

## Xpression fx Enhancer –MIDI

### Description

Xpression fx Enhancer – MIDI, from Oz Inventions, is a xpression pedal to MIDI controller converter. It is compatible with most MIDI devices with a 5-pin DIN MIDI receive socket, including keyboards and effect units.

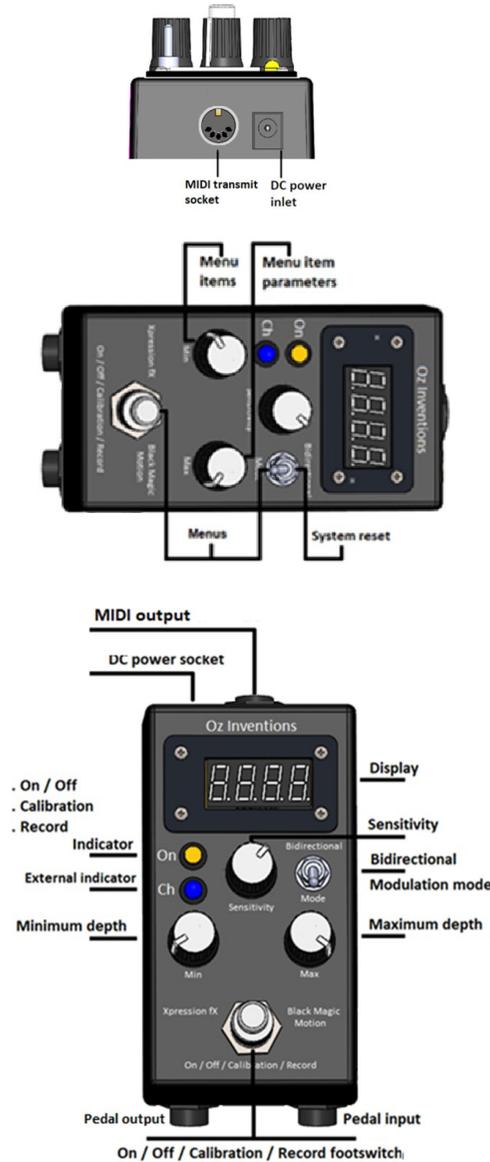
### Important message

- The position of the sensitivity, minimum depth and maximum depth controls are of extreme importance in obtaining the correct amount of control. Having these controls in the incorrect position may mean no control, minimum control or erratic control. If in doubt set minimum depth to minimum, maximum depth to maximum and set the sensitivities as follows.

Mode	Sensitivity function	Suggested start point
Automatic	Step size	0
External	Step size	0
Playback	Trim recording	0

- It is easy to accidentally assign values to the full range of continuous controllers (0 – 119) . So, when changing continuous controller numbers ensure that either the on/off / calibrate, switch is off, or that the continuous controller is disabled. (----). Resetting the receiving MIDI device is an option if this unwanted condition exists.

See the full manual at [www.ozinventions.com](http://www.ozinventions.com)



- Bidirectional switch – Bidirectional sweep
- Minimum depth – sets how low control can fall
- Maximum depth – sets how high control can rise

### Menu access

#### System/ADSR menu entry and exit

- Press and hold on/off/calibrate/recording switch
- Hold mode switch forward and release

#### Step size menu entry and exit

- Hold mode switch forward
- Press and hold on/off/calibrate/recording switch and release

#### MIDI menu entry and exit

- Fully rotate anti-clockwise the maximum depth control
- Press and hold on/off/calibrate/recording switch
- Hold sensor select switch forward and release

#### Preset menu entry and exit

- Rotate maximum depth control fully anti-clockwise (0)
- Rotate minimum depth control fully clockwise (127)
- Press on/off/calibrate/recording switch

### Navigating a menu

The minimum and maximum depth controls function as menu controls when inside a menu. They will retain their depth values when in a menu, but will revert to the knobs current position when a menu is exited. And so they should be returned to the position they were in before the menu was entered.

