Manuals+ — User Manuals Simplified.
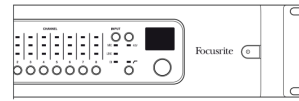
Focusrite
FFFA001047-06
Dante Network
Is Simple

Focusrite FFFA001047-06 Dante Network Is Simple User Guide

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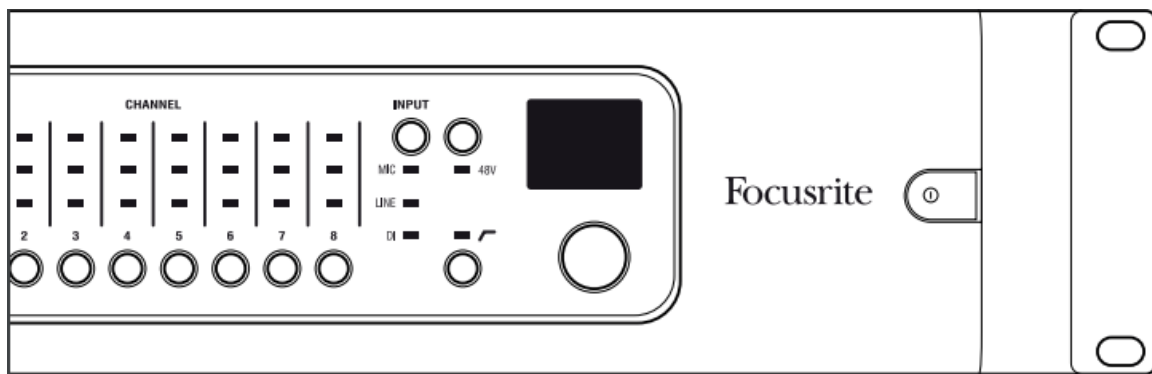
Focusrite®

Focusrite FFFA001047-06 Dante Network Is Simple

Specifications:

- Network switch required
- Category 5e or higher cabling needed
- RedNet Control, Dante Controller, and DVS software applications essential
- Computer with Mac or Windows OS required

Product Usage Instructions

System Requirements:

Ensure you have the following components:

- Network switch: Use managed switches for complex systems.
- Network cabling: Cat 5e or higher, preferably Cat 6.
- RedNet Control, Dante Controller, and DVS software.
- Computer: Mac or Windows PC to run necessary software.

Setting up Network Switch:

Connect the network switch ensuring Quality of Service is configured appropriately. Use Cat 5e or higher cabling for connections less than 100m. For longer distances, consider fiber optic modules.

Software Applications:

Install and use RedNet Control for device management, Dante Controller for routing, and DVS for virtual soundcard functionality. Follow instructions to download these applications from the provided websites.

Computer Setup:

Run RedNet Control and Dante Controller software on your Mac or Windows computer to establish routing and control. Install DVS if required for soundcard functionality.

Connecting Equipment:

For devices with two power supplies, ensure UPS is connected to PSU B as a backup. PSU A serves as the default power supply.

FAQ

Q: Can I use Cat 5e cabling for longer distances?

A: It is recommended to use fiber optic modules with the network switch for longer distances exceeding 100m.

Q: Do I need to download DVS separately?

A: Yes, register your RedNet product online to receive the download link for Dante Virtual Soundcard (DVS).

Introduction

Thank you for purchasing a RedNet Dante interface. Setting up a Dante network is simple – in fact it's very likely that an existing network installation is already suitable for high-quality, low latency Dante audio use. This guide is intended to help get the system running as quickly as possible. For more comprehensive operation manuals, please refer to the documentation available online at **www.focusrite.com/rednet**.

System requirements

For full details please find more information online. Basic requirements are outlined below.

Network switch
Dante systems will almost always require at least one network switch. Complex systems may require multiple switches. Quality of Service is an important feature and function of the switch which will need to be set up for complex systems. It is recommended that managed switches are used as they offer the greatest levels of configuration and monitoring. Please view full details of this, including switch setup guides and examples online.

A suitable switch shall:

- be rated for Gigabit Ethernet
- be non-blocking
- have Quality of Service (QoS) with at least four queues
- have Diffserv (DSCP) QoS with strict priority
- have EEE (Energy efficient ethernet) switched off
- (Optional) be PoE enabled for devices such as RedNet AM2 (Full details of supported PoE switches can be found online at www.focusrite.com/rednet). Alternatively users can use a Gigabit PoE injector, which will connect between the unit and standard switch, or a DC power supply.

