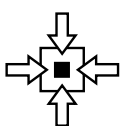




Network Guide



CONNECTIVITY



INFORMATION

PREFACE

Every effort has been made to ensure that the information in this document is complete, accurate, and up-to-date. The manufacturer assumes no responsibility for the results of errors beyond its control. The manufacturer also cannot guarantee that changes in software and equipment made by other manufacturers and referred to in this guide will not affect the applicability of the information in it. Mention of software products manufactured by other companies does not necessarily constitute endorsement by the manufacturer.

While all reasonable efforts have been made to make this document as accurate and helpful as possible, we make no warranty of any kind, expressed or implied, as to the accuracy or completeness of the information contained herein.

The most up-to-date drivers and manuals are available from:

<http://www.oki.com/printing/>

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NOTES, CAUTIONS AND WARNINGS

NOTE

A note provides additional information to supplement the main text.

CAUTION!

A caution provides additional information which, if ignored, may result in equipment malfunction or damage.

WARNING!

A warning provides additional information which, if ignored, may result in a risk of personal injury.

NETWORK CONFIGURATION

INTRODUCTION

Your machine incorporates a fast 100BASE-TX/10BASE-T network interface. This guide explains the functionality of the built in network interface. Access for interconnection is provided via an interface panel at the rear of the machine.

This network interface supports IEEE802.2, IEEE802.3, Ethernet-II and SNAP, and can detect those frame types automatically.

Also, the interface supports major protocols such as TCP/IP, IPX/SPX (NetWare) and NetBEUI.

This guide details the network interface specification and several software utilities.

You should set the emulation in the printer menu settings to Auto or PS before printing the configuration map.

NOTE

Not all utilities, features or protocols are supported by every operating system. Please check with your support website for latest information.

SPECIFICATION

Frame Types	IEEE 802.2 IEEE 802.3 Ethernet-II, SNAP, AUTO
Network Interface	100BASE-TX 10BASE-T
Network Protocols	TCP/IP V4, V6 IEEE 802.1x Network layer: ARP, IP, ICMP Session layer: TCP, UDP Application layer: LPR, FTP, TELNET, HTTP, IPP, BOOTP, DHCP, SNMP, DNS, SMTP, POP3, SLP, Bonjour IPX/SPX (NetWare) Remote printer mode (up to eight file servers and 32 queues) Print server mode over IPX/SPX (up to eight print servers) Encrypted password supported in print server mode EtherTalk NetBEUI NetBIOS, WINS SSL/TLS IPSec
Functions	Self-diagnostic test printing Banner supported Monitoring and configuration by Web browser Printer status notification by E-Mail

NOTE

Not all utilities, features or protocols are supported by every operating system. Please check with your support website for latest information.

CONFIGURATION SETTINGS

With the machine power switched on, print out the configuration map:

1. Press the **Enter** button.
2. Press the **Menu down** button then the **Enter** button to select the `Print Information` menu.
3. Select `Configuration` with the **Enter** button.
4. Press the **Enter** button once more to execute the `Configuration` menu.
5. When the Configuration map is printed, press **On Line** to exit the menu system.

On the first page of the Network Information that is printed out, under the heading "General Information" the MAC Address is given. For example:

```
MAC ADDRESS 00808784E3F1
```

The Ethernet address is therefore: 00:80:87:84:E3:F1

CONFIGURATION UTILITIES

You can configure the network interface (NIC) by using one of the following methods:

UTILITY	FEATURES	SYSTEM REQUIREMENTS
Network Card Setup	Configure the NIC easily and simply without installing any software packages into your system. You can set the following: > Set IP address, Subnet Mask and Gateway for TCP/IP manually or by using DHCP.	Windows: Windows 10 32-bit Windows 10 64-bit Windows Server 2012 R2 Windows 8.1 32-bit Windows 8.1 64-bit Windows Server 2012 Windows 8 32-bit Windows 8 64-bit Windows Server 2008 R2 Windows 7 32-bit Windows 7 64-bit Windows Server 2008 Windows Server 2008 x64 Edition Windows Vista 32-bit Windows Vista 64-bit Mac: OS X 10.8.5 - 10.11
Web Browser	Configure the NIC and printer by using a Web browser such as Microsoft Internet Explorer or Mozilla Firefox.	Microsoft Internet Explorer or similar. Operating system that supports Web browser.
Telnet	Configure the NIC using TELNET.	Third-party vendor developed TELNET client package.
SNMP	The machine and network card can be controlled using third-party vendor developed SNMP application.	Third-party vendor developed SNMP application.

