

# XR SERIES

## Professional Power Amplifier OPERATING MANUAL AND USER GUIDE



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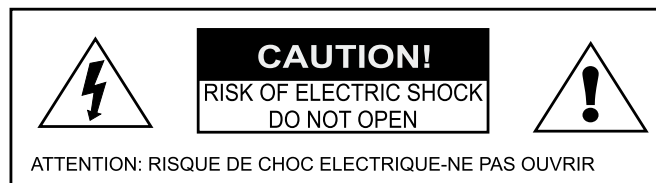
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# IMPORTANT WARNINGS & SAFETY INSTRUCTIONS.

1. Read these instructions
2. Follow all instructions
3. Keep these instructions
4. Heed all warnings
5. Do not use this apparatus near water
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of a polarised or grounding plug. A polarised plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding blade. The wide blade or the third blade is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at the plug, receptacle and or the point where it exits from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Only use a stand, tripod, bracket or rack specified by the manufacturer, or sold with the apparatus. When a rack is used, use caution when moving the rack and apparatus combination to avoid tip-over or injury.



13. Unplug the apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way including but not limited to power supply cord or plug damage, liquid ingress, foreign objects in the chassis, exposure to rain/moisture or impact damage. In addition the unit must be serviced when you experience any abnormal operation.
15. CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not attempt to perform any servicing other than that contained in the operating instructions unless you are qualified to do so. In addition opening the casing will result in your warranty becoming null and void.
16. Do not install this apparatus in a confined space such as a book case or similar unit. Good ventilation should be maintained around the apparatus. Any vents, air-inlets or fans should not be obstructed by objects such as paper, table-cloths, curtains etc.
17. WARNING: To reduce the risk of fire or electric shock, do not expose the apparatus to rain or moisture. The apparatus should not be exposed to dripping or splashing and objects filled with liquids, such as vases, should not be placed on the apparatus.
18. WARNING: The mains plug/appliance coupler is used as a disconnect device, the disconnect device shall remain readily operable.



19. The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
  - Warning: To reduce the risk of electric shock, do not remove the cover (or back) as there are no user-serviceable parts inside. Refer servicing to qualified personnel.
  - The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.
20.  (Protective earthing terminal) The apparatus should be connected to a mains socket outlet with a protective earthing connection.
21.  Correct Disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use local return and collection systems or contact the retailer where the product was purchased. They can take this product for safe environmentally friendly recycling.

# INTRODUCTION

Congratulations on the purchase of your XR series professional power amplifier. Wharfedale Pro XR amplifiers are the result of many years of experience in the use, design and manufacture of professional audio equipment.

We take great pride in engineering and building every Wharfedale Pro product and wish to thank you for entrusting us with your sound.

From the time Gilbert Briggs built his first loudspeaker in 1932, to the present day, Wharfedale have maintained the same standard of quality in components, workmanship and performance.

Please take the time to read this manual completely in order to ensure that you get the most from your XR power amplifier.

## ABOUT THE XR SERIES

Suitable for portable sound reinforcement or fixed installations, the series features 5 models that deliver between 350W and 1460 W per channel into a 4 ohm load in a rugged 2U, 19" rack mount enclosure. An advanced transformer power supply and Class AB/H topology deliver high power with low distortion in a compact and light weight form factor.

A full suite of protection includes thermal, over-current, DC, short circuit protect and power on/off mute. The XR series features XLR inputs and linked outputs with a maximum input level of +22dBu allowing integration with any typical professional audio system. The variable speed fans keep the amplifier rack quiet when not in use. The XR series features 3 different operating modes, parallel, stereo and bridge.

