



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 Oki.

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

<http://www.okiprintingsolutions.com> (drivers and manuals)

or

<http://www.okiexecutiveseries.com> (drivers only)

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CONTENTS

Preface	2
Notes, cautions and warnings.	5
Network Configuration	6
Introduction	6
Specification	7
Self-diagnostic test	7
Configuration utilities	8
Using Quick Setup	9
Using AdminManager	10
Installation	11
Interface	12
Device Setup	13
IP Address Setup	27
Option Menu	28
Help Menu	29
Using a Web browser	30
Microsoft Internet Explorer	30
Default user name and password	30
Adjusting printer settings	30
Using TELNET	31
Example TELNET configuration	31
Using SNMP	33
Management utility — PrintSuperVision	33
System requirement	35
Installing Print SuperVision	37
Uninstallation	38
Printing utility — Oki LPR	38
System Requirement	38
To install the Oki LPR utility	38
Uninstallation	40
Microsoft Windows	41
Overview	41
Installing a Network Printer	41
Using the Oki Driver Installer	41
Using the Add Printer Wizard	42
Network printer IP address configuration	44
NetBEUI Protocol	47
Network Printer Settings	47
Windows XP	47
Windows Vista	48

Printer driver configuration	48
Apple Macintosh	50
Overview	50
Setting up a network printer	50
MacOS printer setup utility	51
Installing the printer setup utility	51
The printer setup utility interface	52
menu options.	54
Connecting to your printer.	62
Tiger (10.4).	62
Panther (10.3 and Jaguar (10.2)	64
IP connection	65
Configuring printer hardware options	67
Printing the configuration page	68
Macintosh OS-X	68
UNIX	70
Overview	70
Configuration	70
Network Interface card setting.	70
Logical directories	74
Troubleshooting	78
Self-diagnostic test.	78
Printer does not print	78
NG is printed in the self-diagnostic test or Flash ROM Check Registers NG	78
TCP/IP.	78
Computer cannot find the network interface card	78
Cannot print with lpr and ftp	79
Incorrect user name on the banner page.	79
NetBEUI	79
The network interface card is not identified.	79
Error writing to Prn1.	80
Glossary	80
Mac.	80
Blank pages or garbled text printed	80
Banner print is rotated by 90 degrees and is printed at the bottom of the paper	81
No printing or print queue stopped.	82

NOTES, CAUTIONS AND WARNINGS

NOTE:

A note provides additional information to supplement the main text.

WARNING!

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

CAUTION!

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

NETWORK CONFIGURATION

INTRODUCTION

Your printer incorporates a fast 100BASE-TX/10BASE-T network interface. This User's 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 printer.

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 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

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, RARP, 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
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 User's Guide and support website for latest information.

SELF-DIAGNOSTIC TEST

With the printer power switched on, press the push-button located on the network interface panel (at the rear of the printer) 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 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: <ul style="list-style-type: none"> > 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. 	Windows XP/Vista (TCP/IP protocol or IPX/SPX protocol should be installed).
Admin Manager	Configure the NIC in detail.	
Web Browser	Configure the NIC and printer by using a Web browser such as Microsoft Internet browser or Netscape Navigator.	Microsoft Internet Explorer or similar. Operating system that supports Web browser.
Telnet	Configure the NIC using TELNET.	Third-party vendor developed TELNET client package. 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:

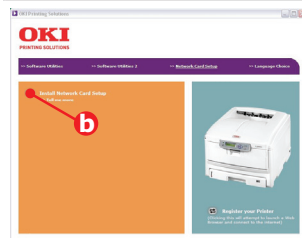
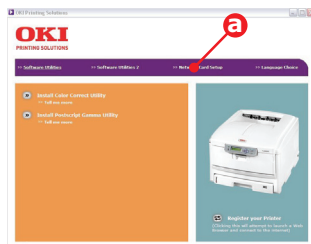
- > Enable/disable TCP/IP, NetWare, EtherTalk, NetBEUI protocols.
- > Set IP address, Subnet Mask and Gateway for TCP/IP manually or by using DHCP.
- > Set NetWare mode and create Queue/Print Server/Printer objects.
- > Zone name and Port name for EtherTalk.

Configuration requires a PC with Windows XP or Vista operating system, running TCP/IP or IPX/SPX (NetWare).

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

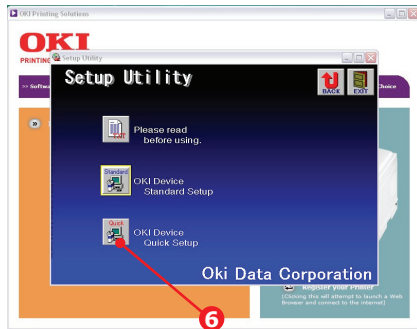
This utility must be used on a PC that is located on the same segment as the printer.

1. Insert the Network Software CD-ROM into the CD-ROM drive. The Setup Utility starts automatically. If it does not start, double-click **setup.exe** (in the root directory) on the CD-ROM.
2. Select the appropriate language and follow the on-screen instructions.
3. Select the **Network Card Setup** tab (a).
4. Then **Install Network Card Setup** (b).
5. Select your language.



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

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



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

9. 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.

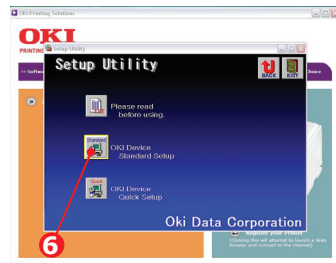
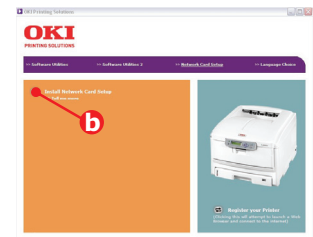
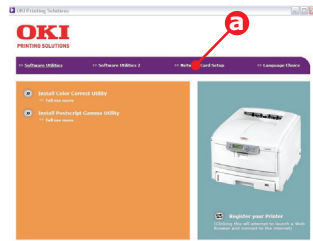
AdminManager is a powerful Microsoft Windows-based utility to configure all network interface functions easily and intuitively via a graphical user interface.

Configuration requires a PC with Windows XP /2000 Advanced Server or Vista, running TCP/IP or IPX/SPX (NetWare).

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

INSTALLATION

1. Insert the Network Software CD-ROM into the CD-ROM drive. The Setup Utility starts automatically. If it does not start, double-click **\autorun.exe** (in the root directory) on the CD-ROM.
2. Select the appropriate language and follow the on-screen instructions.
3. Select the **Network Card Setup** tab (a).
4. Then **Install Network Card Setup** (b).
5. Select your language.
6. Select **Oki Device Standard Setup**.



