

# Bitbox User's Manual



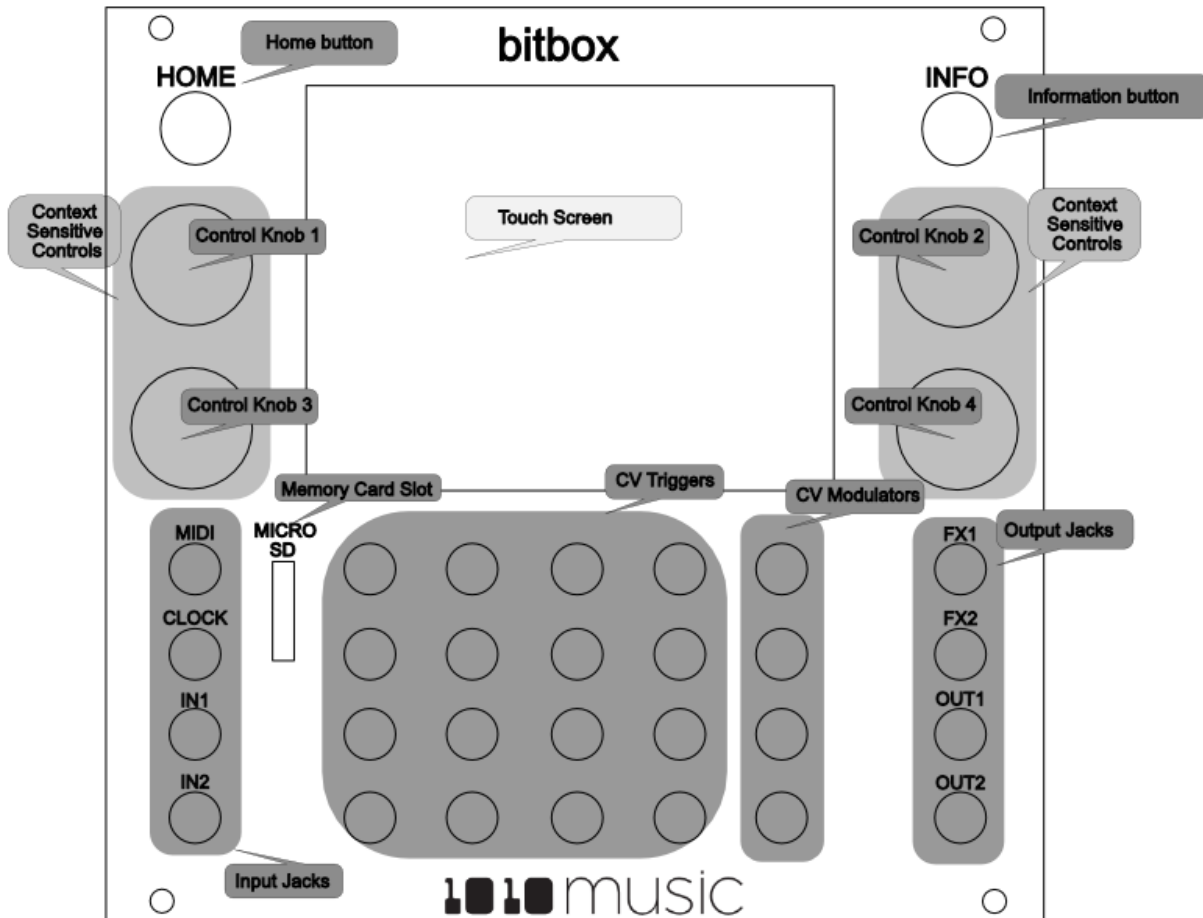
Welcome to bitbox. Bitbox is a very useful tool for capturing and playing back samples. This manual will walk you through all of the features of bitbox. If you want to start playing right away, please consult the **Quick Start Guide** found in the box. The Quick Start Guide and this manual are also available on the [1010music.com Support page](http://1010music.com/Support).

