SAMSUNG

User's Guide

SYNC HRU™

SyncThru

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March, 2003

Trademark Notices

SAFETY INFORMATION

Safety and Regulatory Listing for this printer.

PRODUCT SAFETY

USA	UL 1950(UL listing)
CANADA	CSA C22.2-950(CSA Certification)
EEC(Europe)	IEC 60950/EN 60950(TÜV GS Certification)
CB	IEC 60950

LASER SAFETY

EEC(Europe)	HD 194. & EN 60825
USA	21 CFR, Chapter 1, Subchapter J(CDRH Certified)

EMISSION INFORMATION

Emission listing for this printer.

USA/CANADA	FCC	PART15	CLASS B
EEC(Europe)	CE	EN55022	CLASS B

Contents

Chapter 1 Introduction

Overview **1.1**
Features **1.2**
Easy installation 1.2
Automatic Protocol Switching 1.2
Supporting various network environments 1.2
Status Monitoring 1.3
Firmware Upgrading through Internet 1.3
Package Contents **1.4**
Items Supplied 1.4
System Requirements **1.5**
Software requirements 1.5
Hardware requirements 1.5

Chapter 2 Windows Configuration

Overview **2.1**
Installing SyncThru **2.2**
Windows 95/98/NT/2000/XP 2.2
Installing the Print Server in Compact Mode **2.3**
Auto Detection of Print Servers **2.4**
Configuring the Print Server (For Administrators) **2.6**
Printing with the IPP(Internet Printing Protocol) **2.9**
Set up the print server for IPP 2.9
Set up a client to use the printer 2.10
Printing using the IPP Client Program 2.10
IPP Security 2.11
Installing the Print Server (For Users) **2.12**
Making sure that the Printer is connected to the Network 2.13
Printing using LPD in a Windows NT environment **2.14**
Configuring Windows NT for TCP/IP printing 2.14
Creating an LPR-compatible printer 2.15
Installing DLC/LLC **2.16**
Setting up a DHCP server on Windows NT **2.17**
Using SMB/NetBEUI **2.19**
Installing NetBEUI protocol on the PC(WIN 9x/Me/NT/2000/XP) 2.19
Installing the Printer 2.22
Functions of the Main Configuration Menu **2.23**
Menu bar 2.23
Tool Bar 2.25
Printer Icons 2.25
Status Bar 2.25
Uninstalling SyncThru **2.31**

Chapter 3 AppleTalk Configuration

Overview 3.1
Configuring AppleTalk on a Windows PC 3.2
Configuring the Macintosh System for Network Printing 3.3

Chapter 4 Netware Configuration

Overview 4.1
Configuring NetWare 4.2
Configuring Novell Server 4.4
NetWare MultiProtocol Router 4.4
How to configure the Novell server 4.4
Configuration Using SyncThru(ML-7300N/ML-1651N/ML-1451N) 4.5
Adding a Queue 4.5
Configuring a Printer 4.6
Adding a Printer 4.7
Configuration Using SyncThru(Other Models) 4.8
Creating a Queue 4.8
Configuring a Printer 4.8
Monitoring Status 4.9

Chapter 5 Unix Configuration

Overview 5.1
Configuring the IP Address for PortThru 5.2
Using BOOTP/TFTP 5.2
Using RARP 5.2
Using DHCP 5.3
Setting up Print Queues 5.4

Chapter 6 Upgrading the Firmware

Overview 6.1
Upgrading the Firmware in a Windows Environment 6.2

Chapter 7

Configuration Parameters

Overview **7.1**
Parameters **7.2**
General Parameters 7.2
Boot Parameters 7.2
IP Parameters 7.3
General IPX Parameters 7.3
NetWare Pserver Parameters 7.4
NetWare Rprinter Parameters 7.4
AppleTalk Parameters 7.4
SNMP Parameters 7.5
SNMP Trap Destination Table 7.5
SNMP Community Name Table 7.5

Chapter 8

Troubleshooting

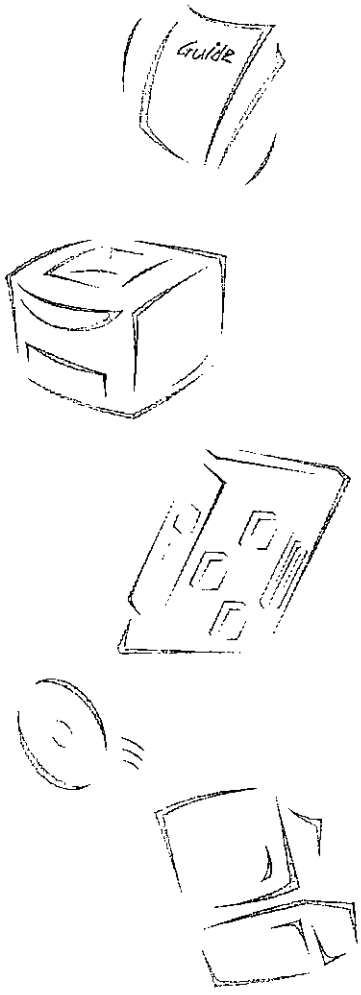
Overview **8.1**
Troubleshooting Guidelines **8.2**
General Problems 8.2
Macintosh Problems 8.3
Windows Problems 8.3
SyncThru Installation Problems 8.4
Firmware Upgrade Problems 8.5

Appendix

Specifications **A.1**
Index **A.3**

Chapter 1

Introduction



Overview

This guide explains how to install and use the Samsung SyncThru software provided with the Samsung Network Printer Card (PortThru). Samsung SyncThru is an administrative tool that enables you to install, configure, and manage network printers using PortThru. Samsung PortThru is an optional card for the Samsung Network Printer, which allows you to attach Samsung Printers directly to your network from any location.

PortThru supports various network environments such as Window 95/98/Me/NT/2000/XP, Novell NetWare, Unix, and Macintosh 7.0 or higher. For more information, you can simply refer to the chapters covering each network environment.

This manual assumes that you meet the following requirements:

- A good working knowledge of your network utilities
- A supported network operating system
- A fully operational computer system.
- Access to the supervisor account as a network administrator, or access to an account that has supervisor and print server operator privileges.

CAUTION

Operating Requirements

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antennas or transmitters. Please maintain 20 cm separation distance from the antenna to meet FCC RF exposure compliance requirements.

Features

Easy installation

Samsung PortThru is a plug-in card that you can manually insert with ease into Samsung printers.
The compact disk (CD) shipped with the Samsung printer contains SyncThru for network printing. SyncThru is a configuration program that helps you manage your network printers. When you load the CD into your computer, SyncThru will be installed automatically.

Automatic Protocol Switching

Printers using Samsung PortThru can support various protocols to optimize your network status. Switching between network protocols is performed automatically.
Depending on your printer and network, you may configure the print server for a designated combination of network protocols, a single network protocol, or automatic switching between all network protocols. With this function, administrators can select the most suitabie protocol for any location.

Supporting various network environments

Administrators can configure and monitor printers on the following supported network operating systems:

- Microsoft Windows 95/98 (TCP/IP, IPX/SPX, DLC/LLC)/Me(TCP/IP,IPX/SPX)
- Microsoft Windows NT v3.51, 4.0, 2000 (TCP/IP, DLC/LLC, LPD),XP(TCP/IP,LPD)
- Novell NetWare v3.x, 4.x, 5.x, 6.x(IPX/SPX)
- Macintosh 7.0 or higher(AppleTalk)
- HP-UX, SunOS, Solaris and Linux(LPD)

Unix

Unix servers can be AT&T system V(Rel 4.2), BSD4.3, HP-UX(Rel 9.x & Rel 10.x), SCO 5.x, SUNOS 5.5, Sparc or Solaris 2.5. Samsung PortThru helps you print data on these systems using LPD.

Novell NetWare

Novell Servers, NetWare versions 3.x or 4.x, 5.0 use the IPX protocol. When you log onto these servers, you can use the Samsung printer attached to the LAN. You may use conventional NetWare print utilities for printing. PortThru supports NDS and Bindery, which are databases for the NetWare operating system. The network manager should be used to administrate print servers and queues relating to the Samsung network printer before you use it.

Macintosh

Macintosh 7.0 or higher workstations have applications, like LaserWriter8, to access printers on the LAN. These applications use the AppleTalk protocol that PortThru supports. You can use the applications to print data using the Samsung network printer.

Windows

SyncThru is the software that runs on Microsoft Windows systems. It is used for installing and configuring PortThru and monitoring the status of it. After installation, the Samsung network printer appears in the list of printers displayed in the application and helps you print data to this printer.

Status Monitoring

You can see the current status of the printer in SyncThru(READY, PRINTING, OFFLINE, etc) . When using the Samsung print server, your printer appears as an intelligent, manageable node on the network and is accessible through various diagnostic utilities. The print server also collects network statistics and error messages for troubleshooting. You can also change the printer property settings displayed on the SyncThru window.

SAMSUNG Web SyncThru

Samsung PortThru supports an embedded web server for monitoring and configuring network printers using a web browser. Users can install and manage them via Samsung Web SyncThru easily.

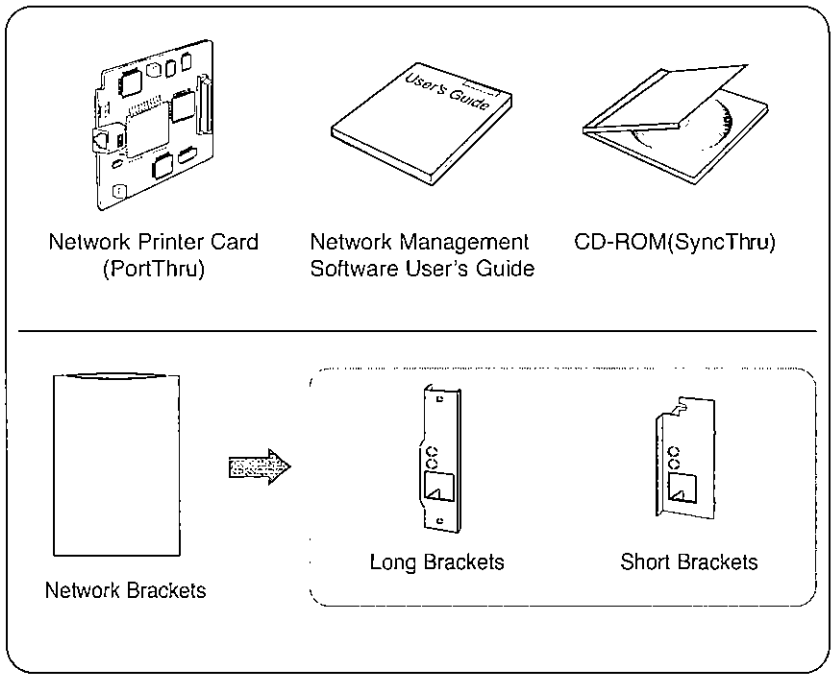
Firmware Upgrading through Internet

The upgrade file is available from designated websites for upgrading PortThru. Samsung offers downloadable electronic upgrades from www.samsungelectronics.com.
For information about downloadable electronic upgrades, refer to the corresponding chapters.

Package Contents

When unpacking the network printer card, you should find the following items.

Items Supplied



Note: •*Before installing the PortThru card to your printer, you should attach one of the brackets above by using two screws provided according to the type of your printer model.*

•*The card may come with the bracket attached depending on your printer model.*

•*The shape of the bracket may differ depending on your printer moder.*

System Requirements

The following lists show software and hardware requirements to configure a Samsung printer for network applications.

Software requirements

Novell NetWare version 3.x, 4.x or 5.0
Macintosh system 7 or higher
Windows 95/98/Me/NT/2000/XP
Unix(SysV3.x, 4.x, SCO), SUNOS 5(SUN Sys V, Solaris 2.x),
HP-UX(HP9000) SUN OS4(SUN BSD, Solaris 1.x), Linux.

Hardware requirements

For PC

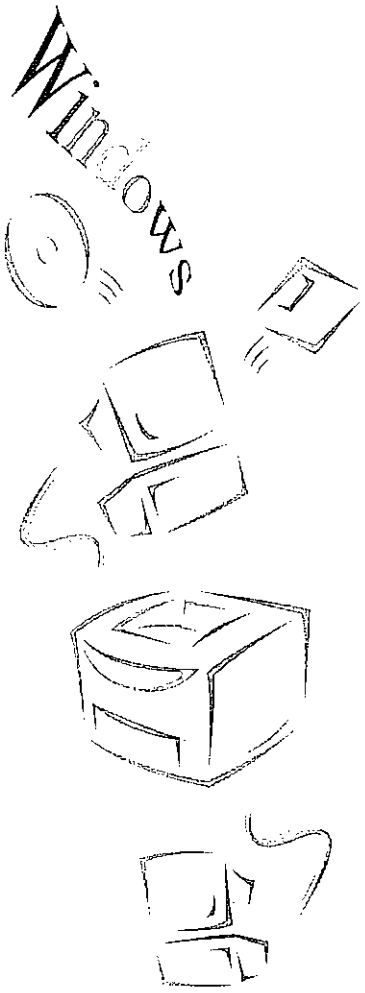
80486 CPU or higher
Minimum of 16 MB of RAM
2MB of free disk space

For Mac

68020 or higher processor (or PowerPC)
Minimum of 8 MB of RAM
2MB of free disk space

Chapter 2

Windows Configuration



Overview

This Chapter explains how to install the SyncThru program and set up the Print server for a Microsoft Windows environment.
The SyncThru installation method is the same for Windows 95/98/Me and Windows NT/2000/XP environments.
Configuration of print servers for each OS environment differs, and these configuration methods will be covered in this chapter.

Installing SyncThru

Windows 95/98/Me/NT/2000/XP

Note: This method will work only if Auto Insert Notification is enabled in your CD-ROM settings.

1. Place the CD-ROM in the CD-ROM drive, Install will start automatically.
2. When the opening screen appears. Select the appropriate language.
3. After the **Welcome** screen pops up, click **NEXT**.
4. Type the user name and company.
   Click on the **NEXT** button.
5. The **Choose Destination Location** box allows you to choose where the software will be installed. To install to the default folder, click **NEXT**. To install to a different folder, click **Browse** and select another folder.
6. Setup will add program icons to the **Program Folder** listed in the **Select Program Folder** box. You may enter a new folder name, or select one from the existing folder list. Click **NEXT** to continue.
7. You will see the decision box indicating **Compact** or **Full** modes.

   If you select **Compact** mode, the **SyncThru** will not be installed. In this case, you can use the Windows Print Manager to install printers by assigning printer addresses (IP address or IPX address). This mode should be used when you want to use the printing function without the need to view or change printer status or printer options.
   If you select **Full** mode, the **SyncThru** will be installed and you can use all the functions of the program.

   Select the setup type you want to install and then click **NEXT**.
8. Restart your computer.

Note: The CD provided by Samsung contains a web browser which can be installed to use Web SyncThru.

If Auto Insert Notification is not enabled on your computer

1. Insert the compact disk into the CD-ROM drive.
2. Select Start-Run from the Windows task bar.
3. Type d:(or c:)\ cdsetup.exe on the command line, then click OK.
4. Follow the instructions on the screen.

Installing the Print Server in Compact Mode

On Windows 95/98/Me

1. Select **Printers** in the Control Panel. Right click on the desired printer icon and select **Properties**.

2. Select the **Details** tab and click on **Add Port**.

3. Select **Samsung Network printer Port** in the **Other** list.

4. You can see the configured print servers that are displayed in the upper box. Choose the print server that you want to use, and the default port name will be displayed in the lower box. If you want to use another port name, type in the alternate port name, then click **OK**. Otherwise just click **OK**.

5. If your print server name is not displayed, press the **Add New Print Server to List** button. Type in the information for your print server under **Print Server Name**, **IP address**, **IPX address**, or **MAC address**, then click **OK**.

6. The port name is displayed in the **print to the following port** window.

On Windows NT/2000/XP

1. Select **Printers** in the Control Panel and double click on **Add Printers**. Choose **My Computer** and click **Next**.

2. Click on **Add Port** to configure a new port for the printer to be installed.

3. Choose **Samsung Network printer Port** and click **New Port**.

4. You can see the configured print servers that are displayed in the upper box. Choose the print server that you want to use, and the default port name will be displayed in the lower box. If you want to use another port name, type in the alternate port name, then click **OK**. Otherwise just click **OK**.

5. If your print server name is not displayed, press the **Add New Print Server to List** button. Type in the information for your print server under **Print Server name**, **IP address**, **IPX address**, or **MAC address**, then click **OK**.

6. Click **Close**.

7. You can see the new port name in the **Available Ports** list. Choose the port name that was set in step 4 and click **Next**.

Auto Detection of Print Servers

SyncThru provides an advanced Auto detection feature. When you connect your printer to the network, click on the **refresh** button on the Tool bar. There are three types of print servers identified with icons in the Print Server list. Each print server list shows print servers connected to the network:

The icon identifies **New Print Servers**. You can automatically detect **New Print Servers** when you connect a new PortThru card to the network. **New Print Servers** shows print servers that have not been configured yet.

The icon identifies **Configured Print Servers**, which shows print servers which have been configured through the **Network Interface** menu item.

The icon identifies **Installed Printers**, which shows the configured print servers for which you have installed drivers and have added a port.

You can set the protocol for the PortThru card through SyncThru by using Auto detection. The protocols that PortThru supports are DLC/LLC, TCP/IP, and IPX/SPX which are recommended to be enabled. You can select more than one of these protocols, in which case, make sure that the protocols are installed on your computer.

When you select several protocols, Auto Detection selects one of the protocols with the following priority:

1. DLC/LLC

When SyncThru uses the DLC/LLC protocol, it can automatically detect **New** and **Configured Print Servers** with auto detection. In this case, the SyncThru program and the PortThru card should be on the same network. If SyncThru and PortThru are on different networks connected by a router, SyncThru will not automatically detect a **Configured Print Server**. If only using the DLC/LLC protocol without supporting software, you can not use a print server on a different network connected by a router.

2. TCP/IP

When SyncThru uses the TCP/IP protocol, it can automatically detect **Configured Print Servers** (providing the printer has an assigned IP address). In this case, SyncThru and PortThru should be on the same network. If SyncThru and PortThru are on different networks connected by a router, SyncThru will not automatically detect a **Configured Print Server**. But you can install the printer using the **Locate Printer** function. If only using the TCP/IP protocol, you can configure a **New Print Server** using the front panel of the printer.

