

EPSON OPOS ADK MANUAL

APPLICATION DEVELOPMENT GUIDE

POSPrinter (TM-T81M/TM-T81IIM/TM-T81IIM-42C)

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Contents

| | |
|---|-----------|
| SECTION 1. INTRODUCTION | 1 |
| SECTION 2. DETAILS ON SETTINGS | 2 |
| 2.1 References of Firmware Versions | 2 |
| 2.2 Settings of DIP Switches | 2 |
| 2.2.1 <i>TM-T81M</i> | 2 |
| 2.2.2 <i>TM-T81IIM</i> | 4 |
| 2.3 Port Information..... | 5 |
| 2.4 Device Settings | 6 |
| 2.4.1 <i>Usable Device Specific Settings</i> | 6 |
| 2.4.2 <i>Multilingual font Setting</i> | 7 |
| SECTION 3. FUNCTION DETAILS..... | 8 |
| 3.1 Property Set Values and Default Values..... | 8 |
| 3.1.1 <i>Capability Set Values</i> | 8 |
| 3.1.2 <i>List Properties</i> | 10 |
| 3.1.3 <i>Width and Height Properties</i> | 11 |
| 3.1.4 <i>Common Property Strings</i> | 12 |
| 3.1.5 <i>PageMode Print Properties</i> | 12 |
| 3.2 Methods..... | 13 |
| 3.3 Escape Sequences..... | 14 |
| 3.4 Printable Barcode Type | 15 |
| 3.5 QR CODE Printing..... | 16 |
| 3.5.1 <i>QR CODE Printing</i> | 16 |
| 3.5.2 <i>Printing Size</i> | 16 |
| 3.5.3 <i>Error Correction Level</i> | 16 |
| 3.5.4 <i>Printing Position</i> | 16 |
| 3.6 Power Condition Reports | 17 |
| 3.7 Synchronous Processing | 17 |
| 3.8 Printing Positions..... | 17 |
| 3.9 Electronic Logo Function (NVRAM) | 17 |
| 3.10 Printable bitmap types and sizes | 18 |
| 3.11 Maintenance Counter | 19 |
| 3.12 Automatic Recovery Function | 19 |
| 3.13 Output without Flow Control on the USB Interface | 19 |
| SECTION 4. WARNINGS | 20 |

Section 1. Introduction

This manual describes the method of use and related items, as well as machine-specific precautions, when the EPSON TM-T81M/TM-T81IIM/TM-T81IIM-42C Series POS Printers are used with the EPSON OPOS ADK program.

This manual applies to the following devices.

Device List

| Serial | Parallel | USB | Ethernet |
|---------------|----------|----------------|----------------|
| TM-T81M | TM-T81PM | TM-T81MU | TM-T81ME |
| TM-T81IIM | - | TM-T81IIMU | TM-T81IIME |
| TM-T81IIM-42C | | TM-T81IIM-42CU | TM-T81IIM-42CE |

Before reading the manual, see the following explanation about the characteristic of the TM-T81M/TM-T81IIM/TM-T81IIM-42C.

Station: Receipt (Line Thermal 203 dpi X 203 dpi)

Throughout the manual, the various model names will be referred to as TM-T81M/TM-T81IIM/TM-T81IIM-42C.

Compatibility mode

The compatibility mode for upward compatibility was added in OPOS Ver2.60.

For the details of the compatibility mode, please refer to “EPSON OPOS ADK MANUAL APPLICATION DEVELOPMENT GUIDE Compatibility Mode”.

Section 2. Details on Settings

This section describes connection configurations and how to make the settings for the TM-T81M/TM-T81IIM/TM-T81IIM-42C Series printers.

2.1 References of Firmware Versions

Refer to the release notes (Relnote.txt/SupportedDevicesList.txt).

2.2 Settings of DIP Switches

2.2.1 TM-T81M

Confirm that the following settings have been made correctly.

