

# TBC 2 Help

## Introduction



Getting your mix or master to sit just right across the frequency spectrum is a difficult task. Tonal Balance Control was created to make this process more achievable for everyone.

## Getting Started

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## Overview

Welcome to Tonal Balance Control! If you have never used an iZotope product or want to know more about TBC, then this is the right chapter for you.

# Authorization

The first time you open the plug-in an authorization wizard will appear. The Authorization window allows you to:

1. **Trial:** Allows you to evaluate TBC over a 10 day trial period. The trial period starts the first time you open TBC in your DAW/NLE. The Authorization window will display the number of days remaining in your trial period. Click the **Continue** button to exit the Authorization window.
2. **Demo:** After your 10 day trial period expires, you have the option to operate TBC in Demo mode. To continue evaluating TBC in demo mode, click the Demo button.
3. **Authorize:** To disable Trial or Demo mode, you must authorize the product with a valid serial number. You can use the following methods to authorize TBC:

1. **Online Authorization**
2. **Offline Authorization**
3. **iLok Authorization**

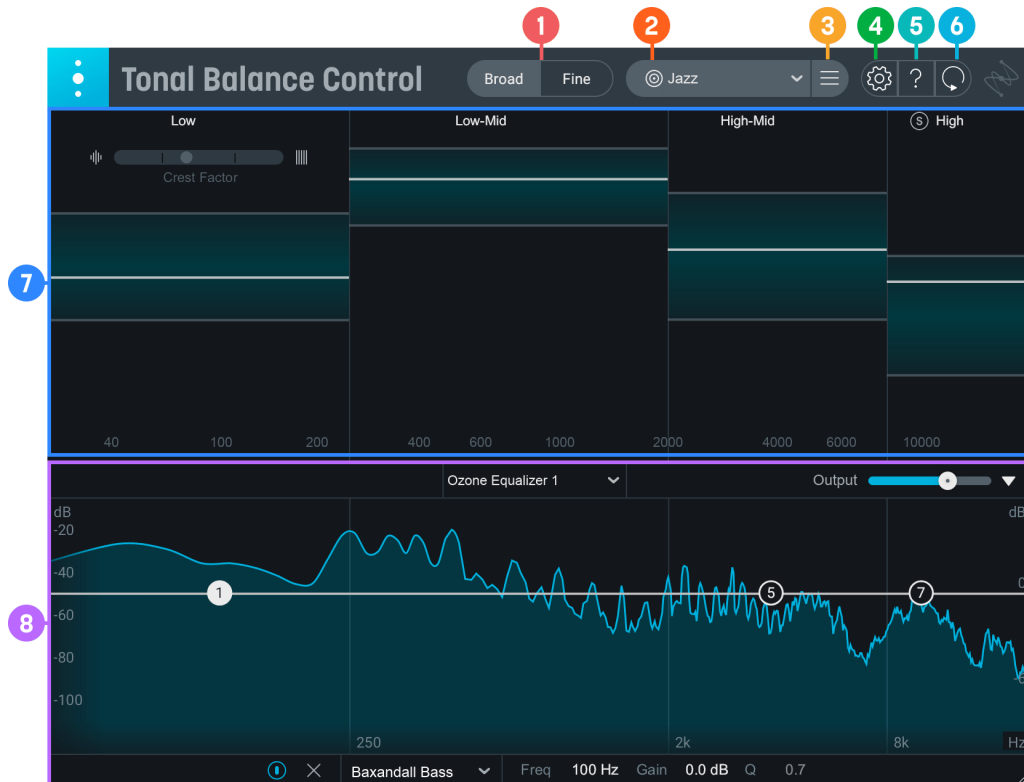
## **ADDITIONAL HELP WITH LICENSING AND INSTALLATION**

Visit the iZotope Support website for additional information about licensing, authorization and installation.

