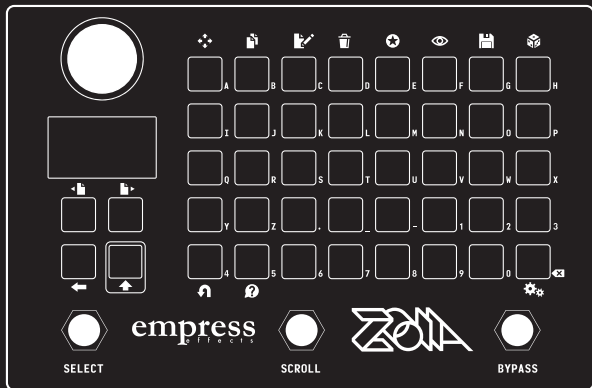**empress**
effects

USER_MANUAL
FIRMWARE_VERSION_1.13

FOR SUPPORT AND TO REPORT BUGS
Please Call 1-855-ZOIA-SOS (1-855-964-2767)
or email support@empresseffects.com

FOR FIRMWARE UPDATES
www.empresseffects.com/ZOIA-firmware

FIND GREAT ZOIA PATCHES
www.patchstorage.com/platform/ZOIA

TO UNDERSTAND WHAT ALL THE VARIOUS MODULES DO, CHECK OUT THE MODULE INDEX
www.empresseffects.com/ZOIA-module-index

TO MAKE FEATURE REQUESTS, JOIN OUR IDEA FORUM
www.empresseffects.com/idea-forum

FOR HELPFUL TIPS AND TRICKS
www.empresseffects.com/ZOIA-tips-and-tricks

JOIN THE EMPRESS ZOIA USERS FACEBOOK GROUP
www.facebook.com/groups/EmpressZOIAUsers

JOIN THE DISCUSSION ON REDDIT
www.reddit.com/r/ZOIA

TABLE OF CONTENTS

INTRODUCTION

WHAT IS ZOIA?

ZOIA is an open canvas to paint your sonic ideas. FM synthesis, CV tools, MIDI tools, audio effects, interface options – all at your fingertips. ZOIA transforms the rigmarole of interfacing a studio full of music gear and condenses it into one handy little box, which you can then interface with your own studio full of music gear.

In short, ZOIA is an infinite trick pony whose utility is limited only by your imagination. We're stoked you've chosen to make the Empress ZOIA a part of your life! Please enjoy responsibly.
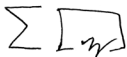
Steve Bragg
Designer

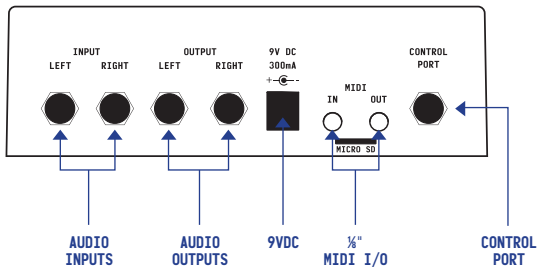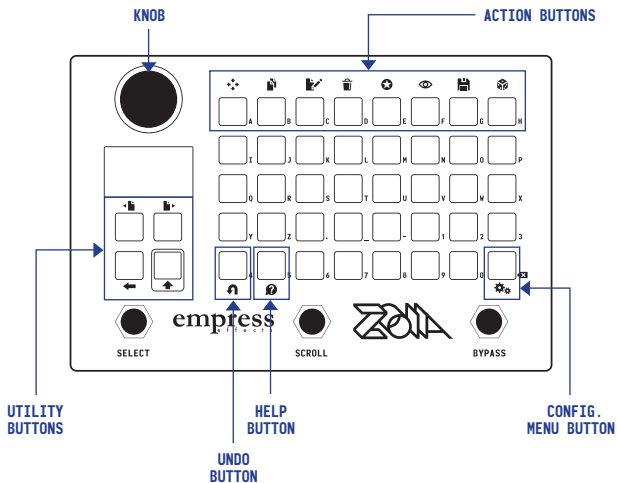**Jason Fee**
Designer

THE BIG PICTURE

The ZOIA is, in essence, a fully featured modular synthesizer in pedal form. Modules are laid out on the button grid, with each module consisting of a number of parameters. Each parameter is represented by a button on the grid which accesses a specific function of that module.

