



**CRATE**

**G-212 AMPLIFIER**

# CRATE G-212 AMPLIFIER



We would like to take this opportunity to thank you for selecting a Crate product, and to tell you of our commitment to the design and manufacture of only the finest musical instrument amplification equipment; built for you, the musician.

You have purchased one of the most innovative sound amplification devices available today. Your Crate amplifier gives you more performance features than ever before; features that you, the musician, have asked for.

Your Crate amplifier is an American product, manufactured at our factory in St. Louis, Missouri. Only the finest available components and materials are used in the manufacture of each amplifier.

All Crate amplifiers are subject to seven or more inspection and testing steps to assure you of a high quality product. The final test for each amp is conducted by a trained musician with the instrument the amp was designed for. Any unit that does not meet the standards of his discriminating ear will not be passed.

Since all Crate products are designed, developed, and manufactured through the cooperative efforts of engineers and professional musicians, the end result is a product that responds to the musician's audio requirements, and a product that will serve your needs for years to come.

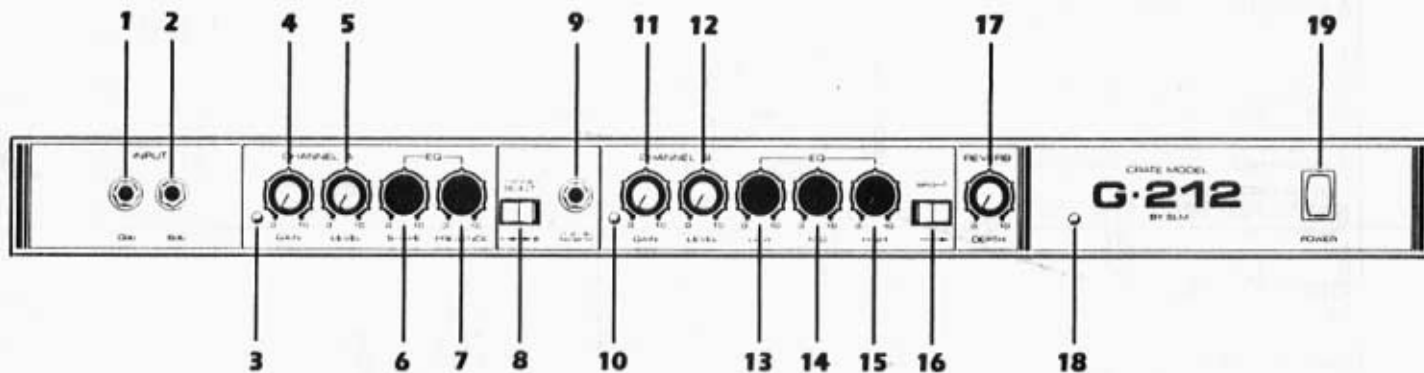
## G-212 TECHNICAL SPECIFICATIONS

<b>Output Power Rating</b>	60 watts RMS @ 5% THD 4 ohm load — 120 VAC line
<b>Speaker Size and Rating</b>	G-212: 2 Custom Design 12" with 1-1/2" coil Power Handling 60 watts RMS each G-212GT: 2 Celestion G12L-35
<b>Bass Control</b>	15 db range @ 80 Hz
<b>Mid Control</b>	8 db range @ 700 Hz
<b>Treble Control</b>	15 db range @ 5 KHz
<b>Presence Control</b>	10 db range @ 5 KHz
<b>Bright Switch</b>	8 db boost @ 6 KHz
<b>Input Impedance</b>	220 K ohms/"0 db" input 44 K ohms/"-6 db" input
<b>Maximum Input Signal Level Accepted</b>	4 volts, peak to peak/"0 db" input 8 volts, peak to peak/"-6 db" input
<b>Total System Gain</b>	Channel A: 85 db Channel B: 60 db
<b>Signal to Noise Ratio</b>	Channel A: -55 db Channel B: -65 db
<b>Input Power Requirements</b>	120 VAC, 60 Hz, 200 watts max
<b>Cabinet Size and Weight</b>	21"H x 26-1/2"W x 11"D 50 lbs./[GT] 55 lbs.

**CAUTION:** To reduce the risk of electric shock, do not remove chassis. No user serviceable parts inside. Refer servicing to qualified service personnel. To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

Specifications subject to change without notice.

