

# PIGTRONIX

# *INFINITY 3*

## User's Guide



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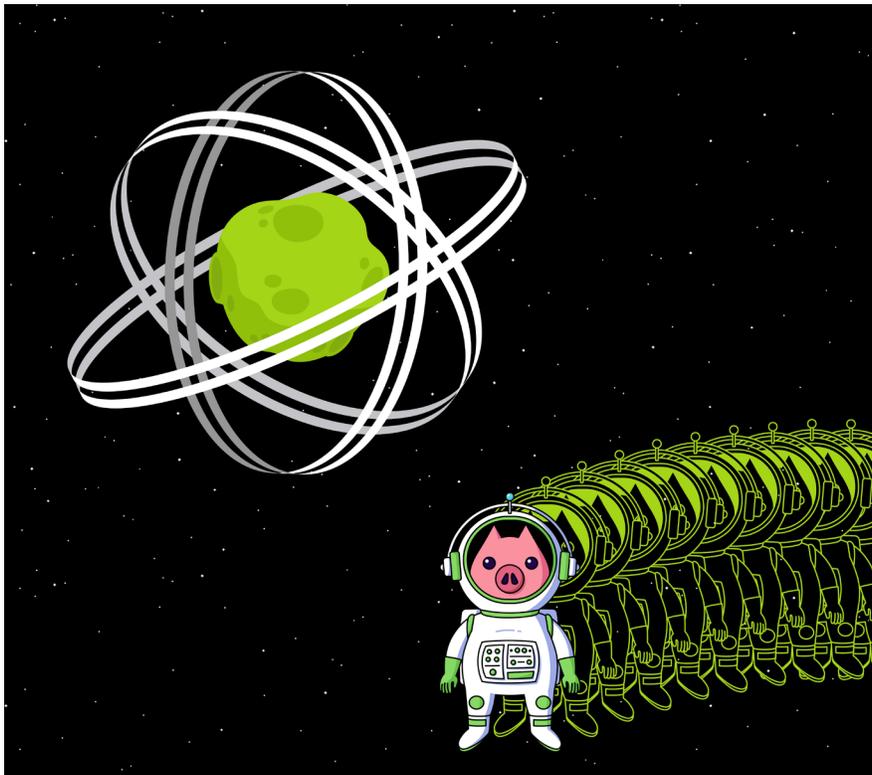
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# ***THE WIDE WORLD OF INFINITY 3***

Designed to be easy to use yet vastly powerful, Infinity 3 is the world's most musical stereo looping pedal. Think of it as a foot-operated, digital version of a multi-track tape recorder. Utilizing the quantization and delayed command functions found in other looper pedals, the Pigtronix approach is to make all commands instantaneous. Remarkable processing power allows any action to be executed with approximately 1 millisecond of latency and high-fidelity recording at 24 bits with a variable sample rate that defaults to 48 kHz. Infinity 3 is a mirror of musical reality: what you put in is what you get out.

Complementing the state-of-the-art digital platform of the Infinity 3 is a beautifully executed analog input and output section that provides transparent pass-through audio as well as superior headroom and transistor-based limiting circuitry to prevent digital distortion, even at extreme signal levels.

To put it succinctly, this looper sounds excellent.  
It will not ruin your tone like so many other looper pedals that have come before.



# EXPLANATION OF CONTROLS





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## Footswitches

### 1 Loop 1

This footswitch controls the looping actions for Loop 1.

Pressing the Loop 1 footswitch at any time will arm Loop 1, illuminating the corresponding red LED and indicating that Loop 1 is ready to receive Play, Stop, Overdub and Undo commands. Loop 1 is armed by default upon power up.

*If there is no audio recorded* on Loop 1, pressing the Loop 1 footswitch will begin recording immediately. Once the loop is recording, pressing the Loop 1 footswitch again will close the loop and begin playback.

*During playback*, pressing the Loop 1 footswitch will open an overdub layer on Loop 1. Once an overdub is recording, pressing the Loop 1 footswitch again will close that overdub layer and continue playback. When a loop has been recorded but is stopped, pressing the Loop 1 footswitch will resume playback from the beginning of the loop.

### 2 Loop 2

This footswitch controls the looping actions for Loop 2, and functions the same way as the Loop 1 footswitch (see above).

### 3 Stop

*Quickly pressing* the Stop footswitch will stop audio playback on one or both loops, depending on the Arm/All setting (see below).

*Holding down* the Stop footswitch for at least two seconds will cause loop audio to be erased from one or both loops, depending on the Arm/All setting.

## LEDs

### 4 Loop 1, Loop 2, and ARM LEDs

The Loop 1 and Loop 2 footswitch LEDs share the same color coding.

Green = Playback

Red = Recording

Orange = Overdub

Both Loop 1 and Loop 2 footswitch LEDs are accompanied by a red square Arm LED that indicates which loop is currently armed.

When an *external MIDI Clock* is used, the Arm LED for the currently selected Loop will blink at the received tempo.

There is also an optional colorblind mode that utilizes flickering light patterns to supplement the colors.

Solid = Playback

Slow Flicker = Recording

Fast Flicker = Overdub

### 5 Stop LED

The Stop LED will glow red when loop audio is stopped.

When a delayed command has been initiated, the relevant footswitch, Arm, and Stop LEDs will blink repeatedly to indicate a pending action, and will turn solid in color once the action is taken. At the end of the loop cycle of the currently armed loop, the stop, multi-segment digit, associated footswitch LED, and arm LEDs will all flash. The other (non-armed) loop's associated LEDs will flash at the end of its loop cycle as well.

### 6 Clip LED

This red LED between the Loop Volume knobs will indicate when the input signal is reaching the maximum headroom of the Infinity 3's recording engine and begins to trigger the analog limiter stages. If the Clip LED is lighting up solid red, reduce the output level of your instrument until the Clip LED is just beginning to light up at the peaks in your audio signal.

