exaSound

e32 Mark II Digital to Analogue Converter

Owner's Manual (Windows)

PLEASE READ BEFORE OPERATION

DSD 256/12.288 MHz   DXD 32bit/352.8 kHz   MQA 24 bit/384 kHz

REV. 1.0.0d – 04/2018

Table of Contents

Welcome

Thank you for purchasing the exaSound e32 Mark II DAC!

The e32 DAC Mark II, a fourth generation exaSound device, empowers audiophiles to enjoy studio master quality files the way they were recorded - at their original format, sampling rate and resolution.

e32 Mark II features proprietary asynchronous USB streaming, ASIO and Core Audio drivers and FPGA core to achieve 32bit, low-jitter, bit-perfect signal path. It will play natively DSD encoded files up to DSD256, DXD 352.8kHz and PCM up to 384kHz.

e32 Mark II includes MQA technology, which enables you to play back MQA audio files and streams, delivering the sound of the original master recording.

e32 Mark II is a Roon Tested DAC. It has been profiled and tested by both Roon Labs and exaSound for maximum compatibility and best user experience with Roon.

e32 Mark II has vanishingly low jitter, distortion and noise levels, and astonishingly clean analog-like sound.

We hope that the e32 Mark II DAC will help you to enjoy world-class music experience for years to come. Please take a few minutes to read right through this manual. Investing a little time now is the best way to ensure that you make the most of your investment.

Your satisfaction is our highest priority.

Happy listening,

exaSound Audio Design
www.exaSound.com
CustomerService@exaSound.com

Quick Start Guide

Package Contents

The following items should be in the box:

- e32 Mark II DAC
- Power supply (may be supplied separately)
- A-B USB cable
- IR Remote Control

Proper Device Placement

Place the device on a stable solid base, far from heat sources. Do not expose the device to direct sunlight. Allow at least 2.5 cm (1'') around the device for ventilation. Do not place the device on fabrics, inside enclosed space, or in contact with curtains. Do not place the device on top of power amplifiers or any other equipment that emits heat. Do not expose the unit to smoke, humidity, moisture and water. Do not stack exaSound devices one on top of the other.

Keep the length of analogue interconnects and speaker cables short for optimal sonic performance. Remember that cables act as filters. Shorter cables have less impact on sonic performance. The shorter the cables, the more transparent they become.

⚠	Before using the device, please check the safety instruction on Page 24.

Front Panel Controls

Headphones accepts a standard 1/4-inch stereo single-ended phone plug. Use a suitable adapter for headphones equipped with a different plug.

Rear Panel Connectors
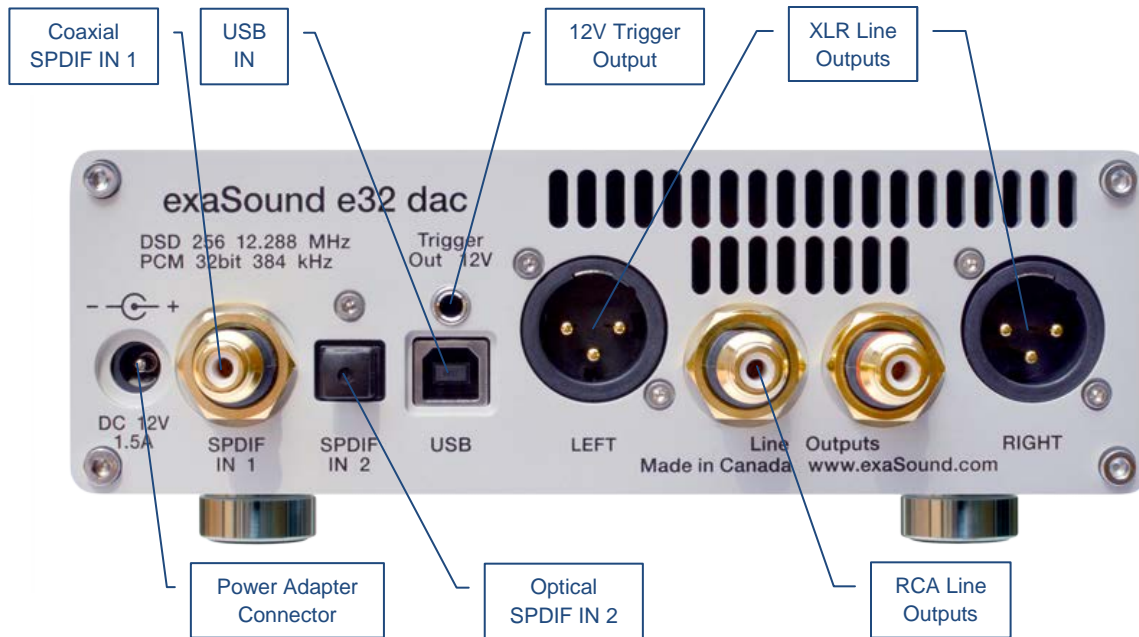
SPDIF IN1 - Coaxial SPDIF Input
SPDIF IN2 - Optical TOSLINK Input
DC 12V / 1.5A - Power Adapter Connector
5.5mm O.D. by 2.5mm I.D.
USB - USB connector

RCA Line Outputs - Left / Right
Analogue Outputs
XLR Line Outputs - Balanced
Left / Right Analogue Outputs
12V Trigger Output - use to activate trigger-enabled equipment

Infrared Remote Control
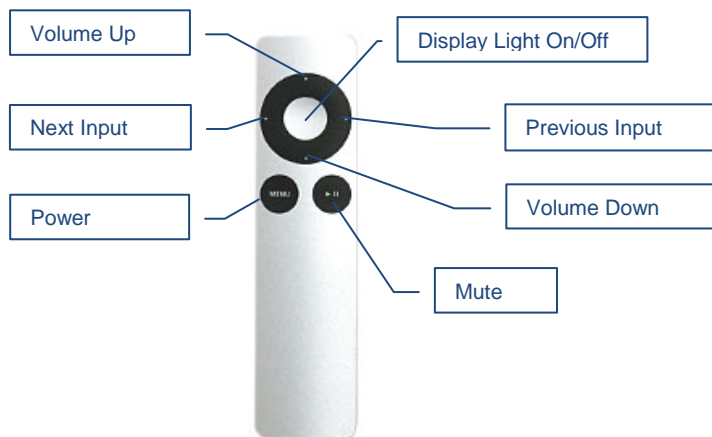
Your unit is programmed to work with the supplied remote control.

