

K&F IPX Series



- DSP multi-channel amplifier for fixed installation with digitally controlled PFC power supply for operating all K&F loudspeakers
- Fully integrated 96 kHz DSP with 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-resistance operation
- Highly efficient Eco Rail technology for lower operating costs
- State-of-the-art monitoring and protection functions

The IPX Series sets a new benchmark for high-performance multi-channel amplification in medium to large-scale fixed installations. Delivering up to 20 kW of total power per amplifier, high-resolution 96 kHz DSP with ultra-low latency and an exceptional signal-to-noise ratio, it offers pristine audio quality and outstanding system headroom. ecoRAIL and Variable Load Drive (VLD) provide maximum energy efficiency and unprecedented flexibility across low-impedance and 70/100 V direct-drive operation. With integrated OMNEO networking – including Dante audio and OCA/AES70 control – and full configuration via SONICUE, the IPX Series ensures complete control, reliability and future-ready performance for demanding installation environments.

K&F IPX5:4

OUTPUT POWER

Low-Z mode: Load Impedance	2 Ω	2,7 Ω	4 Ω	8 Ω
Maximum Output Power ¹ Normal Mode, all channels driven	1,300 W	1,500 W	1,250 W	1,250 W
Bridge			2,600 W	2,500 W
Parallel	2,500 W	3,000 W	2,500 W	1,250 W
Parallel-Bridge	5,200 W	6,000 W	5,000 W	5,000 W
Direct Drive Mode: Nominal Voltage	70 V	100 V	140 V ²	200 V ²
Maximum Output Power ¹	1,250 W	1,250 W	2,500 W	2,500 W
Number of Amplifier Channels	4			
Maximum Output Voltage, Normal mode, per channel	150 V Peak			
Maximum Output Current, Normal mode, per channel	41 A Peak			

AMPLIFIER

Voltage Gain

Low-Z mode, ref. 1 kHz	32.0 dB, adjustable 20–44 dB
Direct Drive mode	33.2/36.2/39.2/42.2 dB for 70/100/140/200 V

Input Sensitivity

Low-Z mode, Max. Output Voltage	10.7 dBu (2.66 V), adjustable -1.3 bis 22.7 dBu
Direct Drive mode	6 dBu (1.55 V), fixed

THD

3 dB below max, AES17, 1 kHz	< 0.05 %
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DIM100

3,15 kHz, 15 kHz	< 0.15 %
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IMD-SMPTE

60 Hz, 7 kHz	< 0.05 %
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Crosstalk

ref. 1 kHz, 12 dB below Max, 8 Ω	< -80 dB
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Frequency Response

ref. 1 kHz, analog in to speaker out	20 Hz to 20 kHz ($\pm$ 0.5 dB)
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Damping Factor

20 Hz to 200 Hz, 8 Ω	> 400
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Output Stage Topology

	Class D, fixed frequency
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Signal to Noise Ratio Amplifier

A-weighted, analog input	112 dB
A-weighted, digital input	115 dB

Output Noise

A-weighted, analog input	< -70 dBu
A-weighted, digital input	< -73 dBu

CONNECTIVITY

Analog Audio Input/Thru

Type	2x 6-pin Euroblock, male
Maximum Input Level	+21 dBu
Input Impedance, active balanced	20 k Ω
Reference level equal to digital input	+21 dBu for 0 dBFS
Speaker Output	1 x 8-pin Euroblock, 6 mm, female

GENERAL

Power Consumption

Rated power consumption (see BTU table)	700 W
1/8 Maximum Output Power at 4 Ω	900 W
Idle Mode (no input signal)	75 W
Standby-Modus	< 15 W

K&F IPX Series



Dimensions (W x H x D), mm	483 x 88.1 x 514.2
Weight	14.3 kg (31.5 lb)
Shipping Weight	16.5 kg (36.4 lb)

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

¹ 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).

² Available in Bridge operation mode only.

