User Guide

CDC MC Dante Set-up

Description

This document provides a guide to setting up a CDC MC Dante for a Dante network

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Introduction

This guide provides an overview on how to set up a Cadac CDC MC Dante.

The following Audinate software is also required in order to use the CDC MC Dante on a Dante network:

- 'Dante Controller', provided free by Audinate, provides remote control and set up of all Dante equipment attached to a given Dante audio network. Link

- 'Dante Virtual Soundcard', which requires a separate software license, is needed to send / receive audio on a Dante network to / from a local DAW or media player. Link

The CDC MC Dante supports up to 64 bi-directional connections to map between MegaCOMMS ports and a Dante network.

Two network ports **A** and **B** are available to provide the channel count required. Each has a primary and secondary connection; the secondary connections are for redundant network connections **only**.

Channel Configurations Available *

Fsample	Port A I/O	MegaCOMMS mapping	Port B I/O	MegaCOMMS mapping
44.1 / 48 kHz	64	1-64	Not used	-
88.2 / 96 kHz	32	1-32	32	33-64
176.8 / 192 kHz	16	1-16	16	33-48

MegaCOMMS to Dante audio channel connections are configured on the routing page of the Dante Controller.

Port A must always be connected when using CDC MC Dante.

Front Panel Dip Switch 1 - 2 - 3: Settings for Different Sample Rates

Fsample	DIP 1 / FS 0	DIP 2 / FS 1	DIP 3 / FS 2
44.1 kHz	ON	OFF	OFF
48 kHz	OFF	OFF	OFF
88.2 kHz	ON	ON	OFF
96 kHz	OFF	ON	OFF
176.8 kHz	ON	OFF	ON
192 kHz	OFF	OFF	ON

Sample rate settings are made via the Dante Controller and MUST be mimicked via the dip switches on the CDC MC Dante's front panel.

*ALL ports on a given Dante Network must be configured to the same sample rate via the Dante Controller. This applies **even if** you are operating at 48 kHz and only connected to the left hand port.*

Mode	DIP 4	DIP 5
CDC MC Dante is as SLAVE to the WORD CLOCK derived from third party equipment attached to the Dante network **Dante Controller MUST be set such that both Brooklyn ports on CDC MC Dante are set as SLAVE**	ON WORD CLOCK LED = S	OFF SYNC LED = Dante
CDC MC Dante is as SLAVE to a WORD CLOCK provided at WORD CLOCK BNC input port **Dante Controller MUST be set such that either Brooklyn port on CDC MC Dante is set as MASTER**	ON WORD CLOCK LED = S	ON SYNC LED = Word Clock
CDC MC Dante is the MASTER WORD CLOCK **Dante Controller MUST be set such that either Brooklyn port on CDC MC Dante is set as MASTER** *This is the mode to use when there is one PC (controller + virtual soundcard) is attached to one CDC MC Dante*	OFF WORD CLOCK LED = M	X – Don't care SYNC LED = Both OFF

Several WORD CLOCK modes may be selected when using the CDC MC Dante. The Dante Controller settings and front panel dip switch settings must align with those shown above.

External WORD CLOCK input BNC signal frequency must mirror the FS settings of the system.

Important Notes

* Dante port connections are identified via MAC addresses on the Dante Controller. Each port on all CDC MC Dante units has a unique MAC address. The User must work out the MAC address of each unit, and port, by connecting one at a time to the network, and observing what device (MAC address) appears on the controller.

- Frequencies 192 kHz and 176.4 kHz are not currently enabled
- DIP switches 6, 7, 8 are not used
- Definitions of Master / Slave operation above DO NOT relate to MegaCOMMS. The CDC MC Dante will always operate as MegaCOMMS slave either connected to the CDC MC Router or Cadac digital console hardware.
- One Dante port Tx connection may not be routed to a Rx connection from the same port

![cadac logo]

Appendix A: Example of Simple System Test Setup

This is the simplest test to configure, as it requires no DAW or digital audio on the PC and no virtual soundcard software (this is licenced software and costs money!). It also enables a back to back analogue audio test to be performed using the dScope.

