

GoTar3 USB_MIDI Controller User Manual R.9

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Congratulations on your purchase of the new GoTar3, a portable USB_MIDI guitar controller that is designed to be simple to use yet offer a variety of useful features to apply in a variety of musical environments. The GoTar3 has several improvements over the original GoTar, and progress is on-going as we speak!!

Overview

The instrument incorporates these hardware features:

- 24-Fret Velocity-sensitive Fingerboard
- (2) Rotary Potentiometers
- 4-way Analog Joystick
- OctaveUp/Down buttons
- EDIT mode button enters setup mode
- Side-mount Sustain Bar
- Side-mount control buttons
- USB 2.0 compatible Micro-B device receptacle
- OnBoard rechargeable Li-ion battery system
- 5-pin MIDI Output
- OLED display
- BLE 5.3
- USB 2.0
- Rechargeable battery

Software features:

- Tapping keyboard-style or Strumming Guitar-style
- Play on a single channel or multiple channels
- Fingerboard 2-Zone Split and Layer
- Program Change
- MIDI Channel change
- Multiple Tunings/ transpositions
- Octave selects

- Right-Hand/Left-Hand switch
- Editable presets
- Field upgrade-able firmware

Getting Started

Using a USB-A Male to-Mini-B Male cable, plug in the GoTar to the USB port of your computer.

If you are using an Apple mobile device first connect the appropriate Apple Camera Connection Adapter to the mobile device then plug in the Gotar to the Camera Connector using the standard USB-MiniB cable.

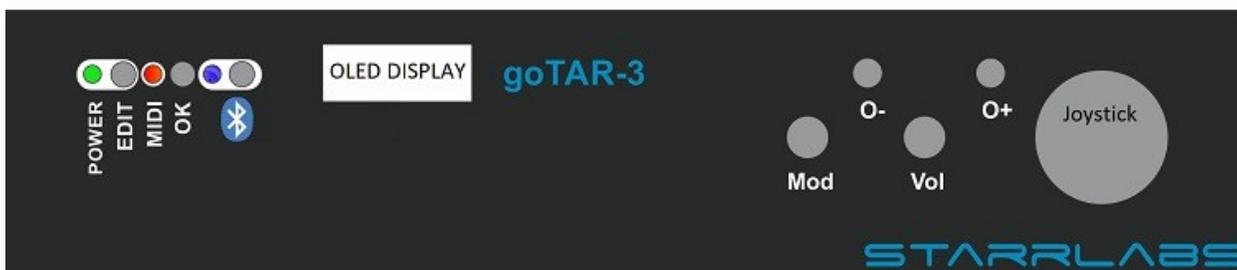
If you are using an Android device, use a USB OTG cable adapter (USB-A female to Micro-B male) from the GoTar and a standard USB microB cable from the OTG adapter to the Android device.

The GoTar has very low power consumption, about 30 milliAmperes. Computers, Apple and Android mobile devices will power the GoTar over the USB port connection. For extended operation, an external battery pack will be made available for the GoTar.

Playing the GoTar Left-Handed:

Open the Edit-Mode and set the R/L button. Refer to the instructions and the chart below.

Operating the GoTar



Top Button #1 = OctaveUp. Press to raise the Octave of the selected channel.

Top Button#2 = Octave Down. Press to lower the Octave of the selected channel.

EDIT Button = press to Enter/Exit the configuration Setup Mode. The Power LED is OFF when in EDIT-mode.

Button#1, button#2 press together = **MIDI Panic** (*All Notes Off, Reset All Controllers*). This clears out any hanging MIDI notes or stuck settings, something that happens in any MIDI system from time to time.

Knob #1 = Volume

Knob #2 = Modulation

Ribbon = Sustain Pedal (Hold) MIDI CC# 64

Auxiliary Buttons:

EDIT: enters Edit mode. The Power LED is un-lit when in Edit-mode

OK: The OK-button was reserved for future upgrades, but we added a program setting to soften hammer-ons and ran out of buttons to control the feature, so we used the OK button temporarily.

In RUN-Mode: Toggles soft-hammer-ons in TapMono mode.

In EDIT-Mode: sends the current configuration Sysex out to USB.

BLE: Bluetooth pairing button

The two buttons on the rubber pad and the ribbon controller are multi-functional:



Side Button #1 = Scroll Presets [nearest the end of the Ribbon]

Button #1 on the Ribbon controller unit has been programmed to scroll through currently 8 presets:

[All tunings in these presets are Right Handed and Tapping-Style unless otherwise noted.]

1. **Fourths starting with a Low-C Natural**
2. **Fourths starting with a Low-E flat**
3. **Fourths starting with a Low-F Natural**
4. **Fourths , Left Handed starting with a Low-F Natural**
5. **Guitar-Tuning**
6. **Guitar-Tuning Strumming style:** Use the top 4 Frets to Strum the lower 20 Frets. If you tap the lower 20 Frets alone you will not hear anything.
7. **Octaves Tuning:** This puts 7 Octaves on the fingerboard ! Best used with two hands.

