

EB402 Development Platform



Application Development on the VSI402Z Digital Signal Processor

Description

VeriSilicon's EB402 Evaluation Board provides a hardware evaluation and software development platform for the demonstration, development, and debug of real-time applications for VeriSilicon's VSI402Z Digital Signal Processor (DSP). The VSI402Z is a 16-bit fixed-point DSP, based on VeriSilicon's ZSP[®]400 superscalar architecture. For detailed information regarding the VSI402Z DSP, ask your ZSP[™] VeriSilicon representative for the VSI402Z Data Sheet and VSI402Z Users Guide.

EB402's external access capability provides real-time shared access to the VSI402Z external bus interface (XBUS) memory and peripherals from an external co-processor bus master using the HOLD/HOLDA protocol of the VSI402Z. An external device may drive interrupt lines and receive signals from the PIO. External slave devices may be connected to EB402 as memory or peripheral devices. Co-processing applications may also utilize the VSI402Z Host Port Interface (HPI) for download or as a communications slave.

EB402 provides three types of memory devices to the VSI402Z XBUS - 256K x 16 bit words of asynchronous SRAM, 128K x 32 bit words of synchronous SRAM, and 512K x 16 bit words of instruction/data FLASH memory. Users may configure the instruction/data chip selects to onboard or memory devices by jumper settings. The 512K x 16 bit in-circuit-programmable flash memory provides user-program-mable non-volatile storage for boot-time routines, data and demo programs.

Users may select a boot from on-chip ROM or from XBUS flash by a jumper setting. The HPI also supports download and execution of programs through the HPI download protocol.



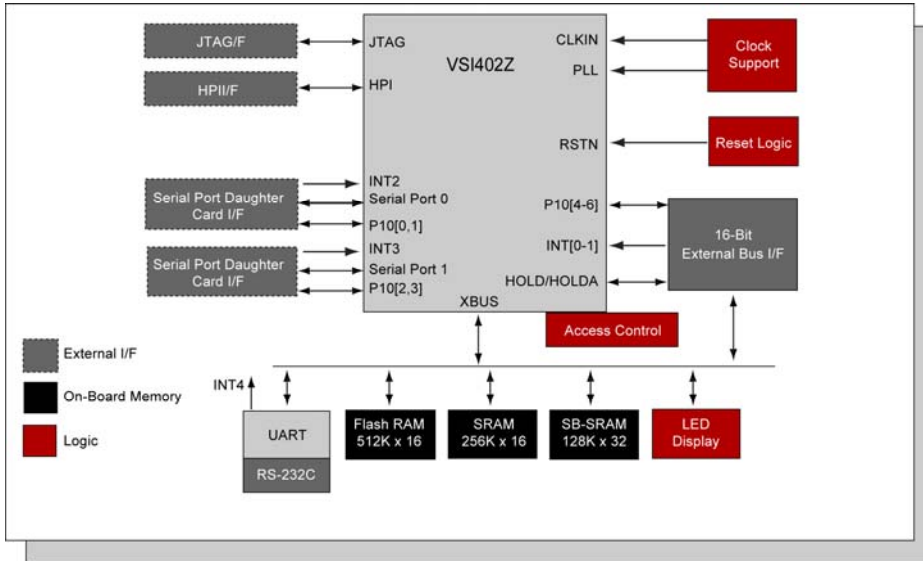
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Features

- External XBUS Access
- SyncBurst SRAM - 128K x 32 bit
- Asynchronous SRAM - 256K x 16 Bit
- FLASH Memory - 512K x 16 Bit
- JTAG/UART Interfaces for download and debug
- Host Port Interface
- Serial Port Daughter card Interface
- 16-Bit LED Display
- PIO configuration
- Supported by a comprehensive software development kit (SDK)



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Block Diagram EB402

EB402 supports software download and debug of user applications using VeriSilicon's software development kit (SDK) tools. JTAG emulation and HPI download are supported by the VSI402Z on-chip boot ROM. EB402 provides additional emulation capability through the on-board UART interface which is supported by SDK tools and EB402 flash boot code. Emulation requires a host PC running SDK tools and either a JTAG interface or a standard RS-232 serial port connection.

EB402 allows user configuration of seven programmable IO Pins in the VSI402Z. Program status indication is provided by sixteen indicator leds. EB402 supports VSI402Z Clock Frequency control through a 16-position switch (100-250MHz) and supports the PLL Bypass mode by a jumper selection.

EB402 may be supplied as part of a development kit for the LSI402Z (DK402) and may include the following: VeriSilicon's SDK402 Tools, EBM-CODEC- 1 daughter card (s), EB402 diagnostic/demonstration/driver software, JTAG Interface Kit, power supply, RS-232 cable for UART-based emulation, and a user's guide. EB402 is fully compatible with the debugger provided in the ZSP architecture SDK and DK402 JTAG-based emulator.

Serial Port Analog Interface Daughter cards

EB402 may be provided with one or two serial port daughter cards (EBM-CODEC-1) each connected to one serial port of the processor and each providing capability of up to 4 channels of analog PCM input/output. The analog interfaces on the EBM-CODEC-1 Serial Port Daughter cards each provide an interface to four line-level audio source and drivers, allowing analog speech to be sampled, processed by the VSI402Z, and reproduced for evaluation or demonstration of low bit-rate voice codecs and other voice-band applications.

About VeriSilicon

VeriSilicon Holdings Co., Ltd ("VeriSilicon") is a fast growing silicon solutions company providing products and services that enable customers to meet their chip design objectives, accelerate development programs and deliver market proven silicon products - on time and at lower cost. VeriSilicon specializes in providing expert design services, market leading ZSP® licensable cores and platforms, industry standard semiconductor IP and scalable ASIC turnkey services across a broad range of application markets, including multimedia, voice and wireless communications. VeriSilicon has design, operation and sales and support offices in Santa Clara, California, Dallas, Texas, Shanghai and Beijing, China, Taipei, Taiwan, Tokyo, Japan, Nice, France and Seoul, Korea. For more information, visit www.verisilicon.com.

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