Industrial Music Electronics — Piston Honda

- Manual PDF

Manual PDF

Industrial Music Electronics Piston Honda Mark III

Using it to create melodic components in music

The attached manual is for the **Piston Honda Mark III**, a **dual wavetable oscillator** with: - **Two independent oscillators**: Osc A and Osc B - **3-axis wavetable scanning**: X / Y / Z - **Preset management and preset morphing** - **Internal oscillator linking** - **Internal FM normalization between oscillators** - **External input waveshaping mode** - **Unison, octave shifting, waveform CV control, and wavetable loading from SD**

For melodic work, this module is especially strong because it can function as: - a **precise pitch-tracking voice source** - a **2-oscillator harmonic stack** - a **moving wavetable lead** - a **preset-addressed melodic timbre sequencer** - a **chord/unison generator** - a **self-contained complex digital tone source**

What the module does musically

At its core, Piston Honda Mk III is a **melodic oscillator pair**. Unlike a simple analog VCO that gives you saw, square, triangle, etc., this one reads

arbitrary waveforms from memory and lets you **morph through a cube of 512 waves** arranged as:

- **8 positions on X**
- **8 positions on Y**
- **8 positions on Z**

That means melody can be shaped not only by pitch, but also by: - where you are in the wavetable cube - whether axes interpolate smoothly or jump in steps - whether oscillator B follows oscillator A - whether presets recall full pitch/timbre states - whether you use internal FM or unison

So in a melodic patch, **pitch** and **timbre movement** can be composed together.

Important melodic features from the manual

1. Accurate 1V/Oct tracking

Each oscillator has its own **1V/Oct input**, so both can be played melodically from: - sequencer - keyboard - quantizer - precision adder chain

The manual states: - coarse at minimum - fine at center - no external voltage = about **C0 / 16.35 Hz**

So this module is meant to serve as a proper pitched voice.

Musical use

You can patch: - one melodic CV to Osc A only - a second melodic CV to Osc B only - or the same melody to both for intervals/unison

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2. Dual oscillator structure

Because there are two oscillators in one module, you can build melodic material in several ways:

Parallel voice design

- Osc A = main fundamental-rich voice
- Osc B = brighter layer, fifth, octave, or detuned partner

Independent counterpoint

- Osc A = bassline
- Osc B = lead or countermelody

Composite mono voice

- A and B mixed together for one richer melodic line

This is one of the strongest uses of the module for music: **one module can create a complete pitched sound with internal complexity before you even add filters or VCAs.**

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3. Oscillator Link for harmonic following

Oscillator B has a **Link** button.

When enabled: - Osc B copies Osc A's frequency - Osc B coarse tune is disabled - Osc B fine tune and CV still influence its pitch

Musical use

This is excellent for melody because it gives immediate interval relationships: - center fine tune on B = unison - slightly offset fine tune = detuned lead / chorus - tuned by ear or CV = harmony layer - octave shifted via menu = octave doubling

This makes it easy to build: - lead sounds with width - octave bass reinforcement - fifths and near-unisons - stacked wavetable intervals

Because the two oscillators can still use different waveform positions, the result can be harmonically coherent but timbrally varied.

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4. Internal FM normalization

The manual notes that the **FM input of each oscillator is normalled to the output of the other oscillator**.

That means even without patch cables: - Osc A can modulate B - Osc B can modulate A depending on settings

The FM is: - **audio-rate** - **thru-zero** - intended for audio-rate signals

Musical use for melody

FM can be used very musically if kept subtle: - add slight FM for animated harmonic richness on leads - make bells or metallic melodic tones - use one oscillator as carrier and the other as modulator - use linked pitch plus subtle FM for stable but lively lines

Important manual note: - keep FM amount at zero if you do not want FM, since the normalization is always there

For melodic work, a little goes a long way. Small FM amounts preserve pitch identity while adding motion.

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5. Unison per oscillator

Each oscillator has a **Unison** parameter in its menu.

