



# ***BACKSTAGE***

## ***PLUS***<sup>™</sup>

### OPERATING GUIDE

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CAUTION  
TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE THIS INSTRUMENT TO RAIN OR MOISTURE.  
BEFORE USING THIS INSTRUMENT, READ BACK COVER FOR FURTHER WARNINGS.

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#### **GENERAL DESCRIPTION**

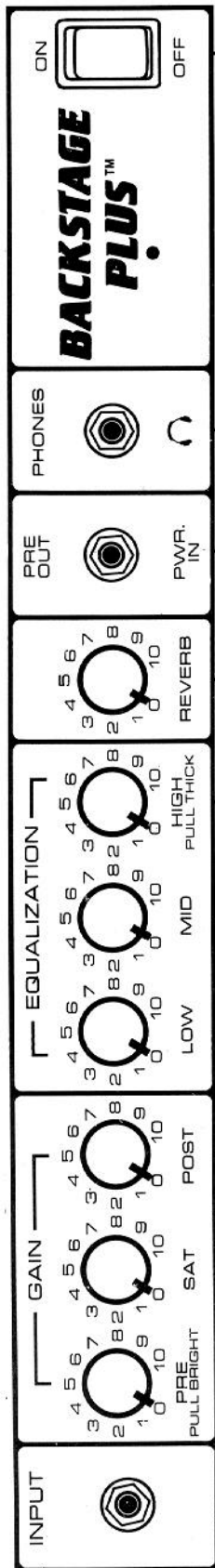
Congratulations on your purchase of the Backstage Plus<sup>™</sup>. Reading this operating guide will help give you a thorough understanding of the operating principles of the Backstage Plus<sup>™</sup> and will also help you to achieve many varied and diverse tonal settings.

The Backstage Plus<sup>™</sup> is a 35 watt musical instrument amplifier specifically designed for practice, studio and home recording applications. The Backstage Plus<sup>™</sup> is also equally effective as a medium-powered system for club work, especially when microphone and/or direct interface with the mixing console is employed.

This amp is a solid state unit containing some of the most unique and flexible circuitry for obtaining a multitude of distortion effects as well as undistorted sounds which are complemented by a full brace of equalization to create almost any imaginable tonal color. The Backstage Plus<sup>™</sup> features our new Gain Block<sup>™</sup> which consists of three controls: Pre Gain, Saturation<sup>™</sup> (U.S. Patent No. 4,405,832), and Post Gain which allows the player total control of the overall texture of harmonic content and overload characteristics by varying the amount of drive of the Pre Gain and Saturation<sup>™</sup> controls and finally adjusting the Post Gain to the desired output level.

To make the Backstage Plus<sup>™</sup> even more versatile, a headphone jack has been included on the front panel. When the headphone system is in operation, the internal speaker is cut off making a totally private rehearsal possible. The unit also contains a Preamp Out/Power Amp Input jack on the front panel to allow driving external power amps, tape decks, etc., and in-line patching of effects devices.

There are several operating principles concerning the gain controls (Pre Gain/Pull Bright, Saturation<sup>™</sup>, Post Gain) and equalization controls (Low, Mid, High/Pull Thick) which should be fully understood to achieve the best tonal results. Please read this operating guide and keep it handy and refer to it whenever necessary for your particular applications.



## THE FRONT PANEL

### ON/OFF SWITCH

The on/off switch is a rocker-type switch and should present no problems in operation. In the on position, a red LED will illuminate showing that power is being supplied to the unit.

### HEADPHONE JACK

The Backstage Plus™ is equipped with a headphone output jack. This is a stereo jack in order to allow the signal to flow to each side of any stereo headset. When the headphone monitor system is activated, the internal speaker is automatically turned off so that a totally private rehearsal situation can be accomplished. Note: The headphone system will not work with headsets that have a mono phone plug.

