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CasaTunes Setup and Trouble Shooting Guide

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CasaTunes

Multi-Room Music Server

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CasaTunes™ Software trouble shooting guide

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Setup Guide

Purpose

The primary purpose of this document is to provide a single hardware setup, installation and operational trouble shooting guide for the CasaTunes software v2.5+. In addition, this guide lists the operating systems supported and the operating and application software components required. Appendix A contains a list of hardware devices supported.

Background

The CasaTunes software consists of several components, including:

1. **CasaTunes Media Server** – This component is used to play back music, to control supported source equipment (tuners), and to control the supported multi-room audio equipment. This component runs as a Windows service.
2. **CasaTunes Web Service** – This component renders the user interface. The web based User Interface is implemented as an ASP.Net 2.0 application with Microsoft AJAX and runs on Microsoft Internet Information Services.
3. **CasaTunes Diagnostics** – This component provides a single control point where installers and CasaTools Technical Support personnel can view the current CasaTunes software configuration, as well as view all CasaTunes events recorded in the Windows Application Event log. This tool is used to diagnose customer issues.
4. **CasaTunes Setup** application – In version 2.5+, the setup application is no longer part of the web based User Interface. This was done based on feedback from installers who did not want their customers to be able to easily modify the setup.
5. **CasaTunes Radio Manager** – Introduced in v2.5+, this application is used to configure Internet radio, local AM/FM, XM and Sirius radio stations (and in the future HD radio stations). The Radio Manager stores users' radio stations in a local database, which is updated both locally and from a central master database on the CasaTools web site managed by CasaTools. As new Internet radio stations are added, or existing ones are no longer available, and as changes to XM and Sirius programming occur, CasaTools will update the master radio station database. The CasaTunes software checks the central database for these station additions, modifications, and deletions on a daily basis, and updates the local database with these changes. In addition to the centralized management of stations, installers and customers can use the Radio Manager application to manage their own stations; these typically would be their local AM/FM stations.
6. **CasaTunesSync for iTunes** – In version 2.5+, CasaTools introduced a new solution for synchronizing iTunes music with CasaTunes. The CasaTunesSync for iTunes application is installed on each desktop or laptop which contains the iTunes music you want to synchronize with the CasaTunes Media Server. You can select whether to copy the iTunes music to the CasaTunes Media Server (recommended), or the CasaTunes Media Server can access the iTunes music remotely through a network share. In either case, every time the user changes

- their local copy of the iTunes database, the CasaTunesSync for iTunes application will automatically re-synchronize the contents with the CasaTunes Media Server.
7. **CasaTunes Gadget** [in Beta] – Provides a CasaTunes Gadget application for Windows Sideshow. This enables CasaTunes to be controlled via Sideshow enabled devices. The CasaTunes Gadget is currently in Beta.
 8. **CasaTunes Media Center** application – Allows CasaTunes to be controlled from within Microsoft Media Center. The CasaTunes application is registered under the *Music* and *Other Programs* media center menus. This installation option is only available if CasaTunes is being installed on a machine with Microsoft Media Center installed.

All CasaTunes components require Microsoft .Net Framework 2.0 to be installed. The web service requires Microsoft Internet Information Service (IIS) and the Microsoft AJAX 1.0 for ASP.Net 2.0 to be installed. In v2.5+, IIS is automatically installed and configured on Vista (only), and MS AJAX is automatically installed on both Windows XP and Vista. The CasaTunes Gadget requires the Microsoft Sideshow components be installed.

CasaTunesSync for iTunes requires iTunes 7+ on each desktop/laptop that will be synchronized with the CasaTunes Media Server.

☞ CasaTunesSync for iTunes only supports Windows in the initial release (i.e. there is no Macintosh support). In addition, play back of iTunes protected music is not supported in the current release. You may opt to convert iTunes protected music using a 3rd party tool that abides by the Fair Play requirements, such as TuneBite.

Operating System Support

CasaTunes currently supports the following operating systems;

- Windows XP Professional
- Windows Media Center Edition
- Windows Vista Home Premium
- Windows Vista Business
- Windows Vista Ultimate
- Windows Server 2003¹
- Windows Home Server²

☞ Only 32 bit versions of these operating systems are currently supported. On Windows XP and Media Center Edition you must pre-install the Microsoft .Net Framework 2.0 before installing the CasaTunes Software. The required framework is pre-installed on Windows Vista.