Connect up equipment as shown below, apply power and switch on:

DOC02-CDC MC Dante Issue C - November 2016
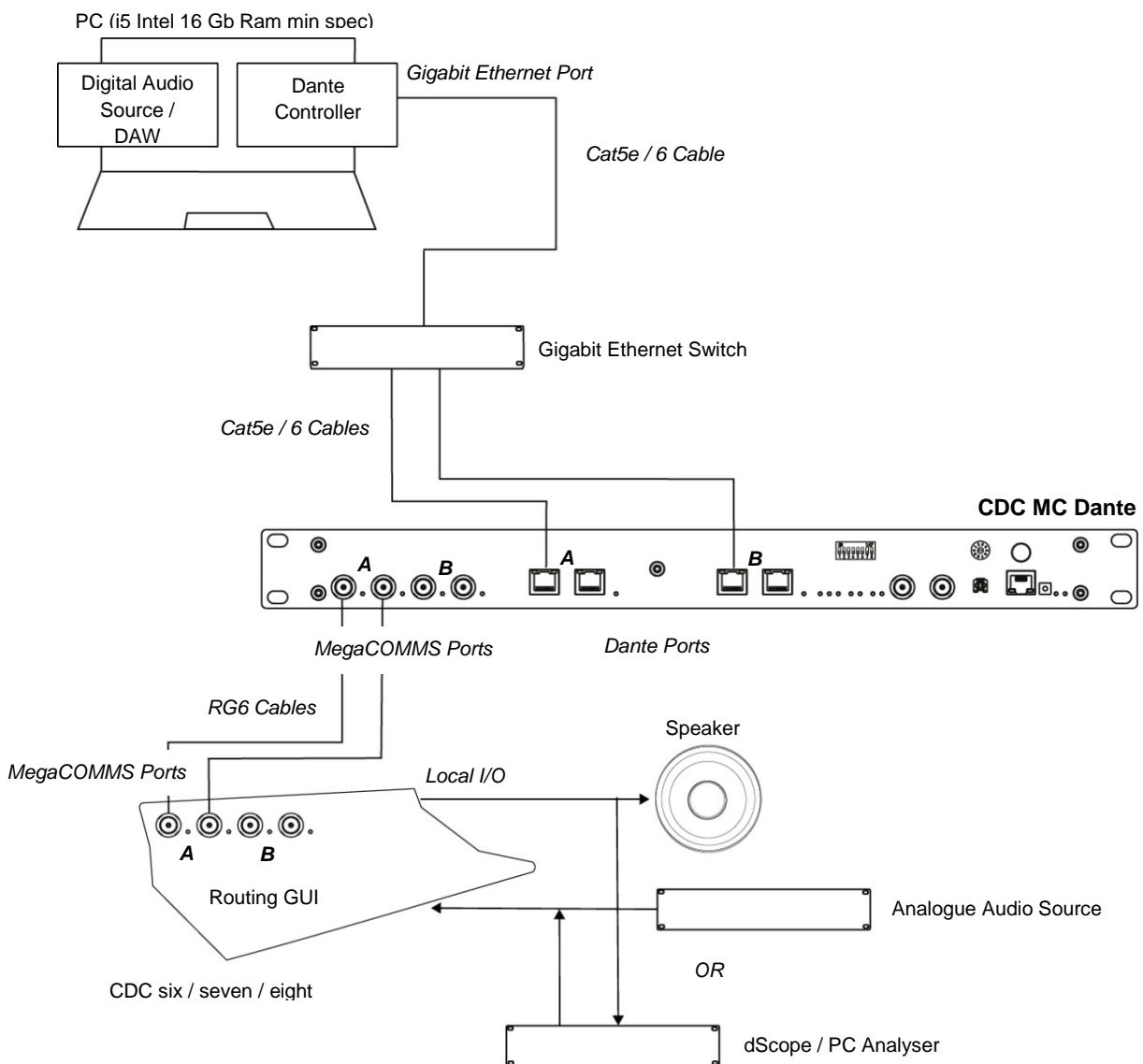
Select address 2 on the CDC MC Dante rotary switch

