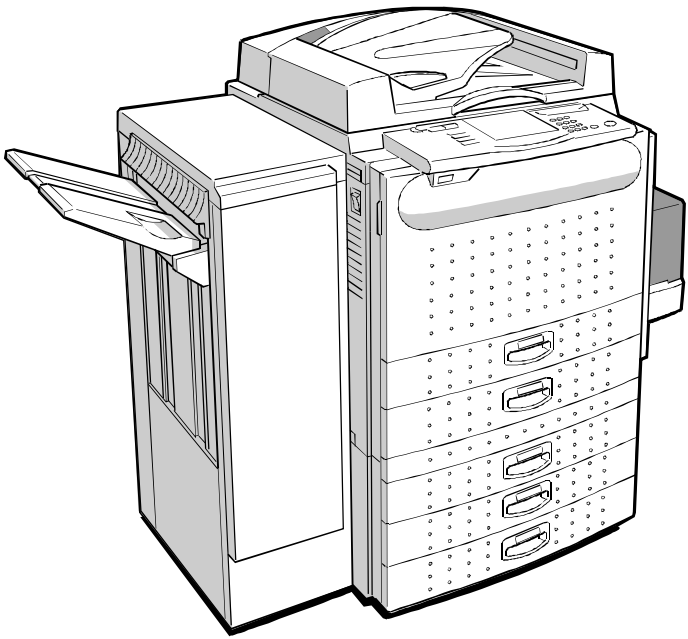
Scanner Kit Type401

Scanner Reference



Operating Instructions

INTRODUCTION

This manual contains detailed instructions on the operation and maintenance for the scanning capabilities of the machine. To obtain maximum versatility from this scanner, all users should carefully read and follow the instructions contained in this manual.

Make sure to read the “Safety Information” section of this manual before using the machine as a scanner. It contains important information related to user safety and to preventing equipment problems.

Overview

The multifunctional machine, in addition to providing you with outstanding copying capabilities, allows you to print data received from a host computer and to perform Small Computer Systems Interface (SCSI) scanning. The scanning capability allows you to scan data through a SCSI connection to your host computer.

The machine provides numerous scanning features and includes an Auto Reverse Document Feeder (ARDF) that allows you to scan multiple pages and double-sided originals.

Using This Manual

This manual explains how to configure and use the machine as a scanner. This section contains a list of the contents of this manual, the conventions used throughout the manual, and various publications that may be of further use to you when using the machine as a scanner. ☛ Refer to the *General Reference Guide* and the *Copier Reference Guide* for basic information on the machine and for information on using the machine as a copier. . ☛ Refer to the *Printer Reference Guide* for information on using the machine as a printer.

Contents

This guide contains the following chapters and appendices:

- **Chapter 1: Setting up the scanner** - provides information on preparing to use the machine as a scanner.
- **Chapter 2: Control panel** - describes how you use the main buttons to control the scanner functions.
- **Chapter 3: Troubleshooting** - contains a list of the error messages that may display and the actions you take to eliminate errors.
- **Chapter 4: Specifications** - contains hardware specifications for the scanner and SCSI interface specifications.

A glossary is provided at the end of this manual.

Conventions

The following conventions are used throughout this manual:

Square brackets - the names of the hard and soft keys and the buttons available on the machine and on the your host computer are shown in square brackets. For example, the **[Interrupt]** button.

Italics - names of documents are shown in italics. For example, *Scanner Reference Guide*.

☛ indicates that the following text refers to additional sections and chapters that contain further information about the topic.

Keys that can be selected on the current menu display on the Control Panel in this manner.

Keys that have been selected on the current menu display on the Control Panel in this manner.

Keys that cannot be selected on the current menu display on the Control Panel in this manner.

Note: *In general, "Notes" provide general information to help you complete a task or further understand the text.*

⚠ ***CAUTION:*** *In general, "Cautions" provide information important in preventing damage to your equipment, or to avoiding a situation that may cause minor injury to you.*

⚠ ***WARNING:*** *In general, "Warnings" provide information important in alerting you to a situation that may cause serious injury to you and major damage to your equipment and property if instructions are not followed correctly.*

This symbol displays to notify you that the component may be very hot and should not be touched

In accordance with the ISO Standard 7001, this main switch symbol means "Stand By" or "Please Wait."

