



# Butcher<sup>®</sup>

## OPERATING GUIDE

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### 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.**

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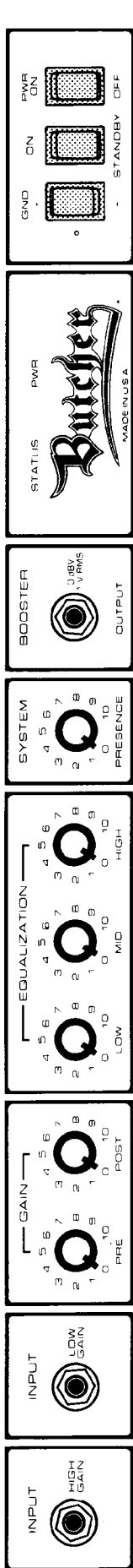
### GENERAL DESCRIPTION

The Peavey Butcher<sup>®</sup> has been designed to faithfully reproduce the searing "crunchy" sound sought after by today's demanding hard-rock guitarists. All controls and functions have been specifically tailored to produce the ultimate in tonality, distortion, and sustain characteristics.

The Butcher will deliver 120 watts RMS into load impedances of 4, 8 or 16 ohms, and is capable of driving multiple enclosures for those players wishing to achieve truly overwhelming sound pressure levels. Its construction will allow the Butcher to withstand the rigors of use in a night-after-night touring environment. The cabinet is constructed of  $\frac{3}{4}$ " wood and is covered with the heaviest available 34 oz. Tolex<sup>™</sup>. Ruggedness is enhanced by huge metal corners and a steel-reinforced carrying handle. Internally, the Butcher features chassis construction of 18 gauge steel, massive steel-mounted transformers, and the finest components available. The all-tube circuit utilizes time-tested European ECC-83/12AX7A preamp tubes and proven premium STR6L6GC output tubes.

The Butcher's straightforward design allows for relative simplicity of operation. However, in order to avoid potentially hazardous or damaging situations, please read this operating guide carefully and completely.

Although the Butcher will provide excellent tone when used with any high quality musical instrument enclosure, the Peavey 412M<sup>™</sup> and 412MS<sup>™</sup> enclosures have been specifically designed to produce the ultimate rock'n'roll sound when used with the Butcher amplifier. If you have not already done so, we urge you to audition your Butcher with one or more of these remarkable enclosures at your nearest Peavey dealer.



**POWER ON/OFF SWITCH**

The Power On/Off switch is a simple two-position switch which controls AC power to the amplifier.

**STANDBY/ON SWITCH**

The Standby/On switch is a simple two-position switch that allows the amplifier to be placed in the standby or active mode.

**GROUND LIFT SWITCH**

This switch is a three-position type with the center (0) position completely removing the internal grounding capacitor from the circuit. This position is recommended for situations where the AC power receptacle is known to have a properly grounded third wire. When only two-wire service is available, a suitable ground lift adaptor should be used. In this situation, the plus (+) and minus (-) switch positions may be used to properly ground the amplifier. One of these two positions will yield the lowest amount of hum or "popping" when the instrument is touched. **NOTE: The Ground Lift Switch is not operational on 220 volt and 240 volt export models.**

**BOOSTER OUTPUT**

The Booster Output jack provides a line-level (1V RMS) signal for purposes of driving additional power amplifiers. Since the Booster Output signal is taken from the output transformer, all amplification processing (including the tube-type power amp) is reflected in this signal.

**SYSTEM PRESENCE**

The Butcher incorporates a System Presence control for adjustment of very high frequency signals (5 kHz and above). The System Presence control occurs in the circuit path after the equalization controls; it is, therefore, post-EQ. Since the System Presence control is active, it is capable of boosting high-frequency signals and allows fine tuning of tonality, particularly when the amplifier is operated in a distorted mode.

It should be noted that many popular speakers and enclosures are limited in their capability to reproduce certain frequencies. In some systems, the System Presence control may not yield significant changes in tonality. Obviously, boosting a certain frequency range will produce no audible result if the speakers cannot reproduce that particular frequency range.

**EQUALIZATION**

The Butcher features three bands of passive equalization (EQ) with controls labelled Low, Mid, and High. These controls are traditional in operation and provide a wide range of tonal output. Again, experimentation with various equalization control settings will determine which combinations yield the best results. Since the Butcher's equalization is passive, it is recommended that one or more EQ controls be operated above minimum (counterclockwise) settings. When all EQ controls are set at minimum, the equalization stage is, in effect, cutting all frequencies. The audible result of such settings is simply a reduction in overall system volume level.

