



Description

The DNA78x4 series of amplifiers are an integral part of the IED GLOBALCOM Communications System, allowing a few audio zones to be added where necessary when a full 16-zone T9160 amplifier frame is not required. The amplifiers feature either CobraNet® or Audinate Dante™ digital audio input and four channels of 200 watt amplification. The DNA78x4 amplifiers are controlled with network commands for selecting input routing and configuring EQ, delay, output levels, and ambient noise level compensation. Amplifiers may be controlled by a stand-alone GLOBALCOM configuration utility or through the GLOBALCOM System Management Center.

The internal amplifier cards are Class D (switching mode) dual channel 200W amplifiers into the rated loads (70.7 Volts into 25 ohms or 100 Volts into 50 ohms).

Class D operation, combined with an integral switching mode power supply, offers many advantages, and the unique IED design makes full use of these benefits. They include higher efficiency, increased reliability, improved performance, and lower operating cost. Switching mode operation combined with high voltage power MOSFET devices make it possible to eliminate the heavy, costly, bulky transformers. IED's design is stable under all load conditions (phase angles of 0 to 360 degrees). The amplifier card has 34 dB of gain from its analog input to the loudspeaker output. Attenuation is handled ahead of the power amplifier by DSP controls through software.

Inputs are provided for connecting up to eight (8) 540S ambient noise sensors (2 sensors for each output channel). This allows the output of each channel to be automatically adjusted in real time based on the measured ambient noise level in the zone.

The power amplifier has built-in voltage limiting to protect the loudspeakers being driven. In addition, a temperature sensor on the heatsink will automatically shut down an amplifier that becomes too hot, such as due to cooling fan blockage or failure, so as to protect the electronics.

The DNA78x4 series amplifiers feature LED indicators for power, audio signals and fault status. A Form C relay is also included that will indicate that a fault is present.

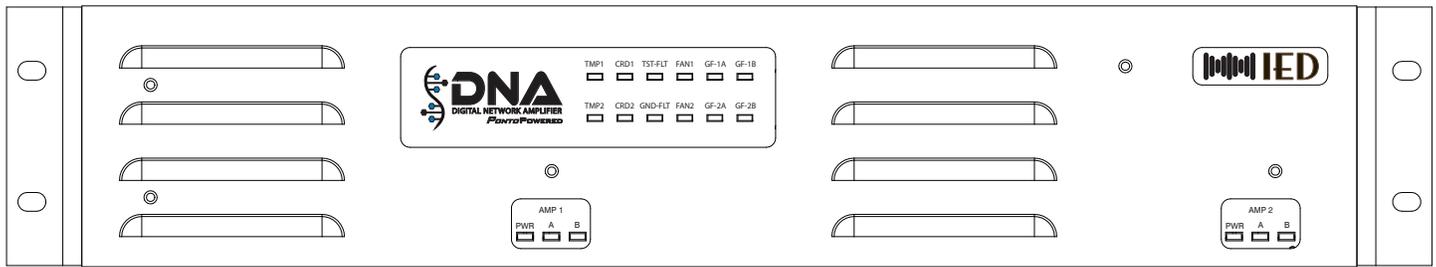
The DNA7874 amplifiers provide 200 watts per channel for 70.7 volt transformer-distributed loudspeaker systems. The DNA7814 amplifier provides 200 watts per channel for 100 volt transformer-distributed loudspeaker systems.

The models DNA7874L and DNA7814H utilize CobraNet® for digital audio. The models DNA7874DL and DNA7814DH utilize Audinate Dante™ for digital audio transmissions.

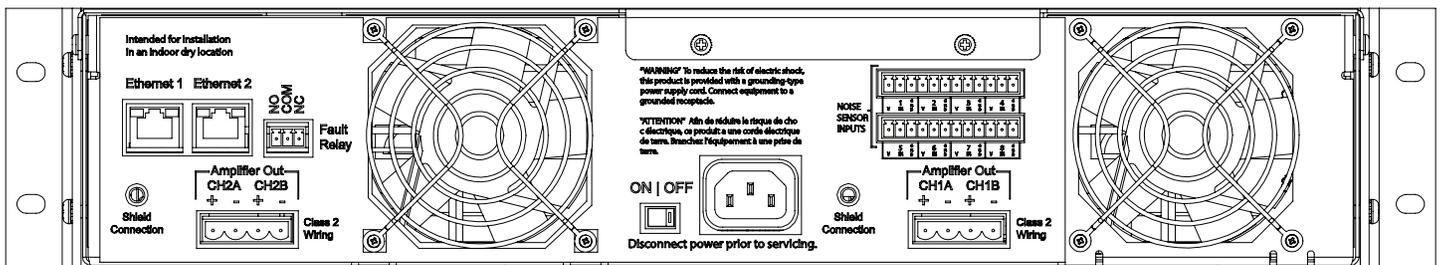
The models DNA7874L and DNA7874DL operate from a 120 VAC power source. The DNA7814H and DNA7814DH models operate from a 240 VAC power source.

