

SAM Broadcaster

Quick Install Guide



SAM Broadcaster Quick Install Guide

Document Version 1.0 - Last Modified 2/26/2010

© 2010 Ando Media. All rights reserved.

No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, translated into any other language in any form or by any means, electronic or mechanical, including photocopying or recording, for any purpose, without the express permission of Ando Media.

The information in this publication is subject to change without notice. Although every effort is made to ensure the accuracy of the information in this publication, Ando Media accepts no responsibility for any errors or omissions.

Webcast Metrics and **Ad Injector** are registered trademarks of Ando Media.

Table of Contents

Introducing SAM Broadcaster.....	1
Minimum System Requirements.....	1
Choosing the Right Database	1
Installation – MySQL Version	3
Downloading and Installing MySQL	3
Configuring MySQL	6
Installing SAM Broadcaster – MySQL Version	10
Registering SAM Broadcaster.....	14
Installation – Firebird Version	15
Registering SAM Broadcaster.....	19
Running SAM Broadcaster for the First Time.....	20
The 5-minute Guided Tour of SAM Broadcaster	22
Putting Your Content Together	24
Ripping CDs	24
Adding Content to Your Database.....	25
Editing Song Info.....	26
Playing Your Content	28
Playlist Categories.....	28
Creating Categories.....	28
Managing Categories.....	29
Playlist Rotation Rules	30
Clockwheels.....	32
Creating a New Clockwheel.....	34
Getting Your Content to the People.....	36
Adding a SHOUTcast Encoder	36
Configuring a SHOUTcast Statistic Relay	40
Adding a Windows Media Encoder	43
Configuring a Windows Media Statistic Relay	47



Introducing SAM Broadcaster

SAM Broadcaster includes features you will not find in other software, including configurable crossfading, gap killer, beat matching, volume normalization and an integrated 5-band compressor/limiter. SAM Broadcaster can handle even the largest media libraries with advanced playlist rotation logic and scheduling to make your internet radio station sound great, even if you are not in front of your computer.

SAM Broadcaster is compatible with all major streaming servers, including SHOUTcast, Windows Media, Live365, SteamCast and IceCast. It can even retrieve statistics from your CDN (Content Delivery Network) so you can know how many listeners are connected to your radio station at any moment. Tracking this information also makes performance reporting a breeze.

If you already have a website, SAM Broadcaster will improve the experience of your listeners by displaying artist, title, album, cover art, and other information on the songs played. From your website you can even allow automated song requests.

To help turn your internet station into a money-making venture, SAM Broadcaster also offers the StreamAds advertising delivery platform.

Minimum System Requirements

Processor/CPU: 1GHz Pentium or compatible

Memory/RAM: 1GB

Hard Drive Space: 25MB available for SAM Broadcaster and support files, plus space for your music library

32-bit Operating System:

- Windows Server 2003

- Windows XP Home

- Windows XP Professional (Recommended)

- Windows Vista

t

Support for the 32-bit version of Windows 7 is scheduled for a later release. Additionally, future versions will support 64-bit versions of Windows 7 and Windows Vista.

These are **minimum** system requirements. Exceeding these minimum requirements will improve your experience with SAM Broadcaster.

Choosing the Right Database

SAM Broadcaster uses a powerful database to store information about where your audio files are located on your system as well as to store details about each music file like artist and title, album art and publisher information. SAM Broadcaster has the option of using one of several databases depending on what you are familiar with or already have access to.



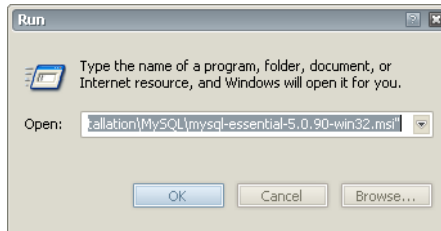
Database Option	Comments	Installation Notes
MySQL	MySQL is fast and works great together with PHP driven websites. If you already have MySQL installed, this is the recommended database to use.	Not included with the SAM Broadcaster installation files. MySQL must be manually downloaded, installed and configured before installing SAM Broadcaster.
Firebird	A small yet powerful database, Firebird is slightly slower than the other databases, but the embedded version is the easiest and quickest to install.	Included with the Firebird version of the SAM Broadcaster installation files.
PostgreSQL	PostgreSQL is a good, solid database to use and works well with PHP powered websites	Included with the PostgreSQL version of the SAM Broadcaster installation files.
MS SQL	Microsoft's MS SQL is a reliable and fast database that works great with ASP powered web pages.	Not included with the SAM Broadcaster installation files. MS SQL must be manually downloaded, installed and configured before installing SAM Broadcaster.



Installation – MySQL Version

Downloading and Installing MySQL

- 1 Download the MySQL package using the link on the Spacial Audio Support site. Launch the installation package from the Windows Run dialog.

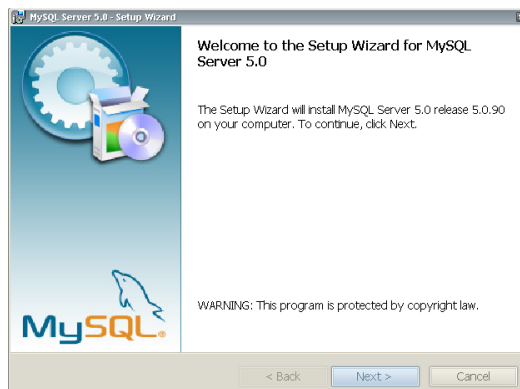


- 2 If you see a Windows security warning, click **Run** to continue with the installation.

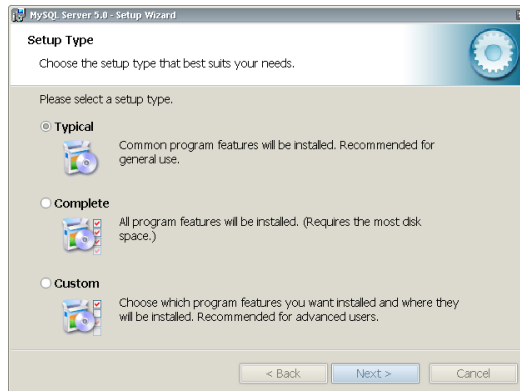


t As you install MySQL, on each screen you can accept the default settings and simply move to the next screen

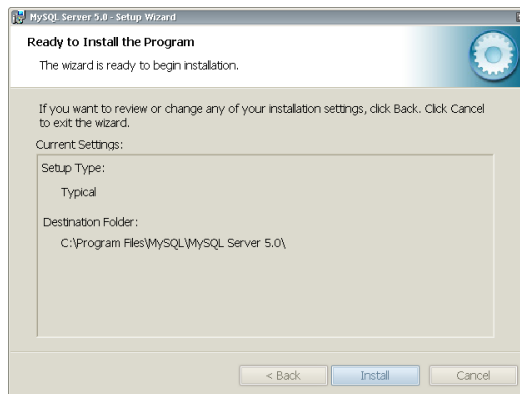
- 3 At the Welcome screen, click **Next** to continue.



4 Leave the Setup Type as the default **Typical** setup and click **Next** to continue.



5 MySQL setup will show you the selections you have made so far, indicating a **Typical** setup in the default destination folder. Click **Install** to continue.



6 As part of installation, you may see an offer to subscribe to the Enterprise edition of MySQL. **MySQL Enterprise is not required for SAM Broadcaster.** Click **Next** to continue through each screen of the Enterprise offer.

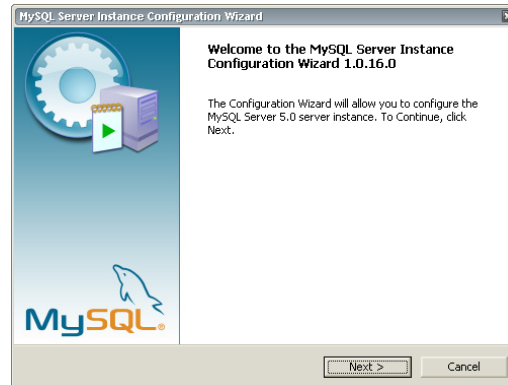


As the Installation Wizard completes, you will have the option to immediately configure the MySQL Server. If you are ready to tackle configuration, leave the option checked and click **Finish**. If you would like to configure MySQL later, un-check the option and click **Finish**.



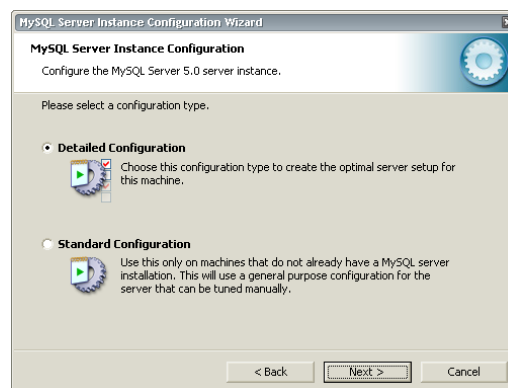
Configuring MySQL

1 At the Configuration Wizard Welcome screen, click **Next** to continue.

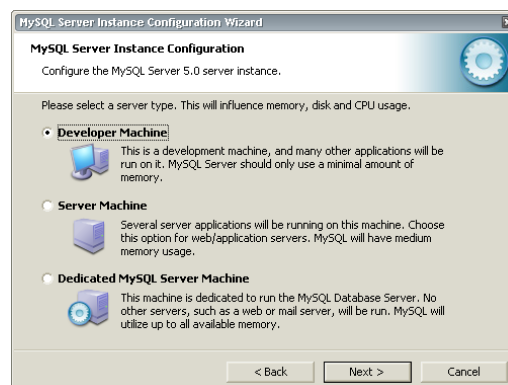


t If you opted not to launch the Configuration Wizard directly from the Installation Wizard, you will need to launch the Configuration Wizard from the Windows Start menu.

2 Choose the option to allow a **Detailed Configuration**, and click **Next** to continue.

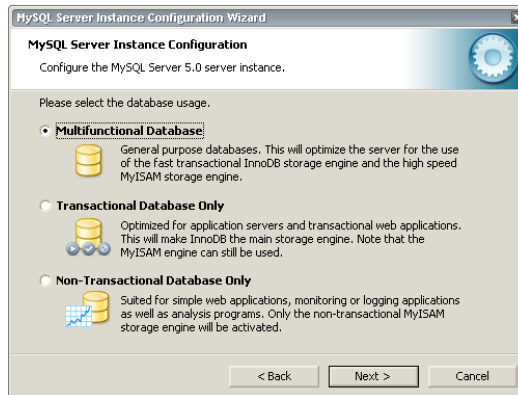


3 Choose the option to select a **Developer Machine** server type, and click **Next** to continue.



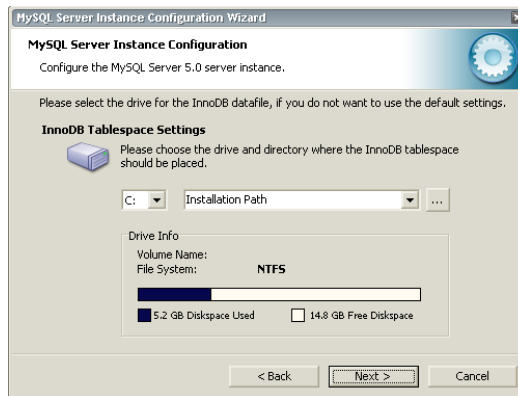
4

Choose the option to set the database usage as **Multifunctional Database**, and click **Next** to continue.



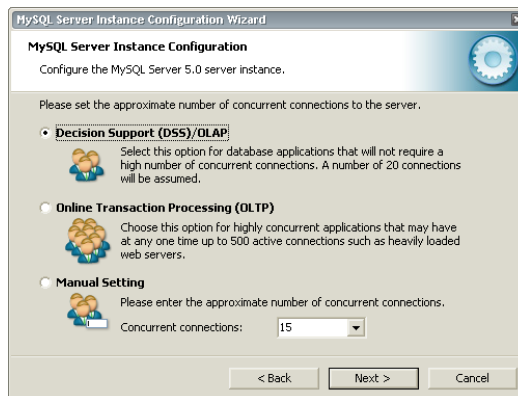
5

Leave the **InnoDB Tablespace Settings** at the default options, and click **Next** to continue.



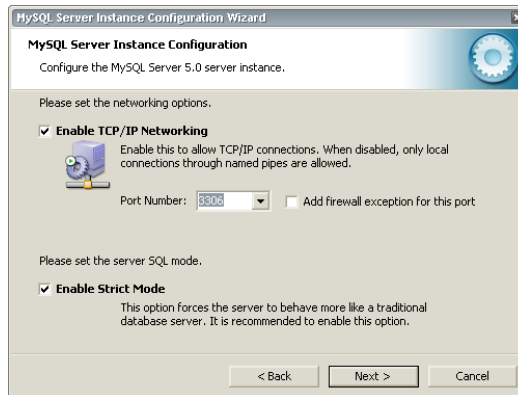
6

Accept the default option of **Decision Support (DSS)/OLAP**, and click **Next** to continue.



