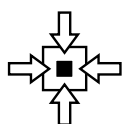# MC851/MC861

**OKI**

## Network Guide

COLOR/MONO    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.okiprintingsolutions.com**

# CONTENTS

# 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 and producing self-diagnostic test and configuration printouts 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 Print Setup menu to Auto or PS before printing the self-diagnostic test and settings.

> *NOTE*
> *Not all utilities, features or protocols are supported by every operating system. Please check with your User's Guide and support website for latest information.*

## SPECIFICATION

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*NOTE*
*Not all utilities, features or protocols are supported by every operating system. Please check with your User's Guide and support website for latest information.*

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

## SELF-DIAGNOSTIC TEST

With the machine power switched on, press the push-button located on the network interface panel (at the rear of the machine) for more than three seconds and release. The self-diagnostic test results and configuration settings are printed.

On the first page of the Network Information that is printed out, under the heading "General Information" the MAC or Ethernet 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 |
|---|---|---|
| Quick Setup | Configure the NIC easily and simply without installing any software packages into your system. You can set the following:<br>> Enable/disable TCP/IP, NetWare, EtherTalk, NetBEUI protocols.<br>> Set IP address, Subnet Mask and Gateway for TCP/IP manually or by using DHCP.<br>> Set NetWare Mode and create Queue/Print Server/Printer objects.<br>> Zone name and Port name for EtherTalk. | **Windows:**<br>Windows 2000 Server/Professional<br>Windows XP Home/Professional<br>Windows XP Professional x64 Edition<br>Windows Server 2003<br>Windows Server 2003 x64 Edition<br>Windows Server 2008<br>Windows Server 2008 x64 Edition<br>Windows Vista 32-bit<br>Windows Vista 64-bit<br>Windows 7<br>Windows 7 x64 Edition<br>Windows Server 2008 R2<br>**Mac:**<br>Mac OS X 10.3.0 or greater<br>You need to install Rosetta if using Mac OS X 10.6 |
| Admin Manager | Configure the NIC in detail. | |
| 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. |
| Telnet | Configure the NIC using TELNET. | Third-party vendor developed TELNET client package.<br><br>A TELNET Application is standard in Windows/UNIX/Linux. |
| SNMP | The printer and network card can be controlled using third-party vendor developed SNMP application. | Third-party vendor developed SNMP application. |

## USING QUICK SETUP

Quick Setup utility allows you to configure the network interface easily and simply without installing any software packages.

You can configure the following:

> Enable/disable TCP/IP, NetWare, EtherTalk, NetBEUI protocols.

> Set IP address, Subnet Mask and Gateway for TCP/IP manually or by using DHCP.

> Set NetWare mode and create Queue/Print Server/Printer objects.

> Zone name and Port name for EtherTalk.

Configuration requires a PC with a supported Windows Operating System. Refer to the table above for system requirements.

This utility can only be used on a PC that can be connected to the network with TCP/IP or IPX/SPX (NetWare).

This utility must be used on a PC that is located on the same segment as the printer.

1.  Insert the DVD-ROM into the DVD-ROM drive. The Setup Utility starts automatically. If it does not start, double-click **\setup.exe** (in the root directory) on the DVD-ROM.

2.  Select the appropriate language.

**3.** Select your printer model.

**4.** If you agree to the Software Licence Agreement, click **I Agree**.

**5.** Select **Device Configuration**.

**6.** Select **Run Network Card Setup**.



**7.** Select your language.

**8.** Select **Oki Device Quick Setup** and follow the on-screen instructions.



**9.** When the settings are correct, click **Execute**. The new settings are transmitted to the network card but it still operates with pre-transmission settings.

**10.** Click **Finish** to validate the new settings.

**11.** Switch the printer off for 15 seconds and on again.

# USING ADMINMANAGER

---

*NOTE*
*Not all utilities, features or protocols are supported by every operating system. Please check with your User's Guide and support website for latest information.*

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AdminManager is a powerful Microsoft Windows-based utility to configure all network interface functions easily and intuitively via a graphical user interface.

Configuration requires a PC with a supported Windows Operating System. Refer to *"Configuration utilities" on page 8* for system requirements.

This utility can only be used on a PC that can be connected to the network with TCP/IP or IPX/SPX (Netware) and must be used on a PC that is located on the same segment as the printer.

## INSTALLATION

1.  Insert the DVD-ROM into the DVD-ROM drive. The Setup Utility starts automatically. If it does not start, double-click **\autorun.exe** (in the root directory) on the DVD-ROM.

2.  Select the appropriate language.

3.  Select your printer model.

4.  If you agree to the Software Licence Agreement, click **I Agree**.

5.  Select **Device Configuration**.

6.  Select **Run Network Card Setup**.
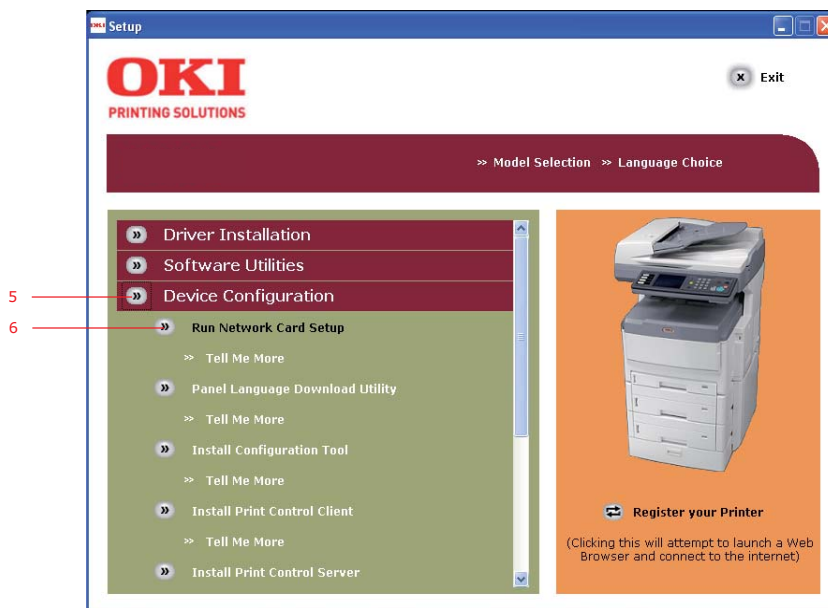


7.  Select your language.

**8.** Select **Oki Device Standard Setup**.
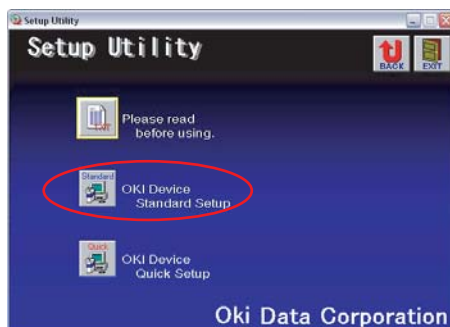


**9.** If you want to install AdminManager on to your local drive, select **Install and Execute**. Otherwise, select **Execute from CD-ROM**. Follow the on-screen instructions.



**10.** To run AdminManager, check **Yes** for **Do you wish to execute AdminManager?** and click **Finish**. Otherwise check **No** and click **Finish**.

INTERFACE

Select **Start > Programs > OkiData > Admin Manager**.
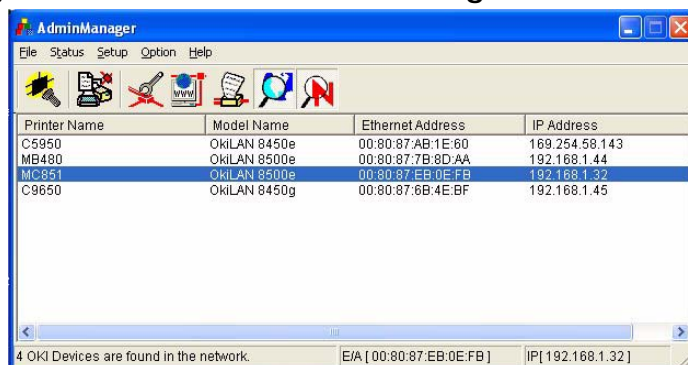


| MENU | ITEM | FUNCTION |
|------|------|----------|
| File | Search | Search printers in your network and list all printers. |
|      | Exit | Exit the Admin Manager Utility. |

