

# BEATBUDDY



# Welcome

## FIRMWARE V3.9.9 UPDATED MANUAL

REACH US!  
Support@singularsound.com  
We love to help! :-)

In order to benefit from all the latest features, it is necessary to have the most recent firmware version installed.

To check the firmware version on your BeatBuddy, press the Drum Set and Tempo knobs down at the same time and select 'About BeatBuddy'. The firmware version appears on the second line, and as of the writing of this manual, it is 3.9.9.

We periodically release new firmware updates, so please check the link below to verify that you have the latest version.

Don't have the latest firmware?  
Download it here: <https://singularsound.com/contact/>

For the complete changelog of firmware improvements, see the end of this manual.

### Important note about SD card compatibility

The SD card must be a standard size (i.e. not the mini SD cards) and needs to be between 4 and 32 GB in capacity. Class 10 is recommended.

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# Introduction

**Congratulations** and thank you for purchasing your BeatBuddy!

## What it does

The BeatBuddy is the world's first pedal drum machine that enables musicians to easily control the beat hands-free. Just by pressing a pedal, you can start a beat, insert fills, transition from verse to chorus, throw in drum breaks (pauses), trigger accent hits (such as hand claps or cymbal crashes) and more! It is the closest thing to having a real drummer. And it won't drink all of your beer! In fact we have a **Sobriety setting** so you can control how drunk your BeatBuddy gets, no beer required! (for real)

## Content format

The BeatBuddy is a MIDI based drum machine. The beats in the songs are MIDI files. MIDI files are like musical notes on sheet music, which tell the musician what to play on an instrument. The drum sets on the BeatBuddy are collections (libraries) of WAV sound files - which are recordings of the actual drum sounds. The MIDI files trigger the WAV files in the drum sets. That is how the BeatBuddy is able to play any beat, any time signature, using any drum set at different tempo settings to get a completely different sound.

Whenever possible, the BeatBuddy's drum sets and beats were set up using the [General MIDI Drum Map](#), so that most beats work with most drum sets.

Please note that not all beats and drum sets sound good together -- it may sound strange to play jazz beats on a heavy metal drum set -- or it may sound cool! You decide.

**Please Note:** There is **one exception**, and that is the **Latin genre/drumset**. The Latin genre is exclusively compatible with the Latin drumset. We occasionally have some library content that also is mapped to the Latin drumset (e.g. a few songs in the Beatles package), and those songs are preset to use the Latin drumset as default.

# Introduction

## Content Organization

The BeatBuddy's beats are organized into 'songs', each comprising 'song parts' (such as verse or chorus). Each song part has a main beat loop, an accent hit and multiple fills associated with it. When transitioning between song parts, the song parts are played in order until the last song part is played, and then it goes back to the first song part. For example, if there are 3 song parts, it will play part 1, 2, 3 and then back to 1. If you wish to play song parts out of order, you will need to use a MIDI controller such as the [MIDI Maestro](#).

All beats and drum sets are stored on the SD card. If you lose your SD card, you can [download the content that came with your BeatBuddy](#) for free and place it on a new SD card.

## What the BeatBuddy is Not:

### **The BeatBuddy is not a traditional drum machine:**

Drum machines have traditionally been used to create beats. The BeatBuddy is a performance tool, and cannot be used to create beats. New beats can be created on the many beat creation software programs available (such as Guitar Pro, Cubase, ProTools, GarageBand, Ableton, EZ Drummer, etc.) and loaded onto the BeatBuddy with the BeatBuddy Manager Software (available as a FREE download at <https://singularsound.com/contact/>).

### **The BeatBuddy is not a traditional effect pedal:**

Unlike other effects pedals, the BeatBuddy is not intended to modify your instrument's sound. It has input jacks only in case you want to put both the BeatBuddy and your instrument into the same sound system without the need for a mixer. The beats are not changed by your instrument's sound. And your instrument's sound is not changed by the BeatBuddy. No instrument needs to be plugged into the BeatBuddy for it to work normally, so the BeatBuddy can be a stand-alone tool used by any musician.

# How to plug in

## Power

The BeatBuddy uses a 9V 500mA center-negative power supply.

**If you use a power supply of more than 9V or plug it directly into AC power you will destroy your BeatBuddy**, and your warranty will NOT be valid! This would be painful for everyone - especially your BeatBuddy. Do not do this!

The power supply must have a minimum of 300mA (0.3 Amps) for the BeatBuddy to turn on. More amps won't harm your BeatBuddy. If you use a center-positive adapter, it won't harm your BeatBuddy either, but your BeatBuddy won't turn on.

## Using your pedal board's power supply

If you would like to use your pedal board's 'octopus' power supply (a single power supply that powers all of your pedals), make sure it is 9V and center negative (most are) BEFORE plugging it in! To calculate if your pedal board's power supply has enough Amps to power the BeatBuddy, add up all of the Amps that your other pedals require (usually written on the bottom of the pedal. Remember: 1000 mA [milliAmps] = 1.0 A [Amps]) and add 0.3 Amps for the BeatBuddy's requirement. If this total is more Amps than your power supply can produce (for example, the total of all of your pedals plus the BeatBuddy is 2.5 Amps but your power supply can only produce 2.0 Amps), then the BeatBuddy won't turn on (neither will any of your other pedals), because there isn't enough power available. PLEASE NOTE: Plugging the BeatBuddy (a digital pedal) into the same power supply as analog pedals (most effect pedals) can cause noise interference in the analog pedal sound. If you experience this, please use a separate power supply for the BeatBuddy.

## SD Card

Compatibility: All SD cards 4-32 GB in capacity (outside that range will not work). Class 10 is recommended.

All of the BeatBuddy's content (songs/beats and drum sets) are stored on the SD card. The SD card must be properly inserted into the BeatBuddy for it to work.

# How to plug in



The BeatBuddy SD card comes loaded with 10 drum sets and 200+ songs in many different styles. If you lose your SD card, you can download the default BeatBuddy content to put on a new SD card at <https://singularsound.com/contact/>.

Check out the BeatBuddy Premium Library Bundles:

<https://singularsound.com/product/premium-library-sd-card-the-2020-collection/>

for up to 1380+ additional songs and 22+ more drumsets.

## Sound System

The BeatBuddy can be used without an instrument plugged into it - it will still produce sound. The input jacks are there in case you want to put both the BeatBuddy and your instrument signals into the same speaker without the need for a mixer. The BeatBuddy will combine any signal it receives in the input jacks with the signal it produces. The main volume knob just controls the level of the signal the BeatBuddy produces (the beats), not the signal it receives from the input jacks. The headphones volume wheel adjusts the combination of the input signal and the BeatBuddy's signal (the beats).

The BeatBuddy produces 'line-out' level analog signal, similar to a standard music player or computer headphones jack. You can plug the BeatBuddy into any speaker system that accepts 1/4" (6.5mm) or 1/8" (3.5mm) audio jacks.



# How to plug in



However, like all audio, the better the sound system it is plugged into, the better the BeatBuddy will sound. The BeatBuddy sounds best when played through a high-quality full-range stereo sound system. A PA system or a home stereo system is ideal (you can plug the BeatBuddy's headphones port into the AUX input on your home stereo or guitar amplifier, if it has one).

**Many electric guitar amps are not full range speakers** (they clip off the higher frequencies), so they muffle the BeatBuddy's sound. Acoustic guitar and keyboard amps are full-range. If you're not sure if your amp is full-range, listen to the BeatBuddy on high-quality headphones to compare. If there is a noticeable difference in the audio, then connecting it to a higher quality full-range speaker system will enable you to hear the BeatBuddy's full potential. But as always, trust your own ears and do what sounds best to you.



# How to plug in

**If you have the BeatBuddy plugged into an amp,** any effects on the amp will affect the sound of your BeatBuddy (unless the BeatBuddy is plugged into your amp's AUX jack, then it is fine). So if your amp's distortion is on, the beats will sound distorted. It is highly recommended to have your amp set to a 'clean', neutral tone for the best sound and use effects pedals instead of the amp's effects if you wish to have effects on your instrument sound. If you are using the BeatBuddy with other pedals, it is recommended to place the BeatBuddy after all of the other pedals in the effects chain so that the BeatBuddy's sound isn't affected by your other pedals.

The BeatBuddy will never damage your amp's speaker through normal use. Though, if you prefer using your amp exclusively for your instrument, you may use a separate amp for the BeatBuddy. This will also allow you to enjoy the built in effects of your main amp for your guitar without affecting the BeatBuddy's drum sounds.

One additional issue that may arise from using the same amp to play your guitar and the BeatBuddy's beats is that on some amps, the sound of the bass drum will cause the guitar to tremolo, or waver, a bit to the beat. While some people love this effect -- if you would like to reduce it, lower the Bass (Low) setting on your amp.

## MIDI Connection

**What is MIDI Sync?** It is the transfer of MIDI Clock between two devices allowing them to become synchronized to the same time reference. The BeatBuddy can send and/or receive MIDI Clock, MIDI time signature, and MIDI Start, Stop, and transition (CC:102, see [Section 8 MIDI and the BeatBuddy](#) ) messages once connected to another device via MIDI.

In order to connect the BeatBuddy via MIDI, you need 2 cables: A [PS/2 to 5-pin MIDI Sync Breakout Cable](#), and a standard male to male 5-pin MIDI cable.

The MIDI Sync Breakout cable has 3 ends: the small, singular end which connects to the BeatBuddy and the two split female MIDI ports (labelled IN and OUT) which connect to a standard MIDI cable. If the BeatBuddy is behaving as the transmitter (master) MIDI device, connect the receiver (slave) device to the OUT port on the MIDI Sync Breakout cable using the standard MIDI cable. If the BeatBuddy is behaving as the receiver MIDI device, connect the transmitter device to the IN port on the MIDI Sync Breakout cable using the standard MIDI Cable. You must use the standard male to male 5-pin MIDI cable to connect the other device to the MIDI Sync Breakout cable (See Graphics On Next Page).

