

D1000

CLASS-D POWER AMPLIFIER

Order ref: 172.110UK

User Manual



Version 1.0



Caution: Please read this manual carefully before operating
Damage caused by misuse is not covered by the warranty

Introduction

Thank you for choosing a Citronic D1000 power amplifier as part of your sound reinforcement system. Our new class-D circuit design provides an efficient amplifier within a compact and lightweight form factor. Please read this manual fully and follow the instructions to achieve the best results from your amplifier and to avoid damage through misuse.

Warning

To prevent the risk of fire or electric shock, do not expose any of the components to rain or moisture. If liquids are spilled on the casing, stop using immediately, allow unit to dry out and have checked by qualified personnel before further use. Avoid impact, extreme pressure or heavy vibration to the case. No user serviceable parts inside – Do not open the case – refer all servicing to qualified service personnel.

Safety

- Check for correct mains voltage and condition of IEC lead before connecting to power outlet.
- Ensure speaker leads are good condition with no shorted connections or damaged plugs.
- Check that the impedances of speaker loads do not exceed the minimum stated load for the amplifier.
- Do not allow any foreign objects to enter the case or through the ventilation grilles.

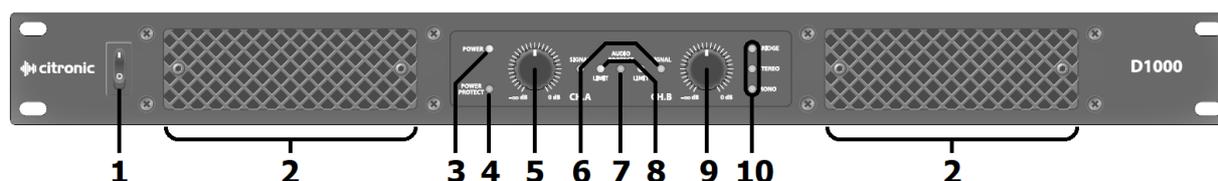
Placement

- Keep out of direct sunlight and away from heat sources.
- Keep away from damp or dusty environments.
- When rack-mounting, ensure adequate support for the base of the amplifier and firm fixings for the front.
- Ensure adequate airflow and do not cover cooling vents at the front and rear of the amplifier.
- Ensure adequate access to controls and connections.

Cleaning

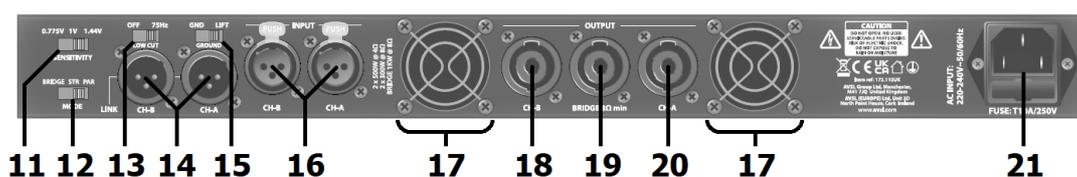
- Use a soft cloth with a neutral detergent to clean the casing as required.
- Use a vacuum cleaner to clear ventilation grilles of any dust or debris build-ups.
- Do not use strong solvents for cleaning the unit.

Front Panel



- | | |
|---------------------------------------------|-----------------------------------|
| 1. Power on/off switch | 6. SIGNALpresent indicators |
| 2. Cooling vents – do not cover or obstruct | 7. AUDIO PROTECT indicator |
| 3. POWER on indicator | 8. Audio LIMIT indicators |
| 4. POWER PROTECT indicator | 9. CH.B output level control |
| 5. CH.A output level control | 10. Amplifier operating mode LEDs |

Rear Panel



- | | |
|---------------------------------------------------------|--------------------------------------------------|
| 11. Input SENSITIVITY switch 0.775V / 1.00V / 1.44V | 17. Cooling fan vents – do not cover or obstruct |
| 12. Amplifier MODE switch – Bridge / Stereo / Parallel | 18. CH.B output - SPK connector |
| 13. 75Hz LOW CUT filter on/off switch | 19. BRIDGE mono output - SPK connector |
| 14. CH.A+B signal link output (XLR balanced/unbalanced) | 20. CH.A output - SPK connector |
| 15. GROUND Lift switch | 21. IEC mains power inlet & fuse holder |
| 16. CH.A+B signal input (XLR balanced/unbalanced) | |

Operation

Connect speaker cabinets to channel outputs (18, 20) using good quality Speakon® leads.
(all speaker outputs from the D1000 are wired to pins 1+/1-)

A single 8Ω or 4Ω speaker may be connected to each channel or 2 x 8Ω speakers connected in parallel may be connected to either output as a 4Ω pair. **WARNING – The combined load on either channel must be no lower than 4Ω.**
Also ensure that the speaker cabinets can handle the power output from the amplifier based at that impedance.

The rear panel has a MODE switch (12), which determines the way that the amplifier operates, indicated by 3 LEDs on the front panel (10). The standard operating mode is **STEREO**, with each input feeding its relevant speaker output.

