

QX-4150 USER MANUAL





PRODUCT OVERVIEW

The Quest Engineering QX-4150 is a 4 channel 1RU power amplifier suited for any application requiring superior performance and reliability. Ideal for multiple zone applications providing commercial sound installations with clean and reliable power. The QX-4150 provides 150 watts per channel of operation into 4 and 8 ohm loads and can bridge channel outputs that can be configured to deliver full channel power to either low- or high-impedance loads. High and Low pass filters, limiters and standby are available per channel with fast 1ms wake up time. For high end commercial, AV or domestic applications, the QX range of amplifiers provide superior class D performance with proven reliability without compromise.

SAFETY PRECAUTIONS

- Please read the instructions in this section carefully before use.
- Ensure all instructions in this manual are observed as all information contained within is very important.
- It is also highly recommended that this manual is retained for future reference.

SAFETY SYMBOL & MESSAGE CONVENTIONS

The safety symbols described are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating this product, please read this manual first, in full so you that you are thoroughly aware of any risks.



Indicates a potentially hazardous situation which, if mishandled, could result in serious personal injury or death.

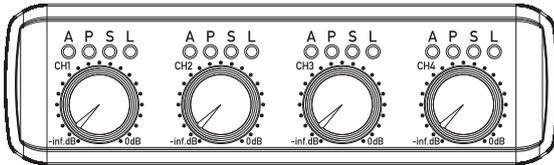


GENERAL CAUTION

- Do not expose the unit to any moisture whether rain, water, or other liquids. Exposure to moisture could result in damage to internal components or electrocution\circuit failure.
- Do not cut, kink, or otherwise damage or modify speaker cable. Ensure a speaker cable with a core diameter of at least 0.75mm² is used for specified performance.
- Do not install or place speaker cables or this device near heaters, high traffic areas or any area where the cables or device can be damaged.
- Avoid installing or mounting speaker boxes, amplifiers, electronics or cabling in unstable locations.
- In the event of storms and/or lightning, ensure all devices are disconnected from mains power in order to prevent damage to any of the units in the system.
- When cleaning the unit, ensure it has been disconnected from any power source and that only a dry cloth is used. Do not use any aerosol or liquid-based cleaners.
- Ensure all electronics are electronically grounded (earthed) to a safety ground terminal in order to avoid electric shock. Do not ground any device to a gas pipe as this may result in fire.
- Servicing of all electronics should only be carried out by a certified Quest technician. Please consult your original place of purchase to find the location of your nearest Quest service centre.
- When installing amplifiers and/or other electronics only use the hardware specifically designed for this product.



FRONT PANEL CONTROLS



CH1
CH2
CH3
CH4

Rotary gain control

A

Blue: Amplifier active

Orange: Amplifier is in standby mode

P

Orange: Amplifier is in protect mode

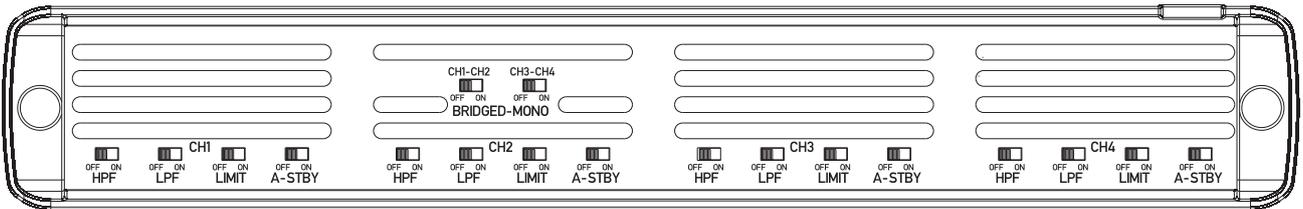
S

Green: Signal is detected

L

Orange: Amplifier is limiting signal or muted if in standby mode

Red: Amplifier is clipping



HPF

Off: Amplifier passing full range signal

On: 80Hz High Pass Filter Active (24dB/Oct)

LPF

Off: Amplifier passing full range signal

On: 100Hz Low Pass Filter Active (24dB/Oct)

