ESC/POS iOS SDK Reference Guide

Item	Content
Language	Objective-C
iOS Version	iOS 6.0 and above
framework	PrinterCommand.framework

Update

Content	Date
Coding ESC/POS Command SDK	2016.3.21
Establishing ESC/POS SDK Reference Guide	2016.8.25

1 Print Commands

1.1 Print and line feed

- **Description**

  > - Prints the data in the print buffer and feeds one line, based on the current line spacing.
  > - 打印并走纸一行

- **Objective-C (iOS)**

```
- (void)printAndLineFeed;
```

- **Sample Code (Objective-C)**

1.2 Print and return to standard mode

- **Description**

  > - In page mode, prints all the data in the print buffer collectively and switches from page mode to standard mode.
  > - 打印并回到标准模式(页模式)

- **Objective-C (iOS)**

```
- (void)printAndReturnStandardMode;
```

- **Sample Code (Objective-C)**

1.3 Print and carriage return

- **Description**

> - Executes one of the following operations.
> - 回车

- **Objective-C (iOS)**

```
- (void)printAndCarriageReturn
```

- **Sample Code (Objective-C)**

1.4 Print data in page mode

- **Description**

> - In page mode, prints the data in the print buffer collectively.
> - 在页模式下打印数据

- **Objective-C (iOS)**

```
- (void)printDataInPageMode;
```

- **Sample Code (Objective-C)**

1.5 Print and feed paper

- **Description**

> - Prints the data in the print buffer and feeds the paper n × (vertical or horizontal motion unit).
> - 打印并走纸

- **Objective-C (iOS)**

```
- (void)printAndFeed:(NSInteger)offset;
```

- **Parameter**

Parameter	Range
offset	0 to 255

- **Sample Code (Objective-C)**

1.6 Print and reverse feed

- **Description**

> - Prints the data in the print buffer and feeds the paper n × (vertical motion unit) in the reverse direction.
> - 打印并回纸

- **Objective-C (iOS)**

```
- (void)printAndReverseFeed:(NSInteger)offset;
```

- **Parameter**

Parameter	Range
offset	0 to 48

- **Sample Code (Objective-C)**

1.7 Print and feed lines

- **Description**

  - Prints the data in the print buffer and feeds n lines.
  - 打印并向前走纸n行

- **Objective-C (iOS)**

```
- (void)printAndFeedLines:(NSInteger)lines;
```

- **Parameter**

Parameter	Range
lines	0 to 255

- **Sample Code (Objective-C)**

1.8 Print and reverse feed lines

- **Description**

  - Prints the data in the print buffer and feeds n lines in the reverse direction.
  - 打印并回纸n行

- **Objective-C (iOS)**

```
- (void)printAndReverseFeedLines:(NSInteger)lines;
```

- **Parameter**

Parameter	Range
lines	0 to 2

- **Sample Code (Objective-C)**

2 Line Spacing Commands

2.1 Set default line spacing

- **Description**

  > - Sets the line spacing to the "default line spacing."
  > - 设置默认行距

- **Objective-C (iOS)**

```
- (void)setLineSpacingDefault;
```

- **Sample Code (Objective-C)**

2.2 Set line spacing

- **Description**

  > - Sets the line spacing to n × (vertical or horizontal motion unit).
  > - 设置行距

- **Objective-C (iOS)**

```
- (void)setLineSpacing:(NSInteger)spacing;
```

- **Parameter**

Parameter	Range
spacing	0 to 255

- **Sample Code (Objective-C)**

3 Character Commands

3.1 Cancel print data in page mode

- **Description**

  > - In page mode, deletes all the print data in the current print area.
  > - 在页模式下取消打印数据

- **Objective-C (iOS)**

```
- (void)cancelPrint;
```

- **Sample Code (Objective-C)**

3.2 Set right-side character spacing

- **Description**

  > - Sets the right-side character spacing to n × (horizontal or vertical motion unit).
  > - 设置右边字符间隔

- **Objective-C (iOS)**

```
- (void)setRightCharacterSpacing:(NSInteger)spacing;
```

- **Parameter**

Parameter	Range
spacing	0 to 255

- **Sample Code (Objective-C)**

3.3 Set print mode

- **Description**

  > - Selects the character font and styles (emphasized, double-height, double-width, and underline).
  > - 设置打印模式(大小字体、粗体、倍高、倍宽、下划线)

- **Objective-C (iOS)**

```
- (void)setTextMini:(BOOL)mini
               bold:(BOOL)bold
       doubleHeight:(BOOL)doubleHeight
        doubleWidth:(BOOL)doubleWidth
          underline:(BOOL)underline;
```

- **Sample Code (Objective-C)**

3.4 Set/cancel user-defined character set

- **Description**

  > 设置或取消字符设置
  >
  > Selects or cancels the user-defined character set.
  >
  > - When the LSB of `mode` is 0, the user-defined character set is canceled.
  > - When the LSB of `mode` is 1, the user-defined character set is selected.

- **Objective-C (iOS)**

```
- (void)setUserDefinedCharacterSet:(NSInteger)set;
```

- **Parameter**

Parameter	Range
mode	0 to 255

- **Sample Code (Objective-C)**

3.5. Define user-defined characters

- **Description**

> 定义用户已设定的字符
>
> Defines the user-defined character pattern for the specified character codes.

- **Objective-C (iOS)**

```
- (void)defineCharactersWithCodeStart:(NSInteger)codeStart
                              codeEnd:(NSInteger)codeEnd
                           horizontal:(NSInteger)horizontal
                                 data:(NSData *)data;
```

- **Parameter**
- **Sample Code (Objective-C)**

3.6 Turn underline mode on/off

- **Description**

> 下划线模式开关

- **Objective-C (iOS)**

```
- (void)setUnderline:(NSInteger)underline;
```

- **Parameter**
  - Default: 0

Range	Description
0,48	Turns off underline mode
1,49	Turns on underline mode (1-dot thick)
2,50	Turns on underline mode (2-dot thick)

- **Sample Code (Objective-C)**

3.7 Cancel user-defined characters

- **Description**

  - Deletes the user-defined character pattern specified by character code n.
  - 取消用户已设定的字符

- **Objective-C (iOS)**

```
- (void)cancelUserDefinedCharacters:(NSInteger)n;
```

- **Parameter**

Parameter	Range
n	32 to 126

- **Sample Code (Objective-C)**

3.8 Turn emphasized mode on/off

- **Description**

  字符加粗开关

  Turns emphasized mode on or off.

  - When the LSB of `mode` is 0, emphasized mode is turned off.
  - When the LSB of `mode` is 1, emphasized mode is turned on.

- **Objective-C (iOS)**

```
- (void)setBold:(NSInteger)bold;
```

- **Parameter**

Parameter	Range
mode	0 to 255

- **Sample Code (Objective-C)**

3.9 Turn double-strike mode on/off

- **Description**

  > 字符黑体字开关
  >
  > Turns double-strike mode on or off.
  >
  > - When the LSB of `mode` is 0, double-strike mode is turned off.
  > - When the LSB of `mode` is 1, double-strike mode is turned on.

