



Full Circle Software Looper

User's Manual



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Introduction

Thank you for looking into Full Circle. Many more thanks if you've actually purchased a UMI3. We hope it will turn out as fun as you imagined it would be when putting in your order. You will find in this document all the information you might need to get the best out of our product.

Lets' get started.

1. Installing Full Circle

Both the Mac and PC builds are comprised of a single executable. After installation Full Circle should run, but the UMI3 will still be locked preventing the operation on the looping tracks. For unlocking, see “unlock code” in the getting started section.

1.1. Mac Install

Download the disk image (dmg) from www.logidy.com. Mount it by double clicking on it. Copy the Full Circle executable anywhere on the system.

1.2. PC Install

Download the setup executable from www.logidy.com and run it. It creates a folder for the program and desktop icons.

2. Connecting the UMI3

To get the full benefits of Full Circle, the use of the Logidy UMI3 USB foot controller is required. Full circle is designed to accept control messages from the UMI3 to operate its looping tracks. Support for third party MIDI controllers is not offered.

From the UMI3 User’s Manual:

Connecting the UMI3 to a computer is a very straightforward process. Just find any USB cable with USB 1.0 type plugs and plug it into the UMI3 and the computer. **No driver is required. No power supply is required.** At this point the LED should come on. If it doesn’t, try a different cable or a different port on the computer. If no number of cables or ports or computers gets that LED to come on, you might have to contact our customer support service.

The LED comes on. It means that the UMI3 is getting powered by the host computer (we’ll call it the host from now on) and is running. At this point the host is attempting to communicate with it and configure our newly attached USB device. This process is called enumeration. During enumeration depending on the type of host and its OS, pop-ups with our names (UMI3, Logidy) might appear on the screen. Let all this go away by itself. At the end of the enumeration the LED should go off. Your UMI3 has been properly discovered and configured. It is now ready to use.

Make sure to connect the UMI3 before launching Full Circle. Full Circle looks for the UMI3 only when it is started. If it does not find one then, it will not look for it later.

You can check the connection in the settings form (see next section).

Important: Full Circle uses the UMI3's private USB stream and not the MIDI stream to control the looping tracks. That has two important implications:

- The state of the MIDI settings non volatile memory in the UMI3 is irrelevant to Full Circle. Your settings will not be altered and have no effect on Full Circle.
- The Setup Panel and Full Circle should not be running at the same time because they would be competing for the same USB stream.

3. Getting Started

You are now ready to launch the application. The main panel shows on startup. By default Full Circle does not try to run the audio. We first need to specify a few parameters.

3.1. Settings

The "Settings" button at the bottom left page pops up this Settings form:

Setting Name	Value
Audio Type	-- Not Set --
Device	-- Not Set --
Buffer Size	-- Not Set --
Sample Rate	-- Not Set --
Input Source	Left
Exp Pedal	Unassigned
Unlock Code	-- Not Set --

Not Connected

Each of the settings has a name and a value field. Click on the value field to change the setting.

Audio Type: This selects the type of audio devices to look for. There might only be one type installed. On PCs we recommend ASIO drivers. If your sound system doesn't come with one, search the internet for ASIO4ALL.

Device: This selects the audio device used for real time audio input/output streaming. If the device has different input and output names (like the system sound on a MAC for example), only the input name is displayed but the output device will be used as well.

Buffer Size: This selects the size in audio samples of the frames used to process the input/output streams. The longer the frames, the most noticeable the delay in the audio round trip – latency. At low sizes the audio might start popping and clicking. Other processes might be cutting off Full Circle, leaving incomplete frames. Disabling bandwidth hogging devices on your system – wireless Ethernet – might help with audio stability.

Sample Rate: Full circle does not support sampling rates beyond 50K.

Input Source: Full Circles tries to open the audio device as a stereo in, stereo out stream. Regardless of the capabilities of the physical audio device, it will try to get the first two streams each way. Internally Full Circle is a mono to stereo audio engine. This setting details how the mono input is formed. The choices are: Left, Right, Left+Right, Left-Right. The Left-Right option can turn a stereo input into a balanced mono input. With the proper input buffering this can help reduce input noise on less than perfect sound cards.

Exp Pedal: The Expression Pedal Input on the UMI3 can be used to control the input volume in Full Circle. The setting should be left to “unassigned” if the EXP IN on the UMI3 is disconnected.

Unlock Code: By default the UMI3 is locked and does not send the control messages needed by Full Circle to operate the looping tracks. A 64-bit unlock code specific to the application and to your individual UMI3 needs to be sent to the pedal in order to unlock that functionality. Please refer to our web site in order to get a proper code to use with Full Circle and your UMI3. An invalid code was entered if upon entering it, the value field still indicates “not set”.

Connection: Next to the Lock Code edit field is another static field indicating whether Full Circle sees and is connected to a UMI3. If a UMI3 is connected this field reports the 7 digit serial number of the UMI3 otherwise it says “Not Connected”.