In accordance with the ISO Standard 7001, this main switch symbol means "Power On."

In accordance with the ISO Standard 7001, this main switch symbol means "Power Off."

This display symbol means "Ready."

Related Documents

General Reference Guide

Copier Reference Guide

Printer Reference Guide

Network documentations

User Guide for Printer Servers

General Information

The following information is provided for your general knowledge:

- Some of the illustrations contained in this manual may differ slightly from your machine.

- Some of the options described in this manual may not be available in your country. Contact your local dealer for details on the options available to you.

- ☛ Refer to the *Copier Reference Guide* for basic information on the machine and for information on using the machine as a copier.

1. SETTING UP THE SCANNER

REQUIREMENTS

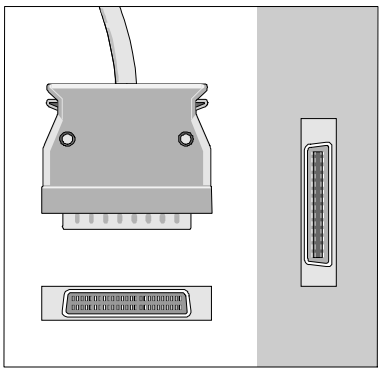
Before you can use the machine as a scanner you must make sure that you have met all of the environmental and electrical requirements. You must also connect the machine to your host computer using the Small Computer Systems Interface II (SCSI II) connection and attach the SCSI II terminator to the top port on the machine. Make sure that you have all of the cables, connectors, and electrical outlets necessary to attach the machine to your host. ☛ Refer to the "Connecting the Scanner to the Host" section in this chapter for further information.

SCSI II Requirements

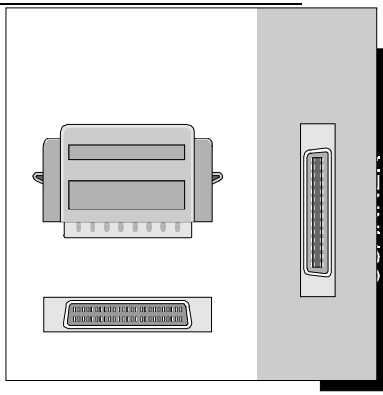
You connect the machine to your host computer using a high density 50-pin SCSI II cable connected to a SCSI II port available on your host computer. It is your responsibility to make sure that you have a SCSI II port available on the host computer and to provide the SCSI II cable. In addition, you must provide and connect a SCSI II terminator to the remaining SCSI II port on the machine. When a SCSI II terminator is not connected when the scanner is installed, the scanner will not initialize when the machine is turned on.

The SCSI II cable is not provided with the machine. However, two ferrite cores, designed to screen electromagnetic interference, are provided with the machine. You must attach a ferrite core around each end of the SCSI II cable. The SCSI II terminator is provided with the scanner option package. ☛ Refer to the "Specifications" chapter in this manual for further information.

The SCSI II connection is a SCSI II interface and requires a high density 50-pin SCSI II cable and a SCSI II port available on the host computer.



The terminator is a standard SCSI II Terminator. You must connect the terminator when the scanner option is installed or the scanner will not function.



⚠ ***CAUTION:*** *When you use the machine as a scanner, you should always turn on the machine before you turn on the host computer.*

☛ Refer to the “Specifications” chapter in this manual for the cable specifications.

CONNECTING THE SCANNER TO THE HOST

When you have obtained the necessary SCSI II cable, connector and terminator plug, you can connect the machine to the SCSI II port available on your host computer.
***Note**: You must have a SCSI II port available on your host computer.*

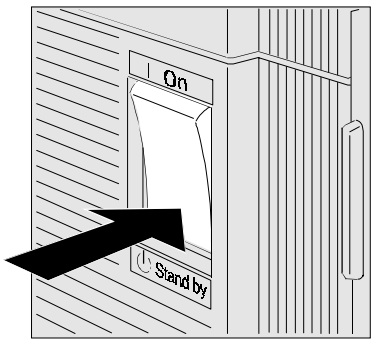
☛ Refer to the “Using the Control Panel” chapter in this manual for information on setting the SCSI ID.

