INSTANT FLANGER
MK II

User Guide

Eventide®

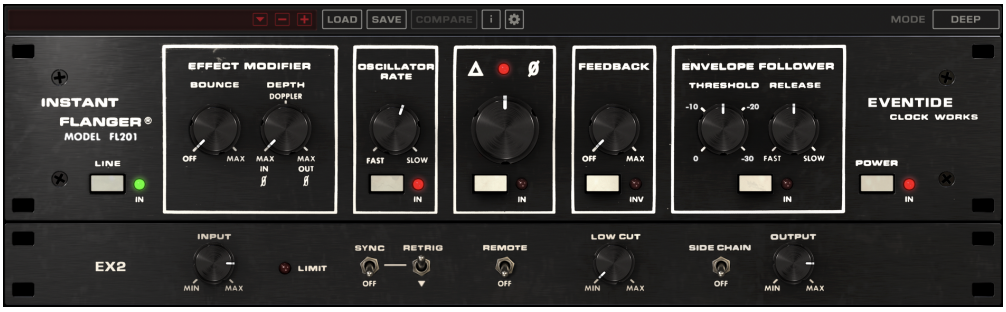
P/N: 141316, Rev 3

Eventide Inc.
One Alsan Way
Little Ferry, NJ 07643
201-641-1200
www.eventide.com

Contents

Welcome

PART 1



1.1 About This Product

Eventide is proud to introduce to you the Instant Flanger Mk II plug-in. This updated version of the Instant Flanger plug-in is a more faithful recreation of the original Eventide Clockworks Instant Flanger both in appearance and sound. The original Eventide Clockworks Instant Flanger was among the world's first commercially-available professional recording products. For over 40 years, innovative products like these have made Eventide an industry leader, and we are proud that they continue to be in demand today.

Thank you for your purchase, and before you forget, please take a few minutes to register online. This helps us keep you informed of any important software updates, and any special offers that may only be available to registered users.

Instant Flanger Mk II PART 2

2.1 The Instant Flanger

Originally released in 1976, the Eventide Clockworks Instant Flanger was designed to emulate true tape flanging. Its time-delay circuit, which used the now-ubiquitous "bucket brigade" chips, produced many more nulls than anything previously available, yielding a much deeper flanging effect. This made it desirable for many legendary recordings.

2.2 Flanging

Originally, flanging was produced by mixing the output of two tape recorders, with one running at a slower speed than the other. Since the head-to-head distance is fixed, the tape's transit time from the record head to the play head determines the delay time. We now consider flanging to be the effect of mixing a delayed signal with the original, regardless of the method used to create that delay.

Mixing the delayed signal with the original produces nulls in the output spectrum. Assume that a signal delayed by one millisecond (1 ms) is added to the original. Since 1 ms is the period of a 1 kHz signal, an input to the system of 1 kHz will add in-phase. On the other hand, a 500Hz input would have a 180° phase shift at a delay of 1 ms and thus would be completely cancelled out. Slightly less obvious is the fact that all signals at odd multiples of 500 Hz will undergo the same cancellation, since, for instance, the phase shift of 1,500 Hz is 360° + 180° at a 1 ms delay. Flanging thus produces many nulls that are harmonically related to one another. Longer delay times will produce more nulls than shorter delay times.

2.3 Not Just Another Flanger

The Eventide Clockworks Instant Flanger, and therefore the plug-in, has some features that make it unique when compared to other flangers. These will be described in detail below, with a full control description in the following section.

Depth Is Mix!

Many modulation-type effects provide mix controls. In fact, it is impossible to achieve most modulation effects without one. By definition, these effects are created by combining the dry input signal with some affected signal. This signal is usually processed by a phase-shift network, digital delay line, or analog bucket brigade delay.

The Instant Flanger has a mix knob too, but rather than being labeled Mix, it is called DEPTH. At 0% the output is only the delayed signal. At 100% the output is the equal mix of the input and the delayed signal. At −100% the *inverted* input signal is mixed equally with the delayed signal.

Why is it called DEPTH, you ask? As you add more of the dry signal to the delayed signal, nulls appear in the output spectrum. These nulls get deeper as the two signals approach equal amplitude. Hence you are controlling the *depth* of the nulls!