## **7 Multi-Segment Digit**

This numeric display tells the user which preset is currently selected (within the selected bank) and is also used to confirm firmware update “F”, and to indicate copy in progress “C” and USB active “U” states.

In Varispeed mode a “-” is displayed. Its height represents the relative speed of the sample rate.

## **8 Decimal Point**

Located to the right of the digit, this LED lights up to indicate that audio has been recorded to a preset bank. When changes have been made to a preset but not saved, the decimal point will blink. Once the changes have been saved, the decimal point will return to solid.

### **Jacks**

## **9 DC Power**

Use only the 18-Volt, 300mA, negative-tip power supply that came with your Pigtronix Infinity 3. Using the wrong power supply is likely to result in a damaged pedal.

## **10 In 1**

Looper input 1. Use this input for mono sound sources.

## **11 In 2**

Looper input 2. Use this input for the second input of a stereo signal, or a second instrument using Input Split. When nothing is connected to Input 2, the signal from Input 1 is automatically passed to Input 2.

## **12 Out 1**

Main output containing pass-through and loop audio. Use a standard [TS] ¼” instrument cable to connect to an amp, mixer, or DI.

## **13** Out 2

Second output containing pass-through and loop audio. Use Out 2 for stereo instruments, or when looping two separate instruments, or when you want to split a mono signal so that it can be output to two separate destinations.

## **14** Aux 1

This output contains Channel 1 Loop Audio ONLY. This output is primarily intended for use as a loop only monitor send to a drummer, bandmate or FOH mixer.

## **15** Aux 2

This output contains Channel 2 Loop Audio ONLY. This output is primarily intended for use as a loop only monitor send to a drummer, bandmate or FOH mixer.

## **16** Undo

Connect a single, dual, or triple footswitch momentary remote here (such as Pigtronix Universal Remote) using a TRS (balanced 1/4") cable to enable Overdub, Undo, Redo, Reverse, and Varispeed.

## **17** Expression

This is the TRS (balanced 1/4") input for an expression pedal that can be used for three different purposes: Volume control of loop audio, Loop Aging, or Varispeed. For details on how to use the Expression Pedal, see Expression Pedal Functions later in this manual.

## **18** MIDI

This provides a connection for MIDI beat clock sync, or a MIDI controller. Infinity 3 will sync to MIDI whenever a MIDI Beat Clock signal is preset. The Infinity 3 can also be configured to obey MIDI Start, Stop and Song Select commands as well as CC/Note control over every feature. For details on how to use MIDI, see the MIDI section later in this manual.

## **19** USB

This provides a connection to a PC or MAC computer for loading and off-loading loop audio, preset management, audio routing configuration and firmware updates. There are no drivers to install—just connect to your computer and you're good to go.

When the USB port is connected, the Infinity boots into USB mode and will not function as a looper until the USB is disconnected and the pedal is rebooted.

## Toggle Switches

### SYNC / MULTI

*Quickly pressing* the Sync / Multi switch turns the synchronization between the two loops on and off.

When Sync is *off*, the button is not lit. In this mode, the lengths of the two loops are unrelated and playback is not synchronized.

When Sync is selected (RED), the lengths of the two loops are synchronized at a 1:1 ratio.

*Holding down the SYNC / MULTI* button turns the switch ORANGE and activates the SYNC options menu, allowing you to alter the ratio between the two loops using the rotary encoder to select a value between 1 and 99. Any value greater than 1:1 will cause the button to turn GREEN to indicate that the sync value is set to a multiplier value greater than 1:1. Push and hold the *SYNC / MULTI* button any time to check or change your multiplier value.

When the two loops are in SYNC, Loop 1 sets the initial length. Once recording on Loop 2 is initiated, the Arm light will blink and it will wait to begin recording until the top of the next loop cycle. Loop 2 will automatically stop recording and begin playback when the proper length multiple has been reached.

You can alter the sync multiplier at any time while recording, by *manually closing* Loop 2 with the Loop 2 footswitch. This will cause Loop 2 to close at the end of the current loop cycle. The arm light will blink to indicate that Loop 2 is about to close. To cancel this operation, hit the Loop 2 footswitch again and it will continue recording until the full multiplier factor has been reached.

Once Loop 2 is recorded, the Sync is locked to the multiplier you have selected. It is possible to turn Sync on and off at this point, but *you must delete Loop 2* if you want to switch to a different multiplier value.

Once Loop 2 is recorded, its length is fixed. However, turning Sync *off* after that point allows you to start playback of Loop 2 at any time, not just at the start of Loop 1. When Sync is on, Loop 2 will always replay from the start of Loop 1.

During recording, whichever loop is armed will automatically close once you hit the maximum allowable length. Overall recording time for Loop 1 is dependent on the multiplier value you've selected for the current preset, the size of the memory card you have installed in your Infinity 3, and the number of preset slots you have assigned. If the loop you are trying to create is too long for the current setting, lower the multiplier value or reduce the number of presets.

## **SERIES / PARALLEL**

When Parallel is selected (RED), Loop 1 and Loop 2 can play together at the same time.

When Series is selected (GREEN), only one of the two loops can play at any given time. This is handy for verse/chorus-type song structures.

*Holding down the SERIES / PARALLEL button turns the switch ORANGE and activates the Expression pedal options menu, allowing you to select between Loop Volume, Loop Aging and Varispeed expression pedal functions using the rotary encoder.*

## **STEREO / SPLIT**

When Stereo is selected (RED), both loops record stereo audio coming from Inputs 1 and 2.

When Split is selected (GREEN), Loop 1 gets audio from Input 1 only and Loop 2 gets audio from Input 2 only.

For more options and details, see the Infinity Rules Stereo / Split section below.

