

## SUPPORT

Models supported include ET-2242, ET-2251, ET-2254, ET-2254P, ET-2255, ET-2260 and ET-2268.

## WARRANTY

All products manufactured by ICP DAS are warranted against defective materials for a period of one year from the date of delivery to the original purchaser.

## WARNING

ICP DAS assumes no liability for damages consequent to the use of this product. ICP DAS reserves the right to change this manual at any time without notice. The information furnished by ICP DAS is believed to be accurate and reliable. However, no responsibility is assumed by ICP DAS for its use, nor for any infringements of patents or other rights of third parties resulting from its use.

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## CONTACT US

If you have any questions, please feel free to contact us via email at:

[service@icpdas.com](mailto:service@icpdas.com) or [service.icpdas@gmail.com](mailto:service.icpdas@gmail.com)

You will generally receive a response within 2 working days.

# ET-2200 Series

## Firmware Update via Ethernet

Version: 1.1/ Updated: Feb. 2016

Ch. 1. Setting up the ET-2200

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ICP DAS CO., LTD.

Website: <http://www.icpdas.com>

# 1. Setting up the ET-2200

Before updating the firmware, ensure that the network settings for both your host computer and any ET-2200 modules are correctly configured, or the update procedures via the Ethernet network may not function correctly.

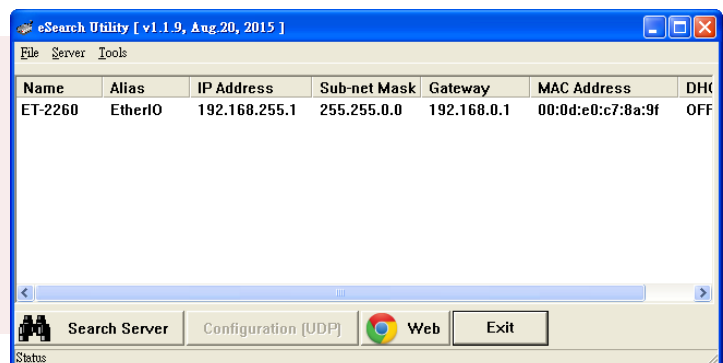
**Step 1: Connect the ET-2200 to the same hub or the same sub-network as your Host PC, and attach a power supply to the ET-2200. Do not connect the ET-2200 to a router or directly to the Internet as this may cause the update process to fail.**

Refer to “**Chapter 5-Connecting the Power and the Host PC**” in the ET-2200 Quick Start Guide for more detailed information.



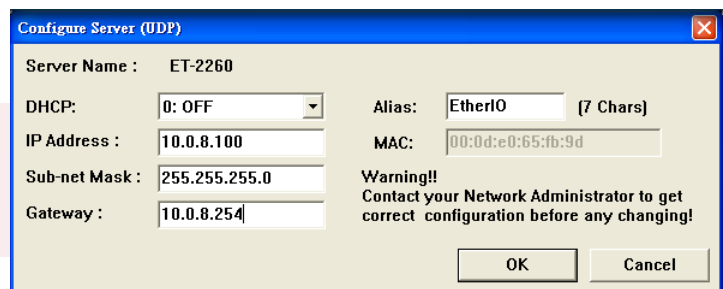
[Download the Quick Start Guide.](#)

**Step 2: Download and Install the eSearch Utility (version is v1.1.9 or later) on your Host PC, and then run the Utility to search for any ET-2200 modules connected to the network.**



[Download the eSearch Utility.](#)

**Step 3: Configure the correct network settings for the required ET-2200 module.**



Refer to “**Chapter 7-Configuring the Correct Network Settings**” in the ET-2200 Quick Start Guide. If the IP address settings do not work correctly, refer to [note1 \(Page 13\)](#) below.



[Download the Quick Start Guide.](#)

## 2. Firmware Update Procedure

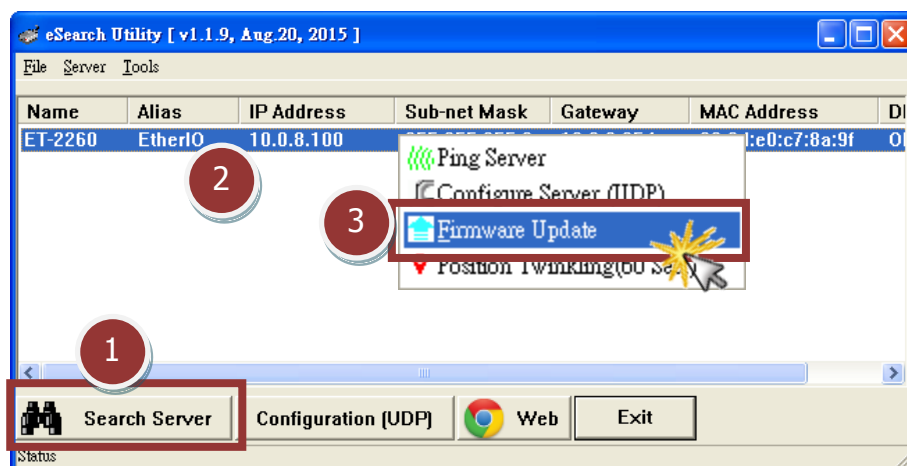
Two methods can be used to update the firmware: “**Local Firmware Update**” (traditional) and “**Remote Firmware Update**” (TeamViewer). The Local Firmware Update option requires the user to manually adjust the position of the Init/Run Switch and reboot the module in order to initialize the of firmware update. Refer to [Section 2.1 “Local Firmware Update”](#) for more details. The Remote Firmware Update option allows the user to initialize the module via a web interface without needing to adjust the hardware switch. Initialization via the web interface is useful when the module is installed at a remote site and can be accessed via the TeamViewer application installed on a remote PC. Refer to [Section 2.2 “Remote Firmware Update”](#) for more details.