3. IPX/SPX

When SyncThru uses the IPX/SPX protocol, it can automatically detect all **New** and **Configured Print Servers** in a LAN environment. In this case all NetWare File Servers and IPX routers on the same network should be configured with the same IPX Network number. When more than two IPX frame types (you can select them through Network Interface menu) are used, each frame type should have unique Network addresses for all routers or servers on the network.

*Note: In the case of **Installed Printers**, the features of auto detection in each protocol are the same as in **Configured Print Servers**.*

Configuring the Print Server (For Administrators)

Administrators should complete configuring the PortThru settings before users can install the print server to their computers

Detection of Print Servers

1. Click the **refresh** icon on the Tool bar in the main screen.

   There are three types of print servers identified with icons in the Print Server list. Each print server list shows print servers connected to the network

   (New Print Servers): This shows print servers that have not been configured yet. You can automatically detect New Print Servers when you connect a new PortThru card to the network.

   (Configured Print Servers): This shows print servers that have been configured through the Network Interface menu item.
   You can set print servers to Configured Print Servers on the front panel as well.

   (Installed Printers): This shows the configured print servers for which you have installed drivers and have added a port.

Configuration of Print Servers

1. Configuring of General Parameters
   a. Click on the name of **New Print Server**, then click the **Network Interface** icon .
   b. Select **General** tab.
   c. Type in the **Printer Name** and **Printer Description**.
   d. If you want to set a password check the **Enable Password Protection** check box and set the password as described below:

   * *Setting Password*
   *If the **Enable Password Protection** check box is checked, the **Set Password** button will be enabled. If the **Set Password** button is clicked and there is no existing password, you will be prompted to enter a new password and confirm it. If a password already exists, the old password must be typed in to change the password.*

   e. Click **OK**.

2. Configuring TCP/IP
   a. Click on the name of **New Print Server**, then click the **Network Interface** icon .
   b. Select **TCP/IP** tab.
   c. If you want to use the TCP/IP protocol for the Samsung PortThru card, check the **TCP/IP Enabled** check box.

Note: Turn the printer off and on when PortThru does not function after operating TCP/IP Enabled.

If you don't want to use TIP/IP protocol, set it to disabled and go to step f.

d. Select the desired **IP Address Assignment Method**. If you select **BOOTP, RARP** or **DHCP**, you need to configure the server in Windows NT or Unix environment. If Static is selected, go to step **e**. If you select BOOTP, RARP or DHCP, go to step **f**.
e. Enter the **IP Address, Subnet Mask, Default Gateway** assigned to your print server under **TCP/IP Parameters**.
f. Click **OK**.

3. Configuring **NetWare**
a. Click on the name of **New Print Server**, then click the **Network Interface** icon.
b. Select **NetWare** tab.

Note: Turn the printer off and on when PortThru does not function after operating NetWare Enabled and IPX Frame Type.

c. If you want to use IPX/SPX protocol, then check the **NetWare Enabled** check box.
d. Select an **IPX Frame Type** according to your network environment or choose **Auto** for automatic selection.
If you don't want to use IPX Frame Type, set it to disabled and go to step f.
e. Other parameters can only be entered if NetWare client is installed on the PC (more details in Chapter 4).
f. Click **OK**.

4. Configuring **AppleTalk**
a. Click on the name of **New Print Server**, then click the **Network Interface** icon .
b. Select **AppleTalk** tab. AppleTalk tab can be enabled only when PS option is installed in your PC.
c. If you have AppleTalk on your network, check the **AppleTalk Enabled** check box. If you don't want to use AppleTalk, set it to disabled and go to step f.
After enabling the protocol in the **AppleTalk** tab, AppleTalk will take around 50 seconds to initialize, during which the message "AppleTalk is coming up" will appear.
If you can see this message after getting out of AppleTalk and selecting it again, AppleTalk is successfully initialized.

Note: Turn the printer off and on when PortThru does not function after operating AppleTalk Enabled.

d. Enter the **AppleTalk Printer Name.** It enables you to provide a name to the printer on a Macintosh system.
Last Error Occurred enables you to make use of a window to display the status of the AppleTalk name registration - which will either be in progress or in conflict. In case of conflict, the AppleTalk protocol is automatically turned off.
e. Enter the **Timer Value for ageing A-ROUTER entry**. The time in seconds after which the routing table entry maintained by the RTMP protocol is ages.

f. You can see the **Current Zone** which is the name of the location of PortThru.

g. Enter the **Wait Time before retransmitting a Tickle packet**. It enables you to define the interval in seconds after which the PAP protocol used by PortThru should resend a tickle packet to verify the status of the PAP connection between the PortThru card and the Macintosh system.

h. Click **OK**.

5. Configuring **SNMP**

a. Click on the name of **New Print Server**, then click the **Network Interface** icon .

b. Select **SNMP** tab.

c. If using SNMP on your network, check the **Enable Authentication Traps** check box.

Note: Turn the printer off and on when PortThru does not function after operating Enable Authentication Traps.

d. Specify the **IP Address** of the host system to which the trap should be sent and **Community Name** of the host system. You can specify as many as five **IP Address/Community Name** pairs. One pair can be viewed at a time and the other pairs can be individually viewed by pressing address pair bar.

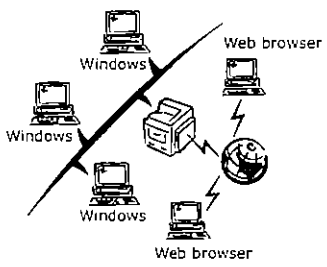
e. Specify the **Community Name/Access Permission** pairs. You can configure as many as five **Community Name/Access Permission** pairs (for Reading or Writing).

f. Click **OK**.

Printing with the IPP (Internet Printing Protocol)

IPP allows remote printing across the Internet. Using the Samsung network interface card, you can set up your printer for Internet printing.

IPP allows you to send a print job to your printer from a remote place if you are an Internet user, no matter what operating system you use or where you are.



For example, when you want to send a document from a foreign country to your company, you can send it as an E-mail attachment. But the document cannot be printed if your company doesn't have the system or program where the document was made. In this case, you can send your print job directly to a printer in your company using the IPP.

Set up the print server for IPP.

The network administrator must specify information required for IPP, such as URI (Uniform Resource Identifier).

1.Run SyncThru, select the printer you want to configure from the list, and click the Network Interface icon on the toolbar.

2.Click the **IPP** tab in the Network Interface window.

3.Configure the parameters.

Printer URI : Enter the URL of the printer using the following format:
ipp://the IP address of the printer or http://the IP address of the printer:631
(Ex:ipp://168.10.17.82 or http://168.10.17.82:631) 631 is the IPP port number.

- **Printer Name** : Enter the network printer 's name to use with the IPP printing.
- **Operator message** : Enter the printer information for printer users.
- **Printer Location** : Enter the name of the location where the printer is physically located.
- **Printer Information** : Enter additional information about the printer.
- **Multiple Operation Timeout** : Enter the time the printer ends a print job. When there is no incoming data after the specified number of seconds,the printer ends the reception.
- **Time to Keep Jobs in History** : Set the length of time the IPP printer keeps the job information.

4.Click **OK** to close the Network Interface window.

5.Turn your printer off and back on to apply the IPP settings.

Set up a client to use the printer :

After the network administrator has configured the interface card, each printer users must install the IPP Client program and the printer driver and set the print port to Samsung IPP 1.1 Port Monitor.

Notes:•Before following the steps below, each printer user should install the printer driver. If the printer driver is not already installed on the computer, install the printer driver using the installation software that came with the printer. Select the local port (LPT)when you install the driver.

•You must install the IPP Client program to use IPP printing.

1.Open the Printer folder by selecting **Start -> Settings -> Printer.**
In Windows XP, select **Start -> Printers and Faxes.**

2.Right-click on the printer driver and select **Properties** from the pop-up menu.

3.In Windows Me/98/95,click the **Details** tab.
In Windows XP/2000/NT4.0,click the **Ports** tab.

4.Click **Add Port.**

5.Select **Other** and then **Samsung IPP Port** . Click **OK** .

6.Enter the **printer URL** and port name. Then click **OK** .

7.The selected port displays on the print port list. Click **OK** .To send a job to the network printer, select the printer from the application program.

Printing using the IPP Client Program

You can print *.txt or *.prn files using the IPP Client program. You can select print options, such as the number of copies, print quality, paper type and more. For more information about the IPP Client program, please refer to the User 's Guide that came with the program.

1. Making a *.prn file

In an application program, select Print to file .*.PRN file is created in the specified directory.Or, in the Port tab of the PCL 6 printer driver 's properties, set the print port to **File :(Create a file on disk).**

IPP Tab

If you want to use the internet printing feature,select the **IPP** tab.
You can enable the Internet Printing Protocol on the interface card.If the printer is properly connected and accessible,IPP allows printing to this device over the Internet (or intranet).A properly configured IPP client system is also required.

IPP Security

It allows administrator to choose authentication method and to create and modify user accounts: It consists of two items
(Authentication, User DB)

- **Authentication:** it can set user name and password encryption method(refer to http digest authentication in RFC).
- **User DB**: It can set user name and password for IPP printing. The number of 'User DB' slots is fixed to 10. Some of them can be unused, but the number of users can't be more than 10. When administrator makes double-click on the slot, User account dialog appears:

To clear slot(make in unusable), administrator should leave the "User name" field empty and press OK. During creation and modification of the user account following checks should be done:

- User name should be unique for all slots.
- User name should not include : symbol(this is the restriction of the HTTP basic authentication method)
- Password can't be empty.
- The length of user name and password should be less than 7

Installing the Print Server (For Users)

After administrators complete configuring the PortThru settings, users can install the print server to their computers.

Adding a Port

1. Click on the printer to install in the **Print Server** list.

2. Click on **Printers** on the menu bar at the top of the SyncThru screen, then select **Install Printer-Add Port**.

3. Select a printer by clicking on your print server name. The default port name is displayed in **Enter the Port Name**. If you want to use another port name, type in the alternate name and click **OK**. Otherwise just click **OK** to accept the default port name.

4. If your print server name is not displayed, press the **Add New Print Server to List** button. Type in the information for your print server under **Print Server Name**, **IP address**, **IPX address**, or **MAC address**, then click **OK**.

* *Add New Print Server to List*

When a user clicks on the ***Add Port*** *menu item under* ***Install Printer*** *in a Windows-32 bit environment, the* ***Add Port*** *dialog box is displayed. This dialog box shows the list of all the Samsung Print Servers in the network available for installation on the local host. The user can select an entry in this dialog box and associate a logical port by entering the port name in the edit box provided. If the print server that the user wants to install is not listed in the printers list, then the user can click the* ***Add New Print Server to List*** *button to specify a print server.*

Adding a printer

1. Click on **Printers** on the menu bar at the top of the SyncThru screen, then select **Install Printer-Add Printer**.

2. Click **Next**.

3. Click **Next**.

4. Select the Samsung printer driver according to your printer model, then click **Next**.
   (If you install printer driver using the CD-ROM provided, the printer driver displays on the Samsung Category. If you don't, you should perform the procedure above).

5. If the driver already exists, keep the existing driver, then click **Next**.

6. Select the port name (assigned above in Adding a port) and click **Next**.

7. Enter the **Printer name** and click **Next**.

8. Check **Yes** if you want to print a test page then click **Finish**.

Making sure that the Printer is connected to the Network

When you complete all configurations and procedures for installing a printer and click the **refresh** icon , you will see the print server name with icons in the **Print Servers** list. In order to verify that the print server is available to your PC perform the following steps:

1. Select the name of your **Installed Printers**.

2. Select **Print Test Page** under **Maintenance** on the menu bar.
   - A test page will be printed on the selected printer.

Note: After you select Installed Printers, you may click Properties which contains various options such as margins, orientation details, number of copies, etc.

Printing using LPD in a Windows NT environment

Configuring Windows NT for TCP/IP printing

1. Select **Start-Settings-Control Panel-Network** from the Windows task bar.

2. Select the **Services** tab. Then click on the **Add** button.

3. You can see the available list of services.

4. In the **Network Service** list, click on **Microsoft TCP/IP Printing**, and then click **OK**. Windows NT Setup displays a message asking for the full name of the path to the Windows NT distribution files.

5. Type in the name of path, and click **Continue**. All necessary files will be copied to your hard disk.

6. In the Network dialog box, click **Close**.

7. Restart your computer.

   You can now create a TCP/IP printer on the computer.
   You can only install Microsoft TCP/IP Printing if you have Administrator privileges.

Creating an LPR-compatible printer

1. Select **Start-Settings-Printers** from the Windows task bar.

2. Click on **Add Printer**.

3. Click on **My Computer**, and then click **Next**.

4. Click on **Add Port**.

5. Click on **LPR Port**, and then click **OK**.

   *If the LPR Port is not available, install the **Microsoft TCP/IP Printing service**.*

6. For the name or address of the server providing LPD, type in the DNS name or IP address of the host for the printer you are adding.

7. For the name of the printer or print queue on the server, type in the name of the printer attached to the host. It will either be the local printer itself or the name of the UNIX computer. Then click **OK**.

   For example, you might have a UNIX computer running the print server component (LPD) with which the TCP/IP printer you are creating will interact. If LPD recognizes a printer attached to the UNIX computer by the name **Crisp**, type in **Crisp** as the printer name.

8. Follow the instructions on the screen to complete installation of the LPR-compatible printer.

   The name or address of the server using LPD can be the DNS name or IP address of the local TCP/IP printing device or the UNIX computer to which the printing device is connected. The DNS name can be the name specified for the host in the HOSTS file.

Installing DLC/LLC

DLC/LLC is the suggested protocol for use with PortThru. It is the simplest protocol to use, since in using TCP/IP you must configure an IP Address, and in using IPX/SPX a Novell server must be maintained.

All software necessary to support DLC/LLC for the PortThru card is included in the Windows 95/98/NT/2000 operating system. Follow the steps below to install the DLC Transport and Driver for the PortThru card.

Note: The DLC/LLC protocol is not intended to be used for printing. Use it only for managing your network.

For Windows 95/98

1. Go into the **Control Panel** (Start - Settings - Control Panel) and double-click on the **Network** icon.

2. Click on the **Add** button.

3. Select **Protocol** and then click on the **Add** button.

4. Select **Microsoft** under **Manufacturers** and select **Microsoft 32-bit DLC** under **Network Protocols**.

5. Click **OK**.

For Windows NT/2000

Note: You must be logged on with administrator privileges to perform the following procedures.

1. Go into the **Control Panel** (Start - Settings - Control Panel) and double-click on the **Network** icon.

2. Click on **Add Software** and select the **DLC Protocol** in the **Add Network Software** window.

3. Click **Continue**, then reboot your system.

4. To verify the DLC software has been installed correctly, make sure that DLC Protocol appears in the **Installed Network Software** list box of the **Networks Settings** window.

Setting up a DHCP server on Windows NT

This section describes how to set up a pool of IP addresses for the NT server to assign to DHCP client. When you want to configure **IP address assignment method** to **DHCP** for your PortThru print server, you have to set up a DHCP server on Windows NT. No additional print server configuration is necessary. To set up DHCP, perform the following steps:

1. Under Windows NT server, open the **Program Manager** window and select the **Network Administration** icon.

2. Double-click on the **DHCP Manager** icon and select **Server**.

3. Select **Server Add** and type in the server IP address, then click **OK**.

4. In the list of DHCP servers, click on the server you have just added. Select **Scope** and then select **Create**.

   A DHCP "scope" is an administrative group of DHCP clients on a specified Subnet for which you can define shared parameters. If desired, you can exclude ranges of IP addresses within the scope.

5. In the **IP Address Pool** section, set up the IP address range by typing the beginning IP address in the **Start Address** box and the ending IP address in the **End Address** box. Also, type in the Subnet mask for the Subnet to which the IP address pool applies. The starting and ending IP addresses define the end points of the address pool assigned to this scope.

6. In the **Lease Duration** section, select **Unlimited**, then click **OK**.

   Samsung recommends that all printers be assigned infinite leases to avoid problems resulting from changed IP addresses. However, be aware that unlimited lease selection sets all clients in the same scope to have infinite leases.

   If you want your clients to have finite leases, you can set the duration to finite lease.
   However you should configure all printers as reserved clients of the same scope.

7. Skip this step if you have assigned unlimited leases in the previous step. Otherwise, select **Scope** and then select **Add Reservations** to set up your printers as reserved clients. For each printer, perform the following steps in the **Add Reserved Clients** window to set up the reservation for that printer.
   a. Type in the selected IP address.
   b. Obtain the MAC address or hardware address from the configuration page, and type this address in the **Unique Identifier** box.
   c. Type in the client name (any name is acceptable).
   d. Select **Add** to add the reserved client.

   To delete the reservation in the **DHCP Manager** window, select **Scope** and then select **Active Leases**. In the **Active Leases** window, click the reservation you want to delete and then select **Delete**.

8. Click on **Close** to return to the **DHCP Manager** window.

9. Skip this step if you don't want dynamic naming services (WINS). Otherwise perform the following steps when configuring your DHCP server:

   a. From the **DHCP Manager** window, select **DHCP Options** and select one of the following:

      Scope - if you want Name Services only for the selected scope
      Global - if you want Name Services for all scopes.

   b. Add the server to the **Active Options** list. You can do this from the **DHCP Options** window by selecting **WINS/NBNS Servers (044)** from the **Unused Options** list. Click on **Add**, then click **OK**.

      A warning message may ask you to set the node type (which is covered in step 9d).

   c. You must now provide the IP address of the WINS server by doing the following:
      - Select **Value**.
      - Select **Edit array**, then select **Remove** to delete any undesired addresses from the IP address Array Editor.
      - Type in the IP address of the WINS server and click on **Add**.
      - Once the address appears in the list of IP addresses, click **OK** to return to the DHCP **Options** window.

      If the address you have just added appears in the list of IP addresses (near the bottom of the window) go to step 9d. Otherwise, repeat Step 9c.

   d. In the **DHCP Options** window, select **WINS/NBT Node Type (046)** from the **Unused Options** list. Select **Add** to add the node type to the **Active Options** list. In the **Byte** box, type "0x4" to indicate a mixed node, and then click **OK**.