## FEATURES

XR800: 350 W\*2@4Ohms (RMS), 230 W\*2@8Ohms (RMS), 690 W@8Ohms (BTL)

XR1500: 550 W\*2@4Ohms (RMS), 400 W\*2@8Ohms (RMS), 1080 W@8Ohms (BTL)

XR2500: 780 W\*2@4Ohms (RMS), 530 W\*2@8Ohms (RMS), 1550 W@8Ohms (BTL)

XR3000: 1050 W\*2@4Ohms (RMS), 700 W\*2@8Ohms (RMS), 2050 W@8Ohms (BTL)

XR3500: 1460 W\*2@4Ohms (RMS), 1020 W\*2@8Ohms (RMS), 2800 W@8Ohms (BTL)

\*Power ratings at THD 1%

2 channels XLR inputs with link outputs

3 operation modes (PARALLEL, STEREO and BRIDGE)

Power, Protect, Signal and Limiter indicators

Thermal protect, over current protect, DC protect, output short protect, power on/off mute

Ultra quiet variable speed fans

Speakon outputs for speakers

2U rack mount chassis

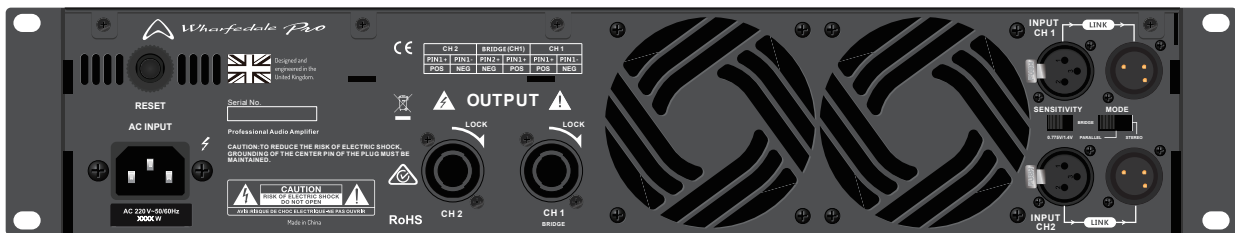


# FRONT PANEL FEATURES AND CONTROLS



1. FAULT LED: Illuminates when the amplifier is in protect mode due to short circuit, over current or thermal overload.
2. CLIP LED: Illuminates when the amplifier is being driven into clipping.
3. SIGNAL LED: Indicates presence of signal on the channel.
4. POWER LED: Illuminates when the amplifier is connected to mains power and switched on.
5. Input Trim: Controls the output level of the amplifier.
6. Power switch. To power the amplifier ON or OFF.

# REAR PANEL – FEATURES AND CONTROLS.



1. When using the amplifier, you should check whether the selected voltage is correct. If the voltage is wrong it could damage the amplifier. Please ensure that the device is connected to a power supply with a ground connection.
2. The CH1 and CH2 input connectors are for direct connection from a mixer. The link connection allows the input signals to be daisy-chained to other amplifiers.
3. Output connection: Amplifier has two output channels Ch1&CH2; they provide output through the SPEAKON connection socket.
4. When an amplifier is overloaded, the button of the circuit breaker will immediately become unsprung and will power off automatically to protect the amplifier. You must consider the reason for this overload condition and make suitable adjustments to the system. After that, press the button of the circuit breaker and the amplifier can resume its normal operation.
5. STEREO mode makes the two channels work independently. CH1 input signal goes to CH1 output and CH2 signal goes to CH2 output. BRIDGE mode makes CH1 input signal go to the BRIDGE output socket. This is controlled by using the CH1 volume control. PARALLEL mode makes CH1 input signal go to both CH1 and CH2 output sockets. The input socket of CH2 has no effect. The channel volumes can be adjusted independently.
6. Sensitivity mode : This adjusts the input sensitivity.