### PREAMP OUTPUT/POWER AMP INPUT:

To allow in-line patching of battery or AC powered effects and signal processors, we have incorporated a simple out/in jack on the front panel. The out/in jack (post EQ) is a ¼" ring/tip/sleeve configuration where the tip portion of the jack serves as the preamp output while the ring acts as the power amp input or return. The sleeve is ground. A typical patch for this out/in jack would be to utilize a "Y" cord and connect the output portion of the "Y" to the **input** of the device. The return portion of the "Y" is then connected to the **output** of the device which will return the processed signal to the Backstage Plus™. It is also possible to insert a shielded patch cord with a mono plug (tip and sleeve only) into the "first click" position and obtain a pre-amp output signal for patching purposes only without breaking the signal flow from the pre amp to the internal power amp/speaker system.

### MASTER REVERB

The amount of reverb is controlled by the master reverb knob. Turning the control clockwise increases the amount of delayed (reverb) signal. Counterclockwise will decrease the reverb effect. The reverb may also be remotely controlled with an optional footswitch.

### EQUALIZATION SECTION

The equalization controls (low, mid, high/Pull Thick) are highly effective circuits and their tonal capabilities **are designed to slightly** interact with each other.

#### The High Control with Pull Thick switch

The high control is used to tailor the amount of treble (highs) of the musical instrument and the preamp. It should be noted that when using distortion (overload) textures, too much high-end can cause a harshness that will detract somewhat from the warm, tube-like sounds of the Saturation™ circuit. The high control also has a "pull" switch called Thick. When activated, Thick acts as a mid-range boost and is especially useful for enhancing the distortion characteristics (Saturation™) of the Backstage Plus™.

#### NOTE:

**WHEN THIS PULL SWITCH IS ACTIVATED, THE HIGH FREQUENCIES MAY BECOME LESS PRONOUNCED BECAUSE OF THE FULLNESS ADDED BY THE BOOSTED MIDDLE FREQUENCIES. IN ADDITION, THE ACTION OF THE TONE CONTROLS, ESPECIALLY THE MIDDLE CONTROL, IS LESS PRONOUNCED AND EFFECTIVE.**

#### The Mid Control

The Mid control is **vital** to the tone coloration of the instrument's signal — especially guitar. A good "rule of thumb" for the mid control is to **cut** (reduce) the amount of mids when clean, undistorted tonalities are desired. Warmer "fatter" tonalities for enhancement of distortion sounds can be obtained by rotating the control clockwise (boost). For maximum mid-range boost, use the Pull Thick switch located on the **high control** (see High/Pull Thick).

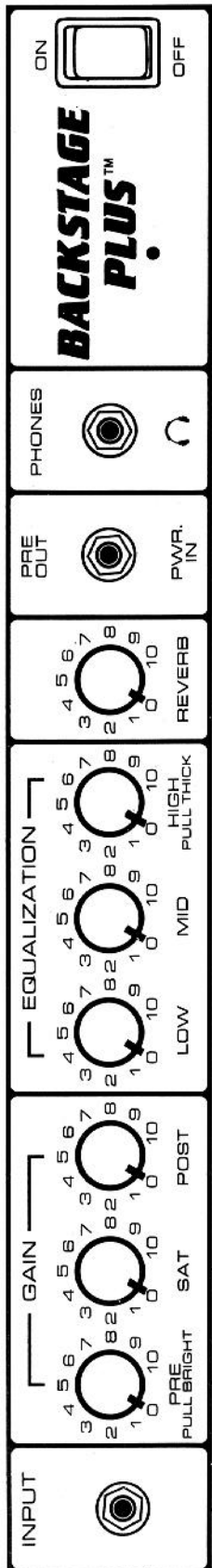
#### The Low Control

The Low control determines the low frequency response of the Backstage Plus™. Rotating this control clockwise increases the amount of bass while counterclockwise rotation reduces the low end. We recommend that care should be taken **not** to overboost the low control. Overboosting low frequencies tend to prematurely overload the power amp. Overboosting of the low control also reduces the system's projection capabilities, usually at the expense of the middle and upper frequencies.

