



# SCD1010

## Dante™ enabled Commentary Box



by  
CTP Systems



## **Product warranty**

This unit is guaranteed for a period of one year from dispatch of the goods. This guarantee is a return to base warranty. In the unlikely event of a fault the goods should be returned to CTP Systems in the UK or your local dealer.

This equipment is CE marked and conforms to the following directives:

Low Voltage Directive: EN60065 and EN62368-1: 2014

Emissions: EN55032: 2015

Immunity: EN55035: 2017

### **WEEE**

CTP Systems are registered for Business to Business sales of WEEE in the UK. Our registration number is WEE/DF0509VR. This is why our product has a ridiculous picture of a dustbin on the back.

### **RoHS**

The product conforms to the RoHS Directive 2002/95/EC for restriction of the use of hazardous substances in electrical and electronic equipment.

This unit was designed and manufactured in the UK by CTP Systems Limited, Unit 4, Clinton Business Centre, Lodge Road, Staplehurst, Kent TN12 0QF.

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**Dante** is a trademark of Audinate Pty Ltd.

**This manual assumes a degree of familiarity with Dante controller. If you are not familiar please see this document:**

<https://dev.audinate.com/GA/dante-controller/userguide/pdf/latest/AUD-MAN-DanteController-4.1.x-v1.0.pdf>



## **Overview**

The SCD1010 is a Dante enabled Commentary box supporting one commentator. Network connection may be fibre or copper and it has full network redundancy. Microphone amplifier gains and many other adjustments such as phantom power and limit levels may be controlled remotely via the SCD1010's web server.

In addition to the commentary box functions there is a built in Dante breakout box with three analogue inputs and six analogue outputs. These inputs and outputs have level controls and may be assigned to commentary box functions with or without network connections, the SCD1010 may even be used as a standalone analogue unit. The SCD1010 can operate at sample rates of 48kHz and 96kHz. With 240V mains, 12 volt and PoE powering and a built in ethernet switch the SCD1010 can truly be the hub of your commentary system.

## **Power**

The SCD1010 may be powered by:

Mains, 110-240 VAC 50/60Hz.

Power over Ethernet (PoE) on either or both of the copper primary and secondary ethernet jacks. The unit has a class 3 signature.

An external 12 volt supply.

If the unit is powered using a mains supply, a 12 volt supply (minimum rating 1 Amp) may also be connected effectively providing a redundant supply for the unit. In fact power may be provided on all power inputs if required and the unit will seamlessly switch between supplies as required.

Clearly PoE power will not be available if the unit is used with fibre connections so the mains and/or the external 12 volt input should then be utilised.

## **Network Connections**

The SCD1010 has a built in network switch. This switch may be configured either as a standard switch where network connections may be passed on to other network devices or with redundant inputs for connection to a secondary (backup) network. The switch function should be configured from within Dante Controller.

For copper network connections the closest green LED will flicker on successful network connection. For SFP connections (usually fibre) the relevant green LED on the left of the sockets will flicker.



## **Microphone Amplifiers**

The SCD1010 includes a digitally controlled microphone amplifier with very low distortion and really natural sounding audio amplification. Microphone amplifier gain is adjustable in 1dB steps from 0dB to +70dB.

The microphone amplifier includes an adjustable threshold limiter and 48 volt phantom power indicated by a red LED on the front.

Microphone input may be either 3 pin XLR or via the 5 pin headset XLR.

## **Talk Keys**

When a talk key is pressed the programme output of the commentary microphone will be silently muted and the audio will be diverted to the relevant talk key(s) output. These talk keys may be individually routed via Dante Controller to any network destination. When a talk key is pressed the on air light will extinguish or change colour depending on settings. Gain make-up is available on the talkback output so they may be a higher level than the programme microphones.

## **On-Air Keys**

The On-Air key may be programmed to off, where it will only operate as an indicator, to momentary where when pressed it will take the commentator off air and when released back on air. (Useful, for example, as a cough key.) It may also be programmed to toggle so when pressed it will switch the commentator microphone off (and indicate as such) and when pressed again take the commentator back on air. If it is toggled off, the talk keys will still operate as normal but the commentator will not be switched back on air until the on-air key is toggled back on.

## **GPI connections**

The SCD1010 includes one GPI input and one GPI output on the rear D15 connector. The output provides relay contacts which switch when the commentator is on-air or off-air. These only operate when the on-air key is set to toggle mode and are intended primarily for external red on-air light switching.