With guitar signals, extreme bass boost does not add significantly to the amplifier's projection capabilities, but it does consume a disproportionate amount of the available power at the expense of the mid and high frequencies. Since mid and high frequency controls are critical to the ultimate tonality of the Butcher, Peavey's design engineers have chosen to deliberately limit the function of the Low EQ control.

**GAIN CONTROLS**

The Butcher features Pre and Post Gain controls which will normally be used concurrently to determine distortion levels and overall volume levels. In addition, selection of the correct input is necessary to optimize the amplifier's response.

If distortion is desired, the High Gain input should be used. To arrive at a full distorted sound, turn the Post Gain control to nearly its full counterclockwise setting (about 2). Then turn the Pre Gain control to nearly the full clockwise position (about 8). The degree of distortion desired may now be adjusted by the Pre Gain control, while the Post Gain control will affect overall volume levels. Note that increasing or decreasing either gain control will cause some variation in overall system loudness; experimentation will be necessary to arrive at the "best" distorted sound.

If a clean, undistorted sound is desired, the Low Gain input should be used. Turn the Pre Gain control to nearly the full counterclockwise position (about 2). Then turn the Post Gain control to nearly the full clockwise position (about 8). At this point, both the Pre and Post Gain controls will function as overall system loudness controls, and some changes in tonality may occur as either gain control is adjusted. Again, experimentation with the gain controls is the best way to establish the optimum sound.

**INPUTS**

The Butcher has two instrument inputs which vary widely in sensitivity and application. The High Gain input is primarily designed as a distortion input and should be used whenever distortion is desired from the amplifier. The Low Gain input is primarily designed as a non-distortion input which should be used when no distortion is desired. The difference in level between the two inputs is quite significant (32 dB), and a player who changes from one input to the other will find that significant changes in the level settings of the Pre and Post Gain controls will be required to achieve equal volume levels.

The Butcher's inputs are unconventional in that they cannot be used simultaneously; insertion of a plug into the Low Gain input will decouple the High Gain input (and its accompanying gain stage) from the preamp.

## LINE CORD

For your safety, the Butcher comes equipped with a three-wire line cord and AC plug. It is not advisable to remove the ground pin under any circumstances. If it is necessary to use the amplifier without proper grounding facilities (as when only two-wire AC service is available), a suitable grounding adapter should be used. When the Butcher is used with properly grounded receptacles, shock hazard is greatly reduced, as are hum and noise.

## FUSE

The Butcher's fuse is located within the cap of the fuseholder. If the fuse should fail, IT MUST BE REPLACED WITH A FUSE OF THE SAME TYPE AND VALUE IN ORDER TO PREVENT DAMAGE TO THE AMPLIFIER AND TO PREVENT VOIDING THE MANUFACTURER'S WARRANTY. If your amplifier repeatedly blows fuses, it should be taken to a qualified service center for repair.

**WARNING**  
THE FUSE SHOULD ONLY BE REPLACED AFTER THE BUTCHER'S LINE CORD HAS BEEN DISCONNECTED FROM THE MAINS POWER SOURCE.

## SPEAKER JACKS

A special output transformer allows the Butcher to deliver its full 120 watts RMS into load impedances of 4, 8, or 16 ohms. Four speaker jacks are provided for convenience in speaker connection.

If the Butcher will be used with only one speaker enclosure, the enclosure should be connected to the jack whose impedance rating (listed BELOW the speaker jacks) corresponds to the impedance rating of the enclosure.

If the Butcher will be used with more than one 16 ohm enclosure, the enclosures should be connected to the amplifier according to the listings ABOVE the speaker jacks.

If the Butcher will be used with two or more enclosures whose individual impedance is not 16 ohms, it will be necessary to calculate the total system impedance to ensure correct connection of the enclosures. Because of the number of possible configurations which exist, a listing of all possibilities is beyond the scope of this operating guide. We recommend that you seek reliable advice from a qualified service technician.

**CAUTION**  
WE DO NOT ADVISE OPERATION OF THE BUTCHER INTO A TOTAL LOAD OF LESS THAN FOUR OHMS. NO VACUUM TUBE AMPLIFIER SHOULD EVER BE OPERATED WITHOUT A LOAD (SPEAKER) ATTACHED TO THE OUTPUT JACKS.

