

Location Free PSP -

Audio Media Player

**The definitive guide to using the
PSP as a location free audio media player**



Icecast2
Win32



OddcastV3



Winamp



Windows
Media Player



PlayerPal

For the firmware version 1.5 PSP

<http://locationfreepsp.blogspot.com/>

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Introduction

In the early 1980s the compact disc revolutionised the way we listened to music and made redundant our collections of vinyl LPs and cassette tapes. The digital music revolution continued in the 1990s with the adoption of the MPEG-1 Audio Layer 3 (MP3) digital audio codec and compression format.

The advances in digital music media have changed the way we listen to music, if you are like me then your music collection from the last 20 years may have been relegated from your lounge to the attic and your towering Hi-Fi system may have been replaced with a home cinema system or a media player you can fit in your pocket. Your music collection is now stored on hard disks, memory sticks and CDRs but how do you listen to it?

I want to have my music collection at my fingertips like it was when I could pull out a CD and play it. I want my friends to browse my music and select tracks to play, I want to listen to it anywhere in my house, garden or the world and I don't want to be tangled up with wires. I want to organise it by album, artist or just play it all randomly. I want to play it through my home audio system or my headphones.

This is the location free media future, with your audio and video available on demand wherever you are in the world - but you can have it now courtesy of the Sony PSP and some innovative software!

Sony PlayStation Portable

The PlayStation Portable (PSP) is a handheld game console produced by Sony Computer Entertainment, released around the world in 2004/5. Although primarily targeted at a portable gaming audience the PSP is also a portable music and video player with wireless 802.11 network connectivity.

Sony realise the potential the PSP has as a location free media player and have introduced a location free player system that acts as a central resource for media using the PSP as a player, however this comes at a considerable cost and reports indicate it is far from the perfect solution for accessing your media with the PSP.¹

Shortly after its release the PSP community developed ways to harness the full potential of the PSP and developed "homebrew" applications for the PSP. The work of these developers has made it possible to use the PSP as a true location free streaming media player.

This guide will show you how to use your PSP to listen to, browse, control and view your music collection from anywhere with wireless Internet connectivity using your PSP and freely available software.

¹ <http://products.sel.sony.com/locationfreetv/owners/psp.html>
http://www.amazon.com/gp/product/B000BGOWIE/ref=sr_11_1/103-9751346-9359850?ie=UTF8

Whilst this guide is looking at the PSP as a location free audio player other media players are compatible with this solution including wireless enabled Laptops and PDA's.

About this guide

This guide documents the Location Free PSP setup I currently have in my home demonstrating the use of Winamp and Windows Media Player as audio sources for two music streams.

You may not want to use media players documented here but hopefully you will be able to use the information included in this guide with your preferred media player.

Sections of the guide that require you to **do something** are formatted

➤ Like this

When you have completed sections of the guide the **expected results** are formatted

✓ Like this



Note



Tip

Notes and Tips will be highlighted with a **Note** and a **Tip** icon.

Prerequisites

Before we get going lets look at the basic hardware and software needed. We are going to use the PSP to wirelessly access the music we have stored on our PC or music server. A common way to transmit music across a network is via streaming technology using an audio codec. The MP3 codec is the most popular. The MP3 data is streamed from the music server over a TCP/IP connection to the PSP, reassembled and played within about 2 seconds.

The music server needs to be a PC running the Windows 2000 or Windows XP operating system. The information in this guide is based on a PC running Windows XP with Service Pack 2. The PC needs to have a network connection to the Internet and to an 802.11 wireless access point.

You may have a wireless access point integrated into your broadband access router which in turn also connects to your PC, or your wired network hub, router and access point may be separate network devices. This guide assumes that your home network and wireless access point are configured and working and your PC has been assigned a TCP/IP address and can access the Internet.

To connect the PSP to an MP3 stream we are going to use a “homebrew” application called PSP Radio, this also allows us to run a plugin called Links2. Links2 is a Linux web browser ported to the PSP, the browser can run whilst PSP Radio is connected to

the MP3 stream and playing our music, it lets us browse our music collection and control what is playing using an application called PlayerPal.

To run homebrew applications your PSP needs to be running a compatible firmware version, at the time of writing the best version of firmware to do this is version 1.5.

The rest of the software we will be using is freely available and is included in the Location Free PSP software pack. Some of the software requires a license but will run in demonstration mode to allow you to evaluate it.

The latest version of this document and the Location Free PSP software pack can be downloaded from

<http://locationfreepsp.blogspot.com/>

Organise your music

The first thing we need to do is get our music onto our music server. Whilst we are using the MP3 codec for the music stream the media files on your music server PC can be in any format supported by your media player.

This guide is going to refer to our music files as MP3 files although your files may be in other formats.

You may already have MP3 files stored in various locations, CDs, memory sticks, iPODS and hard disk drives. Our goal is to organise our music collection into a single library that is easy to browse and access.

Most modern PC's have sufficient storage capabilities for even the largest music collection. A general rule of thumb for calculating your storage requirements is one minute of MP3 audio requires 1MB of storage space. If the average audio CD contains one hour of music then this relates to 60MB+ of storage space for one CD. If you have 100 CDs then 6 to 10GB of storage space may be required. Other audio codecs, particularly lossless codecs may require considerably more storage space.

Media Players

You may already have a preference as to which Windows media player you use to play your audio files. This guide will document the use of Windows Media Player version 10 and Winamp version 5.x

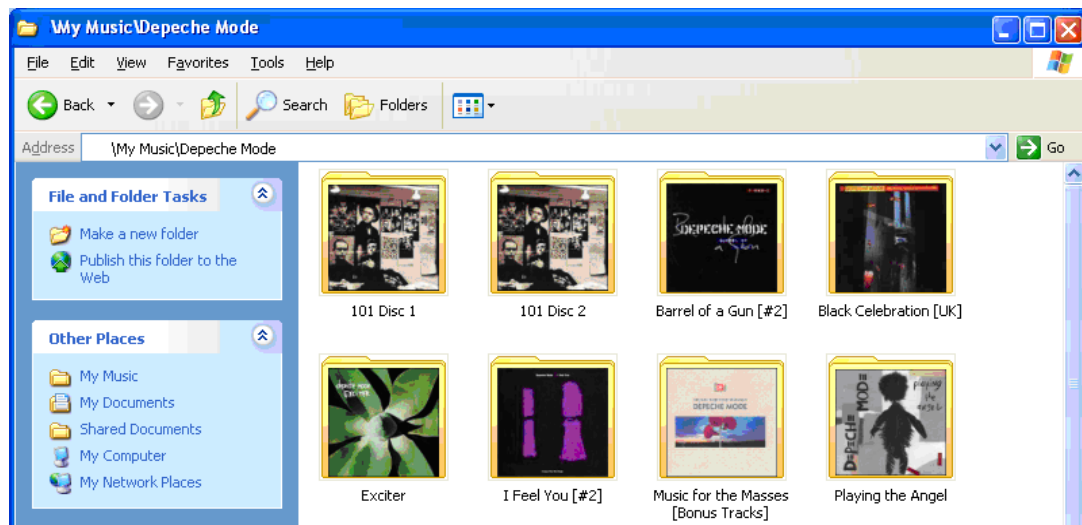
If you are new to the world of digital music and MP3 then Windows Media Player which is bundled with Windows XP allows you to start to transfer your audio CD collection to your PC and to organise your existing MP3 files.

Winamp was one of the first Windows media players and is a popular player with many plugins available to enhance its usage.

Ripping your music collection

The process of converting the digital audio contained on a Compact Disc to a compressed media file using a lossy or lossless codec is also known as “ripping”.

There are many Windows utilities available that will rip the audio from a compact disc and Windows Media Player (WMP) now also has built in functionality to allow you to insert an audio CD and rip it directly to your WMP library within minutes. Windows Media Player is now also capable of identifying a CD by accessing an online database and downloading the track listing and album cover art for the CD automatically. Cover art is displayed by Windows XP when you select the “Thumbnails” view in an explorer Window as shown below:



Remember that when you convert the raw audio data from a compact disc to a compressed media file with a lossy codec some degradation of audio quality occurs. For example when converting to MP3 format encoding at 128Kbps will produce near CD quality with good compression i.e. smaller file sizes. Better audio quality will be achieved at 192Kbps and less compression i.e. a larger file size.

Archival quality audio can only be achieved at much higher MP3 bit rates or with a lossless audio codec.

Windows Media Player

At the time of writing Windows Media Player version 10 is the current production version with version 11 currently in Beta. This guide recommends you use Windows Media Player version 10.

Windows Media Player version 10 is included in the Location Free PSP software pack or is free to download from Microsoft from :

<http://www.microsoft.com/windows/windowsmedia/mp10/default.aspx>

If you want to use Windows Media Player version 10 and it is not already installed on your system -

- Run the **MP10Setup.exe** setup file and follow the installation instructions to install Windows Media Player version 10.

Configuring Windows Media Player

Windows Media Player does not require any specific configuration to use it however you may want to consider changing the location of your music library from the default **My Document/My Music** folder especially if you want to store your music on a dedicated hard disk drive.

You may also want to review the options for ripping and naming audio files in your collection.



Note A plugin is required to allow Windows Media Player to rip audio from a CD to MP3 format, Windows Media Player uses the windows media audio (WMA) format by default. If you want to rip your audio to MP3 format consider obtaining an MP3 plugin for Windows Media Player or using another audio ripping tool.

Winamp

At the time of writing the current version of Winamp is version 5.x

A free version of Winamp is included in the Location Free PSP software pack, the latest version can be downloaded from :

<http://www.winamp.com>.

- Run the Winamp installer file and follow the setup instructions to install Winamp.

Installing and configuring the streaming server

Now that our media library is ready to access we need to install and configure the streaming server software on our music server PC.

