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Windows printer drivers

User's Manual

for PRT-100 POS Printer model

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1. Introduction

This Manual explains how to install and use minidrivers for the PRT100 Receipt. Epson Emulation TM-88 III version.

These drivers are designed for Windows 98SE, Millennium Edition, Win 2000 SP3 and Win XP.

The drivers described in this manual, for the PRT100 line, comply with the conversion of GDI calls within printer output.

1.1 Document Revisions

Revision	Date	Pages	Comment
1.01	21.10.2003	8	First version
1.01	21.10.2003	8	Automatic installation and Control commands
1.02	11.11.2003	8	Windows 9x/ME reference
1.03	03.02.2004	12	Added font and new roll information
1.04	15.05.2004	13	Added new paper source capabilities
1.05	08.07.2004	14	Added color information
1.06	01.10.2004	14	Changed the section related to the control command to select the logo
1.07	08.11.2004	14	Added the Copies section
1.08	08.11.2004	21	Added the LAN Printing section

1.2 Reference Documents

The reader of this document must be informed of the following reference documents:

Reference	Description
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1.3 Conventions

Convention	Description
(§ paragraph)	Reference to the paragraph indicated after the symbol, i.e. (§ 1.2) means paragraph 1.2
(↖ reference)	Reference to the document indicated after the symbol, i.e. (↖ 1) means document 1 referred to in the document reference list
(±highlight)	The text preceded by the ± symbol and highlighted must not be considered as definitive. Text identified in this way must not be present in the final document.

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2. Operating Environment

2.1 Operating systems

The drivers of the PRT100 Receipt can run under any operating system.

- Microsoft **Windows98 Second Edition**
- Microsoft **WindowsME** (Inherited from Win98SE)
- Microsoft **Windows 2000**
- Microsoft **Windows XP**

2.2 Main Characteristics

Correspondence between the drivers is set forth in the table below

PRINTER	TYPE OF PAPER	NAME TYPE of DRIVER
PRT100	Receipt	PRT100 Res(180x180) Receipt
PRT100	Receipt	PRT100 180x180 ReduceA4

[Note]

?? This table is the same for all Operating Systems used for the PRT100 drivers.

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3. Installation

The printer driver will be automatically installed using the PRT100 Toolkit.

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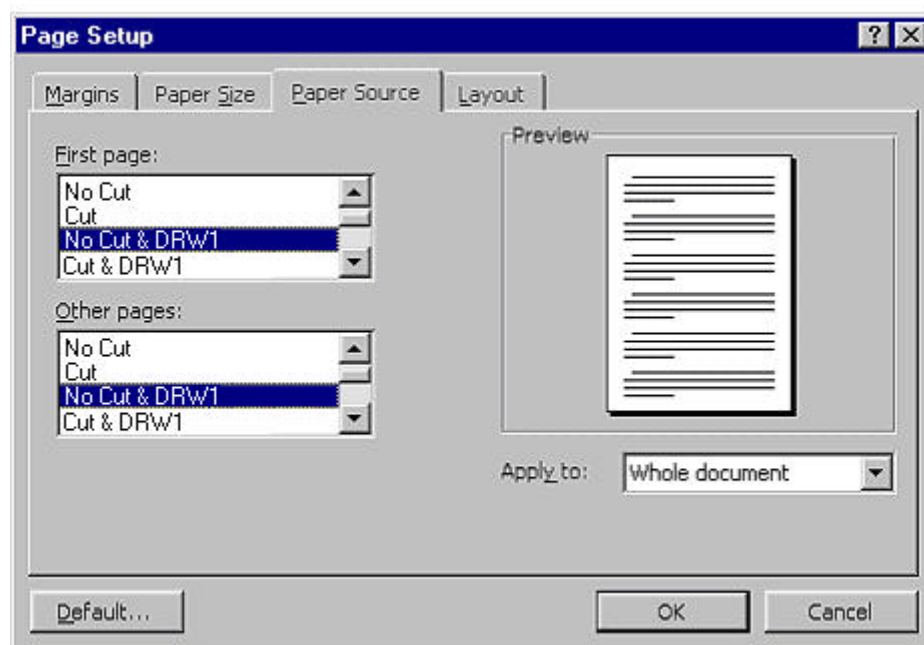
4. Main Specifications

4.1 Paper Source

The PRT100 printer has the possibility, selecting the right paper source, to enable/disable the cutter, enable/disable the open drawer command. The possible options are:

- ?? No Cut (default): Prints the document without cut the paper
- ?? Cut (default): Prints the document and cuts the paper
- ?? No Cut & DRW1: Prints the document without cut the paper and opens the first drawer
- ?? No Cut & DRW2: Prints the document without cut the paper and opens the second drawer
- ?? Cut & DRW1: Prints the document, cuts the paper and opens the first drawer
- ?? Cut & DRW2: Prints the document, cuts the paper and opens the second drawer
- ?? No Cut & DRW1 & DRW2: Prints the document without cut the paper and opens both the drawers
- ?? Cut & DRW1 & DRW2: Prints the document, cuts the paper and opens both the drawers

