_DIST TUBE-CULTURE

ARTURIA
_The sound explorers

Special Thanks

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Special Messages

This manual covers how to use Dist TUBE-CULTURE, provides a comprehensive look at its features, and details how to download and activate it. First, some important messages:

Specifications Subject to Change:

The information contained in this manual is correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications or features without notice or obligation.

IMPORTANT:

The software, when used in combination with an amplifier, headphones or speakers, may be able to produce sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high volume or at a level that is uncomfortable.

If you encounter any hearing loss or ringing in your ears, please consult an audiologist.

NOTICE:

Service charges incurred due to lack of knowledge relating to how a function or a feature works (when the software is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owner's responsibility. Please study this manual carefully and consult your dealer before requesting additional support.

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1. WELCOME TO DIST TUBE-CULTURE

Thank you for purchasing Dist TUBE-CULTURE. This audio effect plug-in for VST, AU, and AAX formats precisely recreates the sound of the Ultra Vulture harmonic distortion processor from Thermionic Culture. We have also added some extra features of our own to make the plug-in even more flexible sonically.

Dist TUBE-CULTURE can impart subtle harmonic enhancement to your tracks, adding that ever-elusive quality often called "warmth." It can add pronounced fuzz or completely break up the sound as well. Most importantly, it can produce any effect in between these two extremes. The manufacturer of the original hardware called it "the best harmonic distortion money can buy." We agree, which is why we chose to model it in every detail using our exclusive TAE® (True Analog Emulation) process.

1.1. The Culture Vulture and Ultra Vulture

The Culture Vulture is a hand-built studio audio processor that adds vacuum tube (a.k.a. valve) harmonic distortion to line-level signals that are run through it. First introduced in 1998, this boutique piece of equipment quickly earned a reputation for bringing life back to music recorded with the digital technology of the time – which could otherwise sound quite sterile. In fact, it did this job so well that it was adopted by mastering engineers – who might be the last people you would expect to gravitate towards a processor with "distortion" in its description!

The original Culture Vulture was a stereo rackmount unit that featured three vacuum tubes on each channel: an EF86 as the input preamp, a 6AS6 for the distortion, and a 5963 on the output. It featured three distortion modes (Triode, Pentode 1, and Pentode 2) plus adjustable drive and bias. *Bias* referred to the amount of current flowing into the 6AS6 distortion tube; more of it generally creates a richer sound. One of the Culture Vulture's design quirks was that turning the Bias knob up actually decreased the current. The Bias and Drive knob interacted in ways that allowed for sound-sculpting not possible with simple gain-staging and EQ.

Thermionic Culture released several updated versions over the years, culminating in the most recent one: the Ultra Vulture. This is the version we have chosen to model in Dist TUBE-CULTURE.

The Ultra Vulture was quieter and featured extended frequency response, making it even more suitable for mastering applications. It gained another distortion mode (Pentode 3), which could get more extreme than the others.

1.1.1. Our Own Additions

We've expanded upon the Presence function of the Ultra Vulture with a switch that adds two amounts of high-frequency boost. Where the Ultra had a fixed lowpass filter engaged with a toggle switch, the input section Dist TUBE-CULTURE features highpass and lowpass filters with variable cutoff frequencies as well as a stereo mode selector with mid-side options and a one-knob compressor/expander/gate.

The output section also features highpass and lowpass filters, as well as the ability to "tilt" the top of the EQ curve one way or the other relative to the high- and lowpass frequencies.

The result is a precise emulation of the Ultra Vulture that offers even more surgical control. We have also refined the way that the Drive and Bias controls interact, making the Dist TUBE-CULTURE plug-in very easy to dial in.

1.2. What Is Harmonic Distortion?

In technical terms, harmonic distortion is the addition of harmonics to a waveform by misshaping (distorting) that waveform. Every sound is made up of a fundamental frequency plus any number of harmonics, which are multiples of the fundamental.

Image Credit: Stefan Riepl via Wikimedia Commons

Compared to solid-state electronics, vacuum tubes (valves) distort the waveform more gradually as they're pushed to their operational limits. (This pushing is done via input gain, and in the case of Dist TUBE-CULTURE, the Drive and Bias knobs.) Depending on the settings, this favors either even-numbered or odd-numbered harmonics, which decrease in amplitude as their frequencies increase.

Musically speaking, vacuum tubes do this in a way that's pleasing to the human ear. Musicians and audio manufacturers describe this phenomenon with words like "warm," "fat," and "round." Solid-state electronics can produce desirable distortion – and are used to do this in most guitar distortion pedals – but there is far less room to play between a clean sound and all-out heavy metal fuzz.

Simply put, there's analog and then there's *tube* analog!

1.3. Arturia's Secret Ingredient: TAE®

As with many of our virtual instruments, True Analog Emulation is what makes Dist TUBE-CULTURE sound like analog hardware.

As it applies to an analog effect like the Ultra Vulture, TAE does not merely take a digital snapshot of the sound. It uses sophisticated computer models to analyze and then reproduce the behavior of analog circuitry.

1.4. Dist TUBE-CULTURE Features Summary

- Precise model of Ultra Vulture tube harmonic distortion processor.
- Adjustable Drive and Bias.
- Four distortion modes: Triode, Pentode 1, Pentode 2, Pentode 3.
- Central meter displays analog ammeter, in and out levels with bias graph, or a full-spectrum frequency analyzer superimposing input and output signals.
- Highpass and lowpass 24dB-per-octave filters on input section; variable cutoff frequencies.
- One-knob expander/gate and compressor.
- Two-bound tiltable EQ on output with Tilt control.
- Advanced Preset Browser with 51 factory Presets covering effects from subtle to drastic.
- Three templates to get you started designing your own Presets.
- Two knob setting groups (A and B) per Preset with copy function.
- Selectable oversampling with Studio and Render modes.
- Windows or macOS compatible in AAX, AudioUnits, and VST formats.

