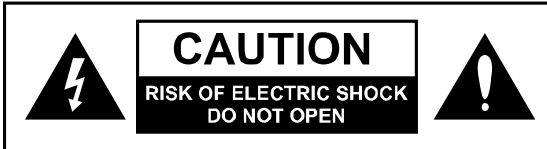


H9 Harmonizer User Guide



WARNINGS

- Use only with supplied power supply.
- Avoid spilling liquids onto/into the unit.
- Do not expose to excessive heat or moisture.
- Do not open – there are no user serviceable parts inside.

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Complete UG Part # 159035

Contents Part # 141221

Cover Part # 258249

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Introduction

Congratulations on choosing an Eventide stompbox. Our stompboxes put our rack mount effects in the hands of performing musicians. The H9 was conceived based on requests from users of our family of stompboxes: a smaller footprint on your pedal board, the ability to run all of Eventide’s effects, along with an advanced preset librarian, remote control and effects management system.

To meet these goals we’ve designed the H9 with a simplified User Interface (just one Knob) and we’ve created a rich control app, “H9 Control”, which seamlessly pairs the H9 either wirelessly via Bluetooth with your Apple iOS device or via USB with your computer.

A Few Words of Advice

Our stompboxes pack an unprecedented degree of processing and flexibility into a compact package. Our mission is to create products that give you the power to transform your sound and we recognize that the key to realizing this goal is to give you the flexibility to bend and twist this power in the service of your creativity.

We’ve worked hard to make the H9 easy to use. We’ve done our best to design an intuitive User Interface to manage and control it. We hope that you will take the time to master it. We know that you’re eager to get going and hope that you’ll read this User Guide. However, if you read nothing else, please read The Basics.

Key Features

- Large library of Eventide audio effects available
- Full complement of unique algorithms included in “Standard Edition”
- 99 Presets
- External Expression Pedal or Aux Switch for additional control
- Bright, easy-to-read 6 Character Alphanumeric LED Display
- Extensive MIDI functionality
- Programmable HOTKNOB
- Software upgrades via USB, MIDI, or Bluetooth
- H9 Control – Rich remote control and effects management utility app
- Additional algorithms available via in app-purchase
- Tap tempo
- True Bypass

H9 Control

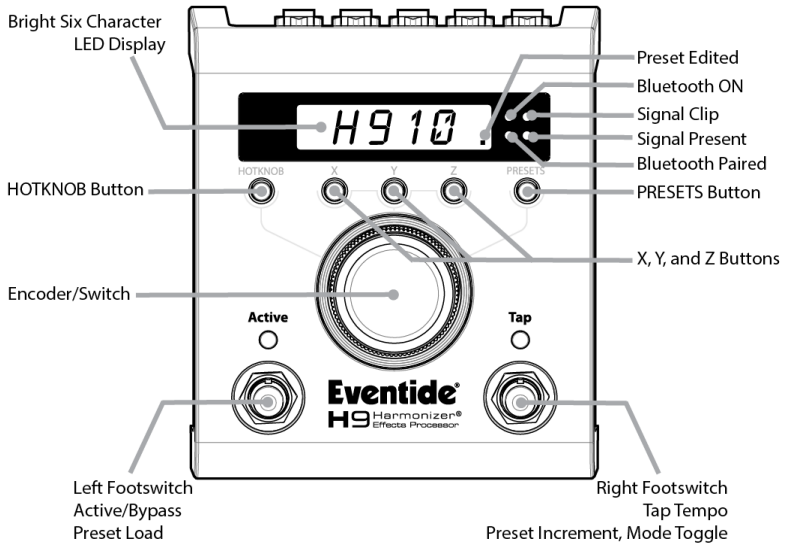
This User Guide describes the functionality of the H9. All of this functionality and more is accessible using H9 Control. To get the most out of the H9, we recommend downloading our H9 app, H9 Control, to your iPod, iPhone or iPad. H9 Control allows you to create and manage a virtually infinite number of Presets, control and configure every aspect of the H9 and audition and download additional Algorithms, Presets and Utilities. In addition, H9 Control offers a powerful librarian for managing your presets. H9 Control is documented within the app. A version of H9 Control for your Mac/PC and for Android devices is planned.

Website

www.eventide.com is where you'll find versions of this User Guide in other languages, the Algorithm Guide, Preset Guide, FAQs, information on accessories, and instructions for downloading software updates.

The Basics

There are a few basic concepts that you'll have to grasp to use the H9 successfully. If you read nothing else, please read this section.



Bluetooth

H9's Bluetooth function allows you to wirelessly control your H9 from an iOS device (Macs and PC's must be connected by USB). Of course, while Bluetooth connectivity is secure by design, if you're playing in front of an audience full of iPhone owners, you may want to completely disable Bluetooth. It's easily done. Just reach down and simultaneously press the X, Y, and Z buttons. Bluetooth turns off. Press the three keys again to turn Blue tooth back on.

You must first pair your H9 with an iOS device to use H9 Control, a feature-rich remote control app. On your iOS device go to the Bluetooth menu in Settings and turn Bluetooth on and enable "Discovery". Your H9's name, H9-xxxx, should be listed (xxxx=last 4 digits of your H9's serial number). The 4 digit PIN for

Bluetooth pairing is the same as the last four digits of your H9's serial number. When paired (see System Mode/Blue later in this User Guide), the Bluetooth Paired LED will light. The Bluetooth ON LED flashes to indicate active communications between your H9 and iOS device.

TIP: You can change your H9's Bluetooth Name & PIN. See System Mode.

The Algorithms

The H9 offers a wide range of effects and can hold 99 Presets based on these effects. Each of these effects is based on a unique algorithm. An algorithm is the underlying signal processing structure of the effect – the signal processing software that creates the effect and determines the ways in which the effect can be controlled (the algorithm's "parameters"). Each algorithm has a unique set of parameters which are varied by pressing the X, Y, or Z buttons and turning the H9's Knob. Presets are created by setting these parameters in a unique way. Simply put, Presets are based on algorithms and the algorithms are the "secret sauce." Refer to the Algorithm User Guide for detailed descriptions of the algorithms and their parameters. Additional algorithms are available as in app purchases. When you purchase an algorithm, the presets built on that algorithm are included for free.

The Presets

The H9 Standard Edition ships with 99 factory-created Presets based on Eventide's unique Algorithms (additional Algorithms and Presets are available via in app purchase). Whenever a Preset is loaded, the name of the Algorithm on which the Preset is based is displayed momentarily. You can modify the sound of a Preset by pushing the X, Y, Z, or HOTKNOB buttons and turning the Knob (or by using an Expression Pedal or MIDI) and, if you wish, you can save the resulting effect as a new Preset. Instructions on saving Presets are found later in this User Guide. Refer to the Preset Guide for details on the factory-installed Presets.

The Knob, the LightRing & the Buttons

The H9 has one big Knob (Encoder) encircled by a LightRing and five 'radio' buttons (HOTKNOB, X, Y, Z and Preset). The LightRing is used to indicate parameter settings and values.

The Knob is used to:

- 1) Select and load Presets
- 2) Adjust Preset parameter values
- 3) Act as an on-board Expression Pedal
- 4) Dial-in tempo
- 5) Name Presets

- 6) Control and adjust various system settings
- 7) Toggle the action of the Right Footswitch between stepping up/down through the Presets

The buttons are used to select the action of the Knob. When a button is pressed, its LED is lit, the display indicates the parameter or preset name, and the Knob is active.

X, Y, Z buttons

Preset parameters are adjusted by pressing the X, Y, or Z button and then turning the Knob. All three parameter buttons behave in the same way. Why three parameter buttons? In order to get the most out of H9's effects in a live situation, we believe that it's important to give you 'top level' control of the parameters that you'll want to adjust on-the-fly.

When you press an X, Y, or Z button, its LED lights and the parameter name is displayed. Turn the Knob to change the parameter's value. The LightRing indicates the Parameter's value (all LEDs OFF indicates minimum, all ON maximum). Press the Knob to display the parameter's current value.

Each of the X, Y, Z buttons can function in one of two ways. In "NORMAL" mode, a single parameter is assigned to each button. These assignments are set by the Preset and were judged to be 'most important' by the Preset creator. All of our algorithms however have more than three parameters.

To access additional parameters, press and hold one of the buttons. "EXPERT" will display. Repeatedly pressing the button will step through all of the parameters for the current Preset. In "EXPERT" mode, the parameter's value is displayed. Turn the Knob to change the Parameter value.

TIP: Some parameters (e.g. Delay time) have a wide range and you may want to 'fine tune' their value. Press the Knob and it becomes a fine tune adjustment dial. When fine-tuning, the LightRing LEDs are unlit. Press again to return to 'coarse' adjustment.

To display the Parameter value without changing it, simply press the Knob.

To return to "NORMAL" mode, press and hold the currently lit button.

The X, Y, and Z buttons behave independently so any or all can be in EXPERT or NORMAL mode. For example, you may want the X button to always control MIX, while using the Y and Z to each have access to multiple parameters.

HOTKNOB button

HOTKNOB is a custom top-level parameter patch that allows the Knob to control any combination of the parameters simultaneously. When the HOTKNOB button is pressed the Knob becomes, in effect, an on-board Expression Pedal. The HOTKNOB (and Expression Pedal) are used by all of the factory-supplied Presets. Programming the HOTKNOB is described later in this User Guide.

PRESETS Button

To select and load a Preset press the PRESETS button and turn the Knob stopping when the desired Preset Name appears. Presets automatically load when using the Knob. When a Preset is loaded the full Preset Name will scroll once across the display. Pressing and holding the PRESETS button, enables the Save Preset Mode. Saving presets is described later in this User Guide.