The e32 Mark II DAC can be re-programmed to work with most infrared remote controls using Sony and NEC IR protocols, for example the Sony RM-EZ4 Universal Remote, or Apple remote control.

See the *Remote Control Setup* section for instructions on how to change button assignments and how to pair a different remote control with your e32 Mark II DAC.

ASIO Driver Setup

1. Login to support.exasound.com. Download and unzip the latest **exaSound Windows ASIO Driver**.
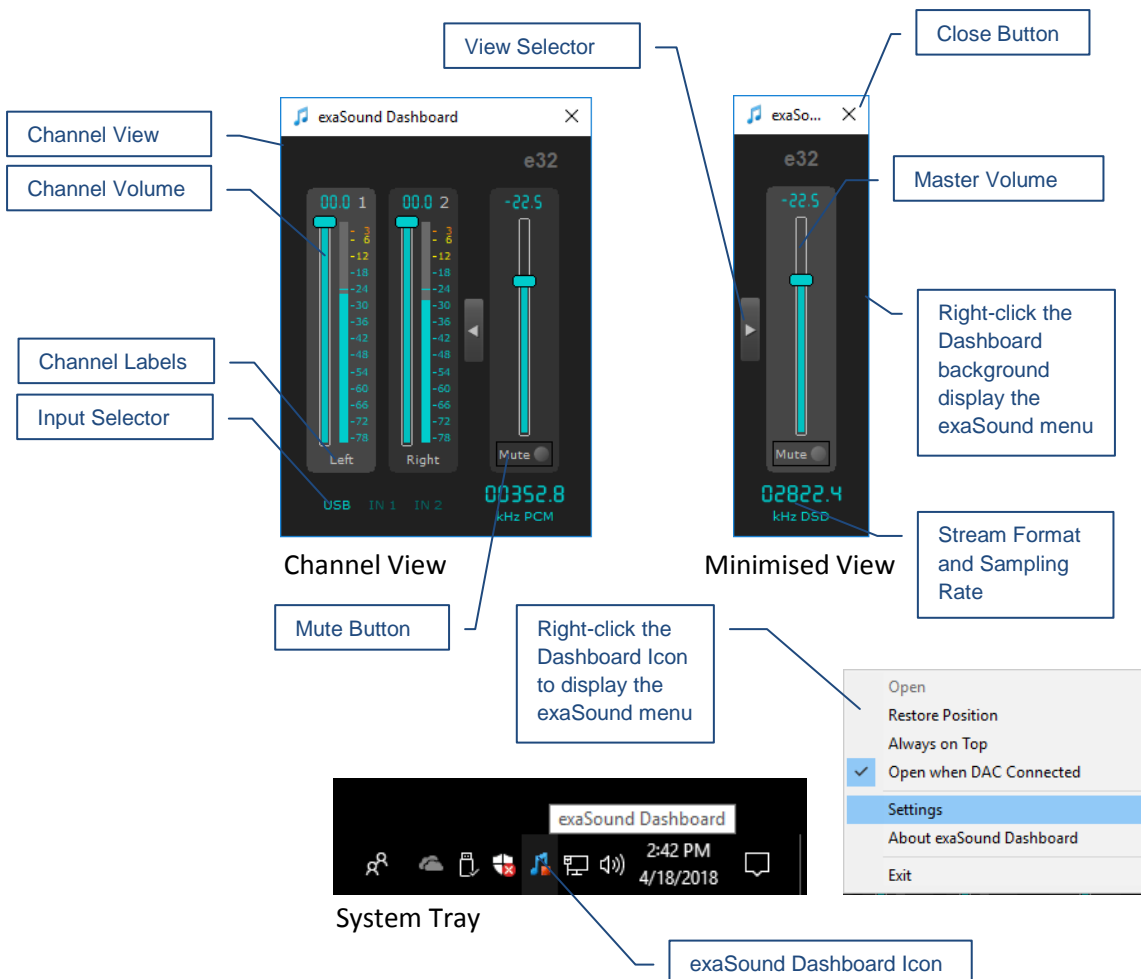2. Run *exaSound-N1-5-2-18- Setup.exe (or later version)* and follow the prompts. ASIO drivers step-by-step setup instructions are available on page 13 of this guide.
3. Reboot your computer.
4. Setup your ASIO compatible player (Roon, J. River Media Center, HQPlayer, Foobar 2000 etc.) to use the exaSound ASIO driver. Check the *Guides* section of the exaSound blog for step-by-step player configuration instructions: exasound.com/Blog.aspx.
5. Click on the *exaSound Dashboard* Icon next to the clock on the Windows System Tray and set the master volume.

exaSound Dashboard (Windows)

View Selector

Close Button

Channel View

Channel Volume

Master Volume

Channel Labels

Input Selector

Right-click the Dashboard background display the exaSound menu

Channel View

Minimised View

Stream Format and Sampling Rate

Mute Button

Right-click the Dashboard Icon to display the exaSound menu

System Tray

exaSound Dashboard Icon

Features

The e32 Mark II DAC is based on the ES9028PRO reference DAC chip. It delivers 32-bit precision capable of resolving the smallest signal details. The chip features patented 32-bit HyperStream technology. ES9028PRO delivers the industry's highest performance levels that will satisfy the most demanding audio enthusiasts.

Windows ASIO Driver Advantages

Using ASIO brings unique advantages that are hard to achieve and reliably verify with other Windows driver technologies.

Automatic PCM / DSD / MQA Switching

Audio data is always streamed in its native format. e32 Mark II switches automatically between PCM, DSD and MQA modes. DSD streams are processed in their native format without conversion to PCM.

Bit-perfect operation independent from the Windows volume control and mixer

The Windows volume control and mixer are optimized to provide wide compatibility and easiness of use. These features come at the expense of sonic fidelity. The resulting output may not be bit-perfect or bit-transparent. Third party proprietary Windows drivers are hard to be verified as bit-perfect because factors beyond the control of the user can change the Windows sound processing chain.

Our proprietary ASIO implementation is completely independent from the Windows sound system and always operates in Exclusive Mode. Only one player can take control of the ASIO driver. PCM and DSD streams are delivered to the e32 Mark II memory buffer without any processing or manipulation.

