

TM Printer Driver User's Manual

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SEIKO EPSON CORPORATION

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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. Euro support Operation System

The Epson TM printer drivers can run on any of the following operating systems. Renew OS using the Euro support update file which is provided from Microsoft. But, Microsoft Windows98, Windows2000 doesn't have to renew an operating system using the update file.

- Microsoft Windows95 : Euro Update Patch[w95euro.exe]
- Microsoft Windows98
- Microsoft Windows NT4.0 : Euro Update Patch[nt4_euro.exe] / Service Pack 4
- Microsoft Windows2000

2.3. Computer

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

- NEC PC-9800-series
- EPSON PC-series
- AT-compatible

2.4. USB interface

TM printer is supporting USB interface. But, it supports only in the following environment:

- Operating system Windows98 English 2nd edition
- Computer AT compatible machine [The model which the USB port loads with]
- TM printer The USB interface support model

English edition : TM-U210A/U675/H5000II/H6000/T88II/U590/J8000

When using TM printer through USB interface, must install the USB port driver: TMUSB90.SYS.

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2.5. 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	JP	US (Euro support)
TM-U375	Journal	EPSON TM-U375 (Journal)	O	O (O)
	Slip	EPSON TM-U375 (Slip)	O	O (O)
	Validation	EPSON TM-U375 (Validation)	O	O (O)
TM-U675	Journal	EPSON TM-U675 No cut	O	O (O)
	Slip	EPSON TM-U675 (Slip)	O	O (O)
	Validation	EPSON TM-U675 (Validation)	O	O (O)
TM-U200B	Receipt	EPSON TM-U200B No cut	X	O (X)
		EPSON TM-U200B Partial cut	X	O (X)
TM-U210A	Receipt	EPSON TM-U210A No cut	O	O (O)
		EPSON TM-U210A Partial cut	O	O (O)
TM-U210AR	Receipt	EPSON TM-U210AR No cut	O	O (O)
		EPSON TM-U210AR Partial cut	O	O (O)
TM-U210B	Receipt	EPSON TM-U210B No cut	X	O (O)
		EPSON TM-U210B Partial cut	X	O (O)
TM-U210D	Receipt	EPSON TM-U210D	X	O (O)
TM-U300A	Receipt	EPSON TM-U300A No cut	O	O (O)
		EPSON TM-U300A Partial cut	O	O (O)
		EPSON TM-U300A Full cut	O	O (O)
TM-U300B	Receipt	EPSON TM-U300B No cut	O	O (O)
		EPSON TM-U300B Partial cut	O	O (O)
		EPSON TM-U300B Full cut	O	O (O)
TM-U300C	Receipt	EPSON TM-U300C (Receipt)	X	O (O)
	Validation	EPSON TM-U300C (Validation)	X	O (O)
TM-U300D	Receipt	EPSON TM-U300D (Receipt)	O	O (O)
	Validation	EPSON TM-U300D (Validation)	O	O (O)
TM-U325	Receipt	EPSON TM-U325D (Receipt)	X	O (O)
	Validation	EPSON TM-U325D (Validation)	X	O (O)
TM-U950	Receipt, Journal	EPSON TM-U950 No cut	O	O (O)
		EPSON TM-U950 Partial cut	O	O (O)
		EPSON TM-U950 Full cut	O	O (O)
	Slip	EPSON TM-U950 (Slip)	O	O (O)
TM-U925	Receipt	EPSON TM-U925 No cut	X	O (O)
		EPSON TM-U925 Partial cut	X	O (O)
		EPSON TM-U925 Full cut	X	O (O)
	Slip	EPSON TM-U925 (Slip)	X	O (O)

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Printer	Paper Type	Printer Driver	JP	US (Euro support)
TM-U230	Receipt	EPSON TM-U230 No cut	X	O (O)
		EPSON TM-U230 Partial cut	X	O (O)
TM-T88II	Receipt,	EPSON TM-T88II No cut	O	O (O)
		EPSON TM-T88II Partial cut	O	O (O)
TM-T88IIR	Receipt,	EPSON TM-T88IIR No cut	O	O (O)
		EPSON TM-T88IIR Partial cut	O	O (O)
TM-T285	Receipt, Journal	EPSON TM-T285 No cut	O	X
		EPSON TM-T285 Partial cut	O	X
		EPSON TM-T285 Full cut	O	X
TM-H5000II	Receipt	EPSON TM-H5000II No cut	O	O (O)
		EPSON TM-H5000II Partial cut	O	O (O)
	Slip	EPSON TM-H5000II(Slip)	O	O (O)
TM-H6000	Receipt	EPSON TM-H6000 No cut	O	O (O)
		EPSON TM-H6000 Partial cut	O	O (O)
	Slip	EPSON TM-H6000(Slip)	O	O (O)
	Endorse	EPSON TM-H6000(Endorse)	X	O (O)
TM-J8000	Receipt	EPSON TM-J8000 No cut	O	O (O)
		EPSON TM-J8000 Full cut	O	O (O)
	Slip	EPSON TM-J8000(Slip)	O	O (O)
TM-L60II	Receipt	EPSON TM-L60II(Receipt)	O	O (O)
	Label	EPSON TM-L60II(Single)	O	O (O)
		EPSON TM-L60II(Plural)	O	O (O)
TM-L60	Receipt	EPSON TM-L60(Receipt)	X	O (O)
	Label	EPSON TM-L60(Single)	X	O (O)
		EPSON TM-L60(Plural)	X	O (O)
TM-U590	Slip	EPSON TM-U590	O	O (O)
TM-U295	Slip	EPSON TM-U295	O	O (O)
DM-D10x,20x		EPSON DM-D 10X/20X	O	O (O)

[Note]

- The JP and US columns indicate whether the driver is available for Japanese and English operating systems, respectively. A "O" means that the driver is available; an "X" means that it is not available.
- 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.
- The TM-L60II/L60 label printer driver comes in two types, as follows.
 - EPSON TM-L60II (Single) Feeds each page to appropriate position for label removal.
(Press the FEED switch to proceed to printing of next label.)
 - EPSON TM-L60II (Plural) Prints all pages of data at once.
- Only the English edition of the Euro support model.

