 | Input Selector Switch |
| | *S2 146196 | Mode Selector Switch |
| | *S3 153017 | Thermal Cut-Out Switch |
| | *S4 153017 | Thermal Cut-Out Switch |
| | *S5 148043 | Auto-on Switch |
| **TRANSFORMERS** | | |
| | *T1 159141 | Power Transformer |

**MISCELLANEOUS**

| | | |
|---|---|---|
| | 015010 | Jumper |
| | 084038 | Strain Relief (Line Cord) |
| | 117009 | AC Receptacle, Black |
| | 117024 | AC Receptacle, Green |
| * | 117088 | Headphone Jack, 3/8" |
| * | 117162 | Headphone Jack, 3/8" |
| | 170119 | Line Cord, 18 ga. |

## PHONO PREAMP P C BOARD 045368

| Symbol No. | Part No. | Description |
|---|---|---|
| **CAPACITORS** (CD = Ceramic Disc, MPE = Metalized Polyester, ELECT = Electrolytic) | | |
| C101 | 066239 | ELECT, 10μF, 35V |
| C102 | 066239 | ELECT, 10μF, 35V |
| C103 | 061019 | CD, 47pF, 20%, 500V, N470 |
| C104 | 061019 | CD, 47pF, 20%, 500V, N470 |
| C105 | 061022 | CD, 100pF, 20%, 1000V, N1500 |
| C106 | 061022 | CD, 100pF, 20%, 1000V, N1500 |
| C107 | 066318 | ELECT, 150μF, 10%, 6.3V, TA |
| C108 | 066318 | ELECT, 150μF, 10%, 6.3V, TA |
| C109 | 064176 | MPE, .015μF, 5%, 63V |
| C110 | 064176 | MPE, .015μF, 5%, 63V |
| C111 | 064273 | MPE, .051μF, 5%, 250V |
| C112 | 064273 | MPE, .051μF, 5%, 250V |
| *C113 | 066173 | ELECT, 10μF, 35V, NP |
| *C114 | 066173 | ELECT, 10μF, 35V, NP |
| C115 | 061043 | S/N BX3792 and above: CD, .01μF, +80 −20%....(7018) |
| **INTEGRATED CIRCUITS** (AN = Analog, BP = Bipolar) | | |
| *IC101 | 133067 | AN, BP, Operation Amp Low Noise and THD, NE-5534AN |
| *IC102 | 133067 | AN, BP, Operation Amp Low Noise and THD, NE-5534AN |
| **RESISTORS** (CF = Carbon Film, MF = Metal Film) | | |
| *R101 | 144081 | MF, 68.1kΩ, 1%, 1/4W |
| *R102 | 144081 | MF, 68.1kΩ, 1%, 1/4W |
| R103 | 141049 | CF, 1kΩ, 5%, 1/4W |
| R104 | 141049 | CF, 1kΩ, 5%, 1/4W |
| *R105 | 144134 | MF, 51.1, 2%, 1/4W |
| *R106 | 144134 | MF, 51.1, 2%, 1/4W |
| *R107 | 144083 | MF, 5.11kΩ, 2%, 1/4W |
| *R108 | 144083 | MF, 5.11kΩ, 2%, 1/4W |
| *R109 | 144138 | MF, 64.9kΩ, 2%, 1/4W |
| *R110 | 144138 | MF, 64.9kΩ, 2%, 1/4W |
| R111 | 141033 | CF, 220Ω, 5%, 1/4W |
| R112 | 141033 | CF, 220Ω, 5%, 1/4W |
| R113 | 141080 | CF, 22kΩ, 5%, 1/4W |
| R114 | 141080 | CF, 22kΩ, 5%, 1/4W |
| R115 | 141100 | CF, 150kΩ, 5%, 1/4W |
| R116 | 141100 | CF, 150kΩ, 5%, 1/4W |

## AUTO-ON PC BOARD 045354

| Symbol No. | Part No. | Description |
|---|---|---|
| **CAPACITORS** (ELECT = Electrolytic, PCF = Polycarbonate Film, MPE = Metalized Polyester) | | |
| *C701 | 064254 | S/N BX1001 to BX2840: MPE, 0.1μF, 10%, 63V....(6385) |
| | 066173 | S/N BX2841 and above; ELECT, 10μF, 35V, NP....(6385) |
| C702 | 064271 | PCF, 1000pF, 1000VDC/250VAC |
| C703 | 066321 | ELECT, 10μF, 160V |
| **DIODES** (Si = Silicon, RECT = Rectifier) | | |
| *D701 | 070031 | Si, RECT, 400 PIV, 1.5A |
| *D702 | 070031 | Si, RECT, 400 PIV, 1.5A |
| *D703 | 070031 | Si, RECT, 400 PIV, 1.5A |
| *D704 | 070059 | Si, RECT, 800V |
| **SILICON CONTROLLED RECTIFIER** | | |
| *SCR701 | 131010 | SCR, C107M41 |
| **RESISTORS** (CF = Carbon Film, WW = Wirewound) | | |
| R701 | 141152 | S/N BX1001 to BX2840: CF, 47Ω, 5%, 1/4W....(6385) |
| | 141144 | S/N BX2841 and above: CF, 22Ω, 5%, 1/4W....(6385) |
| R702 | 141144 | CF, 22Ω, 5%, 1/4W |
| *R703 | 139138 | WW, 820Ω, 10%, 2W |

## TONE/LOUDNESS/BALANCE PC BOARD 045375

| Symbol No. | Part No. | Description |
|---|---|---|
| **CAPACITORS** (MPE = Metalized Polyester, CD = Ceramic Disc, ELECT = Electrolytic, PF = Polyester Film) | | |
| C601 | 064194 | MPE, 0.47μF, 5%, 63V |
| C602 | 064194 | MPE, 0.47μF, 5%, 63V |
| C603 | 061023 | CD, 100pF, 10%, 500V, N1500 |
| C604 | 061023 | CD, 100pF, 10%, 500V, N1500 |
| C605 | 064194 | MPE, 0.47μF, 5%, 63V |
| C606 | 064194 | MPE, 0.47μF, 5%, 63V |
| C607 | 061015 | CD, 22pF, 20%, N470 |
| C608 | 061015 | CD, 22pF, 20%, N470 |
| C609 | 066239 | ELECT, 10μF, 35V |
| C610 | 066239 | ELECT, 10μF, 35V |
| C611 | 064174 | MPE, .01μF, 5%, 63V |
| C612 | 064174 | MPE, .01μF, 5%, 63V |
| C613 | 064174 | MPE, .01μF, 5%, 63V |
| C614 | 064174 | MPE, .01μF, 5%, 63V |
| C615 | 066239 | ELECT, 10μF, 35V |
| C616 | 066239 | ELECT, 10μF, 35V |
| C617 | 064182 | MPE, .047μF, 5%, 63V |
| C618 | 064182 | MPE, .047μF, 5%, 63V |
| *C619 | 066271 | ELECT, 1.5μF, 50V |
| *C620 | 066271 | ELECT, 1.5μF, 50V |
| C621 | 064175 | MPE, .012μF, 5%, 63V |
| C622 | 064175 | MPE, .012μF, 5%, 63V |
| C623 | 064194 | MPE, 0.47μF, 5%, 63V |
| C624 | 064194 | MPE, 0.47μF, 5%, 63V |
| C625 | 064167 | PF, .0033μF, 5%, 100V |

| | | |
|---|---|---|
| C626 | 064167 | PF, .0033μF, 5%, 100V |
| C627 | 064188 | MPE, 0.15μF, 5%, 63V |
| C628 | 064188 | MPE, 0.15μF, 5%, 63V |
| C629 | 064161 | PF, .001μF, 5%, 100V |
| C630 | 064161 | PF, .001μF, 5%, 100V |
| C631 | 064180 | MPE, .033μF, 5%, 63V |
| C632 | 064180 | MPE, .033μF, 5%, 63V |
| C633 | 061023 | CD, 100pF, 10%, 500V, N1500 |
| C634 | 061023 | CD, 100pF, 10%, 500V, N1500 |
| C635 | 064190 | MPE, 0.22μF, 5%, 63V |
| C636 | 064190 | MPE, 0.22μF, 5%, 63V |
| C637 | 066240 | ELECT, 22μF, 25V |
| C638 | 066240 | ELECT, 22μF, 25V |
| C639 | 064190 | MPE, 0.22μF, 5%, 63V |
| C640 | 064190 | MPE, 0.22μF, 5%, 63V |
| C641 | 061128 | CD, 470pF, 10%, 500V, Z5F |
| C642 | 061128 | CD, 470pF, 10%, 500V, Z5F |
| C643 | 061015 | CD, 22pF, 20%, N470 |
| C644 | 061015 | CD, 22pF, 20%, N470 |
| C645 | 061023 | CD, 100pF, 10%, 500V, N1500 |
| C646 | 061023 | CD, 100pF, 10%, 500V, N1500 |
| *C647 | 066173 | ELECT, 10μF, 35V, NP |
| *C648 | 066173 | ELECT, 10μF, 35V, NP |
| C649 | 066226 | S/N BX1001 to BX3223: ELECT, 100μF, 16V....(6648) |
| | 066312 | S/N BX3224 and above: ELECT, 100μF, 35V....(6648) |
| C650 | 066226 | S/N BX1001 to BX3223: ELECT, 100μF, 16V....(6648) |
| | 066312 | S/N BX3224 and above: ELECT, 100μF, 35V....(6648) |

**INTEGRATED CIRCUITS** (AN = Analog, BP = Bipolar)

| | | |
|---|---|---|
| *IC601 | 133066 | AN, BP, Operation Amp., NE-5534N |
| *IC602 | 133066 | AN, BP, Operation Amp., NE-5534N |
| *IC603 | 133028 | AN, BP, Dual Hi-speed Operation Amp., MC-4558P |
| *IC604 | 133028 | AN, BP, Dual Hi-speed Operation Amp., MC-4558P |
| *IC605 | 133028 | AN, BP, Dual Hi-speed Operation Amp., MC-4558P |
| *IC606 | 133028 | AN, BP, Dual Hi-speed Operation Amp., MC-4558P |
| *IC607 | 133028 | AN, BP, Dual Hi-speed Operation Amp., MC-4558P |
| *IC608 | 133066 | AN, BP, Operation Amp., NE-5534N |
| *IC609 | 133066 | AN, BP, Operation Amp., NE-5534N |

**RESISTORS** (POT = Potentiometer, CF = Carbon Film, MF = Metal Film)

| | | |
|---|---|---|
| *R601/607 | | |
| | 134382 | POT, Dual 50kΩ/100kΩ, Balance/Loudness |
| *R602 | 134316 | POT, 100kΩ/100kΩ, Equalizer |
| *R603 | 134316 | POT, 100kΩ/100kΩ, Equalizer |
| *R604 | 134316 | POT, 100kΩ/100kΩ, Equalizer |
| *R605 | 134316 | POT, 100kΩ/100kΩ, Equalizer |
| *R606 | 134316 | POT, 100kΩ/100kΩ, Equalizer |
| *R607/601 | | |
| | 134382 | POT, Dual 50kΩ/100kΩ, Balance/Loudness |
| R608 | | (not used) |
| R609 | 141104 | CF, 200kΩ, 5%, 1/4W |
| R610 | 141104 | CF, 220kΩ, 5%, 1/4W |
| R611 | 141049 | CF, 1kΩ, 5%, 1/4W |
| R612 | 141049 | CF, 1kΩ, 5%, 1/4W |
| R613 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R614 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R615 | 141120 | CF, 1MΩ, 5%, 1/4W |
| R616 | 141120 | CF, 1MΩ, 5%, 1/4W |
| *R617 | 144083 | MF, 5.11kΩ, 2%, 1/4W |
| *R618 | 144083 | MF, 5.11kΩ, 2%, 1/4W |
| *R619 | 144123 | MF, 511, 2%, 1/4W |
| *R620 | 144123 | MF, 511, 2%, 1/4W |
| R621 | 141088 | CF, 47kΩ, 5%, 1/4W |
| R622 | 141088 | CF, 47kΩ, 5%, 1/4W |
| R623 | 141068 | CF, 6.8kΩ, 5%, 1/4W |
| R624 | 141068 | CF, 6.8kΩ, 5%, 1/4W |
| R625 | 141068 | CF, 6.8kΩ, 5%, 1/4W |
| R626 | 141068 | CF, 6.8kΩ, 5%, 1/4W |
| R627 | 141045 | CF, 680Ω, 5%, 1/4W |
| R628 | 141045 | CF, 680Ω, 5%, 1/4W |
| R629 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R630 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R631 | 141045 | CF, 680Ω, 5%, 1/4W |
| R632 | 141045 | CF, 680Ω, 5%, 1/4W |
| R633 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R634 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R635 | 141045 | CF, 680Ω, 5%, 1/4W |
| R636 | 141045 | CF, 680Ω, 5%, 1/4W |
| R637 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R638 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R639 | 141045 | CF, 680Ω, 5%, 1/4W |
| R640 | 141045 | CF, 680Ω, 5%, 1/4W |
| R641 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R642 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R643 | 141045 | CF, 680Ω, 5%, 1/4W |
| R644 | 141045 | CF, 680Ω, 5%, 1/4W |
| R645 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R646 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R647 | 141087 | CF, 43kΩ, 5%, 1/4W |
| R648 | 141087 | CF, 43kΩ, 5%, 1/4W |
| R649 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R650 | 141096 | CF, 100kΩ, 5%, 1/4W |
| R651 | 141160 | CF, 3kΩ, 5%, 1/4W |
| R652 | 141160 | CF, 3kΩ, 5%, 1/4W |
| R653 | 141082 | CF, 27kΩ, 5%, 1/4W |
| R654 | 141082 | CF, 27kΩ, 5%, 1/4W |
| R655 | 141033 | CF, 220Ω, 5%, 1/4W |
| R656 | 141033 | CF, 220Ω, 5%, 1/4W |
| R657 | 141152 | CF, 47Ω, 5%, 1/4W |
| R658 | 141152 | CF, 47Ω, 5%, 1/4W |
| R659 | 141060 | CF, 3.3kΩ, 5%, 1/4W |
| R660 | 141060 | CF, 3.3kΩ, 5%, 1/4W |

## PUSHBUTTON PC BOARD 045447

| Symbol No. | Part No. | Description |
|---|---|---|
| **RESISTORS** (WW = Wirewound) | | |
| *R901 | 139123 | WW, 330Ω, 5%, 2W |
| *R902 | 139123 | WW, 330Ω, 5%, 2W |
| *R903 | 139123 | WW, 330Ω, 5%, 2W |
| *R904 | 139123 | WW, 330Ω, 5%, 2W |
| **SWITCHES** | | |
| *S901 | 150030 | Pushbutton Switch (8) |

