



# INSIGHT™



## HELP GUIDE

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# Overview

Insight provides a full suite of audio analysis and metering tools, perfect for visualizing changes made during the mixing and mastering process, troubleshooting problematic mixes, and ensuring compliance with broadcast loudness standards. Fully customizable and scalable, Insight allows you to visually monitor all relevant information from your mix in a convenient floating window. Featuring level meters, loudness meters, a spectrogram, spectrum analyzer, vectorscope, Surround Scope, and a loudness history graph, Insight allows you to keep an eye as well as an ear on your mix at all times.

## Key Features

- Loudness metering tools compliant with the ITU-R BS.1770-1, ITU-R BS.1770-2, ITU-R BS.1770-3, and EBU R128 standards
- Spectrogram with 2D and 3D options that displays frequency information over time with regard to amplitude
- Spectrum Analyzer with zoomable scales and selection zooming
- Surround Metering tools for better spatial visualization and troubleshooting of your surround mix
- True-Peak/RMS/K-system level meters with adjustable clipping threshold
- Loudness Overflow Alert automation for writing loudness violations to a track in your DAW timeline
- Full customization with a resizable window and scalable meter partitions
- Included Meter Tap plug-in that allows you to route audio streams from anywhere in your session to Insight's Spectrogram
- Preset system complete with useful factory presets that allows you to save and recall your most used meter settings

# Authorization

Each purchased copy of Insight contains a unique serial. After downloading Insight directly from iZotope or another re-seller the serial number will be e-mailed along with the link to download the product. The serial number should resemble: SN-INSIGHT-XXXX-XXXX-XXXX-XXXX

## Launching the Authorization Wizard

The first time you open Insight, the Authorization Wizard will appear. You can choose to either authorize Insight or use it in Trial mode for evaluation purposes. Please use your supplied Insight serial number to fully authorize your product.

## Trial vs. Demo Mode

For the first 10 days after installation, Insight will run in Trial mode, which offers full functionality. After 10 days, Insight will revert to Demo mode. In Demo mode, Insight's meters will no longer register.

## Authorizing Your Copy of Insight Online

After opening Insight and launching the Authorization Wizard, the following steps will complete the authorization process online:

1. First, click on 'Authorize'.
2. Next, enter the serial number emailed to you. It should look like this:

SN-INSIGHT-XXXX-XXXX-XXXX-XXXX

3. You must also enter your name and a valid e-mail address.

*Make note of the e-mail address you use to authorize your license. Your license and iZotope account will be linked directly to this e-mail address.*

Note: Clicking the 'Advanced' button reveals a set of options that allow you to store your Insight authorization on a portable hard drive or flash drive. [Click here](#) for more information on these options.

4. When you have confirmed that your serial number and e-mail information is accurate, click once more on 'Authorize'.

5. Lastly, click on 'Submit' in order to send your authorization message to the iZotope servers. If the authorization is accepted, click on the 'Finish' button to complete the authorization.

## **Authorizing Your Copy of Insight Offline**

Some customers choose to keep their audio workstations offline, and a simple offline authorization option has been included. After opening Insight and launching the Authorization Wizard, the following steps will complete the authorization process offline:

1. When first prompted to authorize Insight, click on 'Authorize'
2. Next, click on the option for 'Offline Authorization' at the bottom of the authorization window, select "Authorize with iZotope challenge/response" and click next.
3. You will be given a unique Challenge Code that is specific to your computer only. Write down or make a copy of the exact Challenge Code. It will look like this:

IZ-INSIGHT-XXXXXXXX-XXXX-XXXX

4. Next, using a system with internet access, login to your customer account at the iZotope website: <http://www.izotope.com/store/account.asp>
5. Click the 'Activate Software with a Serial Number' button, enter your full serial number and click 'Submit'.
6. Select the 'Challenge/Response' option and click on 'Submit'.
7. Read the License Agreement and click "Agree" if you find it agreeable.
8. Now enter your full Challenge Code copied in step 3.
9. After submitting your Challenge Code, you will receive a unique authorization file named 'iZotope\_Insight\_XXXXX.isotopelicense.xml' that you then need to copy to your offline computer.
10. Once the authorization file is copied over to your offline computer using a network, hard drive or USB stick, click the 'Choose File...' button in your authorization wizard.

11. Navigate and select the authorization file and click 'Next' to authorize your machine.

12. You should now receive a message that your authorization has been successful and may click Finish to begin using Insight.

## **iLok Support**

Insight does support iLok. Our plug-ins will be able to detect iLok keys and assets if you already use iLok and PACE software on your system. If you don't already have PACE or iLok, we will not install any PACE or iLok software to your system, and iLok authorizations will be unavailable.

## **Authorizing Insight with iLok**

1. When first prompted to authorize Insight, click on 'Authorize'
2. Next, enter the serial number emailed to you. It should look like like this:

SN-INSIGHT-XXXX-XXXX-XXXX-XXXX

3. You must also enter your name and a valid e-mail address.

*Make note of the e-mail address you use to authorize your license. Your license and iZotope account will be linked directly to this e-mail address.*

4. Select 'Use iLok Authorization' and enter your iLok ID.
5. When you have confirmed that all your information is accurate, click once more on 'Authorize'.
6. Lastly, click on 'Submit' in order to send your authorization message to the iZotope servers
7. You will now be instructed to log in to your iLok account and transfer your Insight license to your iLok.
8. When you have completed this step and have your iLok connected to the computer on which you want to use Insight, click 'Next'.
9. You should now receive a message that your authorization has been successful and may click Finish to begin using Insight.

## **Web Help**

Should you encounter any problems during authorization please consult our online portal with additional information:

<https://www.izotope.com/support/portal/authorization.asp>

## **Contact Support**

Should you not be able to resolve your authorization issue please contact the customer at [support@izotope.com](mailto:support@izotope.com).

iZotope's highly trained support team is committed to responding to all requests within one (1) business day and frequently respond faster. Please try to explain your problem with as much detail and clarity as possible.

# General Use

## Global Menu

In the bottom of the Insight touchscreen is a selection box where you may open the Preset Manager and Options Menu as well as select which meters you wish to view at any time. This menu allows you to customize Insight to show between 1 and 5 partitions.



## Scaling/Maximizing/Minimizing

Each meter's partition can be scaled by clicking and dragging the borders that surround it vertically or horizontally. Additionally, you may maximize the view of an individual meter by clicking the maximize ( + ) button. When you want to return to the global meter view, simply click the minimize ( - ) button.

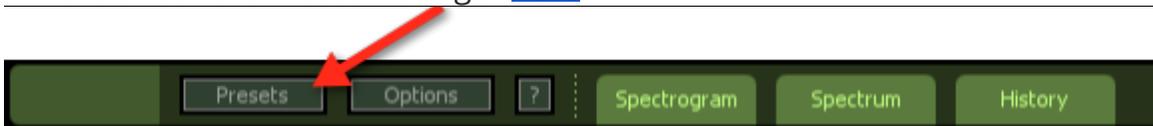


Minimized meters will appear at the bottom of the plug-in window in the global options menu. Clicking these parked tabs will re-enable the meter.



## Presets

Clicking the Presets button launches the Preset Manager from which you can load useful meter settings or save your own settings for recall later. Learn more about the Preset Manager [here](#).



## Options

Insight's Global Option Menu is accessible from the Global Toolbar at the bottom of the touchscreen.



*Tip: Clicking the options button when you are viewing a maximized meter will automatically display the options tab for that particular meter.*

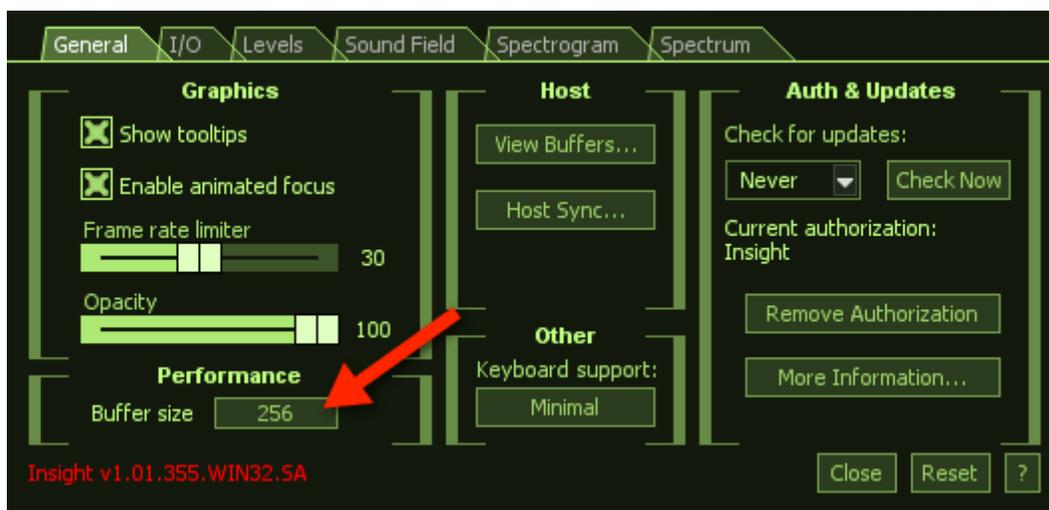
## Help

You may click the Help button at any time to launch this Help Documentation. When you have a given meter maximized, clicking the Help button will take you directly to that meter's documentation.



## Adjusting Buffer Size for better performance

By aligning the buffer sizes expected by Insight and the buffer size of your session you will see the best performance with the most efficient use of CPU. After setting the buffer size in your DAW you may adjust the buffer size used by Insight in the General Options tab.



## Setting channel configuration for surround tracks

After instantiating Insight on a surround track you may need to adjust the channel configuration in Insight to match that of your DAW or session. As a default Insight uses film channel configuration(L,C,R,Ls,Rs,LFE). Other available configurations are SMPTE/ITU (L,R,C,LFE,Ls,Rs) and DTS (L,R,Ls,Rs,C,LFE). You may adjust the channel configuration going into Insight as well as the display order of meters from the I/O Options Tab.



# Level Meters

Insight features Level Meters to monitor the incoming levels of your audio channels.



## What are Level Meters?

Level Meters are real time displays of the signal magnitude of your different audio channels. Insight's Level Meters display both instantaneous (true-peak) and averaged (RMS) levels.

## How are Level Meters used?

Level Meters allow you to monitor the precise signal levels of your audio channels in real time. This can allow you to examine the overall dynamic range of your audio as well as be alerted to any clipping in both the digital and analog domains with "True Peak" detection.

## Level Meter Modes

### Peak + RMS

These are combined True-Peak and RMS meters. This meter mode displays a lower bright bar representing the average level (RMS) and a higher dimmer bar representing peak level. There is also a moving line above the bar representing the most recent peak level or peak hold.



The Peak meters are fast meters that measure true-peak analog waveform values. If you are tracking your audio for possible clipping the True-Peak meters are appropriate.

RMS (Root Mean Square) is a software-based implementation of an analog style level meter. The RMS meters display the average level calculated over a short window of time.

## K-System

A method of measuring loudness proposed by mastering engineer Bob Katz incorporating psychoacoustic knowledge. The K-System meters feature both Peak and RMS level meters on special scales. There are three different K-System meter scales, with 0 dB at either 20, 14, or 12 dB below full scale, for typical headroom requirements. The three K-System meter scales are named K-20, K-14, and K-12. These meters represent three switchable scales: K-20 with 20 dB headroom above 0 dB, K-14 with 14 dB headroom, and K-12 with 12 dB headroom. These dual-characteristic meters have a bar representing the average level and a moving line or dot above the bar representing the most recent highest instantaneous (1 sample) peak level.

