Pittsburgh Modular — Double Helix Oscillator

- Manual PDF

Lifeforms Double Helix Oscillator (Pittsburgh Modular) – Manual PDF
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Lifeforms Double Helix Oscillator — Cheat Sheet

Type: Dual Analog Oscillator & Complex Modulator
Size: 28hp
Depth: 37mm
Power: +12V 223mA / -12V 205mA (no +5V needed, reverse polarity protected)

Quick Start

1. **Primary oscillator outputs**: Sine/Saw/Blade/Sub/Pulse.
2. **Secondary oscillator outputs**: Sine/Saw/Square.
3. **Mix any wave(s) (using In 1 and In 2) into the contour section** for wavefolding and LPG (Low Pass Gate) processing.
4. **Use 'Impulse' input** to "strike" the LPG for percussive sounds.
5. **Mix and modulate sources with the dual voltage controlled routers** for complex, flexible CV patching and live performance.
6. **Get modulation from** integrated LFO (sine/square/random) and analog noise.

Inputs & Outputs Reference

Audio Inputs

Jack	Section	Function
In 1	Contour	Audio in (mix with In 2). Normalled to primary osc sine.
In 2	Contour	Audio in (mix with In 1).

Audio Outputs

Jack	Section	Function
Sine Out	Primary	Sine wave out (±5V)
Saw Out	Primary/Sec	Saw wave out (±5V)
Blade Out	Primary	Blade wave out (±5V)
Sub Out	Primary	Sub square out (±5V)
Pulse Out	Primary	Pulse wave out (±5V)
Square Out	Sec/Mod	Sec osc output / LFO output
Output	Contour	Final contour section out (±5V)

Pitch Control

Jack	Section	Function	Voltage Range
V/O In	Primary/Sec osc	1V/oct pitch CV input	0V → +10V/(-1V)*

Modulation Inputs (CV)

Jack	Section	Function / Source	CV Range
FM CV In	Primary/Sec Osc	FM amount	±5V*
Blade/Pulse CV In	Primary Osc	Waveshape mod	±5V*
Timbre CV In	Contour	Wavefolder mod	±5V*
Dynamics CV In	Contour	LPG mod	±5V*
Impulse In	Contour	LPG “strike” (Gate/ Trig)	>2V trig
VCR A/B CV In	Router	Level CV for mod channels	0–+5V

(*Ranges are ±5V typical for Eurorack, but manual does not specify extremes—start safe.)

Modulation Outputs

Jack	Section	Function	Level
Sine/Square/Random Out	Modulation	LFO waveforms (CV)	±5V*
Noise Out	Modulation	Analog noise	±5V*
VCR Out	Router	Mod source A/B or mix	±5V*

Controls Reference

Oscillators

- **Frequency Knob (each osc)** — LFO → Audio range sweep (typically 0.01–20kHz)
- **Fine Tune Knob (each osc)**
- **Blade/Pulse CV Knob** — Attenuates Blade/Pulse CV
- **FM CV Knob** — Attenuates FM CV

Contour Section

- **Timbre Knob** — Wavefolder gain (fold “depth”)
- **Timbre CV Knob** — Attenuates timbre CV input
- **Dynamics Knob** — LPG level (left = closed, right = open)
- **Dynamics CV Knob** — Attenuates dynamics CV input
- **Dynamics Response Knob** — Sets LPG “strike” decay (~LPG envelope time)

Modulation

- **Frequency Knob** — LFO rate

Voltage Controlled Routers (Matrix)

- **In A/B Jacks** — Assignable mod sources (A: normalled to sec osc sine, B: normalled to LFO sine)
- **VCR A/B Level Knobs** — Attenuate mod signals through router
- **FM1/FM2/Blade-Pulse/Timbre/Dynamics Source Switches (per mod destination)** — Route A/B/off to that CV in (mixes with its dedicated CV jack)
- **VCR Output Source Switch** — Selects A/B/off for VCR Out
- **VCR Output Jack** — Output of A or B mod signal
- **VCR A/B CV Inputs** — CV for VCR A/B mod signal level

PDF Manual

(Replace with actual PDF link if needed; for now, see images above.)

Additional Notes

- **Impulse Input** makes LPG sound highly dynamic and organic (great for Buchla-like “pinging”).
- **Routing switches** allow switching modulation sources live without repatching.
- **All CV inputs expected to operate in ±5V range** (safe bet for all modulation).
- **All outs and normal audio ins are typically ±5V; adjust downstream gain as needed.**
- **Experiment with cross-patching modulation (Osc2 as LFO, noise as mod, etc.) for complex organic movement!**
