

TM Printer Driver User's Manual

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SEIKO EPSON CORPORATION

Contents

1.Foreword.....	3
2.Operating Environment	3
2.1. Operation System.....	3
2.2. Computer.....	3
2.3. Printer, Customer Display	4
3.Installing the Driver.....	5
3.1. Installing on Windows 95/98	5
3.2. Installing on Windows NT 4.0.....	5
3.3. Installing on Windows2000.....	6
3.4. Print Processor.....	7
3.4.1. About print processor.....	7
3.4.2. Install print processor.....	7
3.4.3. Set up print processor	7
3.4.4. Printer Settings	7
4.Main Specifications.....	8
4.1. Printer Fonts	8
4.2. Bar-Code Printing.....	10
4.3. Special Functions.....	11
4.4. Resolutions.....	14
4.5. Paper Sizes	15
4.5.1.Rolled Paper (Receipt).....	15
4.5.2. Slip Paper.....	17
4.5.3. Validation Paper.....	17
4.6. Orientation	17
5.Using the TM Printer from an Application	18
5.1. Controlling the Printer from WordPad.....	18
5.1.1. WordPad Environment.....	18
5.1.2. Printing Text	18
5.1.3. Opening the Cash Drawer.....	19
5.1.4. Print Bar code.....	19
5.1.5. Cutting the Paper.....	20
5.2. Controlling the Printer from Visual Basic (Ver. 4.0).....	21
5.2.1. Selecting the Printer Driver.....	21
5.2.2. Selecting the Paper Source	21

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 2	SHEET 1

5.2.3. Printing Text	22
5.2.4. Opening the Cash Drawer.....	22
5.2.5. Cutting the Paper.....	23
5.2.6. Printing a Bar Code	23
5.2.7. Using ESC/POS commands.....	24
5.2.8. Printing a Bitmap	25
6.Attention in use.....	26

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 3	SHEET 2

1.Foreword

This manual explains how to install and use Windows printer drivers for Epson TM printers and DM-D customer display. These drivers make it possible for Windows applications to print to EPSON TM printers and DM-D customer display.

Please read this manual carefully so that you will be able to take full advantage of the driver's capabilities. This manual should be read in conjunction with the TM printer's Operator's Manual and the DM-D customer display Information Manual.

2.Operating Environment

2.1. Operation System

The Epson TM printer drivers can run on any of the following operating systems.

- Microsoft Windows95
- Microsoft Windows98
- Microsoft Windows NT4.0
- Microsoft Windows 2000

2.2. Computer

The drivers run on computers that support the operating systems listed above.

- EPSON PC-series
- AT-compatible

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 4	SHEET 3

2.3. Printer, Customer Display

The table on the following pages shows the correspondence between drivers, printers, customer display and paper types. Refer to the table to determine the driver(s) required to support the Epson printers, customer display and paper types that you plan to use.

Printer	Paper Type	Printer Driver
TM-U210A	Receipt	EPSON TM-U210A No cut
		EPSON TM-U210A Partial cut
TM-U210AR	Receipt	EPSON TM-U210AR No cut
		EPSON TM-U210AR Partial cut
TM-T88II	Receipt,	EPSON TM-T88II No cut
		EPSON TM-T88II Partial cut
TM-T88IIR	Receipt,	EPSON TM-T88IIR No cut
		EPSON TM-T88IIR Partial cut
TM-H5000II	Receipt	EPSON TM-H5000II No cut
		EPSON TM-H5000II Partial cut
	Slip	EPSON TM-H5000II(Slip)
TM-U590	Slip	EPSON TM-U590
RP-U420	Receipt,	EPSON RP-U420 No cut
		EPSON RP-U420 Full cut
		EPSON RP-U420 Partial cut
	Validation	EPSON RP-U420(Validation)
DM-D10x,20x		EPSON DM-D 10X/20X

[Note]

- For printers equipped with an auto-cutting function, drivers are provided for each cut type, as follows.

- | | |
|-----------------------------|----------------------------------|
| - EPSON TM-xxxx Full cut | Full cut at end of each page. |
| - EPSON TM-xxxx Partial cut | Partial cut at end of each page. |
| - EPSON TM-xxxx No cut | No cutting. |

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 5	SHEET 4

3.Installing the Driver

3.1. Installing on Windows 95/98

- A. When you execute the Tdr161sc.exe file, the files are extracted. follow the Setup Wizard.
- B. Click on the Start button, and then click on Settings → Printers.
- C. Double click on the Add Printer icon.
- D. Click on the Next button.
- E. Select "Local printer," and then click Next.
- F. Click the Have Disk button.
- G. Type in the pathname which is specified at A. (Default: C:\Tmdrvsc\WIN95). Then click on OK.
- H. Select the printer driver you wish to install, and then click on the Next button.
- I. Select the COM or LPT port that you wish to use for the printer, and then click on Next.
- J. Type in the printer name you wish to use for this printer, and select whether to use this as your default printer (if applicable). Then click on Next.
- K. Select whether or not to print a test page, and then click on Finish.
- L. When installation is finished, an icon with the name of the newly installed printer driver will appear in the Printers window.
- M. If you can not print correct using test page, please make sure the setting of following points are as same as the setting of connected device.
 - Is the port you are connecting correct ? (COM, LPT)
 - Particularly in the case of a serial connection, are the communications conditions set correctly?