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## Overview

The diagram below identifies the components of bitbox. This manual will refer to the controls and inputs of the module using the labels shown.



Bitbox is equipped with a touchscreen. You can touch cells in the grid on the screen to select them, and touch on-screen buttons to take an action.

The **INFO** and **HOME** buttons at the top of the front panel of bitbox are used to navigate the screens. Press **INFO** to view the information screen for the current selection. In some cases, you can press **INFO** more than once to get to deeper information. The **HOME** button generally takes you back a screen. If you get lost, you can press **HOME** until you get back to the **Main** screen.

The **Control Knobs** are used to cycle through options on the screen. When there are several parameters on the screen, use the **Control Knob** closest to a parameter to set its value.

## The MicroSD Card

Bitbox uses a MicroSD card to store clips and clip parameter information. A MicroSD card must be inserted into the MicroSD slot on the front panel of the bitbox during operation of the module. A MicroSD card loaded with some sample clips is included with bitbox. Insert the MicroSD card with the notched edge down.

## Working with Clips

When you first start bitbox, you will see the **Main** screen. Each square or cell represents a clip that can be played back. Clips can be loaded from the MicroSD Card or recorded from inputs. The MicroSD card provided with the module has several Preset banks of clips to get you started.

The pink square indicates which cell is selected. You can change the selection two ways: by touching the cell or by turning any of the **Control Knobs**.

105:1				
TOML 1.wa	TOMF 1.wa	Cowb 1.wa	Tamb 1.wa	
Cras 1.wa	Ride 1.wa	TOMH 1.wa	TOMM 1.wa	
Kick 1.wa	Snar 1.wa	HHC 1.wa	HHD 1.wa	

## Playing a Clip

There are three ways to trigger playback of a clip:

1. Touch a cell to play the corresponding clip. The light grey colored cells in the grid hold clips. The name of the clip appears in the cell after it is loaded. Blank cells are empty.
2. Plug a trigger source into one of the **CV Trigger** jacks. The **CV Trigger** jacks are mapped to the clip cells on the touchscreen. The clip that corresponds to the used **CV Trigger** jack will now be triggered by the **CV Trigger** input.
3. Plug a MIDI controller source into the **MIDI** input jack.

Note:

- The **MIDI** input uses a TRS connection compatible with the Arturia BeatStep Pro. Be sure to use a TRS cable.
- Bitbox responds to **MIDI** inputs on MIDI Channel 10, which is the default channel for the drum part on the BeatStep Pro.
- **MIDI** inputs for notes 36 to 51 are mapped to the clips in the grid as shown in the diagram to the right. The modulators are assigned notes 52 to 55.

48	49	50	51	55
44	45	46	47	54
40	41	42	43	53
36	37	38	39	52

## Clip Information

To adjust the selected clip's parameters, press the **INFO** button. Cells with text in them already have a clip loaded. When you press **INFO** with a loaded cell selected, you will see the **Clip Info** screen shown to the right.

24:1		
Del	More	Play
Start: 0.00%	Mode: Trigger	
Length: 100.00%	Level: +6.72 dB	

On this screen you can adjust each of the four parameters by turning the **Control Knob** closest to the parameter on the screen:

- Start** Together with **Length**, controls what portion of the sample will play. **Start** is expressed as a percentage of the entire sample length and designates the position in the clip where playback will begin.
- Length** Together with **Start**, controls what portion of the sample will play. **Length** is expressed in percentage of the entire sample length and designates what percentage of the clip after the **Start** position will be played. The **Length** parameter also controls the loop length. See the **Loop** parameter on the **More Clip Info** screen.
- Mode** This parameter determines how the sample will playback with four different settings:
- Trigger** Activate the clip by touching the cell, through a **CV Trigger**, or through **MIDI** note on. Bitbox will start playback of the clip according to the **Quant Size** (see More Clip Information below) and play through to completion. The release has no effect.
  - Gate** Begin the clip playback in the same manner as **Trigger** mode. But in **Gate** mode, playback will stop when you release the touch, the **CV Trigger** gate goes low, or the **MIDI** note is released.
  - Toggle** Begin the clip playback in the same manner as **Trigger** mode. When these events happen again, the playback will stop.
  - Repeat** Begin the cell playback in the same manner as **Trigger** mode. The playback will restart at the **Quant Size** interval while the cell is held down or activated. Releasing or deactivating the cell allows playback to continue to completion of the clip.
- Level** This parameter sets the gain for the cell and ranges from -96dB to +12dB. At the default value of 0dB the volume remains unchanged.