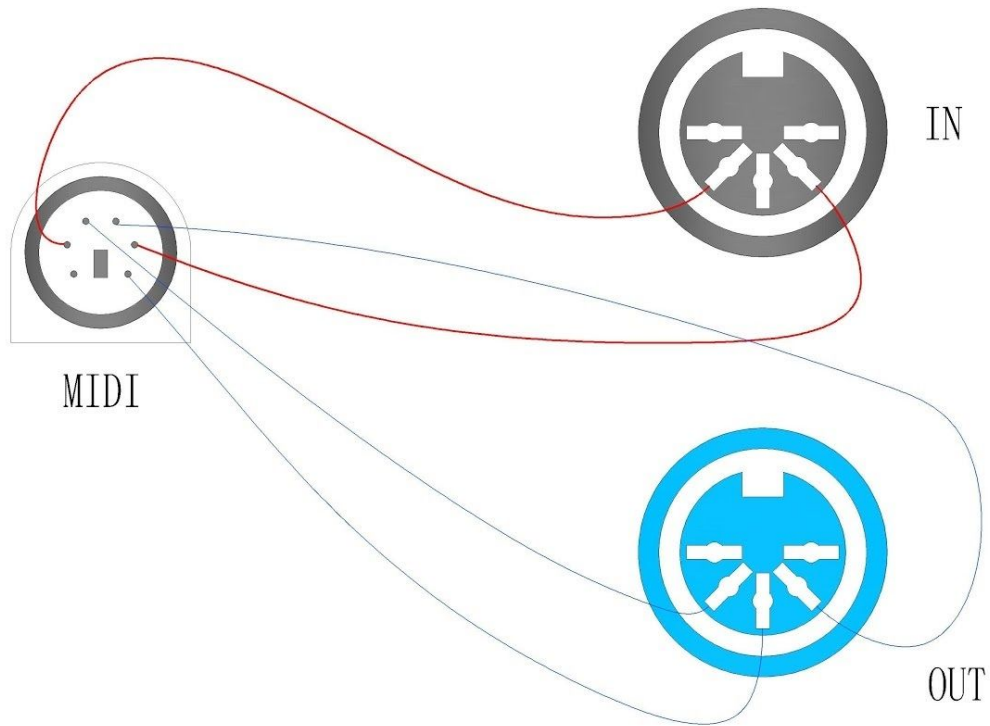
# How to plug in



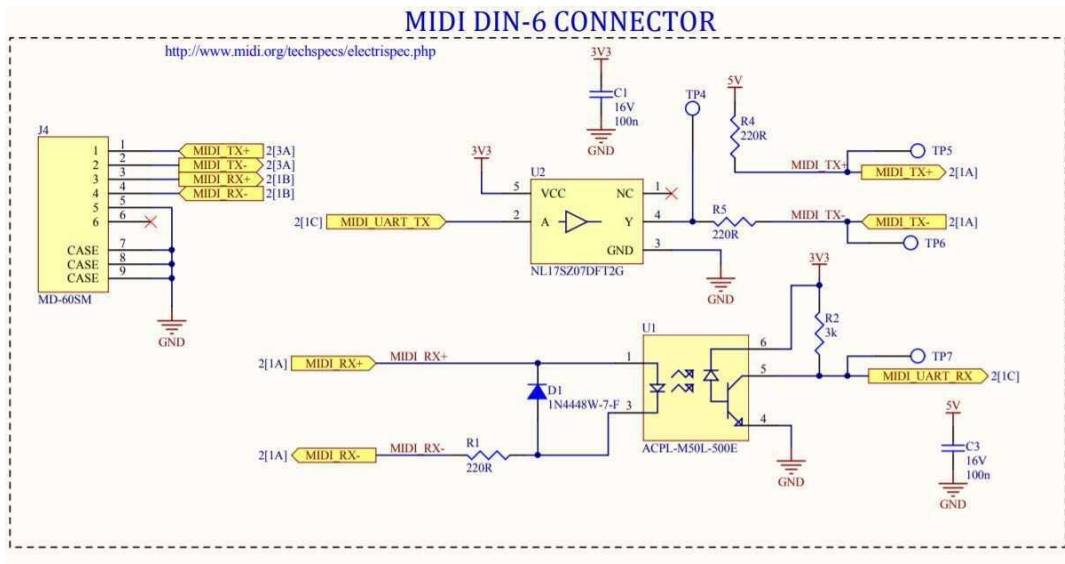
**A typical configuration using both the IN and the OUT ports on the MIDI Sync Breakout cable at once. (Beatbuddy set to MIDI Merge see Section 8 MIDI and the BeatBuddy)**

# How to plug in

***These images are for all you tech nerds, all the normal people can skip this schematics page.***



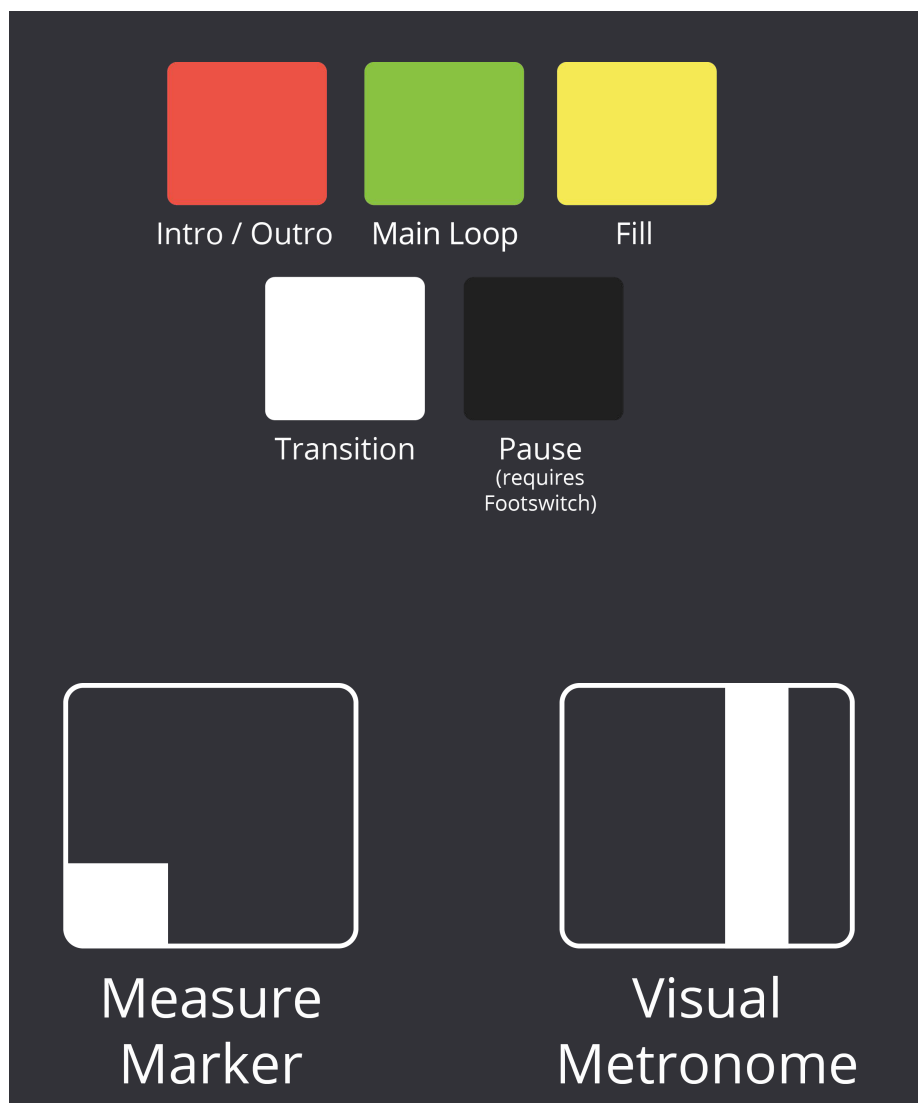
**A breakdown of the MIDI Sync Breakout Cable's routing of MIDI data from the PS/2 connector to both the IN and Out Port.**



**A graphical representation of the PS/2 connector circuit.**

# How to use the BeatBuddy

**Visual Display:** The BeatBuddy uses a first of its kind visual display to show you what is going on with the beat. The screen changes color depending on what the BeatBuddy is doing.



The **Visual Metronome** has two main functions. The long vertical bar shows where the beat is within the measure. How many movements it takes to cross the BeatBuddy's screen depends on the time signature of the beat. If the time signature is 4/4, there are 4 beats in the measure and so there are 4 movements to cross the screen. If the time signature is 5/4, then there are 5 movements, etc. A small dark square in the bottom of the screen tells you what measure within a drum phrase you're in. Just like when a real drummer plays, each measure won't sound exactly the same.

# How to use the BeatBuddy

**Type of footswitch:** It is highly recommended that you use the [official Singular Sound Footswitch+](#) (sold separately), since we designed our Footswitch+ to withstand the heavy use of a BeatBuddy performance. If you are not using a Footswitch+, make sure that the third party footswitch is compatible with the BeatBuddy, and that the BeatBuddy is configured to the type of footswitch you are using. The BeatBuddy is compatible with standard momentary or latching dual footswitches which have a single TRS (Stereo) ¼" output (one switch is connected to the Left channel and the other to the Right). It is NOT compatible with ABY switches.

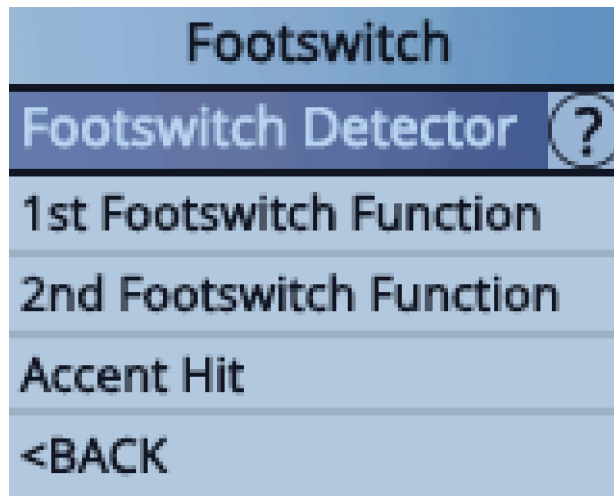


Make sure that the footswitch is connected to the BeatBuddy with a stereo Tip-Ring-Sleeve (TRS) cable and that the cable is plugged in all the way. If your ¼" cable has one circle on the metallic portion of the cable, it is NOT a TRS cable, it is a mono TS cable (and only one footswitch button will work if this cable is used). TRS cable = two circles on the plug of the cable. See the image below.



# How to use the BeatBuddy

To configure the BeatBuddy to your footswitch, press the Drum Set and Tempo knobs down at the same time to enter the Settings menu. Select 'Footswitch' and then 'Footswitch Detector' and follow instructions. The BeatBuddy will save your settings, so you only have to use the 'Footswitch Detector' again if you use a different footswitch.



