

Musical Instrument Amplifier

WARDS
Airline

owner's
guide and
PARTS LIST

general description



Your new Airline Model GVC-9027A two channel reverb amplifier has been professionally engineered and crafted to provide faithful, undistorted sound reproduction from electric guitars and accordions.

Two separate channels are provided, with treble and regular inputs and individual tone and volume controls in each channel. Additional sound variations are accomplished through the use of the tremolo and reverb sections, which operate through the second channel only. The tremolo and reverb controls may be operated manually or through the use of the remote foot switches which are supplied with the amplifier.

All controls are rotated clockwise to turn on or increase expression and counterclockwise to turn off or decrease expression.

The stand-by switch enables you to turn the speakers off, but leaves the amplifier on, ready for instant response without warm up when switched to "play" position.

TUBE COMPLEMENT

PREAMP TUBES

| TYPE | REF. NO. | FUNCTION |
|-------|----------|--|
| 12AX7 | V1 | Dual Purpose ($\frac{1}{2}$ tremolo oscillator stage) ($\frac{1}{2}$ tremolo output stage) |
| 12AX7 | V2 | Dual Purpose Mixer Stage |
| 12AX7 | V3 | Dual Purpose Input Stage—Channel 2 |
| 12AX7 | V4 | Dual Purpose Input Stage—Channel 1 |
| 6EU7 | V5 | Reverb Output Stage |
| 6DR7 | V6 | Reverb Input Stage |

POWER PACK TUBES

| TYPE | REF. NO. | FUNCTION |
|------|----------|--------------------|
| 6L6 | V101 | Power Output Stage |
| 6L6 | V102 | Power Output Stage |
| 5U4 | V103 | Power Rectifier |
| 5U4 | V104 | Power Rectifier |
| 6L6 | V105 | Power Output Stage |
| 6L6 | V106 | Power Output Stage |

