ECM-20

Before You Start

System requirements

The following system features are required at a minimum to run SourcePoint™:
- Intel® Pentium® processor or better computer
- Microsoft® Windows® 95B (or later)/98/ME/NT 4.0 with SP4 (or later)/2000/XP
- 128 MB RAM
- 60 MB disk space
- CD-ROM drive
- 10Base-T LAN connection port (for network ethernet connections)
- USB connection port (for USB connections)
- Serial connection port (for those wishing to use the old AAConfig wizard)

⚠ *Caution: If your OS is Windows 95, you MUST use version B or later. If your OS is NT, you MUST have installed SP4 or later.*

Hardware Installation

Step 1: Unpack the equipment

The following equipment should be in your box. If it is not, contact American Arium immediately.

ECM-20 – ITP base unit
One of the following personality modules:
- **PBD-S2V** – for use with Intel P6-class processors
- **PBDS-BN** – for use with Intel Xeon™, Pentium® 4, and certain other not-yet-announced Intel processors

SourcePoint CD – Interface software
Direct crossover cable (orange) – for direct TCP/IP connection
Ethernet patch cable (blue) – for network TCP/IP connection
USB cable (beige) – for USB connection
Serial cable – for temporary serial connection
Reset adapter – yellow and black twisted pair cable
Documentation – manuals, etc.

Step 2: Determine connection type to the host computer

Determine the type of connection you want.

A direct TCP/IP or USB connection is the simplest way to connect the host computer and the base unit. Only a single host PC can use the American Arium debugger with this type of connection.

An ethernet TCP/IP connection may be your best choice if you already have a network in place. It will allow users from different locations to make use of the debugger if your network security allows such access.

Step 3: Connect the base unit to the host computer

For a USB connection, use the *beige* USB cable. Connect one end to the base unit at the connector port labeled USB. Connect the other end to the host computer's USB port.

For a direct TCP/IP connection, use the *orange* direct crossover cable. Connect one end to the base unit at the connector port labeled NETWORK. Connect the other end to the host computer at the 10BaseT network connector (also known as the RJ-45 connector).

For a network TCP/IP connection, use the *blue* ethernet patch cable. Connect one end to the base unit at the connector port labeled NETWORK. Connect the other end to your network hub.

Step 4: Connect the personality module

To prepare the personality module, see instructions provided separately in this box.

1. Connect the personality module to the target's debug/ITP port connector using the short 30-pin cable or 25-pin circuit board assembly.*
2. Connect the personality module to the base unit at the connector on the front of the unit labeled DEBUG, using the longer 40-pin cable.

   Note: Make sure the voltage setting is correct for the target system.

   *If you do not have a debug port, you will have purchased a test access port (TAP) adapter. Instructions for installation are provided separately in the box in which the unit shipped.

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Step 5: Complete hardware connections

1. Connect the reset adapter (yellow and black twisted pair cable) to the target reset connector. Connect the other end to the base unit connector labeled TARGET RESET OUT on the front panel. There are two connector ports stacked on top of one another at the TARGET RESET port. Be sure to insert the cable end into the lower port. Connect the other end to the target wherever a reset switch normally would be connected.

   Note: The reset adapter is not polarized and does not need to be connected in any particular orientation since it is effectively just a switch closure.

2. Connect the power supply to your power source and the back of the base unit at the port labeled POWER or PWR. Connecting the power supply will power up the base unit automatically.
3. Turn on the power to the target.
4. An "18" should appear in the LED display on the front panel of your base unit. If that number does not appear, try to load the software and read the readme.txt file. If this is not possible, contact American Arium support.

Software Installation

Information on Loading the SourcePoint Files

Please read the following before setting up a USB or TCP/IP connection.

Note: If you have set up the hardware for a USB connection, you are first asked to load the USB driver. See "USB Connection and Configuration" below for further instructions.

1. Insert the SourcePoint CD-ROM into the CD player.
2. Run the InstallShield Wizard program.
3. Insert the certification file diskette when prompted. During setup, you will be asked for the SourcePoint certification file. This file resides on a floppy disk that shipped with your unit.

   Note: SourcePoint requires that a certification file be present in the SourcePoint directory to run SourcePoint; you will want to copy the file to the SourcePoint working directory.

4. Select **Run SourcePoint** from the last screen of the installation wizard.

USB Connection and Configuration

Note: If you do not want to set up a USB connection, go to the next section, "TCP/IP Connection and Configuration."

Note: If you have set up the hardware for a USB connection, you must install the Arium USB driver prior to setting up the connection. The driver is located on the SourcePoint CD.

Step 1: Install the USB Driver

For units fresh out of the box:
1. At the time that you power up the host computer, you are notified via a standard Microsoft Windows dialog box that you need to load a USB driver.
2. Insert the SourcePoint CD into your CD-ROM drive.
3. Follow the instructions on your screen. The driver file you need to load is "AriumUsb.inf" located in the root directory of SourcePoint.