LIMIT

Off - Amplifier will not limit

On - Amplifier will limit to prevent clipping

A-STBY

Off - Amplifier will not enter power saving mode

On - Amplifier will enter sleep mode after 25 minutes of no signal

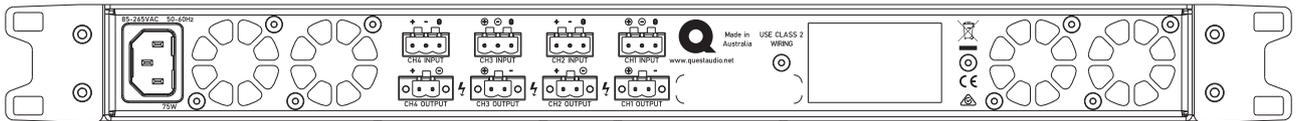
BRIDGED-MONO

Off: Amplifier operating as 2 individual channels

On: Amplifier operating in bridged mono mode



REAR PANEL CONNECTIONS



CH1 Input	
CH2 Input	Phoenix/Euroblock
CH3 Input	
CH4 Input	
<hr/>	
CH1 Output	
CH2 Output	Phoenix/Euroblock
CH3 Output	
CH4 Output	
<hr/>	
Mains Connection	IEC
<hr/>	
Blank Plate for Expansion Module (optional)	
<hr/>	



BASIC OPERATION GUIDELINES

Due to the advanced power saving feature of the QX-4150, the amplifier has been designed to power from the mains with no additional switch. The amplifier has a removable grille on the front panel. The grille is held in place magnetically and can easily be removed without tools to access controls to engage a number of modes which are described in the next section. High Pass and Low Pass filters can also be activated to provide basic frequency dividing functions, these are most commonly used in a system with sub-woofers.

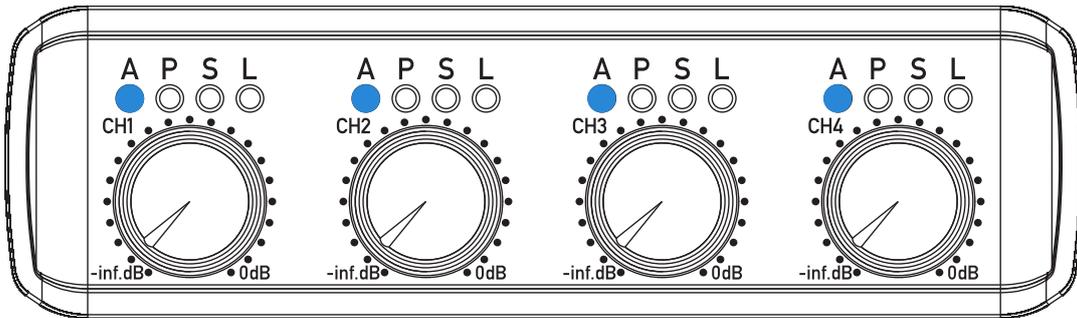
To avoid harm to connected speakers it is important to not clip the amplifier for extended period of times. Clipping occurs when the input signal is excessive and overloads the input or output of the amplifier. To avoid clipping reduce the level of the input. The amplifier has a selectable limit option which can be engaged to help avoid clipping and it is recommended that this mode is used if the potential exists for extended periods of overdriving.

The amplifier has a protection circuit which activates when a fault condition exists. The LED will stay illuminated until the fault is resolved. The protection circuit activates to help prevent damage to the amplifier and connected speakers. Common causes can be shorted wiring or faulty speakers. If the Protect light illuminates disconnect the amp from power and then disconnect the speakers. Reconnect the amp to mains and check the status of the protect LED, if the LED has not turned back on then check the speakers and cabling for faults.

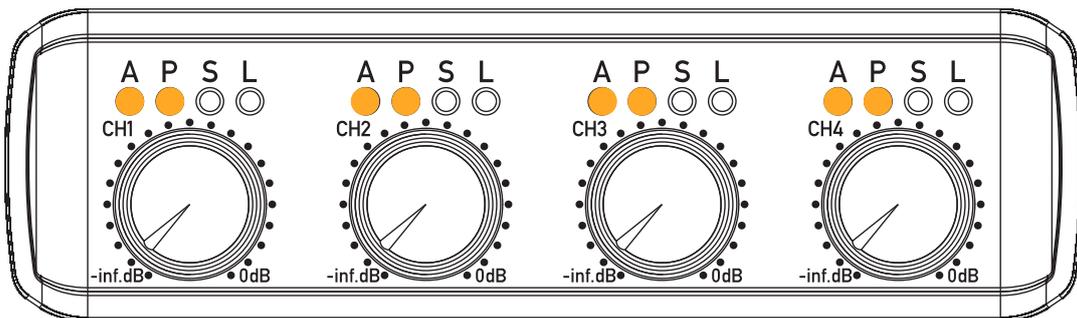
If the amplifier is to drive high impedance speaker loads (70 or 100v) then Bridge mode must be enabled, it is possible to have half the QX-4150 running high impedance loads and the other half running low impedance loads, e.g. Ch 1&2 Bridged 70/100v and Ch 3&4 connected to separate 4/8 ohm loads or bridged to 4/8 ohm or 70/100v.