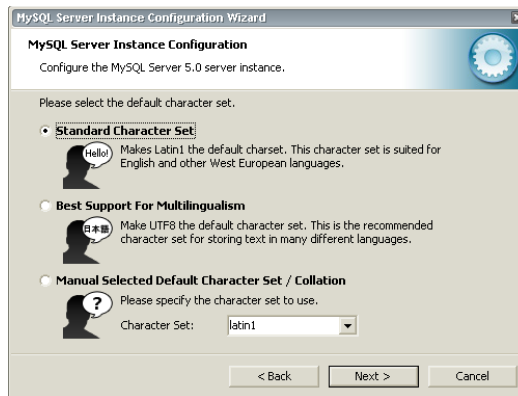
7

Accept the default networking options to enable TCP/IP Networking on port **3306**, with the server SQL mode option to **Enable Strict Mode** checked. Click **Next** to continue.



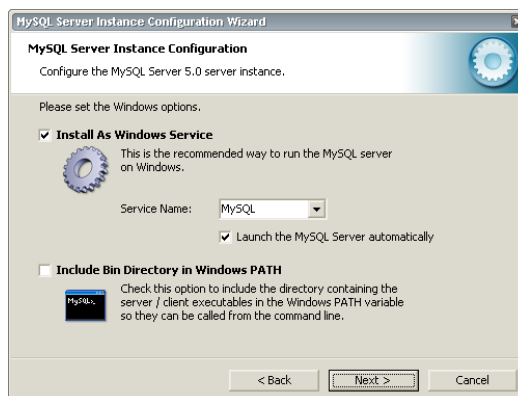
8

Leave the default character set to **Standard Character Set**, and click **Next** to continue.



9

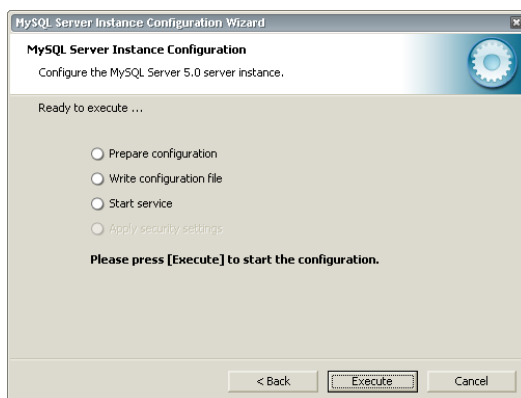
We recommend accepting the default settings to allow MySQL to **Install as Windows Service** which is launched automatically on startup. Also, leave the option to **Include Bin Directory in Windows PATH** unchecked. Click **Next** to continue.



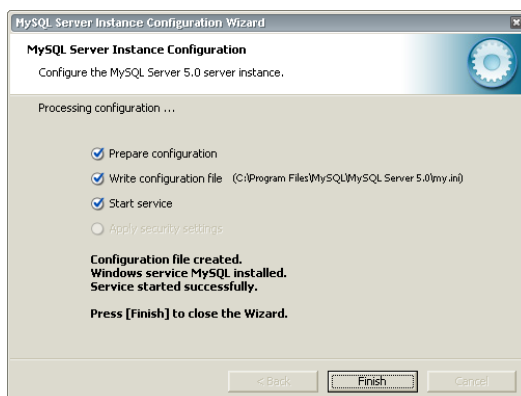
10 Un-check the option to **Modify Security Settings**, and click **Next** to continue.



11 Click **Execute** to continue.



12 Once configuration is complete, click **Finish** to close the configuration wizard.

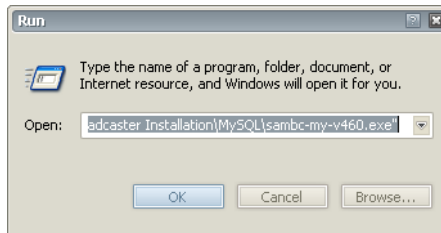


Installing SAM Broadcaster – MySQL Version



MySQL must be manually installed and configured before installing SAM Broadcaster.

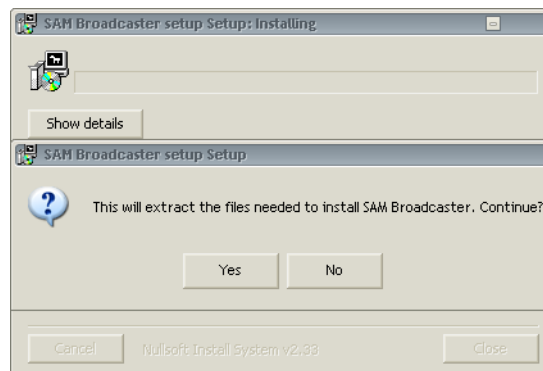
- 1 Download the MySQL version of SAM Broadcaster from the Spacial Audio web site and save it to your computer. Launch the SAM Broadcaster installer from the Windows Run dialog.



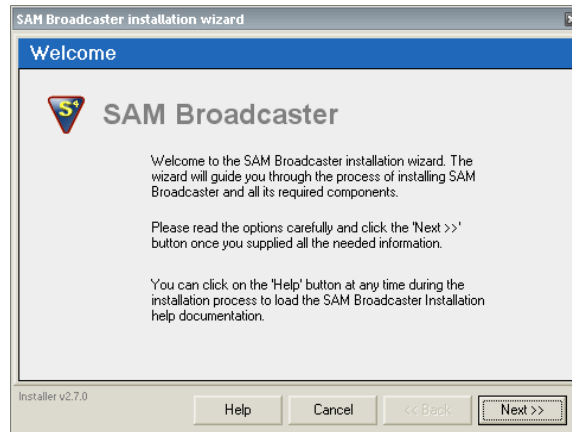
- 2 If you see a Windows Security warning, click **Run** to start the installer.



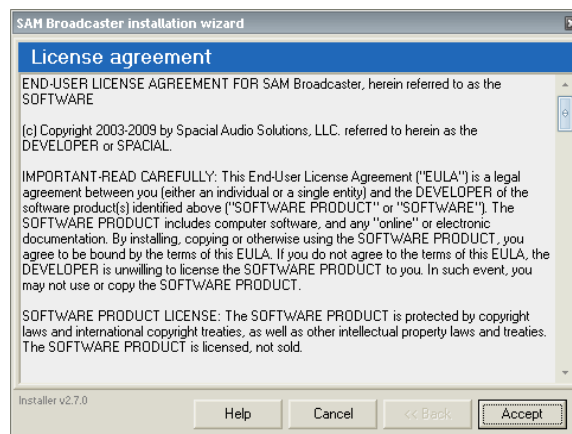
- 3 Allow the installer to extract the SAM Broadcaster files by clicking **Yes**.



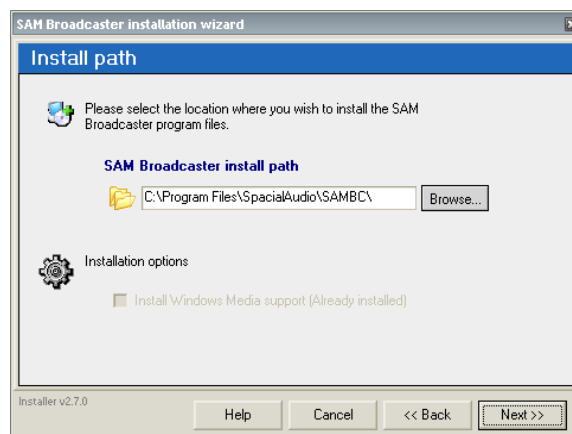
- 4 At the installer Welcome screen, click **Next** to continue.



- 5 Once you have read through the SAM Broadcaster license agreement, click **Accept** to continue.

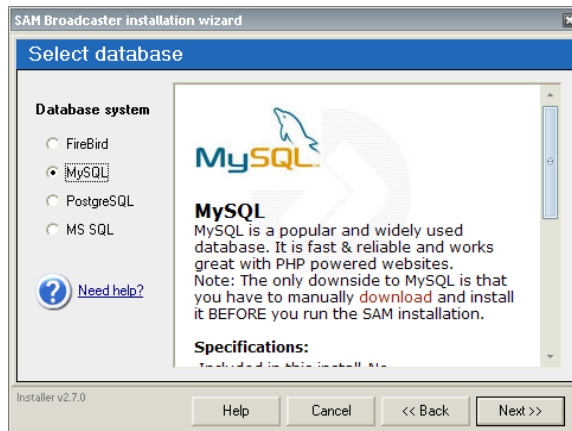


- 6 It is **strongly** recommended to accept the default installation path. Click **Next** to continue.



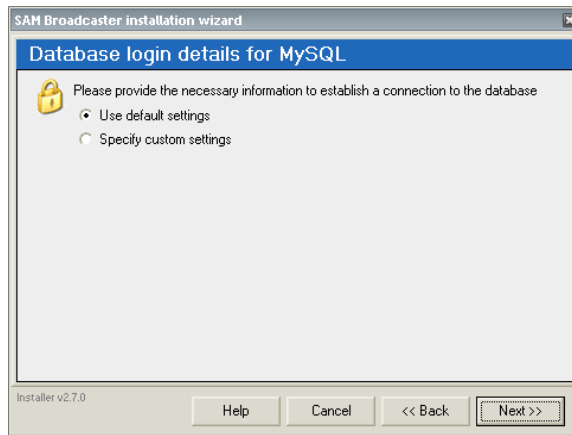
7

Verify the option to use the MySQL database system and click **Next** to continue.

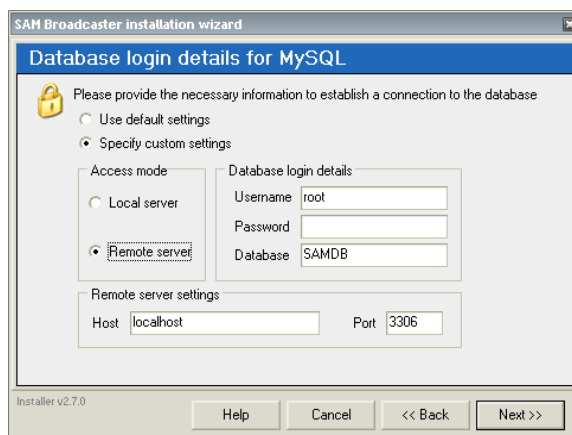


8

In most cases new installations of MySQL and SAM Broadcaster can use the default MySQL login settings.



If you need to specify custom settings to connect to a local or remote MySQL database, select **Specify custom settings** and enter the custom login details.

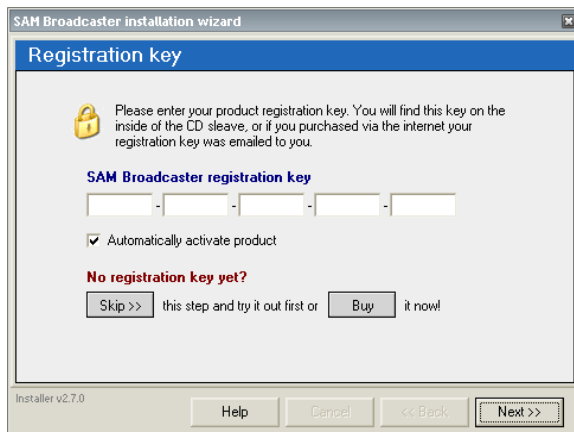


Once all selections are entered and verified, click **Next** to continue. The installer will display its progress as each system file is installed.



9

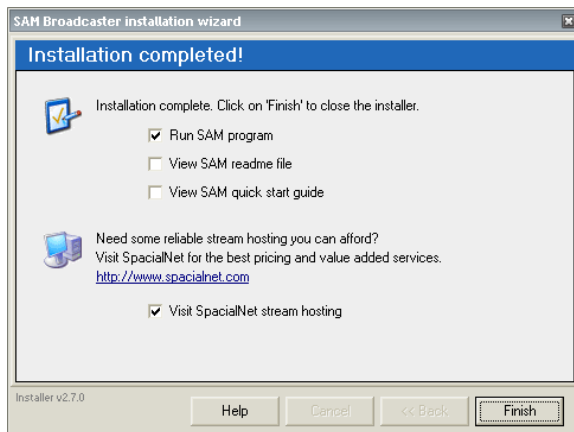
If you want to try SAM Broadcaster before purchasing the software, click the **Skip** button to complete the installation.



If you already have a registration key, you can enter it here. Once the key has been entered and verified, click **Next** to continue.

10

Complete the installation with options to launch SAM Broadcaster immediately, or to open the web-based **ReadMe** or **Quick Start** guides available on the Spatial Audio Support Wiki. You can also opt to visit **SpacialNet** stream hosting in a new browser window.



When you have selected your options, click **Finish** to complete installation of SAM Broadcaster.



Registering SAM Broadcaster

If you did not have a registration key when you installed SAM Broadcaster, a key can be entered any time during the evaluation period after the software has been installed.

To access the registration key screen, select **Config** from the SAM Broadcaster **File** menu option. On the configuration window, select **Registration Key** from the options on the left.



Enter your registration key and press **Register** to proceed with the activation process.

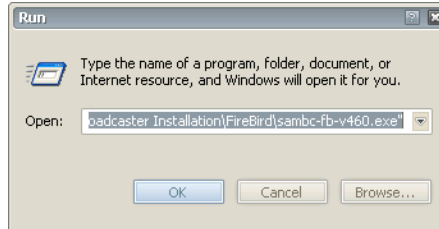
t

If you keep getting told to register when you have already purchased the software, it is possible your installation of SAM Broadcaster was purchased on the payment plan. Each payment made produces a new product key. Log in to the Spacial Audio secure clients area and copy the latest license available for your purchase.