10. Click on **Close** to exit the **Program Manager**.

Using SMB/NetBEUI

Introduction

SMB is the protocol used in the Microsoft Windows Networks for print and file sharing. SMB is available on the Samsung Network Printer also, to enable the users to install and print very easily.

Because SMB runs over NetBEUI protocol, user has to install NetBEUI protocol in his own PC (Win 9x/Me/NT/2000). When the user installs the NetBEUI protocol, he can see printer on the network neighborhood or by "find computer in Win9x/NT" and "My Network Place".

Note: ML-2150 does not support the SMB protocol.

Enabling/Disabling SMB protocol

Using SyncThru select the SMB tab under Settings → Network Interface Menu. You can enable or disable the SMB protocol on the printer by selecting or deselecting the SMB in the dialog box. Also you need to enter the WorkGroup of the printer in the workgroup edit box.

Once you enable the SMB protocol, the printer will be a visible on the Windows Network Neighborhood. The SMB enabled Printer becomes a **Windows Print Server.** When the SMB is enabled on the Printer, Windows can send the print jobs over SMB.

To communicate with printer using SMB, the Windows Computer should have Netbeui.

Installing NetBEUI protocol on the PC(WIN 9x/Me/NT/2000)

When the user installs the NetBEUI protocol, he can see printer on the **Network Neighborhood** or by **Start → Find → Computer** in Win 9x/Me/NT and on the **My Network Computer** in Windows 2000.

Win 9x:

1. Right click **Network Neighborhood** on the Desktop.

2. Click **Properties.**

3. You can see the **Network** dialog box.

4. Click **Configuration** tab.

5. Click **Add** button.

6. You can see the **Select Network Component Type** dialog box.

7. Select **Protocol** on the list box.

8. Click **Add** button.

9. You can see the **Select Network Protocol** dialog box.

10. Select **Microsoft on the Manufacturers**.

11. Select **NetBEUI** on the **Network Protocols**.

12. Click **OK** button.

13. Restart PC.

14. You are ready to use NetBEUI protocol.

Win NT:

1. Right click **Network Neighborhood** on the Desktop.

2. Click **Properties**.

3. You can see the **Network** dialog box.

4. Click **Protocols** tab.

5. Click **Add** button.

6. You can see the **Select Network Protocol** dialog box.

7. Select **NetBEUI** Protocol on the **Network Protocol** list box.
8. Click **Close** button.

9. Restart PC.

10. You are ready to use NetBEUI protocol.

Win 2000, Me:

1. Right click **My Network Places** on the Desktop.

2. Click **Properties**.

3. You can see the **Network and Dial-up Connections** window.

4. Double-click **Local Area Connection** on the window.

5. You can see the **Local Area Connection Status** dialog box.

6. Click **Properties** button.

7. You can see the **Local Area Connection Properties** dialog box.

8. Click **Install....** button.

9. You can see the **Select Network Component Type** dialog box.

10. Select **Protocol** on the list box.

11. Click **Add** button.

12. Select **NetBEUI** protocol on the list box.

13. Click **OK** button.

14. Click **OK** button.

15. Restart PC.

16. You are ready to use NetBEUI protocol.

Installing the Printer

Installing the printer on a Windows System is same as installing the printer for a Windows Printer Server. Select the Add Printer Wizard from Add Printer in the Printer Window.

1. Select the "Network Printer Server" option and click Next button.

2. Browse the network and find the Printer. Under the printer you will find the shared printer Printer. Select that and click next, you will get the following message box.

3. The server on which the printer resides does not have a suitable printer driver installed. Click on OK if you wish to install the driver on your local machine.

4. Click OK to continue for the above message box. The following message box will appear on Windows.

5. Select the recommended driver for the Printer model and continue and finish the Printer installation.

Once you have completed the above steps you are ready to send your print jobs.

Functions of the Main Configuration Menu

The SyncThru main screen consists of the following:

- Menu bar
- Tool bar
- Printer Icons
- Status bar

Menu bar

The Menu bar consists of the following menu items:

- Printers
- View
- Setting
- Maintenance
- Help

Printers Menu

Install Printer

Adding a Port - Adds the chosen network printer to a port so you can print to it as if it were attached to your computer. The following steps must be taken:

1. Click on **Printers** on the menu bar at the top of the SyncThru screen, then select **Install Printer-Add Port**.

2. Select a printer by clicking on your print server name. The default port name is displayed in **Enter the Port Name**. If you want to use another port name, type in the alternate name and click **OK**. Otherwise just click **OK** to accept the default port name.

3. If your print server name is not displayed, press the **Add New Print Server to List** button. Type in the information for your print server under **Print Server Name**, **IP address**, **IPX address**, or **MAC address**, then click **OK**.

Add New Print Server to List

*When a user clicks on the **Add Port** menu item under **Install Printer** in a Windows-32 bit environment, the **Add Port** dialog box is displayed. This dialog box shows the list of all the Samsung Print Servers in the network available for installation on the local host.*
*The user can select an entry in this dialog box and associate a logical port by entering the port name in the edit box provided. If the print server that the user wants to install is not listed in the printers list, then the user can click the **Add New Print Server to List** button to specify a print server.*

Adding a Printer - Installs a new local or network printer onto your computer using the Windows Add Printer function. The following steps must be taken:

1. Click on **Printers** on the menu bar at the top of the SyncThru screen, then select **Install Printer-Add Printer.**

2. Click **Next**.

3. Click **Next**.

4. Select the Samsung printer driver according to your printer model, then click **Next**.

5. If the driver already exists, keep the existing driver, then click **Next**.

6. Select the port name (assigned in *Adding a Port*) and click **Next**.

7. Enter the **Printer name** and click **Next**.

8. Check **Yes** if you want to print a test page then click **Finish**.

Properties

This menu item allows you to view and modify printer and document properties for an installed printer. For properties that are not supported by the printer driver, an error message indicating that the property is not supported is displayed. These settings are used only for printing from this system to the printer. However, these settings do not affect the printer properties of the network printer.

Exit

Click on this to exit the program. A pop-up window will appear to confirm that you want to shut down the application.

View Menu

Toolbar

Clicking on this item enables you to toggle between displaying or hiding the Tool bar. When this item is checked the Tool bar is displayed. Some of the key functions available in the Menu Items are provided on the Tool bar (more details about which functions are available are explained in the next section).

Statusbar

Clicking on this item enables you to toggle between displaying or hiding the Status bar. When this item is checked the Status bar is displayed. The Status bar shows the status of selected operations and operation guides describing the function of the menu item selected.

Large Icons

Clicking on this menu item enables you to modify the way printers are displayed. Checking this item results in the display of an icon representing each printer with the printer name below it.

Small Icons

This menu item is similar to **Large Icons**, except that the icons are smaller.

Detailed List

Clicking on this menu item enables you to view detailed information for each printer, such as IP address, printer port, printer status and etc.

Details

This item enables you to arrange displayed details according to your preference and also choose printers for which you want to display the details. You can choose which columns are to be displayed, which print servers are to be displayed, and in which order they are to be displayed in.

You can arrange displayed details using the following functions:

Columns

This enables you to select specific columns to be displayed.
This option is available only when the display is in the **Detailed List** mode.

Filter

You may use certain filters to view only certain printers.
Filter modes provided are:

- **Show All**: All printers connected to LAN are displayed.
- **Printer Filter**: Only printers selected by user are displayed.
- **Advanced Filter**: You can set filter criteria. Printer Name, IP Address, IPX Address, Hardware Address and Printer Status can be displayed.

Sort

When in **Detailed list** display mode, you have the option to sort the printers displayed based on any of the columns displayed. Sorting may be achieved in one of two ways: using the **Sort** function or double clicking on the column by which sorting is to be done.

Locate Printer

When the print server connected to network is not detected, you can access the print server directly by entering the address of it. The address of the print server can be the Mac Address, IP Address, IPX Address or DNS Address.

Refresh

Clicking on this menu item allows SyncThru to start the detection procedures for the printers connected to the network.

Setting Menu

Network Interface

This menu item allows you to configure the network settings for the chosen printer. There are 5 tabs that let you configure each protocol that you may want to use on your network. The following is a description of each tab and its corresponding protocol:

General - Type in the **Printer Name** and **Printer Description**. If you want to set a password, check the **Enable Password Protection** check box and you can set it by pressing the **Set Password** button.

TCP/IP - If you want to use the TCP/IP protocol for the Samsung PortThru card, check the **TCP/IP Enabled** check box and then select the **IP Address Assignment Method**. If you select **BOOTP, DHCP,** you need to configure the server in a Windows NT or Unix environment. When using **Static**, enter the **IP Address, Subnet Mask** and **Default Gateway** assigned to your print server in the **TCP/IP parameters**.

BOOTP: The client sends BOOTP requests to the server. The server returns related information such as IP Address and bootp file name using a registered bootp table. In this case, PortThru is the BOOTP client and Windows NT or Unix is the BOOTP server. RARP is similar to BOOTP. The only difference is that RARP only sends an IP Address.

DHCP: The DHCP server has a set of IP addresses. When the DHCP server receives DHCP requests from the DHCP client, it assigns one of the IP addresses to the client. In this case, the DHCP server is Windows NT or Unix and the DHCP client is PortThru.

NetWare - If you want to use the IPX/SPX protocol, then check the **NetWare Enabled** check box and select an **IPX Frame Type** according to your network environment or choose **Auto** for automatic selection. Parameters can only be entered if NetWare client is installed on the PC (which will be explained in more detail in Chapter 4).

AppleTalk - If using AppleTalk on your network, check the **AppleTalk Enabled** check box. You can enter the parameters according to your network environment (which will be explained in more detail in Chapter 3).

SNMP - If using SNMP on your network, check the **Enable Authentication Traps** check box. Specify the **IP address** of the host system to which the trap should be sent and **Community Name** of the host system. You can specify as many as five **IP address/Community Name** pairs. One pair can be viewed at a time and the other pairs can be individually viewed by pressing address pair bar. You can configure as many as five **Community Name/Access Permission** pairs (for Reading or Writing).

Front Panel

On clicking this menu item, a screen containing current printer property settings under different tabs is displayed. You can select the required tab to view the properties under that category. The printer property settings can also be changed by the user depending on the capabilities of the printer model.

Alerts

You may configure which events from the printer the application should be notified of and what alerts are to be associated with these events. For example, you may wish to be notified when the printer is out of paper by a system message. This screen allows you to configure the notification parameters using the following:

- General Tab: This allows you to select the print servers to be monitored and the method by which notification is to be done - through Pop-up Messages.
- Alerts Tab: This allows you to choose the events for which notifications are needed. Optionally, you are given the option to log the events, i.e. all the notifications are logged to a file. The events that can be specified by the user are: Printer Idle/Printing, Paper out on Tray, Paper Jam, Cover Open, Toner Low, Manual Feed, Engine error, Toner out, Memory Overflow, Trap Open, and Duplex Jam
- View Log Tab: This displays the events logged into the log file. You have the choice of clearing the log on this screen, by pressing **Clear Log**.

Maintenance Menu

Printer Status

This screen provides information on the printer status and who is printing if the printer is busy.

Protocol Statistics

A detailed list of all the protocol statistics is available on this screen. Separate tabs are provided for listing statistics for IPX, TCP/IP, AppleTalk, SNMP and DLC protocols.

Details under each category are grouped. These groups form nodes on a tree. To view the statistics under any group, you have to double click on the group. You cannot modify any of the values on this screen. By expanding and collapsing the nodes on the tree structure for each protocol, you can view the various protocol statistics under each group.

Print Test Page

You can print a test page to any of the printers shown by SyncThru.

Upgrade Firmware

This screen helps you to upgrade the Firmware of your printer.
You should save the downloadable Firmware Upgrade file to your PC in order to execute **Upgrade Firmware**.

1. You must choose the printer for which the Firmware is to be upgraded, and specify the path and name of the Firmware Upgrade file .

2. Click **Start**.

3. After the upgrade is completed, it takes 30 seconds to launch the new program.

4. Any errors occurring during the upgrade process may result in the disabling of PortThru. In this case, perform the following steps.
   a. Check **Wait Printer Request**, then click **Start**. You will see the message "Please Set the values through the Front Panel to initiate Firmware upgrade". Click **OK**.
   b. Set **UPDATE** to **YES** on the front panel of the printer and **BOOT SVR** to **WINDOWS**.
   c. Set **BOOT SVR** to the IP Address of the WINDOWS running SyncThru in step a.
   d. Turn the printer off and on again.
   e. It takes 30 seconds to upgrade the firmware after rebooting the printer.

Factory Default

You can restore factory default settings to the printer by using SyncThru.

Help Menu

The help menu of SyncThru has the following items:

- Contents:
  Users can browse contents using WinHelp

- Search For Help:
  Facility to search the help documents using key words.

- About SyncThru:
  Information about the SyncThru program.

Tool bar

Some of the key functions available in the Menu Items are provided on the Tool bar. All functions available on the Tool bar are explained in detail in the previous section. The key functions are listed below in order of appearance on the Tool bar (from left to right):

- Properties
- Job Queue
- Refresh
- Network Interface
- Front Panel
- Printer Status
- Protocol Statistics
- Locate the Printer
- Test Page
- Large Icons
- Small Icons
- Details
- Help

Printer Icons

1. : New Print Server
2. : Configured Print Server
3. : Installed Printers
4. : Offline, running out of toner and etc.

Status bar

The Status bar shows the status of selected operations and operation guides describing the function of the menu item selected.

Uninstalling SyncThru

Compact Mode

1. Open the **Control Panel**.

2. Click on **Add/Remove programs** and then select **SyncThru**.

3. Click on the **Add/Remove** button.

4. Restart your PC.

Full Mode

You can uninstall SyncThru using the provided uninstall program.

Select **Start-Programs-SyncThru-Uninstall SyncThru** from the Windows task bar.

- All associated files are removed from your hard disk.

Chapter 3

AppleTalk Configuration

Overview

The following applies to network printing from Macintosh PC. Samsung network printer cards work on AppleTalk networks. You should configure the printer being used by a Macintosh, using SyncThru installed on a Windows system. You can print to the network printer from any Macintosh PC on the network. You can also manage the network printers using SyncThru for Macintosh.

Configuring AppleTalk on a Windows PC

The following information is found on the **AppleTalk** tab in the **Network Interface** menu item under the **Settings Menu** of the main SyncThru screen.

Note: You can configure AppleTalk when PS SIMM is installed in your printers.

1. AppleTalk Enabled check box

When you want to configure PortThru for use on a network that includes Macintosh PCs, the **AppleTalk Enabled** check box in the **AppleTalk** tab of the **Network Interface** menu must be checked.

If this is not enabled, AppleTalk protocols will not be processed by PortThru and hence printing from Macintosh systems cannot be performed.

After enabling the protocol in the **AppleTalk** tab, AppleTalk will take around 50 seconds to initialize, during which the message "AppleTalk is coming up" will appear.

2. Last Error Occurred and AppleTalk Printer Name

This enables you to provide a name to the printer on a Macintosh system and to make use of a window to display the status of the AppleTalk name registration - which will either be in progress or in conflict. In case of conflict, the AppleTalk protocol is automatically turned off.

3. RTMP and ZIP

This can be used to define the following:

- The time in seconds after which the routing table entry maintained by the RTMP protocol is ages.
- The name of the Zone where PortThru is present.

4. PAP

It enables you to define the interval in seconds after which the PAP protocol used by PortThru should resend a tickle packet to verify the status of the PAP connection between the PortThru card and the Macintosh system. This value should be one of 30, 60, 90 or 120. The default value is 60.

Configuring the Macintosh System For Network Printing

The following steps must be taken to configure the network printer for use on a Macintosh system:

1. Under **Control Panel-AppleTalk** check the **connect via** check box, select **Ethernet** and save.

2. In the **Chooser** window make **AppleTalk** active.

3. In **Chooser** if the Macintosh system and PortThru are on a network that has an AppleTalk router, the **AppleTalk Zones** window appears. Select the Zone in which PortThru is present. The Zone name can be set while configuring PortThru using SyncThru.
   Otherwise the default Zone name will be used.

4. In **Chooser** click on **LaserWriter 8**.

5. Click on the Samsung network printer name appearing on the right panel window. The name, by default, will be appear as **SEC0000f0axxxxx** (SEC followed by a MAC address in Hexadecimal). If a name has been given to the printer using SyncThru running on Windows then click on that name.

6. After creating an icon for the printer, **Chooser** will setup the printer.

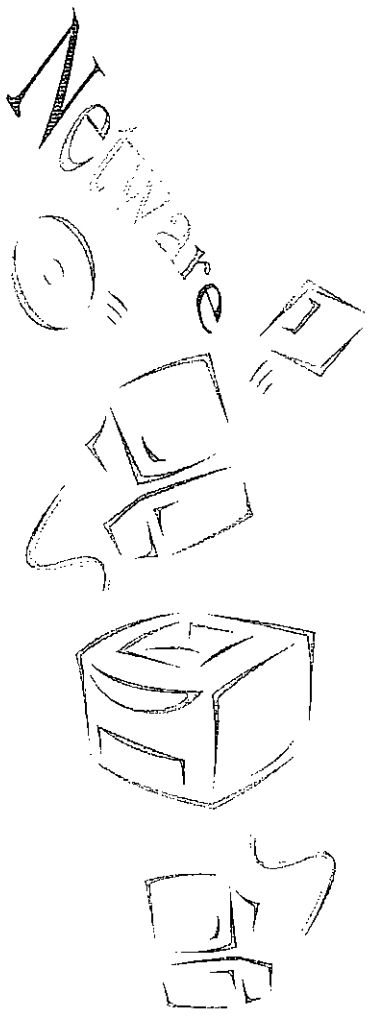
7. Select a PPD file from the list, e.g. **LaserWriter 8**.

8. Click on the **Generic** or **Select** button.
   Now the Macintosh system can be used to print to the network printer.

Note: Samsung PortThru supports an embedded web server for monitoring and configuring network printers using a web browser. You can install and manage them via Samsung Web SyncThru (http://www.samsungelectronics.com) easily. After you enter an IP address to the network printer card, you can change the name of printer using the web browser if you want.

