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Audio Test Gear Review!
The NTI XL2 Handheld Audio Analyzer,
DR2 Digirator Test Signal Generator

Brevis...
Price: $1,750 (XL2 w/mic), $1,850 (DR2)
Likes: Full-featured audio testing, small form factor
Dislikes: We could not come up with anything
More info: NTI Americas

NTI Duo Measures Up For Audio Pros, Novices

by Roger Williams III

For more than thirty years NTI has been developing leading-edge audio test equipment for manufacturers and sound contractors, and in 2000 the Liechtenstein-based company bought out Neutrik's' audio test division. The Minirator MR1 and Minilyzer ML1 set the industry on its ear in the new

millennium. NTI has continued its prodigious line with the XL2 Audio and Acoustic Analyzer and new generation DR2 Digirator Signal Generator.

The audio analyzer

The portable NTI XL2, priced at $1,750 with the NTI M4260 mic (or $1300 with no microphone) is a sophisticated acoustical analyzer and sound-level meter in a small, convenient, handheld package. My unit was shipped with NTI's calibrated M4260 measurement microphone. The 7-inches tall long x 3.5-inches wide x 1.75-inches deep unit nestles within a rubberized, protective blue glove, with a rear-folding desk stand and Euro-style tripod mount.

The NTI XL2 analyzer and DR2 Digirator audio generator are prime examples of the next generation, highly sophisticated, yet easy-to-use, portable audio test equipment.

Features include XLR, RCA, Voice Note (actually an internal mic) inputs, and USB output, as well as digital I/O, headphone output, and TOSlink outputs. The XLR input has ASD (Automated Sensor Detection), which sends microphone sensitivity and other microphone information to the analyzer whenever an NTI ASD mic, such as the optional NTI M4260, is inserted.

A Mini-SD card input enables data storage and firmware updates. A small rear-mounted speaker is in parallel with the XLR/RCA input. A 2.5-inch square monochrome-LCD display pervades the unit topology with control buttons located below — including Jogwheel, Enter, Esc, Speaker Volume, Start/Stop and Pause, Limit, and Power/Backlight.

The audio generator

The diminutive (6-inches tall by 3-inches wide by 1.5-inches deep) NTI DR2 Digirator, priced at $1,850, is an audio signal generator made to work hand-in-hand with the XL2, or in tandem with other manufacturers' analyzers. With similar looks and accoutrements to the XL2, it sports AES3, S/PDIF and ADAT outputs. These include RCA, XLR, optical, and USB ports. A 1-inch tall by 2-inches wide LCD display overlooks the control surface. Below the display are the Jogwheel with Entry, Esc, Level, Wave, Frequency, Sensitivity, Mute and Power/Backlighting button

Both units can run on internal batteries or optional external DC power supply. The XL2 also offers the choice of a Li-Po rechargeable battery. Each comes with a

hand strap. The XL2 includes a test-signal CD, and the DR2 is supplied with XLR-to-BNC and RCA-to-BNC adapters.

The audition

Powering up the XL2 reveals the crystal-clear LCD screen with data readouts and menu selections. Along the top of the display left-to-right, one will find the Measurement function, Page selection, Input selection, SD-card symbol for data storage, Balance, Phantom Power, and Battery indicator. Use the Jog Wheel to scroll to the desired function, and press the centrally located Enter button to select.

Menu selections include Sound Level Meter, FFT, RT60, Polarity, Delay, RMS/THD, STI-PA, Calibrate, and System Settings. Once a measurement function is chosen, scroll to the Page selection for Submenus and Sensitivity selections; the Page button quickly finds the desired parameter. Initialize preferences by opening system settings. Much like a PC, Power, Save options, Contrast, and Date/time can be easily set. Or the user can opt for the factory defaults.

With the XL2's SPL measurement function, the large, decimal-display readout was quite handy for monitoring an environmentally restricted outdoor PA event sound levels; it could easily be seen from any angle and location at the mix position.

As a home A/V installer/commercial sound contractor, I used the measurement functions most relevant to my business. The Sound Level Meter provides data in — either a font-size adjustable broadband decimal readout or a 1/3 or 1/1 real time spectrum display. Actual, Lmin, Lmax, Leq, LCpeak are measured with A-, C-, Z - frequency weighting and F-, S-time weighting simultaneously, and are all immediately available. Very nice!

The Input range can be adjusted in the lower left corner, depending on mic sensitivity. In the RTA page, a floating cursor points out the spectrum's highest level band. Selecting the Mini-SD card symbol allows the user to save data on a removable Mini-SD card.