### 2.1 Local Firmware Update

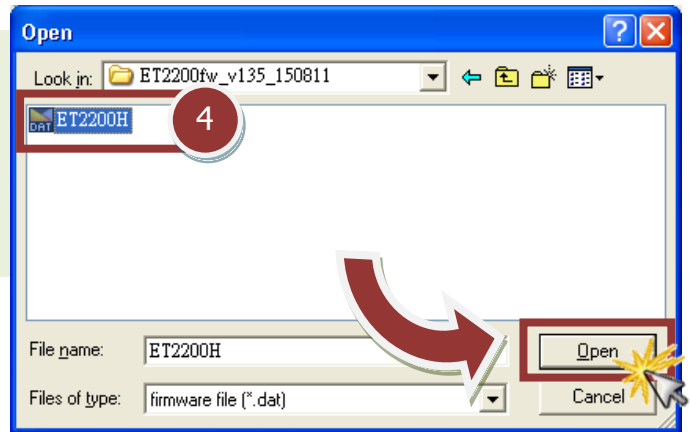
*Step 1: In the eSearch Utility, click the “Search Servers” button to search for any ET-2200 modules connected to the network . (The network settings of the ET-2200 module are described in Step 3 of Section 1 above)*

*Step 2: Right click the name of the ET-2200 module to be updated.*

*Step 3: Select the “Firmware Update” item from the popup menu and the “Open” dialog box will be displayed.*



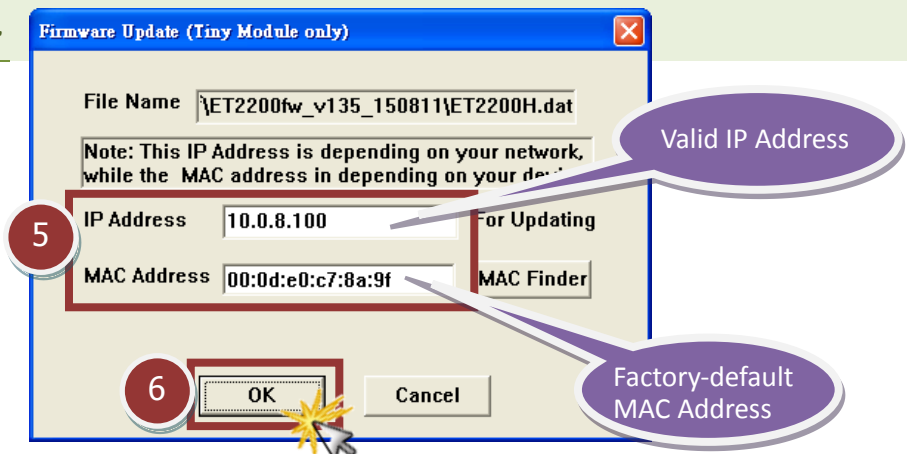
Step 4: In the "Open" dialog box, select the firmware file (ET2200H.dat) that will be used to update the module, and then click the "Open" button.



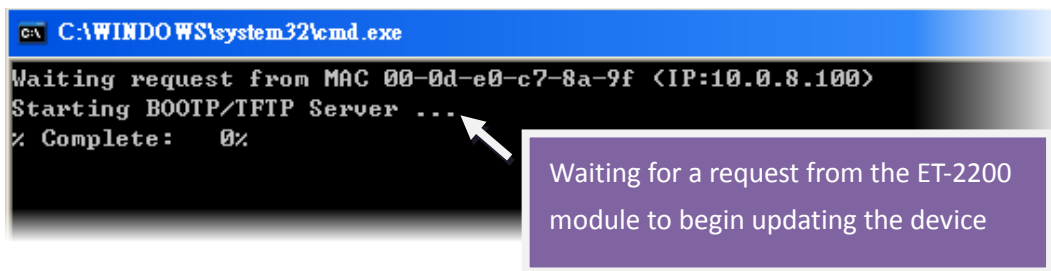
[Download the Firmware File.](#)

Step 5: Assign a valid IP Address and the factory-default MAC Address for the ET-2200 module. If this IP address is invalid (e.g. IP Address: 0.0.0.0) or a user-defined MAC address is assigned, refer to note 2 (Page 13) and note 3 (Page 14) below for more details.

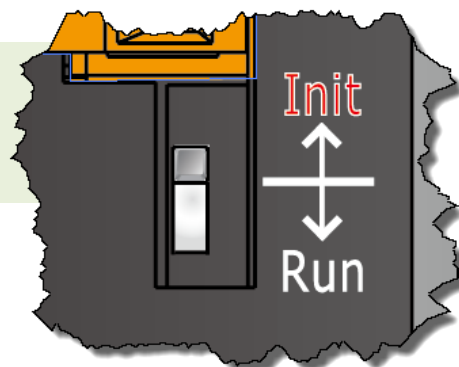
Step 6: Click the "OK" button.



Step 7: The module is now ready for the firmware update. A Command Prompt window will be displayed to indicate the progress of the update.