For videos tutorials on how to use the BeatBuddy [CLICK HERE](#)

# Tips and Tricks

- Want to know which beat to use with a particular famous song? Try out our [Song Matching Tool!](#)
- If you accidentally double tap and the outro fill begins, you can cancel the outro with one more tap on the main pedal, and then the current song part will continue playing after the outro fill is finished.
- You can find out what any setting in the BeatBuddy does by highlighting the little (?) symbol next to it by using the right direction arrow and pressing the tap button to display the help text next to that setting.
- Navigate through settings, folder and song lists quickly by turning the Tempo knob. Pressing the Tempo knob selects an item and pressing the Drum Set knob exits the current setting or folder.
- End the song with fast presses on a cymbal crash accent hit to simulate a drummer doing a 'swell' as the song ends with a big finale.
- Stepping on both the Pause and Accent hit footswitches at the same time stops the drums with a crash cymbal sound (if the accent hit is a crash cymbal) -- a nice effect.
- While paused, unpause with a fill by pressing the main BeatBuddy pedal instead of using the footswitch to unpause with the regular main beat. This adds a dramatic flourish when unpausing the beat.
- Starting a song with a double tap will play just the outro fill and end the song... when only a single fill is required! Nice for when you're introducing your robot drummer to your audience!
- If the song or drum set name is too long to be displayed on the screen, you can see it scroll again by pressing the Drum Set or Tempo knob twice.
- Hold the Tempo or Drum Set knob down to set the default tempo or drum set (respectively). So if you like a certain tempo or drum set for a certain song, you don't have to adjust it every time you select that song. The setting will be saved!



# Tips and Tricks

- If you know you want a certain tempo or drum set, but are not sure which beat to use, disable the default tempo and/or drum set in the Settings menu (Settings > Main Pedal > Default Tempo/Drumset) so that you don't have to keep adjusting the tempo and drum set while changing songs.
- Use the BeatBuddy Manager ([see Section 5](#)) to create a folder on the BeatBuddy with the songs you'll use for a show (you can name these folders "Coffee House Gig", "Tuesday Nights", etc.), so you don't have to navigate to find the songs you want in a live performance.
- To navigate within a folder hands free, use the right footswitch button to advance to the next song in the current folder, (you can set the other button to go back one song in the folder from the settings, by default the right footswitch is song advance while stopped). By default, holding the right external footswitch button down will exit or enter a folder. To select a song in the folder, press the main BeatBuddy pedal.
- You can load a rimshot sound ('ba dum tss') or the sound of applause into the first accent hit of a song (through the BeatBuddy Manager software), and use it as comedic relief in a show.
- You can add a WAV file of any sound to the EFFECTS folder in your BeatBuddy SD card and select that file as a Global Accent Hit. Then, it will play that sound in any song when you trigger an accent hit with the footswitch (Settings > Footswitch > Accent Hit > Source > Global choose Select to open sounds menu).
- Done with the BeatBuddy but don't want to disconnect every time? Put it in sleep mode! Just hold down both the Drum Set and Tempo knobs to enter the settings menu and choose sleep mode. The screen will power down.
- As of 3.9.9, sending the Outro command from the Footswitch pedal while the BeatBuddy is paused does not always stop the song, instead, if Outro is enabled, it will play the Outro. To get the previous behavior, go to Main Pedal > Unpause Behavior > External Unpause and set to "Outro Stops Song", this will also apply to any MIDI outro commands.

If you think of a cool new tip or trick, please share it with the BeatBuddy community at <https://forum.singularsound.com/>.

Thanks! :-)

# BeatBuddy Manager

BeatBuddy Manager software (available for free download at <https://singularsound.com/contact/>) will enable you to manage BeatBuddy content.

- Re-arrange the content on the BeatBuddy
- Create folders of songs which can be used to organize your songs into setlists
- Create new songs by importing MIDI files
- Create drum sets by importing and arranging WAV file sound samples (to create/edit drum sets, please see the [Drum Set Maker Manual](#))
- Edit the default songs/beats
- Load an SD card with the content

To use the BeatBuddy Manager software with your BeatBuddy, you can either connect the BeatBuddy to your computer with the included USB cable (make sure the SD card is properly inserted in the BeatBuddy), or put the BeatBuddy's SD card in your computer's SD card reader. Then, when you are finished, insert the SD card back in the BeatBuddy.

For a Quick Start guide to the BeatBuddy Manager [Click HERE](#)

For **tutorial videos** on how to use the BeatBuddy Manager, [Click HERE](#)

Professionally produced additional beats and drum sets can be purchased and downloaded from the BeatBuddy Premium Content online Library at <https://library.mybeatbuddy.com/>, and free user-created songs and drumsets from the forum at <https://forum.singularsound.com/>.

# Settings

**To enter the Settings screen, press down on the 'Drum Set' and 'Tempo' knobs at the same time.**

The settings give you many options to customize the BeatBuddy to suit your needs and playing style. For your convenience, all default settings will be marked with an asterisk (\*).

**Tip:** If you are unsure what a particular setting does, press the right arrow button (next to 'tap') to select the (?) and press 'tap' button to see a short explanation. Press the left arrow to exit the explanation.

Settings Table of Contents:

- I. **Sleep Mode**
- II. **Footswitch**
- III. **Main Pedal**
- IV. **Audio Settings**
- V. **Sobriety**
- VI. **About BeatBuddy**
- VII. **Restore Default Settings**

Settings	
Sleep Mode	?
Footswitch	
Main Pedal	
Audio Settings	
Sobriety	

## I. Sleep Mode

- This puts the BeatBuddy in a low power state and turns off the screen -- wake it up any time by pressing any knob, button or the main pedal. As of version 3.9.9 the BeatBuddy can be awoken from Sleep Mode by sending the BeatBuddy MIDI commands.

## II. Footswitch

- **Footswitch Detector** - Detects the type of footswitch that is plugged into the BeatBuddy. Use this whenever using a new footswitch with the BeatBuddy or if your footswitch doesn't seem to be working correctly (such as if it only works every other press, or triggers a command on both the press and release).
- **1st/2nd Footswitch Function** - 1st = LEFT button, 2nd = RIGHT button. (NOTE: Because both the 1st and 2nd footswitch settings menus are identical, **we will reference both at once**)

**1st/2nd Main Pedal** - Sets the switch to act like the Main Pedal, with tap for fill, hold for transition, double tap for outro. Useful if you want the BeatBuddy somewhere other than the floor. Note that if you enable this function, all other available functions for this button will not be available (while playing or stopped).

- Enable/Disable

# Settings

- **1st/2nd Switch Stopped** - The function that the 1st (left) or 2nd (right) switch will do when pressed while no song is playing.
  - No Action - Nothing happens when pressed
  - Accent Hit\* - Triggers a single sound that is set for the song part that is currently playing. If a song is not playing, it will play the accent hit of the first song part in the song (Note: You can set a 'Global' Accent Hit in the settings, read below)
  - Song Advance\* - Loads the next song in the current folder (Holding the button down will Enter/Exit the folder). Pressing the Main Pedal opens the selected song.
  - Song Back - Loads the previous song in the current folder (Holding the button down will Enter/Exit the folder) Pressing the Main Pedal opens the selected song.
  - Tap Tempo - Sets the Tempo beats per minute (BPM) to the speed that the switch is tapped. *Tip: give at least 4 taps for most accurate tempo*
- **1st/2nd Switch Playing/Paused** - The function that the 1st (left) or 2nd (right) switch will do when pressed while a song is playing or paused.
  - No Action - Nothing happens when pressed
  - Accent Hit\* - Triggers a single sound that is set for the song part that is currently playing. If a song is not playing, it will play the accent hit of the first song part in the song (Note: You can set a 'Global' Accent Hit in the settings, read below)
  - Pause/Unpause\* - Pauses and Unpauses the beat.
  - Tap Tempo - Sets the Tempo beats per minute (BPM) to the speed that the switch is tapped. *Tip: give at least 4 taps for the most accurate tempo.*
  - Outro Fill - Triggers the outro fill and ends the song.
- **Accent Hit** - Accent hit settings
  - **Source** - The source of the accent hit sound
    - **Default\*** - The default sound per each individual song. This is the WAV file associated with each individual song part in the song.
    - **Global** - Sets one sound for all of the accent hits on your pedal, regardless of what song or song part is playing (you will be able to **choose which WAV file to use from a menu**).
      - **Select** - Choose which .wav file from the SD card's effects folder will be used as the accent hit, you can drag additional .wav files into the effects folder to have additional options, no need to use the BeatBuddy Manager necessary to add these to your SD.
  - **Volume** - The volume of the accent hit sound. 0dB is default.

# Settings

## III. Main Pedal

- **Intro** - What happens when a song is started.
  - **Enable\***: Plays the intro fill for the song, if present
  - **Count in**: Plays one metronome click for each beat of one measure and then starts the first song part beat.
  - **None**: Immediately starts the first song part beat.
- **Outro** - Enables or disables the Outro on the BeatBuddy. If disabled, instead of playing the outro, it will just stop the beat at the end of the measure.
  - Enable\*/Disable
- **Double Tap** - Enables or disables the BeatBuddy's default double tap to play the outro. Some users accidentally hit the double tap, so would prefer to disable this. As long as Outro is enabled, you can always stop the song with a pause (footswitch), then while paused hold the main pedal down to stop the song, or you can set one of the footswitch buttons to trigger the Outro Fill and end the song with one tap.
  - Enable\*/Disable
- **Triple Tap Stop** - When enabled, allows the function of stopping the song immediately with a quick triple tap (Please Note: When Disabled, a tap during the outro fill will cancel the outro fill and continue playing the current song part).
  - Enable/Disable\*
- **Default Tempo** - When enabled, it will automatically load the saved tempo for each song. However, if you know the tempo of a song you want to play and are searching for the best beat, select 'Disable' so the tempo doesn't change every time you change the song. *Tip: To change the default tempo of a song to the current tempo, press and hold down the tempo knob.*
  - Enable\*/Disable
- **Default Drum Set** - When enabled, it will automatically load the saved drum set for each song. However, if you want to try a few different songs with the same drum set, select 'Disable' so the drum set doesn't change every time you change the song. *Tip: To change the default drum set of a song to the current drum set, press and hold down the drum set knob.*
  - Enable\*/Disable
- **Mute Pause** - When enabled, mutes the beat while paused, instead of stopping it. To be used if the BeatBuddy is 'Slave' (controlled by an external MIDI clock device) so it stays in sync when paused.
  - Enable/Disable
  - **MIDI-Activated\*** - Mute Pause is automatically enabled when the BeatBuddy is acting as Slave in MIDI Sync.

