

These instructions assume you already know how to change the IP address of your computer, create directories and copy files. If not, contact your local IT person. Throughout this document it is assumed that the controller is using the default IP Address of 10.1.2.3. If your address is not 10.1.2.3, then insert your address wherever 10.1.2.3 is used. If you have firewall software running on the PC, it will need to be turned off for the duration of the upgrade. Upon completion of this upgrade, return your IP address setting to the original values.

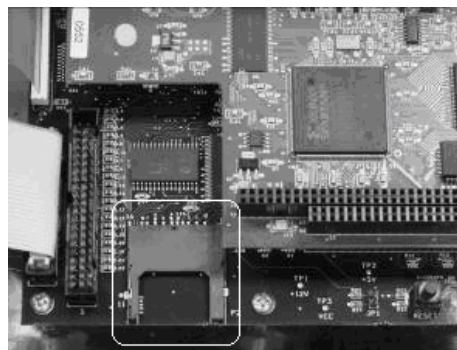
For Windows® 7 open the **Start** menu; select **Control Panel**, then **Windows Firewall**. Check that **Off** is selected. If **On** is selected, select **Off**, then return to this dialog upon completion of the upgrade and return the setting to **On**.

For Windows® XP open the **Start** menu; select **Settings**, then **Network Connections**. Select **Local Area Connection**, then open the **File** menu and select **Properties**. On the Properties dialog box click on the **Advanced** tab, then the Windows Firewall **Settings...** button. Check that **Off** is selected. If **On** is selected, select **Off**, then return to this dialog upon completion of the upgrade and return the setting to **On**.

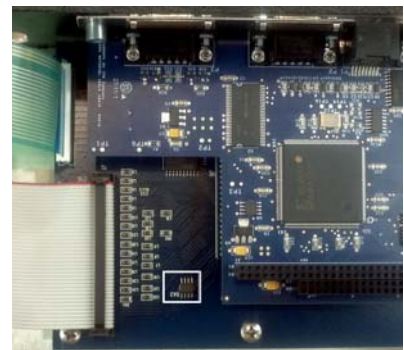
Before proceeding, identify which CPU board you currently have. Looking at the lower left hand corner of the controller will show one of the following:



5760-900 (First Generation CPU board)



5760-902 (Second Generation CPU board)



5760-909 (Third Generation CPU board)

Circled items show differences for each board

NOTE: CPU board (5760-900) must use 5760-900 firmware
 CPU board (5760-902) must use 5760-902 firmware
 CPU board (5760-909) must use 5760-909 firmware

If upgrading from an 5760-900 CPU board to a 5760-909 CPU board, first back up all of the files that are on the 5760-900 board if possible. See section below **Transferring a File from an IJ3000 to a PC**. If replacing an existing 5760-902 or 5760-909 board then look in section below labeled **File Backup and Restore**.

If using networking software the PC software will need to be upgraded to Network Software version 4.17 or later. The latest version of the networking software can be downloaded from <http://www.diagraph.com/pages/clientlogin.php> or by contacting Diagraph technical support at

1-800-526-2531. Any other controllers that are visible to the networking software will also need to be upgraded to the latest version of firmware appropriate for their CPU boards.

Upon determining which type CPU board you have you will need to download the appropriate firmware upgrade package for that CPU board. The latest version of firmware can be downloaded from <http://www.diagraph.com/pages/downloadsmenu.php>

Firmware Upgrade Procedure

1. Connect the power supply to the IJ3000 and an electrical outlet.
2. Connect a crossover Ethernet cable between the IJ3000 and the PC.
3. Set the PC's IP address:
 - Windows XP
 1. On the PC, open the **Start** menu; select **Settings**, then **Network Connections**.
 2. Click **Local Area Connection**, then open the **File** menu and select **Properties**.
 3. On the **Properties** dialog select **Internet Protocol (TCP/IP)**, and then click the **Properties** button.
 - Windows 7
 1. On the PC, open the **Start** menu; select **Control Panel**, then **Network and Sharing Center**
 2. Click **Local Area Connection**, then select **Properties**
 3. On the **Properties** dialog select **Internet Protocol Version 4 (TCP/IPv4)**, and then click the **Properties** button.
 - Click the **Use the following IP address**: radio button. Enter an IP address of 10.1.2.4, a subnet mask of 255.255.255.0, and click the **OK** button.
4. If upgrading a 5760-900 style CPU board skip to step 8, **5760-900 CPU board firmware upgrade**.