Installation – Firebird Version

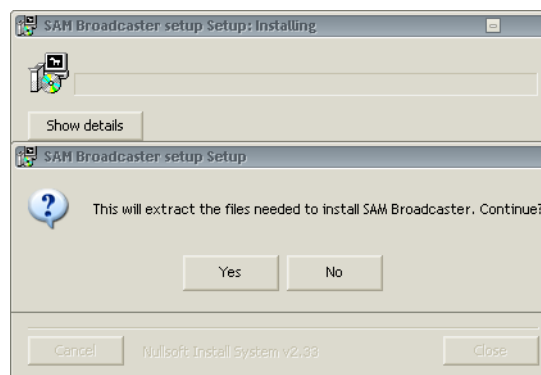
- 1 Download the Firebird version of SAM Broadcaster from the Spacial Audio web site and save it to your computer. Launch the SAM Broadcaster installer from the Windows Run dialog.



- 2 If you see a Windows Security warning, click **Run** to start the installer.

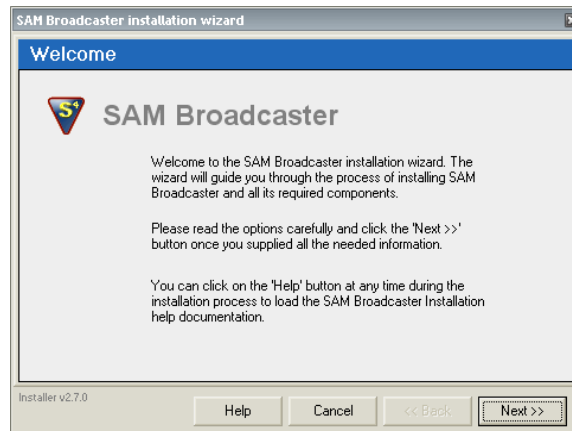


- 3 Allow the installer to extract the SAM Broadcaster files by clicking **Yes**.



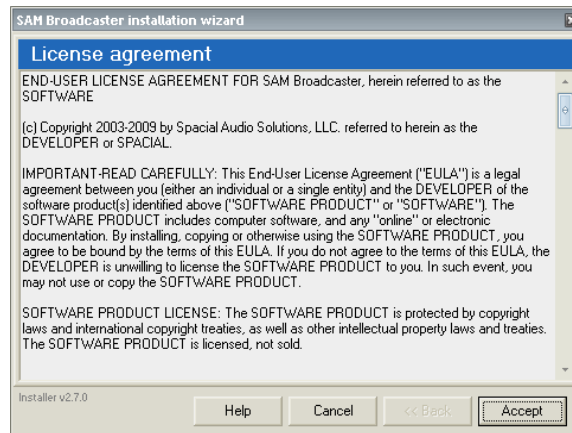
4

At the installer Welcome screen, click **Next** to continue.



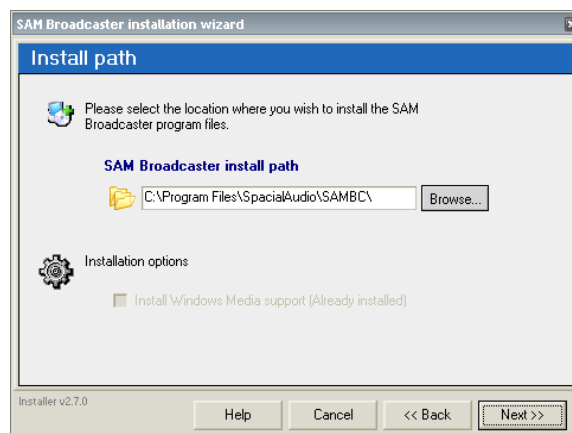
5

Once you have read through the SAM Broadcaster license agreement, click **Accept** to continue.



6

It is **strongly** recommended to accept the default installation path. Click **Next** to continue.



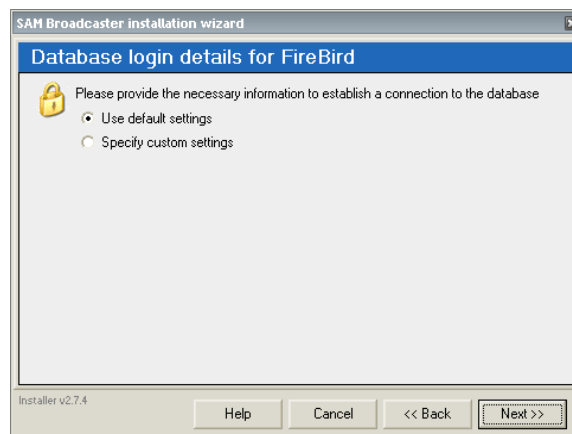
7

Verify the option to use the Firebird database system and click **Next** to continue.



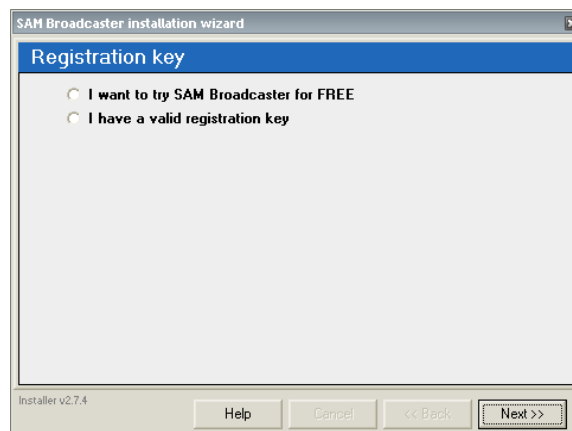
8

In most cases new installations of Firebird and SAM Broadcaster can use Firebird with the default login settings. Click **Next** to continue.



9

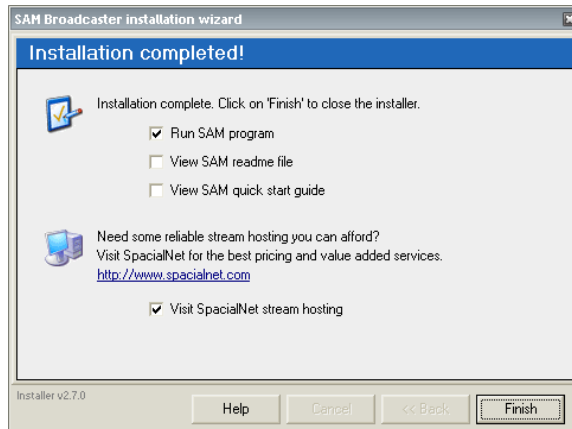
If you want to try SAM Broadcaster before purchasing the software, select the **I want to try SAM Broadcaster for FREE** option and click **Next** to complete the installation.



If you already have a registration key, select the **I have a valid registration key** option and enter the key. Once the key has been entered and verified, click **Next** to continue.



10 Complete the installation with options to launch SAM Broadcaster immediately, or to open the web-based **ReadMe** or **Quick Start** guides available on the Spacial Audio Support Wiki. You can also opt to visit **SpacialNet** stream hosting in a new browser window.



When you have selected your options, click **Finish** to complete installation of SAM Broadcaster.



Registering SAM Broadcaster

If you didn't have a registration key when you installed SAM Broadcaster, a key can be entered any time during the evaluation period after the software has been installed.

To access the registration key screen, select **Config** from the SAM Broadcaster **File** menu option. On the configuration window, select **Registration Key** from the options on the left.



Enter your registration key and press **Register** to proceed with the activation process.

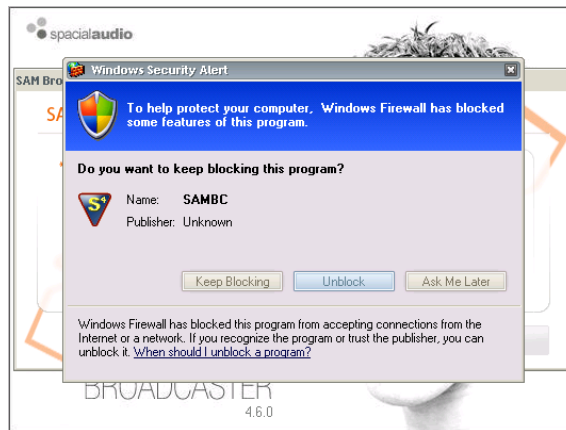
t

If you keep getting told to register when you have already purchased the software, it is possible your installation of SAM Broadcaster was purchased on the payment plan. Each payment made produces a new product key. Log in to the Spatial Audio secure clients area and copy the latest license available for your purchase.

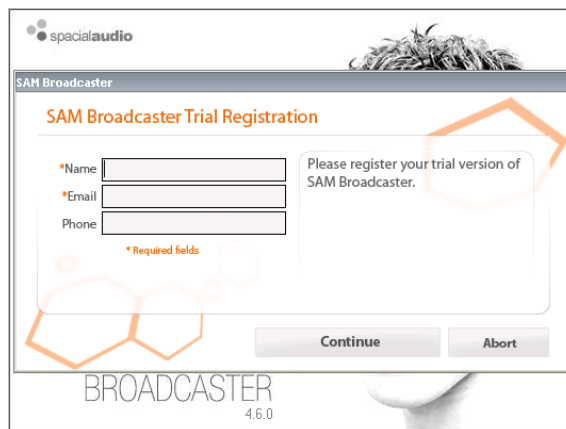


Running SAM Broadcaster for the First Time

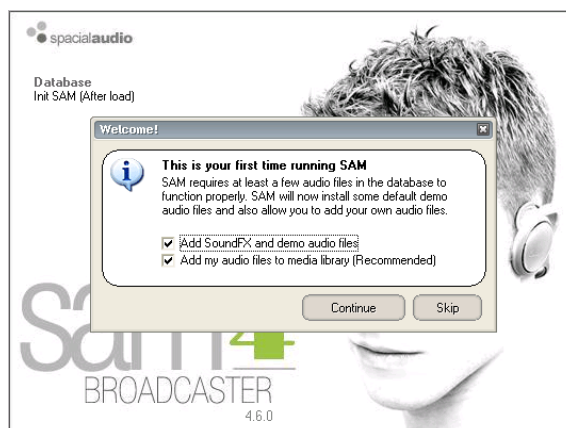
When you run SAM Broadcaster for the first time, you will have some additional options. First, if you are running Windows Firewall, you will have an option to add SAM Broadcaster to the **Exceptions** list, allowing communication through the firewall. Click **Unblock** to add SAM Broadcaster to the **Exceptions** list.



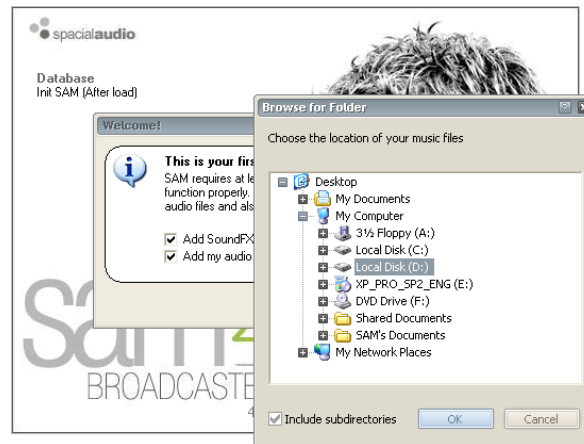
If this is a trial installation, you will have the option of registering with Spacial Audio. Entering your information and clicking **Continue** will send your details to Spacial Audio.



SAM Broadcaster will ask permission for two operations: adding some sound effects and demo audio to your database, and searching your system for existing audio files.



If you choose to allow SAM Broadcaster to search for audio files, a new window will open allowing you to specify the drive to search. Browse to the location of your audio files and click **OK** to continue.



Think twice about allowing SAM Broadcaster to search your entire **C** drive. The search will add **all** audio files to your database, which would include Windows sounds and other audio you may not want cluttering up your database.





The 5-minute Guided Tour of SAM Broadcaster

SAM Broadcaster is comprised of multiple windows, or modules, that perform specific tasks. Each module can be turned on or off, or repositioned on the screen. Saving the **Layout** will save the current look of your SAM Broadcaster installation.

SAM Broadcaster features three desktops allowing you to quickly move between three different sets of modules. A default layout is included, providing access to the key modules you will need to get started.

1	Player toolbar	Play	Starts playing a song in the first empty deck if all decks are empty, or if a deck is paused, starts playing the deck. If a deck is already playing, the Play button will restart the song.
		Pause	This button pauses the first currently playing deck it finds. If both decks are playing, you will need to press this button twice to pause both decks. Pressing pause again will start play again.
		Stop	Will stop all currently playing decks.
		Next	This button will load and play the next song.
		Fade to Next	This button will fade out the currently playing song and start the next song in the queue.
		DJ Mode	The Virtual DJ has 3 operating modes: Auto DJ , Play only queue , and Manual DJ .
		Mute Studio	This instantly mutes SAM Broadcaster.
2	Playback decks	Decks A & B are the main audio player decks in SAM Broadcaster. Having more than one playback deck allows for advanced functions such as crossfading and cueing up future events.	
3	VoiceFX module	The Voice FX window provides an easy way for DJs to fade the currently playing broadcast audio and mix in external audio sources like a live microphone or Skype® conversations.	
4	Playlist window/Inventory list	The Playlist provides an easy-to-use interface to categorize, manage and find your music.	
5	Encoder list	Encoders translate raw audio into a format that can be streamed over the internet to multiple listeners.	
6	Event log	The Event log displays the last 200 important events that occurred inside the software, including errors and warnings. Event log entries are also written to a file on your hard drive.	



