

Harrison AVA Bass Flow



Introduction

AVA-BF is a channel strip plugin designed for mixing bass. It contains 4 routable processing elements and a master section with input, output, and routing controls.

The elements included are:

- **Bass Character:** A unique 2-band EQ that tracks the pitch of bass notes and allows for boosting or cutting the harmonics within the spectrum of the instrument.
- **Spectral Bass Compressor:** A spectral compressor with 6 control bands that are perfectly suited to help with electric bass problems like fret buzz, amp/room resonances, and lack of clarity.
- **Equalizer:** An intuitive 5-band EQ with 2 additional filter bands and a wide variety of band shapes.
- **Chorus:** A creative effect that can be used to boost presence or to add motion to a bass signal.

Plugin Specifications

Supported formats: AAX, VST, VST3, AU

Supported channel configurations: MONO only

NOTE: *This plugin uses lookahead and should not be used for processing signals in real time.*

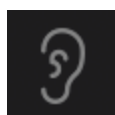


Module Controls

The processing elements are separated into modules which can each be individually bypassed, soloed, and reset using the following controls on each module's top bar.



The **Reset** button resets all of a module's parameters to their default states (not including RTA controls).

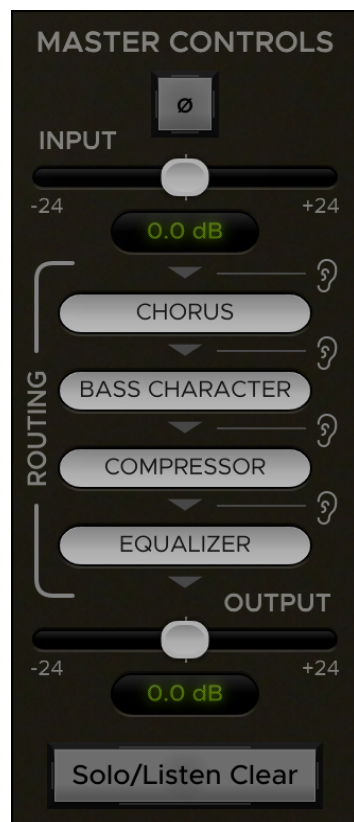


The **Solo** button bypasses all processing outside of the module being soloed except for master controls (polarity, input and output trim). This allows individual modules to be auditioned exclusively without hearing the effects of any of the other modules.



The **In** button toggles the enablement of each module. If disabled, a module's processing is bypassed and its effects will not be heard.

Master Controls



The Master Control section at the bottom-right corner of the plugin window contains controls for switching input polarity, adjusting input & output trim, and setting the order of routing between elements.

You can change the **routing order** by clicking and dragging a routing item to a new position. The arrows show the direction of signal flow from top to bottom.

The "ear" icon buttons to the right of the routing items indicate **Router Listen** points. These buttons allow you to listen at specific positions along the signal chain by automatically bypassing all modules past the selected point in the routing order.

The **Solo/Listen Clear** button at the bottom of the Master Control section clears any active Routing Listen point as well as any modules that are soloed. It will light up to indicate whenever either of these are currently active.

Processing Elements

Bass Character



The Bass Character is a unique EQ that follows the pitch of the note being played, allowing you to boost or cut the harmonics within each note and thus alter the actual *character* of the bass sound.

The Bass Character has two bands: one for adjusting the **Body** of the note and the other for adjusting the **Clarity**. The corresponding band control “bubbles” on the graph are labeled “B” and “C” respectively.

The positions of the harmonics are marked by the vertical lines that run throughout the graph which are labeled 1 through 16 along the bottom (1 being the first harmonic or the *fundamental frequency*). When a note is played, the graph’s **spectrum analyzer** will show the energy present in each harmonic.

Click and drag the band controls to adjust their **Frequency** and **Gain** parameters. Use the harmonic markers as guides to determine where to boost or cut. Right-click and drag or scroll the mouse wheel over a band control to adjust the **Q**. See the [Control Behaviors & Shortcuts](#) section of the manual for a complete list of shortcuts and control modifiers which can enable more efficient use of the band controls.

