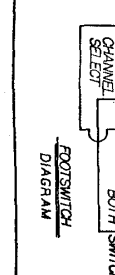


REV.	REVISIONS	DATE	APP'D.	DATE
A	UP DATE			9-83

SCALE OF DRAWING:	TITLE:
NONE	SCHEMATIC DRWG
NONE	PCB 21 468
NONE	MODEL # LEFT



NOTES—UNLESS OTHERWISE SPECIFIED:

- ALL CAPACITORS ARE RATED IN MFD AT 100 VOLTS.
- ALL RESISTORS ARE 1/2 WATT UNLESS NOTED.
- IC 4558
- THIS SYMBOL INDICATES A D.C. VOLTAGE FROM THIS POINT TO CHASSIS GROUND. ALL VOLTS  $\pm$  D.C.
- TRANSISTORS Q1 THRU Q6 : TS-58 FET OR 2N5494
- TRANSISTORS Q7 THRU Q9 : 2N6234
- TIP 32C + TIP 31C
- TOP (S) BOTTOM (S) BOTTOM (S)

2-24 RG100S + RG100HT  
 2-12 RG90-112 + RG90ES

# *Randall*

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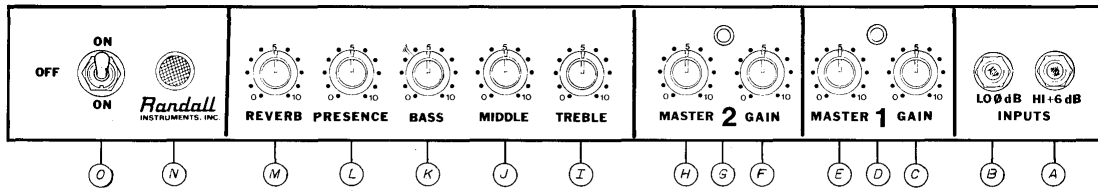
## **RG 100 ES, RG 80 ES OWNER'S MANUAL**

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## FRONT PANEL



**(A) High Gain + 6 db Input:**

This input can be used with most musical instruments. The gain characteristic of this input is 6 db higher than the low gain input.

**(B) Low Gain - 0 db Input:**

This input is provided to accommodate those electric instruments whose output signal is so high as to cause an overload when plugged into the high gain input.

**(C) (F) Channel Gain Controls and**

**(E) (H) Master Volume Controls:**

**Clean Sound**

To achieve a clean, nondistorted sound, the master volume control should be set at *the full on position*, or at 10 on the dial. The volume level of the amplifier is then controlled by the channel volume control on the channel in use. To eliminate unwanted background noise, one should always set the channel volume control at the full off position, "0" on the dial, *on the channel not in use*.

**Distortion and Sustain**

To achieve a distortion sound, the following volume control settings should be used: Select the channel to be used and set its channel volume control at the *full on position*, 10 on the dial. The volume level of the amplifier is now controlled by the master volume control. Once again, the channel volume control of the channel not in use should be set at the full off position, "0" on the dial.

Different levels of distortion can be attained by experimenting with the blend between the master volume control and the channel volume control. As an example, a setting of 2 on the master volume control and 10 on the channel volume control will produce more distortion than a setting of 4 on the master volume control and 6 on the channel volume control. (There will be no sound if master controls are turned off).

**(D) (G) Red and Green LED Lights:**

Indicate channel in operation (operated by foot-switch).

**(I) \* (J) (K) Treble Control Middle Control Bass Control**

Both channels are FED to the four tone controls, each allowing maximum control of the portion of the tone spectrum for which they are designed. Since no one can determine exactly what sound will be desired in any given situation, it is best to experiment with the tone controls until the desired response is achieved.

**\*TREBLE PULL SWITCH:**

Pulling the treble knob out adds clipping-diodes to the circuit and acts somewhat like a compressor to the #2 channel only. The overall volume will drop which can partially be recovered by increasing the master V.C. however, only a portion of the rated power output can be obtained when operated in this manner. This mode of operation provides "infinite" sustain and is especially effective for lowered volume operation as in studio or home practice use.

**(L) Presence Control:**

This control operates in the audio spectrum higher than the treble control and adds the very sparkling, or tingling, touch to the sound that provides that extra dimension to the response. It is effective on either channel.

**(M) Reverb Control:**

The reverb control allows total control of the amount of reverb introduced to the signal. Experimentation will produce the exact amount of reverb desired. Reverb can be turned on and off by means of a footswitch (see rear panel highlights). Reverb is effective on both channels.

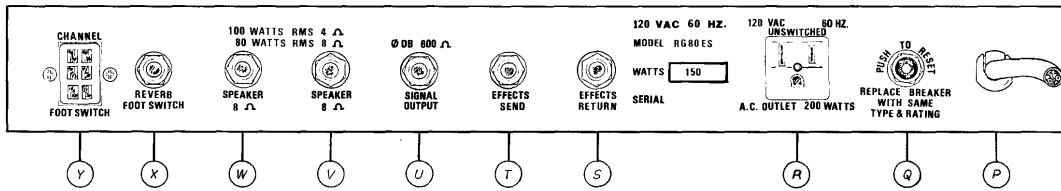
**(N) Pilot Light**

The pilot light is activated when the amplifier is turned on.

