Pittsburgh Modular — Gamesystem

- Manual PDF

Download the Pittsburgh Modular Game System Manual (PDF)

Pittsburgh Modular Game System: Creating Dense, Hyper-Complex Percussion and Polyrhythms

The Pittsburgh Modular **Game System** is not a sound source or effect, but a versatile Eurorack **sequencing and gate/CV generator**. In the context of hyper-complex percussion, intricate polyrhythms, and unusual time signatures, it functions as a powerful multi-sequencer/clock divider/gate generator.

Below are detailed creative approaches, using specific games and features within the module, to reach complex and evolving rhythmic results:

---

1. Drum Sequencer Game

- **What it is:** Four 16-step gate sequencers (think: independently programmable drum patterns).
- **How to use for complex percussion:**
- **Cross-Channel Patterning:** Program differing lengths for each of the 4 sequencers (e.g., 13, 15, 16, 11 steps). This causes the

patterns to drift against each other, delivering instant polyrhythms.
- **Flip Groups:** The MODE button lets you flip the green and red sequencers within each group, quickly remixing your pattern density and creating on-the-fly drum fills.
- **Step Probability (via CV):** Modulate step activation/deactivation via external CV/gate, dynamically morphing your percussion in real time.
- **Unique Output Routing:** Each channel (kick, snare, hats, etc.) can be routed to different drum voices or external modules for layered, diffuse beats.

---

2. Time Traveller Game

- **What it is:** First-ever two-dimensional clock divider with *offsets* for four independent outputs.
- **For polyrhythms and signatures:**
- **Fetch Different Divisions:** Set each output to a unique division (e.g., /5, /7, /3, /4).
- **Add Offsets:** Shift triggers/events with offsets in the y dimension—great for starting percussive voices at uneven points in your sequence.
- **Output Roaming:** Enable output roam for each row, allowing the triggers to leap between time divisions and offsets dynamically: this creates constantly shifting grooves.
- **Result:** Any percussion voice sequenced by these triggers will develop syncopation, polymeter, and non-standard groove.

---

3. Probability Machine Game

- **What it is:** Chaotic gate/generator with an X-Y grid for probability & complexity.
- **How to use:**
- **Density Control:** Move the joystick right (more likely triggers) or left (sparser triggers).

- **Complexity Control:** Move down for added rhythmic or gate complexity.
- **Layered Percussion:** Pair outputs (1+3, 2+4) to different percussion voices; increase complexity with the joystick button.
- **Evolving Patterns:** Modulate joystick position (via CV), causing real-time mutation of rhythms—excellent for generative, glitchy, granular percussion or surprise fills.

---

4. Euclidean Rhythms Game

- **What it is:** Auto-generated rhythm pattern engine based on Euclidean math.
- **Hyper-unique percussion:**
- **Asymmetric Patterns:** Set total steps to unusual values (e.g., 5, 13, 25), with a nonstandard spread of beats (e.g., 4 hits over 13 steps).
- **Pattern Inversion:** Flip between active and inactive steps—this inverts groove emphasis on the fly.
- **Sequence Direction:** Cycle through forward, pendulum, reverse, and random playback for even more non-repetitive structure.
- **Layer:** Sequence multiple drum voices with different Euclidean outputs, or combine with Time Traveller's clocks.

---

5. Combining Games & External Modulation

- **Use External CV/Gate:**
- Modulate joystick/button inputs from LFOs, other sequencers, or random sources for organic pattern mutation.
- Especially powerful when automating drum grid navigation (probability/Euclidean/time offset), introducing unpredictability.
- **Clock Division/Randomization:** Use external irregular clocks or clock multiplication for even more signature-bending patterns.
- **Sync Outputs to Samplers/Effects:** Route the generated triggers/gates to fire off samples, envelopes, granular processors, or even

CV-controllable effects, making even non-percussive modules behave rhythmically.

---

6. Live Performance Techniques

- **Tap Tempo or External Groove:** Use tap tempo (internal clock) or funky external clocks for groove quantize/humanizing feels.
- **Immediate Remixing:** Onstage, hold Mode, adjust joystick, flip sequences, or trigger resets, offering real-time control that's musical and playable.

Conclusion: Why Game System Excels Here

- Not a strict drum machine: it is an inspiration engine for **polyrythmic trigger programming, probability, evolving clocks, Euclidean logic, and creative sequencing.**
- Outputs can trigger any percussive module—or be chained to complex modulation, furthering the rhythmic depth.

Tip: Experiment by chaining Game System outputs through CV processors, randomizers, analog logic, or event-based effects for extra punch, groove, and unpredictability.