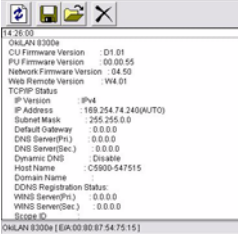| MENU | ITEM | FUNCTION | |
|------|------|----------|---|
| Status | System Status | Displays current NIC configuration. Configuration data can be saved as log file. |  |
| | List of Configuration Items | Displays current NIC configuration. Configuration data can be saved as log file. |  |
| Setup | Oki Device Setup | Configure the network interface (NIC). | |
| | Setup by HTTP | Launch the default browser in your environment to access the selected printer's web page. | |
| | Setup by TELNET | Launch TELNET application in your environment to access the selected printer's TELNET port. | |
| | Create NetWare Queue | Create a NetWare queue. *Note: Only visible when using Netware.* | |
| | Delete NetWare Object | Delete NetWare object. *Note: Only visible when using Netware.* | |
| | Reset | Reset the selected network interface card. | |
| | Test Print | Print self-diagnostic test pages. | |
| | IP Address Setup | Set static IP address of network interface card manually. | |
| Option | Use TCP/IP Protocol | Enable TCP/IP protocol. | |
| | USe IPX/SPX Protocol | Enable IPX/SPX protocol. | |
| | Environment Setup | Set the Environment settings. | |
| Help | About | Displays version of Admin Manager. | |

## DEVICE SETUP

> NOTE
> *Not all utilities, features or protocols are supported by every product. Please check with your User's Guide and support website for latest information.*

Device Setup allows you to configure the network interface. Type the root password (default value is the last 6 characters of the MAC address) to configure. Remember that the root password is case sensitive. If the MAC address contains any alpha characters, type them as upper case. Device Setup contains details for the following tabs:

| | | | |
|---|---|---|---|
| > | General | > | E-Mail(Receive) |
| > | TCP/IP | > | SNTP |
| > | NetWare | > | Maintenance |
| > | EtherTalk | > | SSL/TLS |
| > | NetBEUI/NetBIOS | > | IEEE 802.1X |
| > | SNMP | > | LDAP |
| > | E-Mail(Send) | > | Kerberos |

The following section explains each tab's functionality.

### General Tab
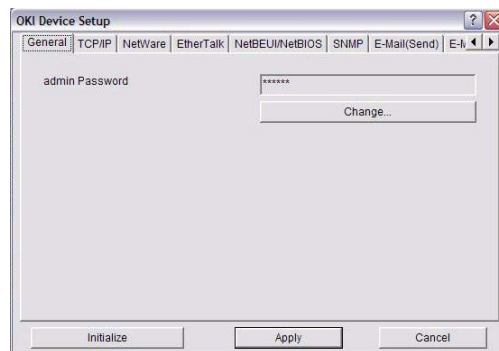


This allows you to set or change the root password used for Admin Manager, TELNET and FTP.
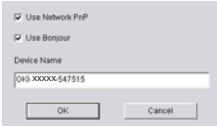


| ITEM | EXPLANATION |
|---|---|
| Change root password | You can set/change the root password for AdminManager, TELNET and FTP. |

**TCP/IP Tab**
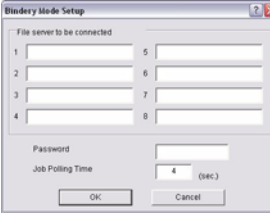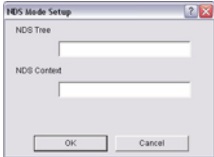


This allows you to configure TCP/IP related items.

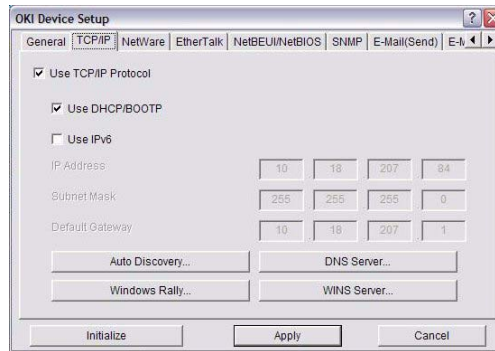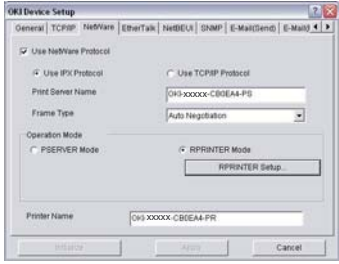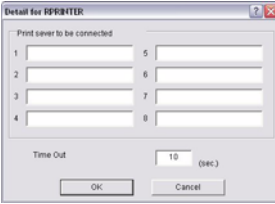| ITEM | EXPLANATION | |
|------|-------------|---|
| Use TCP/IP Protocol | Set TCP/IP protocol as enabled/disabled. | |
| | Use DHCP/BOOTP | Check this item if IP address, subnet mask, default gateway and IP addresses for DNS primary server and secondary servers are retrieved from the DHCP or BOOTP server. Otherwise, leave unchecked. |
| | Use IPv6 | Enables IPv6. |
| | IP Address | Set the IP address of the selected network interface card. |
| | Subnet Mask | Set the subnet mask of the selected network interface card. |
| | Default Gateway | Set the default gateway of the selected network interface card. |
| Auto Discovery | Configure items related to Network PnP<br><br>Use to select Network PnP and Bonjour, and to set device name. |  |
| DNS Server... | Set IP addresses for DNS primary and secondary servers. |  |
| Windows Rally... | Use WSD Print<br>Use LLTD<br>check to enable/disable. |  |
| WINS Server... | Set IP addresses for WINS primary and secondary servers and to enter scope ID. |  |

**NetWare Tab**



This is where you can configure NetWare related items.

| ITEM | EXPLANATION | |
|------|-------------|---|
| Use NetWare Protocol | Set NetWare protocol as enabled/disabled. | |
| Use IPX Protocol / Use TCP/IP Protocol | Set protocol to use. | |
| Print Server Name | Set Print Server name. | |
| Frame Type | Set primary NetWare frame type. | |
| Operation Mode | Set NetWare mode. | |
| Check box beside Bindery Setup | Check if you want to use the Bindery mode and Bindery Setup button becomes available. If it is unchecked, the button is greyed out. | |
| Bindery Setup | Configure items related to Bindery mode. In this dialogue box, the following items can be configured: |  |
| | Password | Set password for Print Server. |
| | Job Polling Time | Set print job polling interval in seconds. |
| NDS Setup | Set NDS tree and context where Print Server was created. |  |

| ITEM | EXPLANATION | |
|---|---|---|
| RPRINTER Setup | Available if you select RPRINTER mode in Operation Mode. |  |
| | By selecting the RPRINTER button, this is displayed:<br><br>Here you can specify print servers to which the printer can be connected. |  |
| | Time Out | Set duration from the last data's arrival to freeing of the port in seconds. |
| Printer Name | Set the NetWare printer object name. | |
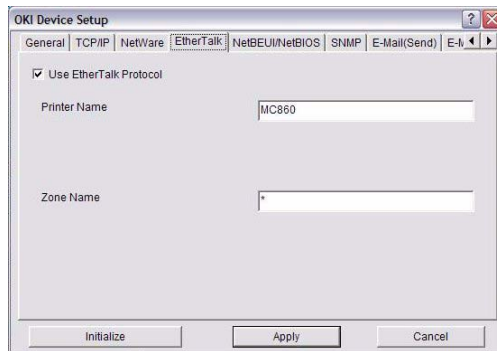
**EtherTalk Tab**



This allows you to configure EtherTalk related items.

| ITEM | EXPLANATION |
|---|---|
| Use EtherTalk Protocol | Set EtherTalk protocol to enabled/disabled. |
| Printer Name | Set EtherTalk Printer object name. |
| Zone Name | Set the zone name to which the printer belongs. |

**NetBEUI/NetBIOS Tab**
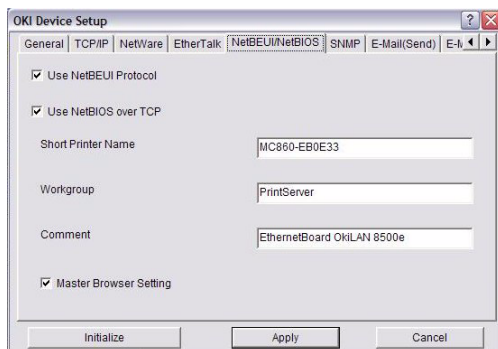


This allows you to configure NetBEUI/NetBIOS related items.

| ITEM | EXPLANATION |
|------|-------------|
| Use NetBEUI Protocol | Set NetBEUI protocol to enabled/disabled. |
| Use NetBIOS over TCP | Set NetBIOS over TCP to enabled/disabled. |
| Short Printer Name | Set a name for the printer. |
| Workgroup | Set a work group name to which the printer belongs. |
| Comment | Set the comments for the printer (optional). |
| Master Browsing Setting | Check to enable the Master Browser setting. |