[support.izotope.com/hc/en-us/sections/360004410134](https://support.izotope.com/hc/en-us/sections/360004410134)

# Navigating the Interface

The following image outlines the main areas of the Tonal Balance Control interface:



1. **Target Meter View selector:** Toggles the target meter view type between Broad and Fine.
2. **Target Curve selector:** Displays the name of the currently selected target curve. Click to open the target curve selection menu.
3. **Custom Target Curve Menu:** Includes options for creating, saving and managing your own target curves.
4. **Options:** Opens the TBC options window.
5. **Help:** Opens the help documentation in your default web browser.
6. **Reset:** Resets the meter calculation.
7. **Target Meter:** Displays your track (white) against the range of spectral variation for the selected target curve (blue). You can also monitor Low End Crest Factor and momentarily solo frequency bands in this view.
8. **IPC Source panel:** Allows you to select an IPC compatible source plug-in to make adjustments to from the Tonal Balance Control plug-in window.

## Working with IPC

Tonal Balance Control can connect to other iZotope plug-ins using Inter Plug-in Communication (IPC) technology. When an IPC source plug-in is selected you can view the selected plug-in output spectrum, adjust

output gain, and make adjustments to EQ parameters (if the selected plug-in includes EQ controls). This can be useful for making adjustments to your mix to better match your selected target curve without leaving the Tonal Balance Control window. For more information about working with IPC sources, see the **IPC Sources** chapter.

### ① MINIMUM VERSION REQUIREMENTS FOR IPC SOURCE PLUG-INS

In order to support improvements to the TBC metering framework, earlier versions of IPC compatible iZotope plug-ins will not appear as available IPC sources in the source selection menu. The following minimum versions are required for IPC compatibility: Nectar 3.1.0, Neoverb 1.0.0, Neutron 3.1.0, Ozone 9.0.0, Relay 1.0.3.

## Tips

Tonal Balance Control can be used to help guide your mixing decisions. Here are some tips to get the most out of using it in your sessions:

1. Add Tonal Balance Control as the **last insert on your master bus** (post-fader). This ensures that TBC is metering your track after all other processing is applied.
2. Tonal Balance Control was designed to be used on a full mix, rather than individual tracks. The target meter may not provide the same results when used on individual tracks.
3. Use IPC compatible plug-ins in your session to make the most of the IPC functionality in TBC.

## Target Curves and Views

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# Overview

Tonal Balance Control displays spectrum metering information relative to a target curve for the track it is currently inserted on. This is particularly useful when dealing with tonal balance issues that arise during mixing and mastering. Tonal Balance Control can help provide context and direction toward resolving issues with a mix or master that is lacking the low-end power or high-end brilliance found in professionally produced, radio-ready material.

# Target Curves

Tonal Balance Control includes a number of factory target curves that represent typical spectral shapes found in different styles of music. You can also generate and save your own **custom target curves** based on a single track or collection of tracks. You can view and load available target curves using the target curve menu in the plug-in header.



## Custom Target Curves

You can create custom target curves and manage your target curve folder using the menu to the right of the target curve selection menu.

1. **Create target from audio file...:** Allows you to select an audio file to create a custom target curve.

### ■ SUPPORTED AUDIO FILE FORMATS

You can create custom target curves using the following audio file formats: **AIFF, WAV, MP3, M4A, FLAC, OGG.**

2. **Create target from folder...:** Allows you to choose a folder of audio files to generate a target curve from. A single target curve will be created based on all of the audio files in the selected folder.
3. **Save custom target as...:** Saves the current custom target curve to your target curve preset folder. After you have generated a custom target curve, you need to save it using this menu item in order for it to appear in the target curve menu in future sessions.
4. **Change target folder...:** Opens a system dialog that allows you to select a different location to store and recall target curves.

### ★ DEFAULT TARGET CURVE LOCATIONS

**Mac:** ~/Documents/iZotope/Tonal Balance Control 2/Target Curves/

**Windows:** C:\Users\username\Documents\iZotope\Tonal Balance Control 2\Target Curves\

5. **Show target folder in finder/explorer...:** Select to open a Finder (Mac) or Explorer (Windows) window to the current target curve directory.

