Diamond GUITAR PEDALS

Counter Point

Multitap delay

User Manual
v1.0 • Jan 19, 2015

INTRODUCTION

The Counter Point is a unique delay pedal - using carefully constructed sets of multiple delay signal ‘taps’ and variable sample rate modulation, it offers four different delay modes with richly ethereal tones flexible enough to support a wide variety of musical styles.

By utilizing the same variable sample rate concept used in analog bucket brigade modulation, and adding custom analog anti-aliasing and reconstruction filters and companding, we’ve captured the essence of analog modulation and delays... in a small footprint, with advanced control features, and standard 9V powering. The Counter Point’s digital sampling engine’s sole function is to copy, delay, and reproduce the delay path signal with little or no mathematical manipulation at all* - and unlike standard analog/digital conversion codecs used in the vast majority of digital audio gear, there are no digital anti-aliasing and reconstruction filters used here. This proven delay architecture delivers richly dynamic tone to thousands of Memory Lane Jr and Quantum Leap’s already in use today. All signal paths around this sampling engine are analog (the direct path, feedback path, and everything before and after the digital sampler), signal paths that are carefully designed to provide a unique sonic signature that is unmistakably Diamond.

We hope you’ll enjoy using this pedal as much as we have enjoyed designing it.

** well, almost no manipulation at all....in the Counter Point there is a tiny bit of simple signal processing to add the multi-path delays*

Remember to protect your hearing and wear appropriate hearing protection when playing loud…

FEATURES

- multi-tap delay with four unique operational modes
- seamless knob or tap tempo delay time setting
- intelligent mode memory remembers whether you had last used the knob or tap delay setting when you toggle back to that mode
- user selectable tap delay 'hold down' mode to toggle modulation on /off in each mode
- adjustable modulation depth on delays, with modulation speed changing with delay time in the 'Extra Faux Tape' EFT mode
- analog signal paths surrounding a simple sample-delay-playout engine with special design variable sample rate A/D and D/A convertors
- user selectable True Bypass or Buffered with Delay Trails operation
- premium audio components, including Panasonic capacitors and 0.5% resistors
- bi-color LEDs provides visual indication of modes, LFO and delay times
- TapView (TM) allows the player to visually see the tap tempo speed on the ON/OFF LED while tapping
- AutoDouble (TM) tap algorithm in the Vintage mode intelligently sets the delay rate twice as fast when tapping rates slower than the max delay time of 600 ms
- standard 9V negative tip adapter ready, with 'gig backup' battery power life of 2 hours
- compact Hammond 1590BB cast aluminum case (approx 4.7 x 3.7 x 1.2 inches)

A NOTE ABOUT POWERING THE COUNTER POINT

The Diamond Counter Point is designed to be powered from either a 9V battery* (included), standard 9V negative tip DC power adapter or from a multi pedal power supply. Current draw is rated at a maximum of 70mA.

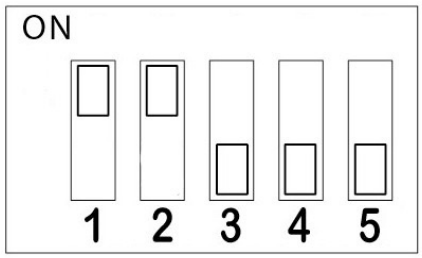
*Please note that battery life with a standard 9V is limited to approximately 2.5 hours. We recommend using a quality negative tip 9V power adapter designed for powering musical accessories or a 9V negative tip feed from a dedicated pedal power supply.

QUICK START GUIDE

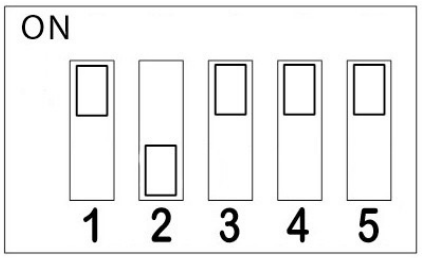
To get started quickly using the Counter Point, simply turn the unit on, bring DLY, MOD, FBK and MIX to roughly noon on the dial, then toggle the MODE switch to any of the four delay voicing modes. You really can't go wrong with any setting.

TRUE BYPASS OR DELAY TRAILS?

