

Professional Dante audio interface with 2 I/O

# PLANET 22X

## User's Guide



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# planet 22x Audio Interface

ESI Audiotechnik GmbH

January 8, 2019

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# 1 Introduction

Thank you for choosing the planet 22x from ESI Audiotechnik GmbH.

The planet 22x is a revolutionary new audio interface that combines the most modern networking audio technology based on the popular Dante protocol with the requirements of a professional high end desktop recording audio interface in studio and in mobile environments.

The audio interface is equipped with ultra high quality 24-bit / 96kHz AD converters with 118dB(a) dynamic range and 24-bit / 96kHz DA converters with 123dB(a) dynamic range. The two balanced analog line inputs can also be used with the integrated ultra low noise and precise professional microphone preamplifiers and the special Hi-Z instrument input stages. The balanced master line output can be controlled with a high precision master level step-potentiometer, plus there is a high quality headphone amplifier on the unit.

The planet 22x has two balanced inputs with XLR-/TRS-Comboconnectors for Line-, microphone- or instrument-Inputs (HI-Z). The 2 very high end microphone preamplifiers (Ultra Low Input Noise) with extremely high end AD-converter, produce a very high end and clean sound, without any audible background noise.

The planet 22x can be powered either via an included 12V DC power supply or via the network cable as a PoE (Power over Ethernet) device. This makes it possible to use the interface even when there is no power outlet close by.

By supporting Dante, planet 22x combines and works with any other Dante devices in an IP audio network, which makes it also a cost effective solution to extend any existing network with additional audio channels, yet it has also been designed to be a flexible professional audio interface using the Dante Virtual Soundcard for any modern recording applications on both Mac and PC - in any professional studio environment.

Dante<sup>®</sup> and Audinate<sup>®</sup> are registered trademarks of Audinate Pty Ltd.

## 1.1 Performance features



Figure 1: planet 22x Front

MIC	HI-Z	XLR Function	TRS Function	+48V switch
OFF	OFF	LINE	LINE	must be OFF
ON	OFF	MIC	MIC	optional ON
OFF	ON	X	HI-Z	must be OFF
ON	ON	MIC	X	must be OFF

Table 2: Input select for input 1 and 2

- LINE INPUT 1
  1. **HI-Z** Activate the instrument preamplifier for the channel 1
  2. **MIC**: Activate the microphone preamplifier for the channel 1
  3. **Peak LEDs**: Show the level of the input signal.
  4. **GAIN**: Control the gain of the selected input source (Line/MIC/HI-Z) see table 4.2.2.
- LINE INPUT 2
  5. **HI-Z** Activate the instrument preamplifier for the channel 2
  6. **MIC**: Activate the microphone preamplifier for the channel 2
  7. **Peak LEDs**: Show the level of the input signal.
  8. **GAIN**: Control the gain of the selected input source (Line/MIC/HI-Z) see table 4.2.2.

- MASTER
  9. **+48V LED:** status of the +48V phantom power .
  10. **+48V switch:** the switch will activate the phantom power for condenser microphones. The phantom power refers to both input if the optional "MIC" switch of the input is activated. The user must take care to not plug in a 1/4" TS audio jack to the input, during the +48V phantom power is activated to avoid short circuit which can cause damage on the device it self and external devices.
  11. **Volume control:** controls the output level of channel 1 and 2 on the rear (not the H.P. see 15).
- POWER
  12. **Power LED:** is on if the device has power and it is switched on.
  13. **Headphone output:** 1/4" TRS audio jack.
  14. **On/Off switch.**
  15. **H.P.-volume controller:** controls the output level of the headphones.



Figure 2: planet 22x Rear

- Network and Power section
  1. **Kensington Lock:** If required, this connects your unit to a standard laptop lock connector, preventing it from being stolen.
  2. **RJ45 Network I/O** with PoE-support.
  3. **12V DC:** If there is a 12V DC input, the optional PoE source will be turned off. The DC-plug is positive configured. This means the '+' pol is at the inside.

- LINE OUTPUTS

4. **Balanced Line-Out channel:** 1 'LEFT' and 2 'RIGHT'. Controlled with the "Master" volume control 11 on the front side of the device.

- LINE • MIC • HI-Z INPUTS

5. **Input channel XLR-/1/4" -Combo jack:** 1 'LEFT' and 2 'RIGHT'. This is for either LINE (XLR or TRS), MIC (XLR or TRS) or HI-Z (TS, 1/4" Mono-audio jack). Depending on the current selected input the input is balanced or unbalanced.