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## Target Meter

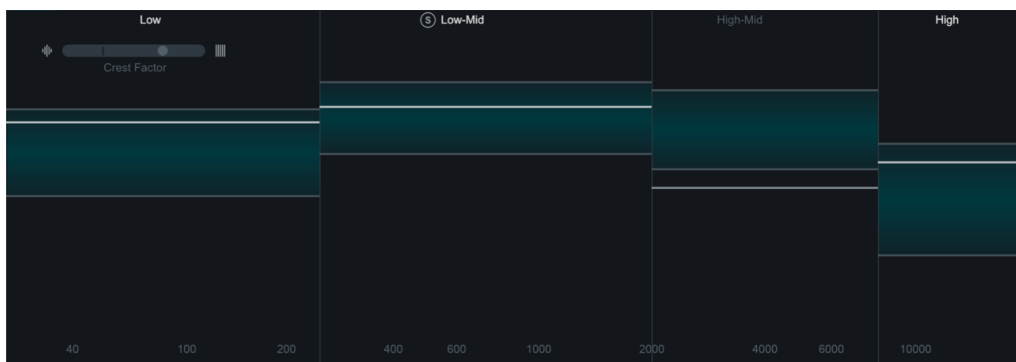
Displays your track (in white) against the typical range of spectral variation for the selected target curve (in blue). You can switch between

two different Target Meter views: **Broad View** and **Fine View**. The frequency spectrum is divided into four main frequency ranges:

1. **Low**: 20 Hz to 250 Hz
2. **Low-mid**: 250 Hz to 2 kHz
3. **High-mid**: 2 kHz to 8 kHz
4. **High**: 8 kHz to 20 kHz

## Broad View

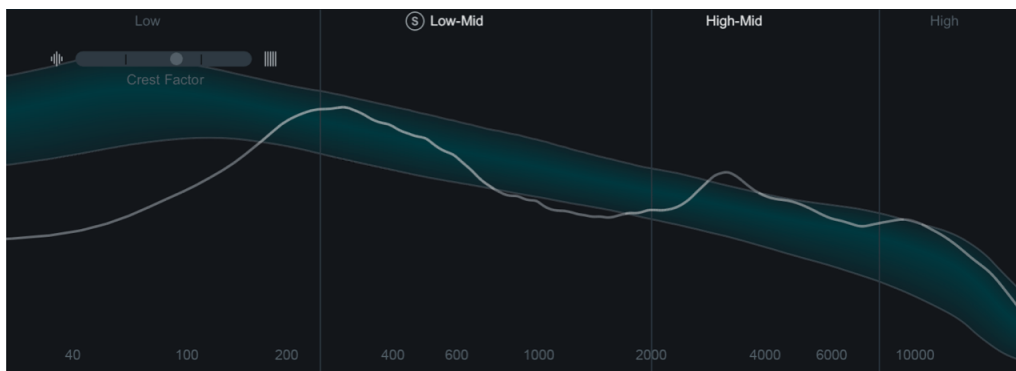
Displays target ranges for the selected target curve within four discrete frequency ranges.



The input audio is divided into the same four frequency ranges and displayed as white horizontal lines within each range.

## Fine View

Displays the target range across the frequency spectrum.



The input audio is displayed as a white curve across the frequency spectrum in this view.

## Crest Factor

Displays a measurement of average loudness (the ratio of peak level and RMS (average) level) for the low end frequency range of your track.



When the indicator is weighted to the left, the low end of your mix may be too dynamic. When the indicator is weighted to the right, the low end of your track may be too compressed.

### [MORE INFO](#)

Learn more about Crest Factor on the iZotope website: [What is Crest Factor?](#)

## Band Solo

Hovering over a frequency band label will show a Solo button.



Click and hold the solo button to temporarily isolate playback of the associated frequency range.

## Band Indicators

The frequency band names along the top of the target meter view will change white to indicate when your track is within the target range for that frequency band.



# IPC Sources

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## Overview

Tonal Balance Control allows you to connect and make adjustments to compatible IPC source plug-ins in your session. All compatible IPC source plug-ins allow you to view the output spectrum and adjust output gain. Certain IPC source plug-ins also allow you to adjust EQ parameters. To get started with IPC in Tonal Balance Control, you need to add a compatible plug-in to a track in your session.

## IPC Feature Compatibility

The following features are supported when a given plug-in is selected in the source menu (minimum version requirements noted where applicable):

1. **NECTAR** (3.1.0 +): Output spectrum meter, Output Gain control, EQ controls.

1. **Note:** EQ controls are only available if **EQ 1** and/or **EQ 2** are present in the module chain.

2. **NEOVERB**: Output spectrum meter, Output Gain control.
3. **NEUTRON** (3.1.0 +): Output spectrum meter, Output Gain control, EQ controls.

