

# Networking Guidelines for CombiFlash® Products

## Overview

This technical note provides the guidelines to be followed when connecting a Teledyne Isco CombiFlash system to a Local Area Network (LAN). These guidelines apply equally to the Torrent. These suggestions assume that the CombiFlash system has the most recent version of software. To determine the most recent version, please refer to the software download web site at [www.isco.com/combiflash](http://www.isco.com/combiflash).

### Note

Before beginning the process of connecting a CombiFlash system to the network, contact your local IT (Information Technology) department for assistance.

The IT representative should review these guidelines before starting and be present through this process to ensure all steps are interpreted correctly. These guidelines, along with their knowledge of the network constraints, will determine if the CombiFlash system can be successfully connected to the network.

## Connecting the CombiFlash system to a Network

See the “Networking Checklist” on page 4 for more information.

1. Obtain a static IP address for the CombiFlash system.
  - o This must be supplied by the IT department. This is the easiest and most reliable method to connect the CombiFlash system to a network.
2. Along with the IP address, you will need the addresses for the SUBNET MASK and GATEWAY.
  - o Verify that the address assigned is accessible from any PC that will require access to the CombiFlash system remotely. Due to network design, it could be possible that the instrument and the PC are on different sub networks that may lack visibility to the other network of interest.
3. On the CombiFlash system screen, select TOOLS > CONFIGURATION, then click on the Network tab.
4. At the top of this page, ensure the Network type is set to STATIC IP.
5. Enter the IP address, GATEWAY, and SUBNET MASK addresses.
  - o The DNS field is not required to control the CombiFlash system over the network and

may be left blank. However, the DNS server information may be required on some networks to enable network printing or saving data files to the network.

6. Select OK at the bottom of the window. Turn off the CombiFlash system; wait 1 minute, then turn the system back on.
  - o To verify a successful connection to the network, follow the steps below for “Connection with a PC.”
  - o If your site prohibits fixed IP addresses, you may use DHCP for connection. DHCP isn’t fully supported by the CombiFlash system, but can be used in a limited manner as outlined below.

## To use the DHCP:

Determine if the network supports static DHCP reservations or infinite leases for DHCP. If so, the CombiFlash system will work as described until the reservation or lease expires. At that point, the CombiFlash system won’t be found on the network, but repeating the following steps will regain access to the CombiFlash system.

For a static reservation, the IT department will need to know the MAC address of the CombiFlash system. This can be found by selecting HELP at the top of the CombiFlash system main screen, select ABOUT PEAKTRAK and then locate the MAC address field.

To do this from the CombiFlash system screen:

1. Select TOOLS > CONFIGURATION, then click on the NETWORK tab.
2. At the top of this screen select DHCP for network type.
3. Select OK at the bottom of the window. Turn off the CombiFlash system; wait 1 minute, then turn the CombiFlash system back on.
4. At the top of the CombiFlash system screen, select the HELP button and the ABOUT PEAKTRAK selection. The IP address will be listed. Write this down since this address is used to identify the CombiFlash system on the network. It can also be entered into a web browser to control the CombiFlash system remotely.

## To Connect with a PC

1. Go to a PC which should have access to the CombiFlash system (see instructions above for details).
2. Open a compatible web browser such as Windows Internet Explorer version 7 or newer, Mozilla Firefox 2.0 or newer, Google Chrome, or

Apple Safari 5.0 or newer. Not every version has been tested for each browser, but the latest versions of all the listed browsers have operated correctly at the time of testing.

3. Enter the IP address into the browser address field and press ENTER. This will display the PeakTrak user interface.

## Requirements for File Saving to the Network

See the “*Networking Checklist*” on page 4 for more information.

1. Connect the CombiFlash system to the network as described above.

### Note

The CombiFlash system clock must be within five minutes of server time in order to save files to the network.

