IPR2™ 5000/7500
IPR2™ 5000/7500 DSP
Power Amplifiers

Operating Manual

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ENGLISH

IPR2™ 5000 / 7500

Power Amplifier

Congratulations on your purchase of an IPR2™ power amplifier, designed for years of reliable, flawless operation under rigorous use. The groundbreaking IPR series utilizes an advanced design that allows Peavey engineers to dramatically reduce weight while increasing output power, reliability and thermal efficiency. IPR Series amplifiers are designed with a resonant switch-mode power supply and a high-speed class D topology that yields the highest audio resolution and efficiency available. This revolutionary amplifier offers the sonic superiority and unsurpassed reliability for which Peavey is famous, in an extremely efficient and lightweight design. Advanced technology and extensive protection circuitry allow operation with greater efficiency into difficult loads and power conditions. The DDT™ (Distortion Detection Technique) circuitry ensures trouble-free operation into loads as low as 2 ohms. DDT protects drivers and ensures that sonic integrity is maintained, even in extreme overload conditions. The IPR's high-efficiency design allows the amplifier to operate at very low temperatures, and does not require massive heat sinks to cool. For your safety, read the important precautions section, as well as input, output and power connection instructions.

Although the IPR amplifier is simple to operate and housed in an ultra-strong, ultra-lightweight chassis, improper use can be dangerous. This amplifier is very high- powered and can put out high voltages and sizable currents at frequencies up to 30 kHz. Always use safe operating techniques when operating this amplifier.

Before you send signal through your amplifier, it is very important to ensure that the product has the proper AC line voltage supplied. You can find the proper voltage for your amp printed next to the IEC line (power) cord on the rear panel of the unit. Each product feature is numbered. Refer to the front-panel diagram in this manual to locate the particular features next to its number.

Please read this guide carefully to ensure your personal safety as well as the safety of your amplifier.

FEATURES:

- **2 channel independent crossovers**
- **DDT protection**
- **Revolutionary IPR class D topology**
- **Detented input controls**
- **Combination XLR 1/4" inputs**
- **4 pole twist lock output connectors**
- **Ultra-light weight**
- **Individual signal pass 1/4" jacks on each channel**
- **LED illuminated**
- **Standby, LED power present indication**

VENTILATION: For proper ventilation, allow 12" clearance from nearest combustible surface.

Make sure that vents are not blocked and air can flow freely through the unit.

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or and experienced radio/TV technician for help.

Front Panel

IPR2™ 7500

IPR2™ 5000

1 **AC POWER SWITCH**
This button triggers the relay that provides power to the amplifier. This unique power switch will glow blue dimly. When turned on, it illuminates brightly.

2 **INDICATORS**
The IPR2™ amplifiers feature five front-panel LED indicators per channel: ACTIVE, SIGNAL, DDT™, TEMP and DC. These LED indicators inform the user of each channel's operating status and warn of possible abnormal conditions.

3 **ACTIVE LED**
The Active LED indicates that its channel's output is closed and the channel is operational. It lights under normal operation and remains on, even when the channel is in DDT gain reduction. These protection features leave the output relay closed. If the Active LED goes off, there is no signal at the output connectors.

4 **SIGNAL LED**
This LED lights when its channel produces an output signal of about 4 volts RMS or more (0.1 volt or more at the input, with 0 dB attenuation and standard x40 voltage gain). This signal indicates whether a signal is reaching and being amplified by the amplifier.

5 **DDT™ (DISTORTION DETECTION TECHNIQUE) LED**
A channel's DDT™ LED will light at the onset of clipping. If the LEDs are flashing quickly and intermittently, the channel is just at the clip threshold. A steady, bright glow means the amp is clip limiting, or reducing gain to prevent severely clipped waveforms from reaching the loudspeakers. See the Distortion Detection Technique section for more information. During initial power-up the DDT LED will light to indicate that the gain reduction circuitry is activated. This prevents sudden signal bursts when the speaker relays are closed.

