

# M2TECH

## HIFACE

192KHZ/24BIT DIGITAL AUDIO INTERFACE

USER MANUAL



REV. 1.0 – 11/2010

## Warning!

***Changes or modifications not authorized by the manufacturer can invalidate the compliance to CE 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.***



This unit is compliant with the following CE regulations when a USB cable less than 3m is used: CEI EN 55022:2009 Class B (Radiated Emissions), CEI EN 55024:1999, CEI EN 55024:A2/2003, CEI EN 55024:IS1/2008 (Radio Frequency Electromagnetic Fields, 50Hz Magnetic Field Immunity Test and Electrostatic Discharges – ESD).

## Recycling



The label above, printed on the product case, indicates that the product, when no more usable, 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 a wrong treatment of this product as generic garbage. Materials recycling helps saving natural resources. For more in-depth information about recycling this product, please contact M2Tech Snc di Manunta & Marino.

**WARNING:** the information contained in this manual are considered to be reliable and accurate. M2Tech reserves 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.

Dear customer,

thank you for purchasing HIFACE. What you have is a first-rate USB-to-S/PDIF converter with many unique features conceived to obtain the best audio performance out of a music file.

Even if getting digital music out of a PC or a Mac is nowadays quite simple, much harder is to obtain the best sonic performance from it, due to intrinsic limits in USB 1.1 audio standard and the implementation of digital audio interfaces in computers. Please visit M2TECH website ([www.m2tech.biz](http://www.m2tech.biz)) to find extensive literature about this topic.

HIFACE overcomes all the limits of usual USB-to-audio interfaces by implementing proprietary drivers and by using asynchronous data transfer, along with a sophisticated electronic design.

HIFACE is available with either RCA or true 75 Ohms output connector which suites virtually all DAC's and A/V receivers around.

We feel that your expectations will be fulfilled by HIFACE: you'll hear your DAC and your music files in a way like never before, prepare for a whole new experience!

Nadia Marino, CEO

Please annotate here your hiFace purchase date for future reference:

Date of purchase: \_\_\_\_\_

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## 1. Connections

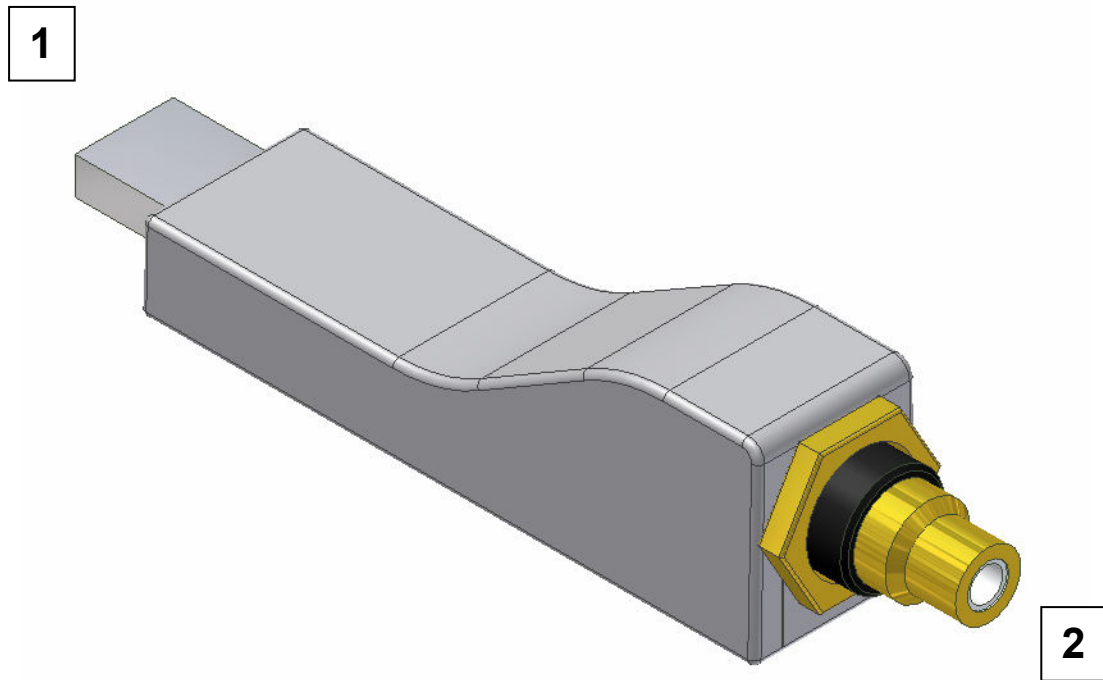


Figure 1

**1) USB input.** Connect directly to the USB 2.0 port of a PC or Mac, or use an USB extender (A male to A female). In the latter, the extender must be compliant with USB 2.0 and less than 4m, otherwise the bus performance will decrease and the correct operation of the interface will not be guaranteed. USB type A male connector

**2) S/PDIF output.** Connect to the DAC input with a 75 Ohms digital cable. RCA male connector or BNC 75 Ohms male connector.

## 2. Connection to the host

Please refer to section 1, “Connections”.

Connect the hiFace to the host USB 2.0 port by inserting its USB plug (Figure 1, 1) into the host socket. If straight insertion is difficult or when in need of avoiding straight insertion, an USB 2.0 extender cable (A male to A female) can be used. Please avoid using extenders more than 4m, to avoid invalidating the bus performance.

If a driver hasn't been installed on your computer, an automatic driver installation wizard may appear.

**Note: If you want to avoid the automatic driver installation, please connect hiFace to the computer after manually installing the driver (see section 3).**

## 3. Driver installation

### 3.1. Obtaining the driver

The drivers for hiFace are available on the M2Tech website, in the download page ([www.m2tech.biz/download.asp](http://www.m2tech.biz/download.asp)). Download the driver you need for your computer and operating system. Windows drivers are contained in zip files, Mac drivers are contained in dmg files.

### 3.2. Installing the driver on a Windows-based PC

Create a temporary folder in the hard disk of your computer (you can even create it on the desktop). Then, double-click on the zip file to open it. Select and drag all files in the temporary folder: this automatically unzips all files.

#### 3.2.1. Automatic (guided) installation

Connect hiFace to the PC. Following the negotiation process, the driver installation wizard is automatically launched. Select the option “Not now”, as in Figure 2.

