

# IPX10:4 DSP power amplifier 4x2500W, install



- 4 x 2500 W multichannel installation DSP amplifier with digitally controlled PFC supply
- Fully integrated DSP with native 96 kHz and FIR Drive technology
- Dante and OCA integration via OMNEO with fallback options
- Parallel, Bridge and Parallel-bridge modes with 70/100/140/200 V and low impedance operation
- High efficiency Eco Rail technology for lower operating costs

## Parts included

Quantity	Component
1	IPX series DSP power amplifier
1	8-pin Euroblock-type connector, Output, 6 mm
2	6-pin Euroblock-type connector, Input
1	8-pin Euroblock-type connector, GPIO
4	M6x20 screw for rack mounting
1	Installation manual
1	Mains power connector, 32 A with safety & assembly instruction
1	Safety instruction booklet

## Technical specifications

OUTPUT POWER				
Low-Z mode: Load Impedance	2 Ω	2.7 Ω	4 Ω	8 Ω
Maximum Output Power <sup>1</sup>				

Normal Mode, all channels driven	2600 W	3000 W	2500 W	1250 W
Bridge	-	-	5200 W	5000 W
Parallel	5000 W	4000 W	2500 W	1250 W
Parallel-Bridge	10400 W	12000 W	10000 W	5000 W
<b>Direct Drive Mode: Nominal Voltage</b>	<b>70 V</b>	<b>100 V</b>	<b>140 V<sup>2</sup></b>	<b>200 V<sup>2</sup></b>
<b>Maximum Output Power<sup>1</sup></b>	2500 W	2500 W	5000 W	5000 W
<b>Number of Amplifier Channels</b>	4			
<b>Maximum Output Voltage, Normal mode, per channel</b>	150 V <sub>peak</sub>			
<b>Maximum Output Current, Normal mode, per channel</b>	53 A <sub>peak</sub>			
<b>AMPLIFIER</b>				
<b>Voltage Gain</b>				

Low-Z mode, ref. 1 kHz	32.0 dB, adjustable 20.0-44.0 dB
Direct Drive mode	33.2/36.2/39.2/42.2 dB for 70/100/140/200 V
<b>Input Sensitivity</b>	
Low-Z mode, Max. Output Voltage	10.7 dBu (2.66 V), adjustable -1.3-22.7 dBu
Direct Drive mode	6 dBu (1.55 V), fixed
<b>THD</b> 3 dB below max, AES17, 1 kHz	< 0.05 %
<b>DIM 100</b> 3.15 kHz, 15 kHz	< 0.15 %
<b>IMD-SMPTE</b> 60 Hz, 7 kHz	< 0.05 %
<b>Crosstalk</b> ref. 1 kHz, 12 dB below Max, 8 Ω	< -80 dB
<b>Frequency Response</b> ref. 1 kHz, analog in to speaker out	20 Hz to 20 kHz (±0.5 dB)
<b>Damping Factor</b> 20 Hz to 200 Hz, 8 Ω	> 400
<b>Output Stage Topology</b>	Class D, fixed frequency
<b>Signal to Noise Ratio Amplifier</b>	
A-weighted, analog input	112 dB
A-weighted, digital input	115 dB
<b>Output Noise</b>	
A-weighted, analog input	< -70 dBu
A-weighted, digital input	< -73 dBu
<b>CONNECTIVITY</b>	
<b>Analog Audio Input/Thru</b>	
Type	2 x 6-pin Euroblock, male
Maximum Input Level	+21 dBu
Input Impedance, active balanced	20 kΩ

Reference level equal to digital input	+21 dBu for 0 dBFS
<b>Speaker Output</b>	1 x 8-pin Euroblock, 6 mm, female
<b>GENERAL</b>	
<b>Power Consumption</b>	
Rated power consumption (see BTU table)	1200 W
1/8 Maximum Output Power at 4 Ω	1765 W
Idle Mode (no input signal)	80 W
Standby Mode	< 16 W
<b>Dimensions</b> (W x H x D), mm	483 x 88.1 x 514.2
<b>Weight</b>	15.0 kg (33.0 lb)
<b>Shipping Weight</b>	17.2 kg (37.8 lb)
<b>DIGITAL SIGNAL PROCESSING</b>	
<b>Sampling rate</b>	48 kHz/96 kHz, OMNEO/Dante synchronized
<b>Signal delay/latency</b> Analog In to Speaker Out, 48 kHz/96 kHz	0.70 ms/0.53 ms
<b>Dante Network Latency</b>	typ. 1.00 ms
<b>Signal Processing</b>	
User EQ	12 filters per channel, selectable as PEQ, Lo-Shelv, Hi-Shelv, Lo-ShelvQ, Hi-ShelvQ, Hi-Pass, Lo-Pass and Notch; 2 filters of them with additional asymmetric filter type
User Delay	0 to 2000 ms per channel (units: μs, ms, s, cm, m, inches, feet)
Array EQ	5 filters per channel, selectable as PEQ, Lo-Shelv, Hi-Shelv, Lo-ShelvQ, Hi-ShelvQ, Hi-Pass, Lo-Pass, and All-Pass
Array Delay	0 to 500 ms per channel (units: μs, ms, s, cm, m, inches, feet)
Speaker EQ	10 filters per channel, selectable as PEQ, Lo-Shelv, Hi-Shelv, Hi-Pass, Lo-Pass and All-Pass
Speaker X-Over	Hi-Pass, and Lo-Pass per channel, 6/12/18/24/30/36/42/48 dB Bessel/Butterworth, 12/24/48 dB Linkwitz-Riley; Alignment Delay, 0 to 20 ms per channel