## 2 Additional Software

To use planet 22x, you need additional software from Audinate.

### 2.1 Dante Virtual Soundcard (DVS)

a license for one DVS is included and inside of the box. Please download the most current version of the DVS from the Audinate website:

<https://www.audinate.com/products/software/dante-virtual-soundcard>

and install the software to you Mac or PC. Insert the license key and start the application. More detailed instructions, tutorials and settings are available on the Audinate website.

### 2.2 Dante Controller (DC)

To use the audio signal from or to the computer you must connect the Transmitters with the Receivers in the Dante Controller software. Please download the most current version of the Dante Controller from the website from Audinate:

<https://www.audinate.com/products/software/dante-controller>

and install the software to your Mac or PC. For this software no license key is required. Detailed how to and more instructions of all settings are also available on the Audinate website.

## 3 Using the device

To run the planet 22x you must connect the inputs and outputs inside of the Dante Controller software. For this you must connect a "Dante Receiver" with a "Dante Transmitter". For example to receive the physical channel 1 of the planet 22x at the channel 1 of your Virtual Audio Soundcard, you must connect the Transmitter "planet22x LEFT 1" with the "Receiver: Controller-PC 01".

The other way round, if you want to transmit the signal from channel 1 of your Virtual Audio Soundcard to the physical channel 1 of your planet 22x, you need to connect the "Transmitter Controller-PC 01" with the "Receiver" "planet 22x LEFT 1".

