Ian Shepherd's Dynameter 2 User Manual

MeterPlugs

Contents

Welcome to Dynameter 2

Thanks for choosing Dynameter! This guide will help you get started quickly and serve as a handy reference.

If you're already familiar with Dynameter, you might want to jump to the "What's New" section for updates.

Dynameter isn't a loudness meter. It measures the dynamics of your music, providing a realtime view of how dynamic or dense your music is, whether it's a single track or an entire album.

With loudness normalization now standard on streaming platforms, the focus has shifted from raw loudness to dynamics. The loudness of your music is now adjusted by broadcasters or platforms, not by the levels of your files.

The goal is to achieve the right balance of dynamics. Too much can make listening difficult, while too little can make music sound flat. Dynameter helps you find the ideal dynamic range for your style in a clear and intuitive way.

That's why we say, "Stop worrying about loudness, start succeeding with dynamics."

System Requirements

- Mac OS X 10.7 or greater
- Windows XP SP3 or greater
- AAX, Audio Unit, or VST 2.4 / 3 compatible DAW

Compatibility

- Mac: AAX (Pro Tools 11+), Audio Unit and VST 2.4 / 3 (all 64-bit)
- Win: AAX (Pro Tools 10.3.7+) and VST 2.4 / 3 (all 32 & 64-bit)

Installation and Authorization

To install Dynameter on Mac OS X, run the installer and follow the on-screen instructions. Dynameter will be installed into the following folders:

Mac

- AAX: /Library/Application Support/Avid/Audio/Plug-Ins/
- AU: /Library/Audio/Plug-Ins/Components/
- VST: /Library/Audio/Plug-Ins/VST/
- VST3: /Library/Audio/Plug-Ins/VST3/

Windows

- AAX: C:\Program Files\Common Files\Avid\Audio\Plug-Ins\
- VST: C:\Program Files\Steinberg\VSTPlugins\
- VST3: C:\Program Files\Common Files\VST3

Most DAWs will scan these folders for plugins. If yours doesn't, you may need to configure it to scan these folders. See your DAW's manual for more information.

Online Authorization (Requires Internet Connection)

When you first install and run Dynameter, an authorization dialog will prompt you for your email address and serial number. Enter the email address that you used when you purchased Dynameter. Note that both fields are case-sensitive.
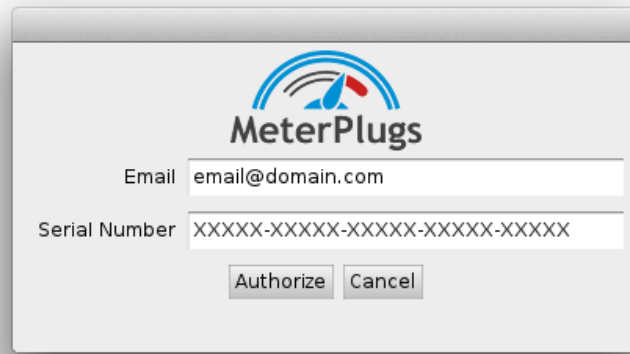

Figure 1: Dynameter Authorization

Offline Authorization

If you prefer, it is possible to authorize Dynameter without an Internet connection. This approach may also be required if your DAW blocks keyboard input from plugins, preventing you from entering your email address and serial number. Visit the following URL for details:

http://www.meterplugs.com/offline-authorization

What's New in Dynameter 2

Dynameter 2 includes several important changes and new features:

- Fully re-sizeable display
- Multiple view modes: Classic, Stereo, Mid/Side and Multiband
- "Peak aware" display
- PSR overview
- Expanded options

Detailed descriptions of these features can be found below, starting with PSR History Display Modes.

Getting Started with Dynameter 2

Dynameter gives you two key measures of your music's dynamics: PSR (Peak to Short-term loudness Ratio) and PLR (Peak to Loudness Ratio). These numbers show the difference between peak and loudness levels over different time frames. The more compression, limiting, and clipping you apply, the smaller this difference becomes.

PSR measures dynamics over a short, 3-second window, while PLR provides an overview for an entire song or album. These values help you optimize your music's impact and balance its density and dynamics.

To get started, load Dynameter on your DAW's stereo output or master bus and hit play. The PSR Bar shows the current PSR, and the PSR History unfolds below it. A wider bar or history graph means more dynamic sound. You'll also see the Minimum PSR and overall PLR readings, along with the PSR Overview.

The PSR display uses color-coding to indicate dynamics in your music. More dynamic material appears as green, blue, and purple, while less dynamic material shows up as yellow, orange, or red. Everyone has their own preferences for ideal measurements, but if you want a good

balance of dynamics and variety, we suggest you try to keep your music's overall PSR value above 8. Values below 8 will appear in darker, muted colors.

The color-coding is determined as follows:

Color	PSR Range
Purple	> 19
Blue	13 - 19
Green	11 - 13
Yellow	9 - 11
Red	7 - 9
Brown	5 - 7
Grey	< 5

To zoom in or out of the PSR History, just click and drag up or down. Zooming in reveals more details over short periods, while zooming out gives an overview of longer periods, like a whole song or album. To adjust the horizontal scale, click and drag left or right while holding the Shift key. You can clear the history anytime by pressing Reset.

We suggest starting with Dynameter by measuring some of your favorite music or audio. Notice how the readings change at key moments. You'll quickly get a feel for what sounds and looks good to you and when you might need to focus more on audio processing. While visual feedback is useful, we recommend using Dynameter alongside critical listening, not as a replacement.

User Interface

This section gives a quick overview of Dynameter's user interface. You can resize the plugin window by dragging the bottom-right corner. The default size in Dynameter 2 is larger to accommodate new display modes, but you can shrink it to the smaller "Classic" size if you prefer.