5760-902 or 5760-909 CPU board firmware upgrade

5. Prior to upgrading the firmware on a new CPU board backup the files on the controller. See **File Backup and Restore**. Even though the upgrade procedure will back up the files it is still recommended to back them up independently in order to prevent data loss.
6. Download the 5760-909 firmware upgrade utility from the Diagraph website and run it. On-screen prompts will guide you through the upgrade procedure. Note: bad checksum errors may appear on the screen of the controller as part of the upgrade.
7. When the upgrade is complete restore the files backed up in step 5 by using the procedure describe in **File Backup and Restore**. Turn the firewall back on if it was on prior to the upgrade. Return the IP address setting to the original state.

5760-900 CPU board firmware upgrade

8. **Save any files currently on the controller that you want to keep.** The upgrade procedure deletes all print message and system configuration files. These files have extensions of **.prd**, **.bmp**, **.alp**, and **.cfg**. All files with these extensions should be saved. To save the files follow the procedure described in **Transferring a File from an IJ3000 to a PC**.
9. Create a temporary directory on drive C: of the PC named IJ3000. Copy the previously downloaded **firmware.exe** file into that directory.
10. Open the **Start** menu and select **Run...** In the **Open:** box type the word **command** and click the **OK** button. This will open a command prompt window.
11. At the C:\> prompt, change to the IJ3000 directory. The prompt should now look like this: **C:\IJ3000>**
12. "Ping" the IJ3000 by typing **ping x.x.x.x**, where x.x.x.x is the IP address of the IJ3000. (To obtain the IJ3000's IP address open the **Control Panels** menu, touch the **Network** button, and select the **IP Addresses** tab.) For example, if the IJ3000's IP address is 10.1.2.3, type **ping 10.1.2.3** and press

Enter. If the Ethernet connection and IP settings are correct, the IJ3000 will send four **TTL** replies, and you will have a **0% loss**. The response should look like this:

```
C:\>cd\IJ3000
C:\IJ3000>ping 10.1.2.3
Pinging 10.1.2.3 with 32 bytes of data:
Reply from 10.1.2.3:bytes=32 time=15ms TTL=30
Reply from 10.1.2.3:bytes=32 time<10ms TTL=30
Reply from 10.1.2.3:bytes=32 time<10ms TTL=30
Reply from 10.1.2.3:bytes=32 time<10ms TTL=30
Ping statistics for 10.1.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 15ms, Average = 3ms
```

If there is no TTL response, and there is a 100% loss, the command prompt window will look like this:

```
Pinging 10.1.2.3 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 10.1.2.3:
    Packets: Sent = 4, Received = 0, Lost = 4, (100% loss),

C:\IJ3000>
```

You have a bad Ethernet cable or the wrong IP address was typed in. Correct the problem and ping the IJ3000 again.

13. Type **arp -a** and press **Enter**. The response will be similar to:

```
C:\IJ3000>arp -a
Interface: 10.1.2.4 on Interface 0x1000003

    Internet Address      Physical Address      Type
    10.1.2.3              00-06-b3-00-00-16    dynamic

C:\IJ3000>
```

The important data in the response are the right most two 2-digit numbers of the **Physical Address**. In this example they are **00** and **16**. Your actual numbers will most likely be different, as they differ from controller to controller. These numbers will be used in step 15 to upgrade your firmware.

