**COGENT***"ALWAYS COMPLETE"*

Cogent Computer Systems, Inc.

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CSB1725 - MV78200 System On a Module (SOM)

The CSB1725, designed, developed and manufactured by Cogent Computer Systems, Inc., is a high performance, network oriented, ARMv5TE based System on a Module (SOM). The CSB1725 provides a small, powerful and flexible engine for embedded Linux based 10/100/1000 networking and storage applications.

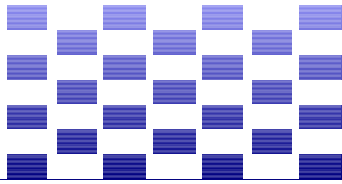
Specifications and Features

- **CPU** - 1Ghz Dual Superscalar ARMv5TE Cores (800Mhz Single Core Option - MV78100)
- **CACHE** - 32KByte Instruction and Data Caches; 512KByte L2 Cache per Core
- **FPU** - IEEE 754 Compliant Single/Double Precision Floating Point Unit
- **SDRAM** - 512MByte (1GByte Option) 64-Bit Wide DDR2-667 Memory with 8-Bit ECC
- **NAND FLASH** - On-Board 512MByte SLC NAND
- **PCI EXPRESS** - Two x4 Links (each may also be configured as four x1's)
- **GIGABIT ETHERNET** - Two 10/100/100 ports via 88E1121R Dual RGMII to Copper PHY
- **SECURITY** - On-Chip Cryptographic and Security Acceleration Engines Support Various Encryption/Decryption Algorithms: AES128; DES/3DES; MD-5 and SHA1 hashing; and others
- **XOR/RAID** - High Speed XOR DMA Engine for RAID Storage Applications
- **SATA** - Dual SATA Gen 2 (1.5Gbit or 3Gbit/sec) Channels
- **USB** - Two 480Mbit USB 2.0 Host Ports via Built-In PHY
- **SERIAL I/O** - Four 4-wire TTL Serial Ports, Two I2C Port and one SPI Port
- **TIME-DOMAIN MULTIPLEXING** - TDM Controller with a Dedicated SPI Port For CODEC Control
- **JTAG** - Standard ARM JTAG (Header located off module)
- **OPERATING VOLTAGE** - Requires Single +12V Input Rail; On-Board 3.3V (for I/O with 3Amp available to off board devices), 1.8V (SDRAM), 1.0V (CPU Core) Power Supplies
- **POWER MANAGEMENT** - On-Board ATMEGA Microcontroller for Power Sequencing, Boot Configuration, FAN Control and Thermal Monitoring
- **OPERATING TEMPERATURE** - 0C to +70C Standard, -20C to +85C Option
- **POWER CONSUMPTION (DUAL CORE)** - 8W typ., 12W Max and <10mw Power Down
- **COGENT MXM SOM COMPLIANT** - Common, Interchangeable Footprint across Multiple CPU Architectures; Designed for Conductive or Air-Cooled Thermal Management; Uses Low Cost (<\$2) Industry Standard MXM-II Socket; Future Versions will Support PCIe GEN-II and XAUI
- **ULTRA COMPACT SIZE** - 70mm x 80mm x 6mm (using 4.3mm Low Profile MXM Socket)
- **BOOTLOADER AND OS SUPPORT** - Uboot and Linux 2.6.x

Introduction and Overview

The Dual Superscalar Sheeva ARMv5TE Architecture Cores, multiple PCI Express links, high speed USB, Dual Serial ATA, Dual 10/100/1000 Ethernet, and highly efficient on-board regulators all combine to make the CSB1725 the ideal engine for size restricted, high performance, Network and Storage applications. For the lowest power consumption, the IPM Micro can power the board down completely while remaining on standby power. In this mode the consumption drops to <10milliwatts with IPM bus wakeup events still active. The IPM Micro also controls power sequencing; thermal and voltage monitoring; FAN Control; and boot configuration.

The CSB1725 is constructed using state of the art PCB layout and packaging technology such as: 667Mhz DDR2 balanced tree routing; 3GHZ+ high-speed differential signaling; 15 Amp peak switching regulators; and 8-layer, low EMI, impedance controlled PCB stackup. The CSB1725 gives you access to this technology without the learning curve or the risk. You can integrate the CSB1725 using a simple, low cost 4-layer PCB, in just weeks, not months! We can even do it for you through our custom design services group.