1) Serial port

DIP-SW1

| No. | Setting | |
|-----|---------|--------------|
| 1 | OFF | Recommended |
| 2 | OFF | Recommended |
| 3 | OFF | Fixed at OFF |
| 4 | OFF | Fixed at OFF |
| 5 | OFF | Settable |
| 6 | OFF | Settable |
| 7 | ON | Settable |
| 8 | OFF | Settable |

DIP-SW2

| No. | Setting | |
|-----|---------|--------------|
| 1 | OFF | Settable |
| 2 | OFF | Settable |
| 3 | OFF | Settable |
| 4 | OFF | Settable |
| 5 | OFF | Fixed at OFF |
| 6 | OFF | Fixed at OFF |
| 7 | OFF | Fixed at OFF |
| 8 | OFF | Fixed at OFF |

- It is possible to change the settings of DIP-SW1-1 (Processing of the data input error) and DIP-SW1-2 (Specification of the received buffer capacity), but it is recommended to leave them OFF.
- Set DIP-SW1-3 (Handshake) to DTR/DSR.
- Set DIP-SW1-4 (Bit length) to 8 bits.
- Set DIP-SW1-5 to DIP-SW1-8 in accordance with the port information.
- The described set values are the default values. For the details, refer to the product manual of the POSPrinter. Also, if these settings are changed, make sure to change the port information using the SetupPOS utility.
- Set DIP-SW2-2 in accordance with whether or not a customer display is connected. If connected, set ON. If not, set OFF.
- Set DIP-SW2-3 and DIP-SW2-4 (Specification of the print density) to match the environment of use.
- Make other settings in accordance with the settings described above.
- When using with the power saving mode, set DIP-SW2-3 and DIP-SW2-4 to ON.

2) Parallel Port

DIP-SW 1

| No. | Setting | |
|-----|---------|--------------|
| 1 | OFF | Recommended |
| 2 | OFF | Recommended |
| 3 | OFF | Fixed at OFF |
| 4 | OFF | Fixed at OFF |
| 5 | OFF | Fixed at OFF |
| 6 | OFF | Fixed at OFF |
| 7 | OFF | Fixed at OFF |
| 8 | OFF | Fixed at OFF |

DIP-SW 2

| No. | Setting | |
|-----|---------|--------------|
| 1 | ON | Recommended |
| 2 | OFF | Fixed at OFF |
| 3 | OFF | Settable |
| 4 | OFF | Settable |
| 5 | OFF | Fixed at OFF |
| 6 | OFF | Fixed at OFF |
| 7 | OFF | Fixed at OFF |
| 8 | ON | Fixed at ON |

- It is possible to change the settings of DIP-SW1-1 (Auto line feed) and DIP-SW1-2 (Specification of the received buffer capacity), but it is recommended to leave them OFF.
- Set DIP-SW2-3 and DIP-SW2-4 (Specification of the print density) to match the environment of use.
- Make other settings in accordance with the settings described above.
- When using with the power saving mode, set DIP-SW2-3 and DIP-SW2-4 to ON.

3) USB Port

DIP-SW1

| No. | Setting | |
|-----|---------|--------------|
| 1 | OFF | Recommended |
| 2 | OFF | Recommended |
| 3 | OFF | Fixed at OFF |
| 4 | OFF | Fixed at OFF |
| 5 | OFF | Fixed at OFF |
| 6 | OFF | Fixed at OFF |
| 7 | OFF | Fixed at OFF |
| 8 | OFF | Fixed at OFF |

DIP-SW2

| No. | Setting | |
|-----|---------|--------------|
| 1 | OFF | Recommended |
| 2 | OFF | Fixed at OFF |
| 3 | OFF | Settable |
| 4 | OFF | Settable |
| 5 | OFF | Fixed at OFF |
| 6 | OFF | Fixed at OFF |
| 7 | OFF | Fixed at OFF |
| 8 | ON | Fixed at ON |

- It is possible to change the settings of DIP-SW1-1 (Auto line feed) and DIP-SW1-2 (Specification of the received buffer capacity), but it is recommended to leave them OFF.
- Set DIP-SW2-3 and DIP-SW2-4 (Specification of the print density) to match the environment of use.
- Make other settings in accordance with the settings described above.
- When using with the power saving mode, set DIP-SW2-3 and DIP-SW2-4 to ON.