MQA encoded streams can be reproduced at the sample rate of the original recording or upsampled to 352.8/384 kHz. Proprietary MQA upsampling can optionally be applied to PCM streams.

Asynchronous USB mode eliminates jitter caused by the PC or the USB interface

Asynchronous USB is a two-way communication method between a computer and an external DAC. e32 Mark II controls the rate at which audio data is transmitted over USB. Rather than being sent as a continuous stream, as is the case with standard digital audio interfaces, the data is sent in packets, which contain extra data that allows the e32 DAC to detect if there are any errors. If an error is detected, that data packet is retransmitted. Error correction is possible because of the high speed at which the data is sent and also, because the incoming data is stored in a large memory buffer. The data is then clocked out of this buffer by the e32 high precision master clock. Re-clocking guarantees a very high accuracy and precision of data timing. It completely eliminates jitter caused by computer timing errors and USB data transport. An added bonus to using packet based streaming over USB is the ability to send and receive control information along with the audio data. This is how volume control instructions are exchanged between the e32 Mark II DAC and the computer/streamer.

Hardware Volume Control and Volume Bypass

The e32 Mark II DAC volume is controlled by the ES9028PRO DAC chip. It is completely independent from the Windows software volume control. Audio data is always bitstreamed over the USB interface at full scale 0db/32bit resolution. Volume processing is performed by the DAC chip right at the border between the digital and the analogue domains. This architecture offers signal to noise ratio comparable to the best analogue volume controls and virtually no loss of digital resolution. Setting the volume to 0dB turns all volume processing off and sets the e32 Mark II DAC in volume bypass mode.

Volume Control Integration with JRiver/JRemote

The exaSound Volume Synchronization Plug-in allows JRiver for Windows and JRemote to access the hardware volume control built in all exaSound DACs.

Roon Tested

Roon offers engaging, enjoyable way to browse your music. Via intelligent automatic cloud service library management, Roon delivers metadata for the user's library and frees the user from the complexities of music library management.

e32 Mark II is a Roon Tested DAC. It has been profiled and tested by both Roon Labs and exaSound for maximum compatibility. Roon recognizes exaSound devices and sends them audio optimized for their capabilities. Together, Roon and exaSound deliver the power, flexibility, and performance benefits of digital audio, with the easiest setup and highest reliability available.

MQA (Master Quality Authenticated)

MQA is an award-winning British technology that delivers the sound of the original master recording. The master MQA file is fully authenticated and is small enough to stream or download.

e32 Mark II DAC includes MQA technology, which enables you to play back MQA audio files and streams, delivering the sound of the original master recording. Visit mqa.co.uk for more information.
The MQA logo is a trade mark of MQA Limited. © MQA Limited 2018

Connecting and Powering the e32 Mark II DAC

⚠	Before connecting, turn off the power to all the components in your system.

Connecting the Digital Inputs

All digital inputs are galvanically isolated to eliminate ground loop noise. The e32 Mark II DAC accepts three digital inputs:

- **USB** - This is the recommended and most capable input. It supports PCM up to 32 bit/384 kHz, MQA up to 24bit/384 kHz and DSD up to 12.288 MHz/DSD256.
  Connect the e32 Mark II DAC to your computer or compatible streamer using the supplied A-B USB cable. Most standard A-B USB cables with length up to 16 ft (5m) can be used.
- *SPDIF IN1* - SPDIF Input, 75-ohm RCA. Supports 2 channels PCM up to 24 bit resolution at standard sampling frequencies from 44.1 kHz to 192 kHz.
- *SPDIF IN2* - SPDIF Input, TOSLINK, Optical. Supports 2 channels PCM up to 24 bit resolution at standard sampling frequencies from 44.1 kHz to 96 kHz.

Connecting the Line Outputs

The e32 Mark II DAC offers two types of analogue line outputs - unbalanced (RCA) and balanced (XLR).

- Before making a connection make sure that your analogue power amplifier is powered down.
- *RCA Line Outputs -* **Left / Right** - Connect the Left and Right RCA line outputs of the e32 Mark II DAC to the amplifier line inputs.
  or
- *XLR Line Outputs -* **Left / Right** - Connect the Left and Right XLR line outputs of the e32 Mark II DAC to the amplifier line inputs.

Trigger Output

When the e32 Mark II DAC is on, a 12 VDC signal is sent from the Trigger Output to control other devices. When the e32 is placed in standby mode, the trigger signal is discontinued.

Direct Connection to Analogue Power Amplifier

If your music sources are digital, you don't need a preamplifier. The built-in volume control allows analogue power amplifiers to be connected directly to the e32 Mark II DAC. Amplification always brings some level of noise and distortion. Eliminating unnecessary amplification helps to achieve higher level of transparency.

⚠️ Avoid connecting the e32 Mark II DAC to receivers or any other sound processing equipment that perform analogue to digital (ADC) conversion. Digitizing the analogue output signals back to the digital domain will undo some of the benefits that e32 brings to you. Remember that your sound system is as good as the weakest link in the sound processing chain.

Connecting the Power Supply

To minimize ground noise and hum, it is recommended to connect the power cords of all components to a single point - usually a single surge protector with multiple outlets. Connecting all components to a single point, as close as it is practically possible minimizes the differences in ground potentials between the components.

⚠️ **Using a Third-Party Power Supply**
The e32 Mark II DAC comes with a 12V/1670mA power supply. It has been tested to comply with the DAC's quality requirements and allows for very high performance.

If you decide to use another power supply, the specifications marked on the back of the e32 Mark II DAC must be observed.

Surge Protectors

We strongly recommend the use of surge protectors for all of your audio and video components.

Isolating the Cable TV Ground

If you have a cable TV connected to your audio system, ensure that the TV cable ground is galvanically isolated from the audio system ground. The TV cable ground, usually connected to the earth outside your home, can have a significantly different potential than the audio ground. This condition can cause audible hum. If you suspect this is the case, use a cable TV ground isolator just before the cable set-top box or at the RF TV input.
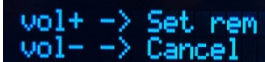
⚠️ When turning on and off your sound system, the power amplifier should be the last component to be turned on and the first component to be turned off. This prevents power on/off transients from being transmitted to the loudspeakers.
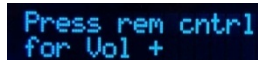
IR Remote Control Setup

The e32 Mark II DAC is programmed to work with the supplied remote control. If you like, you can reprogram the e32 Mark II DAC to work with a different IR remote control. The exaSound e32 Mark II DAC can be reprogrammed to recognise commands from most infrared remote controls using Sony and NEC IR protocols.

