Digital interface guitar System

Why is a digital guitar better?

WIMSI

Wireless Instrument Music Systems International

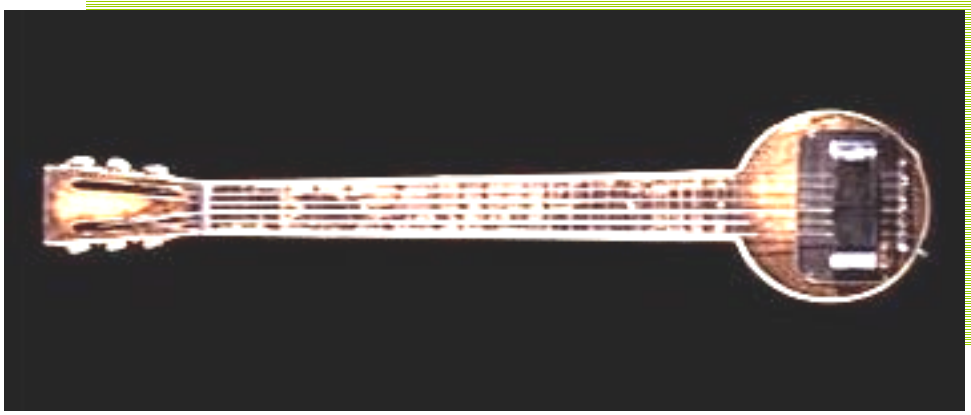
148 Red Rock Ranch Road, Red Rock, TX 78662 (830) 839-4404 wimsiwidis@msn.com

"Wimsi DigS - The Future!"

Digital interface guitar System DigS

Why is a digital guitar better?

Seventy-five years ago George Beauchamp invented the electric guitar. It used the most advanced technology of its day, and that one invention changed the sound of music forever. Musicians and listeners love the wonderful sounds that the electric guitar can produce. Modern music would be impossible without this remarkably versatile instrument. So why mess with a good thing?



George Beauchamp's "Frying Pan", first electric guitar, 1930

No discerning audiophile will deny that analog music is the most pleasing. After all, analog is as close a representation of acoustic sounds as can be achieved. But it has a major flaw. Analog audio degrades in quality the more it is processed, and once processed, can never be returned to its original state. So the first generation of analog audio is pristine, noiseless and clear. With each subsequent copy of the original, distortion and noise multiplies. Also, the analog signal looses high frequencies in long patch cord runs.

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Digital audio, on the other hand, can be copied innumerable times with no loss in original quality. It can be processed (i.e. adding effects) and restored to original with no degradation. The digital signal can travel around the world and remain the same as it started.

The goal of digital audio is to come as close to analog audio as possible. In the past, this was difficult because conventional analog to digital converters required precise valued components, so the numbers of bits representing the sample were severely limited. New electronic circuits and modern digital architectures allow us to add bits and simplify the digitization process.

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Today's state-of-the-art analog to digital converter

uses multi-bit Sigma-Delta (sum of changes) over sampling converter to produce 192,000 samples per second with 24 bits per sample. This gives an unparalleled dynamic range, with no compression. Over-sampling provides greater fidelity.

DigS sounds like analog, with all of the advantages offered in the digital world. And it works with your existing guitar.

DigS takes your guitar into the new Millennium!

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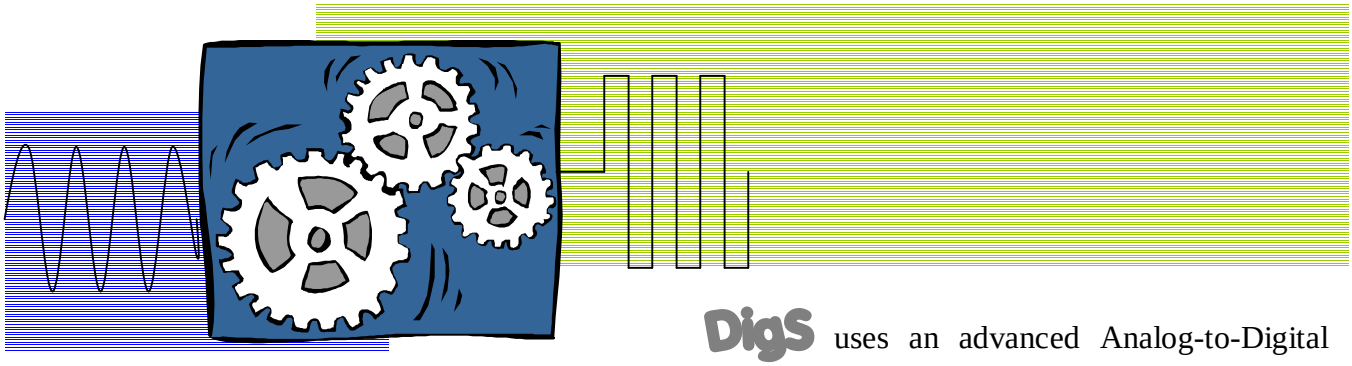
DigS adds digital capabilities to your present guitar