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3.Installing the Driver

3.1. Installing on Windows 95/98

- A. When you execute the Tdr160e.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:\Tmdrve\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 WindowsNT4.0

- A. When you execute the Tdr160e.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:\Tmdrve\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.

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

3.3. Installing on Windows2000

- A. When you execute the Tdr160e.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. [Add Printer Wizard] will be displayed.
 - E. Select [Local printer] and uncheck [Automatically detect and install my Plug and Play printer] box, and then click [Next>].
 - F. Select the port(s) that you want to use for the printer, and then click on Next.
 - G. Click the Have Disk button.
 - H. Type in the pathname which is specified at A. (Default: C:\Tmdrve\WIN2000). Then click on OK.
 - I. Select the printer driver you wish to install, and then click on the Next button.
 - J. Select whether or not to print a test page, and then click on Finish,
 - K. Click [Yes] on [Digital Signature Not Found] dialog box.
 - 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 correctly? (COM, LPT)
 - Particularly in the case of a serial connection, are the communications conditions set correctly?

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3.4. Print Processor

3.4.1. About print processor

When you use a counter function of DM-D10x,20x Customer Display or ControlA font of TM-U230 in WindowsNT4.0,Windows2000, you should install a print processor for DM-D or TM. You can not display a correct time on the DM-D and can not use a ControlA font without this print processor.

In the case of Windows95/98, print processor is installed automatically in the installation of DM-D10x,20x or TM-U230 driver.

3.4.2. Install print processor

When you execute the Dpp160e.exe file or Tpp160e.exe file, the print processor is installed. follow the Setup Wizard.

3.4.3. Set up print processor

When you use DM-D10x,20x 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 DMPROCES 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 DMPROCES 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 properties dialog box, and then click [OK].

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3.5. Installing the USB component

When using TM printer through USB interface, the following files must be installed.

- TM printer driver : TMxxx.DRV
- USB port monitor : TMUSBMON.DLL
- USB port driver : TMUSB90.SYS

3.5.1. USB port driver installation

Install USB port driver according to the following procedure.

- Confirm that USB interface board is connected to the TM printer.
- Confirm that Windows98 has started.
- Prepare TMUSB port driver [TMUSB90.SYS].
- Connect USB cable with the TM printer and the personal computer.
- Setup wizard is displayed on the screen. Follow the installation accordingly..

3.5.2. TM printer driver and USB port monitor installation

Use the setup disk of Windows98 edition of the TM printer driver.

Choose the setup INF file [ESCPOS.INF] which is in WIN98 folder.

Both TM printer driver and TMUSB port monitor can be installed at the same time.

But, it is supporting only USB support model.

- English edition support model : TM-U210A/U675/T88II/H5000II/H6000/U590/J8000

[Note]

- When the old version of the TMUSB PortMonitor is already installed in Windows98, the new version of TMUSB PortMonitor cannot be normally installed. In this case, delete all printer drivers in the printer window. Then, after rebooting Windows98, install the TM printer driver.

3.6. Printer Settings

This section is explained the way of following Printer Settings.

- Printing Resolution
- Paper Size
- Orientation
- Paper Source (Windows 95 and Windows98 only)
- Print Quality (TM-J8000 and 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 Preferences" dialog.

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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.

Three kinds of the xxx cpi font and the xxx cpi Ext and the xxx cpi Euro. font are prepared for by English edition Driver..

The character code of 128 bytes of 80H - FFH varies in the difference in these printer fonts. A xxx cpi font supports an ANSI character code. And, a xxx cpi Ext. font supports IBM expansion character code. And, a xxx cpi Euro font supports an Euro symbol correspondence ANSI character code.

The TM-J8000 printer is supporting 10cpi[OCR] font. The character which can be printed by this printer font is only "SP + - 0123456789<>".

Printer Models	Printer Fonts	Sizes	JP	US
Japanese and English drivers	16cpi	9, 18	OK	OK
	-TM-U300A/B/D	13.3cpi	9, 18	OK
	-TM-U375	8cpi	9, 18	OK
	-TM-U210A/AR	6.7cpi	9, 18	OK
		16cpi[Ext.]	9, 18	NO
English drivers only	13.3cpi[Ext.]	9, 18	NO	OK
	-TM-U200B/D	8cpi[Ext.]	9, 18	NO
	-TM-U210B/D	6.7cpi[Ext.]	9, 18	NO
	-TM-U300C	16cpi[Euro]	9, 18	NO
	-TM-U325	13.3cpi[Euro]	9, 18	NO
	-TM-U120	8cpi[Euro]	9, 18	NO
		6.7cpi[Euro]	9, 18	NO
		Mintyo 8.9cpi	8, 16	OK
		Mintyo 4.7cpi	8, 16	OK