Use the following procedure to change remote control button assignments or to pair the e32 Mark II DAC with a different remote control:
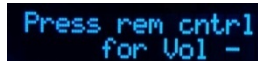
1. Power on the e32 Mark II DAC. Make sure that the unit is not in playback mode.

2. Press the **Setup** button.

3. Press the **Volume Up** button to confirm the remote control programming mode, or press the **Volume Down** button to cancel the operation.

    `vol+ -> Set rem`
    `vol- -> Cancel`

4. Point the remote control to the e32 Mark II DAC display. Press and hold down the remote control buttons for about one second during each step below to assign functions to them.

5. Press the remote control button for increasing the volume.

    `Press rem cntrl`
    `for Vol +`

6. Press the remote control button for decreasing the volume.

    `Press rem cntrl`
    `for Vol -`

7. Press the remote control button for selecting the next input.

    `Press rem cntrl`
    `for next input`

8. Press the remote control button for previous input.

    `Press rem cntrl`
    `for prev input`

9. Press the remote control button for turning the unit on and off.

    `Press rem cntrl`
    `for power`

10. Press the remote control button for mute.

    `Press rem cntrl`
    `for mute`

11. Press the remote control button for turning the display light on and off.
12. Wait until the remote control configuration is saved. Your e32 Mark II DAC is now paired for use with the new IR remote control.
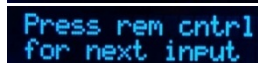
   `Saving`

PC System Requirements

- Operating systems:
    - Windows 10
    - Windows 8
    - Windows Server 2012 R2
    - Windows 7, 32 or 64 bit
    - Windows XP / 32 bit with the latest service packs installed
- USB 2.0 / USB 3.0 interface
- 8 GB of RAM
- 10 GB disk space, mainly for music files


Windows ASIO Driver Installation

The first step required in the Windows setup process is to install the exaSound ASIO driver:

1. Don't connect the e32 Mark II DAC to the PC until the driver is installed. Don't worry if you've connected the device already. Just disconnect it.

2. Download the latest driver.
   You should have received an email from us with username and password. Please login to our support website at http://support.exasound.com and download the latest version of the exaSound Windows ASIO Driver. Don't use setup packages downloaded from other websites.

3. Unzip the installation package and double-click on *exaSoundN1-5-2-18- Setup.exe.* (The driver version may be higher). Follow the instructions. In most cases you just need to accept the defaults on the following screens.
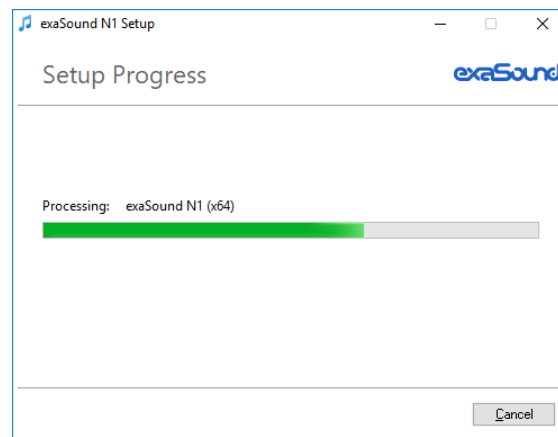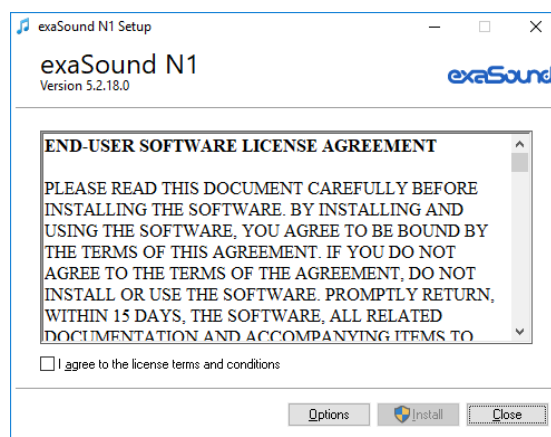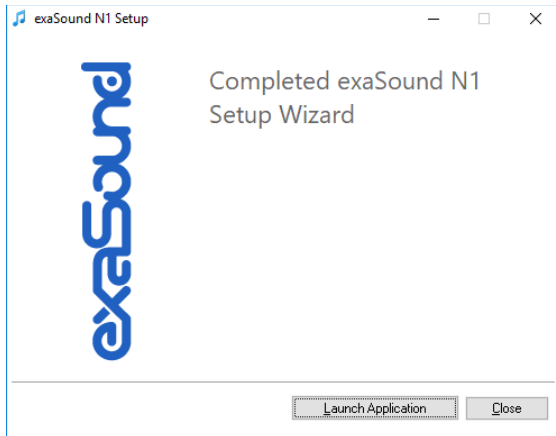
4. Connect the USB cable between the e32 Mark II DAC and the computer.

5. Upon completion of the Windows ASIO driver installation you will see the exaSound Dashboard Icon in the System Tray area next to the clock.

