

Volume

1

A-WIT TECHNOLOGIES INC.

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# CS4[9 | 7]2000 Networking Kits Reference Guide

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Version 1.1

A-WIT TECHNOLOGIES INC.

# CS4[9|7]2000 Networking Kits Reference Guide Manual

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## Introduction to the Networking Kits

The CS4[9|7]2000 Networking Kits are very functional kits to interface a C Stamp based project onto a network. The kits are compatible with the C Stamp microcomputer's supplies and signal levels. In addition, these kits also provide you with full control over all of its advanced networking features. The CS4[9|7]2000 kits connect easily on the BOL via the 2-row connector. Through this connector, the user can have access from the C Stamp to all connections necessary to send and receive data to and from the kits via the UART protocol.

### Registering Your C Stamp or C Stamp Related Product

At A-WIT Technologies we respect your privacy; however, we do ask you to register your C Stamp or C Stamp related product, so you can receive free of charge product updates. The registration procedure is simple. Just send an e-mail to [tech\\_support@awit.com](mailto:tech_support@awit.com) with the word "REGISTRATION x" in the subject line, where "x" is the product number that you purchased. If you purchased more than one product, send an e-mail for each different product.

### Reference Material

The following documents are essential references for all CS492000 and CS472000 related projects and activities. These documents contain information on the networking modules and software tools.

Digi Connect ME™ & Digi Connect Wi-ME™ Hardware Reference

Digi Connect Family™ User's Guide

## Introduction to the CS492000 Networking Kit

The CS492000 allows you to connect your C Stamp project to an Ethernet network. Network connectivity can provide World Wide Web control to any C Stamp based project you create. An easy 2-wire serial connection is all it takes to put your projects online. The kit also includes Ethernet cables and adaptor board to the BOL. The figure and table below shows the contents of the kit.



<i>Contents Description</i>	<i>Minimum Quantity</i>
Ethernet Module with 2 MB Flash and 8 MB RAM	1
Adaptor Board for the BOL 1	1
Crossover CAT5e Ethernet Cable (7 feet)	1
Standard CAT5e Ethernet Cable (7 feet)	1
Software installation and documentation CD	1

## Ethernet Kit Features

The system level features of the Ethernet Kit are as follows:

- Interchangeable and pin-compatible with the CS472000
- 2 MB Flash and 8 MB RAM
- High-speed TTL serial interface with up to 230 Kbps throughput
- Wired Ethernet network interface
  - Auto-sensing 10/100Base-T
  - Innovative power pass-through for network powered projects
- Five shared GPIO port options
- Low power consumption and industrial temperature range
- Strong SSL/TLS encryption with NIST certified AES algorithm for security sensitive environments
- Robust on-board TCP/IP stack with built-in web server
  - TCP, UDP, DHCP, SNMP, SSL/TLS, Telnet, Rlogin, RFC 2217, LPD, HTTP/HTTPS, SMTP, ICMP, IGMP, ARP
- Universal IP address assignment
- Static IP, DHCP, Auto-IP
- Secure web user interface (HTTP/HTTPS) with context-sensitive online help
- Pre-defined and custom device profiles
- Customizable web interface with optional Java applet support
  - File system w/512 KBytes user space
- Telnet Command Line Interface
- Modem emulation
- Serial configuration interface

- Command line, RCI
- User-defined network service/port configuration
  - HTTP/HTTPS, Telnet, Rlogin, ADDP, SNMP, RealPort, SSL/TLS, TCP/UDP
- TCP/UDP forwarding characteristics
  - Bytes, Idle Time, Data Pattern
- User-configurable TCP/UDP Socket ID
- Event notification via email/SNMP traps
  - GPIO Status, Data Pattern
- Port logging
  - Intelligent SNMP device management
- RFC 1213/1215/1316/1317
- Strong SSL 3.0/TLS 1.0 based encryption
  - DES (56-bit), 3DES (168-bit), AES (128/256-bit)
- Patented RealPort® COM/TTY port redirection with encryption for Microsoft Windows, UNIX and Linux environments
- 512 KBytes for web files
- Embedded web server (without proprietary file formats)
- Telnet debug server
- Ability to update web pages and files
- Send and receive UDP packets (allows Stamp-to-Stamp communication)
- Password protect user selected web pages, files, and configurations
- 100 web accessible variables, allowing for dynamic web pages
- Flash memory for setting default variable values

- Compact, breadboard friendly, and compatible with the C Stamp signal and power levels
- Power Requirement
  - 250 mA typical

## CS492000 Connectivity

Follow these steps to connect your kit to the C Stamp BOL:

1. Make note of the Media Access Control (MAC) address on the Ethernet module label before installing it.

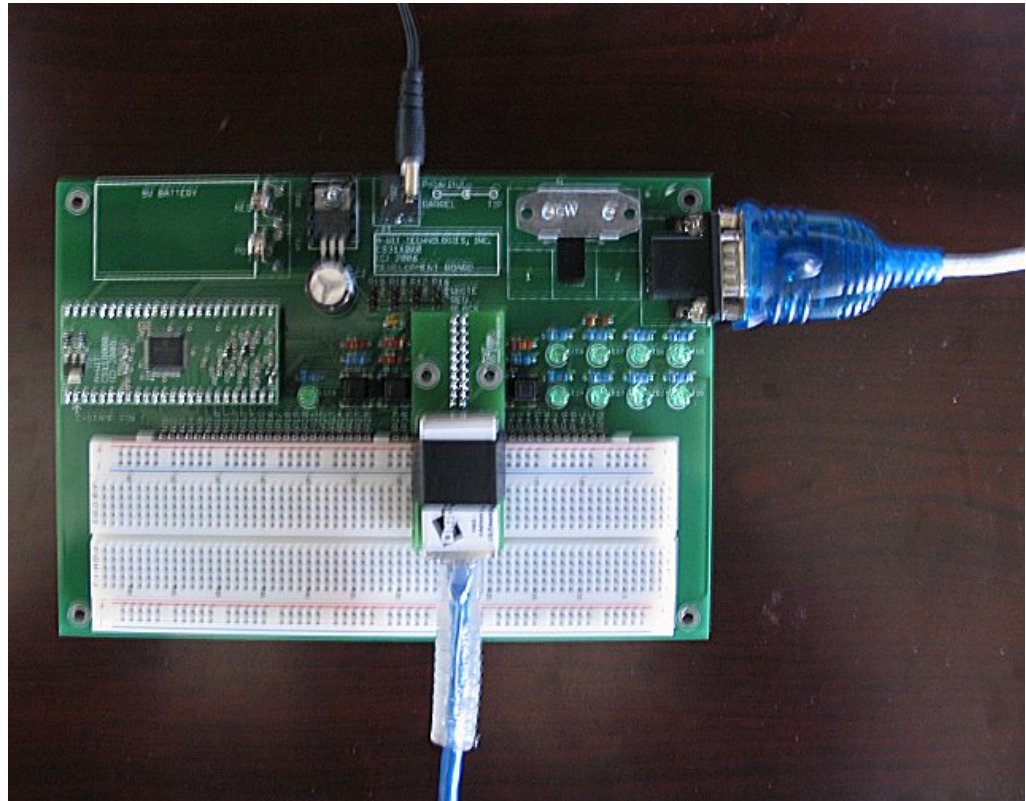
The MAC Address of my CS49200 is: \_\_\_\_\_

For example:

The MAC Address of my CS49200 is: 00409D:3064D4

2. Connect the Ethernet module to the adapter board.
3. You can optionally fix your module to the adapter board using electrical tape or tie-wrap.
4. Connect the adaptor board to the BOL.
5. Connect the Ethernet module to your network via a standard Ethernet cable.

After the previous steps have been followed, your Ethernet kit should be connected on the BOL as shown on the figure below. The figure below also includes the connections for power to the BOL and the programming cable.



This connection of the kit provides the following connectivity mapping between the C Stamp and the ports of the Ethernet module.

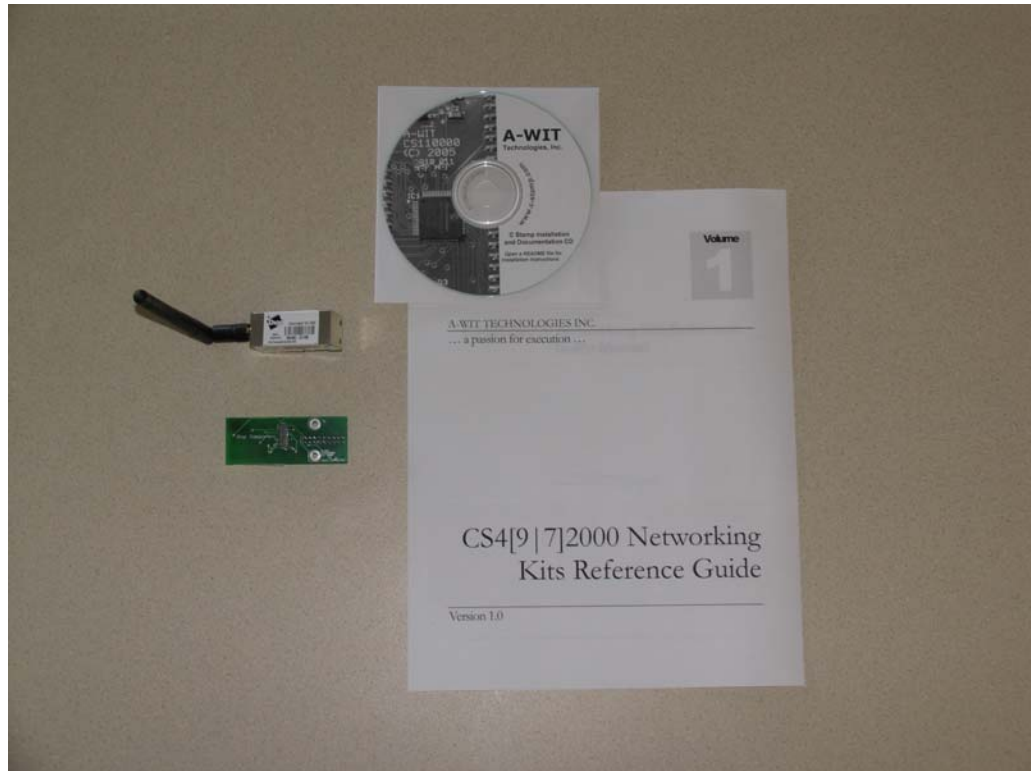
<i>Ethernet Module Port</i>	<i>Description</i>	<i>C Stamp Pin</i>
+3.3V	Power  This connection takes VIN power through the adaptor board and regulates it down to 3.3V for the Ethernet module.	VDDHC, VHC
RXD	Serial Port Receive Data (Input)*	P22
TXD	Serial Port Transmit Data (Output)*	P23
GND	Ground	P7, GND, VSS
GPIO1 / DCD	Data Carrier Detect (Input) / GPIO	P15

<i>Ethernet Module Port</i>	<i>Description</i>	<i>C Stamp Pin</i>
GPIO2 / CTS	Clear to Send (Input) / GPIO	P14
GPIO3 / DSR	Data Set Ready (Input) / GPIO	P13
GPIO4 / RST	Request to Send (Output) / GPIO	P12
GPIO5 / DTR	Data Terminal Ready (Output) / GPIO	P11
INITn	Software Reset  Active Low	P10
RESET	Reset  Active Low	P9

\* The default configuration of the Serial Port is 9600 Baud Rate, 8 Data Bits, No Parity, 1 Stop Bit: (9600 8N1).