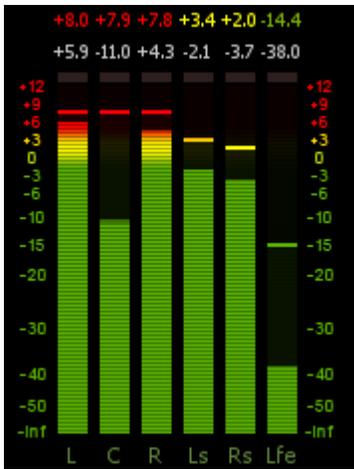


fig.1

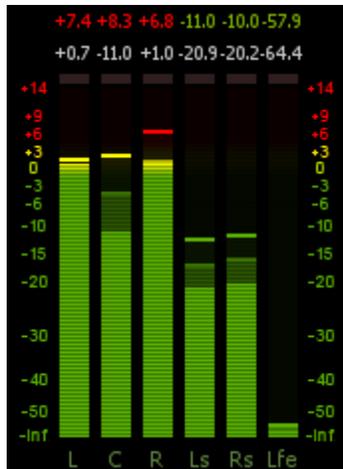


fig.2

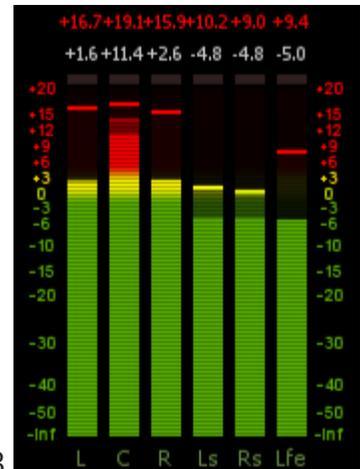


fig.3

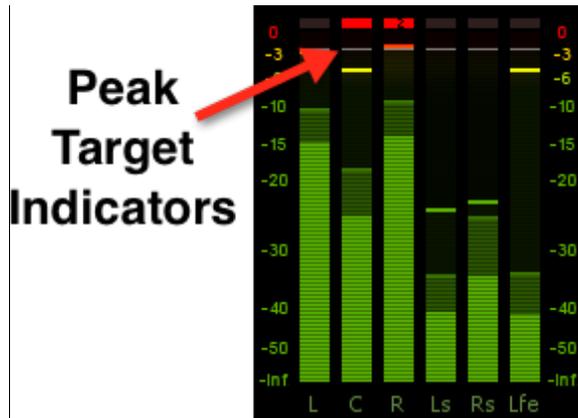
1. The K-12 meter is for productions to be dedicated for broadcast. Broadcast recording engineers may certainly choose K-14 if they feel it fits their program material.
2. The K-14 meter is for the vast majority of moderately-compressed high-fidelity productions intended for home listening. If making "typical" pop or rock music, or audio for video, then probably choose K-14.
3. The K-20 meter is intended for wide dynamic range material, e.g., large theatre mixes, "daring home theatre" mixes, audiophile music, classical (symphonic) music, "audiophile" pop music mixed in 5.1 surround, and so on. Pop engineers are encouraged to use K-20 when the music has useful dynamic range.

## Peak Targets

While true-peak clips are usually measured as signals that would go above 0dB in an analog domain, Insight's level meters allow you to set an adjustable clipping threshold known as a peak target. This will affect what level indicates a clip and can help you keep your levels within a given true-peak range which is often a requirement of broadcast standards.



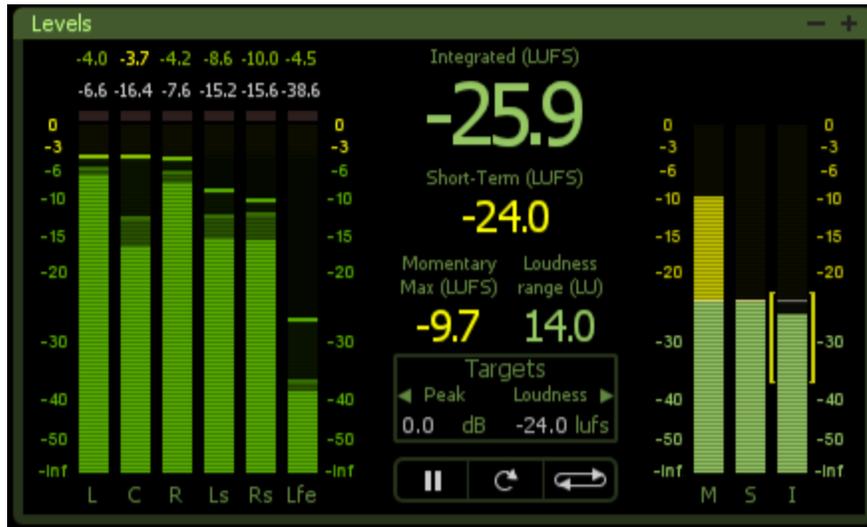
To edit the Peak Target value simply double-click on the value and enter a precise value or click and drag the value up or down.



*Note: Your Peak Target setting will be represented on the level meters by Peak Target Indicators. Here the Peak Target is -2dB TP as specified by the ATSC A/85 document.*

# Loudness Meters

Insight features Loudness Metering as recommended by the International Telecommunication Union (in ITU-R BS.1770-1,2, and 3) and the European Broadcasting Union (EBU R128).



## What are Loudness Meters?

Loudness Meters are real time displays that calculate the perceived loudness of your audio using standards created by the International Telecommunication Union. These meters use a weighting curve which more accurately reflects how the human ear perceives frequencies as well as ballistics which average audio over time to calculate one integrated loudness reading.

## How are Loudness Meters used?

Loudness Meters are currently used to ensure audio complies with given regulations like those specified by the Advanced Television Standards Committee and European Broadcasting Union. Although currently only enforced for broadcast audio, this method of loudness calculation has been found to be most representative of how we perceive loudness and is thus relevant to all types of audio.

BS.1770 compliant loudness metering generates the following values in both meters and/or real-time readouts:

**Momentary:** This measurement is a calculation of loudness over the course of 400ms. This value is only displayed in the loudness meters labeled “M”. Momentary loudness is not gated even when a gate is enabled.

**Momentary Max:** This value is the maximum measurement of momentary loudness in a given period of calculation. This value is only displayed in the Momentary Max readout.

**Short-term:** This measurement is a calculation of loudness over the course of 3 seconds. This measurement is useful in monitoring immediate trends of loudness in your audio. This value is displayed in the loudness meter labeled “S” as well in the short-term loudness readout.



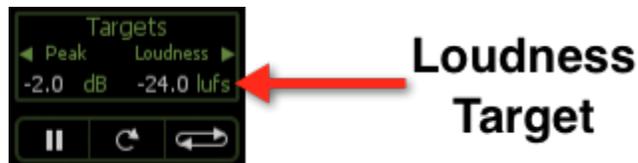
**Integrated:** This measurement is a calculation of loudness over the course of an indefinite period of time including any gate threshold. This is an infinite average and generates a single loudness calculation for the total calculated period or program. Integrated loudness is displayed in the loudness meter labeled “I” as well as the larger integrated loudness readout. This value is most commonly enforced by loudness standards.

**Loudness Range:** The overall dynamic loudness range of an entire period measured in Loudness Units (LU). 1 LU is equal to 1 dB. The overall Loudness Range is calculated over time and indicated in the brackets alongside the Integrated Loudness Meter as well as displayed in a real-time readout.

## Setting Your Loudness Target

The Loudness Target setting allows you to set the specified loudness measurement you want your audio to stay under. After setting your Loudness Target, values which exceed this target will display in red to alert you to possible issues with compliance. This setting also informs the Loudness Overflow tracking feature discussed further [here](#).

**Tip:** Your Loudness Target value will be represented by a white indicator line across the loudness meters. The default value (-24LUFS) is recommended by the ATSC in their A/85 document. Be sure to check delivery specifications before setting your Loudness Target. We have included some useful loudness presets with settings relevant to regions around the world to help you get started.



To edit the Loudness Target value simply double-click on the value and enter a precise value or click and drag the value up or down.

## Calculation Settings

**Start/Pause:** You may toggle this to start and pause the calculation of loudness at any time without losing the values that have already been measured.



**Reset:** You may select this to reset all measurements of loudness at anytime.



**Continuous Calculation:** When enabled, Continuous Calculation Mode allows you to start and stop playback while retaining values for Integrated and Momentary Loudness. When disabled, these measurements will reset each time you stop and start playback.



## Absolute vs. Relative Scales

This determines whether loudness calculations are displayed in the real-time readouts on an absolute scale and measured in Loudness Units Full Scale (LUFS) or on a relative scale determined by the Loudness Target level setting and measured in Loudness Units (LU).



**Tip:** When loudness is displayed on a relative scale a Loudness Unit (LU) value of 1 is equal to 1 LUFS from the Loudness Target. So a readout of -2.1LU represents that your audio is 2.1 LUFS below your Loudness Target.

## Range Options

**dB (Linear):** Linear scale decibel range from measuring loudness on a linear scale (Absolute scale only).

**dB (Non-linear):** Full scale (dBFS) range for measuring loudness (Absolute scale only).

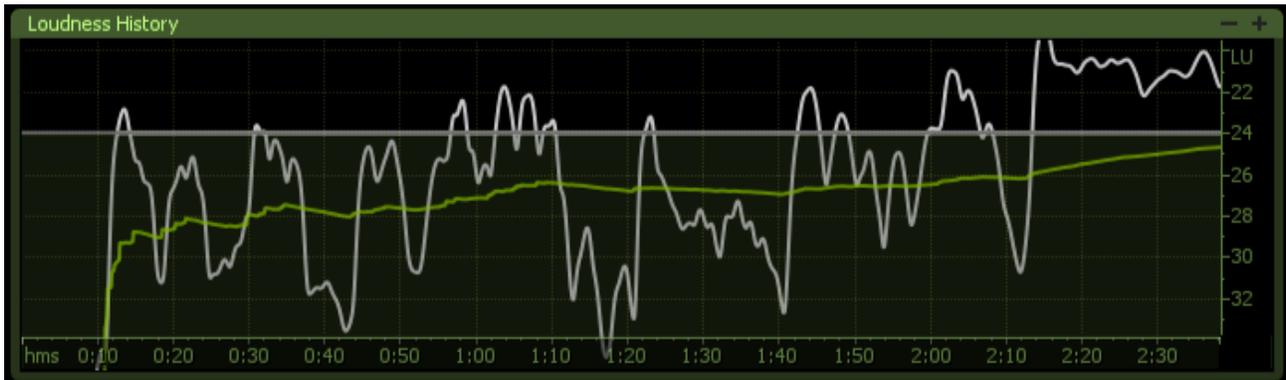
**BS.1771:** Loudness scale recommended by the ITU that spans from -21 LU to +9 LU on a relative scale and -45 LUFS to -14.0 LUFS on an absolute scale. This is the default range used by Insight.

**EBU +9:** Loudness scale recommended by the EBU that spans from -18.0 LU to +9.0 LU on a relative scale and -41.0 LUFS to -14.0 LUFS on an absolute scale.

**EBU +18:** Loudness scale recommended by the EBU for material with a wide Loudness Range that spans from -36.0 LU to +18.0 LU on a relative scale and -59.0 LUFS to -5.0 LUFS on an absolute scale.

# Loudness History Graph

Insight features a robust Loudness History Graph which allows you to monitor loudness trends over time as well retrospectively inspect any loudness issues in your mix.



## What is the Loudness History Graph?

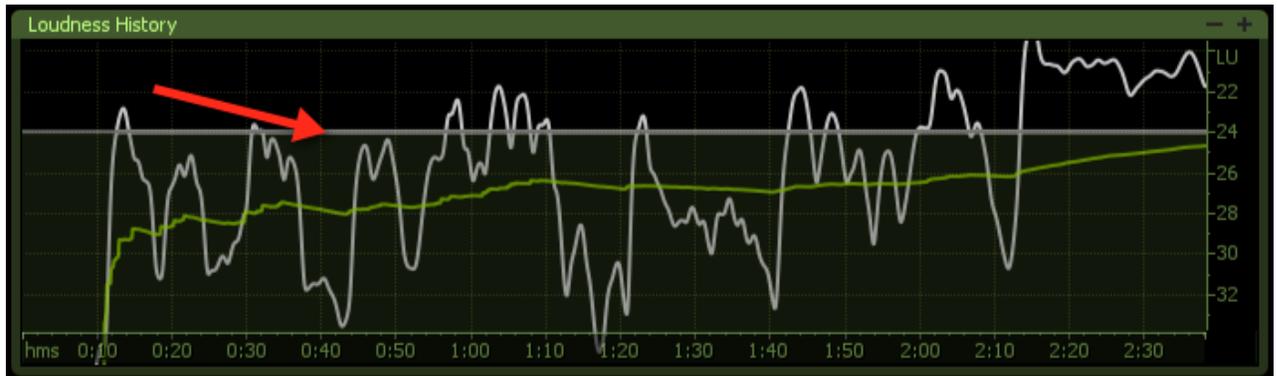
The Loudness History Graph is a plot over time of various loudness calculations. The timescale used by the graph resizes in real-time so the graph automatically zooms to the current running time utilizing all available space. The Loudness History Graph is able to plot Short-term, Momentary Max, and Integrated Loudness values.

