

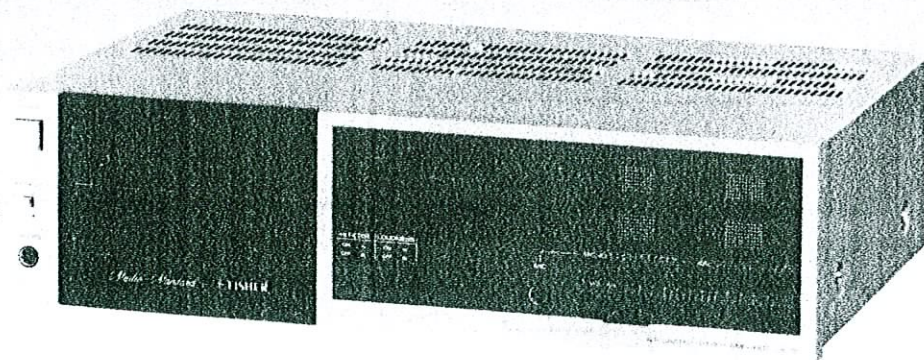
SERVICE MANUAL



FISHER[®]

CA-78

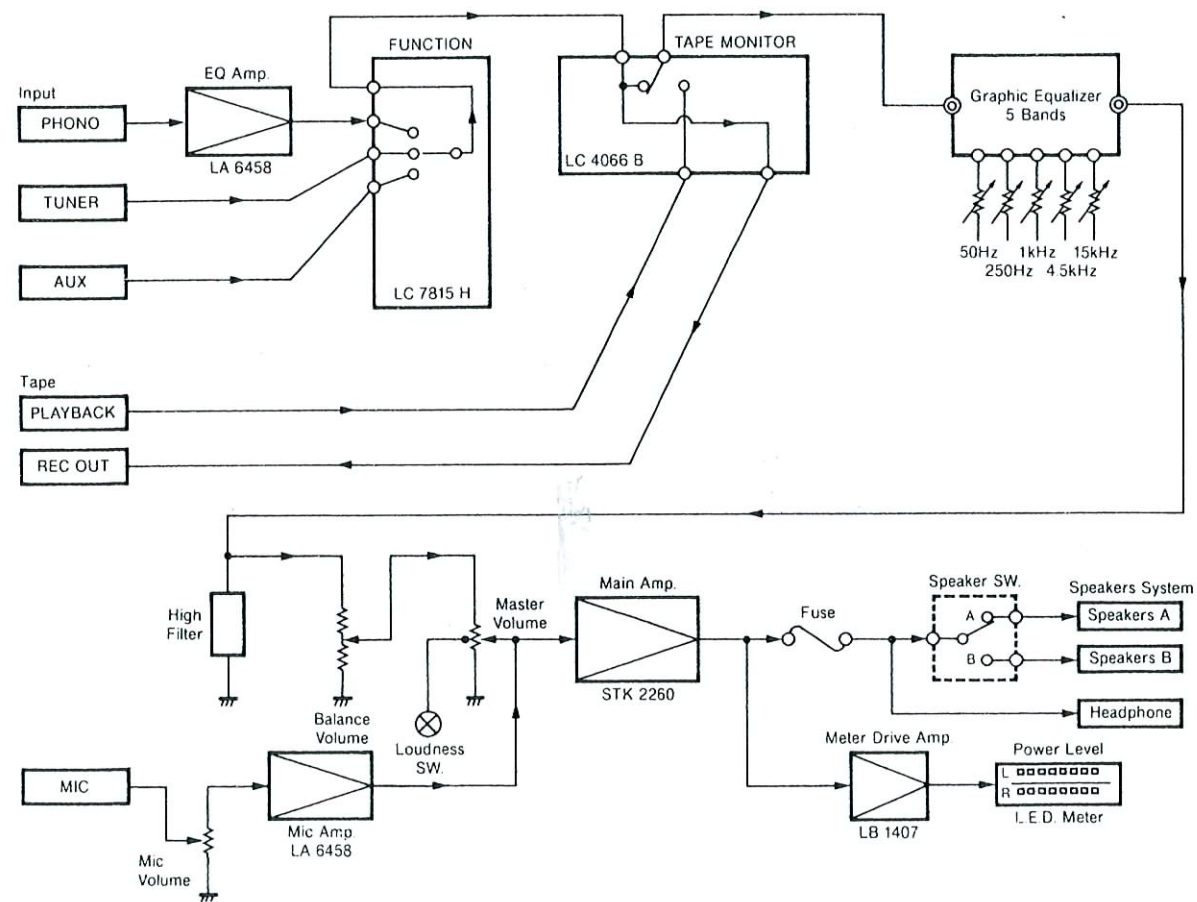
**Integrated
Stereo Amplifier**



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FUNCTIONAL BLOCK DIAGRAM



SPECIFICATIONS

| AMPLIFIER | CA-78 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| POWER AMPLIFIER SECTION Minimum RMS sine wave power per channel within stated bandwidth at no more than stated distortion and with 8-ohm load | 65 Watts |
| Power Bandwidth | 20 Hz – 20 kHz |
| Total Harmonic Distortion | 0.2 % |
| I.M. Distortion | 0.2 % |
| Speaker Damping | > 20 |
| PREAMPLIFIER SECTION Frequency Response | |
| Phono (RIAA) | ±0.5 dB |
| Aux (20 Hz – 20 kHz) | ±0.5 dB |
| Input Sensitivity and Impedance | |
| Phono | 2.5 mV/50 kΩ |
| Tape Monitor | 150 mV/50 kΩ |
| Tuner/Auxiliary | 150 mV/50 kΩ |
| Phono Max. Input Capability | 170 mV |
| Graphic Equalizer | |
| 50 Hz | ±10 dB |
| 250 Hz | ±10 dB |
| 1 kHz | ±10 dB |
| 4.5 kHz | ±10 dB |
| 15 kHz | ±10 dB |
| High Filter (Above 10 kHz) | 6 dB/Oct. |
| Loudness Contour (100 Hz / 10 kHz) | +8 dB / +4 dB |
| Hum & Noise (IHF Short Circuit, A Network) | |
| Phono | 70 dB |
| Tape Monitor | 90 dB |
| Tuner/Auxiliary | 90 dB |
| GENERAL Power Requirements (50/60 Hz) | 120 V AC ±10 % |
| Power Consumption | 330 Watts |
| AC Outlets | 3 |
| Dimensions (W x H x D) | 15-3/4" x 4-1/8" x 10" |
| Weight (approx.) | 13.5 lbs. |

Because its products are subject to continuous improvement, Fisher Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligation.

DISASSEMBLY INSTRUCTIONS

A. REMOVAL OF FRONT PANEL

1. Detach Cover by removing five screws.
2. Pull out GRAPHIC EQUALIZER Volume Knobs (A). (Fig. 1)

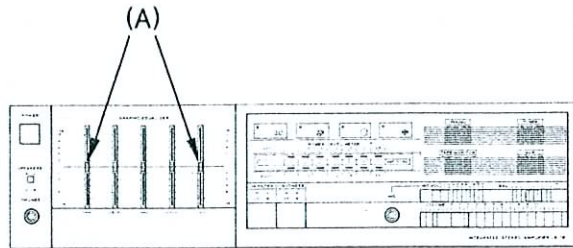


Fig. 1

3. Remove four screws (B) fastening Front Panel. (Fig. 2)
4. Remove three Connectors (C).

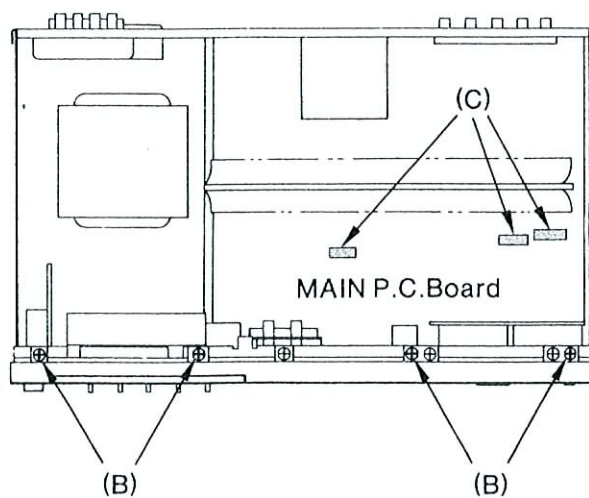


Fig. 2

5. Remove three screws (D) fastening Front Panel and then, pull Front Panel toward you. (Fig. 3)

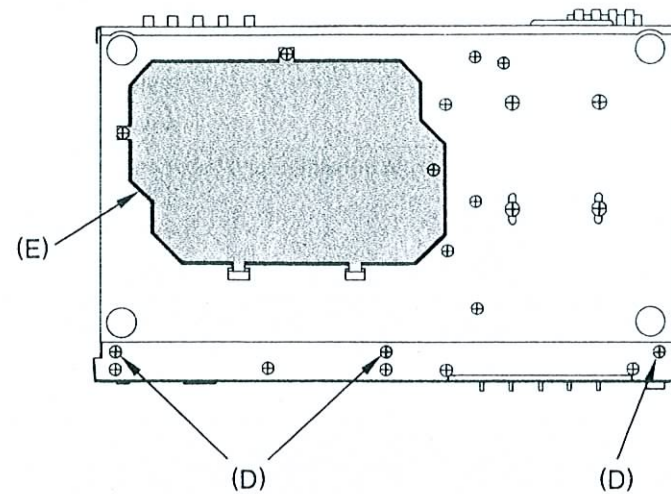


Fig. 3

(Repeat the reverse procedure to reassemble Front Panel.)