# FEATURES and FUNCTIONS



## FRONT PANEL—INPUT

- 1. 0 dB INPUT JACK:** This input accepts a standard 1/4" phone plug and is suitable for any low to line level signal source such as an electric guitar.
- 2. -6 dB INPUT JACK:** This input also accepts a standard 1/4" jack but is padded 6 dB for hotter inputs such as tape decks or guitars with hot pickups. If both jacks are used, this input is not padded and will be equal to the 0 dB input jack.

## CHANNEL A CONTROLS

- 3. CHANNEL A INDICATOR:** When this red L.E.D. is lit, Channel A is active.
- 4. GAIN CONTROL:** This control sets the amount of gain for channel A and is used to vary the amount of distortion. Minimal distortion is achieved with this control rotated counterclockwise. A fully clockwise setting creates maximum distortion.
- 5. LEVEL CONTROL:** The overall volume of Channel A is controlled with this knob and should be used in conjunction with the GAIN CONTROL (4).
- 6. SHAPE CONTROL:** This is the primary tone control for Channel A. Set at half rotation, a sound emphasizing midrange is achieved. When rotated fully clockwise, a "heavy textured" sound is created, with extra boost in lows & highs. Rotated fully counterclockwise, a lighter textured sound is produced, with more low midrange and less highs.

- 7. PRESENCE CONTROL:** This knob affects the upper harmonics of Channel A. When rotated to the right, the Presence Control boosts upper harmonics and adds "bite" or "edge" to the sound, while turning the knob fully to the left will deliver a more mellow tone.
- 8. CHANNEL SELECT SWITCH:** This switch is used to select between Channel A and Channel B. When using the optional footswitch, this switch should be in the Channel A position.
- 9. FOOTSWITCH JACK:** This jack is to be used with the Channel Selector/Reverb footswitch. When the footswitch is in use, the front panel channel selector switch (6) should be in the Channel A position.

## CHANNEL B CONTROLS

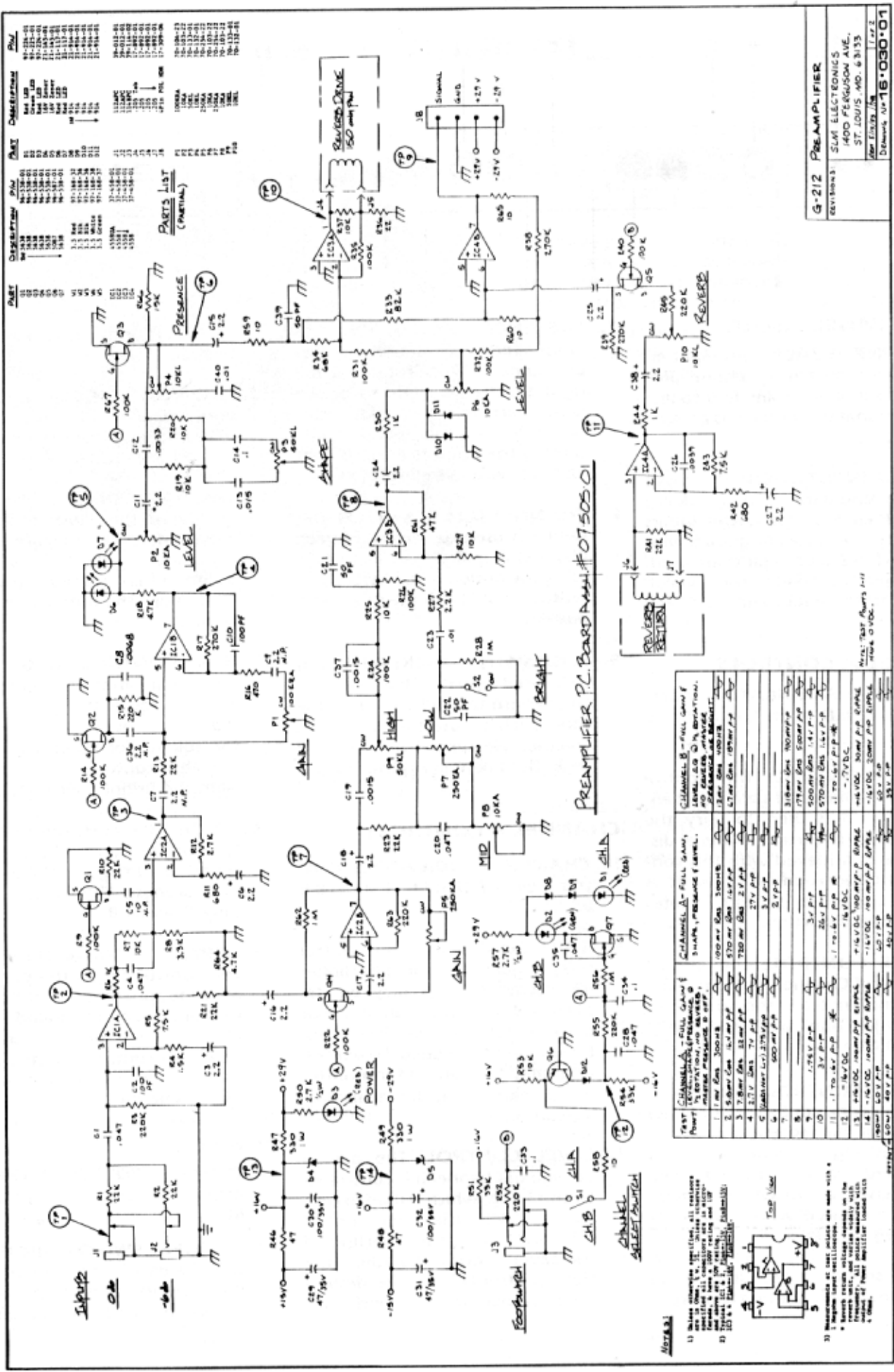
- 10. CHANNEL B INDICATOR:** When this green L.E.D. is lit, Channel B is active.
- 11. GAIN CONTROL:** This control sets the gain of Channel B. Higher (clockwise) settings may be desired if the guitar has a weak output or when an overdriven, distorted sound is needed. Lower settings may be wanted for a hotter guitar, particularly for achieving a clean sound.
- 12. LEVEL CONTROL:** The overall volume of Channel B is controlled by this knob, which is used in conjunction with the Gain Control (11). Start with a low setting of the Level Control and adjust the Gain Control (11) for the desired clean or overdriven sound. Turn

