COMMANDS MANUAL

# VKP80III series

CUSTOM®

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**THE IMAGES USED IN THIS MANUAL ARE USED AS AN ILLUSTRATIVE EXAMPLES. THEY COULDN'T REPRODUCE THE DESCRIBED MODEL FAITHFULLY.**

**UNLESS OTHERWISE SPECIFIED, THE INFORMATION GIVEN IN THIS MANUAL ARE REFERRED TO ALL MODELS IN PRODUCTION AT THE ISSUE DATE OF THIS DOCUMENT.**

## GENERAL INSTRUCTIONS

CUSTOM S.p.A. declines all responsibility for accidents or damage to persons or property occurring as a result of tampering, structural or functional modifications, unsuitable or incorrect installations, environments not in keeping with the equipment's protection degree or with the required temperature and humidity conditions, failure to carry out maintenance and periodical inspections and poor repair work.

## GENERAL SAFETY INFORMATION

Your attention is drawn to the following actions that could compromise the characteristics of the product:

- Read and retain the instructions which follow.
- Follow all indications and instructions given on the device.
- Make sure that the surface on which the device rests is stable. If it is not, the device could fall, seriously damaging it.
- Make sure that the device rests on a hard (non-padded) surface and that there is sufficient ventilation.
- Do not fix indissolubly the device or its accessories such as power supplies unless specifically provided in this manual.
- When positioning the device, make sure cables do not get damaged.
- [Only OEM equipment] The equipment must be installed in a kiosk or system that provides mechanical, electrical and fire protection.
- The mains power supply must comply with the rules in force in the Country where you intend to install the equipment.
- Make sure that there is an easily-accessible outlet with a capacity of no less than 10A closely to where the device is to be installed.
- Make sure the power cable provided with the appliance, or that you intend to use is suitable with the wall socket available in the system.
- Make sure the electrical system that supplies power to the device is equipped with a ground wire and is protected by a differential switch.
- Before any type of work is done on the machine, disconnect the power supply.
- Use the type of electrical power supply indicated on the device label.
- These devices are intended to be powered by a separately certified power module having an SELV, non-energy hazardous output. (IEC60950-1 second edition).
- [Only POS equipment] The energy to the equipment must be provided by power supply approved by CUSTOM S.p.A.
- Take care the operating temperature range of equipment and its ancillary components.
- Do not block the ventilation openings.
- Do not insert objects inside the device as this could cause short-circuiting or damage components that could jeopardize printer functioning.
- Do not carry out repairs on the device yourself, except for the normal maintenance operations given in the user manual.
- The equipment must be accessible on these components only to trained, authorized personnel.
- Periodically perform scheduled maintenance on the device to avoid dirt build-up that could compromise the correct, safe operation of the unit.
- Do not touch the head heating line with bare hands or metal objects. Do not perform any operation inside the printer immediately after printing because the head and motor tend to become very hot.
- Use consumables approved by CUSTOM S.p.A.

CE

THE CE MARK AFFIXED TO THE PRODUCT CERTIFY THAT THE PRODUCT SATISFIES THE BASIC SAFETY REQUIREMENTS.

The device is in conformity with the essential Electromagnetic Compatibility and Electric Safety requirements laid down in Directives 2014/30/EU and 2014/35/EU inasmuch as it was designed in conformity with the provisions laid down in the following Standards:

- EN 55032 *(Electromagnetic compatibility of multimedia equipment - Emission Requirements)*
- EN EN55024/EN55035 *(Electromagnetic compatibility of multimedia equipment - Immunity requirements)*
- EN IEC/EN62368-1 *(Audio/video, information and communication technology equipment)*

The device is in conformity with the essential requirements laid down in Directives 2014/53/EU about devices equipped with intentional radiators.
The Declaration of Conformity and other available certifications can be downloaded from the site www.custom4u.it.



GUIDELINES FOR THE DISPOSAL OF THE PRODUCT

The crossed-out rubbish bin logo means that used electrical and electronic products shall NOT be mixed with unsorted municipal waste. For more detailed information about recycling of this product, refer to the instructions of your country for the disposal of these products.

- Do not dispose of this equipment as miscellaneous solid municipal waste, but arrange to have it collected separately.
- The re-use or correct recycling of the electronic and electrical equipment (EEE) is important in order to protect the environment and the wellbeing of humans.
- In accordance with European Directive WEEE 2012/19/EU, special collection points are available to which to deliver waste electrical and electronic equipment and the equipment can also be handed over to a distributor at the moment of purchasing a new equivalent type.
- The public administration and producers of electrical and electronic equipment are involved in facilitating the processes of the re-use and recovery of waste electrical and electronic equipment through the organisation of collection activities and the use of appropriate planning arrangements.
- Unauthorised disposal of waste electrical and electronic equipment is punishable by law with the appropriate penalties.
- For the waste sorting of the packaging materials, please check the local waste disposal laws.



The format used for this manual improves use of natural resources reducing the quantity of necessary paper to print this copy.

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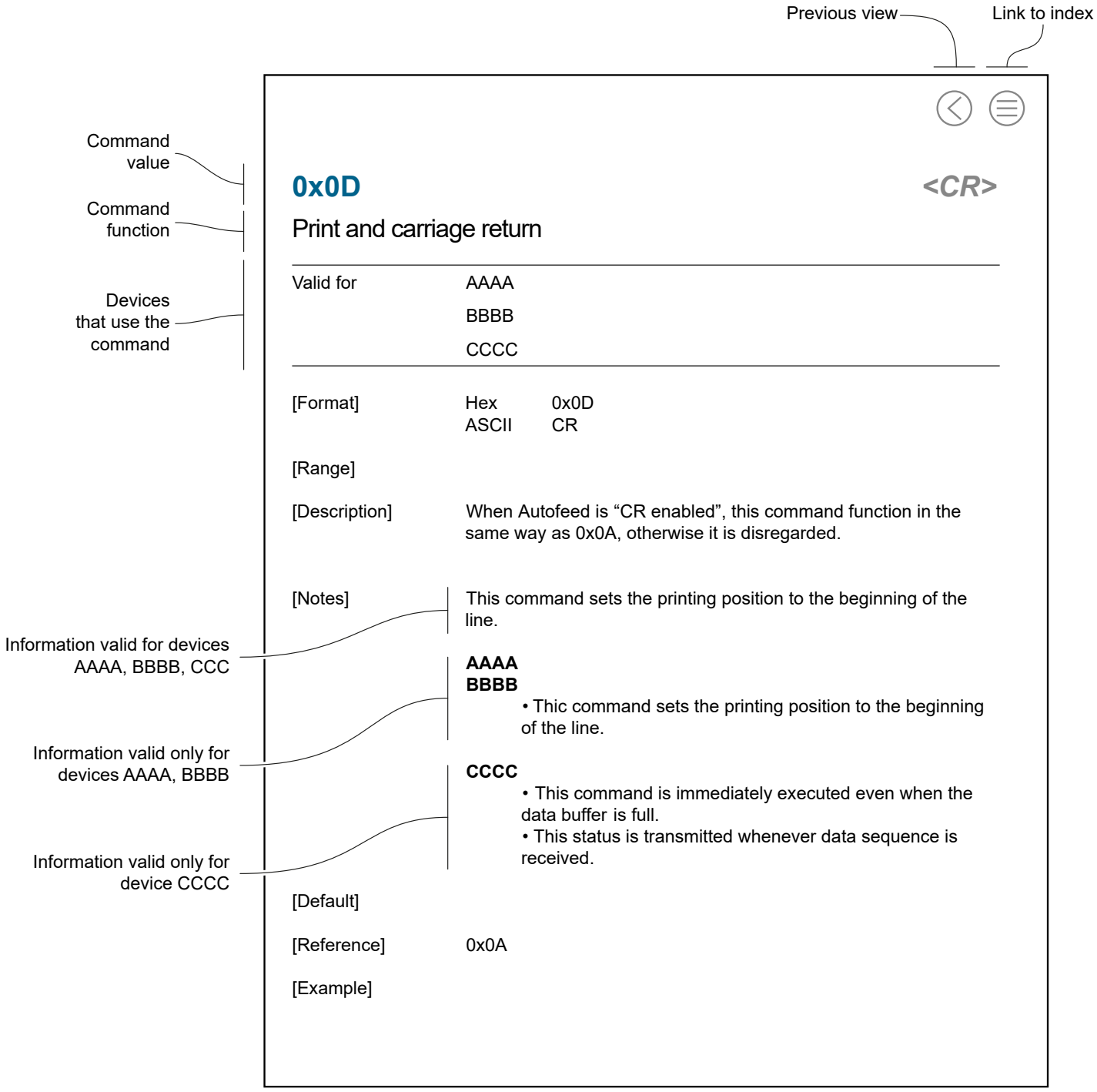
# INTRODUCTION

Each command reported in this manual is described as shown in the following picture. In the first heading field is reported the hexadecimal command value and the ASCII command value. In the second heading field reported the command function. In the third heading field are listed the devices on which it is possible to use the command (for example, device AAAA).



The fields shown in the scheme of the previous figure have the following meaning:

| | |
|---|---|
| [Format] | hexadecimal and ASCII command value. |
| [Range] | Limits of the values the command and its variables can take. |
| [Description] | Description of command function. |
| [Notes] | Additional information about command use and settings. |
| [Default] | Default value of the command and its variables. |
| [Reference] | Pertaining commands related to described command. |
| [Example] | Example of using the command. |

Listed below are the meanings of some of symbols that may be found in the command description:

| | |
|---|---|
| 0x | indicates the representation of the command hexadecimal value (for example 0x40 means HEX 40). |
| n, m, t, x, y | are optional parameters that can have different values. |

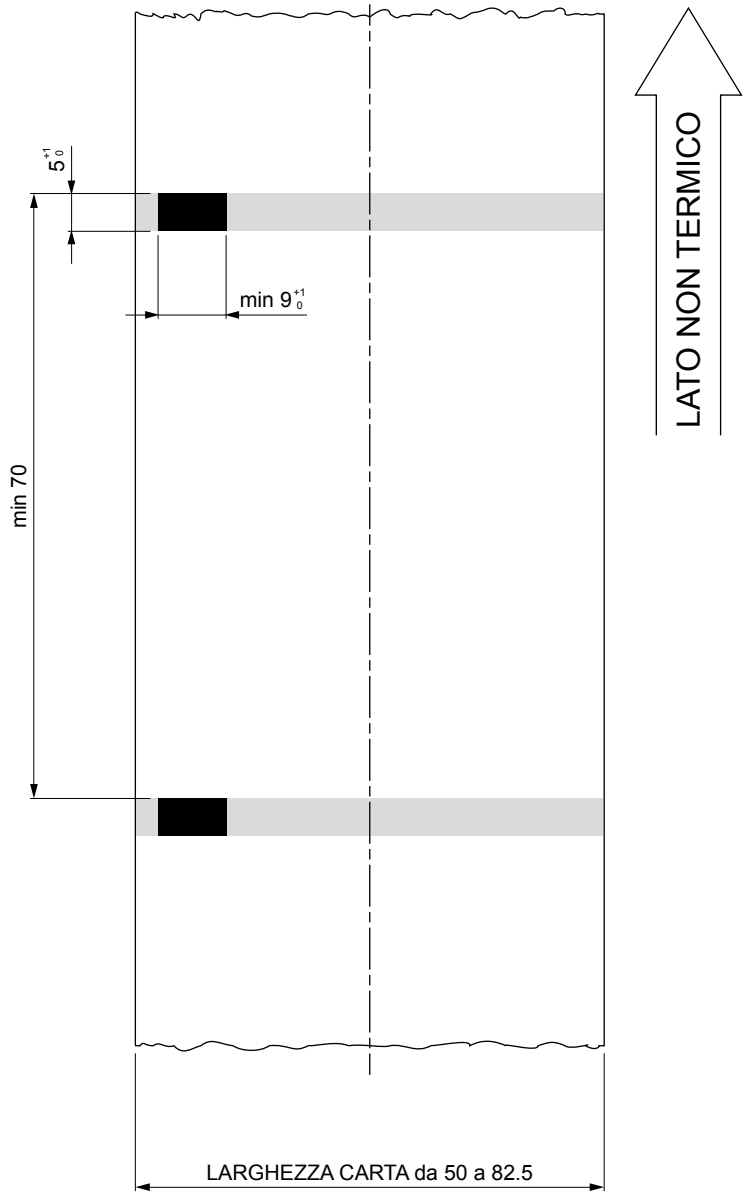
# IDENTIFICATION OF MODELS

| NOMENCLATURE | DESCRIPTION |
|---|---|
| VKP80III RX65 LAT | Model with lateral connectors (RX65 version) |
| VKP80III RX65 REAR | Model with rear connectors (RX65 version) |
| VKP80III ETH | Model with lateral connectors and Ethernet port |

# PAPER SPECIFICATION

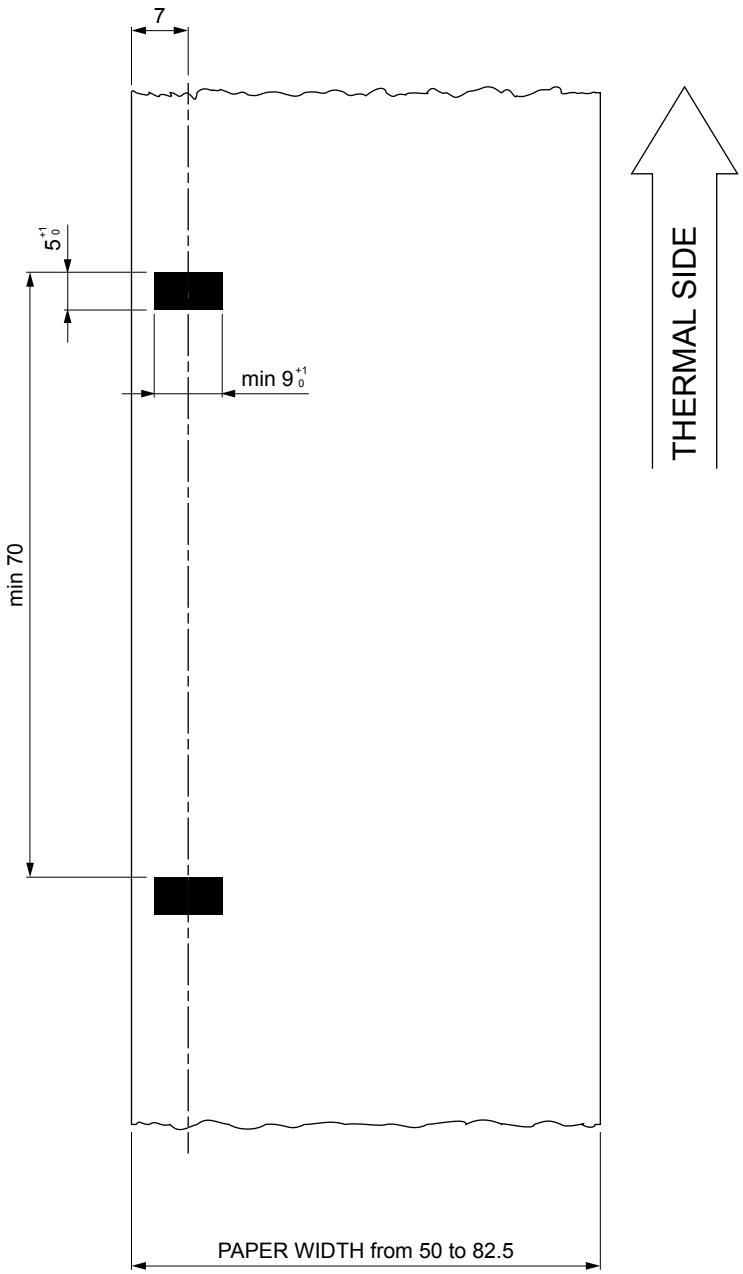
**Paper with black mark on the non-thermal side**

The following image shows the placement of the black mark on the non-thermal side of paper (dimensions in millimetres).
Due to the adjustable mobile sensor, the black mark can be placed anywhere on the whole width of the paper.
For more information about the use of paper with black mark see user manual.



**Paper with black mark on the thermal side of paper (only with VKP80III emulation enabled)**

The following image shows a sample of paper with the black mark printed on the thermal side (dimensions in millimetres).
Use this kind of tickets if the upper black mark sensor (optional) is installed on the right paper cursor.
For models with the upper black mark sensor (optional) installed on the left cursor, the ticket will be symmetrical to its longitudinal axis.
For more information about the use of tickets with black mark see user manual.



# VKP80II EMULATION

# COMMANDS IN ALPHANUMERIC ORDER


0x08 . . . . . <BS> . . . . . 122
0x09 . . . . . <HT> . . . . . 123
0x0A . . . . . <LF> . . . . . 95
0x0C . . . . . <FF> . . . . . 96
0x0D . . . . . <CR> . . . . . 97
0x10 0x04 . . . . . <DLE EOT> . . . . . 101
0x18 . . . . . <CAN> . . . . . 68
0x1B 0x20 . . . . . <ESC SP> . . . . . 69
0x1B 0x21 . . . . . <ESC !> . . . . . 70
0x1B 0x24 . . . . . <ESC $> . . . . . 124
0x1B 0x25 . . . . . <ESC %> . . . . . 72
0x1B 0x26 . . . . . <ESC &> . . . . . 73
0x1B 0x28 0x76 . . . . . <ESC ( v> . . . . . 125
0x1B 0x2A . . . . . <ESC *> . . . . . 115
0x1B 0x2D . . . . . <ESC -> . . . . . 74
0x1B 0x30 . . . . . <ESC 0> . . . . . 92
0x1B 0x32 . . . . . <ESC 2> . . . . . 93
0x1B 0x33 . . . . . <ESC 3> . . . . . 94
0x1B 0x34 . . . . . <ESC 4> . . . . . 75
0x1B 0x3D . . . . . <ESC => . . . . . 151
0x1B 0x3F . . . . . <ESC ?> . . . . . 76
0x1B 0x40 . . . . . <ESC @> . . . . . 152
0x1B 0x44 . . . . . <ESC D> . . . . . 126
0x1B 0x45 . . . . . <ESC E> . . . . . 77
0x1B 0x47 . . . . . <ESC G> . . . . . 78

0x1B 0x4A <ESC J> 98
0x1B 0x4D <ESC M> 79
0x1B 0x52 <ESC R> 80
0x1B 0x56 <ESC V> 81
0x1B 0x5C <ESC \> 128
0x1B 0x61 <ESC a> 129
0x1B 0x63 0x35 <ESC c 5> 153
0x1B 0x64 <ESC d> 99
0x1B 0x69 <ESC i> 135
0x1B 0x6A <ESC j> 130
0x1B 0x74 <ESC t> 82
0x1B 0x76 <ESC v> 107
0x1B 0x7B <ESC {> 84
0x1B 0xC1 85
0x1B 0xFA 154
0x1B 0xFF 155
0x1C 0x25 <FS %> 86
0x1C 0x26 <FS &> 87
0x1C 0x2E <FS .> 88
0x1C 0xC0 156
0x1C 0xC1 136
0x1C 0xDD 0x01 0xB3 0x00 108
0x1D 0x21 <GS !> 89
0x1D 0x28 0x6B <GS ( k> 24
0x1D 0x28 0x6B [Fn 065] <GS ( k> 26

0x1D 0x28 0x6B [Fn 066] . . . . . <GS ( k> . . . . . 27
0x1D 0x28 0x6B [Fn 067] . . . . . <GS ( k> . . . . . 28
0x1D 0x28 0x6B [Fn 068] . . . . . <GS ( k> . . . . . 29
0x1D 0x28 0x6B [Fn 069] . . . . . <GS ( k> . . . . . 30
0x1D 0x28 0x6B [Fn 080] . . . . . <GS ( k> . . . . . 32
0x1D 0x28 0x6B [Fn 081] . . . . . <GS ( k> . . . . . 33
0x1D 0x28 0x6B [Fn 165] . . . . . <GS ( k> . . . . . 34
0x1D 0x28 0x6B [Fn 166] . . . . . <GS ( k> . . . . . 35
0x1D 0x28 0x6B [Fn 167] . . . . . <GS ( k> . . . . . 40
0x1D 0x28 0x6B [Fn 169] . . . . . <GS ( k> . . . . . 41
0x1D 0x28 0x6B [Fn 180] . . . . . <GS ( k> . . . . . 42
0x1D 0x28 0x6B [Fn 181] . . . . . <GS ( k> . . . . . 43
0x1D 0x28 0x6B [Fn 182] . . . . . <GS ( k> . . . . . 44
0x1D 0x28 0x6B [Fn 365] . . . . . <GS ( k> . . . . . 46
0x1D 0x28 0x6B [Fn 366] . . . . . <GS ( k> . . . . . 47
0x1D 0x28 0x6B [Fn 367] . . . . . <GS ( k> . . . . . 48
0x1D 0x28 0x6B [Fn 368] . . . . . <GS ( k> . . . . . 49
0x1D 0x28 0x6B [Fn 380] . . . . . <GS ( k> . . . . . 50
0x1D 0x28 0x6B [Fn 381] . . . . . <GS ( k> . . . . . 51
0x1D 0x28 0x6B [Fn 465] . . . . . <GS ( k> . . . . . 52
0x1D 0x28 0x6B [Fn 467] . . . . . <GS ( k> . . . . . 53
0x1D 0x28 0x6B [Fn 468] . . . . . <GS ( k> . . . . . 54
0x1D 0x28 0x6B [Fn 469] . . . . . <GS ( k> . . . . . 55
0x1D 0x28 0x6B [Fn 480] . . . . . <GS ( k> . . . . . 56
0x1D 0x28 0x6B [Fn 481] . . . . . <GS ( k> . . . . . 57
0x1D 0x2A . . . . . <GS *> . . . . . 117
0x1D 0x2F . . . . . <GS /> . . . . . 119
0x1D 0x3A . . . . . <GS :> . . . . . 133

0x1D 0x42 . . . . . <GS B> . . . . . 91
0x1D 0x43 0x30 . . . . . <GS C 0> . . . . . 157
0x1D 0x43 0x31 . . . . . <GS C 1> . . . . . 158
0x1D 0x43 0x32 . . . . . <GS C 2> . . . . . 159
0x1D 0x43 0x3B . . . . . <GS C ;> . . . . . 160
0x1D 0x48 . . . . . <GS H> . . . . . 58
0x1D 0x49 . . . . . <GS I> . . . . . 162
0x1D 0x4C . . . . . <GS L> . . . . . 131
0x1D 0x50 . . . . . <GS P> . . . . . 163
0x1D 0x56 . . . . . <GS V> . . . . . 137
0x1D 0x57 . . . . . <GS W> . . . . . 132
0x1D 0x5E . . . . . <GS ^> . . . . . 134
0x1D 0x63 . . . . . <GS c> . . . . . 164
0x1D 0x65 0x00 . . . . . <GS e NUL> . . . . . 142
0x1D 0x65 0x02 . . . . . <GS e STX> . . . . . 143
0x1D 0x65 0x03 . . . . . <GS e ETX> . . . . . 144
0x1D 0x65 0x05 . . . . . <GS e ENQ> . . . . . 145
0x1D 0x65 0x06 . . . . . <GS e ACK> . . . . . 146
0x1D 0x65 0x08 . . . . . <GS e BS> . . . . . 147
0x1D 0x65 0x12 . . . . . <GS e FF> . . . . . 148
0x1D 0x65 0x14 . . . . . <GS e SO> . . . . . 149
0x1D 0x65 0x20 . . . . . <GS e SP> . . . . . 150
0x1D 0x66 . . . . . <GS f> . . . . . 60
0x1D 0x68 . . . . . <GS h> . . . . . 61
0x1D 0x6B . . . . . <GS k> . . . . . 62
0x1D 0x76 0x30 . . . . . <GS v 0> . . . . . 120
0x1D 0x77 . . . . . <GS w> . . . . . 66
0x1D 0x7C . . . . . 100

0x1D 0xD0 . . . . . 165
0x1D 0xE0 . . . . . 109
0x1D 0xE1 . . . . . 110
0x1D 0xE2 . . . . . 111
0x1D 0xE3 . . . . . 112
0x1D 0xE4 . . . . . 113
0x1D 0xE5 . . . . . 114
0x1D 0xE6 . . . . . 166
0x1D 0xE7 . . . . . 138
0x1D 0xE8 . . . . . 167
0x1D 0xF0 . . . . . 168
0x1D 0xF6 . . . . . 140
0x1D 0xF8 . . . . . 141

# COMMANDS BY FUNCTION

## TWO-DIMENSIONAL BARCODE COMMANDS


0x1D 0x28 0x6B . . . . . <GS ( k> . . . . . 24
Print two-dimensional barcode

0x1D 0x28 0x6B [Fn 065] . . . . . <GS ( k> . . . . . 26
Specify the number of columns of PDF417 barcode

0x1D 0x28 0x6B [Fn 066] . . . . . <GS ( k> . . . . . 27
Specify the number of rows of PDF417 barcode

0x1D 0x28 0x6B [Fn 067] . . . . . <GS ( k> . . . . . 28
Specify the width of a module of PDF417 barcode

0x1D 0x28 0x6B [Fn 068] . . . . . <GS ( k> . . . . . 29
Specify the height of the module of PDF417 barcode

0x1D 0x28 0x6B [Fn 069] . . . . . <GS ( k> . . . . . 30
Specify the error correction level of PDF417 barcode

0x1D 0x28 0x6B [Fn 080] . . . . . <GS ( k> . . . . . 32
Store the data in the barcode save area for printing in PDF417 format

0x1D 0x28 0x6B [Fn 081] . . . . . <GS ( k> . . . . . 33
Encodes the data in the barcode save area and prints it in PDF417 format

0x1D 0x28 0x6B [Fn 165] . . . . . <GS ( k> . . . . . 34
Specify encoding scheme of QRcode barcode

0x1D 0x28 0x6B [Fn 166] . . . . . <GS ( k> . . . . . 35
Specify QRcode barcode version

0x1D 0x28 0x6B [Fn 167] . . . . . <GS ( k> . . . . . 40
Specify dot size of the modules of the QRcode barcode

0x1D 0x28 0x6B [Fn 169] . . . . . <GS ( k> . . . . . 41
Specify the error correction level of the QRcode barcode

0x1D 0x28 0x6B [Fn 180] . . . . . <GS ( k> . . . . . 42
Store the data in the barcode save area for printing in QRcode format

0x1D 0x28 0x6B [Fn 181] . . . . . <GS ( k> . . . . . 43
Prints the data stored in the barcode save area in QRcode format

0x1D 0x28 0x6B [Fn 182] . . . . . <GS ( k> . . . . . 44
Transmit the QRcode barcode size in the barcode save area

0x1D 0x28 0x6B [Fn 365] . . . . . <GS ( k> . . . . . 46
Specify encoding scheme of DATAMATRIX barcode

0x1D 0x28 0x6B [Fn 366] . . . . . <GS ( k> . . . . . 47
Set rotation of DATAMATRIX barcode

0x1D 0x28 0x6B [Fn 367] . . . . . <GS ( k> . . . . . 48
Set dot size of the module of DATAMATRIX barcode

0x1D 0x28 0x6B [Fn 368] . . . . . <GS ( k> . . . . . 49
Set size of DATAMATRIX barcode

0x1D 0x28 0x6B [Fn 380] . . . . . <GS ( k> . . . . . 50
Store the DATAMATRIX barcode data in the barcode save area

0x1D 0x28 0x6B [Fn 381] . . . . . <GS ( k> . . . . . 51
Encodes and prints the DATAMATRIX barcode data in the barcode save area

0x1D 0x28 0x6B [Fn 465] . . . . . <GS ( k> . . . . . 52
Specify encoding scheme of AZTEC barcode

0x1D 0x28 0x6B [Fn 467] . . . . . <GS ( k> . . . . . 53
Specify dot size of the module of the AZTEC barcode

0x1D 0x28 0x6B [Fn 468] . . . . . <GS ( k> . . . . . 54
Specify size of the AZTEC barcode

0x1D 0x28 0x6B [Fn 469] . . . . . <GS ( k> . . . . . 55
Specify the error correction level of the AZTEC barcode

0x1D 0x28 0x6B [Fn 480] . . . . . <GS ( k> . . . . . 56
Store the data in the barcode save area for printing in AZTEC format

0x1D 0x28 0x6B [Fn 481] . . . . . <GS ( k> . . . . . 57
Prints the data stored in the barcode save area in AZTEC format

## ONE-DIMENSIONAL BARCODE COMMANDS

0x1D 0x48 . . . . . <GS H> . . . . . 58
Select printing position of HRI characters in 1D barcodes

0x1D 0x66 . . . . . <GS f> . . . . . 60
Select font for HRI characters

0x1D 0x68 . . . . . <GS h> . . . . . 61
Select 1D barcode height

0x1D 0x6B . . . . . <GS k> . . . . . 62
Print 1D barcode

0x1D 0x77 . . . . . <GS w> . . . . . 66
Set 1D barcode width

## CHARACTER COMMANDS


0x18 . . . . . <CAN> . . . . . 68
Cancel current line transmitted

0x1B 0x20 . . . . . <ESC SP> . . . . . 69
Set right-side character spacing

0x1B 0x21 . . . . . <ESC !> . . . . . 70
Select print modes

0x1B 0x25 . . . . . <ESC %> . . . . . 72
Enable or disable user-defined characters

0x1B 0x26 . . . . . <ESC &> . . . . . 73
Defines user-defined characters

0x1B 0x2D . . . . . <ESC -> . . . . . 74
Turn underline mode on or off

0x1B 0x34 . . . . . <ESC 4> . . . . . 75
Turn italic mode on or off

0x1B 0x3F . . . . . <ESC ?> . . . . . 76
Cancel user-defined characters

0x1B 0x45 . . . . . <ESC E> . . . . . 77
Turn emphasized mode on or off

0x1B 0x47 . . . . . <ESC G> . . . . . 78
Turn double-strike mode on or off

0x1B 0x4D . . . . . <ESC M> . . . . . 79
Select character font

0x1B 0x52 . . . . . <ESC R> . . . . . 80
Select an international character set

0x1B 0x56 . . . . . <ESC V> . . . . . 81
Set 90° rotated print mode

0x1B 0x74 . . . . . <ESC t> . . . . . 82
Select character code table

0x1B 0x7B . . . . . <ESC {> . . . . . 84
Turn upside-down printing mode on or off

0x1B 0xC1 . . . . . 85
Select character pitch

0x1C 0x25 . . . . . <FS %> . . . . . 86
Select the font type

0x1C 0x26 . . . . . <FS &> . . . . . 87
Enable chinese fonts

0x1C 0x2E <FS .> 88
Disable chinese fonts

0x1D 0x21 <GS !> 89
Select character size

0x1D 0x42 <GS B> 91
Turn black and white reverse printing mode on or off

## LINE SPACING COMMANDS

0x1B 0x30 <ESC 0> 92
Select 1/8-inch line spacing

0x1B 0x32 <ESC 2> 93
Select 1/6-inch line spacing

0x1B 0x33 <ESC 3> 94
Set line spacing

## PRINT COMMANDS

0x0A <LF> 95
Print and line feed

0x0C <FF> 96
Form feed

0x0D <CR> 97
Print and carriage return

0x1B 0x4A <ESC J> 98
Print and paper feed

0x1B 0x64 <ESC d> 99
Print and feed paper n lines

0x1D 0x7C 100
Set printing density

## STATUS COMMANDS

0x10 0x04 <DLE EOT> 101
Real-time status transmission

0x1B 0x76 <ESC v> 107
Transmit paper sensor status

0x1C 0xDD 0x01 0xB3 0x00 108
Transmit the device serial number

0x1D 0xE0 . . . 109
Enable or disable automatic FULL STATUS BACK

0x1D 0xE1 . . . 110
Reading of length paper available before virtual paper-end

0x1D 0xE2 . . . 111
Reading number of cuts performed by the autocutter

0x1D 0xE3 . . . 112
Reading of length of printed paper

0x1D 0xE4 . . . 113
Reading number of retracting

0x1D 0xE5 . . . 114
Reading number of power up

## BIT-IMAGE COMMANDS

0x1B 0x2A . . . <ESC *> . . . 115
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0x1D 0xE6 166
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0x1D 0xE8 167
Set minimum ticket length

0x1D 0xF0 168
Set print mode

## 0x1D 0x28 0x6B

*<GS ( k>*

Print two-dimensional barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | cn | fn |
| ASCII | GS | ( | k | pL | pH | cn | fn |

[Range]

cn = 0x30, 0x31, 0x33, 0x33, 0x34
0x41 ≤ fn ≤ 0x45
0x50 ≤ fn ≤ 0x52

[Description]

Processes the data concerning two-dimensional barcode.
• Barcode type is specified by cn
• Function is specified by fn

| cn | fn | FUNCTION | |
|---|---|---|---|
| 0x30 | 0x41 | Function 065 | PDF 417: Specify the number of columns |
| 0x30 | 0x42 | Function 066 | PDF 417: Specify the number of rows |
| 0x30 | 0x43 | Function 067 | PDF 417: Specify the width of module |
| 0x30 | 0x44 | Function 068 | PDF 417: Specify the module height |
| 0x30 | 0x45 | Function 069 | PDF 417: Specify the error correction level |
| 0x30 | 0x50 | Function 080 | PDF 417: Store the received data in the barcode save area |
| 0x30 | 0x51 | Function 081 | PDF 417: Print the barcode data in the barcode save area |
| 0x31 | 0x41 | Function 165 | QRcode: Specify encoding scheme |
| 0x31 | 0x42 | Function 166 | QRcode: Specify the selected version |
| 0x31 | 0x43 | Function 167 | QRcode: Specify size of barcode |
| 0x31 | 0x45 | Function 169 | QRcode: Specify the error correction level |
| 0x31 | 0x50 | Function 180 | QRcode: Store the received data in the barcode save area |
| 0x31 | 0x51 | Function 181 | QRcode: Print the barcode data |
| 0x31 | 0x52 | Function 182 | QRcode: Transmit the barcode size in the barcode save area |
| 0x33 | 0x41 | Function 365 | DATAMATRIX: Set encoding scheme |
| 0x33 | 0x42 | Function 366 | DATAMATRIX: Set rotate |
| 0x33 | 0x43 | Function 367 | DATAMATRIX: Set dot size of the module |
| 0x33 | 0x44 | Function 368 | DATAMATRIX: Set size of barcode |
| 0x33 | 0x50 | Function 380 | DATAMATRIX: Store the received data in the barcode save area |
| 0x33 | 0x51 | Function 381 | DATAMATRIX: Print the barcode data in the barcode save area |

| | | | |
|---|---|---|---|
| 0x34 | 0x41 | Function 465 | AZTEC: Specify encoding scheme |
| 0x34 | 0x43 | Function 467 | AZTEC: Specify dot size of the module |
| 0x34 | 0x44 | Function 468 | AZTEC: Specify size of barcode |
| 0x34 | 0x45 | Function 469 | AZTEC: Specify the error correction level |
| 0x34 | 0x50 | Function 480 | AZTEC: Store the received data in the barcode save area |
| 0x34 | 0x51 | Function 481 | AZTEC: Print the barcode |

[Notes]

[Default]

[Reference]

[Example]

# 0x1D 0x28 0x6B [Fn 065]

<GS ( k>

Specify the number of columns of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 41 | n |
| | ASCII | GS | ( | k | pL | pH | 0 | A | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x1E

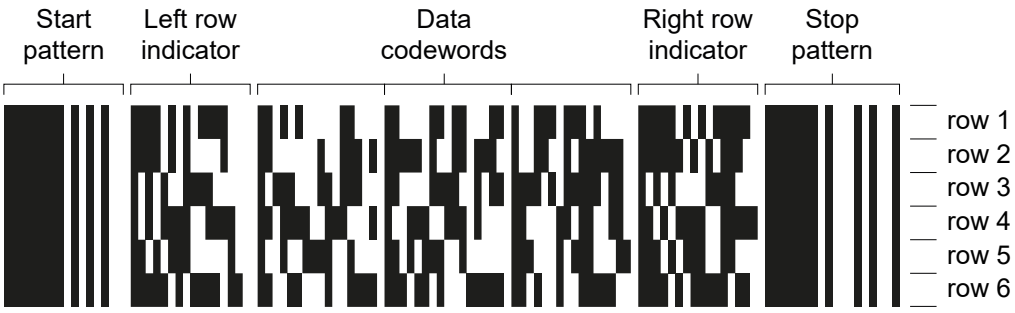
[Description] Specifies the number of columns of PDF417 barcode.
• pL and pH specify the number of successive bytes to be sent.
• n = 0x00 specifies auto processing. When auto processing is specified, the maximum number of columns in the data area is 30 columns.
• When n is not 0x00, specifies the number of columns of the data area as n code word.

[Notes] • The following data is not included in the number of columns:
- start pattern and stop pattern
- indicator code word of left and right
• Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example] To define 3 columns, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x41 0x03



# 0x1D 0x28 0x6B [Fn 066]

<GS ( k>

Specify the number of rows of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 42 | n |
| | ASCII | GS | ( | k | pL | pH | 0 | B | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
n = 0x00
0x03 ≤ n ≤ 0x14

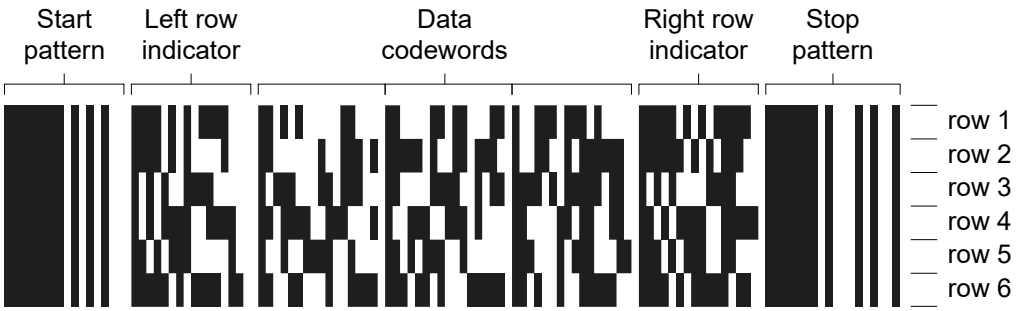
[Description] Specifies the number of rows of PDF417 barcode.
• pL and pH specify the number of successive bytes to be sent.
• n = 0x00 specifies auto processing. When auto processing is specified, the maximum number of rows is 20.
• When n is not 0x00, specifies the number of rows of the data area as n rows.

[Notes] Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example] To define 6 rows, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x42 0x06



# 0x1D 0x28 0x6B [Fn 067]



Specify the width of a module of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 43 | n |
| | ASCII | GS | ( | k | pL | pH | 0 | C | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x08

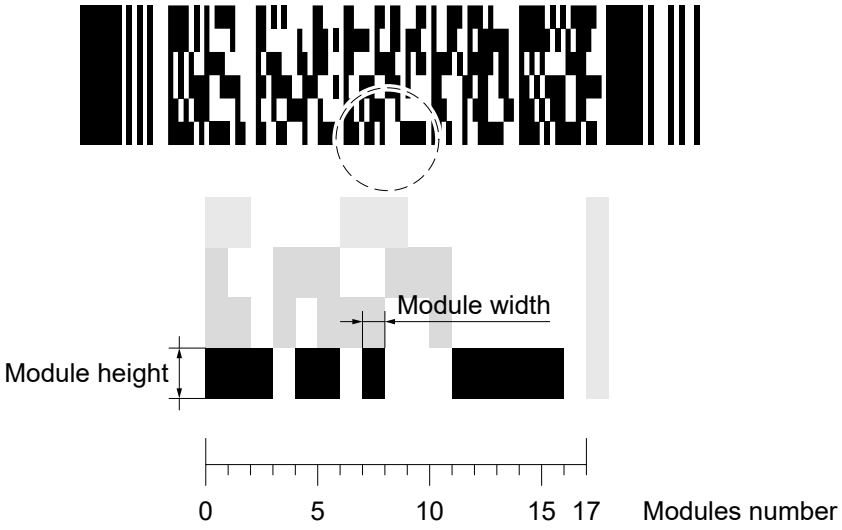
[Description] Specifies the width of a module of PDF417 barcode.
pL and pH specify the number of successive bytes to be sent.

[Notes] Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] n = 0x03

[Reference] 0x1D 0x28 0x6B

[Example] To set width = 4, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x43 0x04



# 0x1D 0x28 0x6B [Fn 068]

<GS ( k>

Specify the height of the module of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 44 | n |
| | ASCII | GS | ( | k | pL | pH | 0 | D | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x08

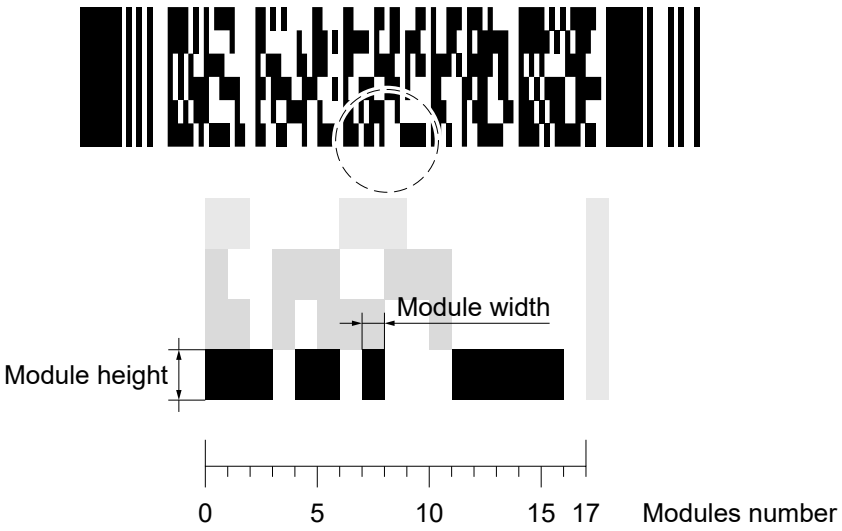
[Description] Specifies the height of the module of the PDF417 barcode.
pL and pH specify the number of successive bytes to be sent.

[Notes] Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] n = 0x03

[Reference] 0x1D 0x28 0x6B

[Example] To set height = 4, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x44 0x04



# 0x1D 0x28 0x6B [Fn 069]



Specify the error correction level of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 45 | m | n |
| | ASCII | GS | ( | k | pL | pH | 0 | E | m | n |

[Range] (pL + pH × 256) = 4 (pL = 0x04, pH = 0x00)
m = 0x30 0x30 ≤ n ≤ 0x38
m = 0x31 0x01 ≤ n ≤ 0x28

[Description] Specifies the error correction level of PDF417 barcode. This error correction allows the barcode to endure some damage without causing loss of data. The error correction level depends on the amount of data that needs to be encoded, the size and the amount of symbol damage that could occur.
• pL and pH specify the number of successive bytes to be sent.
• The error correction level is specified by “level” when m = 0x30.
• The error correction level is specified by “ratio” when m = 0x31 [n × 10%].

[Notes] • Error correction level is specified by either “level” or “ratio”.
• Error correction level specified by “level” (m = 0x30) is as follows. The number of the error correction code word is fixed regardless of the number of code words on the data area.

| n | CORRECTION LEVEL | N. OF ERROR CORRECTION CODE WORD |
|---|---|---|
| 0x30 | Error correction level 0 | 2 |
| 0x31 | Error correction level 1 | 4 |
| 0x32 | Error correction level 2 | 8 |
| 0x33 | Error correction level 3 | 16 |
| 0x34 | Error correction level 4 | 32 |
| 0x35 | Error correction level 5 | 64 |
| 0x36 | Error correction level 6 | 128 |
| 0x37 | Error correction level 7 | 256 |
| 0x38 | Error correction level 8 | 512 |

• Error correction level specified by “ratio” (m = 0x31) is as follows. The error correction level is defined by the calculated value [number of data code word × n × 0.1 = (A)]. The number of the error correction code word is changeable in proportion to the number of the code words on the data area.

| VALUE (A) | CORRECTION LEVEL | N. OF ERROR CORRECTION CODE WORD |
|---|---|---|
| 0 - 3 | Error correction level 1 | 4 |
| 4 - 10 | Error correction level 2 | 8 |
| 11 - 20 | Error correction level 3 | 16 |
| 21 - 45 | Error correction level 4 | 32 |
| 46 - 100 | Error correction level 5 | 64 |
| 101 - 200 | Error correction level 6 | 128 |
| 201 - 400 | Error correction level 7 | 256 |
| > 400 | Error correction level 8 | 512 |

Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] m = 0x31
n = 0x01 [ratio: 10%]

[Reference] 0x1D 0x28 0x6B

[Example] To set error correction = 0.2, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x45 0x30 0x02

# 0x1D 0x28 0x6B [Fn 080]

*<GS ( k>*

Store the data in the barcode save area for printing in PDF417 format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | 30 | 50 | 30 | d1...dk |
| ASCII | GS | ( | k | pL | pH | 0 | P | 0 | d1...dk |

[Range]

0x00 ≤ d ≤ 0xFF

k = (pL + pH × 256) - 3

• PDF417 barcode only with ASCII characters:

4 ≤ (pL + pH × 256) ≤ 1112 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x04)

• PDF417 barcode only with alphanumeric characters:

4 ≤ (pL + pH × 256) ≤ 1854 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x07)

• PDF417 barcode only with numeric characters:

4 ≤ (pL + pH × 256) ≤ 2729 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0A)

[Description]

Stores the data (d1...dk) in the barcode save area for printing in PDF417 format.

• pL and pH specify the number of successive bytes to be sent.

• k bytes of d1...dk are processed as barcode data.

[Notes]

• Data stored in the barcode save area by this function are processed by Function 081 and then reserved.

• Specify only the data code word of the barcode with this function. Be sure not to include the control data in the data d1...dk because they are added automatically by the device.

• Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 081]

<GS ( k>

Encodes the data in the barcode save area and prints it in PDF417 format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 51 | 30 |
| | ASCII | GS | ( | k | pL | pH | 0 | Q | 0 |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Encodes the data in the barcode save area and prints it in PDF417 format.
pL and pH specify the number of successive bytes to be sent.

[Notes]
• In standard mode, use this function when device is at the beginning of a line or there is no data in the print buffer.
• A barcode that size exceeds the printing area cannot be printed.

• If there is any error described below in the data of the barcode save area, it cannot be printed.
- There is no data (Function 080 is not processed).
- If [(number of columns × number of rows) < number of code word] when auto processing is specified for number of columns and number of rows.
- Number of code word exceeds 928 in the data area.

• When auto processing (Function 065) is specified, the number of columns is calculated by the current printing area, module width (Function 067) and the code word in the data area. Maximum number of the columns is 30.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example] To print the PDF417 barcode data the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x51 0x30

# 0x1D 0x28 0x6B [Fn 165]

<GS ( k>

Specify encoding scheme of QRcode barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| [Format] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hex | 1D | 28 | 6B | pL | pH | 31 | 41 | n1 | n2 |
| | ASCII | GS | ( | k | pL | pH | 1 | A | n1 | n2 |

[Range] (pL+pH × 256) = 4 (pL = 0x04, pH = 0x00)
0x32 ≤ n1 ≤ 0x33
n2 = 0x00

[Description] Specifies encoding type of QRcode barcode, based on the value of n1 as follows:

| n1 | ENCODING SCHEME |
|---|---|
| 0x32 | QRcode model 2 |
| 0x33 | MicroQR |

[Notes]
- QRcode: Encode all extended ASCII characters data up to a maximum length of 7089 numeric digits, 4296 alphabetic characters or 2953 bytes of data.
- pL and pH specify the number of successive bytes to be sent.
- MicroQR (a miniature version of the QRcode barcode for short message): Encode all numbers from 0 to 9 up to a maximum length of 35 characters.

[Default] n1 = 0x32
n2 = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]



QRcode Model 2



MicroQR

# 0x1D 0x28 0x6B [Fn 166]

<GS ( k>

## Specify QRcode barcode version

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 42 | n |
| | ASCII | GS | ( | k | pL | pH | 1 | B | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x28

[Description] Defines QRcode version to be printed.