CasaTunes currently uses the Windows Media Player media database to determine the music and playlists available on a CasaTunes Media Server machine. We recommend

¹ Running Windows Media Player 10

² Running Windows Media Player 10

installing the latest Windows Media Player, currently WMP 11. For Windows Server 2003 and Windows Home Server, we recommend WMP 10 (which comes pre-installed)

Hardware Setup

A CasaTunes installation typically consists of the CasaTunes software installed on a PC or Microsoft Windows Media Center PC (referred to as the CasaTunes Media Server), with one or more sound cards, and one or more serial ports.

Multi-Room Audio Controller Setup

With the exception of the CasaTunes XL hardware, all supported multi-room audio controllers are controlled through a serial (RS-232) interface. You can either use built-in PC Serial Ports, USB-to-Serial Ports, networked Serial Ports, serial servers on Barix Exstreamer devices, or a combination of these (if more than one is needed).

↳ Empirically, we have found the built-in PC Serial Port to be the most compatible (and most reliable). We have found compatibility issues with some generic USB-to-Serial adapters. It is very important to check whether these adapters are Vista compatible when using these devices with Vista.

With the exception of using the serial server on the Barix Exstreamer, the CasaTunes software will automatically configure the serial port settings for the selected Multi-Room Audio controller.

The Barix Exstreamer 100 is a networked MP3 player with a built in serial server, so it can actually serve two different functions, control and music play back. There are, however, a couple of disadvantages when using these devices;

1. CasaTunes can only play back MP3 songs using these devices (no WMA, M4A, MP4 songs are currently supported) and you cannot currently stream internet music using these devices.
2. These devices support a single stereo stream, so you will need an additional Barix Exstreamer 100 device for each source.
3. You will need to manually configure the Serial Server settings using the built-in Barix Configuration web based UI. The serial server settings information is included in the *Appendix A – Supported Devices* table below.

Connecting the Multi-Room Audio controller to the CasaTunes Media Server PC is a straightforward exercise. Simply connect the 9 pin M/F cable from the PC to the serial port on the controller. There are a couple of exceptions:

1. Russound CAV 6.6 – There are two serial port connections available on this device, one on the back and one under the plastic cover in the front. Either can be used, but only one serial port is active at a time, depending on the Front/Back switch located under the plastic cover on the front. Make sure this switch is set correctly for the port you are using
2. Nuvo Grand Concerto and Essentia EG6 and a Nuvo Net Adapter – When using a Nuvo Net Adapter (NV-NNA) with the Grand Concerto or Essentia EG6, the

PC serial port is connected to the Adapter, and the Adapter is connected to controller (see below for more information).

3. The Nuvo Simplese uses a 3.5mm connector for its serial connector and therefore requires a different cable.

Additional Hardware Setup

CasaTunes includes support for 3rd party source devices, in particular tuners (refer to the Supported Devices table in Appendix A).

Russound dual tuners, including AM/FM, XM and Sirius tuners are controlled via the RNET Bus, a Russound proprietary command and control bus, and **do not** require a separate serial port to control these devices. These devices are controlled through the existing serial interface on the multi-room audio controller (CAM, CAV, CAA, etc...).

☞ CasaTunes does not support managing Russound tuners through a direct serial connection.

The Nuvo dual tuners, including AM/FM, XM and Sirius tuners **do** require a separate serial port connection to control these devices.

The NuvoNet Adapter (NV-NNA) is a **highly recommended option** when using CasaTunes to control a Nuvo Grand Concerto or the Nuvo Essentia E6G (new Essentia) multi-room audio controllers. This adapter allows CasaTunes to *behave* as if it were a NuvoNet source, providing seamless integration with the Nuvo keypads.