PARALLEL mode sums both inputs together in mono so that each amplifier channel receives a mix of both inputs.

Alternatively, both channels can be combined to drive a single load at higher power by selecting **BRIDGE** mode. In this mode, the input is on channel A and the output is from the BRIDGE output SPK connector (19).

WARNING – The minimum load for BRIDGE mode is 8Ω.

Above the MODE switch is a SENSITIVITY switch (11), which has 3 settings for different input levels.
The standard setting is 0.775V, with further settings for 1.00V and 1.44V - higher settings reduce the input sensitivity.

Above the CH.B Link Output XLR is a 75Hz LOW CUT filter switch (13). When active, this filter removes frequencies below 75Hz to avoid wasted power in full range cabinets that cannot reproduce these low frequencies.

Above the CH.A Link Output XLR is a GROUND switch (15) which can isolate the signal ground from mains Earth.
This can sometimes help to cure mains hum caused by Earth loop connections. If there is 'hum' in the audio, try the LIFT setting. The normal setting for this is GND, where both signal ground and mains Earth are connected.

Connect each signal input from mixer or other line level source to the CH.A and CH.B inputs (16) on the rear panel using good quality signal leads. Depending on output level of the mixer, select the appropriate sensitivity on the rear panel.
Wiring for balanced or unbalanced inputs are as follows...

Signal hot +	Signal cold -	Ground (GND)	Unbalanced wiring
Pin 2	Pin 3	Pin 1	Pin 3 + Pin 1 combined to ground

Each channel input also has a corresponding XLR link output (14) for linking onto further amplifiers, as necessary.

XLR inputs and link outputs for each channel are wired in parallel, allowing signal to be cascaded over several amplifiers.

Connect the amplifier to a mains supply (21), ensuring the IEC lead is earthed, in good condition and connected securely.
With CH.A + CH.B controls (5, 9) turned fully down, switch on the power to the amplifier (1). The power indicator will light (3). This unit has a "soft-start" function which makes some checks before engaging power to the amplifiers, which may take a few seconds.

With the mixer (or other signal source) levels turned down, gradually increase the amplifier's CH.A + CH.B controls to the required level (normally full) and then gradually increase the signal level from the mixer or sound source until sound can be heard through the speakers and then continue increasing up to the required level.

Each channel has LED indicators to show when the signal (6) is present and operation of the inbuilt audio limiter (8), which engages automatically when the output reaches the peak power level to help avoid overload to the speakers.

Additional LEDs indicate operation of the internal protection circuitry for the Power supply (4) and the Audio circuitry (7)
When either of these LEDs is lit, this means that there is a fault in the system and the amplifier has shut it down to protect itself and other connected equipment. Switch the power off and disconnect other equipment before re-checking connections and equipment.

If the PROTECT LEDs stay lit, refer the amplifier to a qualified service engineer.

Before powering down, turn the channel gain controls fully down to avoid loud noises when powering down.

Specifications

Power supply	200-240Vac, 50/60Hz (IEC)
Fuse	T10AL 250V
Output: RMS @ 4Ω	2 x 500W
Output: RMS @ 8Ω	2 x 300W
Bridge power: RMS @ 8Ω	1000W
Amplifier: construction	Class-D
Protection	Short/open circuit, thermal, RF, DC fault, on/off mute, active inrush limiting.
Frequency response	20Hz-20KHz ±0.5dB
THD +N	0.20%
S/N ratio	-95dB
Damping factor	>700
Input sensitivity	0.775V - 1.00V – 1.44V switchable
Input impedance	20KΩ (balanced), 10KΩ (unbalanced)
Dimensions	482 x 245 x 44 mm (1U)
Weight	4.2kg

Troubleshooting

No power light on	Ensure IEC inlet is connected to mains and lead is in good condition
	Ensure mains outlet is switched on
Power and Mode lights on but no other LEDs and no output	Check input signal and connection leads
	Ensure channel gain controls are not turned fully down
Power, Mode and Signal LEDs are lit but no output	Check speaker cabinets are in good working order
	Check speaker leads are in good condition and connected properly
PROTECT LED is lit and there is no output	Switch off and disconnect from mains
	Check speakers are in good working order and not shorted out (using a multi-tester)
	After checking all connected items, power up again
	If still in Protect Mode, switch off again and refer to qualified service personnel
	Ensure cooling vents are clear and amplifier is not overheated
Output is very distorted and LIMIT LEDs are lighting continually	Check the speaker impedance is not below 4Ω per channel (8Ω if bridged)
	Turn down the input level from audio source
	Switch the SENSITIVITY to a higher voltage
	Turn down channel output level controls
Output is working but at very low level	Ensure input source is at the correct line level
	Switch the SENSITIVITY to a lower voltage
	Increase input level from audio source
	Turn up channel output level controls



Disposal: The "Crossed Wheelie Bin" symbol on the product means that the product is classed as Electrical or Electronic equipment and should not be disposed with other household or commercial waste at the end of its useful life. The goods must be disposed of according to your local council guidelines.

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