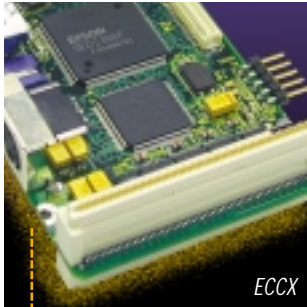
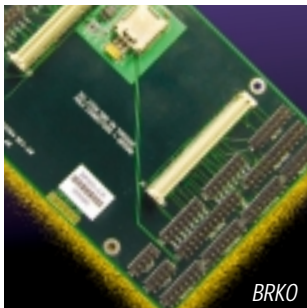




I/O: Breakout Board (BRKO), HIOX, ECCX



Embedded Planet I/O boards provide developers with additional functionality so all the features of PowerPC 8xx processors can be used.

Embedded Planet offers a variety of I/O modules that plug directly into the RPX Bus and the PowerPC processor on the associated computing engine. Graphics, LCD, Audio, Touchscreen, serial, Ethernet and other features are available.

The **Breakout Board (BRKO)** connects directly to the RPX series of Computing Engines from Embedded Planet. The Breakout Board routes all P1 and P2 Expansion Connector signals from the RPX Bus Architecture to standard 0.1" Plug headers for easy probe access. These signals are connected to the receptacles on top of the Breakout Board so that expansion cards can be easily connected directly to the Computing Engine and PowerPC CPU. Simplifying development further, the Breakout Board has a "pass-thru" connector so a third user-defined card may be added.

The **HIOX** is a Multi-Media I/O expansion card designed for the RPX LITE and CLLF CPU engines. The HIOX Card is designed to allow the user to gain access to additional features and functions of the MPC8xx family, along with supporting additional peripheral functions.

The **ECCX** module is a video graphics card based on the SED1386 chip from Epson and can display multiple streams of high resolution video.

The Epson SED1386 graphics controller is a powerful and "synthesizable" chip that has its features brought out on the ECCX's credit card sized module. The ECCX includes the Embedded Planet RPX Bus interface which connects directly to the Motorola PowerQUICC CPM. Simplifying development further, the ECCX has a "pass-thru" connector so a third user-defined card may be added.

Embedded Planet also offers the **MIOX** module which is a credit card version of the HIOX module and the **VIOX** module which includes video, touchscreen, RAM, Flash and RS232/RS485 communication ports.

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IO: Breakout Board (BRKO), HIOX, ECCX**Breakout Board (BRKO) Features**

- Easy probe access for all P1 and P2 Expansion Connector signals from the RPX Bus to standard 0.1" Plug headers
- "Stack-thru" feature that allows other expansion cards to be plugged on top of the BRKO.
- Compatible with all 8xx based computing engines
- AMP 179031-5 is used for Plug headers and maintains a board-to-board mating height of 16mm
- Additional headers for power and ground connections
- A 5V to 3.3V regulator is included for "sky-wiring" of peripheral circuits
- Can be powered from either the 5V or the 3.3V supply from the regulator
- Includes expansion guidelines for corresponding computing engines
- Develop your own expansion modules
- Cable kits and power supplies are included in the package

HIOX Features

- PC/104 mechanical form factor
- LCD and Video support
- Extra peripheral interface for Ethernet, serial RS-232 or IrDA through SMC2, SCC2 and SCC3
- Audio Line-out, Line-in and Microphone Interface
- Touch Screen is available for LITE 823 products
- CD-ROM with design, reference, and development information
- Contact Embedded Planet for functions available with 8xx processor and SCC1, SCC2, SCC3, SMC1, SMC2

ECCX Features

- Compatible with all 8xx based computing engines
- Connects directly to the PowerPC Processor
- No PCI interface needed, reducing cost and space
- Credit card (3"x2") mechanical form factor
- LCD, Video and VGA interfaces

ECCX Display Specifications

- Up to 64K colors on TFT/D-TFD, CRT, TV
- 4/8 bit/pixel color depths through (3) LUTs
- 256x4 LUTs for 16/256 allowing 16/256 out of 4096 colors
- Separate LUTs for LCD and CRT/TV
- 16 bit/pixel modes mapped directly past LUT
- 4/8/16 bit/pixel color depth
- Up to 64 shades of gray on passive panel
- Up to 64K colors in 16bpp mode on color

ECCX Peripheral Interfaces

- LCD via Hirose connector with NEC pinouts
- VGA
- Video via SMB or BNC
- Touchscreen via 4 or 5 wire

Environmental Specifications for I/O

- Temperature: 0°C to +70°C operating (extended temperature available)
- Altitude: 5000m
- Humidity: 10% to 80% (non-condensing)
- Vibration: 2Gs RMS, 20-2000Hz

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