



# Bute Loudness Analyser / Suite 2

## User Manual

Bute Loudness Analyser 2 and Bute Loudness Suite 2 come as plugins for all major DAWs in VST/VST3, AU and AAX format. They support a wide range of metering standards in multiple revisions. The Bute Loudness Suite 2 plugin is an extended version of the Bute Loudness Analyser 2 plugin with a built in True Peak Brickwall limiter. The Bute Loudness Suite 2 installer also includes the Bute Limiter 2 plugin and the standalone Bute Loudness Normaliser application.

## Installation

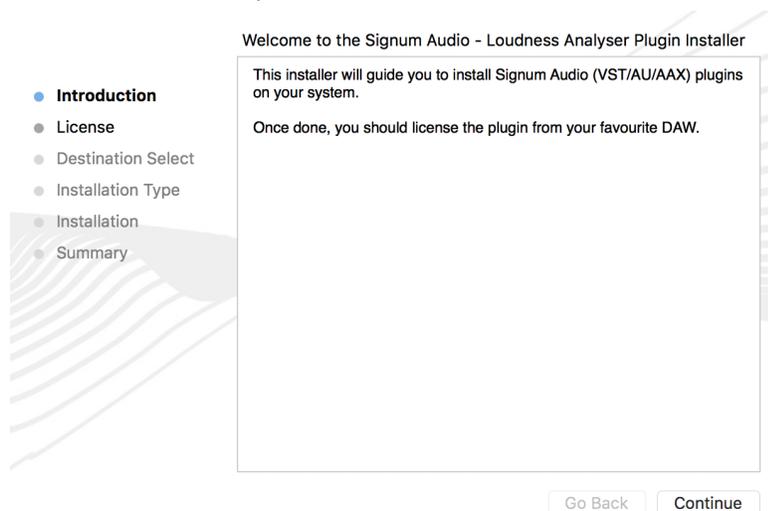
Mac OS x

### Minimum Requirements

Mac OSx 10.9 or later

Protocols 12.5 or later (for AAX)

Run the installer as provided.



The installer will run you through the following sections:

**License:** Read through the license agreement and accept it if you agree with the license.

**Destination Select:** Choose your destination, this should be a location in your system folder

**Installation Type:** Choose which plugin formats you need. If you are using Pro Tools make sure you have AAX selected.



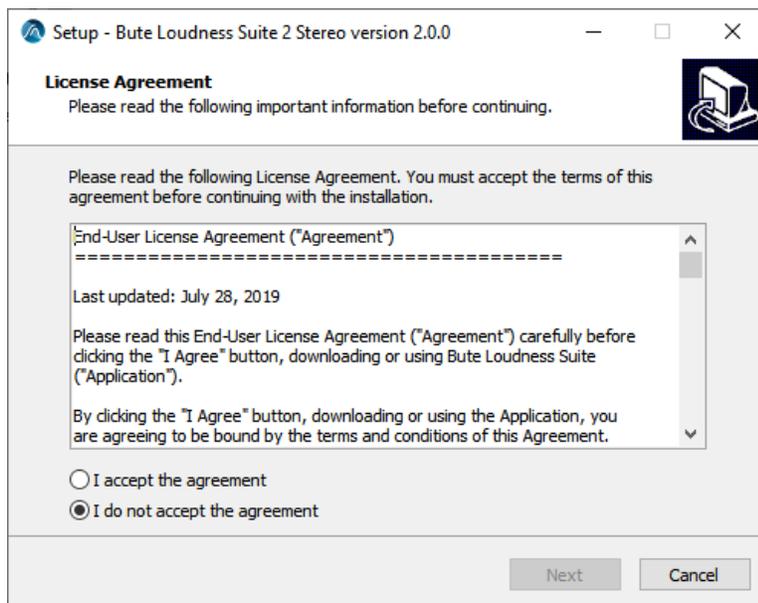
**Installation:** You will be asked for your password as the installer needs to install the plugins in your system folder.