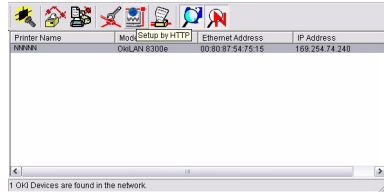
7. If you want to install AdminManager on to your local drive, select **Install and Execute**. Otherwise, select **Execute from CD-ROM**. Follow the on-screen instructions. I

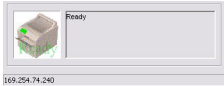
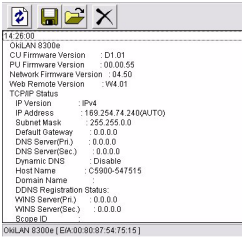



8. To run AdminManager, check **Yes** for **Do you wish to execute AdminManager?** and click **Finish**. Otherwise check **No** and click **Finish**.

INTERFACE

Select
**Start>Programs>Oki
 Setup Utility>Admin
 Manager.**



MENU	ITEM	FUNCTION
File	Search	Search printers in your network and list all printers.
Status	Printer Status	Current printer status is displayed: 
	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.

MENU	ITEM	FUNCTION
Setup	Create NetWare Queue	Create a NetWare queue. <i>Note: Only visible when using Netware</i>
	Delete NetWare Object	Delete NetWare object. <i>Note: Only visible when using Netware</i>
	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.

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.

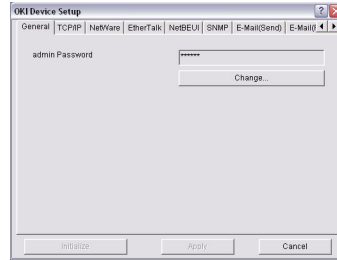
Device Setup allows you to configure the network interface. Type the root password (default value is the last 6 characters of the MAC address) to configure. Remember that the root password is case sensitive. If the MAC address contains any alpha characters, type them as upper case. Device Setup contains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

- > General
- > SNMP
- > IEEE 802.1x
- > TCP/IP
- > POP
- > NetWare
- > SMTP
- > Ethertalk
- > Maintenance
- > NetBEUI
- > SSL/TLS

The following section explains each tab's functionality. Depending on your printer, some items in the following explanation may not be displayed.

General Tab

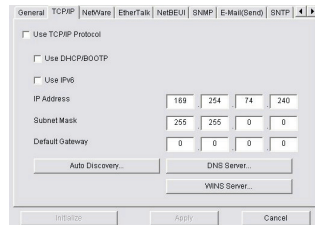
This allows you to set or change the root password used for Admin Manager, TELNET and FTP.



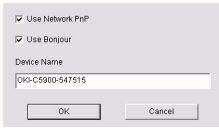


ITEM	EXPLANATION
Change root password	You can set/change the root password for AdminManager, TELNET and FTP.

TCP/IP Tab

This allows you to configure TCP/IP related items.

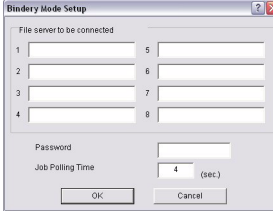
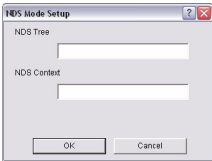


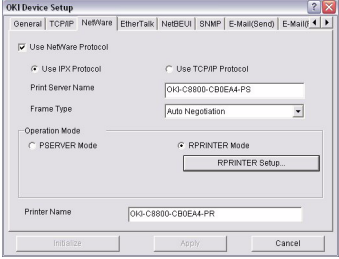
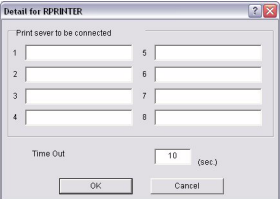
ITEM	EXPLANATION	
Use TCP/IP Protocol	Set TCP/IP protocol as enabled/disabled.	
	Use DHCP/BOOTP	Check this item if IP address, subnet mask, default gateway and IP addresses for DNS primary server and secondary servers are retrieved from the DHCP or BOOTP server. Otherwise, uncheck.
	Use IPv6	Enables 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.

ITEM	EXPLANATION	
Auto Discovery	Configure items related to Network PnP Use to select Network PnP and Bonjour, and to set device name. 	
DNS Server...	Set IP addresses for DNS primary and secondary servers. 	
WINS Server	Set IP addresses for WINS primary and secondary servers and to enter scope ID. 	
WINS Server...	Configure items related to the WINS Server. In this dialogue box, the following items can be configured:	
	Primary Server	Set WINS Primary server.
	Secondary Server	Set WINS Secondary server.
	Scope ID	Set a Scope ID.

NetWare Tab

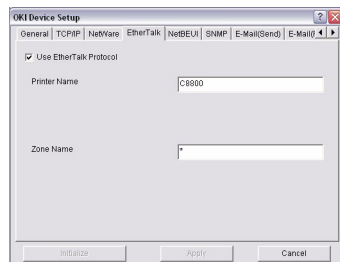
This is where you can configure NetWare related items.

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	<p>Available if you select RPRINTER mode in Operation Mode.</p> 		
	<p>By selecting the RPRINTER button, this is displayed:</p> <p>Here you can specify print servers to which the printer can be connected.</p> 		
	<table border="1"> <tr> <td>Time Out</td> <td>Set duration from the last data's arrival to freeing of the port in seconds.</td> </tr> </table>	Time Out	Set duration from the last data's arrival to freeing of the port in seconds.
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

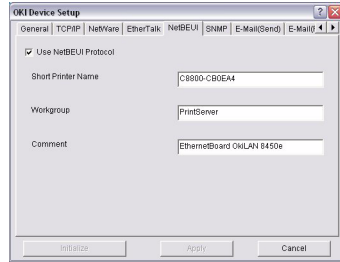
This allows you to configure EtherTalk related items.



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 Tab

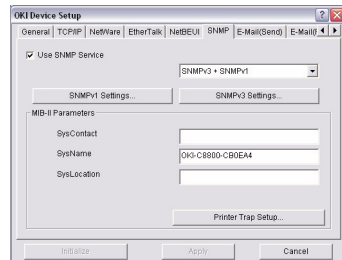
This allows you to configure NetBEUI related items.




ITEM	EXPLANATION
Use NetBEUI Protocol	Set NetBEUI protocol 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).

SNMP Tab

This allows you to configure SNMP related items.

