ISON

User's Manual

Oscope™ HOME

Oscope™ PROJECT

Oscope™ PROFESSIONAL

I S O N EQ for the Scope Fusion Platform

Version 1.02

Welcome!

EQUALISATION.

EQ is the most important and frequently used tool when working with sound. Above all else, good EQ'ing is the fundamental thing that defines a good mix.
Careful EQ'ing allows you to carve out a clear and defined tonal space for each instrument so that sounds combine without cluttering up the mix.

The De-Vice' ISON is designed from the ground up to be your main tool when shaping sounds and mixing and mastering.

With the use of features such as Q/Gain dependency, de-cramping and selectable modes of EQ from digital style ultra accurate to analog style circuit simulations the De-Vice' EQ is no ordinary EQ plug-in.!

Even if you hate manuals, (well you've made it this far!), at least read the 'Specifications and use' section of this to get the most from ISON.

Have fun, be sure to experiment, and check out the other plug-ins available from www.deviceplug-ins.com
Best Regards
Simon Ayton
De-Vice'

Contents

ISON Main Surface

click any area for info

Specifications, use & DSP management

ISON was designed for a minimum screen resolution of 1040x800 @ 24/32bit colour and at least 512MB of system memory.
Loading times for a single instance of the ISON can take up to 40 seconds if your system is heavily loaded, so be patient!
The 'ISON mono' plug-in included with your purchase uses roughly half the DSP of the ISON (stereo) so use it on vocals etc.
As an alternative, the 'ISON Trakker' also included is a cut down version of the ISON designed specifically for big mixdowns and uses less system RAM and DSP due to it's elimination of the EQ curve display, ghost curves and it's reduced number of HP&LP filter stages. Controls are fully MIDI controllable, including switches. You owe it to yourself to try one of the many MDI controller options which are available from the Keyfax 'Phat-Boy' to 'Radikal's SAC-2K'.
More information about using midi controllers with De-Vice' plug-ins can be found @ http://www.deviceplug-ins.com/knobs.htm
ISON control via MIDI feels like an outboard EQ to use, speeds up your workflow enormously and catapults it into a new league!

The control ranges for each ISON EQ band are as follows:

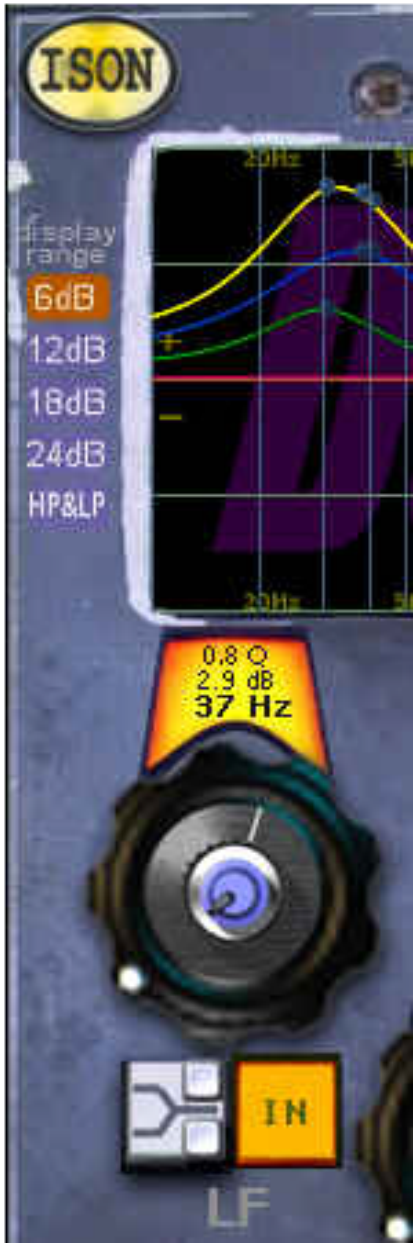
In all modes except de-GL	Freq Range	Gain	Q/width
LF (low frequency-shown in blue)	20Hz-400Hz	+-24dB	0.5-16
LMF (low mid frequency-shown in green)	30Hz-600Hz	+-24dB	0.5-16
MF (mid frequency-shown in red)	100Hz-6000Hz	+-24dB	0.5-16
HMF (high mid frequency-shown in gold)	600Hz-20KHz	+-24dB	0.5-16
HF (high frequency-Shown in white)	2KHz-20KHz	+-24dB	0.5-16

