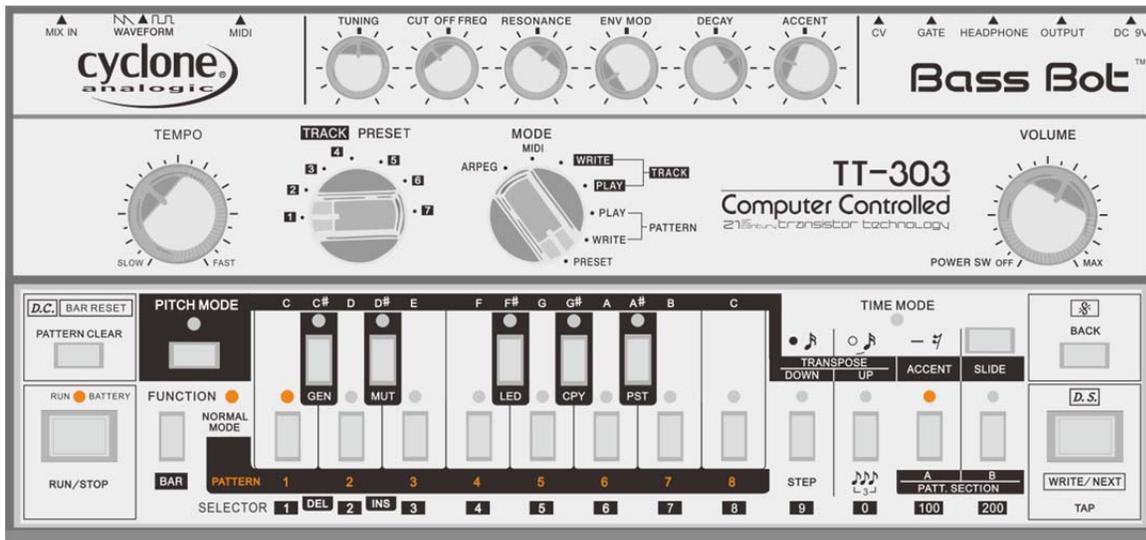


Bass Bot™



operation manual

English Version 1.2, 2013

Protect your investment!

Please take a quick moment to locate your serial number located inside the bottom cover battery compartment and record here with your receipt affixed to this page.

Store in a safe location with other important documents such as insurance records for proof of purchase.

Cycle Analogic © Bass Bot™ **Serial Number:** _____

Warranty and Maintenance

Our Bots are made by robots using surface mount technology. No user or human serviceable parts inside. Never open your Bass Bot. Doing so will automatically void your warranty and risk damage to the device.

**Your Bass Bot comes with a one (1) year warranty free from manufacturer defects.
It does not cover items such as examples below that are causes of most accidental damage.**

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Introduction

The Bass Bot™ electronic bass synth features a selectable monophonic analog VCO processed through a 4 pole analog cascading filter. It uses 21st-century transistor technology to synthesize tones from super-crisp self-resonating leads to squelchy rhythms to deep subharmonic bass grooves.

Creating dance music as simple or complex as you want with the Bass Bot is a breeze. Its ground-breaking InstaDJ OS™ artificially intelligent sequencer can be programmed in two methods: by a human user or by the computer-controlled Bass Bot.

Humans may program musical patterns manually using traditional step entry with control over pitch, time, length, and special characteristics such as octave transpose, accent, and slide for each note.

Or let the Bot generate a pattern and use it immediately, or tweak it to taste, or mutate it into a new pattern altogether at the touch of a button. The Bass Bot includes seven different 'personalities,' each of which generates its own special style of musical patterns. No two Bots will produce the same patterns. Each is as individual as the user, though the basic personalities are the same for every Bass Bot.

To the novice, analogic devices offer the ability to quickly collect a bank of computer generated patterns to use to make new tracks or loops. To the experienced artist, analogic devices offers a tool to create patterns that are impossible to imagine (or perform), patterns that each individual Bass Bot will uniquely generate. This method of 'computer controlled' programming is similar to a band rehearsal, with the selected Bass Bot 'personality' on stage presenting patterns (riffs) for you to sample and use however you like. Seven unique algorithms control each seven unique personalities. The possibilities are endless!

The remainder of this manual will guide you through the processes of performing the most important Bass Bot functions. Read through the first few lessons and you'll be enjoying the sounds of your Bass Bot in just minutes.

We hope you love your Bass Bot as much as we loved bringing it to life.

Lesson 1 Bass Bot Global Overview

This section describes the Bass Bot's inputs, outputs, master controls, and audio controls.

Button Notation

Throughout this manual, instructions for pressing buttons are presented with notation like “[BUTTON],” which refers to a specific button on the Bass Bot front panel. Certain commands that require multiple buttons to be pressed are shown like this: [FIRST KEY] + [SECOND KEY]. This means press FIRST KEY and continue to hold it while then pressing SECOND KEY momentarily.

Rear Connections (left to right)

Instrument Mix In Jack: This input accepts an audio signal from another source such as a second Bass Bot or Drum Drone TT-606 drum machine. The external audio is mixed together with the sounds generated by the Bass Bot and the mixed signal is sent to the Output and Headphone jacks.

Saw/Pulse Switch: Selects the VCO waveform to use, either sawtooth (left position) or pulse (right position).

MIDI: This connector serves as the MIDI input and output. This connector acts as a MIDI IN jack when a standard 5-pin DIN connector MIDI cable is attached. Use the included MIDI splitter cable in order to access this connector's MIDI IN **and** OUT functions.

CV / Gate Out Jacks: These outputs are the synthesizer engine's Gate and Control Voltage (CV) signals. They can be used to control other analog synthesizers that accept a (1 volt / octave) control voltage input.

Headphone: Stereo headphone jack for monitoring the Bass Bot with headphones.

Output: This is the main mono audio output to an amplifier, effects, or mixer.

DC 9V: This is the input for connecting the Bass Bot's DC power supply. The Bass Bot accepts 9V DC with negative polarity (barrel positive, center negative) at 200mA.

Master Controls (right to left)

Power / Volume: A combination control that both powers on or off the unit and sets the overall output volume for the HEADPHONE and OUTPUT audio outputs. Turn the switch clockwise to turn on power.

Tip! *It is best to turn off the unit when not in use. Your patterns and tracks are stored permanently whether or not power is applied.*

Mode Selector Switch: The Mode Selector Switch determines the operating mode for the Bass Bot. The Bass Bot has seven unique operating modes which will be described in greater detail in later sections of this manual:

PRESET: Generate and audition new patterns using the InstaDJ OS creatively intelligent pattern generator.

PATTERN WRITE: Create and edit patterns.

PATTERN PLAY: Play patterns safely without editing or saving functions.

TRACK PLAY: Play tracks. “Tracks” are a sequence of patterns.

TRACK WRITE: Create and edit tracks.

MIDI: Perform MIDI functions and certain system and utility functions.

ARPEGGIATOR: A unique pattern-based arpeggiator.

Tip! *Each mode is based on the natural process of song construction, progressing from demo rehearsals, selection of various groups of musical patterns, to assembling them to build a track.*

Track/Preset Selector Switch: Selects the track, preset pattern-generator personality, or pattern bank. The role of this switch is dependent on the operating Mode Selector switch settings.