14. At the C:\IJ3000> prompt type **firmware** and press **Enter**. This will extract the compressed files needed for the upgrade and place them into the IJ3000 directory.

15. At the C:\IJ3000> prompt type **program**, followed by the last two numbers of the Physical Address from step 13, followed by your controller's IP address, and press **Enter**. Using the above example, you would type:

```
C:\IJ3000>program 00 16 10.1.2.3
```

It takes approximately two minutes to complete the upgrade. During the upgrade the PC displays messages indicating its progress:

```
Rebooting Controller
Error on server : host will be rebooted
Controller rebooted
Clearing flash
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Transfer successful: 32 bytes in 1 second, 32 bytes/s
Done clearing flash

C:\ij3000>tftp -i 10.1.2.3 put files_v2-5.rom 9
Transfer successful: 223232 bytes in 6 seconds, 37205 bytes/s
Rebooting Controller
Error on server : host will be rebooted
Controller rebooted
Transfer successful: 914788 bytes in 22 seconds, 41581 bytes/s
Rebooting Controller
Error on server : host will be rebooted
Controller rebooted
```

At the completion of the upgrade you will see the following prompt:

```
C:\IJ3000>_
```

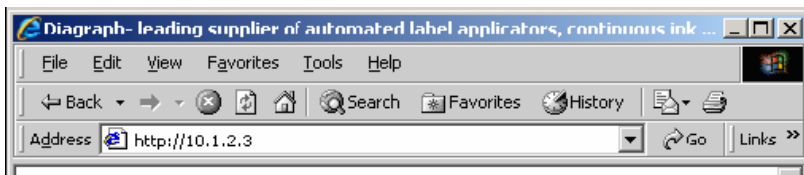
If the upgrade is not successful, that is, the PC displays timeout messages and/or the IJ3000's controller remains blank, repeat this step.

16. Following the procedure described in **Transferring a File from a PC to an IJ3000**, transfer the print message and system configuration files saved in step 8 back to the controller.

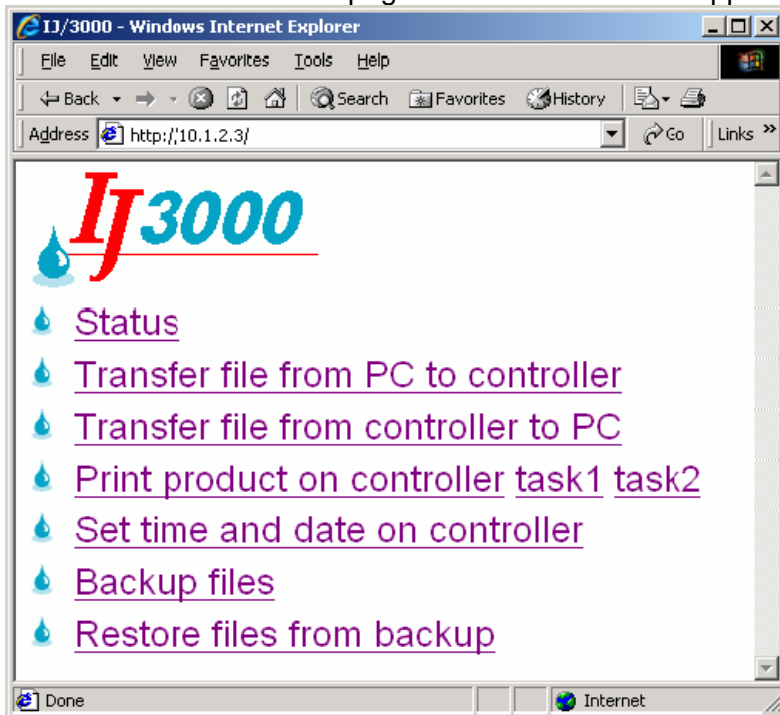
File Backup and Restore (for 5760-902 or 5760-909 CPU)

Use these procedures for making archival copies of the system configuration and print message files, and for preserving the system's configuration and print messages during firmware upgrades. File types saved during a backup are *.cfg*, *.prd*, *.bmp* and *.alp*. These are the system configuration files, message files, logo files and label files, respectively.