1. **Note:** EQ controls are only available if the instance is: a Neutron mothership plug-in with the **Equalizer** in the module

chain **or** a Neutron Equalizer component plug-in.

4. **OZONE** (9.0.0 +): Output spectrum meter, Output Gain control, EQ controls.

1. **Note:** EQ controls are only available if the selected Ozone mothership plug-in instance includes the **Equalizer 1** and/or **Equalizer 2** in the module chain **or** an Ozone Equalizer component plug-in.

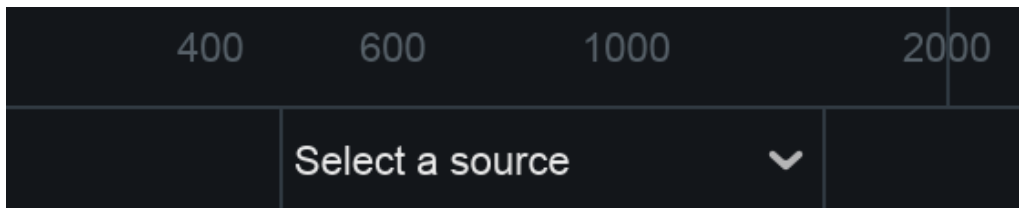
5. **RELAY** (1.0.3 +): Output spectrum meter, Output Gain control.

### ❗ VOCALSYNTH NOT AVAILABLE AS A SOURCE IN TBC

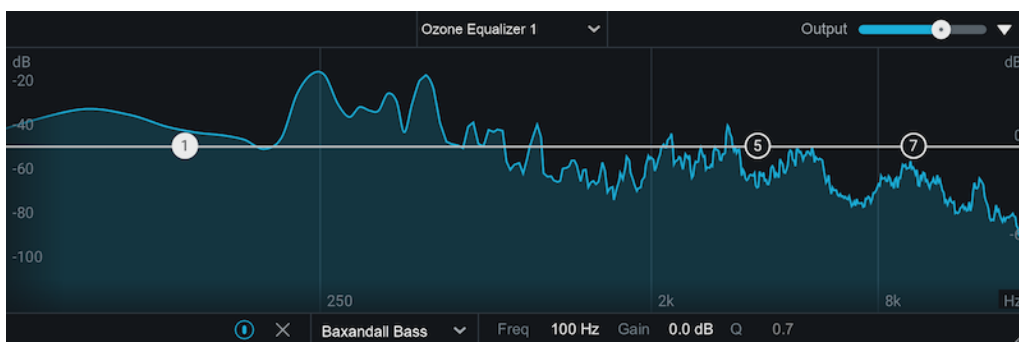
VocalSynth instances are not currently supported in Tonal Balance Control and will not appear in the IPC source selection menu.

## Working with the IPC Source Panel

Click on the menu labeled “Select a source” in the bottom of the Tonal Balance Control plug-in window to open the IPC source selection menu. The names that appear in the source menu are defined in the header area of the source plug-in.



After selecting a source instance, the IPC source panel will expand to show the spectrum analyzer and available IPC controls.



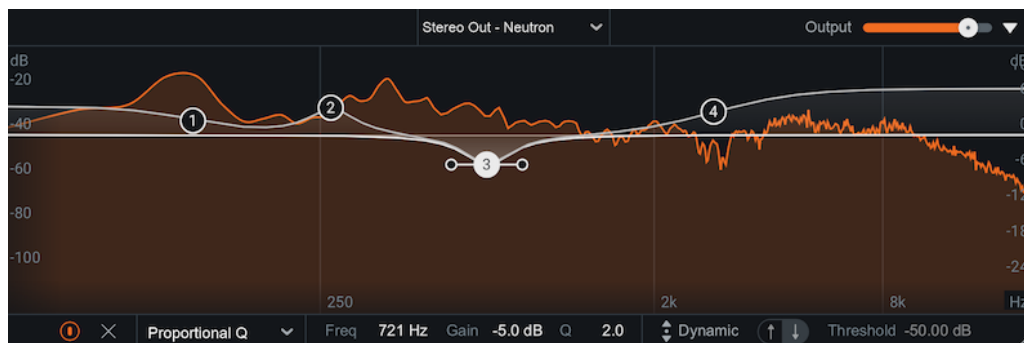
## EXPAND/COLLAPSE THE IPC SOURCE PANEL

Click on the arrow button to the right of the Output slider in the IPC source panel to expand or collapse the panel.