TIP: Pressing the PRESETS button when it is already lit will show the name of the current Algorithm.

The Footswitches

The Footswitches have several functions:

- 1) Active/Bypass
- 2) Select/Cueing Presets
- 3) Tap Tempo
- 4) Enable Tuner
- 5) Setting Levels (See Setting Levels for details)

The Left Footswitch is used to bypass/enable the effect or to load a cued preset: To bypass the currently loaded Preset, press the Left Footswitch. The LED will turn OFF and the display will briefly show [BYPASS] and then display the Preset Number and Name. Pressing the Left Footswitch again enables the Preset. The display briefly shows [ACTIVE] to indicate that the Preset is enabled.

To load a cued preset press the Left Footswitch when the preset number is flashing. The new Algorithm will be briefly displayed.

The Right Footswitch is used to step up or down through the Presets or to tap tempo. Press and hold the Right Footswitch to toggle between these two functions. The Tap LED indicates the current function – Preset cueing: Tap LED OFF, Tap: Tap LED ON.

Using the Right Footswitch to Cue Presets

With the Tap LED OFF, press the Right Footswitch to step up (increment) or step down (decrement) through the Presets. The direction is changed by pressing the Knob. The display will show the Preset Number and the first 4 characters of the Preset Name [##.XXXX]. When a Preset is cued the Preset number flashes. Pressing the Left Footswitch loads the cued Preset and makes it Active.

TIP: When the tap LED is off, pressing the encoder will make the Footswitch decrement instead. Pressing it again will go back to increment.

TIP: You can cancel a pending cue by pressing any of the radio buttons or by pressing and holding the encoder.

You can also load Presets by turning the Knob to the preset number of your choice. First, press the Right Footswitch to display the current Preset number and name and then turn the Knob. When you stop turning the Knob, the preset will

load automatically (no need to press the Left Footswitch to load when using the Knob with the Preset button lit). When a Preset loads, the full Preset Name scrolls once across the display after which the Preset Number is solidly lit.

Note: See System Mode for setting active Preset range and for using an AUX Switch to increment/decrement through the Presets.

Using the Right Footswitch to Tap Tempo or Parameter Values

To turn Tap Mode ON/OFF, press and hold the right footswitch for 2 seconds. A blinking Tap LED indicates that both Tap Mode and Tempo are ON. Under these conditions, tapping the Right Footswitch will adjust the Tempo and the display will indicate the Tempo in BPM.

A solidly lit Tap LED indicates that Tap Mode is ON but Tempo is OFF. Under these conditions, tapping the Right Footswitch will set the value of the given algorithm's "tappable" parameters. The display will indicate the value for those parameters (usually in msec or Hz).

To turn Tempo Mode ON/OFF, simultaneously press the Right Footswitch and the PRESETS button.

Tip: While tapping (and with the display indicating BPM or parameter value), you can use the Knob for fine tuning.

Tuner

Press both footswitches to enable the tuner. The LightRing indicates flat/sharp with twelve o'clock indicating 'in tune'. The display shows the note. Press either footswitch to exit.

H9 Power Up

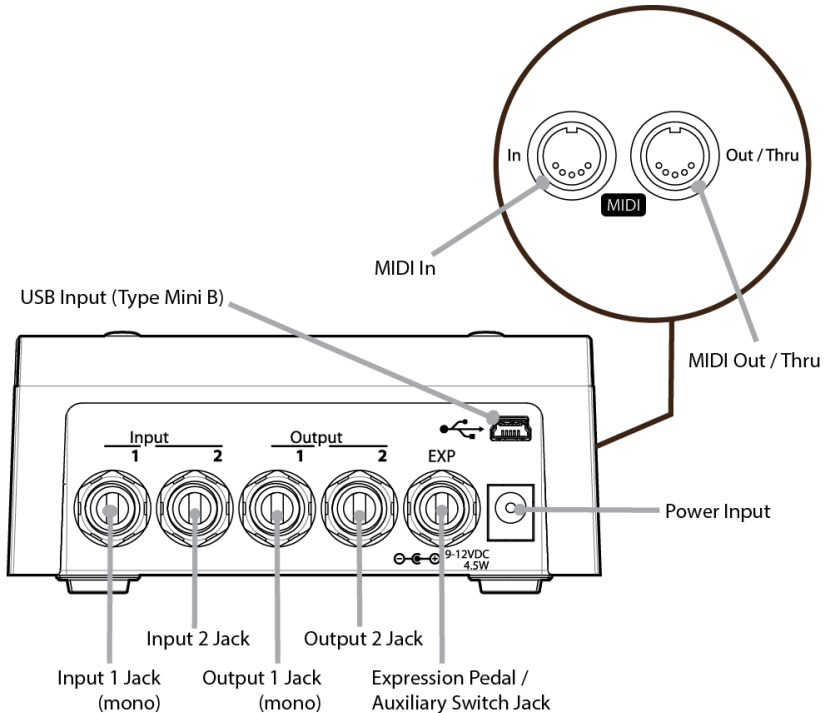
When the H9 turns on it remembers what it was last doing and powers up in the same mode, running the same Preset, with the same parameter values, same tempo, same system settings, etc. With power off, relays connect the H9's inputs directly to its outputs.

Can Two Presets Be Used Simultaneously?

No. When you load a Preset it runs on both channels. Presets can be used as Stereo In/Stereo Out, Mono In/Stereo Out, or Mono In/Mono Out and Stereo In/Mono Out. The H9 is smart enough to know what cables are connected and to automatically route the signals for your set up.

Connections

Audio Inputs and Outputs accept standard mono (unbalanced) ¼" phone plugs. Inputs are optimized for instrument in but will accept line-level signals up to 4dBu before clipping.



The H9 can be connected directly to your guitar, in series with one or more pedals, in your Amp's effects loop or to your mixer's send/return or insert. Given the variety of guitars, effects pedals, amps and mixers, we can't describe a 'best' setup. The setup should be driven by you and the sound that you're going for. No matter what your setup though, adjusting levels are important for best performance – see "Setting Levels."

Note: It's usually best to connect the H9 **after** distortion effects, compressors, EQs, and noise gates. In some cases, the output of a distortion pedal may be so 'hot' (high level) that it will cause the H9's input to clip.

Mono/Stereo

The H9 detects which input and output jacks have cables plugged in and routes audio I/O accordingly. With a Mono Input (Input 1) and Stereo Outputs, the dry contribution for both outputs comes from the Mono Input (Input 1). With Stereo Inputs, the dry contribution at Output 1 is from Input 1 and the dry contribution at Output 2 is from Input 2, thereby maintaining the original signal stereo image.

Typical Setups

Here are some suggested ways of connecting to your rig:

Guitar > H9 > Amp – Mono In/Mono Out

This is the simplest way to connect the H9. Connect your guitar cable to the H9's Input 1 and a cable from the H9's Output 1 to your amp. Input and Output Levels should be adjusted for best performance – See Setting Levels.

If you are using other stompboxes, it's best to connect them in front of the H9. Connect the H9's Input 1 to the output of the last pedal. If the peak LED lights solidly, reduce the H9's input level.

Guitar > H9 > Amp 1/Amp2 – Mono or Stereo In/Stereo Out

Connect your guitar cable to the H9's Input 1 and a cable from the H9's Output 1 to one amp and a second cable from the H9's Output 2 to the other amp. Input and Output Levels should be adjusted for best performance – See Setting Levels.

If you are using other stompboxes or pedals, it's best to connect them in front of the H9. Connect the H9's Input 1 to Output 1 of the other pedal. If the other pedal has stereo outputs, connect its Output 2 to the H9's Input 2. If the H9's peak LED lights solidly, reduce the H9's input level.

Guitar > Amp Effects Send > H9 > Amp Effects Return

If your Amp has an Effects Loop, you can connect H9's Input to the Amp Effect Loop Send and the H9's Output to the Amp Effect Loop Return. Most guitar amp's Effects Loops run at Line Level so set the H9's Input and Output Levels accordingly – See Setting Levels.

Mixer Effects Send> H9 > Mixer Effects Return

This setup is identical to using a guitar Effects Loop. Connect the H9's Inputs to the Mixer's Effect Send and the H9's Outputs to the Mixer's Effect Return. Most Mixer Effects Loops run at Line Level so set the H9's Input and Output Levels accordingly – See Setting Levels.

Setting Levels

The H9's input and output levels can be adjusted to optimize performance in most setups but inputs are optimized for instrument level. There are some important distinctions between setting input and output levels.

Input level is adjusted for best audio performance. For example, the H9 may be connected to a guitar with low level pickups and the guitar signal will not be 'hot' enough and the H9 will sound noisy. In this case you'll want to increase the H9's input level (input gain).

It's important to note that if you add gain with the input level control, the output gain will be automatically cut to preserve unity gain through the stompbox.

Output level is a bit of a different story. It is sometimes desirable to adjust the level of a given Effect/Preset. For example, an effect like Rotary can have wide swells of amplitude and, depending on a given Preset's parameter settings, you may find it too quiet or too loud. This is a consequence of the effect and not a question of level matching to best fit in a setup. For this reason, Output Level settings can be tweaked and saved with the Preset.

Setting Output Level

To set output level:

- 1) Press Left Footswitch to Bypass the Preset.
- 2) Press and hold the Left Footswitch, the Preset will now be Active.
- 3) After holding for 2 secs the display will show [OUT+0] (default value).
- 4) Continue holding the Left Footswitch while turning the Knob to adjust output level from -12 dB [OUT-12] to +12 dB [OUT+12] in 1 dB increments.

