iZotope RX4 Advanced Suite Review

Peter Duggal - 25th May 2015

RX4 Standard: £215.00 | RX4 Advanced: £729.00

Editors Rating: ★★★★★

TL;DR:

iZotope RX4 Advanced Review: RX4 provides a suite of cutting edge tools to enhance and repair audio. At a price that's unparalleled for the quality of processing on offer, it is becoming the 'go to' restoration and post-production tool of choice.

Review Preface:

iZotope's RX has recently cemented itself as the most complete, affordable audio restoration suite, combining a number of advanced audio processing tools in an easy to use interface.

Whilst this review focusses on RX4 Advanced, it is important to note that the slimmed-down RX4 Standard is also an extremely powerful tool at a substantially reduced price. As such, it is worth comparing the features between both packages to ensure your every need is not covered by the younger sibling of the family over at https://www.izotope.com/en/products/audio-repair/rx/comparison/

Requirements:

RX4 requires Windows 7 (or later), or Mac OS X 10.7 (or later), and runs in standalone mode. The plug-in modules are available in VST, VST 3, AAX (Pro Tools 11-12), RTAS/AudioSuite (Pro Tools 9-10), and Audio Unit formats.

Installation:

Installation is simple - download and install the latest package from the iZotope website, authorise the product using your unique key and you are all set.

The System:

RX4 looks very much like an iZotope product (which is a good thing). The interface is laid out in a clear, intelligent manner with a useful dual spectrogram/waveform display taking up the large upper left section of the interface, the list of modules in a collapsible tab to the right, with the transport/metering and undo history along the bottom.

The interface is tabbed, so multiple audio files can be open at once, and switched between simply - each with a comprehensive stepped undo history (that is saved along with the file to restore any changes), at any time. Neat.

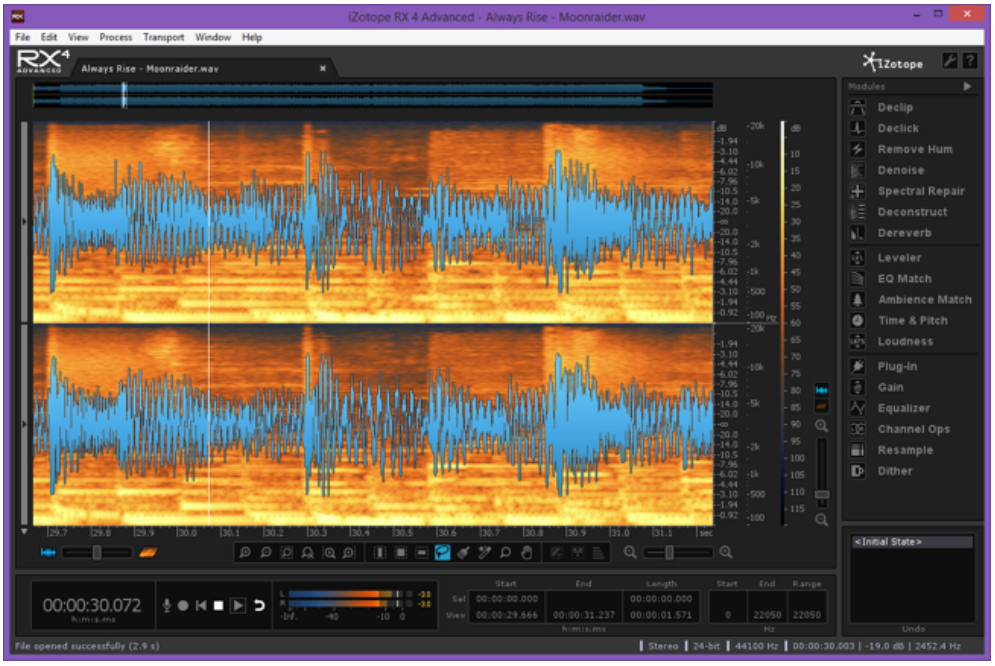
iZotope separate the eighteen separate processing 'modules' into three categories - restoration, production and utility.

Restoration Modules

This area of RX4 contains tools designed to repair and restore audio in a number of ways.

Declip repairs both analog and digital clipping, according to a set threshold. Whilst this is a process that naturally involves assumptions and guesswork, the engine does a very convincing job indeed.

