

## MPE Enhanced Performance Instrument

Version 2.0.0 01/03/2026

### Welcome to the Netherblade!

#### Booting Up

Plug in the included 12 volt power cable to the barrel connector on the back corner of the instrument and plug the other end into an AC 120 volt outlet.

Next, press and hold the power button until the button light comes on. Wait for the instrument to boot up. Once booted, touch the Netherblade app shortcut on the desktop. This will launch the main application.

To play an external synthesizer over USB MIDI, connect a type B USB cable and connect the other end to a USB MIDI compatible host such as a PC, Mac, or synth. For vintage synthesizers that do not support USB, connect the mini MIDI jack to a Type A 3.5mm phone to 5-pin din adapter and connect to a standard MIDI input.

Internal VST software synthesizers can also be installed and played via audio output. See section on Internal MIDI Ports.

#### Shutting Down

Open the menu on the Netherblade touchscreen interface and select Exit. Respond OK to close the main application. This will return to the startup screen.

NOTE: If you are using any internal VST hosts or plugins, It is recommended to close these applications prior to shutdown. From the desktop, touch the task icon  on the right side of the display. This will show a list of open applications that you can easily close.

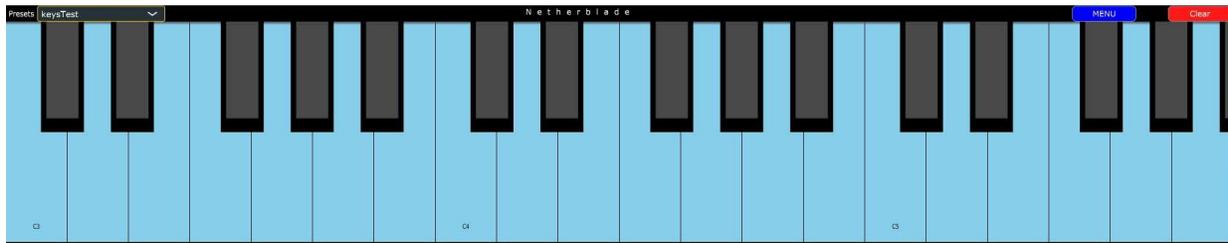
Press the power button and release quickly. This will shutdown the instrument normally. *Do not hold the power button down or it will cause a forced shutdown unless absolutely necessary.* Wait for the power button light to go out indicating the instrument is completely shut down. It is now safe to disconnect the power supply.

## The Interface

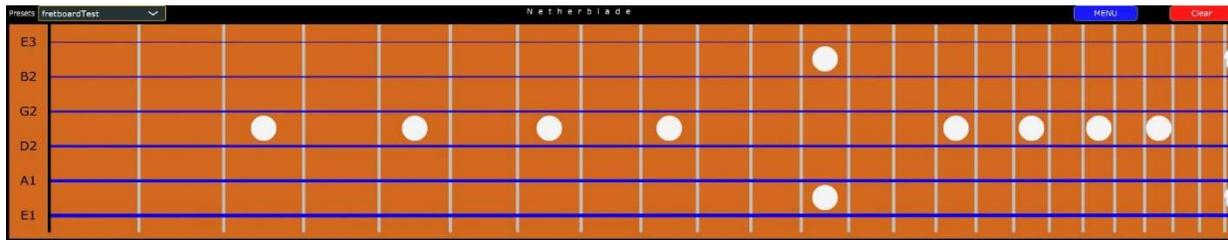
### Pitch touchscreen

The heart and soul of the instrument. A versatile graphical display and touch sensitive flat surface where you can trigger notes, velocity, and slide pitch easily and independently to and from any note or chord. (Patented 2024) Express natural vibrato with your own unique character. Invent new techniques.

### Keyboard



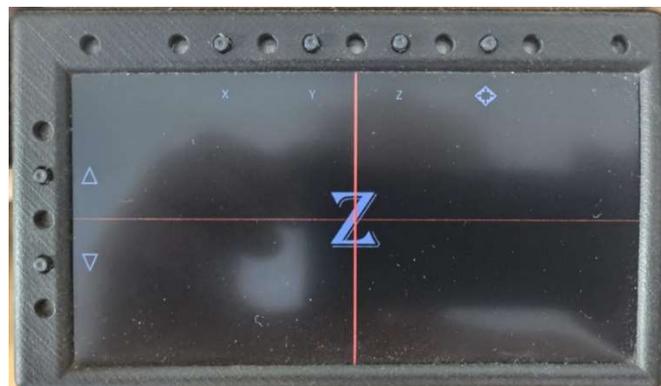
### Fretboard



### Grid



### The Z Pad



## XYZ Pad Articulation

Here is where you perform all the non-pitch articulations such as tone, mutes, volume, effects, etc. The XYZ pad allows for 3 simultaneous real-time MIDI continuous controllers. The 3 buttons across the top left can be used to toggle key switches for sample changes or a momentary Continuous Controller for quick changes such as sustain pedal. The up down buttons change octave.