de-GL mode (Q controls are reversed in this mode)	Freq Range	Gain	Q/width
LF (low frequency-shown in blue)	15Hz-800Hz	+-24dB	10-0.4
LMF (low mid frequency-shown in green)	15Hz-800Hz	+-24dB	10-0.4
MF (mid frequency-shown in red)	120Hz-8000Hz	+-24dB	10-0.4
HMF (high mid frequency-shown in gold)	400Hz-24KHz	+-24dB	10-0.4
HF (high frequency-Shown in white)	400Hz-24KHz	+-24dB	10-0.4

Filters
High Pass 0Hz-24KHz in 6dB steps from 6dB-48dB
Low Pass 0Hz-24KHz in 6dB steps from 6dB-48dB

The ISON cleverly unloads DSP power when any EQ stage is not being used so make sure you turn off unused bands to reduce the load on your Creamware DSP cards.

All attempts have been made to provide low DSP usage and maximum EQ bang for your buck. This is no light weight EQ! An AGP video card with 32MbRAM and at least 512MB of system RAM helps performance enourmously. The choice between knobs and faders is up to you. As with all Creamware plug-ins, the further away from the control you move the mouse once clicked, the finer the adjustment. By the way, as with all Creaware plug-ins, you can use the 'Page up' and 'Page down' keyboard keys and the left and right arrow keys for coarse and fine adjustments of all controls



EQ controls

Each EQ band can boost and cut by up to 24dB

Each EQ section functions the same way but each one controls a different frequency range.

LF (low frequency-shown in blue)

LMF (low mid frequency-shown in green)

MF (mid frequency-shown in red)

HMF (high mid frequency-shown in gold)

HF (high frequency-Shown in white)

The largest outside knob controls frequency, the second knob gain and the small coloured knob bandwidth or Q.

The exact value of each knob is displayed above in the orange information display.

Values can be typed into this display for precise settings. Clicking on the knobs and dragging them will also adjust the values You can also control the Trakker via. your computer keyboard:

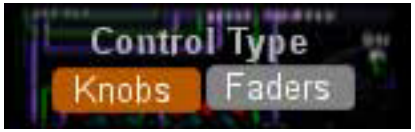
Page up, page down = course control

left and right arrows =fine control

home, end =control to minimum, control to maximum

or also with the number pad 0-9

The operating motion of the knobs can be set from the setup page



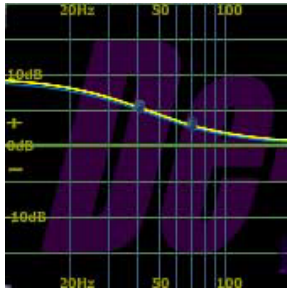
The EQ section is active when the 'IN' button at the bottom is displayed.

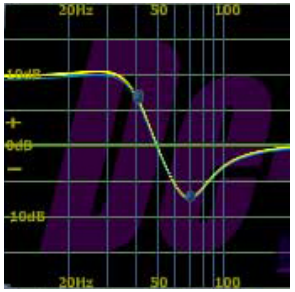
The button to the left of the 'IN' button switches the low and high bands to shelving EQ. This alows broad changes in low and high stage EQ.

The small buttons on the shelving switch which control the overshoot controls are explained in the Overshoot controls section of this manual. Click them on the picture to the left to go there...