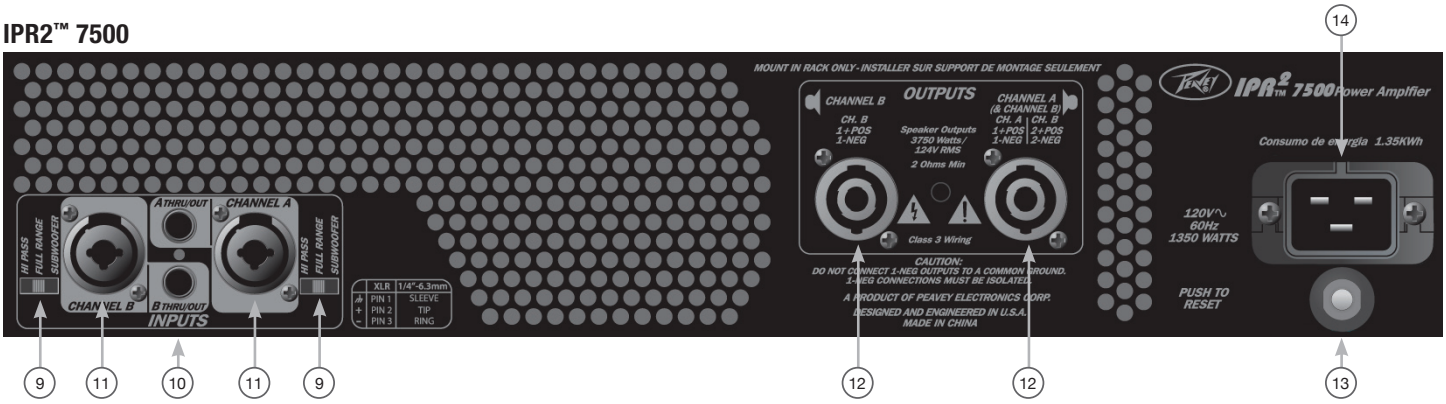
6 **TEMP LED**
In the unlikely event of an unstable thermal condition, amplifier protection will be activated and will shut down the offending channel. The Temp LED will remain illuminated until safe operating temperatures have returned.

7 **DC LED**
In the event of abnormal operating conditions, the IPR has built-in amplifier protection. Under conditions that would normally damage the power amplifier, the DC LED will illuminate and the amp will automatically attempt to restart to correct the condition. If the amplifier does not return to normal operating status, contact your local authorized service center.

8 **INPUT ATTENUATORS**
Whenever possible, set the attenuators fully clockwise to maintain optimum system headroom. The input attenuator controls, located at the front panel (one for channel A, one for channel B), adjust gain for their respective amplifier channels in all modes. See the specifications at the end of this manual for standard voltage gain and input sensitivity information.

Rear Panel

IPR2™ 7500



(9) CHANNEL MODE SWITCH:

HIGH PASS
This position is used to activate the HIGH PASS filter for the corresponding channel. This filter will limit the frequencies sent to the associated amplifier channel to frequencies above 100 Hz. In situations where separate subwoofer cabinets are being used, this position would indicate connecting the mid-high frequency speaker cabinet to the channel associated with the HIGH PASS switch.

FULL RANGE
As the name implies, the Full Range position on this switch allows all frequencies to pass to the amplifier. Normally used when connecting a full range speaker enclosure to the amplifier's output.

SUBWOOFER
This position is used to activate the LOW PASS filter for the corresponding channel. This filter will limit the frequencies sent to the associated amplifier channel to frequencies below 100 Hz. In situations where separate subwoofer cabinets are being used, this position would indicate connecting the subwoofer speaker cabinet to the channel associated with the Subwoofer switch.

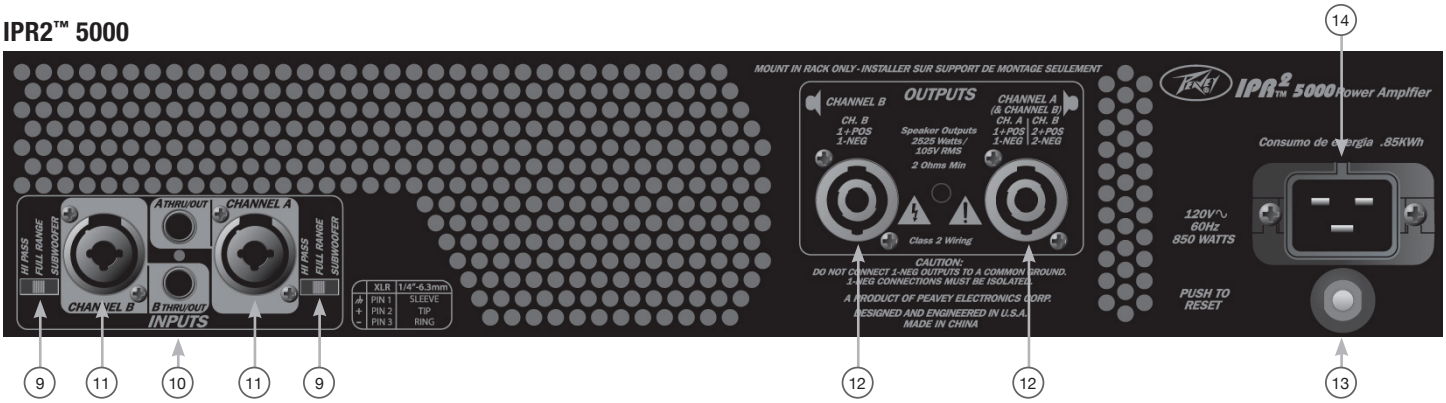
(10) THRU/OUT JACKS
This 1/4” jack supplies parallel output signals from the associated channel for patching to this amplifier and/or additional power amplifier inputs.