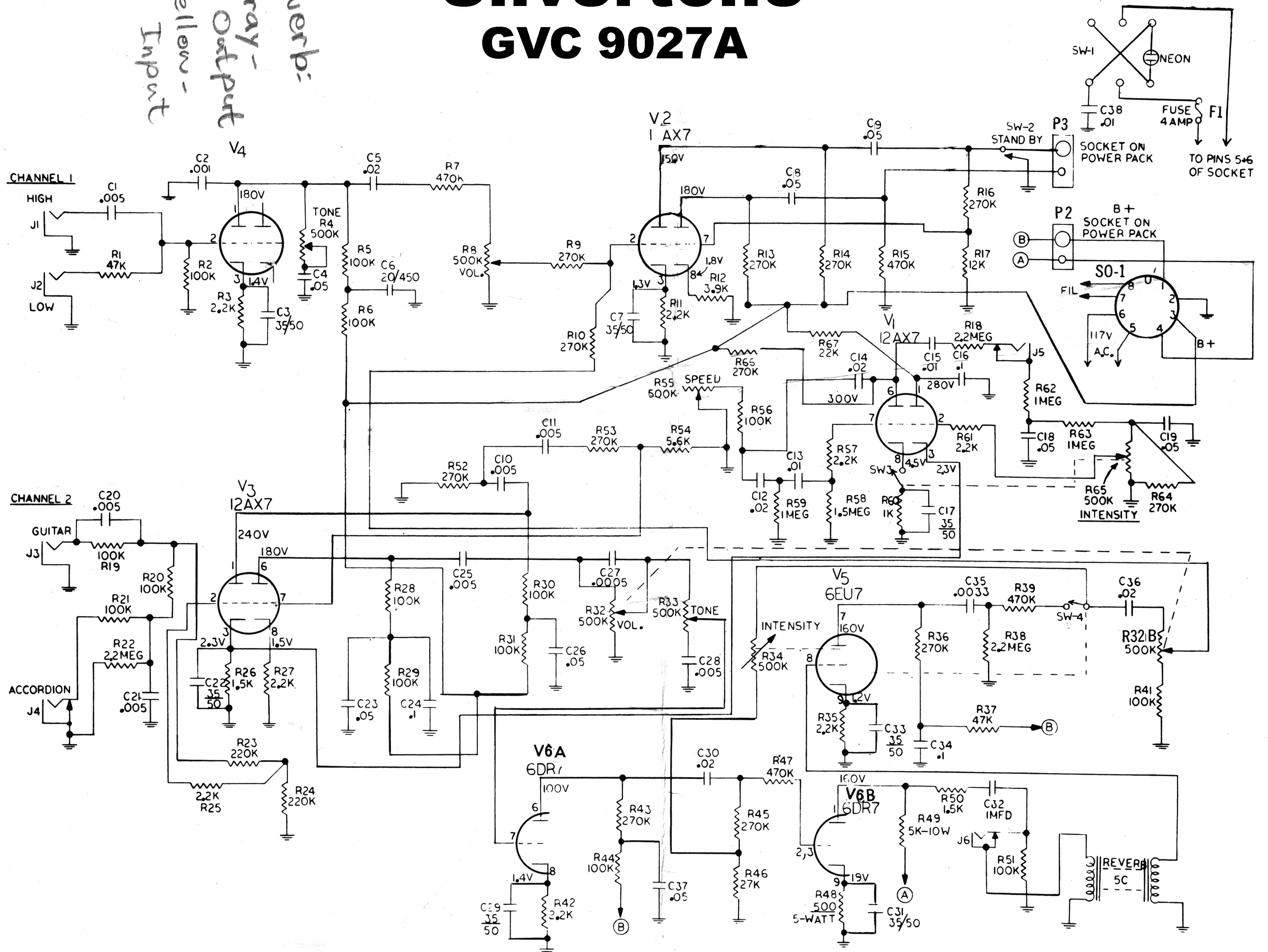
ELECTRICAL SPECIFICATIONS

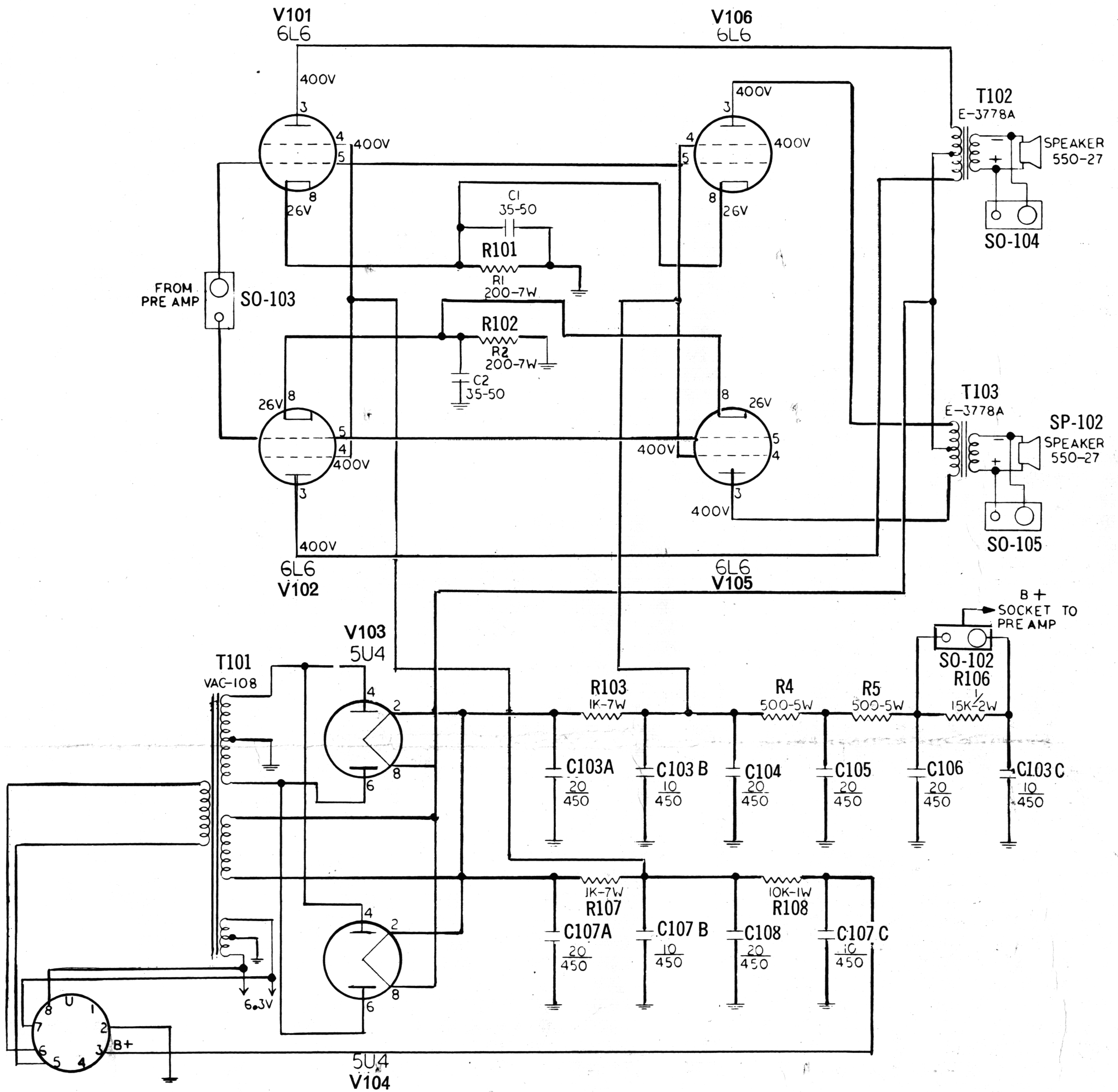
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|---------------------------|------------------------------------|
| Power Supply | 105-125V, 60 Cycle |
| Power Consumption | 2.5 amp. C 117V |
| Power Output | 70 Watts |
| Amplifier Frequency Range | 60-5000 CPS |
| Loud Speakers: | 2-12" PM, 17 oz. Ceramic Magnet |
| Voice Coil Impedance | 8 OHMS at 400 cycles |
| Fuse | 4 amp, Type MTH |