## Introduction to the CS472000 Networking Kit

The CS472000 allows you to connect your C Stamp project to a Wi-Fi network. Network connectivity can provide World Wide Web control to any C Stamp based project you create. An easy 2-wire serial connection is all it takes to put your projects online. The kit also includes an adaptor board to the BOL. The figure and table below shows the contents of the kit.



<i>Contents Description</i>	<i>Minimum Quantity</i>
Wi-Fi Module with 4 MB Flash and 8 MB RAM	1
Adaptor Board for the BOL 1	1
Software installation and documentation CD	1

## Wi-Fi Kit Features

The system level features of the Wi-Fi Kit are as follows:

- Interchangeable and pin-compatible with the CS492000
- 4 MB Flash and 8 MB RAM
- High-speed TTL serial interface with up to 230 Kbps throughput
- Wireless Ethernet network interface

- 802.11b with up to 11 Mbps
- Strong WPA2/802.11i security with TKIP/AES encryption
- Radio pre-certification in North America, EU, and Japan
- Five shared GPIO port options
- Low power consumption and industrial temperature range
- Strong SSL/TLS encryption with NIST certified AES algorithm for security sensitive environments
- Robust on-board TCP/IP stack with built-in web server
  - TCP, UDP, DHCP, SNMP, SSL/TLS, Telnet, Rlogin, RFC 2217, LPD, HTTP/HTTPS, SMTP, ICMP, IGMP, ARP
- Universal IP address assignment
  - Static IP, DHCP, Auto-IP
- Secure web user interface (HTTP/HTTPS) with context-sensitive online help
- Pre-defined and custom device profiles
- Customizable web interface with optional Java applet support
  - File system w/512 KBytes user space
- Telnet Command Line Interface
- Modem emulation
- Serial configuration interface
  - Command line, RCI
- User-defined network service/port configuration
  - HTTP/HTTPS, Telnet, Rlogin, ADDP, SNMP, RealPort, SSL/TLS, TCP/UDP
- TCP/UDP forwarding characteristics
  - Bytes, Idle Time, Data Pattern

- User-configurable TCP/UDP Socket ID
- Event notification via email/SNMP traps
  - GPIO Status, Data Pattern
- Port logging
- Intelligent SNMP device management
  - RFC 1213/1215/1316/1317
- Strong SSL 3.0/TLS 1.0 based encryption
  - DES (56-bit), 3DES (168-bit), AES (128/256-bit)
- Patented RealPort® COM/TTY port redirection with encryption for Microsoft Windows, UNIX and Linux environments
- 512 KBytes for web files
- Embedded web server (without proprietary file formats)
- Telnet debug server
- Ability to update web pages and files
- Send and receive UDP packets (allows Stamp-to-Stamp communication)
- Password protect user selected web pages, files, and configurations
- 100 web accessible variables, allowing for dynamic web pages
- Flash memory for setting default variable values
- Compact, breadboard friendly, and compatible with the C Stamp signal and power levels

## CS472000 Connectivity

Follow these steps to connect your kit to the C Stamp BOL:

1. Make note of the Media Access Control (MAC) address on the Wi-Fi module label before installing it.

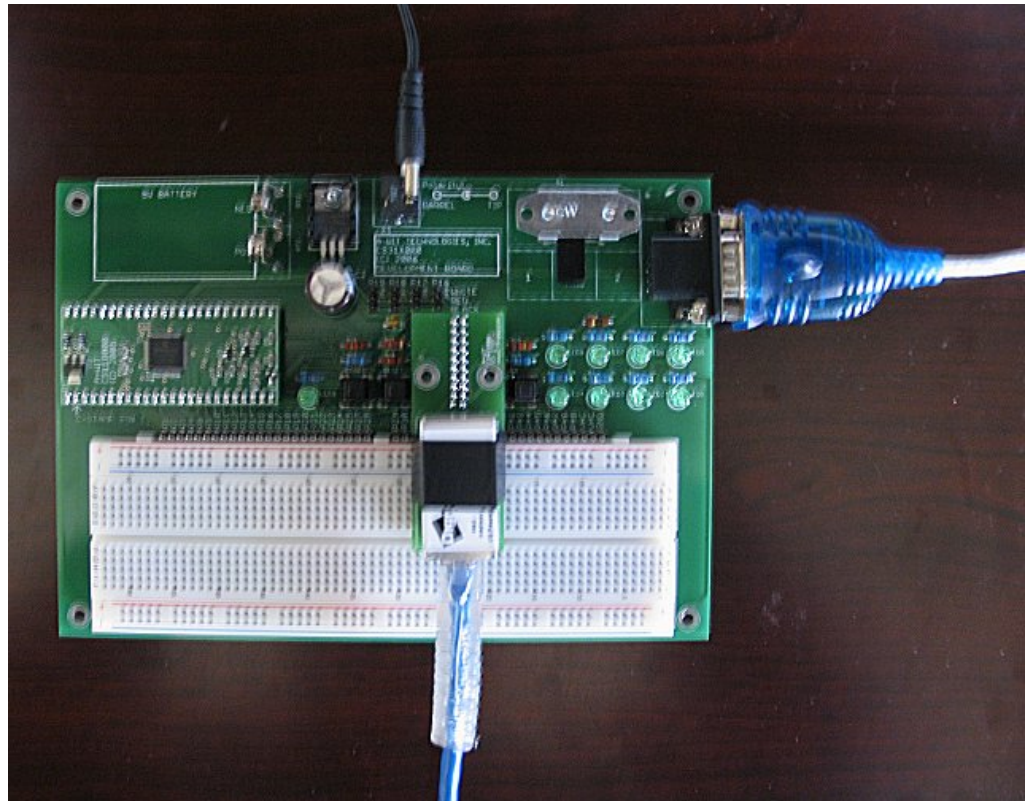
The MAC Address of my CS47200 is: \_\_\_\_\_

For example:

The MAC Address of my CS47200 is: 00409D:3064D4

2. Connect the Ethernet module to the adapter board.
3. You can optionally fix your module to the adapter board using electrical tape or tie-wrap.
4. Connect the adaptor board to the BOL.

