

Network Scanner Tool **R2.7**

User's Guide

SHARP[®]

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Table of Contents

Chapter 1 Overview	1
Introduction	1
About This Guide	2
Organization.....	2
Term Definitions.....	2
System Requirements	3
Network Scanner Tool Setup	4
Chapter 2 Preparing the Network	5
Introduction	5
Step 1: Determine the Network Policy	6
Step 2: Set up the DHCP and DNS servers	6
Step 3: Set up Copier Network Parameters.....	6
Step 4: Notify the network users.....	7
Troubleshooting	7
Technical Information.....	7
Chapter 3 Installing the Network Scanner Tool	9
Introduction	9
Network Scanner Tool Installation	10

Chapter 4 Using the Network Scanner Tool	11
Introduction	11
Network Scanner Tool Menu (System Tray Icon)	12
Configure	12
Start/Stop/Exit	12
About	12
Configuring the Network Scanner Tool	13
Process Definition Tab.....	13
Creating a New Process Definition.....	14
Process Definition Properties Options	15
Examining Process Definitions	18
Deleting a Process Definition.....	18
Process Definition Default.....	18
Copiers Tab.....	18
Adding a New Copier	19
Copiers New Button Options	19
Examining/Changing Copier Properties	20
Deleting a Copier	20
Enable/Disable a Copier	21
Auto Detect.....	21
Web Setup.....	21
Apply Changes	21
Ok Changes.....	21
Cancel Changes	21
System Options Tab	22
File Naming	22

Chapter 1 ***Overview***

Introduction

Welcome to Sharp's Network Scanner Tool! This flexible, easy to use software provides TCP/IP network scanning capability between Sharp network multifunction copiers with Network Scanner Expansion and your Windows-based computer. With this Network Scanner Tool, any scanned image received by your computer can automatically be:

- Routed to folders
- Passed to applications with command-line references
- Sent as email
- Passed to Sharpdesk for:
 - Text conversion
 - Image processing
 - Desktop document organization
 - Annotation and document sequencing

About This Guide

This guide assumes you have a basic understanding of Windows. This includes how to start your computer, navigate within a Windows environment, and perform basic Windows functions such as copying, printing and moving documents. You should also be familiar with basic Windows terms and be able to work within Microsoft's Internet Explorer.

For assistance in using Windows or Internet Explorer, refer to your Microsoft Windows user documentation.

Organization

This user's guide is organized as follows:

Chapter 1, Overview

Introduces the Network Scanner Tool. It also contains information about guide organization, term definitions, computer requirements, supported copiers, Network Scanner Tool setup and directory structure.

Chapter 2, Preparing the Network

Intended for the Network Administrator. Explains the necessary steps that must be taken to configure the network before installing Network Scanner Tool.

Chapter 3, Installing the Network Scanner Tool

Explains how to install and set up the Network Scanner Tool.

Chapter 4, Using the Network Scanner Tool

Explains how to access, configure, and use the Network Scanner Tool.

Term Definitions

As you work with Network Scanner Tool, keep in mind how the following terms are used:

TERM	DEFINITION
Network Scanner Tool	A software application used for TCP/IP scanning from your copier to your networked computer.
FTP	A protocol commonly used for transferring files over the network.
Process Definition	A Network Scanner Tool term used to specify the destination workstation and the set of commands to be automatically performed on received images from a Sharp multifunction copier with Network Scanner Expansion at your computer's desktop.
FTP Port	The TCP/IP port used by the FTP server to monitor connections. This port can be changed from the normal default to a custom value to avoid conflicts when more than one FTP server is running on the same computer.

System Requirements

To successfully use the Network Scanner Tool, your computer must meet the following minimum requirements:

- An Intel processor-based PC, Pentium™ 133 MHz or greater (Pentium MMX 200 MHz or better recommended)
- Microsoft Windows 95
- Microsoft Windows 98
- Microsoft Windows Millennium
- Microsoft Windows NT® 4.0 Workstation with Service Pack 4 or later
- Microsoft Windows 2000 Professional
- Microsoft Windows XP Professional / Home Edition
- Internet Explorer 5.0 or later. Sharpdesk will install a minimal version of Internet Explorer 5.01 if this requirement is not available on your system.
- At least 32 megabytes (MB) of RAM. (64 MB or more recommended. Performance is enhanced with additional memory)
- At least 110 MB of available hard disk space (including Sharpdesk)
- SVGA monitor, 800 x 600 resolution, 256 colors (True Color recommended)
- An Internet connection to access Sharp Internet product support sites.
- Installed TCP/IP network
- Installed Network Interface Card

Network Scanner Tool Setup

After installation, the Network Scanner Tool setup wizard automatically starts and scans your network to detect Sharp multifunction copiers. The configuration utility provides default destination identification and image processing commands, which may be further modified or expanded. Once specified, these definitions are stored in your copier's Desktop Destination Profile web page (refer to the following table).

