

**EPSON OPOS ADK MANUAL**

# **APPLICATION DEVELOPMENT GUIDE**

## **POSPrinter (TM-U220x)**

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# Section 1. Introduction

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This manual describes the method of use and related items, as well as machine-specific precautions, when the EPSON TM-U220x 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-U220A	TM-U220AP	TM-U220AU	TM-U220AE
TM-U220AM	TM-U220APM	TM-U220AMU	TM-U220AME
TM-U220AM_BM	TM-U220APM_BM	TM-U220AM_BMU	TM-U220AM_BME
TM-U220B	TM-U220BP	TM-U220BU	TM-U220BE
TM-U220BM	TM-U220BPM	TM-U220BMU	TM-U220BME
TM-U220BM_BM	TM-U220BPM_BM	TM-U220BM_BMU	TM-U220BM_BME
TM-U220D	TM-U220DP	TM-U220DU	TM-U220DE
TM-U220DM	TM-U220DPM	TM-U220DMU	TM-U220DME
TM-U220DM_BM	TM-U220DPM_BM	TM-U220DM_BMU	TM-U220DM_BME

Before reading the manual, see the following explanation about the characteristic of the TM-U220x models.

- Station: Receipt (9-pin Serial impact dot matrix)
- 2-Color Printing
- Black Mark paper

Throughout the manual, the various model names will be referred to as TM-U220x. TM-U220x represents TM-U220A, TM-U220AM, TM-U220AM\_BM, TM-U220B, TM-U220BM, TM-U220BM\_BM, TM-U220D, TM-U220DM and TM-U220DM\_BM.

## 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

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This section describes connection configurations and how to make the settings for the TM-U220x Series printers.

### 2.1. References of Firmware Versions

Refer to the release notes (Relnote.txt).

### 2.2. Settings of DIP Switches

Confirm that the following settings have been made correctly.

#### 1) Serial port

##### \*TM-U220A/TM-U220B

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	OFF	Settable
8	OFF	Settable

DIP-SW2

No.	Setting	
1	OFF	Fixed at OFF
2	ON	Fixed at ON
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

##### \*TM-U220AM\_BM/TM-U220BM\_BM

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	OFF	Settable
8	OFF	Settable

DIP-SW2

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

**\*TM-U220D**

## 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	OFF	Settable
8	OFF	Settable

## DIP-SW2

No.	Setting	
1	OFF	Fixed at OFF
2	OFF	Fixed at OFF
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

**\*TM-U220DM\_BM**

## 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	OFF	Settable
8	OFF	Settable

## DIP-SW2

No.	Setting	
1	OFF	Fixed at OFF
2	OFF	Fixed at OFF
3	OFF	Fixed at OFF
4	OFF	Fixed at OFF
5	ON	Settable
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, 6, and 7 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.
- Make other settings in accordance with the settings described above.
- Sets DIP-SW2-5 to ON when the black mark paper is used with TM-U220AM\_BM, TM-U220BM\_BM and TM-U220DM\_BM models.
- Sets DIP-SW2-5 to OFF when the normal paper (paper without black mark) is used with TM-U220AM\_BM, TM-U220BM\_BM and TM-U220DM\_BM models.

**2) Parallel Port****\*TM-U220A/TM-U220B**

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	Recommended

DIP-SW2

No.	Setting	
1	OFF	Fixed at OFF
2	ON	Fixed at ON
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	ON	Fixed at ON

**\*TM-U220AM\_BM/TM-U220BM\_BM**

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	Recommended

DIP-SW2

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

**\*TM-U220D**

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	Recommended

DIP-SW2

No.	Setting	
1	OFF	Fixed at OFF
2	OFF	Fixed at OFF
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	ON	Fixed at ON

**\*TM-U220DM\_BM**

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	Recommended

DIP-SW2

No.	Setting	
1	OFF	Fixed at OFF
2	OFF	Fixed at OFF
3	OFF	Fixed at OFF
4	OFF	Fixed at OFF
5	ON	Settable
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.
- When parallel I/F is used with Windows 2000, Windows XP or Windows Vista, please set Busy Condition of DIP-SW1-8 to ON (Buffer full).
- Make other settings in accordance with the settings described above.
- Sets DIP-SW2-5 to ON when the black mark paper is used with TM-U220AM\_BM, TM-U220BM\_BM and TM-U220DM\_BM models.
- Sets DIP-SW2-5 to OFF when the normal paper (paper without black mark) is used with TM-U220AM\_BM, TM-U220BM\_BM and TM-U220DM\_BM models.

