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Technical Document Distribution

Brand:	Acoustic
Model	G60T
Product:	Tube Guitar Amplifier
Description:	Service Manual

Musicparts Document Number: 44315	TechTips: No	Pages: 16	Dated: 1981
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SERVICE MANUAL

acoustic

G60T

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acoustic control corporation

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G60T

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G60T

I. General Information

A. Description

Features:

Two input jacks, dual volume controls with LED indicators for lead and rhythm settings.

Bright switch, treble, midrange and bass controls.

Output of both channels is determined by a single master volume control.

Reverb and the dual volume controls are footswitchable (footswitch provided).

Will accept 120 or 240 volt supply

Dimensions: 18" H x 22" W x 10-1/2" D

Shipping Weight: 60 pounds

G60T

1. General Information

B. Specifications

1. Power Output 60 watts RMS at 5% THD into 4/8 ohms.

2. Input jacks	Sensitivity for full output	Input Impedance
Volume 1, Hi-mode	45 MV	1 meg ohms
Volume 1, Low-mode	90 MV	30 K ohms
Volume 2, Hi-mode	1 MV	1 meg ohms
Volume 2, Low-mode	2 MV	30 K ohms

3. Output jacks	Level	Output Impedance
Preamp	2.0 V	50 K ohms
Speaker	60 watts RMS	4/8 ohms

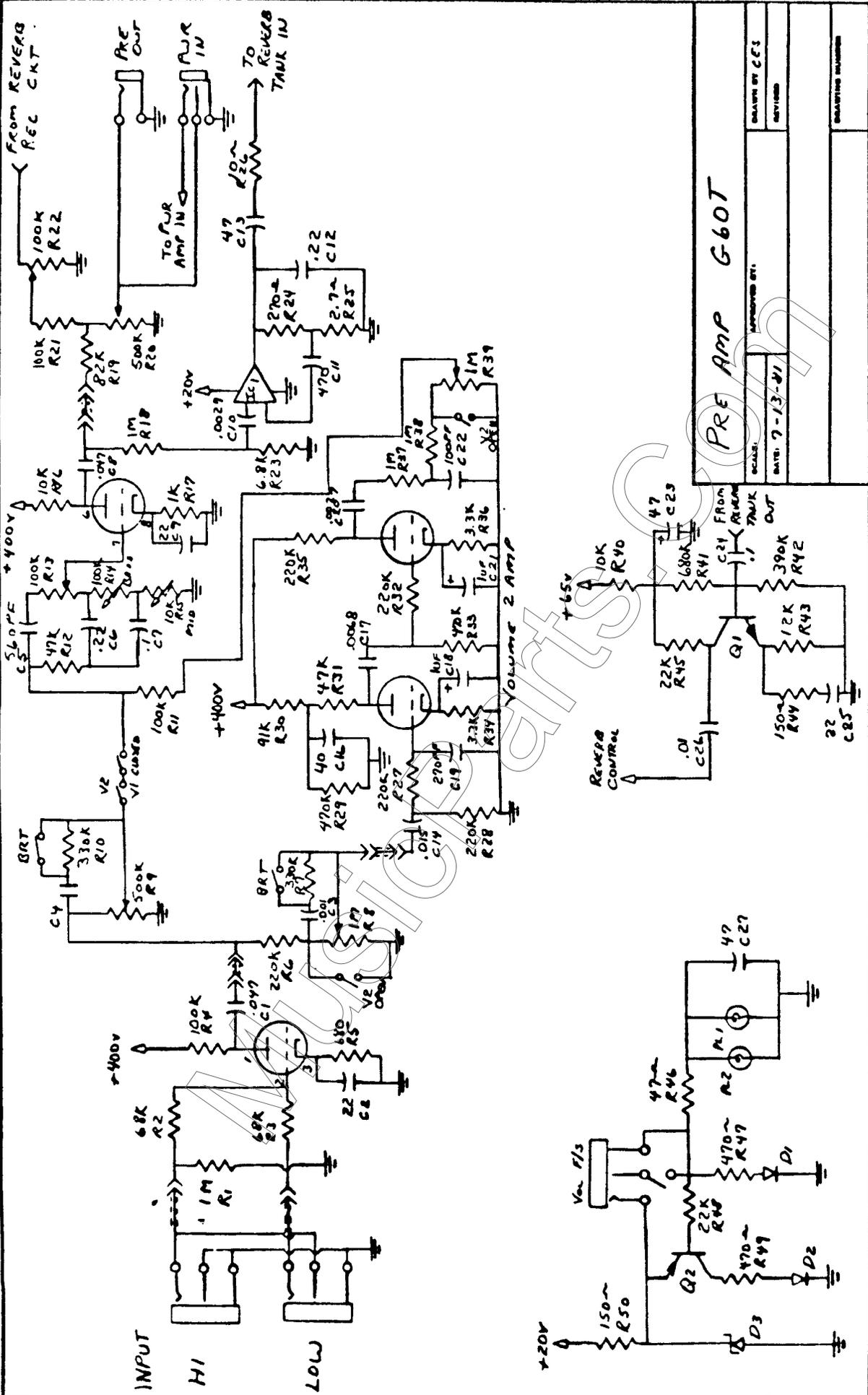
3. Signal to Noise Ratio	Below Rated Output
Volume 1 and 2 controls, fully clockwise	-68 db in Volume 1 mode
Master Volume Control, fully clockwise	-50 db in Volume 2 mode

