CREATIVE MANGLING

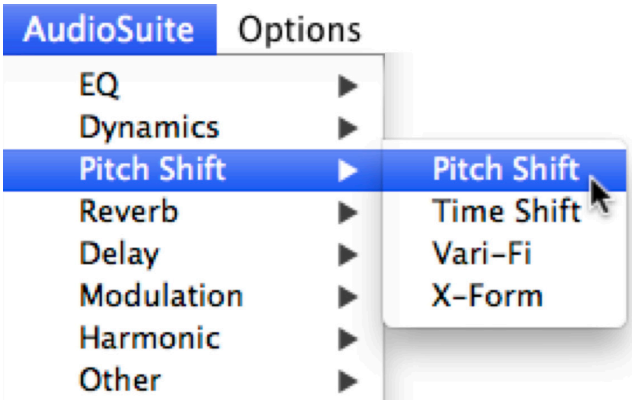
14Feb2013

We're going to explore using plug-ins to do some creative mangling, including **pitch shift**, **time compression / expansion, reversal,** and **other effects**. (This is going to be just the bare basics. For detailed explanations, consult **Help menu -> Audio Plug-Ins Guide**.)

PITCH SHIFT

As it sounds, this changes the pitch (frequency). Back in the days before computers, the only way to change pitch was by changing the playback speed of a tape recorder. If you slowed the tape down, the pitch would drop, but obviously last longer. There was no way of changing pitch and length independently. Now we can.

In ProTools, **pitch shift** is an offline process that isn't usually doable in real-time. It's one of the **AudioSuite plug-ins**. It will render a new piece of media, and replace the orignal in your timeline. It will not erase the original.



The most important control is **COARSE**. It's in **semitones**, which is the same as **half-steps** on an instrument. **12 semitones** is an octave, **24** is two octaves.

FINE is in **cents**. There are **100 cents** in a **semitone** (**half-step**), **1200 cents** in an octave.

Select some audio that you want to **pitch shift**, move the controls around, and click **preview** to listen to it. When you're satisfied, click **process**. The processed audio will appear in the place of the original, but the original will not be destroyed and will remain in the **Clips list**.

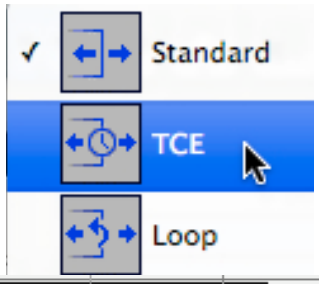
If **TIME CORRECTION** is checked, the processed audio will be the same length as the original. If it's NOT checked, the processed audio will be longer or shorter proportional to the amount and direction (up or down) of the **pitch shift**.

Try **pitch shift** of various amounts up and down on the clips in your Week 5 session.

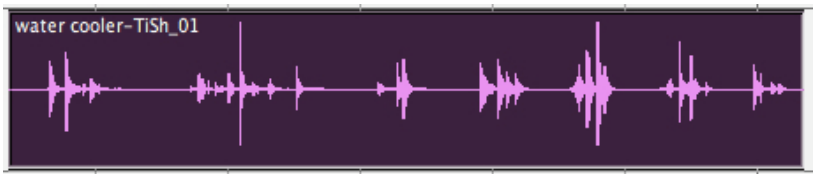
TIME COMPRESSION / EXPANSION

This is changing the length of audio without changing its pitch.
One way of doing this is with the **TCE trimmer tool**.

Click and **hold** on the **trimmer tool button** to get the pull-down menu. **Select TCE.**

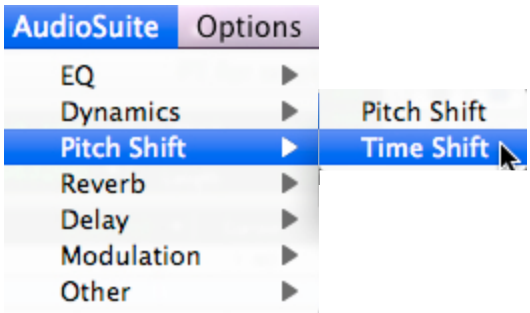


Now when you trim a clip, making it longer or shorter, you're also changing its speed. The most you can **time compress / expand** at a time with the **TCE trimmer tool** is by a factor of 4 -- either 4 times as long or 1/4 as long.

