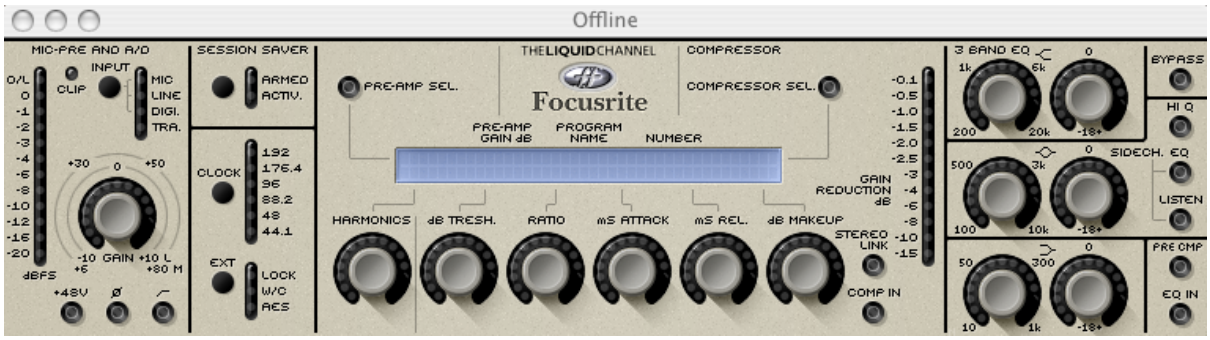
Focusrite Liquid Channel

classic Mic-Pre and Compressor emulator



It takes a pretty special piece of gear to turn my crank these days, so when I was recently given the opportunity to trial the Liquid Channel I said yes without hesitation. I had read a little about it and indications were that it was something a bit different. Of course, lots of equipment promises to be ‘breakthrough technology’ so the question is “how does it stack up”?

The Liquid Channel is a single channel 2 unit rack-mount mic pre and compressor. The cream front panel and styled silver rack ears give the unit a nice semi-retro look. It also makes the unit quite distinctive looking. At an impressive 8.6kg it is ‘heavyware’. All this adds up to a physical appearance that states that the Liquid Channel is a serious piece of outboard equipment. The unit ships with an operation manual but the layout and functions are so beautifully obvious that it is hardly needed. The front panel is clearly laid out with button type switches, and pots. Both types of control have integral green LEDs for visual feedback – nice.
Around the back are mic and line inputs (both on XLR), and line output (XLR). There are also AES digital in and out, Word clock in and out, and a digital link in and out (RCA) – the latter being for linking two or more units. Inside the Liquid Channel are 40 classic mic-preamps, and 40 classic compressor emulations. These can be used separately, or in any combination. There are also 100 user memories so if parameters need changed the result can be stored. A growing library of emulations is available as free downloads.

OK, time for the road test. First I installed the Liquid Control software. This is a software ‘remote control’ which mimics the Liquid Channel front panel. It worked perfectly, and exactly as if you are touching the knobs and switches on the front of the actual device. The only exception was a slight difference in the way presets are selected. At this stage it was obvious that this is a very friendly piece of gear to operate. Time to do some listening…I used a 414 B-ULS to try out the preamp section. Not having time to audition all 40 presets I cut to the chase, putting a vocal through it’s paces on a few of the world-class pre-amps. The first two presets are a flat electronic and flat transformer, which I used as a reference. Interestingly, not every aspect of the mic-preamps could be emulated, even with the dynamic convolution technique. This is because of the complex interaction that occurs at the microphone to pre-amp interface. Focusrite engineers solved the problem by physically