Airline — SOLD EXCLUSIVELY BY MONTGOMERY WARD

Silvertone

GVC 9027A





NOTE: All resistance values in ohms and half watt unless otherwise specified. All capacitance values in MFD unless otherwise specified. All DC voltages shown on this schematic were measured with a 20,000 ohm/volt VOM and under zero signal conditions.

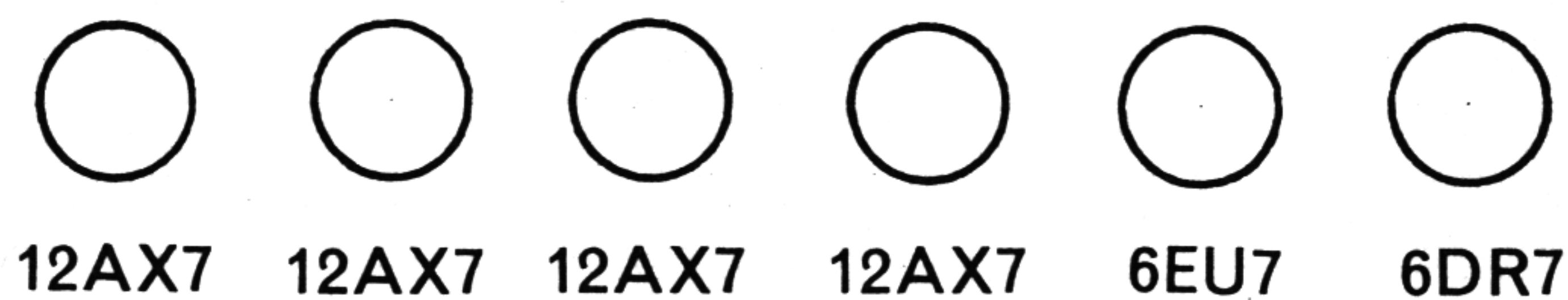
TUBE LAYOUT

UPPER PANEL

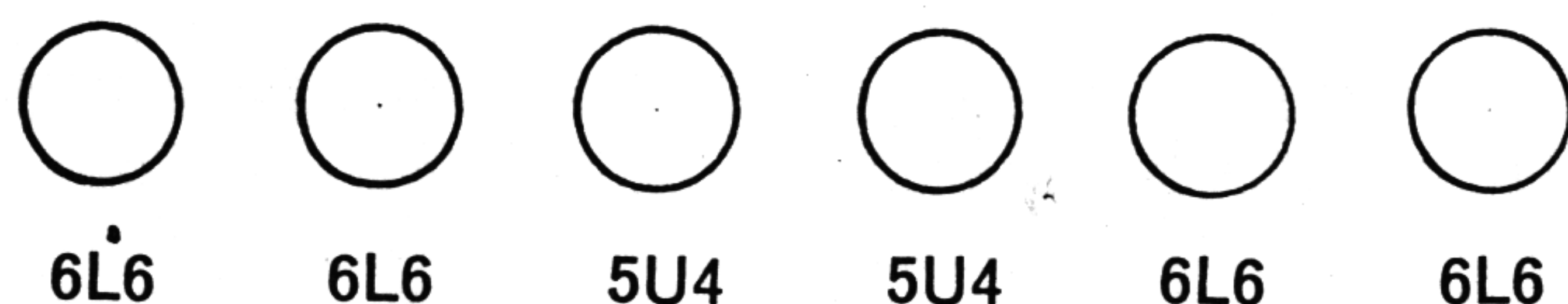
REF. NO.

PART NO.

DESCRIPTION



POWER PACK



POWER PACK PARTS LIST

GVC 9027A

CAPACITORS

| REF. NO. | PART NO. | DESCRIPTION |
|-------------|-----------|----------------------------------|
| C101, C102 | 303-54 | 35 MFD, 50V, Electrolytic |
| C103A, B, C | 303-53 | 20-10-10 MFD, 450V, Electrolytic |
| C104, C105, | | |
| C106, C108 | *TVA-1709 | 20 MFD, 450V, Electrolytic |
| C107A, B, C | 303-53 | 2-10-10 MFD, 450V, Electrolytic |

RESISTORS

| | | |
|------------|---------|-----------------------------|
| R101, R102 | *WF5120 | 200 OHM, 7W, W.W. |
| R103, R107 | *WF5210 | 1K OHM, 7W, W.W. |
| R104, R105 | *WE5150 | 500 OHM, 5W, W.W. |
| R106 | *CB1315 | 15K OHM, 1/2 W, 10%, Carbon |
| R108 | *CC1310 | 10K OHM, 1W, 10%, Carbon |

MISCELLANEOUS

| | | |
|------------|---------|-----------------------------------|
| | 309-1 | Cable, Speaker, with P104 or P105 |
| | 221-5 | Knob, Control |
| P101 | 312-2 | Plug, Power Output |
| SO-102, | | |
| SO-103 | 304-9 | Socket |
| SO-104, | | |
| SO-105 | 311-6 | Socket, Speaker |
| SP-101, | | |
| SP-102 | 550-27 | Speaker |
| | 500-S1 | Switch, Foot Control |
| T101 | VAC-108 | Transformer, Power |
| T102, T103 | E-3778A | Transformer, Output |

*Refer to Universal Parts Price List.

PREAMPLIFIER PARTS LIST

GVC-9027A

| REF. NO. | PART NO. | DESCRIPTION |
|---------------|----------|-----------------------------|
| C1, C10, C11, | | |
| C20, C21, | | |
| C25, C28 | *DD-502 | .005 MFD, 500V, 10%, Discap |
| C2 | *DD-102 | .001 MFD, 500V, 10%, Discap |
| C3, C7, C17, | | |
| C22, C29, | | |

| | | |
|----------------|-----------|------------------------------|
| C31, C33 | 303-54 | 35 MFD, 50V, Electrolytic |
| C4, C8, C9, | | |
| C18, C19, C23, | | |
| C26, C37 | *6PS-S50 | .05 MFD, 600V, Tubular |
| C5, C12, C14, | | |
| C30, C36 | *DD-203 | .02 MFD, 500V, 10%, Discap |
| C6 | *TVA-1709 | 20 MFD, 450V, Electrolytic |
| C13, C15 | *DD-1032 | .01 MFD, 500V, 10%, Discap |
| C16, C24, C34 | *6PS-P10 | .1 MFD, 600V, Tubular |
| C27 | *DD-501 | .0005 MFD, 500V, 10%, Discap |
| C32 | *6PS-P10 | 1 MFD, 400V, Tubular |
| C35 | *DD-332 | .0033 MFD, 500V, 10%, Discap |
| C38 | 305-3 | .01 MFD, 1400V, Discap |