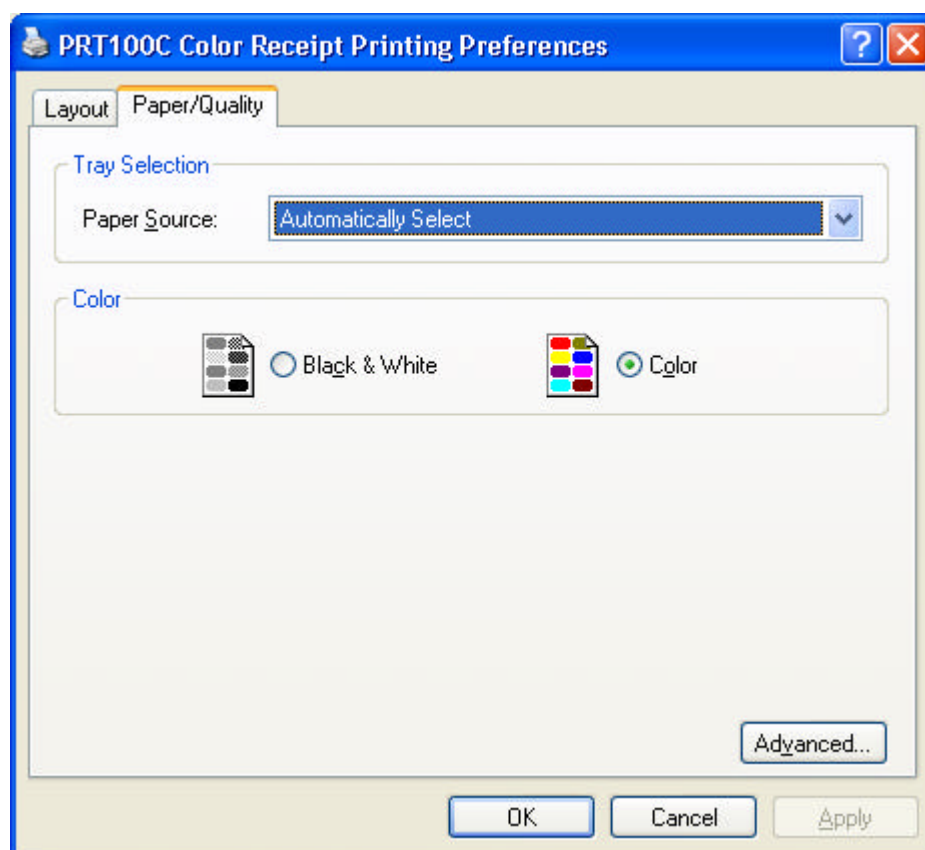
These functionalities can be selected using the application Paper Source menu. See following picture:



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4.2 Color selection

Using the PRT100 color driver it is possible to select the B/W or Color printing mode. This can be done from the "Printer&Fax" Control Panel's applet:



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4.3 Resolution

The following table illustrates possible resolutions used by the PRT100.

PRINTER	RESOLUTION
PRT100EP (Receipt)	180 x 180 (*) 180 x 90 90 x 180 90 x 90
PRT100RE (Receipt Reduce A4)	62 x 62 (*)

LEGEND

The asterisk indicates the default value.

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4.4 Roll Dimensions

PRINTER	PAPER	MARGINS				PRINT AREA
		LEFT (mm)	RIGHT (mm)	TOP (mm)	BOTTOM (mm)	WIDTH (mm)
PRT100	80 x 297 mm	At the user's discretion				72.5 mm
PRT100	60 x 297 mm	At the user's discretion				52.1 mm
PRT100	58 x 297 mm	At the user's discretion				50.8 mm

4.5 Copies

The printer driver handles the multiple copies feature with the following limitation:

1. The maximum number of copies is set to 9
2. If using Word the user selects a number of copies > 9, the driver prints only one copy of the document.
3. The driver doesn't support the collate mode.

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5. Printer Fonts

These drivers support use of printer fonts as well as windows fonts. Use of printer fonts permits faster printing.

The available printer fonts are listed below:

?? Printer fonts type **A** (large)

?? Printer fonts type **B** (small)

The font names are characterized by three parameters:

?? **Type:**

- o FontA, FontB

?? **Size:**

- o FontAxy or FontBxy where x and y are respectively the width and height enlargement. For example FontA22 means FontA double width and double height.

