In fact, the *MC416* has won a number of vocal mic shootouts while in my possession, and I've used it on male and female vocals in varying styles. It did lose out to a cherry 1958 Telefunken U 47 on a session with Brooklyn-based singer-songwriter Gray Reverend (with Jason Swinscoe of Cinematic Orchestra producing for his new label, Motion). Prior to the U 47 showing up, however, the *MC416* was holding the lead spot on vocals, and everyone was surprised to be falling for this mic no one had heard of. On acoustic and electric instruments, it continues to consistently behave like a really nice U 87. I liked it on acoustic guitar a lot, as it delivers articulation without harshness. The hypercardioid pattern is handy to have on hand as well, and the *MC416* doesn't load the bottom end with this setting as excessively as, say, a comparably-priced AKG C 414. I was totally impressed.

The Nevaton line consists of a number of interesting mics, including a stereo LDC with variable pickup angle, a stereo/mono mic using one dual-sided diaphragm, a small-diaphragm condenser, a lavalier, and a shotgun. What impresses me is that they each seem to be exclusive designs featuring unique diaphragms that vary in size. This shows me that Nevaton isn't repackaging the same parts into slightly different mics in order to flesh out their line and hit different price points, but that they are building their mics and components in-house in order to meet very specific design goals. I imagine that these manufacturing practices have a lot to do with the company having been built on such a long tradition of internal research and design, and perhaps even with the isolation that Russian industries endured during the decades-long Cold War. Without romanticizing industrial practices of the past, I think that all the parts being built and assembled under one roof contributes to the quality of these mics.

Probably like many of you, when I use a piece of gear I get an intuitive sense of it—a vibe. In the case of the Nevaton mics, the vibe was very similar to the feeling I get when using excellent vintage mics that were also typically designed and built under one roof. To be finding this vibe and such great sound in mics in this price range is impressive. Bravo!

($1595 MSRP; www.nevaton-microphones.com)

–Allen Farmelo, www.farmelo.com

Little Labs

Redcloud 8810U8ERS Balanced Attenuator Pack

We recently added a Pro Tools HD rig to our studio, and an unexpected hitch was that the pre-"VT" Lynx Aurora 16 interfaces we bought don't have trimming capabilities. Since we often track to tape and then dump to digital for mixing, I immediately realized that any signal with a healthy level on tape was too hot for the Aurora's converters. I was a little bummed that I'd have to run these signals through the console just to knock off a few dB, since that meant going through an unwanted gain stage.

Soon thereafter, I became aware of a new Little Lab product, the *Redcloud 8810U8ERS*. (Get it?) Jonathan Little excels at providing unique and handy solutions to engineers' everyday problems, and his newest contribution is no exception. Jonathan claims the idea for the device came when Don "Redcloud" Smith (Rolling Stones, Bob Dylan) asked for a simple way to attenuate the output of his favorite mic preamps, which he liked driving hard but were putting out too much signal for his digital interfaces.

Visually, the *Redcloud* fits right in with other Little Labs products; it has the same sleek white-on-black screening and bulletproof 1/4-rack enclosure as the IBP, PIP, and Redeye. The eight little knobs control finely-detented pots (with 31 positions, to be exact), and there are four switches for turning the odd-numbered pots into stereo masters for the odd/even pairs (*i.e.*, the *1/2* switch gives knob *1* control over channels 1 and 2, and thereby makes knob *2* inactive). The back of the box has only two DB25 connectors for the unit's I/O; there's no power supply cable, since the *Redcloud* is 100% passive! That's a good thing, because it means less to get in the way of the signal passing through it. Also, Jonathan chose 5k Ohm potentiometers, because he feels like any higher impedance would start affecting the high-end transmission capabilities.

Back to the DB25 connectors for one second. In the first place, they're essential, given the box's diminutive size, but also, it reduces your interconnect costs significantly. One gold-pinned DB25 connector, which handles eight channels of balanced audio, sells for just over a buck at my local electronics store, compared with the higher cost of eight quality XLR or TRS plugs. I also happen to find soldering a single DB25 a hell of a lot faster than eight separate connectors, once you get the technique down. (Hint—it's all in the prep!) If you don't solder, there are now many commercially available snakes with D-sub connectors.

To hear how the *Redcloud* sounded, I compared it to the active Monitor Trim control on my AMEK Einstein. The *Redcloud* sounded much better, that is to say, much more like the original signal. By comparison, the AMEK had less high-end clarity and a slightly tubby low-mid boost. In addition to the great sound of the *Redcloud*, I was impressed by the functionality of the potentiometers. First off, the detents allow for near-perfect recall. Also, the taper is very useable, since it's logarithmic, meaning that near the top end of its range, dB changes are very small, and as you go down, each detent does more work. Plus, the tolerance between all eight pots is very small. I set all eight pots to ten clicks down, and they were all within 0.1 dB of each other! Stereo tracking is also very good; when in stereo mode, the left/right pairs stayed within 1 dB of each other throughout the full range of the pot, and in the upper ranges, where you are more likely to use them, it was closer to 0.2 dB. The only two drawbacks are that the knobs are small and close together, and since they're detented, they're not good for fades, but those are very minor issues.