- **Objective-C (iOS)**

```
- (void)setDoubleStrike:(NSInteger)doubleStrike;
```

- **Parameter**

Parameter	Range	Default
mode	0 to 255	0

- **Sample Code (Objective-C)**

3.10 Set character font

- **Description**

  > 设置字符字体

- **Objective-C (iOS)**

```
- (void)setCharacterFont:(NSInteger)font;
```

- **Parameter**

Range	Description
0, 48	Font A
1, 49	Font B
2, 50	Font C
97	Extended Font

- **Sample Code (Objective-C)**

3.11 Set an international character set

- **Description**

> 设置国际字符
>
> Selects an international character set n as follows:

- **Objective-C (iOS)**

```
- (void)setInternationalCharacterSet:(NSInteger)set;
```

- **Parameter**

Range	Country
0	U.S.A.
1	France
2	Germany
3	U.K.
4	Denmark I
5	Sweden
6	Italy
7	Spain
8	Japan
9	Norway
10	Denmark II
11	Spain II
12	Latin America
13	Korean
14	Slovenia / Croatia
15	Chinese

- **Sample Code (Objective-C)**

3.12 Turn 90° clockwise rotation mode on/off

- **Description**

> In standard mode, turns 90° clockwise rotation mode on or off for characters, using n as follows:

- **Objective-C (iOS)**

```
- (void)setVerticalMode:(NSInteger)mode;
```

- **Parameter**
  - Default : 0

Range	Description
0, 48	Turns off 90° clockwise rotation mode.
1, 49	Turns on 90° clockwise rotation mode (1-dot character spacing).
2, 50	Turns on 90° clockwise rotation mode (1.5-dot character spacing).

- **Sample Code (Objective-C)**

3.13 Set print color

- **Description**

> 设置打印颜色

- **Objective-C (iOS)**

```
- (void)setPrintColor:(NSInteger)color;
```

- **Parameter**
  - Default : 0

Range	Description
0, 48	Black
1, 49	Red

- **Sample Code (Objective-C)**

3.14 Set character code table

- **Description**

> 设置字符编码表

- **Objective-C (iOS)**

```
- (void)setCharacterCodeTable:(NSInteger)table;
```

- **Parameter**

Range	Description
0	Page 0 [PC437 (U.S.A., Standard Europe)]
1	Page 1 [Katakana]
2	Page 2 [PC850 (Multilingual)]
3	Page 3 [PC860 (Portuguese)]
4	Page 4 [PC863 (Canadian-French)]
5	Page 5 [PC865 (Nordic)]
6	Page 6 [Simplified Kanji, Hirakana]
7	Page 7 [Simplified Kanji]
8	Page 8 [Simplified Kanji]
16	Page 16 [WPC1252]
17	Page 17 [PC866 (Cyrillic #2)]
18	Page 18 [PC852 (Latin 2)]
19	Page 19 [PC858 (Euro)]
254	Page 254
255	Page 255

- **Sample Code (Objective-C)**

3.15 Turn upside-down print mode on/off

- **Description**

> 颠倒打印开关
>
> In standard mode, turns upside-down print mode on or off.
>
> - When the LSB of n is 0, upside-down print mode is turned off.
> - When the LSB of n is 1, upside-down print mode is turned on.

- **Objective-C (iOS)**

```
- (void)setUpToDownMode:(NSInteger)mode;
```

- **Parameter**

Parameter	Range	Default
mode	0 to 255	0

- **Sample Code (Objective-C)**

3.16 Set character color

- **Description**

  > 设置字符颜色

- **Objective-C (iOS)**

```
- (void)setCharacterColor:(NSInteger)color;
```

- **Parameter**

Range	Character Color
48	None (No Print)
49	color 1
50	color 2
51	color 3

- **Sample Code (Objective-C)**

3.17 Set background color

- **Description**

  > 设置背景颜色

- **Objective-C (iOS)**

```
- (void)setBackgroundColor:(NSInteger)color;
```

- **Parameter**

Range	Background Color
48	None (No Print)
49	color 1
50	color 2
51	color 3

- **Sample Code (Objective-C)**

3.18 Turn shading mode on/off

- **Description**

  > 阴影模式开关

- **Objective-C (iOS)**

```
- (void)setShadowMode:(NSInteger)mode color:(NSInteger)color;
```

- **Parameter**

  - mode

mode	Description
0, 48	Character shadow mode is turned on.
1, 49	Character shadow mode is turned off.

  - color

color	shadow Color
48	None (No Print)
49	color 1
50	color 2
51	color 3

- **Sample Code (Objective-C)**

3.19 Set character size

- **Description**

  > Selects the character height (vertical number of times normal font size) using bits 0 to 2 and selects the character width (horizontal number of times normal font size) using bits 4 to 6, as follows:

- **Objective-C (iOS)**

```
- (void)setCharacterWidth:(NSInteger)width height:(NSInteger)height;
```

- **Parameter**

Parameter	Range	Default
width	0 to 8	0
height	0 to 8	0

- **Sample Code (Objective-C)**

3.20 Turn white/black reverse print mode on/off

- **Description**

> Turns white/black reverse print mode on or off.
>
> - When the LSB of n is 0, white/black reverse print mode is turned off.
> - When the LSB of n is 1, white/black reverse print mode is turned on

- **Objective-C (iOS)**

```
- (void)setReverse:(NSInteger)reverse;
```

- **Parameter**

Parameter	Range	Default
reverse	0 to 255	0

- **Sample Code (Objective-C)**

3.21 Turn smoothing mode on/off

- **Description**

> Turns smoothing mode on or off.
>
> - When the LSB of n is 0, smoothing mode is turned off.
> - When the LSB of n is 1, smoothing mode is turned on.

- **Objective-C (iOS)**

```
- (void)setSmooth:(NSInteger)smooth;
```

- **Parameter**

Parameter	Range	Default
reverse	0 to 255	0

- **Sample Code (Objective-C)**

4 Panel Button Commands

4.1 Enable/disable panel buttons

- **Description**

> Enables or disables the panel buttons.
>
> - When the LSB of n is 0, all buttons are enabled.
> - When the LSB of n is 1, all buttons are disabled.

