

U120:1 Power amplifier 120W, 1 channel



Introducing the U120:1, a 120 W power amplifier designed to cater to the demands of small to medium-sized installations, where paramount considerations include quality, performance, and unwavering reliability. This amplifier is ideal for background music and crystal-clear voice announcement applications, making it a perfect fit for diverse environments such as bars, restaurants, retail outlets, educational institutions, houses of worship, museums, galleries, transport hubs, and conference centers. Thanks to its compact size, standing just one rack unit high and half rack wide, the U120:1 presents numerous installation possibilities, even in space-constrained settings. Included brackets facilitate both single and dual rack-mount configurations, while desktop and under-counter installations are equally viable. When rack-mounted side by side, two amplifiers can seamlessly inhabit a single rack unit, optimizing space utilization and effectively doubling both channel count and output power.

Functions

Advanced amplification technology

Incorporates class-D amplification topology for superior energy efficiency, product quality, and reliability compared to traditional linear power supply and class-AB amplification.

- Full power output supporting 4Ω, 8Ω, 70 V and 100 V
- EMG override input, ensuring critical messages are heard clearly
- Selectable 120 Hz high-pass filters to customize audio output and eliminate unwanted low-frequency noise
- Space-saving compact ½ rack design, providing versatility without compromising performance
- Remote power OFF (Stand by), enhancing energy efficiency

Compact form factor

Half rack, 1U enclosure ensures space-saving installation without compromising performance.

Full power at low and high impedance

Supports 70V, 100V, 4Ω, and 8Ω speaker systems, offering versatility in system design.

Remote power

Enables remote power ON/OFF functionality via contact closure, enhancing operational convenience.

Bass and treble adjustment

Allows fine-tuning of audio output with dedicated bass and treble adjustment controls.

High-pass filter

Available 120 Hz high-pass filters to tailor audio output according to application requirements.

Flexible mounting options

Offers versatile mounting possibilities including rack mount, side-by-side rack mount, table-top, or under-table mounting, facilitated by included brackets and accessories.

Emergency input

Features 100 V and Line In emergency input with level selection, ensuring critical messages are delivered clearly.

Protection

Equipped with overload and short circuit protection, along with a limiter to safeguard both the amplifier and loudspeaker against accidental overdriving. A temperature-controlled fan ensures optimal cooling without generating acoustic noise at lower output levels.

Protected control

Front panel devoid of controls; set it and forget it with gain, bass, and treble controls conveniently located on the rear panel for added security and ease of use.

Technical specifications

Electrical

Mains power supply	
U120:1	
Voltage	100 VAC - 240 VAC, 50/60 Hz
Power consumption	
• Standby (Remote OFF active)	1.25 W
• Idle mode LoZ amp mode (4 Ω / 8 Ω)	9 W / 11 W
• Idle mode HiZ amp mode (70 V / 100 V)	13 W / 17 W
• 1/8 rated output power	35 W
Remote power (ON/OFF Standby)	2-pin, Eurostyle, contact closure
Performance	
Frequency response, -3 dB ref. 1 kHz	
• Any input to output	<20 Hz – 20 kHz
• EMG input to output	<20 Hz – 18 kHz
Distortion	<0.5% @rated output power, 1 kHz
Output stage topology	Class D
Equalization	
Bass shelving	±12 dB / 100 Hz
Treble shelving	±12 dB / 10 kHz
Filter	
• LO-CUT permanently	f=20 Hz, 12 dB/oct.
• HI-PASS (HPF) switchable, can be activated	f=120 Hz, 12 dB/oct.

General

Front status LEDs

• Protect (Red)	Protection
• Peak (Red)	1 dB before clip (input and output)
• Signal (Green)	Input and output signal
• Call (Green)	EMG
• Power (Green)	Power on condition
DIP switches	EMG (HiZ/Line level), HPF (120 Hz), Output (HiZ/LowZ), Amp mode (70 V/100 V; 4Ω/8Ω)

Protections

• Amplifier	Audio limiters, high temperature, DC, HF, short circuit, over current protection
• Switching mode power supply	Mains over/under voltage protection, inrush current limiter, mains over current, high temperature
• Remote power OFF	Contact closure

Inputs

Number of inputs	1 balanced line, 1 unbalanced line, EMG (priority input)
Input 1	
Type	Balanced line
Connector	3-pin Eurostyle
Sensitivity	500 mV
Impedance	10 kΩ
Maximum input level	+12 dBu
Input 2	
Type	Unbalanced line
Connector	RCA (chinch), stereo converted to mono
Sensitivity	250 mV (R and L)
Impedance	4.7 kΩ
Maximum input level	+16 dBu (R and L)

EMG Input

Type	Line; 100 V
Connector	2-pin, balanced
Impedance	
• EMG (line)	>15 kΩ
• EMG (HiZ)	>470 kΩ
Maximum input level	
• EMG (line)	+11.5 dBu
• EMG (HiZ)	+44.5 dBu