To connect the NuvoNet Adapter, connect the serial port on the PC to the *Controller* port on the NV-NNA, and connect the *Nuvo RS-232* port of the Nuvo adapter to the RS-232 port on the Grand Concerto or Essentia. You must also connect the NuvoNet port on the Nuvo adapter to the NuvoNet EZ Port multi-port connection block.

iPod Setup

In v2.5+, setting up CasaTunes to use an iPod is straightforward. Simply dock the iPod using the Apple supplied USB docking station on the CasaTunes Media Server, and the CasaTunes software will automatically detect the presence of the docked iPod device, and update the CasaTunes User Interface to allow the user to select and play back music from the connected iPod device.

CasaTunes supports all the latest iPods, including the iTouch and iPhone. If cover art is available, CasaTunes will display it.

When you want to disconnect or undock the iPod from the CasaTunes Media Server, we recommend you use the *iPod Eject* button on the CasaTunes web user interface.

☞ CasaTunes does not currently support play back of iTunes protected music on your iPod. To work around this issue you may opt to convert your iPod protected music using a 3rd party utility that abides by the Fair Play requirements, such as TuneBite.

Sound Card Setup

Each *CasaTunes Player* source can be used to play Windows, iPod, iTunes and/or internet streams. iTunes and internet radio support is new in v2.5+. Support for playback of iPod or iTunes protected music is not currently supported. However, it is possible to convert iTunes protected music to non-copy protected music using several 3rd party tools, most notably TuneBite. In addition, many online music sites, including iTunes (Pro), are now offering more non-copy protected music.

In v2.5+ we have added the capability to split an existing multiple channel sound card, such as a 5.1 or 7.1 channel sound card, and configure it as 3 or 4 stereo CasaTunes Player sources, respectively.

Configuring a 5.1 or 7.1 multiple channel sound card as a multiple stereo output card requires careful configuration as follows:

1. On Vista, you must configure the speaker configuration for the sound card in the Sound Control panel to have a 5.1 or 7.1 speaker configurations. Typically, and unless all jacks are being used, Vista will configure the sound card for stereo speakers. Open the *Sound* control panel applet, select the *Playback* tab, select *Speakers* for the sound card you are using, click on *Configure* and in the *Speaker Setup* window select 5.1 or 7.1 depending on the capabilities of your card.
2. You must be careful to use the correct stereo output jack to match the correct CasaTunes Player source. Connect the stereo output jacks in the following order:
 1. Lime green jack color – Front/Left Speakers
 2. Black jack color – Surround Side Speakers
 3. Orange jack color – Center & LFE Speakers
 4. Grey jack color – Rear Speakers (for 7.1 multiple channel stereo cards only)
3. It is possible for Vista to automatically reconfigure the jacks based on smart auto-jack sensing. To avoid this make sure you always connect the jacks in the order shown above. For example, do not plug a connector into the Lime Green and Orange jacks, skipping the Black jack.
4. On Windows XP, Windows Server 2003 and Windows Home Server it is possible that the driver will erroneously report the sound card only supports stereo speakers when in fact it is a 5.1 or 7.1 multi-channel card. In this case, you will need to change the configuration setting called *OverrideSpeaker* in the *CasaTunesSvc.exe.config* file and set its value to *true*. Refer to the section “How to make Configuration File changes”.

To configure the CasaTunes Player sources, you must run the *Setup CasaTunes* application

1. Select the *Sources* tab in the CasaTunes setup application to configure a CasaTunes Player source for your multi-room audio controller.
2. In the *Sources* tab select CasaTunes Player as your source type, select the sound card you want to use, and select the speaker pair you want to use for this source. You must repeat these steps for each source.

We recommend that you select a specific sound card driver, as opposed to using the default or default DirectSound driver. If you select the default sound driver, this default selection could be changed to a different sound card and you will no longer be able to hear your CasaTunes music without re-running the setup application.

On Windows XP, MCE, Windows Home Server and Windows Server 2003 we recommend you select the DirectSound driver for the sound card; however on Vista, because the DirectSound capability is actually implemented by a thin operating system layer on top of the native drivers, we recommend you use the native sound drivers. DirectSound drivers typically begin with “*DirectSound*”.

On Vista, we strongly recommend the sound card supports the HD Audio Definition standard.

☞ The current version of the CasaTunes Software only supports stereo music play back.