High and low shelf mode overshoot options

fig.A





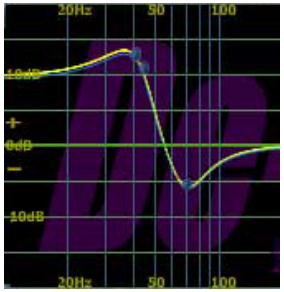
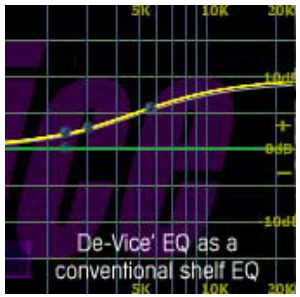
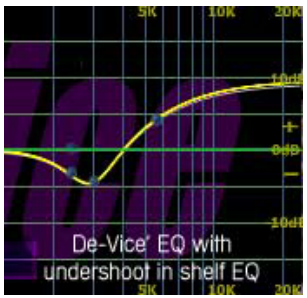


fig.B fig.C

fig.A





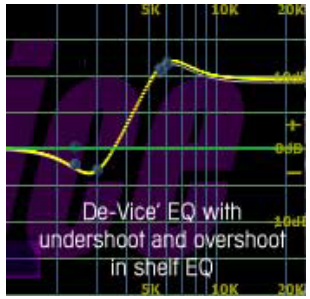
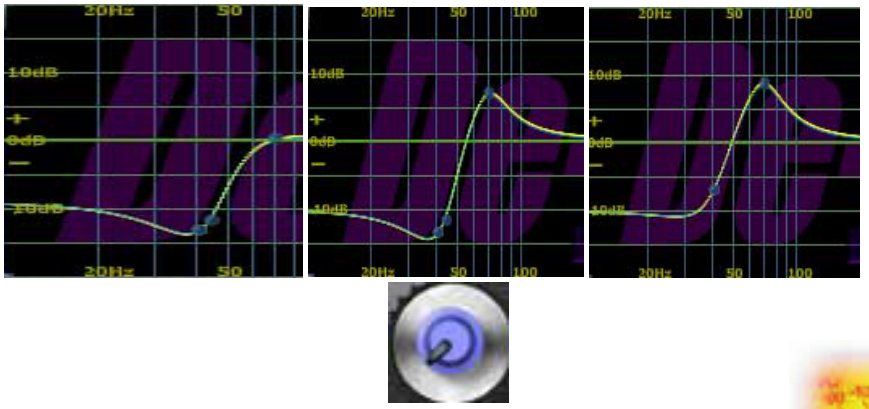


fig.B fig.C

In the high and low shelf modes, the Q control acts as an 'Overshoot' control which adjusts the shape and steepness of the EQ curve.
Cutting the frequencies directly below and above the area of focus helps to reduce the
'honkiness' or 'muddiness' often associated with shelving EQ.
(fig.A) With the Q control at it's lowest value, no overshoot occurs but as the Q is increased (fig.B) a dip occurs
in the curve. At maximum Q, the overshoot is equal to half the boost value.
(fig.C) You also have the option of a 'lip' switch which gives a ~3dB boost to the leading edge of the curve which gives a bit more bite.



In cut, you also have the option of 'lip', 'dip' or both together.
There are no rules. Experiment with the different curve shapes
to find the one that works best for the job.

EQ Mode Switching

The central round meter contains the EQ Mode switches.
The EQ Mode modes change the way the gain and Q controls react to one another.

This interaction is what defines an EQs sound.

In an analog circuit, the Q changes with variations in the gain due to limitations in the circuit and components. This is referred to as Q/Gain dependency. Generally, as the gain is increased, the effective bandwidth of the EQ range narrows.

A digital EQ is much more accurate and because of it's capabilities, the Q does not change with gain. This is often referred to as 'Constant-Q'. This total independence of controls allows extreme accuracy but can sound harsh as the user has to constantly modify the Q as gain increases to make the EQ focus on the area being effected.

All this results in two very different sounding EQ designs.

Simply click the const-Q, de-SL, perc, Klassik, M and de-GL names to select the EQ mode.

A full explanation of the various modes is on the next page.

EQ Modes

Standard digital style EQ where Q remains constant/independent when gain changes

Analog SSL console style EQ ranges with slight Q/Gain dependency in cut and boost.

Same as de-SL in boost but constant Q in cut allowing ringing drum overtones to be removed more accurately.