Stereorizer

The Eventide Clockworks Instant Flanger had two outputs: Main and Aux. Main is the output of two bucket brigade devices in series, while Aux is the output from a single bucket brigade device. This means the Main output's delay time is roughly twice that of the Aux output. Furthermore, the Main output is 180° out of phase with the input signal and the Aux output. If the two outputs are configured such that the Main out is sent to the left channel, and Aux out to the right, you will hear a stereo effect. This will sound like the signal is moving from the center to the right channel (at 100% depth) or to the left channel (at −100% depth). The output path used by the plug-in can be configured with the MODE setting.

Mod Sources

Unlike most flangers, which are solely controlled by an LFO, the Instant Flanger gives you access to 4 different modulation sources. They are:

- *Manual:* The big knob in the center, to control the flanging manually.
- *Oscillator:* The classic LFO-controlled flanging, with a variable rate.
- *Envelope Follower:* Lets the level of the input signal control the flanging, with adjustable threshold and release time. A switch allows a side chain input to control the envelope follower instead of the original input signal.
- *Remote:* On the original box, this was a 1/4-inch jack for any remote signal. In the plug-in, the flanging is controllable via MIDI.

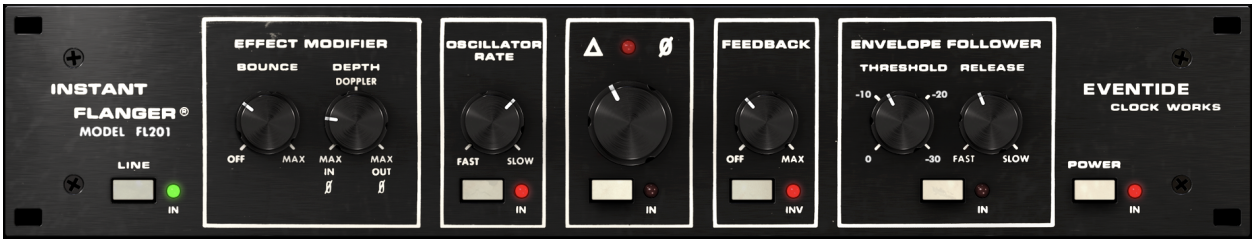
Besides selecting any of these flanging methods individually, the Instant Flanger also lets you *sum* any of these control inputs together. For example, the flanging could be controlled by both the Oscillator and the Envelope Follower at the same time.

2.4 Control Overview

Operating the plug-in is simple and intuitive: click and drag knobs up or down, and simply click switches and buttons. For a finer degree of control, press and hold the Command key (macOS) or Ctrl key (windows) before clicking and dragging a knob. The parameter value for the control is displayed over the knob and is updated in real time. To return a control to its default setting, Option-click (macOS), Alt-click (windows), or double-click it.

The controls are divided into three main sections: the Main Panel, the Expansion Panel, and the Preset Bar.

2.5 Main Panel



LINE Bypasses the plug-in. When engaged, the signal is passed through the plug-in; when off, the plug-in is bypassed.

BOUNCE Mimics the effect of the tape reel servo motors bouncing when you release them. At 0% there's no bounce, at 100% there is maximum bounce. The bounce occurs when the control signal changes direction. So when using the LFO, the bounce will occur at either end of the oscillator, when it transitions between ascending and descending.

DEPTH Controls the mix of wet and dry signals. At 0% the output is solely the delayed signal. At 100% the output is the sum of the delayed signal and the input. At −100% the output is the sum of the delayed signal and the *inverted* input.

OSCILLATOR RATE Controls the rate of the LFO between 0.01 Hz and 20 Hz when un-synced, and between 16 bars and 64th note when SYNC is activated.

MANUAL KNOB Provides manual control of the flanging. 0% corresponds to setting the bucket brigades to their longest delay times, while 100% sets them to their shortest.

FEEDBACK Controls the feedback of the flanger output. 0% sends none of the output back to the input to the bucket brigades, and 100% sends the maximum amount of output back to the input of the bucket brigades.

