Getting Started Guide for Ztar Models Z55, Z5S, Z6/S, Z7S, MiniZ/S/X, and BabyZ

Model Configurations

The Ztar MIDI Guitar controller is manufactured in a variety of formats, body styles and with a variety of installed options. The installed options will generally concern hardware that is programmed in the onboard Sensors menu. That portion of the software is generally the same for all of our instruments, whether or not all of the options are installed.

- Z5S, Z6S, Z7S, and MiniZS instruments all have String Triggers.
- Z5, Z6, Z7 instruments all have Trigger Bars.
- The BabyZ is a reduced size instrument with six programmable sections per rubber Trigger Bar.
- The MarkIII Ztars have String Triggers and a trapezoid-shaped front panel with 12 Pads.
- In general, models marked "-S" have String Triggers, "-X" have a bank of Pads, and "-P" have a bank of Pots.
- The newer Z7/Z7S instruments use the same rear connector panel as the babyZ instrument.

Table of Contents

GETTING STARTED

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!

NOTES:

Please reference our website for the full manual and support documentation, sysex setups and other software.

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

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.

2] There is also a row of Function **"HotKeys"** on the top of the Z7S and MiniZ and at the side of the guitar-shaped Z5/6 models of Ztar. These HotKeys control functions that you are most likely to change quickly while you are playing music.

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.

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.

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.

- 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 3-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.

Move the 3-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".

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 them strum the strings to hear the chord. Other mode settings will affect how the chords hammer-on or stack up.

Plugging in the Battery Pack:

Connect the 5-pin MIDI cable from the battery to the MIDI Out connector on the Ztar. Newer Ztars use an external USB Power Bank for battery power.

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.

The basic HotKey functions:

If the **TRIG** and **G/POLY** LEDs are now lit you're set up like a guitar so start picking! Press the **TRIG** button to toggle between the fingerboard Tapping-style and Strumming-style. Press the **G/Poly** button to toggle between playng one-note-per-string with hammer-ons (like a guitar) and playing multiple notes per string.

The **PATCH+** and **PATCH-** buttons increment and decrement the ProgramChange number output to your synthesizer.
The **OCT+** and **OCT-** buttons increment and decrement the octave setting for the fingerboard.

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

Hit the **EDIT-KEY** on the DisplayKeypad 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, polyphony, Volume settings and more.

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

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

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.

Use the Guitar/Poly key to switch between One-Note-per-String or All-Notes-per-String. You can play the "Open Strings" in GUITAR mode with the TRIGGERS ON. Strike the Trigger with nothing fretted to hear the open string.

Use the Pat+/Pat- and **Oct+/Oct-** Hotkeys to set the synth patch(es) and Octave.

After you've created a special setup, or "Song" in Ztar-speak, for the Fingerboard and the Sensors according to your needs you can save it to battery-backed memory by using the **Write** key or the "Write" menu from the display.

String Triggers

Adjusting String Tension:
If the string tension is incorrect you can adjust it at the tailpiece using the row of screws nearest the center of the zTar. The bank of screws toward the rear of the instrument clamp the strings in place. You may need to remove the cover cap over the bridge to tighten these screws. You might try leaving the cover off so that you can try out the Palm-Muting feature.

Adjusting String sensitivity:
Using the trimpot adjustment tool provided with your instrument, turn the trimpots clockwise to increase the gain for each string. When the gain is too high, the string will play when just touching it so back off a bit from the high setting. The strings in the Ztar are numbered with the LowE for a righty as #1. Enter the RESPONSE/SENSORS menu and pluck a string to verify the string response.
[When the trimpot is turned to a full stop in either direction, do not turn further or the trimpot will be damaged.]

Also, in the RESPONSE/SENSORS menu you will find a threshold adjustment that you can reduce to increase the bottom-end response sensitivity. Response for a Sensor can be altered by changing the Curve assignment in RESPONSE/CURVES.

Also, the fingerboard response may be altered by changing the Curve assignment in the RESPONSE/FRETBOARD menu. Refer to the manual for more details on setting RESPONSE

IF YOU GET STUCK AND NEED HELP PLEASE CALL:
STARRLABS, 858-271-9827

Ztar Embedded RF TRANSCEIVER Instructions

Your instrument may be equipped with either a Standalone Receiver or a RF-MIDI USB dongle receiver.