1

2

3

4

The screenshot shows the SAM Broadcaster software interface. At the top, there's a menu bar with 'File', 'Player', 'General', 'Window', 'Layout', 'Tools', 'Help', and 'Buy now!'. Below the menu bar, there are playback controls and a status bar showing '14:56:27' and '0 viewers, peak of 0'. The main interface is divided into several sections:

- Deck A and Deck B:** Each deck has a 'Deck empty' status, a volume slider, and various control buttons like 'Cue', 'Solo', 'EQ', and 'Air Cue'.
- Playlist:** A list of tracks with columns for '#', 'Artist - Title', and 'Duration'. The list includes tracks like 'Badnash & Shri - Sajanna' (5:05), 'Valle, Marcos - Guanabara' (4:08), etc.
- Queue:** A section showing 4 tracks with their ETA, Artist - Title, and Duration.
- Voice FX:** Controls for 'Config', 'EQ', and 'Mic Volume'.
- Sound FX:** A grid of sound effects like 'Applause', 'Boing', 'Boomp', etc.
- Volume and Clock:** Volume sliders and a digital clock showing '14:56'.

5

6

This screenshot shows the monitoring and logging sections of SAM Broadcaster. The top status bar shows '14:57:04' and '0 viewers, peak of 0'. The interface includes several panels:

- Statistic relays:** A table with columns for '#', 'Viewers', 'High', 'Format', 'Bitrate', 'Server', 'Status', and 'Details'.
- Statistic relays graph:** A line graph showing 'Current' and 'Peak' values over time.
- Encoders:** A table with columns for '#', 'Format', 'Status', and 'Description'.
- PAL Scripts:** A table with columns for '#', 'Auto', 'Script file', and 'Status'.
- Event log:** A log of events with columns for 'Time', 'Category', 'Type', and 'Message'. It shows several 'TOUCH' events with the message 'Touch aborted. Please register your station at AudioRealm.com.'.
- Event Scheduler:** A table with columns for '#', 'Name', 'Action', and 'Information'.
- Request:** A section for handling requests, with a table for 'ETA', 'Artist - Title', and 'Duration'.



Putting Your Content Together

Ripping CDs

Audio content comes in many forms—from live talk, to compiled program segments, to Skype calls, to MP3s. It is that last group that may be most common: the single-song MP3.

You may have a collection of MP3s gathered from different sources on your computer already, but if you are leaning back looking over your vast collection of CDs you will need to convert them to MP3 using an application called a **CD ripper**.



SAM Broadcaster can play back file formats other than MP3. Audio files with an extension of WAV, OGG, WMA, WMV or ASF can also be used.

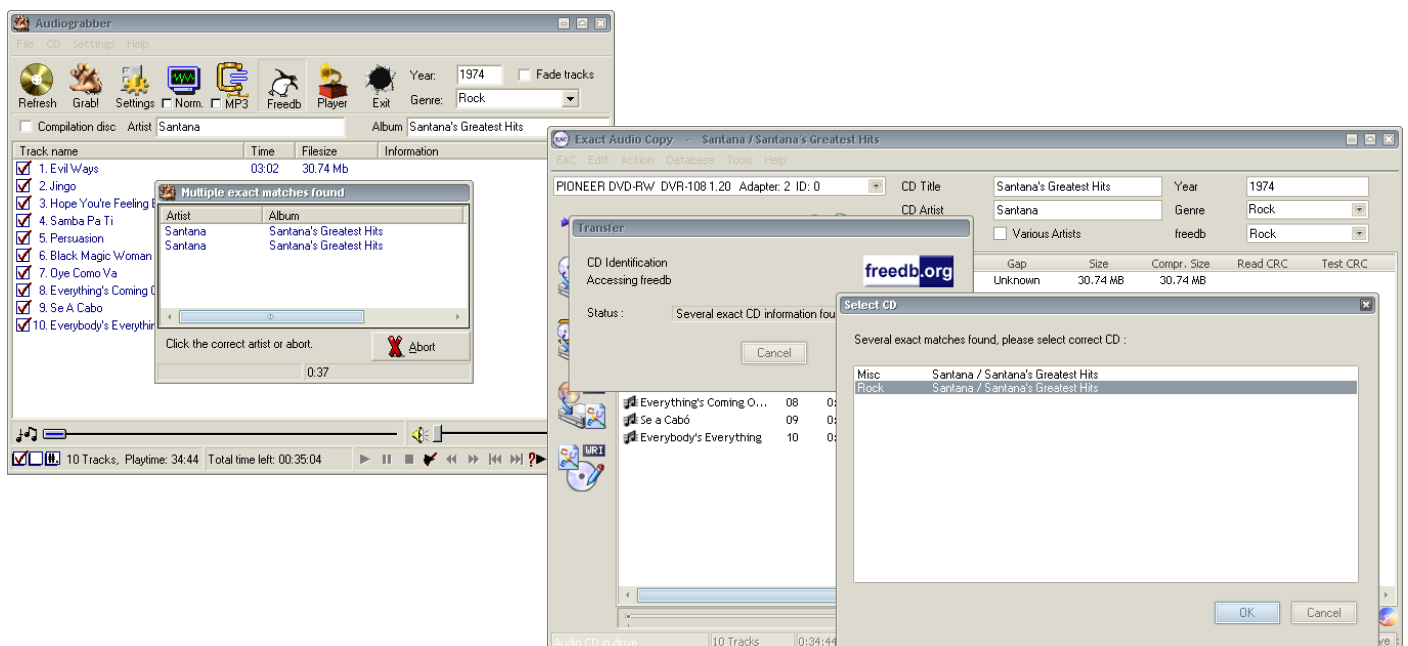
There are a number of CD rippers available, and while some can be a bit expensive there are several very good free packages. **Audiograbber** and **Exact Audio Copy** are two examples of the free variety. Regardless of which ripper you decide on, here are a couple of tips that may make your life easier:

Organize Your Music

Logically organize your music library using a directory structure like `c:\music\artist\album*.mp3`. Once a song has been added to the SAM Broadcaster media library, do not move it around on your hard drive or SAM will not know where to find it.

Keep Metadata in Mind

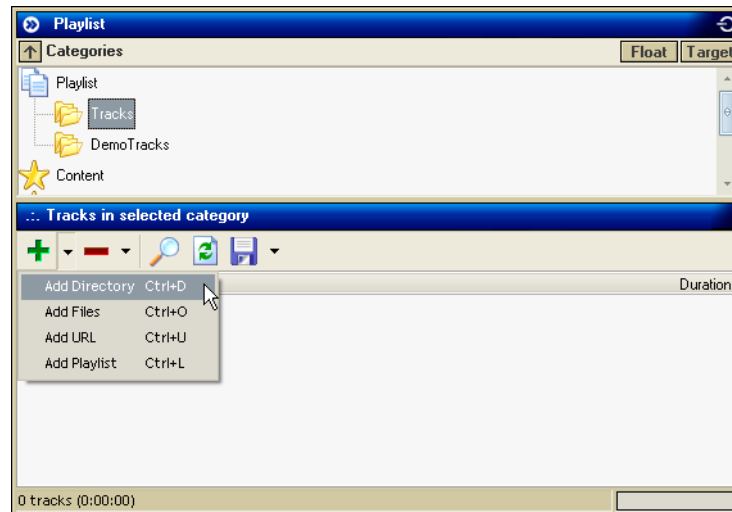
Look for a ripper that will include song metadata in the audio file it creates. Metadata is data about the song like album title or ISRC codes. This information will make royalty reporting much easier, so the more automated this process can be the better. There is a way to add the metadata manually, which will be discussed in the section on **editing song info** later in this guide.



Adding Content to Your Database

Once your music has been ripped and organized on your hard drive, we need to tell SAM Broadcaster where to find those files.

With category selected, click the down-arrow next to the green plus sign and select an option from the drop-down list. Right-clicking on the category will also pop up the **Add** options.



Option	Action	Hotkey Shortcut
Add Directory	Adds all media files in the specified directory	Ctrl+D
Add Files	Adds all specified media files. Multiple files in the same directory can be selected by holding down the Ctrl key.	Ctrl+O
Add URL	Adds all media files at the specified URL	Ctrl+U
Add Playlist	Adds all media files in the specified playlist	Ctrl+L

If you accidentally add a directory or song more than once, the **Remove duplicates** option will clear all duplicate entries from the database.



Think twice about allowing SAM Broadcaster to search your entire **C** drive. The search will add **all** audio files to your database, which would include Windows sounds and other audio you may not want cluttering up your database.



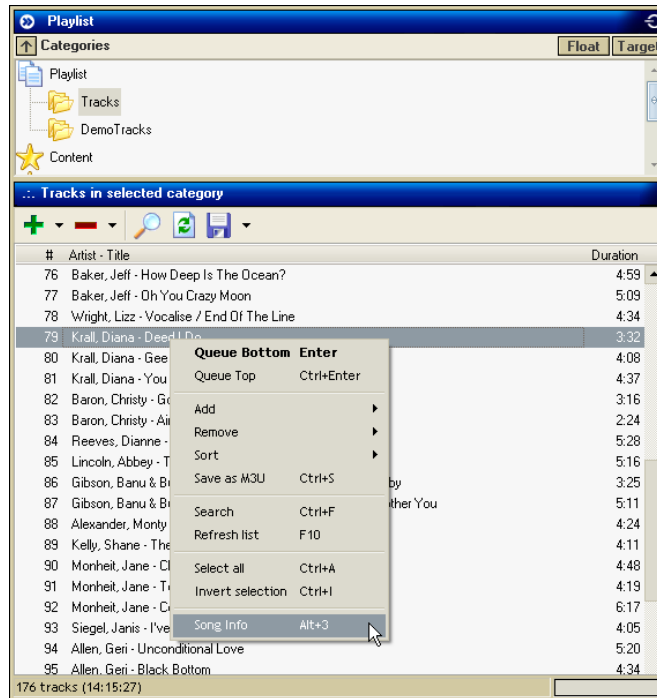
You can also add files directly from Windows Explorer. Drag the songs you want to add from Explorer and drop them in the **Tracks** window in SAM Broadcaster, and they will be added to your SAM Media Library!



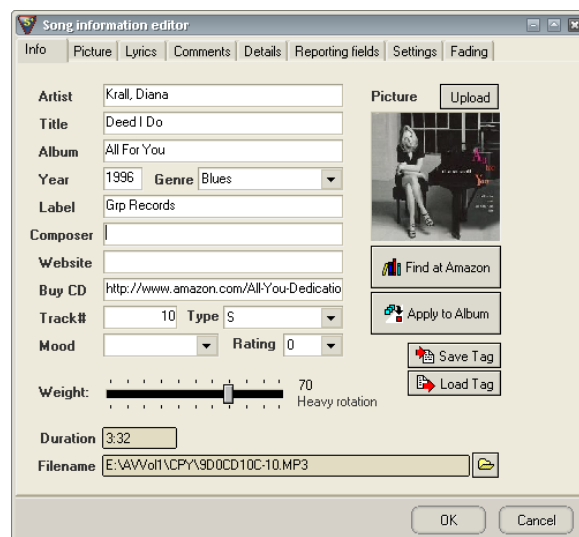
Editing Song Info

While you have your CD jewel case handy, now would be a good time to edit some of the details about your songs.

- 1 Right-click on the track you want to edit and select **Song Info**. You can also highlight the track and use the Alt+3 hotkey to open the **Song Information Editor**.



- 2 On the **Info** tab, fill in or edit basic details for this track. Artist and title information can be sent from this tab to your player, so make sure those fields are complete and everything is spelled correctly. Now is also a good time to hunt down the album art for this track. Album art thumbnails can be uploaded to your CDN so they can be displayed on your player.



3

Switch to the **Reporting fields** tab and fill in as many details as you have available. Information on this tab is used to generate royalty reports that can be sent to royalty agencies like SoundExchange, so make sure it is accurate and as complete as possible.

These fields need to be completed to the best of your abilities to comply with SoundExchange (and others like APRA) reporting requirements:

Artist: Kral, Diana
 Title: Deed I Do
 Album: All For You
 Year: 1996 Track#: 10
 Label: Grip Records
 P-Line: Grip Records (aka Copyright)
 Composer:
 ISRC:
 Catalog#:
 UPC: 011105018227
 Rights: Royalty free Broadcast Download On-demand

4

After making any major changes to the song information, you can save those changes directly to the file tag by clicking the **Save tag** button on the **Info** tab.

Artist: Kral, Diana
 Title: Deed I Do
 Album: All For You
 Year: 1996 Genre: Blues
 Label: Grip Records
 Composer:
 Website:
 Buy CD: http://www.amazon.com/All-You-Dedicatio
 Track#: 10 Type: S
 Mood: Rating: 0
 Weight: 70 Heavy rotation
 Duration: 3:32
 Filename: E:\AVVol1\CPY\SD0CD10C-10.MP3

Storing the metadata in the song tag will prevent headaches down the road in case:

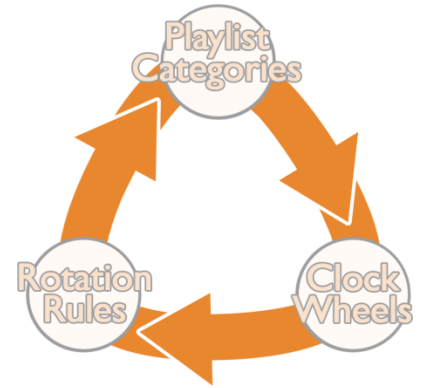
- Your media library database gets corrupted and you have to rebuild it
- You move your files and re-add them to SAM Broadcaster
- You want to use the same song on other stations
- You accidentally delete songs from the media library and need to re-add them



Playing Your Content

Deciding how to structure your on-air sound is as important as selecting the music you want to play. Rather than playing songs randomly, applying some simple rules can make for a much smoother and more appealing presentation.

