Modulaire Maritime — Phosgène Wavetable FM Oscillator

- Manual PDF

Manual PDF / Source

From the provided manual pages, the module documented here is:

- **Modulaire Maritime Phosgène**
- **2hp digital wavetable / FM oscillator**
- **60 wavetables** arranged in **2 banks of 30**
- **Two parallel sound paths / outputs**:
  - **Wavetable / waveshaping output**
  - **FM output**
- **Wave folding / shaping** under manual control and external CV
- **V/Oct tracking over 8 octaves**
- **Octave up/down switching**
- **Octave displace function** for shifting the wavetable range lower
- **Settings memory** on reboot for bank, wave, octave
- **11-bit digital character**, with intentional low-resolution/aliasing flavor at extremes

Because only one module manual is attached, I'll focus on how **Phosgène** can be used with the rest of a typical Eurorack system to create **melodic components**: leads, basses, arpeggios, harmonized lines, and evolving tonal motifs.

What Phosgène contributes melodically

Phosgène is fundamentally a **pitchable sound source**, so it is naturally suited to melodic work. Its most important musical strengths are:

- **Stable pitch tracking** via V/Oct
- **Large timbral range** from wavetable selection and folding
- **A darker, more controlled FM voice** due to its low FM base frequency approach
- **Two distinct tones at once** from separate wavetable and FM outputs

That means it can act as:

- a **main voice oscillator** for melodies
- a **bass oscillator**
- a **layered dual-timbre melodic source**
- a **countermelody generator** when its two outputs are treated separately
- a **dynamic digital voice** that changes timbre while keeping pitch constant

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Core melodic patch roles

1. Simple mono lead voice

This is the most direct use.

Patch concept - Sequencer or keyboard **Pitch CV** → **Phosgène V/Oct** - Gate/trigger → envelope generator - Phosgène **wavetable output** → VCA or low-pass gate → mixer - Envelope → VCA CV - Optional modulation source → **wave select / folding CV**

Why it works - The module tracks pitch over a wide range, so it can play melodies conventionally. - The wavetable side gives you a bright, synthetic lead voice. - Subtle CV over wave selection/folding adds expression without changing the notes.

Best melodic use - Acid-adjacent digital leads - Video-game flavored themes - Industrial synth lines - Sharp melodic ostinatos

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2. Bassline voice

The manual specifically points toward **tight FM basses** and deep modulation. The **octave displace** function is especially useful here.

Patch concept - Pitch CV → V/Oct - Use the **octave down** setting and/or **octave displace** - Take either: - **FM output** for darker bass - **wavetable output** for more aggressive bass - Route to VCA/filter - Use a short envelope for plucky bass or sustained envelope for drone bass - Add slight wave/fold modulation from an envelope or slow LFO

Why it works - The lower-register support helps preserve useful bass territory. - FM is described as more “sober” spectrally than many harsher digital FM designs, which is good for focused low end. - The wavetable side can add grind and edge.

Best melodic use - Sequenced bass motifs - Dark electro bass - Industrial EBM patterns - Melodic sub-bass with upper digital bite

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3. Dual-layer melody from both outputs

A particularly interesting feature is that the **waveshaping and FM are available in parallel through separate outputs**. This is where the module becomes more than “just one oscillator.”

Patch concept - Pitch CV → V/Oct - **Wavetable output** → one VCA/filter chain - **FM output** → second VCA/filter chain - Same gate can open both VCAs, or separate envelopes can shape each differently - Mix both voices together

Why it works musically - Both outputs share pitch material, so they remain melodically coherent. - But they differ in harmonic structure, so you get a layered tone from one oscillator. - One output can carry the **body** of the note while the other supplies **attack**, **grit**, or **air**.

Melodic applications - Lead + shadow layer - Bass + upper articulation - Clean-ish note core from one output, aggressive texture from the other - Stereo melodic voice if panned left/right

Example - Wavetable output: filtered, slightly resonant, central in mix - FM output: brighter, shorter envelope, panned off-center - Result: notes feel more alive and dimensional

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4. Pseudo-counterpoint from one oscillator

Because the outputs are separate, you can process them differently enough to suggest two related melodic parts.

Patch concept - Same pitch input drives Phosgène - Wavetable output → quantizer-triggered sample-and-hold filter or delay line - FM output → separate envelope/VCA path with rhythmic gate variation - Send the two paths to different effects

Musical result You won't get two independent pitches from the module alone, but you can create the feeling of: - melody + answer - foreground line + ghost echo - note + rhythmic harmonic accent

This is especially effective if one output is: - short and plucky - heavily delayed - octave-shifted externally - processed with wavefolder/filter/ distortion

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5. Evolving melodic timbre without changing pitch

A strong melodic patch often depends not only on the note sequence, but also on how timbre evolves per note.

Phosgène is good at this because: - wave selection can be changed - folding/shaping can be modulated - FM depth responds well to CV

Patch concept - Sequencer row 1 → V/Oct - Sequencer row 2 or slow CV → wave selection / fold / FM modulation amount - Envelope or random

stepped CV → timbre parameter - Keep pitch sequence fixed while timbre changes continuously

Why this matters This creates melodies that feel: - animated - phrased - non-repetitive - “composed” rather than merely looped

Great for - Berlin-school style motifs - generative melodic patches - soundtrack pulses - machine-like themes with evolving color

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Practical melodic strategies

A. Use wavetable output for note identity, FM output for accent

A very effective compositional approach:

- Let the **wavetable output** define the fundamental melodic note
- Bring in the **FM output** only on accented steps

Patch - Main gate opens wavetable VCA every note - Accent gate or secondary trigger opens FM VCA on selected notes

Result - Melody stays clear - Certain notes become more intense, edgy, or emotionally weighted

This is excellent for: - 8-step basslines - syncopated motifs - techno and electro phrasing

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B. Use octave switching to separate register roles

Because the module includes octave controls and octave displacement, you can reposition the same sequence into different musical roles.

