

GENZ·BENZ



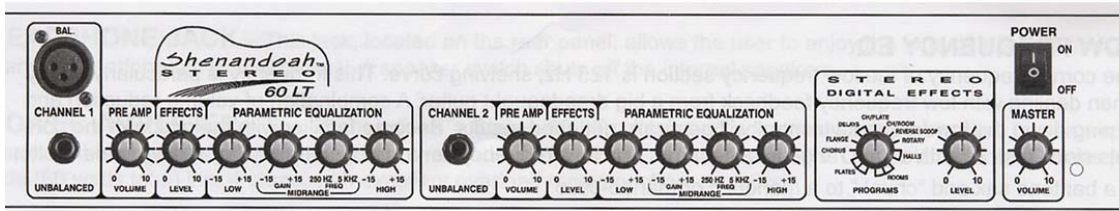
OWNERS MANUAL



FEATURES:

- Lightweight 29 lb Design
- 24-bit Stereo Studio Quality Digital Effects
- Two Channels w/ 3 Band EQ w/ Sweepable Mids
- Compact Monitor Shape Cabinet Design
- Phantom Power for Condenser Mics
- Stereo 60 Watt Power
- XLR & 1/4" Inputs
- Dual 6.5" Woofers & Bullet Tweeters
- XLR Direct Outputs (left & right)
- Speaker Stand Adaptor

PRODUCT DESCRIPTION -The lightweight **Shenandoah™ Stereo 60LT** is configured as a 2 channel stereo 60 watt acoustic instrument amplifier featuring stereo digital effects. Each channel is equipped with a 1/4" unbalanced line input and channel 1 is also equipped with an XLR balanced microphone input (with phantom power). The 2 inputs on channel 1 are summed (mixed) together at a 1:1 ratio. Each channel offers a 3 band equalizer with a sweepable midrange frequency control. Equalization centers were carefully selected for use with acoustic instruments. Each channel also contains individual send controls to the stereo digital effects circuit. The channel signals are then summed together, mixed with the digital effects return and passed on to the internal dual 30 watt power amplifier (60 watts total). The back panel contains stereo XLR balanced outputs with ground lift switch, stereo unbalanced line outputs, two 1/4" speaker jacks, a headphone output, and an effects cancel jack.



FRONT PANEL

INPUTS -The **Shenandoah™ Stereo 60LT** is equipped with two types of input jacks. The 1/4" input is unbalanced and "line/instrument level" with a useable sensitivity from 50 mV to 1.6 volt. The input impedance is 220 k ohms. The 1/4" input will also accept most active balanced line sources, automatically unbalancing them by recognizing the tip portion of the balanced signal. If an instrument offers an unbalanced output it should be connected to the unbalanced input of the Shenandoah amp. Additionally, the precision input scaling preamp contains a 45 Hz, 12 dB/octave high pass filter (more effective and less intrusive than the more common 6 dB filters) and an "RFI" filter (radio frequency interference) to eliminate unwanted noise. The XLR input jack is balanced and "microphone level", with a useable sensitivity from -60 dBv to -30 dBv. It is not a line level input. It contains a precision full range differential microphone preamp with phantom power. For use with higher-level sources (such as the balanced line level output from a keyboard or other instruments), a balanced pad network will be necessary to use the balanced input. For instance, a Rapco "Pad Blox",-20 or -30 pad or similar product could be used.

COMBINING XLR & 1/4" INPUTS -A unique feature of the **Shenandoah™ Stereo 60LT** is the ability to mix the XLR balanced and 1/4" unbalanced inputs on channel 1. In many situations, this effectively makes the amplifier function as a 3 channel amplifier. The most effective way to use this feature is to set the volume on the channel using the XLR microphone input and then adjust the level control on the instrument itself (assuming that it has one) to blend levels between the 2 inputs.

ON-BOARD STUDIO QUALITY STEREO DIGITAL EFFECTS -The **Shenandoah™ Stereo 60LT** contains a 24-bit, 16 program stereo digital effects processor. We chose to use an industry leader in digital effects processing for realistic, high quality effects algorithms. Level differences are normal when switching between different effects; just adjust the channel send and master level controls accordingly. The effects level control on each channel adjusts the send level to the digital effects processor. The digital effects level in the master section controls the effects return level from the processor. Turning up the channel effects send will yield lush effects response. Running the channel effects send lower and the master level higher will yield softer effects response.