# LEFT & RIGHT DRIVER PC BOARD 045398

| Symbol No. | Part No. | Description |
|---|---|---|
| **CAPACITORS** (CD = Ceramic Disc, ELECT = Electrolytic, MPE = Metalized Polyester) | | |
| C801 | 066239 | ELECT, 10μF, 35V |
| C802 | 066239 | ELECT, 10μF, 35V |
| C803 | 066239 | ELECT, 10μF, 35V |
| C804 | 066239 | ELECT, 10μF, 35V |
| C805 | 061112 | CD, 18pF, 10%, 500V, NPO |
| C806 | 061112 | CD, 18pF, 10%, 500V, NPO |
| C807 | 061016 | CD, 33pF, 10%, 500V, NPO |
| C808 | 061016 | CD, 33pF, 10%, 500V, NPO |
| C809 | 066226 | ELECT, 100μF, 16V |
| C810 | 066226 | ELECT, 100μF, 16V |
| C811 | 061055 | CD, 47pF, 10%, 500V, N470 |
| C812 | 061055 | CD, 47pF, 10%, 500V, N470 |
| C813 | 066313 | ELECT, 47μF, 80VDC |
| C814 | 066313 | ELECT, 47μF, 80VDC |
| C815 | 066278 | ELECT, 47μF, 50V |
| C816 | 066278 | ELECT, 47μF, 50V |
| *C817 | 061002 | CD, 1.8pF, ±.25pF, NPO |
| *C818 | 061002 | CD, 1.8pF, ±.25pF, NPO |
| C819 | 061024 | CD, 150pF, 10%, 500V, Z5F |
| C820 | 061024 | CD, 150pF, 10%, 500V, Z5F |
| C821 | 061024 | CD, 150pF, 10%, 500V, Z5F |
| C822 | 061024 | CD, 150pF, 10%, 500V, Z5F |
| C823 | 066221 | ELECT, 10μF, 50V |
| C824 | 066221 | ELECT, 10μF, 50V |
| C825 | 064250 | MPE, .047μF, 10%, 63V |
| C826 | 064250 | MPE, .047μF, 10%, 63V |
| C827 | 061027 | CD, 220pF, 10%, 500V, Z5F |
| C828 | 061027 | CD, 220pF, 10%, 500V, Z5F |
| C829 | 064254 | MPE, 0.1μF, 10%, 63V |
| C830 | 064254 | MPE, 0.1μF, 10%, 63V |
| C831 | 061027 | CD, 220pF, 10%, 500V, Z5F |
| C832 | 061027 | CD, 220pF, 10%, 500V, Z5F |
| C833 | 064254 | MPE, 0.1μF, 10%, 63V |
| C834 | 064254 | MPE, 0.1μF, 10%, 63V |
| C835 | 064254 | S/N BX1436 and above: MPE, 0.1μF, 10%, 63V (see schematic note 10)....(6200) |
| C836 | 064254 | S/N BX1436 and above: MPE, 0.1μF, 10%, 63V (see schematic note 10)....(6200) |
| C837 | 061035 | S/N BX1582 and above: CD, .001μF, 20%, 500V, Z5U....(6434) |
| C838 | 061035 | S/N BX1582 and above: CD, .001μF, 20%, 500V, Z5U....(6434) |
| C839 | 061035 | S/N BX1582 and above: CD, .001μF, 20%, 500V, Z5U....(6434) |
| C840 | 061035 | S/N BX1582 and above: CD, .001μF, 20%, 500V, Z5U....(6434) |
| **DIODES** (SIG = Signal, Si = Silicon, RECT = Rectifier) | | |
| *D801 | 070047 | Si, SIG, 75V, 10mA, IN4148 |
| *D802 | 070047 | Si, SIG, 75V, 10mA, IN4148 |
| *D803 | 070047 | Si, SIG, 75V, 10mA, IN4148 |
| *D804 | 070047 | Si, SIG, 75V, 10mA, IN4148 |
| *D805 | 070047 | Si, SIG, 75V, 10mA, IN4148 |
| *D806 | 070047 | Si, SIG, 75V, 10mA, IN4148 |
| *D807 | 070047 | Si, SIG, 75V, 10mA, IN4148 |
| *D808 | 070047 | Si, SIG, 75V, 10mA, IN4148 |
| *D809 | 070098 | Si, SIG, 175V, 500mW, FDH400 |
| *D810 | 070098 | Si, SIG, 175V, 500mW, FDH400 |
| *D811 | 070031 | Si, RECT, 400 PIV, 1.5A |
| *D812 | 070031 | Si, RECT, 400 PIV, 1.5A |
| *D813 | 070031 | Si, RECT, 400 PIV, 1.5A |
| *D814 | 070031 | Si, RECT, 400 PIV, 1.5A |
| *D815 | 070047 | S/N BX1436 and above: Si, SIG, 75V, 10mA, IN4148....(6356) |
| *D816 | 070047 | S/N BX1436 and above: Si, SIG, 75V, 10mA, IN4148....(6356) |
| *D817 | 070047 | S/N BX1436 and above: Si, SIG, 75V, 10mA, IN4148....(6356) |
| *D818 | 070047 | S/N BX1436 and above: Si, SIG, 75V, 10mA, IN4148....(6356) |
| **CHOKES** | | |
| *L801 | 122188 | S/N BX1001 to BX3195: Choke, 1.7mH....(6643) |
| | 122203 | S/N BX3196 and above: Choke, 1.2mH....(6643) |
| *L802 | 122188 | S/N BX1001 to BX3195: Choke, 1.7mH....(6643) |
| | 122203 | S/N BX3196 and above: Choke, 1.2mH....(6643) |
| **LIGHT DEPENDENT RESISTORS** | | |
| *LDR801 | 144070 | LDR, CLM6000 |
| *LDR802 | 144070 | LDR, CLM6000 |
| **TRANSISTORS** (DAR = Darlington, Si = Silicon) | | |
| *Q801 | 132185 | Si, NPN, Selected 2N6429A |
| *Q802 | 132185 | Si, NPN, Selected 2N6429A |
| *Q803 | 132185 | Si, NPN, Selected 2N6429A |
| *Q804 | 132185 | Si, NPN, Selected 2N6429A |
| *Q805 | 132096 | Si, PNP, BC-416C |
| *Q806 | 132096 | Si, PNP, BC-416C |
| *Q807 | 132096 | Si, PNP, BC-416C |
| *Q808 | 132096 | Si, PNP, BC-416C |
| *Q809 | 132187 | Si, PNP, Selected MPS-U57 |
| *Q810 | 132187 | Si, PNP, Selected MPS-U57 |
| *Q811 | 132150 | Si, PNP, MPS-D55 |
| *Q812 | 132150 | Si, PNP, MPS-D55 |
| *Q813 | 132143 | Si, NPN, MPS-D05 |
| *Q814 | 132143 | Si, NPN, MPS-D05 |
| *Q815 | 132143 | Si, NPN, MPS-D05 |
| *Q816 | 132143 | Si, NPN, MPS-D05 |
| *Q817 | 132150 | Si, PNP, MPS-D55 |
| *Q818 | 132150 | Si, PNP, MPS-D55 |
| *Q819 | 132092 | Si, NPN, BC-238C |
| *Q820 | 132092 | Si, NPN, BC-238C |
| *Q821 | 132184 | Si, PNP, Selected FT417A |
| *Q822 | 132184 | Si, PNP, Selected FT417A |
| *Q823 | 132183 | Si, NPN, Selected FT317A |
| *Q824 | 132183 | Si, NPN, Selected FT317A |
| *Q825 | 132182 | Si, PNP, DAR, MPS-A64 |
| *Q826 | 142182 | Si, PNP, DAR, MPS-A64 |
| **INTEGRATED CIRCUITS** (AN = Analog, BP = Bipolar) | | |
| *IC801 | 133068 | AN, BP, Operation Amp, LM201AN |
| *IC802 | 133068 | AN, BP, Operation Amp, LM201AN |
| **RESISTORS** (CF = Carbon Film, MF = Metal Film, POT = Potentiometer, WW = Wirewound, FP = Flameproof) | | |
| R801 | 141080 | CF, 22kΩ, 5%, 1/4W |
| R802 | 141080 | CF, 22kΩ, 5%, 1/4W |

| | | |
|---|---|---|
| R803 | 141062 | CF, 3.9kΩ, 5%, 1/4W |
| R804 | 141062 | CF, 3.9kΩ, 5%, 1/4W |
| R805 | 141066 | CF, 5.6kΩ, 5%, 1/4W |
| R806 | 141066 | CF, 5.6kΩ, 5%, 1/4W |
| R807 | 141106 | CF, 270kΩ, 5%, 1/4W |
| R808 | 141106 | CF, 270kΩ, 5%, 1/4W |
| R809 | 141062 | CF, 3.9kΩ, 5%, 1/4W |
| R810 | 141062 | CF, 3.9kΩ, 5%, 1/4W |
| R811 | 141086 | CF, 39kΩ, 5%, 1/4W |
| R812 | 141086 | CF, 39kΩ, 5%, 1/4W |
| R813 | 141086 | CF, 39kΩ, 5%, 1/4W |
| R814 | 141086 | CF, 39kΩ, 5%, 1/4W |
| *R815 | 144091 | MF, 1.1kΩ, 1%, 1/4W |
| *R816 | 144091 | MF, 1.1kΩ, 1%, 1/4W |
| R817 | 141142 | CF, 18Ω, 5%, 1/4W |
| R818 | 141142 | CF, 18Ω, 5%, 1/4W |
| R819 | 141183 | CF, 2.2kΩ, 5%, 1/2W |
| R820 | 141183 | CF, 2.2kΩ, 5%, 1/2W |
| R821 | 141123 | CF, 1.8MΩ, 5%, 1/4W |
| R822 | 141123 | CF, 1.8MΩ, 5%, 1/4W |
| R823 | 141183 | CF, 2.2kΩ, 5%, 1/2W |
| R824 | 141183 | CF, 2.2kΩ, 5%, 1/2W |
| R825 | 141066 | CF, 5.6kΩ, 5%, 1/4W |
| R826 | 141066 | CF, 5.6kΩ, 5%, 1/4W |
| R827 | 141066 | CF, 5.6kΩ, 5%, 1/4W |
| R828 | 141066 | CF, 5.6kΩ, 5%, 1/4W |
| R829 | 141053 | CF, 1.5kΩ, 5%, 1/4W |
| R830 | 141053 | CF, 1.5kΩ, 5%, 1/4W |
| R831 | 141053 | CF, 1.5kΩ, 5%, 1/4W |
| R832 | 141053 | CF, 1.5kΩ, 5%, 1/4W |
| R833 | 141090 | CF, 56kΩ, 5%, 1/4W |
| R834 | 141090 | CF, 56kΩ, 5%, 1/4W |
| R835 | 141090 | CF, 56kΩ, 5%, 1/4W |
| R836 | 141090 | CF, 56kΩ, 5%, 1/4W |
| *R837 | 144143 | FP, 18Ω, 5%, 1/4W |
| *R838 | 144143 | FP, 18Ω, 5%, 1/4W |
| *R839 | 144145 | FP, 1kΩ, 5%, 1/4W |
| *R840 | 144145 | FP, 1kΩ, 5%, 1/4W |
| *R841 | 144145 | FP, 1kΩ, 5%, 1/4W....(6897) |
| *R842 | 144145 | FP, 1kΩ, 5%, 1/4W....(6897) |
| R843 | 141066 | CF, 5.6kΩ, 5%, 1/4W |
| R844 | 141066 | CF, 5.6kΩ, 5%, 1/4W |
| *R845 | 139105 | S/N BX1001 to BX2840: WW, 0.15Ω, 5%, 5W....(6374) |
| | 139125 | S/N BX2841 and above: WW, 0.15Ω, 5%, 5W, Noninductive....(6374) |
| *R846 | 139105 | S/N BX1001 to BX2840: WW, 0.15Ω, 5%, 5W....(6374) |
| | 139125 | S/N BX2841 and above: WW, 0.15Ω, 5%, 5W, Noninductive....(6374) |
| *R847 | 139105 | S/N BX1001 to BX2840: WW, 0.15Ω, 5%, 5W....(6374) |
| | 139125 | S/N BX2841 and above: WW, 0.15Ω, 5%, 5W, Noninductive....(6374) |
| *R848 | 139105 | S/N BX1001 to BX2840: WW, 0.15Ω, 5%, 5W....(6374) |
| | 139125 | S/N BX2841 and above: WW, 0.15Ω, 5%, 5W, Noninductive....(6374) |
| *R849 | 139131 | WW, 10Ω, 10%, 2W |
| *R850 | 139131 | WW, 10Ω, 10%, 2W |
| *R851 | 134359 | POT, 100Ω, 20%, 1/4W |
| *R852 | 134359 | POT, 100Ω, 20%, 1/4W |
| *R853 | 144147 | FP, 150Ω, 5%, 1/4W |
| *R854 | 144147 | FP, 150Ω, 5%, 1/4W |
| *R855 | 144144 | FP, 470Ω, 5%, 1/4W |
| *R856 | 144144 | FP, 470Ω, 5%, 1/4W |
| R857 | 141106 | CF, 270kΩ, 5%, 1/4W |
| R858 | 141106 | CF, 270kΩ, 5%, 1/4W |
| *R859 | 144066 | FP, 22Ω, 10%, 1/2W |
| *R860 | 144066 | FP, 22Ω, 10%, 1/2W |
| R861 | 141106 | CF, 270kΩ, 5%, 1/4W |
| R862 | 141106 | CF, 270kΩ, 5%, 1/4W |
| R863 | 141055 | CF, 1.8kΩ, 5%, 1/4W |
| R864 | 141055 | CF, 1.8kΩ, 5%, 1/4W |
| *R865 | 144053 | MF, 10kΩ, 1%, 1/4W |
| *R866 | 144053 | MF, 10kΩ, 1%, 1/4W |

## POWER SUPPLY PC BOARD 045369

| Symbol No. | Part No. | Description |
|---|---|---|
| **CAPACITORS** (CD = Ceramic Disc, ELECT = Electrolytic) | | |
| C201 | 066274 | ELECT, 47μF, 35V |
| C202 | 061043 | S/N BX1001 to BX2840: CD, .01μF, +80 −20%....(6354) |
| | 061048 | S/N BX2841 and above: CD, .05μF, +80 −20%, 100V, Z5V....(6354) |
| C203 | 066247 | ELECT, 2200μF, 16V |
| C204 | 066247 | ELECT, 2200μF, 16V |
| C205 | 066274 | ELECT, 2200μF, 16V |
| C206 | 061043 | S/N BX1001 to BX2840: CD, .01μF, +80 −20%....(6354) |
| | 061048 | S/N BX2841 and above: CD, .05μF, +80 −20%, 100V, Z5V....(6354) |
| C207 | 066236 | ELECT, 470μF, 6.3V |
| C208 | 066274 | ELECT, 47μF, 35V |
| **FUSES** | | |
| *F201 | 174188 | #30 Solid Copper Wire, (Fusible Link) |
| **DIODES** (RECT = Rectifier, Si = Silicon, ZN = Zener) | | |
| *D201 | 070031 | Si, RECT, 400 PIV, 1.5A |
| *D202 | 070031 | Si, RECT, 400 PIV, 1.5A |
| *D203 | 070103 | Si, ZN, 18V, 5%, 500mW, IN5248B |
| *D204 | 070103 | Si, ZN, 18V, 5%, 500mW, IN5248B |
| *D205 | 070085 | Si, ZN, 6.2V, 5%, 500mW, IN5234B |
| **TRANSISTORS** (Si = Silicon) | | |
| *Q201 | 132173 | Si, PNP, Selected MJE2955 |
| *Q202 | 132174 | Si, NPN, Selected MJE3055 |
| *Q203 | 132143 | Si, NPN, MPS-D05 |
| *Q204 | 132147 | Si, PNP, MPS-A93 |
| *Q205 | 132143 | Si, NPN, MPS-D05 |
| *Q206 | 132185 | Si, NPN, Selected 2N6429A |
| *Q207 | 132143 | Si, NPN, MPS-D05 |
| *Q208 | 132143 | Si, NPN, MPS-D05 |
| *Q209 | 132143 | Si, NPN, MPS-D05 |
| *Q210 | 132143 | Si, NPN, MPS-D05 |
| **RESISTORS** (CF = Carbon Film, WW = Wirewound, FP = Flameproof) | | |
| *R201 | 139157 | WW, FP, 180Ω, 10%, 2W....(7056) |
| R202 | 141068 | CF, 6.8Ω, 5%, 1/4W |
| R203 | 141072 | CF, 10kΩ, 5%, 1/4W |
| R204 | 141072 | CF, 10kΩ, 5%, 1/4W |
| R205 | 141059 | CF, 2.7kΩ, 5%, 1/4W |
| R206 | 141068 | CF, 6.8kΩ, 5%, 1/4W |
| *R207 | 139157 | WW, FP, 180Ω, 10%, 2W....(7056) |
| R208 | 141082 | CF, 27kΩ, 5%, 1/4W |

| | | |
|---|---|---|
| R209 | 141041 | CF, 470Ω, 5%, 1/4W |
| R210 | 141031 | CF, 180Ω, 5%, 1/4W |
| R211 | 141031 | CF, 180Ω, 5%, 1/4W |
| R212 | 141031 | CF, 180Ω, 5%, 1/4W |
| R213 | 141045 | CF, 680Ω, 5%, 1/4W |
| R214 | 141045 | CF, 680Ω, 5%, 1/4W |
| R215 | 141045 | CF, 680Ω, 5%, 1/4W |
| R216 | 141025 | CF, 100Ω, 5%, 1/4W |
| R217 | 141025 | CF, 100Ω, 5%, 1/4W |
| R218 | 141045 | CF, 680Ω, 5%, 1/4W |
| R219 | 141045 | CF, 680Ω, 5%, 1/4W |
| R220 | 141045 | CF, 680Ω, 5%, 1/4W |

## POWER GUARD LAMP PC BOARD 045372

| Symbol No. | Part No. | Description |
|---|---|---|
| **LAMPS AND LIGHTING DEVICES** (INC = Incandescent) | | |
| *DS501 | 058061 | INC, 14V, 80mA, 7382 |
| *DS502 | 058061 | INC, 14V, 80mA, 7382 |
| *DS503 | 058061 | INC, 14V, 80mA, 7382 |
| *DS504 | 058061 | INC, 14V, 80mA, 7382 |

## INDICATOR PC BOARD 045371

| Symbol No. | Part No. | Description |
|---|---|---|
| **LAMPS AND LIGHTING DEVICES** (LED = Light Emitting Diode) | | |
| *DS401 | 070093 | LED, Red, HP5082-4658 |
| *DS402 | 070093 | LED, Red, HP5082-4658 |
| *DS403 | 070093 | LED, Red, HP5082-4658 |
| *DS404 | 070093 | LED, Red, HP5082-4658 |
| *DS405 | 070093 | LED, Red, HP5082-4658 |
| *DS406 | 070093 | LED, Red, HP5082-4658 |
| *DS407 | 070093 | LED, Red, HP5082-4658 |
| *DS408 | 070093 | LED, Red, HP5082-4658 |

## LEFT & RIGHT TERMINAL PC BOARDS 045373

| Symbol No. | Part No. | Description |
|---|---|---|
| **CAPACITORS** (ELECT = Electrolytic) | | |
| *C301 | 066302 | ELECT, 2.2μF, 25V, NP |
| *C302 | 066302 | ELECT, 2.2μF, 25V, NP |
| *C303 | 066302 | ELECT, 2.2μF, 25V, NP |
| *C304 | 066302 | ELECT, 2.2μF, 25V, NP |
| *C305 | 066302 | ELECT, 2.2μF, 25V, NP |
| *C306 | 066302 | ELECT, 2.2μF, 25V, NP |
| **RESISTORS** (CF = Carbon Film) | | |
| R301 | 141045 | CF, 680Ω, 5%, 1/4W |
| R302 | 141045 | CF, 680Ω, 5%, 1/4W |
| R303 | 141104 | CF, 220kΩ, 5%, 1/4W |
| R304 | 141104 | CF, 220kΩ, 5%, 1/4W |
| R305 | 141045 | CF, 680Ω, 5%, 1/4W |
| R306 | 141045 | CF, 680Ω, 5%, 1/4W |
| R307 | 141104 | CF, 220kΩ, 5%, 1/4W |
| R308 | 141104 | CF, 220kΩ, 5%, 1/4W |
| R309 | 141045 | CF, 680Ω, 5%, 1/4W |
| R310 | 141045 | CF, 680Ω, 5%, 1/4W |
| R311 | 141104 | CF, 220kΩ, 5%, 1/4W |
| R312 | 141104 | CF, 220kΩ, 5%, 1/4W |