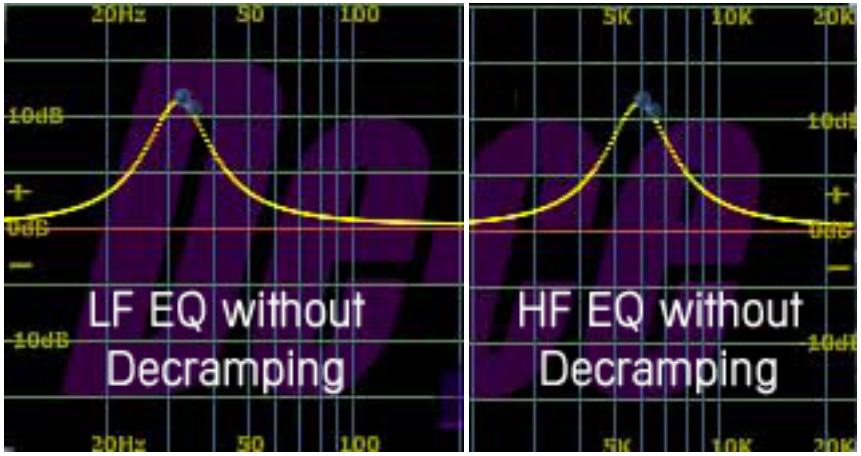
The most dramatic EQ mode with high Q/Gain dependency for a distinct character.

(master mode)

In this mode, at low gain levels Q is tied directly to gain but as the gain increases the value of Q you have set comes into play.
The Q/Bandwidth is at it's widest with low boost/cut values which allows very
subtle EQ correction perfect for mastering.

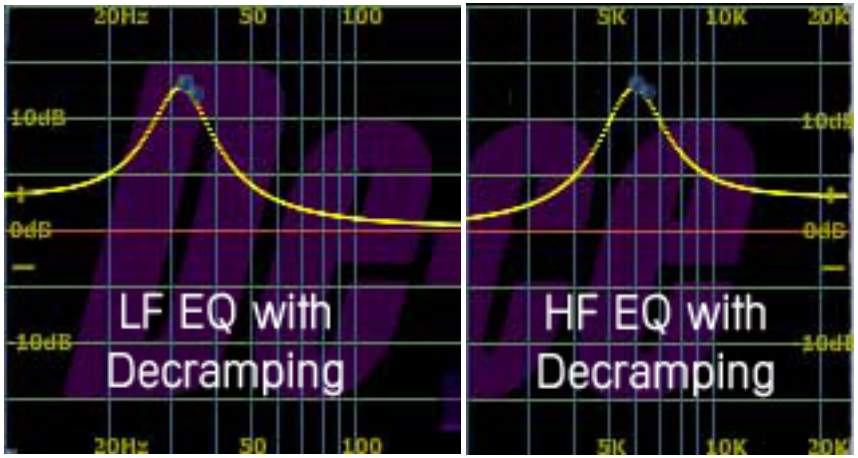
Also excellent for mixing productions, this mode has a wider frequency range up to 24 kHz for Hi-Resolution mastering
and the ranges of each band are extended and overlap considerably more so than in the other modes.
This mode uses the same control ranges to the famous GML EQ designed by George Massenberg.