Additional controls can be found in the sections below the graph which are labeled “Body” and “Clarity” accordingly. The **IN** button toggles the corresponding band **in** or **out** and **BELL** toggles it between **bell** and **shelf** modes. There are also Gain and Q knobs to provide more advanced control over these parameters. They can be adjusted by clicking and dragging either the knob or its value label below. You can also set these parameters by typing new values directly into the label box. For ease of use, these will accept bare numbers as well as numbers with units.

NOTE: *The Bass Character only detects the pitch of monophonic (single-voiced) signals on a chromatic scale and is not intended for processing multiple notes played simultaneously. Additionally, certain effects such as chorus, delay, and distortion can interfere with proper note detection if inserted before AVA-BF (this does not apply to the Bass Flow’s Chorus effect because the note is always detected at the plugin’s input stage before all other internal processing, regardless of the routing order). For best results, insert AVA-BF before any effects on your bass track’s processing chain.*



Equalizer



The Equalizer module consists of a 5-band EQ with 2 additional filter bands, an **Output Trim** control, and an optional **RTA display**. Each band has adjustable Frequency, Gain, Shape, and Q parameters as well as the option to toggle it in or out. You can control the bands directly on the **EQ Graph** or with their corresponding controls below the graph.

EQ Graph

The EQ Graph provides a visual display of the EQ curves and also allows for more direct “hands-on” control of the bands. Each band is represented by a “bubble” on the graph which can be used to adjust its parameters. Click and drag a band’s control bubble to adjust its **Frequency** and **Gain**. You can also adjust the **Q** by right-clicking & dragging or by scrolling the mouse wheel over a band. Alt-clicking a band will reset it to its default state, while *double*-clicking will reset its Gain only. For a complete list of applicable control modifiers and shortcuts such as these, see the [Control Behaviors & Shortcuts](#) section of the manual.

The bands’ Frequency values are determined by their vertical (X) position while their horizontal (Y) positions correlate with Gain. The horizontal ruler stretched across the bottom of the graph shows the frequency values corresponding to the bands’ X positions. The vertical ruler on the left side of the graph displays the Gain values for the bands’ Y positions and is referred to as the **EQ Range** ruler. You’ll notice there is also another vertical ruler on the *right* side of the graph. This is the **RTA Range** ruler which will be covered later in the [EQ RTA](#) section of the manual.

The EQ Range ruler can be used to **zoom** or **pan** the graph's Y-axis up or down. By default, the zoom is focused on a gain range of +/-9. If you drag a band past the focused range, the graph will automatically zoom-out to include the band's gain within the focused range (up to +/-15). You can manually adjust the zoom by right-clicking the EQ Range ruler and dragging it vertically. Left-click and drag the ruler to pan the Y-axis up or down.

You can **reset** the zoom and pan back to default by double-clicking or Alt-clicking the EQ Range ruler.

EQ Controls

The EQ control sections below the graph allow for more advanced control over the bands' parameters. Each of the 7 band control sections contain controls for the corresponding band's Enablement, Shape, Frequency, Q, and Gain. You can **enable** or **disable** a band by toggling the button at the top-left corner of its control section.

Directly to the right of this button is the band **Shape** selector. Clicking this will open a menu where you can select the EQ shape for the corresponding band. The available shape options for the bands and filters are listed below.

Bands 1-5:

- Low Shelf (12 dB/octave)
- High Shelf (12 dB/octave)
- Bell
- Notch (infinite "cut" at the selected frequency, with adjustable Q width)
- Search (filters all frequencies above & below the center frequency to help locate specific sounds)

Filters A & B:

- High/Low Pass (6, 12, 24, 36, 48 dB/octave)
- Low/High Shelf (12, 24, 36, 48 dB/octave)
- Wide Notch (4 closely-spaced notches; this allows easier tuning of the notch frequency, because it affects a wider frequency range than a typical notch)

The control sections also provide **Frequency**, **Q**, and **Gain** controls which can be adjusted by clicking and dragging their value labels or by typing new values directly into them. For ease of use, these will accept bare numbers such as "500" or numbers with units such as "500Hz", "1k", "1kHz", "20dB", etc.

