The Digilyzer DL1 is a powerful but easy to use digital audio analyzer. Testing, monitoring and troubleshooting digital audio interfaces is fast and straightforward using this compact tool. Virtually all digital audio formats including ADAT and sampling frequencies up to 96 kHz are supported. With features like the DL1 unique integrity check, the integrated speaker, event & data logging, audio lens and digital audio becomes transparent and easy to debug.

The Digilyzer shows all these important parameters at one glance. Additionally, the built in integrity check even alerts if protocol inconsistencies, interface carrier related parameters like level & sample frequency, channel status - related parameters like professional/consumer mode, DC offset problems and polarity issues are detected. Analyzing & debugging digital audio interfaces and signals requires looking at completely different parameters at the same time:

- Audio related parameters like audible content and level
- Interface Carrier related parameters like level & sample frequency
- Channel Status - related parameters like professional/consumer mode
- Bit Statistics - highlighting of possible problems
- Measurements: Interface Carrier
- Channel Status
- Digital Audio Monitoring
- Dual Domain Functions
- Channel Status Analysis

Measurements: Interface Carrier, Sampling Frequency (acc. ±2.5 ppm), Level, Frequency Sweep, vu+PPM, THD+N, Level, Frequency, Signal Frequency, Frequency Sweep, vu+PPM, THD+N, Level-FS, Level-RMS, Overload Detection, Scope, Signal, Frame, Consumer/Professional, up to 24 bit, AES3, S/PDIF, TOSLINK & ADAT.
The Digirator DR2 is a reference grade digital audio signal generator with transformer balanced AES3, S/PDIF and ADAT outputs. Beside a comprehensive set of audio test signals, the DR2 also supports surround sound test sequences for verification and adjustment of professional Dolby Digital, Dolby E and DTS installations. The internal low jitter clock generator can be synchronized to AES3, DARS, Word Clock using BNC to XLR adapter (included). User test signals may be stored as uncompressed WAV-files in the DR2 memory.

Channel Status Monitoring
Channel status information can be generated in professional and consumer format and the most important parameters may be manipulated manually. Display of incoming channel status data is also supported.

Digital Audio Signal Generator
- Up to 192 kHz / 24 Bit
- AES3, S/PDIF, TOSLINK & ADAT
- Multi Format SYNC Input
  - AES3, DARS, Word Clock and Video Black Burst (PAL and NTSC) synchronization signals. The input impedance of the sync input may be switched between 75 Ohm, 110 Ohm and High 2.
- Channel Status Monitoring
- Sine Wave, Noise, Polarity
- Multi Format SYNC Input
  - The DR2 accepts AES3, DARS, Word Clock and Video Black Burst (PAL and NTSC) synchronization signals. The input impedance of the sync input may be switched between 75 Ohm, 110 Ohm and High 2.

Synchronization Input
- Black Burst
  - PAL / NTSC
- Word Clock
  - Word Clock and Video signals. Measurement of channel transparency, channel propagation delay and sample frequency is supported.

Channel Delay Measurement
The Digirator DR2 tests whether a transmission can pass. This test is also suitable for Dolby Digital and/or DTS bit streams and indicates if Dolby E, Dolby ProLogic II or DTS multi-channel bit stream files. A set of 51 test sequences for the verification and optimization of surround sound equipment and installations is stored on the unit’s flash disc.

Channel Transparency Check
The DR2 tests whether a transmission channel is transparent for multi-channel PCM signals and indicates if Dolby E, Dolby Digital and/or DTS bit streams can pass. This test is also suitable for any digital audio recording device.

Dolby Digital, Dolby E and DTS
The DR2 waves file player can playback multi-channel bit stream files. A set of 51 test sequences for the verification and optimization of surround sound equipment and installations is stored on the unit’s flash disc.

Weight
- 1.75 kg

Dimensions (LxWxH)
- 305 x 92 x 34 mm

Battery Life: 10 hours
- 3 x AA Alkaline dry cells or rechargeable equivalents

Auto-Power-Off
- Graphical, with back light

Display
- -138 dB (22 Hz - 22 kHz, average, @ 1 kHz, typical)
- THD+N: -100 to 0.00 dBFs, %

Level Units
- Increment:  Linear / Logarithmic
- Continuous Sweep
  - Freq. range: freely selectable, 20 Hz - 20 kHz
  - Accuracy: 0.001%
  - Increment: in 1 digit steps
- Frequency Setting
  - Resolution:  16, 20, 24 Bit, Mono + Stereo

Wave File Format
- Supplied in the following formats:
  - .WAV, .AIFF

Inputs
- Optical
  - Stereo, ADAT: up to 48 kHz
  - Sampling Frequency
  - Outputs
  - AES3 (110 Ohm) XLR
  - AES3id (75 Ohm) using optional adapter
  - TOSLINK: Stereo and ADAT
  - RCA-BNC adapter for AES3id
  - DC SupplyUSB