PROGRAM DESCRIPTION

Name	Description
Hall 1	Bright hall reverb
Hall 2	Warm hall reverb
Room 1	Hardwood studio reverb
Room 2	Ambient room reverb
Room 3	Warm room reverb for guitars and rhythm instruments.
Plate 1	Classic plate reverb for lead vocals and instruments.
Plate 2	Sizzling bright plate reverb for vocals.
Plate 3	Short "vintage" plate reverb
Chorus	Stereo chorus (Tonal variations in pitch and volume)
Flange	Stereo flanger for jet wash effects.
Delay 1	125ms slapback delay
Delay 2	190ms slapback delay
Chorus/ Plate	Chorus with reverb plate
Chorus/ Room	Auto-wah guitar effect with reverb
Reverse Scoop	Mid-range scoop tone
Pitch Shift Rotary	Rotary speaker emulation

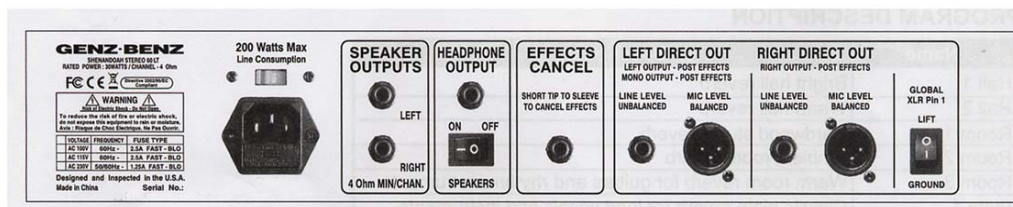
ACTIVE EQUALIZATION - The **Shenandoah™ Stereo 60LT** contains a 3 band (with sweepable mid) active equalizer on both channels 1 and 2. These EQ networks, similar to those found on professional sound consoles, are very useful tools when used correctly.

LOW FREQUENCY EQ - The corner frequency of the low frequency section is 125 Hz, shelving curve. This frequency is particularly handy when dealing with low frequency feedback from a big dreadnaught guitar. A combination of volume reduction and turning down the low frequency control will generally get good results. Become familiar with the action of the controls since their effective gain range is quite large. The low frequency control is also handy for adding some “bottom” to a baritone sax and “chunk” to a mandolin or mando-cello.

HIGH FREQUENCY EQ - The corner frequency of the high frequency section is 8 kHz, shelving curve. This frequency is especially useful for taming the bright harshness of some mandolins, violins, brass, and reeds. It can also be used to help acoustic guitars, cellos, and flutes cut through other players in loud club situations.

MID FREQUENCY EQ - The “sweepable mid” section features 15 dB of cut or boost with a bandwidth approximately 1 octave wide. The center frequency of this filter is continuously user adjustable from 250 Hz to 5 kHz with a single control. This filter is typically (but not always) used to reduce or remove offending frequencies in the instrument’s pick-up response. Removing only the minimum amount necessary will yield the most acoustically rewarding results. The easiest and most repeatable way to determine the offending frequency range is to boost the mid level somewhat (but not to the point of feedback) and while playing, sweep the frequency control slowly across its range. You may need a third hand until it becomes second nature, but soon you will find out just how quick it can be. You will hear a clear and obvious accentuation of the ugliness you want to remove. The ear is a most sensitive and discriminating piece of test equipment when used in this manner, another good reason to protect them! This is the way many touring sound engineers equalize, since it is quick, accurate and repeatable. Occasionally, you will find need to use the mid section in “boost” mode, particularly common when adding higher mids (bite) to an otherwise dull instrument, or adding low mid “body” to an otherwise thin sound. Spend some time experimenting so that the process becomes creative as well as corrective. The 9 o’clock position is 300 Hz, the 12 o’clock position is 1.25 K Hz and the 3 o’clock position is 3 K Hz.