Tempo: This sets the tempo (BPM) of the sequencer. It is disabled when the Bass Bot is under the control of an external MIDI clock source (see Lesson 12).

Audio Controls

Tuning: This adjusts the Bass Bot's tuning of the VCO.

Cutoff Frequency: This sets the cutoff frequency of the Bass Bot's low-pass filter.

Resonance: This sets the feedback level for the filter. A higher setting results in a resonant peak at the cutoff frequency producing 'wetter' or 'squelchy' sounds.

Envelope Modulation: This controls how much the VCF envelope modulates the cutoff frequency.

Decay: This controls how quickly the VCF envelope falls away after each note.

Accent: Notes played by the Bass Bot can be normal or accented. The Accent knob controls how much louder accented notes are played and how much the VCF envelope is increased during accented notes.

Lesson 2 Pattern Storage and Notation

The Bass Bot is a pattern-based instrument, so it's important to understand how patterns are stored in memory. There are two separate sections of pattern storage memory:

Preset Pattern Memory – Contains sets of patterns that have been created while in Preset Mode by the Bass Bot. Patterns may be regenerated in Preset Mode and cannot otherwise be modified.

User Pattern Memory – Contains the core set of patterns for the instrument. These patterns can be edited (Lesson 7), processed with the arpeggiator (Lesson 11), and used to create tracks (Lesson 9). Patterns in User Pattern Memory are used when working in Pattern Write, Pattern Play, Track Write, and Arpeggiator modes.

Each of these two types of pattern memory is arranged into groups, sections, and patterns. This memory system can be thought of as a set of seven filing cabinet drawers (groups), each with four folders (sections), that have eight files (patterns) in each.

The following notation is used in this manual when referring to Pattern Memory:

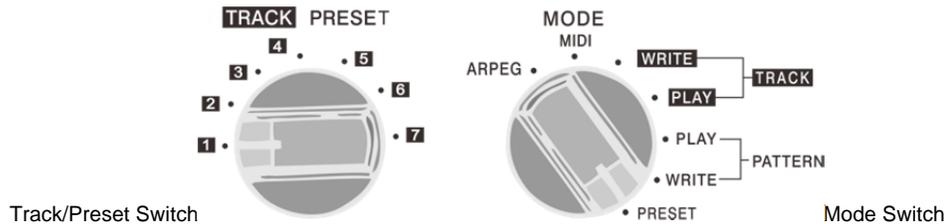
- "Group #" refers to a group number. There are seven groups, labeled 1 – 7.
- (X) refers to a section. Each group contains four sections, called sections (A), (AA), (B), and (BB).
- {#} refers to a particular pattern or subset of patterns. Each section contains eight patterns, {1} - {8}. Patterns can have a length of 1 to 64 steps.

In lesson three that follows. It will explain how to select and manipulate groups, sections, and patterns with diagrams of access for each of these three divisions of memory access notations.

Lesson 3 Playing Preset Patterns

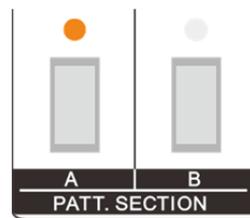
Let's listen to a Preset pattern. Follow the steps below to audition the pattern in preset group 1, section (A), pattern {1}.

1. Turn the Mode Switch to Preset Mode. Turn the Track/Preset switch to '1' as shown in the image below. This selects Preset Memory group 1. Pattern {1} in section (A) is selected by default (this is true for all modes).

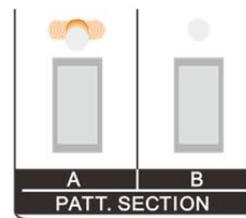


All the preset patterns within a particular Track Pattern group are similar in character.

2. Confirm that pattern section (A) is selected. Sections (A) and (B) are represented as 'solid' LEDs. Sections (AA) and (BB) are represented by blinking LEDs. Select section (AA) by tapping the 'A' button again. The same applies to sections (B) and (BB).

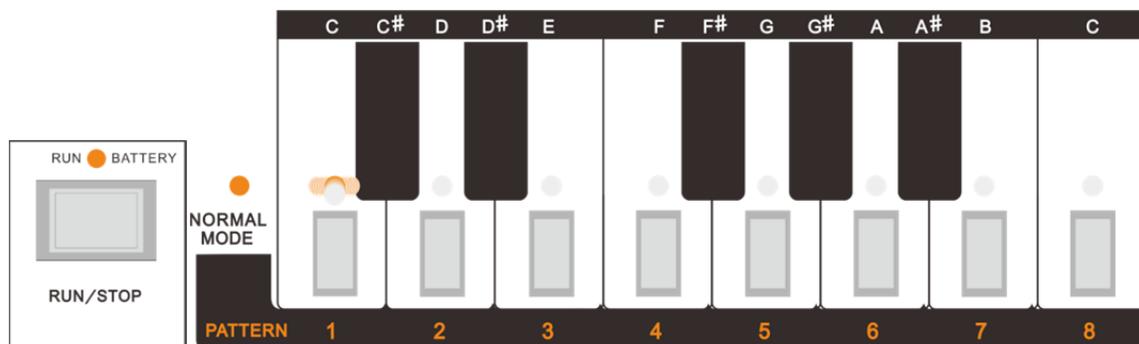


Section (A) (Solid LED)



Scratch Section (AA) (Blinking LED)

3. Select a single pattern, such as pattern {1}. Pattern key are numbered across the bottom of the panel. Patterns whose LEDs not illuminated (dark) are empty. Note that the selected pattern's LED blinks in time with the tempo as set by the Tempo knob. Pressing the [RUN/STOP] button will play the selected pattern in a continuous loop.



Choose a pattern then press [RUN/STOP] to hear it play in a continuous loop. The current pattern blinks in time to the tempo.

You can also select a full 'range' of successive ordered patterns such as by pressing the first number and last number desired at the same time. For example, select patterns {1-4} by pressing [1] + [4], or patterns {3-8} by pressing [3] + [8]. The selected patterns will play in order then start again at the first selected pattern in a continuous loop until different patterns selected or the sequencer is stopped.

Lesson 4 Creating New Preset Patterns with InstaDJ OS

Creating new preset patterns is easy. Unlike normal instrument presets, the Bass Bot's presets are generated on-demand. In this lesson you'll learn how to generate an entire pattern section of eight patterns with a couple simple steps.

1. Keep the Mode Switch set to Preset Mode and the Track/Preset switch set to '1.'
2. Select pattern section (AA) by pressing the Pattern Section [A] button. The LED above the [A] button will blink when you are in section (AA).
3. Select patterns {1-8} by pressing [1] + [8]. All eight pattern LEDs should illuminate to show they are selected.
4. Command the Bass Bot to generate new patterns here by pressing [FUNCTION] + [GEN].
5. While all eight patterns are still selected, press [RUN/STOP] to listen to all eight new patterns in sequence. The Bass Bot generates compatible patterns when many are generated together.

Try the other personalities in Preset Modes 2-7 to familiarize yourself with each of the styles of the InstaDJ OS preset personalities. Each personality has a unique defining style and defined color coding.