Keep in mind that some DAWs, like Pro Tools, have a minimum width for plugin windows, which might result in blank space on either side of the display. In some DAWs, you may need to manually adjust the hosting window to fit the plugin after resizing.
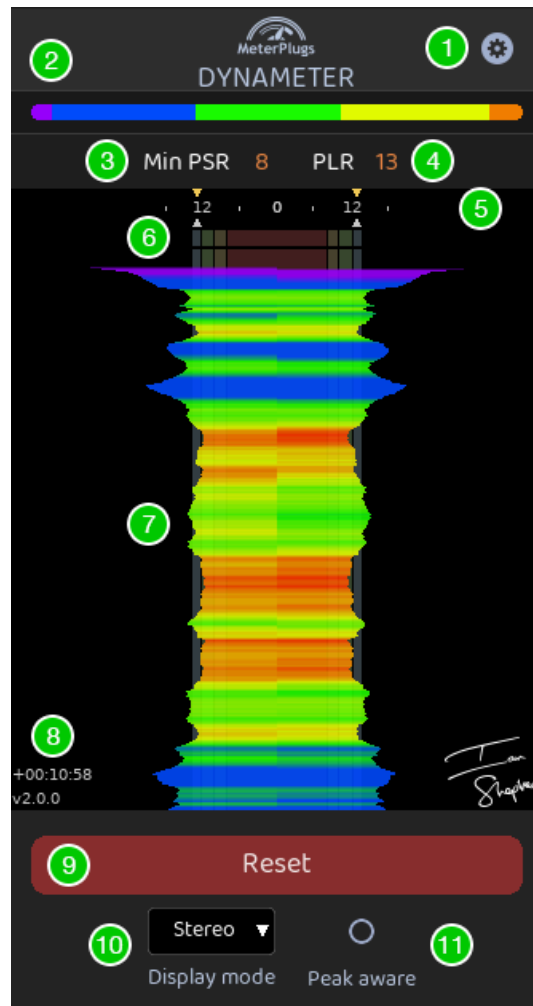
Main Interface

Figure 2: Dynameter 2 main user interface

1. Options Toggle

Show / hide the options panel.

2. PSR Overview

An overall summary of the distribution of PSR values measured since the last reset, allowing typical values to be assessed at a glance.

3. Minimum PSR

A realtime, numeric display of the lowest PSR value since the last reset. Click to reset.

4. Numeric PLR

A realtime, numeric display of the PLR value since the last reset. Click to reset.

5. Platform PLR and Indicators

A realtime, graphical display of the streaming platform's PLR (see Platform PLR Presets) and the current PLR. The Platform PLR is indicated by yellow triangles above the scale while the current PLR is indicated by white triangles below the scale.


6. PSR Bar

A realtime, graphical display of the current PSR.

7. PSR History

A "waterfall" display of PSR values over time, with the latest values at the top. Wider sections show more dynamic audio, while narrower ones indicate less. Colors like green, blue, and purple mean greater dynamics, whereas yellow, red, or brown suggest less. You can adjust the vertical scale by clicking and dragging, and the horizontal scale by Shift-clicking and dragging.
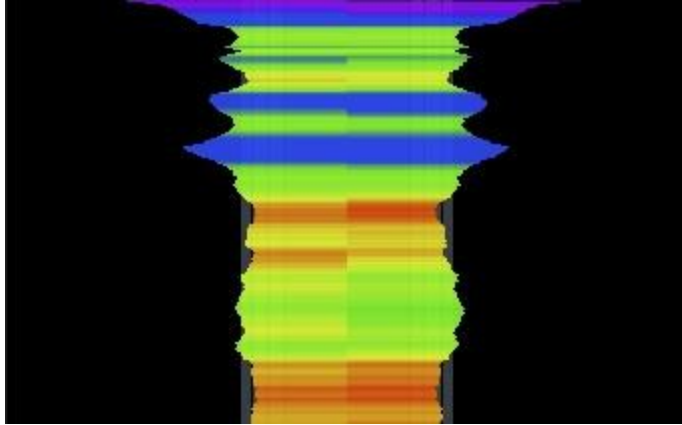
8. Timecode

Displays the time (HH:MM:SS) at the mouse pointer's position in the PSR History. When available, the host's absolute timecode is displayed; otherwise, a relative timecode is shown.
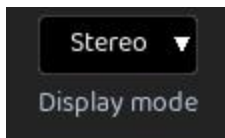

9. History Reset

Clears the PSR History, Minimum PSR and PLR displays.

10. Display Mode

For the PSR History, select either Classic, Stereo, Mid/Side or Multiband display mode.

11. Peak Aware

When enabled, the PSR trace follows the signal's peak level, with levels increasing from left to right.
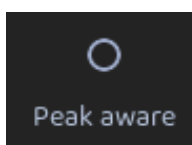
Options Panel

Figure 3: Dynameter 2 options

12. Preset Selector

Select the PSR guideline preset. See [Minimum PSR Presets](#).

13. Platform Selector

Select the Platform PLR preset. See [Platform PLR Presets](#).