**3) USB Port**

Same with the Parallel port information.

**4) Ethernet Port**

Same with the Parallel port information.



## 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]	1200,2400,4800,9600,19200
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
Bit length [bit]	8
Parity	NONE
Stop bit [bit]	1
Handshake	DTR/DSR

### 2) Port information when using parallel port

Not applicable

### 3) Port information when using USB port

Not applicable

### 4) Port information when using Ethernet port

Not applicable

## 2.4. Device Settings

The following explanation is about the settings for TM-U220x.

### 2.4.1. Usable Device Specific Settings

For the TM-U220x, the following device specific settings are settable by the SetupPOS utility. For the detail, please refer to the Section 2 of “EPSON OPOS ADK MANUAL APPLICATION DEVELOPMENT GUIDE POSPrinter (TM Series)”.

Tab	Settings
General	Disable panel buttons
	Assume print complete when data output finishes
	Homogenize Error Codes <sup>*1</sup>
	Ignore firmware version check
	Output complete timeout
Paper <sup>*2</sup>	Paper Type
	Paper Width [mm]: LineWidth [dot]: LineCharsList
Bitmap	TMFlogo...
Color Bitmap	Halftone: Method
	Halftone: Brightness
	Color: Primary
Status Log	ERROR
	OFFLINE
	Log file name (full path name)
	Maximum file size [KB]
Options	NearEndSensor
GBMode	GB Mode
Multi-byte Character Print <sup>*3</sup>	Avoid setting printing method of multi-byte character <sup>*6</sup>
	Unidirectional Print
	Bi-directional Print
Default Value <sup>*4</sup>	Multilingual font <sup>*5</sup>
Printing Properties	Receipt Characters per Line
	Receipt Line Spacing [dots]
	CharacterSet [CodePage Number]

<sup>\*1</sup> The settings can be changed when using a connection other than serial.

<sup>\*2</sup> The models supporting this function are TM-U220BM, TM-U220BM\_BM, TM-U220DM and TM-U220DM\_BM only

<sup>\*3</sup> The models supporting this function are TM-U220AM\_BM, TM-U220BM\_BM and TM-U220DM\_BM only.

<sup>\*4</sup> This function is not supported to TM-U220AM\_BM, TM-U220BM\_BM and TM-U220DM\_BM.

<sup>\*5</sup> The setting is available only for the Multilingual character model.

<sup>\*6</sup> If you want to modify the setting on other tabs after changing one or more settings on the “Multi-byte Character Print” tab, you should first click the “Apply” button.

### 2.4.2. Options

“NearEndSensor” check box

For the models, which are supported NearEndSensor function as an option, marking the check box could set NearEndSensor function.

### 2.4.3. GB Mode Setting

TM-U220AM (AM\_BM), TM-U220BM (BM\_BM) and TM-U220DM (DM\_BM), which is loaded with GB18030 Font, are supporting the GB Font Mode setting switch. After the registration of TM-U220AM (AM\_BM), TM-U220BM (BM\_BM) and TM-U220DM (DM\_BM) with SetupPOS utility, GB Font Mode is able to specified on the “Device Specific Settings” dialog box. Click the GB Mode tab and select a mode from the options.

The selectable options are as follows:

- GB18030 mode
- Compatible GB2312 mode

Default setting is with GB18030 Mode.

When the device setting differ from that of the GB Mode option, the change of the device setting is performed during Claim Method operation, and it may takes longer than usual Claim Method operation.

### 2.4.4. Multi-byte Character Print

The models supporting the bi-directional print function of the multi-byte characters can switch the print function between the unidirectional and bi-directional by the “Device Specific Setting” of the SetupPOS utility.

Remove a check from the “Avoid setting printing method of multi-byte character” check box of the “Multi-byte Character Print” tab when selecting a print method. The selection becomes available upon the removal of the check.

The print methods are as follows:

- Unidirectional Print : Prints in a single direction
- Bi-directional Print : Prints bi-directionally

The set print method becomes effective by Claim execution.