[Notes]
- If selected version has not enough capacity to store the saved amount of data, next smallest version capable of that capacity will be printed.
- For QRcode version capacity according to ECC (Error Correction Capability) and data type refer to following table.
- With n = 0x00 the selection of the version occurs automatically according to the one that allows the printing of the requested data.

| n | VERSION | MODULES | ECC LEVEL | NUMERIC | ALPHANUMERIC | BINARY |
|---|---|---|---|---|---|---|
| 0x00 | AUTO | - | - | - | - | - |
| 0x01 | 1 | 21 x 21 | L | 40 | 24 | 16 |
| | | | M | 33 | 19 | 13 |
| | | | Q | 26 | 15 | 10 |
| | | | H | 16 | 9 | 6 |
| 0x02 | 2 | 25 x 25 | L | 76 | 46 | 31 |
| | | | M | 62 | 37 | 25 |
| | | | Q | 47 | 28 | 19 |
| | | | H | 33 | 19 | 13 |
| 0x03 | 3 | 29 x 29 | L | 126 | 76 | 52 |
| | | | M | 100 | 60 | 41 |
| | | | Q | 76 | 46 | 31 |
| | | | H | 57 | 34 | 23 |
| 0x04 | 4 | 33 x 33 | L | 186 | 113 | 77 |
| | | | M | 148 | 89 | 61 |
| | | | Q | 110 | 66 | 45 |
| | | | H | 81 | 49 | 33 |
| 0x05 | 5 | 37 x 37 | L | 254 | 153 | 105 |
| | | | M | 201 | 121 | 83 |
| | | | Q | 143 | 86 | 59 |
| | | | H | 105 | 63 | 43 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0x06 | 6 | 41 x 41 | L | 321 | 194 | 133 |
| | | | M | 254 | 153 | 105 |
| | | | Q | 177 | 107 | 73 |
| | | | H | 138 | 83 | 57 |
| 0x07 | 7 | 45 x 45 | L | 369 | 223 | 153 |
| | | | M | 292 | 177 | 121 |
| | | | Q | 206 | 124 | 85 |
| | | | H | 153 | 92 | 63 |
| 0x08 | 8 | 49 x 49 | L | 460 | 278 | 191 |
| | | | M | 364 | 220 | 151 |
| | | | Q | 258 | 156 | 107 |
| | | | H | 201 | 121 | 83 |
| 0x09 | 9 | 53 x 53 | L | 551 | 334 | 229 |
| | | | M | 431 | 261 | 179 |
| | | | Q | 311 | 188 | 129 |
| | | | H | 234 | 142 | 97 |
| 0x0A | 10 | 57 x 57 | L | 651 | 394 | 270 |
| | | | M | 512 | 310 | 212 |
| | | | Q | 363 | 220 | 150 |
| | | | H | 287 | 173 | 118 |
| 0x0B | 11 | 61 x 61 | L | 771 | 467 | 320 |
| | | | M | 603 | 365 | 250 |
| | | | Q | 426 | 258 | 176 |
| | | | H | 330 | 199 | 136 |
| 0x0C | 12 | 65 x 65 | L | 882 | 534 | 366 |
| | | | M | 690 | 418 | 286 |
| | | | Q | 488 | 295 | 202 |
| | | | H | 373 | 226 | 154 |
| 0x0D | 13 | 69 x 69 | L | 1021 | 618 | 424 |
| | | | M | 795 | 482 | 330 |
| | | | Q | 579 | 351 | 240 |
| | | | H | 426 | 258 | 176 |
| 0x0E | 14 | 73 x 73 | L | 1100 | 666 | 457 |
| | | | M | 870 | 527 | 361 |
| | | | Q | 620 | 375 | 257 |
| | | | H | 467 | 282 | 193 |
| 0x0F | 15 | 77 x 77 | L | 1249 | 757 | 519 |
| | | | M | 990 | 599 | 411 |
| | | | Q | 702 | 425 | 291 |
| | | | H | 529 | 320 | 219 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0x10 | 16 | 81 x 81 | L | 1407 | 853 | 585 |
| | | | M | 1081 | 655 | 449 |
| | | | Q | 774 | 469 | 321 |
| | | | H | 601 | 364 | 249 |
| 0x11 | 17 | 85 x 85 | L | 1547 | 937 | 643 |
| | | | M | 1211 | 733 | 503 |
| | | | Q | 875 | 530 | 363 |
| | | | H | 673 | 407 | 279 |
| 0x12 | 18 | 89 x 89 | L | 1724 | 1045 | 717 |
| | | | M | 1345 | 815 | 559 |
| | | | Q | 947 | 573 | 393 |
| | | | H | 745 | 451 | 309 |
| 0x13 | 19 | 93 x 93 | L | 1902 | 1152 | 791 |
| | | | M | 1499 | 908 | 623 |
| | | | Q | 1062 | 643 | 441 |
| | | | H | 812 | 492 | 337 |
| 0x14 | 20 | 97 x 97 | L | 2060 | 1248 | 857 |
| | | | M | 1599 | 969 | 665 |
| | | | Q | 1158 | 701 | 481 |
| | | | H | 918 | 556 | 381 |
| 0x15 | 21 | 101 x 101 | L | 2231 | 1351 | 928 |
| | | | M | 1707 | 1034 | 710 |
| | | | Q | 1223 | 741 | 508 |
| | | | H | 968 | 586 | 402 |
| 0x16 | 22 | 105 x 105 | L | 2408 | 1459 | 1002 |
| | | | M | 1871 | 1133 | 778 |
| | | | Q | 1357 | 822 | 564 |
| | | | H | 1055 | 639 | 438 |
| 0x17 | 23 | 109 x 109 | L | 2619 | 1587 | 1090 |
| | | | M | 2058 | 1247 | 856 |
| | | | Q | 1467 | 889 | 610 |
| | | | H | 1107 | 671 | 460 |
| 0x18 | 24 | 113 x 113 | L | 2811 | 1703 | 1170 |
| | | | M | 2187 | 1325 | 90 |
| | | | Q | 1587 | 92 | 60 |
| | | | H | 1227 | 73 | 50 |
| 0x19 | 25 | 117 x 117 | L | 3056 | 1852 | 1272 |
| | | | M | 2394 | 1450 | 96 |
| | | | Q | 1717 | 1040 | 74 |
| | | | H | 1285 | 78 | 54 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0x1A | 26 | 121 x 121 | L | 3282 | 198 | 1366 |
| | | | M | 2543 | 1541 | 1058 |
| | | | Q | 1803 | 1093 | 70 |
| | | | H | 1424 | 83 | 52 |
| 0x1B | 27 | 125 x 125 | L | 3516 | 2131 | 1464 |
| | | | M | 2700 | 1636 | 1124 |
| | | | Q | 1932 | 1171 | 84 |
| | | | H | 1500 | 89 | 64 |
| 0x1C | 28 | 129 x 129 | L | 3668 | 2222 | 1527 |
| | | | M | 2856 | 1731 | 118 |
| | | | Q | 2084 | 1262 | 87 |
| | | | H | 1580 | 97 | 67 |
| 0x1D | 29 | 133 x 133 | L | 3908 | 2368 | 1627 |
| | | | M | 3034 | 1838 | 1263 |
| | | | Q | 2180 | 1321 | 97 |
| | | | H | 1676 | 1015 | 67 |
| 0x1E | 30 | 137 x 137 | L | 4157 | 251 | 1731 |
| | | | M | 3288 | 1993 | 136 |
| | | | Q | 2357 | 1428 | 91 |
| | | | H | 1781 | 107 | 71 |
| 0x1F | 31 | 141 x 141 | L | 4416 | 2676 | 183 |
| | | | M | 3485 | 2112 | 1451 |
| | | | Q | 2472 | 1498 | 102 |
| | | | H | 1896 | 114 | 69 |
| 0x20 | 32 | 145 x 145 | L | 4685 | 283 | 1951 |
| | | | M | 3692 | 2237 | 1537 |
| | | | Q | 266 | 1617 | 1111 |
| | | | H | 2021 | 1225 | 81 |
| 0x21 | 33 | 149 x 149 | L | 4964 | 3008 | 2067 |
| | | | M | 3908 | 2368 | 1627 |
| | | | Q | 2804 | 16 | 1167 |
| | | | H | 2156 | 1306 | 87 |
| 0x22 | 34 | 153 x 153 | L | 5252 | 3182 | 2187 |
| | | | M | 4133 | 2505 | 1721 |
| | | | Q | 2948 | 1786 | 1227 |
| | | | H | 2300 | 1393 | 97 |
| 0x23 | 35 | 157 x 157 | L | 5528 | 3350 | 2302 |
| | | | M | 4342 | 2631 | 1808 |
| | | | Q | 3080 | 1866 | 1282 |
| | | | H | 2360 | 1430 | 92 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0x24 | 36 | 161 x 161 | L | 5835 | 3536 | 2430 |
| | | | M | 4587 | 277 | 1910 |
| | | | Q | 3243 | 1965 | 1350 |
| | | | H | 2523 | 152 | 1050 |
| 0x25 | 37 | 165 x 165 | L | 6152 | 3728 | 2562 |
| | | | M | 4774 | 2893 | 1988 |
| | | | Q | 3416 | 2070 | 1422 |
| | | | H | 2624 | 1590 | 1092 |
| 0x26 | 38 | 169 x 169 | L | 6478 | 3926 | 2698 |
| | | | M | 5038 | 3053 | 2098 |
| | | | Q | 3598 | 2180 | 1498 |
| | | | H | 2734 | 1657 | 1138 |
| 0x27 | 39 | 173 x 173 | L | 6742 | 4086 | 2808 |
| | | | M | 5312 | 321 | 2212 |
| | | | Q | 3790 | 2297 | 1578 |
| | | | H | 2926 | 1773 | 1218 |
| 0x28 | 40 | 177 x 177 | L | 7088 | 4295 | 2952 |
| | | | M | 5595 | 3390 | 2330 |
| | | | Q | 3992 | 241 | 1662 |
| | | | H | 3056 | 1851 | 1272 |

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example] To select QRcode version 8 the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x31 0x42 0x08

# 0x1D 0x28 0x6B [Fn 167]



Specify dot size of the modules of the QRcode barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 43 | n |
| | ASCII | GS | ( | k | pL | pH | 1 | C | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x18

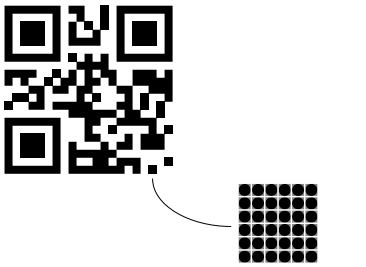
[Description] Specifies numbers of dots for each pixel of QRcode barcode.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x06

[Reference] 0x1D 0x28 0x6B

[Example]



# 0x1D 0x28 0x6B [Fn 169]

<GS ( k>

Specify the error correction level of the QRcode barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 45 | n |
| | ASCII | GS | ( | k | pL | pH | 1 | E | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x30 ≤ n ≤ 0x34

[Description] Specifies the ECC level (Error Correction Capability) of QRcode barcode.

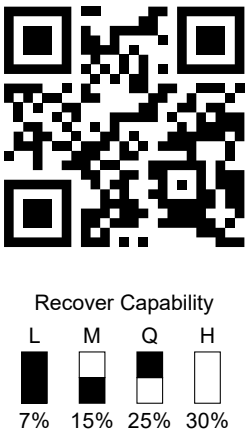
| n | ECC level | |
|---|---|---|
| 0x30 | AUTO | |
| 0x31 | ECC L = approx 20% of symbol | Recovery Capability = approx 7% |
| 0x32 | ECC M = approx 37% of symbol | Recovery Capability = approx 15% |
| 0x33 | ECC Q = approx 55% of symbol | Recovery Capability = approx 25% |
| 0x34 | ECC H = approx 65% of symbol | Recovery Capability = approx 30% |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x30

[Reference] 0x1D 0x28 0x6B

[Example]






# 0x1D 0x28 0x6B [Fn 180]

*<GS ( k>*

Store the data in the barcode save area for printing in QRcode format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | 31 | 50 | 31 | d1...dk |
| ASCII | GS | ( | k | pL | pH | 1 | P | 1 | d1...dk |

[Range]

0x00 ≤ d ≤ 0xFF

k = (pL + pH × 256) - 3

• QRcode barcode only with binary characters (8 bit):

4 ≤ (pL + pH × 256) ≤ 2957 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0B)

• QRcode barcode only with alphanumeric characters:

4 ≤ (pL + pH × 256) ≤ 4300 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x10)

• QRcode barcode only with numeric characters:

4 ≤ (pL + pH × 256) ≤ 7093 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x1B)

[Description]

Store the data (d1...dk) in the barcode save area for printing in QRcode format.

[Notes]

• Data stored in the barcode save area by this function are processed by Function 181 and then reserved.
• pL and pH specify the number of successive bytes to be sent.
• k bytes of d1...dk are processed as barcode data.
• Specify only the data code word of the barcode with this function.

[Default]

[Reference]

0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 181]

<GS ( k>

Prints the data stored in the barcode save area in QRcode format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 51 | 31 |
| | ASCII | GS | ( | k | pL | pH | 1 | Q | 1 |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Prints the data stored in the barcode save area in QRcode format.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 182]

<GS ( k>

## Transmit the QRcode barcode size in the barcode save area

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 52 | 30 |
| | ASCII | GS | ( | k | pL | pH | 1 | R | 0 |

[Range] (pL+pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Transmits the QRcode barcode size in the barcode save area.

[Notes]
- To store the data in the device barcode save area use the Function 180.
- In standard mode, use this function when device is at the beginning of a line or when there is no data in the print buffer.
- pL and pH specify the number of successive bytes to be sent.
- The size information for each data is as follows:

| SEND DATA | HEX | DATA |
|---|---|---|
| Header | 37 | 1 byte |
| Identifier | 36 | 1 byte |
| Horizontal size (1) | 30-39 | 1 - 5 byte |
| Separator | 1F | 1 byte |
| Vertical size (1) | 30-39 | 1 - 5 byte |
| Separator | 1F | 1 byte |
| Fixed value | 31 | 1 byte |
| Separator | 1F | 1 byte |
| Other information (2) | 30 or 31 | 1 byte |
| NUL | 00 | 1 byte |

(1) “Horizontal size” and “vertical size” indicate the number of dots of the symbol.
The values of the vertical size and horizontal size are converted to characters and sent starting from the high order end (ex: When horizontal size is 120 dots, horizontal size is 0x31 0x32 0x30, which is 3 bytes of data).
(2) ”Other information” indicates whether printing of the data in the symbol storage area is possible or impossible. The “Other information“ is the following:

| HEX | CONDITION |
|---|---|
| 30 | Printing is possible |
| 31 | Printing is impossible |

• Size information indicates size of symbol that is printed by Function 181.
• The quiet zone is not included in the size information.
• If “other information” is “Printing is impossible“(0x31), use one of the solutions shown below:

| | |
|---|---|
| CAUSE | There are data  in the print buffer in the standard mode |
| SOLUTION | Clear the data in the print buffer by executing 0x0A, 0x0D, 0x1B 0x4A print commands. |

| | |
|---|---|
| CAUSE | Symbol is bigger than the current print area. |
| SOLUTION | Expand the print area by 0x1D 0x57, 0x1B 0x24.<br>Reduce the module size by using Function 167.<br>Lower the error correction level by using Function 169. |

| | |
|---|---|
| CAUSE | The data in the symbol storage area is too large. |
| SOLUTION | Send correct data by using Function 180.<br>Lower the error correction level by using Function 169. |

| | |
|---|---|
| CAUSE | There is no data in the symbol storage area. |
| SOLUTION | Send data to the symbol storage area by using Function 180. |

[Default]

[Reference] 0x1D 0x28 0x6B

[Example] A possible device response can be:
0x37 0x36 0x31 0x32 0x36 0x1F 0x31 0x32 0x36 0x1F 0x31 0x1F 0x30 0x00

where:

| | |
|---|---|
| 0x37 | header |
| 0x36 | identifier |
| 0x31 0x32 0x36 | horizontal size 126 dots (0x31 = 1, 0x32 = 2, 0x36 = 6) |
| 0x1F | separator |
| 0x31 0x32 0x36 | vertical size 126 dots (0x31 = 1, 0x32 = 2, 0x36 = 6) |
| 0x1F | separator |
| 0x31 | fixed value |
| 0x1F | separator |
| 0x30 | printing possible |
| 0x00 | NUL (end of text character) |

# 0x1D 0x28 0x6B [Fn 365]



## Specify encoding scheme of DATAMATRIX barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| [Format] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Hex | 1D | 28 | 6B | pL | pH | 33 | 41 | n |
| | ASCII | GS | ( | k | pL | pH | 3 | A | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x06

[Description] Set the encoding scheme for the DATAMATRIX barcode based on the value of n as follows:

| n | ENCODING |
|---|---|
| 0x00 | ASCII |
| 0x01 | C40 |
| 0x02 | Text |
| 0x03 | X12 |
| 0x04 | Edifact |
| 0x05 | Base256 |
| 0x06 | AutoBest |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example] To set encoding = ASCII, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x33 0x41 0x00

# 0x1D 0x28 0x6B [Fn 366]

<GS ( k>

## Set rotation of DATAMATRIX barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 33 | 42 | n |
| | ASCII | GS | ( | k | pL | pH | 3 | B | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
n = 0x00, 0x01

[Description] Set the rotation for the DATAMATRIX barcode based on the value of n as follows:

| n | ROTATION |
|---|---|
| 0x00 | No rotation |
| 0x01 | Rotation |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 367]

<GS ( k>

Set dot size of the module of DATAMATRIX barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 33 | 43 | n |
| | ASCII | GS | ( | k | pL | pH | 3 | C | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x18

[Description] Set dot size of the module of the DATAMATRIX barcode:
n = dot dimension

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x06

[Reference] 0x1D 0x28 0x6B

[Example] To set dot size = 6 the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x33 0x43 0x06

# 0x1D 0x28 0x6B [Fn 368]

<GS ( k>

## Set size of DATAMATRIX barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 33 | 44 | n |
| | ASCII | GS | ( | k | pL | pH | 3 | D | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x1D

[Description] Set the size of DATAMATRIX barcode based on the value of n as follows:

| n | BARCODE SIZE | n | BARCODE SIZE |
|---|---|---|---|
| 0x00 | AUTO | 0x0F | 52 x 52 |
| 0x01 | 10 x 10 | 0x10 | 64 x 64 |
| 0x02 | 12 x 12 | 0x11 | 72 x 72 |
| 0x03 | 14 x 14 | 0x12 | 80 x 80 |
| 0x04 | 16 x 16 | 0x13 | 88 x 88 |
| 0x05 | 18 x 18 | 0x14 | 96 x 96 |
| 0x06 | 20 x 20 | 0x15 | 104 x 104 |
| 0x07 | 22 x 22 | 0x16 | 120 x 120 |
| 0x08 | 24 x 24 | 0x17 | 132 x 132 |
| 0x09 | 26 x 26 | 0x18 | 144 x 144 |
| 0x0A | 32 x 32 | 0x19 | 8 x 18 |
| 0x0B | 36 x 36 | 0x1A | 8 x 32 |
| 0x0C | 40 x 40 | 0x1B | 12 x 26 |
| 0x0D | 44 x 44 | 0x1C | 12 x 36 |
| 0x0E | 48 x 48 | 0x1D | 16 x 36 |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 380]

<GS ( k>

Store the DATAMATRIX barcode data in the barcode save area

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | 33 | 50 | 33 | d1...dk |
| ASCII | GS | ( | k | pL | pH | 3 | P | 3 | d1...dk |

[Range]

0x00 ≤ d ≤ 0xFF

k = (pL + pH × 256) - 3

• DATAMATRIX barcode only with ASCII characters (8 bit) :

4 ≤ (pL + pH × 256) ≤ 1560 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x06)

• DATAMATRIX barcode only with alphanumeric characters:

4 ≤ (pL + pH × 256) ≤ 2339 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x09)

• DATAMATRIX barcode only with numeric characters:

4 ≤ (pL + pH × 256) ≤ 3120 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0C)

[Description]

Store the DATAMATRIX barcode data (d1...dk) in the barcode save area.

[Notes]

• Data stored in the barcode save area by this function are processed by Function 381 and then reserved.
• pL and pH specify the number of successive bytes to be sent.
• k bytes of d1...dk are processed as barcode data.
• Specify only the data code word of the barcode with this function. Be sure not to include the control data in the data d1...dk because they are added automatically by the device.

[Default]

[Reference]

0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 381]

<GS ( k>

Encodes and prints the DATAMATRIX barcode data in the barcode save area

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 33 | 51 | 33 |
| | ASCII | GS | ( | k | pL | pH | 3 | Q | 3 |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Encodes and prints the DATAMATRIX barcode data in the barcode save area.

[Notes]
- In standard mode, use this function when device is at the beginning of a line or there is no data in the print buffer.
- pL and pH specify the number of successive bytes to be sent.
- A barcode that size exceeds the printing area cannot be printed.
- If there is any error described below in the data of the barcode save area, it cannot be printed.
  - There is no data (Function 380 is not processed).
  - If [(number of columns × number of rows) < number of code word] when auto processing is specified for number of columns and number of rows.
  - Number of code word exceeds 928 in the data area.
- When auto processing (Function 365) is specified, the number of columns is calculated by the current printing area, module width (Function 367) and the code word in the data area. Maximum number of the columns is 30.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example] To print the DATAMATRIX barcode data the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x33 0x51 0x33

# 0x1D 0x28 0x6B [Fn 465]

<GS ( k>

## Specify encoding scheme of AZTEC barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 34 | 41 | n |
| | ASCII | GS | ( | k | pL | pH | 4 | A | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
n= 0x00, 0x01

[Description] Specifies encoding type of AZTEC barcode based on the value of n as follows:

| n | ENCODING |
|---|---|
| 0x00 | FULL AZTEC |
| 0x01 | AZTEC RUNE |

[Notes]
- Full Aztec: Encode all extended ASCII characters data up to a maximum length of approximately 3832 numeric or 3067 alphabetic characters or 1914 bytes of data.
- pL and pH specify the number of successive bytes to be sent.
- “AZTEC RUNE” is a compact Aztec Code, sometimes called “SMALL AZTEC CODE”. Encode all numbers from 0 to 255 up to a maximum length of 3 numbers.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 467]

<GS ( k>

Specify dot size of the module of the AZTEC barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 34 | 43 | n |
| | ASCII | GS | ( | k | pL | pH | 4 | C | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x18

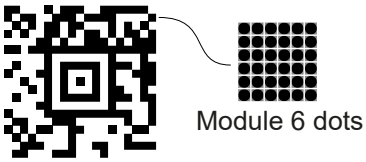
[Description] Specifies numbers of dot for each pixel of AZTEC barcode.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]



# 0x1D 0x28 0x6B [Fn 468]

<GS ( k>

Specify size of the AZTEC barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 34 | 44 | n |
| | ASCII | GS | ( | k | pL | pH | 4 | D | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x24

[Description] Specifies AZTEC barcode format (rows and columns) based on the value of n as follows:

| n | FORMAT | n | FORMAT | n | FORMAT |
|---|---|---|---|---|---|
| 0x00 | AUTO | 0x0D | C53X53 | 0x1A | C109X109 |
| 0x01 | C15X15 Compact | 0x0E | C57X57 | 0x1B | C113X113 |
| 0x02 | C19X19 Compact | 0x0F | C61X61 | 0x1C | C117X117 |
| 0x03 | C23X23 Compact | 0x10 | C67X67 | 0x1D | C121X121 |
| 0x04 | C27X27 Compact | 0x11 | C71X71 | 0x1E | C125X125 |
| 0x05 | C19X19 | 0x12 | C75X75 | 0x1F | C131X131 |
| 0x06 | C23X23 | 0x13 | C79X79 | 0x20 | C135X135 |
| 0x07 | C27X27 | 0x14 | C83X83 | 0x21 | C139X139 |
| 0x08 | C31X31 | 0x15 | C87X87 | 0x22 | C143X143 |
| 0x09 | C37X37 | 0x16 | C91X91 | 0x23 | C147X147 |
| 0x0A | C41X41 | 0x17 | C95X95 | 0x24 | C151X151 |
| 0x0B | C45X45 | 0x18 | C101X101 | | |
| 0x0C | C49X49 | 0x19 | C105X105 | | |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 469]

<GS ( k>

Specify the error correction level of the AZTEC barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 34 | 45 | n |
| | ASCII | GS | ( | k | pL | pH | 4 | E | n |

[Range] (pL + pH × 256) = 3 (pL = 0x04, pH = 0x00)
0x00 ≤ n ≤ 0x04

[Description] Specifies the ECP level (Error Correction Percentage) of AZTEC barcode based on the value of as follows:

| n | ECP level |
|---|---|
| 0x00 | AUTO |
| 0x01 | > 10 % + 3 codewords |
| 0x02 | > 23 % + 3 codewords |
| 0x03 | > 36 % + 3 codewords |
| 0x04 | > 50 % + 3 codewords |

It is not possible to select both barcode size and error correction capability for the same barcode. If both options are selected then the error correction capability selection will be ignored.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 480]

*<GS ( k>*

Store the data in the barcode save area for printing in AZTEC format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | 34 | 50 | 34 | d1...dk |
| ASCII | GS | ( | k | pL | pH | 4 | P | 4 | d1...dk |

[Range]

0x00 ≤ d ≤ 0xFF

k = (pL + pH × 256) - 3

- AZTEC barcode only with ASCII characters:
  4 ≤ (pL + pH × 256) ≤ 1918 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x07)
- AZTEC barcode only with alphanumeric characters:
  4 ≤ (pL + pH × 256) ≤ 3071 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0B)
- AZTEC barcode only with numeric characters:
  4 ≤ (pL + pH × 256) ≤ 3836 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0E)

[Description]

Store the data (d1...dk) in the barcode save area for printing in AZTEC format.

[Notes]

- Data stored in the barcode save area by this function are processed by Function 481 and then reserved.
- pL and pH specify the number of successive bytes to be sent.
- k bytes of d1...dk are processed as barcode data.
- Specify only the data code word of the barcode with this function.

[Default]

[Reference]

0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 481]

<GS ( k>

Prints the data stored in the barcode save area in AZTEC format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT |
| | VKP80III RX65 REAR |
| | VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 34 | 51 | 30 |
| | ASCII | GS | ( | k | pL | pH | 4 | Q | 0 |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Prints the data stored in the barcode save area in AZTEC format.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]

## 0x1D 0x48 *<GS H>*

Select printing position of HRI characters in 1D barcodes

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1D | 48 | n |
| ASCII | GS | H | n |

[Range]

0x00 ≤ n ≤ 0x03
0x30 ≤ n ≤ 0x33

[Description]

Selects the print position of HRI (Human Readable Interpretation) characters when printing a 1D barcode, based on the value of n as follows:

| n | FUNCTION |
|---|---|
| 0x00, 0x30 | Not printed |
| 0x01, 0x31 | Above the barcode |
| 0x02, 0x32 | Below the barcode |
| 0x03, 0x33 | Both above and below the barcode |

[Notes]

HRI characters are printed using the font specified by 0x1D 0x66.

[Default]

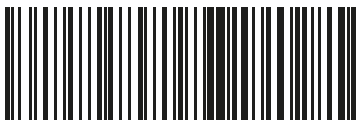
n = 0x00

[Reference]

0x1D 0x66, 0x1D 0x6B

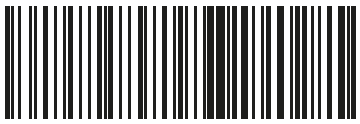
[Example]

Not printed

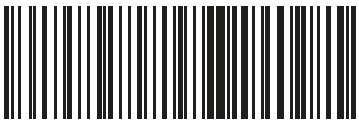


Above the barcode

ABCDEFG123456



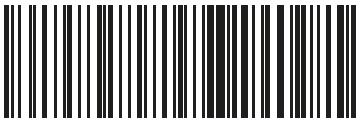
Below the barcode



ABCDEFG123456

Both above and below the barcode

ABCDEFG123456



ABCDEFG123456

# 0x1D 0x66

<GS f>

## Select font for HRI characters

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1D | 66 | n |
| ASCII | GS | f | n |

[Range] n = 0x00, 0x01, 0x30, 0x31

[Description] Selects a font for the HRI (Human Readable Interpretation) characters used when printing a 1D barcode, based on the value of n as follows:

| n | FONT |
|---|---|
| 0x00, 0x30 | Font A |
| 0x01, 0x31 | Font B |

[Notes] HRI characters are printed at the position specified by 0x1D 0x48.

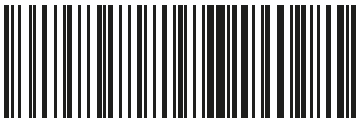
[Default] n = 0x00

[Reference] 0x1D 0x48, 0x1D 0x6B

[Example]

Font A

ABCDEFG123456



Font B

ABCDEFG123456



# 0x1D 0x68

<GS h>

## Select 1D barcode height

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 68 | n |
| | ASCII | GS | h | n |

[Range] 0x01 ≤ n ≤ 0xFF

[Description] Sets the height of the 1D barcode.
n specifies the number of vertical dots.

[Notes]

[Default] n = 0xA2 (20.25 mm)

[Reference] 0x1D 0x6B

[Example] To print a barcode with height of 15 mm, the command sequence is:
0x1D 0x68 0x78

Where:
15 mm = 15 × 8 dots = 120 dots which converted in hexadecimal value = 0x78

# 0x1D 0x6B

<GS k>

## Print 1D barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| [Format 1] | Hex | 1D | 6B | m | [d1..dk] | 00 |
| | ASCII | GS | k | m | [d1..dk] | NUL |
| [Format 2] | Hex | 1D | 6B | m | n | [d1..dn] |
| | ASCII | GS | k | m | n | [d1..dn] |

[Range]

Format 1
0x00 ≤ m ≤ 0x08
m = 0x14

Format 2
0x41 ≤ m ≤ 0x49
m = 0x5A

[Description] Selects a 1D barcode system and prints the 1D barcode based on the value of m as follows:

Format 1

| m | BARCODE SYSTEM | NUMBER OF CHARACTERS | REMARKS |
|---|---|---|---|
| 0x00 | UPC-A | 0x0B ≤ k ≤ 0x0C | 0x30 ≤ d ≤ 0x39 |
| 0x01 | UPC-E | 0x0B ≤ k ≤ 0x0C | 0x30 ≤ d ≤ 0x39 |
| 0x02 | EAN13 (JAN) | 0x0C ≤ k ≤ 0x0D | 0x30 ≤ d ≤ 0x39 |
| 0x03 | EAN8 (JAN) | 0x07 ≤ k ≤ 0x08 | 0x30 ≤ d ≤ 0x39 |
| 0x04 | CODE39 | 0x01 ≤ k | 0x30 ≤ d ≤ 0x39, |
| | | | 0x41 ≤ d ≤ 0x5A, |
| | | | 0x20, 0x24, 0x25, 0x2B, |
| | | | 0x2D, 0x2E, 0x2F |
| 0x05 | ITF | 0x01 ≤ k (even number) | 0x30 ≤ d ≤ 0x39 |
| 0x06 | CODABAR | 0x01 ≤ k | 0x30 ≤ d ≤ 0x39, |
| | | | 0x41 ≤ d1 ≤ 0x44, |
| | | | 0x24, 0x2B, 0x2D, |
| | | | 0x2E, 0x2F, 0x3A |
| 0x07 | CODE93 | 0x01 ≤ k ≤ 0xFF | 0x01 ≤ d ≤ 0x7F |
| 0x08 | CODE128 | 0x02 ≤ k ≤ 0xFF | 0x01 ≤ d ≤ 0x7F |
| 0x14 | CODE32 | 0x08 ≤ k ≤ 0x09 | 0x30 ≤ d ≤ 0x39 |

Format 2

| m | BARCODE SYSTEM | NUMBER OF CHARACTERS | REMARKS |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 0x41 | UPC-A | 0x0B ≤ n ≤ 0x0C | 0x30 ≤ d ≤ 0x39 |
| 0x42 | UPC-E | 0x0B ≤ n ≤ 0x0C | 0x30 ≤ d ≤ 0x39 |
| 0x43 | EAN13 (JAN) | 0x0C ≤ n ≤ 0x0D | 0x30 ≤ d ≤ 0x39 |
| 0x44 | EAN8 (JAN) | 0x07 ≤ n ≤ 0x08 | 0x30 ≤ d ≤ 0x39 |
| 0x45 | CODE39 | 0x01 ≤ n ≤ 0xFF | 0x30 ≤ d ≤ 0x39, |
| | | | 0x41 ≤ d ≤ 0x5A, |
| | | | 0x20, 0x24, 0x25, 0x2B, |
| | | | 0x2D, 0x2E, 0x2F |
| 0x46 | ITF | 0x01 ≤ n ≤ 0xFF | 0x30 ≤ d ≤ 0x39 |
| 0x47 | CODABAR | 0x01 ≤ n ≤ 0xFF | 0x30 ≤ d ≤ 0x39, |
| | | | 0x41 ≤ d1 ≤ 0x44, |
| | | | 0x24, 0x2B, 0x2D, |
| | | | 0x2E, 0x2F, 0x3A |
| 0x48 | CODE93 | 0x01 ≤ n ≤ 0xFF | 0x01 ≤ d ≤ 0x7F |
| 0x49 | CODE128 | 0x02 ≤ n ≤ 0xFF | 0x01 ≤ d ≤ 0x7F |
| 0x5A | CODE32 | 0x08 ≤ n ≤ 0x09 | 0x30 ≤ d ≤ 0x39 |

[Notes]

• If d is outside of the specified range, the device prints the following message: “BARCODE GENERATOR IS NOT OK!” and processes the data which follows as normal data.
• If the horizontal size exceeds the printing area, the device only feeds the paper.
• This command feeds as much paper as is required to print the barcode, regardless of the line spacing specified by 0x1B 0x32 or 0x1B 0x33.
• After printing the barcode, this command sets the print position to the beginning of the line.
• This command is not affected by print modes (bold, double-strike, underline or character size), except for upside-down and justification mode.

Format 1
• This command ends with a NUL code.
• When the barcode system used is UPC-A or UPC-E, the device prints the barcode data after receiving 11 (without check digit) or 12 (with check digit) bytes barcode data.
• When the barcode system used is EAN13, the device prints the barcode data after receiving 12 (without check digit) or 13 (with check digit) bytes barcode data.
• When the barcode system used is EAN8, the device prints the barcode data after receiving 7 (without check digit) or 8 (with check digit) bytes barcode data.
• The number of data for ITF barcode must be even numbers. When an odd number of data is input, the device ignores the last received data.

Format 2
If n is outside of the specified range, the device stops command processing and processes the following data as normal data.

When CODE93 is used:

• The device prints an HRI character (o) as a start character at the beginning of the HRI character string.
• The device prints an HRI character (o) as a stop character at the end of the HRI character string.
• The device prints an HRI character (n) as a control character (0x00 to 0x1F and 0x7F).

When CODE128 is used, please note the following regarding data transmission:
• The top part of the barcode data string must be a code set selection character (CODE A, CODE B or CODE C) which selects the first code set.
• Special characters are defined by combining two characters “{“ and one character. ASCII character “{” is defined by transmitting “{“ twice, consecutively.

| SPECIFIC CHARACTER | DATA TRANSMISSION ASCII | DATA TRANSMISSION HEX |
|---|---|---|
| SHIFT | {S | 7B, 53 |
| CODE A | {A | 7B, 41 |
| CODE B | {B | 7B, 42 |
| CODE C | {C | 7B, 43 |
| FNC1 | {1 | 7B, 31 |
| FNC2 | {2 | 7B, 32 |
| FNC3 | {3 | 7B, 33 |
| FNC4 | {4 | 7B, 34 |
| ‘{‘ | {{ | 7B, 7B |

When UPC-E is used, introducing the barcode characters, the device prints:

| TRANSMITTED DATA | | | | | | | | | | | PRINTED DATA | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d1 | d2 | d3 | d4 | d5 | d6 | d7 | d8 | d9 | d10 | d11 | | | | | | |
| 0 | 0-9 | 0-9 | 0 | 0 | 0 | 0 | 0 | 0-9 | 0-9 | 0-9 | d2 | d3 | d9 | d10 | d11 | 0 |
| 0 | 0-9 | 0-9 | 1 | 0 | 0 | 0 | 0 | 0-9 | 0-9 | 0-9 | d2 | d3 | d9 | d10 | d11 | 1 |
| 0 | 0-9 | 0-9 | 2 | 0 | 0 | 0 | 0 | 0-9 | 0-9 | 0-9 | d2 | d3 | d9 | d10 | d11 | 2 |
| 0 | 0-9 | 0-9 | 3-9 | 0 | 0 | 0 | 0 | 0 | 0-9 | 0-9 | d2 | d3 | d4 | d10 | d11 | 3 |
| 0 | 0-9 | 0-9 | 0-9 | 1-9 | 0 | 0 | 0 | 0 | 0 | 0-9 | d2 | d3 | d4 | d5 | d11 | 4 |
| 0 | 0-9 | 0-9 | 0-9 | 0-9 | 1-9 | 0 | 0 | 0 | 0 | 5-9 | d2 | d3 | d4 | d5 | d6 | d11 |

[Default]

[Reference] 0x1D 0x48, 0x1D 0x66, 0x1D 0x68, 0x1D 0x77

[Example]

Format 1: Example for printing a CODE39 barcode:

0x1D 0x6B 0x04 0x54 0x45 0x53 0x54 0x00

Format 2: Example for printing a CODE39 barcode:
0x1D 0x6B 0x45 0x04 0x54 0x45 0x53 0x54

# 0x1D 0x77

<GS w>

## Set 1D barcode width

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 77 | n |
| | ASCII | GS | w | n |

[Range] 0x01 ≤ n ≤ 0x06
0x81 ≤ n ≤ 0x86

[Description] Sets the horizontal size of the 1D barcode. n specifies the barcode width as follows:

| n | MODULE WIDTH (mm) |
|---|---|
| 0x01 | 0.125 |
| 0x02 | 0.25 |
| 0x03 | 0.375 |
| 0x04 | 0.5 |
| 0x05 | 0.625 |
| 0x06 | 0.75 |

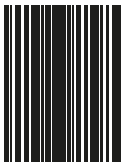
| n | | WIDE BAR / NARROW BAR RATIO |
|---|---|---|
| If n < 0x80 | 0x01, 0x02, 0x03, 0x04, 0x05, 0x06 | 3:1 |
| If n > 0x80 | 0x81 | 3:1 |
| | 0x82 | 2.5:1 |
| | 0x83 | 2.33:1 |
| | 0x84 | 2.25:1 |
| | 0x85 | 3:1 |
| | 0x86 | 3:1 |

[Notes] This command is enabled only when inserted at the beginning of a line.

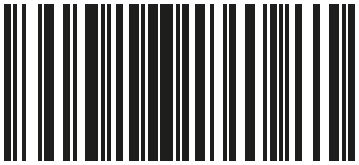
[Default] n = 0x03

[Reference] 0x1D 0x6B

[Example]



n = 0x01



n = 0x03

## 0x18 <CAN>

Cancel current line transmitted

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | |
|---|---|
| Hex | 18 |
| ASCII | CAN |

[Range]

[Description] Deletes current line transmitted.

[Notes]
- Sets the print position to the beginning of the line.
- This command does not clear the receive buffer.

[Default]

[Reference]

[Example]

# 0x1B 0x20

<ESC SP>

## Set right-side character spacing

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 20 | n |
| ASCII | ESC | SP | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Sets the character spacing for the right side of the character to [n × horizontal or vertical motion units].

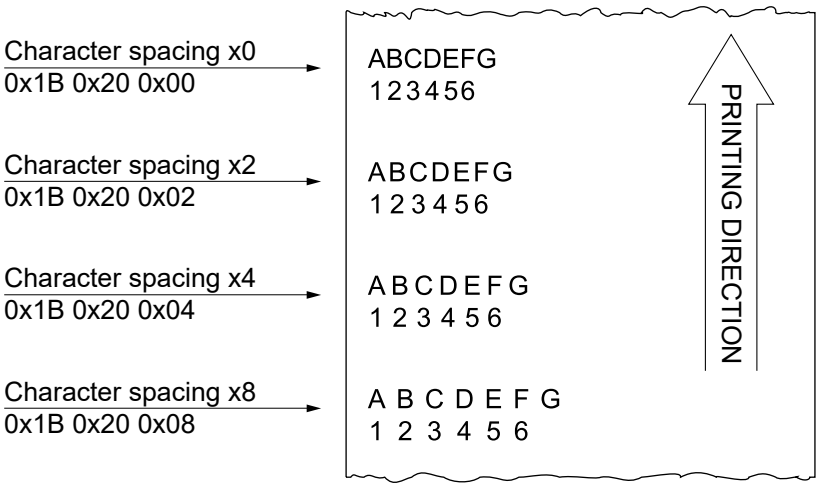
[Notes]

- The right character spacing for double-width mode is twice the normal value. When the characters are enlarged, the right side character spacing is m (2 or 4) times the normal value.
- The horizontal and vertical motion units are specified by 0x1D 0x50. Changing the horizontal or vertical motion units does not affect the current right side spacing.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount.
- The maximum right side spacing is 32 mm.
- In standard mode, the horizontal motion unit is used.

[Default] n = 0x00

[Reference] 0x1D 0x50

[Example]



# 0x1B 0x21



## Select print modes

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 21 | n |
| ASCII | ESC | ! | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Selects print modes based on the value of n as follows:

| BIT | OFF/ON | n | FUNCTION | 11/15 cpi | 15/20 cpi | 20/15 cpi |
|---|---|---|---|---|---|---|
| 0 | Off | 0x00 | Character font A selected | 18 x 24 | 14 x 24 | 10 x 24 |
| | On | 0x01 | Character font B selected | 14 x 24 | 10 x 24 | 14 x 24 |
| 1 | - | - | Undefined | | | |
| 2 | - | - | Undefined | | | |
| 3 | Off | 0x00 | Emphasized mode not selected | | | |
| | On | 0x08 | Emphasized mode selected | | | |
| 4 | Off | 0x00 | Double-height mode not selected | | | |
| | On | 0x10 | Double-height mode selected | | | |
| 5 | Off | 0x00 | Double-width mode not selected | | | |
| | On | 0x20 | Double-width mode selected | | | |
| 6 | Off | 0x00 | Italic mode not selected | | | |
| | On | 0x40 | Italic mode selected | | | |
| 7 | Off | 0x00 | Underlined mode not selected | | | |
| | On | 0x80 | Underlined mode selected | | | |

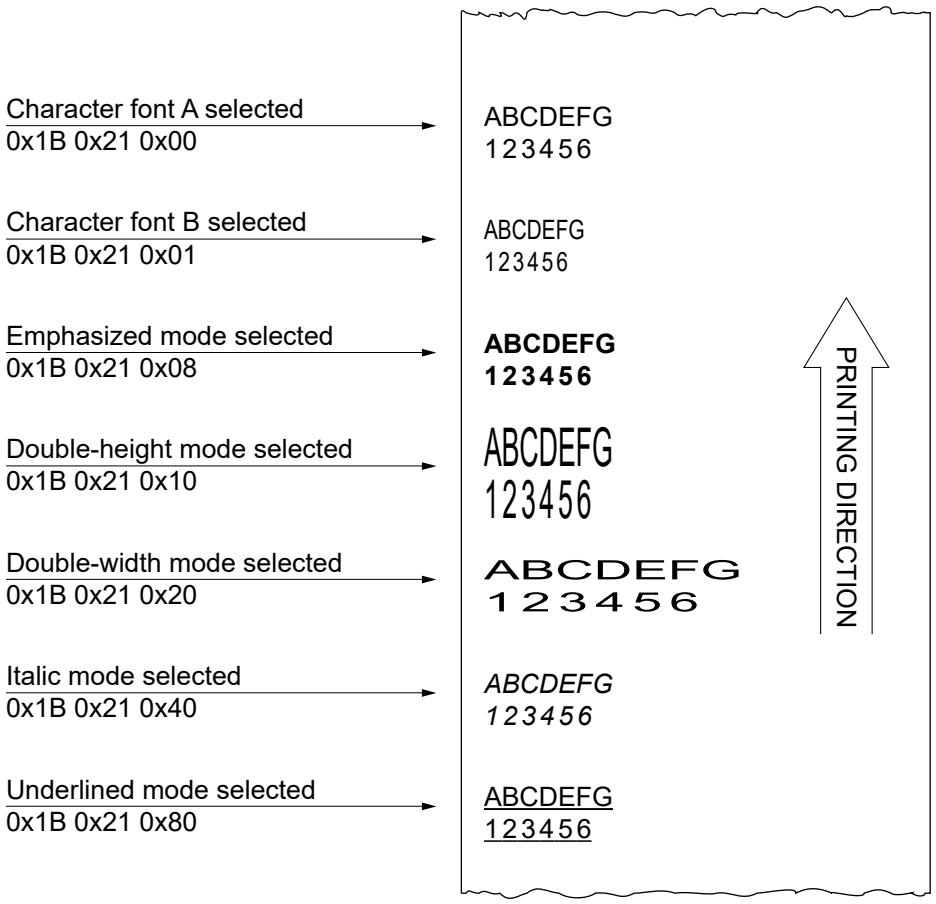
[Notes]

- The device can underline all characters, but cannot underline the spaces set by 0x09, 0x1B 0x24, 0x1B 0x5C and 90°/270° rotated characters.
- This command resets the left and right margin at default value (see 0x1D 0x4C, 0x1D 0x57).
- 0x1B 0x45 can also be used to turn the emphasized mode on or off. However, the last-received setting command is the effective one.
- 0x1B 0x2D can also be used to turn the underlined mode on or off. However, the last-received setting command is the effective one.
- 0x1D 0x21 can also be used to select character height or width. However, the last-received setting command is the effective one.
- 0x1B 0x34 can also be used to turn the italic mode on or off. However, the last-received setting command is the effective one.
- Commands that change the height and width of characters are effective on the x and y axes. In case of 90°/270° rotated characters, command 0x1B 0x21 0x10 selects double-width mode and command 0x1B 0x21 0x20 selects double-height mode.

[Default] n = 0x00

[Reference] 0x1B 0x2D, 0x1B 0x34, 0x1B 0x45, 0x1D 0x21

[Example]



# 0x1B 0x25

<ESC %>

## Enable or disable user-defined characters

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 25 | n |
| | ASCII | ESC | % | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Enables or disables the user-defined character set.
When the Least Significant Bit (LSB) of n is 0, the user-defined character set is disabled.
When the Least Significant Bit (LSB) of n is 1, the user-defined character set is enabled.

[Notes]
- Only the Least Significant Bit (LSB) of n is applicable.
- When the user-defined character set is disabled, the internal character set is automatically selected.

[Default] n = 0x00

[Reference] 0x1B 0x26, 0x1B 0x3F

[Example]

# 0x1B 0x26



## Defines user-defined characters

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1B | 26 | y | c1 | cn | x1[d0...dk] ... xn[d0...dk] |
| | ASCII | ESC | & | y | c1 | cn | x1[d0...dk] ... xn[d0...dk] |

[Range]

y = 0x03
0x20 ≤ c1 ≤ cn ≤ 0x7E
0x00 ≤ x ≤ 0x12 (font 18 x 24)
0x00 ≤ x ≤ 0x0E (font 14 x 24)
0x00 ≤ x ≤ 0x0A (font 10 x 24)
0x00 ≤ x ≤ 0x08 (font 8 x 24)
0x00 ≤ d0…dk ≤ 0xFF
k = cn – c1 + 1

[Description]

Defines user programmable characters.
y specifies the number of bytes in the vertical direction.
c1 specifies the start character code and cn specifies the final character code of the characters map area.
x specifies the width of the character to be replaced.
d0...dk specifies the new character definition.

[Notes]

• It is possible to define multiple characters for consecutive character codes.
If only one character is desired, use c1 = cn.
• if cn < c1, the command is not executed.
• d is the dot data for the characters. The dot pattern is in the horizontal direction starting from the left. Any remaining dots on the right remain blank.
• The data to define a user-defined character is (x × y) bytes.
• To print a dot, set the corresponding bit to 1; to not have it print, set to 0.
• This command can define different user-defined character patterns for each font. To select the font, use 0x1B 0x21.
• The user-defined character definitions are cleared when commands 0x1B 0x40, 0x1D 0x2A or 0x1B 0x3F are executed or the device is reset or turned off.
• x1 [d0 ... dk] will be repeated for each character to be replaced.

[Default]

Internal character set

[Reference]

0x1B 0x25, 0x1B 0x3F

[Example]

To replace only the “A” character of the 11 cpi font table (font 18x24), the command sequence is:
0x1B 0x26 0x03 0x41 0x41 0x10 [48 bytes of the new character definition].
To replace “A” and “B” characters of the 11 cpi font table (font 18x24), the command sequence is:
0x1B 0x26 0x03 0x41 0x42 0x10 [48 bytes of the new character definition] 0x10 [48 bytes of the new character definition].

# 0x1B 0x2D



## Turn underline mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 2D | n |
| ASCII | ESC | - | n |

[Range]

0x00 ≤ n ≤ 0x02
0x30 ≤ n ≤ 0x32

[Description]

Turns underline mode on or off based on the value of n as follows:

| n | FUNCTON |
|---|---|
| 0x00, 0x30 | Turns off underline mode |
| 0x01, 0x31 | Turns on underline mode (1 dot thick) |
| 0x02, 0x32 | Turns on underline mode (2 dot thick) |

[Notes]

- The device can underline all characters, but cannot underline the space and right-side character spacing set by command 0x09.
- The device cannot underline 90°/270° rotated characters and white/black inverted characters.
- When underline mode is turned off by setting the value of n to 0x00 or 0x30, the data which follows is not underlined.
- Underline mode can also be turned on or off by using 0x1B 0x21. However, the last-received setting command is the effective one.

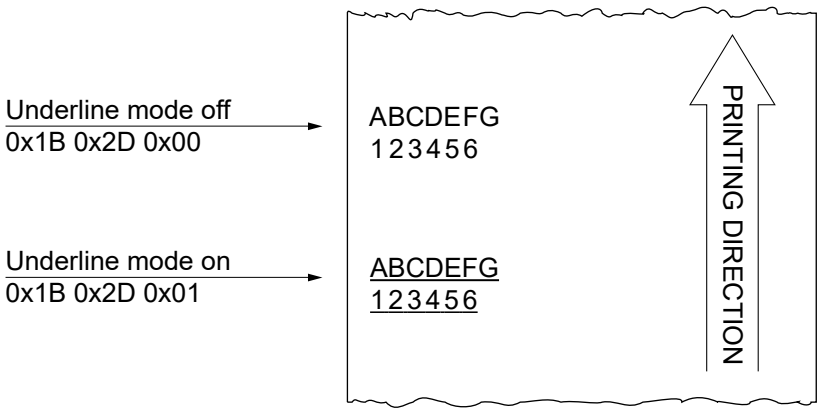
[Default]

n = 0x00

[Reference]

0x1B 0x21

[Example]



# 0x1B 0x34



## Turn italic mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 34 | n |
| ASCII | ESC | 4 | n |

[Range]

0x00 ≤ n ≤ 0x01
0x30 ≤ n ≤ 0x31

[Description]

Turns italic mode on or off based on the value of n as follows:

| n | FUNCTON |
|---|---|
| 0x00, 0x30 | Turns off italic mode |
| 0x01, 0x31 | Turns on italic mode |

[Notes]

- The device can print any character in italic mode.
- When italic mode is turned off by setting the value of n to 0x00 or 0x30, the data which follows is printed in normal mode.
- Italic mode can also be turned on or off using 0x1B 0x21. However, the last-received setting command is the effective one.

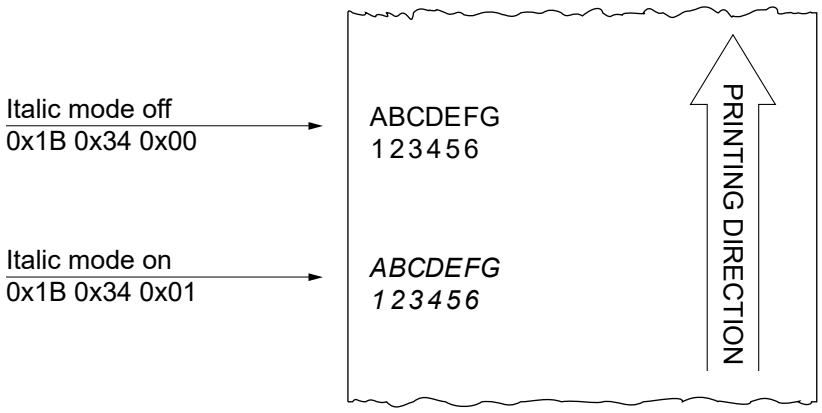
[Default]

n = 0x00

[Reference]

0x1B 0x21

[Example]



# 0x1B 0x3F

<ESC ?>

## Cancel user-defined characters

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 3F | n |
| ASCII | ESC | ? | n |

[Range] 0x20 ≤ n ≤ 0x7E

[Description] Cancels user-defined characters.

[Notes]

- This command cancels the pattern defined for the character code specified by n.
- This command deletes the pattern defined for the specified character code in the font selected by 0x1B 0x21.
- If the user-defined character has not been defined for the specified character code, the device ignores this command.

[Default]

[Reference] 0x1B 0x26, 0x1B 0x25

[Example]

# 0x1B 0x45



## Turn emphasized mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 45 | n |
| | ASCII | ESC | E | n |

[Range] 0x00 ≤ n ≤ 0xFF

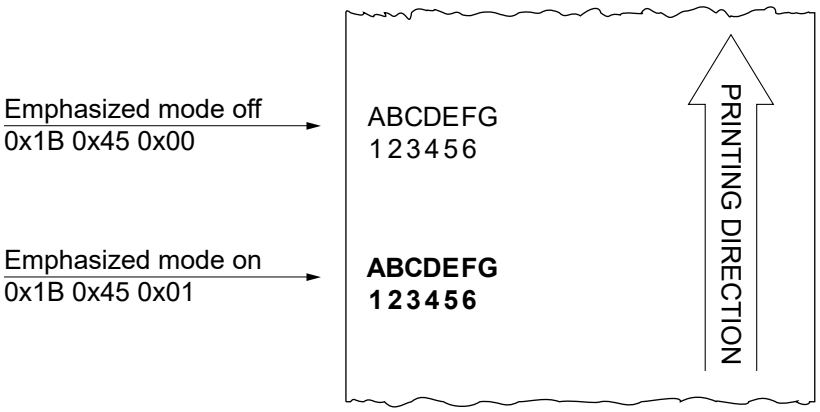
[Description] Turns emphasized mode on or off, based on the n value:
- when the Least Significant Bit (LSB) of n is 0, the emphasized mode is off.
- when the Least Significant Bit (LSB) of n is 1, the emphasized mode is on.

[Notes]
• Only the Least Significant Bit (LSB) of n is effective.
• 0x1B 0x21 also turns on and off the emphasized mode. However, the last received command is the effective one.

[Default] n = 0x00

[Reference] 0x1B 0x21

[Example]



# 0x1B 0x47

<ESC G>

## Turn double-strike mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 47 | n |
| | ASCII | ESC | G | n |

[Range] 0x00 ≤ n ≤ 0xFF

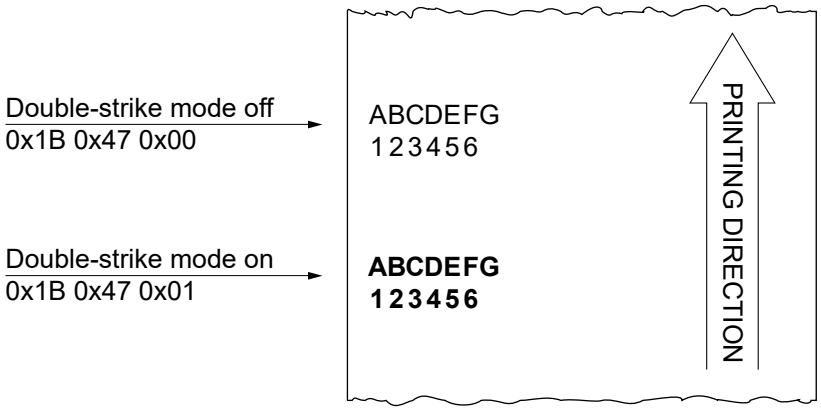
[Description] Turns double-strike mode on or off, based on the n value:
- when the Least Significant Bit (LSB) of n is 0, the double-strike mode is off.
- when the Least Significant Bit (LSB) of n is 1, the double-strike mode is on.

[Notes]
• Only the Least Significant Bit (LSB) of n is effective.
• Device output is the same in double-strike and bold mode.

