Cogent Computer Systems, Inc.

"ALWAYS COMPLETE"

CSB1701 - CSB17xx Network SOM Development Board

The CSB1701, designed, developed and manufactured by Cogent Computer Systems, Inc., is a Flex-ATX form factor board designed to allow effective, quick to market software and hardware development with the full range of current and future CSB17xx Network series of MXM SOM modules.

Specifications and Features

- **PCI EXPRESS SOCKET 1 -** This x16 Socket is connected to SOM PCI Express Port 0, Lanes 0-3. The actual width (x1, x2 or x4) is SOM specific.
- **PCI EXPRESS SOCKET 2 -** This x1 Socket is connected to SOM PCI Express Port 1.
- **PCI EXPRESS SOCKET 3 -** This x1 Socket is connected to SOM PCI Express Port 2.
- **10/100/1000 ETHERNET -** Two Shielded, Combo Dual USB/RJ45 Connectors with Magnetics provide access to the SOM Copper Ethernet Ports. They are compatible with both 10/100 and Gigabit SOM's.
- **SGMII/XAUI SERDES -** An offset mounted PCIe x4 Connector is used to provide access to SOM SGMII Ports 2-5 or XAUI.
- **SATA -** Two Standard 7-Pin SATA Connectors allow access to SOM SATA Ports 0 and 1.
- **REMOTE LCD I/F -** A high speed Mini-SAS Connector provides access to the SOM LVDS. It also brings out SOM USB Host Port 1 for HMI applications.
- **SD/MMC SOCKET -** A full size SD/MMC socket provides access to the SOM SD/MMC Port.
- **HIGH SPEED USB HUB -** SOM USB Host port 0 goes to a Four Port High Speed USB Hub. Ports 0 and 1 of this Hub go to Combo Ethernet/USB Jack 0, while ports 2 and 3 go to Combo Ethernet/USB Jack 1.
- **CONSOLE I/O -** UART0 is converted to USB and accessed via a Mini-B Connector.
- **CPU SPECIFIC I/O HEADERS -** A 40-Pin Header provides access to the CPU Specific I/O Ports: UART1; UART2/CAN; TDM/SSP; I2S/AC97; SPI; and I2C.
- **JTAG -** A 20-Pin Header provides access to the CPU JTAG Port.
- **COGENT MXM SOM SUPPORT -** Common, Interchangeable Footprint across Multiple CPU Architectures; Supports MXM SOM A-Size (50mm x 70mm), B-Size (75mm x 70mm) and C-Size (100mm x 70mm), Network Pinout; 12V Fan Header controlled by SOM IPM Micro for Active CPU Cooling; plus 8-Position DIP Switch for SOM Configuration Options.
- **POWER SUPPLY -** Standard 24-Pin ATX Power Supply Connector (SOM uses +12V only)
- **FLEX-ATX SIZE -** 170mm x 228.6mm (7.5" x 9.0") Board fits into almost any off the shelf Micro-ATX Enclosure including Small Form Factor (SFF) Enclosures.

Introduction and Overview

The Multiple PCI Express Sockets, USB, SATA, Dual 10/100/1000 Copper Ethernet, Remote LCD Interface, and SGMII/XAUI Expansion on a standard Flex-ATX Form Factor Motherboard all combine to make the CSB1701 the ideal Software and Hardware Development Platform for any Network oriented CSB17xx SOM. To accelerate this process, the Schematics and Gerbers of the CSB1701 are provided by Cogent at no charge. This IP can then be freely adapted to quickly enable custom CSB17xx targets.

