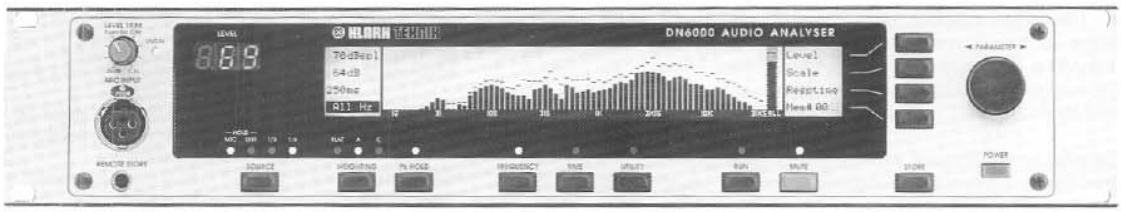
DN6000

Audio Analyser

The Klark Teknik model DN6000 is a Real Time Audio Spectrum Analyser in just 2U of rack space. Incorporating the latest in real time DSP technology, the DN6000 is more than just a frequency spectrum and reverberation time analyser. As a measuring instrument, it is designed to conform to the Type 1 requirements of IEC 804 and IEC 651 Standard Specifications for integrating-averaging sound level meters. The DN6000 remains, however, a cost effective and easy to use tool built to withstand a life on the road.



The DN6000 can perform real time 1/3 and 1/6 octave spectrum analysis via mic or line inputs, displaying the spectrum of the input signal as a series of columns, each representing the level at an ISO centre frequency. Recommended microphones include the Klark Teknik model 6051 or, for greater accuracy, the Bruel & Kjaer* model 4006. While the full analysis is displayed on a large, bright LCD display, a red numerical LED display gives a constant read out of the signal level, either over all or at a user selected frequency. This can be easily read from a considerable distance under adverse lighting conditions. The display can be frozen at any time at the touch of a button. 32 non-volatile memories are provided for data storage, and new data can add to or replace the old. The DN6000 can generate sine wave or band limited pink noise test signals, gated or swept. The test signal can be muted at the touch of a button, independent of the on going analysis.

The display range is adjustable from 64dB to 6dB, giving a display resolution of 1 to 10 pixels per dB. The display response time is adjustable from 20 seconds to 10 milliseconds, giving an update rate of .05 to 100Hz. The maximum input level is adjustable from 70 to 140dB SPL or -30 to +40dBu. Input signals can overshoot the maximum input level by 12dB before affecting the measurement accuracy at other frequencies.

In Time mode, the DN6000 can perform RT60 (reverberation time), Leq (equivalent SPL) and Let (equivalent sound dose) measurements. RT60 measurements can analyse a rooms reverberant field for a maximum of 30 seconds using internal or external test signals. Leq and Let data can include up to 180 individual measurements, each up to 1 hour long. 16 non-volatile memories are provided in Time mode, independent of those in Frequency mode. Current data and memories can be printed out in graphic or table form via the built in parallel printer port.

*Bruel & Kjaer is a trade mark of Danish Pro Audio, Denmark.

Features

- High contrast, high brightness, backlit, black and white LCD display for software control of brightness and contrast.
- Red LED display for constant read out of signal level.
- Centronics printer port for direct printing.
- Front panel microphone input with 48v phantom power.
- Dual line level inputs for stereo 1/3 octave analysis, with sum and difference display options.
- A and C weighting filters.
- Frequency mode includes 1/3 and 1/6 octave spectrum analysis via mic or line inputs.
- DN3600 interface for auto equalisation functions.
- Fast adjustment of display range, level and response time.
- Switchable Peak or Average responses, with peak hold.
- Internal signal generator with sine wave and band limited pink noise test signals.
- Test signal burst and frequency sweep ability with automatic data capture.
- 32 memory stores, with accumulate and overwrite option.
- Memory Compare and Recall functions.
- Time mode includes RT60 (reverberation time), Leq (equivalent SPL) and Let (equivalent dose) measurement.
- High efficiency, voltage sensing internal power supply.

