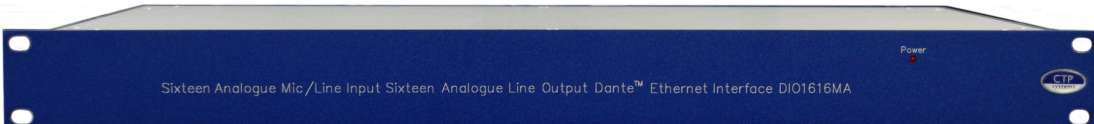
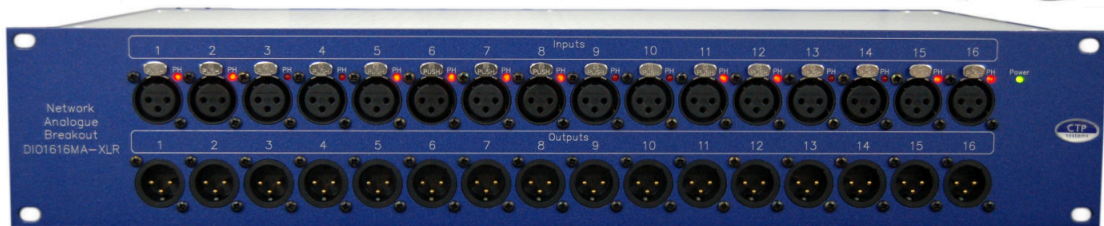




DIO1616MA and DIO1616MA-XLR Dante™ enabled Mic/Line Interface

Firmware version 1.0



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.

ctpsystems.co.uk. Telephone +44 (0)1580 891114

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 DIO1616MA is a Dante enabled interface unit converting sixteen analogue microphone or line level inputs to Dante streams. The unit also converts Dante streams to sixteen line level analogue outputs.

All microphone/line level inputs have adjustable gain from +65dB to -12dB and the analogue outputs from +12dB to -12dB. Phantom power may be selected to each microphone input.

Network connections may be copper and/or fibre and the unit includes connections for network redundancy. The DIO1616MA is PoE enabled so it may be operated without a mains supply.

All level control and phantom switching is adjusted using the built in web server. The unit operates at a sample rates of 48kHz or 96kHz.

The unit will also operate in AES67 mode.

Power

The DIO1616MA 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.

Clearly PoE power will not be available if the unit is used solely with fibre connections so the mains input should then be utilised.

Network Connections

The DIO1616MA 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.



Audio Connections

The 1RU DIO1616MA utilizes the Tascam analogue standard for audio inputs and outputs via D25 connectors, each D type carries eight audio circuits. The DIO1616MAX is a 2RU version with XLR connections on the rear. The DIO1616MAXR (2RU) has network connections on the rear but XLR audio connections on the front, suitable for stage box use.

Microphone Amplifiers/ Line Inputs

The DIO1616MA includes sixteen digitally controlled microphone amplifiers with very low distortion and really natural sounding audio amplification utilising top flight chips from the THAT Corporation. Input gain is adjustable in 1dB steps from -12dB to +65dB via the web GUI.

Phantom power at 48 volts may be selected to each input, again via the GUI.