The printing method follows the setting of the connected model when the “Avoid setting printing method of multi-byte character” check box is being checked.

## Section 3. Function Details

This section describes the functions of the TM-U220x 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	Set Value
CapTransaction	TRUE
CapCoverSensor	TRUE
CapConcurrentRecSlp	FALSE
CapConcurrentJrnSlp	FALSE
CapConcurrentJrnRec	FALSE
CapConcurrentPageMode	FALSE
CapCharacterSet	PTR_CCS_UNICODE <sup>*4</sup>
CapMapCharacterSet	TRUE <sup>*5</sup>
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	FALSE
CapRecUnderline	TRUE
CapRecStamp	FALSE
CapRecRotate180	TRUE
CapRecRight90	FALSE
CapRecPapercut	TRUE (TM-U220A/TM-U220B) FALSE (TM-U220D)
CapRecNearEndSensor	FALSE <sup>*1</sup>
CapRecMarkFeed	0 PTR_MF_TO_CUTTER <sup>*2</sup> PTR_MF_TO_TAKEUP <sup>*3</sup>
CapRecLeft90	FALSE

CapRecItalic	FALSE
CapRecEmptySensor	TRUE
CapRecDwideDhigh	TRUE
CapRecDwide	TRUE
CapRecDhigh	TRUE
CapRecColor	PTR_COLOR_PRIMARY PTR_COLOR_CUSTOM1
CapRecCartridgeSensor	0
CapRecBold	TRUE
CapRecBitmap	TRUE
CapRecBarCode	FALSE
CapRec2Color	TRUE
CapRecPresent	TRUE
CapRecRuledLine	FALSE
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
CapSlpRuledLine	FALSE

\*1 NearEndSensor is an option. When the mark the "NearEndSensor" check box at SetupPOS utility, this function is effective.

\*2 This setting is valid only when TM-U220AM\_BM or TM-U220BM\_BM is used.

\*3 This setting is valid only when TM-U220DM\_BM is used.

\*4 If CHINA GB18030 character model or TAIWAN BIG-5 character model or Thai 1 Pass character model, "PTR\_CCS\_KANJI" is set.

\*5 If CHINA GB18030 character model or TAIWAN BIG-5 character model or Thai 1 Pass character model, "FALSE" is set.

### 3.1.2. List Properties

The List Properties are explained in the following.

List Property	Settings
CharacterSetList	"254,255,437,850,852,858,860,863,865,866,936" <sup>*1</sup> , 950 <sup>*1</sup> ,997 <sup>*7</sup> ,998,999,1252" "120,121,126,130,131,437,997" <sup>*7</sup> <sup>*2</sup>
JrnLineCharsList	"
RecLineCharsList (When 76.0 mm is set)	(Font A) "33" <Default>
	(Font B) "40"
	(Font A) "30" <sup>*5</sup> <Default>
	(Font B) "36" <sup>*5</sup>
RecLineCharsList (When 69.5 mm is set) <sup>*3</sup>	(Font A) "30" <Default>
	(Font B) "36"
	(Font A) "28" <sup>*6</sup> <Default>
	(Font B) "34" <sup>*6</sup>
RecLineCharsList (When 57.5 mm is set) <sup>*4</sup>	(Font A) "25" <Default>
	(Font B) "30"
	(Font A) "23" <sup>*6</sup> <Default>
	(Font B) "28" <sup>*6</sup>
SlpLineCharsList	"
RecBarcodeRotationList	"
RecBitmapRotationList	"0,180"
SlpBarcodeRotationList	"
SlpBitmapRotationList	"
FontTypefaceList	"

<sup>\*1</sup> If Multilingual character model, "936" or "950" is added to the list.

<sup>\*2</sup> The list is for South Asia character model.

<sup>\*3</sup> The set values are valid only when width setting of TM-U220B and TM-U220D are 69.5mm.

<sup>\*4</sup> The set values are valid only when width setting of TM-U220B and TM-U220D are 57.5mm.

<sup>\*5</sup> This value is set when the "bi-directional" is specified as the print method of multi-byte characters with TM-U220AM\_BM, TM-U220BM\_BM and TM-U220DM\_BM.

<sup>\*6</sup> This value is set when the "bi-directional" is specified as the print method of multi-byte characters with TM-U220BM\_BM and TM-U220DM\_BM.