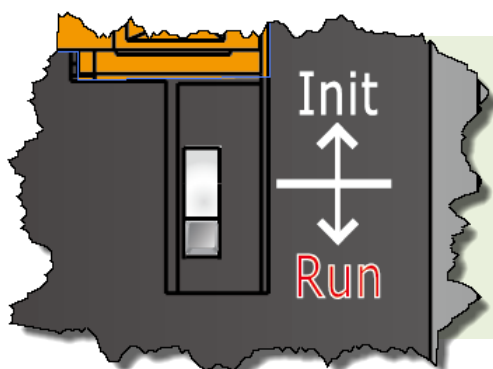
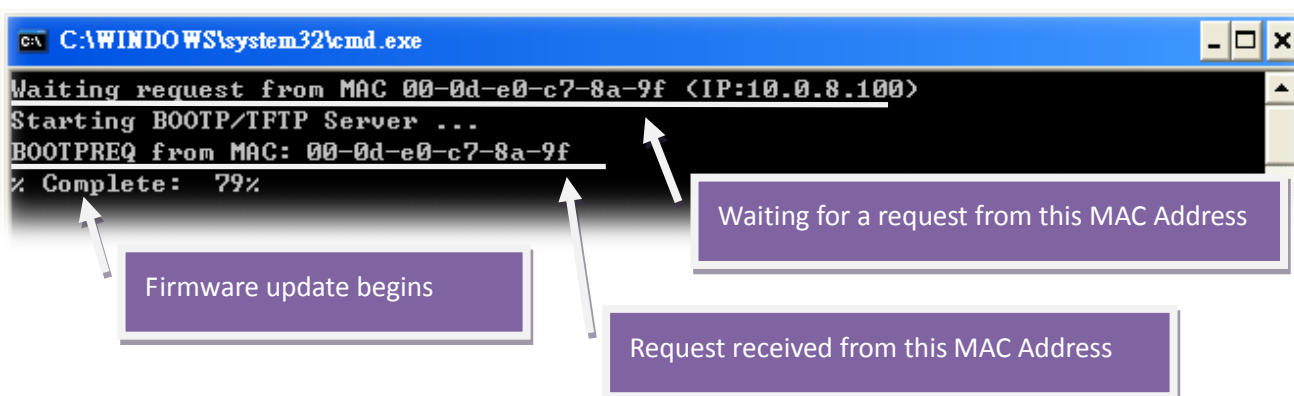


Step 8: Set the "Init Switch" on the ET-2200 module to the "Init" position.



Step 9: Power-on reset the ET-2200 module in "Init Mode" to initiate the update.

Step 10: Confirm that the two MAC addresses (factory-default) listed in the Command Prompt window, "Waiting request from MAC x.x.x.x" and "BOOTPREQ from MAC: x.x.x.x", are the same, as indicated in the image below. If these addresses do not match, the update cannot proceed. Refer to note4 (Page 14) below for more details.



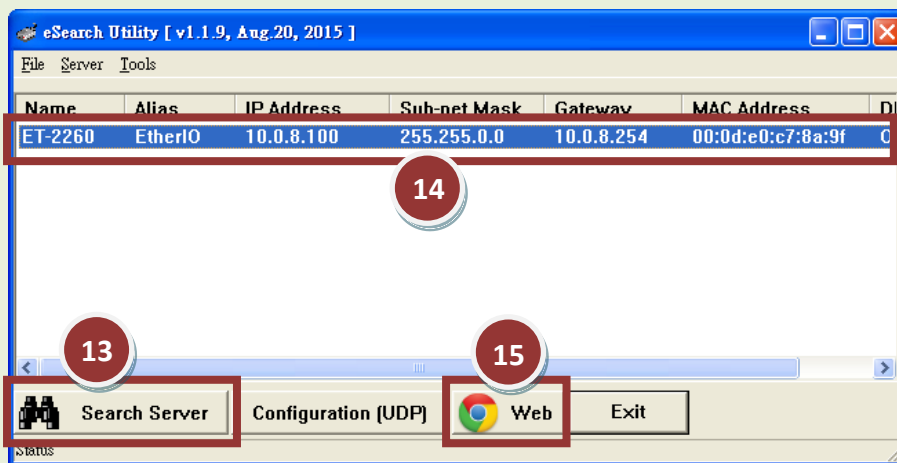
Step 11: Once the update is complete (i.e., when the progress indicator reaches 100%), set the "Init Switch" to the "Run" position.

Step 12: Power-on reset the ET-2200 module to operate the module in "Run Mode".

**Step 13:** In the eSearch Utility, search for the ET-2200 module again to verify that it is functioning correctly. Note that the network settings for the module may need to be reconfigured after updating the firmware. Refer to Step 3 in Section 1 above for more details.

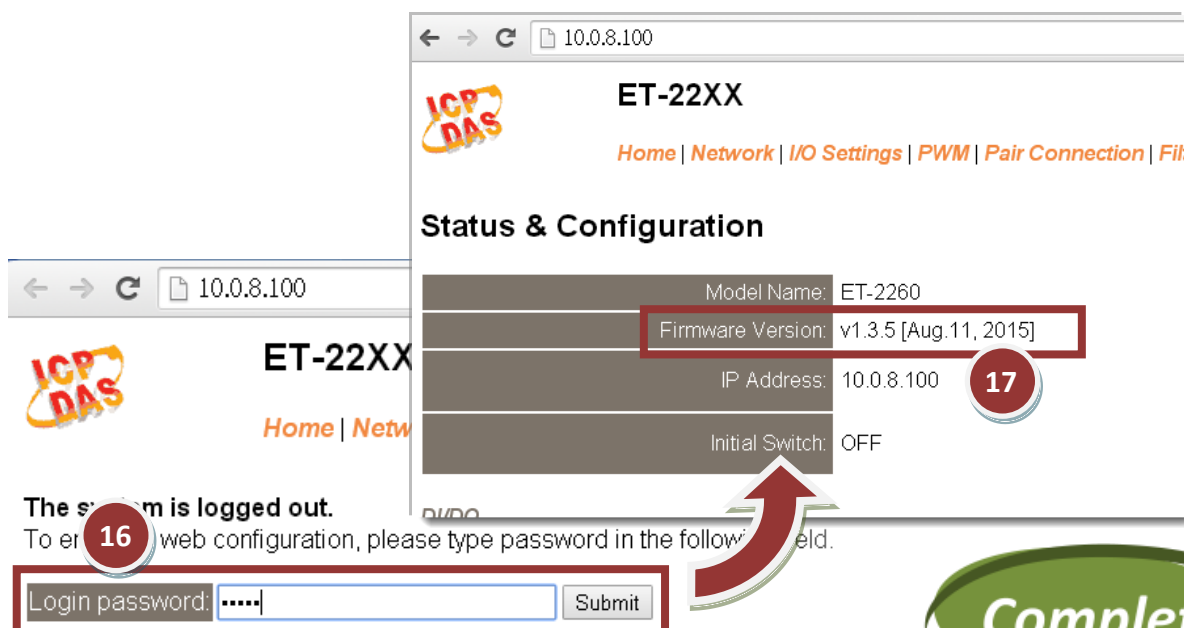
**Step 14:** Click the name of the ET-2200 module to highlight it.