As with the rest of Full Circle's parameters, the global settings are saved when the program successfully exits.

3.2. Recording your first loop

Now that we have audio and a UMI3 connected and unlocked, we can start jamming. Play your audio source and make sure that the input level meter moves according to the source. You should also hear it passed through to the output. Now tap foot switch 1 on the UMI3. The first track starts. Tap foot switch 1 again. The tracks stops recording and turns into looping playback mode. Tap foot switch 1 again and you can now overdub. And again. And again.

4. Main panel

Live operation in Full Circle is controlled via its main panel visible at launch. It is divided in 2 main sections: The Channel Strip section in the top half of the panel and the Looping Tracks in the bottom half of the panel

4.1. Looping Tracks Section



This section shows the three looping tracks with their mix knobs and the loop quantize button.

4.1.1. Track Monitor

Each track monitor has the following components:



4.1.1.1. Selected Track Indicator

Selecting a track has two effects. First, it switches the input to the track's Channel Strip and it enables the selected track action list (record, play, undo). Only one track can be selected at a time. There are two ways of telling whether a track is the selected track: Its number turns from grey to white and its Bar Indicator becomes visible.

4.1.1.2. Action List

The action list announces what state the track will be in if its associated UMI3 foot switch is pressed in 3 different ways:

- The track will change to the state listed at the **top of the list** with a **single tap**
- The track will change to the state listed at the **Middle of the list** with a **quick double tap**
- The track will change to the state listed at the **bottom of the list** with a **long hold tap**

The list changes according to the track's selected status and its current state.

4.1.1.3. State Indicator

The track state indicator spells out the current state of the track. Possible states are:

- **EMPTY:** the track is currently empty and idling.
- **RECORD:** the track is currently recording its first content.
- **PLAY:** the track is currently in looping playback mode.
- **OVERDUB:** the track is currently recording over itself.
- **MUTE:** the track is currently in looping playback mode but muted.

- **UNDO:** An undo command has been issued and will be performed through the loop.

4.1.1.4. Position scope

The scope gives an idea of the current position in the loop. The start of the loop is at 12 o'clock. It changes color according to the track's current state.

4.1.2. Track Mix Knobs

The signal level of each track going into the output is adjusted via each track's "level" knob. The signal level of each track going into the reverb effect is adjusted via each track's "Reverb" knob. As it is the case with all knobs, double clicking on the mix knobs will set them to a standard default value.

4.1.3. Loop Quantize

When all tracks are empty, a number of pulses can be set to the first loop about to be recorded. After a first loop is recorded on any track, a pulse length is established by dividing the total length of the first loop by the pulse count entered. The count is now fixed and can only be changed again when all three tracks are empty. Full Circle then quantizes the length of any other newly recorded loop to the integer number of pulses closest to the length of that new loop.

4.2. Channel Strip and Master Section

The channel strip and master section provides controls to the various audio effects available in Full Circle.



As mentioned in the paragraph “Selected Track Indicator”, the Channel Strip section only shows the parameters for the currently selected track, since only one track can be recorded on and monitored at any given time. Adjustments made to the channel strip associated to a given track do not affect the other tracks.

In the channel strip the meter and the effects are laid out from left to right in the order they are processed in the signal chain. The channel strip is comprised of an input metering, a noise reducer, a compressor, a selectable insert effect and a 3-band semi-parametric EQ.

4.2.1. Input Metering

The input meter is a peak meter. It displays the highest peaks of the possible input signals. If both left and right side are used to compose the input signal, The input meter shows the hottest signal. This means that as long as the input meter does not max out, there is no clipping in the audio input.

4.2.2. Noise Reducer and Compressor

The Noise reducer is a 2:1 ratio expander with a settable threshold. The compressor is a 2:1 ratio compressor with a settable threshold.

4.2.3. Selectable Insert Effect

A selectable effect is inserted after the compressor. A click in the effect name filed will produce a list where each available effect can be selected. The effect can be bypassed via the On/Off switch. An effect can have as many as 3 settable parameters. If the effect has less parameters, unused knobs lose their position, value and units markings no longer react to the mouse.

Note about the Octave Down Effect: The frequency detector of the octave down effect works best with in-tune input signals. It assumes A4 = 440Hz. It also works best with signals rich in harmonics. Selecting the bridge pickup on a guitar results in a more accurate tracking and a more convincing bass tone.

4.2.4. 3 Band EQ

The 3 band parametric EQ offers access to a frequency setting and a gain setting for each band. The low and high bands are shelving and the middle band is a shelving resonant filter with a Q of 0.5.

4.2.5. Reverb

A settable mix of the Full Circle's three tracks is sent to the reverb effect. The decay (RT60) of the reverb can be set in the master section.

4.2.6. Main Level and Limiter

The output of the three tracks as well as the monitoring of the selected track and the return of the reverb are summed into the (main) output. The level of the mix can be set in the master section. Before the output signal is sent to the sound device, it goes through a limiter which threshold is set at 0dB to prevent clipping in the output.