## How is the Loudness History Graph used?

The Loudness History Graph is useful for not only retrospectively diagnosing any issues with loudness in your mix, but also for immediate feedback on the loudness trends of your audio for monitoring while mixing. For example, if your Integrated Loudness is slowly increasing, this trajectory will be immediately apparent in the graph. The Loudness History Graph displays an accessible history of loudness values over time with an added indication of whether they are currently increasing or decreasing.

## Loudness Target

A grey indicating line is imposed on the Loudness History graph representing the Loudness Target value. This value must be set in the Levels partition as mentioned [here](#).



## Integrated Loudness Violations

When your integrated loudness value surpasses your loudness target setting integrated loudness will be represented on the graph in red to bring your attention to a potential loudness violation.



## Legend

In the top left of the maximized Loudness History Graph is a legend which also allows you to toggle the display of different loudness values on and off.

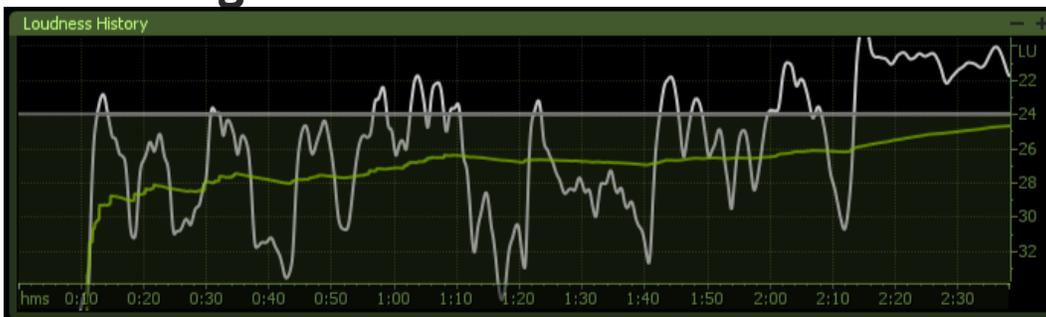


For a more immediate sense of loudness levels Short-term is most helpful. Integrated provides a glancing sense of overall program loudness which is the value most often enforced by standards. Momentary loudness is often the most erratic, but can give you a good sense of your dynamic range.

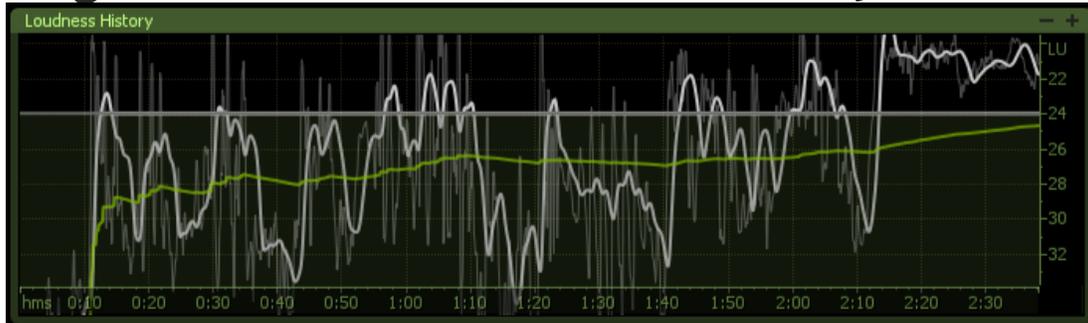
## Integrated Loudness Only



## Integrated and Short-term Loudness



# Integrated, Short-term, and Momentary Loudness

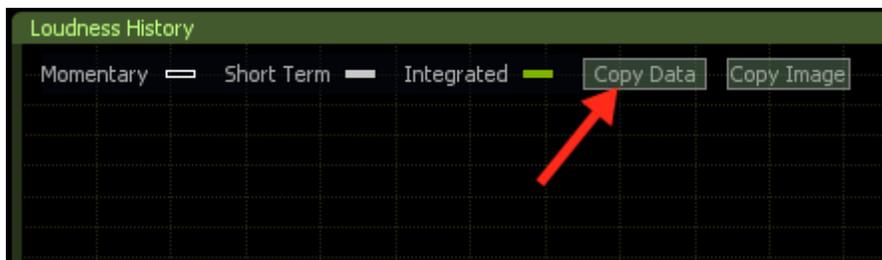


## Copying Loudness History Values

Two functions are available within the maximized view of the Loudness History graph to capture the values displayed for use elsewhere. You may either choose between Copy Data and Copy Image.

### Copy Data

Clicking the Copy Data button copies all the loudness values available in the Loudness History Graph to your clipboard for export to text or spreadsheet applications.



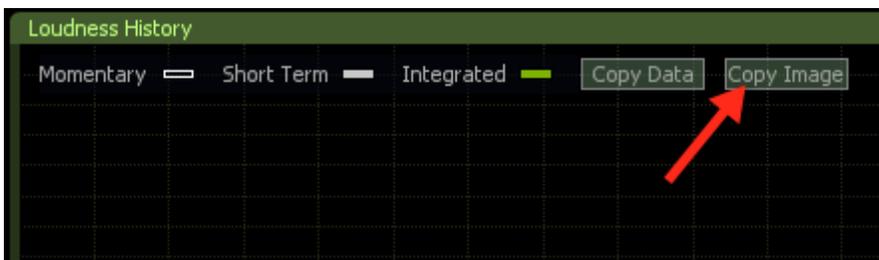
Pasted values will look like this:

| h:m:s      | Momentary | Short Term | Integrated |
|------------|-----------|------------|------------|
| 0:0:0.7663 | -19.8239  | -31.8361   | -21.4110   |
| 0:0:1.5093 | -23.6966  | -25.8296   | -21.6810   |
| 0:0:2.2523 | -29.3000  | -24.8937   | -23.5508   |
| 0:0:2.9954 | -29.6410  | -24.8605   | -24.9004   |
| 0:0:3.7384 | -20.5068  | -26.5571   | -25.2967   |
| 0:0:4.4815 | -19.3506  | -24.9480   | -24.3599   |
| 0:0:5.2245 | -21.0636  | -22.8364   | -23.9469   |

*Note: The granularity of the data copied will reflect the amount of history recorded into the meter when you click on Copy Data. So shorter durations may copy several values per second while longer durations may only copy a value every other second.*

## Copy Image

Clicking the Copy Image button copies a screenshot of the Loudness History Graph unto your clipboard. You may simply paste this image elsewhere for submitting with tape reports to assure compliance with loudness standards or comparing a track before and after mixing/mastering.



## Zooming and Scrolling

Both the time and Loudness Unit scales are freely zoomable and draggable. To zoom in on a given scale simply hover over the scale and use your mouse wheel to zoom in or out. To drag a given scale simply click anywhere on the scroll and drag the scale in the desired direction. Simply double-click on either scale to return to the default view.

### Time Scale Zooming



*Note: When zooming or scrolling on the time scale during measurement, the written history will freeze in place allowing you to easily inspect the previously calculated loudness levels. Zooming out by clicking the Zoom Out button, using your mouse wheel, or double-clicking on the time*

scale will automatically restart the auto-scrolling and auto-resizing of the time scale.

## Loudness Scale Zooming



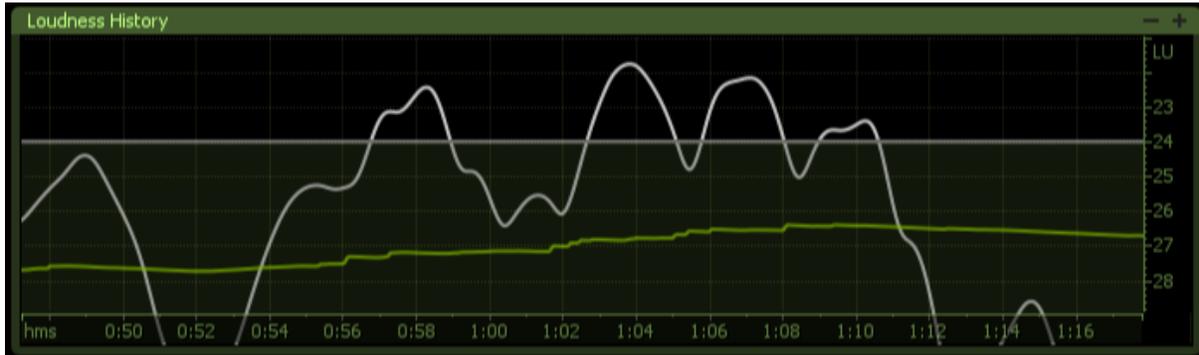
## Zoom Selection

Simply click and drag to highlight any region on the history graph and the graph will zoom both the time and loudness unit scales to show only that region.

## Click and Drag



## Zoomed Selection

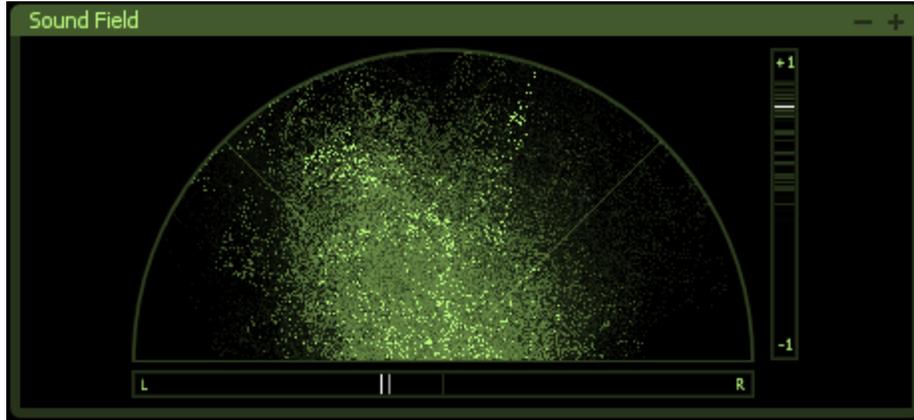


### Zoom Out Button

Any time you zoom into the time scale (by either clicking and dragging a selection or by using your mouse wheel when the cursor is hovering over the time scale) a Zoom Out button appears in the top right hand corner of the graph which you may click to easily return to the default view of the History Graph.

# Vectorscope

Insight features a Vectorscope that provides a view of the stereo image as well as meters which illustrate the channel correlation and balance. The vectorscope and the Surround Scope are both available from the Sound Field partition.



## What is a Vectorscope?

A Vectorscope is an meter which juxtaposes the two channels of a stereo signal on an x-y axis in order to display the similarity or difference between the two channels. A mono signal will produce a straight vertical line while signals with a wider stereo image will produce more horizontal shapes.

## How is a Vectorscope used?

A Vectorscope is used while mixing or mastering to monitor the overall stereo width of audio. Additionally a Vectorscope can immediately alert you to potential issues of phase cancellation. This is useful when placing microphones in a stereo pair, inspecting how various stereo signals combine, and ensuring your audio will translate to mono playback when necessary.



*Note: The Vectorscope and Surround Scope can be toggled in the menu within the maximized display of the Sound Field Partition*

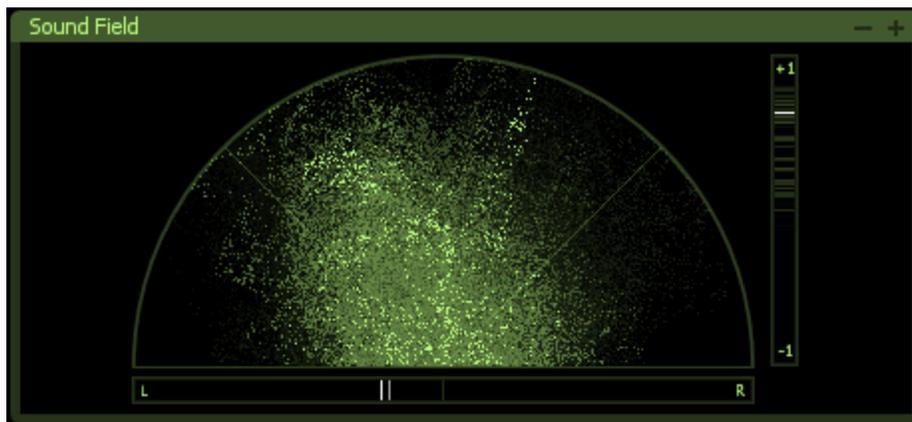
## Vectorscope Display Types

You may toggle through the following different display options for the vectorscope by clicking on the button in the top left when the meter is maximized or from the Sound Field options tab in the options menu.



