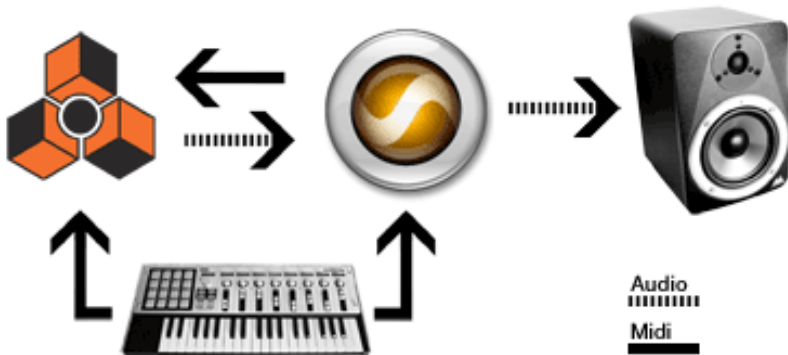


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## ReWire Tutorial Article ProTools - Introduction: What is ReWire?



ReWire is a system for transferring audio data from one application to another, in real time. Basically, you could view ReWire as an "invisible audio cable" that connects two computer programs.

ReWire allows you to stream audio in real time from Reason to a ReWire host application (such as ProTools), play/stop and move the playback cursor with both programs in perfect sync.

ReWire also provides for sending MIDI data between two applications (in both directions). This allows you to send MIDI from the ReWire host to Reason for external MIDI control of Reason's instrument and effect devices.

On the following pages we'll walk you through the process of setting up a ReWire session with Reason and Digidesign ProTools.

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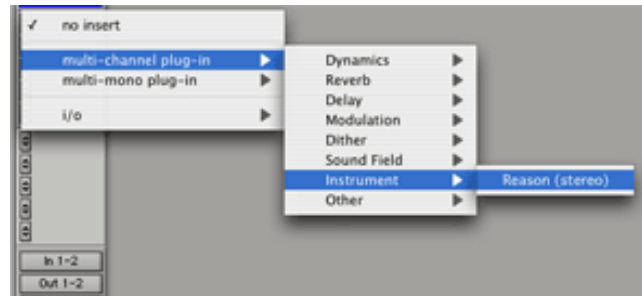
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## ReWire Tutorial Article ProTools - Step 1: A Basic ReWire Setup

Reason has 64 ReWire channels, selectable as either stereo or mono channels - this means you can use up to 64 separate audio channels from Reason. For now, let's activate the first channels. These correspond to the main stereo out in Reason.

1. In ProTools, create a stereo aux input track.

2. Open the ProTools mixer, and click on an Insert slot in the Mixer to open the Inserts pop-up.



3. Select Reason from the multi-channel plug-in -> Instrument sub menu. A ReWire plug-in will be created, and if Reason isn't already open, it will be launched automatically. Reason will enter ReWire slave mode, as indicated on the Hardware Interface. This means that all audio now is handled by Pro Tools – the ReWire host.



The two programs play, stop, rewind and locate in perfect sync. You can use the transport panel in either program and both programs will respond. Reason will also respond to any tempo changes made in ProTools.

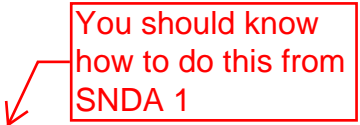
4. The ReWire plug-in will by default be set to Mix L – Mix R, which corresponds to the main stereo out in Reason. We'll leave it at that for now.

## 5. Try playing back some sound in Reason.

An easy way to do this at this point is to play a drum pattern from a Redrum device (the more advanced option, playing devices via MIDI, is described in Step 3). When the Redrum is playing you should see the level meters move for the ReWire channel in ProTools' mixer, and you should hear the sound from the outputs.

If this all works, you have successfully set up a basic ReWire connection! This setup for example allows you to have Reason play a background track while you record vocals or other audio tracks in ProTools.

