DiscoDSP FX Bundle
Users Guide

EQ-30 Specifications

General

EQ30 is based on Alesis M-EQ 230 dual 1/3 octave precision equalizer specs.

Platform	VST (Windows)
Inputs	2
Outputs	2
Precision	32-bit floating point
Allowed sample rates	Any supported (host dependency)

Equalizer

Number of bands	2 complete 30 band 1/3 octave equalizers
Band Boost/Cut	±12dB
Controls	25 / 31 / 40 / 50 / 62 / 80 / 100 / 125 / 160 / 200 / 250 / 320 / 400 / 500 / 640 / 800 / 1k / 1.3k / 1.6k/ 2k / 2.5k / 3.15k / 4k / 5k / 6.2k / 8k / 10k / 13k / 16k / 20kHz level controls
Monitor	Input, Gain, Output and Text display

GUI

Display	Rack look, with some 3D ray-traced parts.
Controls	60 faders, input and output.
Indicators	Indicator VU Meters showing Input level and Output level.

Key frequencies for instruments

Instrument	Key Frequencies
Bass Guitar	Attack or pluck is increased at 700 or 1KHz; Bottom added at 60 or 80Hz string noise at 2.5KHz
Bass Drum	Slap at 2.5KHz; Bottom at 60 or 80Hz
Snare	Fatness at 240Hz; Crispness at 1 to 2.5KHz; Bottom at 60 or 80Hz
Hi-Hat and Cymbals	Shimmer at 7.5 to 10KHz; Klang or gong sound at about 200Hz
Toms	Attack at 5KHz; Fullness at 240Hz
Floor toms	Attack at 5KHz; Fullness at 80 or 120Hz
Electric Guitar	Body at 240Hz; Clarity at 2.5KHz
Acoustic Guitar	Body at 240Hz; Clarity at 2.5KHz; Bottom at 80 or 120Hz
Piano	Bass at 80 or 120Hz; Presence at 2.5 to 5KHz; Crispness at 10KHz; Honky-tonk sound at 2.5KHz as bandwidth is narrowed; Resonance at 40 to 60Hz
Horns	Fullness at 120 or 240Hz; Shrill at 7.5 or 5KHz
Voice	Fullness at 120Hz; Boominess at 200 to 240Hz; Presence at 5KHz; Sibilance at 7.5KHz; Air at 12 to 15KHz
Harmonica	Fat at 240Hz, bite at 3-5kHz
Conga	Resonant ring at 200 to 240Hz; Presence and slap at 5KHz

Whether used to alter the timbre of an instrument, control feedback, or improve speech intelligibility, it's important to know what effect each portion of the frequency spectrum has on the sound.

Audio octave ranges

Frequency range	When used produces this effect	When used too much Produces this effect
16Hz to 60Hz	sense of power, felt more than heard	makes music muddy
60Hz to 250Hz	Fundamentals of rhythm section, EQing can change musical balance making it fat or thin	makes music boomy
250Hz to 2000Hz	Low order harmonics of most musical instruments	telephone quality to music 500 to 1KHz horn-like, 1K to 2KHz tinny, listening fatigue
2KHz to 4KHz	Speech Recognition	3KHz listening fatigue, lisping quality, "m", "v", "b" indistinguishable
4KHz to 6KHz	Clarity and definition of voices and instruments, makes music seem closer to listener, adding 6dB at 5KHz makes entire mix seem 3dB louder	sibilance on vocals
6KHz to 16KHz	Brilliance and clarity of sounds	sibilance, harshness on vocals

NightShine Specifications

General

NightShine is based on Alesis 3630 peak compressor specs.

Dynamics processor

Number of bands	1
Threshold	-40.0 dB to 0.0dB
Ratio	1.0:1 to 20.0:1
Attack	0.1 ms to 200 ms
Release	50 ms to 3 seconds
Output	-20 dB to 20 dB (make up)
Threshold range	-inf dB. to 0.0dB, exponential curve.
Gain depth	0% to 100%
Switches	Auto make-up, soft-clip and limiter
Monitor	Input, Gain, Output and Text display
	+ Additional depth control for gain scale.

GUI

Display	Vintage look, with some 3D ray-traced parts.
Controls	Attack, Release, Make-up, Ratio, Threshold, Depth and Auto Make-up, Limit and Soft-Clip.
Indicators	Indicator VU Meters showing Input level, Gain level and Output level.

How NightShine works

Threshold (-40dB to 0.0dB)
Sets the level above which signals will be compressed or limited.

