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Clipper Getting Started Guide

If you're absolutely new to MIDI and want to know more, you can find the MIDI specifications at www.midi.org

Congratulations on your purchase of the Ztar. No matter which hardware configuration you have, you can be sure that you will find a deep source of musical control features that will be flexible to your needs and provide many years of happy musical exploration!

This manual discusses getting started with the basic Ztar MIDI controller functionality. The Clipper lighting system is discussed separately in the Clipper LED Controller startup guide.

Because Ztars are built in many different custom configurations, your hardware may not be exactly as referred to here in this document.

Please reference our website for the full manual and support documentation, sysex setups and other software. <http://www.starrlabs.com>

NOTES:

It is not necessary to load a USB-MIDI driver for any Ztar manufactured since 2012. These instruments are plug-and-play with Mac and PC computers.

Always charge the onboard battery with the Clipper turned OFF. If you have a USB-chargeable

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battery inside, refer to the description below.

When operating under USB power only, the Clipper will play but the LED lighting system is disabled unless the USB-battery is installed in which case this is not a limitation.

Basic layout of the instrument:

1] The Ztar hardware is divided into two main performance groups, the **Fretboard** and the **Sensors**. The Sensors include the String Triggers and all the Pads, Pots, Pedals and other performance devices on the instrument.

3] There is also a **Programming/Display** module onboard that you will use to setup up the various functions of the Ztar in detail.

Press EDIT and you will see selections for programming the features of the Ztar.

The Fretboard is programmed in the *Fretboard* or *Zones* screen.

The Sensors are assigned MIDI Events in the *Sensors* screen .

The physical response of the Fretboard and the Sensors is set up in the *Response* screen and the *Curves* screen.

The UTILITIES menu has sub-menus for a variety of Ztar features such as Sysex handling, MIDI clocks, MIDI Input setups and more.

Power Up the Ztar:

The Ztar can be powered from either a **DC power supply** or a **USB 2.0 port** on your computer. The instrument is equipped a 3-position power switch with **DC <>OFF<>USB** power positions. If you have a sound card or LED lighting installed in your instrument, those accessories will only power on in the DC position of the switch.

Some instruments have instead a 2-position power switch with no center-OFF position.

To Power from the AC/DC adapter:

- Use a **5-conductor** MIDI cable (all 5 pins must be wired) from the Ztar MIDI Output to the Controller connection on the **PB-1** power supply adapter.
- Connect a MIDI cable from the SYNTH jack of the PB-1 to the MIDI IN on your synth or other MIDI system.
- Connect the supplied DC wall-supply to the PB-1.

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- Flip the power switch on the instrument and you should see the display light up. If it doesn't, check your MIDI cable and wall-wart for correct type and connections. If you're stuck here go the Troubleshooting section at the rear of the manual.

DC power is supplied to the instrument from a wall-mount AC/DC power supply that connects to your PB1 phantom power adapter. A standard 5-wire MIDI cable from the PB1 to your Ztar MIDI Out Port will power the Ztar and route MIDI data to your synth.

Move the 2-position rocker switch to the DC position.

If you have a Starr Labs Phantom Battery Supply for use with your onboard MIDI wireless transmitter, connect it to the Ztar input port instead of the MIDI cable.

Connecting to USB Power:

Connect a USB cable from the USB port on the Ztar to the USB 2.0 compliant USB port on your computer.

Note: Clipper will not operate its LED lighting when connected to USB power. The normal MIDI controller functions and display programmer will still operate.

Move the 2-position rocker switch to the USB position.

New Ztars built after July 2012 have a plug-and-play, class-compliant USB interface and no driver is required for operation with USB-MIDI compatible computers.

She's Up and Running when you see the first bank of 8 presets showing on the Display Screen.

Note:

In the startup Display menu you will see the first bank of eight presets or zTar "Songs".

The stock presets in the onboard ROM are the following which will appear after a hard system INITIALIZATION. Otherwise for the Clipper there are a number of special presets that have been loaded into your battery-backed RAM that demonstrate several lighting setups.

Song #1, 'Guitar' is set up to play like a guitar, the String Triggers are ON and the fingerboard is playing one-note-per-string with Hammers=ON, Guitar-tuning.

