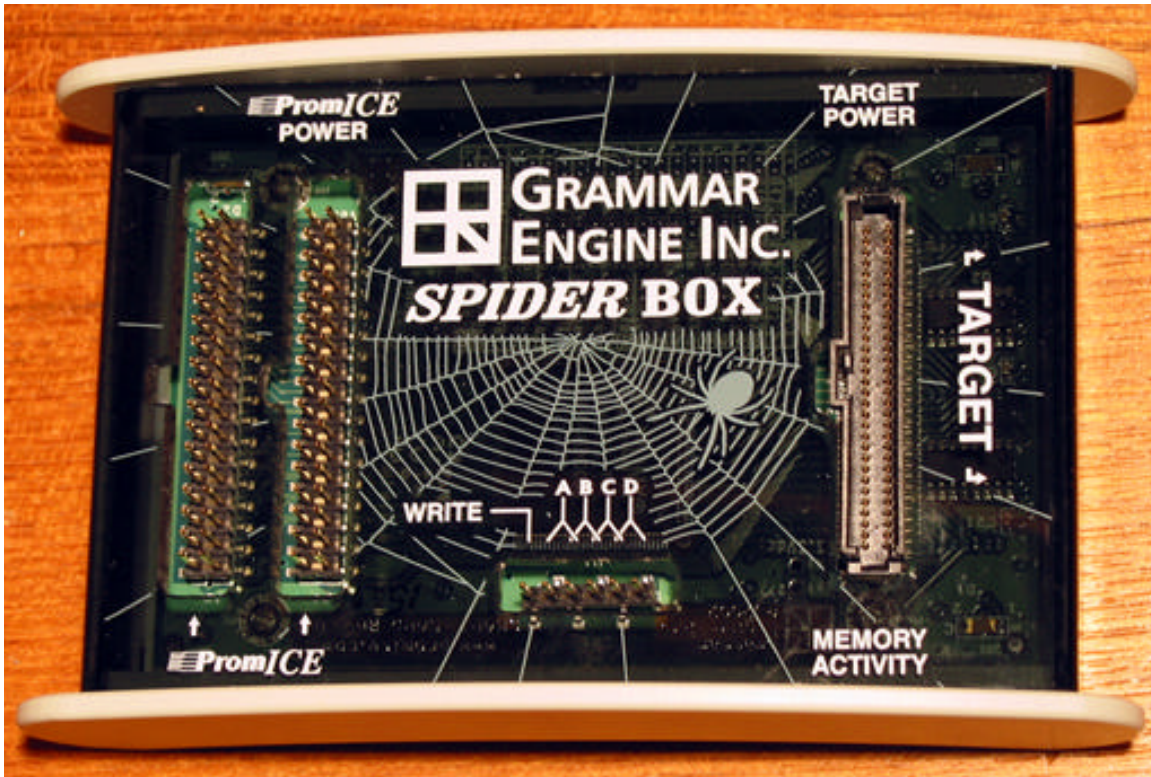


# SpiderBox

## 3.3 Volt and Footprint Adapter for the PromICE



### User Manual

Version 0.1

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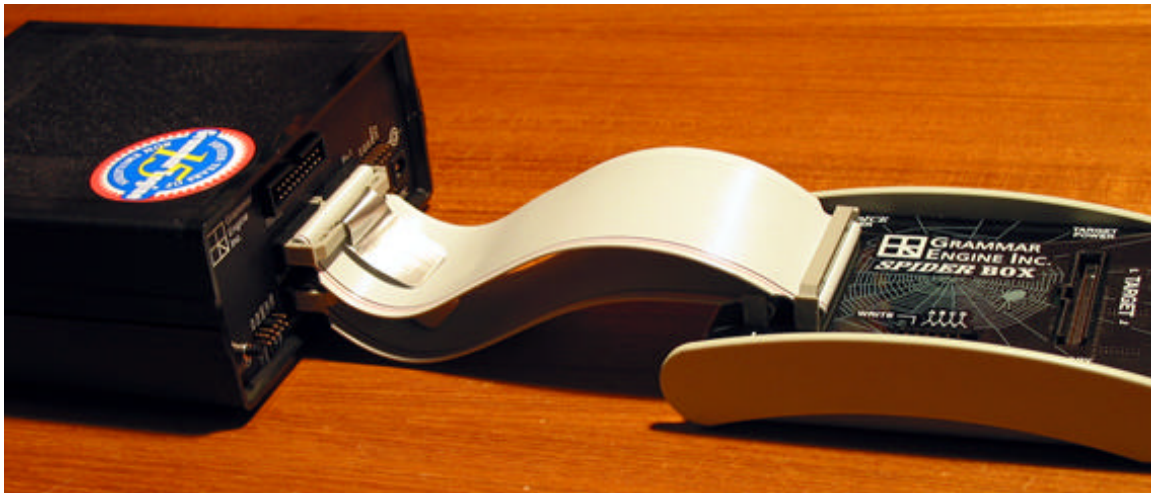
[www.gei.com](http://www.gei.com)