Features

- Supports Audinate Dante™ or CobraNet® digital audio inputs (depending on model)
- Compatible with IED GLOBALCOM systems and 3rd party Dante™ or CobraNet® devices
- Dual-redundant Ethernet ports
- 7-band parametric EQ and a high-pass and low-pass filter per channel
- Signal delay up to 25 ms on each channel
- Output audio monitoring
- Four 200 watt amplifier output channels
- 70.7 Volt or 100 Volt output models available
- LED indicators for power, audio signals and faults
- Built-in supervision of amplifier cards and loudspeaker lines
- Fault reports and amplifier status available over Ethernet using standard SNMP protocol
- Supports independent background music for all channels with automatic ducking when paging audio is present
- Two inputs for ambient noise sensors for each amplifier output channel
- ETL Listed



DNA78x4 Front View



DNA78x4 Rear View

Specifications

Part Numbers:

DNA7874L
DNA7874DL
DNA7814H
DNA7814DH

Capacities:

Max. Number of audio Inputs (via CobraNet®)..... 4 BGM / 4 Program
Number of Amplifier Outputs..... 4

Connectors:

Ethernet (2) Control and Digital Audio (100 Mbps)
Speaker (2) 4-pin Phoenix (2ch per block)
Fault Relay (1) 3-pin Phoenix, 3.81mm spacing
Ambient Sensors (8) 3-pin Phoenix, 3.81mm spacing
AC Power
DNA7874L/DNA7874DL (120VAC) Volox 17504
DNA7814H/DNA7814DH (240VAC) Volox 17850

Controls and Indicators:

AC Power Rear panel switch
Power On (2, 1 per internal card) Green LED
Audio Present/Clipping (4, 1 per channel) Green/Yellow LED
Card Fault (2, 1 per internal card) Yellow LED
Temperature Fault (2, 1 per internal card) Yellow LED
Ground Fault (4, 1 per channel) Yellow LED
Fan Fault (2, 1 per fan) Yellow LED

AC Power Requirements:

Quiescent Power.....95 Watts
Full Power
Speech/Voice Announcement (all channels driven) 215 Watts
Sine Wave (all channels driven) 1050 Watts

Electrical, Analog

All Measurements at 120VAC unless noted otherwise

Power Output (per channel)
DNA7874 ($R_L = 25 \Omega$) 200 W (70.7V)
DNA7814 ($R_L = 50 \Omega$) 200 W (100V)

Efficiency

Power Output = 200 W 79%
Power Output = 100 W 74%

Output Clipping Level

DNA7874 70 V RMS
DNA7814 100 V RMS

Frequency Response

..... ± 1 dB

Power Bandwidth

..... 20 Hz – 20 kHz, ± 1 dB

Signal-to-Noise Ratio

..... > 85 dB

Total Harmonic Distortion, THD

..... < 0.2% @ 2 kHz

Output Impedance, Z_o

DNA7874 0.67 ohms

DNA7814 0.6 ohms

Output Loading

..... Stable for any load 0W to ∞

20 Hz – 20 kHz

Fault Relay

Nominal switching capacity 1A 30 V DC, 0.3A 125 V AC (resistive load)

Max. switching power 30 W (DC), 37.5 V A (AC) (resistive load)

Max. switching voltage 110 V DC @ 0.27A, 125 V AC @ 0.3A

Mechanical

Dimensions

Width (with rack-mount ears) (48.3 cm) 19"

Height (8.9 cm) 3.5"

Depth (43.2 cm) 17"

Note: For proper fan operation add a minimum of (5.1 cm) 2" clearance.

Weight (8.7 kg) 19.2 lb

Environmental Specifications

Operating Temperature Range (0 °C – +40 °C) +32 °F – +104 °F

Applicable for typical voice paging and background music applications.

Storage Temperature Range (–40 °C – +70 °C) –40 °F – +158 °F

Compliance

UL60065, CAN/CSA C22.2 No. 60065, IEC 60065, EN 60065,

CB Certificate, DNA7874L is also UL1711 listed.

Innovative Electronic Designs, LLC
9701 Taylorsville Road
Louisville, KY 40299, USA

+1.502.267.7436 phone
+1.502.267.9070 fax
www.iedaudio.com

MiTek
Communications
Group