3.2. Installing on Windows NT 4.0

- A. When you execute the Tdr161sc.exe file, the files are extracted. follow the Setup Wizard.
- B. Click on the Start button, and then click on Settings → Printers.
- C. Double click on the Add Printer icon.
- D. Select My Computer, and then click Next.
- E. Select the port(s) that you want to use for the printer, and then click on Next.
- F. Click the Have Disk button.
- G. Type in the pathname which is specified at A. (Default: C:\Tmdrvsc\WINNT40). Then click on OK.
- H. Select the printer driver you wish to install, and then click on the Next button.
- I. Type in the printer name you wish to use for this printer, and then click on Next.
- J. Select whether you wish to allow the printer to be shared by other computers. Then click on Next.
- K. Select whether or not to print a test page, and then click on Finish,.
- L. When installation is finished, an icon with the name of the newly installed printer driver will appear in the Printers window.
- M. If you can not print correct using test page, please make sure the setting of following points are as same as the setting of connected device.

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 6	SHEET 5

- Is the port you are connecting correct ? (COM, LPT)
- Particularly in the case of a serial connection, are the communications conditions set correctly?

3.3. Installing on Windows2000

- When you execute the Tdr161sc.exe file, the files are extracted. follow the Setup Wizard.
- Click on the Start button, and then click on Settings → Printers.
- Double click on the Add Printer icon.
- [Add Printer Wizard] will be displayed.
- Select [Local printer] and uncheck [Automatically detect and install my Plug and Play printer] box, and then click [Next>].
- Select the port(s) that you want to use for the printer, and then click on Next.
- Click the Have Disk button.
- Type in the pathname which is specified at A. (Default: C:\Tmdrvsc\WIN2000). Then click on OK.
- Select the printer driver you wish to install, and then click on the Next button.
- Select whether or not to print a test page, and then click on Finish,
- Click [Yes] on [Digital Signature Not Found] dialog box.
- When installation is finished, an icon with the name of the newly installed printer driver will appear in the Printers window.
- If you can not print correct using test page, please make sure the setting of following points are as same as the setting of connected device.

- Is the port you are connecting correct ? (COM, LPT)
- Particularly in the case of a serial connection, are the communications conditions set correctly?

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 7	SHEET 6

3.4. Print Processor

3.4.1. About print processor

When you use TM-T88II/T88IIR/H5000II(Receipt) and DM-D10x,20x Customer Display in WindowsNT4.0, Windows2000, you should install a print processor. You can not get correct printing result when you use a print processor included in Windows NT4.0, Windows2000. In the case of Windows95/98, print processor is installed automatically in the printer driver installation.

3.4.2. Install print processor

When you execute the Tpp161sc.exe file or the Dpp161sc.exe file, the print processor is installed. follow the Setup Wizard.

3.4.3. Set up print processor

When you use our driver in WindowsNT4.0, Windows2000, please set up the print processor as follows. If you use it in Win95/98, you don't need to set up.

[WindowsNT4.0]

- A. Select a printer driver icon in the printer window and click a [Properties]. Properties dialog is shown.
- B. Display a [General] tag sheet and click a [Print Processor] button. Print Processor dialog is shown.
- C. Select a DMPROCESS or TMPROCESS in the list box of print processor.
- D. Click a [OK] button.

[Windows2000]

- A Select a printer driver icon in the printer window and click a [Properties]. Properties dialog is shown.
- B Display a [Advanced] tag sheet and click a [Print Processor] button. Print Processor dialog is shown.
- C Select a DMPROCESS in the list box of print processor.
- D Click a [OK] button.
- E .Check [Print directly to the printer] radio button in [Advanced] page on printer propaties dialog box, and then click [OK].

3.4.4. Printer Settings

This section is explained the way of following Printer Settings.

- Printing Resolution
- Paper Size
- Orientation
- Paper Source
- Print Quality (DM-D10x,20x Printer Driver only)

In Windows95/98, this can be set in the printer's "Properties" dialog.

In Windows NT4.0, it can be set in the printer's "Document Default" dialog.

In Windows 2000, it can be set in the printer's "Printing Preferencest" dialog.

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 8	SHEET 7

4.Main Specifications

4.1. Printer Fonts

These drivers support use of printer fonts as well as Windows fonts. Use of printer fonts permits faster printing. Available printer fonts are listed below.

"Built-in fonts of a printer" can be specified with the application programs. The "built-in fonts" are as follows.

- Printer Font(Small)
- Printer Font(Large)

The font names that the user can choose in the application are as follows.

2 types of character-height can be chosen in each font.

Printer Models	Printer Fonts	Sizes
-TM-U210A/AR	16cpi	9, 18
	13.3cpi	9, 18
	8cpi	9, 18
	6.7cpi	9, 18
	Song Ti 8.9cpi	8, 16
	Song Ti 4.7cpi	8, 16
	16cpi[RED]	9, 18
	13.3cpi[RED]	9, 18
	8cpi[RED]	9, 18
	6.7cpi[RED]	9, 18
	Song Ti 8.9cpi[RED]	8, 16
	Song Ti 4.7cpi[RED]	8, 16
-TM-H5000II(Slip) -TM-U590	16.7cpi	9,18
	12.5cpi	9,18
	8.3cpi	9,18
	6.25cpi	9,18
	Song Ti 8.3cpi	8,16
	Song Ti 4.2cpi	8,16

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 9	SHEET 8

Printer Models	Printer Fonts	Sizes
-TM-T88II -TM-T88IIR -TM-H5000II(Receipt)	20cpi	6.5,13.5
	15cpi	9.5,19
	10cpi	6.5,13.5
	7.5cpi	9.5,19
	Song Ti 7.5cpi	9.5,19
	Song Ti 3.8cpi	9.5,19
-RP-U420	FontB11	9
	FontB21	9
	FontB11[255]	9
	FontB21[255]	9
	Song Ti 11	9
	Song Ti 21	9
- DM-D10x,20x	DM-D 1st Line	7
	DM-D 2nd Line	7

[Note]

- The "[RED]" indication means that the font prints in red ink.
- The Song Ti font not support printing of half-size characters.
- DM-D 1st Line font is used for displaying text at the 1st line of the Customer Display.
- DM-D 2nd Line font is used for displaying text at the 2nd line of the Customer Display.