614.899.7878

SpiderBox is a 3.3 volt and footprint adapter for the PromICE. The PromICE memory emulator is a 5 Volt device. The SpiderBox attaches to the PromICE via flat-ribbon cables. These cables are shielded with IDC-34 female connectors at either end. One cable is .75" longer than the other to allow the proper positioning of the cables to plug in the back of the PromICE.

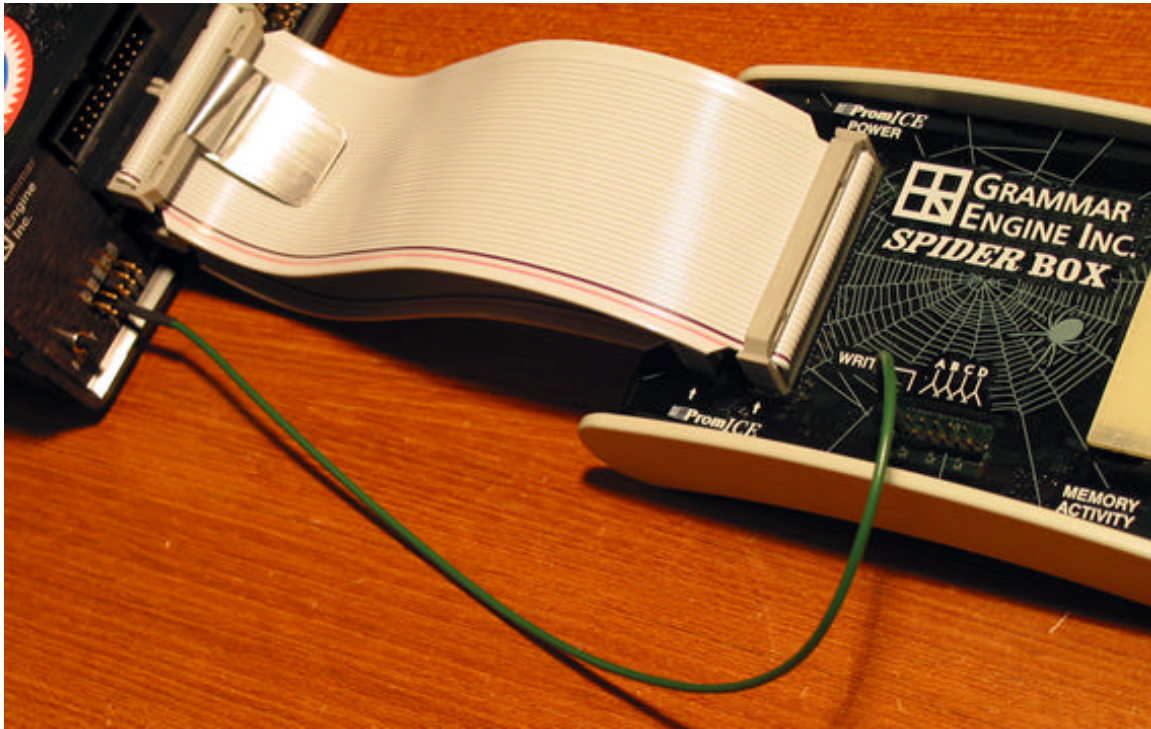


The PromICE powers the SpiderBox. Therefore make sure that the POWER selection jumpers on the back of the PromICE on the right hand side are set to: **32, ROM, EXT.** This allows the PromICE power to be routed out the back 34-IDC connectors to the SpiderBox.



