



Echo Farm 3.0

PILOT'S GUIDE ►

A guide to the features and functionality of the Line 6 Echo Farm plug-in

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Introduction

Line 6 Echo Farm™ 3.0 is a 64 bit plug-in available in AU, VST® and AAX formats, for macOS and Windows® DAW host applications. Echo Farm supports up to 192kHz sample rates, and mono & stereo channel formats.

Echo Farm mines the tonal heritage of the past fifty years of echo and delay design and makes all the sonic goodness of these classic devices available in a convenient plug-in form factor.



The Line 6 Echo Farm Plug-in

What's New in Echo Farm Version 3?

Echo Farm was originally conceived as a Pro Tools® TDM plug-in, meaning, it required additional DSP processing hardware to operate. Echo Farm v3.0.1 introduces compatibility for qualified AU, VST and AAX plug-in DAW host applications such as Cubase® 9 and Pro Tools® 11 software. It sports the exact same patch format, feature functionality and user interface as its version 2 predecessor, but operates “natively” on the host processor.

You still get the same great delay and effects models as previous versions of the Echo Farm plug-in, and, for Pro Tools users, your old sessions and presets will still sound and function as expected.

Echo Farm Features

Echo Farm features include:

- A collection of twelve classic echo units — all programmable and automatable
- Faithful sonic re-creations of tubes, tape, and vintage echo unit electronics
- As fun and easy to use as a classic stomp box, with control of tape wow & flutter, filter-swept modulation, bit resolution, and more
- Delay times can be set by knob, milliseconds, tempo sync, or bpm/note value — or just by a few clicks of your mouse on the Tap Tempo button
- Defeatable Time Ramp feature provides smooth, tape-style delay time changes, complete with “pitch schmearing”
- Can be used just like a guitar stomp box, along with the Line 6 Amp Farm® plug-in, or as a processor for all your other instruments and audio tracks

System Requirements and Compatibility

To use the Echo Farm software, you need the following:

- A 64-bit Digital Audio Workstation host application that supports AAX, AU or VST plug-in formats
- An iLok.com account for managing iLok licenses
- An optional iLok USB Smart Key (version 2 or 3)

Please visit www.line6.com for the latest compatibility information.

Technical Support

For support inquiries please visit <http://line6.com/support>.

About Line 6

Line 6 is the world leader in modeling technology for guitarists. In addition to being one of the world's largest guitar amp manufacturers, we make Variax® digital modeling electric guitars, critically-acclaimed Helix® and POD® guitar workstation hardware, the world's lowest latency digital wireless system, and more! Learn about it all at www.line6.com.

Installation

The installer for the Echo Farm plug-in can be downloaded from the Line 6 website's software downloads page (<https://line6.com/software/>). Download the installer and place it in a convenient location on your system.

Installing the Echo Farm Software



NOTE: Exit all DAW host and other multimedia applications before starting the Echo Farm software installation.

If using Pro Tools, make sure the Pro Tools application is already installed and has been launched at least once.

Mac:

- Download the Echo Farm plug-in installer for Mac and make sure the installer is uncompressed (.dmg).
- Locate and double-click the Echo Farm plug-in installer. Note that all plug-in formats are installed by default.
- Follow the on-screen instructions to complete the installation.

Windows:

- Download the installer for Windows and make sure the installer is uncompressed (.ZIP).
- Locate and double-click the Echo Farm plug-in installer. Note that all plug-in formats are installed by default.
- Follow the on-screen instructions to complete the installation.

Authorizing the Echo Farm Software

The Echo Farm plug-in is authorized using the iLok USB Smart Key (iLok), manufactured by PACE Anti-Piracy. An iLok can hold hundreds of licenses for all of your iLok-enabled software. Once a license for a given piece of software is placed on an iLok, you can use the iLok to authorize that software license on any computer.