The Counter Point ships with the pedal set for delay trails. When bypassed using the ON/OFF switch, the delay repeats will trail off naturally.
Should you prefer to have the Counter Point operate in True Bypass mode, you will need to set the internal DIP switches as shown below:



True Bypass Setting

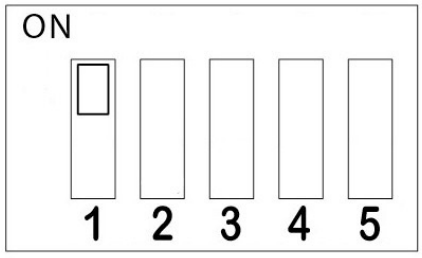


Buffered Bypass w/ Delay Trails

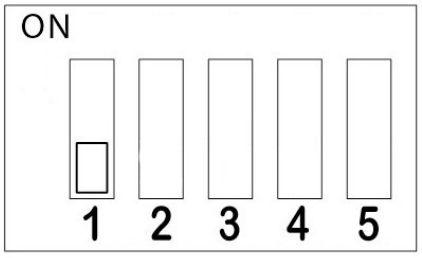
*Note that switch #1 is not related to the bypass setting but to the Kill-Dry mode noted below.

USING A PARALLEL FX LOOP?

If you plan on using the Counter Point in a parallel FX loop and would like to control the effect mix using your amp control, we recommend setting the Counter Point to 'Kill-Dry Mode'. In this mode, the pedal will output only the delays and not the dry signal. To select 'Kill-Dry' simply set DIP switch 1 as shown below:



Normal Mode



Kill-Dry Mode

CONTROLS EXPLAINED

The Counter Point offers 4 major delay modes, each accessible by sequentially toggling through using the MODE toggle switch. The modes can be identified by the color of the right hand side TAP/MOD LED. The following table briefly summarizes each mode and the purpose and function of user controls when in that mode. The modes will be discussed in further detail later in this section.

Mode	TAP/ MOD LED 'mode' color	DLY knob	MOD knob	TAP/MOD switch	ON/OFF LED color
Vintage	Flashing green	Controls delay time	Controls modulation depth, modulation speed is fixed	Tap for delay time, hold to toggle modulation on/off	Green when ON, red for modulation on
Galloping Eighths	Flashing yellow	Controls delay time	Controls modulation depth, modulation speed is fixed	Tap for delay time, hold to toggle modulation on/off	Green when ON, red for modulation on
Ambient	Flashing red	Controls delay time	Controls modulation depth, modulation speed is fixed	Tap for delay time, hold to toggle modulation on/off	Green when ON, red for modulation on
Extra Faux Tape (EFT)	Alternating green/red	Control delay time and modulation speed	Controls modulation depth, modulation speed is variable (varies with delay time)	Tap for delay time and modulation speed, hold to toggle modulation on/off	Green when ON, red for modulation on

MODE Switch

This toggle switch allows you to toggle through 4 different operational modes. Each mode is indicated on the TAP/MOD LED by a different color combination. In all modes, the TAP/MOD LED flashes to the tapped in rhythm.

Vintage (flashing green)- this max 600 ms tap delay mode is similar to the tap delay mode of the Quantum Leap, but with brighter analog filtering closer to the MLJr. It uses a unique 'sample smear' technique that smooths transients resulting in delay 'washes' - with a voicing similar to bucket brigade type delays.

The Vintage mode also includes our AutoDouble(TM) time feature for tap, where delay times tapped in between 600 and 1200 ms automatically get mapped to half the delay time (between 300 and 600 ms) so that tapping outside the available delay range still produces musical results.

Galloping Eighths (flashing yellow) - this mode's take on classic 80's dotted eighth heaven uses a mix of both a dotted eighth echo as well as a much quieter (one third the amplitude) quarter note tap added in. This mode has a maximum delay time of 900 ms. Having the low level quarter note added in does two things - it makes it easier to lock in the dotted eighth rhythm, and it also adds a very rich echo signature that generates some really cool frequency interactions and overtones when modulation is used. And for those who used two different delays (one dotted eighth, one quarter note) on their board for stacked timing, this mode can free up some board space.