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Printer Models	Printer Fonts	Sizes	JP	US
Japanese and English drivers - TM-U300A/B - TM-U210A/AR English drivers only - TM-U210B/D - TM-U300C - TM-U230	16cpi[RED]	9, 18	OK	OK
	13.3cpi[RED]	9, 18	OK	OK
	8cpi[RED]	9, 18	OK	OK
	6.7cpi[RED]	9, 18	OK	OK
	16cpi[RED Ext.]	9, 18	NO	OK
	13.3cpi[RED Ext.]	9, 18	NO	OK
	8cpi[RED Ext.]	9, 18	NO	OK
	6.7cpi[RED Ext.]	9, 18	NO	OK
	16cpi[RED Euro]	9, 18	NO	OK
	13.3cpi[RED Euro]	9, 18	NO	OK
	8cpi[RED Euro]	9, 18	NO	OK
	6.7cpi[RED Euro]	9, 18	NO	OK
	Mintyo 8.9cpi[RED]	8, 16	OK	NO
	Mintyo 4.7cpi[RED]	8, 16	OK	NO
Japanese and English drivers -TM-U950 -TM-U590 -TM-H5000II(Slip) English drivers only -TM-U925	16.7cpi	9, 18	OK	OK
	12.5cpi	9, 18	OK	OK
	8.3cpi	9, 18	OK	OK
	6.25cpi	9, 18	OK	OK
	16.7cpi[Ext.]	9, 18	NO	OK
	12.5cpi[Ext.]	9, 18	NO	OK
	8.3cpi[Ext.]	9, 18	NO	OK
	6.25cpi[Ext.]	9, 18	NO	OK
	16.7cpi[Euro]	9, 18	NO	OK
	12.5cpi[Euro]	9, 18	NO	OK
	8.3cpi[Euro]	9, 18	NO	OK
	6.25cpi[Euro]	9, 18	NO	OK
	Mintyo 8.3cpi	8, 16	OK	NO
	Mintyo 4.2cpi	8, 16	OK	NO

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Printer Models	Printer Fonts	Sizes	JP	US
Japanese drivers only -TM-T285	20cpi	9.5,19	OK	NO
	15cpi	9.5,19	OK	NO
	10cpi	9.5,19	OK	NO
	7.5cpi	9.5,19	OK	NO
	Mintyo 7.5cpi	9.5,19	OK	NO
	Mintyo 3.8cpi	9.5,19	OK	NO
Japanese and English drivers -TM-T88II -TM-T88IIR -TM-H5000II(Receipt)	20cpi	6.5,13.5	OK	OK
	15cpi	9.5,19	OK	OK
	10cpi	6.5,13.5	OK	OK
	7.5cpi	9.5,19	OK	OK
	20cpi[Ext.]	6.5,13.5	NO	OK
	15cpi[Ext.]	9.5,19	NO	OK
	10cpi[Ext.]	6.5,13.5	NO	OK
	7.5cpi[Ext.]	9.5,19	NO	OK
	20cpi[Euro]	6.5,13.5	NO	OK
	15cpi[Euro]	9.5,19	NO	OK
	10cpi[Euro]	6.5,13.5	NO	OK
	7.5cpi[Euro]	9.5,19	NO	OK
	Mintyo7.5cpi	9.5,19	OK	NO
	Mintyo3.8cpi	9.5,19	OK	NO
Japanese and English drivers - TM-J8000	20cpi	7,14.5	OK	OK
	16cpi	9.5,19	OK	OK
	10cpi	7,14.5	OK	OK
	8cpi	9.5,19	OK	OK
	10cpi[OCR]	9.5	OK	OK
	20cpi[Ext.]	7,14.5	NO	OK
	16cpi[Ext.]	9.5,19	NO	OK
	10cpi[Ext.]	7,14.5	NO	OK
	8cpi[Ext.]	9.5,19	NO	OK
	20cpi[Euro]	7,14.5	NO	OK
	16cpi[Euro]	9.5,19	NO	OK
	10cpi[Euro]	7,14.5	NO	OK
	8cpi[Euro]	9.5,19	NO	OK

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Printer Models	Printer Fonts	Sizes	JP	US
Japanese and English drivers -TM-L60II	20cpi	9.5,19	OK	OK
	15cpi	9.5,19	OK	OK
	10cpi	9.5,19	OK	OK
	7.5cpi	9.5,19	OK	OK
	20cpi[Ext.]	9.5,19	NO	OK
	15cpi[Ext.]	9.5,19	NO	OK
	10cpi[Ext.]	9.5,19	NO	OK
	7.5cpi[Ext.]	9.5,19	NO	OK
	20cpi[Euro]	9.5,19	NO	OK
	15cpi[Euro]	9.5,19	NO	OK
	10cpi[Euro]	9.5,19	NO	OK
	7.5cpi[Euro]	9.5,19	NO	OK
English drivers only -TM-L60	20cpi	6.5,13.5	NO	OK
	15cpi	9.5,19	NO	OK
	10cpi	6.5,13.5	NO	OK
	7.5cpi	9.5,19	NO	OK
	20cpi[Ext.]	6.5,13.5	NO	OK
	15cpi[Ext.]	9.5,19	NO	OK
	10cpi[Ext.]	6.5,13.5	NO	OK
	7.5cpi[Ext.]	9.5,19	NO	OK

