Pittsburgh Modular — "Generator"

- Manual PDF

Manual PDF / Source

Pittsburgh Modular Generator — Cheat Sheet

Type: Dual oscillator / FM voice
Status: No longer in production
Size: 10 HP
Depth: 35 mm
Power: 30 mA

What it does

Generator is a **2-oscillator FM-focused sound source** built around two **triangle-core wide-range oscillators**. It excels at: - internal FM tones - metallic percussion - harsh modulation - drones / textures - noise / glitchy digital-like sounds

A key concept: **Oscillator 1 feeds an internal VCA ("Index") whose output internally FM-modulates Oscillator 2.**

It is **not 1V/oct** and **not temperature compensated**, so think of it more as an **FM/timbre oscillator** than a precision melodic VCO.

Quick start

1. Patch **OUT** or **2** to your mixer/VCA.

2. Set both oscillators to **Mid** or **High** range.
3. Adjust **GEN1 RANGE** and **GEN2 RANGE** for base pitch.
4. Turn **INDEX** to control how much Osc 1 internally FM's Osc 2.
5. Sweep **SHAPE** to morph both oscillators' waveforms.
6. Use **EXTERNAL IN** plus its attenuverter to add more FM to either osc.
7. For dynamic timbre, patch an envelope or LFO into **INDEX CV**.

Signal flow

- **Generator 1 output ("1")** = raw Oscillator 1, **pre-Index VCA**
- **Index VCA** controls Generator 1 level
- **OUT** = Oscillator 1 **post-Index VCA**
- **OUT** is also the **internal FM source** sent to Generator 2
- **Generator 2 output ("2")** = Oscillator 2 audio output
- **EXTERNAL IN** can FM either Generator 1 or 2 depending on destination switch

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Controls

GEN1 row

EXP jack

Exponential CV input for **Generator 1** frequency.
- Exponential response - **Does not track 1V/oct** - Voltage range: **not specified in manual**

3-way range switch

Coarse frequency range for Generator 1: - **Left = Low** - **Center = High** - **Right = Mid**

RANGE knob

Fine frequency control for Generator 1.

EXTERNAL row

INPUT ATTENUVERTER knob

Controls amount/polarity of **EXTERNAL IN** modulation. - Full left: inverted modulation, max amount - 12 o’clock: 0 - Full right: positive modulation, max amount

DESTINATION switch

Chooses which oscillator gets modulated by **EXTERNAL IN**: - **Up = Generator 1** - **Down = Generator 2**

EXTERNAL IN jack

Accepts CV or audio-rate signals as FM/modulation source.
- Voltage range: **not specified in manual**

GEN2 row

EXP jack

Exponential CV input for **Generator 2** frequency.
- Exponential response - **Does not track 1V/oct** - Voltage range: **not specified in manual**

3-way range switch

Coarse frequency range for Generator 2: - **Left = Low** - **Center = High** - **Right = Mid**

RANGE knob

Fine frequency control for Generator 2.

Internal FM note

Generator 2 is internally FM'd by **Generator 1 Index Out**. The amount is controlled by: - **INDEX knob** - **INDEX CV**

SHAPE row

SHAPE knob

Morphs both oscillators' waveforms simultaneously:

- **Full left**
- Generator 1 = **Square**
- Generator 2 = **Triangle**
- **Full right**
- Generator 1 = **Triangle**
- Generator 2 = **Square**

1 jack

Audio output for **Generator 1**, **pre-Index VCA**.
- Voltage range: **not specified in manual**

2 jack

Audio output for **Generator 2**.
- Voltage range: **not specified in manual**

INDEX row

CV jack

CV input for the **Index VCA**.
This controls Generator 1's VCA, which in turn controls: - **OUT level** - amount of **internal FM sent to Generator 2**

Voltage range: **not specified in manual**

OUT jack

Post-Index VCA Generator 1 output.
Also serves as the source for internal FM to Generator 2.
Voltage range: **not specified in manual**

INDEX knob

Gain control for Generator 1 Index VCA: - **Full left = 100% gain** - **Full right = 0% gain**

Important: this knob is **not** a normal CV attenuator.
- Full left gives full output regardless of CV - Full right allows strongest effect from incoming **INDEX CV**

Jack reference

Jack	Type	Function	Voltage range
GEN1 EXP	CV input	Exponential frequency control for Generator 1	**Not specified**
EXTERNAL IN	CV/audio input	External FM/modulation source for selected oscillator	**Not specified**

Jack	Type	Function	Voltage range
GEN2 EXP	CV input	Exponential frequency control for Generator 2	**Not specified**
1	Audio output	Generator 1 output, pre-Index VCA	**Not specified**
2	Audio output	Generator 2 output	**Not specified**
INDEX CV	CV input	Controls Index VCA / internal FM amount	**Not specified**
OUT	Audio output	Generator 1 post-Index VCA output; internal FM source to Gen2	**Not specified**

Control reference

Control	Type	Function
GEN1 RANGE switch	3-way toggle	Gen1 coarse range: Left Low / Center High / Right Mid
GEN1 RANGE knob	Knob	Gen1 fine frequency
EXTERNAL ATTENUVERTER	Knob	Amount/polarity of external modulation
DESTINATION switch	Toggle	External modulation target: Up Gen1 / Down Gen2
GEN2 RANGE switch	3-way toggle	Gen2 coarse range: Left Low / Center High / Right Mid

Control	Type	Function
GEN2 RANGE knob	Knob	Gen2 fine frequency
SHAPE	Knob	Simultaneous waveform morph for both oscillators
INDEX	Knob	Gain of Generator 1 Index VCA / internal FM amount to Gen2

Practical patch tips

1. Internal FM voice

- Listen to **2**
- Set both oscillators in **Mid**
- Use **INDEX** to add internal FM
- Sweep **SHAPE** for timbre changes

This is the core Generator sound.

2. Metallic percussion

- Patch an envelope to **INDEX CV**
- Listen to **OUT** or **2**
- Put **GEN1** in **Low**
- Put **GEN2** in **Mid**
- Fine-tune both frequency knobs

This matches the manual's suggested percussion approach.

3. Cross-mod style patch

- Patch **2** into **EXTERNAL IN**
- Set destination switch **Up** to modulate **GEN1**
- Use **INDEX CV** for animated internal FM

- Listen to **OUT** or **2**

Great for chaotic, aggressive, unstable FM.

4. Separate dual oscillator use

- Take **1** and **2** as two independent audio sources
- Keep **INDEX** lower if you want less internal FM interaction
- Use **SHAPE** as a dual timbre control

Important caveats

- **Not a precision pitch VCO**
- **No 1V/oct tracking**
- **No voltage ranges given in the manual** for I/O
- Best treated as an **experimental FM oscillator / sound generator**

Best-use summary

Use Generator when you want: - brutal FM - percussion and clangs - shifting drone textures - unstable digital-ish sounds from analog circuits - one compact module that can act as both sound source and modulation source

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Generated With Eurorack Processor