Chapter 4

Netware Configuration



Overview

Samsung network printer cards are compatible with Novell NetWare networks, versions 3.x, 4.x or 5.0. You can print to the network printer from any NetWare client that is attached to the network.

Configuring NetWare

The NetWare architecture for printing is comprised of the following:

Printers

These are the physical printers, which may be attached either to NetWare file servers, NetWare machines dedicated as print servers, NetWare workstations, or directly to the network. The Samsung network printer falls into the last category.

Print Queues

These queues are found on NetWare file servers where print jobs are stored before printing.

Print Servers

These are programs that transfer print jobs from the print queues to the printers. Print servers may operate from various points in the NetWare network:

- They may be present on the NetWare file server. This puts an additional printing load on the file server.
- They may be present on NetWare machines dedicated as print servers. This calls for dedicated allocation of resources.
- They may be present on the printers themselves. This relieves the file server of a printing load and does not require any dedication of NetWare machines as print servers. Printing performance will be improved as the printer will have optimized software and hardware to accommodate network printing. Also, the print server and physical printer are in close proximity and printed data need not travel over the network from print server to printer.

Additionally, printers connected to NetWare workstations may be shared with the rest of the network. This is done by running RPRINTER on the workstation and configuring the printers as Remote Printers. Print servers on the network may then interact with the RPRINTER program on the workstation for printing.

Configuration for NetWare printing involves creation of printers, print queues and print servers and the associations between them on the NetWare file server. Next, PortThru needs to be configured for printing mode file servers and queues to be processed.

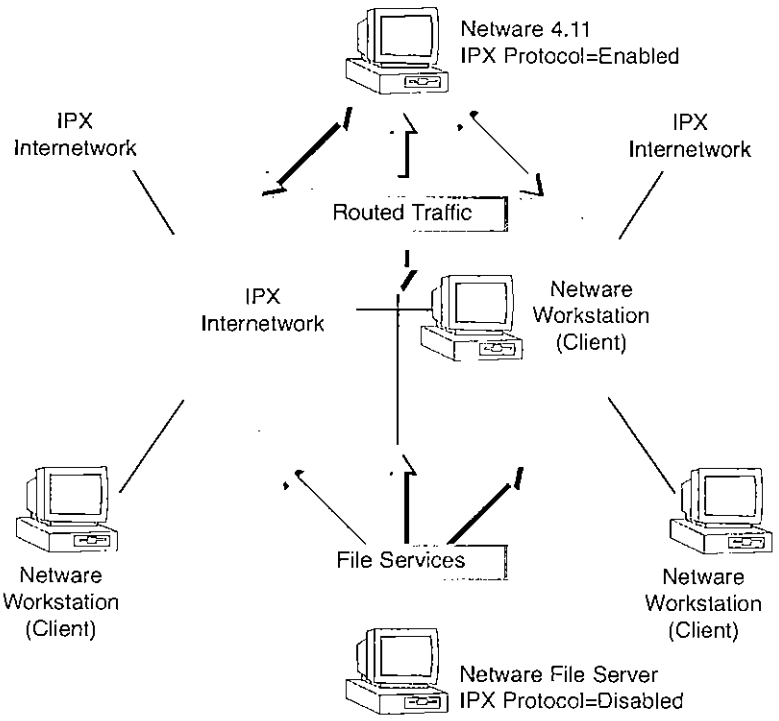
This configuration can be accomplished in two ways:

1. Using SyncThru to create a print queue.

2. The file server configuration for printers, print queues and print servers may be achieved using NetWare supplied utilities like PCONSOLE and NWADMIN. The PortThru configuration may then be achieved using SyncThru, which supports the NetWare bindery (for NetWare 3.x) and NetWare Directory Services (NetWare 4.x and 5.0). Configuration performed from PCONSOLE or NWADMIN is compatible with that performed through SyncThru. For details on how to use NetWare supplied utilities for configuring, NetWare documentation can be referred to.

Configuring Novell Server

NetWare MultiProtocol Router



How to configure the Novell server

- To set the file server, load the **inetcfg** module and disable IPX from the protocol menu.
- To set the Routing server, enable IPX from the protocol menu.
- The Network card has to be assigned to the routing server.
- The Novell network can be composed of a routing server and many file servers.
- If IPX is enabled, then select **RIP/SAP Only** as the routing protocol.
- Run **reinitialize system** from the system console.

Configuration Using SyncThru
(ML-7300N/ML-1651N/ML-1451N)

Adding a Queue

1. When you want to configure PortThru for use in a network that includes NetWare Servers and workstations, use SyncThru to set the configuration.

2. Open the **Network Interface** dialog box by double clicking on the print server name.

3. Enable the NetWare protocol under the **NetWare** tab by checking the **NetWare Enabled** check box and select an **IPX Frame Type** according to your network environment or choose **Auto** for automatic selection. Parameters can only be entered if NetWare client is installed on the PC.

4. You can see the following parameters and default values (If you don't set up Novell client, these will be disabled). You can change the default values if desired.

- **Check Job every (in sec)**: The interval in seconds after which the job queues on the file server must be verified.
- **Serviced Queues**: This consists of the queues that are serviced by PortThru.
- **Check Configuration every (in min)**: The interval in minutes after which the configuration changes on the NetWare print server must be verified.

5. Click the **Add Q** button to add a queue to the service list.

Note: If there are no queues, the Remove Q and Modify Mode buttons will be disabled.

6. Select a **File Servers** on NetWare 3.x and **NDS trees** on NetWare 4.x to select a queue to be serviced.

- **Objects**: The list of items displayed may contain container and non-container items. Users can distinguish container and non-container items by viewing the icons displayed before the items. The icon is displayed before the container items and the icon is displayed for non-container items. Users can double-click on the container to change the context. Users can go back to the parent by clicking on the icon which is displayed in the first row of the list.

- **Create Q**: This button is used to create a new queue.

- **Select Mode**: This button is used to select either **PSERVER** or **RPRINTER** mode.

- **Delete Q**: This button is used to delete the queue on a selected File Server or NDS Tree.

The queue list shows the existing queues on the selected File Server or in the current context of the NDS Tree. After selecting a queue, the service mode can be selected by clicking the **Select mode** button. Now, clicking the **Add** button will add the selected queue to the service list.

Configuring a Printer

To Create a Queue

1. Click on the **Create Q** button.
   If you don't log in on Netware server, a dialog box with which you can log in appears.
   a. You can browse the user's Context and select the user in case of an NDS tree.
   b. Type in the **User Name** and **Password**, then click **OK**.

*Note: If you have selected a NetWare 4.x or 5.0 server and wish to use bindery emulation, then you can do so by checking the **bindery connection** check box.*

2. Type the **Queue Name** on the command line, and then click **OK**.

3. **Select Mode** dialog box appears.
   a. In case of PSERVER mode, select PSERVER
   b. In case of RPRINTER, follow the steps below
      1) Select **RPRINTER** and click on the **Browse** button.
      2) Select the print server that was created in PCONSOLE, and then click **OK**.
      3) Click **OK**.

4. **Objects** list appears.

5. Click on the **Add to svc. list** button.

Note: Firstly, a print server must be created using PCONSOLE. This can be achieved by performing the following steps:

1. Run the **PCONSOLE** program.
2. Select the **Bindery mode** or **NDS mode** by pressing the **F4** key.
3. Select a **Print Server** by using the **arrow** keys.
4. Press the **Insert** key.
5. Type in the new print server name, and then press **Enter**.
   ⇒ A new print server under the RPRINTER mode will be created.

Note: Use LOAD PSERVER on NetWare Server (NetWare 3.12) to use the RPRINTER mode.

Important

- We recommend that you use Bindery Mode in NetWare 3.12.
- The Queues for PSERVER and RPRINTER should have different names.

Adding a Printer

1. Select **Add Printer** from the SyncThru main menu.

2. Select **Network Printer**. Then, click on **OK**.

3. Select an existing **Queue name** or add a new one. Then, click on **Next**. Follow the instructions on the screen to complete this procedure.

Configuration Using SyncThru(Other Models)

Creating a Queue

1. When you want to configure PortThru for use in a network that includes NetWare Servers and workstations, use SyncThru to set the configuration.

2. Open the **Network Interface** dialog box by double clicking on the print server name.

3. Enable the **NetWare** protocol under the NetWare tab by checking the **NetWare Enabled** check box and select an **IPX Frame Type** according to your network environment or choose **Auto** for automatic selection. Parameters can only be entered if NetWare client is installed on the PC.

4. You can see the following parameters and default values (If you don't set up Novell client, these will be disabled). You can change the default values if desired.

   - **Novell Name**: The print server name in PSERVER mode and the printer name in RPRINTER mode respectively.
   - **IPX Frame Type**: The network frame type for NetWare internetwork.
   - **Printing Modes**: The print server's operating mode. It can be either Print Server mode or Remote Printer mode.

5. Click the **Add Queue** button to create a queue to the NetWare server. The adminstrative user account is needed to create a queue on the server.
   - **NDS Installation**: Queue creation using NetWare Directory Services.
   - **Bindery Installation**: Queue creation using NetWare Bindery File Servers.

   The print server name attaching the created queue would be set on the **Novell Name** automatically.

6. Press the OK button to apply the created queue.

Configuring a Printer

<u>To set PSERVER mode printing</u>

1. Open the Network Interface dialog box by double clicking on the print server name.

2. Enter the appropriate name on **Novell Name**. The name should be the existing print server name on NetWare server.

3. Click Print Server Mode button to configure detail parameters.

- **Check Configuration Every**: The interval in minutes after which the configuration changes on the NetWare print server must be verified
- **Poll Queues Every**: The interval in seconds after which the job queues on the file server must be verified.
- **NDS Select Tree:** The preferred NDS tree name. PortThru will find the print server in the specified tree only.
- **Bindery File Server Filter**: The preferred file servers. PortThru will find the print server on the specified file servers only.

To set RPRINTER mode printing

1. Open the Network Interface dialog box by double clicking on the print server name.
2. Enter the appropriate name on **Novell Name**. The name should be the existing printer name on NetWare server.
3. Click Remote Printer Mode button to set PSERVER.NLM name
4. Enter the print server name serviced by PSERVER.NLM on the dialog box.
5. Press OK button on the dialog box to apply the parameters.
6. Press OK button to apply the parameters.

Note: Firstly, a print server must be created using PCONSOLE.This can be achieved by performing the following steps:

1. Run the **PCONSOLE** program.
2. Select the **Bindery mode** or **NDS mode** by pressing the **F4** key.
3. Select a **Print Server** by using the **arrow** keys.
4. Press the **Insert** key.
5. Type in the new print server name, and then press **Enter**. A new print server under the RPRINTER mode will be created.

Note: Use LOAD PSERVER on NetWare Server (NetWare 3.12) to use the RPRINTER mode.

Monitoring Status

To Monitor the NetWare status

1. Open the **Network Interface** dialog box by double clicking on the print server name.

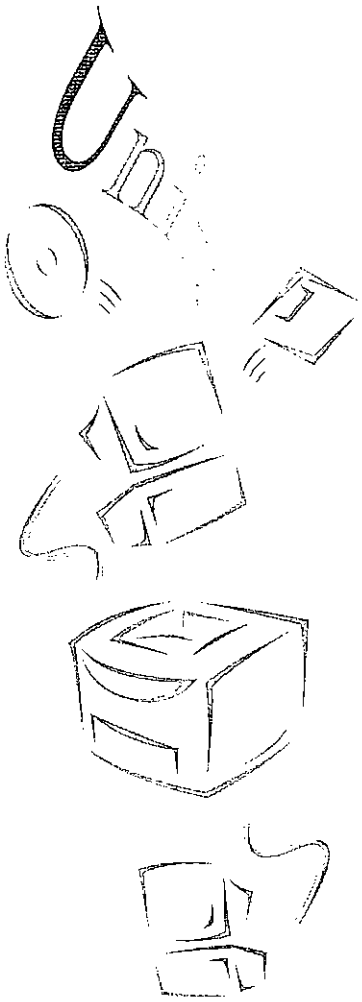
2. Click **NetWare Status** button to see the current status of the PortThru.

   - **NetWare**: General information including Novell Name, network number, node address, frame types and printing modes
   - **Connection Table**: Connection status information to the NetWare servers.
   - **Queue Table**: Found queues and attaching status information

3. Press OK button to dismiss the dialog box.

Chapter 5

Unix Configuration



Overview

Supported Unix variants are as follows:

- Generic Unix System V Release 3.x
- Generic Unix System V Release 4.x
- SCO Unix
- SUN OS 5(SUN Sys.V, Solaris 2.x)
- HPUX(HP 9000)
- SUN OS 4(SUN BSD, Solaris 1.x)
- LINUX

Configuring the IP Address for PortThru

Using BOOTP/TFTP

1. There must be a BOOTP server present in the network environment on which the network printer is present.
2. On the BOOTP server the **/etc/bootptab** file must be created and an entry for the boot parameters must be made in the file. (Please check with your system manual since Bootp parameters depend on system).

A sample entry is as follows:

```
npc:\
: ht=ether:\
: ha=000070414243:\
: sm=255.255.255.0:\
: gw=200.160.251.47:\
: ip=200.160.251.18:\
```

: ht=hardware type, ha=hardware address, sm=subnet mask, gw=gateway

3. PortThru will broadcast a BOOTP request on the network and get the above details in the response from the BOOTP server.

Using RARP

If RARP is selected as the IP address assignment method then PortThru will broadcast a RARP request and will expect a response.
For this method, one of the servers in the network must have an entry for the PortThru card in the **/etc/ethers** and **/etc/hosts** file.

Entry for **/etc/hosts**:

```
#IP Address Host name
200.160.251.53 unixsrvr
```

Entry for **/etc/ethers**:

```
#H/w Address Host name
0:0:70:41:42:43 npc
```

Using DHCP

Dynamic Host Configuration Protocol (DHCP) is an IP Address configuration mechanism that the Samsung PortThru print server uses by default. If you do not want your Samsung PortThru print server configured via DHCP, you must select one of other mechanisms, BOOTP, RARP or Static. If you have a DHCP server on your network, the Samsung PortThru print server automatically obtains its IP address from that server and registers its name with any RFC 1001 and 1002 compliant dynamic name services.

If the DHCP configuration state is changed from disabled to enabled, the print server assumes it should acquire its configuration information from a DHCP server. The print information is acquired by sending DHCP requests on the network to a DHCP server.

Setting up Print Queues

You need to set up a print queue to use a network printer on your system. The following is an example of the Print Queue configuration using SAM on HP-UX systems.

You can use the SAM utility to configure remote print queues for printing raw (PCL, PostScript, or other printer language) files or text (ASCII) files.

Before you execute the SAM program, select an IP address for the Samsung PortThru print server and set up an entry for it in the **/etc/hosts** file on the system.

1. Start the SAM utility as a super user.

2. Select **Peripheral Devices** from the main menu, then select **Printers/Plotters** from it.

3. Select a Printer/Plotter from the **Printers/Plotters** menu.

4. Select **Add a Remote Printer** from the **Actions** list.

5. Select a printer name.
   Examples: my_printer or printer1

6. Select a remote system name.
   Example: PortThru 1 (node name of the Samsung PortThru print server)

7. Select a remote printer name.
   Type text for ASCII or raw for Postscript, PCL, or HP-GL/2

8. To check for a remote printer on a BSD system, type "Y".

9. Click **OK** at the bottom of the menu. If the configuration is successful, the program prints the message:
   The printer has been added and is ready to accept print request.

10. Click **OK** and select **Exit** from the list menu.

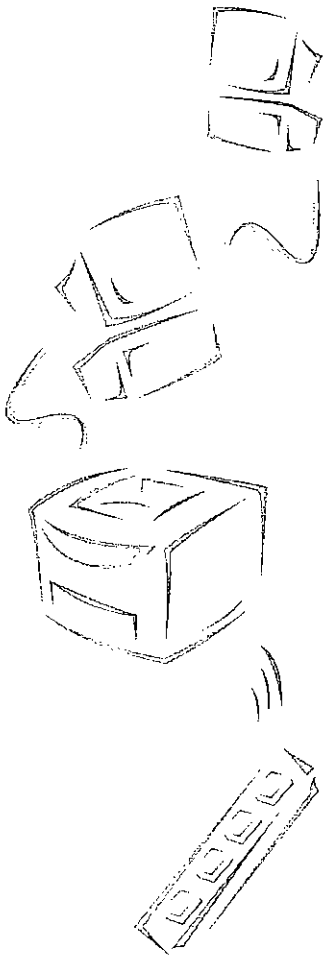
11. Select **Exit Sam**.

12. If you finished steps 1 to 11 successfully, you can now print data to your Samsung Printer using LPD.

Memo

Chapter 6

Upgrading the Firmware



Overview

This Chapter explains how to upgrade the Firmware in each of the following environments and how to upgrade in emergency.

- Windows Environment
- Unix Environment
- Abnormal cases

After users purchase the Samsung PortThru card, we will supply new software for PortThru whenever upgrading is available. You can download the software from the Samsung website (http://www.samsungprinter.com). After downloading the upgrade software, proceed with the following steps:

Upgrading the Firmware in a Windows Environment

Note: Before upgrading the Firmware, make sure that TCP/IP parameters should be entered in the printer server.

1. Select the **Firmware Upgrade** menu item in SyncThru.

2. You can see the **Choose the Upgrade Firmware File** dialog box. Choose either **Select the Print Server** or **Enter IP address**.

