

TE-350
Print Server for Novell Netware

User's Guide

FCC Warning

This equipment complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interface when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used properly, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interface.

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TABLE OF CONTENTS

CHAPTER 1	1
Introduction	1
How the TE-350 Works.....	2
TE-350.....	3
Indicators	4
Package Contents.....	4
Software Requirements.....	5
CHAPTER 2	7
Hardware Installation	7
Finding the Default TE-350 Name	7
Connecting Printer Cable.....	7
Connect the Network Cable.....	8
Ethernet Network	8
Connecting Power Adapter Cable	8
Mounting the TE-350	9
CHAPTER 3	13
NetWare Setup	13
Quick Setup.....	14
Print Server Mode In the Bindery Based File Server Environment:	15
Remote Printer Mode In the Bindery Based File Server Environment:	17
Using PCONSOLE and PCONFIG	18
Print Server Mode in NetWare 2.x, 3.x.....	19
Print Server Mode in NetWare 4.x (Bindery Emulation).....	20
Remote Printer Mode in NetWare 2.x, 3.x.....	21
CHAPTER 4	25
Printing	25
CHAPTER 5	27
Advanced Functions	27
Advanced Setup Functions	27
Service more NetWare bindery file servers	29
Attach to more than one NetWare Print Server.....	29
Logical Printer Function.....	30

Configuring Logical Printers.....	31
Get Printer Status.....	32
Get Print Server Information	32
Reset TE-350.....	32
Restore Default Configuration.....	32
CHAPTER 6	34
WPCONFIG	34
Installation	34
Using WPCONFIG.....	34
Print Server Mode Configuration Change in NetWare	37
Remote Printer Mode Configuration Change in NetWare	40
APPENDIX A	41
Troubleshooting.....	41
APPENDIX B	49
TE-350 Configuration File Format.....	49
APPENDIX C	55
TE-350 Specifications.....	55
APPENDIX D	57
Pin Assignments.....	57

CHAPTER 1

Introduction

Congratulations on the purchase of your new TRENDnet TE-350 Print Server. The TE-350 was designed to provide simple and efficient network printing solutions. By connecting your printing devices to the TE-350 instead of a file server or workstation, you will reduce system loading and increase printing performance. Designed with versatility in mind, the TE-350 series supports NetWare IPX protocol.


The TE-350 makes adding printers or plotters to your network simple. It can be installed directly into the network cabling and its compact size allows it to be used where space is a consideration. Its unique interface auto-sensing feature means there are no jumpers or software configuration required to select the network interface used.

How the TE-350 Works

The TE-350 acts as a node in the local area network with its own unique network address. It receives print data from across the network (usually in the form of packets) and converts the packets to a format that can be recognized by serial or parallel printers. The implementation varies among various network operating systems.

In the Novell NetWare Environment, the TE-350 has two operating modes: the *Print Server* mode and the *Remote Printer* mode. The Print Server mode is faster but occupies a user login slot. The Remote Printer mode is slower and generates more network traffic but does not occupy an user login slot.

In *Print Server* mode, TE-350 emulates NetWare PSERVER. After the unit is activated, it will login to specified NetWare servers and poll the specified print queues. If there are print jobs in the print queues, then TE-350 will perform the following operations: 1) get each print job packet by packet, 2) convert the packet format to acceptable printer format, 3) then send the data to the printer.

Note!  TE-350 does not support NetWare Directory Service (NDS). Setup TE-350 by using bindery emulation.

In the *Remote Printer* mode, the TE-350 emulates a NetWare Remote Printer. After the unit is activated, it will perform the following operations: 1) connect to NetWare PSERVER, 2) receive the print jobs sent by PSERVER, 3) convert the packet format to an acceptable printer format, 4) then send the data to the printer.

This manual covers how to setup TE-350 with your Netware Networks.

TE-350

The TE-350 is a direct attach model that can be connected to the printer's Centronic parallel port. Two Ethernet interface ports (BNC, UTP) are provided. For added convenience, a 25-pin to 36-pin parallel port cable is shipped with this model in the event that space constraints prevent it from being attached directly.

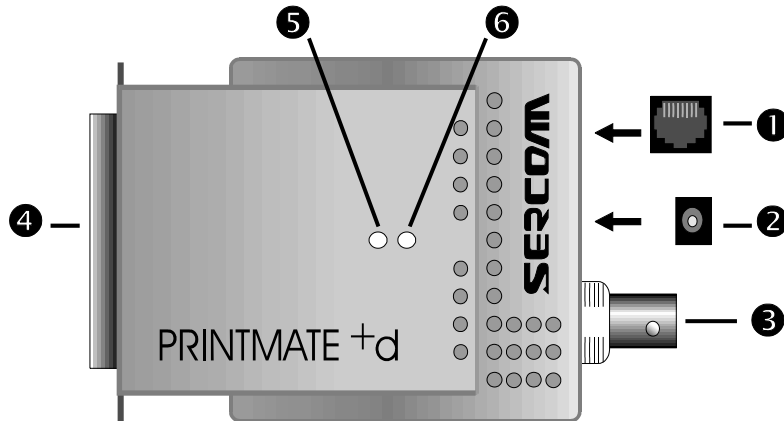


Figure 1-1: TE-350

Description

- ① 10Base-T (UTP) Connector
- ② 9V Power port.
- ③ Ethernet 10Base-2 (BNC) Connector
- ④ Parallel Port
- ⑤ Green Link LED
- ⑥ Red Error LED

Indicators

The front of the TE-350 unit has two LED indicators. The red one is the Status/Error indicator. The green one is the Power/Link indicator. See **Figure 1-1** to locate the LEDs on your model. The LED indicators are defined in the following table.

LED Indicators		
Green LED	Red LED	Status Description
Solid Off	Solid Off	No power to print server.
Solid On	Solid On	Hardware error.
Solid On	Solid Off	Normal operation.
Flashing	Off	Print Server is transmitting to or receiving packets from the network.

Package Contents

You should find the following items packaged with your TE-350:

- The TE-350 Unit
- Power Adapter
- One 25-pin to 36-pin parallel port cable
- Utility Diskette
- This User's Guide

If any of the above are missing, contact your dealer immediately.

Software Requirements

- NetWare 2.2, NetWare 3.1x or NetWare 4.x
- NetWare PCONSOLE version 1.21 or higher in the file server
- NetWare Print Server version 1.22 or higher (for remote printer mode only)

DOS version 3.3 or higher

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CHAPTER 2

Hardware Installation

This chapter describes the procedures to install TE-350 hardware on a local area network. To install TE-350 hardware, follow the instructions below:

Finding the Default TE-350 Name

The default name you are installing is located on a bar code sticker attached to the bottom of the TE-350 unit(SCXXXXXX Make note of the name. It will be needed to configure the TE-350.



