NTi AUDIO

Exel Line

for Digital Audio Signals

Digilyzer

Digirator

DR2 DIGIRATOR

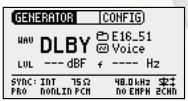
Digital Audio Signal Generator

- Up to 192 kHz / 24 Bit
- AES3, S/PDIF, TOSLINK & ADAT
- Sync Input (AES3, Word Clock, Video)
- Supports Dolby Digital, E, PL II, DTS
- Channel Transparency Check
- Channel Delay Measurement

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 and Video signals. Measurement of channel transparency, channel propagation delay and sample frequency is supported.

Sine Wave, Noise, Polarity

A full range of digital audio test signals for maintenance, repair and calibration of professional audio equipment is generated. User test signals may be stored as uncompressed WAV-files in the DR2 memory.

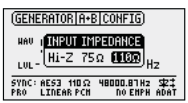


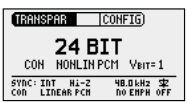
Dolby Digital, Dolby E and DTS

The DR2 wave file player can play back multi-channel bit stream files. A set of 5.1 test sequences for the verification and optimization of surround sound equipment and installations is stored on the unit's flash disc.

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 Z.



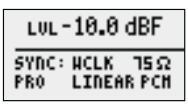


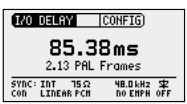
Channel Transparency Check

The DR2 tests whether a transmission channel is transparent for non-linear 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.

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.





Channel Delay Measurement

The propagation delay between any DR2 digital audio output and the XLR sync input (which accepts AES3 signals) may be measured and displayed in seconds or video frames.

Technical Data DR2

Frame	Consumer/Professional, up to 24 bit audio
Output Sampling Frequency	XLR, RCA: 32, 44.1, 48, 88.2, 96, 176.4, 192 kHz Optical: up to 96 kHz ADAT: up to 48 kHz
Outputs	• AES3 (110 Ohm) XLR • S/PDIF (75 Ohm) RCA • TOSLINK: Stereo and ADAT • AES3id (75 Ohm) using optional adapter
Inputs	XLR Sync input for: • AES3, DARS • Video (NTSC, PAL) • Word Clock using BNC to XLR adapter (included)
Linear PCM Wave Forms	Sine, Polarity Test Signal, Delay Test Signal, Pink Noise (crest factor = 4.42), White Noise (crest factor = 3.47), Playback of Wave Files
Multi Channel	A comprehensive library of multi channel data streams is supplied in the following formats: • Dolby Digital • DTS • Dolby E • Dolby ProLogic II
Wave File Format	Sampling freq.: 48 kHz Resolution: 16, 20, 24 Bit, Mono + Stereo
Frequency Setting	Range: 10 Hz - 20 kHz Increment: in 1 digit steps Accuracy: 0.001%
Stepped Sweep Function	Freq. range: freely selectable, 10 Hz - 20 kHz Increment: 1/1, 1/3, 1/6, 1/12 octave Sweep speed: selectable, 0.5 - 5 seconds per step
Continuous Sweep (Chirp) Function	Freq. range: freely selectable, 20 Hz - 20 kHz Increment: Linear / Logarithmic Chirp speed: 1.0 - 99 seconds per cycle
Level Units	dBFs, %
Output Level Range	-100 to 0.00 dBFs
THD+N	of generated sine wave: -138 dB (22 Hz - 22 kHz, average, @ 1 kHz, typical)
USB Functionality	• Firmware update • Mass Storage Device
Flash Memory	512 MByte for storing wave files and configurations
Display	Graphical, with back light
Auto-Power-Off	10, 30, 60 minutes or OFF
Batteries	3 x AA Alkaline dry cells or rechargeable equivalents Battery Life: 10 hours
Temperature Range	0° to 45° C (32° to 113° F)
Humidity	< 90% rel. huidity, non-condensing
Dimensions (LxWxH)	152 x 81 x 43 mm (incl. protective shock jacket)
Weight	310 g (11 oz.) incl. batteries

Digirator DR2 Connectors & Formats

DISTRIBUTOR CONTACT:
CALTRON PTE LTD
email: caltron@caltron.sg
www.caltron.sg

Order Information

Digirator DR2 NTi Audio # 600 000 320

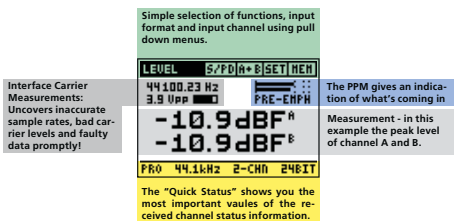
Includes protective shock jacket, test signal backup DVD, BNC-XLR adapter for word clock input, RCA-BNC adapter for AES3id, hand strap, USB cable, operating manual.

