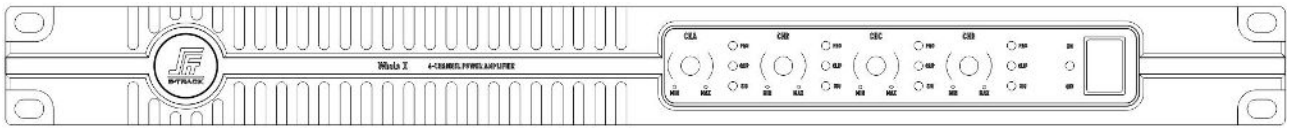
S-TRACK



Whale X4150
Digital Amplifier

User Manual

Preface

The purpose of this section is to ensure that the user is able to use the product correctly through this manual in order to avoid danger in operation or property damage. Before using this product, please read the product manual carefully and keep it for future reference.

Outlined

This manual applies to Digital Amplifier.

This manual describes the functions and use of the various functional modules of the Digital Amplifier, and guides you through the installation and commissioning of the Digital Amplifier.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
Note	Provides additional information to emphasize or supplement important points of the main text.
Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

Danger

To ensure reliable use of the equipment and the safety of personnel, please observe the following during installation, use and maintenance:

- During the installation and use of the equipment, all electrical safety regulations of the country and the region of use must be strictly observed.
- When installing the equipment, make sure that the input power of the equipment is 100V-240V, 50/60Hz AC power.
- Keep the working environment well ventilated so that the heat generated by the equipment during operation can be discharged in time to avoid damage to the equipment due to excessive temperature.

- Always unplug the unit's power adapter from the AC power outlet before: A. Removing or reinstalling any part of the equipment; B. Disconnecting or reconnecting any electrical plug or connection of the equipment. Do not operate with electricity.
- There are AC high-voltage parts in the equipment, non-professionals should not disassemble them without permission to avoid the risk of electric shock. Do not repair the equipment privately to avoid aggravating the damage.
- Do not spill any corrosive chemicals or liquids on or near the equipment.
- If the unit emits smoke, odour or noises, turn off the power immediately and unplug the power cord, and contact your dealer or service centre.
- If the appliance is not working properly, contact the shop where you purchased the appliance or the nearest service centre and do not disassemble or modify the appliance in any way. (We cannot be held responsible for problems caused by unapproved modifications or repairs).

Caution

- Do not drop objects on the equipment or vibrate the equipment vigorously, and keep the equipment away from locations with magnetic field interference. Avoid installing the equipment in a place where the surface vibrates or is susceptible to shock (neglecting this may damage the equipment).
- Do not use the equipment in high temperature, low temperature or high humidity environments. Refer to the equipment's data sheet for specific temperature and humidity requirements.
- Use the unit indoors, not in an exposed installation where it may be exposed to rain or extreme humidity.
- When the equipment is not used for a long period of time or in a humid and dewy environment, the main power supply of the equipment should be switched off.
- When cleaning the equipment, please use a sufficiently soft dry cloth or other alternatives to wipe the internal and external surfaces, do not use alkaline detergent to wash, and avoid hard objects to scratch the equipment.
- Please keep all the original packaging materials of the equipment properly, so that in case of problems, use the packaging materials to pack the equipment and send it to the agent or return it to the manufacturer for processing. We will not be responsible for any accidental damage in transit not caused by the original packaging materials.

Note

- Requirements for the quality of installation and commissioning personnel

  Qualifications or experience in the installation and commissioning of audio and video systems and qualifications to perform related work, in addition to the knowledge and operational skills listed below.

  - Basic knowledge and installation skills of audio and video systems and components.

- Basic knowledge and skills in low voltage cabling and wiring of low voltage electronics.
- Basic audio and networking knowledge and skills and the ability to read and understand the contents of this manual.

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Chapter 1 Product Introduction

1.1 Introduction

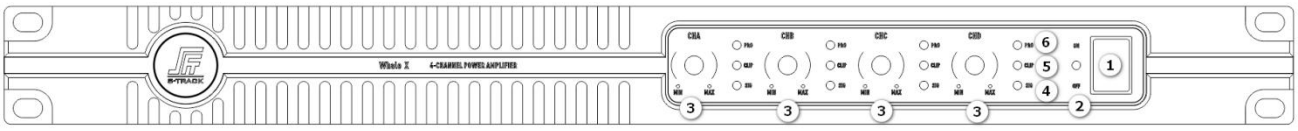
This is a 150W 4-channel Class D digital amplifier designed using PWM (Pulse Width Modulation) amplification technology. It features power supply overcurrent protection, amplifier DC output protection, thermal protection, and overload protection.