## Polar Sample Vectorscope

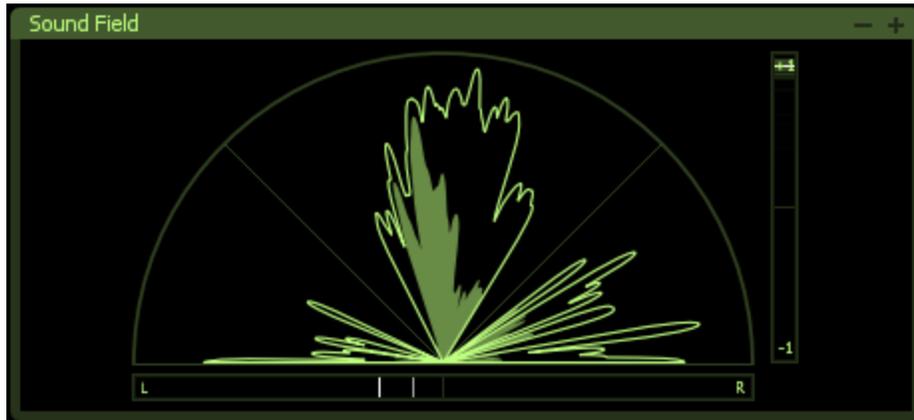
The Polar Sample Vectorscope plots dots per sample, but uses a polar coordinate display that is more useful in highlighting the stereo image of the incoming signal. Patterns that appear within the 45-degree safe lines represent in phase signals while patterns outside these lines represent out of phase audio. The history of the Polar Sample Vectorscope also fades out slowly. The infinite history is shown as the faintest shade of green while the last few seconds are displayed as slowly fading data points. You can reset the display by clicking on the meter.



## Polar Level Vectorscope

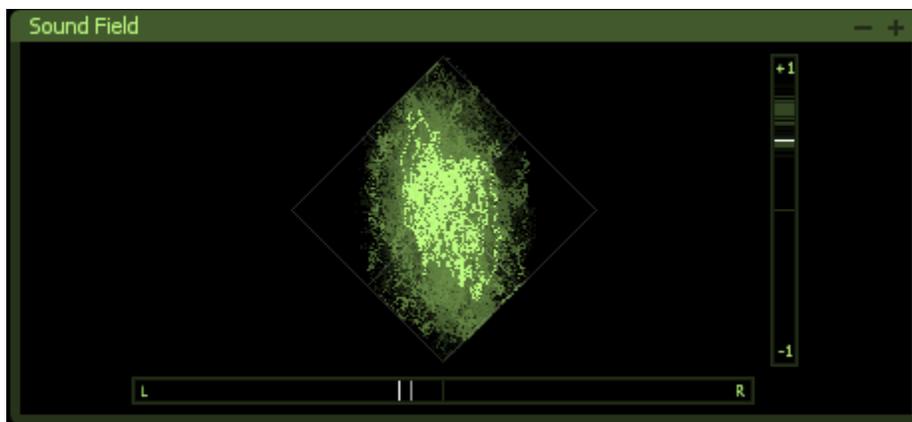
The stereo energy of a recording is clearly represented by the Polar Level Vectorscope which plots rays on a polar coordinate display that represent sample averages. The length of the rays represents amplitude while the angle of the rays represents their position in the stereo image. Rays within

the 45-degree safe lines represent in phase audio while anything beyond these lines represents audio that is out of phase. History is represented on the Polar Level Vectorscope with the shrinking of the plotted rays slowly over time. The rays shrink towards the center of the vectorscope leaving the outer portion of the display for real-time analysis.



## Lissajous Vectorscope

Like the Polar Sample vectorscope, the Lissajous Vectorscope plots per sample dots on a traditional oscilloscope display. Typically, stereo recordings produce a random pattern on a Lissajous Vectorscope that is taller than it is wide. Vertical patterns mean left and right channels are similar (approaching mono, which is a vertical line). Horizontal patterns mean the two channels are very different, which could result in mono compatibility problems.



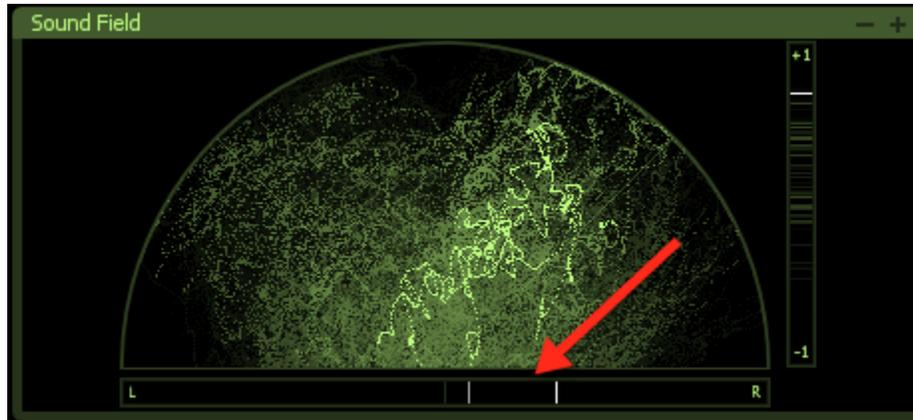
The history of the Lissajous Vectorscope fades out slowly instead of remaining forever. The infinite history is shown as the faintest shade of green while the last few seconds are displayed as slowly fading data points. You can reset the display by clicking on the meter.

## Clipping

The Vectorscope will draw any clipped samples in red.

## Balance Meter

Below the vectorscope is a meter that illustrates the overall balance between the left and right channels of your mix.



### What is a Balance Meter?

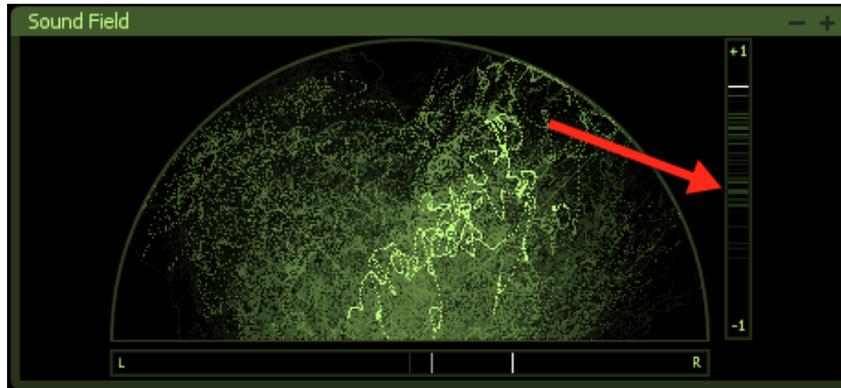
A Balance Meter is a meter which illustrates the averaged stereo location of your audio. A lighter bar illustrates the balance in real time while a slower dimmer bar follows behind the real time calculation to be more readable.

### How is a Balance Meter used?

A Balance Meter is used to further inspect the stereo image of your audio as well as pinpoint the exact stereo location of the sum of your left and right channels. The lighter bars real time visualization can help to illustrate the stereo variance of your mix while the dimmer slower bar can give you a more glancing view of the balance of your signals. Together you can use these tools to ensure your stereo mix is balanced and not weighted towards the left or the right.

# The Correlation Meter

Next to the Vectorscope is the Correlation Meter which indicates the degree of similarity between the left and right channels.



## What is a Correlation Meter?

A Correlation Meter is a type of meter which indicates the amount similarity (or correlation) between two signals. When using the Stereo Vectorscope the left and right channels are being compared. When two signals are exactly the same (in phase) a reading of +1 would register on the correlation meter. When two signals are perfectly out of phase and thus completely different a reading of -1 would register on the correlation meter.

## How is a Correlation Meter used?

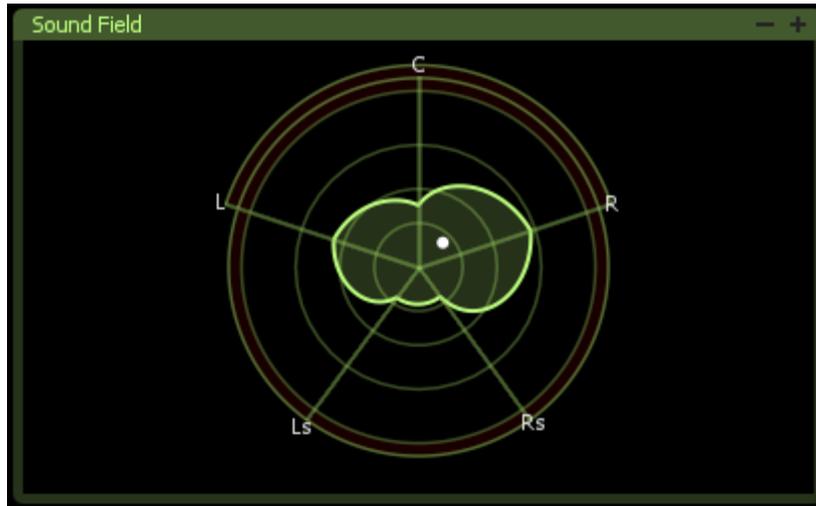
A Correlation Meter is used in stereo to ensure that the left and right signals will sum to mono without any cancellation of frequencies. If two signals are perfectly out of phase, then summing them would result in no audible audio. Typically, mixed audio will have values between 0 and +1 depending on the amount of width of the stereo signal. Values that dip briefly below zero do not necessarily represent serious problems with your audio, but prolonged negative readings indicate issues with mono compatibility.

## Correlation History

As the correlation meter updates, it "paints" a history to show the correlation of the left and right channels over time. Brighter regions indicate that the correlation meter has spent more time in that area. This provides you with a quick way to visualize the extremes of the phase correlation as well as the most common regions.

# Surround Scope

Insight features a Surround Scope which displays information about your surround channels that can be useful while mixing. The Surround Scope and the Vectorscope are both available from the Sound Field partition.



## What is the Surround Scope?

The Surround Scope is a stylized display of the amplitude of your surround channels. This stylized display stresses the spatial relationship of the tracks while illustrating each track's level. While level meters give you precise readings of each channel's signal level, the Surround Scope is better suited to displaying each individual surround channel's presence relative to the others. Additionally the Surround Scope monitors the phase relationship between neighboring audio channels and displays an alert when there is a negative correlation or phase cancellation taking place.

## How is the Surround Scope used?

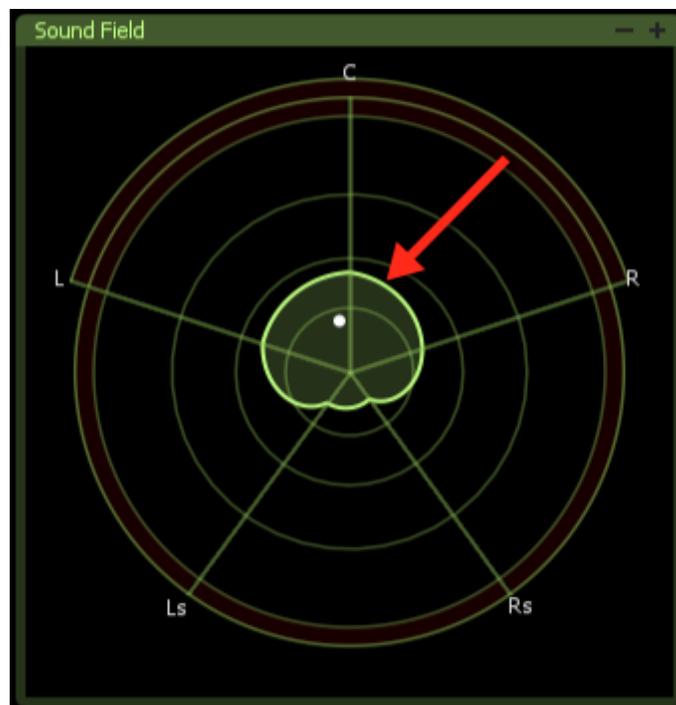
The Surround Scope allows you to easily visualize how the collective surround channel's levels will be perceived by the audience during playback. This can be useful when monitoring the overall spread of audio within the surround space or for displaying the location of a panned surround track. While the amplitude envelopes display the levels of individual channels, the Balance Indicator illustrates the average surround location of your audio. The Correlation Alert System gives you instant awareness of any potential phases issues that could indicate a technical problem with your audio's alignment.