EQ RTA

The EQ's RTA (Real-Time Analyzer) offers a visual representation of the spectral characteristics of the signal being processed. The controls for the RTA can be found in the RTA section to the right of the EQ Graph.



The **RTA IN** button at the top of the section toggles the RTA **in** or **out**.

Just below the RTA IN button is the **RTA Type** selector. Clicking this will open a menu where you can select between the 4 modes of operation: **Graph**, **Scroll**, **Bar**, and **Lightning**.

The **POST** button toggles the RTA between **pre** and **post** EQ.

The **Decay** knob controls how long RTA measurements remain on the display before they ramp back down to zero.

The **Length** knob is only available in Scroll mode and essentially controls the scroll speed of the spectrum data.



When the RTA is activated, you'll notice that this will enable the **RTA Range** ruler (the vertical ruler on the right side of the EQ graph). This ruler displays the levels in dB that correspond with the RTA readings. In Bar and Scroll mode, it will light up to show the levels of brightness that correspond with the dB values along the vertical axis.

Similarly to the **EQ Range** ruler, the RTA Range can be used to adjust the scale and vertical position or trim of the RTA display. Left-clicking the RTA Range ruler in either Bar or Scroll mode and dragging vertically will adjust the **Trim** of the RTA signal. In Graph or Lightning mode, this will instead **pan** the vertical position of the display up or down. Also while in Graph or Lightning mode you can adjust the scale of the RTA display by right-clicking and dragging vertically.

Spectral Bass Compressor



The Spectral Bass Compressor is a multiband compressor designed especially for bass. It allows for applying compression selectively across 6 frequency bands focused in the lower end of the spectrum where bass notes mainly reside.

On the far left of the module is an input meter displaying the level of the input signal in dB. The slider attached to it controls the overall **Threshold** of the compressor.

Below the graph are 6 control sections containing Depth and Sensitivity controls for the corresponding band ranges which are labeled at the top of each section. The **Depth** parameter sets the maximum gain reduction that can be applied to the corresponding band range. The **Sensitivity** adjusts the level fed to the compressor's key input for each band range. This essentially dictates how "*sensitively*" each band reacts to levels above the Threshold, which can help with distributing compression more evenly across the spectrum if necessary.

The Spectral Bass Compressor also includes a graph display that provides a visual representation of gain reduction across the frequency spectrum. The input signal is represented by the *yellow* curve on the bottom half of the display, while the top half shows the gain reduction across the spectrum in *red*. The level of the compressed signal relative to the input signal is shown by the red line inside the input curve.

The **Knee** knob controls the compressor Knee. With a *low* Knee value (Hard Knee), the compression will activate more abruptly as the signal passes over the Threshold. A *high* Knee value (Soft Knee) will apply the gain reduction more gradually as the signal passes the threshold.

The **Release** knob controls how long it takes the signal to return to an uncompressed state once it falls below the threshold.

The **Makeup** knob trims the compressor's output level up or down between -24dB and +24dB as needed for gain compensation.

The **EXT. KEY IN** button near the top left corner of the compressor module enables the **external key input** when toggled on. This switches the compressor's key input to whatever signal is sent to the plugin's sidechain input so that the compressor is triggered off of the external signal instead of the one being fed directly to it.

Chorus



The Chorus is an effect that can be used to boost overall presence and add some extra flare to a bass signal. It has Detune and Delay controls for dialing in the effect and a Mix control for blending it with the dry signal.

The Chorus effect adds 2 pitch-shifted voices: one above and one below the input signal.

Detune controls the amount in which the 2 voices are pitch-shifted up and down from the original signal (measured in cents).

Delay adjusts the delay offset from the original signal in milliseconds.

Mix sets the percentage of wet signal that gets blended with the dry signal.

Usage Note

The Chorus element can be a very useful tool for giving bass signals a sweet low-end boost within a mix. With the Detune and Delay turned down to their lowest values (like they are by default), turn the Mix up very high (anywhere from 65 - 100%). Do this while listening in the context of a full mix in order to find the “sweet-spot” Mix value where the low-end is brought out and sits well in the mix.

