ZDS Shifter

Owners Manual

Model I

Contents

Overview

The Shifter combines the features of four products into one compact device!

1. **<u>Power brick</u>**. When powered from the DC jack, the Shifter can be used in place of your Zendrum's power/merge brick.
2. **<u>MIDI to USB adaptor</u>**. You can connect the Shifter directly to your computer to have it receive your MIDI performance data.
3. **<u>MIDI Change Controller</u>**. The two footswitches are programmable CC controls.
4. **<u>MIDI filter</u>**. The Shifter supports up to 112 "shift" rules, which you use to alter or augment your MIDI performance.

You can use the Shifter's filter capabilities to convert one MIDI message type to another or to change the values of individual messages. For example, you might have a rule that converts all snare hits to cross sticking when enabled or to have a cymbal edge play as a choke.

You can also create rules that allow you to stack notes. You could, for example, have it so that a certain crash cymbal automatically plays a kick note when struck. The shift rules are limited only by your imagination!

Physical Elements

Top

A	Footswitch #1	
B	Footswitch #2	
C	Power/activity light	
D	Footswitch #1 indicator light	
E	Footswitch #2 indicator light	

A	MIDI Out/through
B	MIDI In (instrument)
C	USB (to computer)
D	DC Power connection. 6 to 12V, center positive

Hooking Things Up

Power

The Shifter can be powered by either the DC power jack or via USB. Please be aware that the USB jack alone cannot reliably power your Zendrum. If you need to send power to your Zendrum through the MIDI In jack, then you'll need to use the DC adaptor to provide the minimum 6 Volts of power it requires.

You should use the power adapter provided with your Shifter, however, any adaptor in the 6 to 12V range will work. Please be sure the adaptor you

use is marked "center positive", which generally is indicated by the symbol

$\ominus\!-\!\bullet\!-\!\oplus$

> Many 9V (and Roland/BOSS) adaptors are center *negative*, and should not be used.

MIDI In

Connect your Zendrum or instrument to the MIDI In jack, which can be identified by the symbol ⬏●.

Take care when connecting non-Zendrum instruments as phantom power is always delivered through the MIDI In jack. This typically won't be a problem for most devices as the two pins used to deliver power are usually ignored.

MIDI Out

If your sound source requires a MIDI Din connection, then hook it up to the Shifter's MIDI Out connection, identified by the symbol ●⬏. This jack also doubles as a (soft) MIDI Thru port.

USB

The USB connector is used to connect the device to your computer if you are using it as a sound source. The USB connection is also used to program your device via the ZDS Shifter Web Application.

The USB port can also power the Shifter, however, it cannot also power your Zendrum. If you are using wireless or are powering your Zendrum from a battery or elsewhere, then powering the Shifter from the USB port alone is perfectly fine.

Operation

Once programmed, you interact with the two footswitches to generate CC messages or to enable/disable your shift rules. The two LEDs marked **FS1** and **FS2** turn on to indicate those foot switches are active. The **power LED** also functions as the MIDI activity light and will flicker whenever MIDI messages are detected.

Setting up Mappings

The Shifter supports ZenEdit style module mappings. These mappings are used to display actual instrument names instead of MIDI note numbers and make it more intuitive to program your Shifter.

The Shifter interface contains mappings for many popular sound modules and VSTs. You may also import your own mappings (which you can export from either ZenEdit or the Restomp application).

To set up your channel mappings, click on the link at the top of the group grid. Initially, this link will display 'General MIDI' as this is the default mapping used by the Shifter for MIDI channel 10 (drums). Clicking the link will display the channel mapping interface where you can select which module to use for each channel you care about.