MASTER VOLUME - The master volume control adjusts the overall volume of channel 1, channel 2 and the effects return. Typically, best results are obtained when this control is operated between the 9 o’clock and 3 o’clock positions.



REAR PANEL

DIRECT OUTPUTS -The **Shenandoah™ Stereo 60LT** is equipped with left and right XLR balanced direct outputs and unbalanced ¼” line level outputs. The left direct output also serves as a mono send. Both the XLR balanced and ¼” unbalanced outputs make “real world sense” when connecting with other equipment. The ¼” unbalanced outputs are true professional line level (+4 dBv) with an output impedance of 1k ohm and can drive virtually any line level input, including power amplifiers. The XLR balanced output is “hot” mic level, rated at -30 dBv. This configuration allows the **Shenandoah™ Stereo 60LT** to drive very long cable lengths (250+ feet) without problems or added noise. The XLR balanced direct outputs can be “ground lifted” with the switch provided. This switch lifts pin 1 on the XLR balanced output to break any ground loops between the **Shenandoah™ Stereo 60LT** and a PA system. Both outputs are post master volume/post EQ/post effects to aid in sending a “finished” mixed signal to a PA system or external power amplifier.

HEADPHONE JACK -This jack, located on the rear panel, allows the user to enjoy the tone of this amp through standard headphones (8-600 ohms). A speaker switch shuts off the internal speakers.

EFFECTS CANCEL JACK - A ¼" effects cancel jack is provided on the back panel to mute the internal effects via footswitch. Any standard single button latching footswitch (with shielded cable) may be used. Signal is muted when the switch is closed.

POWER AMPLIFIER -The **Shenandoah™ Stereo 60LT** contains an advanced stereo monolithic power amplifier circuit that is completely protected against overloads, short circuits and thermal faults. Output is rated at 30 watts per side (60 watts total) into 4 ohms, with excellent overload recovery characteristics.

IEC POWER INLET CONNECTOR -The **Shenandoah™ Stereo 60LT** uses a detachable power cord and is shipped from the factory with the appropriate power inlet cable and connector for the market the amplifier was shipped to. There is an AC mains fuse located in a small drawer within this molded connector.

PHANTOM POWER - An internal phantom power source (12 volts) is provided for use with condenser mics. This power source is on at all times and does not affect the standard operation of the amp, even when a condenser mic is not used. We use the DIN 45-596-P12 volt standard which will operate virtually all of the live sound reinforcement condenser microphones on the market. Some "boutique" externally biased condenser mics will not be compatible and will require 48 volt phantom power. We suggested live sound condenser mics by: AKG, Audio Technica, Shure and Crown.

SPEAKER OUTPUT JACK - The **Shenandoah™ Stereo 60LT** provides left and right ¼" speaker output jacks. Minimum total load is 4 ohms per side.

SPEAKER COMPLIMENT - The **Shenandoah™ Stereo 60LT** utilizes two specially designed 6.5" woofers and dual compression tweeters. The cabinet features a front port for more rounded low frequency response. The impedance of the internal speakers is 4 ohms per side.

MONITOR SHAPED CABINET DESIGN - The **Shenandoah™ Stereo 60LT** utilizes lightweight plywood to help reduce weight. This cabinet design offers two platforms so the cabinet can be used in the normal upright position or tipped back towards the performer for more of a monitoring situation. Leaning the cabinet back can change the tone of the amp and reduce boomy low frequencies.

SPEAKER STAND MOUNT - A 1 1/2 " speaker stand mount is provided for use with a speaker stand.

WARNING!

. The use and operation of this device constitutes an agreement of full release of any and all liability connected with its use. Only persons familiar with the operation of high powered audio equipment should attempt to operate this device.

. In addition, by use of this device, the user agrees to hold Genz Benz and its designers, sales agents, and all other affiliates and related parties harmless in the event of any accident, injury, damage, or loss resulting from such use.

. Manufacturer's sole responsibility is to provide a warranty on the specified performance of the product under normal operating conditions for a period of 3 years.

