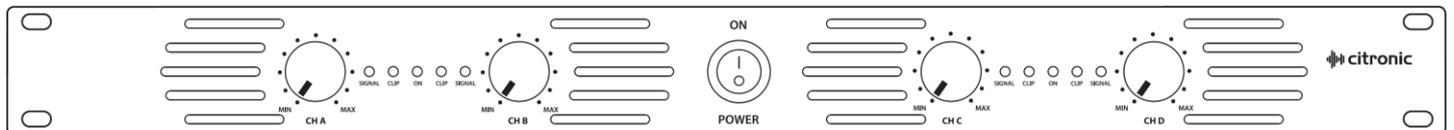


## QL-SERIES

1U QUAD POWER AMPLIFIERS

Order ref: 172.121UK, 172.122UK, 172.123UK

User Manual



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

## Introduction

Thank you for choosing the Citronic QL-series 1U class D quad power amplifiers as part of your sound reinforcement system. These high output amplifiers are designed to offer high quality, dependable service for mobile and installed systems. Please read this manual fully and follow the instructions to achieve the best results with your new purchase 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 short connections or damaged plugs
- Check impedance 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

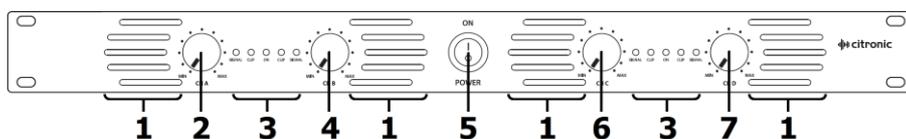
## Placement

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

## Cleaning

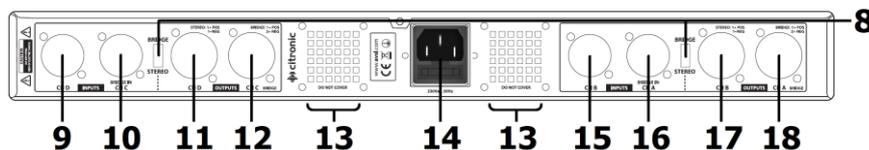
- Use a soft cloth with a neutral detergent to clean the casing as required
- Use a vacuum cleaner to clear ventilation grilles of any dust or debris build-ups
- Do not use strong solvents for cleaning the unit

## Front Panel



1. Cooling vents
2. Channel A gain control
3. LED indicators
4. Channel B gain control
5. Power on/off switch
6. Channel C gain control
7. Channel D gain control

## Rear Panel



8. Bridge/Stereo switches
9. Channel D XLR input
10. Channel C XLR input
11. Channel D SPK output
12. Channel C SPK output
13. Cooling vents
14. IEC mains inlet & fuse
15. Channel B XLR input
16. Channel A XLR input
17. Channel B SPK output
18. Channel A SPK output

## Setup

Before operating the QL series amplifier, check the mains supply voltage and connect the IEC inlet (15) to the mains power supply using the power lead supplied (or equivalent). Ensure that the cooling vents at front and rear (1, 13) are not covered or obstructed in any way with adequate space for air-flow through the unit.

Each side of the Citronic QL amplifier can be operated as an independent pair of channels or as a single combined output in Bridge mode. Set the mode using the selector switch for the relevant pair of channels (8)

Bridge mode offers the option of operating the QL unit as a stereo amplifier into 2 larger  $8\Omega$  speakers.

It is also possible to operate one side in Bridge mode to give 1 high output channel with the other side in stereo, which can be useful to power a large sub and a pair of satellite speakers (left + right)

### Standard dual stereo or quad mode

Connect speakers to **Channel A, B, C** and **D** outputs via the SPK connectors (11, 12, 17, 18)  
For standard output mode SPK wiring, connect **+** and **-** wires to pins **1+** and **1-** (most common configuration)  
Ensure that the combined load on each channel is no lower than  $4\Omega$  (for speakers in parallel,  $8\Omega + 8\Omega = 4\Omega$ )

Connect line level inputs to the **CH A, B, C** and **D** XLR inputs (9, 10, 15, 16)

Each output is governed by its own channel gain control on the front panel.

### Bridge mode

Bridge mode is different to standard mode in that it combines 2 of the output channels to a single mono output. This mode enables double the power to a single speaker output compared with standard mode. The difference is that the speaker load must be no lower than  $8\Omega$ , whether a single speaker or combined load. Bridge mode can be useful especially when driving a large, high power subwoofer.

Connect the speaker(s) for Bridge mode to the **Channel A/C** SPK output(s).  
Note that the SPK wiring in Bridge mode is different to standard mode.  
Connect the **+** wire to **1+** and the **-** wire to **2+**.

Note: For reference, this wiring is printed on the rear panel. Incorrect speaker wiring can damage the amplifier!

In Bridge mode, **CH A** and **C** XLR inputs send mono signal to the **CH A** and **C** SPK outputs (pins 1+/2+)

### Operation

With channel gain controls (2, 4, 6, 7) turned fully down (anti-clockwise), switch on the power (5) and the LED POWER indicator will light (3)

Playing the input signal into the connected channel inputs, gradually increase the relevant gain controls (only CH A and C will have an effect in Bridge mode). The amplified signal should be heard through the speakers and the SIG indicators (3) should respond to the audio output. Increase the volume controls to the required level.

Alongside the SIG indicators are CLIP indicators, which should only light very briefly on the loudest transients or spikes in the audio. If the CLIP LEDs light for more than a fraction of a second at a time, the volume controls should be turned down or input signal will need to be reduced.

Before powering down, turn down the volume controls to avoid loud pops or noises through the speaker.

## Specifications

	QL700	QL1400	QL2000
Power supply	230Vac 50Hz (IEC)		
Fuse	T10AL (250V)	T15AL (250V)	T15AL (250V)
Power RMS @ 4Ω	4 x 175W	4 x 350W	4 x 500W
Power RMS @ 8Ω	4 x 100W	4 x 200W	4 x 300W
Bridge mode RMS @ 8Ω	2 x 350W	2 x 700W	2 x 1000W
Input connections	XLR balanced x 4		
Output connections	SPK x 4		
Frequency response	20Hz - 20kHz (±0.5dB)		
THD +N	<0.05%		
Damping factor	300		
S/N ratio (A weighted) : line	100dB		
Slew rate	20V/us		
Input impedance	10k Ohms unbalanced, 20k Ohms balanced		
Output circuit architecture	Class D		
Protection	Temperature, short circuit, DC, overload		
Indicators	Power, signal, clip		
Controls	L+R level, power on/off, bridge/parallel/stereo, ground lift		
Dimensions	482 x 180 x 44mm		
Weight	4.5kg	5.0kg	5.5kg



**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.

*Errors and omissions excepted.  
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