Loudspeaker output

Connector	4-pin Eurostyle (2 pin for LoZ, 2 pin for HiZ)
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Loudspeaker output

Output power according IHF-A-202 120 W
 (Dynamic-Headroom, burst 1 kHz /
 20 ms on / 480 ms off / low level
 -20 dB)

Signal to noise ratio (A-weighted, ref. >100 dB
 to rated output power)

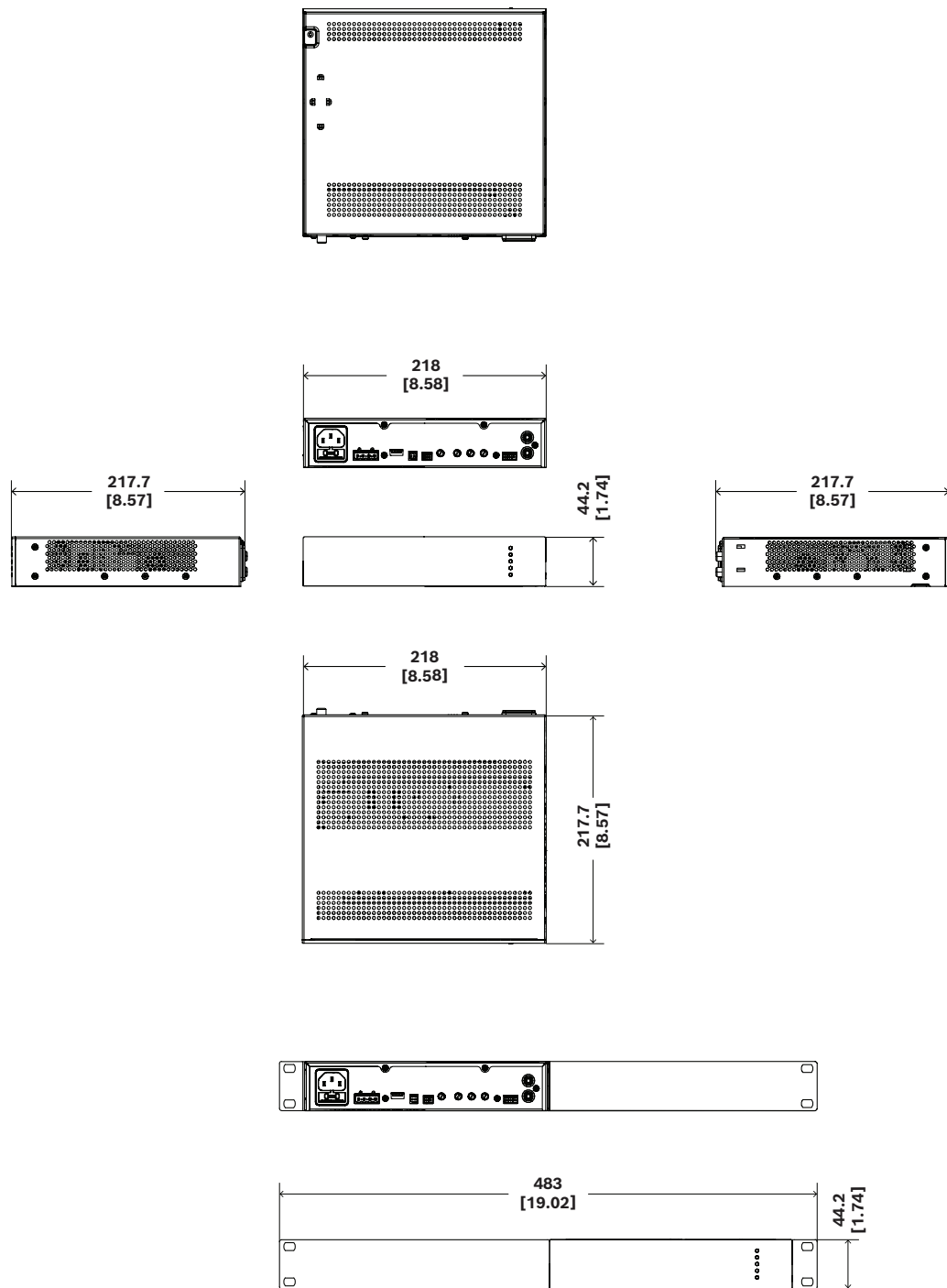
Max output voltage, 1 kHz, THD=0.5%, no load	4 Ω	8 Ω	70 V	100 V
	22 V _{RMS}	32 V _{RMS}	71 V _{RMS}	102 V _{RMS}

Mechanical**Enclosure**

IEC protection class	Class I (grounded)
Dimensions (HxWxD), without accessories	44.2 mm x 218 mm x 210 mm (1.74 in x 8.6 in x 8.26 in)
Color in RAL	RAL 9017 Traffic black
Net weight (without accessories)	1.8 kg (3.96 lb)
Net weight (with accessories)	2.3 kg (5.07 lb)
Shipping weight	2.6 kg (5.73 lb)
Mounting	Stand-alone; 19" rack; rack side-by- side; half 19" rack; table-top; under- table