Three things work together in SAM Broadcaster to provide this structure: **Playlist categories**, **Playlist rotation rules** and **Clockwheels**.



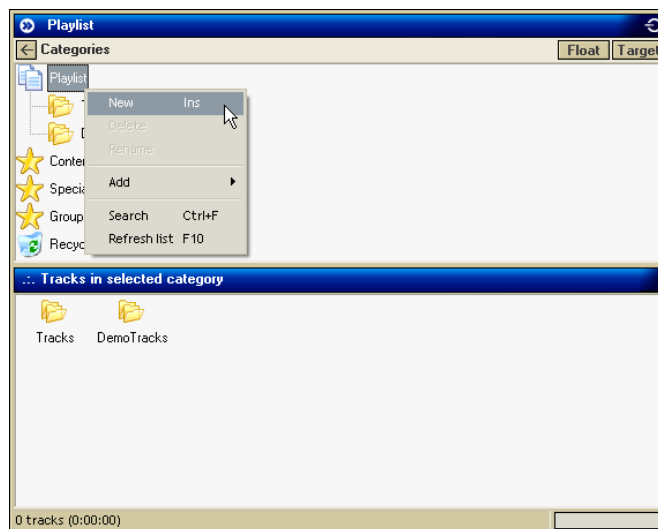
Playlist Categories

Understanding playlist categories is crucial to effective use of SAM Broadcaster. This section will not go into programming philosophy, but will look at some basic things you can do to get you started.

Categories make managing and using your audio files easy and fast by organizing your audio based on parameters you specify like genre, function, popularity or when a song was released. Organizing your audio into categories will allow you to easily create a focused format later on.

Creating Categories

To create a new category, right-click on the root **Playlist** category and select **New**. Type the name of the new category (no spaces in the category name, please) and press the **Enter** key to save your changes.



t

You can create a practically unlimited number of categories. You want enough categories to allow you to focus your on-air sound, but not so many that it will bog down the playlist engine and make it difficult and unwieldy to manage your music. Generally 4 or 5 playlist categories are enough.

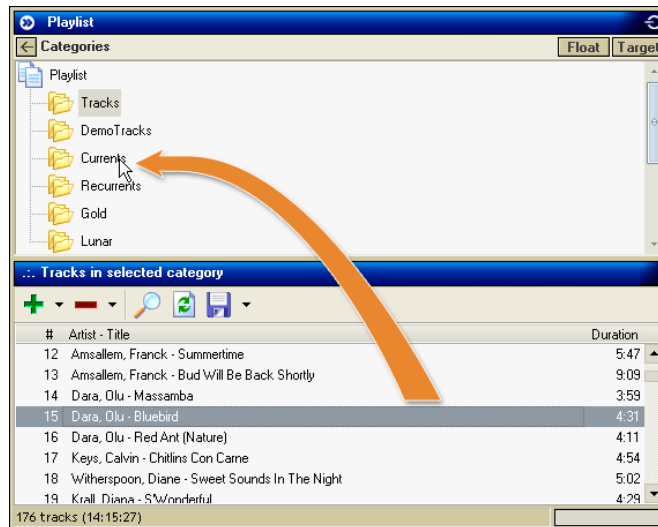


Managing Categories

Categories are basically containers for lists of songs, so we need to tackle questions of adding and removing songs to and from categories as well as how to move songs between categories.

For details about adding songs to a category, refer to the section on [Adding content to your database](#) on page 19.

Moving songs between categories is a simple drag-and-drop operation. Click on the song and drag it to its new category.



To remove a song, right-click on the song and select the **Remove** option from the [Remove](#) menu.



There is a huge difference between the songs records stored in your database and the physical files stored on your computer. Moving songs between SAM Broadcaster categories will not change which Windows folder the physical file is saved to.

Moving a file in Windows Explorer will “break” the link between the SAM Broadcaster record and the file. SAM Broadcaster will not be able to find the file or play it until the link is reestablished.

If you need to move an audio file to a new Windows folder, you will need to reestablish the link between the physical file and the database record so SAM Broadcaster will know where to find the moved file.

After finding the song inside SAM Broadcaster, open the [Song information editor](#). Click the browse button located next to the filename and browse to the new location of the song. The filename will be updated to point to the new location. All song information and statistical information will remain intact.

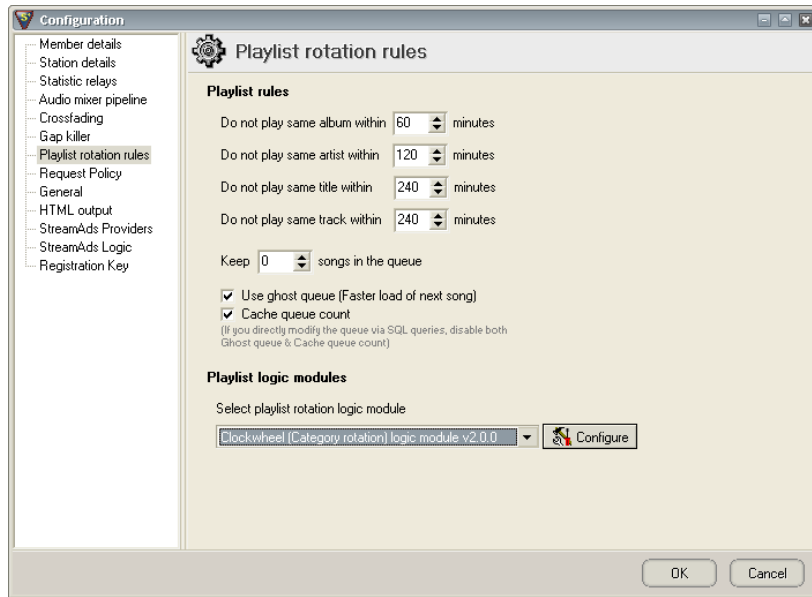
Audio files should only be deleted from a Windows folder after they have been removed from the SAM Broadcaster database. To perform both operations at once, find the song to be deleted using the song



search tool in SAM Broadcaster. Right-click on the song and select the **Delete physical file** option from the **Remove** menu. This will delete the physical file and remove the record from the SAM Broadcaster database.

Playlist Rotation Rules

While clockwheels tell SAM Broadcaster which category to choose from, playlist rotation rules impact how SAM Broadcaster selects the specific songs to play. Properly configured rules will allow a song to play just often enough—not too often and not too infrequently. To access the rotation rules configuration screen, select **Config** from the SAM Broadcaster **File** menu option. On the configuration window, select **Playlist rotation rules** from the options on the left.



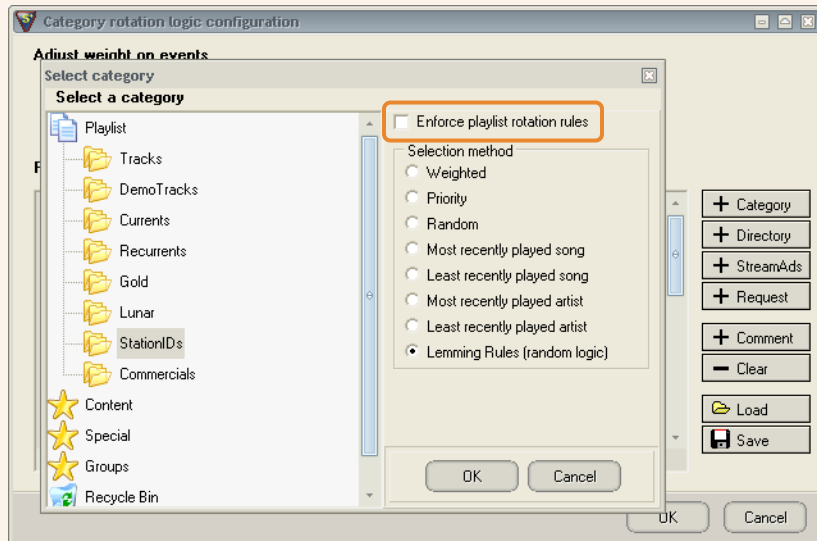
Option	Description	Comments
Do not play the same album within [xx] minutes	At least [xx] minutes must pass before SAM Broadcaster will consider tracks from the same album for rotation again.	In order for this rule to be applied effectively, you must make sure all songs in the playlist contain a valid and correct album entry.
Do not play the same artist within [xx] minutes	At least [xx] minutes must pass before SAM Broadcaster will consider tracks from the same artist for rotation again.	In order for this rule to be applied effectively, you must make sure all songs in the playlist contain a valid and correct artist entry.
Do not play the same title within [xx] minutes	At least [xx] minutes must pass before SAM Broadcaster will consider the same title for rotation again.	This includes songs with the same title, even if performed by different artists. For example if Elton John's <i>Believe</i> just played, Cher's <i>Believe</i> will not play until the specified duration has lapsed.
Do not play the same track within [xx] minutes	At least [xx] minutes must pass before SAM will play the same track.	Track matches are based on the SAM Broadcaster-generated SongID .



Keep [xx] songs in the queue	If you set this to 1 or more, SAM Broadcaster will check the queue every 5 seconds. If there are less than the specified number of songs in the queue, the system will add another song to the bottom of the queue.	
Use ghost queue	If checked, SAM Broadcaster will cache the next-to-play song in memory, allowing the software to load the next song faster.	Highly recommended.
Cache queue count	Enabling this option will improve SAM Broadcaster's performance by eliminating the need to make a database query each time it wants to check if the queue is empty.	The only time you should disable this is if you modify the SAM Broadcaster queue via external scripts and database queries.



It is possible to override or ignore playlist rotation rules for certain categories. In fact, opting not to enforce the playlist rotation rules is recommended for categories like Promos, Station IDs, Sweepers or other categories that might not contain enough audio elements to rotate within the bounds of the rotation rules.



Clockwheels

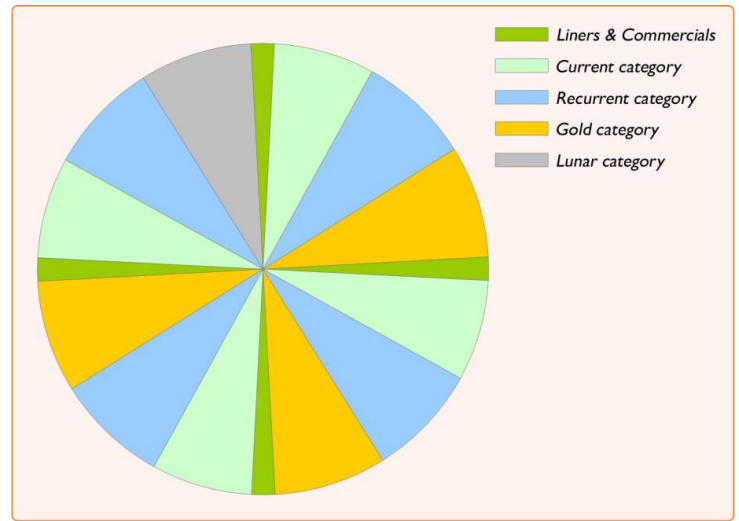
The **Clockwheel (Category Rotation) logic module** is the default and recommended playlist logic module. It allows you to easily set up the format of your station by selecting songs from categories in a certain order.

Think of a clockwheel as a visual representation of an hour on your internet radio station. How do you want that hour to flow?

The example here would flow like this:

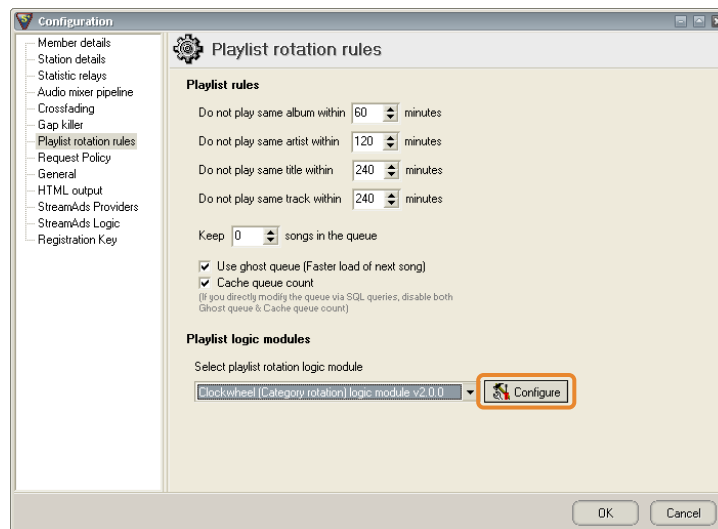
Liner/Commercial Break
Current
Recurrent
Gold
Liner/Commercial Break
Current
Recurrent
Gold

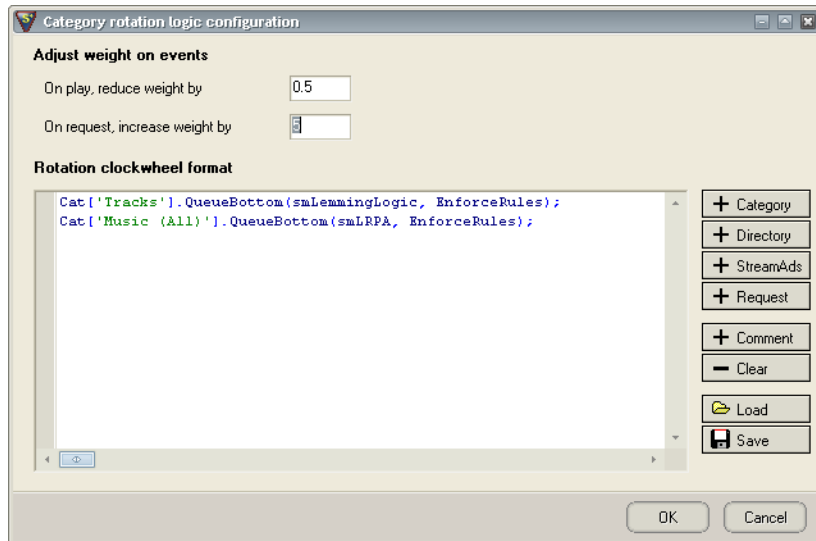
...