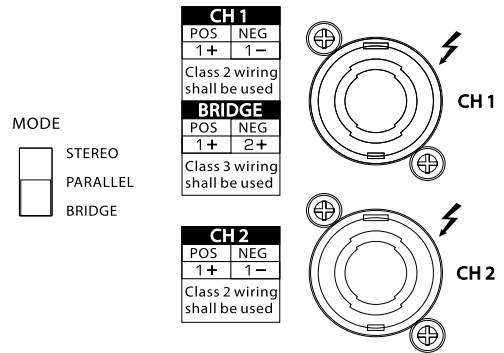
# OPERATING MODE SWITCHES

There are 3 different operating modes switchable for the XR series amplifiers.

**STEREO** - Each channel remains independent. The amplifier may be used for two different signals.

**PARALLEL** - This setting connects both inputs together. One signal feeds both channels. Each channel's Gain control and loudspeaker connection remain independent.

**BRIDGE** - This setting combines both channels into a single channel with twice the output power. Use only the first channel's input and Gain control. Set the second channel's Gain control at maximum. The load must be rated for the higher output power.



# OUTPUT WIRING

The XR Series employ Speakon output connectors. Ensure that only heavy gauge two conductor speaker cables with professionally wired Speakon connectors are used for connection from amplifier to loudspeaker.

**STEREO and PARALLEL Mode**- Connect each loudspeaker to its own channel of the amplifier, as shown on the left side of the Speakon. The Mode switches must be set for Stereo or Parallel Mode.

**BRIDGE Mode** Bridge Mode configures the channel pair to drive a single audio circuit. The Mode switches must be set for Bridge Mode. Connect the load as shown on the left side of CH 's Speakon.

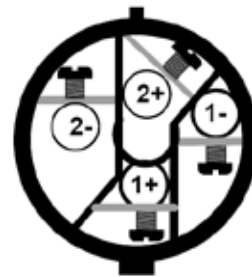
**WARNING:** Do not use less than 4 ohm load in Bridge Mode!

**WARNING:** Note polarity of connection for Bridge Mode.

**OUTPUT WIRING WARNING:** Class 2 wiring shall be used.

For Bridge Mode, class 3 wiring shall be used.

**OUTPUT SAFETY WARNING:** Make all connections with amplifier turned off. Risk of hazardous energy!

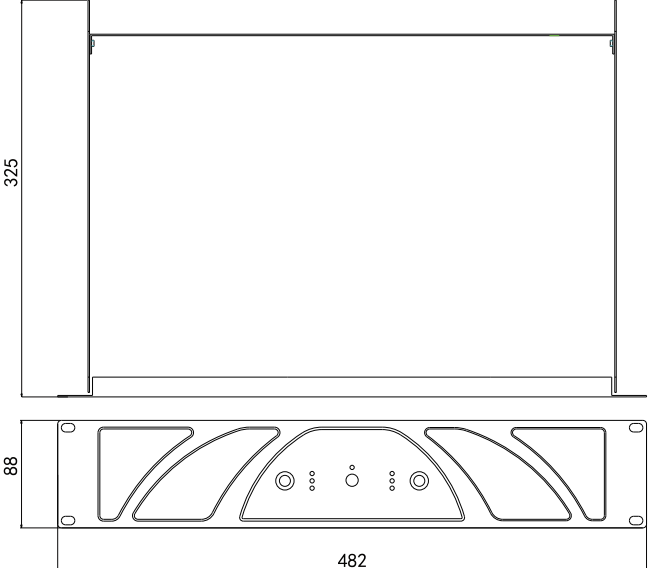


	STEREO/ PARALLEL	BRIDGE
CH 1	+ = Positive - = Negative	+ = Positive 2+ = Negative
CH 2	+ = Positive - = Negative	No use