SETTING	DESCRIPTION
Profile Name	A name that appears on the copier front panel that refers to the rest of the settings in the destination profile. You typically select a profile by name before scanning a document.
IP Address or Desktop Host Name	This IP address or desktop host name is used to identify your computer that's running the Network Scanner Tool.
Desktop Port Number	This number is used to contact the Network Scanner Tool on your computer. The default is 21. If you change this number in the web page, be sure to also make the change in each computer's Network Scanner Tool configuration that will receive scans from the copier.
Process Directory	The Process Directory setting specifies the name of the currently selected Process Definition. Process Definitions that are defined in the Network Scanner Tool. For example, "Convert by OCR" tells the Network Scanner Tool to execute the "Convert by OCR" process when a scanned image arrives. See the Process Definition Tab discussion below for more information.

Chapter 2

Preparing the Network

Introduction

Your Network Administrator must prepare the network prior to installation of Network Scanner Tool to ensure its proper operation. If your Network Administrator follows the steps in this chapter, users can set up Network Scanner Tool on their computers using its automatic setup features.

Step 1: Determine the Network Policy

First, determine whether DHCP is used within your organization. If DHCP is used, some or all IP addresses are assigned dynamically. When using DHCP, “hostname” is the identifier used to specify PCs or Copiers. Sharp multifunction copiers require DNS to resolve the address from “hostname” to “IP address”.

Refer to the table below to determine the network policy of your organization.

POLICY	DHCP	ADDRESSING FOR COPIER(S)	ADDRESSING FOR CLIENT PC(S)
1) Simple addressing	Yes or No	Static	Static
2) Regular DHCP	Yes	Static	Dynamic
3) Full DHCP	Yes	Dynamic	Dynamic
4) Exception DHCP	Yes	Dynamic	Static

[Note: We do not recommend using “Full DHCP” and “Exception DHCP” policies. They require special knowledge in network configuration, including careful setup of the “NIC” in the Copier. If you use these policies, please refer to the manual for the NIC to setup dynamic copier addressing.]

Step 2: Set up the DHCP and DNS servers

If you are using the Regular, Full, or Exception DHCP policy, DHCP and DNS servers should be set up prior to installing Network Scanner Tool. These servers maintain the table of dynamic addresses for PCs [2] and 3) above] and Copiers [3] and 4) above].

If you are using the Simple Addressing policy, DHCP and DNS servers are not required, and you may skip this step.

Step 3: Set up Copier Network Parameters

If you are using DHCP and the PC addresses are dynamic [2) or 3) above], the addresses of the DNS servers must be set up using the Web pages of the Copiers.

If the PC addresses are static [1) or 4) above], we recommend that you leave the addresses of the DNS servers blank in the Web pages of the Copiers. Specifying information for DNS servers in the Copier’s Web Page that is incorrect may cause problems. It is better to leave these addresses blank and let Network Scanner Tool determine the proper addresses automatically during its inspection of the Copiers.

Step 4: Notify the network users

The users of PCs connected to the network need to know the policy in effect and the supporting information outlined in the following table.

POLICY	ADDITIONAL INFORMATION
1) Simple addressing	The IP address of the copier(s)
2) Regular DHCP	The IP address of the copier(s)
3) Full DHCP	The Hostname of the copier(s)
4) Exception DHCP	The Hostname of the copier(s)

Troubleshooting

- The Network Administrator should understand the architecture and use caution when changing the network parameters associated with network scanning. If problems occur after changing your network policy or server setting, we recommend that all copiers and PCs running Network Scanner Tool be reconfigured from scratch.
- While the Network Scanner Tool tries to automatically determine the proper network parameters, sometimes you will have to assist it with knowledge about the advanced architecture. In particular, if the Auto Detect feature cannot find the Copier you want to use, you will have to enter the address manually. This case can occur if the OS is Windows 95 (without Winsock 2) or the network equipment filters UDP Broadcast packets between your Computer and the Copier. To manually set the IP address of the Copier, refer to the Adding a New Copier section in Chapter 4.
- Note that Auto Detect does not search beyond the local subnet of the network. Copier addresses outside the local subnet must be entered manually.
- If UDP packets (not broadcast) are filtered between the PC and the copier, the configuration step for Network Scanner Tool will fail. TCP/IP and UDP/IP are required to use the Scan to Desktop function.

