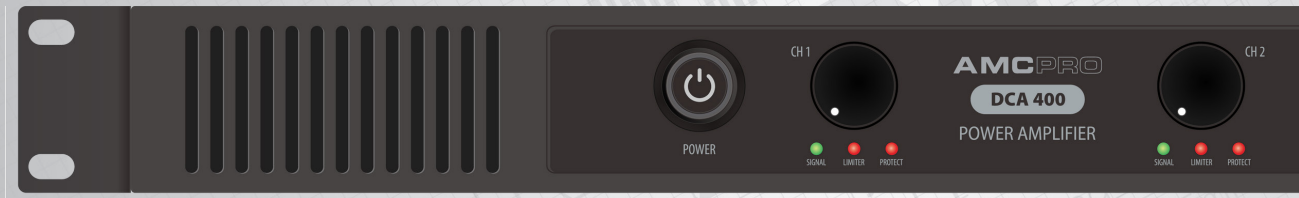
User Manual

DCA Power Amplifier



Safety instructions

When using this electronic device, basic precautions should always be taken, including the following:

1 Read all instructions before using the product.

2 Do not use this product near water (e.g., near a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool etc).

3 Use this device when you are sure that amplifier has a stable base and it is fixed securely.

4 This product, in combination with loudspeakers and amplifier may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult with otorhinolaryngologists.

5 The product should be located away from heat sources such as radiators, heat vents, or other devices that produce heat.

6 The product should be connected to a power supply that is described in the operating instructions or are marked on the product.

7 The power supply should be undamaged and never share an outlet or extension cord with other devices. Never leave device plugged into the outlet when it is not being used for a long period of time.

8 Care should be taken that objects do not fall into liquids and liquids would not be spilled on the device.

9 The product should be serviced by qualified service personnel if:

- The power supply or the plug has been damaged.
- Objects have fallen into or liquid has been spilled on the product.
- The product has been exposed to rain.
- The product has been dropped or the enclosure damaged.

10 There are some areas with high voltage inside, to reduce the risk of electric shock do not remove cover of the microphone receiver or power supply. The cover should be removed by the qualified personnel only.

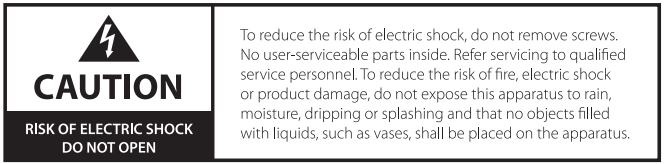


Table of contents

Before you start

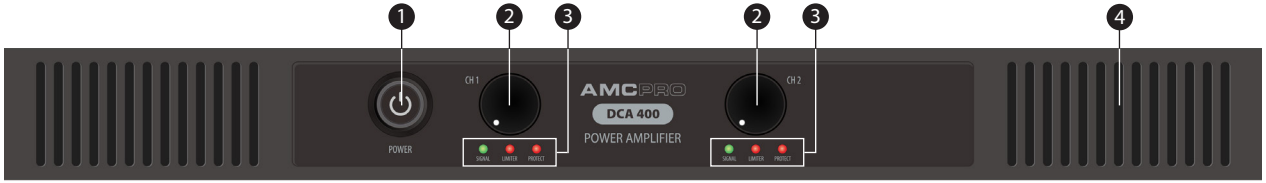
DCA series are highly efficient Class D amplifiers designed in a slim 1 rack unit gives a choice to drive 8 Ω and 4 Ω speakers also ensures increased power density and better audio performance. Amplifiers are customized to use in live sound systems, great for night clubs and discos.

FEATURES

- Compact 1 rack unit size
- D class power amplifier
- Switching power supply
- Designed to drive 4 Ω and 8 Ω speakers
- Soft start
- Cooling FAN
- Balanced Line inputs
- LINK outputs
- Signal limiter and channer protection indicators
- Overload protection

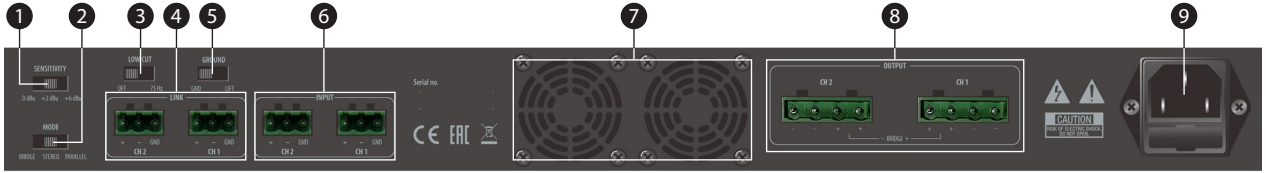
Operation

Front Panel



1. Power switch | 2. Volume controls | 3. LED indicators (signal, limiter, protection) | 4. Ventilation air intake

Back Panel



1. Sensitivity switch | 2. Amplifier mode switch | 3. Low cut switch | 4. Input link connectors | 5. Ground lift switch | 6. Input connectors | 7. Ventilation fans | 8. Output connectors | 9. Mains power socket and fuse box

Operation

Front panel functions

POWER SWITCH

Before turning on the amplifier, ensure that all connections are properly set up. A brief PROTECT and SIGNAL indication, as well as a short FAN startup, are normal when powering the amplifier on or off.

