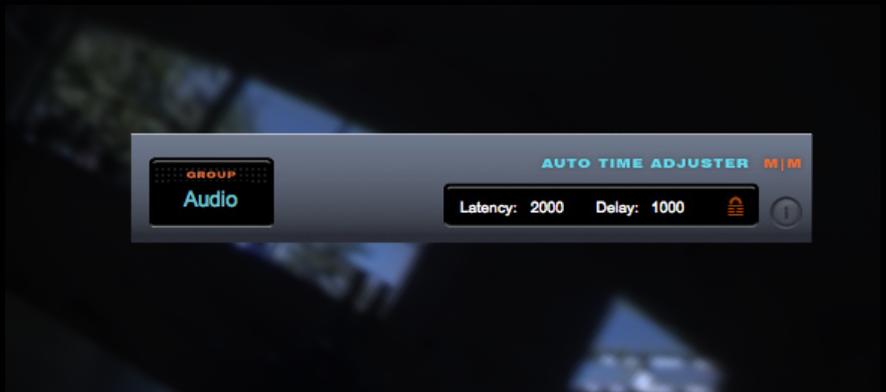




## Auto Time Adjuster



## Overview

Compensating for plug-in latency in Pro Tools LE and M-Powered is currently a manual task, due to the lack of in-built delay compensation or 'ADC'. **Auto Time Adjuster** is a drop in replacement for the included RTAS Time Adjuster plug-in that, automates the measuring, calculation and setting of delays for you.

Currently to compensate for plugin latency, you have to either nudge individual audio tracks backwards or forwards on the timeline, or use the included Time Adjuster plugin, to manually adjust the delay of each track in turn. Both methods can be time consuming when working with a large session and plug-ins with latency.

Things get more complicated when you wish to use plug-ins with latency on effect sends. Nudging audio doesn't help in this case, as the effects sends are always late with respect to the audio. All audio tracks have to be bused through an aux that is then delayed by the total amount of latency of all plugins on sends. Again, all delay compensation figures have to be re-calculated and entered manually into the standard Time Adjusters, each time a change occurs that affects latency.

ATA automates this process for you, measuring and compensating for all plugin latencies with the click of a button - including external hardware inserts. ATAs are inserted on all tracks in a session in the same manner as using standard Time Adjusters.

The "ping" button is then clicked on the **MASTER** ATA, instructing all ATAs to send a short burst of audio through the Pro Tools mixer. The **MASTER** ATA intercepts these pings at the master fader. It's then able to calculate the necessary delay offsets for each track and instructs each ATA to set its delay accordingly. When you add or remove a plugin, all you need to do is click the ping button again, to re-calculate current plugin latency,

**You can also just enter the latency figure of the track you are changing into the ATA on that one track, and all other ATAs will update automatically.**

## System Requirements

**Windows:** Windows XP/Vista/Windows 7 **OSX:** OS X 10.4.11 or above (PPC or Intel)

**Host:** Pro Tools LE/M-Powered v7.4 or above

## Install and Authorize

Double-click the ATA installer to install. Without a valid license present the plugin will run in demo mode, and will silence it's output at random intervals. If you have purchased a license, login to the user area of our site, with the user and password you were emailed. You will see a list of all available licenses. Download and unzip the license file and place it in the Mellowmuse "Licenses" folder. This folder is created for you by the installer in the following location:

Windows: /Program Files/Mellowmuse/Licenses

Macintosh: /Library/Application Support/Mellowmuse/Licenses

## Using ATA

Auto Time Adjuster must be placed before all other plugins on a track. Each instance of ATA that you insert has to be set to the correct group, depending on whether it is inserted on an audio track, an effects aux return or a master fader.

The groups are named: **Audio, Aux1, Aux2, Aux3, Aux4 and Aux5**

Each group can be assigned to as many tracks as you wish.

Don't confuse **Aux1**, for example, with just one aux. It refers to a whole group of aux channels. We call them groups, though you can also think of them as layers of latency. The plugin delays in each group are compensated with respect to each track in the group.

The one basic rule to using ATA, and that is **all** outputs and sends must feed from one group into the next in this order:

**Audio > Aux1 > Aux2 > Aux3 > Aux4 > Aux5 > Master**

One ATA in each session must be set to **Master** and inserted on the master fader (or the equivalent final output track of your session). The **Master** ATA controls all other ATA instances and does not apply any delay offset of its own.