*Holding down the STEREO / SPLIT button turns the switch ORANGE and activates the Remote Switch Varispeed Interval menu, allowing you to set the desired musical interval by semitones up to 1 octave using the rotary encoder.*

## **ARM / ALL**

*Quickly pressing the ARM / ALL switch will toggle between ALL (GREEN) and ARM (RED) modes.*

*When ALL is selected (GREEN), the Stop footswitch will stop playback on both loops. The All functionality also applies to the erase command. With ALL selected, holding down the Stop footswitch will erase both loops. The All functionality also applies to the Play command. Once the loops are stopped, hitting either loop footswitch will resume playback on both loops.*

*When ARM is selected (RED), the Stop footswitch will stop playback only on the armed loop. The arm functionality also applies to the erase command. In Arm mode, holding down the Stop footswitch will erase only the armed loop (to stop both loops in Arm mode, hit the Stop footswitch twice within 1 second). The Arm functionality also applies to the Play command. When loops are stopped, pressing a loop footswitch will only resume playback of the currently armed loop.*

Certain Remote Switch functions also follow the Arm/All setting and many MIDI CC/Note messages contain values that also specify Arm or All control. For more information, please see the description of the Remote Switch functionality and MIDI implementation later in this manual.

*Holding down the ARM / ALL button turns the switch ORANGE and activates the Loop Aging menu, allowing you to select a loop aging value using the rotary encoder.*

## **CUE / FADE**

When CUE / FADE is turned off, the button is not lit and audio will stop immediately when you push the Stop footswitch.

When CUE is selected (RED), pressing the Stop footswitch will stop the loop audio when it reaches the end of the current loop cycle.

When FADE is selected (GREEN), pressing the Stop footswitch will trigger a steady decrease in loop audio in volume until the end of the current loop cycle.

All three of the above settings obey the ARM / ALL setting. In All mode, when audio has been recorded on both Loop 1 and Loop 2, CUE and FADE actions will follow the length of Loop 2.

*Holding down the CUE / FADE* button turns the switch ORANGE and puts you into the Fade Multi menu, allowing you to select how many loop cycles it takes to fade out using the rotary encoder.

## **SAMPLE RATE**

The default sample rate for Infinity 3 is 48kHz.

When 24kHz is selected (RED), the looper runs at  $\frac{1}{2}$  speed.

When 12kHz is selected (GREEN), the looper runs at  $\frac{1}{4}$  speed.

*Holding down the SAMPLE RATE* turns the switch ORANGE and activates the Sample Rate Interval menu, allowing you to change the sample rate in real time using the rotary encoder.

Prior to recording audio, the Sample Rate can be set to 24kHz or 12kHz, allowing the user to increase the sample rate after recording, causing the audio to speed up.

## Toggle Switch Functionality Summary Chart

Toggle Switch UI	Off	Green	Red	Orange (push and hold)
SYNC / MULTI	SYNC off	MULTI	1:1	Sync Multiplier Menu
SERIES / PARALLEL	N/A	SERIES	PARALLEL	Expression Options Menu
STEREO / SPLIT	N/A	Input Split	Stereo	Remote Switch Varispeed Interval Menu
ARM / ALL	N/A	ALL	ARM	Loop Aging Menu
CUE / FADE	INSTANT	FADE	CUE	Fade Multi Menu
SAMPLE RATE	48kHz	12kHz	24kHz	Sample Rate Menu

# ***INFINITY 3 RULES***

## **Arm**

Arming a loop is achieved by pressing the footswitch that corresponds to the desired loop. The Arm light above the selected loop will glow red indicating its status as armed. A loop must be armed in order to accept further commands. When Infinity 3 powers up initially, LOOP 1 is armed by default. Loop 2 cannot be armed until material is recorded on Loop 1.

## **Record**

Once a loop is armed, pressing the footswitch for that loop will begin recording. The corresponding loop LED will glow red to indicate recording. You must record to Loop 1 first. You will be able to record on Loop 2 once there is audio recorded on Loop 1.

Pressing a Loop footswitch after the loop has started recording will stop recording and immediately begin playback. The loop LED will glow green to indicate playback.

Pressing the Stop footswitch while a loop is recording will stop recording without immediate playback. You will need to press the appropriate loop footswitch again to begin playback.

## **Jump Record**

Pressing the Loop 2 footswitch while Loop 1 is recording will close Loop 1 and begin recording on Loop 2.

In parallel mode, Loop 1 will immediately begin playback when Loop 2 starts recording.

In series mode, Loop 1 will simply close and be ready for playback the next time you hit the Loop 1 footswitch.

## **Play**

When a loop has been recorded but is stopped, pressing that loop's footswitch will restart playback. The corresponding LED will glow green to indicate playback.

The Play function is tied to the ARM / ALL setting.

## **Stop**

Pressing stop will stop audio playback.

The Stop function is tied to the ARM / ALL setting.

Double pressing the Stop footswitch within 1 second will override the ARM / ALL and CUE / FADE settings and will stop all loop audio.

## **Erase**

To erase a loop, press and hold down the Stop footswitch.

If a loop is stopped and armed, pressing the Undo remote switch will erase that loop.

When the erase command is triggered, the Stop LED, the current Arm LED, and the Multi-Segment Digit will flash once to indicate audio has just been erased.

The Erase function is tied to the ARM / ALL settings.

## **Overdub**

Overdub lets you add additional material to the original loop.

Pressing the Loop footswitch when a loop is playing back will start overdubbing. The corresponding footswitch LED will glow orange to indicate Overdub.

Pressing the loop footswitch during an overdub will close that overdub.

After closing an overdub you can choose to reopen it by pressing the loop footswitch, any time before the end of the current loop cycle. At the end of the loop cycle, all audio recorded during that cycle is merged and saved as a single overdub.

Pressing Stop in the middle of an overdub will cancel that overdub and eliminate the dubbed audio.