The streaming server will consist of two main components; the streaming server and the streaming source client. For the streaming server we will use Icecast version 2.3.1 and for the streaming source client we will use Oddcast version 3.

Icecast is free and open source software capable of streaming MP3 content over commonly used protocols. It uses external programs called source clients to originate the stream - Oddcast is also free and open source software and will be used as the source client to Icecast.

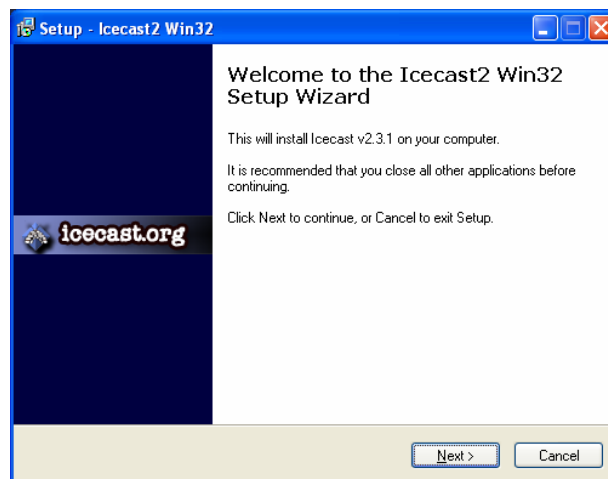
There are two versions of Oddcast that we will use, the first is a DSP plugin for Winamp enabling Winamp to output audio directly to the Oddcast source client. The second is a standalone version that can take its input from any sound source and can be used with Windows Media Player.

Installing and configuring Icecast

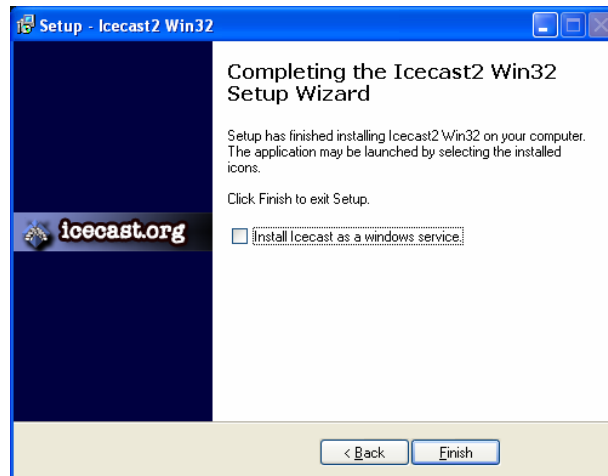
Version 2.3.1 of Icecast is included in the Location Free PSP software pack. Or you can download it online from from:

<http://downloads.xiph.org/releases/icecast/>

- Start the setup application by double left clicking on the Icecast setup file.



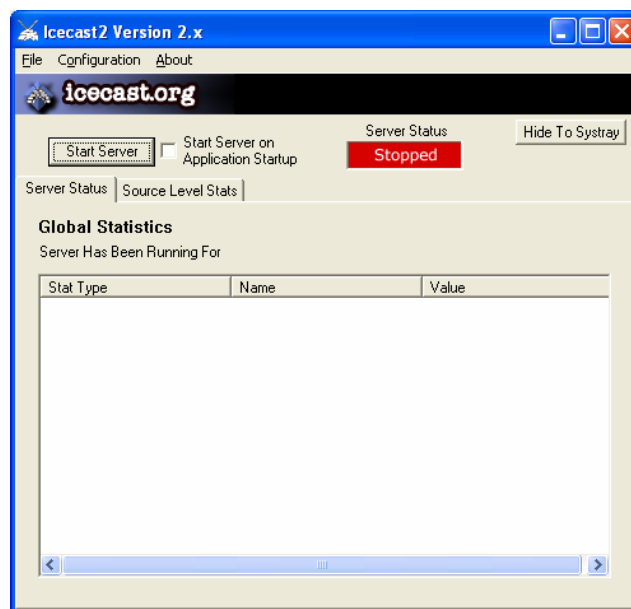
- Follow the instructions in the Icecast2 Win32 setup wizard to install Icecast.
- On the final Wizard screen deselect the option to install Icecast as a service, we will start the Icecast server manually.



- When you click Finish to complete the setup wizard an Icecast2 Win32 icon will be created on your Windows Desktop :



- Double left click the Icecast2 Win32 icon to start the Icecast application, the Icecast main Window will appear :

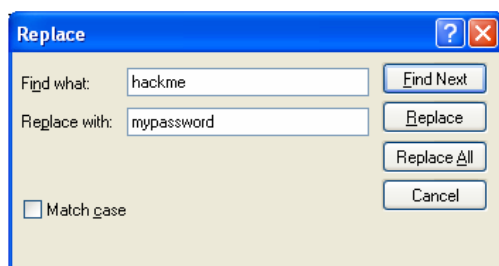


The first time you run Icecast the Icecast server is stopped as shown above.

- In the menu click Configuration to open the Icecast configuration XML file in Windows Notepad.

There is no real need to change any of the default settings in this file, however Icecast comes with some default passwords that should be changed. The default password for remote administration and source clients is “*hackme*”.

- In Notepad click **Edit – Replace** and find and replace the default password with one of your own as shown below.
- Click **Replace All** to change the default passwords.



Note Note the listen socket configuration :

```
<listen-socket>
  <port>8000</port>
```

This is the TCP/IP port, or socket, that Icecast will use for incoming connections to the stream. It's used in the URL to connect to your server – **http://localhost:8000**

In the logging section uncomment the playlist log option to enable playlist logging :

```
<logging>
  <accesslog>access.log</accesslog>
  <errorlog>error.log</errorlog>
  <playlistlog>playlist.log</playlistlog>
```

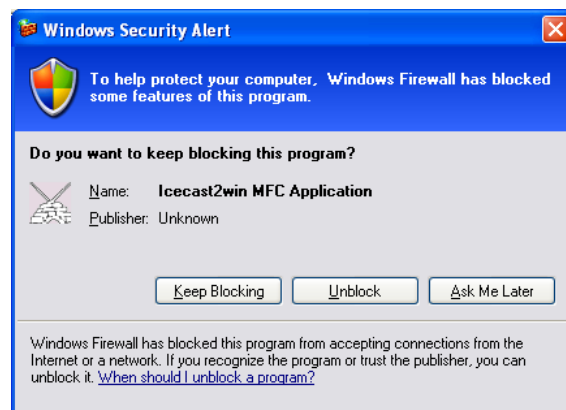
This will log the meta tag information of files streamed by the server to a file called playlist.log in the Icecast installation folder.

- Save the Icecast XML configuration file and close Notepad.
- Now that we have configured Icecast click the Start Server button to start the Icecast server.
- Check the “Start server on application startup” option so that the server starts automatically when you double left click on the Icecast icon.

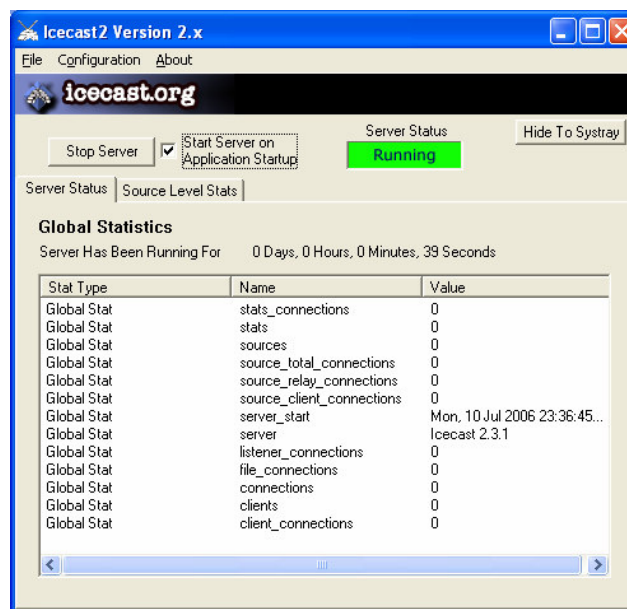
If the Windows XP Service Pack 2 Firewall service is enabled, Windows will block external connections to the Icecast server.

- Click the Unblock button to add exceptions to your Windows Firewall configuration and allow network access to the Icecast server.

If you use other personal firewall software you will need to configure new rules to allow connectivity to the Icecast server software.



When the server starts the server status notification changes to green and indicates that it is running. The statistics window displays statistics for the Icecast server as show below:



- Click the Hide to Systray button to minimise the application Window to an icon in the notification area (next to the time and date).
- ✓ The Icecast server is now ready to accept source client connections.

Installing and configuring the Oddcast Winamp plugin

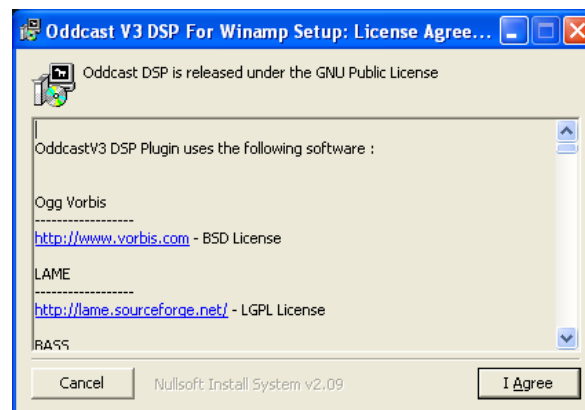
Oddcast is the source client to the Icecast server, it delivers audio to the Icecast server which then encodes and streams that source to streaming clients.

There are two versions of the Oddcast client that we are going to use, the Oddcast Winamp plugin (oddcastv3_winamp_3.1.9.exe) and the Oddcast standalone client (oddcastv3_standalone_3.1.9.exe).