### Virtual Instruments

Most instruments **do not accept an audio input**, therefore is necessary to place ATA **after VIs** inserts. The ATA will then compensate for any effects and sends inserted after the VI. You can also set a negative midi delay. See the Real-Time properties for the individual midi track that plays the instrument. This allows any delay in the actual instrument to be compensated for manually, and only needs to be set once.

## Example: Audio Inserts with Latency

- 1) Lets start with just audio tracks in your session, no plugins, no sends.
- 2) Place ATAs, set to **AUDIO**, on **all** your audio tracks, all tracks output to main output.
- 3) Place an ATA set to **MASTER** on the master fader.
- 4) Now insert a high latency plugin on **track 1** of your audio tracks, say this plugin has 2000 samples of latency.
- 5) Hit play - you'll notice the timing delay introduced by the plugin, as **track 1** is now playing 2000 samples late.
- 6) To fix this we'll click "ping" on the **MASTER** ATA.

### But first we'll make sure to check the following:

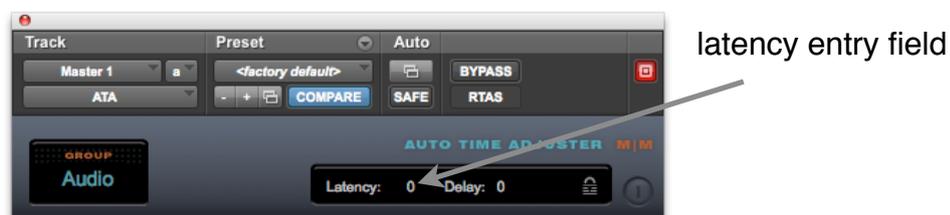
- Depending on the type of plugin you inserted, it may be necessary to **bypass** it first as some plugins interfere with the ping signal. All plugins retain the same latency in bypass. UAD2 users should bypass plugins with their blue "Global bypass" button. Option-Command/Control click to bypass a whole row of plugins in one go.
- Make sure no tracks are muted or soloed and that no faders are at minimum, and that your audio interface buffer is set to 512 or 1024 - smaller sizes are less reliable.

- 7) Now click "ping" on the MASTER ATA. All ATAs will send out a ping signal. The **MASTER** ATA, then measures the delay and instructs each ATA to set its delay accordingly. In this example it will have set the delay of all **AUDIO** ATAs to 2000, except for the **track 1** which would be set to 0.
- 8) Hit play - you'll notice your tracks are now in time, as each has a total delay of 2000 samples thanks to ATA. You can now continue adding and removing any kind of plugin to these audio tracks, and pinging after each change and your audio will always be in time on play back.

### \*\*\* IMPORTANT \*\*\*

#### It is not necessary to use the ping feature every time you make a change.

You can ping just once the first time you setup your session to zero all ATAs, and from then on enter the track latency into the latency field of the ATA of only the track you are changing. ATA will automatically work out and set all the others ATAs for you!



### \*\*\* TIP \*\*\*

Option click on the volume read out in the mixer to see a track plugin latency.

When ATA is active you will see the total delay of the group which is useful to spot ping problems - to see the latency of that individual track, make just the ATA on that track inactive, note the figure - activate it again and enter the figure. done.

## Example: Using Sends with Latency

Now let's add some effects sends to our audio, this is where the concept of groups comes in to play. If we add a Reverb to our audio using a Reverb plugin with 1000 samples of delay we will have timing problems again. The audio tracks with a reverb send will have a total delay of 3000 samples (2000 + 1000) while those without will have a delay of 2000.

To solve this we need to delay **all** the audio tracks by a further 1000 samples. ATA does this by feeding all the audio track outputs into **at least one aux with an an AUX1 ATA** on it. You could use more than one aux for this purpose. You could have say four auxes with **AUX1** ATAs: drums, guitar, bass and vocals, to allow different plugins to be inserted on these sub mixes. Here we'll use just one and the actual reverb aux:

- 1) Add two stereo aux tracks to the session, and place ATAs set to **AUX1** in insert slot 1 of both auxes.
- 2) Rename one of your i/o buses to **Sub1** as it easier to follow than using bus 1-2 etc. Output all audio tracks to **Sub1**, and set the input of the first aux you created to **Sub 1**. Output this aux to main output.
- 3) Add a high latency effect plugin to the second aux, rename a bus to something suitable, in this case we'll call it **Reverb1**. Assign this second aux's input to **Reverb1** and its output to main out.
- 4) Add the **Reverb1** send to any audio track.
- 5) Bypass the Reverb (Reverbs and delays always need bypassing) and possibly the plugin on **track 1** (depending on its type) and ping.
- 6) As before all ATAs send out pings, the Master measures and sets all ATA delays. But this time it takes into account the Reverb plugins 1000 sample delay. The **AUX1** group is calculated separately. As there is only one plugin in **AUX1** group, and it has 1000 samples of delay, it adds 1000 samples of delay to the audio outputs, and 0 to the **Reverb1** aux.
- 7) The result is that all tracks now have 3000 samples of delay and play in time.

### Note:

All fx sends placed on the audio tracks have to go to fx in the **AUX1** group, all fx sends in **AUX1** have to go to fx in **AUX2** and so on up to **AUX5**.

If you wanted to add an effect send to the **Reverb1** aux, you would need to add at least two more aux tracks, with **AUX2** ATAs and repeat the routing above feeding **AUX1** into **AUX2** then main out.

## Lock, Manual Entry, Bypass

Manual locking lets you freeze the ATA at whatever latency setting it currently holds, the next time you ping, this ATA will ignore the ping signal and hold its value.

This can be useful for outboard or problem plugins, once you have measured their latency enter it manually in the latency field and press the padlock icon. This locked ATA track will not need pinging again unless you change the inserts on its track, and it will also not affect the ping process of other tracks.

The **B** button that appears only on the Master ATA is a bypass button that will deactivate all instances of ATA across the mixer when clicked.



## Video

Video tracks can not currently be automatically delayed using ATA. In order for Video to playback in time with an ATA compensated session you need to set the Video delay offset in Pro Tools to the maximum compensation delay added by ATA. You can find this amount of offset by looking at the Master ATA "Total" delay figure. You will need to update the Video offset after each change to latency in your session.

## Recording

Tracks can be recorded while using ATA in a session as follows:

- Add a new track to your already ATA compensated session, **don't** add an ATA to this record track, route it to the main output.
- Record your track along to the compensated mix. Finish recording, then shift this newly recorded audio early by the amount shown in the "Total" delay figure in the ATA Master (you only need to do this once after the track is recorded).
- Add an ATA to the recorded track and set its output as per the rest of your audio tracks.

# Ping Troubleshooting

If you are having problems check:

- 1) No **solos** or **mutes** are active **when pinging**, this will stop the ping signal.
- 2) No track faders are completely at  $\infty$  (minimum position) **when pinging**, again this will stop the ping signal.
- 3) Reverb and Delay plugins, will always need to be **bypassed** before pinging as they produce multiple images of the ping signal and so interfere with the process.  
This may also be true for other types of plugin dependent on settings, **when in doubt bypass everything**, (option-command/control click a plugin to bypass a whole row)
- 4) External hardware inserts often need to be **bypassed** by setting their mix control to 100% dry.
- 5) Your audio interface buffer size should be set to 512 and 1024, 512 is best.
- 6) Turn off “low latency” mode for UAD plugins when also using hardware inserts.

## Support

We are constantly working to improve our software based on your feedback. Please check the Mellowmuse web site at <http://www.mellowmuse.com> for the latest information and updates.

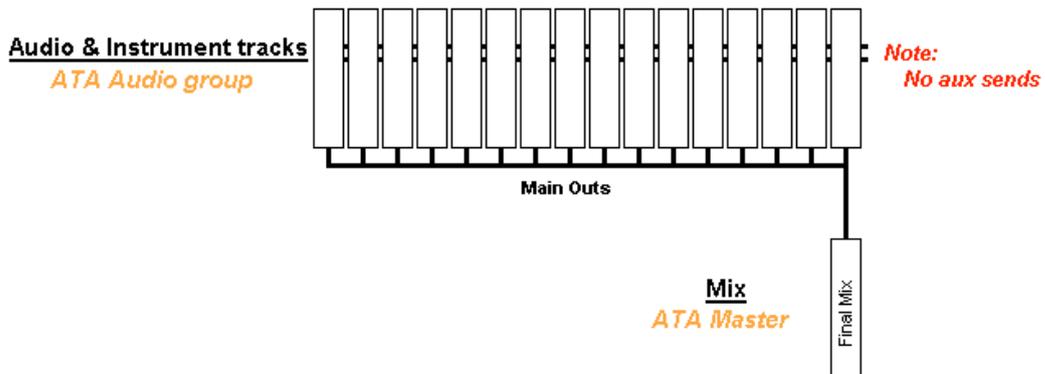
Email support queries to [mmsupport@mellowmuse.com](mailto:mmsupport@mellowmuse.com).

