## Special Thanks

### Direction

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Frédéric BRUN</td>
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### Development

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### Design

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### Testing

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### Beta Testing

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<td>Paul BEAUDOIN</td>
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### Manual

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Product version: 1.0.0

Revision date: 26 August 2019
Thank you for purchasing Delay Tape-201!

This manual covers the features and operation of the Arturia Delay Tape-201 plug-in.

Be sure to register your product as soon as possible! When you purchased Delay Tape-201 you were sent a serial number and an unlock code by e-mail. These are required during the online registration process.

Special Messages

Specifications Subject to Change:

The information contained in this manual is believed to be correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications without notice or obligation to update the hardware that has been purchased.

IMPORTANT:

The effect, 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 level or at a level that is uncomfortable, or a level that exceeds prevailing safety standards for hearing exposure. Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, damages, fire or other risks. If you encounter any hearing loss or ringing in the ears, consult an audiologist immediately. It is also a good idea to have your ears and hearing checked annually.
Introduction

Congratulations on your purchase of Arturia’s Delay Tape-201!

We’d like to thank you for purchasing Delay Tape-201, our recreation of an iconic tape delay processor.

Arturia has a passion for excellence, and Delay Tape-201 is no exception. Put the plug-in on a track or send bus, skim through the presets curated by professional sound designers, and tweak a few controls. We have created Delay Tape-201 so that it’s easy to understand and use right away, yet powerful and flexible for creating a wide range of different delay effects and colors. We are confident that Delay Tape-201 will be a valuable addition to your effects plug-in collection, and that you’ll have a lot of fun with it.

Be sure to visit the Arturia website for information about all of our other great hardware and software instruments. They have become indispensable, inspiring tools for musicians around the world.

Musically yours,

The Arturia team
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1. INTRODUCTION TO DELAY TAPE-201

Thank you for purchasing our virtual delay and reverb effect, Delay Tape-201. Delay Tape-201 is modelled after an iconic and highly sought-after hardware unit from the 1970s. This unit employed a closed loop of tape with several sequential playheads to create lush rhythmic echo effects. More than just a static effect, the hardware could be played like an instrument and would go on to play a central role in music genres like dub and experimental.

Arturia’s Tape-201 builds on this legacy by providing you with a realistic recreation of the original hardware, while adding new features that modern producers and musicians will appreciate. We are confident that Tape-201 will give you many hours of playing and producing pleasure.

1.1. History of tape looping

The use of looping sections of music was originally pioneered in the 1940s by music concrete artist Pierre Schaefer, who used a closed groove phonograph disc to create repeating segments of sound. As magnetic audio tape technology became available, this technique could be replicated by cutting a section of recorded audio tape and splicing the ends to create a continuous loop of tape. This section of looped tape would then be played back to create a looping sound, whose pitch and periodicity could be controlled by changing the speed of the playback machine.

Tape looping became more widely used in the 1950s and 1960s by contemporary composers such as Karlheinz Stockhausen, Steve Reich and Terry Riley, who would often play multiple tape loops of different lengths simultaneously to create patterns and rhythms. By the 1960s, the use of tape loops had also begun to permeate popular music. The effect was heavily used by Jamaican dub music artists, such as King Tubby and Sylvan Morris, and became a distinguishing characteristic of the genre. Tape looping was also used by popular artists, such as the Beatles, who used the technique on some of their later works, like “Revolution 9”, which is heavily based on tape loops.

1.2. What is a tape echo?

Before the advent of modern analog and digital delays, this type of effect would be achieved by routing an audio signal to an auxiliary tape machine, then feeding the signal from that machine’s playback head back into the mix. The time it took for the signal to be recorded onto the tape then played back into the mix from the playback head would introduce a delay to the original signal. Engineers could adjust the delay time by slowing down or speeding up the tape mechanism, or would feed the playback signal back into the machine to achieve multiple echoes. The effect gained so much popularity that hardware manufacturers took note and began producing specialized tape devices to handle this task.

1.3. How does the original hardware work?

The original hardware combines the techniques of tape looping and echo into a single unit. The unit features a tape chamber which houses a pre-made loop of standard 1/4” audio tape. This design does not use reels, but instead the tape lays loose inside the chamber and is fed through by a capstan drive. There is a record head that imprints input audio onto the tape, followed by 3 consecutive playback heads which reproduce the recorded signal at various delay intervals, based on their distance from the record head.