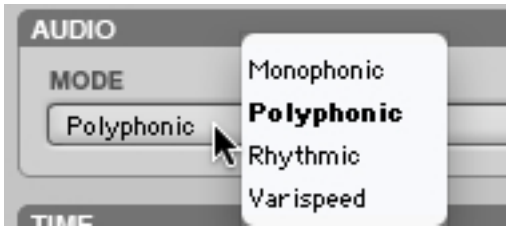


Time expansion *will* create digital artifacts. These can be either totally inappropriate or extremely useful, depending on context. Try several small shifts instead of one big one. This may change or reduce artifacts.

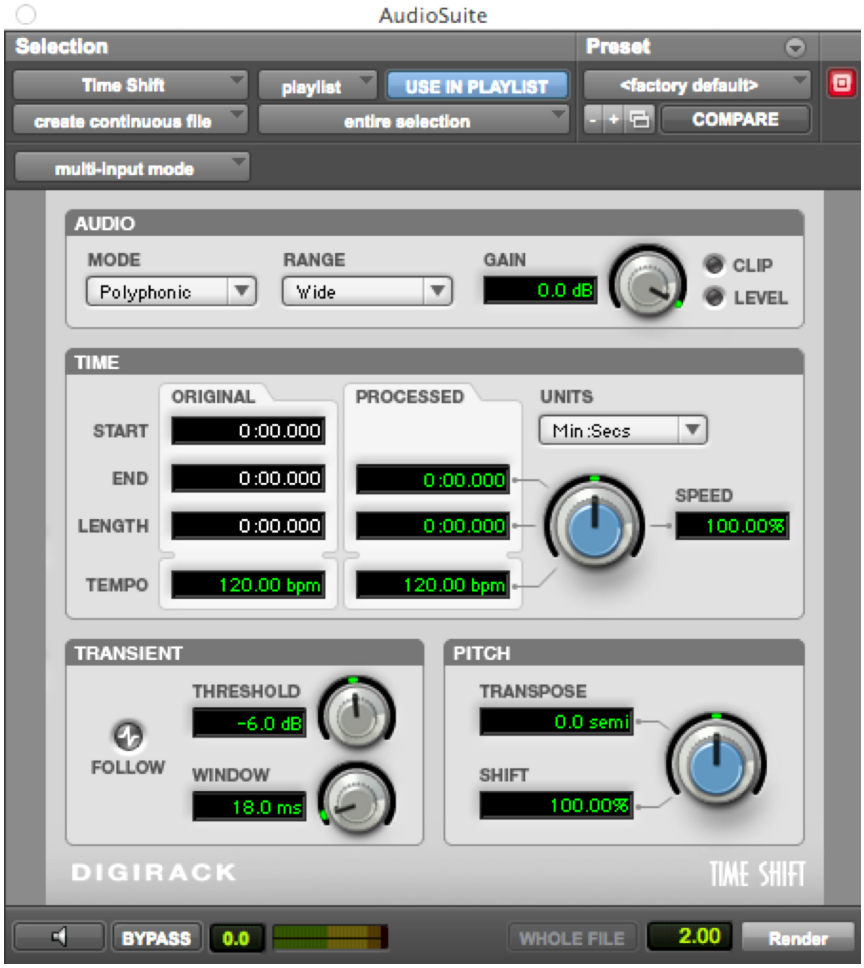
Another way of doing **TCE** with the **Time Shift AudioSuite plug-in**.



You have more control over various parameters, and more options for weirdifying.