1. Obtain the IJ3000 Controller's IP address. Most IJ3000 controllers have an IP address of **10.1.2.3**. It may be different if the controller is networked with other IJ3000s or other devices. If the IP address is unknown, go to the controller, and from the **Home Screen**:
 - Touch the **Control Panels** button to open the Control Panels Menu.
 - Touch the **Network** button on the Control Panels Menu to open the Network Setup Screen.
 - Touch the **IP Addresses** tab to display the system's IP addresses.
 - Record the IJ3000's IP address (it's the top one).
2. On the PC, start Microsoft Internet Explorer (must be version 3.2 or higher) or another web browser.
3. In the browser's address box type in "http://", followed by the controller's IP address. See the illustration below:

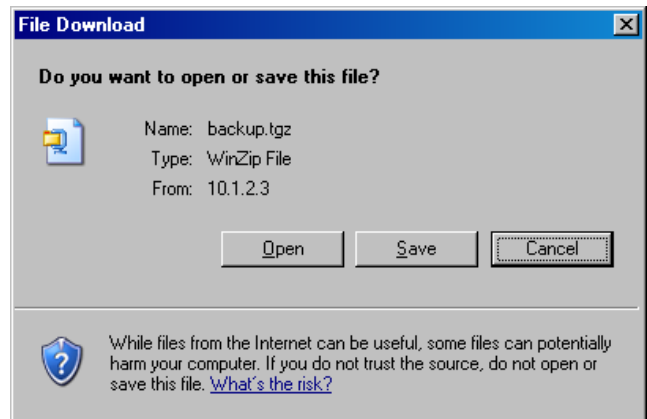


4. Press **Enter**. The web page shown below should appear.

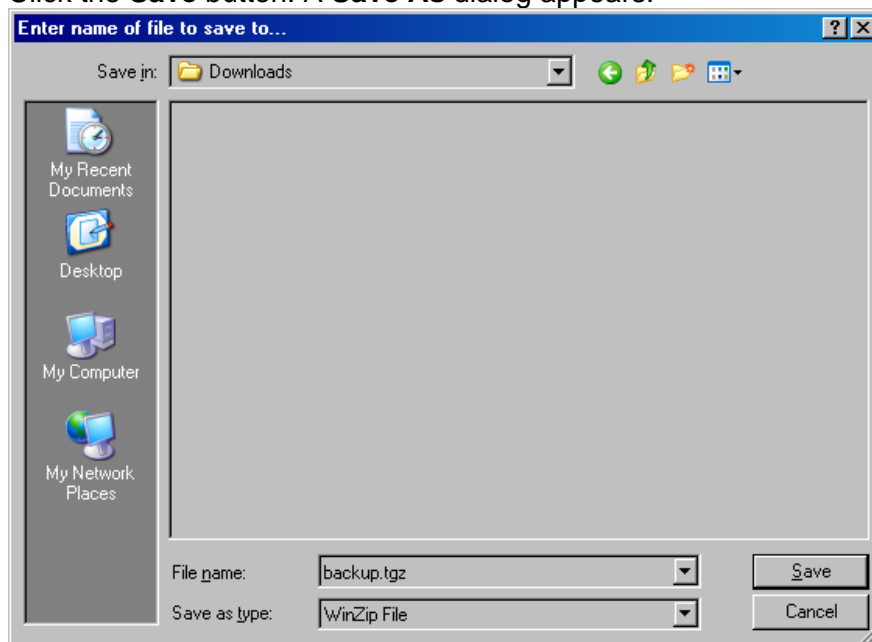


File Backup (for 5760-902 New Style CPU)

To backup the system files, click the **Backup files** link. The dialog box shown at right (or a similar dialog box) will appear.