(11) CONNECTING INPUTS
Input connections are made via the 3-pin XLR (pin 2+) or 6.3 mm plug combination connectors on the rear panel of the amplifier. The inputs are actively balanced.

(12) CONNECTING OUTPUTS
All models have one combination 4 pole twist lock output connector per channel. Channel A ouput allows for CH A 1+ Pos / 1- Neg and channel B 2+ Pos / 2- Neg to use a single 4 conductor speaker cable.

Rear Panel

IPR2™ 5000



13 **CIRCUIT BREAKER**

In the unlikely event of operating conditions that may potentially damage the amplifier, the circuit breaker may trip. After inspecting the cables and connections, the amplifier can be reset. If the circuit breaker trips a second time, contact the local Peavey authorized service center.

14 **AC POWER INLET:**

This is the receptacle for an IEC line cord, which provides AC power to the unit. Connect the line cord to this connector to provide power to the unit. Damage to the equipment may result if improper line voltage is used. (See line voltage marking on unit). The 120VAC IPR2™ 7500 gets a power cord retaining clamp.

Never break off the ground pin on any equipment. It is provided for your safety. If the outlet used does not have a ground pin, a suitable grounding adapter should be used and the third wire should be grounded properly. To prevent the risk of shock or fire hazard, always make sure that the amplifier and all associated equipment is properly grounded.

NOTE: FOR U.K. ONLY

As the colors of the wires in the mains lead of this apparatus may not correspond with the colored markings identifying the terminals in your plug, proceed as follows: (1) The wire which is colored green and yellow must be connected to the terminal which is marked by the letter E, or by the Earth symbol, or colored green or green and yellow. (2) The wire which is colored blue must be connected to the terminal which is marked with the letter N, or the color black. (3) The wire which is colored brown must be connected to the terminal which is marked with the letter L, or the color red.

IPR2™ 7500 Specification Sheet

Rated Watts 2ch x 2 ohms	4750 watts 20ms repetitive burst / 3750 watts 1% THD both channels driven @ 1kHz.
Rated Watts 2ch x 4 ohms	2800 watts 20ms repetitive burst / 2450 watts 1% THD / 2020 watts 0.15% THD, both channels driven @ 1kHz.
Rated Watts 2ch x 8 ohms	1550 watts 20ms repetitive burst / 1425 watts 1% THD / 1200 watts 0.15% THD, both channels driven @ 1kHz.
Minimum Impedance	2 ohms
Maximum RMS Voltage Swing	124 volts
Frequency Response	20Hz - 25kHz; +0dB, -3dB
20Hz - 20kHz 2ch x 2 ohms	<0.5% @ 3280 watts 20Hz to 4kHz, decreasing to 3000 watts @ 20kHz, both channels driven.
20Hz - 20kHz 2ch x 4 ohms	<0.15% @ 2000 watts 20Hz to 20kHz, both channels driven.
20Hz - 20kHz 2ch x 8 ohms	<0.15% @ 1200 watts 20Hz to 20kHz, both channels driven.
Input CMRR	> - 75dB @ 1 kHz.
Voltage Gain	x 40 (+32dB)
Crossover	100Hz switchable 2nd order high pass and 3rd low pass per channel.
Crosstalk	> -85dB @ 1kHz @ 1000 watts power @ 8 ohms.
Hum and Noise	> -106dB, "A" weighted referenced to rated power @ 4 ohms.
Slew Rate	> 12V/µs
Damping Factor (8 ohms)	> 200:1 @ 20Hz - 1kHz @ 8 ohms
Input Sensitivity	2.25 volts +/- 3% for 1kHz 4 ohm rated power, 2.195 volts +/- 3% for 1kHz 2 ohm rated power
Input Impedance	20 kilohms, balanced and 10 kilohms unbalanced.
Current Draw @ 1/8 in VA (watts)	2210 (1440) @ 2 ohms, 1550 (950) @ 4 ohms, 982 (560) @ 8 ohms
Current Draw @ 1/3 in VA (watts)	4260 (3150) @ 2 ohm, 3120 (2160) @ 4 ohms, 1890 (1200) @ 8 ohms
Idle Consumption	250VA, 120 watts.
Cooling	3 temperature dependent variable speed fans.
Controls	2 front panel attenuators, crossover select switch for HPF, Normal and LPF
Indicator LEDs	Five LED indicators per channel: Active, Signal, DDT, Temperature and DC
Protection	Thermal, DC, subsonic, incorrect loads, under and over voltage
Connectors	Inputs: Dual combination 1/4" XLR, Outputs: Dual 1/4" thru, one 2-pin & one 4 pin twist-lock connector
Construction	0.062" thick aluminum
Dimensions	3.5"x19"x 17" behind front panel + 0.6" for handle
Net Weight	6.61kg (14.6lbs.*)
Gross Weight	8.34kg (18.4lbs.)