the Level Control up to the volume wanted.

- 13. LOW CONTROL (Bass):** The desired amount of "Bottom" or "Warmth" may be increased or decreased with this knob.
- 14. MID CONTROL (Mid):** The tonal qualities of the midrange are very important to a good guitar sound. This knob can "thin-out" the sound when turned down, or "fatten-up" the tone when larger amounts are used.
- 15. HIGH CONTROL (Treble):** This knob will affect the upper harmonic range of the guitar. Boosting it sharpens or adds crispness to the sound. For additional effect, use this control in conjunction with the Bright Switch (16).
- 16. BRIGHT SWITCH:** This switch affects the brilliance of the guitar's sound by adding additional "bite" or sharpness. This switch affects only Channel B.
- 17. DEPTH CONTROL (REVERB):** This control allows the player to alter the apparent acoustical qualities of a room. The sound can be altered from very "Flat" or "Dry" when the control is turned off, to that of a concert hall when used in larger amounts.

## POWER

- 18. ON/OFF LED INDICATOR:** The amplifier is on when this L.E.D. is lit.
- 19. ON/OFF SWITCH (POWER):** This is a two position switch, the down position will turn the unit on, while the up position off.



DESCRIPTION	PART	QUANTITY	REVISION
Resistor	100K	1	1
Capacitor	100P	1	1
Op-Amp	741	1	1
Op-Amp	747	1	1
Transformer	100/100	1	1
Speaker	8Ω	1	1
Switch	1P	1	1
Battery	29V	1	1
Battery	-15V	1	1

**PARTS LIST (CONTINUED)**

DESCRIPTION	PART	QUANTITY	REVISION
Resistor	100K	1	1
Capacitor	100P	1	1
Op-Amp	741	1	1
Op-Amp	747	1	1
Transformer	100/100	1	1
Speaker	8Ω	1	1
Switch	1P	1	1
Battery	29V	1	1
Battery	-15V	1	1

