

# GENZ·BENZ



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## OWNERS MANUAL

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**PRODUCT DESCRIPTION** – The **Shenandoah™ Stereo 60** is configured as a 2 channel stereo 60 watt acoustic instrument amplifier featuring STEREO Alesis® digital effects. Each channel is equipped with a ¼” 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 on-board Alesis® 15 program 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 an XLR balanced output with ground lift switch, unbalanced line output, and two 1/4” speaker jacks.

**INPUTS** – The **Shenandoah™ Stereo 60** is equipped with 2 types of input jacks. The ¼” input is unbalanced and accepts instrument level to line level with a useable sensitivity from 100 mV to 1 volt. The input impedance is 300 k ohms. The ¼” input will also accept most active balanced line sources, automatically unbalancing them by recognizing the tip portion of the balanced signal. Additionally, the precision input scaling preamp contains a 50 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 –60dBv to –30 dBv. 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), a balanced pad network will be necessary to use the balanced input. Phantom power is 13.6 volts, compatible with virtually all commonly used live sound condenser microphones. Dynamic microphones can be used with no ill effect.

**COMBINING XLR & ¼” INPUTS** – A unique feature of the **Shenandoah™ Stereo 60** is the ability to mix the XLR balanced and ¼” 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 adjusting the level control on the instrument itself (assuming that it has one) to blend levels between the 2 inputs.

**ON-BOARD ALESIS® STEREO DIGITAL EFFECTS** – The **Shenandoah™ Stereo 60** contains a genuine Alesis® 15 program STEREO digital effects processor. Unlike other amplifier manufacturer’s built-in digital effects units, we chose to use an industry leader in processing with an undisputed reputation 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.

## 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
Rotary Speaker	Rotary speaker emulation

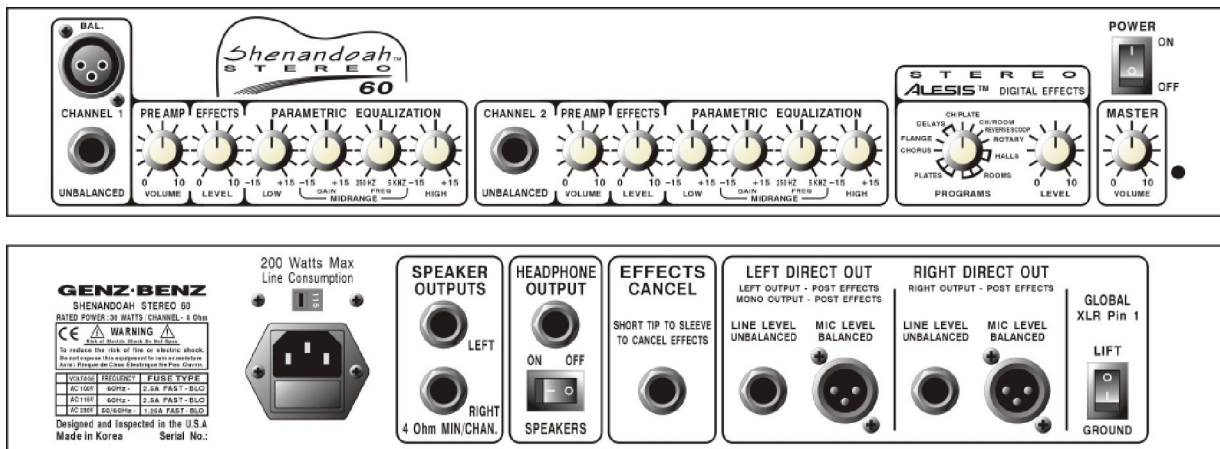
**ACTIVE EQUALIZATION** – The **Shenandoah™ Stereo 60** contains a master 3 band (with sweepable mid) active equalizer on both channels 1 and 2. These EQ networks, similar to those found on professional sound consoles, are very useful tools when used correctly. The corner frequency of the low frequency 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 mandocello. 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. The “sweepable mid” section features 12 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.

**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 9:00 o'clock and 3:00 o'clock positions.

**DIRECT OUTPUTS** – The **Shenandoah™ Stereo 60** 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 60** 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 60** 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.

**POWER AMPLIFIER** – The **Shenandoah™ Stereo 60** 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.



**SPEAKER OUTPUT JACK** – The **Shenandoah™ Stereo 60** provides two ¼” speaker output jacks. Minimum total load is 4 ohms pere side.

**SPEAKER COMPLIMENT** – The **Shenandoah™ Stereo 60** 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.

**WEDGE SHAPED CABINET DESIGN** – 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.

**PHANTOM POWER** – An internal phantom power source (13.6 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 suggest live sound condenser mics by: AKG (C4500B, 4000B , etc.), Audio Technica (AT3035, 3032, Pro Series ,etc.), CAD, Shure and Crown.

**IEC POWER INLET CONNECTOR** – The **Shenandoah™ Stereo 60** 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.

**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, Inc. and it's 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, Inc. warrants the model **Shenandoah™ Stereo 60** 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.

**CAUTION!**

- Never set an amplifier on anything that will tip over or collapse under its weight.
- These amplifiers are capable, of producing sound pressure levels that may cause hearing loss.
- There are no user serviceable parts inside these units. Always consult a qualified repair facility for service.

**Features:**

- Stereo Alesis™ Digital Effects
- Two Channels w/ 3 Band EQ w/ Sweepable Mids
- Headphone Jack
- Compact Monitor Shape Cabinet Design
- Phantom Power for Condenser Mics
- Stereo 30 Watt Power
- XLR & ¼" Inputs
- Dual 6.5" Woofers & Bullet Tweeters
- XLR Direct Outputs (left & right)

## SHENANDOAH™ STEREO 60 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:	1 kohm

### DIGITAL EFFECTS

Processor type:	Alesis® 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

### INTERNAL PRESET STEREO EFFECTS PROGRAMS:

3 – Plate Reverbs	1 – Chorus/Plate
3 – Room Reverbs	1 – Chorus
2 – Hall Reverbs	1 – Reverse Scoop
1 – Rotary Effect	2 – Delays (long and short)
1 – Chorus/Room	1 – Flange

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 Kaman Music  
**Manufacturer's Address:** 7811 East Pierce Street  
Scottsdale, AZ 85287, U.S.A.

**Product Type:** Audio Amplifier  
**Model Number:** Shenandoah™ Stereo 60  
**Operating Power Condition:** 115/230 V, 50/60 Hz  
**Effective Date:** 01-01-2006

**Conforms to the Following Standards:**

- EN 55013: 2001 + A1: 2003
- EN 55020: 2002 + A1: 2003
- EN 60065
- IEC 61000-3.3: 1994 + A1: 2001
- IEC 61000-4.2
- IEC 61000-4.3
- IEC 61000-4.4
- FCC 47CFR Part 15-B, Class B
- RoHS Directive 2002/95/EC
- WEEE Directive 2002/96/EC
- CE Mark LV Directive 73/23 EEC

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