USING NETWORK CARD SETUP

You can use Network Card Setup to configure the network.

In order to use Network Card Setup, TCP/IP needs to be activated.

NOTE

Administrator privileges are required.

LAUNCHING THE UTILITY

1. Insert the Software DVD-ROM into your computer.
2. Click **Run Setup.exe**.
If the **User Account Control** dialog box appears, click **Yes**.
3. Select the appropriate language.
4. Read the user license agreement and click on **I Agree**.
5. Select **Network Software**.
6. Click **Network Card Setup**.

CONFIGURING NETWORK SETTINGS

1. Launch Network Card Setup.
2. Select the printer from a list.
3. Select **Setting Printer** from the **Setting** menu.
4. Change the items required and click on **OK**.
5. Enter your password into **Enter Admin password** and click on **OK**.
 - > The default password is the last 6 alphanumerical digits of the Ethernet address.
 - > The password is case sensitive.
6. Click **OK** on the confirmation window.

The new settings are enabled when the printer restarts. During the restart, the printer status icon changes to red. The printer will restart, the new settings will become active, and the status icon will turn green.

CONFIGURING WEB SETTINGS

You can launch the web page to configure the printer's network setting.

Enabling Web Settings

1. Launch Network Card Setup.
2. Select the printer from the list.
3. Select **Setting Printer** from the **Setting** menu.
4. Select the **Printer Web Page** tab.
5. Select **Printer Web Page - Enable** and click on **OK**.
6. Enter your password into **Enter Admin password** and click on **OK**.
 - > The default password is the last 6 alphanumerical digits of the ethernet address.
 - > The password is case sensitive.
7. Click **OK** on the confirmation window.

The new settings are enabled when the printer restarts. During the restart, the printer status icon changes to red. The printer network card will restart, the new settings will be active, and the status icon will turn green.

Opening the Web Page

1. Launch Network Card Setup.
2. Select your printer from the list.
3. Select **View Web Page** from the **Setting** menu.

The web page will start, and the printer status page will be displayed.

CHANGING THE PASSWORD

1. Launch Network Card Setup.
2. Select your printer from the list.
3. Select **Change Password** from the **Setting** menu.
4. Enter the current password.
 - > The default password is the last 6 alphanumerical digits of the ethernet address.
 - > The password is case sensitive.
5. Enter the new password, and reenter it for confirmation.
The password is case sensitive.
6. Click **OK** on the confirmation window.

CHANGING THE ENVIRONMENT

You can configure the printer search conditions, time-out value for each setting, and items to be displayed on the list.

1. Launch Network Card Setup.
2. Select your printer from the list.
3. Select **Environment Settings** from the **Option** menu.
4. Configure the settings required and click **OK**.

USING A WEB BROWSER

If the printer is connected to the network using TCP/IP, its settings and the printer menu settings can be configured using a Web browser. Refer to the relevant manuals for details of how to launch and use the browser.

MICROSOFT INTERNET EXPLORER

1. Select **Internet Options** in the **Tools** menu.
2. Click on the **General** tab and click **Settings** in **Temporary Internet files**.
3. Select **Every visit to the page** in **Check for newer versions of stored pages**.

DEFAULT USER NAME AND PASSWORD

To apply configuration changes using a Web browser, you will be prompted for a username and password. The username is **admin** and the default password is **aaaaaa**.

The admin password can be changed to allow you to configure the printer by using a Web browser/TELNET. To change the password, select **Password Configuration** in the Maintenance tab and follow the on-screen instructions.