There are three LEDs in the SpiderBox case. One labeled PROMICE POWER will light up whenever the SpiderBox is attached to the PromICE and the PromICE is powered up. You should always have PromICE powered up before applying target power.

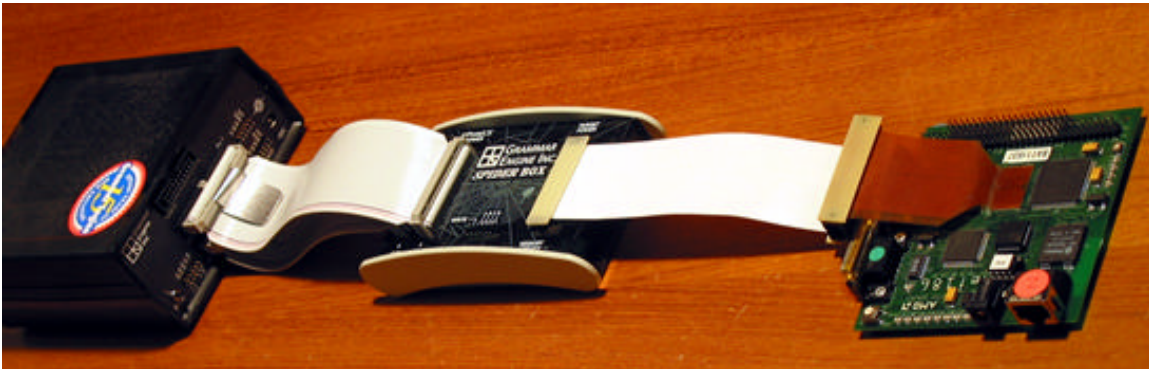
The second LED is labeled TARGET POWER and will be lit up whenever the target power is on. The third LED is labeled MEMORY ACTIVITY. This LED will blink at varying rate depending on the target accessing the PromICE memory via the SpiderBox. Normally it will blink about once a second or so and will blink rapidly when an access is made.



You can also attach a write line to the PromICE. This allows the target writes to the emulated device to go through to the PromICE. The write line is connected from the pin marked `WRITE` on the SpiderBox to the `mwr` pin on the back of the PromICE on the left hand side. There are two `mwr` pins and one `swr` pin on the back of the PromICE. One pair of `mwr/swr` is jumpered together. These are 8-bit writes for the bwer and the upper modules of the PromICE. Generally your SpiderBox is programmed to provide a single write line to connect to both `mwr` and `swr`. The `chip_enable` from the SpiderBox is routed to the appropriate module to allow proper writes when emulating an 8-bit device. For 16-bit devices the write will be 16-bit word.

The SpiderBox is attached to the target by various means:

1. If you have a SMT site on your target with perhaps a Meritec socket you will be attaching the SpiderBox to the target via a Flex Probe and a Polyester cable.
2. One end of the cable with AMP-60 female connector will go into the SpiderBox. The other end with either an AMP-60 male or a Hermie-50 will connect to the Flex Probe.
3. Please remember that the Hermie-50 is a hermaphrodite connector. In other words the connector on the cable as well as the probe is the same and it mates with itself. Align the plastic keys and push the two sockets together.
4. If you have the Flex Probe with AMP-60, then the Probe has the female and the cable has a male socket. No problem attaching them
5. You may have a PromICE/Direct header on your board. In that case a gray ribbon cable with AMP-60 female on both ends will be used to connect the SpiderBox to the target.



## Reprogramming the SpiderBox

Your SpiderBox is programmed with a VHDL file compiled under Xilinx ISE 4. You may optionally reprogram it using the ISE and the programming header on the SpiderBox PCB. The PCB is called the SmartCard. You may request a ZIP project file for the particular footprint programmed in your SpiderBox, call tech support or e-mail to support@gei.com.