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 10	SHEET 9

4.2. Bar-Code Printing

The following printers support bar-code printing.

TM-T88II, TM-T88IIR, TM-H5000II

Bar-code printer drivers are available for each of these printers. To print a bar code on these printers, you simply select the font whose name corresponds to the desired bar-code type.

Note that application editing windows will display text only; they will not display the bar-code image that will be produced on the printout.

Printer Font	Number of Encoded Characters	Supported Characters
Codabar	1 or more	Numeric: 0 to 9 Symbols: \$, +, -, :, / Letters: A to D
Code39	1 or more	Numeric: 0 to 9 Symbols: space, %, \$, +, -, ., / Letters: A to Z
ITF	1 or more (even number)	Numeric: 0 to 9
JAN 13 (EAN)	13	Numeric: 0 to 9
JAN 8 (EAN)	8	Numeric: 0 to 9
UPC-A	12	Numeric: 0 to 9
UPC-E	12	Numeric: 0 to 9

[Note]

The drivers can print HRI characters together with the bar code. For information, see Section 3.3, "Special Functions," directly below.

If you find that you are unable to print barcodes on Windows NT4.0, Windows 2000, you can correct the problem by reducing the left margin to its lowest possible value.

Sometimes the barcode may not be able to print continuously in Windows NT4.0 and Windows 2000. You should specify HRI characters each time this problem occurs.

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 11	SHEET 10

4.3. Special Functions

The TM printer drivers can be used to execute a variety of special non-printing functions, as indicated in the table below. You can execute these functions by selecting the printer's special "control font" and then sending the appropriate character code to the driver. (Note that you cannot use the control font to print normal characters.)

You can also execute these commands by issuing codes 80H above when using no Song Ti printer fonts (all fonts other than those marked by "Song Ti xxCPI" in the printer font table in Section 4.1 above).

Control-Font Character Code	Function	Extended character code (on all fonts other than those marked "Ext.")
A	Open Drawer 1 (50ms drive pulse width)	81H
B	Open Drawer 1 (100ms drive pulse width)	82H
C	Open Drawer 1 (150ms drive pulse width)	83H
D	Open Drawer 1 (200ms drive pulse width)	84H
E	Open Drawer 1 (250ms drive pulse width)	85H
a	Open Drawer 2 (50ms drive pulse width)	89H
b	Open Drawer 2 (100ms drive pulse width)	8AH
c	Open Drawer 2 (150ms drive pulse width)	8BH
d	Open Drawer 2 (200ms drive pulse width)	8CH
e	Open Drawer 2 (200ms drive pulse width)	8DH
0	Set Slip paper position	-
1	Print to journal.	91H
2	Print to receipt.	92H
3	Print to journal and receipt.	93H
5	HT	95H
6	LF	96H
7	CR	97H
8	Print to front surface of Slip	-
9	Print to back surface of Slip	-
p	Do not include HRI characters with bar code.	98H
q	Print HRI characters above bar code (using font A).	99H
r	Print HRI characters below bar code (using font A).	9AH
s	Print HRI characters above bar code (using font B).	9BH
t	Print HRI characters below bar code (using font B).	9CH
!	Stamp on receipt.	9FH
F	Cut receipt (full cut).	9DH
P	Cut receipt (partial cut).	9EH

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 12	SHEET 11

Control-Font Character Code	Function	Extended character code (on all fonts other than those marked "Ext.")
G	NV Bitmap image data 1 (Printing normal size)	-
H	NV Bitmap image data 2 (Printing normal size)	-
I	NV Bitmap image data 3 (Printing normal size)	-
J	NV Bitmap image data 4 (Printing normal size)	-
K	NV Bitmap image data 5 (Printing normal size)	-
Q	NV Bitmap image data 1 (Printing double-wide characters)	-
R	NV Bitmap image data 2 (Printing double-wide characters)	-
S	NV Bitmap image data 3 (Printing double-wide characters)	-
T	NV Bitmap image data 4 (Printing double-wide characters)	-
U	NV Bitmap image data 5 (Printing double-wide characters)	-
V	NV Bitmap image data 1 (Printing double-high characters)	-
W	NV Bitmap image data 2 (Printing double-high characters)	-
X	NV Bitmap image data 3 (Printing double-high characters)	-
Y	NV Bitmap image data 4 (Printing double-high characters)	-
Z	NV Bitmap image data 5 (Printing double-high characters)	-
[NV Bitmap image data 1 (Printing double-high/double-wide characters)	-
]	NV Bitmap image data 2 (Printing double-high/double-wide characters)	-
^	NV Bitmap image data 3 (Printing double-high/double-wide characters)	-
_	NV Bitmap image data 4 (Printing double-high/double-wide characters)	-
`	NV Bitmap image data 5 (Printing double-high/double-wide characters)	-

Supported functions vary according to each printer's capabilities.

