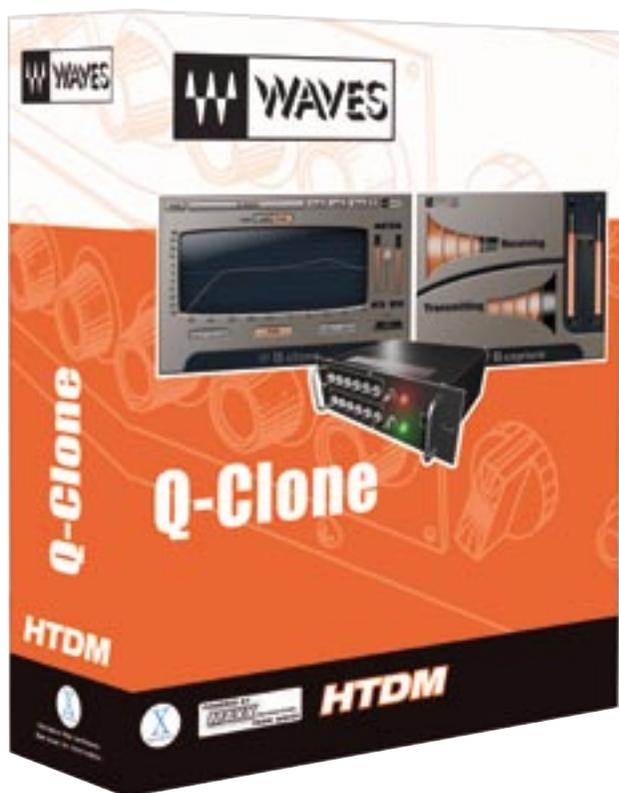


Waves Q-Clone

Normally associated with the recreation of acoustic space in the plug-in world, convolution technology has now been applied to your outboard rack for integration into your DAW.

JON THORNTON finds out how and why.



Q-CLONE IS ONE of the latest applications of convolution based processing. The idea is a relatively simple but compelling one — set up your favourite piece of outboard EQ, carefully tweak it just the way you want it to sound with a particular audio track and then sample its response. You can then apply that particular response to the audio in question using your DAW without tying up the aforementioned outboard box, which can be sampled again with different settings for a different track, and so on. Imagine, your cherished Neve/Manley/Carlos Fandango outboard EQ could be used effectively on all 96 tracks of your latest Pro Tools production.

If all that sounds too good to be true, well of course there are some limitations. You aren't going to have enough DSP horsepower to use 96 instances of this plug-in — I managed 26 instances on my HD2 Accel rig before it ran out of steam. The other downside is that Q-Clone only replicates the linear response of a device. This means that it captures the filter and phase response of an outboard device, but not any non-linear characteristics such as distortion or noise. So using it to emulate dynamics processors is out of the question — we really are only talking about EQ here.

The thing that struck me most after seeing the initial blurb was the feeling that it must be a complete and utter patching pain in the rear to have to insert an EQ across a DAW track, adjust it, repatch it, sample the response and then apply it. Fortunately, the reality is somewhat more elegant.



The Q-Clone plug-in consists of two components — Q-Capture and Q-Clone. Q-Capture is where the sampling function resides and works in conjunction with a dedicated audio output from, and input to, your chosen DAW. Although functional details will vary slightly from one DAW to another, the manual makes some useful configuration suggestions for different platforms. For Pro Tools users, it suggests setting up an aux track that is fed from a specific audio input and feeds to a specific audio output. The device that needs to be cloned is then inserted across these I-O points. Inserting the Q-Capture plug-in across this aux track then brings up a window that shows the transmission and reception of a short, rising tone burst that Q-Capture uses to measure the impulse response of the device under test. This tone burst is repeated several times a second. Level meters for the test signal output and the return signal received from the inserted device allow signal level to be calibrated with an appropriate amount of headroom — obviously with any EQ bands out of circuit or at null cut or boost.



Once this is set up correctly and calibrated to your satisfaction, the Q-Clone plug-in can be inserted across another audio track. This plug-in shows an EQ response curve, together with three main mode buttons. In Capture mode, the plug-in constantly receives the impulse response from the sampled device and uses this to recreate the device's characteristics. What this means in practice is that by adjusting the parameters of your outboard EQ, you can hear the effect of its response being replicated by the plug-in in almost real-time. Almost, because there is a very slight lag between adjusting a parameter on your outboard unit and hearing its effect because of the need to constantly resample its response.

This takes a bit of getting used to, but is one of the

most compelling aspects of Q-Clone. It's almost as if your outboard EQ is acting as a remote input to Pro Tools — what you are hearing, don't forget, is not the audio passing through your EQ, but the Q-Clone plug-in replicating those settings. Hitting the Hold button on the plug-in window then freezes the last measured response, at which point another instance of the Q-Clone component can be inserted across a different audio track, and the process repeated. Because the currently active plug-in window always maps itself to the Q-Capture component, there's no need to repatch — unless of course you want to use a different outboard device. One slight problem is that if you have already EQed a track with Q-Clone and then want to go back and change the EQ, entering Capture mode resets the curve to where the hardware unit currently is. So, just backing off the gain in one band requires a complete reworking of the EQ settings.

In practice, this is actually a very quick working arrangement and not nearly as long-winded as I had expected. But it does, of course, have one prerequisite — that the replication is exactly the same as the original. An A/B comparison between original hardware inserted across an audio track in Pro Tools and the same audio with the Q Clone replication was in most cases indistinguishable from the original.

Where things started to change slightly was when very large amounts of boost with high Q settings were used. Here, the Q-Clone replication did start to sound slightly grittier, particularly when this was applied in the high-mid frequency bands. Most of the time, this could be put down to the fact that the amounts of boost were starting to exceed the headroom of the analogue device, which is always going to handle the resultant clipping a little more elegantly than a digital system. Re-calibrating Q-Capture and the gain structure of the outboard device nearly always solved this issue. However, with some units, like my Drawmer 1961, the soft clipping associated with this type of use (abuse) is sometimes a characteristic of the sound you are striving for and Q-Clone doesn't always deal with this well.

Having said that, in most circumstances it does perform extremely well and there are some other nice features. Settings can be saved and recalled, and Waves provides its own library of EQ curves sampled from a variety of 'well known' but unnamed boxes. There is also a third mode of operation called Add that will effectively layer a new sampled response on top of a previously held one. That's eminently useful if you find yourself with one band too few on your EQ.

Q-Clone is not currently part of any Waves bundle — it's only available separately, and supports most common platforms via RTAS, HTDM, VST or Audio Units. Despite my initial misgivings, it not only sounds good, but is also surprisingly quick and intuitive to use. ■

PROS Excellent replication of original EQ units; easy and quick operation in most applications.

CONS Doesn't handle some of the non-linear artefacts caused by some outboard gear; going back to adjust an EQ replication slightly isn't possible; quite DSP hungry.

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