Tone controls at mid position (12 o'clock)

Reverb Off

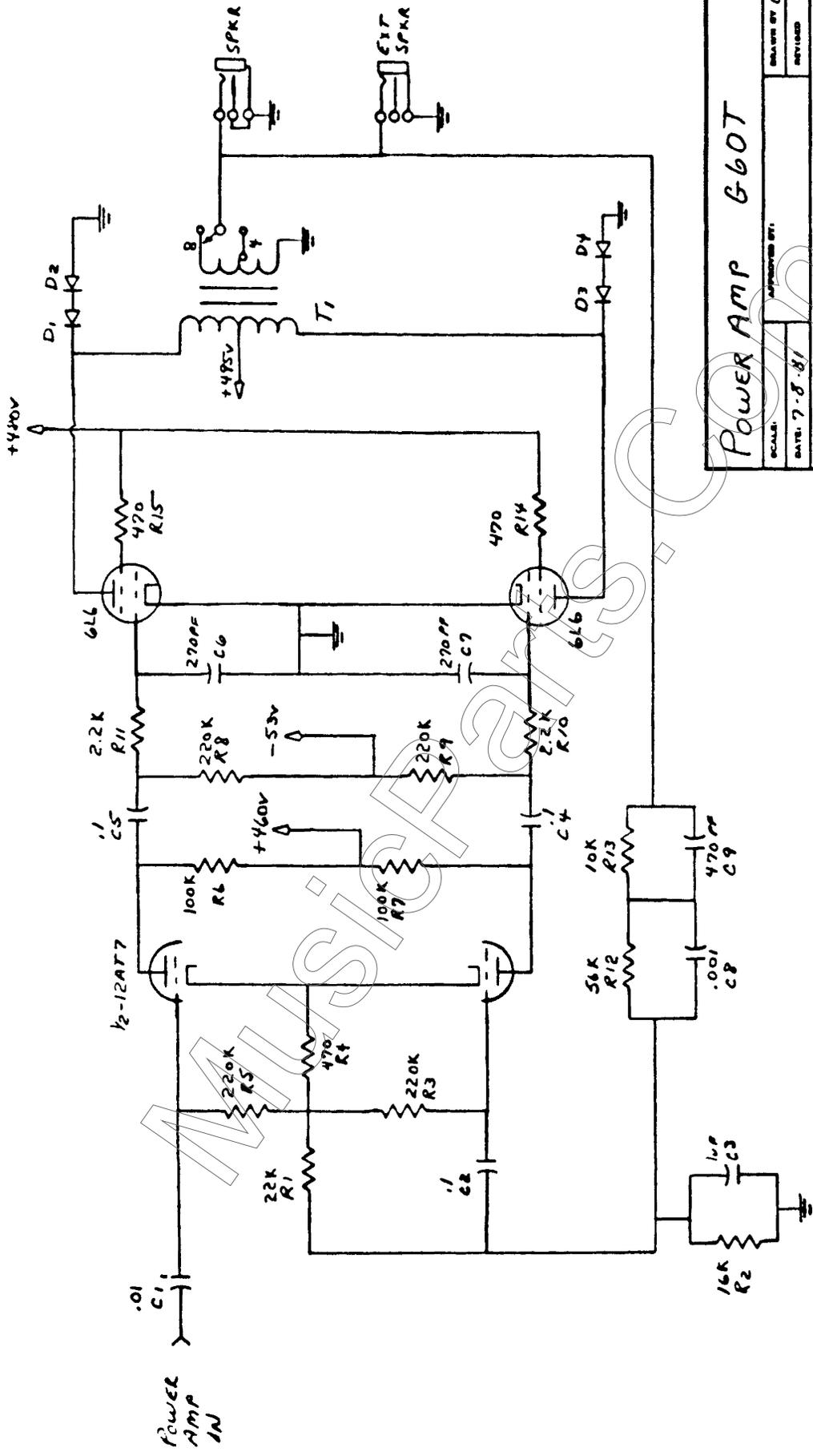
Master Volume Control

Set at fully counter-clockwise position -86 db in either Volume 1 or Volume 2 mode.