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Printer Models	Printer Fonts	Sizes	JP	US
Japanese and English drivers -TM-U295	16cpi	8.5,17	OK	OK
	13.3cpi	8.5,17	OK	OK
	8cpi	8.5,17	OK	OK
	6.7cpi	8.5,17	OK	OK
	16cpi[Ext.]	8.5,17	NO	OK
	13.3cpi[Ext.]	8.5,17	NO	OK
	8cpi[Ext.]	8.5,17	NO	OK
	6.7cpi[Ext.]	8.5,17	NO	OK
	16cpi[Euro]	8.5,17	NO	OK
	13.3cpi[Euro]	8.5,17	NO	OK
	8cpi[Euro]	8.5,17	NO	OK
	6.7cpi[Euro]	8.5,17	NO	OK
English drivers only -TM-H6000(Receipt)	20cpi	6.5,13.5	NO	OK
	15cpi	9.5,19	NO	OK
	10cpi	6.5,13.5	NO	OK
	7.5cpi	9.5,19	NO	OK
	20cpi[Ext.]	6.5,13.5	NO	OK
	15cpi[Ext.]	9.5,19	NO	OK
	10cpi[Ext.]	6.5,13.5	NO	OK
	7.5cpi[Ext.]	9.5,19	NO	OK
English drivers only -TM-U675 -TM-H6000(Slip)	17.8cpi	8,16	NO	OK
	13.3cpi	8,16	NO	OK
	8.9cpi	8,16	NO	OK
	6.7cpi	8,16	NO	OK
	17.8cpi[Ext.]	8,16	NO	OK
	13.3cpi[Ext.]	8,16	NO	OK
	8.9cpi[Ext.]	8,16	NO	OK
	6.7cpi[Ext.]	8,16	NO	OK
English drivers only -TM-H6000(Endorse)	13.3cpi	7	NO	OK
	13.3cpi[Ext.]	7	NO	OK

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Printer Models	Printer Fonts	Sizes	JP	US
Japanese drivers only -TM-H6000(Receipt)	FontA	9.5	OK	NO
	FontA DH	19	OK	NO
	FontA DW	9.5	OK	NO
	FontA DHDW	19	OK	NO
	FontB	6.5	OK	NO
	FontB DH	13.5	OK	NO
	FontB DW	6.5	OK	NO
	FontB DHDW	13.5	OK	NO
	Mintyo Normal	9.5	OK	NO
	Mintyo DH	19	OK	NO
	Mintyo DW	9.5	OK	NO
	Mintyo DHDW	19	OK	NO
Japanese drivers only -TM-U675	FontA	9	OK	NO
	FontA DH	18	OK	NO
	FontA DW	9	OK	NO
	FontA DHDW	18	OK	NO
	FontB	9	OK	NO
	FontB DH	18	OK	NO
	FontB DW	9	OK	NO
	FontB DHDW	18	OK	NO
	Mintyo Normal	8	OK	NO
	Mintyo DH	16	OK	NO
	Mintyo DW	8	OK	NO
	Mintyo DHDW	16	OK	NO
Japanese and English drivers -DM-D10x,20x	DM-D 1st Line	7	NO	OK
	DM-D 2nd Line	7	NO	OK

[Note]

- The JP and US columns above indicate whether the font is available on JP and US drivers, respectively. A "OK" means that the font is available; an "NO" means that it is not available.
- Although the TM-L60II / J8000 driver is provided in both JP and US types, note that neither type supports the Myocho font.
- The "[RED]" indication means that the font prints in red ink.
- Fonts used with US drivers are either "non-extended" and "extended." (Extended fonts are marked by the "Ext." suffix in the table above.) If you are using an extended font, character codes 80H and above will print extended characters. If you are using a non-extended font, these codes are assigned to special printer functions (as described

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below), so that the corresponding extended characters cannot be printed.

- The Euro font does support printing of TM PrinterDriver English edition. But, in the TM printer driver of TM-U200B/L60, it isn't supporting Euro Font.
- For Printer Model: TM-U675/H6000, both xxxcpi printer font and xxxcpi[Ext.] printer font of these printer model use CP1252 of MS-Windows code page. When using prntr font of these models, take note to the following point.
- TM Printer Driver for these models don't include xxxcpi[Euro] font. You can print Euro symbol using xxxcpi or xxxcpi[Ext.] fonts.
- xxxcpi font doesn't include special function. You must use control printer font when using supecial function.
- 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.
- For printer TM-J8000, using font 10cpi[OCR] only "SP+,-0123456789<>".

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4.2. Bar-Code Printing

The following printers support bar-code printing.

TM-T285, TM-T88II, TM-T88IIR, TM-L6011, TM-L60, TM-H5000II, TM-J8000, TM-H6000, TM-U675

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.

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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 non-extended printer fonts (all fonts other than those marked by "Ext." in the printer font table in Section 4.1 above). But, The TM-U675/H6000 printer doesn't support.

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) without paper feeding.	-
F	Cut receipt (full cut).	9DH
P	Cut receipt (partial cut).	9EH

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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. The journal/receipt selection functions, for example, are available only on printer types TM-U950 and TM-T285.

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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)

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"ControlA" font is provided as an inherent special function for the TM-U230. By using with a command defined file (TmCtrlA.ini), you can designate a desired command string as the "ControlA" font arbitrary character (a character code with a range between 20 to 7F). Details on how to use this are as follows:

1. ControlA command defined files:

[File Name] TmCtrlA.ini

[Installation destination] The printer processor folder for each OS:

95/98. . . The OS System folder

NT/2K. . . The OS System32\Spool\Prtproc\W32x86 folder

2. Description method:

1) Write descriptions similar to normal INI file format.

[Section Name]

Key_1=Data_1

Key_2=Data_2

Key_3=Data_3

.

.

.

2) Specify the printer name as the section name.

Eg. [TM-U230]

3) Specify each key in a hexadecimal character code corresponding to ControlA font.

Eg. When "A" is specified for ControlA font, write the key as 41=.

* The range that can be specified for each key is 20 to 7F.

4) Specify each data as a hexadecimal command corresponding to the character code specified in ControlA font.

Eg. When you want to send the initialization command (ESC @), write the data as 1B40.