Note! During configuration you will have the opportunity to change the print server name. When doing so, it is important that you do not use any blanks.

Connecting Printer Cable

Plug TE-350 directly into the printer or plotter parallel port.



If the TE-350 is powered on, make sure to take the printer Off-Line before connecting it to the TE-350. Failure to do so may cause the printer to print garbage. After the printer has been connected to the TE-350, put the printer back On-Line.

Connect the Network Cable

The TE-350 network interface auto-sensing feature detects which network interfaces are used and automatically adjusts to that network environment. To connect the network cable to the TE-350, do the following:

1. Determine which type of cable your network uses.
2. Connect the network cable to the proper connector on the TE-350 panel.

Ethernet Network

The following Ethernet network cables may be attached to the TE-350:

- Thin Ethernet (10Base-2, BNC connector)
- Twisted Pair Ethernet (10Base-T, RJ45 connector)

Connecting Power Adapter Cable

Plug in the power adapter cable. Check the Power and Status LED indicators on the front panel. When the Red Status indicator LED goes out and the Green Power indicator LED remains lit or flashes, TE-350 is ready to service print jobs.



Only use the power adapter provided with the TE-350. Using a different one may cause hardware damage.

Mounting the TE-350

Use Velcro adhesive strips to mount the TE-350 unit to the side of a printer to conserve working space.

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CHAPTER 3

NetWare Setup

This chapter describes the procedures to setup the TE-350 as a Print Server and Remote Printer in the NetWare environment. The Print Server mode is faster than the Remote Printer mode but occupies one user login slot. The Remote Printer mode is slower and generates more network traffic but does not occupy a user login slot.

Before you begin, do the following:

- Ensure that the hardware installation is complete.
- Copy all files in the *TE-350 Utility* diskette's DOS directory to your hard disk.
- If you want to install the TE-350 on an NDS network, log in the NDS network as ADMIN. or as a user with *Admin.* rights.
- If you want to install the TE-350 on bindery based file servers, such as NetWare 2.X or 3.X, log in to a bindery based file server as a SUPERVISOR or as a user with supervisory rights.

The following two methods can be used to setup the TE-350 in the NetWare environment.

Method	Description
QUICKSET	Use this program for express setup.
PCONSOLE & PSCONFIG or WPCONFIG	Use PCONSOLE to setup the TE-350 configuration in the NetWare file servers. Then use the PSCONFIG program or its equivalent Windows program, WPCONFIG, to store the configuration in the TE-350' NVRAM configuration file

The **QUICKSET** program and **PSCONFIG** program are on the *TE-350 Utility* diskette in the DOS directory.

Quick Setup

For bindery based file servers, the **Quickset** program will create TE-350 parameters only on the file server you have logged on or the file server specified in the QUICKSET command /FS option. If you want to install the TE-350 on other file servers, refer to *Service more NetWare file servers* in Chapter 5.



If you do not know how to use the **QUICKSET** program, type: **QUICKSET** or **QUICKSET /?** and press ENTER. A help screen will be displayed.

Print Server Mode**In the Bindery Based File Server Environment:**

To configure the TE-350 as a print server to bindery based file server, type the following line:

Quickset **Unit_Name** (/UN=**P**) (/QI=**X**) (/FS=**F**)

Unit_Name	The default TE-350 name that is displayed on the bar code label on the bottom of the TE-350.
P	New name of the TE-350.
X	X is the name of the queue to be serviced by the parallel port. If you do not enter X then P1 is the default queue name for the parallel port.
F	F is the name of the master file server to the TE-350. A TE-350 can service multiple file servers. The information of those file servers is recorded in a file server called the "Master File Server" (of the TE-350).

Example: Quickset SC123456 /UN=Marketing /FS=Net311

In this example, TE-350 SC123456 has been setup as a print server. Its new name is Marketing and its Master File Server is Net311.

The **Quickset** program allows the TE-350 to be able to receive all frame types. If you want to let it receive specified frame types, please refer to *Advanced Setup Functions* in Chapter 5.

The **Quickset** program will set the following parameters to the TE-350:

Ethernet:

- Ethernet 802.2 frame type: Enable
- Ethernet 802.3 frame type: Enable
- Ethernet SNAP frame type: Enable
- Ethernet II frame type: Enable

- Polling NetWare Queues interval: 1 second
- Job Notification by Login Name
- Set the Master file server as the specified server (in bindery based file server environment)
- Set NetWare Operation Mode: Print Server Mode
- Set the TE-350 as the specified name
- Set the TE-350 password to NULL

Remote Printer Mode
In the Bindery Based File Server Environment:

To configure the TE-350 as a remote printer, type:

Quickset **Unit_Name R (UN=P) (/QI=X) (/FS=F)**

Unit_Name	The default TE-350 name that is displayed on the bar code label on the bottom of the TE-350.
R	R is the name of the NetWare print server that the TE-350 will connect to.
P	The new name of the TE-350.
X	X is name of the queue to be serviced by the parallel port. If you do not enter X , then P1 is the default name of queue for the parallel port.
F	F is the name of the file server that the NetWare print server R logs onto.

Example: Quickset SC123456 PS1 /UN=Marketing /FS=Net311

In this example, TE-350 SC123456 has been setup as a remote printer that is attached to the NetWare print server, PS1, on the Net311 file server.

Using PCONSOLE and PSCONFIG

If you use the PCONSOLE program to setup the TE-350, then you need to execute the PSCONFIG program to complete the setup procedures. Before you begin, please note the following items:

- In print server mode:
Printer number 0 is for *parallel port* of a TE-350
- In remote printer mode make the following assignments:
Parallel Port 1 of the TE-350
Printer Type: Remote Parallel, LPT1
Printer Name: Unit Name (SCXXXXXX)



The WPCONFIG program can be used in place of the PSCONFIG program to send the setup information to the TE-350. For more information on WPCONFIG.EXE, refer to Chapter 7, *WPCONFIG*

Print Server Mode in NetWare 2.x, 3.x

Follow the steps listed below to configure the TE-350 as a print server.

A. Create Queues

If you are setting up the TE-350 for use with existing queues, proceed to Step B. Otherwise follow the steps below to create queues.