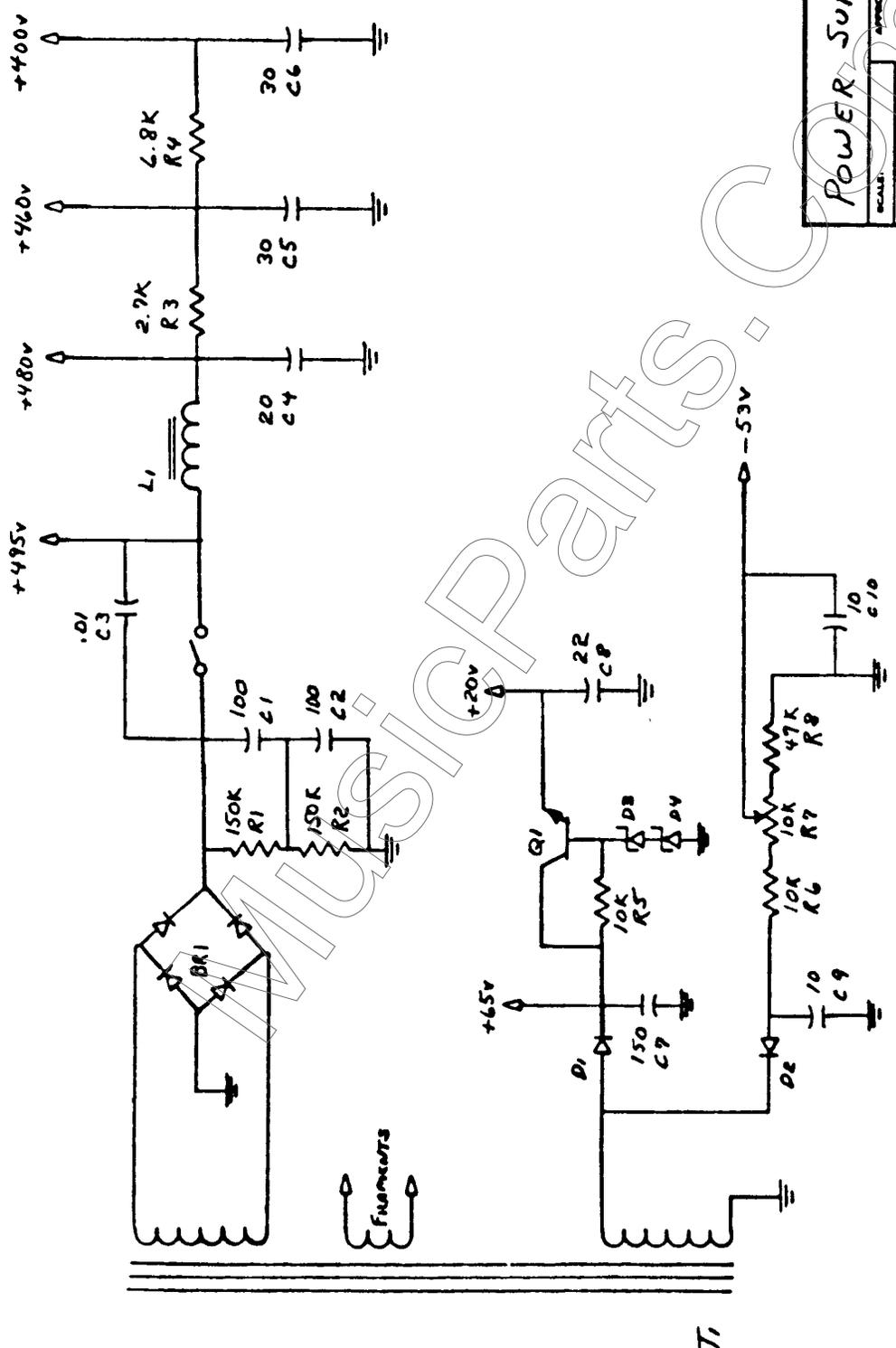
PRE AMP G-60T

DESIGNED BY	CE3
REVIEWED	
DATE	7-13-61
APPROVED BY	
ISSUING NUMBER	



Power Amp G60T

SCALE:	APPROVED BY:
DATE: 7-8-81	DESIGNED BY: C.E.S
DRAWING NUMBER:	



POWER SUPPLY G-60T		SCALE:	APPROVED BY:
		DATE: 7-9-31	REVIEWED:
DRAWING NUMBER		REVISION NUMBER	

Front Panel

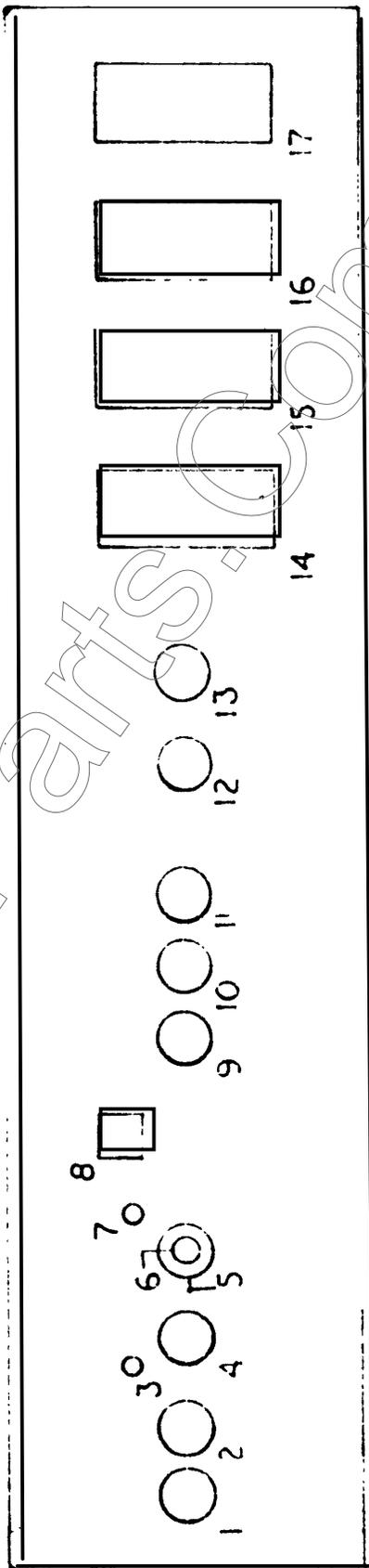
1. & 2. Input Jacks Both are standard 1/4" phone jacks, the number one input (hi-gain) is for single guitar usage. (Input impedance is one megohm). The number two jack (low gain) is minus 6 db. When using only 1 guitar one input impedance is 150 K ohms. When using both inputs at the same time, the jacks are equal.
3. Volume 1 Indicator When this red LED is lit, the amp is in the rhythm or clean mode. Volume 1 control is activated and the drive/Volume 2 control is deactivated.
4. Volume 1 Control A continuously variable pre-volume control that works in conjunction with the master volume control (13).
5. Volume 2 Control A continuously variable volume control that works in conjunction with the drive (6) and master (13) controls.
6. Drive Control A continuously variable control that adjusts the amount of distortion and/or gain in the Volume 2 mode.
7. Volume 2 Indicator When this red LED is lit, the amp is in the lead or overdrive mode. The drive and Volume 2 controls are activated and the Volume 1 control is deactivated.
8. Brite Switch When depressed, boosts the high frequencies in Volume 1 mode. Becomes less effective as Volume 1 or drive control is increased, depending on mode.
9. Trebles From the mid position (12 o'clock) cuts the high frequencies in the counter-clockwise direction, boosts the high frequencies in the clockwise direction.
10. Midrange From the mid position (12 o'clock) cuts the midranged frequencies in the counter-clockwise direction, boosts the midrange frequencies in the clockwise direction.