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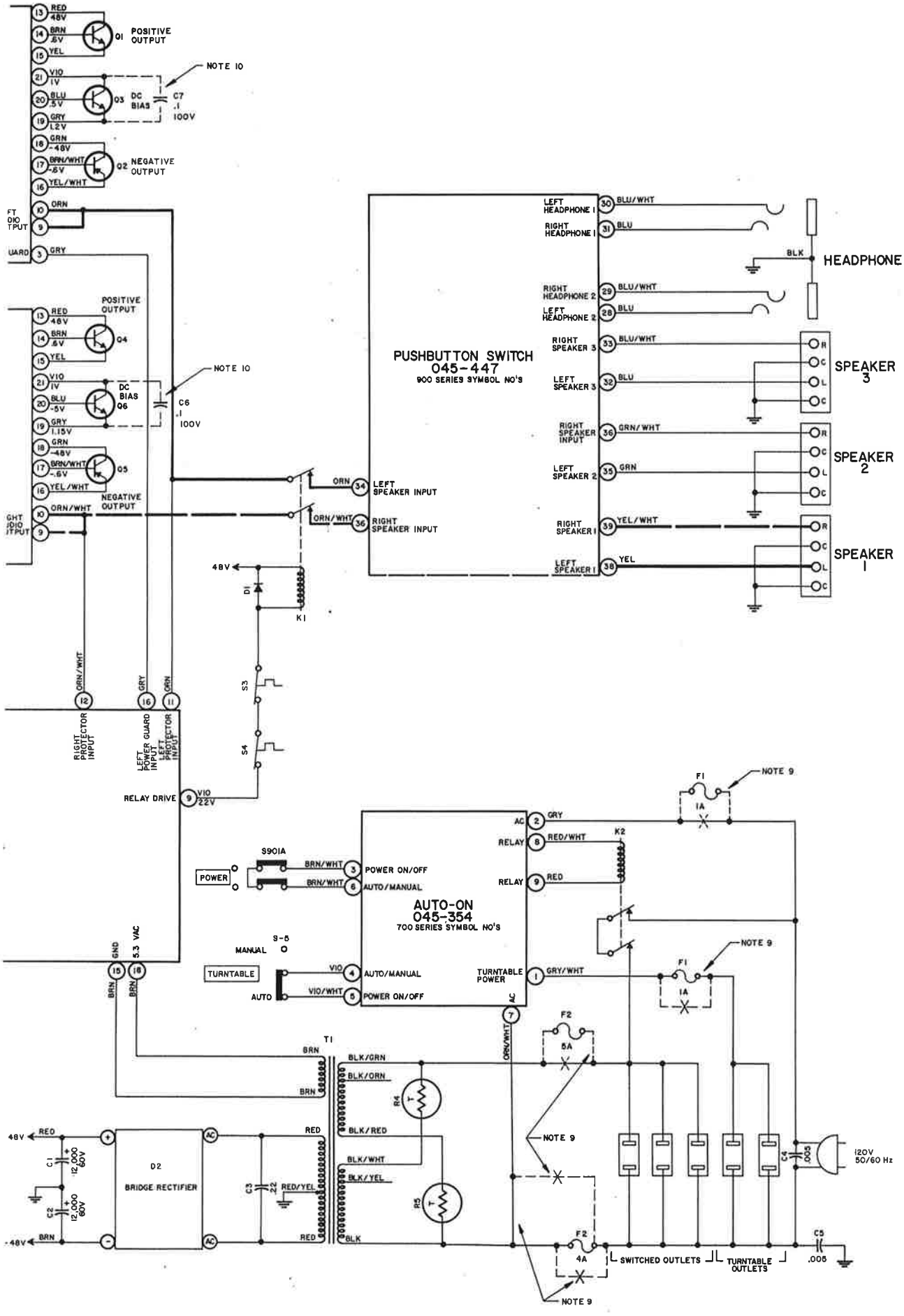
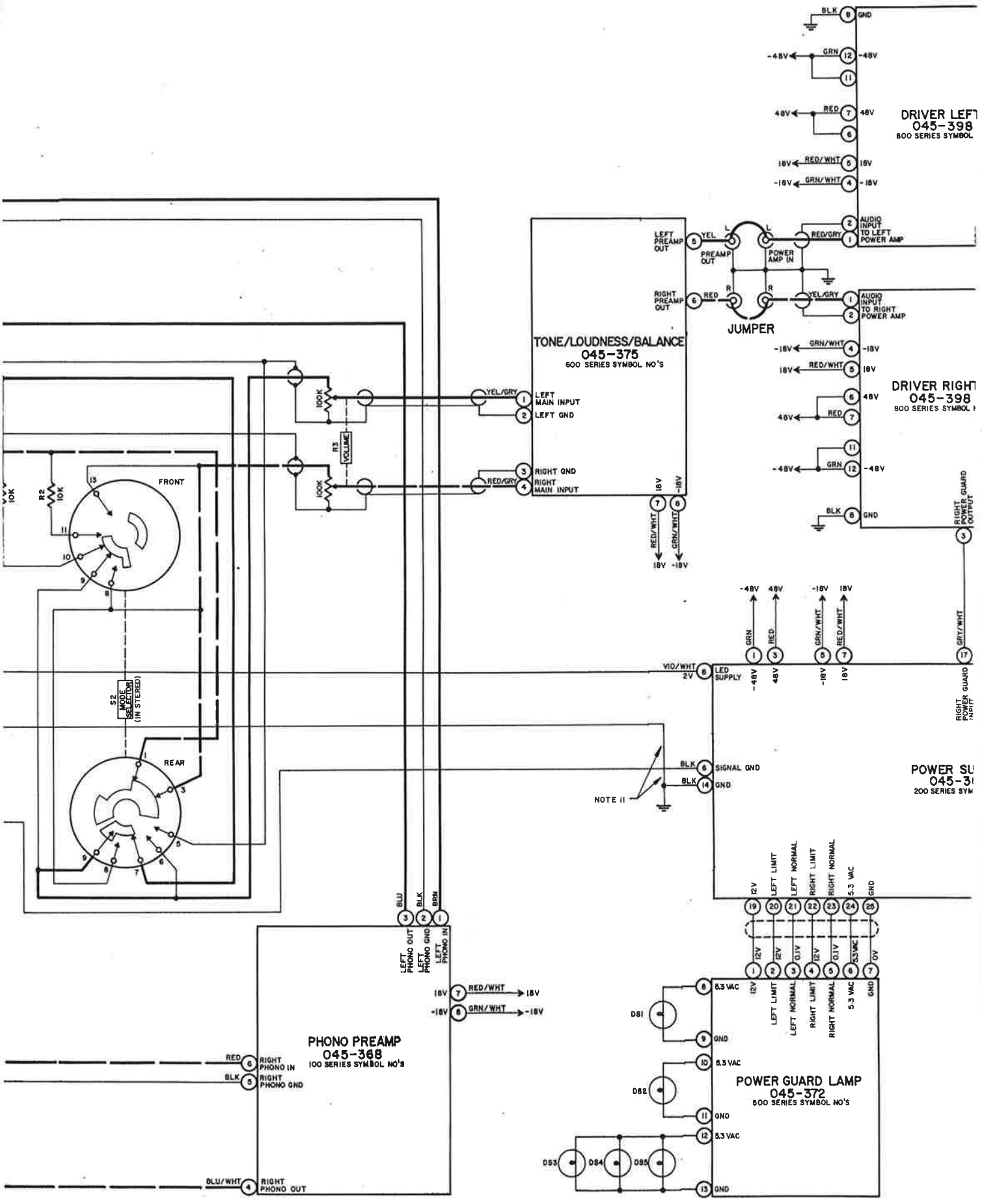
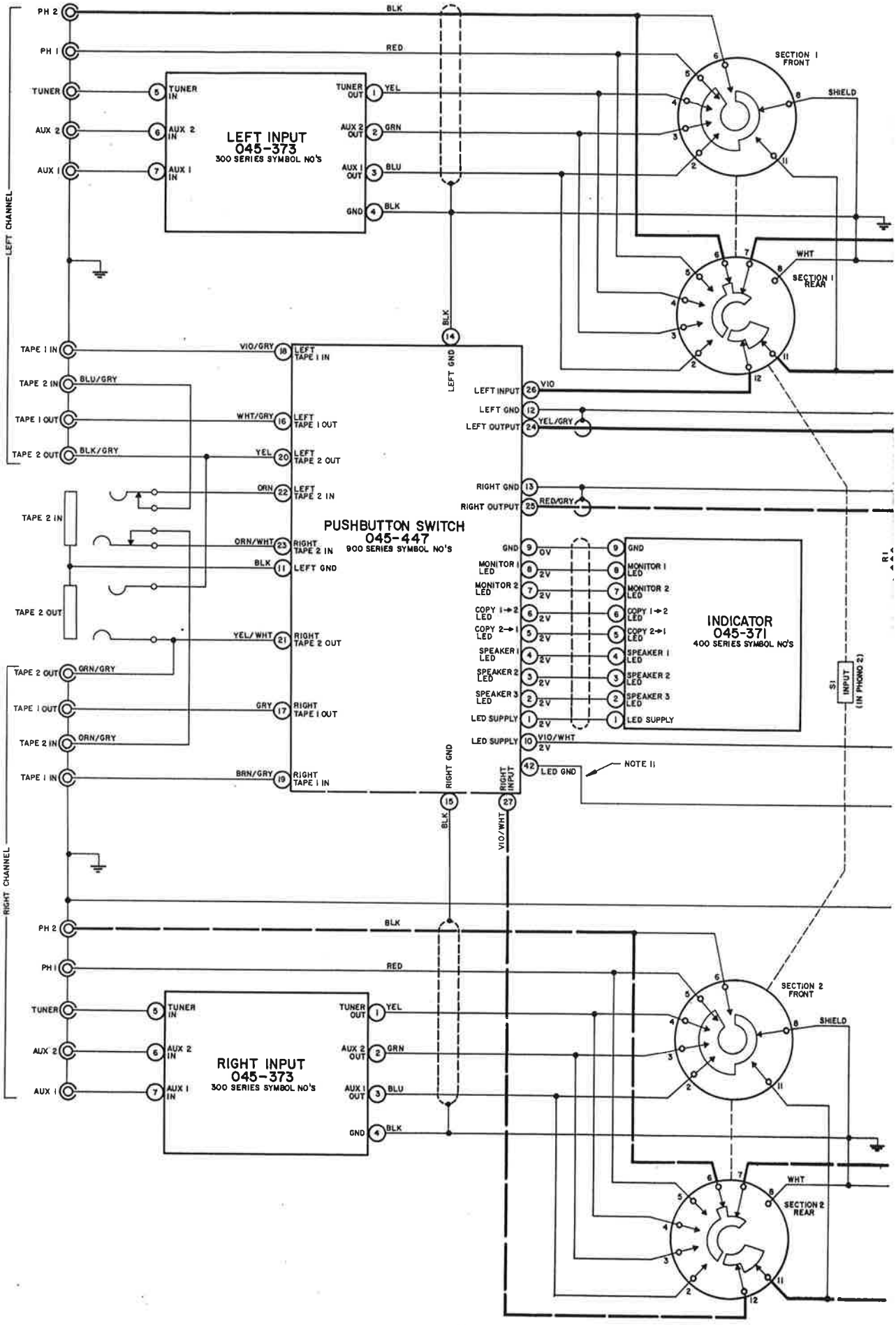
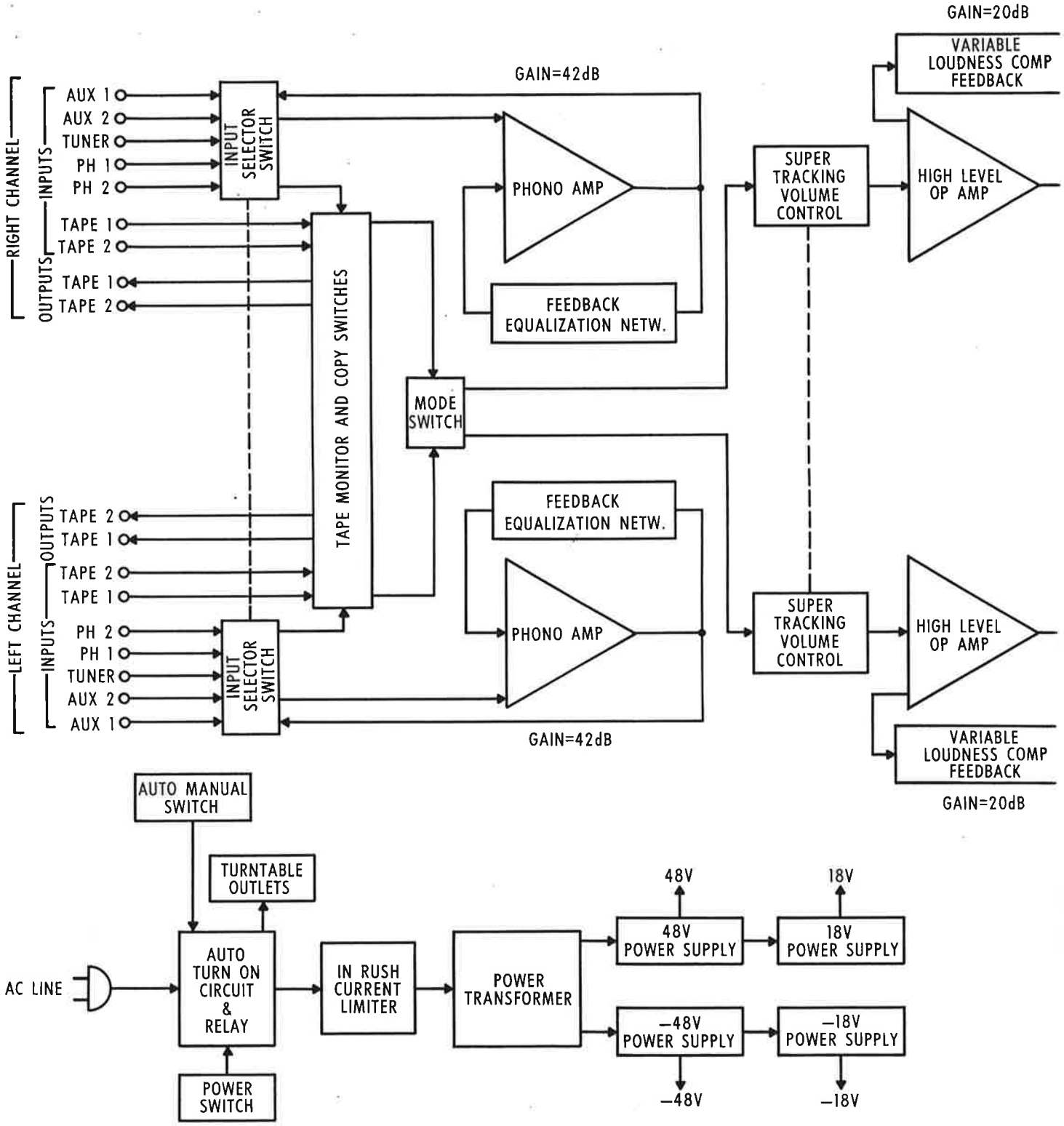
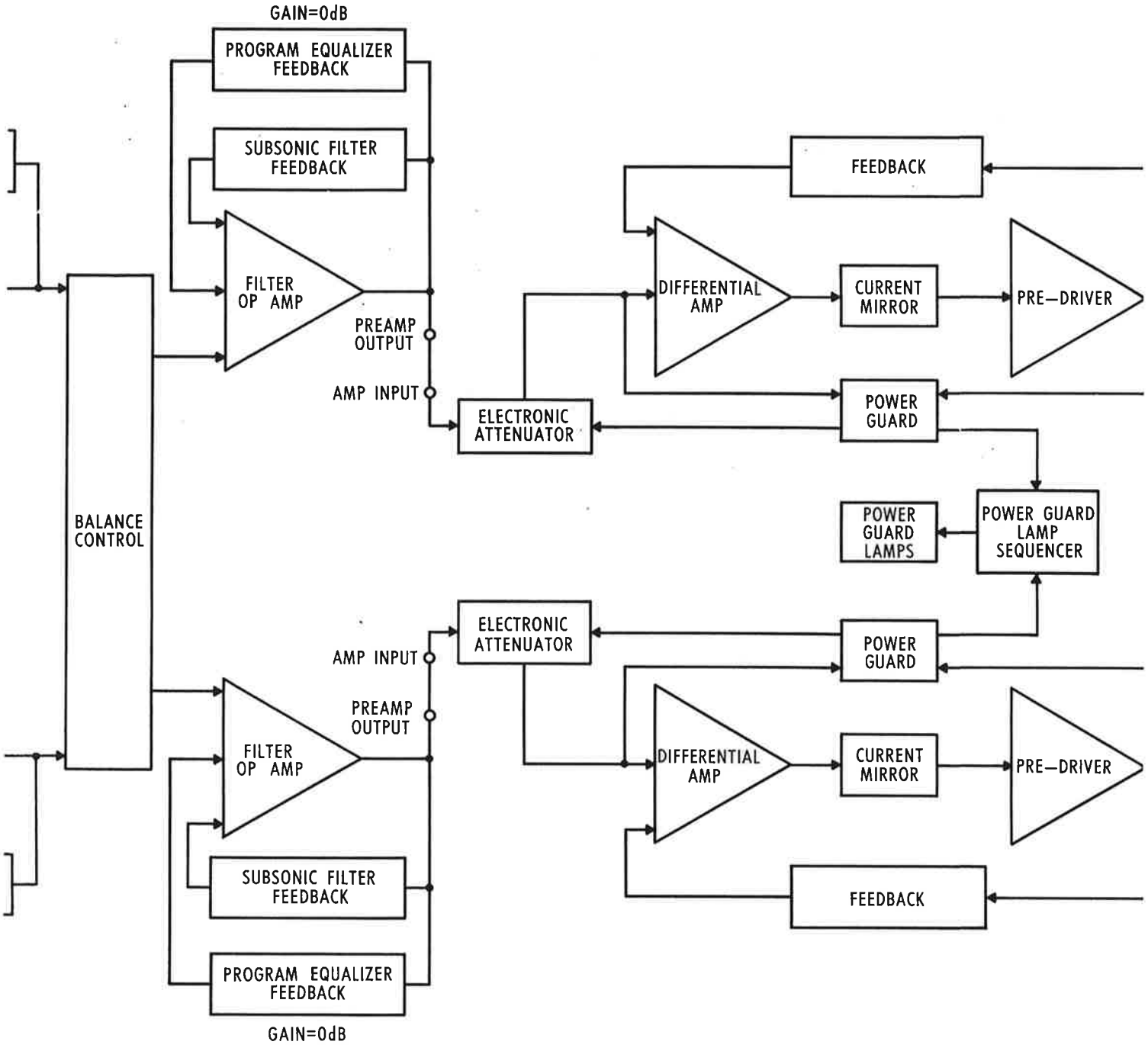
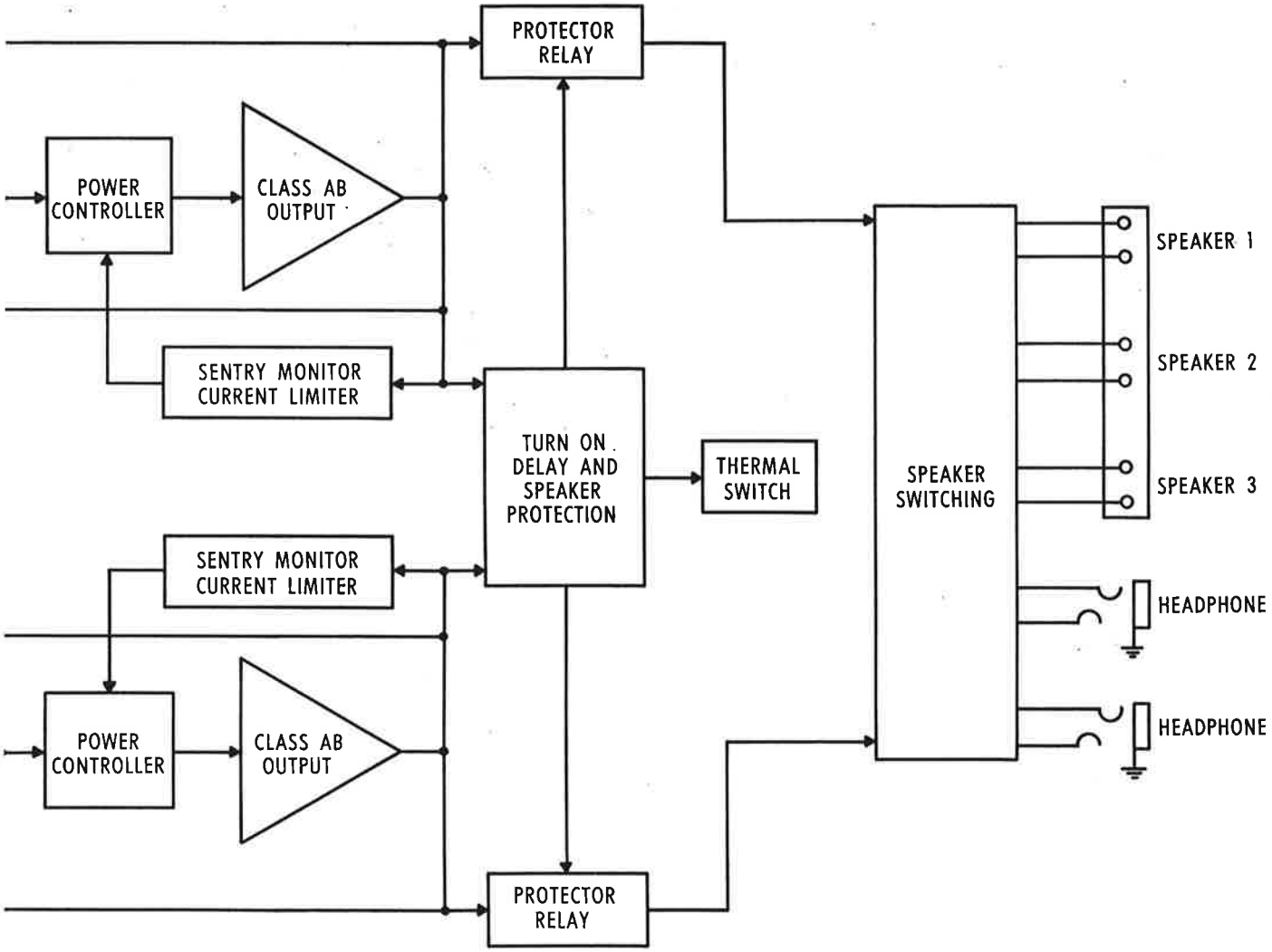

