ANTARES

Antares Tube

Analog Tube Modeling Plug-in

Owner's Manual

The Obligatory Legal Mumbo-Jumbo

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Whew! Now that that's over, let's get on to the good stuff.

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Welcome!

On behalf of everyone at Antares Audio Technologies, we'd like to offer both our thanks and congratulations on your decision to purchase Antares Tube, the best sounding, most easy to use analog tube modeling software available. Before you proceed any farther, we'd like to strongly encourage you to register and authorize your copy of Tube. (You can skip ahead to the Authorization and Installation instructions on page 02. We'll wait.) Also, if you're planning on discarding that lovely Tube box, it's probably a good idea to write down the serial number that appears on the bottom of the box for future reference. (The inside cover of this manual would be a good place.)

As a Tube owner, you are entitled to receive notification of any software upgrades, technical support, and advance announcements of upcoming products. But we can't send you stuff unless we know who and where you are. So please, register.

At Antares, we are committed to excellence in quality, customer service, and technological innovation. With your purchase of Tube, you have created a relationship with Antares which we hope will be long and gratifying. Let us know what you think. You can count on us to listen.

Again, thanks.

The Whole Antares Crew

Chapter 1: Getting Started

HOW TO USE THIS MANUAL

Let's face it. With the exception of figuring out what "OmniTube" means, pretty much everything else about Tube should be self-evident from just looking at it. So check out this chapter for installation and authorization instructions, read the OmniTube section on page 11, and then start playing with Tube. If you still have questions, come back and read Chapter 2 and the rest of Chapter 3. Chapter 4 includes some suggestions for using Tube in ways that might not be immediately obvious.

After that, it would probably be useful to keep this manual near your computer. After all, you don't want to get unsightly coffee cup or beer can* rings on your nice studio furniture.

THE CONTENTS OF THIS MANUAL

Chapter 1: Getting Started

The chapter you are reading. Includes instructions on installing, registering and authorizing your copy of Tube.

Chapter 2: Introducing Tube

This chapter provides a brief overview of what makes real tubes act like they do and why you might want your tracks to sound like they were recorded through one.

Chapter 3: Tube Controls

This chapter describes the functions of the controls used in the Tube interface (all six of them).

Chapter 4: Tube Tips

Some cool, but not-so-obvious stuff you can do with Tube, along with some tips for getting the most out of it.

* Tube users over the legal drinking age in their respective locations only.

INSTALLING TUBE

Any special instructions for installing Tube for your specific plug-in format are located in the Tube Read Me file that accompanies the plug-in. That file may also contain any last-minute Tube information that didn't make it into this manual.

Tube is designed to work as an insert effect with a wide variety of digital audio applications. Please refer to your host application's user manual for more information on installing and using plug-ins.

Keep in mind that Tube has been designed to be extremely DSP efficient. Even a relatively modest native system should be capable of supporting dozens of instances of Tube. (In our informal tests, a Macintosh Powerbook G4 400MHz provided well over 40 instances of Tube.)

AUTHORIZING TUBE

Authorization (the process by which this software is allowed to run on your computer) is accomplished by a technique called "Challenge/Response." Basically, the first time you launch this software you will be presented with a string of words (the Challenge) and will be asked to enter another string of words (the Response).

> *NOTE: When initially installed, this software will run for ten days without authorization.*

So even if you can't authorize it right away you can still use your software in the meantime. (During this period, click the "Try It" button whenever you are presented with the Trial Period screen at launch.) But don't procrastinate too long. After those ten days are up, you will no longer be able to launch Tube until the correct Response is entered.

CHALLENGE/RESPONSE AUTHORIZATION

You can obtain a Response via the Antares web site, email, or fax. Web authorization, an automated process, is available 24 hours a day. Email and fax authorization involve the participation of actual live people and, depending on when you send your challenge, may take from one to three days to provide a response.

For web authorization, follow these directions:

• Launch Tube. To access Challenge/Response authorization, press "Next" at the Trial Period screen to access the Challenge screen.

   The Challenge screen displays the Challenge string. To receive the appropriate Response you will need to provide us with both the Challenge string and the registration code that was included on the yellow card in your software package (if you bought a retail package) or supplied with your download.

- To obtain your Response, have your registration code and Challenge string at hand. (If you will be accessing the web from the same computer that will be running your software, you can press "Copy Challenge" at the Challenge screen and then simply paste the Challenge into the appropriate field on the web page below.)

- Point your web browser to:

  https://transactions.antarestech.com/

  and simply follow the directions. (Be extremely careful to enter the registration code and Challenge string accurately.)

If, for some reason, you do not have access to the web but do have email, copy and paste your Challenge string and registration code into an email along with your name and the product name (e.g., Tube for MAS), and send it to:

register@antarestech.com

You will receive your Response string by return email.

If you do not have access to the web or email, fax your Challenge string along with your registration code to us at (831) 461-7801. Be sure to include your fax number. We will fax the Response string back to you at that number.

