WOO AUDIO WA8 Eclipse

Battery-operated Headphone Amplifier

&

24-Bit/384kHz Digital to Analog Convertor

Owner's Manual

Please review this manual before operating your WOO AUDIO™ product.

Important Safety Information

Keep away from water and moisture
Never use or install electronic products near water, ie., near a bathtub, sink, washing machine, in a wet basement, near a swimming pool, or anywhere else the product may be exposed to water or moisture.

Turn off immediately in the event of malfunction!
Should you notice smoke or an unusual smell coming from the equipment, turn it off immediately. Continued operation could result in injury.

Do not disassemble
The unit contains high voltage circuitry. Touching the amplifier's internal parts may result in injury. In the event of malfunction. the product should be repaired only by Woo Audio technicians.

Keep out the reach of children
Failure to observe this precaution could result in injury

WARNING: Failure to follow these instructions could result in fire, electric shock, or other injury or damage.

Clean with a moist soft cotton towel. Do **not** scrub vigorously or use an abrasive pad as you may scratch the item. Do **not** use solvent.

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Overview

Woo Audio's epic WA8 Eclipse is the world's first battery-operated vacuum tube headphone amplifier. Featuring SET Class-A transformer output for transparent sound quality, a built-in 24bit/384kHz DAC, and easy transportability/set-up, high fidelity audio listening is possible anywhere.. With its high power output, the Eclipse is capable of driving high-end headphones of 8–600 ohm impedance, while its ultra-low noise circuitry is ideal for in-ear monitors.

While portable, the Eclipse boasts a robust military-grade vacuum tube design rated for 5,000 hours of life. Versatile in analog and digital realms, it offers two- or three-tube operation to tailor the sound quality to a variety of headphones and in-ear monitors. The Class-A, Single-ended Triode topology uses ultra-efficient OCC single crystal copper output transformers offering high bandwidth and low loss. The Eclipse also uses an audiophile-grade ESS SABRE Reference 24bit/384kHz DAC, excelling with hi-res music files and compatible with Apple iOS and Android devices.

The Eclipse operates via external DC power or "off-the-grid" battery operation. Advanced technology provides steady and pristine power to the vacuum tubes and the DAC, offering several hours of play – and the unit is operable during charging. For the first time, high-fidelity and uncompromised sound can be achieved without boundaries.

Features

o   Advanced battery power management offers steady and pristine source to both amplifier and DAC

o   The most compact high power all-tube amplifier

o   Precision volume control with premium touch and feel

o   Transportable size and form-factor, full-sized desktop-class amplifier/DAC performance.

o   User replaceable vacuum tubes kit available for purchase

o   Included premium quick battery charger

o   Included Pelican carrying case with custom foam inserts to provide maximum protection