3. If **Select the Print Server** is chosen in step 2, select a print server to be upgraded.

4. If **Enter IP address** is chosen in step 2, enter the IP address of the print server to be upgraded.

5. Select the Firmware file name you downloaded and its path. You can browse the file by clicking on the icon.

6. Click **Start**.

When the **Firmware Upgrade** process is in progress a screen is displayed to the user with appropriate messages indicating the status as follows:

"A waiting Request from Network Printer Card"
"FIRMWARE Upgrade: Network Printer Card Request Received"
"FIRMWARE Upgrade in Progress: Do you still want to exit?"
"FIRMWARE Upgrade Completed Successfully"
"FIRMWARE Upgrade: Network Error"

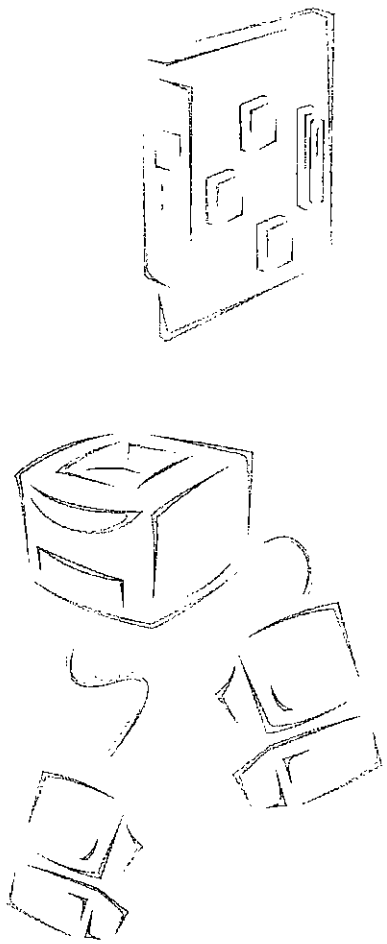
The user is also provided with an option to cancel the upgrade.

Note: After the "Completed. Network Card will start about 30 secs later" message is displayed, it may take a few seconds to write the new file to Firmware. Normally 30 seconds is sufficient.

Memo

Chapter 7

Configuration Parameters



Overview

- General Parameters
- BOOT Parameters
- IP Parameters
- General IPX Parameters
- NetWare Pserver Parameters
- NetWare Rprinter Parameters
- AppleTalk Parameters
- SNMP Parameters
- SNMP Trap Destination Table
- SNMP Community Name Table

Parameters

General Parameters

Parameter Name	Description	Default	Maximum/Limitations
Printer Name	Name given to the print server.	SEC+Mac address	15 Character Name
Printer Description	Description such as the location where the print server is installed.	Null	25 Character Name
Enable Password Protection	Whether to enable password protection or not.	Null	TRUE or FALSE
Security Password	Password to be used for authentication when entering SyncThru utility.	Null	10 Character Password

BOOT Parameters

Parameter Name	Description	Default	Maximum/Limitations
IP Address Assignment Method	Choice of method by which IP address is to be assigned for PortThru. The possible values are: • DHCP - Assigned by sending a DHCP request and obtaining a response from DHCP server. • Static - Manually assigned while configuring. • BOOTP - Assigned using BOOTP server. • RARP - Assigned by sending a RARP request and obtaining a response from RARP server.	DHCP	

IP Parameters

Parameter Name	Description	Default	Maximum/Limitations
IP Address	IP address of the PortThru.	0.0.0.0	4 Byte IP Address
Subnet Mask	Subnet mask for the network in which PortThru is installed.	0.0.0.0	4 Byte
Default Gateway	IP address of the default gateway through which systems on other networks can be reached.	0.0.0.0	4 Byte IP Address

General IPX Parameters

Parameter Name	Description	Default	Maximum/Limitations
Netware Enable	Whether NetWare printing is enabled on PortThru or not.	Enabled	
Check Job every	Interval after which configuration on the file server should be checked for deletion of queues.	300 seconds	300/10 seconds
Check Configuration every	Interval after which the print queue on the file server should be checked for presence of print jobs.	0 minutes	60/0 minutes
IPX Frame Type	IPX Frame Type which users want to use for communicating with IPX/SPX protocol.	Auto	802.2/802.3/SNAP/ EthernetII/Auto
NetWare Print server	Name of PSERVER	NULL	20 character Pserver Name
Serviced Queues	The service list consists of the queues that are serviced by the NPC. Status of Not Serviceable indicates that the NPC is unable to access the queue either due to problems with network connectivity, or due to NetWare configuration changes relating to login permissions, queue configuration, printer configuration or print server configuration, performed without using SyncThru. User can add, delete and modify the service list using the buttons Add Q, Remove Q and Modify Mode respectively.	NULL	

Netware Pserver Parameters

Parameter Name	Description	Default	Maximum/Limitations
Queue Location	Path name where the queue is to be located. In the case of NDS, the tree name is to be used.	NULL	

Netware Rprinter Parameters

Parameter Name	Description	Default	Maximum/Limitations
Netware Print Server Name	Name of the Netware Print Server.	NULL	
Queue Location	Path name where the queue is to be located on the file server specified as the PSERVER. In the case of NDS, the tree name where the queue to be used is located.	NULL	

AppleTalk Parameters

Parameter Name	Description	Default	Maximum/Limitations
AppleTalk Enabled	Whether AppleTalk Protocol for PortThru should be enabled or not.	Enabled	
Last Error Occurred	Last Error message that occurred in the AppleTalk stack for PortThru.	NULL	19 Character string
AppleTalk Printer Name	Logical name for the printer on the Macintosh system.	SEC followed by MAC address of PortThru	32 Character name
Ageing RTMP entry	Time in seconds after which the router entry in the RTMP router table will age out.	50 seconds	250/0 seconds
PAP TickleTimer	Interval at which the PAP protocol for PortThru should send a tickle packet to verify the PAP connection between PortThru and the Macintosh systems.	60 seconds	30/60/90/120 seconds
Network Range End	End value of AppleTalk Port Network range.		4 Byte DDP address
DDP Address	DDP Address of the AppleTalk port.		

Parameter Name	Description	Default	Maximum/Limitations
Network Number Configured	Whether the AppleTalk network number is configured or not.		
Zone configured	Whether the AppleTalk Zone is configured or not.		
Zone Name	Current Zone name in which PortThru is present.	If no router is present in the network then this value is *. Otherwise the value is the default zone picked from the router.	

SNMP Parameters

Parameter Name	Description	Default	Maximum/Limitations
Enable Authentication Traps	Enable/Disable SNMP Authentication Trap.	Disabled	

SNMP Trap Destination Table

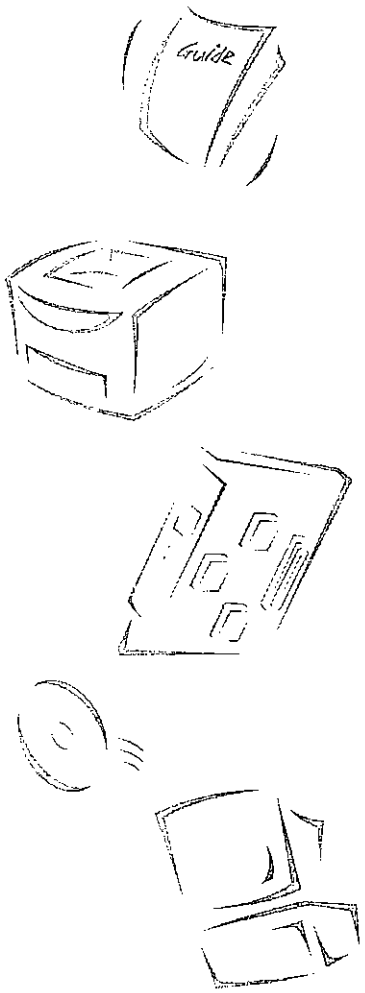
Parameter Name	Description	Default	Maximum/Limitations
IP Address	IP Address of the host to which the Trap should be directed.	255.255.255.255	4 byte IP Address
Community Name	Name of the community to which the host belongs to.	NULL	25 Character community name

SNMP Community Name Table

Parameter Name	Description	Default	Maximum/Limitations
Community Name	Name of the community	public	25
Access Permission	Name of the community Permission for the community • Read Access • Write Access	Read access	

Chapter 8

Troubleshooting



Overview

This chapter describes how to diagnose and correct the following problems associated with network printing:

- General problems
- Macintosh problems
- Windows problems
- SyncThru installation problems
- Firmware Upgrade problems

Troubleshooting Guidelines

General Problems

Problem	Solution
System does not function with some wrong values entered by mistake while configuring.	Possibly the parameters in PortThru are corrupted. Restart the system and set to factory defaults on the printer front panel or on your computer using SyncThru.
Not able to access from SNMP Manager.	Try pinging from the same system on which SNMP manager is running. If it does not succeed, there must be a problem with network connectivity between the manager and PortThru. If ping succeeds, verify that community names with sufficient permissions have been used.
SyncThru is unable to automatically detect print servers.	Check the environment as described in Auto Detection of Print Server. Check NetWare file server consoles for error messages regarding nodes with conflicting network numbers.
You cannot see any of DHCP server, BOOTP server or RARP server, when you want to set IP address to print server.	On Network Interface in SyncThru, you should set "Static" to "IP Address Assignment Method" in TCP/IP tab. You should set IP address, Subnet Mask and Default Gateway to print server.
Print server does not print using TCP/IP protocol.	1. Check whether TCP/IP protocol is installed in your PC. 2. Check whether your PC is on the same network with print server.
Unable to print in NetWare environment.	Use SyncThru to see if PortThru indicates that queue is serviceable. If not, the login permissions may have changed or the configuration information for queues, printers and print servers may have been changed. Verify using PCONSOLE and NWADMIN that the configuration is correct and check the job queue to see if the print job exists. Check that NetWare is enabled on PortThru. Check that the **Check Job every** is configured on PortThru.
The status of printer is displayed 'unknown' in SyncThru.	1. Check the protocol of your PC and install DLC/LLC or IPX/SPX protocol. 2. Assign IP Address to PortThru using the front panel.
The name of printer is displayed empty while adding a port and the printer doesn't function.	1. Check the protocol of your PC and install DLC/LLC or IPX/SPX protocol. 2. Assign IP Address to PortThru using the front panel.

Macintosh Problems

Problem	Solution
The printer name is not displayed in the Chooser.	1. Make sure the printer is connected to network correctly. 2. Make sure the printer is configured in SyncThru using the new name. 3. After turning on the printer, wait 3 minutes, then check it again. 4. Make sure that your Macintosh is connected to the network through Ethernet. 5. When the Macintosh and network printer are in the same network, check above items again. Otherwise check whether the router can support AppleTalk protocol. If the router can not support the AppleTalk protocol, then ask the network manager to solve this problem.
The printer drops letters.	1. Make sure the PS option is installed in your printer correctly. 2. Make sure the SIMM provided with PS option is installed correctly. Check that the total memory is 12MB by printing a self-test page.

Windows Problems

Problem	Solution
After installing PortThru, the print server name is not displayed under New Print Server in SyncThru.	1. Verify that the printer power switch is turned on and the 'READY' message is displayed on the printer front panel. 2. Verify that the LAN cable is plugged into the PortThru card. 3. Verify that the second LED on the PortThru card blinks. • If the second LED blinks regularly, turn off the printer, then turn it back on. If the problem continues, contact your local dealer. • If the first LED on the PortThru card does not blink, check that the card is installed snugly. If the problem continues, contact your local dealer. 4. Confirm whether the print server and the PC which searches for the New Print Server is on the same LAN. If you want to search for a New Print Server, your PC and the print server should be on the same LAN.
The print server name is displayed, but the test page is not printed.	Select the Network menu from the front panel menus. Check that the test page is printed. If the Network menu is not displayed, or the test page is not printed, turn off the printer, then turn it back on.
Firmware upgrade process is completed. But upgrading is not executed.	An IP address should be assigned to upgrade the Firmware. Make sure that IP address is entered in Print Server. If an IP address is not entered, reassign it and try again.

Problem	Solution
SyncThru is unable to automatically detect printers.	1. Check LAN cable is connected to the printers. • Check LAN cable is connected to the printers yourself. • Make sure that there are the connected printers shown in network neighborhood. If not, check the communication status of the printers. • If IP address is assigned to the computers, try ping command. 2. If the protocols of NPC are disabled, DLC/LLC should be installed in the computers. • If SyncThru is unable to detect printers with DLC/LLC installed in the computers, check whether NPC and PC are on the same LAN. • If LAN is connected by routers, SyncThru is unable to detect the printers. 3. If more than one of the protocols of NPC are enabled and DLC/LLC is installed in the computers, check NPC and PC are on the same LAN. • If LAN is connected by routers, SyncThru is unable to detect the printers. In this case, one of protocols which are enabled in NPC should be Installed in the computers. 4. In case that the protocol which is enabled in NPC is installed in the computers: • If TCP/IP installed, check entry values of IP address, subnet mask and default gateway.
The printer does not print.	Try Add a Port.

SyncThru Installation Problems

Problem	Solution
"File Transfer Error" message appears when you execute Installation.	1. Make sure the previously installed SyncThru is uninstalled. 2. If the SyncThru is uninstalled, restart your PC. 3. If the problem continues, In Windows 95/98, delete the "sammon.dll" file in the system directory of Windows in MS-DOS mode, restart Windows and reinstall it. In Windows NT, stop the spooler service with 'Services' in Control Panel, delete the "sammon.dll" file in the system32 directory of Windows NT ,start spooler service and reinstall it.
'Unable to add the Port list of Samsung ports' message appears, when you add a port.	Verify that your PC restarts after installing SyncThru.

Firmware Upgrade Problems

Problem	Solution
Unable to upgrade Firmware from TFTP server.	Verify the TFTP server is on and check the TFTP BOOT directory setting to verify the Upgrade file has been copied to the correct path.
When you upgrade the firmware, "Firmware Upgrade: TCP/IP protocol stack is disabled" message pops up.	After Configuring TCP/IP parameters, try again.

Appendix

Specifications

Item		Specification and Description
Supported Systems	Novell Netware	Version 3.x, 4.x, 5
	Microsoft Windows	Windows 95/98/ME, Windows NT(3.51, 4.0, 2000/XP)
	Unix	AT&T System(Rel 3.2, Rel 4.0), BSD 4.3, HP-UX(Rel 9.x, Rel 10.x, Rel 11.x), SCO 5.x, SUN OS 5.5, SOLARIS 2.5
	Linux	LPD
	Macintosh	Mac OS 7.6 or higher
Supported Protocols	Netware	IPX/SPX
	Windows	IPX/SPX, TCP/IP, DLC/LLC, NetBEUI
	UNIX	LPD
	AppleTalk	EtherTalk Phase 2
	Network management	SNMP MIB-II, Private enterprise MIB
Board	CPU	32bit RISC controller
	Flash memory	1Mbyte flash memory
	RAM	64Kbyte SRAM/8M byte DRAM
Printer	Shared memory	64Kbyte SRAM
Logical connection		IEEE 802.2, 802.3, Ethernet
Physical connection		10/100 Base Tx (UTP)
Size(H X W X D)		15 x 125 x 80mm
Authorization		CE, FCC Part 15 CLASS B, YES CERTIFICATION

Windows

OS \ Protocol	DLC (32 bit)	TCP/IP	LPD (Port 515)	TCP Standard (Port 9100)	IPX/SPX	NetBEUI
Windows 95	X	O	X	X	O	O
Windows 95 (OSR2)	O	O	X	X	O	O
Windows 98	O	O	X	X	O	O
Windows NT	O	O	O	X	X	O
Windows 2000	O	O	O	O	X	O
Windows ME	X	O	X	X	O	O
Windows XP	X	O	O	O	O	X

Macintosh

OS \ Protocol	AppleTalk (EtherTalk)	LPD (Port 515)
Mac 7.0 or higher	O	O

Unix

OS \ Protocol	LPD (Port 515)	TCP Standard (Port 9100)
AT&T system V(Rel 4.2)	O	O
BSD 4.3	O	O
HP-UX(Rel 9.x & Rel 10.x)	O	O
SCO 5.x	O	O
SUNOS 5.5	O	O
Sparc or Solaris 2.5	O	O
Linux	O	O

NetWare

OS \ Protocol	Pserver Mode		Rprinter Mode	
	Bindery	NDS	Bindery	NDS
NetWare 3.x	O	X	O	X
NetWare 4.x	O	O	O	O
NetWare 5.x	X	O	X	O

Index

A

Abnormal cases 6.1
About SyncThru 2.29
Active Leases 2.17
Active Options 2.18
Add New Print Server to List . 2.3, 2.12, 2.23
Add Port 2.3, 2.23
Add Printers 2.17
Add Reservations 2.17
Add Reserved Clients 2.17
Adding a Port 2.12, 2.23
Adding a Printer 2.12, 2.24, 4.7
Adding a Queue 4.5
Advanced Filter 2.25
Alerts 2.28
AppleTalk Configuration 3.1, 3.2
AppleTalk Enabled 2.7, 3.2, 7.4
AppleTalk Name Registration 3.2
AppleTalk Networks 3.1
AppleTalk Parameters 7.4
AppleTalk Printer Name 3.2, 7.4
AppleTalk Zones 3.3
AUTO 2.2, 4.5
Auto Detection of Print Servers 2.4
Automatic Protocol Switching 1.2
Available Ports 2.3

B

Bindery mode 4.6
BOOT Parameters 7.2
BOOTP 2.26
BOOTP server 6.3
BOOTP/TFTP 2.2
Bootptab 5.2

C

Check Configuration every (in min) .. 4.5 ,7.3
Check Job every 4.5, 7.3
Choose Destination Location 2.2
Chooser 3.3
Community Name 2.27
Compact Mode 2.2, 2.31
Configuration of Print Servers 2.6
Configured Print Servers 2.4, 2.6
Configuring AppleTalk 2.7
Configuring AppleTalk on a Windows PC 3.2
Configuring NetWare 2.7, 4.2
Configuring Novell Server 4.4
Configuring TCP/IP 2.6
Configuring the IP Address for PortThru Using BOOTP/TFTP 5.2
Configuring the IP Address for PortThru Using DHCP 5.2
Configuring the IP Address for PortThru Using RARP 5.2
Configuring the Macintosh System For Network Printing 3.3
Configuring the Print Server 2.6
Configuring Windows NT for TCP/IP printing 2.14
Create Q 4.5
Creating an LPR-compatible printer ... 2.15
Current Zone 2.8

D

Default Gateway 2.26, 7.3
Detailed List 2.25
Detection of Print Servers 2.6
DHCP 2.26, 5.3, 7.2
DHCP Manager 2.17, 2.18
DHCP Options 2.18
DHCP server 2.17
DLC/LLC 2.4, 2.16
DNS 2.15

E

Enable Authentication Traps 2.8
Enable Password Protection . . . 2.6, 2.26, 7.2
End Address 2.17
Enter the Port Name 2.23