exaSound Dashboard Icon
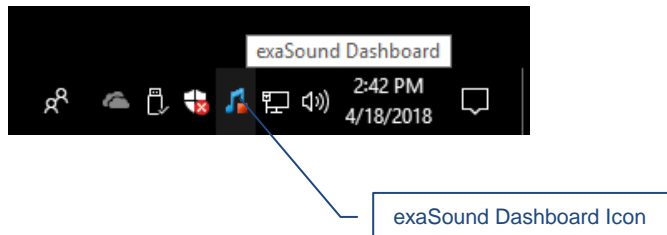
6. If you don't see it, right-click on the clock and select **Taskbar Settings** from the menu.
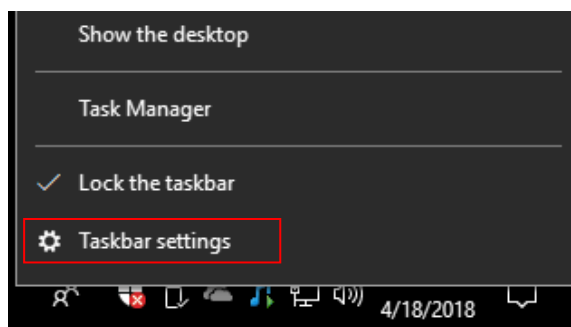
7. On the Taskbar Settings window click on *Select Which Icons Appear on the Taskbar*.
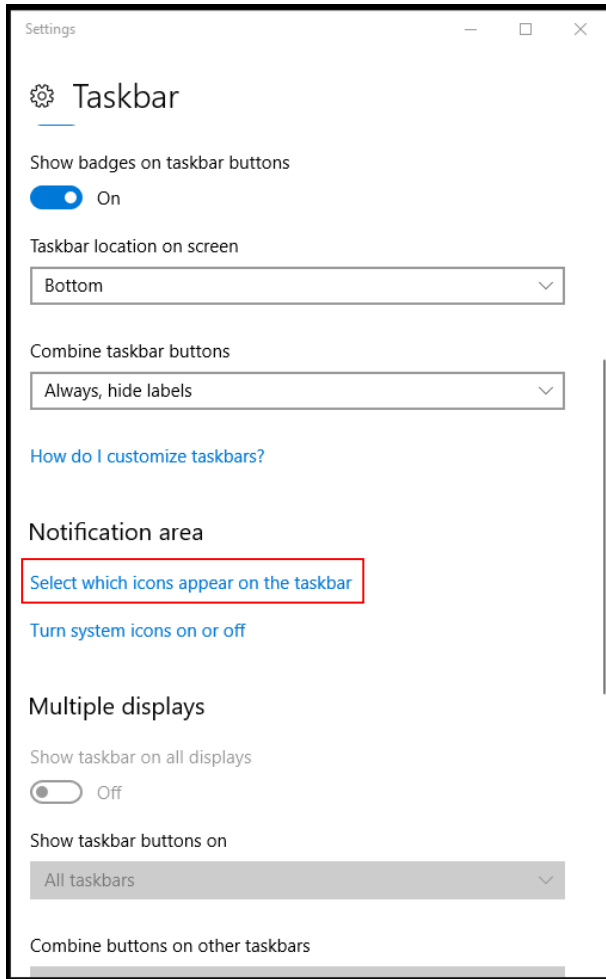
8. Scroll down to the exaSound e32 Dashboard icon and set the toggle to *On*.

9. You should be able to see the exaSound e32 Dashboard icons at all times. The Icon changes to indicate playback, and displays an exclamation mark when the USB cable is disconnected:

       ♫   exaSound Dashboard
       ♫   *Stop* Icon
       ♫   *Play* Icon
       ♫   *USB Cable Disconnected* Icon

10. Close all programs and reboot Windows. Some ASIO players may not recognise the driver if you omit this step. If you don't restart Windows you may get an error message: "Hardware not present".
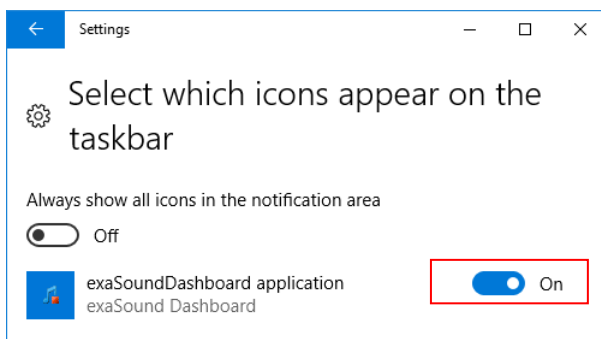
Step-By-Step Player Configuration Instructions

ASIO-enabled player apps compatible with the e32 Mark II DAC include Roon, HQPlayer, JRiver Media Center and Foobar2000. Step by step configuration instructions are available in the Guides section of our blog: exasound.com/Blog.aspx

Using Player Apps without ASIO Support

Player apps without ASIO support require the use of third-party WASAPI to ASIO bridge applications like VB-Audio ASIO Bridge available as free download from vb-audio.com/Cable/. JRiver Media Center also offers WASAPI to ASIO bridge functionality.

Using the e32 Mark II DAC

Computer Playback Using the Asynchronous USB Input

⚠	**Before turning your amplifiers ON, always check the e32 Mark II DAC front panel to make sure that the volume level is safe.**

- The e32 Mark II DAC can be controlled from the front panel buttons, using an IR remote control or from the computer screen.
- Make sure that all cables are connected. Turn on the unit using the **Power** button on the front panel or the remote control. The front panel display will light up.
- Click on the exaSound e32 Dashboard Icon in the System Tray area next to the clock.

Right-click the Dashboard Icon to display the exaSound menu

System Tray

exaSound Dashboard Icon

- You will see the exaSound e32 Dashboard window.