*Note: The Surround Scope and Vectorscope can be toggled in the menu within the maximized display of the Sound Field Partition*

## Surround Amplitude Meter

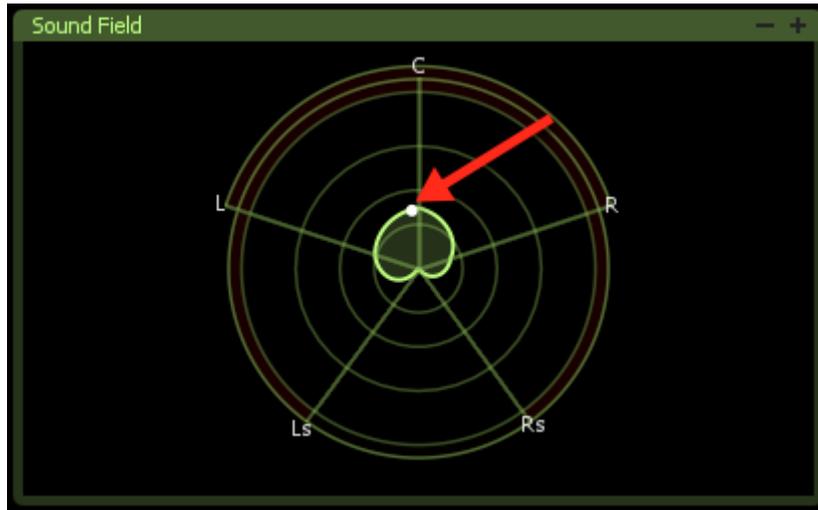
The Surround Amplitude Meter plots rays within a 360 degree readout with markers designating the various surround channels. The meter readouts are additive giving you a broad view of how the various channels' signals come together in the surround playout space.



## Surround Balance Indicator

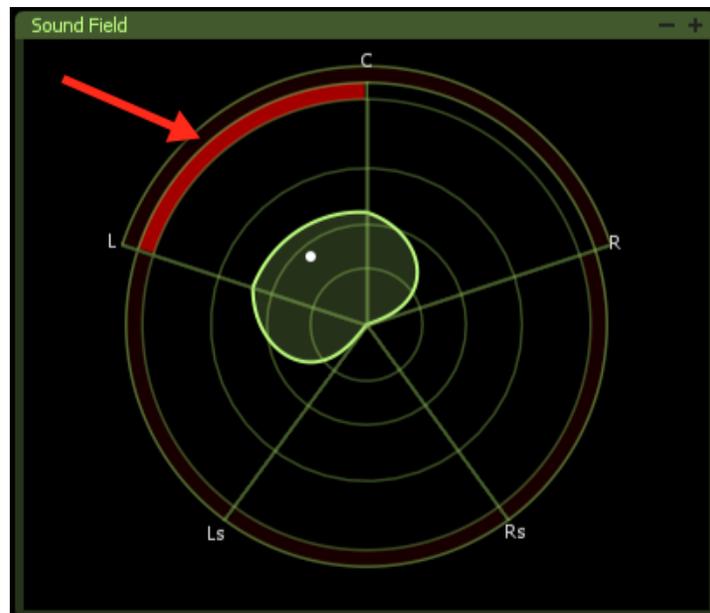
The Surround Balance Indicator displays a tracking dot in different locations on the 360 degree readout. The location of the dot represents the summed surround location of all the surround channel's signals. The Balance Indicator gives you an overall sense of how your surround mix will be

perceived by listeners during playout.



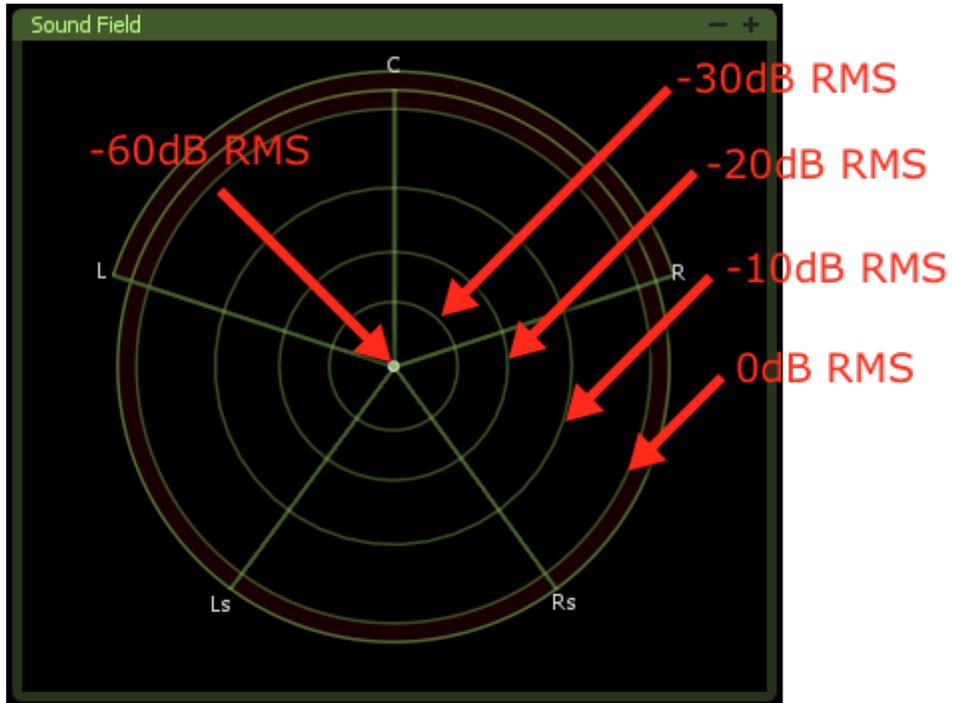
## Surround Correlation Alerts

In addition to the spatial representation of amplitude and balance, the Surround Scope features Correlation Alerts which bring your attention to any potential issues of phase between neighboring channels. The cells bordering the 360 degree plot of the Surround Scope each represent a given channel relationship. Only prominent signals that are significantly out of phase will trigger the alerts.



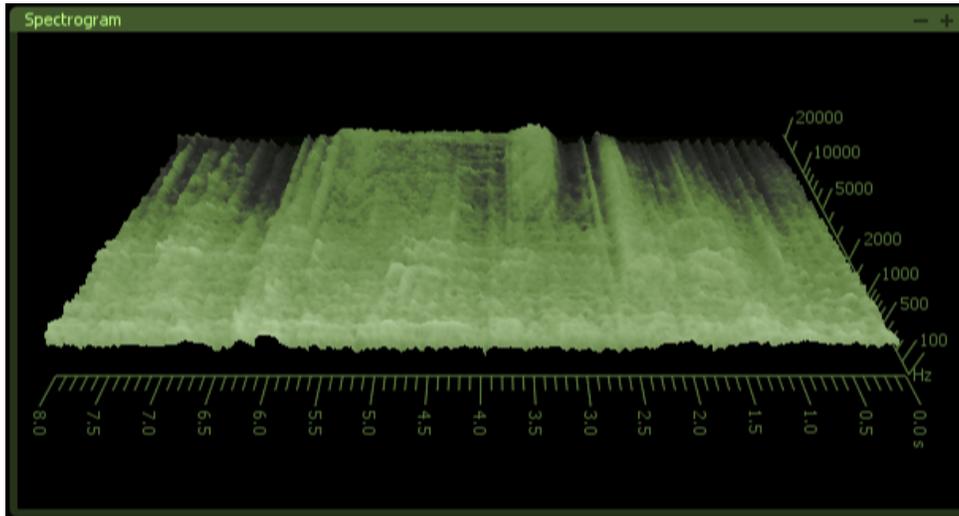
# Surround Meter Scale

The rings within the meter represent precise RMS signal levels of each of your channels. Signals below -60dB RMS will not register as vectors on the Surround Meter.



# Spectrogram

The Spectrogram provides an intuitive way to pinpoint individual elements within your mix. The Spectrogram can also display various audio streams simultaneously for analysis in both 2D and 3D modes with iZotope's Meter Tap plug-ins.

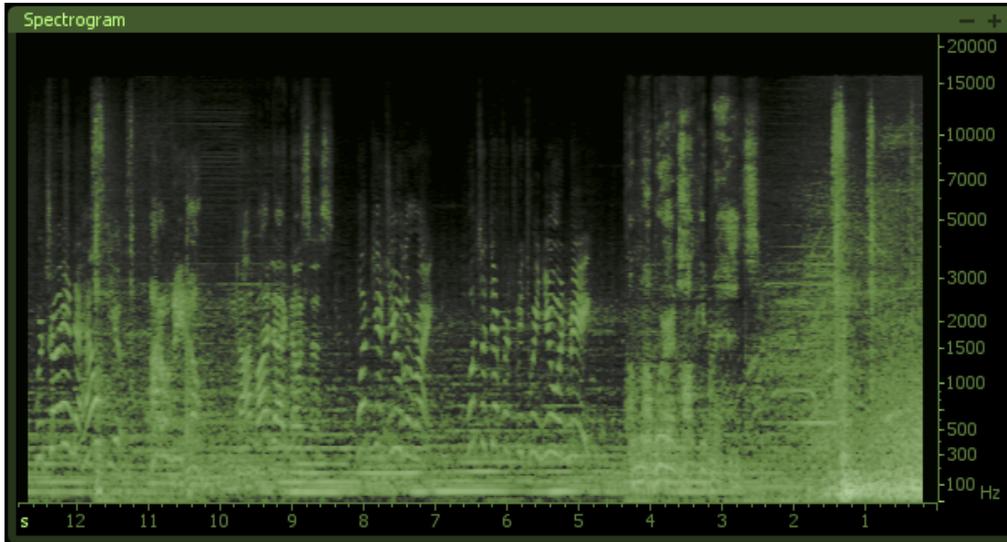


## What is a Spectrogram?

A Spectrogram is a spectral representation of audio varying over time. The vertical axis represents frequency while the horizontal axis represents time. Amplitude is displayed as color intensity in the 2D Spectrogram and as height in the 3D Spectrogram.

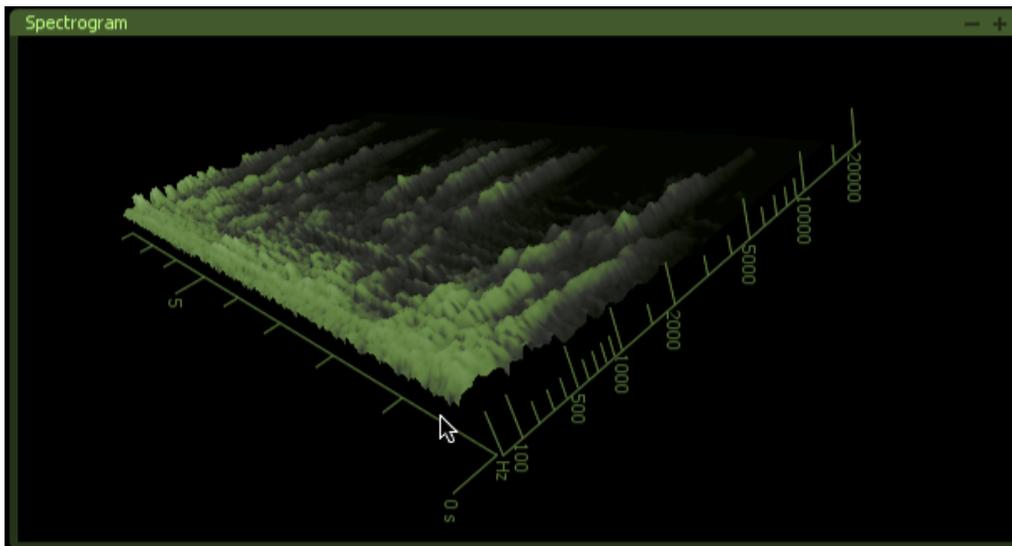
## How is a Spectrogram used?

A Spectrogram allows you to visualize frequencies as they occur over time. This graphic representation of your audio makes it possible to further inspect and analyze your mix. As opposed to a Spectrum Analyzer that is often monitored in real time, a Spectrogram is most useful for analyzing the frequencies that comprise your audio after they have occurred.