K&F IPX10:4

OUTPUT POWER

Low-Z mode: Load Impedance	2 Ω	2,7 Ω	4 Ω	8 Ω
Maximum Output Power ¹ Normal Mode, all channels driven	2,600 W	3,000 W	2,500 W	1,250 W
Bridge			5,200 W	5,000 W
Parallel	5,000 W	4,000 W	2,500 W	1,250 W
Parallel-Bridge	10,400 W	12,000 W	10,000 W	5,000 W
Direct Drive Mode: Nominal Voltage	70 V	100 V	140 V ²	200 V ²
Maximum Output Power ¹	2,500 W	2,500 W	5,000 W	5,000 W
Number of Amplifier Channels	4			
Maximum Output Voltage, Normal mode, per channel	150 V Peak			
Maximum Output Current, Normal mode, per channel	53 A Peak			

AMPLIFIER

Voltage Gain

Low-Z mode, ref. 1 kHz	32.0 dB, adjustable 20–44 dB
Direct Drive mode	33.2/36.2/39.2/42.2 dB for 70/100/140/200 V

Input Sensitivity

Low-Z mode, Max. Output Voltage	10.7 dBu (2.66 V), adjustable -1.3 bis 22.7 dBu
Direct Drive mode	6 dBu (1.55 V), fixed

THD

3 dB below max, AES17, 1 kHz	< 0.05 %
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DIM100

3,15 kHz, 15 kHz	< 0.15 %
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IMD-SMPTE

60 Hz, 7 kHz	< 0.05 %
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Crosstalk

ref. 1 kHz, 12 dB below Max, 8 Ω	< -80 dB
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Frequency Response

ref. 1 kHz, analog in to speaker out	20 Hz to 20 kHz ($\pm$ 0.5 dB)
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Damping Factor

20 Hz to 200 Hz, 8 Ω	> 400
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Output Stage Topology

	Class D, fixed frequency
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Signal to Noise Ratio Amplifier

A-weighted, analog input	112 dB
A-weighted, digital input	115 dB

Output Noise

A-weighted, analog input	< -70 dBu
A-weighted, digital input	< -73 dBu

CONNECTIVITY

Analog Audio Input/Thru

Type	2x 6-pin Euroblock, male
Maximum Input Level	+21 dBu
Input Impedance, active balanced	20 k Ω
Reference level equal to digital input	+21 dBu for 0 dBFS
Speaker Output	1 x 8-pin Euroblock, 6 mm, female

GENERAL

Power Consumption

Rated power consumption (see BTU table)	1,200 W
1/8 Maximum Output Power at 4 Ω	1,765 W
Idle Mode (no input signal)	80 W
Standby-Modus	< 16 W

K&F IPX Series



Dimensions (W x H x D), mm	483 x 88.1 x 514.2
Weight	15.0 kg (33.0 lb)
Shipping Weight	17.2 kg (37.8 lb)

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

¹ 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).

² Available in Bridge operation mode only.

K&F IPX10:8

OUTPUT POWER

Low-Z mode: Load Impedance	2 Ω	2,7 Ω	4 Ω	8 Ω
Maximum Output Power ¹ Normal Mode, all channels driven	1,300 W	1,500 W	1,250 W	1,250 W
Bridge			2,600 W	2,500 W
Parallel	2,500 W	3,000 W	2,500 W	1,250 W
Parallel-Bridge	5,200 W	6,000 W	5,000 W	5,000 W
Direct Drive Mode: Nominal Voltage	70 V	100 V	140 V ²	200 V ²
Maximum Output Power ¹	1,250 W	1,250 W	2,500 W	2,500 W
Number of Amplifier Channels	8			
Maximum Output Voltage, Normal mode, per channel	150 V Peak			
Maximum Output Current, Normal mode, per channel	41 A Peak			

AMPLIFIER

Voltage Gain

Low-Z mode, ref. 1 kHz	32.0 dB, adjustable 20–44 dB
Direct Drive mode	33.2/36.2/39.2/42.2 dB for 70/100/140/200 V

Input Sensitivity

Low-Z mode, Max. Output Voltage	10.7 dBu (2.66 V), adjustable -1.3 bis 22.7 dBu
Direct Drive mode	6 dBu (1.55 V), fixed

THD

3 dB below max, AES17, 1 kHz	< 0,05 %
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DIM100

3,15 kHz, 15 kHz	< 0,15 %
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IMD-SMPTE

