

DN7454 Digital Delay Line & Multiprocessor

User Configurable Digital Audio Delay Line with EQ and Dynamics

- Two inputs, four outputs in 1 rackspace.
- All inputs and outputs electronically balanced.
- Up to 5.4s delay available (mono mode).
- 112dB dynamic range.
- High quality, 24-bit A/D and D/A convertors.
- Seven configurable EQ filters on every input (PEQ, hi/lo pass, hi/lo shelf).
- Full-time input and output metering.
- Six configurable EQ filters on every output (PEQ, ho/lo pass, hi/lo shelf).
- Full-function compressor / limiter on all outputs plus mute switch.
- Intuitive user interface with large LCD screen and rotary controls.
- PC operation possible via free proprietary software.
- RS-232 and MIDI in / out / thru interfaces fitted as standard.
- Multiple functionality allows use as problem-solving 'audio toolbox'.



The all-new DN9824 digital loudspeaker controller brings the legendary sound and reliability of Klark Teknik to the popular 2-input / 4-output format for the first time. Housed in a rugged 1RU enclosure, DN9824 features extensive and flexible crossover, equalisation and dynamic processing functions that make the unit ideal for numerous system-control applications. 24-bit Motorola processing and our unique proprietary design allows a dynamic range of not less than 115dB. Programming and operating the unit from the front panel is simple via the intuitive menu structure, and full remote control is also possible via free software.

Both electronically balanced inputs offer full-time LED metering, a rotary control for input trim and no less than seven equalisation bands. Each of these bands can be switched to operate as fully parametric, low / high pass or low / high shelving filters. Both inputs (or the sum of both inputs) can be routed to any output either via the matrix facility or in a number of preset configurations. The unit master delay is also located in the input structure, allowing up to 900ms of delay in 21 microsecond increments.

All four outputs are electronically balanced, and again feature up to 900ms of delay in 21 microsecond increments. The frequency dividing (crossover) function allows selection of all popular filter types and slopes up to 48dB / octave. The equalisation section provides six filter bands, switchable as per the input EQ, with the addition of 2 full-time all pass filters to allow accurate phase correlation adjustment. Phase inversion, rotary volume control, metering and a full-function compressor / limiter are also featured on all outputs.

The DN9824 is constructed to the same high standards which have made Klark Teknik the first choice in professional signal processing since 1974, and features the standard KT 5-year international warranty.



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User Configurable Digital Audio Delay Line & EQ

technical specification

Architect's and Engineer's Specification

The delay line shall provide for two inputs and four outputs, housed in a standard 1U 19" rack mount chassis. It shall have a maximum total delay time of 5400ms at a full bandwidth of 20kHz. Delay times shall be displayed in units of time and distance and shall be adjustable to a resolution of 21 microseconds.

When displaying distance, a temperature compensation facility will allow the delay time to be automatically recalculated for a specified temperature.

The unit shall incorporate a master delay time on the input and individual delay times on each of the outputs.

Each input shall include seven bands of full parametric EQ which can be individually configured to be any of the following:- LOSHELF, HISHELF, HICUT, LOCUT, PEQ and can be individually BYPASSED. In addition, each output shall include six bands of full parametric EQ which can also be individually configured to be any of the following:- LOSHELF, HISHELF, HICUT, LOCUT, PEQ and can be individually BYPASSED.

Each output shall have individually controllable compressor and limiter functions.

The delay line shall meet, or exceed, the following specifications:

Frequency response	+0/-0.5dB (20Hz to 20kHz)
Distortion @ +8 dBu:	<0.01% (20Hz to 20kHz)
Dynamic Range:	>112 dB (20Hz to 20kHz unweighted)

Options for the various delay and equalisation parameters shall be presented on a liquid crystal display and shall be selectable by six front panel control buttons and shall be altered by a continuous rotary controller.

User memories shall be provided for setup storage. A security lock out system shall be available, including a user defined code number.

Each input shall have a gain control and meter and each output shall have an attenuator control and meter, for system matching. Output levels can also be individually adjusted from within the software and levels recalled as part of the user memories.

A MIDI interface shall be provided as standard. The delay line shall also be capable of being controlled remotely by a PC via an RS-232 port.

All audio connections shall be via XLR style connectors. Inputs and outputs shall be electronically balanced and there shall be an option for input transformer isolation.

The unit shall be capable of operating from a 90V to 250 V a.c., 50/60 Hz, power source.

The delay line shall be the Klark Teknik DN7454 and no alternative option is available.

Audio Inputs Type Impedance (Ω) Balanced Unbalanced Maximum Level	Two Electronically Balanced (Pin 2 Hot) 20 k 10 k +21dBu
Audio Outputs Type Source impedance Maximum Level	Four Electronically Balanced (Pin 2 Hot) >100Ω +21 dBu into > 2kΩ
Performance Frequency response* Distortion @ +8 dBu: Dynamic Range: (*20Hz to 20kHz unweighted)	+0/-0.5 dB with all filters and EQ flat <0.01% >112dB
Input Processing (per channel) Input Gain	+6dB to -∞, under front panel control
Master EQ 1-7**	Parametric EQ Mode Boost/cut: (12dB in 1dB steps Q: 0.4 to 20 Hi-Shelf/Lo Shelf Filter Modes Boost/cut: (12dB in 1dB steps Slope: -6dB/Oct, -12dB/Oct Hi-Pass/Lo-Pass Filter Modes Q: 0.4 to 2.0 (-12dB/Oct only) Slope: -6dB/Oct, -12 dB/Oct
Delay	0 to 4500 milliseconds in 21 us steps
Output Processing (per channel) Delay	0 to 900 milliseconds in 21 us steps
Channel EQ 1-6**	Parametric EQ Mode Boost/cut: (12 dB in 1 dB steps Q: 0.4 to 20 Hi-Shelf/Lo Shelf Filter Modes Boost/cut: (12 dB in 1 dB steps Slope: -6dB/Oct, -12 dB/Oct Hi-Pass/Lo-Pass Filter Modes Q: 0.4 to 2.0 (-12dB/Oct only) Slope: -6dB/Oct, -12 dB/Oct
Output gain	0 dB to -∞ under front panel control
Compressor	Threshold: +21dBu to -9dBu in 1.0dB steps Ratio: 1:1, 1.4:1, 2:1, 4:1, 8:1 Attack: 0ms to 99 ms Release: 50ms to 999ms
Limiter	Threshold: +21dBu to -9dBu in 1.0dB steps Release: 50ms to 999ms
Power Requirements Voltage / Consumption	90 to 250V a.c @ 50/60Hz / 20watts
Dimensions Width Height Depth	483mm (19 inch) 44mm (1.75 inch) 374mm (14.72 inch)
Weight Nett Shipping	5kg 7kg
Terminations Audio inputs/outputs MIDI RS-232 Power	3-pin XLR 5-pin DIN 9-pin D-Type socket 3-pin IEC
Options	Transformer input balancing (must be specified with order).

**frequency range 20Hz to 20kHz in 21 steps per octave
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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