By simply specifying categories in your clockwheel you allow the playlist engine to exercise some leeway in selecting the best song from each category so each song gets maximized airplay without requiring you to program each hour (or each day or each week) manually.

To set up your clockwheels, select **Config** from the SAM Broadcaster **File** menu option. On the configuration window, select **Playlist rotation rules** from the options on the left. Under **Playlist logic modules**, with **Clockwheel (Category Rotation) logic module** selected from the drop-down box, click the **Configure** button.





Button	Function
+ Category	Select a song from a category rule.
+ Directory	Select a song from a directory rule.
+ Request	Select a pending request to be moved to the queue.
+ Comment	Add a comment or description to the clockwheel that helps you follow the logic or provides more information.
Clear	Completely empties the clockwheel.
Load	Load a clockwheel format from a file.
Save	Save the current clockwheel format to a file.

A simple default clockwheel is included when you first install SAM Broadcaster:

```
Cat['Tracks'].QueueBottom(smLemmingLogic, EnforceRules);
Cat['Music (All)'].QueueBottom(smLRPA, EnforceRules);
```

This clockwheel executes two simple instructions over and over. It will play a song from the **Tracks** category at random (*LemmingLogic*), then a song from the **Music (All)** category based on the least recently played artist (*LRPA*). Then, repeating the sequence, a song from the **Tracks** category at random followed by a song from the **Music (All)** category based on the least recently played artist.

For testing purposes this simple clockwheel will work fine, but you will quickly want to set up a more focused custom clockwheel.



Creating a New Clockwheel

1

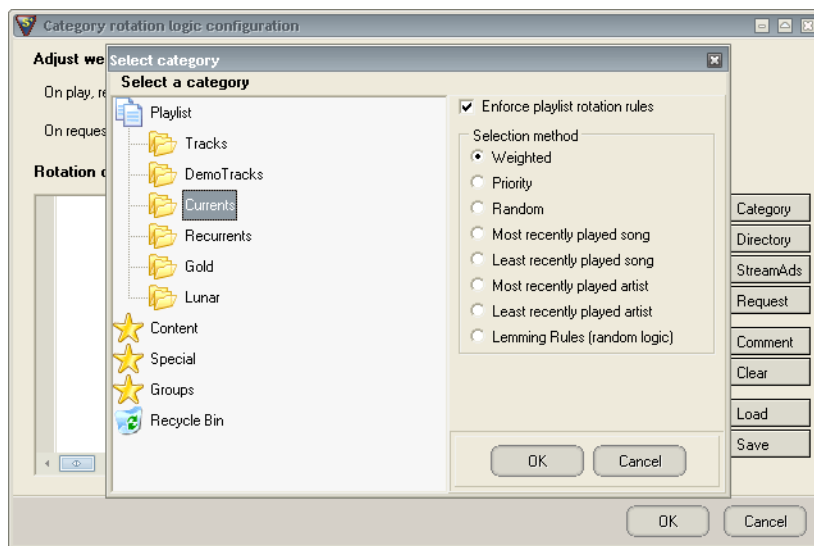
First, clear the existing clockwheel by clicking the **Clear** button.

t

You may want to save the current clockwheel before clearing it. You can never have too many clockwheels saved and ready to be loaded at a moment's notice! Be sure to give the saved clockwheel a descriptive name so you can find and load it quickly.

2

Click the **+ Category** button. Select the category the playlist engine should choose a song from, and the selection method. Click **OK** to save this clockwheel entry.



Selection method	Description
Weighted (smWeighted)	Each song has a weight assigned to it. The higher the weight, the more often it will get played. A song with a weight of 60 will get played twice as often as a song with a weight of 30.
Priority (smPriority)	The song with the highest weight will get played.
Random (smRandom)	Selects a song totally at random from the category.
Most recently played song (smMRP)	Selects the song with the newest play date.
Least recently played song (smLRP)	Selects the song with the oldest play date.
Most recently played artist (smMRPA)	First, the playlist engine will determine which artist has the newest play date. Then it will select the song from that artist with the newest play date.



Least recently played artist (smLRPA)	First, the playlist engine will determine which artist has the oldest play date. Then it will select the song from that artist with the oldest play date.
Lemming Rules (smLemmingRules)	Lemming rules randomly selects a selection method, and then uses that selection method to select a song. This gives a very nice random selection.

3 Repeat the process to complete your clockwheel.

4 Save your new clockwheel by clicking **Save** and giving the clockwheel a descriptive name. After saving, click **OK** to close the **Category rotation logic configuration** window.

Using the example from the beginning of this section, the clockwheel would look like this:

```

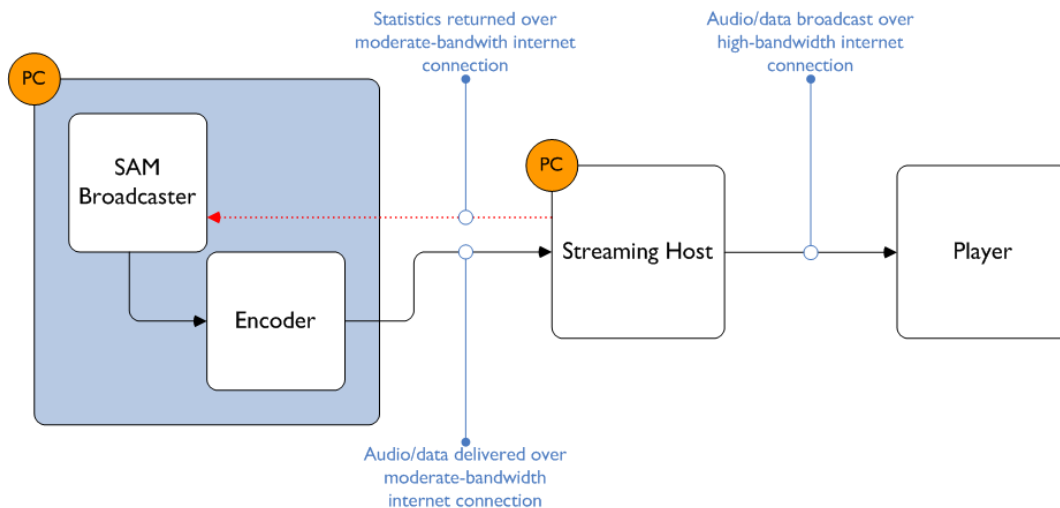
{# Play a StationID followed by two Commercials #}
Cat['StationIDs'].QueueBottom(smRandom, NoRules);
Cat['Commercials'].QueueBottom(smWeighted, NoRules);
Cat['Commercials'].QueueBottom(smWeighted, NoRules);
{# And now back to the music! #}
Cat['Currents'].QueueBottom(smLemmingLogic, EnforceRules);
Cat['Recurrents'].QueueBottom(smLemmingLogic, EnforceRules);
Cat['Gold'].QueueBottom(smWeighted, EnforceRules);
{# Time to pay some bills #}
Cat['StationIDs'].QueueBottom(smRandom, NoRules);
Cat['Commercials'].QueueBottom(smWeighted, NoRules);
Cat['Commercials'].QueueBottom(smWeighted, NoRules);
{# And now back to the music! #}
Cat['Currents'].QueueBottom(smLemmingLogic, EnforceRules);
Cat['Recurrents'].QueueBottom(smLemmingLogic, EnforceRules);
Cat['Gold'].QueueBottom(smWeighted, EnforceRules);
{# Time to pay some bills #}
Cat['StationIDs'].QueueBottom(smRandom, NoRules);
Cat['Commercials'].QueueBottom(smWeighted, NoRules);
Cat['Commercials'].QueueBottom(smWeighted, NoRules);
{# And now back to the music! #}
Cat['Currents'].QueueBottom(smLemmingLogic, EnforceRules);
Cat['Recurrents'].QueueBottom(smLemmingLogic, EnforceRules);
Cat['Gold'].QueueBottom(smWeighted, EnforceRules);
{# Time to pay some bills #}
Cat['StationIDs'].QueueBottom(smRandom, NoRules);
Cat['Commercials'].QueueBottom(smWeighted, NoRules);
Cat['Commercials'].QueueBottom(smWeighted, NoRules);
{# And now back to the music! #}
Cat['Currents'].QueueBottom(smLemmingLogic, EnforceRules);
Cat['Recurrents'].QueueBottom(smLemmingLogic, EnforceRules);
Cat['Lunar'].QueueBottom(smWeighted, EnforceRules);

```



Getting Your Content to the People

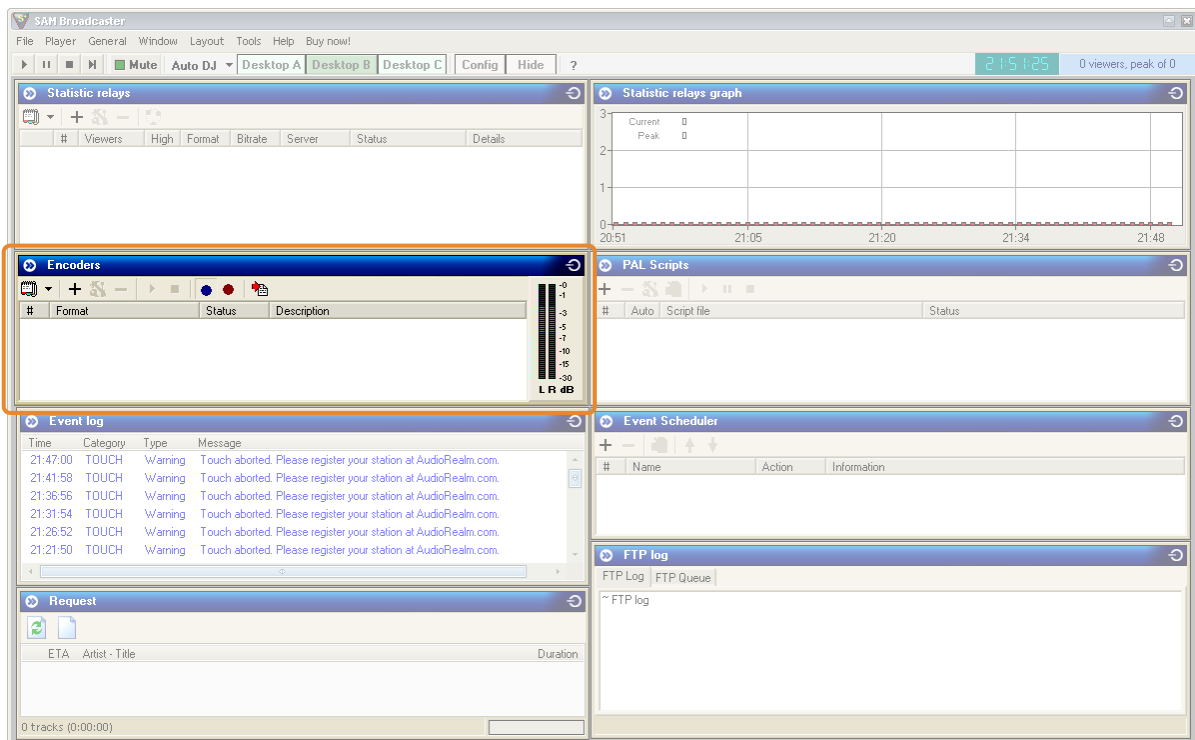
Like the transmitter for an over-the-airwaves radio station, internet radio stations commonly use a Content Delivery Network or CDN. To send your audio to the CDN, it must be encoded in the format used by your streaming host.



This formatting is done by an encoder in SAM Broadcaster, which must be configured using details specific to your CDN or streaming host.

Adding a SHOUTcast Encoder

- 1 Go to the **Encoders** window. By default, this is located on Desktop B of SAM Broadcaster.

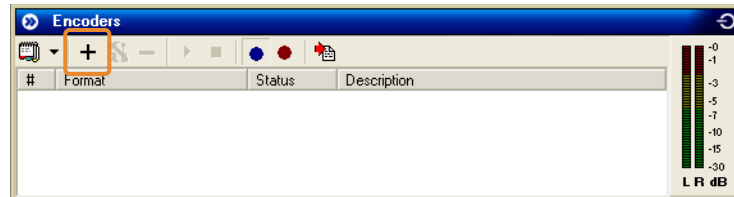


t

If you don't see the Encoders window, you may need to select **Encoders** from the **Window** menu in SAM Broadcaster to show the module.