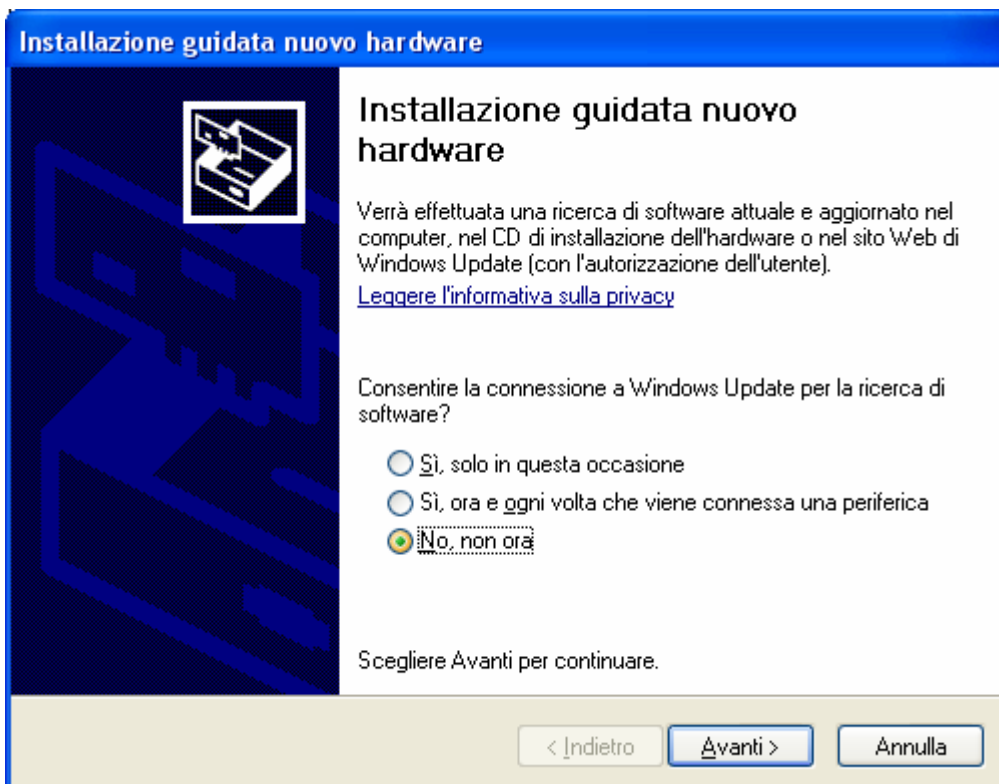


Figure 2

Click on the button to proceed. A window appears as shown in figure 3:

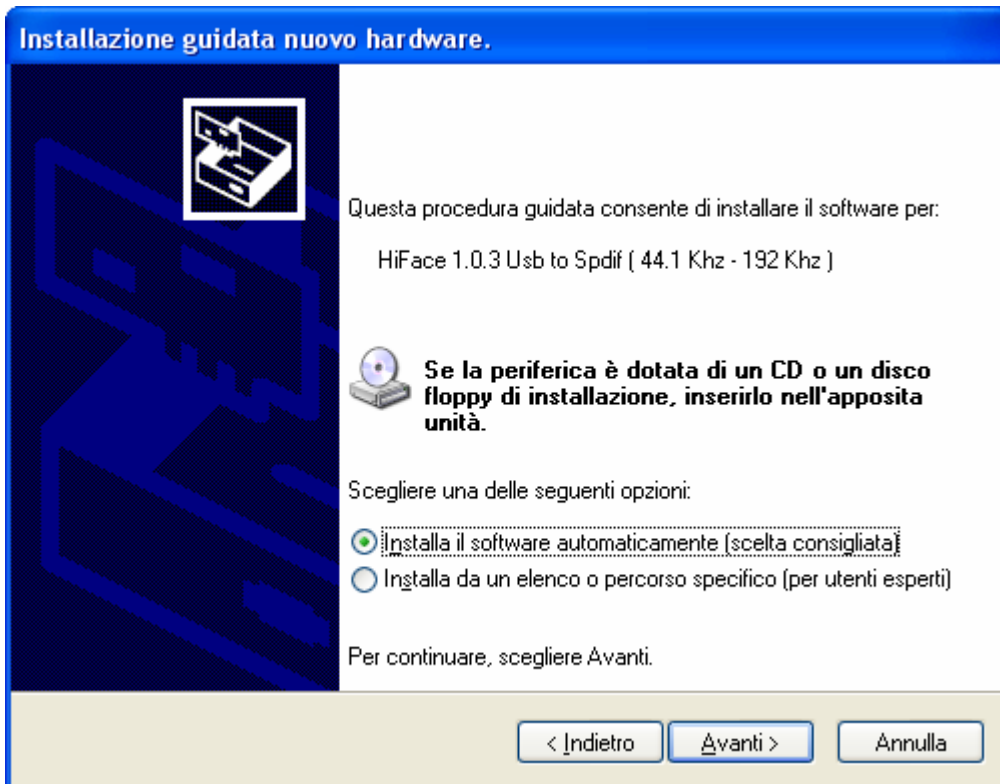


Figure 3

Choose automatic installation (as recommended) and proceed to next step. Indicate the folder where you have previously unzipped the driver and proceed to installation. The window shown in figure 4 will appear:

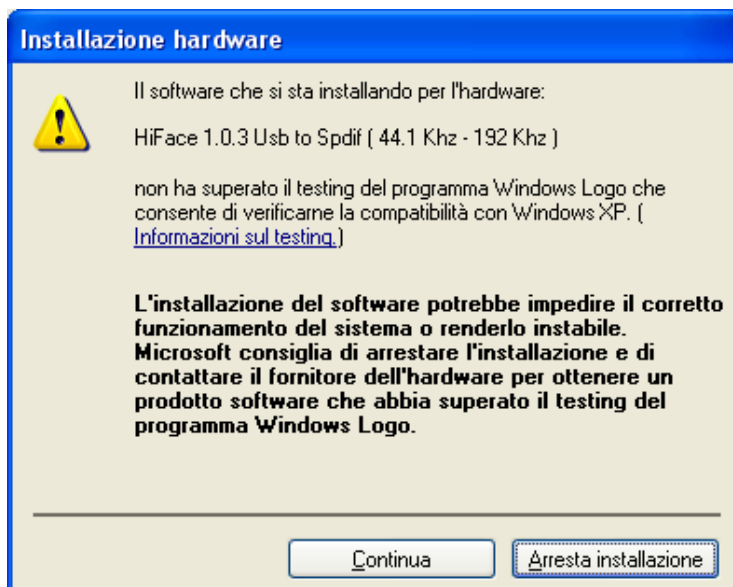


Figure 4

Click on Continue. The installation will proceed to the end. The window shown in figure 5 will appear. Click on Finish to complete the driver installation.

