

# Doepfer – A-160-5

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- [Manual PDF](#)
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## [A-160-5 Manual \(PDF\)](#)

(Original source: [Doepfer A-160-5 Product Page](#))

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# Using the Doepfer A-160-5 Voltage Controlled Clock Multiplier for Full-Length Songs in Eurorack

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The **Doepfer A-160-5 Voltage Controlled Clock Multiplier / Ratcheting Controller** is an extremely powerful utility for developing musically evolving structures. While simple beats, basslines, or melodic riffs are easy to create in modular, stretching these into full-length, dynamic tracks is a classic challenge.

## Key Features Useful for Full-Length Song Creation

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- **Voltage Controlled Clock Multiplication:** Multiplies an incoming clock signal by a variable, CV-controllable factor.
- **Ratchet Sequences:** Can generate multiple triggers per sequencer step, key for Tangerine Dream–style ratcheting.
- **Manual & CV Control:** Dynamic changes possible via automation or hands-on live tweaking.
- **Multiple Modes:** Integer, power-of-two, and mixed multiplication for rhythmic variety.

- **Visual Feedback:** LEDs to indicate multiplication factor and clock activity.
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## Strategies for Building Full-Length Songs

Below are specific approaches using the A-160-5 to move from basic patterns to engaging, evolving pieces.

### 1. Dynamic Section Changes with Clock Multiplication

- **Concept:** Use the A-160-5 to multiply your main sequencer clock at different points in a composition, shifting between slow, sparse patterns and fast, dense activity.
- **Implementation:**
  - Route your master clock or sequencer clock to the A-160-5 Clock In.
  - Use a CV source (e.g. a sequencer row, LFO, or envelope) to automate the multiplication factor over the course of the song.
  - Multiply by 1x for verses, then increase (e.g. 2x, 3x, 4x) for choruses or break sections for energy lifts.
  - CV control can make these shifts automatic and precise.

### 2. Ratcheting for Song Development

- **Concept:** Add ratcheting (repeat triggers within a sequencer step) to certain sections for fills, build-ups, or ending energy.
- **Implementation:**
  - Patch one row of a sequencer (A-155 in manual example) into the A-160-5's CV In, letting you set ratchet density per step.
  - Use hands-on knob movement or another automation source, such as a voltage sequence specifically written for mid-song ratchets.
  - For build-ups, gradually increase ratchet amount over 8-16 bars.

- For dynamic breakdowns, decrease or remove ratcheting in quieter sections.

### 3. Generative/Algorithmic Song Structures

- **Concept:** Use slow LFOs or random voltages to modulate the clock multiplication factor over several minutes, providing long-form evolution beyond manual programming.
- **Implementation:**
  - Modulate A-160-5 CV In with a S&H or Turing Machine for pseudo-random rhythm variance.
  - Assign an LFO with a cycle time of 1-2 minutes to sweep the multiplication from 1x to 8x, creating gradual tempo/rhythm transitions.
  - Pair with quantized melody generators so rhythm and pitch evolve together.

### 4. Layered Rhythms and Polyrhythms

- **Concept:** Split the master clock and create multiple rhythm layers at different speeds using several A-160-5 (or combining with dividers/multipliers).
- **Implementation:**
  - Send master clock to parallel A-160-5s with different CV or manual settings for each.
  - Route their outputs to trigger percussion, melodic gates, or modulation resets at polyrhythmic intervals.
  - Switch, fade, or cross-modulate these layers over time to create new song sections.

### 5. Song Macros & Scene Morphing

- **Concept:** Use performance controllers (e.g. Pressure Points, Planar, MIDI-to-CV controller) to change the A-160-5's multiplication in real-time, acting as "scene" or "fill" triggers.

- **Implementation:**

- Manual momentary increase of ratcheting for fills or drop transitions.
  - Save preset voltages that correspond to different multiplication setups (via preset voltage modules, MIDI converters, or precision adders).
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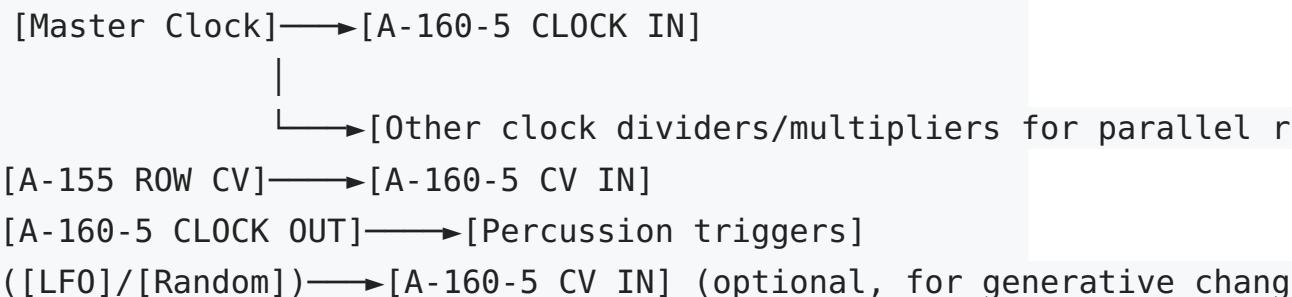
## Suggested Module Combinations

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- **Sequencers:** Doepfer A-155, Make Noise René, Intellijel Metropolis, etc.
  - **CV Sources:** LFOs, random modules (Wogglebug, Turing Machine), sequencer CV rows
  - **Drum/Envelope Modules:** Multiple drum voices, ADSRs or envelope followers to be triggered by ratcheted/gated outputs.
  - **Performance Interfaces:** Pressure Points, Planar, MIDI-to-CV modules
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## Patch Example for Song Structure

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Automate the CV input source to switch multiplication factors, directly resulting in new song sections, fills, and evolving patterns—moving you from patterns to fully-formed compositions.

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**Unlock the potential of your rhythms: with careful control of the A-160-5's multiplication factor via sequencer, LFO, or performance controls, your**

**modular system evolves from a groove box to a compositional tool  
capable of full-length, lively tracks.**

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