# Settings

**Unpause Behavior**- Sets what happens when the BeatBuddy is unpause.

- Main Pedal Unpause - Sets what happens if the Main Pedal is pressed while the BeatBuddy is paused. *Note: If Start Beat is set to Press, the unpause behavior will only be allowed to be set on the Tap. This is to avoid unwanted actions occurring on the tap while paused.*
  - Tap - While paused and the main pedal is tapped (pressed quickly).
    - Intro
    - Fill\*
    - Start Transition
    - Stop Song
  - **Hold** - While paused and the main pedal is held down. (Please Note: This function will not work if Start Beat setting [read below] is set to Press)
    - Stop Song\*
    - Start Transition
- External Unpause - Sets what happens when an external device sends a command to the BeatBuddy from a paused state.

**MIDI Settings** - Please refer to [section 7](#) of this manual "MIDI and the BeatBuddy"

**Cue Fill Period** - Controls when the fill is triggered after the pedal is pressed. Please note that even when set on 'Immediately', if you press the pedal in the last half beat of the measure, it will play the fill in the next measure, because it's very unlikely that you want less than a half beat fill, so you probably pressed it too early.

- Immediately\*
- Next Half Beat
- Next Beat
- Next Measure

**Start Beat** - Controls whether to start the beat on the press of the pedal or release. Press is more immediate, but if you set it to Press, you cannot use the Hold pedal features (enter tap tempo from Stopped mode, stop song or start transition from paused mode). *Note: If Start Beat is set to Press, then the Main Pedal Unpause sub-setting, Hold, will not be available and hold commands will behave as expected in the case hold is detected.*

- Press\*/Release

**Visual Metronome** - Sets when the Visual Metronome (the moving bar on the screen) is active.

- Stopped & Playing\*
- Playing Only
- Disable

# Settings

## IV. Audio Settings

- Drum Output - The BeatBuddy produces stereo audio. If you want the BeatBuddy to play back in true stereo, set this to stereo. If you would like the signal to summate into mono, and for both inputs to be sent to both outputs, set this to mono. This affects the headphone output as well.
  - Mono/Stereo\*
- Release Time - Period of time over which the BeatBuddy fades out a choked sound (advanced feature -- leave this alone unless you understand it).
  - 0ms - 250ms, default is 100ms

## V. Font Size

- Sets the text size of the content and settings menu
- Unique BeatBuddy ID number and current firmware version.

## VI. Sobriety

- Makes the BeatBuddy play like it's been drinking! Great practice for those real life situations, or just to make your friends laugh :-)
  - **Sober:** BeatBuddy plays normally
  - **One Beer:** BeatBuddy shifts 1 or 2 BPM
  - **Tipsy:** BeatBuddy shifts 5-10 BPM
  - **Drunk:** Even More BPM changes and throws in a random drum fill
  - **Wasted:** All over the place with shifting tempo, random fills, transitions and accent hits

## VII. About BeatBuddy

- Unique BeatBuddy ID number and current firmware version.

## VIII. Restore Default Settings

- Restores settings to the way they came from the factory.



# MIDI and the BeatBuddy

## Overview of MIDI

### What is MIDI??

- MIDI (Musical Instrument Digital Interface) is the digital language that musical equipment uses to communicate. By using MIDI, the BeatBuddy can either receive commands (BeatBuddy is the MIDI RECEIVER/SLAVE) or send commands (BeatBuddy is the MIDI TRANSMITTER/MASTER). It can also send and/or receive tempo information from other devices, making it easy to synchronize your set-up

### How do I connect my BeatBuddy with MIDI??

- There are 2 cables required to connect your BeatBuddy to another device: A [MIDI Sync Breakout cable](#) and a standard 5-pin male-to-male MIDI cable (both sold separately).
  - On the left side of the BeatBuddy there is a “MIDI Sync” port. A special MIDI Sync breakout cable is required to convert the BeatBuddy’s PS/2 MIDI Sync port into 2 standard full size 5-pin MIDI ports for MIDI IN and MIDI OUT. You will also need at least one standard 5-pin MIDI cable to connect the MIDI Sync Cable to your other MIDI compatible device(s).

### When BeatBuddy is Transmitter:

- Connect the OUT port on the MIDI Sync cable to the other device’s IN port using the standard MIDI cable.

### When BeatBuddy is Receiver:

- Connect the IN port on the MIDI Sync cable to the other device’s OUT port.

*Tip: The BeatBuddy can be both Receiver to one device and Transmitter another simultaneously.*

# MIDI and the BeatBuddy

## What can I use MIDI for?

BeatBuddy is Transmitter (“Master”) (MIDI OUT):

- **Sync your looper to the BeatBuddy:** MIDI Sync is a powerful tool to integrate the BeatBuddy with your other MIDI enabled devices, such as MIDI Sync enabled loopers and effects, to create a powerful performance or recording system.
  - For example, when the BeatBuddy is synced with a MIDI Sync enabled looper (such as the Aeros Loop Studio, the best looper to use with the BeatBuddy), the looper can complete the loops exactly on the beat automatically, so that the recorded loop stays in sync with the drums.
  - When using the Aeros with the BeatBuddy, the devices re-sync at every measure, eliminating any chance for drift (a common issue with loopers since there are tiny differences in MIDI timing that add up).
  - If you use a looper without MIDI sync with the BeatBuddy, there will be noticeable time-shift or drift. Even a few milliseconds off can become noticeable as it continues to loop.
  - The BeatBuddy also sends out MIDI Start and Stop commands so that the looper starts and stops at the same time the BeatBuddy does (though not all loopers follow these commands, some just work with the sync).
  - You have full control of which commands BeatBuddy sends and reacts to in the MIDI settings, as explained later in this section.
- **Pause during MIDI Sync:** When using MIDI Sync, the BeatBuddy's pause feature can operate in two modes, Normal Pause and Mute Pause.
  - **Normal Pause:** When the BeatBuddy is paused, MIDI Stop command is sent by the BeatBuddy (through the MIDI OUT port) to stop all synced devices. When unpaused, MIDI Start is sent to restart all synced devices. The beat is restarted at the beginning of the measure to keep in time with other devices. This behavior is relevant when the BeatBuddy is acting as Transmitter in MIDI Sync.
  - **Mute Pause:** When the BeatBuddy is paused, no MIDI control commands are sent to other devices, allowing them to effectively continue playing. The BeatBuddy only mutes its own sound, and continues playing the beat in time. When unpaused, the BeatBuddy unmutes and continues playing drums. This behaviour is recommended when the BeatBuddy is acting as Receiver in MIDI Sync.
  - **MIDI-Activated:** If the BeatBuddy is receiving MIDI clock, it will automatically set the Pause mode to Mute Pause. If the BeatBuddy is not receiving MIDI clock, it uses *Normal Pause*.
  - Mute Pause can be set at Settings > Main Pedal > Mute Pause

# MIDI and the BeatBuddy

BeatBuddy is Receiver (“Slave”) (MIDI IN):

- **Quick song selection.**
  - You may have 3,000 songs in your repertoire and you play gigs where you get random song requests from the audience. Though you have already figured out which BeatBuddy beats go with which songs in your repertoire (or used our handy [Song Matching Tool](#)), you don’t want to have to search through all of the BeatBuddy’s folders for the right beat when you get a song request.
  - With MIDI, you can use an iPad app such as [Onsong](#), which has your song database of lyrics and chord charts so that when you pull up the chord chart to a song on Onsong, it will change to a certain BeatBuddy song which matches it.
- **Additional control with external MIDI footswitch.**
  - Some users want a footswitch for every function (drum fill, transition, outro, tap tempo, skip to different song parts out of order, more accent hits, better tempo controls, etc.).
  - So we have created a special ‘CC’ MIDI command for practically every function the BeatBuddy has, so you can control the BeatBuddy from another device. (We recommend our universal MIDI foot controller, the [MIDI Maestro](#). It comes with a built in [BeatBuddy mode](#) for easy plug-and-play.)
- **Trigger the BeatBuddy’s super awesome drum sounds with an electronic drum set. Use the BeatBuddy as your Drum Brain!**
  - So you have a cheap electronic drum set and you hate the way it sounds.
  - You can connect the MIDI OUT from the drum set to the MIDI IN on the BeatBuddy and when you play on the electronic drum set, it will play the BeatBuddy’s award winning super high quality sounds!
  - This is also useful when you’re composing beats in your DAW and want to test how they will sound on the BeatBuddy -- no need to load the MIDI files into the BeatBuddy -- just stream the MIDI notes!

# MIDI and the BeatBuddy

## I. MIDI Settings

*For your convenience, all default settings will be marked with an asterisk (\*)*

**MIDI-IN** - These settings control what the BeatBuddy does when it receives MIDI commands from an external device.

- **System Real Time**
  - **Sync** - When enabled, the BeatBuddy sets its own tempo based on the tempo (MIDI Clock) that it receives. If disabled the BeatBuddy ignores any tempo sent to it.
    - Enable\*/Disable
  - **Start** - When enabled, the BeatBuddy starts playing upon receiving the MIDI command from an external device. If disabled BeatBuddy ignores all Start commands it receives.
    - Enable\*/Disable
  - **Stop** - When enabled, BeatBuddy stops playing upon receiving the Stop MIDI command from an external device. If disabled the BeatBuddy ignores all Stop commands it receives.
    - Enable\*/Disable
- **MIDI Channel Number** - Sets which channel [1-16 or ALL/OMNI] the MIDI commands are received from. It's important that the BeatBuddy is receiving MIDI commands on the same channel that your external device(s) is/are sending them.
  - Channels 1-16 available. The default is OMNI (ALL), which means the BeatBuddy listens to all MIDI channels.
- **Note On**
  - **Enable\***: When the BeatBuddy receives MIDI notes, it will play the corresponding sounds on the BeatBuddy drum sets. This is very useful if you want to play an electronic drum set but hear the high quality BeatBuddy sounds. Connect the electronic drum set's MIDI OUT to the BeatBuddy's MIDI IN and as you play on the electronic drum set, the BeatBuddy will produce its famous award-winning sound to your playing
  - **Disable**: BeatBuddy ignores all MIDI notes it receives.
- **Note Off**
  - **Choke Notes**: When the BeatBuddy receives the MIDI Note Off command, it will stop playing the sound in the drum set that corresponds with that note. This is used mostly for long note sounds, such as bass or piano in custom made drum sets that include these instrument sounds. However, this sometimes can cause issues with sound playback, depending on the type of device that is used. So unless you have a drum set with other instrument sounds other than drums, it's best to leave this disabled.
  - **Ignored\***: BeatBuddy ignores all note off commands it receives.