Whether you use Dist TUBE-CULTURE for gentle harmonic enhancement, wild distortion, or anything in between, we hope it opens new creative opportunities for your music!

2. ACTIVATION AND FIRST START

2.1. Compatibility

Dist TUBE-CULTURE works on computers and laptops equipped with Windows 8.1 or later or macOS 10.13 or later. It is compatible with the current generation of Apple M1, M1 Pro/Max/ Ultra, and other Apple Silicon processors. You can use it as an Audio Units, AAX, VST2, or VST3 plug-in within your favorite recording software. Dist TUBE-CULTURE is a plug-in only and has no stand-alone mode.

2.2. Download and Install

You can download Dist TUBE-CULTURE directly from the Arturia Products Page by clicking either the Buy Now or Get Free Demo options. The free demo is limited to 20 minutes of operation.

If you have not already done so, now is a good time to create an Arturia account by following the instructions on the My Arturia webpage.

Once you install Dist TUBE-CULTURE, the next step is to register the software. This is a simple process that involves a different software program, the Arturia Software Center.

2.2.1. Arturia Software Center (ASC)

If you haven't installed ASC yet, please go to this web page: Arturia Downloads & Manuals.

Look for the Arturia Software Center near the top of the page, and then download the installer version for the system you're using (Windows or macOS). ASC is a remote client for your Arturia account, letting you conveniently manage all your licenses, downloads, and updates from one place.

After you complete the installation instructions, proceed to do the following:

- Launch the Arturia Software Center (ASC).
- Log into your Arturia account from ASC's interface.
- Scroll down to the 'My Products' section of ASC.
- Click on the 'Activate' button next to the software you want to start using (in this case, Dist TUBE-CULTURE).

It's as simple as that!

2.3. Working with Plug-ins

Dist TUBE-CULTURE can be used in all major digital audio workstation (DAW) programs including Cubase, Digital Performer, Live, Logic, Pro Tools, Studio One, and more. Plug-ins have numerous advantages over hardware, including:

- You can use as many instances on different tracks as your computer can handle.
- You can automate the plug-in's settings via your DAW's automation feature.
- All settings and changes are saved with your DAW project, letting you pick up right where you left off.

2.3.1. Audio and MIDI Settings

Since Dist TUBE-CULTURE is a plug-in only, these settings are handled in your recording software or DAW. They are generally located in some type of Preferences menu, though each product does things a bit differently. So, consult your recording software's documentation for information on how to select your audio interface, active outputs, sample rate, MIDI ports, project tempo, buffer size, etc.

A note about your DAW's latency (sample buffer) settings. In general, higher settings mean a lower CPU load as the computer has fewer interruptions and longer amount of time to process commands. However, this can result in longer *audible* latency if, for example, recording a new track while listening to playback with Dist TUBE-CULTURE active. On the contrary, lower settings mean lower latency but higher CPU load. That said, a fast, current computer should easily be able to run it – even on many tracks at once – with low latency settings. Of course, this all depends on whatever else is in the project.

Now that you've set up your software, it's time to explore all of the textures – from subtle harmonic enhancement to ear-shearing grunge – that are possible with Dist TUBE-CULTURE!
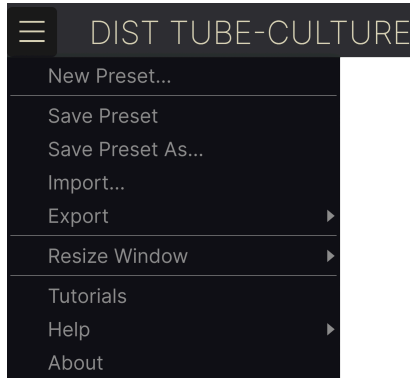
3. USER INTERFACE

3.1. Upper Toolbar

This chapter covers the upper toolbar in Dist TUBE-CULTURE, where the main menu as well as the Preset Browser [p.15] reside. Let's go over them from left to right.
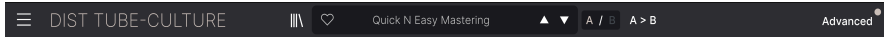
3.1.1. Main Menu

Clicking the "hamburger" icon (three horizontal lines) in the top left corner of the upper toolbar opens a drop-down menu that lets you access several important features related to Presets and useful functions. Let's look at them one at a time.

3.1.1.1. New Preset
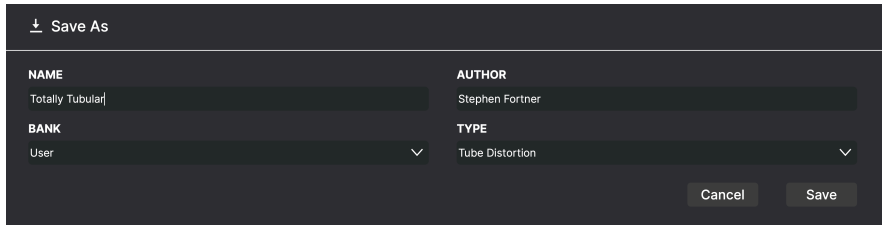
Creates a new preset with initialized settings for all parameters.

3.1.1.2. Save Preset

Overwrites the current preset with any changes you have made. This applies only to user Presets, so the option is greyed out for factory Presets.

3.1.1.3. Save Preset As

Saves the current state of Dist TUBE-CULTURE under a different Preset name. Clicking this option reveals a window where you can name your Preset and enter more detailed information about it:

> ♪ The Bank, Author, and Type fields are all useful when searching for presets in the Preset Browser [p.15].

3.1.1.4. Import

This command lets you import a Preset file or entire bank stored on your computer. It opens an OS-level navigation box to find the proper files.