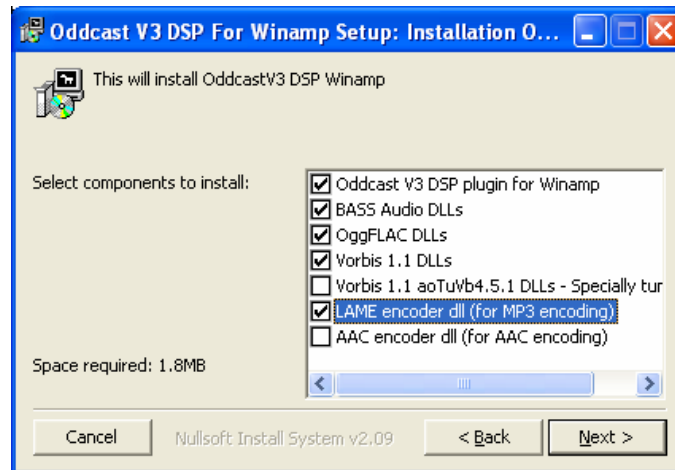
Both versions are included in the Location Free PSP software pack or can be downloaded from

<http://www.oddsock.org/tools/oddcastv3/>

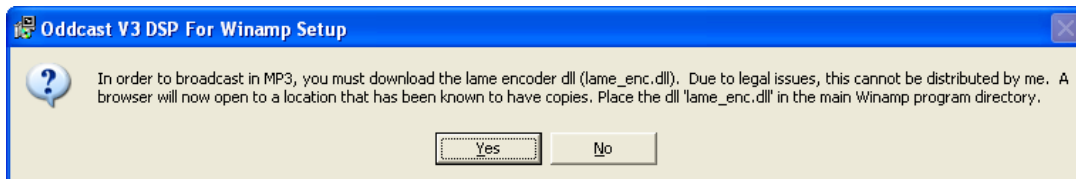
- Start the setup application for the Oddcast Winamp plugin by double left clicking on the Oddcast Winamp plugin setup file - **oddcastv3_winamp_3.1.9.exe**.



- Click the “**I Agree**” button to agree to the GNU Public Licensing terms. On the next screen check the “Lame encoder dll (for MP3 encoding) install option.” and click **Next** to continue.



When the Oddcast Winamp plugin setup completes a message box will appear informing you that the Lame MP3 encoding DLL required to broadcast in MP3 format is not present in the Oddcast software distribution.



The lame_enc.dll file is included in the Location Free PSP software pack in the Extras folder, alternatively click “**Yes**” and your browser will open to a location that has a downloadable copy of the DLL file.

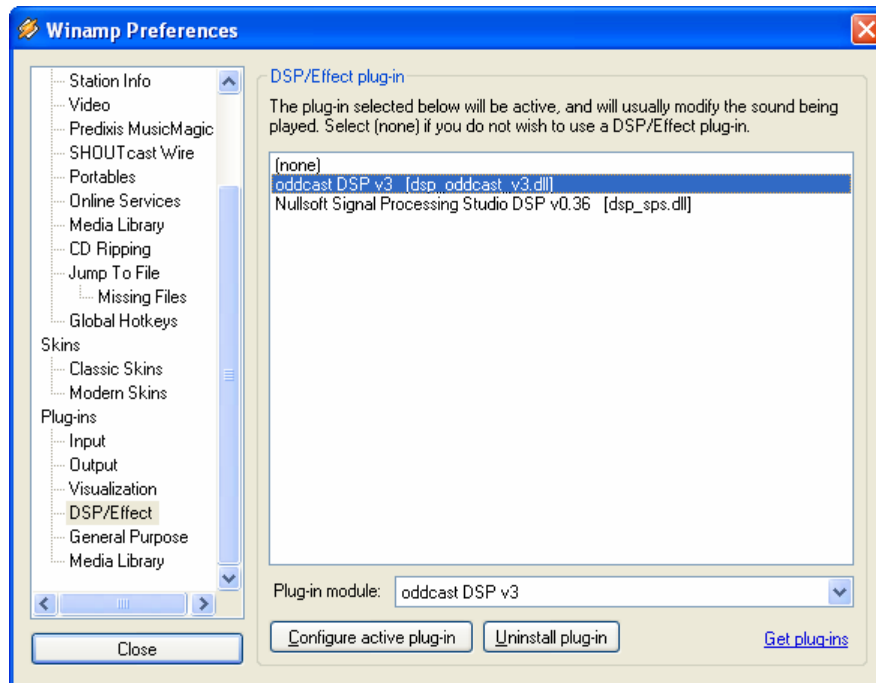
- Copy **lame_enc.dll** from the software pack to your Winamp program directory.

Now we are ready to configure the Oddcast Winamp plugin from within Winamp and connect our source client to the streaming server.

Configuring Winamp

- Start up Winamp and from the Winamp menu click **Options** and then **Preferences** (or press CTRL+P)

The Winamp Preferences window will appear as shown below :

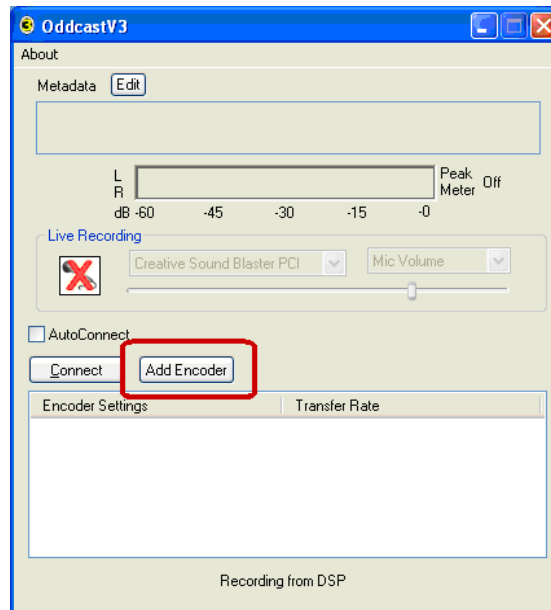


- On the left hand side of the window scroll down to Plug-ins and click on DSP/Effect.
- In the DSP/Effect plug-in window single left click on the Oddcast DSP v3 plugin.
 - ✓ The Oddcast Window will appear.

Configuring Oddcast

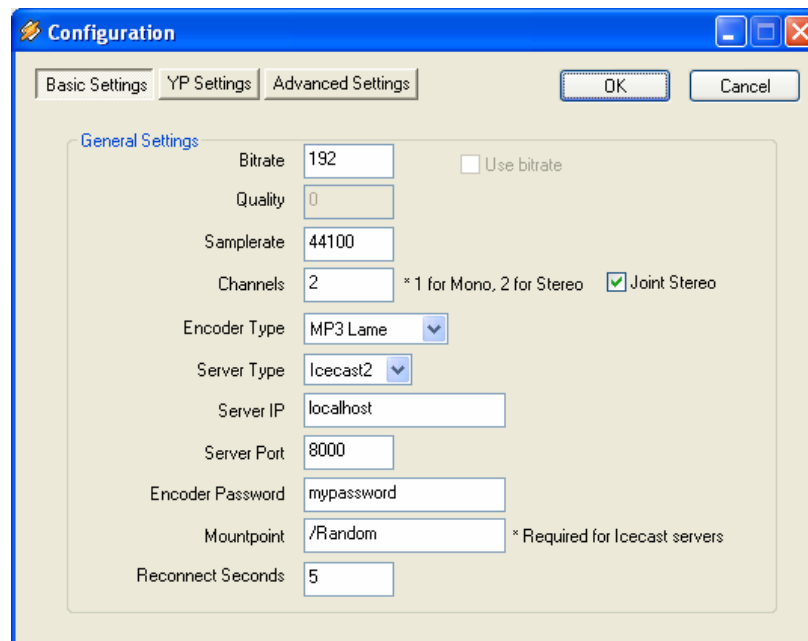
Notice that the Oddcast Winamp plugin does not allow you to select recording sources, it get its DSP audio input straight from Winamp.

- Click the “Add encoder” button to add an encoder to Oddcast.



The default encoder if the default install options were taken is Vorbis. Right click the default encoder entry and select configure to setup the encoder.

The configuration dialogue box is show below.



- First change the encoder type to **MP3 Lame**. If you do not see an MP3 Lame option then you have not copied the lame encoder DLL file (lame_enc.dll) to the Winamp program folder.

The default server type is Icecast2

The default server IP is localhost – localhost is the built in hostname for – you guessed it – the localhost address (127.0.0.1) of the PC that Oddcast and Icecast are running on.

You can if you want specify the actual TCP/IP address of the network adaptor on your music server.

The default server port is 8000. (This is the TCP port that music streams will be transmitted on)

- Enter the encoder password you set in the Icecast XML configuration file. If you did not set a password the default password is “letmein”
- Now choose a name for the mountpoint, this is required for Icecast, in this case because I want to use Winamp for our random music stream I have called the mountpoint **/Random**,



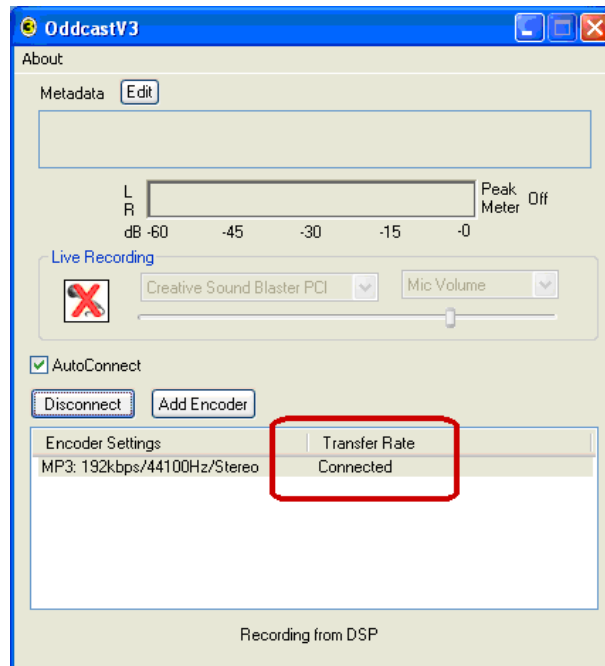
Note The mountpoint name is important, you will need it when you connect to the stream from your streaming clients.