[Default] n = 0x00

[Reference] 0x1B 0x21, 0x1B 0x45

[Example]



# 0x1B 0x4D

<ESC M>

## Select character font

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 4D | n |
| ASCII | ESC | M | n |

[Range] n = 0x00, 0x01, 0x30, 0x31

[Description] Selects characters font depending of cpi value set (Char/Inch) as follows

| CHAR/INCH | n | FUNCTION |
|---|---|---|
| A = 11 cpi, B = 15 cpi | 0x00, 0x30 | Font 11 cpi (18x24) |
| | 0x01, 0x31 | Font 15 cpi (14x24) |
| A = 15 cpi, B = 20 cpi | 0x00, 0x30 | Font 15 cpi (14x24) |
| | 0x01, 0x31 | Font 20 cpi (10x24) |
| A = 20 cpi, B = 15 cpi | 0x00, 0x30 | Font 20 cpi (10x24) |
| | 0x01, 0x31 | Font 15 cpi (14x24) |

[Notes]

[Default]

[Reference] 0x1B 0xC1

[Example]

# 0x1B 0x52

<ESC R>

## Select an international character set

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 52 | n |
| ASCII | ESC | R | n |

[Range] 0x00 ≤ n ≤ 0x0A

[Description] Selects the international character set n according to the table below:

| | HEX | 23 | 24 | 40 | 5B | 5C | 5D | 5E | 60 | 7B | 7C | 7D | 7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n | CHARACTER SET | | | | | | | | | | | | |
| 0x00 | U.S.A. | # | $ | @ | [ | \ | ] | ^ | ` | { | \| | } | ~ |
| 0x01 | France | # | $ | à | ° | ç | § | ^ | ` | é | ù | è | “ |
| 0x02 | Germany | # | $ | § | Ä | Ö | Ü | ^ | ` | ä | ö | ü | ß |
| 0x03 | United Kingdom | £ | $ | @ | [ | \ | ] | ^ | ` | { | \| | } | ~ |
| 0x04 | Denmark I | # | $ | @ | Æ | Ø | Å | ^ | ` | æ | ø | å | ~ |
| 0x05 | Sweden | # | ¤ | É | Ä | Ö | Å | Ü | é | ä | ö | å | ü |
| 0x06 | Italy | # | $ | @ | ° | \ | é | ^ | ù | à | ò | è | ì |
| 0x07 | Spain I | Pt | $ | @ | i | Ñ | ¿ | ^ | ` | “ | ñ | } | ~ |
| 0x08 | Japan | # | $ | @ | [ | ¥ | ] | ^ | ` | { | \| | } | ~ |
| 0x09 | Norway | # | ¤ | É | Æ | Ø | Å | Ü | é | æ | ø | å | ü |
| 0x0A | Denmark II | # | $ | É | Æ | Ø | Å | Ü | é | æ | ø | å | ü |

[Notes]

[Default] n = 0x00

[Reference]

[Example]

# 0x1B 0x56



## Set 90° rotated print mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 56 | n |
| ASCII | ESC | V | n |

[Range] n = 0x00, 0x01, 0x30, 0x31

[Description] Turns 90° rotation mode on or off based on the value of n as follows:

| n | FUNCTION |
|---|---|
| 0x00, 0x30 | Disable 90° rotation mode |
| 0x01, 0x31 | Enable 90° rotation mode |

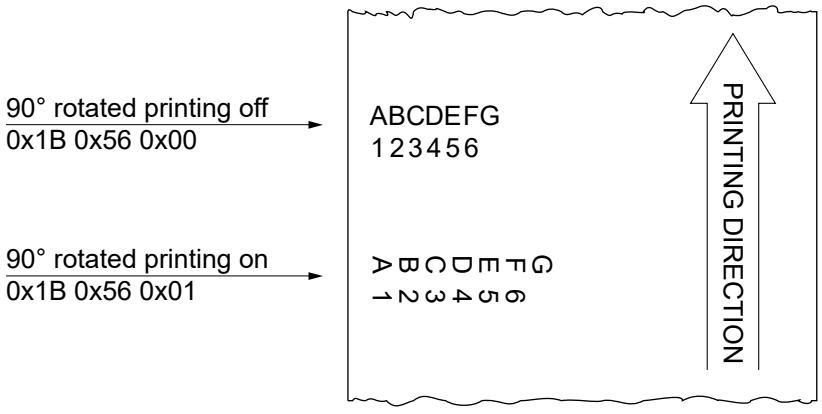
[Notes]

- When underlined mode is turned on, the device does not underline 90° rotated characters. All the same it's possible select the underline mode.
- Double-width and double-height commands in 90° rotation mode enlarge characters in the opposite directions from double-height and double-width commands in normal mode.
- This command is not available in Page mode.
- If this command is entered in Page mode, the device all the same save the setting.

Default] n = 0x00

[Reference] 0x1B 0x21, 0x1B 0x2D

[Example]



# 0x1B 0x74

<ESC t>

## Select character code table

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 74 | n |
| | ASCII | ESC | t | n |

[Range] 0x01 ≤ n ≤ 0x35, n = 0xFF

[Description] Select a page n from the character code table as follows:

| n | PAGE | |
|---|---|---|
| 0x00 | PC437 - U.S.A., Standard Europe | |
| 0x01 | Katakana | |
| 0x02 | PC850 - Multilingual | |
| 0x03 | PC860 - Portuguese | |
| 0x04 | PC863 - Canadian/French | |
| 0x05 | PC865 - Nordic | |
| 0x06 | VISCII - Vietnamese Standard Code | |
| 0x07 | Iran system | |
| 0x0B | PC851 - Greek | on request |
| 0x0C | PC853 - Turkish | on request |
| 0x0D | PC857 - Turkish | |
| 0x0E | PC737 - Greek | |
| 0x0F | ISO8859-7 - Greek | on request |
| 0x10 | WPC1252 - Scandinavian | on request |
| 0x11 | PC866 - Cyrillic 2 | |
| 0x12 | PC852 - Latin 2 | |
| 0x13 | PC858 (for Euro symbol in position 0xD5) | |
| 0x14 | KU42 - Thai | |
| 0x15 | TIS11 - Thai | on request |
| 0x1A | TIS18 - Thai | on request |
| 0x1E | TCVN_3 - Vietnamese | on request |
| 0x1F | TCVN_3 - Vietnamese | on request |
| 0x20 | PC720 - Arabic | on request |
| 0x21 | WPC775 - Baltic Rim | on request |
| 0x22 | PC855 - Cyrillic | |
| 0x23 | PC861 - Icelandic | on request |
| 0x24 | PC862 - Hebrew | |

| | | |
|---|---|---|
| 0x25 | PC864 - Arabic | on request |
| 0x26 | PC869 - Greek | on request |
| 0x27 | ISO8859-2 - Latin 2 | on request |
| 0x28 | ISO8859-15 - Latin 9 | on request |
| 0x29 | PC1098 - Farci | |
| 0x2A | PC1118 - Lithuanian | on request |
| 0x2B | PC1119 - Lithuanian | on request |
| 0x2C | PC1125 - Ukrainian | |
| 0x2D | WPC1250 - Latin 2 | |
| 0x2E | WPC1251 - Cyrillic | |
| 0x2F | WPC1253 - Greek | |
| 0x30 | WPC1254 - Turkish | |
| 0x31 | WPC1255 - Hebrew | |
| 0x32 | WPC1256 - Arabic | |
| 0x33 | WPC1257 - Baltic Rim | |
| 0x34 | WPC1258 - Vietnamese | |
| 0x35 | KZ1048 - Kazakh | on request |
| 0xFF | Space page | |

[Notes]

- PC866 and PC852 tables are valid only for TrueType fonts.
- The tables are selectable only if the code pages are present on the machine. By selecting a code page not present on the machine, the code page remains the one currently in use.
- Make sure to select the font type “International” with the command 0x1C 0x25 or with the “Font type” parameter during the setup procedure (refer to the user manual of the device).

[Default] n = 0x00

[Reference] 0x1C 0x25

[Example] For printing Euro symbol (€), the command sequence is:
0x1B, 0x74, 0x13, 0xD5

# 0x1B 0x7B

<ESC {>

## Turn upside-down printing mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 7B | n |
| ASCII | ESC | { | n |

[Range] 0x00 ≤ n ≤ 0xFF

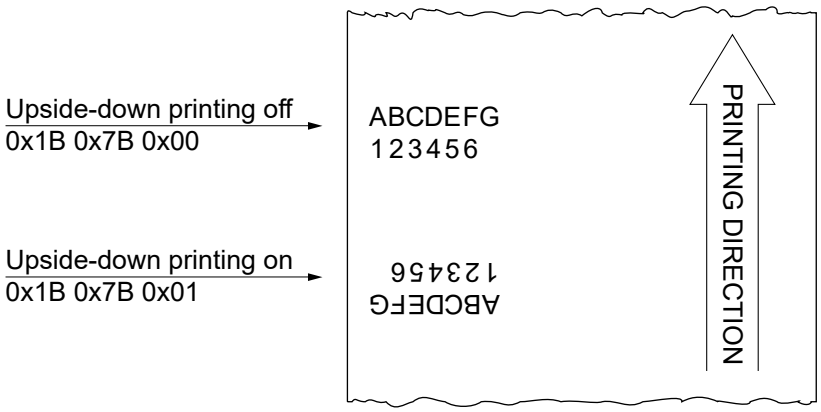
[Description] Turns upside-down printing mode on or off, based on the value of n:
- when the Least Significant Bit (LSB) of n is 0, the upside-down printing mode is off.
- when the Least Significant Bit (LSB) of n is 1, the upside-down printing mode is on.

[Notes]
• Only the Least Significant Bit (LSB) of n is effective.
• This command is valid only if entered at the beginning of a line.
• In upside-down printing mode, the device rotates the line to be printed 180° and then prints it.

[Default] n = 0x00

[Reference]

[Example]



# 0x1B 0xC1

## Select character pitch

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | C1 | n |
| ASCII | ESC | 0xC1 | n |

[Range]

0x00 ≤ n ≤ 0x02
0x30 ≤ n ≤ 0x32

[Description]

This command selects the character pitch expressed in cpi (characters per inch) based on the values of n as follows:

| n | PITCH | |
|---|---|---|
| 0x00, 0x30 | Font A = 11 cpi | Font B = 15 cpi |
| 0x01, 0x31 | Font A = 15 cpi | Font B = 20 cpi |
| 0x02, 0x32 | Font A = 20 cpi | Font B = 15 cpi |

[Notes]

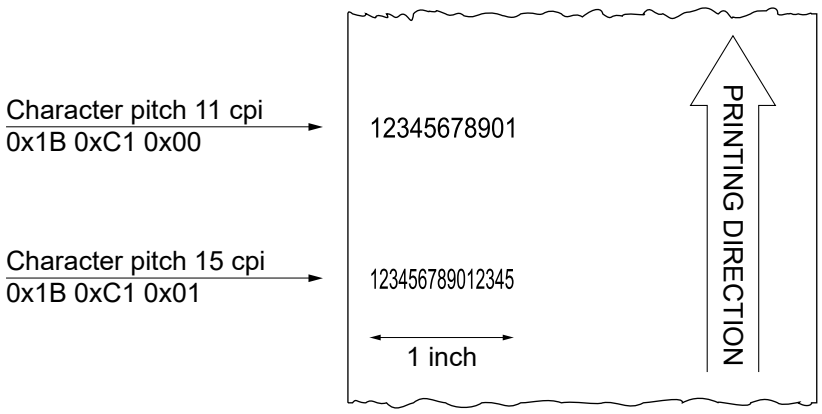
[Default]

n = 0x00

[Reference]

0x1B 0x21

[Example]



# 0x1C 0x25

<FS %>

## Select the font type

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1C | 25 | n |
| | ASCII | FS | % | n |

[Range] n = 0x00, 0x01

[Description] Select the font type based on the value of n as follows:

| n | FONT TYPE |
|---|---|
| 0x00 | International |
| 0x01 | Chinese GB18030 |

[Notes]
- This command can be used only for the models with Extended Chinese font (GB18030).
- The selection made by this command is stored in the RAM memory. Turning off the device reverts to the default value, that can be set with the “Font type” parameter during the setup procedure (refer to the user manual of the device).
- After selecting the font type “International” it must be selected the desired character code table using the command 0x1B 0x74.

[Default] n = 0x00

[Reference] 0x1B 0x74
Refer to the commands manual for Chinese fonts management

[Example]

# 0x1C 0x26

<FS &>

## Enable chinese fonts

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | |
|---|---|---|
| Hex | 1C | 26 |
| ASCII | FS | & |

[Range]

[Description] Enable chinese fonts.

[Notes]
- This command can be used only for the Simplified Chinese (GB2312), Traditional Chinese (BIG5) or Extended Chinese (GB18030-2000) models.
- This command enable Chinese fonts in RAM. Does not intervene on the parameter set-up.

[Default]

[Reference] 0x1C 0x2E
Refer to the commands manual for chinese fonts management

[Example]

# 0x1C 0x2E

<FS .>

## Disable chinese fonts

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1C | 2E |
| | ASCII | FS | . |

[Range]

[Description] Disable Chinese fonts.

[Notes]
- This command can be used only for the Simplified Chinese (GB2312), Traditional Chinese (BIG5) or Extended Chinese (GB18030-2000) models.
- This command disable Chinese fonts in RAM. Does not intervene on the parameter set-up.
- Disabling the use of Chinese fonts will restore the codepage used previously.

[Default]

[Reference] 0x1C 0x25, 0x1C 0x26

[Example]

# 0x1D 0x21

<GS !>

## Select character size

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 21 | n |
| | ASCII | GS | ! | n |

[Range]

0x00 ≤ n ≤ 0x07
0x10 ≤ n ≤ 0x17
0x20 ≤ n ≤ 0x27
0x30 ≤ n ≤ 0x37
0x40 ≤ n ≤ 0x47
0x50 ≤ n ≤ 0x57
0x60 ≤ n ≤ 0x67
0x70 ≤ n ≤ 0x77

[Description]

Selects character height and width, as follows:
• Bits 0 to 3: to select character height (see table 2).
• Bits 4 to 7: to select character width (see table 1).

Table 1 - Select character width

| HEX | WIDTH |
|---|---|
| 00 | 1 (normal) |
| 10 | 2 (width = 2x) |
| 20 | 3 (width = 3x) |
| 30 | 4 (width = 4x) |
| 40 | 5 (width = 5x) |
| 50 | 6 (width = 6x) |
| 60 | 7 (width = 7x) |
| 70 | 8 (width = 8x) |

Table - 2 Select character height

| HEX | HEIGHT |
|---|---|
| 00 | 1 (normal) |
| 01 | 2 (height = 2x) |
| 02 | 3 (height = 3x) |
| 03 | 4 (height = 4x) |
| 04 | 5 (height = 5x) |
| 05 | 6 (height = 6x) |
| 06 | 7 (height = 7x) |
| 07 | 8 (height = 8x) |

[Notes]

- This command is effective for all characters (except HRI characters).
- If n falls outside the defined range, this command is ignored.
- Characters enlarged to different heights on the same line are aligned at the baseline or top line.
- 0x1B 0x21 can also be used to select character size. However, the setting of the last received command is the effective one.
- This command is effective on the x and y axes. In case of 90°/270° rotated characters, bit from 0 to 3 select character width and bit from 4 to 7 select character height.

[Default] n = 0x00

[Reference] 0x1B 0x21

[Example] For printing a character with 6x width and height the command sequence is:
0x1D 0x21 0x55

# 0x1D 0x42

<GS B>

## Turn black and white reverse printing mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1D | 42 | n |
| ASCII | GS | B | n |

[Range] 0x00 ≤ n ≤ 0xFF

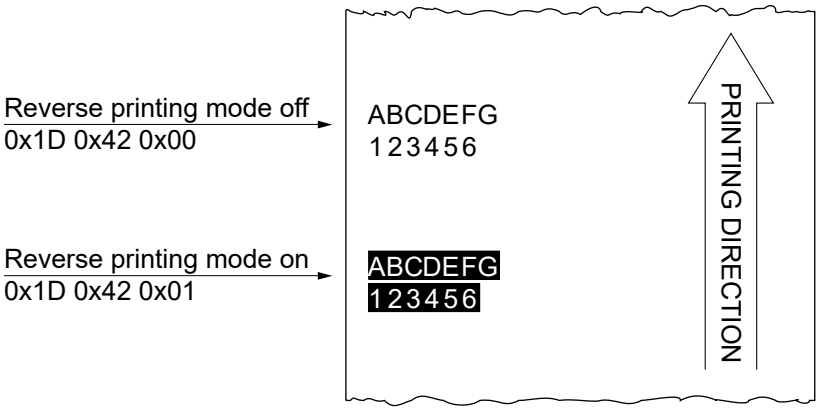
[Description] Turns black and white reverse printing mode on or off, based on the value of n:
- when the Least Significant Bit (LSB) of n is 0, white/black reverse printing is turned off.
- when the Least Significant Bit (LSB) of n is 1, white/black reverse printing is turned on.

[Notes]
• Only the Least Significant Bit (LSB) di n is effective.
• This command is available for both built-in and user-defined characters.
• This command does not affect bit image, downloaded bit image, barcode, HRI characters and spacing skipped by 0x09, 0x1B 0x24 and 0x1B 0x5C.
• This command does not affect white space between lines.
• White/black reverse mode has a higher priority than underline mode. Even if underline mode is on, it will be disabled (but not cancelled) when black and white reverse mode is selected.

[Default] n = 0x00

[Reference]

[Example]



# LINE SPACING COMMANDS

## 0x1B 0x30 *<ESC 0>*

Select 1/8-inch line spacing

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | |
|---|---|---|
| Hex | 1B | 30 |
| ASCII | ESC | 0 |

[Range]

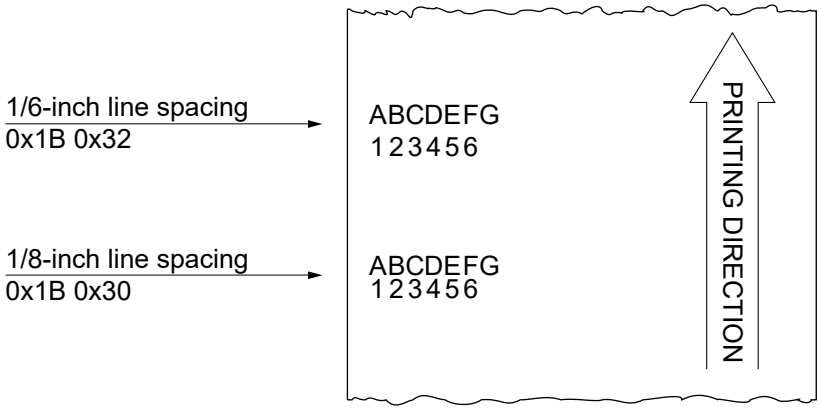
[Description] Selects 1/8-inch line spacing.

[Notes]

[Default]

[Reference] 0x1B 0x32, 0x1B 0x33

[Example]



# 0x1B 0x32



## Select 1/6-inch line spacing

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | |
|---|---|---|
| Hex | 1B | 32 |
| ASCII | ESC | 2 |

[Range]

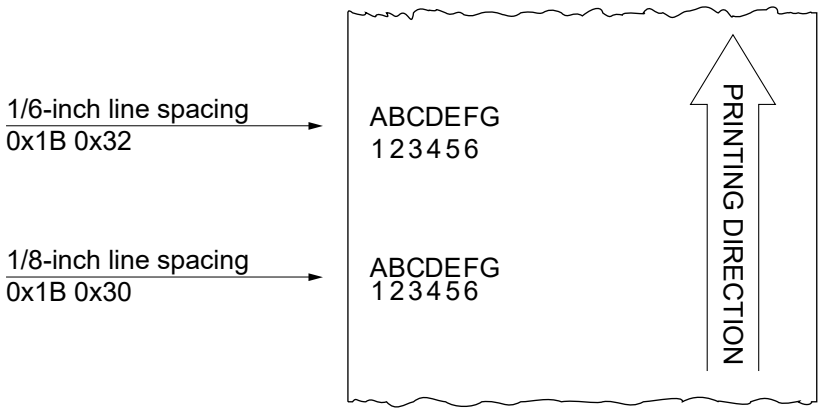
[Description] Selects 1/6-inch line spacing.

[Notes]

[Default]

[Reference] 0x1B 0x30, 0x1B 0x33

[Example]



# 0x1B 0x33



## Set line spacing

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 33 | n |
| ASCII | ESC | 3 | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Sets line spacing to [n × (vertical or horizontal motion unit)].

[Notes]
- The horizontal and vertical motion unit are specified by 0x1D 0x50. Changing the horizontal or vertical motion unit does not affect the current line spacing.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum vertical movement amount.
- In standard mode, the vertical motion unit is used.
- The maximum spacing is 32.5 mm.

[Default] n = 0x40 (1/6 inch)

[Reference] 0x1B 0x30, 0x1B 0x32, 0x1D 0x50

[Example]

## 0x0A

*<LF>*

### Print and line feed

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format] Hex 0A
ASCII LF

[Range]

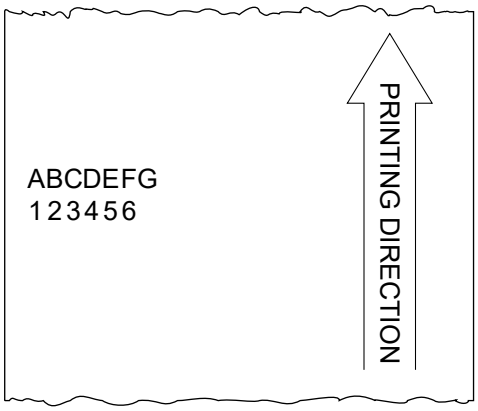
[Description] This command sets the print position to the beginning of the line printing the data in the buffer and feeding one line based on the line spacing set with the command 0x1B 0x30 or 0x1B 0x32.

[Notes] If the buffer is empty, the printing feeds of a value equal to the sum of the character height and line spacing.

[Default] 1/6-inch (32 dots)

[Reference] 0x1B 0x30, 0x1B 0x32, 0x1B 0x33, 0x0D

[Example]




To print the ticket shown in figure the command sequence is:
ABCDEFG 0x0A 123456 0x0A

# 0x0C

<FF>

## Form feed

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | |
|---|---|
| Hex | 0C |
| ASCII | FF |

[Range]

[Description] If the buffer contains any characters, these are printed and the paper forward feeds until the detection of a reference mark on the paper, signalled by the photocell.

[Notes] The buffer data is deleted after being printed.

[Default]

[Reference]

[Example]

# 0x0D

<CR>

## Print and carriage return

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | |
|---|---|
| Hex | 0D |
| ASCII | CR |

[Range]

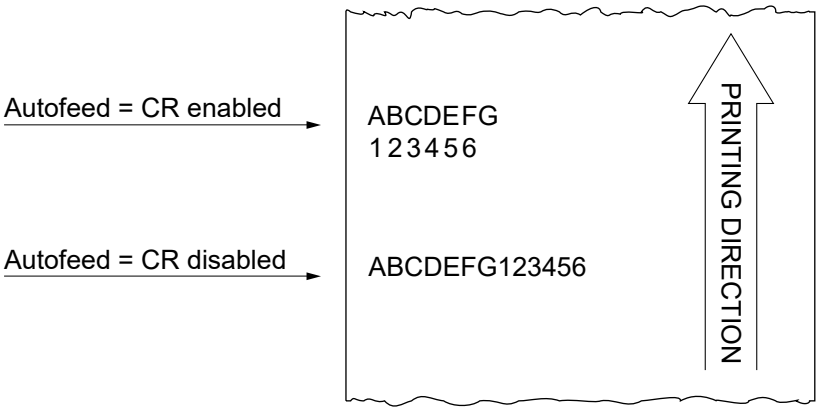
[Description] This command handles the end of a line text.

[Notes] If “Autofeed” setup parameter is set to “CR enabled”, this command works in the same way as 0x0A, otherwise it is disregarded.

[Default] See “Autofeed” setup parameter (refer to the user manual of the device).

[Reference] 0x0A

[Example]




To print the ticket shown in figure the command sequence is:
ABCDEFG 0x0D 123456 0x0D

# 0x1B 0x4A

<ESC J>

## Print and paper feed

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 4A | n |
| | ASCII | ESC | J | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Prints the data saved in the print buffer and feeds the paper [n × vertical or horizontal motion unit].

[Notes]
- After printing has been completed, this command sets the print starting position to the beginning of the line.
- The paper feed amount set by this command does not affect the values set by 0x1B 0x32 or 0x1B 0x33.
- The horizontal and vertical motion units are specified by 0x1D 0x50.
- 0x1D 0x50 can change the vertical (and horizontal) motion unit. However, the value cannot be less than the minimum vertical movement amount.
- In standard mode, the vertical motion unit is used.

[Default]

[Reference] 0x1D 0x50

[Example]

# 0x1B 0x64

*<ESC d>*

## Print and feed paper n lines

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 64 | n |
| | ASCII | ESC | d | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Prints the data saved in the print buffer and feeds the paper n lines.

[Notes]
- n rows paper feed is equivalent to (n × char height + line spacing set).
- Sets the print starting position at the beginning of the line.
- This command does not affect the line spacing set by 0x1B 0x32 or 0x1B 0x33.
- The maximum paper feed amount is 254 lines. Even if a paper feed amount of more than 254 lines is set, the device feeds the paper only 254 lines.

[Default]

[Reference] 0x1B 0x32, 0x1B 0x33

[Example]

# 0x1D 0x7C

## Set printing density

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | 7C | n |
| ASCII | GS | 0x7C | n |

[Range]

0x00 ≤ n ≤ 0x08
0x30 ≤ n ≤ 0x38

[Description]

Sets printing density. n specifies printing density as follows:

| n | PRINTING DENSITY |
|---|---|
| 0x00, 0x30 | - 50% |
| 0x01, 0x31 | - 37% |
| 0x02, 0x32 | - 25% |
| 0x03, 0x33 | - 12.5% |
| 0x04, 0x34 | 0% |
| 0x05, 0x35 | + 12.5% |
| 0x06, 0x36 | + 25% |
| 0x07, 0x37 | + 37% |
| 0x08, 0x38 | + 50% |

[Notes]

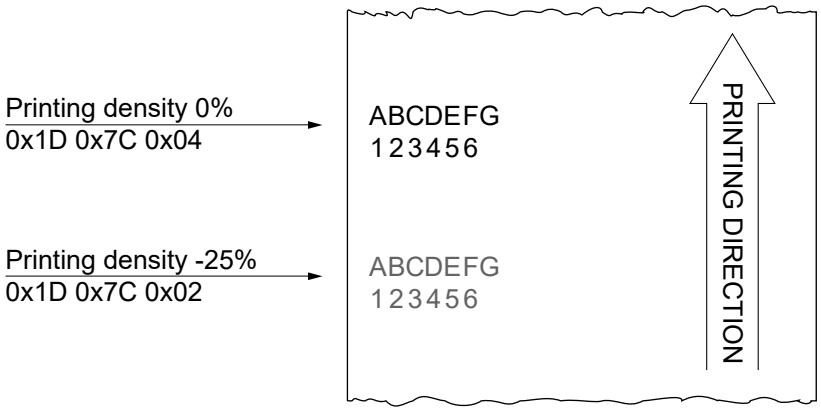
Printing density reverts to the default value when the device is reset or turned off.

[Default]

n = 0x04

[Reference]

[Example]



## 0x10 0x04 <DLE EOT>

### Real-time status transmission

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 10 | 04 | n |
| | ASCII | DLE | EOT | n |

[Range] 0x01 ≤ n ≤ 0x04
n = 0x11, 0x14

[Description] Transmits the selected status when this command is received. The status to be transmitted is indicated in the following table:

| | |
|---|---|
| n = 0x01 | transmits device status |
| n = 0x02 | transmits off-line status |
| n = 0x03 | transmits error status |
| n = 0x04 | transmits paper roll sensor status |
| n = 0x11 | transmits print status |
| n = 0x14 | transmits full status |

Device status (n = 0x01)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2 | - | - | RESERVED |
| 3 | Off | 00 | On-line |
| | On | 08 | Off-line |
| 4 | On | 10 | Not used. Fixed to on |
| 5 | - | - | Not defined |
| 6 | - | - | Not defined |
| 7 | - | - | RESERVED |

Off-line status (n = 0x02)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2 | Off | 00 | Cover closed |
| | On | 04 | Cover opened |
| 3 | Off | 00 | Paper isn’t fed by LINE FEED key |
| | On | 08 | Paper is fed by LINE FEED key |
| 4 | On | 10 | Not used. Fixed to on |
| 5 | Off | 00 | Paper present |
| | On | 20 | Printing stop due to paper end |
| 6 | Off | 00 | No error |
| | On | 40 | Error |
| 7 | Off | 00 | Not used. Fixed to off |

Error status (n = 0x03)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2 | - | - | RESERVED |
| 3 | Off | 00 | Autocutter ok |
| | On | 08 | Autocutter error |
| 4 | On | 10 | Not used. Fixed to on |
| 5 | Off | 00 | No unrecoverable error |
| | On | 20 | Unrecoverable error |
| 6 | Off | 00 | No auto-recoverable error |
| | On | 40 | Auto-recoverable error |
| 7 | Off | 00 | Not used. Fixed to off |

Paper roll sensor status (n = 0x04)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2, 3 | Off | 00 | Paper present |
| | On | 0C | Low paper |
| 4 | On | 10 | Not used. Fixed to on |
| 5, 6 | Off | 00 | Paper present |
| | On | 60 | Paper not present |
| 7 | Off | 00 | Not used. Fixed to off |

Print status (n = 0x11)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2 | Off | 00 | Paper drag motor off |
| | On | 04 | Paper drag motor on |
| 3 | - | - | RESERVED |
| 4 | On | 10 | Not used. Fixed to on |
| 5 | Off | 00 | Paper present |
| | On | 20 | Printing stopped out for paper end |
| 6 | - | - | RESERVED |
| 7 | Off | 00 | Not used. Fixed to off |

Full status (n = 0x14, 6 bytes)

1st byte = 0x10 (DLE)

2nd byte = 0x0F

3rd byte = Paper status

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Paper present |
| | On | 01 | Paper not present |
| 1 | - | - | RESERVED |
| 2 | Off | 00 | Paper present |
| | On | 04 | Low paper |
| 3 | - | - | RESERVED |
| 4 | - | - | RESERVED |
| 5 | Off | 00 | Ticket not present in output |
| | On | 20 | Ticket present in output |
| 6 | Off | 00 | Paper virtually present * |
| | On | 40 | Virtual paper end * |
| 7 | Off | 00 | Black mark is not placed over the sensor |
| | On | 80 | Black mark is placed over the sensor |

(*) Paper virtually present is set when the paper length available, read by 0x1D 0xE1, is 0.

4th byte = User status

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | No error, printing head down |
| | On | 01 | Printing head up error |
| 1 | Off | 00 | Cover closed |
| | On | 02 | Cover opened |
| 2 | Off | 00 | No spooling |
| | On | 04 | Spooling |
| 3 | Off | 00 | Drag paper motor off |
| | On | 08 | Drag paper motor on |
| 4 | - | - | RESERVED |
| 5 | Off | 00 | LF key released |
| | On | 20 | LF key pressed |
| 6 | Off | 00 | FF key released |
| | On | 40 | FF key pressed |
| 7 | Off | 00 | Emitter motor off |
| | On | 80 | Emitter motor on |

5th byte = Recoverable status error

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Head temperature ok |
| | On | 01 | Head temperature error |
| 1 | Off | 00 | No COM error |
| | On | 02 | RS232 COM error |
| 2 | - | - | RESERVED |
| 3 | Off | 00 | Power supply voltage ok |
| | On | 08 | Power supply voltage error |
| 4 | - | - | RESERVED |
| 5 | Off | 00 | Acknowledge command |
| | On | 20 | Not acknowledge command error |
| 6 | Off | 00 | Free paper path |
| | On | 40 | Paper jam |
| 7 | Off | 00 | Black mark search ok |
| | On | 80 | Error in black mark search |

6th byte = Unrecoverable error status

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Autocutter ok |
| | On | 01 | Autocutter error |
| 1 | Off | 00 | Autocutter cover ok |
| | On | 02 | Autocutter cover open |
| 2 | Off | 00 | RAM ok |
| | On | 04 | RAM error |
| 3 | Off | 00 | EEPROM ok |
| | On | 08 | EEPROM error |
| 4 | - | - | RESERVED |
| 5 | - | - | RESERVED |
| 6 | - | - | RESERVED |
| 7 | Off | 00 | Emitter on |
| | On | 80 | Emitter error |

[Notes] This command is immediately executed even when the data buffer is full.

[Default]

[Reference]

| | | |
|---|---|---|
| [Example] | Request for device status transmission: | 0x10 0x04 0x01 |
| | Device response: | 0x80 LF key pressed |

# 0x1B 0x76

<ESC v>

## Transmit paper sensor status

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| | Hex | 1B | 76 |
| | ASCII | ESC | v |

[Range]

[Description] When this command is received, transmit the current status of the paper sensor.
The status to be transmitted is shown in the table below:

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0, 1 | Off | 00 | Low paper sensor: paper present |
| | On | 03 | Low paper sensor: paper not present |
| 2, 3 | Off | 00 | Paper end sensor: paper present |
| | On | 0C | Paper end sensor: paper not present |
| 4 | Off | 00 | Not used. Fixed to Off |
| 5 | - | - | Undefined |
| 6 | - | - | Undefined |
| 7 | Off | 00 | Not used. Fixed to Off |

[Notes] This command is executed immediately, even when the data buffer is full (Busy).

[Default]

[Reference] 0x10 0x04

[Example]

# 0x1C 0xDD 0x01 0xB3 0x00

## Transmit the device serial number

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | |
|---|---|---|---|---|---|---|
| Hex | 1C | DD | 01 | B3 | 00 |
| ASCII | FS | 0xDD | SOH | 0xB3 | NUL |

[Range]

[Description] Transmits the device serial number as a string of 16 alphanumeric characters.

[Notes] If the printer serial number is not defined, the device returns a string of 16 characters with a value of 0x00.

[Default]

[Reference]

[Example] To read the device serial number the command sequence is:
0x1C 0xDD 0x01 0xB3 0x00

The device returns a string of 16 alphanumeric characters just like the following:
‘ABC0123456789012’

# 0x1D 0xE0

## Enable or disable automatic FULL STATUS BACK

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1D | E0 | n |
| ASCII | GS | 0xE0 | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Enable or disable automatic full status back. n specifies the composition of full status as follows:

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Disable paper status |
| | On | 01 | Enable paper status |
| 1 | Off | 00 | Disable user status |
| | On | 02 | Enable user status |
| 2 | Off | 00 | Disable recoverable error status |
| | On | 04 | Enable recoverable error status |
| 3 | Off | 00 | Disable unrecoverable error status |
| | On | 08 | Enable unrecoverable error status |
| 4 | - | - | Undefined |
| 5 | - | - | Undefined |
| 6 | - | - | Undefined |
| 7 | - | - | Undefined |

[Notes] Once enable at least one byte of the full status, for each change of at least one of the bits which compose the required status, the status sent in automatic from the device will be so composed as follows:
1st Byte = 0x10 (DLE)
2nd Byte = n

[Default]

[Reference] 0x10 0x04

[Example]

# 0x1D 0xE1

## Reading of length paper available before virtual paper-end

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E1 |
| | ASCII | GS | 0xE1 |

[Range]

[Description] Reading of length paper available before virtual paper-end (expressed in centimetres).
The command return a string pointing out how much paper is available.

[Notes]
- The length of residual paper reported is just as an indication because tolerances and other factors are not taken into consideration (paper thickness, roll core diameter, roll core thickness).
- The virtual paper-end limit is set by the command 0x1D 0xE6.
- To set virtual paper-end limit, measure the length of the paper from low paper to the end of the roll, using several of them.

[Default]

[Reference] 0x1D 0xE6

[Example] If there are 5.1 m before paper end, the answer will be:
‘510cm’

# 0x1D 0xE2

## Reading number of cuts performed by the autocutter

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E2 |
| | ASCII | GS | 0xE2 |

[Range]

[Description] Reading the number of cuts performed by the autocutter.

[Notes] The command returns a string indicating how many cuts are performed by the autocutter.

[Default]

[Reference]

[Example] If the autocutter has performed 785 cuts, the answer will be:
‘785cuts’

# 0x1D 0xE3

## Reading of length of printed paper

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E3 |
| | ASCII | GS | 0xE3 |

[Range]

[Description] Reading of length expressed in centimetres of printed paper.

[Notes] The command returns a string indicating how much paper is printed.

[Default]

[Reference]

[Example] If the device has printed about 388.9 m, the answer will be:
‘38890cm’

# 0x1D 0xE4

## Reading number of retracting

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E4 |
| | ASCII | GS | 0xE4 |

[Range]

[Description] Reading number of retracting of the device.

[Notes] The command returns a string indicating the number of retracting of the device.

[Default]

[Reference]

[Example] If the device has retracted the paper 512 times, the answer will be:
‘512ret’

# 0x1D 0xE5

## Reading number of power up

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E5 |
| | ASCII | GS | 0xE5 |

[Range]

[Description] Reading number of power up of the device.

[Notes] The command returns a string indicating the number of device power ups.

[Default]

[Reference]

[Example] If the device is turned on 512 times, the answer will be:
‘512on’

## 0x1B 0x2A

<ESC *>

Select bit image mode

Valid for
VKP80III RX65 LAT
VKP80III RX65 REAR
VKP80III ETH

[Format]

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hex | 1B | 2A | m | nL | nH | d1...dk |
| ASCII | ESC | * | m | nL | nH | d1...dk |

[Range]
m = 0x00, 0x01, 0x20, 0x21
0x00 ≤ nL ≤ 0xFF
0x00 ≤ nH ≤ 0x03
0x00 ≤ d ≤ 0xFF

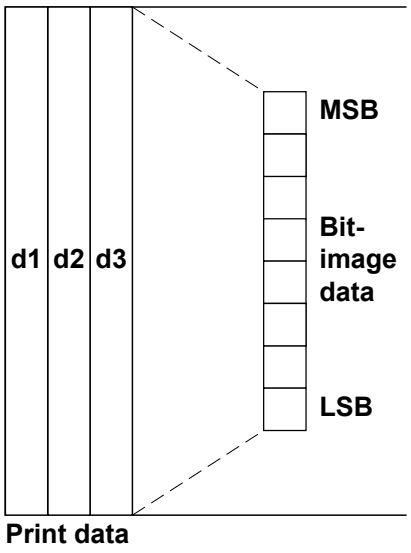
[Description]
Selects a bit image mode using m for the number of dots specified by nL and nH, as follows:

| | | VERTICAL DIRECTION | | HORIZONTAL DIRECTION | |
|---|---|---|---|---|---|
| m | MODE | N. DOTS | DPI | DPI | N. DATA (k) |
| 0x00 | 8 dots single density | 8 | 67 | 100 | nL + nH × 256 |
| 0x01 | 8 dots double density | 8 | 67 | 200 | nL + nH × 256 |
| 0x20 | 24 dots single density | 24 | 200 | 100 | (nL + nH × 256) × 3 |
| 0x21 | 24 dots double density | 24 | 200 | 200 | (nL + nH × 256) × 3 |

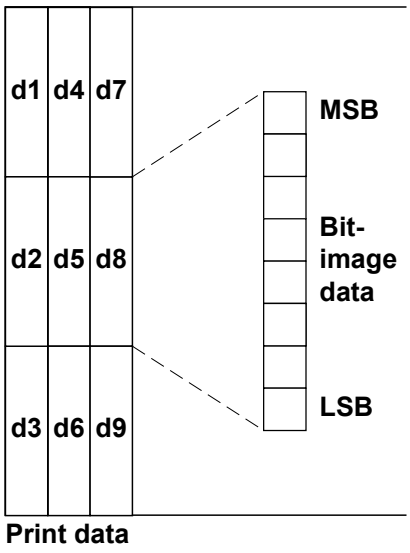
[Notes]
• The nL and nH commands indicate the number of dots of the bit image in the horizontal direction. The number of dots is calculated using: nL + nH × 256.
• If the bit image data input exceeds the number of dots to be printed on a line, the excess data is ignored.
• d indicates the bit image data. Set a corresponding bit to 1 to print a dot, or to 0 to not print the dot.
• If the value of m is outside the specified range, nL and data following it are processed as normal data.
• If the width of the printing area set by 0x1D 0x4C and 0x1D 0x57 is less than the width required by the data set using 0x1B 0x2A, the excess data are ignored.
• To print the bit image use 0x0A, 0x0D, 0x1B 0x4A or 0x1B 0x64.
• After printing a bit image, the device returns to normal data processing mode.
• This command is not affected by the bold, double-strike, underline (etc.) print modes, except for the upside-down mode.

• The relationship between the image data and the dots to be printed is as follows:

8-dot bit image



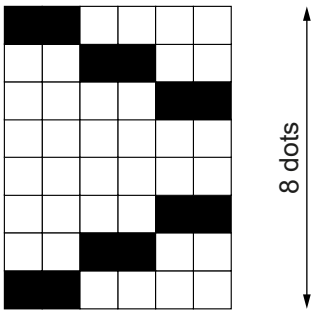

24-dot bit image



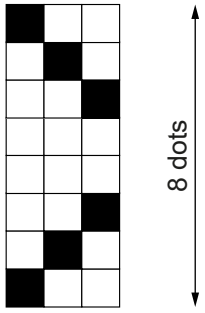

[Default]

[Reference]

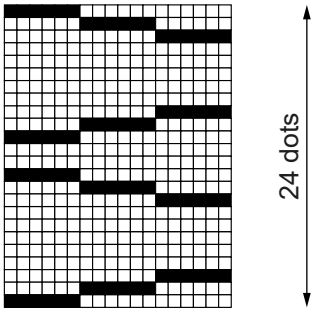
[Example]



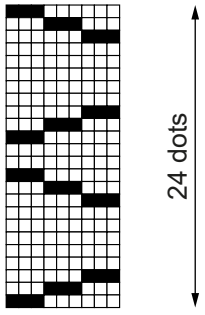

8 dots single density




8 dots double density




24 dots single density




24 dots double density

# 0x1D 0x2A

<GS *>

## Define received bit image

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | |
|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 2A | x | y | d1...d(x × y × 8) |
| | ASCII | GS | * | x | y | d1...d(x × y × 8) |

[Range]

0x01 ≤ x ≤ 0xFF
0x01 ≤ y ≤ 0x30
x × y ≤ 1536
0x00 ≤ d ≤ 0xFF

[Description]

Defines a received bit image using the number of dots specified by x and y.
• x specifies the number of bytes in the horizontal direction.
• y specifies the number of bytes in the vertical direction.

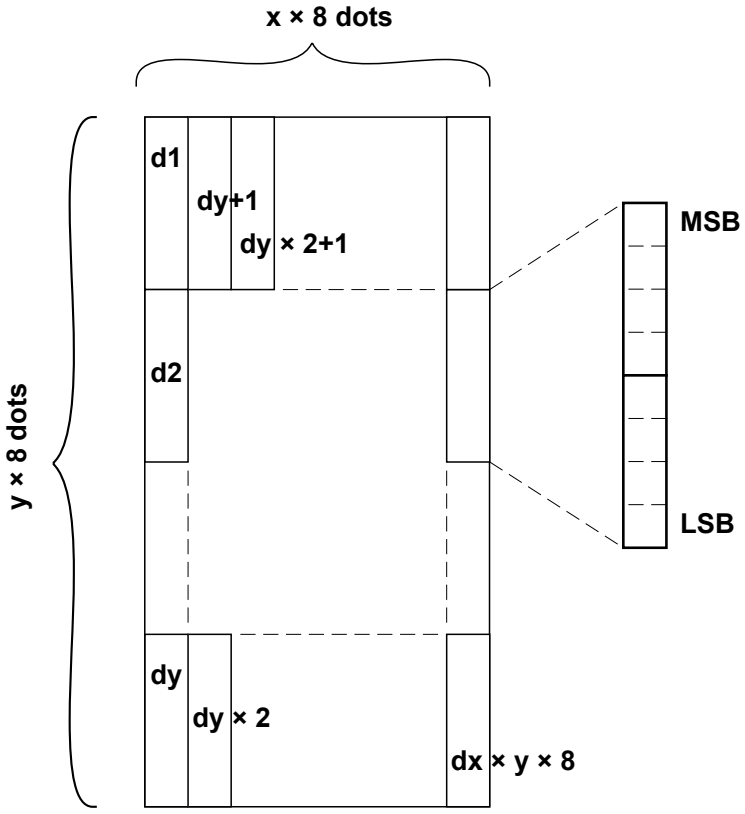
[Notes]

• The number of bytes in horizontal and vertical directions (x and y) are the horizontal and vertical size of the starting image divided by 8.
• If x × y is out of the specified range, this command is disabled.
• The d indicates bit-image data. Data (d) specifies a bit printed to 1 and not printed to 0.
• The received bit image definition is cleared when:
- 0x1B 0x40 is executed.
- 0x1B 0x26 is executed.
- Device is reset or the power is turned off.
• The image is saved in the graphic memory of the device.

[Default]

[Reference]

[Example] The following figure shows the relationship between the received bit image and the printed data.



# 0x1D 0x2F

<GS />

## Print received bit image

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | 2F | m |
| ASCII | GS | / | m |

[Range]

0x00 ≤ m ≤ 0x03
0x30 ≤ m ≤ 0x33

[Description]

Prints a received bit image using the mode specified by m as follows:

| m | MODE |
|---|---|
| 0x00, 0x30 | Normal |
| 0x01, 0x31 | Double width |
| 0x02, 0x32 | Double height |
| 0x03, 0x33 | Quadruple |

[Notes]

• This command is ignored if a received bit image has not been defined.
• In standard mode, this command is effective only when there is no data in the print buffer.
• This command has no effect in the print modes emphasized, underline, character size, or white/black reverse printing), except for upside-down printing mode (180° rotation).
• If the received bit-image to be printed exceeds the printable area, the excess data is not printed.
• If the printing area width set by 0x1D 0x4C and 0x1D 0x57 is less than one line in vertical, the following processing is performed only on the line in question:
1) The printing area width is extended to the right up to one line in vertical. In this case, printing does not exceed the printable area.
2) If the printing area width cannot be extended by one line in vertical, the left margin is reduced to accommodate one line in vertical.

[Default]

[Reference]

0x1D 0x2A

[Example]

# 0x1D 0x76 0x30

*<GS v 0>*

## Print raster bit image

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 76 | 30 | m | xL | xH | yL | yH | d1...dk |
| | ASCII | GS | v | 0 | m | xL | xH | yL | yH | d1...dk |

[Range]

0x00 ≤ m ≤ 0x03, 0x30 ≤ m ≤ 0x31
0x00 ≤ xL ≤ 0xFF
0x00 ≤ xH ≤ 0xFF (1 ≤ xL + xH × 256 ≤ 65535)
0x00 ≤ yL ≤ 0xFF
0x00 ≤ yH ≤ 0x08 (1 ≤ yL + yH × 256 ≤ 2047)
0x00 ≤ d ≤ 0xFF
k = (xL + xH × 256) + (yL + yH × 256)
(except for k = 0)

[Description]

Selects raster bit image mode. The value of m selects the mode as follows:

| m | MODE |
|---|---|
| 0x00, 0x30 | Normal |
| 0x01, 0x31 | Double width |
| 0x02, 0x32 | Double height |
| 0x03, 0x33 | Quadruple |

• xL, xH selects the number of data bytes (xL + xH × 256) in the horizontal direction for the bit image.
• yL, yH selects the number of data bytes (yL + yH × 256) in the vertical direction for the bit image.
• k shows the number of data of the image. It's an explanation parameter so it isn't necessary to transmit it.
• d shows the data of the image.

[Notes]

• In standard mode for receipt paper, this command is effective only when there is no data in the print buffer.
• The data (d) identify as 1 a printed bit and as 0 a non printed bit.
• If a raster bit image is longer than one line, the surplus data aren't printed.
• This command has no effect in all print modes (character size, emphasized, upside-down, underline, white/black reverse printing, etc.) for raster bit image, except the reverse mode (90° anticlockwise rotation).
• This command feed the paper as much as is necessary to print the raster bit image, though the spacing set by 0x1B 0x32 or 0x1B 0x33.

• Don’t use this command during a macro execution because it can’t be included in a macro.
• After the printing, the printing position moves to the beginning of the line.

• The following table shows the relationship between the downloaded bit image and the printed data:

| | | | |
|---|---|---|---|
| d1 | d2 | ... | dx |
| dX+1 | dX+2 | ... | dX x 2 |
| : | : | ... | : |
| ... | dk-2 | dk-1 | d |

[Default]

[Reference]

[Example]

## 0x08 <BS>

Back space

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | |
|---|---|---|
| [Format] | Hex | 08 |
| | ASCII | BS |

[Range]

[Description] Moves print position to previous character.

[Notes] This command can be used to put two characters at the same position.

[Default]

[Reference]

[Example]

# 0x09

<HT>

## Horizontal tab

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | |
|---|---|
| Hex | 09 |
| ASCII | HT |

[Range]

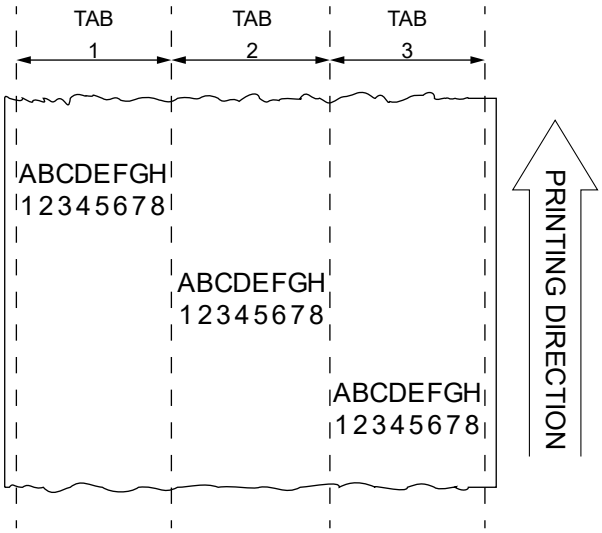
[Description] Moves the print position to the next horizontal tab position.

[Notes]
- Horizontal tab position are set using 0x1B 0x44.
- Ignored unless the next horizontal tab position has been set.
- If the command is received when the printing position is at the right margin, the device executes print buffer full printing and horizontal tab processing from the beginning of the next line.

[Default] Defaul tab positions are set at intervals of 8 characters (9, 17, 25, ...) when the right-side character spacing is 0.

[Reference] 0x1B 0x44

[Example]



# 0x1B 0x24

<ESC $>

## Set absolute print position

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | |
|---|---|---|---|---|---|
| Hex | 1B | 24 | nL | nH |
| ASCII | ESC | $ | nL | nH |

[Range]

0x00 ≤ nL ≤ 0xFF
0x00 ≤ nH ≤ 0xFF

[Description]

Sets the distance from the beginning of the line to the position at which subsequent characters are to be printed.
The distance from the beginning of the line to the print position is [(nL + nH × 256) × (vertical or horizontal motion unit)].

[Notes]

- Settings outside the specified printable area are ignored.
- The horizontal and vertical motion unit are specified by 0x1D 0x50.
- 0x1D 0x50 can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount.
- In standard mode, the horizontal motion unit (x) is used.
- If the setting is outside the printing area width, it sets the absolute print position, but the left or right margin is set at default value.

[Default]

[Reference] 0x1B 0x5C, 0x1D 0x50

[Example]

# 0x1B 0x28 0x76

<ESC ( v>

## Set relative vertical print position

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | |
|---|---|---|---|---|---|---|
| Hex | 1B | 28 | 76 | nL | nH |
| ASCII | ESC | ( | v | nL | nH |

[Range]

0x00 ≤ nL ≤ 0xFF
0x00 ≤ nH ≤ 0xFF

[Description]

Sets the print vertical position based on the current position by using the horizontal or vertical motion unit. This command sets the distance from the current position to [(nL + nH × 256) × horizontal or vertical motion unit].

[Notes]

- When the starting position is specified by N motion unit to the bottom: nL + nH × 256 = N.
- When the starting position is specified by N motion unit to the top (negative direction), use the complement of 65536: nL + nH × 256 = 65536 - N.
- The horizontal and vertical motion unit are specified by 0x1D 0x50.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount.
- In standard mode, the vertical motion unit is used.