The 7 Preset Personality Algorithms

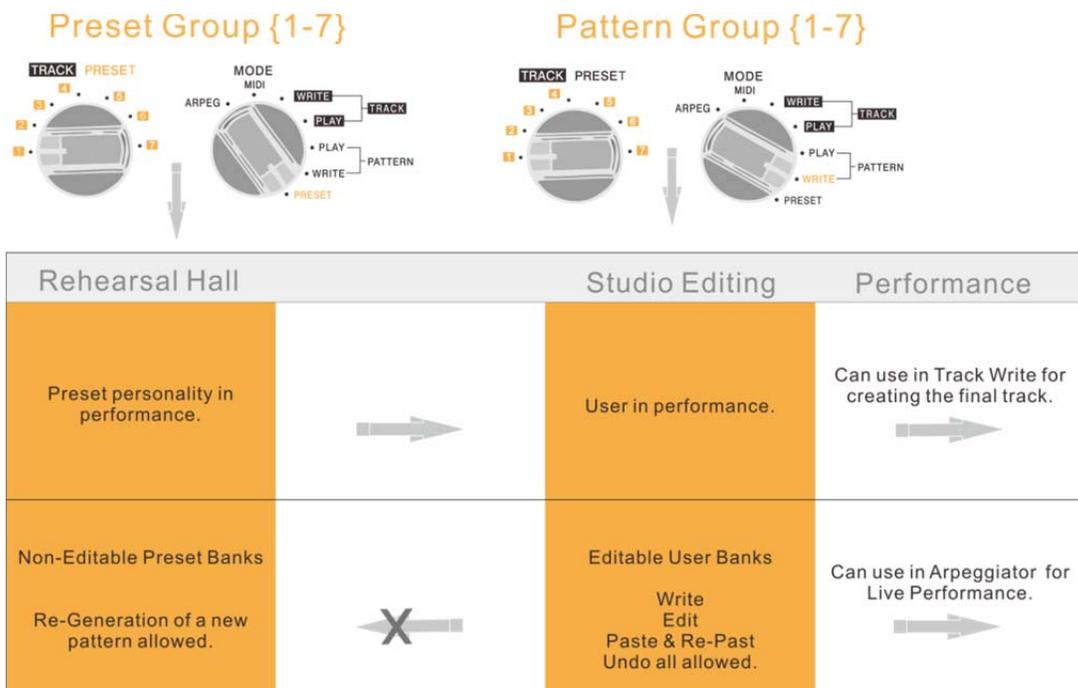
Presets 1 and 2 produce 'fluid' styles as a lead instrument, usually with a 4/4 time signature (but not always!).

Presets 3 and 4 produce 'glitched' styles as spontaneous riffs in a track, breaks or segue transitions as a band background instrument, generally in 4/4 or 2/4 time.

Presets 5 and 6 produce 'chaotic' styles for creatively complex patterns as the lead instrument. Patterns will primarily be quarter notes or triplets and the length of the patterns may vary from one to sixteen steps.

Preset 7 produces 'triplet' styles for accompaniment or as the lead instrument, usually consisting of twelve triplet notes.

Tip! Patterns may also be generated when in Pattern Write Mode, though it is best to perform this function in Preset mode to avoid filling up pattern write memory area when auditioning presets!



This diagram demonstrates the distinct memory area types for use by the Bass Bot in relation to the user.

Lesson 5 Copying, Pasting, and Merging Patterns

This lesson will teach you how to perform actions on patterns that are in memory.

Copy a Preset Pattern to User Pattern Memory

Find a preset pattern that you'd like to copy to User Pattern Memory for editing in Pattern Write Mode. Copy the pattern to the clipboard by pressing [FUNCTION] + [CPY]. Then turn the Mode switch to 'Pattern Write.' Select scratch section (AA).

Tip! *The scratch section is a good place to experiment with patterns. Move final pattern edits to the master sections (A) or (B) for building tracks more efficiently as you will learn in Lesson 9.*

Find and select a pattern location (empty patterns will have a dark LED – if none are empty, choose a pattern that may be overwritten). Paste the preset pattern to this location by pressing [FUNCTION] + [PST]. An identical copy now exists for editing without changing the original in Preset Mode.

Copy a User Pattern and Paste Identical Copies to Multiple Patterns

Still working in pattern scratch section (AA) from the previous example, select four successive memory areas to be overwritten, such as {5-8} by pressing [5] + [8] for this example. Press [FUNCTION] + [PST]. Now all four patterns {5-8} are identical. You do not need to repeat a copy until a new copy is desired.

Copy and Paste a Range of Patterns to Merge Into One Pattern

You can merge patterns in order into one single pattern with a maximum of 64 steps. Select four successive memory areas to be copied, such as {5-8} by pressing [5] + [8] for this example. Press [FUNCTION] + [CPY] to copy the contents of the four patterns in sequence to a new single pattern number. Choose the pattern originally pasted in the beginning of this lesson. Press [FUNCTION] + [PST]. Now all four patterns {5-8} should be located in one pattern {#} you just selected.

In listening back to this pattern it should now be the maximum of 64 steps (if 16 step sequences) or quadruple the original length. You will find this incredibly useful when building pattern sections for composing a track by maximizing the contents of each pattern section. This also allows for easily making variations of patterns such as in the last 4/4 steps especially in tandem with the Mutate function you will learn in Lesson 13.

Tip! *After performing a copy, the pattern will reside in the clipboard memory until a new copy command is issued (clipboard page replaced). So repeated pattern copies can be pasted without copying each time.*

Lesson 6 DUAS (Down, Up, Accent, Slide) Modifiers

"DUAS" refers to the set of buttons that are frequently used to alter the characteristics of the steps in a pattern. They are labeled Down, Up, Accent, and Slide.



Panel view of the DUAS labels.

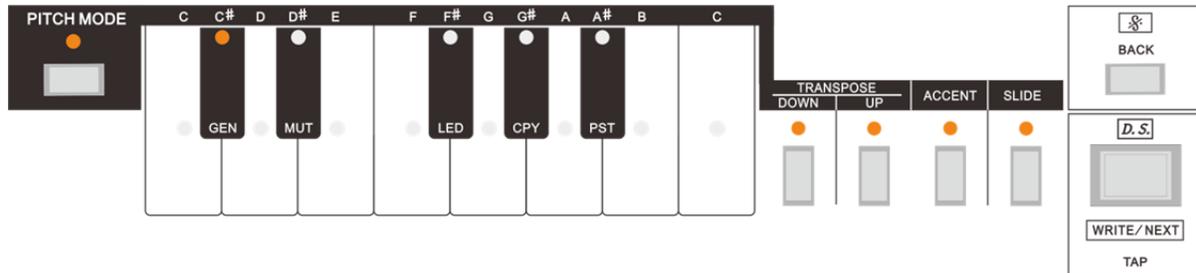
- The [DOWN] or [UP] key transposes the pitch up or down by one octave.
- The [ACCENT] key sets a note to be an accented note. Accented notes will be louder and will have unique audio characteristics compared to regular non-accented steps. The impact of the accent effect depends on the settings of the audio control knobs, particularly the Accent itself.
- The [SLIDE] key causes the note from the current step to 'slide' to the next note in the sequence.