B. REPAIR AND ADJUSTMENT OF PRINTED CIRCUIT BOARD

1. The removal of Cabinet Bottom Plate (E) will give an access to the repair or adjustment work of Main Printed Circuit Board.

CAUTION:

When replacing the POWER AMP IC with a new one, DO CHECK whether the DIODE D27 and D28 short or not. If the DIODE is poor, the POWER AMP IC may be damaged though it is replaced with a new one.

RECOMMENDED TEST EQUIPMENTS

The following test equipments are recommended to completely test and align the Amplifier:

- Line Voltage Isolation Transformer
- AC DC Multimeter
- Accurately Calibrated AC Voltmeter
- Oscilloscope (Flat to 100 kHz Minimum)
- Low-Distortion Audio Sine-Wave Generator
- Harmonic Distortion Analyzer
- Two (2) Load Resistors 8-ohms, 250 Watts (Minimum Rating)

HARMONIC DISTORTION TEST

CAUTION: Limit the following tests to no more than ten minutes each. Use 8-ohm resistors, with a minimum power rating of 250 watts when connecting a load across the SPEAKERS terminal.

CONTROL SETTINGS:

Unplug the AC power cord and set the front panel controls as follows:

- GRAPHIC EQUALIZER and BALANCE controls to center positions.
- POWER switch to OFF
- SPEAKERS switch to SYSTEM-B
- FUNCTION switch to AUX
- TAPE MONITOR switch to SOURCE
- HIGH FILTER switch to OFF
- LOUDNESS switch to OFF
- VOLUME control to MINIMUM position
- LEFT CHANNEL DRIVEN

ONE CHANNEL DRIVEN:

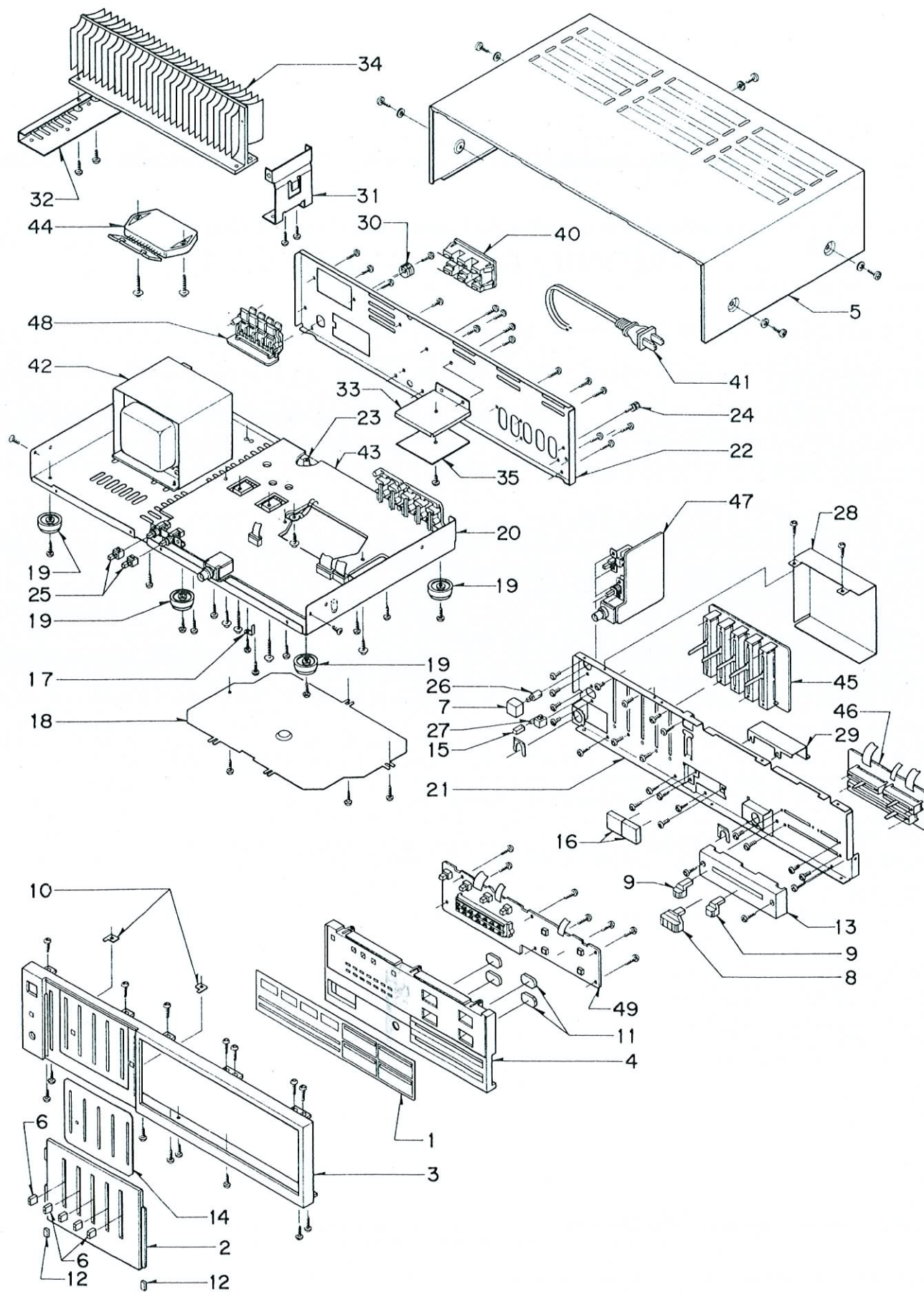
- 1) Connect a low distortion audio generator to LEFT AUX IN jack. Set generator frequency to 1 kHz and output to minimum.
- 2) Connect an 8-ohm load resistor between SPEAKERS SYSTEM-A LEFT and COM terminals. Connect a Harmonic Distortion Analyzer and an AC VTVM in parallel across the 8-ohm load.
- 3) Connect the AC power cord and set SPEAKERS switch to SYSTEM-A. Turn VOLUME control to MAX.
- 4) Increase generator output for 65 Watts RMS (22.8 volts across the 8-ohm load). Harmonic Distortion Analyzer should measure 0.2 % distortion or less.
- 5) Repeat steps 1 through 4 for RIGHT CHANNEL.

BOTH CHANNELS DRIVEN

Connect 8-ohm load resistors across LEFT and RIGHT SPEAKERS SYSTEM-A terminals. Adjust generator output and "BALANCE" control for 65 Watts at Left and Right Channels (22.8 volts across the 8-ohm loads). Harmonic Distortion Analyzer should measure 0.2 % distortion or less at each channel.

CAUTION: This precision high-fidelity instrument should be serviced only by qualified personnel, trained in the repair of transistor equipment and printed circuitry.

CABINET & CHASSIS EXPLODED VIEW



PARTS LIST

| Ref. No. | Part No. | Description | Q'ty | Ref. No. | Part No. | Description | Q'ty |
|-------------------------------|------------------|----------------------|------|----------|------------------|-------------------------|------|
| PACKING PARTS LIST | | | | | | | |
| | 3 9415 10300 | Bag Polyethylene | 1 | 18 | 131 2 1410 28800 | Cover (Bottom) | 1 |
| | 131 6 2119 02131 | Bag Polyethylene-EXP | 1 | 19 | 131 2 1801 12900 | Leg | 4 |
| | 131 6 3009 33930 | Pad (Left) | 1 | 20 | 131 2 3301 29800 | Chassis | 1 |
| | 131 6 3009 33940 | Pad (Right) | 1 | 21 | 131 2 3305 34000 | Panel Front | 1 |
| | 131 6 3009 34090 | Pad (Sleeve) | 1 | 22 | 131 2 3306 36808 | Panel Rear | 1 |
| | 131 6 3069 16350 | Patching Sheet | 1 | 23 | 131 2 3614 20300 | Mount P.C.B. | 2 |
| | | | | 24 | 131 2 4201 17800 | Screw Ground | 1 |
| | | | | 25 | 131 2 4219 16200 | Shaft | 2 |
| | | | | 26 | 131 2 4219 17100 | Shaft | 1 |
| | | | | 27 | 131 2 4219 17400 | Shaft | 1 |
| | | | | 28 | 131 2 6103 23200 | Cover Shield | 1 |
| | | | | 29 | 141 2 3229 45400 | Cover Shield (Loudness) | 1 |
| | | | | 30 | 131 2 6111 14200 | Bushing (Line Cord) | 1 |
| | | | | 31 | 141 2 3519 68200 | Mount Heat Sink | 1 |
| | | | | 32 | 141 2 3519 68300 | Mount Heat Sink | 1 |
| | | | | 33 | 141 2 3519 68400 | Metal Mount | 1 |
| | | | | 34 | 141 2 3689 11500 | Heat Sink | 1 |
| | | | | 35 | 141 2 4359 34200 | Plate Insulator | 1 |
| | | | | | | | |
| ACCESSORIES PARTS LIST | | | | | | | |
| | 4 2449 20230 | Antenna FM | 1 | | | | |
| | 131 6 2719 10801 | Bag Fan | 1 | | | | |
| | 131 6 4159 31000 | Note | 1 | | | | |
| | 131 6 4159 34100 | Notes | 1 | | | | |
| | 131 6 4319 10802 | Service Station List | 1 | | | | |
| | 131 6 4519 14400 | Warranty Card | 1 | | | | |
| | 131 6 4939 00200 | Customer Card | 1 | | | | |
| | 141 6 4419 23450 | Label (Control Tag) | 1 | | | | |
| | 142 6 4119 31759 | Explanatory Booklet | 1 | | | | |