**Step 15:** Click the "Web" button and the default web browser will be opened.



**Step 16:** Log in to the web configuration pages for the ET-2200 (use the default username and password "Admin").

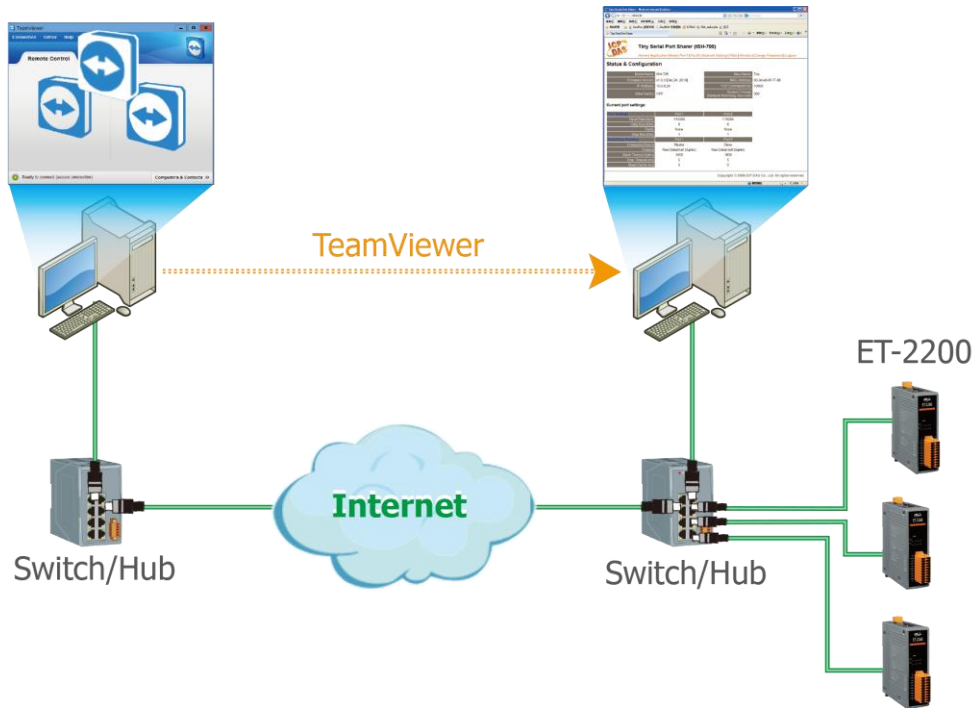
**Step 17:** Verify that the version and date details for the firmware are correct.



Note: This web configuration requires JavaScript enabled in your browser (Firefox). If the web configuration does not work, please check the JavaScript settings first.

## 2.2 Remote Firmware Update

In order to perform a Remote Firmware Update, use an application that allows an external system to be remotely controlled, such as TeamViewer, in order to create a connection between the local and the remote system. **Note that all firmware update procedures need to be carried out on the remote system.**

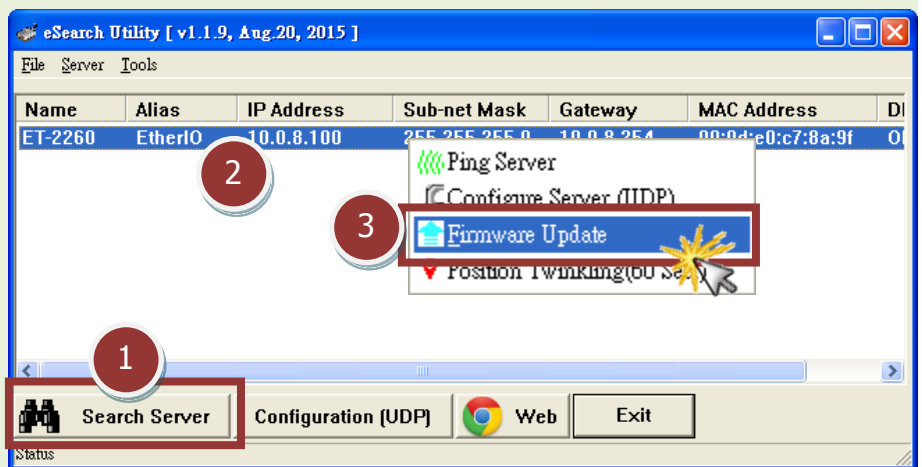


Follow the procedure described below to update firmware of the ET-2200 on the remote PC:

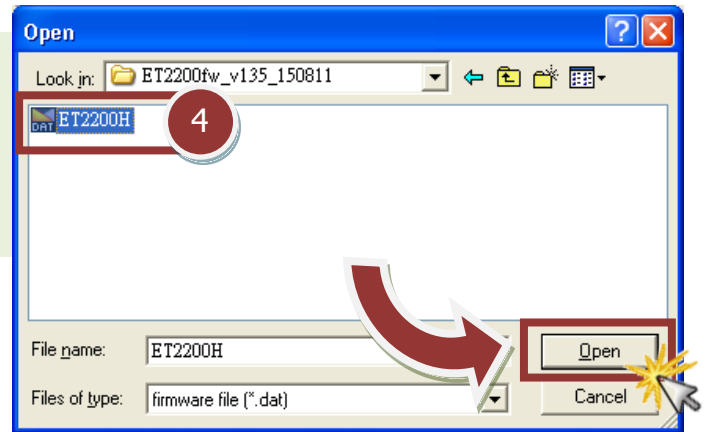
**Step 1:** In the eSearch Utility, click the **“Search Servers”** button to search for any ET-2200 modules connected to the network . (The network settings the ET-2200 module are described in Step 3 of Section 1)