It adds a second oscillator alongside the main one with: - mostly identical settings - slight frequency offset - optional +1 octave / -1 octave variants

Musical use

This is huge for melodic patching.

A single Piston Honda voice can become: - Osc A + its unison - Osc B + its unison

So the module can effectively create **4 oscillators of sound**.

This is ideal for: - supersaw-like digital leads - wide pads - octave-reinforced basses - pseudo-chordal melodic lines - dramatic mono hooks

The manual specifically mentions massive 4-oscillator sounds when combining this with linked oscillators.

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6. Octave shift

Each oscillator can be shifted over **±2 octaves**.

Musical use

Use this to split melodic roles: - Osc A = root register - Osc B = one octave above - or B = two octaves down for sub reinforcement

Combined with Link, this becomes a very fast melodic stack builder.

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7. 3-axis wavetable scanning as melodic articulation

X, Y, and Z each have: - a manual slider - a CV input - an attenuverter

This is where Piston Honda becomes especially expressive for melody.

Musical use

Rather than treating timbre as static, you can let melody “speak” by modulating the axes:

- **slow X modulation** = evolving phrase color
- **stepped Y modulation** = distinct note-to-note timbral changes
- **Z modulation** = move across different wavetable files / families
- envelope to X/Y/Z = brighter attack, softer sustain
- sequencer row to Z = different timbre per step

This allows a melodic line to carry harmonic and spectral form the same way an acoustic instrument changes tone across articulation.

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8. Morph enable / stepped axis behavior

Each axis can have morphing enabled or disabled.

If morph is disabled: - transitions become hard steps between waveforms - sound becomes more glitchy / discrete - you hear isolated waveform slots without interpolation

Musical use

This gives two different melodic aesthetics:

Smooth morph enabled

Best for: - singing leads - pads - fluid bass movement - expressive timbre sweeps

Morph disabled

Best for: - arpeggios with digital bite - stepped timbre melodies - chiptune-like note articulation - rhythmic timbral sequencing

A powerful trick is: - keep X and Y smooth - disable Z morph This gives gradual movement inside a wave family, but hard jumps between wavetable banks.

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9. Preset manager as a melodic composition tool

The preset system is not just for storage — it is a **performance and sequencing feature**.

There are **8 presets**, and they can manage: - wave positions - attenuverters - unison / octave settings - optionally coarse/fine pitch too

Preset Scope

Two key modes: - **Waves Only** - **All Params**

Musical use

Waves Only

Great for: - same melody, changing timbre scenes - step-addressed wavetable articulation - phrase variation without changing pitch

All Params

Great for: - storing different notes or intervals - building melodic sequences from preset slots - creating structured performance states - changing oscillator pitch and character together

This makes Piston Honda capable of being a kind of **8-state digital melodic memory voice**.

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10. Preset morph

In Preset mode, pressing Preset again enters **Morph mode**.

Then: - choose a base preset with the encoder - apply CV to the preset CV input - presets smoothly morph into one another

Musical use

This is one of the most interesting melodic features in the manual.

You can morph: - between lead timbres - between harmonic interval structures - between two related melodic scenes - between bass and lead states

If Preset Scope = All Params, morphing also glides frequency between presets.

That can produce: - portamento-like spectral-pitch motion - in-between microtonal motion - unstable digital glissandi - animated transitions between notes

If you want melodies to stay tonally clear, **Waves Only** is often more useful. If you want transformative, in-between pitch movement, **All Params** is more experimental and dramatic.

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11. Preset CV modes for sequencing melodic states

The preset CV input can work in several ways:

- **CV+Offset**
- **CV+Atten**
- **Trig+Offset**
- **Trig Random**

Musical use

CV+Offset

Use a sequencer or slow CV to scan/morph across presets. - ideal for evolving melodic timbre phrases - manual knob acts as offset

CV+Atten

Great when you want tighter control over how many preset states are reached.

Trig+Offset

Each trigger advances one preset. - acts like a step-through scene sequencer - useful for cyclic melodic form - pair with clock divisions for phrase changes

Trig Random

Randomizes parameters on trigger. - useful for generative melodic design - especially effective when Preset Scope is limited

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12. External input mode for melodic processing

Each oscillator can switch from internal oscillation to **External Input mode**.