Right-click the Dashboard background to display the exaSound menu

Channel Volume

Input Selector

Close Button

View Selector

Mute Button

Master Volume

Sampling Rate

Channel View

Minimised View
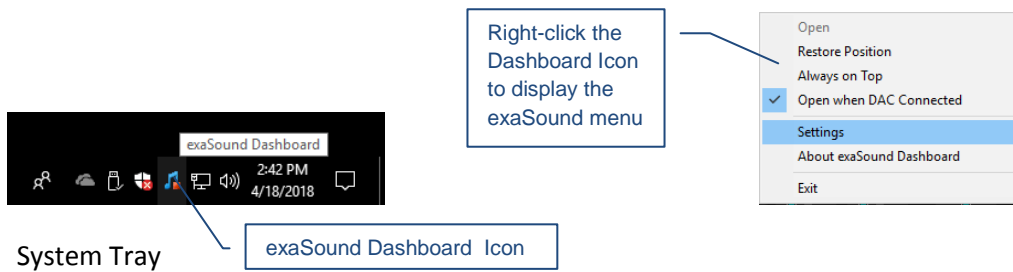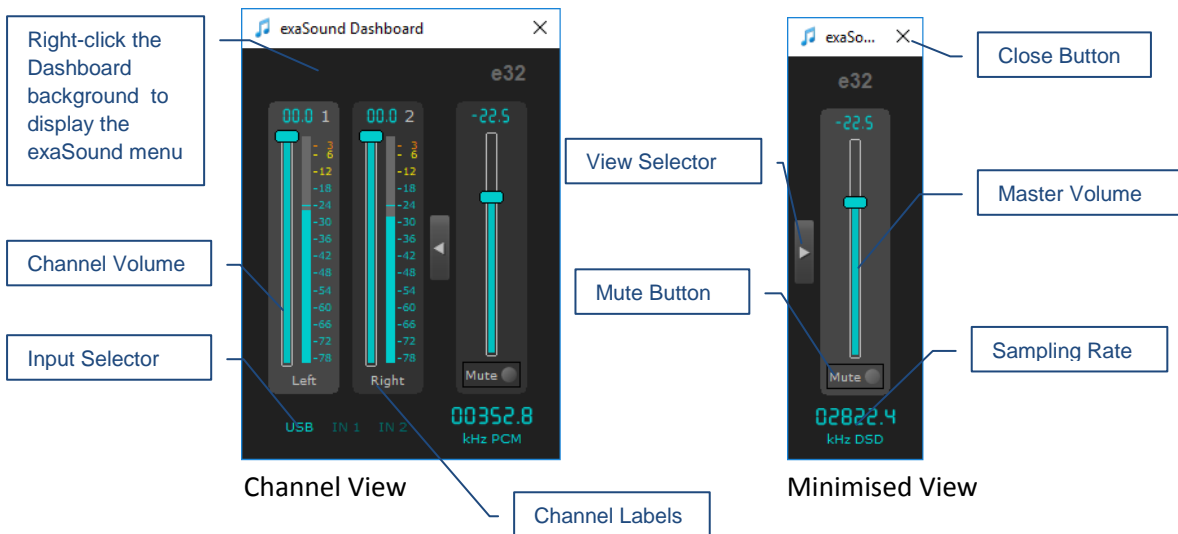
Channel Labels

- During playback the current sampling rate and stream format are displayed under the master volume slider.
- You can customize the channel labels: Select a label with the mouse and edit the channel title. Press **Enter** to save or **Cancel** to undo the change.

- Use the arrow button between the right channel and the master volume to toggle between *Channel View* and *Minimised View*.
- Use the *X* button in the top right corner to minimize the exaSound Dashboard window.

Power On/Off

- The e32 Mark II DAC has an automatic power-on function and it will turn itself on when playback is detected.
- The e32 Mark II DAC automatically turns itself off after a period of inactivity. Use the Power Off Timeout setting to adjust the inactivity time interval before shutdown.

Volume Control

The e32 Mark II DAC volume is controlled by the ES9028PRO DAC chip. It is completely independent from the Windows software volume control and it preserves the maximum possible signal to noise ratio.

The volume level changes in steps of 0.5 dB. At first power on, the volume level is set to -40dB. When the dashboard is closed it remembers the last used volume level.

Use the sliders on the exaSound e32 Dashboard window to control the volume for individual channels and the master volume. The sliders can be controlled in several ways:
- By left-clicking and dragging a slider.
- By positioning the mouse cursor over a channel and turning the mouse wheel. When the mouse cursor is rested over the channel area the background color changes to indicate that the channel is active.
- By selecting a channel with the mouse and using the *Up* and *Down* arrow keys on the keyboard.

The master volume can also be controlled from the e32 Mark II front panel or by using a remote control. When the master volume level is changed, the value displayed on the exaSound Dashboard and on the device front panel display are synchronised.

Volume levels for individual channels can be controlled only from the exaSound Dashboard.

The sound can be muted by clicking the *Mute* button under the master volume slider or by using the remote control. Pressing or clicking *Mute* again restores the previous volume level. Pressing *Volume Up* or *Volume Down* will cancel the mute state.

Make sure that your player application is configured to use the e32 Mark II DAC in ASIO mode. Configuration instructions are available in the Guides section of the exaSound Blog.

Start playback. You will see the level indicators moving and the current sampling rate displayed on the exaSound Dashboard. The e32 Mark II DAC front panel display will indicate the stream format (PCM, MQA or DSD), the sampling rate and the master volume level.

Note: Level indicators are inactive in DSD mode.

Volume Bypass

When the volume sliders on the exaSound Dashboard are set to 0dB, the hardware volume control is turned off and the e32 Mark II DAC operates in Volume Bypass Mode.

To activate Volume Bypass:

- Set the master volume slider to 0dB.
- Set the left and right volume sliders to 0dB.
- Make sure that your player is not changing the volume level.

JRiver / JRemote Volume Synchronization Plug-in

The exaSound Volume Synchronization Plug-in allows JRiver for Windows and JRemote to access the hardware volume control built in all exaSound DACs.

- Moving the JRemote or JRiver volume slider changes the master volume slider on the exaSound Dashboard.
- Changing the master volume with the exaSound Dashboard adjusts the JRemote / JRiver volume sliders.

Check the *Guides* section of the exaSound Blog for step-by-step configuration instructions for the exaSound Volume Synchronization Plug-in: exasound.com/Blog.aspx

Settings Menu

- Right-click on the exaSound icon on the system tray next to the clock. From the pop-up menu select Settings. You can also display the menu by right-clicking on the background area of the Dashboard.
- Use the *Max Volume* setting to prevent accidental playback at volume levels that are too loud.
- The e32 Mark II DAC automatically turns itself off after a period of inactivity. Use the *Power Off Timeout* setting to adjust the time interval before shutdown.
- See the next section for information on selecting MQA Output Modes.
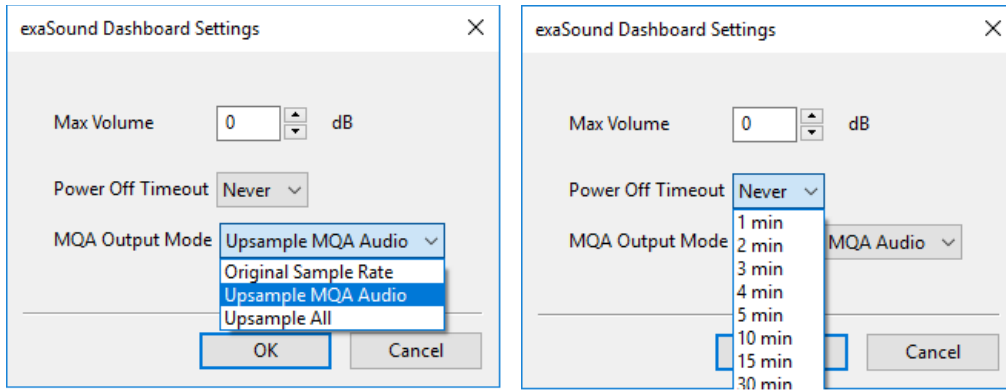
Settings changes may not come into effect until playback is restarted.