[Default]

[Reference]

0x1D 0x50

[Example]

# 0x1B 0x44

<ESC D>

## Set horizontal tab positions

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1B | 44 | n1...nk | 00 |
| | ASCII | ESC | D | n1...nk | NUL |

[Range]

0x01 ≤ n ≤ 0xFF
0x00 ≤ k ≤ 0x20

[Description]

Sets horizontal tab positions
• n specifies the column number for setting a horizontal tab position calculated from the beginning of the line.
• k indicates the total number of horizontal tab positions to be set.

[Notes]

• The horizontal tab position is stored as a value of [character width × n] measured from the beginning of the line. The character width includes the right-side character spacing and double-width characters are set with twice the width of normal characters.
• This command cancels previous tab settings.
• Up to 32 tab positions (k = 0x20) can be set. Data exceeding 32 tab positions is processed as normal data.
• Send [n] k in ascending order and place a 0 NUL code at the end. When [n] k is less than or equal to the preceding value [n] k-1, the setting is complete and the data which follows is processed as normal data.
• 0x1B 0x44 0x00 cancels all horizontal tab positions.
• The previously specified horizontal tab position does not change, even if the character width is modified.

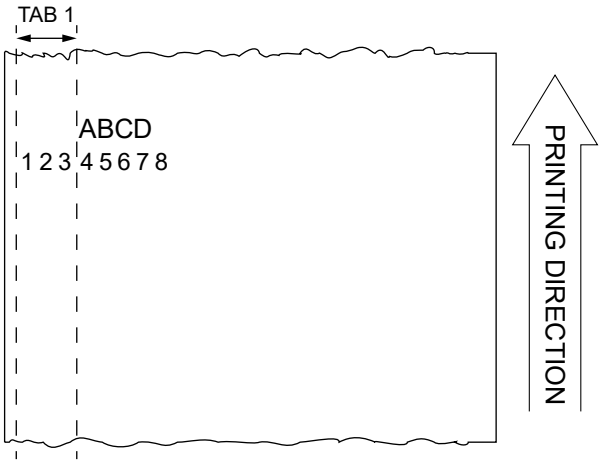
[Default]

Default tab positions are set at intervals of 8 characters (columns 9, 17, 25, …) when the right-side character spacing is 0.

[Reference]

0x09

[Example] To set a tabulation to column 4 send the command:
0x1B 0x44 0x03 0x00




To print the string ‘ABCD’ to the tabulation previously set, the command sequence is:
0x09 ‘ABCD‘

where:

| | |
|---|---|
| 0x09 | move the print position to the set horizontal tab (4th column). |
| ‘ABCD’ | is the string to be printed. |

# 0x1B 0x5C

<ESC \>

## Set relative print position

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 5C | nL | nH |
| ASCII | ESC | \ | nL | nH |

[Range]

0x00 ≤ nL ≤ 0xFF
0x00 ≤ nH ≤ 0xFF

[Description]

Sets the print starting position based on the current position by using the horizontal or vertical motion unit.
Sets the distance from the current position to [(nL+ nH × 256) × horizontal or vertical motion unit].

[Notes]

- When the starting position is specified by N motion units to the right: nL + nH × 256 = N.
- When the starting position is specified by n motion units to the left (negative direction), use the complement of 65536: nL + nH × 256 = 65536 – N.
- If setting exceeds the printing area width, the left or right margin is set to the default value.
- The horizontal and vertical motion unit are specified by 0x1D 0x50.
- 0x1D 0x50 can change the horizontal (and vertical) motion units. However, the value cannot be less than the minimum horizontal movement amount.
- In standard mode, the horizontal motion unit is used.
- It's possible to print further on the right margin set for every font. In this case the printing continues up to the maximum border of the device mechanism and then begins a new row.

[Default]

[Reference]

0x1B 0x24, 0x1D 0x50

[Example]

# 0x1B 0x61



## Select justification

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 61 | n |
| ASCII | ESC | a | n |

[Range]

0x00 ≤ n ≤ 0x02
0x30 ≤ n ≤ 0x32

[Description] This command selects the type of justification based on the value of n as follows:

| n | JUSTIFICATION |
|---|---|
| 0x00, 0x30 | Left justification |
| 0x01, 0x31 | Centered |
| 0x02, 0x32 | Right justification |

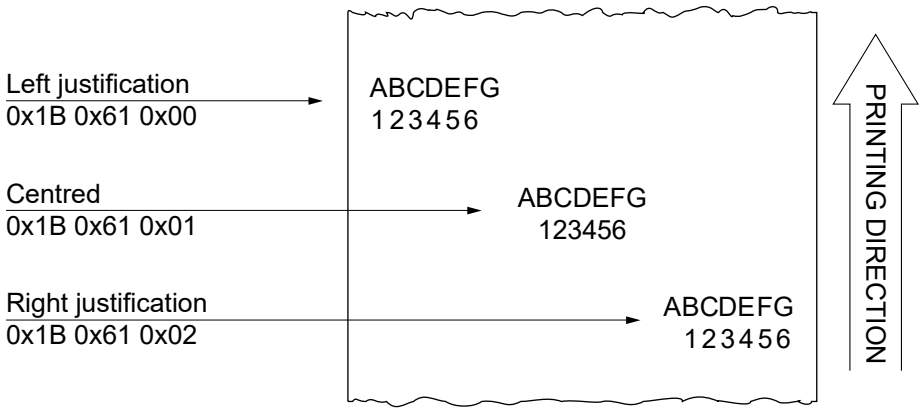
[Notes]

- Lines are justified within the specified printing area.
- Spaces set by 0x09, 0x1B 0x24 and 0x1B 0x5C will be justified according to the previously-entered mode.

[Default] n = 0x00

[Reference]

[Example]



# 0x1B 0x6A

<ESC j>

## Select justification on the same line

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 6A | n |
| ASCII | ESC | j | n |

[Range] 0x00 ≤ n ≤ 0x02

[Description] This command selects the type of justification on the same line based on the value of n as follows:

| n | JUSTIFICATION |
|---|---|
| 0x00 | Left justification |
| 0x01 | Centered |
| 0x02 | Right justification |

[Notes]

[Default] n = 0x00

[Reference]

[Example]

# 0x1D 0x4C

<GS L>

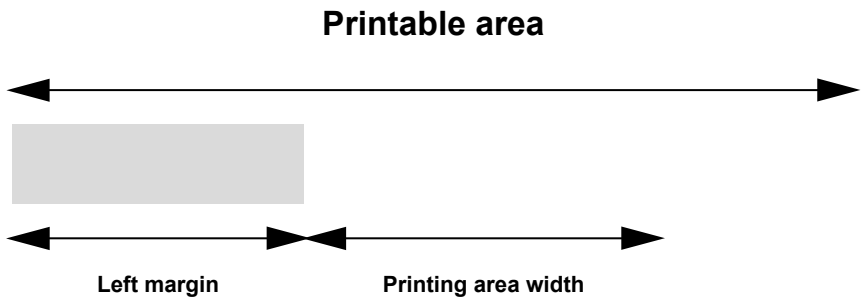
## Set left margin

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1D | 4C | nL | nH |
| | ASCII | GS | L | nL | nH |

[Range] 0x00 ≤ nL, nH ≤ 0xFF

[Description] Sets the left margin to [(nL + nH × 256) × horizontal motion unit].




[Notes]
- If the setting exceeds the printable area, the maximum value of the printable area is used.
- If the left margin + printing area width is greater than the printable area, the printing area width is set at maximum value.
- The horizontal and vertical motion unit are specified by 0x1D 0x50. Changing the horizontal or vertical motion unit does not affect the current left margin.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit.
- However, the value cannot be less than the minimum horizontal movement amount and it must be in even units of the minimum horizontal movement amount.

[Default]

[Reference] 0x1D 0x50, 0x1D 0x57

[Example]

# 0x1D 0x57

<GS W>

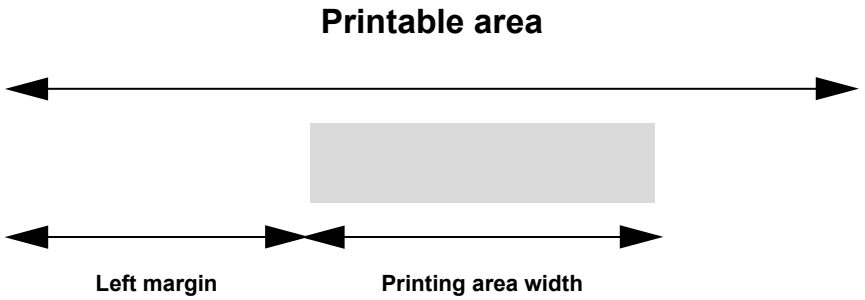
## Set printing area width

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1D | 57 | nL | nH |
| | ASCII | GS | W | nL | nH |

[Range] 0 ≤ nL, nH ≤ 0xFF
0 ≤ (nL + nH × 256) ≤ 608

[Description] Sets the printing area width to the area specified by nL and nH.
The left margin is set to [(nL + nH × 256) × (horizontal motion unit)] inches.




[Notes]
- This command is only enabled if set at the beginning of the line.
- If the right margin is greater than the printable area, the printing area width is set at maximum value.
- If the printing area width = 0, it is set at the maximum value.
- The horizontal and vertical motion units are specified by 0x1D 0x50. Changing the horizontal or vertical motion unit does not affect the current left margin.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount and it must be in even units of the minimum horizontal movement amount.

[Default]

[Reference] 0x1D 0x4C, 0x1D 0x50

[Example]

## 0x1D 0x3A

<GS :>

Start or end of macro definition

| | | | |
|---|---|---|---|
| Valid for | VKP80III RX65 LAT | | |
| | VKP80III RX65 REAR | | |
| | VKP80III ETH | | |
| [Format] | Hex | 1D | 3A |
| | ASCII | GS | : |
| [Range] | | | |
| [Description] | Starts or ends macro definition. | | |

[Notes]

- Macro definition starts when this command is received during normal operation.
- When 0x1D 0x5E is received during macro definition, the device ends macro definition and clears all definitions.
- Macros are not defined when power is turned on to the machine.
- Macro content is not cancelled by the 0x1B 0x40 command. Therefore, 0x1B 0x40 may be included in the content of macro definitions.
- If the device receives 0x1D 0x3A a second time after previously receiving 0x1D 0x3A, the device remains in macro undefined status.
- The contents of the macro can be defined up to 1024 bytes. If the macro definition exceeds 1024 bytes, excess data is not stored.

[Default]

[Reference] 0x1D 0x5E

[Example]

# 0x1D 0x5E

<GS ^>

## Execute macro

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | |
|---|---|---|---|---|---|---|
| Hex | 1D | 5E | r | t | m |
| ASCII | GS | ^ | r | t | m |

[Range]

0x00 ≤ r, t ≤ 0xFF
0x00 ≤ m ≤ 0x01

[Description]

Executes a macro.
• r specifies the number of times to execute the macro.
• t specifies the waiting time for executing the macro.
The waiting time is t × 100 ms for each macro execution.
• m specifies macro executing mode:
When the Least Significant Bit (LSB) of m = 0, the macro is executed r times continuously at the interval specified by t.
When the Least Significant Bit (LSB) of m = 1, after waiting for the period specified by t, the LED indicator blinks and the device waits for the FEED button to be pressed. After the button is pressed, the device executes the macro once. The device repeats the operation r times.

[Notes]

• This command has an interval of (t × 100 ms) after a macro is executed by t.
• If this command is received while a macro is being defined, the macro definition is aborted and the definition is cleared.
• If the macro is not defined or if r is 0x00, nothing is executed.
• When the macro is executed by pressing the FEED button (m = 0x01), the paper cannot be fed using the FEED button.

[Default]

[Reference]

0x1D 0x3A

[Example]

## 0x1B 0x69

*<ESC i>*

Total cut

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | |
|---|---|---|
| Hex | 1B | 69 |
| ASCII | ESC | i |

[Range]

[Description] This command enables autocutter operation and executes a total cut.

[Notes] The device waits to complete all paper movement commands before it executes a total cut.

[Default]

[Reference]

[Example]

# 0x1C 0xC1

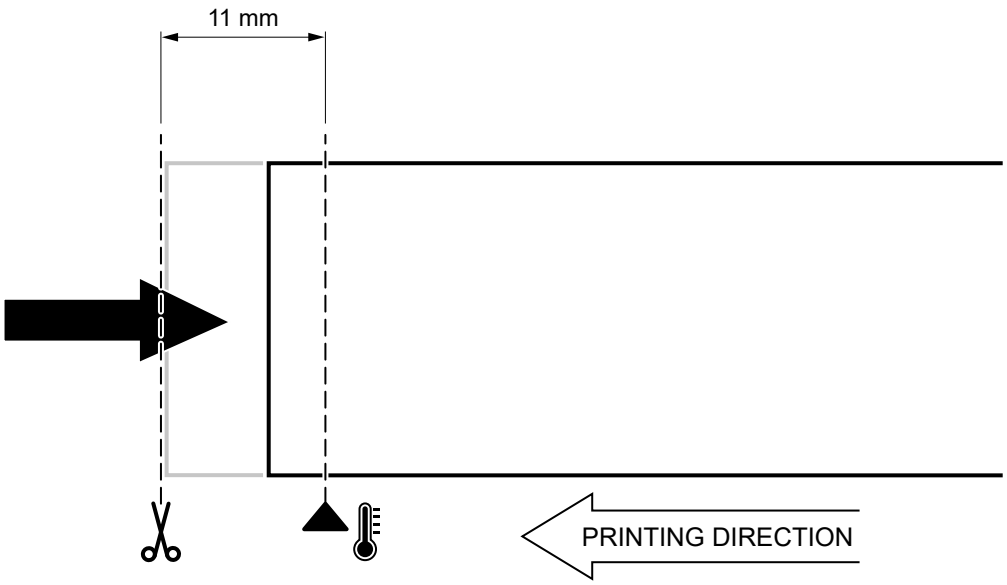
## Paper recovery after cut

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1C | C1 | n |
| | ASCII | FS | 0xC1 | n |

[Range] 0x00 ≤ n ≤ 0x0B

[Description] Set the paper moving (in millimetres) toward the print head after the paper cut.




[Notes] • Set n = 0x0B to complete recover the paper.

[Default] n = 0x0B = 11 mm

[Reference]

[Example]

# 0x1D 0x56

<GS V>

## Select cut mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | 56 | m |
| ASCII | GS | V | m |

[Range] m = 0x00, 0x30, 0x41, 0x42

[Description] Selects cut mode and executes the cut command based on the value of m as follows:

| m | FUNCTION |
|---|---|
| 0x00, 0x30 | Total cut |
| 0x41, 0x42 | Form feed (cut position + [n × vertical motion unit]) and total cut |

[Notes]
- This command is only enabled if set at the beginning of the line.
- The horizontal and vertical motion units are specified by 0x1D 0x50.

[Default]

[Reference] 0x1B 0x69, 0x1D 0x50

[Example]

## 0x1D 0xE7

### Set black mark distance

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1D | E7 | nL | nH |
| | ASCII | GS | 0xE7 | nL | nH |

[Range]
0x00 ≤ nH ≤ 0xFF
0x00 ≤ nL ≤ 0xFF

[Description]
Sets black mark distance in tenth of millimeter of the alignment point from the edge of the black mark. This value is expressed as [(nH × 256) + nL].

[Notes]
- The maximum value is 32 mm.
- The minimum value is 0 mm.
- The distance is saved in nonvolatile memory: it is therefore recommended not to send this command for each printed ticket, because the number of rewrites is limited. In many devices, however, is checked the diversity of the data before performing the rescue to avoid reaching the limit of rewrites.
- The distance defined by this command is the same that can be set with the value of the “Black Mark Distance” during the setup of the device or by modifying the same parameter of the “Setup.ini” file (see user manual for further explanation).

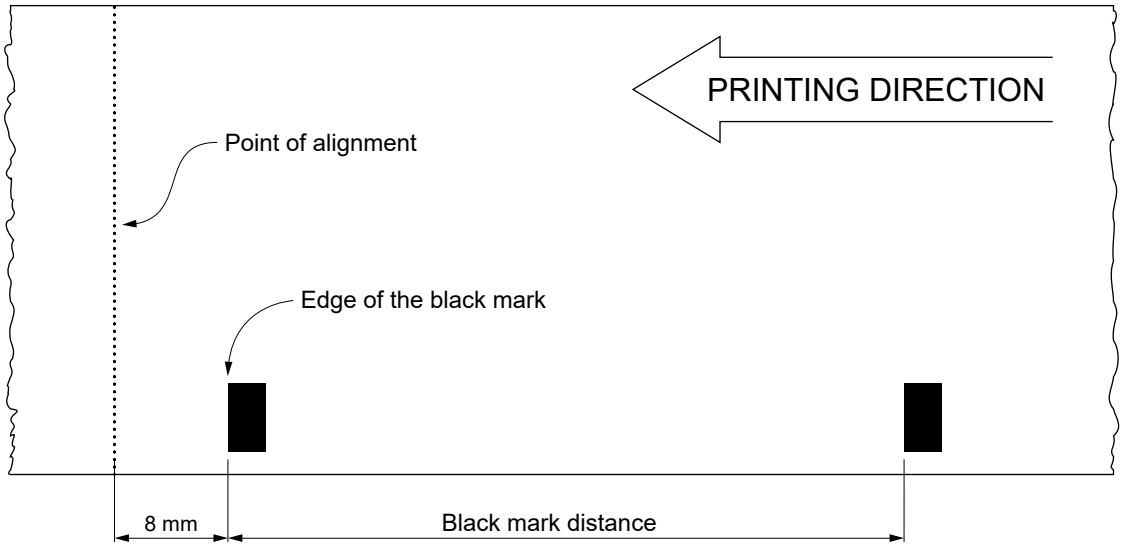
[Default]
nH = 0x00
nL = 0x00

[Reference]

[Example] To set a distance of the alignment point from the black mark equal to 8 mm = 80 tenths of a millimeter, send the command:
0x1D 0xE7 0x00 0x50

where:

| | |
|---|---|
| 0x00 | the most significant bit (MSB = 0) defines the sign + |
| 0x00 0x50 | the absolute value defines the distance = 80 tenths of a millimeter |



# 0x1D 0xF6

## Align the ticket with the print head

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | F6 |
| | ASCII | GS | 0xF6 |

[Range]

[Description] This command align the edge of black mark to the alignment point (see ALIGNMENT section for further explanation).

[Notes]
- Use 0x1D 0xE7 command to set the distance between the edge of black mark and the alignment point.
- To work properly, the “Black Mark Position” parameter must be enabled during the setup procedure (refer to the user manual of each device).
- Use this alignment command even to print more tickets without cutting.

[Default]

[Reference] 0x1D 0xE7, 0x1D 0xF8

[Example]

# 0x1D 0xF8

## Align the ticket with the autocutter

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | F8 |
| | ASCII | GS | 0xF8 |

[Range]

[Description] This command align the edge of the black mark to the alignment point (see ALIGNMENT section for further explanation).

[Notes]
- Use 0x1D 0xE7 command to set distance between the edge of the ticket and the alignment point.
- To work properly, the “Black Mark Position” parameter must be enabled during the setup procedure (refer to the user manual of each device).
- Use this alignment command even to print more tickets without cutting.

[Default]

[Reference] 0x1D 0xE7, 0x1D 0xF6

[Example]

## 0x1D 0x65 0x00

*<GS e NUL>*

Ticket presentation

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 65 | 00 |
| | ASCII | GS | e | NUL |

[Range]

[Description] Whit this command, the device presents the printed ticket by using the length set with 0x1D 0x65 0x08.

[Notes] The device checks the length of the presentation: if the value is too high, the ticket is automatically presented with the maximum value of the allowed ticket length.

[Reference] 0x1B 0x69

[Example] To print a ticket send the command sequence:

| | |
|---|---|
| Print ticket | |
| Paper total cut | 0x1B 0x69 |
| Presentation | 0x1D 0x65 0x03 0x0C (87 mm presentation) |

# 0x1D 0x65 0x02

<GS e STX>

## Ticket retract

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 65 | 02 |
| | ASCII | GS | e | STX |

[Range]

[Description] Whit this command, the device executes a ticket retract if the “Paper Retracting” parameter is set to “Enabled” (refer to the user manual)

[Notes]

[Reference]

[Example]

# 0x1D 0x65 0x03

<GS e ETX>

## Set presentation length and present ticket

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1D | 65 | 03 | m |
| | ASCII | GS | e | ETX | m |

[Range] 0x01 ≤ m ≤ 0xFF

[Description] Whit this command, the device presents the printed ticket with m steps (1 step = 7.3 mm)

[Notes]
- The device checks the length of the presentation: if the value of m is too high, the ticket is automatically presented with the maximum value of the allowed ticket length.
- If the ticket is not yet cut, before performing the command, the device performs a total cut.

[Reference] 0x1B 0x69

[Example] To print a ticket send the command sequence:

| | |
|---|---|
| Ejector management | 0x1D 0x65 0x03 |
| Print ticket | |
| Paper total cut | 0x1B 0x69 |
| Presentation | 0x1D 0x65 0x03 0x0C (87 mm presentation) |

# 0x1D 0x65 0x05

<GS e ENQ>

## Ticket eject

| | |
|---|---|
| Valid for | VKP80III RX65 LAT |
| | VKP80III RX65 REAR |
| | VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 65 | 05 |
| | ASCII | GS | e | ENQ |

[Range]

[Description] Whit this command, the device eject the printed ticket.

[Notes]

[Reference]

[Example]

# 0x1D 0x65 0x06

<GS e ACK>

## Transmit status of printer and ejector

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | 65 | 06 |
| ASCII | GS | e | ACK |

[Range]

[Description] After this command, the device answers with the status byte of the printer and the ejector as described in the following table:

| BIT | OFF/ON | HEX | DECIMAL | FUNCTION |
|---|---|---|---|---|
| 0 | Off | 00 | 0 | Paper present in abundance |
| | On | 01 | 1 | Near paper end |
| 1 | Off | 00 | 0 | RESERVED |
| 2 | Off | 00 | 0 | Paper end sensor (paper not present) |
| | On | 04 | 4 | Paper end sensor (paper present) |
| 3 | Off | 00 | 0 | Ticket not present on the output |
| | On | 08 | 8 | Ticket present on the output |
| 4 | Off | 00 | 0 | Device’s stepper motor off |
| | On | 10 | 16 | Device’s stepper motor on |
| 5 | Off | 00 | 0 | Emitter motor off |
| | On | 20 | 32 | Emitter motor on |
| 6 | Off | 00 | 0 | Not error |
| | On | 40 | 64 | Error |
| 7 | Off | 00 | 0 | Free paper route |
| | On | 80 | 128 | Paper jam |

[Reference]

[Example]

# 0x1D 0x65 0x08

<GS e BS>

## Set the presentation length

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1D | 65 | 08 | m |
| | ASCII | GS | e | BS | m |

[Range] 0x01 ≤ m ≤ 0xFF

[Description] This command sets the length of the ticket presentation in m steps (1 step =7.3 mm).

[Notes] The device checks the length of the presentation: if the value of m is too high, the ticket is automatically presented with the maximum value of the allowed ticket length.

[Reference]

[Example]

| | |
|---|---|
| Set presentation length | 0x1D 0x65 0x08 0x0C (87 mm presentation) |
| Print ticket | |
| Paper total cut | 0x1B 0x69 |
| Execute presentation | 0x1D 0x65 0x03 0x00 |

# 0x1D 0x65 0x12

<GS e FF>

## Disable continuous mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 65 | 0x12 |
| | ASCII | GS | e | FF |

[Range]

[Description] This command disables the ejector continuous mode and sets the normal functioning: when the device is printing, the ticket remaines in the bezel outlet unitl a cut command or eject command will be sent.

[Notes]

[Reference]

[Example]

# 0x1D 0x65 0x14

<GS e SO>

## Enable continuous mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 65 | 0x14 |
| | ASCII | GS | e | SO |

[Range]

[Description] This command enables the ejector continuous mode: when the device is printing, the ticket doesn't remain in the bezel outlet but it is continuously presented.

[Notes]

[Reference]

[Example]

# 0x1D 0x65 0x20

<GS e SP>

## Ticket presentation with timeout

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | |
|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 65 | 20 | m | t |
| | ASCII | GS | e | SP | m | t |

[Range]
0x01 ≤ m ≤ 0xFF
0x01 ≤ t ≤ 0xFF

[Description]
Whit this command, the device presents the printed ticket in m steps (1 step = 7.3 mm) and eject or retract it with a timeout expressed in seconds and indicated by t.

[Notes]
- The device checks the length of the presentation: if the value of m is too high, the ticket is automatically presented with the maximum value of the allowed ticket length.
- If the ticket is not yet cut, before to perform the command, the device performs a total cut.
- The timeout indicates how long the ticket remains presented. When timeout runs out or a new ticket is printed before the end of the timeout, the device executes a ticket retract if the “Paper Retracting” parameter is set to “Enabled” (refer to the user manual). Otherwise the device performs a ticket eject.

[Reference]
0x1B 0x69

[Example]
To present the ticket with 87 mm presentation lenght for 20 s send the sequence:
0x1D 0x65 0x20 0x0C 0x14

## 0x1B 0x3D

*<ESC =>*

### Select peripheral device

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 3D | n |
| ASCII | ESC | = | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Select the device to which the host computer sends data, using n as follows:

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Device disabled |
| | On | 01 | Device enabled |
| 1 | - | - | RESERVED |
| 2 | - | - | RESERVED |
| 3 | - | - | RESERVED |
| 4 | - | - | RESERVED |
| 5 | - | - | RESERVED |
| 6 | - | - | RESERVED |
| 7 | Off | 00 | Pass-through function disabled |
| | On | 80 | Pass-through function enabled |

[Notes]
- When the device is disabled, it ignores all transmitted data until the device is enabled through this command.
- When the Pass-trough function is enabled, all transmitted data are sent on the second serial port.

[Default] n = 0x01

[Reference]

[Example]

# 0x1B 0x40

<ESC @>

## Initialize device

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | |
|---|---|---|
| Hex | 1B | 40 |
| ASCII | ESC | @ |

[Range]

[Description] Clears the data in the print buffer and resets the device mode to that in effect when power was turned on.

[Notes]
- The data in the receiver buffer is not cleared.
- The macro definitions are not cleared.

[Default]

[Reference]

[Example]

# 0x1B 0x63 0x35

<ESC c 5>

## Enable or disable keys panel

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1B | 63 | 35 | n |
| | ASCII | ESC | c | 5 | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Enables or disables the keys panel, based on the value of n
- when the Least Significant Bit (LSB) of n is 0, the keys panel is enabled.
- when the Least Significant Bit (LSB) of n is 1, the keys panel is disabled.

[Notes]
• Only the Least Significant Bit (LSB) of n is effective.
• When the keys panel is disabled, the keys may only be used after the device has been reset.

[Default] n = 0x00

[Reference]

[Example]

# 0x1B 0xFA

## Print graphic bank (608x862 dots)

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hex | 1B | FA | n | xH | xL | yH | yL |
| ASCII | ESC | 0xFA | n | xH | xL | yH | yL |

[Range]

0x00 ≤ n ≤ 0x02
0x00 ≤ xH, xL, yH, yL ≤ 0xFF

[Description]

Prints graphic logo from flash or current graphic page located in RAM based on the value of n as follows:

| n | FUNCTION |
|---|---|
| 0x00 | Print graphic page from RAM used at the moment |
| 0x01 | Print logo 1 from flash |
| 0x02 | Print logo 2 from flash |

[Notes]

• Printable maximum vertical dimension is 862 dots:
xL + xH × 256 specifies the starting dot line (1 ÷ 862).
yL + yH × 256 specifies the number of lines to print.
• If (xL + (xH × 256)) > 862 the device does not execute the command.
• If (xL + (xH × 256) + yL +(yH × 256)) > 862 the device only prints 862 - xL + (xH × 256) + 1 dotline.

[Default]

[Reference]

[Example]

To print from RAM bank dotline 100 to dotline 299, send the command sequence
0x1B 0xFA 0x00 0x00 0x64 0x00 0xC7

# 0x1B 0xFF

## Receive the graphic page from the communication port

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | |
|---|---|---|---|---|---|---|
| Hex | 1B | FF | n | nL | nH |
| ASCII | ESC | 0xFA | n | nL | nH |

[Range]

n = 0x01, 0x02
0x00 ≤ nL, nH ≤ 0xFF

[Description]

Receives [nL + (nH × 256)] words from the communication port and save them in the flash bank based on the value of n as follows:

| n | FUNCTION |
|---|---|
| 0x01 | Save logo in the flash bank 1 |
| 0x02 | Save logo in the flash bank 2 |

[Notes]

- For serial communication, set setup parameter “RS232 handshaking” to “Hardware”.
- The number of received data bytes is [nL + (nH × 256)] × 2.
- Every word is received first as MSB and then as LSB.
- If [nL + (nH × 256)] is more than 32756, the following data are processed as normal data.
- In the horizontal dot line there are 38 words.
- The flash bank for graphic print dimensions are: 608 horizontal dots (76 bytes/line) × 862 vertical dots (65512 bytes).

[Default]

[Reference]

[Example]

# 0x1C 0xC0

## Print part of graphic logo in the graphic page

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hex | 1C | C0 | xH | xL | yH | yL | dxH | dxL | dyH | dyL | xlH | xlL | ylH | ylL | num |
| ASCII | 1C | 0xC0 | xH | xL | yH | yL | dxH | dxL | dyH | dyL | xlH | xlL | ylH | ylL | num |

[Range]

dx + xl ≤ 608
dx + x ≤ 608
dy + yl ≤ 862
0x00 ≤ num ≤ 0x01

[Description]

Allows to select parts of the graphic logo and insert the coordinates of the graphic page point in which to print it.

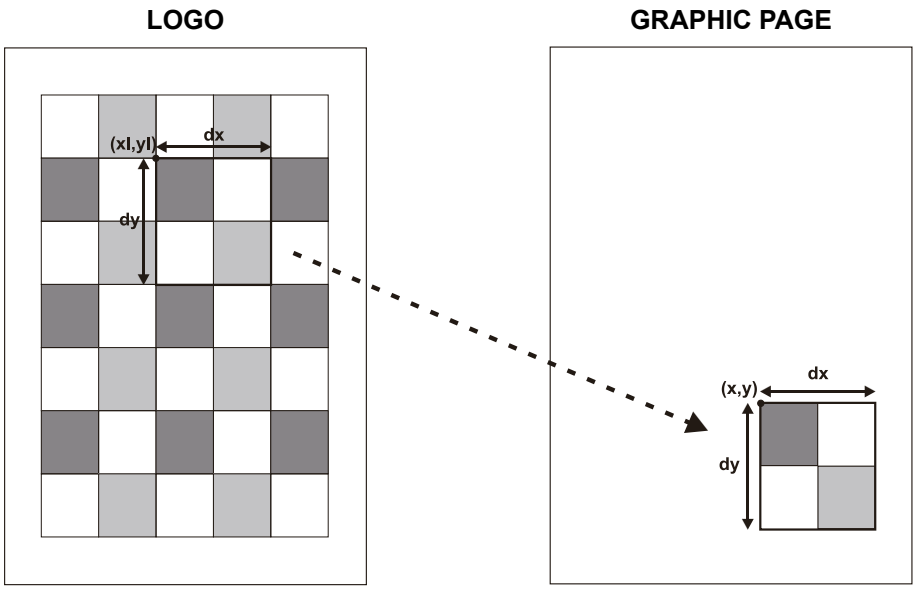
- (xl,yl) = graphic logo point coordinates:
  xl = xlL + (xlH × 256) ; yl = ylL + (ylH × 256)
- dx = horizontal dimension of the graphic logo part which must be printed:
  dx = dxL + (dxH × 256)
- dy = vertical dimension of the graphic logo part which must be printed:
  dy = dyL + (dyH × 256)
- (x,y) = coordinates of the graphic page point where must be printed the graphic logo part:
  x = xL + (xH × 256) ; y = yL + (yH × 256)
- num = parameter for the graphic logo selection between the two logos available.

[Notes]

[Default]

[Reference]

[Example]



# 0x1D 0x43 0x30

<GS C 0>

## Select counter print mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | |
|---|---|---|---|---|---|
| Hex | 1D | 43 | 30 | n | m |
| ASCII | GS | C | 0 | n | m |

[Range]

0x00 ≤ n ≤ 0x05
m = 0x00, 0x01, 0x02, 0x30, 0x31, 0x32

[Description]

Selects a print mode for the serial number counter.
• n specifies the number of digits to be printed as follows:
when n = 0x00, the device prints the actual digits indicated by the number value.
when n = 0x01 to 0x05, this command sets the number of digits to be printed.
• m specifies the printing position within the entire range of printed digits, as follows:

| m | PRINTING POSITION | PROCESSING OF MISSING DIGITS |
|---|---|---|
| 0x00, 0x30 | Align right | Adds spaces to the left |
| 0x01, 0x31 | Align right | Adds ‘0’ to the left |
| 0x02, 0x32 | Align left | Adds spaces to the right |

[Notes]

• If n or m is out of the defined range, the previously set print mode is not changed.
• If n = 0x00, m does not have any meaning.

[Default]

n = 0x00, m = 0x00

[Reference]

0x1D 0x43 0x31, 0x1D 0x43 0x32, 0x1D 0x43 0x3B, 0x1D 0x63

[Example]

| n = 0x03,m = 0x00 | n = 0x03, m = 0x01 | n = 0x03, m = 0x02 |
|---|---|---|
| □ □ 1 | 001 | 1 □ □ |

□ indicates a space

# 0x1D 0x43 0x31

<GS C 1>

## Select count mode (A)

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 43 | 31 | aL | aH | bL | bH | n | r |
| ASCII | GS | C | 1 | aL | aH | bL | bH | n | r |

[Range]

0x00 ≤ aL, aH ≤ 0xFF
0x00 ≤ bL, bH ≤ 0xFF
0x00 ≤ n, r ≤ 0xFF

[Description]

Selects a count mode for the serial number counter.
• aL, aH o bL, bH specify the counter range.
• n specify the stepping amount when counting up or down.
• r indicates the repetition number when the counter value is fixed.

[Notes]

• Count-up mode is specified when:
[aL + (aH × 256)] < [bL + (bH × 256)] and n ≠ 0x00 and r ≠ 0x00
• Count-down mode is specified when:
[aL + (aH × 256)] > [bL + (bH × 256)] and n ≠ 0x00 and r ≠ 0x00
• Counting stops when:
[aL + (aH × 256)] = [bL + (bH × 256)] or n = 0x00 or r = 0x00
• In setting count-up mode, the minimum value of the counter is [aL + (aH × 256)] and the maximum value is [bL + (bH × 256)]. If counting up reaches a value exceeding the maximum, it is resumed with the minimum value.
• In setting count-down mode, the maximum value of the counter is [aL + (aH × 256)] and the minimum value is [bL + (bH × 256)]. If counting down reaches a value less than minimum, it is resumed with the maximum value.
• When the command is executed, the internal count that indicates the repetition number specified by r is cleared.

[Default]

aL = 0x01, aH = 0x00, bL = 0xFF, bH = 0xFF, n = 0x01, r = 0x01

[Reference]

0x1D 0x43 0x30, 0x1D 0x43 0x32, 0x1D 0x43 0x3B, 0x1D 0x63

[Example]

Send the command sequence:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0x1D | 0x43 | 0x31 | 0x01 | 0x00 | 0x0A | 0x00 | 0x01 | 0x02 |
| | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| | | | aL | aH | bL | bH | n | r |

The counter is set from 1 [aL + (aH x 256)] to 10 [bL + (bH x 256)]).
The counter is incremented by 1 (n) repeating the same value of 2 times (r).

# 0x1D 0x43 0x32

<GS C 2>

## Set counter

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | |
|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 43 | 32 | nL | nH |
| | ASCII | GS | C | 2 | nL | nH |

[Range] 0x00 ≤ nL, nH ≤ 0xFF

[Description] Sets the serial number counter value.
nL and nH determine the value of the serial number counter set by [nL + (nH × 256)].

[Notes]
- In count-up mode, if the counter value specified by this command goes out of the counter operation range specified by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B, it is forced to convert to the minimum value by 0x1D 0x63.
- In count-down mode, if the counter value specified by this command goes out of the counter operation range specified by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B, it is forced to convert to the maximum value by 0x1D 0x63.

[Default] nL = 0x01, nH = 0x00

[Reference] 0x1D 0x43 0x30, 0x1D 0x43 0x31, 0x1D 0x43 0x3B, 0x1D 0x63

[Example] Send the command sequence:

| 0x1D | 0x43 | 0x32 | 0x05 | 0x00 |
|---|---|---|---|---|
| | | | ↓ | ↓ |
| | | | nL | nH |

The counter is set starting from 5 [nL + (nH x 256)].

# 0x1D 0x43 0x3B

<GS C ;>

## Select count mode (B)

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 43 | 3B | sa | 3B | sb | 3B | sn | 3B | sr | 3B | sc | 3B |
| ASCII | GS | C | ; | sa | ; | sb | ; | sn | ; | sr | ; | sc | ; |

[Range]

0x00 ≤ sa, sb, sc ≤ 0xFFFF
0x00 ≤ sn, sr ≤ 0xFF
These values are all character strings.

[Description]

Selects a count mode for the serial number counter and specifies the value of the counter.
• sa, sb, sn, sr and sc are all displayed in ASCII characters using the codes from ‘0’ to ‘9’.
• sa and sb specify the counter range.
• sn indicates the stepping amount for counting up or down.
• sr indicates the repetition number with the counter value fixed.
• sc indicates the counter value.

[Notes]

• Count-up mode is specified when:
sa < sb and sn ≠ 0x00 and sr ≠ 0x00
• Count-down mode is specified when:
sa > sb and sn ≠ 0x00 and sr ≠ 0x00
• Counting stops when:
sa = sb or sn = 0x00 or sr = 0x00
• In setting count-up mode, the minimum value of the counter is sa and the maximum is sb. If counting up reaches a value exceeding the maximum, it is resumed with the minimum value. If the counter value set by sc is outside the counter operation range, the counter value is forced to convert to the minimum value by executing 0x1D 0x63.
• In setting count-down mode, the maximum value of the counter is sa and the minimum value is sb. If counting down reaches a value less than the minimum, it is resumed with the maximum value. If the counter value set by sc is outside the counter operation range, the counter value is forced to convert to the maximum value by executing 0x1D 0x63.
• Parameters sa to sc can be omitted. If omitted, these values remain unchanged.
• Parameters sa to sc must not contain characters, with the exception of those from ‘0’ to ‘9’.

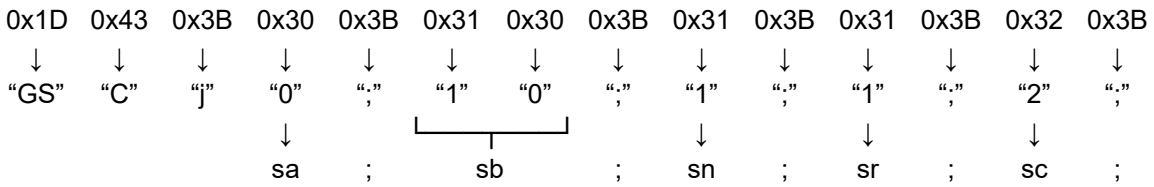
[Default]

sa = 0x01, sb = 0xFFFF, sn = 0x01, sr = 0x01, sc = 0x01

[Reference]

0x1D 0x43 0x30, 0x1D 0x43 0x31, 0x1D 0x43 0x32, 0x1D 0x63

[Example] Send the command sequence:




The counter is set from 0 (sa) to 10 (sb) starting from 2 (sc).
The counter is incremented by 1 (sn) repeating the same value of 1 time (sr).

# 0x1D 0x49

<GS I>

## Transmit device ID

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | 49 | n |
| ASCII | GS | I | n |

[Range]

0x01 ≤ n ≤ 0x03
0x31 ≤ n ≤ 0x33
n = 0xFF

[Description]

Transmits the device ID specified by n follows:

| n | DEVICE ID | SPECIFICATION |
|---|---|---|
| 0x01, 0x31 | Device model ID (1 byte) | 0x5D |
| 0x02, 0x32 | Type ID | See table below |
| 0x03, 0x33 | ROM version ID (4 bytes) | Depends on ROM version (4 character) |
| 0xFF | Device model ID (2 bytes) | 0x02 0x05 |

n = 0x02, 0x32 Type ID

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | 2 bytes characters codes not supported |
| 1 | Off | 00 | Autocutter not supplied |
| | On | 02 | Autocutter supplied |
| 2 | Off | 00 | Thermal paper w/o label |
| | On | 04 | Thermal paper label |
| 3 | - | - | Undefined |
| 4 | Off | 00 | Not used. Fixed to off |
| 5 | - | - | Undefined |
| 6 | - | - | Undefined |
| 7 | Off | 00 | Not used. Fixed to off |

[Notes]

This command is executed when the data is processed in the data buffer. Therefore, there could be a time lag between command reception and data transmission, depending on data buffer status.

[Default]

[Reference]

[Example]

# 0x1D 0x50

<GS P>

## Set horizontal and vertical motion units

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | 50 | x | y |
| ASCII | GS | P | x | y |

[Range] 0x00 ≤ x, y ≤ 0xFF

[Description] Sets the horizontal and vertical motion units to 1/x inch and 1/y inch respectively.
When x is set to 0x00, the default setting value is used.
When y is set to 0x00, the default setting value is used.

[Notes]

- The horizontal direction is perpendicular to the paper feed direction.
- In standard mode, the following commands use x or y, regardless of character rotation (upside-down or 90° clockwise rotation):

Commands using x: 0x1B 0x20, 0x1B 0x24, 0x1B 0x5C, 0x1D 0x4C, 0x1D 0x57.
Commands using y: 0x1B 0x33, 0x1B 0x4A.

- This command does not affect the previously specified values.
- The calculated result from combining this command with others is truncated to the minimum value of the mechanical pitch or an exact multiple of that value.

[Default] x = 0xCC
y = 0x198

[Reference] 0x1B 0x20, 0x1B 0x24, 0x1B 0x5C, 0x1B 0x33, 0x1B 0x4A, 0x1D 0x4C, 0x1D 0x57

[Example]

# 0x1D 0x63

<GS c>

## Print counter

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | |
|---|---|---|
| Hex | 1D | 63 |
| ASCII | GS | c |

[Range]

[Description] Sets the serial counter value in the print buffer and increments or decrements the counter value.

[Notes]

- After setting the current counter value in the print buffer as print data (a character string), the device counts up or down based on the count mode set. The counter value in the print buffer is printed when the device receives a print command or the buffer is full.
- The counter print mode is set by 0x1D 0x43 0x30.
- The counter mode is set by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B.
- In count-up mode, if the counter value set by this command goes out of the counter operation range set by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B, it is forced to convert to the minimum value.
- In count-down mode, if the counter value set by this command goes out of the counter operation range set by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B, it is forced to convert to the maximum value.

[Default]

[Reference] 0x1D 0x43 0x30, 0x1D 0x43 0x31, 0x1D 0x43 0x32, 0x1D 0x43 0x3B

[Example]

# 0x1D 0xD0

## Set horizontal and vertical motion units

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hex | 1D | D0 | xH | xL | yH | yL |
| ASCII | GS | 0xD0 | xH | xL | yH | yL |

[Range]

0 ≤ [(xH * 256) + xL] ≤ 2040
0 ≤ [(yH * 256) + yL] ≤ 2040

[Description]

Sets the horizontal and vertical motion units to 1/[(xH * 256) + xL] inch and 1/[(yH * 256) + yL] inch respectively.
When x is set to 0, the default setting value is used.
When y is set to 0, the default setting value is used.

[Notes]

• The horizontal direction is perpendicular to the paper feed direction.
• In standard mode, the following commands use x or y, regardless of character rotation (upside-down or 90° clockwise rotation):

Commands using x: 0x1B 0x20, 0x1B 0x24, 0x1B 0x5C, 0x1D 0x4C, 0x1D 0x57.
Commands using y: 0x1B 0x33, 0x1B 0x4A.

• This command does not affect the previously specified values.
• The calculated result from combining this command with others is truncated to the minimum value of the mechanical pitch or an exact multiple of that value.

[Default]

x = 0xCC, y = 0x198

[Reference]

0x1B 0x20, 0x1B 0x24, 0x1B 0x5C, 0x1B 0x33, 0x1B 0x4A, 0x1D 0x4C, 0x1D 0x50, 0x1D 0x57

[Example]

# 0x1D 0xE6

## Virtual paper-end limit

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1D | E6 | nH | nL |
| | ASCII | GS | 0xE6 | nH | nL |

[Range] 0x00 ≤ nH≤ 0xFF
0x00 ≤ nL ≤ 0xFF

[Description] This command sets the limit, expressed in cm as [(nH × 256) + nL], after which is pointed out the virtual paper-end.

[Notes]

[Default] nH = 0x00
nL = 0xF0

[Reference]

[Example] To see the virtual paper-end is pointed out after 15 metres from the first detection of low paper, it's necessary convert 15 metres in 1500 centimetres and then, calculate nH and nL value in the following mode:

nH = 1500 / 256 = 5
nL = 1500 - (nH × 256) = 1500 - (5 × 256) = 220

and then send the following command:
0x1D 0xE6 0x05 0xDC

# 0x1D 0xE8

## Set minimum ticket length

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | E8 | n |
| | ASCII | GS | 0xE8 | n |

[Range] 0x36 ≤ n ≤ 0xFF

[Description] This command sets the minimum ticket length to the n value.

[Notes] Set values between 54 mm and 255 mm. Values lower than those specified are ignored.

[Default] n = 0x46 = 70 mm

[Reference]

[Example] To set the minimum ticket length at 80 mm, the command sequence will be:
0x1D 0xE8 0x00 0x50

# 0x1D 0xF0

## Set print mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | F0 | n |
| ASCII | GS | 0xF0 | n |

[Range] 0x00 ≤ n ≤ 0x02

[Description] Sets print mode based on the value of n as follows:

| n | PRINT MODE |
|---|---|
| 0x00 | High quality |
| 0x01 | Normal |
| 0x02 | High speed |

[Notes] Print mode reverts to the default value when the device is reset or turned off.

[Default] n = 0x02

[Reference]

[Example]

# VKP80III EMULATION

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Set minimum ticket length

0x1D 0xF0 . . . . . 334
Set print mode

## 0x1D 0x28 0x6B

*<GS ( k>*

Print two-dimensional barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | cn | fn |
| | ASCII | GS | ( | k | pL | pH | cn | fn |

[Range]
cn = 0x30, 0x31, 0x33, 0x33, 0x34
0x41 ≤ fn ≤ 0x45
0x50 ≤ fn ≤ 0x52

[Description]
Processes the data concerning two-dimensional barcode.
• Barcode type is specified by cn
• Function is specified by fn

| cn | fn | FUNCTION | |
|---|---|---|---|
| 0x30 | 0x41 | Function 065 | PDF 417: Specify the number of columns |
| 0x30 | 0x42 | Function 066 | PDF 417: Specify the number of rows |
| 0x30 | 0x43 | Function 067 | PDF 417: Specify the width of module |
| 0x30 | 0x44 | Function 068 | PDF 417: Specify the module height |
| 0x30 | 0x45 | Function 069 | PDF 417: Specify the error correction level |
| 0x30 | 0x50 | Function 080 | PDF 417: Store the received data in the barcode save area |
| 0x30 | 0x51 | Function 081 | PDF 417: Print the barcode data in the barcode save area |
| 0x31 | 0x41 | Function 165 | QRcode: Specify encoding scheme |
| 0x31 | 0x42 | Function 166 | QRcode: Specify the selected version |
| 0x31 | 0x43 | Function 167 | QRcode: Specify size of barcode |
| 0x31 | 0x45 | Function 169 | QRcode: Specify the error correction level |
| 0x31 | 0x50 | Function 180 | QRcode: Store the received data in the barcode save area |
| 0x31 | 0x51 | Function 181 | QRcode: Print the barcode data |
| 0x31 | 0x52 | Function 182 | QRcode: Transmit the barcode size in the barcode save area |
| 0x33 | 0x41 | Function 365 | DATAMATRIX: Set encoding scheme |
| 0x33 | 0x42 | Function 366 | DATAMATRIX: Set rotate |
| 0x33 | 0x43 | Function 367 | DATAMATRIX: Set dot size of the module |
| 0x33 | 0x44 | Function 368 | DATAMATRIX: Set size of barcode |
| 0x33 | 0x50 | Function 380 | DATAMATRIX: Store the received data in the barcode save area |
| 0x33 | 0x51 | Function 381 | DATAMATRIX: Print the barcode data in the barcode save area |

| | | | |
|---|---|---|---|
| 0x34 | 0x41 | Function P65 | AZTEC: Specify encoding scheme |
| 0x34 | 0x43 | Function P67 | AZTEC: Specify dot size of the module |
| 0x34 | 0x44 | Function P68 | AZTEC: Specify size of barcode |
| 0x34 | 0x45 | Function P69 | AZTEC: Specify the error correction level |
| 0x34 | 0x50 | Function P80 | AZTEC: Store the received data in the barcode save area |
| 0x34 | 0x51 | Function P81 | AZTEC: Print the barcode |

[Notes]

[Default]

[Reference]

[Example]

# 0x1D 0x28 0x6B [Fn 065]



## Specify the number of columns of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 41 | n |
| | ASCII | GS | ( | k | pL | pH | 0 | A | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x1E

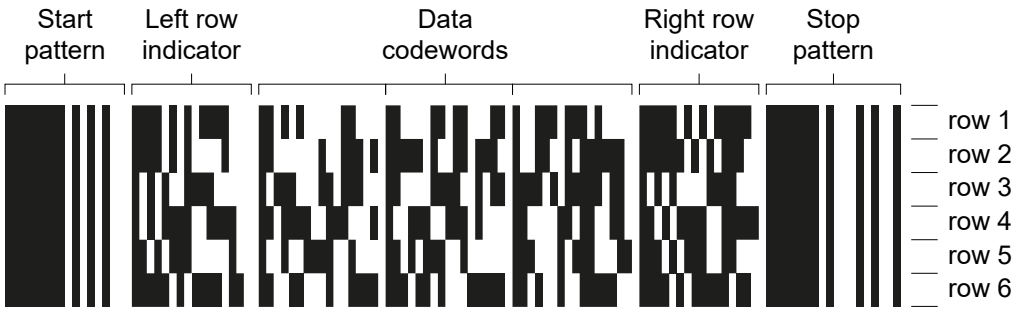
[Description] Specifies the number of columns of PDF417 barcode.
• pL and pH specify the number of successive bytes to be sent.
• n = 0x00 specifies auto processing. When auto processing is specified, the maximum number of columns in the data area is 30 columns.
• When n is not 0x00, specifies the number of columns of the data area as n code word.

[Notes] • The following data is not included in the number of columns:
- start pattern and stop pattern
- indicator code word of left and right
• Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example] To define 3 columns, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x41 0x03



# 0x1D 0x28 0x6B [Fn 066]

<GS ( k>

Specify the number of rows of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 42 | n |
| | ASCII | GS | ( | k | pL | pH | 0 | B | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
n = 0x00
0x03 ≤ n ≤ 0x14

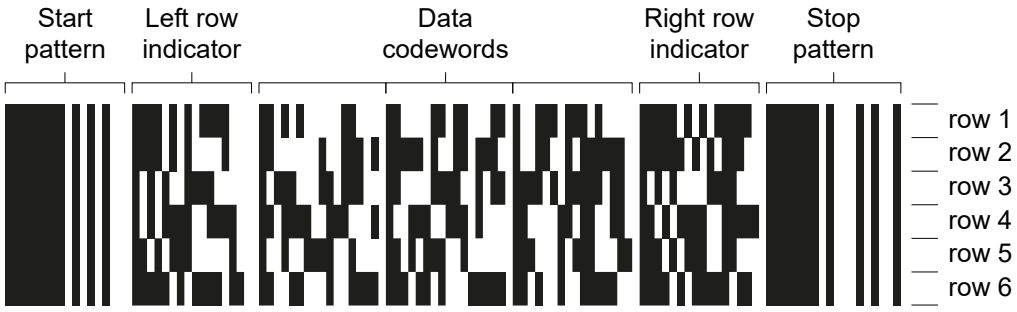
[Description] Specifies the number of rows of PDF417 barcode.
• pL and pH specify the number of successive bytes to be sent.
• n = 0x00 specifies auto processing. When auto processing is specified, the maximum number of rows is 20.
• When n is not 0x00, specifies the number of rows of the data area as n rows.