In this mode: - the oscillator processes incoming audio through the selected wavetable - signal enters via the FM input - the large tune knob becomes gain - the CV input can control gain

Musical use

This matters for melody if you want to process: - another oscillator - a simple sine/triangle - a melodic voice elsewhere in the rack

You can use Piston Honda as a **wavetable shaper** for an external melodic source: - feed a clean analog oscillator melody into Ext mode - scan X/Y/Z for changing harmonics - use envelope CV for dynamic shaping - create digital articulation on otherwise simple melodic lines

This is an excellent hybrid patch strategy.

Best melodic patch strategies

1. Classic dual-oscillator lead

Patch

- Sequencer pitch CV → Osc A 1V/Oct
- Link Osc B to Osc A
- Set Osc B fine tune near center or slightly offset

- Use Mix output
- Envelope/LFO to X or Y CV
- Filter/VCA after the output

Result

A thick melodic lead with: - stable pitch - chorused width - moving wavetable harmonics

Why it works

You get analog-style “two oscillator lead” behavior, but with much richer wavetable motion.

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2. Octave lead/bass stack

Patch

- Same pitch CV to Osc A
- Link B to A
- Set B octave shift to +1 or -1
- Use Mix output
- Slow modulation to different waveform axes on A and B

Result

A musically solid melodic stack: - sub + mid - root + octave - lead + shimmer

Why it works

Octaves preserve melodic clarity while the separate wave positions keep the sound from feeling static.

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3. Harmonic interval melody

Patch

- Sequence to Osc A
- Link B to A
- Set B fine tune to a consonant interval by ear
- Optionally set different waveforms for A and B
- Mix output to final voice chain

Result

One sequenced line becomes a dyad-like harmonic voice.

Good interval ideas

- slight detune = width
- octave = power
- fifth-ish relation = strong melodic harmony
- fourth = suspended feel

Because tuning is by fine control and not quantized internally, a quantizer or careful ear helps if exact intervals matter.

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4. Animated wavetable melody

Patch

- Pitch CV to one oscillator
- Envelope to X CV
- Slow LFO to Y CV
- Sequencer modulation row or random CV to Z CV
- Morph enabled on X/Y, disabled on Z

Result

Each note has: - attack articulation from X - phrase drift from Y - stepped family changes from Z

Why it works

This is one of the best ways to make a mono melody feel alive without relying entirely on filtering.

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5. Preset-addressed phrase machine

Patch

- Enable Preset mode
- Preset Scope = Waves Only or All Params
- Program 8 presets as 8 timbral or pitch/timbre states
- Use CV or Trig+Offset to step through presets

Result

A melody can move through predefined “chapters.”

Great uses

- one preset per phrase section
- one preset per note accent type
- one preset per harmonic density
- one preset per chorus/verse color

If using **All Params**, presets can act like stored note/harmony states.

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6. Morphing melody scenes

Patch

- Enter Preset Morph mode
- Set base preset
- Send slow CV or envelope to preset CV input
- Keep a melodic sequence running into 1V/Oct

Result

The same note sequence transforms continuously in timbre and structure.

Best for

- intros
- ambient leads
- progressive melodic transitions
- slowly shifting techno hooks

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7. Digital FM melody

Patch

- Sequence one oscillator as carrier
- Set second oscillator to linked or harmonically related pitch
- Raise FM amount subtly
- Listen from carrier or Mix output
- Modulate wavetable position gently

Result

A melodic voice with: - metallic edge - strong attack complexity - dynamic harmonic content

Tip

Keep FM low if you need strong pitch readability.

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8. 4-oscillator supersized mono voice

Patch

- Enable unison on Osc A
- Enable unison on Osc B
- Link B to A or tune B as interval
- Mix output to filter/VCA
- Modulate waveform axes

Result

A huge single melodic voice with digital complexity and stereo-like density even in mono.

