

A pixelated illustration of a dark grey bird, possibly a crow or raven, facing right. It has a yellow beak and a yellow eye. The bird is positioned on the left side of the image, with its head and neck extending towards the center.

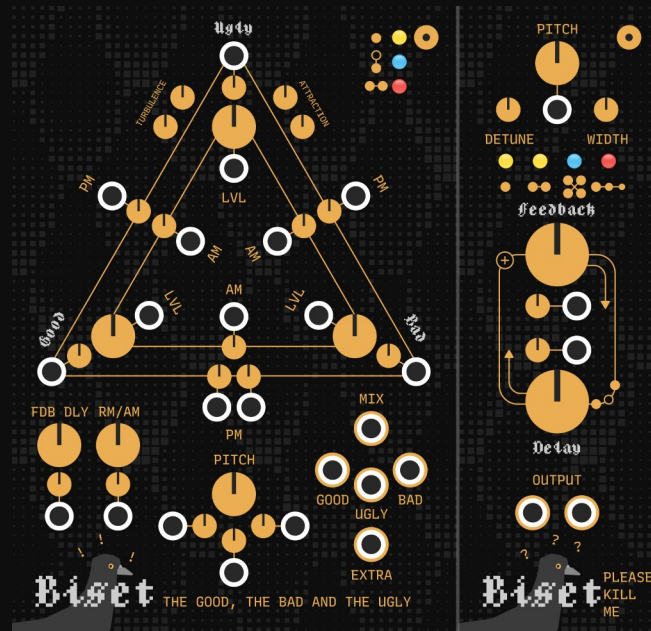
Biset

VCOs

VCV Rack manual

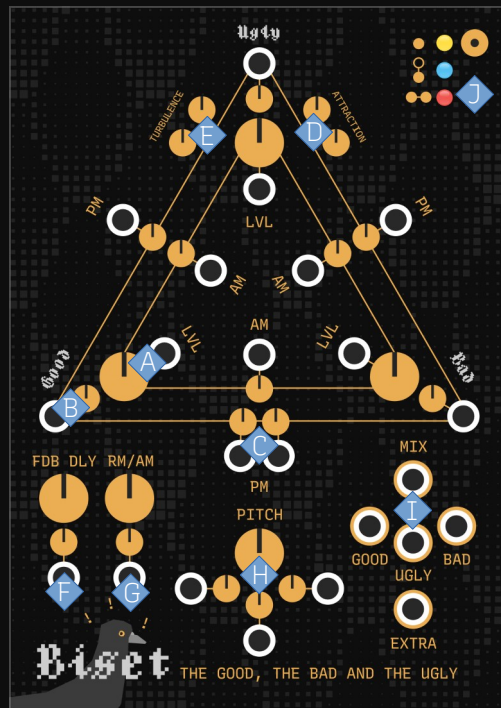
Biset VCOs

Biset **VCOs** are designed to add some **spring** and **inertia** to sound. Both **The Good, the Bad and the Ugly** (GBU) and **Please Kill Me** (PKM) are based on **feedbacked sine waves** with this unusual feature that is the **feedback delay** parameter adding a lot of character and instability to the sound (even more when modulated !).



Biset The Good, the Bad and the Ugly

GBU is good for **lead** voices, weird **chords** and heavy **basses**. It's probably not ideal for arp voices but feel free to test !



- A Oscillator level (VCA)
- B Oscillator feedback
- C Cross modulation (phase or amplitude modulation)
- D Ugly oscillator pitch attraction
- E Ugly oscillator pitch turbulence
- F Oscillators feedback delay
- G Oscillators Ring / Amplitude modulation mix
- H Pitch input
- I VCO output
- J Ugly oscillator mode

The Good, the Bad and the Ugly (GBU) is made of **3 oscillators** (1 oscillator by corner) that can modulate each other via **phase modulation**, **amplitude modulation**, **ring modulation** and **feedback modulation**. The **Good** and the **Bad** oscillators are « regular » oscillators while the **Ugly** is a bit special. The Ugly oscillator cannot be modulated and is **designed to modulate the other oscillators**. Its **pitch is unstable** (E) and is being **pulled by desired pitch with inertia** (D), adding, when modulation other oscillators, a nice and weird character to the sound.

Biset The Good, the Bad and the Ugly

Level, **feedback**, **phase** and **ring** modulations have dedicated knobs and inputs. Unconnected, knobs will define the level of the modulation. Connected, knobs will define the maximum level of modulation (reached with 10V) .