**Step 2:** Right click the name of the ET-2200 module to be updated.

**Step 3:** Select the **“Firmware Update”** item from the popup menu and the **“Open”** dialog box will be displayed.



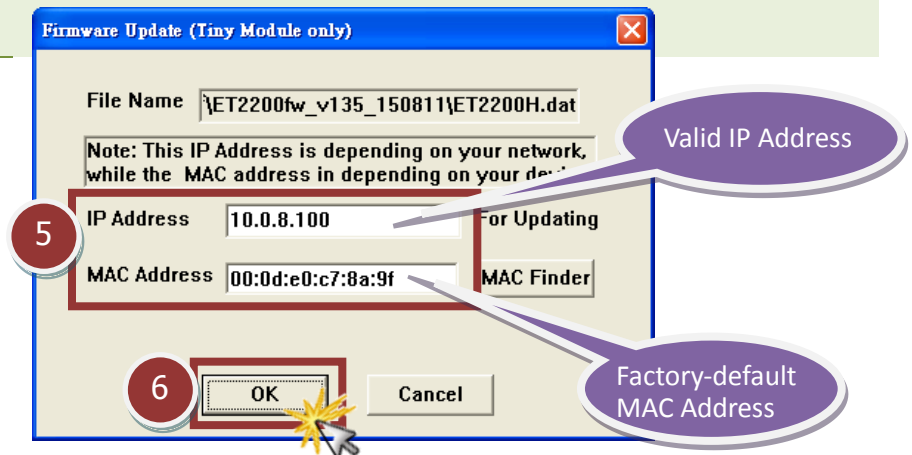
Step 4: In the "Open" dialog box, select the firmware file (ET2200H.dat) that will be used to update the module, and then click the "Open" button.



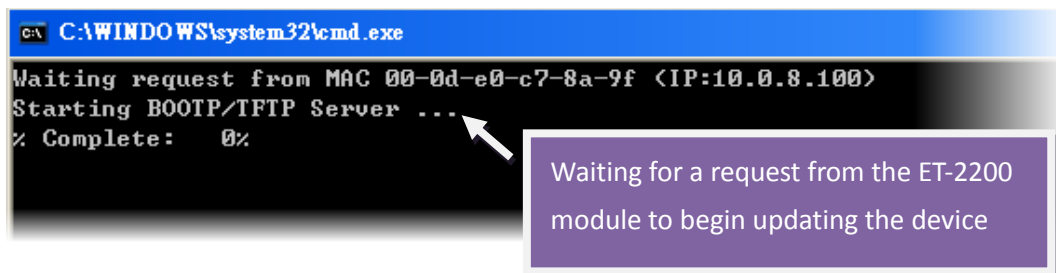
[Download the Firmware File.](#)

Step 5: Assign a valid IP Address and the factory-default MAC Address for the ET-2200 module. If this IP address is invalid (e.g. IP Address: 0.0.0.0) or a user-defined MAC address is assigned, refer to note 2 (Page 13) and note 3 (Page 14) above for more details.

Step 6: Click the "OK" button.

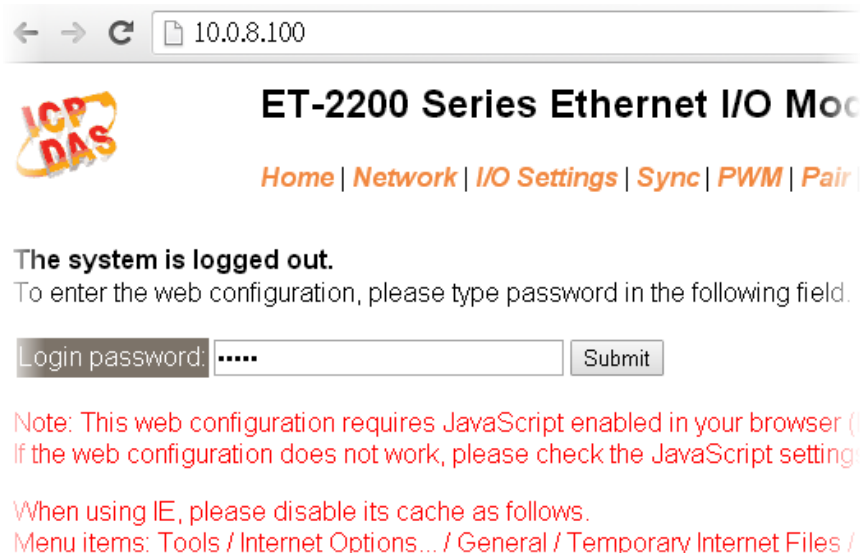


Step 7: The module is now ready for the firmware update. A Command Prompt window will be displayed to indicate the progress of the update.