Ratio (1.0:1 - 20.0:1 / [limiter mode: infinite:1])
Sets the compression slope, which determines how the output signal will change in relation to the input signal once the input signal exceeds the threshold. The first digit indicates how many dB of input change will cause a 1 dB output change. The higher the ratio, the greater the compression, and the more "squeezed" the sound.

Examples: With a setting of 2:1, a 2 dB input change for signals above the threshold results in a 1 dB output change. With a setting of 1:1, a 1 dB input change results in a 1dB output change (i.e., there is no change to the signal dynamics).

Turning on limit switcher means ratio of infinite:1, so the output level remains virtually constant regardless of input level changes.

Attack (0.1 ms to 200 ms)
This control sets how fast the compressor gain envelope reacts to changes in input level. The longer the attack time, the more of a signal's dynamics are "let through" before the limiting action kicks in. With slower attack times, the limiter responds more to average signal level. This produces a smoother sound that tends to retain dynamic character, but the tradeoff is that the compressor cannot react as rapidly to sudden level shifts.

Examples: Setting a longer attack time with guitar allows more of the pick attack to come through. A longer attack time with kick drum lets through more of the beater "thock." For recording, you may want to trade off response time for smoothness. When used to prevent loudspeaker or power amp clipping, a fast attack time is desirable.

Release (50 ms to 3 seconds)
This control determines how long it takes for the limiter to return to unity gain after going into limiting. With short release times, the limiter tracks every little change in level, producing a potentially uneven or "rippling" effect that decreases dynamics but increases the average output level. Longer release times tend to "squash" the signal more, producing less overall output but retaining more of the signal's dynamics.

Excessive release times can be used as an effect. In the 60s using lots of limiting with long release time on drums was a popular recording technique.

Output (-20 to +20 dB)

The process of reducing dynamics lowers the signal's overall level. Use this control to compensate by adding output gain.
Example: Limiting a signal by 6 dB will make the signal seem approximately 6 dB softer. Compensate by using this control to increase the level.

The 'Auto' (Make Up) switch when turning on applies the approximately compensation needed.

Depth (0 – 100%)

It's used to scale the compression calculated gain, with 0% works like common compressor, with 100% every time the signal raises threshold, the compressor will envelope will attempt to mute audio.

Soft saturation switch

Wave shaper that shapes audio output and results in a more smooth curve rather than hard clipping.

Monitoring

At the left-bottom side of the User Interface we have 3 vu-meters showing the input level (IN), compressor gain (GA) and output level (OU).

> Input level (IN) shows the incoming signal level, it's light blue when signal is under threshold level, turns orange when is above threshold level and red when it clips.
>
> Gain level (GA) shows gain level. This is useful to see measure the compressor 'activity', take careful, the less movement in this bar means that your compressor settings are currently working more as just simple gain than dynamic processing.
>
> Output level (OU) shows the processed audio level, turns into red when clip. The plugin DSP is mainly divided in 3 parts, spectral enhancer, multi-band compressor and the limiter, but you don’t have to worry about an endless parameter list, since most all are controlled by the plugin itself.

ThrillMe 3 Description

ThrillMe is a powerful multi band stereo processor, you can use it to enhance and give warmth to your instruments or your full entire mix.

- Four-Band Precision Compression: Independently control thresholds, attack and release times, and ratios across four bands for unparalleled dynamic control with an innovative Lock control for four-band simultaneous adjustments.

- Adaptive Crossover Filtering: Seamlessly integrates frequencies with adaptive crossovers to prevent phase issues and deliver crystal-clear separation.

- Individual Band Soloing: Isolate and refine each band to perfection with the solo feature, ensuring precise sound sculpting.

- Sophisticated Metering: Monitor gain reduction in real-time for each band to ensure optimal audio shaping.

- Customisable Parameters: Easily configure solo, threshold, attack, release, and make-up gain for each band via an intuitive user interface.

ThrillMe Installation

Double click setup program icon and follow the instructions.

Demo version will not restore plugin state.

ThrillMe Interface

How ThrillMe Works

1. **Filtering**

The incoming audio signal is divided into multiple frequency bands using crossover filters. This allows the compressor to treat different parts of the frequency spectrum separately. For example, you might split the signal into low, mid, and high bands.

2. **Envelope Detection**

For each frequency band, the compressor calculates the signal's envelope, which tracks the amplitude over time. This involves measuring the peak levels to determine how the signal's volume changes. The attack and release times control how quickly the envelope responds to changes in the signal.