3.1.1.5. Export

You can export Presets to your computer in two ways - as a single Preset, or as a bank. In either case, an OS_level navigation window allows you to specify where to save the file(s).

- **Export Preset:** Exporting a single Preset is handy for sharing a Preset with someone else. The saved preset can be reloaded using the **Import** menu option.
- **Export Bank:** This option exports an entire bank of sounds from the plug-in, which is useful for backing up or sharing presets. Saved banks can be reloaded using the **Import** menu option.

3.1.2. Resize Window

Dist TUBE-CULTURE can be resized from 50% to 200% of its default size (100%) without any visual artifacts. On a smaller screen such as a laptop you may want to reduce the interface size so it doesn't dominate the display. On a larger screen or a second monitor you can increase the size to get a better view of the controls and graphics.

This operation can also be performed using keyboard shortcuts. On Mac, use Command +/- to resize the window. On Windows, use Control +/-.
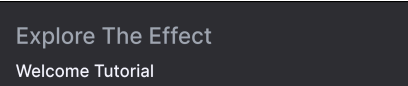
3.1.2.1. Maximize View Button

If you resize the Dist TUBE-CULTURE window larger and some of its parameters are pushed outside the viewable range of your computer display, you may see this icon in the far lower right corner of the window:

Click it, and the window will resize and re-center to optimize your available screen space.

3.1.2.2. Tutorials

Explore The Effect
Welcome Tutorial

Dist TUBE-CULTURE comes with interactive tutorials that walk you through different features of the plug-in. Clicking this option opens a pane on the right side of the window where the tutorials appear. Select one to access step-by-step descriptions that highlight the relevant controls and walk you through the process.

#### 3.1.2.3. Help

Get more help by visiting links to this user manual and Frequently Asked Questions pages on Arturia's website. You will need an internet connection to access these pages.

3.1.2.4. About

Here you can view the software version and developer credits. Click again anywhere on the screen (outside the About window but inside the plug-in) to make this pop-up window disappear.

3.1.3. Preset Browser Access and Name Pane

Clicking the "books on a shelf" button opens the Preset Browser [p.15], which offers a myriad of ways to browse, sort, and organize Presets in Dist TUBE-CULTURE.
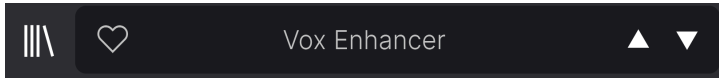
Clicking on the Preset name also opens up quick drop-down menus for selecting Presets outside of the Browser. All things about Presets are covered in detail in the next chapter.

3.1.4. Advanced Button
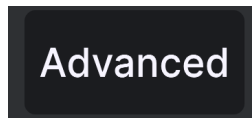
Near the upper right corner of the top toolbar is the **Advanced Button**. This opens up a panel which we cover in detail in the chapter Advanced Panel [p.30].

3.1.5. A/B Settings and Copy

Finally we have the A/B and copy settings. Using the A and B buttons, you can switch between two completely different sets of knob settings in the Main Panel [p.24], including the Advanced Panel [p.30]. These are saved at the Preset level, so you can have a different A and B settings for each Preset.

When A is active, clicking **A > B** will copy the A settings to B. When B is active, clicking **A < B** will copy the B settings to A.

> ℹ ! If you go to B, change settings, and close your DAW project, A will be replaced by B when you repoen it. B will now be blank. In other words, the most recently changed settings are recalled by the DAW upon reopening – and they're recalled in A.

3.2. The Lower Toolbar

A number of utility functions reside in the very bottom of the Dist TUBE-CULTURE interface. They're like a good mechanic or plumber: maybe not glamorous, but you're really glad to have them when you need them.

Let's go over them from left to right.

3.2.1. Left Side

Drive: Sets the amount of distortion applied to the signal

Lower toolbar, left side

The left half of the toolbar is where the control descriptions appear, telling you what any knob, button, icon, or other control does when you mouse over it.

3.2.2. Right Side

The right half of the lower toolbar is home to a number of other utilitarian functions.

Quality: Studio Bypass ↩ ≡ ↪ 5%

Lower toolbar, right side

From left to right, these are:

3.2.2.1. Quality

Quality: Studio Bypass ↩ ≡ ↪
Oversampling Quality
✓ Studio
Render
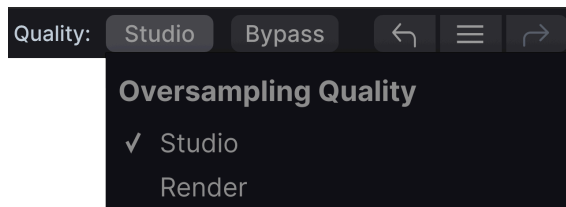
Lower toolbar, right side

Dist TUBE-CULTURE offers two options for the amount of oversampling it performs when processing your track.

- **Studio:** High-resolution oversampling.
- **Render:** Higher-resolution oversampling.

What's the difference? This is a "good and better" situation. When you perform a mixdown or bounce-to-disk operation in your DAW, Dist TUBE-CULTURE always renders at the maximum quality. Choosing the *Render* option will thus allow you to preview your sound at this exact quality. However, you may wish to use the *Studio* setting to conserve CPU power while hearing essentially the same processing based on how you set the plug-in's controls.

3.2.3. Bypass

This button bypasses the plug-in, effectively having the same function as the large on/off toggle in the Basic View.

3.2.4. Undo, Redo, and History

When editing a plug-in, it's all too easy to overshoot a sweet spot and then wonder how to get back to where you were. Like all Arturia plug-ins, Dist TUBE-CULTURE offers comprehensive Undo, Redo, and History so that you always have a trail of "bread crumbs."

Use the arrows to go back and forward one control movement or other action at a time.

3.2.4.1. Undo

Click the left arrow to revert to the state before the most recent edit you made. You may click repeatedly to undo several edits in reverse time order.