POSITIVE OUTPUT
Q1
NOTE 10
DC BIAS
C7 .1 100V
Q3
NEGATIVE OUTPUT
Q2
POSITIVE OUTPUT
Q4
DC BIAS
Q6
C6 .1 100V
Q5
NEGATIVE OUTPUT
PUSHBUTTON SWITCH
045-447
900 SERIES SYMBOL NO'S
LEFT HEADPHONE 1
RIGHT HEADPHONE 1
HEADPHONE
RIGHT HEADPHONE 2
LEFT HEADPHONE 2
RIGHT SPEAKER 3
LEFT SPEAKER 3
SPEAKER 3
RIGHT SPEAKER INPUT
LEFT SPEAKER 2
SPEAKER 2
RIGHT SPEAKER 1
LEFT SPEAKER 1
SPEAKER 1
LEFT SPEAKER INPUT
RIGHT SPEAKER INPUT
48V
D1
K1
S3
S4
RIGHT PROTECTOR INPUT
LEFT POWER GUARD INPUT
LEFT PROTECTOR INPUT
RELAY DRIVE
S901A
POWER
AUTO-ON
045-354
700 SERIES SYMBOL NO'S
POWER ON/OFF
AUTO/MANUAL
MANUAL
S-5
TURNTABLE
AUTO
TURNTABLE POWER
AC
RELAY
K2
F1
1A
NOTE 9
F2
5A
4A
T1
R4
R5
D2
BRIDGE RECTIFIER
C1 12,000 60V
C2 12,000 60V
C3 .22
C4 .005
C5 .008
120V 50/60 Hz
SWITCHED OUTLETS
TURNTABLE OUTLETS
5.3 VAC
GND


DRIVER LEFT
045-398
800 SERIES SYMBOL
DRIVER RIGHT
045-398
800 SERIES SYMBOL
JUMPER
TONE/LOUDNESS/BALANCE
045-375
600 SERIES SYMBOL NO'S
POWER SU
045-3
200 SERIES SYM
PHONO PREAMP
045-368
100 SERIES SYMBOL NO'S
POWER GUARD LAMP
045-372
500 SERIES SYMBOL NO'S
FRONT
REAR
NOTE II
LEFT PREAMP OUT
RIGHT PREAMP OUT
PREAMP OUT
POWER AMP IN
AUDIO INPUT TO LEFT POWER AMP
AUDIO INPUT TO RIGHT POWER AMP
LEFT MAIN INPUT
LEFT GND
RIGHT GND
RIGHT MAIN INPUT
VOLUME
MODE SELECTION (IN STEREO)
LED SUPPLY
SIGNAL GND
GND
RIGHT POWER GUARD OUTPUT
RIGHT POWER GUARD INPUT
LEFT PHONO OUT
LEFT PHONO GND
LEFT PHONO IN
RIGHT PHONO IN
RIGHT PHONO GND
RIGHT PHONO OUT
LEFT LIMIT
LEFT NORMAL
RIGHT LIMIT
RIGHT NORMAL
5.3 VAC
D81
D82
D83
D84
D85


LEFT CHANNEL
RIGHT CHANNEL
PH 2
PH 1
TUNER
AUX 2
AUX 1
TAPE 1 IN
TAPE 2 IN
TAPE 1 OUT
TAPE 2 OUT
LEFT INPUT
045-373
300 SERIES SYMBOL NO'S
TUNER IN
AUX 2 IN
AUX 1 IN
TUNER OUT
AUX 2 OUT
AUX 1 OUT
GND
BLK
RED
YEL
GRN
BLU
SECTION 1 FRONT
SECTION 1 REAR
SHIELD
WHT
VIO/GRY
BLU/GRY
WHT/GRY
BLK/GRY
ORN
ORN/WHT
YEL
YEL/WHT
GRN/GRY
GRY
ORN/GRY
BRN/GRY
LEFT TAPE 1 IN
LEFT TAPE 1 OUT
LEFT TAPE 2 OUT
LEFT TAPE 2 IN
RIGHT TAPE 2 IN
LEFT GND
RIGHT TAPE 2 OUT
RIGHT TAPE 1 OUT
RIGHT TAPE 1 IN
PUSHBUTTON SWITCH
045-447
900 SERIES SYMBOL NO'S
LEFT INPUT
LEFT GND
LEFT OUTPUT
RIGHT GND
RIGHT OUTPUT
VIO
YEL/GRY
RED/GRY
INDICATOR
045-371
400 SERIES SYMBOL NO'S
GND
MONITOR 1 LED
MONITOR 2 LED
COPY 1→2 LED
COPY 2→1 LED
SPEAKER 1 LED
SPEAKER 2 LED
SPEAKER 3 LED
LED SUPPLY
0V
2V
VIO/WHT
LED GND
NOTE 11
RIGHT GND
RIGHT INPUT
VIO/WHT
S1 INPUT (IN PHONO 2)
RIGHT INPUT
045-373
300 SERIES SYMBOL NO'S
SECTION 2 FRONT
SECTION 2 REAR


GAIN=20dB
VARIABLE LOUDNESS COMP FEEDBACK
GAIN=42dB
RIGHT CHANNEL
INPUTS
AUX 1
AUX 2
TUNER
PH 1
PH 2
INPUT SELECTOR SWITCH
PHONO AMP
SUPER TRACKING VOLUME CONTROL
HIGH LEVEL OP AMP
TAPE 1
TAPE 2
OUTPUTS
TAPE 1
TAPE 2
FEEDBACK EQUALIZATION NETW.
TAPE MONITOR AND COPY SWITCHES
MODE SWITCH
LEFT CHANNEL
OUTPUTS
TAPE 2
TAPE 1
INPUTS
TAPE 2
TAPE 1
PH 2
PH 1
TUNER
AUX 2
AUX 1
INPUT SELECTOR SWITCH
FEEDBACK EQUALIZATION NETW.
PHONO AMP
SUPER TRACKING VOLUME CONTROL
HIGH LEVEL OP AMP
GAIN=42dB
VARIABLE LOUDNESS COMP FEEDBACK
GAIN=20dB
AUTO MANUAL SWITCH
TURNTABLE OUTLETS
AC LINE
AUTO TURN ON CIRCUIT & RELAY
POWER SWITCH
IN RUSH CURRENT LIMITER
POWER TRANSFORMER
48V
48V POWER SUPPLY
18V
18V POWER SUPPLY
−48V POWER SUPPLY
−48V
−18V POWER SUPPLY
−18V


GAIN=0dB
PROGRAM EQUALIZER FEEDBACK
SUBSONIC FILTER FEEDBACK
FILTER OP AMP
PREAMP OUTPUT
AMP INPUT
BALANCE CONTROL
ELECTRONIC ATTENUATOR
FEEDBACK
DIFFERENTIAL AMP
CURRENT MIRROR
PRE—DRIVER
POWER GUARD
POWER GUARD LAMPS
POWER GUARD LAMP SEQUENCER
ELECTRONIC ATTENUATOR
AMP INPUT
PREAMP OUTPUT
FILTER OP AMP
POWER GUARD
DIFFERENTIAL AMP
CURRENT MIRROR
PRE—DRIVER
SUBSONIC FILTER FEEDBACK
FEEDBACK
PROGRAM EQUALIZER FEEDBACK
GAIN=0dB




BLOCK DIAGRAM

# SCHEMATIC NOTES

1. Printed circuit board assemblies are outlined on the schematics by dotted lines. The circled numbers on the dotted lines correspond to the numbers on the printed circuit board layouts.

2. The heavy lines on the schematics denote the primary signal path.

3. The terminal numbering of rotary switches is for reference only.

4. A dot on the rotor of a rotary switch indicates that there is an electrical connection between the front and rear rotor section.

5. Unless otherwise specified: Resistance values are in ohms, 1/4 watt, and 5% tolerance. Capacitance values smaller than 1 are in microfarads (μF); capacitance values greater than 1 are in picofarads (pF).

6. All voltages indicated on the schematics are measured under the following conditions:

   Use of an 11 megohm input impedance VTVM. — All voltages ± 10% with respect to ground.

   No signal at input terminals. — AC input at 120 volts, 50/60 Hz.

   Voltages not specified are "0" volts.

7. Front panel controls at:

| | | | |
|---|---|---|---|
| Mode Selector | Stereo | Loudness | ccw |
| Speaker switches | Out | Tape Monitors | Out |
| Volume control | Min | Tape 1 → 2 | Out |
| Balance control | Middle | Tape 2 → 1 | Out |
| Tone controls | Flat | | |
| Input selector | Phono 2 | | |

8. To adjust output stage bias, operate the MA6200 at 120 volts line input with no input signal. Measure the AC line input power (approximately 40 watts) or current (approximately .3A). The bias potentiometers R851 and R852 are located on the power output PC boards.

   a. Turn both bias potentiometers full counterclockwise.

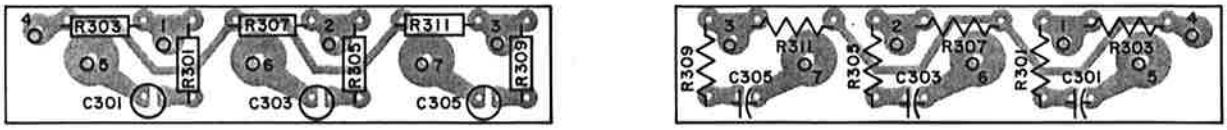
   b. Rotate bias adjustment clockwise to the point where the line input power or current begins to increase, then back off slightly to the point where the line input just reaches its lowest value.

   c. Repeat step b. for other channel independently.

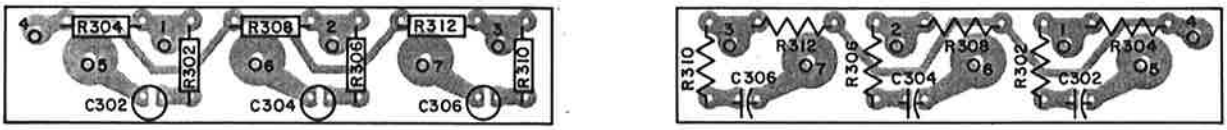
9. S/N BX1001 to BX1234: On the Interconnect Schematic, F1 and F2 were wired in the circuit as shown by dotted lines.

10. S/N BX1001 to BX1435: C6 and C7 were part of the Interconnect circuit. Above S/N BX1435, C6 was mounted on the right driver PC board as C836, and C7 was mounted on the left driver PC board as C835. The driver PC board assembly number without C835 and C836 is 045219.

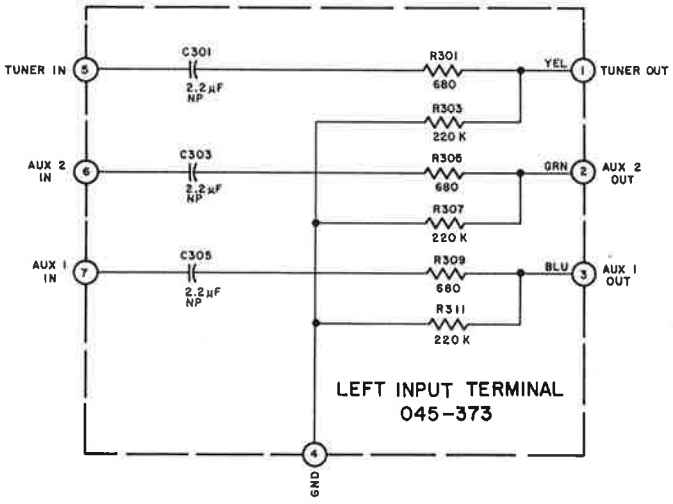
11. S/N BX1001 to BX2990: On the Interconnect schematic, there is no connection between pushbutton switch PC board 045260, pin 42, and Power Supply PC board pin 14.