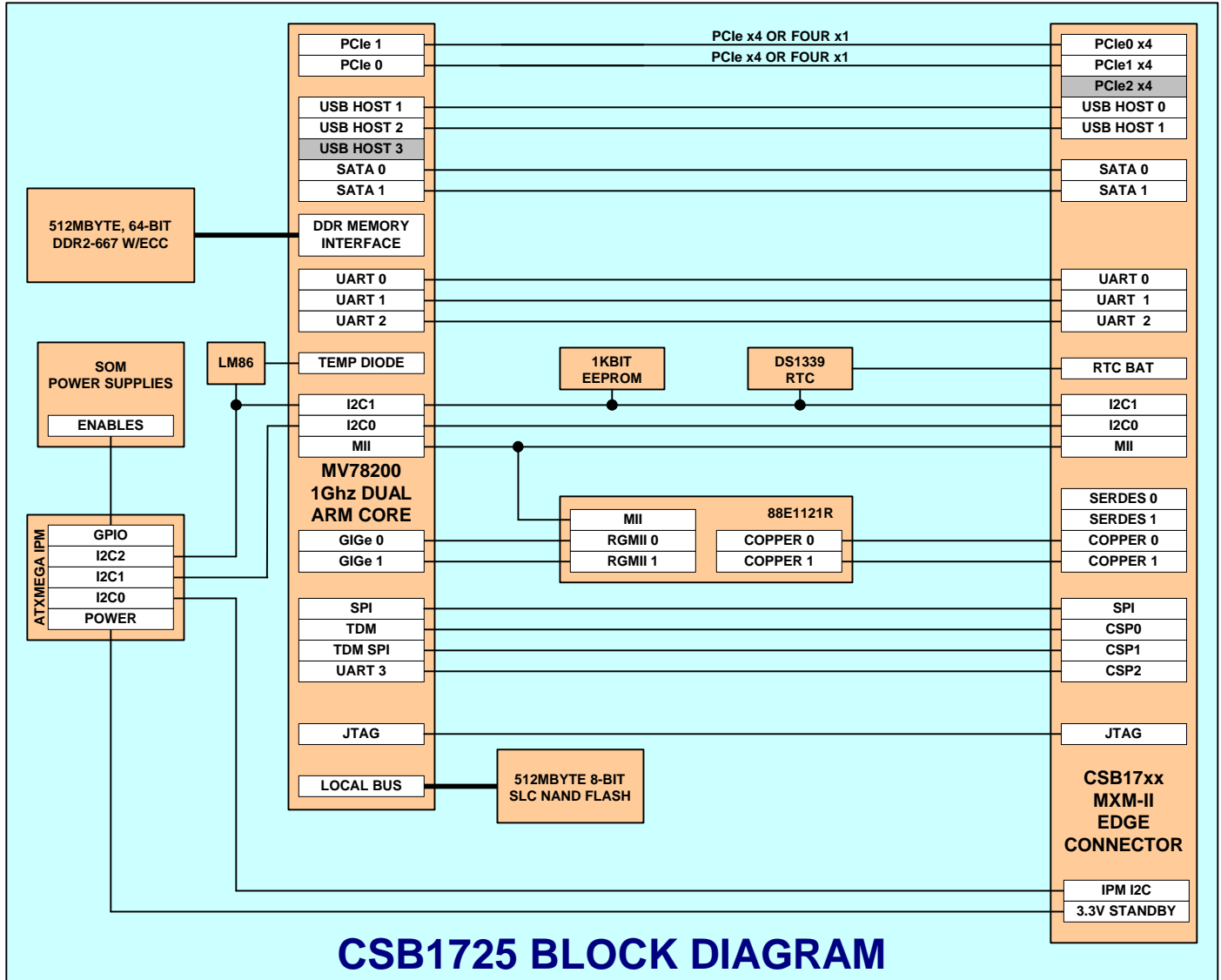
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Development Boards and I/O Expansion

The CSB1725 is fully compatible with the CSB1701 Flex-ATX Development Platform. This platform provides a CSB17xx compatible MXM Socket, Three CPU I/O Expansion Headers; Two RS-232 COM Ports; Dual 10/100/1000 Ethernet; Dual SATA Connectors and Dual USB Host Connectors facilitate self-hosted Linux development. This platform also provides four PCIe Slots (lanes per socket are CPU specific). The KIT1725 consists of the CSB1725 and the CSB1701 installed in a compact (12.7" x 11" x 5.5"), Micro-ATX Case with 300W Power Supply. Contact Cogent for more detailed information about the CSB1701 and the KIT1725 Development Kit.