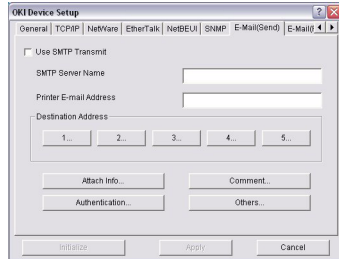


ITEM	EXPLANATION
Use SNMP Service	ENABLE or DISABLE the SNMP protocol.
SNMPV1+V3	Select from the drop-down box which (or both) of these to use.
SNMPV1 Settings	SNMP Read & Write Community. Enables these passwords to be changed.

ITEM	EXPLANATION	
SNMPV3 Settings	Enables Authorisation and Privacy (Encryption) setup to be done.	
SysContact	Set SysContact (printer manager) name.	
SysName	Set SysName (printer model name).	
SysLocation	Set SysLocation (the location where the printer is installed).	
Default TTL	Set TTL (Time To Live) value.	
Printer Trap Setup...	<p>By selecting the button, the following dialogue box is displayed:</p> <p>In the dialogue box, the following items can be configured:</p> 	
	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: Printer Reboot Receive Illegal On-Line Off-Line Paper Out Paper Jam Cover Open Printer Error (any error)
	IPX	Set node address and network address to which a Trap packet will be sent. By selecting the button, the following dialogue box is displayed: In the dialogue box, the following items can be configured: Printer Reboot Receive Illegal On-Line Off-Line Paper Out Paper Jam Cover Open Printer Error (any error)

E-Mail (Send) Tab

This allows you to configure SMTP related items.

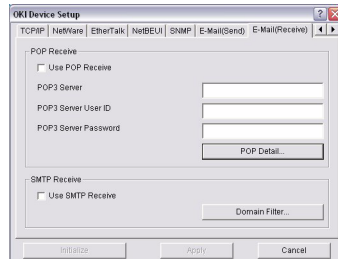


ITEM	EXPLANATION	
Use SMTP Transmit	Check to enable SMTP	
SMTP Server Name	Enter name of the SMTP server	
Printer E-Mail Address	Enter the printers e-mail address	
Destination Address 1 - 5	Set the following parameters:	
	Destination Address	Set E-Mail address to which email should be sent.
	Notify Mode	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 ON/OFF 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 is settable in hours and intervals of 15 mins.
Attach Info...	Select whichever information is to be included in the e-mail.	

ITEM	EXPLANATION	
Comment...	Set up to four lines of text to be included with the e-mail as comments.	
Authentication...	Used to set the following security information:	
	Use SMTP Authentication	Check to Enable SMTP Authentication.
	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

Some printers support an email reception function (SMTP/POP3) allowing the printer to print PDF and text files attached to emails. If this tab is not displayed, your printer does not support the function.

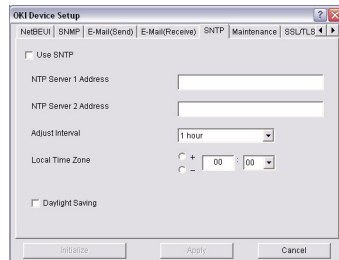


ITEM	COMMENTS
Use POP Receive	Enable/disable receiving E-Mail via POP3.
POP3 Server	Set the IP address or host name of the POP3 server.
POP3 Server UserID	Set User ID for POP3 server.
POP3 Server Password	Set a password for the POP3 server.

ITEM	COMMENTS	
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.
Use SMTP Receive	Enable/disable SMTP receive.	
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

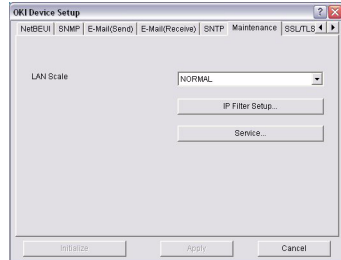
In this Tab, you can configure SNTP related items.



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.

ITEM	COMMENTS
Daylight Saving	When this is selected, one hour is added to the local time.

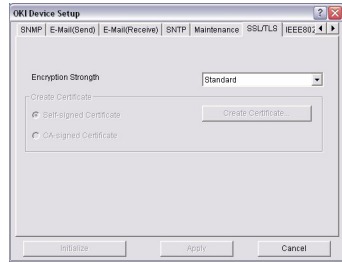
Maintenance Tab



ITEM	COMMENTS	
LAN Scale	Select NORMAL (the default) or SMALL. <i>Note: For small scale networks (with no routing), choose the SMALL setting. For more complex networks choose NORMAL.</i>	
IP Filter Setup...	The following items can be configured:	
	Use IP Filter	Enable/disable IP Filtering. Default is disabled.
	Admin IP Address	Enter the printer's 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.

ITEM	COMMENTS
Service...	<p>The following features can be selected by clicking their check box.</p> <ul style="list-style-type: none"> TCP/IP Protocol NetBEUI Protocol NetWare Protocol EtherTalk Protocol FTP Service Use Telnet Service Use Web Service Use SNMP Service Use POP3 Protocol Use SNTP Use IPP Use SNMTP Use encrypted communication for configuration data

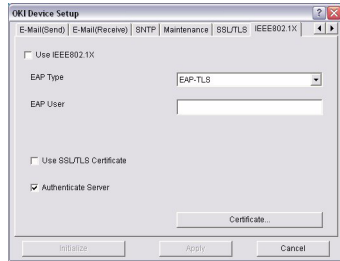
SSL/TLS Tab



ITEM	COMMENTS	
Encryption Strength	Set the strength of encryption: Strong = highest security, slowest speed Standard = medium security, medium speed Weak = least security, fastest speed	
Self-signed Certificate	For IPP encryption within an organisation'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.
	Organisation	Enter the name of your organization.
	Organisation 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 organisation is located.
	Country/Region	Enter the country or region where the organisation 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.
	Organisation	Enter the name of your organisation.
	Organisation 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 organisation is located.
	Country/Region	Enter the country or region where the organisation 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

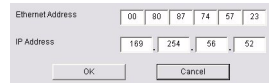


ITEM	COMMENTS	
Use IEEE802.1X	Enable/disable.	
EAP Type	The following Extensible Authentication Protocols can be configured:	
	EAP-TLS	Selects Extensible Authentication Protocol - TLS.
	PEAP	Selects Protected Extensible Authentication Protocol - (includes Password).
	EAP User	Enter EAP User name.
Use 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.

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**.