60 Hz, 7 kHz	< 0,05 %
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Crosstalk

ref. 1 kHz, 12 dB below Max, 8 Ω	< -80 dB
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Frequency Response

ref. 1 kHz, analog in to speaker out	20 Hz to 20 kHz ($\pm$ 0.5 dB)
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Damping Factor

20 Hz to 200 Hz, 8 Ω	> 400
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Output Stage Topology

	Class D, fixed frequency
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Signal to Noise Ratio Amplifier

A-weighted, analog input	112 dB
A-weighted, digital input	115 dB

Output Noise

A-weighted, analog input	< -70 dBu
A-weighted, digital input	< -73 dBu

CONNECTIVITY

Analog Audio Input/Thru

Type	4 x 6-pin Euroblock, male
Maximum Input Level	+21 dBu
Input Impedance, active balanced	20 k Ω
Reference level equal to digital input	+21 dBu for 0 dBFS

Speaker Output

	2 x 8-pin Euroblock, 6 mm, female
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GENERAL

Power Consumption

Rated power consumption (see BTU table)	1,300 W
1/8 Maximum Output Power at 4 Ω	1,780 W
Idle Mode (no input signal)	105 W
Standby-Modus	< 18 W

K&F IPX Series



Dimensions (W x H x D), mm	483 x 88.1 x 514.2
Weight	16.8 kg (37.1 lb)
Shipping Weight	19.1 kg (42.1 lb)

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

¹ 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).

² Available in Bridge operation mode only.

K&F IPX20:4

OUTPUT POWER

Low-Z mode: Load Impedance	2 Ω	2,7 Ω	4 Ω	8 Ω
Maximum Output Power ¹ Normal Mode, all channels driven	5,200 W	6,000 W	5,000 W	2,500 W
Bridge			n. a.	
Parallel	10,000 W	8,000 W	5,000 W	
Parallel-Bridge			n. a.	
Direct Drive Mode: Nominal Voltage	70 V	100 V	140 V	
Maximum Output Power ¹	3,550 W	5,000 W	5,000 W	
Number of Amplifier Channels		4		
Maximum Output Voltage, Normal mode, per channel		210 V Peak		
Maximum Output Current, Normal mode, per channel		84 A Peak		

AMPLIFIER

Voltage Gain

Low-Z mode, ref. 1 kHz	32,0 dB, adjustable 20–44 dB
Direct Drive mode	33.2/36.2/39.2 dB for 70/100/140 V

Input Sensitivity

Low-Z mode, Max. Output Voltage	13.7 dBu (3.73 V), adjustable -1.7 bis 25.7 dBu
Direct Drive mode	6 dBu (1.55 V), fixed

THD

3 dB below max, AES17, 1 kHz	< 0.05 %
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DIM100

3,15 kHz, 15 kHz	< 0.15 %
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IMD-SMPTE

60 Hz, 7 kHz	< 0.15 %
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Crosstalk

ref. 1 kHz, 12 dB below Max, 8 Ω	< -80 dB
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Frequency Response

ref. 1 kHz, analog in to speaker out	20 Hz to 20 kHz ($\pm$ 1.0 dB)
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Damping Factor

20 Hz to 200 Hz, 8 Ω	> 400
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Output Stage Topology

	Class D, fixed frequency
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Signal to Noise Ratio Amplifier

A-weighted, analog input	115 dB
A-weighted, digital input	118 dB

Output Noise

A-weighted, analog input	< -70 dBu
A-weighted, digital input	< -73 dBu

CONNECTIVITY

Analog Audio Input/Thru

Type	2 x 6-pin Euroblock, male
Maximum Input Level	+21 dBu
Input Impedance, active balanced	20 k Ω
Reference level equal to digital input	+21 dBu for 0 dBFS

Speaker Output

	1 x 8-pin Euroblock, 6 mm, female
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GENERAL

Power Consumption

Rated power consumption (see BTU table)	2,250 W
1/8 Maximum Output Power at 4 Ω	2,850 W
Idle Mode (no input signal)	110 W
Standby-Modus	< 19 W

K&F IPX Series



Dimensions (W x H x D), mm	483 x 88.1 x 514.2
Weight	18.3 kg (40.3 lb)
Shipping Weight	20.5 kg (45.1 lb)

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

¹ 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).