The button on the right closest to the display is dedicated to quickly toggling to and from the presets list. This can be optionally changed to switch between play and settings mode for efficient preset editing.

Another powerful feature of the zPad is rearticulation. This feature will retrigger any active notes with full dynamic control of velocity. Great for rhythmic play which adds another fun dimension to the keyboard or fretboard.

## IMPORTANT NOTE:

To release the full power of the Netherblades patented pitch control algorithm there are 2 important factors to configure:

### Pitchbend Range

The pitchbend range of the Netherblade must match the pitchbend range set on the target synthesizer. Range increments are usually in semitones: 2 is a whole step, 12 is an octave, etc. For example, If the Netherblade pitchbend range is set to 12 semitones then the synth you are playing must also be set to 12 so the pitchbend movements are precise for all musical intervals. This will let you do natural vibratos and bends intuitively to any interval while remaining in tune.

### Multi channel or MPE

Unlike a standard pitch wheel, another key feature of the Netherblade is the ability to bend each note independently. This requires that each note be on a separate MIDI channel. If the Netherblade Output Channel setting is MPE(MIDI Polyphonic Expression) or Multichannel that will happen automatically. However, It is also important for the target synthesizer to be set to receive on multiple channels. Many synths are capable of this but some are not. Check your synthesizer for multitimbral/multichannel capability or MPE. Select MPE if available on your synth and also set the Netherblade to MPE.

If your synth is multitimbral but not MPE, use the MultiChannel option on the Netherblade and set the corresponding channels on the synth to the same preset. For example, if the base channel is 1, set channels 1 thru 6 to the same preset/sound.

For VST synthesizers that are not multitimbral you can still use this feature by selecting Multichannel on the Netherblade. You will also need a plugin host program or DAW to launch multiple instances of the plugin with the same preset. Each instance would need to be set to receive on a separate channel. 6 channels polyphony maximum. This can be done on a DAW using separate tracks or with a live performance program (such as GigPerformer, Camelot, or MainStage) by loading multiple instances of the same plugin.

## Main Menu



## Play Surface

Select this for standard playing mode

## Settings

Select this to modify the preset parameters. Optionally use the XYZ Pad switch closest to the touchscreen to toggle between play surface and settings page.

## Sleep Screen

This will make the display go dark but leaves the instrument running, Simply tap the screen to reawaken the display.

## Exit

Closes the application

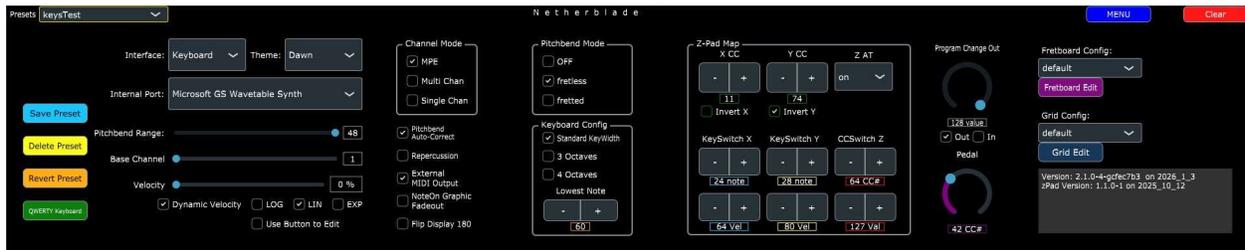
## Preset Menu



Drop down list to select user created presets

To create a new preset, select/touch the preset name to trigger the virtual keyboard. Type in the new name and hit return. If the virtual pc keyboard does not automatically appear, touch the QWERTY keyboard button.

## Settings



Here are all the parameters for dialing in your setup. Each parameter can be saved as a unique preset and recalled.

## Interfaces

Choose between keyboard, fretboard or grid. More interfaces may be added in future updates.

### Internal MIDI ports

The Netherblade is unique in that it is capable of loading and running windows compatible software synths internally. Connect to WiFi to download and install synths. These synths must be setup to play from the internal audio port so the sound will output from the audio headphone jack. If connecting audio to a speaker, for best results use a headphone TRS to left-right splitter cable into a DI box and lift the ground.

The External MIDI Output toggle must be off for this mode to be active. Select an internal MIDI port for connection to internal VST software synthesizers.

A 3<sup>rd</sup> party virtual MIDI port may be needed for internal connections. If so, It is recommended to download and install loopMIDI. This is a virtual MIDI port generator that will allow you to connect to an internal plugin that doesn't supply its own virtual port.

The virtual port (eg loopMIDI) and the plugin or host program should be launched prior to launching the main Netherblade application.

### Pitch Range

1 thru 48 semitones is supported. This must be set to match the synthesizer you are playing. Most synths default to 2 semitones (1 whole step). A 2 semitone range will work but it is recommended to use at least 12 (1 octave) if your synth supports it.

The Netherblade sends pitch range NRPN messages which may automatically match the range if supported by the target synthesizer.