CABINET & CHASSIS PARTS LIST

| | | | |
|----|------------------|------------------------|---|
| 1 | 131 2 1203 57501 | Panel Control | 1 |
| 2 | 131 2 1203 57600 | Control Panel | 1 |
| 3 | 131 2 1203 57701 | Panel Control | 1 |
| 4 | 131 2 1207 13000 | Housing (Touch Switch) | 1 |
| 5 | 131 2 1410 28900 | Cover | 1 |
| 6 | 131 2 1601 71001 | Knob (Tone Equalizer) | 5 |
| 7 | 131 2 1601 83700 | Knob (Power Switch) | 1 |
| 8 | 131 2 1601 85500 | Knob (Slide) | 1 |
| 9 | 131 2 1601 85600 | Knob (Slide) | 2 |
| 10 | 131 2 3101 87700 | Metal Mount | 2 |
| 11 | 131 2 4208 41200 | Spacer (Touch Switch) | 4 |
| 12 | 131 2 5205 28500 | Cushion | 2 |
| 13 | 131 2 6113 48000 | Shelter | 1 |
| 14 | 131 2 6113 48700 | Shelter (Equalizer) | 1 |
| 15 | 141 2 1659 08000 | Knob (Speaker Switch) | 1 |
| 16 | 141 2 1659 08100 | Knob (Switch Push) | 2 |
| 17 | 4 2379 21520 | Terminal Lug | 2 |

ELECTRICAL PARTS LIST

| | | | | |
|-----|---|------------------|-----------------------------------|---|
| 40 | ⚠ | 4 2359 23421 | AC Socket | 1 |
| 41 | ⚠ | 4 2432 00340 | Line Cord | 1 |
| 42 | ⚠ | 4 2512 19101 | Power Trans | 1 |
| 43 | | 141 0 1939 01530 | Main Amp P.C.B.Assy | 1 |
| 44 | | 141 0 1939 01540 | Power IC P.C.B.Assy | 1 |
| 45 | | 141 0 1939 01550 | Equalizer P.C.B.Assy | 1 |
| 46 | | 141 0 1939 01560 | Volume P.C.B.Assy | 1 |
| 47 | | 141 0 1939 01570 | Power Switch P.C.B.Assy | 1 |
| 48 | | 141 0 1939 01580 | Speaker Terminal P.C.B.Assy | 1 |
| 49 | | 131 0 4001 11492 | L.E.D. Function Switch P.C.B.Assy | 1 |
| | | | | |
| 001 | | 4 2039 71310 | Transistor, 2SC 3182 R,0 | 1 |
| 002 | | 4 2039 71320 | Transistor, 2SA 1265 R,0 | 1 |

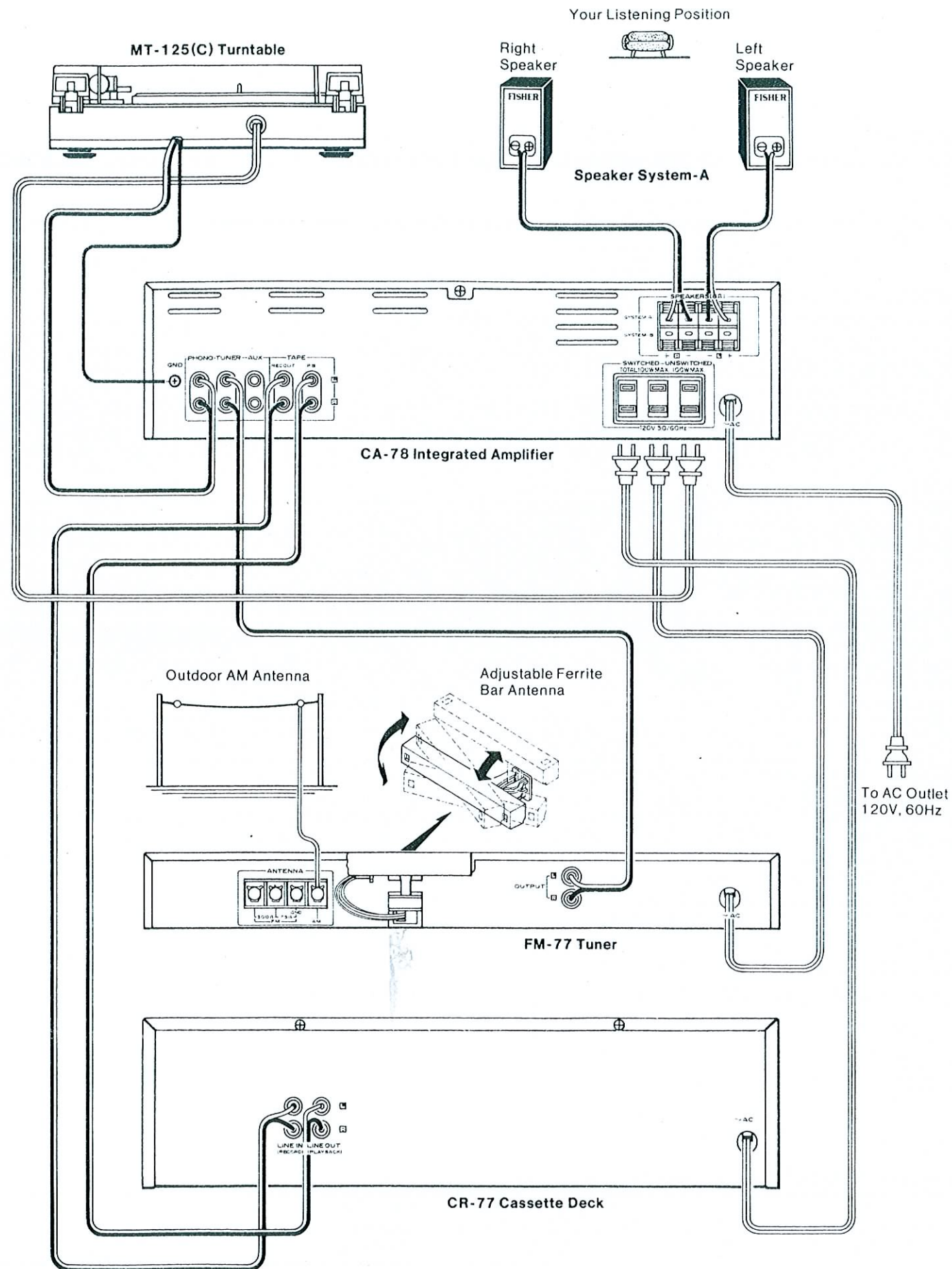
NOTES:

- Parts order must contain Model Number, Part Number and Description.
- Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

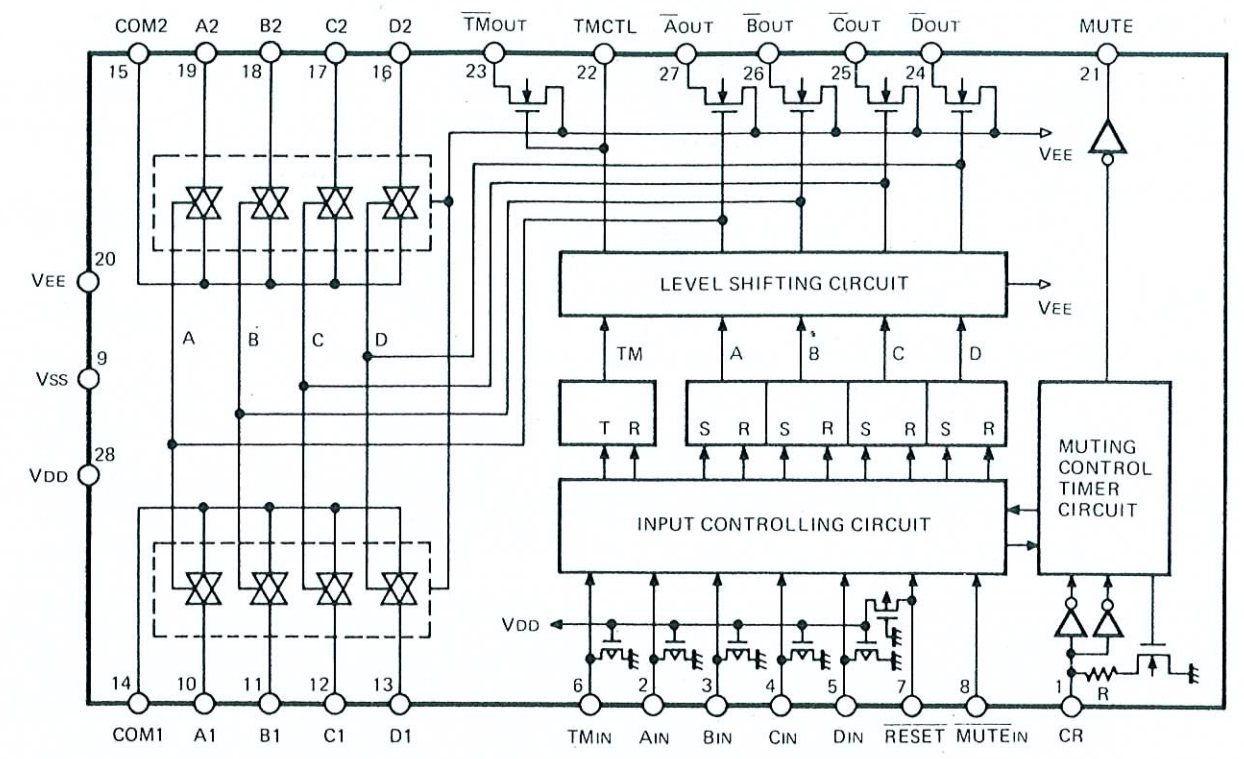
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CONNECTING DIAGRAM