ADJUSTING PRINTER SETTINGS

The network addresses used in this manual are shown as examples only. Network addresses used in your installation must be generated from your own network.

1. Configure the IP Address, Subnet Mask and Gateway for the network card. Launch the Web browser, enter the IP Address of the network interface card in **Address (Location/Position)** and press the **Enter** key.
2. Select a tab and items to be changed in the left frame. You need to log in as **admin** to be able to configure all items. Non-admin users cannot configure all items.

USING TELNET

CAUTION!

Please ensure a valid IP address for your network environment is used. Use of an incorrect IP address can cause serious problems on your network.

EXAMPLE TELNET CONFIGURATION

TELNET requires the print server to have a valid IP address configured. If the NIC already has an IP address configured, skip steps 1 to 3 below.

NOTE

The method of configuring commands may differ between workstations. Refer to the workstation's manual.

1. Use the PING command to confirm the connection with the network card.

Example

For IP address 172.168.20.127:

```
ping 172.168.20.127
```

If there is no reply, there is a problem with the configuration of the IP address (the IP address has been already set manually or by the DHCP/RARP server), or with the network. Reset the network interface card settings to the default and try to set a temporary IP address. If you still have the problem after resetting the network interface card, consult the network manager.

2. Login to the network card using TELNET.

Example

For IP address 172.168.20.127

```
telnet 172.168.20.127
```

You should see a sequence similar to the following example:

```
Trying 172.168.20.127
Connected to 172.168.20.127
Escape character is '^]'.
EthernetBoard 8450e TELNET server (Ver 01.01).
login: admin
'admin' user needs password to login.
password:
User 'admin' logged in.
No. MENU (level.1)
-----
 1:Status / Information
 2:Device Config
 3:Network Config
 4:Security Config
 5:Maintenance
99:Exit setup
Please select (1-99)?
```

3. Enter the number of the item to be changed.
The details window for that item displays.

4. When the configuration is complete, select **Exit Setup** to save your change. To exit without saving your modification, select **Quit**.
5. Turn the machine off and on again.

NOTE

The network card continues to use pre-transmission settings until the machine is turned off and back on again.

USING SNMP

NOTE

Not all utilities, features or protocols are supported by every product. Please check with your support website for latest information.

The machine and network card can be managed via a standard SNMP management station. The network card supports SNMPv1, MIB-II, Oki Data Private MIB and SNMP V3. In order for the machine to be managed correctly from an SNMP management station, the Oki Data Private MIB needs to be added to that management station. Please refer to the SNMP manager documentation for information on how to do this.

NOTE

The Oki Data Private MIB file can be found in the \Misc\ASN folder on the DVD-ROM or support website. Please refer to the readme file for further information.

The printer's trap address can be set in five places using TCP/IP and in one place with IPX. Printer trap settings can be made with TELNET and a Web browser.

PRINTING UTILITY — OKI LPR

NOTE

Not all utilities, features or protocols are supported by every product. Please check with your support website for latest information.

The Oki LPR Utility is a utility that allows printing data to printers connected to the network via TCP/IP.

The utility is for those Oki printers which support TCP/IP and redirects printing data to the lpr port of the specified IP address.

It is an alternative method of connecting printers instead of using the Microsoft TCP/IP port.

SYSTEM REQUIREMENTS

Operating Systems with TCP/IP support and Oki printers that support TCP/IP.

INSTALLING THE OKI LPR UTILITY

NOTE

Some Operating Systems require administrator privileges in order to make changes.