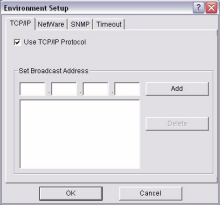
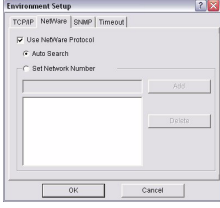

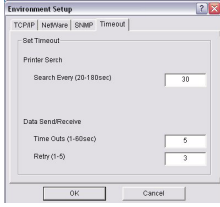
The screenshot shows a dialog box with two rows of input fields. The first row is labeled 'Ethernet Address' and contains six boxes with the values 00, 80, 07, 74, 57, and 23. The second row is labeled 'IP Address' and contains four boxes with the values 192, 254, 56, and 52. At the bottom of the dialog are two buttons: 'OK' and 'Cancel'.

- > 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.

ITEM	EXPLANATION
Environment Setup	<p>TCP/IP Tab</p> <p>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.</p> 
	<p>NetWare Tab</p> <p>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.</p> 
	<p>SNMP Tab</p> <p>Obtain the printer name via SNMP - Select</p> <p>Enter Community name.</p> <p>Add and Delete</p> 
	<p>TimeOut Tab</p> <p>Search Every: Set response waiting time from a network card in seconds.</p> <p>Time Out: Set time out between AdminManager and the network interface card in seconds.</p> <p>Retry: Set how many times the retry will be carried out between AdminManager and the network interface card.</p> 

HELP MENU

In the Help menu, **About** is available as well as revision information for **AdminManager**.

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 **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 the root 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. The Printer Status screen is displayed.
2. Select a tab and items to be changed in the left frame. You need to log in as "root" to be able to configure all items. Non-root users cannot configure all items.
3. To ensure correct operation, follow the procedure below for the appropriate network browser.

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 OkiLAN PRINTER".
login: root
`root` user needs password to login.
password:
User `root` logged in.
No. MENU (level.1)
-----
  1:Status / Information
  2:Printer 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

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.

The printer 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 printer 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 Network Software CD-ROM or the Oki Printing Solutions 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

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.

PrintSuperVision is a web-based application for managing printing devices connected to a network. It consists of two parts:

- > A web application based on Microsoft web server (Internet Information Server, IIS or Personal WEB Server, PWS), that provides the user interface.
- > A monitoring program (PrintSuperVisor) that runs all the time, collecting data and saving it in a database for statistical reports and sending E-Mail alerts based on the saved configuration.

PrintSuperVision requires the .NET environment to be installed on the PC on which it runs. The supplied installer will install this if necessary.

PrintSuperVision's main functions are:

- > Maintaining the list of printing devices and organising them in logical groups.
- > Initially discovering and configuring printers connected to the network.
- > Locating printers visually on maps.
- > Monitoring devices over time and saving data for statistical reports.
- > Sending email alerts when events occur that affects the functionality of printers.
- > Statistical reports about usage of printers.
- > Tracking maintenance data related to printers.
- > Identifying part numbers of consumable items for use with your printer.
- > Integrating with Oki Data's on-line web support (for US and Canada).
- > PrintSuperVision can even manage printers on another network provided a copy of PrintSuperVision is also running on that network.

SYSTEM REQUIREMENT

The main PrintSuperVision application can be installed in any of the following Windows systems.

OPERATING SYSTEM	SERVICE PACK	IIS ¹	MDAC AND .NET FRAMEWORK
Windows 2003 Server 1. Web Edition 2. Standard Edition 3. Enterprise Edition 4. Datacenter Edition		IIS 6.0 included in the OS. 1. IIS 6.0 installed by default 2, 3, 4. IIS 6.0 optionally installed (on the CD)	.Net Framework 1.1 installed as part of the OS.
Windows XP Professional	1.0	IIS installed as an option. Available in the Windows XP CD. Install IIS before installing .Net framework.	MDAC and .Net Framework are available for download from Microsoft. MDAC 2.7 and .Net Framework Version 1.0.3705 are included as part of PSV install.
Windows 2000 Professional	2.0	Internet Service Manager included in the OS. Available in the Windows 2000 CD. Install IIS before installing .Net framework.	
Windows 2000 Server / Advanced Server / Datacenter Server			
Windows XP Home	1.0	Works only with PSV Embedded Web Server, available in the PSV Install Package.	
Windows Vista	Not supported		

1. An Embedded Web Server option is provided which does not require IIS.

Supported Browsers

The PrintSuperVision application can be accessed from most Windows, Macintosh, Unix, and Linux desktops.

PrintSuperVision works best when used with Internet Explorer. When using the Netscape browser, do **not** select the option **Images off** as the hyperlinks may not work properly. Some versions of Netscape browser do not display the frames properly, and the **Back** button may not work correctly.

Supported Printers

PrintSuperVision provides general management information for printers connected to the network. For Oki printers, additional details, reports and added features are available.

While the printer properties are displayed in PrintSuperVision, only a few of the printer settings can be set. For setting any other printer settings, a hyperlink to the printer's web page is provided in PrintSuperVision.

INSTALLING PRINT SUPERVISION

This section describes installing Print SuperVision from the supplied CD-ROM.

NOTE:

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

1. Insert the Network Software CD-ROM into the CD-ROM drive. The Setup Utility starts automatically. If it does not start, double-click **\setup.exe** on the CD-ROM.
2. Select **Software Utilities**.
3. Select **Install PrintSuperVision**.
4. When installation ends, the **Setup complete** screen is displayed. Click **Finish**.
5. Now you should select:
Start>Programs>PrintSuperVision>PrintSuperVision or double-click the **PrintSuperVision** icon on the desktop for the PrintSuperVision server.
6. For PrintSuperVision client, access **http://server IP address or host name/PrintSuperVision** from the Web browser. If you change the port number you should add **port number**. Example: **http://192.168.20.127/PrintSuperVision:8080**.
7. PrintSuperVision has an on-line help facility.

UNINSTALLATION

To uninstall PrintSuperVision, either select:

Start>Programs>PrintSuperVision>Uninstall PrintSuperVision, or from **Control Panel**, select **Add/Remove Programs**, select **PrintSuperVision** from the index window and click **Add/Remove**. When the uninstallation is completed, close **Add/Remove Programs**.

In some cases, an empty **Okidata/PrintSuperVision/** directory may be left behind. Delete the directory manually.

PRINTING UTILITY — OKI LPR

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.

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 REQUIREMENT

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

TO INSTALL THE OKI LPR UTILITY

NOTE:

Some Operating Systems require 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 Network Software CD-ROM into the CD-ROM drive. The Setup Utility starts automatically. If it does not start, double-click setup.exe on the CD-ROM.
3. Select **Software Utilities**.
4. Select **Install OkiLPR**.
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>Programs>Okidata>OkiLPR Utility>Uninstall OkiLPR 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 OkiLPR utility starts.
4. When the deletion has finished, the **Uninstall Completes** 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 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 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 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
Windows Rally	NO	NO	YES
Windows standard TCP/IP	YES	YES	YES
Oki LPR	YES	YES	NO
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.

