

LAB.GRUPPEN



POWER AMPLIFIERS

iP 450

KEY FEATURES:

2 x 110 watts @ 8 Ω
2 x 160 watts @ 4 Ω
2 x 200 watts @ 2 Ω

(Measured just below clip level,
with both channels driven)

- ◆ Compact design:
1U high
- ◆ Convection cooling
(No fan)
- ◆ Multiple positions
gain switch
- ◆ Neutrik Combo jack and
Phoenix terminal block
input connectors
- ◆ Bridged mono outputs in
one SpeakOn connector

The iP 450 is a space-saving power amplifier, ideal for use in installations as well as in cost-effective live sound systems.

The iP 450 has the same features and protection circuits as Lab.gruppen's more powerful amplifiers. Today there are many power amplifiers in this power range in the markets, however they used to save on important features

This makes the iP 450 one of the few professional power amplifiers in the low-medium power level range.

The Iron Power (iP) family of power amplifiers is the new compact and versatile line of professional power amplifiers with classic toroidal iron transformers. To achieve a compact design, the latest semiconductor technology is utilized.

Besides the traditionally superb Lab.gruppen sonic performance, there is a full line of features to make the iP family functional in all situations from installation to cost-effective live sound systems:

Multiple positions Gain switch

To meet the demands for a flexible gain structure in the system, Lab.gruppen offers a multiple position gain switch. The maximum amplifier gain can be set to all industry standards: 20, 23, 26, 29, 32, 35, 38 and 41 dB.

Versatile input connection

With the Neutrik Combo-jack we offer both the professional XLR-type standard and the semi-pro 1/4" TRS phono-jacks. For installations the 3-pin Phoenix terminal block may be handier.

Sophisticated protection circuitry, combining:

- DC protection; protects against infrasonic signals
- VHF protection; protects the loudspeakers against strong very high frequency non-musical signals above the audible range.
- Thermal protection; prevents the amplifier from being overheated. The protection indicators on the front panel are switched on, as a warning, before the protection process is initiated.
- AC protection; shuts down the power supply if the line voltage is outside the operating voltage.
- **Clip limiter**; prevents severely clipped waveforms from reaching the loudspeakers, whilst maintaining full peak power.

SPECIFICATIONS iP 450

MAX OUTPUT POWER ¹⁾

	EIA at 1 kHz and 1% THD	FTC 20-20kHz @0.1%THD
8 Ω per channel	110 W	100 W
4 Ω per channel	160 W	150 W
2 Ω per channel	200 W ²⁾	180 ²⁾ W
8 Ω bridged	320 W	300 W
4 Ω bridged	400 W ²⁾	360 ²⁾ W

Max output voltage

8 ohms load	30 Vrms
Peak voltage, no load	50 V

Distortion etc.

THD 20Hz-20kHz and 1W to full power	0,05 %
THD @ 1kHz and -1dB under clip	0,03 %
DIM 30 at -3dB under clip	0,02 %

Hum and Noise	<-105 dB
Channel separation @10kHz	70 dB
Output impedance	30 m Ω
Slew Rate	25 V/ μ s

Inputs

Gain, selectable [dB]	20, 23, 26, 29, 32, 35, 38, 41
Impedance	20 kohm
Common mode rejection	50 dB

Front Panel

Gain controls	(2) channel A, B	31 positions detent
Protect indicator	(2) yellow LEDs	80°C at heatsink or >12kHz at full power or shorted output
Clip Indicator	(2) red LEDs	Fast peak – slow release
Signal present indicator	(2) green LEDs	-25 dB below full output
On Indicator	(2) green LEDs	DC rail voltage for channel A and B

Rear Panel

Input connectors	(2) Neutrik Combo XLR type, 3 pin & 1/4" jack
Input /Link connector	(2) 3-pin Phoenix terminal block
Output connectors	(2) Neutrik 4-pole Speakon connectors
Switches	
Clip limiter	On-Off (switchable)
Link-switch	Ch.A-B

Power	230 V version	115 V version
Operation voltage	130 V-265 V AC	65 V – 135 V AC
Minimum start voltage	70 V	35 V AC
Full output power at 4ohms	230 V AC	115 V AC
Peak inrush current (Soft start limited)	10 A	5 A

Current Draw @ 4ohms&230V

Quiescent power (no load)	0.1 Arms	0.2 Arms
1/8 of full power (-9dB)	0.8 Arms	1.6 Arms
1/3 of full power (-5dB)	1.5 Arms	3 Arms
At full power (0 dB) @1 kHz 1% THD	3.3 Arms	6.6 Arms

Net Dimensions mm (inch)	483 (19") W x 44 (1.75") H x 280 (11") D
Shipping Dimensions mm (inch)	450 (17.7") W x 130 (5.1") H x 500 (19.7") D
Net Weight	7.5 kg (17 lbs)
Shipping Weight	9.1 kg (20 lbs)

Approvals	CE	Emission	EN 55 103-1, E3
		Immunity	EN 55 103-2, E3, with S/N below 1% at normal operation level ⁴⁾
		Safety	EN 60 065, class I

1) Specifications measured with 230 VAC

4) Normal operation level 1/8 of full power or -9dB below clip level.

2) Component tolerance dependent

3) Continuous power, one channel driven or peak power both channels driven
(Thermal protection may occur at high continuous power)