

Xpression fx Black Magic Motion—MIDI

Description

Xpression fx Black Magic Motion – MIDI, from Oz Inventions, is a wireless motion controlled MIDI controller. 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
Tilt	Response/stability	50
Quad tilt	Zero point window	0
Flick	Sensitivity to force	50
Velocity	Sensitivity to speed	50
Playback	Trim recording	0
GuitarHand	Sensitivity	5
Rotation	Sensitivity	5

- 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 system to defaults is an option in this case.

See the full manual at 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 sensor select switch forward and release

Step size menu entry and exit

- Hold sensor select 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 sensor select switch forward whilst powering on)

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System items		
Item	Identifier	Range
Use mode	Free / AtrG / Rec	Free / AtrG / Rec
Soft power On/ Off	So	0 – 99
Channel	Ch	r, g, b
Logarithmic / Linear scale	Log	- (linear) L (log) A (anti-log)
Auto-cutoff	Ao	0 – 99
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 (x 10mS)
Decay rate	Dr	0 – 99 (x 10mS)
Sustain level	SL	0 – 99 (x 10mS)
Sustain time	St	0 – 99 (x 10mS)
Release rate	Rr	0 – 99 (x 10mS)
Scale	SC	1 – 99 (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

4.

Preset items		
Item	Identifier	Range
Preset	PS	0 – 9
MIDI items		
Item	Identifier	Range
Channel	Ch	1 – 16
Continuous controller marker	CC..	NA
Continuous controller 1 CC1 value	1--1	0 - 119
Continuous controller 2 CC2 value	----	0 – 127
Continuous controller 2 CC2 value	2 -- 4	0 - 119
Continuous controller 2 CC2 value	----	0 – 127
Continuous controller 3 CC3 value	3 -- 5	0 - 119
Continuous controller 3 CC3 value	----	0 – 127
Continuous controller 4 CC4 value	4 -- 7	0 - 119
Continuous controller 4 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

* 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.

5.

Sensor modes

Sensor modes are accessed via the sensor select switch in the following order

1. Automatic ADSR (A) - Continuously plays the ADSR envelope using the ADSR settings in the menu
2. Flick (F) - Stronger forces reach greater control depths than weaker forces.
3. Guitar-hand (G) – rotation in two directions or four with the bidirectional switch
4. Playback recorded ADSR (P) - Plays the recorded ADSR envelope as recorded in record mode.
5. Quad tilt (q) - tilting in four directions.
6. Rotation (r) – Rotating on a horizontal plan
7. Tilt (t) – Tilt in any single direction.
8. Velocity (v) - Faster circular speeds reach a greater control depth than slower speeds.

In using the device it may help to think of it as an expression pedal, in that it has a starting position (heel) and a finishing position (toe). There is zero output in the starting position and maximum output in the finishing position.

IMPORTANT: Insert a CR2032 battery into battery holder of the sensor-transmitter, **UNDER** the double hooks. With '+' visible.



See the full manual at www.ozinventions.com

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Operation

1. Insert a CR2032 battery into battery holder of the sensor-transmitter, **UNDER** the double hooks. With '+' visible. Turn the sensor-transmitter on by holding the ON/OFF selector for 2 seconds. Holding longer will change transmission channels. Hold 1 sec when ON to change battery save mode. Hold 2 sec for OFF. Battery save mode is signified by a dim illumination compared to no battery save mode. In battery save mode the sensor will switch off after 5 minutes of no motion.
2. Mount the sensor using hook & loop attachments
3. Attach the antenna to the controller-receiver and reset it if needed (Hold the sensor select switch forward whilst applying power and then release the switch)
4. Access the MIDI menu see 'Menu access'
5. Set the MIDI channel to match the receiving MIDI device.
6. After the 'CC..' menu item, select a continuous controller (CC) and assign control data to it. Menu item "nnod" is motion data, other values are hard set. Exit the menu.
7. Access the system menu and set the transmission channel to match the sensor-transmitter channel. (The channel indicator will illuminate) . Red channel is the default
8. 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 sensor select switch forward
9. Remove power from the controller-receiver
10. Connect the adapter to the TRS socket and connect the adapter to the receiving MIDI device via a MIDI cable
11. Connect the controller and the device to be controlled to power. Route a parameter on the device to a CC
12. Set min depth to zero (fully anti-clockwise)
13. Set max depth to 127 (fully clockwise)
14. Select 'R' (Rotate) with the sensor select switch
15. Turn control on by pressing the on/off/calibration/record switch. (the ON indicator will illuminate)
16. Rotate the sensor on a horizontal plane and the output will increase (0 – 127) over a 90 degree angle. Calibrate if required to reduce the angle

7.

Calibrating the control angle

Tilt, quad-tilt, rotation and guitar-hand sensor modes require calibration for best operation.

1. Hold the sensor 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 of the angle has been set and that an output of zero will be at that point.
3. Continue to hold the button and move the sensor-transmitter to the finishing position
4. Release the button. The angle end has now been set and output will be at maximum at that point.

No other sensor modes require calibration but they may require sensitivity adjustment. See sensitivity settings.

Recording a motion pattern

Calibrate the sensor mode if required

1. Enter the system menu and select 'Rec-' (1st menu item)
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 the sensor 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. Move the sensor along the direction or angle as required for the current sensor mode
8. When the sensor output moves past the trigger level as set in the system menu, and defaulting at '10', the system will begin to record motion data and the indicator light will flash continuously.
9. Move the sensor 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.

8.

Playing back a recording

1. Select 'P' with the sensor select 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 anti-clockwise (0).

Automatic ADSR mode

1. Start the controller with the default settings (see system reset).
2. Set MIDI channel, choose a Continuous Controller (CC) and set it to respond to motion data ("nnod")
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.
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