<sup>\*7</sup> When the CapCharacterSet property is set to "PTR\_CCS\_UNICODE," "997" is added to the list. When CharacterSet is set to "997," 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.

Property	Settings		
	Default Value	Maximum value [dot]	Minimum value [dot]
RecLineSpacing	12	127	0
JrnLineSpacing	X	X	X
SlpLineSpacing	X	X	X
SlpLineHeight [dot]	X		
RecLineHeight [dot]	9		
JrnLineHeight [dot]	X		
SlpLineWidth [dot]	X		
RecLineWidth [dot] (When 76.0 mm is set)	200 180 <sup>*4</sup>		
RecLineWidth [dot] (When 69.5 mm is set) <sup>*1</sup>	180 171 <sup>*5</sup>		
RecLineWidth [dot] (When 57.5 mm is set) <sup>*2</sup>	150 141 <sup>*5</sup>		
JrnLineWidth [dot]	X		
RecSidewaysMaxLines	0		
RecSidewaysMaxChars	0		
RecLinesToPaperCut (Auto cutter)	6 <sup>*3</sup>		
RecLinesToPaperCut (No auto cutter)	8 <sup>*3</sup>		
SlpSidewaysMaxLines	X		
SlpSidewaysMaxChars	X		
SlpMaxLines	X		

X : No settings

<sup>\*1</sup> the set value is valid only when width setting of TM-U220B and TM-U220D are 69.5mm.

<sup>\*2</sup> the set value is valid only when width setting of TM-U220B and TM-U220D are 57.5mm.

<sup>\*3</sup> It can be changed by the settings of the RecLineSpacing or the character height.

- When the RecLineSpacing is 0, the RecLinesToPaperCut is -1.

<sup>\*4</sup> This value is set when the "bi-directional" is specified as the print method of multi-byte characters with TM-U220AM\_BM, TM-U220BM\_BM and TM-U220DM\_BM.

<sup>\*5</sup> This value is set when the "bi-directional" is specified as the print method of multi-byte characters with TM-U220BM\_BM and TM-U220DM\_BM.

### 3.1.4. Common Property Strings

The Device information properties are described below.

- TM-U220A

I/F	DeviceName	DeviceDescription
S	TM-U220A	EPSON TM-U220A POS Printer
P	TM-U220AP	EPSON TM-U220AP POS Printer
U	TM-U220AU	EPSON TM-U220AU POS Printer
E	TM-U220AE	EPSON TM-U220AE POS Printer

- TM-U220AM

I/F	DeviceName	DeviceDescription
S	TM-U220AM	EPSON TM-U220AM POS Printer
P	TM-U220APM	EPSON TM-U220APM POS Printer
U	TM-U220AMU	EPSON TM-U220AMU POS Printer
E	TM-U220AME	EPSON TM-U220AME POS Printer

- TM-U220AM\_BM

I/F	DeviceName	DeviceDescription
S	TM-U220AM_BM	EPSON TM-U220AM_BM POS Printer
P	TM-U220APM_BM	EPSON TM-U220APM_BM POS Printer
U	TM-U220AM_BMU	EPSON TM-U220AM_BMU POS Printer
E	TM-U220AM_BME	EPSON TM-U220AM_BME POS Printer

- TM-U220B

I/F	DeviceName	DeviceDescription
S	TM-U220B	EPSON TM-U220B POS Printer
P	TM-U220BP	EPSON TM-U220BP POS Printer
U	TM-U220BU	EPSON TM-U220BU POS Printer
E	TM-U220BE	EPSON TM-U220BE POS Printer

- TM-U220BM

I/F	DeviceName	DeviceDescription
S	TM-U220BM	EPSON TM-U220BM POS Printer
P	TM-U220BPM	EPSON TM-U220BPM POS Printer
U	TM-U220BMU	EPSON TM-U220BMU POS Printer
E	TM-U220BME	EPSON TM-U220BME POS Printer



- TM-U220BM\_BM

I/F	DeviceName	DeviceDescription
S	TM-U220BM_BM	EPSON TM-U220BM_BM POS Printer
P	TM-U220BPM_BM	EPSON TM-U220BPM_BM POS Printer
U	TM-U220BM_BMU	EPSON TM-U220BM_BMU POS Printer
E	TM-U220BM_BME	EPSON TM-U220BM_BME POS Printer