Arturia - User Manual Delay Tape-201 - INTRODUCTION TO DELAY TAPE-201
On the front panel, a big Mode Selector knob controls which playback heads are active and a Rate control determines the speed of the tape mechanism. Two EQ controls adjust the Bass and Treble of the processed echoes. An Intensity knob adjusts the amount of signal that is fed back into the unit, which at high settings is capable of sending the unit into self-oscillation even without any input signal. When using high Intensity settings in conjunction with the Rate, Mode, and EQ controls, users can create evolving, otherworldly tones and perform the hardware echo as if it were an instrument itself.

While some models of the original hardware only include the echo section, the more advanced series also features a spring reverb tank which provides the user with the ability to add reverberation to the input signal.

1.4. What does Tape-201 add to the original?

The original hardware can be rare to find, expensive to purchase, and hardware devices have become increasingly difficult to incorporate into modern workflows. Transporting bulky equipment can be inconvenient and hardware devices are often prone to breakdown. Hardware can also present certain workflow limitations, since devices can only serve one function at a time.

At Arturia we pride ourselves on offering the best of both worlds - the uncompromising quality and character of hardware devices, delivered in a convenient software package that is adapted to a modern workflow. Arturia’s Tape-201 is a faithful recreation of the original hardware, capturing all of its nuances and sonic character with utmost detail. In addition to this, we have expanded on the original design with new features and capability not found on the original unit, including:

- Input EQ for shaping the input signal before processing
- 3 different Delay Types - M/S, L/R, ping-pong
- Processes audio in stereo, instead of mono
- Run multiple instances with different settings
- Automate effect settings from your DAW
- LFO for automated modulation of effect parameters
- Easy storage and recall of effect settings
2. ACTIVATION AND FIRST START

The Arturia Delay Tape-201 plug-in works on computers equipped with Windows 7 or later and macOS 10.10 or later. You can use the Tape-201 as an Audio Unit, AAX, VST2 or VST3 plug-in (64-bit only).

2.1. Activate the Tape-201 license

Once the software has been installed, the next step should be to activate your license, so that you can use it without limitations.

This is a simple process that involves a different software program: the Arturia Software Center.

2.2. The Arturia Software Center (ASC)

If you have not already installed the ASC, go to this web page: Arturia Updates & Manuals. Look for the Arturia Software Center at the top of the page, and then download the version of the installer that you need for your system (macOS or Windows). Follow the installation instructions and then:

- Launch the Arturia Software Center (ASC)
- Log into your Arturia account
- Scroll down to the My Products section of the ASC
- Click the Activate button

That's all there is to it!
3. OVERVIEW

3.1. Working with plug-ins

Delay Tape-201 comes in VST2, VST3, AU and AAX plug-in formats for use in all major digital audio workstations (DAW) including Live, Logic, Cubase, Pro Tools and others. Unlike an effect hardware, you can load as many instances of Tape-201 as you find useful. Tape-201 has two other big advantages over hardware:

- You can automate many of Tape-201 parameters using your DAW’s automation system.
- Your settings and current plug-in state will become recorded in your project, and you can pick up exactly where you left off the next time you open it.

3.2. Channel Configuration (Mono/Stereo)

The plug-in can be used on Mono or Stereo channels. The Mono configuration is automatically loaded when you use the plug-in with mono tracks, while using the plug-in with stereo tracks will automatically load the Stereo configuration.

The available controls will change depending on which configuration is used. For example, the Mono configuration will only display a single delay time control, rather than individual left and right channel controls.

This manual covers the full set of features that are available in the Stereo configuration. Controls that are unavailable in mono mode will be noted.
4. USER INTERFACE

Delay Tape-201 offers a simple, intuitive user interface. The interface is split up into 4 main sections:

1. **Upper Toolbar** contains various plug-in settings and the preset browser.

2. **Main Control Panel** contains the main effect controls. These controls are covered in the Main Control Panel [p.12] section of this manual.


4. **Lower Toolbar** contains additional plug-in utilities, like bypass switch and CPU meter.

### 4.1. The Upper Toolbar

The upper toolbar, which is common to all current Arturia plug-ins, gives access to many important functions.
4.1.1. Plug-in Options

Clicking the Tape-201 logo located on the left will display a menu containing various plug-in settings and options.