Connecting the SCSI II Cable and Terminator

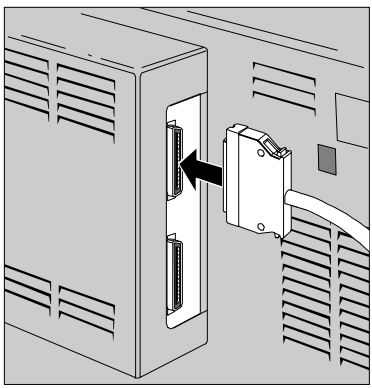
Follow these steps to connect the machine to your host:

1. Make sure you have the SCSI II cable necessary for the connection.

2. Make sure that both the machine and the host computer are turned off.

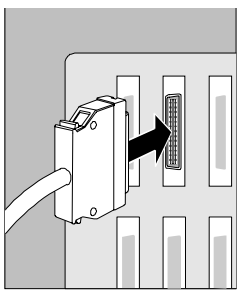


3. Connect one end of the high density 50-pin SCSI II cable to a SCSI II port on the back of the machine.



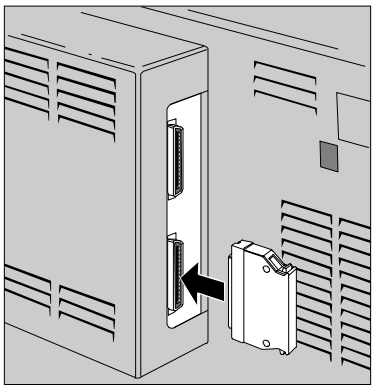
4. Press the connector until it snaps in place. This is to make sure that the cable remains in position.

5. Connect the other end of the high density 50-pin SCSI II cable to the SCSI II port on the back of the host computer or other SCSI peripheral.

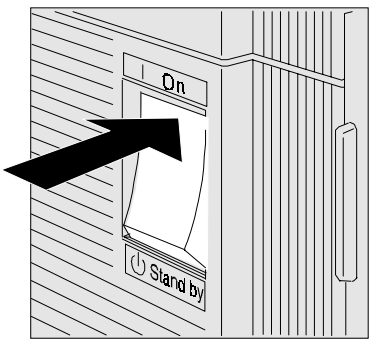


6 Press the connector until it snaps in place. This is to make sure that the cable remains in position.

7 Connect the high density SCSI II Terminator to the remaining SCSI II port on the back of the machine. When a SCSI II terminator is not connected when the scanner is installed, the scanner will not initialize when the machine is turned on.



8 Plug in the power cords and turn on the power to the machine.



9 Plug in the power cords and turn on the host computer.

INSTALLING THE DRIVERS

You must install the scanner driver software on the host computer before you can use the scanner.

☛ Refer to the “On-line help files of drives” for further information on operating the scanner.

Installing the CFM TWAIN Scanner Driver

This section contains the procedure you follow to install the TWAIN scanner driver on your Windows 3.1, Windows 95 or Windows NT system.

Installing the TWAIN Scanner Driver on Windows

Follow these steps to install the TWAIN scanner driver on your Windows system:

1. Close any applications that are currently running.
2. Insert the “CFM TWAIN Scanner Drivers for Windows” diskette into the 3.5 inch disk drive on your host computer.
3. Run the **setup.exe** program on the diskette.
4. Follow the installation instructions that display on the screen.

Installing the ISIS Scanner Driver

Please refer to the “Installing Scanner Drivers” section in the PixView User’s Guide.

TESTING

When you have attached the machine to the host computer you can test the connection and the scanning functions using the scanner driver.