1. Set up the printer driver by designating the output destination to Local Printer (LPT1:). For information on setting up your printer driver, see the Printing Guide.
2. Insert the DVD-ROM into the DVD-ROM drive. The Setup Utility starts automatically. If it does not start, double-click **setup.exe** on the DVD-ROM.
3. Select **Network Software**.
4. Select **Install LPR**.
5. Follow the on-screen instructions.
6. Click **Next** when the **Welcome** screen is displayed.
7. Verify **Destination Folder** and **Spool Folder** and click **Next**.
8. Check **Register in Startup** if you want automatic startup as Windows boots up. Check **Launch as minimized** if you want to startup in the Icon state and click **Next**.
9. Verify the program folder name and click **Next**. The installation starts.
10. When the installation ends, the **Setup complete** screen is displayed. Check **Yes, I want to launch Oki LPR Utility now** and click **Finish**. Check **Yes, I want to view the ReadMe File** if you want to read **Readme**. The OkiLPR utility will start.
11. You may be asked whether it is OK to change write permissions for the spool directory. Click **Yes** to allow the utility to be correctly installed.
12. Select **Add Printer** on the **Remote Print** menu.
13. Click **Discover...** to search for the IP address of a suitable printer on your network.
14. Highlight the printer you will use and click **OK**.
15. If your printer is not discovered, click **Cancel** and you can type the IP address directly at **IP Address:**.
16. Enter an IP address at **IP Address** and click **OK**. A printer is added to the main window.

Refer to the On-line Help for information on how to use the utility.

UNINSTALLATION

1. Stop the OkiLPR Utility.
2. Select **Start > All Programs > Okidata > OkiLPR Utility > Uninstall OkiLPR Utility**.
3. Click **Yes** when the Confirm File Deletion dialogue is displayed. Deletion of the OkiLPR utility starts.
4. When the deletion has finished, the Uninstall Complete screen is displayed. Click **OK**.

If a file that has been added after installation exists in the folder to install the OkiLPR utility or the folder to spool, you cannot delete the folder. Delete any unwanted files before running Uninstall OkiLPR Utility.

MICROSOFT WINDOWS

OVERVIEW

This chapter provides guidelines on how to print over the network from various Microsoft Windows platforms. There are numerous ways of printing from Windows and the exact set-up will vary depending upon your environment. There are also numerous versions of Windows, which can be configured as either a client, server or both.

Although there are many variants of Windows, the principles of network printing are the same. Microsoft provides on-line help with all of their operating systems and this is a good reference point for the exact details of each configuration option within Windows.

NOTE

Not all utilities, features or protocols are supported by every operating system. Please check with your support website for latest information.

INSTALLING A NETWORK PRINTER

There are two ways to set up a Network Printer:

- > Install automatically, using the *Oki Driver Installer*
- > Install it yourself using the *Add Printer Wizard*

USING THE OKI DRIVER INSTALLER

The Oki Driver Installer program searches for compatible printers on the Network, then installs and configures the printer drivers with the correct port settings automatically.

Using the Oki Driver Installer program, you can install to the following connected printer types:

1. Locally connected printers

- > USB port

2. Networked printers

- > Directly connected (peer-to-peer) printers via TCP/IP

The Microsoft standard TCP/IP is installed and configured to use Port 9100 with the printer's IP address.

- > Printers not directly connected, but shared via a PC (Client Server)

Why use the Oki Driver Installer?

- > Automatically discovers printers on the Network (TCP/IP)
- > Installs driver and correctly assigns the appropriate port and IP address
- > Allows easy configuration and sharing of the printer with other Network users
- > Automatically configures the printer driver with the appropriate hardware device options such as a storage device, additional paper trays, etc. (via the Oki Network Extension software)

USING THE ADD PRINTER WIZARD

About the different methods

Windows standard TCP/IP port

The standard TCP/IP port simplifies connecting to remote printers using the TCP/IP protocol. A computer that acts as a print server must run the TCP/IP protocol in order to print.

Can be configured to use either LPR or RAW (e.g. Port9100).

OkilPR

Used to connect your printer over TCP/IP using an LPR port.

OkilPR also includes useful tools enabling you to download PS and PRN files directly to your printer and automatically redirect jobs to other printers on the network.

IPP

The IPP (Internet Printing Protocol) defines a standard protocol for printing as well as managing print jobs, media, resolution, etc.