## Moving, Rotating, and Zooming the 3D Spectrogram

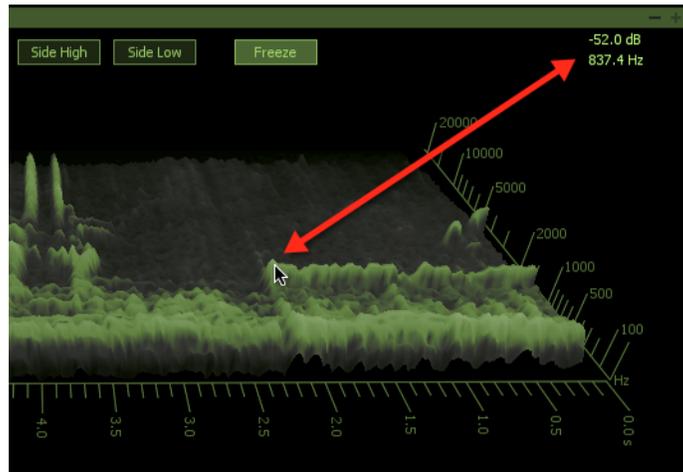
Left-clicking and dragging the 3D spectrogram allows you to move it within its bounding partition in Insight. Right-clicking and dragging the allows you to freely rotate the 3D spectrogram. Additionally, your mouse wheel allows you to easily zoom in and out of the 3D spectrogram. Together these functions allow you to easily adjust the orientation of the 3D spectrogram to best suit your needs.



**Note:** You may swap the mouse controls in the Spectrogram tab of the options menu so that right-clicking drags the spectrogram and left-clicking rotates the spectrogram.

## Inspection

Hover your mouse cursor over both the 2D and 3D Spectrogram for a real-time readout of the frequency and amplitude of the audio at that location. This can help you to diagnose the source of peaks and valleys in your audio.



## Display Options

**2D/3D:** You may choose to view a traditional 2D spectrogram by selecting 2D. This will display frequency information vertically (y-axis) and time horizontally (x-axis). Selecting 3D adds the third dimension of amplitude to the z-axis.

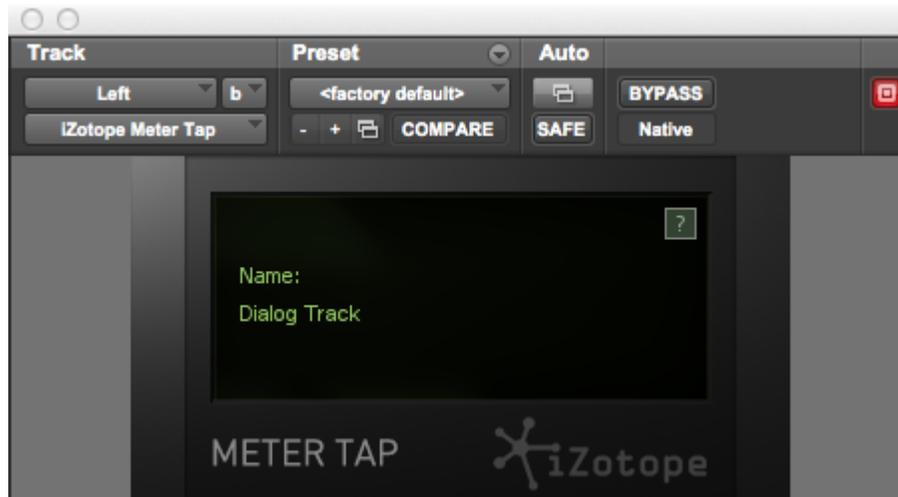
**View (2D):** This drop-down menu allows you to select how Meter Tap streams are displayed in the 2D Spectrogram. Choose between Overlay which superimposes all Spectrogram streams on top of one another, Tile which organizes each Spectrogram stream within two separate horizontal columns, and Stack which displays all Spectrogram streams vertically synced as they scroll horizontally.

**View (3D):** You may select between various useful angles of viewing the 3D Spectrogram. Choose between Front High, Front Low, Diagonal, Side High, and Side Low.

**Freeze:** At any time you may click the Freeze button to further examine the current state of the Spectrogram.

# Meter Taps

You may now easily route audio from various tracks or busses in your mix to Insight's Spectrogram with Meter Taps, plug-ins installed with Insight. Meter Tap plug-ins can be inserted anywhere in your session and can send streams of audio to Insight's Spectrogram.



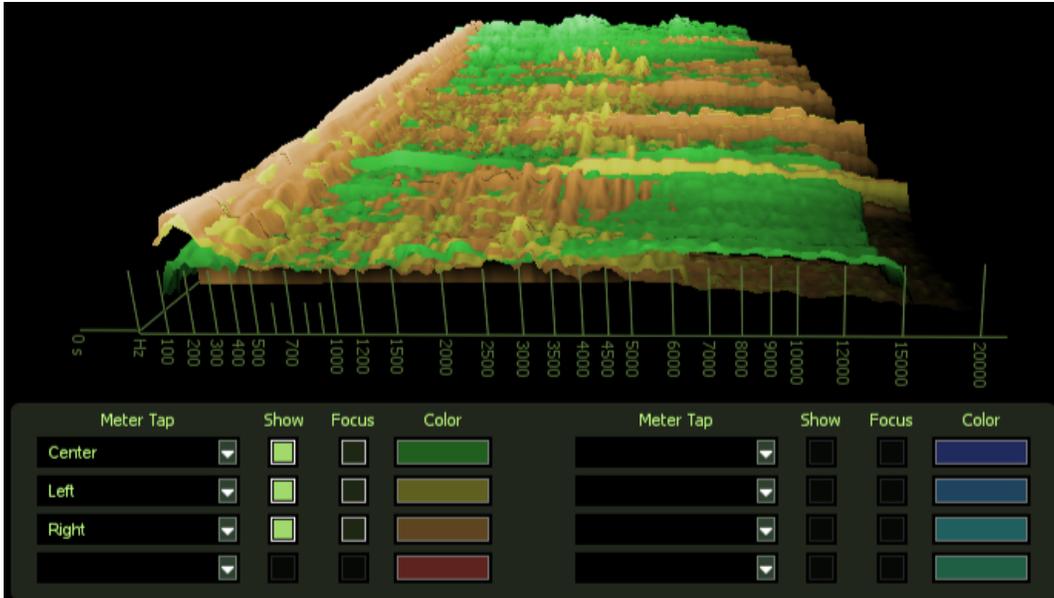
## What are Meter Taps?

A Meter Tap is a plug-in installed with Insight that allows you to feed audio to the Spectrogram. Meter Tap plug-ins may be individually labeled and the corresponding names will appear for selection in the Spectrogram's Meter Tap Selection Window.

*Note: The Meter Tap itself performs no processing on your audio and introduces no latency.*

## How are Meter Taps used?

When placed on tracks or busses in your session, Meter Taps allow you to analyze various audio streams presented together in useful ways. Evaluate a signal before and after processing by placing Meter Taps before and after a plug-in or balance a drum mix by placing a Meter Tap on each track that makes up your composite Drum stem and compare levels at given frequencies.



## Adding Meter Taps to your session

1. Insert a Meter Tap Plug-in on a track or bus in your session.
2. Open the Meter Tap plug-in and click on the default name to rename the Meter Tap something appropriate like "Vocals" or "Drums".
3. Open Insight and maximize the Spectrogram.
4. Click on the "Meter Taps" button to reveal the Meter Tap Selection Box



5. Click on one of the drop-down menus from the various streams in the selection box and select the appropriate Meter Tap.



6. Adjust the visual options to distinguish the stream from the others in your mix.

## Meter Tap Options

Once you have placed Meter Taps in your session and selected them in the Meter Tap Stream Selection box a number of options for each Meter Tap are available:



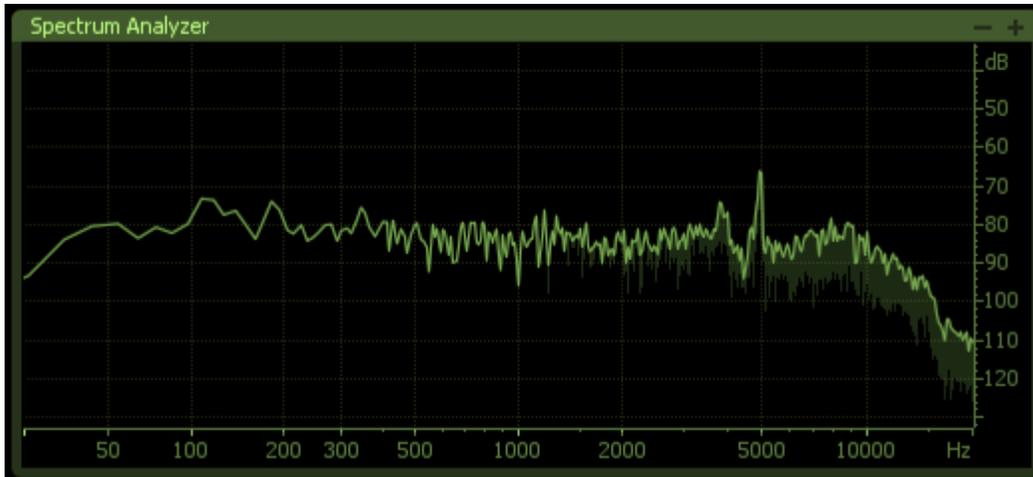
**Show:** This selection toggles whether or not the information sent from a Meter Tap is displayed by the spectrogram.

**Focus:** This allows you to highlight a particular Meter Tap stream by drawing all other Meter Taps in grayscale.

**Color:** This opens a color picker menu that allows you to specify a certain color for each Meter Tap stream.

# Spectrum Analyzer

The Spectrum Analyzer provides a real time display of the frequencies of your audio. This display assists with mixing and mastering audio.



## What is a Spectrum Analyzer?

A Spectrum Analyzer is a meter that measures amplitude across the frequencies which encompass the spectrum of human hearing. The vertical axis represents amplitude while the horizontal axis represents frequency. Insight's Spectrum Analyzer shows two spectra, so users can see both peak and average spectra simultaneously in one display.

## How is a Spectrum Analyzer used?

A Spectrum Analyzer is often used throughout mixing and mastering to inspect how different frequencies are represented in audio signals. This can be helpful when using an equalizer or other processing to balance the frequencies across your audio. Insight's Spectrum Analyzer also contains various modes which allow you to further inspect the frequency representation across the stereo and surround space.

## Zooming and Scrolling

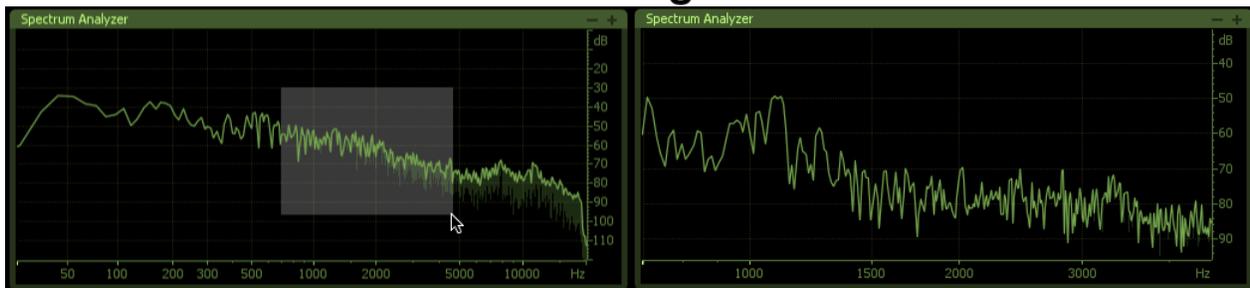
Both the frequency and decibel scales are freely zoomable and draggable. To zoom in on a given scale simply hover over the scale and use your mouse wheel to zoom in or out. To drag a given scale simply click anywhere on the scale and drag it in the desired direction. Double-click on either scale to return to the default view.



## Zoom Selection

Simply click and drag to highlight any region on the spectrum and the spectrum analyzer will zoom both the frequency and decibel scales to show only that region.

### Click and drag to zoom



### Before and after

## Spectrum Inspection

Hovering your mouse anywhere in the spectrum analyzer will display a readout of the frequency and amplitude at that location. This may be turned off in the options.