      Check Power switch LED is illuminated

      Check all BNCs illuminated

      Check that the MegaCOMMS LEDs Tx and Rx are illuminated

      Check that Dante Port A Ethernet LEDs are active

Configure the Dante system as follows:

CDC MC Dante, MegaCOMMS address	2 (only one CDC MC Dante in the system)
CDC MC Dante, Front panel DIP 1-3 switch settings	96 kHz (off, on, off)
CDC MC Dante, Front panel DIP 4-5 switch settings	CDC MC Dante is MASTER WORD CLOCK (off, off)
Dante controller, Device view, Device config.	Port A – 96 kHz, Port B – 96 kHz
Dante controller, Routing map*	Connection 1 Port A CH1 to Port B CH1
Dante controller, Clock Status, Primary status	Port A or B operating as MASTER

Apply analogue audio source to local Mic IN on the console (alternatively connect dScope OUT)

Connect speaker to local Line OUT on Console (alternatively connect dScope IN)

Select CH1 routing on the console GUI:

      Input set to analogue audio source port

      Send set to Dante 1 port 1

Select CH1 routing on console GUI

      Input set to Dante1 port 33

      Send set to speaker port

At this point an audio path should now exist between the two analogue ports on the console. This will be utilising both Dante Port A and B on the CDC MC Dante.

Important Note: *Where audio is routed from Port A to B this method is the only way the audio loopback will work on the CDC MC Dante. You cannot connect between channels on the same ports!!!!*

Appendix B: Audinate Dante Controller Details

This program may be downloaded from the Audinate website.

Link: Dante Controller Software

It is free but you may need to register to get a copy.

Once installed the program automatically searches out any Dante enabled devices connected to the PC and then allows you to configure each device.

There are **three** main screens that need to be considered.