Use minimum depth to move through menu items and maximum depth to change menu item parameters

### Saving menu parameters

Quit/save is the last menu item in all menus. Select 'Save' in menu, and exit menu to save. This saves all menu settings and calibration settings for the current preset.

### Default settings

The default settings can be restored by resetting the system. (Hold mode switch forward whilst powering on)

System menu items		
Item	Identifier	Range
Use mode	Free / Atg1 / Atg2 / Rec	Free / Atrg / Atg2 / Rec
Logarithmic / Linear scale	Log	- (linear) L (log) A (anti-log)
Trigger level	tL	0 – 99
Record time	Rt	1-99 (x 10 sec)
Reverse sweep	rS	No / Yes
Off Level	L	0–128
ADSR items		
Item	Identifier	Range
Attack rate	Ar	0 – 99 –00 (x 10mS)
Decay rate	Dr	0 – 99 –00 (x 10mS)
Sustain level	SL	0 – 99–00 (x 10mS)
Sustain time	St	0 – 99–00 (x 10mS)
Release rate	Rr	0 – 99–00 (x 10mS)
Scale	SC	1 – 99–00 (x envelope)
Trigger mode	T	nnr / nni/ nnH / nnr
quit / save	quit /save	quit / save
Step size items		
Item	Identifier	Range
Step size	S	0 – 127
Custom step 1	1	0 – 127
Through to	-	
Custom step 16	16	0 – 127
quit / save	quit /save	quit / save

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Preset menu items		
Item	Identifier	Range
Preset	PS	0 – 9
MIDI menu items		
Item	Identifier	Range
Channel	Ch	1 – 16
Program change marker	PC..	NA
Program change value	----	0–127
Program change speed	SP	0–99
Continuous controller marker	CC..	NA
Continuous controller 2	2 -- 4	0 - 119
CC2 value	----	0 – 127
Continuous controller 3	3 -- 5	0 - 119
CC3 value	----	0 – 127
Continuous controller 4	4 -- 7	0 - 119
CC4 value	----	0 – 127
Pitch wheel	P	0 – 127
After touch (channel)	A	0 – 127
Reset volume and pitch*	rv	Yes or No
Reset controllers	rc	Yes or No
All sound off	So	Yes or No
Reset receivers	rS	Yes or No
quit / save	quit/save	quit / save

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## Modes

Modes are accessed via the mode switch in the following order

1. Automatic ADSR (A) - Continuously plays the ADSR envelope using the ADSR settings in the menu
2. External (E) - accepting data from the input jack
3. Playback recorded ADSR (P) - Plays the recorded ADSR envelope as recorded in record mode.

## Reset to default settings

The device can be reset to factory settings by holding the mode switch forward whilst connecting power. The system will be reset to default values when the mode switch is released.

*\*Resetting the pitch and/or volume can be useful. For example, if controlling volume and the volume is at minimum, and then the on/off/calibrate switch is turned off, the volume will remain at minimum. Having 'Reset volume and pitch' to 'YES' will automatically bring the volume back to maximum when the control is turned off. This also needs to be considered when sending data to other continuous controllers as the MIDI data will remain at the last value read before control was turned off.*

See the full manual at [www.ozinventions.com](http://www.ozinventions.com)

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## Operation

1. Access the MIDI menu see 'Menu access' pg 3
2. Set the MIDI channel to match the receiving MIDI device.
3. After the 'CC..' menu item, select a continuous controller (CC) and assign control data to it. Menu item "nmod" (fully right) is mode data, rather than values that are hard set. Exit the menu.
4. Change exit mode from 'quit' to 'Save' and exit the menu by first pressing and holding the on/off/calibrate/record switch and then pulling the mode switch forward
5. Remove power from the controller-receiver
6. Connect the MIDI transmit jack to the receiving MIDI device via a MIDI cable
7. Connect the controller and the device to be controlled to power. Route a parameter on the receiving device to a chosen CC on the transmitting device
8. Set min depth to zero (fully anti-clockwise)
9. Set max depth to 127 (fully clockwise)
10. Select 'A' (Automatic) with the sensor select switch
11. Turn control on by pressing the on/off/calibration/record switch. (the ON indicator will illuminate)
12. The CC data will now be transmitted .