The button grid represents one page within a patch. When you save a patch, it saves to ZOIA's internal memory each page you've created, along with all of the modules you've added, parameters you've changed, and connections you've made. You can then go on to create a whole new patch and use the stompswitches to navigate between them.

If you are familiar with guitar effects but don't have much experience with synthesizers, the ZOIA might seem a little scary, but the good news is that guitar effects are built using the same basic blocks that make up modular synths. For instance, the tremolo effect is just a VCA (voltage-controlled amplifier) being controlled by an LFO (low-frequency oscillator). A delay effect is just a delay line with its output fed back into its input. To jazz it up, you can put a filter in the feedback loop, maybe modulate the delay line length with an LFO and voila - you've created your own tape delay emulation! We've stacked the ZOIA with a plethora of pre-built effects, but all of the basic building blocks are there as well for your sonic experimentation.

Instead of thinking of the ZOIA as simply a pedal, it is probably more accurate to think of it as a platform. It provides the basic tools so that you can build your own effects, synths, and instruments.

PEDAL LAYOUT

KNOB

ACTION BUTTONS

A B C D E F G H
I J K L M N O P
Q R S T U V W X
Y Z 1 2 3

empress

ZOIA

SELECT

SCROLL

BYPASS

UTILITY
BUTTONS

HELP
BUTTON

CONFIG.
MENU BUTTON

UNDO
BUTTON

INPUT
LEFT   RIGHT

OUTPUT
LEFT   RIGHT

9V DC
300mA

MIDI
IN   OUT

CONTROL
PORT

MICRO SD

AUDIO
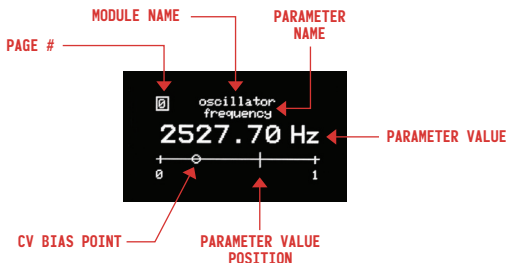INPUTS

AUDIO
OUTPUTS

9VDC

⅛"
MIDI I/O

CONTROL
PORT

SCREEN LAYOUT

There are many ways ZOIA displays information on the screen. Here are two of the most common views.

PAGE #   PATCH NAME

PATCH #   CPU USAGE
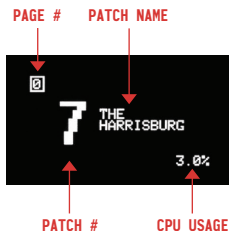
The patch screen (above) is visible when no module, list, or connection is selected. It gives you general information at a glance as to the patch you're on and the performance of the ZOIA. You can always get to the patch screen by pressing the ← back button several times.

PAGE #   MODULE NAME   PARAMETER NAME   PARAMETER VALUE   CV BIAS POINT   PARAMETER VALUE POSITION

The parameter adjust screen (above) appears when
you select a button within a module. The CV bias point is
represented by the small circle, and the parameter value
position is represented by the small line. When an incoming
CV signal from a connection changes the parameter, you'll see
the bias point stay in position while the line moves according
to the change. See Signals, page 14 for an explanation of what
a CV signal is.

CONTROLS

THE KNOB

The rotary ⦿ knob is used for many different interactions with the ZOIA. Navigate between and select patches, options, pages, modules, or connections. Dial in parameters within modules, or move a cursor around while typing. Hold the ⦿ knob down while turning to fine tune a parameter. Hold ⬆ shift while turning for a super fine tune.

ACTION BUTTONS

Move
Moves modules, pages or patches.

Copy
Copies modules, pages or patches.

Edit
Edits modules, page names or patch names.

Delete
Deletes modules, pages or patches.

Star
Press star on a parameter or connection to add it to the starred list. Press star with nothing selected to view the starred list. See Starred List, page 26.

View

Cycle through screens of the selected parameter.
View its value, audio/CV visualization, or connection list.

Save

Save pages or patches.

Random

Randomly modifies a parameter or connection.

UTILITY BUTTONS

Page Left/Right

Scroll to next/previous page.

Back

Back out of active selection or menu.

Shift

Hold to access action buttons or to capitalize text.