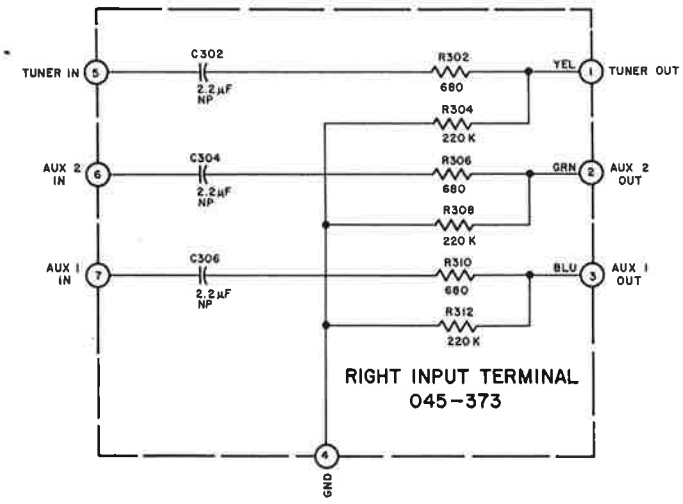


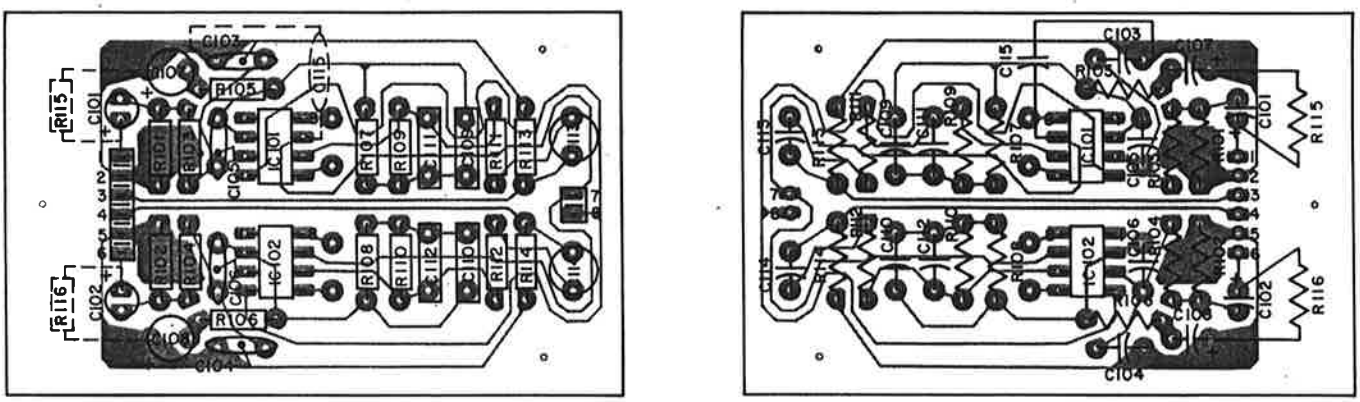

## LEFT INPUT TERMINAL PC BOARD
## 045-373



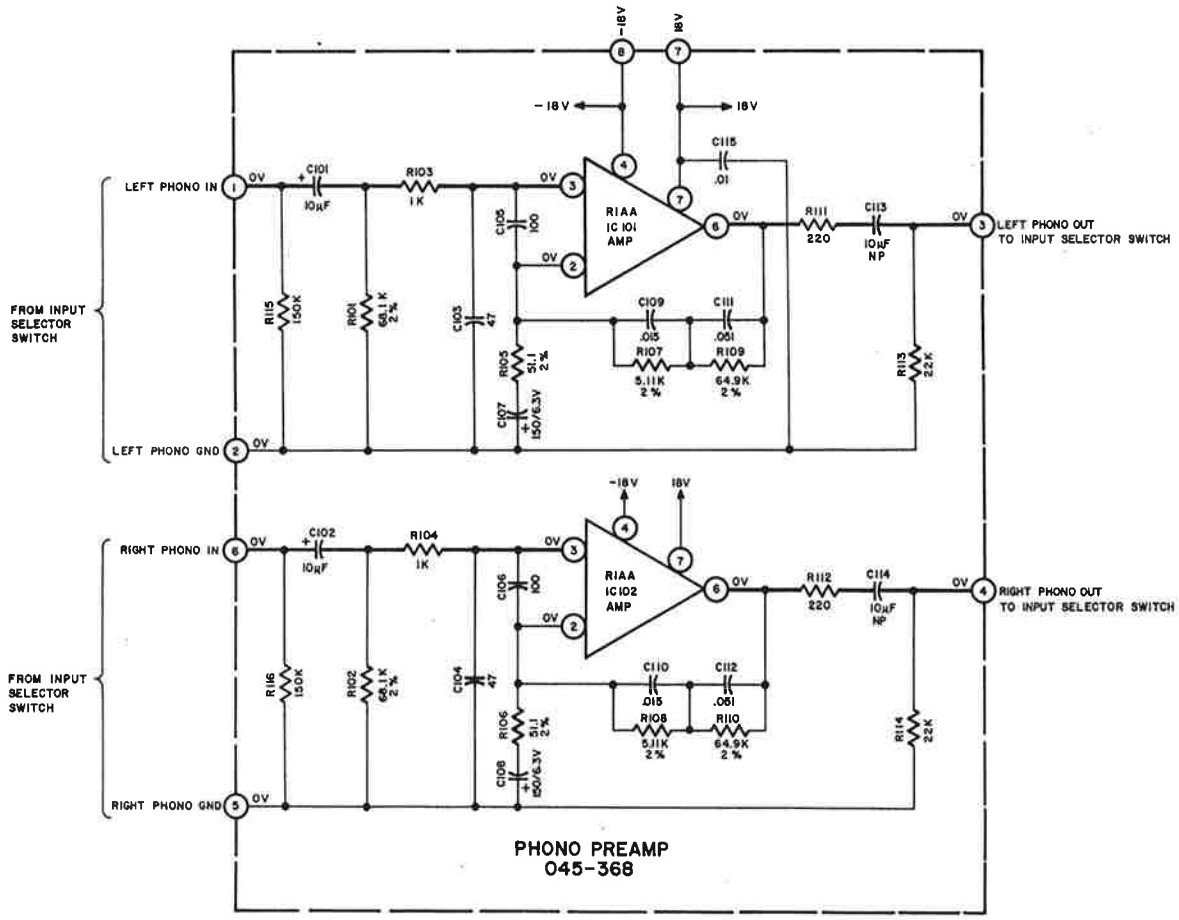

## RIGHT INPUT TERMINAL PC BOARD
## 045-373

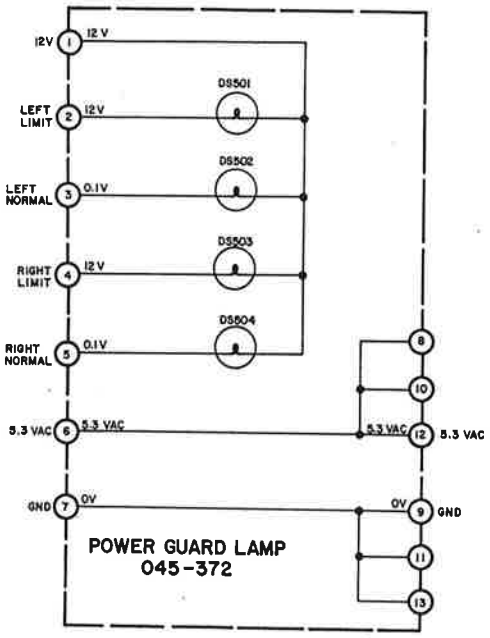


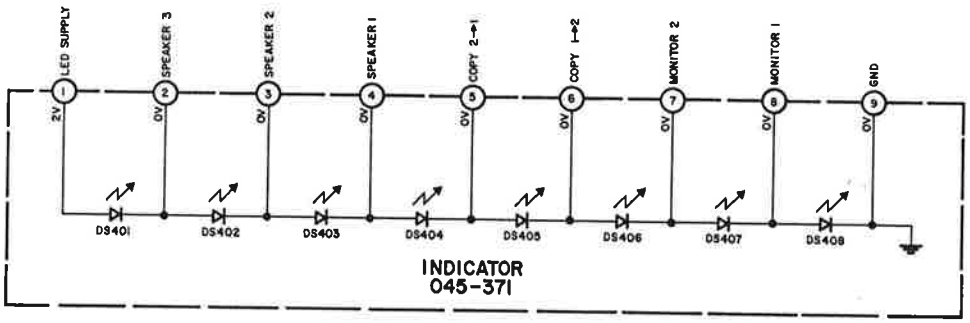



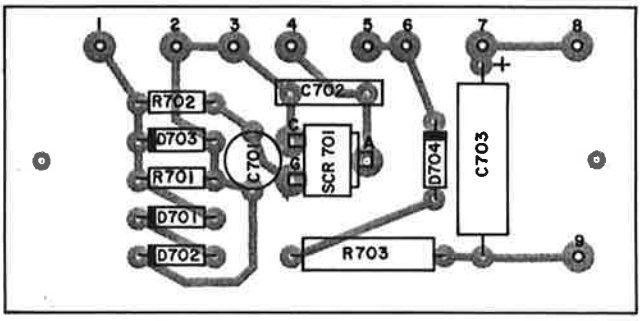


## PHONO PREAMP PC BOARD
## 045-368

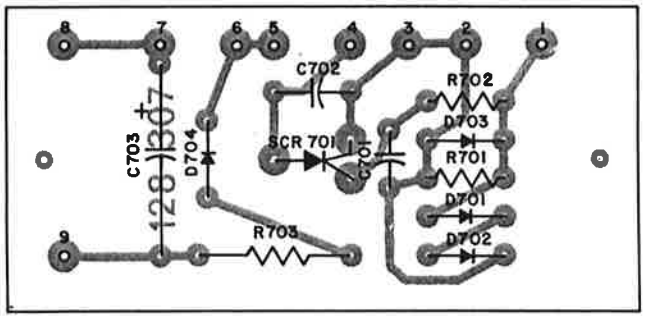


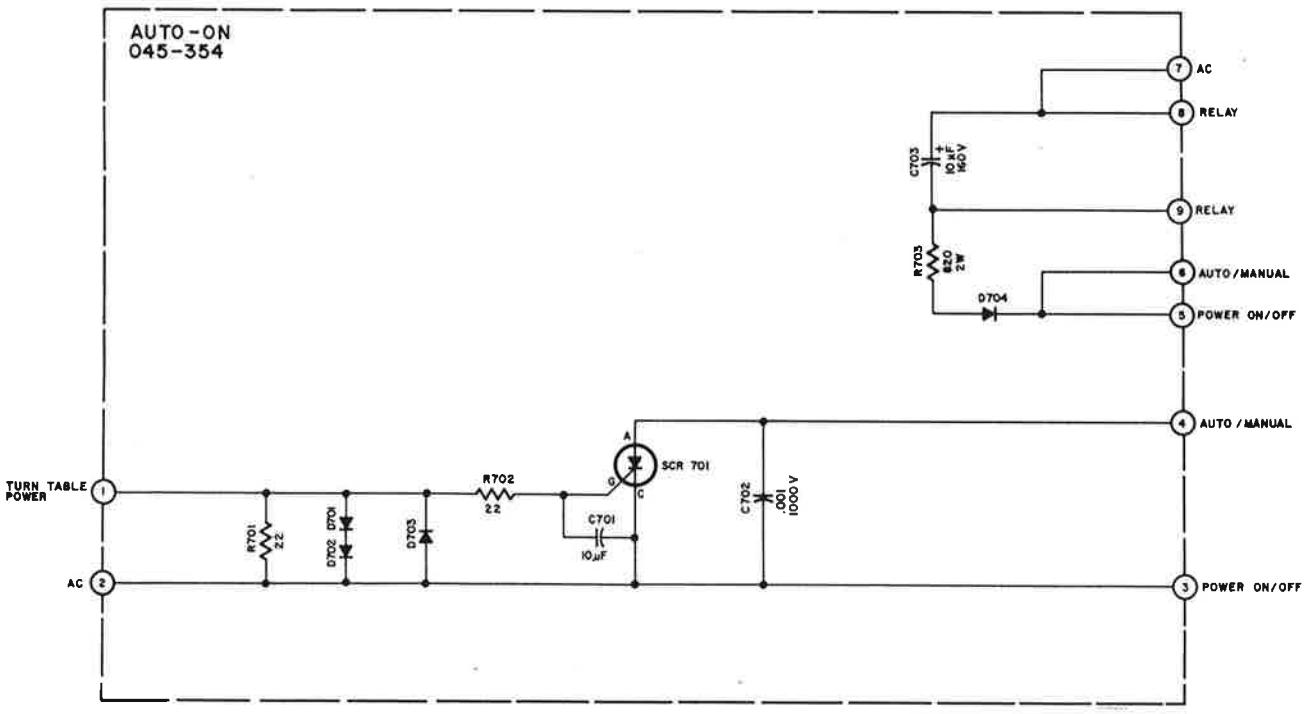

12V
1
12 V
LEFT LIMIT
2
12V
DS501
LEFT NORMAL
3
0.1V
DS502
RIGHT LIMIT
4
12V
DS503
RIGHT NORMAL
5
0.1V
DS504
8
10
5.3 VAC
6
5.3 VAC
5.3 VAC
12
5.3 VAC
GND
7
0V
0V
9
GND
11
13
POWER GUARD LAMP
045-372

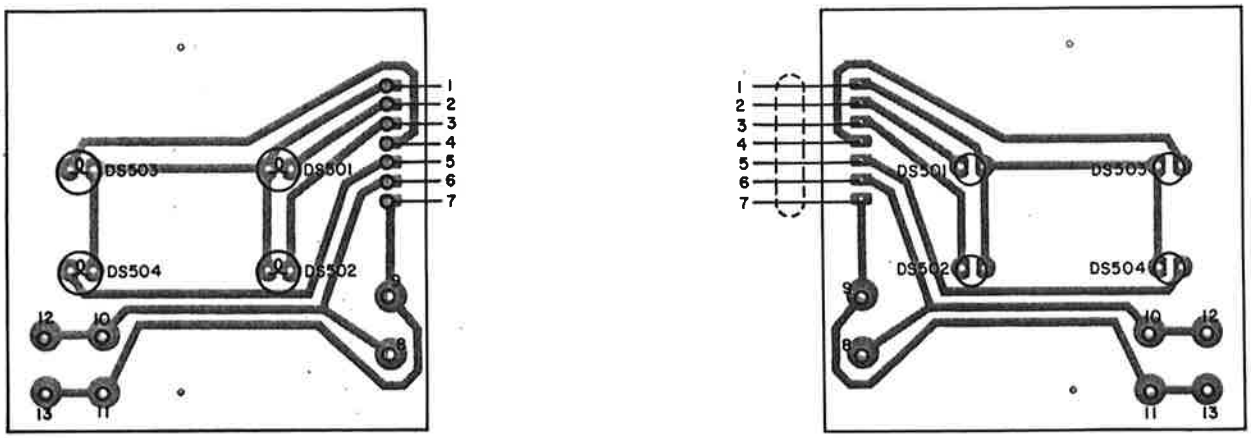

LED SUPPLY
SPEAKER 3
SPEAKER 2
SPEAKER 1
COPY 2→1
COPY 1→2
MONITOR 2
MONITOR 1
GND
1
2
3
4
5
6
7
8
9
2V
0V
DS401
DS402
DS403
DS404
DS405
DS406
DS407
DS408
INDICATOR
045-371