Front Panel (continued)

11. Bass From the mid position (12 o'clock) cuts the low frequencies in the counter-clockwise direction and boosts the low frequencies in the clockwise direction.
12. Reverb A footswitchable control that varies the amount of reverberation.
13. Master Volume Control. Controls the volume of the amplifier in either Volume 1 or Volume 2 mode.
14. Volume Selector Switch. Sets mode of amplifier desired. Volume 1 position being clean or rhythm and Volume 2 being over-drive or lead.
15. Ground Reverse Switch.. This switch can, under some conditions, reduce or eliminate a persistent hum or click in the strings. Set the switch in whichever position that reduces or eliminates the problem.
16. Standby Switch This switch activates the amplifier if the power switch has been turned on. The purpose of this switch is to conserve energy consumption when not in actual use. This is accomplished by removing the B+ but allowing a voltage to all tubes. This allows the immediate usage of the amplifier without awaiting a warm-up period.
17. Power Switch An A/C on/off switch.

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FRONT PANEL MODEL G60T



REAR PANEL

1. AC Line Fuse A 1-1/2 amp Slo-Blow fuse
2. Spare Fuse Holder A 1-1/2 amp Slo-Blow fuse holder, which is not connected. This is provided as a convenience to store a spare fuse.
3. Reverb Footswitch Jack A phone jack is provided for connection of a footswitch to enable remote on/off operation of the reverb.
4. Volume Footswitch Jack A phone jack is provided for connection of a footswitch to enable activation or deactivation of Volume 2 remotely.
5. Preamp Output Jack A phone jack is provided for an additional power amp or recording output connections. This output is designed to drive a load impedance of 50 K ohms or greater.
6. Power-In A 1/4" switching jack is provided for external accessory connection, such as pre-recorded material or another preamp. Insertion of a plug into this connector will break the normal connection between the preamp and power amp. The input level required at this jack for full output is 2 volts.
7. External Speaker A 1/4" phone jack is provided for connection to an external speaker. This jack should not be used without a speaker connected to the normal speaker jack. The impedance at this jack should not be less than 8 ohms.

Note: When a 8 ohm external speaker is used, in conjunction with the normal speaker, the impedance selector switch should be in the 4 ohm position.
8. Speaker A 1/4" phone jack is provided for connection to the internal speaker or any speaker load.

Rear Panel (continued)

9. **Speaker Impedance Switch** . This switch should set in accordance with the total load impedance between the speaker and external speaker jacks.