*Note: Auto-shift feature inverts function of this button
for the top row of the button grid. This allows one-touch
interaction with the action buttons. When Auto-shift is
active, hold shift to access grid buttons as normal.
See Config Menu, page 28.*

OTHER BUTTONS

Undo
Undoes the last action if it's one of the following: add/modify/delete connection, add/move/copy/delete module, modify parameter. *(Not yet implemented as of firmware 1.13. Currently in development.)*

Help
Press for help on currently selected item.

Backspace
When typing, delete character at cursor.

Config
Press ⬆ Shift and ⚙ Config to open the config menu. See Config Menu, page 28.

STOMPSWITCHES

The stompswitches can be used to navigate through and select patches. This can be done in two different ways – Scroll Mode or Bank Mode. You can choose which mode to use in the Config Menu under Patch System.

In either mode, the four grid buttons below the screen indicate whether the pedal is bypassed or engaged. They will be lit red when bypassed, and green when engaged.

SCROLL MODE (DEFAULT)

In Scroll Mode, the stompswitch functions correspond to their labels.

BYPASS

The ⬡ bypass switch bypasses the unit, much like a standard guitar pedal.

SCROLL

Press ⬡ scroll to cycle up between patches, or ⬡ select and ⬡ scroll together to cycle down. You can set the maximum number of patches to scroll through in the Config Menu. Engage your selected patch by pressing ⬡ select.

SELECT

This switch will engage the patch you are on as selected by the ⬡ scroll switch. In Scroll Mode, the ⬡ select switch has no other function than to interact with the ⬡ scroll switch.

This makes it an ideal choice for use with the stompswitch module, which can be done by selecting stompswitch: left as you place the module.

BANK MODE

Bank Mode will allow you to quickly switch between 3 different patches on the fly. Each bank consists of 3 patches, organized 1–3, 4–6, 7–9, and so on.

To select and engage a patch, press the corresponding stompswitch. Press the stompswitch again to bypass that patch.

To change banks, press together either ◉ scroll and ◉ bypass (bank up) or ◉ scroll and ◉ select (bank down). Press any stompswitch to engage one of its patches, thereby selecting that bank.

You can select the maximum number of banks to scroll through in the Config Menu.

ENTERING AUXILIARY MODE

All three of these switches can be interfaced to perform functions using ZOIA's stompswitch module. However, since the ◉ bypass and ◉ scroll switches have primary functions, they must be toggled to auxiliary mode to function in this way. This can be done by holding ◉ bypass and ◉ scroll together for one second until the ⬆ shift button turns cyan. ZOIA's stompswitch module will now respond to the ◉ scroll switch (middle) and the ◉ bypass switch (right) for use within the grid. Hold them together again to return them to normal functionality.
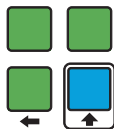
EXTERNAL SWITCH

You can also connect an external footswitch through the Control Port. For information on how to set up an external footswitch, .

THE BASICS

SIGNALS

Each button of a module has several characteristics. With a few exceptions, each button of any given module acts as either an input or an output of either an audio or a CV path.

Audio signals flow from the output button of one module to the input button of another module. Audio processing occurs as the audio goes through the module and the altered audio comes out of the output, much like a standard guitar pedal or synth module. Analysis modules analyze audio signals in some way and output CV signals.

CV (control voltage) signals in the ZOIA are a lot like the CV signals you may be familiar with from the synth world. They are a means of transmitting information from one module to another, or put more simply, they allow you to control various module parameters. You can think CV almost like an automatic expression pedal; as the CV signal sweeps from it's low range to it's high range (and vice versa), it modifies the parameter it's connected to. In the synth world, CV signals range from –15 volts to +15 volts. In the ZOIA however, CV signals range from 0 to 1, or in some cases from –1 to +1. If a

button is a CV input, it can be connected to other buttons that are CV outputs. Each CV input button also has a bias value that can be set by pressing the corresponding button and twisting the knob. The bias value determines the starting point of the CV signal. For example, setting a bias value of +0.5 would limit the range of the CV signal from +0.5 to +1.

MODULES

A module is a collection of inputs, outputs, and parameters, each of which is represented by a button on the grid. Many modules have various optional parameters so you can tailor them to your needs. Individual modules can be renamed, and you can also choose a module's colour so that it's easy to identify on the grid. The number of buttons a module occupies is determined by the number of inputs, outputs, and parameters it has. See the Module Index at www.empresseffects.com/zoia-module-index for a complete description of all the modules and their parameters.

MODULE CATEGORIES

Interface Modules: modules that import the audio, control voltage, MIDI, stompswitch, expression pedal or grid button presses from the outside world for use in the ZOIA.