# MIDI and the BeatBuddy

- **Control Change (CC)** - Settings for the CC commands the BeatBuddy follows. CC commands can be numbered CC 0-127, each with a Value 0-127.
  - **Enable\*/Disable** - Toggle receiving all CC commands on/off
  - **Tempo (CC:80, CC:81, value 1-127)** - When enabled, you can control the BeatBuddy's tempo using CC:80 to increase the tempo and CC:81 to decrease the tempo. Example: When the BeatBuddy receives CC:80, Value 10 it changes the tempo to current tempo + 10 BPM. CC:81 decreases the tempo by the Value amount.
    - Enable\*/Disable
  - **Half Time (CC:82, value 1-127)** - The BeatBuddy enters Half Time mode at the next measure. CC:82, value 0 goes back to Normal Time at the end of the measure.
    - Enable\*/Disable
  - **Double Time (CC:83, value 1-127)** - The BeatBuddy enters Double Time mode at the next measure. CC:83, value 0 goes back to Normal Time at the end of the measure.
    - Enable\*/Disable
  - **Mix-Vol (CC:108, value 0-100)** - When enabled, the Mixer volume (main volume knob that controls only the drum sound volume) can be controlled by sending the MIDI message with a value ranging from 0 to 100. If disabled, the BeatBuddy ignores all mixer volume commands it receives. This parameter can be set to work with INC/DEC commands, read how in Tempo Control.
    - Enable\*/Disable
  - **HP-Vol (CC:109, value 0-100)** - When enabled, Headphone volume can be controlled by sending the MIDI message with a value ranging from 0 to 100. If disabled, the BeatBuddy ignores all headphone volume commands it receives. This parameter can be set to work with INC/DEC commands, read how in Tempo Control.
    - Enable\*/Disable
  - **Accent-Hit (CC:110, any value)** - When enabled, the BeatBuddy will play the current song part accent hit each time it receives the Accent-Hit MIDI message. You can control the volume of the accent hit by changing the value of the message ranging from 0 to 127. If disabled the BeatBuddy ignores all Accent-Hit commands it receives.
    - Enable\*/Disable

# MIDI and the BeatBuddy

- **Pause/Unpause (CC:111, any value)** - When enabled, the BeatBuddy will pause the current song when a Pause/Unpause message is received. The second time this message is received, the BeatBuddy will unpause the current song. If disabled, the BeatBuddy ignores all Pause/Unpause commands it receives.
  - Enable\*/Disable
- **Drum Fill (CC:112, any value)** - When enabled, the BeatBuddy will trigger a drum fill when a Drum Fill message is received. If disabled, the BeatBuddy ignores all Drum Fill message it receives.
  - Enable\*/Disable
- **Transition (CC:113)**
  - **Enable\*:** The BeatBuddy will trigger a transition when a custom transition message is received. You can select which part to go to after the transition by setting the value of the command to the index of the part you want to jump. The transition will continue playing in a loop until the value is changed to 0.
    - Value 1 → Part 1
    - Value 2 → Part 2
    - Value 3 → Part 3
    - Value n → Part n (Please Note: value 33-125 are disabled in the BeatBuddy)
    - Value 126 → Previous Part
    - Value 127 → Next Part
    - Value 0 → BeatBuddy ends transition and goes to the selected song part as specified in the original value, as specified above.
  - **Disable:** The BeatBuddy ignores all Transition Fill message it receives.

# MIDI and the BeatBuddy

- **Intro (CC:114, value 1-127)** - When enabled, the BeatBuddy will trigger the Intro of the song when an Intro message is received. If disabled, the BeatBuddy ignores all Intro messages it receives. If the non-MIDI Intro setting in the Main Pedal settings is disabled, the BeatBuddy starts without playing the intro.
  - Enable\*/Disable
- **Outro (CC:115, value 1-127)** - When enabled, the BeatBuddy will trigger the outro of the song when an Outro message is received. If disabled, the BeatBuddy ignores all Outro messages it receives.
  - Enable\*/Disable
- **Drum Set (CC:116, value 1-127)** - When enabled, the BeatBuddy will change the drum set when it receives this message. The value decides which drumset is chosen, Value=1 is the first drum set, etc. If disabled, the BeatBuddy ignores this message.
  - Enable\*/Disable
- **Tap-Tempo (CC:117, value 1-127)** - When enabled, if the BeatBuddy receives this command, it enters Tap Tempo mode. This is a useful way to enter Tap Tempo mode hands free if you have an external device that can send this command. Sending out this command multiple times is like tapping out the tempo with the pedal. When disabled, BeatBuddy ignores this command.
  - Enable\*/Disable
- **Enter/Exit Folder (CC:118, any value)** - When enabled, receiving this command enters the selected folder. If disabled, this command will be ignored.
  - Enable\*/Disable
- **Scroll Up/Down (CC:119, value 0-1)** - When enabled, receiving this command with either value 0 (down) or 1 (up) scrolls the current selection on the Songs List. If disabled, the BeatBuddy ignores this command.
  - Enable\*/Disable
- **Remote Main Pedal (CC:120, value >0 for press, value=0 for release)** - This emulates the main BeatBuddy Pedal being pressed and released. In other words, this makes a MIDI controller act just like the Main Pedal. Simply send CC:120 with any value other than 0 to emulate the *press* and send CC:120 with value 0 to emulate the *release*. Both must be sent for this MIDI command to function properly.
  - Enable\*/Disable
- Program Change (PC) - Enable/Disable the BeatBuddy responding to Program Change commands.



# MIDI and the BeatBuddy

**MIDI OUT** - These settings control when the BeatBuddy sends MIDI commands to an external device.

- **Output Type**

- **MIDI-OUT:** The BeatBuddy only sends out the MIDI commands it generates and does not send any MIDI commands it has received in the BeatBuddy's MIDI In port.
- **MIDI-MERGE\*:** The BeatBuddy combines any MIDI commands it receives in the MIDI-IN port with its own generated commands and sends both commands to the MIDI-OUT port.
- **MIDI-THRU:** The BeatBuddy only sends out MIDI commands that it has received through the MIDI-IN port.
- **Disable** - BeatBuddy does not send out any MIDI messages

- **Channel**

- Sets which channel [1-16] MIDI commands are sent out to. It's important that the BeatBuddy is sending out MIDI commands on the same channel that your external device is receiving them. Default is channel 1.

**Please Note:** *Sync (Clock), Start and Stop are MIDI SysEx (System Exclusive) Real Time Commands. This means that they are sent on all channels, regardless of what the MIDI Out Channel is set to.*

- **Sync**

- **Always On\*:** BeatBuddy always sends out the MIDI tempo clock even when it is not playing. This is useful for when you want your MIDI tempo based devices such as loopers or delay, to play to a certain tempo but you don't want to have drums playing while you do it.
- **While Playing:** BeatBuddy only sends out MIDI tempo clock while it is playing drums. This is good for when you want your other devices to only follow the BeatBuddy's tempo while the drums are playing.
- **Disable:** BeatBuddy does not send out MIDI tempo clock.

# MIDI and the BeatBuddy

- **Start**

- **Intro:** BeatBuddy sends out the MIDI Start command at the beginning of the intro.
  - Please note that if the intro is less than a full measure long, this setting may confuse your other devices and cause them to play out of time.
- **Main Beat\*:** BeatBuddy sends out the MIDI Start command when the main beat starts playing after the intro has finished. This is a great way to start right on time.
- **Disable:** BeatBuddy never sends out the MIDI Start command.

***Please note:** BeatBuddy always sends out the MIDI Start command when Unpaused, unless Start setting is disabled or Mute Pause option is selected.*

- **Stop**

- **Pause Only:** BeatBuddy sends out the MIDI Stop command when BeatBuddy has been paused.
- **Pause and End\*:** BeatBuddy sends out the MIDI Stop command when BeatBuddy has been paused and when the outro ends.
- **End Only:** BeatBuddy sends out the MIDI Stop command only when the outro ends.
- **Disable:** BeatBuddy never sends out the MIDI Stop command.

- **Notes**

- When enabled, the BeatBuddy sends out the MIDI notes that it is currently playing. This can trigger sounds in another device such as your computer or another synthesizer. If disabled, BeatBuddy does not send out any MIDI notes. Some devices (such as the Pigtronix Infinity looper) get confused and do not operate properly when they receive MIDI notes.
  - Enable/Disable\*

# MIDI and the BeatBuddy

- **Next Part (CC:102)**

- When enabled, the BeatBuddy sends out the CC:102 MIDI command when the transition has completed and the next part starts. If disabled, the BeatBuddy does not send out the CC:102 command. Some devices (such as the Eventide Timeline) get confused when they receive this command and do not operate properly. This command is required for song part control with the Aeros when BeatBuddy is triggering part changes.

- Enable\*/Disable

- **Time Signature**

- When enabled, BeatBuddy sends out Time Signature information when the BeatBuddy song loads and at every 1 of the measure after opening the song. This is useful for the Aeros Loop Studio so that it can sync the internal time signature with the BeatBuddy's even as the time signature changes. The Aeros can only change time signature *before* recording.
- If disabled, the BeatBuddy does not send out the Time Signature information. Some devices get confused and don't operate properly when they receive this signal.

- Enable\*/Disable

- Remember, time Signature is sent by BeatBuddy whenever a song is loaded as a Sysex midi message and at the 1 of every measure after opening the song.

- all values in hex

- 2/4: F0 - 7F - 7F - 03 - 02 - 04 - 02 - 02 - 18 - 08 - F7
- 3/4: F0 - 7F - 7F - 03 - 02 - 04 - 03 - 02 - 18 - 08 - F7
- 4/4: F0 - 7F - 7F - 03 - 02 - 04 - 04 - 02 - 18 - 08 - F7
- 5/4: F0 - 7F - 7F - 03 - 02 - 04 - 05 - 02 - 18 - 08 - F7
- 3/8: F0 - 7F - 7F - 03 - 02 - 04 - 03 - 03 - 18 - 08 - F7
- 6/8: F0 - 7F - 7F - 03 - 02 - 04 - 06 - 03 - 18 - 08 - F7

Restore MIDI Settings - Resets all MIDI settings to default

- Yes/No

# MIDI and the BeatBuddy

## II. Folder/Song Select

- You can select a BeatBuddy folder and song with the MIDI Bank Select (combination of CC:0 [MSB] and CC:32 [LSB] and Program Change (PC) messages.)
  - The folder is selected with the Bank Select Message (Bank MSB and LSB) and the song is selected with the Program change.
  - Each of the 128 values of Bank MSB (Most Significant Bit) value can have 128 folders as selected by the value of Bank LSB (Least Significant Bit).
  - This gives a potential of  $128 \text{ MSB} \times 128 \text{ LSB} = 16,384$  different folders with 128 songs each (selected by the Program Change [PC] command).
  - The order of the folders / songs are sorted by the BeatBuddy Manager. The order of the folders / songs corresponds to the number used by the MIDI messages +1.
    - This means that Program Change (PC) Message must have a value of 0 to select the first song in the menu.
    - We know this is confusing -- but MIDI was designed by computer nerds, not normal people like us, and computer nerds like to start with 0 instead of 1.

