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Microchip Technology Enhances Popular 16- and 32-bit Development Platform with Application-Specific Expansion Hardware

Explorer 16 Daughter Cards Support Graphics, Ethernet, USB, CAN/LIN, SD/MMC Card Interface, Audio, IrDA(R), and Motor Control Applications

CHANDLER, Ariz.--(BUSINESS WIRE)--

Microchip Technology Inc. (NASDAQ: MCHP), a leading provider of microcontroller and analog semiconductors, today announced 10 new and existing application-specific PICtail(TM) Plus daughter boards for the popular Explorer 16 Development Board platform. The Explorer 16 Development Board (part # DM240001, $129.99) supports Microchip's 16-bit PIC24 microcontrollers (MCUs) and dsPIC33 Digital Signal Controllers (DSCs), and the 32-bit PIC32 MCUs, through numerous processor-specific plug-in modules. PICtail Plus daughter cards can be used to adapt the board for specific applications, reducing prototype development time while providing additional reference design insight for the final design.

"Even before the application-specific boards became available, the Explorer 16 was our most popular 16/32-bit development platform, because it supports all 16-and 32-bit MCUs plus the dsPIC33 DSCs," stated Derek Carlson, Microchip's vice president of Development Tools. "With the PICtail Plus daughter boards, developers can adapt the features of the Explorer 16 to a variety of applications, making it the centerpiece of a very flexible development platform."

Ten new and existing PICtail Plus daughter boards are currently available for the Explorer 16. They provide a wide range of functionality, and may be used in combination with each other:

USB PICtail Plus Daughter Board (part # AC164131, $60.00)

The USB PICtail Plus is a USB demonstration board for evaluating Microchip's 16- and 32-bit USB MCUs using the Explorer 16. Features include example circuits for USB implementation, and Microchip's free USB 2.0 Embedded Host and On-The-Go (OTG) stacks. For more information, please visit Microchip's USB Design Center at: www.microchip.com/usb.

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    Ethernet PICtail Plus Daughter Board (part # AC164123, $39.99)
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The Ethernet PICtail Plus Daughter Board provides a cost-effective method for evaluating and developing embedded Ethernet applications. The development board is populated with Microchip's 28-pin ENC28J60 MAC/PHY Ethernet controller, which interfaces to the SPI bus of the microcontroller. Also included is the RJ-45 connector, to make the Ethernet connection

to the network. For more information, please visit Microchip's Ethernet Design Center at: www.microchip.com/ethernet.

Motor Control Interface PICtail Plus Daughter Board (part # AC164128, $125.00)

This Motor Control Interface PICtail Plus Daughter Board interfaces with the Explorer 16 and Microchip's High-Voltage or Low-Voltage Power Module (part # DM300021 or DM300022, respectively). It has hardware support for sensor and sensorless applications, such as Hall sensors, optical encoders, back EMF and current sensing. Included is a dsPIC33FJ256MC70 Motor Control Plug-in Module for the Explorer 16. For more information, please visit Microchip's Motor Control Design Center at: www.microchip.com/motor.

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Graphics PICtail Plus Daughter Board (part # AC164127, $135.00)
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The Graphics PICtail Plus Daughter Board demonstrates Microchip's graphic LCD display solution, including Microchip's Graphics Library for 16- and 32-bit processors. The Graphics PICtail Plus contains a color QVGA display with Resistive Touch-Screen capability. For more information, please visit Microchip's Graphics Display Design Center at: www.microchip.com/graphics.

Speech Playback PICtail Plus Daughter Board (part # AC164125, $45.00)

The Speech Playback PICtail Plus Daughter Board implements a fourth-order Low Pass Filter, speaker amplifier, speaker and 1 Mbit SPI serial EEPROM for playback-only applications. Speech playback is accomplished by using the integrated PWM module on the Explorer 16 processor, and is filtered into a voice waveform using the Low Pass Filter.