4.1.1.1. Save Preset

This option will overwrite the active preset with any changes you have made, so if you also want to keep the source preset, use the Save Preset As option instead. See the next section for information about this.

4.1.1.2. Save Preset As...

If you select this option, you are presented with a window where you can enter information about the preset. In addition to naming it, you can enter the Author name and select a Type. You can even create your own Type, by entering custom names in the respective place. This information can be read by the preset browser and is useful for searching the preset later.

4.1.1.3. Import...

This command lets you import a preset file, which can be either a single preset or an entire bank of presets. Both types are stored in .tapx format.

After selecting this option the default path to these files will appear in the window, but you can navigate to whichever folder you are using to store presets.
4.1.1.4. Export Menu

You can export presets in two ways: as a single preset or as a bank.

- **Export Preset:** Exporting a single preset is handy when you want to share a preset with someone else. The default path to these files will appear in the ‘save’ window, but you can create a folder at another location. The saved preset can be reloaded with the Import menu option.

- **Export Bank:** This option can be used to export an entire bank of sounds from the effect, which is useful for backing up or sharing presets.

4.1.1.5. Resize Window options

The plug-in window can be resized from 60% to 200% of its original size. On a smaller screen such as a laptop, you might 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.

Window resizing can also be controlled via keyboard shortcuts. On Windows, press Ctrl +/- to zoom in and out. On Mac, press Cmd +/- to zoom in and out.

4.1.2. Preset Library

Presets can be selected in several different ways. First, there is the Preset Library button. Clicking this button will display all of the included factory presets, as well as any user presets you have saved. The currently selected preset will be highlighted.

- Click a preset in the menu to load it.
- To mark a preset as a ‘favorite’ click the heart icon next to it.
Along the top of the Preset Library are several sorting and filtering options. These allow you to change how the presets are organized in the browser menu.

- Click the first column to sort presets by Name or Featured. Featured are presets curated by the Arturia sound design team to showcase the different sonic capabilities of the effect.
- Click the second column to sort presets by Type or Designer.
- Click the heart icon to sort the preset list, such that it displays any presets you have marked as “favorite” at the top of the list.

The order of the Preset Library also affects the order of the Preset Quick Load menu. You can use the Library to filter for specific types of presets, then use the Preset Quick Load menu (or the left and right arrows) to quickly navigate among them without opening the Preset Library.

### 4.1.3. Preset Quick Load

In addition to the full Preset Library, you can use the Preset Quick Load menu to quickly access presets. Any filtering and sorting options applied in the Preset Library will also be reflected in the Quick Load menu. For example, if you have enabled ‘favorite’ sorting in the Preset Library, any presets marked as favorite will appear at the top of the Quick Load list.

The Preset Quick Load menu also includes the option to delete the currently selected preset. Click **Delete Current**, located at the bottom of the list, to remove the preset from the Library.

### 4.1.4. Preset Navigation (Previous/Next)

Lastly, you can also navigate through presets using the left and right arrows directly to the right of the Preset Quick Load menu. These arrows will navigate to the next or previous preset in the list. Again, the order of presets will be determined by any filtering and sorting options applied in the Preset Library.
4.1.5. View Advanced Control Panel

Clicking the two arrows pointing down, located on the right of the upper toolbar, will expand the plug-in window to show the advanced effect controls. These controls are covered in detail in Advanced Control Panel [p.15] section of this manual.

4.2. The Lower Toolbar

On the bottom of the GUI, the Lower Toolbar contains the following:

**Panic** button will stop all audio from Tape-201. For example, this can be useful to stop any sustaining feedback when using high Intensity settings.

**Bypass** switch enables and disabled Tape-201.

**CPU Meter** displays how much of your computer’s CPU is being used by the plug-in.
5. CONTROLS

This section covers the effect controls. Whether or not you’ve used the original hardware, you will find the controls intuitive and easy to grasp.

The controls are located in six main sections. Three of these sections are located in the Main Control Panel which is always visible.

![Main Control Panel](image)

*The Main Control Panel contains the most important effect controls.*

The other three sections can be found in the Advanced Panel, which can be accessed by clicking the double arrows pointing down in the upper right corner of the interface.

![Advanced Control Panel](image)

*The Advanced Control Panel contains additional effect controls.*

For greater resolution when editing controls with the mouse, use Ctrl+Drag (Windows) or Cmd+Drag (Mac). Alternatively, you can use RightClick+Drag. Double-click a control to reset it to its default setting.