Playing Music from SPDIF Sources

The e32 Mark II DAC makes it possible to enjoy greatly improved level of sonic clarity and fidelity from SPDIF sources. The sonic improvement is the result of the outstanding jitter cancelling capability, superb signal to noise ratio, and low distortion levels of the e32 Mark II DAC.

You can connect up to two SPDIF devices, such as disk players and wireless music servers.

To use SPDIF sources:

1. Select SPDIF input by pressing the *Input* button on the device front panel, by using the *Previous Input* / *Next Input* buttons on the remote control or with the *Input Selector* on the exaSound Dashboard.

2. The e32 Mark II front panel display will flash a *Changing Input* message.

3. The e32 Mark II front panel will display information about the input in use, the current sampling rate, and the master volume level.

MQA (Master Quality Authenticated) Configuration

e32 DAC Mark II DAC includes MQA technology, which enables you to play back MQA audio files and streams, delivering the sound of the original master recording.

'MQA' or 'MQA Studio' indicates that the product is decoding and playing an MQA stream or file, and denotes provenance to ensure that the sound is identical to that of the source material.
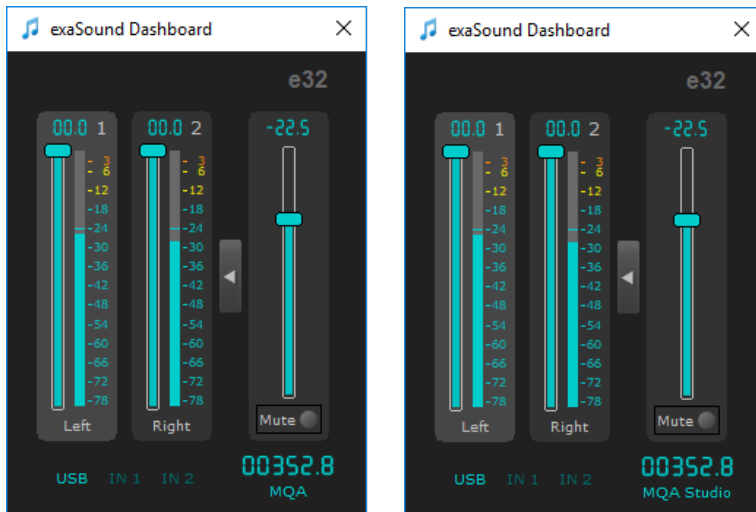
'**MQA Studio**' sign on the exaSound Dashboard and '**MQA.**' sign on the device display indicate playback of an MQA Studio file, which has either been approved in the studio by the artist/producer or has been verified by the copyright owner.

exaSound e32 Mark II supports three MQA output modes that are controlled by the **Settings Menu**:

Original Sample Rate. This is the default MQA output mode. MQA encoded streams are processed at their original sample rate. Non-MQA streams, including PCM and DSD are streamed in their native format without any modifications.

Upsample MQA Audio. MQA encoded streams are upsampled by the MQA proprietary upsampling engine to the maximum rates supported by the e32 Mark II DAC - 352.8/384 kHz. Non-MQA streams, including PCM and DSD are streamed in their native format without any modifications.

Upsample All. Both MQA encoded and non-MQA PCM streams are upsampled by the MQA proprietary upsampling engine to the maximum rates supported by the e32 Mark II DAC - 352.8/384 kHz. DSD is streamed in its native format without any modifications.

Specifications

D/A Converter IC	ESS Technology ES9028PRO 32-bit, 8-channel PRO series DAC
PCM Sampling Rates - Asynchronous USB ASIO	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz, 352.8 kHz, 384 kHz
DSD Sampling Rates - Asynchronous USB ASIO	DSD 64 Fs: 2.8224 MHz; 3.072 MHz DSD 128 Fs: 5.6448 MHz; 6.144 MHz DSD 256 Fs: 11.2896 MHz; 12.288 MHz
MQA Sampling Rates - Asynchronous USB ASIO	MQA full 'unfold' for delivering Hi-Res music data up to 24-bit 384kHz
Sampling Rates-SPDIF Coaxial IN 1	PCM 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
Sampling Rates-SDIF Optical IN 2	PCM 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz
Total Harmonic Distortion + Noise	0.00021% @ 1KHz, 0dBFS
Intermodulation Distortion	-128db 0.00004% @ 19KHz + 20KHz 0 dBFS 2nd order IMD
Signal-to-Noise Ratio	128 dB, A-weighted, 2 Vrms
DAC Master Clock Jitter	0.082 psec (82fsec) rms
Frequency Response	0 Hz - 20 KHz (-0.15dB)
Phase	Non-inverting
Channel Separation	130 dB @ 1KHz
Digital Inputs	USB 2.0, SPDIF Coaxial, SPDIF TOSLINK (optical)
Number of channels	2
Operating System Requirements **ASIO Compatible Player is required for all Windows**	Windows 10 x64, Windows 8 x86/x64, Windows Server 2012 R2, Windows 7 x86/x64, Windows XP x86 Mac OS Mavericks, Yosemite, El Captain, Sierra, High Sierra

platforms	
Digital Volume Control Steps	0.5 dB
Volume Matching between Channels	Better than 0.1 dB
Line Output	Balanced (XLR), Unbalanced (RCA), gold-plated contacts (XLR and RCA line outputs can be used simultaneously)
Line Output Level	4.5 Vrms (balanced) 2.2 Vrms (unbalanced)
Line Output Impedance	200 ohms
Line Output Offset	< 5 mV
Headphone Amp Current Output	500 mA peak
Headphone Amp Output Impedance	0.5 Ohm, 20Hz-20KHz
Headphone Amp Output	0-7V
Headphone Amp THD+N	0.0012%, 1Vrms into 60ohms
Headphone Amp Intermodulation Distortion 1Vrms into 60ohms 19kHz + 20kHz 2nd order IMD	-128db 0.00004%
Headphone Jack	1/4" TRS SE
Power Jack Diameter	Internal: 2.5mm External : 5.5mm
Power Consumption	<20 W
Dimensions (W x H x D)	6.5 x 2.2 x 9.25 inches (165 x 55 x 235 mm)
Weight	2.4 lbs (1.1Kg)

Safety Information

Explanation of Graphical Symbols

⚡	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
⚠	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the Device.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
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 the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong 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 plug, receptacle, and the point where it exits from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.