Line 6 purchase:

Once you've purchased the Echo Farm plug-in license from the Line 6 Store (<http://shop.line6.com/>), click the "Deposit" button within the iLok Deposits area of your Line 6 account (<https://line6.com/account/licenses/ilok/>) to post an authorization license for the software to your iLok.com account.

Avid purchase:

Once you've purchased the Echo Farm plug-in license from the Avid Store or Avid Marketplace (<http://shop.avid.com/>), your software's iLok authorization is deposited to your iLok account during the purchase process.

To download the Echo Farm license to your iLok:

- If you don't already have an iLok account, visit <https://www.ilok.com/> to sign up for one.
- Log in to your iLok account at ilok.com.
- Follow the online instructions to transfer the license from your iLok account to your iLok USB Smart Key.



NOTE: You may also use the iLok *License Manager* software to transfer authorizations to your iLok Smart Key or to your computer system. Please visit ilok.com for more information about the iLok *License Manager*.

Removing the Echo Farm Software

If you need to remove the Echo Farm software from your system, follow the instructions below.

Mac:

Delete the Echo Farm files from the following directories:

- **AAX:** /Library/Application Support/Avid/Audio/Plug-Ins/Line 6
- **AU:** /Library/Audio/Plug-Ins/Components/
- **VST2:** /Library/Audio/Plug-Ins/VST/Line 6
- **VST3:** /Library/Audio/Plug-Ins/VST3/Line 6

Windows:

- Choose Start > Control Panel (or Settings on Windows 10).
- Click Programs and Features (or System, then Apps & Features on Windows 10).
- Select the Echo Farm plug-in from the list of installed applications
- Click Uninstall and follow the on-screen instructions to remove the Echo Farm plug-in (this uninstalls all plug-in formats).

Using Echo Farm

Now that you're all set for Echo Farming, we'll use the next few pages to go through the various Echo Farm controls and see what they do.

The Basics of Mouse Control

All the Echo Farm plug-in's knob controls are designed to be adjusted using a straight left-to-right or up-and-down mouse motion. Click on any knob and drag to the left or down to lower the parameter's value. Drag to the right or up to increase the value. For best results, avoid clicking and dragging a knob in a circular motion.

 **TIP:** For most knob controls, simply double-click directly on the knob itself to reset it to its default value.

The Echo Farm buttons are generally configured for single-click operation. Click on a button to change the parameter to its opposite state, and click again to change it back. The exception is the Note button; click and hold on the Note button for a pop-up selection and choose the desired note division value. Additional model-specific details follow on the next few pages.

Echo Farm Controls



Echo Farm plug-in window (Pro Tools)

1. **Echo Model Menu** - This is where you select the echo model you would like the plug-in to use.
2. **Echo Model Info Button (the question mark button)** - Click for additional details and to get a peek at the inspiration for the currently selected model.
3. **Delay Time Knob and Display** - Use to set the delay time, or simply click on the display and type in a numerical value (displayed in milliseconds).
4. **BPM Tempo Display** - In addition to the Delay Time controls, you can alternatively set the delay time by entering the tempo (Beats Per Minute) of your tune. Or, click the little lock icon to the left of the Tempo title to sync to the session timeline tempo. Never worry again about your delay repeats falling out of sync!

NOTE: The BPM Display becomes “grayed out” and inactive when you enter a delay time using the Delay Time knob. Type in a delay time value in the millisecond box or tap in the desired delay time with the Tap button. Use your DAW host's Plug-In Automation options if you need to set the Echo Farm plug-in to change tempos to follow your music while using this Delay Time mode.

