# 2hp — Turing Machine

- Manual PDF

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**TM 2HP Eurorack Module Manual (PDF)**
*(Use this official link or here if unsure—the above is a placeholder as there's no link in the image)*

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# TM 2HP Cheat Sheet

TM is a probabilistic random sequence generator for Eurorack inspired by Turing Machine concepts. It is ideal for generative and evolving sequences or controlled random voltage sources.

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## Front Panel Reference

| # | Label | Type | Function | Voltage Range |
|---|---|---|---|---|
| 1 | TRIG LED | Visual | Indicates change in sequence | N/A |
| 2 | TRIG | Input | Trigger/gate to advance/shift sequence | Threshold: 2.5V |
| 3 | PROB CV | Input | CV for probability (random/ locked) | 0–5V |
| 4 | PROB | Knob | Sets probability of random voltage change per step. Left = always new, Right = locked. | N/A |

| # | Label | Type | Function | Voltage Range |
|---|---|---|---|---|
| 5 | STEPS CV | Input | CV for sequence length | 0–5V |
| 6 | STEPS | Knob | Sets sequence length; Left = 1, Right = 32 | N/A |
| 7 | AMP | Knob | Scales output amplitude; Left = 0V, Right = 5V | N/A |
| 8 | OUT | Output | Random stepped voltage | 0–5V |

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## Quick Operation

- **Power:** 2HP, 47mm depth (Skiff friendly), +12V: 23mA, -12V: 7mA
- **Install:** Ensure red stripe = -12V (down in most cases).
- **Trigger:** Send trigger/gate ≥2.5V to TRIG; step advances and decides to create new random voltage based on PROB.
- **PROB (Probability):**
- **Left (100%):** Always generate new random voltage per step.
- **Right (0%):** Sequence "locks" to current voltages, advances steps without further randomness.
- **CV:** Patch in modulation (e.g., LFO, envelope) to vary randomness dynamically.
- **STEPS (Sequence Length):**
- Sets how many steps before looping (1–32). CV controllable.
- **AMP (Amplitude):**
- Sets range of output voltage. Full right = up to 5V, full left = 0V.
- **OUT:** Output stepped random CV to pitch quantizer, filter cutoff, etc.

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## Patch Tips

- For evolving melodies, patch OUT to a quantizer then to an oscillator pitch input.
- Use an LFO or random CV into PROB CV for dynamic randomness control.
- Adjust STEPS to taste for short or extended looping patterns.

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