1. Log into a NetWare file server as a SUPERVISOR or as a user with SUPERVISOR rights.
2. Run **PCONSOLE** program.
3. Select *Print Queue Information* (or skip to step 6 if you do not need to add new queues).
4. Press [**Ins**] key to add a new queue.
5. Type a queue name, and press [ENTER].
6. Repeat Step 3 and 4 until you have the desired number of queues.

B. Add a print server

The following instructions tell NetWare that a print server exists. Follow these instruction every time you install a new TE-350.

1. From the PCONSOLE Main Menu, select *Print Server Information*
2. Press [**Ins**] key to add a new Print Server.
3. Enter your desired Print Server Name (ie: Print_Server).

C. Assign printers

Follow the steps below to associate the NetWare printer objects that will be connected to the TE-350. This step should be done every time you add a new TE-350 or when connecting a new printer to the TE-350.

1. Select the Print Server just added.
2. Select *Print Server Configuration*.
3. Select *Printer Configuration*.

4. Select print number 0.
5. Press [**Esc**].
6. Select YES.
7. Press [**Esc**].

D. Associate printers with print queues

Follow the steps below to associate print queues with the printer attached to the TE-350.

1. Select *Queues Serviced by Printer* from the Print Server Configuration Menu.
2. Select a printer you want to assign a print queue to.
3. Press [**Ins**].
4. Select the queue that you want the printer to service.
5. Press [**Enter**] twice.
6. Repeat from Steps 1 to 5 until all printer and queue associations are configured completely.
7. Exit PCONSOLE

E. Send Setup Information to TE-350

Follow the steps below to store the TE-350' configuration in the TE-350' NVRAM.

1. Run **PSCONFIG** program
2. Select your TE-350.
3. Select *Set to NetWare Print Server Mode*.
4. Select the file server you logged on in step A-1 to be the master file server to the TE-350.
5. Replace print server name with the name in Step B-3.
6. Select *Execute Setup*.

Print Server Mode in NetWare 4.x (Bindery Emulation Mode)

Follow the steps listed below to configure the TE-350 as a print server in the NetWare 4.x Bindery Emulation Mode.

A. Quick Setup on a File Server

1. Login as ADMIN. or a user with Admin. rights.
2. Run **PCONSOLE** program and press [**F4**] to switch to bindery mode.
3. Select *Quick Setup*
4. Enter your desired print server name in the **Print server** field.
5. Enter your desired printer name in the **New printer** field.
6. Enter your desired print queue in the **New print queue** field.
7. Press [**F10**] to save.
8. Exit **PCONSOLE**

B. Send Setup Information to TE-350

1. Run **PSCONFIG** program
2. Select your TE-350.
3. Select *Set to NetWare Print Server Mode*.
4. Select the file server you logged on in step A-1 to be the master file server.
5. Replace the print server name with the name set in Step A-4.
6. Select *Execute Setup*.



Note! If you want to setup a new print server with the name that already exists, you need to delete the object first.

For those users needing to use the print queues, they need to be designated as the queue users by using PCONSOLE.

Remote Printer Mode in NetWare 2.x, 3.x

Follow the steps listed below to configure the TE-350 to remote printers.

A. Create Queues

Follow the steps below to create queues for the TE-350. If using existing queues go to Step B.

1. Run **PCONSOLE** program.
2. Select *Print Queue Information* (or skip to step B-1 if you do not need to add new queues).
3. Press **[INS]** key to add a new queue.
4. Type a queue name, and press **[ENTER]**.
5. Repeat Step 3 and 4 until you have the desired number of queues.

B. Assign printers

To assign printers to the TE-350, do the following:

1. From the PCONSOLE Main Menu, select *Print Server Information*
2. Select a NetWare Print Server.
3. Select *Print Server Configuration*.
4. Select *Printer Configuration*
5. Select printers that show *Not Installed*.
6. Make changes to the Name Field and Type Field. Refer to the *Using PCONSOLE and PSCONFIG* section of this chapter to make the correct entries.
7. Press **[ESC]**.
8. Select *YES*.
9. Repeat steps 2 to 8 until all printers are assigned.
10. Press **[ESC]**.

C. Associate printers with print queues

To assign a queue to the TE-350 printer, follow the instructions below:

1. Select Queues Serviced by Printer.
2. Select a printer you want to assign a print queue to.
3. Press **[INS]**.

4. Select the queue that you want the printer to service.
5. Press **[ENTER]**.
6. Repeat Steps 1 to 5 until all printer and queue association are configured.
7. Exit **PCONSOLE**

D. Send Setup Information to TE-350

To store the TE-350 configuration in the TE-350 NVRAM, follow the steps below:

1. Run **PSCONFIG** program
2. Select your TE-350.
3. Select *Set to NetWare Remote Printer Mode*
4. Enter NetWare Print Server Name you selected in Step B-2 for all print ports.
5. Replace device name with the name in Step B-6.
6. Select *Execute Setup*.

E. Unload and Reload Pserver

If the Netware Pserver, to which the TE-350 has been installed, has been previously loaded, you must unload and reload it. If the NetWare Pserver has not been loaded you must load it. If unloading and reloading the NetWare Pserver go to step 1. If loading for the first time, go to step 4.

1. Go to the file server console where NLM is running
2. Press Alt-ESC until you get to the Print Server NLM screen.
3. Press ESC to halt the print server NLM. Answer Yes.
4. Once the NetWare NLM has been unloaded, enter the following command: **load pserver XXXX**
XXXX in the NetWare print server selected in step B-2.
5. When the Enter Print Server Name menu appears, press INSERT until you get to Contents of Current Context. Select the context that holds the print server. Select the print server from the list and press ENTER.

The setup is complete.

CHAPTER 4

Printing

To print a job to SCXXXXXX, you can use NetWare's standard utilities: **CAPTURE**, **NPRINT**, or **PCONSOLE**. If you are not familiar with the **CAPTURE** utility, typing **CAPTURE /?** and pressing **ENTER** will provide you with a help screen. Likewise, if you are not familiar with **NPRINT**, typing **NPRINT** and pressing **ENTER** will provide you with an **NPRINT** help screen.

Assume that the print queue **P1** is serviced by **TE-350 SCXXXXXX** in the following examples.

Example 1: To use **NPRINT** to print *c:\config.sys* to SCXXXXXX, type:

```
NPRINT c:\config.sys /Q=P1 /NOTI /T=4 /NFF /NB
```

- /Q=P1** Specifies that **P1** is the print queue to store print jobs.
- /NOTI** Asks the **TE-350** to send print complete message to the user.
- /T=4** Specifies tab expansion with 4 blanks.
- /NFF** Ends the print out without a Form Feed.
- /NB** Disables the banner page.