14. Use Host Transport

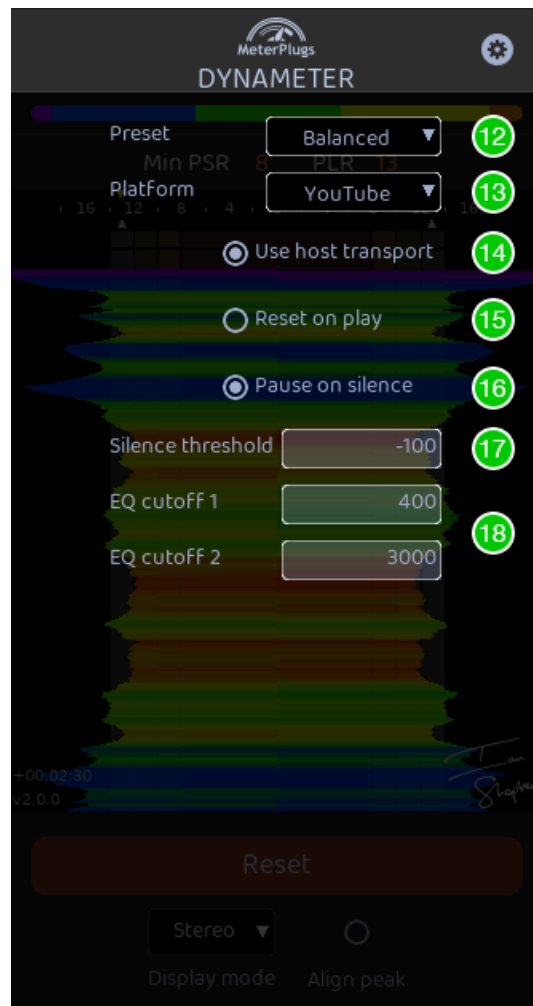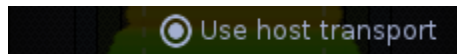Start / stop the PSR History when the host transport is playing / paused. This may not work in all hosts. If it doesn't work in your host, try using Pause on Silence instead.

15. Reset on Play

Reset the PLR, Minimum PSR and PSR History displays when playback is resumed.
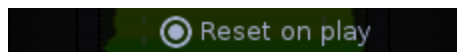
16. Pause on Silence

Stops the PSR History from updating when silence is detected (see Silence Threshold, next).
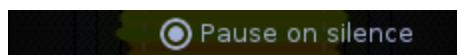
17. Silence Threshold

The LUFS level below which the signal is considered silent.
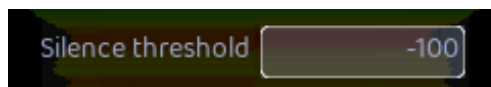
18. EQ Cutoff 1 & 2

Define the dividing points between the Multiband Mode frequency bands. Set to 400 Hz & 3000 Hz by default.

Section 1: Optimizing Density & Dynamics

Dynameter has two main functions: optimizing dynamics for maximum musical impact and evaluating those dynamics for online loudness. This guide covers these uses in two sections, starting with optimizing dynamics.

PSR (Peak to Short-Term Loudness)

PSR measures the peak-to-loudness ratio of your music over a short time, reflecting its detailed dynamics. It's also known as the "crest factor." Dynameter shows PSR values through its PSR History, PSR Overview, PSR Bar, and Minimum PSR readings.

Interpreting PSR Values

It's easy to confuse Dynameter's PSR History graph with peak-level waveforms, but they differ. A "spiky" peak waveform suggests dynamic music, while in Dynameter, the graph's width indicates how dense or dynamic the music is, and the "spikiness" shows the variety in those dynamics.

Consistently high PSR values, shown in purple, blue, and green, usually appear with quieter, more dynamic audio. Lower PSR values, in yellow, orange, and red, are common with louder, heavily limited, or clipped audio. Extremely low PSR values, in brown or grey, often result from heavy clipping or limiting.

If you see low overall PSR readings (less than 8), it may indicate excessive limiting or clipping. Consider adjusting your processing settings if low PSR values are frequent.

PSR Overview

The PSR Overview shows the distribution of dynamics in your audio. It's color-coded like the main PSR display, with sections sized according to how much time the audio spends in each PSR range.

Larger sections indicate the most common PSR values, while smaller sections show less frequent values. The most prevalent PSR reading will occupy the most space, allowing you to quickly identify common and typical low, medium, and high PSR values.

For example, if your audio consistently measures between PSR 8 and 10, you'll see a lot of orange in the overview bar. Typically, a song's PSR will vary across different sections, showing a balanced range of values. In a well-balanced, fairly loud song, you might see mostly orange (PSR 10-8) and yellow (PSR 12-10), with less frequent green or blue (higher values) and occasional red (hitting PSR 8):

12
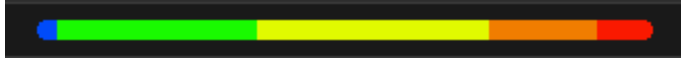
For very dense audio with low PSR values, the PSR Overview will be mostly red, brown and even grey:
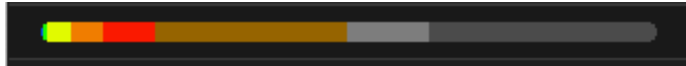
Whereas very dynamic material will have much more green, blue and magenta:

You can also get a sense of overall values by checking the PSR History graph, but this can be tricky to interpret when a song frequently switches between dynamic and dense sections. The PSR Overview simplifies this by showing which PSR values are typical for your audio and which are less common. This is helpful if the Minimum PSR indicator highlights a value you're paying attention to, for example PSR 8. You can quickly see if this occurs rarely (a small red section on the bar) or more often (a larger red section).

PSR History

The PSR History graph lets you see in detail how the PSR values of your audio change in realtime. You can zoom in for more detail by clicking and dragging down, or zoom out to view longer periods by clicking and dragging up. Adjust the horizontal zoom by Shift-clicking and dragging.