WARRANTY:

- Genz Benz warrants the model **Shenandoah™ 60LT** to be free from defects in materials and workmanship for a period of 3 years from the date of purchase, when purchased from an authorized Genz Benz dealer.
- This warranty does not cover normal wear and tear incurred from the normally designed use of the product.
- This warranty is effective only if a copy of the original sales receipt is presented at the time of warranty service.
- This limited warranty is completely transferable to any subsequent buyer as long as the original sales receipt is also transferred to such subsequent buyer.
- All warranty service must be performed by a Genz Benz authorized service center.
- Before returning any unit for service, a returned merchandise authorization number (RMA#) must be obtained by calling 480-941-0705
- This warranty is valid in the US and Canada only. For all products sold outside the USA, warranty is handled through our international distributor for each country. For more information visit, our website: www.genzbenz.com

SAFE OPERATING REQUIREMENTS:

- Never set an amplifier on anything that will tip over or collapse under its weight.
- Provide a minimum distance of 25.4 mm (1 inch) around all sides of the amplifier for sufficient ventilation. The ventilation should not be impeded by covering the amplifier's vent openings with items such as newspapers, table cloths, curtains, etc.
- No naked flame sources, such as lighted candles, should be placed on the **Shenandoah™ 60LT** amplifier.
- This amplifier should not be exposed to dripping or splashing and no objects filled with liquids, such as vases or drinks, shall be placed on this product.
- The **Shenandoah™ 60LT** amplifier should be connected to a mains socket outlet (power receptacle) with a protective earth (ground) connection at all times.
- The amplifiers mains plug (power plug) is considered the disconnect device and the connection must remain accessible at all times.
- This amplifier is capable of producing sound pressure levels that may cause hearing loss.
- There are no user serviceable parts and hazardous operating voltages are present inside this unit. Always consult a qualified repair facility for service.

SHENANDOAH™ STEREO 60LT ENGINEERING SPECIFICATIONS

INPUTS

XLR Balanced input impedance:	2.2 k ohms
XLR Balanced input sensitivity:	-60 to -30 dBV
¼" Unbalanced input impedance:	300 k ohms
¼" Unbalanced input sensitivity:	-30 to +4 dBV

AMPLIFIER OUTPUT

Power at 4 ohm load:	30 watts per side RMS, 60 watts total
THD + N (preamp):	<0.035%
THD + N (power amp):	<0.07%
Frequency response:	20 Hz -20 kHz +/- 1dB

CHANNEL EQUALIZATION

Low frequency:	125 Hz shelving, +/-15dB
Mid frequency (sweep):	250 Hz - 5 kHz , peaking, +/-12dB
High frequency:	8 kHz shelving, +/-15dB

DIRECT OUTPUTS

XLR balanced output level:	-30 dBV nominal
XLR balanced output impedance:	150 ohms
¼" unbalanced output level:	+4 dBv nominal
¼" unbalanced output impedance:	1k ohm

DIGITAL EFFECTS

Processor type:	WAVE FRONT™ STEREO DSP engine
Internal processing:	24 bit
A/D converter	24 bit - 64X oversampling
D/A converter:	24 bit - 128X oversampling
Dynamic Range:	80 dB
THD + N (1 kHz)	<0.01%
Sampling rate:	48 kHz

Due to continuing product improvements and changes, all specifications are subject to change without notice.

Declaration of Conformity

(89/336 EEC-EMC Directive)

Manufacturer's Name: Genz Benz, a division of KMC Music Company
Manufacturer's Address: 7811 East Pierce Street
Scottsdale, AZ 85287, U.S.A.

Product Type: Audio Amplifier
Model Number: Shenandoah™ Stereo 60LT
Operating Power Condition: 100/115/230/240 V, 50/60 Hz
Effective Date: 12-01-2007
Conforms to the Following Standards: [X] EN 55013: 2001 + A1: 2003
[X] EN 55020: 2002 + A1: 2003
[X] EN 60065
[X] IEC 61000-3.3: 1994 + A1: 2001
[X] IEC 61000-4.2
[X] IEC 61000-4.3
[X] IEC 61000-4.4
[X] FCC -15.107 and 15.109
[X] RoHS Directive 2002/95/EC
[X] WEEE Directive 2002/96/EC
[X] CE Mark LV Directive 73/23 EEC

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