The eStrap^{TM} Wireless Strap Controlled Expression System with Classic Wah
by Ned Steinberger

Atlantic Quality Design, Inc.
562 Oak Hill Road, Fincastle, Virginia 24090
(540) 966-4356
www.aqdi.com
For technical support, call us or see our web site.

Copyright © 2007
Revision A

THIS PRODUCT CONTAINS INTELLECTUAL PROPERTY OF ATLANTIC QUALITY DESIGN, INC. AND IS NOT TO BE COPIED IN WHOLE OR IN PART, INCLUDING MECHANICAL, ELECTRONIC HARDWARE, COMPUTER SOFTWARE AND/OR INTEGRATED CIRCUIT DESIGNS. NO PATENT LICENSES ARE CONVEYED WITH THE SALE OF THIS PRODUCT.

FCC NOTIFICATION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

eStrap sensor radio transmitter model ESTX: FCC ID VHOESTX, IC: 7235A-ESTX. Radio receiver is model ESRX: FCC ID VHOESRX, IC: 7235A-ESRX.

LIMITED WARRANTY

If the product fails during the warranty period due to a defect in materials or workmanship, we will repair or replace it, or refund your purchase price, our choice. Call us to arrange warranty service before you ship. We disclaim liability for damages caused by our product or the use, misuse or abuse of our product. With use of this product, the user accepts responsibility for applying it intelligently and properly, with the user's and others' safety in mind at all times. We do not repair or replace equipment or instruments used with our products. **WARRANTY PERIOD**: 1 YEAR FOR BOTH PARTS AND LABOR.

30-day Money Back Guarantee: If for any reason you are not satisfied with this product, you may return it within 30 days for a full refund.

The eStrap^{TM} IS PATENT PENDING

Effects Unit Setup Designed in concert with Ned Steinberger, the eStrap wireless expression system is a revolutionary new effects control tool that is easy to use.

- Connect the effects unit as shown in the picture.
- The green light will start blinking when power is applied
- The EFFECTS cable is an optional connection
- Use only the supplied wall power adapter.
- The effects unit has no foot switches, so you can set it out of the way, on your amp or pedalboard.

Strap Sensor Setup A sensor on the strap detects the tension in the strap and sends it to the effects unit wirelessly.

- Insert the two supplied AAA batteries into the strap sensor's battery clip, observing polarity.
- Strap on your guitar.
- Push the button to turn the eStrap sensor on. The effects unit light will light solidly.
- A light glows within the button when the sensor is on, and the light on the effects unit also comes on solid.

Calibrate To calibrate the strap sensor to your playing style:

- Press and hold the button on the strap sensor about a second until the light comes on steadily.
- Release the button (the light blinks) and move the instrument neck through the desired range of motion.
- Once the light stops blinking, the calibration is complete. You are ready to play.

Calibrate with different ranges of motion to get different feelings and effects:

Up Only   Up and Down   Down Only

Bypass To bypass the effects unit, just turn off the strap sensor by pressing the button. The light on the effects unit will blink while bypassed. The button is designed to toggle bypass with a quick tap. A high quality electronic bypass is used that introduces no distortion or tone change when bypassed, as long as the eStrap effects unit is powered. Using external effects control, when bypassed the eStrap effects unit maintains its last setting.

Settings Guitarists love to tweak pedals to get new sounds. With the eStrap, you won't even have to remove the cover to do this because tone tweaks are accessible from the outside of the box. Eight switches are available and have the following functions:
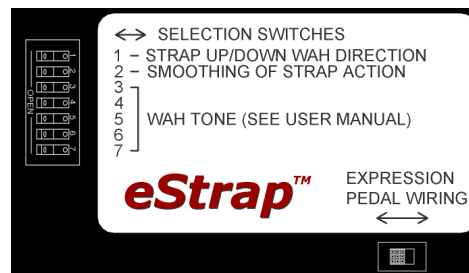
Switch 1. Controls direction of wah vs. direction of motion
Switch 2. Controls smoothing of strap action, for fast or slow response
Switches 3-7. Controls wah tone, from gutsy growl to coyote screech (see **Wah Tone** below)
Switch 8. Pedal wiring switch selects between two common wiring systems for expression pedals

Use a small implement to push the seven switches on (right) / off (left). The pedal wiring switch slides from left to right. Experiment with the controls to get the response you like!