**SNMP Tab**
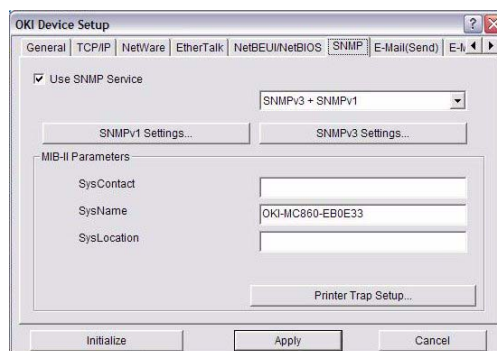


This allows you to configure SNMP related items.

| ITEM | EXPLANATION | |
|------|-------------|---|
| Use SNMP Service | ENABLE or DISABLE the SNMP protocol. | |
| SNMPv3 + SNMPv1 | Select from the drop-down box which (or both) of these to use. | |
| SNMPv1 Settings | SNMP Read & Write Community. | Enables these passwords to be changed. |
| SNMPv3 Settings | Enables Authorisation and Privacy (Encryption) setup to be done. | |

| ITEM | EXPLANATION | |
|---|---|---|
| MIB-II Parameters | | |
| SysContact | Set SysContact (printer manager) name. | |
| SysName | Set SysName (printer model name). | |
| SysLocation | Set SysLocation (the location where the printer is installed). | |
| Printer Trap Setup... | By selecting the button, the following dialogue box is displayed:<br><br>In the dialogue box, the following items can be configured: |  |
| | Printer Trap Community Name | This community name is assigned to outgoing printer status traps such as off-line, paper out, etc. |
| | TCP#1–5 | Set the IP addresses to which a Trap packet will be sent. You can set up to five IP addresses, with the following details:<br>Printer Reboot<br>Receive Illegal<br>Online<br>Offline<br>Paper Out<br>Paper Jam<br>Cover Open<br>Printer Error |
| | IPX | Set node address and network address to which a Trap packet will be sent.<br><br>By selecting the button, the following dialogue box is displayed:<br><br>In the dialogue box, the following items can be configured:<br>Online<br>Offline<br>Paper Out<br>Paper Jam<br>Cover Open<br>Printer Error |

**E-Mail (Send) Tab**
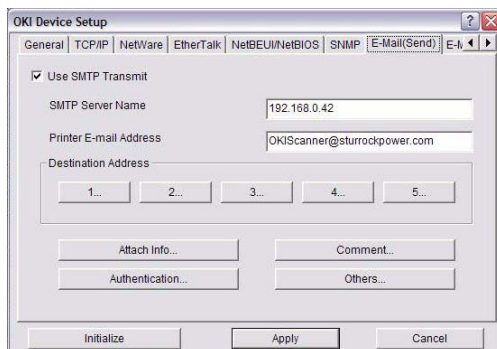


This allows you to configure SMTP related items.

| ITEM | EXPLANATION | |
|---|---|---|
| Use SMTP Transmit | Check to enable SMTP. | |
| SMTP Server Name | Enter name of the SMTP server. | |
| Printer E-Mail Address | Enter the printers e-mail address. | |
| Destination Address 1 - 5 | Set the following parameters: | |
| | Destination Address | Set E-Mail address to which email should be sent. |
| | Notify Mode | Select PERIOD or EVENT. |
| When PERIOD is selected: | | |
| Check time | | Used to set the interval at which the selected events are checked. An e-mail will be sent at the specified interval for each event selected. |
| Period mode | | Set ENABLE/DISABLE for the events listed. |
| When EVENT is selected: | | |
| | Event Mode | Select: ENABLE (ON), DISABLE (OFF) or IMMEDIATE (NOWAIT) for the listed events. If ENABLE (ON) is selected, the check interval can be set (in hours and intervals of 15 mins). |
| Attach Info… | Select whichever information is to be included in the e-mail. | |
| Comment… | Set up to four lines of text to be included with the e-mail as comments. | |

| ITEM | EXPLANATION | |
|---|---|---|
| Authentication... | Used to set the following security information: | |
| | SMTP Encryption Algorithm | Select required option from the drop-down menu. Select from: None, SMTPS, STARTTLS |
| | SMTP Authentication Method | Select required option from the drop-down menu. Select from: None, SMTP, POP |
| | User ID | Set the User ID for Authentication. |
| | User Password | Set the User Password for Authentication. |
| Others... | Set the following: | |
| | SMTP Port Number | Set the SMTP port number (default is 25). |
| | Reply to address | Set the E-mail address used for the [Reply to] field in the mail header. |

**E-mail (Receive) Tab**
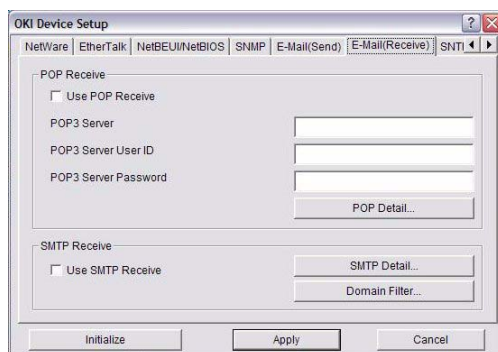


Your machine supports an e-mail reception function (SMTP/POP3) allowing the printer to print PDF files attached to e-mails.

| ITEM | COMMENTS | |
|---|---|---|
| Use POP Receive | Enable/disable receiving E-Mail via POP3. | |
| POP3 Server | Set the IP address or host name of the POP3 server. | |
| POP3 Server UserID | Set User ID for POP3 server. | |
| POP3 Server Password | Set a password for the POP3 server. | |
| POP Detail... | Set the following: | |
| | Use APOP | Select if you want to use APOP. |
| | POP3 Port Number | Set the port number for APOP (default is 110). |
| | Mail Polling Time | Set interval to retrieve E-Mail(s) from the POP3 server. Selectable values, OFF, 1min, 5min (default), 10min, 30 min, 60 min. |
| | POP Encryption Algorithm | Select required option from the drop-down menu. Select from: None, POP3S, STARTTLS |
| Use SMTP Receive | Enable/disable SMTP receive. | |

| ITEM | COMMENTS | |
|---|---|---|
| SMTP Detail… | SMTP Receive Port Number | Set port number (default is 25). |
| Domain Filter... | Set the following: | |
| | Use Domain Filter | Enable/disable domain filtering. |
| | Filter Policy | Select ACCEPT (the default) or DENY. |
| | Domain Filter | Define up to five domain filters. |

**SNTP Tab**
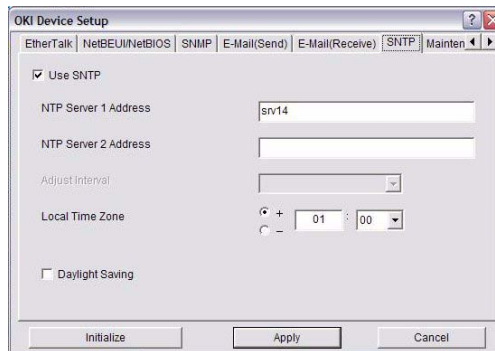


In this Tab, you can configure SNTP related items.

| ITEM | COMMENTS |
|---|---|
| Use SNTP | Enable/disable SNTP (Simple Network Time Protocol). |
| NTP Server 1 Address | Set the IP address or host name for NTP Server 1. |
| NTP Server 2 Address | Set the IP address or host name for NTP Server 2. |
| Adjust Interval | Set the interval for sending time update requests to the server. Select 1 hour (the default), 12 hours or 24 hours. |
| Local Time Zone | Set the local time zone from -12:00 to +13:00. Minute interval is selectable from 00 (the default), 15, 30 or 45. |
| Daylight Saving | When this is selected, one hour is added to the local time. |

## Maintenance Tab



| ITEM | COMMENTS | |
|------|----------|--|
| LAN Scale | Select NORMAL (the default) or SMALL. Note: For small scale networks (with no routing), choose the **SMALL** setting. For more complex networks choose **NORMAL.** | |
| IP Filter Setup... | The following items can be configured: | |
| | Use IP FIlter | Enable/disable IP Filtering. Default is disabled. |
| | Admin IP Address | Set the administrator IP address. |
| | IP Address Range | Set up to 10 IP Filter address ranges: **IP Filter Range 1** through **IP Filter Range 10**. |
| | Printing | Enable/disable printing of the specified IP address range. Default is disabled. |
| | Configuration | Enable/disable changing IP address ranges. Default is disabled. |
| Service... | The following features can be selected by clicking their check box. Use TCP/IP Protocol Use NetBEUI Protocol Use NetBIOS over TCP Use NetWare Protocol Use EtherTalk Protocol Use FTP Service Use Telnet Service Use Web Service Use IPP Service Use SNMP Service Use SMTP Transmit Use POP3 Protocol Use SNTP Use encrypted communication for configuration data | |