Channel Mappings

1		9		
2		10	General MIDI	
3		11		
4		12		
5		13		
6		14		
7		15		
8		16		

MANAGE USER MAPPINGS...   CLOSE
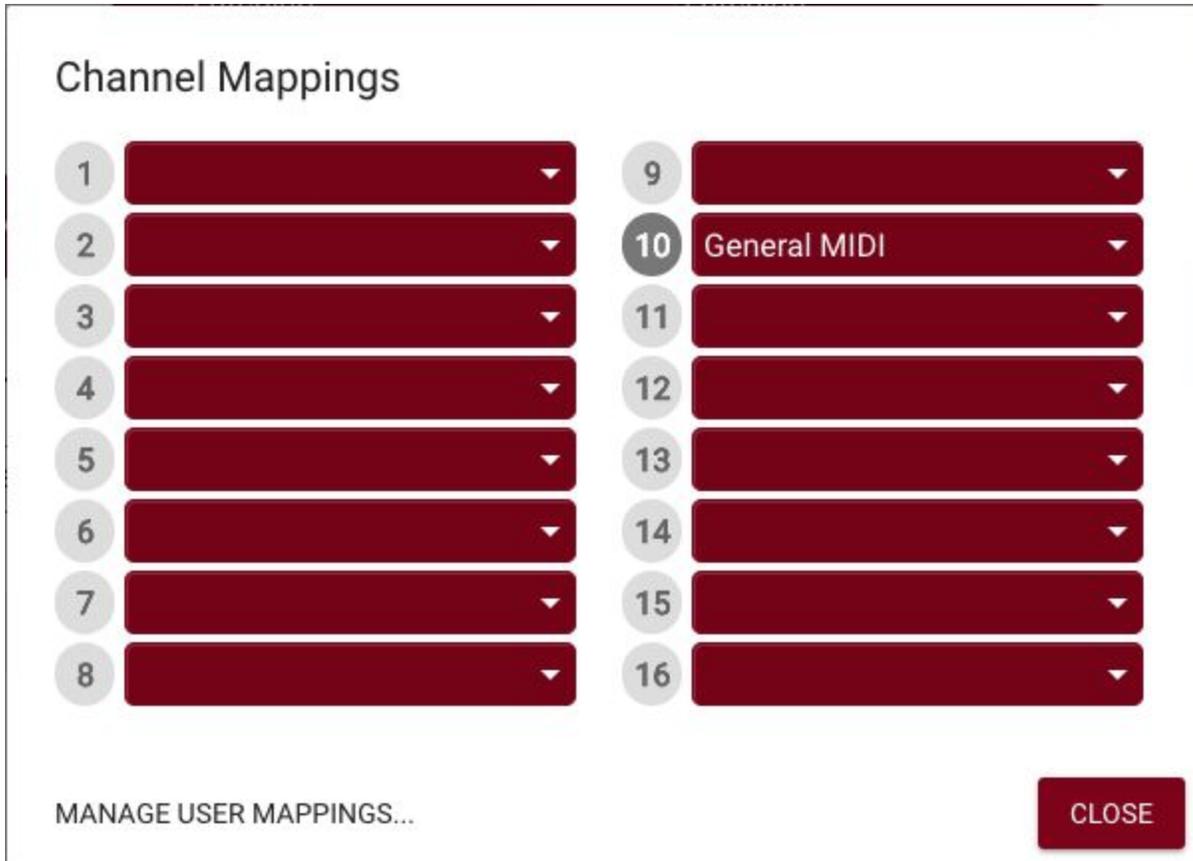
To import your own mappings, click the button in the lower left labeled 'Manage User Mappings'. This will display the list of mappings you've imported (if any) and controls to import your own files.

The mapping you select for each MIDI channel is used in the shift rule grid and 'new rule' dialogs to display the instrument name for Note ON and Note Stack MIDI messages.

Programming the Shifter

Programming the Shifter requires that either Google Chrome or the Opera web browser be installed.
Connect your Shifter to your computer using a USB cable and navigate to the [ZDS Shifter Web Application](#).

The application is split into two sections. The top section contains a visual representation of your ZDS Shifter and is where you can set up how the foot switches behave. The lower section is where you program your shift rules. For convenience, these rules may be grouped into up to four different groups, each of which can be controlled by a different CC message.

Shift Rules

A shift rule works on a single message type and value. They have an *input* and an *output* definition. The Shifter compares each MIDI message it receives against the list of active shift rules. Any messages that match the rule *input* are altered so that they match the *output*.

For a rule to be applied to a message, the *input* must match the **message type**, **channel** and **value**.
The output of the rule can change some or all of these parameters.