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:
On the transmitter the MIDI data that feeds its MIDI Input Port is wired internally directly to the Ztar's MIDI Output.

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 shows when the transmitter and receiver are connected and 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 to match. Power-cycle both the transmitter and receiver to re-initialize the channel settings n both units.

When the transmitter is 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. When the channels match the LINK LED will illuminate.

9.6V Main Battery Supply (MIDI Battery)
[Newer Ztars are wirelessly powered over the USB port using a USB Power bank rather than the battery wired to the MIDI plug.]

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 PB1 DC input jack.
- Connect the MIDI battery to the PB1 Controller jack.
- 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.

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.

SENSOR 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. BASIC and ALL are for sending Notes.
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 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.*
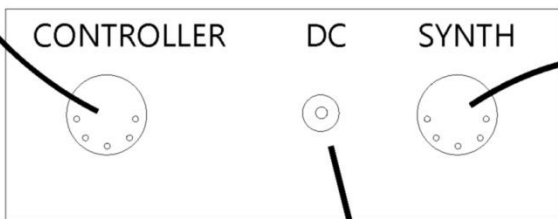
Bend individual strings from the TCA-1

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 "*ContCtl*"
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.

MINI-Z Jack Panel

ON
OFF

VOL

SUS

MIDI OUT **MIDI IN**
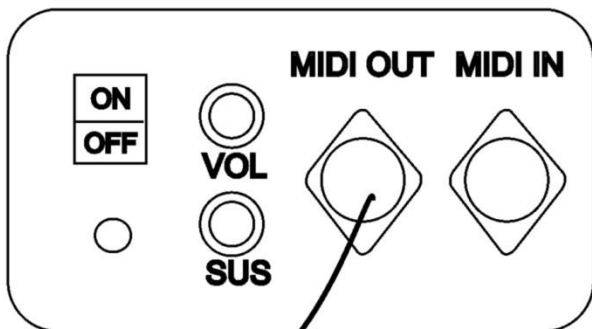
MIDI Cable (all 5 wires connected)

PB-1 Phantom Power Adapter

CONTROLLER   DC   SYNTH

MIDI Cable to Synth

AC/DC Adapter

Mini-Z Connections

Z6S Rear Panel

Whammy (bar not shown)

Joystick

6 Trigger Pads
("TCA")

Volume Knob

MIDI

USB

Strap Button

USB

MIDI In

Power switch

MIDI Out

Volume Pedal

Breath Valve

Sustain Pedal
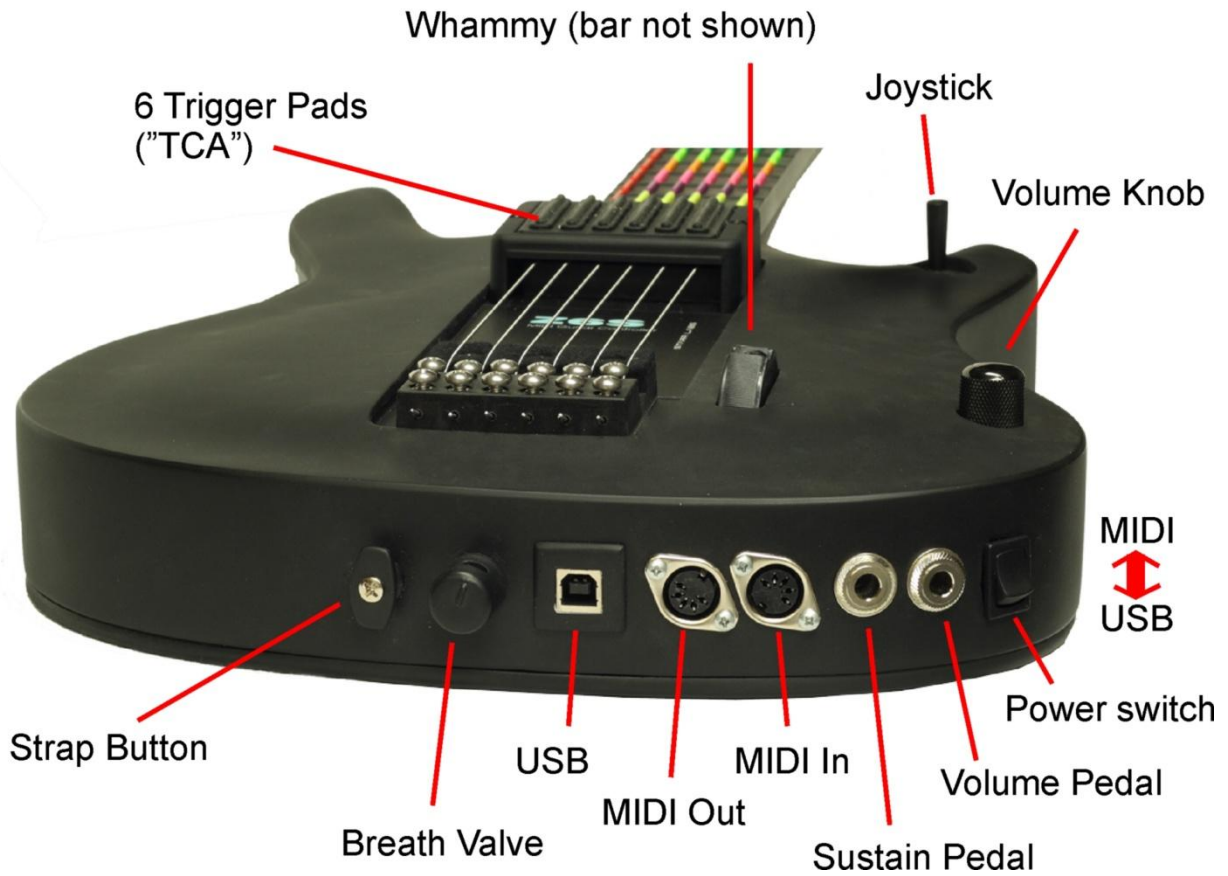
How to Charge Starr Labs MIDI Battery Pack

