

DK METER

Compact Audio Loudness Meter

PRODUCT CODE: DK1, DK2 & DK3



DK - Technologies



The DK Meter has been designed to meet the increasing demands from the market for cost effective audio metering including loudness. It is easy to use and is supplied with all known loudness measurement recommendations as well as the standard DK-Technologies meter scales.

This groundbreaking **C**ompact **A**udio **L**oudness **M**eter is no bigger than a smartphone and is designed to meet increasing demands from the market for cost-effective stereo and 5.1 metering, including loudness.

The DK Meter is easy to use, easy to install and comes with its own desk-mount and interface cable. It can accept SDI video input (DK3 only) with up to 16 channels of audio de-embedding, digital audio & analogue inputs and is supplied with ITU, EBU, ATSC & ARIB loudness measurement recommendations, plus multiple VU & PPM scales (future update).

The DK provides Graphical Loudness measurement and moving coil emulation. Updates will be available on an 'as-required' basis to allow for any new recommendations or changes to the existing ones.

Features...

- Loudness measurement to EBU, ITU, ATSC and ARIB recommendations
- Compatible with all DK-Technologies meters
- Audio de-embedding from SDI input, maximum 16 channels (any 8 displayed) (DK3 only)
- USB Powered
- User-adjustable short term loudness
- Selectable reference frequencies, 400Hz & 1KHz
- Adjustable reference level
- Variable gate settings
- Stereo metering with BBC, DIN, Nordic, ABC, DMU & DFS, LU, LKFS or LUFS scales
- Phase indication as a moving bar between +/-100%
- Dynamic Gate
- Numerical indication of loudness & loudness range - LRA
- Loudness Reclaim value
- True Peak displayed as flying peak & numerical display
- Simple front panel controls
- Update capability via local PC

The Next
Generation

DK1, 2 & 3 - Compact Audio Loudness Meter



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OPTIONS

DK1/2 Upgrade

Software upgrade to convert DK1 to DK2 (Software license key only).

DK1/2-PS/O

Spare Power Supply Adapter for DK-1/2, 100-240V, 5V DC, 500mA, USB connector (included with meter at purchase).

DK1/2/3 DT Mount

Basic Desk Top Stand (included with meter at purchase).

DK-Meter Cable T1

Interface Cable for DK-1/2 audio & power, USB to D-Sub & terminated. (3 x BNC for AES + 2 x XLR3(F) for Analogue + 1 x USB for power) 1.5m.

PRODUCT DATA

Audio Connector

- 15-pole D-Sub connector
- 1 analogue stereo input
- AES Input(s) (1/DK1, 3/DK2) (AES3-4-2009)

Video Connector (DK3 only)

- BNC input 3G/HD/SD SDI
- BNC output 3G/HD/SD SDI (active loop through)

Digital Input

- Bit resolution: 24 bits
- Group delay: 1.75msec
- Passband ripple: ± 0.008 dB
- Total harmonic distortion: less than -103dB at 1kHz and -1dBFS
- Dynamic range: larger than 120dB
- Nominal input impedance: 75 Ω
- Maximum input level: +24dBm
- Sample rate with internal sync: 48kHz
- Sample rate with external sync: 48kHz
- Bit resolution: 24 bits
- Frequency response: 10Hz to 21kHz within 0.3dB
- Passband ripple: ± 0.002 dB
- Dynamic range: more than 103dB
- Crosstalk between inputs: less than -96dB
- Signal-to-noise ratio: typical 93dB relative to -1dBFS
- Nominal input impedance: larger than 20k Ω

Video Input

- SMPTE-Formats: 424M, 259M & 292M
- Connector: BNC, 75 Ω (Internally Terminated)
- Return Loss: >15dB (5MHz - 3GHz)
- Input Level: 800mVp-p, $\pm 10\%$

Analogue Input

- Impedance: > 20k Ω
- Frequency Response: +0.1dB/-0.3dB 20Hz to 20kHz
- Max input level: 24dBu
- Input: Balanced (electronic)

Scales

- BBC (IEC IIA) • IEC Type IIB • DIN • Nordic • DMU1 • DMU2
- ABC • LEQM • 40A • 40C • CNN • VU (Future update)
- NBC (Future update) • Web Peak.