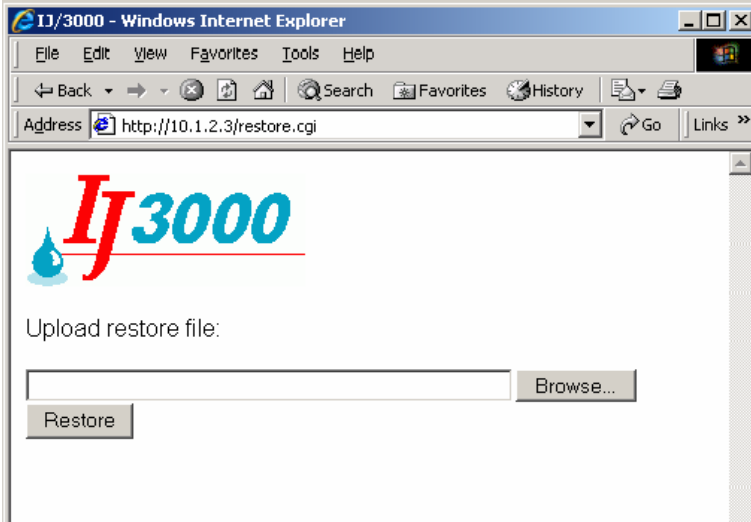
Click the **Save** button. A **Save As** dialog appears.



The IJ3000 files backed up are compressed and put into a single file, and are given the default name and file extension **backup.tgz**. Following normal Windows® conventions, the backup file may be renamed and given any extension, and saved in any folder desired. To save the backup file with an extension other than .cgi, open the **Save as type** combo box and select **All Files**.

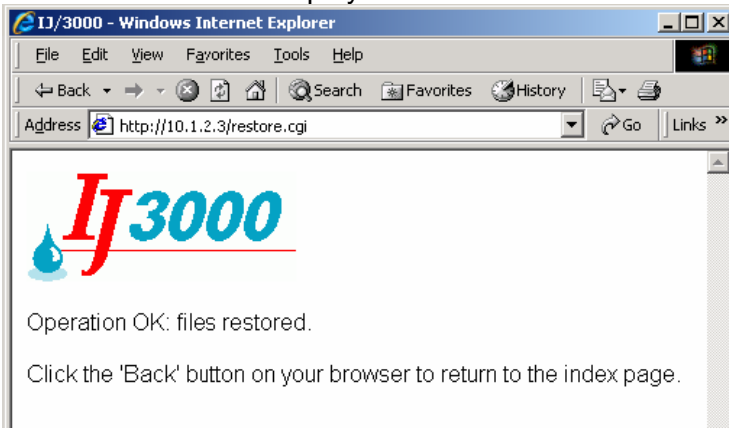
Restoring Backed-Up Files (for 5760-909 or 5760-902 Style CPU)

To restore the controller's backed up system files, click the **Restore files from backup** link. The web page shown below appears.



Click the **Browse...** button to locate and select the backup file to be sent to the controller.

Click the **Restore** button to send the file to the controller. If the file transfer is successful, the web page shown below will be displayed.