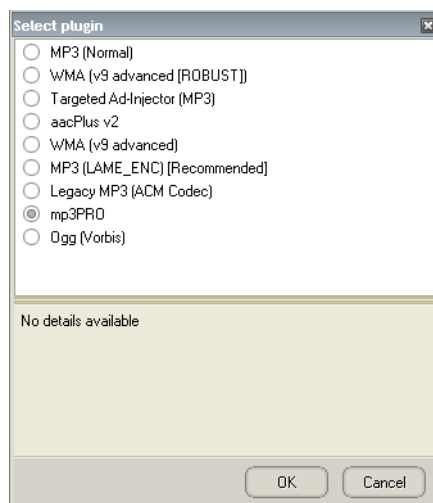
2

In the Encoders window, click on the + button.



3

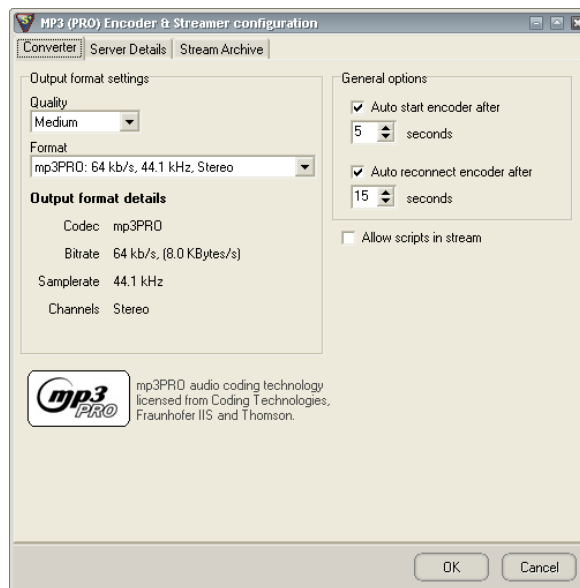
Choose the encoder format used by your streaming host and click **OK**.



t

SHOUTcast currently supports **MP3 (Normal)**, **aacPlus** and **mp3PRO** streaming formats. **mp3PRO** is recommended.

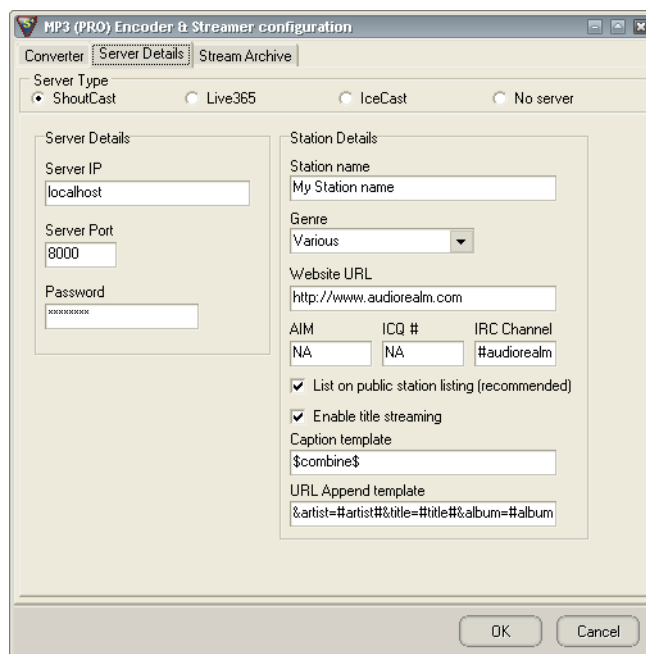




Option	Setting
Quality	Set to Medium
Format	Select the bitrate from the drop-down box that matches the service purchased from your stream hosting provider.
Auto start encoder after	Check this option to enable the feature.
Auto reconnect encoder after	Check this option to enable the feature.
Allow scripts in steam	Leave this option un-checked.

If SpacialNet is your stream hosting provider, you can see your bitrate and other service details in the **My Services** section of your account.

5 On the **Server Details** tab:



Option	Setting
Server Type	Set to SHOUTcast
Server IP	Enter your Stream Host IP address
Server Port	Enter your Stream Host port number
Password	Enter your Stream Host account password
Station Name	Enter your station name
Genre	Select the genre from the dropdown box or type in one of your own
Website URL	Enter your website URL
AIM/ICQ/IRC Details	Optionally enter your AIM/ICQ/IRC contact information
List on public station listing	Checking this feature is recommended
Enable title streaming	Checking this feature is recommended
Caption template	Be sure that \$combine\$ is in this field to display titles
URL append template	Leave the default value unless otherwise instructed by Spacial Audio

6 Click **OK** to start the encoder and close the setup dialogs. Your encoder window should now report **Encoded (#), streamed (#)**.

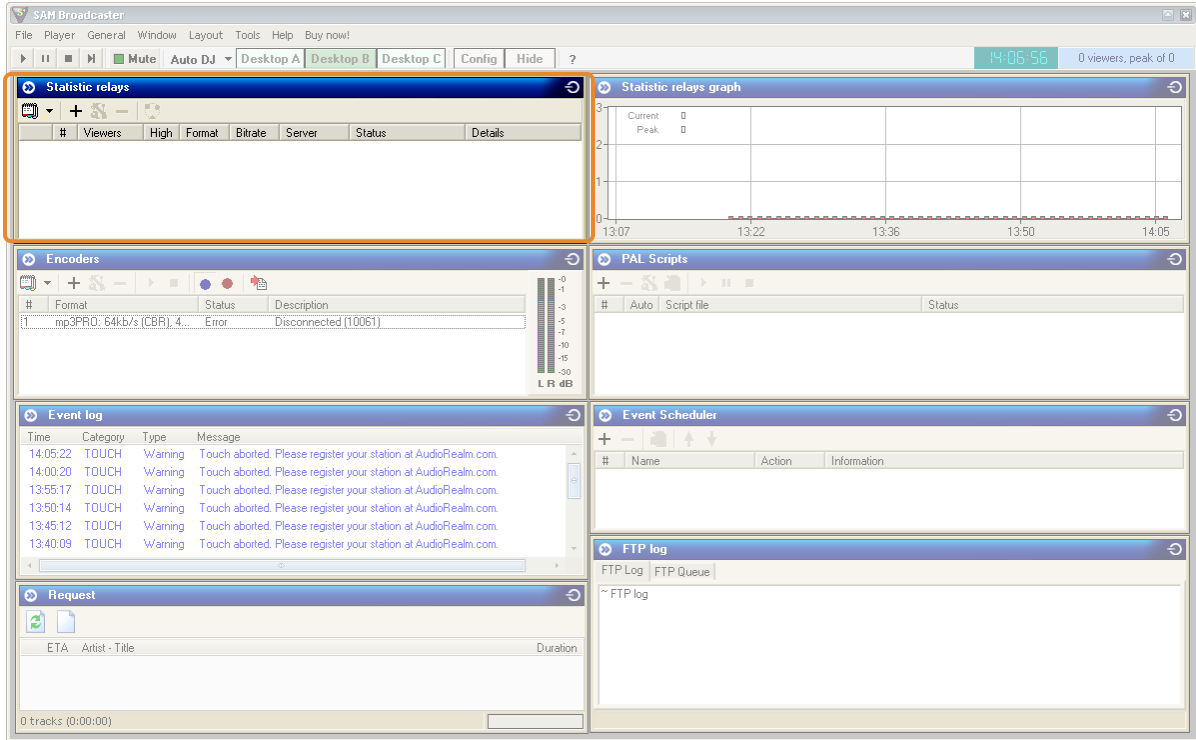
If it is not encoding make sure the encoder is started by right-click on the encoder entry and selecting **Start**. If it is still not encoding, recheck your details by right-clicking on the encoder entry and selecting **Config**.



Configuring a SHOUTcast Statistic Relay

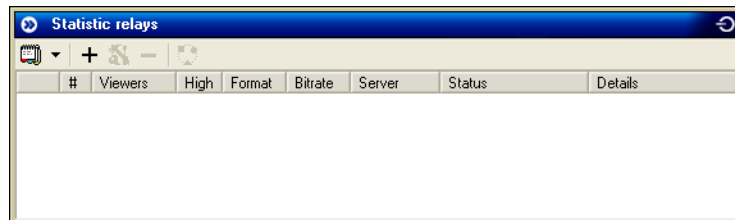
Statistic relays gather and display valuable details about your stream and who is listening.

- 1 Go to the **Statistic relays** window. By default, this is located on Desktop B of SAM Broadcaster.



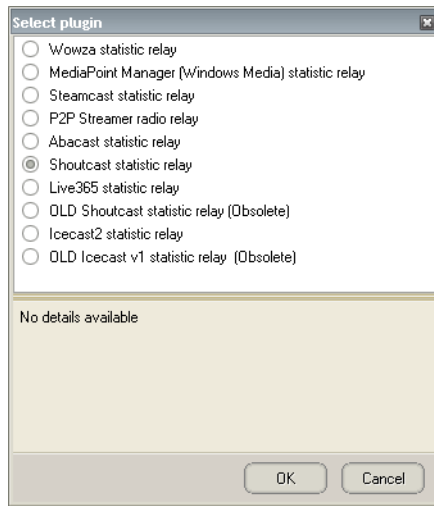
t If you don't see the **Statistic relays** window, you may need to select **Statistic relays** from the **Window** menu in SAM Broadcaster to show the module.

- 2 In the **Statistic relay** window, click on the **+** button.



3

Choose the encoder format used by your streaming host and click **OK**.



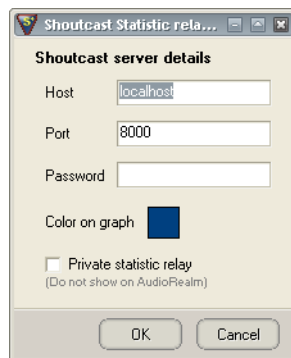
t

Two versions of the SHOUTcast relay are available, depending on the version of the SHOUTcast server your stream hosting provider uses.

The SHOUTcast statistic relay is only for use with SHOUTcast server software version 1.8.9 or later. If your version of the SHOUTcast server is older than that use the OLD SHOUTcast statistic relay.

4

Configuring the SHOUTcast statistic relay:



Option	Setting
Host	The DNS name or IP address of the machine where the SHOUTcast server software is located. Do NOT use a local IP address or network address. Use the internet IP address or DNS name that can be accessed by users outside your network.
Port	The port as specified by the SHOUTcast server configuration file.

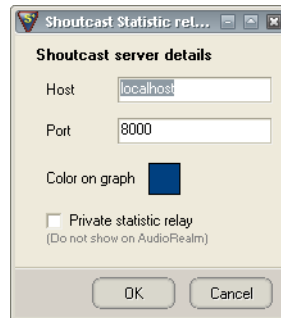


Password	The encoder password as specified by the SHOUTcast server configuration file.
Color on graph	The color to use when drawing this relay's graph on the Statistic relays graph.
Private statistic relay	When checked, this relay will NOT show up on the AudioRealm station listing, but you will still be able to view the statistics for this relay locally.

Configuring the **OLD SHOUTcast statistic relay**:



The **OLD SHOUTcast statistic relay** should only be used with SHOUTcast server versions older than v1.8.9. If your version is older than v1.8.9 we strongly suggest upgrading to the latest version of the SHOUTcast server. Only use the **OLD SHOUTcast statistic relay** if upgrading is not an option.



Option	Setting
Host	The DNS name or IP address of the machine where the SHOUTcast server software is located. Do NOT use a local IP address or network address. Use the internet IP address or DNS name that can be accessed by users outside your network.
Port	The port as specified by the SHOUTcast server configuration file.
Color on graph	The color to use when drawing this relay's graph on the Statistic relays graph.
Private statistic relay	When checked, this relay will NOT show up on the AudioRealm station listing, but you will still be able to view the statistics for this relay locally.

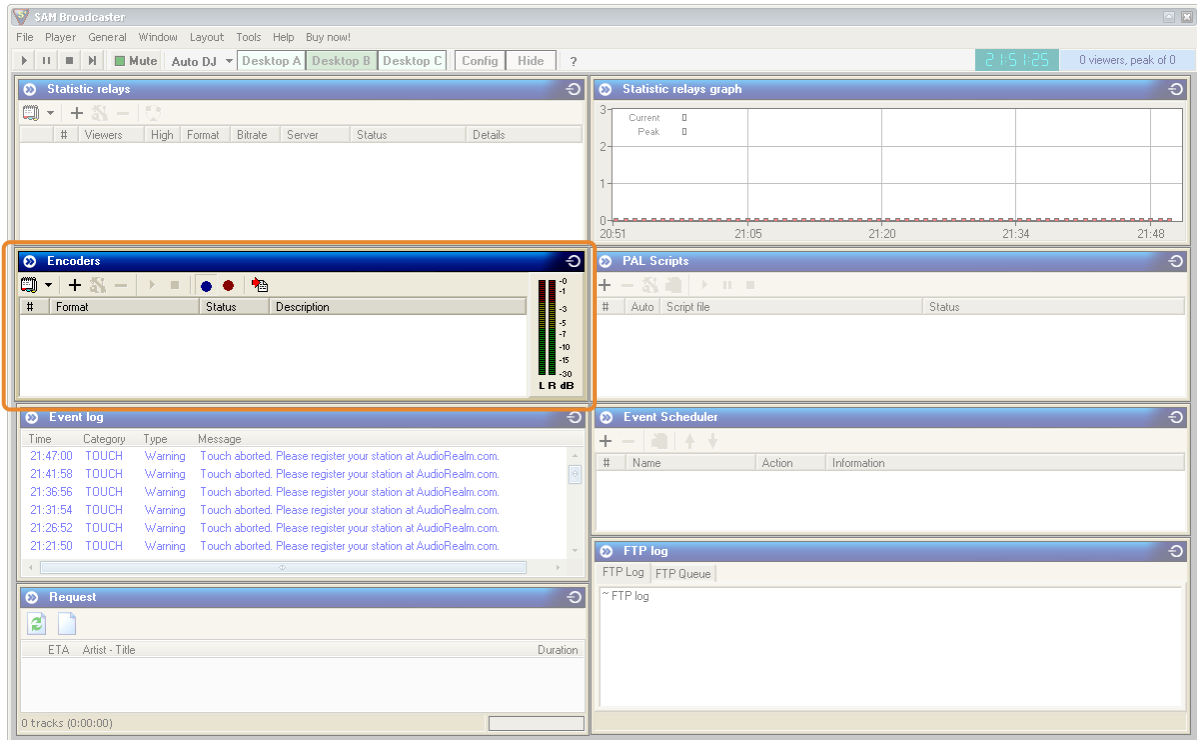
5

Click **OK** to save your changes and start the statistics relay.