?? **Character Table extension:**

- o If no extension is defined the character table PC850 is used. In this case the "EURO" symbol is placed at position 128 (Hex80)
- o If in the name is defined the extension [EXT] this means that the used character table is PC437
- o If in the name is defined the extension [255] this means that the used character table is SPACE PAGE
- o If the name has extension BL, CY, GR, TK means that the font is generated to work with the following code pages:
 - ~~///~~ BL: Baltic (code page 1257, ESCt138), example: FontA11BL
 - ~~///~~ CY: Cyrillic (code page 1251, ESCt142) example: FontA11CY
 - ~~///~~ GR: Greek (code page 1253, ESCt140) example: FontA11GR
 - ~~///~~ TK: Turkish (code page 1254, ESCt141) example: FontA11TK

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Printer Fonts			Character size WxH (pixel))
FontA11	FontA11[EXT]	FontA11[255]	12x24
FontA12	FontA12[EXT]	FontA12[255]	12x48
FontA21	FontA21[EXT]	FontA21[255]	24x24
FontA22	FontA22[EXT]	FontA22[255]	24x48
FontA42	FontA42[EXT]	FontA42[255]	48x48
FontA44	FontA44[EXT]	FontA44[255]	48x96
FontA48	FontA48[EXT]	FontA48[255]	48x192
FontA88	FontA88[EXT]	FontA88[255]	96x192
FontB11	FontB11[EXT]	FontB11[255]	9x17
FontB12	FontB12[EXT]	FontB12[255]	9x34
FontB21	FontB21[EXT]	FontB21[255]	18x17
FontB22	FontB22[EXT]	FontB22[255]	18x34
FontB42	FontB42[EXT]	FontB42[255]	18x68
FontB44	FontB44[EXT]	FontB44[255]	36x68
FontB48	FontB48[EXT]	FontB48[255]	36x136
FontB88	FontB88[EXT]	FontB88[255]	72x136

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6. Bar-Code Printing

To print a bar-code you simply select the font whose name corresponds to the desired bar-code type.

Note:

?? The Windows application is not able to display bar-code, I will display text only, the bar-code will be produced in the printout.

?? The driver can print HRI characters with the bar-code For information see next section.

The following table summarizes the available bar-codes:

Font	Number of encoded characters	Supported Characters
Codebar	1 to 255	Numeric: 0 to 9 Symbols: \$,+,-,;,/ Letters: A to D
Code39	1 to 255	Numeric: 0 to 9 Symbols: space,%, \$,+,-,;,/ Letters: A to Z
Code93	1 to 255	All characters from Hex 00 to Hex 7F
Code128	2 to 255	All characters from Hex 00 to Hex 7F
ITF	1 to 255 (even number)	Numeric: 0 to 9
JEAN 13 (EAN)	12 to 13	Numeric: 0 to 9
JEAN 8 (EAN)	7 to 8	Numeric: 0 to 9
UPCA	11 to 12	Numeric: 0 to 9
UPCE	11 to 12	Numeric: 0 to 9

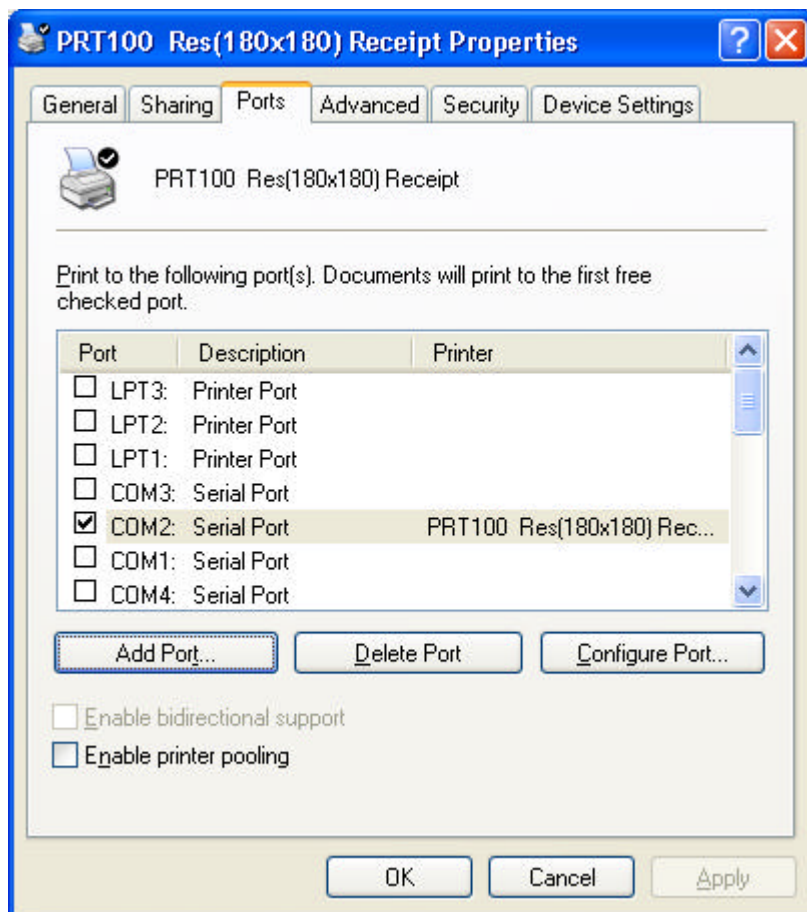
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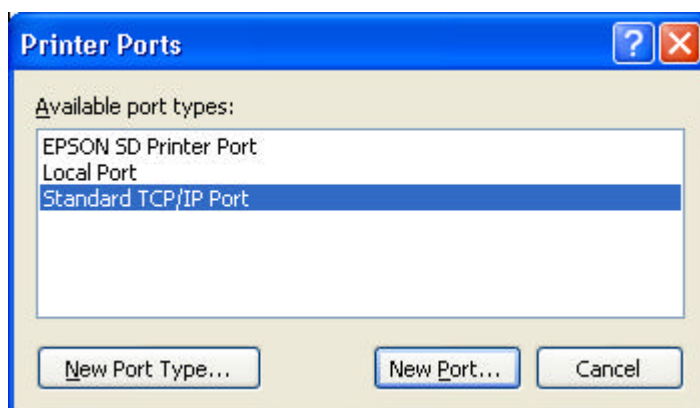
7. LAN Printing