The color of the spectrum analyzer and output slider will update to match the main color of the selected IPC source plug-in. Ozone instances are blue, Nectar instances are gold, Neutron instances are orange, Relay instances are teal, and Neoverb instances are pink.

## EQ IPC Sources

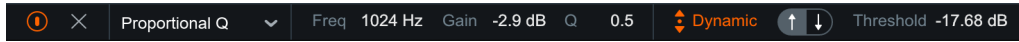
When you select an IPC source plug-in with EQ controls, the current EQ curve in that instance will be shown in the IPC source panel.



## ⓘ OZONE EQ LIMITATIONS

- 1. Mid/Side & Left/Right EQ mode is not supported in TBC:** If you select an Ozone EQ instance that is operating in Mid/Side or Left/Right channel processing mode, the EQ controls for that instance will not be available in TBC. You will only have access to the output spectrum and output gain control for that Ozone EQ instance.
- 2. Ozone Dynamic EQ and Vintage EQ controls are not available in Tonal Balance Control.**

Clicking on a node will show settings for that band in the EQ controls strip along the bottom of the IPC source panel. The controls shown in the EQ controls strip depend on the product that is selected.



The following EQ controls are available in the TBC EQ controls strip:

1. **POWER:** Enables/disables the selected band. **Product(s):** Nectar, Neutron, Ozone.
2. **REMOVE (x):** Removes the selected band. **Product(s):** Nectar, Neutron, Ozone.
3. **FILTER SHAPE:** Determines the filter shape for the selected band. **Product(s):** Nectar, Neutron, Ozone.
4. **FREQ:** Adjusts the center or cutoff frequency (Hz) of the selected band. **Product(s):** Nectar, Neutron, Ozone.
5. **GAIN:** Adjusts the amount of gain (dB) applied to the selected band. **Product(s):** Nectar, Neutron, Ozone.
6. **Q:** Adjusts the Q/bandwidth (cF) or slope (dB/octave) of the selected band. **Product(s):** Nectar, Neutron, Ozone.
7. **DYNAMIC:** Enables/disables Dynamic Mode for the selected band. When enabled, processing will be triggered based on the Dynamic Mode Direction and Threshold settings. **Product(s):** Nectar, Neutron.

**❗ NECTAR EQ: DYNAMIC GAIN ONLY**

The Dynamic button shown in TBC will only enable/disable Dynamic **Gain** mode for the selected Nectar EQ band. Dynamic Frequency mode cannot be toggled from the IPC source panel in Tonal Balance Control. If Dynamic Frequency mode is already enabled for the selected band and the Dynamic button is toggled in the TBC window, the band will switch to Dynamic Gain mode.

**8. DYNAMIC DIRECTION: Product(s):** Nectar, Neutron.

1. **Up:** Applies positive gain to the filter when the Threshold level is crossed.
2. **Down:** Applies negative gain to the filter when the Threshold level is crossed.

**9. THRESHOLD:** Determines the level at which the dynamic filter is triggered. **Product(s):** Nectar, Neutron.

You can use the following methods to work with EQ controls in the IPC source panel:

**1. Add nodes:**

1. Hover your cursor over the EQ composite curve and click on the + that appears to add a new node to the curve.
2. Double-click anywhere in the IPC source spectrum to add a new node to the curve.

**2. Reset to band default:** Double-click on a node to reset the associated band to default.**3. Adjust band parameters using EQ nodes:**

1. Move nodes up/down to adjust Gain.
2. Move nodes left/right to adjust Frequency.
3. Move node handles toward/away from a node to adjust Q/Slope.
4. Click the up or down arrows directly above/below a node to

enable Dynamic gain mode (if available).

#### 4. Adjust band parameter values in the EQ control strip:

1. Click and drag up/down on a readout in the EQ controls strip to increase/decrease the associated value.
2. Double-click on a readout, manually enter a new value in the edit field, click anywhere outside of the edit field or press the enter key to set the value.