Control Behaviors & Shortcuts

Various mouse & keyboard shortcuts can be used to perform certain actions on the following controls:

Band Controls

<u>Action</u>	<u>Shortcut</u>
Reset Gain to default	Double-click
Reset Frequency, Gain and Q to default	Alt-click
Adjust Q	Right-click & drag Shift-click & drag Scroll mouse wheel
Temporarily set to Search mode (EQ)	Control-click
Fine adjust Frequency and Gain	Command-click & drag (OSX Only)

Graph Rulers

<u>Action</u>	<u>Shortcut</u>
Reset Pan & Zoom or Trim	Double-click Alt-click
Fine adjust Pan or Trim	Shift + Left-click & drag Control + Left-click & drag (Windows only) Command + Left-click & drag (OSX only)
Fine adjust Zoom	Shift + Right-click & drag Control + Right-click & drag (Windows only) Command + Right-click & drag (OSX only)
Adjust Pan	Scroll mouse wheel
Adjust Zoom	Shift + Scroll mouse wheel

Combo Boxes (Drop-down menus)

<u>Action</u>	<u>Shortcut</u>
Reset to default	Alt-click
Scroll through menu items without opening menu	Scroll mouse wheel
Select next/previous item (menu must already be open)	Keyboard arrows
Close menu (if open)	ESC

Labels

<u>Action</u>	<u>Shortcut</u>
Reset to default	Alt-click
Fine adjust	Shift-click & drag Control-click & drag (Windows only) Command-click & drag (OSX only)
Adjust value	Scroll mouse wheel
Close editor (discarding changes)	ESC
Close editor (submitting changes)	Enter

Slider/Knobs

<u>Action</u>	<u>Shortcut</u>
Reset to default	Double-click Alt-click
Fine adjust	Shift-click & drag Control-click & drag Command-click & drag (OSX only)
Adjust value	Scroll mouse wheel

Additional Features

At the top-right corner of the plugin window are the **Momentary Bypass** and **Settings** buttons.

Momentary Bypass



The **Momentary Bypass** button bypasses the plugin for as long as it's held. This is useful for auditioning A/B comparisons quickly.

Settings



The **Settings** button reveals a pop-up menu where the window size and theme can be adjusted. It also contains a link to the plugin manual and version info at the bottom.

Installation & Licensing

The AVA Plugin “*Pain-Free Demo*”

When you install Harrison’s AVA plugins, you are provided a “*pain-free demo*” of unlimited length. You may continue to use the demo for as long as necessary to determine if the plugins meet your expectations.

We **do not**:

- Annoy you with a popup authorization message, every time you start your DAW.
- Install anything to your system outside of the plugin (AU, AAX, VST) folder.
- Prevent the plugin from saving or loading its state.

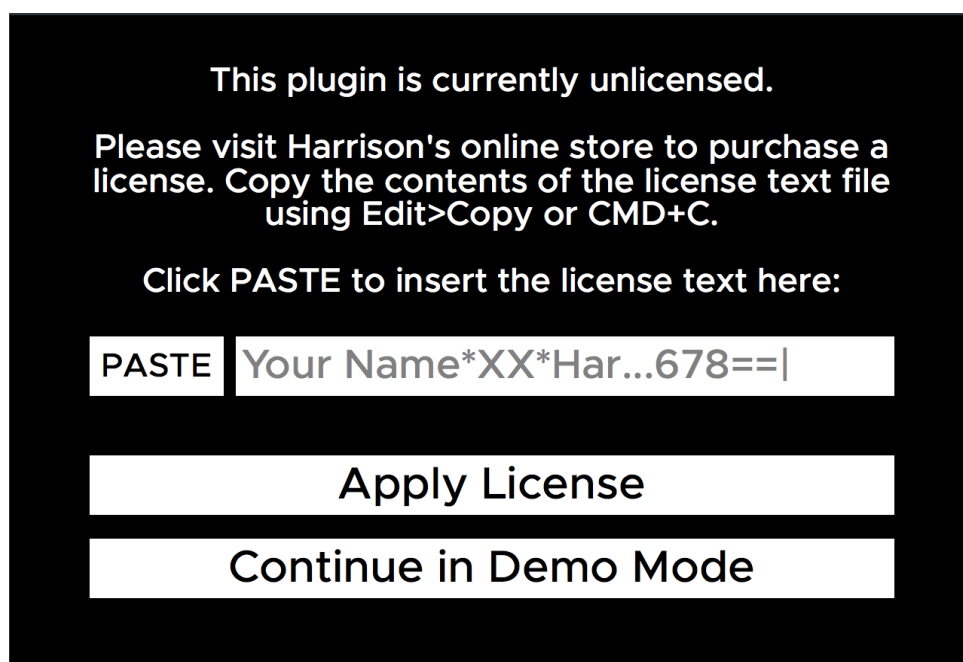
In demo mode, the control panel will become disabled after a short period of operation. You can re-initialize the plugin’s control panel by clicking “Continue in Demo Mode”. This is the only limitation. The plugin’s effect will continue normally, allowing you to evaluate the sound of the plugin on your session. You may still adjust the plugin’s controls in your DAW’s “Generic plugin UI”, from a control surface, or via automation.