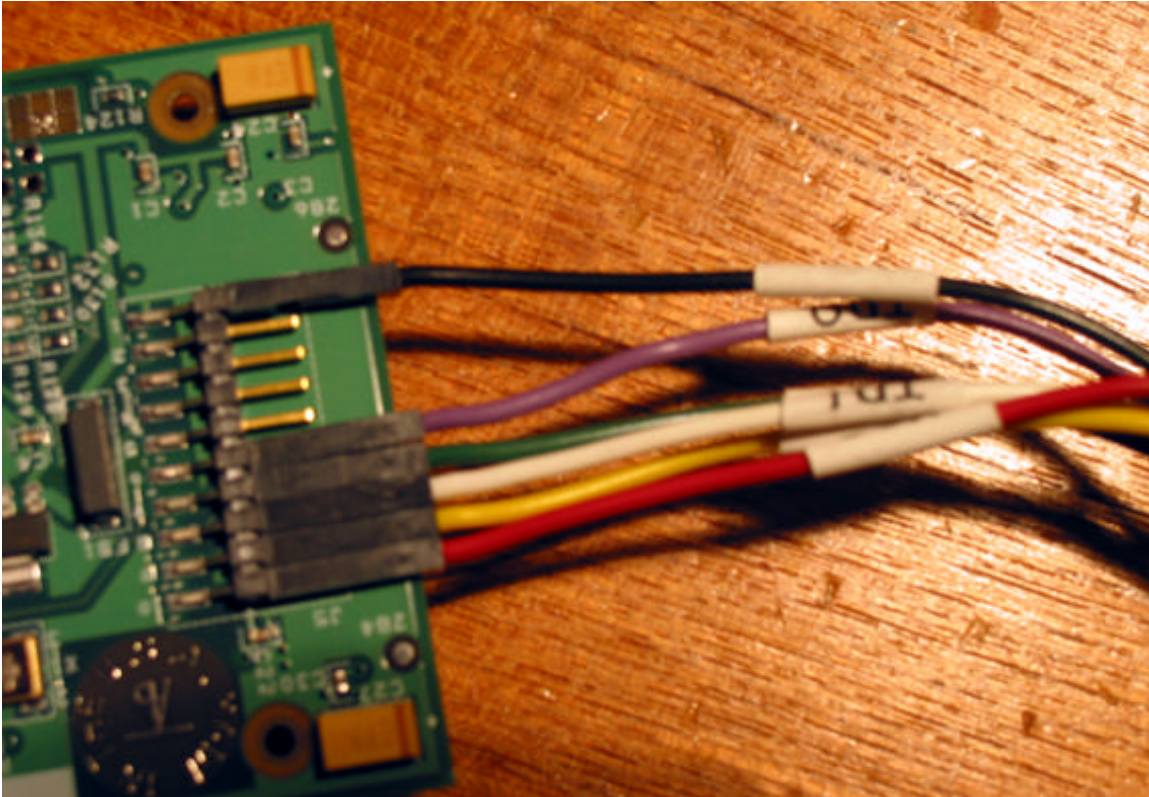
## Instructions for disassembling the SpiderBox

1. The SpiderBox is snapped together along the long edge on both sides. The first thing to do is to take it apart without breaking the case.
2. Place the box on its long side and gently insert a small flat tip screwdriver in the middle of the box and tip the screwdriver to release the bottom somewhat.
3. Repeat the process on the other side and with hand remove the bottom.
4. Now remove the four screws holding the SmartCard from the box.

## Instructions for programming the SmartCard

1. You will need Xilinx ISE software to program the SmartCard.
2. Use the provided ZIP file to restore the project.
3. Open the project with ISE and make the appropriate changes.
4. Attach the Xilinx programming cable to the 10-pin header on the bottom of the SmartCard. The pinout is as follows:
  - a. Pin 10 – VCC – Red
  - b. Pin 9 – TCK – Yellow
  - c. Pin 8 – TDI – white
  - d. Pin 7 – TMS – Green
  - e. Pin 6 – TDO – Purple
  - f. Pin 1 – GND – Black
  - g. Pins 2 – 5 – No Connect

5. You must attach the SmartCard to a power source. Attach it to the back of the PromICE with one of the IPD-34 flat ribbon cable.
6. Power up the PromICE and the green LED on the SmartCard will go on.
7. Program the device with new stuff from the ISE.



### **Instructions for assembling the SpiderBox.**

1. Use the four screws and screw in the SmartCard to the base of the box. It can only go one way and stay within the base.
2. Place the top of the box with cutouts lined with the header. Don't snap the top or it will break.
3. Tip the whole assembly on the long side and gently press the base and slide it in somewhat.
4. Do the same thing to the other long side.
5. Now place the whole box on a flat surface and gently push the top till it snaps in.
6. The spider box is now ready!