Decramping Effect



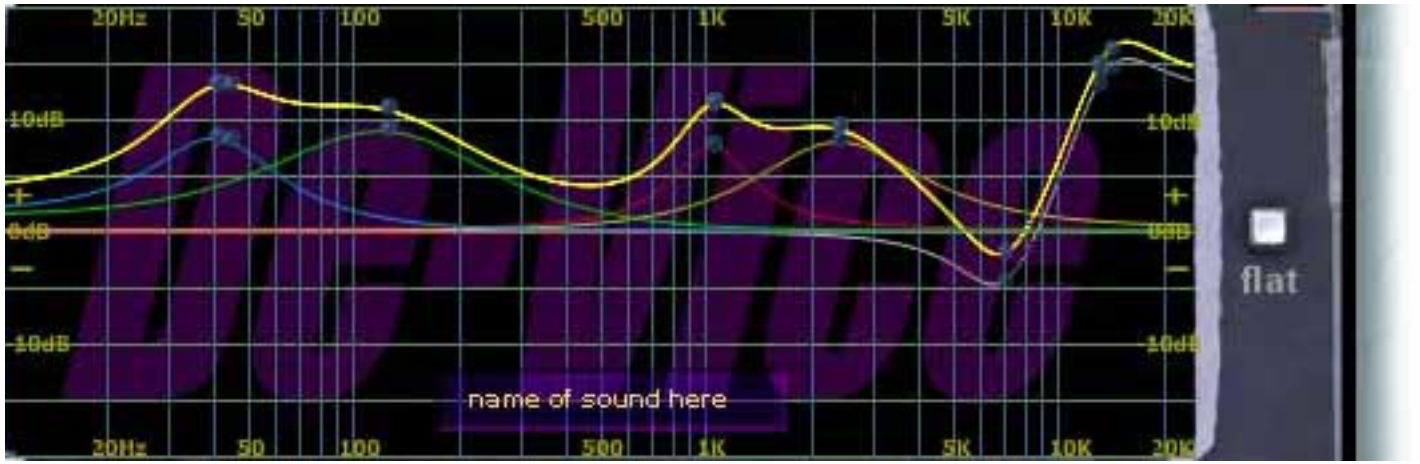
Normal digital EQs can sound harsh as the high and low ends are effectively squashed during EQ'ing. Our EQ simulates this style of digital EQ when the decramping switches on the SETUP page are switched to 'none'

Decramping helps to add 'air' and low end presence.



The decramping feature reduces the constriction of the highest and lowest frequency areas and effectively adds 'air' and bottom end presence to the sound as in an analog EQ design.

EQ Curve Display



The Yellow curve is the main EQ curve.

In a multiband EQ, each band has influence over the end result EQ.
The EQ curve display shows you not only this main curve (in yellow) but also each individual band's influence. These are called 'Ghost Curves' .They make it easier to see exactly what each band is doing.

A scribble strip is included for you to type in the name of the sound the EQ is effecting.

The flat button resets all EQ gains and the filter switches to zero/off.

The 'ghost' curves represent each individual band.

High and Low Pass Sections

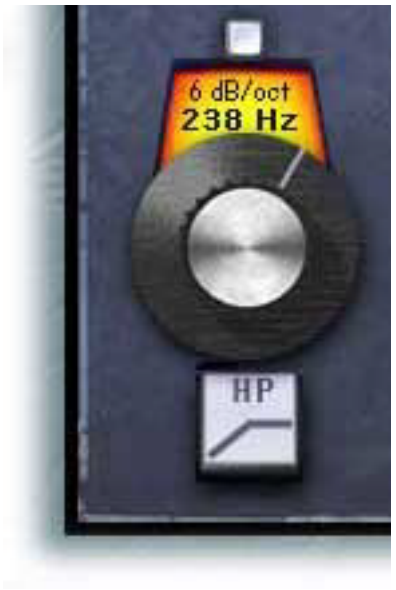
Before entering the EQ section, sound travels through the low and high pass filters allowing you to filter out or get rid of things like rumble, hiss and at the same time can reduce the *DC offset that may be present in the signal.

Each filters steepness or strength is determined by how many dB per octave it is effecting.

Pressing the small button above the section chages how many dB per octave will be cut.

The HP (High pass) filter lets frequencies above it's Hz value pass through uneffected while everything below is reduced per octave by the amount of gain selected.

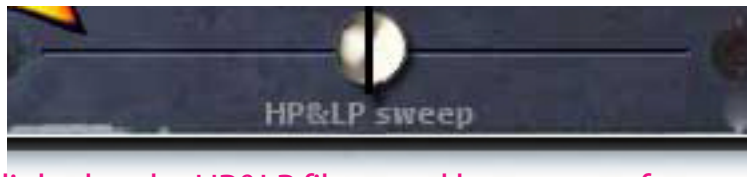
The LP (Low pass) filter lets frequencies above it's Hz value pass through uneffected while everything above is reduced per octave by the amount of gain selected.



