Avid4 Installation and Configuration

The installation and configuration of a fully working Avid4 Media PC contains a number of steps, and is largely manual. This is because it makes use of a number of separate Microsoft and third party components, which must all be installed and configured.

# Hardware Requirements

There are two mandatory major hardware components (in addition to appropriate speakers and a screen).

* A Yamaha AV dual-zone Receiver.
* A Media PC running Windows 7 or Windows 8.

The Avid4 media PC needs some non-standard devices.

### Digital TV Tuner

For terrestrial TV to be viewed and recorded via DvbViewer

### USB UIRT

To control the Sky box, for those aspects not supported by the Sky web services, the only mechanism is Infra-red. This is particularly necessary for turning the Sky box on and off. This is achieved using a USB-UIRT device, which is an infra-red transmitter, connected via USB, obtained from <http://www.usbuirt.com/>.

* Install the USB-UIRT drivers.

### USB HDMI-CEC

To turn the TV screen on and off, the best solution found has been HDMI-CEC. The HDML-CEC codes are generated by an external RainShadow USB HDMI-CEC bridge obtained from <http://rainshadowtech.com/HdmiCecUsb.html>.

* Install the USB HDMI-CEC bridge drivers
* Install the ValkyrieTech (<http://valkyrietech.com/>) HTTP service

Note that the HDMI cable from the RainShadow USB HDMI-CEC bridge is plugged directly into the TV and not via the AV receiver, to avoid conflicting handling of HDMI-CEC messages.

### Audio

It is necessary to have the same audio content on both the analog and digital inputs into the Yamaha receiver. This is required to provide flexibility in switching outputs within the receiver, which cannot produce output on its Zone 2 sourced from any digital inputs.

One option is to use an audio device (sound card) with the ability to output the same content in digital and analog formats. This can be done with the ubiquitous Realtek on-board sound in a convoluted manner involving listening on the digital output to the analog stereo mix. However, doing this within Windows results in the digital signal being mixed down to stereo, losing any encoded 5.1 (e.g. Dolby) capability.

The preferred solution is to output to Digital only. This can be via HDMI for convenience or via a separate digital audio cable. This then allows the receiver to fully process any encoded signal to the 5.1 speakers.

The way in which this then reaches the analog inputs (is to also send the audio signal to the TV over its HDMI) and then to extract that (stereo) audio signal to analog connections using a Neet® - HDMI Audio Converter / Extractor. This passes on a soundless HDMI video signal to the TV, but extracts the audio in both digital and analog form, which can be used as the analog input of the same audio as the digital inputs to the Yamaha receiver. As this extraction happens on the output of the receiver, both zones of the receiver can be used for any digital source.

# Windows OS Requirements

There are some non-default requirements for the Windows OS.

* .Net Framework 4.5  
  can easily be installed from the Internet
* Internet Information Services (IIS)  
  is not installed by default on Windows 7 or Windows 8, but must be added as a Windows feature, together with ASP.Net. In IIS Manager, for the “Server” (the top-level Media PC), in the “ISAPI and CGI Restrictions” page, set the ASP.Net v4.0 to “Allowed”.

# Installing and Configuring Player Applications

## DvbViewer and its Recording Service

DvbViewer and its Recording Service should both be installed to Windows and configured for the TV tuners to be able to watch and record TV. Ideally the installation should include the channel logos. Once it is working, there is no additional configuration required for use within Avid.

## Zoom Player

It is possible that the free version of Zoom Player may be sufficient for its use within Avid, though it has only been tested on the “MAX” version.

This should be installed and configured to be able to play DVDs, media files and TV recordings. Once it is working on its own, there are a few small configuration changes to allow it to work within Avid. On the “System” advanced options panel, two options must be checked:

* “Enable Control Web Server”, with default port number 4768
* “Enable External TCP Control”, with default port number 4769

## J River Media Center (JRMC)

J River Media Center is a very flexible and powerful media player and viewer and is used in Avid for playing all stored music and for viewing photos. As the catalogue structure presented in Avid is much more constrained than the extreme flexibility offered by JRMC, there are a number of constraints on how JRMC libraries should be organized.

