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# Power User

## A4000/A5000 RESAMPLING

### Demo: Resampling Time Compression and Expansion

When you want to time compress or expand your sampled data you can use the RESAMPLE function. It is found under the [COMMAND] section and lets you define precisely how the data is to be changed. You can even audition its sound quality and adjust it before you commit to executing the function. This can both save you time and frustration.

Any linear or looping audio data will be fine for this demonstration. Select and audition the sample wave. This is accomplished on the PLAY-SmpSel screen. Use Knob 2 to select a sample.

- Press the [COMMAND] button. Navigate to the RESAMPLE function.
- Select the type of Resample you wish to do: Time Stretch by TEMPO, LENGTH, BEAT or TIME. Or you can select to Resample at a new Pitch (PITCH CONVERT).

As discussed in other demo guides you have your choice of weapons when it comes to changing the tempo of your loops. How to know which tool is best for the job? Your mileage will vary but, generally speaking, the Beat Change effect combines pitch change with harmonization to get its results in real time, as you listen. The RESAMPLE function, on the other hand, actually creates new wave data. Nothing says you can't combine these two to get your desired result. In combination you can certainly maintain sound integrity over a much wider range of tempos. Experiment with the RESAMPLE function. When set to TEMPO you can define an exact tempo in BPM. Physics dictates approximately +/-10% as the limit of useful expansion or compression (that is, with 'normal' sounding results. Sometimes you are looking for anything but the 'normal'. If your needs are for normal sounding audio but the tempo lies more or less than the +/-10% rule, then try a combination. Using the Beat Change effect first to move the tempo as much as you dare before executing the resample function. You will be quite pleased and amazed at the results you are able to get.

To do this you must set up the Beat Change effect and digitally re-sample the results using the STEREO OUT as the Input source – [RECORD] mode> [F2] SETUP> RecSetup screen. You are actually resampling the data. This effectively creates a new wave at your new (Beat Change) tempo. Now use the RESAMPLE command to have the A4000/A5000 shift the tempo even further.

The Beat Change effect has a large usable range due to the way in which it does its thing – the tempo is sped up because the sample is played faster. The pitch naturally goes up. Now a harmony shift algorithm adjusts the pitch back to the original key. You can adjust the accuracy of the playback by weighting the results toward sound or rhythmic quality. You can always 'print' a new version of any wave by re-sampling it after the effects are applied. This is where you make the input source the stereo out – this is handled digitally in the sampler so you lose little in the process. (See demo guide on Beat Change for further information.) Your mileage will vary because, as with everything samplers, a lot depends on the data in question.

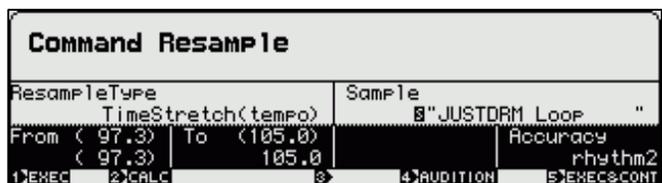


Fig: Time stretch Tempo; Press Knob 4 to preview

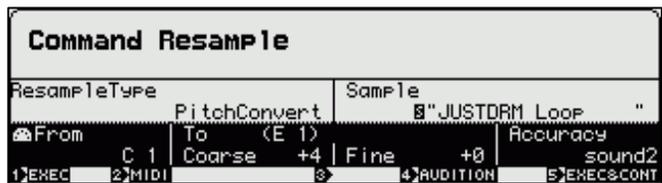


Fig: Pitch Convert setup: Press Knob 4 to preview