- Loudness scale: Scales for LU, LUFs & LKFS. Numerical display of loudness, Loudness Range, True Peak & Reclaim.
- Phase Correlation Meter: -1 to +1. A reading of +1 indicates full correlation, while -1 indicates no correlation or out of phase signals.
- Audio vectorscope for stereo and surround (future update).
- Moving Coil emulation of PPM & VU (future update).

Loudness

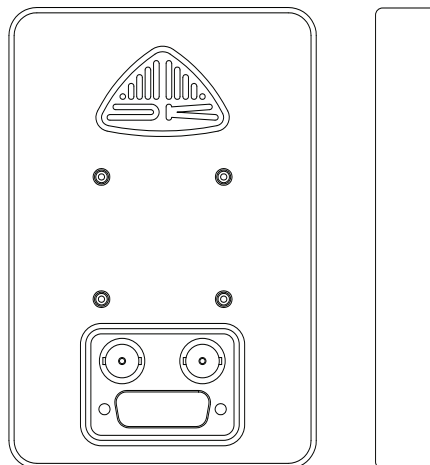
- Loudness measurement to EBU, ITU, ATSC and ARIB recommendations
- Reference level digital: -12dBFS & -24dBFS.
- Dynamic Gate level range: -2LU dB to -20LU or 'OFF'.
- Sliding integration window range: 0 to 30 seconds
- Numerical indication of loudness & loudness range - LRA
- True Peak displayed as flying peak & numerical display
- Peak indicator threshold: -2dBFS
- Peak indicator hold time: >0.5s
- Calibration: ± 0.1 dB
- Dynamic response @ 5kHz burst:
 - 10 ms: -17dB
 - 100 ms: -7dB
 - 300 ms: -3dB
 - 1000 ms: -0.3dB
- Return time for 20dB: 1.7s

Loudness Reclaim

- The Loudness Reclaim Factor is the difference between a dynamic gated integrated loudness measurement and an ungated loudness measurement. If the audio is not allowed to be below the dynamic gate (-10 dB in current R128 recommendation), then a theoretical higher loudness reading can be obtained. The Loudness Reclaim Factor is an indication of what that increase can be.

MECHANICAL DATA

- Height: 132 mm
- Width: 88 mm
- Depth: 18 mm
- Mounting hole pattern 35mm X 35mm, 4mm thread
- Weight: 335g
- Shipping Weight: 1.5kg
- Shipping Dimensions: 310 x 310 x 160mm



Rear View

Side View

NOTE: 2 x BNC Connectors shown, feature on DK3 Model Only

Consumption

- 350mA

Power Supply

- Wall plug version
- USB output
- 100-240V, 5V DC, 500mA

ORDERING INFORMATION

DK1

Master Stereo Meter inc wall mount power supply, 1.5m interface cable (3 x BNC for unbalanced AES3 & USB power/data), basic mounting bracket - Multiple audio scales including Goniometer (future free update). Loudness to ITU 1770/71, ITU 1770-2, EBU R128, ARIB & ATSC A/85, graphical display of loudness over time.

DK2

Master 5.1 Surround Sound Meter inc power supply, 1.5m interface cable (3 x BNC for unbalanced AES3 & USB power/data), basic mounting bracket - Multiple audio scales including StarFish™ (future free update). Loudness to ITU 1770/71, ITU 1770-2, EBU R128, ARIB & ATSC A/85, graphical display of loudness over time.

DK3

Master 5.1 Surround Sound Meter inc power supply. Includes 3G/HD/SD SDI input, de-embedding of 16 audio channels (maximum of any 8 to be displayed), 1.5m interface cable (3 x BNC for unbalanced AES3 & USB power/data), basic mounting bracket - Multiple audio scales including StarFish™ (future free update). Loudness to ITU 1770/71, ITU 1770-2, EBU R128, ARIB & ATSC A/85, graphical display of loudness over time.

RELATED PRODUCTS

PT0730M

Master Surround Sound Meter inc power supply, base unit with utility module for DC supply, USB, Ethernet & DVI/VGA output. Full audio metering including EBU & ITU Loudness, StarFish™, Dolby Metadata (with option PT0760M-DOLBYE), multiple scale bargraph meters.

PT0740M

Master Surround Sound Meter inc power supply, SDI Input, base unit with utility module for DC supply, USB, Ethernet & DVI/VGA output. Full audio metering including EBU & ITU Loudness, StarFish™, Dolby Metadata (with option PT0760M-DOLBYE), multiple scale bargraph meters.



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