² Available in Bridge operation mode only.

K&F IPX5:4, IPX10:4, IPX10:8, IPX20:4

DIGITAL SIGNAL PROCESSING

Sampling rate	48 kHz/96 kHz, OMNEO/Dante synchronized
Signal delay/latency Analog In to Speaker Out, 48 kHz/96 kHz	0,70 ms/0,53 ms
Dante Network Latency	typ. 1.00 ms
Signal Processing	32-/40-Bit, Fließkomma
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 ch, 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 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
Memory	
DSP Presets	1 Factory + 20 User
Source Supervision and Fallback	Pilot Tone supervision at Analog and OMNEO/Dante inputs, switchover to alternative Source Selection

CONNECTIVITY

Network

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
Mains Input	1 x Neutrik powerCON-HC

GPIO Control Port

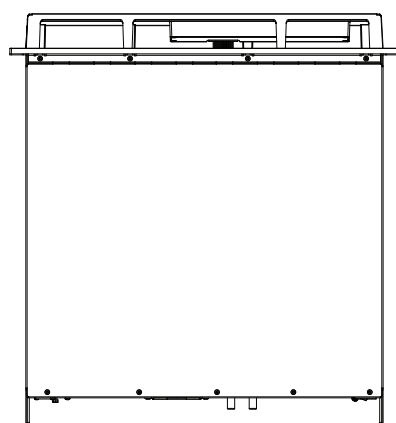
Type	1 x 8-pin Euroblock, male
Ports and Operating Modes	3 x GPIO, switchable Analog In/Digital In/Digital Out
Analog Input Range	0 V to +13 V, 40 kΩ input resistance
Digital Input Limits	ON: < 1.5 V OFF: > 2.0 V, internal Pull Up (10 kΩ)
Digital Outputs	ON: Output switched to GND, max. 200 mA OFF: Open Collector (40 kΩ 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

GENERAL

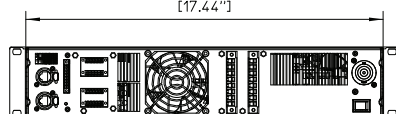
User Interface

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
Power Requirements	100 V to 240 V, 50 Hz to 60 Hz AC
Power Supply Topology	Switching Mode Power Supply with digital controlled Power Factor Correction
Protections	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
Cooling	Front-to-rear, temperature controlled fans, supervised
Ambient Temperature Limits	+5 °C to +40 °C (+40 °F to +105 °F)
IEC Protection Class	Class I (grounded)
Electromagnetical Environment	E1, E2, E3
Color	Black

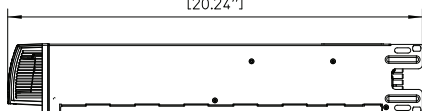
K&F IPX Series



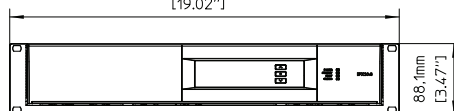
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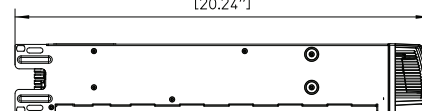
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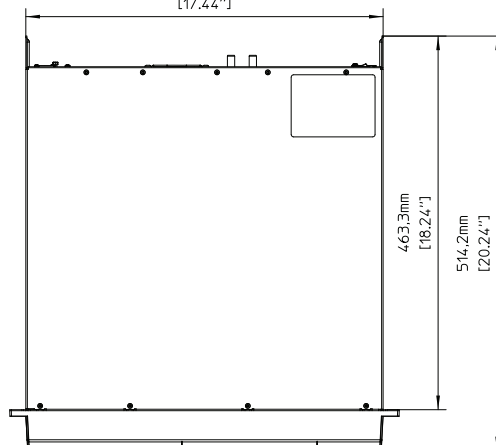
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514.2mm
[20.24"]



443mm
[17.44"]



463.3mm
[18.24"]

514.2mm
[20.24"]