## Windows

### Requirements

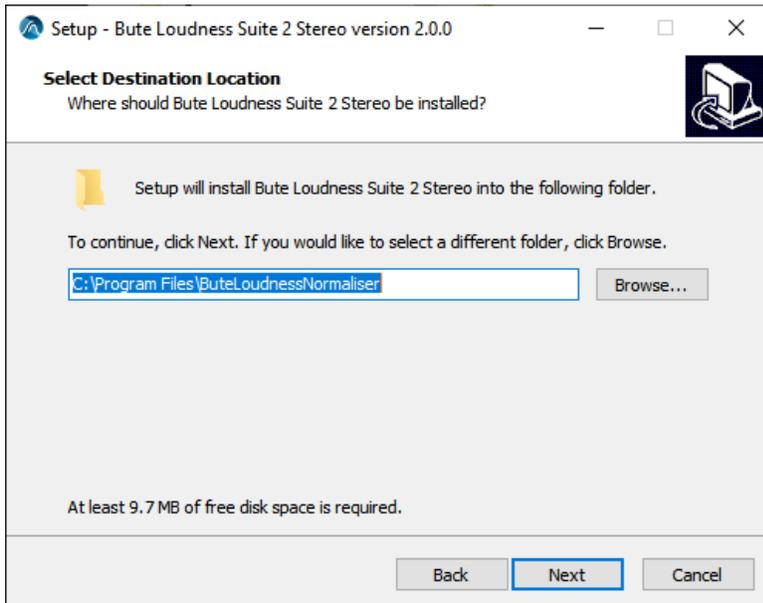
Windows 7 or above

Protools 12.6 or later (for AAX)

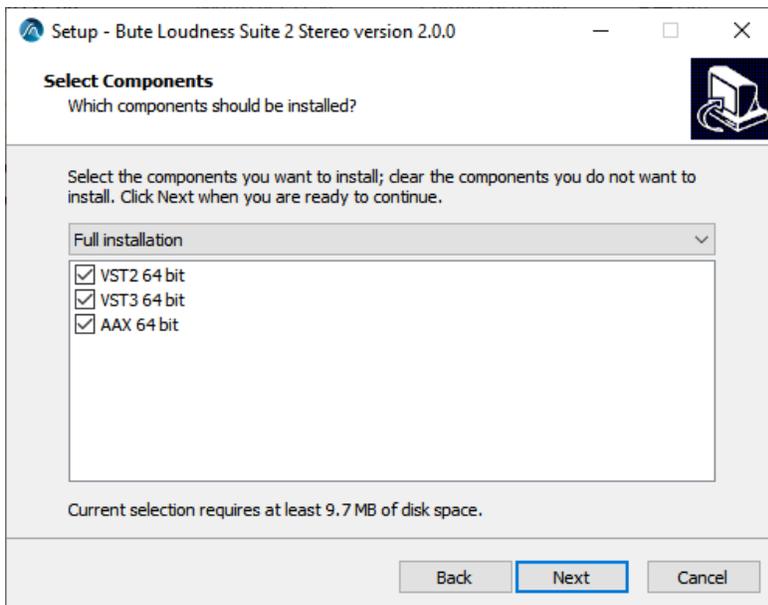


You might get asked to confirm to run the installer depending on your security settings. In this case a message saying 'Windows Protected your PC' will show up, please click on 'Run anyway'. The installer will then run you through the following screens:

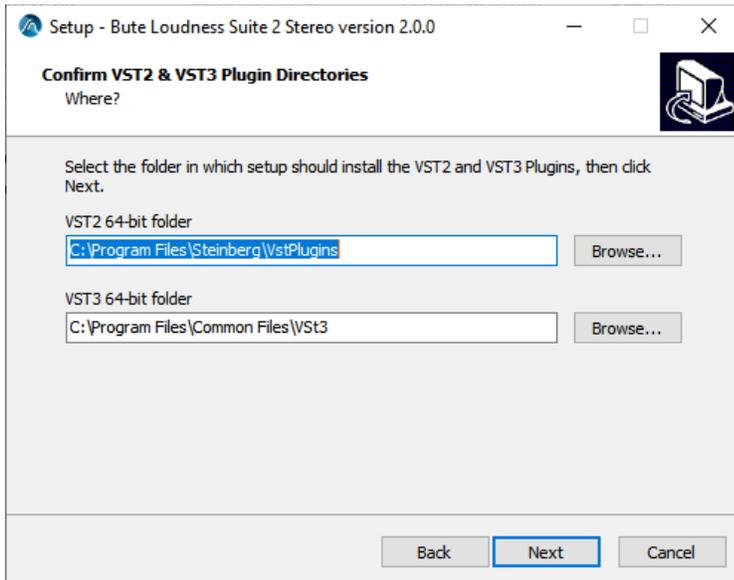
**License Agreement:** Read through the license agreement and accept it if you agree with the license.