## SSL/TLS Tab
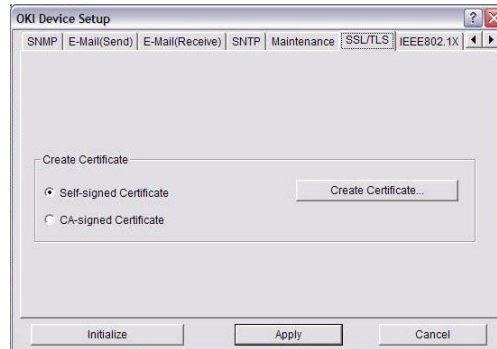


| ITEM | COMMENTS | | |
|---|---|---|---|
| Cipher Level | Set the strength of encryption:<br>Strong = highest security, slowest speed<br>Standard = medium security, medium speed<br>Weak = least security, fastest speed | | |
| Self-signed Certificate | For IPP encryption within an organization's internal network (intranet). | | |
| Create Certificate... | When Self-signed Certificate is selected, the following items are configured: | | |
| | Common Name | The printer's IP Address appears here. | |
| | Organization | Enter the name of your organization. | |
| | Organization Unit | Optional. Allows you to enter a subdivision or department name. | |
| | Locality | Enter the name of the city where the organization is located. | |
| | State/Province | Enter the state or province where the organization is located. | |
| | Country/Region | Enter the country or region where the organization is located. | |
| | Key Exchange Method | Select RSA (the default) or Diffie-Hellman(DSS). | |
| | Key size | Select 512, 1024 (the default), or 2048 bits. | |
| | Term of Validity | Enter a starting and ending date (month/date/year) for which the certificate is valid. | |

| ITEM | COMMENTS | | |
|---|---|---|---|
| CA-signed Certificate... | Used for web encryption to provide security when printing over the internet. Requires an outside certification service which must be purchased separately. | | |
| Create Certificate... | When CA-signed Certificate is selected, the following items are configured: | | |
| | Common Name | The printer's IP Address appears here. | |
| | Organization | Enter the name of your organization. | |
| | Organization Unit | Optional. Allows you to enter a subdivision or department name. | |
| | Locality | Enter the name of the city where the organization is located. | |
| | State/Province | Enter the state or province where the organization is located. | |
| | Country/Region | Enter the country or region where the organization is located. | |
| | Key Exchange Method | Select RSA (the default) or Diffie-Hellman(DSS). | |
| | Key size | Select 1024 (the default) or 2048 bits. | |

**IEEE802.1X Tab**
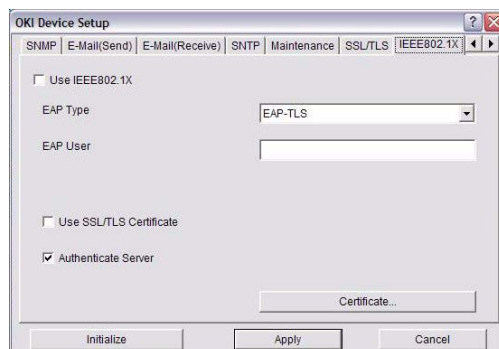


| ITEM | COMMENTS | | |
|------|----------|---|---|
| Use IEEE802.1X | Enable/disable. | | |
| EAP Type | The following Extensible Authentication Protocols can be configured: | | |
| | EAP-TLS | Selects Extensible Authentication Protocol - TLS. | |
| | PEAP | Selects Protected Extensible Authentication Protocol. | |
| | EAP User | Enter EAP User name. | |
| | EAP Password | Enter EAP password. | |
| Use SSL/TLS Certificate | Enable SSL/TLS certification. | | |
| Authenticate server | Enable Server Authentication. | | |
| Certificate | Client certificate | File: (User can specify). Password: (User can specify). Options to Import, Delete, View. | |
| | CA certificate | File: (User can specify). Password: (User can specify). Options to Import, Delete, View. | |

**LDAP**



| ITEM | COMMENTS | |
|------|----------|---|
| LDAP Server | Enter LDAP Server name. | |
| LDAP Port Number | Enter LDAP port number (default is 389). | |
| LDAP Timeout | Set LDAP timeout (default is 30). | |
| Maximum Entries | Set maximum entries (default is 100). | |
| Authentication Method | Select authentication method from the drop-down menu. Select from: Anonymous (default), Simple, Digest-MD5, Secure Protocol | |
| Authentication User ID | Enter user ID. | |
| Authentication User Password | Enter user password. | |
| Encryption Algorithm | Select encryption algorithm from the drop-down menu. Select from: None (default), LDAPS, STARTTLS | |
| Search Filter… | Search root | Search root. |
| | Attribute | Name1: cn<br>Name2: sn<br>Name3: givenName<br>Mail Address: mail |
| | Additional Filter | Enter additional detail (optional). |

**Kerberos**
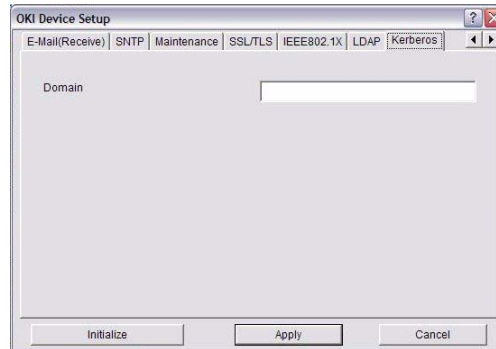


| ITEM | COMMENTS |
|------|----------|
| Domain | Enter Domain. |

## IP ADDRESS SETUP

If you only use TCP/IP and the printer has not yet been configured, occasionally it may not be displayed on AdminManager. You can configure the IP address of the printer by this function.
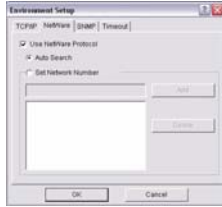
1.    Select **IP Address Setup** from the **Setup** menu.

2.    Set **Ethernet Address** and **IP Address** then select **OK**.
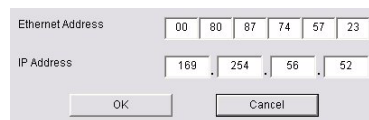


The Ethernet Address (MAC address) is displayed during the self-diagnostic test.

## OPTION MENU

In the **Option** menu, the following item can be selected:

| ITEM | EXPLANATION |
|------|-------------|
| Use TCP/IP Protocol | If this item is selected, AdminManager uses TCP/IP protocol to search/configure network interface cards. |
| Use IPX/SPX Protocol | If this item is selected, AdminManager uses IPX/SPX protocol to search/configure network interface cards. |
| Environment Setup | **TCP/IP Tab** <br><br> Set broadcast addresses that are used to search printers using the TCP/IP protocol. If **Use TCP/IP protocol** is unchecked, the search will not be carried out using TCP/IP. |
| | **NetWare Tab** <br><br> Set network addresses that are used to search printers via NetWare protocol. If there any many NetWare file servers on your network, specify the network address to which the network card belongs. If **Use NetWare protocol** is unchecked, the search will not be carried out using NetWare, but if **Auto Search** is selected, AdminManager will search all networks that AdminManager can detect. |
| | **SNMP Tab** <br><br> Obtain the printer name via SNMP - Select. <br><br> Enter Community name. <br><br> Add and Delete. |
| | **TimeOut Tab** <br><br> **Search Every**: Set response waiting time from a network card in seconds. <br> **Time Out**: Set time out between AdminManager and the network interface card in seconds. <br> **Retry**: Set how many times the retry will be carried out between AdminManager and the network interface card. |

## HELP MENU

In the Help menu, **About** is available and it displays AdminManager version number.

## USING A WEB BROWSER

If you do not wish to launch or install the Network Card Setup utility, you can access the printer's Web Page directly through 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 "Adjusting printer settings" on page 29 and the relevant manuals for details of how to launch and use the browser. Refer also to "Web browser" on page 58 for instructions on how to prevent your browser caching the printer's web 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 *root* and the default password is *aaaaaa*.

> NOTE
> *To apply configuration changes using AdminManager, the username is **root** and the default password is the last six characters of the Ethernet (MAC) address (any alpha characters must be in upper case).*

The root password can be changed to allow you to configure the printer by using a Web browser/TELNET/AdminManager. To change password from the Web browser, select **Admin Setup > Management > Admin Password** and follow 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.** Launch the Web browser and enter the IP Address of the network interface card in Address (Location/Position) and press the Enter key.
The Web Page is displayed.

You can find the IP Address on the Self-Diagnostic Test printout, refer to "Self-diagnostic test" on page 7.

