



***Conrad-Johnson Owner's Manual:  
HD<sup>3</sup> High Definition Digital Decoder***

**conrad-johnson** It just sounds right.

*Thank you* for purchasing the *HD<sup>3</sup>* high definition digital decoder. This USB digital to analog converter is manufactured with top quality, highly reliable component parts. We are confident that you will be well satisfied with its sonic performance and find pleasure in its functional beauty.

Before you enjoy these experiences, however, please take a few minutes to read this Owner's Manual and acquaint yourself with the instructions for optimal operation. This will ensure your listening pleasure today, and for many years to come.

## **INSTALLATION**

We recommend that you save the box and packing materials. Store them in a dry environment. It is best to use the original package should you need to transport your *HD<sup>3</sup>* USB DAC.

All *HD<sup>3</sup>*s sold in the United States are configured for operation on a 60Hz ac power line producing between 108 and 126 volts. Export versions of the *HD<sup>3</sup>* will have the correct operating voltage and frequency clearly marked on the back panel of the unit, near the ac power cord. In all cases, the actual line voltage should be within + 5/- 10% of the nominal rated voltage.

### ***Electromagnetic Interference (EMI)***

Considerable care has been taken in the design of the *HD<sup>3</sup>* to minimize its susceptibility to radio frequency interference and other forms of EMI. Choice of materials, physical layout, grounding practice, and power supply design have all been specified with a view to reducing the impact of electromagnetic fields on the performance of this unit. At the same time, however, our primary goal is the accurate reproduction of recorded music in the normal home environment, and we have elected not to compromise this objective by the application of heavy-handed RFI filters, or by using grounding practices that reduce RFI at the expense of degraded audio performance. We find that the approach we have taken has worked extremely well, resulting in only rare instances of EMI problems which could be treated locally as needed, rather than compromising the performance of our product in the 99.9% of installations where EMI is not a problem.

Care in installation can often avoid EMI induced problems. The following practices should generally be observed in any application, and will be especially important where EMI may be a problem.

Interconnect cables should be kept as short as possible (3 meters or less), and shielded cable should be used (cable which has two center conductors, and a separate external shield connected at only one end).

Physical location and cable “dress” can be an important factor in minimizing hum pickup. The installation should situate the preamplifier and sources (including the *HD<sup>3</sup>*) well away from the power amplifier, and power (ac mains) cords should be dressed to remain at least 4" (100mm) away from input/output cables.

## CONNECTIONS

**Analog Audio Connections:** Confirm that the power switch on the back of the *HD*<sup>3</sup> is switched to the OFF (0) position. Connect the left and right channel analog outputs to the CD or other line-level inputs of a high-end preamplifier or integrated amplifier. NOTE: Interconnect cables are an important element in your stereo system. Interconnects are available which will permit a reference quality system to blossom and fulfill its promise of musical reality. Consult your conrad-johnson dealer for recommendations for your specific system.

**AC Power Connection:** the supplied AC power cord should be plugged into the AC inlet on the back of the *HD*<sup>3</sup> and then into an AC power outlet. Switch the power switch to the ON (1) position.

**USB Connection:** Using a standard USB “A” to “B” cable, connect the *HD*<sup>3</sup> directly to any available USB connection on your computer – avoid the use of a hub. When first connecting the *HD*<sup>3</sup>, make this connection while the computer is already running and booted up. NOTE: keep the USB cable as short as possible, never to exceed 5 meters in length.

## **COMPUTER SETUP:**

### **Windows XP**

Open the Control Panel and go to Sounds and Audio Devices. Under Sound Playback on the Audio tab, confirm that the conrad-johnson HD3 is selected. This should happen automatically.

### **Windows 7, Vista**

1. Right click on the speaker icon on the task bar and select "Playback Devices".
2. Select the conrad-johnson HD3. If you have more than one sound device, make the conrad-johnson HD3 your default device (pull down dialog "Set Default" if the conrad-johnson HD3 is not already the default).
3. "Configure" your system by selecting "full range speakers". Click on "Finish" to return to the "Sound" dialog box.
4. With conrad-johnson HD3 still selected, left click on "Properties".
5. Go to the Levels tab and set the system level to 100.
6. On the "Enhancements" tab confirm that the "Disable all enhancements" box is checked.
7. Select the "Advanced" tab. If you will be playing mostly CD quality (or below) material, select the 16 bit 44.1kHz sample rate setting. Confirm that both boxes in the "Enhanced Mode" section are checked. Then click "Apply" followed by "OK". This returns you to the initial screen. (If you will be playing high-resolution material, consult the ADVANCED USER information following the link on the HD3 page on the conrad-johnson web site).
8. Left click on "OK". This completes the set up.

### **MAC**

Open System Preference>Sound>Output and confirm that the conrad-johnson HD3 is selected as the device for sound. This should happen automatically.

### **LINUX (UBUNTU)**

Go to System Preferences pulldown and select Sound. On the Output tab select the conrad-johnson HD3 as the device for sound output. The procedure should be similar for other LINUX implementations.

**FOR ADVANCED SETUP INSTRUCTIONS, AND UPDATES**, check the *HD<sup>3</sup>* page on the conrad-johnson web site: [www.conradjohnson.com](http://www.conradjohnson.com)

## **OPERATION:**

**POWER Switch:** There is a power on off switch on the back panel of the *HD<sup>3</sup>* that switches power to the analog audio circuits (the digital circuits are powered through the USB connection to your computer). Switch the unit off when connecting or disconnecting inter-connect cables. The *HD<sup>3</sup>* draws very little current from the AC mains (less than 50 mAmps) so there is no need to switch the unit off at other times.

**SAMPLE RATE Indicators:** The *HD<sup>3</sup>* supports standard definition sample rates of 32 kHz, 44.1 kHz, and 48 kHz, and high definition sample rates of 88.2 kHz and 96 kHz. When a 32kHz, 44.1kHz, or 48kHz signal is detected, the SD indicator lights. When a 88.2kHz or 96kHz sample is detected, the HD indicator lights.

**MUTE Indicator:** When the operating system mutes the audio output the MUTE indicator lights. Note – it may be necessary to synchronize this indicator with the operating system. If the MUTE indicator light is lit when the operating system is un-muted, simply go to the relevant section of your operating system (speaker icon on Windows systems, System Preferences>Sounds for MAC systems) and mute then un-mute the computer. This will synchronize the MUTE indicator. Also, be aware that some software handles the muting within the software. The MUTE indicator circuit in the *HD<sup>3</sup>* will not detect this kind of muting.

## **SPECIFICATIONS**

### **AUDIO**

Output level (0 dB): 3.5 Vrms  
S/N Ratio: better than 100 dB  
Frequency response: 2 Hz to 20 kHz +0/-1.0 dB  
Total harmonic distortion: less than 0.05 %

### **USB INTERFACE**

Data Rate: up to 96 kS/s  
Bit Depth: up to 24 bit  
Transfer Protocol: asynchronous  
USB Type: 1.1 or above  
Power from USB bus: 300 mA

### **MECHANICAL**

Dimensions: 10"W, 2.75"H, 13"D  
Weight: 7 lb.

#### Fuse:

120 volt ac line: 315 ma 5 x 20 mm "t" type  
240 volt ac line: 200 ma 5 x 20 mm "t" type