DI Boxes

DN100

Active DI Box with Extended Dynamic Range

- High-headroom design with +48 V phantom power for extended dynamic range
- Fully transformer-isolated design ensures electrical separation between PA and stage equipment
- Balanced line input on Neutrik* XLR and high impedance input and link output on ¼" TRS connectors
- 30 dB input pad and earth lift switches
- Features Kensington* lock for added security
- Aluminium extrusion casing with protective silicone rubber sleeve
- Compact and rugged design
- 3-Year Warranty Program*
- Designed and engineered in England

The DN100 has become an established favourite amongst both engineers and musicians alike. With its high headroom, dynamic response and sonic clarity, DN100 faithfully reproduces the character of electric and acoustic instruments and allows far more of the detail of musical performances to be captured. DN100 is intended for professional applications where +48 V phantom power is a standard feature on all mixing consoles, and its innovative design results in a significantly higher clipping point than many other active DI Boxes, providing +10 dBu output into a 2 kΩ load. This increased headroom means that much higher level input signals can be accommodated without the need for an attenuating pad. Combined with a very low noise input circuit topology, DN100 offers a very wide dynamic range, and only requires a single -30 dB pad for use when connecting directly to instrument amplifier outputs.

DN100 is built to handle the rigours of life on the road, a thick aluminium extrusion protects the electronics, and in turn is covered by a tough silicone rubber sleeve.

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Balanced transformer-isolated output

Exhaustive listening tests using a wide variety of active and passive bass guitars, electro-acoustic guitars and electronic musical instruments were carried out to select the components for DN100 to achieve the best musical sound. Not only was the choice of the audio transformer particularly important in achieving this goal, but the impedances of the surrounding components were also highly critical in getting the best possible performance out of the audio transformer. The line-driving characteristics of the transformer output were carefully optimised to provide the best frequency and phase responses for short and long cables and widely differing line and termination impedances.

Care was taken in the design of the DN100 to avoid audio transformer core saturation and a fixed high pass filter has been included in the signal path to roll off frequencies below those that are musically important. The lowest note on a 5- or 6-string bass guitar is B0 with a frequency of 30.87 Hz, and the lowest note on an 88-key piano keyboard is A0 with a frequency of 27.50 Hz. DN100 still maintains a frequency response of ±0.5 dB at these lowest musical notes.

As well as the transformer in the signal path, DN100 also has a transformer to isolate the power rails to the input circuit from the phantom power supply sourced from the output XLR connector. When used in conjunction with the Earth Lift switch, this full galvanic isolation of input and output interfaces ensures that any risk of earth loops is avoided when taking a direct feed from stage backline equipment.

Dual-Impedance Inputs

A custom instrumentation-grade input circuit was designed for the DN100 using advanced analogue design techniques to create the very high input impedance required by passive guitar and bass pickups, whilst keeping the actual component values low to minimise noise. This innovative approach to circuit design produces a very low noise floor, which combined with the high clipping point creates an unrivalled dynamic range in a +48 V phantom powered DI Box.

DN100 features one parallel-connected XLR and two ¼" TRS inputs, one which may also be used a link output for connection to a guitar or bass amplifier. When connecting to the XLR input only, the input impedance is 20 kΩ, ideal for line level equipment and offering even lower noise performance. This input impedance is far too low for guitar and bass pickups and is removed from the circuit when a jack plug is inserted into a ¼" TRS input, resulting in a nominal 1 MΩ input impedance, ideal for passive electric pickups.

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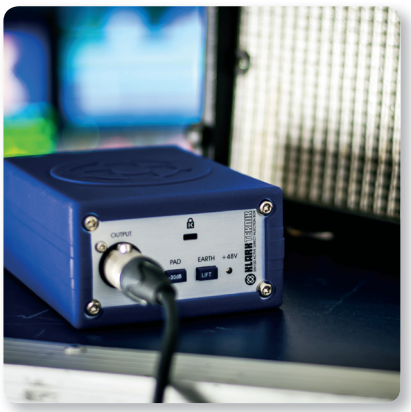
Illuminated 30 dB Pad and Earth Lift Switches

DN100 features illuminated Pad and Earth Lift switches, which along with the +48V phantom power indicator LED, provide 'at a glance' status display, even at wide distances and viewing angles.

The Earth Lift switch separates the input and output grounds, useful in eliminating earth loops between equipment on different mains electricity supplies.

Kensington Lock

DN100 is fitted with a locating slot for a Kensington lock for added security.



Built for the Road

Featuring a tough aluminium extrusion, the DN100 is designed for the rigours of live concert touring. The protective silicone rubber sleeve also insulates the DN100 chassis to further enhance its electrical isolation. Premium Neutrik XLR connectors are used to ensure reliable audio connections, night after night.

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You Are Covered

We always strive to provide the best possible Customer Experience. Our products are made in our own MUSIC Group factory using state-of-the-art automation, enhanced production workflows and quality assurance labs with the most sophisticated test equipment available in the world. As a result, we have one of the lowest product failure rates in the industry, and we confidently back it up with a generous 3-Year Warranty program.