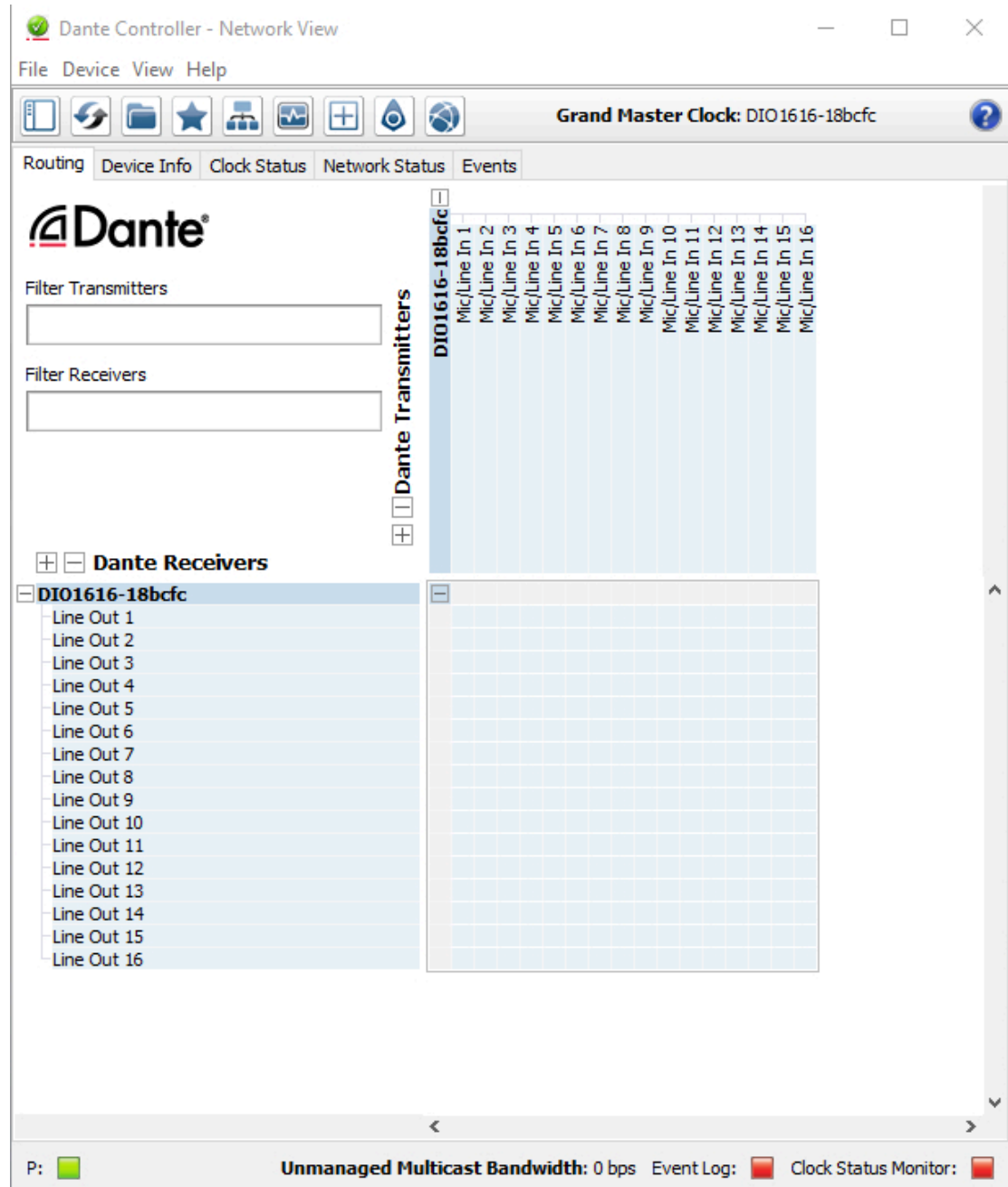
Line Outputs

Line Outputs are electronically balanced, they may also be used unbalanced. Gain is adjustable from -12dB to +12dB.



Using with Dante Controller

Below is a picture of how the DIO1616MA will appear in Dante Controller.



Dante Transmitters

These are the Dante outputs of the mic/line inputs. They may also be routed within the device to the Dante receivers for analogue in/ analogue out use.

Dante Receivers

These are the Dante to line level outputs.



Accessing the DIO1616MA web page

The Dante web page may be accessed using the Dante assigned IP address of the DIO1616MA. 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 DIO1616MA 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 department or use the IP address.

Any number of DIO1616MAs 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 DIO1616MA is powered up, it takes this time for the first full web page update.