The offset control changes the relationship between the HP&LP filters when using the sweep control.

the cut filters are switchable in 6dB steps from 6dB to 48dB per octave!

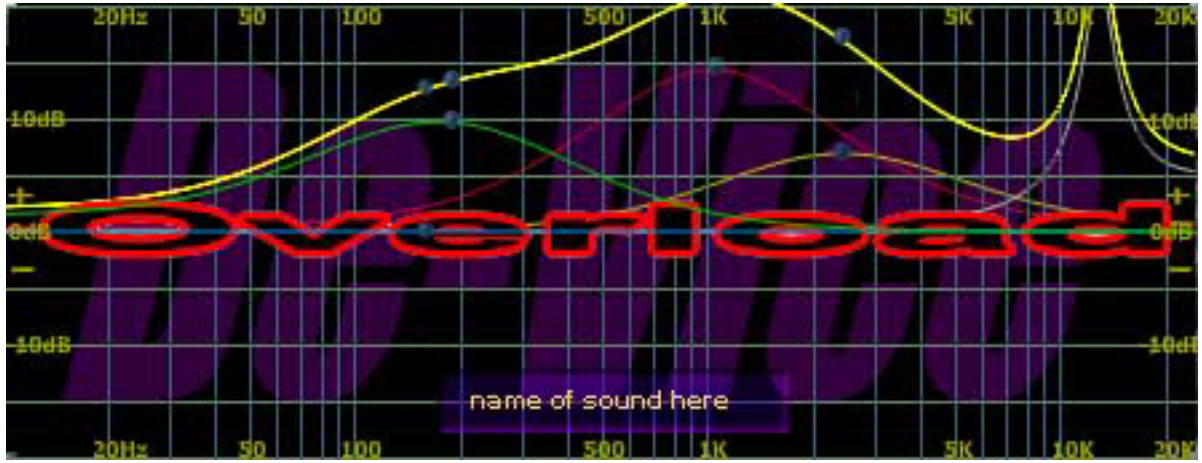
when adjusting or sweeping the filters, use HP&LP switch.



the sweep control is linked to the HP&LP filters and lets your perform massive frequency sweeps!

*DC offset is the term given when a signals positive and negative cycles are unequal resulting in a click at the start and end

Output Volume and Overload Display



The volume knob control has a boost of 24dB

Double clicking the volume knob resets it to 0 gain.
If at anytime during use the circuit level exceeds -0.1dB, the overload display will light in the EQ curve display.

The button on the knob resets the overload display.
The option 'Include PAD reset in flat' on the 'Setup' page resets the volume knob to zero when the 'flat' button to the right of the EQ curve is clicked.

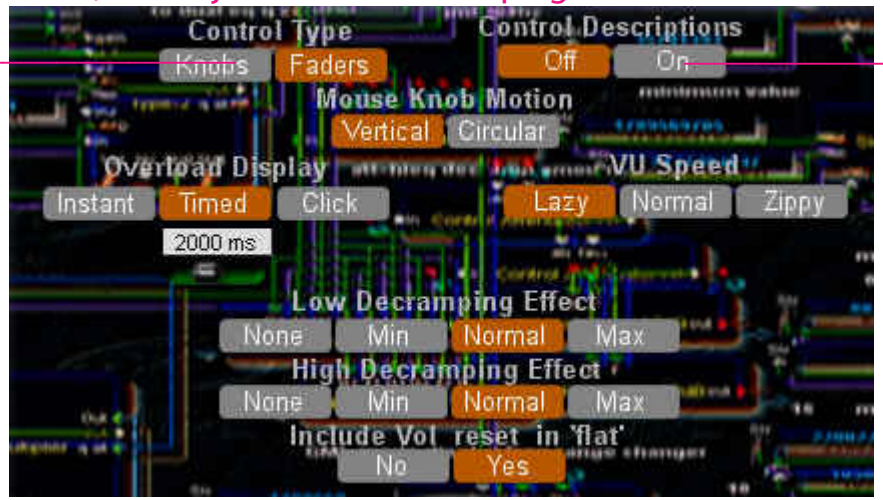
You can adjust the settings for the overload display from the SETUP page of the plug-in.