☞ When accessing your CasaTunes Media Server using Microsoft Remote Desktop services, make sure you do leave the computer sound on the CasaTunes Media Server, or you may inadvertently reconfigure the sound card configuration on the CasaTunes Media Server machine and CasaTunes will stop functioning properly.

To leave the sound at the remote computer, click on the *Local Resources* tab when configuring a Remote Desktop Connection, and for the *Remote computer sound* option, select *Leave at remote computer*.

Software Installation Guide

Trouble Shooting Guide

Installation issues

☞ When upgrading or re-installing the CasaTunes software ***do not*** manually uninstall the previous version. The CasaTunes installation application will automatically uninstall the previous version, and preserve all your previous installation settings.

When you download and run the CasaTunes installation application from the CasaTunes web site (or CD), the install application will automatically download the latest CasaTunes applications and components from the CasaTools web site to install.

On Windows Vista machines, the installation application will automatically install Microsoft Internet Information Services (IIS) if it has not been previously installed, or re-configure IIS to include the required components, if the IIS installation is missing the required CasaTunes components. Installing IIS can be a lengthy process and take several minutes. After CasaTunes is installed, you will not need to re-install IIS again (or at least not for CasaTunes).

On Windows XP, the user must manually install the Microsoft .Net Framework 2.0 and IIS (if not already present). Since, there are no settings to configure on Windows XP, this is a straightforward process. Simply follow the setup procedures described on the CasaTools web site (<http://www.casatools.com/setup.aspx>).

➤ After installing the Microsoft .Net Framework 2.0 and IIS, you should proceed to repair the Microsoft .Net Framework 2.0. This will eliminate potential installation issues from arising later. To repair the framework, open the *Add/Remove Program* control panel applet, double click on the Microsoft .Net Framework 2.0, select *Repair*, and follow the instructions.

During the installation, when prompted for the account information to use for the CasaTunes software, the user should provide **the same** account information (username and password) as they would normally use to log on to the CasaTunes Media Server machine. Since Windows Media Player operates on a per user basis, if the installer uses a different account, the user will not be able to view their Windows Media Player music.

After completing the installation, it is very important to verify the results of the installation in the CasaTunes Installation Summary screen and ensure the CasaTunes installation was completed successfully. If the installation failed, click on the ***View Log File*** for more information on why the installation failed.

The most common installation failure is caused by an incorrect installation of the Microsoft Internet Information Services (IIS) component. The most common cause of this failure on Windows XP is due to the Microsoft .Net Framework 2.0 needing to be repaired.

Troubleshooting CasaTunes

After you have setup the hardware, installed and setup CasaTunes you may still encounter difficulties. This section is designed to help you diagnose and troubleshoot the most common issues with the CasaTunes Software.

1. Cannot display the CasaTunes User Interface (UI)

- a. Check whether you can view the CasaTunes UI locally on the CasaTunes Media Server machine. View it locally by simply double clicking on the CasaTunes icon on the desktop (or type <http://localhost/casatunes> in the browser address box). If you can view it on the local machine, but not from a remote machine, then you most likely have:
 - i. A firewall issue that is preventing the UI from being accessed remotely.
 - ii. A DNS name resolution issue (where the name of the CasaTunes Media Server is not being correctly resolved to an IP address).
 - iii. If it is a DNS name resolution related issue, you can work around this issue by specifying the IP addresses of your CasaTunes Media Server machine in the specified URL. If you are going to use this approach make sure you allocate a static IP address for your

CasaTunes Media Server machine.

To view the CasaTunes UI using a static IP address, for example 192.168.0.20, enter <http://192.168.0.20/CasaTunes> in the browser address box.

- b. Microsoft Internet Information Server (IIS) was not installed correctly. Try viewing the default page for IIS by entering <http://localhost> in the browser address box. If it does not display a page correctly, then the IIS installation was unsuccessful. Re-install IIS and CasaTunes.

☞ When viewing the CasaTunes UI using devices such as the iPhone, iPod touch or Nokia internet tablet, that do not support Windows networking and machine name resolution, you will need to specify the IP address of the CasaTunes Media Server machine. If using these devices with CasaTunes you should allocate a Static IP address for the CasaTunes Media Server machine.