Designed by musicians for musicians, Digital interface guitar System (DigS) safely connects guitars and microphones to digital as well as analog audio equipment. As practicing musicians, we suffered electrical shocks from our guitars and microphones. We could not connect to digital equipment. Our performances were interrupted by interference from radio or other electrical apparatus, and bad connections. We resolved to remedy the sad state of existing technology, which is still rooted in standards dating back to the 1930's.

Using the very latest advances in integrated digital circuit technology, DigS provides professional "Studio" quality audio. Music is noiseless, pristine high fidelity, with wide dynamic range and very low processing latency. It offers the fastest setup and easiest operation of any digital guitar system available worldwide. And it's plug-to-plug compatible with your present analog equipment!



DigS uses an advanced Analog-to-Digital Converter and a pre-programmed micro controller. It takes 24 bit samples of each guitar channel at a rate of 192,000 samples per second. This is "multi-bit over-sampled 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 Sony/Phillips Digital Interface Format (S/PDIF) encoded stream.

Although it works perfectly well without connection to a computer, a serial port using I2C control format (up to 400Kb/s) allows a computer connection to control DigS, change default settings and transfer data.

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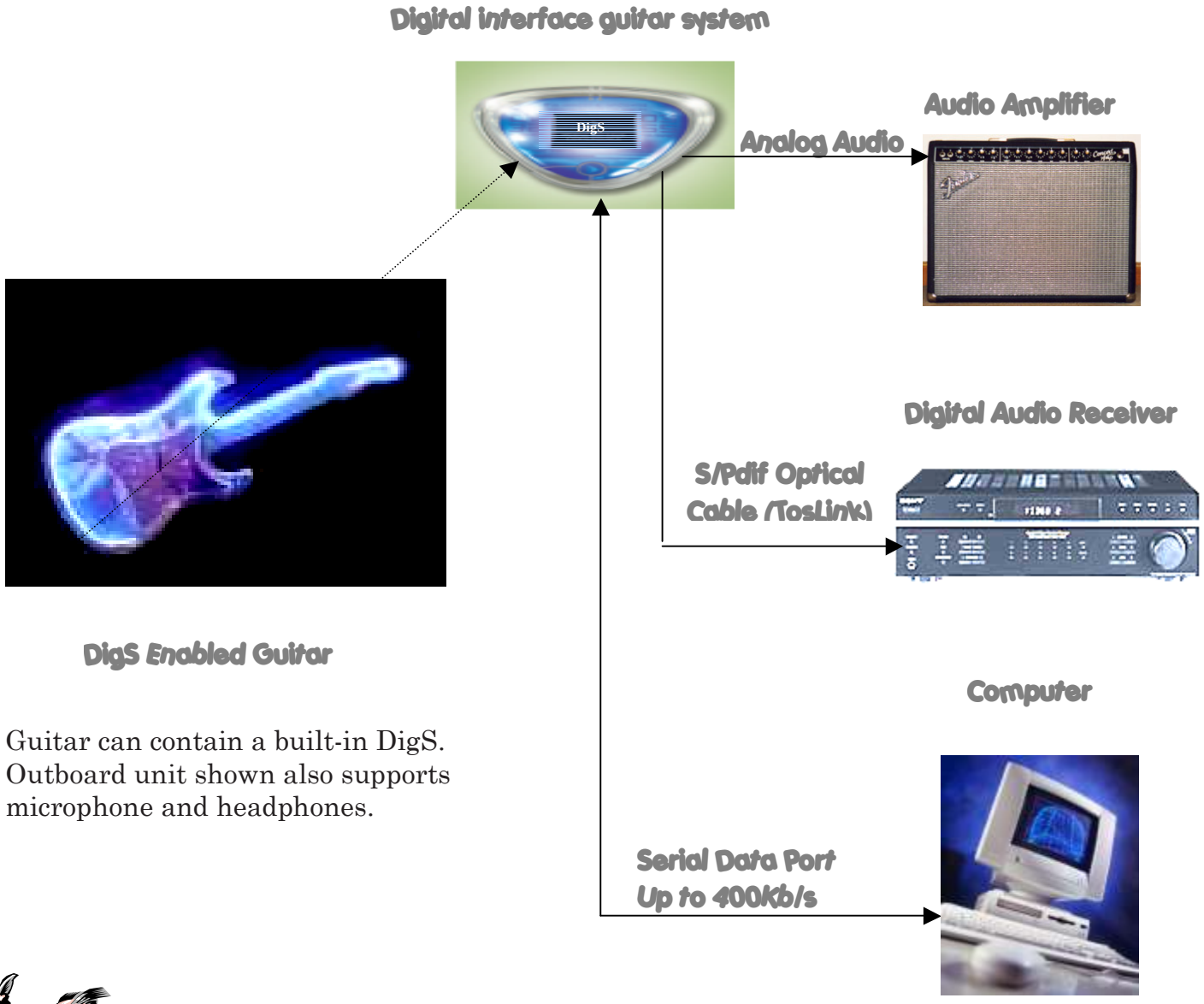
DigS Block Diagram



