PICtail™ Plus
Daughter Boards

PICtail™ Plus Daughter Boards: Card Edge Modular Expansion Connectors

The Explorer 16 board has been designed with the PICtail Plus modular expansion interface, allowing the board to provide basic generic functionality and still be easily extendable to new technologies as they become available.

PICtail Plus is based on a 120-pin connection divided into three sections of 30 pins, 30 pins and 56 pins. The two 30-pin connections have parallel functionality. For example, pins 1, 3, 5 and 7 have SPI1 functionality on the top 30-pin segment, with similar SPI functionality on the corresponding pins in the middle 30-pin segment.

Each 30-pin section provides connections to all of the serial communication peripherals, as well as many I/O ports, external interrupts and A/D channels. This provides enough signals to develop many different expansion interfaces, such as Ethernet, ZigBee™ Technology, IrDA® Protocol and so on. The 30-pin PICtail Plus daughter boards can be used in either the top or middle 30-pin sections.

The Explorer 16 board provides footprints for two edge connectors for daughter boards, one populated (J5, Samtec # MEC1-160-02-S-D-A) and one unpopulated (J6). The board also has a matching male edge connection (J9), allowing it to be used as an expansion card itself.

SD/MMC PICtail™ Plus Daughter Board (AC164122)

The SD/MMC PICtail Plus Daughter Board is a universal board that interfaces the Secure Digital (SD) and Multi-Media Card (MMC) to the Serial Peripheral Interface (SPI) bus of the microcontroller. This PICtail board is designed to operate with a multitude of demonstration boards, including all those having PICtail signals, those with PICtail Plus signals (utilizing the card-edge connectors like the Explorer 16), and those with non-standard PICtail signals. This card plugs into one of the 30-pin sections on the PICtail Plus expansion header. This card is compatible with all 16-bit products.

Ethernet PICtail™ Plus Daughter Board (AC164123)

The Ethernet PICtail Plus Daughter Board provides a cost-effective method of evaluating and developing Ethernet control applications. The development board is populated with the 28-pin ENC28J60 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. This card is compatible with all 16-bit products operating at 3V.

IrDA® Protocol PICtail Plus Daughter Board (Future)

The IrDA® Protocol PICtail Plus Daughter Board expands the functionality of the Explorer 16 demo board to include IrDA communications. This card features a TFDU100 infrared optical sensor module from Vishay Semiconductor. The PIC24 and dsPIC33F UART module implement the 3/16 encoder and decoder necessary to interface directly to the TFDU100. This card is compatible with all PIC24 and dsPIC33F products.

CompactFlash PICtail™ Plus Daughter Board (Future)

The CompactFlash PICtail Plus Daughter Board provides an interface between 16-bit products and a CompactFlash memory card. The interface is based on general-purpose I/O pins or the PMP module found on some of the higher pin count 16-bit devices. This card is compatible with all 16-bit products.

Wireless Communications PICtail™ Plus Daughter Board (Future)

The Wireless PICtail Plus Daughter Board interfaces to an IEEE 802.15.4™ to the 16-bit devices through the SPI module. The board includes provisions to select the PCB trace antenna or a user-supplied SMA connector. This card can be used with the ZigBee protocol or Microchip's MiWi™ wireless networking protocol. This card is compatible with all 16-bit products operating at 3V.

Voice Synthesis PICtail™ Plus Daughter Board (Future)

The Voice Synthesis PICtail Plus Daughter Board implements a fourth-order Low Pass Filter (LPF), speaker amplifier, speaker and 1 Mbit SPI serial EEPROM for playback only applications. Voice synthesis is accomplished by using the integrated PWM module on the 16-bit products and filtered into a voice waveform using the LPF. This board is designed to operate on both PICtail and PICtail Plus connectors. This card is compatible with all 16-bit products operating at 3V.

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