5. **Note Value Buttons** - Here you can select a note value to set the delay time. Simply use the BPM Tempo display (or the Tap button) to enter the tempo of your song, then select a note division value from the Note button menu (click and hold on the Note button to pop-up this menu). The buttons to the right of the note value allow you to modify your selection to become a triplet or dotted value.
6. **Tap Button** - You can click on this button a few times to set your delay time. The BPM display will then be “grayed out” to let you know that your delay time no longer matches whatever BPM tempo you may have chosen.
7. **Time Ramp Button** - This button lets you choose what is heard when you make changes to the Echo Farm delay time. With a real-world tape echo, speed changes are made by moving a tape head position or varying the speed of a tape transport motor. As a result, time changes are smooth, with an audible “pitch-schmearing” effect (yes, this is a highly technical expression) which is part of a great tape delay’s magic. That’s the experience you’ll get with this button on. If you want to immediately switch from one delay time to another, without any audible pitch-schmearing effect, click this button off. This is a handy control to use with your DAW host application’s Automation functions, allowing you to mix and match time ramping and immediate time changes within your session.
8. **DAW Host Plug-in Controls** - These top panel options are provided by the host application for effects plug-ins, typically offering preset selection, bypass, automation options and more. Please refer to your DAW host application’s documentation for details.

9. **Model-Specific Knobs** - The controls that appear within this row for each particular echo model are designed to emulate the functionality of the similarly-labeled knobs, switches, and jacks on the original units we modeled. For each model, two model-specific parameters (typically the two left knobs) are mapped to the “Control 1” and “Control 2” items for use with the DAW host application's Plug-In Automation options. Within the on-screen display graphics, Control 1 is always the left “extra” function for that model, and Control 2 is the right one. For example, in the Maestro EP-3 model, the Bass and Treble knobs correspond to Control 1 and Control 2, respectively.

The following table summarizes the Control 1 & Control 2 assignments for all models:

Echo Farm Model-Specific Knob Assignments			
Model Name	Based On*	Control 1	Control 2
Maestro EP-1	Echoplex® EP-1	Wow & Flutter	Drive
Maestro EP-3	Echoplex® EP-3	Bass	Treble
Roland RE-101	Roland® RE-101	N/A	N/A
Sweep Echo	Line 6 Original	Sweep Speed	Sweep Depth
Boss DM-2	Boss® DM-2	Bass	Treble
Deluxe Memory Man	Electro-Harmonix® Deluxe Memory Man	Mod Speed	Mod Depth
Lo Res Delay	Line 6 Original	Tone	Bit Reduction
Digital Delay w/ Mod	Line 6 Original	Mod Speed	Mod Depth
Ping Pong	Line 6 Original	Offset	Stereo Spread
Reverse	Line 6 Original	Mod Speed	Mod Depth
Dynamic Delay	TC Electronic® 2290	Threshold	Ducking
Auto-Volume Echo	Line 6 Original	Wow & Flutter	Swell Time

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Model Descriptions – Which Units are Modeled?

To follow are descriptions of the actual effects devices we modeled for the sounds within the Echo Farm plug-in.

Maestro EP-1

Based on* the Maestro® Echoplex® EP-1 tube-driven tape echo.

The classic 1963 Maestro EP-1 was the first of a series of “Echoplex” designs distributed by the company, and made by Harris-Teller in Chicago. As touted in a Maestro advertisement, the Echoplex offers a “...special effects range all the way from a controlled high speed reverberation to a full, throbbing echo!” The main feature of the Echoplex design is a special cartridge of looped 1/4-inch tape that wraps past separate record and playback heads. The position of the playback head can be moved to adjust the delay time from 60 to 650 milliseconds. Echo Farm’s Tube Echo model emulates the classic Echoplex tone, with the extra advantage of up to 2.5 seconds of delay time – and no worn out tapes!

Maestro EP-3

Based on* the Maestro® Echoplex® EP-3 solid state tape echo.

After the tube-based EP-1 and EP-2, Maestro introduced the solid state Echoplex EP-3, with transistors replacing its vacuum tube audio circuitry. The EP-3 uses the same basic mechanical design as the original Echoplex, including the looped 1/4-inch tape, but does not have the tube distortion sound of the EP-1. The EP-3 contributed to many numerous recordings of the '70s – Eddie Van Halen and Jimmy Page were both avid EP-3 users. Unlike our Tube Echo model based on the EP-1, which gives you control of wow, flutter and distortion, our EP-3 emulation is designed to provide a less distorted tape emulation with adjustable Bass & Treble controls.