An understanding of how the DUAS modifiers work will open up new creative ways to make your patterns more expressive and to use your Bass Bot as a live performance tool. Later lessons will describe how and when the DUAS keys can be used.

Lesson 7 Editing Patterns

Any pattern in User Pattern Memory can be edited in a step-by-step fashion. Patterns are edited by navigating through all the steps in a pattern and setting the pitch and special characteristics of each one.

To enter pattern edit mode, set the Mode Selector Switch to Pattern Write. Select an existing pattern in memory to edit with the sequencer stopped. Press [PITCH MODE] to begin editing the pattern. You will immediately hear and see the first note in the pattern.



The characteristics of each step are displayed in Pitch Mode. This step is a C# Note ON step with all four DUAS modifiers active.

To edit this step or any step in the pattern, program the step as one of the following:

Note ON: Set the step as a Note ON step by selecting the step's pitch using one of the keys of the keyboard section. The selected pitch will be played during this step of the sequence. Then choose the step's DUAS modifier settings (see Lesson 6 above). The LEDs above the [DOWN], [UP], [ACCENT], and [SLIDE] keys will be illuminated to show which modifiers are active for the current note.

Note HELD: A step can be set as a Note HELD step, or a 'tie.' Setting this step to be a tie step means that it will have the same pitch as the previous step, but the note will be held for a second step. Do this by pressing [TIME] + [TIE] (the [TIE] key is the same as the [UP] key). Therefore you may not change the pitch of a tie step. None of the keyboard note keys will be illuminated when a tie step is displayed. Only the Tie key will be illuminated.

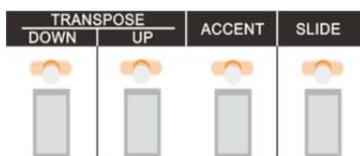
Note OFF: A step can be set as a Note OFF step, or a 'rest.' No note will be played during rest steps in the pattern sequence. Set a step to be a rest step by pressing [TIME] + [REST] (the [REST] key is the same as the [ACCENT] key). None of the keyboard note keys will be illuminated when a tie step is displayed. Only the Rest key will be illuminated.

Tip! A Note HELD or Note OFF step can quickly be converted to a Note ON step by pressing a note key on the keyboard section.



Console view of symbols for note on, note held (tie) and rest (note off).

Move through the pattern sequence by pressing [WRITE/NEXT] to advance one step. Press [BACK] to go to the previous step. Should a mistake be made at any point, simply use [WRITE/NEXT] or [BACK] to navigate and correct steps. The end of the pattern is identifiable by blinking DUAS LEDs (the "end of pattern marker"). To return to the beginning of the pattern press [PITCH MODE]. Press [FUNCTION] to complete your edits and exit step editing mode.



DUAS end of pattern marker (blinking LEDs)

Lesson 8 Clearing a Pattern and Creating a New One

You can use the step editing functions from Lesson 7 to create new patterns from scratch.

1. To begin, set the Mode Selector Switch to Pattern Write. Navigate to the group and section that contain the pattern that you wish to overwrite.
2. Clear the pattern by pressing [PATTERN CLEAR] + [#], where “#” is the number of the pattern you wish to clear. You may also clear multiple patterns by selecting a range. For example, to clear patterns {1-4} you would press [PATTERN CLEAR] + [1] + [4].
3. Be sure the sequencer is stopped and press [PITCH MODE] to begin editing the pattern. You will immediately see blinking DUAS LEDs which indicate that the end of the pattern has been reached. That’s because the pattern currently has zero steps!
4. Add a step to the pattern sequence by pressing any note key on the keyboard. You’ll see that the DUAS LEDs have stopped blinking, indicating that the current step in the sequence is now a valid step.
5. Assign DUAS modifiers as desired (see Lesson 6) and press [WRITE/NEXT] to move on to the next step. You’ll again encounter the end-of-pattern indicator.
6. Repeat steps 4 and 5 to create more steps. The pattern’s length is simply defined by how many steps you enter using this process. A pattern may contain up to 64 steps.

You may go back and forward within a pattern and edit any step at any time. Press [FUNCTION] to finish creating your pattern. You can now audition your new pattern by pressing [RUN/STOP].

If you wish to go back and make changes to the pattern, follow the instructions in Lesson 7. See Lesson 13 for information about advanced pattern editing features.

Lesson 9 Creating and Playing Tracks

You can build a track from your patterns. A track is simply an organized sequence of your patterns. The Bass Bot can store up to seven tracks, each of which may be up to 255 bars in length, where a ‘bar’ refers to one complete repetition of a particular pattern.

Let’s build a simple four-bar track in track slot 3.

A track in slot 3 will be composed of patterns only from User Pattern Memory group 3. Creating and editing a track is much like creating and editing patterns, so be sure to cover Lesson 8 and Lesson 7 before building a track.

1. Set the Track/Preset switch to Track 3 and set the Mode selector switch to Track Write Mode.
2. The console LEDs will show whether section (A) or (B), selected, and the keyboard area will show which patterns in the section are currently populated.
3. Choose a pattern to start the song. You can audition your patterns by pressing [RUN/STOP]. This will simply loop the selected pattern to help you choose the right one. You are not committing any edits to the track when you play them.
4. Make your selection by choosing the section and pattern number of the pattern you wish to use.
5. If you’d like, you can instruct the track to transpose this repetition of the pattern. Press and hold the Pitch Mode key then select a note on the keyboard. The neutral version of the pattern is considered to be at the low C key, so selecting any note on the keyboard other than the low C key will transpose the pattern up by the number of half steps that note is from low C. For example, choosing [PITCH MODE] + [D] would transpose the pattern up by two half steps during the first bar of the track.

Tip! *Transposing a pattern in track mode does not alter the pattern that is stored in memory, but the transpose setting is saved into memory with the track.*

6. Move to the next bar in the track by pressing [WRITE/NEXT]. You should see the DUAS LEDs blink, indicating that you have reached the end of the track. This is normal since we've added only one bar to the track so far. Just press the key for any pattern 1-8 to add a second bar to the track.
7. Choose a pattern for the second bar in the track by repeating steps 3 through 6. Then do this two more times.

Now you have a simple track with 4 bars. Play back the track:

1. Set the Mode selector switch to Track Play mode.
2. Make sure the track starts at the first bar by pressing [PATTERN CLEAR]. This simply instructs the track sequencer to go back to the first bar.
3. Play the track by pressing [RUN/STOP]. The four-bar track will repeat until you press [RUN/STOP] again.

Tip! *The live playback features from Lesson 10 apply in Track Play mode.*

Notes about Track Write Mode

Navigating through the bars of a track is very much the same as with Pattern Write mode (see Lesson 7). [WRITE/NEXT] advances by one bar in the track. [BACK] goes back one bar. [PATTERN CLEAR] takes you back to the first bar of the track.