- **Objective-C (iOS)**

```
- (void)setPanelButtonMode:(NSInteger)mode;
```

- **Parameter**

Parameter	Range	Default
reverse	0 to 255	0

- **Sample Code (Objective-C)**

5 Paper Sensor Commands

5.1 Set paper sensor(s) to output paper-end signals

- **Description**

> 是否使用纸尽传感器

- **Objective-C (iOS)**

```
- (void)enableOutPaperSensor:(BOOL)enable;
```

- **Sample Code (Objective-C)**

5.2 Set paper sensor(s) to stop printing

- **Description**

> 是否使用传感器停止打印

- **Objective-C (iOS)**

```
- (void)enableStopPrintSensor:(BOOL)enable;
```

- **Sample Code (Objective-C)**

6 Print Position Commands

6.1 Horizontal tab

- **Description**

> - Moves the print position to the next horizontal tab position.
> - 横向跳格

- **Objective-C (iOS)**

```
- (void)setHorizontalTab;
```

- **Sample Code (Objective-C)**

6.2 Set absolute print position

- **Description**

> - Moves the print position to (xPos + yPos × 256) × (horizontal or vertical motion unit) from the left edge of the print area.
> - 设置绝对打印位置(x、y 起始坐标)

- **Objective-C (iOS)**

```
- (void)setAbsolutePosition:(NSInteger)position;
```

- **Parameter**

Parameter	Range
position	0 to 65535

- **Sample Code (Objective-C)**

6.3 Set horizontal tab positions

- **Description**

> Sets horizontal tab positions
>
> - n specifies the number of digits from the setting position to the left edge of the print area.
> - k indicates the number of horizontal tab positions to be set.

- **Objective-C (iOS)**

```
- (void)setHorizontalTabPositionsData:(NSData *)data
```

- **Parameter**
- **Sample Code (Objective-C)**

6.4 Set print direction in page mode

- **Description**

> 在页模式下设置打印方向

- **Objective-C (iOS)**

```
- (void)setPrintDirectionInPageMode:(NSInteger)direction;
```

- **Parameter**

Range	Print Direction	Start Position
0,48	Left to right	Upper left
1,49	Bottom to top	Lower left
2,50	Right to left	Lower Right
3,51	Top to Bottom	Upper Right

- **Sample Code (Objective-C)**

6.5 Set print area in page mode

- **Description**

> 在页模式下设置打印区域

- **Objective-C (iOS)**

```
- (void)pageSetPrintAreaWithXPos:(NSInteger)xPos
                            yPos:(NSInteger)yPos
                           width:(NSInteger)width
                          height:(NSInteger)height;
```

- **Parameter**

Parameter	Range
xPos	0 to 65535
yPos	0 to 65535
width	0 to 65535
height	0 to 65535

- **Sample Code (Objective-C)**

6.6 Set relative print position

- **Description**

> 设置相对打印位置

- **Objective-C (iOS)**

```
- (void)setRelativePosition:(NSInteger)position
```

- **Parameter**

Parameter	Range
position	0 to 65535

- **Sample Code (Objective-C)**

6.7 Set justification

- **Description**

> 设置对齐方式

- **Objective-C (iOS)**

```
- (void)setJustification:(NSInteger)justification;
```

- **Parameter**

Range	Description
0, 48	Left
1, 49	Center
2, 50	Right

- **Sample Code (Objective-C)**

6.8 Set absolute vertical print position in page mode

- **Description**

> 在页模式下设置绝对垂直打印位置

- **Objective-C (iOS)**

```
- (void)pageSetAbsoluteYPos:(NSInteger)yPos;
```

- **Parameter**

Parameter	Range
position	0 to 65535

- **Sample Code (Objective-C)**

6.9 Set left margin

- **Description**

> 设置左边空白宽度

- **Objective-C (iOS)**

```
- (void)setLeftMargin:(NSInteger)left
```

- **Parameter**

Parameter	Range
left	0 to 65535

- **Sample Code (Objective-C)**

6.10 Set print position to the beginning of print line

- **Description**

> In standard mode, moves the print position to the beginning of the print line after performing the operation specified by n.

- **Objective-C (iOS)**

```
- (void)setLinePrintPositionMode:(NSInteger)mode;
```

- **Parameter**

Range	Description
0, 48	Cancel data in the current print buffer
1, 49	Print data in the current print buffer

- **Sample Code (Objective-C)**

6.11 Set print area width

- **Description**

> 设置打印区域宽度

- **Objective-C (iOS)**

```
- (void)setPrintAreaWidth:(NSInteger)width;
```

- **Parameter**

Parameter	Range
width	0 to 65535

- **Sample Code (Objective-C)**

6.12 Set relative vertical print position in page mode

- **Description**

> 在页模式下设置相对垂直打印位置
>
> In page mode, moves the vertical print position to `yPos` from the current position.

- **Objective-C (iOS)**

```
- (void)pageSetRelativeYPos:(NSInteger)yPos;
```

- **Parameter**

Parameter	Range
yPos	-32768 to 32767

- **Sample Code (Objective-C)**

7 Bit Image Commands

7.1 Set bit-image mode

- **Description**

> 设置位图模式
>
> Stores the bit image data in the print buffer using the mode specified by bit image mode m as follows:

- **Objective-C (iOS)**

```
- (void)setImageMode:(NSInteger)mode imageWidth:(NSInteger)width
data:(NSData *)data;
```

- **Parameter**

m	Bit image Mode	Number of bits for vertical data	Dot density in horizontal
0	8-dot single-density	8	Single-density
1	8-dot double-density	8	double-density
32	24-dot single-density	24	Single-density
33	24-dot double-density	24	double-density

- **Sample Code (Objective-C)**

7.2 Print NV bit image

- **Description**

  > 打印NV位图

- **Objective-C (iOS)**

```
- (void)setNVBitImage:(NSInteger)imageID Mode:(NSInteger)mode;
```

- **Parameter**
  - imageID

Parameter	Valid Range
imageID	0 to 255

- Mode

Mode	Description	Scaling for horizontal	Scaling for vertical
0,48	Normal	x1	x1
1,49	Double-Width	x2	x1
2,50	Double-Height	x1	x2
3,51	Quadruple	x2	x2

- **Sample Code (Objective-C)**

7.3 Transmit the NV graphics memory capacity.

- **Description**

> Transmits the entire capacity of the NV graphics area (number of bytes in the NV graphics area).
>
> This function does not require ESC/POS Handshaking Protocol.

- **Objective-C (iOS)**

```
- (void)setNVGraphicsMemorySize:(NSString *)size;
```

- **Parameter**

Send data	Hex	Decimal	Data length
Header	37H	55	1 byte
Identifier	30H	48	1 byte
Entire capacity	30H to 39H	48 to 57	1 to 8 byte
NUL	00H	0	1 byte

- **Sample Code (Objective-C)**

7.4 Set the reference dot density for graphics.

- **Description**

> 设置图形点密度标准
>
> Sets the reference dot density to process the graphics data or bit image data. (dpi: dots per inch)
>
> - [180 dpi × 180 dpi] is selected when x=50
> - [360 dpi × 360 dpi] is selected when x=5

- **Objective-C (iOS)**

```
- (void)setGraphicDotDensity:(NSInteger)fn x:(NSInteger)x;
```

- **Parameter**

Parameter	Valid Range
fn	1, 49
x	50, 51

- **Sample Code (Objective-C)**

7.5 Print the graphics data in the print buffer.

- **Description**

  > 打印在打印缓存的图形数据
  >
  > Prints the buffered graphics data stored by the process of `GS ( L`

- **Objective-C (iOS)**

```
- (void)printBufferGraphic:(NSInteger)fn;
```

- **Parameter**

Parameter	Valid Range
fn	2, 50

- **Sample Code (Objective-C)**

7.6 Transmit the remaining capacity of the NV graphics memory.

- **Description**

  > 传输NV图形内存剩余容量
  >
  > Transmits the number of bytes of remaining memory (unused area) in the NV graphics area.
  >
  > - This function does not require ESC/POS Handshaking Protocol.