   Note: If your operating system is Microsoft Windows 2000 or XP, you may need to contact your systems administrator to gain administrator privileges.

For units being updated:
1. Go to your Control Panel and click on **System**.
   The **System Properties** dialog box displays.
2. Click the **Hardware** or **Hardware Profiles** tab.
3. Click the **Device Manager** tab or button.
4. Locate **Universal Serial Bus controllers** on the device list and click on the plus sign to expand the list.
   The list displays **American Arium ECM-20/30 USB Port** or **American Arium SC-1000 USB Port**, depending on the emulator attached to the system.
5. Highlight the list item and right click to display a pop-up menu.
6. Click the **Properties** command.
7. Click the **Driver** tab.
8. Click the **Update Driver** button.
   This launches the **Upgrade Device Driver Wizard**.
9. Click the **Next** button.
10. At the screen that asks, **What do you want the wizard to do?** select the display of known drivers.
11. Click the **Next** button.

    Note: If you let Microsoft Windows search for a suitable driver, it will re-install the old driver.

12. Click the **Have Disk** button.
    The **Install from Disk** dialog box displays.
13. Click the **Browse** button to locate the folder in the where the new USB device files reside.
    The system displays the ".inf" files.
14. Select **AriumUsb.inf**.
15. Click the **OK** button.
    The **Upgrade Device Driver Wizard** now shows both device names. The name of the currently attached emulator is highlighted.
16. Click the **Next** button.
    The wizard announces that it is ready to install the driver.
17. Click the **Next** button.
    The wizard presents the final screen indicating that Microsoft Windows has finished installing the driver.
18. Click the **Finish** button.
19. If Microsoft Windows needs to reboot, you will be presented with a **System Settings Change** dialog box asking if you want to restart your computer. Click the **Yes** button and allow the system to restart.

Step 2: Load SourcePoint

Execute "Information on Loading the SourcePoint Files," above, for specifics.

Step 3: Configure the System

USB is a "plug and play" connection. When you open SourcePoint for the first time, you are presented with a SourcePoint screen and an active toolbar. Your system is ready to use.

TCP/IP Connection and Configuration

Step 1: Load SourcePoint

Execute "Information on Loading the SourcePoint Files" above.

Step 2: Gather Connection Information

Note: You will need to know the serial number of your emulator. It can be found on the bottom of the unit. You will need some or all of the values listed below in order to connect the emulator with the debugger, depending on your connection type. In some instances you can use the default values. In others, you may need to contact your network administrator for this information.

Direct TCP/IP Connection
Host PC TCP/IP Address*: 192.168.000.002
Emulator Base Unit TCP/IP Address: 192.168.000.001
Emulator Base Unit Network Mask: 255.255.255.000
Emulator Base Unit Network Gateway: 192.168.000.002

Network TCP/IP Connection
Host PC TCP/IP Address*: N/A
Emulator Base Unit TCP/IP Address: Contact your network administrator
Emulator Base Unit Network Mask: Contact your network administrator
Emulator Base Unit Network Gateway: Contact your network administrator

*This value is set on the network card of your host computer.

Step 3: Execute the Emulator TCP/IP Setup Wizard

*Note: The first time you run SourcePoint, two dialog boxes open: the **Emulator Connection** dialog box on which is overlaid the **Emulator TCP/IP Setup Wizard**.*

Note: If you are updating your software from SourcePoint 4.4 or lower, you first will need to flash your unit. Instructions on updating flash can be found in the online help file and in the User's Guide.

1. Find the DIP switches on the front panel of your emulator and set Switch 4 down.
2. Cycle power to the emulator by unplugging it and plugging it in again.
3. Wait approximately 15 seconds for the emulator to initialize.
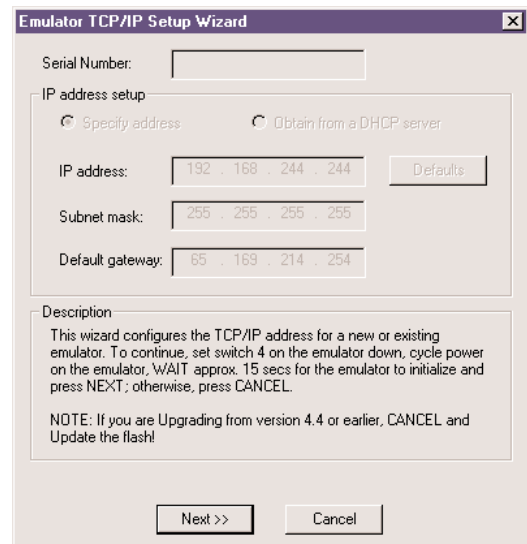
Initial screen

4. On the wizard, click on the **Next** button.
   The second screen of the wizard displays with the IP address setup section now activated. The current IP address settings of the connected emulator are displayed. If this is an emulator fresh out of the box, the factory assigned IP address displays.
5. Verify that the emulator serial number found in the text box at the top of the dialog box is correct.
6. Type in the correct values based on the information you collected earlier.