Examples: - Mid-register wavetable lead - Low-register FM bass - High-register brittle arpeggio - Lowered wavetable drone under a sequenced line

For melodic arrangement, this means Phosgène can be repurposed quickly in a patch from: - melody - to bass - to ornament - to drone support

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C. Exploit aliasing and 11-bit character as a melodic feature

The manual is explicit that at some ranges, especially high or heavily folded settings, you may get: - more pronounced aliasing - digital trash - noisy wave behavior

For melodic work, don't think of that only as a flaw. It can become:

- note attack texture
- expressive roughness on high melody notes
- a way to distinguish chorus/bridge sections
- a "broken digital" upper voice contrasting with a cleaner bass

A useful method: - Keep verses or initial loop iterations on cleaner wave settings - Increase wave/folding or select noisier waves in a later section - This turns timbre into arrangement

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Melodic patch recipes

1. Dark digital bassline

Use - V/Oct from sequencer - FM output as main audio - Low-pass filter after oscillator - Short decay envelope to VCA - Slight envelope to FM modulation depth or wave control

Character - Focused low end - Deep, brooding melodic bass - Tight without becoming too metallic

Style fit - Electro - darkwave - industrial techno - soundtrack tension beds

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2. Bright wavetable arpeggio

Use - Arpeggiator/sequencer → V/Oct - Wavetable output → LPG or VCA - Clocked random or stepped CV → wave select - Fast attack/short decay envelope

Character - Crisp, animated notes - Each step gets slight spectral variation - Great for melodic sparkle

Style fit - IDM - synth pop - chiptune-adjacent textures - modular ambient with rhythmic articulation

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3. Hybrid lead with parallel outputs

Use - Pitch CV → V/Oct - Wavetable output → filter → VCA - FM output → separate VCA, maybe no filter - One envelope for body, second shorter/snappier envelope for FM path - Mix to taste

Character - Strong melodic intelligibility - Controlled aggression - Feels more “produced” than a single raw oscillator

Style fit - lead hooks - solo lines - cinematic industrial melodies - live performance voice

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4. Morphing sequence

Use - 8- or 16-step sequencer for pitch - Another CV lane or slow LFO for wave selection - Manual bank changes between song sections - Optional octave displace engaged for lower, weightier passage

Character - Same melody can move through several emotional colors - Useful for long-form repetition without boredom

Style fit - techno - ambient sequences - post-industrial modular jams - generative melodic systems

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5. Call-and-response processing patch

Use - Wavetable output → dry/main melodic voice - FM output → delay/reverb/distortion chain - Rhythmically gate or duck one against the other

Character - The melody seems to answer itself - Very effective in sparse arrangements

Style fit - experimental pop - minimal wave - soundtrack composition - live improvisation

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What other modules pair best with it for melody

Since this is an oscillator, it benefits most from the usual “voice chain” modules:

Essential companions

- **Pitch sequencer or keyboard controller**
- **Envelope generator**
- **VCA**
- **Mixer**
- **Filter or low-pass gate**

Especially useful companions

- **Quantizer**
  For turning random CV into tonal melodies.
- **Sequential switch / clocked switch**
  To alternate between wavetable and FM paths or different processing chains.
- **Precision adder / octave switcher**
  To transpose melodic phrases while preserving tuning.

- **Utility attenuator / offset**
  Very useful for dialing in sweet spots on timbre CV.
- **Clocked random / sample-and-hold**
  Great for stepped wave changes that stay rhythmically tied to melody.
- **Stereo effects**
  Delay, chorus, or reverb can turn the dual outputs into expansive melodic textures.

Best compositional uses in a rack

If I were building melodic material around Phosgène in a Eurorack patch, I would treat it in one of these three ways:

1. As the main melody oscillator

Use the wavetable output as the core tone and animate timbre with CV.

2. As a bass and hook generator

Use the FM output for bass and reserve more aggressive wavetable settings for hook phrases.

3. As a layered voice source

Use both outputs simultaneously and process them differently for a richer melodic line from minimal rack space.

Because it's only **2hp**, this is especially attractive in compact performance systems where one module needs to do a lot of work.

Overall musical assessment

For melodic use, Phosgène seems best suited to:

- **digital basslines**
- **aggressive or characterful leads**
- **evolving sequenced melodies**
- **layered mono voices**
- **industrial / electro / dark melodic textures**

Its strengths are not “vintage warmth” or traditional subtractive purity. Instead, it offers:

- compactness
- strong digital personality
- useful pitch tracking
- timbral variation under CV
- dual parallel outputs that can make a single melodic line feel more complex

That makes it a very strong **melodic sound source** if your music benefits from: - edge - texture - spectral movement - darker FM color - intentionally digital tone

If you want, I can also turn this into: 1. a **patch cookbook** with step-by-step cable routing, or
2. a **musical role matrix** showing how Phosgène fits into bass / lead / arp / drone / counterpoint duties.