o   Included USB 2.0 cable

o   Multi-layer military grade PCBs

o   Driver for Windows Vista/XP/7/8/10

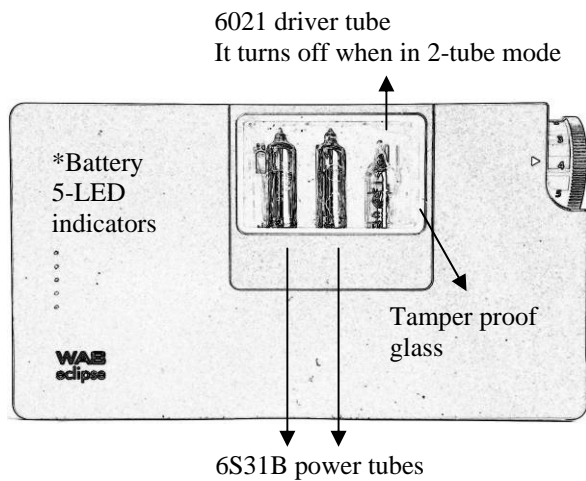o   USB Audio Class 2.0 is natively supported by Apple OS X version 10.6.4 and above
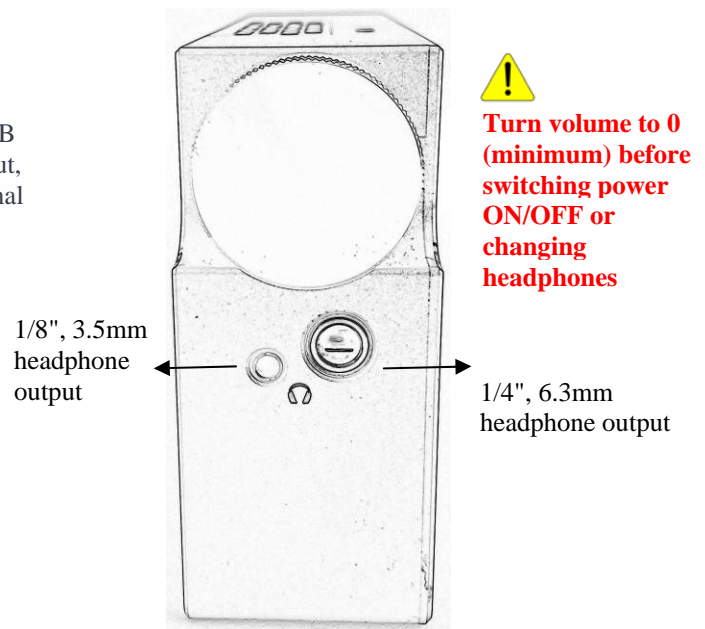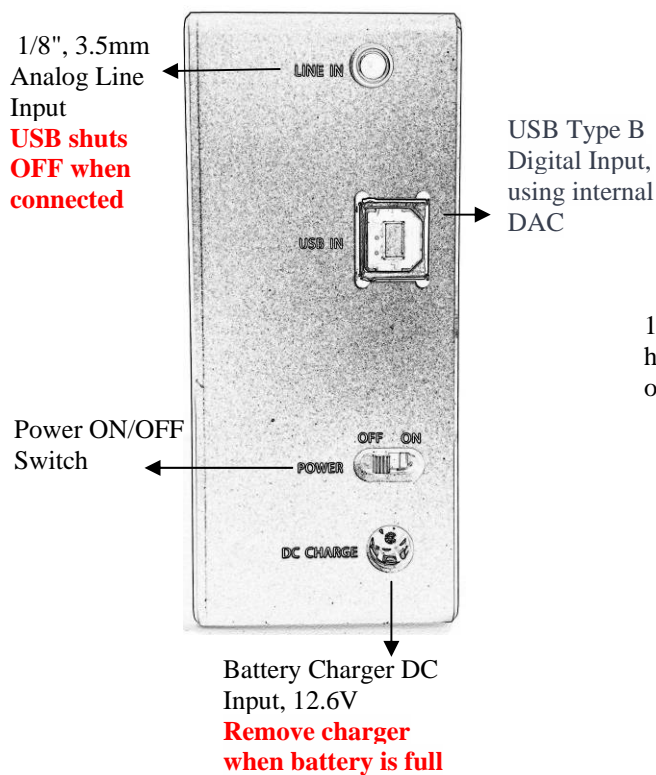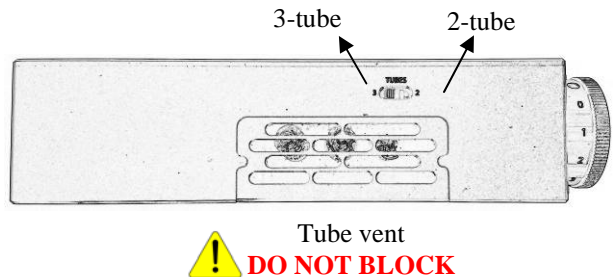
Getting Started

What's in the box?

① IEC C7 5-foot AC power cord. (Australian or European style supplied according to shipping address)

② 12.6V / 1.5A battery charger with a 5-foot cord. The charger is a switching power supply that supports AC100 to AC240.