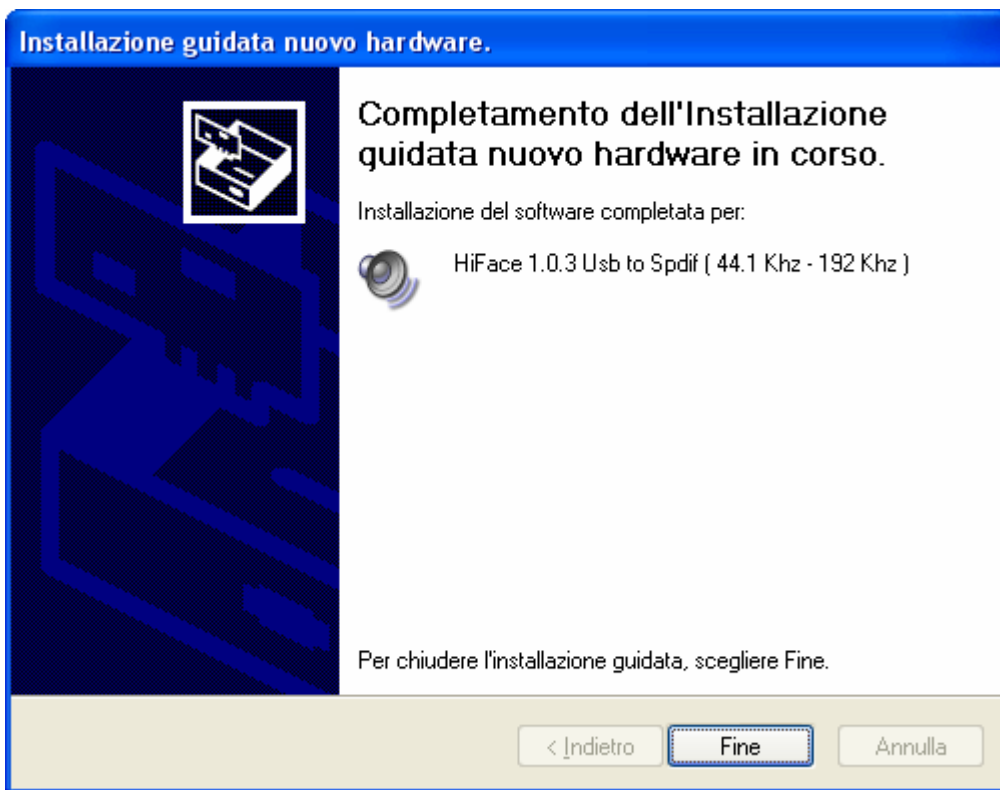


Figure 5

**Note: the wizard appearance and the guided installation procedure may slightly vary from XP to Vista to Windows 7.**

### 3.2.2. Manual installation

Sometimes it's necessary or advisable to install the driver manually. The installation package offers two installation utilities, "setup32.exe" and "setup64.exe". The former is for 32 bits operating systems, while the latter is for 64 bits operating systems. Without connecting hiFace to the PC, double-click on either "setup64.exe" or "setup32.exe", depending on your operating system: the driver will be installed in your PC.

### 3.3. Installing the driver on a Mac

Double-click on the zip file to open it. It contains a single dmg file. Extract it from the zip and double-click on it to open it. It only contains a pkg file. Double click on it to start driver installation. The window shown in figure 6 will appear.



Figure 6

Click on the Continue button. The installation process will go on and the window in figure 7 will appear.

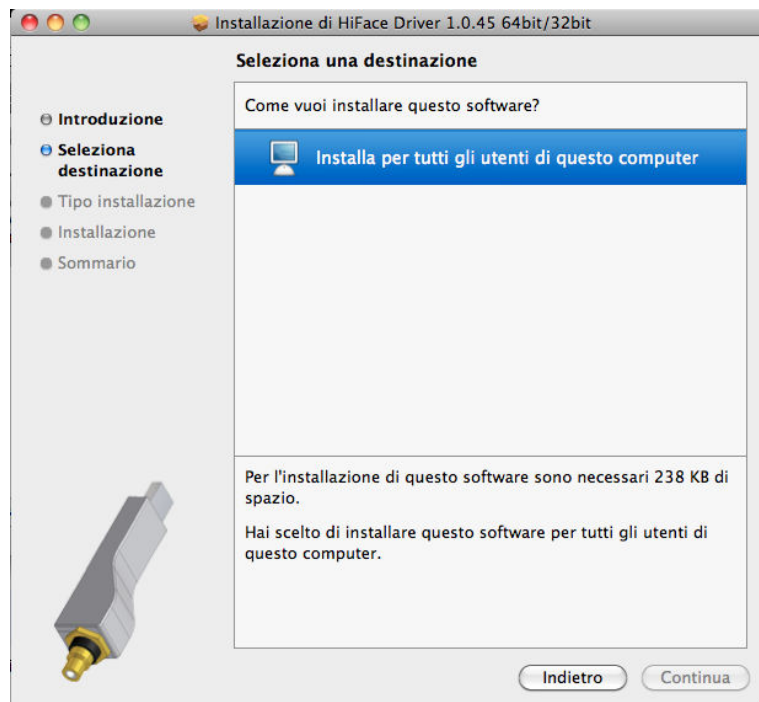


Figure 7

Select “Install for all users”, then click on Continue button. Another window will appear as in figure 8 and you’ll be asked to type in the administrator password. After doing that, the installation process will continue and you’ll be asked for a confirmation to continue the process up to the computer restart. Click on Continue Installation button. The installation will continue until the final window will appear, announcing the successful installation of the driver.