3.2.4.2. Redo

Click the right arrow to redo the most recent edit you undid. If you have undone several, you may click repeatedly to redo them in forward time order.

3.2.4.3. History
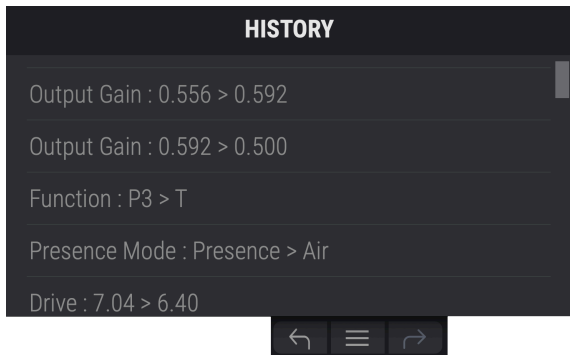
Click the "hamburger" (three lines) center button to open the History window, as shown above. This provides a step-by-step account of every move you have made in Dist TUBE-CULTURE. Clicking on an item in the list not only re-executes that move – it returns the plug-in to the overall state it was in when you first made that move.

Note that the A and B controls settings within a Preset have separate undo histories.

3.2.4.4. CPU Meter

At far right is the CPU Meter, which displays the overall load Dist TUBE-CULTURE is placing in your computer CPU. Since it deals only with this plug-in, it is not a substitute for the overall CPU metering tools in your DAW.

3.2.4.5. Panic

Mouse over the CPU Meter, and it will display the word PANIC. Click to send an all-sounds-off command. This is a momentary command, so sound will resume if your DAW is still playing. In the event of serious runaway audio (say, from an unrelated delay effect going nuts in a feedback loop), stop your DAW playback and disable the offending plug-in.

4. SELECTING PRESETS

Dist TUBE-CULTURE lets you browse, search, and select Presets from a browser-like interface inside the plug-in. You can also create and save your own Presets in the User Bank. Of course, the state of any instance of the plug-in – including the current Preset – is automatically saved when you save your DAW project, so you can always pick up where you left off.

4.1. The Preset Browser
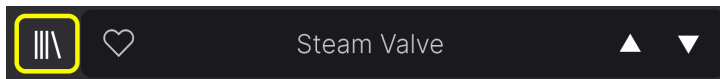
Click the "books on a shelf" icon to access the Preset Browser.

The three main areas of the Preset Browser are as follows:
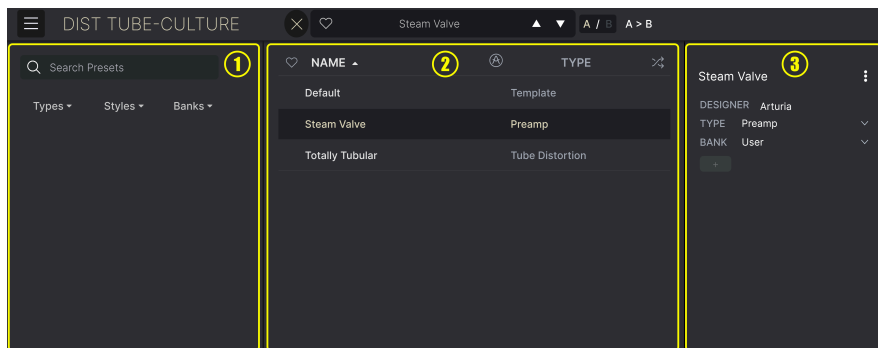

Number	Area	Description
1.	Search [p.16]	Searches for Presets by text entry with filters for Type, Style, and Bank.
2.	Results Pane [p.18]	Displays search results, or all Presets if no search criteria are active.
3.	Preset Info [p.20]	Displays Preset Details; can edit details for Presets in User Bank.

4.2. Searching Presets

Click on the Search field at the top left and enter any search term. The browser will filter your search in two ways: First, simply by matching letters in the Preset name. Second, If your search term is close to that of a Type or Style [p.16] it will include results fitting those tags as well.

The Results Pane will show all Presets that fit your search. Click the CLEAR ALL text to clear your search terms.
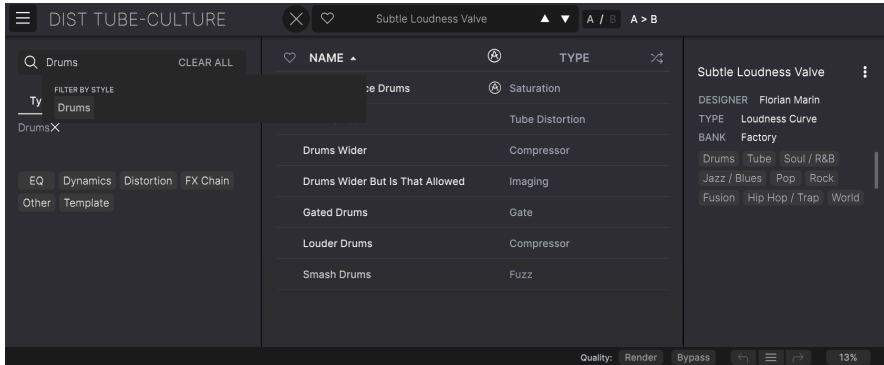
Filter by typing text in the Search field

4.2.1. Using Tags as a Filter

You can narrow (and sometimes expand) your search using different tags. There are two kinds of tags: **Types** and **Styles**. You can filter by one, the other, or both.

4.2.1.1. Types

Types are categories of audio effects: tape, distortion, EQ, modulation, and so on. With a clear search bar, click the **Types** drop-down to bring up the list of types. Types sometimes include sub-types (especially in more complex Arturia effect plug-ins) but Dist TUBE-CULTURE is relatively simple, so Distortion is the type you will see most often.

You can also select multiple Types using command-click (macOS) or ctrl-click (Windows). For example, if you aren't sure whether the preset you're looking for was tagged with Keys or Pad, select both to broaden the search.