Wah Tone The classic wah setting is had with switches 5 and 2 on (right), and switches 1, 3, and 4 off (left). Switches 3, 4 and 5 control the frequency response, and switches 1 and 2 control the shape of the response, Q, range and such.

The wah circuit in the eStrap uses a vintage inductor like the original wahs of yesteryear.

Wireless Considerations The eStrap is a wireless device that operates within frequency bands designated by the government for unlicensed devices. This means that other devices may interfere with the eStrap. If you experience interference, reorient the eStrap effects unit as that may reduce the interference. The eStrap operates on different frequencies than wireless guitar transmitters.

Also please note that the two small black items on top of the effects unit are not switches! Do not step on them! They are radio antennas. When stowing the eStrap, be sure the antennas will not be damaged in a gig bag.

The antenna on the strap sensor is a short wire. Leave it coming straight out from the sensor; don't coil it up as that reduces the wireless range.

Also note that you do not have to be controlling your own sound with the eStrap. It's possible for one guitarist to be wearing the strap and another instrumentalist to be connected to the effects unit! Isn't that wild?

Expression Pedal Use The eStrap can substitute for an expression pedal. This is very useful with capable effects units that can be programmed. Connect the supplied <u>stereo</u> cable to the eStrap's EXPR PEDAL jack and plug it into the other device's expression pedal input. You may have to change the PEDAL WIRING switch on the bottom of the eStrap effects unit.

For a simple analog effect with a pedal input, the eStrap will simply work. For programmable effects you will have to break out the user manual and do some digging. However, the range of possibilities is endless. Imagine mixing in more gain or distortion as you pull up on the neck for bended notes during a lead. Or having a variable panning tremolo and vibrato that is strap sensitive, used as a special effect in a song. With a capable effects units you can change wet/dry mixes, vibrato and phasing speeds, flange depth, delay levels, … and on and on.

Elastic Some eStrap guitarists like the feel of a little elastic in the strap because it smoothes out the response and provides a larger range of motion. We supply an elastic cord that can be easily slipped through the hole in the strap tab. See the picture. The rubber ring keeps the elastic on the strap button.

Battery Life The batteries in the strap sensor should last many hours, depending on your playing style. The strap sensor shuts off automatically after 10 minutes, just in case you forget to turn it off. We recommend you remove one or both batteries from the strap sensor when the device is not in use so the sensor will not drain the batteries if it accidentally gets turned on in your gig bag.

eStrap Specifications

Power:	9VDC, 100mA (effects unit)
	2xAAA batteries (strap sensor)
Signal Loading:	2.2 million ohms
Bypass:	No load, electronic bypass
Radio Frequency:	916MHz band, single channel
Radio Range:	Approximately 30 feet, depending on environment
Weight:	1.1lb (effects unit, strap sensor and strap)
Dimensions:	5.86"x3.75"x1.42" (effects unit)
	2.70"x1.90"x1.03" (strap sensor)

Safety

The eStrap system is intended for use by professional musicians. Use it sensibly, avoid moisture on either component (sweat or rain), and use it safely at all times. The eStrap is intended as a periodic special effect and not for continuous use in repetitive motion by the musician.

Acknowledgement

Legendary guitar designer Ned Steinberger came up with the original eStrap idea. Taking Ned's idea, we have made a practical product for working musicians. Ned has been involved in the design and testing of the eStrap every step of the way. See Ned's other creations at www.nedsteinberger.com.