The **Feedback delay** knob controls every oscillators feedback delay, adding inertia to the waveform through time with pitch change.
The **RM / AM** knob controls the Ring modulation / Amplitude modulation mix of every oscillator.

Each oscillator has its own **pitch knob and input (H)** . If not connected, the **Bad** and the **Ugly** oscillators will read their pitch from the **Good** oscillator.

GBU has **4 outputs**. The **mix output** will sum **every oscillator** depending on their levels. Each oscillator has its own **individual output** where its **level has no impact**. The **extra output** is not an audio signal but a **modulation signal** following the **distance from the Ugly oscillator real pitch from its desired pitch**. This signal can be used to modulate **GBU** itself but also **other modules parameters**.

Biset The Good, the Bad and the Ugly

The **Ugly oscillator** has **4 knobs** dedicated to its **pitch attraction** and **turbulence**. The **pitch attraction section** will define how fast the oscillator pitch will **move to try to reach desired pitch** (attraction knob) and the **friction happening on its movement inertia** (friction knob). The **pitch turbulence section** will define **how fast** and **how much** the pitch will be affected by turbulence.

Ugly oscillators has **3 modes** (J) changing its behaviour.

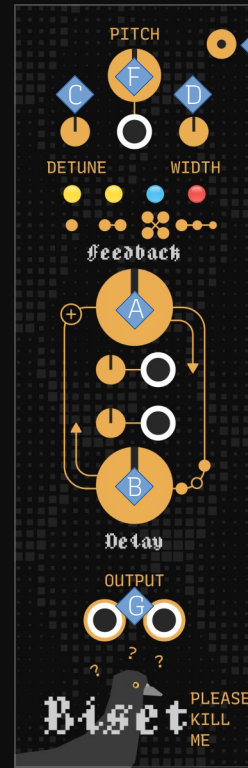
- **Ugly mode** - Classic weirdo inertia stuff
- **Weird mode** - The Ugly is made of **2 oscillators**. The **first** modulating the **Good** and the **Bad**, the **second** modulating the **Good the same way the first is modulating the Good**. Got it ?
- **Queen mode** - The Ugly is made of 2 oscillators detuned a bit and sumed to modulate the Good and the Bad

Tricks

- I like to use it with **multiple enveloppes** modulating other stuff than the level (PM, feedback, etc). Having **different enveloppes** on these modulations can create really interesting sounds.
- The **Ugly oscillator pitch** and the **Feedback delay movements** have more effects with **big pitch variation**.
- One nice trick would be to have the **Good** and the **Bad** oscillators identical but **detune** a bit (H) and get their output individually, the **Good** being the **left channel** and the **Bad** the **right channel** to have a nice **stereo** effect. If doing so, you will need to use an external VCA to control its level as individual outputs are not affected by level.

Biset Please Kill Me

PKM is particularly good for **drones** and heavy **basses**. It's also quite nice for weird **lead** voices



- | | |
|---|------------------------------|
| A | Feedback level |
| B | Feedback delay |
| C | Voices detuning |
| D | Voices detuning stereo width |
| E | Oscillators mode |
| F | Pitch |
| G | VCO stereo output |

Please Kill Me (PKM) is made of **4 stacked oscillators**. These oscillators **feedback** depending on the dedicated knob (**A**) with the **Feedback delay** control adding inertia and changing completely their waveform behaviour. The **unusual sound** made from the **feedback delay** is increased even more when oscillators are **detuned** as the **feedback delay is constant in time** but the oscillators waveform cycle depending on their pitch which will make **every oscillator sounds differently**.

Biset Please Kill Me

Please Kill Me has 4 different modes

- **Simple mode** - Default 4 oscillators
- **Double mode** - 8 oscillators !
- **Entangled mode** - The 4 oscillators cross feedback
- **Echo mode** - The 4 oscillators feedback with feedback echo. Why ? Dunno.

PKM provides additional **stereo options in the context menu**. These allows you to **rotate oscillators through stereo**. The nice but weird thing here is that it's not the final output that is rotated but the **oscillators pitch themselves** ! As each oscillator has a different waveshape depending on their detuning, rotating their pitch will create an even more interesting waveshape / pitch stereo effect.

Tricks

- Slowly **modulate feedback delay** and **rotate oscillators pitch** to create an ever evolving sound.
- **Modulate Feedback** with one of the output !
- Input pitch with a bit of **white (or filtered) noise** and have fun.