The FFT measurement function displays the results of LZeq averaged SPL over time and LZFlive actual SPL in a fast, 142-bin FFT display. Input range can be selected, and similar to the sound pressure level function, a floating cursor follows the highest level.

Moving to the DR2 Digirator. Upon powering up the DR2, as with the XL2, you will find a menu along the top of the display. Left-to-right, the menu bar includes Function election, Channel Output selection, and Save/Recall configurations. The Battery life indicator is on the upper right corner. Below that is the settings field for the audio signal generation. At the bottom of the display is the Settings section for the interface carrier signal.

The user can implement changes to these fields via the Jogwheel: Enter, Wave, Frequency, Mute, Sensitivity, and Level buttons. Test signals available are: Sine, Sweep, Chirp, Pink Noise, White Noise, Polarity, Delay, Dolby, and DTS.

With the XL2's SPL measurement function, the large, decimal-display readout was quite handy for monitoring an environmentally restricted outdoor PA event sound levels; it could easily be seen from any angle and location at the mix position. At another job, the XL2 142-bin FFT display used, in tandem with the DR2, was very helpful pinpointing corrections for an Ashley 1/3-octave EQ. A well-meaning, but misguided, operator had previously misadjusted the installed-auditorium sound system, but the XL2/DR2 enabled me to put it right, much to the owner's satisfaction.

XL2 SPL, RMS and RTA Sample Screen Shots

And the NTI tandem was most useful in the set/up and adjustment of a commercial 7.1 surround system through a NAD receiver's level and crossover options. The NTI duo allowed me to accurately optimize the installation's new ceiling-mounted Speakercraft speakers.

Although designed for sound professionals who need comprehensive signal measurement and signal-generation capabilities, the XL2 and DR2 can be complementary tools for knowledgeable home-audio enthusiasts who have major investments in their home cinemas. Although you can use a simple Radio Shack SPL meter, the NTI set enables more detailed and accurate measurements so you can have that "perfect" multi-speaker, home cinema setup.

The XL2/DR2 could also be used to set up a home recording studio by revealing anomalies in room audio response and then measuring the remedies' (sound treatment, etc.) effects or lack thereof.

The verdict

The NTI XL2 analyzer and DR2 Digirator audio generator are prime examples of the next generation, highly sophisticated, yet easy-to-use, portable audio test equipment. The walkie-talkie form factor is more rugged and easier to implement than laptop testers. The pair are solidly built, flexible in function and interface capabilities; they offer a myriad of data-gathering skills that add value to any sound professional's toolbox.

At a price of $1,750 (with the M4260 microphone) and $1,850 for the XL2 and DR2 respectively, I can recommend them without reservation — as well as recommend them for an **E*verything Audio Network*** *Stellar Sound Award*.

Second Opinion!

Seasoned Pro Relies On NTI XL2 Audio Analyzer

(Editor's Note: Tom Young is president and chief engineer for ElectroAcoustic Design Services in Oxford, Ct. He was recently interviewed by ***EAN*** *about his experiences with the Neutrik XL2).*

"I have owned nearly all of the multi-mode audio test sets, and, by far, the XL2 is the best device I have ever used," says long-time acoustics engineer Tom Young. "It is something that I always carry with me in my shoulder bag.

Young says the XL2's measurement capabilities, hand-held size, easy-to-master GUI and durable build quality make it a perfect tester for all kinds of audio professionals and home audio buffs who know their way around a test set. Applications include home-cinema multichannel setup, live sound, installed sound, audiophile installations, and environmental noise measurements.

Young purchased the NTI M2210 measurement mic with the XL2 and NTI Digirator DR2. He says the package enables extremely accurate

measurements, including frequency response, polarity, time average, SPL, and environmental noise measurements.

Although $1,750 (with microphone) is not pocket change, Young says the XL2 is worth every penny. “I have no complaints at all.” He specifically noted the XL2‘s sturdy build, is a key feature for those audio measurement pros who occasionally knock around their gear.

He says he especially likes the monochrome display, which is easy to read and perfect for portable use in all kinds of ambient light. “A color display is more appropriate for the computer,” he adds.“And a color screen (for the XL2) would have added a few hundred dollars to the cost.’‘**

Because of NTI’s audio measurement focus, Young notes that product support is superb. “They have a pedigree in test equipment. They have always been very responsive in making changes to features, based on user feedback,” he adds.