Note: Preset output levels must be saved even if there are no other changes to the preset or the output level will revert to its previous setting the next time the Preset is loaded. In other words, if you want the adjusted output level to 'stick', you must re-save the Preset.

Setting Input Level/Peak and Signal LEDs

Adjust the H9's input level for best audio performance. The red Peak LED indicates that the input signal level is close to clipping. Occasional flashing is OK. If the Peak LED is lit solidly, reduce the input level either by reducing the signal level fed to the H9 or by setting the H9's input gain to a lower value. The green Signal Present LED shows signal present (40dB below clipping).

To set input level:

- 1) With Preset Active, press and hold the Left Footswitch.
- 2) After holding for 2 secs the display will show the current input level gain setting [IN+0] (default value).
- 3) Turn the Knob to adjust output level from 0 dB [IN+0] to +12 dB [IN+12] in 1 dB increments.

Note: Input level settings are not saved with Presets. The input level setting is global and is saved when power is turned off and your settings restored when the H9 is powered up.

Bypass

It's important to select the Bypass function that works best with your setup. The H9 gives you the choice of Bypass type – DSP Bypass, Relay Bypass or DSP+FX Bypass. The H9's default Bypass setting is DSP Bypass.

DSP Bypass

When set to DSP Bypass, bypassing sends the audio at the DSP's inputs directly to the outputs without any effects processing. This type of bypassing works well in most situations, and protects against gain and tone changes when bypassed.

Relay Bypass/True Bypass

Some guitarists prefer a “true bypass” in which the pedal's electronics are completely disconnected from the signal path. When [RELAY] Bypass is selected the H9 uses relays to “hard wire” your inputs to your outputs. (In fact, whenever the H9's powered down, its electronics are completely bypassed by the relays.)

Relay Bypass is not a good choice if the H9's input is your guitar and you've connected the H9's output directly to a non-instrument level input device or have connected to your amp over a long cable. Non-instrument inputs are often low impedance (typically <10k ohm) and will load the guitar output and change its tone. DSP Bypass allows the H9 to act as a buffer, providing a low impedance output (500 ohm) capable of driving any device input or cable length.

DSP+FX Bypass

When [DSP+FX] is selected, Bypass sends the audio at the DSP's inputs directly to the outputs with the decaying ‘tail’ of the current effect mixed in.

Selecting Bypass Type

The Bypass mode is selected in System Mode under [BYPASS]. [DSP] is the default. Here's how to change it:

- 1) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to enter System Mode.
- 2) Turn the Knob until [BYPASS] is displayed.
- 3) Momentarily press the HOTKNOB button.
- 4) Turn the Knob until [BYPTYP] is displayed.
- 5) Momentarily press the HOTKNOB button.
- 6) Turn the Knob to select [DSP] or [RELAY] or [DSP+FX].
- 7) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to exit System Mode.

TIP: Using MIDI Program Change to control Bypass – MIDI Program Change is typically used to load a preset but it can also be programmed to directly control the unit's BYPASS setting. See the System Mode [MIDI] section for details.

Note: The H9 has been carefully designed to not mess with your tone in any of the Bypass settings.

Note: With the H9's power turned off, the relays automatically bypass the unit. This means that if power should accidentally go down while you're playing, your guitar signal will not disappear. Of course, if power is down, you may have bigger problems.

Killdry – Send/Return Loop

If you've connected the H9 using an effect send/return loop (either your amp's or a mixer's), the H9's Killdry feature can be enabled.

When Killdry is enabled, the H9 does not send any dry signal to the outputs; only the Effect. Note that when Killdry is enabled, Bypassing will mute the Effect rather than Bypass it when DSP Bypass is selected.

Killdry's factory default is disabled. It can be enabled in the [BYPASS] menu of the System Mode. Here's how:

- 1) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to enter System Mode.
- 2) Turn the Knob until [BYPASS] is displayed.
- 3) Momentarily press the HOTKNOB button.
- 4) Turn the Knob until [KILDRY] is displayed.
- 5) Momentarily press the HOTKNOB button.
- 6) Turn the Knob to select either [YES] or [NO].
- 7) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to exit System Mode.

Presets, Algorithms, Parameters

The H9's Presets are based on a set of audio processing algorithms. An algorithm is the underlying structure of the effect that the Preset is built upon. Please refer to our on-line documentation for descriptions of the H9's Algorithms & Parameters.

Presets

The following attributes are saved with Presets and recalled when Presets are loaded:

- 1) Parameter values
- 2) X, Y, Z button top-level parameter*
- 3) Tempo/Tap value**
- 4) Tempo On/Off status
- 5) Expression Pedal mapping
- 6) HOTKNOB programming
- 7) Output level

*Note: The state of the X, Y, and Z buttons is saved with the Preset. For example, if the X button was set to control "Feedback" then, when the Preset is recalled, the X Knob will be set to control "Feedback."

** Note: The H9 can be set up to change the Tempo value when a Preset is loaded or to ignore the value saved with the Preset. While Tempo values are always saved with the Preset, you may prefer to have your current Tempo stay the same as you switch from Preset to Preset. With GLOBAL TEMPO ON, the Tempo saved with the Preset is ignored and the current Tempo value is used. Global Tempo ON/OFF is described later in this User Guide.

Selecting Presets

Presets are selected by using the Footswitches or by turning the Knob. When a Preset is loaded the full Preset Name will scroll once across the display.

Select/Cue/Load

To select a Preset using the Footswitches, press the Right Footswitch to increment or decrement through the presets until the desired Preset is cued. To change the direction, up/down, press the Knob. Press the Left Footswitch to load the Preset. When a Preset is 'cued' the Preset Number flashes to remind you that it is not yet active. The Preset remains cued until you take some action. Pressing any of the

radio buttons or pressing and holding the Right Footswitch to enable tapping, will disable cueing.

Select/Load Instantly

You can instantly select Presets using the Knob. First press the PRESETS button. Turning the Knob will scroll through the available Presets and instantly load a Preset when you stop scrolling. As you turn the Knob the Preset number and the 1st 4 characters of the Preset Name are displayed. When you stop scrolling, the Preset loads and the full Preset Name scrolls across the display.

Adjusting Preset Parameters

A Preset's parameter values can be adjusted by selecting the X, Y, or Z button. Whenever one of these buttons is pressed, the button lights up and the display shows the parameter's name. The LightRing indicates the relative setting of the parameter. Press the Knob to display the parameter's value without changing it. Turn the Knob to change the parameter's value.

Additional details on adjusting parameters can be found in the "Algorithms and their Parameters" section of this User Guide.

Edited Preset Indication

Whenever a Preset's parameter values are changed, the far right decimal point of the six character display is lit to indicate that the parameter values are different from the Preset's values. Parameters can be changed by:

- a) changing a parameter value,
- b) changing an X, Y, or Z button's top-level parameter,
- c) moving the Expression Pedal or HOTKNOB,
- d) tapping a new tempo,
- e) receiving a MIDI command.

Note: Edited Presets are lost if they are not saved before loading another Preset.

Saving Presets

To save a Preset:

- 1) Press and hold the PRESETS button for a few seconds, the current Preset Number and 4 characters of the Preset Name are displayed. Release the PRESETS button. The Preset number flashes and the “Edit” LED is lit (far right decimal point).
- 2) Turn the Knob to select the desired Preset Number for editing. When saving, all Preset numbers are available even if you've limited the number of active Presets.
- 3) Press the Right Footswitch and the first character of the Preset name will flash. Turning the Knob will change this character. Preset names can have up to 16 characters. The available character set is '0-9', 'A-Z'.
- 4) Use the Left and Right Footswitches to traverse the display, selecting the character to be edited by the Knob. (The active character for editing is always flashing.) Repeated pressing of the Right or Left Footswitch will traverse through the name, one character at a time, flashing the selected character. Press and hold Left Footswitch to DELETE the currently flashing character.
- 5) Press and hold the Right Footswitch to INSERT a character before the currently flashing character.
- 6) To save the Preset, press and hold the PRESETS button a second time. The Display will show [SAVED].
- 7) After a short time, the Save mode is exited.
- 8) To exit Save without saving, press and release the PRESETS button again without holding it or press the Knob. Upon exiting Save mode without saving, [NO SAV] is displayed and, after a few seconds of inactivity, the display reverts to showing the currently loaded Preset.”

Note: You must PRESS and HOLD the PRESETS button to save. If you press and release quickly, the new Preset will not be saved. This is intentional. When you save a new Preset, you overwrite the old Preset. The H9 is designed to assure that saving is a deliberate act. The Preset number corresponding to the currently running Preset will flash as a warning that saving in this location will overwrite the currently loaded Preset.

Note: The cursor will “wrap around the display,” i.e. Pressing the Left Footswitch will move to the left by one character at a time until it gets to the first character, then it will jump to the Preset Number field. Pressing the Left Footswitch again will jump to the last character.

Note: A 'phantom' character is always present at the end of the name to allow characters to be added past the end. This cannot be deleted but is removed on exit.

Organizing Your Presets

When you save a Preset, you should consider when and how it will be used. For example, if you have a pair of Presets that you plan to use together in the same song – one for the verse, one for the chorus – placing them in sequential Preset numbers will let you quickly switch between them.

Loading a Preset using the Footswitches takes at least two taps. Once you tap the Right Footswitch to cue the new Preset you must tap the Left Footswitch to load it.