Example 2: To use **CAPTURE** to print **c:\config.sys** to **SCXXXXXX**, type:

CAPTURE /L=1 /Q=P1 /NOTI /NT /FF /NB
COPY c:\config.sys LPT1

- /L=1** Captures the printouts to send to the local LPT1 port.
- /Q=P1** Specifies that P1 is the print queue to store print jobs.
- /NOTI** Asks the TE-350 to send print complete message to the user.
- /NT** Specifies no tab expansion.
- /NFF** Ends the print out without a Form Feed.
- /NB** Disables the banner page.

CHAPTER 5

Advanced Functions

This chapter introduces the TE-350 advanced NetWare setup functions and the corresponding setup procedures.

Advanced Setup Functions

The advanced setup items are as follows:

- Modify configuration of the network protocols supported by the TE-350.
- Change the TE-350 name.
- Set pre-string for a logical printer.
- Set post-string for a logical printer.
- Enable/Disable the 'Set post-string for a logical printer' function.
- Change the master file server.

- Enable/Disable Frame Types.
For Ethernet:
Four frame types are provided: Ethernet 802.2, Ethernet 802.3, Ethernet SNAP, and Ethernet II.
- Change operation mode to either Print server mode or remote printer mode.
- Change polling queue intervals.
- Change job notification method to either notifying job owner by workstation location or by job owner name. If it is set to Notify by workstation mode, only the workstation sending print job can receive job notification messages. But if it is set to Notify by name mode, then all workstations that job owner logged on to will receive job notification message.
- Change attached NetWare print server's name for a remote printer.

In **NetWare**, use the **PSCONFIG** program or the **WPCONFIG** program to do advanced setup. To change the items, you need to:

1. Run PSCONFIG, a list of TE-350 units will appear on the screen.
2. Select the TE-350 you want to setup, then press [ENTER].
3. Select *Change Configuration*. A list of category configurations will appear.
4. Select the category you want to edit then press [ENTER].
5. Select the item you want to edit and press [Enter]. If you are prompted to enter a character string, enter a string.
6. To change other items, repeat step 5 till all the items are changed.
7. Press [ESC] to go back to main *Change Configuration* menu. If you want to change the configuration in another category, repeat steps 4 to step 6, until all the desired configuration changes have been made.
8. Then select *Execute Change* and press [ENTER] to apply the configuration changes.

For example, if you want to change the TE-350 name from *SC123456* to *Marketing*, follow the above procedures to step 3. Then select *System Configuration*. Select *Device Name*. Change the name from SC123456 to Marketing, then press [ENTER]. Press [ESC] to go back to *Change Configuration* menu. Then select *Execute Change* and press [ENTER] to change the name.

Service more NetWare bindery file servers

If your TE-350 plays the role of print server and you want it to service more than one bindery file server, do the following:

1. Login, with supervisory rights, to the other file servers you want your TE-350 to service.
2. Create queues and a print server name for your TE-350 in each file servers you want your TE-350 to service.
3. Login, with supervisory rights, the master file server of your TE-350.
4. Run **PCONSOLE**.
5. Select *Print Server Information* then select your TE-350 in the print server list.
6. Select *Printer Server Configuration* then select *File Server To Be Serviced*.
7. Insert the file server names of the other file servers to be serviced by your TE-350.
8. Reset the TE-350 by activating the *Reset Device* function from PSCONFIG or turning the power of the TE-350 off and on.

Attach to more than one NetWare Print Server

If your TE-350 plays the role of a remote printer and you want each print port of the TE-350 to attach to a different NetWare Print Server, then do the following:

1. Create the printer names for your TE-350 in the other NetWare Print Server you want your TE-350 as described in Chapter 3.

2. Assign the queues to service these printers using PCONSOLE.
3. Run PSCONFIG and select *Set to NetWare Remote Printer Mode in PSCONFIG*. Enter the correct NetWare print server names in the print server name fields, then select *Execute Setup*.

Logical Printer Function

In the print server mode in the NetWare environment, there are three logical printers for TE-350. A logical printer is an advanced device driver that allows you to manipulate print data before sending it to the printer. The TE-350 provides three ways to manipulate print data:

- Add a pre-string in front of a print job.
- Convert Line Feed code into Line Feed code + Carriage Return code.
- Add a post-string after a print job.

Suppose a user sets the printer to *Landscape Mode* and forgot to set it back to *Portrait* after the print job was finished. The following user who wants to have a *Portrait* printout will get an erroneous print format. The logical printer concept can be used to solve the problem. The solution is as follows:

1. Edit the pre-string of logical printer 1 to be the printer commands of landscape print and the post-string of logical printer 1 to be the printer reset command.
2. Edit the pre-string of logical printer 2 to be the printer commands of *Portrait* print and the post-string of logical printer 2 to be the printer reset command.

The user who wants to have a *Landscape* print format can send the print job to logical printer 1. The user who wants to have a *Portrait* print format can send the print job to logical printer 2.

Configuring Logical Printers

In NetWare, before you can use a logical printer, you must create the logical printer for your TE-350 using PCONSOLE and assign a print queue to the printer. When creating logical printers, be sure to select printers greater than 7 from the *Configured Printer* listing. The logical printer number must be greater than 7. In NetWare, all printer numbers greater than 7 are logical printers. Also keep in mind that selecting printer 8 corresponds to Logical printer L1, selecting printer 9 corresponds to Logical printer L2,.....and selecting printer 15 corresponds to Logical printer L8.

To define pre-string, post-string, and the physical output port of a logical printer, do the following:

1. Run the **PSCONFIG** program.
2. Select *ChangeConfiguration*.
3. Select *Logical Printer Configuration* and edit the following items then send them to your TE-350 as described in *Send Setup Information to the TE-350* under the appropriate Print Server mode section in Chapter 3.

Ln Physical Port:
Ln String Before Job:
Ln String After Job:
Ln Convert LF to CR+LF:

Ln TE-350 has 1 parallel port, Ln is for logic printers L1 to L3 respectively.

Physical Port **P1** is parallel port 1.

The format of a string is hexadecimal.



If the character length of a pre-string or post-string is over 15, the succeeding characters will be truncated. Likewise, the total memory space for the eight logical printer pre-strings and post-strings is 44 bytes, any succeeding characters

will be truncated.

Get Printer Status

The printer status will tell you whether the printer is on-line, off-line, printing, idle or whether or not it is a print job sent from NetWare protocol.

To get the printer status, run **PSCONFIG** and select *Display Status*. Then select *Printer Port Status*. A list of printers and their current status will appear. The printer status displayed in PSCONFIG will not be automatically updated. To get the latest printer status, select *Printer Port Status* one more time.