4) Ethernet Port

DIP-SW1

| No. | Setting | |
|-----|---------|--------------|
| 1 | OFF | Recommended |
| 2 | OFF | Recommended |
| 3 | OFF | Fixed at OFF |
| 4 | OFF | Fixed at OFF |
| 5 | OFF | Fixed at OFF |
| 6 | OFF | Fixed at OFF |
| 7 | OFF | Fixed at OFF |
| 8 | OFF | Fixed at OFF |

DIP-SW2

| No. | Setting | |
|-----|---------|--------------|
| 1 | OFF | Recommended |
| 2 | OFF | Fixed at OFF |
| 3 | OFF | Settable |
| 4 | OFF | Settable |
| 5 | OFF | Fixed at OFF |
| 6 | OFF | Fixed at OFF |
| 7 | OFF | Fixed at OFF |
| 8 | ON | Fixed at ON |

- It is possible to change the settings of DIP-SW1-1 (Auto line feed) and DIP-SW1-2 (Specification of the received buffer capacity), but it is recommended to leave them OFF.
- Set DIP-SW2-3 and DIP-SW2-4 (Specification of the print density) to match the environment of use.
- Make other settings in accordance with the settings described above.
- When using with the power saving mode, set DIP-SW2-3 and DIP-SW2-4 to ON.

2.2.2 TM-T81IIM

Not applicable

2.3 Port Information

1) Port information when serial port is used

The port information that can be set with the SetupPOS utility is as follows.

| Item | Setting range |
|------------------|---|
| Baud rate [bps] | 2400, 4800, 9600, 19200, 38400, 57600, 115200 |
| Bit length [bit] | 8 |
| Parity | NONE, ODD, EVEN |
| Stop bit [bit] | 1 |
| Handshake | DTR/DSR |

The default settings are as shown in the following table.

| Item | Setting range |
|------------------|---|
| Baud rate [bps] | 9600 TM-T81M 38400 TM-T81IIM/TM-T81IIM-42C |
| Bit length [bit] | 8 |
| Parity | NONE |
| Stop bit [bit] | 1 |
| Handshake | DTR/DSR |

TM-T81IIM/TM-T81IIM-42C

The baud rate setting of device is set using the TM-T81II Utility. For details, please refer to the "TM-T81II Utility User's Manual".

2) Port information when using USB port

Not applicable

3) Port information when using Ethernet port

Not applicable

2.4 Device Settings

The following explanation is about the settings for the TM-T81M/TM-T81IIM/TM-T81IIM-42C.

2.4.1 Usable Device Specific Settings

For the TM-T81M/TM-T81IIM/TM-T81IIM-42C, the following device specific settings are settable by the SetupPOS utility. For the detail, please refer to the corresponding part of the Section 2 of “EPSON OPOS ADK MANUAL APPLICATION DEVELOPMENT GUIDE POSPrinter (TM Series)”

TM-T81M:

| Tab | Settings |
|---------------------|---|
| General | Disable panel buttons |
| | Assume print complete when data output finishes |
| | Homogenize Error Codes *1 |
| | Ignore firmware version check |
| | Output complete timeout |
| Bitmap | TMFlogo... |
| | NVRAM |
| Color Bitmap | Method |
| | Brightness |
| | Primary |
| Status Log | ERROR |
| | OFFLINE |
| | Log file name (full path name) |
| | Maximum file size [KB] |
| Default Value | Multilingual font |
| Printing Properties | Receipt Characters per Line |
| | Receipt Line Spacing [dots] |
| | CharacterSet [CodePage Number] |