1.2 Product Features

- ✧ Features a 1U chassis design based on PWM (Pulse Width Modulation) amplification technology, offering high efficiency, compact size, and lightweight construction;
- ✧ XLR input and XLR cascade output;
- ✧ Supports 4Ω/8Ω fixed-impedance output, compatible with fixed-impedance speakers;
- ✧ Built-in mono, stereo, and bridge mode switches;
- ✧ Built-in thermal protection; the device automatically reduces power output as temperature rises;
- ✧ DC output protection and output overload protection, with indicator lights for alerts.

Chapter 2 Interface Description

2.1 Front Panel



① Power switch: Turn the amplifier's power on or off;

② ON/OFF: Power indicator, the indicator light is always on to indicate that the device is powered normally;

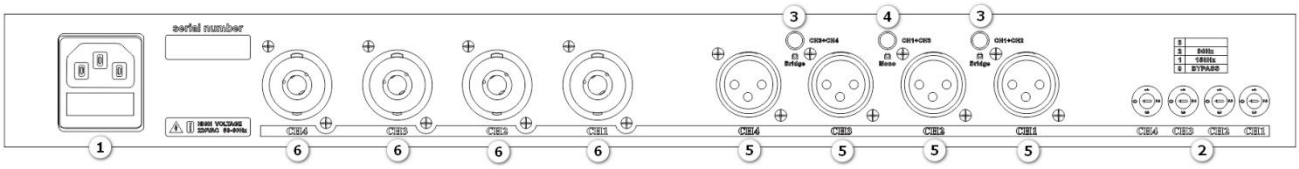
③ Potentiometer: Adjusts the volume of the analog signal input to the amplifier;

④ Signal indicator light: When there is an audio signal input to the device, the indicator light flashes. When there is no signal input, the indicator light turns off;

⑤ Clipping indicator light: When audio signals are distorted, this indicator light flashes. When the indicator light remains lit, the signal is severely distorted. At this point, the input level should be reduced until the signal indicator light returns to normal;

⑥ PRO Indicator: When the PRO indicator lights up, it indicates that the amplifier's output relay has tripped due to a fault in that channel, thereby disconnecting the speaker. The indicator on the amplifier's front panel will not turn off until the fault is resolved. Once the fault is resolved, the output relay for that channel will close, reconnecting the speaker, and the amplifier will resume normal operation. If the PRO indicator remains lit after the fault has been resolved, please turn off the power switch.

2.2 Rear Panel



① Power connector: Connects to a 100V～240V AC power source at 50/60 Hz;

② Low-Pass Filter control knob: Switches between low-pass filter modes; 0 is bypass, 1 is 150 Hz, and 2 is 90 Hz;

③ Bridge Button: Press to toggle Bridge mode; release to switch to Stereo mode;

④ Mono Button: Press to toggle Parallel mode; release to switch to Stereo mode;