## Clip Actions

The **Clip Info** screen has several action buttons across the top. Touching these on-screen buttons will do the following:

- Del** Delete this sample from this cell. The file on the MicroSD card remains. This particular cell will now be empty. Pressing this button will return you to the **Main** screen
- More** View additional parameters for this clip on the **More Clip Info** screen. Pressing **INFO** will do the same thing.
- Play** Trigger the clip playback just like touching the cell on the **Main** screen does.

## More Clip Information

To see additional parameters from the **Clip Info** screen, touch the on-screen **More** button or press the **INFO** button. You will then see the **More Clip Info** screen shown on the right.

On the **More Clip Info** screen you can adjust each of the four parameters by turning the **Control Knob** closest to the parameter on the screen:

27:1		Play
Loop Mode: OFF	Quant Size: None	
Pitch: +0.000 sem	Slice Size: None	

**Loop Mode** With Loop Mode ON, playback will continue to repeat the portion of the sample specified by the **Start** and **Length** parameters on the **Clip Info** screen.

**Pitch** This parameter adjusts the tone and the playback speed of the sample--unless you are using slicing. It is expressed in semitones and ranges from -24 semitones (down two octaves) to +24 semitones (up two octaves).

**Quant Size** This parameter enables you to quantize when the playback starts and stops. It has the following values available:

- None - always start and stop immediately
- 1/16 - quantize to the next sixteenth note time
- 1/8 - eighth note
- 1/4 - quarter note
- 1/2 - half note
- 1 bar - a whole note assuming 4/4 time
- 2 bars
- 4 bars
- 8 bars

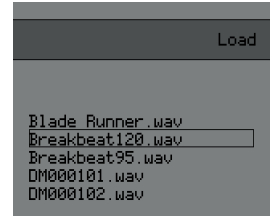
Example: With the quant time set to 1 bar, samples will start and stop when the next bar or measure begins. You can see the current bar and beat in the upper left of most screens.

**Slice Size** When this parameter is enabled, bitbox will subdivide the sample into pieces that will play in sync with the clock. The available values are the same units as the **Quant Size**. For drum samples, small values like 1/8 or 1/16 work best. For drones or pads, larger numbers like 1 bar may sound best. This parameter is only valid when **Quant Size** is something besides **None**.

## Load clip files from a microSD card

You can use the microSD card to load clips into bitbox from other sources.

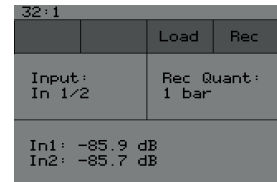
1. Use your laptop or other device to load clips in WAV format into the root folder of a microSD card.
2. Insert the microSD card into the **MICRO SD** slot, notched edge down.
3. Press **HOME** until you get to the **Main** screen.
4. Touch an empty, light colored cell in the grid on the touchscreen to select it.
5. Press the **INFO** button to display the **Clip Info** screen and then touch the on-screen **Load** button. A list of clips on the MicroSD card will be displayed, similar to the screen on the right.
6. Use any of the **Control Knobs** to select a WAV file from the list that appears on the touchscreen. To cancel, press the **HOME** button.
7. Touch **Load** again. You will see the **Main** screen with the selected clip loaded into the selected cell.



## Record a clip

You can use the **IN1** and **IN2** input jacks to record in mono or stereo.

