

Hexinverter – Orbitals

- [Manual PDF](#)
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[Hexinverter Orbitals User Manual PDF \(v1.04\)](#)

HEXINVERTER ORBITALS CHEAT SHEET

42HP Dual Bipolar Voltage Controlled Step Sequencer

Quick Start

- **Power requirements:** +90mA, -20mA @ 12V (Do not adjust jumpers when powered!)
 - **Modes:** Two independent 8 step sequencers or a single 16 step sequencer.
 - **CV Output Modes:**
 - Bipolar: -2.5V to +2.5V (5V jumper), -5V to +5V (10V jumper)
 - Unipolar: 0V to +5V (5V jumper), 0V to +10V (10V jumper)
 - **Clock:** Internal (adjustable up to ~100Hz) or external (1V logic level, up to 1kHz)
 - **Build note:** Very shallow/skiff friendly; ideal for performance setups.
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Front Panel Controls & Jacks

Top Panel: Sequencer Rows (A/B)

- **RATE Knob (A & B):** Adjusts internal clock speed for each sequencer.
- **CV Knobs (per step):** Adjusts output voltage for each step.
- **GATE Switches + LEDs (per step):** Toggles gate ON/OFF for each step & shows active step.
- **RUN Switch (A & B):** Turns sequencer ON/OFF and activates gate output.

Right Side Outputs

- **CV OUT (A & B):** Control voltage for sequences. (Voltage ranges as above.)
- **GATE OUT (A & B):** Gate output for each sequence step (max 10V).
- **CLK OUT (A & B):** Outputs internal clock (0–5V) for use elsewhere.

Lower Panel: System/Modulation

- **GATE Knob (A & B):** Adjust duration of step gates (short/long, ties possible if set long).
- **LENGTH Knob (A & B):** Sequence length (Sets length 1–8 for A & B; if A > 8: module enters 16-step mode).
- **MODE Knob (A & B):** Step modes:
 1. FW (Forward)
 2. REV (Reverse)
 3. PND (Pendulum)
 4. RND (Random)
 5. CV (Unlocked voltage addressed)
 6. CLK (Clocked voltage addressed)
- **RUN Input:** Active high logic input (>1V). Enables sequencer.
- **CLK IN:** External clock input (1V logic threshold; up to ~1kHz).

- **RST/CV IN:** Used for:
 - Regular modes: Logic HIGH resets to step 0.
 - CV/CLK modes: 0–5V selects which step is active.
- **REVERSE Input:** Logic HIGH forces sequencer to run backwards.
- **RESET Button:** Resets both sequencers for sync.
- **TRANS A Input:** Adds external CV (e.g. keyboard) to Sequencer A for transposing sequences.
- **SLAVE B>A Switch:** Syncs B's transport to A.
- **BIPOLAR Switch:** Toggles bipolar/unipolar voltage output.

Inputs/Outputs Reference Table

Jack Name	Function	Voltage Range
CV OUT (A/B)	Sequencer control voltage output	-2.5V to +2.5V / -5V to +5V (bipolar); 0–5V / 0–10V (unipolar, jumper selectable)
GATE OUT (A/B)	Sequencer gate output	0V (off), up to 10V (on, jumper selectable)
CLK OUT	Internal clock output	0–5V
CLK IN	External clock input	1V logic (HIGH = >1V), up to 1kHz
RUN IN	Sequencer ON/OFF (active high logic)	>1V = ON
RST/CV IN	Reset (logic >1V) or Step Select (0–5V)	Reset: >1V, CV: 0–5V
REVERSE IN	Run backwards (active high logic)	>1V = Reverse
TRANS A IN	Add CV to Sequencer A output (transpose)	-

Voltage-Selectable Jumpers

Set jumpers on the back to select CV/Gate output range:

Bipolar?	5V Jumper	10V Jumper
On	-2.5 to +2.5V	-5 to +5V
Off	0 to +5V	0 to +10V

NEVER adjust jumpers with module powered!

Operating Tips

- **Sequence Length:** Set A's LENGTH >8 to enter 16-step mode (A + B combined).
- **Voltage Modes (MODE knob):**
 - In CV/CLK modes, supply 0–5V at RST/CV IN to select active step directly.
 - In other modes, RST/CV IN acts as a reset input.
- **Syncing Sequencers:** Use SLAVE B>A switch to synchronize B with A (e.g. for 16-step mode or complex patterns).
- **Transposing Patterns:** Use TRANS A for real-time keyboard-driven transpositions.

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