Results columns can be inverted by clicking the arrow buttons to the right of their titles (Name, Type, Designer).

> ♪ You can specify the type when saving a preset [p.9]. That Preset will then show up in searches where you've selected that Type.

4.2.1.2. Styles

Styles are, well … exactly that. Accessed by the **Styles** button, this area has three further subdivisions:
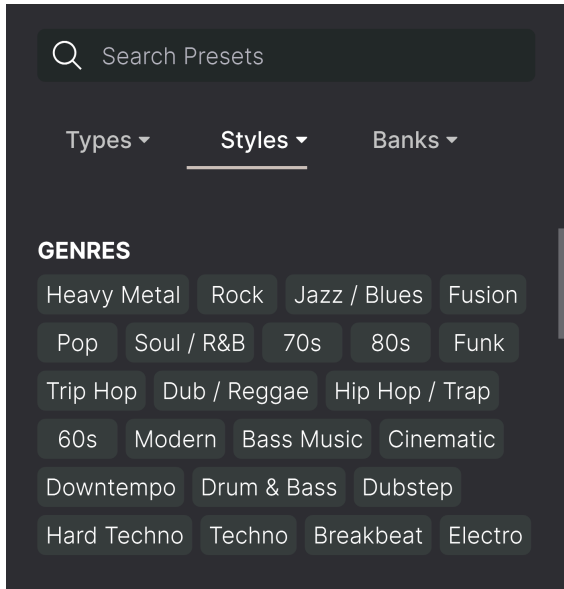
- *Genres*: Identifiable musical genres such as Ambient, Disco, Experimental, etc.
- *Styles*: General "vibe" such as Bizarre, Mellow, Pulsating, etc.
- *Characteristics*: Even more detailed audio qualities such as Distorted, Long Release, Mechanical, Tempo-Synced, and more.

Click any one, and the results will show only Presets that match that tag. Notice that when you select any tag, several other tags usually disappear.

This is because the browser is narrowing your search by a process of elimination. Deselect any tag to remove it and widen the search without having to start all over again. You can also clear the tag by clicking the X to the right of its text, which appears at the top.

Note that you can search by a string of text, Types and Styles, or both, with the search becoming narrower as you enter more criteria. Clicking CLEAR ALL in the search bar will remove all Type and Style filters as well as any text entry.

4.2.2. Banks

Next to the **Types** and **Styles** drop-down is the **Banks** drop-down, which lets you do your search (using all the methods above) within the factory or user Banks.

4.3. The Results Pane

The central area of the browser shows search results, or simply a list of all presets in the Bank if no search criteria are active. Simply click on a Preset name to load it.
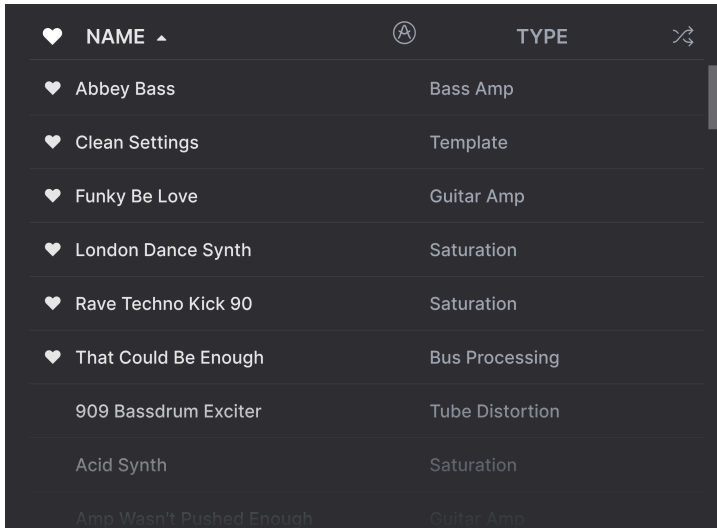
4.3.1. Sorting Presets

Click the **NAME** header in first column of the Results list to sort the results list of Presets in ascending or descending alphabetical order.

Click the **TYPE** header in the second column to do the same thing by Type.

4.3.2. Liking Presets

As you explore and create presets you can mark them as Liked by clicking the heart next to their names. (This icon also appears in the main Preset Name Pane [p.23] Clicking on the heart icon makes all of your liked Preset show up at the top of the results list, as shown here:
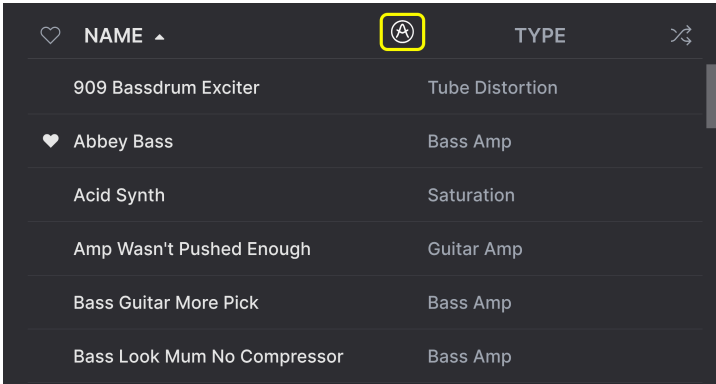

A filled-in heart icon indicates a like. An outline indicates a Preset that has not been liked (yet). Click the heart at the top of the list again to return the list to its previous state.

4.3.3. Featured Factory Presets

Presets accompanied by the Arturia logo are factory creations we think really showcase the capabilities of Dist TUBE-CULTURE.

Clicking the Arturia icon at the top of the Results pane causes all featured Presets to appear at the top of the list.

4.3.4. Shuffle Button

This button randomly reorders the Preset list. Sometimes it can help you find the sound you're looking for more quickly than scrolling through the entire list.

