

# DAN-RX

## 2-Ch Dante<sup>®</sup> Receiver



# User Guide

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Note: This device has been tested and found to comply with the limits for a Class A digital device, according to Part 15 of the FCC Rules and EN55022. These limits are designed to provide reasonable protection against harmful interference when the device is operated in a commercial environment. This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user manual, may cause harmful interference to radio communications. Operation of this device in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their own expense.

# Radial® DAN-RX User Guide

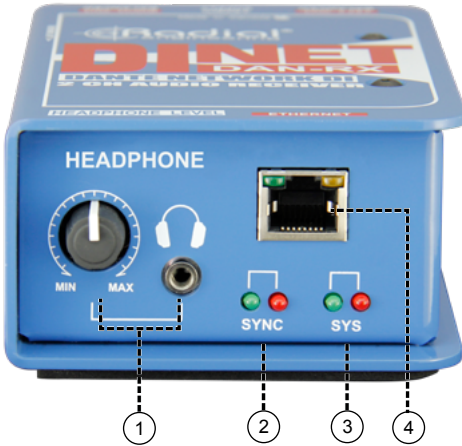
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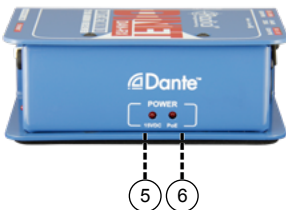
Congratulations on purchasing the Radial DiNET DAN-RX! The DAN-RX is a high-resolution digital-to-analog converter that is designed to connect to a Dante-enabled Ethernet network — seamlessly transferring the audio stream to a pair of balanced audio outputs to feed a PA, recording device or broadcast mixing console.

This manual covers the setup and operation of the DAN-RX in various applications. Please take a few minutes to read through and familiarize yourself with the DAN-RX features and functions. If you have any questions that are not covered in this manual, please consult the FAQ section on our website. This is where we post the latest updates. If you still do not find what you are looking for, feel free to send us an email at [info@radialeng.com](mailto:info@radialeng.com) and we will do our best to reply in short order.

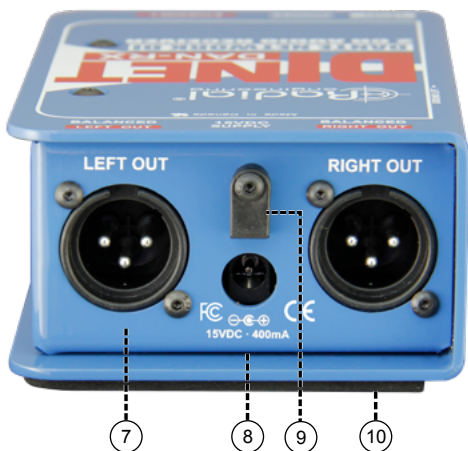
## FEATURES



1. **HEADPHONE:** Sets output level of the headphone amplifier. Mini 3.5mm (1/8") TRS headphone output. Works with earbuds and standard headphones.
2. **SYNC LEDs:** Red LED is illuminated when unit is powered. Green LED will illuminate once connected to an Ethernet network. Flashing green LED indicates that the DAN-RX is in master clock mode, solid green LED indicates that it is in slave mode.
3. **ETHERNET PORT:** Connects to the Dante network via standard CAT5e or CAT6 Ethernet cable. This port delivers the digital audio signal from the network and powers the DAN-RX when Power over Ethernet (PoE) is available.
4. **SYS LEDs:** Red LED illuminates when power is first applied. Switches to green LED once Dante processor becomes active.



5. **+15V LED:** Will illuminate when the DAN-RX is receiving power via the included DC power adapter.
6. **PoE LED:** Will illuminate when the DAN-RX is receiving Power over Ethernet (PoE).



- 7. **LEFT AND RIGHT XLR OUT:** Balanced analog audio outputs. Output level is controlled by audio playback source.
- 8. **POWER:** 15VDC connection for use with included Radial power adapter.
- 9. **CABLE CLAMP:** Used to secure the power supply cable (when used) to prevent accidental disconnection.
- 10. **NO SLIP PAD:** Provides electrical and mechanical isolation and keeps the DAN-RX from sliding around.



- 11. **GROUND LIFT:** Lifts pin-1 on both XLR outputs to eliminate buzz and hum from ground loops. Move the switch to the right (towards the Ethernet input) to lift the ground.

## OVERVIEW

The Radial DiNET DAN-RX is a professional grade digital-to-analog audio converter designed specifically for use with Dante-enabled networks. It allows you to create a stereo audio endpoint at any location within a Dante network, featuring an Ethernet connector to receive the digital signal, and balanced analog outputs to feed mixing consoles, power amplifiers, or self-powered speakers.

High quality 24bit/96kHz converters provide pristine audio and ensure that the digital source content is reproduced as faithfully as possible, and a rugged 14-gauge steel chassis with a bookend design protects the connectors from damage. The DAN-RX also features a built-in headphone amplifier with an adjustable level control, allowing you to easily check the audio signals, or feed a monitor mix to any destination.