- **Objective-C (iOS)**

```
- (void)transmitGraphicRemainingMemory:(NSInteger)fn;
```

- **Parameter**

Send data	Hex	Decimal	Data length
Header	37H	55	1 byte
Identifier	31H	49	1 byte
Unused Capacity	30H to 39H	48 to 57	1 to 8 byte
NUL	00H	0	1 byte

- **Sample Code (Objective-C)**

7.7 Transmit the remaining capacity of the download graphics memory.

- **Description**

  > 传输下载图形内存的剩余容量
  >
  > Transmits the number of bytes of remaining memory (unused area) in the downloaded graphics area.
  >
  > - This function does not require ESC/POS Handshaking Protocol.

- **Objective-C (iOS)**

```
- (void)transmitDownloadGraphicRemainingMemory:(NSInteger)fn;
```

- **Parameter**

  > See 7.6 Parameter Table

- **Sample Code (Objective-C)**

7.8 Transmit the key code list for defined NV graphics.

- **Description**

  > 传输已定义NV图形键值表
  >
  > Transmits the defined NV graphics key code list.
  >
  > - This function does require ESC/POS Handshaking Protocol.

- **Objective-C (iOS)**

```
- (void)transmitNVGrapihcKeyCodeList;
```

- **Parameter**

Send data	Hex	Decimal	Data length
Header	37H	55	1 byte
Identifier	72H	114	1 byte
Identification status	40H to 41H	64	1 byte
Data	30H to 39H	48 to 57	2 to 80 byte
NUL	00H	0	1 byte

- **Sample Code (Objective-C)**

7.9 Delete all NV graphics data.

- **Description**

> 删除所有NV图形数据
>
> Deletes all NV graphics data that has been defined using Functions 7.10 or 7.11
>
> - Deleted areas are designated “Unused areas.”
> - All key codes are designated as undefined.

- **Objective-C (iOS)**

```
- (void)deleteNVGraphicAll
```

- **Sample Code (Objective-C)**

7.10 Delete the specified NV graphics data.

- **Description**

> 删除指定的NV图形数据
>
> Deletes the NV graphics data defined by the key codes (kc1 and kc2).
>
> - Deleted areas are designated “Unused areas.”
> - Deleted key codes are designated as undefined.

- **Objective-C (iOS)**

```
- (void)deleteNVGraphicWithKeycode1:(NSInteger)keycode1 keycode2:(NSInteger)keycode2
```

- **Parameter**
- **Sample Code (Objective-C)**

7.11 Define NV graphics data

- **Description**

> 定义NV像素图图形数据

- **Objective-C (iOS)**

```objc
// Raster NV Graphic
- (void)defineRasterNVGraphicData:(NSData *)data
                          keycode:(NSInteger)keycode
                         keycode2:(NSInteger)keycode2
                       imageWidth:(NSInteger)imageWidth
                      imageHeight:(NSInteger)imageHeight;
// Column NV Graphic
- (void)defineColumnNVGraphicData:(NSData *)data
                          keycode:(NSInteger)keycode
                         keycode2:(NSInteger)keycode2
                       imageWidth:(NSInteger)imageWidth
                      imageHeight:(NSInteger)imageHeight;
```

- **Parameter**

Parameter	Valid Range
keycode	32 to 126
keycode2	32 to 126
imageWidth	1 to 8182
imageHeight	1 to 2304

- **Sample Code (Objective-C)**

7.12 Print the specified NV graphics data.

- **Description**

> 打印指定的NV图形数据

- **Objective-C (iOS)**

```objc
- (void)printNVGraphicWithKeycode:(NSInteger)keycode
                         keycode2:(NSInteger)keycode2
                           xScale:(NSInteger)xScale
                           yScale:(NSInteger)yScale
```

- **Parameter**

Parameter	Valid Range
keycode	32 to 126
keycode2	32 to 126
xScale	1 to 2
yScale	1 to 2

- **Sample Code (Objective-C)**

7.13 Transmit Graphic Key Code List

- **Description**

> Transmit the key code list for defined download graphics.

- **Objective-C (iOS)**

```
- (void)transmitGraphicKeycodeList
```

- **Sample Code (Objective-C)**

7. 14 Delete Downloaded NV Graphic All

- **Description**

> Deletes all downloaded graphics data that has been defined using Functions 7.15 and 7.16

- **Objective-C (iOS)**

```
- (void)deleteDownloadedNVGraphicAll
```

- **Sample Code (Objective-C)**

7.15 Delete specified download graphics data.

- **Description**

> 打印指定的NV图形数据

- **Objective-C (iOS)**

```
- (void)deleteDownloadedNVGraphicKeycode:(NSInteger)keycode
keycode2:(NSInteger)keycode2
```

- **Parameter**

Parameter	Valid Range
keycode	32 to 126
keycode2	32 to 126

- **Sample Code (Objective-C)**

7. 16 Define Downloaded NV graphics data

- **Description**

> 定义NV像素图图形数据

- **Objective-C (iOS)**

```
- (void)defineDownloadedRasterNVGraphicData:(NSData *)data
                                    keycode:(NSInteger)keycode
                                   keycode2:(NSInteger)keycode2
                                 imageWidth:(NSInteger)imageWidth
                                imageHeight:(NSInteger)imageHeight;

- (void)defineDownloadedColumnNVGraphicData:(NSData *)data
                                    keycode:(NSInteger)keycode
                                   keycode2:(NSInteger)keycode2
                                 imageWidth:(NSInteger)imageWidth
                                imageHeight:(NSInteger)imageHeight;
```

- **Parameter**

Parameter	Valid Range
keycode	32 to 126
keycode2	32 to 126
imageWidth	1 to 8182
imageHeight	1 to 2304

- **Sample Code (Objective-C)**

7.17 Print Downloaded NV Graphic

- **Description**

> Define thedownloaded graphics data (raster format).

