

## RACK-UP® SERIES

### Models RU-NFD & RU-NFDP

#### Network to Format-A Interface/Distributor

- Converts Four Dante Network Audio Signals to RDL Format-A and Aux
- Easy Installation with Format-A Connections on RJ45 through CATx Cable
- Three Dante Audio Signals Feed Format-A Output Pairs A, B and C
- Fourth Dante Audio Signal Feeds Auxiliary Balanced +4 dBu Line Output
- Format-A Pairs are Distributed to Three Separate Format-A Output Jacks
- Signal LEDs Indicate Audio for Each of the Four Received Signal Channels
- High Resolution 24 Bit Digital to Analog Conversion
- Legendary RDL Analog Filtering Enhances Superb Audio Performance
- Powers Remote Format-A Receivers through Primary Output Jack
- External 24 Vdc Supply Powers Format-A Receivers through All Output Jacks
- LED Indicators Show Network Sync Status
- Outputs Mute when Digital Audio Inputs are Inactive
- Normal or Hot-Standby Operation from PoE (Model RU-NFDP)
- Compatible with Wide Array of RDL Format-A Active and Passive Receivers
- Equipped for Rack Mounting or Surface Mounting



The RU-NFD modules are Dante audio network interface products compatible with RDL Format-A twisted pair products. These modules are designed to be mounted in equipment racks, closets, conference tables and on shelves or backboards in commercial/industrial installations.

**APPLICATION:** The RU-NFD is an RDL Format-A sender/distributor that connects to a Dante-enabled network. It converts three Dante audio channels to RDL Format-A. Each network channel corresponds to Pair A, B or C of the Format-A outputs. The unit converts a fourth Dante audio channel to a balanced line-level AUX output.

One front-panel green signal LED corresponds to each of the four Dante input channels. Received audio level is indicated on the variable-intensity LED indicator, facilitating setup when a networked computer is not connected at the module's location.

The Format-A output is distributed to three separate rear-panel RJ45 jacks. Each Format-A output jack provides up to 200 mA of power to connected Format-A receivers. Multiple receivers may be daisy chained from one output jack, or may be connected by home run to each of the three outputs. Higher current Format-A receivers, such as RDL D-PSP1A powered Decora-style speakers, are to be individually connected to a separate output jack.

The RU-NFD output jacks support the entire range of Format-A receivers, making each output pair available for end-user connection on various wall plates, or feeding other equipment using rack-mounted, shelf-mounted or utility Format-A receivers. The wide array of Format-A receivers provide compatibility with commercial audio equipment operating at standard professional levels. High resolution digital audio converters coupled with RDL's renowned analog filters provide superior fidelity with a very low noise floor. Each Format-A receiver may be connected near the RU-NFD or up to several thousand feet distant.

The RU-NFD is powered from an external 24 Vdc power supply, available separately. The external supply powers the RU-NFD and Format-A receivers connected to all three Format-A outputs. The RU-NFDP is equipped for PoE which powers the RU-NFD and Format-A receivers connected to the primary Format-A output jack. Audio is also distributed to the other two output jacks. Remote Format-A receivers connected to those other two output jacks are only powered from the RU-NFDP if an external 24 Vdc power supply is connected. If PoE power and an external 24 Vdc supply are both feeding an RU-NFDP, the unit will run from the external supply and will seamlessly switch over to PoE power upon loss of the external 24 V supply. The power feeding each Format-A RJ45 connector is separately protected by an automatically resetting fuse. A power LED is associated with each connector, facilitating identification of wiring faults.

PoE relies on the use of a PoE enabled network switch. The RU-NFDP will reserve power from the switch even while being powered from an external 24 Vdc supply.