***Note**: You may have to first configure the machine for scanning. You do so using the scanner driver screens.*

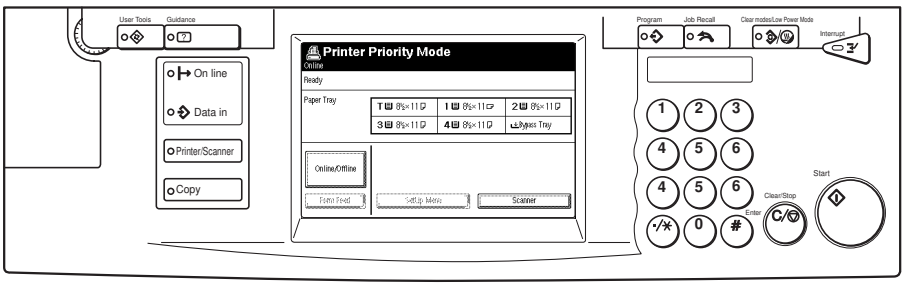
2. USING THE CONTROL PANEL

CONTROL PANEL FUNCTIONS

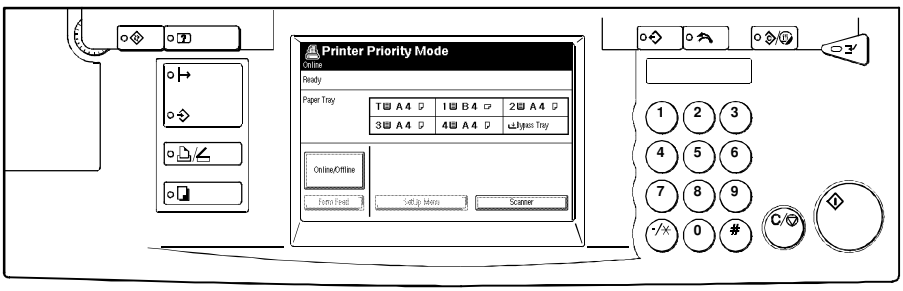
This chapter describes how you use the main buttons and menus to use the scanner.

You use the main buttons on the left side of the Control Panel and the menu selections that display on the Control Panel screen to access the Scanner mode. You use the scanner driver on the host computer to specify how you want the scanner to function.

Control Panel (U.S. Version)



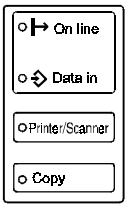
Control Panel (European Version)



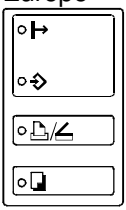
The Control Panel display is shared by all functions of the machine and displays the current status of the copy, print jobs, as well as when the machine is in scan mode. When you are in scan mode, the Control Panel displays the *"The machine is now in Scanner mode. If you wish to use the printer, press [Exit] to leave Scanner mode."* message. When the scanner is idle, the Control Panel displays the status for the copier. The "Status" area is blank when the status of the machine is off-line.

Using the Buttons and Screens

U.S.

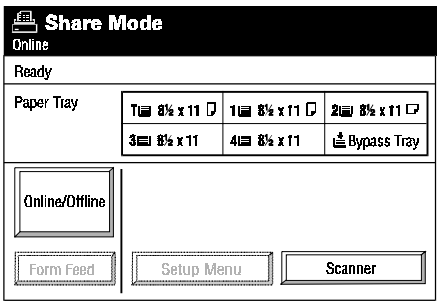


Europe

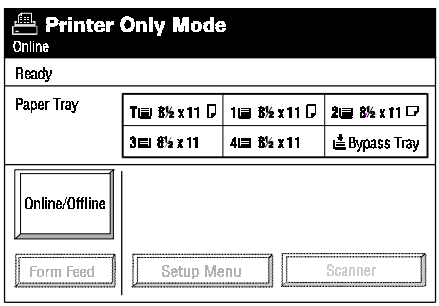


The machine has two light emitting diode (LED) indicators and two main buttons located on the left side of the Control Panel and a display area that specifies when you are in Scanner mode.

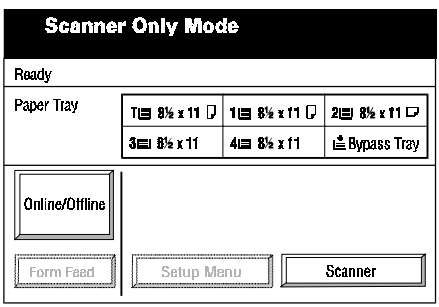
The top of the Printer mode menu displays the current mode of operation. These modes are as follows:



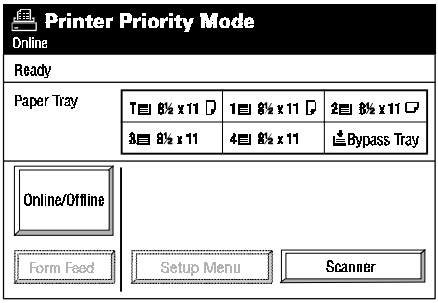
❒ **Share Mode** - indicates that you want to share the machine between copy, print, and scan modes with no specific priority.