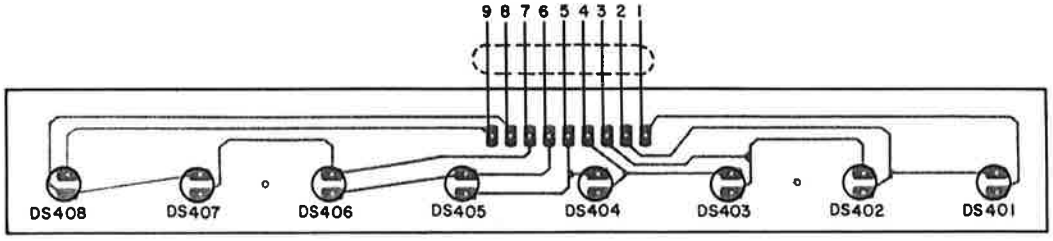

AUTO-ON PC BOARD
045-354



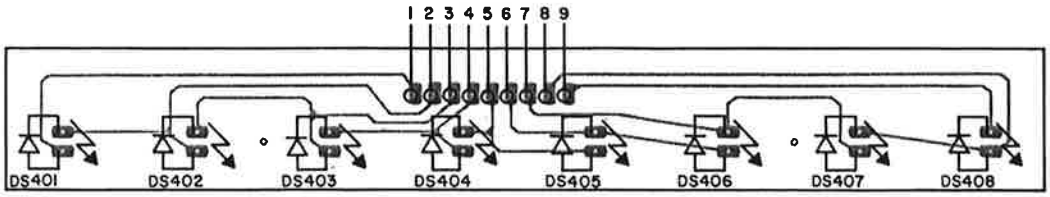



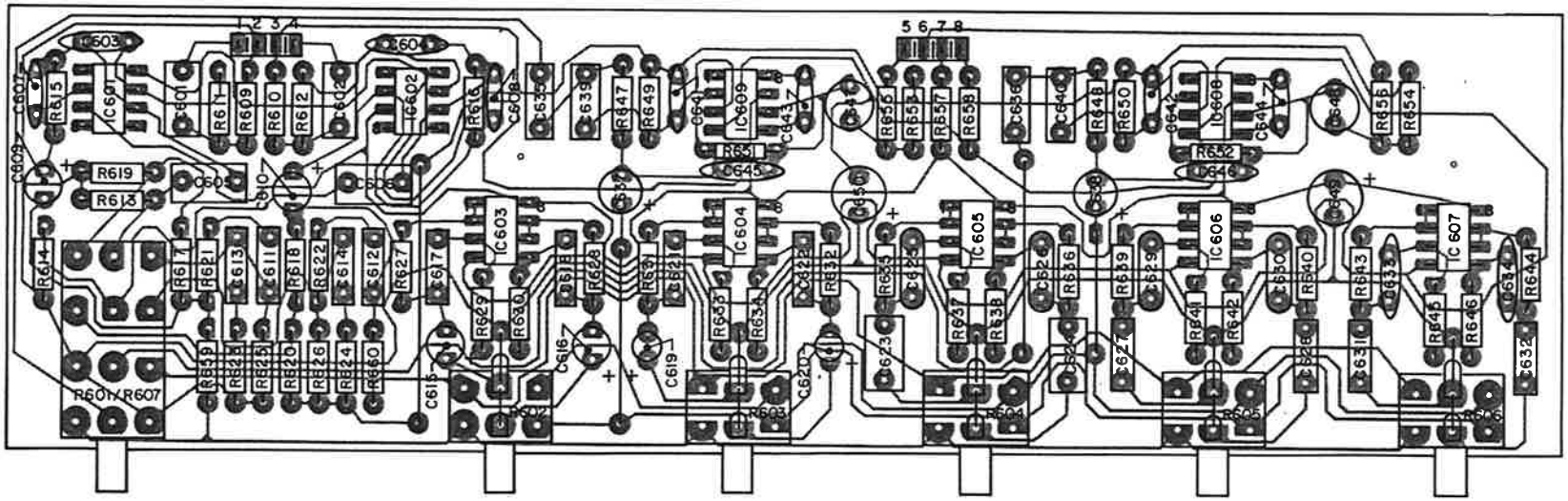



POWER GUARD LAMP PC BOARD
045-372

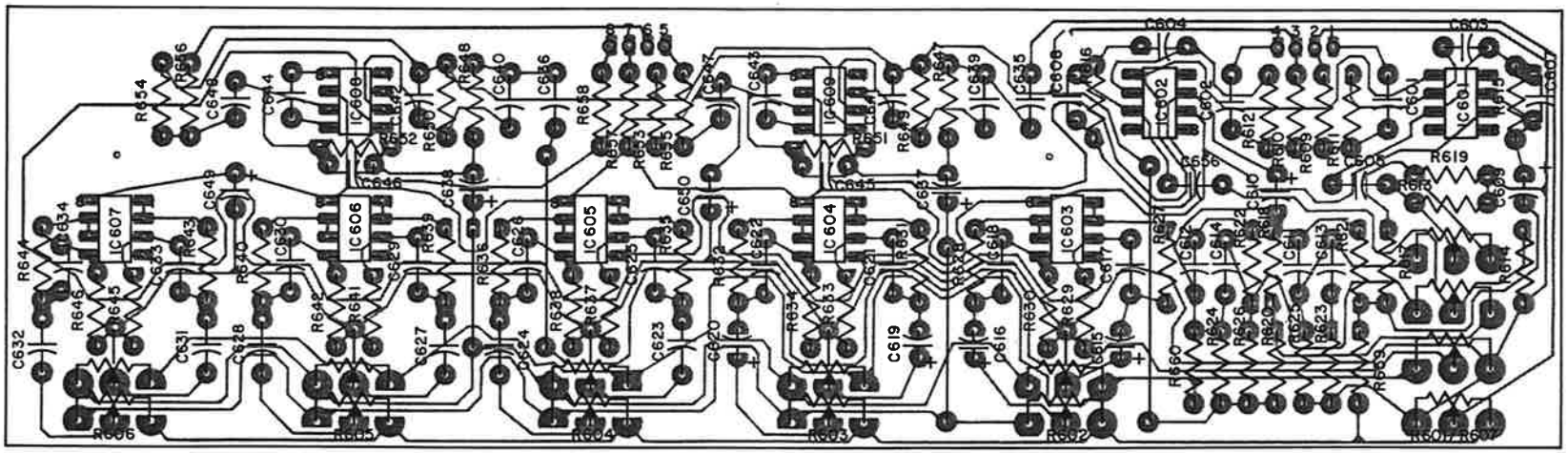


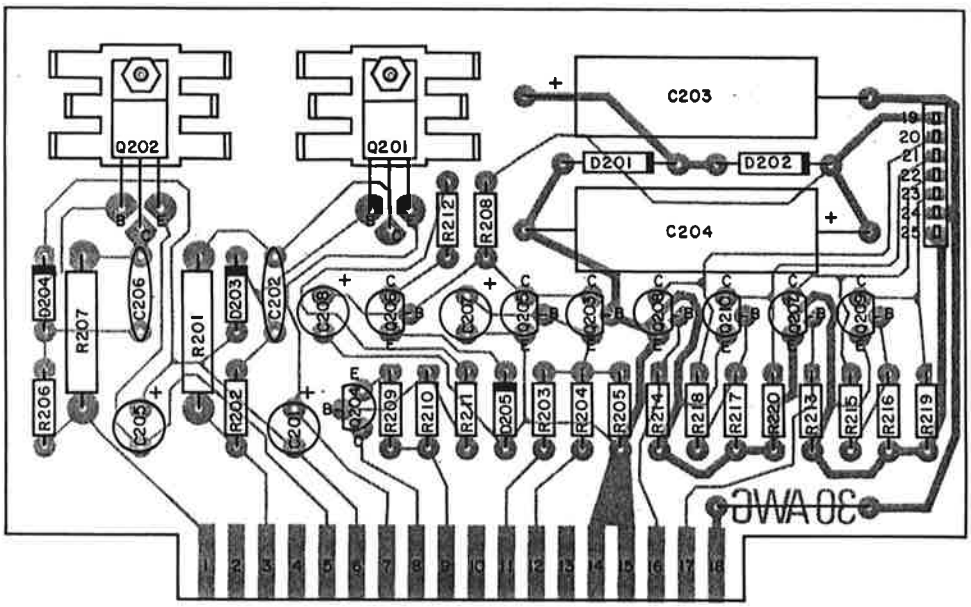

INDICATOR PC BOARD
045-371



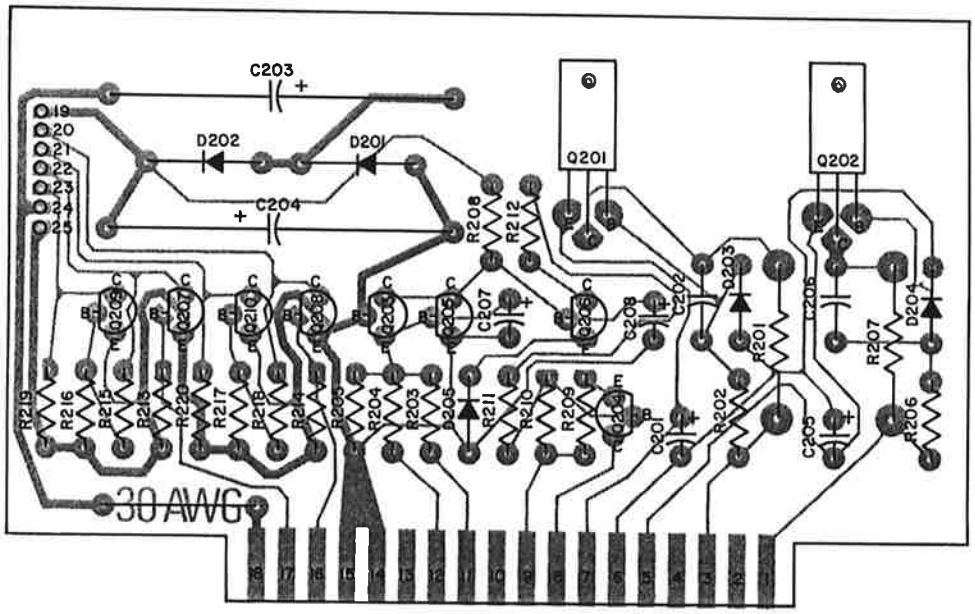


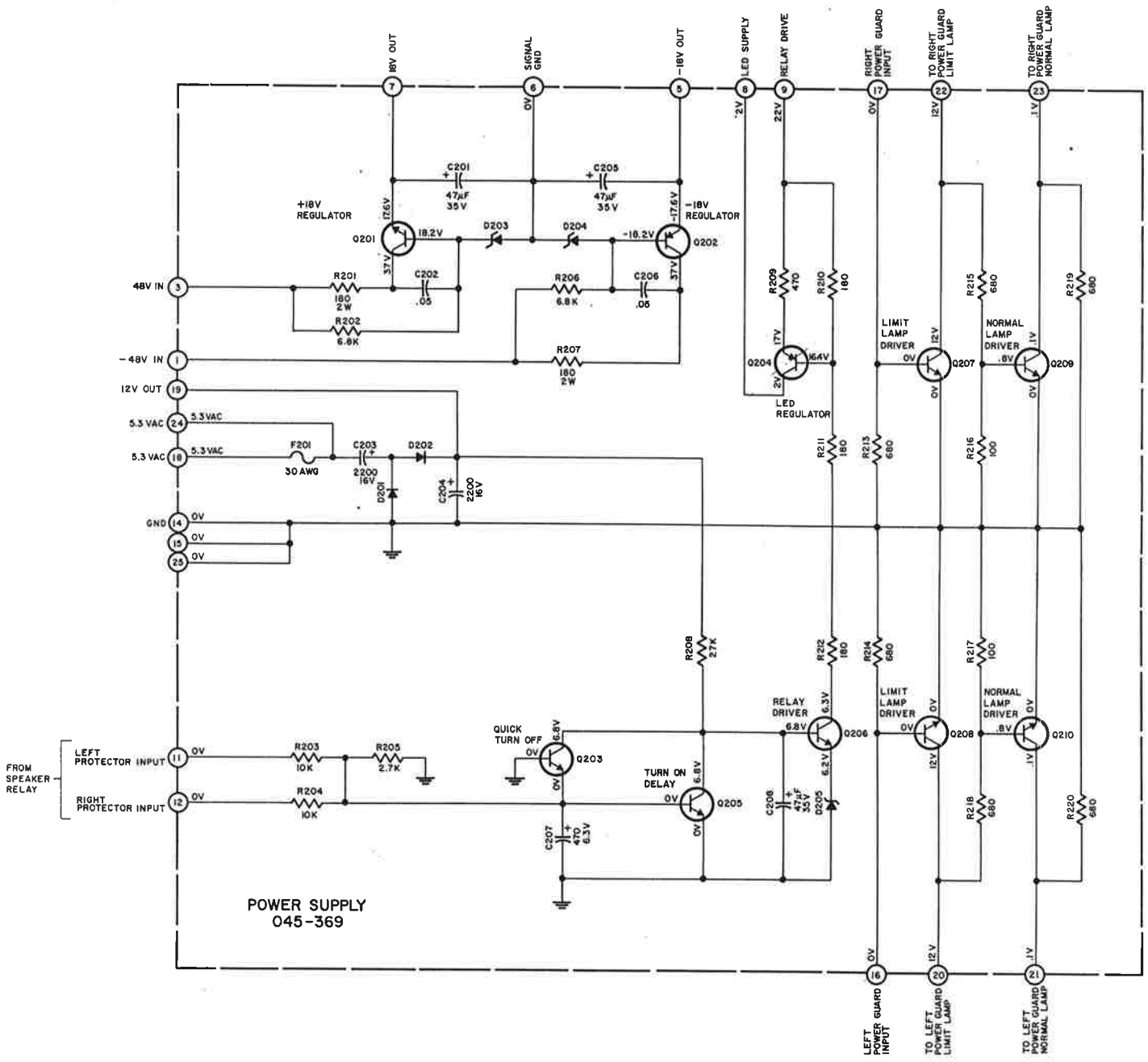
TONE/LOUDNESS/BALANCE PC BOARD
045-375

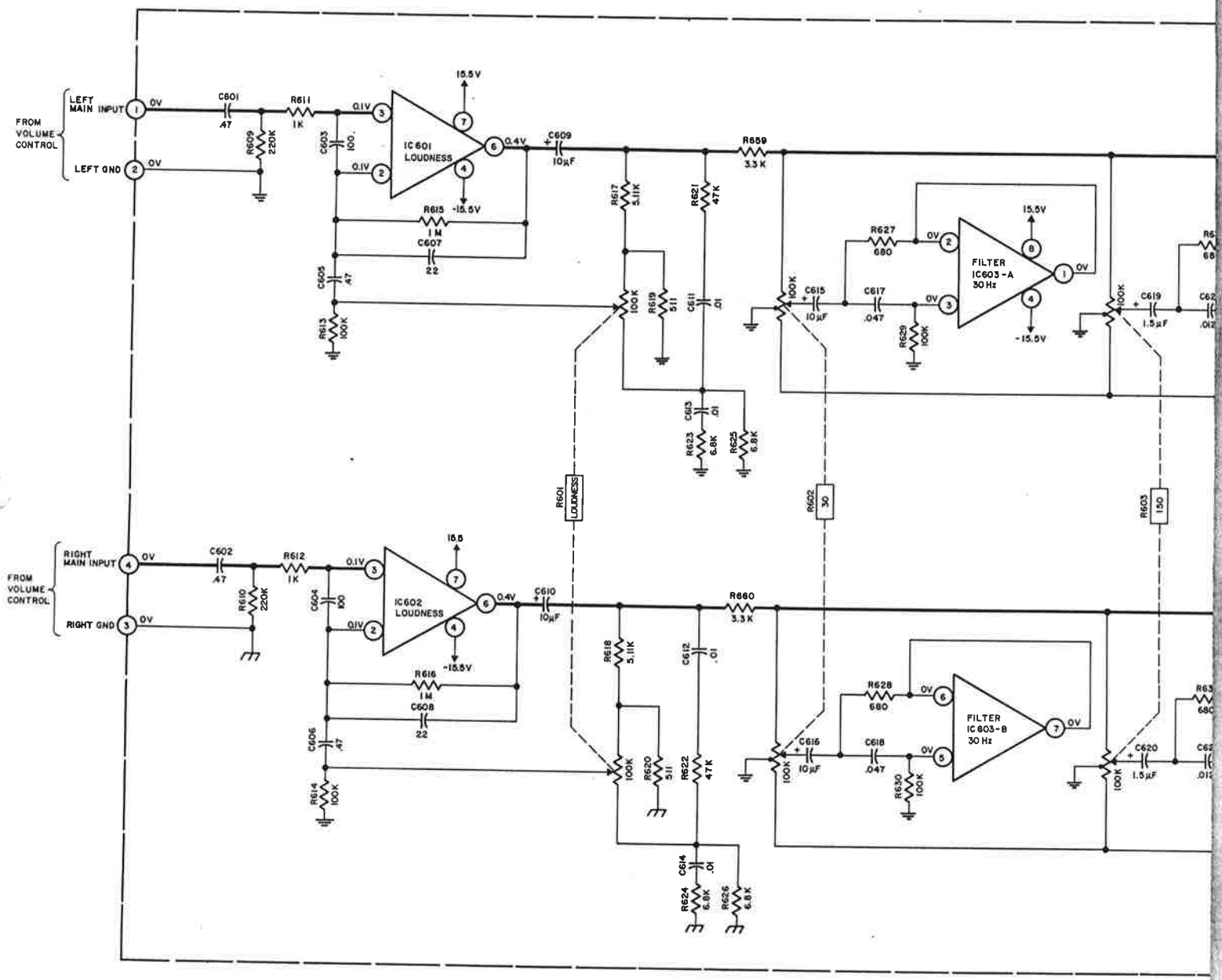


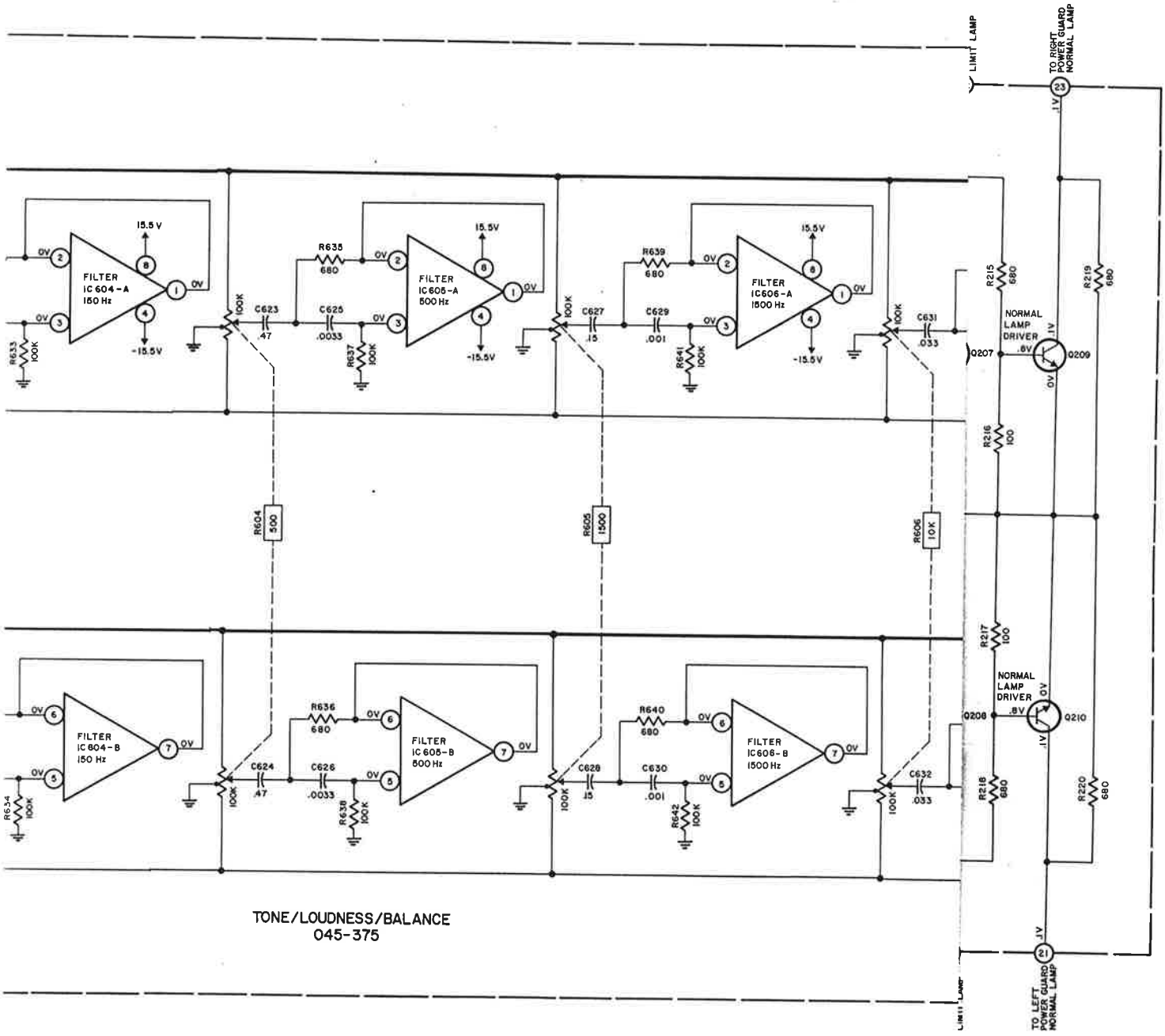



POWER SUPPLY PC BOARD
045-369

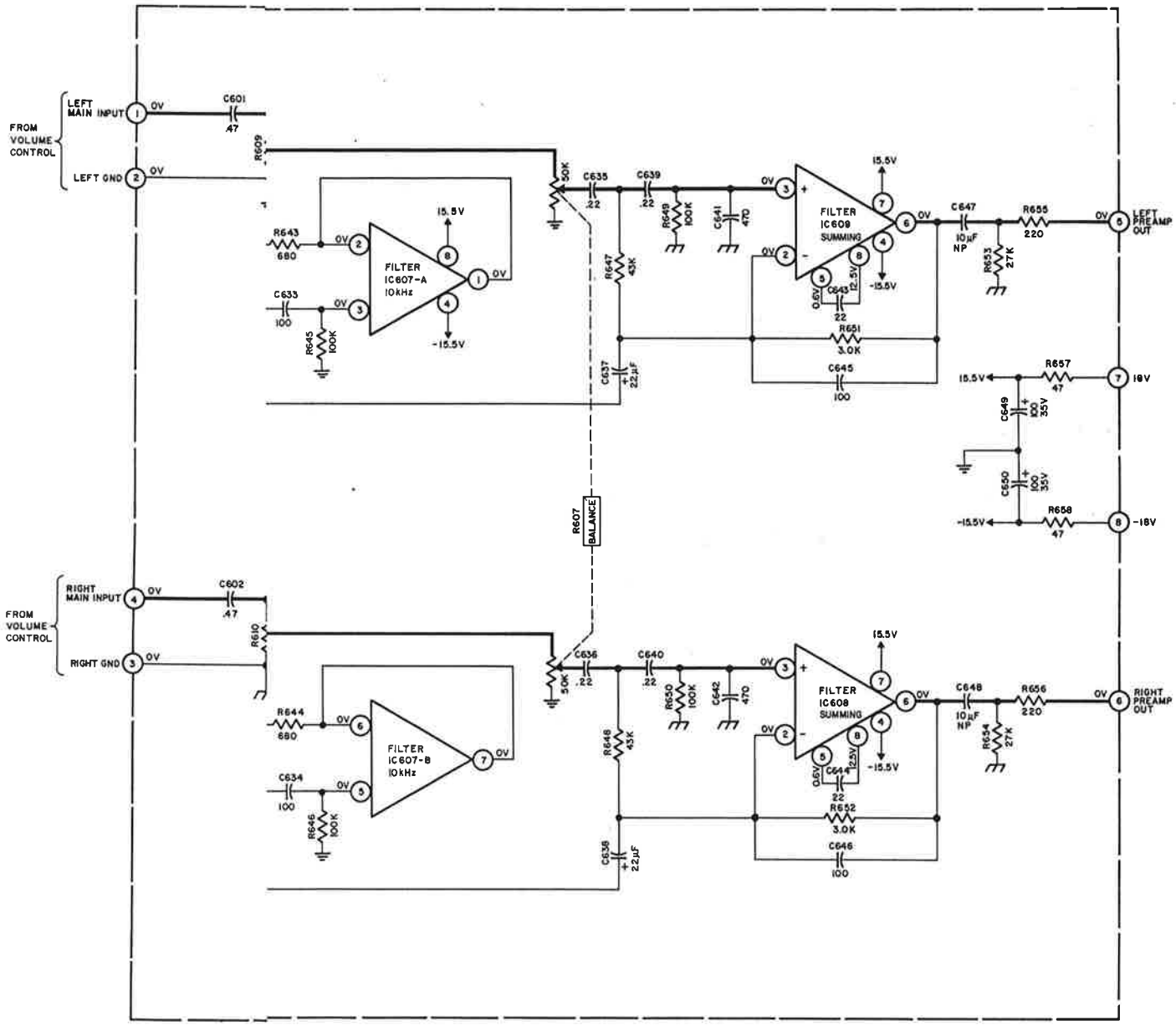


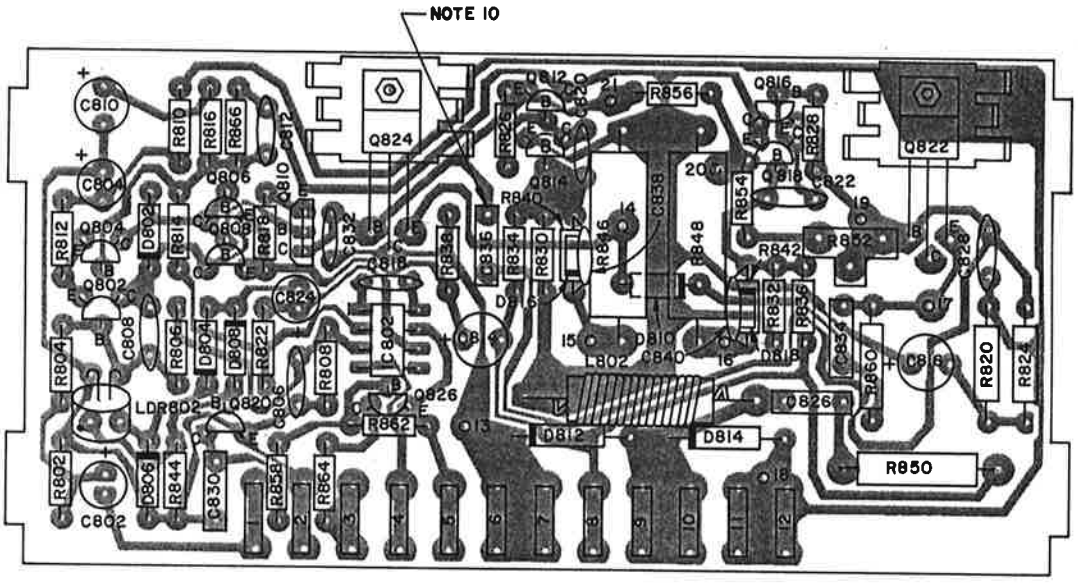

+18V OUT
SIGNAL GND
-18V OUT
LED SUPPLY
RELAY DRIVE
RIGHT POWER GUARD INPUT
TO RIGHT POWER GUARD LIMIT LAMP
TO RIGHT POWER GUARD NORMAL LAMP
+18V REGULATOR
-18V REGULATOR
LED REGULATOR
LIMIT LAMP DRIVER
NORMAL LAMP DRIVER
RELAY DRIVER
QUICK TURN OFF
TURN ON DELAY
48V IN
-48V IN
12V OUT
5.3 VAC
GND
FROM SPEAKER RELAY
LEFT PROTECTOR INPUT
RIGHT PROTECTOR INPUT
30 AWG
LEFT POWER GUARD INPUT
TO LEFT POWER GUARD LIMIT LAMP
