RDL®

High Performance Audio Products. Made in America.

Model DD SERIES-RN40
Wall-Mounted Bi-Directional
Mic/Line Dante Interface 4x2

DD-RN40

DDB-RN40   DDS-RN40

- Dante Network Interface for Four Audio Inputs and Two Audio Outputs
- Four XLR Front-Panel Inputs
- Two Outputs on Rear Panel Detachable Terminal Block
- Module is Configured and Adjusted Using Network Control Software
- Q-SYS Plug-In Available for Configuring in Q-SYS Environment
- Converts Four Standard XLR Mic or Line Audio Sources to Dante Network Channels
- Each Input Gain is Selected by Software
-   Mic Gain: 35 dB, 42 dB or 59 dB
-   Line Gain: Unity or 12 dB
- 48 V Mic Phantom (P48) Selected by Software
- Converts Two Dante Network Audio Signals to Line Level
- Each Output Equipped with Software Controlled Attenuator in 1 dB Steps
- Studio Quality, Low-Noise Performance
- High Resolution 24 Bit Analog to Digital and Digital to Analog Conversion
- Legendary RDL Analog Filtering Enhances Superb Audio Performance
- Q-SYS Plug-In Available for Configuring in Q-SYS Environment

APPLICATION: The DD-RN40 is a complete wall-mounted Dante audio network interface. It features four XLR mic or line inputs on the front panels and two line outputs on a rear-panel detachable terminal block. The module is configured and adjusted using RDL CONSOLE or other network control software. The DD-RN40 fits a standard US dual-gang electrical box or an RDL WB-2 back box for installations in thinner European or equivalent walls. The DD-RN40 is PoE powered, and is available in multiple finishes with optional customized graphics.

Mic/Line to network section

The four XLR inputs are each converted to a separate Dante network transmit channel. Three gain settings are software-selectable for both the mic and line input ranges to match condenser or dynamic mic levels and standard line levels. P48 phantom voltage may be software enabled when an input is set for mic level.

Network to line section

Two Dante audio channels are converted to balanced line level. Each output provides +4 dBu balanced for a network digital audio level of -18 dBFS. Each output is equipped with a software controlled attenuator adjustable in 1 dB steps to a maximum attenuation of 62 dB then OFF. The outputs are connected through a detachable terminal block.

The outputs are intended for connection to RDL AMS connectors mounted in Decora®-style plates that match the DD-RN40. AMS audio connectors include RCA, Mini and XLR jacks. The output plate may be located together with the DD-RN40 in a triple gang box or may be mounted remotely in a single box.

Valid PoE power and synchronization to the Dante network are indicated by green LEDs visible from the front of the unit.

The DD-RN40 is a professional grade product with RDL mic preamplifiers for studio quality fidelity and low noise performance, coupled through XLR jacks housed in a steel chassis with dual powder-coated or stainless steel Decora front plates.

The DD-RN40's superior performance specifications make it ideally suited to installations requiring network control and exceptional value in commercial networked audio systems. This full-featured product is engineered and manufactured in the U.S.A for continuous duty in demanding installations. Designed to outperform. Built to last.

RDL®

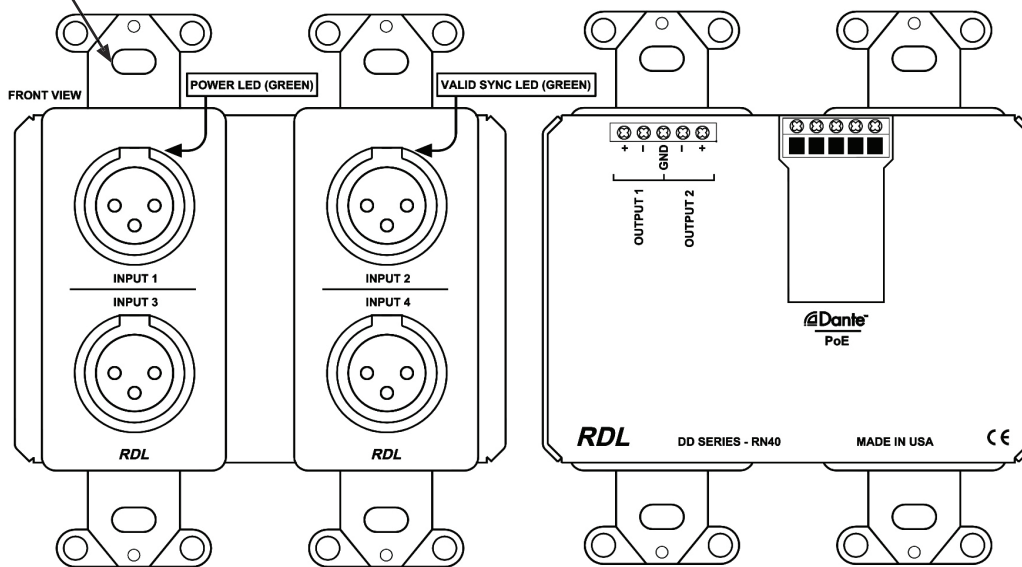High Performance Audio Products. Made in America.