4.4. Preset Info Section

The right side of the browser window shows specific information about each preset.
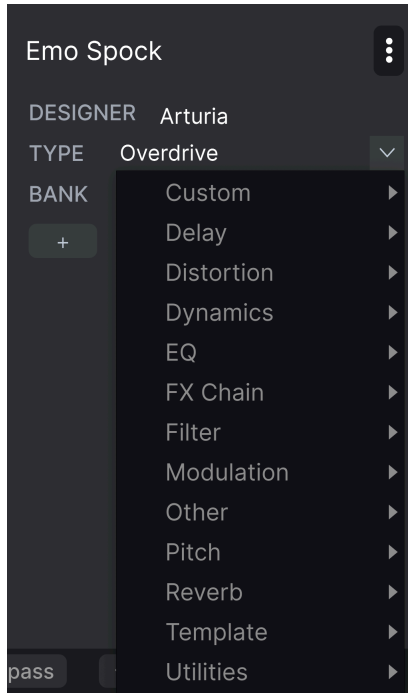
For Presets in the User bank (as the result of a Save As operation), you can enter and edit the information and it will update in real time. This includes the designer (author), Type (menu is open in the above image), all Style tags, and even a custom text description at the bottom.

To make the desired changes, you can type directly in the text fields, use one of the pull-down menus to change the Bank or Type, and click the + icon (which appears when a user Preset is selected) to add or delete Styles. You will see all the options come up in the Results Pane's space:
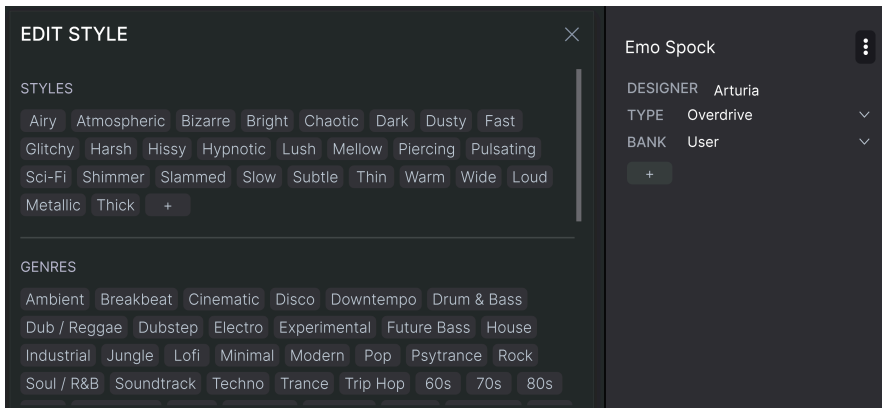
Notice that there are + signs at the end of the Styles, Genres, and Characteristics groups. That's right – you can make up your own and they will be usable as tags in future searches!

> ♪ Types and Styles changes you make here are reflected in searches. For example, if you remove a given Style tag and then save that Preset, it will not show up in future searches for Experimental sounds.

4.4.1. Preset Info Quick Menu
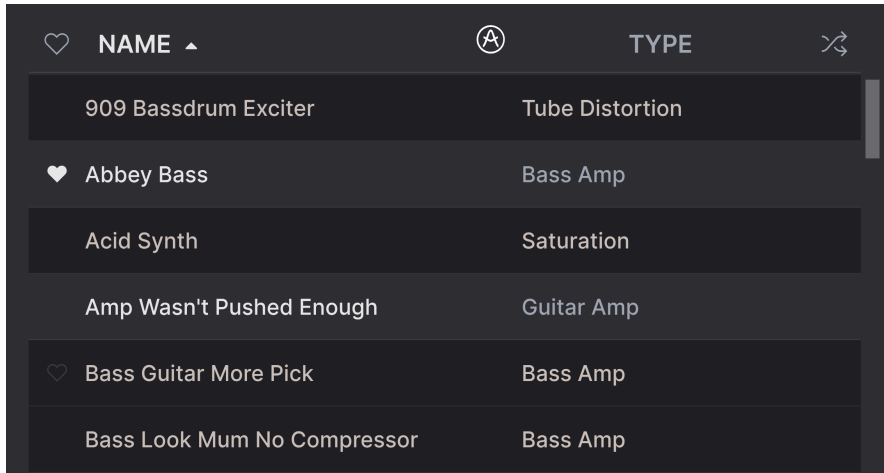
Clicking the icon with three vertical dots brings up a quick menu for Save, Save As, and Delete Preset Operations:
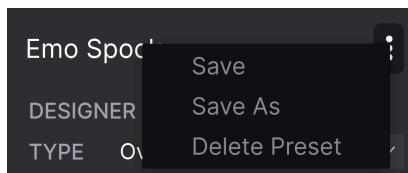
For sounds in the Factory Bank, only *Save As* is available.

4.4.2. Editing Info for Multiple Presets

It's easy to edit information such as Types, Styles, designer name, and text description for several presets at the same time. Simply hold command (macOS) or ctrl (Windows) and click the names of the Presets you want to change in the Results list. Then enter the comments, change the Bank or Type, etc., and save.

♡	NAME ▲	Ⓐ	TYPE	⤭
	909 Bassdrum Exciter		Tube Distortion	
♥	Abbey Bass		Bass Amp	
	Acid Synth		Saturation	
	Amp Wasn't Pushed Enough		Guitar Amp	
♡	Bass Guitar More Pick		Bass Amp	
	Bass Look Mum No Compressor		Bass Amp	

4.5. Preset Name Pane
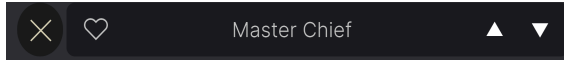
The name pane at top center is always displayed whether you're in the main controls view or the Preset Browser. It displays the name of the current Preset, obviously, but also offers further ways to browse and load Presets.