Audio Modules: these audio processing modules are more commonly found in the world of modular synthesis. VCAs, filters, oscillators, and many more utilities and effects.
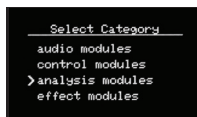
Control Modules: modules that generate and manipulate CV signals within the ZOIA. Sequencers, LFOs (low-frequency oscillators), and ADSRs (attack-decay-sustain-release) are classic examples of control modules.

Analysis Modules: modules which take in audio and analyze it in some way, outputting a control voltage signal.

Effect Modules: pre-built effects, such as modulations, reverbs, distortions etc.

ADD A MODULE

1. Select where the module will go by pressing an empty grid button.

2. Select the category of the module you wish to add.

3. Select the module you wish to add.

4. Edit the options of that module and select "Done?" For more information on how to edit options, see the "Edit a module" section below.

```
___ Select Category ___
audio modules
control modules
>analysis modules
effect modules
```

```
___ Select Module ___
phaser
>chorus
vibrato
flanger
```

If you find you don't like the placement of the module once it's laid down, don't worry. You can move it after by using the ✣ move key.

SELECT A MODULE

Press one of the grid buttons occupied by the module. That button will light up, allowing you to adjust its parameter. This also selects the whole module for moving, copying, or deleting.

EDIT A PARAMETER

Select a grid button on the module
and use the rotary ● knob to modify
the value of the selected parameter.
Hold the ● knob down while turning
to fine tune a parameter. Hold ⬆ shift

while turning for a super fine tune. On certain modules you
can click the ● knob to change the way information is
displayed.

EDIT A MODULE

Select a module and press 🖊 edit.
Scroll to the option you'd like to edit and
click the knob. Once you've found your
desired value click again to select it. Be
sure to select "Done?" when finished, or
the changes you made will be forgotten.
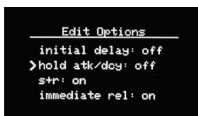
DELETE A MODULE

Select a module and press 🗑 delete.

MOVE A MODULE

Select a module and press ✜ move. Press an unoccupied
grid button where module will fit. To move the module to
a different page, simply select the module, press ✜ move,
navigate to the destination page, then press an unoccupied
grid button.

COPY A MODULE

Select a module and press 📄 copy. Select where you want to place it on the grid, then from the menu, select which connections, if any, you'd like to keep for the new module, then select "Done?". To copy a module to a different page, simply select the module, press 📄 copy, navigate to the destination page, then press an unoccupied grid button.

Note: If you place, move, or copy a module into a space where it doesn't fit, it will overlap a previous module, wrap itself to the next row of buttons, or lose some buttons at the bottom corner of the page. Use a new page instead if you need to.

CONNECTIONS

A connection links one button to another. Use them to allow modules to interact with each other or themselves. Think of a connection like a patch cable. For example, you can connect an oscillator to a VCA, a stompswitch to a tap tempo, or you can feed a delay line back on itself to create repeats. Be extra careful when connecting an audio module's output back into its own input. This will create a feedback loop, and while it can be useful, it can also get out of hand very quickly!
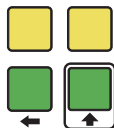
MAKE A CONNECTION

When two parameters (buttons) you wish to connect are on the same page, hold them down at the same time. The screen will show you what you're connecting. Turn the ⬤ knob to adjust the strength of the connection, or click the ⬤ knob to change units. When two modules you'd like to connect are on different pages, press one button, move to the other page and press the other button.


Note: whether bypassed or engaged, changing pages with a parameter selected will display two yellow LEDs to indicate that you're about to make a connection. You can make this connection or cancel by pressing ⬅ back.

SELECT A CONNECTION

Press both buttons if on the same page, or press one, then the other if the connection is across pages. From this state you can adjust the strength of the connection by turning the ⚪ knob.

```
___Connection List___
>oscillator fre: 141
 adsr attack: 100
```
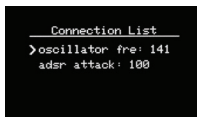
You can also select a connection by switching to that parameter's connection list. Press the grid button and press 👁 view until you see the connection list screen. From here you can adjust the strength of each connection listed by using the ⚪ knob. Highlight a value, click adjust, make your adjustment and click again to save or press ⬅ back to cancel.