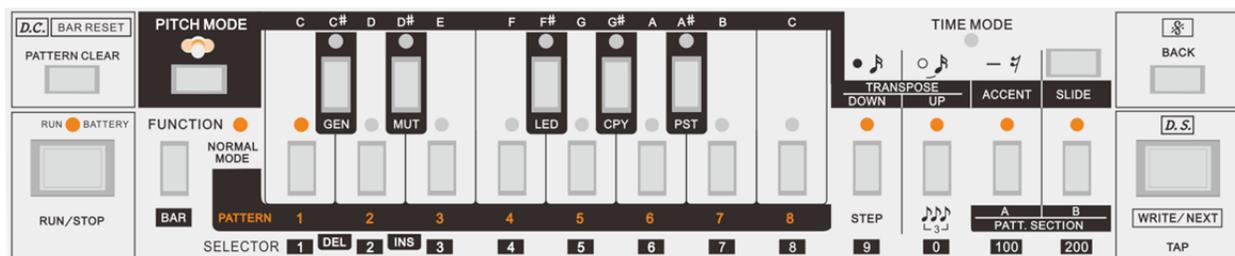
You can insert and delete bars in a track. Press [FUNCTION] + [INS] to insert a bar immediately before the bar that's currently displayed. Press [FUNCTION] + [DEL] to delete the current bar from the track.

Tip! *The current track playing can be changed to a new track without stopping the sequencer in Track Play mode. The newly selected track will only begin to play after completion of the last track selected, for continuous live performance.*

Clear a Track

To clear a track while in Track Write mode, first select the track to be cleared using the Track/Preset switch. Press [A] + [B] + [PATTERN CLEAR] and hold all three keys for five seconds. The track will have a length of zero upon being cleared. Completion of the operation is confirmed by the four DUAS leds flashing.

Lesson 10 Live Performance During Playback



Entering Pitch Mode while a pattern is playing allows for live performance control using the keyboard and DUAS section. This lesson applies to operation in Preset, Pattern Write, and Pattern Play modes. Start playing a pattern then press [PITCH MODE].

Selecting any keyboard key will temporarily transpose the entire pattern until the key selection is changed. With this function, the low C key represents the neutral setting, meaning the notes played will be exactly those contained in the pattern. Pressing a key other than the low C key will transpose each step in the pattern by the number of half-steps that separate the chosen key from low C. For example, pressing [G] will transpose the entire pattern up by seven half-steps.

The DUAS keys are available for 'live tricks' while playing patterns. DUAS keys in playback Pitch Mode are momentary. Their effects are described in Lesson 6.

Lesson 11 The Bass Bot Arpeggiator

The Bass Bot's arpeggiator is unlike any other synthesizer arpeggiator on the planet. Arpeggiator mode maintains the Bass Bot's focus on patterns. Your patterns are the foundation of the Bass Bot's arpeggiator. It's a powerful tool for making expressive variations of your patterns, particularly during a live performance.

There are three factors that determine the output of the arpeggiator:

1. One (or more) of the patterns in User Pattern memory will serve as the basis of the arpeggiator. The arpeggiator will use this pattern to determine the length and timing of the loop, which steps are active and which are rests, and the Up, Down, Accent, and Slide characteristics of each step in the pattern.
2. Use the Bass Bot's keyboard to select which notes are active. Much like a standard arpeggiator, the Bass Bot will cycle through the active notes over and over. Unlike a standard arpeggiator, keys do not need to be held in order for them to be active. Instead, notes can be toggled on and off at any time.
3. The arpeggiator has four note order settings: Up (lowest to highest), Down (highest to lowest), Up/Down (lowest to highest, then back to lowest), and Random toggled by the [WRITE/NEXT] key.

The best way to get acquainted with Arpeggiator mode is to try it.

1. Set the Mode switch to Arpeggiator mode ("ARPEG").
2. Select a pattern using the usual techniques. Note that you are selecting patterns from User Pattern memory. Preset memory is not available in arpeggiator mode.
3. Now you must select at least one note to be active. Press [PITCH MODE]. You'll see that none of the panel's key LEDs are on, indicating that all notes are currently inactive. Choose a note from the keyboard and press its button. Its LED should now be on.

4. Press [RUN/STOP]. You should now hear the selected pattern playing, but you'll notice that it's playing only a single note instead of its normal set of notes. That's because only one note is currently active. Press other notes and you'll hear the arpeggiator cycle through the selected notes while keeping the underlying qualities of the selected pattern.
5. Change the note order of the arpeggiator. Press [WRITE/NEXT] to cycle through the four note orders. The Up and Down LEDs will illuminate to show the note order while pressing the Write/Next button. See the guide below:

Note Order	“Down” LED	“Up” LED
Up (Ascending)	OFF	ON
Down (Descending)	ON	OFF
Up/Down	ON	ON
Random	BLINKING	BLINKING

6. While the pattern is playing, and while Pitch Mode is still active, you can use the Up/Down/Accent/Slide buttons to temporarily alter the characteristics of the notes.

While the arpeggiator is running, press [PITCH MODE] to toggle between the pattern selection function and the active note selection function. The arpeggiator display defaults to the pattern selection function when the arpeggiator is stopped. It defaults to the active note selection function when the arpeggiator begins running.

Tip! You can also control the arpeggiator from an external MIDI controller.

Lesson 12 MIDI Functions

This lesson will familiarize you with the Bass Bot's MIDI capabilities.

External Control of the Bass Bot

The Bass Bot can be controlled by an external MIDI controller or sequencer. Simply connect the MIDI OUT from another device to the Sync/MIDI jack on the back of the Bass Bot. Switch the Mode selector switch to the MIDI setting.

- The Bass Bot responds to MIDI Note On commands, assuming the note's pitch is within the Bass Bot's range.
- MIDI notes with a velocity value above 112 are considered to be accented notes.
- MIDI notes that overlap (a second note begins before the first note ends) are considered to be tied together, and the result will be similar to a note that has the slide modifier applied.

Tip! In MIDI mode, you can also 'play' the Bass Bot using the keyboard and DUAS keys.

Synchronization to an External MIDI Clock

The Bass Bot will automatically sync its sequencer to a MIDI clock received from an external MIDI source, such as the Drum Drone TT-606 or a computer. The Bass Bot will be under the control of the external device when it detects an incoming MIDI clock. It will respond to external start commands, stop commands, continue messages, and clock information.

Set the MIDI Channels

If the Bass Bot is not responding to external MIDI information as expected, you may need to adjust the Bass Bot's MIDI channel settings. Adjust these settings while in MIDI mode. Only channels 1-10 supported.

The default channel for both MIDI IN and MIDI out is channel 1. Therefore the Bass Bot will operate with many MIDI devices without requiring its MIDI channel settings to be manually changed.

MIDI channels are represented by the numeric keys [1], to [0] and their LEDs on the front panel. [1] represents MIDI channel 1. [0] represents MIDI channel 10.

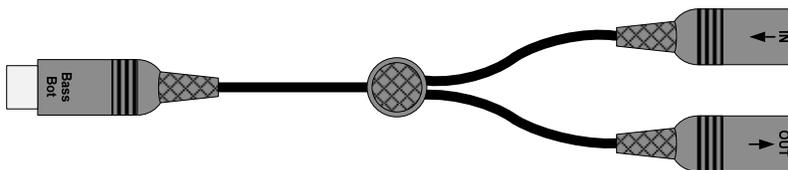
To set the MIDI IN channel, press [FUNCTION] + [DOWN]. The currently selected MIDI channel will have a brightly lit LED while the others will be dim. Select the MIDI channel by pressing one of the keys from [1] - [0], or press [FUNCTION] to exit the channel selection menu.