5) Sample description of an INI file:

[TM-U230]

40=1B40

41=1B313131

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4.4. Resolutions

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

Printer	Resolutions
TM-U200B, TM-U210A, TM-U210AR, TM-U210B, TM-U210D, TM-U300A, TM-U300B, TM-U300C, TM-U300D, TM-U325, TM-U375	80× 72 160× 72(*) 160× 144
TM-H6000(Slip), TM-U675, TM-U230	80× 72 160× 72(*)
TM-H6000(Endorse)	127× 72(*)
TM-U590, TM-U950, TM-U925, TM-H5000II(Slip)	75× 72 150× 72(*) 150× 144
TM-T285, TM-L60II, TM-L60	90× 60 180× 60 90× 180 180× 180(*)
TM-T88II, TM-T88IIR, TM-H5000II(Receipt) TM-H6000(Receipt)	90× 90 180× 90 90× 180 180× 180(*)
TM-J8000	180× 180 360× 360(*)
TM-U295	80× 60 160× 60(*)

[NOTE]

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

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4.5. Paper Sizes

4.5.1. Rolled Paper (Receipt/Journal Paper)

The paper sizes supported by each printer are as follows.

Printer	Paper Size (W × L)
TM-L60II TM-L60	A4 length (60 x 297 mm) B5 length (60 x 257 mm) 6-inch page (2.36 x 6 in.) Letter length (2.36 x 11 in.) Executive length (2.36 x 10.5 in.) Receipt length (60 x 3276 mm) (*) User-defined (60x152.4 to 60x3276 mm) (**)
TM-U950, TM-U925	A4 length (70 x 297 mm) B5 length (70 x 257 mm) 6-inch page (2.75 x 6 in.) Letter length (2.75 x 11 in.) Executive length (2.75 x 10.5 in.) Receipt length (70 x 3276 mm) (*) User-defined (70x152.4 to 70x3276 mm) (**)
TM-U200B, TM-U210A/AR, TM-U210B/D, TM-U300A/B/C/D, TM-U325, TM-U375 TM-U230	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-J8000	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 2311.8 mm) (*) User-defined (76x152.4 to 76x2311.8 mm) (**)
TM-T88II, TM-T88IIR, TM-T285, 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) (**)

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Printer	Paper Size (W × L)
TM-H6000	A4 length 80 × 297 mm B5 length 80 × 297 mm 6 in Page 3.14 × 6 in Executive length 3.14 × 10.5 in Letter length 3.14 × 11 in A4 length 58 × 297 mm B5 length 58 × 297 mm 6 in Page 2.28 × 6 in Executive length 2.28 × 10.5 in Letter length 2.28 × 11 in Receipt length 80 × 3276mm(*) Receipt length 58 × 3276mm(*) User-defined(58 × 152.4 to 80 × 3276 mm) (**)
TM-U675	A4 length 82.5 × 297 mm B5 length 82.5 × 297 mm 6 in Page 3.24 × 6 in Executive length 3.24 × 10.5 in Letter length 3.24 × 11 in A4 length 76 × 297 mm B5 length 76 × 297 mm 6 in Page 2.99 × 6 in Executive length 2.99 × 10.5 in Letter length 2.99 × 11 in Receipt length 82.5 × 3276mm(*) Receipt length 76 × 3276mm(*) User-defined(76 × 152.4 to 82.5 × 3276 mm) (**)

WindowsNT4.0,Windows2000 support (*)

Windows95,WINDOWS98 support (**)

[Note]

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

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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-L60II/L60	14.8	3.0	2.7	0.0	0.1	54.3
TM-U950/U925	38.5	6.1	2.2	0.0	0.2	67.7
TM-U950	-	6.1	2.2	0.0	0.2	67.7
TM-U200B	27.0	5.5	6.4	0.0	0.2	64.1
TM-U210A/U210AR	27.0	5.5	6.4	0.0	0.2	64.1
TM-U210B/U210D	27.0	5.5	6.4	0.0	0.2	64.1
TM-U230	27.0	5.5	6.4	0.0	0.2	64.1
TM-U325	30.3	5.5	6.4	0.0	0.2	64.1
TM-U300A/U300B/U300C/ U300D	36.0	6.4	5.5	0.0	0.2	64.1
TM-U375	33.0	8.1	3.8	0.0	0.2	64.1
TM-J8000	76.9	5.3	5.5	0.0	0.2	65.2
TM-T88/T88IIR	26.0	3.8	4.0	0.0	0.0	72.2
TM-T285	44.0	4.0	3.8	0.0	0.0	72.2
TM-H5000II/H6000	29.0	3.8	4.0	0.0	0.0	72.2
TM-U675	35.5	5.1	6.1	0.0	0.2	71.4

[Note]

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

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4.5.2. Slip Paper

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

Printer	Paper Size (W × L)
TM-U295	B5 (182 x 257 mm) Statement (5.5 x 8.5 in.) User-defined (80x69 to 182x257 mm) (*)
TM-U375	B5 (182 x 257 mm) Statement (5.5 x 8.5 in.) User-defined (80x160 to 182x257 mm) (*)
TM-U675, TM-H6000	A4 (210 x 297 mm) A5 (148 x 210 mm) A6 (105 x 148 mm) B5 (182 x 257 mm) Executive (7.25 x 10.5 in.) User-defined (90x150 to 148x297 mm) (*)
TM-U590, TM-U925, TM-U950, 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) (*)
TM-J8000	A4 (210 x 297 mm) A6 (105 x 148 mm) B5 (182 x 257 mm) Letter (8.5 x 11 in.) Executive (7 1/4 x 10 1/2 in.) Statement (5 1/2 x 8 1/2 in.) Personal Check (160 x 70 mm) Business Check (210 x 90 mm) User-defined (70x201.9 to 296.9x215.9 mm) (*)

