

**EPSON OPOS ADK MANUAL**

# **APPLICATION DEVELOPMENT GUIDE**

## **POSPrinter (RP-U420)**

Version 3.00 Feb. 2019

**Notes**

- (1) Reproduction of any part of this documentation by any means is prohibited.
- (2) The contents of this documentation are subject to change without notice.
- (3) Comments and notification of any mistakes in this documentation are gratefully accepted.
- (4) This software cannot be used with other equipment than the specified.
- (5) EPSON will not be responsible for any consequences resulting from the use of any information in this documentation.

**Trademarks**

Microsoft®, Windows®, Visual Basic® and Visual C++® are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

EPSON® and ESC/POS® are registered trademarks of Seiko Epson Corporation.

Other product and company names used herein are for identification purposes only and may be trademarks or registered trademarks of their respective companies.

# Contents

---

<b>SECTION 1. INTRODUCTION .....</b>	<b>1</b>
<b>SECTION 2. DETAILS ON SETTINGS .....</b>	<b>2</b>
2.1 References of Firmware Versions .....	2
2.2 Settings of DIP Switches .....	2
2.3 Port Information.....	4
2.4 Device Settings .....	5
2.4.1 Usable Device Specific Settings.....	5
<b>SECTION 3. FUNCTION DETAILS.....</b>	<b>6</b>
3.1 Property Set Values and Default Values.....	6
3.1.1 Capability Set Values.....	6
3.1.2 List Properties .....	7
3.1.3 Width and Height Properties.....	8
3.1.4 Common Property Strings .....	8
3.2 Methods.....	9
3.3 Escape Sequences.....	10
3.4 Printing Positions.....	10
<b>SECTION 4. WARNINGS .....</b>	<b>11</b>

# Section 1. Introduction

---

This manual describes the method of use and related items, as well as machine-specific precautions, when the EPSON RP-U420 Series POS Printers are used with the EPSON OPOS ADK program.

This manual applies to the following devices.

Device List

Serial	Parallel
RP-U420	RP-U420P

Before reading the manual, see the following explanation about the characteristic of the RP-U420 models.

- Station: Receipt / Journal / Slip (9-pin Serial impact dot matrix)

Throughout the manual, the various model names will be referred to as RP-U420.

## 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 RP-U420 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

DIP-SW1

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

DIP-SW2

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

- Set DIP-SW1-1 (Bit length) to 8 bits.
- Set DIP-SW1-2 to DIP-SW1-4 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-SW1-5 (Handshake) to DTR/DSR.
- Set DIP-SW1-7 (Cutter) to match the environment of use.
- It is possible to change the settings of DIP-SW1-6 and DIP-SW1-8, but it is recommended to leave them OFF.
- Set DIP-SW2-3 (Buzzer) to match the environment of use.
- Make other settings in accordance with the settings described above.

**2) Parallel Port**

DIP-SW1

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	Recommended
7	OFF	Settable
8	OFF	Recommended

DIP-SW2

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

- Do not change the current settings of DIP-SW1-1 to DIP-SW1-5.
- Set DIP-SW1-7 (Cutter) to match the environment of use.
- It is possible to change the settings of DIP-SW1-6 and DIP-SW8, but it is recommended to leave them OFF.
- Do not change the current settings of DIP-SW2-1, 2, 4, 5 and 6.
- Set DIP-SW2-3 (Buzzer) to match the environment of use.
- When parallel I/F is used with Windows 2000, Windows XP or Windows Vista, please set Busy Condition of DIP-SW to 1-6 ON (Buffer full).
- Make other settings in accordance with the settings described above.

## 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]	9600,19200
Bit length [bit]	8
Parity	NONE, ODD, EVEN
Stop bit [bit]	1
Handshake	DTR/DSR
Output buffer length [byte]	32 to 1024
Output interval time [ms]	0 to 9999

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
Output buffer length [byte]	1024
Output interval time [ms]	2500

### 2) Port information when using parallel port

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

Item	Setting range
Output buffer length [byte]	32 to 1024
Output interval time [ms]	0 to 9999

The default settings are as shown in the following table.

Item	Setting range
Output buffer length [byte]	1024
Output interval time [ms]	2500

## 2.4 Device Settings

The following explanation is about the settings for RP-U420.

### 2.4.1 Usable Device Specific Settings

For the RP-U420, 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
	Ignore firmware version check
	Output complete timeout
DefaultValue	Multilingual font
	Auto cutter installation



## Section 3. Function Details

---

This section describes the functions of the RP-U420 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	FALSE
CapConcurrentRecSlp	FALSE
CapConcurrentJrnSlp	FALSE
CapConcurrentJrnRec	TRUE
CapConcurrentPageMode	FALSE
CapCharacterSet	PTR_CCS_KANJI
CapMapCharacterSet	FALSE
CapJrnUnderline	TRUE
CapJrnNearEndSensor	FALSE
CapJrnItalic	FALSE
CapJrnEmptySensor	FALSE
CapJrnDwideDhigh	FALSE
CapJrnDwide	TRUE
CapJrnDhigh	FALSE
CapJrnColor	PTR_COLOR_PRIMARY
CapJrnCartridgeSensor	0
CapJrnBold	FALSE
CapJrn2Color	FALSE
CapJrnPresent	TRUE
CapRecPageMode	FALSE
CapRecUnderline	TRUE
CapRecStamp	TRUE
CapRecRotate180	FALSE
CapRecRight90	FALSE
CapRecPapercut	TRUE *1
CapRecNearEndSensor	FALSE
CapRecMarkFeed	0
CapRecLeft90	FALSE
CapRecItalic	FALSE
CapRecEmptySensor	FALSE
CapRecDwideDhigh	FALSE
CapRecDwide	TRUE

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

\*1 If the printer model has an auto cutter, it is set to TRUE. Otherwise, FALSE is set.