> NOTE
> *On the web page you can view printer status, job lists and links. You can also configure the IP Address, Subnet Mask and Gateway for the network card. However, to configure printer settings, you need to log in as "root" and enter the correct password to be able to configure all items.*

**2.** To access and adjust control settings, such as printer, scanner, fax network, security and maintenance, click the **Administrator Login** button in the left-hand pane.

**3.** Enter the username, *"root"* and password as *aaaaaa*.

**4.** As this is the first time logging into the printer Web Page, the Printer Identification (basic setup) page is launched. You have two options:

> > You can enter the printer location, asset number, administrator name and select "**Do not show this page again**". Click **OK** to save these details. Allow a few seconds for the settings to save and the printer to restart automatically.

> > If you do not wish to enter any details, click **SKIP**.

**5.** The printer's Web Page with full menu options opens up. Browse the menu and update information as appropriate.
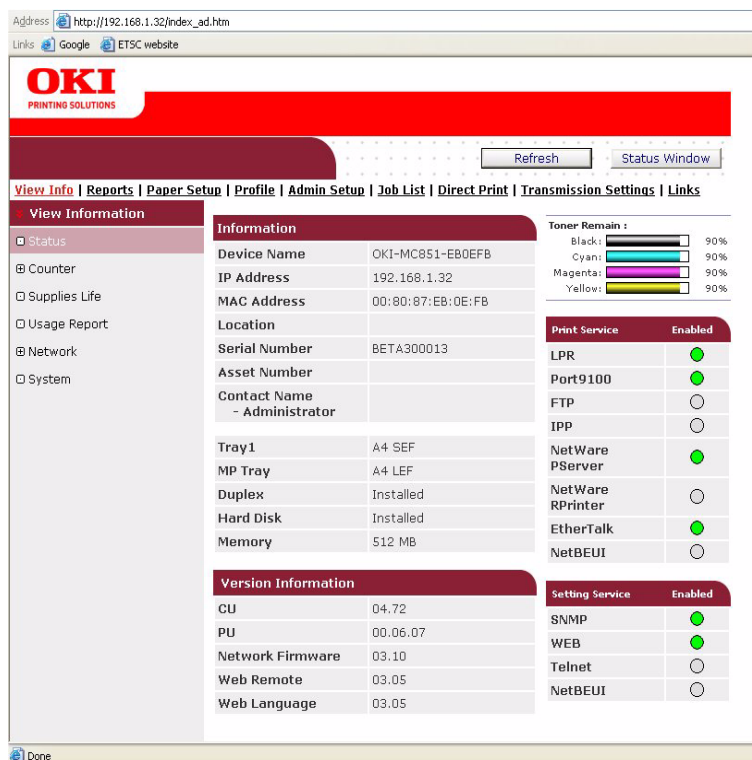


The following table outlines the menu options for the printer Web Page.

| MENU OPTION | | DESCRIPTION |
|---|---|---|
| **View Info** | | |
| | Status | View information relating to your printer status, consumables and network settings. |
| | Counter | |
| | Supplies Life | |
| | Usage Report | |
| | Network | |
| | System | |

| MENU OPTION | | | DESCRIPTION |
|---|---|---|---|
| **Reports** | | | |
| | Configuration | | View and print information and reports. |
| | Information | File List | |
| | | Demo Page | |
| | | Error Log | |
| | | Scan to Log | |
| | | MFP Usage Report | |
| | | Network Information | |
| | Print | PCL Font List | |
| | | PSE Font List | |
| | | PPR Font List | |
| | | FX Font List | |
| | | Color Tuning Pattern | |
| | | Color Profile List | |
| **Paper Setup** | | | |
| | Tray Configuration | | View and adjust tray settings |
| | Select Tray | | |
| **Profile** | | | |
| | Profile | | Create, edit or delete Profile(s). |
| **Admin Setup** | | | |
| | PIN ID | | Change your password and change any admin settings relating to your machine. |

| MENU OPTION | | | DESCRIPTION |
|---|---|---|---|
| **Admin Setup Cont…** | | | |
| | Network | General Network Settings | View and change Network settings and apply access restrictions for your printer network. |
| | | TCP/IP | |
| | | Netware | |
| | | Ethertalk | |
| | | NBT/NetBEUI | |
| | | Email | |
| | | SNMP | |
| | | IPP | |
| | | Windows Rally | |
| | | IEEE802.1X | |
| | | Secure Protocol Server | |
| | | LDAP | |
| | | Mail Server | |
| | | Security | |
| | | Maintenance | |
| | Copy Setup | Default Settings | View and adjust copy settings. |
| | Fax Setup | Default Settings | View and adjust Fax settings. |
| | | Security Function | |
| | | Other Settings | |
| | Scanner Setup | Default Settings | View and adjust scanner settings. |
| | | E-mail Setup | |
| | | USB Memory Setup | |
| | Print Setup | Print Menu | View and adjust Print settings. |
| | | Color Menu | |
| | | Sys Config Menu | |
| | | Emulation | |
| | Management | Local Interface | Reset your printer and restore default settings for your printer and Network Interface Card. |
| | | System Setup | |
| | | Power Save | |
| | | Memory Setup | |
| | | Admin Password | |
| | | Reset Settings | |
| | User Install | User Install | View and adjust settings. |
| | | Time Setup | |

| MENU OPTION | | | DESCRIPTION |
|---|---|---|---|
| **Job Setup** | | | |
| | Job List | | Allows you to manage pending jobs for your printer. |
| **Direct Print** | | | |
| | Web Printing | | View and adjust settings. |
| | Email Printing | Email Printing | |
| | | Receive Settings | |
| | | Send Settings | |
| **Transmission Settings** | | | |
| | Automated Delivery Setup | | View and change Transmission settings. |
| | Transmission Settings | | |
| | Automated Delivery Log | | |
| | Transmission Log | | |
| **Links** | | | |
| | Links | | Add links for easy access to customer support and on-line information. |
| | Edit Links | | |

## USING TELNET

<table>
<tr><td style="background-color:orange">

**CAUTION!**
</td></tr>
<tr><td>

**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.**
</td></tr>
</table>

### 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 '^]'.
myprn TELNET Server (Ver 01.05).
login: root
'root' user needs password to login.
password:
User 'root' 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 printer off and on again.

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

# USING SNMP

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 MIB 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.

# MANAGEMENT UTILITY — PRINTSUPERVISION

PrintSuperVision is a Windows server application designed for managing and monitoring printing devices connected to a network. The core application is server-based and is accessible from any browser enabled device connected to the network.

For full details of how to install and use PrintSuperVision, please refer to the PrintSuperVision Configuration Guide which is available on the support website.

# PRINTING UTILITY — LPR (WINDOWS ONLY)

The LPR Utility is a utility that allows printing data to printers connected to the network via TCP/IP. It is an alternative method of connecting printers instead of using the Microsoft TCP/IP port; however, the LPR utility offers some additional and very useful features:

> **Displays printer status** - print job status can be viewed, paused or cancelled.

> **Download files directly to the printer** - send PRN or PostScript files directly to the printer.

> **Redirect print jobs** - send print jobs to other printers if the original printer is busy or has an error.

> **Multicast printing** - send the same print job to many printers simultaneously[1].

1. The printers all have to be of the same model.

## SYSTEM REQUIREMENT

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

## TO INSTALL THE 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 printer user 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 the appropriate language.

4. Select your printer model.

5. Select **Software Utilities**.

6. Select **Install LPR**.

7. Follow the on-screen instructions.

8. Click **Next** when the **Welcome** screen is displayed.

9. Verify **Destination Folder** and **Spool Folder** and click **Next**.

10. 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**.

11. Verify the program folder name and click **Next**. The installation starts.

12. When the installation ends, the **Setup complete** screen is displayed. Check **Yes, I want to launch LPR Utility now** and click **Finish**. Check **Yes, I want to view the ReadMe File** if you want to read **Readme**. The LPR utility will start.

13. 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.

14. Select **Add Printer** on the **Remote Print** menu.

15. Click **Discover...** to search for the IP address of a suitable printer on your network.

16. Highlight the printer you will use and click **OK**.

17. If your printer is not discovered, click **Cancel** and you can type the IP address directly at **IP Address:**.

18. 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 LPR Utility.

2. Select **Start > Programs > Okidata > LPR Utility > Uninstall LPR Utility**.

   You may find this under **Start > All Programs** in Windows XP.

3. Click **Yes** when the Confirm File Deletion dialogue is displayed. Deletion of the LPR 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 LPR utility or the folder to spool, you cannot delete the folder. Delete any unwanted files before running Uninstall LPR 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.