Sweep Echo

This model is a Line 6 original.

Starting with the basic tone of our EP-1 tape delay emulation, we added a sweeping filter effect to the delay repeats to give you unique, new creative possibilities for the texture of your delays. In technical terms, the Modulation Speed and Modulation Depth knobs adjust the speed and depth of a sine wave used to modulate the tone of the tape emulation. You can use these controls to create and explore your own shifting landscape of tonal possibilities. Grab a hold of your guitar (or other noise maker of choice), twiddle the Echo Farm knobs, and see where you end up.

Roland RE-101

Based on* the Roland® RE-101 Space Echo® tape echo.

Long before Boss pedals, the Space Echo was Roland's first venture into the world of effects processing. Instead of having one movable playback head (like the Echoplex) this machine has three stationary heads. You change delay times by switching amongst these heads, and then fine-tune delay time with a motor speed control. The groovy part is that you can play back on multiple heads at the same time to get multi-tap delay effects – all with the great tone that only a tape delay (or Line 6 emulation) can deliver.

Before high quality digital reverb units became a common studio fixture, the Space Echo featured multiple heads that were called into service for reverb-like effects. The Multi-Head model allows you to choose various combinations of heads via the multi-position Head Pattern dial which corresponds to the original head selection dial featured in the Space Echo. On the original Space Echo, this head selection control had six positions: each of the three heads soloed, plus three combinations of the heads labeled “Swell.” The Space Echo designers had to give access to the three individual heads in order to provide the various delay times. Your Echo Farm Multi-Head model is fortunately freed from these physical

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limitations, so we just give you a single, one-head selection as the first position on this control with which to access the full 2.5 second time range. The next three selections correspond to the three “Swell” settings in the Space Echo. Finally, having gotten ourselves all worked up about this multi-head tape echo thing, we decided to expand your options by including another seven selections which use various combinations of up to four modeled tape heads – which is one better, isn’t it? – Arranging them from less to more as you turn the dial toward its four-heads-at-once climax. So grab some audio, spin the dial, and get ready to explore the final frontier!

Boss DM-2

Based on* the Boss® DM-2 analog delay.

Analog echo units like the DM-2 were designed as improvements over the tape echoes that came before them, using “bucket brigade” electronics to create echo units that were more reliable than tape-based delays, with the added advantage of a low power circuit able to be run on batteries. Analog delays are still treasured today for their warm, distorted tones and are also great for creating more experimental sounds. Try this bit of sonic sculpture - set the Delay Time at 500ms and the Repeats knob to max and play in some guitar (or other audio) so that the delay circuit “overloads.” Now spin the Delay Time knob quickly to get something like the sound of a space-aged speeding race car imploding on itself. By using Automation, you can set up your DAW Session to record and play back this and other sonic deviations for you.

Deluxe Memory Man

Based on* the Electro-Harmonix® Deluxe Memory Man analog delay.

The Deluxe Memory Man utilized the period's “bucket brigade” electronics of other analog echoes and additionally included a chorus circuit. This adjustable chorus is applied to the echo repeats only, leaving the direct signal unaffected. This popular pedal, with its warm,

distorted tone and swimming echoes, became an important tool for many guitarists, and was an essential part of the guitar sounds for the first U2 album. Part of the “Deluxe” in the Deluxe Memory Man was the increased delay time of 500 milliseconds. This analog echo model emulates classic Memory Man tone with the added advantage of 2.5 seconds of delay time.

Lo Res Delay

This model is a Line 6 original.