Technical Information

During the automated setup process, the Network Scanner Tool determines the addressing methods used by the copiers and PCs by the following logic.

1. If the address of the copier is in the DNS table, “Host Name” is used for the “Copier Setting”.
2. If the address of DNS server on the web page of the copier is not blank, and the current PC is listed in the DNS table, “Host Name” is used for the “PC Setting”.

Chapter 3

Installing the Network Scanner Tool

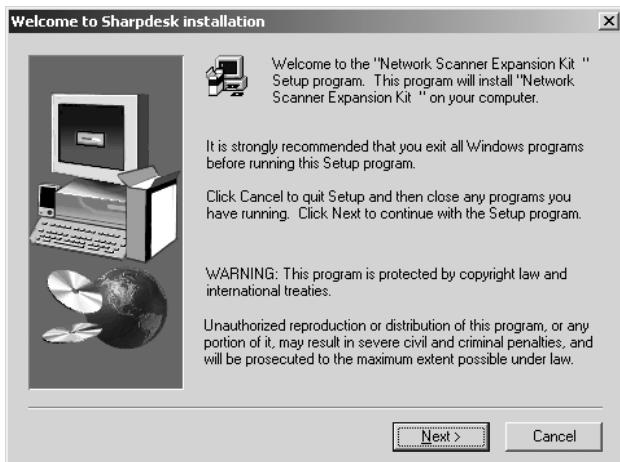
Introduction

The Network Scanner Tool (NST) software can be installed using two methods during the Sharpdesk installation process. When installing Sharpdesk, if you select a “Typical” installation, Sharpdesk automatically installs and sets up the Network Scanner Tool software. NST also locates and configures all Sharp copiers on the network and then adds a Sharpdesk host that lets you store scanned images that are received by your computer from a networked copier. In addition, the Sharpdesk installation creates a Network Scanner Tool entry in the Start/Program menu on your computer’s desktop. The first time NST is run after installation, Sharp’s Network Scanner Tool Setup Wizard guides you through the Network Scanner Tool setup and configuration process.

Network Scanner Tool Installation

To install the Network Scanner Tool, do the following:

1. Make sure you have a supported copier connected to the network.
2. If any Windows applications are open, close them to ensure that the software installs properly.
3. Insert the installation CD into your CD-ROM drive. In a few moments, the Sharpdesk Welcome screen appears. If the Sharpdesk Welcome screen does not appear (for example, because you have disabled the Windows AutoRun feature), run the Setup.exe program located in the \Sharpdesk directory on the CD.



Sharpdesk Welcome Screen

4. Click on the Next button and then follow the instructions to complete the installation. Note that if you choose to install only Network Scanner Tool, the following capabilities (described in this Guide) will not be available:
 - Image Processing
 - Convert by OCR
5. At the end of installation, the program may ask you if you wish to reboot your computer. If so, you must reboot to complete the installation of Network Scanner Tool. When the Sharp Network Scanner Tool Setup Wizard appears, either at the end of the Sharpdesk installation or at the end of the reboot process, it will guide you through setting up your computer as a destination for scans made on supported network copiers. Note that the copier(s) will have to be turned on for this to function properly.



Sharp Network Scanner Tool Setup Wizard

6. Click on OK and then follow the instructions on your monitor's screen to complete the Network Scanner Tool setup.

Chapter 4

Using the Network Scanner Tool

Introduction

The Network Scanner Tool user interface lets you setup and configure network-scanning processes using these configuration tabs:

1. Process Definitions
2. Copiers
3. System Options

Each tab lets you select processing steps to follow each time your computer receives a scanned image from a networked copier. You can access these tabs from either the Sharpdesk Tools/Configure pull-down menu or the Network Scanner Tool icon on the Windows system tray.

Network Scanner Tool Menu (System Tray Icon)

Right-clicking on the icon located in the Windows system tray lets you access the Network Scanner Tool menu. If you need the current status of the Network Scanner Tool, simply mouse-over the icon to get information such as “Network Scanner Tool is running”, “Network Scanner Tool is stopped”, etc. You can also receive Network Scanner Tool status as indicated by the different icons displayed in the system tray:



Network Scanner On



Network Scanner Off

Right clicking on the Network Scanner Tool icon brings up the following menu for controlling the Network Scanner Tool:



Network Scanner Tool Menu

When an image file is received in the server folder, the Network Scanner Tool takes the action to process it based on the configuration settings in your **Process Definitions**. Note that the Network Scanner Tool can monitor one or more server folders, and then can perform actions on files that arrive in the folder(s). After processing completes, the original image file is removed from the server folder.