The GPI input activates the Talk1 key and is intended primarily for use with a foot switch or a remote key.



## **Headphone Monitoring**

The commentator has eight audio monitoring inputs with individual volume controls. Sidetone may be selected to any one of the volume controls (or not at all) on the web page. Each input may be switched via individual user adjustable mini toggle switches to left, right or both ears of the headphones.

Headphone monitoring connection may be 5 pin XLR with both microphone and headset connection or TRS jack stereo headset connection. This jack socket is suitable for use with both ¼ inch stereo and 316 (PO) jacks

## **Analogue Breakouts**

There are three analogue inputs and six analogue outputs available. Two each of these are on XLR connectors on the rear of the unit. One analogue input and four analogue outputs are available on the D15 connector on the rear. These are all accessible via the network. These breakouts have no fixed function and may be used for external or internal facilities as required. They may also be used to provide analogue inputs and outputs to/from the commentary box. For example, if the commentator microphone is required locally in analogue format just select it on the SCD1010 web page. Using the analogue breakouts it is possible to use the SCD1010 as an entirely analogue unit with no network connection. Web page assigned connections will still operate in the absence of a network connection.

## **Other Facilities**

The SCD1010 has a built in tone generator which can be set to identify the audio output, perfect for setup and identification of the audio. Lots of lights flash when it's on so it's not easy to forget.

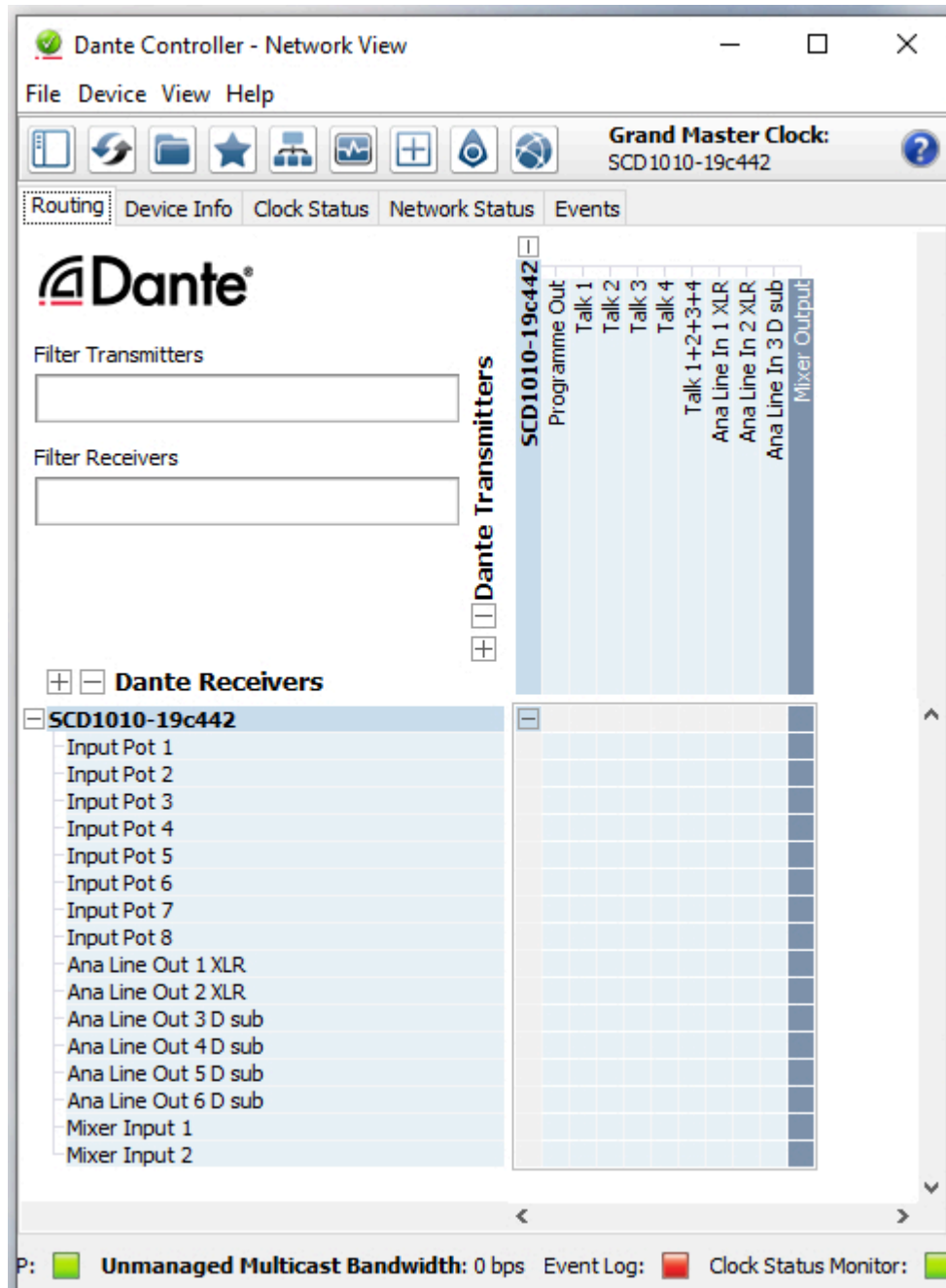
Tone frequency may be set at 400Hz, 1kHz or 2kHz to avoid confusion with other tone sources.