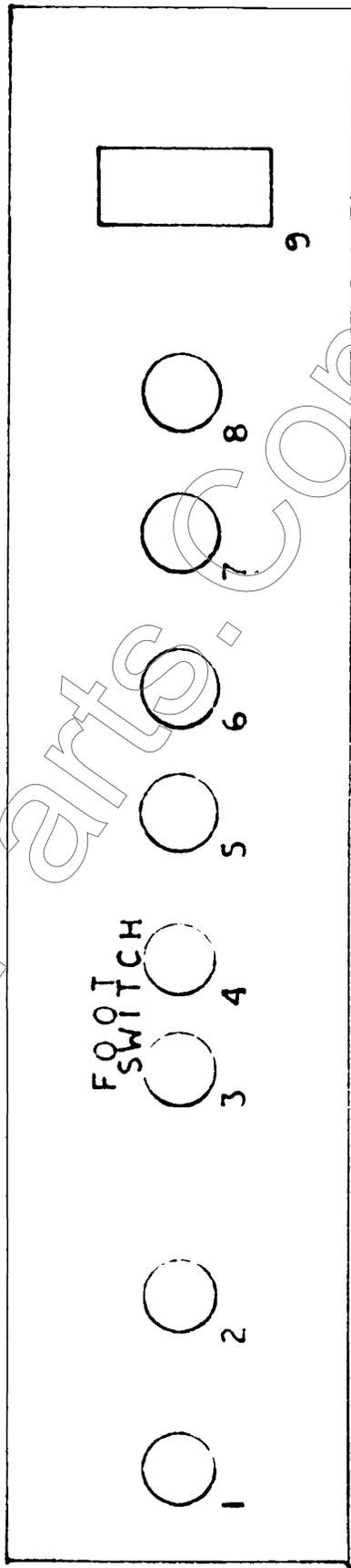
Note: The amplifier should be turned off when changing position of this switch.

Note: A speaker must be plugged into the speaker jack for the amplifier to work. If a speaker is plugged into the extension jack only, NO SOUND WILL COME OUT.

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REAR PANEL G60T



PART LIST
MODEL G60T (Pre-Amp)

SCHEMATIC REFERENCE	DESCRIPTION	ACOUSTIC PART NO.	SCHEMATIC REFERENCE	DESCRIPTION	ACOUSTIC PART NO.
R1, 18, 37, 38	Resistor, 1/2W, 1 meg, 5%	476510	C1, 8	Capacitor, Poly, .047UF, 400 V	151021
R2-3	Resistor, 1/2W, 68K, 5%	476368	C2, 25	Capacitor, Elect, 22UF, 50 V	159005
R4, 11, 12	Resistor, 1/2W, 100K, 5%	476410	C3	Capacitor, Disc, .001UF, 500 V	157011
R5	Resistor, 1/2W, 680ohms, 5%	476168	C4	Capacitor, Disc, .0015UF, 500V	157012
R6, 27, 28, 32, 35	Resistor, 1/2W, 220K, 5%	476422	C5	Capacitor, Disc, 560PF, 500 V	157017
R7-10	Resistor, 1/2W, 330K, 5%	476433	C6, 12	Capacitor, Poly, .22UF, 100 V	152027
R8-39	Pot, Rotary, Dual 1meg	475064	C7	Capacitor, Poly, .1UF, 100 V	158005
R9	Pot, Rotary, 500K Lin	475071	C9	Capacitor, Elect, 22UF, 50 V	159005
R12, 31	Resistor, 1/2W, 47K, 5%	476347	C10, 20	Capacitor, Disc, .0027UF, 500 V	157013
R13, 14	Pot, Rotary, 100K Log	475062	C11	Capacitor, Elect, 500UF, 6V	153009
R15	Pot, Rotary, 10K Log	475067	C13, 27	Capacitor, Elect, 47UF, 50 V	159006
R16, 40	Resistor, 1/2W, 10K, 5%	476310	C14	Capacitor, Poly, .015UF, 100 V	158001
R17	Resistor, 1/2W, 1K, 5%	476210	C16	Capacitor, Elect, 40UF, 350 V	159017
R19	Resistor, 1/2W, 82K, 5%	476382	C17	Capacitor, Disc, .0068UF, 500 V	157015
R20	Pot Rotary, 500K, Lin	475071	C18, 21	Capacitor, Elect, 1UF, 50 V	159001
R22	Pot Rotary, 100K, Lin	475056	C19	Capacitor, Disc, 270PF, 500 V	157008
R23	Resistor, 1/2W, 6.8K, 10%	474268	C22	Capacitor, Disc, 100PF, 500 V	157006
R24	Resistor, 1/2W, 270ohm, 5%	476127	C23	Capacitor, Elect, 47UF	159006
R25	Resistor, 1/2W, 2.7ohms, 5%	476927	C24	Capacitor, Poly, .1UF, 400 V	151022
R26	Resistor, 2W, 10 ohm, 10%	472010	C26	Capacitor, Disc, .01UF, 500 V	157016
R29 & 33	Resistor, 1/2W, 470K, 5%	476147	Q 1	Transistor, Signal	480038
R30	Resistor, 1/2W, 91K, 5%	476391	Q 2	Transistor, Signal	480032
R34, 36	Resistor, 1/2W, 3.3K, 5%	476233	IC 1	IC Power Amp	480070
R41	Resistor, 1/2W, 680K, 5%	476468	D 1, 2	Rectifier, Diode	480048
R42	Resistor, 1/2W, 39K, 5%	476339	PL-1	Vactec Uptoisolator	370002
R43	Resistor, 1/2W, 1.2K, 5%	476212			
R44 & 50	Resistor, 1W, 150 ohm, 5%	461014			
R45, 48	Resistor, 1/2W, 22K, 5%	476322			
R46	Resistor, 1/2W, 47 ohm, 5%	476047			
R47, 49	Resistor, 1/2W, 470 ohm, 5%	476147			