Configure

Refer to the section “Configuring the Network Scanner Tool” provided later in this chapter.

Start/Stop/Exit

You can stop Network Scanner Tool service, start it, configure it, or close it down by right-clicking on the Windows system tray icon. The Network Scanning Tool icon is placed on the Windows system tray during installation and will start up automatically each time your computer restarts.

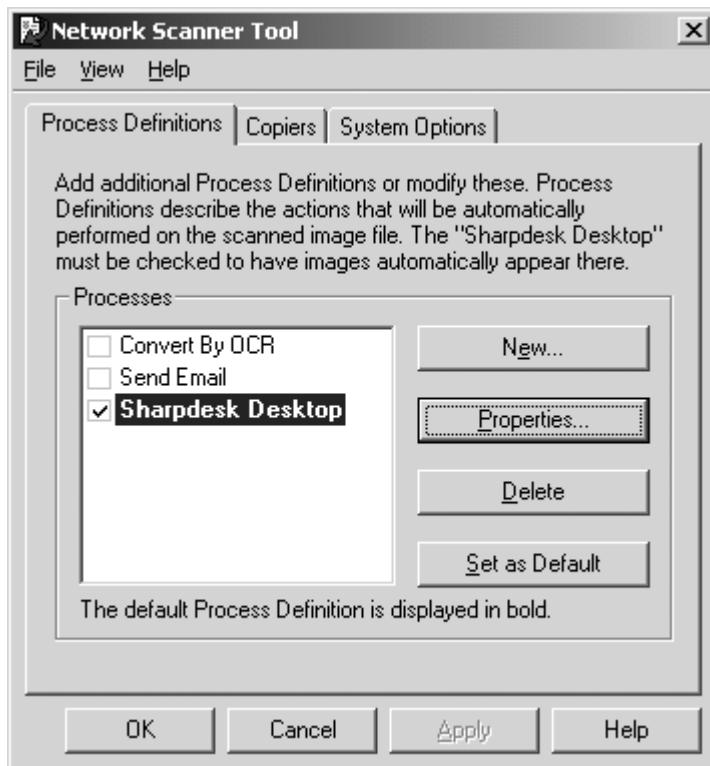
About

Selecting this option brings up the Network Scanner Tool About screen.

Configuring the Network Scanner Tool

Network Scanner Tool Configuration application can be started either from Network Scanner Tool context menu (or simply double-click the icon in the Windows system tray), or from Start->Programs->Sharpdesk->Network Scanner Tool Configuration menu, or from the Sharpdesk application, using Tools->Product Configuration->Network Scanner Tool Configuration menu.

The following sections describe how to configure the Network Scanner Tool using the three configuration tabs in the user interface.



Process Definition Screen

Process Definition Tab

A Process Definition lists the steps that will automatically take place on a file once it arrives at the desktop. The Process Definition tab lets you:

- Create a new Process Definition
- Examine Process Definition options
- Delete an existing Process Definition
- Select a default Process Definition

Keep the following in mind when working with process definitions:

- The Email process definition does not save email addresses. As a result, each time the email client starts on your computer in response to receiving an e-mail request from the scanner, it prompts you for the destination address.

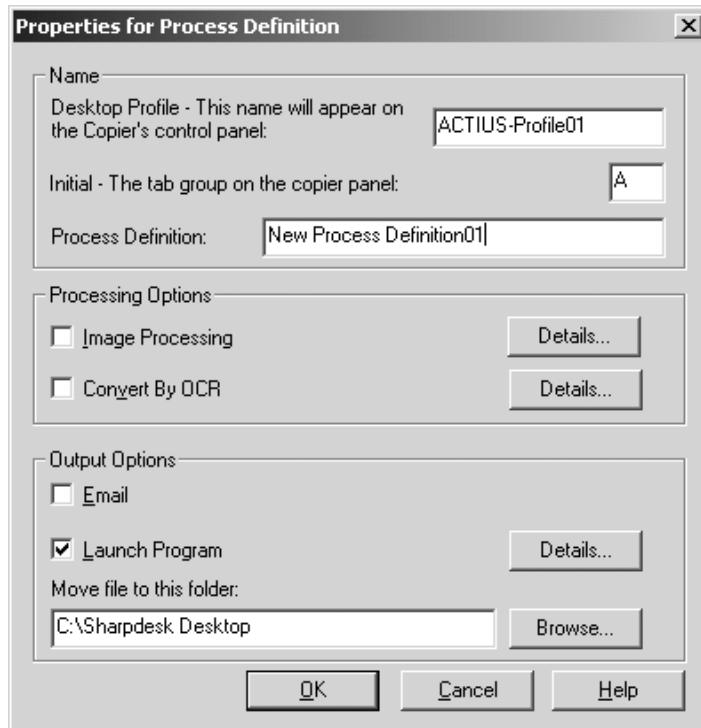
- The Convert by OCR process definition default is Rich Text Format (RTF). The resulting files are then placed in the Sharpdesk desktop folder. Convert by OCR is only available if Sharpdesk has been installed.
- As the default, each process definition uses the first six letters of your computer's name followed by a “-” and the first five letters of the process definition name for the value shown on the copier's Desktop Profile name. For example:

DavidL-Desk
DavidL-OCR
DavidL-Email

- Only the process definitions with a check in the box next to their name are available to the copier user.

Creating a New Process Definition

To create a new process definition, simply click the New button on the Process Definition tab. This brings up the Properties for Sharpdesk Process Definition screen that lets you define the action or process to take when an image is received at your computer.



Properties for SharpDesk Process Definition Screen

Each Process Definition executes one or more of the following actions by setting up the appropriate attributes:

- Note: Image Processing and Convert by OCR are only available if Sharpdesk has been installed.
- If both the Image Processing and Convert by OCR options are checked, Image Processing executes first and Convert by OCR executes second.

- If Convert by OCR is selected, the Output Options for the Process Definition refer to the text document that is produced by the OCR process, not the original image.
- Checking the box next to a Process Definition will add it to all copiers that are checked on the Copiers tab when the Apply button is pressed. Similarly, unchecking a Process Definition will remove it from all copiers that are checked on the Copiers tab when the Apply button is pressed.

After setting up a Process Definition, click on the OK button so all process settings immediately take effect.

Process Definition Properties Options

The following options are available from the Process Definition Properties screen.

Name

This option lets you specify a name for a particular process. The name, local to your computer, is used as a reference and uniquely identifies the processing steps you setup. It is also used as a sub-directory and appears on the copier web page as the directory used in the desktop destination.

Desktop Profile

This 18-character name appears on the copier front panel. It is used to uniquely identify your computer and process name when the copier sends it an image.

Initial

If the copier has the capability to classify the desktop profiles on the copier front panel (in a tab-like fashion), it will use this character. By default this field is filled with the character specified with the Setup wizard (if left blank, the user is prompted to enter an initial letter).

Image Processing

Checking the Image Processing box and then clicking on the Details button brings up the following Image Processing Options screen. This screen lets you:

- **Despeckle** — Remove small dots from images
- **Straighten** — Automatically straighten pages
- **Auto-Crop** — Borders are detected and images are cropped

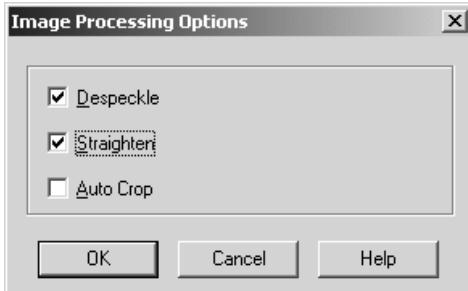


Image Processing Options Screen

Convert by OCR

This option lets you change image files to text files using OCR (Optical Character Recognition). These options are the same as those available on the Sharpdesk Convert By OCR feature and are accessible by selecting the Details button. Note that the Details button is only enabled if the Convert by OCR box is checked. This option also automatically launches the program associated with the file type (for example, MS Word for RTF files).

Refer to the supplied Sharpdesk User's Guide for more information about this option.

