



NGTC-FR1-D Digital Signal Processor

The NGTC-FR1-D is a Dante™ enabled digital signal processor with flexible I/O for the nexgentec™ audio distribution solution.

The NGTC-FR1-D is capable of simultaneously transmitting and receiving up to 64 channels of Dante™ audio (64 x 64) and has a completely flexible DSP design platform.

The NGTC-FR1-D can be easily interfaced with 3rd party control systems via the network. Use with the NGTC-SDM, the software defined Dante™ matrix and monitoring device to deliver a virtually unlimited audio matrix system, is highly recommended.

The nexgentec™ DSP super modules enable efficient design and deployment of the NGTC audio network system, featuring the highest levels of functionality and performance.



Key Features

- 16 user-configurable card slots
- Configurable signal processing
- Rich palette of processing and logic objects
- Dante™ audio, 64 x 64 audio input / output channels per device
- Redundant Dante™ ports (PRIM / SEC)
- LAN port for control
- Informative front panel display
- Interface kit for third party control system integration

Power and Dimensions

Mains Voltage:	90 - 240 VAC, 50 / 60 Hz
Power Consumption:	< 60 Watt
BTU Rating:	205 BTU / hr
Operation Temperature Range:	0° to 40°C
Dimensions (H x W x D):	44 mm x 483 mm x 305 mm – 1 U
Weight:	5 kg



NGTC-FR1-D Digital Signal Processor

Technical Specifications

NGTC-FR1-D

- THD+N (22 Hz to 22 kHz): 0.002 % (1 kHz @ + 4 dBu)
- EIN: < 125 dBu, unweighted (20 Hz to 20 kHz)
- Dynamic Range: 110 dB, unweighted
- Propagation Delay: 4 ms
- Crosstalk, input to input, 1kHz: < 110 dB
- Sampling Rate: 48 kHz
- A/D-D/A Converters: 32 bit
- Processor Type: 40 bit floating point
- Network Connections: 1 x RJ45 (≥ category 5e) for control
2 x RJ45 (≥ category 5e) dual dedicated 1000 Mbps Dante™

NGTC-SML

- Channel(s): 2
- Type: electronically-balanced with 48 V Phantom Power
- Phantom Power: 75 mA with power-over-Ethernet; 100 mA with mains power
- Connector(s): 6-position 3.5 mm screw terminals
- Maximum Level: + 20 dBu
- Gain: mic: + 42 dB gain in 6 dB steps
line: 0 dB
- Frequency Response: +/- 0.15 dB (20 - 20 kHz)
- Dynamic Range: 110 dB typ (unweighted)
- CMRR: > 50 dB at 1 kHz
- Crosstalk: < 110 dB at 1 kHz
- Distortion: 0.002 % (1 kHz at + 4 dBu)
- A/D Conversion: 32 bit

NGTC-SLO

- Channel(s): 2
- Type: electronically-balanced
- Output Impedance: ~ 50 Ohm
- Connector(s): 6-position 3.5 mm screw terminals
- Maximum Level: + 20 dBu
- Frequency Response: +/- 0.15 dB (20 - 20 kHz)
- Dynamic Range: 110 dB typ (unweighted)
- CMRR: > 50 dB at 1 kHz
- Crosstalk: < 110 dB at 1 kHz
- Distortion: 0.002 % (1 kHz at + 4 dBu)
- A/D Conversion: 32 bit
- Special requirement: requires 2 card slots



NGTC-FR1-D Digital Signal Processor

Technical Specifications

NGTC-SUB

- Channel(s): 2 inputs and 2 outputs
- Interface: USB 2.0, class 1 audio
- Bit-Depth: 16 bit
- Sampling Rate: 48 kHz
- USB Audio Profile(s):
 - 1 x 1 - speakerphone (HFP host, AEC disabled)
 - 1 x 1 - speakerphone (HFP host, AEC enabled)
 - 2 x 2 - general line in/out soundcard (A2DP)
 - mute status sync for Microsoft Teams
- Connector(s): USB type B female

NGTC-SGP

Input Mode

- Inputs: 4
- Type: GPIO logic or voltage (software-selectable)
- Logic GPIO: short to ground to activate
- Voltage GPIO: 0 - 24 VDC sensing, 12 DC control

Output Mode

- Outputs: 4
- Type: GPIO LED or sink (software-selectable)
- LED Output: 3 mA per output
- Source Sink: 300 mA per output

NGTC-S2R

- Relay Type: 2 single pole, single throw
- Switching: up-to 24 VDC at 1 A

NGTC-SDA

- Channel(s): 2
- Sampling Rate: auto-detected up-to 192 kHz

Card options for configuration

NGTC-SML	FR1-D - I/O card with dual-channel microphone or line level input
NGTC-SLO	FR1-D - I/O card with dual-channel line level output
NGTC-SUB	FR1-D - I/O card with 2 x 2 USB 2.0 input/output
NGTC-SGP	FR1-D - I/O card with 4 channel GPIO
NGTC-S2R	FR1-D - I/O card with 2 relay control channels for NO/NC/common signals
NGTC-SDA	FR1-D - I/O card with dual-channel AES / EBU digital audio sampled at 192 kHz