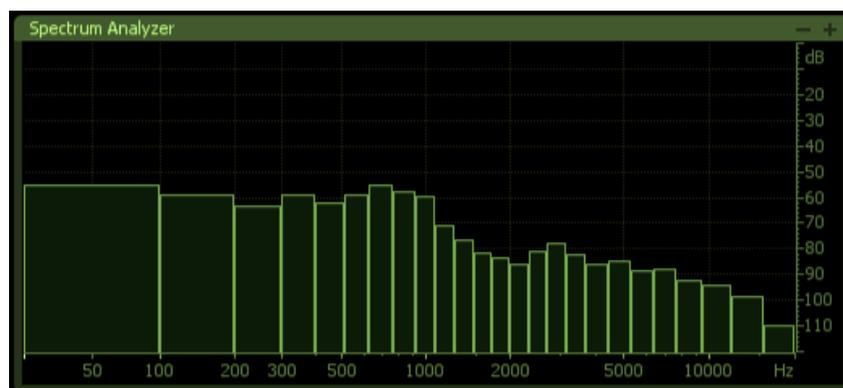
## Spectrum Types

**Linear:** a continuous line connecting the calculated points of the spectrum

**1/3 Octave:** splits the spectrum into bars with a width of 1/3 of an octave. Although the spectrum is split into discrete bands, this option can provide excellent resolution at lower frequencies.

**Full Octave:** splits the spectrum into bars with a width of one full octave.

**Critical bands:** splits the spectrum into bands that correspond to how we hear, or more specifically how we differentiate between sounds of different frequencies. Each band represents sounds that are considered "similar" in frequency.



# Loudness Overflow Automation

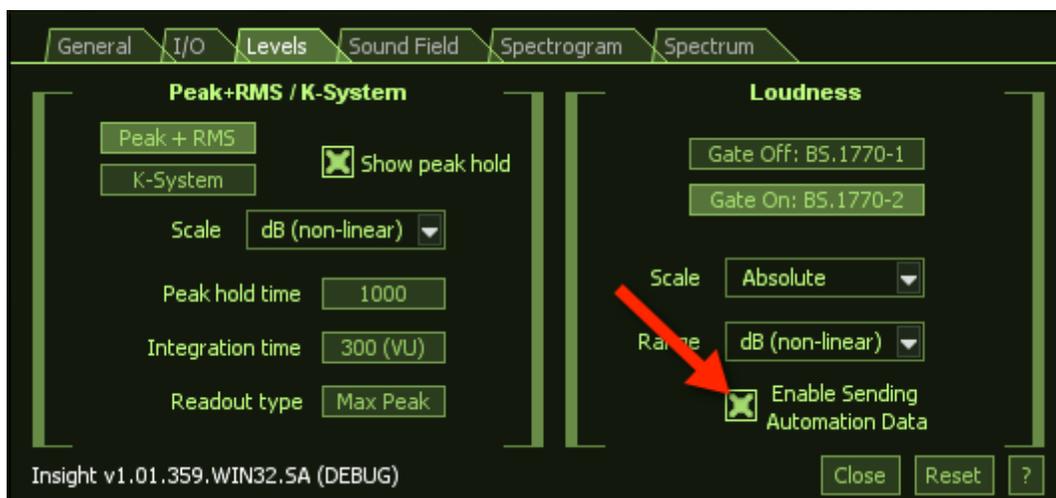
Insight features Loudness Overflow Automation; a unique method of indicating the portions of your audio that exceed your Loudness Target on your DAW timeline.

## What is the Loudness Overflow Automation?

Loudness Overflow Automation is a feature that writes automation to the track on which Insight is instantiated on, giving you a record of any portions of your audio which exceed your loudness targets which is easily accessible in your DAW. Minimum values will be written when your audio is within your specified Loudness Target, while any exceeding values will be written to your track automation as maximum values.

## How is Loudness Overflow Automation used?

Loudness Overflow Automation is used to retrospectively locate any portions of your audio which exceed your Loudness Target. Having these areas instantly accessible on your DAW timeline allows you to easily remix these offending areas and quickly ensure you are in compliance with loudness standards.

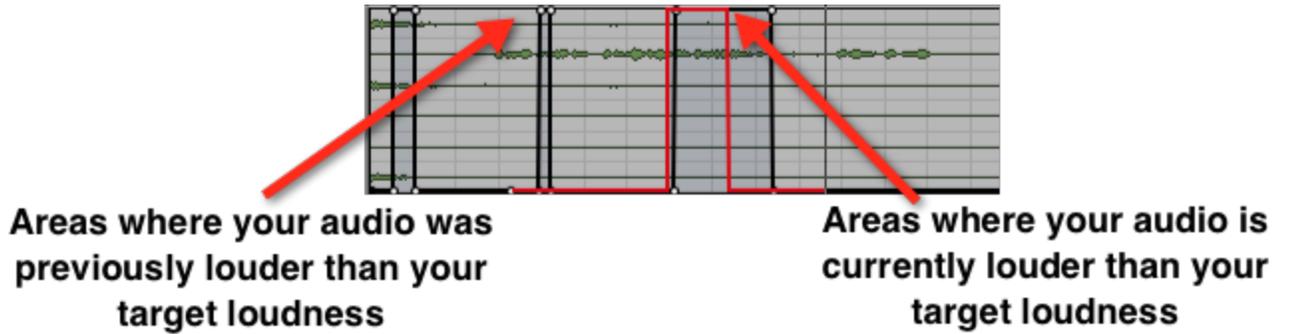


**Note:** In order to use Loudness Overflow Automation you must first tick "Enable Sending Automation Data" option in the Levels partition of the Options Menu.

## Using Loudness Overflow Automation in Insight

The implementation and specifics of automation are dependent on the host application, so we refer you to the documentation of the host app for setting up the Loudness Overflow Automation track. In general, though, you patch Insight on a track, then in the track view of the host app enable

the Loudness Overflow automation envelope. After you allow your DAW to write automation values to this track, Insight will draw a flat, negative line whenever your audio's Integrated Loudness value is below the set Loudness Target value. However, when your audio exceeds this value you will see a positive value written to your DAW timeline.



# Preset Manager

Insight features a preset manager complete with factory presets designed for different types of audio analysis and metering and for full compliance with the most prominent loudness standards across the world.



To access the preset manager, click the button in the global options menu



## Key Features

- Easily save and recall your favorite meter settings from Insight
- Store preset files in folders for easy access and management
- Share Insight presets across multiple host applications and operating systems
- Update presets with a single click
- Add comments to presets for easy reference.

# Folders

Insight presets have been sorted and organized into separate categories or folders. This makes finding a good starting point for your mastering session quicker and easier. The default preset folders that are included with Insight are listed below.

## ***Audio Analysis***

Presets designed with scientific analysis of audio in mind for deep inspection of your audio

## ***Loudness Metering***

Presets designed to be useful for monitoring your audio while mixing for compliance with current loudness standards around the world

## ***Music Production***

Presets designed with real-time metering in mind to be used when mixing music

# Loading Presets

You can select any preset by simply clicking on the name in the list. This will activate specific meters, settings and an overall layout.

## **Working with Presets**

Once you have selected a preset from the list, you may choose to change the original settings. When you change any of the original settings within a preset you will see an asterisk\* added to the beginning of the preset's name. This means that the preset has been altered. If you want to keep these settings you need to Add a new preset or Update the existing preset.

## **Working Settings**

If you modify a preset's settings, then these modified settings become your "Working Settings". Your Working Settings will always be at the top of the preset list within the preset manager. This allows you to freely preview and compare different preset options. When you are done, you can return to your Working Settings by selecting the item at the top of the Preset Manager labeled <Working Settings>.

## **Sort by Name, Last Used, or Last Modified**

As a convenience you can sort presets by name, by the time/date last used, or the time/date last modified.

## Last Used

A preset is considered "used" when you select it and you close the preset system dialog. The last used time/date stamp is not updated when you are selecting and auditioning presets from the list.

## Last Modified

A preset is considered "modified" when you either create one or you make changes to one and update it with the Update button.

## Adding and Removing Presets

**Add:** Clicking this button adds the current Insight settings as a new preset. You can type a name and optionally add comments for the preset.



***Note:** A few keys such as \* or / cannot be used as preset names. If you try to type these characters in the name they will be ignored. This is because presets are stored as xml files (for easy backup and transferring).*

Their file names are the same as the name you give the preset (for easy reference) and therefore characters that are not allowed in Windows file names are not allowed in preset names.

**Delete:** To permanently delete a preset, select the preset from the list and click the Delete button.

**Update:** When you click the Update button your current settings are assigned to the selected preset (highlighted). This is useful of course for selecting a preset, tweaking it, then coming back to the preset system and clicking Update to save your changes to the existing preset.

**Compare:** The Compare button is a great way to quickly hear the difference between the default settings of the most recent preset that you've selected, and the result of any changes that you have made to this preset (Working

Settings). This lets you start your session based on one of Insight's default presets and then continue to tweak the settings, always comparing to where you started.

**New Folder:** The New Folder option allows you to easily add custom named folders to the preset manager.

**Show at Startup:** This allows you to set whether or not the preset manager will open automatically when starting Insight.

**Close:** Closes the preset system loading the last preset you selected from the preset list.

**Renaming Presets:** You can double click on the name of a preset to enter the "edit" mode and then type a new name for that preset.

## Changing Where Presets Are Stored

You don't need to store all of your presets in the default folder(s). You can create custom folders of presets for different projects, archive presets, etc. To change the folder that Insight looks to for presets, click the Change Folder button and browse to the folder that contains the presets you want to use.

## Backing up Presets

Backing up presets is as simple as copying files. Just browse to the location of your preset files. The XML files in this folder are your presets with one XML file for each preset. You can reference the preset files by their file names because the name you give the preset in Insight becomes the name of the XML file.

## Windows Users

C:\Documents and Settings\\MyDocuments\iZotope\Insight\Presets

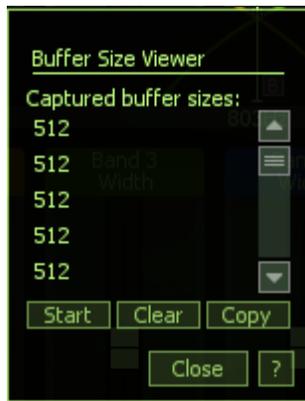
## Mac Users

<username>\Documents\iZotope\Insight\Presets

# Buffer Size Viewer

The Buffer Size Viewer dialog lets you inspect the buffer sizes which your host application is using. It can be found in the General tab of the options menu.

If you are using Insight at low latencies, you may experience unusually high CPU



usage. Insight allows you to tweak several buffer sizes in order to optimize CPU usage for your host application settings. Some host applications make it very easy to see what your buffer sizes are, but it can be more difficult to determine in others. For that reason, Insight provides this dialog to let you find out exactly what buffer sizes are being sent to the plug-in.

To use this dialog, simply launch it by clicking the View Buffers button on the General tab of the Options screen. Then use the following controls:

**Captured buffer sizes:** This list-box shows the buffers you have captured thus far. The number on the left is the input buffer size, and the number on the right is the output buffer size. Note that the input and output buffer sizes will be equal in AAX/RTAS, VST, and AU versions of Insight, but in the DirectX version if delay compensation is enabled then the sizes may differ. When tweaking buffer sizes, you're interested in the number on the left, which is the host application's buffer size.

**Start/Stop:** Push Start to begin capturing buffer sizes. Now each time a buffer is sent to the plugin, it will be added to the list of captured buffer sizes for you to see. Push Stop to stop capturing buffer sizes. Note that buffers are sent in very rapid succession to the plugin, and after 100 buffer sizes are captured, the capturing will automatically be stopped.

**Clear:** Clears the list of captured buffer sizes.

**Copy:** Copies the list of gathered buffer sizes to the Windows clipboard, useful for pasting into a support e-mail if necessary.

## How to decrease CPU usage

You can try increasing your host application's buffer size to decrease CPU usage. We understand that these solutions might not be adequate for many users, so we've also designed Insight to be optimized for any host application setup. If you are using Insight at low latencies and rely heavily on these DSP modules, you will want to adjust the buffer sizes to get Insight's CPU consumption as low as possible. At first it may seem unintuitive, but if you follow the tips here then you should be able to tweak your buffers very quickly and easily.