### THE GAIN SECTION

#### Post Gain

Basically, the post gain control acts as a master volume and sets the overall gain (volume) level for the Backstage Plus™'s power amp. The post gain control also provides a dual purpose and this **must be understood** to achieve the best sounds from the Backstage Plus™'s clean/distortion capabilities. To achieve the best overload (distortion) from the Backstage Plus™, we recommend that the post gain control be set no higher than its 12 o'clock or #5 position. Setting the post gain control higher than 5 may cause the power amp (in conjunction with the pre gain and Saturation™ controls) to generate its own harmonics and possibly create an unpleasant, harsh sounding distortion. To attain maximum power reserve for clean sounds, the post gain control may be rotated fully clockwise to 10. (For further setting recommendations see the tone setting charts).



### Saturation™ Control

The Saturation™ control determines the amount of overload and can be varied from soft distortion sounds (settings of 0 to 5) to hard rock tonalities (settings of 5 to 10). Please remember to avoid setting the post gain control higher than 5 when using the Saturation™ circuit to create distortion sounds (see post gain control above).

### Pre Gain/Pull Bright Control

The pre gain control is the first volume control of the system and, like the post gain control, also serves a dual purpose. If the post gain control is set to its full 10 position for clean tonalities, the pre gain control should be positioned somewhere in the middle of its range or lower. Placing the pre gain control higher than 5 may cause unwanted "square waves" (distortion) and result in premature "clipping" in the power amp. If distortion is desired, however, both the pre gain and post gain controls should be placed near their 12 o'clock or #5 positions and the **amount of distortion** should then be adjusted with the Saturation™ control.

The pre gain control also employs a pull Bright switch which adds approximately 8 dB of boost to the high end. As with the high EQ control, use care with the Pull Bright switch when using a distortion sound as too much treble may cause a harsh sound at the power amp/speaker of the Backstage Plus™.

### INPUT

The input jack is designed to produce optimum input level requirements for both single coil, low output instruments and instruments containing dual coil or "hot" pickups.

### GAIN BLOCK INSTRUCTIONS

The following are two examples of typical clean and distortion sounds that are available from the Backstage Plus™. NOTE: They are meant only as a general guideline. For further tone/gain setting examples see the tone setting charts.

#### A. Clean (Country/Jazz styles)

- (1) Place the post gain control between 8 and 10.
- (2) Position the Saturation™ control to 0 or use the remote footswitch to defeat the Saturation™.
- (3) Adjust the pre gain control to the desired volume level.
- (4) Adjust the low, mid and high/Pull Thick controls to taste. (Add Pull Bright if desired).
- (5) Readjust pre gain if necessary.

#### B. Distortion (Rock'n'Roll/Rhythm & Blues)

- (1) Place the pre gain control between 5 and 7.
- (2) Place the Saturation™ control anywhere in its range from 0 to 10.
- (3) Increase the post gain control to the desired volume level. NOTE: DO NOT PLACE THE POST GAIN CONTROL HIGHER THAN ITS 12 O'CLOCK OR #5 POSITION.
- (4) Adjust the equalization section to taste adding Pull Thick if desired.
- (5) Readjust the post gain, pre gain, and the Saturation™ controls if necessary.

#### BACKSTAGE PLUS™ SPECS:

##### POWER AMPLIFIER SECTION:

##### RATED POWER & LOAD:

35 W RMS into 8 ohms

##### POWER @ CLIPPING:

(Typically @ 5% THD, 1 kHz, 120 VAC line)

40 W RMS into 8 ohms

4 ohms or less not recommended

##### FREQUENCY RESPONSE:

+0, -2 dB 50 Hz to 15 kHz @ 30 W RMS into 8 ohms

##### HUM & NOISE:

Greater than 88 dB below rated power

##### POWER CONSUMPTION:

100 Watts, 50/60 Hz, 120 VAC (Domestic)

##### PREAMP SECTION:

The following specs are measured @ 1 kHz with the controls preset as follows:

Pre Gain Pull Bright Off (In)