Get Print Server Information

Print Server Information includes the firmware version, the network protocol settings, the hardware ID and the like. To get the Print Server information, run **PSCONFIG** and select *Display Status*. Then select *Device Information* to view Print Server Information.

Reset TE-350

To reset the TE-350, run **PSCONFIG** and select *Reset Device*. A reset command will be sent to your TE-350 to reset it.

Restore Default Configuration

To restore the factory default configuration, run the **PSCONFIG** program and select *Restore Default Configuration*. A factory default configuration will be restored to your TE-350 followed by a reset to activate the default configuration. Refer to *Appendix C* for more Default Configuration information.

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CHAPTER 6

WPCONFIG

For your added convenience, WPCONFIG.EXE, a proprietary Windows based TE-350 management program has been provided. WPCONFIG has two functions: configures the TE-350 to work in the NetWare network environment and provides the network administrator an overview of all TE-350 configurations.

Installation

WPCONFIG can be run from any Windows PC connected to your NetWare network. Simply place the *TE-350 Utility* diskette in the floppy drive and double-click Setup.exe file. The Setup program will automatically create a WPCONFIG group containing two icons: WPCONFIG and Readme.



Using WPCONFIG








WPCONFIG provides the user with print status and all system TE-350 configurations. Double-clicking on the WPCONFIG icon in WPCONFIG group will cause the following screen to appear:

Default Name	Device Name	Network No.	Printer Port(s)
sc029142	SC029142	14	2 Parallel, 1 Serial
SC113730	SC113730	222	2 Parallel, 1 Serial
SC120699	SC120699	14	2 Parallel, 1 Serial
sc260099	SC260099	222	1 Parallel
SC270441	JR_RP	21	1 Parallel
SC271683	SC271683	222	1 Parallel
SC271694	SC271694	12	1 Parallel
sc666615	SC666615	44	1 Parallel (Jr.)
SC888888	SC888888	222	2 Parallel, 1 Serial

Whenever you start the WPCONFIG program, it searches the network for all active TE-350 devices. The TE-350 devices will be listed with their serial number, device name, network number, and printer port configurations as seen above.

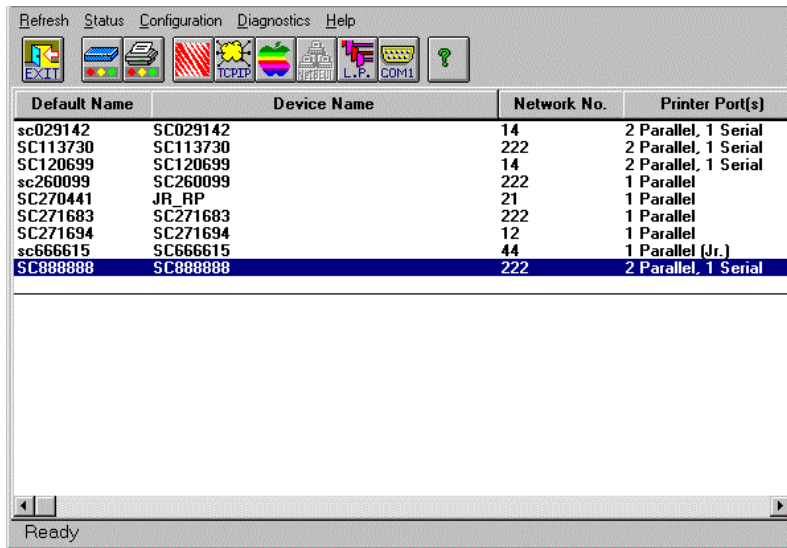
You will notice that only the NetBEUI icon is not activated for the selected TE-350 SC029142. That is because that is the only feature not supported by that particular TE-350. When you select a different print server, the icons will change. See the following table for a brief description of each icon.

ICON	Description
	Exit WPCONFIG
	Device Information: This provides static information including the TE-350 unit's Firmware version, Ethernet address, IP address etc as well as dynamic information including NetWare Print Server status or Remote Printer status.

	Printer Port Status: This is a very useful feature which allows users to check the current printer and printer port status at any given time.
	NetWare: Indicates that NetWare protocol is supported by the TE-350. To make NetWare configuration changes, simply click on this icon.
	TCP/IP: Unsupported.
	AppleTalk: Unsupported.
	NetBEUI(Windows SMB): Unsupported.
	Logical Printer: Selecting this icon allows you to configure the following parameters of each of the TE-350 logical printers: Physical port, Convert LF to LF+CR, String Before and String after.
	Serial Port: Unsupported.

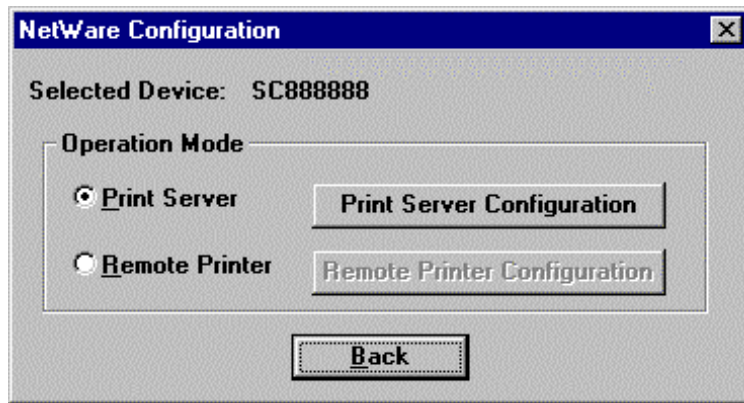
Print Server Mode Configuration Change in NetWare

For the purposes of this explanation, TE-350 SC888888 has been selected.