Ambient (flashing red) - the ambient mode sits in a grey area between a tap delay and reverb. It has a carefully designed set of three echoes that are timed to not overlap and create a dense echo tail when used with a lot of feedback (echo regeneration). The very first echo tap is timed to be a 16th note delay, so it's almost like having a timed sparse reverb on hand. Because of the bit of additional 'math' used in forming the ambient response, and with the natural compression effects of the analog compander used in our architecture, this mode may need a bit higher levels in FBK and MIX to get comparable 'wet' levels to the other modes. The 'delay' range in this mode is also fairly narrow, from a small slapback like 'room' to more discrete 'air'. The tap switch can be used to set the overall delay time (with the first echo tap being a 16th note), but the narrow delay time range in this mode may make it simpler just to adjust the desired ambience on the DLY knob. Since the Counter Point remembers whether you last tapped or use the DLY knob in each mode, you can set the DLY knob uniquely for the Ambient mode, then use tap to set delay times for the other modes, and it will remember each delay for that mode as you toggle through.

As a starting point in this mode, set DLY to 3 PM, MOD to around 11 AM, and FBK and MIX to around 1 PM.

Extra Faux Tape (EFT) - we call this tap delay mode 'extra faux tape' as it really doesn't emulate any tape machine we know of, but it does offer fairly clean, straightforward repeats up to 1.2 seconds, with one major difference from other modes: the modulation speed runs at approximately the same rate as the delay time, as if the delay time was controlled by changing the playback rate of a tape machine with fixed heads. Modulation in the EFT mode is also 'glitchier' than the smooth modulation in the other three modes, with higher modulation depths giving very pronounced and abrupt pitch changes. And as with the other three modes, holding down the TAP/MOD switch toggles modulation on / off.

Mode	Min Delay Time (ms)	Max Delay Time (ms)
Vintage	80	600
Galloping Eighths	160	900
Ambient	160	300
Extra Faux Tape (EFT)	120	1200

DLY

The DLY knob sets the delay time manually in a continuously variable fashion. Min and max delay times are mode specific

MOD

The MOD knob sets the depth of the modulation effect applied to the delay repeats. Turning the control clockwise will increase the modulation effect. In the first three modes (Vintage, Galloping Eighths and Ambient), modulation speed is fixed, while in the EFT mode the modulation speed roughly matches whatever is set for the delay time. Also see 'TAP/MOD' below.

FBK

The FBK knob determines the amount of signal fed back from the output of the effect to its input, and controls the number of repeats that will result from a played note or chord. Turning this control clockwise increases the number of repeats. Setting this control to minimum at the fully counterclockwise position will result in zero feedback and a single repeat. Positioning the knob fully clockwise gives almost an infinite number of repeats - without going into oscillation - making it easy to do cool 'sound on sound' ambient effects.

MIX

The MIX knob determines the amount of effect signal to be added to the direct signal path, ranging from none at counterclockwise, to a few dB louder than the direct signal at full clockwise.

TAP/MOD

The TAP/MOD footswitch provides two primary functions - either for tapping in delay times (and modulation speed as well in EFT mode), or by holding down for a second, toggling modulation on and off in the current mode.

ADDITIONAL FEATURE NOTES

TAP VIEW

As with the Tremolo, Memory Lane Jr, and Quantum Leap, the Counter Point provides TapView (TM) for temporary visual indication of tap tempo settings on the ON/OFF LED while tapping the TAP/MOD footswitch and obstructing the usual tempo indication TAP/MOD LED.

LOW BATTERY INDICATOR

Upon detection of low battery levels, the Counter Point will set both LED's to solid yellow.

MODE POWER OFF SAVE

The current mode (Vintage, Galloping Eighths, Ambient, EFT) is saved to flash memory whenever changed by the MODE toggle, and will start up in the last used mode on power up.

MODULATION POWER OFF SAVE

The current modulation on/off status for each mode (Vintage, Galloping Eighths, Ambient, EFT) is saved to flash memory whenever toggled by holding down the TAP/MOD, and will retain this even after power cycling. This makes it simple to set up each mode with either modulation on/off as a 'permanent' association in that mode.

BETWEEN-MODE SETTING SAVES

As you toggle between modes, whether or not you have used the knob delay or tapped delay setting is saved for that mode, and reloaded when toggled back to that mode. An important clarification here is if you were last using the knob delay setting for a mode, on return to that mode it will read whatever is on the knob if it was changed while in another mode, but if you tapped in a delay in a mode the last time you set the delay there, it will retain the tapped delay value when you return to that mode. On power off however, only the MODE itself is saved in flash memory, not associated delay times etc.

WARRANTY

Your Diamond pedal is covered by a 5 year warranty on materials and workmanship. Please contact us by telephone (902-832-7139) or email info@diamondpedals.com if you experience any problems with your pedal. We're here to help!