RESISTORS

| | | |
|----------------|---------|--|
| R1, R37 | *CB1347 | 47K OHM, 1/2 W, 10%, Carbon |
| R2, R5, R6, | | |
| R19, R20, R21, | | |
| R28, R29 | | |
| R30, R31, R41, | | |
| R44, R51, R56 | *CB1410 | 100K OHM, 1/2 W, 10%, Carbon |
| R3, R11, R25, | | |
| R27, R35, R42, | | |
| R57, R61 | *CB1222 | 2.2K OHM, 1/2 W, 10%, Carbon |
| R4 | 302-2 | 500K OHM, Pot., Tone Control (Channel 1) |
| R7, R15, R39, | | |
| R47 | *CB1447 | 470K OHM, 1/2 W, 10%, Carbon |
| R8 | 302-2 | 500K OHM, Pot., Volume Control (Channel 1) |
| R9, R10, R13, | | |
| R14, R16, R36, | | |
| R43, R45, R52, | | |
| R53, R64, R66 | *CB1427 | 270K OHM, 1/2 W, 10%, Carbon |
| R12 | *CB1239 | 3.9K OHM, 1/2 W, 10%, Carbon |
| R17 | *CB1312 | 12K OHM, 1/2 W, 10%, Carbon |
| R18, R22, R38 | *CB1522 | 2.2 MEGOHM, 1/2 W, 10%, Carbon |
| R23, R24 | *CB1422 | 220K OHM, 1/2 W, 10%, Carbon |
| R26, R50 | *CB1215 | 1.5K OHM, 10%, Carbon |
| R32A, B | 302-8 | 500K OHM, Dual Pot., Volume Control (Channel 2) |
| R33 | 302-2 | 500K OHM, Pot., Tone Control (Channel 2) |
| R34, SW-4 | 302-4 | 500K OHM, Pot., Intensity Control with on-off switch |
| R46 | *CB1327 | 27K OHM, 1/2 W, 10%, Carbon |
| R48 | *WE5150 | 500 OHM, 5W, W.W. |
| R49 | *WF5250 | 5K OHM, 10W, W.W. |
| R54 | *CB1256 | 5.6K OHM, 1/2 W, 10%, Carbon |
| R55 | 302-3 | 500K OHM, Pot., Tremelo Speed Control |
| R58 | *CB1515 | 1.5 MEGOHM, 1/2 W, 10%, Carbon |
| R59, R62, R63 | *CB1510 | 1 MEGOHM, 1/2 W, 10%, Carbon |
| R60 | *CB1210 | 1K OHM, 1/2 W, 10%, Carbon |
| R65, SW-3 | 302-4 | 500K OHM, Pot., Tremelo Intensity Control |
| R67 | *CB1322 | 22K OHM, 1/2 W, 10%, Carbon |

MISCELLANEOUS

| | | |
|------------|---------|-----------------------------------|
| F1 | 304-10 | Cable, Shielded, with P2 or P3 |
| | *312004 | Fuse, 4 Amp. |
| | 304-7 | Holder, Fuse |
| J1, J2, J3 | 304-3 | Jack, Open Circuit |
| J4, J5, J6 | 304-6 | Jack, Closed Circuit |
| | 310-4 | Pilot Light (Neon) |
| | 5C | Reverberation Unit (Assembly) |
| SO-1 | 311-1 | Socket, Octal, Power Input |
| SW-1 | 304-21 | Switch, On-Off and Line Reversing |
| SW-2 | 304-19 | Switch, Play-Stand By |

*Refer to Universal Parts Price List.

operation

CAUTION

This amplifier is designed to operate on 105-125 volt 60 cycle alternating current (A.C.) only. Never attempt to operate it on direct current (D.C.). If a hum is heard, set the On-Off line reverse switch to the alternate On position.