Speaker FIR	Up to 1025 taps, Linear Phase Filter, Linear Phase Brickwall X-Over
Speaker Limiters	Peak Anticipation Limiter and RMS/TEMP Limiter per channel
Other Functions	Source Selection and Mix, Level, Mute, Polarity, Sine and Noise Generator, Pilot Tone Generator and Detection, Level Meters, Impedance Measurement and Load Monitoring
<b>Memory</b>	
DSP Presets	1 Factory + 20 User
Speaker-Pool Presets	30 Speaker Settings
<b>Source Supervision and Falback</b>	Pilot Tone supervision at Analog and OMNEO/Dante inputs, switchover to alternative Source Selection
<b>CONNECTIVITY</b>	
<b>Network</b>	
Type	2 x Neutrik EtherCON/RJ45, redundant PRIMARY/SECONDARY
General	1000base-T/100base-TX, integrated switch
Network Audio Inputs	8 channels, 48/96 kHz, OMNEO/Dante format
Network Audio Outputs (Monitor)	2 channels, 48/96 kHz, OMNEO/Dante format
<b>Mains Input</b>	1 x Neutrik powerCON-HC
<b>GPIO Control Port</b>	
Type	1 x 8-pin Euroblock, male
Ports and Operating Modes	3 x GPIO, switchable Analog In/Digital In/Digital Out
Analog Input Range	0 V to +13 V, 40 k $\Omega$ input resistance
Digital Input Limits	ON: < 1.5 V OFF: > 2.0 V, internal Pull Up (10 k $\Omega$ )
Digital Outputs	ON: Output switched to GND, max. 200 mA OFF: Open Collector (40 k $\Omega$ to GND)
Reference Voltage Output	+10 V, max. 200 mA, supervised, short circuit protected