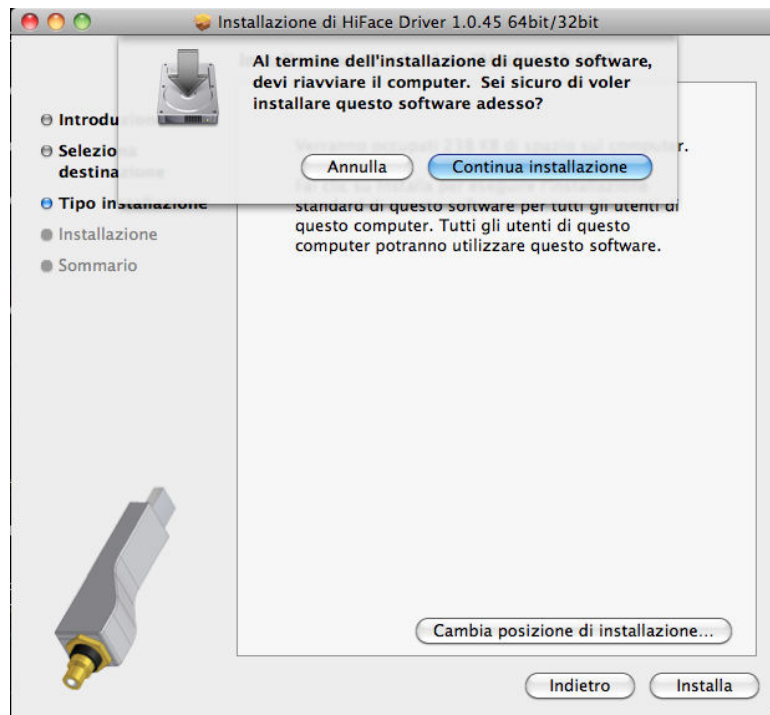


Figure 8

Click on Restart button to complete the installation process as indicated in figure 9.

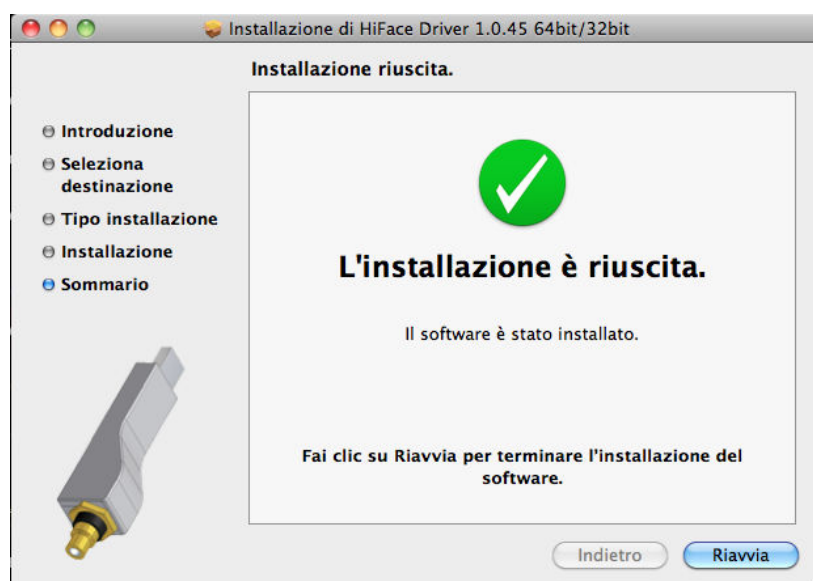


Figure 9

### **3.4. Uninstalling the driver**

Sometimes it is necessary to uninstall the driver to roll back to a previous version. Uninstall is a quite simple procedure which depends on the operating system and the way the driver was installed.

#### **3.4.1. Uninstalling the driver on a Windows-based PC after installation with setup32.exe or setup64.exe**

Go to the control panel and launch the “Application Installation” utility.  
Look for the hiFace driver item in the list.  
Double-click on it to launch uninstalling.

#### **3.4.2. Manually uninstalling the driver on a Windows-based PC**

Connect hiFace to the PC.  
Go to the control panel and launch the “System” utility, then select Hardware tab. Open the Peripheral Management window (see figure 10).  
You’ll find hiFace listed under Audio, Video and Game controllers.

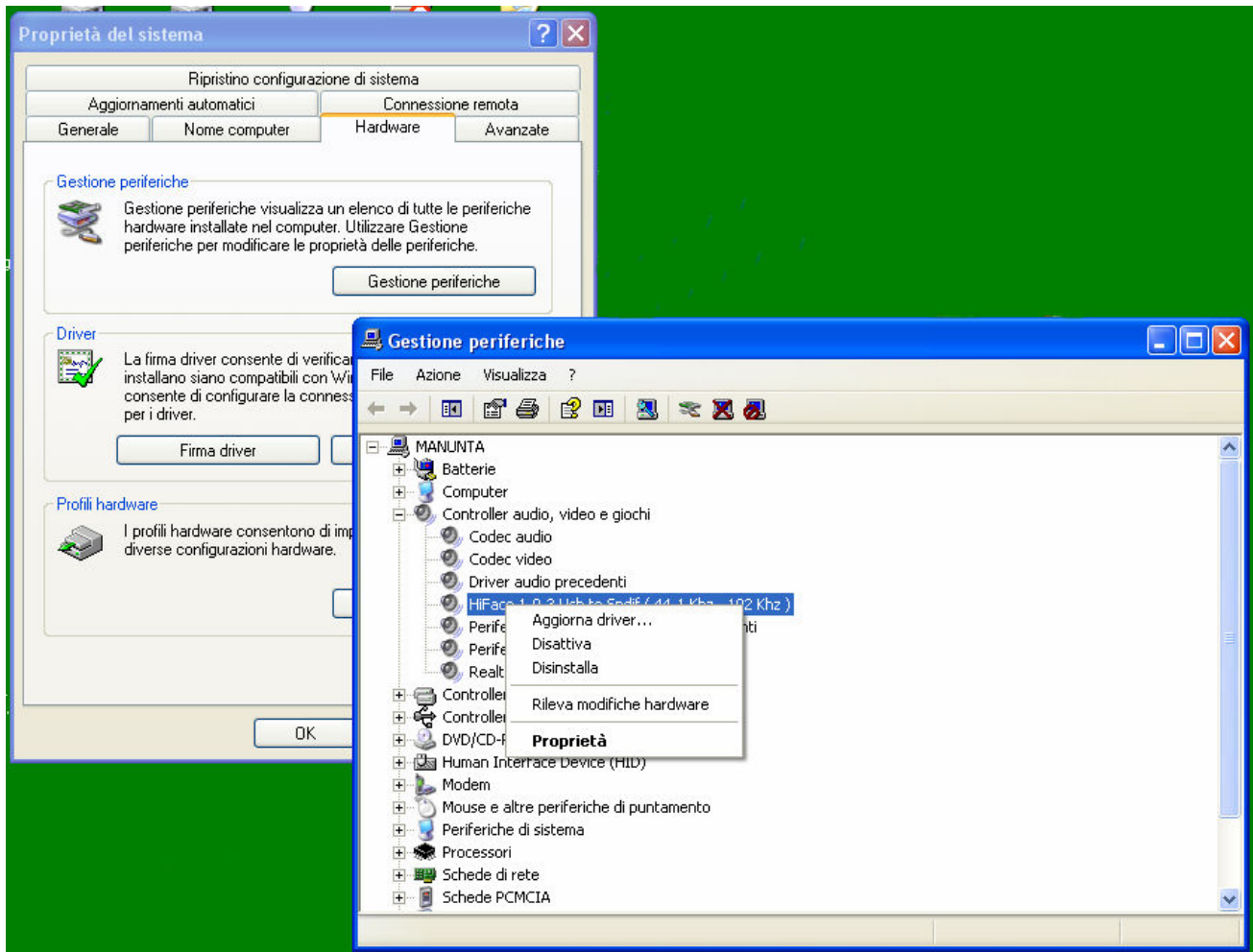


Figure 10

Right-click to access the available actions.  
Select “Uninstall”.