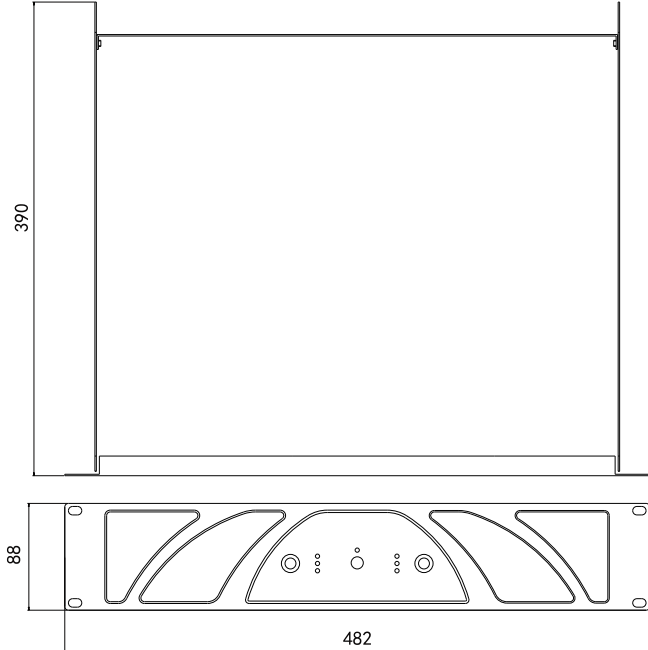
# QUICK START GUIDE

1. Make sure that the power switch is set at the OFF position while making connections to and from the power amplifier.
2. Connect all devices in the signal path and ensure that each connection is secure.
3. Set all level and gain controls to their minimum.
4. After powering up all other devices first, turn on the XR amplifier and verify that the POWER LED is illuminated.
5. Turn the amplifier volume control up to the 3 o'clock position. (This setting can be adjusted higher or lower, as needed, after set-up). With source signal present starts to set each gain stage in your signal path, starting at the beginning of the chain. It is best practice to make overall volume changes with the master fader of your mixing console once the amplifier input trim has been calibrated.
6. When powering down, make sure that the power amplifiers are switched off first.