Set the MIDI OUT channel the same way, except initiate using [FUNCTION] + [UP].

Tip! *If you need the Bass Bot to ignore all received MIDI note data, or to prevent it from sending MIDI note data, you can choose 'no MIDI channel' by pressing [PATTERN CLEAR] when setting the MIDI IN or OUT channel, respectively, instead of selecting a channel. All the channel LEDs will be dim when the MIDI channel is cleared to show that no MIDI channel is selected. MIDI clock and sync data is not affected by this as the Bass Bot always responds to or sends this data.*

Control External Devices

The Bass Bot can output MIDI information to other equipment. The special MIDI Splitter Cable must be used to gain access to the Bass Bot's MIDI output capabilities.



Bass Bot MIDI Splitter Cable

When the Bass Bot's internal sequencer is in Run mode and playing notes, the same note information is sent via the splitter cable's MIDI OUT jack using the system's MIDI OUT channel. Additionally, the Bass Bot transmits Start, Stop, and Clock messages when the sequencer is running so that you can keep external gear in sync.

Tip! *Using the InstaDJ OS sequencer. Driving external instruments can breathe new life into other instruments when 'stacked' in sound during mix-down as never before possible with other sequencers!*

Lesson 13 Advanced Pattern Editing

This section describes additional pattern editing functions that weren't covered in earlier lessons. Be sure to read Lesson 7-8 before trying these features. The following are available in Pattern Write Mode.

Unlike the live performance capabilities from Lesson 10, these functions actually modify the patterns.

Transpose (Normal Mode / Pitch Mode) operation

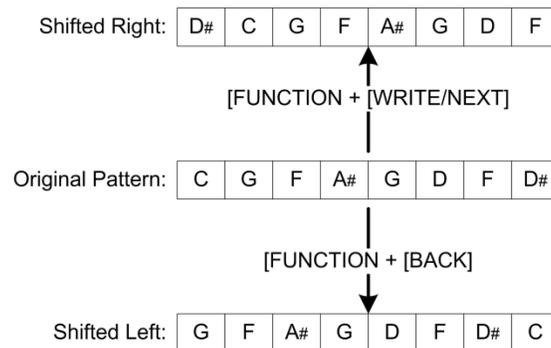
Press [FUNCTION] + [DOWN] or [FUNCTION] + [UP] while the pattern is not playing to transpose all notes down or up by half a step. While playing the effect functions momentarily until released. This is good for shifting octaves live on the beat during live performances. It is important to understand the difference of the transpose function when the sequencer is in Normal Mode and playing in Pitch Mode.

Shift Left/Right (Normal Mode) operation

Press [FUNCTION] + [WRITE/NEXT] to shift the entire pattern to the right (in time).

Press [FUNCTION] + [BACK] to shift the entire pattern to the left (in time).

The pattern shift commands would modify a simple 8-step pattern (“Original Pattern”) as shown below:



Tip! *Shifting a pattern can dramatically change its character. The effect is much clearer when the Bass Bot is synchronized to an external rhythm device like a Drum Drone TT-606 for timing reference.*

Insert and Delete Steps

Insert a new pattern step immediately before the currently selected step by pressing [TIME] + [INS D#]. The inserted step will be a rest step. The pattern length will increase by one and none of the existing steps will be deleted. Delete the current step in the pattern by pressing [TIME] + [DEL C#]. The [INS D#] & [DEL C#] keys are labeled at the bottom in the selector section between 1 and 2.

Pattern Time Mode: Alternative Step Length Entry

An alternative method to reviewing and changing a steps time is in normal mode. However, it is important to note that in this mode the sound is not played nor is the position indicated as it is in pitch mode.

To change the time for notes in a pattern in normal mode press [Time Mode]. Then press [Next] to position to the first note's length. You can then move forward or backward through the pattern using [Next] or [Back] keys. Press [FUNCTION] to return back to normal mode.

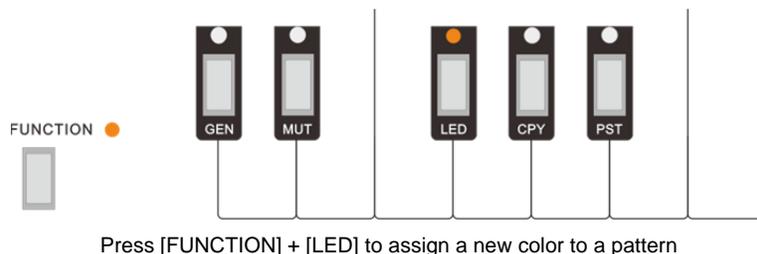
Mutate

Mutation of a pattern is an excellent tool you can use to produce exciting new variations for more complex patterns and tracks that are less repetitive. Or you can make completely new patterns by repeating the mutate command until a desirable pattern evolves. To fully exploit this feature, consider that slight modification to the pattern (in pitch mode) can completely change the 'genetic structure' and give you more control of the outcome.

Tip! *Use a copy of a pattern in clipboard memory you wish to experiment with in mutation. If the mutation produces undesired results you can quickly re-paste the original and start a fresh mutation re-sequence.*

Assign Colors to Patterns

The InstaDJ OS assigns pattern colors to your new preset patterns automatically, but you can change the color that's associated with any pattern stored in User Pattern Memory. Select one or more of your patterns then press [FUNCTION] + [LED]. You will see the keyboard LEDs light up in thirteen different colors. Press the button for the color you'd like to assign to the pattern (or press [PATTERN CLEAR] to remove a color assignment, causing the pattern's color to use the system color as discussed in Lesson 14.



Tip! Use pattern colors like a labeling system to identify which patterns you like and wish to use together. This tool is especially useful to match which patterns sound best using rhythms from the Drum Drone TT-606 drum machine in unison.

Change the Pattern's Timing

You can change a pattern's timing from the default 16th note timing to triplet timing. While the sequencer is not playing, toggle the time mode by press [FUNCTION] + [TRIPLET] (the Triplet key is the same as the [0] key, as shown below). Press again to return to a 16th note timing again.



Undo a Pattern Edit

You may undo any single change that modified your pattern while in Pattern Write mode. Perform an undo by pressing [BACK] + [TIME].

The undo command does not work while in Pitch Mode or Time Mode.

The following edit actions can be undone:

- Pasting a pattern
- Generating a new Bot-generated pattern
- Clearing a pattern
- Committing Pitch Mode step edits by exiting Pitch Mode
- Committing Time Mode step edits by exiting Time Mode
- Changing a pattern's color
- Mutating a pattern
- Rotating a pattern left or right in time
- Transposing a pattern up or down

Lesson 14 System Procedures and Operating Guidelines

This lesson covers system functions and general notes on the Bass Bot's operation and maintenance.

In this lesson, button combinations are written as [FUNCTION] + [NOTE], where "NOTE" is a key on the musical keyboard portion of the front panel.