## **Sync/Multi**

When Sync/Multi is turned off, the lengths of Loop 1 and 2 are unrelated and playback is unsynchronized. If Loop 2 is recorded when Sync/Multi is off, it cannot be turned off until Loop 2 is erased.

When Sync/Multi is turned on, the multiplier value determines the length of Loop 2 relative to Loop 1. At x1 (Sync) the lengths of Loop 1 and Loop 2 are identical, and they begin and end at the same points. Upon holding Sync/Multi and selecting any value greater than 1 using the Preset rotary knob, Loop 2 is that many times longer than Loop 1.

When Multi is on and the Loop 2 footswitch has been pressed, recording on Loop 2 will automatically begin at the start of the next Loop 1 cycle, and close after the selected number of cycles.

## **Series Loops**

When Series is on, only one of the two loops can be played back at any given time.

When Series is on, enabling playback or recording on a loop will immediately stop playback of the previously selected loop, closing any overdub that was in progress.

In Series mode, when recording on Loop 1, pressing the Loop 2 footswitch will close Loop 1, and will simultaneously arm and begin recording on Loop 2. Pressing the Loop 1 footswitch next will cause Loop 2 to close and will simultaneously arm and begin playback on Loop 1.

## **Series Cue and Fade**

In Series mode, when Cue is selected, switching between loops at any time will cue the selected loop to begin playback automatically at the end of the current loop cycle.

Similarly, when Fade is selected, switching between loops at any time will cue the selected loop to begin playback automatically at the end of the current loop cycle.

## **Series Overdub**

When recording an overdub, the overdub will not save until it is closed and a loop boundary has been passed. As a result, when CUE / FADE is turned off in Series mode, switching loops right after recording an overdub will result in the overdub not being present when you switch back to the other loop. However, Cue and Fade automatically close the recording at the end of the loop cycle—this ensures that the Overdub you just recorded gets saved. For this reason, it's best to always use Series mode with the Cue or Fade setting. You can always accomplish an instant stop, by double pressing the Stop switch.

## **Input Split**

The Input Split function is intended for isolating Loop 1 to audio channel 1 and Loop 2 to audio channel 2. This is helpful if you want to loop multiple instruments on isolated, yet synchronized loops.

When nothing is plugged into Input 2, then the audio from Input 1 becomes the source for Input 2 (as well as Input 1) and the Input Split function allows you to record separate loops for the left and right output channels.

## **Presets**

The Infinity 3 allows you to store and recall up to 50 presets, which consist of audio that you've either recorded directly into the pedal, or audio you've loaded onto the pedal from your computer using the app. Each preset includes a Loop 1, as well as a Loop 2 if you've recorded a second loop.

The 50 presets are organized into five banks of 10.

## **Loading**

To Load a preset, simply turn the Preset knob until you arrive at the desired preset, then press the knob to select. The Multi-Segment Digit displays the preset number.

To cancel the load process at any time, hit the Stop footswitch, or simply turn the preset knob to return to the currently loaded preset.

## **Saving**

To Save a preset you have created, push and hold the preset knob for 2 seconds, until the digit begins flashing. Turn the preset knob to select the bank you want to save the loops in and then push down and hold the preset knob for 2 seconds to finalize the save. To cancel the save process at any time, hit the Stop footswitch.

Preset 0 does not store any loops, it is the blank canvas. If you try to save a loop to Preset 0, the digit will show you a “-” symbol, indicating that you should save this audio somewhere else by turning the encoder to select a different preset slot.

The decimal point will illuminate to indicate that audio is present in a Loop bank. When changes have been made but not saved, the decimal point will blink. If you want to keep your changes, simply follow the save process explained above without changing the selected bank. When the changes are saved, the decimal point will stay on.

## **Copying**

To copy a preset from one bank to another simply initiate the save process as explained above on a bank that already contains audio.

Being able to copy presets allows you to create different versions of loops with the same starting point. It also facilitates the reorganization of preset locations (you can move presets, for example, by copying a preset to the location you want to move it to, then deleting the original preset).

In certain instances while saving, the Infinity 3 may need to quickly copy data from one sector of the disk to another. When this happens, the digit will show a flashing “C” while the copy is in process.

## **Erasing**

To erase saved audio from a preset (for example, erasing one of the loops), the audio must first be erased by pressing and holding the Stop footswitch. Then the modified loop must be saved using the process previously described.

## Loop Aging

Press and hold the ARM / ALL switch to activate the Loop Aging Menu. The digit will show “A” and “-” indicating that Loop Aging is currently turned off. Turn the rotary encoder to select the desired Loop Aging value.

“-” shows that Loop Aging is turned off. Digits [0-9] represent variable feedback decay. The lower the number, the faster the loop decays. For example a “0” means no feedback, so an overdub disappears after one playback cycle.

Like everything else on the Infinity 3, Loop Aging happens in real time, so you can turn Loop Aging on and off (or adjust it with an expression pedal) as much as you want throughout the course of a single loop cycle.

You can enter the Loop Aging menu at any time, even during playback. Loop Aging settings will be saved when you save your preset.

Loop Aging only takes place when you are in an Overdub state, and only applies to the armed loop. When you are in normal playback, the loop does not decay.

Undo works as expected, allowing you to Undo or Redo any Loop Aging that you let happen during an overdub, no matter how many times you let the loop cycle.

## Varispeed

Varispeed allows you to change the pitch (and speed) of your looped audio by altering the recording and playback sample rate. This change can be made in real time using an expression pedal, remote switch, or MIDI. Further details are provided in the Remote Switch, Expression Pedal and MIDI sections respectively.

There are many ways to change the sample rate on the Infinity 3. Some of them are best thought of as sample rate changes, while others are best thought of as pitch changes. All of them change both the pitch and length of recorded material.

You can change the sample rate by pressing and holding the SAMPLE / RATE button. This will allow you to change the sample rate in semitones by turning the rotary encoder.