[Notes] Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example] To define 6 rows, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x42 0x06



# 0x1D 0x28 0x6B [Fn 067]



Specify the width of a module of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 43 | n |
| | ASCII | GS | ( | k | pL | pH | 0 | C | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x08

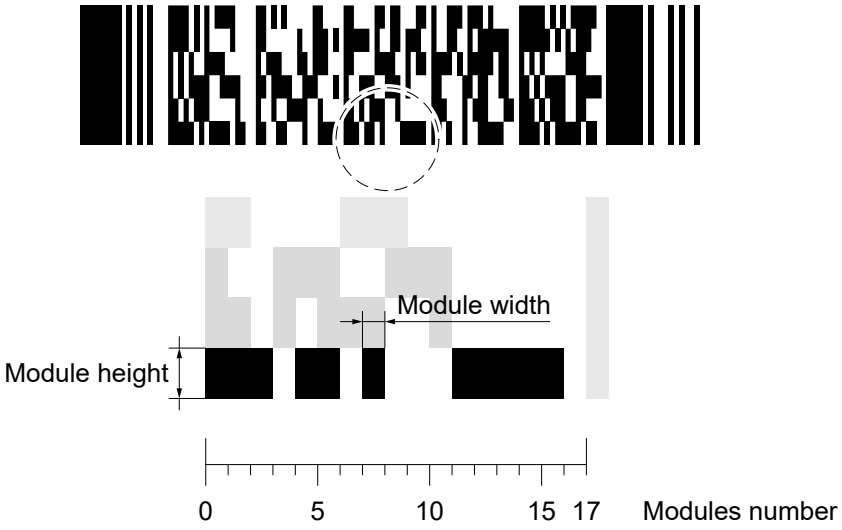
[Description] Specifies the width of a module of PDF417 barcode.
pL and pH specify the number of successive bytes to be sent.

[Notes] Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] n = 0x03

[Reference] 0x1D 0x28 0x6B

[Example] To set width = 4, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x43 0x04



# 0x1D 0x28 0x6B [Fn 068]

<GS ( k>

Specify the height of the module of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 44 | n |
| | ASCII | GS | ( | k | pL | pH | 0 | D | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x08

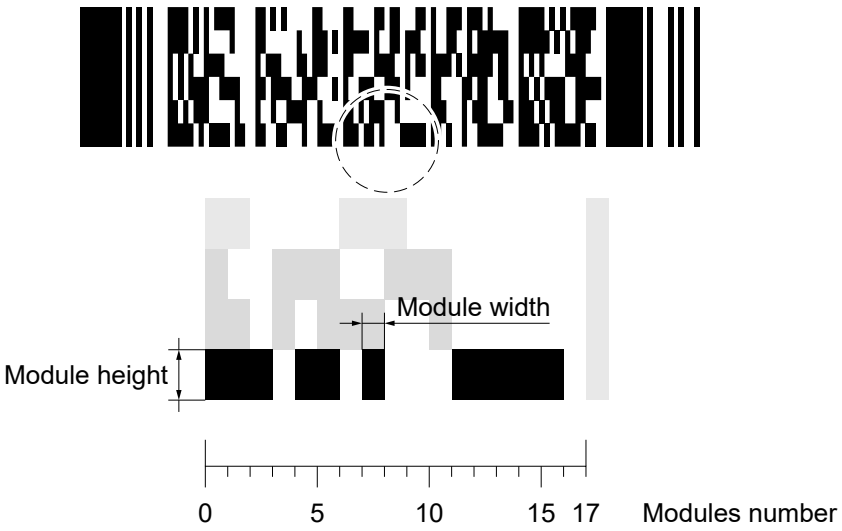
[Description] Specifies the height of the module of the PDF417 barcode.
pL and pH specify the number of successive bytes to be sent.

[Notes] Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] n = 0x03

[Reference] 0x1D 0x28 0x6B

[Example] To set height = 4, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x44 0x04



# 0x1D 0x28 0x6B [Fn 069]



Specify the error correction level of PDF417 barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 45 | m | n |
| | ASCII | GS | ( | k | pL | pH | 0 | E | m | n |

[Range] (pL + pH × 256) = 4 (pL = 0x04, pH = 0x00)
m = 0x30 0x30 ≤ n ≤ 0x38
m = 0x31 0x01 ≤ n ≤ 0x28

[Description] Specifies the error correction level of PDF417 barcode. This error correction allows the barcode to endure some damage without causing loss of data. The error correction level depends on the amount of data that needs to be encoded, the size and the amount of symbol damage that could occur.
• pL and pH specify the number of successive bytes to be sent.
• The error correction level is specified by “level” when m = 0x30.
• The error correction level is specified by “ratio” when m = 0x31 [n × 10%].

[Notes] • Error correction level is specified by either “level” or “ratio”.
• Error correction level specified by “level” (m = 0x30) is as follows. The number of the error correction code word is fixed regardless of the number of code words on the data area.

| n | CORRECTION LEVEL | N. OF ERROR CORRECTION CODE WORD |
|---|---|---|
| 0x30 | Error correction level 0 | 2 |
| 0x31 | Error correction level 1 | 4 |
| 0x32 | Error correction level 2 | 8 |
| 0x33 | Error correction level 3 | 16 |
| 0x34 | Error correction level 4 | 32 |
| 0x35 | Error correction level 5 | 64 |
| 0x36 | Error correction level 6 | 128 |
| 0x37 | Error correction level 7 | 256 |
| 0x38 | Error correction level 8 | 512 |

• Error correction level specified by “ratio” (m = 0x31) is as follows. The error correction level is defined by the calculated value [number of data code word × n × 0.1 = (A)]. The number of the error correction code word is changeable in proportion to the number of the code words on the data area.

| VALUE (A) | CORRECTION LEVEL | N. OF ERROR CORRECTION CODE WORD |
|---|---|---|
| 0 - 3 | Error correction level 1 | 4 |
| 4 - 10 | Error correction level 2 | 8 |
| 11 - 20 | Error correction level 3 | 16 |
| 21 - 45 | Error correction level 4 | 32 |
| 46 - 100 | Error correction level 5 | 64 |
| 101 - 200 | Error correction level 6 | 128 |
| 201 - 400 | Error correction level 7 | 256 |
| > 400 | Error correction level 8 | 512 |

Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default] m = 0x31
n = 0x01 [ratio: 10%]

[Reference] 0x1D 0x28 0x6B

[Example] To set error correction = 0.2, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x45 0x30 0x02

# 0x1D 0x28 0x6B [Fn 080]

<GS ( k>

Store the data in the barcode save area for printing in PDF417 format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | 30 | 50 | 30 | d1...dk |
| ASCII | GS | ( | k | pL | pH | 0 | P | 0 | d1...dk |

[Range]

0x00 ≤ d ≤ 0xFF

k = (pL + pH × 256) - 3

• PDF417 barcode only with ASCII characters:

4 ≤ (pL + pH × 256) ≤ 1112 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x04)

• PDF417 barcode only with alphanumeric characters:

4 ≤ (pL + pH × 256) ≤ 1854 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x07)

• PDF417 barcode only with numeric characters:

4 ≤ (pL + pH × 256) ≤ 2729 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0A)

[Description]

Stores the data (d1...dk) in the barcode save area for printing in PDF417 format.

• pL and pH specify the number of successive bytes to be sent.

• k bytes of d1...dk are processed as barcode data.

[Notes]

• Data stored in the barcode save area by this function are processed by Function 081 and then reserved.

• Specify only the data code word of the barcode with this function. Be sure not to include the control data in the data d1...dk because they are added automatically by the device.

• Settings are effective until 0x1B 0x40 is executed or the device is reset or turned off.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 081]

<GS ( k>

Encodes the data in the barcode save area and prints it in PDF417 format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 30 | 51 | 30 |
| | ASCII | GS | ( | k | pL | pH | 0 | Q | 0 |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Encodes the data in the barcode save area and prints it in PDF417 format.
pL and pH specify the number of successive bytes to be sent.

[Notes]
• In standard mode, use this function when device is at the beginning of a line or there is no data in the print buffer.
• A barcode that size exceeds the printing area cannot be printed.

• If there is any error described below in the data of the barcode save area, it cannot be printed.
- There is no data (Function 080 is not processed).
- If [(number of columns × number of rows) < number of code word] when auto processing is specified for number of columns and number of rows.
- Number of code word exceeds 928 in the data area.

• When auto processing (Function 065) is specified, the number of columns is calculated by the current printing area, module width (Function 067) and the code word in the data area. Maximum number of the columns is 30.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example] To print the PDF417 barcode data the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x30 0x51 0x30

# 0x1D 0x28 0x6B [Fn 165]

<GS ( k>

Specify encoding scheme of QRcode barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 41 | n1 | n2 |
| | ASCII | GS | ( | k | pL | pH | 1 | A | n1 | n2 |

[Range] (pL+pH × 256) = 4 (pL = 0x04, pH = 0x00)
0x32 ≤ n1 ≤ 0x33
n2 = 0x00

[Description] Specifies encoding type of QRcode barcode, based on the value of n1 as follows:

| n1 | ENCODING SCHEME |
|---|---|
| 0x32 | QRcode model 2 |
| 0x33 | MicroQR |

[Notes]
- QRcode: Encode all extended ASCII characters data up to a maximum length of 7089 numeric digits, 4296 alphabetic characters or 2953 bytes of data.
- pL and pH specify the number of successive bytes to be sent.
- MicroQR (a miniature version of the QRcode barcode for short message): Encode all numbers from 0 to 9 up to a maximum length of 35 characters.

[Default] n1 = 0x32
n2 = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]



QRcode Model 2



MicroQR

# 0x1D 0x28 0x6B [Fn 166]

<GS ( k>

## Specify QRcode barcode version

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 42 | n |
| | ASCII | GS | ( | k | pL | pH | 1 | B | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x28

[Description] Defines QRcode version to be printed.

[Notes]
- If selected version has not enough capacity to store the saved amount of data, next smallest version capable of that capacity will be printed.
- For QRcode version capacity according to ECC (Error Correction Capability) and data type refer to following table.
- With n = 0x00 the selection of the version occurs automatically according to the one that allows the printing of the requested data.

| n | VERSION | MODULES | ECC LEVEL | NUMERIC | ALPHANUMERIC | BINARY |
|---|---|---|---|---|---|---|
| 0x00 | AUTO | - | - | - | - | - |
| 0x01 | 1 | 21 x 21 | L | 40 | 24 | 16 |
| | | | M | 33 | 19 | 13 |
| | | | Q | 26 | 15 | 10 |
| | | | H | 16 | 9 | 6 |
| 0x02 | 2 | 25 x 25 | L | 76 | 46 | 31 |
| | | | M | 62 | 37 | 25 |
| | | | Q | 47 | 28 | 19 |
| | | | H | 33 | 19 | 13 |
| 0x03 | 3 | 29 x 29 | L | 126 | 76 | 52 |
| | | | M | 100 | 60 | 41 |
| | | | Q | 76 | 46 | 31 |
| | | | H | 57 | 34 | 23 |
| 0x04 | 4 | 33 x 33 | L | 186 | 113 | 77 |
| | | | M | 148 | 89 | 61 |
| | | | Q | 110 | 66 | 45 |
| | | | H | 81 | 49 | 33 |
| 0x05 | 5 | 37 x 37 | L | 254 | 153 | 105 |
| | | | M | 201 | 121 | 83 |
| | | | Q | 143 | 86 | 59 |
| | | | H | 105 | 63 | 43 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0x06 | 6 | 41 x 41 | L | 321 | 194 | 133 |
| | | | M | 254 | 153 | 105 |
| | | | Q | 177 | 107 | 73 |
| | | | H | 138 | 83 | 57 |
| 0x07 | 7 | 45 x 45 | L | 369 | 223 | 153 |
| | | | M | 292 | 177 | 121 |
| | | | Q | 206 | 124 | 85 |
| | | | H | 153 | 92 | 63 |
| 0x08 | 8 | 49 x 49 | L | 460 | 278 | 191 |
| | | | M | 364 | 220 | 151 |
| | | | Q | 258 | 156 | 107 |
| | | | H | 201 | 121 | 83 |
| 0x09 | 9 | 53 x 53 | L | 551 | 334 | 229 |
| | | | M | 431 | 261 | 179 |
| | | | Q | 311 | 188 | 129 |
| | | | H | 234 | 142 | 97 |
| 0x0A | 10 | 57 x 57 | L | 651 | 394 | 270 |
| | | | M | 512 | 310 | 212 |
| | | | Q | 363 | 220 | 150 |
| | | | H | 287 | 173 | 118 |
| 0x0B | 11 | 61 x 61 | L | 771 | 467 | 320 |
| | | | M | 603 | 365 | 250 |
| | | | Q | 426 | 258 | 176 |
| | | | H | 330 | 199 | 136 |
| 0x0C | 12 | 65 x 65 | L | 882 | 534 | 366 |
| | | | M | 690 | 418 | 286 |
| | | | Q | 488 | 295 | 202 |
| | | | H | 373 | 226 | 154 |
| 0x0D | 13 | 69 x 69 | L | 1021 | 618 | 424 |
| | | | M | 795 | 482 | 330 |
| | | | Q | 579 | 351 | 240 |
| | | | H | 426 | 258 | 176 |
| 0x0E | 14 | 73 x 73 | L | 1100 | 666 | 457 |
| | | | M | 870 | 527 | 361 |
| | | | Q | 620 | 375 | 257 |
| | | | H | 467 | 282 | 193 |
| 0x0F | 15 | 77 x 77 | L | 1249 | 757 | 519 |
| | | | M | 990 | 599 | 411 |
| | | | Q | 702 | 425 | 291 |
| | | | H | 529 | 320 | 219 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0x10 | 16 | 81 x 81 | L | 1407 | 853 | 585 |
| | | | M | 1081 | 655 | 449 |
| | | | Q | 774 | 469 | 321 |
| | | | H | 601 | 364 | 249 |
| 0x11 | 17 | 85 x 85 | L | 1547 | 937 | 643 |
| | | | M | 1211 | 733 | 503 |
| | | | Q | 875 | 530 | 363 |
| | | | H | 673 | 407 | 279 |
| 0x12 | 18 | 89 x 89 | L | 1724 | 1045 | 717 |
| | | | M | 1345 | 815 | 559 |
| | | | Q | 947 | 573 | 393 |
| | | | H | 745 | 451 | 309 |
| 0x13 | 19 | 93 x 93 | L | 1902 | 1152 | 791 |
| | | | M | 1499 | 908 | 623 |
| | | | Q | 1062 | 643 | 441 |
| | | | H | 812 | 492 | 337 |
| 0x14 | 20 | 97 x 97 | L | 2060 | 1248 | 857 |
| | | | M | 1599 | 969 | 665 |
| | | | Q | 1158 | 701 | 481 |
| | | | H | 918 | 556 | 381 |
| 0x15 | 21 | 101 x 101 | L | 2231 | 1351 | 928 |
| | | | M | 1707 | 1034 | 710 |
| | | | Q | 1223 | 741 | 508 |
| | | | H | 968 | 586 | 402 |
| 0x16 | 22 | 105 x 105 | L | 2408 | 1459 | 1002 |
| | | | M | 1871 | 1133 | 778 |
| | | | Q | 1357 | 822 | 564 |
| | | | H | 1055 | 639 | 438 |
| 0x17 | 23 | 109 x 109 | L | 2619 | 1587 | 1090 |
| | | | M | 2058 | 1247 | 856 |
| | | | Q | 1467 | 889 | 610 |
| | | | H | 1107 | 671 | 460 |
| 0x18 | 24 | 113 x 113 | L | 2811 | 1703 | 1170 |
| | | | M | 2187 | 1325 | 90 |
| | | | Q | 1587 | 92 | 60 |
| | | | H | 1227 | 73 | 50 |
| 0x19 | 25 | 117 x 117 | L | 3056 | 1852 | 1272 |
| | | | M | 2394 | 1450 | 96 |
| | | | Q | 1717 | 1040 | 74 |
| | | | H | 1285 | 78 | 54 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0x1A | 26 | 121 x 121 | L | 3282 | 198 | 1366 |
| | | | M | 2543 | 1541 | 1058 |
| | | | Q | 1803 | 1093 | 70 |
| | | | H | 1424 | 83 | 52 |
| 0x1B | 27 | 125 x 125 | L | 3516 | 2131 | 1464 |
| | | | M | 2700 | 1636 | 1124 |
| | | | Q | 1932 | 1171 | 84 |
| | | | H | 1500 | 89 | 64 |
| 0x1C | 28 | 129 x 129 | L | 3668 | 2222 | 1527 |
| | | | M | 2856 | 1731 | 118 |
| | | | Q | 2084 | 1262 | 87 |
| | | | H | 1580 | 97 | 67 |
| 0x1D | 29 | 133 x 133 | L | 3908 | 2368 | 1627 |
| | | | M | 3034 | 1838 | 1263 |
| | | | Q | 2180 | 1321 | 97 |
| | | | H | 1676 | 1015 | 67 |
| 0x1E | 30 | 137 x 137 | L | 4157 | 251 | 1731 |
| | | | M | 3288 | 1993 | 136 |
| | | | Q | 2357 | 1428 | 91 |
| | | | H | 1781 | 107 | 71 |
| 0x1F | 31 | 141 x 141 | L | 4416 | 2676 | 183 |
| | | | M | 3485 | 2112 | 1451 |
| | | | Q | 2472 | 1498 | 102 |
| | | | H | 1896 | 114 | 69 |
| 0x20 | 32 | 145 x 145 | L | 4685 | 283 | 1951 |
| | | | M | 3692 | 2237 | 1537 |
| | | | Q | 266 | 1617 | 1111 |
| | | | H | 2021 | 1225 | 81 |
| 0x21 | 33 | 149 x 149 | L | 4964 | 3008 | 2067 |
| | | | M | 3908 | 2368 | 1627 |
| | | | Q | 2804 | 16 | 1167 |
| | | | H | 2156 | 1306 | 87 |
| 0x22 | 34 | 153 x 153 | L | 5252 | 3182 | 2187 |
| | | | M | 4133 | 2505 | 1721 |
| | | | Q | 2948 | 1786 | 1227 |
| | | | H | 2300 | 1393 | 97 |
| 0x23 | 35 | 157 x 157 | L | 5528 | 3350 | 2302 |
| | | | M | 4342 | 2631 | 1808 |
| | | | Q | 3080 | 1866 | 1282 |
| | | | H | 2360 | 1430 | 92 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0x24 | 36 | 161 x 161 | L | 5835 | 3536 | 2430 |
| | | | M | 4587 | 277 | 1910 |
| | | | Q | 3243 | 1965 | 1350 |
| | | | H | 2523 | 152 | 1050 |
| 0x25 | 37 | 165 x 165 | L | 6152 | 3728 | 2562 |
| | | | M | 4774 | 2893 | 1988 |
| | | | Q | 3416 | 2070 | 1422 |
| | | | H | 2624 | 1590 | 1092 |
| 0x26 | 38 | 169 x 169 | L | 6478 | 3926 | 2698 |
| | | | M | 5038 | 3053 | 2098 |
| | | | Q | 3598 | 2180 | 1498 |
| | | | H | 2734 | 1657 | 1138 |
| 0x27 | 39 | 173 x 173 | L | 6742 | 4086 | 2808 |
| | | | M | 5312 | 321 | 2212 |
| | | | Q | 3790 | 2297 | 1578 |
| | | | H | 2926 | 1773 | 1218 |
| 0x28 | 40 | 177 x 177 | L | 7088 | 4295 | 2952 |
| | | | M | 5595 | 3390 | 2330 |
| | | | Q | 3992 | 241 | 1662 |
| | | | H | 3056 | 1851 | 1272 |

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example] To select QRcode version 8 the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x31 0x42 0x08

# 0x1D 0x28 0x6B [Fn 167]



Specify dot size of the modules of the QRcode barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 43 | n |
| | ASCII | GS | ( | k | pL | pH | 1 | C | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x18

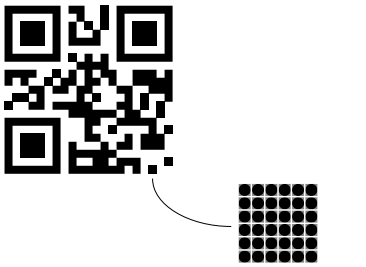
[Description] Specifies numbers of dots for each pixel of QRcode barcode.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x06

[Reference] 0x1D 0x28 0x6B

[Example]



# 0x1D 0x28 0x6B [Fn 169]

<GS ( k>

Specify the error correction level of the QRcode barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 45 | n |
| | ASCII | GS | ( | k | pL | pH | 1 | E | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x30 ≤ n ≤ 0x34

[Description] Specifies the ECC level (Error Correction Capability) of QRcode barcode.

| n | ECC level | |
|---|---|---|
| 0x30 | AUTO | |
| 0x31 | ECC L = approx 20% of symbol | Recovery Capability = approx 7% |
| 0x32 | ECC M = approx 37% of symbol | Recovery Capability = approx 15% |
| 0x33 | ECC Q = approx 55% of symbol | Recovery Capability = approx 25% |
| 0x34 | ECC H = approx 65% of symbol | Recovery Capability = approx 30% |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x30

[Reference] 0x1D 0x28 0x6B

[Example]






# 0x1D 0x28 0x6B [Fn 180]

*<GS ( k>*

Store the data in the barcode save area for printing in QRcode format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | 31 | 50 | 31 | d1...dk |
| ASCII | GS | ( | k | pL | pH | 1 | P | 1 | d1...dk |

[Range]

0x00 ≤ d ≤ 0xFF

k = (pL + pH × 256) - 3

• QRcode barcode only with binary characters (8 bit):

4 ≤ (pL + pH × 256) ≤ 2957 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0B)

• QRcode barcode only with alphanumeric characters:

4 ≤ (pL + pH × 256) ≤ 4300 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x10)

• QRcode barcode only with numeric characters:

4 ≤ (pL + pH × 256) ≤ 7093 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x1B)

[Description]

Store the data (d1...dk) in the barcode save area for printing in QRcode format.

[Notes]

• Data stored in the barcode save area by this function are processed by Function 181 and then reserved.
• pL and pH specify the number of successive bytes to be sent.
• k bytes of d1...dk are processed as barcode data.
• Specify only the data code word of the barcode with this function.

[Default]

[Reference]

0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 181]

<GS ( k>

Prints the data stored in the barcode save area in QRcode format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 51 | 31 |
| | ASCII | GS | ( | k | pL | pH | 1 | Q | 1 |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Prints the data stored in the barcode save area in QRcode format.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 182]

<GS ( k>

## Transmit the QRcode barcode size in the barcode save area

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 31 | 52 | 30 |
| | ASCII | GS | ( | k | pL | pH | 1 | R | 0 |

[Range] (pL+pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Transmits the QRcode barcode size in the barcode save area.

[Notes]
- To store the data in the device barcode save area use the Function 180.
- In standard mode, use this function when device is at the beginning of a line or when there is no data in the print buffer.
- pL and pH specify the number of successive bytes to be sent.
- The size information for each data is as follows:

| SEND DATA | HEX | DATA |
|---|---|---|
| Header | 37 | 1 byte |
| Identifier | 36 | 1 byte |
| Horizontal size (1) | 30-39 | 1 - 5 byte |
| Separator | 1F | 1 byte |
| Vertical size (1) | 30-39 | 1 - 5 byte |
| Separator | 1F | 1 byte |
| Fixed value | 31 | 1 byte |
| Separator | 1F | 1 byte |
| Other information (2) | 30 or 31 | 1 byte |
| NUL | 00 | 1 byte |

(1) “Horizontal size” and “vertical size” indicate the number of dots of the symbol.
The values of the vertical size and horizontal size are converted to characters and sent starting from the high order end (ex: When horizontal size is 120 dots, horizontal size is 0x31 0x32 0x30, which is 3 bytes of data).
(2) ”Other information” indicates whether printing of the data in the symbol storage area is possible or impossible. The “Other information“ is the following:

| HEX | CONDITION |
|---|---|
| 30 | Printing is possible |
| 31 | Printing is impossible |

• Size information indicates size of symbol that is printed by Function 181.
• The quiet zone is not included in the size information.
• If “other information” is “Printing is impossible“(0x31), use one of the solutions shown below:

| | |
|---|---|
| CAUSE | There are data in the print buffer in the standard mode |
| SOLUTION | Clear the data in the print buffer by executing 0x0A, 0x0D, 0x1B 0x4A print commands. |

| | |
|---|---|
| CAUSE | Symbol is bigger than the current print area. |
| SOLUTION | Expand the print area by 0x1D 0x57, 0x1B 0x24.<br>Reduce the module size by using Function 167.<br>Lower the error correction level by using Function 169. |

| | |
|---|---|
| CAUSE | The data in the symbol storage area is too large. |
| SOLUTION | Send correct data by using Function 180.<br>Lower the error correction level by using Function 169. |

| | |
|---|---|
| CAUSE | There is no data in the symbol storage area. |
| SOLUTION | Send data to the symbol storage area by using Function 180. |

[Default]

[Reference] 0x1D 0x28 0x6B

[Example] A possible device response can be:
0x37 0x36 0x31 0x32 0x36 0x1F 0x31 0x32 0x36 0x1F 0x31 0x1F 0x30 0x00

where:

| | |
|---|---|
| 0x37 | header |
| 0x36 | identifier |
| 0x31 0x32 0x36 | horizontal size 126 dots (0x31 = 1, 0x32 = 2, 0x36 = 6) |
| 0x1F | separator |
| 0x31 0x32 0x36 | vertical size 126 dots (0x31 = 1, 0x32 = 2, 0x36 = 6) |
| 0x1F | separator |
| 0x31 | fixed value |
| 0x1F | separator |
| 0x30 | printing possible |
| 0x00 | NUL (end of text character) |

# 0x1D 0x28 0x6B [Fn 365]



## Specify encoding scheme of DATAMATRIX barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 33 | 41 | n |
| | ASCII | GS | ( | k | pL | pH | 3 | A | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x06

[Description] Set the encoding scheme for the DATAMATRIX barcode based on the value of n as follows:

| n | ENCODING |
|---|---|
| 0x00 | ASCII |
| 0x01 | C40 |
| 0x02 | Text |
| 0x03 | X12 |
| 0x04 | Edifact |
| 0x05 | Base256 |
| 0x06 | AutoBest |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example] To set encoding = ASCII, the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x33 0x41 0x00

# 0x1D 0x28 0x6B [Fn 366]

<GS ( k>

## Set rotation of DATAMATRIX barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 33 | 42 | n |
| | ASCII | GS | ( | k | pL | pH | 3 | B | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
n = 0x00, 0x01

[Description] Set the rotation for the DATAMATRIX barcode based on the value of n as follows:

| n | ROTATION |
|---|---|
| 0x00 | No rotation |
| 0x01 | Rotation |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 367]

<GS ( k>

Set dot size of the module of DATAMATRIX barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 33 | 43 | n |
| | ASCII | GS | ( | k | pL | pH | 3 | C | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x18

[Description] Set dot size of the module of the DATAMATRIX barcode:
n = dot dimension

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x06

[Reference] 0x1D 0x28 0x6B

[Example] To set dot size = 6 the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x33 0x43 0x06

# 0x1D 0x28 0x6B [Fn 368]

<GS ( k>

## Set size of DATAMATRIX barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 33 | 44 | n |
| | ASCII | GS | ( | k | pL | pH | 3 | D | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x1D

[Description] Set the size of DATAMATRIX barcode based on the value of n as follows:

| n | BARCODE SIZE | n | BARCODE SIZE |
|---|---|---|---|
| 0x00 | AUTO | 0x0F | 52 x 52 |
| 0x01 | 10 x 10 | 0x10 | 64 x 64 |
| 0x02 | 12 x 12 | 0x11 | 72 x 72 |
| 0x03 | 14 x 14 | 0x12 | 80 x 80 |
| 0x04 | 16 x 16 | 0x13 | 88 x 88 |
| 0x05 | 18 x 18 | 0x14 | 96 x 96 |
| 0x06 | 20 x 20 | 0x15 | 104 x 104 |
| 0x07 | 22 x 22 | 0x16 | 120 x 120 |
| 0x08 | 24 x 24 | 0x17 | 132 x 132 |
| 0x09 | 26 x 26 | 0x18 | 144 x 144 |
| 0x0A | 32 x 32 | 0x19 | 8 x 18 |
| 0x0B | 36 x 36 | 0x1A | 8 x 32 |
| 0x0C | 40 x 40 | 0x1B | 12 x 26 |
| 0x0D | 44 x 44 | 0x1C | 12 x 36 |
| 0x0E | 48 x 48 | 0x1D | 16 x 36 |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 380]

<GS ( k>

Store the DATAMATRIX barcode data in the barcode save area

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | 33 | 50 | 33 | d1...dk |
| ASCII | GS | ( | k | pL | pH | 3 | P | 3 | d1...dk |

[Range]

0x00 ≤ d ≤ 0xFF

k = (pL + pH × 256) - 3

• DATAMATRIX barcode only with ASCII characters (8 bit) :

4 ≤ (pL + pH × 256) ≤ 1560 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x06)

• DATAMATRIX barcode only with alphanumeric characters:

4 ≤ (pL + pH × 256) ≤ 2339 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x09)

• DATAMATRIX barcode only with numeric characters:

4 ≤ (pL + pH × 256) ≤ 3120 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0C)

[Description]

Store the DATAMATRIX barcode data (d1...dk) in the barcode save area.

[Notes]

• Data stored in the barcode save area by this function are processed by Function 381 and then reserved.
• pL and pH specify the number of successive bytes to be sent.
• k bytes of d1...dk are processed as barcode data.
• Specify only the data code word of the barcode with this function. Be sure not to include the control data in the data d1...dk because they are added automatically by the device.

[Default]

[Reference]

0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 381]

<GS ( k>

Encodes and prints the DATAMATRIX barcode data in the barcode save area

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 33 | 51 | 33 |
| | ASCII | GS | ( | k | pL | pH | 3 | Q | 3 |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Encodes and prints the DATAMATRIX barcode data in the barcode save area.

[Notes]
- In standard mode, use this function when device is at the beginning of a line or there is no data in the print buffer.
- pL and pH specify the number of successive bytes to be sent.
- A barcode that size exceeds the printing area cannot be printed.
- If there is any error described below in the data of the barcode save area, it cannot be printed.
  - There is no data (Function 380 is not processed).
  - If [(number of columns × number of rows) < number of code word] when auto processing is specified for number of columns and number of rows.
  - Number of code word exceeds 928 in the data area.
- When auto processing (Function 365) is specified, the number of columns is calculated by the current printing area, module width (Function 367) and the code word in the data area. Maximum number of the columns is 30.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example] To print the DATAMATRIX barcode data the command sequence is:
0x1D 0x28 0x6B 0x03 0x00 0x33 0x51 0x33

# 0x1D 0x28 0x6B [Fn 465]

<GS ( k>

Specify encoding scheme of AZTEC barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | 34 | 41 | n |
| ASCII | GS | ( | k | pL | pH | 4 | A | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
n= 0x00, 0x01

[Description] Specifies encoding type of AZTEC barcode based on the value of n as follows:

| n | ENCODING |
|---|---|
| 0x00 | FULL AZTEC |
| 0x01 | AZTEC RUNE |

[Notes]
- Full Aztec: Encode all extended ASCII characters data up to a maximum length of approximately 3832 numeric or 3067 alphabetic characters or 1914 bytes of data.
- pL and pH specify the number of successive bytes to be sent.
- “AZTEC RUNE” is a compact Aztec Code, sometimes called “SMALL AZTEC CODE”. Encode all numbers from 0 to 255 up to a maximum length of 3 numbers.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 467]

<GS ( k>

Specify dot size of the module of the AZTEC barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 34 | 43 | n |
| | ASCII | GS | ( | k | pL | pH | 4 | C | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x02 ≤ n ≤ 0x18

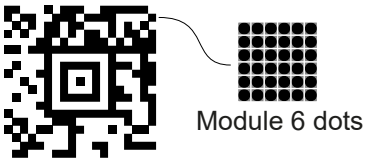
[Description] Specifies numbers of dot for each pixel of AZTEC barcode.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]



# 0x1D 0x28 0x6B [Fn 468]



## Specify size of the AZTEC barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 34 | 44 | n |
| | ASCII | GS | ( | k | pL | pH | 4 | D | n |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)
0x00 ≤ n ≤ 0x24

[Description] Specifies AZTEC barcode format (rows and columns) based on the value of n as follows:

| n | FORMAT | n | FORMAT | n | FORMAT |
|---|---|---|---|---|---|
| 0x00 | AUTO | 0x0D | C53X53 | 0x1A | C109X109 |
| 0x01 | C15X15 Compact | 0x0E | C57X57 | 0x1B | C113X113 |
| 0x02 | C19X19 Compact | 0x0F | C61X61 | 0x1C | C117X117 |
| 0x03 | C23X23 Compact | 0x10 | C67X67 | 0x1D | C121X121 |
| 0x04 | C27X27 Compact | 0x11 | C71X71 | 0x1E | C125X125 |
| 0x05 | C19X19 | 0x12 | C75X75 | 0x1F | C131X131 |
| 0x06 | C23X23 | 0x13 | C79X79 | 0x20 | C135X135 |
| 0x07 | C27X27 | 0x14 | C83X83 | 0x21 | C139X139 |
| 0x08 | C31X31 | 0x15 | C87X87 | 0x22 | C143X143 |
| 0x09 | C37X37 | 0x16 | C91X91 | 0x23 | C147X147 |
| 0x0A | C41X41 | 0x17 | C95X95 | 0x24 | C151X151 |
| 0x0B | C45X45 | 0x18 | C101X101 | | |
| 0x0C | C49X49 | 0x19 | C105X105 | | |

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 469]

<GS ( k>

Specify the error correction level of the AZTEC barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 34 | 45 | n |
| | ASCII | GS | ( | k | pL | pH | 4 | E | n |

[Range] (pL + pH × 256) = 3 (pL = 0x04, pH = 0x00)
0x00 ≤ n ≤ 0x04

[Description] Specifies the ECP level (Error Correction Percentage) of AZTEC barcode based on the value of as follows:

| n | ECP level |
|---|---|
| 0x00 | AUTO |
| 0x01 | > 10 % + 3 codewords |
| 0x02 | > 23 % + 3 codewords |
| 0x03 | > 36 % + 3 codewords |
| 0x04 | > 50 % + 3 codewords |

It is not possible to select both barcode size and error correction capability for the same barcode. If both options are selected then the error correction capability selection will be ignored.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 480]

<GS ( k>

Store the data in the barcode save area for printing in AZTEC format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 28 | 6B | pL | pH | 34 | 50 | 34 | d1...dk |
| ASCII | GS | ( | k | pL | pH | 4 | P | 4 | d1...dk |

[Range]

0x00 ≤ d ≤ 0xFF

k = (pL + pH × 256) - 3

- AZTEC barcode only with ASCII characters:
  4 ≤ (pL + pH × 256) ≤ 1918 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x07)
- AZTEC barcode only with alphanumeric characters:
  4 ≤ (pL + pH × 256) ≤ 3071 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0B)
- AZTEC barcode only with numeric characters:
  4 ≤ (pL + pH × 256) ≤ 3836 (0x00 ≤ pL ≤ 0xFF, 0x00 ≤ pH ≤ 0x0E)

[Description]

Store the data (d1...dk) in the barcode save area for printing in AZTEC format.

[Notes]

- Data stored in the barcode save area by this function are processed by Function 481 and then reserved.
- pL and pH specify the number of successive bytes to be sent.
- k bytes of d1...dk are processed as barcode data.
- Specify only the data code word of the barcode with this function.

[Default]

[Reference]

0x1D 0x28 0x6B

[Example]

# 0x1D 0x28 0x6B [Fn 481]

<GS ( k>

Prints the data stored in the barcode save area in AZTEC format

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1D | 28 | 6B | pL | pH | 34 | 51 | 30 |
| | ASCII | GS | ( | k | pL | pH | 4 | Q | 0 |

[Range] (pL + pH × 256) = 3 (pL = 0x03, pH = 0x00)

[Description] Prints the data stored in the barcode save area in AZTEC format.

[Notes] pL and pH specify the number of successive bytes to be sent.

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]

## 0x1D 0x48 <GS H>

Select printing position of HRI characters in 1D barcodes

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1D | 48 | n |
| ASCII | GS | H | n |

[Range]

0x00 ≤ n ≤ 0x03
0x30 ≤ n ≤ 0x33

[Description]

Selects the print position of HRI (Human Readable Interpretation) characters when printing a 1D barcode, based on the value of n as follows:

| n | FUNCTION |
|---|---|
| 0x00, 0x30 | Not printed |
| 0x01, 0x31 | Above the barcode |
| 0x02, 0x32 | Below the barcode |
| 0x03, 0x33 | Both above and below the barcode |

[Notes]

HRI characters are printed using the font specified by 0x1D 0x66.

[Default]

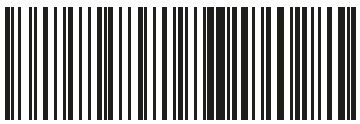
n = 0x00

[Reference]

0x1D 0x66, 0x1D 0x6B

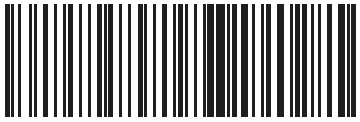
[Example]

Not printed

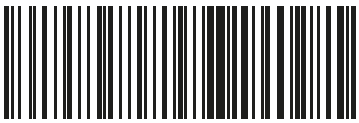


Above the barcode

ABCDEFG123456



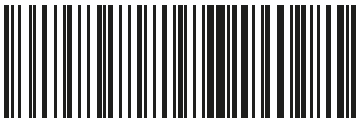
Below the barcode



ABCDEFG123456

Both above and below the barcode

ABCDEFG123456



ABCDEFG123456

# 0x1D 0x66

<GS f>

## Select font for HRI characters

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1D | 66 | n |
| ASCII | GS | f | n |

[Range] n = 0x00, 0x01, 0x30, 0x31

[Description] Selects a font for the HRI (Human Readable Interpretation) characters used when printing a 1D barcode, based on the value of n as follows:

| n | FONT |
|---|---|
| 0x00, 0x30 | Font A |
| 0x01, 0x31 | Font B |

[Notes] HRI characters are printed at the position specified by 0x1D 0x48.

[Default] n = 0x00

[Reference] 0x1D 0x48, 0x1D 0x6B

[Example]

Font A




Font B



# 0x1D 0x68

<GS h>

## Select 1D barcode height

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 68 | n |
| | ASCII | GS | h | n |

[Range] 0x01 ≤ n ≤ 0xFF

[Description] Sets the height of the 1D barcode.
n specifies the number of vertical dots.

[Notes]

[Default] n = 0xA2 (20.25 mm)

[Reference] 0x1D 0x6B

[Example] To print a barcode with height of 15 mm, the command sequence is:
0x1D 0x68 0x78

Where:
15 mm = 15 × 8 dots = 120 dots which converted in hexadecimal value = 0x78

# 0x1D 0x6B

<GS k>

## Print 1D barcode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| [Format 1] | Hex | 1D | 6B | m | [d1..dk] | | 00 |
| | ASCII | GS | k | m | [d1..dk] | | NUL |
| [Format 2] | Hex | 1D | 6B | m | n | [d1..dn] | |
| | ASCII | GS | k | m | n | [d1..dn] | |

[Range]

Format 1
0x00 ≤ m ≤ 0x08
m = 0x14

Format 2
0x41 ≤ m ≤ 0x49
m = 0x5A

[Description] Selects a 1D barcode system and prints the 1D barcode based on the value of m as follows:

Format 1

| m | BARCODE SYSTEM | NUMBER OF CHARACTERS | REMARKS |
|---|---|---|---|
| 0x00 | UPC-A | 0x0B ≤ k ≤ 0x0C | 0x30 ≤ d ≤ 0x39 |
| 0x01 | UPC-E | 0x0B ≤ k ≤ 0x0C | 0x30 ≤ d ≤ 0x39 |
| 0x02 | EAN13 (JAN) | 0x0C ≤ k ≤ 0x0D | 0x30 ≤ d ≤ 0x39 |
| 0x03 | EAN8 (JAN) | 0x07 ≤ k ≤ 0x08 | 0x30 ≤ d ≤ 0x39 |
| 0x04 | CODE39 | 0x01 ≤ k | 0x30 ≤ d ≤ 0x39, |
| | | | 0x41 ≤ d ≤ 0x5A, |
| | | | 0x20, 0x24, 0x25, 0x2B, |
| | | | 0x2D, 0x2E, 0x2F |
| 0x05 | ITF | 0x01 ≤ k (even number) | 0x30 ≤ d ≤ 0x39 |
| 0x06 | CODABAR | 0x01 ≤ k | 0x30 ≤ d ≤ 0x39, |
| | | | 0x41 ≤ d1 ≤ 0x44, |
| | | | 0x24, 0x2B, 0x2D, |
| | | | 0x2E, 0x2F, 0x3A |
| 0x07 | CODE93 | 0x01 ≤ k ≤ 0xFF | 0x01 ≤ d ≤ 0x7F |
| 0x08 | CODE128 | 0x02 ≤ k ≤ 0xFF | 0x01 ≤ d ≤ 0x7F |
| 0x14 | CODE32 | 0x08 ≤ k ≤ 0x09 | 0x30 ≤ d ≤ 0x39 |

Format 2

| m | BARCODE SYSTEM | NUMBER OF CHARACTERS | REMARKS |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 0x41 | UPC-A | 0x0B ≤ n ≤ 0x0C | 0x30 ≤ d ≤ 0x39 |
| 0x42 | UPC-E | 0x0B ≤ n ≤ 0x0C | 0x30 ≤ d ≤ 0x39 |
| 0x43 | EAN13 (JAN) | 0x0C ≤ n ≤ 0x0D | 0x30 ≤ d ≤ 0x39 |
| 0x44 | EAN8 (JAN) | 0x07 ≤ n ≤ 0x08 | 0x30 ≤ d ≤ 0x39 |
| 0x45 | CODE39 | 0x01 ≤ n ≤ 0xFF | 0x30 ≤ d ≤ 0x39, |
| | | | 0x41 ≤ d ≤ 0x5A, |
| | | | 0x20, 0x24, 0x25, 0x2B, |
| | | | 0x2D, 0x2E, 0x2F |
| 0x46 | ITF | 0x01 ≤ n ≤ 0xFF | 0x30 ≤ d ≤ 0x39 |
| 0x47 | CODABAR | 0x01 ≤ n ≤ 0xFF | 0x30 ≤ d ≤ 0x39, |
| | | | 0x41 ≤ d1 ≤ 0x44, |
| | | | 0x24, 0x2B, 0x2D, |
| | | | 0x2E, 0x2F, 0x3A |
| 0x48 | CODE93 | 0x01 ≤ n ≤ 0xFF | 0x01 ≤ d ≤ 0x7F |
| 0x49 | CODE128 | 0x02 ≤ n ≤ 0xFF | 0x01 ≤ d ≤ 0x7F |
| 0x5A | CODE32 | 0x08 ≤ n ≤ 0x09 | 0x30 ≤ d ≤ 0x39 |

[Notes]

• If d is outside of the specified range, the device prints the following message: “BARCODE GENERATOR IS NOT OK!” and processes the data which follows as normal data.
• If the horizontal size exceeds the printing area, the device only feeds the paper.
• This command feeds as much paper as is required to print the barcode, regardless of the line spacing specified by 0x1B 0x32 or 0x1B 0x33.
• After printing the barcode, this command sets the print position to the beginning of the line.
• This command is not affected by print modes (bold, double-strike, underline or character size), except for upside-down and justification mode.

Format 1
• This command ends with a NUL code.
• When the barcode system used is UPC-A or UPC-E, the device prints the barcode data after receiving 11 (without check digit) or 12 (with check digit) bytes barcode data.
• When the barcode system used is EAN13, the device prints the barcode data after receiving 12 (without check digit) or 13 (with check digit) bytes barcode data.
• When the barcode system used is EAN8, the device prints the barcode data after receiving 7 (without check digit) or 8 (with check digit) bytes barcode data.
• The number of data for ITF barcode must be even numbers. When an odd number of data is input, the device ignores the last received data.

Format 2
If n is outside of the specified range, the device stops command processing and processes the following data as normal data.

When CODE93 is used:
• The device prints an HRI character (o) as a start character at the beginning of the HRI character string.
• The device prints an HRI character (o) as a stop character at the end of the HRI character string.
• The device prints an HRI character (n) as a control character (0x00 to 0x1F and 0x7F).

When CODE128 is used, please note the following regarding data transmission:
• The top part of the barcode data string must be a code set selection character (CODE A, CODE B or CODE C) which selects the first code set.
• Special characters are defined by combining two characters “{“ and one character. ASCII character “{” is defined by transmitting “{“ twice, consecutively.

| SPECIFIC CHARACTER | DATA TRANSMISSION ASCII | DATA TRANSMISSION HEX |
|---|---|---|
| SHIFT | {S | 7B, 53 |
| CODE A | {A | 7B, 41 |
| CODE B | {B | 7B, 42 |
| CODE C | {C | 7B, 43 |
| FNC1 | {1 | 7B, 31 |
| FNC2 | {2 | 7B, 32 |
| FNC3 | {3 | 7B, 33 |
| FNC4 | {4 | 7B, 34 |
| ‘{‘ | {{ | 7B, 7B |

When UPC-E is used, introducing the barcode characters, the device prints:

| TRANSMITTED DATA | | | | | | | | | | | PRINTED DATA | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d1 | d2 | d3 | d4 | d5 | d6 | d7 | d8 | d9 | d10 | d11 | | | | | | |
| 0 | 0-9 | 0-9 | 0 | 0 | 0 | 0 | 0 | 0-9 | 0-9 | 0-9 | d2 | d3 | d9 | d10 | d11 | 0 |
| 0 | 0-9 | 0-9 | 1 | 0 | 0 | 0 | 0 | 0-9 | 0-9 | 0-9 | d2 | d3 | d9 | d10 | d11 | 1 |
| 0 | 0-9 | 0-9 | 2 | 0 | 0 | 0 | 0 | 0-9 | 0-9 | 0-9 | d2 | d3 | d9 | d10 | d11 | 2 |
| 0 | 0-9 | 0-9 | 3-9 | 0 | 0 | 0 | 0 | 0 | 0-9 | 0-9 | d2 | d3 | d4 | d10 | d11 | 3 |
| 0 | 0-9 | 0-9 | 0-9 | 1-9 | 0 | 0 | 0 | 0 | 0 | 0-9 | d2 | d3 | d4 | d5 | d11 | 4 |
| 0 | 0-9 | 0-9 | 0-9 | 0-9 | 1-9 | 0 | 0 | 0 | 0 | 5-9 | d2 | d3 | d4 | d5 | d6 | d11 |

[Default]

[Reference] 0x1D 0x48, 0x1D 0x66, 0x1D 0x68, 0x1D 0x77

[Example]

Format 1: Example for printing a CODE39 barcode:
0x1D 0x6B 0x04 0x54 0x45 0x53 0x54 0x00

Format 2: Example for printing a CODE39 barcode:
0x1D 0x6B 0x45 0x04 0x54 0x45 0x53 0x54

# 0x1D 0x77

<GS w>

## Set 1D barcode width

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 77 | n |
| | ASCII | GS | w | n |

[Range] 0x01 ≤ n ≤ 0x06
0x81 ≤ n ≤ 0x86

[Description] Sets the horizontal size of the 1D barcode. n specifies the barcode width as follows:

| n | MODULE WIDTH (mm) |
|---|---|
| 0x01 | 0.125 |
| 0x02 | 0.25 |
| 0x03 | 0.375 |
| 0x04 | 0.5 |
| 0x05 | 0.625 |
| 0x06 | 0.75 |

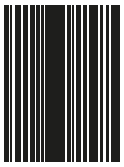
| n | | WIDE BAR / NARROW BAR RATIO |
|---|---|---|
| If n < 0x80 | 0x01, 0x02, 0x03, 0x04, 0x05, 0x06 | 3:1 |
| If n > 0x80 | 0x81 | 3:1 |
| | 0x82 | 2.5:1 |
| | 0x83 | 2.33:1 |
| | 0x84 | 2.25:1 |
| | 0x85 | 3:1 |
| | 0x86 | 3:1 |

[Notes] This command is enabled only when inserted at the beginning of a line.

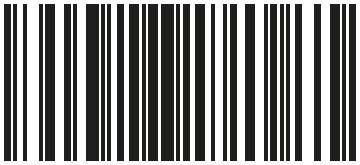
[Default] n = 0x03

[Reference] 0x1D 0x6B

[Example]



n = 0x01



n = 0x03

## 0x18

<CAN>

### Cancel current line transmitted

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | |
|---|---|
| Hex | 18 |
| ASCII | CAN |

[Range]

[Description] Deletes current line transmitted.

[Notes]
- Sets the print position to the beginning of the line.
- This command does not clear the receive buffer.

[Default]

[Reference]

[Example]

# 0x1B 0x20



## Set right-side character spacing

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 20 | n |
| ASCII | ESC | SP | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Sets the character spacing for the right side of the character to [n × horizontal or vertical motion units].

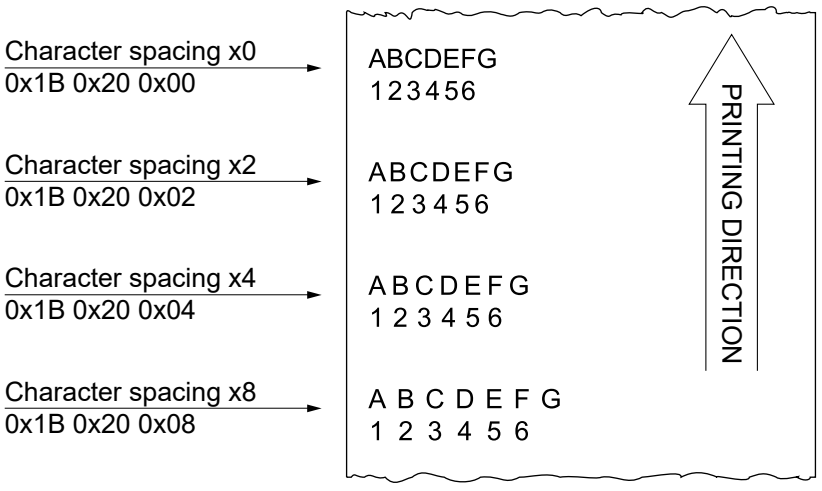
[Notes]

- The right character spacing for double-width mode is twice the normal value. When the characters are enlarged, the right side character spacing is m (2 or 4) times the normal value.
- The horizontal and vertical motion units are specified by 0x1D 0x50. Changing the horizontal or vertical motion units does not affect the current right side spacing.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount.
- The maximum right side spacing is 32 mm.
- In standard mode, the horizontal motion unit is used.