Caution: always turn on the amplifier last, after all other connected equipment, and turn it off first before powering down other devices. This helps prevent unwanted noise and potential damage to the system.

VOLUME CONTROLS

Use these potentiometers to control the volume of Channel 1 and Channel 2 in STEREO and PARALLEL modes. In Bridge mode, the CH1 potentiometer controls the volume for the bridged output.

LED INDICATORS

The amplifier features a color LED indicators to display the status of each individual channel. The LED states are as follows:

SIGNAL – Green LED: An active audio signal is detected at the channel input.
LIMITER – Red LED: Signal clipping activates the limiter. To avoid limitation, please reduce the input level to prevent distortion.
PROTECT – Red LED: The protection circuit is activated for the channel. Check for overheating, short circuits, or other issues.

Rear panel functions

MAINS POWER CONNECTOR

The mains power connector is used to supply power to the amplifier. It includes a fuse holder, with the fuse rating clearly marked on the rear panel near the connector.

AMPLIFIER OUTPUT CONNECTORS

The amplifier features two outputs compatible with 8Ω - 4Ω speakers. Ensure that the wires are connected to the correct terminals based on your audio system configuration. The connector includes a parallel output, allowing the connection of multiple speaker cables conveniently.

AMPLIFIER INPUT CONNECTORS

The amplifier has two balanced Phoenix inputs, corresponding to Channels 1 and 2. These inputs are designed for balanced line level signals and are directly linked to the LINK output

AMPLIFIER LINK CONNECTORS

Connect outgoing audio signal from input connectors to additional amplifier. Input and link connectors are connected with each other directly.

Operation

GROUND LIFT

The ground lift switch is used to eliminate ground loop hum that may occur in audio systems. By engaging the ground lift, you can isolate the amplifier's ground from the input signal ground, helping to reduce unwanted noise caused by ground loops.

LOW CUT FILTER

The low cut filter reduces audio frequencies below 75 Hz for each channel. This function is highly recommended if your audio system uses speakers with limited low-frequency reproduction. It is particularly useful for protecting smaller speakers or horn speakers and optimizing sound for vocal or midrange applications.

SENSITIVITY

The amplifier offers selectable input sensitivity levels of 0dB, +2dB, and +6dB. Adjusting the sensitivity allows you to optimize the amplifier's performance based on the input signal strength from your audio source.

0dB - This is the default setting, which sets the input gain to standard levels.
+2dB and +6dB - Reduce the input gain by 2 or 6dBu.

OPERATION MODES

There are three available operation modes: Stereo, Bridge, and Parallel. Always turn off the amplifier before switching between these modes.

STEREO: This is the standard mode. In this mode, all amplifier channels operate independently and can be used individually. Each input requires an audio signal, and all volume controls are active. The minimum loudspeaker impedance is specified in the general specification table on the last page of the user manual.

BRIDGE: In Bridge mode, power from two channels is combined to drive a single loudspeaker. When Bridge mode is activated, connect the audio signal to Input 1. The CH1 potentiometer controls the volume for the bridged output.
Caution: The minimum loudspeaker impedance in Bridge mode should be 8 Ω. Before enabling Bridge mode, check wiring diagram on the rear panel of the amplifier, as Bridge mode requires specific wiring.

PARALLEL: In Parallel mode, two amplifier channels operate in parallel with the same audio signal. The two amplifier inputs are internally connected, so only one of Input 1 or Input 2 requires an audio signal to drive both outputs. All volume controls remain active in Parallel mode.

Caution: Do not use Parallel mode when feeding the amplifier with separate audio signals. Note that only the amplifier inputs are connected in parallel - do not connect output connectors in parallel, as this is not an output parallel mode.

General Specifications

DCA 200, DCA 400 Power Amplifiers

	DCA 200	**DCA 400**
Power supply	AC 90 V~260 V, 50/60 Hz	
Channels	2	2
Output power 8 Ω	2 x 100 W	2 x 200 W
Output power 4 Ω	2 x 200 W	2 x 400 W
Output power bridge mode 8 Ω	1 x 400 W	1 x 800 W
Output circuit type	Class D	
THD+N	< 0.1 %	
Frequency Response	20 Hz – 20 kHz	
Input sensitivity	0,775 V / 1,0 V / 1,44 V	
S/N ratio	> 100 dB	
Slew rate	> 20 V/ms	
Damping coefficient	> 100 dB	
Protection	DC protection / overloading protection / soft start / short circuit protection / peak limiter	
Cooling	Forced air cooling	
Dimensions (H x W x D)	483 x 240 x 44,5 mm	
Weight	3.7 kg	3.8 kg

The specifications are correct at the time of printing this manual. For improvement purposes, all specifications for this unit, including design and appearance, are subject to change without prior notice.