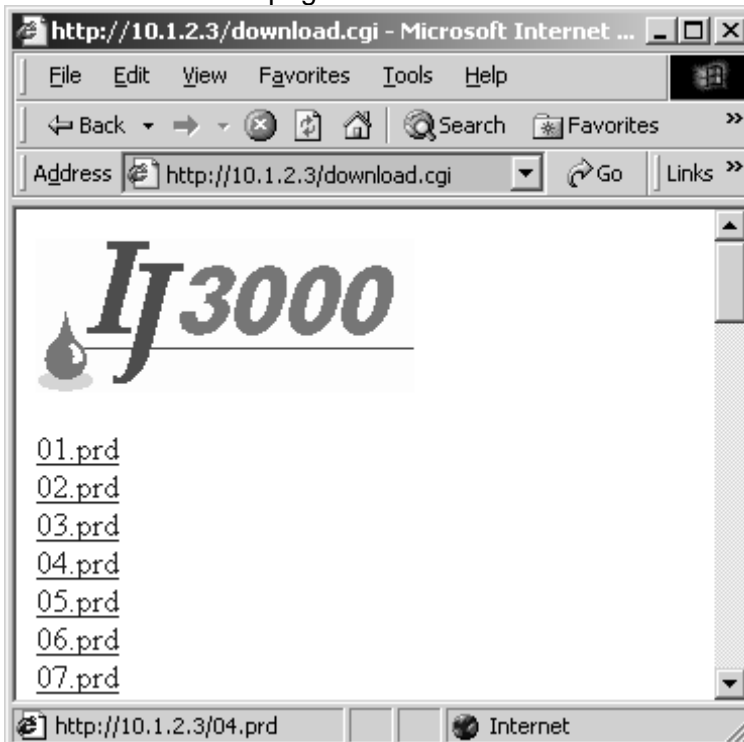
Transferring a File from an IJ3000 to a PC (for a 5760-900 CPU)

Use this procedure to transfer a font file, logo file, message file, or any other IJ3000 type file from an IJ3000 controller to a PC.

1. Obtain the IJ3000 controller's IP address. Most IJ3000 controllers have an IP address of **10.1.2.3**. It may be different if the controller is networked with other IJ3000s or other devices. If the IP address is unknown, go to the controller, and from the Home Screen:
 - Touch the **Control Panels** button to open the Control Panels Menu.
 - Touch the **Network** button on the Control Panels Menu to open the Network Setup screen.
 - Touch the **IP Addresses** tab to display the system's IP addresses.
 - Record the IJ3000's IP address (it's the top one).
2. On the PC, start Microsoft Internet Explorer (must be version 3.02 or higher) or another web browser.
3. In the browser's address box type in "http://", followed by the controller's IP address, followed by "/download.cgi". See the illustration below.



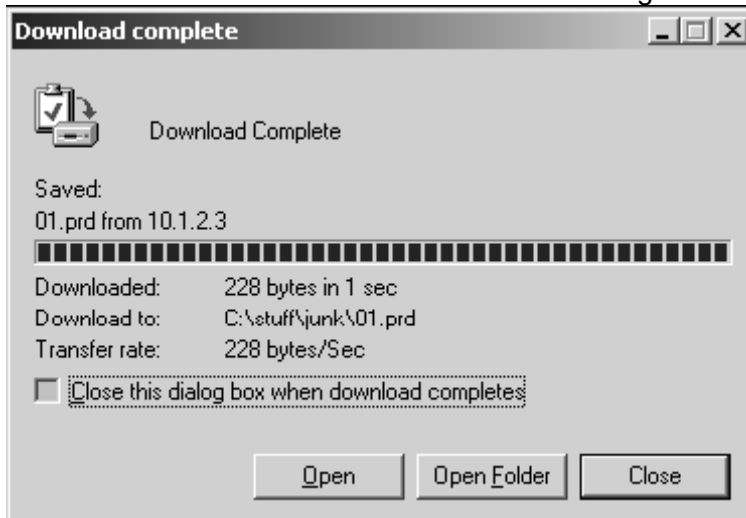
4. Press **Enter**. A web page lists all of the files on the IJ3000 in alphabetical order.



5. Scroll through the list to locate the file to be transferred from the IJ3000. Click on the file name to display the Windows® "File Download" dialog box.