❒ **Printer Only Mode** - indicates that you currently want to use the machine as a printer only.



❒ **Scanner Only Mode** - indicates that you currently want to use the machine as a scanner only.



❒ **Printer Priority Mode** - this indicates that you want all print jobs to take priority. In this mode normal copying, printing, and scanning is enabled, and copy interrupt is disabled.

Setting the SCSI ID

You must specify the SCSI ID from the machine before you can use your scanner. Follow these steps to specify the SCSI ID for your scanner:

1. Access the Setup menu, by pressing the **[Setup Menu]** button from the Printer mode menu.
2. Access the Configuration menu by pressing the **[Configuration Menu]** button from the Setup menu.
3. Access the SCSI ID Setting screen by pressing the **[Change]** button located next to the SCSI ID option on the Configuration menu.

The options are as follows:

- ❒ **0**
- ❒ **1**
- ❒ **2**
- ❒ **3**
- ❒ **4**
- ❒ **5**
- ❒ **6**
- ❒ **7**

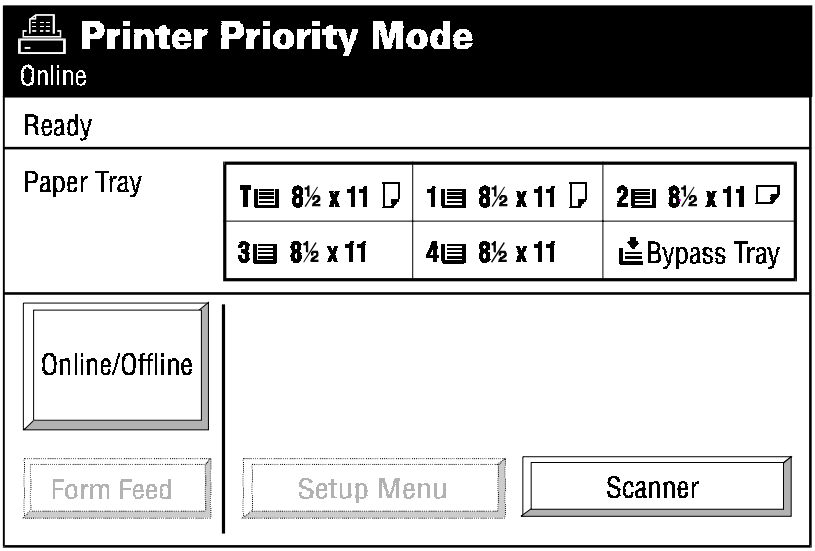
The default is **3**.

4. Select the number that specifies the correct SCSI ID for your scanner and press the **[Exit]** button to save the setting and return to the Configuration menu.
5. Press the **[Exit]** button as many times as necessary to return to the Printer mode menu.