TO LEFT POWER GUARD NORMAL LAMP
POWER SUPPLY
045-369


FROM VOLUME CONTROL
LEFT MAIN INPUT
LEFT GND
RIGHT MAIN INPUT
RIGHT GND
IC 601 LOUDNESS
IC 602 LOUDNESS
FILTER IC603-A 30 Hz
FILTER IC603-B 30 Hz
15.5V
-15.5V
R601 LOUDNESS
R602 30
R603 150
R659 3.3 K
R660 3.3K
C609 10µF
C610 10µF
C615 10µF
C616 10µF
C619 1.5µF
C620 1.5µF

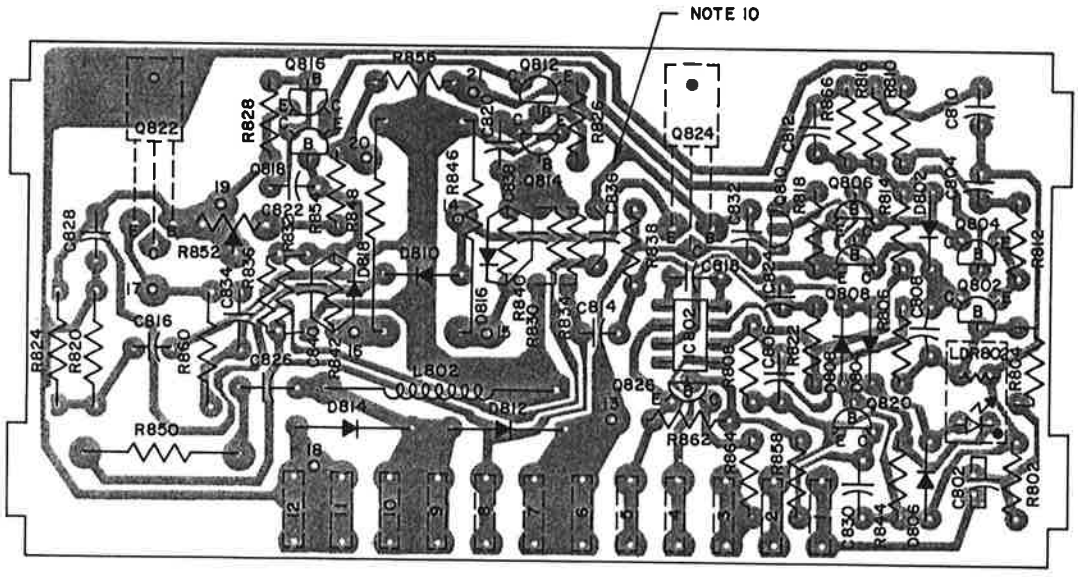


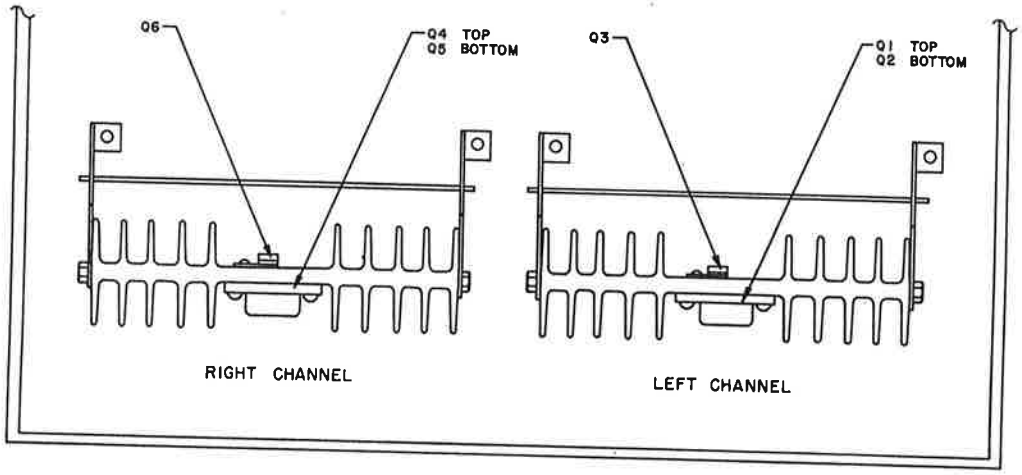

TONE/LOUDNESS/BALANCE
045-375


FROM VOLUME CONTROL
LEFT MAIN INPUT
LEFT GND
C601
.47
R609
50K
C635
.22
C639
.22
R649
100K
C641
470
FILTER IC609 SUMMING
15.5V
-15.5V
C647
10µF NP
R653
27K
R655
220
LEFT PREAMP OUT
R643
680
FILTER IC607-A 10kHz
C633
100
R645
100K
R647
43K
C637
22µF
R651
3.0K
C645
100
R657
47
C649
100 35V
C650
100 35V
R658
47
-18V
R607 BALANCE
FROM VOLUME CONTROL
RIGHT MAIN INPUT
RIGHT GND
C602
.47
R610
50K
C636
.22
C640
.22
R650
100K
C642
470
FILTER IC608 SUMMING
C648
10µF NP
R654
27K
R656
220
RIGHT PREAMP OUT
R644
680
FILTER IC607-B 10kHz
C634
100
R646
100K
R648
43K
C638
22µF
R652
3.0K
C646
100