[Default] n = 0x00

[Reference] 0x1D 0x50

[Example]



# 0x1B 0x21

<ESC !>

## Select print modes

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 21 | n |
| ASCII | ESC | ! | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Selects print modes based on the value of n as follows:

| BIT | OFF/ON | n | FUNCTION | 11/15 cpi | 15/20 cpi | 20/15 cpi |
|---|---|---|---|---|---|---|
| 0 | Off | 0x00 | Character font A selected | 18 x 24 | 14 x 24 | 10 x 24 |
| | On | 0x01 | Character font B selected | 14 x 24 | 10 x 24 | 14 x 24 |
| 1 | - | - | Undefined | | | |
| 2 | - | - | Undefined | | | |
| 3 | Off | 0x00 | Emphasized mode not selected | | | |
| | On | 0x08 | Emphasized mode selected | | | |
| 4 | Off | 0x00 | Double-height mode not selected | | | |
| | On | 0x10 | Double-height mode selected | | | |
| 5 | Off | 0x00 | Double-width mode not selected | | | |
| | On | 0x20 | Double-width mode selected | | | |
| 6 | Off | 0x00 | Italic mode not selected | | | |
| | On | 0x40 | Italic mode selected | | | |
| 7 | Off | 0x00 | Underlined mode not selected | | | |
| | On | 0x80 | Underlined mode selected | | | |

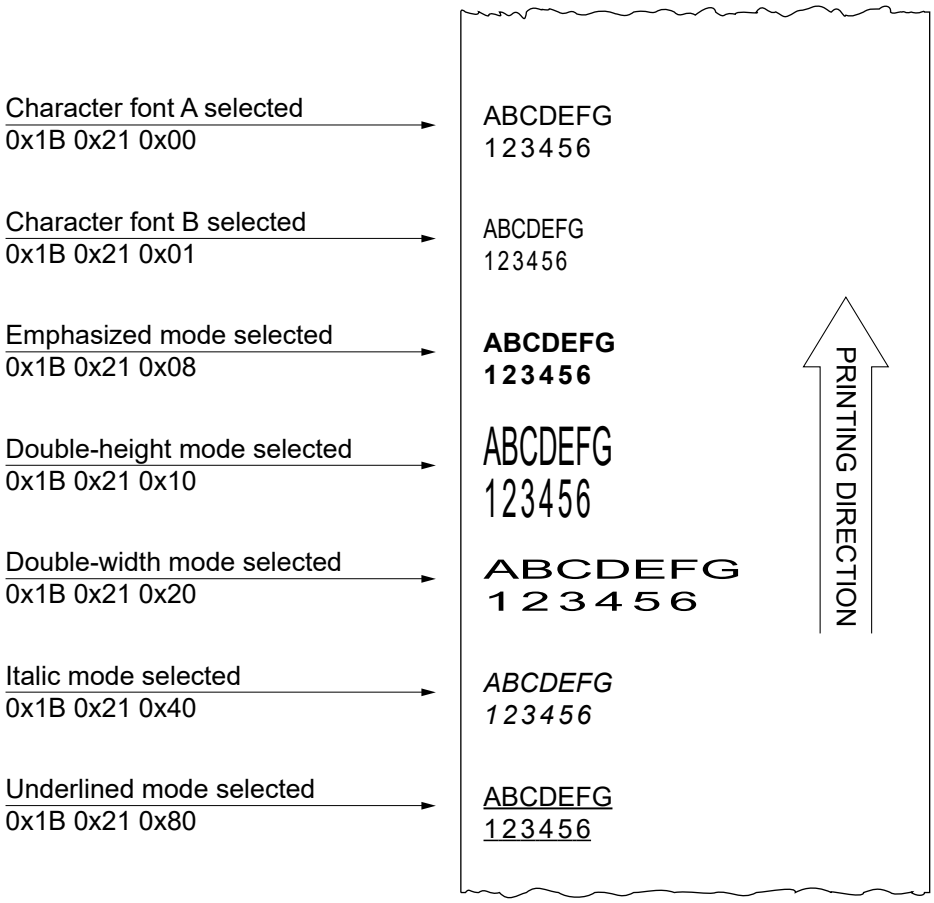
[Notes]

- The device can underline all characters, but cannot underline the spaces set by 0x09, 0x1B 0x24, 0x1B 0x5C and 90°/270° rotated characters.
- This command resets the left and right margin at default value (see 0x1D 0x4C, 0x1D 0x57).
- 0x1B 0x45 can also be used to turn the emphasized mode on or off. However, the last-received setting command is the effective one.
- 0x1B 0x2D can also be used to turn the underlined mode on or off. However, the last-received setting command is the effective one.
- 0x1D 0x21 can also be used to select character height or width. However, the last-received setting command is the effective one.
- 0x1B 0x34 can also be used to turn the italic mode on or off. However, the last-received setting command is the effective one.
- Commands that change the height and width of characters are effective on the x and y axes. In case of 90°/270° rotated characters, command 0x1B 0x21 0x10 selects double-width mode and command 0x1B 0x21 0x20 selects double-height mode.

[Default] n = 0x00

[Reference] 0x1B 0x2D, 0x1B 0x34, 0x1B 0x45, 0x1D 0x21

[Example]



# 0x1B 0x25

<ESC %>

## Enable or disable user-defined characters

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 25 | n |
| | ASCII | ESC | % | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Enables or disables the user-defined character set.
When the Least Significant Bit (LSB) of n is 0, the user-defined character set is disabled.
When the Least Significant Bit (LSB) of n is 1, the user-defined character set is enabled.

[Notes]
- Only the Least Significant Bit (LSB) of n is applicable.
- When the user-defined character set is disabled, the internal character set is automatically selected.

[Default] n = 0x00

[Reference] 0x1B 0x26, 0x1B 0x3F

[Example]

# 0x1B 0x26



## Defines user-defined characters

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1B | 26 | y | c1 | cn | x1[d0...dk] ... xn[d0...dk] |
| | ASCII | ESC | & | y | c1 | cn | x1[d0...dk] ... xn[d0...dk] |

[Range]

y = 0x03
0x20 ≤ c1 ≤ cn ≤ 0x7E
0x00 ≤ x ≤ 0x12 (font 18 x 24)
0x00 ≤ x ≤ 0x0E (font 14 x 24)
0x00 ≤ x ≤ 0x0A (font 10 x 24)
0x00 ≤ x ≤ 0x08 (font 8 x 24)
0x00 ≤ d0…dk ≤ 0xFF
k = cn – c1 + 1

[Description]

Defines user programmable characters.
y specifies the number of bytes in the vertical direction.
c1 specifies the start character code and cn specifies the final character code of the characters map area.
x specifies the width of the character to be replaced.
d0...dk specifies the new character definition.

[Notes]

• It is possible to define multiple characters for consecutive character codes.
If only one character is desired, use c1 = cn.
• if cn < c1, the command is not executed.
• d is the dot data for the characters. The dot pattern is in the horizontal direction starting from the left. Any remaining dots on the right remain blank.
• The data to define a user-defined character is (x × y) bytes.
• To print a dot, set the corresponding bit to 1; to not have it print, set to 0.
• This command can define different user-defined character patterns for each font. To select the font, use 0x1B 0x21.
• The user-defined character definitions are cleared when commands 0x1B 0x40, 0x1D 0x2A or 0x1B 0x3F are executed or the device is reset or turned off.
• x1 [d0 ... dk] will be repeated for each character to be replaced.

[Default]

Internal character set

[Reference]

0x1B 0x25, 0x1B 0x3F

[Example]

To replace only the “A” character of the 11 cpi font table (font 18x24), the command sequence is:
0x1B 0x26 0x03 0x41 0x41 0x10 [48 bytes of the new character definition].
To replace “A” and “B” characters of the 11 cpi font table (font 18x24), the command sequence is:
0x1B 0x26 0x03 0x41 0x42 0x10 [48 bytes of the new character definition] 0x10 [48 bytes of the new character definition].

# 0x1B 0x2D



## Turn underline mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 2D | n |
| ASCII | ESC | - | n |

[Range]

0x00 ≤ n ≤ 0x02
0x30 ≤ n ≤ 0x32

[Description]

Turns underline mode on or off based on the value of n as follows:

| n | FUNCTON |
|---|---|
| 0x00, 0x30 | Turns off underline mode |
| 0x01, 0x31 | Turns on underline mode (1 dot thick) |
| 0x02, 0x32 | Turns on underline mode (2 dot thick) |

[Notes]

- The device can underline all characters, but cannot underline the space and right-side character spacing set by command 0x09.
- The device cannot underline 90°/270° rotated characters and white/black inverted characters.
- When underline mode is turned off by setting the value of n to 0x00 or 0x30, the data which follows is not underlined.
- Underline mode can also be turned on or off by using 0x1B 0x21. However, the last-received setting command is the effective one.

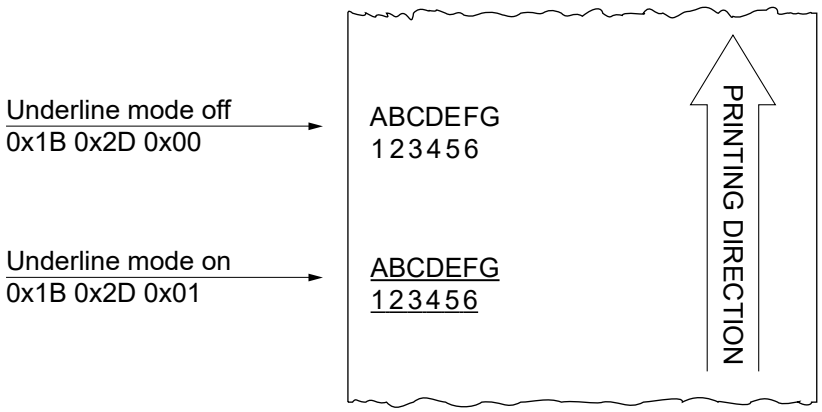
[Default]

n = 0x00

[Reference]

0x1B 0x21

[Example]



# 0x1B 0x34



## Turn italic mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 34 | n |
| ASCII | ESC | 4 | n |

[Range]

0x00 ≤ n ≤ 0x01
0x30 ≤ n ≤ 0x31

[Description]

Turns italic mode on or off based on the value of n as follows:

| n | FUNCTON |
|---|---|
| 0x00, 0x30 | Turns off italic mode |
| 0x01, 0x31 | Turns on italic mode |

[Notes]

- The device can print any character in italic mode.
- When italic mode is turned off by setting the value of n to 0x00 or 0x30, the data which follows is printed in normal mode.
- Italic mode can also be turned on or off using 0x1B 0x21. However, the last-received setting command is the effective one.

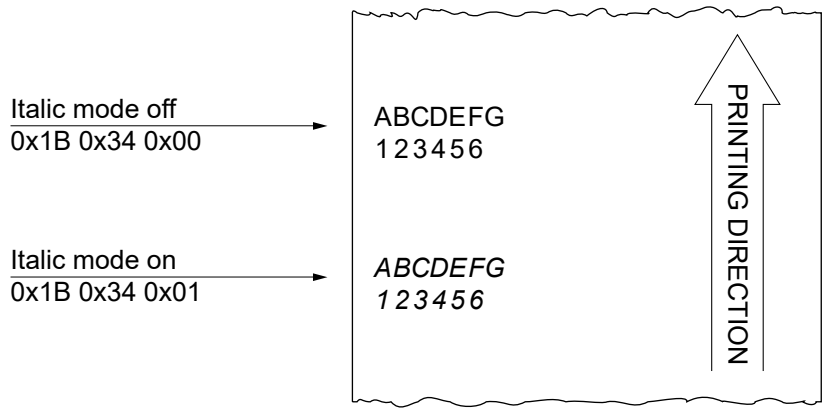
[Default]

n = 0x00

[Reference]

0x1B 0x21

[Example]



# 0x1B 0x3F

<ESC ?>

## Cancel user-defined characters

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 3F | n |
| ASCII | ESC | ? | n |

[Range] 0x20 ≤ n ≤ 0x7E

[Description] Cancels user-defined characters.

[Notes]
- This command cancels the pattern defined for the character code specified by n.
- This command deletes the pattern defined for the specified character code in the font selected by 0x1B 0x21.
- If the user-defined character has not been defined for the specified character code, the device ignores this command.

[Default]

[Reference] 0x1B 0x26, 0x1B 0x25

[Example]

# 0x1B 0x45



## Turn emphasized mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 45 | n |
| ASCII | ESC | E | n |

[Range] 0x00 ≤ n ≤ 0xFF

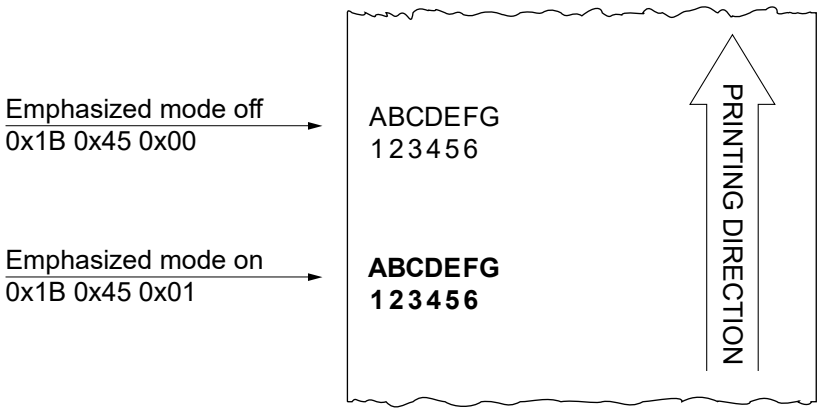
[Description] Turns emphasized mode on or off, based on the n value:
- when the Least Significant Bit (LSB) of n is 0, the emphasized mode is off.
- when the Least Significant Bit (LSB) of n is 1, the emphasized mode is on.

[Notes]
• Only the Least Significant Bit (LSB) of n is effective.
• 0x1B 0x21 also turns on and off the emphasized mode. However, the last received command is the effective one.

[Default] n = 0x00

[Reference] 0x1B 0x21

[Example]



# 0x1B 0x47

<ESC G>

## Turn double-strike mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 47 | n |
| | ASCII | ESC | G | n |

[Range] 0x00 ≤ n ≤ 0xFF

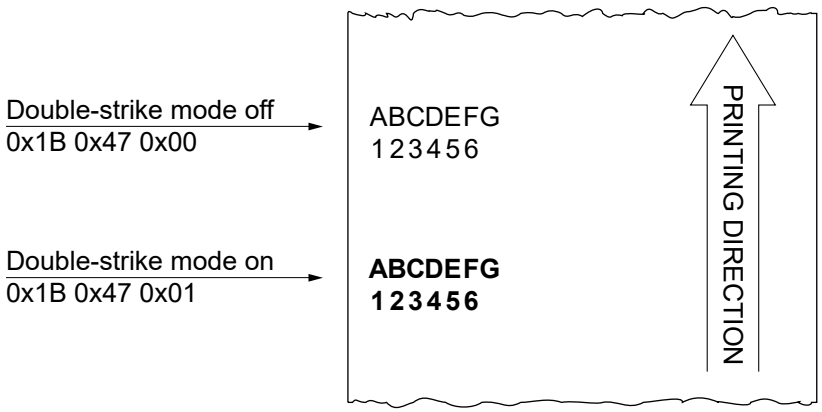
[Description] Turns double-strike mode on or off, based on the n value:
- when the Least Significant Bit (LSB) of n is 0, the double-strike mode is off.
- when the Least Significant Bit (LSB) of n is 1, the double-strike mode is on.

[Notes]
- Only the Least Significant Bit (LSB) of n is effective.
- Device output is the same in double-strike and bold mode.

[Default] n = 0x00

[Reference] 0x1B 0x21, 0x1B 0x45

[Example]



# 0x1B 0x4D



## Select character font

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 4D | n |
| ASCII | ESC | M | n |

[Range] n = 0x00, 0x01, 0x30, 0x31

[Description] Selects characters font depending of cpi value set (Char/Inch) as follows

| CHAR/INCH | n | FUNCTION |
|---|---|---|
| A = 11 cpi, B = 15 cpi | 0x00, 0x30 | Font 11 cpi (18x24) |
| | 0x01, 0x31 | Font 15 cpi (14x24) |
| A = 15 cpi, B = 20 cpi | 0x00, 0x30 | Font 15 cpi (14x24) |
| | 0x01, 0x31 | Font 20 cpi (10x24) |
| A = 20 cpi, B = 15 cpi | 0x00, 0x30 | Font 20 cpi (10x24) |
| | 0x01, 0x31 | Font 15 cpi (14x24) |

[Notes]

[Default]

[Reference] 0x1B 0xC1

[Example]

# 0x1B 0x52

<ESC R>

## Select an international character set

| | |
|---|---|
| Valid for | VKP80III RX65 LAT |
| | VKP80III RX65 REAR |
| | VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 52 | n |
| ASCII | ESC | R | n |

[Range] 0x00 ≤ n ≤ 0x0A

[Description] Selects the international character set n according to the table below:

| HEX | | 23 | 24 | 40 | 5B | 5C | 5D | 5E | 60 | 7B | 7C | 7D | 7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n | CHARACTER SET | | | | | | | | | | | | |
| 0x00 | U.S.A. | # | $ | @ | [ | \ | ] | ^ | ` | { | \| | } | ~ |
| 0x01 | France | # | $ | à | ° | ç | § | ^ | ` | é | ù | è | “ |
| 0x02 | Germany | # | $ | § | Ä | Ö | Ü | ^ | ` | ä | ö | ü | ß |
| 0x03 | United Kingdom | £ | $ | @ | [ | \ | ] | ^ | ` | { | \| | } | ~ |
| 0x04 | Denmark I | # | $ | @ | Æ | Ø | Å | ^ | ` | æ | ø | å | ~ |
| 0x05 | Sweden | # | ¤ | É | Ä | Ö | Å | Ü | é | ä | ö | å | ü |
| 0x06 | Italy | # | $ | @ | ° | \ | é | ^ | ù | à | ò | è | ì |
| 0x07 | Spain I | Pt | $ | @ | i | Ñ | ¿ | ^ | ` | “ | ñ | } | ~ |
| 0x08 | Japan | # | $ | @ | [ | ¥ | ] | ^ | ` | { | \| | } | ~ |
| 0x09 | Norway | # | ¤ | É | Æ | Ø | Å | Ü | é | æ | ø | å | ü |
| 0x0A | Denmark II | # | $ | É | Æ | Ø | Å | Ü | é | æ | ø | å | ü |

[Notes]

[Default] n = 0x00

[Reference]

[Example]

# 0x1B 0x56



## Set 90° rotated print mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 56 | n |
| | ASCII | ESC | V | n |

[Range] n = 0x00, 0x01, 0x30, 0x31

[Description] Turns 90° rotation mode on or off based on the value of n as follows:

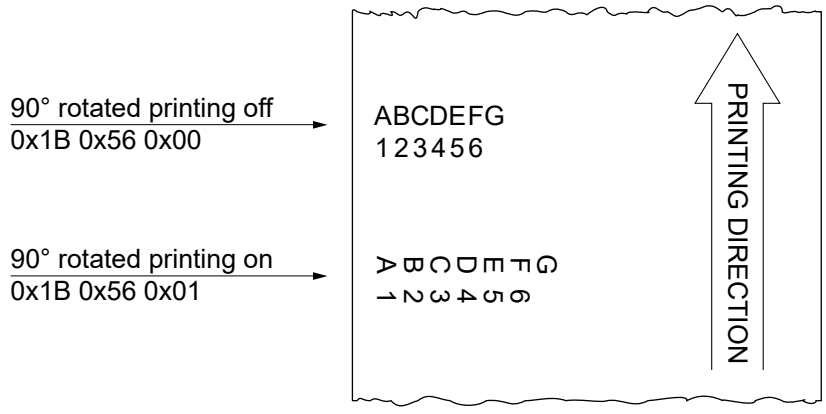
| n | FUNCTION |
|---|---|
| 0x00, 0x30 | Disable 90° rotation mode |
| 0x01, 0x31 | Enable 90° rotation mode |

[Notes]
- When underlined mode is turned on, the device does not underline 90° rotated characters. All the same it's possible select the underline mode.
- Double-width and double-height commands in 90° rotation mode enlarge characters in the opposite directions from double-height and double-width commands in normal mode.
- This command is not available in Page mode.
- If this command is entered in Page mode, the device all the same save the setting.

[Default] n = 0x00

[Reference] 0x1B 0x21, 0x1B 0x2D

[Example]



# 0x1B 0x74

<ESC t>

## Select character code table

| | |
|---|---|
| Valid for | VKP80III RX65 LAT |
| | VKP80III RX65 REAR |
| | VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 74 | n |
| | ASCII | ESC | t | n |

[Range] 0x01 ≤ n ≤ 0x35, n = 0xFF

[Description] Select a page n from the character code table as follows:

| n | PAGE | |
|---|---|---|
| 0x00 | PC437 - U.S.A., Standard Europe | |
| 0x01 | Katakana | |
| 0x02 | PC850 - Multilingual | |
| 0x03 | PC860 - Portuguese | |
| 0x04 | PC863 - Canadian/French | |
| 0x05 | PC865 - Nordic | |
| 0x06 | VISCII - Vietnamese Standard Code | |
| 0x07 | Iran system | |
| 0x0B | PC851 - Greek | on request |
| 0x0C | PC853 - Turkish | on request |
| 0x0D | PC857 - Turkish | |
| 0x0E | PC737 - Greek | |
| 0x0F | ISO8859-7 - Greek | on request |
| 0x10 | WPC1252 - Scandinavian | on request |
| 0x11 | PC866 - Cyrillic 2 | |
| 0x12 | PC852 - Latin 2 | |
| 0x13 | PC858 (for Euro symbol in position 0xD5) | |
| 0x14 | KU42 - Thai | |
| 0x15 | TIS11 - Thai | on request |
| 0x1A | TIS18 - Thai | on request |
| 0x1E | TCVN_3 - Vietnamese | on request |
| 0x1F | TCVN_3 - Vietnamese | on request |
| 0x20 | PC720 - Arabic | on request |
| 0x21 | WPC775 - Baltic Rim | on request |
| 0x22 | PC855 - Cyrillic | |
| 0x23 | PC861 - Icelandic | on request |
| 0x24 | PC862 - Hebrew | |

| | | |
|---|---|---|
| 0x25 | PC864 - Arabic | on request |
| 0x26 | PC869 - Greek | on request |
| 0x27 | ISO8859-2 - Latin 2 | on request |
| 0x28 | ISO8859-15 - Latin 9 | on request |
| 0x29 | PC1098 - Farci | |
| 0x2A | PC1118 - Lithuanian | on request |
| 0x2B | PC1119 - Lithuanian | on request |
| 0x2C | PC1125 - Ukrainian | |
| 0x2D | WPC1250 - Latin 2 | |
| 0x2E | WPC1251 - Cyrillic | |
| 0x2F | WPC1253 - Greek | |
| 0x30 | WPC1254 - Turkish | |
| 0x31 | WPC1255 - Hebrew | |
| 0x32 | WPC1256 - Arabic | |
| 0x33 | WPC1257 - Baltic Rim | |
| 0x34 | WPC1258 - Vietnamese | |
| 0x35 | KZ1048 - Kazakh | on request |
| 0xFF | Space page | |

[Notes]

- PC866 and PC852 tables are valid only for TrueType fonts.
- The tables are selectable only if the code pages are present on the machine. By selecting a code page not present on the machine, the code page remains the one currently in use.
- Make sure to select the font type “International” with the command 0x1C 0x25 or with the “Font type” parameter during the setup procedure (refer to the user manual of the device).

[Default]

n = 0x00

[Reference]

0x1C 0x25

[Example]

For printing Euro symbol (€), the command sequence is:
0x1B, 0x74, 0x13, 0xD5

# 0x1B 0x7B

<ESC {>

## Turn upside-down printing mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 7B | n |
| ASCII | ESC | { | n |

[Range] 0x00 ≤ n ≤ 0xFF

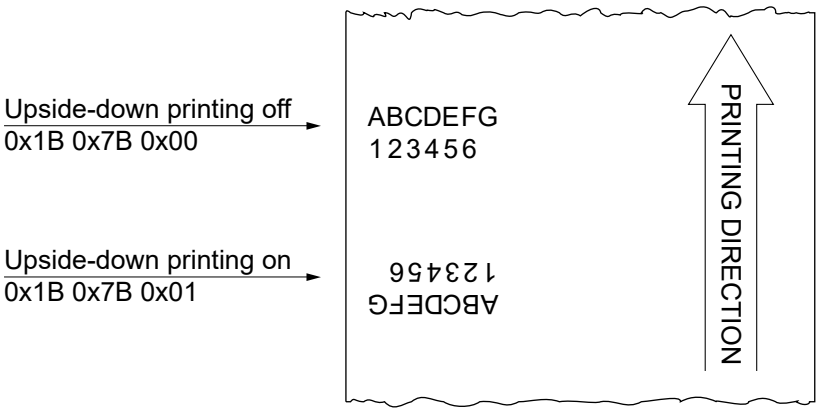
[Description] Turns upside-down printing mode on or off, based on the value of n:
- when the Least Significant Bit (LSB) of n is 0, the upside-down printing mode is off.
- when the Least Significant Bit (LSB) of n is 1, the upside-down printing mode is on.

[Notes]
• Only the Least Significant Bit (LSB) of n is effective.
• This command is valid only if entered at the beginning of a line.
• In upside-down printing mode, the device rotates the line to be printed 180° and then prints it.

[Default] n = 0x00

[Reference]

[Example]



# 0x1B 0xC1

## Select character pitch

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | C1 | n |
| ASCII | ESC | 0xC1 | n |

[Range]

0x00 ≤ n ≤ 0x02
0x30 ≤ n ≤ 0x32

[Description]

This command selects the character pitch expressed in cpi (characters per inch) based on the values of n as follows:

| n | PITCH | |
|---|---|---|
| 0x00, 0x30 | Font A = 11 cpi | Font B = 15 cpi |
| 0x01, 0x31 | Font A = 15 cpi | Font B = 20 cpi |
| 0x02, 0x32 | Font A = 20 cpi | Font B = 15 cpi |

[Notes]

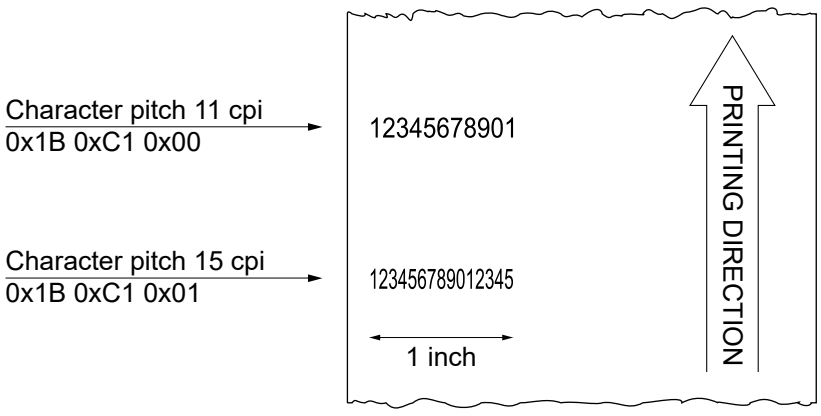
[Default]

n = 0x00

[Reference]

0x1B 0x21

[Example]



# 0x1C 0x25

<FS %>

## Select the font type

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1C | 25 | n |
| | ASCII | FS | % | n |

[Range] n = 0x00, 0x01

[Description] Select the font type based on the value of n as follows:

| n | FONT TYPE |
|---|---|
| 0x00 | International |
| 0x01 | Chinese GB18030 |

[Notes]
- This command can be used only for the models with Extended Chinese font (GB18030).
- The selection made by this command is stored in the RAM memory. Turning off the device reverts to the default value, that can be set with the “Font type” parameter during the setup procedure (refer to the user manual of the device).
- After selecting the font type “International” it must be selected the desired character code table using the command 0x1B 0x74.

[Default] n = 0x00

[Reference] 0x1B 0x74
Refer to the commands manual for Chinese fonts management

[Example]

# 0x1C 0x26

<FS &>

## Enable chinese fonts

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1C | 26 |
| | ASCII | FS | & |

[Range]

[Description] Enable chinese fonts.

[Notes]
- This command can be used only for the Simplified Chinese (GB2312), Traditional Chinese (BIG5) or Extended Chinese (GB18030-2000) models.
- This command enable Chinese fonts in RAM. Does not intervene on the parameter set-up.

[Default]

[Reference] 0x1C 0x2E
Refer to the commands manual for chinese fonts management

[Example]

# 0x1C 0x2E

<FS .>

## Disable chinese fonts

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1C | 2E |
| | ASCII | FS | . |

[Range]

[Description] Disable Chinese fonts.

[Notes]
- This command can be used only for the Simplified Chinese (GB2312), Traditional Chinese (BIG5) or Extended Chinese (GB18030-2000) models.
- This command disable Chinese fonts in RAM. Does not intervene on the parameter set-up.
- Disabling the use of Chinese fonts will restore the codepage used previously.

[Default]

[Reference] 0x1C 0x25, 0x1C 0x26

[Example]

# 0x1D 0x21

<GS !>

## Select character size

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | 21 | n |
| | ASCII | GS | ! | n |

[Range]

0x00 ≤ n ≤ 0x07
0x10 ≤ n ≤ 0x17
0x20 ≤ n ≤ 0x27
0x30 ≤ n ≤ 0x37
0x40 ≤ n ≤ 0x47
0x50 ≤ n ≤ 0x57
0x60 ≤ n ≤ 0x67
0x70 ≤ n ≤ 0x77

[Description]

Selects character height and width, as follows:
• Bits 0 to 3: to select character height (see table 2).
• Bits 4 to 7: to select character width (see table 1).

Table 1 - Select character width

| HEX | WIDTH |
|---|---|
| 00 | 1 (normal) |
| 10 | 2 (width = 2x) |
| 20 | 3 (width = 3x) |
| 30 | 4 (width = 4x) |
| 40 | 5 (width = 5x) |
| 50 | 6 (width = 6x) |
| 60 | 7 (width = 7x) |
| 70 | 8 (width = 8x) |

Table - 2 Select character height

| HEX | HEIGHT |
|---|---|
| 00 | 1 (normal) |
| 01 | 2 (height = 2x) |
| 02 | 3 (height = 3x) |
| 03 | 4 (height = 4x) |
| 04 | 5 (height = 5x) |
| 05 | 6 (height = 6x) |
| 06 | 7 (height = 7x) |
| 07 | 8 (height = 8x) |

[Notes]

- This command is effective for all characters (except HRI characters).
- If n falls outside the defined range, this command is ignored.
- Characters enlarged to different heights on the same line are aligned at the baseline or top line.
- 0x1B 0x21 can also be used to select character size. However, the setting of the last received command is the effective one.
- This command is effective on the x and y axes. In case of 90°/270° rotated characters, bit from 0 to 3 select character width and bit from 4 to 7 select character height.

[Default] n = 0x00

[Reference] 0x1B 0x21

[Example] For printing a character with 6x width and height the command sequence is:
0x1D 0x21 0x55

# 0x1D 0x42

<GS B>

## Turn black and white reverse printing mode on or off

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1D | 42 | n |
| ASCII | GS | B | n |

[Range] 0x00 ≤ n ≤ 0xFF

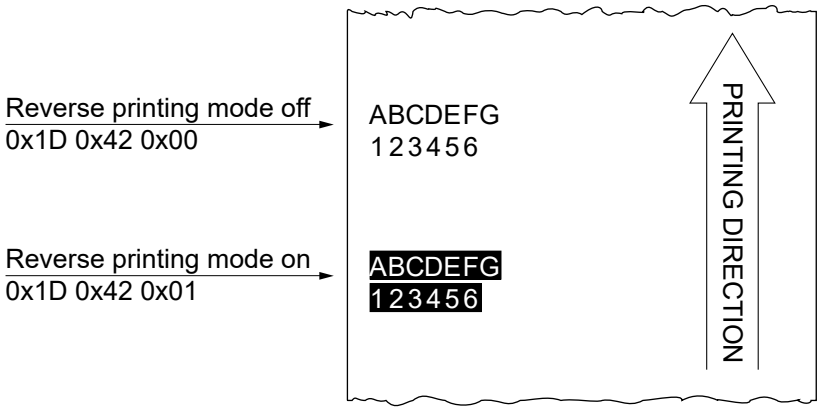
[Description] Turns black and white reverse printing mode on or off, based on the value of n:
- when the Least Significant Bit (LSB) of n is 0, white/black reverse printing is turned off.
- when the Least Significant Bit (LSB) of n is 1, white/black reverse printing is turned on.

[Notes]
• Only the Least Significant Bit (LSB) di n is effective.
• This command is available for both built-in and user-defined characters.
• This command does not affect bit image, downloaded bit image, barcode, HRI characters and spacing skipped by 0x09, 0x1B 0x24 and 0x1B 0x5C.
• This command does not affect white space between lines.
• White/black reverse mode has a higher priority than underline mode. Even if underline mode is on, it will be disabled (but not cancelled) when black and white reverse mode is selected.

[Default] n = 0x00

[Reference]

[Example]



## 0x1C 0x65

*<FS e>*

Enable or disable encoding for True Type fonts

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1C | 65 | n |
| ASCII | FS | e | n |

[Range]

0x00 ≤ n ≤ 0x02
0x30 ≤ n ≤ 0x32

[Description] Enable or disable the text encoding based on the value of n as follows:

| n | ENCODING |
|---|---|
| 0x00, 0x30 | Disabled |
| 0x01, 0x31 | Enable UTF-8 |
| 0x02, 0x32 | Enable UTF-16 |

[Notes]

- This command is valid only for TrueType fonts of monospace type.
- If the text encoding is disabled, manage the characters coding by 0x1B 0x52 and 0x1B 0x74 commands.
- If the text encoding is enabled, the character's addressing respects the UNICODE standard (see www.unicode.org).

[Default] n = 0x00

[Reference] 0x1B 0x52, 0x1B 0x74, 0x1C 0x66

[Example]

# 0x1C 0x66

<FS e>

## True Type fonts management

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | |
|---|---|---|---|---|---|---|
| [Format] | Hex | 1C | 66 | m | n | d[0]...d[n] |
| | ASCII | FS | f | m | n | d[0]...d[n] |

[Range] 0x00 ≤ m ≤ 0xFF
0x00 ≤ n ≤ 0x40

[Description] Manage the TrueType fonts based on the value of m as follows:

| m (BIT) | FUNCTION |
|---|---|
| 0 | Check glyph width |
| 1 | TTF enable hinting |
| 2 | Not used |
| 3 | Not used |
| 4 | Re-enable TrueType font |
| 5 | Disable TrueType font |
| 6 | De-init TrueType font |
| 7 | Clear all |

n = name length of the font to use
d[0]...d[n] = font name to use

[Notes]
- If “Check glyph width” is selected, for every character, device checks if the glyph width is different from default width. In this case, the font will be not installed. The check may require some time (it depends on the characters number of the font).
- For “Hinting” means the font adaptation to the grid. Whit hinting enabled, the characters are more legible but some characters may be too high (for example, the accented capital letters). This bit is active only when you install a new font.
- “Re-enable” function re-enables a TrueType font previously disabled.
- “Disable” function disables a TrueType font.
- “De-init” function uninstall a font and clear the memory used by the font. Use this function only when you intend to use the font more, otherwise use the “Disable” function to speed up operations.
- “Clear all” function uninstall all the installed fonts.
- If command is successful the device transmits the ACK (0x06), otherwise return NACK (0x15).
- After “Disable”, “Re-enable” and “Clear-all” functions, do not pass the filename of the TrueType font.

[Default]

[Reference]

[Example] Select the TrueType font with dimensions check, without hinting:

0x1C 0x66 0x02 0x0C “veramono.ttf”

Return to use the embedded fonts:

0x1C 0x66 0x20 0x00

Select the font previously disabled:

0x1C 0x66 0x10 0x00

Uninstall a TrueType font:

0x1C 0x66 0x40 0x0C

# 0x1D 0xE9

## Load a True Type font

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| [Format] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Hex | 1D | E9 | dimFile | 2C | 43 | 2C | fd0..fdn | 2C | d0..dn |
| | ASCII | GS | 0xE9 | dimFile | , | C | , | fd0..fdn | , | d0..dn |

[Range] 0x00 ≤ dimFile ≤ 0xFF
0x00 ≤ d0, dn ≤ 0xFF

[Description] Saves the font received from serial port into the device flash.
- dimFile indicates the file size (4 bytes expressed in hexadecimal notation)
- fd0..fdn indicates the font-name
- d0..dn indicates the bytes of the entire “font.ttf” fyle

[Notes]
- The length fd0..fdn of the font-name can be up to 50 characters long.
- The maximum file size is related to the free space in the flash.
- The font-name specified in this command does not depend on the file-name because it is uniquely assigned in flash; therefore the font into the flash will be named as specified.
- If command is successful the device transmits ACK (0x06), otherwise transmits NACK (0x15).

Default]

[Reference]

[Example] To load the TrueType font “ARIAL.ttf”, send the command:
0x1D 0xE9 0x00 0x0B 0xE1 0x38 0x2C 0x43 0x2C “ARIAL.ttf” 0x2C “file.ttf”

where the sequence 0x00 0x0B 0xE1 0x38 indicates the file size (778552 byte).

# LINE SPACING COMMANDS

## 0x1B 0x30

*<ESC 0>*

Select 1/8-inch line spacing

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | |
|---|---|---|
| Hex | 1B | 30 |
| ASCII | ESC | 0 |

[Range]

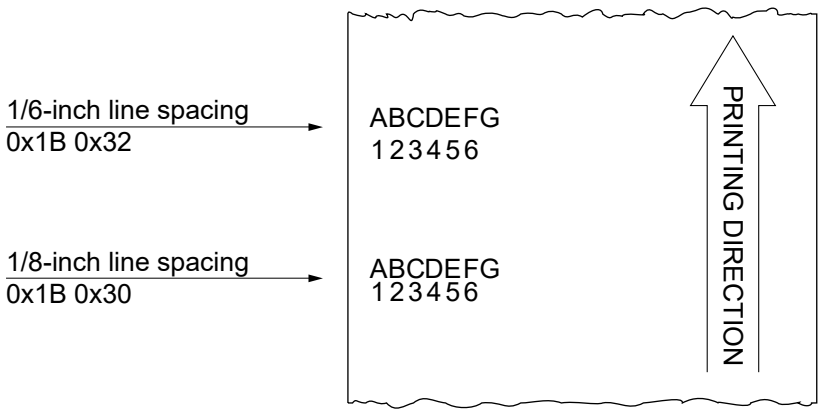
[Description] Selects 1/8-inch line spacing.

[Notes]

[Default]

[Reference] 0x1B 0x32, 0x1B 0x33

[Example]



# 0x1B 0x32



## Select 1/6-inch line spacing

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1B | 32 |
| | ASCII | ESC | 2 |

[Range]

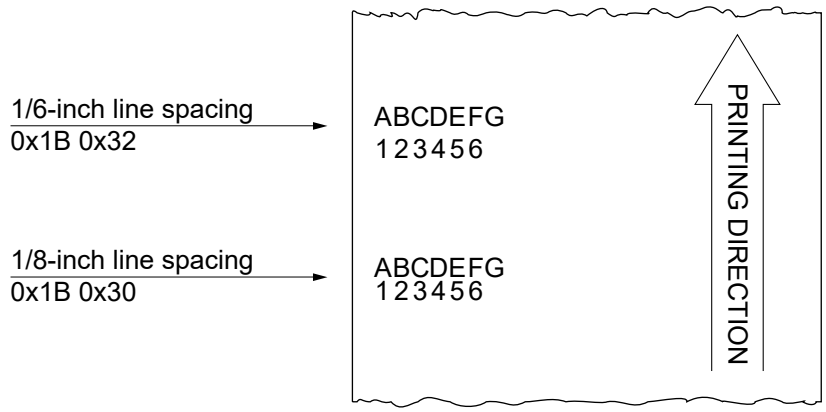
[Description] Selects 1/6-inch line spacing.

[Notes]

[Default]

[Reference] 0x1B 0x30, 0x1B 0x33

[Example]



# 0x1B 0x33

*<ESC 3>*

## Set line spacing

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 33 | n |
| | ASCII | ESC | 3 | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Sets line spacing to [n × (vertical or horizontal motion unit)].

[Notes]
- The horizontal and vertical motion unit are specified by 0x1D 0x50. Changing the horizontal or vertical motion unit does not affect the current line spacing.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum vertical movement amount.
- In standard mode, the vertical motion unit is used.
- The maximum spacing is 32.5 mm.

[Default] n = 0x40 (1/6 inch)

[Reference] 0x1B 0x30, 0x1B 0x32, 0x1D 0x50

[Example]

## 0x0A

*<LF>*

### Print and line feed

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | |
|---|---|
| Hex | 0A |
| ASCII | LF |

[Range]

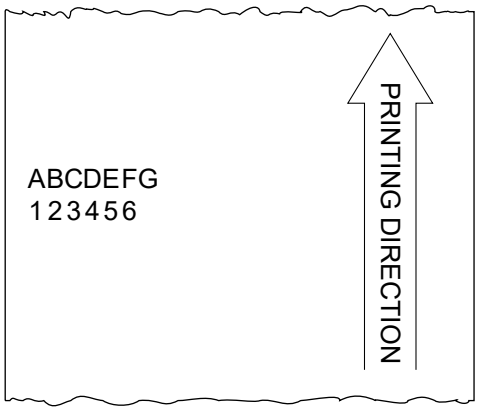
[Description] This command sets the print position to the beginning of the line printing the data in the buffer and feeding one line based on the line spacing set with the command 0x1B 0x30 or 0x1B 0x32.

[Notes] If the buffer is empty, the printing feeds of a value equal to the sum of the character height and line spacing.

[Default] 1/6-inch (32 dots)

[Reference] 0x1B 0x30, 0x1B 0x32, 0x1B 0x33, 0x0D

[Example]




To print the ticket shown in figure the command sequence is:
ABCDEFG 0x0A 123456 0x0A

# 0x0D

<CR>

## Print and carriage return

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format] Hex 0D
ASCII CR

[Range]

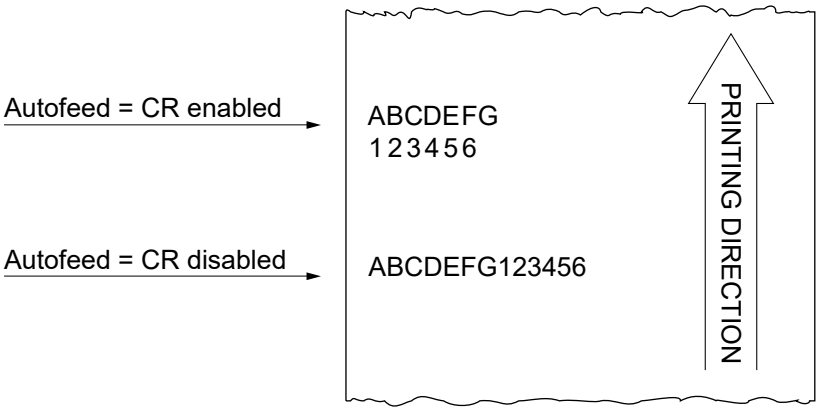
[Description] This command handles the end of a line text.

[Notes] If “Autofeed” setup parameter is set to “CR enabled”, this command works in the same way as 0x0A, otherwise it is disregarded.

[Default] See “Autofeed” setup parameter (refer to the user manual of the device).

[Reference] 0x0A

[Example]




To print the ticket shown in figure the command sequence is:
ABCDEFG 0x0D 123456 0x0D

# 0x1B 0x4A

<ESC J>

## Print and paper feed

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 4A | n |
| | ASCII | ESC | J | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Prints the data saved in the print buffer and feeds the paper [n × vertical or horizontal motion unit].

[Notes]
- After printing has been completed, this command sets the print starting position to the beginning of the line.
- The paper feed amount set by this command does not affect the values set by 0x1B 0x32 or 0x1B 0x33.
- The horizontal and vertical motion units are specified by 0x1D 0x50.
- 0x1D 0x50 can change the vertical (and horizontal) motion unit. However, the value cannot be less than the minimum vertical movement amount.
- In standard mode, the vertical motion unit is used.

[Default]

[Reference] 0x1D 0x50

[Example]

# 0x1B 0x64

<ESC d>

## Print and feed paper n lines

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 64 | n |
| | ASCII | ESC | d | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Prints the data saved in the print buffer and feeds the paper n lines.

[Notes]
- n rows paper feed is equivalent to (n × char height + line spacing set).
- Sets the print starting position at the beginning of the line.
- This command does not affect the line spacing set by 0x1B 0x32 or 0x1B 0x33.
- The maximum paper feed amount is 254 lines. Even if a paper feed amount of more than 254 lines is set, the device feeds the paper only 254 lines.

[Default]

[Reference] 0x1B 0x32, 0x1B 0x33

[Example]

# 0x1D 0x7C

## Set printing density

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | 7C | n |
| ASCII | GS | 0x7C | n |

[Range]

0x00 ≤ n ≤ 0x08
0x30 ≤ n ≤ 0x38

[Description]

Sets printing density. n specifies printing density as follows:

| n | PRINTING DENSITY |
|---|---|
| 0x00, 0x30 | - 50% |
| 0x01, 0x31 | - 37% |
| 0x02, 0x32 | - 25% |
| 0x03, 0x33 | - 12.5% |
| 0x04, 0x34 | 0% |
| 0x05, 0x35 | + 12.5% |
| 0x06, 0x36 | + 25% |
| 0x07, 0x37 | + 37% |
| 0x08, 0x38 | + 50% |

[Notes]

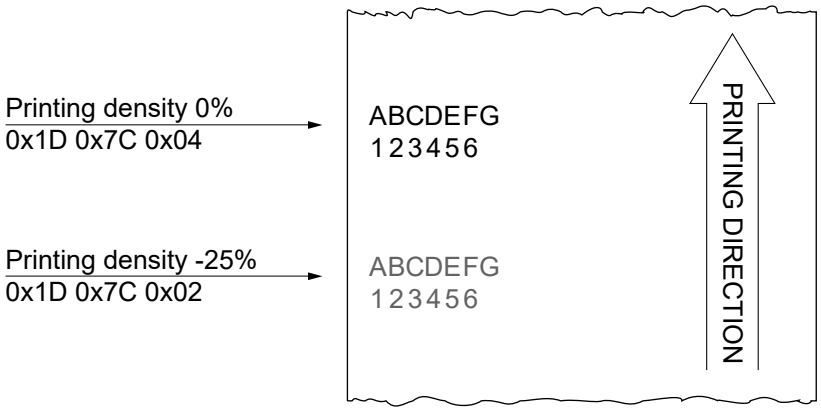
Printing density reverts to the default value when the device is reset or turned off.

[Default]

n = 0x04

[Reference]

[Example]



## 0x10 0x04 <DLE EOT>

Real-time status transmission

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 10 | 04 | n |
| | ASCII | DLE | EOT | n |

[Range] 0x01 ≤ n ≤ 0x04
n = 0x11, 0x14, 0x15

[Description] Transmits the selected status when this command is received. The status to be transmitted is indicated in the following table:

| | |
|---|---|
| n = 0x01 | transmits device status |
| n = 0x02 | transmits off-line status |
| n = 0x03 | transmits error status |
| n = 0x04 | transmits paper roll sensor status |
| n = 0x11 | transmits print status |
| n = 0x14 | transmits full status |
| n = 0x15 | transmits device ID |

Device status (n = 0x01)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2 | - | - | RESERVED |
| 3 | Off | 00 | On-line |
| | On | 08 | Off-line |
| 4 | On | 10 | Not used. Fixed to on |
| 5 | - | - | Not defined |
| 6 | - | - | Not defined |
| 7 | - | - | RESERVED |

Off-line status (n = 0x02)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2 | Off | 00 | Cover closed |
| | On | 04 | Cover opened |
| 3 | Off | 00 | Paper isn’t fed by LINE FEED key |
| | On | 08 | Paper is fed by LINE FEED key |
| 4 | On | 10 | Not used. Fixed to on |
| 5 | Off | 00 | Paper present |
| | On | 20 | Printing stop due to paper end |
| 6 | Off | 00 | No error |
| | On | 40 | Error |
| 7 | Off | 00 | Not used. Fixed to off |

Error status (n = 0x03)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2 | - | - | RESERVED |
| 3 | Off | 00 | Autocutter ok |
| | On | 08 | Autocutter error |
| 4 | On | 10 | Not used. Fixed to on |
| 5 | Off | 00 | No unrecoverable error |
| | On | 20 | Unrecoverable error |
| 6 | Off | 00 | No auto-recoverable error |
| | On | 40 | Auto-recoverable error |
| 7 | Off | 00 | Not used. Fixed to off |

Paper roll sensor status (n = 0x04)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2, 3 | Off | 00 | Paper present |
| | On | 0C | Low paper |
| 4 | On | 10 | Not used. Fixed to on |
| 5, 6 | Off | 00 | Paper present |
| | On | 60 | Paper not present |
| 7 | Off | 00 | Not used. Fixed to off |

Print status (n = 0x11)

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Not used. Fixed to off |
| 1 | On | 02 | Not used. Fixed to on |
| 2 | Off | 00 | Paper drag motor off |
| | On | 04 | Paper drag motor on |
| 3 | - | - | RESERVED |
| 4 | On | 10 | Not used. Fixed to on |
| 5 | Off | 00 | Paper present |
| | On | 20 | Printing stopped out for paper end |
| 6 | - | - | RESERVED |
| 7 | Off | 00 | Not used. Fixed to off |

Full status (n = 0x14, 6 bytes)

1st byte = 0x10 (DLE)

2nd byte = 0x0F

3rd byte = Paper status

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Paper present |
| | On | 01 | Paper not present |
| 1 | - | - | RESERVED |
| 2 | Off | 00 | Paper present |
| | On | 04 | Low paper |
| 3 | - | - | RESERVED |
| 4 | - | - | RESERVED |
| 5 | Off | 00 | Ticket not present in output |
| | On | 20 | Ticket present in output |
| 6 | Off | 00 | Paper virtually present * |
| | On | 40 | Virtual paper end * |
| 7 | Off | 00 | Black mark is not placed over the sensor |
| | On | 80 | Black mark is placed over the sensor |

(*) Paper virtually present is set when the paper length available, read by 0x1D 0xE1, is 0.

4th byte = User status

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | No error, printing head down |
| | On | 01 | Printing head up error |
| 1 | Off | 00 | Cover closed |
| | On | 02 | Cover opened |
| 2 | Off | 00 | No spooling |
| | On | 04 | Spooling |
| 3 | Off | 00 | Drag paper motor off |
| | On | 08 | Drag paper motor on |
| 4 | - | - | RESERVED |
| 5 | Off | 00 | LF key released |
| | On | 20 | LF key pressed |
| 6 | Off | 00 | FF key released |
| | On | 40 | FF key pressed |
| 7 | Off | 00 | Emitter motor off |
| | On | 80 | Emitter motor on |

5th byte = Recoverable status error

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Head temperature ok |
| | On | 01 | Head temperature error |
| 1 | Off | 00 | No COM error |
| | On | 02 | RS232 COM error |
| 2 | - | - | RESERVED |
| 3 | Off | 00 | Power supply voltage ok |
| | On | 08 | Power supply voltage error |
| 4 | - | - | RESERVED |
| 5 | Off | 00 | Acknowledge command |
| | On | 20 | Not acknowledge command error |
| 6 | Off | 00 | Free paper path |
| | On | 40 | Paper jam |
| 7 | Off | 00 | Black mark search ok |
| | On | 80 | Error in black mark search |

6th byte = Unrecoverable error status

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Autocutter ok |
| | On | 01 | Autocutter error |
| 1 | Off | 00 | Autocutter cover ok |
| | On | 02 | Autocutter cover open |
| 2 | Off | 00 | RAM ok |
| | On | 04 | RAM error |
| 3 | Off | 00 | EEPROM ok |
| | On | 08 | EEPROM error |
| 4 | - | - | RESERVED |
| 5 | - | - | RESERVED |
| 6 | - | - | RESERVED |
| 7 | Off | 00 | Emitter on |
| | On | 80 | Emitter error |

Transmit device ID (n = 0x15)

1st byte = (refer to command 0x1D 0x49)

[Notes] This command is immediately executed even when the data buffer is full.

[Default]

[Reference]

[Example]

| | | |
|---|---|---|
| Request for device status transmission: | 0x10 0x04 0x01 | |
| Device response: | 0x80 | LF key pressed |

# 0x1B 0x76

<ESC v>

## Transmit paper sensor status

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | | 1B | 76 |
| ASCII | | ESC | v |

[Range]

[Description] When this command is received, transmit the current status of the paper sensor.
The status to be transmitted is shown in the table below:

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0, 1 | Off | 00 | Low paper sensor: paper present |
| | On | 03 | Low paper sensor: paper not present |
| 2, 3 | Off | 00 | Paper end sensor: paper present |
| | On | 0C | Paper end sensor: paper not present |
| 4 | Off | 00 | Not used. Fixed to Off |
| 5 | - | - | Undefined |
| 6 | - | - | Undefined |
| 7 | Off | 00 | Not used. Fixed to Off |

[Notes] This command is executed immediately, even when the data buffer is full (Busy).

[Default]

[Reference] 0x10 0x04

[Example]

# 0x1C 0xDD 0x01 0xB3 0x00

## Transmit the device serial number

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | |
|---|---|---|---|---|---|---|
| [Format] | Hex | 1C | DD | 01 | B3 | 00 |
| | ASCII | FS | 0xDD | SOH | 0xB3 | NUL |

[Range]

[Description] Transmits the device serial number as a string of 16 alphanumeric characters.

[Notes] If the printer serial number is not defined, the device returns a string of 16 characters with a value of 0x00.

