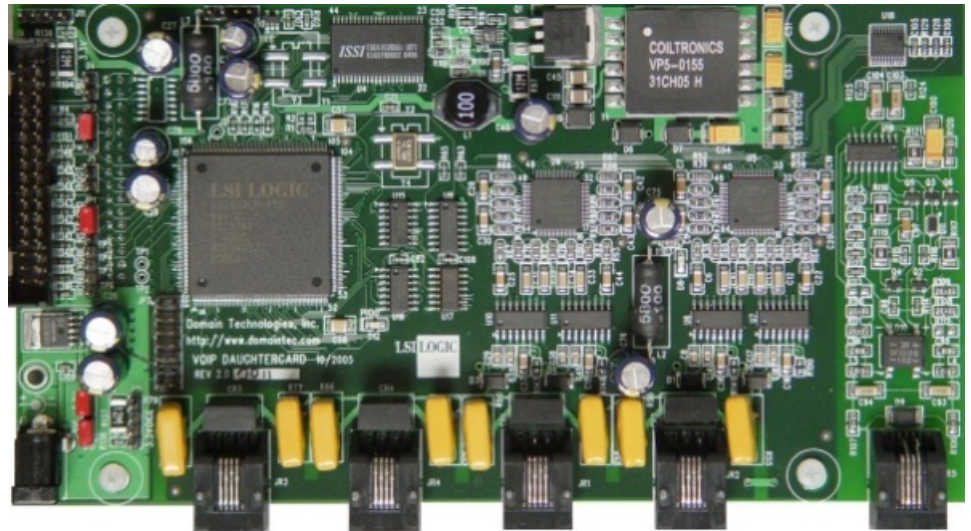


## DTVOIP4S1D- Daughterboard for Voice Applications Featuring the ZSP 403LP

### Features:

- ZSP 403LP Chip
- 4 SLIC Line Interfaces
- 1 DAA Interface
- 128Kx16 Fast Async SRAM
- 16.38 Mhz Crystal Clock Oscillator
- HPI-USB adapter's 34-pin Interface
- Host Processor's 32-pin Interface
- JTAG Emulator's JTAG Header



### Overview:

Use the DTVOIP4S1D daughterboard, featuring VeriSilicon's ZSP 403LP ZSP, for efficient voice application development. Your host processor and the DTVOIP4S1D daughterboard can interface with up to 4 telephony handsets and one PSTN connection, creating a complete four line demonstration platform for Voice Over IP.

### Product Description:

Measuring 3.75 inches by 7.25 inches, the DTVOIP4S1D is designed around the ZSP 403LP chip. It features three telephony devices from Silicon Laboratories connected to Serial Port 0. Two Si3220 chips provide a 4 channel SLIC interface allowing up to 4 telephones to be connected, each with independent CODEC, DTMF, Tone Generation, Zsynth, and line interface. The Si3050 chip provides a PSTN interface with independent CODEC, DTMF, Tone Generation, Zsynth, and line interface.

Four dedicated PIO lines of the ZSP provide the SPI to control daisy chained Si3050 and Si3220 devices. Each Si3220 is fully programmable and has on-chip functions for DTMF generation/decoding, FSK caller ID generation, and modem tone detection help; in addition, its integrated test and line monitoring feature allows remote subscriber loop and line card diagnostics to be performed without centralized test equipment. Programmable internal ring generation is also provided.

One Si3050 device provides a single line DAA circuit for connection to the telephony network. An integrated 7.5V DC power supply is provided for voltage generation needed by the SLIC circuits. An optional JTAG header is available for debugging with external JTAG emulators.

The DTVOIP4S1D board can be used as a daughterboard to the host processor or can be connected to the host PC by the HPI-USB adapter. The daughterboard is also sold as part of the DTZV4S1D Reference Design featuring the Micrel KS8695PX VOIP Eval board. Please note that the DTVOIP4S1D is for experimental use with appropriate laboratory grade telephone line simulators only. Connection to federally regulated telephone company (TELCO) phone line or equipment is a misapplication of this product and is explicitly not authorized.

# Testing and Debugging

## ZSP-USB-JTAG, SB-USB2-ZSP Probe Features:

- Powered by USB port
- JTAG interface
- Integrates with:
  - ZView IDE
  - ZSP Console GDB



### ZSP-USB-JTAG: JTAG Probe for ZSP Debugging

Both compact and portable, the ZSP-USB-JTAG emulator is designed to support software development on the VeriSilicon ZSP cores via a host PC USB port. In addition, the emulator supports multi-core and multi-user debugging on a network over a TCP/IP connection, as well as JTAG boundary scan operations such as testing and flash memory programming, with available software. The ZSP-

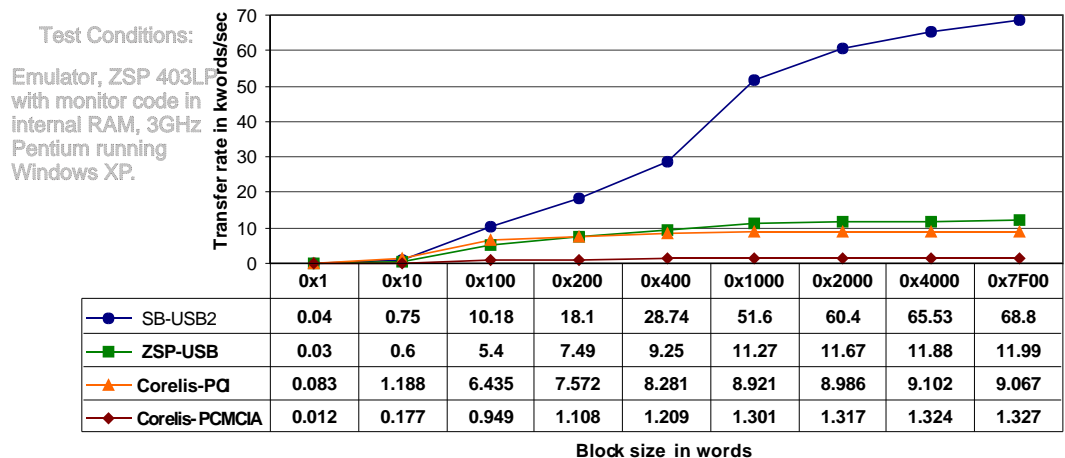
USB-JTAG emulator is powered from the USB connection, which eliminates the need for a separate power supply and also making it ideal for use with notebook computers.



### SB-USB2-ZSP: Fast JTAG Probe for ZSP Debugging

The SB-USB2-ZSP emulator enables efficient and productive embedded software debugging. This compact and portable probe utilizes the JTAG interfaces for debug and in-circuit testing supplied with the VeriSilicon ZSP cores. Unlimited software breakpoints

within all ranges of program memory implemented in RAM are supported. Upload and download rates are up to 5 times faster than comparable products:



### ZSP-QUAD-JTAG Adaptor: Daisy-chain Devices

Utilize the handy ZSP-QUAD-JTAG adaptor when daisy-chaining multiple devices requiring simultaneous control. The ZViewIDE debugger allows each connected board's ZSP to run / halt / single step synchronously. In addition,

devices can be included in the scan chain; use ZViewIDE's boundary scan operation to observe the states of individual pins.