NOTE: You may optimize (defragment) the hard disk containing the Challenge/Response authorization, or even reinstall your system, without losing the authorization. However, if you reformat the hard drive or if it fails, contact Antares for the re-authorization procedure (you are a registered user, right?).

TECHNICAL SUPPORT

In the unlikely event that you experience a problem using Tube, try the following:

1. Make another quick scan through this manual. Who knows? You may have stumbled onto some feature that you didn't notice the first time through.

2. Check our web page for tips, techniques, or any late-breaking information:

   http://www.antarestech.com

3. Call your local Antares dealer.

4. Email our tech support department by pointing your web browser to:

   http://www.antarestech.com/support/etech.shtml

   and filling in the form there.

5. Call us at (831) 461-7814 Monday through Friday between 9am and 5pm USA Pacific Standard Time.

For options 3, 4, or 5, please be prepared to provide the Registration Code of your copy of Tube.

Chapter 2: Introducing Tube

SOME BACKGROUND

When Antares introduced the ground-breaking Microphone Modeler plug-in in 1999, we included a function designed to model the distortion that is typical of a high-quality tube pre-amp. Mic Modeler was an immediate success and went on to win *Mix Magazine*'s prestigious TEC Award for Software Signal Processing. Along the way, virtually every reviewer commented on how great the tube model sounded. We've even heard from users who didn't feel they needed microphone modeling, but bought Mic Modeler just to have the tube function.

In the intervening years we've had a lot of requests for a plug-in that would offer the great sound of the Mic Mod tube model in an affordable, easy to use plug-in.

Well, here it is.

SO WHAT EXACTLY IS TUBE?

Tube is a multiformat plug-in that accurately models the sonic effects of recording audio through a high quality analog tube preamplifier. It offers the choice of two different tube models as well as a unique OmniTube function that allows the application of the tube effect to the entire signal (as opposed to only the transients, as is typically the case with a tube preamp).

Tube's extended parameter ranges have been designed to allow the creation of a wide variety of sonic effects beyond the classic subtle tube "warmth."

Additionally, Tube has been designed to be extremely DSP efficient, so that even a relatively modest native system will be capable of running Tube on many tracks simultaneously.

WHAT'S THE BIG DEAL WITH TUBES ANYWAY?

For most of us in audio recording, distortion is a bad word. We typically want the cleanest possible recordings, free of any audible distortion. But for certain types of audio there is an exception: the distortion that comes from transient clipping in a high quality tube preamplifier.

When high quality tube pre-amps are operated in their linear range, there is virtually no signal distortion and their audio qualities are essentially identical to that of high quality solid state pre-amps. However, it is common for transients to exceed the preamp's linear voltage range, resulting in distortion. And here's where things get interesting. The distortion characteristics of a vacuum tube pre-amp are vastly different than those of solid state amplifiers. Specifically, the overtones produced by tube distortion are generally harmonically related to the fundamental input pitch, whereas solid state overdrive distortion generally produces non-harmonic overtones. This tube distortion is often described as adding a certain "warmth" to a sound. This is in contrast to what is often described as the "brittleness" of the solid state sound.

As a result, many people pay large sums of money for tube preamps designed to provide this desirable but elusive quality. It was the best sonic qualities of a number of these preamps that served as the sources for Tube's digital models.

Chapter 3: Tube Controls

This chapter is a reference for all of the controls used in the Tube interface.

INPUT AND OUTPUT PLUGS

Tube can be instantiated in either stereo or mono versions. The I/O plugs provide a graphical indication of the type of instantiation. I.e., a mono version of Tube will have one Input plug and one Output plug. A stereo version will have Left and Right Input plugs and Left and Right Output plugs.

TUBE SELECTOR

Tube includes two different tube models. The heavenly blue tube models the subtle effects of a classic high-quality tube preamp. Use this model to add warmth to vocals, acoustic guitar, horns, strings, synth pads, in fact pretty much anything.

The fiery orange tube models the deep, warm distortion of an overdriven tube amplifier. Use it in moderation to impart a subtle (or not-so-subtle) effect to almost any track. Or crank it up on electric guitar, bass, synths, even voice.

To select the blue tube, click on the button next to the halo icon. The button will glow blue and the selected tube will rotate into position.

To select the orange tube, click on the button next to the pitchfork icon. The button will glow red and the selected tube will rotate into position.

INPUT LEVEL

This control applies gain to the input signal before it's passed to the tube model. It is typically used to ensure that the level of the input is high enough to exceed the clipping level in the tube model. As a starting point, adjust the gain such that the input level meter needle spends most of its time in the top two red meter segments without lighting the Clip indicator. (The top of the level meter's range is 0dB. Each segment represents a 6dB difference.) Further adjustments can be made in combination with the Drive setting (see below).

To adjust gain, click anywhere around the circumference of the knob and "rotate" the knob in the desired direction. The numeric display will indicate in dBs the exact amount of gain applied.

You may also click in the numeric display, type in the desired value, and then hit Return or Enter. If you start to enter a value and then change your mind before hitting Return or Enter, you can click anywhere outside the numeric display to return to the original value.

