



Combining new technology power amplification with the highest definition XTA DSP, the Delta Series offers performance and convenience at a whole new level. Powerful processing features, such as FIR filtering and Dante networking, work alongside unique enhancements including 4 local + 4 aux DSP channels (also supplied to the network), meaning a single Delta DSP amplifier can control a stereo 4-way system with no external processing.

Configure and tune using a fast, powerful combination of AudioCore (XTA's fast efficient control software platform) and DeltaDirect, the bespoke iPad app. Every aspect of a network of amplifiers can be controlled and monitored, wirelessly. USB, direct Ethernet and RS485 control options plus configurable GPIO offer unparalleled flexibility.

### Power & Main Specifications

**Output Power (per channel):** 8 ohms: 500W, 4 ohms: 1000W, 2.7 ohms: 1400W. 2 ohms: 1200W\*

Measured using continuous music with Crest Factor of 4.8 (14dB)

**Output Power (bridged):** 8 ohms: 2000W, 4 ohms: 2400W

Measured using continuous music with Crest Factor of 4.8 (14dB)

**THD:** (@1dB below maximum output power) @ 1kHz < 0.18%, 20Hz to 20kHz < 0.2%

**Gain / Sensitivity:** Gain 32dB Sensitivity (for maximum power) +6.2dBu (1.6V)

**Frequency Response:** 20Hz to 20kHz (±0.5dB)

**Power Consumption:** Nominal @ 240V into 4 ohms 2.9A, nominal @ 120V into 4 ohms 6.0A

**Dimensions:** Amplifier (2U) (mm) 88(h) x 482(w) x 428(d)

Boxed (shipping size - UK) 230 x 580 x 560 (Single boxed)

Boxed (shipping size - all except UK) 250 x 610 x 600 (Double boxed)

**Weight:** Amplifier 10.0kg (22.0lbs), Boxed (shipping weight) 12.0kg (26.5lbs)

For details of Power measurement methods please refer to the Technical Support area of our website.

2.7 ohm power quoted for highest single ended output and greatest efficiency (3 x 8 ohm parallel drivers). Amplifier is stable with 2 ohm loads but output will be reduced.

DELTA 40 DSP

### Processing Specifications

**Bit Depth and Sample Rate:** 24 bit ADCs and DACs, 96kHz sampling and processing throughout

**Accepted Sample Rates:** (AES and Networked Audio): 44.1kHz - 192kHz (AES)

**I/O Configuration:** 4 Inputs (select individually from analogue/AES/Network)

8 Outputs: 4 Direct Power Amp, 4 Auxiliary with independent processing and memories

4 Additional Network Audio Outputs (sourced from selectable processing point within DSP)

**DSP Filter Suite:** 3 Dynamic EQ bands per input: 20Hz to 32kHz, compression/expansion above below THD

8 Static EQ bands per input (x 4), 9 static EQ bands and per output (x 8)

PEQ plus additional filter types: High/Low Variable "Q" (resonant), High/Low Pass Elliptical, Band Pass, Notch, Phase, All Pass, High/Low Shelving