Routing Screen

The example below shows the two Dante ports found on a single CDC MC Dante unit. Note how the matrix allows connections to be set up between ports.
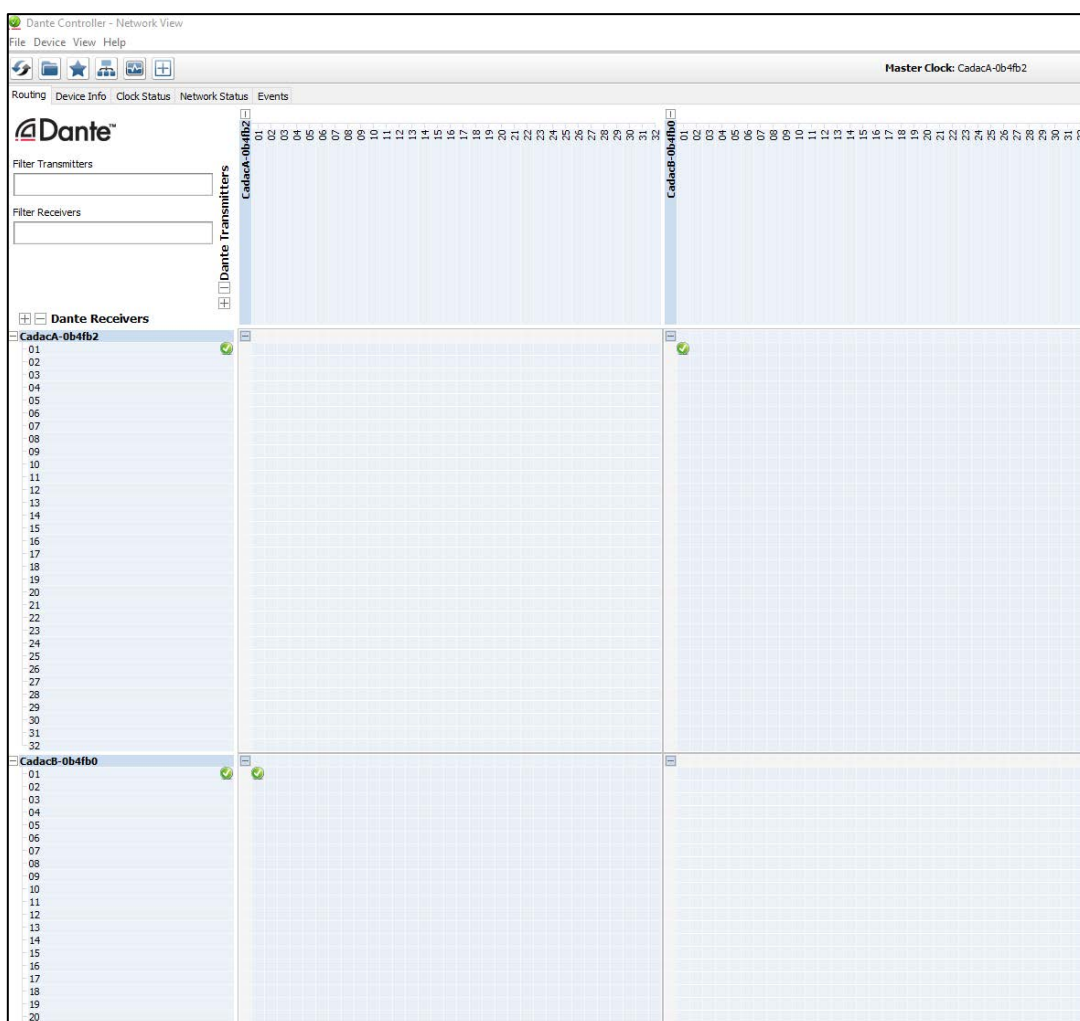
Device Configuration Screen

The screen below demonstrates how the required sample frequency should be set-up for each device (separate screens will exist for each Dante port).

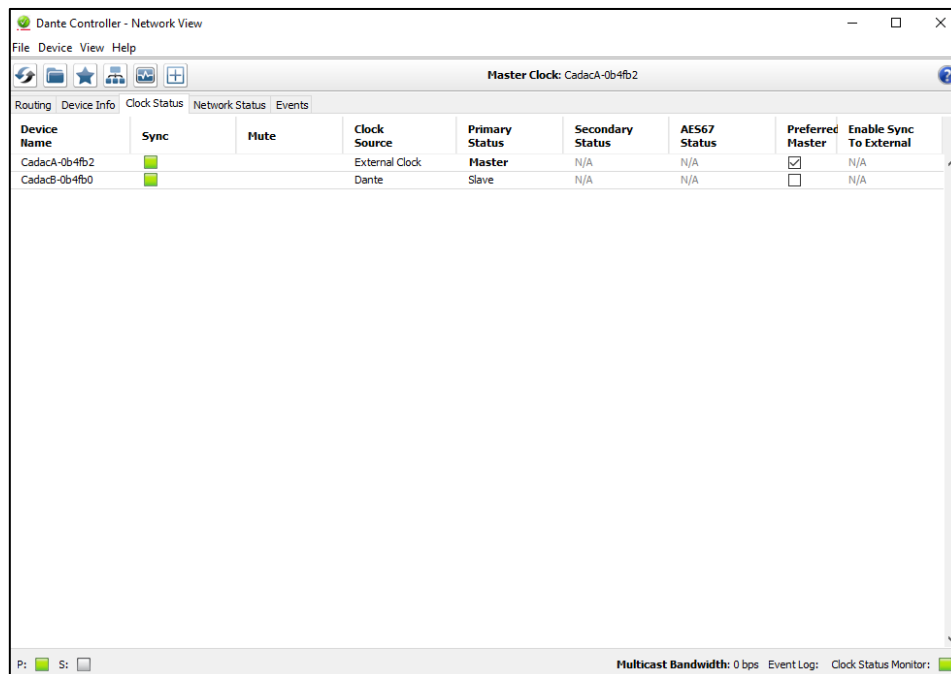This set-up is required in addition to the CDC MC Dante front panel DIP switch settings.