If you notice large, regular changes in the width and color of the graph, your audio has varied dynamics. Consistent width and color suggest less dynamic variety.
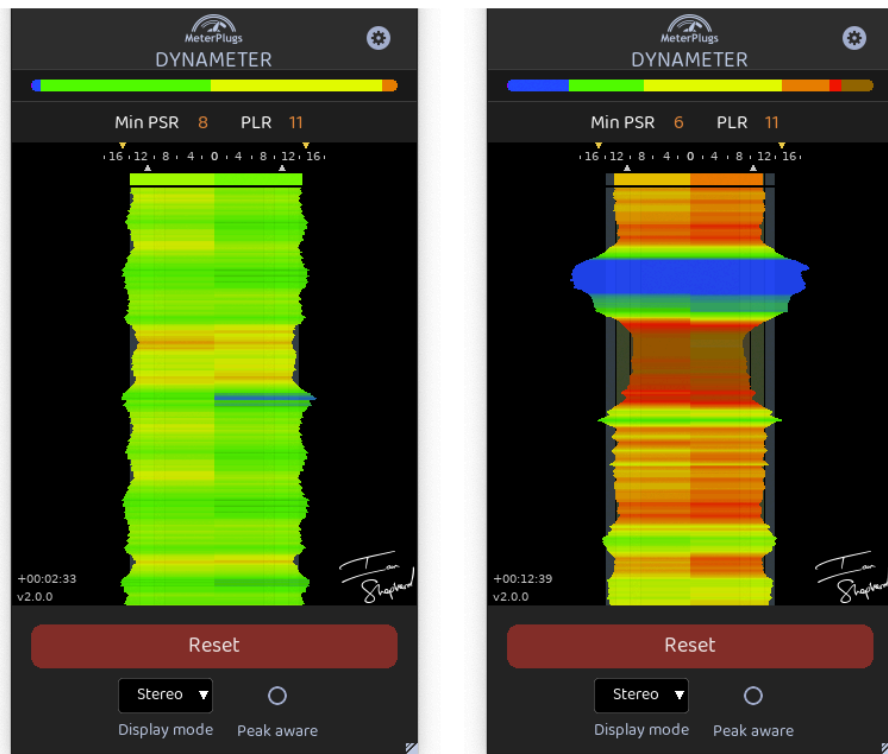
Figure 4: Two songs with the same PLR.

The left is consistently more dynamic whereas the right is less dynamic but has more variety of dynamics

PSR History Display Modes

Dynameter's PSR History graph offers several display modes to help you evaluate the PSR from different perspectives. You can choose from:

- Classic (Overall)
- Stereo
- Mid/Side
- Multiband

Simply select your preferred mode from the drop-down menu below the main PSR History graph. Keep in mind, the new Peak Aware option will alter the appearance of these modes - see

.

Classic mode

Classic Mode matches the original Dynameter (v1) display. It presents the overall PSR of both left and right channels as one value, symmetrically centered.

Note: "Peak Aware" display isn't available in Classic Mode, whereas the PSR Preset guidelines are **only** visible in Classic Mode.

Stereo Mode

In **Stereo Mode**, you can see the PSR values for the left and right channels separately. The left channel is on the left and the right channel is on the right.

This mode helps you spot if one channel consistently has higher or lower PSR values, indicating potential imbalances in dynamics. For instance, if a heavily compressed guitar is panned hard right, it might show a lower PSR value than the left channel, reducing the overall (Classic) value.

Mid/Side Mode (Sum/Difference)

In **Mid/Side Mode**, you'll see two PSR values: one for the Mid (L+R, or sum) signal and one for the Side (L-R, or difference) signal. The Mid value is shown on the left, and the Side value is on the right.

While we won't dive deep into Mid/Side theory here, it's helpful to know that the Mid channel reflects the PSR of the mono (center-panned) audio, while the Side channel shows the PSR of audio toward the stereo edges.

Multiband Mode

Multiband Mode lets you view the PSR in three frequency bands, with default cutoff frequencies set at:

- Up to 400 Hz
- 400 - 3000 Hz
- Above 3 kHz

You can adjust these frequencies in the Options. This feature helps you understand which frequency ranges in your audio are most dense or dynamic, especially when used with the Peak Aware feature.

In Multiband Mode, it's normal to see lower PSR values in some frequency ranges compared to Classic or Stereo views, so don't worry if you notice this. The Peak Aware option can provide more detailed insights.

Note: The default EQ splits are designed to cover roughly equal musical octaves, which we found useful for general material. The color-coding doesn't change with the bands, so if you adjust the ranges, remember that the distribution of musical content in each band will shift. Interpret the color-coded results accordingly.

Peak Aware Mode

Some sounds naturally have low PSR values without extra processing. These include smooth, sustained sounds like sine wave bass, solo flute, keyboard pads, and long-held sung notes. Synthetic sounds from virtual instruments and sample libraries may also show low PSR readings.