Song #2, 'Chords' is set up to demonstrate the chording mode. Each fingerboard key holds an entire chord. Press a key then strum the strings to hear the chord. Other mode settings will affect how the chords hammer-on or stack up.

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Plugging in the Battery Pack: (if your battery is not installed internally.)
Connect the 5-pin MIDI cable from the battery to the MIDI Out connector on the Ztar.

Embedded USB Power Bank: If you have this option there is a 5V USB power bank and additional boost power supply installed internally to provide power to the Clipper. The battery is charged from the USB port using a standard USB cable.

There is also an additional 3-position switch provided that sets up charging for the internal battery.

Position 1: Charge the battery
Position 2 : Center-Off
Position 3: LED-Power enabled.

The embedded Power Bank is replaceable by removing the backplate, unplug the USB cables from the battery, gently pry the battery from its adhesive, and press the new battery down firmly to attach it.

Basic Performance Setup:

The Ztar can be strummed and picked like a guitar or tapped like a keyboard, or both together. Use the function keys and the *Fretboard (Zones)* screens in the programmer to set up the Ztar the way you like it. Your settings are saved in battery-backed memory.

Use the Top-level Menu to select onboard patches or **SONGS** using the UP/Down arrows.

Hit the **EDIT-KEY** to enter the **Song Menu**, the Ztar's top-level Edit-screen. From there you'll access all of the edit functions.

Use the Zone Menu to set up the fingerboard according to your needs. This includes defining areas of the neck for selected voices, MIDI channels, transpositions, Velocity Inversion, and Base Volume setting.

Use the Sensor Menu to program the Pads, Triggers, Joystick, and Pedals for MIDI effects, chords, and sequences.

Use the Utilities/Tuning Menu to set the tuning for the fingerboard, the Open Strings, Right/Left switch and Enable the HammerOns/PullOffs.

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Use the Triggers front-panel key to turn on/off the Triggers. With the Triggers On you can strum them like a guitar. With the Triggers Off you can tap the fingerboard like a keyboard.

***IF YOU GET STUCK AND NEED HELP PLEASE CALL:
STARRLABS, 858-560-0334 or email harvey@starrlabs.com***

Ztar Embedded RF TRANSCEIVER Instructions

Power:

The Ztar Embedded Transmitter is connected to the power supply inside the instrument and it is always powered-up with the Ztar.

The AirPower receiver may be powered either of three ways:

- 1) (2) AA batteries
- 2) 9VDC wall adapter
- 3) USB

The Receiver's 3-way power switch settings are USB/Batteries<>OFF<>DC Power

MIDI Port:

The MIDI data line that feeds the internal transmitter is wired internally directly to the Ztar's MIDI Output. The wireless and the MIDI cable send the same MIDI data.

On the Receiver the MIDI port is connected to the MIDI Input of your synth or MIDI system. Also, you can connect the AirPower receiver via USB to your host computer which will both power the receiver and send USB-MIDI data into the computer.

Receiver Indicator Lamps:

Power: Power will blink if the battery is low

MIDI: The lamp will blink when MIDI information is being transmitted.

Link: The lamp will blink when the link is experiencing a fringe reception condition.

Channel select:

The Transmitter and receiver are equipped with 16-position rotary switches to select a vacant RF channel, 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F. The Transmitter embedded in the Ztar has its channel selection set at the factory to 0 in most cases .

When selecting a different channel, set the Transmitter and set the receiver channels to match. Power-cycle both the transmitter and receiver to re-initialize the channel settings in both units.

In the case of the transmitter embedded in the Ztar, you can set the RF channel in the Ztar menu system. Go to UTILITIES/MORE/WIRELESS. Set the RF channel to match the Receiver switch setting and set Wireless=ON.

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External 12.6V Main Battery Supply (MIDI Battery)

In order to be completely free of cables, when the Ztar is using the AirPower wireless data connection, you can supply main power to the Ztar system by means of the special Starr Labs MIDI Battery. Simply plug the battery into the Ztar's MIDI Output port and it will supply phantom power through its MIDI cable connection.