switching front-end components with relays, to give choices of input impedance to match various mics.
The 40 presets give an enviable collection of stand-alone and console preamps. They range from modern hybrids and solid-state types to the vintage valve classics. Both the US and UK manufactures are well represented. I scrolled through to the Drawmer 1960… ah, magic. Next to try was the crisp sound of a Neve VR console mic-pre. Very nice. Back to some retro sounds for old times sake – Pultec MB-1, the SSL 4000G console preamp, Neve 1070, Trident MTA, and so on…(hours past). Now most of us have never even seen a lot of these units, but as I tried them out I made an interesting observation – I had certainly 'heard' some of them before. The point is that the great vocal sounds of many of yester-years hits carry the imprint of the mic-preamp used. Here I was able to simply call them up one after another - wow. At this point I loaded the TL Audio PA-1, which is a modern dual pentode preamp, and explored the 'harmonics' pot. This allows the user to add distortion in a subtle and very satisfying way.
Next I hooked up the Liquid Channel as an external signal processor with a ProTools session, via AES the digital interface. One of the great things about this setup is that you can still access the mic-preamps. However, it was time to check out the compressors. I looped suitable vocal and acoustic guitar tracks, and off I went again. Most of the comments above also apply to the compressors eg there is a great selection of top compressors here. Everything from a Manley Variable Mu to the Urei 1176, and LA-4. There is also a good range of SSL and Neve modules. For copyright reasons Focusrite has had to invent new names for it's emulations, but a description of which original mic-preamps and compressors have been 'sampled' are available from their website.
Rather than bore you with my impressions of each of them; a point worth noting is that whereas many of the mic-preamps sound similar, many compressors have a very distinctive sound signature. Each is realistically applied to the controls too, so you can't dial up things that don't exist on the original device. A compressor bypass makes A-B testing easy. There is also a handy edit/compare switch. A really nice feature is that edited values (eg a ratio of 8:1) stay put when a new compressor is selected.
The advantage here is that I had the ability to match any colourful (or neutral) compressor (and mic-pre) to the sound. The range of possibilities means this is somewhat equivalent to being able to try different microphones at mixdown.

Now for the big question… why would you fork out several grand for a hardware unit when there are so many good plug-ins available? To answer that let's first look at exactly what makes the Liquid Channel different. Plug-ins that are classic compressors or mic-preamps are simulated in software using a DSP technique known as modeling. This produces a likeness to the original but cannot really create all the subtle effects that the actual vintage hardware device has on the signal. The Liquid Channel, on the other hand, uses a process called dynamic convolution. This term has been popping up a bit in audio engineering in the past year or two, namely as convolution reverb. The idea there is to create a series of reverb profiles from various rooms (eg recording studios with great acoustics) by taking sound 'snapshots' using TDS techniques. The resulting impulse response can then be convolved with any input signal so we can hear the result.
In the case of the Liquid Channel, it is the vintage mic-preamps and compressors that are 'sampled'. This has been painstakingly done at many different signal levels to get a really accurate representation of the sound colour of each one. To summarise; modeling plug-ins

are like a synthesiser generated sound, compared to the Liquid Channel being like a sampled sound, and therefore more realistic. The big downside of convolution is that it involves a huge amount of number crunching. This is why convolution reverbs are relatively new – only the fastest computers have enough CPU power to cope. Focusrite have put the world's fastest audio-implemented SHARC chip technology into the Liquid Channel to keep up with the real-time computations involved.

Pros and Cons:

+ The sound quality is unbelievably good.
+ Sensible front panel controls.
+ Simple to operate.
+ The Liquid Control software looks and works almost exactly the same as the front panel.
+ A growing range of extra Mic-Preamps and Compressors are free to download.
+ No tedious plug-in upgrades and registrations.

- Two units are required for stereo.
- No Edit/Compare switch on Liquid Control.
- No Pre-amp bypass switch.

If you are looking for a product that can put some mega-buck production magic into your vocal tracks (and more) then give this serious piece of gear some serious consideration. It's like having a Focusrite Red Mic-pre, and compressor, with dozens of others thrown in. Do I want one? Yep.

Demo Unit supplied by Protel.

Price: $5,996

Richard Hallum is a senior lecturer in Audio Engineering and Music Production at the MAINZ Christchurch campus. He does not own a cellphone.