Sat @ 0

Post Gain @ 10

Low & High EQ @ 10

Mid EQ @ 10

Pull Thick Off (In)

Reverb @ 0

Nominal Levels are with Pre Gain @ 5

Minimum Levels are with Pre Gain @ 10

#### INSTRUMENT INPUT:

Impedance: High Z, 220K ohms

Nominal Input Level: -24 dBV, 60 mV RMS

Minimum Input Level: -46 dBV, 5 mV RMS

Maximum Input Level: +3 dBV, 1.4 V RMS

#### PREAMP OUTPUT: (STEREO JACK TIP)

Load Impedance: 10K ohms or greater

Nominal Output: +0 dBV, 1 V RMS

#### POWER AMP INPUT: (STEREO JACK RING)

Impedance: High Z, 47K ohms

Designed Input Level: 0 dBV, 1 V RMS

(Switching jack providing preamp output to power amp input connection when not used)

#### HEADPHONE OUTPUT: (STEREO JACK)

Load Impedance: 4 ohms or greater

Nominal Output: 100 mW

(Switching jack which will disconnect internal speaker when headphone plug is inserted)

#### SYSTEM HUM & NOISE @ NOMINAL INPUT LEVEL:

(20 Hz to 20 kHz unweighted)

Greater than 76 dB below rated power

#### EQUALIZATION:

Special low, mid & high passive type EQ with pull thick

Pull Bright: +8 dB @ 2 kHz

#### AUTO-MIX FEATURES:

Reverb Defeat

Sat Defeat

35 WATTS  
16.5 V RMS  
8 OHMS



120 VAC  
60 Hz  
100 WATTS



# BACKSTAGE PLUS™

A PRODUCT OF  
PEAVEY ELECTRONICS CORP.  
MERIDIAN, MS. MADE IN U.S.A.

**CAUTION**  
TO PREVENT THE RISK OF FIRE AND SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DO NOT REMOVE FROM CASE. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.  
AVIS: RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR.

FT. SW.



BUILT UNDER U.S. PATENT NO. 4,405,832

## BACK PANEL

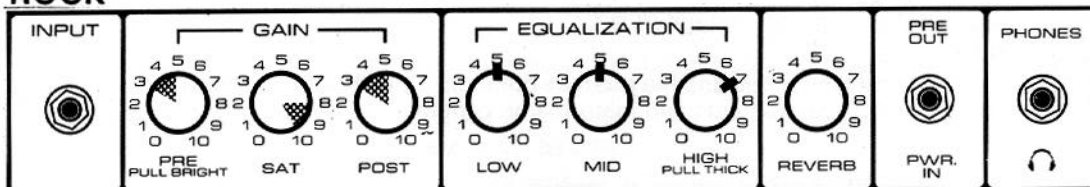
### LINE CORD:

For your safety we have incorporated a 3-wire line (mains) cable on the rear of the chassis with proper grounding facilities. It is not advisable to remove the ground pin under any circumstances. If it is necessary to use the amplifier without proper grounding facilities, suitable grounding adaptors should be used. Much less noise and greatly reduced shock hazard exist when the unit is operated with the proper grounded receptacles.

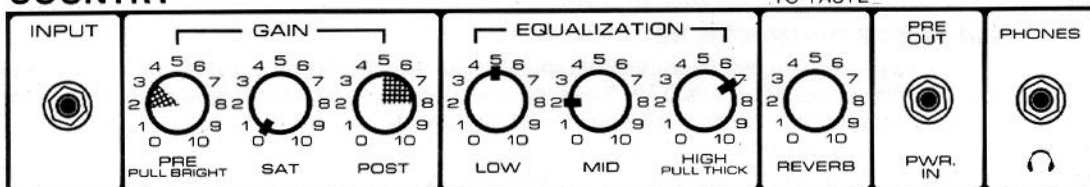
### FOOTSWITCH JACK

The footswitch jack is provided for the connection of an optional remote footswitch. The footswitch can be used to remotely activate or defeat Saturation™ and reverb functions of the Backstage Plus™.