Side, Button #2= CC85. [nearest the Ribbon]

Map this in your outboard software to whatever you like. This function may change in the future.

When in EDIT-MODE:

Side-button 1 = Transpose Down (1) semitone [+/- 12 semitones are the limits]

Side-button 2 = Transpose Up (1) semitone

EDIT Mode

[Fingerboard Control Function Re-Mapping for Frets 22, 23, 24]

Play the GoTar in “Live-Mode”. Configure the GoTar in “EDIT-Mode”.

Press the EDIT button to enter or exit the Setup Mode.

There are a variety of Mode selections that can be made by entering the Setup mode. The Setup, or Edit-Mode, assigns GoTar setup functions to the top 3 frets of the fingerboard, while leaving 20 frets of the fingerboard available for performance at the same time for testing your changes. Fret 21 is silent in the Setup Mode by design. Tapping Fret 21 is an easy way to determine that you’re in Setup-Mode.

NOTE:

The Octave may be adjusted in Live-Mode or Edit-Mode. When in Split-Mode the Octave may be adjusted for the individual Zones by holding a key in the desired Zone and pressing the Octave-Up or -Down buttons.

GoTar EDIT-Mode Function Chart

Tunings

Mode
Select

EDIT-MODE CHART

FRET 21	SILENT FRET					
FRET 22	Guitar	Fourths	Fifths	Octaves	Open-G	Ableton-Live**
FRET 23	Left/Rt	Patch+	Pick/Tap	1Ch/6Ch	NS-On	Channel+
FRET 24	Save	Patch-	Split	Layer	Velocity Curves	Channel-

** Ableton Live tuning is set up to use the Starr Labs Live Script*

* "NULL" means no function is assigned to this key.

Side-Button-1: Transpose Down 1/2 step

Side-Button-2: Transpose Up 1/2 step

Tunings:

[Guitar, Fourths, Fifths, Octaves, OpenG, LED-Controller **]

Fret #22 of the GoTar fingerboard is dedicated to provide a selection of six different fingerboard tunings in Setup Mode: Gujitar, Fourths, Fifths, Open-G, and Ableton-Live. There are additional Tunings in the Preset Scroll-list available on Button#1 on the side of the instrument.

**** LED-controller tuning: [The primary purpose for this tuning is to interface with the Starr Labs script running in Ableton Live that allows remote control or the Live Session View Clip-grid.]**

*This tuning assigns Strings #1-5 to MIDI **Channel 15**, notes 1-120.*

*String #6 is assigned to MIDI **channel 16**, notes 1-24.*

(If you suddenly find you have no output from the GoTar, you may have inadvertently selected this tuning!)

Left/Rt

This is the Left-hand/ Right-Hand Tuning switch.

Pick/TapMode switch: [Toggle between Guitar-picking and Keyboard-tapping]

- 1) **Picking/Strumming** the GoTar like a guitar using frets 21-24 as a "Picking Zone". Tap any of these top four frets for a given string to trigger any open- or fretted-notes on that string. With a little practice you can develop a "classical"-style picking technique. Try drumming your four fingers on the Picking-keys on one string to get a feel for how fast you can play on these keys. It's a MIDI Mandolin with no glitching!

NOTE

You'll notice when you set the GoTar to Picking-Strumming in the Setup-Mode, the lower 20 frets of the fingerboard will be silent. You will not be able to test the Strum-Mode until you leave the Setup Mode and the Strumming keys are released from their Setup functions.

- In Picking Mode the GoTar fingerboard plays one-note-per-string like a guitar with hammer-ons and pull-offs. This is the Ztar Guitar Mode.

- 2) **Tapping** the keys of the GoTar like a keyboard. All 24 frets are available as a playing surface.

NOTE:

- In Tapping Mode the fingerboard can play multiple-notes-per-string like a full keyboard. This is the Tap/Poly Mode.
- Pressing the Pick/Tap button a third time selects Tap/Guitar mode, i.e. Tapping style with one-note-per-string and hammer-ons

1-Channel / 6-Channel Mode switch:**[Toggle the GoTar fingerboard between two modes]**

- 1) The GoTar fingerboard transmits MIDI data on 6 MIDI channels(1-6) with each string sending on it's own MIDI channel. This is useful for Multi-timbral performance, EDM performance with Ableton Live and other Grid-based software, Guitar teaching software and tablature that can display and respond to specific fingerings.
- 2) All of the strings on the fingerboard transmit on channel1.

NS-On

Enable/Disable the Neckstrip.

SAVE

Use this after making your selections and adjustments. This will Save your selections to permanent memory so that when you turn the Power Off then On again you settings are preserved. There is no Undo button. If you want to leave the Edit-Mode so that you can play your changes, but NOT save them to permanent memory, simply press the EDIT button on the surface of the Gotar.

The Custom-Preset comes pre-programmed with a tuning that will be erased when you first use the Save button. A future revision will put the Tunings onto a single Scroll-button so that more tha 6 Tunings may be available for selection. For now, additional tunings may be added into the Preset-List by custom request.