The system includes a 2:1 Dante mixer for convenient adding of Dante audio signals.



## Using with Dante Controller

Below is a picture of how the SCD1010 will appear in Dante Controller and a brief description of the functions.



### Dante Transmitters

**Prog Out:** This is the Programme microphone output which remains active unless a talk key is pressed or on-air is disabled using the on-air keys.



Prog Out Com Mix:	A mix of all the selected programme outputs.
Talk 1 to Talk 4:	Talk or 'Lazy' outputs, individual to each key.
Talk 1+2+3+4:	When any talk key is pressed will it be available here as well as out of the individual key outputs.
Ana Line In 1 to 3:	Rear analogue inputs to Dante network or assignable. The first two are on rear panel XLRs, the third on the D sub.
Mixer Output:	Dante general purpose mixer output

#### **Dante Receivers**

Input Pots 1 to 8:	Inputs to commentator volume controls.
Ana Line Out 1 to 6:	Rear analogue outputs from Dante Network or assignable. The first two are XLR, the last four are available on the D sub.
Mixer A inputs 1 to 2:	Dante general purpose mixer Inputs.



## Accessing the SCD1010 web page

The Dante web page may be accessed using the Dante assigned IP address of the SCD1010. If you are using a fixed IP address then you already know what the IP address is. If you are using DHCP the address may be found using Dante Controller and selecting Device Info. Dial this address (ie. 169.254.34.217) into your web browser and the webpage will appear.

If your network is suitably set up it is also possible to access the web page using the following:

<http://dantename.local/>

where dantename is the name that appears for the SCD1010 in Dante Controller. If this does not work it is outside the scope of this document and down to your network setup, please ask your IT dept. or use the IP address.

Any number of SCD1010s may be viewed at once in multiple browsers or tabs. It is important to note that the web page information will not be valid until after some 30 seconds after the SCD1010 is powered up, it takes this time for the first full network update to complete.

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SCD1010 SETUP INFORMATION

**SCD1010 Commentory Box Setup**

	Source/Destination	Range -12 to 12dB
Mic Gain(0 to 70dB) <input type="text" value="50"/>	Analogue Output 1 <input type="text" value="Proq Mic"/>	Level O/P 1 <input type="text" value="0"/>
Phantom <input type="text" value="Off"/>	Analogue Output 2 <input type="text" value="Talk 1"/>	Level O/P 2 <input type="text" value="0"/>
Limit Threshold (0 to -24dBFS) <input type="text" value="0"/>	Analogue Output 3 <input type="text" value="Talk 2"/>	Level O/P 3 <input type="text" value="0"/>
Talkback Gain(0 to 12dB) <input type="text" value="0"/>	Analogue Output 4 <input type="text" value="Talk 1234"/>	Level O/P 4 <input type="text" value="0"/>
Tone <input type="text" value="Off"/>	Analogue Output 5 <input type="text" value="Network"/>	Level O/P 5 <input type="text" value="0"/>
Tone Frequency <input type="text" value="1kHz"/>	Analogue Output 6 <input type="text" value="Network"/>	Level O/P 6 <input type="text" value="0"/>
On Air Key Action <input type="text" value="Momentary"/>	Analogue Input 1 <input type="text" value="Pot 1"/>	Level I/P 1 <input type="text" value="0"/>
On Air Key Colour <input type="text" value="Red"/>	Analogue Input 2 <input type="text" value="Pot 2"/>	Level I/P 2 <input type="text" value="0"/>
Talk Key Off Colour <input type="text" value="Clear"/>	Analogue Input 3 <input type="text" value="Network"/>	Level I/P 3 <input type="text" value="0"/>
Sidetone Assign <input type="text" value="Off"/>		
Sample Rate <input type="text" value="48kHz"/>		

Notes: Non-network selection will override pot network inputs.  
Sample rate must match the sample rate set in Dante Controller.