6. Click **OK**. A standard Windows® "Save As" dialog box is displayed.



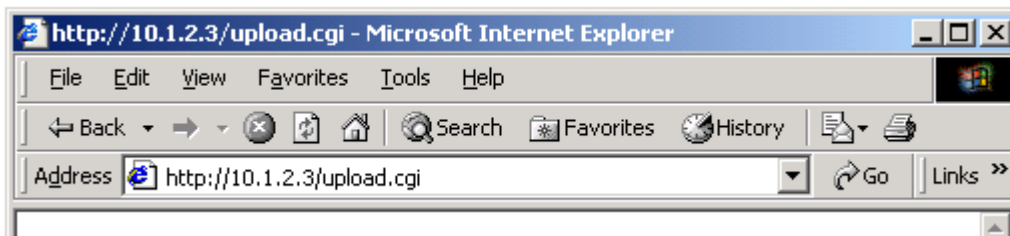
7. Navigate to the desired folder and click **Save**. When the file transfer is done, a "Download Complete" dialog box is displayed.
8. Click **Close**.
9. Repeat steps 5 through 8 to save additional files.

Transferring a File from a PC to an IJ3000 (for 5760-900 Style CPU)

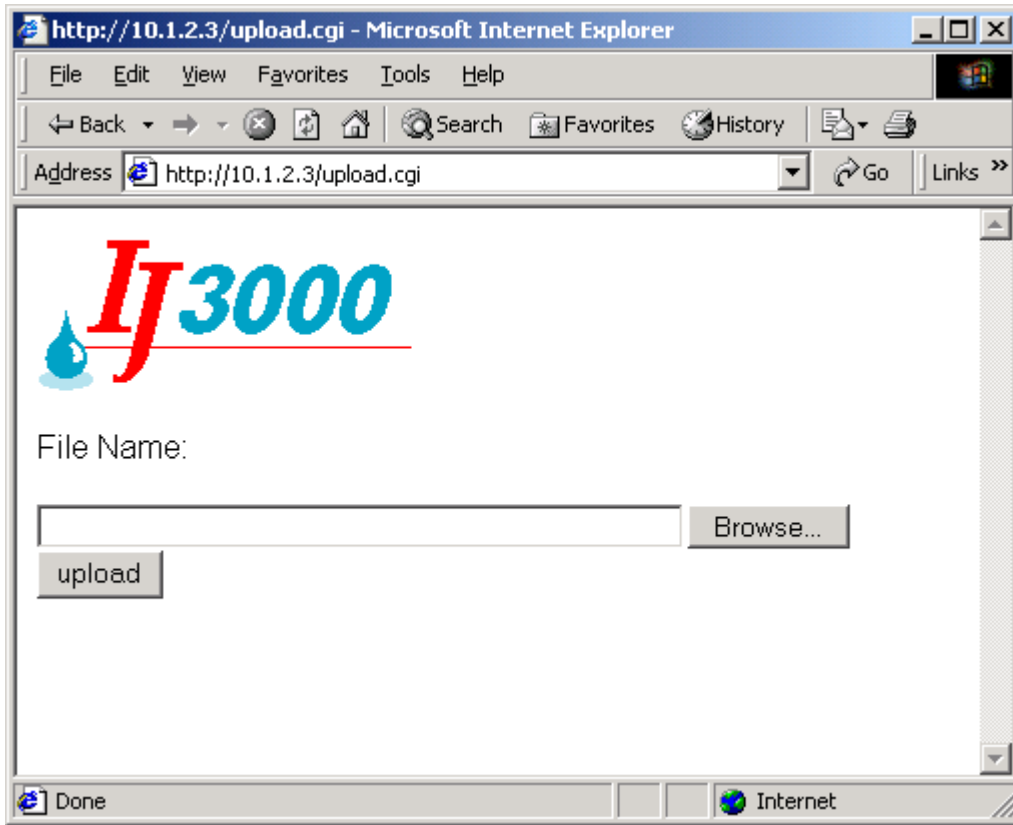
Use this procedure to transfer a font file, logo file, message file, or any other IJ3000 type file from a PC to a controller. If the controller already has a file with the same name as the one being transferred the existing file will be replaced with the new file.

These instructions assume you have your IJ3000 controller already connected, via Ethernet, to a PC. If not, the connection can be made directly between the IJ3000 and PC by connecting an Ethernet crossover cable from the PC to the Ethernet connector on the IJ3000's CPU board.