NETWORK PRINTER IP ADDRESS CONFIGURATION

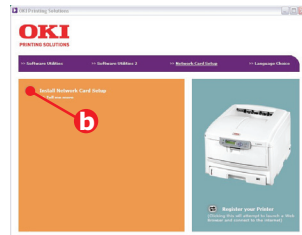
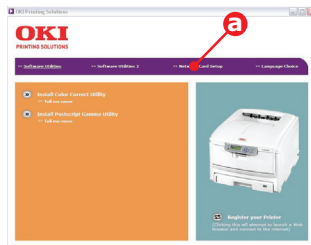
Use the Standard Set-up Utility to configure the IP Address, Subnet Mask and Gateway.

NOTES:

It will not be necessary for printers connected to a network using DHCP to use this setup method.

Some steps may not display depending on the network protocols installed.

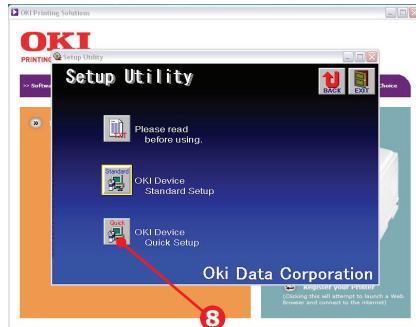
1. Connect the printer to the network and turn on.
2. Insert the Network Software CD-ROM into the CD-ROM drive. The Setup Utility starts automatically. If it does not start, double-click **\setup.exe** (in the root directory) on the CD-ROM.
3. If you agree to the User Licence Agreement, click **Next**.
4. Select the appropriate language and follow the on-screen instructions.
5. Select the **Network Card Setup** tab (a).
6. Then **Install Network Card Setup** (b).
7. Select your language.



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

9. 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 three seconds and then releasing it.



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.

10. 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.

11. When the settings are correct, click **Execute**. The new settings are transmitted to the network card but it still operates with pre-transmission settings.
12. Click **Finish** to validate the new settings.
13. 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.

NETBEUI PROTOCOL

NETWORK PRINTER SETTINGS

There are two configurable items under NetBEUI within the printer. These can be configured using the standard set-up utility described in "[Device setup](#)" on page 13.

COMPUTER NAME	NAME ASSIGNED TO THE PRINTER
Workgroup	PrintServer ¹
Comment	User definable description

1. Although the workgroup name can be changed, it is recommended that it remains as PrintServer.

Although there are some differences in configuration options between the various Windows platforms, the procedure for printing using NetBEUI is the same.

Please ensure the NetBEUI protocol has been installed in Windows. This can be confirmed by checking the network settings. If NetBEUI has not been installed please refer to the section below.

The relevant Windows installation CD-ROM may be required and you should follow the on-screen dialogue box prompts.

WINDOWS XP

Although you can install the NetBEUI protocol into Windows XP, it may not be supported. You should be able to use NetBEUI on LAN connections although you will not be able to use this on a Remote Access Service Connections.

1. In the **Start** menu, select **Settings** then **Control Panel**.
2. Double-click on **Network Connections**.
3. Right-click the adapter you wish to add NetBEUI to and then click **Properties**.
4. On the **General** tab, select **Install**.
5. Select **Protocol** and then **Add**.

6. Select **Have Disk** and insert your Windows XP CD-ROM, open the **Valueadd\msft\net\netbeui folder**, select the Netnbf.inf file and then click **Open**.

Now the printer has been configured and NetBEUI has been installed, you can configure Windows to print over the network.

WINDOWS VISTA

NetBEUI is not supported by Windows Vista.

PRINTER DRIVER CONFIGURATION

In the following example, the printer has been configured as follows:

Computer Name:	OL07DB85
Workgroup:	PrintServer
Comment:	Ethernet Board 8100e

1. Set up the printer driver as the default local printer.
2. In the **Start** menu, select **Settings** then **Printers**.
3. Select the relevant printer driver, then **Properties**.
4. Click on the **Details** tab in the printer driver.
5. Select **Add Port**.
6. Select **Network** and click **Browse**.
7. Double-click **Entire Network, PrintServer** and **OL07DB85**.
8. Select **Prn1** and click **OK**.
9. Check that **Network** is selected and click **OK**.
10. Select **Apply** and **OK** to close **Properties**.

Printing can be carried out using your application software.

- > The Master Browser function manages machine information from the same Workgroup, and replies to summary requests from other workgroups.
- > The Master Browser function operates only if the Workgroup name is PrintServer.

- > The Master Browser function can only manage this network card. If the PrintServer name is put into another Workgroup, the network card will not be able to find it on the network.
- > A maximum of eight Networks can be managed by the Master Browser function.
- > Printing cannot be carried out and an error message appears when jobs from other users (including other protocols) are being printed.

APPLE MACINTOSH

OVERVIEW

This section of the guide is for administrators and it should be read in conjunction with the relevant MacOS manual.

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.

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 52.](#)

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.](#)

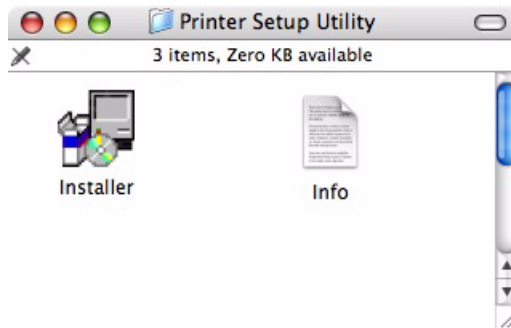
2. Install the printer driver software. This copies the printer driver files to the correct location on your Mac OS X system.
3. Make a connection to the printer by USB, TCP/IP, Rendezvous or AppleTalk. [See "Connecting to your printer" on page 62.](#)
4. If required, enable hardware device options such as duplex unit or printer hard disk. [See "Configuring printer hardware options" on page 67.](#)

MACOS PRINTER SETUP UTILITY

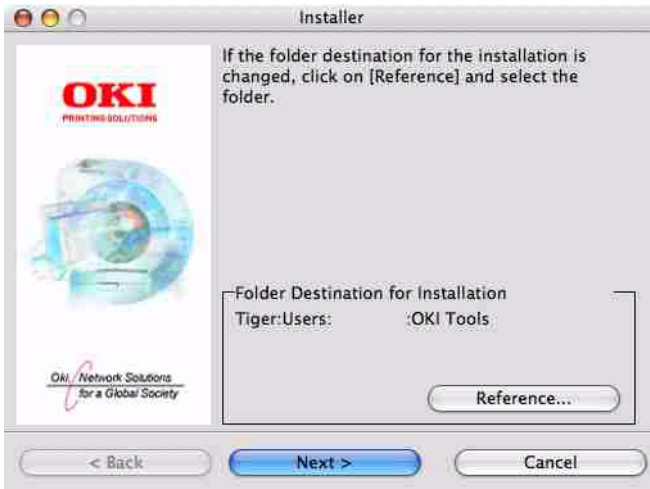
The Printer Setup Utility is a powerful MacOS-based utility for configuring all print server functions using a graphical user interface.