The DAN-RX is easy to use, with no setup required on the device itself. It is completely configured by Dante Controller, which manages digital audio routing across the Dante network. Dante Controller is a software application by Audinate™ that allows the user to manage all Dante-enabled devices across a network. Use Dante Controller to route audio to the DAN-RX and all other components on the network. Simply plug the DAN-RX into the network and it will automatically appear as an available output device within Dante Controller. The DAN-RX will initially have the name “DiNET-RX-xxxxxx”, where the last 6 digits will be the unique media access control address (MAC address) of your DAN-RX. As this can be changed to a user-generated name using Dante Controller, we recommend writing down the MAC address of your unit in the space provided below for future reference.

**Record your DAN-RX MAC address here:**

**DiNET-RX-**\_\_\_\_\_

Dante Controller can be downloaded for free at [www.audinate.com](http://www.audinate.com). For latest firmware for the DAN-RX please visit [www.radialeng.com](http://www.radialeng.com).

## GETTING STARTED

Before making any connections, always ensure your amplifiers or speakers are either turned down or turned off in order to protect sensitive components from damage due to loud transients that can occur when plugging in or turning on various components.

## POWERING THE DAN-RX

### PoE

Power for the DAN-RX can be provided via power over ethernet (PoE) from a PoE-capable network switch or a separate PoE injector. Once power is available, the side panel PoE LED indicator will illuminate and the DAN-RX will be ready to use.



### Power Supply

The included 15VDC power supply is provided for use when PoE is not available. Once you have connected the DAN-RX to the Ethernet switch, plug in the power supply. The side panel +15VDC LED will illuminate and the DAN-RX will be ready to use.



As a backup option, the DAN-RX is designed to be able to have both PoE and the 15VDC adaptor connected at the same time. If one fails, the other will maintain power without switch-over noise.

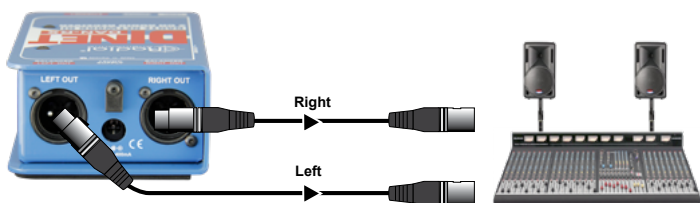
## ETHERNET CONNECTION

The DAN-RX connects to the Ethernet switch using a standard CAT5e or CAT6 cable. Once the Ethernet switch is connected to a computer running the Dante Controller software, the DAN-RX will appear as an available receive device.



## MAKING CONNECTIONS

Connect two standard low-impedance XLR cables from the LEFT and RIGHT outputs to the inputs of your PA or recording system. These XLR outputs conform to the AES standard and are balanced to drive long cable runs up to 100 meters (300') without noise, and are suitable for connecting the DAN-RX to professional mixing consoles, preamps and power amplifiers. The signal level at these outputs is controlled by the audio playback source.



*Audio connections for PA system and recording systems use balanced XLR cables up to 100 meters (300').*

**IMPORTANT NOTE:** The DAN-RX does not require phantom power to operate. The DAN-RX is equipped with blocking capacitors to prevent damage from DC voltage, but for best results please ensure that the phantom power is switched off when connecting to the microphone input of a mixer.



## USING THE HEADPHONE AMPLIFIER

The DAN-RX is equipped with a dedicated stereo headphone output. The 3.5mm (1/8") output is designed for both ear buds and standard TRS stereo headphones wired tip-left, ring-right and the sleeve is ground. The volume control on the DAN-RX affects the headphone output only, as it is designed for testing purposes rather than setting the level of the XLR outputs.

Be careful! The DAN-RX is designed for professional use. The headphone amplifier is very powerful and is capable of high sound levels that could damage your hearing. Always ensure the volume control is set to its lowest point (fully counter-clockwise) when plugging in headphones, and slowly increase the level to a satisfactory level. If no signal is present, ensure that audio is routed to the unit via the Dante Controller software.