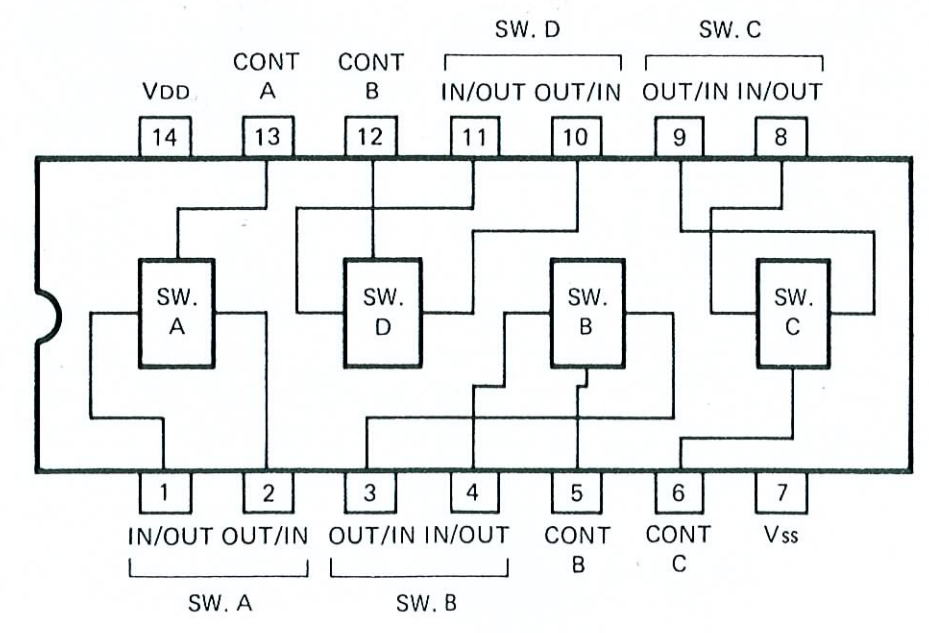


IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM

FUNCTION ANALOG SWITCH IC LC 7815 H

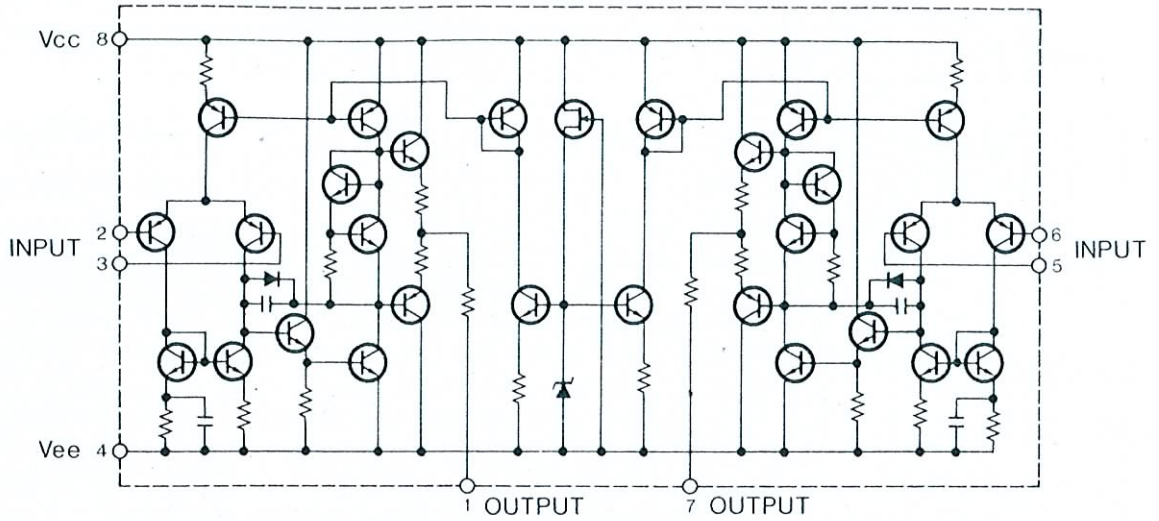


TAPE INPUT ANALOG SWITCH IC LC 4066 B

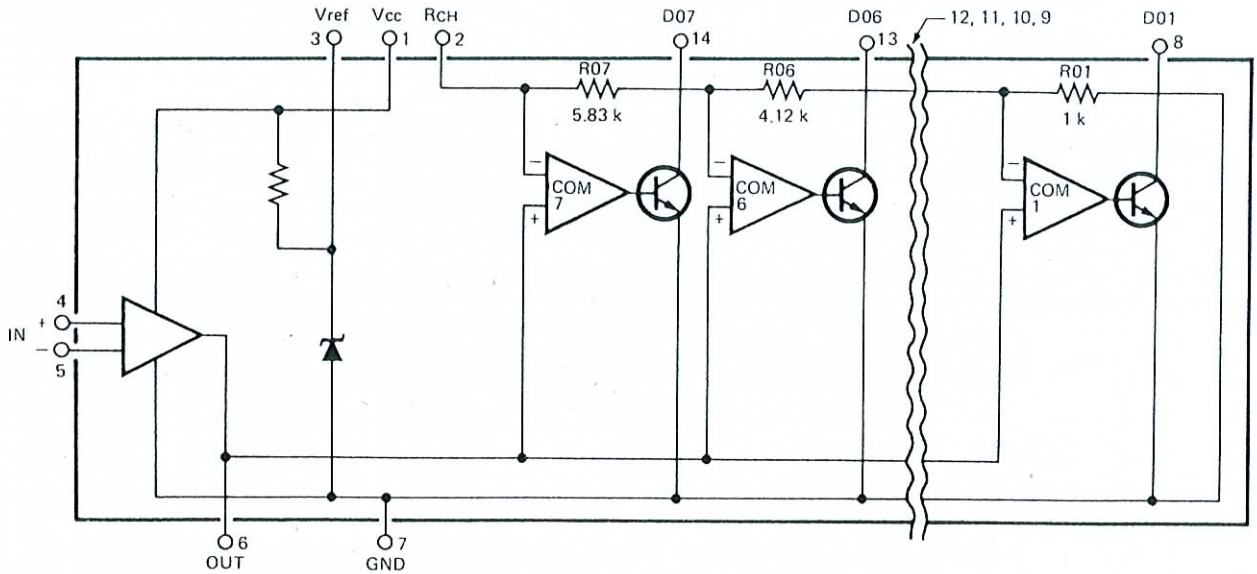


IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM (Continued)

