Digital Potentiometer Evaluation Tool

Microchip Technology introduced the latest enhancement to the MXDEV&#153 analog evaluation system, an easy-to-use evaluation and demonstration tool aimed at digital designers using the company's new family of digital potentiometers. Designed to be used in conjunction with the MXDEV Driver Board (available separately), the tool allows the programming and evaluation of Microchip's MCP42XXX digital potentiometer devices in a variety of applications.
When incorporating a digital potentiometer into a design, the MCP42XXX evaluation system allows the evaluation of programmable gain circuits, programmable offset circuits and programmable low-pass filters. A removable prototype board enables quick assessment of customer-designed circuits. Additionally, analyses can be made of the digital potentiometer shutdown, reset and daisy chain operations.
MXLAB&#153, the Windows&reg-based software tool included with the kit, determines digital potentiometer settings based on gain inputs (dB or V/V), filter cutoff frequencies and offset voltage levels. This system also contains ADC tools for data evaluation, including FFT analysis and a virtual oscilloscope tool. The MXLAB software can be downloaded free from the Microchip web site.
The MCP42XXX evaluation tool consists of three main parts: an MCP42XXX evaluation board, the MXDEV driver board (available separately) and a prototype board. Additional components include a reprogrammable Microchip Flash PICmicro&reg microcontroller, an RS-232 cable, 9 VDC power supply, MXLAB software, a MCP42010 dual 100K digital potentiometer, a MCP42050 dual 50K digital potentiometer, a MCP42100 dual 100K digital potentiometer and a user's guide.
In conjunction with this new development tool support, the MCP4XXXX family of six single- and dual-channel digital potentiometers with an SPI&#153 interface combine high performance and a competitive price, making the family of digital potentiometer devices an ideal solution for embedded control designs.
Applications for the MCP4XXXX family of digital potentiometers include audio equipment (volume and tone controls), servo-motor control, battery charging and control, communications (line impedance matching), power supplies, instrumentation (gain, offset adjust), LCD contrast control and programmable filters. The devices can be used in many existing Microchip customer designs utilizing analog-to-digital converters (ADCs), op amps and microcontrollers.

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