⚠️ *Caution: Arium recommends you do not configure a dynamic IP address at initial configuration. Once you have made an initial connection, you may be able to establish a dynamic IP address, depending on your server. Details are provided in the manual/online help file under "Using Microsoft Windows 2000 DDNS for Addressing Emulators by Hostname."*

7. Click the **Next** button.
   A third **Emulator TCP/IP Setup Wizard** dialog box displays.

   Note: An intermediate dialog box may display if the connection time is not virtually instantaneous. The dialog box contains a progress bar that times out after two sweeps. Time out indicates network connectivity problems or a bad cable.

8. Go to the DIP switches on the front panel of your emulator and set Switch 4 to the up position.
9. Cycle power.
10. Wait approximately 15 seconds for the emulator to initialize.
11. Press the **Next** button.
    This takes you to the final **Emulator TCP/IP Setup Wizard** dialog box.
12. Click the **Done** button.
    The wizard closes, and the **Emulator Connection** dialog box displays with the new TCP/IP address highlighted in the **Connections** text field.
13. Click the **Select As Current Connection** button or double-click on the highlighted TCP/IP address.
14. Click the **OK** button

Using AAConfig to Set Up a TCP/IP Connection

For those users who are familiar with the AAConfig wizard and would prefer to use it, brief directions are provided here.

Step 1: Additional connection information

For a <u>network</u> TCP/IP connection, use the *blue* ethernet patch cable. Connect one end to the base unit at the connector port labeled NETWORK. Connect the other end to your network hub. **You also need to connect the serial cable for a short time.** Connect one end to the base unit at the connector port labeled CONFIG PORT. Connect the other end to the host computer at the serial port connection.

Step 2: Launch AAConfig

1. Execute the directions on Page 2 under "Information on Loading the SourcePoint Files."
2. At the end of the InstallShield Wizard setup, click on the **Finish** button. Do not enable any of the options available in this screen.
3. Open your SourcePoint directory and double-click on the file "AAConfig.exe" to launch the wizard.
   The wizard walks you through the process.
4. Once you have completed the wizard, power off your base unit (pull the power cord). Remove the serial cable, power on the base unit (plug the power cord back in), and start the SourcePoint software.

Step 3: Configure the software

1. Run SourcePoint.
   The **Emulator Connection** dialog box appears.
2. Click the **Add** button.
   The **Select Emulator Connection Type** dialog box appears.
3. Click the **TCP/IP** radio button.
4. Click the **OK** button.
   This will take you to the **Emulator TCP/IP Connection Properties** dialog box.
5. Enter a name of your choice in the **Name** text box.
6. Enter the base unit TCP/IP address into the **Emulator** text box.
7. Click the **OK** button.
   This takes you back to the **Emulator Connection** dialog box.
8. In that window, click on the **Select As Current Connection** button or double-click on the address.
9. Click the **OK** button.

Agilent Logic Analyzer and the ECM-20

Prior to connecting the ECM-20 to an Agilent logic analyzer (LA), follow the preceding instructions and ensure that the ITP is up and running. Then connect the LA.

For detailed instructions on connecting the ITP to the LA, see the chapter/topic, "Agilent Technologies Logic Analyzer Support" in the printed manual/online help file.

Hints and Tips

Flash firmware: When SourcePoint is first installed, it may prompt you to update the ECM-20 flash firmware. You should proceed with the flash update using the latest version of the flash firmware that SourcePoint presents to you during this process. The version number is embedded in the name of the flash file. You can also initiate a flash update in SourcePoint by clicking on **Files|Update Flash**.

Reset problems: To function properly, SourcePoint and the ECM-20 must be able to initiate a reset of not only the processor but of the target hardware, as well. This can be done through the debug/ITP port (DBR#) or by the reset adapter when it is connected to the target system's reset connector. Ensure that the target it being fully reset by at least one of these two signals.

Target debug/ITP port design: Recommendations for the design and implementation of the target's debug/ITP port can be found on the American Arium web site at www.arium.com.

Target debug/ITP port problems: Some target systems have signal quality problems when TCK is set at the default rate of 16 MHz. You can verify that the ECM-20 is reliably communicating with the JTAG scan chain by running 1,000 trials of the JTAG pattern tests located under **Options|Confidence Tests** in SourcePoint. If problems occur at the 16 MHz TCK rate, try lowering the rate under **Options|Emulator Configuration** in SourcePoint.

American Arium support: If you need assistance, please contact American Arium Technical Support at 877-508-3970 toll free in the US, 714-731-1661 outside the US, or send an email to support@arium.com.