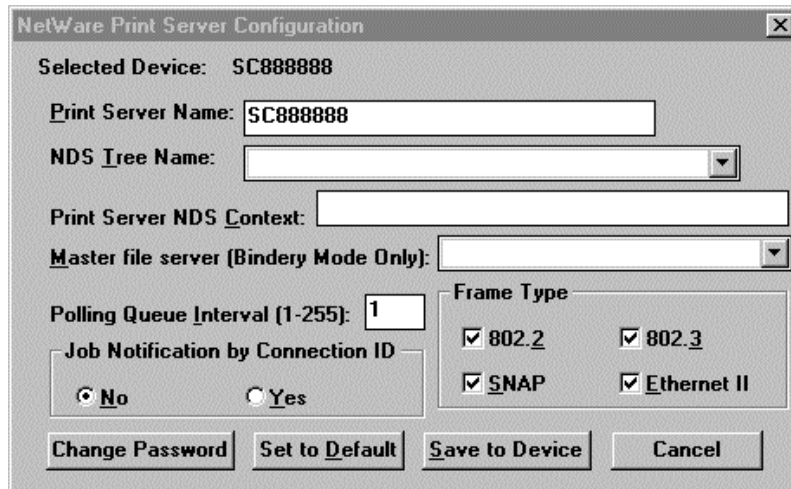


Default Name	Device Name	Network No.	Printer Port(s)
sc029142	SC029142	14	2 Parallel, 1 Serial
SC113730	SC113730	222	2 Parallel, 1 Serial
SC120699	SC120699	14	2 Parallel, 1 Serial
sc260099	SC260099	222	1 Parallel
SC270441	JR_RP	21	1 Parallel
SC271683	SC271683	222	1 Parallel
SC271694	SC271694	12	1 Parallel
sc666615	SC666615	44	1 Parallel (Jr.)
SC888888	SC888888	222	2 Parallel, 1 Serial

Notice IPX is the only protocol supported by SC888888 and that the print server has one parallel port. Now click the NetWare icon or select NetWare from the configuration option. The following screen will appear:



To change the Print Server Mode configuration, click *Print Server Configuration*. The following screen will appear.

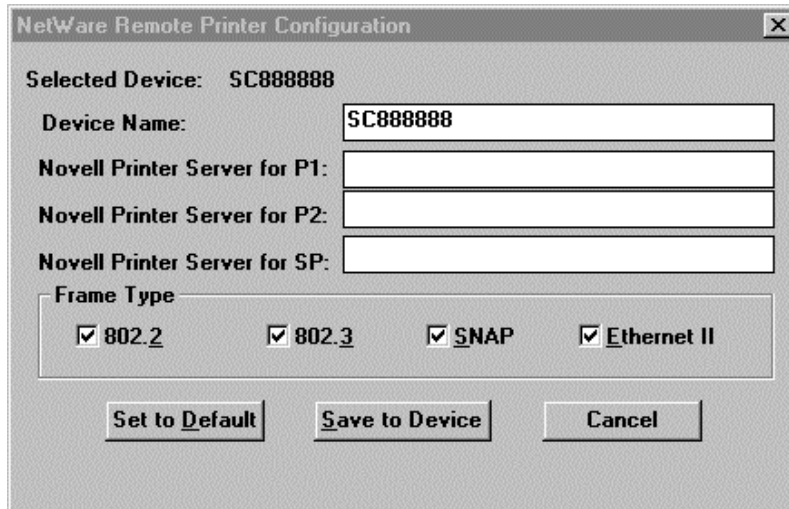


Enter the requested information and be sure that it matches your NetWare system setup. Notice that WPCONFIG offers the following options:

- Save to Device:** This option allows you to update the TE-350 NVRAM configuration file with current on-screen changes.
- Set to Default:** This option replaces the on screen configuration with the default settings. To save the default settings in the TE-350 NVRAM configuration file click *Save to Device*.
- Change Password:** This option will allow you to change the print server password.
- Polling Queue Interval:** This option allows you to define how often the TE-350 will poll the queues to be serviced.
- Job Notification by Connection ID** Set this option to No to receive a job notification at all workstations that you have logged on. Set this option to yes to receive a job notification at only the workstation where the print job originated.

Remote Printer Mode Configuration Change in NetWare

From the NetWare Configuration screen, select *Remote Printer* and click the Remote Printer Configuration bar. The following screen will appear:



The image shows a dialog box titled "NetWare Remote Printer Configuration". It contains the following fields and options:

- Selected Device:** SC888888
- Device Name:** SC888888 (text input field)
- Novell Printer Server for P1:** (empty text input field)
- Novell Printer Server for P2:** (empty text input field)
- Novell Printer Server for SP:** (empty text input field)
- Frame Type:** A group box containing four checked checkboxes: 802.2, 802.3, SNAP, and Ethernet II.
- Buttons:** "Set to Default", "Save to Device", and "Cancel".

- Device Name:** Enter either the default name SCXXXXXX or the new name of the TE-350.
- Novell Printer Server for P1:** Enter the name of the NetWare print server to service the TE-350 P1 port.
- Set to Default:** This option replaces the on screen configuration with the default settings. To save the default settings in the TE-350 NVRAM configuration file click *Save to Device*.
- Save to Device:** This option allows you to update the TE-350 NVRAM configuration file with current on-screen changes.

APPENDIX A

Troubleshooting

This chapter outlines some problems that may occur during installation or operation and some possible solutions to them. If you follow the suggested troubleshooting steps and TE-350 still does not function properly, please contact your dealer for further advice.

P1: All LEDs of the TE-350 are off.

S1: Check the power supply or power connection.

P2: TE-350 status light continuously stays lit.

S2: Reset TE-350 by unplugging the power supply and plugging it back in.

P3: When the TE-350 is connected with RJ-45, it does not work.

S3: Check the link LED of the port of the Hub connected with TE-350. If it is off, make sure network cable is in good condition.

P4: My TE-350 prints garbage.

S4: The following steps will help to identify the problem:

1. Print a diagnostic file using PSCONFIG program.
 - A. Run **PSCONFIG** and select your TE-350 from the list. Then select *Print Diagnostic Report* and
 - Select **Parallel Port 1** for parallel port 1
 - B. Check to see if garbage is still being printed. If not, the problem may be caused by incorrect system configuration. Go to Step 2. If yes, check your printer. If your printer is OK, call your dealer.
2. Print an English text file and a graphic file. If the English text file prints correctly but the graphic file prints garbage, then specify **/NT** (no tabs) option for NPRINT or CAPTURE commands. If both print correctly, then go to step 3.
3. If you login NetWare 4.x, you should login to the NetWare 4.x as a bindery user. Then, do the following:
 - A. Temporarily disable the TE-350 service to the queue following the step-by-step instructions below:
 - 1) For NetWare 2.x or 3.x, Run **PCONSOLE**, Select *Print Queue Information*, select the print queue that the TE-350 services, select *Current Queue Status*.
For NetWare 4.x, run **PCONSOLE**, select *Print Queues*, select the print queue that your TE-350 services, select *Status*.
 - 2) For NetWare 2.x or 3.x, set *Servers can service entries in queue* to **NO**.
For NetWare 4.X, set *Allow service by current print servers* to **NO**.
 - 3) For NetWare 2.x or 3.x, press **Esc** and select *Print Queue ID*. Record its object ID.
For NetWare 4.X, press **Esc** and select *Information*, and record its object ID.
 - 4) Print your previous file.

