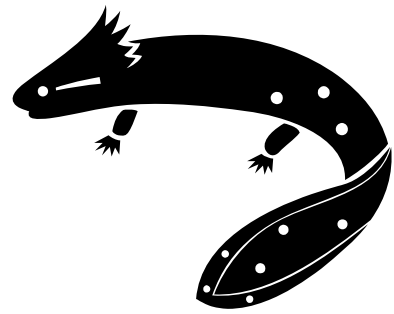


Enchanted Strap and Stone



Enchanted Strap and Stone Company

Austin, Texas

Enchanted Strap and Stone Takes Your Musical Instrument Into The New Millenium!

Not far away, in a forest on a hill near Red Rock Texas, there lives a Blue Wizard practiced in the arcane arts. A music lover and spell caster is he. Despairing one day the lamentable condition of musical digital wireless poverty, he resolved to change the way music is transported.

Whirling like a Dervish with his cloak a swirl, and chanting magical incantations and mathematical equations incessantly, "Multi-bit Sigma-Delta" "24 Decimated to 16 yields S/PDIF." And Lo! As he ranted and raved, he succeeded in activating an ethereal link between his guitar strap and a nearby crystalline stone.



He conjured an invisible connection between whatever he connected to the strap and the glowing enchanted stone. He connected his stone to an amplifier and heard no noise. When he connected his guitar to his enchanted strap there was no connection pop, only the purest of notes lilted forth. He found the dynamic range was astonishing, as if he had removed cotton from his ears. Between notes there was no noise at all.

As the pristine tones streamed forth from the stone into the amplifier, the wizard conjured another spell that allowed direct digital connection to his digital recorder using an optical cable. And still another spell allowed RCA connections to his digital receiver. Realizing that his invisible connection totally isolated him from the power mains, he rejoiced by dancing and playing in the rain.



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Enchanted by the Wizard, The Enchanted Strap and Stone safely connects microphones and electronic musical instruments to digital as well as analog audio equipment without wires. The Enchanted Strap and Stone adds digital wireless capability to your present instrument, gear, and gig bag.



The Digital Stone mysteriously and invisibly connects to whatever is plugged into the Enchanted Guitar Strap, (usually a guitar) including microphone and headphone. The Enchanted Strap needs 4 AAA batteries to electrify its crystalline-based talisman.

This Wizard Enhanced Music Transporter provides professional Studio Quality digital and analog audio to your present instrument, with no modification to the instrument what so ever.

Moreover, the Wizard included a Magic Spell, which protects any one using the Enchanted Guitar Strap from electrical shock! The Wizard Enhanced Music Transporter totally isolates the musician, his instrument, the microphone and headphone from any other equipment through the invisible connections. With the Enchanted Guitar Strap you can truly and safely sing and play in the shower. Try that with your present guitar...No! Not really, you may get killed doing that without the Enchanted Guitar Strap!

The Enchanted Strap magically and invisibly connects to the Enchanted Stone. They cleverly coexist with other interference while delivering excellent and secure quality of service.

It's Plug-to-Plug Compatible with your existing analog instrument and gear.

No more rats-nests of wires and cables. No more electrical shocks from instruments, amps and microphones. Connect directly to digital equipment. No interference from radio or other electrical apparatus. No bad connections.



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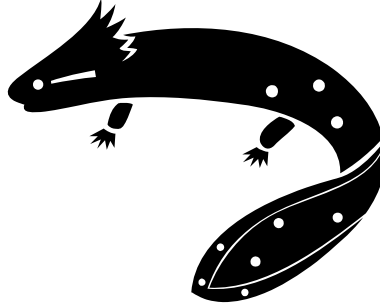
Using the very latest advances in integrated digital circuit technology, Enchanted Strap and Stone delivers professional quality audio, the highest fidelity, widest dynamic range, lowest processing latency, fastest setup and easiest operation of any digital wireless system available worldwide.



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Enchanted Guitar Strap



The Enchanted Guitar Strap connects to the instrument through a standard ¼ inch stereo plug. Headphones use a ¼ inch jack. Microphone connects using a phantom powered XLR connector.

The transceiver digitizes and encodes three streams of audio and a bi-directional channel for control and computer data. It scrambles the stream for security and sends a spread spectrum 2.4 GHz radio frequency signal to an Enchanted Stone.

The antenna is built-in, nothing to break off!

It has a proprietary Audio Media Access Controller chip, which implements a clever anti-interference and co-existence scheme and uses an enhanced (and patented) protocol for superior audio streaming quality of service.

The Enchanted Guitar Strap transmits 100 mW (20 dBm) RF output. That's the legal limit.

NO MORE SHOCKS!

Power supply is four AAA batteries. This completely isolates the musician from the power mains and eliminates any chance of electrical shock from the instrument, headphones or microphone.



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Enchanted Stone



Receives and decodes the radio waves using two antennas (this reduces drop-outs). It unscrambles and decodes the stream into several audio formats:

A digital stream in Sony/Philips Digital Interface Format (S/PDIF) goes to a RCA Phono jack, or an optional optical interface for TosLink fiber optic cable. It works with other digital audio equipment such as Digidesign's ProTools digital recording system, or a digital receiver.

The digital stream is also available in I2S format on the board header connections. This port is for factory and hardware hackers only.