The Pigtronix Universal Remote Switch can change the sample rate by a predefined musical interval. Push and hold down the Reverse switch on the remote switch for two seconds to allow Remote Switch control of Varispeed. The remote switch will now allow you to change the sample rate up and down. To resume normal remote switch operation, push and hold the reverse switch for two seconds again.

The sample rate can be set anywhere between 48 kHz to 12 kHz. As the sample rate is increased or decreased, both the pitch and length of the recorded audio changes. The sample rate is a global parameter and affects both loops simultaneously. By default, Reverse halves the sample rate (octave down) and Undo doubles it (octave up).

Playback Sample Rate			
Recording Sample Rate	12 kHz	24 kHz	48 kHz
48 kHz (Default)	2 Octaves Down Quarter Speed	1 Octave Down Quarter Speed	Same Pitch Same Speed
24 kHz	1 Octave Down Half Speed	Same Pitch Same Speed	1 Octave Up Double Speed
12 kHz	Same Pitch Same Speed	1 Octave Up Double Speed	2 Octaves Up Quadruple Speed

During Recording or Playback, you can use the Varispeed Remote Control Menu, the Expression pedal, MIDI commands, or MIDI Clock to adjust the sample rate as desired.

The current sample rate is saved at the same time that your current loop or overdub is saved. Sample-rate changes cannot be undone or redone using standard Undo or Redo functionality however, you can snap to any desired sample rate using the remote switch.

By default, loop audio that is recorded at 48 kHz can only get longer and lower in pitch. To enable sped-up, shorter, and pitched-up loops, this initial recording rate must be lowered before recording audio.

# of Semi-Tones	Interval	Up Speed (%)	Down Speed (%)
1	Minor Second	0.94	1.07
2	Major Second	0.89	1.13
3	Minor Third	0.83	1.2
4	Major Third	0.80	1.25
5	Perfect Fourth	0.75	1.33
6	Diminished Fifth	0.70	1.42
7	Perfect Fifth	0.67	1.50
8	Minor Sixth	0.63	1.60
9	Major Sixth	0.60	1.67
10	Minor Seventh	0.56	1.88
11	Major Seventh	0.53	1.88
12	Perfect Octave	0.50	2.00

Each of the footswitches and toggle switches can be pressed during power up to enable and disable a specialty global setting on the Infinity 3. These settings are sticky and will remain set even after removing power from the pedal.

<b>Switch</b>	<b>Boot Option</b>
LOOP 1	Auto Zero Record
LOOP 2	Mono Mixdown
STOP	Stutter Mode
SYNC / MULTI	Overdub Syncs to Loop Boundary
SERIES / PARALLEL	Ignore all MIDI Data Except Clock
STEREO SPLIT	Ignore MIDI Notes
ARM / ALL	Ignore MIDI Clock
CUE / FADE	MIDI Channel Select
SAMPLE RATE	Click Killer on/off
SAMPLE RATE + CUE/ FADE	Load Firmware Update
ARM / ALL + STEREO SPLIT	Reformat SD Card
SERIES / PARALLEL + SYNC / MULTI	Colorblind Mode

## **Auto Zero Record**

Hold Loop 1 during boot to toggle Auto Zero Record.

With Auto Zero Record *off* (Loop 1 LED is off during boot), the MIDI downbeat is reset on the first received note or MIDI start.

With Auto Zero Record *on* (Loop 1 LED is lit red during boot), the MIDI counter is reset on the initial record of Loop 1.

This effectively lets you establish the downbeat while still obeying an external MIDI clock source. This is very helpful in live looping situations.

## **Mono Mixdown**

Hold Loop 2 during boot to toggle Mono Mixdown.

With Mono Mixdown *off* (Loop 2 LED is off during boot), the Infinity 3 outputs in stereo (Default).

With Mono Mixdown *on* (Loop 2 LED is lit red during boot), both input channels run into a single output. Both Outputs 1 and 2 will receive the mono mix of all recorded material.

Mono Mixdown does not apply to pass through audio.

## **Stutter**

Hold Stop during boot to toggle Stutter.

Stutter replaces the functionality of the Reverse button on the Remote Switch.

With Stutter *off* (Stop LED is off during boot), the Reverse button on the Remote Switch functions as expected.

With Stutter *on* (Stop LED is on during boot), pressing the Reverse button on the Remote Switch causes the armed loop to be played from its start point immediately.

## **Overdub Syncs to Loop Boundary**

Hold SYNC / MULTI to turn on Overdub syncs to Loop Boundary.

Overdubs will open and close automatically at the loop boundary when triggered in advance.

## Click Killer

Hold down SAMPLE RATE to toggle the click killer on and off.

The loop boundary Click Killer is a super quick crossfade between the beginning and end of a loop. For musicians who want to construct sustained droning loops with overdubs that cross the loop boundary, turning the Click Killer off will result in seamless loops. For more rhythmic and song-based performances, we recommend leaving the Click Killer on.

## Reformat SD Card

Hold the ARM / ALL + STEREO / SPLIT during boot to reformat the microSD Card. Once the unit boots up, the display will show “r” while the card is reformatted and then it will show a digit. Use the rotary encoder to select how many presets you would like and then press down on the encoder to finish the reformat process.

*CAUTION: This action will erase all saved presets and recorded loop audio!*

## MIDI Boot Options

See the MIDI section below for information on the MIDI boot options.

# REMOTE SWITCH FUNCTIONS

We recommend that you use the Pigtronix Universal Remote switch with the Infinity 3.

Plug your remote switch into the Undo jack using a ¼” TRS cable.

SKU	Button #1 (RING)	Button #2 (TIP + RING)	Button #3 (TIP)
Infinity 3	REVERSE	-	UNDO
Infinity 3 [sample rate change]	DECREASE	REVERT TO INITIAL	INCREASE

## **Undo**

Undo is triggered by shorting the tip to the sleeve of the undo jack. To undo overdubs, a 1, 2, or 3 button momentary remote switch is required. This should be connected to the Undo jack using a TRS (balanced 1/4") cable.