Consider this example (utilizing BFD3):
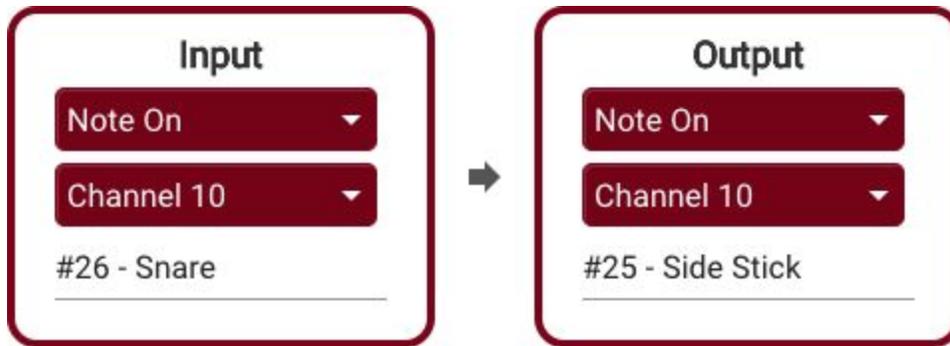
This rule states that any Note On message for snare hits (note #26) should be replaced with cross stick hits (note #25), whenever the group CC is active. (NOTE: you do not have to add an additional rule for Note Off -- these are handled automatically)

Rules can be used to alter Note On messages like this, or they can be used to completely alter the message type.

Consider the following:
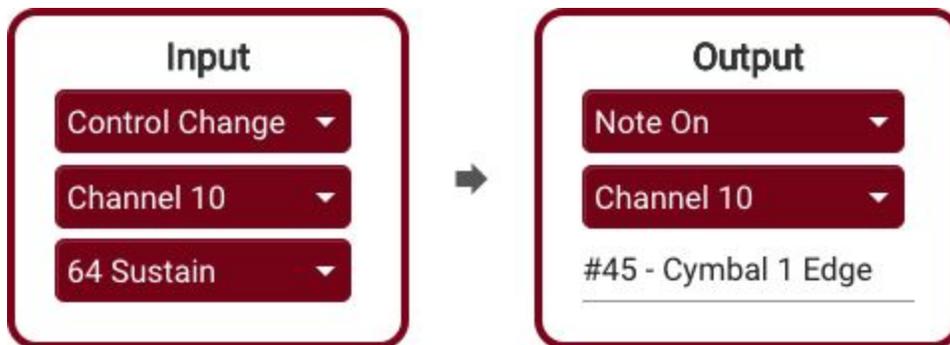
This rule will turn any CC #64 messages it sees into cymbal hits (the value of the CC message becomes the velocity value for the hit).
Practically any MIDI message can be turned into another using shift rules.

Lastly, there is a new message type defined to handle note stacking. Whenever the Input message type is **Note On**, then it is possible to select '**Note Stack**' as the output type, and select an instrument name as in this example:
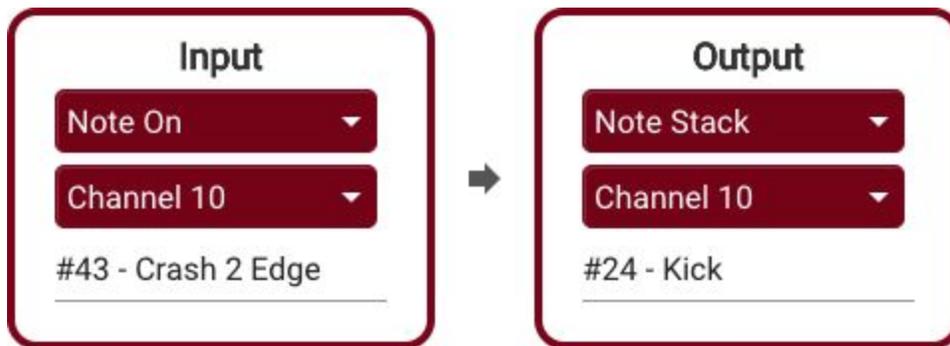
Here we're having the Shifter automatically play a kick drum sample whenever a crash cymbal is hit. This effectively enables layer stacking for any sound source!