Exceptional quality stereo analog audio goes to standard ¼ inch jacks for Left and Right Line Out connection to existing analog patch bays, recorders, amplifiers, processors, and computers. Audio output from the microphone goes to a standard RCA jack.

A bi-directional data channel (I2C control format) on both modules allows wireless computer connection to control the system, change default settings, and transfer data. Musicians don't really need this port, but it's a hacker's paradise!

UL Approved Transformer Power Supply

Converts the mains to positive six volts direct current (+6VDC) and connects to Stone through a standard power connector. An external ground lug connection (green) provides noise reduction and increases safety. Stone does not use batteries for safety because once connected, operation is fully automatic, and requires no operator interaction.



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Enchanted Strap and Stone Block Diagram

Wireless Internet



Enchanted Guitar Strap

Strap contains a built-in digital musical instrument transceiver. Also supports microphone and headphones.

Enchanted Stone



Audio Amplifier



Analog Audio

Digital Receiver



S/Pdif Optical Cable (TosLink)

Computer



400K Data Port

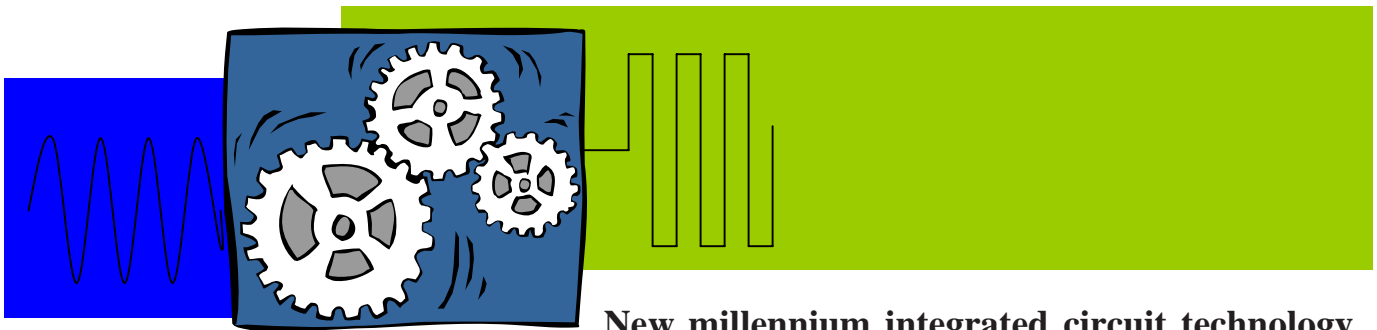


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Digital Audio Board

Digital Audio Board uses the latest digital technology to produce wide dynamic range, noiseless, pristine high fidelity audio for professional applications. This board uses an advanced Coder/Decoder integrated circuit and a micro controller. It is configured as an Analog-to-Digital Converter (ADC) when used in the Enchanted Guitar Strap, and as a Digital-to-Analog Converter (DAC) when used in the Enchanted Stone.



New millennium integrated circuit technology

Analog to Digital Converter takes 24 bit samples of each musical instrument channel at a rate of 192Ks/s. This is “over-sampled multi-bit un-compressed Sigma-Delta (sum-of-change) conversion,” and that is the reason for such high fidelity, wide dynamic range, low distortion, and low conversion noise.

An internal process decimates the 24 bits to 16 bits, which further reduces noise and distortion products, then filters and mixes the samples into a stream encoded in the Sony/Phillips digital interface format (S/Pdif). This stream goes to the 2.4 GHz radio frequency transceiver module.

On the other side of the link is the Enchanted Stone. It uses a micro controller and a Digital to Analog Converter to decode the S/Pdif digital stream into three channels of superb analog audio and a data channel for computer communication. The digital stream also outputs to a RCA Phono jack and an (optional) optical transmitter suitable for connecting a TosLink optical cable.



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Enchanted Strap and Stone Features

- * Secure digital wireless in worldwide license free 2.4 GHz band.
- * Micro controller with embedded software.
- Two antennas, automatically controlled, reduce dropouts.
- Left and Right Line In on Strap, Line Out on Stone connections.
- Headphone amplifier with volume up/down switches.
- Power on/off switch on Strap only, not needed on Stone.
- LED indicators: on/off, link status, data traffic.
- DC jack connector for external power supply only on Stone
- * Digital audio:
 - * Uncompressed audio (44.1 ks/s or 48 ks/s, 16 bit)
 - I2S and S/PDIF input/output.
 - Optional proprietary low latency compression.
 - Three audio channels, one data channel per link.
 - Programmable digital audio gain.
- * Advanced controller coexists with in and out of band interference:

Microwave ovens	WLAN (802.11.x)
2.4GHz cordless phones	GSM telephones
Bluetooth (class I, II, III)	DECT telephones
- * Low latency (configurable from 10...17ms)
- Automatic frequency allocation.
- * Bi-directional data channel.
- Soft audio muting under poor link circumstances.
- Complies with applicable laws; Europe EN 300...328, US FCC Part 15.247.
- * I2C control bus, up to 400Kb/s

Automatic Power Cycle

When you power off the Enchanted Guitar Strap, the Enchanted Stone places itself into low power stand-by. When Strap comes back on, Stone powers up again automatically.



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