### 3.4.3. Uninstalling the driver on a Mac

Open a console, then type the following commands:

```
sudo mv /System/Library/Extensions/Hiface.kext /tmp  
sudo touch /System/Library/Extensions  
sudo pkgutil --forget com.m2tech.driver
```

Then, restart the Mac.

## 4. Configuring the computer to use hiFace

### 4.1. Configuring a PC with Windows XP

A PC with Windows XP can use hiFace in two different ways: Direct Sound (DS) and Kernel Streaming (KS). The former is suitable for players which can't operate in Kernel Streaming mode (such as Windows Media Player and iTunes) or for Internet streaming, while the latter can be chosen (for better performance) with players which can operate in Kernel Streaming mode (such as FooBar, Winamp, Monkey Media, JRiver).

#### 4.1.1. Configuring for Direct Sound with Windows XP

Connect hiFace to your PC. Then, go to the Control Panel and launch the Sound and Audio Peripherals utility.

Select the Audio tab. In the Predefined Peripheral drop-down menu of the Playback area, select "KS hiFace" (see figure 11).



Figure 11

Then, select the "Voice" Tab. Again, select "hiFace Kernel Streaming" in the drop-down menu of the Playback area. Click on OK button. Please be advised that even if the

peripheral is listed as “kernel streaming”, it will operate in Direct Sound mode when listed here.

From now on, unless hiFace is disconnected or settings are changed again, hiFace is the audio peripheral all audio programs will use when operating in direct sound mode.

#### **4.1.2. Configuring for Kernel Streaming with Windows XP**

Kernel Streaming has no standard setting in Windows XP. KS must be selected in the specific player you choose to use.

For example, when using FooBar, with hiFace connected to the PC, go to the File/Preferences/Playback /Output tab and select “KS: hiFace” as output device. Other players will require different settings (see section 5).

#### **4.1.3. Using hiFace in both Kernel Streaming and Direct Sound mode.**

When hiFace is selected as predefined audio peripheral, it’s possible to use it in Kernel Streaming mode, too, with a caveat. When using it in KS mode, it is necessary that no other application accesses hiFace in DS mode. If this happens, Windows XP’s Kernel Mixer takes control of hiFace’s driver and from then on, no KS application can access hiFace unless the PC is restarted or hiFace connection to the PC is cycled.

## 4.2. Configuring a PC with Windows Vista or Windows 7

A PC with Windows Vista or Windows 7 can use hiFace in three different ways: Direct Sound (DS), Kernel Streaming (KS) and WASAPI. DS is suitable for players which can't operate in Kernel Streaming mode nor with WASAPI or for Internet streaming; KS can be chosen (for better performance) with players which can operate in Kernel Streaming mode (such as FooBar, Winamp, Monkey Media, JRiver). WASAPI (Windows Audio Standard API) is a standard interface for audio players which allows to get the same performance of KS with applications which can't operate in KS mode, at the cost of higher CPU load.

### 4.2.1. Configuring for Direct Sound with Windows Vista or Windows 7

Open control Panel and select Hardware and Sounds. Under Audio, click on Manage Audio Devices. The following windows will appear, in which hiFace is listed. Set hiFace as predefined device. Then, click on OK.

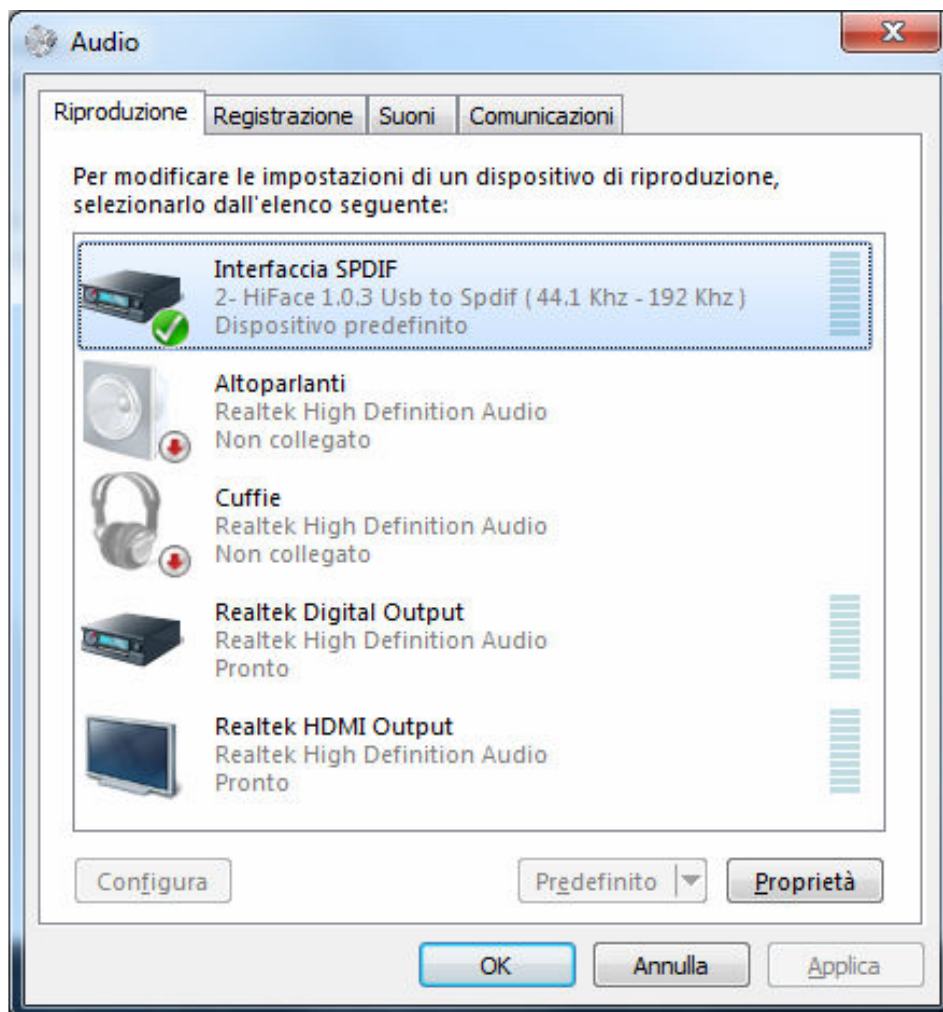


Figure 12

#### 4.2.2. Configuring for Kernel Streaming with Windows Vista or Windows 7

As for Windows XP, Kernel Streaming has no standard setting in Windows Vista and Windows 7. KS must be selected in the specific player you choose to use. For example, when using FooBar, with hiFace connected to the PC, go to the File/Preferences/Playback /Output tab and select “KS: hiFace” as output device. Other players will require different settings (see section 5).