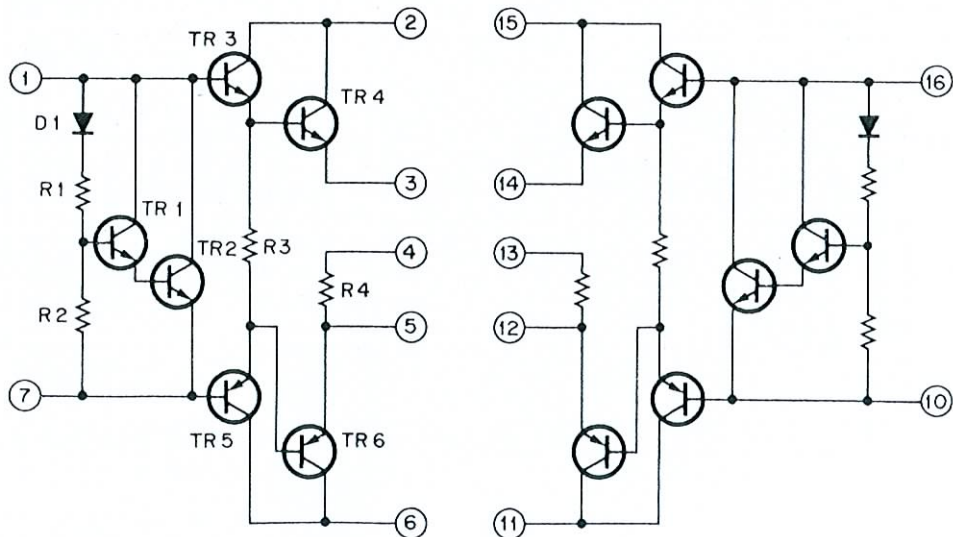
PHONO EQ / PREAMP IC LA 6458 D



L.E.D. LEVEL METER IC LB 1407

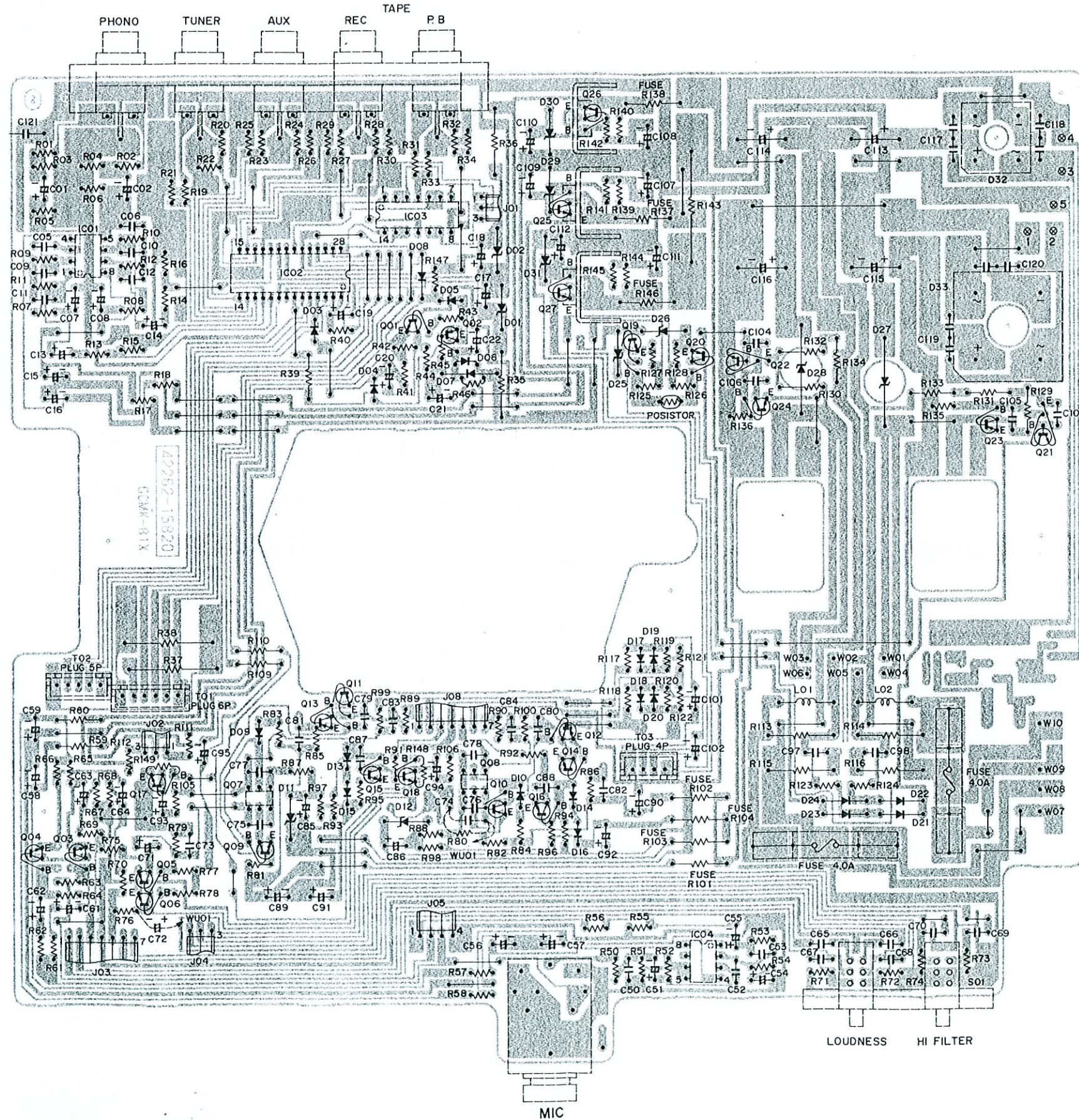


POWER AMP IC STK 2260



MAIN AMPLIFIER P.C.BOARD

(BOTTOM VIEW)



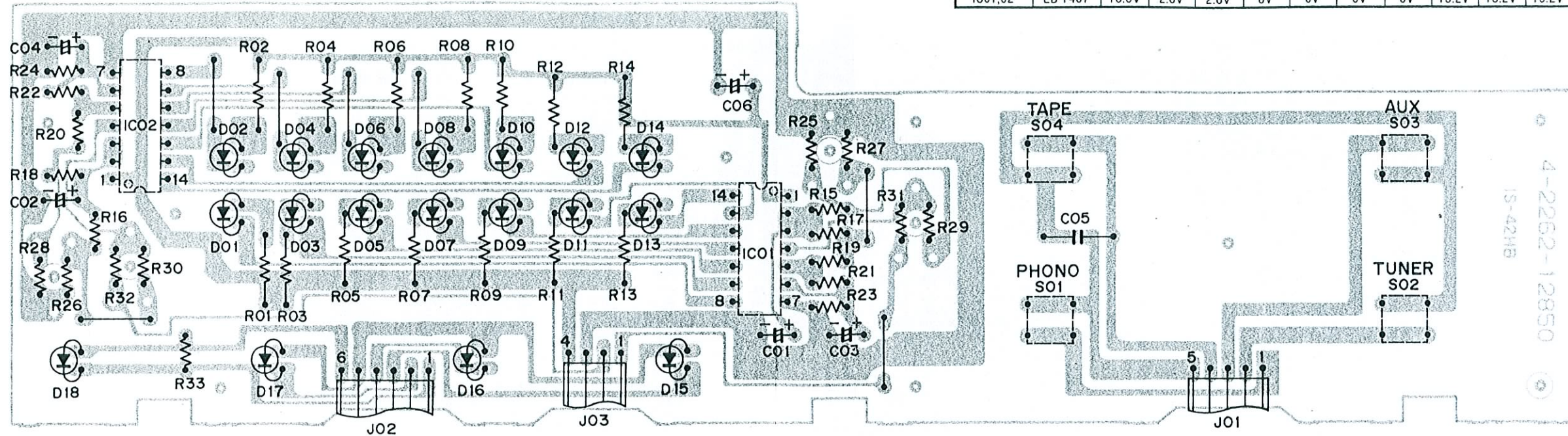
TRANSISTOR DC VOLTAGES

| SYMBOL No. | DEVICE | B | C | E | SYMBOL No. | DEVICE | B | C | E | SYMBOL No. | DEVICE | B | C | E |
|------------|----------|-------|-------|-------|------------|----------|-------|--------|--------|------------|---------|--------|--------|--------|
| Q01 | 2SC 536 | -0.4V | 9.8V | 0V | Q13,14 | 2SA 1208 | - | 2.0V | 54.4V | Q24 | 2SD 438 | -54.5V | -29.4V | -54.3V |
| Q02 | 2SA 608 | 18.6V | - | 18.0V | Q17,18 | 2SD 1012 | 0.6V | - | 0V | Q25 | 2SD 612 | 19.0V | 28.3V | 18.5V |
| Q07,08 | 2SC 3066 | 0.1V | 53.3V | -0.7V | Q21 | 2SC 536 | - | 54.5V | 20.2V | Q26 | 2SB 632 | -19.0V | -28.3V | -18.5V |
| Q09,10 | 2SA 608 | 54.0V | 53.3V | 54.6V | Q22 | 2SA 608 | - | -54.5V | -20.2V | Q27 | 2SD 612 | 17.2V | 29.3V | 16.6V |
| Q11,12 | 2SA 1207 | 53.3V | 2.0V | - | Q23 | 2SB 560 | 54.5V | 29.4V | 54.3V | | | | | |

L.E.D. LEVEL METER & FUNCTION SW. P.C.BOARD

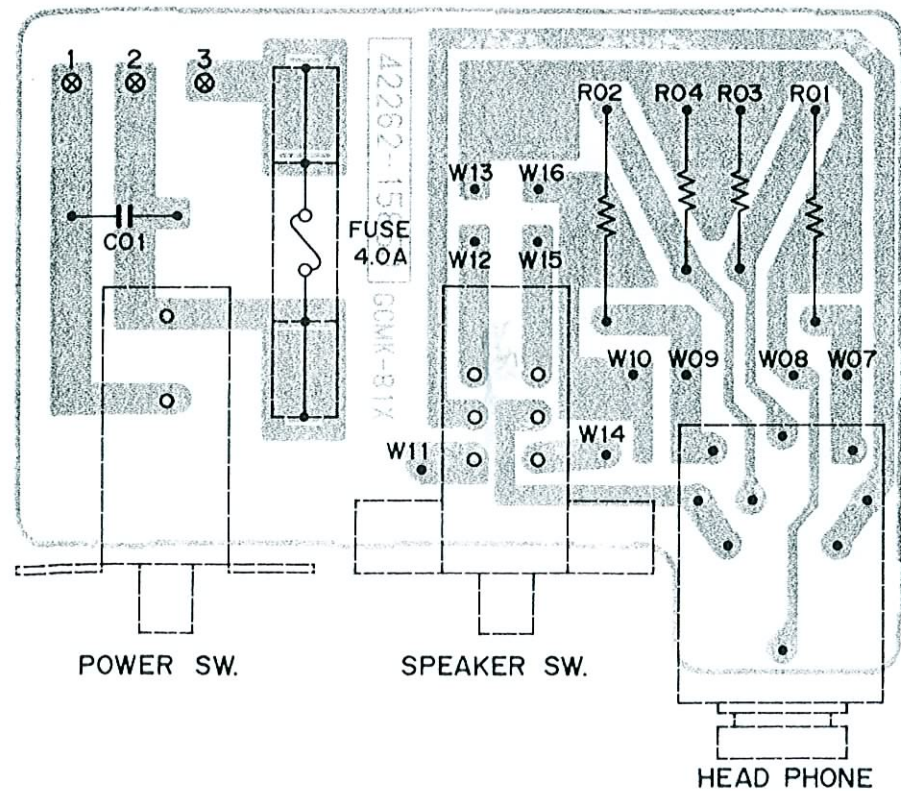
(BOTTOM VIEW)

| | | IC PIN NUMBERS DC VOLTAGES | | | | | | | | | | | | | |
|------------|---------|----------------------------|------|------|----|----|----|----|-------|-------|-------|-------|-------|-------|-------|
| SYMBOL No. | DEVICE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| IC01,02 | LB 1407 | 16.6V | 2.8V | 2.8V | 0V | 0V | 0V | 0V | 15.2V | 15.2V | 15.2V | 15.2V | 15.2V | 15.2V | 15.2V |



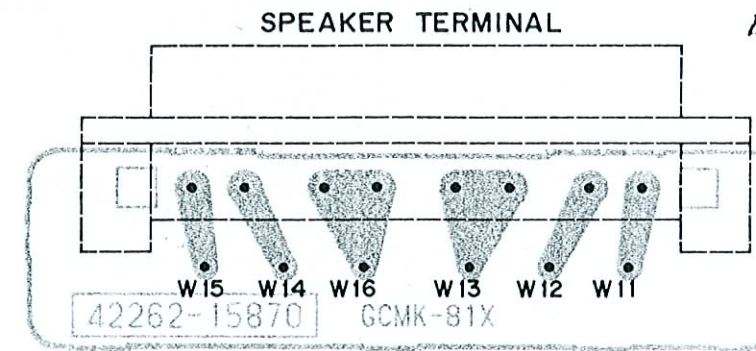
POWER SWITCH P.C.BOARD

(BOTTOM VIEW)



