

The Subdecay M3 really is a synthesizer. It just uses your guitar to control instead of a keyboard. All the elements of a vintage synthesizer: Oscillators, LFOs, envelopes, voltage controlled filter and amplifier. (If you are unfamiliar with synth lingo and ever feel lost reading any of this visit our site here: [subdecay.com/synthspeak](http://subdecay.com/synthspeak).)

How it works:

Our primary design inspiration was the Korg MS20. The MS20 is notable not just for its aggressive sounds, but this was also an end of an era. The MS20 was pure analog. The MS20 was also semi-modular, meaning you could radically alter the sound with patch cables or even plug external signals or control voltages directly into it. The MS20 has 36 knobs and nearly 30 patch inputs. You can easily spend an hour perfecting a sound, then turn one knob and make it sound completely different or make no sound whatsoever.

Translating this all into a guitar effects friendly pedal was no easy task.

We wanted to bring you the essence of the MS20 in guitar pedal form. Easier to control, remember settings, but still bring you a full synthesizer experience.

By the early 80s, most "analog" synthesizers were using digital technology to control various parameters and we took some inspiration from here as well.

Simplified- analog and digital:

The output of the M3 is mostly analog. The VCF and VCA and analog circuits. Each of the three oscillators are capable of a digitally controlled sawtooth wave, or pulse wave. Being digitally controlled means these oscillators won't go out of tune. Internally the M3 borrows heavily from the 80s with digital envelope generators, LFOs controlling the analog circuits. While some purists may argue against the analog label many classic synths like Junos, Jupiters, Synthex, Polysix, AX all incorporated digital technology, but are usually considered analog synthesizers.

Where and how to use:

The M3 is a monophonic effect. This can require some adjustments in playing style. Making sure to play only one string at a time will improve tracking. Using palm muting techniques to keep other strings helps and also works well with the M3's VCF and VCA release.

Oscillators knob: Loads eleven different oscillator settings. The eleven settings match some common synth timbres including strings, bass, 5ths, octaves, etc. Each setting uses all three oscillators. These can be distinctly different pitches like setting 7 which is a major triad. Some use modulation or slight detuning for a chorus effect. Each oscillator is either a saw wave or a pulse/square wave.

Each setting also will also offset the filter ensuring it's in a useful range for the oscillator settings. This is the only way the oscillator knob will interact with algorithm parameters.

Controls:

Oscillators: This knob sets between 11 different oscillator selections.

A B & C Saw wave ensembles: The basis for the string machines of the past. Can also capture some horn sounds.

D E & F Bases: A mix of lower frequency saw and PWM waves.

G Fifth: Two oscillators track the input pitch with one oscillator offset by a 5th for that classic 5th synth sound.

H Major Triad: This is more of an ode to 90s electronic music than the 70s. We won't judge you for using it!

I octaves: Stacked octave saw waves.

J Two square waves and upper octave 5<sup>th</sup>: This was a common way synthesizers attempted to capture bell and chime timbres, or even electric piano.

K Stacked Squares: All three oscillators run squarewaves in unison. Perfect for synth leads.

Volume: You know what this one does, right? Turn it up to make it louder.

Resonance: Controls the resonance of the filter.

Parameter: Control varies depending on algorithm setting. (see next page.)

Subdecay Studios, Inc. - Hand made in Oregon.

Having trouble? Visit our website for more info: [subdecay.com](http://subdecay.com)

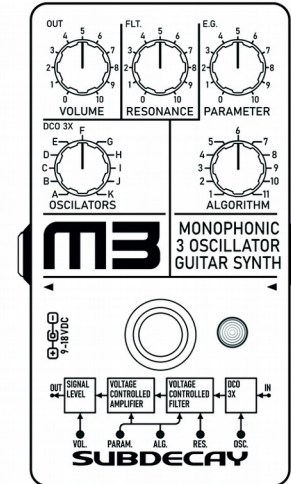
Specifications: Input impedance: 500Kohms. Output Impedance: ~ 5Kohms. Powered by a 9-18VDC adapter. Current draw @ 9VDC ~ 60mA. Can not be powered by a battery. Buffered bypass.

Warranty: Subdecay Studios offers a 3 year limited warranty from the purchase date to the original purchaser. This warranty does not cover polar bear attacks, willful destruction, using your pedal as a hammer, or the neglect of the user. It does not cover the finish, paint or any external superficial damage. Any unauthorized repairs or modifications voids the warranty.

# SUBDECAY

# M3

## 3 OSCILLATOR MONOPHONIC GUITAR SYNTHESIZER



## USER GUIDE

VERSION 1.00A

Algorithms: This controls everything else. Filter and Amp envelopes, portamento and pitch follow for the filter. Additionally one or more setting can be tweaked with the parameter knob.

1 Wide open: Parameter controls filter offset. The envelopes are wide open with moderate release. This is an example of one of the most simply synth settings.

2 String Envelope: Parameter controls filter offset. A moderate attack with high sustain and near reverb like release. Works well with string oscillator settings.

3 portamento: Parameter controls filter offset. The oscillators will glide smoothly from note to note. A classic synth lead trick that never goes out of style.

4 Decay: Parameter controls filter and amp decay length from just a blip to two seconds.

5 Decay/sustain 1: Parameter controls filter sustain. Another common synth sound. A quick decay that doesn't decay all the way.

6 Decay/sustain 2:

7 Fade: Parameter controls decay. Wide downward filter sweep.

8 Vibrato: Parameter controls Filter LFO speed. Slow decay with filter modulation.

9 Fast Modulation: Parameter controls Filter LFO speed from 20hz to 400hz. This is ring modulation territory for truly filthy sounds.

10 Slow attack: Parameter controls amp attack. like a reverse or swell effect. the notes fade in instead of out.

11 Filter Rise: Parameter controls the rise rate. Each note triggers a deep rising sweep of the filter. The Amp fades out as the rise peaks.

This document was believed to be accurate at the time it was created. Specifications are subject to change without notice.

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