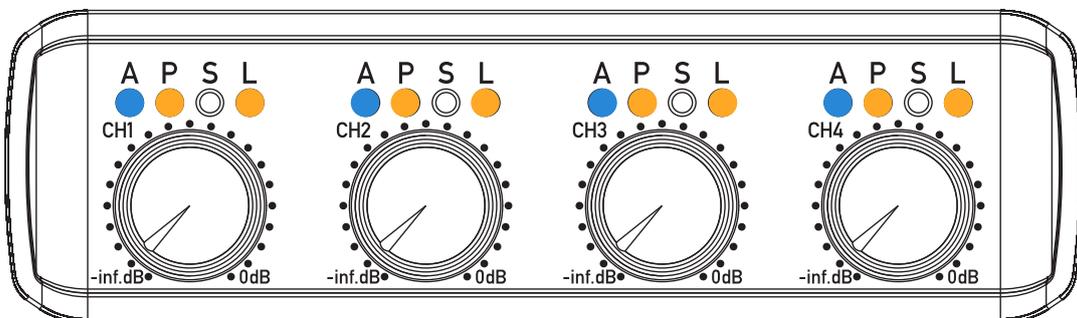
OPERATION MODES



Active Mode is indicated by a Blue LED, the amplifier is connected to power and ready to pass signal.



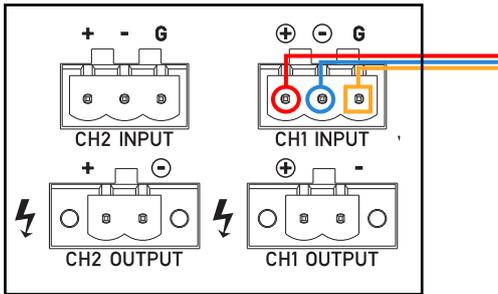
The Orange LED indicates the amplifier is in Standby, a power saving mode. This mode can be enabled by toggling the under panel A-STBY switch from Off to On. In this mode if no signal is detected for 25 mins the amplifier will "sleep" and wake within 660ms of detection of signal.



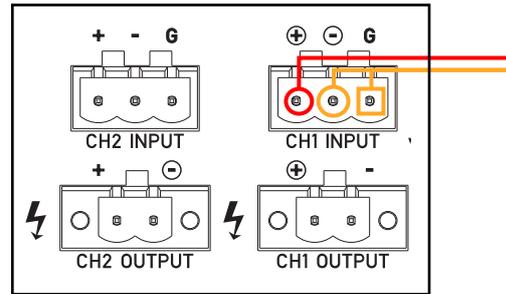
Mute mode puts the amp into a "light sleep" and occurs when the Standby option has been selected and no signal has been detected for 10mins, if the amplifier detects signal it will wake within 1ms. When no signal has been detected for 25 mins full sleep mode will activate.



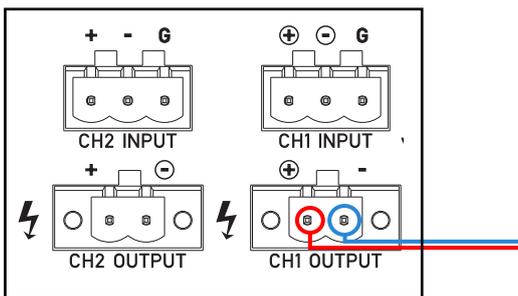
INPUT/OUTPUT WIRING



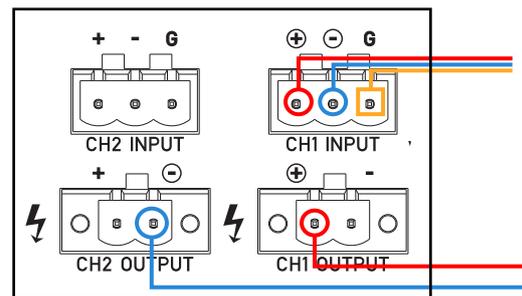
Balanced Input Wiring



Unbalanced Input Wiring

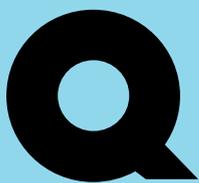


Output Wiring



Bridged-Mono Balanced Wiring

If the amplifier is to be used in Bridge Mono mode for low impedance speakers or to drive high impedance loads (70-100v), the under panel Bridged Mono control switch should be in the On position and input connection wired to input 1 for channels 1&2 and channel 3 for channels 3&4. This can easily be remembered by noting the circle around the + and - signals on input connectors 1&3.