Output Options

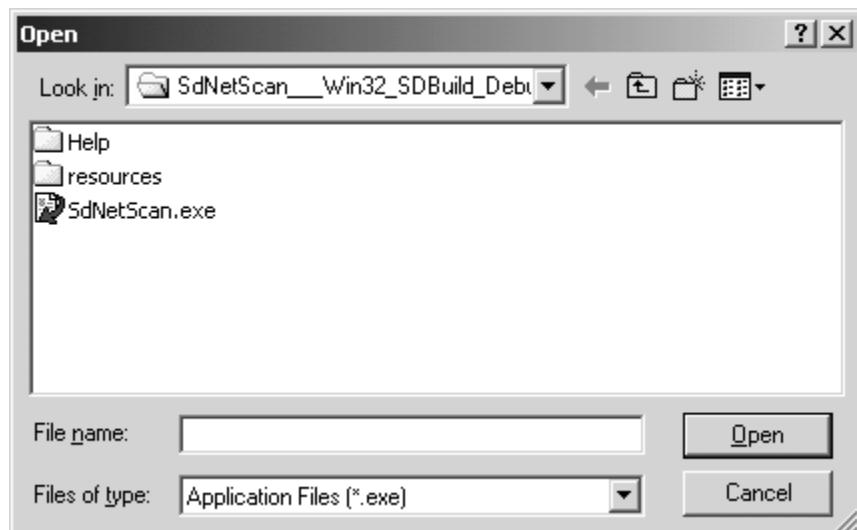
Three Output Options are available: Email, Launch Program, and Move File to Folder.

- **Email**

If you select Email, the process will launch your MAPI-compliant mail client on your computer, including the image as an attachment. You can then add your cover message and provide the address to send the image through your mail system.

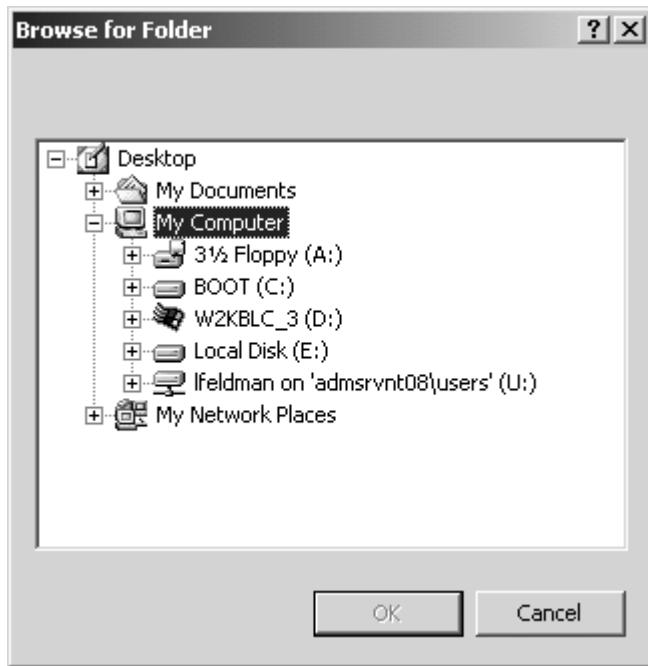
- **Launch Program**

If you select Launch Program, you can select an application capable of opening a file. For example, an application that can open TIFF files (if Image is selected and TIFF format is selected in the scanning information area) or an application that can open Text files (if Text is selected and the OCR output type property is set to RTF). To select the Program to start, click the Details button next to the option and the following screen will appear:



Launch Applications Options Screen

Use the Browse button to locate the Start Application on your computer. When you click on Browse, the screen shown below appears. Navigate to the desired application and either double-click it or select it and click the OK button.



Browse For Folder Screen

The following options are available from the Launch Applications Options screen:

- **Start with Document File Name** — If you checked this option, a parameter appears on the command line of the launched application with the full path of the image file or text file.
- **Start with Document File Path** — If you checked this option, the working directory for the launched application is changed to the path of the file name passed onto the command line.
- **Application Parameters** — These are standard DOS command line parameters that will be passed to the Started Program.
- **Move File to Folder**

This option lets you select the folder that your scan will be moved to. When you click on Browse, the Browse for Folder screen appears to let you select the target folder.

Important Note: The Sharp multifunction copiers with Network Scanner Expansion need to be configured to supply a unique identifier when sending scanned images to Network Scanner Tool. These options are set by the E-mail/Network Scanning Setup web page in the copier. Under the Network Scanning Setup pane, use the File Name options to be sure that each scan arrives with a unique name. If this is not done, all scans will arrive with the same name, each new one over-writing the one that arrived before. The web page can be accessed using the Web Setup button on the Copier tab described below.

Examining Process Definitions

You can examine Process Definition options that are in use by first clicking on a process definition name and then by clicking the Properties button. You can also double-click on a Process Definition from the list.

