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Charles
Interpreter Box

The Charles is a single user interpreter box designed to connect across Dante audio networks.

The interpreter connects their headphone or headset directly with the Charles, and they can monitor a floor input, plus two additional inputs/languages for interpretation.

There are two independent outputs for routing of the users interpreted audio.

Connection is on single network cable for audio and PoE power, or using external DC or internal AC mains.

Overview

- Single user interpreter interface

- Two outputs with single press 'flip flop' switching

- Three inputs with headphone EQ

- PoE, external DC & AC mains power supply

- Double redundant network connections

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www.glensound.com

Mic & Headphones Connections

The headphone amplifier on the Charles is very high performance delivering high intelligibility on a variety of headhones and headsets. Headphones between 32-1000 ohm are automatically balanced to give a consistent output level across the range of the volume control. Stereo and mono earpieces can also be used.

Various connections are available to allow for different user preferences or project requirements.

A broadcast headset can be connected to the Charles with a 3 pin XLR mic input and a 6.35mm headphone connection.

A separate microphone can be connected via the XLR input and separate headphones can be connected using the 6.35mm or 3.5mm connection. The 3.5mm headphone connection will allow the interpreter to use in ear headphones or earpieces if that is their preference.

 A goose neck microphone can also be used via a separate XLR input on the top panel.

Monitoring

There are 3 inputs to the Charles from the network that are available for monitoring:

- **Floor**
- **Input (language) A**
- **Input (language) B**

Each input has a separate level adjust so that all of the inputs can be balanced at the same level in the headphones.

Only a single input can be monitored at a time. Pressing any source to monitor will automatically de-select the previous source. This makes switching between monitored sources a simple one button exercise.

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Monitoring (continued)

There is a full size pot for adjusting the overall output level going to the headphones/headset. Full sized pots are also provided for a two band EQ to the headphones. This allows the audio to be equalised for maximum clarity for the interpreter.

The A and B inputs are often used when an interpreter doesn't speak the original floor language. They can monitor another interpreter speaking a language that they do understand, therefore allowing them to interpret.

Mic Input

The mic on/off button is on a large, bright LED. The input type between mic, line and mic with 48v phantom power, are on the rear of the unit.   Gain adjust is also on the rear panel with a top panel 4 segment LED available to check the appropriate gain level and also provides the user confidence that the microphone is on.

The operation of the mic button can be configured according to preference:

- **Cough**
  Mic permanently on and muted when button held down
- **Latching**
  Pressing the button turns the mic on or off
- **Momentary**
  Mic is active only while button is held down

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Outputs
There are also two further illuminated pushbuttons that route the microphone to either output A or output B. Only one output can be selected at a time, so selecting an output will deselect the previous output. In this way it is a simple single button exercise to switch between outputs.

There are 3 versions of each output A & B that are sent onto the network. These are:

Interpreter only
A clean output of the mic

Interpreter mixed with A or B input at a fixed level
On this output, the interpreter is mixed with the A or B input less 40dB. This is an output favoured by some broadcasters that allows you to hear the new interpreted voice with the low level original audio in the background.