In order to enable the printer driver to work with LAN slot it is necessary to do the following steps:

From "Control Panel", open the "Printer and Faxes" applet, select the PRT100 printer properties sheet

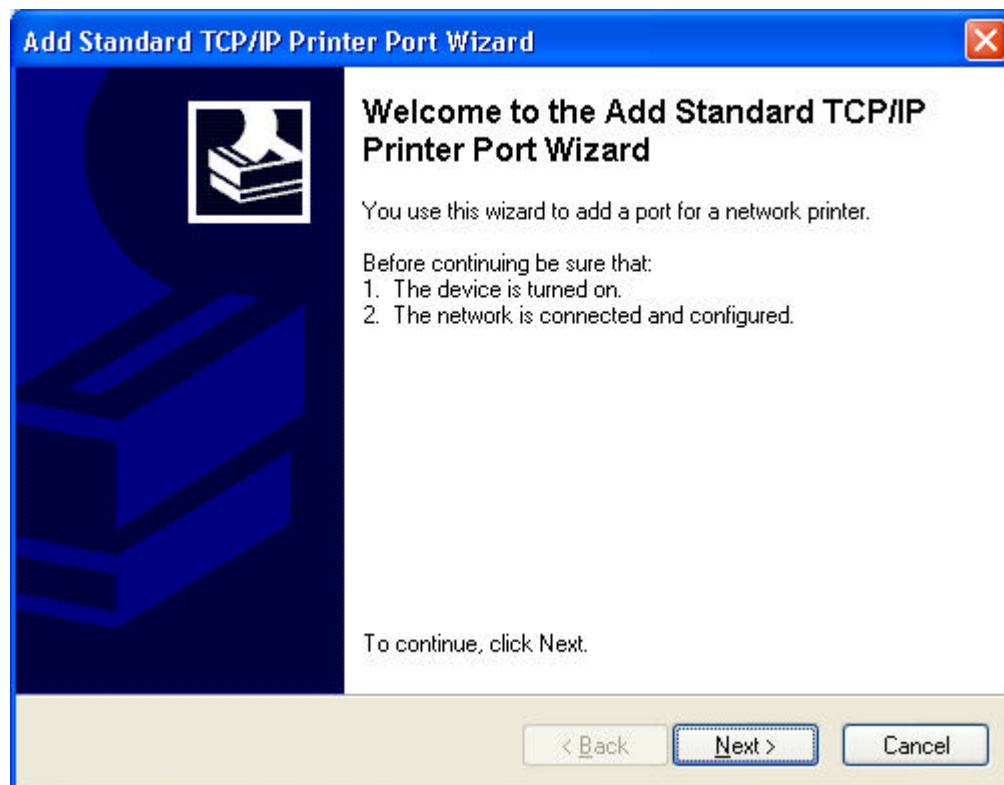