Did the *Redcloud* solve all my problems? Well, it solved eight channels of problem, now I just need two more "packs" and then my MTR-90 and Auroras will live in perfect harmony. Plus, I can use them in all sorts of other scenarios, wherever one device is putting out too much signal for the next. You can even wire them to run eight unbalanced stereo signals. The *Redcloud* is an elegant solution for anyone needing transparent attenuation.

($350 street; www.littlelabs.com)

–Eli Crews, www.newimprovedrecording.com

Mooktronics

PDI 500 passive direct box

Sometimes a simple piece of gear can make your life so much easier. Think about a TT to TRS adapter—handy for patching in something that you will use once on a project or maybe once this whole year. Sometimes the piece of gear makes your life easier by combining simplicity with quality and ease of use, like the Mooktronics *PDI 500*. It's hand-built by a skilled young tech; the faceplate material, jacks, switches, and transformers (with two options available—Cinemag or Jensen) all exude quality; and the design is clean and easy to grasp. It's a passive DI in a 500-series form factor. The twist? It has a pair of jacks on the face that intrigued me right away, especially with a toggle switch to select Thru or Sum modes. Interesting. I own and operate a fairly extensive modular synthesizer, and a summing module always comes in handy with more than one sound source being fed to a filter or further processing. The Sum option made sense to me immediately. Beyond simply maximizing your tape inputs by having a two-input/one-patch-point scenario, you can simply return a couple of things to a single channel on a console, or process a pair of tape echo returns through a single mono filter. In addition, pad, polarity, and ground lift switches take care of anything you throw at the unit.

The *PDI 500* looks great in the rack, is totally simple, sounds great, and has interesting possibilities for use and abuse if you ever integrate guitar pedals, tape echoes, or effects in general that don't really talk to your DAW or console easily or elegantly. It's super well built and seems to have many uses outside simple, direct-input tasks. For a creative recordist, these things will be really useful. If you have a 500-series rack or an API console, you really should have two of these things. I am getting a pair with Cinemags, for sure. Great work, Mooktronics. I hope to see more interesting designs from you. *($275 direct w/ Jenson, $235 w/ Cinemag; www. mooktronics.com)*

–Joel Hamilton, www.joelhamiltonrecording.com

Sonoris Audio

Meter plug-in

If you take away one engineering concept from this issue, I hope it's the following: serious recording engineers calibrate their monitor paths. Readers with tape machines paired with analog boards know what I mean. Matching the levels on those guys is the first order of business. But with the majority of people working with DAWs, this crucial process has slipped by the wayside. (This is especially true if you don't use a monitor controller; you rely on the software's master fader as your speaker-level control.) An in-depth discussion of operating levels and I/O calibration is beyond the scope of this review. But if you don't have a 0 dB reference in your studio—or heaven forbid, you're simply looking at the bar levels on the mixer window—then you're no better than a racecar driver competing with his windshield painted black. You have absolutely no idea where you're going, and it's probably an accident if you get there safely.

There are several different ways to keep tabs on your system's peak and loudness levels. There are hardware options such as VU meters, or LED offerings from Dorrough, Logitek, or Mytek. But *Sonoris Meter* is a plug-in that offers similar performance, allows on-the-fly scale changes, and generates calibration tones at a fraction of the price of the hardware units.

(continues on page 54)

With *Sonoris Meter*, you can measure peak and loudness levels simultaneously. In addition to the standard audio scale, *Sonoris Meter* supports Bob Katz's K-System (see his book *Mastering Audio* for details). Mastering engineers will rejoice at the over-sampling peak-meter mode, which monitors inter-sample peaks. These are values that can cause digital clipping during playback, especially on consumer players. (If you want to know more about this phenomenon, check out the 1999 and 2000 AES papers on *0 dBFS + Levels* by Nielsen and Lund, Preprint 5019 and Paper 5251). For phase concerns, *Sonoris Meter* includes a correlation monitor, which is similar to the esteemed hardware versions by Tektronix. It measures the phase relationship in a stereo track and can be a visual alarm if something is out of the ordinary. Graphically, there is a row of virtual LEDs that flow from left to right. The left value is –1, in the middle is 0, and the far right is labeled +1. If signals are in phase, the meter light is around the 1, out of phase is –1, and completely uncorrelated reads in the middle at 0. Of course, most mixes will want to live between 0 and 1. But your ears should be the ultimate arbiter.