- Finally set the bit rate of the stream, in this case I have set the Random stream bit rate to 192Kbps to provide best quality MP3 audio.

Other bit rates are :

- >256 Kbps – archival CD quality
- >160 Kbps – Good CD quality
- 128 Kbps – Average CD quality
- 96 Kbps – Stereo FM Radio quality
- 44 Kbps – Mobile phone quality

- Click the YP Settings Button and uncheck the “Public server” option.
- Now save the Oddcast Winamp plugin configuration settings by clicking the OK button.
- Back in the Oddcast Winamp plugin Window check the **Autoconnect** option and then click the “**Connect**” button to connect the Oddcast source client to the streaming server. If your client and server are configured correctly the source client will connect as shown below:



Note that whilst the encoder indicates it is connected, it does not connect with the Icecast server until an audio input is detected. If the encoder disconnects when you play a file in Winamp, check the encoder configuration and in particular the Icecast password.

- Minimise the Oddcast Winamp plugin to the task bar and click the close Winamp preferences window to return to Winamp.

All we need to do now is send audio to the streaming server by playing a media file in Winamp. Because this is my *Random* stream I'm going to create a playlist in Winamp containing all my music, toggle playlist shuffling, and click play to start randomly playing tracks from my music collection!

Winamp is now playing your music and you will see the transfer rate of the encoder configured in the Oddcast Winamp plugin change to match the encoding rate we specified.

Winamp is outputting the audio to the DSP Oddcast plugin as well as your soundcard. If you want to configure Winamp in "silent mode" and send the audio to the Oddcast plugin silently, follow the instructions in the Extras section to install and configure the NULL output Winamp plugin.

Leave Winamp playing random tracks and let's setup PSP Radio so we can listen to our random stream on the PSP.

Configuring the PSP and PSP Radio



Out of the box the PSP cannot currently connect to and play MP3 streaming audio. We are going to use the excellent homebrew application developed by Raf (<http://rafpsp.blogspot.com/>) called PSP Radio.

PSP Radio can play MP3 files from the PSP memory stick and connect to and play Internet Radio streaming Shoutcast/MP3 feeds. It can also connect to and play our Icecast MP3 streams.



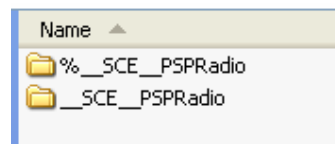
Note Remember that to run homebrew applications on the PSP, firmware version 1.5 is required. At the time of writing there are various ways to downgrade to firmware version 1.5 but this information is outwith the scope of this guide. See the links in the references section for more information on downgrading your PSP.

Version 0.38.11 of PSP Radio is included in the Location Free PSP software pack. To install PSP Radio on your firmware version 1.5 PSP :

- Connect your PSP to your PC using the USB cable, switch on your PSP and navigate to the System menu, select USB and press  to enable the PSP USB connection. (users of Japanese PSP's should press  when navigating the PSP system menus.)
- Your PSP will appear as an additional drive on your computer, for this example we will assume the PSP has been assigned the driver letter **E**.
- Using Windows explorer browse to

E:\PSP\GAME

- And copy the PSP Radio program folders from the Location Free PSP software pack on your PC to the PSP :



Copy to **E:\PSP\GAME**



Tip The Links2 browser is included with the latest versions of PSP Radio. To update Links2 copy **APP_Links2.prx** to -

E:\PSP\GAME\PSP Radio

The latest version of Links2 can be downloaded from
<http://rafpsp.blogspot.com/>

- To connect PSP Radio to our Icecast stream we need to create a PSP Radio playlist file for each stream and copy them to -

E:\PSP\GAME\PSP Radio\Playlists

- Example playlist files are shown below and are included in the Location Free PSP software pack, open the file using Notepad and replace x.x.x.x with the TCP/IP address of your music server PC.



My Music.m3u

`http://x.x.x.x:8000/MyMusic`



Random.m3u


`http://x.x.x.x:8000/Random`

- Save the changes and copy the files to

E:\PSP\GAME\PSP Radio\Playlists




Note Before starting PSP Radio ensure that you have configured and tested wireless connectivity to your wireless network from the PSP. A PDF version of the PSP manual is included in the Location Free PSP software pack.

Disconnect the PSP USB connection from your PC and navigate to the PSP Memory Stick, Game menu. You should see the PSP Radio icon present in your list of PSP Games. Select the PSP Radio icon and execute it using the  button on your PSP.

- ✓ PSP Radio will initialise.






When PSP Radio has started press the **START** button on your PSP to view the PSP Radio configuration, we need to enable the wireless connection and select the wireless configuration entry for your home wireless access point.

- The Wifi configuration will be set to OFF, use the right D Pad button to select the wireless connection configured on your PSP and press  to activate and connect the PSP to your wireless access point. In the example below the wireless connection is called “Connection 1”
- Scroll down and change **WiFi autostart** to **YES**, so that the wireless connection starts automatically when PSP Radio is loaded.
- Scroll down and change the initial screen to **Playlist**.
- Scroll down and select **Save Options** to save these settings to the memory stick.



- Press **START** again to exit the configuration view.

If you do not see the Blue playlist view in PSP Radio, press  to change views until the Playlist view is displayed. Under the Playlists menu the two playlists configured in our playlist files will be displayed.

Select the Random playlist and press , press  again to connect PSP Radio to our Random Icecast Winamp stream. The PSP will begin to buffer and play the MP3 stream as shown below.



Note Notice the two playlist entries, these are the playlist .m3u files you created and saved in the playlists folder.

- ✓ If your PSP and PSP Radio have been configured and installed correctly you should now be listening to the Random Icecast Winamp stream on your PSP – congratulations your PSP is now a location free media player!

Each time a track changes in Winamp the meta information for that track – artist, track name etc are logged by Icecast. PSP Radio displays this information to tell you which track is playing.

See the Extras section for details of how to use a script to parse the Icecast logfile and output recent playlist information to an HTML file that can be accessed by your browser to see what's currently playing.

A full user guide for PSP Radio written by David Dew is included in the Location Free PSP software pack.

Windows Media Player and PlayerPal

Now that we have successfully connected to our Winamp Random MP3 stream lets create a new stream. With this stream we want to be able to remotely select the music that will be streamed using a web browser either on our PSP or on another computer in the home.

This gives us total control to browse, select and play any music from our collection to the PSP anywhere in our home and if your PC is not located within cabling distance of your home audio system will also allow you to connect your PSP to your home cinema or stereo system (using the headphone port) and then use another home PC or laptop to select music and create playlists from your collection to play through the PSP. This is great for parties where guests can browse your music and queue it up to play like a jukebox!

I have chosen Windows Media Player to rip and organise my music collection so I want to create a new Oddcast source client with Windows Media Player as the input audio feed.

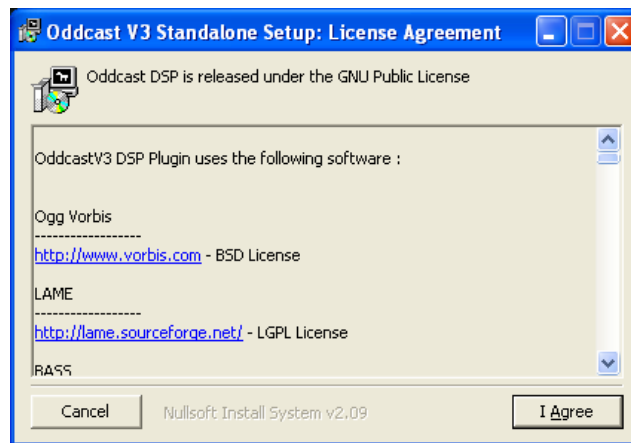
To remotely control Windows Media Player I am going to use the excellent PlayerPal application developed by Ben Taylor (<http://www.playerpal.com>). PlayerPal allows you to remotely control iTunes and Windows Media Player version 9+ via a supported web browser, it has browser “skins” for all major browsers including the PSP and Pocket PC. PlayerPal displays your music collection as it appears in Windows Media Player complete with album art and custom playlists.

PlayerPal can be downloaded from <http://www.playerpal.com>

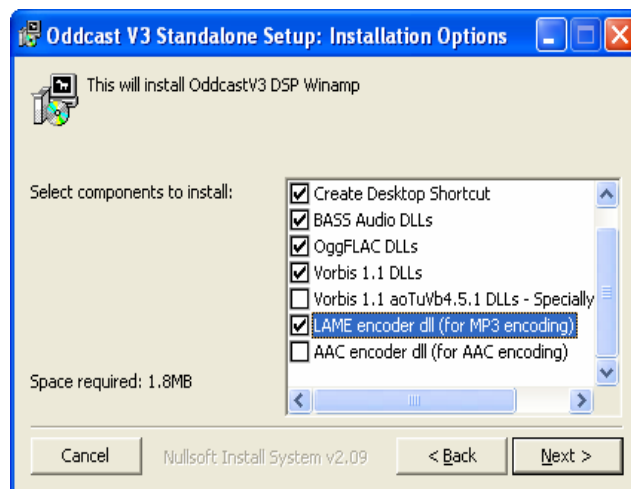
First, let's install the standalone Oddcast source client that we will use for our second MP3 stream.