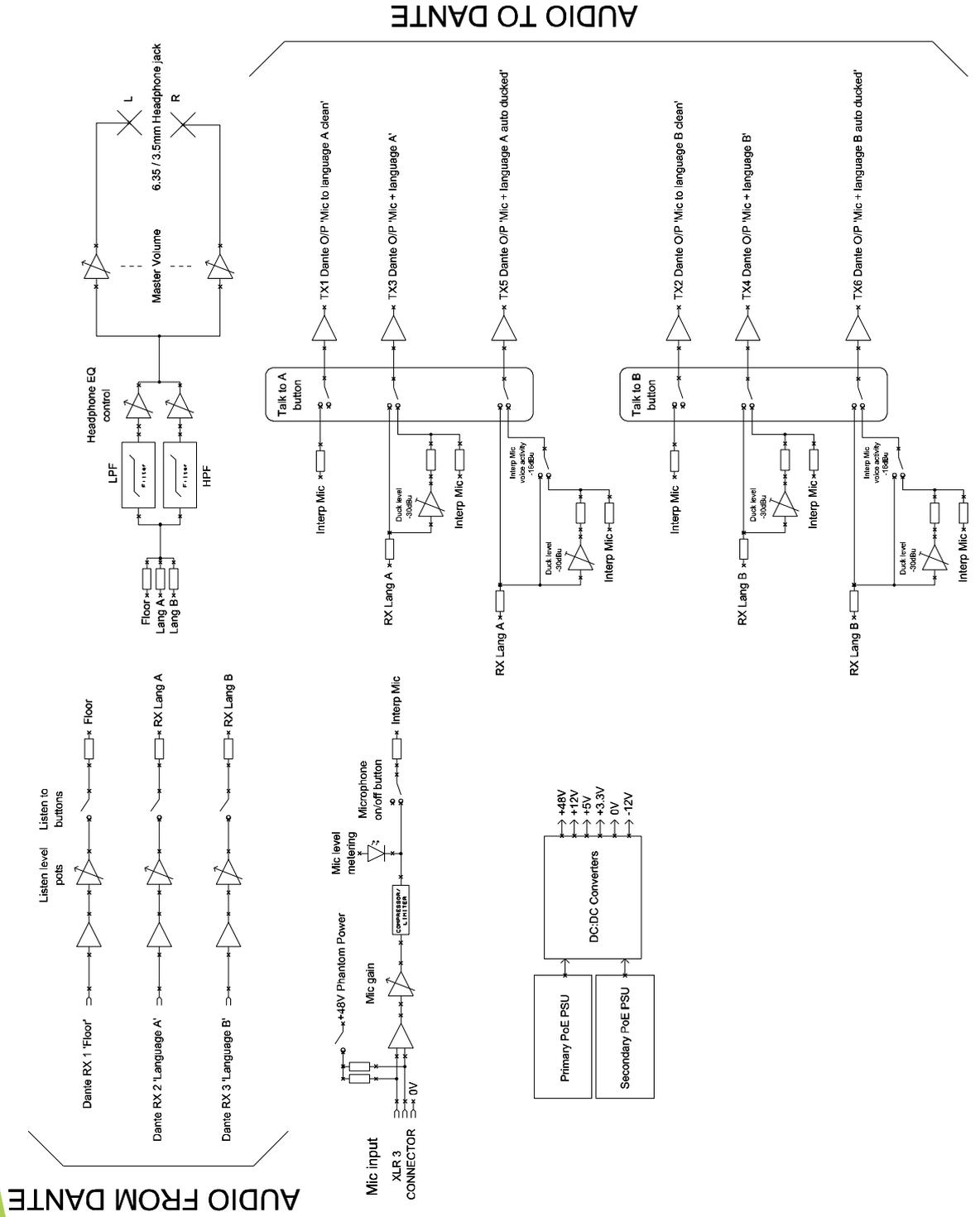**Interpreter mixed with A or B input with auto ducking**
On this output, the incoming audio is looped out at full level until the interpreter speaks, when the input is then ducked by 40dB. If the interpreter stops speaking the looped input will return to full level. This is therefore an auto ducking system.

Network
The Charles has a primary and secondary network connect available on copper Ethernet RJ45 sockets, of via SFP fibre modules. If not using the network redundancy, the ports can be configured in a switched mode allowing them to act as a normal network switch port to interface with other network devices.

Power
The RJ45 ports can also power the Charles using power over Ethernet (PoE). Further power sources are from a built in switch mode AC power supply or via an external DC connection.

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AUDIO TO DANTE

6.35 / 3.5mm Headphone jack

L
R

Master Volume

Headphone EQ control

LPF
Filter

HPF
Filter

Floor
Lang A
Lang B

TX1 Dante O/P 'Mic to language A clean'
TX3 Dante O/P 'Mic + language A'
TX5 Dante O/P 'Mic + language A auto ducked'

TX2 Dante O/P 'Mic to language B clean'
TX4 Dante O/P 'Mic + language B'
TX6 Dante O/P 'Mic + language B auto ducked'

Talk to A button
Talk to B button

Interp Mic
RX Lang A
RX Lang A

Interp Mic
RX Lang B
RX Lang B

Duck level -30dBu
Interp Mic

Interp Mic voice activity -16dBu
Duck level -30dBu
Interp Mic

AUDIO FROM DANTE

Listen level pots
Listen to buttons

Floor
RX Lang A
RX Lang B

Dante RX 1 'Floor'
Dante RX 2 'Language A'
Dante RX 3 'Language B'

Mic level metering

Microphone on/off button

Interp Mic

COMPRESSOR/ LIMITER

Mic gain

+48V Phantom Power

Mic input
XLR 3 CONNECTOR
0V

DC:DC Converters
+48V
+12V
+5V
+3.3V
0V
-12V

Primary PoE PSU

Secondary PoE PSU

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Dante Controller

Dante Controller is a free software application that enables you to route audio and configure devices on a Dante network. With automatic device discovery, one-click signal routing and user-editable device and channel labels, setting up a Dante network couldn't be easier.

Dante Controller is much more than just a configuration and routing matrix. Dante Controller provides essential device status information and powerful real-time network monitoring, including device-level latency and clock stability stats, multicast bandwidth usage, and customized event logging, enabling you to quickly identify and resolve any potential network issues. You can also quickly and easily backup, restore, move, and reuse Dante network configurations using Presets, and edit Dante routing configurations offline.