For items on the web page with a down arrow such as Phantom, just click on the down arrow and select as required. For items with a direct input such as mic gain just click on the box and type in a value. Any values outside the allowed value range will result in no change in the display after hitting submit. The allowed range is shown to the left of the input boxes. Note that one or any number of changes may be made but they will not be sent to the commentary box until the 'Submit' button is pressed.

If at any time you require confirmation of the comms box status just put the cursor in the URL box and hit return and the page will reload.

When inputting positive values (say +12dB) the + sign is not required so just type in 12. For negative values the minus (-) is required. Note that gain is relative, as in +60dB but limit thresholds are fixed as in -18dBFS.

### **Comms box setup**

#### **Mic Gains**

This allows adjustment of individual microphone amplifier gains from 0dB to +70dB.

#### **Phantom**

Switch 48 volt phantom on or off. The Front panel PH LEDs will illuminate to indicate phantom on.

#### **Limiters**

Type in the required limiter threshold. If no limiter is required in circuit then adjust the limiter to it's maximum threshold of 0dBFS

#### **Talkback Gain**

Gain may be adjusted up or down on the talkback output circuits. Useful for sports such as snooker where the commentary may be quiet but a higher level may be useful for the talkback outputs. Gain range is 0 to +12dB.

#### **Tone Gen**

This generates tone on programme outout at -18dBFS.

To signal this is switched in all the lazy keys will flash alternate red, yellow and green.

#### **Frequency**

This may be changed between 1kHz, 2kHz and 400Hz to enable differentiation from other tone sources.



#### On Air Key Action

The mic live key may be used as just an 'on air' indicator or as momentary or latching 'cough' keys where pressing the relevant button will take the commentator off air (muted mic amp). When selected to off the keys will do nothing apart from indicating off air when a lazy key is pressed. Momentary will take the commentator off air only while the key is pressed. Latching will switch off air and remain off air until the key is pressed again. Latching mode also enables the GPI relays.

#### On Air Key Colour

The TX switch light may be selected to be green when the mic is live and red when not live OR red when the mic is live and off when not live. Press the On Air Key Colour button to toggle between the two selections

#### Talk Key Off Colour

The talk keys may be green for off and red for active or clear for off and red for active.

#### Sidetone

Sidetone may be assigned to any one of the volume controls, just select as required. Note that selecting sidetone will override any network input to a given volume control.

#### Sample Rate

The SCD1010 is capable of operating at 48kHz or 96kHz sample rates. This control must be set to match the sample rate as set in Dante Controller.

#### Source/destination Analogue Outputs

These assign the analogue outputs. To use as normal Dante ports leave them set to network. Other possibilities are:

Programme Mic

Talk 1

Talk 2

Talk 3

Talk 4

Talk 1+2+3+4

These may be assigned for use as local analogue signals or as backup should the network fail. In this instance these outputs will continue operating.



#### Source/destination Analogue Inputs

These assign the analogue inputs. To use as normal Dante ports leave then set to network. Other possibilities are:

Pots 1 to 8.

As with analogue outputs these may be assigned for use as local analogue signals or as backup should the network fail.

#### Levels Outputs and Inputs

These may be set from -12 to 12dB as required.

#### Utility D15 Pinouts

- 1 - Analogue output 3 live
- 9 - Analogue output 3 neutral
- 2 - Analogue output 4 live
- 10 - Analogue output 4 neutral
- 3 - Analogue output 5 live
- 11 - Analogue output 5 neutral
- 4 - Analogue output 6 live
- 12 - Analogue output 6 neutral
- 5 - Analogue input 3 live
- 13 - Analogue input 3 neutral
  
- 6 - GPI output relay common connection
- 7 - GPI output relay connection normally closed (when the commentary box is on)
- 14 - GPI output relay connection normally open (when the commentary box is on)
- 15 - GPI input (active low)
  
- 8 - Ground for audio and GPI input.

#### Headset XLR

- 1 Headset mic live
- 2 Headset mic neutral
- 3 Headset Earth
- 4 Right earpiece live
- 5 Left earpiece live

#### Sample rate

The SCD1010 will operate at a sample rates of 48kHz and 96kHz, 24 bit.