The DIO1616MA web page

-12 to 65			-12 to 12		
Input 1 Gain	<input type="text" value="0"/>	Phantom 1	Off	Output 1 Gain	<input type="text" value="0"/>
Input 2 Gain	<input type="text" value="0"/>	Phantom 2	Off	Output 2 Gain	<input type="text" value="0"/>
Input 3 Gain	<input type="text" value="0"/>	Phantom 3	Off	Output 3 Gain	<input type="text" value="0"/>
Input 4 Gain	<input type="text" value="0"/>	Phantom 4	Off	Output 4 Gain	<input type="text" value="0"/>
Input 5 Gain	<input type="text" value="0"/>	Phantom 5	Off	Output 5 Gain	<input type="text" value="0"/>
Input 6 Gain	<input type="text" value="0"/>	Phantom 6	Off	Output 6 Gain	<input type="text" value="0"/>
Input 7 Gain	<input type="text" value="0"/>	Phantom 7	Off	Output 7 Gain	<input type="text" value="0"/>
Input 8 Gain	<input type="text" value="0"/>	Phantom 8	Off	Output 8 Gain	<input type="text" value="0"/>
Input 9 Gain	<input type="text" value="0"/>	Phantom 9	Off	Output 9 Gain	<input type="text" value="0"/>
Input 10 Gain	<input type="text" value="0"/>	Phantom 10	Off	Output 10 Gain	<input type="text" value="0"/>
Input 11 Gain	<input type="text" value="0"/>	Phantom 11	Off	Output 11 Gain	<input type="text" value="0"/>
Input 12 Gain	<input type="text" value="0"/>	Phantom 12	Off	Output 12 Gain	<input type="text" value="0"/>
Input 13 Gain	<input type="text" value="0"/>	Phantom 13	Off	Output 13 Gain	<input type="text" value="0"/>
Input 14 Gain	<input type="text" value="0"/>	Phantom 14	Off	Output 14 Gain	<input type="text" value="0"/>
Input 15 Gain	<input type="text" value="0"/>	Phantom 15	Off	Output 15 Gain	<input type="text" value="0"/>
Input 16 Gain	<input type="text" value="0"/>	Phantom 16	Off	Output 16 Gain	<input type="text" value="0"/>

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 range will result in no change in the display after selecting 'submit', the allowed range is shown at the top of the gain adjustment column.



For Phantom on/off, just click on the down arrow and select as required.

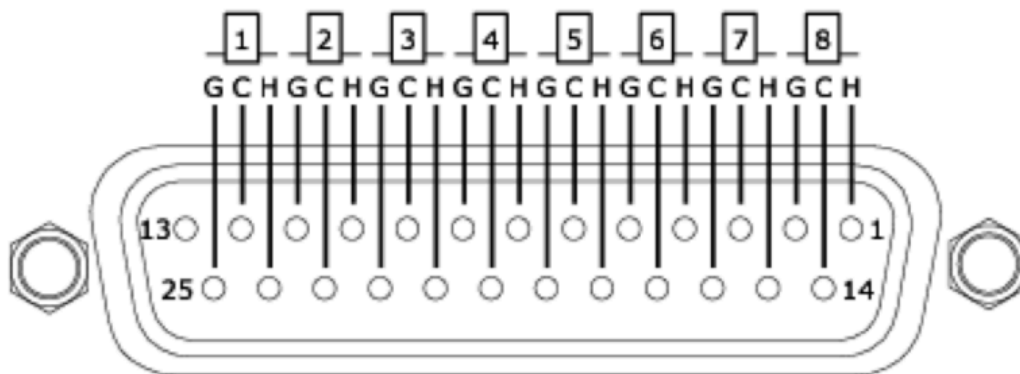
Note that one or any number of changes may be made but they will not be sent to the DIO1616MA until the 'Submit' button is selected.

If at any time you require confirmation of the unit 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 as in standard mathematical notation.

D25 Pinouts

These apply to both inputs and outputs.



Sample rate

The DIO1616MA operates at sample rates of 48kHz or 96kHz and audio resolution is 24 bit. The sample rate may be changed from within Dante controller. Please note that Dante controller will not allow the use of mixed sample rates.