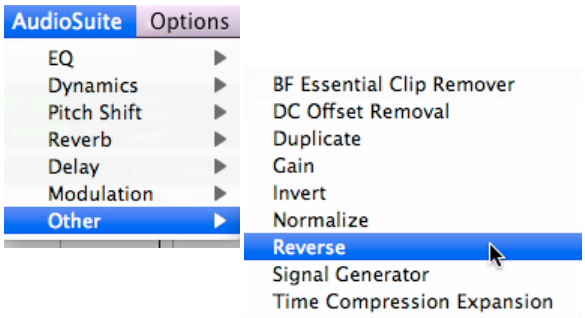


Each of these modes works in a different way, with some different controls and wildly different possible results. Experiment for yourself...

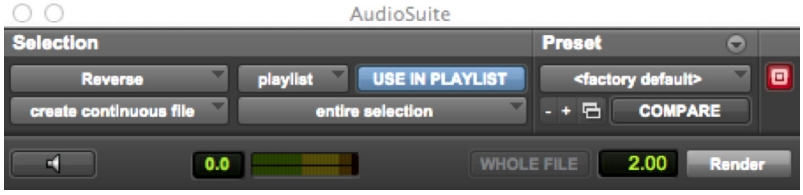


REVERSAL

Making things play backwards is fun! And often rewarding... It's very simple.

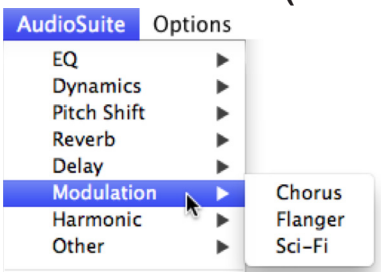


No pesky controls, just "**process**."



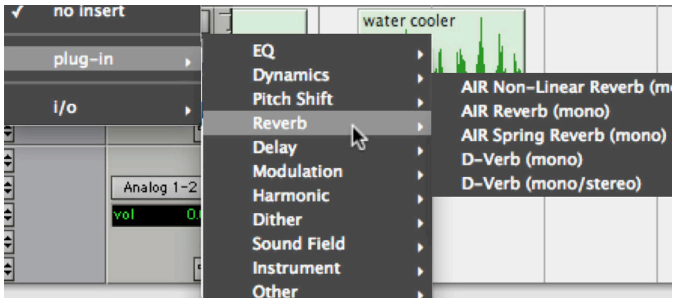
Try reversing a sound, using an AudioSuite reverb, then reversing again.

OTHER AUDIOSUITE (non-realtime) PLUG-INS

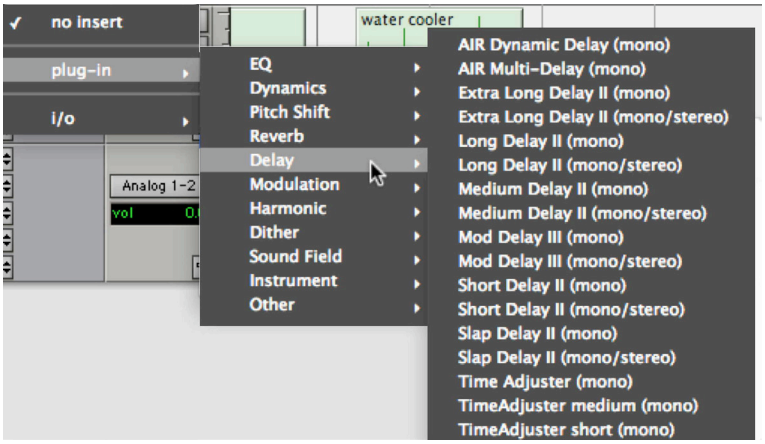


Chorus and **Flanger** produce related but different "swirly" effects. (Words are no substitute for actually experimenting and listening...) **Sci-Fi** offers analog synth-style processing. adding effects such as ring modulation, resonation, and sample & hold. Start with the presets!

RTAS: REAL-TIME PLUG-INS (TRACK INSERTS)



D-Verb is a **reverb** plug-in. You can use it as an insert on a track, but that's not the best method. We'll be looking at the best method in the next few weeks.



Delays allow you to make things sound like a robot, or like a stadium PA system, or repeat with itself -- a wide variety of things.

Experiment...

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