#### 4.2.3. Configuring for WASAPI with Windows Vista or Windows 7

As happens with Kernel Streaming, WASAPI cannot be directly accessed. WASAPI must be selected in the specific player you choose to use. For example, when using FooBar, with hiFace connected to the PC, go to the File/Preferences/Playback /Output tab and select “WASAPI: hiFace” as output device. Other players will require different settings (see section 6).

### 4.3. Configuring a Mac

Go to System Preferences and select Sounds. The following windows will appear. Select hiFace for output as indicated in Figure 14.

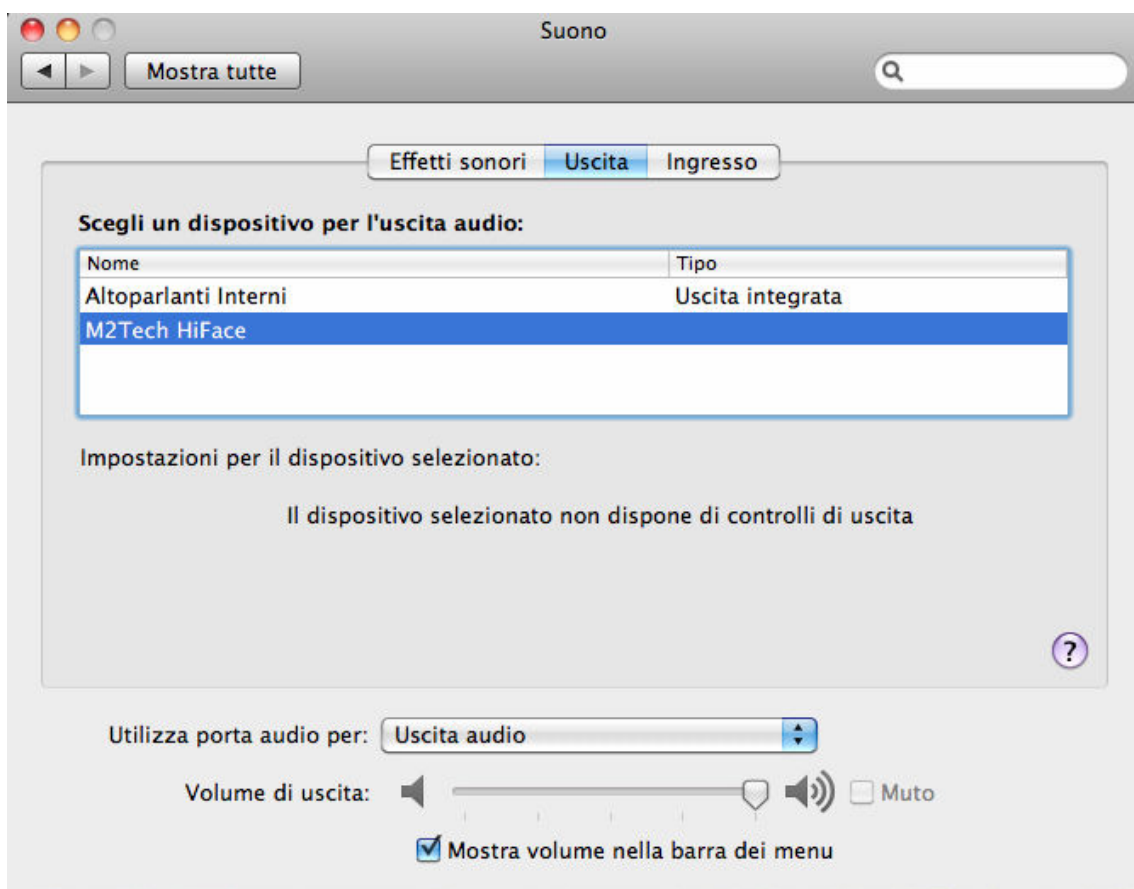


Figure 13

## 5. Configuring the player for Kernel Streaming: some examples

### 5.1. FooBar

To use FooBar in KS mode it is necessary to download the DLL for Kernel Streaming from the FooBar2000 website and install it in the Components sub-folder inside FooBar2000 main folder in your hard disk. The DLL can be found at [http://www.foobar2000.org/components/view/foo\\_out\\_ks](http://www.foobar2000.org/components/view/foo_out_ks) (click on Download). It is a zip folder which contains the DLL. Extract it from the zip and copy to the Components folder. Then, restart FooBar, go to the File/Preferences/Playback/Output window and set parameters as in figure 14.