Windows95, WINDOWS98 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-U295	B5	0.0	115.6	26.2	32.2	65.8
	Statement	0.0	73.2	26.2	32.2	65.8
TM-U375	B5	0.0	118.5	0.0	0.2	64.1
	Statement	0.0	76.2	0.0	0.0	64.1
TM-U675/H6000	A4	0.0	124.1	4.9	18.7	85.8
	A5	0.0	62.2	4.9	18.6	85.8
	A6	0.0	19.2	4.9	18.6	85.8
	B5	0.0	96.1	4.9	18.6	85.8
	Executive	0.0	98.2	4.9	18.6	85.8
TM-U950/U925	A4	0.0	74.5	7.8	18.7	135.6
	B5	0.0	46.5	7.8	18.7	135.6
	Executive	0.0	48.7	7.8	18.7	135.6
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

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Printer	Paper	Margins				Print Area
		Left (mm)	Right (mm)	Top (mm)	Bottom (mm)	Width (mm)
TM-J8000	A4	0.0	0.1	9.0	17.0	201.8
	A6	0.0	3.4	9.0	13.0	101.6
	B5	0.0	3.3	9.0	14.0	178.7
	Letter	10.6	3.5	9.0	18.0	201.8
	Executive	0.0	3.4	9.0	14.0	193.45
	Statement	0.0	3.4	9.0	17.5	136.3
	Personal Check	0.0	3.4	9.0	16.0	156.6
	Business Check	4.8	3.4	9.0	18.0	201.8

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4.5.3. Validation Paper

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

Printer	Paper Size (W × L)
TM-U300C TM-U300D	A4 (210 x 297 mm) B5 (182 x 257 mm) Statement (5.5 x 8.5 in.) Executive (7.25 x 10.5 in.) User-defined (135x70 to 210x297 mm) (*)
TM-U325	Envelope C6 (114 x 162 mm) Envelope B6 (176 x 125 mm) 6-3/4-in. Envelope (3-5/8 x 6-1/2 in.) User-defined (135x70 to 210x297 mm) (*)
TM-U375	B5 (182 x 257 mm) Statement (5.5 x 8.5 in.) User-defined (135x70 to 182x257 mm) (*)
TM-U675	A5 (148 x 210 mm) User-defined (90x150 to 148x210 mm) (*)

Windows95, WINDOWS98 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-U300C/U300D	A4	0.0	146.5	0.0	292.0	64.1
	B5	0.0	118.5	0.0	252.0	64.1
	Statement	0.0	76.2	0.0	210.9	64.1
	Executive	0.0	120.6	0.0	261.7	64.1
TM-U325	Envelope C6	0.0	50.5	0.0	0.1	64.1
	Envelope B6	0.0	112.5	0.0	0.1	64.1
	6 3/4 Envelope	0.0	28.6	0.0	0.0	64.1
TM-U375	B5	0.0	118.5	0.0	0.2	64.1
	Statement	0.0	76.2	0.0	0.0	64.1
TM-U675	A5	0.0	62.2	0.0	177.8	85.8

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4.5.4. Endorse Paper

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

Printer	Paper Size (W × L)
TM-U675	A4 (210 x 297 mm) A5 (148 x 210 mm) A6 (105 x 148 mm) B5 (182 x 257 mm) Executive (7.25 x 10.5 in.) User-defined (90x150 to 148x297 mm) (*)

Windows95, WINDOWS98 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-H6000	A4	0.0	162.0	6.7	6.7	48.0
	A5	0.0	100.0	6.7	6.6	48.0
	A6	0.0	57.0	6.7	6.6	48.0
	B5	0.0	134.0	6.7	6.6	48.0
	Executive	0.0	136.1	6.7	6.4	48.0

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4.5.5. Label Paper

Supported label paper sizes are as follows.

Printer	Paper Size (W × L)
TM-L60II/L60	1-in. labels (60 x 25.4 mm) 2-in. labels (60 x 50.8 mm) 3-in. labels (60 x 76.2 mm) 4-in labels. (60 x 101.6 mm) User-defined (60x25.4 to 60x101.6 mm) (*)

Windows95, WINDOWS98 support(*)

[Note]

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

The following table shows the recommended margins. 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-L60II/L60	1.5	4.1	4.0	0.0	3.0	51.9

[Note]

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

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4.6. Paper Source

Paper-source selection is available only with the TM-U950, TM-T285 and TM-J8000 printer drivers. When working with other printers that support multiple sources, a different driver is provided for each source.

Printer	Paper Source
TM-U950	Receipt/Journal Receipt Journal
TM-T285	Receipt/Journal Receipt Journal
TM-J8000	Slip Slip(BOF)

4.7. 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

4.8. Print Quality

Print Quality selection is available only with the TM-J8000 and DM-D10x,20x printer drivers.

Printer	Print Quality
TM-J8000	Economy + Bidirectional Economy + Unidirectional Fine + Bidirectional Fine + Unidirectional
DM-D10x,20x	Brightness 20% Brightness 40% Brightness 60% Brightness 100%

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5. USB Interface

Setting the following item is explained.

- printing to port
- adding of port
- deleting of port
- setting of port

Click once on the TM printer-driver icon within the Printers window, and then open the window's File menu and click on Properties. This will open a printer property window. Click on the Details tab and then set the printer port as follows.

5.1. Print to the following port

Click the appropriate printer port in the "USB Port"

When choosing TMUSBxxx, the print in the USB port becomes possible.

The display form in this place is as follows.

TMUSBxxx (Character)

xxx is the 3 digit identify which distinguishes a port.

() is the character string is as follows with the condition.

Condition				Character
Connect	Power	User identify character	Printer Condition	
Connected	Power ON	defined	X	User definition character
		Not defined	ONLINE	Printer Name
			OFFLINE	Offline Status
	ERROR	Unknown Printer		
	Power OFF	X	X	Not Connected
Not Connected	X	X	X	Not Connected

5.2. Add Port

When clicking [Add Port] button, [Add Port] dialog is displayed. It is displayed with "EPSON TM USB Port Monitor" in the type of port to add. However, it does not add even if it pushes "OK" button.