Note: When saving to a location other than the active slot, the saved Preset location becomes the active slot. In other words, if Preset #1 is currently active and, after changing the parameters to get a new sound, you decide to save the new sound to Preset #10, Preset #10 becomes the active Preset.

Active Presets

The H9 holds 99 Presets (1 to 99). 99 presets may be more than you need. If you'd like to make it quicker and easier to find and load your Presets, the number of active Presets can be reduced. Only the Presets that are active will show up when loading. While only active Presets can be loaded, Presets can always be saved to disabled Preset Numbers. Inactive Presets are not erased (but can be overwritten) and can be made active at any time.

Active Presets are limited to a range. The default is for all 99 Presets active. You can limit the number of active Presets, by setting the active range in System Mode. For example, if you set the lower limit to 5 and the upper limit to 10, Presets from 5 through 10 will be active. By logically grouping your Presets, you can get through a song or set without having to click through all 99 Presets. Remember, when saving Presets, group them to best suit your needs.

The factory default is set for 99 active Presets. To limit the number of active Presets:

- 1) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to enter System Mode.
- 2) Turn the Knob until [UTILS] is displayed.
- 3) Momentarily press the HOTKNOB button.
- 4) Turn the Knob until [PRESET] is displayed.
- 5) Momentarily press the HOTKNOB button. [Lxx.Hxx] is displayed.
- 6) Press the Left Footswitch and turn the Knob to set the lower limit.

- 7) Press the Right Footswitch and turn the Knob to set the upper limit.
- 8) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to exit System Mode.

Algorithms & their Parameters

There are more than 40 algorithms available for the H9. Each algorithm is a unique set of audio processing modules with parametric controls. The algorithms and their parameters are described in the H9 Algorithm Guide.

Parameters – “Expert/Tweaker” Mode

While the X, Y, and Z buttons default function gives you instant access to three parameters, all of our algorithms have additional parameters. One way of thinking of this is that a parameter is “locked” to each of these buttons. In order to access the other algorithm parameters, press and hold either X, Y, or Z for 2 seconds thereby “unlocking” the full set of parameters.

Once unlocked, pressing the button will step through the parameter names. Repeatedly pressing the same button will cycle through all of the parameters for the current algorithm. Turn the Knob to adjust the parameter value, the LightRing indicates the relative value of the parameter and the display shows the parameter’s value. If you navigate away and then return, the button will display the parameter you last selected.

Here’s an example: Assume that a Preset is currently loaded that is based on the Vintage Delay algorithm. Its parameters are Mix (wet/dry), Delay Mix, Delay A, Delay B, Feedback A, Feedback B, etc. Press the X button once and the parameter name [MIX] is displayed. Now, press and hold the X button until [DLYMIX] is displayed. Repeatedly pressing X will step through the complete set of Vintage Delay’s parameters. In this way, you have the ability to adjust the value of all the parameters of every algorithm and create a wide variety of effects and, of course, to save them as new Presets.

The most recently selected parameter sticks, so if [DLY-A] was last adjusted using the X button and you subsequently navigate away, the next time X is pressed, the parameter [DLY-A] appears. These ‘top level’ settings for the X, Y, and Z buttons are saved with Presets.

X, Y, and Z are independent. Any or all can be in either NORMAL or EXPERT mode.

Global Mix

Nearly all of the algorithms feature a mix control which sets the relative levels of the input signal (dry) and the Effect (wet). The mix parameter setting is saved with each Preset. Often however, it is useful to have the mix setting remain uniform as you change Presets. To do this, use the System GLOBAL MIX command. When GLOBAL MIX is ON, the Mix setting saved with the Preset is ignored and the current Mix setting is used for all Presets.

Turning GLOBAL MIX ON or OFF. The factory default is OFF.

- 1) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to enter System Mode.
- 2) Turn the Knob until [GLOBAL] is displayed.
- 3) Momentarily press the HOTKNOB button.
- 4) Turn the Knob until [MIX] is displayed.
- 5) Momentarily press the HOTKNOB button.
- 6) Turn the Knob to select [ON] or [OFF].
- 7) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to exit System Mode.

Tempo

Tempo ON/OFF

Tempo is turned ON/OFF by simultaneously pressing the Right Footswitch and the PRESETS button. With Tempo OFF, tapping can be used to adjust delay parameter values (displayed as milliseconds or Hz). With Tempo ON, tempo is in BPM.

Tap Tempo

The Right Footswitch is used to tap the tempo. In Preset mode (Tap LED OFF), first press and hold the Right Footswitch for 2 seconds. If Tempo is ON, the display indicates the current tempo in BPM (30 to 500 BPM) while tapping and the Tap LED will blink at the BPM rate. If Tempo is OFF, the display indicates the parameter value (milliseconds for most algorithms). The Tap LED will be solidly lit.

Note: When using an Aux Switch to tap tempo, the tempo value is displayed.

Fine-tuning Tempo

The Knob can be used to set or tweak the Tempo value in BPM (Tempo ON) or the parameter (Tempo OFF). While tapping, and with the tempo value displayed, the Knob can be turned to adjust the Tempo or parameter value. While adjusting, the display shows the updated Tempo or delay value.

Global Tempo

Tempo is always saved with each Preset. Often however, it can be useful to make the tempo uniform for all of the Presets that you're using. To do this, use the System GLOBAL TEMPO command. When GLOBAL TEMPO is ON, the Tempo value saved with the Preset is ignored and the current Tempo value is used for all Presets.

Turning GLOBAL TEMPO ON or OFF. The factory default is OFF.

- 1) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to enter System Mode.
- 2) Turn the Knob until [GLOBAL] is displayed.
- 3) Momentarily press the HOTKNOB button.
- 4) Turn the Knob until [TEMPO] is displayed.
- 5) Momentarily press the HOTKNOB button.
- 6) Turn the Knob to select [ON] or [OFF].
- 7) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to exit System Mode.

Tuner

Press and hold the Left and Right Footswitches for 2 seconds to enable the Tuner. When you play a note the LightRing indicates the degree to which you're in or out of tune while the display indicates the note. With the LightRing lit at twelve o'clock you're in tune. Press either Footswitch to exit.

When the Tuner is enabled the H9's audio output is normally muted – this is the default setting. If instead you prefer you can set the H9 to [BYPASS] directly connecting the H9's input to its output. Note that the default reference frequency for the Tuner is "A" 440 Hz.

Instructions for adjusting the reference frequency and for selecting Mute/Bypass can be found in the System Mode section of this User Guide.

HOTKNOB

The HOTKNOB is like an on-board Expression Pedal. It can be patched to control one or any of number of parameters simultaneously. The HOTKNOB patch is identical to the Expression Pedal patch – they work in parallel.

Press the HOTKNOB button to use the Knob. [HOT] is briefly displayed followed by the parameter name if a single parameter is assigned (e.g. [MIX]) or [HOT+] if multiple parameters are assigned.

Tip: H9 Control's Ribbon also works in parallel with the HOTKNOB and Expression Pedal. Program one and you've programmed all three.

Creating a HOTKNOB Patch

To enter HOTKNOB patch mode – press and hold the HOTKNOB button for 2 seconds. The HOTKNOB LED will blink at a slow rate to let you know you are in the HOTKNOB patch mode.

Once you are in the HOTKNOB patch mode Press the X, Y, or Z parameter button to select the parameters you want to assign to the HOTKNOB.

When the selected parameter's name is displayed Press the HOTKNOB button to set the minimum value [MINVAL]. Turning the Knob will update the display with the parameter value to be assigned as the [MINVAL] for this parameter's HOTKNOB patch. When you stop turning the Knob the display will revert to [MINVAL] and alternately flash between MINVAL parameter name and the current MINVAL parameter value.

Press the HOTKNOB button again to set the maximum value [MAXVAL]. Turning the Knob will update the display with the parameter value to be assigned as the [MAXVAL] for this parameter's HOTKNOB patch. When you stop turning the Knob the display will revert back to [MAXVAL] and alternately flash between [MAXVAL] parameter name and the current [MAXVAL] parameter value.

Pressing the HOTKNOB switch again will display the current parameter's name.

Press the X, Y, or Z parameter button to select additional parameters to assign to the HOTKNOB.

Note: The terms [MINVAL] and [MAXVAL] actually refer to the values at the counterclockwise and clockwise extremes of the Knob's travel. In other words, it is possible to set the [MINVAL] to 100msec of delay (for example) and the [MAXVAL] to 1msec of delay.

Note: Changing the HOTKNOB patch will also change the Expression Pedal patch – they're one and the same.

Exit HOTKNOB Patch Mode

To exit HOTKNOB patch operation Press and Hold the HOTKNOB button for 2 seconds. The HOTKNOB button LED will light solidly and the display will show the name of the parameter assigned the HOTKNOB if a single parameter is patched. If multiple parameters are patched [HOT+] is displayed. The Edited LED is lit to show that preset is modified but not saved.

Save HOTKNOB Patch

Press and Hold the PRESETS button to save the Preset with your HOTKNOB patch assignment.

Clear a HOTKNOB Patch

To completely clear a HOTKNOB patch, Press and Hold the HOTKNOB button. The HOTKNOB switch LED will come on. While holding the HOTKNOB button press the PRESETS button until the display scrolls CLR HK PRESS PRESETS, then release all keys. Pressing the PRESETS button again will then clear the patch; pressing any other button exits HOTKNOB patch clear leaving the patch intact.

If multiple parameters are patched to the HOTKNOB you have the option of unpatching one parameter at a time. To do so, set the parameter's MINVAL and MAXVAL to the same value.