Cogent also offers a custom Rapid Prototyping Program to create the exact carrier board for your specific application. Very low NRE and quick turn around time are a standard part of this service! Contact us today to get your project started.
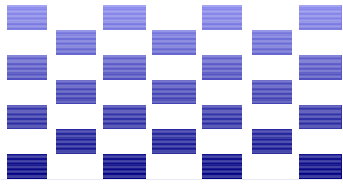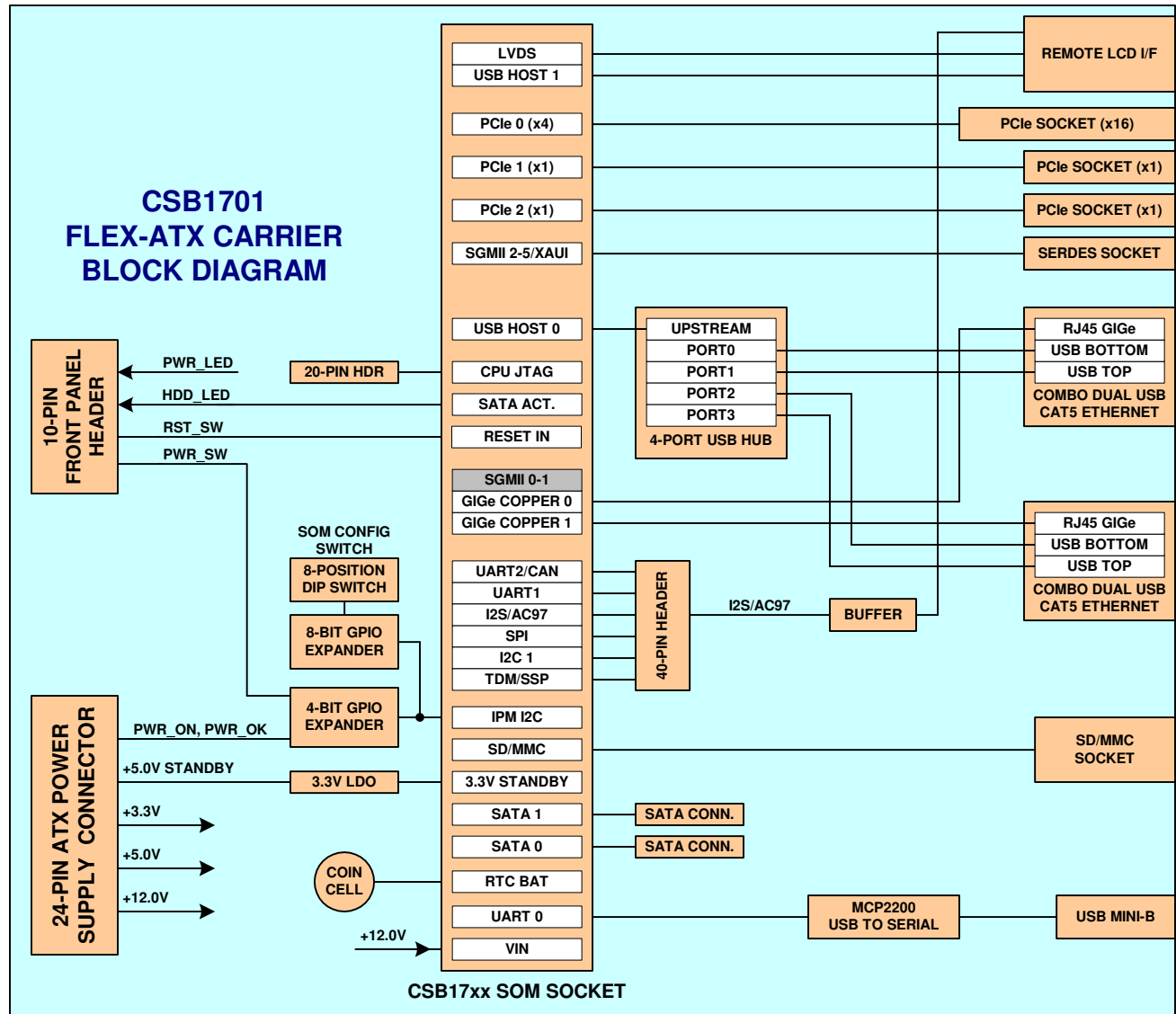
CSB1701 FLEX-ATX CARRIER BLOCK DIAGRAM

Cogent Development Kits

The CSB1701 is an integral part of each Cogent KIT17xx Network Development Kit (replace xx with the CSB17xx module, ie - KIT1724 for the CSB1724 Marvell 88F6282 MXM SOM). Included in each KIT17xx is a USB-A to Mini-B Serial Cable, and an Ethernet Cable. An optional Small Form Factor (SFF) Micro-ATX Case and Power Supply is also available.

For CSB17xx SOM's that support LVDS output, an optional LCD display can be added via the Remote Display Interface. Contact Cogent for more information on the CSB1701, KIT17xx Network series and the CSB19xx LCD adapter family.