A new port is automatically added by the Plug&Play function of USB.

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5.3. Delete Port

When clicking [Delete Port] button, [Delete Port] dialog is displayed.

The port is deleted when choosing TMUSBxxx and pushing "OK" button.

But, in case of the following condition, the port cannot be deleted.

- When a printer is connected with the port
- When choosing at [Print to the following port]
- When choosing a system port

5.4. Port Setting

When clicking a [Port Setting] button, an error message [There is nothing to configure for this port.] is displayed, because there is no item to set with the USB port monitor.

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6. Using the TM Printer from an Application

6.1. 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.

6.1.1. WordPad Environment

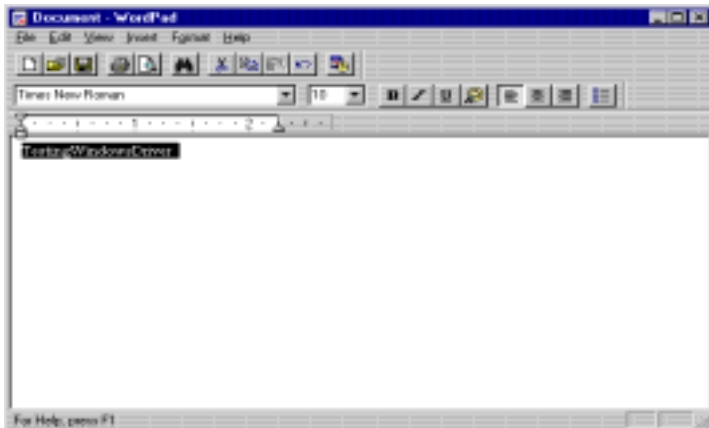
Begin by setting your default printer and the WordPad environment as follows.

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

- Size
- Resolution
- Orientation
- Source
- Margins

6.1.2. Printing Text

Use the following procedure to generate a printout from WordPad.

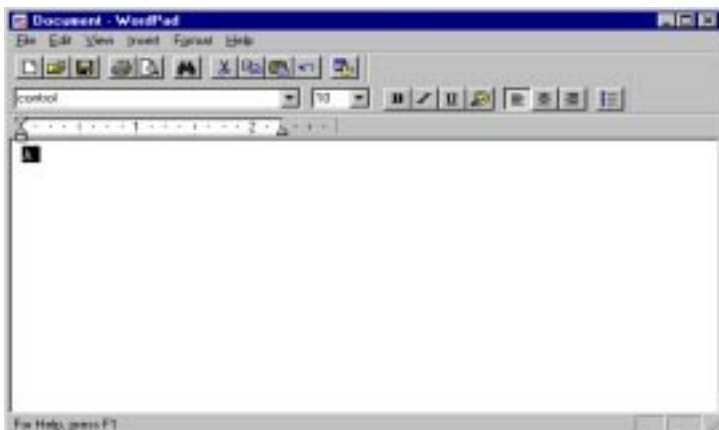


1. Select the font you wish to use from the font list.
2. Select the font size you wish use from the font-size list.
3. Type in some text into the WordPad text-input area.
4. Open the File menu, and click on Print. The TM printer will print out the text you entered at Step 3.

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

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6.1.3. Opening the Cash Drawer

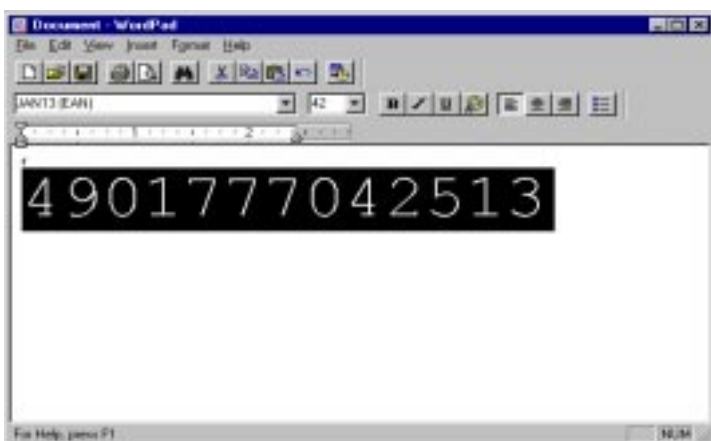


1. Select the "control" font from the font list.
2. Set the font size to 10.
3. Type an "A" into the WordPad text-input area.
4. Open the File menu, and click on Print .

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.

6.1.4. Print Bar code

Use the following procedure to print a bar code.



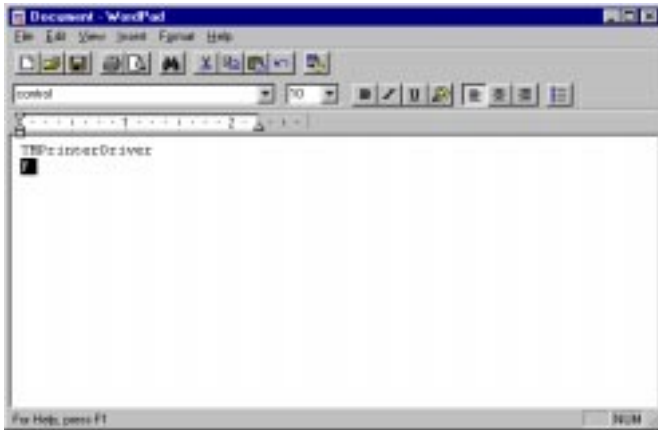
1. Select the "control" font from the font list.
2. Set the font size to 10.
3. Type an "r" into the WordPad text-input area.
4. Hit the Enter key.
5. Select JAN13(EAN) from the font list.
6. Set the font size to 42.
7. Enter the code you wish to generate.
8. Open the File menu, and click on Print .

