Doepfer — A-160-5

- Manual PDF

Doepfer A-160-5 Voltage Controlled Clock Multiplier / Ratcheting Controller - Official Manual

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Doepfer A-160-5 Cheat Sheet

Overview

The A-160-5 is a **voltage controlled clock multiplier** with **ratcheting capability**. It takes an incoming clock source and outputs a clock at a multiplied rate. The multiplication factor is manually set or controlled via CV (0 to +5V), with different factor modes selectable. Ideal for creating rhythmic complexity, especially "ratcheting" patterns as used by Tangerine Dream.

Quickstart

1. **Clock Input:** Patch your main clock/Gate source to `Clock In`.
2. **Clock Output:** Patch `Clock Out` to send multiplied clock pulses to sequencers, ADSRs, etc.
3. **Set Multiply Factor:**
    - *Manual*: Use the `Manual` knob (no CV patched).
    - *CV Controlled*: Patch 0…+5V CV to `CV In` (overrides manual).
4. **Select Mode:** Set the 3-way toggle to choose multiplication factors (Integers, Powers-of-two, or Mixed).

5. **Monitor LEDs:**
    - 8 LEDs: Show current multiplication factor.
    - 2 LEDs: Show live clock In and Out activity.

Inputs & Outputs

Jack/ Control	Type	Details	Voltage Range
Clock In	Input	Receives external clock/ gate signal	Typical gate/clk
Clock Out	Output	Multiplied clock output	Same as input
CV In	Input	Sets multiplication factor (overrides Manual Knob)	0 to +5V
Manual	Knob	Sets multiplication (normalled to CV In if unpatched)	0 to +5V (internally generated)
Mode	3-way Switch	Selects multiplication table:	
		- Left: Integer values (1,2,3...8)	
		- Middle: Powers of two (1,2,4,8...)	
		- Right: Mixed values	

Reference – Controls

- **Manual Knob:** Adjusts multiplication factor (0V = mute).

- **Mode Toggle:**
- **Left** (Ganzzahlige Werte): 1–8
- **Middle** (2er-Potenzen): 1, 2, 4, 8
- **Right** (Mix): 1, 2, 3, 4, 6, 8, etc.
- **LED Matrix:** Indicates active multiplication factor (first LED = 1, up to 8).
- **"Clock In" LED:** Blinks with incoming clock.
- **"Clock Out" LED:** Blinks with outgoing (multiplied) clock.

Tips

- **No Output at 0V:** If your Manual knob or CV input is fully CCW/0V, module mutes the clock output.
- **Dynamic Ratcheting:** Use sequencer CV lanes to automate ratchet counts for each step.
- **Allow Stabilization:** After sudden clock changes, the output clock may lag a few pulses as it recalculates multiplication.

Technical Data

- **Width:** 4 HP (20mm)
- **Depth:** 35mm
- **Current:** +50mA (+12V), -0mA (-12V)

Patch Example

- **Sequencer Clock:** Out from A-155/A-154 to `Clock In`.
- **Gate Multiplication:** `Clock Out` to envelope/trigger destination.
- **Ratchet Control:** Sequencer CV to `CV In` to vary pulse count per step.