Pressing the "Add Port" button the following windows will be displayed

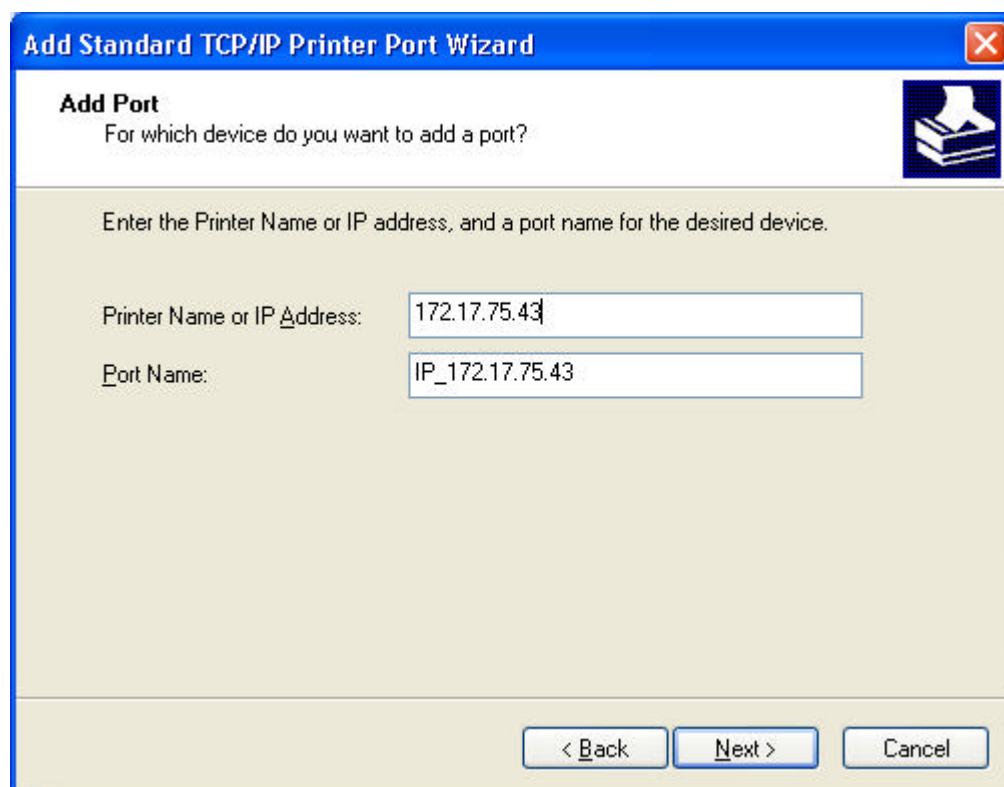


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Selects "Standard TCP/IP Port" and press "New Port". The following wizard will be displayed:

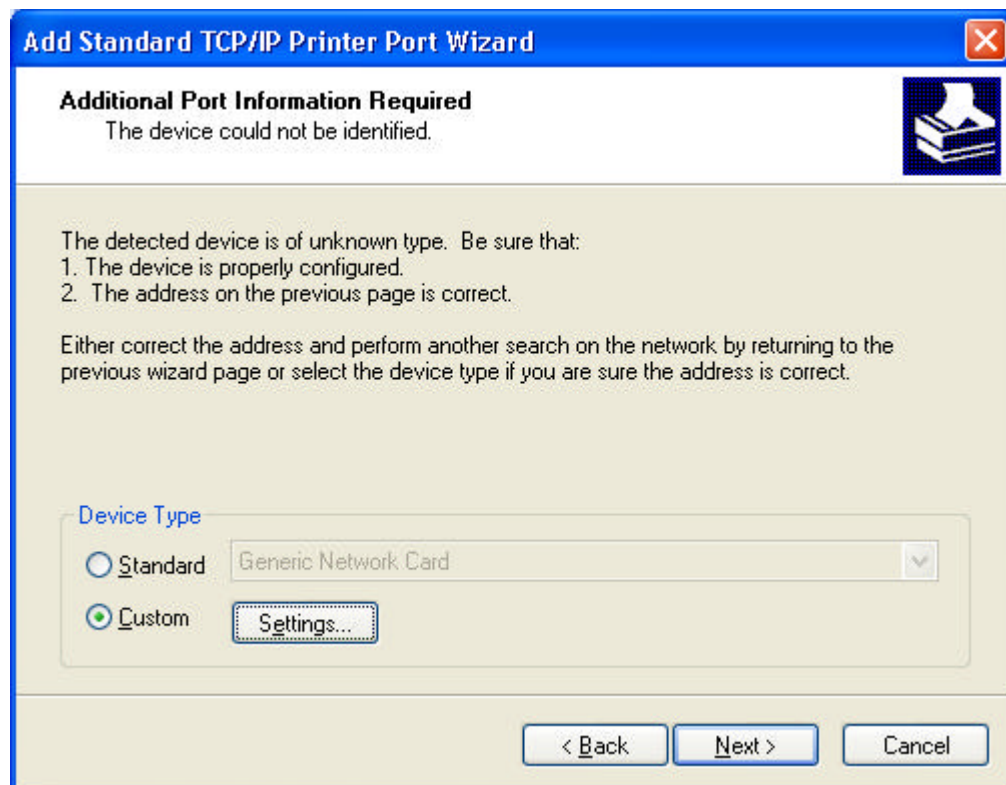


Press "Next"