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 13	SHEET 12

The DM-D customer display drivers can be used to execute a variety of special non-printing functions, as indicated in the table below.

Control-Font Character Code	Function
a	Clear screen (CLR)
b	Clear 1 st line (CAN for 1 st Line)
c	Clear 2 nd line (CAN for 2 nd Line)
d	Screen is always blinking.
e	Screen is blinking at 10x5msec intervals.
f	Screen is blinking at 20x5msec intervals.
g	Screen is blinking at 40x5msec intervals.
h	Screen is blinking at 60x5msec intervals.
i	Put out light with saving displayed contents.
j	Set and display a counter time. (US T h m)
k	Display a counter. (US U)
l	Enable reversed character (US r n)
m	Disable reversed character (US r n)
n	Define macro process (US :)
o	Do macro process (US ^ n m, n=5 m=60)

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 14	SHEET 13

4.4. Resolutions

The following table shows the resolution settings supported by each printer.

Printer	Resolutions
TM-U210A, TM-U210AR,	80× 72 160× 72(*) 160× 144
TM-U590 TM-H5000II(Slip)	75× 72 150× 72(*) 150× 144
TM-T88II, TM-T88IIR, TM-H5000II(Receipt)	90× 90 180× 90 90× 180 180× 180(*)
RP-U420	150× 72 (*) Not supported to graphic printing.

[NOTE]

Asterisks in the table denote the driver's default resolution.

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 15	SHEET 14

4.5. Paper Sizes

4.5.1. Rolled Paper (Receipt)

The paper sizes supported by each printer are as follows.

Printer	Paper Size (W×L)
TM-U210A/AR	A4 length (76 x 297 mm) B5 length (76 x 257 mm) 6-inch page (2.99 x 6 in.) Letter length (2.99 x 11 in.) Executive length (2.99 x 10.5 in.) Receipt length (76 x 3276 mm) (*) User-defined (76x152.4 to 76x3276 mm) (**)
TM-T88II, TM-T88IIR, TM-H5000II	A4 length (80 x 297 mm) B5 length (80 x 257 mm) 6-inch page (3.14 x 6 in.) Letter length (3.14 x 11 in.) Executive length (3.14 x 10.5 in.) Receipt length (80 x 3276 mm) (*) User-defined (80x152.4 to 80x3276 mm) (**)
RP-U420	A4 length (44.5 x 297 mm) B5 length (44.5 x 257 mm) 6-inch page (1.75 x 6 in.) Letter length (1.75 x 11 in.) Executive length (1.75 x 10.5 in.) Receipt length (44.5 x 3276 mm) (*) User-defined (44.5x152.4 to 44.5x3276 mm) (**)

WindowsNT4.0 /Windows2000 support (*)

Windows95/98 support (**)

[Note]

- The user-defined values show the range over which sizes can be set.

The following table shows the recommended margins for each printer. Refer to this table when setting margins from your printing applications.

Printer	Hard Top Margin (mm)	Margins				Print Area
		Left (mm)	Right (mm)	Top (mm)	Bottom (mm)	Width (mm)
TM-U210A/U210AR	27.0	5.5	6.4	0.0	0.2	64.1
TM-T88/T88IIR	26.0	3.8	4.0	0.0	0.0	72.2
TM-H5000II	29.0	3.8	4.0	0.0	0.0	72.2
RP-U420	-	4.0	3.8	0.0	0.0	36.7

[Note]

The 'hard top margin' refers to the margin placed between the top of the form (for example, from the paper cut position)

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 16	SHEET 15

to the top printable position. This hard margin is always applied. The application's top margin setting is then added to the hard margin to produce the actual top margin.

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 17	SHEET 16

4.5.2. Slip Paper

The slip paper sizes supported by each printer are as follows.

Printer	Paper Size (W×L)
TM-U590, TM-H5000II	A4 (210 x 297 mm) B5 (182 x 257 mm) Executive (7.25 x 10.5 in.) User-defined (150x70 to 210x297 mm) (*)

Windows95/98 support (**)

[Note]

The user-defined values show the range over which sizes can be set.

The following table shows the recommended margins for each printer. Refer to this table when setting margins from your printing applications.

Printer	Paper	Margins				Print Area
		Left (mm)	Right (mm)	Top (mm)	Bottom (mm)	Width (mm)
TM-H5000II TM-U590	A4	0.0	74.5	18.7	20.7	135.6
	B5	0.0	46.5	18.7	20.7	135.6
	Executive	0.0	48.7	18.7	20.7	135.6

4.5.3. Validation Paper

The validation paper sizes supported by each printer are as follows.

Printer	Paper Size (W×L)
RP-U420	84.5 x4 mm 84.5 x 12.7 mm (**) User-defined (84.5x4 to 84.5x4 mm) (*)

Windows95/98 support (*)

WindowsNT4.0/2000 support (**)

[Note]

The user-defined values show the range over which sizes can be set. The following table shows the recommended margins for each printer. Refer to this table when setting margins from your printing applications.

Printer	Paper	Margins				Print Area
		Left (mm)	Right (mm)	Top (mm)	Bottom (mm)	Width (mm)
RP-U420 Windows 95/98	84.5 x 4 mm	0.0	0.0	0.0	0.0	84.5
RP-U420 WinNT4.0/Win2000	84.5 x 12.7 mm	0.0	0.0	0.0	8.5	84.5

4.6. Orientation

You can select either portrait (vertical) or landscape (horizontal) orientation. But note that printer fonts will not print if landscape orientation is selected.