Example:

Folder/Song	Bank MSB (CC:0)	Bank LSB (CC:32)	Program Change (PC)
Folder 1 - Song 1	Value 0	Value 0	Value 0
Folder 1 - Song 2	Value 0	Value 0	Value 1
Folder 3 - Song 3	Value 0	Value 2	Value 2
Folder 129 - Song 4	Value 1	Value 1	Value 3

**Please note** that the BeatBuddy's song does not change until the Program Change message is received, i.e. bank messages alone are not enough to change a song.

## III. Tempo Control

- Since the BeatBuddy's tempo ranges from 40BPM - 300BPM, we can't use just one CC command to cover the whole range because a CC command can only have 128 values.
- There are two ways of changing the tempo.
  - With INC/DEC (increase/decrease) messages which adjust the tempo up or down by 1 BPM
  - By skipping directly to a specific tempo BPM using the MSB/LSB system, like in the Song Selection system.

However, it's a bit more complicated because, unlike the Song Selection system where you have dedicated CC commands to represent the MSB (CC:0) and LSB (CC:32), there are no dedicated CC commands for Tempo.

So we use the "NRPN Register" (Non-Registered Parameter Number) which is a general purpose MSB (CC:99) and LSB (CC:98). All that means is that you can control multiple parameters on the BeatBuddy using an MSB sequence, which is usually a series of 3 commands: 2 CC commands and one PC.

This can be used to control tempo, any other parameter, or multiple parameters at once. Currently we're only using it to control tempo, but we follow the MIDI Standard protocol to leave room for further control in the future. Because of this capability for multiple parameter control, the steps below are followed.

1. INC/DEC (see <https://www.midi.org/specifications>)

Here are the common steps to do to control the BeatBuddy's tempo: It follows the Data INC/DEC specification of the MIDI protocol:

### Steps to Increment Tempo

Steps	Message	Details
1*	CC:99/106	Set the NRPN register to Tempo MSB Set
2*	CC:98/107	the NRPN LSB register to Tempo LSB
3	CC:96/1	Increment the tempo by one
4*	CC:99/127	Clears the NRPN MSB register
5*	CC:98/127	Clears the NRPN LSB register

Steps with a \* are optional if the only value control by Inc/Dec is the Tempo. By default, the Beatbuddy will increment / decrement the tempo when receiving a INC/ DEC message.

# MIDI and the BeatBuddy

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5*	CC:98/127	Clears the NRPN LSB register

Steps with a \* are optional if the only value control by Inc/Dec is the Tempo. By default, the Beatbuddy will increment / decrement the tempo when receiving a INC/ DEC message.

### Steps to Decrement Tempo

Steps	CC:#/Value	Details
1*	CC:99/106	Set the NRPN MSB register to Tempo MSB
2*	CC:98/107	Set the NRPN LSB register to Tempo LSB
3	CC:97/1	Decrement the tempo by one
4*	CC:99/127	Clears the NRPN MSB register
5*	CC:98/127	Clears the NRPN LSB register

Steps with a \* are optional if the only value control by Inc/Dec is the Tempo. By default, the Beatbuddy will increment / decrement the tempo when receiving a INC/ DEC message.



# MIDI and the BeatBuddy

## 2. Tempo MSB & Tempo LSB

- In order to directly set the tempo to a specific BPM, you need to use the Tempo MSB and Tempo LSB. The Beatbuddy will update its current tempo only when receiving the LSB message.
- So the order of the message should be:
  1. MSB value
  2. LSB value
- Don't forget, the value of the Tempo can only be set with both MSB (CC:106) and LSB (CC:107).

Here are a few examples of Midi message combinations:

MSB (CC:106)	LSB	Tempo
0	(CC:107) 25	40
0	40	40
0	127	127
1	0	128
1	25	153
1	50	178
2	0	256
2	44	300
2	45	300

*Note: Remember the BeatBuddy's tempo range is from 40-300BPM*

# MIDI and the BeatBuddy

## MIDI IN Commands List

CC:0	[0-127]	Bank (Song folder) Select MSB
CC:32	[0-127]	Bank (Song folder) Select LSB
CC:80	[1-127]	Tempo Increment (New Tempo = Tempo + value)
CC:81	[1-127]	Tempo Decrement (New Tempo = Tempo - value)
CC:82	[0-127]	0: Return to normal mode 1-127: Go to half time mode
CC:83	[0-127]	0: Return to normal mode 1-127: Go to double time mode
CC:96	[1-127]	Data                      increment                      (+1)
CC:97	[1-127]	Data decrement (-1)
CC:98	[0-127]	NRPN_LSB
CC:99	[0-127]	NRPN_MSB
CC:106	[0-127]	Tempo MSB
CC:107	[0-127]	Tempo LSB
CC:108	[0-100]	Change the Mixer Volume (Main Volume knob)
CC:109	[0-100]	Change the Headphone Volume
CC:110	[0-127]	Triggers an accent hit with a volume from the value 0 (mute) to 100 (original recorded volume) to 127 (amplified more than the original recorded volume)
CC:111	[0-127]	Pause / Unpause the current song 0: Unpause 1: Pause >1: Toggle between pause and unpause
CC:112	[1-127]	Triggers a drum fill
CC:113	[1-127]	Starts song transition (Selects the next part)  <ul style="list-style-type: none"><li>• value = 0: Finish transition at next measure</li><li>• value = 1-32: Start transition to part X (if part X exists)</li><li>• value = 33-125: Ignored, no part possible</li><li>• value = 126: Start transition to previous part</li><li>• value = 127: Start transition to next part</li></ul> Transition will continue looping until value is changed to 0. It is possible to start a song with a transition.
CC:114	<0	Starts the playback of the current song
CC:115	[1-127]	Triggers the outro of the song
CC:116	[1-127]	Selects a specific drumset
CC:117	[1-127]	Enters Tap Tempo mode and generates Tap Event
CC:118	[0-127]	Enters or Exits a folder
CC:119	[0,1]	0 scrolls down song/folder list, 1 scrolls up

# MIDI and the BeatBuddy

## MIDI-OUT Commands List

CC:102	[0-127	Next Part. Sent whenever song part is changed on the BeatBuddy, at the end of the transition
Start (Sysex Real Time)		Sent when BB intro ends and when unpaused (can be modified in BB settings)
Stop (Sysex Real Time)		Sent when BB outro ends and when paused (can be modified in BB settings)
Time Signature:		<p>Time Signature is sent by BeatBuddy whenever a song is loaded and at the 1 of every measure as a Sysex midi message. (All values in hex)</p> <p>2/4: F0 - 7F - 7F - 03 - 02 - 04 - 02 - 02 - 18 - 08 - F7</p> <p>3/4: F0 - 7F - 7F - 03 - 02 - 04 - 03 - 02 - 18 - 08 - F7</p> <p>4/4: F0 - 7F - 7F - 03 - 02 - 04 - 04 - 02 - 18 - 08 - F7</p> <p>5/4: F0 - 7F - 7F - 03 - 02 - 04 - 05 - 02 - 18 - 08 - F7</p> <p>3/8: F0 - 7F - 7F - 03 - 02 - 04 - 03 - 03 - 18 - 08 - F7</p> <p>6/8: F0 - 7F - 7F - 03 - 02 - 04 - 06 - 03 - 18 - 08 - F7</p>
MIDI Notes		Streams MIDI notes of beat currently playing when enabled in MIDI Out settings

# Technical Support

If you notice anything strange with your BeatBuddy, first make sure all the cables are firmly connected.

Then, power the pedal off by disconnecting for a minute, then plug it back in.

If that doesn't work, the files on the SD card may have been corrupted (this happens on rare occasions), and you should delete all of the files from the SD card and reload your saved Project with the BeatBuddy Manager or the SD Card backup files which have the Default Content that came with your BeatBuddy.

The SD Card backup files and the BeatBuddy Manager Software is available at <https://singularsound.com/contact/>

If you're having trouble fixing any problems with your BeatBuddy, please email us at [support@singularsound.com](mailto:support@singularsound.com).

# Technical Specifications

Dimensions: 5" long x 3.5" wide x 2.5" high (127mm x 86mm x 63mm)

Power: 9v DC, 300mA, center negative

Output Impedance: ~26 ohms

Input Impedance: > 1Meg ohms

Max Input Level: 3.5 dBu

Signal to Noise: 95 dB typical

D/A: 24 bits, 44,1 kHz

Frequency Response: 20Hz to 20 kHz

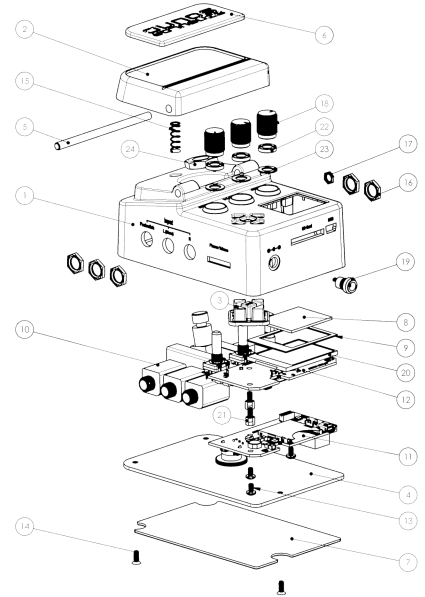
Inputs: 2 x 1/4"

Outputs: 2 x 1/4" (L/mono, R), 1 x 1/8" (headphones)

MIDI I/O: PS/2 MIDI Sync Port (breakout cable required)

USB: 1 x Type Mini-B

Other I/O: 1 x 1/4" TRS (external footswitch)



# Warranty

Your BeatBuddy comes with a full two year warranty on parts and workmanship from the date of purchase. During this period we will repair or replace (at our option) defective units free of charge.

Most issues can be solved by writing to us at [support@singularsound.com](mailto:support@singularsound.com)

If we cannot help you fix the problem, we may have you send the BeatBuddy in for servicing.