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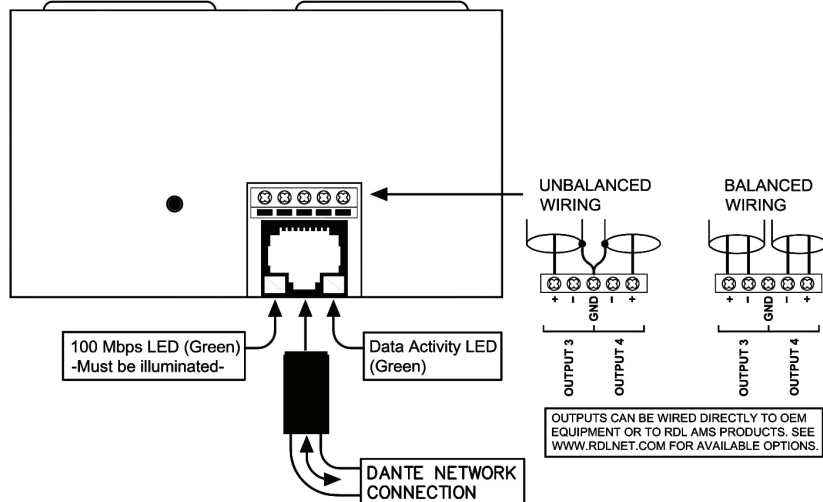
Installation/Operation

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

Fasten this unit into a wall box or chassis by threading the four mounting screws (included) into the corresponding holes in the wall box/chassis.

FRONT VIEW

POWER LED (GREEN)

VALID SYNC LED (GREEN)

INPUT 1

INPUT 2

INPUT 3

INPUT 4

RDL

RDL

+ | GND | +
OUTPUT 1   OUTPUT 2

Dante
PoE

RDL   DD SERIES - RN40   MADE IN USA

TOP VIEW

100 Mbps LED (Green)
-Must be illuminated-

Data Activity LED (Green)

DANTE NETWORK CONNECTION

UNBALANCED WIRING

BALANCED WIRING

+ | GND | +
OUTPUT 3   OUTPUT 4

+ | GND | +
OUTPUT 3   OUTPUT 4

OUTPUTS CAN BE WIRED DIRECTLY TO OEM EQUIPMENT OR TO RDL AMS PRODUCTS. SEE WWW.RDLNET.COM FOR AVAILABLE OPTIONS.

This product is not specified to provide basic insulation from network cabling not installed wholly within the same building structure or terminated on equipment earthed to a different earthing network.

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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 Level:	-18 dBFS = +4 dBu
Reference Level:	0 dBFS = +22 dBu

Mic/Line Inputs to Network Interface

Inputs (2):	XLR (female)
Gain:	Mic: 35 dB (LOW), 42 dB (MED), 59 dB (HIGH); Line: Unity (NORM), 12 dB (HIGH)
Input Level (for +4 dBu/-18 dBFS):	Mic: -31 dBu (LOW), -38 dBu (MED), -55 dBu (HIGH); Line: +4 dBu (LOW), -8 dBu (HIGH)
Input Level (maximum):	Mic: -14 dBu (LOW), -21 dBu (MED), -38 dBu (HIGH); Line: +23 dBu (LOW), +10 dBu (HIGH)
Input Impedance:	> 1.2 kΩ
Phantom Power:	P48, 48 Vdc, software-selectable
Standard for Phantom:	IEC 61938: 2013
Selectors per input (2):	Phantom, Gain, software-selectable
Frequency Response:	20 Hz to 20 kHz (± 0.5 dB)
Equivalent Input Noise:	< -128 dBu (59 dB gain); < -130 dBu A-Weighted
Noise below -18 dBFS (20 to 20 kHz):	Mic: < -88 dB (LOW), < -82 dB (MED), < -68 dB (HIGH); Line: < -88 dB (NORM), < -88 dB (HIGH)
THD+N:	< 0.1% (20 Hz to 20 kHz, +4 dBu/-18 dBFS)
CMRR:	> 65 dB (50 Hz to 120 Hz)
Crosstalk:	Below Noise Floor (20 Hz to 20 kHz at operating level, any input to any input, max. mic gain)

Network to Line Outputs

Outputs (2):	Balanced, detachable terminal block
Output Level (operating):	+4 dBu (nominal) balanced
Output Level (maximum):	+22 dBu balanced
Output Impedance:	150 Ω balanced
Frequency Response:	20 Hz to 20 kHz (± 0.5 dB)
THD+N:	< 0.1%
THD:	< 0.01% (1 kHz)
Noise:	< -80 dB (below +4 dBu); < -100 (below +22 dBu)
Crosstalk:	Below Noise Floor (20 Hz to 20 kHz at operating level, output to output)
Headroom above +4 dBu or -10 dBV:	20 dB
Indicators (4):	Ethernet Link and Speed (2, rear panel); Sync and Power (2, front panel)
Ambient Operating Environment:	0° C to 40° C; 30° C maximum recommended
Power Requirement:	PoE Class 0, IEEE 802.3af
Specification Conditions:	Gain/Level: ± 1 dB; Source termination: 150 Ω; A to D values measured in digital domain
Dimensions:	3.52" (8.94 cm) W; 4.11" (10.44 cm) H; 2.09" (5.31 cm) D
Package Type:	Cardboard Box
Package Dimensions:	3.625 x 4.625 x 2.125 in.
Shipping Weight:	0.909 lbs.
WEEE weight:	0.76 lbs.
Tariff code:	8543.70.9100

Equivalent Gain Settings for Dante Products

Digital signal levels in a Dante network are measured in dBFS (dB referenced to the maximum output or clipping level). The nominal standard reference levels used in professional audio products are: 0 dBFS = +22 dBu to +24 dBu. Some OEM industry products do not specify their reference and use a non-standard reference such as 0 dBFS = +2 dBu. The following table shows the most closely equivalent gain settings that equate to the gain settings of products using a 0 dBFS = +2 dBu reference:

Software Settings for MIC/LINE balanced inputs

Non-Standard Reference (OEM)	RDL DD-R Products	
Gain Setting	Gain Setting	MIC/LINE Setting
-18 dB	Unity	Line
-3 dB	12 dB	Line
--- (condenser mics)	35 dB	Mic
25 dB	42 dB	Mic
40 dB	59 dB	Mic