TM-T81IIM/TM-T81IIM-42C:

| Tab | Settings |
|---------------------|---|
| General | Disable panel buttons |
| | Assume print complete when data output finishes |
| | Homogenize Error Codes ^{*1} |
| | Ignore firmware version check |
| | Output complete timeout |
| Bitmap | TMFlogo... |
| | NVRAM |
| Color Bitmap | Method |
| | Brightness |
| | Primary |
| Status Log | ERROR |
| | OFFLINE |
| | Log file name (full path name) |
| | Maximum file size [KB] |
| Default Value | Multilingual font |
| Printing Properties | Receipt Characters per Line |
| | Receipt Line Spacing [dots] |
| | CharacterSet [CodePage Number] |

^{*1} The operations differ by the firmware versions. See the corresponding part of the section 2 of this manual.

2.4.2 Multilingual font Setting

The TM-T81M/TM-T81IIM/TM-T81IIM-42C supports the following font type.

- CHINA GB18030
- VIETNAMESE
- THAI 3 PASS
- THAI 1 PASS

The default paper type is set to CHINA GB18030.

Section 3. Function Details

This section describes the functions of the TM-T81M/TM-T81IIM/TM-T81IIM-42C printers in details. Supplementary explanation of the parts not described in detail in the "UPOS" is also given here.

3.1 Property Set Values and Default Values

The following explanation is about the property set values and the default values.

3.1.1 Capability Set Values

The following values are the Capability set values.

| Capability Name | Setting Value |
|-----------------------|-----------------|
| CapTransaction | TRUE |
| CapCoverSensor | TRUE |
| CapConcurrentRecSlp | FALSE |
| CapConcurrentJrnSlp | FALSE |
| CapConcurrentJrnRec | FALSE |
| CapConcurrentPageMode | FALSE |
| CapCharacterSet | PTR_CCS_KANJI*1 |
| CapMapCharacterSet | FALSE*2 |
| CapJrnUnderline | FALSE |
| CapJrnNearEndSensor | FALSE |
| CapJrnItalic | FALSE |
| CapJrnEmptySensor | FALSE |
| CapJrnDwideDhigh | FALSE |
| CapJrnDwide | FALSE |
| CapJrnDhigh | FALSE |
| CapJrnColor | 0 |
| CapJrnCartridgeSensor | 0 |
| CapJrnBold | FALSE |
| CapJrn2Color | FALSE |
| CapJrnPresent | FALSE |
| CapRecPageMode | TRUE |
| CapRecUnderline | TRUE |
| CapRecStamp | FALSE |
| CapRecRotate180 | TRUE |
| CapRecRight90 | TRUE |
| CapRecPapercut | TRUE |
| CapRecNearEndSensor | TRUE |
| CapRecMarkFeed | 0 |
| CapRecLeft90 | TRUE |
| CapRecItalic | FALSE |

| | |
|-----------------------|-------------------|
| CapRecEmptySensor | TRUE |
| CapRecDwideDhigh | TRUE |
| CapRecDwide | TRUE |
| CapRecDhigh | TRUE |
| CapRecColor | PTR_COLOR_PRIMARY |
| CapRecCartridgeSensor | 0 |
| CapRecBold | TRUE |
| CapRecBitmap | TRUE |
| CapRecBarCode | TRUE |
| CapRec2Color | FALSE |
| CapRecPresent | TRUE |
| CapSlpUnderline | FALSE |
| CapSlpRotate180 | FALSE |
| CapSlpRight90 | FALSE |
| CapSlpNearEndSensor | FALSE |
| CapSlpLeft90 | FALSE |
| CapSlpItalic | FALSE |
| CapSlpEmptySensor | FALSE |
| CapSlpDwideDhigh | FALSE |
| CapSlpDwide | FALSE |
| CapSlpDhigh | FALSE |
| CapSlpColor | 0 |
| CapSlpCartridgeSensor | 0 |
| CapSlpBothSidesPrint | FALSE |
| CapSlpBold | FALSE |
| CapSlpBitmap | FALSE |
| CapSlpBarCode | FALSE |
| CapSlp2Color | FALSE |
| CapSlpFullslip | FALSE |
| CapSlpPresent | FALSE |
| CapSlpPageMode | FALSE |

*1 If Thai 3 Pass character model or VIETNAMESE character model,
"PTR_CCS_UNICODE" is set.