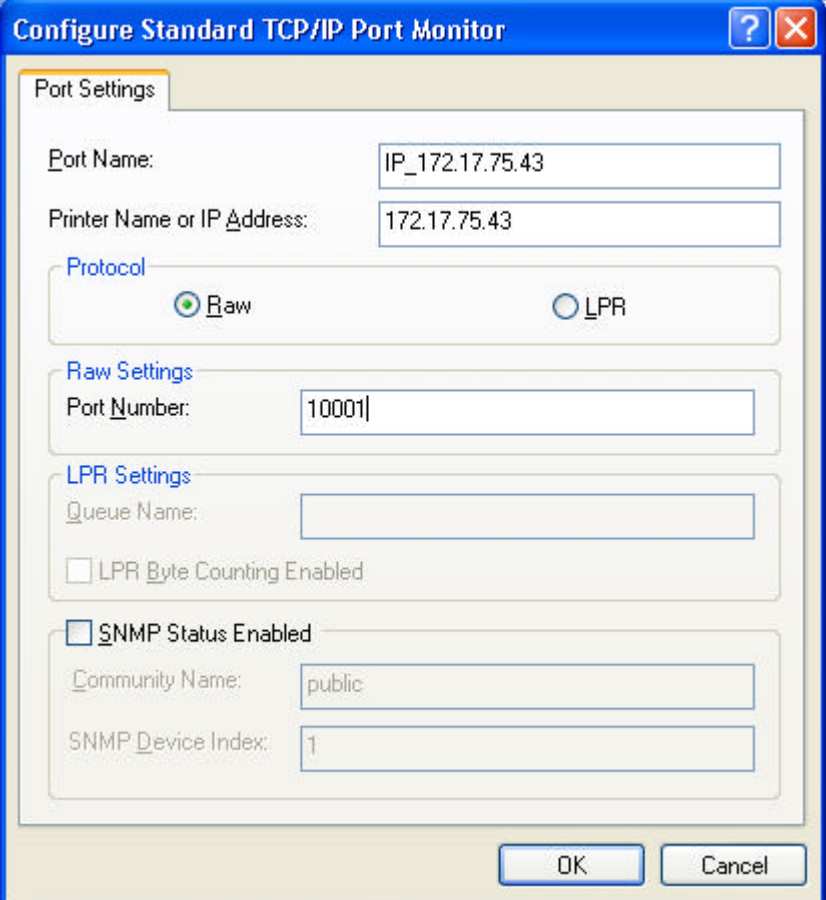
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Digits the IP printer address and press "Next"



Selects "Custom" and press "Settings"

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Configure Standard TCP/IP Port Monitor

Port Settings

Port Name: IP_172.17.75.43

Printer Name or IP Address: 172.17.75.43

Protocol

☒ Raw ☐ LPR

Raw Settings

Port Number: 10001

LPR Settings

Queue Name:

☐ LPR Byte Counting Enabled

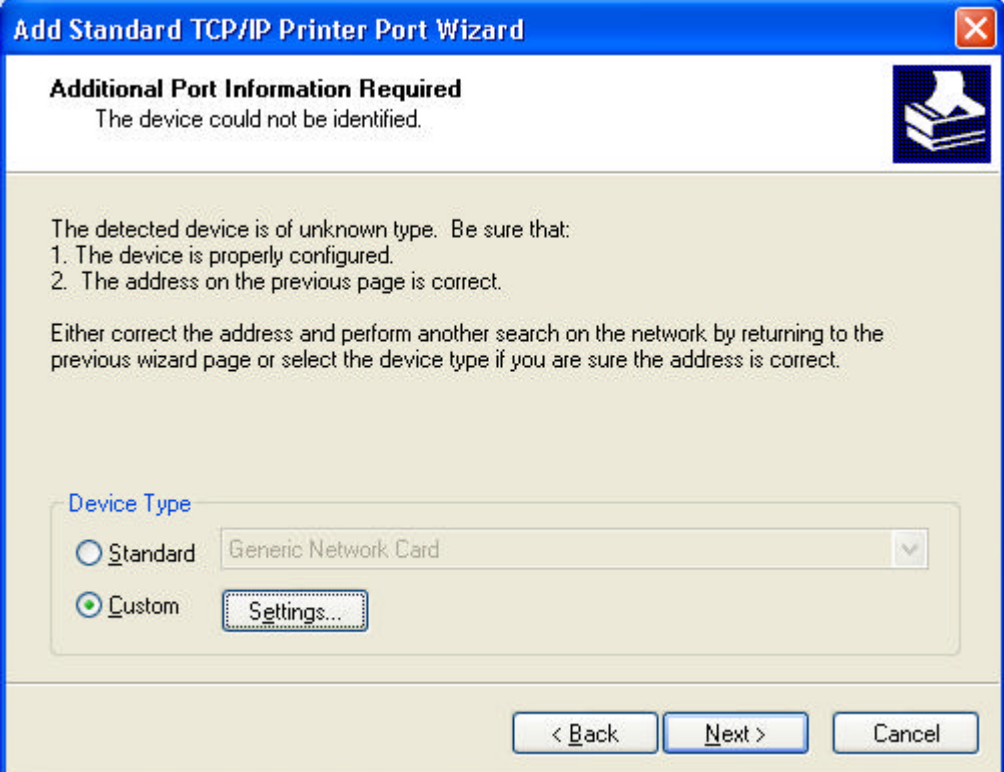
☐ SNMP Status Enabled

Community Name: public

SNMP Device Index: 1

OK Cancel

Set the port number to 10001 and press OK



Add Standard TCP/IP Printer Port Wizard

Additional Port Information Required

The device could not be identified.