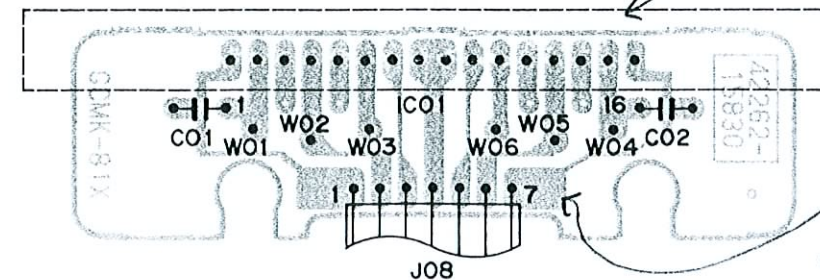
SPEAKER TERMINAL P.C.BOARD

(BOTTOM VIEW)



POWER IC P.C.BOARD

(BOTTOM VIEW)



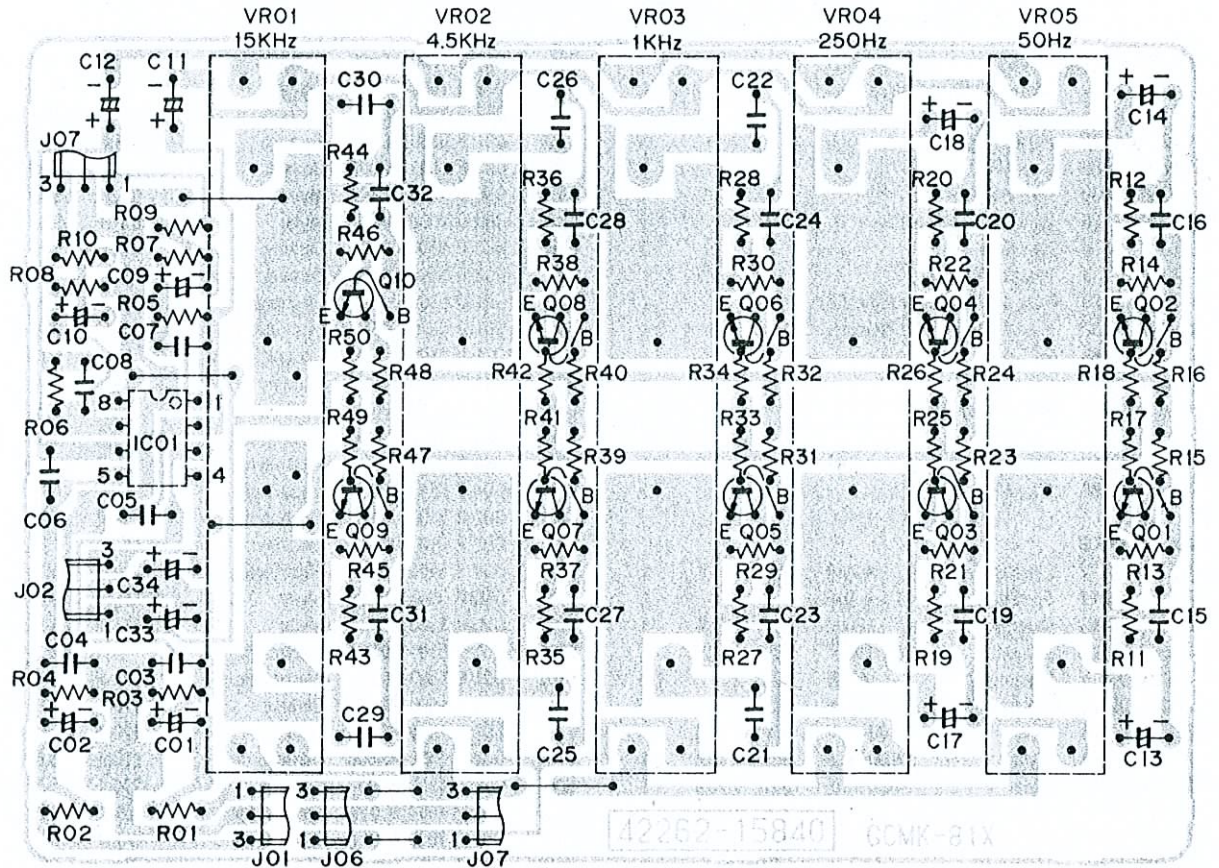
IF UNIT HAS HIGH DC OFFSET ON ONE OR BOTH CHANNELS, UNSOLDER PINS 1, 7, 10, 16 ON I.C. P/C BOARD THEN, MEASURE VOLTAGE AT PINS 1 AND/OR 7 HERE

IF V IS 0, THAT CHANNELS (Q07 OR Q09) IS GOOD - IF V IS HIGH, THAT CHANNELS Q07 OR Q09 IS DEFECTIVE

| | | IC PIN NUMBERS DC VOLTAGES | | | | | | | | | | | | | | | |
|------------|----------|----------------------------|-------|----|----|----|--------|-------|---|---|-------|--------|----|----|----|-------|------|
| SYMBOL No. | DEVICE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| IC01,02 | STK 2260 | 1.2V | 29.4V | 0V | 0V | 0V | -29.4V | -1.2V | - | - | -1.2V | -29.4V | 0V | 0V | 0V | 29.4V | 1.2V |

GRAPHIC EQUALIZER P.C.BOARD

(BOTTOM VIEW)

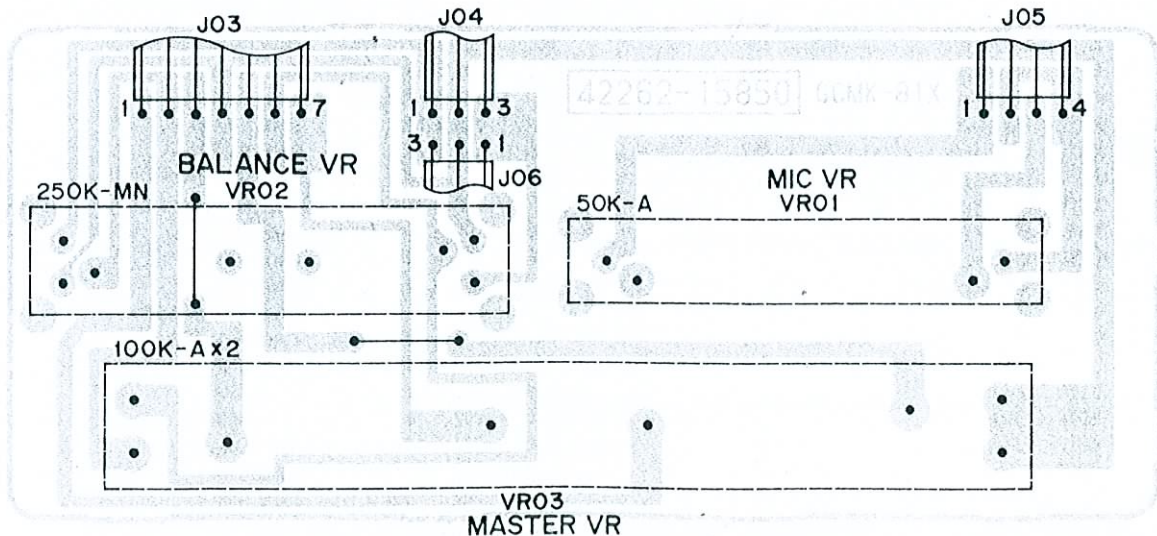


TRANSISTOR DC VOLTAGES

| SYMBOL No. | DEVICE | B | C | E | SYMBOL No. | DEVICE | B | C | E |
|------------|----------|-------|-------|-------|------------|----------|-------|-------|-------|
| Q01,02 | 2SC 1570 | -0.8V | 15.6V | -1.4V | Q07,08 | 2SC 1570 | -0.8V | 15.6V | -1.2V |
| Q03,04 | 2SC 1570 | -0.8V | 15.6V | -1.4V | Q09,10 | 2SC 1570 | -0.8V | 15.6V | -1.2V |
| Q05,06 | 2SC 1570 | -0.8V | 15.6V | -1.2V | | | | | |