### MIDI Base Channel

The starting MIDI channel for the keyboard channel rotation per note algorithm.

For the fretboard, this is the high string channel number and each adjacent string is one channel up from there.

This is not relevant for the grid interface setting; each block has an independent channel setting

### Velocity

This is the note velocity adjustment for standard play unless Dynamic Velocity is checked. If set to dynamic, this setting acts as an offset to boost the velocity response.

### Dynamic Velocity

Checking this box enables the full velocity response from the touchscreen. This is a patent pending feature unique to the Netherblade which enables a percussive style play along with the pitchbending features.

### Channel Mode

This selects how the MIDI channels are managed

### MPE

MIDI Polyphonic Expression. All controls from the XYZ pad and foot controller will be sent on the base channel (Manager Channel) and the keyboard and fretboard will send notes starting on base channel.

Not Applicable for grid

### *MultiChannel*

Support polyphonic pitchbend and multi channel controller changes for non MPE synthesizers. The XYZ pad and the touchscreen interfaces will start on the base channel and send MIDI as needed to all active channels (touches). Max is 6 channels. Not Applicable for grid which has independent channel settings per note.

### *Single Channel*

This mode sends on the base MIDI channel only. Pitchbend will still work but independent pitchbend per note or per string will not. Not Applicable for grid.

## Pitchbend Style

How pitchbend is managed

### *Pitchbend OFF*

No pitchbend? Well ok if you must.

### *Fretless*

Smooth bends with left/right sliding on the touchscreen interface.

The fretboard will respond to smooth hammer-on legato movements in either direction. 2 fingers per string max.

### *Fretted*

Pitch vibrato within a note or fret will respond similarly to Fretless but sliding to another note or fret will trigger a new note

For the fretboard, bends must be up/down to virtually “bend” the string. Hammer-ons will continue to work during a bend.

### Pitchbend Auto Correct

This will automatically adjust the pitch once you have stopped sliding movement to the in-tune note or fret that you have landed on. Disable this if you want to be able to bend to pitches in-between the equal temperament scale.

### Repercussion

This turns the XYZ surface into a drum pad that re-triggers any active notes playing on the touchscreen interface. Full note velocity is supported by playing soft or hard. XYZ CC values will continue to work if set so the combinations of articulations and rhythms are vast.

### External MIDI Output

Select this if you intend to play an external synth either with USB MIDI or standard MIDI outputs.

Deselect this to route MIDI to available internal virtual MIDI ports.

### Theme

Selects from a list of graphical color combinations for keys and frets. For the grid, each pad color is changed independently in the grid editor.

### Program Change Out

Sets a program change number that is sent on a preset change.

### Program Change In

Sets a program change number that is received to change to that preset from an external USB MIDI device. Not supported for legacy MIDI,

### Z Pad Mapping

Parameters for the ZYZ pad control surface

#### *X Y Continuous Controller*

Sets the Continuous Controller number for the X (left/right) or Y (up/down) slide movements. The led lights will let you know where the current value. Set to 0 for off.

#### *Z Aftertouch/Velocity*

Enable/disable z-axis aftertouch (pressure). If the velocity setting is enabled, pressure will determine the note velocity for the touchscreen interface.

#### *Key Switches*

Momentary switches to send notes for synthesizers that have key switches. Set note value and velocity to trigger a desired effect on your target synth.

#### *CC Switch*

Momentary Continuous Controller value. This can be used to set something on your synth such as sustain (64) or other.

### Foot Controller

Sets the CC value for the foot controller or sustain pedal optionally plugged in to the middle phone jack.

### Flip Display

Rotates the display 180 degrees. Useful for guitar style play or to use the XYZ pad on the right hand.

### Keyboard Config

Customize key width and start note

### Fretboard Config

Opens submenu to customize string tuning, fret spacing and markers

Settings can be saved and reused in presets

### Grid Config

Opens submenu to customize grid size, and per-block note number, text, color, pitchbend on/off.

Settings can be saved and reused in presets

## Presets Control

*Save*

Saves the current preset and sets it to the default when booting up.

*Delete*

*Revert*

Resets all parameters of the current preset to last saved.

*Virtual Qwerty Keyboard*

Clear



MIDI All Notes Off

Sends MIDI all notes off command on all channels to clear any stuck notes on the target synthesizer.

## Physical Jacks

Each instrument is handmade and unique so the color or order may differ



## Inputs

- 1: Foot Controller  
1/4" Continuous control or sustain pedal input jack. Roland compatible polarity.
- 2: Power On/Off Button with LED indicator.  
See Booting Up section
- 3: 12v AC Power.  
120 volt adaptor Included.



### Outputs

4: USB MIDI type B

Output to external synthesizer or PC host

5: Stereo TRS ¼" audio

Stereo ¼" phono jack suitable for headphones or left/right stereo breakout cable

It is recommended to use a DI box for connection to live speakers to prevent ground noise.

6: Mini MIDI legacy.

Use type A 1/8" (3.5mm) to 5-pin din adaptor