2. Network requirements:

- The CombiFlash system has been successfully connected to networks with Windows Server 2008 and previous versions of Windows network software.
  - Connecting to newer networks, such as Windows Server 2008 R2, require the CombiFlash system to have the operating system version 2 installed. This may be verified on the HELP option in the ABOUT PEAKTRAK menu.
  - Novell networks are not compatible.
  - Make sure the time zone, date, and time are properly set to the local time on the CombiFlash system. Failure to perform this step will prevent connection to the network. The date and time are set on the CombiFlash system by selecting TOOLS from the top level menu, then select CONFIGURATION. Select the INSTRUMENT CONFIGURATION tab. On this tab, select the time zone and set the proper date and time. If the unit is connected to the network, the time and date may be greyed out and unavailable. In this case, be sure that the proper time zone is set. Select OK at the bottom of the window. Turn off the CombiFlash system, wait 1 minute, then turn the system back on.
3. Obtain login credentials from your IT department. These will be the credentials that the CombiFlash system will need to be logged into the network. The credentials will typically be a user name and password.
  4. Your IT department will need to set up a shared drive on the server for the files.
  5. Verify that the shared drive is accessible from the network connection that the CombiFlash system will use. This can be done by connecting a PC to the connection and verifying that the drive can be viewed.

6. When the PC is connected, determine or verify the domain name by right clicking on the computer icon on Windows and select PROPERTIES. The domain name should be listed and written down.
7. The KDC and Admin setting may not be needed in all applications. For the initial setup, leave these fields blank. The system will attempt to automatically determine the proper settings for the network. If all subsequent steps are followed and the system is unable to save the file, return to this step and attempt to determine the server names. Determine the names of the KDC and Admin server names. On many networks, the same name will be used for both. To determine these names, on the PC use the RUN or COMMAND PROMPT command which is typically located in the start menu, or under PROGRAMS>ACCESSORIES>COMMAND PROMPT. Type “echo%logonserver%” and press ENTER. The name of the server(s) should be returned. This information should be written down to be entered into the CombiFlash system.
8. Enter the information determined in the last step into the TOOLS>CONFIGURATION>NETWORKING screens on the CombiFlash system.
  - If using a static IP address, you must enter the IP address of the DNS server. If using DHCP, this step is not needed.
  - Enter the domain determined with a PC in the previous step. This is usually in a form such as “networkname.company.com”
  - Enter the KDC server name. This may require the domain name also, such as “servername.networkname.company.com”. The server name may be an IP address.
  - Enter the Admin server name. Again, this may require the domain name also, such as “servername.networkname.company.com”. The server name may be an IP address.
  - Enter the name of the network share drive, such as “//servername/sharename/foldername”. The server name can be a name or an IP address. The folder name is optional.
  - Enter the username, such as “MyCombiFlash system”.
  - Enter the password associated with the user name such as “IluvmyCombiFlash system8”
9. Reboot the CombiFlash system and run a short, test run to verify that the file was saved as expected.

## Connecting a Network Printer

See the “*Networking Checklist*” on page 4 for more information.

The *CombiFlash* system supports network printing only if a LPR or JetDirect printer is used.

### Note

Windows shared printers are not supported.

Contact the IT department to verify the type of printer used and its URL.

1. Set up the *CombiFlash* system connection on the network as described above.
2. Enter the proper connection URL into the field on the CONFIGURATION>NETWORK screen.
  - For an LPR printer enter the URL using the format “lpd://ip\_address/queue\_name
  - For a JetDirect printer enter the URL using the format: “socket://ip\_address:port”

The available printer models and features change rapidly, so we do not make recommendations regarding which models to purchase. PeakTrak does not support loading drivers for specific printers, rather we use a driver which is more generic and works with many types of printers.

There are a few requirements for using printers with the *CombiFlash* equipment.

1. It must be connected via an Ethernet network. This may be a direct connection cable or through an office network.
2. It must support JetDirect or LPR networking.
3. It must support PostScript or PCL (PCL5e) formatting.

Care must be taken to ensure that the selected printer meets the requirements above. Many desktop type printers may support networking, but not the PostScript or PCL formatting.

## Errors and Error Messages

Each potential error or error message is listed with an explanation of causes and solutions below.

### Files automatically saved to the network are empty.

- This may be due to an incompatibility between the Windows server software and the *CombiFlash* operating system. Some version of the *CombiFlash* equipment line are available with a different operating system that may correct this issue. These units with the different operating system are designated as “Operating System version: 2” on the HELP, ABOUT PEAKTRAK screen.

**The file was unable to be saved to the network share because the share name is incorrect in the configuration window or the share is no longer available.**

- This message is displayed when the instrument can’t find the share on the server when trying to save a file.
- This message only occurs if the *CombiFlash* system is able to establish communication with the server.
- Verify the Network Share field in the configuration window.
- Check with the network administrator to make sure this share exists and is correct.