## HUM BALANCE CONTROL

The Butcher utilizes a hum balance circuit which allows the user to minimize the amount of hum noise generated by the tube filaments. In order to properly set the Hum Balance control, the following procedure should be used.

With the Power Switch on, and with nothing plugged into either input jack, set the Pre and Post Gain controls at 10 (full clockwise). Set the Low Equalization and Mid Equalization controls at 10 (full clockwise). Set the High Equalization and System Presence controls at 0 (full counterclockwise). Listen to the speaker and slowly rotate the Hum Balance control. When a point is reached when there is virtually no hum, stop turning the control. Hum balance is now adjusted.

Since vacuum tubes change with age and use, it is a good idea to periodically adjust hum balance. In normal use, monthly adjustment should be sufficient. Hum balance should always be adjusted when new tubes are installed.



**BUTCHER® SPECIFICATIONS:**

**POWER AMPLIFIER SPECIFICATIONS:**

**TUBE TYPES:**

Four 6L6GC tubes with 12AX7 driver

**RATED POWER & LOAD:**

120W RMS into 4, 8 or 16 ohms

**POWER AT CLIPPING (typically 5% THD, 1 kHz, 120 VAC line):**

130W RMS into 4, 8 or 16 ohms  
(bias must be reduced to measure)

**FREQUENCY RESPONSE:**

+0, -2 dB, 50 Hz to 10 kHz at 100W into 16 ohms

**HUM & NOISE:**

Greater than 88 dB below rated power

**HUM BALANCE CONTROL:**

Adjust for minimum hum at maximum gain

**POWER CONSUMPTION:**

300W, 50/60 Hz, 120 VAC (domestic)

**PREAMP SECTION:**

**THE FOLLOWING SPECS ARE MEASURED AT 1 kHz WITH THE CONTROLS PRESET AS FOLLOWS:**

Post Gain at 10

Low & High EQ at 10

Mid EQ at 0

Presence at 0

Nominal Levels are with Pre Gain at 5

Minimum Levels are with Pre Gain at 10

**TUBE TYPES:**

Two 12AX7 tubes

**PREAMP HIGH GAIN INPUT (primarily designed as distortion input):**

Impedance: Very High Z, 1M ohm  
Nominal Input Level: -42 dBV, 8 mV RMS  
Minimum Input Level: -54 dBV, 2 mV RMS  
Maximum Input Level: -6 dBV, 0.5V RMS

**PREAMP LOW GAIN INPUT (primarily designed as non-distortion input):**

Impedance: Very High Z, 1M ohm  
Nominal Input Level: -10 dBV, 300 mV RMS  
Minimum Input Level: -22 dBV, 80 mV RMS  
Maximum Input Level: Unlimited

**LINE OUTPUT:**

Load Impedance: 10K ohms or greater  
Nominal Output: +6 dBV, 2V RMS

**SYSTEM HUM AND NOISE AT NOMINAL INPUT LEVEL:**

20 Hz to 20 kHz unweighted  
Greater than 78 dB below rated power

**EQUALIZATION:**

Special Low, Mid and High passive-type EQ

**PRESENCE:**

+6 dB at 5 kHz

**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	SOUND LEVEL dBA, SLOW RESPONSE
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
¾	110
½ or less	115

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS. EAR PLUGS OR EARPLUGS 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 PROTECT 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, APPROPRIATE POWER "HEADING OFF" HAS BEEN DESIGNED INTO THIS SYSTEM. EXTENDED OPERATION AT ABSOLUTE MAXIMUM POWER LEVEL IS NOT RECOMMENDED SINCE THIS COULD DAMAGE THE ASSOCIATED LOUDESPEAKER 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.

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be retained for future reference.
3. Obey all cautions in the operating instructions and on the back of the unit.
4. All operating instructions should be followed.
5. This product should not be used near water, i.e. a bathtub, sink, swimming pool, wet basement, etc.
6. 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.
7. This product should not be placed near a source of heat such as a stove, heater, radiator or another heat producing amplifier.
8. Connect only the power supply of the type marked on the unit adjacent to the power supply cord.
9. 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."
10. 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.
11. The power supply cord should be unplugged when the unit is to be unused for long periods of time.
12. 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.
13. 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.
14. This unit should be checked by a qualified service technician if:
  - A. The power supply cord or plug has been damaged.
  - B. Anything has fallen or been spilled into the unit.
  - C. The unit does not operate correctly.
  - D. The unit has been dropped or the enclosure damaged.
15. The user should not attempt to service this equipment. All service work should be done by a qualified service technician.



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

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