Please include relevant system and product data, including operating system version, product version and machine specs.

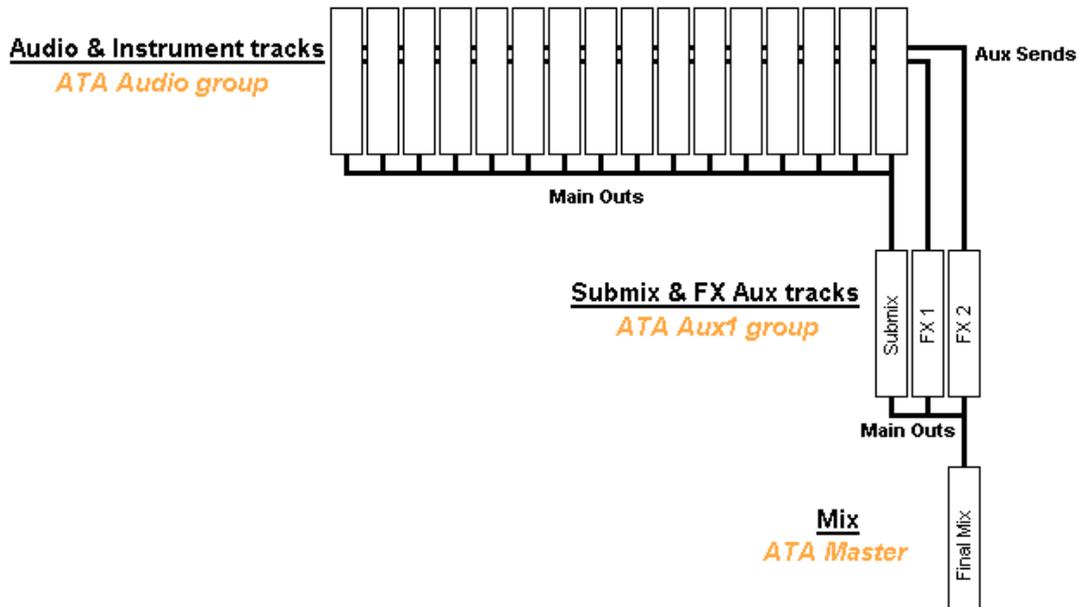
# Routing Diagrams

courtesy of James Cadwallader

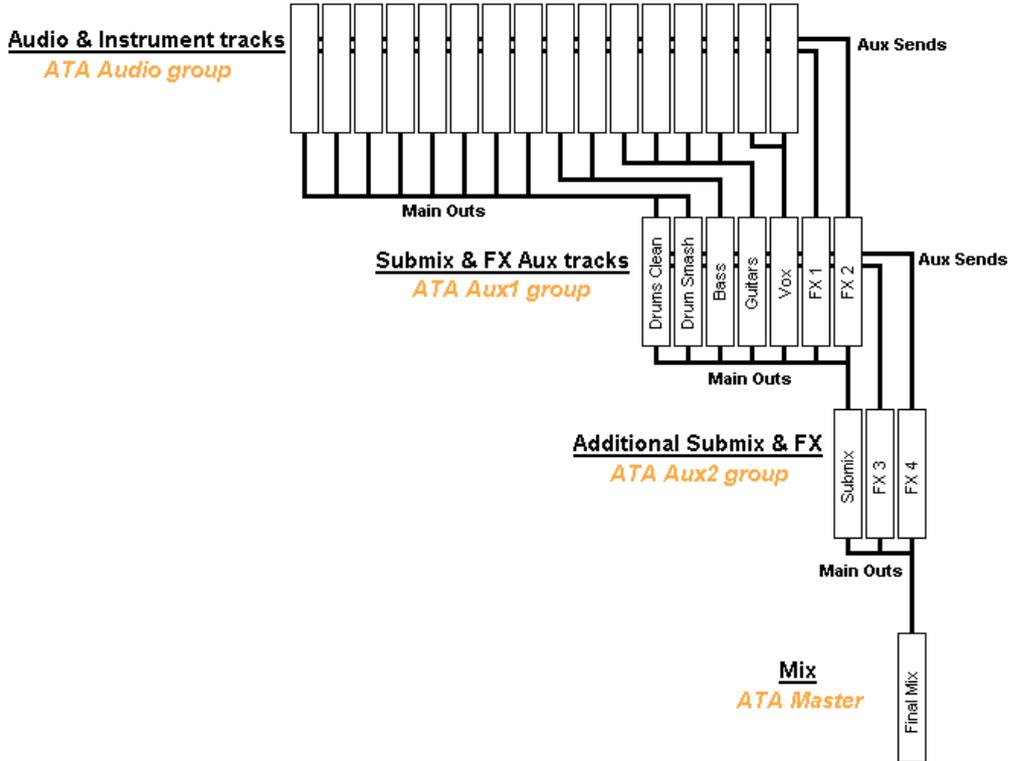
## Simple Routing 1 One Compensation Layer