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. ")

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6.1.5. 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.)

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6.2. 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.

6.2.1. 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
```

6.2.2. 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.
```

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6.2.3. 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
```

6.2.4. 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
```

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6.2.5. 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	

6.2.6. 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	

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6.2.7. 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)
```

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6.2.8. 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
```

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7.Attention in use.

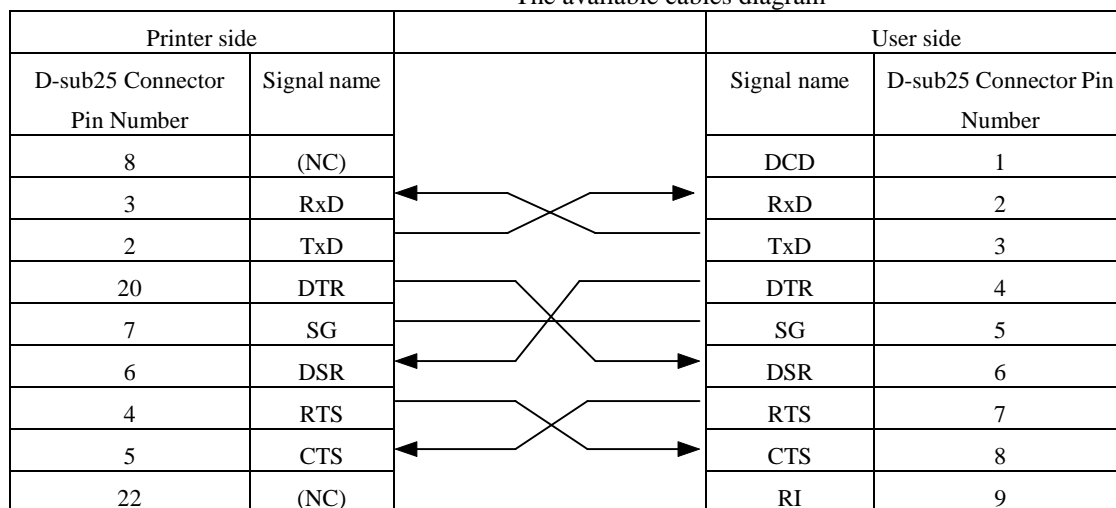
- When you connect the printer over the serial (COM) port, be sure to set the flow control to Xon/Xoff. In the cases below, however, please set the hardware control on OS side and set TM printer to DTR/DSR.

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

- TM Printer Driver's settings when connecting TM printer via DM-D customer display.

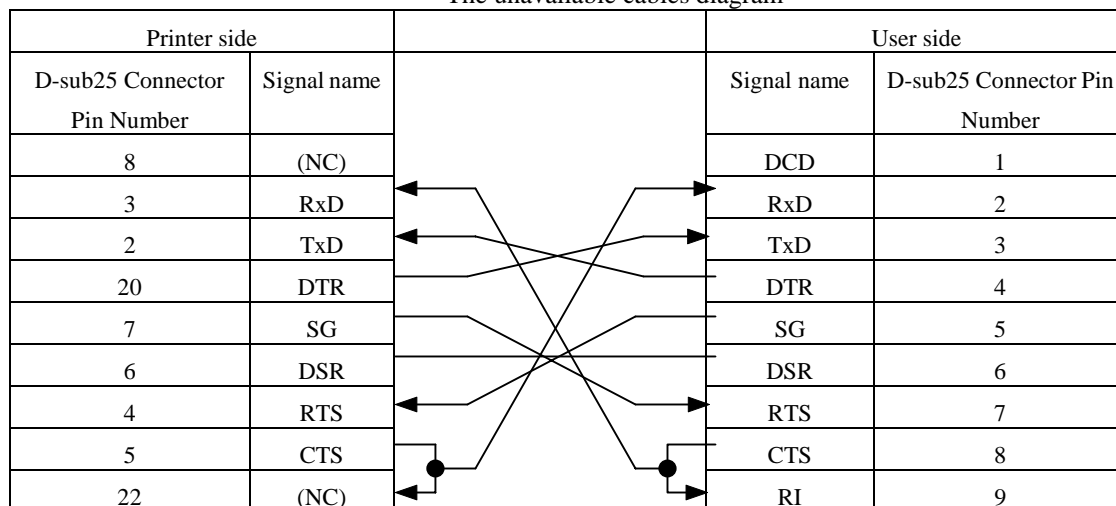
Also, please use the following cables to connect between PC and DM-D customer display(DM-D101/DM-D105/DM-D205).

"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 the old version of the TMUSB Port Monitor is already installed in Windows98, the new version of TMUSB Port Monitor cannot be normally installed. In this case, delete all printer drivers in the printer window. Then, after rebooting Windows98, install the TM printer driver.
- 18) When using WindowsNT4.0, Windows2000 English 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.
- 19) If either TM-U300/A/B/C/D or TM-U210A/AR/B/D is used on WindowsNT4.0, Windows2000, 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.
- 20) Driver EPSON DM-D10X/20X doesn't support DM-D202. Also, If TM printer doesn't work if it is connected with

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DM-D202.

- 21) 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 connector which is shorted between TxD-RxD and DTR-DSR and RTS-CTS.
- 22) If you connect TM-U300A/B/C/D and TM-U200B and TM-U210A/AR/B/D and TM-U295 and TM-L60 and TM-L60II 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.
- 23) Custmer display isn't supported in USB connection.
- 24) For printer TM-J8000, using font 10cpi[OCR] only "SP+,-0123456789<>"
- 25) Unable to print correctly with the paper sizes: Reserved48/Reserved49. Select the other available paper sizes.

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