**Crossover Filters:** (outputs) HPF: 10Hz to 31.4kHz, LPF: 35Hz to 32kHz, 1/36 octave steps, up to 48dB/Oct.

**Delays:** 1300ms (Input to Output), Minimum step size 0.3uS (outputs), 10uS (inputs)

**Limiters:** RMS Fully Variable x 8; Look Ahead (zero overshoot) Peak Limiter x 8

**FIR Sections:** Total available taps (variable across 8 outputs): 4000 (DEQ bypassed)

DELTA 40 DSP

# Series

Processing and Network Audio Amplifier

# DELTA 40 DSP

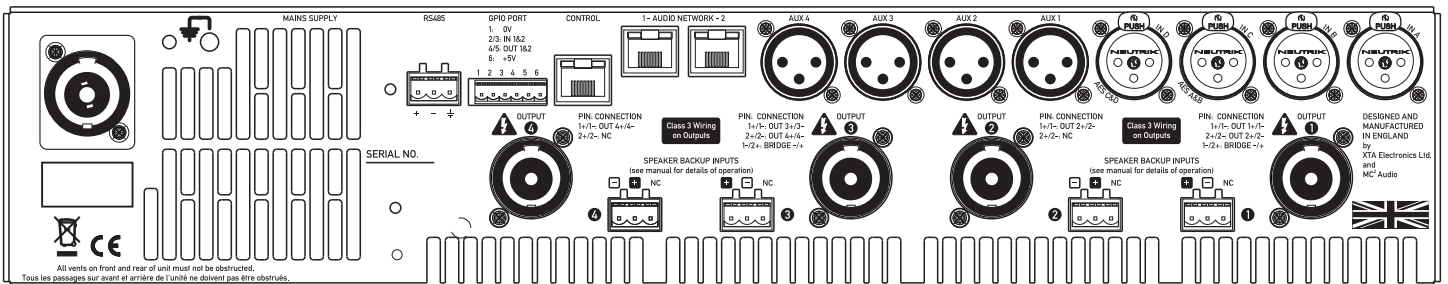
Dante™

## Additional Specifications

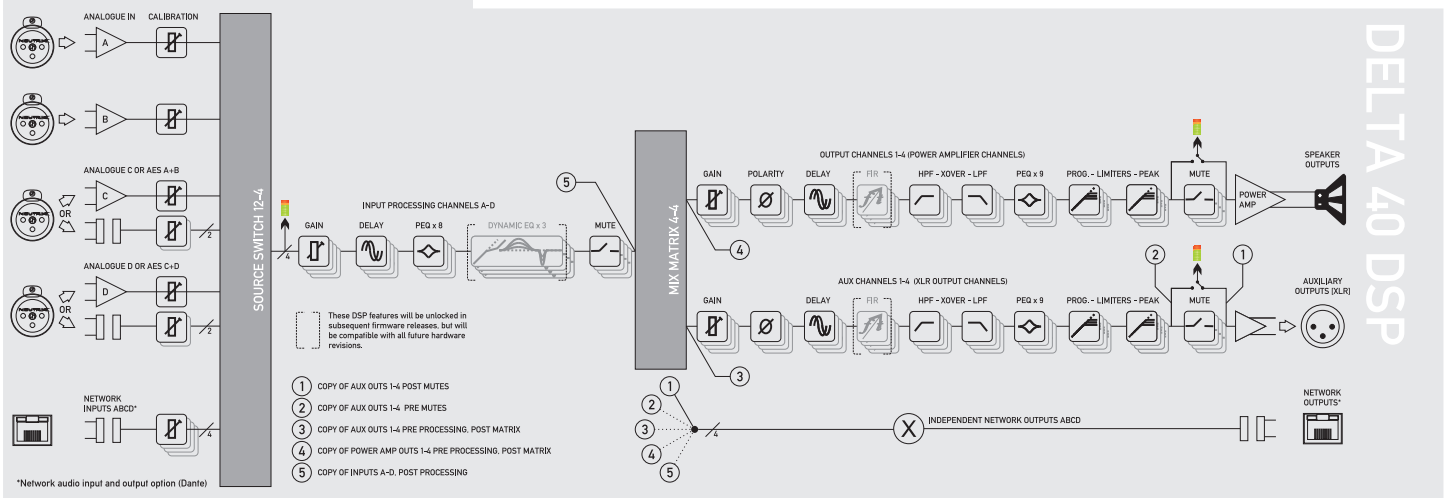


- Input Impedance:** 20k ohms (Active balanced)
- Input CMRR:** > 60dB **Damping Factor:** >500 (8 ohms / 1kHz)
- GPIO:** Isolated inputs (x 2) and outputs (x 2) for VCA/standby control/memory recall and fault reporting
- Signal Limiters:** Operate at maximum power to prevent excessive clipping
- Protection:** Output short circuit, DC; Over-temperature; Mains in-rush control, over voltage, over current
- Output Power Additional Specifications:** See Delta 40 (Non-DSP Version) Datasheet
- Power Consumption and Thermal Emissions:** See Delta 40 (Non-DSP Version) Datasheet

DELTA 40 DSP



## Signal Processing Block Diagram



DELTA 40 DSP

## Architect's and Engineer's Specification

The power amplifier shall be a 4 channel class D design with a minimum guaranteed power of 100W into 4R (20Hz to 20kHz). THD shall be better than 0.18% (20Hz to 20kHz). The minimum load shall be 2R, and 4R in bridge mode. Input sensitivity shall be 8.3dBu for full power output. Frequency response shall be 20Hz to 20kHz (±0.5dB). The front panel shall have a 2 x 24 character LCD and a menu driven control interface. A set of 4 x 6 point LED meters shall show level of either the inputs, the power amplifier outputs (with headroom to limiting) or the auxiliary outputs, switchable using the BANK key. A front panel non-isolating main power switch shall be fitted. The rear panel shall have outputs on Neutrik Speakon connectors, with two being wired to allow channel pairs to be accessed from a single plug (4 pole). The audio inputs shall be on Neutrik 3 pole XLR connectors. Four additional auxiliary outputs shall be available on Neutrik 3 pole XLR connectors, with independent processing on all channels. The DSP sections of the amplifier shall be fully controllable from the front panel, or via remote connection to a suitable computer via the front panel USB connection, the rear panel Ethernet connection, or an RS485 connection. The amplifier shall also operate as a USB or Ethernet to RS485 data bridge. A standby mode shall allow the DSP sections of the amplifier to operate independently of the power amplifier. A GPIO interface shall also allow simple remote memory recall, standby control, or variable level adjustments, and can report fault conditions. The amplifier shall accept analogue or AES digital audio and networked audio if fitted with the optional Dante network audio card. All processing shall be at 96kHz with 24bit conversion, and a processing capabilities shall include 8 multi-type input filters, delay, gain and mute (with DEQ to follow) x 4 ch's, and 9 multi-type input filters, high and low pass filters with selectable type and slopes up to 48dB/Octave, delay, FIR filtering capability, RMS and peak limiters, gain and mute x 8 ch's. Additionally, the independent networked outputs source shall be selected from five different positions within the DSP structure. The amplifier shall be 2U, 19" rack mount in format with dimensions of 8.8cm X 48cm X 43cm and a weight of 10.9kg. AC mains supply shall be switchable between 120V(60Hz) and 240V(50Hz). The amplifier shall be designated the MC<sup>2</sup> Delta 40 DSP.



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