1. Unpack amplifier carefully. Be sure all tubes are firmly seated in their proper sockets (sockets are labeled.)
2. Uncoil the power cord and plug it into the AC outlet.
3. Plug cord from musical instrument into the proper input jack.
4. Set On-Off-Line reverse switch to On position. Pilot will light. Turn related volume control to mid-position and wait 30 seconds for the tubes to warm up.
5. Set controls on musical instrument and amplifier to the desired levels. Best results are usually obtained when controls are at the near maximum setting on the musical instrument and the amplifier volume is set no higher than needed. Experimenting while playing will help determine the most desirable settings. If only one channel is used, turn volume control of the other channel to Off.
6. The tremolo and reverb systems operate on the second channel inputs. Each system has its separate intensity control. The tremolo system has a separate speed control. If the use of remote foot switch accessories is desired, plug switch cords into designated inputs. To use, depress foot switch to start—depress again to cut off.

IF YOU RECEIVE NO SOUND FROM THE AMPLIFIER, CHECK THE FOLLOWING:

1. Is the A.C. line switch and the pilot light on?
2. Is volume control on instrument on?

3. Make sure stand-by switch is in Play position.
4. Is fuse blown? Use only 4 amp replacements.
5. Are tubes seated firmly? Is connecting cord defective?
6. Check for defective tube? Short in circuit?

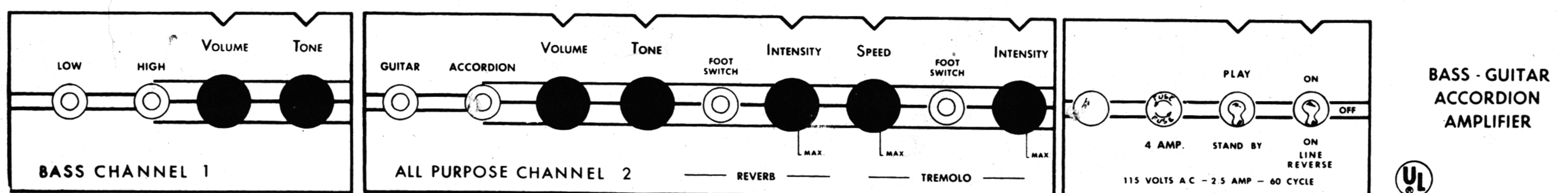
IF YOU RECEIVE NO REVERB OR TREMOLO, CHECK THE FOLLOWING:

1. Is the respective intensity control turned on?
2. Is instrument plugged into channel 2?
3. Is foot switch (if in use) in On position?
4. Is there a defective or loose tube in the respective section of the circuit?
5. Broken or tampered reverb unit?

IF YOU HAVE A HUM, FEEDBACK, MICROPHONICS OR DISTORTION, CHECK THE FOLLOWING:

1. Is instrument too close to the amplifier?
2. Set the On-Off-Line reverse switch to the alternate On position.
3. Is volume set too high on amplifier or is there an overload from playing too hard or loud?
4. Is amplifier on or near line supplying neon or fluorescent lights, motors, shaver, etc.?
5. Check for microphonic, worn, or defective tube or part.
6. Poor shielding or defective ground on guitar or connecting cord?
7. Damaged or abused speakers?

control panel layout



maintenance

1. An amplifier is a delicate electronic device. Treat it carefully. Avoid rough handling.
2. Check tubes once a year or more frequently if amplifier is subjected to constant or severe use. When replacing tubes take care to put them in the correct sockets and see that the base pins are fully inserted.
3. Should trouble ever occur, the first step is always to determine whether difficulty is caused by the musical instrument or the amplifier. This is a simple check. Try amplifier with another instrument known to be in good order. This simple procedure often saves time and expense by pin-pointing the device causing the trouble. For example—poor or worn guitar chords cause many of the problems that might be suspected as amplifier or guitar problems.