DELETE A CONNECTION

This can be done by selecting the connection and pressing 🗑 delete.

SEE WHAT IS CONNECTED TO A MODULE PARAMETER

When you press a button, all the buttons it's connected to will light up. You can also see which connections exist in the connection list screen.

SET YOUR CONNECTION STRENGTH

When using connections to alter parameters, it's important to understand how changes will affect your module. The first step is to set your destination parameter to your desired CV bias, which is the point that will either be its minimum (if you apply positive CV), its maximum (if you apply negative CV),

its midpoint (if you apply CV that swings between positive and negative), or its resting place (in the absence of applied CV). Once that is set, the connection strength you set with the ● knob will determine how far in any given direction your parameter will travel. Click the ● knob while making a connection to toggle between seeing your connection strength expressed as a % (useful for CV connections) and a dB value (useful for audio connections).

Note: You cannot set a bias point for audio connections.

Note: While you can make module connections across pages, you cannot make connections across patches.
See Patches, page 24.

ENTERING PERFORMANCE MODE

You may wish to prevent ZOIA from creating new connections or deleting existing modules during a live performance. Performance mode helps prevent accidental unwanted changes and lets you focus on your set. You can toggle this mode on and off by pressing ⬆ shift and ⬅ back. You will see the back LED turn magenta to denote that perfomance mode is active.
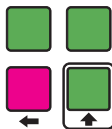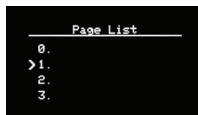
PAGES

A page is represented by one full 8x5 grid of buttons. Each patch can contain up to 64 pages, numbered 0 through 63. Each page can be named, and connections can be made across pages.

PAGE LIST

Press ◄📄 page left or 📄► page right to enter and navigate through the page list.

```
       Page List
  0.
 >1.
  2.
  3.
```

SELECT A PAGE

While in the page list, navigate to the desired page and click the ⬤ knob.

NAME A PAGE

Scroll to a page in the page list and press ✎ edit. From here, you can type in your desired page name. Click the ⬤ knob to confirm the name or press ◄ back to cancel. Make sure to save your patch or the name will not be saved. See Typing Text page 30 for more information.

```
       page name
        voice1_
```

MOVE A PAGE

Scroll to the page you want to move. Press ✛ move. Now select another page. The page that you are moving will be inserted in front of the second page that you select.

```
  Move page 4 before:
  2. voice 2
 >3. sequencer
  4. drums
  5.
```
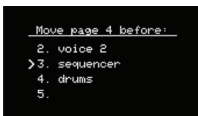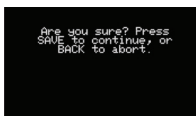
COPY A PAGE

Scroll to the page you want to copy.
Press 📄 copy. Now select another
page. The page that you are copying
will be inserted in front of the second
page that you select.

DELETING A PAGE

Press ◄📄 page left or 📄► page right to
enter the page list, scroll to the page you
wish to delete and press 🗑 delete.
You will be asked to confirm the deletion.

IMPORTING A PAGE

Press ◄📄 page left or 📄► page right to enter the page list,
scroll up to Import Pages, and click the ⬤ knob. From there,
select which patch you'd like to import pages from and click
the ⬤ knob again. ZOIA will show you a list of all the pages
within that patch. Using the ⬤ knob, put a star beside all
desired pages and click Selection Complete. ZOIA will ask
where in your current patch you'd like your pages to go. Click
your desired page slot, and ZOIA will push any pages after it
down the line to make space. All existing connections within
and between pages will be preserved after the Page Import.

PATCHES

A patch represents the entire collection of pages in your page list, including all modules, connections, button values, and page names that you've created. Think of it as the project file that encompasses the whole of your work that you can then save, name, and navigate between using either the knob or the stomp switches.

NAME A PATCH

With no module selected, press
✏️ edit. From here, you can type in
your desired patch name. You can also
select a patch from the Patch List and
press ✏️ edit. Click the 🔴 knob to
confirm the name or press ← back to cancel. Make sure to save your patch or the name will not be saved. for more information.

SAVE A PATCH

Whether a module is selected or not, you can save your patch by pressing 💾 save. It is always a good idea to save often.

