

## SWEETWATER LABS

### Sweetwater and MOTU Push the Limits

**By Mitch Gallagher**

Sweetwater has always done an immense amount of in-house testing on the products we carry. We want to know for sure that the products you, our friends, are purchasing from us are really doing the job, and are living up to the claims made about them. We feel that with the testing we do, we bring to bear a decidedly real world, and more importantly, *broad* perspective. After all, we have three professional world-class studios in-house that operate day-in and day-out doing projects for clients of all types — a perfect testing ground. Plus we have the ability to test compatibility with dozens of complementary and competing products. A unique perspective, to say the least.

#### **MOTU to the Max**

For our next round of testing, we turned to one of the product lines we've been heavily involved with for many years. Sweetwater's relationship with MOTU dates back to the Performer days — long before there was “digital” in Digital Performer. Over the years we've worked closely together as they made technological leap after leap...from Performer gaining digital audio recording, editing, and mixing, to Digital Performer's POLAR looping features, to the astounding new real-time pitch-correction found in DP4.6. We've also enjoyed MOTU's hardware advances, from the original serial port-based MIDI Timepiece to the most recent Traveler audio interfaces.

#### **State of the Art**

So what's the current state of the art? Just how powerful can a MOTU audio system be? To find the answers I gathered a small mountain of MOTU gear, a stack of computers, and a hermetically sealed copy of Digital Performer and headed to the newly christened Sweetwater Labs to garner some hard figures.

I was interested in several benchmarks: How many interfaces could I hang off a single Mac? How many inputs could I record simultaneously to discrete tracks in Digital Performer? How many tracks could I play back at once on a particular computer, at a given sample rate? How do plug-ins affect track counts and system performance?

My tests included three types of MOTU interfaces: 828mkII, 896HD, and Traveler. (Note that MOTU also makes PCI-based interfaces, which are said to provide even higher performance...Sweetwater will be testing those units soon.)

Four Apple Macintosh computers were examined; we'll be testing Windows PCs in the next round. There were three G4s, stock except for having their RAM upgraded to 1GB: Mac mini (1.42GHz), iBook 12" (1.33GHz), PowerBook 15" (1.67GHz). A desktop Mac was also included, a PowerMac G5 dual 2.7GHz, which was stock except for 2.5GB RAM and a second internal SATA drive

All tests were run using Digital Performer 4.6 and MOTU's latest FireWire drivers. With the PowerBook, I tested using the built-in FireWire bus, and a CardBus (PCM-CIA) FireWire card. On the dual G5, tests were done using the built-in FireWire bus and a PCI-based FireWire card. Internal drives and two types of external Glyph FireWire drives were used.

### **Astounded**

I have to admit, I wasn't prepared for the results I got from my tests. We'll be publishing a spreadsheet on my findings soon, which you'll be able to download from Sweetwater.com. But until then, here's a taste: With the compact and quiet Mac mini, I was able to record up to eighty 48kHz/24-bit inputs/tracks to the internal hard drive using four 828mkII or Traveler interfaces! It's no problem to hang Traveler, 828mkII, or 896HD interfaces off any of the Macs, in pretty much any combination. With the G5, I was able to hang four Travelers off the internal FireWire bus, and an additional interface off the PCI FireWire card for 100 simultaneous inputs at 48kHz/24 bits, recorded to the second internal SATA drive. Astounding! Playback resulted in equally amazing numbers. For example, I could play 33 simultaneous tracks off the little iBook and a FireWire hard drive at 96kHz/24-bit resolution. At 48kHz/24-bit, I could play 146 simultaneous tracks from the dual G5.

This is just a sampling of the incredible results I ended up with in my tests. There's no question that a MOTU FireWire-based system can deliver high-end results — *and Sweetwater now has the figures to prove it!* In the future you can look forward to even more revealing Sweetwater Labs tests — next up will be tests with Windows computers and PCI interfaces. Stay tuned!