[Default]

[Reference]

[Example] To read the device serial number the command sequence is:
0x1C 0xDD 0x01 0xB3 0x00

The device returns a string of 16 alphanumeric characters just like the following:
‘ABC0123456789012’

# 0x1D 0xE0

## Enable or disable automatic FULL STATUS BACK

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1D | E0 | n |
| ASCII | GS | 0xE0 | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Enable or disable automatic full status back. n specifies the composition of full status as follows:

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Disable paper status |
| | On | 01 | Enable paper status |
| 1 | Off | 00 | Disable user status |
| | On | 02 | Enable user status |
| 2 | Off | 00 | Disable recoverable error status |
| | On | 04 | Enable recoverable error status |
| 3 | Off | 00 | Disable unrecoverable error status |
| | On | 08 | Enable unrecoverable error status |
| 4 | - | - | Undefined |
| 5 | - | - | Undefined |
| 6 | - | - | Undefined |
| 7 | - | - | Undefined |

[Notes] Once enable at least one byte of the full status, for each change of at least one of the bits which compose the required status, the status sent in automatic from the device will be so composed as follows:
1st Byte = 0x10 (DLE)
2nd Byte = n

[Default]

[Reference] 0x10 0x04

[Example]

# 0x1D 0xE1

## Reading of length paper available before virtual paper-end

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E1 |
| | ASCII | GS | 0xE1 |

[Range]

[Description] Reading of length paper available before virtual paper-end (expressed in centimetres).
The command return a string pointing out how much paper is available.

[Notes]
- The length of residual paper reported is just as an indication because tolerances and other factors are not taken into consideration (paper thickness, roll core diameter, roll core thickness).
- The virtual paper-end limit is set by the command 0x1D 0xE6.
- To set virtual paper-end limit, measure the length of the paper from low paper to the end of the roll, using several of them.

[Default]

[Reference] 0x1D 0xE6

[Example] If there are 5.1 m before paper end, the answer will be:
‘510cm’

# 0x1D 0xE2

## Reading number of cuts performed by the autocutter

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E2 |
| | ASCII | GS | 0xE2 |

[Range]

[Description] Reading the number of cuts performed by the autocutter.

[Notes] The command returns a string indicating how many cuts are performed by the autocutter.

[Default]

[Reference]

[Example] If the autocutter has performed 785 cuts, the answer will be:
‘785cuts’

# 0x1D 0xE3

## Reading of length of printed paper

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E3 |
| | ASCII | GS | 0xE3 |

[Range]

[Description] Reading of length expressed in centimetres of printed paper.

[Notes] The command returns a string indicating how much paper is printed.

[Default]

[Reference]

[Example] If the device has printed about 388.9 m, the answer will be:
‘38890cm’

# 0x1D 0xE4

## Reading number of retracting

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E4 |
| | ASCII | GS | 0xE4 |

[Range]

[Description] Reading number of retracting of the device.

[Notes] The command returns a string indicating the number of retracting of the device.

[Default]

[Reference]

[Example] If the device has retracted the paper 512 times, the answer will be:
‘512ret’

# 0x1D 0xE5

## Reading number of power up

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | E5 |
| | ASCII | GS | 0xE5 |

[Range]

[Description] Reading number of power up of the device.

[Notes] The command returns a string indicating the number of device power ups.

[Default]

[Reference]

[Example] If the device is turned on 512 times, the answer will be:
‘512on’

## 0x1B 0x2A

<ESC *>

Select bit image mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hex | 1B | 2A | m | nL | nH | d1...dk |
| ASCII | ESC | * | m | nL | nH | d1...dk |

[Range]

m = 0x00, 0x01, 0x20, 0x21
0x00 ≤ nL ≤ 0xFF
0x00 ≤ nH ≤ 0x03
0x00 ≤ d ≤ 0xFF

[Description]

Selects a bit image mode using m for the number of dots specified by nL and nH, as follows:

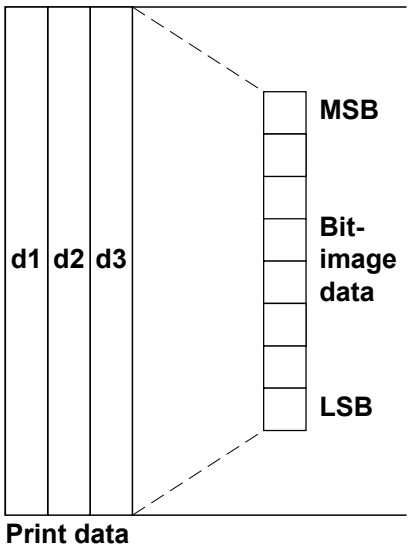
| | | VERTICAL DIRECTION | | HORIZONTAL DIRECTION | |
|---|---|---|---|---|---|
| m | MODE | N. DOTS | DPI | DPI | N. DATA (k) |
| 0x00 | 8 dots single density | 8 | 67 | 100 | nL + nH × 256 |
| 0x01 | 8 dots double density | 8 | 67 | 200 | nL + nH × 256 |
| 0x20 | 24 dots single density | 24 | 200 | 100 | (nL + nH × 256) × 3 |
| 0x21 | 24 dots double density | 24 | 200 | 200 | (nL + nH × 256) × 3 |

[Notes]

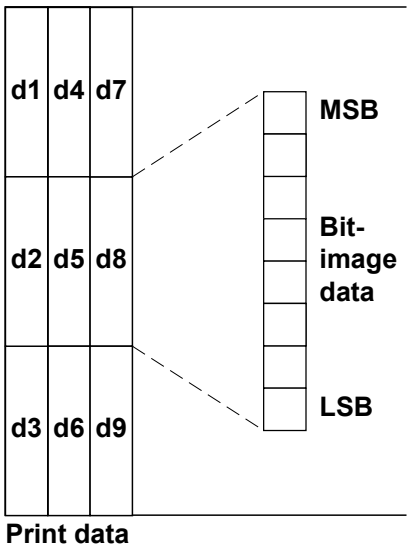
• The nL and nH commands indicate the number of dots of the bit image in the horizontal direction. The number of dots is calculated using: nL + nH × 256.
• If the bit image data input exceeds the number of dots to be printed on a line, the excess data is ignored.
• d indicates the bit image data. Set a corresponding bit to 1 to print a dot, or to 0 to not print the dot.
• If the value of m is outside the specified range, nL and data following it are processed as normal data.
• If the width of the printing area set by 0x1D 0x4C and 0x1D 0x57 is less than the width required by the data set using 0x1B 0x2A, the excess data are ignored.
• To print the bit image use 0x0A, 0x0D, 0x1B 0x4A or 0x1B 0x64.
• After printing a bit image, the device returns to normal data processing mode.
• This command is not affected by the bold, double-strike, underline (etc.) print modes, except for the upside-down mode.

• The relationship between the image data and the dots to be printed is as follows:

8-dot bit image



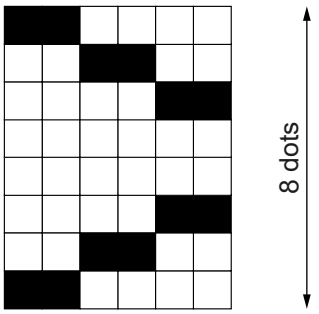

24-dot bit image



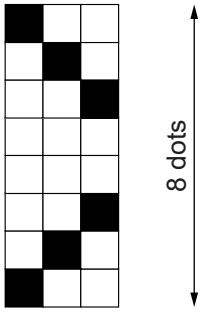

[Default]

[Reference]

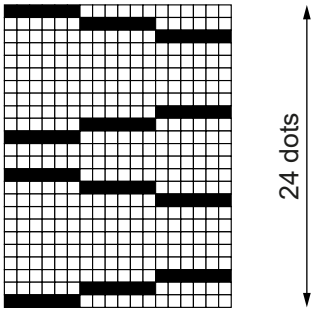
[Example]



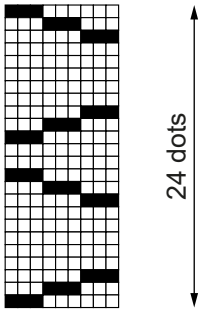

8 dots single density




8 dots double density




24 dots single density




24 dots double density

# 0x1D 0x2A

<GS *>

## Define received bit image

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | |
|---|---|---|---|---|---|
| Hex | 1D | 2A | x | y | d1...d(x × y × 8) |
| ASCII | GS | * | x | y | d1...d(x × y × 8) |

[Range]

0x01 ≤ x ≤ 0xFF
0x01 ≤ y ≤ 0x30
x × y ≤ 1536
0x00 ≤ d ≤ 0xFF

[Description]

Defines a received bit image using the number of dots specified by x and y.
• x specifies the number of bytes in the horizontal direction.
• y specifies the number of bytes in the vertical direction.

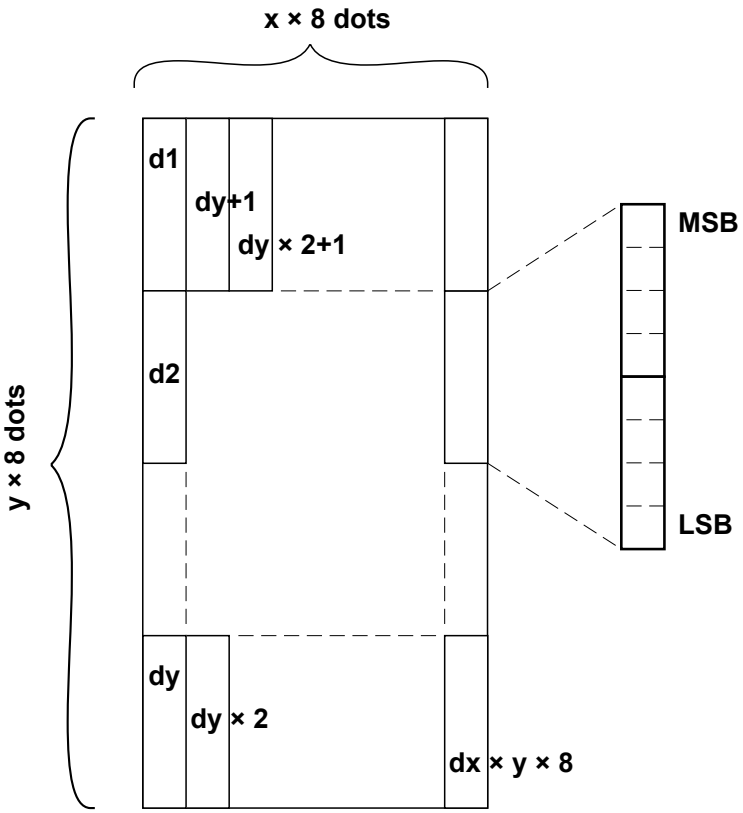
[Notes]

• The number of bytes in horizontal and vertical directions (x and y) are the horizontal and vertical size of the starting image divided by 8.
• If x × y is out of the specified range, this command is disabled.
• The d indicates bit-image data. Data (d) specifies a bit printed to 1 and not printed to 0.
• The received bit image definition is cleared when:
- 0x1B 0x40 is executed.
- 0x1B 0x26 is executed.
- Device is reset or the power is turned off.
• The image is saved in the graphic memory of the device.

[Default]

[Reference]

[Example] The following figure shows the relationship between the received bit image and the printed data.



# 0x1D 0x2F

<GS />

## Print received bit image

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | 2F | m |
| ASCII | GS | / | m |

[Range]

0x00 ≤ m ≤ 0x03
0x30 ≤ m ≤ 0x33

[Description]

Prints a received bit image using the mode specified by m as follows:

| m | MODE |
|---|---|
| 0x00, 0x30 | Normal |
| 0x01, 0x31 | Double width |
| 0x02, 0x32 | Double height |
| 0x03, 0x33 | Quadruple |

[Notes]

• This command is ignored if a received bit image has not been defined.
• In standard mode, this command is effective only when there is no data in the print buffer.
• This command has no effect in the print modes emphasized, underline, character size, or white/black reverse printing), except for upside-down printing mode (180° rotation).
• If the received bit-image to be printed exceeds the printable area, the excess data is not printed.
• If the printing area width set by 0x1D 0x4C and 0x1D 0x57 is less than one line in vertical, the following processing is performed only on the line in question:
1) The printing area width is extended to the right up to one line in vertical. In this case, printing does not exceed the printable area.
2) If the printing area width cannot be extended by one line in vertical, the left margin is reduced to accommodate one line in vertical.

[Default]

[Reference]

0x1D 0x2A

[Example]

# 0x1D 0x76 0x30

*<GS v 0>*

## Print raster bit image

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 76 | 30 | m | xL | xH | yL | yH | d1...dk |
| ASCII | GS | v | 0 | m | xL | xH | yL | yH | d1...dk |

[Range]

0x00 ≤ m ≤ 0x03, 0x30 ≤ m ≤ 0x31
0x00 ≤ xL ≤ 0xFF
0x00 ≤ xH ≤ 0xFF (1 ≤ xL + xH × 256 ≤ 65535)
0x00 ≤ yL ≤ 0xFF
0x00 ≤ yH ≤ 0x08 (1 ≤ yL + yH × 256 ≤ 2047)
0x00 ≤ d ≤ 0xFF
k = (xL + xH × 256) + (yL + yH × 256)
(except for k = 0)

[Description]

Selects raster bit image mode. The value of m selects the mode as follows:

| m | MODE |
|---|---|
| 0x00, 0x30 | Normal |
| 0x01, 0x31 | Double width |
| 0x02, 0x32 | Double height |
| 0x03, 0x33 | Quadruple |

• xL, xH selects the number of data bytes (xL + xH × 256) in the horizontal direction for the bit image.
• yL, yH selects the number of data bytes (yL + yH × 256) in the vertical direction for the bit image.
• k shows the number of data of the image. It's an explanation parameter so it isn't necessary to transmit it.
• d shows the data of the image.

[Notes]

• In standard mode for receipt paper, this command is effective only when there is no data in the print buffer.
• The data (d) identify as 1 a printed bit and as 0 a non printed bit.
• If a raster bit image is longer than one line, the surplus data aren't printed.
• This command has no effect in all print modes (character size, emphasized, upside-down, underline, white/black reverse printing, etc.) for raster bit image, except the reverse mode (90° anticlockwise rotation).
• This command feed the paper as much as is necessary to print the raster bit image, though the spacing set by 0x1B 0x32 or 0x1B 0x33.
• Don't use this command during a macro execution because it can't be included in a macro.

• After the printing, the printing position moves to the beginning of the line.

• The following table shows the relationship between the downloaded bit image and the printed data:

| | | | |
|---|---|---|---|
| d1 | d2 | ... | dx |
| dX+1 | dX+2 | ... | dX x 2 |
| : | : | ... | : |
| ... | dk-2 | dk-1 | d |

[Default]

[Reference]

[Example]

## 0x08 <BS>

Back space

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | |
|---|---|---|
| [Format] | Hex | 08 |
| | ASCII | BS |

[Range]

[Description] Moves print position to previous character.

[Notes] This command can be used to put two characters at the same position.

[Default]

[Reference]

[Example]

# 0x09

<HT>

## Horizontal tab

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | |
|---|---|
| Hex | 09 |
| ASCII | HT |

[Range]

[Description] Moves the print position to the next horizontal tab position.

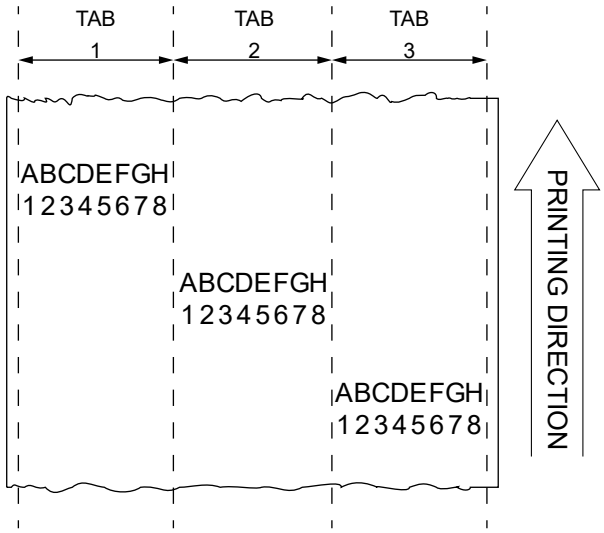
[Notes]

- Horizontal tab position are set using 0x1B 0x44.
- Ignored unless the next horizontal tab position has been set.
- If the command is received when the printing position is at the right margin, the device executes print buffer full printing and horizontal tab processing from the beginning of the next line.

[Default] Defaul tab positions are set at intervals of 8 characters (9, 17, 25, ...) when the right-side character spacing is 0.

[Reference] 0x1B 0x44

[Example]



# 0x1B 0x24



## Set absolute print position

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | |
|---|---|---|---|---|---|
| Hex | 1B | 24 | nL | nH |
| ASCII | ESC | $ | nL | nH |

[Range]

0x00 ≤ nL ≤ 0xFF
0x00 ≤ nH ≤ 0xFF

[Description]

Sets the distance from the beginning of the line to the position at which subsequent characters are to be printed.
The distance from the beginning of the line to the print position is [(nL + nH × 256) × (vertical or horizontal motion unit)].

[Notes]

- Settings outside the specified printable area are ignored.
- The horizontal and vertical motion unit are specified by 0x1D 0x50.
- 0x1D 0x50 can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount.
- In standard mode, the horizontal motion unit (x) is used.
- If the setting is outside the printing area width, it sets the absolute print position, but the left or right margin is set at default value.

[Default]

[Reference] 0x1B 0x5C, 0x1D 0x50

[Example]

# 0x1B 0x28 0x76

<ESC ( v>

## Set relative vertical print position

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | |
|---|---|---|---|---|---|---|
| [Format] | Hex | 1B | 28 | 76 | nL | nH |
| | ASCII | ESC | ( | v | nL | nH |

[Range]

0x00 ≤ nL ≤ 0xFF
0x00 ≤ nH ≤ 0xFF

[Description]

Sets the print vertical position based on the current position by using the horizontal or vertical motion unit. This command sets the distance from the current position to [(nL + nH × 256) × horizontal or vertical motion unit].

[Notes]

- When the starting position is specified by N motion unit to the bottom: nL + nH × 256 = N.
- When the starting position is specified by N motion unit to the top (negative direction), use the complement of 65536: nL + nH × 256 = 65536 - N.
- The horizontal and vertical motion unit are specified by 0x1D 0x50.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount.
- In standard mode, the vertical motion unit is used.

[Default]

[Reference]

0x1D 0x50

[Example]

# 0x1B 0x44

<ESC D>

## Set horizontal tab positions

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1B | 44 | n1...nk | 00 |
| | ASCII | ESC | D | n1...nk | NUL |

[Range]

0x01 ≤ n ≤ 0xFF
0x00 ≤ k ≤ 0x20

[Description]

Sets horizontal tab positions
• n specifies the column number for setting a horizontal tab position calculated from the beginning of the line.
• k indicates the total number of horizontal tab positions to be set.

[Notes]

• The horizontal tab position is stored as a value of [character width × n] measured from the beginning of the line. The character width includes the right-side character spacing and double-width characters are set with twice the width of normal characters.
• This command cancels previous tab settings.
• Up to 32 tab positions (k = 0x20) can be set. Data exceeding 32 tab positions is processed as normal data.
• Send [n] k in ascending order and place a 0 NUL code at the end. When [n] k is less than or equal to the preceding value [n] k-1, the setting is complete and the data which follows is processed as normal data.
• 0x1B 0x44 0x00 cancels all horizontal tab positions.
• The previously specified horizontal tab position does not change, even if the character width is modified.

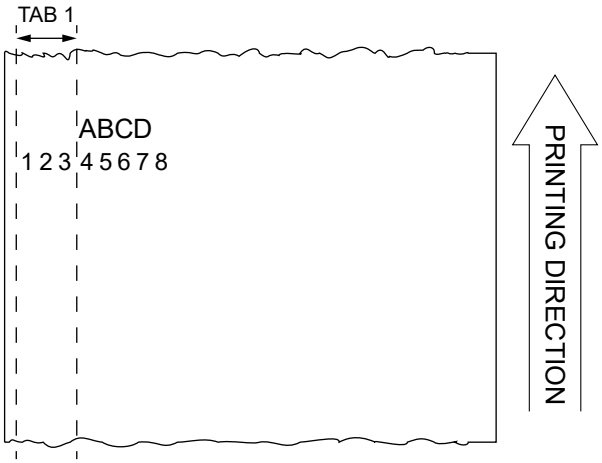
[Default]

Default tab positions are set at intervals of 8 characters (columns 9, 17, 25, …) when the right-side character spacing is 0.

[Reference]

0x09

[Example] To set a tabulation to column 4 send the command:
0x1B 0x44 0x03 0x00




To print the string ‘ABCD’ to the tabulation previously set, the command sequence is:
0x09 ‘ABCD‘

where:

| | |
|---|---|
| 0x09 | move the print position to the set horizontal tab (4th column). |
| ‘ABCD’ | is the string to be printed. |

# 0x1B 0x5C

<ESC \>

## Set relative print position

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 5C | nL | nH |
| ASCII | ESC | \ | nL | nH |

[Range]

0x00 ≤ nL ≤ 0xFF
0x00 ≤ nH ≤ 0xFF

[Description]

Sets the print starting position based on the current position by using the horizontal or vertical motion unit.
Sets the distance from the current position to [(nL+ nH × 256) × horizontal or vertical motion unit].

[Notes]

- When the starting position is specified by N motion units to the right: nL + nH × 256 = N.
- When the starting position is specified by n motion units to the left (negative direction), use the complement of 65536: nL + nH × 256 = 65536 – N.
- If setting exceeds the printing area width, the left or right margin is set to the default value.
- The horizontal and vertical motion unit are specified by 0x1D 0x50.
- 0x1D 0x50 can change the horizontal (and vertical) motion units. However, the value cannot be less than the minimum horizontal movement amount.
- In standard mode, the horizontal motion unit is used.
- It's possible to print further on the right margin set for every font. In this case the printing continues up to the maximum border of the device mechanism and then begins a new row.

[Default]

[Reference]

0x1B 0x24, 0x1D 0x50

[Example]

# 0x1B 0x61



## Select justification

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 61 | n |
| ASCII | ESC | a | n |

[Range]

0x00 ≤ n ≤ 0x02
0x30 ≤ n ≤ 0x32

[Description]

This command selects the type of justification based on the value of n as follows:

| n | JUSTIFICATION |
|---|---|
| 0x00, 0x30 | Left justification |
| 0x01, 0x31 | Centered |
| 0x02, 0x32 | Right justification |

[Notes]

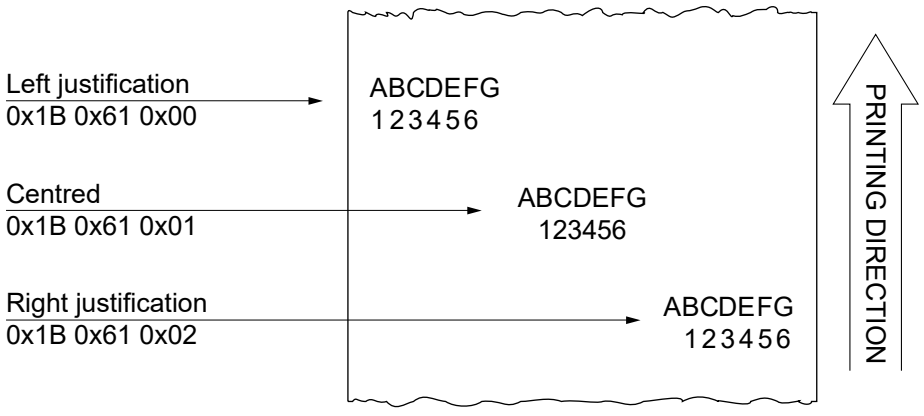
- Lines are justified within the specified printing area.
- Spaces set by 0x09, 0x1B 0x24 and 0x1B 0x5C will be justified according to the previously-entered mode.

[Default]

n = 0x00

[Reference]

[Example]



# 0x1B 0x6A

<ESC j>

## Select justification on the same line

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1B | 6A | n |
| ASCII | ESC | j | n |

[Range] 0x00 ≤ n ≤ 0x02

[Description] This command selects the type of justification on the same line based on the value of n as follows:

| n | JUSTIFICATION |
|---|---|
| 0x00 | Left justification |
| 0x01 | Centered |
| 0x02 | Right justification |

[Notes]

[Default] n = 0x00

[Reference]

[Example]

# 0x1D 0x4C

<GS L>

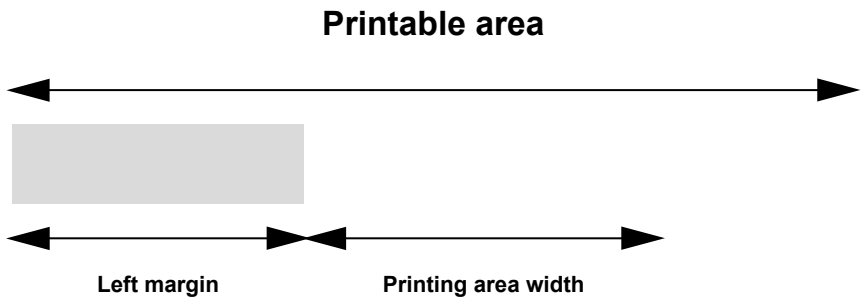
## Set left margin

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1D | 4C | nL | nH |
| | ASCII | GS | L | nL | nH |

[Range] 0x00 ≤ nL, nH ≤ 0xFF

[Description] Sets the left margin to [(nL + nH × 256) × horizontal motion unit].




[Notes]
- If the setting exceeds the printable area, the maximum value of the printable area is used.
- If the left margin + printing area width is greater than the printable area, the printing area width is set at maximum value.
- The horizontal and vertical motion unit are specified by 0x1D 0x50. Changing the horizontal or vertical motion unit does not affect the current left margin.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit.
- However, the value cannot be less than the minimum horizontal movement amount and it must be in even units of the minimum horizontal movement amount.

[Default]

[Reference] 0x1D 0x50, 0x1D 0x57

[Example]

# 0x1D 0x57

<GS W>

## Set printing area width

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

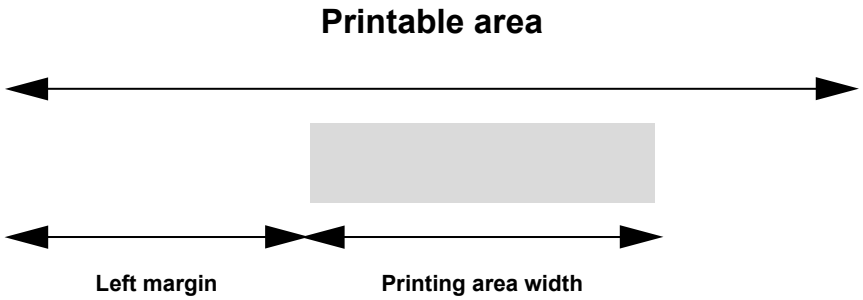
| | | | | | |
|---|---|---|---|---|---|
| Hex | 1D | 57 | nL | nH |
| ASCII | GS | W | nL | nH |

[Range]

0 ≤ nL, nH ≤ 0xFF
0 ≤ (nL + nH × 256) ≤ 640

[Description]

Sets the printing area width to the area specified by nL and nH.
The left margin is set to [(nL + nH × 256) × (horizontal motion unit)] inches.




[Notes]

- This command is only enabled if set at the beginning of the line.
- If the right margin is greater than the printable area, the printing area width is set at maximum value.
- If the printing area width = 0, it is set at the maximum value.
- The horizontal and vertical motion units are specified by 0x1D 0x50. Changing the horizontal or vertical motion unit does not affect the current left margin.
- The 0x1D 0x50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount and it must be in even units of the minimum horizontal movement amount.

[Default]

[Reference] 0x1D 0x4C, 0x1D 0x50

[Example]

## 0x1D 0x3A

<GS :>

Start or end of macro definition

| | | | |
|---|---|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH | | |
| [Format] | Hex<br>ASCII | 1D<br>GS | 3A<br>: |
| [Range] | | | |
| [Description] | Starts or ends macro definition. | | |
| [Notes] | • Macro definition starts when this command is received during normal operation.<br>• When 0x1D 0x5E is received during macro definition, the device ends macro definition and clears all definitions.<br>• Macros are not defined when power is turned on to the machine.<br>• Macro content is not cancelled by the 0x1B 0x40 command. Therefore, 0x1B 0x40 may be included in the content of macro definitions.<br>• If the device receives 0x1D 0x3A a second time after previously receiving 0x1D 0x3A, the device remains in macro undefined status.<br>• The contents of the macro can be defined up to 1024 bytes. If the macro definition exceeds 1024 bytes, excess data is not stored. | | |
| [Default] | | | |
| [Reference] | 0x1D 0x5E | | |
| [Example] | | | |

# 0x1D 0x5E

<GS ^>

## Execute macro

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | |
|---|---|---|---|---|---|---|
| Hex | 1D | 5E | r | t | m |
| ASCII | GS | ^ | r | t | m |

[Range]

0x00 ≤ r, t ≤ 0xFF
0x00 ≤ m ≤ 0x01

[Description]

Executes a macro.
• r specifies the number of times to execute the macro.
• t specifies the waiting time for executing the macro.
The waiting time is t × 100 ms for each macro execution.
• m specifies macro executing mode:
When the Least Significant Bit (LSB) of m = 0, the macro is executed r times continuously at the interval specified by t.
When the Least Significant Bit (LSB) of m = 1, after waiting for the period specified by t, the LED indicator blinks and the device waits for the FEED button to be pressed. After the button is pressed, the device executes the macro once. The device repeats the operation r times.

[Notes]

• This command has an interval of (t × 100 ms) after a macro is executed by t.
• If this command is received while a macro is being defined, the macro definition is aborted and the definition is cleared.
• If the macro is not defined or if r is 0x00, nothing is executed.
• When the macro is executed by pressing the FEED button (m = 0x01), the paper cannot be fed using the FEED button.

[Default]

[Reference]

0x1D 0x3A

[Example]

## 0x1C 0xC1

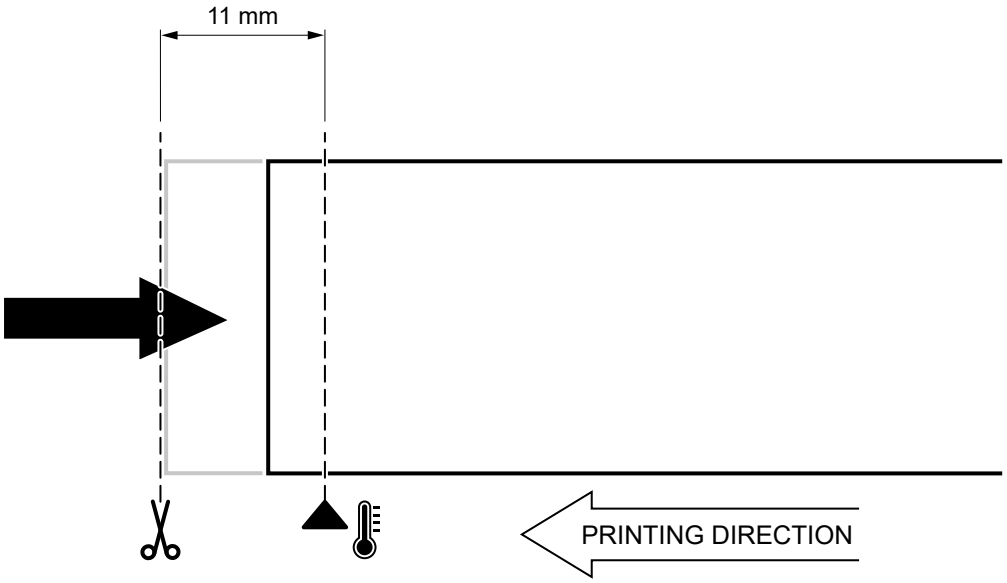
### Paper recovery after cut

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1C | C1 | n |
| | ASCII | FS | 0xC1 | n |

[Range] 0x00 ≤ n ≤ 0x0B

[Description] Set the paper moving (in millimetres) toward the print head after the paper cut.




[Notes] Set n = 0x0B to complete recover the paper.

[Default] n = 0x0B = 11 mm

[Reference]

[Example]

## 0x1D 0xE7

### Set black mark distance

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1D | E7 | nL | nH |
| | ASCII | GS | 0xE7 | nL | nH |

[Range]
0x00 ≤ nH ≤ 0xFF
0x00 ≤ nL ≤ 0xFF

[Description]
Sets black mark distance in tenth of millimeter of the alignment point from the edge of the black mark. This value is expressed as [(nH × 256) + nL].
- if nH ≤ 0x7F , the value will be positive.
- if nH > 0x7F , the value will be negative.

[Notes]
• The maximum value is 99.9 mm.
• The minimum value is 0 mm.
• The distance is saved in nonvolatile memory: it is therefore recommended not to send this command for each printed ticket, because the number of rewrites is limited. In many devices, however, is checked the diversity of the data before performing the rescue to avoid reaching the limit of rewrites.
• The distance defined by this command is the same that can be set with the value of the “Black Mark Distance” during the setup of the device or by modifying the same parameter of the “Setup.ini” file (see user manual for further explanation).

[Default]
nH = 0x00
nL = 0x00

[Reference]

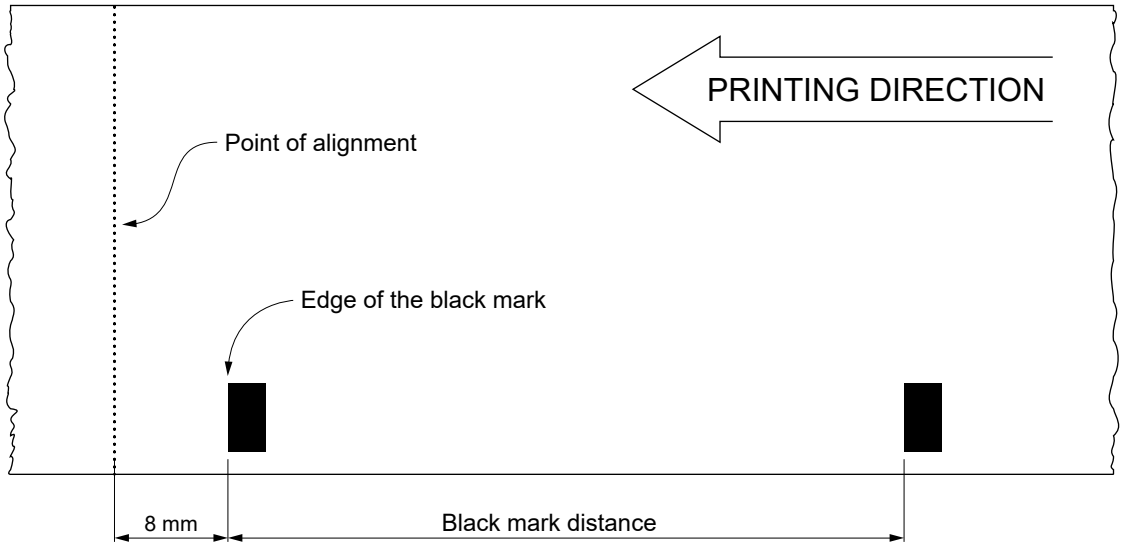
[Example] To set a distance of the alignment point from the black mark equal to 8 mm = 80 tenths of a millimeter, send the command:
0x1D 0xE7 0x00 0x50

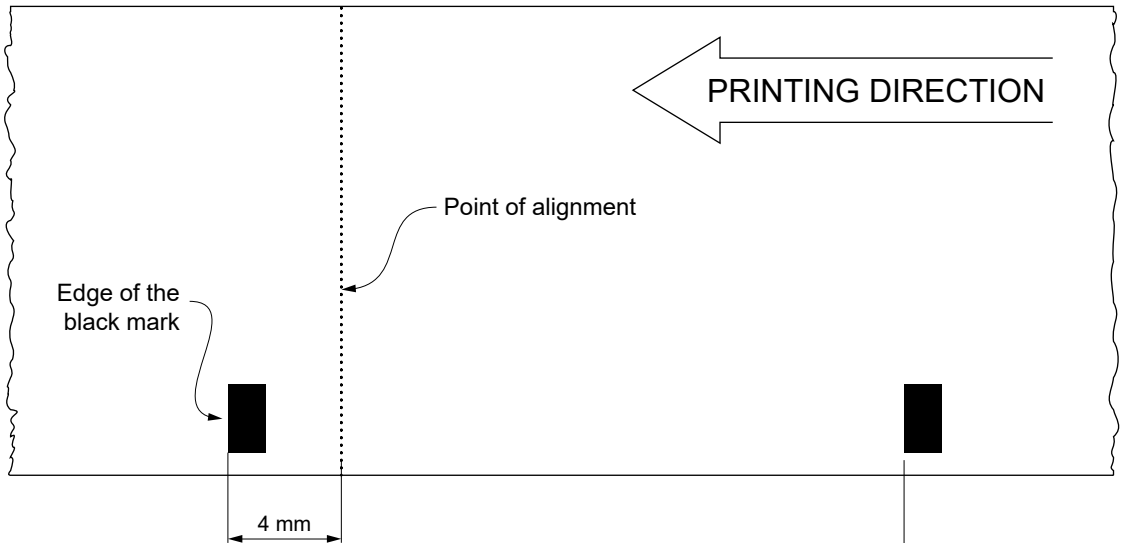
where:
0x00 the most significant bit (MSB = 0) defines the sign +
0x00 0x50 the absolute value defines the distance = 80 tenths of a millimeter

To set a distance of the alignment point from the black mark equal to - 4 mm, send the command:
0x1D 0xE7 0x80 0x28

where:
0x80 the most significant bit (MSB = 1) defines the sign -
0x80 0x28 the absolute value defines the distance = 40 tenths of a millimeter

The following images show tickets with alignment point positioned at 8 mm and -4 mm from the black mark.



# 0x1D 0xF6

## Align the ticket with the print head

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | F6 |
| | ASCII | GS | 0xF6 |

[Range]

[Description] This command align the edge of black mark to the alignment point (see ALIGNMENT section for further explanation).

[Notes]
- Use 0x1D 0xE7 command to set the distance between the edge of black mark and the alignment point.
- To work properly, the “Black Mark Position” parameter must be enabled during the setup procedure (refer to the user manual of each device).
- Use this alignment command even to print more tickets without cutting.

[Default]

[Reference] 0x1D 0xE7, 0x1D 0xF8

[Example]

# 0x1D 0xF8

## Align the ticket with the autocutter

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | |
|---|---|---|---|
| [Format] | Hex | 1D | F8 |
| | ASCII | GS | 0xF8 |

[Range]

[Description] This command align the edge of the black mark to the alignment point (see ALIGNMENT section for further explanation).

[Notes]
- Use 0x1D 0xE7 command to set distance between the edge of the ticket and the alignment point.
- To work properly, the “Black Mark Position” parameter must be enabled during the setup procedure (refer to the user manual of each device).
- Use this alignment command even to print more tickets without cutting.

[Default]

[Reference] 0x1D 0xE7, 0x1D 0xF6

[Example]

## 0x1B 0x43 *<ESC C>*

Enable or disable “COLLECT” mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 43 | n |
| ASCII | ESC | C | n |

[Range] n = 0x00, 0x01

[Description] This command enable or disable the “COLLECT” mode based on the value of n as follow:

| n | FUNCTION |
|---|---|
| 0x00 | Disable collect mode and cuts |
| 0x01 | Enable collect mode |

[Notes]
- When the “COLLECT” mode is enabled all tickets printed fall in the kiosk (lower output) without being cut. When the “COLLECT” mode is disabled the last ticket is cut.
- For more information about the device ticket emission see the user manual.

[Default] n = 0x00

[Reference]

[Example]

| | |
|---|---|
| 0x1B 0x43 0x01 | Enable “COLLECT” mode |
| <send ticket> | |
| <send ticket> | |
| <send ticket> | |
| <send ticket> | |
| 0x1B 0x43 0x00 | Disable “COLLECT” mode and cuts |

# 0x1B 0x46

*<ESC F>*

## Enable “EJECT” mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1B | 43 | n |
| | ASCII | ESC | C | n |

[Range]

[Description] This command enable the “EJECT” mode.

[Notes]
- To disable the “EJECT” mode send command 0x1C 0x50. The presentation command 0x1C 0x50 enables cut and emission or retraction of the ticket.
- For more information about the device ticket emission see the user manual.

[Default]

[Reference] 0x1C 0x50

[Example]

| | |
|---|---|
| 0x1B 0x46 | Enable the dispenser continuous mode |
| <send ticket> | |
| 0x1C 0x50 <a> <b> <c> <d> | Present command (disable the dispenser continuous mode) |

# 0x1C 0x4B

<FS K>

## Presentation offset setting in “EJECT” mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1C | 4B | n |
| | ASCII | FS | K | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] When the “EJECT” mode has been enabled, this command sets the number of millimeters of presentation offset to be added to the generated paper loop.

[Notes]
- To enable the dispenser continuous mode send command 0x1B 0x46.
- To disable the “EJECT” mode send command 0x1C 0x50. The presentation command 0x1C 0x50 enables cut and emission or retraction of the ticket.
- For more information about the device ticket emission see the user manual.
- The generated paper loop has a fixed value of 150 mm.

[Default]

[Reference] 0x1B 0x46, 0x1C 0x50

[Example]

# 0x1C 0x50

<FS P>

## Ticket presentation

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1C | 50 | a | b | c | d |
| | ASCII | FS | P | a | b | c | d |

[Range]

0x00 ≤ a ≤ 0xFF
b = 0x00, 0x01
c = 0x45, 0x52
0x00 ≤ d ≤ 0xFF

[Description]

This command cuts the paper and manage the ticket presentation.
• a indicates the number of steps for the ticket presentation (1 step = 5 mm)
• b indicates the behaviour of the paper mouth as follow:

| b | FUNCTION |
|---|---|
| 0x00 | Paper mouth: LED OFF |
| 0x01 | Paper mouth: LED blinking |

• c indicates the ticket movement after the print as follow:

| c | FUNCTION |
|---|---|
| 0x45 | Eject ticket |
| 0x52 | Retract ticket |

• d indicates the timeout for the ticket presentation (0x01 = 1 second)

[Notes]

• If c = 0x52 but the parameter “Paper retracting” configurable in setup is disabled, the ticket is not retracted but ejected.
• If d = 0x00 the ticket stays pending and is ejected/retracted (depending on the parameter c) when a new ticket is printed.
• If d = 0x00 the bezel blinks.
• If d > 0x00 and a new print job is sent before the expiry of the timeout, the ticket is ejected/retracted (depending on the parameter c).
• If a = 0x00 and d = 0x00 the ticket is ejected/retracted (depending on the parameter c) immediately after the cut.
• If a > 0x00 the device execute a check of the ticket presentation length. If the value is too high, automatically the ticket presentation is executed using the maximum length allowed.
• When this command is used after the command 0x1B 0x46, amax = 0x06. In the case of a > 0x06 is used the default value (a = 0x02).

[Default] a = 0x02

[Reference] 0x1B 0x46, 0x1C 0x4C

[Example] Sending the command sequence 0x1C 0x50 0x01 0x01 0x45 0x05, is executed:

- Cut of the ticket
- Presentation for 5 mm
- The paper mouth starts blinking
- After 5 seconds the ticket is ejected.

## 0x1B 0x3D

<ESC =>

Select peripheral device

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1B | 3D | n |
| ASCII | ESC | = | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Select the device to which the host computer sends data, using n as follows:

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | Device disabled |
| | On | 01 | Device enabled |
| 1 | - | - | RESERVED |
| 2 | - | - | RESERVED |
| 3 | - | - | RESERVED |
| 4 | - | - | RESERVED |
| 5 | - | - | RESERVED |
| 6 | - | - | RESERVED |
| 7 | Off | 00 | Pass-through function disabled |
| | On | 80 | Pass-through function enabled |

[Notes]
- When the device is disabled, it ignores all transmitted data until the device is enabled through this command.
- When the Pass-trough function is enabled, all transmitted data are sent on the second serial port.

[Default] n = 0x01

[Reference]

[Example]

# 0x1B 0x40

<ESC @>

## Initialize device

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | |
|---|---|---|
| Hex | 1B | 40 |
| ASCII | ESC | @ |

[Range]

[Description] Clears the data in the print buffer and resets the device mode to that in effect when power was turned on.

[Notes]
- The data in the receiver buffer is not cleared.
- The macro definitions are not cleared.

[Default]

[Reference]

[Example]

# 0x1B 0x63 0x35 <ESC c 5>

## Enable or disable keys panel

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1B | 63 | 35 | n |
| | ASCII | ESC | c | 5 | n |

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Enables or disables the keys panel, based on the value of n
- when the Least Significant Bit (LSB) of n is 0, the keys panel is enabled.
- when the Least Significant Bit (LSB) of n is 1, the keys panel is disabled.

[Notes]
• Only the Least Significant Bit (LSB) of n is effective.
• When the keys panel is disabled, the keys may only be used after the device has been reset.

[Default] n = 0x00

[Reference]

[Example]

# 0x1B 0xFA

## Print graphic bank (608x862 dots)

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hex | 1B | FA | n | xH | xL | yH | yL |
| ASCII | ESC | 0xFA | n | xH | xL | yH | yL |

[Range]

0x00 ≤ n ≤ 0x02
0x00 ≤ xH, xL, yH, yL ≤ 0xFF

[Description]

Prints graphic logo from flash or current graphic page located in RAM based on the value of n as follows:

| n | FUNCTION |
|---|---|
| 0x00 | Print graphic page from RAM used at the moment |
| 0x01 | Print logo 1 from flash |
| 0x02 | Print logo 2 from flash |

[Notes]

• Printable maximum vertical dimension is 862 dots:
xL + xH × 256 specifies the starting dot line (1 ÷ 862).
yL + yH × 256 specifies the number of lines to print.
• If (xL + (xH × 256)) > 862 the device does not execute the command.
• If (xL + (xH × 256) + yL +(yH × 256)) > 862 the device only prints 862 - xL + (xH × 256) + 1 dotline.

[Default]

[Reference]

[Example]

To print from RAM bank dotline 100 to dotline 299, send the command sequence
0x1B 0xFA 0x00 0x00 0x64 0x00 0xC7

# 0x1B 0xFF

## Receive the graphic page from the communication port

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | |
|---|---|---|---|---|---|---|
| Hex | 1B | FF | n | nL | nH |
| ASCII | ESC | 0xFA | n | nL | nH |

[Range]

n = 0x01, 0x02
0x00 ≤ nL, nH ≤ 0xFF

[Description]

Receives [nL + (nH × 256)] words from the communication port and save them in the flash bank based on the value of n as follows:

| n | FUNCTION |
|---|---|
| 0x01 | Save logo in the flash bank 1 |
| 0x02 | Save logo in the flash bank 2 |

[Notes]

- For serial communication, set setup parameter “RS232 handshaking” to “Hardware”.
- The number of received data bytes is [nL + (nH × 256)] × 2.
- Every word is received first as MSB and then as LSB.
- If [nL + (nH × 256)] is more than 32756, the following data are processed as normal data.
- In the horizontal dot line there are 38 words.
- The flash bank for graphic print dimensions are: 608 horizontal dots (76 bytes/line) × 862 vertical dots (65512 bytes).

[Default]

[Reference]

[Example]

# 0x1C 0x42

<FS B>

## Bezel LED bar management

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1C | 42 | n |
| | ASCII | FS | B | n |

[Range] n = 0x43, 0x46, 0x52, 0x53

[Description] Manages the flashing of the LED bard based on the value of n as follows:

| n | FUNCTION |
|---|---|
| 0x43 | LED bar off |
| 0x46 | LED bar on with programmable freqency |
| 0x52 | Reset LED bar |
| 0x53 | LED bar on steady |

If n = 0x46, select the flashing frequency based on the value of f as follows:

| f | FREQUENCY |
|---|---|
| 0x01 | 0.25 Hz |
| 0x02 | 0.50 Hz |
| 0x03 | 1 Hz |
| 0x04 | 2 Hz |
| 0x05 | 3 Hz |
| 0x06 | 4 Hz |
| 0x07 | 5 Hz |
| 0x08 | 6 Hz |
| 0x09 | 8 Hz |
| 0x0A | 12 Hz |

[Notes]

[Default]

[Reference]

[Example]

# 0x1C 0x47 <FS G>

## Data logger management

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1C | 47 | n |
| | ASCII | FS | G | n |

[Range] n = 0x00, 0x01

[Description] It manages the text log files present in the “log” folder of the flash disk based on the value of n as follows:

| n | FUNCTION |
|---|---|
| 0x00 | The contents of all the text log files in the “log” folder of the flash disk are sent to the PC |
| 0x01 | All text log files in the “log” folder of the flash disk are deleted |

[Notes]
- If n = 0x00 the first 4 bytes sent are the byte size to be received.
- If n = 0x01 the device transmits ACK (0x06) if the cancellation was successful, otherwise it returns NACK (0x15).

[Default]

[Reference]

[Example]

# 0x1C 0x4C

<FS L>

## Bezel RGB LED bar colours management

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | |
|---|---|---|---|---|---|---|
| [Format] | Hex | 1C | 4C | n | m | d1...dk |
| | ASCII | FS | L | n | m | d1...dk |

[Range]

n = 0x42, 0x43, 0x44, 0x46, 0x52
m = 0x6D, 0x72, 0x52, 0x73, 0x77, 0x57
0x00 ≤ d ≤ 0xFF

[Description] Set colours for the bezel RGB LED bar depending on parameters values as follows:

| n | FUNCTION |
|---|---|
| 0x42 | Sets the “background” colour of the LED bar. The LED bar turns on after receiving the 0x1C 0x50 command. |
| 0x43 | Immediately turns on the LED bar with colour set by parameter m = 0x73. |
| 0x44 | Sets the default values. |
| 0x46 | Sets the “foreground” colour of the LED bar. The LED bar turns on after receiving the 0x1C 0x50 command. |
| 0x52 | Sets the “rainbow” mode. |

| m | FUNCTION |
|---|---|
| 0x6D | Turns off the LED bar. |
| 0x72 | Read the value in RAM. |
| 0x73 | Write the value in RAM and then the settings are effective until the device is reset or the power is turned off. |
| 0x52 | Read the value in FLASH. |
| 0x77 | Write the value in RAM and then the settings are effective until the device is reset or the power is turned off. |
| 0x57 | Write the value in FLASH and then the settings continues to be stored even when the device is switched off. |

| n | m | FUNCTION |
|---|---|---|
| 0x42, 0x46 | 0x77 | Writes in RAM the values for<br>d1 = (R)ed value, d2 = (G)reen value, d3 = (B)lue value |
| | 0x57 | Writes in FLASH the values for<br>d1 = (R)ed value, d2 = (G)reen value, d3 = (B)lue value |
| | 0x72 | Reads the value saved in RAM and returns three bytes (RGB):<br>d1 = (R)ed value, d2 = (G)reen value, d3 = (B)lue value |
| | 0x52 | Reads the value saved in FLASH and returns three bytes (RGB):<br>d1 = (R)ed value, d2 = (G)reen value, d3 = (B)lue value |
| 0x43 | 0x6D | Turns off the LED bar |
| | 0x73 | Turns on the LED bar and write in RAM the values for<br>d1 = (R)ed value, d2 = (G)reen value, d3 = (B)lue value |
| 0x52 | 0x77 | Writes in RAM the value for the “rainbow” mode: d1 = 0x00 disable the “rainbow” mode, d1 = 0x01 enable the “rainbow” mode |
| | 0x57 | Writes in FLASH the value for the “rainbow” mode: d1 = 0x00 disable the “rainbow” mode, d1 = 0x01 enable the “rainbow” mode |
| | 0x72 | Reads from RAM the value of the “rainbow” mode and returns a byte:<br>d1 = 0x00 the “rainbow” mode is disabled, d1 = 0x01 the “rainbow” mode is enabled |
| | 0x52 | Reads from FLASH the value of the “rainbow” mode and returns a byte:<br>d1 = 0x00 the “rainbow” mode is disabled, d1 = 0x01 the “rainbow” mode is enabled |
| 0x44 | 0 | Set the default values |

[Notes]

- In presentation mode of the ticket, if the “rainbow” mode is enabled , the LED bar create a “rainbow” effect with a continuous sequence of colours.
- The flashing of the LED bar alternates the colours set as “background” and the “foreground”.
- This command works only for device models with RGB LED bar.