Outputs
- Consumer/Professional, up to 24 bit audio
- DC SupplyUSB

Technical Data DR2
- Mains Power Adaptor
  - for Digilyzer DL1 (EURO Type)
  - for DR2 (EURO Type)
- Signature:
  - Tested by: B.Graf
  - Date: 17. December 2009

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The Digirator DR2 is a reference grade digital audio signal generator with transformer balanced AES3, S/PDIF and ADAT outputs. Beside a comprehensive set of audio test signals, the DR2 also supports surround sound test sequences for verification and adjustment of multi-channel bit stream files. A set of supplied wave file player can play back on the unit's flash disc.

**Technical Data DR2**

### Outputs
- AES3 (110 Ohm) XLR
- AES3 (75 Ohm) using optional adapter
- DARS
- Word Clock using BNC to XLR adapter (included)
- XLR Sync input for:
  - AES3id (75 Ohm) using optional adapter
  - AES3 (110 Ohm) XLR

### Wave Forms
- Sine Wave
- Noise
- Polarity
- Stepped Sweep
- Continuous Sweep
- Accuracy: 0.001%
- Increment: in 1 digit steps
- Range: 10 Hz - 20 kHz
- Resolution: 16, 20, 24 Bit, Mono + Stereo

### Wave File Format
- Sampling freq: 44.1, 48, 88.2, 96, 176.4, 192 kHz
- Frame: Consumer/Professional, up to 24 bit audio
- Bit streams: PCM signals and indicates if Dolby E, DTS or Dolby ProLogic II are generated in professional and consumer formats. With this calibration are all instrument functions calibrated.

### Accessories for Digilyzer DL1
- Soft pouch with belt-loop
- MiniLINK USB PC Interface
- System Case
- Calibration Certificate

### Accessories for Digirator DR2
- Soft pouch with belt-loop
- System Case
- Calibration Certificate

### Order Information
- Digirator, Digilyzer, MiniLINK, MiniSPL, Minilyzer and Digirator DR2 Connectors & Formats

### Order Information
- Technical Support Information:
  - NTTI Audio AG • Im alten Riet 102 • 9494 Schaan • Liechtenstein • Europe • Tel: +423 239 6060 • Fax: +423 239 6089

### Synchronization Input
- AES3
- Black Burst
- PAL / NTSC
- Word Clock

### USB Functionality
- Host Mode
- Host and Storage Device

### DC Supply
- USB
- OPTICAL Transformer output
- AES3 Transformer balanced
- OPTICAL Stereo, ADAT

### System Case
- for DL1, DR2 and accessories
- Mains Power Adaptor
- for DL1 (EURO Type)
- for DR2 (EURO Type)
- Calibration Certificate

### Calibration Details
- Test & Calibration Certificate (for detailed report see next page)
- 17. December 2010

### Specifications
- Frame: Consumer/Professional, up to 24 bit audio
- Sampling frequency:
  - AES3: 44.1, 48, 88.2, 96, 176.4, 192 kHz
- Up to 48 kHz

### Inputs
- AES3 sync input for:
  - AES3, DARS
  - AES3id (75 Ohm)
  - Word Clock using BNC to XLR adapter (included)
- XLR Sync input for:
  - AES3id (75 Ohm) using optional adapter
  - AES3 (110 Ohm) XLR

### Wave Form Format
- Sampling freq: 44.1, 48, 88.2, 96, 176.4, 192 kHz
- Frame: Consumer/Professional, up to 24 bit audio
- Bit streams: PCM signals and indicates if Dolby E, DTS or Dolby ProLogic II are generated in professional and consumer formats. With this calibration are all instrument functions calibrated.

### Weight
- 310 g (11 oz.), incl. batteries
The Digilyzer DL1 is a powerful but easy to use digital audio analyzer. Testing, monitoring and troubleshooting digital audio interfaces is fast and straightforward using this compact tool. Virtually all digital audio formats including ADAT and sampling frequencies up to 96 kHz are supported. With features like the DL1's unique integrity check, the integrated event & data logging, audio lens and many more digital audio becomes transparent and easy to debug.

Digital Audio Analyzer

DL1 DIGILYZER

The Digilyzer DL1 shows all these important parameters at one glance. Additionally, the built-in integrity check even alerts if protocol inconsistencies, wide deviation in level & sample frequency, bit related problems, DC offset, etc. warnings if any discrepancies are found.

• Analyzing & debugging digital audio interfaces and signals requires looking at completely different parameters at the same time:
  • Interface carrier related parameters like level & sample frequency
  • Channel Status - related parameters like professional/consumer mode
  • Audio related parameters like audible content and level

The Digilyzer shows all these important parameters at one glance. Additionally, the built-in integrity check even alerts if protocol inconsistencies, wide deviation in level & sample frequency, bit related problems, DC offset, etc.