# General Options

| Graphics               |  |
|------------------------|--|
| Show Tooltips          | When enabled this allows informational notes to appear when the cursor/pointer is hovering on top of the features' controls  |
| Enable Animation       | Allows you turn on/off the animated appearance of dialog boxes.  |
| Enable Animated Focus  | Toggles the visibility of the glare layer on top of Insight's interface.   |
| Frame Rate Limiter     | Allows you to set the speed (frames per second) that Insight should use to display and update meters. In most cases the default will provide smooth displays while still allowing adequate processing time for audio. You can increase the frame rate for smoother animation however, if you notice graphics performance problems in your host application, you can set the FPS value lower to limit the amount of CPU used for drawing. |
| Opacity                | Allows you to control the opacity or transparency of the UI. Setting partial transparency does require additional CPU, but there is no CPU penalty when opacity is at 100% (i.e. the feature is not being used). The slider will be disabled in host applications that do not support this feature.  |
| Buffer Size            | Adjusts the buffer size expected by Insight. By aligning this buffer size with the buffer size of your DAW, the Loudness History graph uses the least amount of CPU.   |
| Host                   |  |
| View Buffers           | This launches the View Buffers dialog, which lets you inspect the buffer sizes which your host application is using. See <a href="#">Buffer Sizes</a> documentation for more info.   |
| Host Sync              | This launches the Host Sync Viewer window which displays information about your current session/host application including Tempo, Transport State, Time signature, etc.  |
| Low Latency Processing | This option only appear in RTAS/AAX versions of Insight and by default will be enabled. When disabled this option will help lower CPU usage in Pro Tools, but will cause higher latency.   |

| Other                |  |
|----------------------|--|
| Keyboard Support     | Keyboard support must be set to full for all Keyboard shortcuts to be available. Available options include Full (full keyboard support), Minimal (only TAB, arrow keys, and ENTER), or None (Keyboard shortcuts turned off). |
| Auth & Updates       |  |
| Check for updates    | Selects the frequency with which Insight checks for version updates. Choose between daily, weekly, monthly, and never.   |
| Check now            | Instantly checks if your version of Insight is currently up to date.   |
| Remove Authorization | Removes the current authorization of Insight.  |
| More Information     | Directs to the supporting documentation for authorization.   |

## In/Out Options

| I/O Options    |  |
|----------------|--|
| Input Format   | Selects between various channel configurations going into the plugin in surround instantiations. Choose between:<br>Film (L,C,R,Ls,Rs,LFE)<br>SMPTE/ITU (L,R,C,LFE,Ls,Rs)<br>DTS (L,R,Ls,Rs,C,LFE) |
| Display Format | Selects between various channel configurations being displayed in the true-peak level meters. Choose between:<br>Film (L,C,R,Ls,Rs,LFE)<br>SMPTE/ITU (L,R,C,LFE,Ls,Rs)<br>DTS (L,R,Ls,Rs,C,LFE)    |

## Level Options

Read more about the Level Meters [here](#)

| <b>Level Options</b>    |  |
|-------------------------|--|
| Peak + RMS / K-System   | Allows you to set the type of metering used for Insight's True Peak meters. Available options include Peak + RMS and K-System. These are explained further <a href="#">here</a> .  |
| Show Peak Hold          | Turns on or off the peak hold display for the level meters   |
| Level Scale             | The available options for scale are dependent on the type of meter selected. For Peak + RMS you can choose between dB (linear) and dB (non-linear). For K-System metering options include K-12, K-14, and K-20.  |
| Peak Hold Time          | If peak hold is on, this allows you to cycle through different peak hold times. The choices are 5ms, 250ms, 500ms, 1000ms, 5000ms, and infinite. If set to infinite, the peak value will be held until you double click on the meter.  |
| Integration Time        | This setting only applies if the level meter displays RMS. It lets you specify the integration time for the RMS calculation. In most RMS meters, the integration time is set to around 300ms.  |
| Readout                 | Allows you to control what is displayed by the numeric display on top of the meters: peak or actual (real time). If set to "Max Peak", the display will reflect the meter's highest peak value encountered during processing. If set to "Current", the display will reflect the meter's current value of the level. If there are two levels displayed (Peak+RMS), we read the RMS value. |
| <b>Loudness Options</b> |  |
| Loudness Gate           | This setting determines whether the loudness metering is calculated based on either BS.1770-1 standards with a gate or one BS.1770-2 standards without a gate.   |
| Loudness Scale          | This setting determines whether the loudness meters and readouts are based on absolute (LUFS) or relative (LU) values. The absolute scale displays values in Loudness Units Full Scale (LUFS) and the relative scale displays values in Loudness Units (LU) that are relative to your Loudness Target setting.   |

|                                |   |
|--------------------------------|---|
| Loudness Range                 | <p>This determines the range of the scale on which loudness values are displayed in the loudness meters. The following ranges are available:</p> <p><b>Full Range</b> - Full scale (dBFS) range for measuring loudness.</p> <p><b>BS1771</b> - Loudness scale recommended by the ITU that spans from -21 LU to +9 LU (-45 LUFS to -14.0 LUFS)</p> <p><b>EBU +9</b> - Loudness scale recommended as a default by the EBU that spans from -18.0 LU to +9.0 LU (-41.0 LUFS to -14.0 LUFS)</p> <p><b>EBU +18</b> - Loudness scale recommended for material with a wide Loudness Range by the EBU that spans from -36.0 LU to +18.0 LU (-59.0 LUFS to -5.0 LUFS)</p> |
| Enable Sending Automation Data | This allows Insight to send automation data about the loudness of your audio to a track in your DAW   |

## Sound Field Options

Read more about the Sound Field Meters [here](#)

| Sound Field Options          |  |
|------------------------------|--|
| Meter Mode                   | This toggles between the Stereo Vectorscope and the Surround Scope   |
| Vectorscope Mode             | When using the Stereo Vectorscope this selects between Lissajous, Polar Sample, and Polar Level modes. These are explained further <a href="#">here</a> .  |
| Vectorscope Detection Method | When in Polar Level mode, this determines how the sample averages are detected. Selects between Peak, RMS, and Envelope. Envelope mode can be most useful when analyzing amplitude as it detects even levels across all frequencies. |

## Spectrogram Options

Read more about the Spectrogram [here](#)

| Spectrogram Options          |   |
|------------------------------|---|
| Zoom (3D only)               | This slider allows you to zoom in and out on the center of the 3D spectrogram.  |
| Height (3D only)             | This slider scales the amplitude (z-axis) of the 3D spectrogram allowing differences in amplitude to be greater represented.  |
| Mouse (3D only)              | This selects whether the 3D spectrogram is panned when clicked and dragged with the left mouse button and rotated when clicked and dragged with the right mouse button or vice versa. |
| Color Preset                 | This selection offers various color setting presets that can display your output spectrogram in useful color schemes.   |
| FFT Size                     | This selection allows you to adjust the frequency and time resolution with which the spectrogram is drawn.  |
| FFT Overlap                  | This selection allows you to adjust how often the spectrum is computed. Higher values compute the spectrum more often.  |
| 3D History Length (3D only)  | This slider scales the time (y-axis) of the 3D Spectrogram so that more or less time may be represented at once on the 3D spectrogram.  |
| 3D Level of Detail (3D only) | This drop-down menu adjusts the level of detail with which the 3D spectrogram displays. You may reduce detail to improve performance.   |
| 2D Scrolling Speed (2D only) | This drop-down menu offers various time scales that dictate how fast the 2D spectrogram is drawn. The Maximum Info Density option will draw all actual pixels.                        |

## Spectrum Analyzer Options

Read more about the Spectrum Analyzer [here](#)

| Spectrum Options |  |
|------------------|--|
|------------------|--|

|                |   |
|----------------|---|
| Spectrum Type  | <p>Lets you select between four types of spectrums:</p> <p><b>Linear:</b> a continuous line connecting the calculated points of the spectrum</p> <p><b>1/3 octave:</b> splits the spectrum into bars with a width of 1/3 of an octave. Although the spectrum is split into discrete bands, this option can provide excellent resolution at lower frequencies.</p> <p><b>Full Octave:</b> splits the spectrum into bars with a width of one full octave.</p> <p><b>Critical bands:</b> splits the spectrum into bands that correspond to how we hear, or more specifically how we differentiate between sounds of different frequencies. Each band represents sounds that are considered "similar" in frequency.</p> |
| Average Time   | Spectrum is averaged according to this setting. Higher average times can be useful for viewing the overall tonal balance of a mix, while shorter average times provide a more "real time" display.  |
| Peak Hold Time | Allows you to select between specific hold times in milliseconds, or Infinite, where the peak is held indefinitely. You can reset the peaks by clicking on the spectrum.  |
| Window Size    | Controls the trade off between frequency and time resolution in the spectrum. Higher values will let you see smaller peaks in the spectrum, but the spectrum will update more slowly.   |
| Window         | Selects a window type for the spectrum. In most cases the default window type will work well, but you can choose from a variety of window types. Each window type has different amplitude and frequency resolution characteristics.   |
| Overlap        | Controls how often the spectrum updates. More overlap will cause the spectrum to update more frequently, at the expense of increased CPU usage.   |
| Fill Spectrum  | Allows you to display the real-time spectrum as a solid graph as opposed to a line graph. This option can be used to differentiate the real-time spectrum from the peak hold spectrum.  |

|                    |   |
|--------------------|---|
| Show Peak Hold     | Determines whether Insight displays and holds the peaks of the spectrum.  |
| Show Hz/dB Readout | Allows you to display a continuous readout of the mouse position (in Hertz and decibels) in the spectrum analyzer window. |

# Loudness Glossary

ATSC-A/85 - The document enacted into law by the Calm Act which specifies recommended practices for establishing and maintaining audio loudness for digital television. (<http://www.atsc.org>)

BS.1770-1 - The original document proposed by the International Television Union which outlined algorithms to measure audio program loudness and true-peak audio level. (<http://www.itu.int>)

BS.1770-2 - The follow-up document to the BS.1770-1 which added a relative -10 LU gate similar to that proposed originally by the EBU-R128 recommendation. (<http://www.itu.int>)

BS.1770-3 - The most recent document published by the ITU which added further specification of how to measure true-peak levels. (<http://www.itu.int>)

CALM Act - The Commercial Advertisement Loudness Mitigation (or CALM) Act is a piece of legislation intended to ensure that the loudness of television commercials is the same as television programs. It takes effect as of December 13th, 2012. ([CALM Act](#))

EBU-R128 - The recommendation published by the European Broadcasting Union which outlines standards of loudness normalisation and permitted maximum level of audio signals to be broadcast. This recommendation originally proposed a -8 LU gate, but when -10 LU gating was incorporated into the ITU's BS.1770-2, the EBU updated their recommendation to match the ITU. (<http://tech.ebu.ch/>)

K-Weighting - Proposed by the International Television Union in the BS.1770-1 document, K-weighting is dual-stage filtering processing which applies first a high-shelf and then a high-pass filter to audio before loudness calculation to better represent how our ears perceive loudness.

# iZotope Customer Support

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## How to purchase the full version of Insight

If you are using the demo version of Insight and would like the full version, you can purchase Insight direct from the iZotope online store: <http://www.izotope.com/insight>. Once your purchase is complete you will be sent an e-mail confirmation and a full version serial number that can be used to fully authorize your current installation of Insight.

## iZotope Customer Support Policy

iZotope is happy to provide professional technical support to all registered users absolutely free of charge. We also offer valuable pre-sales technical support to customers who may be interested in purchasing an iZotope product. Before contacting iZotope support, you can search our Product Knowledgebase to see if the solution to your problem has already been published.

<http://www.izotope.com/support/center>

## How to contact iZotope for Technical Support

For additional help with Insight, please check out the support pages on our web site at <http://www.izotope.com/support> or contact our customer support department at [support@izotope.com](mailto:support@izotope.com).

iZotope's highly trained support team is committed to responding to all requests within one (1) business day and frequently respond faster. Please try to explain your problem with as much detail and clarity as possible. This will ensure our ability to solve your problem accurately, the first time around. Please include all system specs and the build/version of Insight that you are using.

Once your support request is submitted, you should automatically receive a confirmation email from iZotope support. If you do not receive this email within a few minutes please check your spam folder and make sure our responses are not getting blocked. To prevent this from happening please add [support@izotope.com](mailto:support@izotope.com) to your list of allowed email addresses.

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Thanks for using Insight!

- the iZotope team

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