Rated power readings made with BW: 20 Hz to 22 kHz. All power measurements made @ 120 VAC or 240VAC.

2 ohm steady state sine wave power is time limited by circuit breaker.

Bridge operation is not possible.

*Net Weight does not include power cord.

IPR2™ 5000 Specification Sheet

Rated Watts 2ch x 2 ohms	3230 watts 20ms repetitive burst / 2530 watts 1% THD both channels driven @ 1kHz.
Rated Watts 2ch x 4 ohms	1985 watts 20ms repetitive burst / 1700 watts 1% THD / 1470 watts 0.15% THD, both channels driven @ 1kHz.
Rated Watts 2ch x 8 ohms	1175 watts 20ms repetitive burst / 1025 watts 1% THD / 880 watts 0.15% THD, both channels driven @ 1kHz.
Minimum Load Impedance	2 ohms
Maximum RMS Voltage Swing	105 volts
Frequency Response	20Hz - 22kHz; +/- 0.5dB at 1 watt.
20Hz - 20kHz 2ch x 2 ohms	<0.5% @ 2250 watts 20Hz to 4kHz, decreasing to 1640 watts @ 20kHz, both channels driven.
20Hz - 20kHz 2ch x 4 ohms	<0.15% @ 1400 watts 20Hz to 10kHz, decreasing to 1350 watts @ 20kHz, both channels driven.
20Hz - 20kHz 2ch x 8 ohms	<0.15% @ 860 watts 20Hz to 4kHz, increasing to 1000 watts @ 20kHz, both channels driven.
Input CMRR	> - 75dB @ 1 kHz.
Voltage Gain	x 40 (+32dB)
Crossover	100Hz switchable 2nd order high pass and 3rd low pass per channel.
Crosstalk	> -60dB @ 1kHz @ 700 watts power @ 8 ohms.
Hum and Noise	> -105dB, "A" weighted referenced to rated power @ 4 ohms.
Slew Rate	> 12V/µs
Damping Factor (8 ohms)	> 210:1 @ 20Hz - 1kHz @ 8 ohms
Input Sensitivity	1.95 volts +/- 3% for 1kHz 4 ohm rated power, 1.83 volts +/- 3% for 1kHz 2 ohm rated power
Input Impedance	20 kilohms, balanced and 10 kilohms unbalanced.
Current Draw @ 1/8 in VA (watts)	1435 (890) @ 2 ohms, 920 (525) @ 4 ohms, 625 (335) @ 8 ohms
Current Draw @ 1/3 in VA (watts)	3050 (2155) @ 2 ohms, 1880 (1200) @ 4 ohms, 1200 (715) @ 8 ohms
Idle Consumption	195VA, 90 watts.
Cooling	3 temperature dependent variable speed fans.
Controls	2 front panel attenuators, crossover select switch for HPF, Normal and LPF
Indicator LEDs	Five LED indicators per channel: Active, Signal, DDT, Temperature and DC
Protection	Thermal, DC, subsonic, incorrect loads, under and over voltage
Connectors	Inputs: Dual combination 1/4" XLR, Outputs: Dual 1/4" thru, one 2-pin & one 4 pin twist-lock connector
Construction	0.062" thick aluminum
Dimensions	3.5"x19"x 17" behind front panel + 0.6" for handle
Net Weight	6.2 kg (13.6 lbs.*)
Gross Weight	7.9 kg (17.4 lbs.)

Rated power readings made with BW: 20 Hz to 22 kHz. All power measurements made @ 120 VAC or 240VAC.

2 ohm steady state sine wave power is time limited by circuit breaker.

Bridge operation is not possible.

*Net Weight does not include power cord.