Entering Scanner Mode

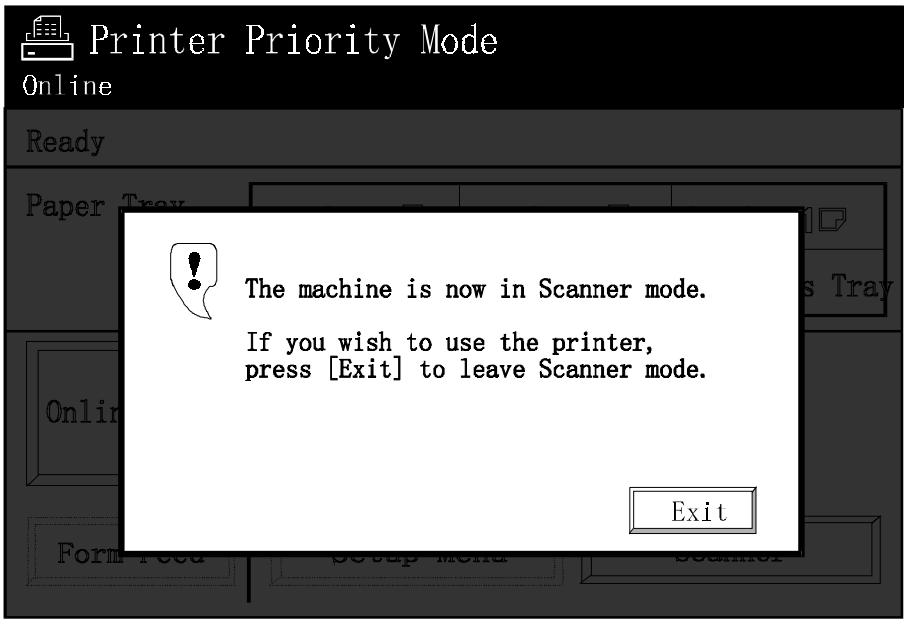
When you first turn on the machine, the Copy Menu displays on the Control Panel. To access the Scanner mode, you must press the **[Printer/Scanner]** button located on the left side of the display panel and press the **[Scanner]** button on the Printer mode menu screen. The scanner is now ready to use.

Note: *You can not use the scanner function when the machine is set to Printer only mode.*



Exiting Scanner Mode

From the Scanner mode screen, press the **[Exit]** button.



3. TROUBLESHOOTING

OVERVIEW

This chapter provides information that may be helpful when clearing problems and information on the error messages that may display while you are using the machine as a scanner.

SCANNER PROBLEMS

This section contains information on the problems that may occur while using the scanner, as well as the actions you can take to solve the problems.

Table 3-1 lists the basic problems that may occur with your scanner and the actions you can take to correct the problems.

Table 3-1 Basic problem resolution

Condition	Action
The machine does not activate when the main switch is turned on.	Make sure that the power cord is properly plugged in to an appropriate power outlet.
The machine has turned off.	Turn on the main switch.
Scanner is sending fragments or confusing data to the host computer	Verify that you have the correct interface cable. Verify that you have the SCSI Terminator attached correctly.
displays.	Close the indicated door or cover.
displays.	Turn off the main switch, wait a few seconds and turn the machine on again. If this symbol displays again, contact your service representative.

Table 3-2 lists the scanner conditions that may occur, and the action you can take to correct the conditions.

Table 3-2 Scanner condition resolution

Condition	Action
Frequent misfeeds	Verify that the size and weight of the paper you are using meets the paper specifications for the Auto Reverse Document Feeder (ARDF). Verify whether the paper is folded, wrinkled, damp, or curled. Verify that the paper is correctly placed in the ARDF tray. Check for any pieces of misfed paper or other foreign objects in the machine. Verify that the page size setting is correct for the paper contained in the feeder tray.

When you encounter a scanner problem and none of the information available in this section solves the problem, contact your Service Representative. Attempting to repair the machine yourself is not covered by the warranty and may cause further damage to the machine. When you contact your Service Representative, make sure to have the following information available:

- ❒ A record of the problem that occurred and the steps you took to eliminate the problem
- ❒ The name and number of the machine
- ❒ Configuration information for the scanner
- ❒ Information on the scanner driver you are using.

ERROR MESSAGES

The ONLINE operation screen of the machine contains three fields and two buttons. The current operation mode displays in the top field. The operating status (which contains the READY status) displays in the next field. The third field contains system messages and is blank during normal operation. When a unique condition occurs, this field displays the error messages.

Table 3-3 lists the messages that display in this field and provides an indication of what occurred to cause the message, and the action you can take to eliminate the error.

Table 3-3 Error messages

Message	Description	Action
Controller error. Please call for Service.	A problem has occurred with the controller causing a diagnostic error during power on.	Contact your service representative. Although the scanning function is not available, you can use the copy function of the machine by pressing the **[COPY]** button.
SCSI communication error. Please set up communication parameters again.	A SCSI port communication error occurred during scanning.	Check the SCSI port. When the SCSI port problem is fixed, press **[Continue]** to resume scanning or press **[Reset]** to cancel the scan job.