INSTALLING THE PRINTER SETUP UTILITY

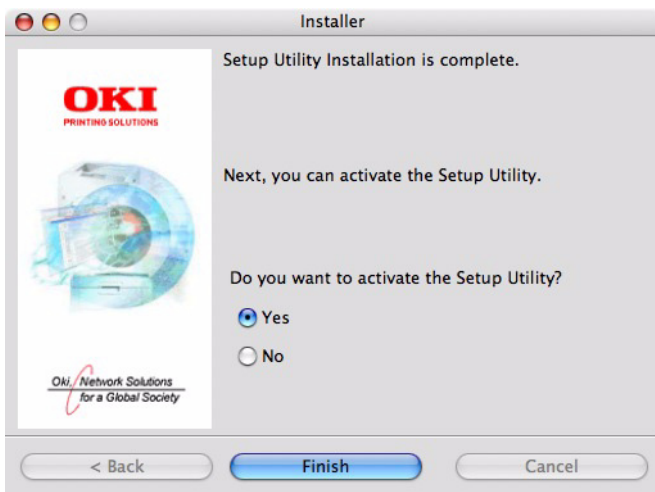
1. Insert the Network & Utilities CD into the CD-ROM drive.
2. Open the Printer Setup Utility folder and double-click **Installer**.



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



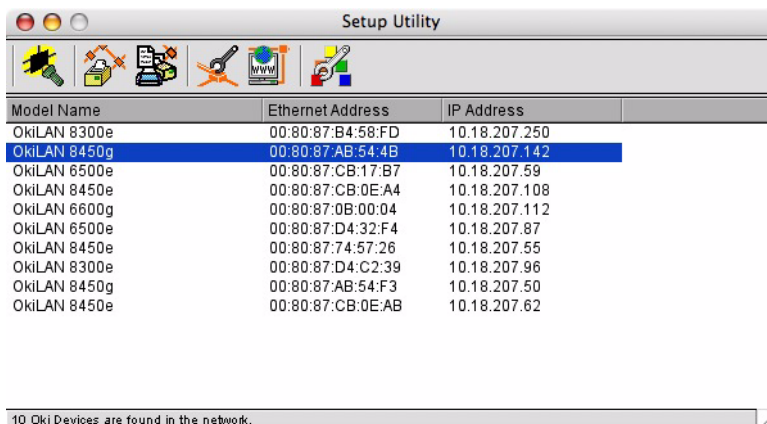
4. Ensure the **Yes** option is selected to activate the utility, then click **Finish**.



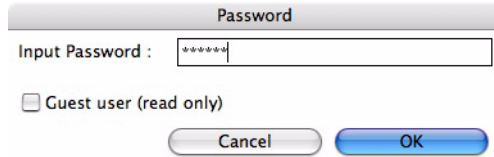
THE PRINTER SETUP UTILITY INTERFACE

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.

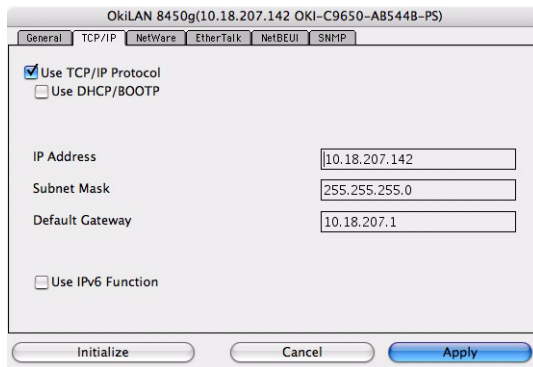


A dialog box titled "Password" with a text input field labeled "Input Password :". The field contains six asterisks. Below the field is a checkbox labeled "Guest user (read only)". At the bottom are two buttons: "Cancel" and "OK".

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.

3. Select the TCP/IP tab and assign your printer's IP address.
4. Click **Apply**.



A dialog box titled "Ok!LAN 8450g(10.18.207.142 OKI-C9650-AB544B-PS)" with tabs for "General", "TCP/IP", "NetWare", "EtherTalk", "NetBEUI", and "SNMP". The "TCP/IP" tab is selected. It contains the following options and fields:

- Use TCP/IP Protocol
- Use DHCP/BOOTP
- IP Address: 10.18.207.142
- Subnet Mask: 255.255.255.0
- Default Gateway: 10.18.207.1
- Use IPv6 Function

At the bottom are three buttons: "Initialize", "Cancel", and "Apply".

MENU OPTIONS

Discover Printers

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

Printer status monitor

Displays the current status of the printer.

Printer NIC card summary

Displays the network card summary details.

Change settings

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**.

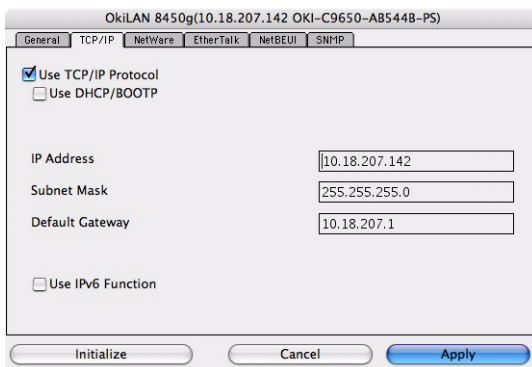
2. Enter the current value, then enter the new value and re-enter it under **Confirm ...**

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.

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: PSEVER 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

OkilAN 8450g(10.18.207.142 OKI-C9650-AB544B-PS)

General TCP/IP NetWare **EtherTalk** NetBEUI SNMP

Use EtherTalk Protocol

Printer Name

Zone Name

Initialize Cancel Apply

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

Ok!LAN 8450g(10.18.207.142 OKI-C9650-AB544B-PS)

General TCP/IP NetWare EtherTalk **NetBEUI** SNMP

Use NetBEUI Protocol

Short Printer Name

Workgroup

Comment

Initialize Cancel Apply

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

OkiLAN 8450g(10.18.207.142 OKI-C9650-AB544B-PS)

General TCP/IP NetWare EtherTalk NetBEUI **SNMP**

MIB-II Parameters

SysContact

SysName

SysLocation

Initialize Cancel Apply

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

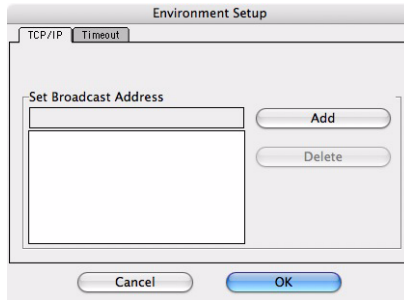
Open web browser

Displays the printer web page.