Installing the standalone version of Oddcast

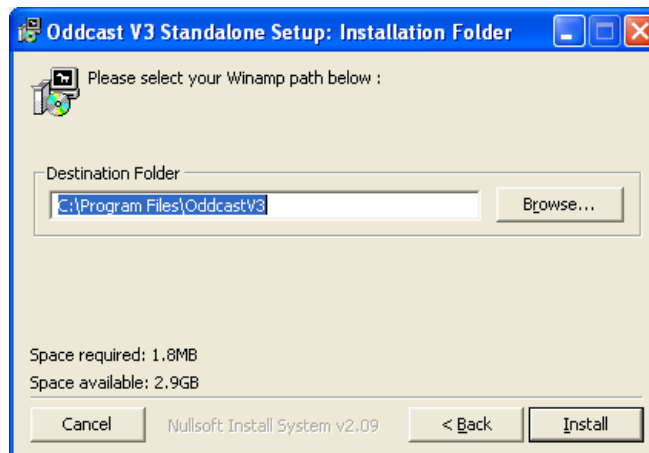
- Locate the binary installer for the standalone version of Oddcast and double left click it to start the installation. (it is included in the Location Free PSP software pack.)
- In the Oddcast v3 standalone setup license agreement window click I Agree to continue.



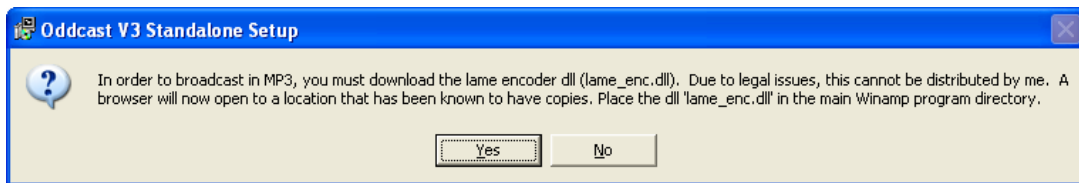
- In the Oddcast v3 standalone setup installation options window check the Lame encoder dll (for MP3 encoding) option and click next to continue.



- Select the installation folder and click install to continue.



The standalone setup will notify you that the lame_enc.dll is not included within the Oddcast setup. Clicking “Yes” will navigate your browser to a site which may host the file.

**Note**

The lame_enc.dll file is included in the Location Free PSP software pack, however the standalone setup message box is incorrect. For the standalone version of Oddcast copy the lame_enc.dll file to the Oddcast v3 installation folder – c:\program files\Oddcastv3\ is the default install folder.

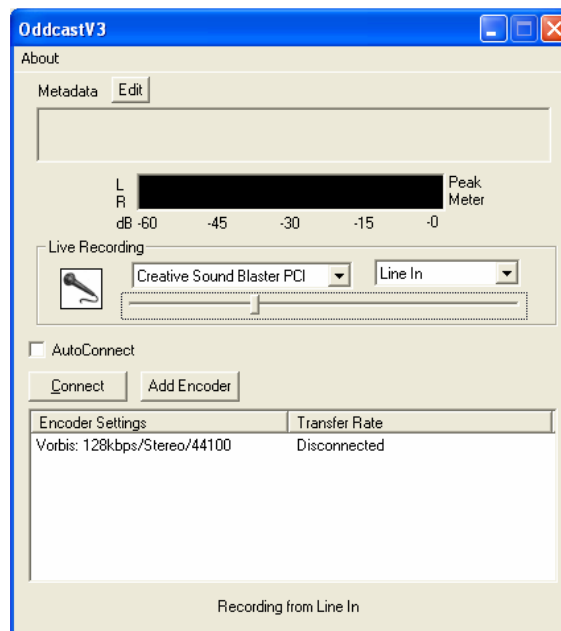
- Click “No” and then “Close” to exit the installer.

The standalone version of Oddcast is installed.

Configuring the standalone version of Oddcast

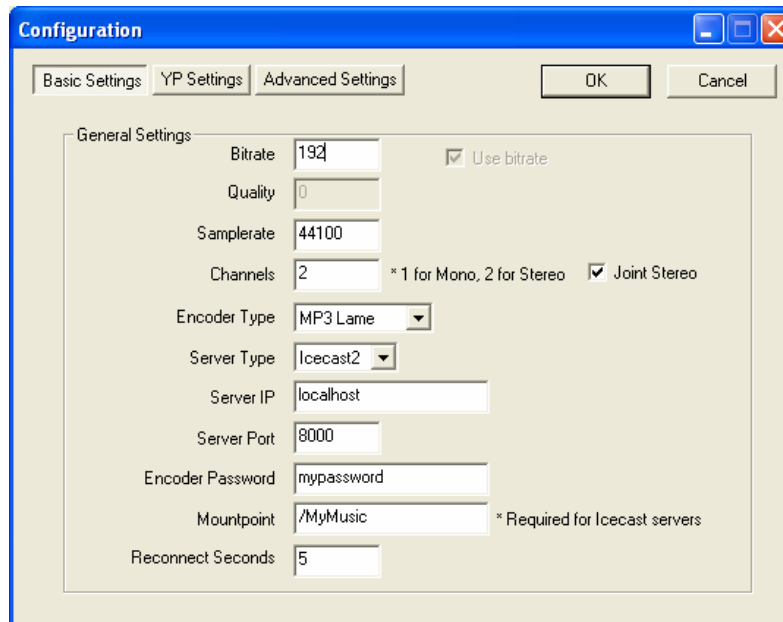
- Run the standalone version of Oddcast by double left clicking the Oddcast desktop icon.

The Oddcast standalone main window will appear:



Notice that unlike the Winamp plugin we can now select Live Recording inputs to Oddcast, by default your soundcard should appear as a recording device.

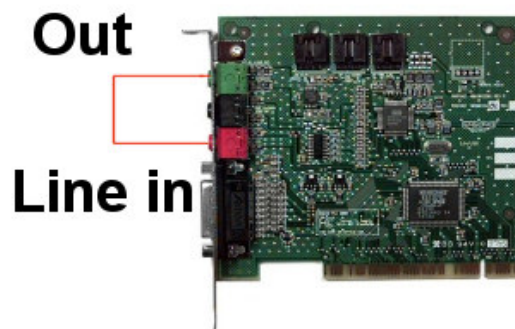
- Click **Add Encoder** or right click the default encoder entry to configure the encoder settings.



The basic settings for the standalone version of Oddcast are the same as the Winamp plugin except that we are creating a new mountpoint for IceCast. This time we are calling the mountpoint **/MyMusic**.

- Click the YP Settings Button and uncheck the “Public server” option.
- Now save the standalone Oddcast configuration settings by clicking the OK button.

Because Oddcast is not available as a plugin to Windows Media Player there are two options available to allow us to get the audio output from Windows Media Player to the Oddcast source client. The first is to use a stereo audio cable to connect the audio out port of your sound card to the line in port (if your soundcard has one).

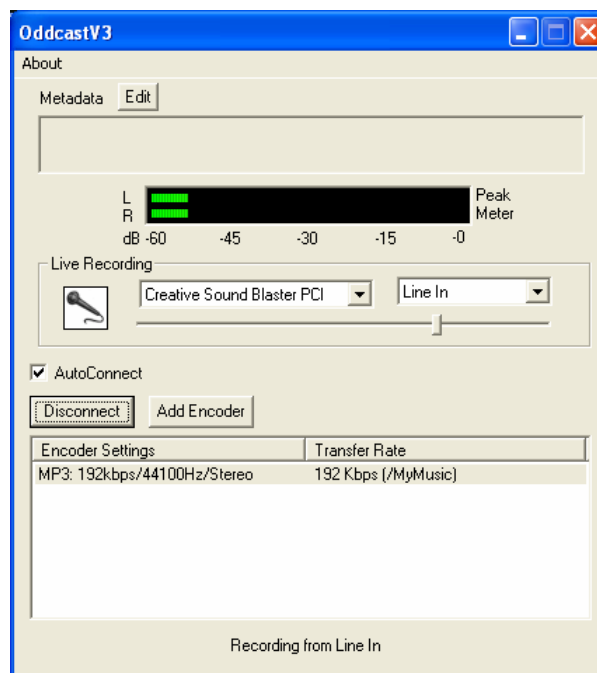


The second is to create virtual audio cables using Virtual Audio Cable 4 from NTONYX (<http://www.ntonyx.com/vac.htm>)

Virtual Audio Cable is a Windows WDM multimedia driver allowing you to transfer audio (wave) streams from one application to another. It creates a set of "Virtual Cables" each of them consists of a pair of the waveform input/output devices. Any application can send audio stream to an output side of a cable, and any other application can receive this stream from an input side. All transfers are made digitally, providing no sound quality loss.

To use the a stereo audio cable simply connect one end of the cable to your soundcard audio out port (or headphone / speaker port) and connect the other end to your soundcard line in port. Then configure the live recording source in Oddcast to your soundcards line in port and use the sliding volume control to select the recording volume.

- Check the AutoConnect option and if ensure your IceCast server is running.
- Click Connect to connect the Oddcast audio source client to the Icecast server.



If you start Windows Media Player up now and play a media file the audio will be sent to the Icecast server and made available to streaming clients. In fact because we are using a physical cable from your soundcards audio out port any audio from your PC will be sent to the stream. This is a good and bad thing, it's good because you can use any media player to send audio to the Oddcast source client using this method. It's bad because you can no longer use the speakers or headphones on your PC and all audio including Windows system sounds will be sent to the stream! Another drawback of using a physical audio cable is that noise from your soundcard is introduced reducing the sound quality of the stream.

This guide assumes that your music server will not be used for anything else whilst it's streaming your music, if this is the case the physical cable might be a good solution. If you want the best quality audio on your MP3 stream then the virtual cable is the best option.

The Virtual Audio Cable software is not free of charge. Instructions for setting up virtual audio cable can be found in the Extras section.

- ✓ Now that we can use media player to input audio to our Oddcast source client and Icecast stream lets look at how to control media player remotely using the Links2 PSP browser and PlayerPal.