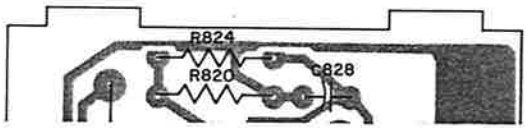


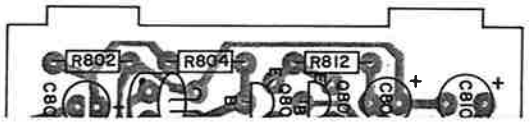

RIGHT CHANNEL DRIVER
045398

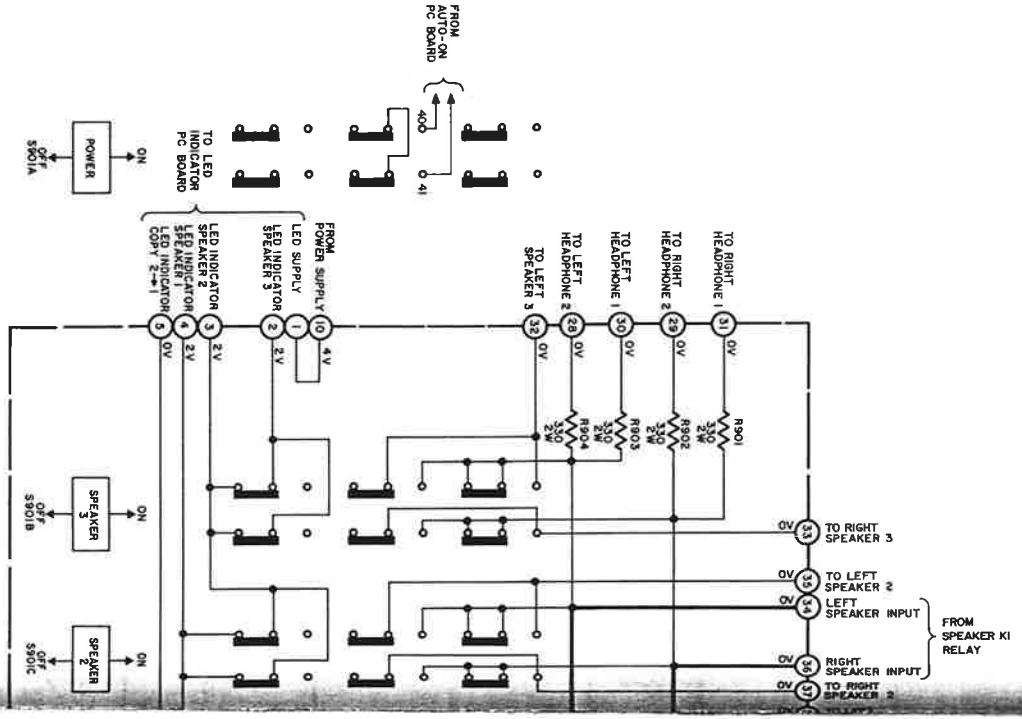


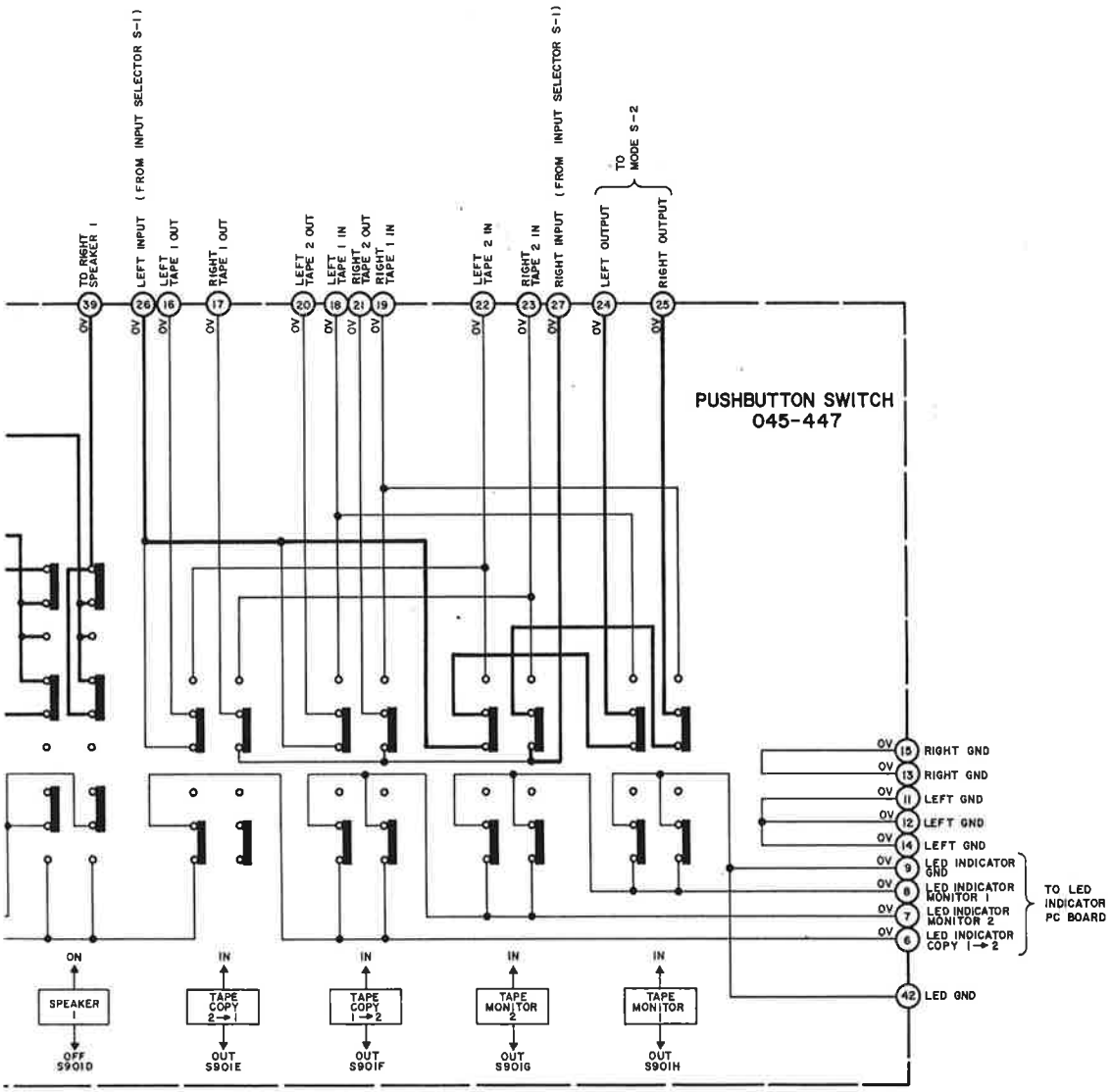



**TOP– REAR**
**LOCATION OF TRANSISTORS NOT ON PC BOARDS**

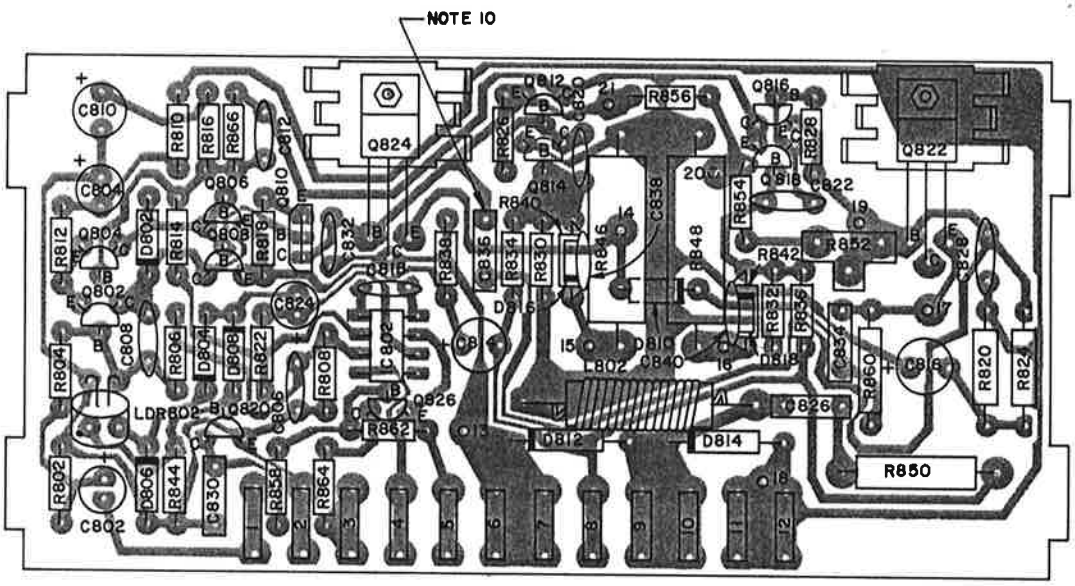

R824
R820
C828


R802
R804
R812
C810

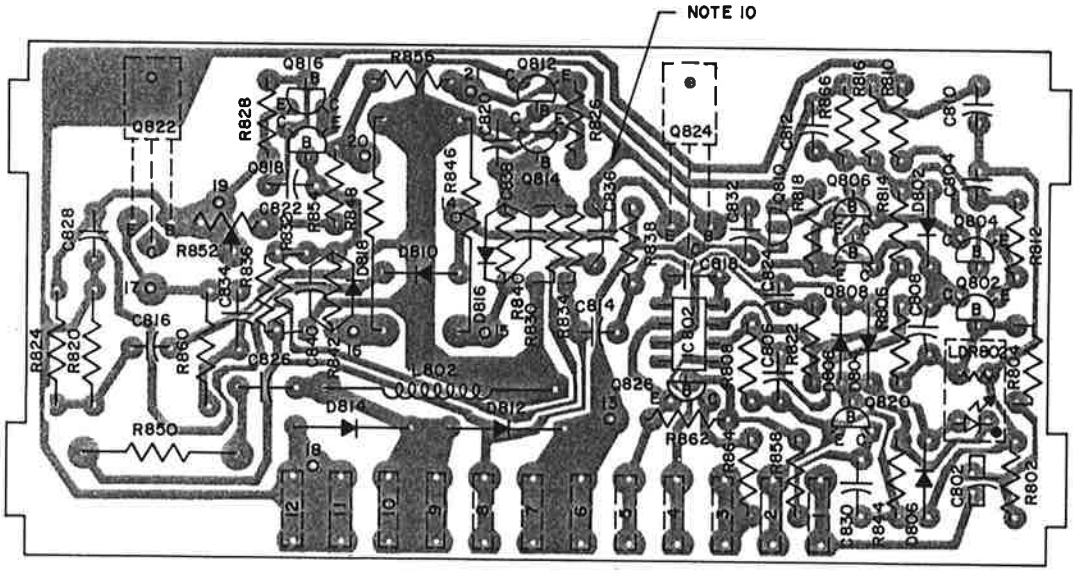

FROM AUTO-ON PC BOARD
400
41
POWER
OFF S901A
ON
TO LED INDICATOR P.C. BOARD
LED INDICATOR SPEAKER 2
LED INDICATOR SPEAKER 1
LED INDICATOR COPY 2-1
LED INDICATOR SPEAKER 3
LED SUPPLY
FROM POWER SUPPLY
TO LEFT SPEAKER 3
TO LEFT HEADPHONE 2
TO LEFT HEADPHONE 1
TO RIGHT HEADPHONE 2
TO RIGHT HEADPHONE 1
5
4
3
2
1
10
32
28
30
29
31
0V
2V
4V
R904
R903
R902
R901
SPEAKER 3
OFF S901B
ON
SPEAKER 2
OFF S901C
ON
TO RIGHT SPEAKER 3
TO LEFT SPEAKER 2
LEFT SPEAKER INPUT
RIGHT SPEAKER INPUT
FROM SPEAKER KI RELAY

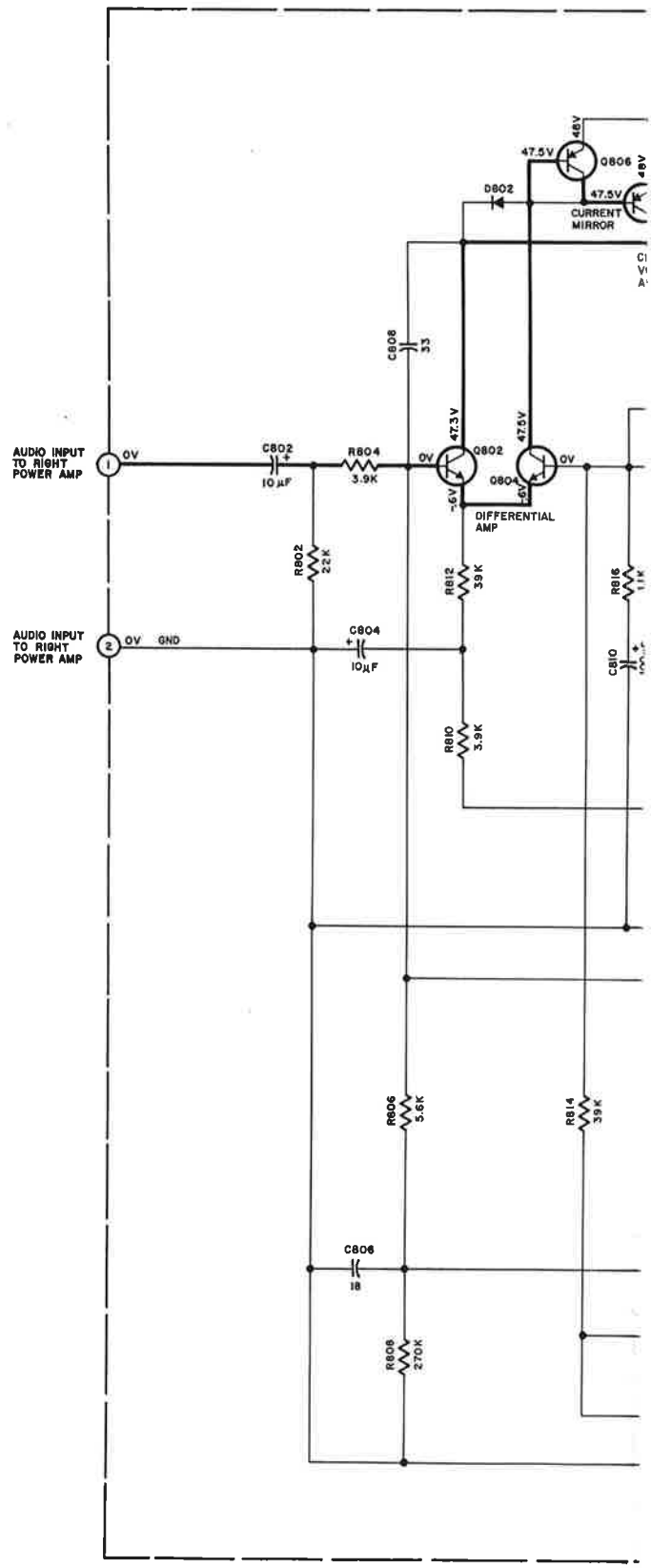

TO RIGHT SPEAKER 1
LEFT INPUT (FROM INPUT SELECTOR S-1)
LEFT TAPE 1 OUT
RIGHT TAPE 1 OUT
LEFT TAPE 2 OUT
LEFT TAPE 1 IN
RIGHT TAPE 2 OUT
RIGHT TAPE 1 IN
LEFT TAPE 2 IN
RIGHT TAPE 2 IN
RIGHT INPUT (FROM INPUT SELECTOR S-1)
TO MODE S-2
LEFT OUTPUT
RIGHT OUTPUT
39
26
16
17
20
18
21
19
22
23
27
24
25
0V
PUSHBUTTON SWITCH
045-447
15 RIGHT GND
13 RIGHT GND
11 LEFT GND
12 LEFT GND
14 LEFT GND
9 LED INDICATOR GND
8 LED INDICATOR MONITOR 1
7 LED INDICATOR MONITOR 2
6 LED INDICATOR COPY 1→2
TO LED INDICATOR PC BOARD
42 LED GND
ON
SPEAKER 1
OFF S901D
IN
TAPE COPY 2→1
OUT S901E
IN
TAPE COPY 1→2
OUT S901F
IN
TAPE MONITOR 2
OUT S901G
IN
TAPE MONITOR
OUT S901H

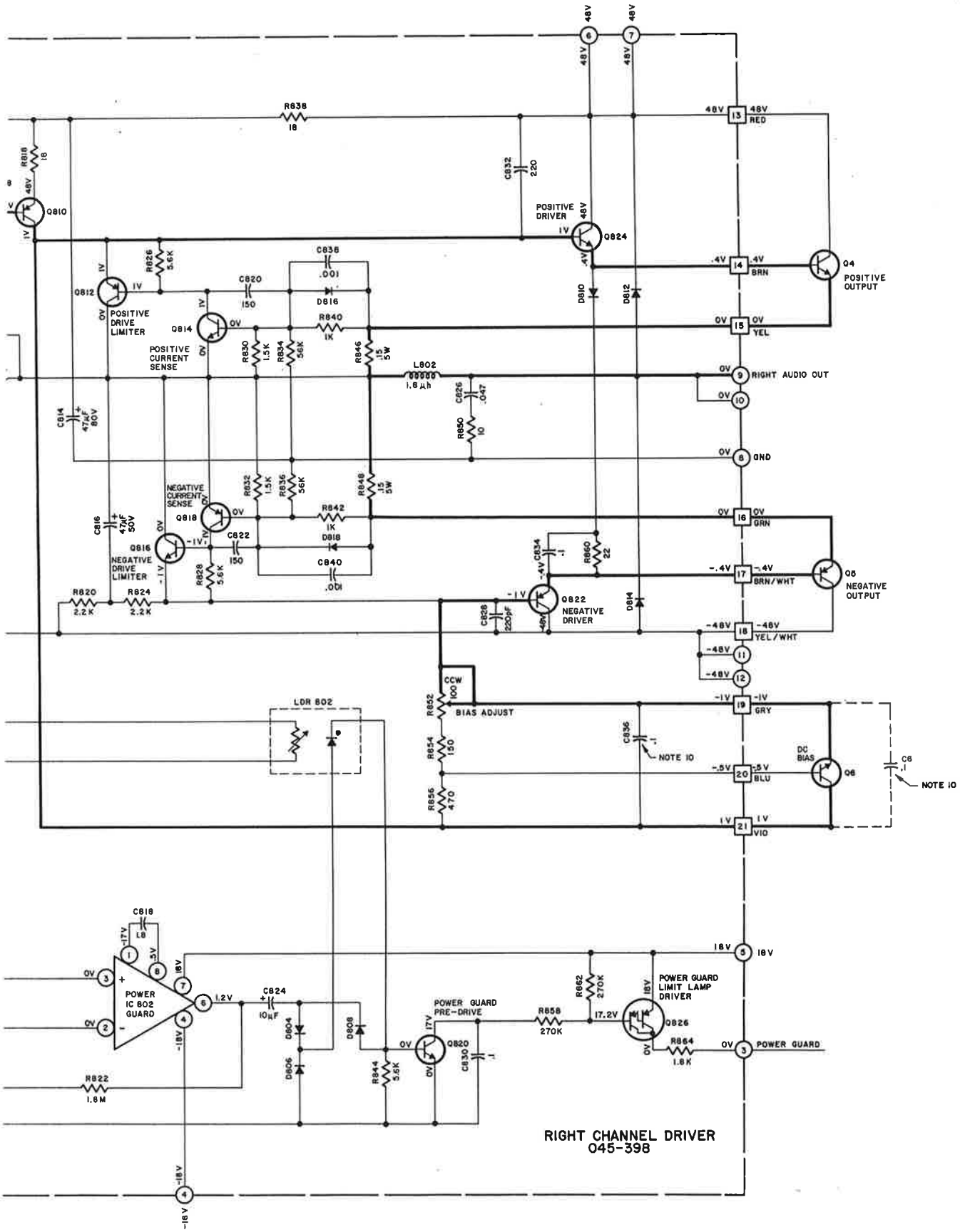
PUSHBUTTON



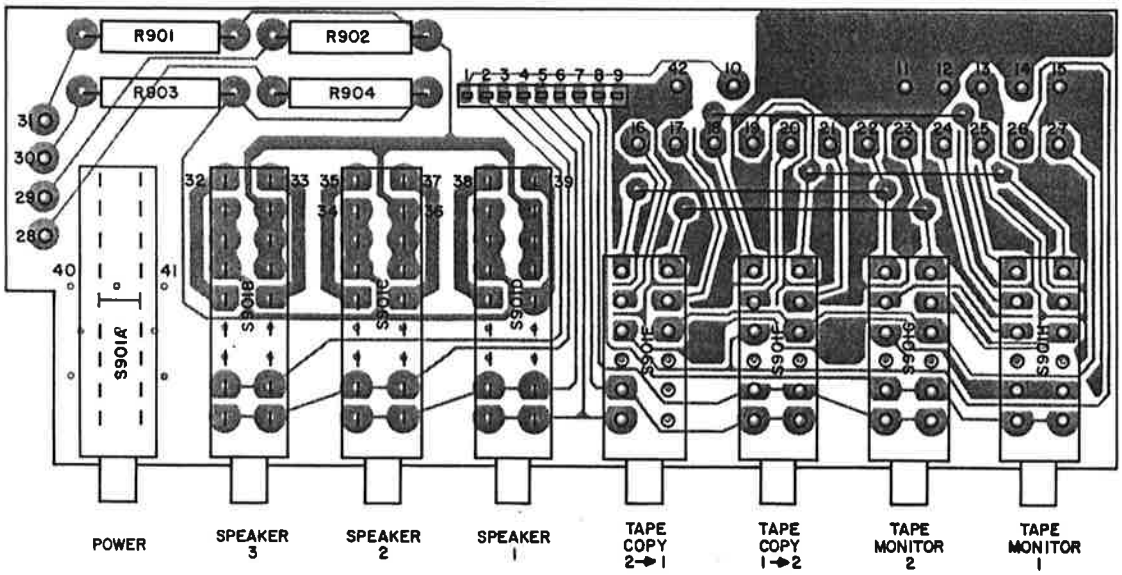

RIGHT CHANNEL DRIVER
045398




AUDIO INPUT TO RIGHT POWER AMP
1
0V
C802
10 µF
R804
3.9K
Q802
Q804
DIFFERENTIAL AMP
CURRENT MIRROR
D802
C808
33
R802
22K
R812
39K
R816
1.1K
AUDIO INPUT TO RIGHT POWER AMP
2
0V GND
C804
10µF
C810
R810
3.9K
R806
5.6K
R814
39K
C806
18
R808
270K
47.5V
47.3V
-6V
-48V




RIGHT CHANNEL DRIVER
045-398




PUSHBUTTON PC BOARD
045-447