4.5.1. The Arrows

The up and down arrows to the right of the Preset name step serially through Presets. This is limited by the results of any currently active search, i.e. the arrows will only step through those Presets. So, make sure any searches are cleared if you simply want to step through all available Presets until you find something you like.

4.5.2. Drop-Down Browser

Click on the Preset name in the center of the upper tool bar to bring up a drop-down "quick browser" for Presets. The first option in this menu is called All Types, and it brings up a submenu of literally every Preset in the current bank.
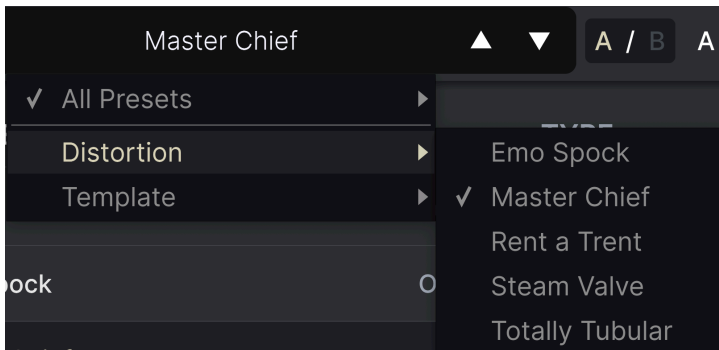
Filter results may differ based on Search criteria

Below this are options that correspond to the Types. Each of these brings up a submenu of all Presets of its Type.

Unlike the up and down arrows, the "All Presets" submenu is independent of search criteria – it simply shows you every Preset available. Likewise for the Type choices below the line, which they always include all Presets within that Type.

5. MAIN PANEL

This chapter covers the main view in Dist TUBE-CULTURE, excluding the controls available when you open the Advanced Panel [p.30], which is covered in Chapter 6.

5.1. Common Control Behaviors

Virtually all controls on the main and Advanced panels follow a few rules designed to make things more convenient.

5.1.1. Value Pop-Ups

Operate or hover the mouse on any knob, and a pop-up a.k.a. "tool tip" appears, displaying its current value.

5.1.2. Fine Adjustments

To adjust a knob control more slowly and therefore more precisely, hold Control (Windows) or Command (macOS), while left-clicking and dragging. You can also hold the right mouse button when clicing and dragging.

5.1.3. Parameter Name Display
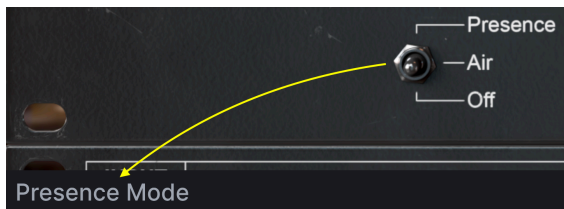
Operating or hovering on any control will cause its full name to appear in the left side of the Lower Toolbar [p.12].

5.1.4. Double Click for Default

Last but not least, you can double-click on any control to return it to its default value.

5.2. Distortion Section

This section controls the distortion effect of Dist TUBE-CULTURE.

5.2.1. Drive

The **Drive** knob adjusts how hard the virtual input tube (valve) is driven, being analogous to "pre gain" on a guitar amplifier or microphone preamp. Though all the controls in this section interact with one another, higher settings generally produce more overdrive or distortion.

5.2.2. Bias

Bias refers to the amount of current directed into the 6AS6 distortion tube of the Ultra Vulture.

In musical terms, this affects the character and "thickness" of the distortion effect, and changes in the knob setting will generally be greater if you are using one of the P1, P2, or P3 settings of the **Function** knob, described next.

The bias amount is displayed on the Ammeter [p.27] in milliamps, and turning the knob up (clockwise) *reduces* the current being fed to the distortion tube.

> ♪ A bias of approximately 0.3mA is ideal for most applications.

5.2.3. Function

This knob selects the way in which the distortion tube (valve) operates. There is one **triode** mode (T) plus three **pentode** modes (P1, P2, and P3). The triode and pentode are different vacuum tube designs. Triodes are generally less efficient than pentodes but have a more linear response when it comes to the relationship of input to output signals.

The way this plays out musically in Dist TUBE-CULTURE is as follows:

- **T:** The cleanest, favoring even-numbered harmonics. This is the mode you would likely prefer for harmonic enhancement, warmth, or "excitement," as opposed to a sound the ear would identify as distortion.
- **P1:** Produces a harsher, edgier distortion favoring odd-numbered harmonics.
- **P2:** Facilitates everything from a clean sound to a very aggressive one.
- **P3:** The most aggressive, even producing rectifier-like effects if properly set.

> ♪ In hardware terms, a triode is a type of vacuum tube that contains three components: a control grid, a plate, and a cathode. A pentode adds two more components, called a screen grid and a suppressor grid. These make the tube more efficient. Most hardware tubes are pentodes, but devices in which they are used, such as guitar amps and the Ultra Vulture, sometimes have a switch that disables the screen and suppressor grids and makes them behave like triodes. Since this reduces their efficiency and output, this is sometimes called a half-power switch.

> ♪ The three Pentode modes can have a gating effect, which is most pronounced on P3. Here, only the loudest signal peaks will even make it through.

5.2.4. Presence Switch

As on the original hardware, this switch boosts midrange and treble frequencies. Where the hardware had a single setting, we have added two.

- **Air:** Boosts high frequencies only.
- **Presence:** Boosts mid and high frequencies.