F

Factory Default 2.29
Filter 2.25
Firmware Upgrade 6.2
Firmware Upgrade Problems 8.5
Firmware Upgrading 1.3
Firmware Upgrading through Internet . 1.3
Front Panel 2.30
Full Mode 2.2, 2.31
Functions of the Main Configuration Menu 2.23

G

General 2.26
General IPX Parameters 7.3
General Parameters 7.2
General Problems 8.2
General Tab 2.28
Generic 3.3

I

Inetcfg 4.4
Install Printer 2.12, 2.23, 2.24
Installed Printers 2.4, 2.6, 2.30
Installing DLC/LLC 2.16
Installing SyncThru 2.2
Installing the Print Server in Compact Mode 2.3
Installing the Print Server(For Users) . . 2.12
IP Address 2.3, 2.17, 2.23
IP Address Assignment Method 2.26
IP Address Windows Configuration 2.3
IP Address/Community Name 2.8
IP Parameters 7.3
IPX 4.4
IPX address 2.3, 2.23
IPX Frame Type 4.5, 7.3
IPX/SPX 2.5

J

L

Last Error Occurred 2.7, 7.4
Lease Duration 2.17
Locate Printer 2.4, 2.26, 2.30
LPD 2.14, 5.4
LPR Port 2.15

M

MAC address 2.3, 2.12
Macintosh 1.3
Macintosh Problems 8.3
Microsoft TCP/IP Printing 2.14

N

NDS mode 4.6
NDS tree 4.5
NetWare 2.27
NetWare bindery 4.3
NetWare Directory Services 4.3
Netware File Server 4.2
NetWare MultiProtocol Router 4.4
NetWare Pserver Parameters 7.4
NetWare Rprinter Parameters 7.4
Netware Print Server Name 7.4
Network Administration 2.17
Netware Enabled 4.5
Network Interface 2.6, 2.26, 2.30, 4.5
Network Range End 7.4
New Port 2.3
New Print Servers 2.4, 2.6, 2.7, 2.30
Novell NetWare 1.2
Novell Server 4.4
NWADMIN 4.3

O

Objects 4.5
Offline, running out of toner and etc. . . 2.30

P

PAP 3.2, 7.4
PAP Tickle Timer 7.4
Parameters
  BOOT Parameters 7.2
  General Parameters 7.2
  Netware Rprinter Parameters 7.4
  AppleTalk Parameters 7.4
  General IPX Parameters 7.3
  Netware Pserver Parameters 7.4
  SNMP Parameters 7.5
  IP Parameters 7.3
PCL 5.4
PCONSOLE 4.3, 4.6
Peripheral Devices 5.4
PortThru Configuration Using PostScript 5.4
Print Queues 4.2
Print Servers 4.2
Print Test Page 2.13
Printer Description 2.6, 2.26, 7.2
Printer Filter 2.25
Printer Name 2.6, 2.26, 7.2
Printer Status 2.28, 2.30
Printers 2.23
Printers Menu 2.23
Printing using LPD in a Windows NT environment 2.14
Program Manager 2.17
Properties 2.24, 2.30
Protocol Statistics 2.28, 2.30
Protocol Switching 1.2
PS SIMM 3.2
PSERVER 4.5, 4.6, 7.4

R

RARP 7.2
Refresh 2.4, 2.13, 2.26, 2.30
Reinitialize system 4.4
Remove Q 4.5
RIP/SAP Only 4.4
Routing Server 4.4
RTMP 3.2, 7.4

S

SAM program 5.4
SAM utility 5.4
Samsung Network printer Port 2.3
Scope 2.17, 2.18
Search For Help 2.29
Security Password 7.2
Select Mode 4.5
Server Add 2.17
Serviced Queues 4.5, 7.3
Set Password 2.6, 2.26
Setting Password 2.6
Setting up a DHCP server on Windows NT 2.17
Setting up Print Queues 7.4
SNMP 2.27
SNMP Community Name Table 7.5
SNMP Parameters 7.5
SNMP Trap Destination Table 7.5
Specifications A.1
Static 7.2
Status bar 2.23, 2.30
Status Monitoring 1.3
Subnet Mask 2.26, 7.3
SyncThru 2.31
SyncThru Installation Problems 8.4

T

TCP/IP 2.4, 2.26
TCP/IP parameters 2.26, 7.3
Test page 2.30
Toolbar 2.23, 2.25, 2.30
Troubleshooting Guidelines 8.2

U

Uninstalling SyncThru 2.30
Unix 1.2
Unix variants 5.1
Unlimited 2.17
Unused Options 2.18
Upgrading the Firmware 6.2
Upgrade Firmware 2.29
Upgrading the Firmware in a Windows Environment 6.2

V

View 2.23
View Log Tab 2.28

W

Web SyncThru 1.3
Windows 1.3, 2.29
Windows NT 2.17
Windows Problems 8.3

Z

ZIP 3.2
zone 3.2

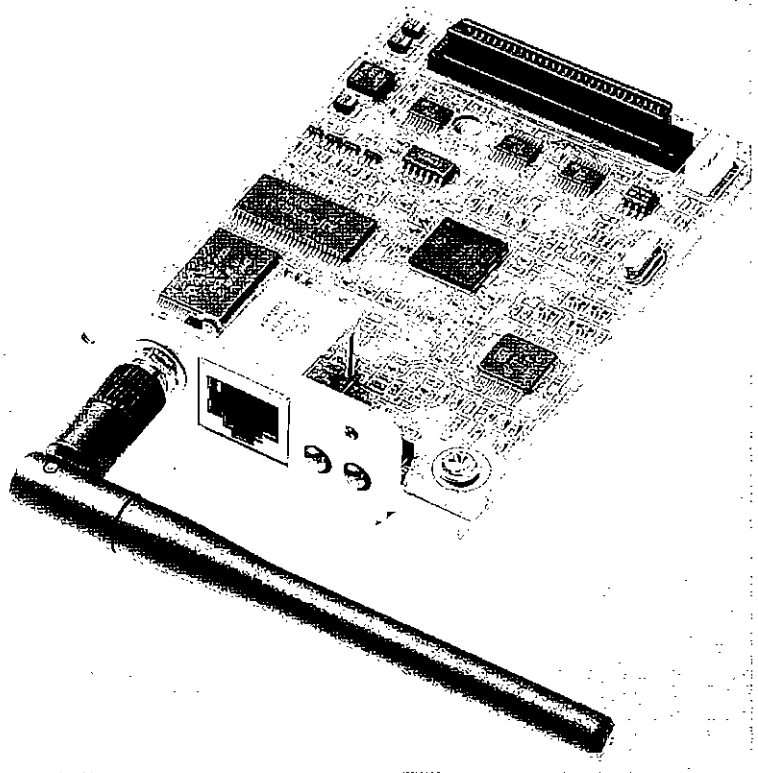
ELECTRONICS

SAMSUNG LASER PRINTER

User's Guide

Wireless & Wired
Network Printer Card

AirPORT HRU



About This Guide

This guide is to configure your network's wireless settings on the print server. When you want to use your Samsung printer in a wireless only or in both wireless and cabled network environment, refer to this User's Guide.

If you use the print server in a cabled network environment, you do not need to refer to this User's Guide. For cabled network users, refer to the SyncThru User's Guide.

This guide is for network users and administrators who have a working knowledge of the following:

- wireless LAN technology
- print server technology
- the operating system(s) running on the computer(s) being configured to use the print server

CONTENTS

Introduction 1
Overview 1
Wireless LAN Concepts 2
Operation mode 2
Auto mode 3
Access point 3
Channels 4
Authentication 4
WEP Encryption 5
Service Set Identifiers (SSID) 5

Before Configuring the Print Server 6

Configuring the Print Server in Windows . . 8

Configuring the Print Server in Macintosh 14

Specifications 18

Configuring Wireless Network in Your Computer 19
Configuring Wireless Network in Windows XP with the Samsung MagicLAN Card 19
Configuring Wireless Network in Windows 2000 with the 3Com Airconnect LAN Card 24

United States of America

Federal Communications Commission (FCC)

Intentional emitter per FCC Part 15

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your printer system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the United States of America if an FCC ID number is on the system label.

The FCC has set a general guideline of 20 cm (8 inches) separation between the device and the body, for use of a wireless device near the body (this does not include extremities). This device should be used more than 20 cm (8 inches) from the body when wireless devices are on. The power output of the wireless device (or devices), which may be embedded in your printer, is well below the RF exposure limits as set by the FCC.

This transmitter must not be collocated or operation in conjunction with any other antenna or transmitter.

Operation of this device is subject to the following two conditions:(1) This device may not cause harmful interference, and(2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

FCC Statement for Wireless LAN use:
"While installing and operating this transmitter and antenna combination the radio frequency exposure limit of 1mW/cm2 may be exceeded at distances close to the antenna installed. Therefore, the user must maintain a minimum distance of 20cm from the antenna at all times. This device can not be colocated with another transmitter and transmitting antenna."

European Radio Approval Information

(for products fitted with EU-approved radio devices)

This Product is a printer; low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz band, may be present (embedded) in your printer system which is intended for home or office use. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the European Union or associated areas if a CE mark with CE a Notified Body Registration Number and the Alert Symbol is on the system label.

The power output of the wireless device or devices that may be embedded in you printer is well below the RF exposure limits as set by the European Commission through the R&TTE directive.

European States qualified under wireless approvals:

EU	Austria, Belgium, Denmark, Finland, France (with frequency restrictions), Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom
Accept EU	Iceland, Liechtenstein, Norway and Switzerland

European States with restrictions on use:

EU	In France, the frequency range is restricted to 2446.5-2483.5 MHz for devices above 10 mW transmitting power such as wireless
Accept EU	No limitations at this time.

Regulatory Compliance Statements

Wireless Guidance

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your printer system. The following section is a general overview of considerations while operating a wireless device.

Additional limitations, cautions, and concerns for specific countries are listed in the specific country sections (or country group sections). The wireless devices in your system are only qualified for use in the countries identified by the Radio Approval Marks on the system rating label. If the country you will be using the wireless device in, is not listed, please contact your local Radio Approval agency for requirements. Wireless devices are closely regulated and use may not be allowed.

The power output of the wireless device or devices that may be embedded in your printer is well below the RF exposure limits as known at this time. Because the wireless devices (which may be embedded into your printer) emit less energy than is allowed in radio frequency safety standards and recommendations, manufacturer believes these devices are safe for use. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

As a general guideline, a separation of 20 cm (8 inches) between the wireless device and the body, for use of a wireless device near the body (this does not include extremities) is typical. This device should be used more than 20 cm (8 inches) from the body when wireless devices are on and transmitting.

This transmitter must not be collocated or operation in conjunction with any other antenna or transmitter.

Some circumstances require restrictions n wireless devices. Examples of common restrictions are listed below:

Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. 802.11B (also known as wireless Ethernet) and Bluetooth communication devices are examples of devices that provide wireless communication.

In environments where the risk of interference to other devices or services is harmful or perceived as harmful, the option to use a wireless device may be restricted or eliminated. Airports, Hospitals, and Oxygen or flammable gas laden atmospheres are limited examples where use of wireless devices may be restricted or eliminated. When in environments where you are uncertain of the sanction to use wireless devices, ask the applicable authority for authorization prior to use or turning on the wireless device.

Every country has different restrictions on the use of wireless devices. Since your system is equipped with a wireless device, when traveling between countries with your system, check with the local Radio Approval authorities prior to any move or trip for any restrictions on the use of a wireless device in the destination country.

If your system came equipped with an internal embedded wireless device, do not operate the wireless device unless all covers and shields are in place and the system is fully assembled.

Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Please contact manufacturer for service.

Only use drivers approved for the country in which the device will be used. See the manufacturer System Restoration Kit, or contact manufacturer Technical Support for additional information.

Introduction

Overview

Samsung wireless network interface card, AirportThru, supports the IEEE 802.11b standard for wireless LAN (WLAN) communications. If you complete configuring your network's wireless setting properly on the print server, you can send print jobs to the printer over the WLAN.

When a computer sends a file to the printer, a radio signal is transmitted. When the print server receives the incoming signal, either directly from the computer (Ad Hoc/Computer-to-Computer mode) or from an Access Point (Infrastructure/AirPort Network mode), the printer prints the file.

NOTE: To use your printer in a wireless environment, the print server must have the AirportThru card and the antenna installed. The AirportThru card may be already installed in your printer when you purchase it or you must install it as a printer option depending on your printer model. Please refer to the printer's User's Guide for more information about the AirportThru.

Wireless LAN Concepts

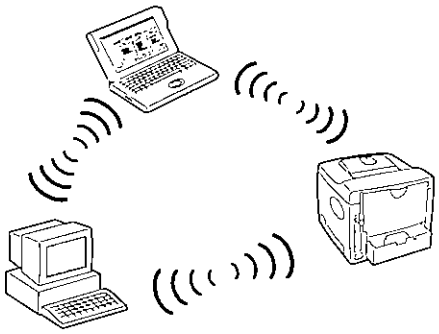
Operation mode

Samsung print server supports two standard wireless operation modes, Ad-hoc and Infrastructure, and one additional "Auto" mode.

Ad-hoc (peer-to-peer) mode

Ad-hoc mode is referred to as peer-to-peer mode. In Ad-hoc mode, wireless devices or workstations communicate directly with each other, without using an Access Point (AP). They can share files and printers, but may not be able to access Internet. The print server receives print jobs from wireless computers directly.

On Apple networks, Ad-hoc mode is called "computer-to-computer" mode.



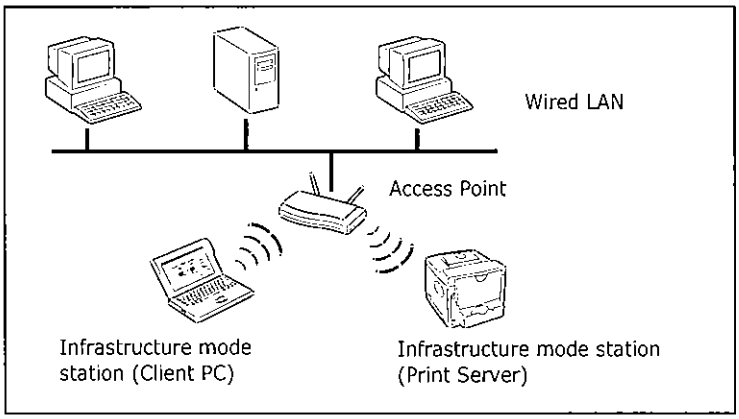
Infrastructure mode

In Infrastructure mode, wireless devices or workstations communicate with each other by going through an Access Point (AP). The Access Point acts like a hub, providing connectivity for the wireless computers. In Infrastructure mode, wireless devices can communicate with each other or can communicate with a wired network.

On Apple networks, Infrastructure mode is called Airport Network mode.

When set in this mode, your Samsung print server receives print jobs from wireless and cabled network computers through an Access Point.

NOTE: If you connect a network cable to your Samsung print server, the print server will not use wireless interface. All packets will be transferred via wired LAN.



Auto mode

The Auto mode is provided for user convenience. If you select the Auto mode, your Samsung print server will automatically select the operating mode whenever it restarts. The print server will operate in Ad-hoc mode if there is a network cable plugged into the print server. If not, the print server will operate in Infrastructure mode.

Access point

An Access Point is a device that acts as a wireless communication hub for users of a wireless device to connect to a cabled network. An Access Point must be able to receive and forward network traffic between wireless and cabled network devices. Multiple Access Points can act as repeaters to extend the range of a wireless network.

If you want to use Infrastructure mode, you need to use Access Point.

Channels

There are 14 channels specified in the 802.11b standard for wireless communications. The number of available channels authorized for use may be restricted based on your location. See the table below.

Channel	Frequency	Korea	USA/ Canada	Europe	Japan
1	2412MHz	O	O	O	O
2	2417MHz	O	O	O	O
3	2422MHz	O	O	O	O
4	2427MHz	O	O	O	O
5	2432MHz	O	O	O	O
6	2437MHz	O	O	O	O
7	2442MHz	O	O	O	O
8	2447MHz	O	O	O	O
9	2452MHz	O	O	O	O
10	2457MHz	O	O	O	O
11	2462MHz	O	O	O	O
12	2467MHz	O		O	O
13	2472MHz	O		O	O
14	2484MHz				O

When shipped from the factory, the Samsung print server is configured for Ad-hoc mode using the channel 10. In most cases, manual configuration of the channel is not required.

- If the print server is powered on and discovers a wireless network that has same SSID and operation mode, it will automatically adjust channel to match that network.

Authentication

Authentication is a process of identifying an individual who is attempting to access a wireless LAN or an Access Point. The IEEE 802.11 standard defines two types of authentication services: Open System and Shared Key.

Open System. Authentication is not used, and encryption may or may not be used, depending on the need for data security.

Shared Key. Authentication is used. A device that has the proper WEP key can access the network.

Samsung print server supports both authentication methods.

WEP Encryption

WEP (Wired Equivalent Privacy) is a security protocol preventing an unauthorized access to your wireless network. Wireless LANs, which are over radio waves, do not have the physical structure that can be protected from unauthorized access and therefore are vulnerable to tampering. WEP is designed to provide a wireless LAN with a security level equal to what is found on a wired network.

WEP encrypts the data portion of each packet exchanged on the wireless network using a 64-bit or 128-bit WEP encryption key. Sometimes 64-bit WEP is called 40-bit and 128-bit is 104-bit. Both 40-bit and 64-bit encryption are really the same, as are 104-bit and 128-bit encryption, because an additional 24 initialization vector (IV) bits are automatically added for a total of 64 bit and 128 bits.

To encrypt data, Samsung print server uses four encryption keys. You have to select key and enter the key value. The key value must be the same as the other wireless device or the access point of your wireless network.

In 64-bit mode, each key value is 10 hexadecimal digits (0-9 and A-F) or 5 alphanumeric characters. In 128-bit mode, each key value is 26 hexadecimal digits or 13 alphanumeric characters. Contact with your network administrator for this configuration.