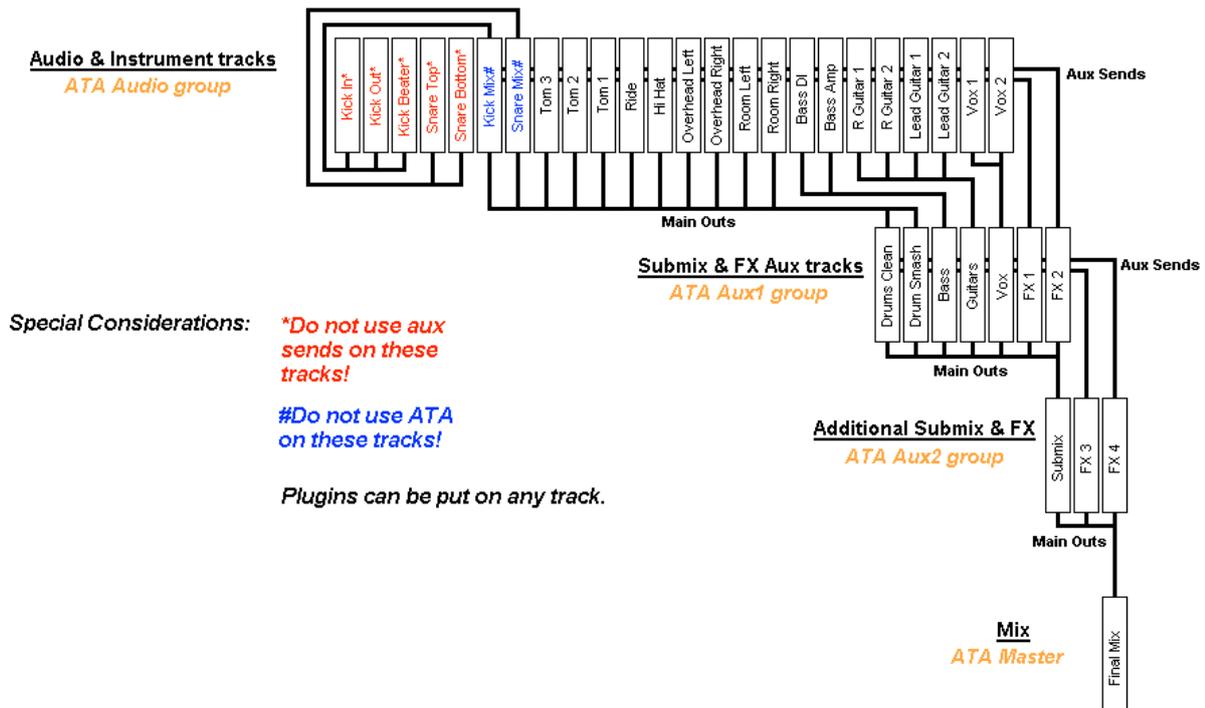
## Simple Routing 2 Two Compensation Layers