*2 If Thai 3 Pass character model or VIETNAMESE character model, "TRUE" is set.

3.1.2 List Properties

The List Properties are explained in the following.

TM-T81M/TM-T81IIM:

| List Property | Settings |
|------------------------|--|
| CharacterSetList | (Simplified Chinese) "255,437,850,852,858,860,863,865,866,936,998,999,1252" (Thai1 Pass) "437, 874" (Thai3 Pass and Vietnamese) "120,121,126,130,131,437,997" ^{*1} |
| JrnLineCharsList | "" |
| RecLineCharsList | (Font A) "48" (Font B) "64" |
| SlpLineCharsList | "" |
| RecBarCodeRotationList | "0,R90, L90, 180" |
| RecBitmapRotationList | "0,R90, L90, 180" |
| SlpBarCodeRotationList | "" |
| SlpBitmapRotationList | "" |
| FontTypefaceList | "" |

TM-T81IIM-42C:

| List Property | Settings |
|------------------------|--|
| CharacterSetList | (Simplified Chinese) "255,437,850,852,858,860,863,865,866,936,998,999,1252" (Thai1 Pass) "437, 874" (Thai3 Pass and Vietnamese) "120,121,126,130,131,437,997" ^{*1} |
| JrnLineCharsList | "" |
| RecLineCharsList | (Font A) "42" (Font B) "60" |
| SlpLineCharsList | "" |
| RecBarCodeRotationList | "0,R90, L90, 180" |
| RecBitmapRotationList | "0,R90, L90, 180" |
| SlpBarCodeRotationList | "" |
| SlpBitmapRotationList | "" |
| FontTypefaceList | "" |

^{*1} All characters loaded in the device are allocated to Unicode for printing. However, the BinaryConversion property should be set to "OPOS_BC_NONE" when printing with Unicode.

3.1.3 Width and Height Properties

The width and height properties are described below.

TM-T81M/TM-T81IIM:

| Property | Settings | | |
|---------------------|------------------------------|---------------------|---------------------|
| | Default Value | Maximum value [dot] | Minimum value [dot] |
| RecLineSpacing | 30 | 127 | 17 ^{*1} |
| JrnLineSpacing | X | X | X |
| SlpLineSpacing | X | X | X |
| SlpLineHeight [dot] | X | | |
| RecLineHeight [dot] | 24,17 | | |
| JrnLineHeight [dot] | X | | |
| SlpLineWidth [dot] | X | | |
| RecLineWidth [dot] | 576 | | |
| JrnLineWidth [dot] | X | | |
| RecSidewaysMaxLines | 19 ^{*2} | | |
| RecSidewaysMaxChars | (Font A) 138 (Font B) 184 | | |
| RecLinesToPaperCut | 4 ^{*3} | | |
| SlpSidewaysMaxLines | X | | |
| SlpSidewaysMaxChars | X | | |
| SlpMaxLines | X | | |

TM-T81IIM-42C:

| Property | Settings | | |
|---------------------|------------------------------|---------------------|---------------------|
| | Default Value | Maximum value [dot] | Minimum value [dot] |
| RecLineSpacing | 30 | 127 | 17 ^{*1} |
| JrnLineSpacing | X | X | X |
| SlpLineSpacing | X | X | X |
| SlpLineHeight [dot] | X | | |
| RecLineHeight [dot] | 24,17 | | |
| JrnLineHeight [dot] | X | | |
| SlpLineWidth [dot] | X | | |
| RecLineWidth [dot] | 546 | | |
| JrnLineWidth [dot] | X | | |
| RecSidewaysMaxLines | 19 ^{*2} | | |
| RecSidewaysMaxChars | (Font A) 127 (Font B) 184 | | |
| RecLinesToPaperCut | 4 ^{*3} | | |
| SlpSidewaysMaxLines | X | | |
| SlpSidewaysMaxChars | X | | |
| SlpMaxLines | X | | |

X: No settings

^{*1} In the case of a line thermal station, the LineSpacing setting is identical with the height of the characters which means that it can be set at up to 17 when Font B is selected.