- **Objective-C (iOS)**

```
- (void)printDownloadedNVGraphicWithKeycode:(NSInteger)keycode
                                   keycode2:(NSInteger)keycode2
                                     xScale:(NSInteger)xScale
                                     yScale:(NSInteger)yScale;
```

- **Parameter**

Parameter	Valid Range
keycode	32 to 126
keycode2	32 to 126
xScale	1 to 2
yScale	1 to 2

- **Sample Code (Objective-C)**

7.18 Store Graphic Data

- **Description**

> Store the graphics data in the print buffer

- **Objective-C (iOS)**

```
- (void)storeRasterGraphicData:(NSData *)data
                        xScale:(NSInteger)xScale
                        yScale:(NSInteger)yScale
                    imageWidth:(NSInteger)imageWidth
                   imageHeight:(NSInteger)imageHeight;

- (void)storeColumnGraphicData:(NSData *)data
                        xScale:(NSInteger)xScale
                        yScale:(NSInteger)yScale
                    imageWidth:(NSInteger)imageWidth
                   imageHeight:(NSInteger)imageHeight;
```

- **Parameter**

Parameter	Valid Range
xScale	1 to 2
yScale	1 to 2

- **Sample Code (Objective-C)**

7.19 Define NV Bit Image

- **Description**

  > Defines the NV bit image in the NV graphics area

- **Objective-C (iOS)**

```
- (void)defineNVGraphicData:(NSData *)data number:(NSInteger)number;
```

- **Parameter**
- **Sample Code (Objective-C)**

7.20 Define Downloaded Bit Image

- **Description**

  > Defines the downloaded bit image in the downloaded graphic area.

- **Objective-C (iOS)**

```
- (void)defineDownloadedImage:(NSData *)imageData
                   widthBytes:(NSInteger)widthBytes
                  heightBytes:(NSInteger)heightBytes
```

- **Parameter**

Parameter	Valid Range
widthBytes	1 to 255
heightBytes	1 to 255

- **Sample Code (Objective-C)**

7.21 Print Downloaded Bit Image

- **Description**

  > Print downloaded bit image

- **Objective-C (iOS)**

```
- (void)printDownloadedImageWithMode:(NSInteger)mode
```

- **Parameter**

Valid Range	Mode	Width Scale	Height Scale
0, 48	Normal	x1	x1
1, 49	Double-Width	x2	x1
2, 50	Double-Height	x1	x2
3, 51	Quadruple	x2	x2

- **Sample Code (Objective-C)**

7.22 Print Variable Vertical Size Bit Image

- **Description**

> Prints a variable vertical size bit image using the scale mode. see 7.21

- **Objective-C (iOS)**

```
- (void)printVariableHeightImage:(NSData *)imageData
                           scale:(NSInteger)scale
                           width:(NSInteger)width
                          height:(NSInteger)height
```

- **Parameter**

Parameter	Valid Range
scale	0 to 3, 49 to 51. see 7.21
width	1 to 4256
height	1 to 16

- **Sample Code (Objective-C)**

8 Status Commands

8.1 Transmit real-time status

- **Description**

> 传输实时状态

- **Objective-C (iOS)**

```
- (void)transmitRealTimeStatus:(NSInteger)status
```

- **Parameter**

Valid Range	Description
1	Transmit printer status
2	Transmit offline status
3	Transmit error status
4	Transmit roll paper sensor status
7	Transmit ink status
8	Transmit peeler status

- **Sample Code (Objective-C)**

8.2 Transmit peripheral device status

- **Description**

> Transmits the peripheral device status as 1 byte of data.

- **Objective-C (iOS)**

```
- (void)transmitPeripheralDeviceStatus:(NSInteger)status
```

- **Parameter**

Parameter	Valid Range
status	0, 48

- **Sample Code (Objective-C)**

8.3 Transmit paper sensor status

- **Description**

> Transmits the status of paper sensor(s) as 1 byte of data.

- **Objective-C (iOS)**

```
- (void)transmitPaperSonsorStatus
```

- **Sample Code (Objective-C)**

8.4 Set auto status back status

- **Description**

> Enables or disables basic ASB (Automatic Status Back) and specifies the status items to include, using n as follows:

- **Objective-C (iOS)**

```
- (void)setASBStatusWithDrawer:(BOOL)drawer
                       offline:(BOOL)offline
                         error:(BOOL)error
                      rollPaper:(BOOL)rollPaper
                    panelSwitch:(BOOL)panelSwitch
```

- **Parameter**

Parameter	Description
drawer	Drawer kick-out connector status
offline	Online/offline status
error	Error status
rollPaper	Roll paper sensor status
panelSwitch	Panel switch status

- **Sample Code (Objective-C)**

8.5 Automatic Status Back (ASB) for ink

- **Description**

> Enables or disables the ink ASB (Automatic Status Back) and specifies the status items to include

- **Objective-C (iOS)**

```
- (void)setInkASBWithOffline:(BOOL)offline detection:(BOOL)detection
```

- **Parameter**

Parameter	Description
offline	online/offline status of the ink mechanism
detection	ink status detection

- **Sample Code (Objective-C)**

8.6 Transmit Status

- **Description**

> 传输状态

- **Objective-C (iOS)**

```
- (void)transmitStatus:(NSInteger)status
```

- **Parameter**

Valid Range	Description
1, 49	Transmits paper sensor status
2, 50	Transmits drawer kick-out connector status
4, 52	Transmits ink status

- **Sample Code (Objective-C)**

9 Barcode Commands

9.1 HRI Font

- **Description**

> 设置打印条码数字字体

- **Objective-C (iOS)**

```
- (void)setHRIFont:(NSInteger)font
```

- **Parameter**

Valid Range	Description
0, 48	Font A
1, 49	Font B
2, 50	Font C

- **Sample Code (Objective-C)**

9.2 Append Barcode

- **Description**

> 添加条形码

- **Objective-C (iOS)**

```
- (void)appendBarcode:(ESCBarcode)type
                 data:(NSString *)data
        justification:(NSInteger)justification
                width:(NSInteger)width
               height:(NSInteger)height
                  hri:(NSInteger)hri
```

- **Parameter**
  - type

```
typedef NS_ENUM(NSInteger, ESCBarcode) {

    ESCBarcodeA_UPCA    = 0,
    ESCBarcodeA_UPCE    = 1,
    ESCBarcodeA_EAN13   = 2,
    ESCBarcodeA_EAN8    = 3,
    ESCBarcodeA_CODE39  = 4,
    ESCBarcodeA_ITF     = 5,
    ESCBarcodeA_CODEBAR = 6,

    ESCBarcodeB_UPCA    = 65,
    ESCBarcodeB_UPCE    = 66,
    ESCBarcodeB_EAN13   = 67,
    ESCBarcodeB_EAN8    = 68,
    ESCBarcodeB_CODE39  = 69,
    ESCBarcodeB_ITF     = 70,
    ESCBarcodeB_CODEBAR = 71,
    ESCBarcodeB_CODE93  = 72,
    ESCBarcodeB_CODE128 = 73,
    ESCBarcodeB_EAN128  = 74,
    ESCBarcodeB_RSS14   = 75,
    ESCBarcodeB_RSS14T  = 76,
    ESCBarcodeB_RSSL    = 77,
    ESCBarcodeB_RSSE    = 78,
};
```

  - justification

    > See 6.7

  - width/height

Parameter	Valid Range
width/height	0 to 255

  - hri

Valid Range	Description
0,48	None
1,49	Above the barcode
2,50	Below the barcode
3,51	Both above and below

- **Sample Code (Objective-C)**

10 Macro Function Commands

10.1 Define Macro

- **Description**

> Starts or ends macro definition.