③ Type A to B USB cable

④ WA8 Eclipse. Vacuum tubes are pre-installed

⑤ Pelican hard case

Get to know your WA8 Eclipse

6021 driver tube
It turns off when in 2-tube mode

*Battery 5-LED indicators

Tamper proof glass

6S31B power tubes

⚠ **POWER OFF BEFORE SWITCHING**

2- or 3-tube Mode switch

3-tube   2-tube

Tube vent
⚠ **DO NOT BLOCK**

1/8", 3.5mm Analog Line Input
USB shuts OFF when connected

LINE IN

USB IN

USB Type B Digital Input, using internal DAC

Power ON/OFF Switch

POWER   OFF | ON

DC CHARGE

Battery Charger DC Input, 12.6V
Remove charger when battery is full

⚠ **Turn volume to 0 (minimum) before switching power ON/OFF or changing headphones**

1/8", 3.5mm headphone output

Ω

1/4", 6.3mm headphone output

* One LED means battery is critically low, charge immediately to avoid playback interruption.

* The amplifier can play music continuously up to 3.5 hours of playtime.

* Do NOT select the 2-3 Tube mode when the amplifier is power ON. Failure to do so can damage the unit and the sound will be distorted. Reset power cycle by power OFF then ON..

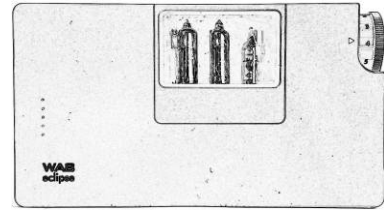*** Do NOT use the amplifier in a bag. Do NOT cover the unit when it is power ON.**
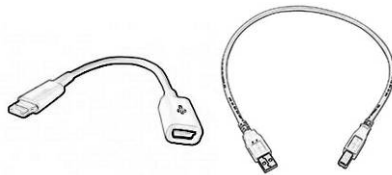
Connection Guide

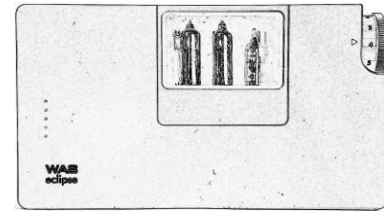
MAC and PC

USB A to
USB B cable

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iPhone 5 or newer,
iPad4 or newer

Lightning to USB
Camera Adapter
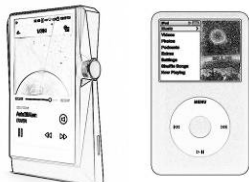**Apple Part
number: MD821AM/A
, or MK0W2AM/A**
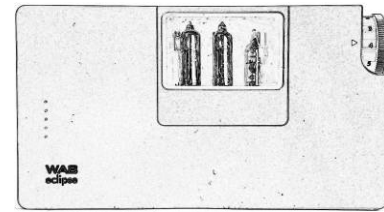
USB A to
USB B cable

Android Phone

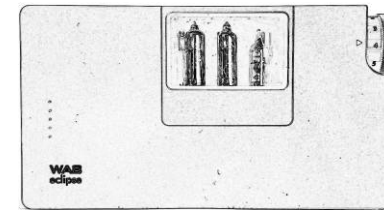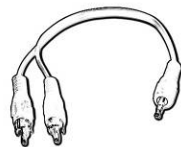Micro USB OTG
adapter

USB A to
USB B cable

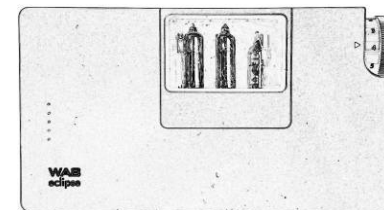Digital Audio Player such as
AK and iPod

mini to mini audio cable
WA8 internal DAC is bypassed

CD player, Turntable,
DAC, Network player

RCA to mini audio cable
WA8 internal DAC is bypassed

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www.wooaudio.com

Operation

Switching on the amplifier

Tubes will glow gradually. allow 10 seconds for the tubes to warm up to operate the amplifier

2. Slide power switch to ON

Battery LED will glow immediately

1 Insert headphone and set volume to 0

* Your source will not recognize the internal DAC when the amplifier is power OFF.

Charging Battery

It will take approximately 2.5 hours to fully charge the battery. Check LED indicator on the battery charger to determine charging status. Remove charger when battery is full.

Red LED means the battery is being charged

Green light means battery is fully charged or when the charger is disconnected from WA8

Headphone output

Both headphone jacks are active the same time. However, you will get the best sound quality when only one pair of headphones are being used.