View HOTKNOB Patch Destinations

To view the list of parameters assigned as HOTKNOB patch Press and hold HOTKNOB button while holding down the X, Y or Z button. Use the Knob to scroll through the list of parameters names assigned to the HOTKNOB.

Expression Pedal

An external Expression Pedal can be connected to the rear panel ¼" stereo phone jack labeled "EXP". The Expression Pedal can be set up to control any combination of parameters. For proper operation the Expression Pedal should be a simple linear taper resistive potentiometer ("pot") with a maximum value of between 5k Ohms and 25k Ohms. Refer to www.eventide.com for information on recommended expression pedals.

The H9 will auto-calibrate your Expression Pedal. To calibrate, plug the Expression Pedal into the EXP jack and rock the pedal from full-heel to full-toe.

The Expression Pedal behaves identically to the HOTKNOB. They work in 'parallel.' The Expression Pedal's action is set by patching the HOTKNOB. When using the Expression Pedal the display works in the same way as if you were turning the Knob in HOTKNOB mode. If a single parameter is assigned its value is displayed when the Expression Pedal is moved. If the Expression Pedal has been set up to control multiple parameters, the display is simply a range from 0-99. To indicate which X, Y, Z parameters are controlled by the Expression Pedal, Press and Hold HOTKNOB and an X, Y, or Z button and turn the Knob.

The HOTKNOB/Expression Pedal settings are not saved automatically. If you want to be able to recall your settings, you must perform the Preset Save operation.

Note: The Expression Pedal input supports control voltage inputs from 0V to 3V. Care must be taken to avoid ground loops when using this input with external control voltages. If you hear a "hum" only when you've connected a control voltage source to the H9's Expression Pedal input jack, then it is likely that the device generating the control voltage is grounded to a different ground than your audio inputs and outputs. Ground loops are notoriously difficult to track down and beyond the scope of this User Guide to diagnose.

Auxiliary Switches

The rear panel Expression Pedal jack (labeled EXP) can be set to support three independent momentary switches using Tip, Ring and Tip+Ring. In System Mode, you can choose to use the EXP jack for either your Expression Pedal or Aux Switches. Here's how to select the Aux Switch:

- 1) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to enter System Mode.
- 2) Turn the Knob until [UTILS] is displayed.
- 3) Momentarily press the HOTKNOB button.
- 4) Turn the Knob until [EXPTIP] is displayed.
- 5) Momentarily press the HOTKNOB button.
- 6) Turn the Knob to select [SWITCH]. Factory default choice is [PEDAL]
- 7) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to exit System Mode.

The Aux Switches do not disable the H9's Footswitches – the local Footswitches are always active. Aux Switches can be programmed to perform a number of functions and they make it easy to connect a dedicated Tap Tempo switch or Performance Switch (Infinite Repeat, Flex, Fast/Slow, Learn) or Preset/Decrement Switch, etc.

Some users may want to have all switch functions immediately available (the H9's two footswitches and three from the AUX Switch). A suggested set-up would be using the H9's Active and Tap footswitches and the AUX Switch assigned as preset increment, preset decrement and performance switch. A set of three Aux Switches can be connected and assigned accordingly.

Aux Switches can also be assigned to parameter values allowing you to switch between two parameter values. For example, you could assign an Aux Switch to toggle between Decay times of 1 and 5 sec. To program the Aux Switches see System Mode.

Notes:

- 1) You must use a stereo phone ¼" plug to connect Aux Switches.
- 2) Latching Toggle switches are not supported. Only momentary switches will work properly.
- 3) Simultaneously pressing the switch assigned to the Tip and the switch assigned to the Ring will trigger the function assigned to the Tip+Ring.

Refer to www.eventide.com for information on recommended Aux Switches.

MIDI

H9 supports MIDI In, Out, Through. MIDI can be used to:

- 1) Toggle BYPASS/ACTIVE
- 2) Load Presets
- 3) Toggle the Performance Switch functions
- 4) Change parameter values
- 5) Set tempo from MIDI clock
- 6) Use the H9 as a MIDI clock source
- 7) Enable Expression Pedal and Auxiliary Switches connected to the H9 to control other MIDI devices
- 8) Dump (Backup)/Load (Restore) Presets and/or system settings to/from a computer
- 9) Control BYPASS/ACTIVE status using MIDI program change

H9 automatically selects either USB or DIN5 as MIDI Inputs and Outputs. If USB is connected, DIN5 MIDI activity (including MIDI thru) is ignored. MIDI setup is described in System Mode and a MIDI implementation map can be found later in this User Guide.

Dump (Back-up) Presets & System Settings

The currently loaded effect, your stored Presets and your system settings can be dumped to a MIDI device or to a computer using the MIDI's SysEx facility. SysEx dump is a MIDI System Exclusive Message that can be sent from the H9 and recorded by a MIDI sequencer or computer. The H9's Presets and System Settings can then be restored at a later time. This is a useful way to backup saved settings or to reconfigure the unit as it was on your previous project.

To Dump Presets &/or System Settings:

- 1) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to enter System Mode.
- 2) Turn the Knob until [MIDI] is displayed.
- 3) Momentarily press the HOTKNOB button.
- 4) Turn the Knob until [DUMP] is displayed.
- 5) Momentarily press the HOTKNOB button.
- 6) Turn the Knob to select [ALL], [ACTIVE], [PRESETS] or [SYSTEM].
- 7) Press the HOTKNOB to start the SysEx dump.
- 8) Wait until dump is complete.
- 9) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to exit System Mode.

Note: If [ACTIVE] is selected only the currently loaded Preset is dumped. If [PRESET] is selected, all Presets are dumped. With ALL selected Presets and System settings are dumped. If SYSTEM is selected, only System settings are dumped.

Restoring Presets and System Setting

Presets and System settings are restored via MIDI's SysEx facility. The H9 must be set to the desired SysEx ID number (from 1 to 16).

To set the MIDI SysEx ID number (factory default is 1):

- 1) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to enter System Mode.
- 2) Turn the Knob until [MIDI] is displayed.
- 3) Momentarily press the HOTKNOB button.
- 4) Turn the Knob until [SYS ID] is displayed.
- 5) Momentarily press the HOTKNOB button.
- 6) Turn the Knob to choose SysEx ID from [ID 1] to [ID 16].
- 7) Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to exit System Mode

System Mode

System Mode is used for settings that affect the overall system such as the Bypass, Aux Switch, MIDI, etc.

To Enter/Exit System Mode

Press and hold the HOTKNOB button and Right Footswitch simultaneously for a few seconds to enter and exit the System Mode. Upon entering System Mode, you're at the top-level menu selection. The Left and Right Footswitch LEDs will flash RED continuously to remind you that you're in this special mode. The Edited LED is OFF in System Mode.

At the top-level, turn the Knob to scroll through the choices: [BLUE], [BYPASS], [AUX SW], [MIDI], [GLOBAL], [TUNER] and [UTILS]. Press the HOTKNOB button to select one of these choices.

System Mode Navigation

General navigation of the System Mode menus/parameters is as follows:

- 1) **Push the HOTKNOB button** to step down into the menu tree.
- 2) **Turn the Knob** to scroll thru menu items or parameter selections or values.
- 3) **Press the PRESETS button** to step up the menu tree to upper level menu options.

For sub menus with two fields, press the Left or Right Footswitch to select the active field. The Footswitch LED corresponding to the active field will be lit.

Hint: While the PRESETS button can always be used to step up the menu tree, for menu items that are only one level deep, pressing the HOTKNOB button a second time will also step up to the top level.

System Menu Tree

The system mode is divided into seven categories **[BLUE]**, **[BYPASS]**, **[AUX SW]**, **[MIDI]**, **[GLOBAL]**, **[TUNER]** and **[UTILS]** which are the top-level menu items that appear when entering system mode. In the following, factory default settings are indicated in **(bold)**.

[BLUE] – Bluetooth Settings

After entering System Mode, turn the Knob to select **[BLUE]** and then press the HOTKNOB button to enter Bluetooth Settings Mode. Turn the Knob to select either **[PIN]** or **[NAME]**.

[PIN] – Number for Pairing with your iOS Device

Press the HOTKNOB button to display the four digit Bluetooth PIN code. The PIN is set to the last four digits of your H9's serial number.

Press the PRESETS button once to back-up one level to BLUE menu.

Press the PRESETS button twice to go to top level System menu.

[NAME] – Your H9's Bluetooth Name (H9-xxxx)

This is your H9's "Bluetooth" name that will be displayed on your iOS device. The default name is H9 followed by your H9's serial number. Note that the NAME is truncated – press the Right Footswitch to traverse the full name.

You can rename your H9. To do so:

- 1) Press the Right Footswitch and the first character of the will flash. Turning the Knob will change this character. Names can have up to 16 characters. The available character set is '0-9', 'A-Z'.
- 2) Use the Left and Right Footswitches to traverse the display, selecting the character to be edited by the Knob. (The active character for editing is always flashing.) Repeated pressing of the Right or Left Footswitch will traverse through the name, one character at a time, flashing the selected character. Press and hold Left Footswitch to DELETE the currently flashing character.
- 3) Press and hold the Right Footswitch to INSERT a character before the currently flashing character.

Note: The cursor will “wrap around the display,” i.e. Pressing the Left Footswitch will move to the left by one character at a time until it gets to the first character, then it will jump to the Preset Number field. Pressing the Left Footswitch again will jump to the last character.

Note: A ‘phantom’ character is always present at the name’s end allowing characters to be added past the end. This cannot be deleted; it’s removed on exit.

Press the PRESETS button once to back-up one level to BLUE menu.
Press the PRESETS button twice to go to top level System menu.