The detected device is of unknown type. Be sure that:

1. The device is properly configured.
2. The address on the previous page is correct.

Either correct the address and perform another search on the network by returning to the previous wizard page or select the device type if you are sure the address is correct.

Device Type

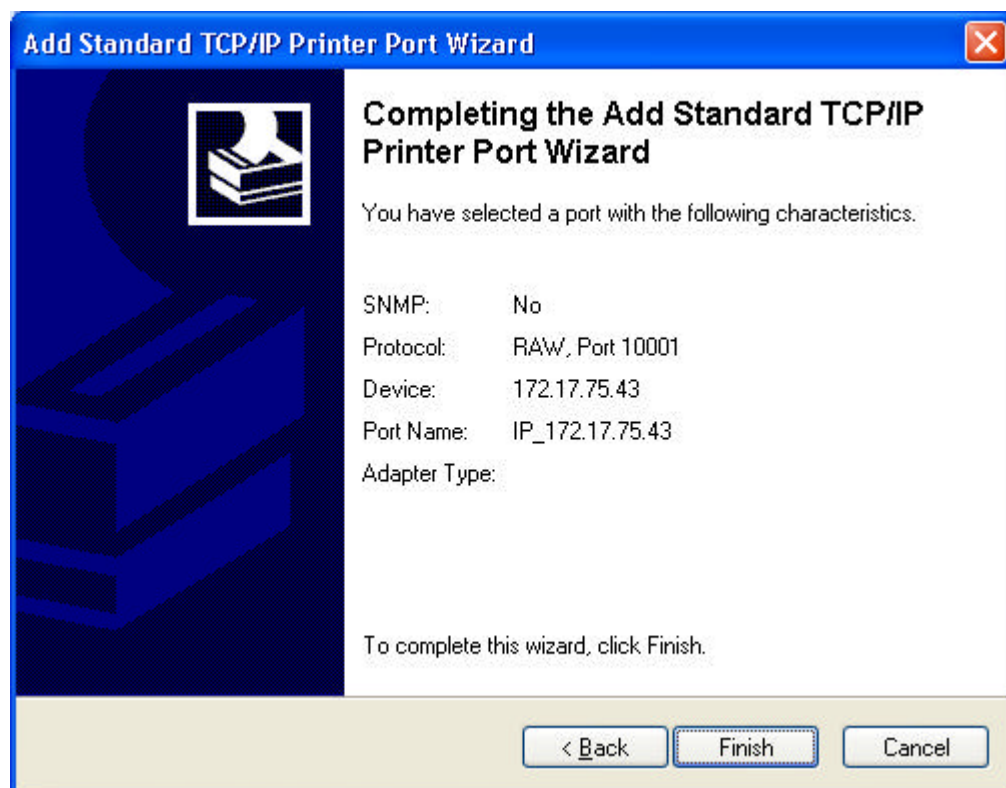
☐ Standard Generic Network Card

☒ Custom Settings...

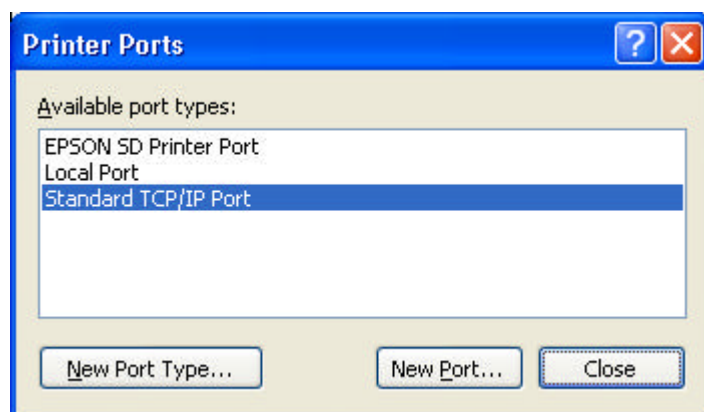
< Back Next > Cancel

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Press "Next".