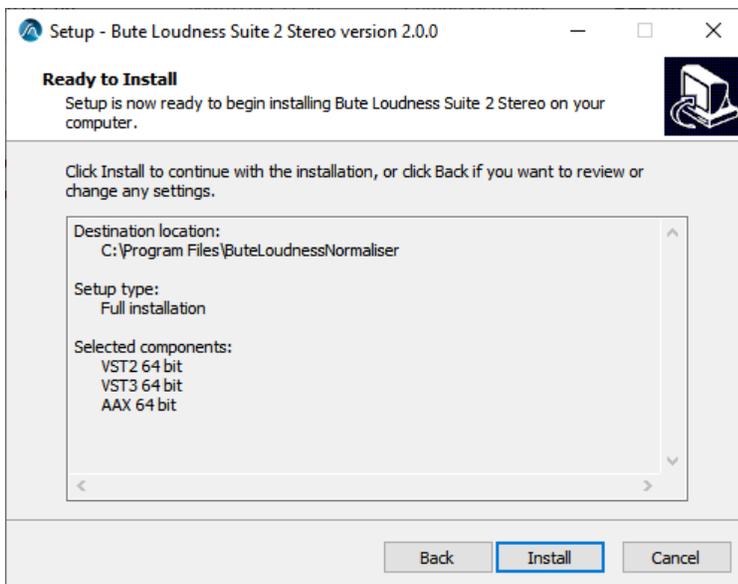
**Normaliser Install Location:** Choose an install location for the Bute Normaliser.



**Select Components:** You can choose between full installation or custom installation which allows you to select which plugins you want to install.



**Confirm VST2 & VST3 Plugin Directories:** You can choose a custom install location for both VST2 and VST3 .



**Ready To Install:** Confirm your selections and click and install.

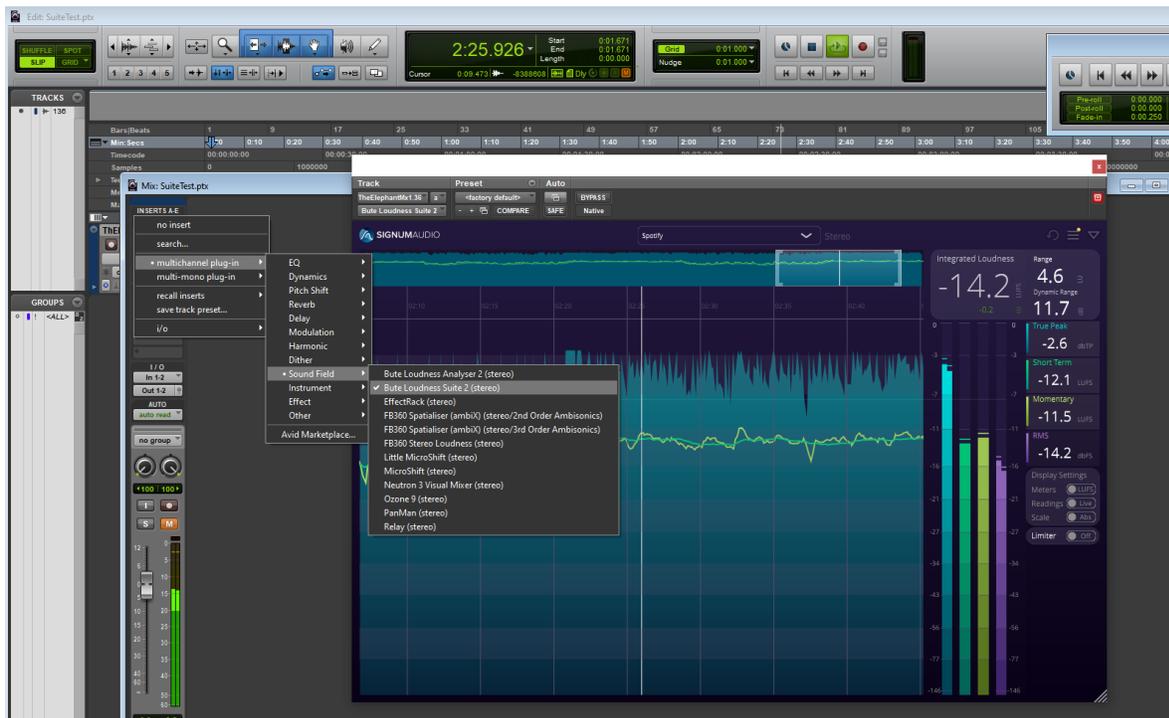


## Plugin First Use

After installation, you should find your plugin appear in the *Plugin* section of your favourite DAW.

In most DAWs, VST and AU hosts you should find our plug-in under *Signum Audio > Bute Loudness (Analyser / Suite) 2*.

**Pro Tools users** will find it under the *Sound Field* section.



## Stereo, Mono and Surround

If you purchased the Stereo version you will be able to use the plugin in mono or stereo mode. If you purchased the Surround version you will be able to use it for all different channel configurations including Atmos. You can add the plugin on any track but you most likely want to insert it as the last plugin on the master (Master Fader Track), this means that you will be analysing/limiting the final output of your audio.