Audio PICtail Plus Daughter Board (part # AC164129, $80.00)

The Audio PICtail Plus Daughter Board features microphone or line inputs, plus line output and speaker output, for audio applications. The audio input signals are routed to the Analog-to-Digital Converter (ADC) peripheral on the Explorer 16 processor. Output signals can be generated by the Explorer 16 processor using the Output Compare/PWM module as a Pulse-Width Modulation (PWM) digital waveform; or, some dsPIC33 DSCs are equipped with a 16-bit Digital-to-Analog Conversion (DAC) module, which can generate a pair of differential signals.

PWM-generated signals are converted to analog signals by a low-pass filter on the Audio PICtail Plus Daughter Board. DAC-generated signals are converted to a single-ended analog signal by a differential amplifier on the Audio PICtail Plus. The output signals from the Audio PICtail Plus are then appropriately amplified for the selected output type (line or speaker).

PICtail Daughter Board for SD and MMC Cards (part # AC164122, $37.99)

The PICtail Daughter Board for SD and MMC Cards is a universal board that interfaces Secure Digital (SD) and Multi-Media Card (MMC) memory cards to the SPI bus of the Explorer 16 processor.

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Prototype PICtail Plus Daughter Board (part # AC164126, $20.00)
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The Prototype PICtail Plus Daughter Board is an expansion breadboard card for the Explorer 16, using any of Microchip's 16- or 32-bit controllers. This 8x8 cm board provides access to all of the processor's pins and contains a general-purpose prototyping area. Each purchase includes three blank Prototype PICtail Plus Daughter Boards.

"Adapting so many disparate applications to one Explorer 16 Development Board is only practical because the Explorer 16 can support development for complete families of MCUs and DSCs--not just a few individual products," said Sumit Mitra, vice president of Microchip's Digital Signal Controller Division. "The Explorer 16 definitely takes advantage of the pin, peripheral, software and development-tool compatibility between our 16- and 32-bit product lines to make these PICtail application-specific platform expansions possible."

ECAN(TM)/LIN PICtail Plus Daughter Board (part # AC164130, $45.00)

The ECAN/LIN PICtail Plus Daughter Board is used with the Explorer 16 to facilitate rapid implementation and evaluation of applications that use Controller Area Network (CAN) and Local Interconnect Network (LIN) interfaces that are implemented on selected dsPIC33 DSCs and PIC24H 16-bit MCUs. Features include: two ECAN nodes with MCP2551 transceivers, two LIN nodes with MCP2021-330 transceivers, a LIN Master or Slave selectable option, and an external power-supply input. For more information on Microchip's CAN and LIN solutions, please visit: www.microchip.com/connectivity.

IrDA(R) PICtail Plus Daughter Board (part # AC164124, $25.00)

The IrDA PICtail Plus Daughter Board expands the functionality of the Explorer 16 to include IrDA communications. This card features a TFDU100 infrared optical sensor module from Vishay Semiconductor. The PIC24 and dsPIC33 UART modules implement the 3/16 encoder and decoder necessary to interface directly with the TFDU100. For more information, please visit Microchip's Infrared Design Center at: www.microchip.com/irda.

Development Support and Availability

Most PICtail Plus daughter boards have a significant software library repository to support their targeted applications. These include communication and file-management stacks and firmware drivers, compression and audio-processing libraries, motor-control libraries and graphics libraries, which are available for free download and evaluation from Microchip's Web site.

Within the free MPLAB(R) IDE, which supports Microchip's entire line of approximately 500 8-, 16- and 32-bit MCUs and DSCs, high-level resources are added in a microcontroller-friendly way to allow the utilization of processor features with minimal effort. These features include Microchip's Visual Device Initializer, which can generate initialization code in a few clicks, and application-specific interfaces for motor-control and PID parameter tuning.

All PICtail Plus daughter boards are available today at www.microchipdirect.com, and range in price from $20.00 to $135.00. For additional information, contact any Microchip sales representative or authorized worldwide distributor, or visit Microchip's PICtail Plus Web page at www.microchip.com/pictailplus.

Microchip Customer Support

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About Microchip Technology

Microchip Technology Inc. (NASDAQ: MCHP) is a leading provider of microcontroller and analog semiconductors, providing low-risk product development, lower total system cost and faster time to market for thousands of diverse customer applications worldwide. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at www.microchip.com.

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