Installing PlayerPal

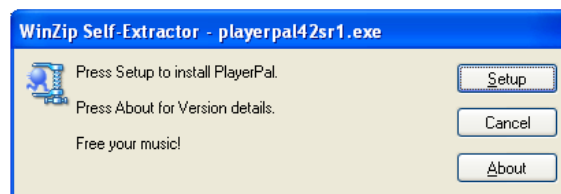
The latest version of PlayerPal can be downloaded from

<http://www.playerpal.com>

PlayerPal is not free of charge, but the evaluation version will demonstrate how powerful the software is as a remote control to Windows Media Player from any supported browser and is well worth the license fee if you use Windows Media Player or iTunes to organise and play your music collection.

PlayerPal requires Windows Media Player version 9 or later, this guide is based on using Windows Media Player version 10.

Double click the PlayerPal setup file and click Setup to start the installation. Follow the on screen instructions to complete the installation..



PlayerPal will automatically configure firewall settings in Windows XP Service Pack 2 if the firewall is enabled. If you are using a different firewall you will need to exclude the playerpal.exe file to enable connectivity to the playerpal application.

PlayerPal does not require any configuration. When the install is complete a PlayerPal icon will appear in the notification area (next to the date and time) and PlayerPal will open your browser and connect to PlayerPal.

Notice when running PlayerPal from your music server your browser will connect to it using the URL <http://localhost:9999>, PlayerPal listens for HTTP connections on TCP port 9999, to connect to it from another computer or your PSP you will enter <http://x.x.x.x:9999> where x.x.x.x is the TCP/IP address of your music server.

The first time a browser connects to PlayerPal you will be asked to select a skin, PlayerPal currently has three cool skins, Big Browser, PDA Classic and Sony PSP. From you music server or another PC/Laptop running Internet explorer choose Big Browser. PDA Classic looks best in Pocket PC browsers and Sony PSP is the skin we will use when browsing with Links2 on our PSP.

Select the Big Browser skin to see how PlayerPal displays your Windows Media Player music collection.

- ✓ Now let's connect to PlayerPal and browse, play and control our music using the Links2 browser.

Running the Links2 PSP Radio Plugin

If you installed PSP Radio from the Location Free PSP software pack or downloaded the latest version then the Links2 browser plugin is included by default.



Ensure that your Icecast server is running and that your MyMusic Oddcast source client is connected.

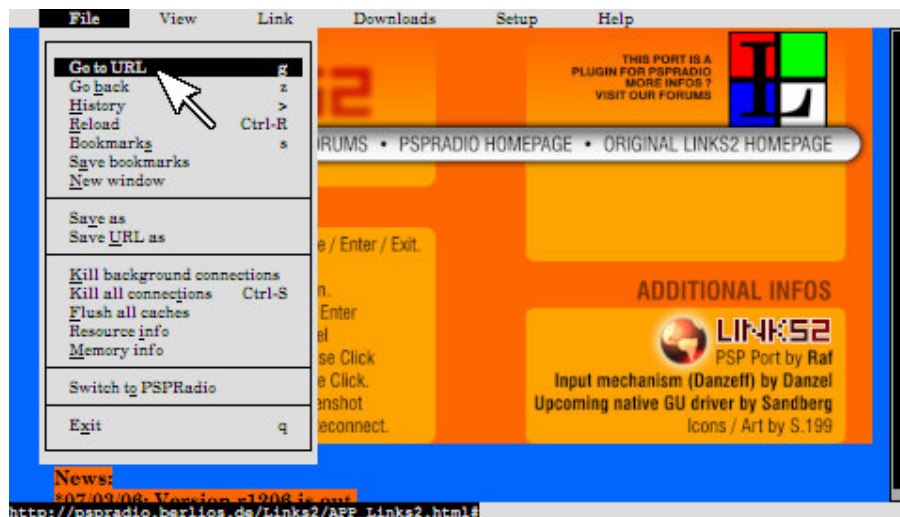
- Start PSP Radio and select the **MyMusic** stream by pressing (X), press (X) again to connect to the stream. Assuming media player is not playing any music on your music server the stream will connect but you won't hear anything.
- Press the start button on your PSP, scroll down and select the plugins option.
- In the plugins menu scroll to Applications and then select Links2 and execute it by pressing (X).







Links2 will start and browse to the default Links2 internet page (assuming your PSP has internet connectivity)



- To browse to PlayerPal on your music server use the PSP analog stick to place the cursor on the Links2 menu bar and press  to show the menu.
- Place the cursor on “Go to URL” and press .




Links2 uses the innovative Danzeff keyboard entry OSK.

- At the Goto URL entry text box press **START** to display the Danzeff keyboard. Use the analog stick to select the grid box that contains the letters you want to use and then use the     buttons to select the text in the corresponding locations to the buttons.

To change available characters press the L and R buttons. To hide the Danzeff keyboard press **START**.

- Enter the URL for PayPal using the address

<http://x.x.x.x:9999>

Where x.x.x.x is the TCP/IP address of your music server PC. Use the analog stick to move the cursor over the OK link and press  to load PlayerPal.

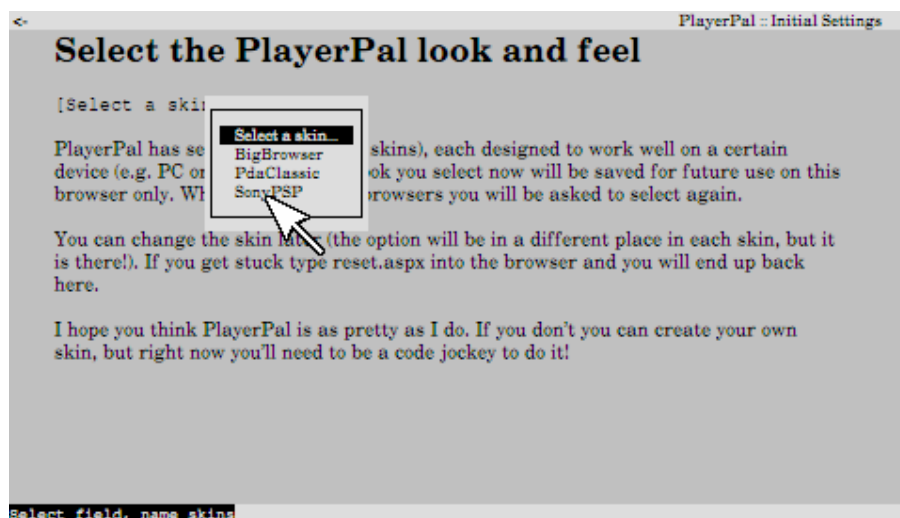


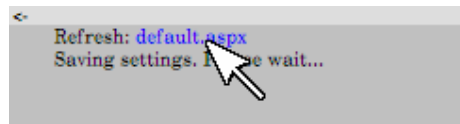
Tip To create a bookmarks file for Links2 containing all the links you need see the Extras section.



Links2 will now connect to PlayerPal on your music server and prompt you to select a skin.

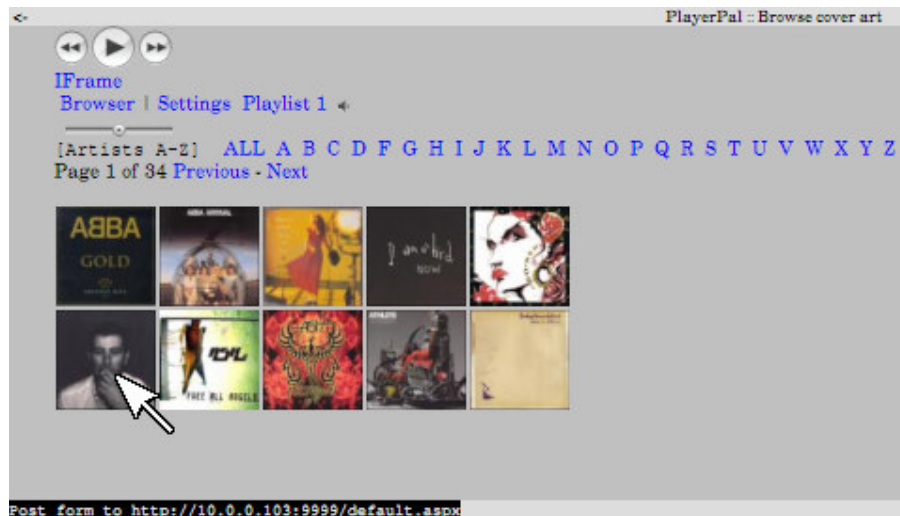
- Choose the Sony PSP skin and click on the default.aspx link to load PlayerPal.





PlayerPal does not render perfectly on Links2 however the only missing functionality at the time of writing is the iFrame, which does not really affect the operation of PlayerPal.

PlayerPal will open in Links2 and display your music collection in the Sony PSP Skin.



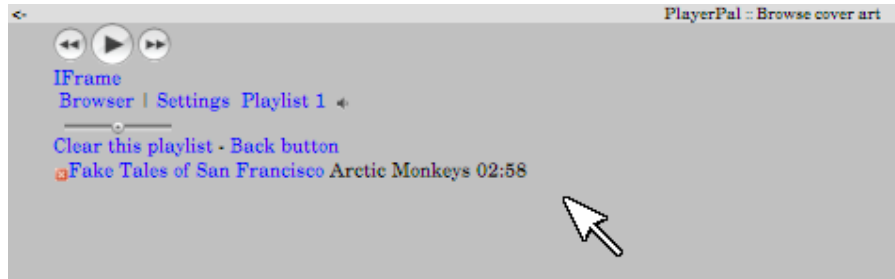
- Click on an album cover, or use the A – Z menu to select an Artist by alphabetical order.

When you click on an album cover you will see the album cover art and track listing. Click play to play a track, or click add to add a track to the playlist. Alternatively click play all or add all to play or add all tracks.