## License Keys, Demos and Trials

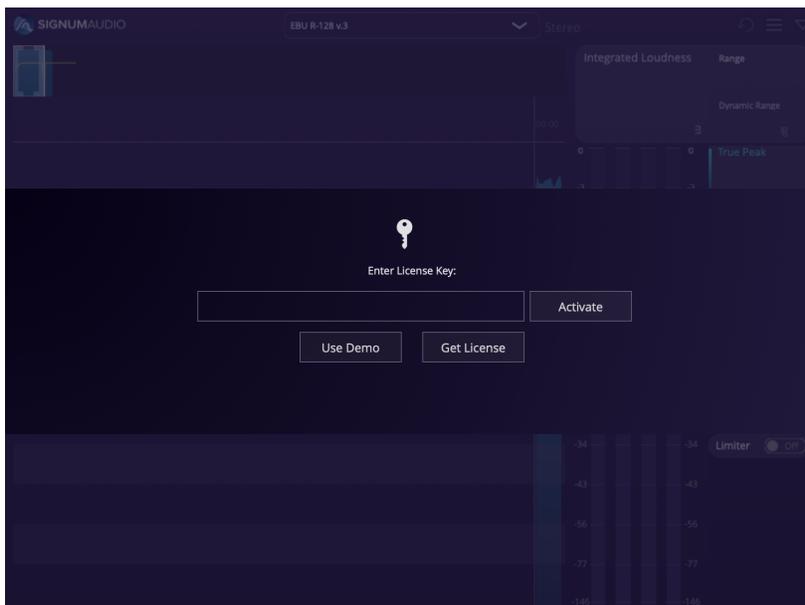
On the first run you will be asked for your license key. You should have received this by e-mail, or else you can find it under license keys in your user account on [www.signumaudio.com](http://www.signumaudio.com) (you need to be logged in to use the direct link).

Enter the license key as it has been sent to you (case sensitive) without any spaces. Please make sure you are connected to the internet.

If you are experiencing issues to get your software licensed, please contact us by sending an email to [support@signumaudio.com](mailto:support@signumaudio.com)

If you don't have a license key you can still run the software in demo mode to make sure it works but it will introduce silence every 30 seconds. You can also get a fully functioning trial license that will work for a number of days. Trial licenses will require you to be connected to the internet. Once a trial license expires you will need to buy a full license to continue using our products.

You can transfer the license from one machine to another. For this you need to first deactivate your license either in your signum audio account or via the information window within the plugin. You will then be able to activate your license on another machine.





# Plugin Window

## Plugin Window Overview

**History Overview**  
Navigate the history view and zoom with the brace

**Gain Reduction**  
See the gain reduction on the timeline

**Preset Selection**

**Collapsible View**  
Fold the meters and history view away to save space

**Custom Alerts**  
These light up when user-set levels are under/overshot

**Activate Limiter**

**Scale Window**

**Tooltip**  
Shows the four meter levels at the mouse position

**History View**  
View the progress of all four meters and GR over time

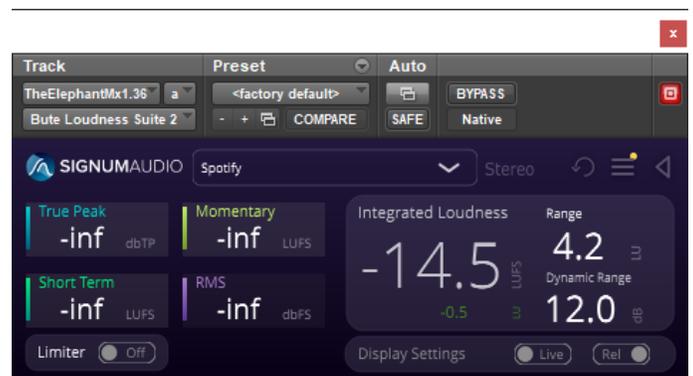
**Integrated Loudness**  
The dot turns green when on target

**Meters**  
Short-term, Momentary, True-Peak & RMS

| Meter Type          | Value | Unit |
|---------------------|-------|------|
| Integrated Loudness | -11.7 | LUFS |
| Dynamic Range       | 4.9   | dB   |
| True Peak           | -1.0  | dbTP |
| Short Term          | -11.1 | LUFS |
| Momentary           | -10.6 | LUFS |
| RMS                 | -9.6  | dbFS |

## Collapsed / Expanded View

When the collapse icon  in the menu bar is clicked, the plugin window will resize and rearrange to a compact layout.





This mode displays all the current readings and indications, including warnings and standard compliance.

## Resizable UI

When the view is expanded, you can resize the window to your liking by dragging the bottom right corner.



## Loudness Meter

On the top of the plugin is the preset selection, which determines which standard is used for metering. Targets, units, and metering algorithms change depending on the selected preset.



At the top of the metering section you can find the reading for **Integrated Loudness**, the overall loudness in LUFS/ LKFS of the whole programme / track.

