

# The VCDM Synthesizer Chip

Voltage Controlled Digital Modular  
Synthesizer



Application Manual v1.0



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The VCDM is a modular synthesizer in a 28-pin DIP.

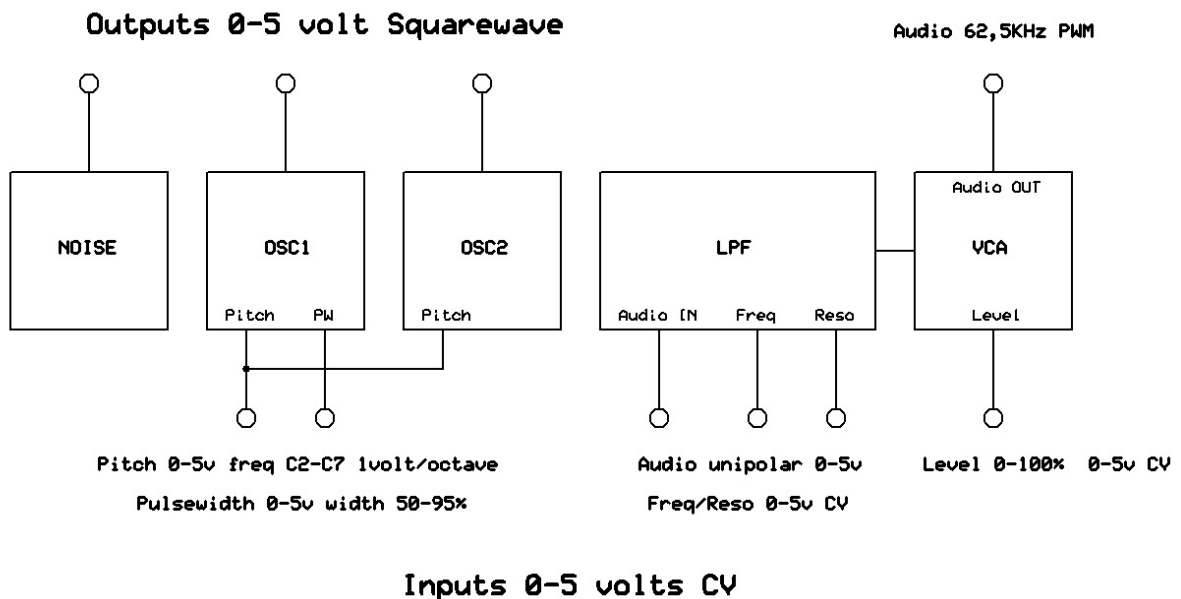
Modules included are a voltage controlled oscillator with voltage controlled pulse width, a suboctave oscillator with squarewave output, a noise source for white noise, a 18dB lowpass filter with resonance controlled by CV and a VCA for controlling output level with a CV.

The chip can be used as a voice chip for an analog synthesizer and can be patched into different configurations.

Any combination as mixing of outputs and even feedback is possible. Two or more outputs can be mixed through passiv resistor mixing.

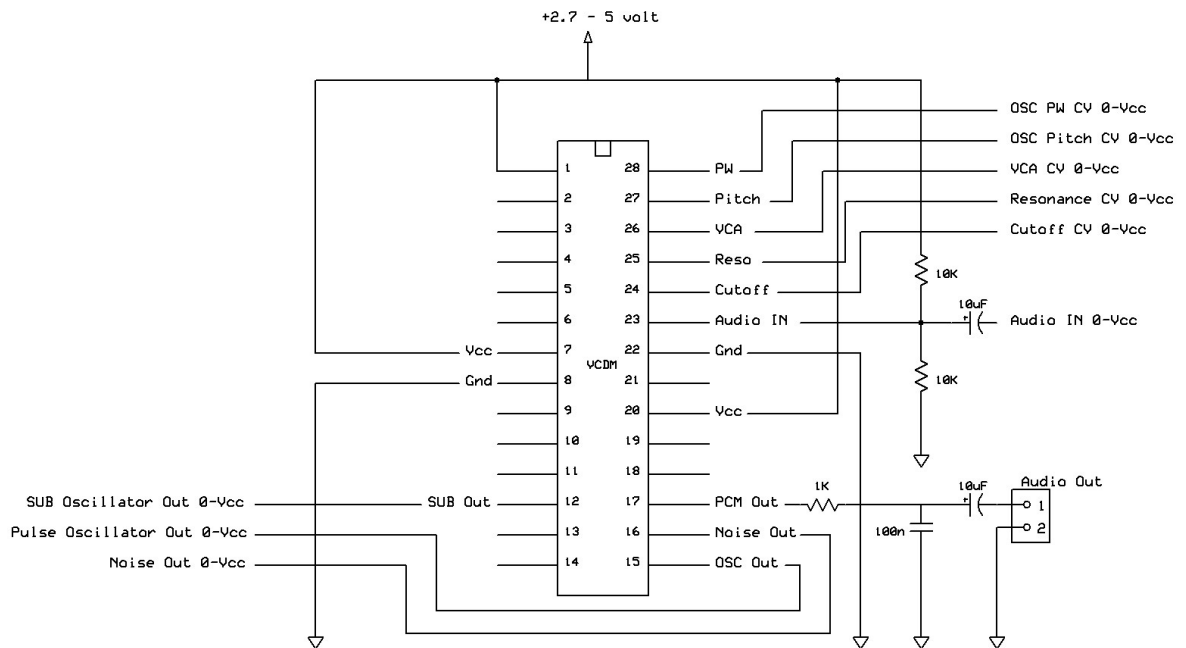
All input CV's handle positive 0-Vcc and the pitch CV is 1volt/octave at 5volt power supply.

The chip runs standalone from a 2.7-5 volt power source.



# Example application circuit for the VCDM

This is the minimum application circuit for the chip. Input levels are allowed between Gnd and Vcc. The outputs are analog and swings between Gnd and Vcc.



## Technical Specifications

DSP platform	AVR ATmega 20 DMIPS
Supply power	2.7 – 5 volt
Supply current	~4.9mA
Input tolerance	2.7 – 5 volt depending on Vcc
Audio output	Filter: 76 KHz sigma-delta PDM, Oscillators: analog
Synthesis method	Analog Subtractive
Control method	Analog CV 0-5volt, pitch 1volt/octave, Analog oscillators

## Contact & Support

For support and questions please use these contact addresses:

Website: <http://www.dspsynth.eu>

Email: [contact@dspsynth.eu](mailto:contact@dspsynth.eu)