2. The CasaTunes User Interface displays “Server not started” message

- a. The CasaTunes Media Server is stopped. This should not happen during normal operation. The typically causes for service failures, are;
 - i. You manually stopped the service. If this is the case, re-start the service, and make sure the CasaTunes Media Server service is configured to restart automatically (on power up). You can configure services using the *Services* control panel applet.
 - ii. If you are using a serial port adapter that is not supported by CasaTunes. To solve this problem you will need to use a different serial adapter.
 - iii. If the application encountered an unexpected error. Contact CasaTools Technical Support with the details.

To self diagnose the problem, you should run the *CasaTunes Diagnostics* application, click on the *Events* tab, and look for *Event Errors* (and their descriptions) starting with the last error listed.

3. Cannot turn a room on or off, or change settings for a room

- a. This error is caused when CasaTunes cannot communicate with the multi-room audio controller. The most likely cause is a serial port communication failure.
 - i. In the *CasaTunes Setup* application make sure the Serial Port setting in the *Controller* tab matches the serial port you are using. You may need to verify the COM Port number in the Device Manager
 - ii. If you are using a USB-to-Serial adapter or a networked serial port, run the CasaTunes Diagnostics application, click on the *Events* tab, and check for an error related to communications failures. Here are some typical causes of communication failures:
 1. With USB-to-Serial devices it is not uncommon to see the COM Port change when USB devices are un-plugged or

new devices are attached to the USB bus, and the computer restarted.

2. With networked serial ports it is not uncommon to see the device was reset and communication between the serial driver in the CasaTunes Media Server machine and the networked serial port device will need to be reset (sometimes requiring a system reset).
3. In some instances, stopping the CasaTunes Media Server service and re-starting the service may reset the serial port and clear the issue.
- iii. If you are using the Serial Server on a Barix Exstreamer device, make sure the Serial Server configuration settings have been setup to match the serial settings required for the multi-room audio system. If the Barix Exstreamer device has been reset you may need to stop and re-start the CasaTunes Media Server service.

4. Cannot hear any music playing

- a. If you try to play any non-DRM protected music, and the song looks like it plays for a few seconds and then moves on to the next song, until all songs fail to play, then;
 - i. The most likely cause is an incorrect sound card setup
 1. Run the *CasaTunes Setup* and in the *Sources* tab for each CasaTunes Player source, check the driver and speaker settings (refer to *Sound Card Setup*).
 2. If you are using a single pair of speakers with the sound card, or you are using an advanced multiple stereo output speaker sound card, like the M-Audio Delta series cards then set the speaker configuration to *Default Speaker Configuration* in the CasaTunes Setup *Sources* tab.
 3. If your configuration looks correct, and you are using Windows Vista, make sure the speaker configuration for the sound card you are using is configured for 5.1 or 7.1 speakers (in the Sound Control Panel).
 4. If your configuration looks correct, and you are using Windows XP, the sound card driver may not be reporting the correct number of speakers the card supports. In this case you will need to stop the CasaTunes Media Server service, change the *OverrideSpeakers* setting to *true* in the CasaTunesSvc.exe.config file in the “C:\Program Files\CasaTools\CasaTunes2” folder, and re-start the service.

➤ After making changes to the configuration, it is good practice to stop and re-start the CasaTunes Media Server service.

- b. If your music is located on a network drive, make sure the drive is accessible using Windows Media Player on the CasaTunes Media Server

machine. If not, make sure the permissions and access rights of the network share are configured correctly.

- c. If you cannot play Windows DRM protected music
 - i. CasaTunes supports play back of Microsoft DRM protected music. However, CasaTunes cannot play back music if the DRM keys are not available on the CasaTunes Media Server machine. If you are unable to play back DRM protected music, you should:
 1. Check whether you can play the files using Windows Media Player. If you can, please contact CasaTools Technical Support.

If you cannot play the DRM protected music in Windows Media Player you will need to restore your media rights licenses and re-authorize your CasaTunes Media Server machine to play your DRM protected music by visiting the online music provider for the requested music.

2. Check whether you have access to the internet. Some DRM protected music is *leased* and the DRM licenses are checked on a periodic basis, thus requiring internet access. CasaTunes will automatically attempt to renew these licenses as needed.