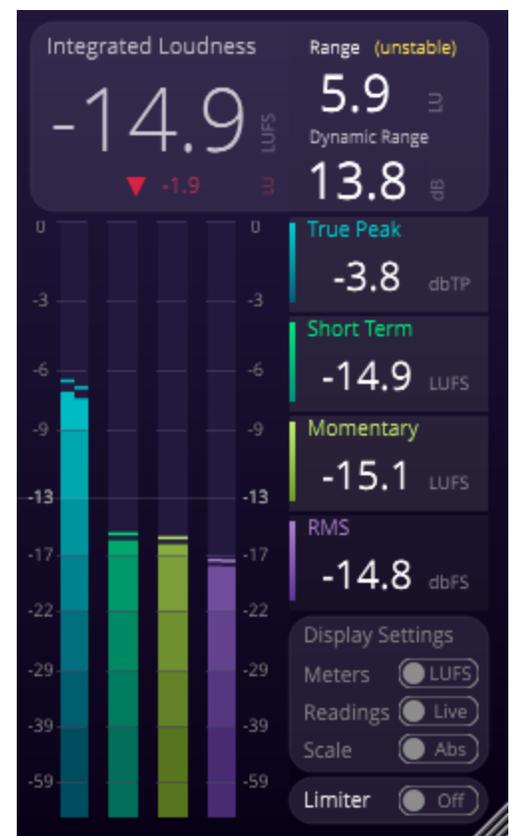
At the bottom left of the Integrated Loudness section is a **Target Indication** for integrated loudness.

If the Target Indicator is a green this means that your programme complies with the selected preset. 

If the programme/audio track is out of target there would be an indication of whether it is too quiet  or too loud . The number next to the arrow shows you how far off you are from the target.

Next to the **Integrated Loudness** section you can find the Loudness **Range**. This value is also measured over the whole length of your programme and gives an indication of its dynamics.

The **Loudness Range** is considered unstable if less than 1 minute has been metered. In this case an indication in yellow (**unstable**) will be shown next to the Range label.





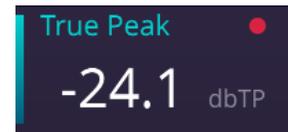
At the bottom right of the **Integrated Loudness** section is the **Dynamic Range** reading. It shows the difference between the quietest and loudest sections of the audio in dB.

**True Peak** displays the true peak of the currently playing audio. It uses an upsampled signal to mimic analog output.

**Short Term** displays the short term loudness and uses a sliding rectangular time window of length 3s. The **Momentary** displays the momentary loudness and uses a sliding rectangular time window of length 0.4s.

**RMS** displays the Root-Mean Squared reading of the currently playing audio. The RMS window length can be adjusted in the Meter Settings page.

Hovering over the True Peak, Short Term, Momentary and RMS readings will highlight the relevant graph in the history. Clicking the reading toggles the respective history graph on or off.

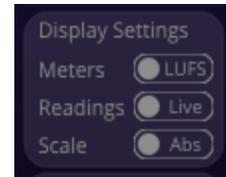


Warnings and non compliance of a reading are shown as yellow and red dots next to the label. The example shown on the right means that there were overshoots during metering.



## Display Settings

The display settings panel holds 3 switches that can be used to customise the readings and toggle between different meters.



The **Meters** switch can be used in LUFS or True Peak mode. In LUFS mode the meters will display the 4 loudness meters: True Peak, Short Term, Momentary and Rms. In True Peak mode the meters will display a true peak meter for every individual channel. True Peak Meters are especially useful in surround configurations to monitor the correct output of all channels.

The **Readings** switch will toggle the readouts on the right hand side of the Meters from Live readouts to displaying the Max value of the entire programme.

The **Scale** switch is used to switch between absolute and relative scale. When the switch says Abs you are using an absolute scale using full scale loudness units. If the switch says Rel, a scale relative to the target of the current preset is used. When the scale is set to relative, readings for Integrated, Short Term and Momentary Loudness use relative units. Since the target value does not apply to True peak and RMS, these readings are always full scale and use dbTP and dbFS respectively.

## Adjustable Vertical Scale

Bute allows you to adjust the vertical scale by simply grabbing the scale and dragging it up or down. This will affect the display of Loudness meter as well as the history view. Depending on how you adjust the vertical scale, you will see more detail in different parts of the loudness spectrum. To facilitate mastering to the target value, the target is always visible and emphasised.



## History View



The history section can be found when the plugin is expanded on the left side of the window. In the history section you can see the history graphs of all selected readings. The colours of the graphs correspond to the colours of the meter bars and the meter readings.