The following graph visualizes the amount of boost for each mode at given frequencies:
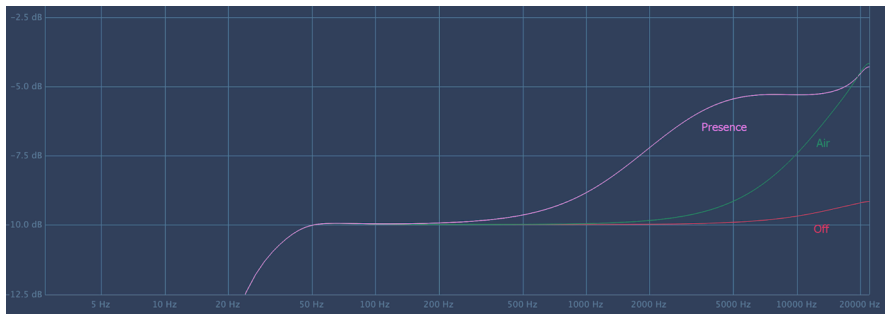
> ♪ Because of the non-linear way in which vacuum tubes apply harmonic distortion, the Presence switch will interact with the Drive, Bias, and Function knobs. The best thing to do is experiment!

5.3. Ammeter

In the Main Panel, Dist TUBE-CULTURE replicates the analog ammeter of the original hardware. This shows the bias – again, the current in milliamps flowing into the distortion tube. In the Advanced Panel [p.30], clicking on this section alternates between two other displays: input, output, and bias graphs; and a full-spectrum frequency analyzer.

5.4. Output Section

These very simple controls adjust the output behavior of Dist TUBE-CULTURE.

5.4.1. Output

This knob adjusts the overall output level of Dist TUBE-CULTURE back into your DAW. It can be very useful for making tweaks without having to adjust the fader of the track on which it is inserted.

5.4.2. Mix

This is a straightforward dry/wet mix knob that balances the processed signal with the unaffected signal.

5.4.2.1. Mix Lock

Clicking the lock icon will fix the **Mix** knob to its current position even if you change presets.

5.4.3. On/Off
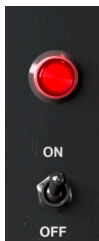
This toggle switch simply bypasses the Dist TUBE-CULTURE plug-in.

6. ADVANCED PANEL

Clicking the **Advanced** button at the top right corner of the Dist TUBE-CULTURE window opens up additional sound-shaping functionality in the plug-in. Please note that this chapter assumes you have digested the information in the Main Panel [p.24] chapter, which covers all the fundamental settings.

6.1. Input Module

The input section of the Advanced panel can apply highpass and lowpass filters to the incoming signal, such that only the frequencies allowed through are processed by Dist TUBE-CULTURE. You also have some control over which aspects of the stereo soundscape are affected by the plug-in.

6.1.1. Stereo Mode

Taking its inspiration from the mid-side stereo recording technique, this toggle selector lets you determine which part of the stereo signal is affected by the plug-in.

- **LR:** Processes the entire stereo signal.
- **Mid:** Processes only the portion of the signal that is equally panned between the two channels — in other words, monaural or "up the middle."
- **Side:** Processes only the difference between the two stereo channels.

This selection can have pronounced interaction with the Drive, Bias, and Function selections in the Main Panel [p.24], so experiment and enjoy!

> **i** ! Note that the Stereo Mode switch is not available when the plug-in is instantiated in mono.

6.1.2. Highpass Filter

The leftmost knob in the input section controls the cutoff frequency of a 24dB-per-octave highpass filter. This is useful for rolling off low-frequency from the input signal and only affecting content above the cutoff.

6.1.3. Lowpass Filter

The next knob in line controls the cutoff frequency of a 24dB-per-octave lowpass filter, which removes content above the cutoff point. You might apply this if you'd like to "fatten" the low end of a track while leaving its midrange and/or treble content unprocessed.

6.1.4. Dynamics

The input section of Dist TUBE-CULTURE features a one-knob dynamics control. Turned clockwise from 12 o'clock, it functions as an upward compressor. Turned counterclockwise, it becomes a gradual expander/gate.

6.2. Output Module

The output module in the Advanced view of Dist TUBE-CULTURE likewise has 24dB-per octave highpass and lowpass filters for the post-processing signal.

Why do we have identical filters on both the input and output sections? To give you maximum flexibility. For example, you may want to allow a full-range signal to come in, but limit the high and/or low boundaries of the distorted signal. Or, vice-versa, you may want to limit the signal that even gets processed in the first place, but then hear the effect applied to that range.

6.2.1. On/Off Switch

This section features an on/off switch that bypasses the filters altogether.

6.2.2. Tilt Control

The center knob in the output module "tilts" the output EQ in one direction or another. That is, it creates an upward or downward slope across the spectrum. This slope pivots at 63Ohz, has a range of -12 to +12 dB, and is visualized in the Advanced Meter [p.33], which is described below.

6.3. Advanced Meter

When the Advanced View is open, the central meter changes from a simple analog ammeter to either of two options. Simply click on the meter to alternate between the two.

6.3.1. Input, Output, and Bias

This meter view displays precise stereo bar graphs of the input and output signals. The central horizontal bar gives a readout of the bias [p.25] in milliamps, which is the same information provided by the analog-style ammeter [p.27] in the Basic View.

6.3.2. Frequency Analyzer

The alternate meter view provides a real-time frequency spectrum analysis. In the image above, the bright green outline represents the output signal and the paler green peaks represent the input signal. The analyzer also interacts with the input and output filter/EQ settings as follows.

6.3.2.1. Input EQ Curve

If highpass and/or lowpass filters are applied in the input module [p.30], the resulting EQ curve is shown in yellow, like so:

6.3.2.2. Output EQ Curve

If highpass and/or lowpass filters are applied in the output module [p.32], the resulting EQ curve is shown in orange (and superimposed over the input curve), like so:

The orange curve or line disappears altogether if the output module is switched off.

6.3.2.3. Tilt Display

In addition, if the Tilt [p.32] is used, the orange output curve will reflect the change in the EQ slope. This image shows a fully positive 12dB tilt, for example:

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