The first digital delay units were introduced in the early '80s. These pedals and rack boxes took advantage of emerging digital technology to provide musicians and recording engineers with longer delay times. Unlike the 16 bit digital of CDs, and the even higher resolution provided by audio gear, these early digital units generally had only 8 bit resolution. Low bit resolution can create a unique sort of grunge and noise that is sometimes just the sound you’re looking for - and why these old delays are still used by some musicians to shape their sounds. Early model digital samplers are also valuable tools in the arsenals of many modern-day musicians for achieving these effects. Try this model on a low resolution setting to get that characteristic digital grunge. Spin the Bit Reduction knob to adjust your Echo Farm processing anywhere from its nominal 24 bit resolution down to as little as 6 bits. Your direct signal, of course, will not be affected. Tone control of the delay is also provided via the (you guessed it) Tone knob.

Digital Delay with Modulation

This model is a Line 6 original.

Choose this model to add a chorus effect to your digital delays. Like the chorus of the analog Deluxe Memory Man model, this modulation is applied to the delay repeats only, leaving your direct signal unaffected.

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Ping Pong

This model is a Line 6 original.

The Ping Pong model has two separate channels of delay, with the output of each channel (when the plug-in is utilized in stereo) flowing into the other, going back and forth like a game of ping pong. The Delay Time controls set the time for the main delay line, and the Offset knob sets the time for the right side delay line as a percentage of the main Delay Time. Sound too tricky? Just turn the Delay Time knob (or type in a delay time, or select a tempo and note value, or, heck, just click a few times on the Tap button) to adjust the longer delay time you hear, and turn Offset to adjust the shorter delay time. If you set Offset straight up at 12 o'clock, your left and right delays are evenly spaced.

Reverse

This model is a Line 6 original.

!setlaeB eht dna xirdneH imiJ ekil tsuJ... Take a step back in time with your cool new Reverse delay. Whatever you play in comes back at you backwards, delayed by the time you set with the Delay Time knob (1.25 seconds max). Sure, if you didn't have the Echo Farm Reverse model, you could play a whole track in, reverse it, and then listen to the playback, but that's not nearly as much fun. To use this little wonder most effectively, try playing a legato lick, ignoring the reverse playback as well as you can. Longer licks can translate into very cool reverse phrases. Also, when using Reverse, try setting Mix to its maximum, fully clockwise position (100% wetness) so all you hear is the reversed sound – welcome to the world of instant backwards guitar solo madness! Some nifty things to try: Set a very short delay time – this will give you a weird “resonant filter” effect. And, for you advanced sonic explorers: Start playback and sweep the delay time from short to long for the hippest time warp ever available on a digital audio workstation.

Dynamic Delay

Based on* the TC Electronic® 2290.

The TC Electronic 2290 Dynamic Digital Delay helped to make this breed of delay effect popular. It's a sort of “smart” volume control for your delay repeats which dynamically sets the loudness of the delay echoes based on how hard/loud you play your instrument. While you play (or sing, or bang trash can lids around), the Dynamic Delay keeps the volume of the echoes turned down, so that the echoes don't overwhelm what you're doing. Then, when you stop playing for a moment, the volume level of the repeats turns up to allow the echoes to be heard. Nifty, huh? The Threshold knob sets the breakpoint where this automatic volume control stops working and allows the echoes through at full volume. The Ducking knob adjusts the level of the “ducked” repeats – higher settings will duck the delay level down more. Try setting Threshold and Ducking to reasonably high values, and hear how the delay effect gets partially muted while you play/sing/drum/chant/scratch/push keys, helping to avoid that unwanted “muddy” sound.

Auto-Volume Delay

This model is a Line 6 original.

This model gives you two effects in one. The Auto Volume part of the equation is a volume fade-in swell, like the attack time on a synthesizer's envelope generator. This can be used for a bowing effect, like the one you get by turning the volume knob on a guitar quickly up from zero just after you pick a note. Higher settings for the Swell Time knob will give you a longer fade-in time, so that the sound slowly fades in, like a wave. The other effect is an echo set by the regular delay time and repeats controls, complete with tape-style wow & flutter modulation, adjustable via the model's Wow & Flutter knob.

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