Option (Mac)/Alt (PC) clicking the knob will reset the value to 0dB.

NOTE: Since the Drive control is capable of a maximum of 12dB of gain, the input signal transients must be at least above -12dB to produce any tube effect. If the input meter needle never enters the red segments of the meter, no tube effect will be audible with even maximum Drive.

ANOTHER NOTE: Unless you are going for some special effect, you do not want to have clipping at the input stage. This is not the "good" clipping that happens in the tube model. Input clipping is that nasty digital kind.

DRIVE AMOUNT

The amount of tube saturation effect applied to your audio is controlled by the Drive control in combination with the Input Gain control described above.

The Drive control determines the amplification factor of the modeled tube pre-amp with the numeric display indicating the amplification in dB. At 0 dB , no distortion occurs, even for full amplitude (+1 or -1) signal levels. These levels represent the "rails" of the amplifier. As the Drive is increased, the amplification is increased. Any regions of the signal that increase beyond the rails generate saturation distortion.

Because the maximum Drive amount is +12 dB, generating the tube effect requires the original signal to be at a level greater than -12 dB. If this is not the case, you should adjust the Input Gain control to increase the level of the sound. (Be certain that Input Gain is not increased so much as to cause the Clip indicator to light.) It may be necessary to go back and forth between Drive and Input Gain a few times to get exactly the effect you want.

NOTE: If your audio was recorded at an exceptionally low level, it may be that even maximum Input Gain and maximum Drive will still not result in a level high enough to generate distortion. In that case, either re-record your audio at a higher level (if possible) or use your wave- form editing program to digitally increase the level (keeping in mind that this may negatively affect the signal quality).

To adjust the Drive amount:

- Click on the triangular handle and move it left or right to the desired setting

- Click anywhere on the silver Drive scale and the handle will snap to that position.

- Click in the numeric display and type in the desired value, and then hit Return or Enter.

Option (Mac)/Alt (PC) clicking anywhere in the scale will reset the Drive value to 0dB

OMNITUBE

Without OmniTube engaged, Tube functions exactly like a tube preamp, i.e., the regions of the input signal that exceed the clipping level (typically transients) are affected and all other regions are passed with no change.

With OmniTube on, all regions of the input signal are subject to tube distortion. To accomplish this, when you engage OmniTube a compressor is inserted into the signal path after the Input Gain control and before the tube model. The compressor is set to compress the signal and then apply sufficient makeup gain to ensure that the Drive control can drive the entire signal above the clipping level. After the tube effect is applied to the entire signal, an inverse gain function restores the signal's original dynamics.

The effect of OmniTube is highly dependent on the character of the input signal, which tube is selected, and the setting of the Drive control. Experimentation is the order of the day.

To toggle OmniTube on or off, simply click on the OmniTube switch. The position of the switch will change to indicate its current state.

NOTE: Despite the fact that OmniTube employs a compressor, it is important to remember that the final output signal is not compressed and that the original dynamics are maintained. If you want to actually compress your signal, you'll need a separate compressor somewhere else in the signal chain.

OUTPUT ATTENUATION

This control applies attenuation to the signal after it's passed through the tube model. It is typically used to ensure that no clipping occurs as a result of the gain applied by the Drive control. As a starting point, set the attenuation to 0dB (i.e., no attenuation). If the Clip indicator lights, apply just enough attenuation to avoid the clipping and cause the output level meter needle to spend most of its time in the top two red meter segments. (The top of the level meter's range is 0dB. Each segment represents a 6dB difference.)

To adjust attenuation, click anywhere around the circumference of the knob and "rotate" the knob in the desired direction. The numeric display will indicate in dBs the exact amount of attenuation applied. You may also click in the numeric display, type in the desired value, and then hit Return or Enter. If you start to enter a value and then change your mind before hitting Return or Enter, you can click anywhere outside the numeric display to return to the original value.

Option (Mac)/Alt (PC) clicking the knob will reset the value to 0dB.

Chapter 4: Tube Tips

At its most basic level, Tube is designed to add an extremely accurate model of a tube preamp's sound to warm your digital tracks. But we have purposely designed Tube to have a range of controls that allow you to push well beyond that model. Here are a few other things to try:

- **Pass your entire final mix through Tube.** Instantiate a stereo version of Tube (or more if you are mixing for surround) on your mix bus. Start with a little blue tube with OmniTube off. Experiment with the Drive amount and/or adding OmniTube for a unique timbral effect. Or switch to the orange tube for a more dramatic effect. The result will depend a lot on the nature of your mix, but will rarely be less than "interesting."

- **Run a voice track through the orange tube** with OmniTube on and a high Drive level. Instant industrial vocal.

- Although we usually warn against input clipping, for extreme effects try purposely clipping the input (for digital distortion) and then passing the distorted signal through the tube model. This will usually sound pretty ugly, but in some cases it might be just the ugly you're looking for.

- **Experiment** and let your ears be your guide.

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