[Default]

“foreground” colour = electric violet (d1 = 0x8F, d2 = 0x00, d3 = 0xFF
“background” colour = green (d1 = 0x00, d2 = 0xFF, d3 = 0x00)

[Reference]

0x1C 0x50

[Example]

- Read the value of the background colour in RAM:
  0x1C 0x4C 0x42 0x72
- Read the value of the background colour in FLASH:
  0x1C 0x4C 0x42 0x52
- Write the value of the background colour (red) in RAM:
  0x1C 0x4C 0x42 0x77 0xFF 0x00 0x00
- Write the value of the background colour (blue) in FLASH:
  0x1C 0x4C 0x42 0x57 0x00 0x00 0xFF
- Read the value of the foreground colour in RAM:
  0x1C 0x4C 0x46 0x72

• Read the value of the foreground colour in FLASH:
0x1C 0x4C 0x46 0x52
• Write the value of the background colour (green) in RAM:
0x1C 0x4C 0x42 0x77 0x00 0xFF 0x00
• Write the value of “rainbow” mode in RAM (enable):
0x1C 0x4C 0x52 0x77 0x01
• Set the default values:
0x1C 0x4C 0x44 0x00
• Turns on the LED bar with orange colour and writes it in RAM:
0x1C 0x4C 0x43 0x73 0xFF 0x80 0x00
• Turns off the LED bar:
0x1C 0x4C 0x43 0x68

# 0x1C 0x93

## Print logo

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1C | 93 | nH | nL | opt | sp | posH | posL |
| | ASCII | FS | 0x93 | nH | nL | opt | sp | posH | posL |

[Range] 0x00 ≤ nH, nL ≤ 0xFF

[Description] Prints logo defined by n.

- n is the number of image to print;
- opt is the option byte that specifies justification and rotation as shown in the following table:

| BIT | DESCRIPTION | BIN | FUNCTION |
|---|---|---|---|
| 0,1 | Justification | 00 | Left |
| | | 01 | Center |
| | | 10 | Right |
| | | 11 | User define (according to position specified by posH and posW) |
| 2, 3 | - | 00 | Not used |
| 4, 6 | - | 00 | Not used |
| 7 | Rotated print | 0 | Print normal |
| | | 1 | Print rotate |

- sp specifies the thickness of the image border (expressed in dot).
- posH, posL specifies the logo's horizontal position (from the left border); used only with user-defined justification.

[Notes]

[Default]

[Reference]

[Example] To print logo no.10 centered and rotated transmits:

0x1C 0x93 0x00 0x0A 0x81 0x01 0x00 0x00

where

| | |
|---|---|
| 0x1C 0x93 | //print logo command |
| 0x00 0x0A | //Logo no. 10 |
| 0x81 | //printing rotated and centered |
| 0x01 | //1 pixel of image border |
| 0x00 0x00 | //Positioning not used |

To print logo no.10 not rotated and with a user-defined printing position transmits:

0x1C 0x93 0x00 0x0A 0x03 0x01 0x00 0x50

where

| | |
|---|---|
| 0x1C 0x93 | //print logo command |
| 0x00 0x0A | //Logo no. 10 |
| 0x03 | //printing with a user define positioning and not rotated |
| 0x01 | //1 pixel of image border |
| 0x00 0x50 | //Printing 10mm from the left border |

# 0x1C 0x94

## Save the image received from serial port into the flash

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hex | 1C | 94 | nH | nL | xDimH | xDimL | yDimH | yDimL | TbdH | TbdL | Id0..Idn | d0..dn | 3E |
| ASCII | FS | 0x94 | nH | nL | xDimH | xDimL | yDimH | yDimL | TbdH | TbdL | Id0..Idn | d0..dn | > |

[Range]

0x00 ≤ nH, nL ≤ 0xFF
0x00 ≤ xDimH, xDimL ≤ 0xFF
0x00 ≤ yDimH, yDimL ≤ 0xFF
0x00 ≤ d0, dn ≤ 0xFF

[Description]

Saves the image received from serial port into the device flash. If the number used to store logo is not already present inside the device, the new logo is appended to stored logos. Otherwise the new logo is updated.

- nH and nL indicates the number of logo (2 bytes expressed in hexadecimal notation).
- xDimH and xDimL indicate the logo horizontal dimension in pixel (2 bytes expressed in hexadecimal notation); the value must be multiple of 16.
- yDimH and yDimL indicates the logo vertical dimension in pixel (2 bytes expressed in hexadecimal notation).
- TbdH and TbdL 2 bytes fixed to 0x00 (RESERVED).
- Id0..Idn indicates the file-name of the logo, a sequence of 16 bytes to identify univocally the logo.
- d0 ...dn are the image data. The size of image is defined as follows:

  xSize = xDim /16; number of WORD (16 bit) in a horizontal image line

  Total Size = (xSize × yDim) × 2
- '>' is the character terminator (in ASCII) of this command.

The device returns a sequence of bytes as follows:

<PC0> if the saving include an incorrect syntax or the memory in flash available for logos is finished (128 kB)

<PC1n> if the syntax command is correct and there's memory enough in flash for saving logos; n returns the status of the flash programming:

| | |
|---|---|
| 0x88 | sector not erased |
| 0x77 | error during programming |
| 0xAA | programming done |

[Notes]

- If file-name length is shorter than 16 byte, add a terminator (0) and make padding to 16 characters.
- If file-name extension is absent, it is automatically added to the name.

[Default]

[Reference]

[Example] The following example shows the bytes sequence received from serial port to store a logo into the device flash:

```
Offset          Hexadecimal                                          ASCII
00000000: 1C 94 00-08 01 C0 02-49 00 00 4C-6F 67 6F 32 36° ° ° ´ + ˆ I L o g o - 2 6
00000010: 2E 42 4D-50 00 00 00-00 00 00 00-00 00 00 00 00 .BMP
00000020: 00 00 00-00 00 00 00-00 00 00 00-00 00 00 00 00
....                                                                 Image data
....
....
00008000: 00 00 00 00-00 00 00 00-00 00 00 00-00 00 00 00
00008010: 00 00 3E                                                   >
```

If the programming is successful, the device's answer will be :

0x3C 0x50 0x43 0x31 0xAA 0x3E

# 0x1C 0xC0

## Print part of graphic logo in the graphic page

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [Format] | Hex | 1C | C0 | xH | xL | yH | yL | dxH | dxL | dyH | dyL | xlH | xlL | ylH | ylL num |
| | ASCII | 1C | 0xC0 | xH | xL | yH | yL | dxH | dxL | dyH | dyL | xlH | xlL | ylH | ylL num |

[Range]

dx + xl ≤ 608
dx + x ≤ 608
dy + yl ≤ 862
0x00 ≤ num ≤ 0x01

[Description]

Allows to select parts of the graphic logo and insert the coordinates of the graphic page point in which to print it.

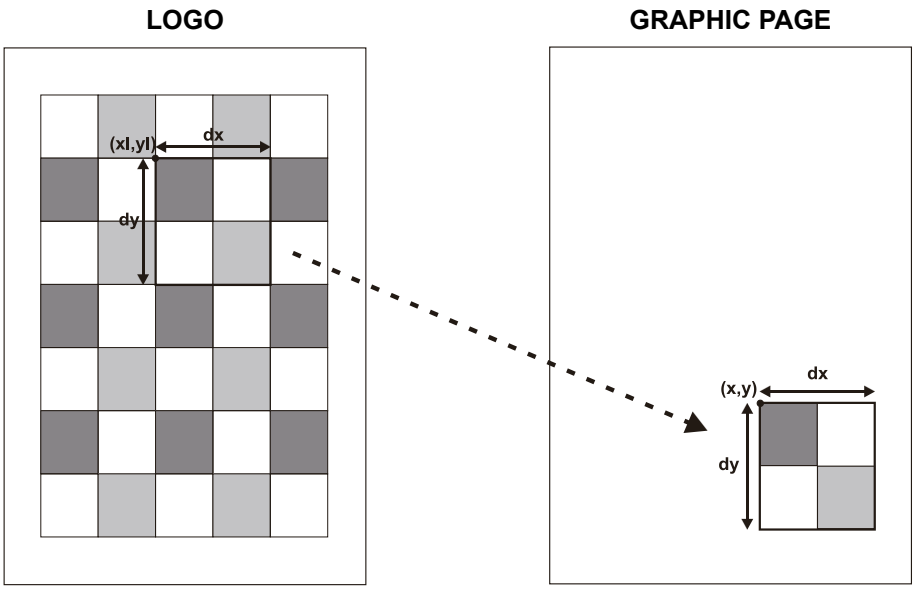
- (xl,yl) = graphic logo point coordinates:
  xl = xlL + (xlH × 256) ; yl = ylL + (ylH × 256)
- dx = horizontal dimension of the graphic logo part which must be printed:
  dx = dxL + (dxH × 256)
- dy = vertical dimension of the graphic logo part which must be printed:
  dy = dyL + (dyH × 256)
- (x,y) = coordinates of the graphic page point where must be printed the graphic logo part:
  x = xL + (xH × 256) ; y = yL + (yH × 256)
- num = parameter for the graphic logo selection between the two logos available.

[Notes]

[Default]

[Reference]

[Example]



# 0x1D 0x43 0x30

<GS C 0>

## Select counter print mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | |
|---|---|---|---|---|---|
| Hex | 1D | 43 | 30 | n | m |
| ASCII | GS | C | 0 | n | m |

[Range]

0x00 ≤ n ≤ 0x05
m = 0x00, 0x01, 0x02, 0x30, 0x31, 0x32

[Description]

Selects a print mode for the serial number counter.
• n specifies the number of digits to be printed as follows:
when n = 0x00, the device prints the actual digits indicated by the number value.
when n = 0x01 to 0x05, this command sets the number of digits to be printed.
• m specifies the printing position within the entire range of printed digits, as follows:

| m | PRINTING POSITION | PROCESSING OF MISSING DIGITS |
|---|---|---|
| 0x00, 0x30 | Align right | Adds spaces to the left |
| 0x01, 0x31 | Align right | Adds ‘0’ to the left |
| 0x02, 0x32 | Align left | Adds spaces to the right |

[Notes]

• If n or m is out of the defined range, the previously set print mode is not changed.
• If n = 0x00, m does not have any meaning.

[Default]

n = 0x00, m = 0x00

[Reference]

0x1D 0x43 0x31, 0x1D 0x43 0x32, 0x1D 0x43 0x3B, 0x1D 0x63

[Example]

| n = 0x03,m = 0x00 | n = 0x03, m = 0x01 | n = 0x03, m = 0x02 |
|---|---|---|
| □ □ 1 | 001 | 1 □ □ |

□ indicates a space

# 0x1D 0x43 0x31

<GS C 1>

## Select count mode (A)

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 43 | 31 | aL | aH | bL | bH | n | r |
| ASCII | GS | C | 1 | aL | aH | bL | bH | n | r |

[Range]

0x00 ≤ aL, aH ≤ 0xFF
0x00 ≤ bL, bH ≤ 0xFF
0x00 ≤ n, r ≤ 0xFF

[Description]

Selects a count mode for the serial number counter.
• aL, aH o bL, bH specify the counter range.
• n specify the stepping amount when counting up or down.
• r indicates the repetition number when the counter value is fixed.

[Notes]

• Count-up mode is specified when:
[aL + (aH × 256)] < [bL + (bH × 256)] and n ≠ 0x00 and r ≠ 0x00
• Count-down mode is specified when:
[aL + (aH × 256)] > [bL + (bH × 256)] and n ≠ 0x00 and r ≠ 0x00
• Counting stops when:
[aL + (aH × 256)] = [bL + (bH × 256)] or n = 0x00 or r = 0x00
• In setting count-up mode, the minimum value of the counter is [aL + (aH × 256)] and the maximum value is [bL + (bH × 256)]. If counting up reaches a value exceeding the maximum, it is resumed with the minimum value.
• In setting count-down mode, the maximum value of the counter is [aL + (aH × 256)] and the minimum value is [bL + (bH × 256)]. If counting down reaches a value less than minimum, it is resumed with the maximum value.
• When the command is executed, the internal count that indicates the repetition number specified by r is cleared.

[Default]

aL = 0x01, aH = 0x00, bL = 0xFF, bH = 0xFF, n = 0x01, r = 0x01

[Reference]

0x1D 0x43 0x30, 0x1D 0x43 0x32, 0x1D 0x43 0x3B, 0x1D 0x63

[Example]

Send the command sequence:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0x1D | 0x43 | 0x31 | 0x01 | 0x00 | 0x0A | 0x00 | 0x01 | 0x02 |
| | | | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| | | | aL | aH | bL | bH | n | r |

The counter is set from 1 [aL + (aH x 256)] to 10 [bL + (bH x 256)]).
The counter is incremented by 1 (n) repeating the same value of 2 times (r).

# 0x1D 0x43 0x32

<GS C 2>

## Set counter

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | |
|---|---|---|---|---|---|---|
| Hex | 1D | 43 | 32 | nL | nH |
| ASCII | GS | C | 2 | nL | nH |

[Range] 0x00 ≤ nL, nH ≤ 0xFF

[Description] Sets the serial number counter value.
nL and nH determine the value of the serial number counter set by [nL + (nH × 256)].

[Notes]
- In count-up mode, if the counter value specified by this command goes out of the counter operation range specified by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B, it is forced to convert to the minimum value by 0x1D 0x63.
- In count-down mode, if the counter value specified by this command goes out of the counter operation range specified by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B, it is forced to convert to the maximum value by 0x1D 0x63.

[Default] nL = 0x01, nH = 0x00

[Reference] 0x1D 0x43 0x30, 0x1D 0x43 0x31, 0x1D 0x43 0x3B, 0x1D 0x63

[Example] Send the command sequence:

| | | | | |
|---|---|---|---|---|
| 0x1D | 0x43 | 0x32 | 0x05 | 0x00 |
| | | | ↓ | ↓ |
| | | | nL | nH |

The counter is set starting from 5 [nL + (nH x 256)].

# 0x1D 0x43 0x3B

<GS C ;>

## Select count mode (B)

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hex | 1D | 43 | 3B | sa | 3B | sb | 3B | sn | 3B | sr | 3B | sc | 3B |
| ASCII | GS | C | ; | sa | ; | sb | ; | sn | ; | sr | ; | sc | ; |

[Range]

0x00 ≤ sa, sb, sc ≤ 0xFFFF
0x00 ≤ sn, sr ≤ 0xFF
These values are all character strings.

[Description]

Selects a count mode for the serial number counter and specifies the value of the counter.
• sa, sb, sn, sr and sc are all displayed in ASCII characters using the codes from ‘0’ to ‘9’.
• sa and sb specify the counter range.
• sn indicates the stepping amount for counting up or down.
• sr indicates the repetition number with the counter value fixed.
• sc indicates the counter value.

[Notes]

• Count-up mode is specified when:
sa < sb and sn ≠ 0x00 and sr ≠ 0x00
• Count-down mode is specified when:
sa > sb and sn ≠ 0x00 and sr ≠ 0x00
• Counting stops when:
sa = sb or sn = 0x00 or sr = 0x00
• In setting count-up mode, the minimum value of the counter is sa and the maximum is sb. If counting up reaches a value exceeding the maximum, it is resumed with the minimum value. If the counter value set by sc is outside the counter operation range, the counter value is forced to convert to the minimum value by executing 0x1D 0x63.
• In setting count-down mode, the maximum value of the counter is sa and the minimum value is sb. If counting down reaches a value less than the minimum, it is resumed with the maximum value. If the counter value set by sc is outside the counter operation range, the counter value is forced to convert to the maximum value by executing 0x1D 0x63.
• Parameters sa to sc can be omitted. If omitted, these values remain unchanged.
• Parameters sa to sc must not contain characters, with the exception of those from ‘0’ to ‘9’.

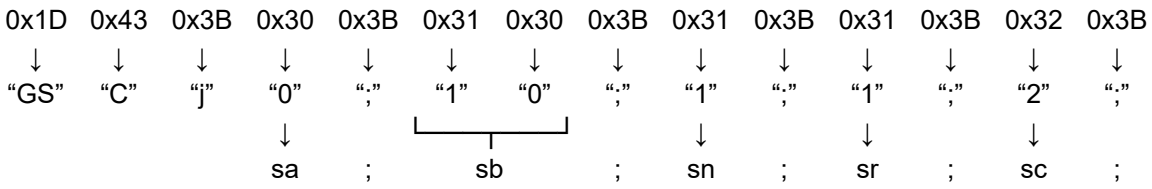
[Default]

sa = 0x01, sb = 0xFFFF, sn = 0x01, sr = 0x01, sc = 0x01

[Reference]

0x1D 0x43 0x30, 0x1D 0x43 0x31, 0x1D 0x43 0x32, 0x1D 0x63

[Example] Send the command sequence:




The counter is set from 0 (sa) to 10 (sb) starting from 2 (sc).
The counter is incremented by 1 (sn) repeating the same value of 1 time (sr).

# 0x1D 0x49 <GS I>

## Transmit device ID

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | |
|---|---|---|---|
| Hex | 1D | 49 | n |
| ASCII | GS | I | n |

[Range]

0x01 ≤ n ≤ 0x03
0x31 ≤ n ≤ 0x33
n = 0xFF

[Description]

Transmits the device ID specified by n follows:

| n | DEVICE ID | SPECIFICATION |
|---|---|---|
| 0x01, 0x31 | Device model ID (1 byte) | 0xFF (resend the command with n = 0xFF) |
| 0x02, 0x32 | Type ID | See table below |
| 0x03, 0x33 | ROM version ID (4 bytes) | Depends on ROM version (4 character) |
| 0xFF | Device model ID (2 bytes) | 0x02 0x05 |

n = 0x02, 0x32 Type ID

| BIT | OFF/ON | HEX | FUNCTION |
|---|---|---|---|
| 0 | Off | 00 | 2 bytes characters codes not supported |
| 1 | Off | 00 | Autocutter not supplied |
| | On | 02 | Autocutter supplied |
| 2 | Off | 00 | Thermal paper w/o label |
| | On | 04 | Thermal paper label |
| 3 | - | - | Undefined |
| 4 | Off | 00 | Not used. Fixed to off |
| 5 | - | - | Undefined |
| 6 | - | - | Undefined |
| 7 | Off | 00 | Not used. Fixed to off |

[Notes]

This command is executed when the data is processed in the data buffer. Therefore, there could be a time lag between command reception and data transmission, depending on data buffer status.

[Default]

[Reference]

[Example]

# 0x1D 0x50

<GS P>

## Set horizontal and vertical motion units

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | |
|---|---|---|---|---|
| Hex | 1D | 50 | x | y |
| ASCII | GS | P | x | y |

[Range] 0x00 ≤ x, y ≤ 0xFF

[Description] Sets the horizontal and vertical motion units to 1/x inch and 1/y inch respectively.
When x is set to 0x00, the default setting value is used.
When y is set to 0x00, the default setting value is used.

[Notes]
• The horizontal direction is perpendicular to the paper feed direction.
• In standard mode, the following commands use x or y, regardless of character rotation (upside-down or 90° clockwise rotation):

Commands using x: 0x1B 0x20, 0x1B 0x24, 0x1B 0x5C, 0x1D 0x4C, 0x1D 0x57.
Commands using y: 0x1B 0x33, 0x1B 0x4A.

• This command does not affect the previously specified values.
• The calculated result from combining this command with others is truncated to the minimum value of the mechanical pitch or an exact multiple of that value.

[Default]
x = 0xCC
y = 0x198

[Reference] 0x1B 0x20, 0x1B 0x24, 0x1B 0x5C, 0x1B 0x33, 0x1B 0x4A, 0x1D 0x4C, 0x1D 0x57

[Example]

# 0x1D 0x63

<GS c>

## Print counter

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | |
|---|---|---|
| Hex | 1D | 63 |
| ASCII | GS | c |

[Range]

[Description] Sets the serial counter value in the print buffer and increments or decrements the counter value.

[Notes]

- After setting the current counter value in the print buffer as print data (a character string), the device counts up or down based on the count mode set. The counter value in the print buffer is printed when the device receives a print command or the buffer is full.
- The counter print mode is set by 0x1D 0x43 0x30.
- The counter mode is set by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B.
- In count-up mode, if the counter value set by this command goes out of the counter operation range set by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B, it is forced to convert to the minimum value.
- In count-down mode, if the counter value set by this command goes out of the counter operation range set by 0x1D 0x43 0x31 or 0x1D 0x43 0x3B, it is forced to convert to the maximum value.

[Default]

[Reference] 0x1D 0x43 0x30, 0x1D 0x43 0x31, 0x1D 0x43 0x32, 0x1D 0x43 0x3B

[Example]

# 0x1D 0xD0

## Set horizontal and vertical motion units

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

[Format]

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hex | 1D | D0 | xH | xL | yH | yL |
| ASCII | GS | 0xD0 | xH | xL | yH | yL |

[Range]

0 ≤ [(xH * 256) + xL] ≤ 2040
0 ≤ [(yH * 256) + yL] ≤ 2040

[Description]

Sets the horizontal and vertical motion units to 1/[(xH * 256) + xL] inch and 1/[(yH * 256) + yL] inch respectively.
When x is set to 0, the default setting value is used.
When y is set to 0, the default setting value is used.

[Notes]

• The horizontal direction is perpendicular to the paper feed direction.
• In standard mode, the following commands use x or y, regardless of character rotation (upside-down or 90° clockwise rotation):

Commands using x: 0x1B 0x20, 0x1B 0x24, 0x1B 0x5C, 0x1D 0x4C, 0x1D 0x57.
Commands using y: 0x1B 0x33, 0x1B 0x4A.

• This command does not affect the previously specified values.
• The calculated result from combining this command with others is truncated to the minimum value of the mechanical pitch or an exact multiple of that value.

[Default]

x = 0xCC, y = 0x198

[Reference]

0x1B 0x20, 0x1B 0x24, 0x1B 0x5C, 0x1B 0x33, 0x1B 0x4A, 0x1D 0x4C, 0x1D 0x50, 0x1D 0x57

[Example]

# 0x1D 0xE6

## Virtual paper-end limit

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | | |
|---|---|---|---|---|---|
| [Format] | Hex | 1D | E6 | nH | nL |
| | ASCII | GS | 0xE6 | nH | nL |

[Range] 0x00 ≤ nH≤ 0xFF
0x00 ≤ nL ≤ 0xFF

[Description] This command sets the limit, expressed in cm as [(nH × 256) + nL], after which is pointed out the virtual paper-end.

[Notes]

[Default] nH = 0x00
nL = 0xF0

[Reference]

[Example] To see the virtual paper-end is pointed out after 15 metres from the first detection of low paper, it's necessary convert 15 metres in 1500 centimetres and then, calculate nH and nL value in the following mode:

nH = 1500 / 256 = 5
nL = 1500 - (nH × 256) = 1500 - (5 × 256) = 220

and then send the following command:
0x1D 0xE6 0x05 0xDC

# 0x1D 0xE8

## Set minimum ticket length

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | E8 | n |
| | ASCII | GS | 0xE8 | n |

[Range] 0x36 ≤ n ≤ 0xFF

[Description] This command sets the minimum ticket length to the n value.

[Notes] Set values between 54 mm and 255 mm. Values lower than those specified are ignored.

[Default] n = 0x46 = 70 mm

[Reference]

[Example] To set the minimum ticket length at 80 mm, the command sequence will be:
0x1D 0xE8 0x00 0x50

# 0x1D 0xF0

## Set print mode

| | |
|---|---|
| Valid for | VKP80III RX65 LAT<br>VKP80III RX65 REAR<br>VKP80III ETH |

| | | | | |
|---|---|---|---|---|
| [Format] | Hex | 1D | F0 | n |
| | ASCII | GS | 0xF0 | n |

[Range] 0x00 ≤ n ≤ 0x02

[Description] Sets print mode based on the value of n as follows:

| n | PRINT MODE |
|---|---|
| 0x00 | High quality |
| 0x01 | Normal |
| 0x02 | High speed |

[Notes] Print mode reverts to the default value when the device is reset or turned off.

[Default] n = 0x02

[Reference]

[Example]

# ALIGNMENT

# ALIGNMENT COMMANDS

Devices listed in this manual are equipped with sensors that allow the use of alignment black mark in order to handle rolls of with pre-printed and fixed length fields.

For further information, refer to the user manual of each device.

The commands available for managing the alignment of the ticket are the following:

- 0x1D 0xE7: sets the distance between the point of alignment and the black mark (value of “Black Mark Distance” parameter).
- 0x1D 0xF6 and 0x1D 0xF8: perform the alignment of ticket, which is advanced to cut the ticket at the first alignment point available.
- 0x1C 0xC1: performs the desired recovery of the paper after the cutting operation.

Print a ticket with alignment requires the following sequence of commands:

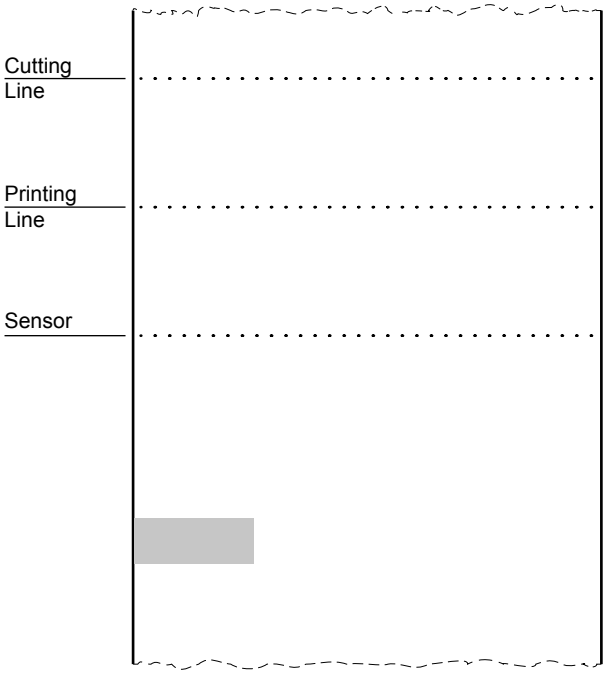
1. General settings of the ticket (character formatting, print density, margins etc.)
2. Alignment command: 0x1D 0xF6.
3. Ticket printout (printing text, logos or any graphic).
4. Alignment command: 0x1D 0xF8.
5. Cut command 0x1B 0x69.
6. Command for paper recovery 0x1C 0xC1 (optional).

The settings take effect from next ticket to the one already in the device.

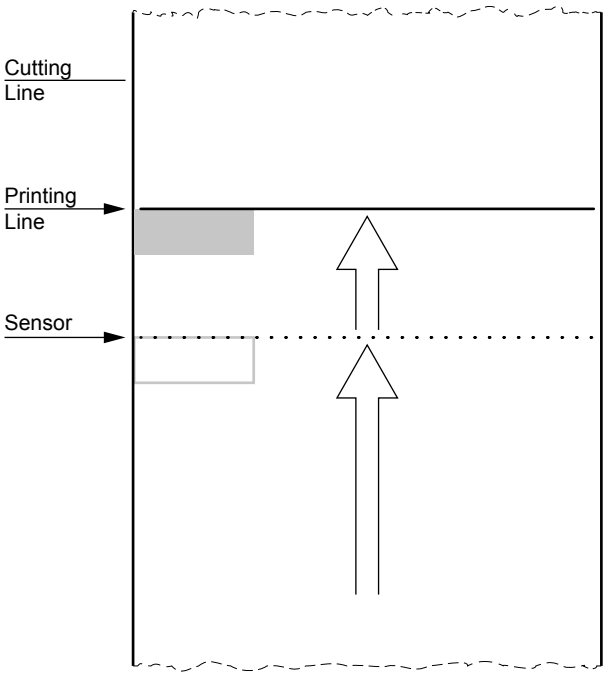
In the following examples, are described some sequences of commands to manage the alignment.

[Example 1] Commands sequence to print tickets with “alignment point” set to the edge of the black mark (“Black Mark Distance” parameter = 0 mm set in the setup procedure) and with full paper recovery (0x1C 0xC1 0x0B).

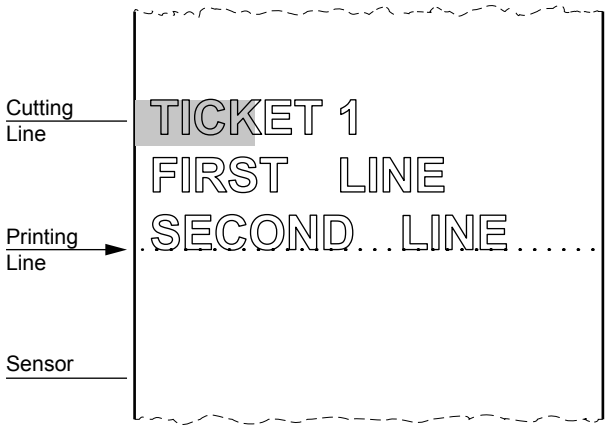
Start
Paper with black mark not aligned.



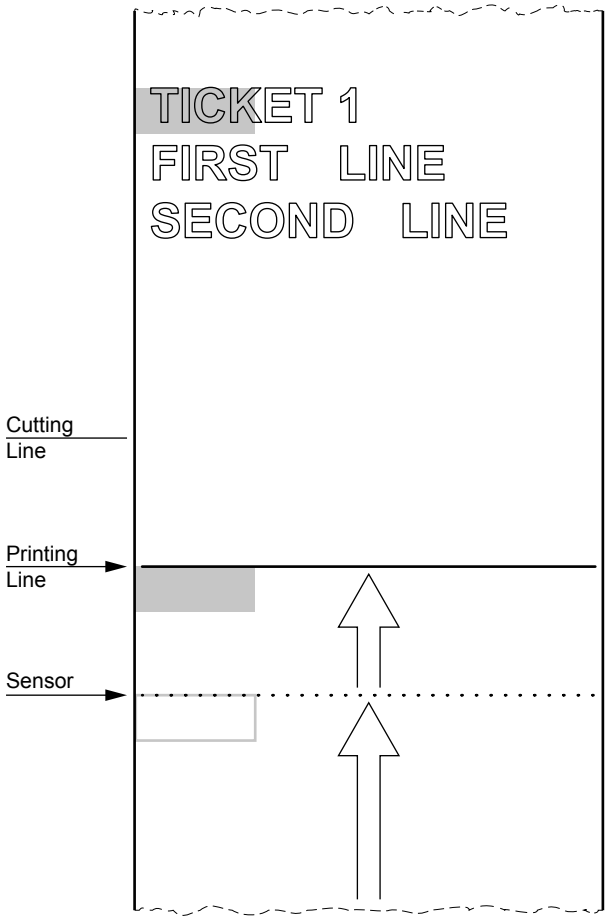

Alignment command 0x1D 0xF6.
Paper is fed. The black mark is recognized by the sensor and aligned under the printing line.



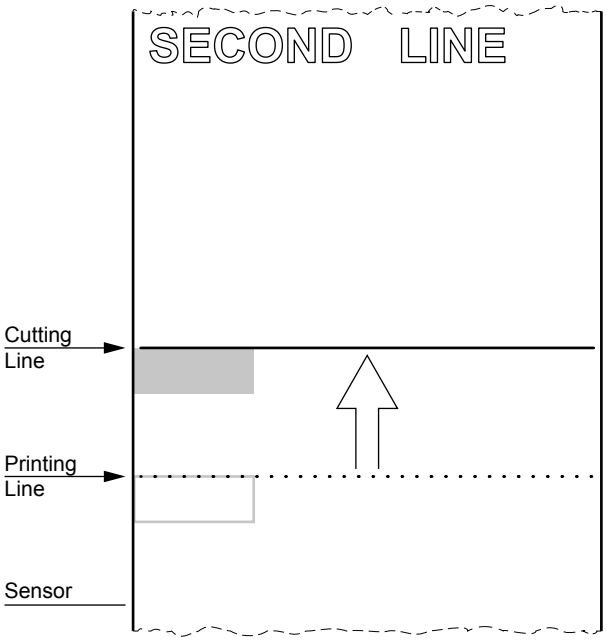
Command for text printing:
‘TICKET 1’, 0x0A, ’FIRST LINE’, 0x0A, ’SECOND LINE’, 0x0A



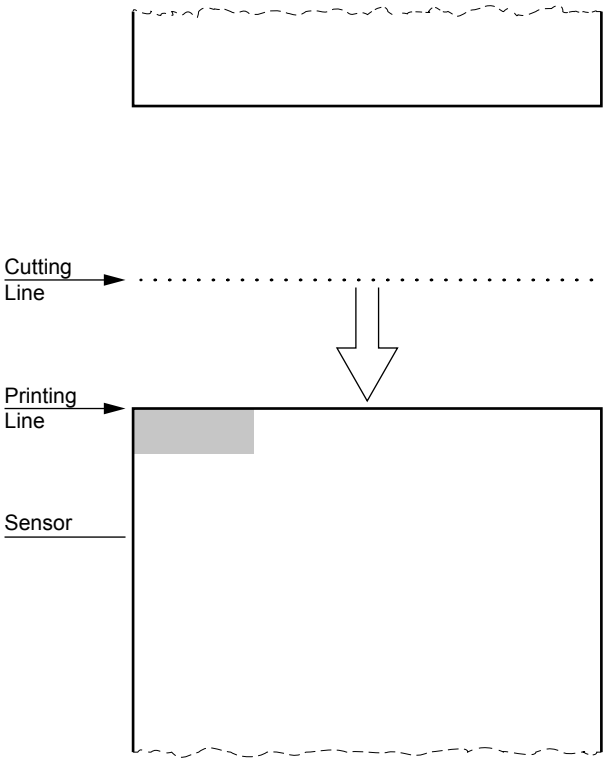

Alignment command 0x1D 0xF8.
Paper is fed. The next black mark is recognized by the sensor and aligned under the printing line.



Cut command 0x1B 0x69.
Paper is fed until the black mark is not aligned under the cutting line.

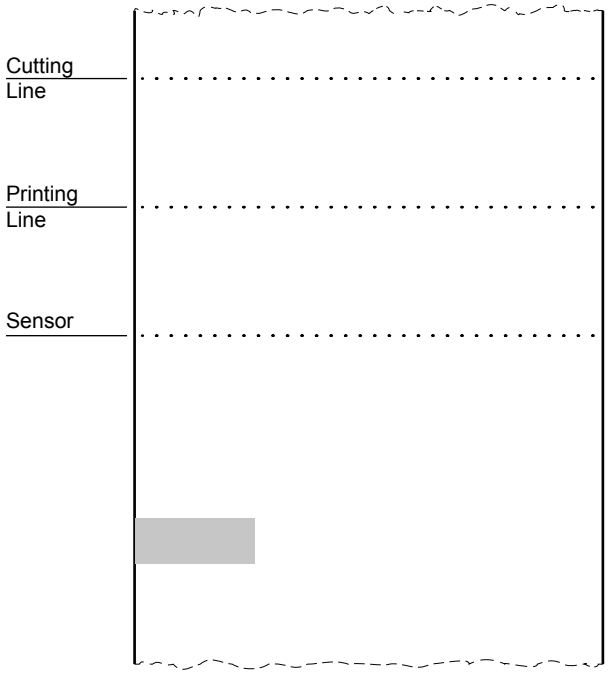



The paper is cut.
The paper is automatically retracted under the printing line.

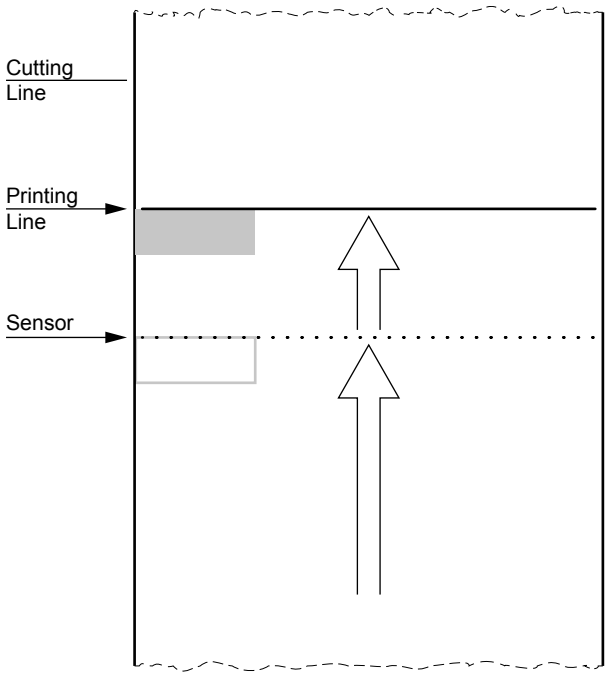


[Example 2] Commands sequence to print tickets with “alignment point” set to the edge of the black mark (“Black Mark Distance” parameter = 0 mm set in the setup procedure) and and no paper recovery (0x1C 0xC1 0x00).

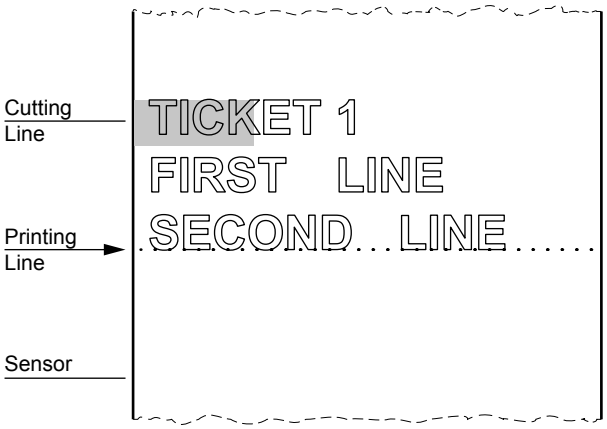
Start
Paper with black mark not aligned.



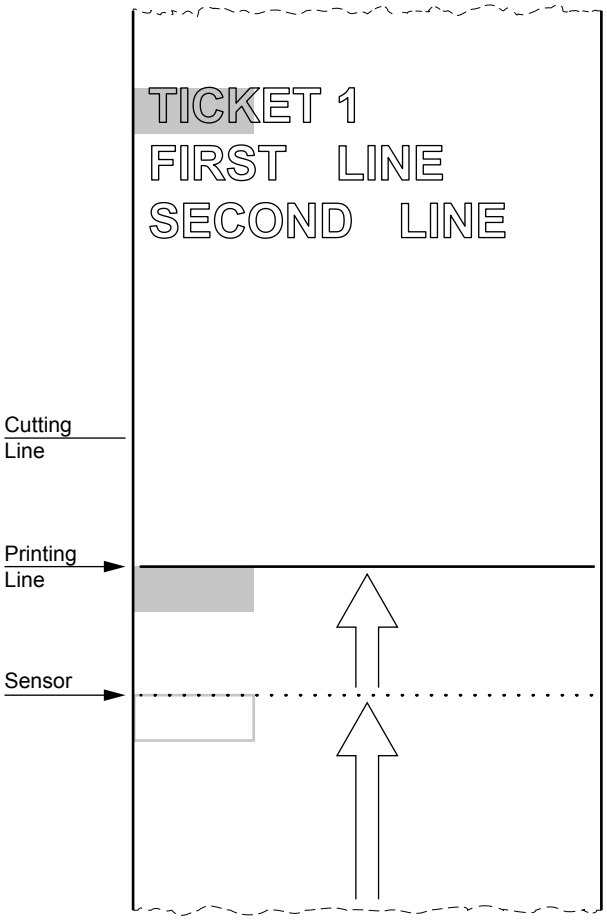

Alignment command 0x1D 0xF6.
Paper is fed. The black mark is recognized by the sensor and aligned under the printing line.



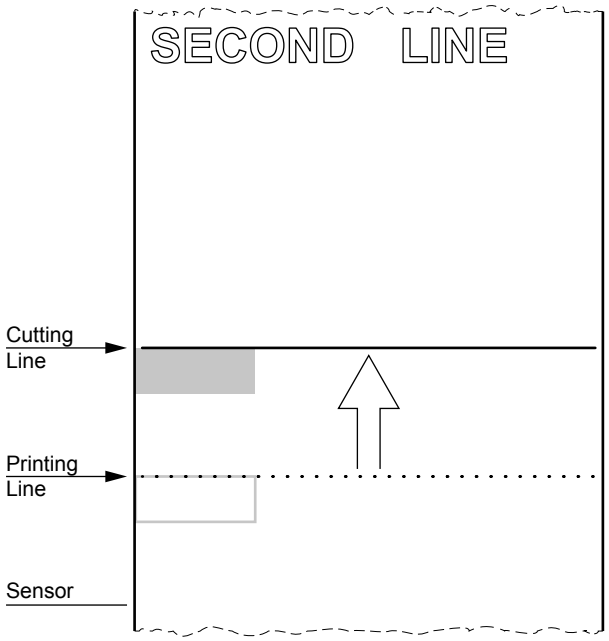
Command for text printing:
‘TICKET 1’, 0x0A, ’FIRST LINE’, 0x0A, ’SECOND LINE’, 0x0A



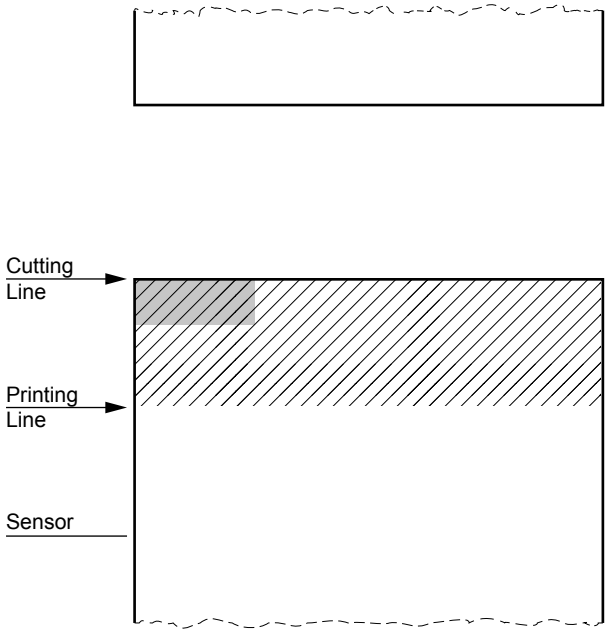

Alignment command 0x1D 0xF8.
Paper is fed. The next black mark is recognized by the sensor and aligned under the printing line.



Cut command 0x1B 0x69.
Paper is fed until the black mark is not aligned under the cutting line.

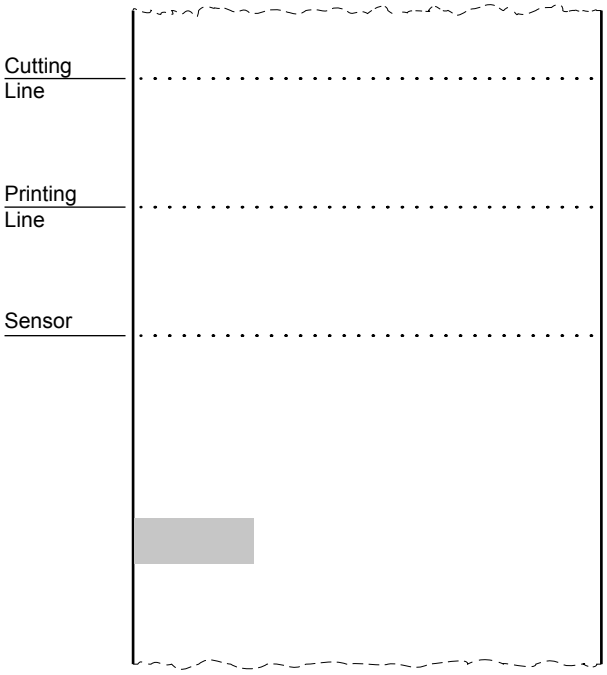



The paper is cut.
The portion of the paper between the cutting line and the printing line is not recovered.

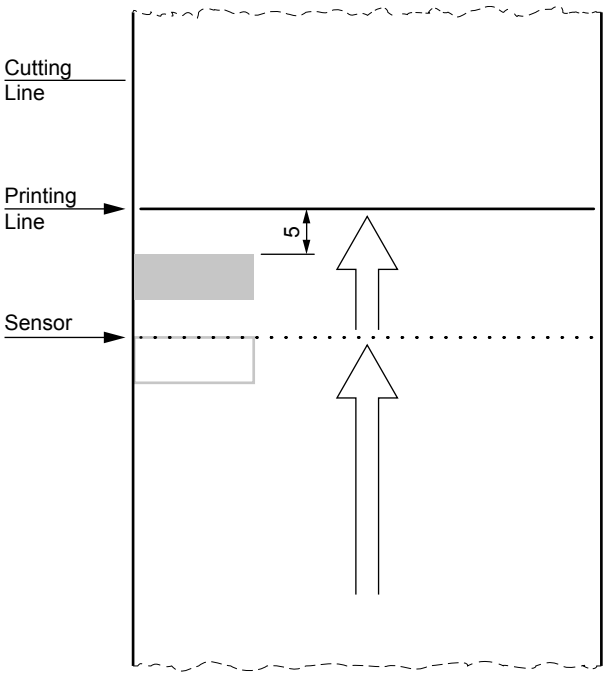


[Example 3] Commands sequence to print tickets with “alignment point” moved 5 mm compared to the edge of the black mark (“Black Mark Distance” = 5 mm set from setup) and with full paper recovery (0x1C 0xC1 0x0B).

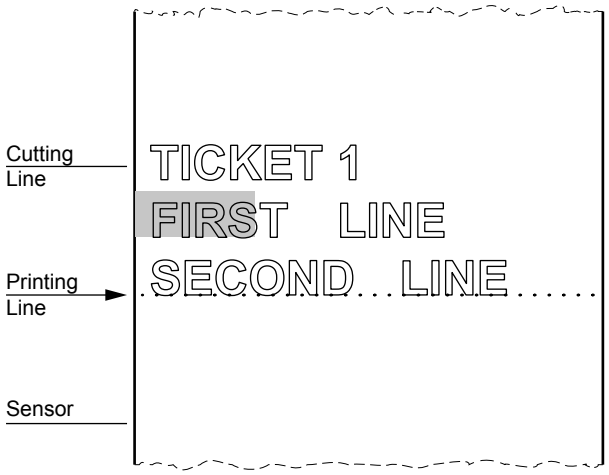
Start
Paper with black mark not aligned.



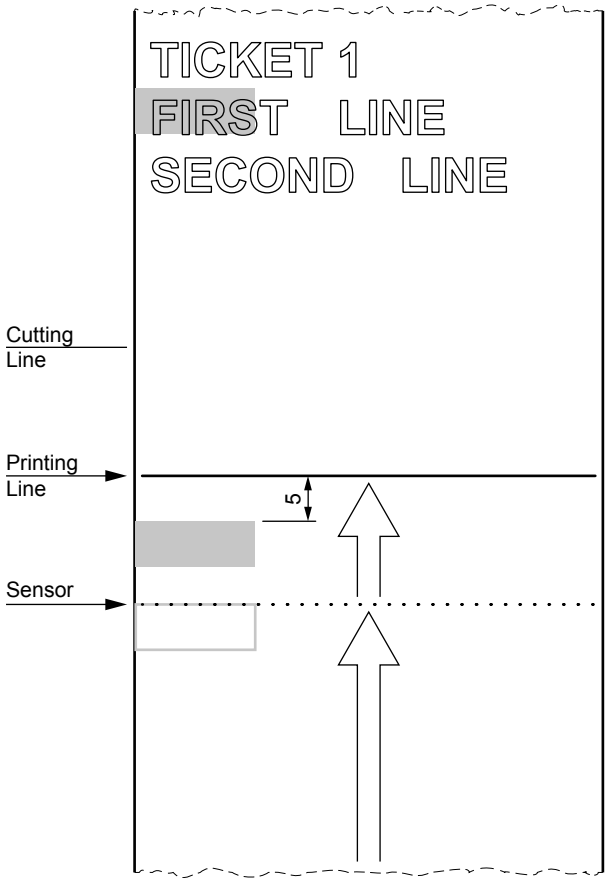

Alignment command 0x1D 0xF6.
Paper is fed. The black mark is recognized by the sensor and aligned at a distance of 5 mm (“Black Mark Distance”) from the printing line.



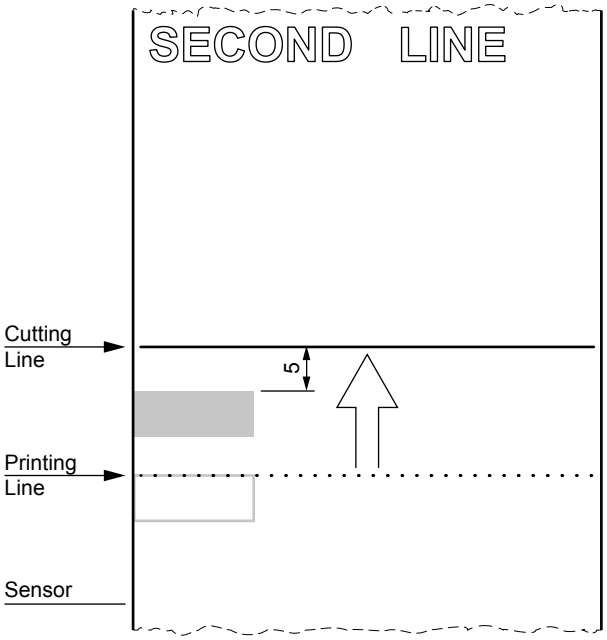
Command for text printing:
‘TICKET 1’, 0x0A, ’FIRST LINE’, 0x0A, ’SECOND LINE’, 0x0A



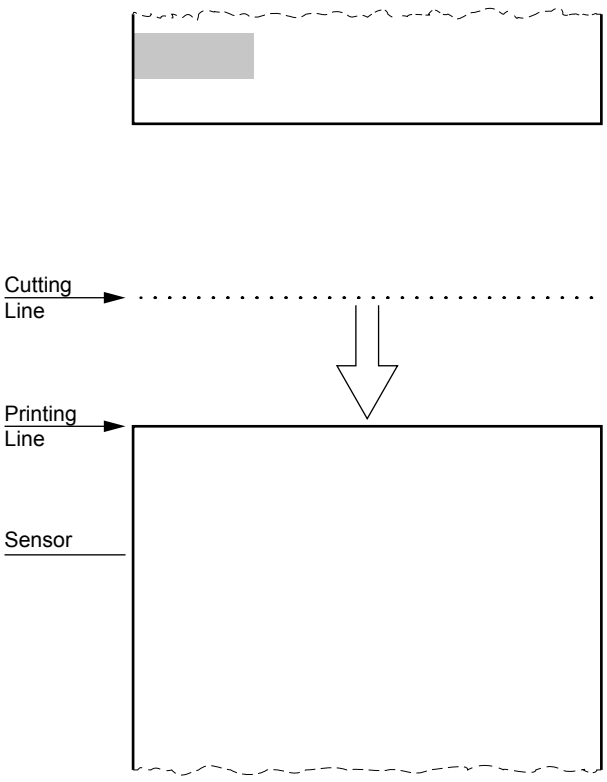

Alignment command 0x1D 0xF8.
Paper is fed. The next black mark is recognized by the sensor and aligned at a distance of 5 mm (“Black Mark Distance”) from the printing line.



Cut command 0x1B 0x69.
Paper is fed until the black mark is not aligned at a distance of 5 mm (“Black Mark Distance”) from the cutting line.



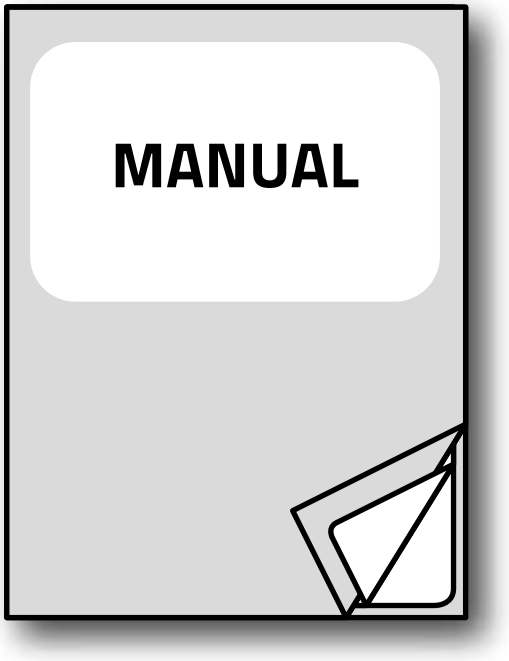

The paper is cut.
The paper is automatically retracted under the printing.



PAGE MODE

# PAGE MODE COMMANDS

For details on the PAGE MODE commands of the device refer to the manual with code 0577200M000073



Code : 7720000000200 Rev. 2.30

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