How to make Configuration File changes

The settings for the CasaTunes Media Server service are contained in a file called *CasaTunesSvc.exe.config*. This file is typically located in the *C:\Program Files\CasaTools\CasaTunes2* folder.

☞ On Vista, this file is located in a system protected folder. In order to make changes to this file you will need to run Notepad in *Administrative* mode. To run Notepad in administrative mode, click on the Windows Start button, select “All Programs”, click on Accessories, right click on Notepad, and select “Run as administrator”.

Appendix A – CasaTunes Supported Devices

Model	Type	Control	Comments
CasaTools			
CasaTunes XLi	Multi-Room Audio: 6Z, 5S	PCI-e based interface	
CasaTunes XLe	Multi-Room Audio: 12Z x 9S	PCI-e based interface	
Nuvo Technologies			
Simplese (NV-A4D)	Multi-Room Audio: 4Z x 4S	9600,8,N,1	3.5mm Stereo Jack Serial Connector (Tip: Rx from System Controller, Sleeve: Tx to System Controller)
Essentia (NV-E6D)	Multi-Room Audio: 6Z x 6S	9600,8,N,1	Discontinued Essentia Model
Concerto (NV-I8D)	Multi-room Audio: 8Z (2 Non-Amp) x 6S	9600,8,N,1	Discontinued Concerto Model
Essentia (NV-E6G)	Multi-Room Audio: 6Z x 6S	57600,8,N,1	We strongly recommended adding the NuvoNet Adapter (NV-NNA) for CasaTunes
Grand Concerto (NV-I8G)	Multi-room Audio: 8Z (2 Non-Amp) x 6S	57600,8,N,1	We strongly recommended adding the NuvoNet Adapter (NV-NNA) for CasaTunes
NV-T2DF	Dual AM/FM tuner	9600,8,N,1	Discontinued Model. Requires additional Serial port for controlling tuner
NV-T2FX	AM/FM and XM tuner	9600,8,N,1	Discontinued Model. Requires additional Serial port for controlling tuner
NV-T2DX	Dual XM tuner	9600,8,N,1	Discontinued Model. Requires additional Serial port for controlling tuner
NV-T2DFG	Dual AM/FM tuner	9600,8,N,1	Requires additional Serial port for controlling tuner
NV-T2FXG	AM/FM and XM tuner	9600,8,N,1	Requires additional Serial port for controlling tuner
NV-T2DXG	Dual XM tuner	9600,8,N,1	Requires additional Serial port for controlling tuner
NV-T2SR	Dual AM/FM/Sirius tuner	57600,8,N,1	Requires additional Serial port for controlling tuner
NV-NNA	NuvoNet Adapter	57600,8,N,1	Adapter is added between the PC and the Essentia or Grand Concerto.

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			Strongly recommended when using a Nuvo Grand Concerto or Essentia E6G.
Russound			
CAV 6.6	Multi-Room AV: 6Z, 6S	19200,8,N,1	Only UNO-S1 and UNO-S2 keypads are supported
CAM 6.6/T/X	Multi-Room Audio: 6Z, 6S	19200,8,N,1	Only UNO-S1 and UNO-S2 keypads are supported
CAA66	Multi-Room Audio: 6Z, 6S	19200,8,N,1	KP6 and KPL keypads are supported for playback control only ³
CAS44	Multi-Room Audio: 4Z, 4S	19200,8,N,1	KP4 and KPL keypads are supported for playback control only ⁴
ACA-E5	Multi-Room AV: 8Z, 12S	112500,8,N,1	No keypad support at this time
ST2	Dual AM/FM Tuner	19200,8,N,1	Controlled via RNET and therefore does not require a separate serial port
ST2S	AM/FM and Sirius Tuner	19200,8,N,1	Controlled via RNET and therefore does not require a separate serial port
ST2-XM	AM/FM and XM Tuner	19200,8,N,1	Controlled via RNET and therefore does not require a separate serial port
ST2-XM2	Dual XM Tuner	19200,8,N,1	Controlled via RNET and therefore does not require a separate serial port

³ You cannot browse and select music from these keypads

⁴ You cannot browse and select music from these keypads