But ReWire isn't only about audio. We can also use ProTools' MIDI capabilities to control Reason's devices, just like you would with a hardware synth. If you want to know how to transmit MIDI from ProTools to Reason – proceed to the next step!



You should know  
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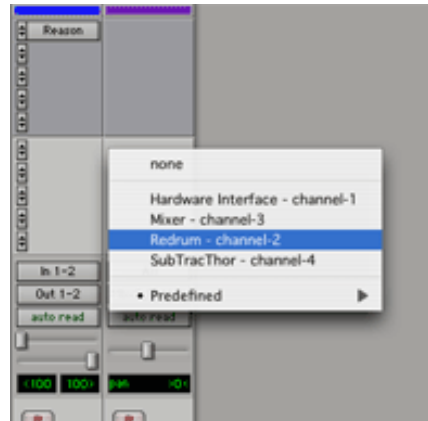
## ReWire Tutorial Article ProTools - Step 2: Routing MIDI

Via ReWire you are not limited to transmitting only audio from Reason to ProTools, you can also send MIDI from ProTools to Reason. This way you can control everything from ProTools - in effect, Reason becomes a rack of devices that you play from the Rewire host! Or, if you like, you can have Reason's sequencer play some of the devices and the sequencer in ProTools play some - it's up to you.

1. In Reason, create the device you want to play.
2. In ProTools, create a MIDI track.
3. Pull down the MIDI Output menu for the track in the Mixer. All devices in the current Reason Song are listed on the pop-up menu, along with the conventional, "physical" MIDI outputs.
4. Select a Reason device from the pop-up menu. The output of the MIDI track is now routed to that device.

If you enter some MIDI notes on the track and hit play, you will hear them being played by this Reason instrument device. This works just as if each Reason device was a stand-alone hardware MIDI sound module.

You can also play Reason instruments "live" this way, by selecting the proper MIDI input for the track in ProTools (the input to which your MIDI keyboard is connected). All incoming MIDI is immediately sent to the track's MIDI Output - the Reason device.



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## ReWire Tutorial Article ProTools - Step 3: Using multiple ReWire channels

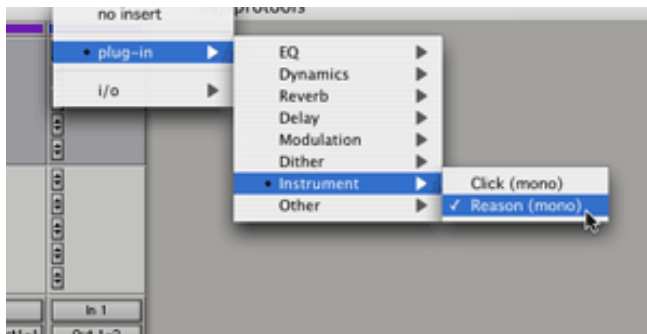
In "Step 2: Routing Audio" we set the complete Reason mix to be routed via ReWire to ProTools. But what if you want to make individual mixer settings for a separate device?



Flip the Reason rack around by pressing the [Tab] key. Each input jack in the Reason Hardware Interface corresponds to a separate ReWire channel. Each of these jacks can be routed to ProTools, to separate audio channels.

In this example we want add an RTAS effect to a Subtractor sound and add some compression to an individual Redrum sound. We'll need to activate two ReWire channels in ProTools and route the individual Reason devices to the corresponding inputs on the Reason Hardware Interface:

1. In ProTools, create two mono aux input tracks.



2. Open the ProTools mixer, and click on an Insert slot in the Mixer to open the Inserts pop-up.

3. Select Reason from the Instrument sub menu. A ReWire plug-in will be created.
4. Select Reason ReWire channel 3 by selecting it from the output list on the ReWire plug-in.
5. Repeat steps 2-4 to create a ReWire output plug-in but set it to channel 4 this time.
6. In Reason, flip the rack around by pressing [Tab].
7. Locate the Subtractor device and disconnect it from the Reason mixer. Instead, connect it to input nr 3 on the Hardware Interface at the top of the rack.
8. Locate the Redrum device and the drum sound channel to which you want to add some processing. Connect the individual output of that drum sound channel to input nr 4 on the Hardware Interface.
9. Go back to ProTools and start playback.