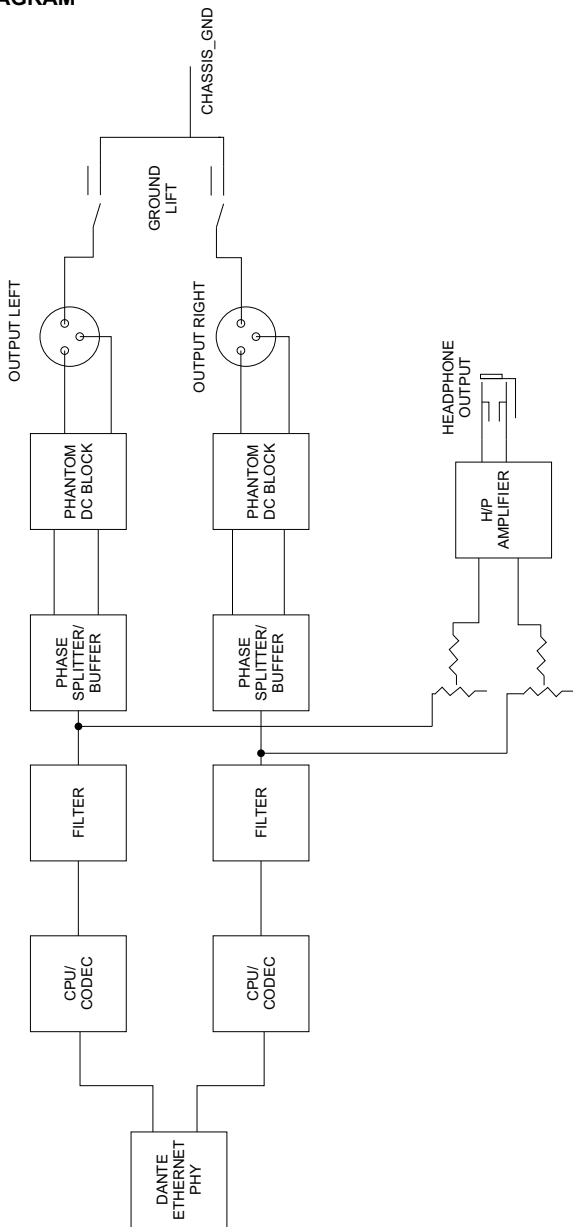
Not all headphones are created equally! Always start at the lowest volume when switching headphones. While the DAN-RX is designed to work with headphones of all different impedances, volume level can change drastically from pair to pair.



### Headphone Safety Warning Caution: Very Loud Amplifier

As with all products capable of producing high sound pressure levels (SPL), users must be very careful to avoid the hearing damage that may occur from prolonged exposure. This is particularly important when applied to headphones, as prolonged listening at high SPL's will eventually cause tinnitus and can lead to partial or complete loss of hearing. Please be aware of the recommended exposure limits within your jurisdiction and follow them closely. The user agrees that Radial Engineering Ltd is not liable for any health effects resulting from the use of this product and the user clearly understands that he or she is entirely responsible for the safe and proper use of this product. Please consult the Radial Limited Warranty for further details.

**BLOCK DIAGRAM\***



\* Subject to change without notice.

**SPECIFICATIONS\***

Audio Circuit Type: .....	High current balanced active output device
Number of Channels:.....	2
Sample Rate:.....	44.1kHz, 48kHz, 88.2kHz, and 96kHz
Bit Depth:.....	24 bit
Frequency Response: .....	20Hz-20kHz
Idle Channel Noise: .....	-108dB
Dynamic Range: .....	>100dB
Channel Separation:.....	>75dB
Gain:.....	8dBu max @ 0dBfs
Total Harmonic Distortion + Noise: .....	0.007% @ -6dBfs
Output Impedance: .....	150Ω
Power Consumption: .....	1.25W

**Features**

Input Connections:.....	RJ45 Ethernet
Output Connectors: .....	2x XLR male, 1x 3.5mm headphone out
LED Indicators:.....	SYNC, SYS, +15V, and PoE
Extras: .....	Headphone amplifier with level control

**General**

Power: .....	15VDC 400mA (included) or PoE
Power over Ethernet (PoE).....	Class 1 IEEE 802.3af
FCC Approval: .....	Meets FCC Part 15B Class A
Construction: .....	14-gauge steel
Finish: .....	Durable powder coat
Warranty: .....	Radial 3-year, transferable

\* Subject to change without notice.

## THREE YEAR TRANSFERABLE LIMITED WARRANTY

RADIAL ENGINEERING LTD. ("Radial") warrants this product to be free from defects in material and workmanship and will remedy any such defects free of charge according to the terms of this warranty. Radial will repair or replace (at its option) any defective component(s) of this product (excluding finish and wear and tear on components under normal use) for a period of three (3) years from the original date of purchase. In the event that a particular product is no longer available, Radial reserves the right to replace the product with a similar product of equal or greater value. In the unlikely event that a defect is uncovered, please call 604-942-1001 or email [service@radialeng.com](mailto:service@radialeng.com) to obtain an RA number (Return Authorization number) before the 3 year warranty period expires. The product must be returned prepaid in the original shipping container (or equivalent) to Radial or to an authorized Radial repair centre and you must assume the risk of loss or damage. A copy of the original invoice showing date of purchase and the dealer name must accompany any request for work to be performed under this limited and transferable warranty. This warranty shall not apply if the product has been damaged due to abuse, misuse, misapplication, accident or as a result of service or modification by any other than an authorized Radial repair center.

THERE ARE NO EXPRESSED WARRANTIES OTHER THAN THOSE ON THE FACE HEREOF AND DESCRIBED ABOVE. NO WARRANTIES WHETHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL EXTEND BEYOND THE RESPECTIVE WARRANTY PERIOD DESCRIBED ABOVE OF THREE YEARS. RADIAL SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY

To meet the requirements of California Proposition 65, it is our responsibility to inform you of the following:

**WARNING:** This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Please take proper care when handling and consult local government regulations before discarding.



Made in Canada 

[www.radialeng.com](http://www.radialeng.com)

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Radial® DAN-RX User Guide - Part #: R870 1033 00 / 10-2024  
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