Dante Controller is available for Windows and Mac OS X.
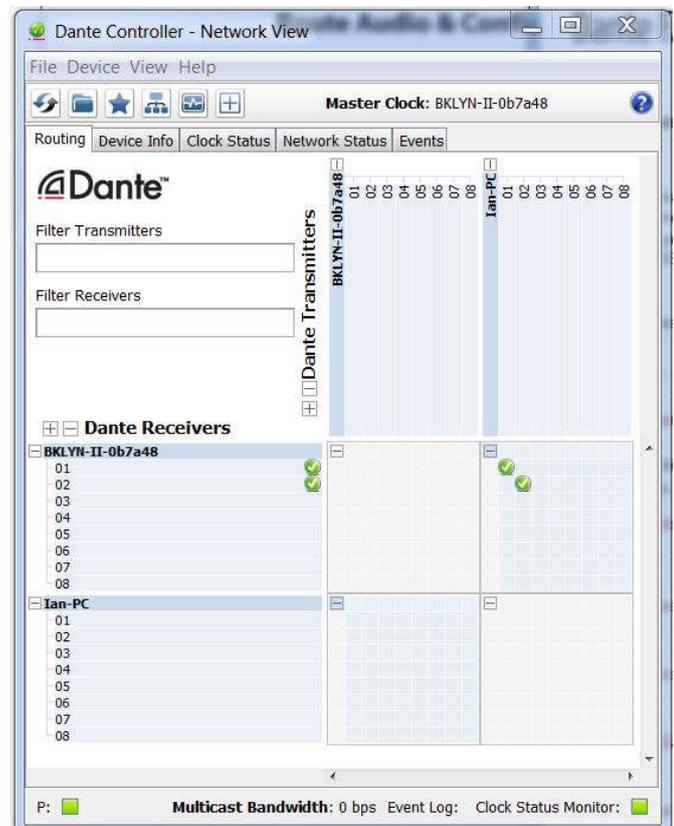
Features

- View all Dante-enabled audio devices and their channels on the network
- View and edit device clock and network settings
- Route audio between devices, and view the state of existing audio routes
- Rename devices and channels using your own friendly names
- Customize the receive latency (latency before playout)
- Save and reapply audio routing presets
- Edit presets offline, and apply as configurations for new network deployments
- Change sample rates and clock settings
- View multicast bandwidth across the network
- View transmit and receive bandwidth for each device
- View device performance information, including latency stats, clock stability stats and packet errors
- View comprehensive, configurable event logs

Dante Controller is available free from www.audinate.com

E&OE

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AUDIO

Mic Input Gain Range
-30dB to +15dB

Dynamic Mic Line Up
58dB

Mic + Phantom Power Line Up
35dB

Line Input Line Up
0dBu (Gain range +/-15dB)

Mic Input Impedance
2k4

Line Input Impedance
100k

Equivalent Input Noise
127dBu (22-22kHz RMS terminated 300 Ohms)

Maximum Input Level Before Clipping
Dynamic Mic: +10dBu
Mic + 48V PH: +18dBu
Line: +18dBu

Frequency Response
Mic: > +/-0.25dB 50Hz to 22kHz
        (-2 @ 25Hz)
Line: >= -0.1dB 22Hz to 22kHz

THD + Noise (Ref +8dBu)
100Hz = 0.023%
1kHz = 0.012%
10kHz = 0.014%

Network outputs (3 per A & B)
1 - Mic only
2 - Mic mixed with input at -40dB
3 - Mic mixed with input auto ducking -40dB

NETWORK

Technology
Dante/AES67

Sample Frequency
48kHz, 24 bit

POWER

Internal Mains PSU
Filtered IEC, 100 to 240VAC (+/-10%)
47 - 63Hz

AC Consumption
<8 Watts

DC Input
2.5mm Barrel, Centre +Ve, 9 - 15 Volts

Network
PoE via either network connection

Power on LED
Bright blue

HEADPHONES

Headphone Impedance
16 to 1000 Ohms
(Auto output level to match impedance)

Maximum Headphone Output
+16.8dB into 600 Ohms

Headphone Frequency Response
>= -0.1dB 22Hz to 22kHz

Headphone Noise
-76.6dB @ lineup (residual noise)

Headphone THD + Noise (ref =8dBu)
0.008% @ 1kHz

Headphone Volume Pot Range
+10dB to Off

Headphone Impedance
32 - 1000 Ohms auto balancing

Headphone EQ
2 band

PHYSICAL

Size
137 x 210 x 86mm (WxDxH)

Weight
1.25Kg

Mechanics
All aluminium construction, anodized and laser etched, powder coated sides

Shipping Carton
Rugged export quality cardboard carton
610 x 420 x 170mm (WxDxH)

Shipping Weight
2.8Kg

OPTIONAL ITEMS

Carrying Case
Long life Polypropylene Carrying Case

SFP Fibre Modules
Multi Mode & Single Mode standard modules
Bi-directional single fibre module

External Power Supply
Desktop style switch mode PSU

INCLUDED ITEMS

Handbook
Via download at glensound.com

Mains Cable
UK & EU Only, 2 metre mains plug to IEC

RJ45 Network Cable
2 metre Cat5 RJ45plug /RJ45plug cable

E & OE

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Charles Rogers 1711-1784

Our interpreters unit is called 'Charles' after Charles Rogers, who was the first person to translate Dante's Inferno into English in 1782.

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