Automatic Tuning ([FUNCTION] + [C#])

The Bass Bot can self-calibrate its tuning. Set the Mode switch to MIDI mode. Set the Tuning control knob to the center position. **Turn off and back on again the power before tuning.** Then press [FUNCTION] + [C#]. The Function and C# LEDs will light up for a few seconds. When these LEDs turn off, your Bass Bot will be in tune with accuracy of ± 5 cents. Take a few seconds to check the tuning's accuracy using a tuner or by ear by pressing the keys on the keyboard after completion. If the desired accuracy is not achieved with the first tuning, very slightly adjust the Tuning knob then run the automatic tuning function a second or third time. The keyboard's low C is a C2 note and it should be 65.4Hz when accurately tuned. If it remains improperly tuned. Turn the power off and back on and try a few more times to induce recalibration.

System Colors ([FUNCTION] + [F#])

You can customize the system color of your Bass Bot's LEDs. While in MIDI mode, press [FUNCTION] + [LED]. You will see the keyboard key LEDs light up in different colors. Simply press the key for the color you want to use for the system LED color. The factory default system color is red.

Protect Your Hearing

Please be aware that many of the Bass Bot's harmonics and dynamics may damage hearing on loud speakers and headphones. Care should be taken to avoid high volume listening for extended periods.

Bots Have Feelings Too!

It is important to understand that while designed for portability, just as with humans its performance can be greatly affected by travel and environmental conditions, especially those which drastically differ in a very short period of time. There are three considerations that affect tuning, especially before live audience loudspeaker performances in a real-world professional environment.

- a) **Power source.** Operating on batteries should be performed with fresh batteries to avoid inaccurate tuning from low batteries, or the compact universal AC adapter designed for use in travel.
- b) **Output sound source.** When using headphones, it is important to realize that sound produced so closely to the ears can appear incorrect in comparison to the sound produced through the output jack to a speaker systems, with greater bass response at greater distances.
- c) **Temperature.** Operating conditions should not exceed $0^{\circ}\text{C} \sim 35^{\circ}\text{C}$. Any rapid temperature change can cause internal condensation possibly causing tuning inaccuracy.

Examples of Extreme and Rapid Environmental Changes to Avoid:

- Movement from excessively cold conditions, such as an automobile during winter in freezing temperatures, into excessively warmer / humid environments (such as an indoor live event).
- Movement from excessively hot conditions, such as an automobile during summer, and brought into excessively colder / hotter environments.
- Use in direct sunlight (such as an outdoor live event), or too close to equipment such as and air-conditioner, portable heater, or high wattage lamps or amps.

Tip! *It is recommended that the tuning function be performed before live performances after at least thirty minutes of 'temperature stabilization' at any location greatly differing environmental conditions since the last use. It just takes a few seconds!*

Clear an Entire User Pattern Group

You may clear all patterns from a single user Track Pattern group with a single command. This operation will clear all patterns in sections (A), (AA), (B), and (BB) within the group 1-7 that is currently selected.

To perform this operation:

1. Select the Track Pattern group you want to clear using the Track/Preset switch.
2. Set the Mode switch to Pattern Write Mode. Be sure Pitch Mode is not enabled (the Pitch Mode LED must be off).
3. Press [A] + [B] + [PATTERN CLEAR] and hold all three keys for five seconds.
4. When the operation is complete, the pattern {#} LEDs on the display will go blank to indicate that all patterns have been cleared.

Pachinko Global Preset Reset

This function will generate new patterns for ALL of Preset Pattern Memory. This includes all seven preset groups and all the patterns within them (224 preset patterns total). Think of it as a slot machine throw bar.

1. Power off the Bass Bot.
2. Power back on again while pressing [PATTERN CLEAR]. A full 'spectrum' of color will display across the Bass Bot in a frozen state.
3. Now press [PATTERN CLEAR] again and hold it until the PITCH MODE LED turns off (approximately five seconds).
4. Release the button and your Bass Bot will reboot with an entirely new set of Preset Patterns but will not affect your patterns in User Pattern Memory.

When you've auditioned all the presets to your satisfaction you can quickly reset all presets instead of manually re-generating new presets one at a time. This is a great way to get fresh presets quickly that you can use immediately. Results are always different and will be unique to your Bass Bot. So don't be shy - explore what cherries may await to come up and be picked!

Tip! See how the Bass Bot creates patterns you like or parts of a pattern. Copy a preset pattern to Write Mode and enter Pitch Mode. See how a pattern is created as a teaching tool for your own riffs!

Lesson 15 Pattern Backup Procedures (MIDI Mode)

Pattern and Track Backup to Computer or Mobile Devices

It's recommended to periodically make a computer backup of your Bass Bot's memory. User Patterns, (not presets), user Tracks and user system preferences such as: console color setting, midi in/out channel selections. Use the downloadable utility from the cyclone-analogic website for your personal computer or mobile device. It takes just seconds to backup work that may have taken hours for your to compose!

1. Download the Bass Bot Studio application for your platform from the Cyclone-Analogic website.
2. Connect your Bass Bot's MIDI IN and MIDI OUT jacks, using the MIDI Splitter Cable, to the MIDI IN and OUT ports on your computer or mobile device interface.
3. Turn the Mode switch to MIDI MODE. Run the Bass Bot Backup and select 'Backup.'
4. Choose the filename for the backup file and wait until the progress of the backup confirms 100% completion. Backup data is transferred via MIDI SysEx and the file contains all pattern and track memory of your Bass Bot with it's personal user preferences.
5. To restore a backup from your computer or mobile device. Turn the mode switch to MIDI MODE Press and HOLD the [Write/Next] key during the operation until completion. Select Restore, pick the filename of a previous backup file, and wait until the progress of the restore confirms 100%.

Pattern Cloning Between Two Bass Bots

If you have multiple Bass Bots and would like to copy patterns from one to the other. You can quickly do so by connecting the MIDI splitter cable with Out1 to In2 and In1 to Out 2. Basic copy and paste functions as used in pattern manipulation now apply between the machines.

To clone patterns simply select the pattern(s) {1-8} and perform a copy Function (CPY) on the source and paste Function (PST) to the desired clone. Patterns will be duplicated into the cloned Bass Bot as selected.

Tip! *This is a great means of organization for artist with multiple Bass Bots and share patterns between friends or band mates.*

Preventative measures to avoid non-warranted damage.

When purchased, record the serial number and affix receipt to inside back cover for indisputable record of ownership in case of theft or damage which is possible due to portability of the device. Store with important documents as you would for any important warranted item and register your Bass Bot online at website.

When in use avoid handling delicate electronic devices in aggressive manners such as pressing too hard down on pot knobs, switches, or plastic casing and unprotected transport.

Place the instrument in a secure area to avoid accidental falls, spillage into the device, and out of reach of children and pets!

When not in use cover with a cloth to avoid dust, smoke and direct sunlight that may cause discoloration.

Disconnect the power to avoid possible damage from lightning strikes and surges in power lines.

When not in use for extended periods remove the batteries that emit gasses over time or leaks that may destroy internal componentry.

Cleaning

Use a soft slightly water-dampened cloth with no chemicals such as window cleaner, alcohol or paint thinners. They may stain or remove casing paint. If liquids are spilt into the system immediately disconnect power to prevent short circuitry and allow to air dry.