The network printer supports TCP/IP protocols that can be used in conjunction with the Windows operating system,

> *NOTE*
> *Not all utilities, features or protocols are supported by every operating system. Please check with your User's Guide and 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

    > Parallel 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 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 hard disc drive, duplex unit, etc. (via the Oki Network Extension software)

## USING THE ADD PRINTER WIZARD

### Method summary:

The following table shows the different ways to connect to the printer (port types).

|  | WINDOWS 2000 | WINDOWS XP | WINDOWS VISTA/ SERVER 2003/ SERVER 2008/7 |
|---|---|---|---|
| Windows Rally | NO | NO | YES |
| Windows standard TCP/IP | YES | YES | YES |
| Oki LPR | YES | YES | YES |
| IPP | YES | YES | YES |
| NetBEUI | YES | YES | NO |

### About the different methods

### Windows Rally

Windows Rally is an automated "Plug-n-Play" type utility that allows users to discover and configure network devices effortlessly.

### 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.

### NetBEUI

NetBEUI (NetBios Extended User Interface) is a protocol that was designed for use in small workgroups or LANs. Within Windows NetBEUI is used for file and printer sharing between computers. It provides a simple method of printing, but it does have limitations, and is not as robust as TCP/IP or IPX. Typically it is employed in small business or home networks.

## CONFIGURING THE NETWORK PRINTER IP ADDRESS

Use the Standard Set-up Utility to configure the IP Address, Subnet Mask and Gateway.

> *NOTE*
> *It will not be necessary for printers connected to a network using DCHP to use this setup method.*
>
> *Some steps may not display depending on the network protocols installed.*

1. Connect the machine to the network and turn on.

2. Insert the DVD-ROM into the DVD-ROM drive. The Setup Utility starts automatically. If it does not start, double-click **\setup.exe** (in the root directory) on the DVD-ROM.

3. Select the appropriate language.

4. Select your printer model.

5. If you agree to the Software Licence Agreement, click **I Agree**.

6. Select **Device Configuration.**



7. Select **Run Network Card Setup**.

8. Select your language.

9. Select **Oki Device Quick Setup** and follow the on-screen instructions.



10. Select the appropriate network card, using the Ethernet address to identify it, and click **Next**.

The Ethernet address of the printer can be found on the self-diagnostic printout, which can be printed by pressing the push-button on the network card panel for more than three seconds and then releasing it. See "Self-diagnostic test" on page 7.

**Using TCP/IP protocol**

When using lpr in UNIX and other TCP/IP environments, please select **Yes**. To use in a TCP/IP environment, an IP address should be assigned to the Ethernet card.

If **Yes** has been selected and TCP/IP is the only working protocol and the IP address has not already been assigned, you can either obtain an IP address automatically or assign an IP address.

When **Obtain an IP address automatically** is selected, the device IP address will be automatically assigned by the DHCP server. In an environment without a DHCP server, please assign the IP address manually.

If you are *manually* assigning an IP address, you need to enter:

> An IP address

> Subnet mask

> Gateway address.

11. Click **Next**.

**Using Bonjour protocol**

Bonjour is the preferred protocol for printing data from the Macintosh environment.

**Using NetBEUI protocol**

Using NetBEUI makes it easy to manage your Oki product and print within the network environment of Windows.

12. When the settings are correct, click **Execute**. The new settings are transmitted to the network card but it still operates with pre-transmission settings.

13. Click **Finish** to validate the new settings.

14. Switch the printer off for 15 seconds and on again.

Now that both Windows and the printer have been configured to use TCP/IP, the next step is to configure Windows to print to the network printer.

UNINSTALLING THE NETWORK CARD SETUP UTILITY

To uninstall the Network Card Setup utility:

1. Select **Start > Control Panel**.

2. Select **Add or Remove Programs**.

3. Select **AdminManager (Oki Setup Utility)** and click **Remove**. This removes the Network Card Setup utility from your computer.

4. Restart your computer to ensure that the utility has been fully removed.

# MAC OS X

## OVERVIEW

This section is for administrators and it should be used in conjunction with the relevant Mac OS X manual. Please ensure your Mac has the latest Mac 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 colour matching

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

### PRINTING THE CONFIGURATION PAGE

The printer's configuration page reports information that is required for Macintosh configuration. To print a configuration page, while the printer is switched on, depress the NIC's push-button for more than three seconds and then release.

The first six characters of the Ethernet address are the same for all network cards. The last six characters of the Ethernet address are unique to each card.

### 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. See "The printer setup utility interface" on page 44

   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 "Self-diagnostic test" on page 7.

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, Rendezvous or AppleTalk. See "Connecting to your printer" on page 50

4. If required, enable hardware device options such as additional paper trays or printer hard disk. See "Configuring printer hardware options" on page 51

### MACOS PRINTER SETUP UTILITY

You can use the Setup Utility to:

> Assign IP addresses and modify TCP/IP settings

> Configure settings for Netware, EtherTalk, NetBEUI and SNMP

The Printer Setup Utility is a powerful MacOS-based utility for configuring all print server functions using a graphical user interface.

### INSTALLING THE PRINTER SETUP UTILITY

**1.** Insert the DVD into the DVD-ROM drive.

**2.** Open the Printer Setup Utility folder and double-click **Installer**.
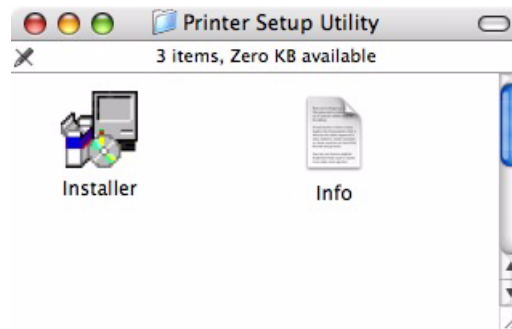


**3.** Select the destination directory, then click **Next**.
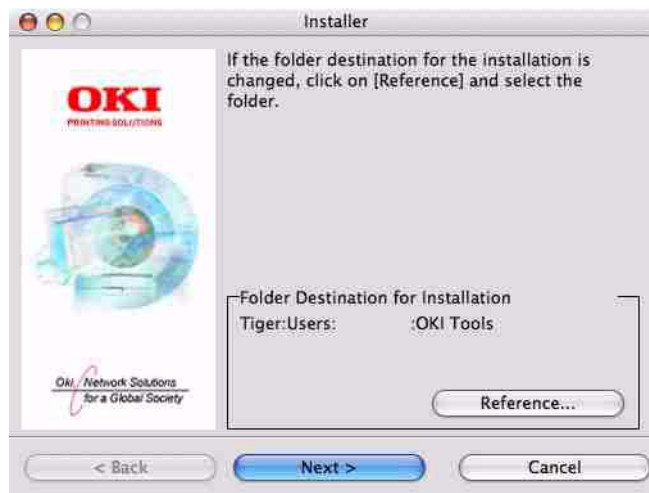


**4.** Ensure the **Yes** option is selected to activate the utility, then click **Finish**.
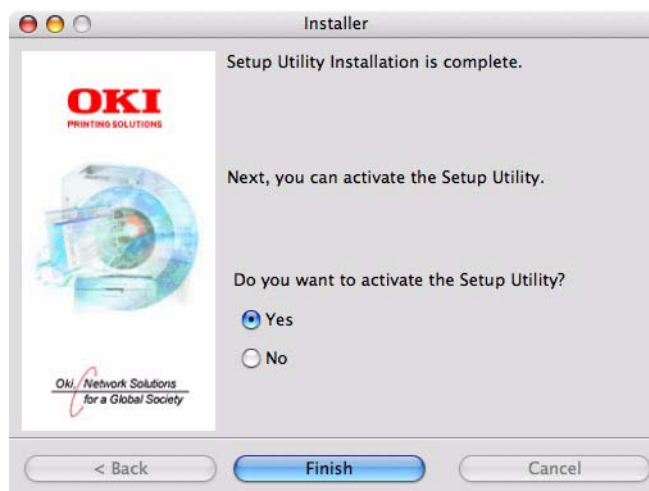
## THE PRINTER SETUP UTILITY INTERFACE

The Printer Setup Utility auto-discovers Oki compatible network cards.