After the previous steps have been followed, your Wi-Fi kit should be connected on the BOL as shown on the figure below. Although the figure below shows the Ethernet module, the connection for the Wi-Fi module is similar in positioning, since the modules are interchangeable. The figure below also includes the connections for power to the BOL and the programming cable.



This connection of the kit provides the following connectivity mapping between the C Stamp and the ports of the Wi-Fi module.

<i>Ethernet Module Port</i>	<i>Description</i>	<i>C Stamp Pin</i>
+3.3V	Power  This connection takes VIN power through the adaptor board and regulates it down to 3.3V for the Ethernet module.	VDDHC, VHC
RXD	Serial Port Receive Data (Input)*	P22
TXD	Serial Port Transmit Data (Output)*	P23
GND	Ground	P7, GND, VSS
GPIO1 / DCD	Data Carrier Detect (Input) / GPIO	P15
GPIO2 / CTS	Clear to Send (Input) / GPIO	P14
GPIO3 / DSR	Data Set Ready (Input) / GPIO	P13
GPIO4 / RST	Request to Send (Output) / GPIO	P12
GPIO5 / DTR	Data Terminal Ready (Output) / GPIO	P11
INITn	Software Reset  Active Low	P10
RESET	Reset  Active Low	P9

\* The default configuration of the Serial Port is 9600 Baud Rate, 8 Data Bits, No Parity, 1 Stop Bit: (9600 8N1).

## Getting Started

This chapter is a quick start guide to using the CS4[9|7]2000 networking kits with the C Stamp. This assumes you have a C Stamp and an appropriate connection kit or development board with the RESET and START circuitry and the networking kit properly connected to the C Stamp. You will also need a programming cable, power supply, PC running Windows® 2000/XP/Media/Vista, with a quantity of RAM recommended for the OS, sufficient free hard disk drive space for the software installations, CD-ROM drive, Internet access (recommended only), and available port compatible with your programming cable.

### Notices

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CONNECTION WITH THE SOFTWARE OR FIRMWARE OR THE USE OF OTHER DEALINGS IN THE SOFTWARE OR FIRMWARE.

## Getting Support

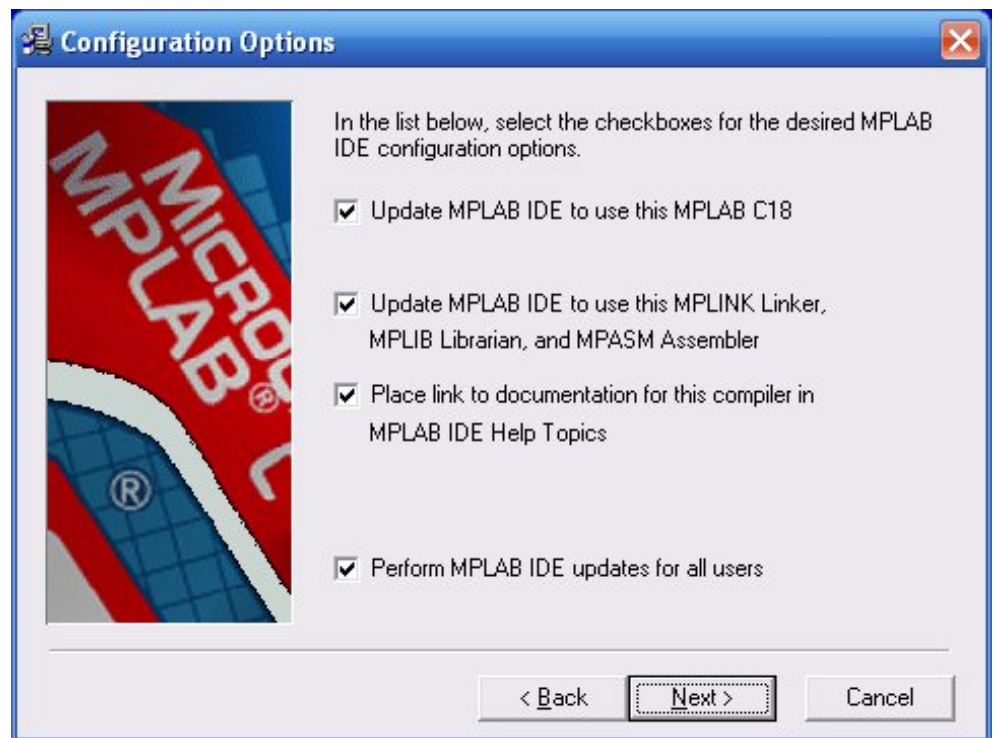
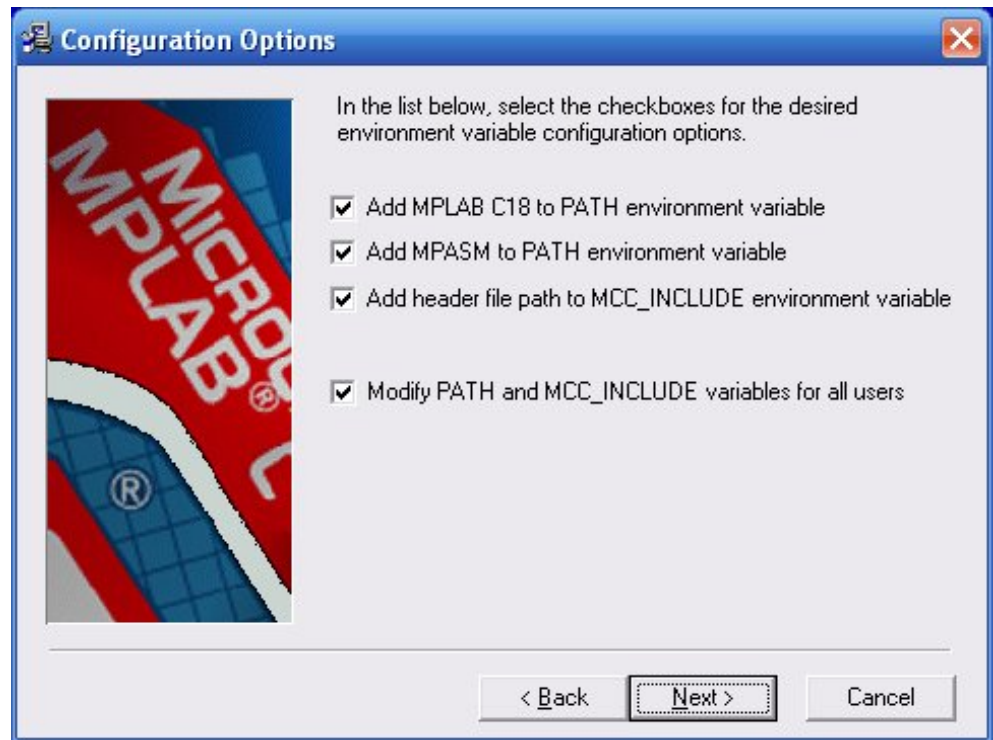
If possible, please check the C Stamp website [www.c-stamp.com](http://www.c-stamp.com) under SUPPORT for any updates to documentation, changes, or notices that may have become available since your Installation CD was produced. If you continue to have any issues for which a solution is not found in the aforementioned website, please e-mail [tech\\_support@a-wit.com](mailto:tech_support@a-wit.com) for help.