Plug charger into wall AC

Plug battery pack into Controller MIDI Port on PB-1

Connect 9VDC from charger
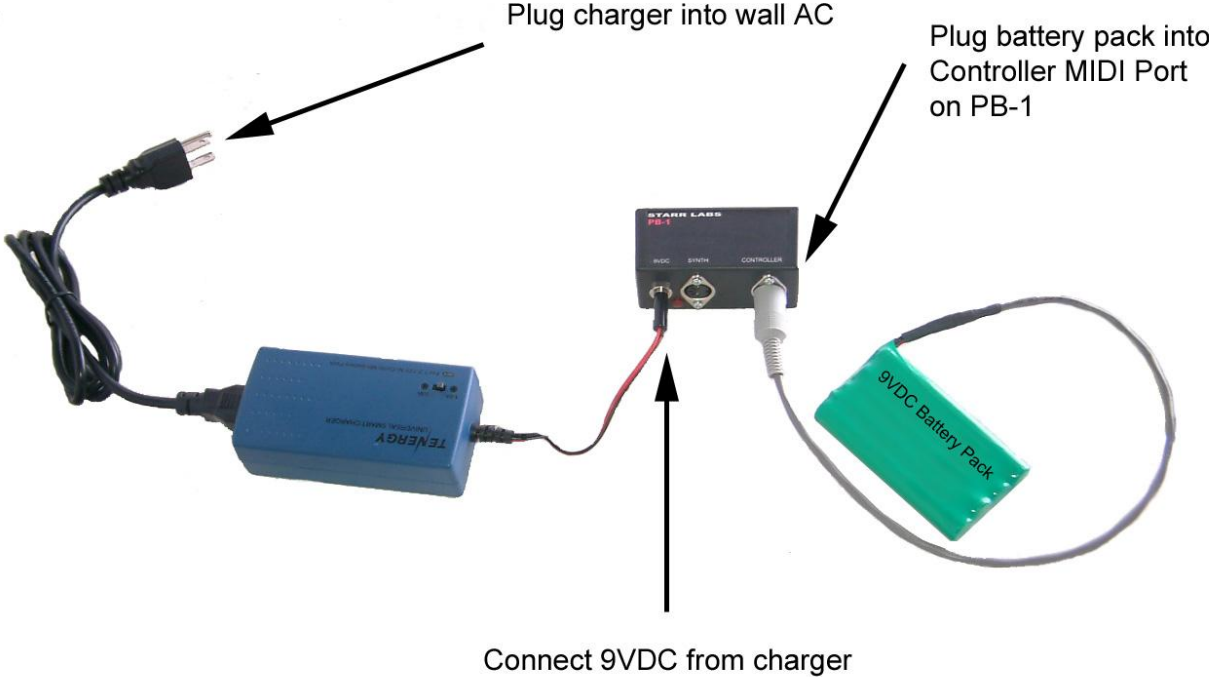
Z7S Rear Panel