Service Set Identifiers (SSID)

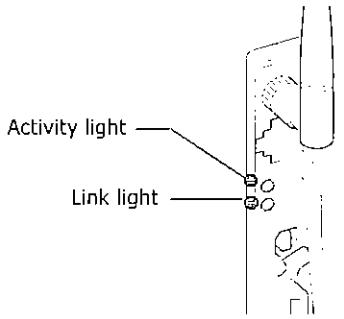
SSID stands for Service Set Identification, which is the ID to form the wireless Network. You can set up to 32 characters in the SSID field.

An identifier attached to packets sent over the wireless LAN that functions as a "password" for joining a particular wireless network (BSS). All wireless devices and access points within the same BSS must use the same SSID.

SSID is also referred to as a Network Name because essentially it is a name that identifies a wireless network.

Before Configuring the Print Server

Your Samsung network printer shows the network connection status with two lights on the back of the printer. When you configure the wireless settings on your printer, please refer to these lights to make sure that the network connection is made properly.



Light	State	Description
Upper light (Activity)	Off	Power off or system error
	On (Continuously)	System error
	Blinking	Normal

Light	Color	Description
Lower light (Link)	None	Not linked to a network.
	Green	Linked to a wired LAN.
	Red	Linked to a wireless LAN.
	Orange	Linked to both wired and wireless LANs.

NOTE: If the operation mode is set to ad-hoc and the light is red, it means that the printer server is or can be another ad-hoc station.

You can check the current network settings with the Network Printer Card Test page. To print it, select **Print Net CFG** from the **Network** menu after accessing the menu mode from the printer's control panel. For details, please refer to the printer's User's Guide.

- Check for the currently selected operation mode; **Ad-hoc**, **Infrastructure**, or **Auto**. In the **Auto** mode, the printer activates in the **Ad-hoc** mode when the printer boots up with the network cable plugged in, or the printer activates in the **Infrastructure** mode when the printer boots up with no network cable plugged in.
- Check for the SSID. Make sure that the print server SSID matches the SSID of the network. The SSID is case sensitive.
- Check for the **Line Quality** item on the Network Printer Card Test page. If the quality is low or very low, you must improve the quality of network connection by removing the obstacles, moving the wireless device closer to the printer, or adjusting the antenna direction.

Configuring the Print Server in Windows

This section describes how to configure the print server in Windows to receive print jobs from wireless network computers. When you use the print server in both a wireless and a cabled network, you also have to configure this wireless settings on your print server.

The following procedures are explained for a user who configures the wireless settings for the first time or who resets the wireless network interface card to the factory default settings.

If you are not, please reset the wireless network interface card. To reset thewireless network interface card, select **Default Set** from the **Network** menu after accessing the menu mode from the printer's control panel, and then turn the printer off then back on. For details, please refer to the printer's User's Guide.

You can configure the wireless settings on either wired or wireless LAN computer. When configuring them on a wired LAN computer, the print server must be connected to the wired LAN. When configuring them on the wireless LAN computer, you must change the current wireless settings on the computer temporarily to make a connection to the print server. When you finish the wireless settings for the print server, you must return the wireless settings of the computer to its original status.

Before you begin, verify that:

- The computer uses Windows 98, NT 4.0, Me, 2000, or XP.
- Samsung wireless network interface card, airportthru, is properly installed in your printer.
- Wireless LAN card is currently installed in your computer and working properly.

Print the Network Printer Card Test Page for information about the current network settings such as the operation mode, SSID, Encryption, and WEP Authentication. To print it, select **Print Net CFG** from the **Network** menu after accessing the menu mode from the printer's control panel. For details, please refer to the printer's User's Guide.

Follow these steps to configure the print server for Windows:

1 Using the Samsung SyncThru CD-ROM, install the SetIP program.

1-1. Turn on the computer and insert the SyncThru CD-ROM. The Installation screen appears.

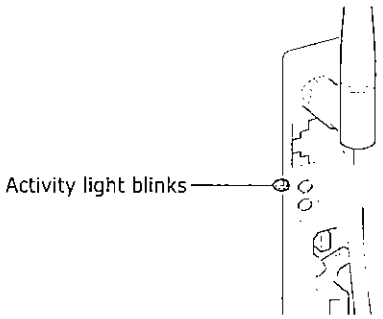
1-2. Select your language.

1-3. Select **SetIP**.

1-4. Select **Install Samsung Software**.

1-5. Click **Next**. Follow the on-screen instructions to complete the installation.

2 Turn the print server on. Make sure that the upper (Activity) light on the back of the printer blinks.



3 If you use a wireless PC to configure the print server, record your current PC wireless device setting before configuring it to communicate with the print server.

If you use a PC cabled to a network, go to Step 5.

4 Run the computer's wireless configuration software, reconfigure your PC with wireless settings that match the factory default settings of the Samsung print server:

Operation mode: Ad-hoc

SSID: airportthru

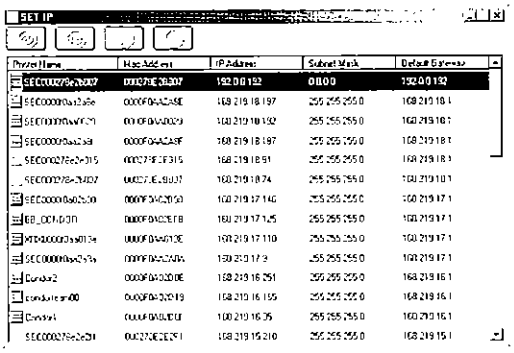
Encryption: No data Encryption

WEP Authentication: Open system

NOTES:

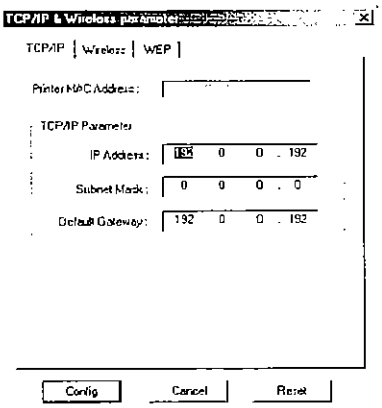
- How to configure the PC's wireless settings are variable depending on the wireless LAN card currently installed in your PC. For details, please refer to the User's Guide which came with your PC's network card.
- Descriptions about the wireless terms shown above are provided on page 2.
- See page 19 for an example of how to configure a network card in your computer.

5 Run the SetIP program and select the printer name beginning with **SEC** and the MAC address of the destination print server. You can find the MAC address of the destination print server on the Network Printer Card Test page.



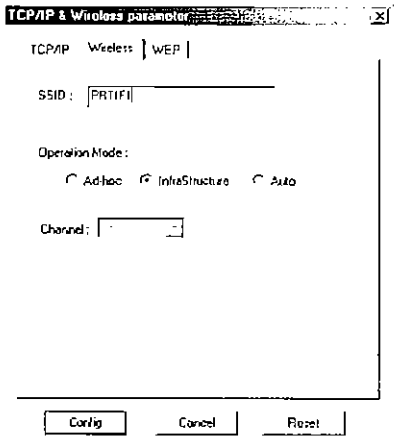
NOTE: If the printer's network settings are not the factory defaults or you cannot find the printer in the SETIP screen, please reset your printer and start again from step 4.

5-1. Double-click the destination print server, and then you can see "**TCP/IP & Wireless parameter**".
If necessary, configure your print server's IP, subnet, and gateway properly.



NOTE: You must configure the IP which is not used for other computer or printers.

5-2. Click the **Wireless** tab and configure your print server's wireless settings.



SSID: You must change the SSID on the print server to match your network. In InfraStructure mode, you must match the SSID configured on the Access Point. The default SSID on the print server is "airportthru."

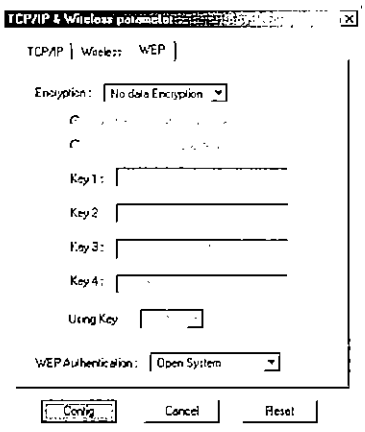
NOTE: SSID is case sensitive, so you have to change it carefully.

Operation Mode: Ad-hoc, InfraStructure, or Auto.
Ad-hoc mode allows the wireless devices to communicate directly with each other. This is the default operating mode for the print server.
If your network uses an Access Point, you must reconfigure the operation mode to **InfraStructure**. InfraStructure mode allows both wireless and cabled computers to send files to the printer through an Access Point.
If you select **Auto**, the print server selects the operation mode automatically according to the network cable's connection each time it boots up. If the network cable is detected, the print server enters Ad-hoc mode; if not, enters InfraStructure mode.

Channel: This option is available in the Ad-hoc mode only. In most cases, you will not need to change this setting. The print server will scan all available channels for the specified network and will adapt its channel to the one detected. Default setting is **10**.

5-3. If you want to use an optional WEP security, click the **WEP** tab. If not, go to the next step.

Select the encryption mode, select the key, and enter the appropriate key number as specified by your network administrator.



Encryption: No data Encryption, 64 bits, or 128 bits. Default setting is **No data Encryption**. If your network uses WEP encryption keys, you must configure the encryption keys. You can configure up to four keys. The number of keys are different depending your Window OS or the wireless network card. The active key must match the value and active key position (for example, Key 1) configured on other wireless devices.

WEP Authentication: Open System or Shared Key. The Samsung print server is not configured for network authentication (**Open System**). If required by your network, the proper authentication method must be configured on the print server.

5-4. Click **Config**.

5-5. In the SETIP screen, press (Refresh) on the top right corner. Once you've changed the wireless settings from its default status, you cannot see the printer in the SETIP screen any more. It's normal.

6 When you finish configuring the network settings on a wireless PC, restore the original PC settings including operation mode, SSID, Encryption, and WEP Authentication.

NOTES:

- After restoring the original PC wireless settings value, if the print server is not detected when you run the SetIP program, the wireless settings are not made successfully. Reset your printer and start from step 3. For details about resetting the printer, please refer to the printer's User's Guide.
- You can use the SyncThru program to configure additional network settings.

7 Now you can print on a wireless network as you would normally on a wired network. For information about printing, please refer to your printer's User's Guide.

Configuring the Print Server in Macintosh

This section describes how to configure the print server on a Macintosh to receive print jobs from wireless network computers. In Macintosh, you must use the Web Browser to configure your Samsung print server.

The following procedures are explained for a user who configures the wireless settings for the first time or who resets the printer to the factory default settings.

If you are not, please reset the printer. To reset the printer, select **Default Set** from the **Network** menu after accessing the menu mode from the printer's control panel, and then turn the printer off then back on. For details, please refer to the printer's User's Guide.

Before you begin, verify that:

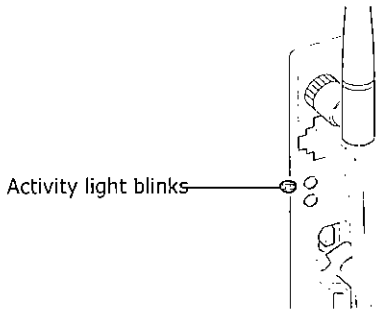
- the computer uses Macintosh operating system 9.x or X.
- Samsung wireless network interface card, airportthru, is properly installed in your printer.
- Wireless LAN card is currently installed in your computer and working properly.

Print the Network Printer Card Test Page for information about the current network settings such as the operation mode, SSID, Encryption, and WEP Authentication. To print it, select **Print Net CFG** from the **Network** menu after accessing the menu mode from the printer's control panel. For details, please refer to the printer's User's Guide.

When you configure the wireless settings for the print server, you must change the current wireless settings on your computer temporarily to make a connection to the print server. When finished, you must return the wireless settings of the computer to its original status.

Follow these steps to configure the print server for Macintosh:

1 Turn the print server on. Make sure that the upper (Activity) light on the back of the printer blinks.



2 Before configuring your Macintosh to communicate with the print server, record your network settings including the network name, IP address, subnet mask, and router address on your computer for future use.

3 From the **Apple** menu, select **AirPort**.

4 In the AirPort dialog box, select **airportthru** in the **Choose network** field. Then close the AirPort dialog box.

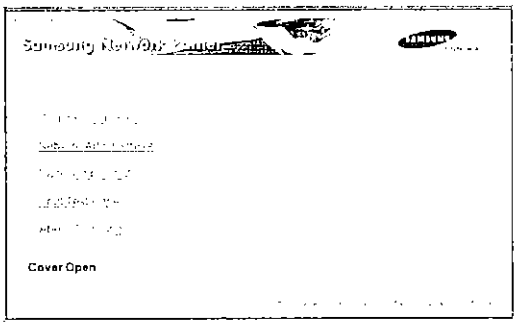
5 From the **Apple** menu, select **Control Panel** and then select **TCP/IP**.

6 In the TCP/IP dialog box, select **AirPort** in the **Connect via** field and **Manually** in the **Configure** field. Change the following items as shown:
IP address: **192.0.0.193**
Subnet mask: **0.0.0.0.**
Router address: **192.0.0.192.**

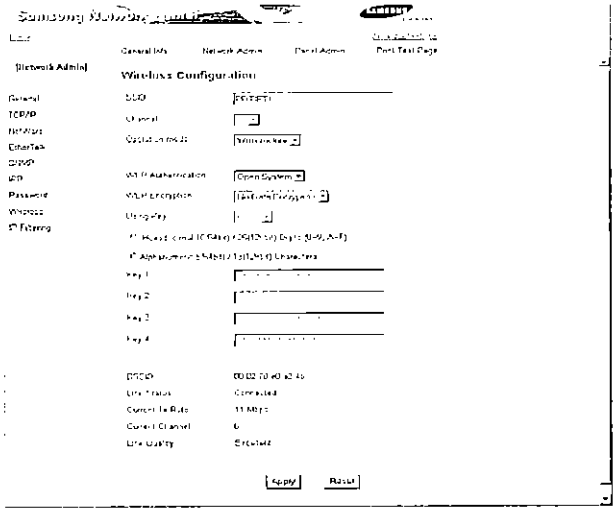
Then close the TCP/IP dialog box.

7 To open the print server's Embedded Web Server, enter **http://192.0.0.192** as the URL in a browser.

8 Click **Network Administratior** to open the Network Administration page.



9 Select **Wireless** on the left side menu bar and the wireless settings. Then click the **Apply** button.

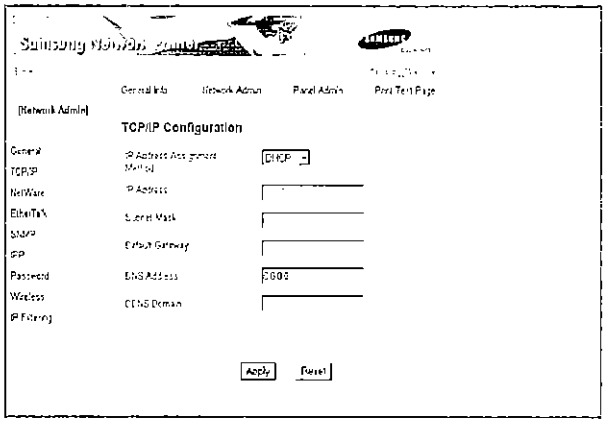


In the Wireless Configuration page:

- ensure that the print server SSID matches the SSID of the WLAN. In InfraStructure mode, you must match the SSID configured on the Access Point (AirPort Base Station).
- set the print server to the desired operation mode (Ad-hoc, InfraStructure, or Auto). If your network uses an Access Point, you must reconfigure the operation mode of the print server to **InfraStructure**. If you select **Auto**, the print server selects the operation mode automatically according to the network cable's connection each time it boots up. If the network cable is detected, the print server enters Ad-hoc mode; if not, enters InfraStructure mode.
- set the channel number if you use the computer-to computer mode. In most cases, you will not need to change this setting.

- select WEP Authentication mode (**Open System or Shared Key**). Your Samsung print server is not configured for network authentication. If required by your network, the proper authentication method must be configured on the print server.
- If you want to use the WEP security, enable the WEP encryption and enter the appropriate key value as specified by your network administrator. The active key must match the value and active key position (for example, Key 1) configured on other wireless devices on the same network.

10 Select **TCP/IP** on the left side menu bar and configure the TCP/IP setting, if necessary. Then click the **Apply** button.



11 Turn the print server off and then back on.

12 When you finish configuring the network print server settings in a wireless Macintosh, restore the original Macintosh setting.

13 From the **Apple** menu, select **AirPort**. In the **Choose network** field, select the network previously set. Then close the AirPort dialog box.

14 Now you can print on a wireless network as you would normally on a wired network. For information about printing, please refer to your printer's User's Guide.

Appendix

Specifications

Supported operating systems	Windows 98, Me, NT 4.0, 2000, and XP Macintosh 9.x and X	
Network interface	Wireless standard	IEEE 802.11b
	Certifications & Regulatory Approvals	• Wi-Fi certified • ETS 300 328 • ETS 301 489 • FCC 15.247
	Operating modes	• Ad-hoc/computer to computer • Infrastructure/AirPort Network
	Frequency	2.4 GHz ISM band
	Modulation	Direct sequence spread spectrum (CCK, BPSK, QPSK)
	Data rate	11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps
	Security	WEP 64 or 128-bit encryption
	Operating service area	• Indoor: 20 m (maximum) • Outdoor: 150 m (maximum)
Indicator lights	Link, Activity	

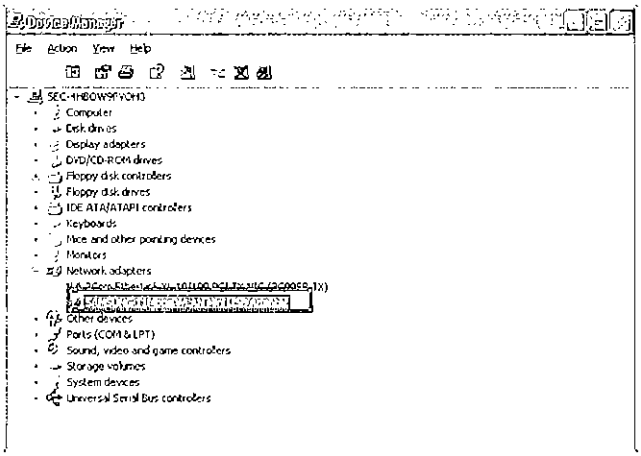
Configuring Wireless Network in Your Computer

To use the wireless printing with your printer, a wireless LAN should be installed and properly configured in your computer. Installing wireless LAN in your computer varies depending on the LAN card you use.