Note: Saving a patch will write to ZOIA's internal memory, but it won't write to the SD card until prompted to in the config menu. It's a good idea to save edits to patches with a version number as part of the file name to prevent accidental overwriting. (ie. Hot Fuzz 3)

SELECT A PATCH

There are three ways to do this:

1. **Knob method**: With no module selected, you can use the ● knob to scroll through your Patch List. Click the ● knob to select a patch, or press ← back to cancel.

```
_____Patch List_____
  5. BitGate VI
 >6. GoldenPhase II
  7. THE HARRISBURG
  8. Tap Ping Trem
```

2. **Stompswitch Method**: Depending on whether you have Scroll or Bank mode engaged, this method will be different. See Stompswitches, page 12.

3. **MIDI Method**: Using an external MIDI controller, you can send the ZOIA a Program Change command on any MIDI channel as selected in the Config Menu.

MOVE A PATCH

In the patch list, scroll to the patch you wish to move and press ✧ move. Then place your patch in the desired location and click the ● knob to save or press ← back to cancel.

COPY A PATCH

In the patch list, place your cursor next to the patch you wish to copy and press 🗋 copy. Then place your copied patch to the location you'd like and click the ● knob to save, or press ← back to cancel.

```
____Copy patch 8 to:__
  3.
 >4. Electric Farts
  5. BitGate VI
  6. GoldenPhase II
```
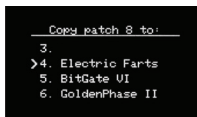
Note: Copying a patch will bump all the Patches under your copy location down by 1 slot, and erase patch 63.

DELETE A PATCH

Scroll to a patch from the patch list and press 🗑 delete. A confirmation screen will come up. Press 💾 save to continue or ← back to abort.
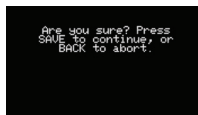
STARRED LIST

When you have a nice big patch built and you'd like to be able to quickly and easily adjust frequently used parameters from the same place, you can add them to the Starred List.

Simply select your desired parameter or connection and press ⭐ star. You will see asterisks around the parameter or connection name, and that parameter or connection will appear in the Starred List.
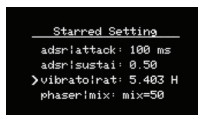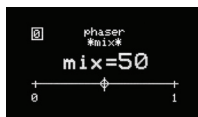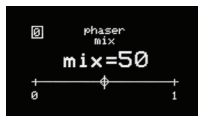
View the Starred List by pressing ⭐ star with nothing selected. You will see a list of parameters or connections you've added in the order you added them. From here, you can make adjustments to them using the ⚪ knob or remove them from the list by pressing 🗑 delete.

STARRED PARAMETER MIDI CC CONTROL

When viewing the Starred List, pressing ⭐ star again
will allow you to view and assign midi CC's to the starred
parameters. Selecting the 'learn' option will assign the next CC
received by ZOIA to that parameter. You can set which channel
ZOIA will listen for starred CC's in the Config Menu.

CONFIG MENU

The Config Menu is the global options menu for the ZOIA. Here, you have access to options that are not specific to modules, pages, or patches.

```
      Config (0.18)
>Save and exit?
 CPort: exp
 Midi Ch: 1
 Patch System: scroll
```

Save and exit?: Press this to save any changes you have made and return. If you press ← back instead, your changes will not be saved.

CPort: Use this to select how you'd like to use the control port. You can connect an expression pedal, a control voltage from 0 to 5 volts, MIDI in and out, or an external switch. See MIDI, page 31 and Control Port, page 32 for more info.

Midi Ch: Select which MIDI channel ZOIA will respond to when sending Program Changes, from 1-16. See MIDI, page 31 and Control Port, page 32 for more info.

Patch System: Select whether you'd like to use Scroll mode or Bank mode for recalling patches with the stompswitches. See Stompswitches, page 12.

Num Patches: This sets the number of patches you can scroll through using the stompswitches (in Scroll mode). The ZOIA can save up to 64 patches (numbered 0–63), though if you don't wish to scroll through a bunch of empty patches, you can bring the Num Patches value down. Remember, you can still select these patches using the Patch List.

Num Banks: Select how many banks to cycle through when using bank mode. Use up to 21 banks, from which you can select 3 patches per bank.

Start Patch: Select which patch you'd like ZOIA to boot into when you power it on.

Start State: Select whether you'd like the ZOIA to start up bypassed or engaged.

Input Pad: Here, you can adjust the ZOIA's input headroom. The default setting is -6dB. If you hear any clipping distortion when feeding your ZOIA a hot signal, you can set the pad to -12dB. If you have a quiet signal and you'd like to increase your signal-to-noise ratio you can select 0dB. Note that the input pad setting affects both inputs.