## Installing the Microchip MPLAB and C Compiler Software

The first step is to install the Microchip MPLAB software that you will use to develop your programs.

Insert your A-WIT provided Installation CD in your CD drive. Go to the MPLAB directory in the CD and double click on the “MPLAB vX.XX Install” file in that directory. Follow the installation steps, prompts, and directions provided by the installer software, accepting all the default options.

After the MPLAB installation is complete, switch to the C18 directory in the CD, and double click on the file in that directory. Follow the installation steps, prompts, and directions provided by the installer software, accepting all the default options. The only exceptions to accepting all the default options is that on the 5<sup>th</sup> and 6<sup>th</sup> windows of the installation process for the C18 Compiler, you have to select everything as shown in the figures below. This will ensure that MPLAB is configured to use the C18 Compiler.



## Installing the A-WIT C Stamp Quick Programmer

To install the A-WIT C Stamp Quick Programmer, switch to the CSTAMPQP directory in the CD using Windows Explorer, and double click on the file in that directory. Follow the installation steps, prompts, and directions provided by the installer software, accepting all the default options.

## Installing the USB Software

If you purchased a product with a USB download cable, make sure that the A-WIT provided CD is in the CD drive of your PC and insert the USB cable in the USB port of your PC. Windows auto detects the new USB device. If Windows prompts you to install drivers for the USB cable device, follow the installation steps, prompts, and directions provided by the installer software, accepting all the default options.

After the USB adapter has been installed, open a Windows Explorer window from the Accessories sub-menu in the Start menu, and right click on My Computer. Proceed to select Properties, and then select the Hardware tab. Click on the Device Manger button, and expand the Ports (COM & LPT) branch. Make a note of the COM port that has been assigned to the USB-to-Serial adapter. This is the port that should be selected in the C Stamp programmer software.

## Setting Up the C Stamp Software Templates

To set up the C Stamp Software Templates, switch to the CSTAMP\_Template directory in the CD using Windows Explorer, and double click on the file in that directory. Follow the installation steps, prompts, and directions provided by the installer software, accepting all the default options.

## Documentation

Copy the DOCS directory from the C Stamp Installation CD to your C:\A-WIT directory. This directory contains all the C Stamp related documentation in PDF format.

Copy the DOCS\_SW\_CS4X2000 directory from the C Stamp Installation CD to your C:\A-WIT directory. This directory contains all the CS4[9|7]2000 related documentation in PDF format, and any necessary software.