## Calibrating the external input

External mode may require calibration.

1. Hold the external device at the required starting position
2. Press and hold the on/off/calibration/record button on the controller-receiver. The ON indicator will start to flash, signalling that the start position has been set and that an output of zero will be at that point.
3. Continue to hold the button and move the external device to its finishing position
4. Release the button. The finishing position has now been set and output will be at maximum at that point.
5. No other modes require calibration but they may require sensitivity adjustment. See sensitivity settings (pg 1).

## Recording an external pattern

1. Enter the system menu and select 'Rec-'
2. Scroll through menu and select a maximum recording time (1 equates to 10 seconds, 2 to 20 etc) and exit the menu
3. A flashing dot will appear under the last digit on the display to signify that record mode has been entered
4. Hold external device at your chosen start position, this does not need to be the calibrated starting position
5. Press and hold the On/Off/Calibration/Record button, until the indicator light starts to flash
6. Release the On/Off/Calibration/Record button. The indicator light will cease flashing and the system is armed for recording, but will not start recording yet.
7. Activate the external device as required.
8. When the output moves past the trigger level as set in the system menu, and defaulting at '10', the system will begin to record external data and the indicator light will flash continuously.
9. Manipulate the external device as you wish
10. Recording will cease when the On/Off/Calibration/Record button is pressed, or when the recording time, as set in the menu, has elapsed, whichever is sooner.

\*The recorded pattern cannot be saved

## Playing back a recording

1. Select 'P' with the mode switch and the recording will play back continuously, modulating the output
2. Trim the recording in 'Playback' mode if required with the sensitivity control. Work from fully left (o).

## Automatic ADSR mode

1. Start the controller with the default settings (see system reset pg 6).
2. Set MIDI channel, choose a Continuous Controller (CC) and set it to respond to mode data ("nmod")
3. Choose a parameter to control on the receiving MIDI device and route it to the selected CC.
4. Select 'A' using the sensor select switch and the ADSR envelop will immediately start repeating.
5. Press the on/off/calibration switch so that the ON LED lights
6. Play a note on the MIDI instrument, and the modulation will be heard. The modulation waveform will be using the default ADSR parameters in the system menu.
7. Access the menu (on/off/calibration switch + sensor select switch)
8. Rotate the minimum depth control to find "Ar" (Attack rate). This sets how quickly the envelop rises. Set this to 10 using the max depth control.
9. Rotate the min depth control further until "dr" (decay rate) is found. This sets how quickly the envelope will fall to the sustain level. Set this to 10 using the max depth control.
10. Continue to rotate the minimum depth control and set SL (sustain level), St (sustain time) and rr (release rate) to zero.
11. Rotate the min depth control to find the Sc (scale setting). This adjusts the overall time for the envelope. Set this at 5.
12. Play a note on the instrument being controlled and the modulation will be heard.
13. Adjust the scale setting for the overall length required. **See the full manual at [www.ozinventions.com](http://www.ozinventions.com)**