It can be tricky to tell from the PSR value alone whether a low result is due to heavy processing, or is simply a natural result for the sound. To check if low PSR values are natural or due to processing, use **Peak Aware** mode. This shifts the PSR trace horizontally based on the peak level. Higher peaks move the graph to the right. While the PSR values stay the same, the graph's position shows if dynamics are being restricted by processing.
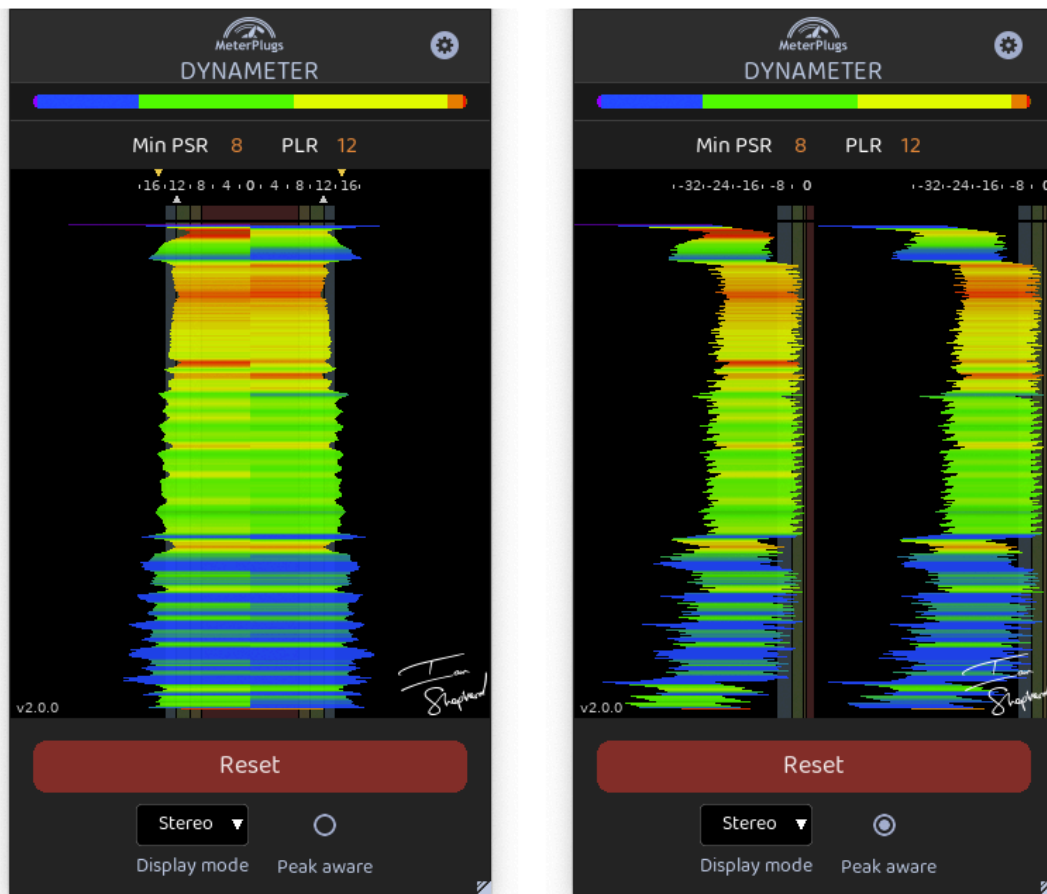
Figure 5: Peak Aware off (left) vs. on (right) for the same audio

If you notice a low PSR reading and the graph is pushed all the way to the right, it likely indicates heavy limiting, clipping, or compression. If the graph isn't hitting the right side, the audio probably just has a naturally lower PSR.

More detailed examples of interpreting Peak Aware PSR readings can be found in Figures 6a & 6b below.

If your music has low PSR values without using compression or limiting, with a low and/or varied Peak Aware trace displacement) you probably don't need to be concerned:

Figure 6a: Peak Aware PSR readings showing naturally low PSR values

However maxed-out or very consistent Peak Aware trace displacements may suggest limiting or clipping, either during mastering / on the stereo output, or earlier in the mix:

Figure 6b: Peak Aware PSR readings showing possible clipping & limiting

Naturally dynamic sources like unprocessed acoustic drums and percussion usually show high PSR readings (over 12) unless the signal has been clipped, either intentionally or accidentally.

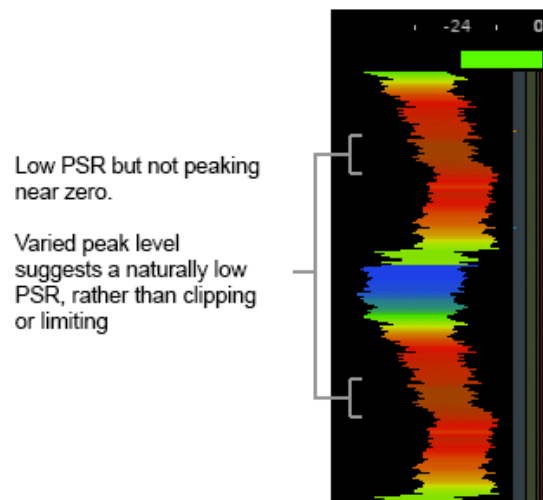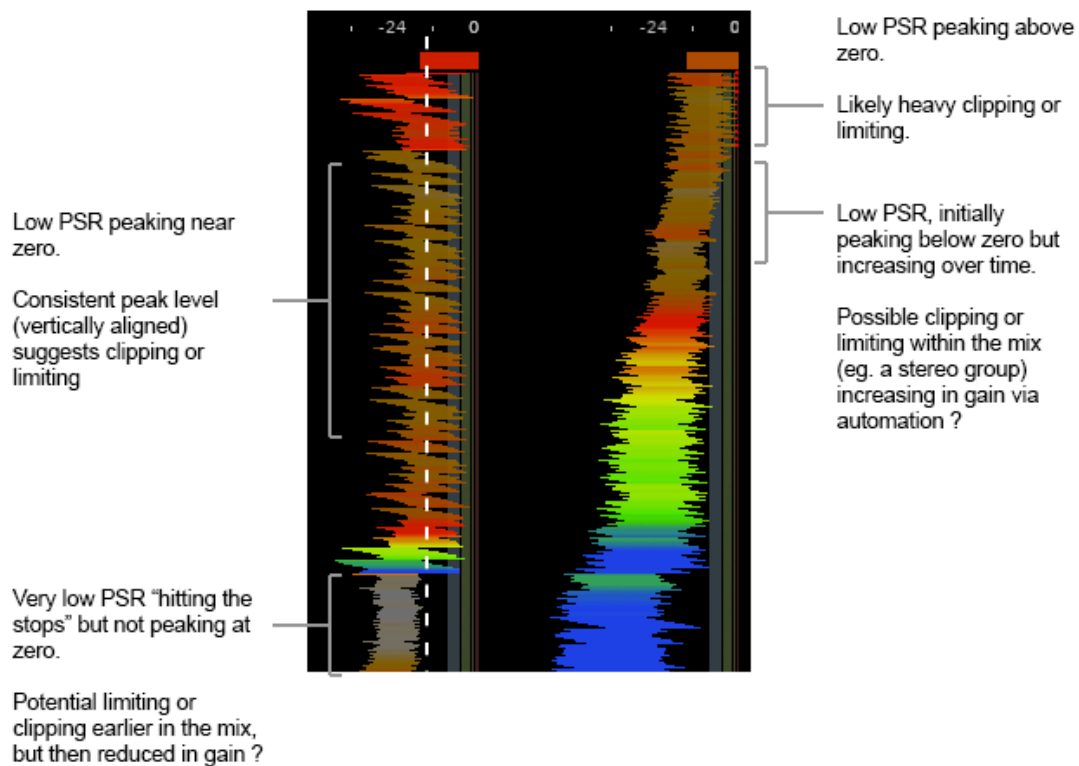When you see low PSR values in Dynameter, here's what to consider:

- If your music is meant to be loud and the PSR values are low, try reducing the amount of limiting, compression, or clipping.
- If the music isn't supposed to be loud but still shows low PSR values without "hitting the stops" in Peak Aware mode, the material likely naturally has less dynamic range.

Peak Aware mode is also helpful in Multiband Mode, where low PSR values are more common. It helps you determine if these values are due to the audio "hitting the stops" somewhere - where you see a fixed maximum peak deflection of the PSR trace, rather than varied peak levels.

Minimum PSR Presets

Dynameter includes several Minimum PSR presets in the Options to help you get started. Each preset corresponds to a different Minimum PSR guideline. Alternatively, you can enter a custom value.

Preset	Minimum PSR Guideline
Limited	8
Competitive	10
Balanced	12
Wide	14

When using the Classic display made, you can use the Guideline Indicators in the PSR History to help keep the typical PSR reading of your music above the value you prefer.

When recording or mixing, the **Wide** or **Balanced** presets are likely the most helpful.

For dynamics similar to classic tracks from the 70s, 80s, and 90s, start with the **Competitive** preset. This option also helps achieve modern dynamics without falling into the "Loudness War" trap.

The **Limited** preset reflects what we believe should be the Minimum PSR value when mastering, in any genre. If your music measures consistently below PSR 8, it may lose punch, depth, or impact, and could experience pumping or distortion. It will also be reduced in level by streaming platforms like YouTube, Spotify, Tidal, and Apple Music. See Section 2: Optimizing for Online Loudness.

Note that if the PSR Overview shows the Minimum PSR is below 8 for only a small proportion of the time, it may not be a cause for concern. We recommend auditioning the sections where the low values occur and checking you're happy with the way they sound.

(The Minimum PSR guidelines are only visible in Classic Mode, since they were optimised for Overall PSR values only)

Minimum PSR Guidelines for Different Genres

We're often asked how the Minimum PSR guideline should vary between genres. For example, should EDM and metal be mastered with lower PSR? In our experience the answer is: No. **Once you find the Minimum PSR Target you're comfortable with, it will likely apply in almost any genre you choose.** That's not to say that their PSR History will look the same, however. Intense genres like EDM and metal will often show less *variation* in dynamics, with fewer high PSR readings, whereas jazz, folk and classical will show a wider range of PSR values, with fewer low PSR readings. But the minimum values (at the loudest moments) often remain similar.

PLR (Peak to Loudness Ratio)

PLR is a measure of the peak-to-loudness ratio of your music, measured over longer time-scales such as an entire song or album.

Higher PLR values suggest more dynamic music, and PLR values are typically several points

higher than the typical PSR readings for a piece of music. Dynameter displays PLR as an overall value, and allows you to compare your music's measured PLR with Platform PLR values for various online streaming platforms. See Interpreting PLR Values.

In Dynameter, the PLR Indicators denote the PLR of the audio since the last reset. This means you can measure a single PLR value for a song or section of audio. Simply click Reset and play through the full piece of audio you want to measure. At first the PLR will track the PSR reading quite quickly and closely, but before long it will slow down and "settle" on a value that represents the entire piece of audio.