Adding rules

Within each group tab is a button to add new rules.

Click this button to display the rule editor.

The rule editor is split into Input and Output sections. For each rule, the Shifter listens for messages that match the defined Input and when it finds any, it changes them to match the Output definition.

Deleting rules

At the far right of each rule is the delete button ⊠
The application will ask you for confirmation before removing the rule.
Deletions cannot be undone so be sure to backup your settings should you need to recover them later.

Rule Groups

Your ZDS Shifter supports up to four **rule groups** which are represented by the tabs in the interface, labeled 'Group A' through 'Group D'.

Each group is turned on/off by a specific CC message. These typically are controlled by the footswitches and you'll set the CC message and channels to match.

Activated by CC: 110 Shift 1 ▾   Channel 10 ▾

Note however that the groups are not limited to responding only to the footswitches. You could for instance setup the momentary switch on your Zendrum to control one or more of the groups. So long as the groups see a MIDI message appear for the **CC message** and **channel** it is listening for, it will activate, regardless of what device generated it.
Be aware also that more than one group may be set up to respond to the same CC message. How you distribute shift rules and arrange your groupings is purely a matter of taste.

Controlling the power/activity LED

The power LED also doubles as a MIDI activity indicator. Its default mode is to remain lit when power is present and to flicker when there is MIDI activity. You can change the mode by opening the menu next to the LED indicator.
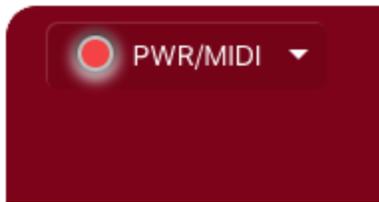
The available modes are as follows:

Flicker on activity; Normally ON	Default mode. The LED remains lit as long as there is power. It will flicker when there is MIDI activity.
Flicker on activity; Normally OFF	The LED will not light up when there is power, however, it will flicker when there is activity.
Always ON	The LED will always be lit when the unit is powered up.
Always OFF	Disabled. The LED will not light and will not flicker.

Experiment with these modes if you find the flickering or power light to be distracting.

Controlling MIDI Out

Your Shifter will transmit MIDI on both the DIN and USB ports by default. You can take control of which ports are used which will be helpful when setting up complicated MIDI pathways.
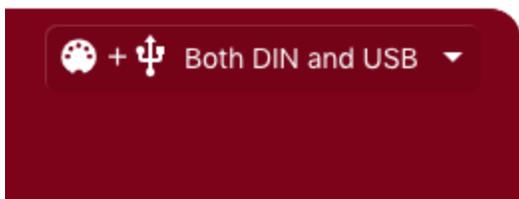

Use the menu to enable MIDI out on either the USB port, the DIN port or both.

Footswitch Setup

Each footswitch is a programmable CC control. By changing the settings associated with each switch, you can control which CC message is emitted when you depress the footswitch, and how it toggles between enabled and disabled states.

There are four settings for each footswitch you can set, all located at the top half of the client application.
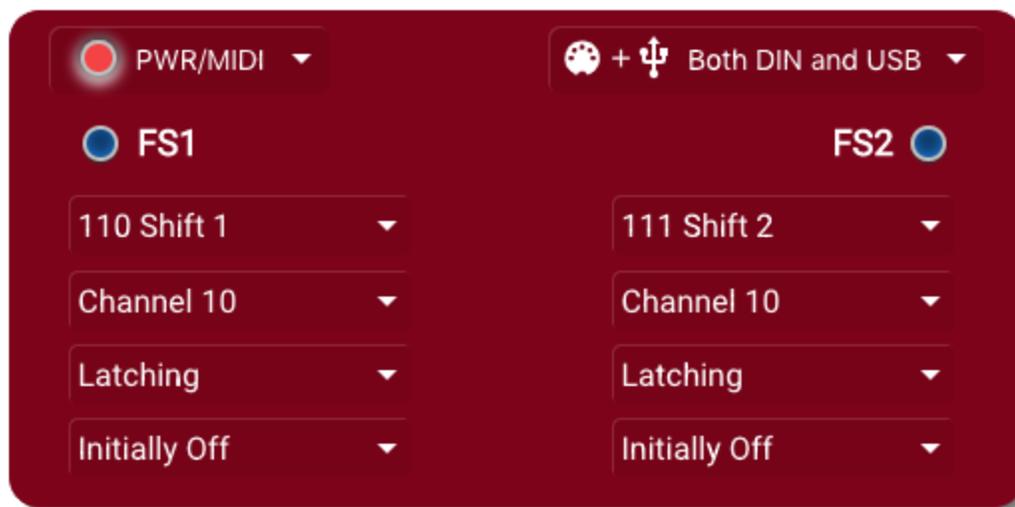
The first two settings are for the CC **message** and **channel**. By default, the shifter associates the four shift groups with CC values 110 to 113 (labeled as 'Shift 1' to 'Shift 4') but you are free to choose any CC number you wish. The channel also defaults to 10 (drums) but here again, you are free to change the channel for either footswitch.

