

EQ1-LP and EQ1-DYN review by Larry DeVivo in TapeOp Magazine

Weiss Engineering

EQ1-LP and EQ1-DYN Digital Equalizers

You know, mastering engineers can dream too. I know what it is like for *Tape Op* readers to dream about getting that one special Neumann U 47 microphone or that vintage API console, but I am here to tell you that we too (mastering engineers) dream of getting pieces of gear we really can't afford. In the twenty plus years I've been doing this, these "dreams" never end – they just change in shape and cost. Over the past few weeks, I've had the privilege to use the *Weiss EQ1-MK2* equalizer with both the *LP* linear-phase and the *DYN* dynamic chipset options. (I say *privilege* because once you have worked with such a quality- made, over-the-top engineered digital processor, you can really see how one's job can be made easier using such tools – please read on).

The *EQ1-MK2* unit can operate in either *LP* or *DYN* mode by swapping firmware chips. (Unfortunately you can't do both at the same time.) In either mode, it can also function as a straight EQ with all the wonderful phase shift that goes along. *[All analog Eqs and most digital Eqs are implemented as Infinite Impulse Response (IIR) filters. IIR filters impart phase-shift. -Ed]* Besides the availability of having two very different and extremely powerful equalizers, when you include its ability to do M/S (mid/side) encoding/decoding, the unit becomes that much more powerful. Add to this the fact that the unit upsamples at twice the rate (44.1k to 88.2k and 48k to 96k respectively) to do its calculations; it operates at 40-bit floating-point internally; and it automatically dithers down to the desired output resolution (16, 20 or 24-bit). It's one of the most powerful, versatile equalizers on the planet. Daniel Weiss also informed me that the latest versions of the *EQ1-DYN* and *EQ1-LP* have the POW-R dither included (at no extra cost, free upgrade). Some may ask why bother to do this? I would say, "just listen," and the reason becomes very clear. Never before have I experienced such purity of tone. What you put in sounds exactly like what you get out (if no processing is done). Even when processing heavily, the program material still sounds like the original. This is not always the case with most

digital processors (or analog for that matter). In fact, I would go out on a limb to say that up until now I have never heard a digital processor work without altering the sound of the material being processed. Until I heard this unit I would never even think about making such a claim but I will stand behind it. Now lets get to the goods. With the *LP* option installed, the unit does exactly what the name implies. You can EQ without any phase- shift. No time-smearing. This is very hard to explain; but once you hear it, you can see just how phase-shift affects standard equalizers. The linear-phase EQ has the ability to clear up a dense mix. If you have overlapping frequencies creating the "masking effect," the *EQ1* allows you to carve out the offending frequencies and bring a clarity back in the mix quite unlike any other EQ I've heard. It allows the instruments to retain their original tone even though you are equalizing them. Amazing! This stereo unit has seven bands per channel with individually configurable low-cut, high-cut, low-shelf, high-shelf or peaking filters for each band. The Q (bandwidth) of this unit covers an amazingly wide range, from a near whole bandwidth-covering 0.20 to a needle-like 650 in 128 steps, allowing everything from subtle coloring to notch filter tone removal. You can notch down to -39 dB or boost up to +18 dB. One of the coolest features has to be the touch sensitive knobs. As you grab each individual knob, the CFL LC display changes to the particular parameter you are working on. This is one of the most useful displays I've had the pleasure to work with. Just about all pertinent information is available on the display at all times and the ones that aren't are just a touch of a knob away. This is "over the top" Swiss engineering done at its finest. Frankly, I wish every piece of digital gear had this, as it would save considerable time in having to page through menus. A further new feature is the *shape* parameter for shelving filters, which has the same resolution and a similar effect as the Q parameter for the presence filter type. You also get 3x128 non- volatile snapshots where all parameters are stored and A-B workspaces for quick comparison between settings. Of course, the *EQ1* comes with a full **MIDI** implementation for system dumps, snapshot automation recall, and MIDI controllers. Plus full dynamic MIDI automation (i.e. each parameter is controllable through MIDI). This is especially convenient for those mastering engineers who process on load-out. Once I installed the *DYN* chipset I was in for a whole other treat. I really didn't know what to expect. As the name implies, this feature allows you to dynamically control any

selected frequency band. What this means is that you can equalize, compress and expand all within the same unit and all while visually watching the same display. Imagine being able to take a song with a stale lifeless drum machine, expand the low band to get the kick moving, compress the bass to keep the level. Even de-ess the vocal, and EQ the top to give it some air – and the *EQ1* would still leave you three bands per side to do whatever other processing may be left. It gives you the ability to correct musical instrument imbalances within a mix with ease. Unbelievable! It's wild to see the compressor work within the selected frequency range on the display of the unit. Very intuitive and informative at the same time. The possibilities seem endless. As a mastering tool it is quite amazing. Never before has there been such a powerful processor available to recording and mastering engineers. This is a serious digital-only tool – there are no onboard converters and the only digital access is through AES3 connectors. The bands for the *DYN* chipset are set up a little different. Of the seven bands, Bands 1, 2, 5, and 6 are the freely adjustable dynamic bands (they also can be linear bands, if necessary), and bands 3, 4 and 7 are ordinary linear bands. Daniel Weiss did this for a very specific reason: because gain reduction may affect the overall sound of the individual band, these linear bands can be used for corrective EQ as necessary. As the name implies, a dynamic band is sensitive to the level of the input signal. Sometimes it is desirable to first add some EQ, and afterwards dynamically add some more. Or vice versa – first do some dynamic corrections and afterwards add EQ. I must say I was truly sad to see this unit leave my facility and missed it quite a bit once it had gone. I was quite bummed and thought I would have to go back to daydreaming about owning a unit like this. Then FedEx showed up with the Weiss DS1 (de-esser/compressor) unit... but that's another article in and of itself! Stay tuned. (\$6300, www.weiss.ch) -Larry DeVivo
<www.silvertonemastering.com>