# PM Presets – PM LFSR Example 1

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All four variants in this example use **LFSR** in a very simple preset and differ only in LFSR setup.

## Description

LFSR *trig out* sends a trigger pulse each time when bit 8 gets or stays *ON*. **Pulser** changes duration of these trig pulses for **CA Envelope Generator**.

LFSR *cv out* delivers a voltage that is represented by register content. This voltage can be used as pitch signal.

*max* and *min* knobs set pitch range. For this example max is set to 3.0 and min is 0. So we will get a pitch within middle three octaves.

A **CA Quantizer** brings pitch CV to set scale.

## Variants

### Variant 1a

Even though there are only one bit set in both polynome and start value, created CV has a cycle length of 64 clock pulses.

| LFSR setup | polynome | 1 |
|---|---|---|
| | start value | 1 |

### Variant 1b

This variant differs to variant 1a only in feedback knot position. Cycle of created CV is only 12 clock pulses long.

| LFSR setup | polynome | 8 |
|---|---|---|
| | start value | 1 |

### Variant 1c

Feedback knot is now on another position. On first view there is no repeated shape in CV remarkable. Cycle length seems to be more than 64 clocks.

| LFSR setup | polynome | 16 |
|---|---|---|
| | start value | 1 |

### Variant 1d

Now both polynome and start value contain several ON bits. Resulting CV is rather complex.

| LFSR setup | polynome | 12 |
|---|---|---|
| | start value | 85 |

Example presets:
PM LFSR - Example 1a (1 1).voltagepreset
PM LFSR - Example 1b (8 1).voltagepreset
PM LFSR - Example 1c (16 1).voltagepreset
PM LFSR - Example 1d (12 85).voltagepreset

P.moon DOC files:
https://p-moon-modules.de/modules.htm