[BYPASS] – Select Bypass Mode

After entering System Mode, turn the Knob to select [BYPASS] and then press the HOTKNOB button to enter Select Bypass Mode. Turn the Knob to select either [BYPTYP] or [KIL.DRY].

[BYPTYP] – Choose Bypass Type (DSP, RELAY, DSP+FX)

Press the HOTKNOB button to select. Turn Knob to select DSP, RELAY or DSP+FX.

When [DSP] is selected, Bypass sends the audio at the DSP’s inputs directly to the outputs without any effects processing.

When [RELAY] is selected, Bypass employs a pair of relays to “hardwire” the inputs to the outputs, giving a “true bypass.”

When [DSP+FX] is selected, Bypass sends the audio at the DSP’s inputs directly to the outputs with the decaying ‘tail’ of the current effect mixed in.

Press the PRESETS button once to back-up one level to BYPASS menu.
Press the PRESETS button twice to go to top level System menu.

[KILDRY] – Kill Dry Audio (NO, YES)

Press the HOTKNOB button to select. Turn Knob to enable/disable [KILDRY].

When [KILDRY] is enabled (YES), the dry signal is removed from the output and the H9 only outputs a 100% wet level. For some of the Presets the Intensity control acts as a Wet/Dry Mix control. For these Presets, if [KILDRY] is YES, the Intensity control is disabled.

Press the PRESETS button once to back-up one level to BYPASS menu.
Press the PRESETS button twice to go to top level System menu.

[AUX SW] – Program Auxiliary Switches

Up to three Auxiliary Switches can be assigned as controls for the Preset parameters and system control. The three Aux Switches are connected to the rear panel ¼" stereo phone jack labeled EXpression Pedal. The H9 detects closures by sensing whether the tip, the ring or both the tip and ring are grounded. Note that you must use a stereo phone plug when connecting Aux Switches.

To assign the Aux Switches, first press the HOTKNOB button to select [AUX SW]. You will see two fields (split display) of the display (left/right) showing Parameter destination and Control source assignments. The Left Footswitch LED is flashing (if it's not, press the Left Footswitch to select this field) showing this to be the selected field for editing. Note that the selected side of the display is flashing.

To assign the switches, first select the H9 function (the destination on the left side of the display) that you want to externally control (e.g. KB0) and then select the Aux Switch that you want to control it with (the source).

To Setup Control Destinations

Turn the Knob to select an external control destination. Destinations include the H9 parameters and functions that can be controlled by one of the Aux Switches. The choices are:

- [BYP] – Toggle Bypass/Active. Bypass type selected in BYPASS)
- [PR+] – Increment Preset number.
- [PR-] – Decrement Preset number.
- [TAP] – Tap tempo switch function.
- [PSW] – Toggle or enable the Performance Switch function
- [KB0]...[KB9] – Parameter Control Knobs
- [TUN] – Enable tuner

Performance Switch [PSW] – The Performance Switch is used for 'infinite repeat' with TimeFactor algorithms, 'rate change' with ModFactor algorithms, various functions with PitchFactor algorithms and 'HotSwitch' with Space algorithms. Refer to the specific algorithm description in the Algorithm Guide for details.

Parameter "Knobs" [KB0]–[KN9] – You can use the Aux Switches to control up to 10 virtual "Knobs." KB0–KB9 correspond to the ten parameters of the currently running algorithm. For example, if a Preset based on the Dual Delay algorithm is currently running, KB0 corresponds to the "MIX" parameter. If the H9 is running a Preset based on the Rotary algorithm, KB0 corresponds to the "INTENSITY" parameter.

After you've selected a Parameter Control Knob, you can set two values for the parameter; a minimum value [MINVAL] and a maximum value [MAXVAL]. Each time the assigned switch is pressed, the parameter value instantly toggles between the minimum and maximum value.

When a Parameter Control Knob designator is displayed (KB0... KB9), pressing the Left Footswitch will display [MINVAL]. Turn the Knob to set the minimum value. The value is displayed while you're turning the Knob and times out to display the selected [MINVAL] when the Knob is idle.

Push the Left Footswitch again to set the parameter's maximum value [MAXVAL]. Turn the Knob to adjust the maximum value. The value is displayed while you're turning the Knob and times out to display the selected [MAXVAL] when the Knob is idle.

The parameters controlled in this mode are system-wide and will apply to all Presets. For example, you could assign an Aux Switch to Decay (KB1) with [MIN VAL] set to 1 sec and [MAX VAL] set to 2 sec. Pressing the switch will toggle between these two decay values. If another Effect or Preset is chosen, the Aux Switch will affect the parameter controlled by KB1 for the currently loaded effect.

Note: When a Preset is loaded, the switches assume the MIN VAL for the assigned parameters. Pressing the switch for the first time after a Preset load, will toggle the parameter to MAX VAL.

To Setup the External Control Source

Press the Right Footswitch to select one of three Aux Switches. There are two ways to select the Aux Switch – Manual Select or Learn Mode.

For Manual Select, turn the Knob to choose the Aux Switch. The choices are:

- [TIP] – Aux switch jack tip connection
- [RNG] – Aux switch jack ring connection
- [T+R] – Aux switch jack tip + ring connection

Note: If [EXPTIP] is set to [PEDAL] in [UTILS] only [RNG] is available.

To use the Learn Mode to select the external control source, press the Right Footswitch again. "**LEARN**" is displayed prompting you to press an Aux Switch for automatic assignment. Press the Right Footswitch again to exit LEARN mode and revert to manual source selection.

Press the Left and Right Footswitches to toggle between Source and Destination to make as many assignments as you wish. The default settings for Aux Switch control are as follows:

[BYP.TIP]
[PR+.T+R]
[PR-.RNG]

Note that the other Control Destinations ([PSW], [TAP], [KB0]–[KB9], and [TUN]) are unassigned as indicated by [---].

When done, **Press the PRESETS button** to go to top level System menu.

[MIDI] – MIDI Functions

After entering System mode, turn the Knob to select [MIDI], and then press the HOTKNOB button to enter the MIDI functions settings mode.

Turn the Knob to scroll through the MIDI functions including MIDI Program maps, MIDI channel, MIDI Data Dumps, etc.

[RCV CH] – Set the MIDI Receive Channel (OFF, OMNI, 1–16)

Press the HOTKNOB button to select. Turn the Knob to set the MIDI Receive Channel option. You can select a MIDI Channel number [1]–[16], turn OFF MIDI receive or choose OMNI to receive on all MIDI channels.

Press the PRESETS button once to back-up one level to MIDI menu.
Press the PRESETS button twice to go to top level System menu.

[XMT CH] – Set the MIDI Transmit Channel (1, 2–16)

Press the HOTKNOB button to select. Turn the Knob to set the MIDI Transmit Channel.

Press the PRESETS button once to back-up one level to MIDI menu.
Press the PRESETS button twice to go to top level System menu.

[RCV.CTL] – Receive Continuous Control Message

[RCV.CTL] allows external MIDI Continuous Control messages to be used as assignable controls for the HOTKNOB (any combination of parameters) and system control. The idea is to first select the H9 parameter or function that you want to externally control (Mix for example) and then select either MIDI Bend or the MIDI CC with which you want to control it.

Here's how it works: Press the HOTKNOB button to select [RCV.CTL]. You will see two fields (split display) with the left side of the display showing the Destination and the right side showing the Control source. The two fields are delimited by a decimal point [BYP.BND]. The Left Footswitch LED is flashing (if it's not, press the Left Footswitch to select this field) showing this to be the selected field for editing.

To Setup Destination

Turn the Knob to select an external control destination – the H9 parameter or function which will be controlled from an external source. The choices are:

- [BYP] – BYPass the unit
- [PR+] – Increment Preset number
- [PR-] – Decrement Preset number
- [TAP] – Tap tempo switch function
- [PSW] – Toggle or enable the Performance Switch function
- [HK] – HOTKNOB patch
- [KB0]...[KB9] – Parameter Control Knobs
- [ACT] – Active (Enable Effect – unBypass)
- [TOG] – Toggle between Active and Bypass
- [TUN] – Tuner

Performance Switch [PSW] – The Performance Switch is used for 'infinite repeat' with TimeFactor algorithms, 'rate change' with ModFactor algorithms, various functions with PitchFactor algorithms and 'HotSwitch' with Space algorithms. Refer to the specific algorithm doc for detailed descriptions.

Parameter “Knobs” [KB0]–[KN9] – You can use MIDI CC to control up to 10 virtual “Knobs.” KB0–KB9 correspond to the ten parameters of the currently running algorithm. For example, if a Preset based on the Dual Delay algorithm is currently running, KNOB0 corresponds to the “MIX” parameter. If the H9 is running a Preset based on the Rotary algorithm, KNOB0 corresponds to the “INTENSITY” parameter.

Press the Left Footswitch to select the Destination (left field of the display) and turn the Knob to select the virtual Knob (parameter) from KB0 to KB9. Press the Right Footswitch the assign the Control Source (MIDI CC) to the displayed KB.

When a Parameter Control Knob designator is displayed (KB0... KB9), you can map the MIDI CC values from 0 to 127 to a selected range of parameter values. Pressing the Left Footswitch with a KB selected will display [MINVAL]. Turn the Knob to set the minimum value. The value is displayed while you're turning the Knob and times out to display the selected [MINVAL] when the Knob is idle.

Push the Left Footswitch again to set the parameter's maximum value [MAXVAL]. Turn the Knob to adjust the maximum value. The value is displayed while you're turning the Knob and times out to display the selected [MAXVAL] when the Knob is idle.

