

# Industrial Music Electronics – Piston Honda

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• [Manual PDF](#)

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[Official Piston Honda MkIII Manual PDF](#)

# Industrial Music Electronics – Piston Honda MkIII Cheat Sheet

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*Firmware v1.1 • Dual Wavetable Oscillator with Morphing & Nonlinear  
Waveshaping*

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## PANEL OVERVIEW

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- **Osc A/B:** Independent or linked digital wavetable oscillators, each w/ extensive CV controls.
  - **Preset/Manager:** Instantly recall/store 8 global snapshots; morph/cycle between presets.
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## JACK & CONTROL REFERENCE

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JACK/ CONTROL	TYPE	VOLTAGE RANGE	FUNCTION
CV (XYZ axis)	Input (attn'd)	±8V	Morphs X/Y/Z axis of wavetable "cube" (8×8×8 = 512 waves)

JACK/ CONTROL	TYPE	VOLTAGE RANGE	FUNCTION
<b>1V/Oct</b>	Input	0–8V recommended	Exponential V/O pitch; follows standard 1V/ oct scaling
<b>CV (General)</b>	Input (attn'verter)	±8V (±10V max)	Modulates pitch/ frequency (good for vibrato, mod wheel)
<b>FM/Ext In</b>	Input	AC, up to 10Vpp	Audio-rate TZFM OR waveshaper input (via MODE button)
<b>Sync</b>	Input	0–5V	Resets oscillator cycle (hard sync)
<b>Mix Output</b>	Output	Audio	Mix of both Oscillators
<b>Osc Outputs</b>	Output	Audio	Individual out for Osc A/B
<b>Preset CV</b>	Input (attn)	±8V	Preset morph/cycle/ trigger/random (configurable behavior)
<b>MicroSD</b>	Slot	n/a	Load custom wavetables (see below)

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# CONTROL ELEMENTS

CONTROL	TYPE	FUNCTION
<b>Freq (Large knob) / Fine (Small knob)</b>	Pot	Coarse/fine tuning; Assignable/ reversed in global settings
<b>XYZ Sliders</b>	Slider	Manual position on X, Y, Z axis of wavetable cube
<b>XYZ Attn'verters</b>	Pot	CV polarity/amount for each axis; share CV input between both oscillators
<b>MODE button</b>	Button	Toggles between oscillator/Ext In processing
<b>SELECT button</b>	Button	Focuses OSC for slider/CV assignment and tuning display
<b>LINK button</b>	Button	Links Osc B tuning to Osc A (B becomes a follower w/ optional offset/vibrato etc.)
<b>PRESET button</b>	Button	Engage preset/recall mode, edit, or enter preset-morph mode
<b>Encoder</b>	Knob+Button	Menu navigation; quick shortcuts for unison/octave; edits presets when pressed

# KEY OPERATION MODES

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## Oscillator Mode

- Each OSC may run independently or B can LINK to A for unison/hard sync/supersaw.
- All tuning and morphing assignable by manual controls & CV.

## External In Mode

- Engage by pressing **MODE**.
- FM/Ext In jack becomes a signal processor (shapes input through selected wavetable).
- Large freq knob = input gain.

## Preset Manager

- Store/recall/morph all settings (8 slots):
  - **Press PRESET**: Scroll/load with encoder or CV input.
  - **Press PRESET again**: Enter MORPH (CV = smooth morph).
  - **Save**: Must use menu command to store permanently.

**Preset CV Input Modes (Global Config):** - **CV+Offset**: Manual scan & morph via CV + knob for offset. - **CV+Atten**: CV + knob is attenuator. - **Trig+Offset**: CV input = trigger to step through presets; knob scans manual. - **Trig Random**: Each trigger randomizes patch.

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# SHORTCUTS

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- **Unison (Add detuned sub-osc)**: Hold Encoder, press SELECT for Oscillator
  - **Octave Shift**: Hold SELECT, turn Encoder.
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## Wavetable Editing/Loading

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- Wavetables: 8 files (1.wav–8.wav), each = 64 waves × 256 samples.
  - Use free [WaveEdit](#) or similar.
  - MicroSD card (FAT): Only correct format/naming will load.
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## VOLTAGE REFERENCE SUMMARY

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- **CV inputs (XYZ, Main):** ±8V (±10V ok); musical range ~±5V
  - **1V/Oct:** 0–8V (C0 at 0V)
  - **FM/Ext:** AC (±5V–10V peak); audio-rate signals only
  - **Sync:** 0–5V
  - **Preset CV:** ±8V
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## MENU ACCESS

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MENU	ACCESS	FUNCTION
<b>OSC A/B:</b>	Enc+MODE	Unison, Octave, Morph, Tone
<b>Global:</b>	Enc+LINK	Link, knob assign, load waves, reboot
<b>Preset:</b>	Enc+PRESET	Save, randomize, initialize, reload

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## FACTORY/UTILITY

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- **Firmware:** Update via Pickit3 (see website)
  - **Calibration:** 1V/Oct tested at 1V & 7V, set trimmer on module rear.
  - **Factory Reset:** Power on w/ PRESET button held, no cables inserted.
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## QUICK PATCH IDEAS

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- **Detuned "supersaw":** LINK B to A, dial fine tune for chorus.
- **Stereo/table morphing:** Separate outs, morph/sequence the X/Y/Z axes.
- **Waveshaper/processor:** MODE to Ext In, feed OSC B output to A input for complex waveforms.

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[Module Website](#), [Waves](#), [Firmware](#), [Docs](#)

[Generated With Eurorack Processor](#)

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