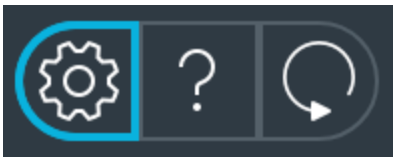
## Options

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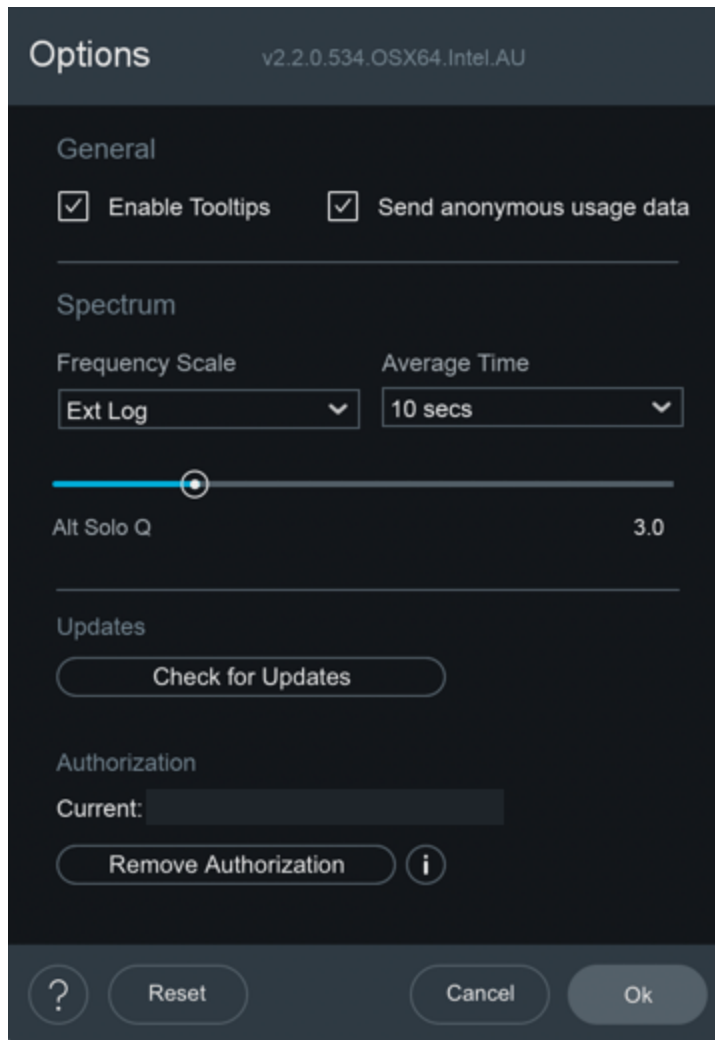
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4. [Updates](#)
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## Overview

You can manage settings, authorization, and check for updates in the Options window. Click on the gear button in the plug-in header to open the Options window.



You can find the current Tonal Balance Control version, build number and plug-in format information in the header of the Options window.



The buttons along the bottom of the Options window include:

1. **?**: Opens the help documentation in your default browser.
2. **Reset**: Resets all options to their factory default values
3. **Cancel**: Closes the Options window without saving changes.
4. **Ok**: Closes the Options window and saves changes.

## General

1. **Enable Tooltips**: Enables/disables the display of descriptive help text when hovering your cursor over controls.
2. **Send anonymous usage data**: Enables/disables sending usage data to iZotope.

## Spectrum

1. **Average Time:** Select to set the average time of the spectrum. 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.
2. **Frequency Scale:** Select to set the frequency scale used by the Tonal Balance Control meter. Choices include: **FLAT LOG**, **EXTENDED LOG**, and **PIANO ROLL**.

### NOTE

Right-click on the frequency scale along the bottom of the meter to open a context menu and change the scale type without opening the options menu.

3. **Alt-Solo Q:** Adjusts the bandwidth (Q) of the Alt-Solo feature.

## Updates

The Check for Updates button has the following states:

1. **Download Product Portal:** Download the iZotope Product Portal application to stay up to date with new versions of TBC.
2. **Check for Updates:** Manually check for available updates. Clicking this button will open the Product Portal application and check for updates.
3. **Download Update:** If an update is available, a small dot will appear. Clicking the Download Update button in the options window will launch the Product Portal application and display the Updates page.

## Authorization

This section allows you to view your current authorization status, manage your authorization, and access more information about authorizing the product.

### **ADDITIONAL HELP**

Visit the iZotope Support website for additional information about licensing, authorization and installation.