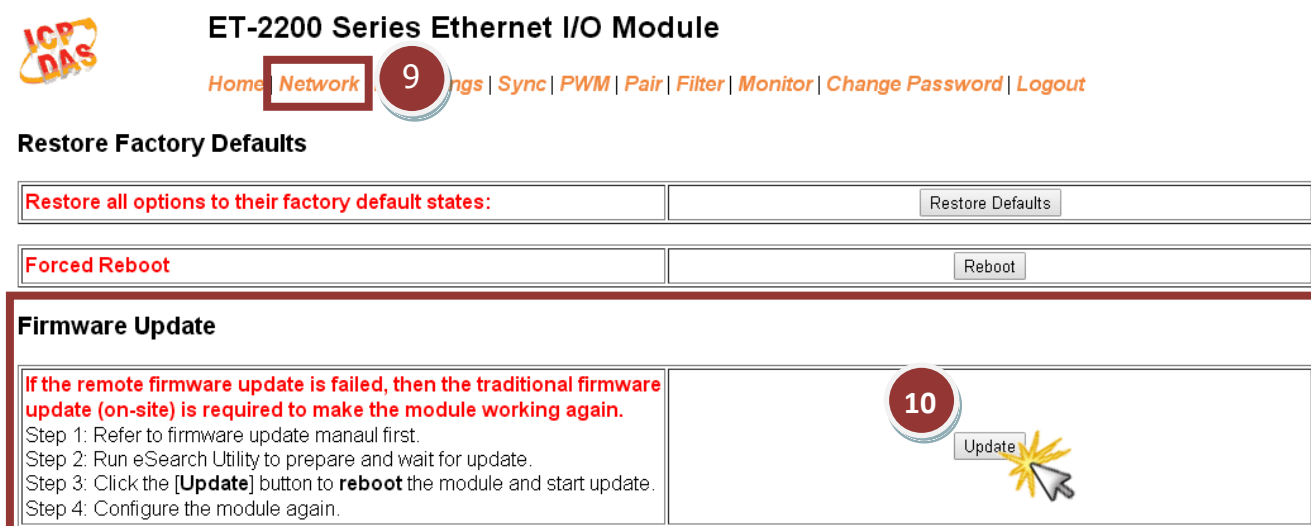


**Step 8: Open a web browser such as Internet Explorer or Firefox and enter the URL for the ET-2200 in the address bar of the browser and log in to the web configuration pages (use the default usemanme and password “Admin”).**



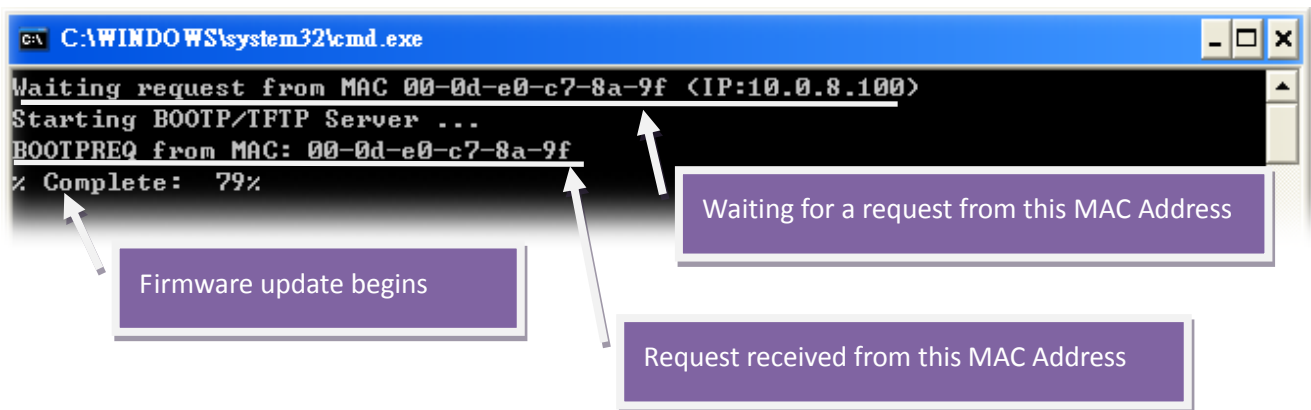
**Step 9: Click the “Network” tab to display the Network and Miscellaneous Settings page.**

**Step 10: Click the “Update” button in the “Firmware Update” section to start the update.**



**Step 11:** Confirm that the two MAC addresses (factory-default) listed in the Command Prompt window, “Waiting request from MAC x.x.x.x” and “BOOTREQ from MAC: x.x.x.x”, are the same, as indicated in the image below. If these addresses do not match, the update cannot proceed. Refer to *note4 (Page 14)* below for more details.

**Step 12:** Once the update is complete (i.e., when the progress indicator reaches 100%), close the Command Prompt window.

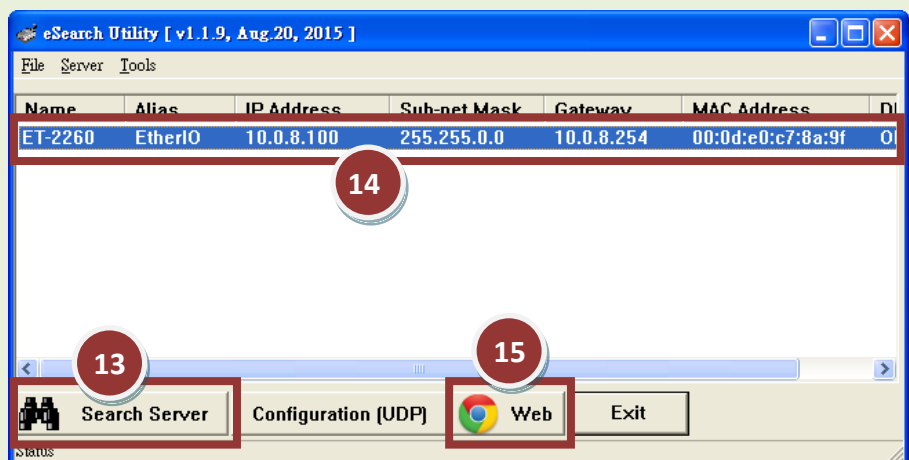


**Note:** If the Remote Firmware Update option fails, then the On-site Firmware Update (traditional) option will need to be carried out in order to ensure the module is operational again.

**Step 13:** In the eSearch Utility, search for the ET-2200 module again to verify that it is functioning correctly. Note that the network settings for the module may need to be reconfigured after updating the firmware. Refer to Step 3 in Section 1 above for more details.