1. Press **HOME** until you get to the **Main** screen.
2. Touch an empty, light colored cell in the grid on the touchscreen to select it. You can delete a clip (see Clip Actions above) to create an empty cell if needed.
3. Press the **INFO** button to display the **Record** screen shown to the right.
4. Plug the recording source into the **IN1** or **IN2** jack.
5. The source will play through the corresponding output jack, **OUT1** or **OUT2**.
6. Turn the **Control Knob** closest to each of the following parameters to select a value:



**Input** This parameter lets you select stereo or mono recording. The available values are as follows:

- **In 1/2** Record in Stereo from input jacks **IN1** and **IN2**.
- **In 1** Record mono from input jack **IN1**.
- **In 2** Record mono from input jack **IN2**.

**Rec Quant** This parameter lets you quantize the recording starting and stopping for making loops. The available values are:

- None - always start and stop immediately
- 1/16 - quantize to the next sixteenth note time
- 1/8 - eighth note
- 1/4 - quarter note
- 1/2 - half note
- 1 bar - a whole note assuming 4/4 time
- 2 bars
- 4 bars
- 8 bars

The **In1** and **In2** values display the levels of each of the input signals. For best results leave some room (a few dB) between your loudest level and the max allowed, which is 0dB.

7. Touch the on-screen **Rec** button. Bitbox will start recording. The timing of the recording can be synchronized with other modules by using the **Rec Quant** parameter setting with a **MIDI** or **CLOCK** input. (See Synchronize Clips with CLOCKS or MIDI Inputs below.)
8. Touch the on-screen **Stop** button. The recording will end.
9. Press the **HOME** button to return to the Main screen.

## Synchronize Clips with CLOCKS or MIDI Inputs

To synchronize the playback of clips with a clock signal, a MIDI clock source or the internal clock, follow these steps:

1. Use the **Clip Info** and **More Clip Info** screens to set the **Trigger** and other parameters for the cell. Bitbox synchronizes clips when **Quant Size** is set to something other than **None**, such as **Quant Size: 1 bar**.
2. Plug a clock source into the **CLOCK** jack or a MIDI clock source into the **MIDI** jack. You should hear all clips play synchronized with the **CLOCK** input or **MIDI** signal, according to the parameters set up for each clip.

Note:

- The Clock input must use 4 pulses per quarter (PPQs), or a pulse per 16<sup>th</sup> note.
- If **MIDI** and **CLOCK** inputs are used together, Bitbox will select the highest priority clock based on the following order of priority: 1.) **CLOCK** Input; 2.) **MIDI** Input; 3.) Internal Clock.

## Modulating Cells

The dark gray cells on the rightmost column of the Main screen work differently from the other 16 cells. These cells are used to control modulation of the row of cells to the right of the modulation cell. These modulation cells work with the **CV Modulator** input jacks below the screen. To adjust modulation, select a dark gray cell and press **INFO** to display the **Mod Cell** screen shown to the right.

Mod: Scene Trig	Dest: 1,1
Amount: 100.00%	

Use the **Control Knobs** to adjust the three parameters on the **Mod Cell** screen:

- Mod** This selects the type of modulation for the corresponding row of cells. The values include:
  - Scene Trig** Triggering this modulation with the **CV Modulator** input will trigger the entire row of cells at once. This is similar to the Scene Triggers in Ableton Live.



- Pitch** Use the **CV Modulator** input to modulate the pitch of the Destination cell specified in the **Dest** parameter.
- Start** Modulate the initial play position in the sample for the Destination cell.
- Length** Modulate the playback length for the Destination cell.

**Dest** This parameter specifies the destination cell that is the target of the **Pitch**, **Start**, and **Length** modulation. It is expressed in Row, Column format as shown to the right. Note that 1,1 is in the lower left corner, and 4,4 is in the upper right.

4,1	4,2	4,3	4,4	
3,1	3,2	3,3	3,4	
2,1	2,2	2,3	2,4	
1,1	1,2	1,3	1,4	

## Working with Presets and Saving Your Work

Bitbox allows you to store multiple configurations of clips and parameter settings as **Presets**. You can save up to 12 different banks of **Presets**. When you first start using bitbox, you are using **Preset 1**. The MicroSD card that comes with bitbox has 7 **Presets** pre-loaded.