    For detailed information on setting up a switch, please refer to the manufacturer's documentation.

Network cabling
Category 5e or higher cabling is required. Cat 6 is preferred. The cable length between
any Dante unit and a switch must be less than 100m (328 ft).
To span wider areas, network switches can be fitted with fibre optic modules, allowing you to greatly increase the physical size of the network.

RedNet Control, Dante Controller and DVS
These three software applications are key to the RedNet interfaces and Dante systems.

RedNet Control
RedNet Control acts as a remote control for all RedNet products.
RedNet Control also acts as the ASIO control panel for RedNet PCIe/ RedNet PCIeR when run on a Windows computer. The following key components are installed:

- RedNet Control application
- RedNet PCIe/ RedNet PCIeR ASIO/Core Audio driver
- Dante Controller
- Dante runtime support services

RedNet Control can be downloaded from **www.focusrite.com/downloads**

Dante Controller
Dante Controller allows for routing between all RedNet devices and also provides the provision for control of third-

party Dante products.

Dante Controller is installed with RedNet Control, but can also be downloaded separately from www.audinate.com Please note that Dante Controller is developed and distributed by Audinate.

Dante Virtual Soundcard (DVS)

DVS is a software application which allows a Mac or Windows PC's onboard Ethernet port to act as a Dante soundcard. This software is not a requirement for all Dante systems, but is a very useful tool. It is provided free-of-charge with many RedNet products.

To download DVS, please register your RedNet product at **www.focusrite.com/register** using the bundle code found in the box. After registration, a link will be provided with details of how to obtain DVS.

Computer

A computer is required to run RedNet Control and Dante Controller software to establish routing and control of units, it is also required if the system is to use RedNet PCIe/ RedNet PCIeR or Dante Virtual Soundcard (DVS). Both Mac and Windows PCs are supported.

Full details of supported systems can be found online at **www.focusrite.com/rednet**.

Getting audio in and out of a computer

There are three methods of getting Dante audio in and out of a computer:

- RedNet PCIe/ RedNet PCIeR – for ASIO (Windows) or Core Audio (Mac) based applications;

- RedNet 5/ RedNet HD32R – for Pro Tools|HD, Pro Tools|HD Native or Pro Tools|HDX based systems;

- DVS – for ASIO (Windows), WDM (Windows) or Core Audio (Mac) based applications – turning your onboard Ethernet port into a virtual soundcard. Please note that Dante Virtual Soundcard does not support wireless network adapters.

  Computer requirements, benchmarks and further product information can be found online.

Connecting the equipment

A suitable Ethernet cable should be connected between each Dante interface and the switch.
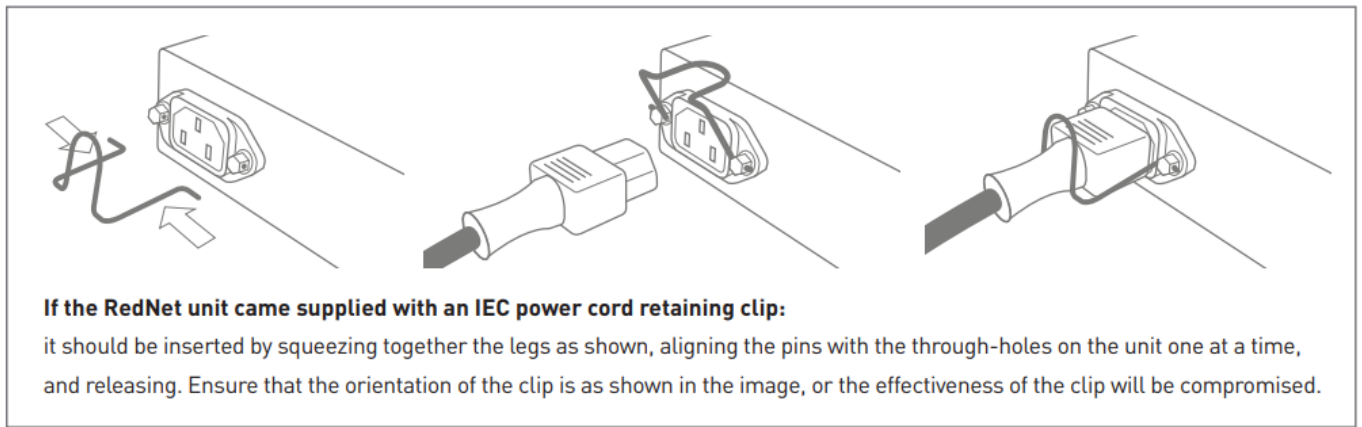
In addition, a computer's onboard network port should be connected to the primary network (see "Units with two network ports") to allow RedNet Control and Dante Controller software to communicate with the network. If a redundant network is in use, a second network connection can be made to a second Ethernet port on the computer. Please note, when using RedNet PCIe/ RedNet PCIeR card, this additional network connection is still necessary as RedNet PCIe/ RedNet PCIeR does not pass control data.