**Step 14:** Click the name of the ET-2200 module to highlight it.

**Step 15:** Click the “Web” button and the default web browser will be opened.



**Step 16: Log in to the web configuration pages for the ET-2200 (use the default username password and “Admin”).**

**Step 17: Verify that the version and date details for the firmware are correct.**

The screenshot displays the web configuration interface for an ET-22XX device. The browser address bar shows the IP address 10.0.8.100. The page title is "ET-22XX" and the logo "ICP DAS" is visible. The navigation menu includes "Home", "Network", "I/O Settings", "PWM", "Pair Connection", and "File". The main section is titled "Status & Configuration" and contains the following information:

Model Name:	ET-2260
Firmware Version:	v1.3.5 [Aug.11, 2015]
IP Address:	10.0.8.100
Initial Switch:	OFF

Below the configuration table, a message states: "The system is logged out. To enter the configuration, please type password in the following field." A "Login password:" input field with a "Submit" button is shown. A red circle with the number "16" highlights the input field, and a red circle with the number "17" highlights the "Firmware Version" field. A red arrow points from the "Login password:" field to the "Firmware Version" field.

Note: This web configuration requires JavaScript enabled in your browser (Firefox). If the web configuration does not work, please check the JavaScript settings first.

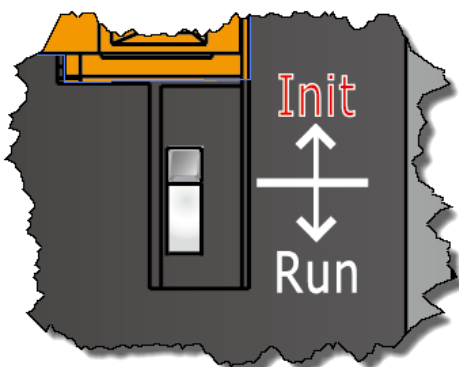
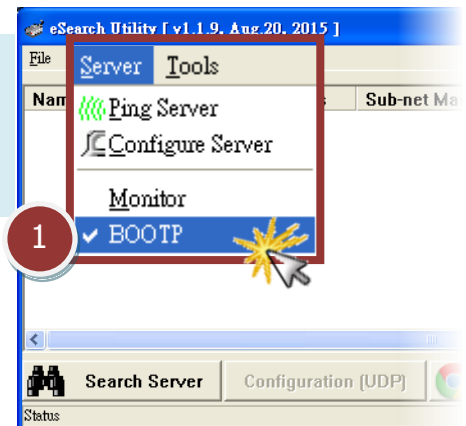
**Complete**

# 3. Troubleshooting

## 3.1 Firmware update in BOOTP mode

If the module is not functioning correctly (e.g., if there is no response to the search request, or if the system LED is continuously either on or off), download a new image of the firmware from the ICPDAS web site and then update the firmware for the module using the following procedure.

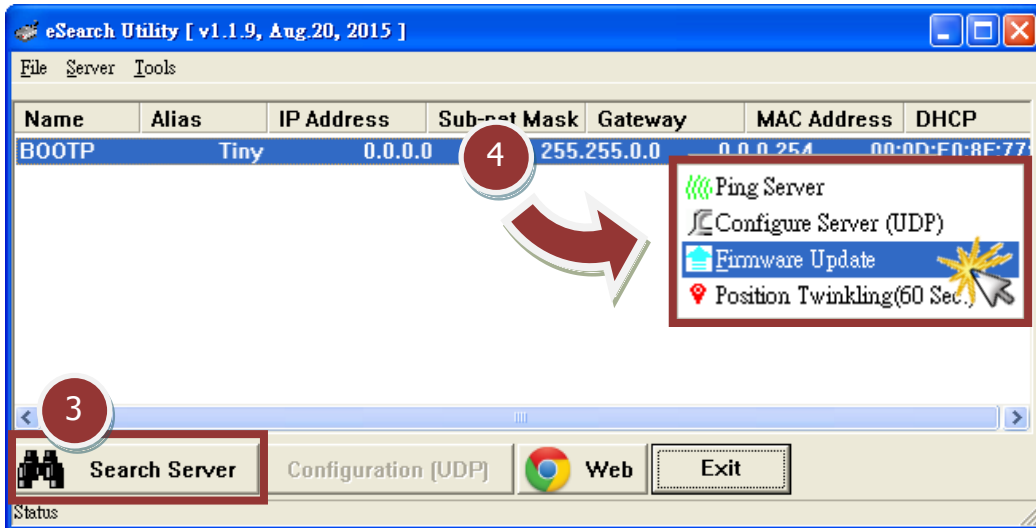
*Step 1: In the eSearch Utility, select the "BOOTP" item from the "Server" menu. A check mark should be displayed next to the item after it has been selected.*



*Step 2: Set the "Init Switch" to the "Init" position.*

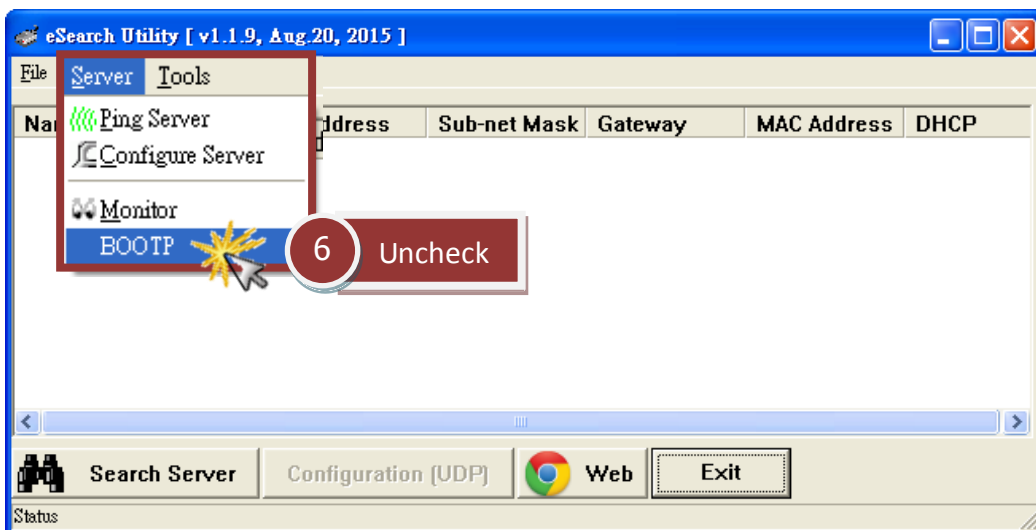
*Step 3: Power-on reset the ET-2200 module and then click the "Search Servers" button to search for the ET-2200 at the same time. Note that there will be delays of about 5 seconds while the ET-2200 module performs the BOOTP search and updates the firmware when booting in Init Mode. If this step is not successful, reboot the module and execute the search again.*

Step 4: Right click the “BOOTP” entry in the Name field and then select the “Firmware Update” item from the popup menu.