MAC OS X

OVERVIEW

This section of the guide is for administrators and it should be read in conjunction with the relevant Mac OS X manual. Please ensure your Mac has the latest OS X updates installed.

To get the best results from your printer, install the Postscript Printer Description (PPD) file supplied with your printer and use this to customise the Apple PostScript driver that is built in to the OS X. Features provided by the PPD file include:

- > Supported paper types
- > Paper trays
- > Printer resolution
- > Printer color matching

NOTE

The PPD file must be installed using the Oki Driver Installer to ensure that all essential files are copied.

SETTING UP A NETWORK PRINTER

1. If the printer does not already have an IP address, use the Printer Setup Utility to assign an IP address.

To do this, you will need to know the printer's MAC address. This can be found on the print server's network summary printout. See ["Configuration settings" on page 6](#).

2. Install the printer driver software. This copies the printer driver files to the correct location on your Mac OS X system.
3. Make a connection to the printer by USB, TCP/IP. See ["Connecting to your printer" on page 19](#).
4. If required, enable hardware device options such as additional paper trays or a storage device.

USING NETWORK CARD SETUP

You can use the Network Card Setup to configure the network.

In order to use Network Card Setup, TCP/IP needs to be activated.

NOTE

Configure the TCP/IP settings.

LAUNCHING THE UTILITY

1. Insert the Software DVD-ROM into your computer.
2. Double click on the **OKI > Utilities** folder.
3. Copy the folder you want to install by dragging and dropping to the folder you want.

MEMO

To launch, double click on the utility icon within the folder.

CONFIGURING THE IP ADDRESS

1. Launch Network Card Setup.
2. Select the printer.
3. Select **IP Address...** from the **Printer** menu.
4. Configure the settings if necessary and click **Save**.
5. Enter the password and click on **OK**.
 - > The default password is the last 6 alphanumerical digits of the Mac address.
 - > The password is case sensitive.
6. Click on **OK** to activate the new settings.
Restart the printer network card.

CONFIGURING WEB SETTINGS

You can launch the web page, and configure the printer network settings.

Enabling Web Settings

1. Select **Web Page Settings...** from the **Printer** menu.
2. Select **Enable** and click on **Set**.
3. Enter your password into **Enter Password** and click on **OK**.
 - > The default password is the last 6 alphanumerical digits of the Mac address.
 - > The password is case sensitive.
4. Click **OK** on the confirmation window.

Opening a Web page

1. Launch Network Card Setup.
2. Select the printer.
3. Select **View Web Page** from the **Printer** menu.
The web page will start, and the printer status page will be displayed.

QUITTING NETWORK CARD SETUP

1. Select **Exit** from the **File** menu.

CONNECTING TO YOUR PRINTER

If you have not already done so, run the Oki software installer before following the steps below.

MAC OSX

USB

1. Choose **Apple Menu > System Preferences > Print & Fax.**
2. If the printer is already in the list of printers, click "-" to remove it.

NOTE

This is necessary as Leopard may not be using the correct printer driver files.

3. Click "+" to add a new printer.
4. Ensure the Default tab is selected and select your printer from the list.
 - > Your printer is displayed as type **USB** in the list of available printers.
 - > Ensure that the **Print Using:** selection matches your printer. If **Generic PostScript Printer** is displayed, select a driver that matches.
5. Click **Add.**
6. Click **Configure...** and ensure the hardware options displayed match your printer.

NOTE

Hardware options are not configured automatically.

The printer is added to the list of printers.

7. Restart your computer.

Bonjour

1. Choose **Apple Menu > System Preferences > Print & Fax.**
2. Click "+".
3. Select your printer model from the Default Browser.
4. Click **Add....**
5. Depending on the connection type, you may be prompted to configure any additional printer hardware options. If your printer has options such as a storage device or second tray, switch on the relevant options.