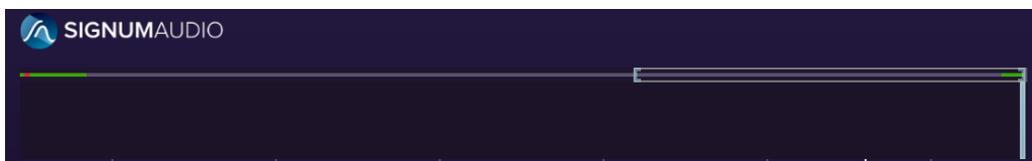
The preview section on the top shows the whole history. You can move and zoom through the history by moving and resizing the window in it.

A floating information box appears when hovering over the history section. The information box contains the exact reading at a particular time. From top to bottom: Time, Short Term Loudness, Momentary Loudness, True Peak and RMS.



The history view also shows areas of concern on the timebar. Standard violations (like true peak overshoots) in red and warnings in yellow. Hovering over it will give you more detailed information of the issue.

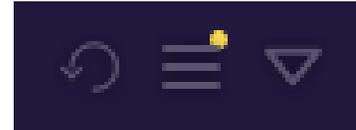
If your session is longer than 30 minutes, the history overview will be further separated using a topmost full overview. This allows for very long sessions or sessions that start at 10:00:00 as sometimes done in broadcasting. Re-metering and DAW sync will still be available.



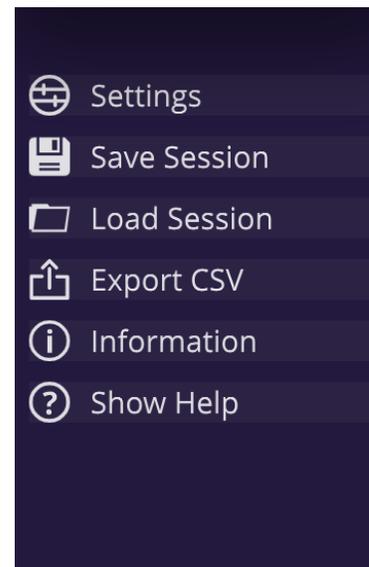


## Menu

The menu is always visible on the top right corner of the plugin window.



- Reset
  - Resets all metering, warnings and errors.
- Expand Menu
  - Meter Settings
    - Here you can configure all metering and warning settings. In the Surround version of the plugin you can also change the channel layout.
  - Save Session
    - Saves current session to a file
  - Load Session
    - Loads session from file
  - Export CSV
    - Exports CSV text file with all the readings from your session
  - Information
    - Displays information about your plugin version, updates, and your license. You can also deactivate your license from here.
  - Show Help
    - Shows a walkthrough help within the plugin.
- Collapse / expand
  - Collapses or expands the display. The collapsed display allows you to meter without using much space on your display.





# Functionality

## Meter Settings

In the **Meter Settings**, which you can access from the menu, you can set how the meter behaves.

We have compiled a long list of factory presets that tries to be as exhaustive as possible.

The factory presets have gating type, filter and units set, along with target integrated loudness (with upper and lower tolerance) true peak and short term limit.

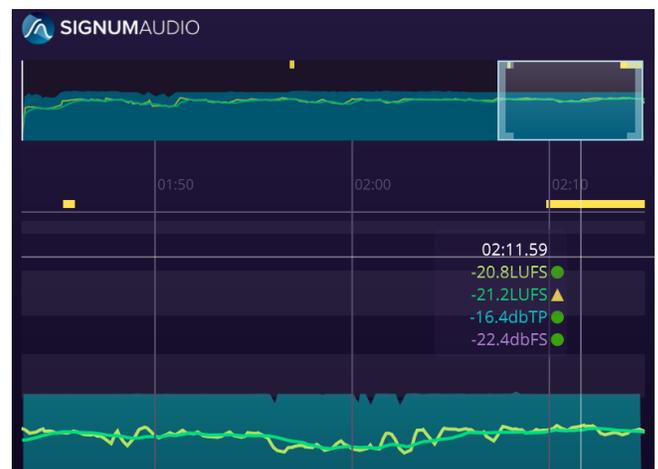
If you select the “User” presets, you can change these values to your specific needs. When you click save you will save this to your machine and you can access them later on.

Do not hesitate to contact us on [support@signumaudio.com](mailto:support@signumaudio.com) if you would like to include your own preset in the plugin.



The **RMS Window Length** is ubiquitous and is not part of a preset.