[support.izotope.com/hc/en-us/sections/360004410134](https://support.izotope.com/hc/en-us/sections/360004410134)

## Customer Care

### Purchasing

If you are using the demo version of Tonal Balance Control and would like the full version, you can purchase Tonal Balance Control direct from the iZotope online store: [www.izotope.com/store](https://www.izotope.com/store)

Once your purchase is complete, you will be sent an email confirmation and a full version serial number that can be used to fully authorize your current installation of Tonal Balance Control.

### iZotope Customer Care policy

iZotope is happy to provide professional technical Customer Care to all registered users absolutely free of charge.

[www.izotope.com/support/contact/index.php](https://www.izotope.com/support/contact/index.php)

We also offer valuable pre-sales technical Customer Care to customers who may be interested in purchasing an iZotope product. Before contacting iZotope Customer Care, you can search our **Product Knowledgebase** to see if the solution to your problem has already been published.

#### **How long does iZotope provide customer support for purchased products?**

You can email us with any question for 12 months after you buy any iZotope product. Past 12 months, we'll still help you with your account and authorization but will not provide technical support for in-depth product questions. If you need more detailed help on how to use the product, please check out our FAQs and Tutorials.

## How long does iZotope support its products?

Although we can't guarantee it, we do our best to keep our products up to date with the operating systems and plug-in hosts that we support. Sometimes, other companies make changes that we're not able to support, but we actively work with other companies to avoid these sorts of compatibility problems. We also do our best to address bug fixes within the product itself to ensure our products operate in accordance with our specifications.

We will provide software updates for 12 months from product release. After 12 months, no software updates will be provided.

For details on what operating systems and plug-in host software are officially supported for a product, please check that product's Specs page.

## Contacting iZotope Customer Care

For additional help with Tonal Balance Control:

1. Check out the Customer Care pages on our web site at [\*\*www.izotope.com/support\*\*](http://www.izotope.com/support)
2. Contact our Customer Care department at [\*\*support@izotope.com\*\*](mailto:support@izotope.com)

iZotope's highly trained Customer Care 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 Tonal Balance Control that you are using.

Once your Customer Care request is submitted, you will receive a confirmation email from iZotope Customer Care. 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.

## International distribution

Customer Care is also available from our international distributors worldwide for any customers who purchased their iZotope products through a certified iZotope distributor.

Check with your local distributor for availability. If you would like help locating your local distributor please contact iZotope Customer Care.

Thanks for using Tonal Balance Control!

-The iZotope Team

## EULA

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# Anti-Grain Geometry

Version 2.4

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Version 0.11.1

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Version 2.10.15

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Bundled Libraries:

\*\*\*\*\* Base 64 Library (base64/base64.hpp) \*\*\*\*\*

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base64.cpp and base64.h

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René Nyffenegger [rene.nyffenegger@adp-gmbh.ch](mailto:rene.nyffenegger@adp-gmbh.ch)

\*\*\*\*\* SHA1 Library (sha1/sha1.hpp) \*\*\*\*\*

sha1.hpp is a repackaging of the sha1.cpp and sha1.h files from the shallsha1 library (<http://code.google.com/p/smallsha1/>) into a single header suitable for use as a header only library. This conversion was done by Peter Thorson ([webmaster@zaphoyd.com](mailto:webmaster@zaphoyd.com)) in 2013. All modifications to the code are redistributed under the same license as the original, which is listed below.

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L. Peter Deutsch  
[ghost@aladdin.com](mailto:ghost@aladdin.com)

\*\*\*\*\* UTF8 Validation logic (utf8\_validation.hpp) \*\*\*\*\*  
utf8\_validation.hpp is adapted from code originally written by Bjoern Hoehrmann [bjoern@hoehrmann.de](mailto:bjoern@hoehrmann.de). See <http://bjoern.hoehrmann.de/utf-8/decoder/dfa/> for details.

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## Netlib numeralgo na10 Aberth's method

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### REFERENCE:

1. NUMERICAL COMPUTATION OF POLYNOMIAL ZEROS BY MEANS OF ABERTH'S METHOD NUMERICAL ALGORITHMS, 13 (1996), PP. 179-200

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1. FORTRAN
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## readerwriterqueue

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## **xsimd**

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