**PREAMPLIFIER P.C. BOARD MODEL #07505 01**

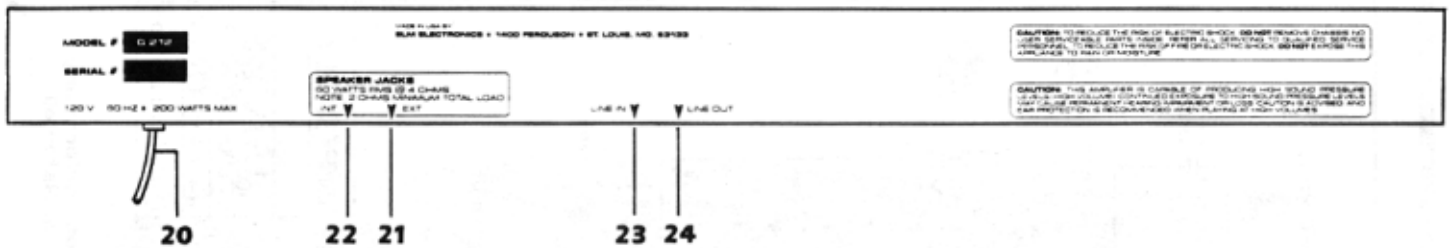
TEST CHANNEL A - FULL GAIN	TEST CHANNEL B - FULL GAIN
1. 100mV 1000Hz SINE	1. 100mV 1000Hz SINE
2. 500mV 1000Hz SINE	2. 500mV 1000Hz SINE
3. 100mV 1000Hz SINE	3. 100mV 1000Hz SINE
4. 100mV 1000Hz SINE	4. 100mV 1000Hz SINE
5. 100mV 1000Hz SINE	5. 100mV 1000Hz SINE
6. 100mV 1000Hz SINE	6. 100mV 1000Hz SINE
7. 100mV 1000Hz SINE	7. 100mV 1000Hz SINE
8. 100mV 1000Hz SINE	8. 100mV 1000Hz SINE
9. 100mV 1000Hz SINE	9. 100mV 1000Hz SINE
10. 100mV 1000Hz SINE	10. 100mV 1000Hz SINE
11. 100mV 1000Hz SINE	11. 100mV 1000Hz SINE
12. 100mV 1000Hz SINE	12. 100mV 1000Hz SINE
13. 100mV 1000Hz SINE	13. 100mV 1000Hz SINE
14. 100mV 1000Hz SINE	14. 100mV 1000Hz SINE
15. 100mV 1000Hz SINE	15. 100mV 1000Hz SINE

- 1) Before servicing, unplug all cables and disconnect all power sources. Disconnect all components and use a 100 ohm resistor to short the input and output terminals.
- 2) Do not use a channel selector switch.
- 3) Measurements at test points are made with a 100 ohm resistor in series with the probe across the test point. The frequency of the signal source is 1000 Hz. All points measured with a 100 ohm resistor.

**G-212 PREAMPLIFIER**  
 REVISIONS: SLAM ELECTRONICS  
 1400 FERGUSON AVE.  
 ST. LOUIS, MO. 63133  
 DATE: 10/10/78  
 DRAWING NO. 16-030-01

Schematic provided for use by qualified service personnel only.

**CAUTION:** These servicing instructions are for use by qualified personnel only. To avoid electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.



## REAR PANEL

**20. POWER CORD:** Be sure the amplifier is properly plugged into a safely wired AC outlet before use.

**21. EXTERNAL SPEAKER JACKS:** This jack is used for additional speaker hookup. The G-212 external speaker jack is hooked up in parallel with the internal speaker jack so adding additional speakers will lower the total load impedance connected to the power amp. Do not go below 2 ohms total load impedance.

**22. INTERNAL SPEAKER JACK:** The internal Custom Design speakers are plugged into this jack, (total load 4 ohms). To disconnect the internal speakers, simply unplug the cable from this jack. Another external speaker may be plugged in if the total load will still be at least 2 ohms. Total load should not be less than 2 ohms.

**23. LINE IN JACK:** This jack is used as a direct input to the power amp. Plugging into this jack disconnects

the direct (normal) connection between the preamp and power amp. The Line Out jack may then be used with the Line In jack as an effects loop.

**24. LINE OUT JACK:** This jack is used to link the G-212 to additional amplifiers or to connect the amp to a tape recorder. Simply run a cable from the output of this jack to the input of another amplifier or tape deck. External speakers cannot be hooked up to this jack.

**WARNING: NEVER PLUG HEADPHONES INTO EITHER SPEAKER JACK — YOU COULD SUFFER PERMANENT LOSS OF HEARING OR DAMAGE YOUR HEADPHONES.**

## LIMITED WARRANTY

SLM Electronics, a division of St. Louis Music Supply Company, warrants this electronic equipment for one (1) year from date of purchase to the original purchaser and is not transferable. This warranty includes defects in workmanship and materials within this one (1) year period except for tubes, meters and speakers covered separately. Tubes and meters will carry a 90 day warranty.

Excluded from this warranty are defects caused by wear and tear, misuse, neglect, alterations or modifications, or any act of nature. Such determinations will be made by SLM Electronics.