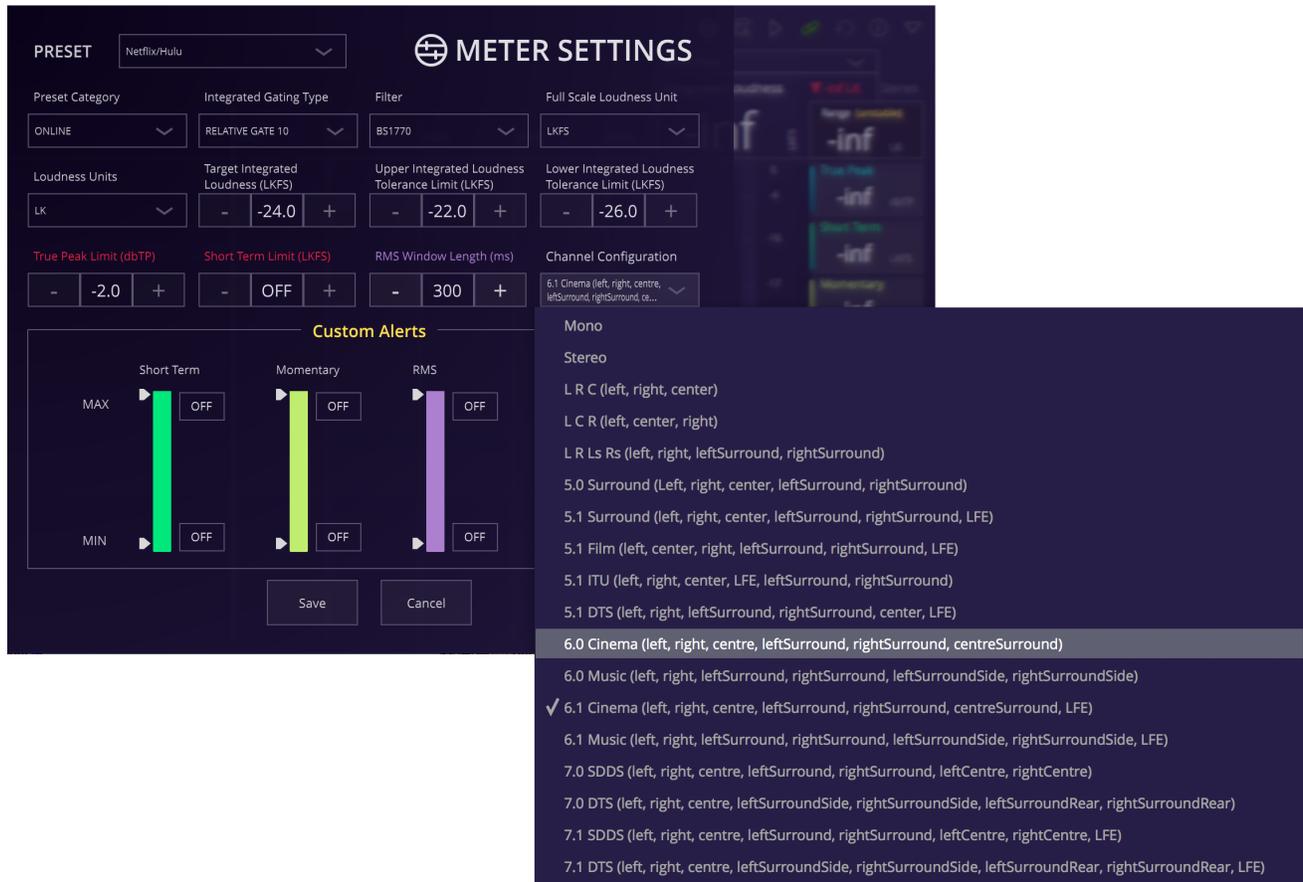
The **Custom Alert System** allows you to set maximum and minimum limits for Short Term, Momentary and RMS meters. It also allows for a maximum True Peak limit. If a meter goes above/below the limits, a warning will be recorded. This is particularly useful if you want to visualise quiet and loud parts of your programme. The alerts can be customised for each preset individually.





## Channel Configuration - Surround

If you are using the surround version of the plugin you can set the channel configuration from the **Meter Settings** window or the drop down box beside the preset selection at the top of the main window.



The current channel configuration can be seen on the right hand side of the preset selection, at the top of the plugin.

Make sure that the channel configuration matches the one in your DAW.

Bute Surround Version, will allow you a choice up to the number of channels you have available in the channel you insert it in.





## The True Peak Brickwall Limiter

The Bute Loudness Suite 2 version of the plugin includes an integrated True Peak Brickwall Limiter. The Limiter can be activated by clicking the Limiter switch on the right side of the window, underneath the display settings. You can switch this on and off during metering.

The **Limiting algorithm** is the same as in **Bute Limiter 2** and has been specifically developed for most transparent brickwall limiting.