This chapter shows an example of how to configure wireless network settings in your computer. For information about configuring wireless LAN in your computer, please refer to the documentation of the LAN card you use.

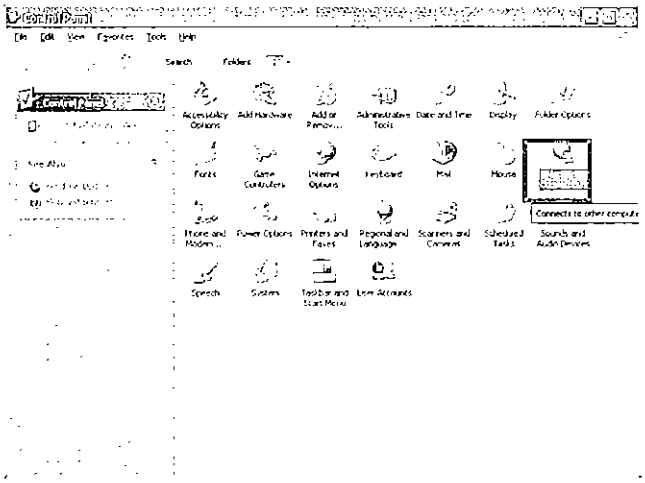
Configuring Wireless Network in Windows XP with the Samsung MagicLAN Card

1 In the desktop window, from the **start** menu, select **Settings → Control Panel → System**, and then tap the **Hardware** tab. Click the **Device Manager** button and make sure that the wireless network card is installed in the **Network adapters**.

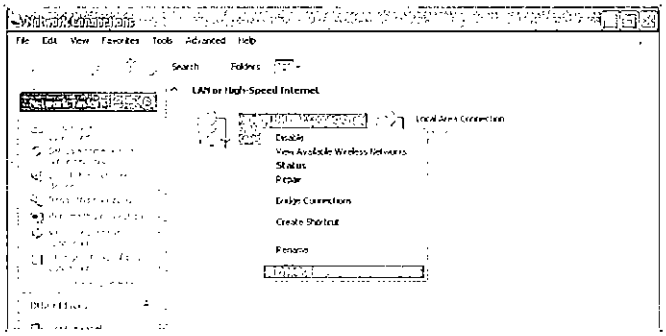


NOTE: If you cannot find the wireless network card in the Network adapters, please reinstall the wireless network driver after downloading the driver from the Samsung web site.

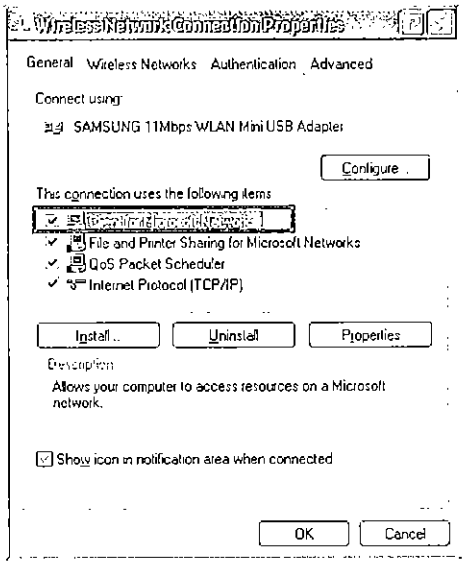
2 From the **start** menu, select **Settings** → **Control Panel**. Double-click **Network Connections** in the **Control Panel** screen. You can also open the Network Connections screen by right-clicking the **My Network Places** icon on the desktop window and selecting **Properties** from the pop-up menus.



3 In the Network Connections screen, select the wireless network card you've confirmed at step 1 and then right-click it to select **Properties**.

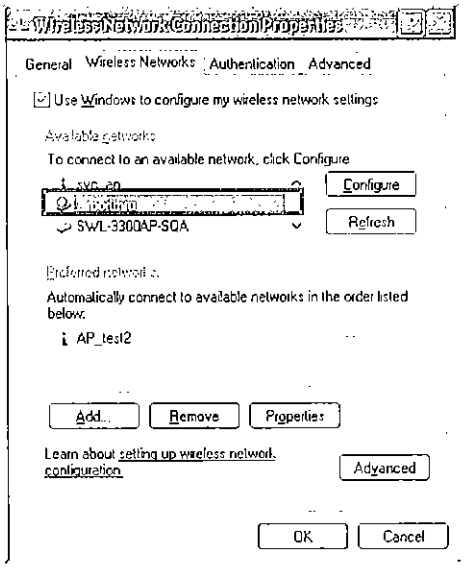


4 On the Wireless Network Connection Properties screen, tap the **Wireless Networks** tab.



NOTE: If you select the **Show icon in notification area when connected** checkbox in the **General** tab, you can be notified when the network is connected.

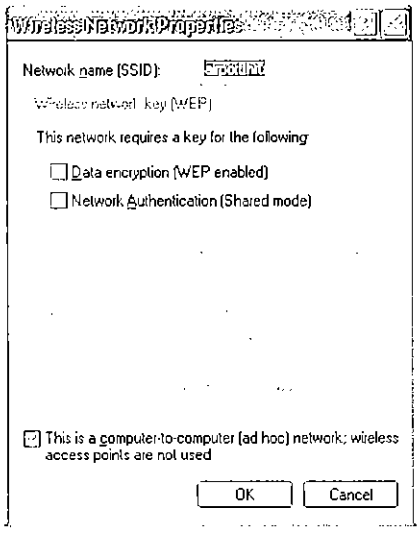
5 In the **Wireless Networks** tab, select **airportthru** in the **Available network** list and click the **Configure** button.



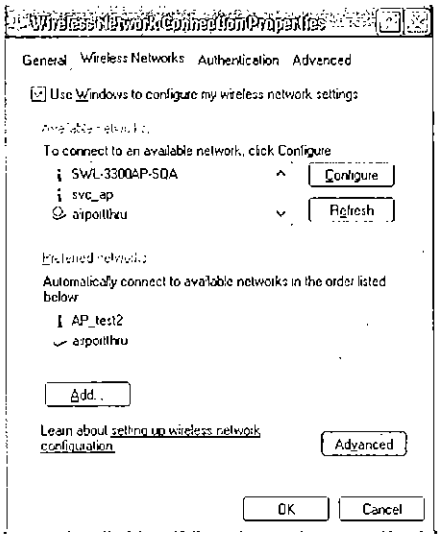
If you cannot find **airportthru** in the **Available networks** list, click the **Refresh** button.

NOTE: The **Use Windows to configure my wireless network settings** checkbox must be selected.

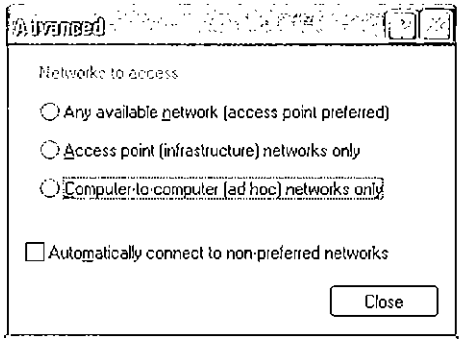
6 Configure the settings in the **Wireless Network Properties** screen, if necessary, and then click the **OK** button.



7 Make sure that **airportthru** displays in the **Available networks** list, and then click the **Advanced** button.

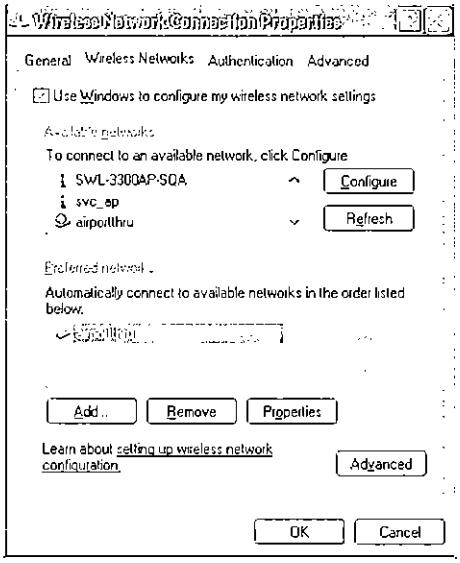


8 In the **Advanced** screen, select the **Computer-to-computer (ad hoc) networks only** and click the **OK** button.

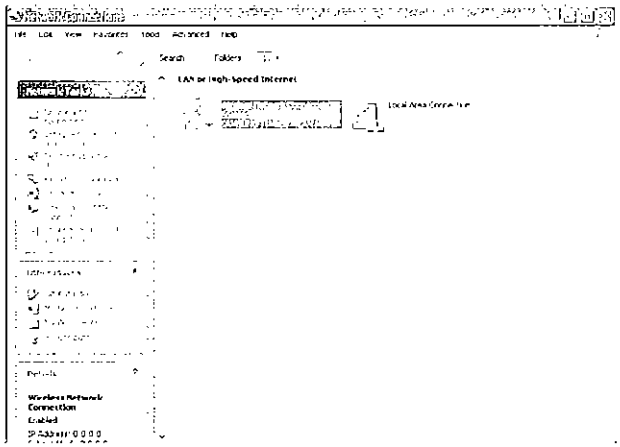


9 Make sure that **airportthru** displays in the **Preferred networks** list, click the **OK** button.

If the **Preferred networks** list shows several network items, remove the items except for **airportthru**, and then when **airportthru** displays in the **Preferred networks** list, click the **OK** button.



10 When finished, you can see the wireless network connection is activated and the status of the connection.

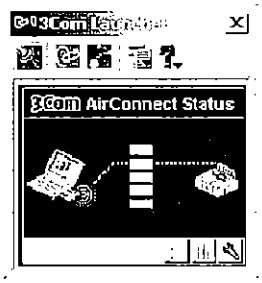


Configuring Wireless Network in Windows 2000 with the 3Com Airconnect LAN Card

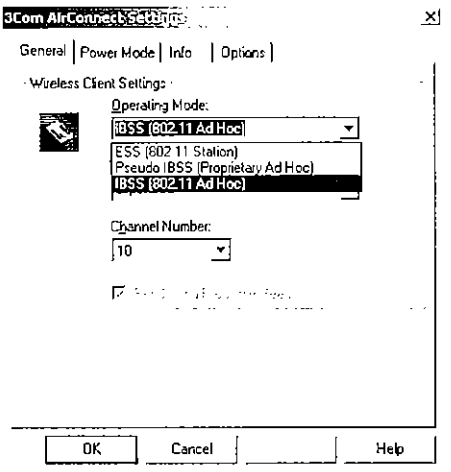
1 From the **Start** menu on the desktop window, select **Settings** → **Control Panel**. In the **Control Panel** screen, double-click **System**, and then select the **Hardware** tab. Click the **Device Manger** button and make sure that the wireless network card is installed in the **Network adapters**.

2 From the **Start** menu, select **Program** → **3Com AirConnect** → **3Com Launcher**. You can also click the **3Com Launcher** icon on the bottom right task bar.

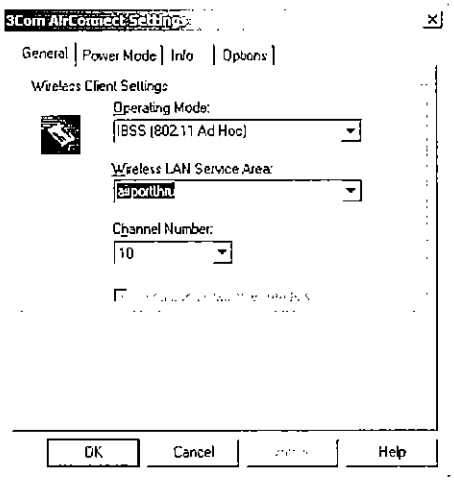
3 The 3Com Launcher screen appears. Click the left button from the three buttons on the bottom right corner.



4 The 3Com AirConnect Settings screen appears. Set the **Operation Mode to IBSS (802.11 Ad Hoc)**.



5 Enter **airportthru** in the **Wireless LAN Service Area field**, and click the **OK** button.



You can see the wireless network connection status.

Index

A

access point 3
ad-hoc 2, 11, 16
AirPort 15
authentication 4, 12, 17
auto mode 3, 11, 16

C

channel 4, 11, 16
computer-to-computer 2
configure
  in Macintosh 14
  in Windows 8

E

encryption 5, 12, 17

I

infrastructure 2, 11, 16

O

open system 4, 12, 17
operation mode 2, 11, 16

P

peer-to-peer 2, 11, 16

S

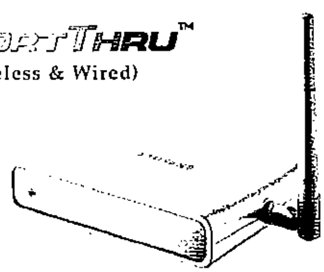
shared key 4, 12, 17
SSID (service set identifiers) 5, 11

W

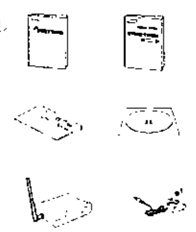
WEP 5, 12, 17

Air PORTTHRU™

(Wireless & Wired)

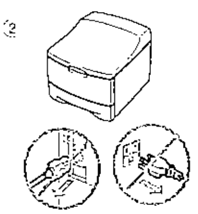


①



- Components may differ from one country to another.
- Certains composants peuvent différer d'un pays à l'autre.
- 在不同的国家，部件可能不同

②



Turn the printer power off and unplug all cables from the printer.

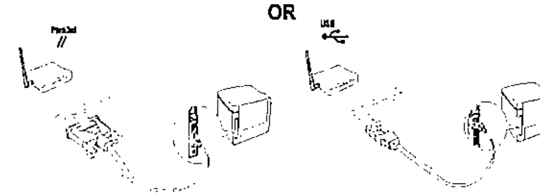
Schalten Sie den Drucker aus, und ziehen Sie alle Kabel ab.

Mettez l'imprimante hors tension et débranchez tous les câbles.

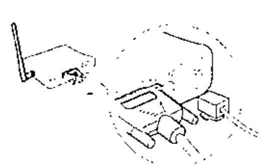
Spegnere la stampante e scollegare tutti i cavi.

Apague y desenchufe todos los cables de la impresora.

③



④



Only use Wired

Verwenden Sie Wired

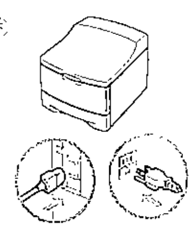
N'utilisez que des Wired

Utilizzare solo Wired

Utilice sólo Wired

Используйте только Wired

⑤



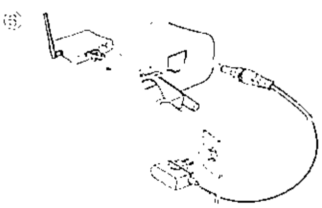
Reconnect the power cord and printer cable, and turn the printer on.

Schließen Sie Netz- und Druckerkabel an und schalten Sie den Drucker ein.

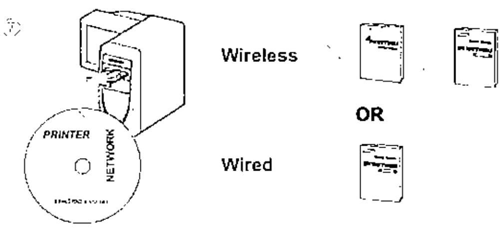
Rebranchez le cordon d'alimentation et le câble de l'imprimante, puis mettez celle-ci sous tension.

Ricollegare il cavo di alimentazione e della stampante, quindi accendere la macchina.

Vuelva a conectar el cable de alimentación y el cable de la impresora y, a continuación, encienda la impresora.



[illegible]



Active	●	Power off or system error. Gerät aus oder Systemfehler Serveur éteint ou erreur système Spegnimento o errore di sistema	[illegible]
	○	System error Systemfehler Erreur système Errore di sistema	[illegible]
	☼	Normal Normal Normal Normale	[illegible]
WLAN	WLAN ○	Linked to a wireless LAN Mit einem drahtlosen LAN verbunden. Connexion à un réseau sans fil. Collegato a una LAN wireless.	Conectado a una LAN inalámbrica [illegible]
LAN	LAN ○	Linked to a wired LAN Mit einem kabelgebundenen LAN verbunden Connexion à un réseau câblé. Collegato a una LAN cablata.	Conectado a una LAN cableada. [illegible]
None	LAN ● WLAN ●	Not linked to a network. Nicht mit einem Netzwerk verbunden. Pas de connexion réseau. Non collegato a una rete	No conectado a una red [illegible]

Selecting the printer port

[illegible] **Air PortThru** [illegible]

1. [illegible]
2. [illegible] **Air PortThru** [illegible]
3. [illegible] **Network Administrator → Printer Interface** [illegible]

Auswahl des Druckeranschlusses

[illegible] **Air PortThru** [illegible]

1. [illegible]
2. [illegible] **Air PortThru** [illegible]
3. [illegible] **Network Administrator → Printer Interface** [illegible]

Sélection du port de l'imprimante

[illegible] **Air PortThru** [illegible]

1. [illegible]
2. [illegible] **Air PortThru** [illegible]
3. [illegible] **Administrator → Printer Interface** [illegible]

Selezionando la stampante port

[illegible] **Air PortThru**, [illegible]

1. [illegible]
2. [illegible] **Air PortThru** [illegible]
3. [illegible] **Network Administrator → Printer Interface** [illegible]

Selección del puerto de impression

[illegible] **Air PortThru** [illegible]

1. [illegible]
2. [illegible] **Air PortThru** [illegible]
3. [illegible] **Network Administrator → Printer Interface** [illegible]

选择打印机端口

[illegible] **Air PortThru** [illegible]

1. [illegible] Internet Explorer [illegible]
2. [illegible] **Air PortThru** [illegible]
3. [illegible] "Network Administrator" → "Printer Interface" [illegible]

프린터 포트 선택하기

[illegible] **Air PortThru** [illegible]

1. [illegible]
2. [illegible]
3. [illegible] **Network Administrator → Printer Interface** [illegible]

Выбор порта принтера

[illegible]

1. [illegible]
2. [illegible]
3. [illegible]