Batteries

It is recommended to use batteries only when necessary in travel or when the adapter is not convenient to use. When batteries are not being used please be sure to remove them and not to store your Bass Bot with batteries installed in case of leakage from aged batteries.

AC Adapter

Only use the supplied power adapter. Using another adapter will usually only result in a loud buzzing sound if incorrect polarity is used. However, incorrect and excessive voltages from the use of incorrect adapters (over 12 volts) may result in 'throwing' internal safety fuses. This is evidenced by no power indications, including when powered by batteries.

If this should occur, your unit is not 'dead' but in protection mode. The Bass Bot may recover and work normally once you've corrected any problems with the power adapter, batteries, or external equipment that is connected to the Bass Bot. However, some causes of such a failure will require servicing, requiring an authorized technician's full inspection and potentially repair to fix the problem.

Troubleshooting

Power:

No Power when switched on.

- A red LED should be visible from viewing the DC in jack at the back to confirm power.
- If using battery power confirm that batteries are inserted correctly or that they are not expired.
- Confirm the supplied power adapter is being used. The power adapter supplied is specifically made for your Bot. You may require a different type of adapter 'head' for your local area.

Unit is buzzing loudly.

- Unplug the power adapter and use the originally supplied 9VDC 200mA adapter with red LED on.
- Place the Bass Bot in a different area away from lamps or other high wattage devices.

Sound:

No sound

- If using headphones, make sure they are connected to the headphone jack and not the output jack.
- Check that the waveform switch position is not stuck in the middle position with nothing selected.

The sound is mono

- Use the headphone jack for amplified stereo sound. The regular output jack provides a mono output.

Tuning:

Sound not in tune

- Perform Automatic Tuning (see Lesson 14). Center the Tune knob to absolute center. **Turn off and back on again the power before tuning.** Switch to MIDI mode then press [FUNCTION] + [C#] and wait until the indicator LEDs turn off. Initial tuning and tuning after extended periods of no use. May require performing the tuning procedure multiple times for best accuracy within +/- 5 cents.
- Changing from headphone use to an amplifier can result in perceived mistuning from use so close to the ears and may require automatic tuning after switching to amplifier use.

Temperature changes due to shipment or location changes of significant temperature and humidity differences may require automatic tuning.

Cannot perform auto-tuning procedure via MIDI request.

- The Bass-Bot will not respond to Midi commands to auto-tune and should be tuned by the user.

Pattern Editing:

Cannot edit pattern or use [functions].

- Check that the Mode selector switch is set to Pattern Write.
- Check that the function to use is a Normal Mode or Pitch Mode function.

MIDI:

MIDI IN not working

- If using the DIN-8 MIDI Splitter Cable (not required standard DIN-5 can be used for MIDI IN only), check that your external device is connected to the MIDI Splitter Cable jack with the arrow pointing inward, and that this cable is connected to your equipment's MIDI OUT jack.
- Check correct channel number is selected for MIDI OUT (refer to Lesson 12) the Bass Bot only supports channel (1-10 only). Channels 11-16 are not available.

MIDI OUT not working

- Be sure that you are using the DIN-8 MIDI splitter cable. It is required for MIDI OUT functions.
- Check that your external device is connected to the MIDI splitter cable jack with the arrow pointing outward, and that this cable is connected to your equipment's MIDI IN jack.

Check correct channel number is selected for MIDI OUT (1-10 only) Channels 11-16 are not available.

Command Shortcuts Summary

PRESET MODE

Copy: [FUNCTION] + [CPY]
Generate: [FUNCTION] + [GEN]

PATTERN WRITE MODE

Copy: [FUNCTION] + [CPY]
Paste: [FUNCTION] + [PST]
Mutate: [FUNCTION] + [MUT]
Set pattern color: [FUNCTION] + [LED]
Transpose up / down: [FUNCTION] + [UP] / [FUNCTION] + [DOWN]
Shift left / right (in time): [FUNCTION] + [BACK] / [FUNCTION] + [WRITE/NEXT]
Clear: [PATTERN CLEAR] + [#] (the pattern number)
Undo: [BACK] + [TIME]
Toggle timing (16th, triplet): [FUNCTION] + [TRIPLET]
Clear an entire group [A] + [B] + [Clear] hold all three keys for five seconds

While in Pitch Mode (step editing):

Go to next step: [WRITE/NEXT]
Go back a step: [BACK]
Insert step: [TIME] + [INS D#]
Delete step: [TIME] + [DEL C#]
Go to step #1: [PATTERN CLEAR]

PATTERN PLAY MODE

Copy: [FUNCTION] + [CPY]

TRACK WRITE MODE

Insert bar: [FUNCTION] + [INS]
Delete bar: [FUNCTION] + [DEL]
Transpose: [FUNCTION] + [NOTE] (any note key)
Clear a Track: [A] + [B] + [PATTERN CLEAR] hold all three keys for five seconds

MIDI MODE

Automatic tuning: [FUNCTION] + [C#]
Set system console color: [FUNCTION] + [F#]
Set MIDI IN channel: [FUNCTION] + [DOWN]
Set MIDI OUT channel: [FUNCTION] + [UP]

ARPEGGIATOR MODE

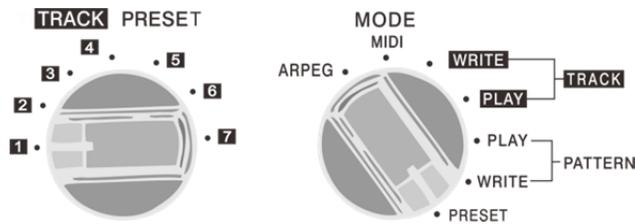
Cycle note order: [WRITE/NEXT]



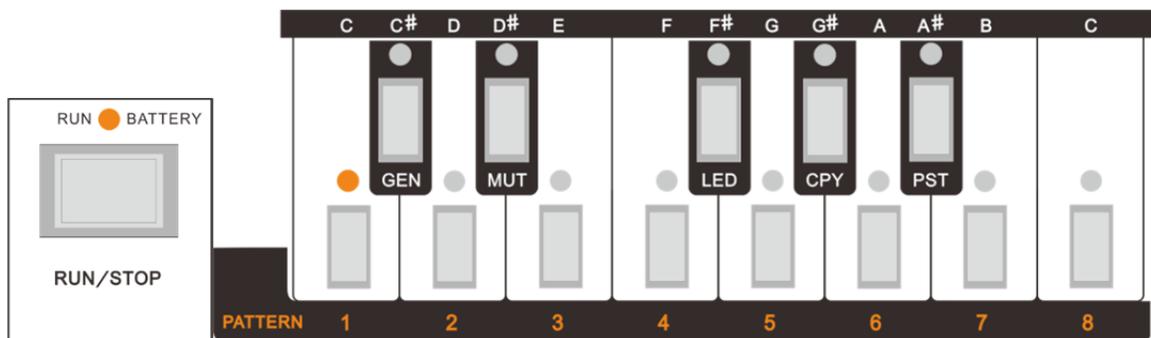
Quick Demo Guide



Control the tone and color of the sound using the five control knobs as shown.



Set to hear unique PRESET patterns in any PRESET group 1-7 as shown.



Select a pattern number from {1-8} and press [RUN/STOP] to audition pattern loops.