- **Objective-C (iOS)**

```
- (void)defineMacro
```

- **Sample Code (Objective-C)**

10.2 Execute macro

- **Description**

> Executes a macro `times` times while waiting `waitTimes` × 100 msec for each macro execution, using the mode specified by `mode` as follows:
>
> - When `mode` = 0, the macro executes `times` times continuously at the interval specified by `waitTimes`.
> - When `mode` = 1, the printer waits for the period specified by `waitTimes`, flashes the LED, and then waits for the paper feed button to be pressed. After this button is pressed, the printer executes the macro once. The printer repeats this operation `times` times.

- **Objective-C (iOS)**

```
- (void)executeMacroWithTimes:(NSInteger)times
                    waitTimes:(NSInteger)waitTimes
                         mode:(NSInteger)mode
```

- **Parameter**

Parameter	Valid Range
times	1 to 255
waitTimes	0 to 255
mode	0, 1

- **Sample Code (Objective-C)**

11 Mechanism Control Commands

11.1 Return Home

- **Description**

> Moves the print head to the standby position.

- **Objective-C (iOS)**

```
- (void)returnHome
```

- **Sample Code (Objective-C)**

11.2 Set Unidirectional Print Mode

- **Description**

> Turns unidirectional print mode on or off.
>
> - When the LSB of n is 0, unidirectional print mode is turned off.
> - When the LSB of n is 1, unidirectional print mode is turned on.

- **Objective-C (iOS)**

```
- (void)setUnidirectionalPrintMode:(NSInteger)mode
```

- **Parameter**

Valid Range	Description
0	OFF
1	ON
0 to 255	

- **Sample Code (Objective-C)**

11.3 Set Partial Cut

- **Description**

> Executes a partial cut of the roll paper.

- **Objective-C (iOS)**

```
- (void)setPartialCut1; // one point left uncut
- (void)setPartialCut3; // three point left uncut
```

- **Sample Code (Objective-C)**

11.4 Set Cut Mode and Distance

- **Description**

> Select cut mode and cut paper

- **Objective-C (iOS)**

```
- (void)setCutMode:(NSInteger)mode distance:(NSInteger)distance
```

- **Parameter**

Mode Valid Range	Description
0, 48	Executes a full cut (cuts the paper completely).
1, 49	Executes a partial cut (one point left uncut).

- **Sample Code (Objective-C)**

12 Miscellaneous Commands

12.1 Send Real Time Request

- **Description**

> Responds to a request in real time from the host computer

- **Objective-C (iOS)**

```
- (void)sendRealTimeRequest:(NSInteger)request
```

- **Parameter**

Range	Description
0	Recovers to online status when following online recovery waiting status.
1	Recovers from a recoverable error and restarts printing from the line where the error occurred.
2	Recovers from a recoverable error after clearing the receive and print buffers.

- **Sample Code (Objective-C)**

12.2 Generate Pulse in Real-Time

- **Description**

> Outputs the pulse specified by `time` to connector pin `mode` as follows in real time

- **Objective-C (iOS)**

```
- (void)generatePulseWithMode:(NSInteger)mode Time:(NSInteger)time
```

- **Parameter**

Mode Range	Description
0	Drawer kick-out connector pin 2
1	Drawer kick-out connector pin 5

- **Sample Code (Objective-C)**

12.3 Execute Power-Off Sequence

- **Description**

> Executes the printer power-off sequence and transmits the power-off notice.
>
> - Saving the maintenance counter values
> - Busy controlling for interface
> - Changing to waiting state of mechanism
>
> Executes power off processing (this processing depends on printer model).

- **Objective-C (iOS)**

```
- (void)executePowerOffSequence
```

- **Sample Code (Objective-C)**

12.4 Transmit Specified Status in Real Time

- **Description**

> Transmits specified status in real-time as follows.

- **Objective-C (iOS)**

```
- (void)transmitSpecifiedStatus:(NSInteger)status
```

- **Parameter**

Status Range	Description
1	Transmits basic ASB status.
5	Transmits battery status.

- **Sample Code (Objective-C)**

12.5 Clear Buffer

- **Description**

> Clears all data stored in the receive buffer and the print buffer and transmits Clear response.

- **Objective-C (iOS)**

```
- (void)clearBuffer
```

- **Sample Code (Objective-C)**

12.6 Initialize Printer

- **Description**

> Clears the data in the print buffer and resets the printer modes to the modes that were in effect when the power was turned on.
>
> - Any macro definitions are not cleared.
> - Offline response selection is not cleared.
> - Contents of user NV memory are not cleared.
> - NV graphics (NV bit image) and NV user memory are not cleared.
> - The maintenance counter value is not affected by this command.
> - The specifying of offline response isn't cleared.

- **Objective-C (iOS)**

```
- (void)initializePrinter
```

- **Parameter**
- **Sample Code (Objective-C)**

12.7 Set Page Mode

- **Description**

  > 进入页模式

- **Objective-C (iOS)**

```
- (void)setPageMode
```

- **Sample Code (Objective-C)**

12.8 Set Standard Mode

- **Description**

  > 进入标准模式

- **Objective-C (iOS)**

```
- (void)setStandardMode
```

- **Sample Code (Objective-C)**

12.9 Set Density

- **Description**

  > 设置打印浓度

- **Objective-C (iOS)**

```
- (void)setDensity:(NSInteger)density
```

- **Parameter**

Parameter	Vaid Range
density	250 to 255, 0 to 6

- **Sample Code (Objective-C)**

12.10 Set Speed

- **Description**

> 设置打印速度

- **Objective-C (iOS)**

```
- (void)setSpeed:(NSInteger)speed
```

- **Parameter**

Parmeter	Valid Range
speed	0 to 11, 48 to 57

- **Sample Code (Objective-C)**

12 .11 Set Page Printable Area

- **Description**

> Printable area setting when page mode is selected

- **Objective-C (iOS)**

```
- (void)setPageAreaWithWidth:(NSInteger)width
                      height:(NSInteger)height
                     xOffset:(NSInteger)xOffset
```

- **Parameter**

Parameter	Valid Range
width	1 to 65535
height	1 to 65535
xOffset	0

- **Sample Code (Objective-C)**

12.12 Draw Line / Rectangle

- **Description**

> Saves line data in the print buffer when page mode is selected.