1. Select the correct printer NIC to configure and choose **Setup menu > Oki Device Setup**.
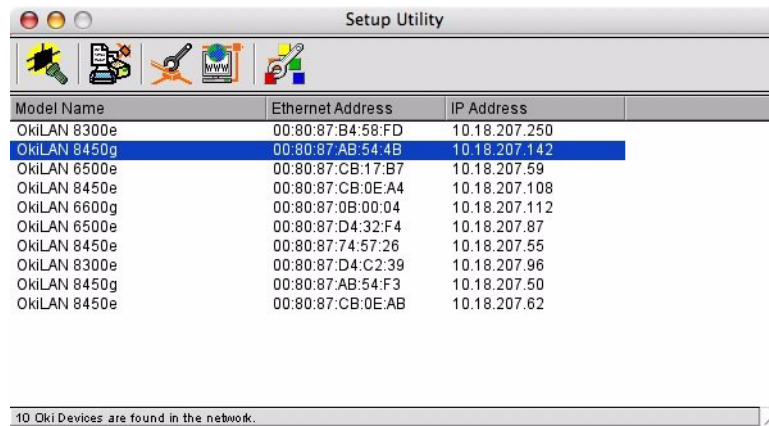


2. At the prompt, enter the Admin password.
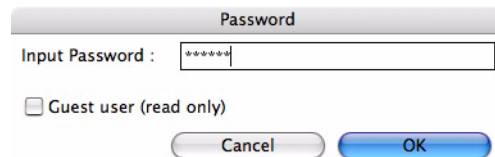


> *NOTE*
> *The default admin password is the last six digits of the MAC Address, minus any punctuation marks. e.g., for a MAC (Ethernet) Address of 00:80:87:A4:55:79, the password would be A45579. Password is case sensitive.*

3. Select the TCP/IP tab and assign your machine's IP address.

4. Click **Apply**.
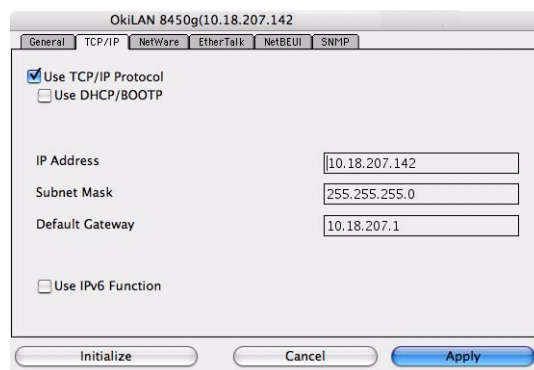
## Discover Printers

Locates and lists all printers in your network which have an Oki compatible network card installed.

## System Status

Displays the network card summary details.

## Oki Device Setup

Use this to configure the network card settings (requires Admin password).

### General Tab



The General tab allows you to change the admin password.

**1.** Click **Change**.

**2.** Enter the current value, then enter the new value and re-enter it under **Confirm** ....

> *NOTE*
> *The default admin password is the last six digits of the MAC Address, minus any punctuation marks. e.g., for a MAC (Ethernet) Address of 00:80:87:A4:55:79, the password would be A45579. Password is case sensitive.*
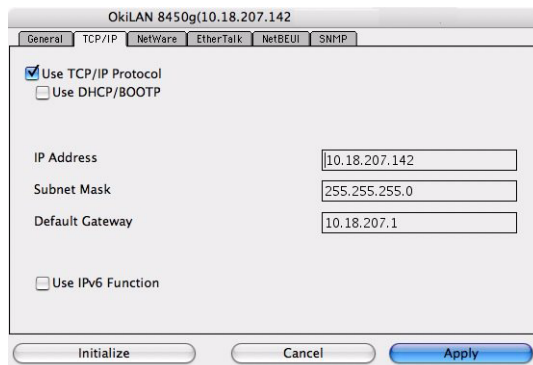
**3.** Click **OK**.

**4.** Click **Apply**.

## TCP/IP Tab



| ITEM | COMMENTS |
|---|---|
| Use TCP/IP Protocol | Enable/disable TCP/IP protocol. |
| Use DHCP/BOOTP | Click to select this item if the IP address, subnet mask, default gateway and IP addresses for DNS primary server and secondary servers are retrieved from the DHCP or BOOTP server. |
| IP Address | Set the IP address of the selected network interface card. |
| Subnet Mask | Set the subnet mask of the selected network interface card. |
| Default Gateway | Set the default gateway of the selected network interface card. |
| Use IPv6 Function | Use to enable/disable IPv6. |

## Netware Tab

| ITEM | COMMENTS | |
|---|---|---|
| Use NetWare Protocol | Enable/disable NetWare protocol. | |
| Print Server Name | Set a Print Server name. | |
| Frame Type | Set the primary NetWare frame type. | |
| Operation Mode | Select the NetWare mode: PSERVER Mode (the default) RPRINTER Mode | |
| Bindery Setup | Configure Bindery mode items, including: | |
| | File Server to be connected. | Specify up to 8 file servers to connect. |
| | Password. | Set a password for the Print Server. |
| | Job Polling Time | Set the print job polling interval in seconds. |
| NDS Setup | Set the NDS Tree and Context where the Print Server was created. | |
| Printer Name | Set the NetWare printer object name. | |

**EtherTalk Tab**



| ITEM | COMMENTS |
|------|----------|
| Use EtherTalk Protocol | Enable/disable EtherTalk protocol. |
| Printer Name | Set the EtherTalk Printer object name. |
| Zone Name | Set the name of the zone to which the print server belongs. |

**NetBEUI Tab**



| ITEM | COMMENTS |
|------|----------|
| Use NetBEUI Protocol | Enable/disable NetBEUI protocol. |
| Short Printer Name | Set a name for the print server. |
| Workgroup | Set a name for the work group to which the print server belongs. |
| Comment | Set the comments for the print server. |

**SNMP Tab**



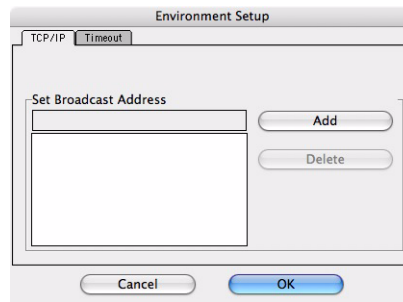| ITEM | COMMENTS |
|------|----------|
| SysContact | Set the printer manager name. |
| SysName | Set the printer model name. |
| SysLocation | Set the location where the printer is installed. |

## Configuration via HTTP

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

Displays the printer web page.



## Environment setup

Use this to configure the utility preferences for broadcast addresses for TCP/IP protocol and Time Out.

## TCP/IP Tab



| ITEM | COMMENTS |
|------|----------|
| Set Broadcast Address | Set broadcast addresses that are used to search Oki network interface cards using the TCP/IP protocol. |
| Add | Click **Add** to add the address to the list in the box. |
| Delete | Select an address in the box, then click **Delete** to remove it. |

## Timeout Tab
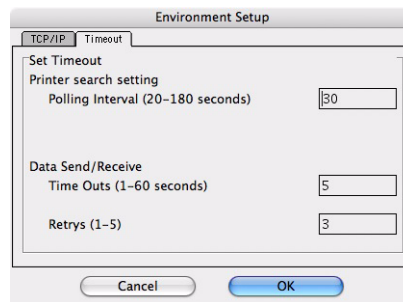


| ITEM | COMMENTS |
|------|----------|
| Set Timeout: Printer Search | **Search Every (20-180sec)** Set the response waiting time from the network card in seconds. Default is 30 seconds. |
| Set Timeout: Data Send/ Receive | **Time Outs (1-60sec)** Set time out between AdminManager and the network interface card in seconds. Default is 5 seconds. **Retry (1-5)** Sets how many times AdminManager will retry to transmit/receive data to/from the network interface card. Default is 3 retrie*s*. |

## CONNECTING TO YOUR PRINTER

> *NOTE*
> *The steps below are for Snow Leopard (10.6) and Leopard (10.5) Operating Systems. The principle of connecting to your printer is the same, though the steps may vary for different Operating Systems. Please refer to the ReadMe file on the driver DVD.*

### SNOW LEOPARD (10.6) AND LEOPARD (10.5)

#### 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.

### AppleTalk (Leopard only)

> *NOTE*
> *AppleTalk is not supported in Snow Leopard.*

**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 .

**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. Refer to .

### CONFIGURING PRINTER HARDWARE OPTIONS

> *NOTE*
> *Applies to IP and Rendezvous network connections only.*

If you have added additional hardware, for example additional paper trays, to your printer these must be enabled in the printer driver.

**1.** Choose **Apple Menu > System Preferences > Print and Fax**.

**2.** Click the **Printers** menu, and choose **Show Info**.

**3.** From the popup menu, select **Installable Options**.

**4.** Select any options appropriate to your hardware, and click **Apply Changes**.

# UNIX

## OVERVIEW

The printer supports many protocols such as LPD, FTP, TELNET, SNMP and IPP, and works within the UNIX environment.

To use the network card within the UNIX environment, the following steps are required:

## CONFIGURATION

### NETWORK INTERFACE CARD SETTING

The first step in installing the network card under UNIX is to set up the IP address, Subnet Mask and Gateway. This section explains one way to set them up from a UNIX workstation.

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

> Log in as root to change the configuration of the printer.