*When an overdub is playing back* (Loop LED is green), pressing the Undo switch will remove that overdub instantly, and the overdub is retained for Redo if desired.

You can only undo your most recent overdub; once you open and then close a new overdub, the previous overdub layer will be merged with the base layer at the end of the current loop cycle and can no longer be undone.

*When an overdub is being recorded* (Loop LED is orange), pressing the Undo switch will cause the Infinity to permanently erase that overdub at the end of the current loop cycle. Any material from previous overdubs that have already been merged with the initial recording will not be undone.

## **Redo**

Once an overdub has been closed and then undone, it can be put back instantly by pressing the Undo remote switch once again. You can Undo and Redo an overdub as many times as desired.

## **Rec > Overdub > Play**

Once you have *started the base layer recording*, simply press the Undo switch to close your initial loop and go straight into playback with overdub active. Press the appropriate Loop footswitch as you normally would to close the overdub when desired and begin regular playback.

## **Instant Erase**

When one or both loops are stopped, hitting Undo will trigger an instant erase of the currently armed loop. This lets you simply leave the unit in ALL mode and retain the option to clear individual loops by pressing the Undo switch after the desired loop has been stopped.

## **Reverse**

Reverse is triggered by shorting the tip to the sleeve of the Undo jack. This is accomplished by connecting a 2 or 3 button momentary footswitch (such as the Pigtronix Universal Remote) to the Undo jack with a TRS cable.

Pressing the Reverse button triggers reverse playback at the beginning of the next loop cycle according to the ARM / ALL setting. Pressing Reverse while recording will instantly trigger reverse playback once the Loop is closed.

Pressing Reverse while playing a reversed Loop will revert it to its normal play direction after the next loop cycle.

Once you are in reverse playback, you can use the Undo switch to flip flop between forwards and reverse versions of the same layer instantly.

Hitting Reverse and then Undo before the end of the loop cycle will cancel the Reverse command.

## **Varispeed Remote Control**

This mode remaps the functionality of the Reverse and Undo switches to control the pitch of recorded material. To access the Varispeed Remote Control, press and hold the Reverse switch for 2 seconds. While in this mode, the STEREO / SPLIT button will turn Orange. To exit Varispeed Remote Control, press and hold the Reverse switch for 2 seconds.

A short press of Reverse decreases the pitch and increases the length of both loops by the interval selected using the Varispeed Interval Remote Menu.

A short press of Undo increases the pitch and decreases the length of both loops by the musical interval selected using the Varispeed Interval Remote Menu.

Pressing and holding undo, pressing both Reverse and Undo, or hitting switch #3 on the Pigtronix Universal Remote resets the sample rate to the value set when the loop was initially recorded.

The default varispeed Interval is one octave, enabling Reverse and Undo switches to double-speed and half-speed recorded audio respectively.

This varispeed interval can be changed using the Varispeed Interval Remote Menu, accessed by pressing and holding the STEREO / SPLIT button. After two seconds, the button will turn orange allowing you to turn the preset encoder to select the desired interval. The intervals are displayed as a number and decimal point; Each number represents a corresponding scale degree (2 is a second, 3 is a third, etc.) while the decimal point indicates whether that interval is flatted.

Display	Interval
2.	Minor Second
2	Major Second
3.	Minor Third
3	Major Third
4	Perfect Fourth
5.	Diminished Fifth
5	Perfect Fifth
6.	Minor Sixth
6	Major Sixth
7.	Minor Seventh
7	Major Seventh
8	Perfect Octave

## ***EXPRESSION PEDAL FUNCTIONS***

An industry standard low-impedance expression pedal can be connected to the Infinity 3 using a TRS ¼" cable to control any one of the following parameters: Loop Volume, Loop Aging, or Varispeed.

### **Expression Pedal Assignment**

When shipped from the factory, the Expression Pedal is assigned to control Loop Volume. The Expression Pedal can be assigned to control different parameters using the Expression pedal options menu, accessed by pressing the Parallel / Series switch for 2 seconds. The digit will show "E" and the current Expression pedal assignment (either "U", "A", or "≡" meaning Loop Volume, Loop Aging, or Varispeed respectively). Move the encoder to select the desired Expression pedal mapping.

### **Loop Volume Expression**

This is the default function of the Expression pedal. Moving the expression pedal towards the heel will turn the loop audio down from the level set by the individual loop volume knobs.

## Loop Aging Expression

When using the expression pedal Loop Aging control, toe maps to “no loop aging” and the numbers go down from 9 to 0 as you move towards the heel.

A (normally open) momentary footswitch (connected via TRS) can be used with loop aging in place of an expression pedal to get an instant “Loop Replace” function. Pressing the footswitch is functionally the same as placing an expression pedal in the heel down position.

## Varispeed Expression

This option allows the expression pedal to control sample rate. Moving the expression pedal towards the heel will decrease the sample rate, decreasing pitch and increasing loop length. When the Expression Pedal is moved it takes control of the sample rate and will remain in control until the Pitch Up or Down functions of the Varispeed Remote Control mode are used. Varispeed Expression is the default function of the Expression pedal when the Varispeed Remote Control mode is active.

# MIDI

## MIDI Sync

*When a MIDI Beat Clock is present*, the Infinity 3 will synchronize its actions to the MIDI beat clock, acting as a slave device.

*Once a loop has been recorded* with a MIDI Beat Clock, Infinity 3 will constantly readjust the loop length to stay synchronized. This active MIDI synchronization prevents drift, and guarantees that all synchronized actions happen on time at the start of MIDI measures.

This active MIDI synchronization is designed to work with regular MIDI clock signals that don't change tempo or time signature. If the MIDI clock signal does change tempo, Infinity 3 will react and adjust the sample rate accordingly.