If you send a session to a collaborator, they are not required to purchase an AVA license to hear the plugin’s effect. They may simply download the demo to install the plugins, and the plugins will operate normally. This allows you to share your sessions with other engineers, and have confidence that the mix will sound as intended. If they want to make changes to the plugin settings then they should buy a license for their personal use.



Purchasing and Installing your Plugin License

In DEMO mode, after using the plugin for a certain amount of time, it will display a message:



This message will come up periodically unless a license is provided. You can purchase a license directly from Harrison's [web store](#) or from an authorized AVA plugin [reseller](#). Once you've purchased a license, install it by entering your **license key** into the designated field on this screen. Continue to the next section for detailed instructions on how to obtain your license key.

Obtaining your License Key

After you purchase a license, you will receive a **license key** that will look something like this:

{your name}*AVA-BF*DC-138971-151520-1|gGLbnvCZJe386ULohzfQN6clsoZ71n7c+AUg==|

This license key is required to install your license and activate the full version of the plugin. The way to obtain your license key varies depending on where you purchased the license from.

If you purchased the license from Harrison's [web store](#), you will receive an email with a link to download a text file containing your license key. If you purchased the license from a reseller, you will receive an email containing the license key text.

Licensing your Plugin

When prompted by the plugin, copy and paste your license key into the designated text input field. This will automatically install your license and register it with the plugin.

Once installed, Harrison's license files are simple text (.txt) files which are stored in the user's HOME folder. The HOME folder is the folder that contains your Desktop, Downloads and other folders. The location of your HOME folder is different for each operating system:

- **Mac OSX:** /Users/{your username}
- **Windows:** C:/Users/{your username}
- **Linux:** /home/{your username}

You may keep a copy of this file for your own use. The license is a per-user license and you may install the license file on **all** of your computers. To install the file on a new computer, simply save the file to a USB key or other transferable disk; then transfer the license file to the new computer's HOME folder. The license file has your name encrypted in it, so you should not share it with other people. Your name will appear on the top of the plugin's control panel to indicate that it is licensed to you.

The plugin will automatically detect your license key as long as the license file is stored in the HOME folder of the computer you are using. After transferring the license file to a new computer, it may be necessary to close and re-open your DAW in order for the plugin to detect the license.

If you don't want to keep your license in your HOME folder for whatever reason, you may also store it one of these alternative locations:

- **Mac OS X:** ~/Library/Application Support/harrisonconsoles
- **Windows:** ~/AppData/Local/harrisonconsoles
- **Linux:** ~/.config/harrisonconsoles

Licensing from a USB Drive

The plugin can also detect a license if it is stored on a USB drive. This can be useful if you're using someone else's computer and you want to license an AVA plugin without installing your license onto the computer.



In order to do this, you must name your USB drive as “HARRISON” and place your license file in its root directory. This is the only way the plugin can detect your license on a USB drive.

For additional questions about the license, please contact our plugin support department via email: plugins@harrisonconsoles.com

Finding the AVA plugin in your DAW

DAW operations vary tremendously. Generally speaking, to use the AVA plugin you must follow these steps:

- 1) Install the plugins, using the provided plugin installer application.
- 2) Follow your DAW's instructions to “scan” for new plugins.

