



SolTrex® Logger Ethernet Configuration

LOGGER COMMUNICATIONS SUMMARY

The SolTrex data logger communicates logged data to a central database periodically, usually every 15 minutes when connected via Ethernet. The logger always communicates via port 80, and always initiates communication with the server. Because of this mode of operation, the logger operates on the local network in exactly the same manner as a web browser, sending packets of information to servers and receiving reply packets in return. In most circumstances, this means the logger needs no special permissions or firewall setup to enable proper operation.

DEFAULT PLUG-&-PLAY MODE - DHCP

By default, the logger attempts to configure itself using DHCP upon startup, provided it can detect an active Ethernet connection. Using DHCP, the logger requests and receives IP configuration information from the network. Network administrators can view the logger's status messages regarding Ethernet detection, DHCP request, and IP address by connecting to the logger with a laptop and serial cable and running the JavaKit program (see Connecting a Laptop to the Logger and Running JavaKit, below).

ALTERNATIVE SETUP – STATIC IP

If a static IP is preferred, the logger may be manually configured with the appropriate IP information. The steps involved are as follows:

1. Configure field laptop with Logger Support tools
2. Start JavaKit and connect to the logger
3. Load Slush and log in
4. Configure static IP addresses with Slush
5. Reload the logger firmware and reboot

Detailed instructions for each step are below.

1. Configure field laptop with Logger Support tools

- a. Copy the contents of the CD-ROM that came with the logger to c:\loggersupport\ on a Windows-based PC or laptop.
- b. Find the file javakit.bat in c:\loggersupport\. In Windows, right-click on the file and choose "Send To," "Desktop (create shortcut)."

2. Start JavaKit and connect to the logger.

- a. Connect DB9 male to DB9 female serial cable between PC serial port and Logger serial port.
- b. Plug in the logger.



- c. Double-click on the javakit.bat desktop shortcut (a DOS window and JavaKit will open, see Figure 3).
- d. From the “Device” menu at the top of the screen, select “TINIm400.”
- e. Under Port Name at the bottom left, select a COM port (normally COM 1 unless it is being used by another application).
- f. Hit the “Open Port” button.
- g. Hit the “Reset” button.
- h. The logger should respond with a command prompt:

```
TINI loader 05-15-00 17:45
Copyright (C) 2000 Dallas Semiconductor. All rights
reserved.
>
```

3. Load Slush and log in

- a. Slush replaces the logger firmware temporarily and is useful in setting up and debugging loggers. When loaded on the logger, it replaces the firmware file, so you need to remember to reload the firmware after completing your work with Slush.
- b. To load Slush, in JavaKit choose “File,” “Load,” and select the latest Slush version from the loggersupport400/firmware directory.
- c. Once loaded, press “E” then [Enter] to reboot the logger running Slush.
- d. When Slush initialization is complete, it will ask you to “Hit any key to login.” Hit any key. It will then ask for a login and password. Use the following:

```
TINI login: root
TINI password: tini
```

After successfully logging in, Slush will display a command prompt.

```
TINI />
```

4. Configure static IP addresses with Slush

the Slush command “ipconfig” to view and set IP addresses. At a minimum, you’ll need to set the IP address, subnet mask, gateway, and primary and secondary DNS servers. Note that the IP address and subnet mask must be set together.

ipconfig: Configures or displays network settings. Can be used to set static IP parameters for Ethernet-connected loggers when DHCP (default) is not available or desired. Context is as follows:

```
ipconfig -a XX.XX.XX.XX -m XX.XX.XX.XX

Sets the IP address and subnet mask

TINI /> ipconfig /h
ipconfig [options]
```



Configure or display the network settings.

```
[-a xx.xx.xx.xx]    Set IP address.  Must be used with the -m option.
[-n domainname]    Set domain name
[-m xx.xx.xx.xx]    Set subnet mask.  Must be used with -a option.
[-g xx.xx.xx.xx]    Set gateway address
[-p xx.xx.xx.xx]    Set primary DNS address
[-s xx.xx.xx.xx]    Set secondary DNS address
[-t dnstimeout ]    Set DNS timeout (set to 0 for backoff/retry)
[-d]                Use DHCP to lease an IP address
[-r]                Release currently held DHCP IP address
[-x]                Show all Interface data
[-h xx.xx.xx.xx]    Set mailhost
[-C]                Commit current network configuration to flash
[-D]                Disable restoration of configuration from flash
[-f]                Don't prompt for confirmation
```

- e. After setting IP parameters, it's best to commit them to flash using `ipconfig -C`.
- f. When complete, Hit the "Reset" button.

5. Reload the logger firmware

- a. Open JavaKit and establish a connection to the logger.
- b. The process for uploading firmware to the logger is the same as that for uploading Slush. On the JavaKit menu, choose "File," "Load," and select the firmware file to upload. Choose the firmware file from the `loggersupport400/firmware` directory on your hard drive. Firmware files are named something like this: `tinilogger.r1_00.1.02f.csg.tbin`, with larger numbers indicating later versions.
- c. After the firmware is loaded, reboot the logger by pressing "E" then [Enter].
- d. The logger will now restart running its firmware. If you maintain a connection with JavaKit, you will be able to see the logger's status messages regarding its IP configuration.
- e. Within one minute of booting up, the logger should display the static IP address. After it does so, it should begin communicating with the SolTrex servers and display "OK" in response to properly sent packets.