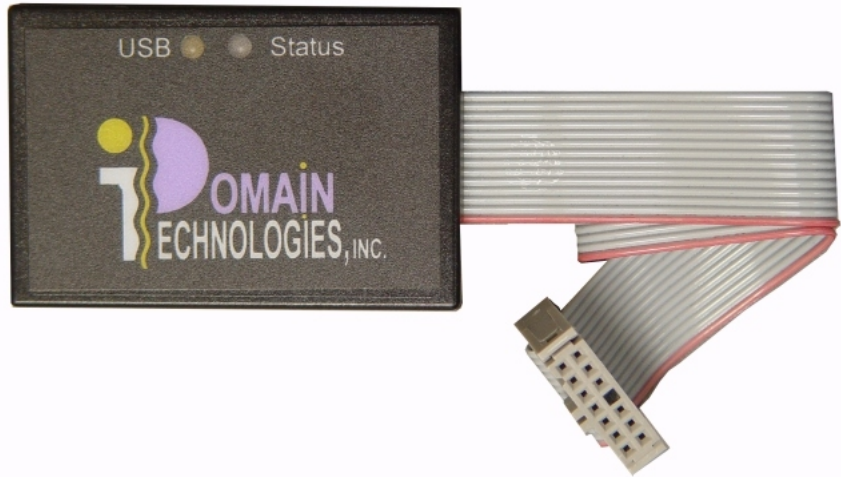


# USB-EMU : USB JTAG/OnCE Emulator

## Key Features:

- Powered by USB port
- OnCE support
- JTAG TAP Debug support
- JTAG Boundary Scan support
- Device Power Detection
- Supplies max of 300mA
- Dimensions: 1.7"x2.4"x0.4"



## Overview

The USB-EMU emulator enables efficient and productive embedded software debugging for the DSP560xx, DSP561xx, DSP563xx, and the DSP568xx. Both compact and portable, it utilizes the JTAG and OnCE (On-Chip Emulation) protocols. This versatile probe supports either a single JTAG connection or a single OnCE connection promoting debug flexibility and convenience.

When used with Domain Technologies' BoxView debugger, the USB-EMU provides access to the JTAG device's boundary scan functionality (BSDL file required). Boundary scan operations enable non-intrusive monitoring of the target device pins, even while the target device is executing its own application code. The USB-EMU emulator can program external flash memory devices also.

With the addition of Domain Technologies BoxServer connectivity software, the USB-EMU emulator can be used for multi-core and/or multi-device development when the JTAG devices are properly connected within the same JTAG scan chain. This development capability allows simultaneous start/stop/single-step for multiple devices; BoxServer connectivity software provides access via TCP/IP connection.

## Product Description

The USB-EMU probe is powered by the USB connection, making it ideal for use by notebook computers or lab environments. The USB-EMU can detect whether or not the device has power; in addition, it can also supply up to 300mA of power to the device. A flexible ribbon cable provides either the JTAG or OnCE interface.

## Upload and Download Rates

The following comparison illustrates the execution of a memory upload and download in kwords/second, for Domain Technologies' JTAG emulators using BoxView debugger with DSP56311 target running at 150 MHz. TCK rate set to 10 MHz, except PP-JTAG and USB-EMU, which do not support variable TCK frequency. Windows XP, 3 GHz Pentium.

	LINK-56K	PP-JTAG	SB-56K	USB-EMU	SB-USB	SB-USB2
Save to file	1.0	2.0	3.7	8.6	21.2	59.9
Load from file	0.6	1.3	3.1	5.8	12.3	40.3

## OnCE Pinout:

DSI	1	2	MUX1
DSO	3	4	GND
DSCK	5	6	GND
-DR	7	key	
-RST	9	10	nc
VCC	11	12	nc
nc	13	14	MUX2