• Channel Status
  The complete channel status information is displayed in an easy-to-understand plain text format - according to the latest standards. Interface-carrier frequency and level is available on nearly every screen.

• Bit Statistics
  Measuring the audio resolution, finding stuck-bit failures and monitoring the activity of the user data bit are some important applications of the bit statistics function. Basic channel status information is visible on the bottom line.

• Event Logger
  Intermittent faults are usually hard to find. The event logger tracks every change of the input signal (carrier, channel status or audio related) and allows long term checking and highlighting of possible problems.
The Digilyzer DL1 is a powerful but easy to use digital audio analyzer. Testing, monitoring and troubleshooting digital audio interfaces is fast and straightforward using this compact tool. Virtually all digital audio formats including ADAT and sampling frequencies up to 96 kHz are supported. With features like the DL1 unique integrity check, the integrated speaker, event & data logging, audio lens and DC offset problems and polarity issues, audio signal in the time domain. When receiving incorrect Channel Status information, the behavior of a device could be unpredictable. The Integrity Check compares measured parameters with any deviation found.

Audio Monitoring
Beyond all the measurement power, the built-in converter & speaker is one of the most important tools of the DL1. Featuring high quality headphone output, automatic gain control and monitoring of analog input signals.

Scope
The auto trigger and auto ranging scope gives a detailed view of the input audio signal in the time domain. DC offset problems and polarity issues are visible. Also ideal for understanding sampling peculiarities.

THD+N, Level, Frequency
Besides Level Peak measurements, the DL1 is equipped with RMS measurement techniques including THD+N and high pass filters, allowing easy verification and debugging of dual domain failure like AD converters.

Frequency Sweep
The DL1 automatically triggers to a sweep sequence with any step width and records the frequency response. Any stepped sweep may be used as signal source. After capture all sweep data is available.

VU + PPM
The combined VU + PPM meter (Vu = volume unit) with numerical maximum hold and over indicators helps identifying limiting problems and clipping. Reference grade performance with up to 40 screen updates per second.

Measurements
- Sampling Frequency: 32 kHz - 96 kHz
- Level
- Audio related parameters like audible content and level
- Interface Carrier related parameters like level & sample frequency

Scope
- The PPM gives an indication of what’s coming in
- The Auto trigger and Auto ranging scope gives a detailed view of the input audio signal in the time domain. DC offset problems and polarity issues are visible. Also ideal for understanding sampling peculiarities.

THD+N, Level, Frequency
- THD+N, Level, Frequency of all inputs.
- The DL1 is equipped with RMS measurement techniques including THD+N and high pass filters, allowing easy verification and debugging of dual domain failure like AD converters.

Frequency Sweep
- The DL1 automatically triggers to a sweep sequence with any step width and records the frequency response. Any stepped sweep may be used as signal source. After capture all sweep data is available.

VU + PPM
- The combined VU + PPM meter (Vu = volume unit) with numerical maximum hold and over indicators helps identifying limiting problems and clipping. Reference grade performance with up to 40 screen updates per second.
The DR2 accepts AES3, Word Clock, and Video signals. Measurement of channel transparency, channel propagation delay, and sample frequency is supported.

The input impedance of the sync input (AES3, Word Clock, Video) for NTSC synchronization signals is also supported. The DR2 tests whether a transmission on the unit’s flash disc is stored as uncompressed WAV-files in any digital audio recording device.

A full range of digital audio test signals is provided, including sine wave, noise, polarity test signal, delay test signal, multi-channel bit stream files, and optimization of surround sound equipment and installations is stored in the following formats: Dolby ProLogic II, Dolby Digital, and/or DTS bit streams, linear PCM signals, and indicates if Dolby E, Dolby ProLogic II, Dolby Digital, and/or DTS bit streams are supported.

The Digirator DR2 is a reference grade digital audio signal generator with transformer-balanced AES3, S/PDIF, and ADAT outputs. Beside a comprehensive set of audio test signals, the DR2 also supports surround sound test sequences for verification and adjustment of multi-channel bit stream files.

A set of wave files may be measured and displayed in seconds, and channel status information can be stored on file. The Digirator DR2 NTi Audio # 600 000 320

The Digirator DR2 digital audio output and the XLR sync input (which accepts AES3 signals) may be measured and displayed in seconds, and channel status information can be stored on file.

Dolby Digital and/or DTS bit streams may be measured and displayed in seconds, and channel status information can be stored on file. The Digirator DR2 NTi Audio # 600 000 320

The Digirator DR2 tests whether a transmission on the unit’s flash disc.

The Digirator DR2 wave file player can play back wave files and configurations for storing wave files and configurations.

For detailed report see next page.