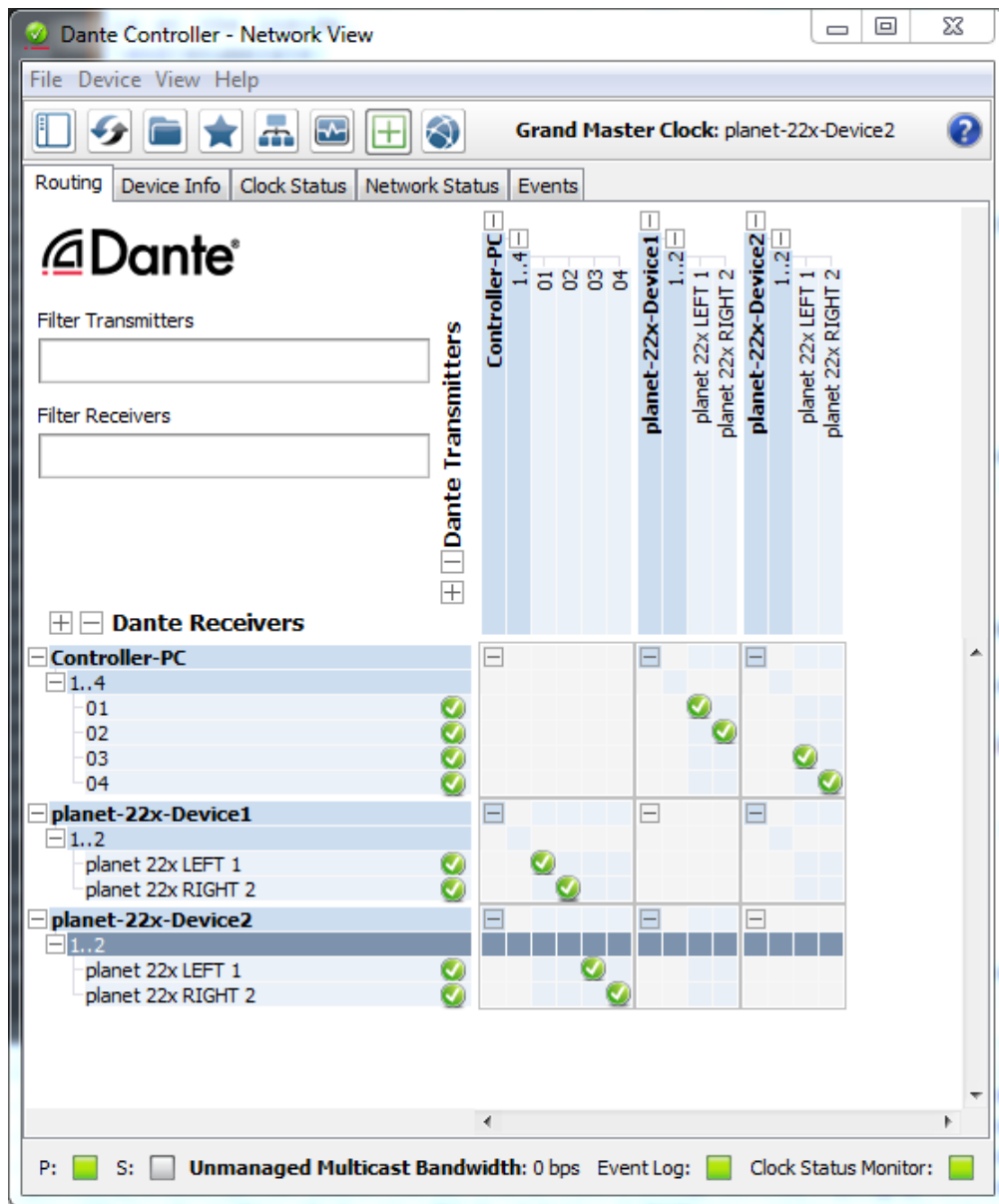


Figure 3: planet 22x Dante Controller configuration

Please get more detailed instructions, tutorials and videos from the Audinate website:

<https://www.audinate.com>



## 4 Technical Specifications

### 4.1 Essential

Channels	
Input	2
Output	2
Sample frequencies:	
	44.1, 48, 88.2 and 96 kHz
Bit-depth:	
	16, 24 and 32 Bit
Network interface RJ45:	
	100 BASE-TX (with PoE support)

#### 4.1.1 Inputs

2 x balanced XLR Mic input (+48V phantom power selectable).

2 x balanced XLR oder TRS Line Input.

2 x HI-Z TS unbalanced instrument input (selectable).

#### 4.1.2 Outputs

2 balanced XLR Line output channels (+8.4dBu max).

Outputs with step potentiometer Master-Volume control.

Separate controllable Stereo headphone output (+10dBu max).

#### 4.1.3 Dimensions

Dimensions:	
Height	45 mm
Width	175 mm
Depth	120 mm
Weight	590 g

## 4.2 Audio-Specifications

### 4.2.1 Outputs

Analog outputs:	
Maximum Output Level	XLR: +8.4dBu/H.P.: +10dBu max
Output THD+N	XLR: -110dB / H.P. : -107dB A-weighted(@-3dBFS )
Impedance	XLR: 110 ohm / H.P. : 32~600 ohm
Frequency Response	20Hz to 20KHz $\pm 0.05$ dB
Crosstalk	XLR: -110dB / H.P.: -105dB (20Hz~20KHz)
Output S/N	> 123dB
Dynamic range	> 123dB

### 4.2.2 Inputs

Analog inputs:	
Maximum Levels	
Gain:	
Mic	+19dB (@gain min, -1dBu max)~ +67dB(@Gain max, -49dBu max )
HI-Z	+13dB (@gain min, +5dBu max)~ +42dB(@Gain max, -24dBu max )
Line	$\pm 0$ dB (@gain min, +18.5dBu max)~ +29dB(@Gain max, -10.5dBu max )
Impedance:	
Mic:	1.5K ohm
Analog inputs:	10K ohm (1/4" TRS), 3K ohm (XLR)
Input S/N	> 118dB
Input THD-N: gain: min/middle/max	
Mic	-99.8dB/-96.9dB/-79.4dB
HI-Z	-100dB/-96.2dB/-78.6dB
Line	-102dB/-96.6dB/-84.9dB
Dynamic range	> 118dB
Frequency Response	20Hz to 20KHz $\pm 0.1$ dB
Crosstalk	-110dB
Signal LED	green > -18dBFS orange > -6dBFS red $\geq 0$ dBFS

### 4.3 Power

Power:	
Power consumption:	5.4W (Typcial)
Power over Ethernet (PoE):	IEEE 802.3af compliant
	Input voltage range 36V to 57V
	Maximum Output Power: 12W

## 5 General Information

### Trademarks

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### Correspondence

For technical support inquiries, contact your nearest dealer, local distributor or ESI support online at

[www.esi-audio.de](http://www.esi-audio.de)

Please also check our extensive Knowledge Base with Frequently Asked Questions, installation videos and technical details about our products in the support section of our website.

### Disclaimer

All features and specifications subject to change without notice.  
Parts of this manual are continually being updated. Please check our website

[www.esi-audio.de](http://www.esi-audio.de)

occasionally for the most recent update information.

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