**The file was unable to be saved to the network share because the folder name within the share is incorrect in the configuration window or the share is no longer available.**

- This message is displayed when the instrument can’t find the folder in the share on the server when attempting to save a file.
- This message only occurs if the *CombiFlash* system is able to establish communication with the server.
- Check the Network Share field in the configuration window.
- Verify with the network administrator that the share is correct and exists. This message may appear in conjunction with the network share error message.

**The file was unable to be saved to the network share because the user name or password is incorrect.**

- This message is displayed when the server does not recognize the user name or password.
- Verify the user name and password are correct.
- If entered correctly, check with the network administrator to make sure that the user name and password are correct.

**The file was unable to be saved to the network share because of the following error: [x].**

- This occurs if the network error is unrecognized by the *CombiFlash* system.

**The file was saved to the network share, but appears to have been corrupted in the process. Please check the file on the network share.**

- The *CombiFlash* system performs an error check on the saved file. The message indicates the saved file was corrupted.

**The file was unable to be saved to the network share because the instrument clock is not synchronized with the server clock. Please restart the instrument to synchronize the clocks.**

- This occurs if the *CombiFlash* system and network times differ by 5+ minutes.
- Verify that the *CombiFlash* system is set to the proper time zone.
- Follow the steps listed in the procedure to set the *CombiFlash* system to the correct local

time zone, date and time. The *CombiFlash* system will need to be rebooted for the time changes to be effective.

**The file was unable to be saved to the network share because the instrument cannot contact the domain controller. Please check the domain and DNS settings in the configuration window.**

- Verify the network cable is connected.
- Verify that the Domain or DNS entries in the configuration screen are correct.
- The network servers may be having problems.

**The file was unable to be saved to the network share because the instrument cannot contact the server. Please check the server name in the Share Name entry and the DNS settings in the configuration window.**

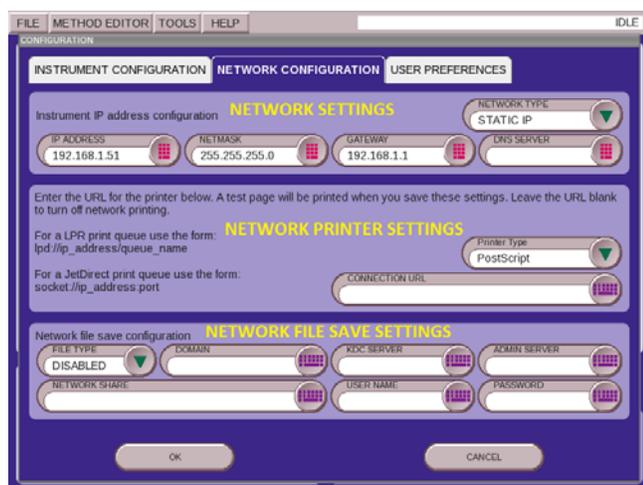
- Verify the network cable is connected.
- Verify that the Domain or DNS entries in the configuration screen are correct.
- The network servers may be having problems.

**The file was unable to be saved to the network share because the given user does not have permission to access the share or folder within the share.**

- Check with the network administrator to make sure that the permissions are correct.

## Networking Checklist

Click on TOOLS/CONFIGURATION/NETWORK CONFIGURATION



**Figure 1: Network Configuration screen**

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### Network Settings:

1. Network type: Static or DHCP (circle one) For Static you need the following four settings
  - a. IP Address \_\_\_\_\_
  - b. NetMask \_\_\_\_\_
  - c. Gateway \_\_\_\_\_
  - d. DNS Server \_\_\_\_\_

### Network Printer Settings:

1. Printer type: PostScript or PCL (circle one) Note: PCL = PCL5e
2. Connection URL \_\_\_\_\_

### Network File Save Settings:

1. File Type:
  - a. Disabled (will not save to network)
  - b. Text (XML Data)
  - c. PDF
  - d. Run Monitor (Text file indicating a run was performed)
2. Domain: \_\_\_\_\_  
Name of the domain
3. KDC Server: \_\_\_\_\_  
IP address of domain controller
4. Admin Server: \_\_\_\_\_  
IP address of domain controller
5. Network Share: \_\_\_\_\_  
Name of file storage location
6. Username: \_\_\_\_\_  
Network share access username
7. Password: \_\_\_\_\_  
Network share access password

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