SPECIFICATIONS

MODEL	PER CHANNEL				BRIDGED-MONO MODE			
LOAD	80hm	40hm	70V (220hm)	100V (330hm)	80hm	40hm	70V	100V
Maximum Dynamic Power (@1kHz, 1% THD)	4x 200W	4x 275W	NA	NA	2x 550W	2x 550W	2x 550W	2x 550W
Maximum Continuous Power (@1kHz, 1% THD)	4x 150W	4x 150W	NA	NA	2x 280W	2x 260W	2x 250W	2x 240W

Frequency Response	20-20kHz (+/-0.3dB)
Peak Output Current	25A
Dynamic Range	104dB (A-weighted)
Noise Level	-72dBu (A-weighted)
Distortion (1kHz@1W/80hm)	0.006%
Distortion (1kHz@50W/80hm)	0.006%
Crosstalk (1kHz@1W/80hm)	-90dB
Gain	26dB/32dB
Maximum Input Level	+24dBu
Input Type	Analogue Balanced 3-pin Phoenix (5.08mm pitch) + Optional Expansion Module
Input Sensitivity	+7dBu/+4dBu
Input Impedance	10kOhm
Output Resistance	22.5mOhm/43.6mOhm
Front Controls	Volume Adjust, 80Hz HPF Enable, 100Hz LPF Enable, Bridged-Mono Enable, Limiter Enable, Auto-Standby Enable
Indicators (LEDs)	Blue/Orange Active/Standby
	Orange Protection
	Green Signal Detection
	Orange/Red Limiter/Clip
Cooling	Fan cooled, temperature dependent

Features	Wake On Music, Auto-Mute (1ms wake-up), Limiting on High Temperature
Amplifier Protection Systems	Thermal protection, Over-Current Protection, DC Protection, HF Protection
Mains Input Voltage Range	85VAC - 265VAC
Standby Power Consumption	3.8W
Muted Power Consumption	9.5W
Idle Power Consumption	16W
Standard Power Consumption (Pink Noise@ 1/8th Rated Power, 80hm)	75W
Output Connector	2-pin Phoenix (5.08mm pitch) with a screw lock
Mains Connector	Standard IEC C14
Dimensions (H x W x D)	44 x 482 x 344 mm (1.75 x 19 x 13.5")
Weight	5.3kg (11.7 lbs)
Accessories	Mains Cable, Feet, User Manual, Phoenix Plugs