Best for

- hooks
- anthem leads
- aggressive basslines
- cinematic mono lines

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9. Two independent melodic parts from one module

Patch

- Separate pitch CVs to Osc A and Osc B
- Disable waveform CV on one oscillator if needed
- Use A and B individual outputs instead of Mix
- Set distinct wave positions for each oscillator

Result

One module can produce: - bass + melody - melody + counterline - sequence + drone - call and response

Important note

Because waveform controls are shared, the module includes locking behavior and waveform CV can be disabled per oscillator, which helps when treating it as two separate voices.

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10. Wavetable processing of another melodic oscillator

Patch

- Put Osc A in External Input mode
- Patch another oscillator’s melodic audio into Osc A FM/Ext input
- Use tune knob as gain
- Envelope to CV gain
- Scan X/Y/Z

Result

A simple melody from another VCO becomes digitally articulated and reshaped through Honda’s wavetable engine.

Best for

- giving analog oscillators digital edge
- animating simple sine/triangle melodies
- dynamic wavefolding-like melodic motion

Practical melodic workflows

Workflow 1: Strong, tonal melody

Use: - 1V/Oct input - little or no FM - Link on - octave or subtle detune - smooth X/Y morphing - Waves Only preset control

This keeps melodic identity clear while adding timbral expression.

Workflow 2: Aggressive digital hook

Use: - hard-stepped morph on one or more axes - unison - slight FM - preset stepping via trigger - different wave families on Z

This creates memorable, edgy riffs.

Workflow 3: Evolving ambient melody

Use: - linked oscillators - slow independent modulation of X/Y/Z - preset morph mode - smooth morph enabled - little or no sync/FM

This turns a simple sequence into a long-form evolving line.

Workflow 4: Harmonic mono synth voice

Use: - Osc A = root - Osc B linked and tuned to interval or octave - both with distinct waves - unison on one or both - Mix output

This approximates a chordal or paraphonic impression from a single melodic CV line.

Notes from the manual that matter in practice

FM input normalization

The FM input is normalled from the other oscillator, so: - zero the FM control if you want a clean sound - otherwise subtle internal cross-complexity may be present

Shared waveform controls

The waveform sliders and attenuverters are shared between oscillators. Use the **Select** buttons carefully and note the locking behavior.

Preset frequency control

If **Preset Scope = All Params**, preset changes also affect oscillator frequency.
That can be very powerful for melody, but can also disrupt tuning if you expected only timbral changes.

Morph vs pitch stability

Preset morphing with pitch included creates glides between states. Beautiful, but not always “in tune” in the conventional sequenced sense.

External input mode caveat

If both oscillators are in External Input mode and no signals are patched, the module can feed back in a not-very-useful way.

Best musical roles for Piston Honda Mark III

This module is especially good at:

- **lead melodies**
- **bass melodies**
- **harmonic doubling**
- **digital interval stacks**
- **preset-based phrase changes**
- **evolving timbral sequences**
- **metallic and animated melodic voices**
- **hybrid analog/digital melodic processing**

It is less about “plain subtractive melody” and more about **spectrally alive, composed timbre melody**.

Bottom line

The Piston Honda Mark III is not just a sound source — it is a **melodic architecture module**. Because it combines: - dual oscillators - wavetable scanning - internal linking - internal FM routing - unison - octave shifts - preset recall - preset morphing - external audio waveshaping

…it can produce melodic material ranging from: - stable tonal basses and leads to - harmonically stacked riffs to - evolving digital phrase structures

If you want to use it musically, the most effective approaches are:

1. **Use Osc B linked to Osc A** for interval or detune support
2. **Animate X/Y/Z with envelopes, LFOs, or sequencer rows**
3. **Use presets as compositional states, not just storage**
4. **Use unison and octave shift to make single-note lines feel huge**
5. **Keep FM subtle when melodic clarity matters**
6. **Choose stepped vs smooth morphing intentionally depending on style**

In short: this module excels when pitch sequencing and timbre sequencing are treated as one musical gesture.

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