Use the supplied moulded IEC power cord(s) or DC power supply to connect the units to a suitable mains power source.

For details on other connections on the unit, such as audio I/O, word clock connections or connecting RedNet 5/ RedNet HD32R to Pro Tools|HD, please see the dedicated user manual for each unit.

Units with two power supplies

Where a Dante device has two IEC power connections, one will be labelled PSU A and the other PSU B. PSU A will act as the default power supply while PSU B will be on standby but will seamlessly take over if PSU A loses its mains input supply. If an uninterruptible supply (UPS) is available, it is recommended that this is applied to PSU B.

If the RedNet unit came supplied with an IEC power cord retaining clip:

it should be inserted by squeezing together the legs as shown, aligning the pins with the through-holes on the unit one at a time, and releasing. Ensure that the orientation of the clip is as shown in the image, or the effectiveness of the clip will be compromised.

Devices such as RedNet AM2 are PoE enabled on Port 1. These devices can also be operated using a DC power supply. When both a PoE switch and a DC supply are connected, PoE will be the default power supply.
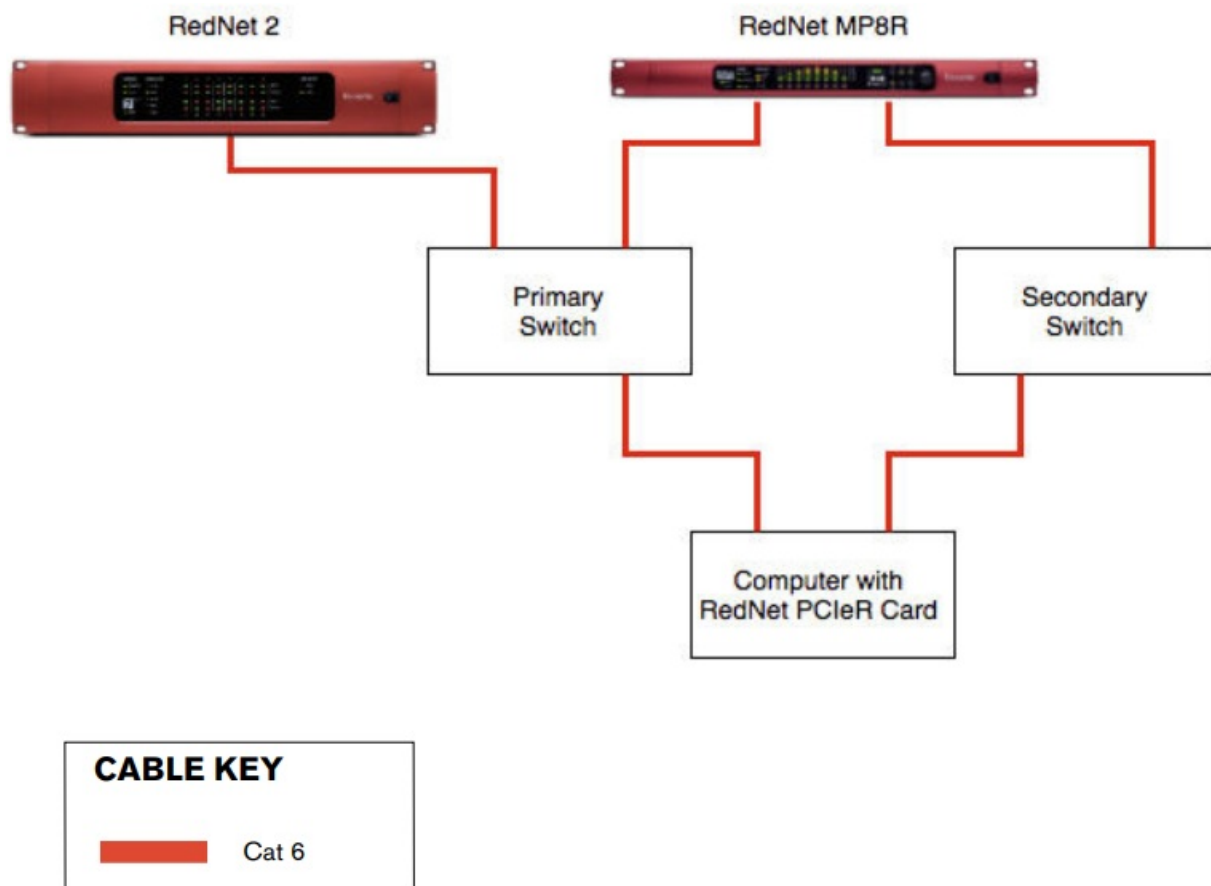
Units with two network ports