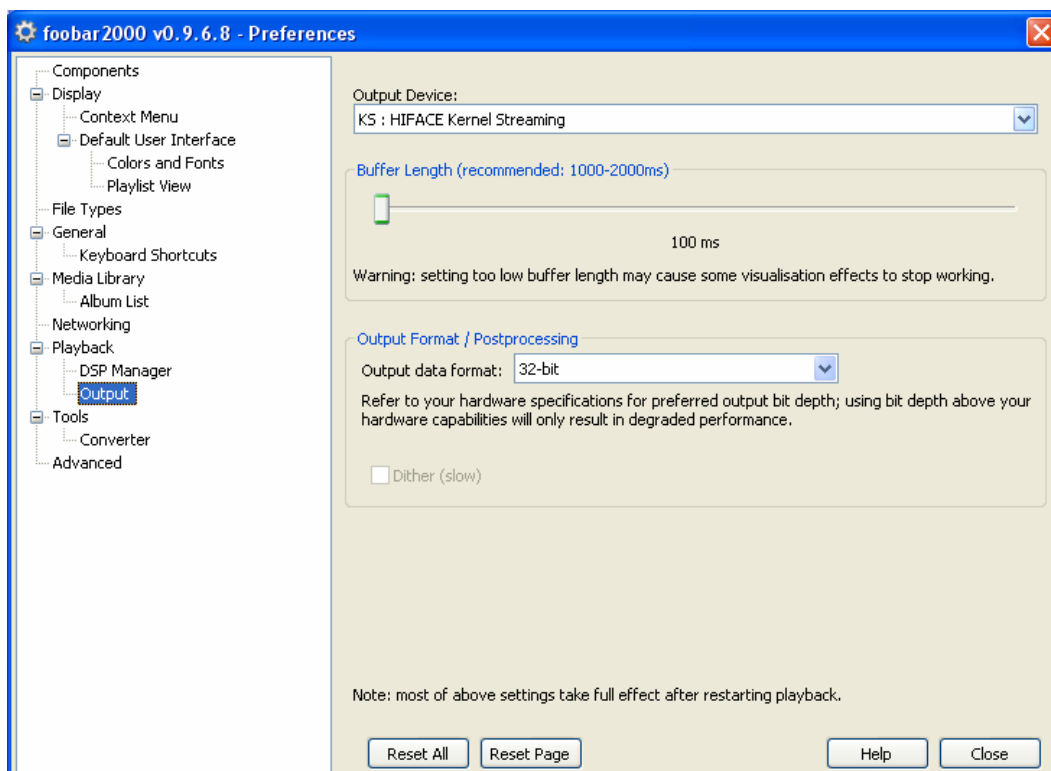


Figure 14

### 5.2. Winamp and MediaMonkey

These two players are actually the same player with different skins, so they can share the same plug-ins. A freeware plug-in for Kernel Streaming by Steve Monks is available on the Internet (<http://www.stevemonks.com/ksplugin/>) that can be used to enable Kernel Streaming operation with these players.

Download the zip file, extract the dll file and copy it into the Plugins folder inside Winamp main folder.

With hiFace connected, right-click on Winamp and select Display/Select Plug-ins. The Preferences window of Winamp will open (see figure 15).

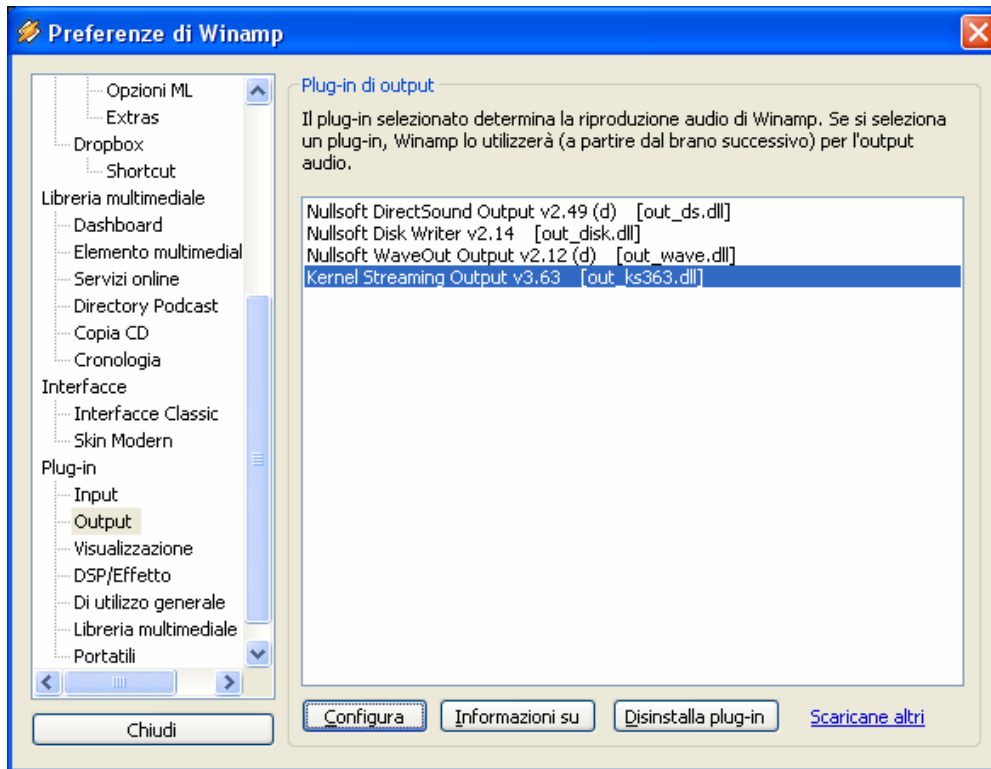


Figure 15

Go to Plug-in/Output and select “Kernel Streaming Output”. Then click on Configure button. Choose HIFACE Kernel Streaming in the output device list (Figure 16).