Guitar can contain a built-in DigS. Outboard unit shown also supports microphone and headphones.

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DigS is either built into a guitar, or is an outboard unit that connects to the guitar through a standard ¼-inch stereo jack. Headphones connect using another ¼-inch jack. Microphone connects using a standard XLR connector.

DigS digitizes and sends audio to both an optical transmitter (TosLink) and a RCA connector for hooking up digital audio equipment such as Digidesign's Digi001 ProTools or a digital audio receiver.

Exceptional quality stereo analog audio is also available at two standard ¼ inch mono jacks (Left and Right Out) for connection to existing patch bays, recorders, amplifiers, processors, and computers.

Features

- **Connects to Digital equipment (i.e. Digidesign ProTools)**
- **Compatible with existing analog equipment.**
- **Connects to digital recorders and processors optically or electrically.**
- **Three Audio Channels**
- **One bi-directional data channel**
- **Standard connectors**
  - **Optical digital output (TosLink) and RCA connector**
    - **Sony/Philips Digital Interface Format (S/PDIF)**
  - **¼ inch stereo jack for headphones.**
    - **Volume up/down switches (when using headphone)**
  - **¼ inch stereo jack for connection to guitar.**
  - **Phantom powered XLR microphone connector.**
- **Micro controller with embedded software.**
- **Multi-bit Sigma Delta Analog to Digital Converter**
  - **192Ks/s, 24 bits**
- **Power on/off switch**
  - **Power supply is four AAA batteries.**

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Optical connection + battery power = NO SHOCK HAZARD

Four alkaline batteries (size AAA) supply power, which completely isolates the musician from the power mains for safety.

There is absolutely no possibility of shock from DigS, your guitar or microphone when using optical cable connection and battery power.

Dave says, "Been there, done that, got shocked…"

Dave's warning below, pros already know;

> **"Traditional" connections to your existing analog equipment using audio cables (patch cords) can pose a hazard if the equipment grounds are defective or reversed. Always use safety grounded equipment. Never defeat the safety ground lug on your equipment power plugs.**

Dave uses doubly insulated patch cord plugs; you should too. Besides threatening your life, bad grounds make bad audio! Dave doesn't like bad audio…

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Dave says, "I have but one word for DigS... Awesome!"

"Dave" is David Radford, Professional Performing Guitarist, digital recording engineer, studio musician, songwriter, inventor and promoter of DigS and WiDis, the Wireless instrument Digital interface system. He is a purist analog audiophile working to make digital audio sound like analog. And he plays a bad ashed (sic) guitar!

He starred on the road with Blue Oyster Cult, Lightning Strikes, and No Control; been studio musician on "Music Row" in Nashville, Forever Endeavor Studio in New York, Opera House and Cedar Creek Studios in Austin, Lightning Studio in Dallas.

Bands: Reign and Three 4 Sure in Dallas; Bowery Boys, Gutter Sluts, and Glass Head in Elmira, NY. Fronted for A/C D/C in Dallas.

He owns "Breaking All The Rules" music Production Company in Nashville with three signed songwriters and one hundred fifty copy written songs, and Forever Endeavor Digital Recording Studio in Red Rock, TX.

That's Dave down there, lurking behind the Wimsi sign, pulling another rabbit out of his yellow top hat…

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