4. SPECIFICATIONS

SCANNER

This section contains the electrical and hardware specifications for your scanner as well as information on the paper feed capabilities provided by the Auto Reverse Document Feeder (ARDF).

Electrical and Hardware Specifications

This section contains the electrical and hardware specifications for your scanner. Table 4-1 lists the basic scanner information and specifications.

Note: *All specifications are subject to change without notice.*

Table 4-1. Basic scanner information

Component	Specification
Resolution:	400 dpi (100 to 1600 dpi internal conversion)
Gray scale:	256 levels
Power source:	120V, 60Hz, more than 12.0A (15 or 20 AMP circuit) (U.S.) 220 to 240V, 50 to 60Hz, more than 6.5A (15 or 20 AMP circuit) (Europe)
Power consumption:	Warm-up - less than 0.90 kW Stand-by - less than 0.22 kW Maximum - less than 1.440 kW (U.S.) less than 1.495 KW (Europe)
Noise emission: Sound pressure level	Stand-by - 25 dB (A) Scanning - 59 dB (A) * The measurements are made according to ISO 7779 at the operator position)
Noise emission: Sound power level	Stand-by - 40 dB (A) Scanning - 69 dB (A) * The measurements are made according to ISO 7779 at the operator position)
Standard SCSI interface:	High density 50-pin SCSI cable and SCSI Terminator plug. SCSI port must be available on the host computer.

INTERFACE

This section provides information on the high density 50-pin SCSI cable you use to connect your scanner to your host computer and on the SCSI Terminator plug you use on the machine. It is your responsibility to make sure that you have a SCSI port available on the host computer and to provide the SCSI cable. In addition, you must provide and connect a SCSI terminator plug to the top SCSI port on the machine. The SCSI cable and SCSI Terminator are not provided with the machine.

Refer to the "Setting up the Scanner" chapter in this manual for information on how to connect the scanner to your host computer.

SCSI Interface

The SCSI connection is a standard SCSI interface and requires a high density 50-pin SCSI bus and tag cable with an A Connector and a SCSI port available on the host computer. The terminator is a standard SCSI Terminator.

Table 4-2 lists the high density 50-pin designations and associated signals for SCSI communications.

Table 4-2. high density 50-pin SCSI pin designations

Code	Signal	Pin
GND	Signal Ground	1
GND	Signal Ground	2
GND	Signal Ground	3
GND	Signal Ground	4
GND	Signal Ground	5
GND	Signal Ground	6
GND	Signal Ground	7
GND	Signal Ground	8
GND	Signal Ground	9
GND	Signal Ground	10
GND	Signal Ground	11
RESERVED	Reserved	12
(N/C)	(Not Connected)	13

Code	Signal	Pin
RESERVED	Reserved	14
GND	Signal Ground	15
GND	Signal Ground	16
GND	Signal Ground	17
GND	Signal Ground	18
GND	Signal Ground	19
GND	Signal Ground	20
GND	Signal Ground	21
GND	Signal Ground	22
GND	Signal Ground	23
GND	Signal Ground	24
GND	Signal Ground	25
DB<0>	Data	26
DB<1>	Data	27
DB<2>	Data	28
DB<3>	Data	29
DB<4>	Data	30
DB<5>	Data	31
DB<6>	Data	32
DB<7>	Data	33
DB<P>	Data	34
GND	Signal Ground	35
GND	Signal Ground	36
RESERVED	Reserved	37
TERMPWR	Term Power	38
RESERVED	Reserved	39
GND	Signal Ground	40
-ATN	Attention	41
GND	Signal Ground	42
-BSY	Busy	43
-ACK	Acknowledge	44
-RST	Reset	45
-MSG	Message	46
-SEL	Select Out	47
-C/D	Control/Data	48
-REQ	Request	49
-I/O	Input/Output	50

Table 4-3 lists the SCSI Terminator specifications.

Table 4-3. SCSI Terminator specifications

Component	Specification
A Cable Single-Ended Active high density 50-pin Scanner Terminator	SCSI-2, low profile, high density narrow terminator with internal shield and all plastic cover.

GLOSSARY

ACRONYMS

This section contains a list of the acronyms you may use while working with the scanner and the scanner documentation.