Replacing the vacuum tubes

The WA8 Eclipse uses military-grade vacuum tubes with a few thousand hours of playtime. Replacing the tubes is very simple. Please contact Woo Audio to purchase a tube module with installation instructions.

Replacing Lithium-ion battery

Battery is factory replaceable. Battery should hold charge for many years under normal use.

Using the Asynchronous USB 2.0:

The USB 2.0 port is compatible with Windows, Mac OS, Android, and iOS.

Mac OS, Android, and iOS are natively supported and you do not need to install driver.

Installing the USB driver

*These steps only apply for Windows 7.

1. Plug in the USB 2.0 cable to the WA8 Eclipse and your computer.
2. Install the WA8 Eclipse Driver from the downloaded file from
   http://wooaudio.com/drivers/WA8-Eclipse-driver-for-Windows.exe
3. Follow on-screen instruction to complete the installation. Windows restart may be required.
4. Set USB Speakers as your default audio output.

> Go to My Computer -> Control Panel -> Hardware and Sounds -> Sounds -> Click XMOS USB Speakers -> Click Set Default

5. Now you're ready to enjoy music from your computer.

Configuring media player

TIPS: It is strongly recommended to use a media player that supports ASIO output mode for the highest playback quality.

Changing Output mode

Example is given for JRiver Media Center.

> Tools -> Options -> Audio Output -> Output mode -> select **XMOS USB Audio 2.0 ST 3066 [ASIO]**

FAQ - Frequently Asked Questions

Computer cannot find the WA8 Eclipse USB DAC.

- o Check USB cable connection and make sure the cable is USB 2.0 compatible.

- o See "Installing USB driver" section for configuration.

No sound.
- o Check that all vacuum tubes are glowing (3-tube mode), two tubes (2- tube mode). If tubes are not lit, check the battery indicators. Charge the battery if needed.

- o When using USB digital input, make sure the appropriate audio driver is installed, see above.

- o Check that if the USB output setting if USB input is used.

- o Try analog input

The sound is distorted.
Switch off the amplifier then switch it on to reset the power supply. If problem persists, check the source and the headphones.

There is a pop sound when switching ON/OFF the amplifier.
It is normal. You may remove headphones from the amp before switching OFF the amp.

Warranty and Service

Woo Audio warrants this product free from defects in materials and workmanship for one (1) year from the original date of purchase. The tubes are warranted for 30 days unless otherwise stated. In the event that your Woo Audio product requires servicing, please contact us directly to receive return instructions. Please do not discard original packing materials. If for any reason, the equipment is to be shipped back to Woo Audio, please use the original packaging, including a copy of sales purchase documents and a detailed explanation of the problem(s).

Send service inquiry to info@wooaudio.com

Any modification not authorized by WOO AUDIO will void this warranty.

Product Specification

Model:	WA8 Eclipse
Headphone amp design	All-tube, Single-ended, class-A, transformers output
Power supply	Rechargeable Lithium-ion battery, 3400mAh, 36.72Wh
Tubes used	One matched pair of 6S31B, one 6021
USB receiving chipset:	XMOS xCore Audio
DAC chip	ES9018K2M
Sampling Rate:	Up to 24-Bit, 384kHz
Inputs:	One Asynchronous USB2.0 digital, One 3.5mm (1/8") analog
Outputs:	One 6.3mm (1/4") and 3.5mm (1/8") headphone outputs,
Headphones impedance	8-600 Ohms
RCA input impedance	100 Kilo-Ohms
Max Output:	Approx. 350mW @ 45 ohms
Frequency response:	20Hz to 30kHz, +/-0.5dB
Supported devices:	XMOS xCORE-AUDIO asynchronous USB compatible with Mac, PC, Android and iOS devices
S/N:	100dB
Power consumption	25 Watts on charging
Battery charger	100-240V, 50/60Hz
Amp body finish	CNC-milled aluminum enclosure, available in anodized black, space gray, and gold
Dimension:	Dimension 6.69" (L) x 3.6" (W) x 1.69" (D) / 170mm (L) x 92mm (W) x 43mm (D)
Weight:	2.4lbs / 1.09kg (amplifier only)

**Woo Audio is committed to continuously improve its products.
We therefore reserve the right to improve on our design without notice.**