Noise Engineering — Integra Solum

- Manual PDF

Manual PDF / Documentation

Noise Engineering Integra Solum — Cheat Sheet

What it is

Dual rotating clock divider / trigger generator with **2 independent sides**, each with: - **1 Clock input** - **1 Reset input/button** - **1 Shift (offset) control/ CV** - **8 trigger outputs** - **1 mode selector**

A single clock and/or reset can be used for both sides thanks to **normalled inputs**.

Quick use

1. Patch a clock into either **Clock** input.
2. If only one clock is patched, it **normals to both sides**.
3. Choose a **Mode** on each side:
4. **/2N** = powers-of-two divisions
5. **N** = sequence of 8
6. **/2N+1** = odd-number divisions
7. Turn or CV the **Shift** control to rotate which output is “first.”
8. Patch any of the **8 outputs per side** to envelopes, drum voices, switches, sequencers, etc.
9. Use **Reset** input/button to restart the pattern alignment.

Controls

Shift knob / CV

- Rotates the output order.
- Example: **jack 2 becomes step/output 1**, then jack 3, etc.
- Lets you re-map the rhythm across the 8 outputs without changing the clock.

Mode switch

Three standard modes per side: - **/2N** — divide by powers of two - **N** — sequence of eight - **/2N+1** — divide by odd numbers

Reset button

- While held, **all clock processing pauses**.
- When released, the divider resets on the **first clock after release**.

Wack mode

Hidden randomized mode.

Enter/exit Wack mode

- **One side:** hold that side's **Offset/Shift knob**, then press **Reset**
- **Both sides:** hold **both knobs**, then press **Reset**
- Works when both sides are in regular mode

Wack mode behavior

- **/2N:** probabilistic divide-by-2 behavior
- each step has a **50% chance** to generate a trigger
- **N:** one **random trigger output** per step
- **/2N+1:** all 8 outputs act independently
- on each rising clock, **each output has a 50% chance** of triggering

Jack Reference

Inputs

Clock input (x2, one per side)

- Function: Advances that side's divider/generator on a rising edge
- **Clock threshold:** responds at about **3.3 V**
- If only one clock is patched, it is **normalled to the other side**
- **Timing latency:** outputs update about **70 µs** after the clock edge

Reset input (x2, one per side)

- Function: Resets the state of that divider section
- Inputs are also described as normalled behavior when using shared reseting across sides
- Useful for re-aligning patterns to bar starts or master transport

Shift CV input (x2, one per side)

- Function: Rotates the output assignment/order for that side
- Manual does **not specify CV input voltage range**

Outputs

Trigger outputs (16 total; 8 per side)

- Function: Trigger streams based on selected mode and shift
- **Output voltage range: 0 V to 5 V**
- Trigger goes high at approximately **3.4 V**
- Suitable for triggering most Eurorack gate/trigger inputs

Per-side output behavior summary

Mode: /2N

- Outputs represent divisions by powers of 2
- Best for classic clock division trees

Mode: N

- Outputs behave as a sequence of 8 steps
- Good for stepping across 8 destinations rhythmically

Mode: /2N+1

- Outputs represent odd-number divisions
- Good for less symmetrical polyrhythms

Shift effect

- Reorders which physical jack corresponds to the beginning of the cycle
- Great for changing groove without repatching

Voltage / Timing Summary

- **Clock input threshold: ~3.3 V**
- **Trigger outputs: 0 V to 5 V**
- **Trigger high level: ~3.4 V**
- **Output update latency: ~70 µs**
- **Shift CV range: not specified in manual**
- **Reset input voltage range: not specified in manual**

Physical / Power Specs

- **Type:** Rhythm Modifier

- **Width: 8 HP**
- **Depth: 0.8 in**
- **Power connector: 2x5 Eurorack**
- **+12 V: 90 mA**
- **-12 V: 35 mA**

Practical patch tips

- Use one master clock to drive both sides for related rhythms.
- Use separate clocks for independent polyrhythmic structures.
- Send resets from a master sequencer every 16 or 32 steps to keep patterns anchored.
- Use **Shift** to remix which destination gets which subdivision.
- Try one side in standard mode and the other in **Wack mode** for a stable/random layered rhythm setup.

Ultra-short workflow

- **Clock in**
- **Pick mode**
- **Rotate with Shift**
- **Patch outputs**
- **Reset to re-align**
- **Enable Wack mode for randomness**