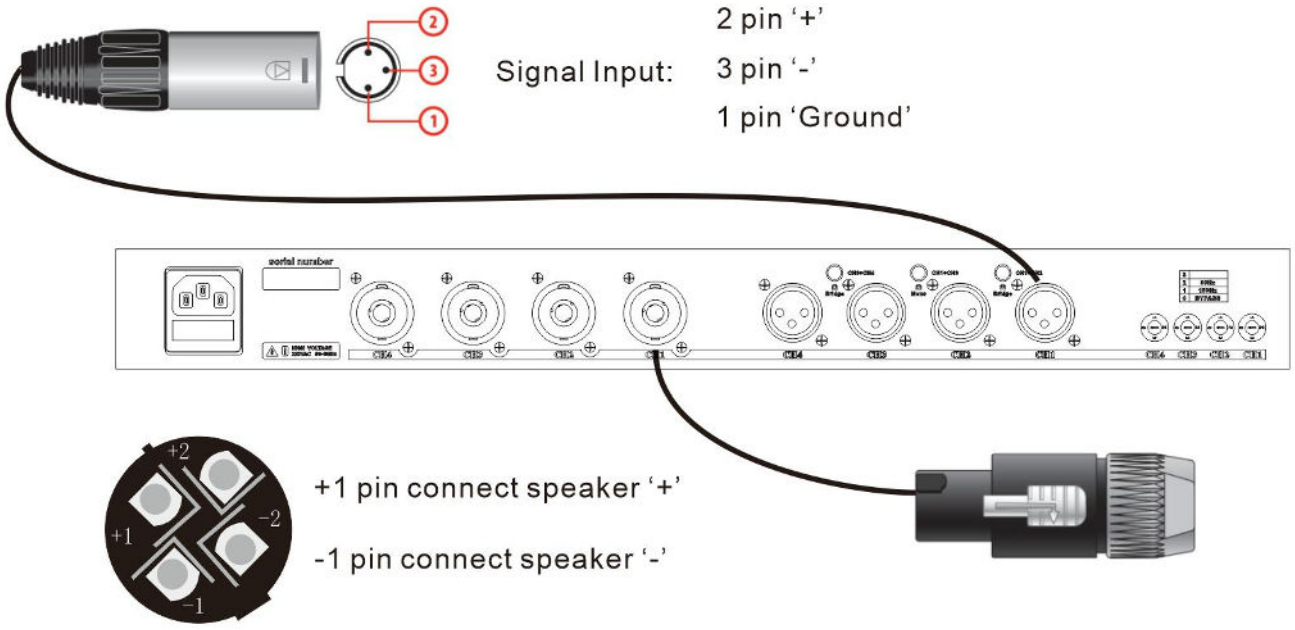
⑤ Signal Input Connector: Analog signals entering the amplifier are fed through this input connector, connecting to devices such as mixing consoles and audio processors;

⑥ Signal Output Connector: The amplified analog signal is output through this connector and connected to speakers.

Chapter 3 User Guide

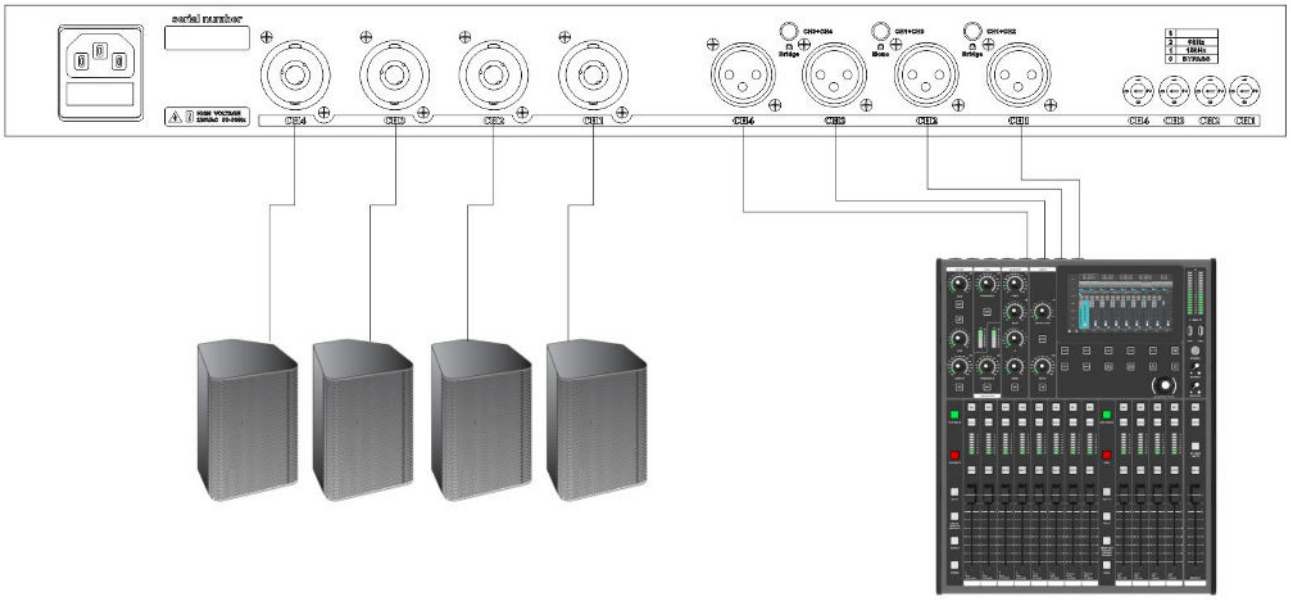
3.1 Device Connection

The amplifier's input connections support XLR balanced connectors, while the output interfaces support speakON Loudspeaker Connectors. The wiring configuration is as follows:



3.2 Stereo Mode

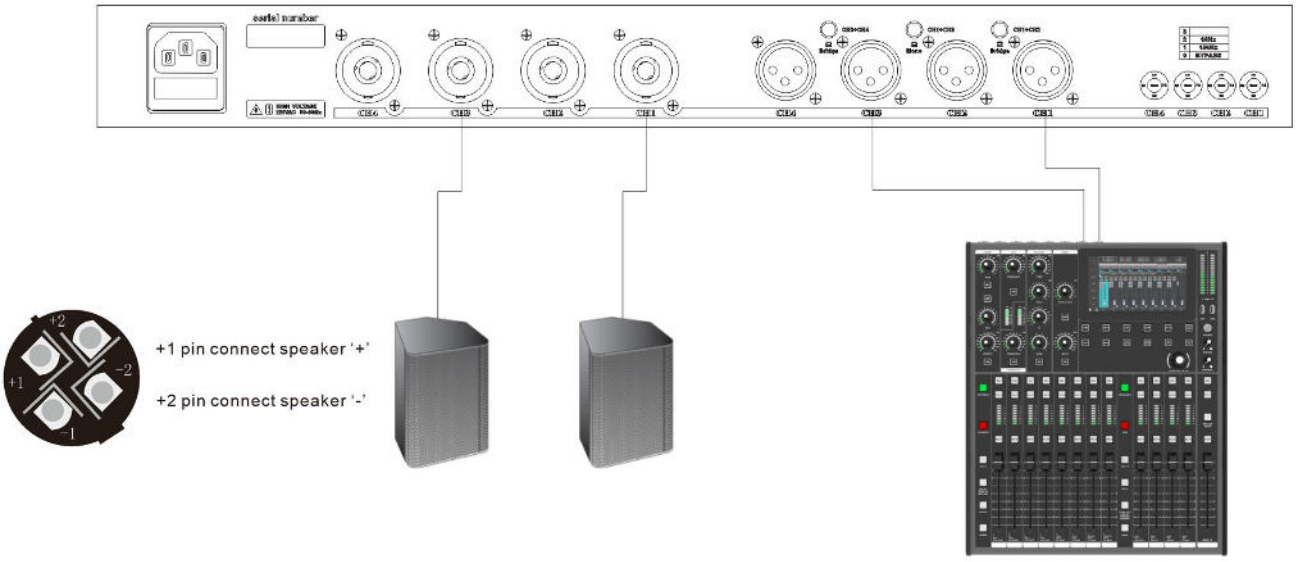
The default setting is stereo mode, with the four channels (CH1, CH2, CH3, and CH4) operating completely independently. The input for CH1 drives only the CH1 output, the input for CH2 drives only the CH2 output, the input for CH3 drives only the CH3 output, and the input for CH4 drives only the CH4 output. Connection as shown in the figure below:



3.3 Bridge Mode

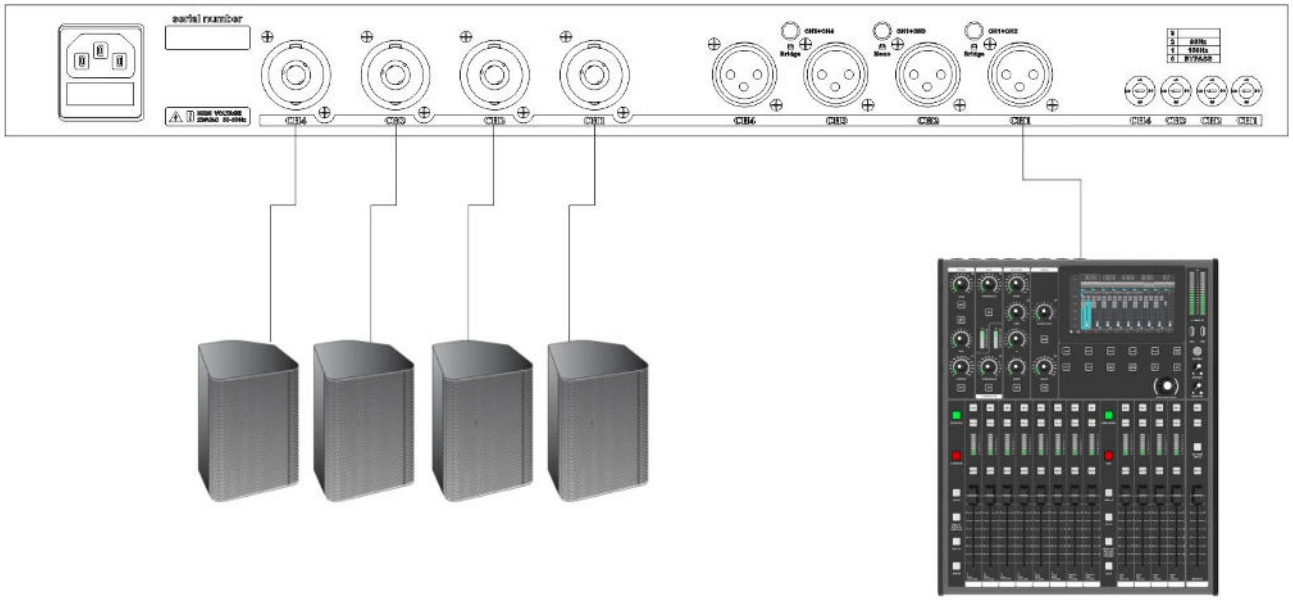
Set to bridge mode, which supports single-channel bridging. Connect the "+1" and "+2" terminals on the CH1 SpeakON connector to the positive and negative terminals of the speaker, respectively, to

double the power output. Connect the “+1” and “+2” terminals on the CH3 SpeakON connector to the positive and negative terminals of the speaker, respectively, to double the power output. Connection as shown in the figure below:



3.4 Mono (Parallel) Mode

Parallel mode, in which the input signal from CH1 is internally connected in parallel to the inputs of CH2, CH3, and CH4, ensuring that all four channels receive exactly the same input signal. However, the amplification and output circuits for the four channels remain independent, each driving its own speaker. Connection as shown in the figure below:



Chapter 4 Specification

Stereo 8Ω Output Power	4×150W
Stereo 4Ω Output Power	4×250W
Bridge 8Ω Output Power	2×300W
Frequency Response	20 Hz–20 kHz (+0/-1 dB, 1 W/8 Ω)
Total Harmonic Distortion	<0.05% (20 Hz–20 kHz, 1 W)
Input Sensitivity	0.775 V
Input Common-Mode Rejection Ratio	>80 dB
Damping Factor	>300 @ 8 Ω
Input Connector	XLR female
Input Impedance	10 kΩ balanced
Signal-to-Noise Ratio	>103 dB
Power Supply Voltage	AC 100V～240V, 50Hz/60Hz
Power Amplifier Protection	Short circuit, open circuit, DC voltage, overheat, overvoltage
Product Dimensions (L x W x H)	483mm x 298mm x 44mm
Package Dimensions (L x W x H)	548mm x 365mm x 104mm
Net Weight	5.2 kg
Package Weight	6.3 kg

Warranty Regulations

The warranty period of this product is 1 year.

In the warranty period of non-man-made damage caused by the product performance failure can enjoy three packages of service.

Warranty card by the sales unit stamped after the effective. The alteration is invalid!

The following conditions (including, but not limited to, this) are not covered by the three-package service:

1. No warranty card or missing valid invoice or the date has exceeded the validity period of the three packages of services;
2. Not in accordance with the requirements of the product instructions for use, maintenance, management and damage caused;
3. The product model or code on the warranty voucher does not match the physical goods;
4. Damage caused by the dismantling and repair of non-authorised service providers;
5. Normal discolouration, wear and tear and consumption during the use of the product are not covered by the warranty;

The product cannot be used due to the user's own network reasons, please consult customer service staff.



SHENZHEN S TRACK SCIENCE TECHNOLOGY CO., LTD

Web: www.s-track.com.cn Tel:+86 755 29983191 Mail:service@s-track.cn

Add: 9F, 1B, Shangzhi Technology Park, Guangming District, Shenzhen City, Guangdong Province, China 518107