The MIDI actions of Infinity 3 are quantized to the measure when MIDI is running, by default in 4/4 time. Any action that is meant to obey MIDI clock will be applied at the beginning of the next measure (not necessarily the end of the loop cycle). So it's best to cue the MIDI command within the measure before you want it to occur, not right on the downbeat.

If a MIDI clock signal is present during recording and then stopped or disconnected, Infinity 3 will continue playback using its recorded length. Actions will continue to be quantized to an internal, approximate MIDI clock. However, this internal MIDI clock may drift or differ from the external MIDI clock that was disabled.

## **MIDI Time Signature**

The Time Signature can be set on a preset-by-preset basis, or changed on the fly using MIDI commands. For quantization to the beat rather than to the measure, set the measure to a single note (eg. 1/2, 1/4, 1/8, 1/16).

## **Commands That Sync to MIDI Clock**

With MIDI Sync active, some commands initiated using Infinity 3's footswitches will be automatically quantized to the beginning of the next MIDI Measure.

## **Record and Play**

Appropriate action is executed at the start of the next measure after the switch has been pressed.

## **Stop**

The Stop footswitch closes loops and stops loop audio at the start of the next measure after the switch has been pressed.

## **Start**

Starts loop audio at the start of the next measure after the switch has been pressed. Switching between loops in Series mode will trigger which loop is playing back at the start of the next measure after the switch has been pressed.

## **Overdub**

Closes a base recording at the start of the next measure after the switch has been pressed then begins recording an Overdub.

## **Commands That Ignore MIDI Sync**

Erase, Overdub, CUE / FADE override, and all mode changes via the tactile switches, potentiometers or encoder are not quantized to MIDI beat clock.

## **MIDI Channel Learn / Select**

To select a MIDI channel, press and hold the CUE / FADE switch as the Infinity 3 turns on. The Looper will then show a "C" indicating that it is ready to learn the MIDI channel of the next MIDI signal it receives, and only respond to MIDI signals that come from that channel. If you want to manually set the MIDI channel, when you see the "C", hit the SAMPLE RATE switch and then turn the rotary encoder to select a MIDI channel between 1 and 16.

## **Ignore MIDI Clock**

Hold down ARM / ALL during boot to cause the Infinity 3 to ignore incoming MIDI Clock signals.

## **Ignore All MIDI Data Except Clock**

Hold down SERIES / PARALLEL during boot to cause the Infinity 3 to ignore incoming MIDI data except for MIDI Clock signals.

## **Ignore MIDI Notes**

Hold down STEREO / SPLIT during boot to cause the Infinity 3 to ignore incoming MIDI notes.

## **MIDI Mapping**

MIDI can also be used to control many specific functions of Infinity 3 via a properly configured MIDI controller.

Like MIDI Sync, MIDI mapping is always enabled, so that MIDI foot controllers, Ableton, and other devices or software can control parameters of the Infinity 3.

The behavior of individual commands [CC: control change] is broken down into 4 types of control:

### **Cycle/Toggle**

Any value of these MIDI CC/Note messages toggles or cycles through the available options, changing to the next selection.

### **Mapped**

The value [0-127] of these MIDI CC/Note messages sets the value of the parameter.

### **Loop-Assignable**

Specific values of these MIDI CC/Note messages trigger the action for Loop 1 Only [0], Loop 2 Only [1], the currently Armed Loop Only [2], or Both Loops [3].

### **Switch**

The value of these MIDI CC/Note messages determines whether the message acts like a switch press or delivers a specific type [short or long] of switch press.

A value of 0 is not pressed, a value of 127 is pressed. For MIDI controllers that send 127 when pressed and 0 otherwise, this type of command lets the MIDI footswitch act like the buttons [hold for 2 seconds for a long press, or less for a short press].

Values of 1 or 2 specifically send a short press and long press respectively and act immediately.

CC#	Function	Mapping Style
3	Varispeed	Mapped
4	Exp	Mapped
7	Global Volume	Mapped
9	Loop Aging	Mapped
12	Loop 1 Volume	Mapped
13	Loop 2 Volume	Mapped
17	Stop Mode	Switch
19	Series Loops	Toggle
20	Input Split	Toggle
21	Click Kill	3= No Click Kill, 4= Click Kill
22	Sync Multi	Switch
23	Stop FTSW	Switch
24	Loop 1 FTSW	Switch
25	Loop 2 FTSW	Switch
27	Undo FTSW	Switch
28	Reverse FTSW	Switch
29	Pitch Up	Switch
30	Pitch Down	Switch
31	Pitch Recall	>0 Triggers
75	Stutter	>0 Triggers
76	Erase	>0 Triggers
77	Erase + Rec	>0 Triggers
78	Reverse	>0 Triggers
79	Undo	>0 Triggers
80	Stop	>0 Triggers
82	Set Multiplier	Sets Multiplier (supports up to 127)
83	Erase Other	>0 Triggers
85	Preset Decrement	>0 Triggers
86	Preset Increment	>0 Triggers
87	One Shot	>0 Triggers
88	Ignore MIDI Clock	0= Ignore, 1= Accept MIDI Clock
89	Erase All	>0 Triggers

## **MIDI Real-Time Messages**

Sending a MIDI Stop command stops all loop audio regardless of Arm settings.

Sending a MIDI Start command starts both loops in All mode and only the armed loop in Arm mode.

Sending a MIDI Song Select command will change preset banks, in order to move between different loops during performance. Allow up to 4 seconds for song select changes to take effect.

## **Varispeed MIDI Note Control**

For precise changes of sample rate for the purposes of a pitch change, the Infinity accepts MIDI Note Control.

*MIDI Notes C5 to C7* change the sample rate between 12 and 48 kHz. The looper starts at 48 kHz, so if you want to raise the pitch of a sample, lower the sample rate before recording.