Now the sound of the Subtractor device and the individual drum sound appear on separate ReWire channels in the mixer. You can make individual mixer settings for these, add effects or EQ and route them as desired!

In this example we used Reason's mixer to mix most of the devices to the Mix L and Mix R ReWire channels and only routed a few devices directly to the hardware interface. This is one way to work; alternatively, you could route all devices to separate ReWire channels. If you choose this option, you don't need to use Reason's mixer at all - all mixing is done in ProTools!

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## ReWire Tutorial Article ProTools - Step 4: Rendering Audio

Most often, there is no need to convert individual ReWire channels to regular audio tracks. The

channels already appear in ProTools' mixer, and you can typically perform the same kind of real-time processing as with regular audio channels (effects, EQ, volume, pan and mute automation, etc.).

Still, you may need to convert the ReWire channels to audio tracks, for example if you want to continue working in ProTools only, or simply to mix down all tracks including any ReWire channels to a single file.

To render ReWire channels to audio tracks in ProTools, proceed as follows:

1. Make sure Reason plays back properly via ReWire.
2. Activate solo for the ReWire channels that you wish to bounce down (render) to an audio file. When you press play you should only hear the ReWire channels, including any effects or processing added in ProTools. What you hear is exactly what you will get in the resulting file. If you wish to preserve the individual ReWire channels instead of mixing them down, you should perform a bounce separately for each individual ReWire channel.
3. Pull down the File menu in Pro Tools and select Bounce to -> Disk... to open the Bounce to Disk dialog where you can choose a file format, bit resolution, and whether to convert and/or import the bounced files after the operation. Click the Help button for more information about the Bounce to Disk dialog.
4. From the "Bounce Source" pop-up, select the output or bus path you wish to render to a file. To preserve the individual ReWire channels instead of mixing them down to a single file, there are two basic methods you can use: \* Route each audio track/Reason channel to separate outputs, and perform a bounce for each separate output/bus path. \* If you have routed all ReWire channels to the same output in Pro Tools, you have to solo individual channels and perform a bounce for each separate

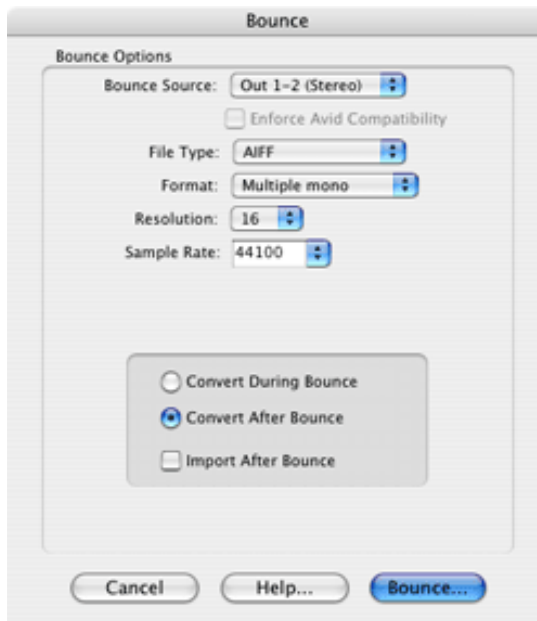
channel.

5. When things are set up the way you want them, click "Bounce".

6. A new dialog appears where you can type in a name and select a destination folder for the resulting files. Click Save to start the bounce operation.

The ReWire channel is now rendered to a new audio file on disk.

7. Before importing and playing back the new files, mute the original tracks playing the ReWire channels.



If you now play back the audio track you will hear exactly what was played on the ReWire channel. This means you should keep the ReWire channels muted (or deactivated) now, since otherwise you would hear the sound twice - once via ReWire and once from the audio track.

**Note:** Converting ReWire channels this way results in a number of large audio files (depending on the length of the song). Make sure you have enough disk space!