Please refer to your DAW manual to see which plugin formats (AAX, AU, VST, or VST3) are supported by your workstation.

Most plugin formats require that plugins are installed to a specific location on the system. In these cases, the AVA installer will place the plugins in the default locations.

For **VST** format, on **Windows**, it is normally expected that the user define the location of VST plugins, and tell the workstation where to find the plugins. The default location for VST plugins is *C:\Program Files\Steinberg\VST*. The AVA plugin installer will save the VST (.dll) files to that location if a custom VST path is not provided by the OS. If you are having trouble, you should verify that the path is included in your DAW VST scan paths.

System Requirements

Your system must meet the following requirements in order to run Harrison AVA plugins:

- Windows 7 or higher
- Mac OS 10.9 or higher
- Linux GCC 5 compatible systems



- OpenGL 3.2 or higher
- libcurl-gnutls on Linux

Additional requirements on Windows

AVA plugins require the “Windows C++ Universal Runtime” to be installed on your computer. Universal runtime is part of the system’s core libraries on Windows 10. On Windows versions Vista to 8.1, it will be automatically installed via Windows Update. It is also possible to install the runtime manually, but that is outside the scope of this manual.

Note for Linux Users

If you’re experiencing issues with an AVA plugin’s graphics or the GUI isn’t showing up correctly on Linux, make sure your system’s graphics driver supports the minimum required OpenGL version of 3.2 or higher. To check this, run `glxinfo | grep Max` in a terminal window and make sure that the value listed for the `OpenGL core profile version string` is at least 3.2 or greater.

If your core profile version meets this requirement but you are still experiencing graphics issues like the ones mentioned above, it is likely that your system is reporting an OpenGL version lower than 3.2 to ensure backwards compatibility with deprecated OpenGL functions. To work around this, you can force the system to report an OpenGL version of 3.2 or higher by setting this environment variable: `MESA_GL_VERSION_OVERRIDE=3.2`

You can use this as a prefix when opening your DAW from a terminal command like so:

```
MESA_GL_VERSION_OVERRIDE=3.2 {command_to_launch_program}
```

This will set the environment variable for that particular terminal session only, so it will be reset once the session is ended. If you don’t want to run this command every time you launch your DAW, you can set the environment variable in your profile script so that it automatically gets set every time you login.

Thank you for purchasing this Harrison AVA plugin!

Harrison has been making products for the audio engineering industry since 1975. We continue to make these products, with intense dedication, from our Nashville, Tennessee factory.

As the audio industry has changed through the decades, Harrison has too. Originally launched to provide mixing consoles for music recording studios, the Harrison brand has extended to provide products for live broadcast, live sound, theater installations, post-production, film

dubbing stages, and bedroom studios. We've lived through the launch of the commercial music industry, the maturation of analog, the digital revolution, the establishment of the internet, and now the acceptance of computers as the de-facto platform for the audio industry. In our pursuit of audio excellence, we've developed our own analog circuits, digital I/O solutions, digital DSP engines, control surfaces, audio workstations, and nearly every aspect of pro-audio technology.

"If you asked a hundred engineers, mixers and producers to define the "perfect console" you would probably get a hundred answers. The answers, however, would all contain the same salient points."

"The "perfect console" would have totally transparent sound, capturing the true musical quality of all performances. It would have unlimited features, facilities, and functions. It would perform all required tasks with a minimum of operator effort. It would be totally reliable and require no preventive or corrective maintenance...

You can spend the rest of your life looking for the "perfect console". You'll never find it. You will find, however, that we have what you need." - quote attributed to Dave Harrison; Harrison MR20 brochure; circa 1982

True-er words were never spoken; indeed every year there are many products and technologies that seem tantalizingly necessary for audio excellence. Our lasting experience has proven that simple, straightforward, well-engineered, and great-sounding tools are the only necessity.

The AVA plugins represent the pinnacle of Harrison's engineering practices for digital audio sound & workflow. We sincerely hope that you enjoy using these tools as much as we enjoyed creating them. Your continued support is greatly appreciated!