VOLUME P.C.BOARD

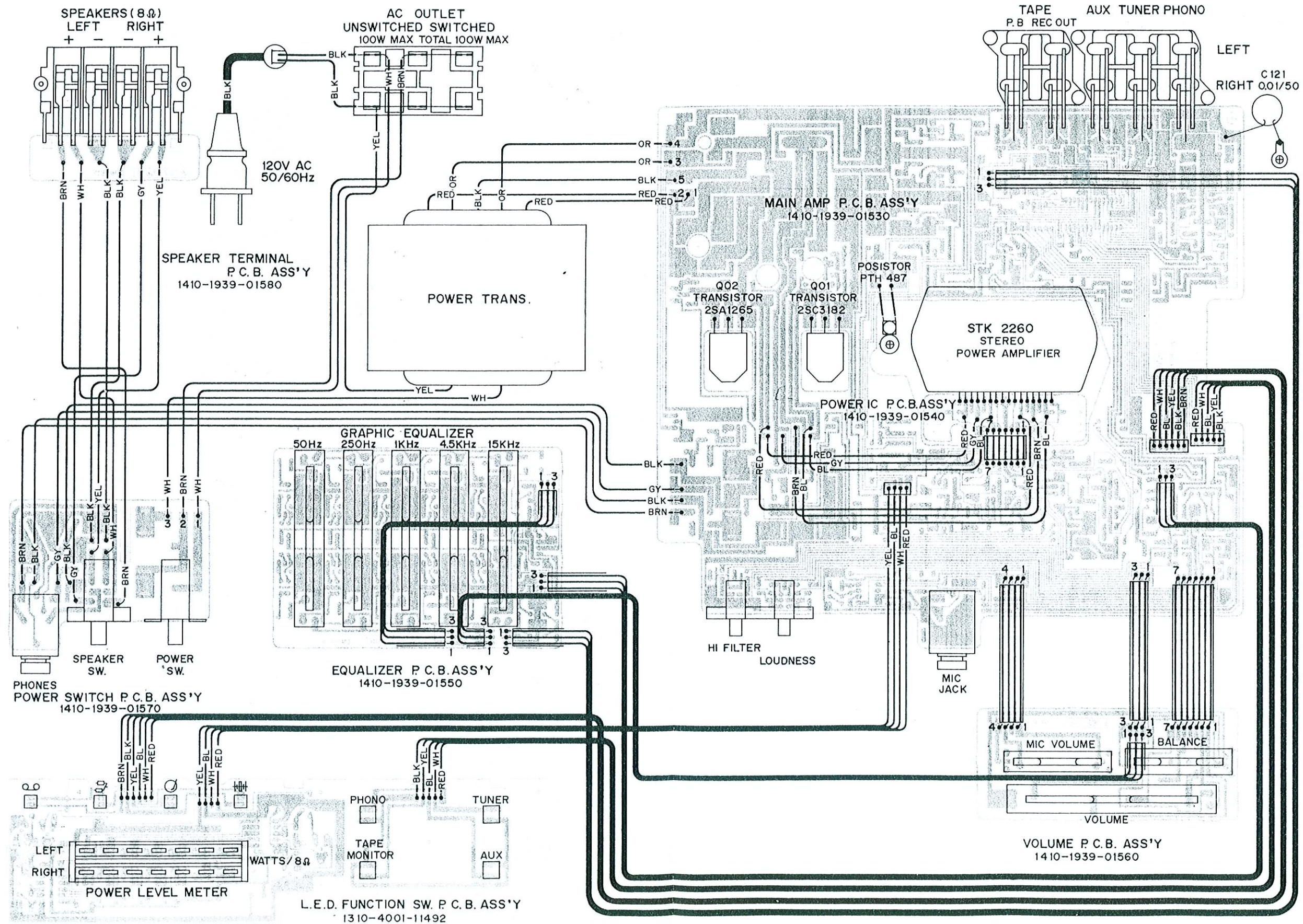
(BOTTOM VIEW)