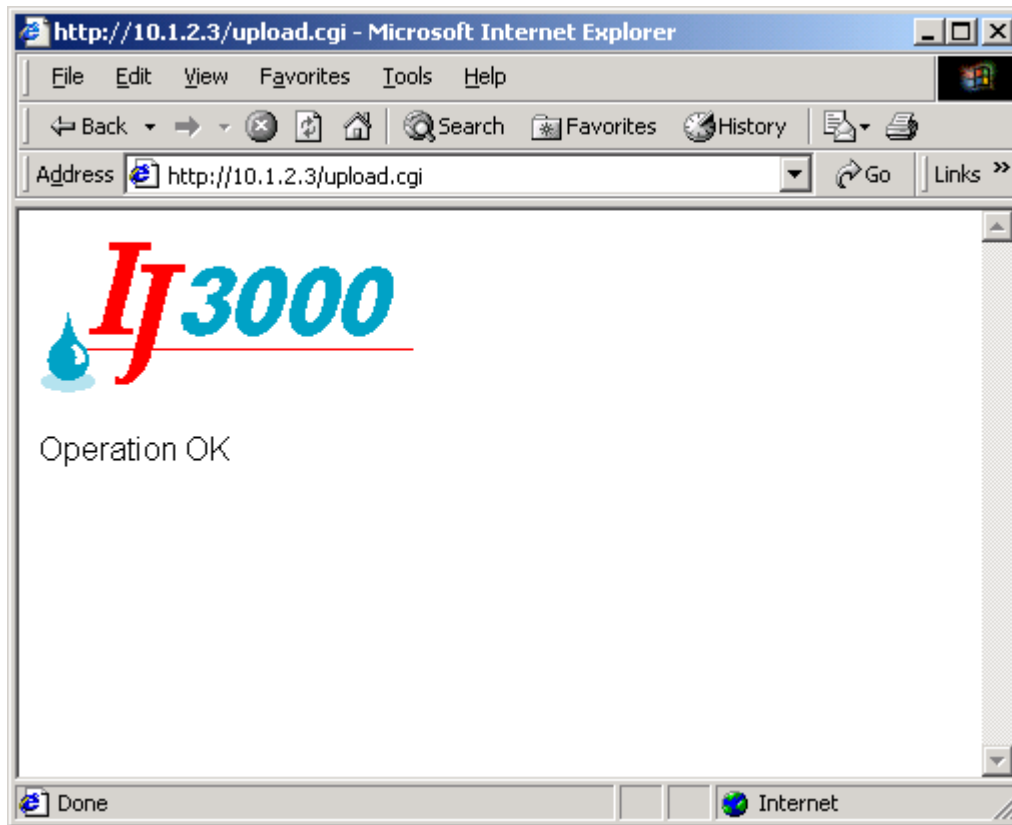
1. Get your IJ3000 controller's IP address. Most IJ3000 controllers have an IP address of **10.1.2.3**. It may be different if your controller is networked with other IJ3000s or other devices. If you don't know the IP address go to the controller, and from the Home Screen:
 - A. Touch the **Control Panels** button to open the Control Panels Menu.
 - B. Touch the **Network** button on the Control Panels Menu to open the Network Set Up screen.
 - C. Touch the **IP Addresses** tab to display the system's IP addresses.
 - D. Record the IJ3000's IP address (it's the top one).
2. On you PC, start Microsoft Internet Explorer or your favorite web browser.
3. In the browser's address box type in "http://", followed by the controller's IP address, followed by "/upload.cgi". See the illustration below.



4. Press **Enter**. The web page shown below should appear.



5. Click the **Browse...** button to locate and select the file you want to send to the controller.
6. Click **upload** to send the file to the controller. If the file transfer is successful the web page shown below is displayed. If there is a problem the page will tell you why the transfer failed.



7. Click the **Back** button on your browser to repeat the procedure for additional files.