ZMX-6
Lo-Fi Drum Synth Chip Family

Six Output PCM Drum Chip

App Note 002

ZMX-6 Drum Synthesizer Chip Family

The ZMX-6 drum synthesizer family are chips that contain six wonderfully crunchy "Lo-Fi" PCM drumkit samples in a 28-pin DIP package. The chips can be used as a voice chip for a drum machine or a drum module.

Currently available sample combinations are:
RockDrums-1 – Bass, Snare, Closed High Hat, Tom, Short Ride Cymbal, Cowbell
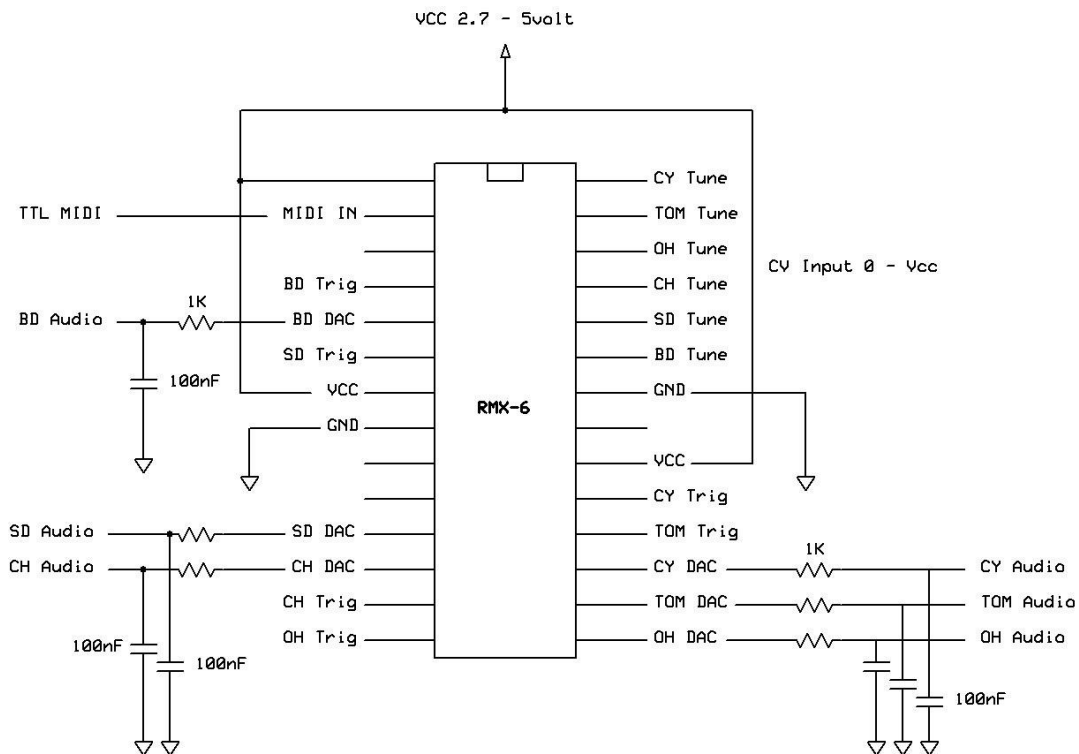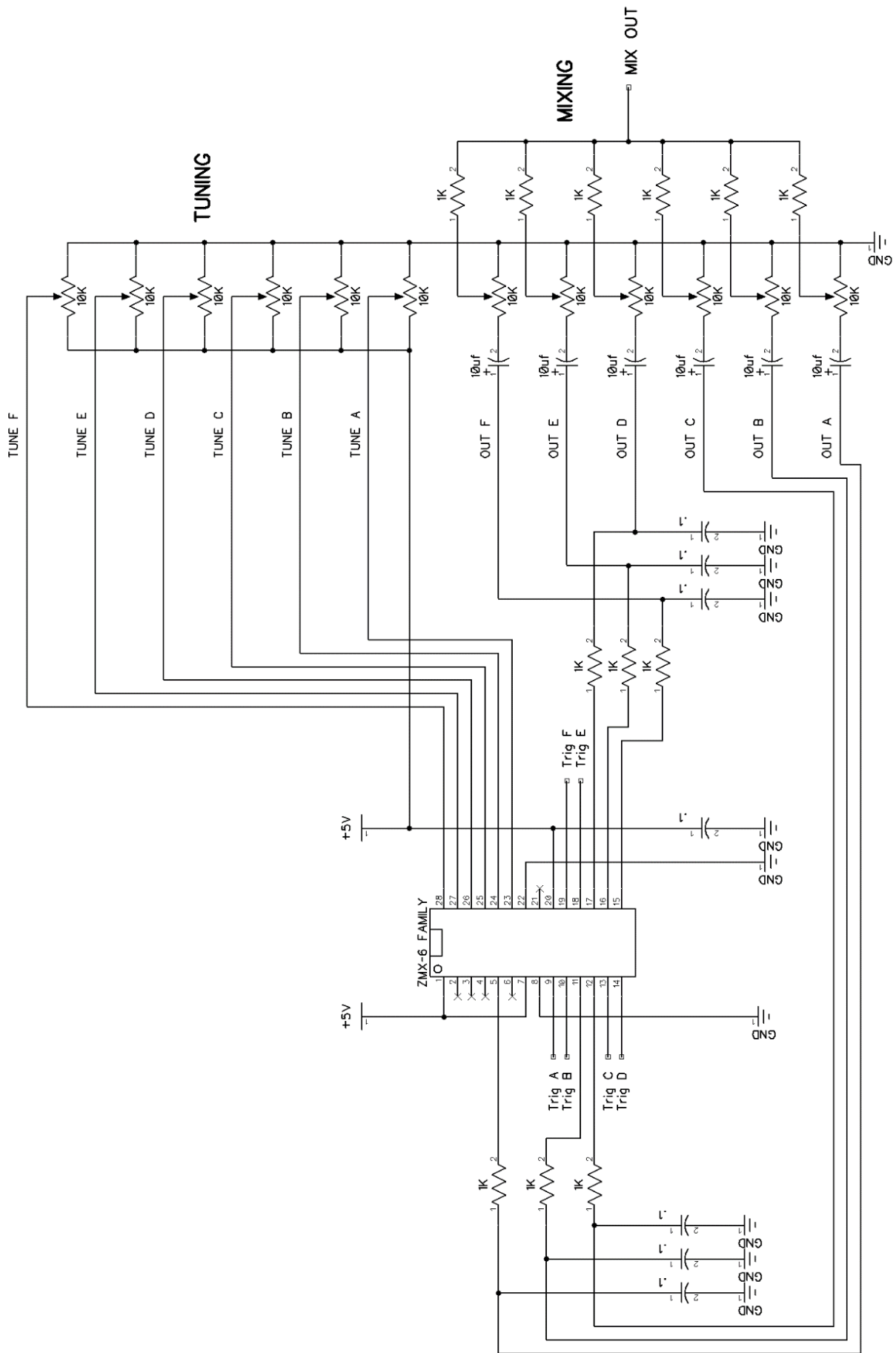**LatinPerc-1** – Agogo, Cabasa, Guiro, Whistle, Timbale, Bongo

The ZMX-6 has a separate trigger input and audio output for each of its 6 voices and is fully polyphonic. In addition, 6 separate tune inputs can modulate playback rates, including reverse playback, with an analog control voltage.

The outputs are ~40KHz 10-bit Sigma-Delta PDM and the chip runs standalone from a 2.7-5 volt power source.

Example application circuit

This is the minimum application circuit for the chip. Trigger and CV input voltage levels are allowed between Gnd and Vcc. Outside that range will permanently damage the chip. The output is analog and swings between Gnd and Vcc. Capacitive coupling of the audio outputs is highly recommended.

TUNING

MIXING

MIX OUT

ZMX-6 FAMILY

Technical Specifications

DSP platform	AVR ATmega 20 DMIPS
Supply power	2.7 – 5 VDC
Supply current	~4.9mA
Input tolerance	2.7 – 5 volts depending on Vcc
Audio output	40 KHz 10-bit sigma-delta PDM, 6 channel mono audio
Synthesis method	PCM Playback
Control method	6 polyphonic trigger inputs, 6 analog polyphonic tune

Contact & Support

For technical support and questions please use these contact addresses:
Website: http://www.steamsynth.com
Email: support@steamsynth.com

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