ARDF Auto Reverse Document Feeder

bpi bits per inch

bps bits per second

cpi characters per inch

dpi dots per inch

DRAM Dynamic Random Access Memory

EBDCIC Extended Binary Coded Decimal Interchange Code

EEPROM Electronically Erasable Programmable Read Only Memory

IBM International Business Machines

I/O Input/Output

LED Light Emitting Diode

lpi lines per inch

MB Megabyte

PC Personal Computer

ppm pages per minute

RAM	Random Access Memory
RIP	Raster Image Processor
ROM	Read Only Memory
SCSI	Small Computer Systems Interface
SIMM	Single Inline Memory Module
spi	spots per inch

TERMS

This section contains a list of the terms you may use while working with the scanner and the scanner documentation.

application	Software program, or programs used to process information.
asynchronous	Data communication transmissions that are controlled by start and stop characters, causing the time intervals between the transmission of data blocks to be unequal in length.
baud rate	Establishes the transmission speed of data for a serial connection between the machine and a host computer.
bit	Abbreviation for a binary digit. This is the smallest unit of information recognized by a computer.
bps	Bits per second. The rate at which data is transferred during serial communication.
buffer	Area of memory used for storage during the transfer of data between two devices.

byte Number of bits (usually fixed at 8) that are processed as a single binary value.

configuration Settings required to allow your computer to communicate properly with the machine. Also describes the process of specifying the required settings.

cpi Characters per inch. Expression of the fixed-pitch font size that allows the font to be set in increments of one horizontal inch. See also *pitch*.

default Value retained in memory for use when input is not specified by the user for a required variable.

dot Scanned element (in pixels). The number of dots scanned per inch is used to measure the total resolution (300 dots per inch).

dpi Dots per inch. The number of dots that scan in an inch. These are used to form a character or graphic on the scanned page.

drivers Software used to provide scanner characteristics.

duplex Scanning both sides of a single sheet of paper.

image area Area of the scanned page that can contain graphics or text.

initialize Setting all computer system information to the starting or default values.

landscape Orientation in which graphics and text are scanned parallel to the long edge of the page.

long-edge feed Moving the paper through the scanner in the direction of the paper length.

MB Megabyte. Unit made up of one million bytes.

orientation Specifies whether the lines on the scanned output are parallel to the long edge of the paper (landscape) or the short edge of the paper (portrait).

origin Upper left corner of a page.

physical page Actual page size.

pica 1. Unit of measurement equal to twelve points or approximately 1/6 of an inch. 2. 10-pitch typeface with ten characters per inch each 12 points in height. See also *point*.

pitch Width of a fixed-pitch font specified in characters per horizontal inch.

pixel Acronym for a single element of a picture. This is the smallest addressable point on a bitmapped screen to which color and intensity can be assigned independently.

point Unit of measure that is equal to 0.0139 of an inch. Used to express type, size, and leading spaces. There are 12 points to a pica and approximately 72 points to an inch. See also *pica*.

RAM Random Access Memory. Portion of memory where data, macros, and downloaded fonts are stored.

raster graphics Graphic created using a pattern of dots.

Raster image processor Processor board (RIP) that builds a raster image that is passed to the scanner.

rasterization Transformation of an image onto a page using bitmap dots.

resolution Number of dots per inch (dpi) or spots per inch (spi). The greater the number of dots or spots per inch, the higher the resolution and the clearer the image. The terms dots, spots, and pixels are synonymous.

scale Adjusting font or image size according to specified proportions.

Scanner driver Software that allows a host computer to communicate with a scanner.

short-edge feed Moving the paper through the scanner in the direction of the paper width (the short side of the paper).

simplex Scanning one side of a single sheet of paper.

spot Single element of a picture imaged by the scanner (also called a dot or a pixel).

throughput Measure of the number of pages scanned during a specific unit of time, usually expressed as pages per minute.

truncated Cut off before completion, as when data transfer from a scanner to a host is canceled before all data is transmitted.

typeface Features that give the font type a uniform appearance.

weight Perceived blackness of a character affected by varying the width of the stroke. Weight is expressed in general terms as either bold or roman.

Printed in USA
A6518607