## Creating a Networking Kit Initialization Program

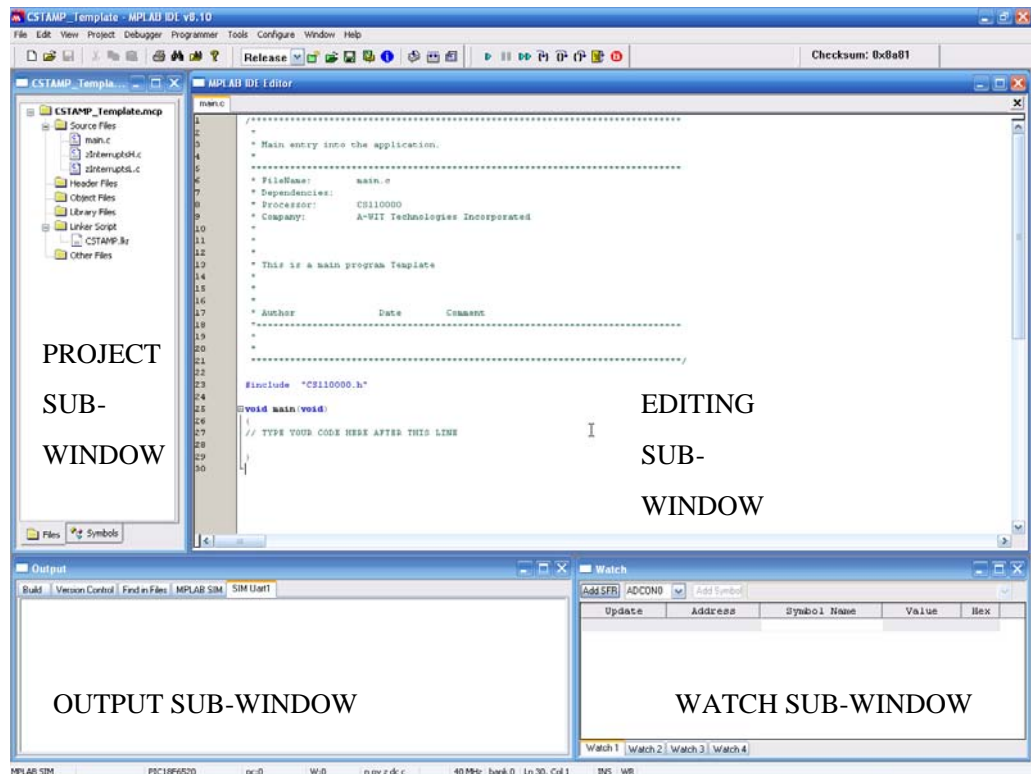
This section demonstrates how to create a program for the C Stamp and the BOL that can initialize the networking module. It is not necessary to run this program, as the

networking module self initializes on power up. However, if you want to include software that enables the C Stamp to initialize the networking module, this program demonstrates a way to do that.

Create a directory where you want to have all the files for your program; for example NET\_INI\_APP. We recommend making this directory under your C:\A-WIT directory, so you can have all your CSTAMP related files in one place.

Copy the all files in your C Stamp Software Templates directory C:\A-WIT\CSTAMP\_Template to the directory you just made.

Open the Microchip MPLAB IDE application. As shown the following figure, the IDE has several sub-windows. Depending on the resolution of your screen, your sub-windows may have a different layout. However; you can move and resize these into the position that you want to fit your screen, and your layout for that particular project will get saved upon answering yes to the prompt of saving the workspace when you exit the software development environment.



Go to the “File” menu to “Open Workspace...”. Then navigate to your program directory, and open CSTAMP\_Template.mcw.

Right click on CSTAMP\_Template.mcp in the “Project” sub-window, and “Save as...” the name of your program project after you have navigated to your program directory. For example, your program project could be named “NET\_INI\_APP”. Now when you open the Microchip MPLAB IDE (Integrated Development Environment), and go to your program directory to open the workspace for your program, you will see a .mws file with the name of your program preceding it. This is the file that you should open any time you want to work on your program.

Double click on the main.c source and type the following code fragment where it is indicated. You can omit the comments for brevity, as they are written here to offer clarifications of what the code does. Do pay attention; however, to the indentation of the code blocks between curly brackets for loops, if statements, etc. Although indenting the code is not a requirement for the compiler to parse your code (i.e. any blank spaces are ignored by the compiler), it does help tremendously to make your code much more readable, and consequently, it makes finding any errors easier. Keywords and function names in the code fragment below are bolded.

After you START the C Stamp in user mode as explained in the “Downloading and Running Your Program” section (this will not be the RESET/BOOT/DOWNLOAD mode), the program will run. This program assumes that your networking kit is connected. The program will initialize the networking module.

To initialize the module push the utility button on the BOL. The program will light LED2 of the BOT when the networking module is being initialized, and then light LED3 of the BOL when the initialization is complete. See example below.

### C-Stamp Example:

```
#include "CS110000.h"

// CS4X2000 pin definitions
BYTE TXD=22; // connects to CS4X2000 pin RXD
BYTE RXD=23; // connects to CS4X2000 pin TXD
BYTE GPIO1=15, GPIO2=14, GPIO3=13, GPIO4=12, GPIO5=11;
BYTE INITn=10; // active low soft reset
BYTE RESET=9; // active low hard reset

void init_CS4X2000(void);

void main(void)
{
// TYPE YOUR CODE HERE AFTER THIS LINE
```

```

BYTE LED1=46, LED2=45, LED3=44;
BYTE B=37; // utility button normally HIGH

STPIND(LED1, HIGH); // program is alive

while(TRUE){
    while(!BUTTON(B, LOW, HIGH, 1));
    STPIND(LED3, LOW);
    STPIND(LED2, HIGH); // CS4X2000 initializing
    init_CS4X2000();
    STPIND(LED2, LOW);
    STPIND(LED3, HIGH); // CS4X2000 initialized
}
}

void init_CS4X2000(void)
{
    STPIND(RESET, HIGH); STPIND(INITn, HIGH);
    STPIND(TXD, HIGH); GTPIND(RXD);
    STPIND(GPIO1, HIGH); STPIND(GPIO2, HIGH);
    STPIND(GPIO3, HIGH);
    GTPIND(GPIO4); GTPIND(GPIO5);

    PAUSE(500); STPIND(RESET, LOW);
    PAUSE(500); STPIND(RESET, HIGH);
    PAUSE(500);
    PAUSE(500); STPIND(INITn, LOW);
    PAUSE(500); STPIND(INITn, HIGH);
    PAUSE(500);
}

```

Save your program from the “File” menu or by clicking on the appropriate icon in the tool bar. Then “Build All” from the “Project” menu or from the tool bar.

