Audio Media, June 2001
DigiMAX 96k

By Simon Tillbrook

To review a microphone pre-amplifier is an awkward prospect. These items in our effects rack hold such importance to the overall sound, but their performance in this respect is subjective.

So many variables are involved when judging them: Microphone choice, placement, acoustic environment, and so on. On this occasion however the task was made so much easier by a unit that was universally liked by all who came into contact with it.

The PreSonus DigiMAX is an eight-channel microphone pre-amplifier with dual domain limiters and digital outputs. Now there's a mouthful. This unit comes in two parts — a single rack space processor and a separate power supply. Four green LEDs on the face of the power supply confirm the presence of each of the power rails.

The front of the very pretty rack unit (sculptured aluminum panel with blue anodized knobs) is clearly split into eight numbered sections. Each channel consists of a dual concentric rotary control, the inner part, the pre-amplifier gain control, utilizes Class A discrete input buffer with a dual servo gain stage giving 60dB of gain (the amplifier has inherent gain of 12dB, so a total gain of 72dB).

The outer part controls the dual domain limiter's threshold, from 0 to +24dB. All channels have switchable phantom power, found rather annoyingly on the rear of the unit, a pad switch reducing the incoming level by 20dB, and a unique feature called EQ Enhance. When pushed this engages a signal cut of 3dB, centered at 1kHz, from 250Hz to 5KHz to give a smoothing effect on the mid-range.

In addition to these features, Channels 1 and 2 also have a phase reverse button and an instrument input accessed by a standard jack socket.

It is when you take a look at the rear of the unit that things get interesting. You are confronted with a multitude of connect ability.

We have eight XLR microphone inputs, eight TRS quarter-inch jack analogue outputs, 24-bit ADAT optical digital output, a chassis mounted nine-pin connector that (with an optional cable) can provide either 24-bit four pair stereo SPDIF or AES/EBU outputs and finally external clock sync input and master clock output (sample rates 32K, 44.1K and 48K)... phew**!!** The best part about all this is the fact that they all work simultaneously, giving us a great number of operational choices.

The principle behind Presonus's dual-domain limiter is to employ RMS as well as peak-level detection. Most compressors use RMS detection, but are generally not fast enough to catch some transient peaks. Limiters, albeit fast, can be too harsh in their processing, so the combination of the two approaches makes for a more musical limiter. The peak detection is only really used on the unit to stop the A/D from clipping.

In Use

A pre-amplifier with a variety of direct digital outputs clearly lends itself as a front end to a computer-based recording system, and the fact that all connections work simultaneously allowed me to record a variety of signals to several different recording systems at once... very handy.

I used the ADAT optical output to a 20-bit XT, SPDIF to Pro Tools via an AudioMedia card and balanced analogue outputs to a Studer A800 MKIII. Not too shabby an arrangement for such a test.

We began by recording drums (a standard five-piece kit) through the DigiMAX to all systems, firstly without any limiters. Full beefy sound from bass drum, overheads and high-hat sounded particularly crisp and detailed. There was no real noise from the DigiMAX at all. Very quiet and smooth. The results to both the ADAT and Pro Tools were particularly pleasing, but when you start to play with the limiters things really do start to come to life and jump out at you — a really punchy dynamic sound. The DigiMAX really began to impress me.

Directly inputting bass guitar through the front of the unit was equally impressive. Once again, it was with the Pro Tools system in particular that you appreciated how full and driving the lower frequencies sounded on the hard disk.

Recording acoustic six string in stereo through two AKG C451E/CK1's we had a gloriously smooth sound. The detail in the high-frequency region was nice and bright without being too hard. The DigiMAX coped with all the variations thrown at it with

ease. The results on all the systems we used were very impressive, but it was with the two digital systems that the DigiMAX's capabilities really shined.

It was also pointed out to me that the ability to use all connections simultaneously would be quite an advantage live, allowing digital and analogue feeds to various locations for recording and monitoring.

Conclusion

I was very impressed by the DigiMAX. The wide range of connection options, the quiet operation, smooth sonic qualities and punchy and musical limiters. As a front end to a DAW or computer-based recording system, the DigiMAX comes into its own. It was with some regret that I let it go back.