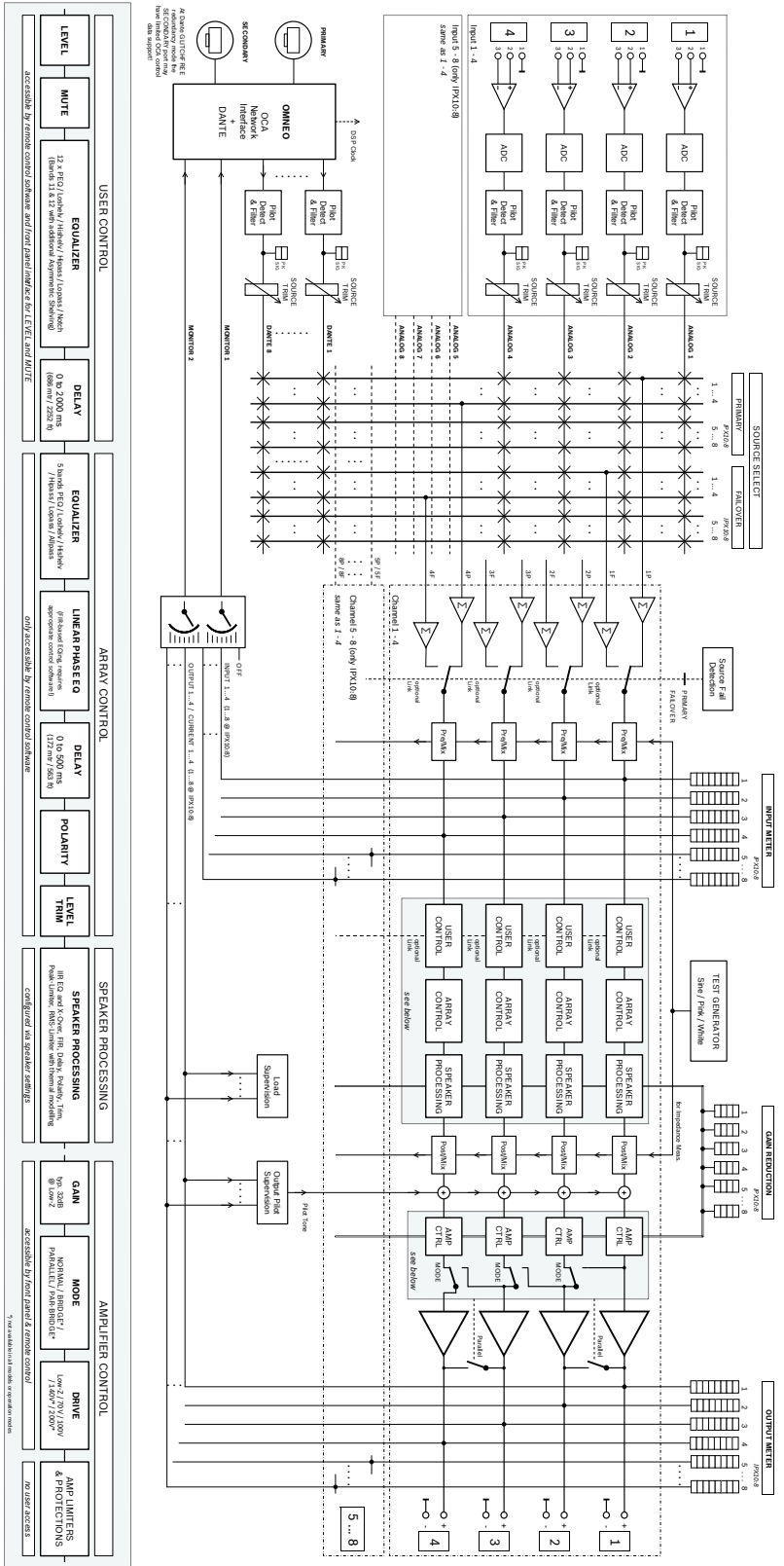
READY/FAULT contact	Galvanic isolated relay, max. 30 VDC/500 mADC
<b>GENERAL</b>	
<b>User Interface</b>	
Display	Black/white OLED 256 x 64 pixel
Front panel indicators	4 x status LEDs (POWER, STANDBY, FAULT, OMNEO)
Front panel operating elements	3 buttons (UP, ENTER, DOWN)
Rear panel indicators	1 x status LED (STATUS)
Rear panel operating elements	Mains Switch
<b>Power Requirements</b>	100 V to 240 V, 50 Hz to 60 Hz AC
<b>Power Supply Topology</b>	Switching Mode Power Supply with digital controlled Power Factor Correction
<b>Protections</b>	Audio Limiters, High Temperature, DC, HF, Short Circuit, Back-EMF, Peak Current Limiters, Inrush Current Limiters, Turn-on Delay, Mains Circuit Breaker Protection, Mains Over-/Under voltage Protection
<b>Cooling</b>	Front-to-rear, temperature controlled fans, supervised
<b>Ambient Temperature Limits</b>	+5 °C to +40 °C (+40 °F to +105 °F)
<b>IEC Protection Class</b>	Class I (grounded)
<b>Electromagnetical Environment</b>	E1, E2, E3
<b>Color</b>	Black

Amplifier at rated conditions, Low-Z Normal operation mode, all channels driven, 4  $\Omega$  loads, Analog input, 32 dB Gain, 48 kHz sample rate, unless otherwise specified.