PlayerPal will now play the selected track on your music server and Icecast will stream the audio to your PSP. Browse your music collection and play another track, after a short delay the new track will start playing on your PSP.

- Click on Playlist to view the tracks in your playlist, or clear the playlist.



- ✓ Congratulations, you can now listen to browse, search and control your music collection using your Location Free PSP!



Tip Whilst Links2 is running you can return to PSP Radio if you wish by selecting “**Return to PSP Radio**” from the file menu. To go back to links2 simply click start and navigate to the **Plugins – Applications** option and press .



Note The evaluation version of PlayerPal will only allow you to play a small amount of your music collection, the music that is not displayed will appear but the details will display “**z Pls Register z**”. Purchase a license from <http://www.playerpal.com> to enable full remote control of all your music.

Conclusions

If you have made it this far hopefully you are now able to use two of the most common media players to stream your music collection to your PSP.

If you use Windows Media Player then you now have the added advantage of being able to browse, search and control what you listen to using PlayerPal, liberating your music collection and turning your PSP into a true location free audio player.

Streaming audio and video is the future of home entertainment I hope that this guide, your PSP and some innovative software, has given you a glimpse of the future now!

The following sections will look at some extra things you can do to enhance the Location Free PSP experience.

Extras

Connecting to your MP3 streams and PlayerPal via the Internet

The ultimate goal of the Location Free PSP audio player is to be able to listen to, browse and control your music from anywhere. To do this we need to be able to access our music streams and PlayerPal from the Internet so that wherever we can connect the PSP to a wireless Internet access point we can access our music. This may be from School, Work, public Internet access points, airports – anywhere!

Hopefully you have a firewall enabled between the Internet and your home network to protect your home network from unwanted connections. If you have a dedicated Internet gateway or router then the firewall is most likely to be configured within that device. The router or broadband gateway will also provide network address translation (NAT) to translate your home network private TCP/IP addressing to an external public TCP/IP address for outgoing traffic, similarly there will be configuration rules to NAT external connections to your internal hosts. Consult the user guide for your router or broadband gateway for information on how to change your firewall rules and NAT configuration.

Before we configure firewall rules to allow access to our home music server PC from the Internet we need to know what Internet IP address has been assigned to us.

To determine what Internet IP address has been assigned to you by your ISP visit

<http://www.whatismyip.com>

And take a note of the TCP/IP address it returns for your connection.

There are two TCP ports that need to be opened on your firewall to allow you to listen to your music across the Internet :

Icecast – port 8000
PlayerPal – port 9999

Two rules need to be configured on your firewall that will look something like this :

```
permit tcp any x.x.x.x eq 8000
permit tcp any x.x.x.x eq 9999
```

Where x.x.x.x is the Internet IP address assigned to you via your ISP.



Note Depending on the bandwidth of your broadband Internet connection you may want to lower the bit rate of your music streams. Alternatively create a new music stream specifically for access via the Internet which has a low bit rate.



Tip Unless you have been assigned a static IP address from your ISP it is likely that each time your broadband equipment connects to your ISP you will be assigned a different Internet IP address. Use a dynamic DNS service such as <http://www.no-ip.com> which is a free DNS and redirection service to map a dynamic IP address to an easy to remember subdomain.

- Connect to your home music stream using the address :

<http://x.x.x.x:8000/MyMusic>

and PlayerPal with

<http://x.x.x.x:9999>

Where x.x.x.x is the Internet IP address assigned to you via your ISP.

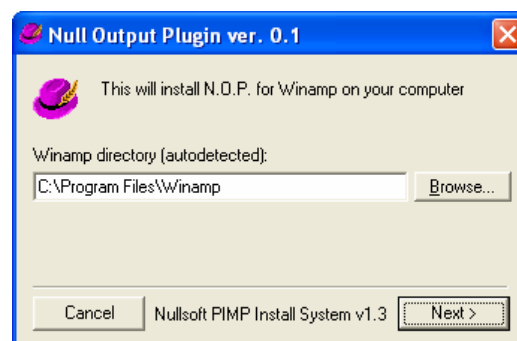
- ✓ Congratulations, you can now listen to browse, search and control your music collection using your Location Free PSP from anywhere!

Using the Null Output plugin in Winamp

The Null Output Winamp plugin is used to stop Winamp from sending audio to your sound card audio out port whilst sending audio to the Oddcast source client. So you can use Winamp and Oddcast “silently”.

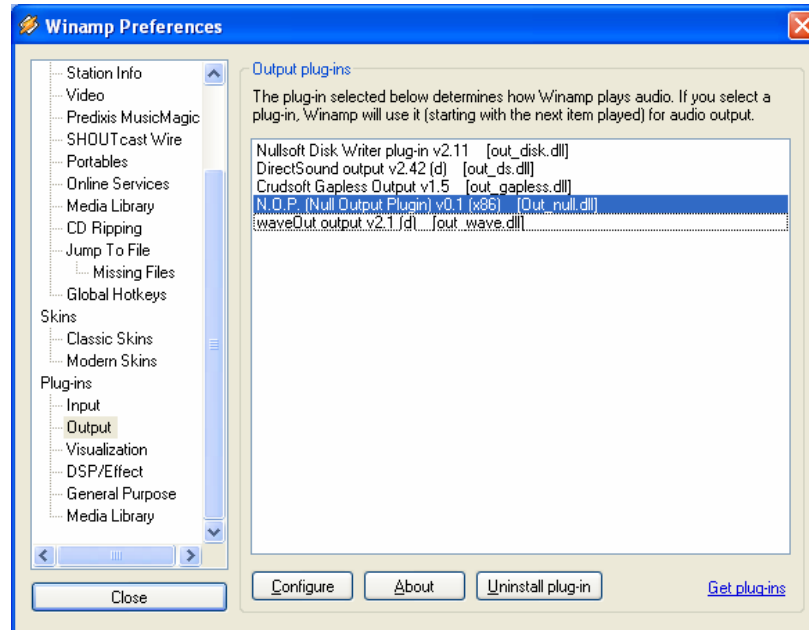
The Null Output plugin installer (Null_Output_Plugin.exe) is included in the Location Free PSP software pack.

- Locate the Null_Output_Plugin.exe installer and double left click it to start the installation. If Winamp is already running shut it down.



- Click “Next” to install the plugin.

- Startup Winamp and from the Winamp menu click Options and then Preferences.
- Click Output under the Plugins options and select N.O.P (Null Output Plugin) v0.1 and click close.



- ✓ Winamp will now play silently when sending audio to the Oddcast source client.



Note To play Winamp audio normally through your PC speakers change the Winamp output back to WaveOut output.

Viewing your recent Icecast Winamp playlist

Included in the Location Free PSP software pack is a utility called IcePlay.exe. This script will parse the Icecast playlist log file and write an html file to the Icecast web directory that can be used to display the last 20 tracks streamed by Icecast.

Use the DoSomething Winamp plugin to trigger the execution of this script everytime Winamp plays a new track.

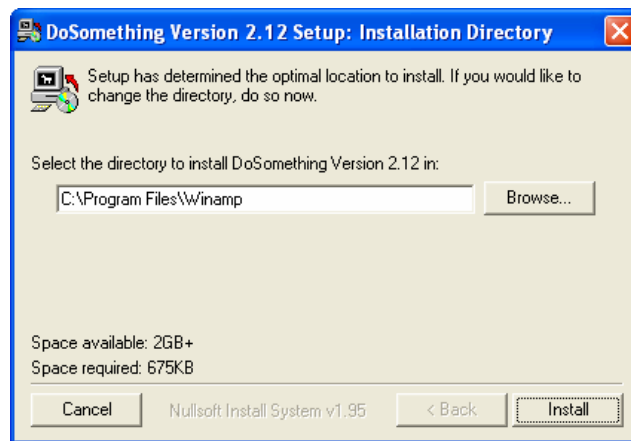


- Copy IcePlay.exe and IcePlay.ini from the Location Free PSP software pack to the Icecast program folder, the default program folder for IceCast is \Program Files\Icecast2 Win32\
- Edit IcePlay.ini and replace x.x.x.x with your music server TCP/IP address, edit the paths to your Icecast installation if they are not installed in the default program folders :

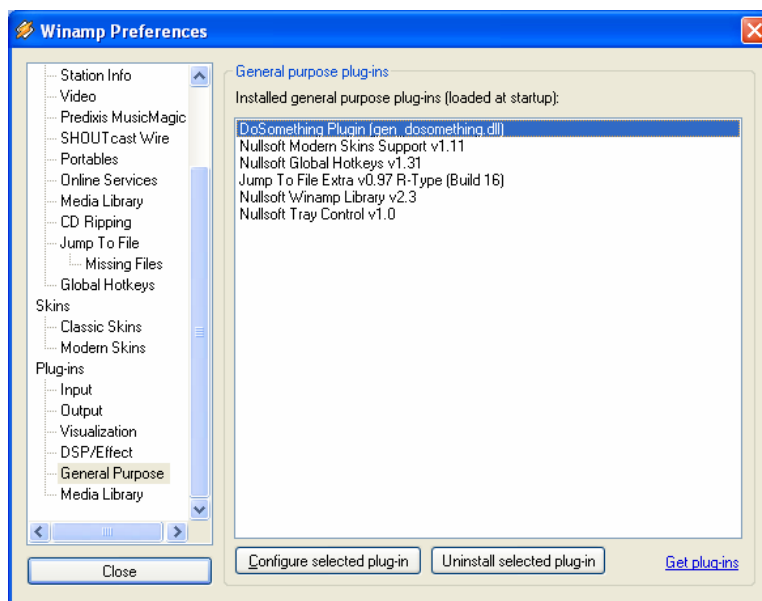
```
[IcePlay]
ServerIP=x.x.x.x
PathToLogFile=c:\Program Files\Icecast2 Win32\logs\
PlaylistLogFilename=playlist.log
HTMLFilePath=c:\Program Files\Icecast2 Win32\web\
HTMLFileName=iceplay.html
```

The DoSomething Winamp plugin installer (dosomethingv2_12.exe) is included with the Location Free PSP software pack.