^{*2} It can be changed by the settings of the XxxLineSpacing or the XxxLineHeight.

^{*3} It can be changed by the settings of the RecLineSpacing or the character height.

3.1.4 Common Property Strings

The Device information properties are described below.

| I/F | DeviceName | DeviceDescription |
|-----|----------------|--|
| S | TM-T81M | EPSON TM-T81M POS Printer |
| | TM-T81IIM | EPSON TM-T81IIM POS Printer |
| | TM-T81IIM-42C | EPSON TM-T81IIM POS Printer 42Column Mode |
| P | TM-T81PM | EPSON TM-T81PM POS Printer |
| U | TM-T81MU | EPSON TM-T81MU POS Printer |
| | TM-T81IIMU | EPSON TM-T81IIMU POS Printer |
| | TM-T81IIM-42CU | EPSON TM-T81IIMU POS Printer 42Column Mode |
| E | TM-T81ME | EPSON TM-T81ME POS Printer |
| | TM-T81ME | EPSON TM-T81ME POS Printer |
| | TM-T81IIM-42CE | EPSON TM-T81IIME POS Printer 42Column Mode |

I/F indicate the connected interface.

The following is the list of the connecting interfaces.

S: Serial

P: Parallel

U: USB

E: Ethernet

3.1.5 PageMode Print Properties

The Device information properties are described below.

TM-T81M/TM-T81IIM:

| Property | Station *2 | | |
|-----------------------|------------|---------------|------|
| | Journal | Receipt | Slip |
| PageModeArea | - | "576", "1662" | - |
| PageModeDescriptor *1 | - | BM/BC/BMR/BCR | - |

TM-T81IIM-42C:

| Property | Station *2 | | |
|-----------------------|------------|---------------|------|
| | Journal | Receipt | Slip |
| PageModeArea | - | "546", "1662" | - |
| PageModeDescriptor *1 | - | BM/BC/BMR/BCR | - |

*1 Following setting values are used for the PageModeDescriptor property.

BM : Bitmap printing is available.

BC : Barcode printing is available.

BMR : Rotated printing of bitmap is available.

BCR : Rotated printing of barcode is available.

*2 If the Station's CapRecPageMode and/or CapSlpPageMode property values are FALSE, the PageModeArea property shall have " " and the PageModeDescriptor property shall have "0" respectively as a setting value.

3.2 Methods

The following explanation is about supported/unsupported Methods, and the detailed information.

| Method | Supported/Unsupported | Compatibility with the PageMode printing |
|-------------------|--|--|
| PrintNormal | O | O |
| PrintTwoNormal | X | X |
| PrintImmediate | O | O ^{*1} |
| PrintBarCode | O | O ^{*2} |
| PrintBitmap | O | O ^{*3} |
| PrintMemoryBitmap | O | O ^{*3} |
| CutPaper | O (1~100: Cutting with one point of the bottom left corner uncut) | X |
| MarkFeed | X | X |
| ChangePrintSide | X | X |
| ValidateData | O | O |
| TransactionPrint | O | O |
| SetLogo | O | O |
| SetBitmap | O | O |
| RotatePrint | O | X |
| EndRemoval | X | X |
| BeginRemoval | X | X |
| EndInsertion | X | X |
| BeginInsertion | X | X |
| ClearPrintArea | O | O |
| PageModePrint | O | O |
| DrawRuledLine | X | X |

O:Supported

X:Unsupported

- ^{*1} If the specified Station is ready to print, the printing data shall not be stored in the PageMode printing buffer but, instead, go straight to printing. If the Station is not ready to print, an error is returned.
- ^{*2} If other than "LEFT" is specified for the printing position of barcode, the printing shall be done, regardless of the PageModeHorizontalPosition property setting, based on the PageModePrintArea property setting in the horizontal direction.
- ^{*3} If other than "LEFT" is specified for the printing position of bitmap, the printing shall be done, regardless of the PageModeHorizontalPosition property setting, based on the PageModePrintArea property setting in the horizontal direction.