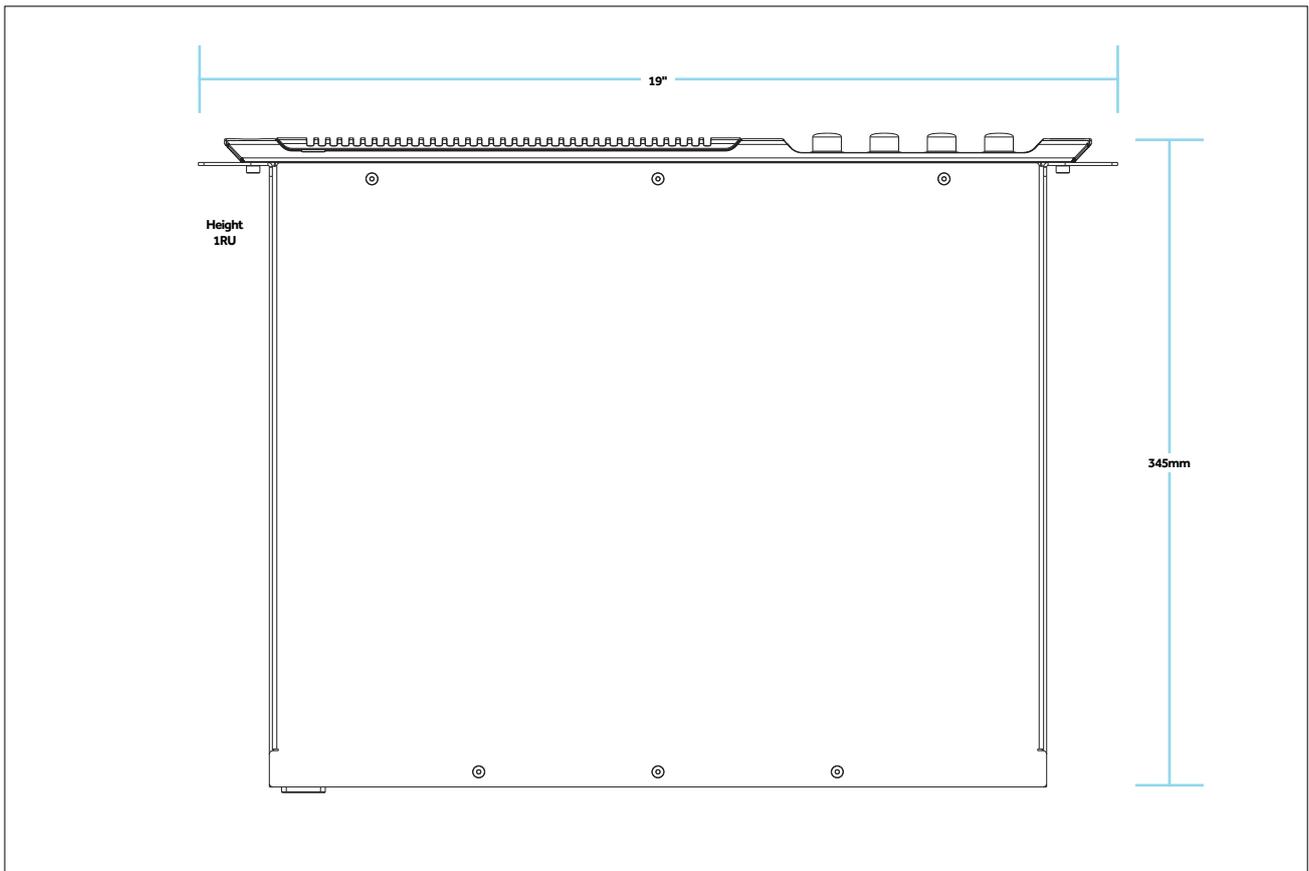
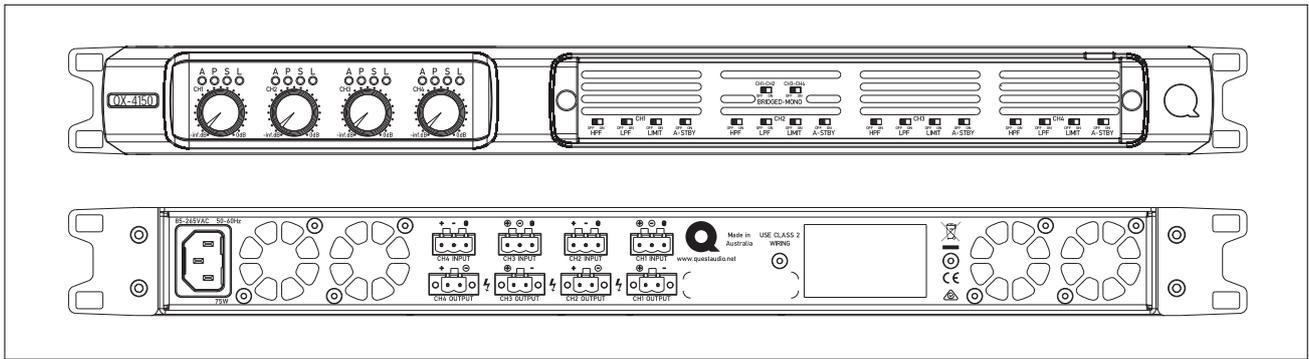
* All specifications were measured at 240VAC

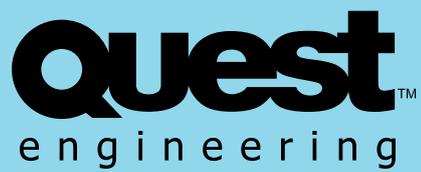
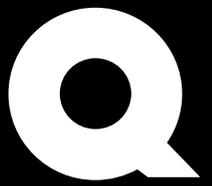
** Quest Engineering reserves the right to make changes in specifications, or products without prior notice.

*** The figures shown above are 'real world', usable specifications and are conservative as a result. Quest Engineering does not believe in portraying misleading or exaggerated specifications.



TECHNICAL DRAWINGS





REGISTER YOUR PRODUCT

Thank you for choosing Quest. Please take the time to complete your product registration.

Registering your Quest Engineering product will:

- Confirm your warranty
- Register your product
- Protect your new product

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For spare parts and service,