- TM-U220D

I/F	DeviceName	DeviceDescription
S	TM-U220D	EPSON TM-U220D POS Printer
P	TM-U220DP	EPSON TM-U220DP POS Printer
U	TM-U220DU	EPSON TM-U220DU POS Printer
E	TM-U220DE	EPSON TM-U220DE POS Printer

- TM-U220DM

I/F	DeviceName	DeviceDescription
S	TM-U220DM	EPSON TM-U220DM POS Printer
P	TM-U220DPM	EPSON TM-U220DPM POS Printer
U	TM-U220DMU	EPSON TM-U220DMU POS Printer
E	TM-U220DME	EPSON TM-U220DME POS Printer

- TM-U220DM\_BM

I/F	DeviceName	DeviceDescription
S	TM-U220DM_BM	EPSON TM-U220DM_BM POS Printer
P	TM-U220DPM_BM	EPSON TM-U220DPM_BM POS Printer
U	TM-U220DM_BMU	EPSON TM-U220DM_BMU POS Printer
E	TM-U220DM_BME	EPSON TM-U220DM_BME POS Printer

I/F indicates the connected interface.

The following is the list of the four connecting interfaces.

S: Serial

P: Parallel

U: USB

E: Ethernet

### 3.2. Methods

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

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

O: Supported

X : Unsupported

\*1 The setting is available for the models other than TM-U220D.

\*2 The MarkFeed method is supported by TM-U220AM\_BM, TM-U220BM\_BM and TM-U220DM\_BM only.

### 3.3. Escape Sequences

The following figure is about supported/unsupported Escape Sequences.

Escape Sequence	Support
#P *1	0~100
#fP *1	0~100
#sP	X
sL	X
#B	O
tL	O
bL	O
[*]#R	X
#lF	0~9999
#uF Base Pitch [inch]	0~ approx. 50 cm
#rF Maximum [inch]	2
[*]#E	0~65535
#fT	X
[!]bC	O
#uC	1
[!]iC	X
#rC	1~2
[!]rvC	X
#sC	X
#fC	X
[!]tbC	X
[!]tpC	X
1C	O
2C	O
3C	O
4C	O
#hC	1~2
#vC	1~2
cA	O
rA	O
lA	O
[!][#]stC	1
*#dL	X
N	O

O: Supported

X : Unsupported

Numbers: Settable range

\*1 TM-U220D is not supported. This is available only for the other models.

### 3.4. Power Condition Reports

The TM-U220x models support Power Condition Reports as follows.

Powered on reporting: Supported.

Powered off reporting: Unsupported.

### 3.5. Synchronous Processing

The TM-U220x models do not use Process ID to determine output completion.

### 3.6. Printing Positions

The TM-U220x models support the function for setting printing position.

Function	Support
Left margin	X
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.

### 3.7. Electronic Logo Function (NVRAM)

The TM-U220x models feature a function for electronic logo. To use the electronic logo function (NVRAM), start “TMFlogo utility” from the “Device Specific Settings” of SetupPOS utility, and register image files (BMP style) at the function in advance. For the details of the registration, please refer to the “Help” of “TMFlogo utility” and/or “EPSON OPOS ADK MANUAL User’s Manual TMFlogo Utility”

To print the registered image file, please use the following DirectIO.

PTR\_DI\_FLASH\_BITMAP

PTR\_DI\_FLASH\_BITMAP2

For the details of the printing, please refer to Section 4 of “EPSON OPOS ADK APPLICATION DEVELOPMENT GUIDE POSPrinter (TM Series)”. The available NVRAM size for the TM-U220x is 131072 bytes.

### 3.8. Printable Bitmap Types and Sizes

The TM-U220x models support the following bitmap commands. For the detail, please refer to 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
One-line bitmap	No setting range

### 3.9. Maintenance Counter

The TM-U220x models do not support the Maintenance Counter.

### **3.10. Automatic Recovery Function**

The TM-U220x models feature 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 interrupted.

The other models do not support this function.

### **3.11. Output without Flow Control on the USB/Ethernet Interfaces**

The TM-U220x models do not support outputting without flow control on the USB/Ethernet interfaces.

## **Section 4. Warnings**

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This section describes precautions in use of TM-U220x.

There is no specific warning.