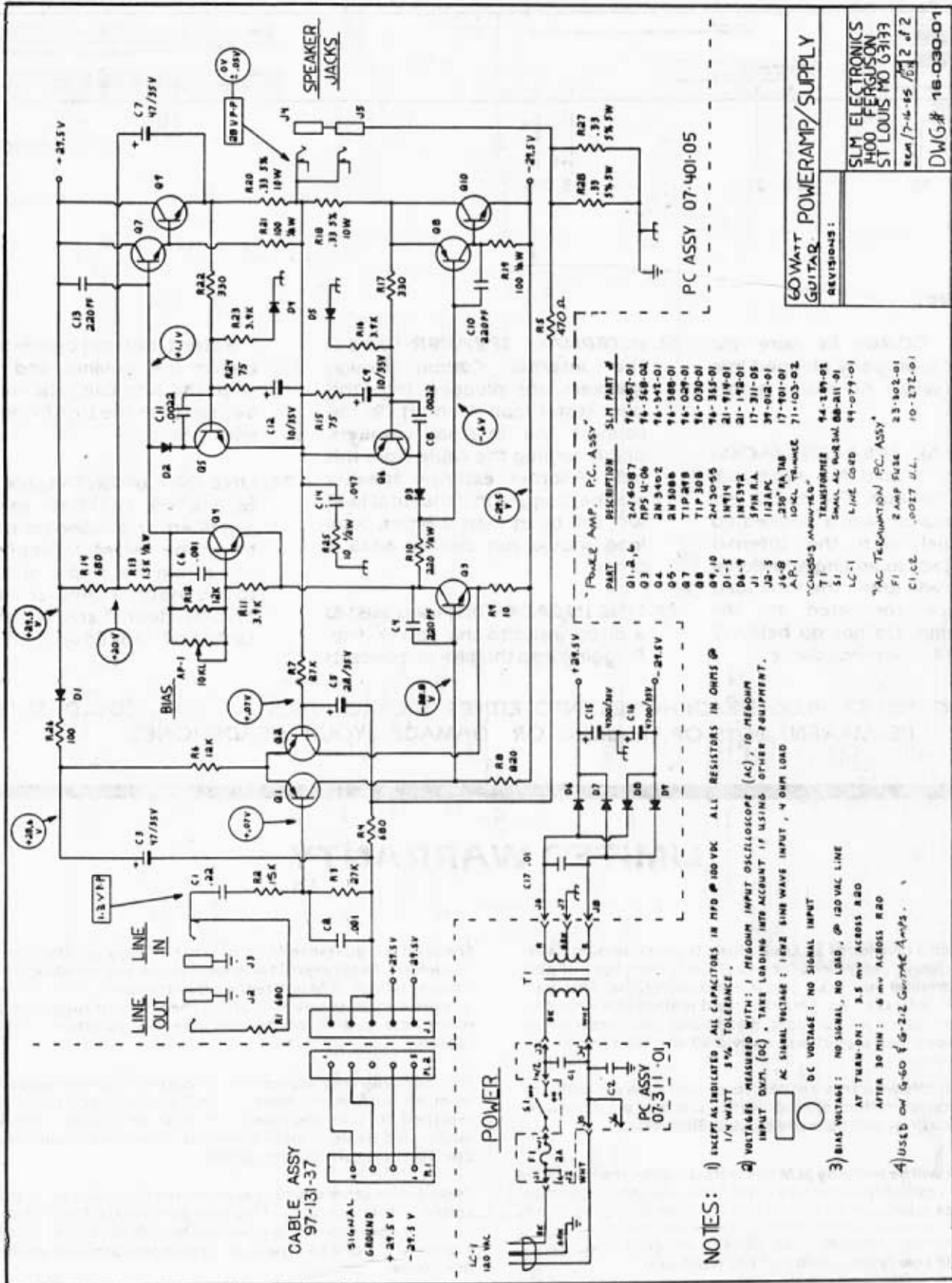
All parts costs will be borne by SLM Electronics within the warranty period. Labor costs will be covered within this warranty period according to rate schedules established by SLM Electronics. Warranty service will be done either at SLM Electronics or an authorized field service center. Transportation charges involved in warranty service are the sole responsibility of the purchaser.

Speakers are guaranteed for ninety (90) days against manufacturing defects. Realizing that any speaker can be overloaded or misused causing failure, SLM will replace it with a speaker of the same type at a price equal to one-half of the then current suggested list price of the new speaker for life from date of registration, regardless of reason.

This warranty only applies if this piece of equipment was purchased from an authorized dealer. If this piece of equipment is to be returned to SLM Electronics, it must be accompanied with an authorized dealer's instructions as to needed repairs and a SLM Electronics return authorization.