Another key feature of *Sonoris Meter* is the implementation of Leq(A) mode for measuring loudness. Almost all other meters use RMS. (Check out my article on meters in *Tape Op* #54 for more on the differences between peak and RMS meters.) Leq can be explained as the level of a constant sound, which in a given time period, has the same energy as a time-varying sound. In the manufacturing world, Leq has been used in loudness meters for measuring aircraft noise or industrial noise over a long period. *Sonoris Meter* follows the K-System proposal, which measures Leq over a 3-second interval. Leq(A), which relies on A-weighting, approximates the loudness sensitivity of the human ear. In use, this makes for a smooth, slow meter that translates the loudness very well.

Getting back to my main point, in addition to being a great measuring device, *Sonoris Meter* is also a tool for calibrating your monitoring chain. All you need is an SPL meter. The whole process takes only a minute or two. First, turn your volume control down very low. Then, choose what channel to use for the calibrated pink noise—L, R, or both. *Sonoris Meter* will output levels that are calibrated to show 0 dBr on K-scale or -20 dBr on regular scale. Put the SPL meter where your head would be when you work. Set the unit to *slow* C-weighting mode, turn your monitors up until the SPL meter reads an 83 dB reference level. If you're using stereo channels, don't forget to compensate for your DAW's pan-law settings. Using a grease pencil, tape, or marker, note this level on your monitor volume control, and you're done. Now you know where 0 dBr (referenced to 83 dB SPL) is on your system! Don't you wish you did that years ago?

In daily use, *Sonoris Meter* takes up very little CPU cycles and a small amount of screen space. You can save your favorite settings as needed. With its muted metal colors, the graphics are subdued, with a "Metropolis" feel. All of these features plus the built-in calibration functions would make this plug-in a fair deal at $499 (what some other guys charge for plug-in meters), but Sonoris is asking a mere $109. Go grab the demo and see for yourself. Because if you didn't have a reference level before, there's no excuse now. *($109 direct; www.sonoris.nl) –GH*

Sterling Modular Systems

Plan E mastering console w/ LCD arm

Sterling Modular founder Jim Maher believes that acoustics matter when choosing furniture for an audio working environment. Having used products from his competitors as well as from general office and furniture stores, I can testify that the choice of desk has a massive impact on the acoustic signature of a room. And after spending a few months with a Sterling Modular console, I have learned that while studio furniture from different manufacturers may *look* similar, in use they are anything but similar.

Let's address some housekeeping issues upfront. I've heard some confusion regarding an association between Sterling Modular and world-renowned mastering house Sterling Sound. The shared use of "Sterling" in the names is a coincidence, even though just about every studio in Sterling Sound's Chelsea building is outfitted with Sterling Modular products. The second item deals with trying to utilize consumer furniture for your studio desk. I hate to be the bearer of bad news, but you're probably shooting yourself in the foot if you don't have a real studio desk. Of course, it depends upon the construction of your item, but most general-office computer desks have two problems. First, they are not acoustically damped, which means they often vibrate at a sympathetic frequency to the sound in the room. It may be 250 Hz, it may be 700 Hz—it depends. But this is bad news. It means your desk can change the perceived level of some wavelengths of audio, and it can be especially troublesome when you use a subwoofer. The workarounds are bad options; EQ or room-correction software means adding more money and more things to your monitor chain unnecessarily (and while room-correction software may work to a limited extent, furniture resonance is beyond what it's intended to fix). The second issue is that a desk not properly designed for an audio environment will contribute comb-filtering to the sound hitting your ears from the monitor speakers. Obtuse-angled reflections off the surfaces of the desk can have delays of less than 30 ms (the threshold for your brain to process the separation of a reflected sound from the original). Bad news.

Currently, Sterling Modular offers six different versions of preconfigured "Plans" as well as custom-fitted consoles for mixers and control surfaces (*e.g.*, API, Digidesign, Euphonix, Toft, SSL, Yamaha, etc.). Most of Sterling's desks are covered with a durable black laminate, while the topsides and lean bars are accented with wood. Red oak comes standard and looks like the warm oak furniture found in many homes. Other hardwoods such as maple, bubinga, and mahogany, are available as cost options.

Many mastering engineers choose the A or B Plans, which feature two or more gear bays in a straight line, left-to-right. I purchased the *Plan E*, which features three wraparound bays. The desk arrived in four flat boxes. Kyle assembled the unit before I knew what happened. Poor Kyle. Every time I have to rewire my mastering desk in order to test new review gear—which is often—he gets conscripted into doing all the work. He hated my old desk so much he wanted to get the Sterling Modular set up immediately. As he assembled the desk, I was impressed with the precision joints and the quality of the materials. If you're a woodworker who wants to