Declick & Decrackle are designed to remove impulse clicks, both isolated and in longer streams. Particularly useful for a variety of applications, These two modules also do an impressive job in the restoration of vinyl recordings, and in my experiments very badly



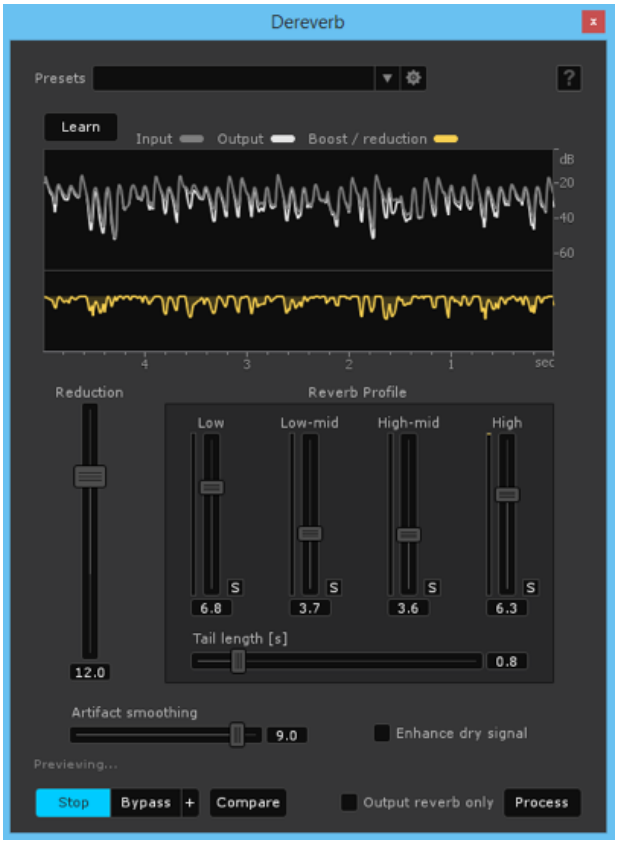
Remove Hum is a complete hum removal function. Going way beyond the scope of similar tools, in my experience, I was able to successfully eliminate a 50Hz hum signal, along with harmonics, from a particularly problematic recording using the engine here.

Spectral Repair is definitely one of the most impressive modules here in terms of what it can achieve. Using RX4's clever display that superimposes the waveform over a spectrogram, one can readily visually identify defects in the audio and then remove the unwanted sound using a number of tools. Using the lasso tool, it is simply a matter of drawing roughly around the problematic sound, hitting 'delete' and the engine uses sophisticated techniques to analyse the sounds around the defect, and subsequently attenuates the problematic sound to inaudible levels (without leaving a 'gap' behind'). The process works remarkably - I was able to fully remove knocks to mic stands, coughs and even the sound of a car alarm that had embedded itself faintly behind a piece of dialogue for a podcast. Additional options allow the replacement of badly damaged areas in a file (by intelligent interpolation) or to remove a 'pattern' of sound that repeats in a piece of audio (such as background noise).

Denoise and Dialogue Denoise both use similar engines to either manually remove background noise (by 'learning' from a section of the background noise in isolation) or adaptively over time, based on the engine's intelligent noise detection algorithm.

Deconstruct is an interesting module, with a very simple interface. The idea is that a signal is separated into 'tonal' and 'noisy' components, and then the balance/gain of each can be manipulated. This can be useful for many applications - from changing the balance in the recording of a trumpet for example, where the balance between breathy and tonal noises can be changed, or for managing noise reduction in time-variable situations (where the Denoise engine fails to produce satisfactory results).

Dereverb does just what it claims - to remove or attenuate the reverb from a recording, and allow focus to be zoomed in on the sound, whilst removing ambiance. The first step involves 'learning' the reverb in the source signal (see the screenshot below to view this part of the process in action), and then modifying the reduction level and reverb profile to suit.



Production Modules:

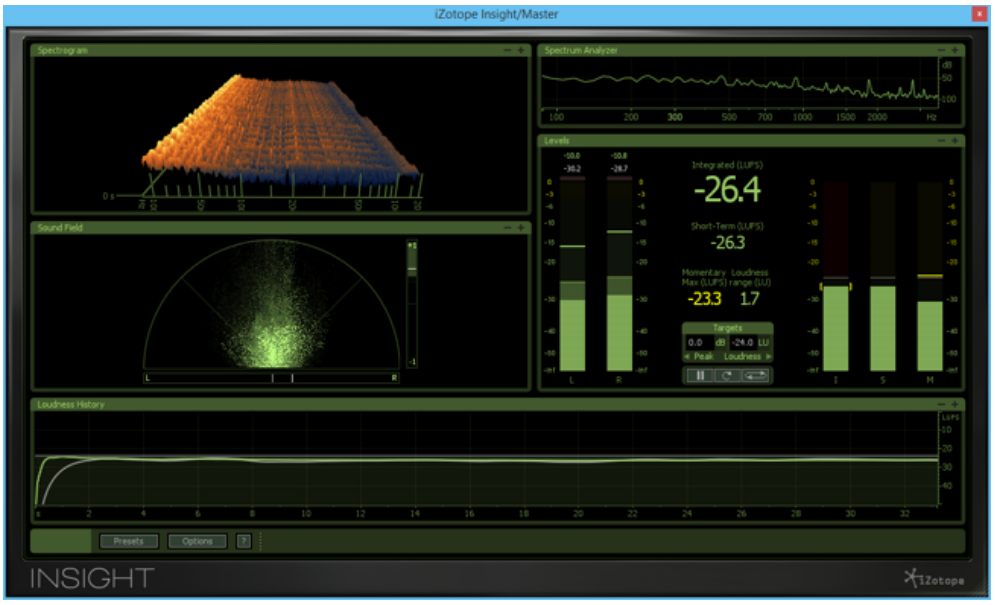
Leveler attempts to mimic the 'gain riding' process on audio, intelligently analysing the RMS to modify the gain throughout a file to level out perceived volume. Gain riding traditionally would involve manually moving the fader on the desk up and down in response to the volume of a track over time - naturally a skilled process that is intrinsically based on the way the human ear perceives loudness. Using a target RMS achieves a similar goal, and allows the engine to apply this accurately. The output is then applied as a 'clip gain' graph overlaid on the waveform, which is non-destructive and then allows for further editing before export. A nice feature here would have been the ability to export the clip gain graph as an automation lane int a DAW, but as the module stands it is highly powerful, and performs an automated version of the process excellently.

