

# Waves Tune and De Breath

**Waves' latest bundle of plug-ins is more than simply a re-packaging of existing offerings. Yes, the Vocal Bundle does include some old favourites such as Doubler, Renaissance Channel and Renaissance DeEsser, but it is also the showcase for two brand new plugs geared specifically towards vocal postproduction.**

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**B**OOTH TUNE AND DEBREATH are at one level pretty self-explanatory in their action. What is perhaps slightly harder to understand, particularly in the case of Tune, is why Waves has waited quite so long to fill such an obvious gap in its processing line up. Tuning correction of vocals and other monophonic sources is hardly a new idea, and in some genres and production styles it's become as commonplace as compression. Such has been the domination of Antares' product in this area that the product name, AutoTune, has almost become a generic term for the technique. More recently, Celemony's Melodyne has also appeared on the scene, and has quickly garnered an enthusiastic user base that appreciates its rather elegant and intuitive user interface.

What Waves has come up with is a product that has clearly looked hard at these two competitors, and seems to merge together some of the best features of both. While AutoTune functions as a plug-in in a conventional sense, Melodyne has always been a standalone application. Miniature plug-ins are available to work with most DAWs, but these simply act as a bridge to stream audio into Melodyne for processing and then back into the DAW for playback.



Tune sits somewhere in the middle of these approaches — it can be inserted as a plug-in across any track in your DAW of choice, but before it starts work the audio in question needs to be scanned and analysed. This initial pitch detection forms the basis of the pitch correction curve that the plug-in will apply to the chosen track, which the user can fine-tune and tweak in real time. This approach means that Tune is best used when the vocal track in question is pretty much 'locked' with most comping, etc. finalised, as subsequent drop-ins or editing of the original track will mean that altered sections will need to be rescanned by the plug-in. Up to ten minutes of audio can be scanned and analysed in one pass, and if necessary this ten-minute stretch can be offset to any point within a longer session.

Subsequent tweaking and tuning of the track happens entirely within the plug-in window, and as this inevitably means a certain degree of navigation around the audio to audition, loop, start and stop playback etc., all of these functions are available from within the plug-in itself, which synchronises itself with the host DAW's timeline using Propellerheads' ReWire protocol. As the audio is scanned, the top of the plug-in window displays a waveform view of the audio, and markers

and loop points can be entered on here to control playback from the DAW after the scan is complete. The main bulk of the plug-in display is given over to the edit window, and here you can see similarities to both AutoTune's and Melodyne's interfaces.

Along the left hand side is a 'piano roll', indicating specific pitches. The range and scale of this can be changed, of course, to suit the audio in question. In addition, a pop-up menu allows you to choose from a myriad of scales, tunings and keys, which will then highlight 'illegal' notes on this display — in other words notes that do not belong in that key or scale. By clicking on the piano keys, you can set rules for pitch correction in terms of whether an input note falling on an illegal note is corrected to the nearest legal note, or correction forced to the nearest legal note either above or below the input note. It can also be set to bypass — in other words input notes will not have correction applied to them if they are not part of the defined scale.

As the audio track is scanned by Tune, it is 'segmented' into notes that appear on the main edit window in a fashion similar to a MIDI note editor. Orange blocks define the position of notes, which are overlaid by a constantly varying orange line, indicating the detected pitch of the input audio, and a green line that indicates the corrected pitch. The parameters by which audio is both segmented and corrected can be set before the initial scan, but also altered afterwards either globally, or on individually selected notes.

Segmentation into notes is controlled by the chosen scale and the segmentation tolerance setting. Higher tolerance settings mean that short glitches in input notes or marginal detunes will not be split into individual notes, but will remain as one note segment. Exact values for this are best found by experimentation, and are very dependant on the source material and singing style. Natural vibrato has always been a problem for this type of processing — as it can lead to a note with vibrato being segmented into two or three rapidly changing notes. Although increasing the tolerance parameter helps here, Waves has also implemented a vibrato detection function. Once enabled, it will look for natural vibrato occurring in the whole section or a selected area, and will segment notes based on the average pitch.

Pitch correction has three main parameters. Speed sets the speed of correction within a note in milliseconds. Low values have the effect of pretty much flattening any pitch variation, higher settings allow some natural variation in pitch. Note Transition defines the speed at which correction is applied from note to note in the scale — short values sound a little jumpy and artificial, longer values allow more 'glide' in the corrected pitch. Finally, Ratio defines how much of the pitch correction curve is applied to the original audio, ranging from no correction to 100% correction. Again, these settings can be applied globally or on individual notes or selections of notes.