Change utility preferences

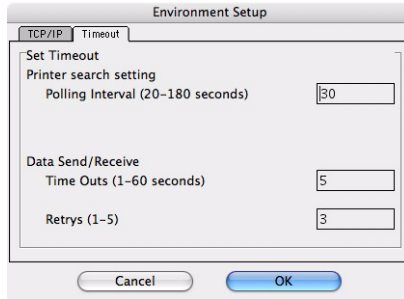
Use this to configure the utility preferences for broadcast addresses for TCP/IP protocol and Time Out.

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



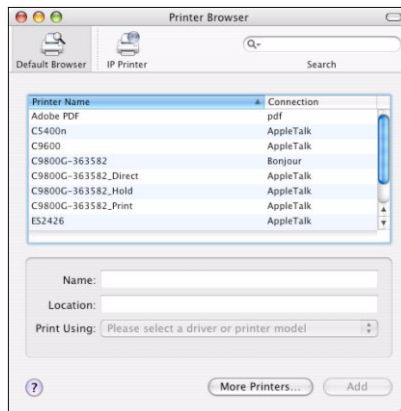
ITEM	COMMENTS
Set Timeout: Printer Search	[Search Every (20-180sec)] Set the response waiting time from the network card in seconds. Default is 30 seconds.
Set Timeout: Data Send/Receive	[Time Outs (1-60sec)] Set time out between AdminManager and the network interface card in seconds. Default is 5 seconds.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

CONNECTING TO YOUR PRINTER

TIGER (10.4)

Bonjour, AppleTalk or USB

1. Launch Printer Setup Utility
This is located in the **Applications > Utilities** folder.
2. Click **Add...**
3. Select your printer model from the Default Browser.

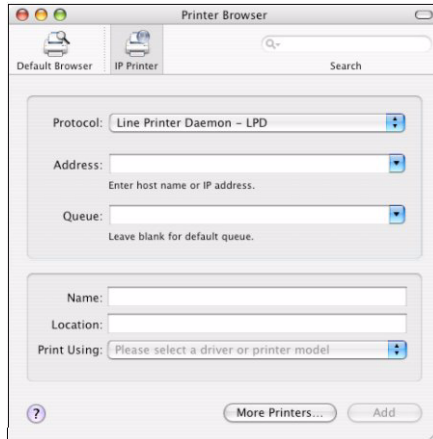


4. Click **Add**.
Depending on the connection type, you may be prompted to configure any additional printer hardware options. If your printer has options such as a hard disk or second tray, switch on the relevant options.
5. Quit Printer Setup Utility.

TCP/IP Connection

1. Launch Printer Setup Utility
This is located in the **Applications > Utilities** folder.
2. Click **Add...**
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**.



6. Check the correct PPD file for your printer is selected in the Print Using menu.
7. Click **Add...**
You will be prompted to configure any additional printer hardware options. If your printer has options such as a hard disk or second tray, switch on the relevant options.
8. Click **Continue**.
9. Quit **Printer Setup Utility**.

PANTHER (10.3) AND JAGUAR (10.2)

Rendezvous

NOTE:

- > *This utility is called Print Center on Mac OS X 10.2.x.*
 - > *If your printer is already listed, your Mac may already have discovered the printer before you installed the Oki software. In this case, the printer may be using the incorrect PPD file or may not have the correct hardware options configured. You should delete the printer, quit Printer Setup Utility, and re-launch the utility before continuing.*
-

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

1. Start the Printer Setup Utility.
This is located in the Applications > Utilities folder.
2. Click **Add...**
3. From the pop-up menu, choose **Rendezvous**.
4. Select the printer you wish to connect to.
5. Click **Add**.
6. Click the Printer Setup Utility menu, and choose **Quit Printer Setup Utility**.

After adding the printer, you should configure printer hardware options. Refer to ["Configuring printer hardware options" on page 67](#).

IP CONNECTION

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

1. Start the Printer Setup Utility.

This is located in the **Applications > Utilities** folder.

NOTE:

- > *This utility is called Print Center on Mac OS X 10.2.x.*
- > *If your printer is already listed, your Mac may already have discovered the printer before you installed the Oki software. In this case, the printer may be using the incorrect PPD file or may not have the correct hardware options configured. You should delete the printer, quit Printer Setup Utility, and re-launch the utility before continuing.*

-
2. Click **Add...**
 3. Click the pop-up menu and choose **IP Printing**.
 4. Click the **Printer Type** menu and choose **LPD/LPR**.
 5. Enter the printer's IP address.

To find the printer's IP address, you can print a configuration page from the printer's operator panel:

- (a) Press the **Menu** keys until **Print Information** is displayed.
- (b) Press the **Enter** button.
- (c) Press the **Menu** keys until **Configuration** is displayed.
- (d) Press the **Enter** button.
- (e) Confirm that **Execute** is displayed, then press the **Enter** button.

The Configuration pages are printed. The printer's IP address is shown under the Network section on the left-hand side of the first sheet.

6. Enter the queue name. If you do not know the queue name, leave it as **Use Default Queue on Server**.

7. Click the pop-up menu and choose your printer model.
8. Click **Add**.
9. Click the Printer Setup Utility menu, and choose **Quit Printer Setup Utility**.

After adding the printer, you should configure printer hardware options. Refer to ["Configuring printer hardware options" on page 67](#).

AppleTalk connection

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

1. Start the **Printer Setup Utility**.

This is located in the **Applications > Utilities** folder.

NOTE:

This utility is called Print Center on Mac OS X 10.2.x.

2. Click **Add...**
3. From the pop-up menu, choose **AppleTalk**.
4. Select the printer you wish to connect to.
5. Click **Add**.
6. Click the **Printer Setup Utility** menu, and choose **Quit Printer Setup Utility**.

USB connection

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

1. Start the Printer Setup Utility.

This is located in the Applications > Utilities folder.