DN100

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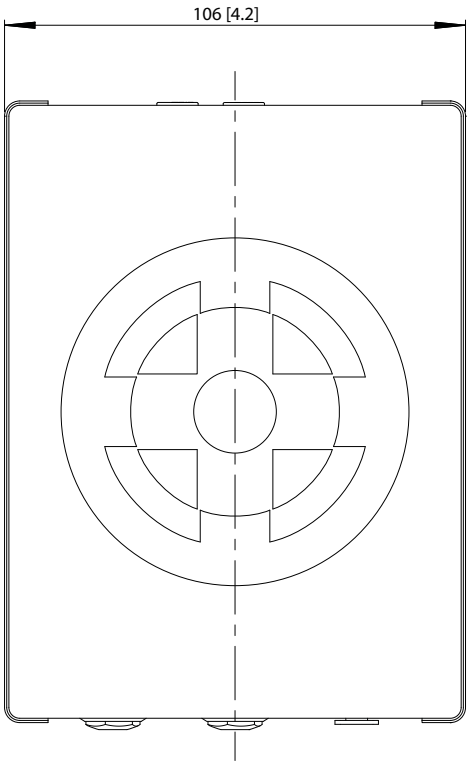
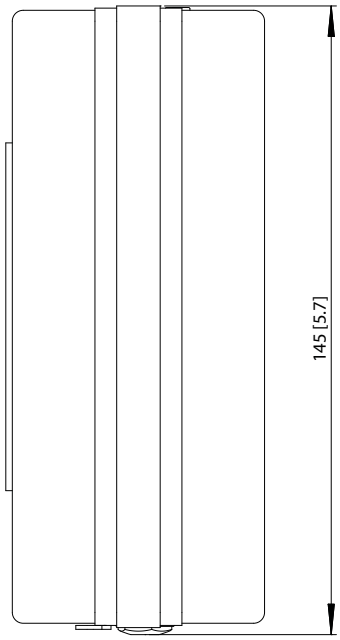
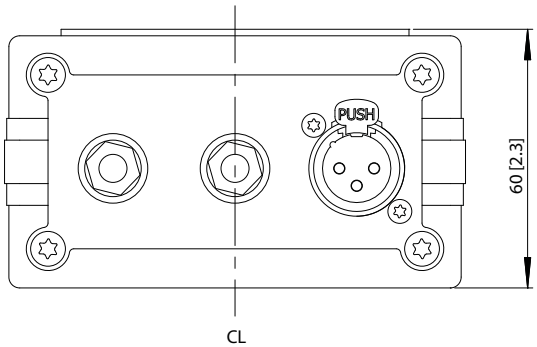
Dimensions



TOP



SIDE



CL

FRONT

DN100

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Technical Specifications

Inputs

Type	Active electronic, balanced or unbalanced
Impedance	1 MΩ nominal, balanced or unbalanced (jack connectors), 20 kΩ (XLR input only)
Connectors	2 ¼" TRS sockets and 3-pin XLR linked in parallel
Maxmum level	40 dBu (with pad enabled)
Attenuator	30 dB pad

Outputs

Type	Transformer balanced
Impedance	75 Ω
Connector	3 pin XLR
Max. level	10 dBu with load >2 kΩ
Min. load	600 Ω

Performance

Noise	-100 dBu, 20 Hz to 20 kHz unweighted, with input terminated by 10 kΩ resistor
Frequency response	+0.5/-1 dB 20 Hz to 20 kHz
Distortion (THD+N)	<0.01% @ 1 kHz, +4 dBu

Power Requirement

Voltage	+48 V Phantom*
Current consumption	<10 mA

Weight

Net	0.8 kg (1.8 lbs)

Dimensions

Length	145 mm (5.7 inch)
Width	106 mm (4.2 inch)
Height	60 mm (2.3 inch)

*The DN100 has been designed to allow use at phantom voltages less than +48V. The unit will function down to +20V (when used with 6k8 dropping resistors) but with reduced headroom and dynamic range. All the specifications above are quoted using standard +48V Phantom power.

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Architecture & Engineering Specifications

The direct injection module shall provide the functions of transformer isolation, impedance matching and attenuation into a low impedance active balanced input.

The direct injection module shall provide switchable attenuation from 0 to 30 dB and output the signal into a balanced 600 Ω load.

The direct injection module the shall be able to accept a maximum input level of +40 dBu (with attenuator enabled).

The direct injection module shall include two ¼" TRS jack sockets and one industry-standard XLR socket, all linked.

The direct injection module shall offer dual impedances, based on input connection - 1 MΩ nominal (¼" TRS jack sockets) or 20 kΩ (XLR only).

The direct injection module output shall be transformer balanced and isolated, with a source impedance of 75 Ω and capable of driving a 10dBu signal into a 2 kΩ load.

The direct injection module output connection shall use an industry-standard XLR connector.

The direct injection module shall obtain power from a nominal +48 V phantom supply via the output XLR connector.

The direct injection module shall feature an earth lift switch, which shall be provided to disconnect the input and output grounds.

The direct injection module shall be housed in a custom aluminium extrusion which shall be covered by a protective rubber sleeve, It shall be 106 mm wide x 145 mm deep x 60 mm high (4.2" x 5.76" x 2.3"), with nominal weight 0.8 kg (1.8 lbs).

The direct injection module shall be the KLARK TEKNIK DN100 and no other alternative shall be acceptable.

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3 Year Warranty

For service, support or more information contact the BUGERA location nearest you:

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