The warranty remains valid only if the serial number on the unit is not defaced or removed. It does not cover damage due to misuse, unauthorized tampering, accident or neglect.

To validate your warranty please register your BeatBuddy within 30 days of purchase at [singularsound.com/warranty](http://singularsound.com/warranty).

Thanks for reading the manual! If there is anything you don't understand, or think that can be explained better, please contact us at [support@singularsound.com](mailto:support@singularsound.com), or visit our Forum at <http://forum.singularsound.com>

# Changelogs

## 3.9.9 “MIDI Optimizations and Bug Exterminations” (Latest)

- **Improve Pause / Unpause behavior**

- Add outro command support while paused
  - Stops the BeatBuddy if the outro is disabled or the song does not have an outro
  - Plays the outro otherwise (on current beat if Mute Pause is enabled, from start of fill otherwise)
- Update the handling of the MIDI messages CC-112 (fill), 113 (transition), 114 (intro), 115 (outro) while BeatBuddy is paused, the BeatBuddy will now behave as expected.
- The BeatBuddy continues to play the outro fill if it is paused and unpaused during the outro.
- Disable hold commands while paused if Start Beat is set to Press
  - If BeatBuddy Main Pedal is held down while paused and tap has not been set to stop, BeatBuddy will start a transition.
  - If BeatBuddy Main Pedal is held down while paused and tap has been set to stop, it will enter Tap Tempo Mode.
  - The same is true for the Main Pedal Footswitch emulation and the MIDI CC120 MIDI command
- Added settings to Main Pedal Unpause for Stop Song and Transition with tap action using the Main Pedal

- **New Settings**

- New Mono / Stereo Setting for drum mix: This is useful if you don't have a stereo sound system, you can set the drums to mono to hear the BeatBuddy's summed signal
  - Found in the Audio Settings Folder
  - Mono / Stereo setting only affects the BeatBuddy's own signal in both the Main and Headphone outputs. It does not affect any sound the BeatBuddy passes through from the inputs to the outputs.
- New midi setting to enable / disable Program Change (PC) midi messages
- Allow MIDI Start message during unpause to be Enabled/Disabled
- External Device Unpause Outro setting - Follow Main pedal or Stop Song
  - This allows users to have a similar behavior to version 3.8.0 and prior when the footswitch is set to Outro and the BeatBuddy is **paused**.

- **Improvements to handling of Outro**

- If Outro is disabled and song is set to stop, the screen will say “Stopping” instead of “Outro”
- Add outro command support during intro
  - Swap to outro if outro is enabled and exists on the current song
  - Play the intro until the end and stop if the outro is disabled or there is no outro available. The screen will say “Stopping” instead of Outro if this is the case.



# Changelogs

- Double Tap during stop / intro state
  - Outro enabled: BB will switch and play the outro
  - Outro disabled: BB will immediately cancel the intro and BB stops
- Change outro request from external footswitches to follow the same behaviour as a midi request

## MIDI

- Added support for successive transition MIDI commands
  - This helps with the stability of quickly repeated Transition and Complete Transition MIDI commands sent by the user
  - Allows receiving both the Transition and Complete Transition commands simultaneously
- Fixed Mute Pause MIDI activation issue
- Wake up BB when receiving MIDI Messages from sleep state
- Disable Internal MIDI Sync Output (from BB) when the BB is synced to an external clock. This fixes the 'double clock' problem.
- Send Time signature every 3 seconds (approx). Keeps the time signature on the Aeros synced with the time signature on the BeatBuddy (Aeros song must be blank for the time signature to be changed)
- Added MIDI CC Inc / Dec for Headphones (CC:109) and Mix (CC:108) main volume
- Display volume changes (Headphones and Mix) when changing them with MIDI
- Fixed bug where Next Part CC:102 command did not follow the BeatBuddy's set MIDI Out channel
- Set MIDI merge as default MIDI Out value
- Use MIDI velocity for MIDI accent hit
- Song Player MIDI control logic update
  - Go to stopped state when receiving MIDI stop message from paused state
  - Play outro when receiving outro message when stopped
- Add MIDI remote main pedal on CC:120
  - Value > 0 : Pedal Press
  - Value = 0 : Pedal Release
- Folder selection done through Program Change can now address up to 16,384 folders

### **New MIDI IN transitions message logic:**

CC-113, value = 0:	Quit transition
CC-113, value = 1...32:	Start transition to part X (if part X exists)
CC-113, value = 33...125:	Ignored, no part possible
CC-113, value = 126:	Start transition to previous part
CC-113, value = 127:	Start transition to next part

# Changelogs

## Other

- Add the possibility to cancel a Count-in intro with a double tap after count-in has started
- External Footswitch now automatically controls scroll up/down while in song or folder screen, regardless of footswitch settings
- Help text added and refined for various features

## Bug Fixes

- Fixed un-pause hold option still being processed even if Start Beat is set to Press
- Fixed broken polyphony algorithm on player
- Fixed bug where cue fill settings were affecting playback
- Added special rule to support PC messages if CC messages are disabled
- Handle triple tap timing the same as main pedal when MIDI controller and/or External Footswitch is emulating the main pedal.
- Allow users to see help text even if option is disabled
- Empty inactive folder names will now scroll if too long for the screen
  - Used for promotional messages from BBM / Download more songs, etc..

# Changelogs

## 3.8.0 "The MIDI Maestro Support Update"

- **Updated Half / Double time algorithm**
  - Resets on stop
  - Waits for the End Of Measure to change while Mute Pause is activated – this keeps the BeatBuddy in time with other devices
- **Displays Half / Double time on screen when activated**
- **Made next part midi message (CC:112) enabled by default** (this is crucial for the BeatBuddy to work properly with the Aeros).
- **Added enter / exit folder midi message** (CC:118, value=1-127)
- **Added scroll up / down commands for songs and folders lists** (CC:119, value=0 scrolls down, value=1 scrolls up)
- Made song and folder list menu big font when scrolling with MIDI commands for easier visibility
- Selects song currently highlighted in the song menu if no action after 8 seconds
- **Added Midi sync clock setting (Playing not paused):** this turns off MIDI clock when paused
- **Fixes**
  - Fixed start message always being sent when count-in was activated
  - Fixed midi next part not sent when midi merge activated

## 3.6.0 "The Bug Zapper"

- Fixed count-in color style and behavior
- Fixed Headphone volume random display
- **Fixed Missing Audio bug:** this was a bug that cause certain drum sounds not to be played in rare cases.
- **Stability improvement to memory management** (That were done while looking for the memory corruption problem in the missing audio bug)
- **Midi Time signature:** Added check to make sure the values sent are valid, to prevent errors in MIDI files causing errors in the MIDI sync
- **Prevent default song tempo / drumset if those were set by MIDI 500ms before:** So if you choose a song with certain settings through MIDI, the BB won't override those settings.

## 3.5.0

- **Fixed Missing Audio bug**
  - Missing audio bug was caused by memory corruption during file loading. An invalid library configuration seems to be the issue. (Disabled word access in ff.c to solve the issue)

# Changelogs

- **Stability improvement** (That were done while looking for the memory corruption problem)
  - Stopped using malloc / free for i2c packets.
  - Limited the number of settings that can be saved in one setting Task call
  - Add load sanity checks to limit the chance of trying to play a corrupt song
- **Midi Time signature**
  - Made sure the values sent are valid by applying mask on the payload value (0x7F)

## 3.4.0

- **Fixed count-in color style**
- Fixed Headphone volume random display

## 3.3.0

- Prevent Song Manager from setting default song tempo / drumset if those were set by MIDI 500ms before.

## 3.2.0 "A New Look"

### New Visual Interface

One of the main focuses of this update was to improve the visibility of key information at a glance. We really wanted to increase the pedal's visual feedback during a live performance. With this in mind, we performed a complete visual overhaul of the BeatBuddy's graphical interface. Here's what's changed:

1. **Added measure marker:** Useful for knowing when a fill or transition is more than one measure long, as well as seeing where you are in long song parts. This is the dark box on the bottom of the screen that is moving left to right.
2. **Made fonts larger and centered** (when not longer than the screen). There's now a focus on the current part playing, which is the most important information you need while performing.
3. **Updated the pause, tempo and volume screen** with new looks as well as an always active visual metronome, so you never lose track of the beat.

# Changelogs

## More MIDI Commands

We're continuing to implement more functionality into the BeatBuddy in preparation for our upcoming pedals. These changes include:

1. Separate Pause / Unpause message
2. CC:111 data == 0 : pause
3. CC:111 data == 1 : unpause
4. CC:111 data >= 2 : toggle between pause and unpause

## Other Changes

1. Improvements to the memory management system
2. Half/Double time now changes at the end of a measure
3. Half/Double time mode resets when a new song is loaded

## Bug Fixes

1. Potentially fixed the "no audio" bug
2. Fixed bpm screen that is always visible when changed by MIDI
3. Fixed broken sleep mode
4. Prevented useless bpm/tempo page popups

## 2.7.0

- Implemented Double / Half time. (But needs to be changed to be triggered EOM)

## 2.6.0

- **Added Enabled/Disable Outro part setting option**
- **Round TAP tempo to avoid not-integer BPM**
- **Add Tempo control with custom CC message**
  - CC:80 for increment
  - CC:81 for decrement
  - The increment size follow the value of the command.
- Adjusted the TAP tempo speed to the current times signature
- **Implemented "previous part"** on CC:113 when value is 126
- Fix potential bug with MIDI merge
- Change Tempo UI screen
- Add dedicated tap tempo behaviour
  - If TAP tempo screen was not brought-up using a long press on the main pedal, event from the main pedal are forwarded to the SongPlater and the screen is brought back to Home Screen
- Forced the UI to switch to the BPM screen when switching tempo

# Changelogs

## 2.5.0

- Added long name support (256 characters)
- Added support for Midi Note as accent hits.
- Added support for Humane Readable name (HRN) drumset in metadata

## 2.1.0

- Fixed Outro called from external footswitch bug
- Add support for Midi Note as accent hits.