Auto Shift: Turning on Auto Shift will change the behaviour of the top row of buttons on the grid, so that they will perform their secondary function *without* having to press ⬆ shift. This can be very handy when building a patch. You can still place, edit, and connect modules on that row by pressing ⬆ shift while pressing a grid button. It's basically reversing the behaviour, but only for the top row. We recommend against placing modules like keyboard or pushbutton in the top row if you make regular use of the Auto Shift feature.

Starred CC ch: Select which channel ZOIA will listen to for starred parameter MIDI CC messages.

MIDI Consume: Select the desired MIDI pass-through behaviour. "All" will completely disable any MIDI throughput, "some" will block MIDI signals used by existing modules, and "none" will allow all incoming MIDI to pass through.

Patches to SD: Manually export all the patches from ZOIA's internal memory onto the SD card. You can select an existing folder on the SD card, or create a new one. If saving to

an existing folder, any patch with the same name will be overwritten.

Patches from SD: Manually import all the patches from the selected SD card folder. Each time patches are imported, a backup folder is created that contains the patches currently loaded on ZOIA. The number of backup folders is limited to 256.

DSP Usage: Shows RAM usage, DSP used by the connection matrix, and DSP usage of the individual modules in your current patch.

Factory Reset: Erase all saved patches and reset Config Menu to its default factory setting.

Hide Firmware: This prevents ZOIA from beginning a firmware update during the boot sequence by renaming any detected firmware files on the card .

TYPING TEXT

Use the button grid to enter text when naming or renaming a patch, page, or module. You can enter a space using the _ space key, delete a character using the ⊠ delete key, or enter a capital letter by pressing the ⬆ shift key and the letter. Use the rotary knob to move the cursor around, and click the knob to enter your changes, or press ⬅ back to cancel.

MIDI

PHYSICAL CONNECTIONS

The ZOIA can interface with MIDI in two different ways: using the on-board MIDI ports and with the Control Port.

On-board ⅛" MIDI ports: These can be used with the included ⅛ " to-5-pin dongles. These ports are designed to work with MIDI only and will not respond to CV from your external synth modules. ZOIA uses MIDI Type A spec classification dongles, the same type used by manufacturers such as Make Noise, Korg, Akai, and many others.

Control Port: The Control Port can send and receive MIDI signals on the ring and tip of a ¼" TRS connector, respectively. Remember to set the Control Port to recognize MIDI messages in the Config Menu. The Control Port is a pretty tidy way of interfacing your Empress ZOIA with your super sweet Empress Midibox2. When set to MIDI, using a TS instead of a TRS patch cable in the Control Port will bridge the ring to ground, rendering the ZOIA unable to send MIDI.

CONTROLLING ZOIA WITH MIDI

While any MIDI module can be set to interact with any MIDI channel from 1-16, the ZOIA has some basic functionality that is not directly module related. You can activate patches, bypass, and engage your ZOIA by sending it MIDI messages.

LOAD A PATCH VIA MIDI(PROGRAM CHANGE MESSAGES)

You can activate a patch by sending a MIDI program change message on the MIDI channel selected in the Config Menu. Send the Program Change number that corresponds to the patch you'd like to load, keeping in mind that ZOIA patches begin at number 0.

ENGAGE AND BYPASS VIA MIDI

You can change the bypass state of ZOIA by sending Control Change #60 with a value of 127 (engaged), 0 (bypassed), or 64 (toggle bypass state) on the selected MIDI channel.

CONTROL PORT

The control port jack allows the ZOIA to be controlled by a multitude of devices. Note that the ZOIA can only be connected to one such device at a time, and the device must be selected in the Config Menu.

MIDI

The ZOIA Control Port can receive MIDI messages on the tip of a ¼" TRS connector and send MIDI messages on the ring of a ¼" TRS connector. Note that when the MIDI ports are in use, the Control Port will only be able to send MIDI out, and not accept MIDI in. Be sure to use a TRS connector instead of a standard TS patch cable if you wish to send MIDI messages from the ZOIA.

EXPRESSION PEDAL (EXP)

The ZOIA is compatible with expression pedals that output signal on the tip. You can enable expression pedal functionality into your page using the module "cport exp/cv in" under the "interface modules" list. You can then connect this module to various buttons of other modules including audio effects parameters, oscillator frequencies, VCAs etc. Have fun!