DL1 DIGILYZER

Digital Audio Analyzer

- **Digital Audio Monitoring**
- **Channel Status Analysis**
- **Interface Carrier Measurements**
- **Dual Domain Functions**
- **Up to 96 kHz, 24 Bit**
- **AES3, S/PDIF, TOSLINK & ADAT**

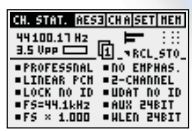
The Digilyzer DL1 is a powerful but easy to use digital audio analyzer. Testing, monitoring and troubleshooting digital audio interfaces is fast and straight forward using this compact tool. Virtually all digital audio formats including ADAT and sampling frequencies up to 96 kHz are supported. With features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



Analyzing & debugging digital audio interfaces and signals requires looking at completely different parameters at the same time:

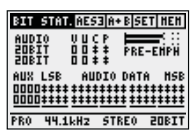
- Interface carrier related parameters like level & sample frequency
- Channel Status - related parameters like professional/consumer mode
- Audio related parameters like audible content and level

The Digilyzer shows all these important parameter at one glance. Additionally, the built in integrity check even alerts if protocol inconsistencies, which could cause serious troubles, are detected.



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.

Integrity Check

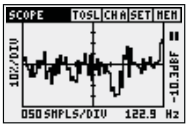
When receiving incorrect Channel Status information the behavior of a device could be unpredictable. The Integrity Check compares measured parameters with the indicated status and warns if any discrepancies are found.

Audio Monitoring

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

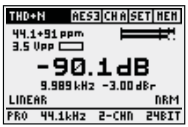
Scope

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.



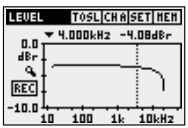
THD+N, Level, Frequency

Beside 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 devices like AD converters.



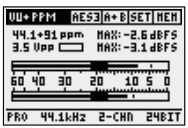
Frequency Sweep

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 leveling problems and clipping. Reference grade performance with up to 40 screen updates per second.



Technical Data Digilyzer DL1

Frame	Consumer/Professional, up to 24 bit, Sampling Frequency f_S = 32-96 kHz Also supports: Interleaved 96 kHz mode on all inputs (single channel double sampling frequency modes)
Measurements	
Signal	Level-FS, Level-RMS, Overload Detection, Scope, Signal Frequency, Frequency Sweep, vu+PPM, THD+N
Interface Carrier	Sampling Frequency (acc. ±2.5 ppm), Level
Frame	Channel Status acc. to AES3 (ed. 2003) and IEC 60958-3, Bit Statistics, Consistency Check
Event Logger	Records Signal-, Carrier- and Frame Events
Input Connectors	AES3 (110 Ohm) XLR, S/PDIF (RCA), TOSLINK, ADAT, AES3id (75 Ohm) BNC using optional adapter, phantom power resistant
Monitor	Built-in speaker, headphone connector
Display	Backlit graphic LCD
Power Supply	3x AA size dry batteries (alkaline), typically 8 hours External DC power 7.5 VDC
Dimensions (LxWxH)	163 x 86 x 42 mm (6.4 x 3.38 x 1.63")
Weight	300 g (10.5 oz) incl. batteries
Temperature	0° to +45° C (32° to 113° F)

MiniLINK

USB Interface for Digilyzer DL1

The MiniLINK USB interface transforms the Digilyzer DL1 into an affordable measurement instrument with PC connection. MiniLINK is available as upgrade kit for all existing Digilyzers.

MiniLINK supports documentation and data acquisition of the entire analyzer functionality in conjunction with the MiniLINK PC software. Communication and power supply is enabled as soon as the supplied Mini-USB cable is connected to the PC. Alternatively to store data and bitmaps into the analyzers memory, MiniLINK supports online data logging for most measurement functions. MAC compatibility cannot be guaranteed.

DISTRIBUTOR CONTACT:
CALTRON PTE LTD
email: caltron@caltron.sg
www.caltron.sg

Order Information

Digilyzer DL1	NTi Audio # 600 000 200
Digilyzer DL1 incl. MiniLINK USB PC Interface	NTi Audio # 600 000 230

Accessories for Digirator DR2

DISTRIBUTOR CONTACT:
CALTRON PTE LTD
email: caltron@caltron.sg
www.caltron.sg

Mains Power Adaptor
for DR2 (EURO Type)
NTi Audio # 600 000 301

Pouch MR2/DR2
Soft pouch with belt-loop
NTi Audio # 600 000 302

System Case for
DL1, DR2 and accessories
NTi Audio # 600 000 020

Calibration Certificate
for Digirator DR2
NTi Audio # 600 000 323

Accessories for Digilyzer DL1

MiniLINK USB PC Interface for DL1, Software
NTi Audio # 600 000 033

Mains Power Adaptor
for DL1 (EURO Type)
NTi Audio # 600 000 210

Pouch for DL1
Soft pouch with belt-loop
NTi Audio # 600 000 012

System Case for
DL1, DR2 and accessories
NTi Audio # 600 000 020

Calibration Certificate
for Digilyzer DL1
NTi Audio # 600 000 016

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