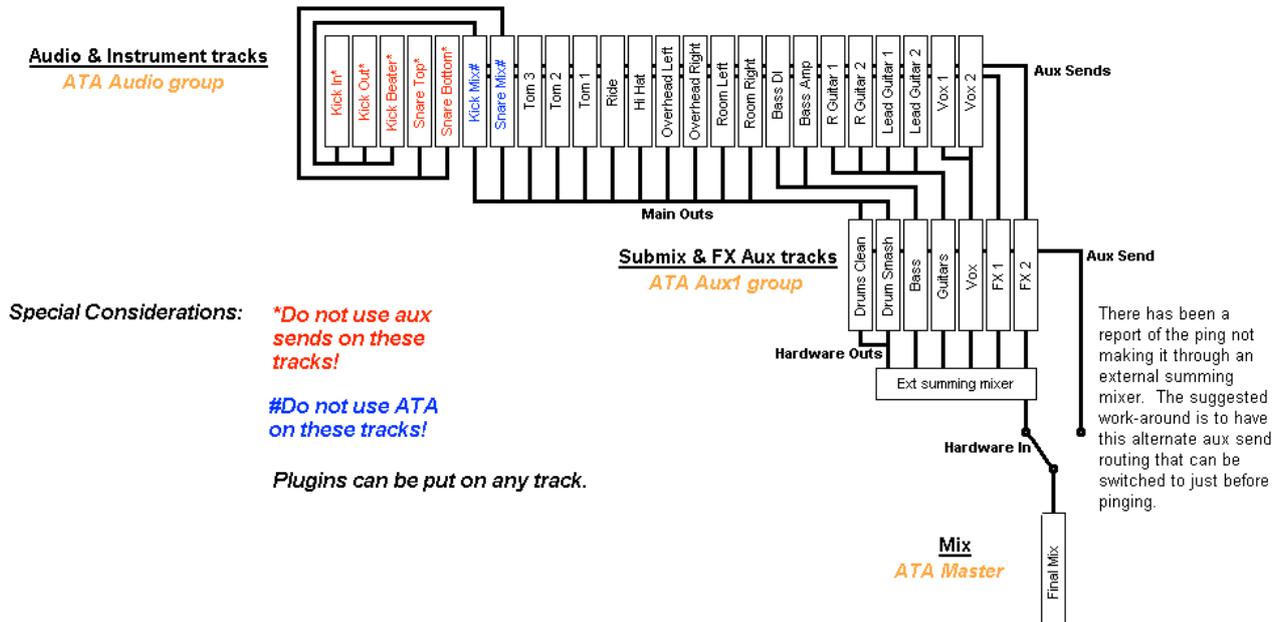
## Simple Routing 3 Three Compensation Layers



## Advanced Routing Three Compensation Layers



## Advanced Routing with External Summing Mixer Two Compensation Layers



## License Agreement

This User License Agreement is a legal agreement between you and Mellowmuse Software ("the author") of the software accompanying this document. By installing, copying or using this software, you agree to be bound by the terms of this license agreement. If you do not agree to these terms, don't install this software.

1. Software License The author grants you and anybody else who obtains this software the license to:
- test this software in demo mode, where testing means use solely to determine its usefulness
  - use and install this software on a maximum of 3 individual computers, once you have bought and registered it, for any private or commercial use that doesn't conflict with the terms of this agreement

You may not:

- reverse engineer, decompile, disassemble or isolate any parts of the software or any related documents
- remove or change any textual or graphical information like labels or copyright notices
- modify the software in any way.
- give away serial codes or otherwise take action that infringes the terms of this license.

2. Copyright Mellowmuse software is protected by copyright laws and international treaties. All copyrights in the software are owned by Mellowmuse Software. VST is a trademark of Steinberg Media AG. All other trademarks are the property of their respective owners.

3. Disclaimer of Warranty The software is provided to the user on an "AS IS" basis, without warranty of any kind, express or implied including, but not limited to, any warranty of merchantability, usefulness and fitness for a particular purpose and non-infringement. The author does not warrant that the functions contained in the software will meet your requirements, or that it is free of any error or that any bugs in the software will be corrected. The user therefor takes the entire risk of using the software and shall in no way claim the author's responsibility for any damages that arise out of its use or abuse, including but not limited to, misinterpretation its functionality.

The information in this document is subject to change without notice and does not represent a commitment on the part of Audio Damage, Inc. The software described by this document is subject to a License Agreement and may not be copied to other media except as specifically allowed in the License Agreement. No part of this publication may be copied, reproduced or otherwise transmitted or recorded, for any purpose, without prior written permission by Mellowmuse Software.

© 2008 - 2012 Mellowmuse Software. All rights reserved.