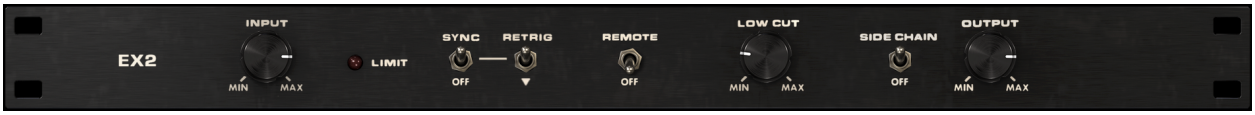
FEEDBACK INV. Located under the FEEDBACK knob, this switch inverts the signal that is fed back to the input.

Threshold Controls the threshold of the envelope follower, between −30 dB and 0 dB. An input signal will cause the biggest phase shift when it reaches the threshold level.

Release Sets the release time of the envelope follower. Release times can vary from 10 milliseconds to 10 seconds.

Mod Source Switches The Instant Flanger has no dedicated modulation source selector. Each mod source has its own switch located below its other controls, and any combination of these switches may be active at once. This will sum the active control signals together and scale them appropriately.

2.6 Expansion Panel



INPUT Sets the input gain of the plug-in, between −60 dB and +12 dB.

SYNC Synchronizes the LFO to the tempo of the current session, in metric subdivisions ranging from 16 bars to a 64th note.

RETRIG Re-triggers the LFO, making it jump to its starting value. Normally, the LFO runs independently. Re-triggering can be useful to ensure that the LFO's position is the same in every playback.

REMOTE Enables MIDI CC1 (Mod Wheel) to control the flanging.

LOW CUT Applies a high-pass filter to the input signal before it is delayed. The original signal is still mixed with the output of the delays, but the flanging effect only acts on high frequencies.

SIDE CHAIN Changes the envelope follower to be controlled by a side chain input instead of the main input, using an external track to control the flanging effect on your input track.

OUTPUT Sets the output gain between −60 dB and +12 dB.

2.7 Preset Bar

Located at the top of the Instant Flanger Mk II Plug-In, the Preset Bar lets you load and save presets, along with several other features.

When Instant Flanger Mk II is installed, a library of settings is placed into the **<user>/Music/Eventide/Instant Flanger Mk II/Presets** folder (Mac) or the **<user>/Documents/Eventide/Instant Flanger Mk II/Presets** folder (Windows). These presets have a **.tide** extension and can be saved or loaded from the Instant Flanger Mk II preset bar in any supported DAW.

In many DAWs there is an additional generic preset bar that saves DAW-specific presets to a separate location. We recommend saving your presets using the Eventide preset bar to ensure that your presets will be accessible from any DAW. You can also create sub-folders inside the preset folders, if you wish.

LOAD Loads your **.tide** format presets.

SAVE Saves your presets in **.tide** format.

COMPARE Click to toggle between two different settings for the plug-in. This is useful for making A/B comparisons.

INFO Click this button to open this manual.

SETTINGS Click this button to edit user interface settings for all instances of the plugin.

MODE

As mentioned in Section **2.3**, the Eventide Clockworks Instant Flanger had two unique outputs called Main and Aux. The Main output used two bucket brigade devices in series, while the Aux output only used a single Bucket Brigade. This means the delay times of the Main output are roughly double that of the Aux output. The MODE control gives you access to which of these outputs is used by the plug-in, and it can drastically change the sound.

For the stereo output versions of the plug-in, the options are Shallow, Deep, and Wide. For the mono output version of the plug-in, the options will only be Shallow and Deep. Shallow means that all plug-in outputs will correspond to the Aux output of the hardware unit. Deep means that all plug-in outputs will correspond to the Main output of the hardware unit.

Wide mode routes the Main output to the left channel and the Aux output to the right channel. Because of the different delay lengths and the fact that Main and Aux are out of phase with each other, Wide mode will sound like it is panning the signal to the left or right, depending on how the DEPTH knob is set.

Conclusion

PART 3

We hope you enjoy the Instant Flanger Mk II plug-in and put it to good use in all of your mixes. Please be sure to check over Eventide's other Native Plug-In offerings for more unique and interesting effects.