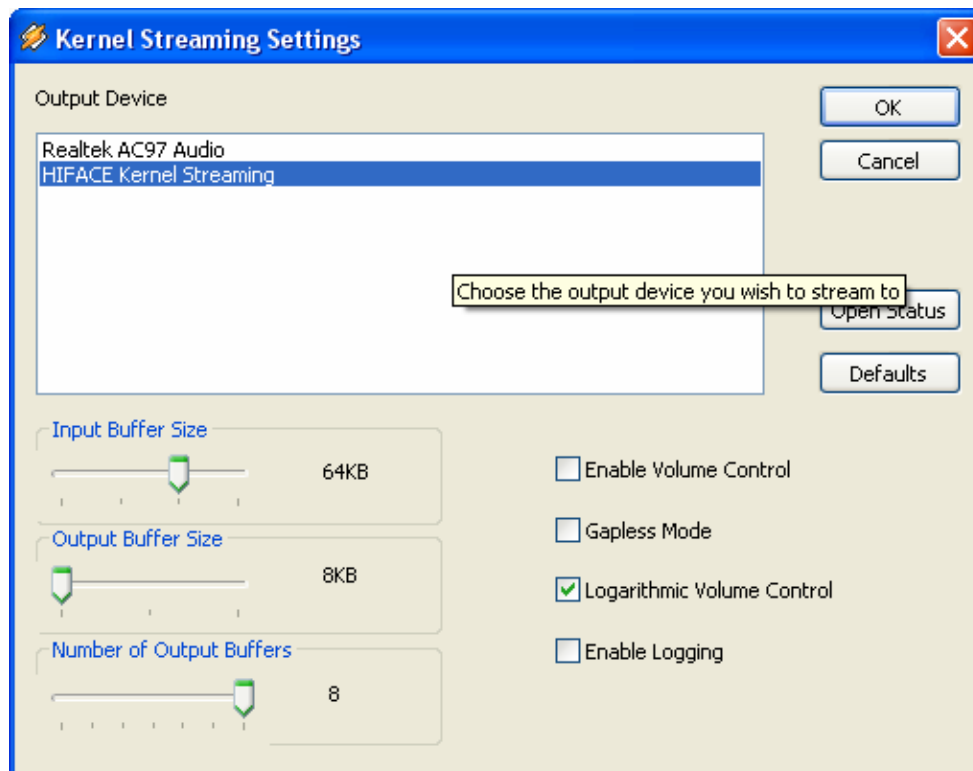


Figure 16

## 6. Configuring the player for WASAPI: an example

### 6.1. FooBar

To use FooBar with WASAPI under Windows 7 it is necessary to download the DLL for WASAPI from the FooBar2000 website and install it in the Components sub-folder inside FooBar2000 main folder in your hard disk. The DLL can be found at [http://www.foobar2000.org/components/view/foo\\_out\\_wasapi](http://www.foobar2000.org/components/view/foo_out_wasapi) (click on Download). It is a zip folder which contains the DLL. Extract it from the zip and copy to the Components folder.

Then, restart FooBar, go to the File/Preferences/Playback/Output window and set parameters as in figure 17.

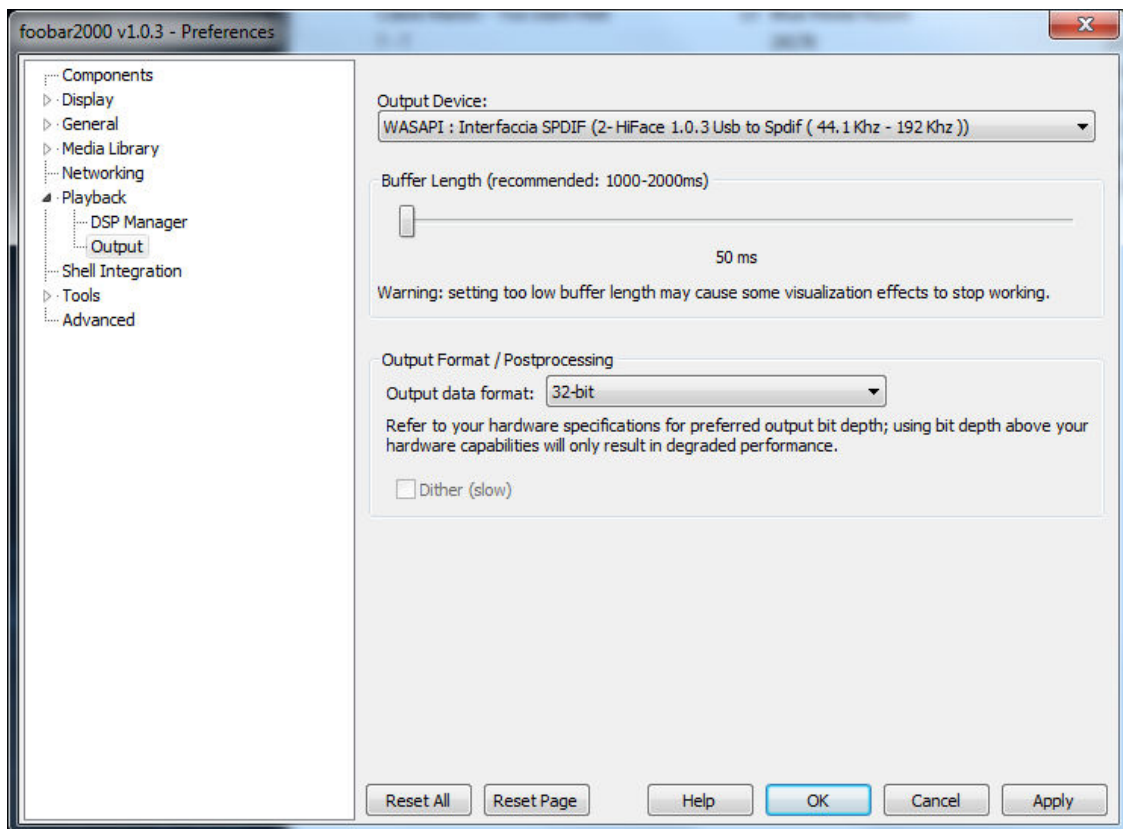


Figure 17

## 7. Interface special features

### 7.1. Output voltage

hiFace has an output voltage which is not compliant with the S/PDIF standard (1.75Vpp instead of 0.5Vpp on 75 Ohms load). This is a choice made to increase the drive capability with long digital cables. Please contact your local distributor/dealer in the unlikely event the output voltage is excessive for your DAC's input stage.

### 7.2. Sampling frequency coding in the bitstream

S/PDIF standard requires that some information are encoded in the S/PDIF data stream. Amongst them, the sampling frequency must be indicated. hiFace doesn't comply to this requirement. This feature leads normally to no problem. However, some DAC's use those information to display the music's sampling frequency on the front panel. When using hiFace with such equipment, the sampling frequency indication always remains on "48kHz", even if the DAC is correctly converting 44.1, 96 or 192kHz bitstreams. User shouldn't be fooled by this indication and refer to the sampling frequency information displayed by the player on the computer.

### 7.3. Output connector choice

hiFace comes in two different versions: with RCA output connector and with 75 Ohms BNC connector. Which one to choose? It mainly depends on the input connector on your DAC or A/V receiver. Most units have an RCA input connector, so the RCA hiFace is to be chosen. On the other hand, some high performance units have both RCA and BNC input connectors, and some of them only have BNC inputs. The rule is: every time a BNC connector is available, hiFace BNC should be chosen, as the BNC connection, being it a true 75 Ohms link, give slightly better performance.

Should a hybrid cable be available (that is, a cable with an RCA plug on one end and a BNC plug on the other), it is possible to use a hiFace BNC with a DAC provided with an RCA input, or vice versa. A slight performance increase with respect to an all-RCA link can be obtained.

## 8. Technical Specifications

Sampling frequencies: ..... 44.1, 48, 88.2, 96, 176.4, 192kHz  
Resolution: ..... 16 to 24 bits  
USB: ..... 2.0 high speed

Internal clock precision: ..... +/-10ppm 0 to 60°C, 2ppm typical @ 25°C

S/PDIF output voltage: ..... 1.75Vpp +/-0.1V @ 75 Ohms

Minimal requirements: ..... 1.3GHz CPU clock, 1GB RAM, 2.0 USB port

Size ..... 110x20x23mm (with connectors)

Weight: ..... 40g