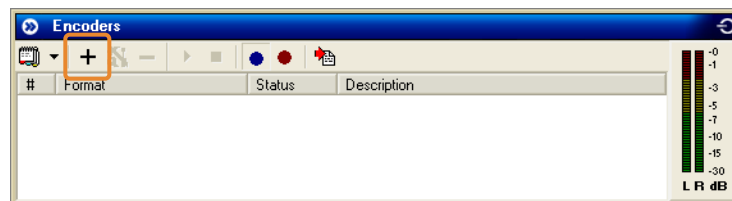
Adding a Windows Media Encoder

- 1 Go to the **Encoders** window. By default, this is located on Desktop B of SAM Broadcaster.



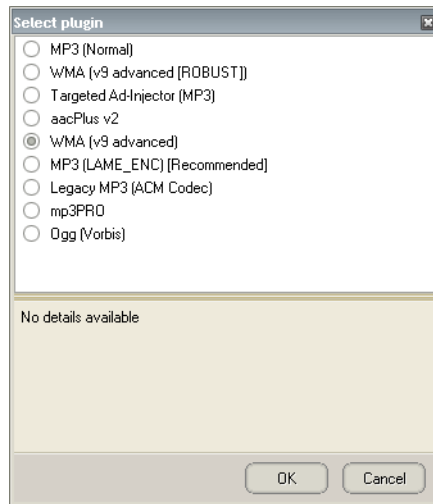
t If you don't see the Encoders window, you may need to select **Encoders** from the Window menu in SAM Broadcaster to show the module.

- 2 In the Encoders window, click on the **+** button.



3

Choose the **WMA (v9 advanced)** format and click **OK**.



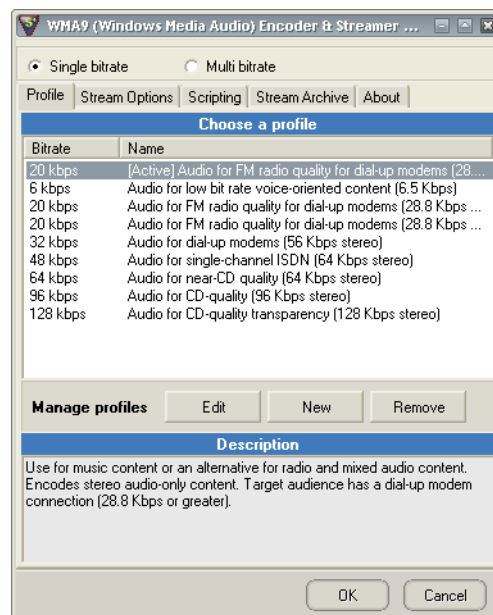
t

There are many ways to set up a Windows Media encoder. The two most popular ways are to **push** and to **pull** the signal. The push method is recommended for ease of setup.

If you prefer the pull method, forcing your stream hosting provider to connect to your encoder, detailed setup directions can be found on the [Spatial Audio support wiki](#).

4

On the **Profile** tab, select the stream profile (bitrate) that matches the service purchased from your stream hosting provider.

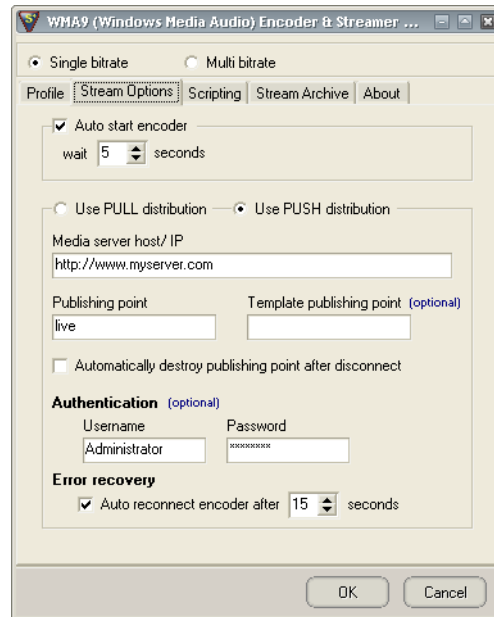


t

If SpatialNet is your stream hosting provider, you can see your bitrate and other service details in the **My Services** section of your account.

5

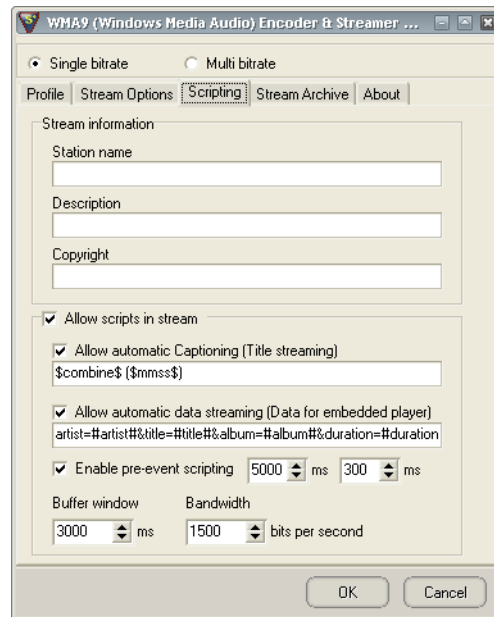
On the **Stream Options** tab select the option to **Use PUSH distribution**, and configure the following options:



Option	Setting
Auto start encoder	Check this box to enable the option.
Media server host/IP	Enter your Stream Host IP address
Publishing point	Enter your alias
Template publishing point	Leave this field blank.
Automatically destroy publishing point	Leave this option unchecked.
Username	If you have a SpatialNet account, this is your SpatialNet username.
Password	If you have a SpatialNet account, this is your SpatialNet password.
Auto reconnect encoder	Make sure this option is checked.



Configure the options on the **Scripting** tab:



Option	Setting
Station name	Enter your station name.
Description	Enter a brief description of your station.
Copyright	Enter any relevant copyright information.
Allow scripts in stream	Make sure this option is checked.
Allow automation Captioning	Make sure this option is checked. Leave the captioning string at the default: <code>\$combine\$ (\$mms\$)</code>
Allow automatic data streaming	Make sure this option is checked. Leave the captioning string at the default.
Buffer window	Set to 3000ms.
Bandwidth	Set to 1500 bits per second.

Click **OK** to start the encoder and close the setup dialogs. Your encoder window should now report **Encoded (#), streamed (#)**.

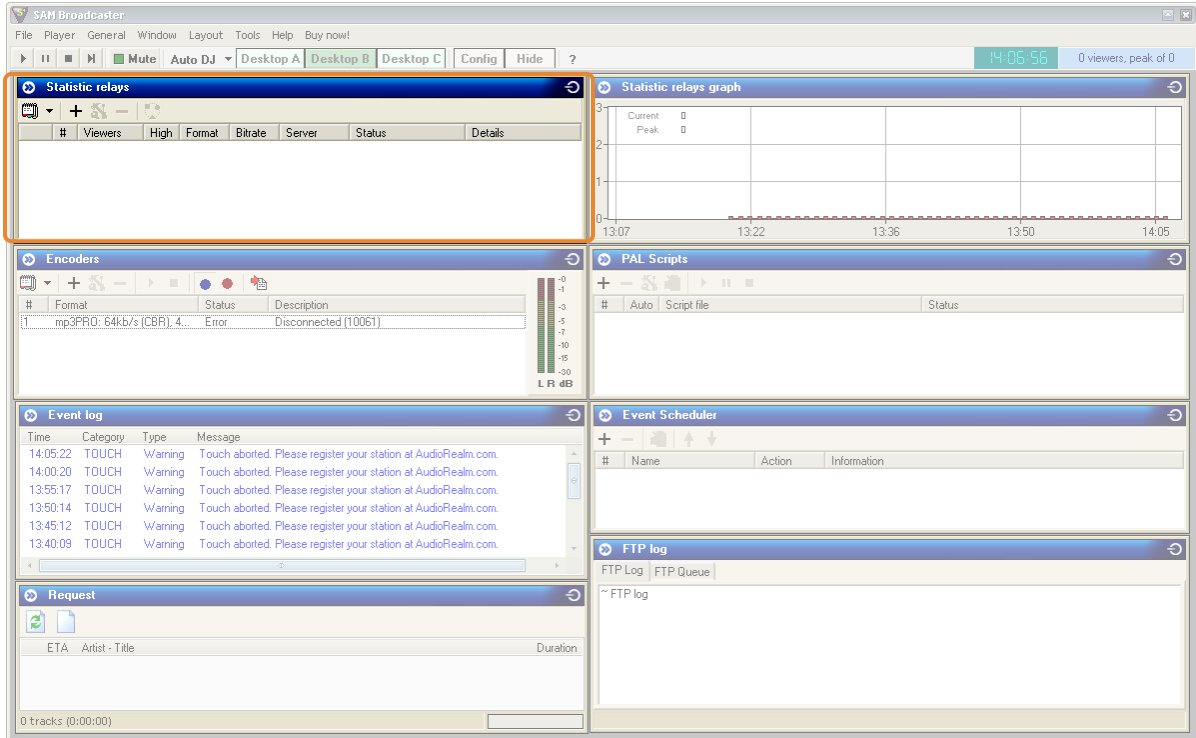
If it is not encoding make sure the encoder is started by right-click on the encoder entry and selecting **Start**. If it is still not encoding, recheck your details by right-clicking on the encoder entry and selecting **Config**.



Configuring a Windows Media Statistic Relay

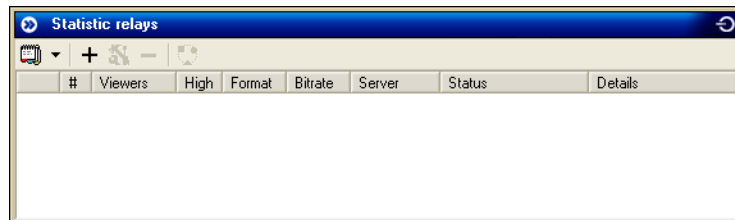
Statistic relays gather and display valuable details about your stream and who is listening.

- 1 Go to the **Statistic relays** window. By default, this is located on Desktop B of SAM Broadcaster.



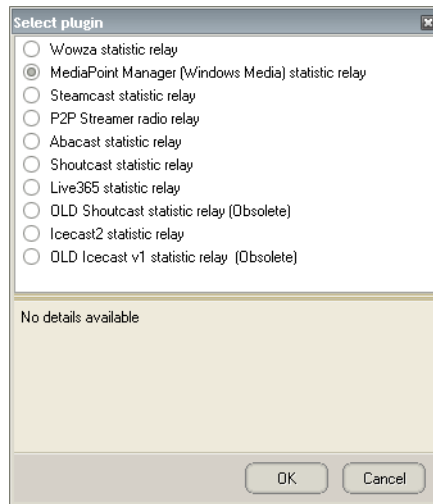
t If you don't see the **Statistic relays** window, you may need to select **Statistic relays** from the **Window** menu in SAM Broadcaster to show the module.

- 2 In the **Statistic relay** window, click on the **+** button.



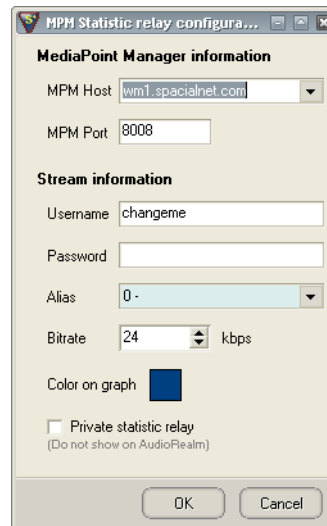
3

Choose the encoder format used by your streaming host and click **OK**.



4

Configure the **MediaPoint Manager** server details:



Option	Setting
MPM Host	The DNS name where the Windows Media server software is located.
Port	The port as specified by the Windows Media server configuration file.
Username	If you have a SpatialNet account, this is your SpatialNet username.
Password	If you have a SpatialNet account, this is your SpatialNet password.
Alias	Click on the down arrow of the Alias drop-down box and select your Alias once it shows.
Bitrate	Enter the bitrate of your stream.



Color on graph	The color to use when drawing this relay's graph on the Statistic relays graph.
Private statistic relay	When checked, this relay will NOT show up on the AudioRealm station listing, but you will still be able to view the statistics for this relay locally.

5

Click **OK** to save your changes and start the statistics relay.