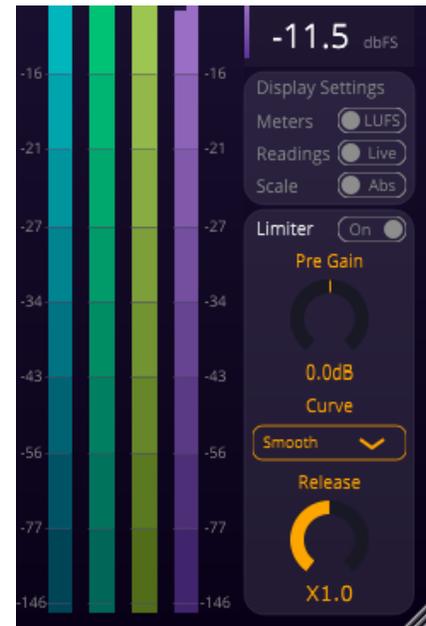
As a convenience, the Limiter configuration section offers **Pre Gain** that will be applied before limiting.

The Limiter offers a selection of three **Release Curves**, Transparent, Natural, and Smooth.

Furthermore, the Limiter features **Auto Release** where the release time is calculated depending on multiple properties of the input audio.

You can change the **Auto Release Time Reactivity Factor** to accommodate for different types of signals. If you like the auto release to act faster you can decrease the value and if you like it to act slower you can increase the value. The Auto Release Time Reactivity Factor can be thought of like a more sophisticated release time setting. For example a value of x4 is appropriate for piano music which usually sounds best with longer release times.

The limiting **Threshold** is automatically set to the selected Presets maximum permitted True Peak value. Gain reduction is shown above the True Peak graph in the History View and on the Meter.



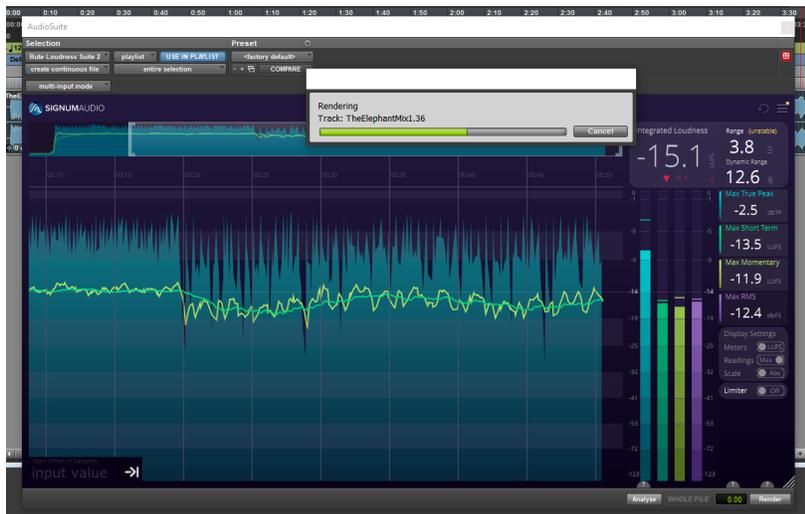


## DAW sync and re-metering

The plugin will synchronise automatically with your DAW. This means the meter will automatically start metering when you hit play and stop metering when you pause or stop playback. The playhead in the plugin's History View is locked to the playhead of your DAW and the loudness readings will be recorded at the correct times in the History View. If parts of the audio get re-metered after a change, the history and all loudness readings get updated accordingly. This means there is no need to re-meter the whole audio after a change.

## Audio Suite

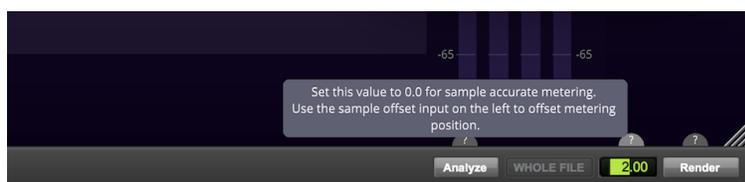
Both Bute Loudness Suite 2 and Bute Loudness Analyser 2 support Pro Tools Audio Suite. The Audio Suite version of the Bute Loudness Suite 2 can act as a Normaliser.



To access it, click “AudioSuite” in the main menu > “Modulation” > “Bute Loudness Suite”

Firstly, select the preset and the correct channel configuration that you want to work with, then click “Render” at the bottom right of the plug-in window. The Normaliser function will then automatically alter your audio so it complies with the standard of your chosen preset.

You should set the Pre-roll (next to Render) to 0 in order to avoid any latency issues when using the Normalisation function.





You can also input a sample offset value which allows you to align the History recording of the Audio Suite version to match with the plugin. This allows you to meter a whole session with Audio Suite, export the metered data and load it into the plugin. You can then just re-meter sections where you made changes and all values will get updated accordingly.

## Known Issues

Surround Version Doesn't work with Ableton 9.

FL Studio, Ableton, and Studio one users should use VST version of the plugin instead of VST3

The plugin fails loading on Pro Tools older than version 12.6

Plugin doesn't work with Sequaia 13