The first constraint is in the on-disk storage of music. Any albums which should primarily found by “Composer” rather than by “Artist” should be stored within a folder named “Classical”. Other music (to be found by Artist) can be stored outside a folder named Classical. All these folders (e.g. “Classical”, “Music” and “Photos”) should normally be set up as configured “Auto-import” paths within JRMC.

As the Avid views are primarily “album focussed”, all tracks on any albums with multiple artists should be tagged with an “Album artist” value, which may be (e.g.) “Various” or may be the name of the main artist(s) on the album as appropriate.

There should be JRMC “Artist”, “Album” and “Composer” views. These will not be used directly by Avid, but should be used to check the quality and “navigability” of the catalogue by those tags, and to (e.g.) add necessary “Album artist” tags and to rationalise different spellings of artists and composers. These views are also useful to present a similar structure if JRMC is used as a DLNA server as well as for Avid.

Playlists in JRMC are shown in Avid. These can be ordinary lists of tracks or smart lists. However, only those playlists under the “Avid” playlist folder will be displayed for playing.

For auto-importing folders of photographs, it can be useful to configure the “Photos” auto-import folder to add the setting to “Apply these tags:” with value “Album: FileFolder()”. This assigns the folder name as the album name for grouping of photographs, rather than the default “date taken”.

Two important JRMC options that must be set are:

* On “Startup”, to select “Run on Windows startup: Media Server”.
* On “Media Network” to enable “Use Media Network to share this library and enable DLNA”. The port number should be left at the default value of 52199.

## G-Force

If required, the G-Force music visualization program from SoundSpectrum can be installed and JRMC configured to use it. Installing the Platinum product also allows music visualization of Spotify music using its stand-alone application. Once it is working, there is no additional configuration required for use within Avid.

# Avid4 Installation

The Avid installer copies all required files into the folder C:\Avid.Net. The path cannot be changed.

In addition, Windows is configured to run the Avid.Desktop tray application on startup. This in turn will start (and keep alive) the Avid.Spotify tray application. As these two tray applications run as Administrator, to avoid warnings on startup (perhaps when unattended following a power failure), it may be appropriate to disable Windows User Account Control (UAC).

# Avid4 Configuration

As installed, the configurations of the Avid components are incomplete. It is necessary to edit a number of XML files with a text editor. However, these edits are fairly simple.

It is also necessary to set the Avid.Desktop and Avid.Spotify applications to “Run as Administrator”. This is set on the “Compatibility” tab of the properties of each application file after it has been installed.

## Desktop Config

The **Avid.Desktop.exe.config** file has an <appSettings> value “**IPAddress**”, which should be the local IP network address of the media PC itself on the same LAN to which the Sky Box is connected.

## Spotify

The Spotify API used by the Avid.Spotify tray application requires a file “**C:\Avid.Net\spotify\_appkey.key**” which the installer does not provide. As this installation comes with source and is intended for developers, you will need to obtain your own developer’s key from Spotify to store in that path.

The first time Avid.Spotify tray application runs, it will prompt for Spotify credentials, which must be for a premium account.

## AvidConfig.Xml

The file “C**:\Avid.Net\** **AvidConfig.xml**” contains a number of paths, IP addresses and other settings which may be edited as appropriate. Each is commented with its meaning and any required changes should be clear.

# Adding the Web Site to IIS

In IIS Manager, create a new site:

* The site name should be “Avid4”
* The physical path should be C:\ Avid.Net\ Avid4.Net.
* The port number can be anything not in use – “83” works well.

There will be an application pool “Avid4”; configure its “Advanced Settings” for:

* .Net Framework 4.0 (not the default 2.0)
* Managed Pipeline Mode “Classic” (not the default “Integrated”)
* Set Idle time-out to “0”
* Set Regular Time Interval to “0”

Configure its “Recycling …” to recycle at a specific time, when the system is unlikely to be in use (e.g. 03:00).

# Setting up Controller Clients

One or more touch devices can then be set up.

For each “narrow” device, such as a Smartphone, in the browser open a page to the IP address and port of the IIS site – e.g. <http://192.168.1.64:83>.

For each “wide” device, such as a Tablet, in the browser open a page to the IP address and port of the IIS site with a “Wide” page – e.g. <http://192.168.1.64:83/Wide>.

Once the page is opened, save it as a desktop shortcut, so that it can then be re-opened as a web application.