Where a Dante device has two network ports, one will be labelled Primary and the other Secondary, unless otherwise stated. These units can be configured via Dante Controller to operate in one of two ways: Redundant or Switched. In Redundant mode, the two network ports must be connected to two separate networks to provide redundancy. All units must have their Primary ports connected to the same network, and their Secondary ports connected to the other. In Switched mode, the units can be daisy chained which can reduce cabling complexities. Where redundant and non-redundant devices are used on the same network, the non-redundant devices must be connected to the primary network. For an example, please see the diagram on the following page.

If a unit's secondary port is accidentally plugged into a primary network, or vice versa, the unit will not function properly. In this situation Dante Controller will display the unit's name in red text, indicating a fault.

Network Setup

Example network setup:

Mixing redundant and non-redundant devices

RedNet units with only one network port must be connected to the Primary Switch Only.
RedNet units must be set to Redundant Mode in Dante Controller in order for this setup to work, otherwise Switched mode will only daisy chain devices.

First use and firmware updates

When first launching RedNet Control, there are a few settings to be aware of which may need to be altered:

Network Interface

Click: Settings>Select Network Interface and select the network adapter which is connected to the Dante network.

Sample Rate

Units are supplied set to 48 kHz. To change the sample rate of all units, select the sample rate in Settings>Sample Rate on Mac or Home Tab>Network Section on Windows. Sample rates of individual units can be set using Dante Controller.

Pro Tools Compatibility

Pro Tools software is limited to 32 channels of I/O when using any Core Audio or ASIO driver.
When running Pro Tools with RedNet PCIe/ RedNet PCIeR as the audio interface, it is important to reduce the channel count of the driver. To do this follow these instructions:

Mac OS X:

- Open "Audio MIDI Setup" from the Utilities folder
- Open Audio Window
- Select Focusrite RedNet PCIe/ RedNet PCIeR
- Change Input channels to 32

- Change Output channels to 32

Windows

- In RedNet Control, click on "Set ASIO Buffer Size"
- Click the check box labelled "Pro Tools Mode"

Firmware Updates

Your RedNet unit may require a firmware update when it is first installed and switched on. Firmware updates are initiated and handled automatically by the RedNet Control application. It is important that the firmware update procedure is not interrupted, either by switching off the unit or the computer on which RedNet Control is running or disconnecting either from the network.

From time to time Focusrite will release RedNet firmware updates with new versions of RedNet Control. It is important to keep all RedNet units up to date with the latest firmware version supplied with each new version of RedNet Control, to ensure best operation.

Routing & Troubleshooting

Routing

Routing between all I/O units can be performed using Dante Controller. This provides a traditional crosspoint matrix interface.
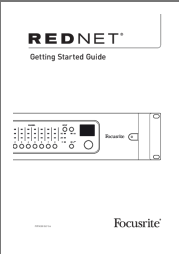
Troubleshooting

For a list of FAQs and general troubleshooting tips, our Answerbase is a valuable resource.
This can be found at **www.focusrite.com/answerbase**.
If any problem cannot be resolved, or if you have a query, please contact our Customer Support team using the contact details found here;

- Email: **rednetsupport@focusrite.com**
- Phone (UK): +44 (0)1494 462246
- Phone (USA): +1 **310-322-5500**

Documents / Resources

REDNET® Getting Started Guide Focusrite Focusrite	**Focusrite FFFA001047-06 Dante Network Is Simple** [pdf] User Guide FFFA001047-06 Dante Network Is Simple, FFFA001047-06, Dante Network Is Simple, Network Is Simple

References

- **⑪ Focusrite | Focusrite Downloads**
- **⋏ Audinate - Pioneering the future of AV**
- **⑪ Focusrite**
- **⑪ Focusrite | Focusrite Downloads**
- **User Manual**