> If an incorrect IP address, Subnet Mask or Gateway is entered, the network may go down or other damage may occur. Check the address with your network manager.

The following explanation uses Sun Solaris 2.8 (Solaris 8) as an example. The actual commands may differ between versions of UNIX, so refer to the workstation manuals for more information.

1.  Log in as root to the workstation.

2.  If the printer does not have an IP address already assigned, use the *arp* command to set a temporary IP address.

    *Example: for IP address 192.68.20.127 and network card address 00:80:87:01:00:D2*

    ```
    # arp -s 192.168.20.127 00:80:87:01:00:D2
    ```

3.  Use the *ping* command to confirm the connection with the network interface card.

    *Example: for IP address 192.168.20.127*

    ```
    # ping 192.168.20.127
    ```

    If there is no reply, there is a problem with the configuration of the IP address (the IP address has already been set manually or dynamically), or with the network. Reset the network interface card settings to 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.

**4.** Login to the network interface card using TELNET.

*Example: Logging in to IP address 192.168.20.127*

```
#telnet 192.168.20.127
Trying 192.168.20.127
Connected to 192.168.20.127
Escape character is '^'.
myprn TELNET server (Ver 01.01).
login: root
'root' user needs password to login.
password:
User 'root' 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)?
```

**5.** Type 1 and press the **Enter** key. Perform the following settings:

```
Please select (1- 99)? 1
No. MENU (level.2)
1 : Device
2 : Network
3 : Version
99 : Back to prior menu
Please select (1- 99)?
```

**6.** Logout from the network interface card. Turn the printer off for about 15 seconds and on again to validate the settings.

### LPD Printing

Line Printer Daemon (LPD) is the most common protocol for printing with TCP/IP to a network printer. Refer to the workstation's manual for details of lpr and lp commands. The following explanation in this section uses the printing of print file **test.prn** with printer name *myprn_lp* as an example.

## Logical printers

The printer's network interface includes three logical printers.

> lp must be used for printing a file created using the printer driver.

> sjis must be used for printing a text file of Shift JIS Kanji code.

> euc must be used for the printing a text file of the EUC Kanji code.

| LOGICAL PRINTER | PRINTER FUNCTION |
| --- | --- |
| lp | For direct output |
| sjis | For Shift JIS Kanji converted output |
| euc | For EUC Kanji converted output |

> sjis and euc function only as PostScript printers.

## BSD-based UNIX

Print using the **lpr** command.

```
# lpr myprn_lp test.prn
```

If the **lprm** command is used, the print job is cancelled.

*Example: To delete a print job (Job ID 123) on the myprn_lp*

```
# lprm myprn_lp 123
```

Verify the printer status using the **lpq** command.

> The result of **lpq** may not be displayed correctly depending on UNIX operating system specification.

```
# lpq myprn_lp
```

## System V-based UNIX

Print using the **lp** command.

```
# lp –d myprn_lp_lp test.prn
```

Delete a print job using **cancel** command.

*Example: To delete a print job (Job ID 456) in the myprn_lp*

```
# cancel myprn_lp  –456
```

Verify the printer status using the **lpstat** command.

```
# lpstat
```

The result of **lpstat** may not be displayed correctly depending on UNIX operating system specification (e.g. Solaris 2.x).

## FTP printing

FTP (File Transfer Protocol) is used for transferring a file with TCP/IP. If the print data is sent to a logical printer via FTP, it is printed.

Refer to the workstation's manual for details of the ftp command. The following explanation uses print file *test.prn* with printer name **myprn_lp** as an example.

## LOGICAL DIRECTORIES

The printer's network interface includes three logical directories.

> **lp** must be used for printing a file created using the printer driver.

> **sjis** must be used for printing a text file of Shift JIS Kanji code.

> **euc** must be used for the printing a text file of the EUC Kanji code

| LOGICAL DIRECTORY | PRINTER FUNCTION |
|---|---|
| lp | For direct output |
| sjis | For Shift JIS Kanji converted output |
| euc | For EUC Kanji converted output |

> **jis** and **euc** function only as PostScript printers.

> You can not send data to the root directory.

1. Log in to the network interface card.

   When printing with ftp, use any values for name and password. However, if the user name is root, the password set under TELNET or the utility is required. See the appropriate section for details.

   *Example: Logging in with host name **myprn** (or IP address 192.168.20.127).*

   ```
   # ftp myprn (or ftp 192.168.20.127)
   Connected to myprn
   220 EthernetBoard 8100e Ver 01.50 FTP Server
   Name (myprn:<none>) : root
   331 Password required.
   Password:<CR>
   230 User Logged in
   ftp>
   ```

   The network card logical directory structure is hierarchical. Move to the logical directory; it is not possible to output print data to the root directory.

2. Move to the preferable logical directory using the *cd* command.

   *Example: moving to the lp directory and confirming the current directory.*

   ```
   ftp> cd /lp
   250 Command OK.
   ftp> pwd
   257 "/lp" is current directory
   ftp>
   ```

3. Configure the transfer mode.

   There are two types of transfer mode: BINARY mode, in which the file content is output as it is and ASCII mode, which converts the LF code to the CR+LF code. If a binary file converted by the printer driver is transferred, the transfer mode has to be BINARY mode.

   *Example: Changing transfer mode to binary mode and verifying the current mode:*

   ```
   ftp> type binary
   200 Type set to I.
   ftp> type
   Using binary mode to transfer files.
   ftp>
   ```

**4.** Transfer the print data to the network card using the put command. Two methods of file transfer using the put command are available.

*Example: Transferring print data test.prn*

```
ftp> put test.prn
```

*Example: Transferring print data specified by absolute path/users/test/test.prn*

```
ftp> put /users/test/test.prn
```

**5.** Logout from the network card using the quit command.

```
ftp> quit
```

Three states can be verified using the quote command stat: the IP address, login user name and transfer mode. In addition, printer status can be verified by specifying the directory after the stat (lp, sjis, euc).

*Example: Displaying network card status*

```
ftp> quote stat
211-FTP server status:
Connected to: 192.168.20.10.000.00
User logged in: root
Transfer type: BINARY
Data connection: Closed.
211 End of status.
ftp>
```

*Example: Displaying the network card status (directory name: lp)*

```
ftp> quote stat /lp
211-FTP directory status:
Ready
211 End of status
ftp>
```

# 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.

## SELF-DIAGNOSTIC TEST

### PRINTER DOES NOT PRINT

> Check that your printer is switched on.

> Check the printer status.

> Ensure that the printer is connected to your computer.

### NG IS PRINTED IN THE SELF-DIAGNOSTIC TEST

If NG is printed in the self-diagnostic test or a Flash ROM Check Registers NG:

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

2. Press the reset button, located close to the Network Interface Panel at the back of your printer, to re-initialize it.

## TCP/IP

### COMPUTER CANNOT FIND THE NETWORK INTERFACE CARD

Carry out the following procedures to verify the printer settings:

> 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 as described on page 7.

> 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.

## WEB BROWSER

If you are using the Web browser to configure your machine settings, but do not see the most recent settings displaying on the Web page, you should temporarily switch off your browser's page caching. To prevent your web browser caching the printer web pages, carry out the following steps as appropriate for your web browser.

> *NOTE*
> *Keeping this setting enabled all the time may slow down web browsing. You may want to revert to the browser default setting once you have finished using the printer web page.*
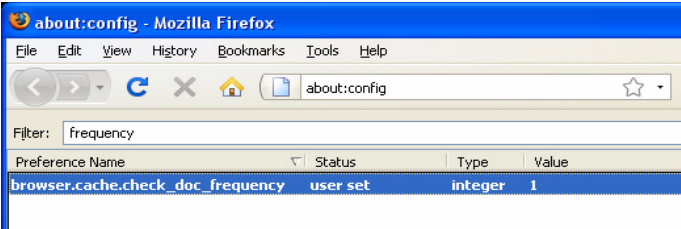
### MICROSOFT INTERNET EXPLORER

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**.
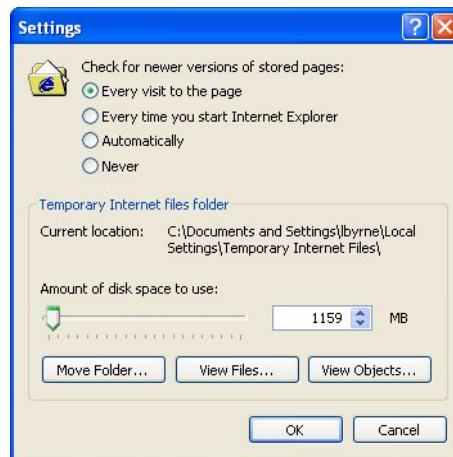


### MOZILLA FIREFOX

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**.