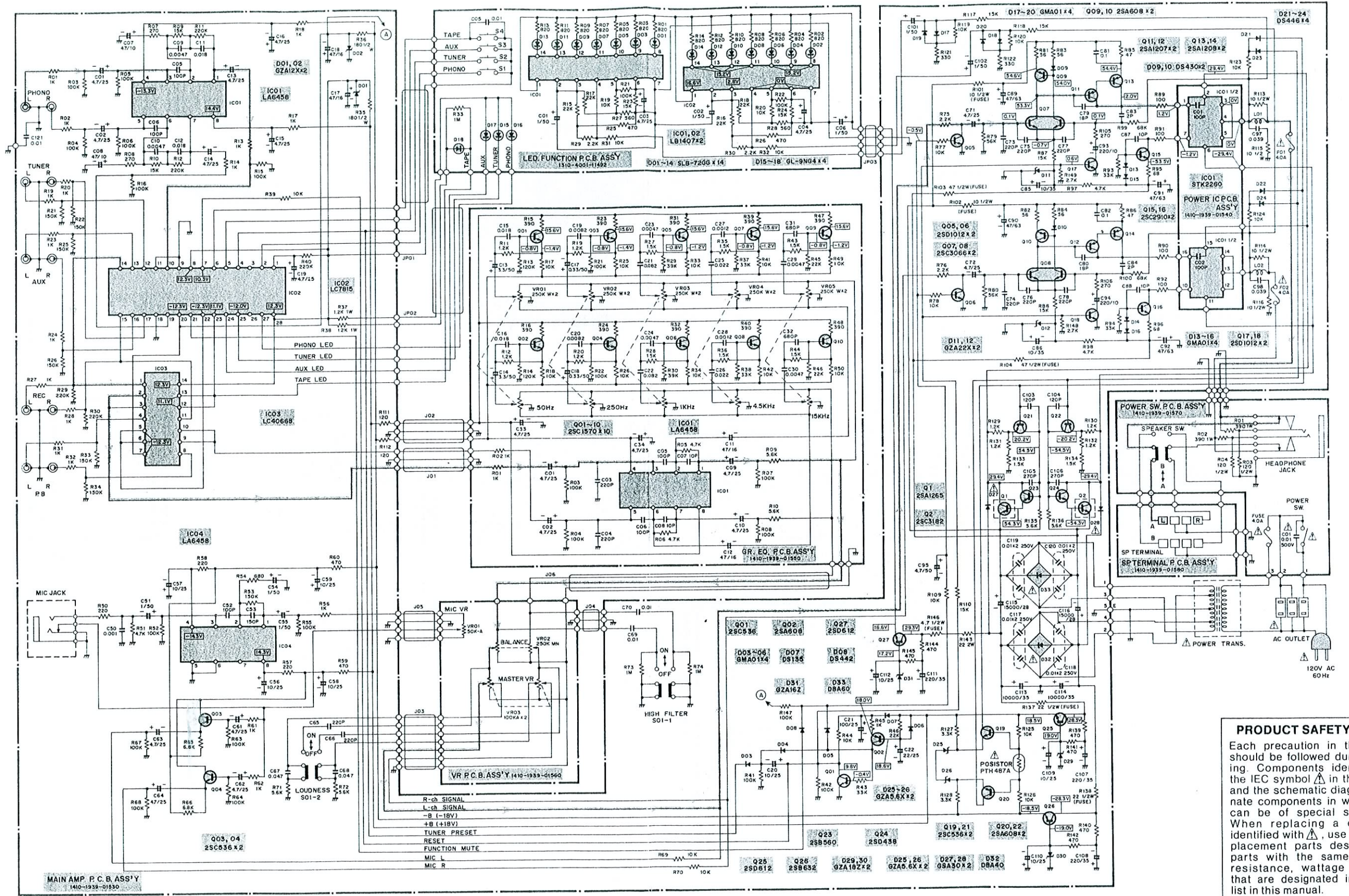
PARTS LIST

| Ref. No. | Part No. | Description | Q'ty | Ref. No. | Part No. | Description | Q'ty | |
|----------------------------|------------------|--------------------------------|-------------------|----------|-----------------------|------------------|-----------------------|---------------------|
| MAIN AMP P.C.B.Assy | | | | C76 | CC2 2 1500 KD00C | Ceramic | 220pF 50V ±10% | |
| 141 | 0 1939 01530 | Main Amp P.C.B.Assy | 1 | C77 | CC2 2 1500 KD00C | Ceramic | 220pF 50V ±10% | |
| | 4 2352 01020 | Jack 6P | 1 | C78 | CC2 2 1500 KD00C | Ceramic | 220pF 50V ±10% | |
| | 4 2352 01220 | Pin Jack 4P | 1 | C79 | CC1 8 0500 KD00C | Ceramic | 18pF 50V ±10% | |
| | 4 2352 01680 | Jack 4P | 1 | C80 | CC1 8 0500 KD00C | Ceramic | 18pF 50V ±10% | |
| | 4 2359 23000 | Fuse Holder | 4 | C81 | CM1 0 4500 J00TV | Mylar | 0.1μF 50V ±5% | |
| 111 | 2 6220 11100 | Wire Wrap Terminal | 5 | C82 | CM1 0 4500 J00TV | Mylar | 0.1μF 50V ±5% | |
| 131 | 2 6201 29800 | Heat Sink | 3 | C83 | CC2 0 A500 CD00C | Ceramic | 2pF 50V ±0.2pF | |
| HLL | - PTH4 87A-B | Posistor, PTH 487 | 1 | C84 | CC2 0 A500 CD00C | Ceramic | 2pF 50V ±0.2pF | |
| F01 | 4 2342 00230 | Fuse 4.0 A (Speaker Protector) | 1 | C85 | CD1 0 6350 0001V | Electrolytic | 10μF 35V | |
| F02 | 4 2342 00230 | Fuse 4.0 A (Speaker Protector) | 1 | C86 | CD1 0 6350 0001V | Electrolytic | 10μF 35V | |
| L01 | 4 2532 00180 | RF Filter | 1 | C87 | CC1 0 0500 KD00C | Ceramic | 10pF 50V ±10% | |
| L02 | 4 2532 00180 | RF Filter | 1 | C88 | GC1 0 0500 KD00C | Ceramic | 10pF 50V ±10% | |
| S01 | 4 2312 05700 | Switch Push 2Key | 1 | C89 | CD4 7 6630 0001V | Electrolytic | 47μF 63V | |
| T01 | 4 2369 73160 | Connector 6P | 1 | C90 | CD4 7 6630 0001V | Electrolytic | 47μF 63V | |
| T02 | 4 2369 73150 | Connector 5P | 1 | C91 | CD4 7 6630 0001V | Electrolytic | 47μF 63V | |
| T03 | 4 2369 73980 | Plug 4P | 1 | C92 | CD4 7 6630 0001V | Electrolytic | 47μF 63V | |
| CAPACITORS | | | | C93 | CD2 2 7100 0001V | Electrolytic | 220μF 10V | |
| C01 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | C94 | CD2 2 7100 0001V | Electrolytic | 220μF 10V |
| C02 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | C95 | CD4 7 5500 0001V | Electrolytic | 4.7μF 50V |
| C05 | CC1 0 1500 KD00C | Ceramic | 100pF 50V ±10% | 1 | C97 | CM3 9 3500 K00SV | Mylar | 0.039μF 50V ±10% |
| C06 | CC1 0 1500 KD00C | Ceramic | 100pF 50V ±10% | 1 | C98 | CM3 9 3500 K00SV | Mylar | 0.039μF 50V ±10% |
| C07 | CD4 7 6100 0001V | Electrolytic | 47μF 10V | 1 | C101 | CD1 0 5500 0001V | Electrolytic | 1μF 50V |
| C08 | CD4 7 6100 0001V | Electrolytic | 47μF 10V | 1 | C102 | CD1 0 5500 0001V | Electrolytic | 1μF 50V |
| C09 | CM4 7 2500 K00SV | Mylar | 0.0047μF 50V ±10% | 1 | C103 | CC1 2 1500 KD00C | Ceramic | 120pF 50V ±10% |
| C10 | CM4 7 2500 K00SV | Mylar | 0.0047μF 50V ±10% | 1 | C104 | CC1 2 1500 KD00C | Ceramic | 120pF 50V ±10% |
| C11 | CM1 8 3500 K00SV | Mylar | 0.018μF 50V ±10% | 1 | C105 | CC2 7 1500 KD00C | Ceramic | 270pF 50V ±10% |
| C12 | CM1 8 3500 K00SV | Mylar | 0.018μF 50V ±10% | 1 | C106 | CC2 7 1500 KD00C | Ceramic | 270pF 50V ±10% |
| C13 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | C107 | CD2 2 7350 0001V | Electrolytic | 220μF 35V |
| C14 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | C108 | CD2 2 7350 0001V | Electrolytic | 220μF 35V |
| C15 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | C109 | CD1 0 6250 0001V | Electrolytic | 10μF 25V |
| C16 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | C110 | CD1 0 6250 0001V | Electrolytic | 10μF 25V |
| C17 | CD4 7 6160 0001V | Electrolytic | 47μF 16V | 1 | C111 | CD2 2 7350 0001V | Electrolytic | 220μF 35V |
| C18 | CD4 7 6160 0001V | Electrolytic | 47μF 16V | 1 | C112 | CD1 0 6250 0001V | Electrolytic | 10μF 25V |
| C19 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | C113 | 4 2239 71250 | Electrolytic | 10000μF 35V |
| C20 | CD1 0 6250 0001V | Electrolytic | 10μF 25V | 1 | C114 | 4 2239 71250 | Electrolytic | 10000μF 35V |
| C21 | CD1 0 7250 0001V | Electrolytic | 100μF 25V | 1 | C115 | 4 2239 71240 | Electrolytic | 15000μF 28V |
| C22 | CD2 2 6250 0001V | Electrolytic | 22μF 25V | 1 | C116 | 4 2239 71240 | Electrolytic | 15000μF 28V |
| C50 | CC1 0 2500 KE00C | Ceramic | 0.001μF 50V ±10% | 1 | C117 | 4 2232 00430 | Ceramic | 0.01μF x2 250V |
| C51 | CD1 0 5500 0001V | Electrolytic | 1μF 50V | 1 | C118 | 4 2232 00430 | Ceramic | 0.01μF x2 250V |
| C52 | CC1 0 1500 KD00C | Ceramic | 100pF 50V ±10% | 1 | C119 | 4 2232 00430 | Ceramic | 0.01μF x2 250V |
| C53 | CC1 5 1500 KD00C | Ceramic | 150pF 50V ±10% | 1 | C120 | 4 2232 00430 | Ceramic | 0.01μF x2 250V |
| C54 | CD1 0 5500 0001V | Electrolytic | 1μF 50V | 1 | C121 | CC1 0 3500 ZG00C | Ceramic | 0.01μF 50V +80-.20% |
| C55 | CD1 0 5500 0001V | Electrolytic | 1μF 50V | 1 | SEMICONDUCTORS | | | |
| C56 | CD1 0 6250 0001V | Electrolytic | 10μF 25V | 1 | D01 | 202 5 3210 12011 | Zener Diode, GZA 12 X | |
| C57 | CD1 0 6250 0001V | Electrolytic | 10μF 25V | 1 | D02 | 202 5 3210 12011 | Zener Diode, GZA 12 X | |
| C58 | CD1 0 6250 0001V | Electrolytic | 10μF 25V | 1 | D03 | 202 5 1400 00120 | Diode, GMA 01 | |
| C59 | CD1 0 6250 0001V | Electrolytic | 10μF 25V | 1 | D04 | 202 5 1400 00120 | Diode, GMA 01 | |
| C61 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | D05 | 202 5 1400 00120 | Diode, GMA 01 | |
| C62 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | D06 | 202 5 1400 00120 | Diode, GMA 01 | |
| C63 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | D07 | 202 5 2500 13541 | Diode, DS 135 | |
| C64 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | D08 | 205 5 9040 44210 | Diode, DS 442 | |
| C65 | CC2 2 1500 KD00C | Ceramic | 220pF 50V ±10% | 1 | D09 | 205 5 9020 43010 | Diode, DS 430 | |
| C66 | CC2 2 1500 KD00C | Ceramic | 220pF 50V ±10% | 1 | D10 | 205 5 9020 43010 | Diode, DS 430 | |
| C67 | CM4 7 3500 K00SV | Mylar | 0.047μF 50V ±10% | 1 | D11 | 202 5 3210 22011 | Zener Diode, GZA 22 X | |
| C68 | CM4 7 3500 K00SV | Mylar | 0.047μF 50V ±10% | 1 | D12 | 202 5 3210 22011 | Zener Diode, GZA 22 X | |
| C69 | CM1 0 3500 K00SV | Mylar | 0.01μF 50V ±10% | 1 | D13 | 202 5 1400 00120 | Diode, GMA 01 | |
| C70 | CM1 0 3500 K00SV | Mylar | 0.01μF 50V ±10% | 1 | D14 | 202 5 1400 00120 | Diode, GMA 01 | |
| C71 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | D15 | 202 5 1400 00120 | Diode, GMA 01 | |
| C72 | CD4 7 5250 0001V | Electrolytic | 4.7μF 25V | 1 | D16 | 202 5 1400 00120 | Diode, GMA 01 | |
| C73 | CC2 2 1500 KD00C | Ceramic | 220pF 50V ±10% | 1 | D17 | 202 5 1400 00120 | Diode, GMA 01 | |
| C74 | CC2 2 1500 KD00C | Ceramic | 220pF 50V ±10% | 1 | D18 | 202 5 1400 00120 | Diode, GMA 01 | |
| C75 | CC2 2 1500 KD00C | Ceramic | 220pF 50V ±10% | 1 | D19 | 202 5 1400 00120 | Diode, GMA 01 | |

POINT TO POINT WIRING DIAGRAM



SCHEMATIC DIAGRAM



NOTES:

1. All resistors values are indicated in "ohm" (K=10³, M=10⁶).
2. All capacitors values are indicated in "μF" (P=10⁻¹²).
3. All voltages indicated on the schematics are measured under the following conditions:
 - a. Use a V.T.V.M.
 - b. All voltages ±10% with respect to chassis ground
 - c. No signals at input terminals
 - d. AC input at 120 volts 60 Hz
4. This is a basic schematic diagram.

Because Fisher products are subject to continuous improvement, Fisher Corporation reserves the right to make any changes or modifications without notice.

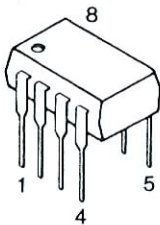
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

SEMICONDUCTOR LEAD IDENTIFICATION

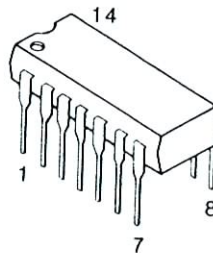
INTEGRATED CIRCUITS

PHONO EQ AMP IC
GRAPHIC EQ AMP IC



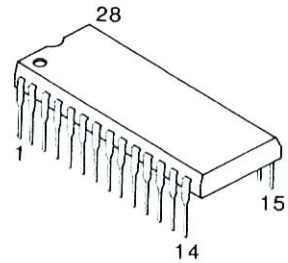
- LA 6458 D

LEVEL METER IC
TAPE SWITCH IC



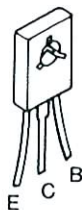
- LB 1407
- LC 4066 B

FUNCTION SWITCH IC

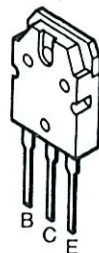


- LC 7815 H

TRANSISTORS

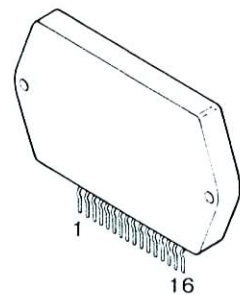


- 2SD 612
- 2SB 632



- 2SC 3182
- 2SA 1265

POWER AMPLIFIER IC



- STK 2260



- 2SD 1012



- 2SA 608
- 2SC 536
- 2SC 1570
- 2SA 1207



- 2SD 438
- 2SB 560
- 2SA 1208
- 2SC 2910



- 2SC 3066

SEMICONDUCTOR LEAD IDENTIFICATION (Continued)

DIODES

Cathode



Anode

• DS 135 D

Cathode



Anode

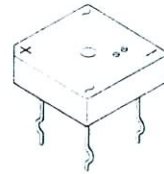
• GSA 30 C

Cathode



Anode

- GMA 01
- DS 442
- DS 430
- DS 446
- GZA 5.6 X
- GZA 12 X
- GZA 18 Z
- GZA 22 X



- DBA 40 C
- DBA 60 C



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