Interpreting PLR Values

It may seem tempting to view PLR as an indicator of overall dynamics, but that can be misleading. For example, the two songs in Figure 4 below both measure just over PLR 11, but have very different dynamic profiles:
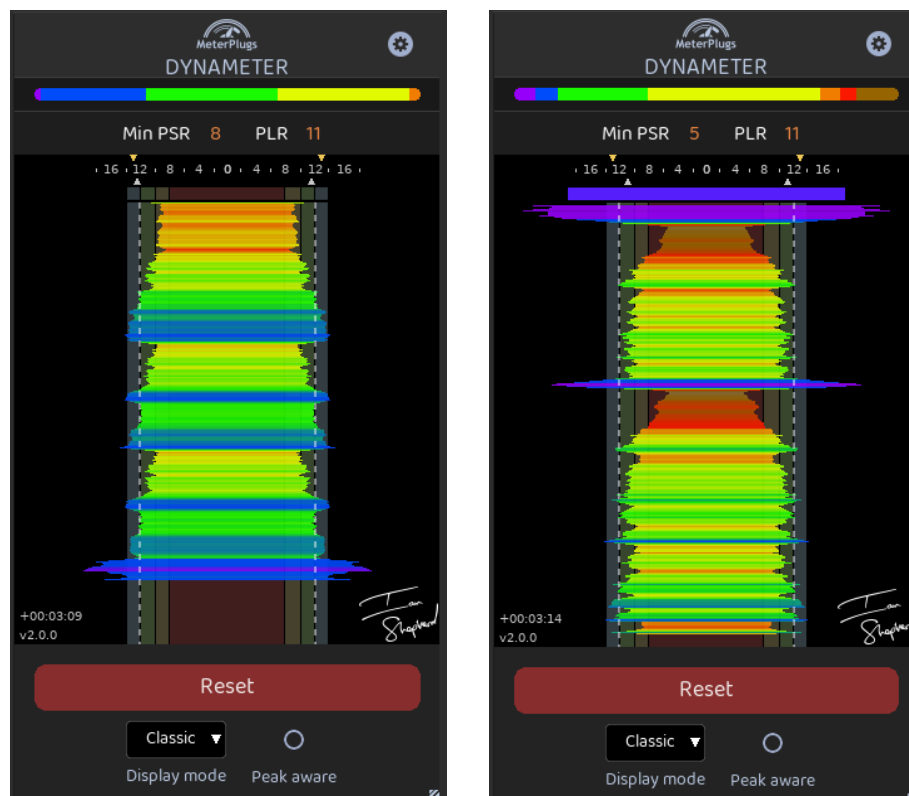

Figure 7: Two songs with similar PLR values but different dynamic profiles

The first song is generally quite dynamic, with a Minimum PSR of 8. The second includes two long sections with a very low PSR of 6, but you wouldn't know this by looking at the PLR measurement. For this reason, PLR values should be treated with caution, and are best judged in comparison to the music's typical PSR readings. See [PSR vs. PLR](#).

PSR vs. PLR

Comparing PLR to PSR is a powerful way to assess dynamics. When the Minimum PSR and PLR readings are *similar*, it suggests there is little variety in the music's dynamics. If there is a larger difference between PLR and PSR readings, there will be more variety of dynamics in the music.

Here are some common scenarios to illustrate this:

Low Minimum PSR, Low PLR

A low Minimum PSR reading suggests very limited dynamics, and since the PLR is similar, there is also very little variety. For example, a song that is a typical "victim" of the loudness war might measure Minimum PSR 6, PLR 8 or even lower. It's likely to have been heavily limited or clipped, with very restricted dynamics, and potential side effects like pumping or distortion.

Low Minimum PSR, High PLR

In this case the song is likely to have better macro-dynamics, meaning more long-term dynamic variety (eg between verse & chorus) but the low Minimum PSR indicates that some sections still have very limited micro-dynamics. You might want to process them less aggressively to reduce any negative impact of this, especially if the PSR Overview shows these moments account for a substantial proportion of the running time.

Higher Minimum PSR, Higher PLR

Healthy micro-dynamics, although with limited variety. For example a classic "loud from start to finish" rock or pop song might have Minimum PSR 9, PLR 11. In our opinion this indicates healthy, competitive dynamics overall.

High Minimum PSR, Very High PLR

Healthy dynamics with a great deal of variety. Be aware that higher PLR values can have

implications for playback loudness on some platforms. See <u>Section 2: Optimizing for Online</u> <u>Loudness</u>.

Summary

In general, higher PLR and Minimum PSR readings suggest more dynamic material, but raw readings need to be interpreted with care. It's possible to have a song with short sections of very limited dynamics (low Minimum PSR) but for these to be "hidden" by a fairly high PLR reading - the PSR Overview bar can be helpful to determine how much of the audio is affected. And, very brief low Minimum PSR readings can be found in even the most dynamic recordings - but this is not necessarily a problem.

Section 2: Optimizing for Online Loudness

The top complaint from users on any platform is often the variation in loudness. To improve the listening experience, online music platforms like YouTube, Spotify, Apple Music, TIDAL, and Pandora adjust very loud songs to create a consistent sound. This process is called loudness management or normalization.

While this generally works well, it can be tricky to predict how your music will be affected, as each platform has its own loudness rules and reference levels. Dynameter can help you understand how your music will be adjusted by these platforms, which is crucial for optimizing your music's dynamics to ensure it plays at the highest possible level.

PSR and Online Loudness

To keep songs from playing too loudly, each platform has a maximum replay level called the Distribution Loudness. This means music won't play louder than this set level (measured in integrated LUFS) no matter how the original file was mastered. Trying to push PSR values too far in Dynameter to get higher LUFS won't work when loudness management is active. It can also lead to limited dynamics, reducing musical impact or even causing distortion.

If your music has low PSR readings, it's more likely to be turned down by online loudness management systems. Generally, if your music's typical PSR reading is below 10, expect it to be turned down by all streaming platforms.

PLR and Online Loudness

Think of PLR as the "loudness space" between the maximum peak level and the LUFS loudness. This can be the loudness space *used* by a piece of audio, or the loudness space *available* on a particular playback system. Comparing these values can be helpful to understand how music will be treated by different streaming platforms.

We've evaluated the loudness space on popular platforms and assigned each a "Platform PLR" value. Systems with higher Platform PLR ratings offer more flexibility in managing loudness. The higher the Platform PLR, the more loudness space is available when music is normalized.

If your music's PLR, as measured by Dynameter, fits within the Platform PLR, it can be played as loudly as the platform allows. If your music's PLR is higher, it needs more loudness space than is available, which might restrict its loudness compared to other songs.