3. **Compression**

Compression is applied independently to each band based on the detected envelope. The compressor reduces the gain of the signal when it exceeds a certain threshold, according to the set ratio. The threshold determines the level at which compression begins, while the ratio sets the degree of compression. Attack time dictates how fast the compressor responds to signals above the threshold, and release time controls how quickly it stops compressing after the signal drops below the threshold.

4. **Gain Reduction**

After compression, make-up gain is added to each band to compensate for the reduction in overall volume caused by compression. This ensures that the output signal remains at a consistent loudness level.

5. **Saturation**

As part of the final processing, saturation is applied to the signal to add warmth and character. This involves slightly distorting the signal in a controlled manner to emulate the harmonic enhancement typical of analog equipment. Saturation helps to smooth out the signal and can make it sound fuller and more pleasing to the ear.

6. **Recombination**

The processed bands are recombined into a single audio signal. This step ensures that the different frequency bands are balanced correctly, resulting in a cohesive and polished final output. Proper recombination avoids any phase issues and ensures that the overall sound quality is maintained. By treating different frequency ranges independently, multi-band compression allows for more nuanced dynamic control, enhancing the clarity and impact of the audio without overly compressing or distorting any particular part of the spectrum. The addition of saturation further enriches the sound, giving it a professional and polished quality.

ThrillMe 3 Specifications

Three Frequency Crossovers: Default: 100Hz - 1 kHz - 10 kHz

Compression Parameters:

Threshold Range: -40 dB to 0 dB (Default: -24 dB)

Attack Time Range: 0.5 ms to 100 ms (Default: 3.6 ms)

Release Time Range: 1 ms to 1100 ms (Default: 150 ms)

Ratio Range: 1:1 to 16:1 (Default: 4:1)

Make-Up Gain Range: -10 dB to 20 dB (Default: 12 dB)

Solo Feature: Solo individual bands for focused sound editing.

Lock Mode: Apply changes to all four bands simultaneously.

Technical Highlights:

Dynamic Filtering: Advanced filters create smooth crossover transitions and deliver phase-coherent audio.

Realistic Envelope Tracking: High-resolution envelope detection provides accurate, real-time compression.

Warm Saturation Circuitry: Add analog warmth and depth to your mix with our tailored analog modeled saturation algorithm.

ThrillMe 2 Description

ThrillMe is a powerful VST plugin stereo mastering processor, you can use it to enhance and give warmth to your instruments or your full entire mix.

ThrillMe Installation

Double click setup program icon and follow the instructions.
Note: Demo Version is time limited to 10 minutes of processing per session.

ThrillMe Interface

The following picture describes the function for each knob:

How ThrillMe Works

The plugin DSP is mainly divided in 3 parts, spectral enhancer, multi-band compressor and the limiter, but you don’t have to worry about an endless parameter list, since most all are controlled by the plugin itself.

You have only to deal with 3 parameters, spectral enhancer amount, compressor threshold and ratio.

The spectral enhancer is a series of shelving filters that works giving presence of harmonic components of the incoming signal, the big knob on the user interface determines amount of this effect, a middle/low value usually does the job.

The second part is the dynamics processor, firstly it splits signal in 3 ways, bass, middle and high bands.

Each band is processed independently (3 parallel compressors), and the plugin provides controls for threshold and ratio of the compressors, but each band have own configuration (attack, release, etc.) set automatically with the plugin depending the band (l/m/h).

The signal is then mixed together again, the mix is limited and wave shaped, and is feed to output.

ThrillMe Specifications

General

Platform	VST (Windows)
Inputs	2
Outputs	2
Precission	32-bit floating point
Working rate	Any supported (host dependency)

Spectral enhancer

Number of bands	4
Band specification	Bipole shelving IIR filter.
Types	(1 x Lowshelf + 2 x Peaking + 1 x Hishelf) x 2 (stereo)
Routing	Serial
Adjustment	Auto

Dynamics processor

Number of bands	3
Splitting filter	Single-pole IIR/-6dB oct x 2 (stereo) x 3 (bands)
Band range	0-1kHz/1kHz-10kHz/10kHz-Inf (with -6dB/oct crossover rolloff)
Algorithm	VADP - Virtual Analog Dynamics Processing.
Envelope	Attack / Release (Self adjusted)
Ratio	from 1:1 to 1:128
Threshold range	-inf dB. to 0.0dB, exponential curve.

Limiter

Type	Mathematical waveshaping.

Gui

Display	Vintage look, 3D raytraced gui.
Controls	Threshold, ratio and spectral enhancement amount.
Indicators	Valve showing compressor activity.