B. Re-route network printing to local printing.

- 1) Disconnect the printer attached to your TE-350 and connect it to LPT1 of your PC.
- 2) Change to the drive on the file server that contains the print queue. For example, type f:

```
cd \system\QID.qdr[ENTER]
```

Example:

```
cd \system\38000001.qdr[ENTER]
```

QID is the object ID recorded in stepA-3 above. In the example above, the ID of the queue is 38000001.

- 3) Get the network file and print it back to the local printer using the following commands:

```
copy /b *.* c:\test[ENTER]
copy /b c:\test LPT1[ENTER]
```

C. Let your TE-350 service the queue now.

- 1) Disconnect the printer attached to LPT1 of your PC and connect it to your TE-350.
- 2) For NetWare 2.x or 3.x, run **PCONSOLE** and Select *Print Queue Information*. Then select the print queue and select *Current Queue Status*. For NetWare 4.X, run **PCONSOLE** and select *Print Queues*. Then select the print queue and select *Status*.
- 3) For NetWare 2.x or 3.x, set *Servers can service entries in queue* to **YES**. For NetWare 4.X, set *Allow service by current print servers* to **YES**.
- 4) The print job will be printed to the printer attached to your TE-350. Compare the printout from the PC and the printout from the TE-350.
- 5) If the printouts are the same, then the problem is not the TE-350. The problem might be that an incorrect printer driver was chosen or the timeout setting in CAPTURE command is too short. How-

ever, if the printouts are not the same, there may be a problem with TE-350. Call your dealer.

P5: My TE-350 does not appear in the Active Device List of the PSCONFIG program.

S5: The Ethernet frame type of your PC may be different than the one with your TE-350. Do the following:

1. Wait for a minute. The NetWare file server may not have recorded the dynamic information of your TE-350.
2. Perhaps the Ethernet frame type of your TE-350 is disabled. Locate your TE-350 so that it is on the same network segment with your PC and run **QUICKSET** program again.

P6: My TE-350 cannot log in to a file server.

S6: The following steps may solve this problem:

1. Get the print server information as described in the *Get Print Server Information* section of Chapter 5. If it plays the role of a print server, the information will look like the following:

Server Name: SC110049
Master File Server: ICE
Print Server Mode Status:
ICE: Connected
PMTR: Connected
Remote Printer Mode Status: N/A

Remote Printer Mode Status:	N/A means that the TE-350 does not play the role of remote printer.
Server Name:	The name of the TE-350.
Master File Server:	The master file server to the TE-350.
FILE_SERVER STATUS:	Describes the status of the TE-350. Plus on the FILE_SERVER.

The status can be the following:

Description	Action
Connected	No action
No file server	Assign a master file server using PSCONFIG.
Connecting to server	Wait or check if the file server exists.
Password mismatch	Clear the print server password with PCONSOLE
Print Server Not Defined	Install TE-350 again.

1. If it plays the role of print server, check the Print Server Mode Status field.
2. Make sure the master file server name is assigned correctly.
3. Check to see if the login status of the TE-350 to the file servers is Ready or not. If it is not Ready, check the error description and do the corresponding action to remove the error condition.
4. If the file server is not in the status list and the TE-350 has logged into the master file server, it means that the file server has not been serviced by the TE-350. Check to see if the file server is in the list of *File Server To Be Serviced* item of PCONSOLE. If not, insert the file server name to the list.
5. Check and see if the length of the file server's name is **over 20** characters. If it is, rename the file server name using no more than 20 characters.

P7: My TE-350 cannot connect to a NetWare print server.

S7: The following steps may solve this problem:

1. Get print server information as described in the *Get Print Server Information* section of Chapter 5. The information will look like the following if it plays the role of a remote printer:

Print Server Mode Status: N/A
 Remote Printer Mode Status:
 SC110049:PS1: Connected

Print Server Mode Status:	N/A means that the TE-350 does not play the role of a print server.
SC110049:PS1: Connected	Means that the printer SC110049 has connected to the NetWare print server PS1
Printer_name:Attached_ Print Server:Status	Describes the status of the Printer_name connected to the Print Server.

The status can be the following:

Description	Action
Connected	No action
Unable to find server	Load NetWare Print Server
Printer not defined	Install the TE-350 as a remote printer of a NetWare print server.
Connecting to server	Wait or check if the NetWare print server is loaded.

2. If it plays the role of remote printer, check the Remote Printer Mode status.
3. Make sure the TE-350 is ready. If it is not Ready, check the error description and do the corresponding action to remove the error condition.

4. Check the length of the NetWare print server's name. If it is **over 20**, rename the NetWare Print Server name using no more than 20 characters.

P8: My TE-350 cannot print the jobs sent to the print queue.

S8: The following steps may solve this problem:

1. Check if the printer attached to the TE-350 is on-line.
2. Check if your TE-350 is logged into the file server based on procedures stated in the solution to P3.
3. Check the current status of the queue.
Run **PCONSOLE** and select *Print Queue Information*. Then select the queue and select *Current Queue Status*. See if there are three **YES**'s. If not, set them to **YES**.
4. Check if the printer number is right.
The number 0 is for parallel port 1 of the TE-350.
5. Check to see if the TE-350 is a static queue server to the queue.
Run **PCONSOLE** and select *Print Server Information*. Then select *Print Server Configuration* and select *Queues Serviced by Printer*. Then select your desired printer and check if the queue is on the list. If its not, insert the queue into the list by pressing **[Insert]** key and select the queue. Then reset the TE-350 to service the new queue.
6. The queue limit for the TE-350 is 16 queues. The total number of queues to be serviced may be over the limit. If this is the case, remove some unused queues to keep the number of queues within the limit.

P9: The Capture command was used to print a job, but the job was separated into two parts.

S9: The time out setting in Capture command may be too short. You should increase timeout value of the Capture command. Use the option **/TI=n** of the Capture command to increase the time out value, where n is the value of timeout.

P10:PSCONFIG shows "No Response."

S10:It may be:

1. The network traffic is busy now. Wait for a minute and then try it again.
2. The TE-350 is not powered on. Power it on.
3. The network cable is disconnected. Check the cable.
4. The node address of the TE-350 may be the same as the node address of another device on the network.

P11:QUICKSET execution terminated due to timeout when checking if the TE-350 had logged in to the file servers.