There are no other warranties expressed or implied other than those stated in this warranty. This warranty registration card must be filled out and returned to us within ten (10) days after purchase. We reserve the right to repair or replace this piece of equipment at our option.

**SLM ELECTRONICS** division of **ST. LOUIS MUSIC**  
1400 Ferguson Ave. • St. Louis, MO 63133



60WATT GUITAR POWERAMP/SUPPLY

REVISIONS:

SIM ELECTRONICS  
1400 FERGUSON  
ST LOUIS MO 63103  
REV 17-11-85 / 2 of 2  
DWG# 18-030-01

FRANKLE AMP, P.C. ASSY

PART	DESCRIPTION	SLM PART #
Q1,2,6	12AX7	74-587-01
Q3	6X4	74-588-02
Q4	6X4	74-588-01
Q5	6X4	74-588-01
Q6	6X4	74-588-01
Q7	6X4	74-588-01
Q8	6X4	74-588-01
Q9,10	6X4	74-588-01
Q11	6X4	74-588-01
Q12	6X4	74-588-01
Q13	6X4	74-588-01
Q14	6X4	74-588-01
Q15	6X4	74-588-01
Q16	6X4	74-588-01
Q17	6X4	74-588-01
Q18	6X4	74-588-01
Q19	6X4	74-588-01
Q20	6X4	74-588-01
Q21	6X4	74-588-01
Q22	6X4	74-588-01
Q23	6X4	74-588-01
Q24	6X4	74-588-01
Q25	6X4	74-588-01
Q26	6X4	74-588-01
Q27	6X4	74-588-01
Q28	6X4	74-588-01
Q29	6X4	74-588-01
Q30	6X4	74-588-01
Q31	6X4	74-588-01
Q32	6X4	74-588-01
Q33	6X4	74-588-01
Q34	6X4	74-588-01
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Q36	6X4	74-588-01
Q37	6X4	74-588-01
Q38	6X4	74-588-01
Q39	6X4	74-588-01
Q40	6X4	74-588-01
Q41	6X4	74-588-01
Q42	6X4	74-588-01
Q43	6X4	74-588-01
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Q45	6X4	74-588-01
Q46	6X4	74-588-01
Q47	6X4	74-588-01
Q48	6X4	74-588-01
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Q50	6X4	74-588-01
Q51	6X4	74-588-01
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Q56	6X4	74-588-01
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Q62	6X4	74-588-01
Q63	6X4	74-588-01
Q64	6X4	74-588-01
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Q67	6X4	74-588-01
Q68	6X4	74-588-01
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Q71	6X4	74-588-01
Q72	6X4	74-588-01
Q73	6X4	74-588-01
Q74	6X4	74-588-01
Q75	6X4	74-588-01
Q76	6X4	74-588-01
Q77	6X4	74-588-01
Q78	6X4	74-588-01
Q79	6X4	74-588-01
Q80	6X4	74-588-01
Q81	6X4	74-588-01
Q82	6X4	74-588-01
Q83	6X4	74-588-01
Q84	6X4	74-588-01
Q85	6X4	74-588-01
Q86	6X4	74-588-01
Q87	6X4	74-588-01
Q88	6X4	74-588-01
Q89	6X4	74-588-01
Q90	6X4	74-588-01
Q91	6X4	74-588-01
Q92	6X4	74-588-01
Q93	6X4	74-588-01
Q94	6X4	74-588-01
Q95	6X4	74-588-01
Q96	6X4	74-588-01
Q97	6X4	74-588-01
Q98	6X4	74-588-01
Q99	6X4	74-588-01
Q100	6X4	74-588-01

- NOTES:
- 1) EXCEPT AS INDICATED, ALL CAPACITORS IN MFD @ 100 VDC ALL RESISTORS IN OHMS @ 1/4 WATT 5% TOLERANCE.
  - 2) VOLTAGES MEASURED WITH: 1 MEGOHM INPUT OSCILLOSCOPE (AC), 10 MEGOHM INPUT DVM (DC). TAKE LOADING INTO ACCOUNT IF USING OTHER EQUIPMENT.
  - 3) BIAS VOLTAGE: NO SIGNAL, NO LOAD, @ 120 VAC LINE AT TURN-ON: 2.5 MV ACROSS R20 AFTER 30 MIN: 6 MV ACROSS R20
  - 4) USED ON G-60 1/2-2.2 GEORGE AMPS.

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