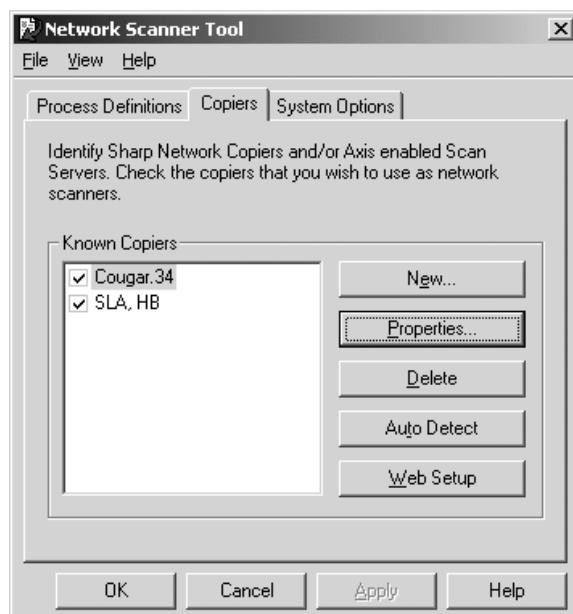
Deleting a Process Definition

To delete a Process Definition, simply select one from the list and then click on the Delete button. This deletes the associated Destination from the copiers that are checked on the Copiers tab when Apply or OK is selected.

Process Definition Default

You can set one Process Definition as default by selecting it from the list and then by clicking on the Set as Default button. This default Process Definition executes whenever a scan is sent to your workstation and the destination directory of the copier configuration web page is left blank. Note that this operation does not enable the Process Definition, and therefore does not update the copier(s).

Copiers Tab



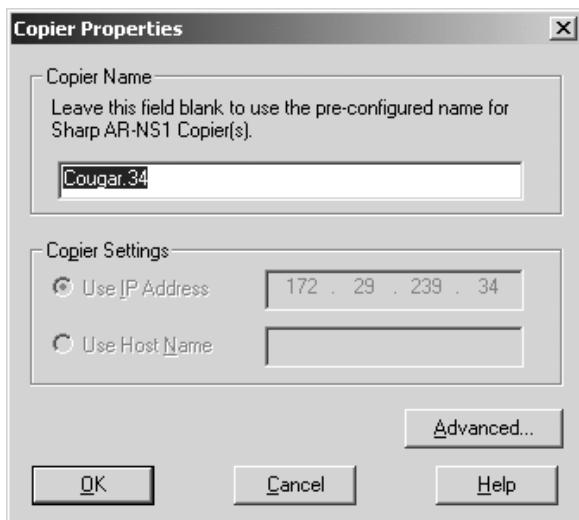
Copiers Tab Screen

The Copiers tab lets you:

- Add a **New** copier with Scanner Expansion
- Examine and/or change copier **Properties**
- **Delete** an existing copier
- **Automatically detect** Sharp copiers connected to the network
- Use **Web Setup** pages of the Sharp multifunction copier to change configuration values.
- Enable/disable a copier (by checking its box)

Adding a New Copier

To add a new copier, simply click on the **New** button of the Copiers tab. This brings up the Copier Properties screen that lets you add a copier. If you select a copier that was automatically detected by the Network Scanner Tool, then an IP address appears in the Copier Properties screen. If you wish to add a copier that was not automatically detected, you will have to enter the correct IP address or Host Name for that copier.



Copier Properties Screen

After adding a new copier, click on the **OK** button so all process settings immediately take effect.

Copiers New Button Options

The following options are available from the Copier Properties screen.

Use IP Address

If you are configuring a copier that was not automatically detected by the Network Scanner Tool, you will need to enter either the IP address of the copier or the host name in the appropriate field. When the IP address is determined either by direct entry or host lookup, the Network Scanner Tool verifies that the IP address is assigned to a Sharp copier.

If your network operates under the Simple Addressing or Regular DHCP policies described in Chapter 2, we recommend 'Use IP Address' to identify the copier. IP addresses are available from the PRINT CONFIGURATION PAGE or the Network Administrator.

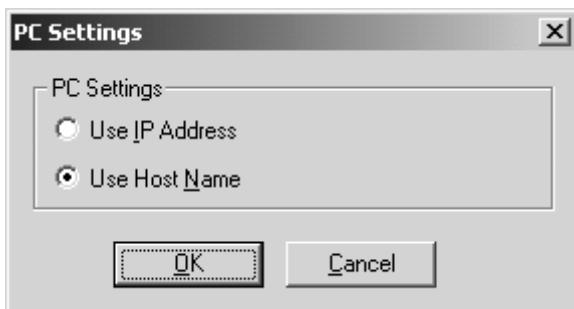
Use Host Name

If your network operates under the Full or Exception DHCP policy described in Chapter 2, we recommend 'Use Host Name' to identify the copier. Host Names for the copiers are available from your Network Administrator.

Once you enter the Host Name, the Network Scanner Tool will then automatically fill in the correct IP address.