Environmental**Climatic conditions**

Cooling concept	Four-stage-fans (Off / Slow / Medium / Fast)
Operating temperature	-5°C – 45°C (23°F – 113°F)
Storage temperature	-40°C – 70°C (-40°F – 158°F)



mm [in]

Fig. 1: Dimensions

Block Diagram U Series (Power Amplifier)

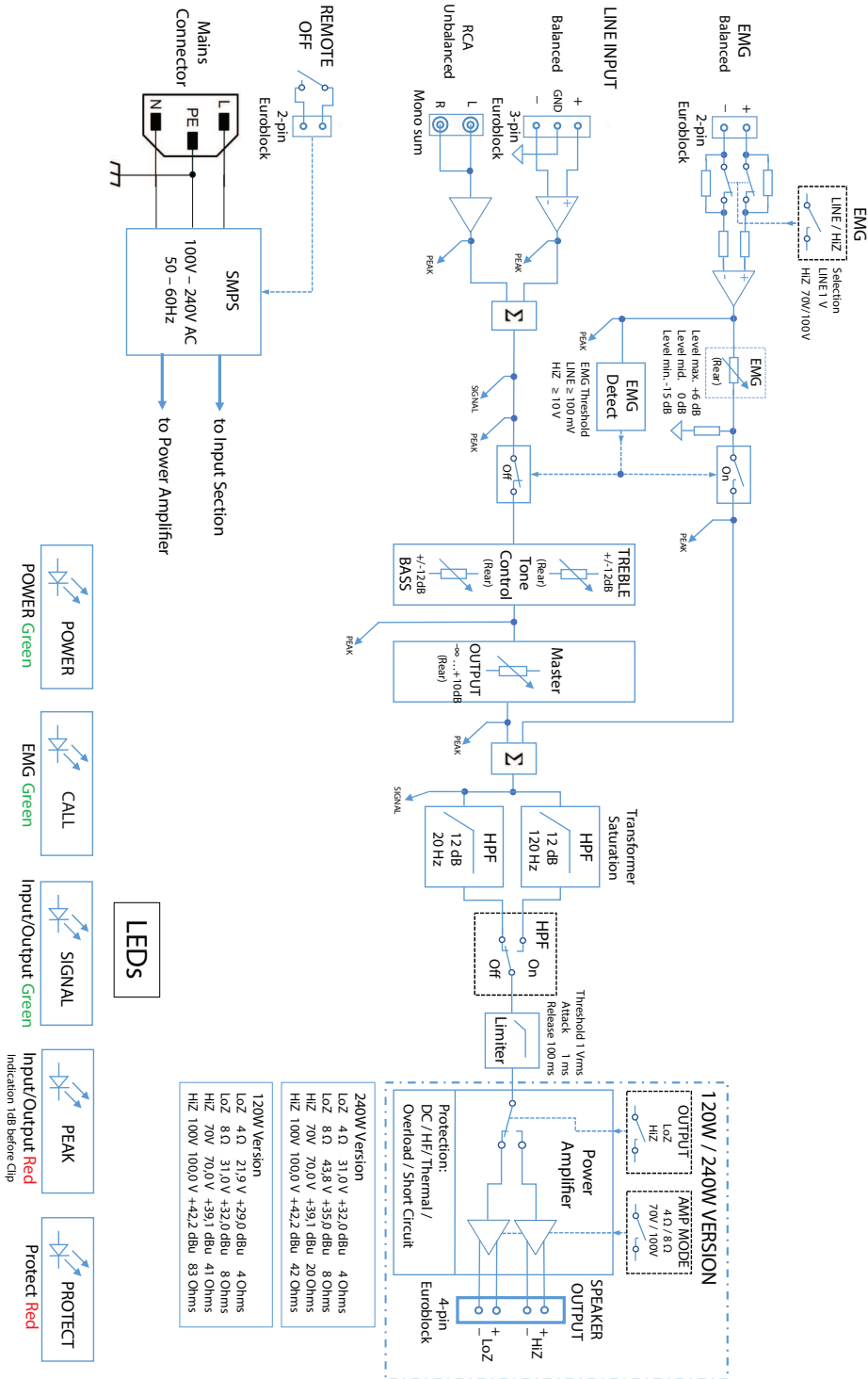


Fig. 2: Block diagram

Ordering information

U120:1-CN Power amplifier 120W 1 channel, CN

1-channel, 120 W power amplifier with power sharing.

Order number **U120:1-CN | F.01U.425.744**

U120:1-EU Power amplifier 120W 1 channel, EU

1-channel, 120 W power amplifier with power sharing.

Order number **U120:1-EU | F.01U.425.740**

U120:1-US Power amplifier 120W 1 channel, US

1-channel, 120 W power amplifier with power sharing.

Order number **U120:1-US | F.01U.425.742**

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