- portrait
- landscape

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 18	SHEET 17

5.Using the TM Printer from an Application

5.1. Controlling the Printer from WordPad.

We use WordPad on Windows95 as an example, to show the instructions for using this from an application. However, the printer fonts are not available in WordPad bundled with WindowsNT4.0. Please use the other applications.

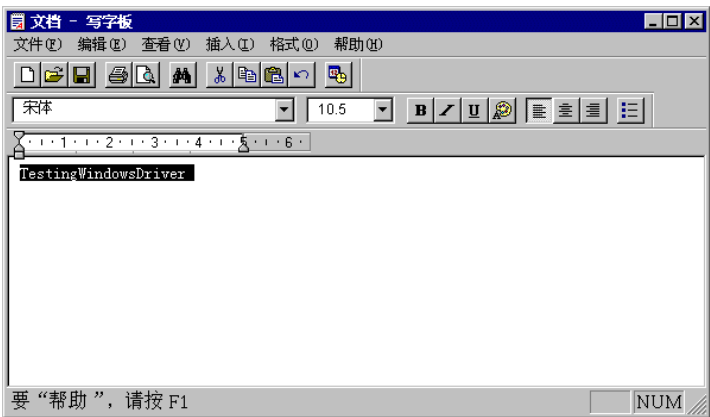
5.1.1. WordPad Environment

Begin by setting your default printer and the WordPad environment as follows.

Start up WordPad, and enter appropriate settings for the follows.

- Size
- Resolution
- Orientation
- Source
- Margins

5.1.2. Printing Text



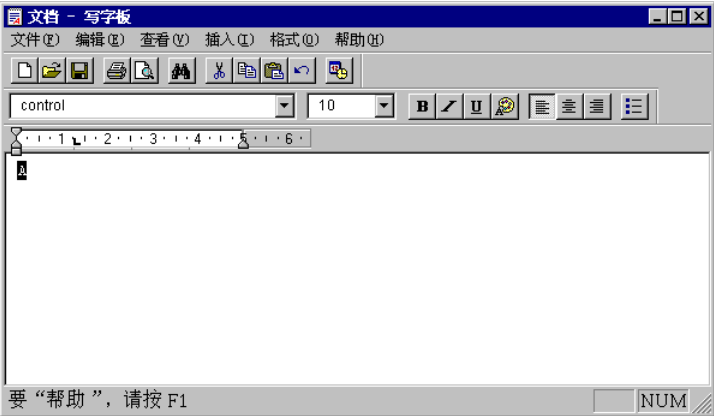
Use the following procedure to generate a printout from WordPad.

1. Select the font you wish to use from the font list.
2. Select the font size you wish use from the font-size list.
3. Type in some text into the WordPad text -input area.
4. Open the File menu, and click on Print. The TM printer will print out the text you entered at Step 3.

For fastest printing, select a printer font (rather than a Windows font) from the font list.

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 19	SHEET 18

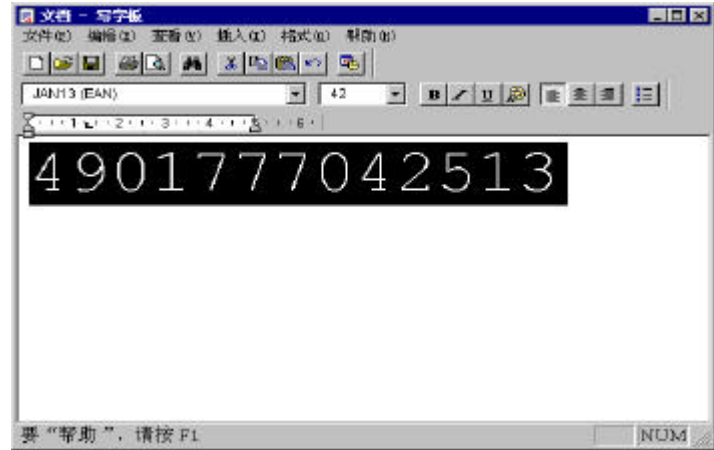
5.1.3. Opening the Cash Drawer



- 1. Select the "control" font from the font list.
- 2. Set the font size to 10.
- 3. Type an "A" into the WordPad text -input area.
- 4. Open the File menu, and click on Print .

Clicking on Print will cause cash drawer #1 to open at a drive speed of 50ms. By changing the character that you input at Step 3, you can select a different drive speed or open the other drawer (drawer #2). Refer to Section 4.3, "Special Functions," for a listing of characters and their functions.

5.1.4. Print Bar code



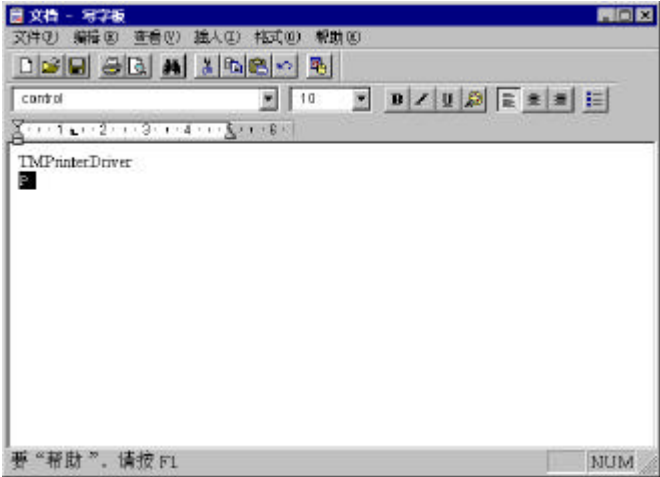
Use the following procedure to print a bar code.