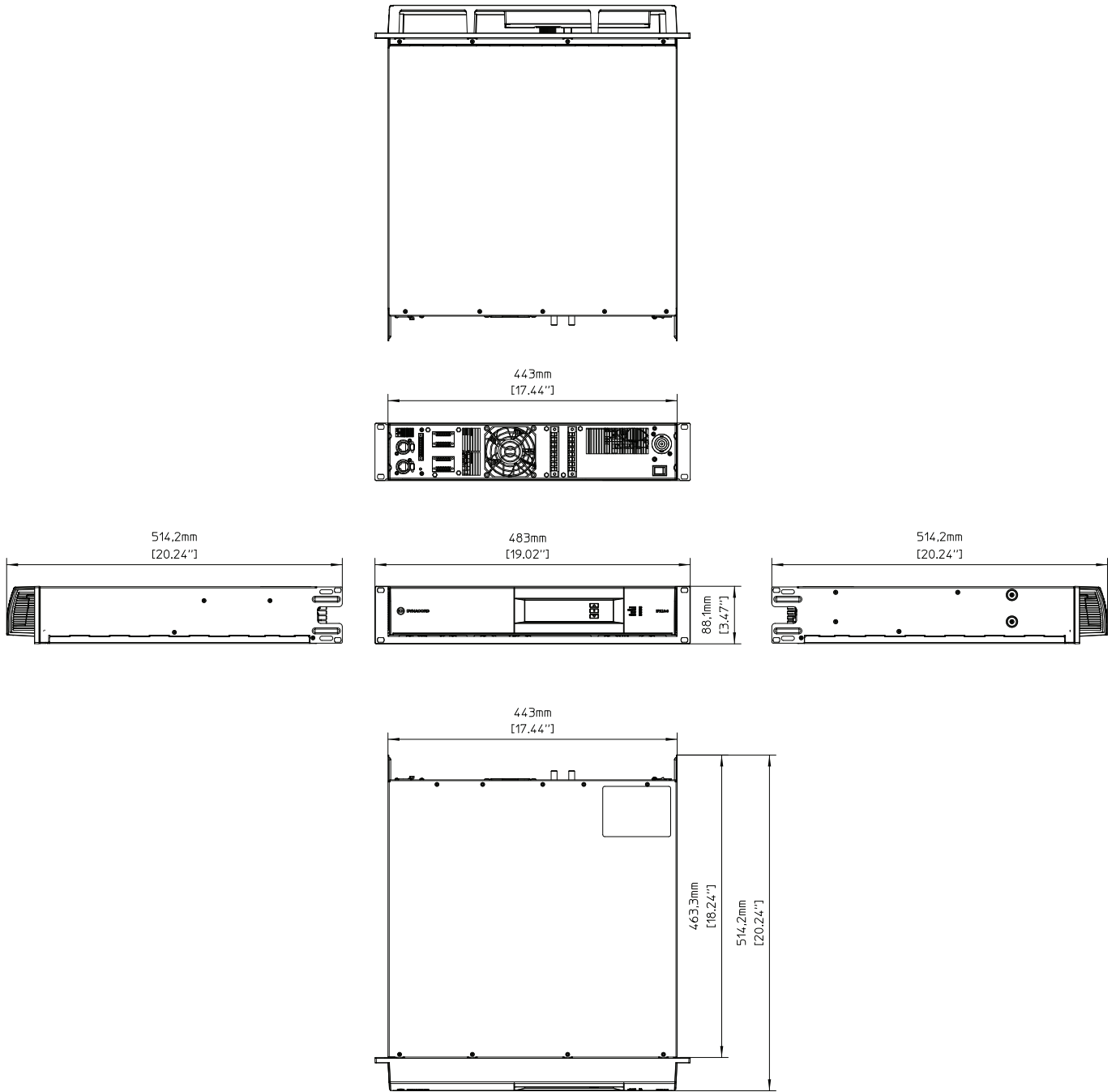
<sup>1</sup>Test signal for max. output power according IHF-A-202 (Dynamic-Headroom, burst 1 kHz/20 ms on/480 ms off/low level -20 dB).

<sup>2</sup>Available in Bridge operation mode only.

IPX AUDIO SIGNAL FLOW



Block diagram: IPX



Dimensions: IPX

## Ordering information

### IPX10:4 DSP power amplifier 4x2500W, install

DSP power amplifier 4x2500W @ 4 ohms, 8 OMNEO/  
Dante inputs, 4 analog inputs, hi-z direct drive, GPIOs,  
euro-block connectors 100 - 240 V, black  
Order number **IPX10:4**

---

#### Accessories

##### PD32-EU Power distro 3x32A, 230V, CEE 32A

Power distribution for 3x 32A and 3x 16A, CEE32A  
mains connector, 3-phase 230/400V, European  
region, black  
Order number **PD32-EU**

---

##### PD30-US Power distro 3x30A, 208V, NEMA L21-30

Power distribution for 3x 30A and 3x 15A, NEMA  
L21-30 mains connector, 3-phase 208V, North  
American region, black  
Order number **PD30-US**

---

##### PCO32A30-US Power cord, powerCon32/NEMA L6-30

Power cord, powerCON32 to NEMA L6-30 mains  
connector, 2m, black

Order number **PCO32A30-US**

---

##### PCO32A16-EU Power cord, powerCon32/CEE7/7

Power cord, powerCON32 to CEE7/7 (Schuko, 16A)  
mains connector, 2m, black  
Order number **PCO32A16-EU**

---

##### PCO32A16-UK Power cord, powerCon32/BS1363

Power cord, powerCON32 to BS1363 (UK-plug)  
mains connector, 2m, black  
Order number **PCO32A16-UK**

---

##### PCO32A10-AU Power cord, powerCon32/AU3-pin10A

Power cord, powerCON32 to AU, 3-pin 10A mains  
connector, 2m, black  
Order number **PCO32A10-AU**

---

##### DC-RMK15 RMK-15

Rack Mount Kit for amplifiers, Length 15,5"; 1L/1R  
Order number **DC-RMK15**

---

#### Germany:

Bosch Sicherheitssysteme GmbH  
Robert-Bosch-Ring 5  
85630 Grasbrunn  
Germany

Bosch Security Systems, Inc.  
130 Perinton Parkway  
Fairport, NY 14450  
USA

[www.dynacord.com](http://www.dynacord.com)