TCP/IP Connection

1. Choose **Apple Menu > System Preferences > Print & Fax.**
2. Click "+".
3. Click the **IP Printer** button.
4. From the Protocol menu, choose **Line Printer Daemon – LPD.**
5. Enter the printer's IP address in **Address.**
To find the printer's IP address, you can print a configuration page from the printer's operator panel. Refer to "[Configuration settings](#)" on page 6.
6. Check the correct PPD file for your printer is selected in the Print Using menu.
7. Click **Add.**
8. You will be prompted to configure any additional printer hardware options. If your printer has options such as a storage device or second tray, switch on the relevant options.

TROUBLESHOOTING

The network addresses used in this manual are shown for example only. Network addresses used in your installation must be generated from your own network.

TCP/IP

COMPUTER CANNOT FIND THE NETWORK INTERFACE CARD

Turn the printer off for 15 seconds and then on again.

Confirm the network interface is enabled on the printer.

Check there is a response to the PING command.

Check that the network cable is correctly connected and that the green LED close to the printer's network interface is lit. If not, change the cable and try again.

Run the self-diagnostic test.

Check the IP Address, Subnet Mask and Gateway are correct.

Check that the TCP/IP protocol is set to Enable.

Reset the network interface card to factory default settings.

If DHCP, BOOTP and RARP are not used, ensure they have been set to Disable.

CANNOT PRINT WITH LPR AND FTP

Turn the printer off for 15 seconds and then on again.

Check there is a response to the *ping* command.

Check the network cable is correctly connected.

Change the cable and try again.

Check the host name and IP address are configured in the workstation.

Check the printer port name is configured in the workstation.

There are three port names: *lp*, *euc* and *sjis*. Use *lp* by default as *euc* and *sjis* are specific to PostScript printers.

INCORRECT USER NAME ON THE BANNER PAGE

If printing with *lpr*, the user name printed is unknown and the filename printed is the Spool file name.

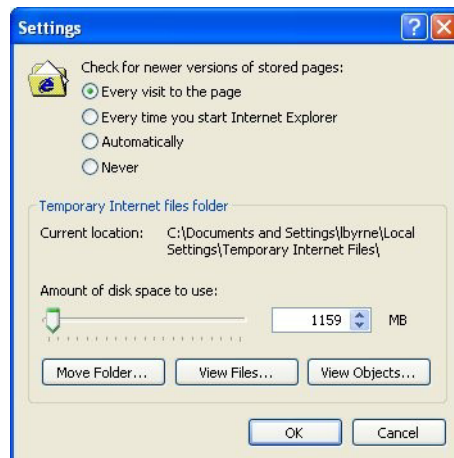
If printing with FTP, the user name printed is the user name entered during FTP login and the file name printed is the transmitted file name. If the print directory name is indicated in the put command, the file name is not printed. The printer name printed is the logical directory name.

WEB BROWSER

To prevent your web browser caching the printer web pages, carry out the following steps as appropriate for your web browser.

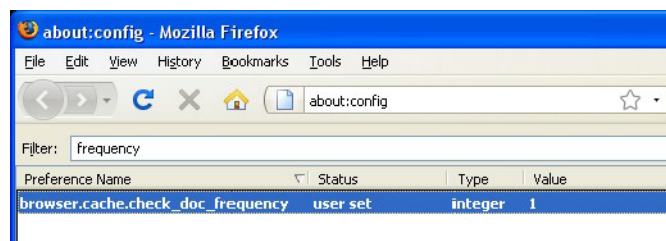
MICROSOFT INTERNET EXPLORER

1. Select **Tools > Internet Options**.
2. Select the General tab and, in **Temporary Internet files**, click **Settings**.
3. Under **Check for newer versions of stored pages**, select **Every visit to the page**.
4. Click **OK**.



MOZILLA FIREFOX

1. In the Firefox address bar, type **about:config**.
2. In the Filter field, type **frequency**.
3. Double click on the entry **browser.cache.check_doc_frequency**.
4. Change the Value to **1**.
 - > 0: Check once per browser session
 - > 1: Check every time I view the page
 - > 2: Never check (always use cached page)
 - > 3 (default): Check when the page is out of date (automatically determined)
5. Click **OK**.



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