Next, we’ll go over each section in detail.
5.1. Main Control Panel

The following controls are available in the Main Control Panel.

5.1.1. Input and Delay Type

![Main Control Panel Diagram]

**Input Volume** adjusts the volume of the input signal. This determines how ‘hot’ the signal is recorded onto the tape.

**VU** meter can be used to monitor the level of the adjusted input signal.

**Peak Level** led indicator will light red when the input signal begins to clip.

**Delay Type** is a new feature that was not present in the original hardware. This 3-position switch controls how the input signal will be processed.

- In L/R mode, each channel is sent to an independent delay (echo) path.
- In Ping Pong mode, the processed echoes will alternate between left and right channel.
- In M/S mode, the input signal is split into its mid (mono) and side (stereo) components, and each is processed independently by the delay. When this mode is selected, the Left repeat rate controls the mid (mono) aspect of the sound and the Right repeat rate controls the side (stereo) aspect of the sound.

```
Delay Type switch is only available when using the Stereo configuration of the plug-in.
```
5.1.2. Mode Selector

The Mode Selector knob specifies different combinations of the 3 playback heads and reverb that will be used. There are 12 different settings. Settings 1-4 are tape echo only; settings 5-11 are a combination of tape echo and reverb, and setting 0 is reverb only. The Active Heads LEDs below the knob indicate which playback heads are active for the current setting.

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Arturia - User Manual Delay Tape-201 - CONTROLS
5.1.3. Echo and reverb controls

**Repeat Rate** varies the tape speed, thereby changing the interval between the echoes. Repeat rate for each channel can be set independently, or linked together.

When using the Mono configuration of the plug-in, only one Repeat Rate control will be available.

**Link** button turns linking on and off. When linked, changing the repeat rate with the Left rate knob will also set Right rate to the same value and vice versa.

Link button is only available when using the Stereo configuration of the plug-in.

**Sync** button locks the repeat rates to your host’s tempo for tempo-synced delays. When sync is tuned on, the delay rate controls will display values in beat intervals.

**Stereo Offset** lets you introduce small timing differences between the left and right channel delays to create more spatial separation. In center position there will be no offset applied. Moving the knob to the left of center will introduce a gradual delay to the left channel and vice versa. Note that the Stereo Width knob needs to be set to a positive value (above center position) to hear the stereo widening effect.

Stereo Offset is only available when using the Stereo configuration of the plug-in.

**Stereo Width** controls the stereo width of the processed left and right channel echoes. At minimum position, there will be no stereo separation between left and right echoes. At center position, the stereo separation will be the same as in the original input signal. To the right of center the knob will act as a stereo widener, accentuating the side (stereo) aspect of the sound. Note that stereo widening can only occur if there is a side (stereo) component in the input signal. If the input signal is mono, then no stereo widening will occur.
Intensity controls the amount of echo signal that will be fed back into the echo chamber. At high settings, the echoes will continue being layered on top of each other and will eventually begin to self-oscillate, creating saturated feedback and textures.

To stop any sustaining feedback, click the Panic button located on the Lower Toolbar.

Reverb Amount controls the volume of the processed Reverb signal.

Echo Amount controls the volume of the processed Echo signal.

Dry/Wet determines the ratio of processed (wet) to unprocessed (dry) sound output from the plug-in. When turned all the way down you will only hear the original dry sound. When turned all the way up, you will only hear the wet sound.

When using the plug-in as a send effect, you will typically want to turn this knob all the way up, so that the plug-in is only outputting the processed delay sound and not introducing additional amplification to the original signal.

Treble attenuates or accentuates the high (treble) frequencies of the processed echoes. At middle position, there will be no change. Note that this only applies to the echo signal and has no effect on the reverb signal.

Bass attenuates or accentuates the low (bass) frequencies of the processed echoes. At middle position, there will be no change. Note that this only applies to the echo signal and has no effect on the reverb signal.

5.2. Advanced Control Panel

The following controls are accessible while the Advanced Control Panel is visible. To expand the Advanced Control Panel, click the double-arrows pointing down, located in the upper right corner of the plug-in window.

5.2.1. Input Equalizer

The Input Equalizer is a new feature that was not available on the original hardware. This lets you shape the sound before it enters the echo chamber and spring reverb tank, allowing you to accentuate or limit which frequencies of the sound are processed by the echo and reverb. The Input Equalizer features three filters - high-pass, low-pass, and peak.
The Input Equalizer can be accessed in the Advanced Panel. To view the Advanced Panel, click the double arrows pointing down, located in the upper right corner of the interface.