PART LIST

MODEL G60T (Power Amp)

SCHEMATIC REFERENCE	DESCRIPTION	ACOUSTIC PART NO.	SCHEMATIC REFERENCE	DESCRIPTION	ACOUSTIC PART NO.
C 1	Capacitor, Disc, .01UF, 500V	157016	R 1	Resistor, 1/2W, 22K, 5%	476322
C 2	Capacitor, Poly, 1UF, 100V	158001	R 2 & 13	Resistor, 1/2W, 10K, 5%	476310
C 3	Capacitor, Elect, 1UF, 50V	159001	R 3, 5, 8, 9	Resistor, 1/2W, 220K, 5%	476422
C 4-5	Capacitor, Elect, 1UF, 400V	151022	R 4, 14, 15	Resistor, 1/2W, 470K, 5%	476447
C 6-7	Capacitor, Disc, 270PF, 500V	157008	R 6 - 7	Resistor, 1/2W, 100K, 5%	476410
C 8	Capacitor, Disc, .001UF, 500V	157011	R 10-11	Resistor, 1/2W, 2.2K, 5%	476222
C 9	Capacitor, Disc, 470PF, 500V	151006	R 12	Resistor, 1/2W, 56K, 5%	476356
T 1	Transformer, Output	560039	D 1, 2, 3, 4	Rectifier, Diode	480048

PART LIST
MODEL G60T (Power Supply)

SCHEMATIC REFERENCE	DESCRIPTION	ACOUSTIC PART NO.	SCHEMATIC REFERENCE	DESCRIPTION	ACOUSTIC PART NO.
T 1	Transformer	560040	C 1-2	Capacitor, Elect, 100UF, 300 V	159016
BR1	Rectifier, Bridge	480081	C 3	Capacitor, Elect, .01UF, 1.4KV	151015
D 1-2	Rectifier, Diode	480028	C 4	Capacitor, Elect, 20UF, 500 V	153039
D 3-4	Rectifier, Zener	480086	C 5-6	Capacitor, Elect, Dual40UF, 500V	153038
L 1	Transformer, Filter	560032	C 7	Capacitor, Elect, 150UF, 80 V	159022
R 1-2	Resistor, 1W, 150K, 10%	474415	C 8	Capacitor, Poly 22UF, 100 V	152027
R 3	Resistor, 5W, 2.7K, 10%	463227			
R 4	Resistor, 1W, 6.8K, 10%	474268			
R 5-6	Resistor, 1/2W, 10K, 5%	476310	C 9-10	Capacitor, Elect 10UF, 100 V	159008
R 7	Pot, Trim, 10K, Lin	475008			
R 8	Resistor, 1/2W, 47K, 5%	476347	Q 1	Transistor, Drive	480056