**(O) On and Off Switch**

This three position switch provides a means of turning the amplifier on and also reversing the polarity of the power source so that the amplifier will not reproduce a constant hum or sizzle. Select the on position which best grounds the amplifier at each different set up.

## BACK PANEL



### **(P)** AC Line Cord

To be connected to any external power source capable of supplying 115-125 VAC at 50/60 Hz, draws approximately 200 watts at amplifier's full output.

### **(Q)** Circuit Breaker:

The circuit breaker is actually a mechanical fuse and protects the amplifier from extreme overload conditions. If amplifier turns off because of overload, pushing on the red circuit breaker button will reset. If circuit breaker cannot be reset, or continues to trip, it is an indication of trouble and should be investigated by a qualified technician.

### **(R)** AC Convenience Outlet:

This can be used to supply an additional piece of equipment requiring 115-125 VAC at 50/60 Hz, 200 watts. This outlet is not switched from the on-off switch.

### **(S) (T)** Effects Jacks

The jack labeled "effects send" should be connected to the input of the effects unit. The jack labeled "effects return" should be connected to the output of the effects unit. The effects buss is prepower amplifier and post pre amplifier.

### **(U)** Pre Amp Output Jack:

The pre amp output jack provides an output signal for driving additional amps, tape recorder, line or for recording directly from the amplifier, eliminating the need to mike the speakers. This jack is not a speaker output and should never be used as one.

### **(V) (W)** Speaker Output Jacks:

Use to connect the internal speaker of the amplifier or external speakers as required. Less than 8 OHM load impedance not recommended.

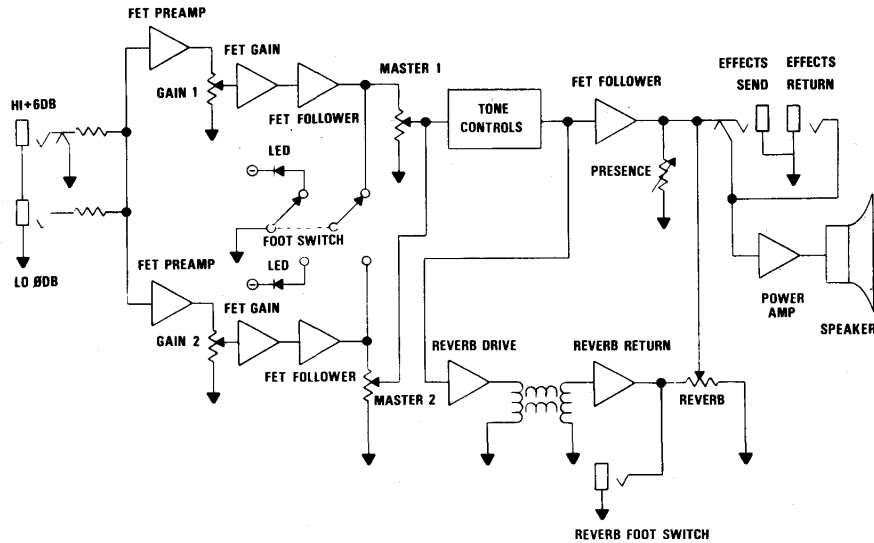
### **(X)** Reverb Footswitch Jack:

This jack provides a connection for the reverb footswitch which is used to turn the reverb on or off after the amount of reverb is preset by the reverb control on the front panel. It is not necessary to use the footswitch unless it is desired to be able to turn the reverb on and off at will.

### **(Y)** Footswitch Jack:

Plug in footswitch to switch channels. No lock is provided for the plug in order that it can disconnect easily in case the cable is accidentally tripped over or pulled too tightly.

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**



**RG 100 ES, RG 80 ES BLOCK DIAGRAM**

**SPECIFICATIONS**

POWER OUTPUT } RG 100 ES }	120 watts RMS @ 4 ohms @ 2% THD 80 watts RMS @ 8 ohms @ 2% THD
POWER OUTPUT } RG 80 ES }	100 watts RMS @ 4 ohms @ 2% THD 80 watts RMS @ 8 ohms @ 2% THD
NUMBER OF CHANNELS	Two, each channel is driven from common input jacks.
MINIMUM INPUT SIGNAL } FOR RATED OUTPUT }	.5 mV @ 3K Hz #2 channel 6.5 mV @ 3K Hz #1 channel
TONE CONTROLS	All tone controls set at 5 Bass Swing @ 50 Hz, 15 dB Mid Swing @ 600 Hz, 10 dB Treb Swing @ K Hz, 16 dB Presence Swing @ 10K Hz 15 dB Presence Swing @ 15K Hz 18 dB
NOISE	All tone controls @ 10 Volume @ 0 Master @ 10, -75 dB
EFFECTS LOOP	Send 200 mV max. return 50K ohms
SIGNAL OUTPUT	0 dB @ 600 ohms
INPUT IMPEDENCE	1 MEG, Hi +6 dB. 130K ohm Lo 0 dB.
AC OUTLET	200 watts unswitched.
POWER AMPLIFIER DAMPING FACTOR	2-4 @ 8 ohms
AC LINE VOLTAGE FOR RATED OUTPUT	120 VAC
WEIGHT	51 Lb.
SIZE RG 100 ES	11" H, 29¼ W, 9¾ D
SIZE RG 80 ES	9" H, 24 W, 9¾ D

***Randall***

**RANDALL ELECTRONICS, INC.**

**1132 DURYE, IRVINE, CA 92714-5582**