**On/Off** switch enables and disables the input equalizer.

**HP Freq** controls the cutoff frequency of the high-pass filter. All frequencies below the cutoff frequency will be eliminated from the input. This can be used to remove unwanted bass from the input, resulting in a brighter sound going into the echo and reverb. The range is 20Hz to 1.2kHz. At minimum position, the high-pass filter is disabled and will have no effect on the sound.

**Peak Freq** controls the cutoff frequency of the peak filter. The peak filter can be used to either boost or cut frequencies around the peak band.

**Q** determines the width of the peak filter band. At higher values, the boost or cut will be very narrow and only affect frequencies close to the Peak Freq. At lower values, the boost or cut will be very wide and affect a broader set of frequencies.

**Gain** determines whether the peak filter will boost or cut frequencies at the Peak Freq. In the middle position, there will be no change to the gain of the peak band.

**LP Freq** controls the cutoff frequency of the low-pass filter. All frequencies above the cutoff frequency will be eliminated from the input. This can be used to remove high frequencies from the input, resulting in a warmer, more muted sound going into the echo and reverb. The range is 3kHz to 20kHz. At maximum position, the low-pass filter is disabled and will have no effect on the sound.

### 5.2.2. Motor Controls

The Motor Controls can be accessed in the Advanced Panel. To view the Advanced Panel, click the double arrows pointing down, located in the upper right corner of the interface.

These three controls specify how the motor and tape behave.

**Flutter** sets the amount of playback speed variation due to motor rotation speed not being perfectly constant. This will add slight modulation to the pitch of the echoes. The rate of the Flutter effect is determined by the Repeat Rate.

**Motor Inertia** specifies the torque of the motor, which determines how quickly the playback speed will change when the Rate control is adjusted. If set to minimum value, the playback speed changes almost instantly when adjusting the Rate. If set to maximum value, the playback speed changes gradually until it reaches the new Rate.

**Noise** blends in a variable amount of background noise generated by the machine for a grittier, lo-fi sound.
The LFO settings can be accessed in the Advanced Panel. To view the Advanced Panel, click the double arrows pointing down, located in the upper right corner of the interface.

LFO stands for Low Frequency Oscillator. This is another new feature that was not present in the original hardware, but is now offered in Tape-201. Unlike a typical synthesizer oscillator, an LFO does not produce any sound, but is used to modulate other software parameters to create a sense of movement and evolution to the effect.

LFOs can be used in extreme ways, like the dubstep wobble where a tempo-synchronized LFO is often used to control a filter cutoff, but can also be used in more subtle ways to add gentle modulation and movement.

**Shape** changes the shape of the LFO, which determines how the target parameter will be modulated. There are 6 available shapes - Sine, Saw, Ramp, Triangle, Square, and Sample & Hold. While the first 5 shapes offer a predictable modulation curve, the Sample & Hold option can be thought of as a random generator. Each time the LFO cycle completes, as specified by the LFO Rate knob, a new random value is generated. This is very useful when you want to add non-repetitive modulation to the target parameter.

**Rate** determines the speed at which the modulation LFO shape is "scanned". Low values result in slower modulation, while high values will result in faster modulation of the target parameter. Rate can be synced to your host's tempo by enabling the Sync switch.

**Sync** synchronizes the LFO Rate to your host's tempo. This can be useful if you want to create beat-synchronized effects modulations. While sync is on, the Rate control will display values in beat intervals. While sync is off, Rate will display values in milliseconds.

**Amount** determines the amount of modulation that will be applied to the target effect parameter. With low values, the target parameter will be modulated only slightly around its current setting, while high values will result in a larger modulation.
**Destination** menu selects the effect parameter that will be modulated by the LFO. Most effect parameters can be modulated.

Example of Saw shape modulating a target effect parameter. LFO amount determines the amplitude of the oscillation around the current setting, while Rate determines the speed of the modulation.

LFO modulation is bipolar, so the target effect parameter will be modulated in a positive and negative direction from its current setting.

### 5.3. Some Final Words

This concludes the user manual. We hope you’ll enjoy your new plug-in and the results you get when using it, as much as we enjoyed making it.
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