KLARK TEKNIK
a MARK IV company
The first name with sound system designers

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ARCHITECT'S AND ENGINEER'S SPECIFICATION

The analyser shall conform to the Type 1 requirements of IEC 804: 1985 - Standard Specification for Integrating-averaging sound level meters. It shall be a standard 2u, 19 inch rack mounted unit, capable of frequency domain and time domain analysis of a single mic level or twin line level signals introduced via a front panel XLR microphone input socket equipped with 48 volt phantom power, or via twin rear panel XLR line input sockets respectively. The unit shall feature a large, backlit LCD graphic display area, multiple function switches and an LED numerical display that can be read from a distance. It shall be equipped with switchable A and C weighting filters. The frequency response shall be 12.5Hz to 31.5KHz.

The analyser shall have an integral signal generator, capable of sine wave, swept sine wave and gated, band limited pink noise generation via a rear panel XLR output.

In frequency analysis mode, the unit shall perform 1/3 octave and 1/6 octave real time spectrum analysis. The user shall have control over display range, reference level and response time, and over a cursor to pick out any frequency band or the over all signal level for numerical read out on the LED display.

In time analysis mode, the unit shall be capable of RT60 (reverberation time) analysis at any 1/3 octave or 1 octave band; of up to 180 sequential Leq measurements of durations ranging from 1 second to 1 hour, of Let measurements over durations of 1 minute to 180 hours.

The unit shall be able to freeze the real time analysis and store it to any of 120 non volatile memory locations - 32 for frequency analysis and 16 for time analysis. The analyser shall be equipped with a parallel printer port for creation of hard copies of any measurement both graphically and in tabular form. The analyser shall also be equipped with a data port for direct connection to Klark Teknik model DN3600 Programmable Graphic Equalisers for automatic equalisation purposes.

RELIABILITY CONTROL

Even with the advanced electronic engineering incorporated in this product, each unit is given the full backing of Klark-Teknik's "Reliability Control", which proves each product against a specification consistent with highest professional standards. Precision components are used throughout and every unit is bench tested and aligned before a burn-in period and final performance test.

TECHNICAL SPECIFICATION

Frequency Response	5Hz to 40kHz
Microphone Input	Differential .25m V/uBar to 1m V/uBar
Sensitivity	140dBspl to 50dBspl
Powering	48 V dc phantom power (nominal)
Connector	XLR on front panel
Line Input	Two, Differential - balanced or unbalanced
Sensitivity	40dBu to - 50dBmin
Impedance	47k ohm
Connector	XLRs on rear panel
Attenuation accuracy	+/-0.1dB
'A'-weighting	Selectable to IEC 651 type 1 requirement
'C'-weighting	Selectable to IEC 651 type 1 requirement
Pink Noise output	**Digital pseudo-random** white noise generator with pink noise filter
Frequency distribution	-3dB/Octave 20Hz to 20kHz + _0.2dB
Level	+4dBu, -10dBu, -30dBu
Impedance	50 ohms balanced
Connector	XLR on rear panel
Interfaces	DN3600, parallel printer, Open Architecture Port
Power requirements	
Voltage	100 to 240, 50 to 60Hz
Consumption	Less than 40VA
Weight	
Net	5½kg
Shipping	6kg
Dimensions	
Width	482mm
Depth	302mm
Height	89mm
6051 Microphone	(Optional)
Frequency Response	Flat to 15KHz
Sensitivity	0.5m V per uBar nominal @ 1kHz
Dynamic range	20 to 130dBspl
Capsule	0.25 inch electret condenser
Type	pressure - omnidirectional
Power required	14 V Phantom power

Trade Descriptions Act: Due to the company policy of continuing improvement, we secure the right to alter these specifications without prior notice.

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