*MIDI Notes C2 to C4* change the sample rate between 12 and 48 kHz, and Stutter the loop. So playing these notes will change the pitch and replay the loop, which creates a “mellotron-like” sound. Like above, the looper starts at 48 kHz, so if you want to raise the pitch of a sample, lower the sample rate before recording.

# ***FIRMWARE UPDATES***

Download the latest Firmware update (fwupdate\_SPL3.dat) from [www.pigtronix.com](http://www.pigtronix.com)

To update your Infinity 3 with the latest firmware, power up the Infinity 3 and plug it into a PC with a USB-A to microUSB cable. Infinity 3 is not a bus powered device and must be plugged into the wall using the supplied 18VDC adapter in order to connect via USB. Once the unit has been connected to a computer, it will appear as a USB mass storage device.

Open the drive that appears and double click on the LOOPERFW directory. Copy the fwupdate\_SPL3.dat file into the LOOPERFW directory, replacing the current file of the same name. In order for the firmware update to work, the updated file in the LOOPERFW folder must be named “fwupdate\_SPL3.dat” Make sure the name of the new file is correct, then power down the Infinity 3 (eject first on MAC) and disconnect the USB cable from the Infinity 3.

*While holding down the CUE/FADE and SAMPLE RATE* switches, reconnect the power supply to the Infinity 3, the digit will display an “F” to indicate the firmware update process has been initiated. When finished, the Infinity will reboot automatically and your firmware will be updated.

If the “F” does not appear, then the firmware you are trying to install is the same as what is currently running on your device.

# **MINIMUM AND MAXIMUM LOOP TIMES**

## **Loop 1 Maximum Recording Time (in Seconds) with a 16GB SD Card**

<b>Multiplier Value</b>					
<b># of Preset Slots</b>	<b>x1</b>	<b>x2</b>	<b>x3</b>	<b>x4</b>	<b>x6</b>
5	1440	960	720	572	408
10	714	474	354	282	202
15	474	316	234	190	136
20	354	234	174	140	98
25	282	184	140	108	76
30	234	158	114	92	64
35	202	130	98	76	54
40	174	114	86	70	48
45	152	102	76	60	42
50 (Default)	136	92	64	54	38

For higher numbers of presets, and other SD card sizes the general formula for maximum loop time is:

$$t = 0.91 \times \frac{d-3s-65}{s(m+1)}$$

where d, s, and m are Disk size in MB, number of slots, and multiplier value respectively.

For a 32GB card, these values are approximately doubled.

Loop 2 maximum recording times are the maximum recording times of Loop 1 multiplied by the Multiplier Value.

The total recording time of the included 16GB SD card is approximately 4 hours.

The Minimum length of a Loop is approximately 10 milliseconds.

## **HAVE FUN**

Infinity 3 was designed to be the world's most musical, hi-fi stereo looper. Have fun out there.

# ***PIGTRONIX LIMITED WARRANTY***

Your new Pigtronix product is warranted to be free from defects in materials and workmanship for 1 year from the original date of purchase. Warranty applies only to the original retail purchaser of a registered Pigtronix product, subject to the limitations contained in this warranty.

THIS WARRANTY IS EXTENDED TO THE ORIGINAL RETAIL PURCHASER OF PIGTRONIX PRODUCTS BOUGHT ON OR AFTER JANUARY 1, 2020 ONLY AND MAY NOT BE TRANSFERRED OR ASSIGNED TO SUBSEQUENT OWNERS. IN ORDER TO VALIDATE YOUR WARRANTY, AND AS A CONDITION PRECEDENT TO WARRANTY COVERAGE HEREUNDER, YOU MUST REGISTER YOUR PRODUCT WITHIN THIRTY (30) DAYS FOLLOWING THE ORIGINAL DATE OF PURCHASE. YOUR PROOF OF PURCHASE OR SALES RECEIPT MUST ACCOMPANY ALL REQUESTS FOR WARRANTY COVERAGE— YOU MAY SUBMIT YOUR RECEIPT ON THE REGISTRATION FORM. IF YOU DO NOT REGISTER THE PRODUCT WITHIN 30 DAYS OF PURCHASE, YOUR PRODUCT WILL NOT BE SERVICED UNDER WARRANTY.

If your product is destroyed, lost or damaged beyond repair while in the possession of Pigtronix for repair, Pigtronix will replace that product with one of the same or most similar style of a value not in excess of the original purchase price of your pedal. Any insurance covering the pedal, including but not limited to collector's value insurance, must be carried by you at your expense.

This warranty covers the cost of both labor and materials on repairs deemed necessary by our Customer Service Representative.

## THIS WARRANTY DOES NOT COVER:

- Any product that has been altered or modified in any way or upon which the serial number has been tampered with or altered.
- Any product whose warranty has been altered or upon which false information has been given.
- Any product that has been damaged due to misuse, negligence, accident, or improper operation.
- The subjective issue of tonal characteristics.
- Shipping damages of any kind.
- Any product that has been subjected to extremes of humidity or temperature
- Normal wear and tear
- Any product that has been purchased from an unauthorized dealer, or upon which unauthorized repair or service has been performed.

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**Steps To File for Warranty Coverage:**

1. Register your new guitar at <http://pigtronix.com/warranty>
2. Complete the warranty request form available at <http://pigtronix.com/support> and we will handle it from there!

# ***CONTACT INFORMATION***

## **Address**

Bond Audio LLC  
141 W 28th St, Floor 4  
New York, NY, 10001

## **Phone**

631-331-7447

## **Email**

[info@pigtronix.com](mailto:info@pigtronix.com)

## **Warranty Service Email**

[support@pigtronix.com](mailto:support@pigtronix.com)

## **Warranty Contact Form**

[pigtronix.com/warranty](http://pigtronix.com/warranty)

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