The ability to EQ Match is not a new thing, and it feels that here the module has been 'bolted on', employing a much more simplistic interface than that found in iZotope's mastering tool, Ozone. Whilst it does the job, it does so in a limited sense - the only options being to learn the destination EQ curve, and then set a percentage amount by which to process the source signal. This will be useful in some scenarios, but it would be good to see this module expanded in the future.

Ambience Match is one of those tools that appears so simple, yet is so

useful it is a surprise we haven't seen it in any of the prior versions of RX. In simple terms, this can be considered a reversal of the 'Denoise' process - learn the ambient noise profile on a source signal, and then 'add' that ambience to another signal. This is particularly handy in fixing continuity issues between audio clips that are recorded in different locations. For example, one ongoing project I work on is for a weekly podcast, and for various logistical reasons the presenters occasionally record edits in a different location to that of the original material. This location, more often than not, has a slightly different background noise to that of the original recordings and this module allows the seamless and coherent stitching of these different audio files together - a job that is normally incredibly time consuming, and difficult to achieve with success.

The Time & Pitch module employs iZotopes superb Radius algorithm for time stretching and pitch-shifting duties. In addition to the standard functions you would expect, there is an additional 'Pitch Contour' mode, which allows for gradual pitch changes over time - useful for correcting pitch drifts in source material.



The Loudness module is designed to ensure the audio is compliant with a specified standard - such as EBU R128 or BS 1770 - an increasingly important consideration for any audio engineer.

Finally, there are a number of Utility Modules that cover a number of useful functions, from EQ and overall Gain manipulation, to Resampling and Dithering.

Whilst many of the modules are available as plugins for realtime use in the host DAW, others require offline processing, and as such there is a requirement to invoke the standalone RX4. When working within a DAW this can affect workflow, in that the file needs to be exported, the host DAW closed, RX4 opened, file processed, RX4 closed and DAW re-opened. The inclusion of the new RX Connect tool goes some considerable distance to resolving this by intelligently providing a 'round-trip' system for editing files from within your DAW, into RX4 and back again without any switching of applications. This is only compatible with certain DAWs such as ProTools, however, at the time of writing.

Another extremely welcome addition to the bundle is iZotope's flagship metering tool, Insight (see above). Providing comprehensive visual analysis of the audio signal, it is a perfect companion to the rest of the bundle.

Conclusion:

Some of my work involves post-production on a comedy podcast, which for various reasons is recorded in different locations, often in less than ideal conditions. At my end it has been anything but a laughing matter working to restore the audio! However, using RX4 on the latest episode was truly a breath of fresh air. The Dereverb, Dialogue Denoiser, Ambience Match and Spectral Repair modules in particular achieved quite wonderful results, in minimal time - it is difficult to imaging working on such material again without RX4 fired up.

There are a couple of negative points - the EQ Match module is a little out of kilter with the quality and control provided by the other modules, and it would be good to the feature set in this area ramped up in a future version. Additionally, it would be nice to see increased DAW compatibility with RX Connect (sadly no joy with this reviewer's DAW of choice, Ableton Live).

iZotope have produced an evolutionary update to RX3 here, making sensible additions without compromising the clarity and ease of use of the package. The introduction of Connect is particularly welcome for users of ProTools, and alleviates a common problem in offline processing tools such as this.

When compared with similar products, RX4 provides truly exceptional value, especially when one considers that Insight is bundled in (and would normally cost over two-thirds of the price of RX4 Advanced when bought alone). If you work in the field of audio enhancement, restoration or any kind of mastering - there really is little else to compare in this price range that comes close. A fully functional 10 day trial is available from www.izotope.com.

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