To charge the MIDI battery:

- Connect the Smart charger to the battery.
- The indicator lamp on the smart charger will light up when the battery is charging. The light will turn off when the battery is charged.

To charge the Internal battery:

- Connect the Smart charger to the Clipper charging port.
- The light on the Chrger will extinguish when the battery is fully charged.

Ztar Trigger Cap Assembly ExpressionPad Option:

The **TCA-1** (TriggerCapAssembly-1) is an optional set of Expression Pads that are added to the Ztar top surface in place of the standard hex pickup cover. The TCA-1 is comprised of six narrow rubber pads resting in line with the strings on the fingerboard and the StringTriggers for the picking hand. These six Pads may be programmed to a variety of MIDI event such as Notes, chords, Sequences, Loops, Program changes, EFX level changes, and Continuous Control messages. These pads may also be used to Trigger notes fretted on the fingerboard.

The TCA-1 pads are referred to as "TriggerPads" or "TPads" in the menu system. As a default they are programmed to a set of Drum notes on MIDI Channel 10. With a little practice it's easy to fingerpick a drum pattern on the TriggerPads.

The settings for the TriggerPads can be easily changed to accomplish a variety of MIDI functions. To make these settings go to the SENSORS screen in the menu system and tap one of the TPads. You should see the screen jump to an edit-screen for that TPad. Refer to the discussion regarding the SENSORS menu for details about making the settings.

In general you will be setting three things:

- 1) the **PlayFunction** shown at the top of the SENSORS screen shows *BASIC, ALL, SEQUENTIAL, CONTINUOUS-CONTROL, ETC.* This sets what type of messages are sent and in what sequence.
- 2) The **EVENTS** screen shows the settings for up to 8 events such as *Notes, CC changes, Program Changes*, and more. By combining different Events with

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different PlayFunctions you can achieve a huge variety of performance techniques.

- 3) The **TIMING** screen is set to
 - a. TOUCH if the duration or the Events (notes) is simply as long as the Pad is held down,
 - b. TIMED when the Events' duration is set in terms of milliseconds or MIDI clocks (governed by the MIDI clock source such as the internal metronome or external clock) or,
 - c. LATCHED which plays the Events and holds them until you hit the Pad again.

Some fun tricks with the TCA1

- 1) Hold a chord on the fingerboard. Press the "REC" hotkey and see the "REC" LED flash. While holding the chord, tap one of the Trigger Pads and the chord will appear there.

If you only hear one note, go into the SENSORS/ EVENTS screen for that TPad and set the **PlayFunction** from *BASIC* to *ALL*. Now you'll hear the full chord. You can tap the chord with one finger and play a bassline or melody on the fingerboard with the other hand. Set up all six TPads with chords this way.

You can also turn one of these chords into a sequence in the SENSORS/EVENTS by setting the **PlayFunction** to "*SEQUENTIAL*" to make the chord a sequence. Also, in the SENSORS/EVENTS screen you can change the note-duration from milliseconds to MIDI-clocks so you can adjust the sequence-timing with the onboard metronome. Press the softkey where it says gate-time and see the *asterix(*)* appear after the number to indicate MIDI-CLOCKS. Then, go to the SENSORS/TIMING screen to set the Hit-Mode to *TIMED* so the TPad will play out its notes using the onboard metronome rather than timing the notes from your touch. Set the BPM where you like it in the UTILITIES/CLOCKS screen.

These little (up to 8-note) sequences may be also single-stepped by setting the PlayFunction to *ALT-UP*, *ALT-DN*, or *ALT-RANDOM*.

Bend individual strings from the TCA-1

- 1) Set up a Ztar Song (preset) such as "6STRING" that has each fingerboard string on a different MIDI channel.
- 2) In the SENSORS screen, tap a TPad to select it. Set the MODE to *EVENTS*.
- 3) In the EVENTS screen set the **PlayFunction** to "*ContCt*"

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- 4) At the bottom of the EVENTS screen set the (only one) Event to *PitchBend-Up* and set the MIDI channel to the channel of the corresponding fingerboard string. If you set up all the TPads to match the fingerboard strings this way you'll be able to hold a chord and bend individual strings by pressing the proper TPads.