NOTE:

- > *This utility is called Print Center on Mac OS X 10.2.x.*
 - > *If your printer is already listed, your Mac may already have discovered the printer before you installed the Oki software. In this case, the printer may be using the incorrect PPD file or may not have the correct hardware options configured. You should delete the printer, quit Printer Setup Utility, and re-launch the utility before continuing.*
-

2. Click Add Printer...
3. From the pop-up menu, choose USB.
4. Choose a printer to connect to.
5. Click Add.
6. Click the Printer Setup Utility menu, and choose Quit Printer Setup Utility.

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. Start the **Printer Setup Utility**.

This is located in the **Applications > Utilities** folder.

NOTE:

This utility is called Print Center on Mac OS X 10.2.x.

Ensure that your printer model is selected.

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**.

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 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.

NOTE:

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

UNIX

NOTE:

- 1. This section does not apply to GDI printers.**
 - 2. Not all utilities are supported by every operating system. Please check with your User's Guide and your support website for latest information.**
-

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.

NOTE:

If you do not have superuser rights, the network manager should conduct the configuration.

- 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
temp
```

The Ethernet address (MAC address) 00:80:87:01:00:D2 in the above example can be determined from the network card self-diagnostic test.

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 '^'.
EthernetBoard 8100e TELNET server
login: root
'root' user needs password to login.
password: <CR>
User 'root' logged in.
No. Message Value (level .1)
1 : Setup TCP/ IP
2 : Setup SNMP
3 : Setup NetWare
```

```
4 : Setup EtherTalk
5 : Setup NetBEUI
6 : Setup printer trap
7 : Setup SMTP (Email)
9 : Maintenance
10 : Setup printer port
11 : Display status
12 : IP Filtering Setup
97 : Network Reset
98 : Set default (Network)
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. Message Value
1 : TCP/ IP protocol : ENABLE
2 : IP address : 192.168.20.127
3 : Subnet Mask : 255.255.255.0
4 : Gateway address : 192.168.20.1
5 : RARP protocol : DISABLE
6 : DHCP/ BOOTP protocol: DISABLE
7 : Auto IP Address : DISABLE
8 : DNS Server (Pri.) : 0.0.0.0
9 : DNS Server (Sec.) : 0.0.0.0
10 : root password : "*****"
11 : Auto Discovery Setup
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 *Myprinter_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
<code>lp</code>	For direct output
<code>sjis</code>	For Shift JIS Kanji converted output
<code>euc</code>	For EUC Kanji converted output

- > `sjis` and `euc` function only as PostScript printers.

BSD-based UNIX

Print using the **lpr** command.

```
# lpr Pmyprn_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 Pmyprn_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.

- > While the short format of *lpq* is a UNIX compatible format, the long format is unique to this network interface.

Example of the short format: # lpq Pmyprn_lp

Example of the long format: # lpq Pmyprn_lp_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 myprn_lp
```

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 F'TP 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 /lp
```

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

Ensure the printer emulation is set to *PS* or *Automatic*.

NG IS PRINTED IN THE SELF-DIAGNOSTIC TEST OR FLASH ROM CHECK REGISTERS NG

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

Press the reset button on the rear panel, close to the network interface to re-initialize it.

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*, *eut* and *sjis*. Use *lp* by default as *eut* 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.

NETBEUI

THE NETWORK INTERFACE CARD IS NOT IDENTIFIED.

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

Check the network cable is correctly connected.

Change the cable and try again.

Check Microsoft Network Client and NetBEUI have been added to the network section of the Windows Control Panel.

Check the NetBEUI protocol is set to **Enable**.

Check the factory setting of the workgroup name is **PrintServer** and the computer name is ML+ the last six characters of the MAC address.

Check the computer name of the NIC is different from the computer name on the network.

ERROR WRITING TO PRN1

Check the printer is online.

If there is an error message indicating the paper has run out, add more paper and cancel the error.

Check whether another user is printing. Print after the other user has finished.

MAC

BLANK PAGES OR GARBLED TEXT PRINTED

Symptoms:

When printing via a USB or TCP/IP connection, you receive blank pages or pages printed with a line of garbled text.

Cause:

This issue is normally caused by the data being sent to the printer in binary format. The printer may not be able to understand data in this format, and therefore may print blank pages or garbled text.

Solution:

In your applications print options, there may be an option to send data as ASCII. Choose this option, and print your document.

For example, in Adobe Photoshop 7 or Adobe Photoshop CS:

- 1.** Click the File menu and select **Print with Preview**.
- 2.** Click the box **Show More Options**.
- 3.** From the pop-up menu, choose **Output**.
- 4.** From the pop-up menu **Encoding**, choose **ASCII**.

BANNER PRINT IS ROTATED BY 90 DEGREES AND IS PRINTED AT THE BOTTOM OF THE PAPER

Mac OS X 10.2.3 or greater

Possible causes and solutions:

- > Not enough RAM in the printer to process the print job.

- Try printing at a lower resolution.
 - > Incorrect custom paper size being specified.
 - Ensure that the **Custom Paper Size** in both the printer driver and your application are exactly the same.
-

NOTE:

- > *Ensure that the custom paper size is correct in the printer driver (e.g. 320 x 900mm).*
 - > *If the custom paper size is wrong (e.g. 328 x 900mm), the OS X PostScript driver will replace this with the default paper size - normally A4.*
-

Mac OS 10.2.3 - 10.2.8 only

- > The print job may have been rotated by your application.

An anomaly in the core Mac OS X 10.2.x causes custom paper sizes to be incorrectly rotated by 90 degrees, the Oki PostScript Printer Description (PPD) file implements a counter-rotation to solve this problem. However, some applications such as Quark Xpress or Macromedia Freehand may create their own PostScript code. For these applications, the custom paper size rotation issue does not apply.

In such cases, if the Oki PPD file is selected in Quark or Freehand's print dialog, the print job will be incorrectly rotated by 90 degrees.

The Oki printer driver contains a Page Rotate option – this may be used to fix the problem. Alternatively, you may be able to rotate the page in your application program.

NO PRINTING OR PRINT QUEUE STOPPED

Symptoms:

Upon sending a job to the printer, the job disappears completely and is not printed, or the job remains stalled in Printer Setup Utility (Print Center).

Cause:

The Oki printer PostScript Printer Description (PPD) file has a dependency on a filter file. This filter file must be installed the following location:

```
/usr/libexec/cups/filter/OkfilterA
```

If this file is deleted, or is not present on your computer, jobs will not be sent to the printer at all. This can happen if you deleted this filter file, or if you copied a PPD file from another Mac and did not use the Oki Software installer.

Solution:

Run the Oki printer software installer contained on the CD-ROMs that were supplied with your printer. This will install the CUPS filter file and allow normal printing.

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