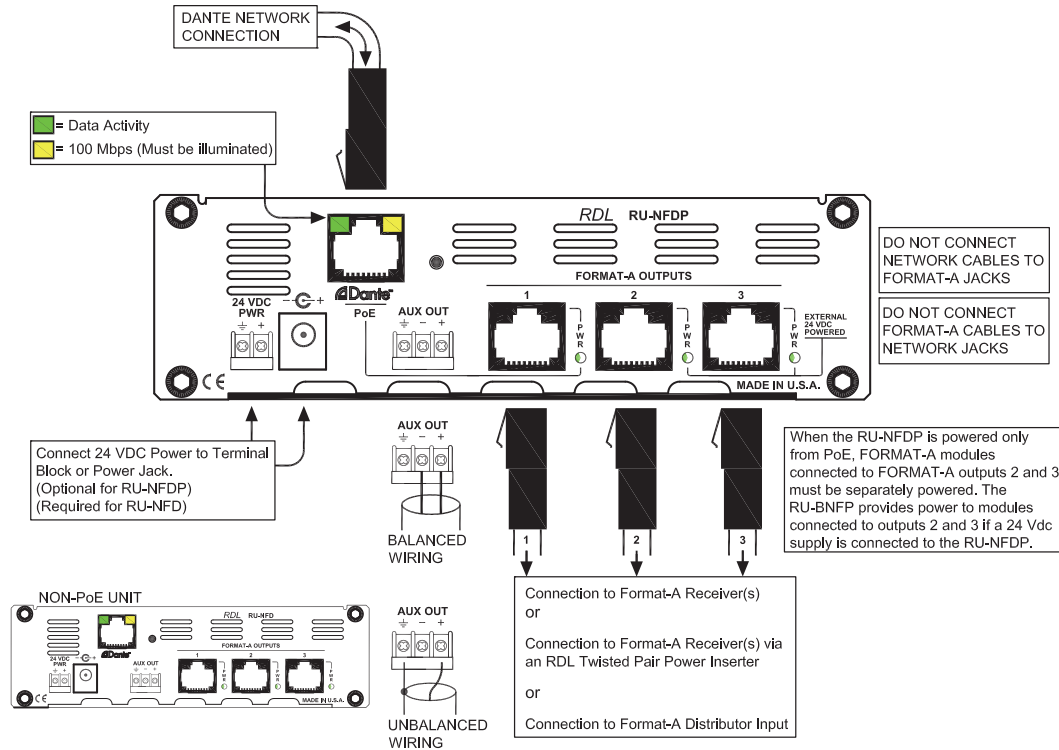
The RU-NFD is constructed in a durable, professional all-metal enclosure suitable for free-standing, surface-mounted or rack-mounted operation. This full-featured product is engineered and manufactured in the U.S.A for continuous duty in demanding installations. Built to last. Built to outperform.



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## Installation/Operation

CE Declaration of Conformity available from rdlnet.com.  
Sole EMC specifications provided on product package.  
Specifications are subject to change without notice.



### TYPICAL PERFORMANCE

Network Connector: RJ45 with Link and Speed indicators  
 Digital Audio Ethernet Protocol: Dante  
 Transmission Rate: 100 Mbps  
 Sample Rates Supported: 44.1 kHz, 48 kHz (default)  
 Bit Depth Supported: 24 bits  
 Audio Operating Levels: -20 dBFS = +4 dBu

**Format-A Outputs**  
 RDL Format-A RJ45 (3)  
 Format-A Signal Pairs Used (3): A, B, C (each Format-A output)  
 Frequency Response: 20 Hz to 20 kHz ( $\pm 0.75$  dB)  
 THD+N: < 0.1%  
 Noise below +4 dBu: < -85 dB (pair active); < -100 dB (pair muted)  
 Crosstalk: < 80 dB (20 Hz to 20 kHz)  
 Headroom above +4 dBu: > 18 dB

**AUX Output**  
 Output: Balanced, detachable terminal block  
 Output Level: +4 dBu (nominal)  
 Output Impedance: 150  $\Omega$  balanced; 75  $\Omega$  unbalanced

Frequency Response: 20 Hz to 20 kHz ( $\pm 0.5$  dB)  
 THD+N: < 0.1%  
 Noise below +4 dBu: < -75 dB  
 Crosstalk: < 80 dB (20 Hz to 20 kHz)  
 Headroom above +4 dBu: > 18 dB

Indicators (12): Power In (1); Power Out (3); Audio Signal LEDs (4), Network Sys and Sync (2), Ethernet Link and Speed (2)  
 Power Connections (2): Power Jack; Detachable Terminal Block  
 Ambient Operating Environment: 0° C to 40° C  
 Power Requirement: 24 Vdc @ 120 mA plus connected loads, or PoE (RU-NFDP)  
 PoE (RU-NFDP): Class 0, IEEE 802.3af  
 Dimensions: 5.8" (15 cm) W; 1.7" (4.3 cm) H; 5.2" (13.2 cm) D  
 Package Type: Cardboard Box  
 Package Dimensions: 6 x 6 x 2.625 in.  
 Shipping Weight: 1.605 lbs. (RU-NFD); 1.63 (RU-NFDP)  
 WEEE weight: 1.345 lbs. (RU-NFD); 1.37 (RU-NFDP)  
 Tariff code: 8517.18.0050