DOC02-CDC MC Dante Issue C - November 2016
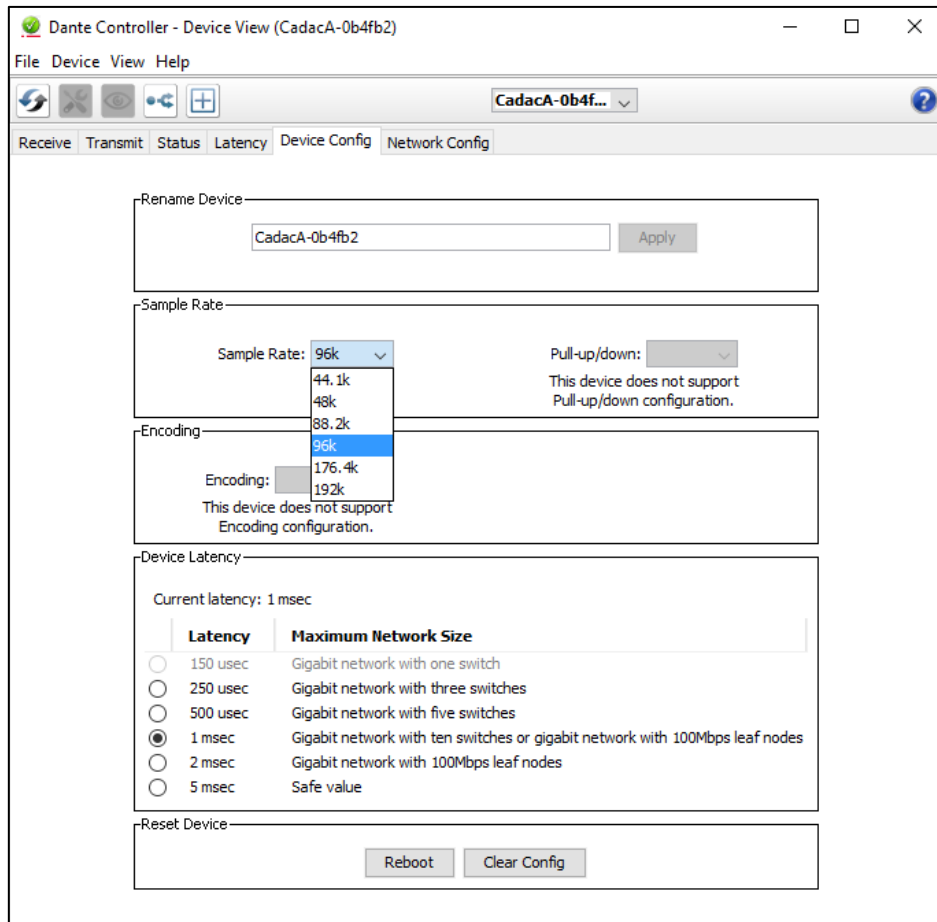
Clock Status Screen

The screen below demonstrates how each Dante port is running either as WORD CLOCK SLAVE or MASTER in the Dante system.

This MASTER / SLAVE setup must mimic the front panel DIP settings on the CDC MC Dante following the rules previously stated in the user guide.

If MASTER / SLAVE settings are incorrect, they can be influenced by clicking on the preferred MASTER box for a desired port.