

LIGHTVIPER VIS-1832

Product: LightViper VIS-1832 digital fiber optic audio snake

Price: \$8,942

Company website: www.lightviper.com

Plus: No loss; extremely light weight

Minus: Cost; only 32 in/eight returns



THE DIGITAL world is here, so why are we still running copper wire everywhere? Line loss and interference all add up to archaic technology. Although fiber optics have been around for some time now, aren't they just fragile, brittle glass? Well, not anymore, now that the folks at Fiberplex have created the LightViper digital fiber optic audio snake.

Design

The LightViper is a 32-in, eight-return fiber optic audio snake. The brain of this product is the VIS-1832 stage box, which can accept balanced or unbalanced inputs without the need for direct boxes.

Phantom power is controlled in global strips of eight. Each input is a Neutrik XLR-1/4-inch TRS combo connector with the eight returns on Neutrik male XLRs. The stage box can also be ordered as a wall- or floor-mounted unit designed to fit standard installations without the need for customized paneling. Because the signal will be sent down fiber (A/D conversion), it must be sent at a line level necessitating pre-amps at the input end.

The inputs have three gain level adjustments: 0 dB (line), 26 dB, and 46 dB (mic). The outputs of the pre-amps are sampled at 24 bits/96 kHz before being sent down the fiber pair.

The unit also has the option of two additional splits (i.e. monitors and recording). Because this is done by simply splitting the light at the fiber connection, this split can be done several times without loss or signal degradation.

The fiber cable that connects the stage box to the mixer box is a mere 1/4 inches in diameter. The 300-foot reel sent with the review unit weighs just less than 6 pounds. According to Fiberplex, you can run 1.25 miles without loss (although I didn't test this because I didn't need to run that distance). Because this is all in the digital realm, you end up receiving a flat frequency response and a >100 db dynamic range.

At the mixer end of the fiber is the VIM-1832, which is the D/A break-out. Breaking out into an analog XLR connector is accomplished via Tascam DA-88 balanced pin-outs. These are done eight channels per connector. And if you have a digital console that can receive digital inputs, you have access to those as well through three more sets of DB-25 connectors. The digital outputs (AES3) are simultaneous with the analog, which means you can split to a digital record, for example, and still use the analog outputs for a live room mix. The only analog or digital determination that has to be made is on the eight return lines, which include a switch for activating either connector. When using the digital I/O, the unit can operate as slave or master using either Word clock or Super clock via the BNC connectors on the VIM-1832 unit.

Performance

This is a product that the audio industry has really needed. The ability to send signals back and forth

MANUFACTURER SPECIFICATIONS

<i>Dynamic Range:</i> 102 dB
<i>Latency:</i> 10 μ s in addition to DAC latency. 630 μ s total, including DAC with 300-foot fiber
<i>Sampling Rate:</i> 24-bit/96 kHz
<i>THD+N:</i> > 0.01%
<i>Cable OD:</i> 0.23-inch nominal
<i>Crush Resistance:</i> 228 pounds/inch (400 N/cm)
<i>Max. Installation Tension:</i> 400 pounds
<i>Max. Operating Tension:</i> 130 pounds (580 N)
<i>Min. Critical Bend Radius:</i> 1.8 inches (4.7 cm)
<i>Cable Weight:</i> 19 pounds/1,000 feet (28 kg/km)
<i>Operating Temperature:</i> -55° C to 85° C
<i>Fiber Type:</i> Graded index, multimode
<i>Core Diameter:</i> 62.5 μ m
<i>Cladding Diameter:</i> 125 μ m
<i>Attenuation:</i> Less than 1.0 dB/Km @ 1,300 nm
<i>Buffer Fiber OD:</i> 900 μ m \pm 50 μ m

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without ground loops, electrical interference, or anything else to corrupt the flow is amazing.

With that said, the standard questions arise. Because you have pre-amps integrated within the unit, how do they sound? Is there any colorization? Can the sampling rate be changed? What's the durability?

In my opinion, the pre-amps sounded wonderful. They were a little sterile, but I think that was to be expected because most of your "warmth" will come in at the analog stage at the console.

Unfortunately, the sampling rate can't be changed, but Fiberplex has some bigger plans (i.e. the ability to select sampling rates). In the future, users would be able to switch from 24-bit/96 kHz to 24-bit/48 kHz to match any external gear's rates.

The durability of the fiber is amazing. I'm sure we all remember the days of brittle, fragile fiber. But the LightViper's fiber has a crush resistance of 228 pounds/inches² and is jacketed with Kevlar.

I ran an end-to-end test through the audio snake by generating pink noise using Smart Live, and came up with some interesting results. First, the latency measured a mere 0.63 ms from stage box through 300 feet of fiber and out the VIM analog out. The phase trace was fairly uniform and the frequency response never varied more than ± 3 dB from 20 Hz to 16 kHz. There was a slope of -6 dB from 16 kHz to 20 kHz, which was common with the analog components. One of the coolest functions is the ability to pack it all up in the flight case, which can be stored in an overhead bin.

Value

Nearly \$9,000 is a formidable price, but when considering not only the efficiency and ease of use of the audio snake, let alone the headache-free troubleshooting, it's really quite a bargain. Everything you've always wanted from an audio snake is here — all in a portable flight case. Lightweight, loss-less, no interference, and digital splitting capabilities make the LightViper well worth the investment. **AV**

by Dave Rittenhouse

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