- **Objective-C (iOS)**

```
- (void)appendLineWithXPos:(NSInteger)xPos
                      yPos:(NSInteger)yPos
                      xEnd:(NSInteger)xEnd
                      yEnd:(NSInteger)yEnd
                      mode:(NSInteger)mode;

- (void)appendRectWithXPos:(NSInteger)xPos
                      yPos:(NSInteger)yPos
                      xEnd:(NSInteger)xEnd
                      yEnd:(NSInteger)yEnd
                      mode:(NSInteger)mode;
```

- **Parameter**

Parameter	Valid Range
xPos	0 to 431
yPos	0 to 1119
xEnd	0 to 431
yEnd	0 to 1119
mode	1 to 3 (Thin, Moderately, Thick)

- **Sample Code (Objective-C)**

12.13 Set Motion Units

- **Description**

> Sets the horizontal and vertical motion units to approximately 25.4/x mm {1/x"}
>
> When x = 0, the default value of the horizontal motion unit is used.

- **Objective-C (iOS)**

```
- (void)setMotionUnitsWithHorizontal:(NSInteger)horizontal vertical:(NSInteger)vertical
```

- **Parameter**

Param	Valid Range	Default
horizontal	0 to 255	0
vertical	0 to 255	0

- **Sample Code (Objective-C)**

13 Kanji Commands

13.1 Set Kanji Print Mode

- **Description**

> Selects the character styles (double-height, double-width, and Kanji-underlined) together for multi-byte code character as follows:

- **Objective-C (iOS)**

```
- (void)setKanjiWithReverse:(BOOL)reverse
                doubleWidth:(BOOL)doubleWidth
               doubleHeight:(BOOL)doubleHeight
                  underline:(BOOL)underline
```

- **Parameter**
- **Sample Code (Objective-C)**

13.2 Set Kanji Mode

- **Description**

> Selects Kanji character mode.

- **Objective-C (iOS)**

```
- (void)setKanjiMode
```

- **Sample Code (Objective-C)**

13.3 Set Kanji Font Mode

- **Description**

> Selects multi-byte code character font (Kanji character font).

- **Objective-C (iOS)**

```
- (void)setKanjiFontMode:(NSInteger)mode
```

- **Parameter**

Valid Range	Description
0, 48	Kanji character Font A
1, 49	Kanji character Font B
2, 50	Kanji character Font C

- **Sample Code (Objective-C)**

13.4 Set Kanji Underline

- **Description**

> Turns on or off underline mode for multi-byte code character (Kanji-underline)

- **Objective-C (iOS)**

```
- (void)setKanjiUnderline:(NSInteger)underline
```

- **Parameter**

Valid Range	Description
0, 48	Turns off Kanji-underline mode
1, 49	Turns on Kanji-underline mode (1-dot thick)
2, 50	Turns on Kanji-underline mode (2-dots thick)

- **Sample Code (Objective-C)**

13.5 Cancel Kanji Mode

- **Description**

> Cancels Kanji character mode.

- **Objective-C (iOS)**

```
- (void)cancelKanjiMode
```

- **Sample Code (Objective-C)**

13.6 Define Kanji

- **Description**

> The ranges of `first` and `second` differ, depending on models and the character code system used. The ranges of `first` and `second` for each model are as follows.

- **Objective-C (iOS)**

```
- (void)defineKanji:(NSData *)data first:(NSInteger)first second:(NSInteger)second
```

- **Parameter**

Models	first	second
Japanese model (JIS code)	119	33 to 126
Japanese model (SHIFT JIS code)	236	64 to 126, 128 to 158
Simplified Chinese	254	161 to 254
Traditional Chinese	254	161 to 254

- **Sample Code (Objective-C)**

13.7 Set Kanji Code System

- **Description**

> Selects a Kanji character code system for the Japanese model as follows:

- **Objective-C (iOS)**

```
- (void)setKanjiCodeSystem:(NSInteger)system
```

- **Parameter**

Valid Range	Kanji
0, 48	JIS code
1, 49	SHIFT JIS code

- **Sample Code (Objective-C)**

13.8 Set Kanji Spacing

- **Description**

> Sets left- and right-side spacing of the multi-byte code character `left` and `right`, respectively.

- **Objective-C (iOS)**

```
- (void)setKanjiSpacingWithLeft:(NSInteger)left right:(NSInteger)right
```

- **Parameter**

Parameter	Valid Range	Default
left	0 to 32	0
right	0 to 32	0

- **Sample Code (Objective-C)**

13.9 Set Kanji Quadruple Mode

- **Description**

> Turns quadruple-size mode on or off for multi-byte code character.
>
> - When the LSB of n is 0, quadruple-size mode is turned off and normal size is specified
> - When the LSB of n is 1, quadruple-size mode is turned on.

- **Objective-C (iOS)**

```
- (void)setKanjiQuadrupleMode:(NSInteger)mode
```

- **Parameter**

Parameter	Valid Range	Default
mode	0 to 255	0

- **Sample Code (Objective-C)**

13.10 Cancel Kanji Define

- **Description**

> Deletes the user-defined Kanji character pattern specified by the character codes (`first` and `second`) of the currently selected Kanji font.
>
> - `first` specifies the first byte of a character code for a user-defined Kanji character.
> - `second` specifies the second byte of a character code for a user-defined Kanji character.

- **Objective-C (iOS)**

```
- (void)cancelKanjiDefineWithFirst:(NSInteger)first second:(NSInteger)second
```

- **Parameter**

> See 13.6

- **Sample Code (Objective-C)**

14 Two Dimension Code Commands

14.1 PDF417

- **Description**

> 添加 PDF417 条码

- **Objective-C (iOS)**

```
- (void)appendPDF417Data:(NSString *)data
                     row:(NSInteger)row
                  column:(NSInteger)column
                   width:(NSInteger)width
               rowHeight:(NSInteger)rowHeight
                 eccMode:(NSInteger)eccMode
                eccLevel:(NSInteger)eccLevel
                  option:(NSInteger)option;

- (void)transmitPDF417SymbolDataSize;
```

- **Parameter**

Parameter	Valid Range	Description
row	0, 3 to 90	Set the number of rows
column	0 to 30	Set the number of columns in the data region
width	2 to 8	Set the width of the module
rowHeight	2 to 8	Set the row height

  - Mode

> Set the error correction Mode

Mode	Description
48	The error correction level is set by “level.”
49	The error correction level is set by “ratio.” The ratio is `level` * 10%

  - Level

> Set the error correction level

Level	Description
48	level 0
49	level 1
50	level 2

- option

  > Select the options

option	Description
0	standard PDF417.
1	truncated PDF417.