S11:It means that the TE-350 did not log in the master file server. It might be that the frame type of the master file server is not the same as the other file servers and the TE-350 has locked its frame type to the other file server. If this is the case, you need to:

1. Find a workstation that uses the same frame type as the TE-350 so that the TE-350 appears in the device list of the PSCONFIG program.
2. Using PSCONFIG program, enable the TE-350's frame type to the frame type that the master file server uses and disable all other frame types.

P12:I cannot receive Notify message in NetWare 4.x environment.

S12:Do the following actions:

1. Make sure you are a Notify member of the TE-350.
2. Run NetAdmin and o set the name of the Default Server to receive notification.

APPENDIX B

TE-350 Configuration File Format

The syntax of one line in a TE-350 configuration file line is as follows:

XXXX [*A-Token*]: [*Parameter*]

XXXX A 4-digit number that identifies a system parameter.

A-Token An option to describe the parameter with a character string. The maximum string length is eight characters

Parameter The contents of a system parameter.

The strings that follow the parameter are viewed as comments. If the first character of each line is not a digit, it is also viewed as a comment line.

The parameters are described as follows:

- D** Four decimals separated with dots (i.e.: 255.255.0.0)
- E:** Enable or Disable
- I:** Interval Value. It is from 0 to 255.
- H:** Extended ASCII Code to Hexadecimal String. For example:
If the parameter is <Esc>3 and its type is H, then 1B33 is filled in the parameter field.
- M:** Operation Mode: it may be either PS (Print Server Mode) or RP (Remote Printers mode).
- P:** Physical port: (Parallel Port 1)
- S:** ASCII String
- Y:** YES or NO

xxxx	Parameter Type	Factory Default	Description
0001	S	SCxxxxxx	TE-350's Name
0011	E	Enable	NetWare Protocol Stack
0012	E	Unsupported	TCP/IP Protocol Stack
0013	E	Unsupported	Appl Talk Protocol Stack
0030	b	Unsupported	Serial port's Baud rate
0031	s	Unsupported	Serial port's Stop bits
0032	p	Unsupported	Serial port's parity
0033	d	Unsupported	Serial port's Data bits
0034	h	Unsupported	Serial port's handshake
0100	P	P1	Physical port of Logic printer 1
0101	H		Pre-string of Logic printer 1
0102	H		Post-string of Logic printer 1
0103	Y	NO	LF change of Logic printer 1

0120	P	P1	Physical port of Logic printer 2
0121	H		Pre-string of Logic printer 2
0122	H		Post-tring of Logic printer 2
0123	Y	NO	LF change of Logic printer 2
0140	P	P1	Physical port of Logic printer 3
0141	H		Pre-string of Logic printer 3
0142	H		Post-tring of Logic printer 3
0143	Y	NO	LF change of Logic printer 3
0160	P	P1	Physical port of Logic printer 4
0161	H		Pre-string of Logic printer 4
0162	H		Post-tring of Logic printer 4
0163	Y	NO	LF change of Logic printer 4
0180	P	P1	Physical port of Logic printer 5
0181	H		Pre-string of Logic printer 5
0182	H		Post-string of Logic printer 5

xxxx	Parameter Type	Factory Default	Description
0183	Y	NO	LF change of Logic printer 5
0200	P	P1	Physical port of Logic printer 6
0201	H		Pre-string of Logic printer 6
0202	H		Post-tring of Logic printer 6
0203	Y	NO	LF change of Logic printer 6
0220	P	P1	Physical port of Logic printer 7
0221	H		Pre-string of Logic printer 7
0222	H		Post-tring of Logic printer 7
0223	Y	NO	LF change of Logic printer 7
0240	P	P1	Physical port of Logic printer 8
0241	H		Pre-string of Logic printer 8
0242	H		Post-tring of Logic printer 8
0243	Y	NO	LF change of Logic printer 8

TE-350 Print Server

2000	M	PS	Operation mode in NetWare
2001	E	Enable	Ethernet II Frame Type in NetWare
2002	E	Enable	802.2 Frame Type in NetWare
2003	E	Enable	802.3 Frame Type in NetWare
2004	E	Enable	SNAP Frame Type in NetWare
2101	S		Master File Server
2102	Y	NO	Job Notification by node address in NetWare print server mode
2103	I	1	Polling NetWare queue Interval
2110	S	Unsupported	NDS tree name
2111	S	Unsupported	NDS context of the TE-350
2501	S		Name of a NetWare Print Server to be attached by parallel port 1
2502	S	Unsupported	Name of a NetWare Print Server to be attached by parallel port 2

xxxx	Parameter Type	Factory Default	Description
2503	S	Unsupported	Name of a NetWare Print Server to be attached by serial port
3001	S	Unsupported	Printer Type for parallel port 1 for AppleTalk
3002	S	Unsupported	Printer Type for parallel port 2 for AppleTalk
3003	S	Unsupported	Printer Type for serial port 1 for AppleTalk
3101	Y	NO	Use Adobe Binary Communication Protocol for parallel port 1
3102	Y	NO	Use Adobe Binary Communication Protocol for parallel port 2
3103	Y	NO	Use Adobe Binary Communication Protocol for serial port
4000	D	Unsupported	IP Address
4001	D	Unsupported	Gateway or Router Address for TCP/IP
4002	D	Unsupported	Network mask for TCP/IP
5000	S	Unsupported	Domain name or group name
5001	Y	NO	Drop Job as Paper Out
5002	I	0	Response Time or Delay Time

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APPENDIX C

TE-350 Specifications

TE-350	
Power Consumption	3w max.
External Power Adapter	9VDC
LEDs	2
Parallel Port	One Centronic female DB-25 connector
Size	207mm(L) x 128mm(W) x 36.7mm(H)
Ethernet cables	10BASE-2, 10BASE-T

Environmental Specifications	
Operating Temperature	0 ~ 40°C
Storage Temperature	-10 ~ 70°C
Shipping Temperature	-40 ~ 70°C
Operating Humidity	10 ~ 80%
Storage Humidity	5 ~ 90%
Shipping Humidity	5 ~ 100%

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APPENDIX D

Pin Assignments

Parallel Port Pin Assignments		
Pin	Signal Name	Direction
1	-Strobe	To printer
2	+Data 0	To printer
3	+Data 1	To printer
4	+Data 2	To printer
5	+Data 3	To printer
6	+Data 4	To printer
7	+Data 5	To printer
8	+Data 6	To printer
9	+Data 7	To printer
10	- ACK	To print server
11	+ Busy	To print server
12	+ Paper End	To print server
13	+ Select	To print server

TE-350 Print Server

14	- Auto Feed	No connection
15	- Error	To print server
16	- Init	To printer
17	- Select	No connection
18-25	GND	Ground