# DIMENSIONS

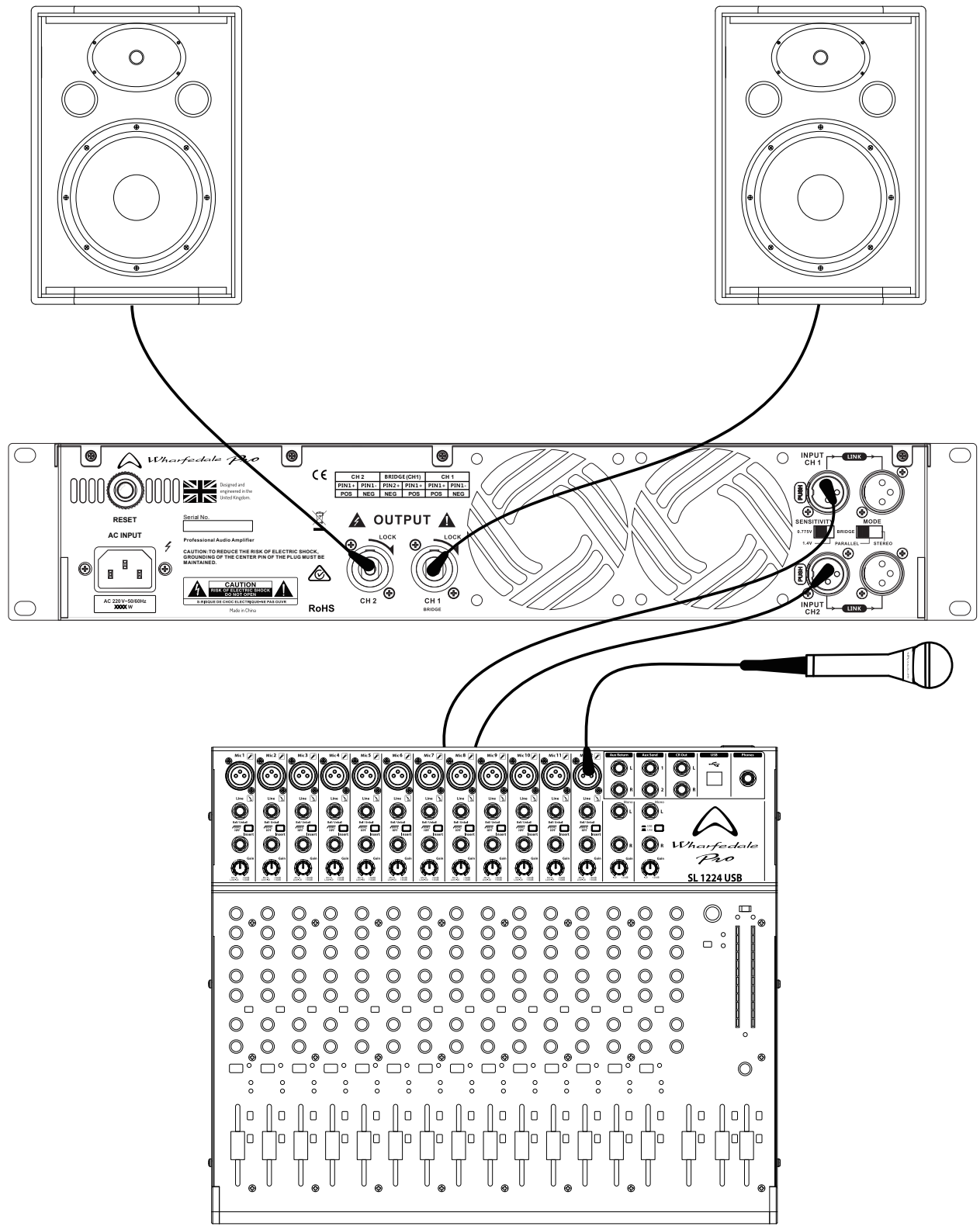


XR800, XR1500, XR2500, XR3000



XR3500

# WIRING DIAGRAM



# SPECIFICATION

Rated power /model	XR800	XR1500	XR2500	XR3000	XR3500
4Ω stereo(per channel) THD 1%	2x350W	2x550W	2x780W	2x1050W	2x1460W
8Ω stereo(per channel) THD 1%	2x230W	2x400W	2x530W	2x700W	2x1020W
8Ω bridge mono THD 1%	690W	1080W	1550W	2050W	2800W
Voltage Gain	29dB	31dB	33dB	34dB	37dB
Frequency Response(at 1 Watt)	20Hz-20KHz, +0-1dB				
Total Harmonic Distortion (THD@1W)	<0.05%,20Hz-20KHz				
Slew Rate	>20V/us				
Damping Factor(8ohms)10Hz-400Hz	>200				
Signal-to-Noise Ratio (below rated power,20Hz to 20kHz. A-weighted)	>100dB				
Crosstalk(below rated power) At 1kHz At 20kHz	-75dB -58dB				
Input Sensitivity for full rated power at 8Ω	0.775V or 1.4V				
Input impedance(nominal) Balanced Unbalanced	20k ohms 10k ohms				
<b>Construction</b>					
Protection	Protection against short circuits, no-load, on/off muting, RF interference.				
Ventilation	Flow-through ventilation from front to back				
Cooling	Internal heat sinks with forced air. Fan cooled, speed regulated, thermal protection				
Power cord specification	Plug : 10A , 250V Wire:3x1.0mm <sup>2</sup>				
Chassis size( unit mm)	482*325*88				482*390*88
Net weight	12.00kg	13.30 kg	14.00 kg	14.10 kg	16.00kg
Gross weight	15.20 kg	16.35 kg	17.20 kg	17.30 kg	21.30 kg

### **WHARFEDALE PRO LIMITED WARRANTY**

Wharfedale Pro products are warranted of manufacturing or material defects for a period of one year from the original date of purchase. In the event of malfunction, contact your authorized Wharfedale Pro dealer or distributor for information.

\*Be aware that warranty details may differ from country to country. Contact your dealer or distributor for information. These terms do not infringe your statutory rights.



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