Remember, the parameters controlled in this mode are system-wide and will apply to all Presets.

Note: While it is possible to assign more than one external controller to any parameter, doing so is likely to cause confusion and is not recommended. Keep in mind that, if you have previously assigned a MIDI CC to a control destination, you may want to clear the assignment before setting up a new assignment. To clear, select the destination (parameter) and select the source (MIDI CC) as [---].

To Setup the External Control Source

Press the Right Footswitch to select the external control source field for editing. There are two ways to select an external control source – Manual Select or Learn Mode.

For Manual Select simply turn the Knob to choose the MIDI Control Source. The choices are:

[---] – No patch

[BND] – MIDI Pitch Bend

[C0] – [C99] – MIDI Continuous Controller messages from 0 to 99.

To use the Learn Mode to select the external control source, **Press the Right Footswitch again**. “**LEARN**” is displayed prompting you to send a MIDI message for automatic Control Source assignment. Press the Right Footswitch again to exit LEARN mode and revert to manual source selection.

Press the Left and Right Footswitches to toggle between Source and Destination to make as many assignments as you wish.

The default patch are as follows:

KB0–KB9 are patched to C22–C29. The default patch is unassigned [---] for all other [RCV.CTL] destinations.

Press the PRESETS button once to back-up one level to MIDI menu.
Press the PRESETS button twice to go to top level System menu.

[XMT CC] – Expression Pedal/Aux Switch transmit MIDI Continuous Control

The H9's Expression Pedal and Aux Switches can be used as MIDI controllers. Here's how it works: Press the HOTKNOB button to select [XMT CC]. You will see two fields (split display) with the left side of the display showing the Control Source and the right side the Destination. The two fields are delimited by a decimal point [PDL.C15]. The Left Footswitch LED is flashing (if it's not, press the Left Footswitch to select this field) showing this to be the selected field for editing.

To Select the Control Source

Turn the Knob to select the Control Source. The choices are:

- [PDL] Expression Pedal
- [KB0]...[KB9] – Parameter Control Knobs
- [TIP] Aux Switch Tip
- [RNG] Aux Switch Ring
- [T+R] Aux Switch Tip+Ring

Note: Assigning parameter knobs (KB0–KB9) allow you send MIDI messages 'through' the H9 when using H9 Control.

To Assign the Control Source to a Destination

Press the Right Footswitch to select the MIDI Continuous Control that will be assigned to the H9 Control Source. The choices are:

- [OFF] – Control Source unassigned
- [C0] – [C99] – MIDI Continuous Controller from 0 to 99

Press the Left and Right Footswitches to toggle between Source and Destination to make as many assignments as you wish. The default patch is as follows: [PDL.C15] and [KB0.C22] through [KB9.C31]

Press the PRESETS button once to back-up one level to MIDI menu.
Press the PRESETS button twice to go to top level System menu.

[RCV.MAP] – Create a MIDI Program Change Receive Map

MIDI maps are an efficient way to instantly recall any of the H9's Presets using your favorite MIDI controller (pedal board, sequencer, etc.). Press the HOTKNOB button to select and create a MIDI Program Change Receive Map. This function sets the corresponding Preset that is recalled when a MIDI Program Change message is received. (Referred to as Prg No. from here on.)

Note that if a Preset is saved "Bypassed," when it is loaded by using a MIDI Program Change command the Preset will load but the pedal will be Bypassed.

The Left Field displays the Prg No. (0–127) and Right Field displays either the Preset Number (P01–P99) or one of various Bypass options described below, or OFF. The two fields are delimited by a decimal point [127.P99]

There are two ways to select the MIDI Prg No: manually or using Learn Mode. To select manually, with the Left Footswitch LED flashing, turn the Knob to select the desired Prg No. from 0 to 127.

To use Learn Mode, **press the Left Footswitch again**. In LEARN mode, the Prg. No. will be automatically set when a MIDI Program Change message is received. Pressing the Left Footswitch exits LEARN mode.

Press the Right Footswitch to select the Preset field (indicated by the flashing Right Footswitch LED) and **turn the Knob** to select the Preset.

To map another Prg No. to another Preset, press the Left Footswitch again to select the desired Prg No., then the Right Footswitch to map it to the desired Preset.

Default map: Prg No. (1–99) map to the 99 Presets (P01–P99).

As well as using MIDI program change to load a preset, this message can also be programmed to directly control the unit's BYPASS setting. With the Right Footswitch LED flashing, turn the Knob counter-clockwise to select:

- [OFF] Unassigned
- [BYP] Bypass the unit
- [ACT] Make the unit Active, i.e., not bypassed.
- [TOG] Toggle between bypass and active.

Press the PRESETS button once to back-up one level to MIDI menu.

Press the PRESETS button twice to go to top level System menu.

[XMT.MAP] – Create a MIDI Program Change Transmit Map

When the Left Footswitch loads a Preset, a MIDI Program Change message can be transmitted from the MIDI Out jack or USB to control an external device – e.g., another Eventide Stompbox, an Eventide Eclipse, an Eventide H8000FW, etc.

To Create a MIDI Program Change transmit map, press the HOTKNOB button to access the MIDI transmit map for editing.

The Left field displays the Preset number (P1 to P99). The right field displays either **OFF** or the Prg No. (0–127). Default map: Prg No. 0–99 map to Presets P1 to P99.

Press the Left Footswitch to select Preset field (indicated by the flashing Left Footswitch LED), **turn the Encoder** to select the Preset.

Press the Right Footswitch to select Prg No. field (indicated by the flashing Right Footswitch LED), **turn the Encoder** to select the corresponding number.

Note: MIDI Program Change Transmit must be enabled in order for the H9 to transmit Program Change messages. MIDI Program Change Transmit is turned ON or OFF in the MIDI menu. Default is OFF.

Note: When an H9 Preset is recalled with a MIDI program change message, MIDI Program Change messages are not generated.

Press the PRESETS button once to back-up one level to MIDI menu.

Press the PRESETS button twice to go to top level System menu.

[CTL.XMT] – MIDI Continuous Controller Transmit Enable (ON, OFF)

Press the HOTKNOB button to select. Turn the Knob to set MIDI Continuous Controller transmit ON or OFF. This setting determines if Parameter transmit MIDI control messages are enabled.

Press the PRESETS button once to back-up one level to MIDI menu.

Press the PRESETS button twice to go to top level System menu.

[PGM.XMT] – MIDI Program Change Transmit Enable (ON, OFF)

Press the HOTKNOB button to select. Turn the Knob to set MIDI Program Change transmit ON or OFF. If ON, a MIDI Program change message is transmitted whenever a Footswitch is pressed for Preset load.

Press the PRESETS button once to back-up one level to MIDI menu.
Press the PRESETS button twice to go to top level System menu.

[SYS ID] – MIDI SysEx ID (ID 1–ID 16)

Press the HOTKNOB button to select. Turn the Knob to choose the MIDI SysEx ID for Backup and Restore of Presets and System settings.

Press the PRESETS button once to back-up one level to MIDI menu.
Press the PRESETS button twice to go to top level System menu.

[OUTPUT] – MIDI Transmit/Thru Select (XMT, THRU)

Press the HOTKNOB button to select. Turn the Knob to select either MIDI out to either transmit (XMT) H9 MIDI data or pass incoming MIDI data thru the H9.

Note: if OUTPUT is set to THRU, none of the H9's MIDI Transmit functions will be operative.

Press the PRESETS button once to back-up one level to MIDI menu.
Press the PRESETS button twice to go to top level System menu.

[DUMP] – Dump Select (ALL, ACTIVE, PRESET, SYSTEM)

Press the HOTKNOB button to select. Turn the Knob to choose what is being backed up via SysEx Dump or Dump Request.

ALL = All 99 Presets and System settings are dumped.

ACTIVE = Only the currently loaded Preset is dumped.

PRESET = All 99 Presets are dumped.

SYSTEM = All System Mode settings are dumped.

Press the PRESETS button once to back-up one level to MIDI menu.
Press the PRESETS button twice to go to top level System menu.

[CLK IN] – MIDI Input Clock Enable (ON, OFF)

Press the HOTKNOB button to select. Turn the Knob to set MIDI Clock Receive ON or OFF. If ON, MIDI Clock is used as a Tempo source.

Press the PRESETS button once to back-up one level to MIDI menu.
Press the PRESETS button twice to go to top level System menu.

[CLK.OUT] – MIDI Output Clock Enable (ON, OFF)

Press the HOTKNOB button to select. Turn the Knob to set MIDI Clock Transmit ON or OFF. If ON, the H9 will transmit its tempo as a MIDI Clock.

Press the PRESETS button once to back-up one level to MIDI menu.

Press the PRESETS button twice to go to top level System menu.

[CLK.FLT] – MIDI Clock Filter Enable (ON, OFF)

Press the HOTKNOB button to select. Turn the Knob to set MIDI Clock Filtering ON or OFF. If ON, H9 can be used with an unstable MIDI Clock source, but will be slower and less precise at tracking clock speed changes.

Press the PRESETS button once to back-up one level to MIDI menu.

Press the PRESETS button twice to go to top level System menu.

[GLOBAL] – Global Settings

Press the HOTKNOB button to select. Turn the Knob to select either [MIX] or [TEMPO].

[MIX] – Enable Global MIX (ON, OFF)

Press the HOTKNOB button to select. Turn the Knob to set Global MIX. Mix is always stored with Presets, but the stored value is not used if Global Mix is ON. With Global ON, the current Mix is used for all Presets.

Press the PRESETS button once to back-up one level to UTILITY menu.