- **Sample Code (Objective-C)**

14.2 QR Code

- **Description**

  > 设置模型

- **Objective-C (iOS)**

```
- (void)appendQRCodeData:(NSString *)data
           justification:(NSInteger)justification
              leftMargin:(NSInteger)leftMargin
                eccLevel:(NSInteger)eccLevel
                   model:(NSInteger)model
                    size:(NSInteger)size;

- (void)transmitQRCodeSymbolDataSize;
```

- **Parameter**

  - Justification

    > See 6.7

  - Left Margin

    > See 6.9

  - ECC Level

    > Select the error correction level

Level	Description	Recovery Capacity % (approx.)
48	Level L	7
49	Level M	15
50	Level Q	25
51	Level H	30

- Model

Valid Range	Description
49	Model 1
50	Model 2

- Size

> Set the size of module

Parameter	Valid Range
size	1 to 16

- **Sample Code (Objective-C)**

14.3 Maxi Code

- **Description**

> 添加 Maxi Code 条码

- **Objective-C (iOS)**

```
- (void)appendMaxiCodeData:(NSString *)data mode:(NSInteger)mode;
- (void)transmitMaxiCodeSymbolDataSize;
```

- **Parameter**

Valid Range	Description
50	mode 2
51	mode 3
52	mode 4
53	mode 5
54	mode 6

- **Sample Code (Objective-C)**

14.4 RSS-2D

- **Description**

> 设置模型的宽度
>
> Sets the width of the module for RSS to n dots.

- **Objective-C (iOS)**

```
- (void)appendRSS2Data:(NSData *)data
                  mode:(NSInteger)mode
           moduleWidth:(NSInteger)moduleWidth
              maxWidth:(NSInteger)maxWidth;

- (void)transmitRSS2SymbolDataSize;
```

- **Parameter**

Parameter	Valid Range	Description
moduleWidth	2 to 8	Set the width of the module
maxWidth	2 to 8	RSS Expanded Stacked maximum width setting

  - Mode

Mode	Description
72	RSS-14 Stacked
73	RSS-14 Stacked Omnidirectional
76	RSS Expanded Stacked

- **Sample Code (Objective-C)**

14.5 Composite Symbol

- **Description**

> Sets the width of the module for Composite Symbol to n dots.

- **Objective-C (iOS)**

```objc
- (void)appendCompositeSymbolData:(NSData *)data
                             mode:(NSInteger)mode
                             type:(NSInteger)type
                       moduleWidth:(NSInteger)moduleWidth
                          maxWidth:(NSInteger)maxWidth
                           hriFont:(NSInteger)hriFont;

- (void)transmitCompositeSymbolDataSize;
```

- **Parameter**

Parameter	Valid Range	Description
moduleWidth	2 to 8	Set the width of the module
maxWidth	2 to 8	RSS Expanded Stacked maximum width setting
mode	48, 49	

  - HRI Font

    > Select font HRI characters

Valid Range	Description
0, 48	None
1, 49	Font A
2, 50	Font B
3, 51	Font C

  - Type (when mode = 48)

Type Range	Description
65	EAN8
66	EAN13
67	UPC-A
68	UPC-E 6 Digits
69	UPC-E 11 Digits
70	RSS-14
71	RSS-14 Truncated
72	RSS-14 Stacked
73	RSS-14 Stacked Omnidirectional
74	RSS-14 Limited
75	RSS-14 Expanded
76	RSS Expanded Stacked
77	UCC/EAN 128

  - Type (when mode = 49)

Type Range	Description
65	EAN13
66	UPC-A

- **Sample Code (Objective-C)**

15 Customize Commands

15.1 Write/Read to NV user memory

- **Description**

> 写入/读取 NV用户内存

- **Objective-C (iOS)**

```
- (void)writeNVUserMemory:(NSInteger)address data:(NSData *)data
- (void)readNVUserMemory:(NSInteger)address length:(NSInteger)length
```

- **Parameter**

Parameter	Valid Range
address	0 to 1023
length	0 to 80

- **Sample Code (Objective-C)**

15.2 Delete Record

- **Description**

> Deletes the record specified by the key codes (key, key2) in the NV user memory.
>
> - Deleted areas are designated "Unused areas".
> - Deleted key codes are designated as undefined.

- **Objective-C (iOS)**

```
- (void)deleteRecordWithMode:(NSInteger)mode key:(NSInteger)key
key2:(NSInteger)key2
```

- **Parameter**

Parameter	Valid Range
mode	0, 48
key	32 to 126
key2	32 to 126

- **Sample Code (Objective-C)**

15.3 Store Record

- **Description**

> Deletes the record specified by the key codes (key, key2) in the NV user memory.
>
> - Deleted areas are designated "Unused areas".
> - Deleted key codes are designated as undefined.

- **Objective-C (iOS)**

```
- (void)storeRecordWithMode:(NSInteger)mode key:(NSInteger)key key2:
(NSInteger)key2 data:(NSData *)data
```

- **Parameter**

Parameter	Valid Range
mode	1, 49
key	32 to 126
key2	32 to 126

- **Sample Code (Objective-C)**

15.4 Transmit Data In Record

- **Description**

> Transmits the data for the record specified by the key codes (key, key2) in the NV user memory.
>
> - ESC/POS Handshaking Protocol is required for this function.

- **Objective-C (iOS)**

```
- (void)transmitDataInRecordWithMode:(NSInteger)mode key:(NSInteger)key key2:(NSInteger)key2
```

- **Parameter**

Parameter	Valid Range
mode	2, 50
key	32 to 126
key2	32 to 126

- **Sample Code (Objective-C)**

15.5 Transmit NV Memory Used Capacity

- **Description**

> Transmits the number of bytes of memory used in the NV user memory.

- **Objective-C (iOS)**

```
- (void)transmitNVMemoryUsedCapacityWithMode:(NSInteger)mode
```

- **Parameter**

Parameter	Valid Range
mode	3, 51

- **Sample Code (Objective-C)**

15.6 Transmit NV Memory Remaining Capacity

- **Description**

> Transmits the number of bytes of remaining memory (unused area) in the NV user memory.

- **Objective-C (iOS)**

```
- (void)transmitNVMemoryRemainingCapacityWithMode:(NSInteger)mode
```

- **Parameter**

Parameter	Valid Range
mode	4, 52

- **Sample Code (Objective-C)**

15.7 Transmit Key Code List

- **Description**

> Transmits the key code list in the NV user memory.
>
> - ESC/POS Handshaking Protocol is required for this function.

- **Objective-C (iOS)**

```
- (void)transmitKeyCodeListWithMode:(NSInteger)mode
```

- **Parameter**

Parameter	Valid Range
mode	5, 53

- **Sample Code (Objective-C)**

15.8 Delete all data in the NV user memory

- **Description**

> Deletes all data in the NV user memory.
>
> - All area is changed to unused area.
> - All key codes are designated as undefined.

- **Objective-C (iOS)**

```
- (void)deleteNVMemoryAllWithMode:(NSInteger)mode
```

- **Parameter**

Parameter	Valid Range
mode	6, 54

- **Sample Code (Objective-C)**

15.9 Change User Setting Mode

- **Description**

> Enters the user setting mode and transmits the mode change notice.

- **Objective-C (iOS)**

```
- (void)changeUserSettingMode
```

- **Sample Code (Objective-C)**

15.10 End User Setting Mode

- **Description**

> Ends the user setting mode, and performs a software reset.

- **Objective-C (iOS)**

```
- (void)endUserSettingMode
```

- **Sample Code (Objective-C)**