- 1. Select the "control" font from the font list.
- 2. Set the font size to 10.
- 3. Type an "r" into the WordPad text -input area.
- 4. Hit the Enter key.
- 5. Select JAN13(EAN) from the font list.
- 6. Set the font size to 42.
- 7. Enter the code you wish to generate.
- 8. Open the File menu, and click on Print .

Clicking on Print causes the printer to print the bar code corresponding to the value you entered at Step 7, with HRI characters along the bottom of the bar-code pattern. You can change the HRI printout (disable it, or change the HRI font or location) by changing the character that you enter at Step 3. (Refer to Section 4.3, "Special Functions.") You can change the bar-code type by making different selections at Steps 5 and 6. (Refer to Section 4.2, "Bar Code Printing. ")

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT	SHEET
			20	19

5.1.5. Cutting the Paper



The following procedure will cause the printer to print the entered text and then cut the paper.

- 1. Select any font other than "control" from the font list.
- 2. Set the font size as desired.
- 3. Type in the text you wish to print.
- 4. Hit the Enter key.
- 5. Select the "control" font from the font list.
- 6. Set the font size to 10.
- 7. Type in an "F".
- 8. Open the File menu, and click on Print .

When you click on Print, the printer prints the text you entered at Step 3 and then executes a full cut. If you wish to execute a partial cut instead, enter a "P" rather than an "F" at Step 7. (But note that some printers cannot execute a full cut.)

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 21	SHEET 20

5.2. Controlling the Printer from Visual Basic (Ver. 4.0)

This section shows how you can control the TM printer using Visual Basic (version 4.0). Note that the TM printer drivers include sample Visual Basic programs that provide additional examples.

5.2.1. Selecting the Printer Driver

The following code establishes the specified printer driver as your "default printer."

```
'Set the specified printer driver as the "default printer."  
For Each prnPrinter In Printers  
    If prnPrinter.DeviceName = "EPSON TM-300A No cut" Then  
        Set Printer = prnPrinter  
        Exit For  
    End If  
Next
```

5.2.2. Selecting the Paper Source

Use the following code to set or change the paper source when printing out text.

```
'Selecting the paper source.  
Printer.FontSize = 10          'Set up the control font.  
Printer.FontName = "control"  '  
Printer.Print "3"             'Enter the special-function  
                               'corresponding to the desired  
                               'source.  
                               ' 1: Journal  
                               ' 2: Receipt  
                               ' 3: Both  
  
'Enter and print text.  
Printer.FontSize = 10          'Select the text font size.  
Printer.FontName = "20 cpi"    'Select the text font.  
Printer.Print "test print"     'Enter and print the text string.
```

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 22	SHEET 21

5.2.3. Printing Text

The following code prints a text string using a Windows font, and then prints another text string using a printer font. Each string gives the name and size of the font being used.

```
'Print in Windows font
Printer.FontSize = 10
Printer.FontName = "Times New Roman"
Printer.Print Printer.FontName + " " + Str(Printer.FontSize)

'Print in printer font
Printer.FontSize = 10
Printer.FontName = "20 cpi"
Printer.Print Printer.FontName + " " + Str(Printer.FontSize)

Printer.EndDoc
```

5.2.4. Opening the Cash Drawer

The next example shows how to open the desired cash drawer at the desired speed.

```
Printer.FontSize = 10          'Set up the control font.
Printer.FontName = "control"
Printer.Print "A"              'Use special-function character to open the
                                cash drawer.
                                'A: Open drawer 1 at 50 ms.
                                'B: Open drawer 1 at 100 ms.
                                'C: Open drawer 1 at 150 ms.
                                'D: Open drawer 1 at 200 ms.
                                'E: Open drawer 1 at 250,ms.
                                'a: Open drawer 2 at 50ms.
                                'b: Open drawer 2 at 100ms.
                                'c: Open drawer 2 at 150ms.
                                'd: Open drawer 2 at 200ms.
                                'e: Open drawer 2 at 250 ms.

Printer.EndDoc
```

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 23	SHEET 22

5.2.5. Cutting the Paper

The following code causes the printer to cut the paper.

Printer.FontSize = 10	'Set up the control font.
Printer.FontName = "control"	
Printer.Print "F"	'Use special-function character to cut the paper.
	'F: Full cut
	'P: Partial cut
Printer.EndDoc	

5.2.6. Printing a Bar Code

The next example shows how to print out a bar code.

'Set HRI characters	
Printer.FontSize = 10	'Set up the control font.
Printer.FontName = "control"	
Printer.Print "q"	'Use special-function character to select the bar-code type.
	'p: No HRI characters
	'q: Include HRI characters above bar code (using font A).
	'r: Include HRI characters below bar code (using font A).
	's: Include HRI characters above bar code (using font B).
	't: Include HRI characters below bar code (using font B).
'Print the bar code.	
Printer.FontSize = 42	'Set the bar-code font size.
Printer.FontName = "ITF"	'Select the bar-code printer font.
Printer.Print "123456"	'Print the bar-code data.
Printer.EndDoc	