CONTROL VOLTAGE (CV)

With CV control, the ZOIA responds to CV signals from 0 to 5 volts. Otherwise, the CV configuration works exactly like the expression pedal configuration. Integrate CV by first placing "cport exp/cv in" or "cv out" modules on your page. You can then connect these buttons to various other modules. The ZOIA will receive control voltage signal on the tip of a ¼" TRS connector, and it will send control voltage on the ring of a ¼" TRS connector. In this way you can interface your external synth modules to the ZOIA's internal modules. There are tons of possibilities for experimentation! Be sure to use a TRS connector instead of a standard TS patch cable if you wish to send CV from the Control Port, or use an insert cable if your device receives CV on the tip.

EXTERNAL SWITCH

The ZOIA can be used with either a normally-open or normally-closed momentary or latching external switch. Select your switch type as either "open sw" or "close sw". The switch will be read as engaged when there is connectivity between the tip and the sleeve of the TRS jack, so you can use a standard guitar patch cable to connect your switch.

Interact with your external switch by placing the stompswitch module from the "interface modules" category and set the stompswitch option to read external. From there, you can connect this module to anything from tap tempo inputs to sequencers to gain stages. Experiment!

POWERING THE ZOIA

Go to www.empresseffects.com/power for a full list of compatible power supplies.

Please Note: The ZOIA requires at least 300mA of current to function properly. Any power supply rated at 9V DC, supplying negative tip polarity and at least 300mA of current should work.

FIRMWARE UPDATES

PERFORM A FIRMWARE UPDATE

1. Download the firmware file off the website
   www.empresseffects.com/zoia-firmware

2. Copy the .bin file to the root directory of the microSD card. The card must be specifically be SDHC or SDXC, and it must be formatted FAT32, with a single partition.

3. Insert the microSD card then power on the pedal. Make sure that the orientation of the card is such that the pins are facing upward, or else the ZOIA won't see the card.

4. The ZOIA will boot, load, and verify the firmware file. There are two processors on the ZOIA. It will take approximately 40 seconds for the 2nd processor to be programmed.

SAVING AND LOADING PATCHES FROM THE MICRO SD CARD

A user-curated repository of patches can be found at patchstorage.com

You can import and export patches to and from the Micro SD card from the Patches to SD and Patches from SD options in the Config Menu. See Config Menu, page 28 for more information.

Patches being loaded from the SD card to the ZOIA must be prefaced with a 3 digit patch number (ie. 001, 002, 003, etc.) and have a .bin file extension. (ie. 003_Hot_Fuzz_3.bin)

THANK YOU

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LEGAL STUFF

SPECIFICATIONS

Input Impedance: >= 1MΩ
Output Impedance: 100Ω
Frequency Response (–3dB): 10Hz – 23.4kHz
Total Harmonic Distortion: 0.22%
Dynamic Range: 105.5 dBA1
Input Headroom (no pad): +0.5 dBu
Input Headroom (6dB pad): +5.7 dBu
Input Headroom (12dB pad): +10.8 dBu
Output Headroom: +16.2dBu
Power Voltage: 9V DC (center negative)
Power Input Connector: 2.1mm Barrel Connector
Required Current: 300mA
Height (enclosure only): 1.75"
Height (including controls): 2.625"
Length: 5.7"
Width: 3.75"
Weight: 1.5lbs

FOR SUPPORT AND TO REPORT BUGS
Please Call 1-855-ZOIA-SOS (1-855-964-2767)
or email support@empresseffects.com

FOR FIRMWARE UPDATES
www.empresseffects.com/ZOIA-firmware

FIND GREAT ZOIA PATCHES
www.patchstorage.com/platform/ZOIA

TO UNDERSTAND WHAT ALL THE VARIOUS MODULES DO, CHECK OUT THE MODULE INDEX
www.empresseffects.com/ZOIA-module-index

TO MAKE FEATURE REQUESTS, JOIN OUR IDEA FORUM
www.empresseffects.com/idea-forum

FOR HELPFUL TIPS AND TRICKS
www.empresseffects.com/ZOIA-tips-and-tricks

JOIN THE EMPRESS ZOIA USERS FACEBOOK GROUP
www.facebook.com/groups/EmpressZOIAUsers

JOIN THE DISCUSSION ON REDDIT
www.reddit.com/r/ZOIA