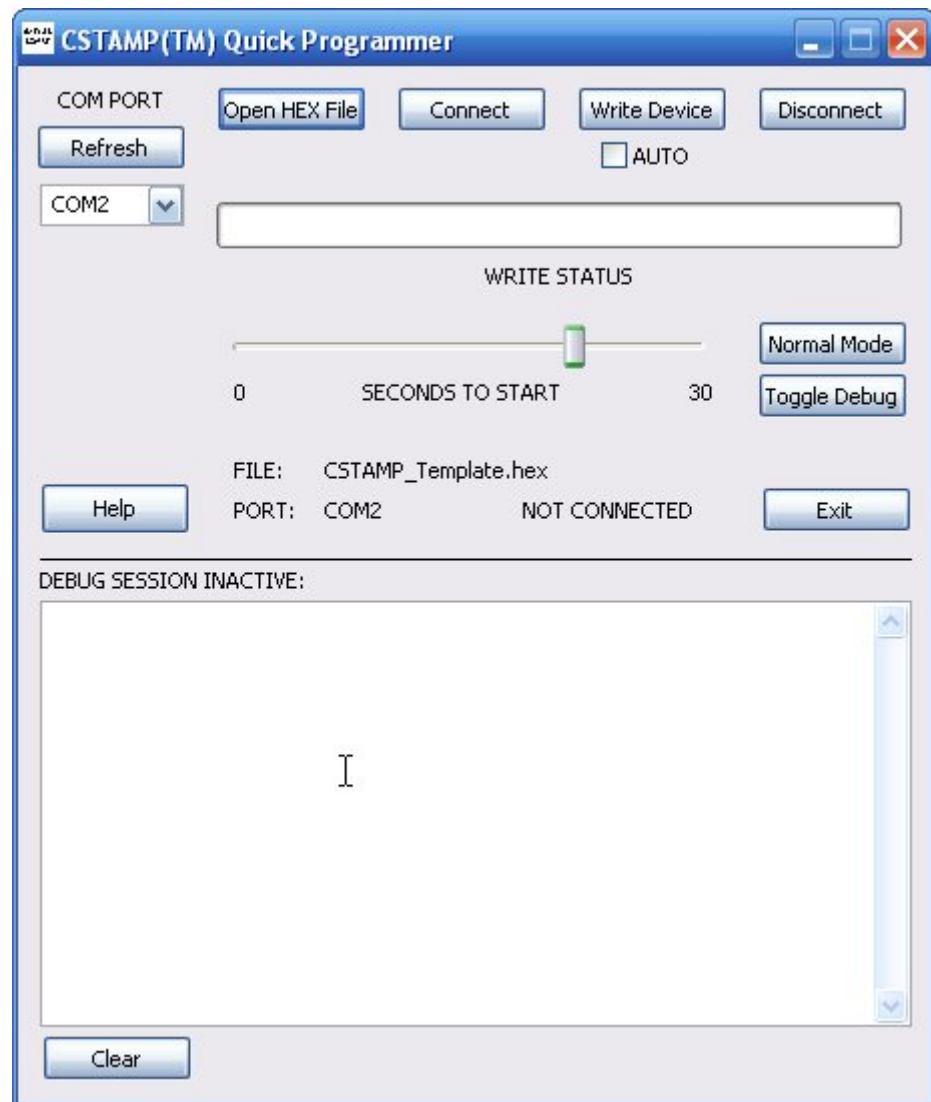
If the code was typed correctly, you will have a file in your program directory with the name of your program project and a .HEX extension. An example is NET\_INI\_APP.HEX. This is the file that you will download to the C Stamp, as explained up ahead.

If you get an error message or an indication that your program did not build successfully in the “Output” sub-window of the IDE, you probably have one or more syntax error(s). Double click on the line of the “Output” sub-window that mentions the error, and the program line that most likely contains the error will be indicated in

the sub-window where you were editing your program. Correct as necessary, and “Build All” again until you get a successful .HEX file output.

## Downloading and Running Your Program

Power up your KIT, and connect the KIT to the PC with the provided cable. Upon power up, the C Stamp will be in RESET/BOOT/DOWNLOAD mode. To go back to this mode at any time, just push and let go of the RESET button. Then open the A-WIT C Stamp Quick Programmer application shown in the next figure.



The first step is to choose the serial port that you are using from the drop-down menu. Then click on “Refresh”, so that the program registers your selection. Your selection

should show in the status area of the program next to “PORT:”. Then click on “Open HEX File” and load/select the HEX file that you had previously created during the development of your program. The status area should indicate that the file has been loaded successfully. This is what will be downloaded to the C Stamp. Then click on “Connect”, and the PC will be connected to the C Stamp, and the status area should indicate so. To download the HEX file to the C Stamp, just click on “Write Device”, and you should see the progress bar after a few seconds, as the HEX file is downloaded. At this point, you can click on “Disconnect” to disconnect the PC from the C Stamp, disconnect the serial cable from both the PC and the C Stamp, and start your program manually at the C Stamp. To do this just push and let go of the RESET button while pushing the START button. Then you can let go of the START button. Alternatively, you can click on “Normal Mode” to start your program from the PC. This will also disconnect the program/PC from the C Stamp. Then you can disconnect the serial cable from the PC and the KIT. You can also instruct the CSTAMP™ Quick Programmer to wait several seconds before starting your program from the PC and disconnecting by adjusting the “SECONDS TO START” slide. This feature is useful in case you want to keep the PC connected with the serial cable, but need time to manually set up something in a circuit that you have built. If this is not the case it can just be left at the default of “0”, and your program will start from the PC right away. After you click “Normal Mode” and your program is started, the CSTAMP™ Quick Programmer will not be communicating with the C Stamp any longer, so if you want to reconnect, you must click on “Connect” again.

## Configuring the Networking Module

After the networking kit has been powered up and connected to the network, it will take a few seconds (no more than 30) to register in the network. At that point, you can follow the following steps to configure your networking module.