SETUP page

Here, the major functions of the plug-in can be modified.

Control Type

Don't like knobs?
Here you can exchange all the controls for faders.



Control Descriptions

Gives you information about what the controls do on the main surface.

Mouse Knob Motion

In vertical mode, clicking on a knob and dragging vertically makes the knob trun.
This is the recommended mode for this EQ plug-in.

Overload Display

Instant means the overload warning in the EQ display will light the instant clipping occurs.
It will then turn off once the level drops below -0.1dB.

VU Speed

Adjust the response speed of the vu meter here.

Timed

Timed allows you to set how long in milliseconds the overload warning stays lit for.
Use the small fader below the number to adjust this. You can also type in the exact value into the box.

Click

In click mode, the overload warning will remain on until the small reset button on the PAD knob is clicked.

Decramping Effect (explained in Decramping Effect section of this manual)

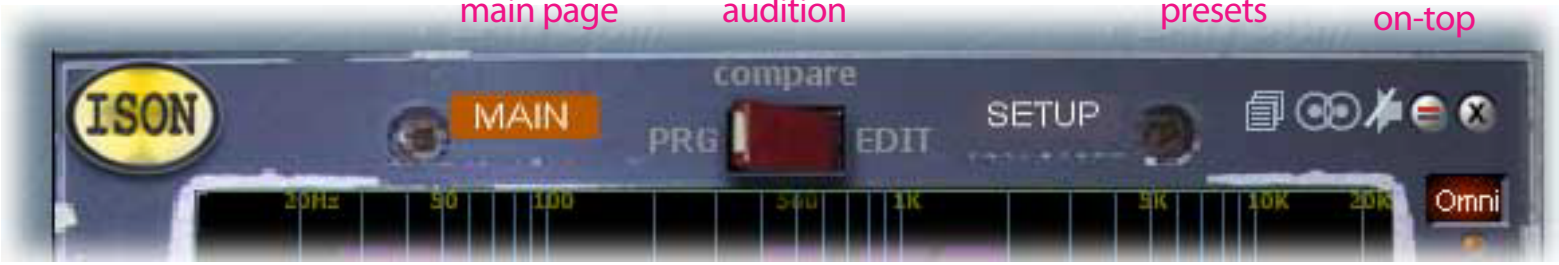
Decramping is a subtle effect which helps create clarity and smoothness to the top and bottom ends of this EQ.
Normal settings are recommended here but feel free to experiment and watch the EQ display to see how it works.

Central VU meter

Right level
meter monitor mode
Left level
high output warning lights up in red
Overload reset button
Final output control
current EQ mode

The central meter contains EQ Mode switches, left (orange needle) and right (blue needle) volume level meter and 'I' (input) and 'O' (output) monitor switches. Normally you will want the VU mode in 'O' mode as you can then see what's happening within the circuit of the EQ after your EQing.
The main knob in the middle controls the final output gain of ISON. The control has a boost of 24dB
The caution light warns you when 0dB is reached at the input in 'I' mode or the output in 'O' mode.

Utility Buttons



main page
audition
global settings
presets
bypass
stereo/mono
on-top
close surface
Midi channel

The compare switch allows you to audition your new EQ settings compared to the currently loaded preset.
To use, first create a preset by clicking the preset button, Create a bank and save your current EQ setting. Now when you adjust any control, the compare switch will toggle to 'Edit' meaning you are now looking at the edited preset.

IMPORTANT NOTE!

When the ISON is saved as part of a project, make sure the compare switch is in 'PRG' mode by saving your preset before saving the project.

Boring legal stuff

De-Vice' reserves the right to
change the design and operation of all products at anytime to further enhance performance, function and efficiency.
We also reserve the right to update
product versions at our own discretion, independently of host software requirements.

Simon Ayton and De-Vice' are not responsible for damage to person or equipment whilst using these products and copy or distribution without prior consent from De-Vice' is illegal and directly harms our survival so please do the right thing!

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