Editing in this window is made very easy by a selection of tools. Notes can be simply picked up and moved to a different scale pitch, with the correction curve being redrawn instantly based on the parameters outlined above. Notes can be joined together or split apart — again, very straightforward and familiar to anybody who's ever used a MIDI sequencing package. The correction curve can even be redrawn directly on the screen, either with a pencil tool or a breakpoint style tool. Where this is done, the audio is re-segmented into new notes based on the segmentation settings, allowing for example, a vocal glissando to be produced where none existed previously.



All in all it's a very straightforward and easy user interface once you've spent a little time with it — and its strength is in the way you can go from general correction to fine-tuning notes in surgical detail and back again almost instantly. The ability to navigate through the audio from within the plug-in is also a huge bonus, as is the ability to hear the audio and edit it while listening to it in context with the rest of the mix — although I have to say that this did require me to upgrade my Pro Tools software in order to get the ReWire functionality working on an HD system, and I couldn't get it to work at all with an older Mix3 system using PT 6.1.

Sonically, Tune performs very well. A choice of formant correction or straight shifting is available, and while most users will never stray far from the formant corrected option for vocals, it does give additional flexibility when working with non-vocal sources. The default correction parameters applied on the initial scan can sometimes sound a little heavy-handed on first listen, but these are easily adjusted, and I found myself very quickly doing some fairly advanced editing on individual sections to tweak odd pitch problems while leaving the broad correction curve at lower ratio settings. Used in this manner Tune can very quickly produce natural sounding results.

Finally, there are a couple of other features worth pointing out. In addition to detecting natural vibrato for the purposes of note segmentation, Tune can also either modify natural vibrato in a note, or add synthetic vibrato where none exists. Once final correction is achieved, Tune will also export the data as a MIDI file, which can then be used to double up the vocal part with MIDI instruments in a sequencer or DAW.

I had to laugh when I read the website blurb that accompanies DeBreath, which opens with 'Breathing is something singers seem to insist on doing, even when it spoils a perfectly good take...' Whether you agree with this sentiment or not, DeBreath is a very powerful little plug-in. Although in essence it is similar to a noise gate in functionality, the way in which it detects breath noises is more sophisticated than simply a function of level.

Incoming audio is monitored and compared against a database of breath type 'signatures'. The plug-in displays a rolling window that graphs the similarity of the incoming audio to a breath noise, ranging from 0 to 100%. Immediately below this is another rolling window that indicates overall signal energy. On the basis that a breath sound is likely to have a high similarity level coupled with a low energy level, the detection of breath sounds can be very accurate. Two threshold levels, one for similarity and the other for energy, can be set by the user, and the plug-in only acts when breath similarity exceeds the threshold and energy stays below the threshold.

The plug-in effectively has two audio paths as outputs — one for breath noises and the other for voice signals. When the detection conditions outlined



above are met, the breath sound is faded out of the voice path and into the breath path. The timing of this fade is user-defined, as is the reverse — i.e. when the signal is faded from the breath path and back into the voice path. Similarly, the amount of movement of the signal is also variable, so that some breath noise remains in the voice path, but is attenuated by a certain level.

While the output of the plug-in can only be either one path or the other, it's a trivial matter to have the plug assigned to two tracks, each with an identical vocal line, and have one monitoring breath and the other voice — enabling rebalancing of these components or different treatments, for example a slightly darker EQ on the breath track. If it is being used simply for breath removal, there is an option to have DeBreath automatically insert low-level white noise as a kind of room tone when breaths are removed, in order to compensate for any unnatural sounding silences in the track. It sounds quite involved, but in actuality it's a breeze to set up and use, and it works wonderfully well, almost fully automating what can be a very long-winded editing process if performed manually.

Of the two new offerings, Tune is clearly the big gun here but I think that Waves has chosen its moment well, and has produced something that takes the best of what's currently available and put it together into a powerful, but intuitive package. Add DeBreath and the somewhat older favourites, and the Vocal Bundle is an extremely powerful proposition. ■

**PROS** Elegant, easy to use but powerful interface for Tune; high quality pitch correction; can be as general or as surgical as you like; DeBreath powerful and simple.

**CONS** Tune doesn't have the multitrack or time-stretching functionality of Melodyne; ReWire implementation problematic on older Pro Tools systems.

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