Advanced

The Advanced button allows you to specify how your PC network address is to be resolved. Click on Advanced to bring up the PC Settings screen:



PC Settings Screen

If your network operates under Simple Addressing or Exception DHCP policies described in Chapter 2, we recommend 'Use IP Address' to identify your computer. IP addresses are available from your Network Administrator.

If your network operates under Regular DHCP or Full DHCP policies described in Chapter 2, we recommend 'Use Host Name' to identify your computer. Host Names are available from your Network Administrator.

The following table summarizes the recommended choices depending on the policy in force on your network.

POLICY	THE COPIER ADDRESS	THE COMPUTER ADDRESS
1) Simple addressing	Use IP address	Use IP address
2) Regular DHCP	Use IP address	Use Host Name
3) Full DHCP	Use Host Name	Use Host Name
4) Exception DHCP	Use Host Name	Use IP address

[Note: Sometimes, after the setup wizard runs, the addressing methods selected will not match this table. This is generally not a problem, but if you have trouble using the 'Scan to Desktop' profiles, set up the addresses manually to correct the problem.]

Examining/Changing Copier Properties

Clicking on the Properties button brings up the same Properties for Copier screen as the New button. The contents of this screen match the specific copier selected when the Properties button is clicked. Each option in the Properties for Copier screen can be examined and/or changed just as it was using the New button.

Deleting a Copier

To delete a copier, simply select one from the Known Copiers list and then click on the Delete button. Any active Process Definitions residing on that copier will be removed as part of the copier delete process.

Enable/Disable a Copier

You can enable or disable a copier for scanning to your computer by checking or unchecking the box next to the copier name.

Auto Detect

This option will cause Network Scanner Tool to search the local subnet for Sharp copiers that are capable of network scanning. The local subnet consists of those IP addresses that have the first three segments in common. Any copier that is found will be listed but not enabled. Once detected and listed, you need to check the ones you would like to use with Network Scanner Tool.

Web Setup

[Note that an administrator login might be required.]

This option lets you use a copier's web page to change its configuration values. These pages are accessible by selecting a copier from the list and then by pressing the Web Setup button. Adding or deleting profiles with the web page will not update the listing of process definitions used by your computer's Network Scanner Tool. This is not recommended.

Apply Changes

This option automatically updates the selected copier(s) with the destination for the selected process definition. This information stays on the same screen.

Ok Changes

This option works in the same manner as Apply, but changes the screen.

Cancel Changes

This option lets you eliminate any changes that you have made since the last time you pressed Apply or OK.

System Options Tab

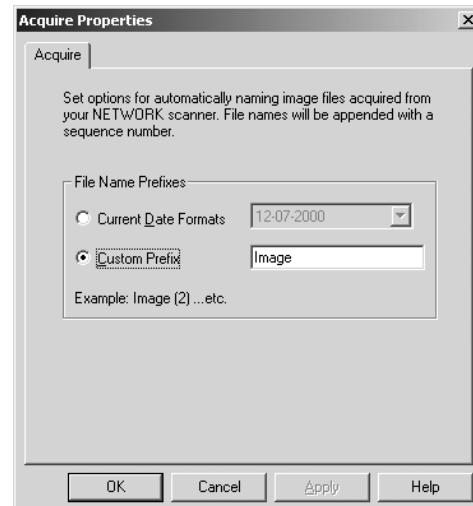
The Network Scanner Tool uses a modified FTP server that is controlled using the System Options tab. This tab lets you set the FTP port number for communications with your computer as well as allow FTP reads.

Security is provided by using a unique port (rather than the standard FTP port number) and by allowing only receipt of files. The modified FTP server always uses an anonymous login so there is no risk of a user name or password being intercepted. Since FTP Get commands can be disabled, no other computer can read files that are sent to the modified FTP server.

If you check the “Allow FTP reads” box, this security may be compromised. Others will be able to read files in the modified FTP server’s root directory.



System Options Tab



Acquire Properties Tab

File Naming

The Sharp multifunction copier has a built-in method for naming images scanned to desktops. If you wish to use the same file naming convention that Sharpdesk uses when using a locally attached TWAIN scanner, check the ‘Override Copier file name settings’ box and hit the Details button. This will bring up the Acquire Properties dialog box and allow you to set the naming conventions according to your Sharpdesk preferences. As long as the Override Copier box is checked, any changes made to file naming conventions, either through Network Scanner Tool or Sharpdesk, will apply to both scans initiated locally on the user’s PC or scans sent to the user’s PC through Network Scanner Tool.