## 2.0.4

- **Settings Menu Improvements**
  - New Settings Menu Help System! Whenever you see the (?) symbol next to a menu option, press the right arrow button to highlight it and then press the Tap button to see an explanation of that Setting option. No more looking through the manual to understand what a setting does!
  - Change Font Size: No more squinting at small words! (Settings > Font Size)
  - Automatic Large font size when entering Folder / Song selection window with the footswitch
  - Hide Sobriety Feature option: For the parents who don't want to explain this little joke to their kids. (Settings > Sobriety > Hide Sobriety Option)
- **Use the Footswitch as the Main Pedal:** Many of you would like to have the BeatBuddy up at table top (or keyboard) height so you can choose songs without bending down. You can now set one of the footswitches to act like the Main Pedal! (Settings > Footswitch > Function > Main pedal)
  - Please Note: If the footswitch detector detects a latching footswitch, it disables the main pedal option since it cannot work with a latching footswitch. A momentary footswitch is required. All Singular Sound Footswitches manufactured after May 2015 are momentary. To test your footswitch: Settings > Footswitch > Footswitch detector
- **Double Tap Outro Disable:** Some Beat Buddies complained that they are accidentally hitting the double tap outro during a performance. You can now disable it. (Settings > Main Pedal > Outro). You can set one of the footswitches as a single tap outro at Settings > Footswitch > Function > Playing.

# Changelogs

- **New Accent Hit options:**
  - **Global Accent Hit:** A single sound that is triggered no matter what song or song part you are in (as opposed to the Default Accent Hit which is a sound set to the specific song part). You can choose from all the Accent Hits available on the SD card and any WAV files added in the EFFECTS folder of the SD Card. (Settings > Footswitch > Accent hit > Source)
  - **Accent Hit Volume:** You can now adjust the accent hit volume! Accent volume can range from [-40db, + 6db], Default value is set to 0db. (Settings > Footswitch > Accent hit > Volume)
- **Cue Fill options:** Some users have said that the fills sound smoother if they start on the next half beat (1/8th note), next beat (1/4 note) or next measure rather than immediately when the pedal is pressed. So we have added these options. Default is still Immediately. Please note: When set to 'Immediately', if the pedal is pressed in the last half beat of the measure, the fill will play in the next measure because it's very unlikely that you want less than a half beat of fill so you probably pressed it too early. (Settings > Main Pedal > Cue Fill)
- **MIDI Command Change:** When unpausing with drum fill (by tapping the main pedal), the MIDI "Start" message is sent after the completion of the fill and the main loop begins. This means that the looper only begins playback after the fill is complete, which is a more accurate representation of what usually happens in a live performance.
- **Technical Improvements:**
  - Increased the Polyphony from 24 to 64 simultaneous instruments.
  - Added Non-Percussion Instrument handling: Now the drum sets with bass will sound better!

## Bug Fixes

- Fixed Midi Note In Problem. (Under some circumstance, some MIDI note received in the MIDI in port were retransmit on the MIDI out port even if it was set to MIDI-OUT.
- Added quick release to reduce "clicking" sound when removing sounds (when max polyphony is reached)
- Fixed release buffer coefficient calculations.
- Fixed midi merge sync bug.
- Fixed Incorrect Drum set loading bug
- Fixed not looping transition bug. (On the last part of the song)
- Removed Stop commands when changing songs if player is not playing

# Changelogs

## 2.0.3

- When unpausing with drum fill, the start message is sent after the completion of the fill (back to the main loop)
- Changed Help Setting Flow.
  - You need to select help icon before entering help menu.
- Changed the Main Pedal option for the footswitches
  - New menu to set Main pedal for 1st footswitch and 2nd footswitch
  - When Setting main pedal, the playing / stopped menus get disabled.
  - If the footswitch detector detects a latching footswitch, it disables the main pedal options since it cannot work.

## 2.0.1

- Added Outro Double Tap (Enable /Disable).
- Added help text for Midi In Tempo Control.
- Fixed invisible characters in help text menus.

## 2.0.0

- Automatic Tempo By Part Feature
  - New option in menu
  - Can configure intro / main parts / outros tempo in the BB Manager
- Added MIDI ID feature
  - Can switch between MIDI IDs and Folder Ordering when selecting song / folder / drum sets via MIDI

## 1.9.6

- Fixed MIDI merge sync bug.

## 1.9.4

- Added Non-Percussion Instrument handling.
- Added autopilot modification.
- Fixed release buffer coefficient calculations.

## 1.9.3

- Changed arrow direction where selection accent hit volume
- Removed Global / Default drum set menu option.
- Added "(default)" label display when Accent Hit Volume is set to +0db
- Added 10% and 90% Cue Fill Period
- Set default Cue Fill Period to 90%
- Added quick release to reduce "clicking" sound when removing sounds (when max polyphony is reached)
- Increased the Polyphony from 24 to 64 simultaneous instruments.



# Changelogs

## 1.9.2

- Fixed Midi Note In Problem.
- (Under some circumstance, some MIDI note received in the MIDI in port were retransmit on the MIDI out port event it was set to MIDI-OUT.
- Global Accent Hit volume source selection (Default /
- Created a new type of menu to easily set numerical value.
- Accent volume can range from [-40db, + 6db]
- Default value is set to 0db
- Added scrolling for item in menus (Accent Hit & Single Choice Menu)
- Fixed Wrapping text of custom Accent hit list.

## 1.9.0

- Custom Font Size
- Automatic Large font size when entering Folder / Song selection window with the footswitch
- Hide Sobriety Feature option
- Custom Accent Hit selector menu.
- Select between Default and Global special effect source
- The Global list include all the project Accent Hit with their real name
- Custom wavs added in the EFFECTS folder. (the name can be longer than the 8.3 format)

## 1.7.9

- Fixed Update bug

## 1.7.8

- MIDI CC: Trigger Intro Command (CC:114)
- MIDI CC: Drum set Selection MIDI Command (CC:116)
- Can now selects next part with transition command.
- Song can now be started with a transition command

# Changelogs

## 1.7.7a

- Created new menu layout to show the MIDI CC Value when settings MIDI options
- Created new option folder to group by MIDI message type
- Created new type of menu to Enable/Disable all the CC messages at once
- New MIDI messages:
  - MIDI CC: Trigger Drum Fill (CC:112)
  - MIDI CC: Trigger Transition Fill (CC:113)
  - MIDI CC: Trigger Outro (CC:115)
  - MIDI CC: Tempo MSB (CC:106)
  - MIDI CC: Tempo LSB (CC:107)
  - MIDI CC: Data Increment (CC:96)
  - MIDI CC: Data Decrement (CC:97)
  - MIDI CC: NRPN LSB (CC:98)
  - MIDI CC: NRPN MSB (CC:99)

## 1.7.6a

- Fixed Bad default tempo bug generated when pressing next / previous song at the same time.
- Fixed little bug that could lead to the loading of the wrong song after a reboot (this was found when fixing previous bug).
- Fixed Tap tempo glitch that could happen if someone presses the two footswitches (in tap tempo mode) at the same time or sends two tap tempo command to fast. The BeatBuddy now rejects any tap tempo request if the delay between the previous one is less than 120ms. This will fix the glitches that forced the BPM to 300 instantly.
- Added new option in the Midi Sync (out) menu. Midi Sync message can now be sent only when playing. This will lead to a better compatibility with other MIDI devices. I also changed the label Enabled to Always On in the menu.
- Added a new menu to Enable / Disabled sending the custom Next Part Midi message (CC102). Some user had problem with their timeline. Removing the Next Part Message will fix the problem.
- Added a new option in the MIDI-OUT menu to enable / disable the time signature midi message. I think this message could be badly interpreted by MIDI devices since it's a MIDI-EX message and implementation may differ from one product to another.

# Changelogs

## 1.7.5

- Fixed Bad default tempo bug generated when pressing next / previous song at the same time.
- Fixed little bug that could lead to the loading of the wrong song after a reboot (this was found when fixing previous bug).
- Fixed Tap tempo glitch that could happen if someone presses the two footswitches (in tap tempo mode) at the same time or sends two tap tempo command to fast. The BeatBuddy now rejects any tap tempo request if the delay between the previous one is less than 120ms. This will fix the glitches that forced the BPM to 300 instantly.
- Added new option in the Midi Sync (out) menu. Midi Sync message can now be sent only when playing. This will lead to a better compatibility with other MIDI devices. I also changed the label Enabled to Always On in the menu.
- Added a new menu to Enable / Disabled sending the custom Next Part Midi message (CC102). Some user had problem with their timeline. Removing the Next Part Message will fix the problem.
- Added a new option in the MIDI-OUT menu to enable / disable the time signature midi message. I think this message could be badly interpreted by MIDI devices since it's a MIDI-EX message and implementation may differ from one product to another.

## 1.7.4

- Fixed USB connection bug when BB is in Folder / Drum Set / Song Selection window.
- Added MIDI control change Bank / Patch / Program
- Fixed Midi Merge error that could make the BB reboot if a Rx packet was malformed / corrupted
- Fixed Headphone Volume flickering bug. (Window is not shown if volume is under 20)
- Fixed no special effect bug that caused a reboot of the BeatBuddy.
- MIDI CC: External Tap Tempo (CC:117)

## 1.7.3

- Midi-Merge improvement. System exclusive messages can be interleaved by Real Time messages

## 1.7.2

- Fixed bug caused by new feature in 1.7.1

## 1.7.2

- BB now chokes notes when external notes are received with a velocity of 0

# Changelogs

## 1.7.1

- Fixed Random Reboot bug (Critical)
- Improved stability and memory usage.
- MIDI-MERGE feature.
  - The BeatBuddy now supports the Midi Merge Feature.
  - Merge algorithm minimizes the latency. It can also tolerate some badly formed MIDI-message.
  - GLOBAL drum set volume: The drum set now has a customisable volume (via BB Manager). The File version of the drum set is now 1.1.

## 1.5.0

- Fixed Visual metronome when stopped bug.
- Added Sleep Mode.

## 1.4.1

- Pop / Crack sound is removed when playing track.
- Fixed the Midi message running status bug.

## 1.4.0

- Fixed not working “Disabled default tempo”
- Fixed: Scrolling through menu options doesn't loop
- Made default cue fill period 100%
- Improved transition fill “flow” algorithm
- Re-ordered Main Pedal settings menu

## 1.3.0

- BB now supports external midi instruments
- Default drumset set when pressing Drumset Encoder
- New settings menu:
  - Changed the default pedal type to Momentary Normally Off
  - Added default tempo Enable/Disable
  - Default drumset Enable/Disable
- Midi message containing the time signature when loading a song
- Count in feature
- Fixed Player problem
  - Double press after transition
  - Outro cancel problem
- Headphone bug
- Lowered the sensitivity that makes the screen change to the volumes windows.
- Changed Queue Fill period to Cue Fill Period

# Changelogs

- Added 0% and 100% in the cue fill period
  - At 0%, when the pedal is press the drum fill & transition always trigger immediately
  - At 100% the player always wait until the next bar before launching the drum fill & transition.