The third setting controls whether the footswitch will be **'latching'** or **'momentary'**. When set to latching, the control will turn on when you depress the footswitch once, and then turn back off when you step on it

again. A momentary switch is only on as long as the footswitch is depressed, and turns off as soon as you lift your foot. Which you choose will depend completely on your style of play and circumstances. If you need to frequently switch between CC states, you may find that the momentary action makes more sense. If on the other hand you only need to change states once in a while or once per song, then the latching behavior would be better suited.

The final setting for the footswitches is "**polarity**". This controls whether the CC starts off as enabled or disabled when the Shifter is turned on. The default is 'initially off', meaning the CC will turn on when you depress the switch. Alternatively, you can set this to 'initially on', meaning the CC message will turn off when depressed. Which you choose is again dependant on your needs and situation.

NOTE: The Shifter must reboot whenever the footswitches or power LED settings are modified. The reboot is automatic but be aware that the interface will go gray for a couple seconds while this is happening.

Backup and restore

To access the backup and restore features, click on the menu icon ⋮ in the upper-righthand corner.
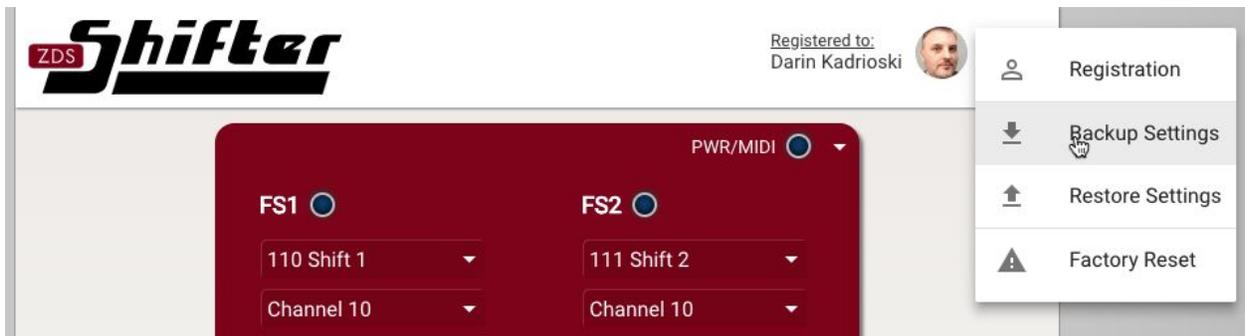
Choose 'Backup Settings' to download the internal state of your ZDS Shifter. The 'Restore Settings' feature can later be used to reload those saved settings. This is useful if you have created a complicated set of shift rules and want to have your work backed up somewhere. It also is useful if you use different sets of rules for different gigs or situations.

Factory Reset

Should you ever need to, you can click on the menu icon ☰ in the upper-righthand corner of the application to access the 'Factory Reset' feature. This will erase all programmed shift groups and return the foot switches and power LED to their factory default settings. This is not a reversible action so be sure you have backed up your settings prior to resetting.

The application will ask you to confirm this action before performing the reset operation.