### 3.1.2 List Properties

The List Properties are explained in the following.

List Property	Settings
CharacterSetList	"437,850,852,857,858,860,863,865,866, (950,)(936,) 998,999,1252"
JrnLineCharsList	"24"
RecLineCharsList	"24"
SlpLineCharsList	"55"
RecBarCodeRotationList	66°
RecBitmapRotationList	66°
SlpBarCodeRotationList	66°
SlpBitmapRotationList	66°
FontTypefaceList	66°

### 3.1.3 Width and Height Properties

The width and height properties are explained in the following.

Property	Settings		
	Default Value	Maximum value [dot]	Minimum value [dot]
RecLineSpacing	12	12	12
JrnLineSpacing	12	12	12
SlpLineSpacing	12	12	12
SlpLineHeight [dot]	9		
RecLineHeight [dot]	9		
JrnLineHeight [dot]	9		
SlpLineWidth [dot]	248		
RecLineWidth [dot]	108		
JrnLineWidth [dot]	108		
RecSidewaysMaxLines	0		
RecSidewaysMaxChars	0		
RecLinesToPaperCut (With an auto-cutter)	9		
RecLinesToPaperCut (Without an auto-cutter)	11		
SlpSidewaysMaxLines	0		
SlpSidewaysMaxChars	0		
SlpMaxLines	1		

### 3.1.4 Common Property Strings

The Device information properties are described below.

I/F	DeviceName	DeviceDescription
S	RP-U420	EPSON RP-U420 POS Printer
P	RP-U420P	EPSON RP-U420P POS Printer

I/F indicate the connected interface.

The following is the list of the two connecting interfaces.

S: Serial

P: Parallel

### 3.2 Methods

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

Method	Supported/Unsupported
PrintNormal	O
PrintTwoNormal	O
PrintImmediate	O
PrintBarCode	X
PrintBitmap	X
PrintMemoryBitmap	X
CutPaper	O (1~79: Three points remain uncut 80~100: One point remains uncut)
MarkFeed	X
ChangePrintSide	X
ValidateData	O
TransactionPrint	O
SetLogo	O
SetBitmap	X
RotatePrint	X
EndRemoval	O
BeginRemoval	O
EndInsertion	O
BeginInsertion	O
ClearPrintArea	X
PageModePrint	X

O: Supported

X : Unsupported

### 3.3 Escape Sequences

The following figure is about supported/unsupported Escape Sequences.

Escape Sequence	Receipt	Journal	Slip
#P	0~100 <sup>*1</sup>	X	X
#fP	0~100 <sup>*1</sup>	X	X
#sP	0~100 <sup>*1</sup>	X	X
sL	O	X	X
#B	X	X	X
tL	O	O	O
bL	O	O	O
#R	X	X	X
#lF	0~9999	0~9999	X
#uF	X	X	X
#rF Maximum [inch]	X	X	X
#E	0~65535	0~65535	0~65535
#fT	X	X	X
[!]bC	X	X	X
#uC	1	1	1
[!]iC	X	X	X
#rC	1	1	1
[!]rvC	X	X	X
#sC	X	X	X
#fC	X	X	X
[!]tbC	X	X	X
[!]tpC	X	X	X
1C	O	O	O
2C	O	O	O
3C	X	X	X
4C	X	X	X
#hC	1~2	1~2	1~2
#vC	1	1	1
cA	X	X	X
rA	X	X	X
lA	X	X	X
N	O	O	O

O:Supported

X :Unsupported

Numbers: Settable range

<sup>\*1</sup> Supports only for the models with an auto cutter.

### 3.4 Printing Positions

The RP-U420 models support the function for setting printing position.

Function	Receipt	Journal	Slip
Left margin	X	X	X
Printing Position	X	X	X

O: Supported

X : Unsupported

## Section 4. Warnings

---

This section describes precautions in use of the RP-U420

- Manual cutter type is available as a factory option. If the Manual Cutter is used ensure DIP-SW1-7 is ON.
- RP-U420 models do not support the auto status back function. For this reason OPOS cannot detect the status of the printer. If a drawer is hydra-connected via one on these printers, the drawer status will not be recognized. As a result the drawer CapStatus property will be FALSE.
- Only one line validation printing is possible. Line feed data is ignored. When there is more than one line of print data, ResultCode will be set to OPOS\_E\_ILLEGAL, and ResultCodeExtended will be set to OPOS\_EX\_BADPARAM+2.
- Slip Handling methods only check the parameters. Slip insertion and removal may be performed manually at any time.
- RP-U420 models do not completely support Escape Sequence #uF. If this escape sequence is used the amount fed with be rounded to the closest number of lines. If data containing #uF is checked with the ValidateData method, OPOS\_E\_ILLEGAL is returned.