3.3 Escape Sequences

The following figure is about supported/unsupported Escape Sequences.

| Escape Sequence | Supported/Unsupported | Compatibility with the PageMode printing |
|-----------------------|-----------------------|--|
| #P | 0~100 | X |
| #fP | 0~100 | X |
| #sP | X | X |
| sL | X | X |
| #B | O | O |
| tL | O | O |
| bL | O | O |
| [*]#R | O | O |
| #IF | 0~9999 | O |
| #uF Base Pitch [inch] | 0~ equiv. 50 cm | O |
| #rF Maximum [inch] | X | X |
| [*]#E | 0~65535 | X |
| #fT | X | X |
| [!] b C | O | O |
| #uC | 1~2 | O |
| [!] i C | X | X |
| #rC | 1 | O |
| [!] r vC | O | O |
| #sC | X | X |
| #fC | X | X |
| [!] t bC | X | X |
| [!] t pC | X | X |
| 1C | O | O |
| 2C | O | O |
| 3C | O | O |
| 4C | O | O |
| #hC | 1~8 | O |
| #vC | 1~8 | O |
| cA | O | O ^{*1} |
| rA | O | O ^{*1} |
| lA | O | O |
| [!] [#] stC | 1 | 1 |
| *#dL | X | X |
| N | O | O |

O :Supported

X :Unsupported

Numbers: Settable range

^{*1} Regardless of the PageModeHorizontalPosition property setting, center or right adjust what is to be printed based on the PageModePrintArea property setting in the horizontal direction.

3.4 Printable Barcode Type

The TM-T81M/TM-T81IIM/TM-T81IIM-42C allows the following barcode types.

- Code 128
- Code 128 Parsed
- Code 93
- Codabar
- ITF
- Code 39
- JAN 13 (EAN 13)
- JAN 8 (EAN 8)
- UPC-E
- UPC-A
- PDF417
- QRCODE

3.5 QR CODE Printing

3.5.1 QR CODE Printing

When printing QR CODE, set the Symbology parameter to one of the following value.

PTR_BCS_QRCODE: Print using QR CODE model 2.

PTR_BCS_OTHER + 3 : Print using QR CODE model 1 (old specification, used for maintaining compatibility).

PTR_BCS_OTHER + 4 : Print using QR CODE model 2.

3.5.2 Printing Size

Because the width and length of QR CODE are the same, printing is done to the inner part at a size closest to it by using the value specified by the Width parameter. Therefore, the height of print is not affected by the Height parameter. If the Height parameter is less than 0, an error occurs.

The print size is determined by the version of QR and the size of the module. Because the version of QR is determined by the data length and type, you can use the size of the module to adjust the print size. If the two dimensional barcode cannot fit into the print area (depending on the paper width, layout settings, etc.) then OPOS_E_ILLEGAL is returned and at this moment ResultCodeExtended becomes zero.

For QR, it differs from other two dimensional barcodes; if the encoded data result is not known, then the print width cannot be obtained. If the print width cannot be obtained, the page mode range for 90-degree rotated printing cannot be specified. Therefore, within OPOS it calculates the number of code words of the encoded data. Because of this reason, data amount can be correctly verified.

3.5.3 Error Correction Level

Error correction level is fixed at 7%.

3.5.4 Printing Position

Like the one dimensional barcode, the print position of the two dimensional barcode is the specified position.

3.6 Power Condition Reports

The TM-T81M/TM-T81IIM/TM-T81IIM-42C support Power Condition Reports as follows.

Powered on reporting: Supported

Powered off reporting: Unsupported

3.7 Synchronous Processing

The TM-T81M/TM-T81IIM/TM-T81IIM-42C using Process ID to determine output completion.