## ROCK



## COUNTRY

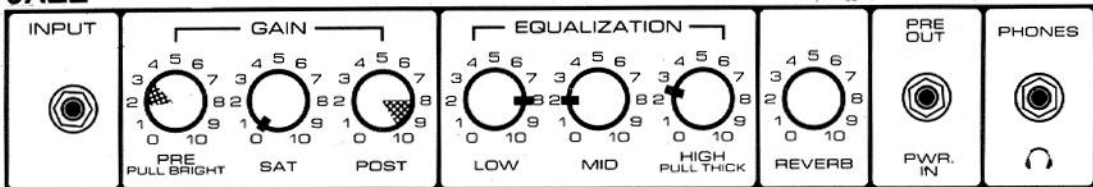


SATURATION™ OFF OR FOOTSWITCH OUT

PULL THICK OFF

ADJUST TO TASTE

## JAZZ



SATURATION™ AT "0"  
OR FOOTSWITCH OUT

PULL THICK OFF

ADJUST TO TASTE

**NOTE: THESE TONE SETTING CHARTS ARE TO BE USED AS A GENERAL GUIDELINE. THE ACTUAL TONALITY WHICH RESULTS WILL DEPEND UPON THE INSTRUMENT USED AND YOUR PARTICULAR PLAYING STYLE AND TECHNIQUES.**

### DANGER

EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME.

THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

DURATION PER DAY IN HOURS

8  
6  
4  
3  
2  
1 1/2  
1  
1/2  
1/4 or less

SOUND LEVEL dBA, SLOW RESPONSE

90  
92  
95  
97  
100  
102  
105  
110  
115

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS.

EAR PLUGS OR PROTECTORS IN THE EAR CANALS OR OVER THE EARS MUST BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS IF EXPOSURE IS IN EXCESS OF THE LIMITS AS SET FORTH ABOVE. TO INSURE AGAINST POTENTIALLY DANGEROUS EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

### CAUTION

THIS AMPLIFIER HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE POWER RESERVE FOR PLAYING MODERN MUSIC WHICH MAY REQUIRE OCCASIONAL PEAK POWER. TO HANDLE OCCASIONAL PEAK POWER, ADEQUATE POWER "HEADROOM" HAS BEEN DESIGNED INTO THIS SYSTEM. EXTENDED OPERATION AT ABSOLUTE MAXIMUM POWER LEVELS IS NOT RECOMMENDED SINCE THIS COULD DAMAGE THE ASSOCIATED LOUDSPEAKER SYSTEM. PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED WITH VERY LOW SETTINGS OF THE GAIN CONTROL IF THE INPUT SIGNAL IS VERY STRONG.

- Read all safety and operating instructions before using this product.
- All safety and operating instructions should be retained for future reference.
- Obey all cautions in the operating instructions and on the back of the unit.
- All operating instructions should be followed.
- This product should not be used near water, i.e. a bathtub, sink, swimming pool, wet basement, etc.
- This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
- This product should not be placed near a source of heat such as a stove, heater, radiator or another heat producing amplifier.
- Connect only to a power supply of the type marked on the unit attached to the power supply cord.
- Never break off the ground pin on the power supply cord. For more information on grounding write for our free booklet "Shock Hazard and Grounding."
- Power supply cords should always be handled carefully. Never walk or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the cord exits the unit.
- The power supply cord should be unplugged when the unit is to be unused for long periods of time.
- Metal parts can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag, or an ammonia based household cleaner if necessary.
- Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation holes or any other openings.
- This unit should be checked by a qualified service technician if:
  - The power supply cord or plug has been damaged.
  - Anything has fallen or been spilled into the unit.
  - The unit does not operate correctly.
  - The unit has been dropped or the enclosure damaged.
- The user should not attempt to service this equipment. All service work should be done by a qualified service technician.



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Due to our efforts for constant improvement, features and specifications are subject to change without notice.