Press the PRESETS button twice to go to top level System menu.

[TEMPO] – Enable Global Tempo (ON, OFF)

Press the HOTKNOB button to select. Turn the Knob to set Global Tempo. Tempo is always stored with Presets, but the stored value is not used if Global Tempo is ON. With Global ON, the current Tempo is used for all Presets.

Press the PRESETS button once to back-up one level to UTILITY menu.

Press the PRESETS button twice to go to top level System menu.

[TUNER] – Tuner Settings

Press the HOTKNOB button to select. Turn the Knob to select either [AUDIO] or [CALBRT].

[AUDIO] – Choose audio function when Tuner is active (BYPASS, MUTE)

Press the HOTKNOB button to select. Turn the Encoder to choose BYPASS or MUTE. When BYPASS is selected, whenever the H9's tuner is enabled, the audio input is connected to audio out. When MUTE is selected, audio is muted when tuning.

Press the PRESETS button once to back-up one level to TUNER menu.

Press the PRESETS button twice to go to top level System menu.

[CALBRT] – Calibrate Tuner's Reference Frequency (440 Hz)

Press the HOTKNOB button to select. Turn the Encoder to adjust the Tuner's reference frequency from 420 Hz to 460 Hz. 440 Hz standard is the default. This value will also establish the 'A' tuning for the pitch effects.

Press the PRESETS button once to back-up one level to TUNER menu.

Press the PRESETS button twice to go to top level System menu.

[UTILS] – Utility Functions

After entering System mode, turn the Knob to select [UTILS], then press the HOTKNOB to enter the Utility functions settings mode. Turn the Knob to scroll through the Utility functions.

[PRESET] – Select the range of Active Preset (L01 – H99)

Press the HOTKNOB button to select. Press the Left Footswitch and turn Knob to set the lower limit and the Right Footswitch and turn Knob to set the higher limit. The default is [01--99]. Only Active Presets can be loaded by Footswitch and PRESETS button and Knob on the stomptbox. All Presets may still be loaded using MIDI program change.

Press the PRESETS button once to back-up one level to UTILITY menu.

Press the PRESETS button twice to go to top level System menu.

[SOURCE] – Select Source Instrument (GUITAR, BASS, SYN.LD, SYN.BAS)

Press the Encoder to select. Turn Encoder to select the type of instrument (SYN.LD=Synth Lead, SYN.BAS=Synth Bass). Each instrument setting optimizes the pitch algorithms and adjusts the ranges of filter knobs to best complement the selected source instrument.

Press the PRESETS button once to back-up one level to UTILITY menu.
Press the PRESETS button twice to go to top level System menu.

[PDLCAL] – Expression Pedal Calibrate (ON, OFF)

Press the HOTKNOB button to select. Select OFF to disable automatic Expression Pedal calibration.

Press the PRESETS button once to back-up one level to UTILITY menu.
Press the PRESETS button twice to go to top level System menu.

[EXPTIP] – Select function of Auxiliary Switch Tip [SWITCH, PEDAL]

Press the HOTKNOB button to select. The rear panel 1/4 inch stereo phone jack labeled, “EXP” can be connected to an expression pedal or up to three auxiliary switches. The function of the “tip” must be selected to respond to an expression pedal or aux switch. The default function is [PEDAL].

Press the PRESETS button once to back-up one level to UTILITY menu.
Press the PRESETS button twice to go to top level System menu.

[SER*] – Serial Number (H9-xxxxx)

Press the HOTKNOB button to display your H9’s unique serial number. The five digit number will scroll by. You’ll need to know this number to request support and to download software updates.

Press the PRESETS button once to back-up one level to UTILITY menu.
Press the PRESETS button twice to go to top level System menu.

[SW VER] – Software Version

Press the HOTKNOB button to display your H9’s software version.

Press the PRESETS button once to back-up one level to UTILITY menu.
Press the PRESETS button twice to go to top level System menu.

Restoring Factory Settings/Software Updates

Restoring Factory System Settings

To restore System settings, power up the H9 while simultaneously pressing the Right Footswitch and the HOTKNOB button until [CLEAR] is displayed.

Restoring Factory Presets and System Settings

CAUTION: This function will overwrite any Presets that you have saved.

To restore Factory Presets and all System settings, power up the H9 while simultaneously pressing the Right Footswitch and the big Knob until [INITIA] is displayed.

Software Updates

The H9's software can be upgraded over Bluetooth, USB or MIDI. To use USB, the USB connection to the computer must be in place before powering up or the H9 will default to MIDI. Information on software updating can be found at www.eventide.com.

Diagnostics

The H9 can run a diagnostics program. This facility is intended for use by qualified repair personnel. To run diagnostics, power up the H9 while holding down the Left Footswitch to run diagnostics.

MIDI Implementation Chart

Mode 1: Omni On, Poly Mode 2: Omni On, Mono O=Yes
 Mode 3: Omni Off, Poly Mode 4: Omni Off, Mono X=No

	Function	Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1-16 1-16	1-16 1-16	
Mode	Default Messages Altered	3 X X	1 X X	
Note Number	True Voice	X	X	
After Touch	Key's Channels	X X	X X	
Pitch Bender		O	O	
Control Change	0 : 127	O	O	CC0 - CC99
Program Change	True#	O	O	
System Exclusive		O	O	ID: XXh Bulk Dump/ Rcv only
System Common	Song Pos Song Select Tune	X X X	X X X	
System Real Time	Clock Commands	O X	O X	
Aux Messages	Local ON/OFF All Notes OFF Active Sense Reset	X X X X	X X X X	

Specifications

Analog I/O

Input Impedance

600K ohms (mono or stereo)

Output Impedance

470 ohms

Recommended Load Impedance

10K ohms or greater

Connectors

Input 1 (mono) – ¼ inch mono phone jack

Input 2 – ¼ inch mono phone jack

Output 1 (mono) – ¼ inch mono phone jack

Output 2 – ¼ inch mono phone jack

Expression Pedal – ¼ inch stereo phone jack

Mini USB – Use USB 2.0 cables only

DC Adaptor Jack – 2.5mm x 5mm center pin (+)

MIDI In – Five pin DIN (Female)

MIDI Out/Thru – Five pin DIN (Female)

Power Supply

9 VDC, 500 ma, center pin (+)

Dimensions

English: 5.25" (H) x 4.65" (W) x 1.96" (D)

Metric: 133 (H) x 118 (W) x 50 (D) mm

Weight

1.53 lbs, 0.7 kG

Specifications subject to change without notice.

LIMITED WARRANTY

Eventide Stompboxes are built to exacting quality standards and should give years of trouble-free service. If you are experiencing problems which are not cleared up or explained as normal in the manual, your recourse is this warranty.

What the warranty does and does not cover

Eventide Inc. warrants the above-identified unit to be free from defects in workmanship and material under normal operation and service for a period of one year from the date of purchase, as detailed below. At our discretion within the warranty period, we may elect to repair or replace the defective unit. This means that if the unit fails under normal operation because of such defect, we will repair the defective unit at no charge for parts or labor. We also assume a limited responsibility for shipping charges, as detailed below.

IN NO EVENT WILL WE BE RESPONSIBLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES CAUSED BY ANY DEFECT, AND SUCH DAMAGES ARE SPECIFICALLY EXCLUDED FROM THIS WARRANTY. Our sole obligation is to repair or replace the defective unit as described herein.

The warranty DOES NOT COVER any damage to the unit regardless of the cause of that damage. The unit is a complex piece of equipment that does not react well to being dropped, bounced, crushed, soaked or exposed to excessively high temperatures, voltages, electrostatic or electromagnetic fields. If the unit is damaged for these or other causes, and the unit is deemed to be economically repairable, we will repair it and charge our normal rates.

The warranty DOES NOT COVER shipping damage, either to or from Eventide.

Who is covered under the warranty

The warranty applies to the original purchaser of a new unit from Eventide or an Authorized Eventide Dealer. It is your responsibility to prove or to be able to prove that you have purchased the unit under circumstances which affect the warranty. A copy of your purchase invoice is normally necessary and sufficient for this.

Units with the serial number plate defaced or removed will not be serviced or covered by this warranty.

When the warranty becomes effective

The one-year warranty period begins on the day the unit is purchased from an Authorized Eventide Dealer or, if the unit is drop-shipped from Eventide, on the day shipped, plus a reasonable allowance for shipping delays. This applies whether or not you return your warranty registration form.

Who performs warranty work

The only company authorized to perform work under this warranty is Eventide Inc., Little Ferry, New Jersey. While you are free to give authorization to anyone else (or to work on it yourself), we will not honor claims for payment for parts or labor from you or from third parties.

Shipping within the 50 United States

You are responsible for getting the unit to our door at no cost to us. We cannot accept collect or COD shipments. We will return the unit to you prepaid, at our expense, using an expeditious shipping method, normally United Parcel Service.

Shipping outside the 50 United States

If you purchased the unit from a dealer in your country, consult with the dealer before returning the unit. If you wish to return the unit to us, please note the following:

1. The unit must be prepaid to our door. This means that you are responsible for all shipping charges, including customs brokerage and duties. When a unit is shipped to us it must be cleared through United States Customs by an authorized broker. You must make arrangements for this to be done. Normally, your freight forwarder has a branch in the United States which can handle this transaction.

2. All shipments will be returned to you collect. If this is impossible because of shipping regulations or money is due us, we will request prepayment from you for the appropriate amount. If you nominate a freight carrier, we reserve the right to select a substitute if necessary.

This warranty gives you specific legal rights and you may also have other rights which vary from location to location.

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