Split-mode:**[Toggle Split-mode On/Off.]**

The fingerboard is split into two Zones at the 12th fret with each of the two zones being programmable to a different MIDI channel, Patch-number for that channel, and Octave setting. The lower Zone, toward the headstock, has the setup configuration of the full fingerboard as when you are not in Split-Mode

Layer Mode:**[Must be in Split-Mode to apply]**

The two zones that were set up in the Split-Mode may be stacked, or “layered”, so that each key will play two notes according to your setups. After you have configured the two zones to play the Channel, Octave, and Patch you want, press the Layer key to stack the two zones over the entire fingerboard. Press the Layer key again to return to Split Mode.

Curve Select: [Cycle through 16 response curves]

A response curve for the fingerboard may be selected by repeated button presses that will scroll through the list of curves.

- * Curve 0 - Linear, HighIndex=127 */
- * Curve 1 - Exponential, HighIndex=127 */
- * Curve 2 - Linear, HighIndex=120 */
- * Curve 3 - Expo, HighIndex=120 */
- * Curve 4 - Linear, HighIndex=110 */
- * Curve 5 - Exponential, HighIndex=110
- * Curve 6 - Linear, HighIndex=100
- * Curve 7 - Exponential, HighIndex=100
- * Curve 8 - Linear, HighIndex=9
- * Curve 9 - Exponential, HighIndex=9
- * Curve 10 - Linear, HighIndex=80
- * Curve 11 - Exponential, HighIndex=80
- * Curve 12 - Linear, HighIndex=70
- * Curve 13 - Exponential, HighIndex=70
- * Curve 14 - Fixed 127
- * Curve 15 - Reverse linear

PatchUp and PatchDown:

These two keys allow you to increment and decrement the MIDI ProgramChange-number for the fingerboard. In Split-mode you can individually change the Patch of each Zone by holding a key in the zone and pressing the ProgramChange keys. Release and re-press the fingerboard-key to repeat. The range is 0-127.

Channel-Up and Channel-Down:

These two keys allow you to increment and decrement the MIDI channel-number for the fingerboard. In Split-mode you can individually change the Patch of a Zone by holding a key in the zone and pressing the Channel - select keys. Release and re-press the fingerboard-key to repeat. The range is Channels 1-16.

GLOSSARY

Channel: the standard MIDI system allows 16 separate channels, each of which can have a different voice or sound and other settings unique to that channel.

Continuous Controllers:

Also called “MIDI CC”. In its basic form, it refers to physical knobs, wheels, sliders, and any device that can change, modulate, or affect the sound of musical notes. For instance, Pitch-bending, Volume or Tone changes, distortion, etc. are accomplished with MIDI Continuous Controller hardware and the “CC” software messages that the hardware controls.

MIDI: Musical Instrument Digital Interface. A communication standard developed by a group of music manufacturers for digitally controlling sounds. Its common usage is for playing musical notes and modifying their sound from a musical instrument such as an electronic keyboard. Also, refers to the physical interface which can be the 5-pin connector , USB-MIDI , or a number of other popular wired and wireless communication links. A single MIDI setup is a 16 channel system that allows 16 different voices to be played.

Mod Wheel:

A common MIDI ContinuousController that is used to modify the sound for various effects such as vibrato.

Note On: A MIDI software message that turns ON the sound for a musical note. Usually triggered by a musical instrument or a software sequencing program.

Note Off: A MIDI software message that turns OFF, or silences a musical note.

Patch: the specific voice, or sound selection for a given MIDI channel, formally known as MIDI ProgramChange.

PitchBend:

A MIDI function that changes the frequency of a note such as when a guitarist “bends” a string.

ProgramChange number:

Also referred to informally as Patch-number. A MIDI function used to select the various sounds in a synthesizer.

Strum (Pick):

The act of pressing notes on a guitar fingerboard and using your other hand to stroke across the strings to play the sound. With the GoTar all-electronic fingerboard strumming is accomplished by touching the Strumming Keys set up on Frets 21-24. *[Alternately referred to as “picking”. “Strum” usually refers to playing chords and “pick” usually refers to playing single notes.]*

Tuning:

A set of musical pitches assigned to the open (unfretted) strings of a guitar. For instance low-to-high E,A,D,G,B,E for standard tuning. The open strings set the relationships between all of the notes on the fretboard.

Voice: a given sound type that is created by a music synthesizer, such as piano, guitar, trumpet, dog-bark, space-harp, any of a billion different sounds that you can select and play from the Gotar.

Ztar:

A type of MIDI-Guitar controllers from Starr Labs Inc. comprising an electronic touch-sensitive fingerboard and a variety of other sensors that can be programmed for MIDI Music and Control performance. So-named by my neighbor Lee, head chef at the Brigantine at the time, an intruding insomniac.

NOTES:

Any suggestions for features or edits to this manual may be directed to info@starrlabs.com with “Manual Request” in the subject line.

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