Power Connections:

The Z7S can be powered by either
A) "phantom" power through the MIDI Output cable or
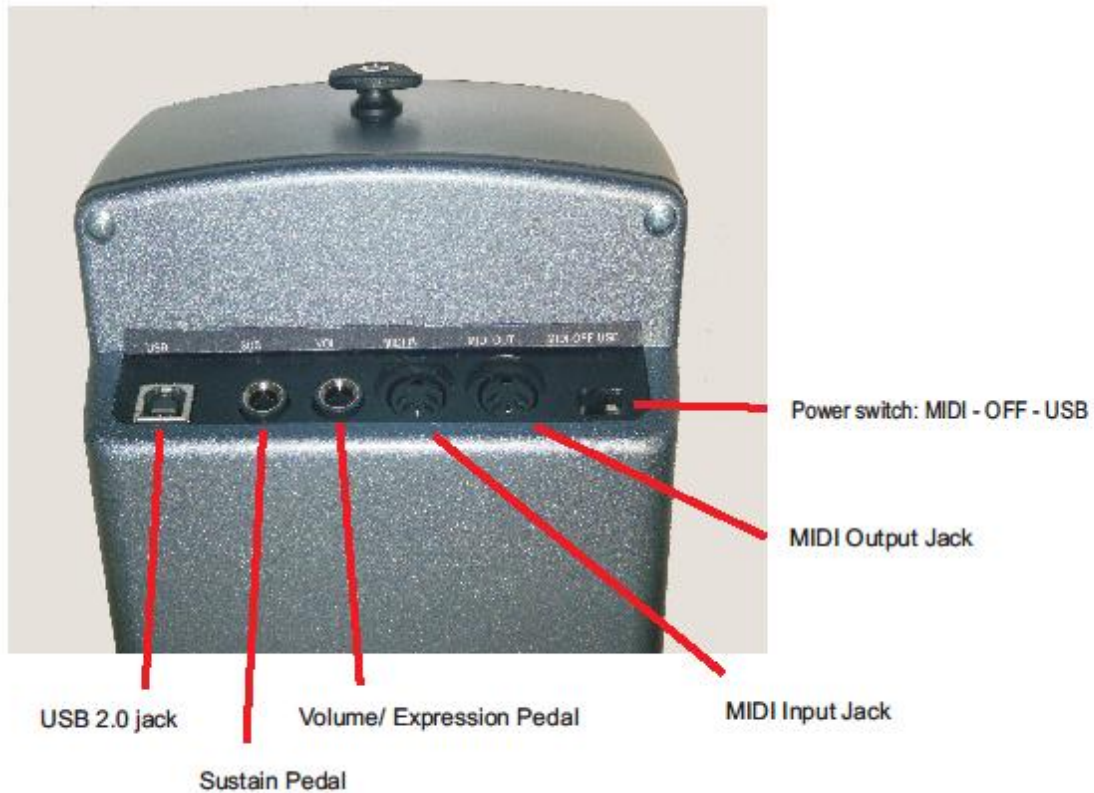B) USB from a host computer.

To connect to a MIDI system, attach a MIDI cable [make sure the cable has all five wires connected from end-to-end] from the MIDI Out port on the Z7S to the "Controller" port on the PB-1 Phantom Power Adapter. Press the power switch in the MIDI direction to power up.

To connect to a USB system, attach a standard USB A/B cable from the USB port on the Z7S the USB port on your host computer. Flip the power switch in the USB direction to power up.

String Trigger Gain Adjustments:

You may adjust the gain for each of the String Triggers to achieve a response that is best suited to your playing style. A single-turn trimpot is provided inside the Z7S for each String Trigger which may be accessed through the adjustment slot in the rear panel. A clockwise adjustment provides more gain.

BabyZ Rear Panel

Power switch: MIDI - OFF - USB

MIDI Output Jack

USB 2.0 jack

Volume/ Expression Pedal

MIDI Input Jack

Sustain Pedal

Connect a MIDI cable from the MIDI Out jack to your Pb1 power adapter to provide phantom power to the instrument. Set the power switch in the MIDI position.

Connect a USB cable from the USB jack to your computer to provide USB power. Set the power switch to the USB position.