5.2.7. Using ESC/POS commands

The following example shows how you can use the Win32 API to transmit ESC/POS commands directly to the printer. For more details, refer to the Win32 API help information.

```
Public Type DOCINFO
    pDocName As String
    pOutputFile As String
    pDatatype As String
End Type

'Win32 API external reference definitions
Public Declare Function ClosePrinter Lib "winspool.drv" (ByVal hPrinter As Long) As Long
Public Declare Function EndDocPrinter Lib "winspool.drv" (ByVal hPrinter As Long) As Long
Public Declare Function EndPagePrinter Lib "winspool.drv" (ByVal hPrinter As Long) As Long
Public Declare Function OpenPrinter Lib "winspool.drv" Alias "OpenPrinterA" _
    (ByVal pPrinterName As String, phPrinter As Long, ByVal pDefault As Long) As Long
Public Declare Function StartDocPrinter Lib "winspool.drv" Alias "StartDocPrinterA" _
    (ByVal hPrinter As Long, ByVal Level As Long, pDocInfo As DOCINFO) As Long
Public Declare Function StartPagePrinter Lib "winspool.drv" _
    (ByVal hPrinter As Long) As Long
Public Declare Function WritePrinter Lib "winspool.drv" (ByVal hPrinter As Long, _
    pBuffer As Any, ByVal cbBuf As Long, pcWritten As Long) As Long

'##### Source Code #####
Dim lhPrinter As Long
Dim lReturn As Long
Dim lpcWritten As Long
Dim lDoc As Long
Dim sWrittenData As String
Dim MyDocInfo As DOCINFO

lReturn = OpenPrinter(Printer.DeviceName, lhPrinter, 0)
If lReturn = 0 Then
    MsgBox "Open Printer Error!"
End If

MyDocInfo.pDocName = "SAMPLE"
MyDocInfo.pOutputFile = vbNullString
MyDocInfo.pDatatype = vbNullString
lDoc = StartDocPrinter(lhPrinter, 1, MyDocInfo)
Call StartPagePrinter(lhPrinter)

'Output ESC/POS commands and the string to be displayed
sWrittenData = Chr(&H1B) + "=" + Chr(&H2) 'Select the peripheral device.
sWrittenData = sWrittenData + Chr(&H1B) + "t" + Chr(&H0) 'Select the character code table.
sWrittenData = sWrittenData + Chr(&H1B) + "R" + Chr(&H0) 'Select international characters.
sWrittenData = sWrittenData + "SEIKO EPSON ESC/POS" 'String to be displayed.
lReturn = WritePrinter(lhPrinter, ByVal sWrittenData, Len(sWrittenData), lpcWritten)

lReturn = EndPagePrinter(lhPrinter)
lReturn = EndDocPrinter(lhPrinter)
lReturn = ClosePrinter(lhPrinter)
```

EPSON	TITLE	SHEET REVISION	NO	
			NEXT	SHEET
	TM Printer Driver User's Manual	1.61	25	24

5.2.8. Printing a Bitmap

The following example shows how to print out bitmap data.

```
'Read bitmap file from frmBmp form.  
'Match H and V size to bitmap file.  
frmBMP.Height = 0  
frmBMP.picBmp.Picture = LoadPicture("SAMPLE.BMP")  
frmBMP.picBmp.Top = 0  
frmBMP.picBmp.Left = 0  
frmBMP.Height = frmBMP.Height + frmBMP.picBmp.Height  
frmBMP.Width = frmBMP.picBmp.Width  
  
'Print the frmBMP form.  
frmBMP.PrintForm
```

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 26	SHEET 25

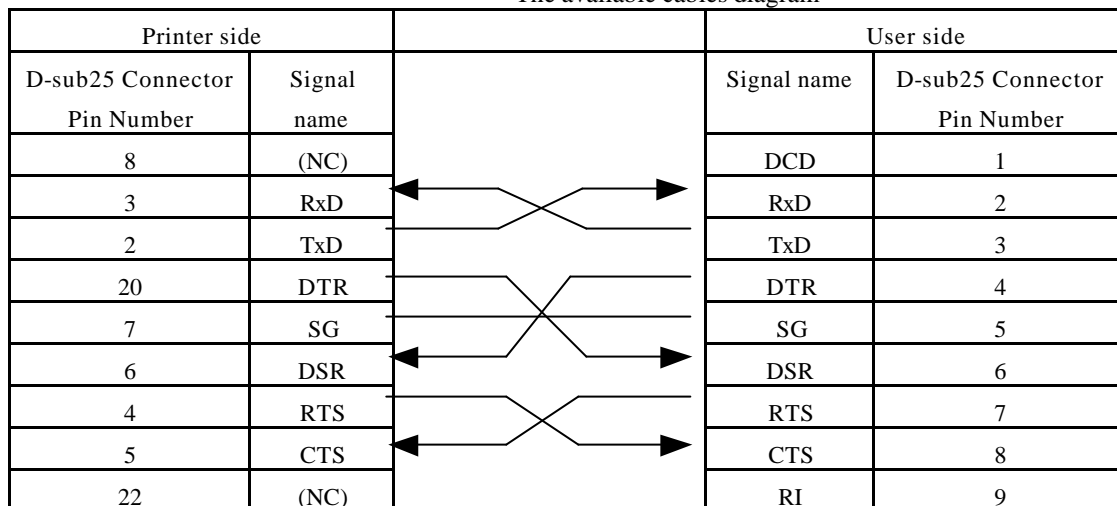
6.Attention in use.

- When you connect the printer over the serial (COM) port, be sure to set the flow control to Xon/Xoff. In the cases below, however, please set the hardware control on OS side and set TM printer to DTR/DSR.