To achieve a platform's full Distribution Loudness, your audio's PLR should be equal to or less than the Platform PLR. Many platforms now use a Distribution Loudness of -14 LUFS and a maximum True Peak level of -1 dBTP, resulting in a Platform PLR of 13 dB. However, there are still some variations, so Dynameter offers specific Platform PLR Presets to ensure your music's PLR is suitable.

Platform PLR Presets

Dynameter includes several Platform PLR presets to help you quickly see how the PLR of your songs may affect their normalized playback loudness. Since some platforms have a different Platform PLR, there is not always one perfect value to choose, and you may have to compromise between making best use of the available dynamics and avoiding unwanted level changes. For an example, see Appendix 2: YouTube Case Study.

Here are the measured Platform PLR values, as measured at the time of writing:

Platform	PLR
Broadcast (TV)	22
AES Recommended Min	15
Apple	15
Tidal	13
Spotify (*)	13
YouTube	13

(*) Spotify has a "Loud" preference option (for subscribers only) and is the only platform using limiting for more dynamic songs **if** this setting is enabled. In this situation some additional limiting may be applied when the measured PLR is greater than the Platform PLR.

Examples

"Uptown Funk" was a massive worldwide hit and has healthy dynamics. It measures Min PSR 8, meaning it isn't excessively limited or clipped, while the measured PLR 11 shows there is some variety of dynamics. Furthermore, PLR 11 is lower than the Platform PLR of all the main streaming platforms, so the song can be played without level reduction.

In contrast, "Death Magnetic" is a famously loud album by Metallica. "Broken, Beat and Scarred" measures Min PSR 3, reflecting its heavily distorted sound with extremely restricted dynamics, and PLR 5, showing that the dynamics are very limited throughout. Both these values trigger large level reductions by loudness management systems, so it plays no louder than "Uptown Funk" and lacks punch and impact in comparison to other more dynamic material in the same genre.

The song "Routine", by Steven Wilson, is a great, real-world example in an aggressive genre. The typical PSR is 10, occasionally dipping as low as 7, but the song has a great variety of dynamics and measures PLR 15 overall. Even so, the loudest moments are 1 dB above YouTube's reference playback level, meaning it stands head and shoulders beside any of the

loudest music on YouTube!

As a more dynamic example, James Blake's album "The Colour In Anything" measures PLR 14, with typical PSR values of 10. This reflects the fact that it has lots of dynamic variety in it. The fact that it measures PLR 14, while several platforms have a Platform PLR of 13, means the overall playback loudness is a little lower than some songs. But the dynamic variety means that the loudest moments are just as loud as anything else - in some cases a little louder than songs with much lower PLR. The loud moments balance the quieter sections, and given the style of music, this is entirely appropriate.

Finally, a famously dynamic example might be "Aja" by Steely Dan. Its typical PSR is 12, with a minimum of 10, reflecting the much cleaner recording. It measures PLR 17 overall, so can still be played with almost no level reduction by Apple Music, but is played with an overall lower level elsewhere, because its PLR exceeds the Platform PLR of most other streaming services. However, thanks to the extra punch and impact allowed by the variety of dynamics, its loudness-managed playback level still works very well, and sounds entirely appropriate for the genre.

Summary: PLR vs. PSR for Online Loudness

The effect of Platform PLR and Minimum PSR on playback loudness online can be summarized as follows:

1. **Consistently low PSR** readings are likely to cause your music to be turned **down**, on all platforms.
2. **PLR** readings **higher** than the Platform PLR may **prevent** your music from being played at the same level as the loudest songs on that platform.
3. For music intended to sound loud throughout, you should avoid too big a difference between PLR and Minimum PSR, however:
4. Pushing either value too low won't have any benefit online, and may make your music sound less impactful.

A song that measures PLR 10, Minimum PSR 8 will play at the **same level** as an alternative version of the same song with PLR 7, Minimum PSR 5 on all the platforms we have tested that

use loudness management.

To achieve the highest replay loudness, you need to balance the Minimum PSR and PLR values of your music, *without* pushing them too low.

The examples above show that this is entirely possible - loudness management means you really can choose optimal dynamics with confidence.

Stop worrying about loudness, and start succeeding with dynamics!

The Future

The Audio Engineering Society (AES) has introduced guidelines for streaming loudness:

http://www.aes.org/technical/documents/AESTD1004_1_15_10.pdf

Unfortunately, these guidelines have not yet been fully adopted by any of the popular platforms, so several services use different Distribution Loudness reference levels for playback, and apply slightly different rules to implement loudness management.

In the future, we expect all online streaming platforms to standardize their reference level to match the recommendations (i.e. a Platform PLR of 15 or more). For this reason, we recommend being cautious about reducing the PLR of your music too aggressively, even if loudness is a priority for you.

Case Study: YouTube

Imagine you want to master a loud song with optimal dynamics. It's important to you that the song plays at a competitive level with similar material on YouTube, so you select the "YouTube" Platform PLR preset.

Because dynamics are important to you, you choose the Competitive Minimum PSR preset. While mastering the song, you make sure the PSR values in the PSR History typically stay outside the guidelines. This ensures the song won't be too crushed, even at the loudest

moments. If the PSR values occasionally fall below your Minimum PSR Target, that's probably OK, provided they stay above 8. You can assess how often this happens using the PSR Overview bar.

If the song is loud from beginning to end, you'll probably find that the measured PLR naturally falls below YouTube's Platform PLR of 13. If it doesn't, consider reducing it using compression or limiting, or accept that it may be played a few dB lower than other aggressive material.

If the song includes quieter, more dynamic sections, the PLR will usually increase beyond the Platform PLR. This is fine. The loud sections will still sound loud, because their PSR is between 8 and 10. The quieter sections will sound quieter, as intended.