Use of the Process ID allows multiple print commands to be queued to the printer simultaneously. For this reason, Asynchronous output (AsyncMode = TRUE) gives a performance improvement.

3.8 Printing Positions

The TM-T81M/TM-T81IIM/TM-T81IIM-42C supports the function for setting printing position.

| Function | Receipt |
|-------------------|---------|
| Left margin | O |
| Printing Position | O |

O: Supported

X: Unsupported

When the left margin setting function is supported, it is possible to specify the horizontal printing position of the bitmap or barcode by dots unit.

When the printing position settings are supported, it is possible to specify the horizontal printing position of the text, bitmap, or the barcode to the left, center, or the right side of the paper.

3.9 Electronic Logo Function (NVRAM)

The TM-T81M features an electronic logo function (NVRAM). To use NVRAM, start up the TM-T81 utility from “Device Specific Settings” of SetupPOS utility, and register image files (BMP style) with NVRAM in advance.

To print image files registered with NVRAM, please use the either of the following DirectIO:

PTR_DI_FLASH_BITMAP

PTR_DI_FLASH_BITMAP2

Please refer to the corresponding part of the Section 4 of “EPSON OPOS ADK MANUAL APPLICATION DEVELOPMENT GUIDE POSPrinter (TM Series)” for detail. The available NVRAM sizes are as follows:

262144 bytes

3.10 Printable bitmap types and sizes

The TM-T81M/TM-T81IIM/TM-T81IIM-42C supports the following bitmap commands. For the detail, please refer to the corresponding part of the Section 3 of “EPSON OPOS ADK MANUAL APPLICATION DEVELOPMENT GUIDE POSPrinter (TM Series)”. The allowance ranges for bitmaps are as follows.

| Bitmap command type | Allowance range | | |
|---------------------|------------------|---------|---------|
| | x (dot) | y (dot) | xy |
| Download bitmap | 1~2040 | 1~384 | <=98304 |
| | | | |
| Raster bitmap | 1~2048 | 1~2303 | |
| One-line bitmap | No setting range | | |

Even if meet with the limitation described above, a bitmap that extend the paper width cannot be printed.

3.11 Maintenance Counter

The TM-T81M features a maintenance counter function for retaining an operation log of the printer.

The following chart shows the available maintenance counters for the TM-T81M/TM-T81IIM/TM-T81IIM-42C.

| Counter number Hexadecimal | Counter | Unit | Max. Value | Counter Type |
|-------------------------------|---|-------|---------------|--------------|
| 14 | Paper feed in number of lines: Roll paper | Lines | 143,165,576 | Resettable |
| 15 | Number of times head timing pulse: Roll paper | Times | 4,294,967,295 | Resettable |
| 32 | Number of auto-cutter operations | Times | 4,294,967,295 | Resettable |
| 46 | Uptime of product | Hours | 71,582,788 | Resettable |
| 94 | Number of paper feed lines: Roll paper | Lines | 143,165,576 | Cumulative |
| 95 | Number of times head timing pulse: Roll paper | Times | 4,294,967,295 | Cumulative |
| B2 | Number of auto-cutter operations | Times | 4,294,967,295 | Cumulative |
| C6 | Uptime of product | Hours | 71,582,788 | Cumulative |

3.12 Automatic Recovery Function

The TM-T81M/TM-T81IIM/TM-T81IIM-42C features a function for automatic recovery when the power is turned on again after an interruption of power. Recovery processing is performed automatically when the printer's power is turned on again after an interruption. The recovery processing restores the printer to the condition it was in before the power was turned off.

3.13 Output without Flow Control on the USB Interface

The TM-T81M/TM-T81IIM/TM-T81IIM-42C is support outputting without flow control on the USB interface. The operations differ by the firmware versions. See the corresponding part of the section 2 of this manual.

Section 4. Warnings

This section describes precautions in use of the TM-T81M.

- Thai1 Pass mode printing:

If print data remains in the printer buffer when printing is executed (i.e. The line feed for the print data was not completed), it is possible that the result will not be printed correctly.