## ADSR trigger mode

1. Start the receiver-controller with the default settings (See system reset pg 6)
2. Set MIDI channel, choose a Continuous Controller (CC) and set it to respond to mode data (“nnod”) and exit the menu
3. Choose a parameter to control on the receiving MIDI device and route it to the chosen CC.
4. Open the system menu (on/off/calibration switch + mode switch).
5. Set ADSR trigger mode from the 1st menu item (‘Atg1’ from ‘Free / Rec / Atg1 / Atg2’)
6. Scroll through the menu and set AR to 30 (Attack rate 30 x 10mS = 300 milliseconds). Use the default settings for the other envelope values.
7. Scroll through the menu and set the trigger mode to trigger the envelope just once (‘tnno – Trigger mode once)
8. Exit the menu and change to External mode (E)
9. Active the external device so that an output of 127 is read on the display
10. The envelope will play once using the ADSR settings. Attack rate is 30 so there will be a slow rise before the envelope completes
11. Change the trigger mode to hold.(‘tnnH’ – Trigger Hold). Activate the external device so that an output of 127 is read on the display. The ADSR envelop will start and stay in the sustain section indefinitely. Activate the external device to maximum depth again, and the envelop will complete
12. Change the trigger mode to repeat. (‘tnnr’ – Trigger Repeat). Activate the external device so that an output of 127 is read on the display. The ADSR envelop will repeat continuously. Reach 127 again, and the envelop will stop playing

*\*The trigger for all modes is the maximum depth.*

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## About the step size menu

By default the sweep ranges from 0—127 in steps of 1. This can be changed to steps of 2, 3, 4 .... etc by entering the step size menu and rotating the maximum depth control or by moving the sensitivity control outside of the menu.

Choosing a step size of ‘o’ enables the custom step size option which is particularly useful for controlling a pitch parameter.

The custom step sizes are accessed with the minimum depth control and modified with the maximum depth control.

There are 16 possible custom steps and these can be set to any interval such as semi-tone, tone, 3rd, 5th, octave etc.

The steps do not need to be set in ascending order but instead can be set in any order such as C, E, G, D, E, G, F, E, G .... Etc

Scroll to the quit/save menu item to save any changes.

## Setting custom intervals

Setting intervals is a process of playing a note on an instrument and rotating the minimum depth control to determine which sweep value equates to which musical note. Repeating this process enables mapping out intervals for a specific keyboard or other MIDI device.

To set the intervals accurately requires a good ear or a chromatic tuner.

1. Route CC on the receiving MIDI device to a pitch parameter and turn on the relevant CC in the MIDI menu
2. Set the step size to ‘o’ and exit the step menu
3. Set minimum depth to ‘o’ (fully left)
4. Choose External mode (E) and turn on/off/cal switch, on
5. Set the receiving device to a pitch parameter with a range of at least one octave
6. Play a note on the instrument
7. Rotate the minimum depth control until the interval has increased by one semi-tone and physically record the setting on paper or electronically.
8. Repeat this process until all intervals in an octave or more are mapped.

Different brand and model devices will require different settings. These can be saved as presets.

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## About the preset menu

There are 10 presets numbered from 0—9. By default all presets contain the same values.

The preset menu is selected by rotating the minimum depth control fully right (127), the maximum depth control fully left (0) and then pressing the on/off/calibrate/record button.

The presets can then be cycled through using the mode switch.

Exit from the preset menu by rotating either the minimum depth or maximum depth control.

Before changing presets be sure to save any changes in the current preset else any changes will be lost.

## About Xpression fX—Enhancer—MIDI

There are three continuous controllers, program change, pitch wheel and channel aftertouch. All six can transmit simultaneously.

Each can be set with a hard value from 0—127, or with mode data, signified in the menu by “nnod”.

All are disabled by default as shown in the menu by “----”.

Either the on/off/calibrate/record switch should be off, or a controller should be disabled before changing its number, otherwise multiply controllers will be set with unwanted values as the CCs are scrolled through.

The ‘sound off’, ‘reset receivers’ and ‘reset controllers’ are off by default. They can be reset within the MIDI menu.

## Assigning ADSR control to the external device

All ADSR parameters such as attack rate and scale can be assigned to the external device. To do that, enter the ADSR menu and choose the item to be controlled. Then fully rotate right the maximum depth control until ‘o.’ is seen on the display. The item is now under external control.

*Xpression fX will change the way you play music. We hope you enjoy using it as much as we enjoyed making it.*

**See the full manual at [www.ozinventions.com](http://www.ozinventions.com)**

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