To switch to using a different **Preset**, press the **HOME** button repeatedly until you get to the **Menu** screen shown on the right.



To load a **Preset**, touch the **Presets** button. This will lead to the **Presets** screen shown below.

Bank 1			
9	10	11	12
5	6	7	8
1	2	3	4

To load a **Preset**, press the number of the **Preset** you would like to load. You will then be taken to the **Main** screen. This will load the following information that was previously saved for this **Preset**:

- For each clip cell** the sample assignment and all parameters
- For each modulation cell** the parameters and destination cell
- For each track** all track parameters

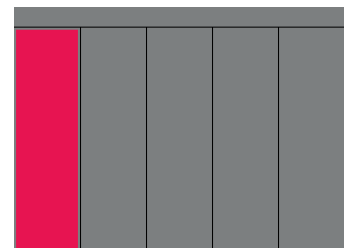
**Presets** are automatically saved on the microSD card as you work. If you change to a different card, you will have a different set of **Presets**. When you switch to a different **Preset**, all previous settings will be replaced with the settings of the newly selected **Preset**, which may be blank.

### NOTE

- Presets are saved automatically in the background. You don't need to worry about saving your changes whenever you adjust something.
- It can take up to 10 seconds for the most current state to be written to the microSD card.

## Working with Tracks

To access the **Track Properties** screen, press the **HOME** button repeatedly to return to the **Menu** screen and press **Tracks**. You will see the **Track Selection** screen shown to the right.



Select the active **Track** by touching the column on the screen. The pink column indicates the selected **Track**. A **Track** is a vertical column of clip cells on the **Main** screen. The cells in each **Track** share certain parameters. To adjust these parameters, press the **INFO** button to see the **Track Info** screen for the selected track:

Exclusive: OFF		Level: +0.00 dB	
		Output: Out 1/2	

Turn the **Control Knob** next to each of the following **Track** parameters to select a setting:

**Exclusive** This mode ensures that only one cell in a **Track** can play back at the same time. If this is set to **ON**, when you start a second cell on a track, the first one will stop. When this mode is **ON**, tracks behave like they do in Ableton Live.

**Level** This gain control affects the entire **Track**.

**Output** This parameter determines which output the **Track** will play through. The available options are:

**Out 1/2** Plays to output jacks **OUT1** and **OUT2**

**FX 1** Plays to output jack **FX1**

**FX 2** Plays to output jack **FX2**

#### NOTE

The **FX** outputs are a convenient way to apply different effects to different **Tracks**.

## Export a Set to Ableton Live

Bitbox files are compatible with Ableton Live. Follow these steps to export them:

1. Press **HOME** until you see the **Menu** screen containing three buttons: **Main**, **Presets** and **Tracks**.
2. Touch the on-screen **Preset** button. You will see a 4x3 grid of numbers 1 through 12 representing the presets.
3. Touch one of the on-screen **Preset** number buttons to load the **Preset**. You will now see the **Main** screen with the selected preset loaded. This will ensure that your files are saved to the **MicroSD** card.
4. Remove the microSD card and connect it to your computer.

5. Double click or open the **SE000001.a1s** and similar files to open your set in Ableton Live.
6. For best results, use the **Save As** option as well as the **Collect and Save** menu item to migrate the relevant WAV files onto your machine and into the customary Ableton directory structure.

## Switch to a New MicroSD Card While Operating Bitbox

You can switch to a different microSD card while operating bitbox. Simply remove the current card and new one, then follow the steps in

Working with Presets above to select a **Preset** bank from the new card.

## Demonstration Videos and Latest Docs

You can find video demonstrations of bitbox on our website at <http://1010music.com/support>. You can also look there for updated versions of this user manual.

## Contact Us

Are you loving bitbox? Have questions? You can contact us through our website at <http://1010music.com/contact-us>.