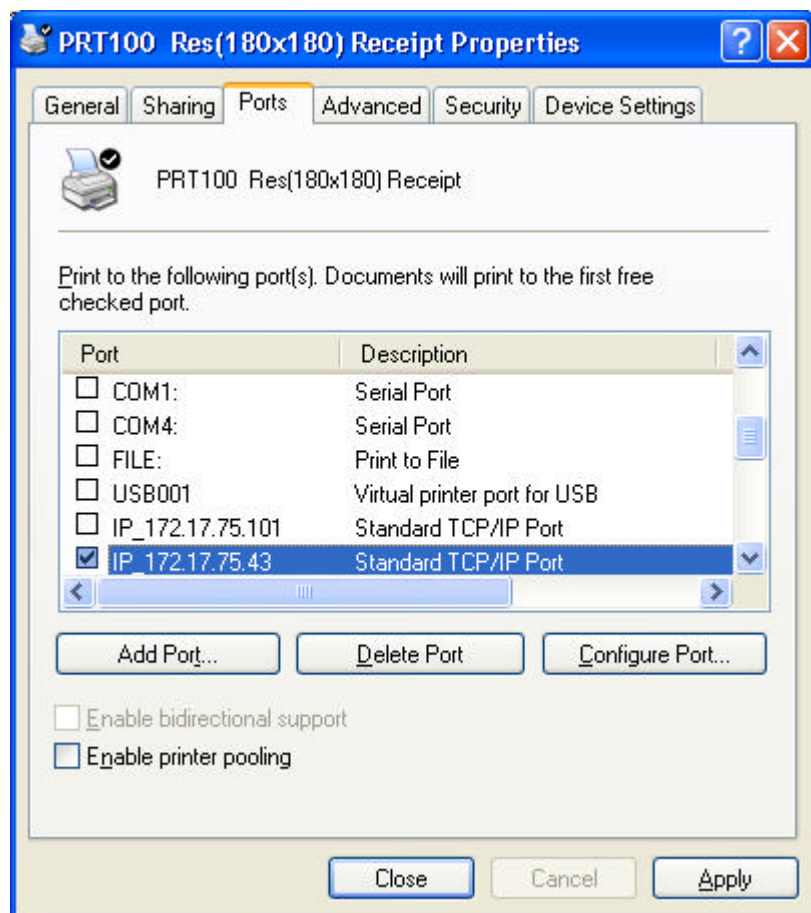


Press "Finish"



Press "Close"

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Press "Apply" to complete the procedure.

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8. Control Commands

The printer driver has defined a list of control code that can be sent to the printer selecting in the application a particular font named "CONTROL.". Most of the characters of that font are remapped in control command and sent to the printer

The control code list is the following:

Char	ASCII	Command	Description	See command:
A	65	ESCp\x00\x19\xFF	Open first drawer (DKD pin 2) – impulse = 50 ms ON and 510 ms OFF	ESC p
B	66	ESCp\x002\xFF	= impulse time 100 ms ON	ESC p
C	67	ESCp\x00K\xFF	= impulse time 150 ms ON	ESC p
D	68	ESCp\x00d\xFF	= impulse time 200 ms ON	ESC p
E	69	ESCp\x00}\xFF	= impulse time 250 ms ON	ESC p
		PER PRT100 em TMT88		
G	71	FSpl\x01\x00	Print NV Logo 1 (Normal, i.e. 180x180 dpi)	FS p
H	72	FSpl\x02\x00	Print NV Logo 2 (Normal, i.e. 180x180 dpi)	FS p
I	73	FSpl\x03\x00	Print NV Logo 3 (Normal, i.e. 180x180 dpi)	FS p
J	74	FSpl\x04\x00	Print NV Logo 4 (Normal, i.e. 180x180 dpi)	FS p
K	75	FSpl\x05\x00	Print NV Logo 5 (Normal, i.e. 180x180 dpi)	FS p
		PER PRT100 em TMT90		
G	71	GS(L\x06\x0048694848\x01\x01	Print NV Logo Key Code 00	GS(L
H	72	GS(L\x06\x0048694849\x01\x01	Print NV Logo Key Code 01	GS(L
I	73	GS(L\x06\x0048694850\x01\x01	Print NV Logo Key Code 02	GS(L
J	74	GS(L\x06\x0048694851\x01\x01	Print NV Logo Key Code 03	GS(L
K	75	GS(L\x06\x0048694852\x01\x01	Print NV Logo Key Code 04	GS(L
P	80	\x0AGSVB\x00	Cut paper	GS V
a	97	ESCp\x01\x19\xFF	Open second drawer (DKD pin 5) – impulse = 50 ms ON and 510 ms OFF	ESC p
b	98	ESCp\x012\xFF	= impulse time 100 ms ON	ESC p
c	99	ESCp\x01K\xFF	= impulse time 150 ms ON	ESC p
d	100	ESCp\x01d\xFF	= impulse time 200 ms ON	ESC p
e	101	ESCp\x01}\xFF	= impulse time 250 ms ON	ESC p
g	103	\x0AGSV\x01	Cut paper, partial cut (one point left uncut)	GS V
p	112	GSH\x00	Set: no HRI string with barcode	GS H
q	113	GSH\x01GSf\x00	Set: HRI string above barcode – Font A	GS H
r	114	GSH\x02GSf\x00	Set: HRI string below barcode – Font A	GS H
s	115	GSH\x01GSf\x01	Set: HRI string above barcode – Font B	GS H

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t	116	GSH\x02GSf\x01	Set: HRI string below barcode – Font B	GS H
u	117	GSb\x01	Set: Turn smoothing mode ON	GS b
v	118	GSb\x00	Set: Turn smoothing mode OFF	GS b
w	119	ESCa\x00	Set: left justification	ESC a
x	120	ESCa\x01	Set: centered text	ESC a
y	121	ESCa\x02	Set: right justification	ESC a

For example selecting in the application the font CONTROL and the character A, the printer diver, when receives this character, sends to the printer the command to open the first drawer.