Go to the web interface of your router and find out the (Internet Protocol) IP address that has been assigned to the module. By default, the module is configured to accept a dynamically assigned IP address. This is also the default behavior of routers. They assign IP addresses dynamically using the Dynamic Host Configuration Protocol (DHCP). Go to the DHCP table in your router and make a note of the IP address assigned to the module. How you get this information will vary from router to router, but all routers do have a way of providing the information. By default, the host name for the module is blank, so you can distinguish which is the IP address of the module by a process of elimination from the other hosts on the network. You should also be able to assign a static IP address to your module using the router interface, assign a domain name to your LAN, among many other optional router configurations.

Once the IP address is available, access the module web interface via a web browser using the IP address. For example if the IP address is 198.168.0.103, you would type in the address bar of your browser <http://198.168.0.103> . Then login into the web site

resident in the module. The default username is “root”, and the default password is “dbps”.

The next step is to configure the GPIOs. Click on the “GPIO” option under the **Configuration** menu, and set up the GPIOs according to the figure below. Then click on “Apply” when done.

### GPIO Configuration

General Purpose Input/Output Pins

	Mode	Initial Output State
Pin 1:	Out	De-asserted
Pin 2:	Out	De-asserted
Pin 3:	Out	De-asserted
Pin 4:	Out	De-asserted
Pin 5:	Out	De-asserted

Apply

The figure above applies to the Ethernet Kit. The corresponding setting menu for the Wi-Fi Kit will look like the figure below.

After you have configure the GPIO pin in either Kit, you can change the settings ogf the pin by going to the “System Information” under the **Administration** menu, expanding the “GPIO” option, and setting the pins as you want. This menu is shown in the figure below.

	Asserted	De-asserted
Pin 1:	<input type="radio"/>	<input checked="" type="radio"/>
Pin 2:	<input type="radio"/>	<input checked="" type="radio"/>
Pin 3:	<input type="radio"/>	<input checked="" type="radio"/>
Pin 4:	<input type="radio"/>	<input checked="" type="radio"/>
Pin 5:	<input type="radio"/>	<input checked="" type="radio"/>

Asserted means that the pin is HIGH, and De-Asserted means that the pin is LOW.

With this configuration, you can control your C Stamp project from the web interface. For example, the following program will turn on or off LEDs 1 through 5 of the BOL

according to the setting of GPIO Pins 1 through 5 in the network module, as set from the web interface.

### C-Stamp Example:

```
#include "CS110000.h"

void main(void)
{
// CS4X2000 pin definitions
// Outputs at Net Mod
  NIBBLE Pin1 = 15, Pin2 = 14, Pin3 = 13, Pin4 = 12,
    Pin5 = 11;

  BYTE LED1 = 46, LED2 =45, LED3 =44, LED4 =43,
    LED5 =42;

  while(TRUE){
    if(GTPIND(Pin1)) STPIND(LED1, HIGH);
    else STPIND(LED1, LOW);
    if(GTPIND(Pin2)) STPIND(LED2, HIGH);
    else STPIND(LED2, LOW);
    if(GTPIND(Pin3)) STPIND(LED3, HIGH);
    else STPIND(LED3, LOW);
    if(GTPIND(Pin4)) STPIND(LED4, HIGH);
    else STPIND(LED4, LOW);
    if(GTPIND(Pin5)) STPIND(LED5, HIGH);
    else STPIND(LED5, LOW);
  }
}
```

You are encouraged to explore the web interface of your networking module, as it has many settings that you may want to set. The real power of the networking modules will be coupled to your specific project. In this case, you would write a Java™ based web site that you would upload to the networking module. This application will allow you to take inputs and provides outputs via the web, and then communicate with the C Stamp using the serial port. The C Stamp, in turn, will be running code specific to your project, and using the **SERIN2/SEROUT2** commands to communicate with the networking module.

Once you have developed your project specific web site, you would upload it to the module by clicking on “File Management” from the **Administration** menu. This interface is shown in the figure below.

**File Management**

Upload Files

Upload custom web pages and files such as your applet and HTML files. Uploading an *index.htm* or *index.html* file will automatically load that page upon logging into this device.

Upload File:

Manage Files

Action	File Name	Size
<input type="checkbox"/>	index.htm	3656 bytes
<input type="checkbox"/>	configapp.jar	209052 bytes
<input type="checkbox"/>	common.jar	133161 bytes

## Terms & Conditions

### **Quality Assurance**

A-WIT has stringent quality control procedures in place to insure the best quality products.

### **90-Day Limited Warranty**

A-WIT Technologies, Inc warrants its products against defects in materials and workmanship for a period of 90 days. If you discover a defect, A-WIT Technologies, Inc. will, at its option, repair, replace, or refund the purchase price. After 90 days, products can still be sent in for repair or replacement, but there will be a \$10.00USD minimum inspection/labor/repair fee (not including return shipping and handling charges).

### **14-Day Money-Back Guarantee**

If, within 14 days of having received your product, you find that it does not suit your needs, you may return it for a refund. A-WIT will refund the purchase price of the product in the form of a check, excluding shipping/handling costs, once the product is received. This refund does not apply if the product has been altered or damaged. If you decide to return the products after the 14-day evaluation period, a 20% restocking fee will be charged against a credit.

### **Disclaimer**

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### **How to Return a Product**

When returning, you must first e-mail [sales@a-wit.com](mailto:sales@a-wit.com) for a Return Merchandise Authorization number. No packages will be accepted without the RMA number clearly marked on the outside of the package. After inspecting and testing, we will return your product, or its replacement using the same shipping method used to ship the product to A-WIT within 30 days. In your package, please include a daytime telephone number and a brief explanation of the problem.

Please contact our Sales Department at [sales@a-wit.com](mailto:sales@a-wit.com) if you have any questions regarding our warranty policy or if you are requesting an RMA number.