Precautions

- Before connecting the AC power adapter cord to the device, make sure the voltage designation of the power adapter corresponds to the local electrical supply. If you are unsure of your power supply, contact your local power company. The acceptable power input range is AC ~ 100V-240V, 50/60Hz

- The device is still receiving power from the AC power source as long as it is connected to the wall outlet, even if the device itself has been turned off.
- Unplug the power adapter if you are not going to use the device for an extended period of time. Hold the power adapter when unplugging. Do not pull on the cord.
- The power adapter is used as the mechanism for cutting off power, therefore make sure it is easy to unplug.
- To ensure proper ventilation around this product, do not place this product on a sofa, bed or rug.
- High temperature will lead to abnormal operation of this device. Do not expose this device or batteries to direct sunlight or near heating objects.
- When moving the device from a cold location to a warm one, or vice versa, moisture may condense on components inside the device. Should this occur, the device may not operate properly. In such a case please turn the device off for 1-2 hours to facilitate moisture evaporation.

⚠	**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES MAY BE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY. THE DEVICE SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES SHALL BE PLACED ON THE APPARATUS.
⚠	**WARNING:** CHANGES OR MODIFICATIONS NOT AUTHORIZED BY THE MANUFACTURER CAN INVALIDATE THE COMPLIANCE TO REGULATIONS AND CAUSE THE UNIT TO BE NO MORE SUITABLE TO USE. THE MANUFACTURER REFUSES EVERY RESPONSIBILITY REGARDING DAMAGES TO PEOPLE OR THINGS DUE TO THE USE OF A UNIT WHICH HAS BEEN SUBJECT TO UNAUTHORIZED MODIFICATIONS OR TO MISUSE OR TO MALFUNCTION OF A UNIT WHICH HAS BEEN SUBJECT TO UNAUTHORIZED MODIFICATIONS.
FCC Statement	This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: • Reorient or relocate the receiving antenna. • Increase the separation between the equipment and receiver. • Consult the dealer or an experienced radio/TV technician for help. Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
CE	This unit is compliant with Directive 2011/65/EC (RoHS) Restriction on Hazardous Substances,

	and is in conformity with the provisions of the EMC Directive 2004/108/EC. The following harmonized standards were applied: EN55022:2010/AC:2011 Class B EN61000-3-2:2006/A1:2009 and /A2:2009, EN61000-3-3:2008 EN55024:2010 (IEC 61000-4-2:2008, IEC 61000-4-3-2006/A1:2007/A2:2010, IEC 61000-4-4:2004/A1:2010 , IEC 61000-4-5:2006, IEC 61000-4-6:2008, IEC 61000-4-8:2009, IEC 61000-4-11:2004) 1999/5/ec - Radio and telecommunication Terminal Equipment Device (R&TTE) EN 60950-1, EN62311 - For Article 3.1(a): Health and safety of the user EN 301 489-1, EN 301 489-17 - For Article 3.1(b): Electromagnetic Compatibility EN 300 328, - EN 301 893 - For Article 3.2: Effective use of spectrum allocated
	This product, when no longer usable, when disposed off can't be treated as generic garbage, but must be disposed of at a collection point for recycling of electrical and electronic equipment, in compliance with the WEEE regulation (Waste of Electrical and Electronic Equipment). By making sure that this unit is correctly recycled, you will help preventing potential damages to environment and human health, which could be caused by the incorrect treatment of this product as generic garbage. Materials recycling helps conserve natural resources.
	We use our best efforts to ensure that information in this document is complete, accurate and current, but otherwise we make no representation concerning the same. We reserve the right to change or modify the information any time, without prior advice. It's up to the customer to ensure that the manual being consulted is the latest version.
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Limited One Year Warranty

exaSound's devices are warranted against defective workmanship or materials for one (1) calendar year from the original date of purchase. This warranty applies only to exaSound brand products manufactured by exaSound and sold to the original consumer by either exaSound or an exaSound authorized reseller. This warranty does not apply to exaSound brand products imported and sold by unauthorized dealers, distributors, or other sellers. exaSound may at its sole discretion, refuse to honour the warranty of any such unauthorized product that may be presented for service.

Warranty service can only be performed by exaSound. Devices which are defective must be shipped pre-paid and insured to exaSound for warranty service in accordance with our Return Policy published at http://www.exasound.com/Store/TermsofUse.aspx. For products that we verify to be eligible for warranty service, we will pay the shipping cost to return the Device to you via ground shipment.

If in our assessment the defect is covered by our Warranty, the defective item will, at our sole option, be repaired, replaced with the same item or its functional equivalent, or the purchase price will be refunded. exaSound in its sole and absolute discretion shall be the sole determiner of whether a product is in fact defective.

Replacement parts and products assume the remaining original warranty, or ninety (90) days, whichever is longer.

This limited warranty covers non-commercial use of this product, and shall not apply to the following, including, but not limited to: applications and uses for which this product was not intended; altered product or serial numbers; cosmetic damage or exterior finish; batteries and cable accessories; accidents, abuse, neglect, fire, water, lightning or other acts of nature; incorrect electrical line voltage, fluctuations and surges; failure to follow operating or maintenance instructions. exaSound does not warrant uninterrupted or error-free operation of the product. This limited warranty shall not extend to anyone other than the original purchaser of the product. It is non-transferable and states your exclusive remedy.

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TO OBTAIN WARRANTY SERVICE, please follow these instructions:

- Contact exaSound customer service via email at CustomerService@exaSound.com with details of the defect claimed, product model, serial number, date and place of the original purchase.
- If it is determined that your product needs service, a Return Merchandise Authorization (RMA) number will be issued to you along with return instructions and address of an exaSound service center.
- Pack the product securely in the original packaging, with your assigned RMA number marked clearly on the outside of the package. Send the package pre-paid and insured to the exaSound to obtain warranty service.
- All returns must comply with our Return Policy displayed at http://www.exasound.com/Store/TermsofUse.aspx.

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