* When using EPSON DM-D10x, 20x Printer Driver

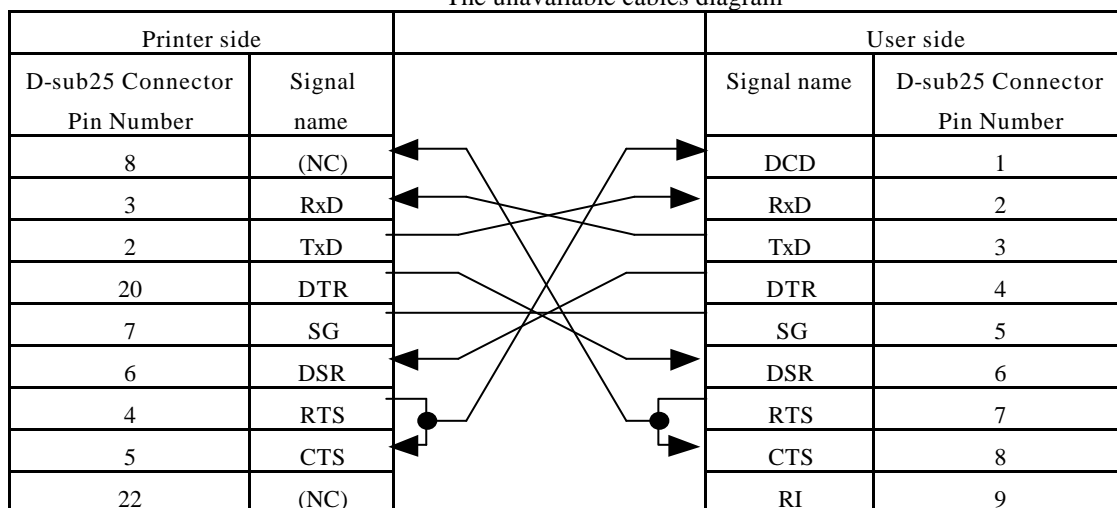
- TM Printer Driver's settings when connecting TM printer via DM-D customer display. Also, please use the following cables to connect between PC and DM-D customer display (DM-D101/DM-D105/DM-D205).

"The available cables diagram"



Furthermore, though the cables on the market have the one that is listed in the following wiring structure, its type can not be used.

"The unavailable cables diagram"



- 2) In some cases a serially-connected printer will not operate correctly on Windows 95 and Windows98 under the default FIFO-buffer settings. You can correct the problem by reducing the FIFO Transmit Buffer setting for the COM port to which the printer is connected.
- 3) In some cases a serially -connected printer will not operate correctly on Windows NT 4.0, Windows2000 while FIFO buffering is enabled. You can correct the problem by disabling the FIFO buffer.
- 4) The top margin for receipts and journals will be larger than the top margin value that you set. The additional margin is equal to the distance between the paper cut position and the top printable position.
- 5) Strike-through, italic, and other such attribute settings are ignored when printing with printer fonts. If you need to use these attributes, you must select a Windows font.
- 6) Printer fonts will not printed the orientation is set to landscape. When using landscape orientation, be sure to select a Windows font.
- 7) Although some printers provide red printer fonts, it is never possible to print both red characters and black characters on the same line.
- 8) Although it is possible to print both a printer font and graphic data (Windows font, straight line, etc.) on the same line, print results may be uneven.
- 9) Print results may also be uneven if you print a double-height font together with some other font on the same line.
- 10) If you find that you are unable to print barcodes on Windows NT4.0, Windows2000, you can correct the problem by reducing the left margin to its lowest possible value.
- 11) Sometimes the barcode may not be able to print continuously in Windows NT4.0 and Windows2000. You should specify HRI characters each time this problem occurs.
- 12) When changing the paper source with a paper-source selection character (special-function character), you must place the character at the beginning of the line.
- 13) When printing by the serial connection to the TM printer of the high resolution, the print speed as the expectations can not be gotten. To print out at higher speed, it recommends use in parallel connection.
- 14) When using TM printer in parallel interface, the paper empty error occurs when turning on the power in the condition of the paper-near-end. it can not print. exchange to the new paper.
- 15) TM printer driver does not support printing of MICR.
- 16) Setting DIP switch 2-1 (the BUSY condition) of the TM printer to ON (receive buffer full) is recommended.
- 17) When using WindowsNT4.0, Windows2000 Simplified Chinese version in NTFS format, the users who don't have the Administrator authority may not be able to print correctly. If so, please change the access of Everyone which is in the directory of WindowsNT System folder\Spool\Printer to full control.
- 18) If either TM-U210A/AR is used on WindowsNT4.0, the color may not be printed as you expected. If so, please print such as a space using the font in the color you expect first.
- 19) Driver EPSON DM-D10X/20X doesn't support DM-D202. Also, If TM printer doesn't work if it is connected with DM-D202.
- 20) If any of Customer display DM-D101, 105 or 205 is used independently without connecting to TM Printer, it may not displayed correctly. If so, please connect the connect terminal of Customer Display's Printer with the loop-back

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 28	SHEET 27

connector which is shorted between TxD-RxD and DTR-DSR and RTS-CTS.

- 21) If you connect TM-U210A/AR with Customer Display, please use DM-D10X,20X driver and display such as a space on Customer Display and then print using each driver of TM printer.
- 22) Unable to print correctly with the paper sizes: Reserved48/Reserved49. Select the other available paper sizes.

EPSON	TITLE TM Printer Driver User's Manual	SHEET REVISION 1.61	NO	
			NEXT 29	SHEET 28