Step 5: Refer to Steps 4 to 17 (Pages 2 to 5) in “Chapter 2-Firmware Update Procedure” for details of how to complete the update process.

Step 6: After updating the firmware, disable BOOTP mode in the eSearch utility by again selecting the “BOOTP” item from the “Server” menu. The check mark next to the item should be removed to indicate that it has been disabled. Note that BOOTP mode will not function when searching for a module in Normal mode.




## 4. Additional Information


The code contained in the boot loader, which is used to update the firmware image, is not part of the firmware itself. This means that the firmware can still be updated even if the built-in firmware has been corrupted or does not exist. If the firmware update fails, simply execute the update procedure again in BOOTP mode, as described in Chapter 3, and the update should be successful.

The ET-2200 series obtains the IP address assigned by the user and retrieves the firmware image through the utility program. Note that when updating the firmware, the ET-2200 series uses the factory-default MAC address rather than any user-defined MAC addresses. The ET-2200 has a built-in flash protection feature that prevents any modifications from being made to the firmware stored in the flash memory, so before attempting to update the firmware, the “Init Switch” should be set to the “Init” position and then the ET-2200 can be Power-on reset to disable the flash protection. Since the flash memory then becomes writable, the firmware can be updated via the Ethernet network.

Mode	Flash Protection	Firmware Update	Configuration
Init	No	Yes	Factory-default
Run	Yes	No	User-defined

### Notes:

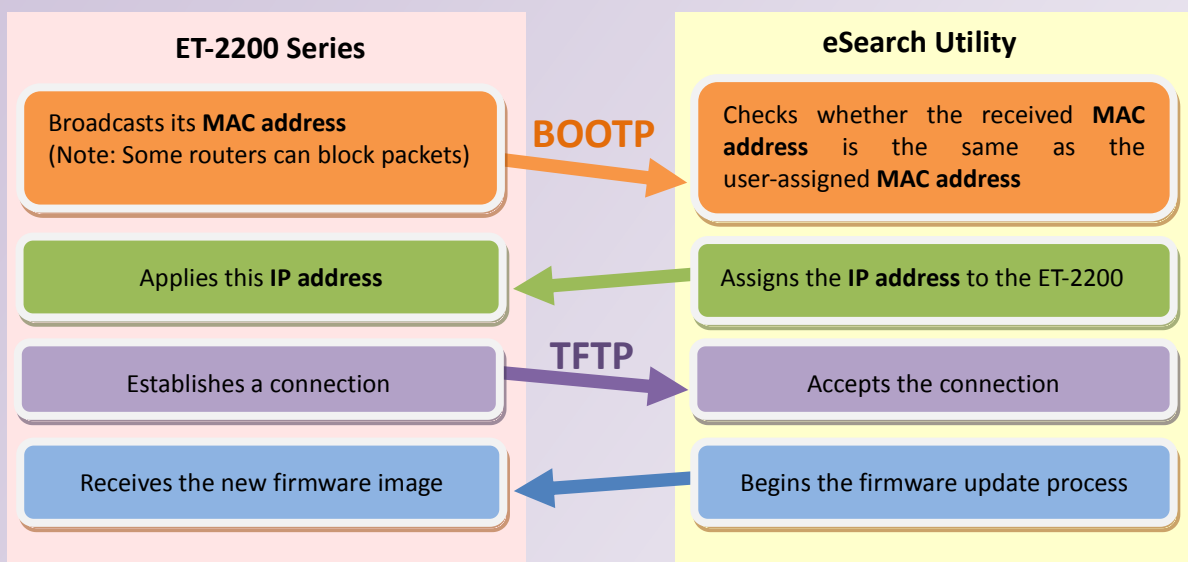
 **Note 1:** If the IP address settings do not work correctly (e.g. there is no response to a ping command), contact the network administrator to obtain a valid IP address for the ET-2200 module. .... [back](#)

 **Note 2:** If the settings displayed in the IP address field of the firmware update window is incorrect or invalid (e.g., IP address: 0.0.0.0), a valid IP address must be manually specified for the ET-2200 in order to process the update operation. Contact the network administrator to obtain a valid IP address before proceeding.  
..... [back](#)

**Note 3:** When updating the firmware, the factory-default MAC address is used rather than any user-defined MAC address. Thus, the MAC address (user-defined) displayed in the firmware update window may not be the one required. If this is the case, the factory-default MAC address should be manually entered into the MAC Address field, or the MAC address should be restored to the factory-default settings via the web configuration pages.

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**Note 4:** The “BOOTREQ from MAC: xx-xx-xx-xx-xx-xx” message indicates there is a module with the factory-default MAC address “xx-xx...” that is asking for the firmware to be updated. The update process will not begin if a user-defined MAC address is assigned in the firmware update window, since the addresses do not match. If this situation occurs, repeat the update procedure and manually enter the factory-default MAC address in the firmware update window, as described in [Step 5 on Page 3](#). The firmware update procedure is illustrated in the figure below.



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**Note 5:** The Bootstrap Protocol (BOOTP) is defined in RFC-951 and uses UDP ports 67 and 68.

**Note 6:** The Trivial File Transfer Protocol (TFTP) is defined in RFC-1350 and uses UDP port 69.