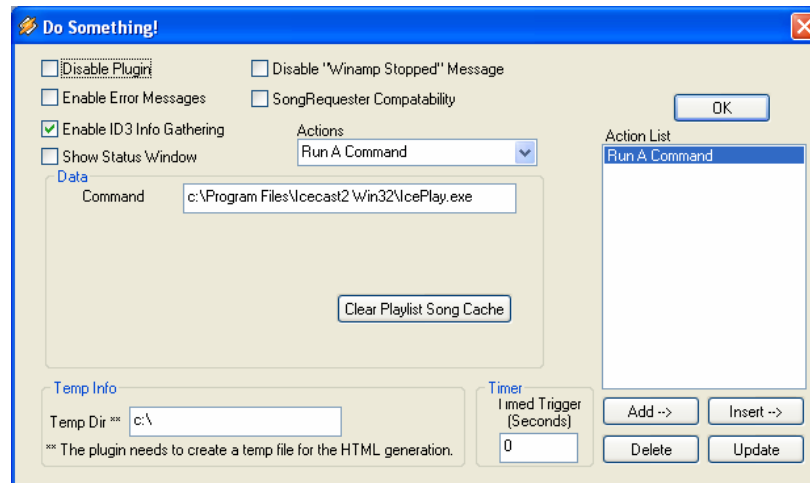
- Double left click on the Do Something installer to run the setup



- Click Install to complete the DoSomething Winamp plugin installation.
- Startup Winamp and from the Winamp menu click Options and then Preferences.



- In the plugins section select General Purpose and then select the DoSomething Plugin and click Configure selected plugin.
- Configure the DoSomething plugin action to Run A Command
- Enter the path to the IcePlay.exe script in the Command text box and click Add and OK



- ✓ Each time Winamp changes track the DoSomething plugin will run the IcePlay script and update the html file containing the last 20 tracks played.

- To view the file from your PC or PSP browser connect to :

<http://x.x.x.x:8000/IcePlay.html>

Where x.x.x.x is the TCP/IP address of your music server PC.

Administering Icecast from your browser



Tip You can administer Icecast and view the Icecast server status from your browser by connecting to

<http://x.x.x.x:8000>

Where x.x.x.x is the TCP/IP address of your Icecast server.

Creating a Links2 bookmarks file

To create a Links2 bookmarks file that will not be overwritten by new installations of PSP Radio

- Copy the bookmarks.html file from the Location Free PSP software pack to the root of your memory stick.
- Edit the file and change x.x.x.x to the TCP/IP address of your music server PC.

```
<DT><A HREF="http://x.x.x.x:9999/">PlayerPal</A>
```

- Start up Links2 and select SETUP and MISCELLANEOUS OPTIONS from the menu bar.
- In the miscellaneous options window modify the path to the bookmarks file to

ms0:/bookmarks.html

And click ok to save the settings.

- ✓ Links2 will now display the bookmarks configured in the bookmarks.html file in the root of the memory stick.

Using Virtual Audio Cable with Windows Media Player

Virtual Audio Cable is a Windows WDM multimedia driver allowing you to transfer audio (wave) streams from one application to another. It creates a set of "Virtual Cables" each of them consists of a pair of the waveform input/output devices. Any application can send audio stream to an output side of a cable, and any other application can receive this stream from an input side. All transfers are made digitally, providing NO sound quality loss.

You can download a demonstration version of Virtual Audio Cable (VAC) from

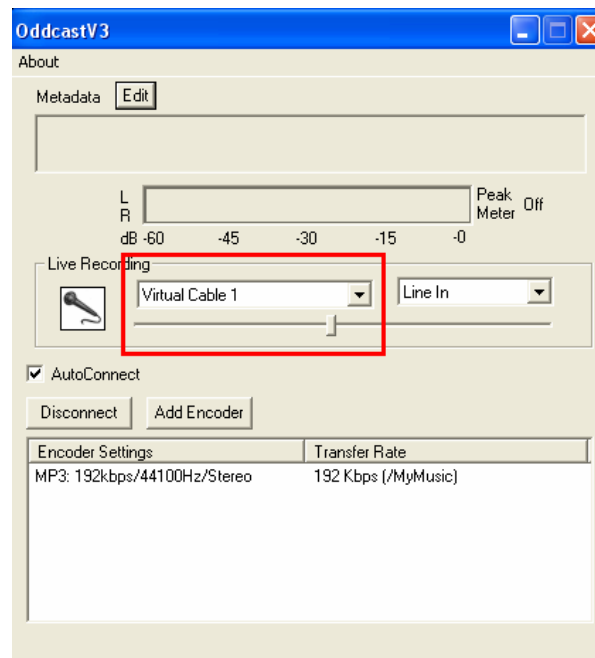
http://www.ntonyx.com/vac_demo.htm

The demonstration version supports a single cable only and after three minutes of audio transfer, the sound became noisy.

Follow the installation instructions to install VAC.

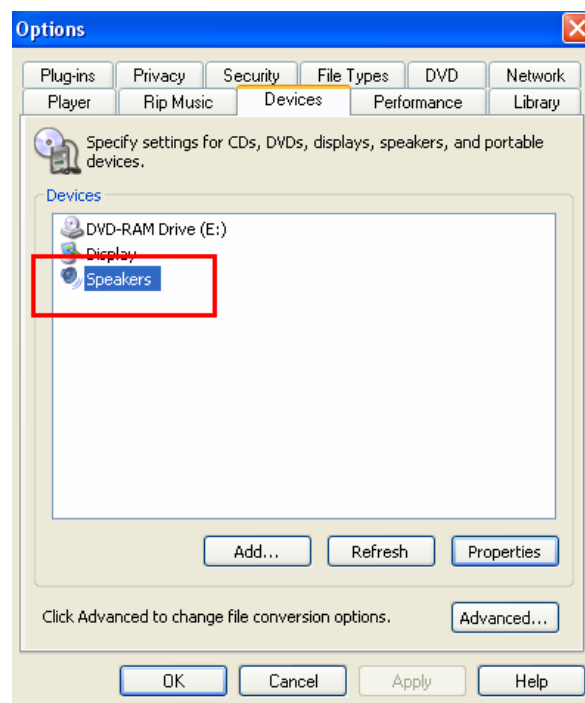
When VAC is installed it will become available to our Oddcast source clients as a live recording source.

- Open the standalone Oddcast client and click the Live Recording drop down box and select Virtual Cable 1



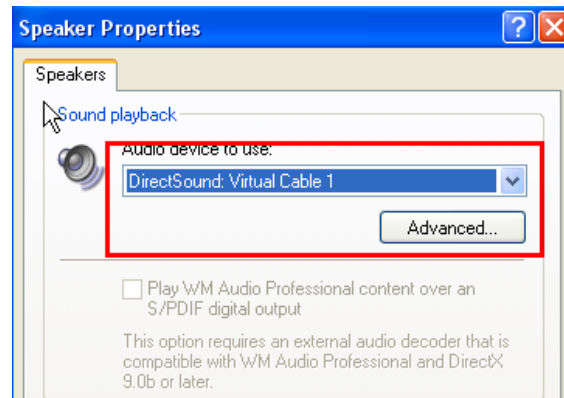
To configure Windows Media Player to use VAC as it's primary audio out device :

- Startup Windows Media Player and click **Tools** and **Options**, in the Windows Media Player options window select the **Devices** tab.



- Select **Speakers** and click the **Properties** button.

- In the audio device to use select **DirectSound Virtual Cable 1**. And click **OK**.



Play a track within Windows Media Player and Windows Media Player will now use VAC Cable 1 as it's output device and Oddcast will receive the output via the Live Recording Virtual Cable 1.

**Note**

At the time of writing PlayerPal does not use the Windows Media Player audio configuration and it's not possible to configure PlayerPal to use another sound playback device other than the default sound card. To use PlayerPal with VAC the default sound playback device for your PC needs to be changed within the control panel **Sounds and Audio Devices** applet. Change the default device from your soundcard to **Virtual Cable 1**.



This will result in all audio output on your PC using the Virtual Cable, which is also what happens when using the physical audio cable however the virtual cable is a digital connection and provides much better audio quality than the physical cable.



Tip To restore normal sound playback on your PC change the default device back to your soundcard.

References

Location Free PSP Blog - <http://locationfreepsp.blogspot.com/>

Icecast - <http://www.icecast.org/>

Oddcast - <http://www.oddsock.org/>

PlayerPal - <http://www.playerpal.com>

MP3 bit rate listening tests - <http://www.mp3-tech.org/tests/gb/index.html>

MP3 on Wikipedia - <http://en.wikipedia.org/wiki/Mp3>

Playstation Portable on Wikipedia - http://en.wikipedia.org/wiki/PlayStation_Portable

Official Sony PSP Website - <http://www.yourpsp.com/>

Virtual Audio Cable 4 from NTONYX - <http://www.ntonyx.com/vac.htm>

Windows Media Audio quality comparison -
http://www.microsoft.com/windows/windowsmedia/demos/audio_quality_demos.aspx?locale=409&geoid=f2&version=11.0.5358.4827&userlocale=809

Plugins for Windows Media Player -
<http://www.microsoft.com/windows/windowsmedia/mp10/getmore/plugins.aspx?locale=409&geoid=f2&version=11.0.5358.4827&userlocale=809#MP3Create>

<http://www.wmplugins.com/>

PSP Updates for all PSP News – <http://www.pspupdates.com>

Browseamp – Control Winamp from your browser - <http://www.browseamp.com/>

Windows Media Bonus Pack for Windows XP -
<http://www.wmplugins.com/ItemDetail.aspx?ItemID=7>