## JTAG Pinout:

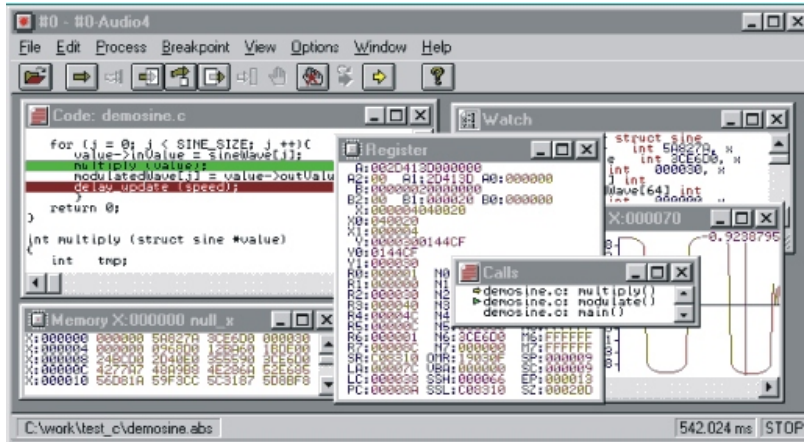
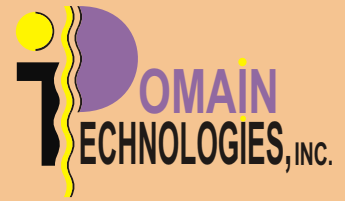
TDI	1	2	GND
TDO	3	4	GND
TCK	5	6	GND
nc	7	key	
-RST	9	10	TMS0
VCC	11	12	TMS1
-DE	13	14	-TRST

## Package Contents:

- Emulator
- USB cable
- Drivers for MS Windows
- Installation Guide

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# Solving Complex Debugging Problems

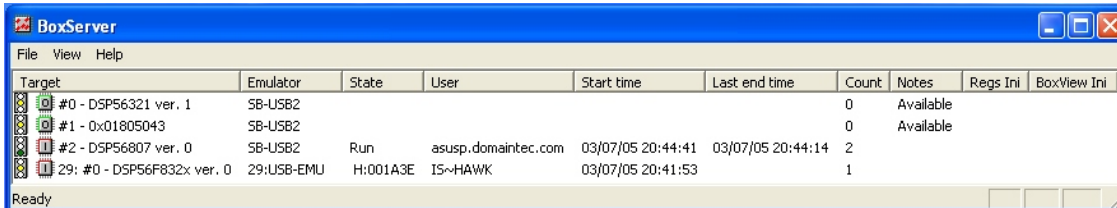


## BoxView™: Control and Interact with Your DSPs

All Domain Technologies' emulators are compatible with BoxView™, our high level language debugger. BoxView™ allows programmers to test and debug applications with fast data access and extensive display capabilities. Information is controlled and organized by interacting with the target DSP through monitoring software or on-chip hardware circuitry. BoxView's visual user interface includes different numeric formats and graphical plots. Powerful boundary scan operations (requires BSDL file access) are supported which enables non-intrusive monitoring of the target device pins, even while the target device is executing its own application code.

## BoxView Features:

- Fast Data Access
- Graphical Plots
- Boundary Scan
- Operations

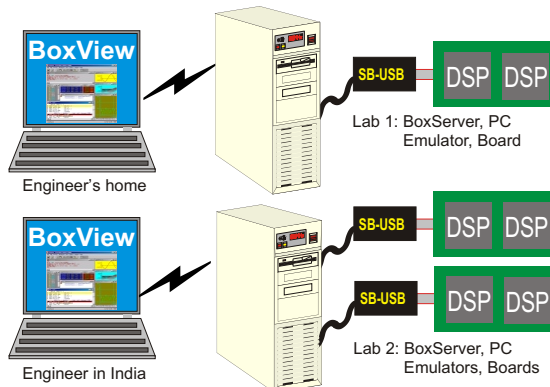


## BoxServer™: Multi-DSP and Multi-User Debug Access

More complex configurations such as debugging with multiple users, multiple DSP targets, or remote access are all supported seamlessly with the addition of our BoxServer™ software. This multi-core, multi-device development capability allows the user to start/stop/single-step selected devices simultaneously. Access to multiple devices is provided from single or multiple workstations via TCP/IP connection.

## BoxServer Features:

- Scalable and Flexible
- Single User, Single DSP
- Multiple Users and DSPs
- Conveniently Accessed
- Direct Connect
- Remote via TCP/IP



## Solution for Multiple Remote Users, Multiple Boards

BoxView with BoxServer solve the problem of control when two engineers need access to multiple DSPs. Each engineer, individually uses BoxView for debugging. Remote access for each debug session, via TCP/IP, is managed by BoxServer. In addition, BoxServer controls multiple emulators.

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