COMMANDS MANUAL

KPM302III
TK202III
TK302III

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.

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.

INTRODUCTION 

CUSTOM/POS EMULATION 

SVELTA EMULATION 

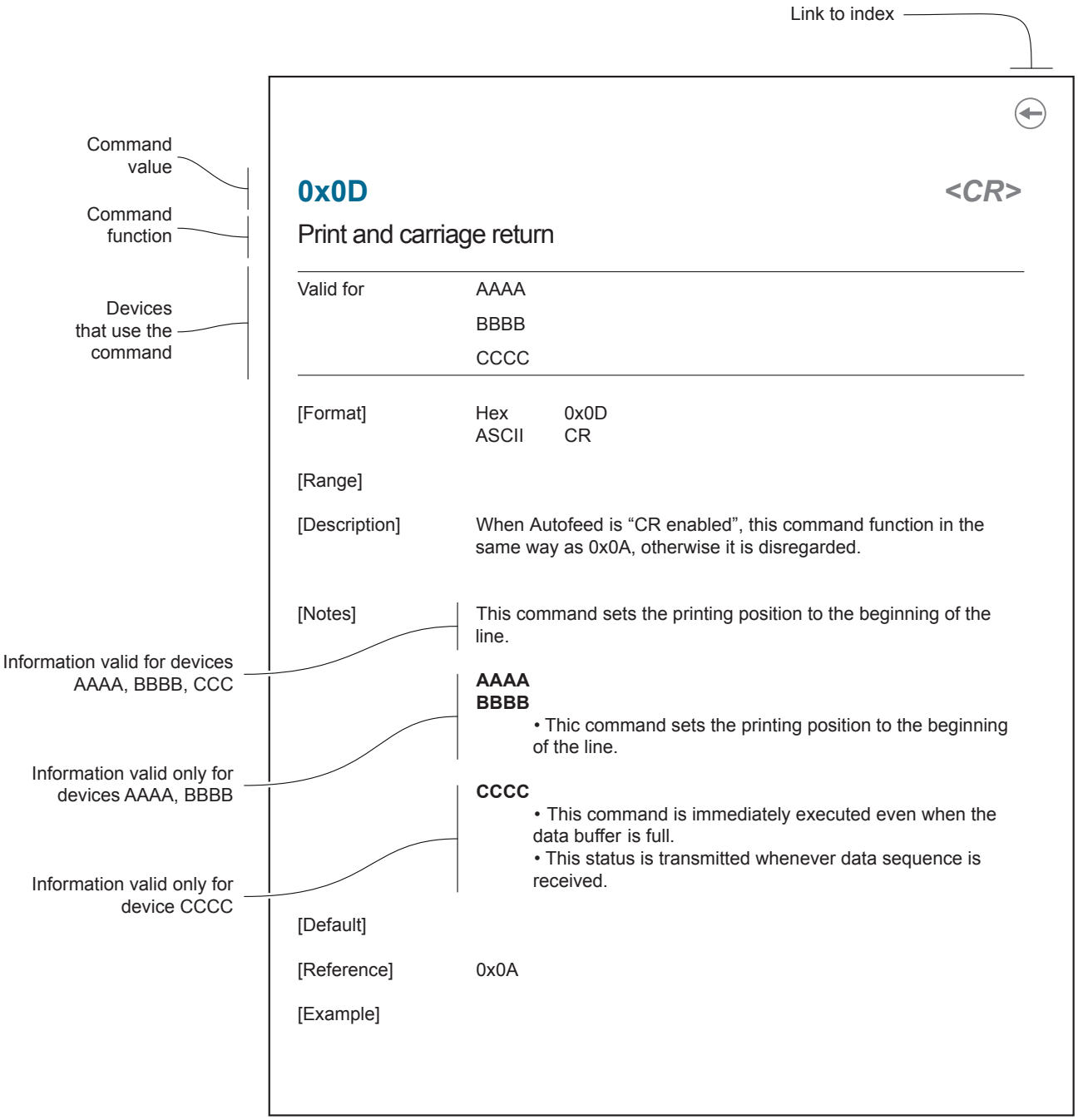
ALIGNMENT 

INTRODUCTION

1 CONSULTING COMMANDS MANUAL 6
2 IDENTIFICATION OF THE MODELS 8
3 PAPER SPECIFICATION 9

1 CONSULTING COMMANDS MANUAL

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.

2 IDENTIFICATION OF THE MODELS

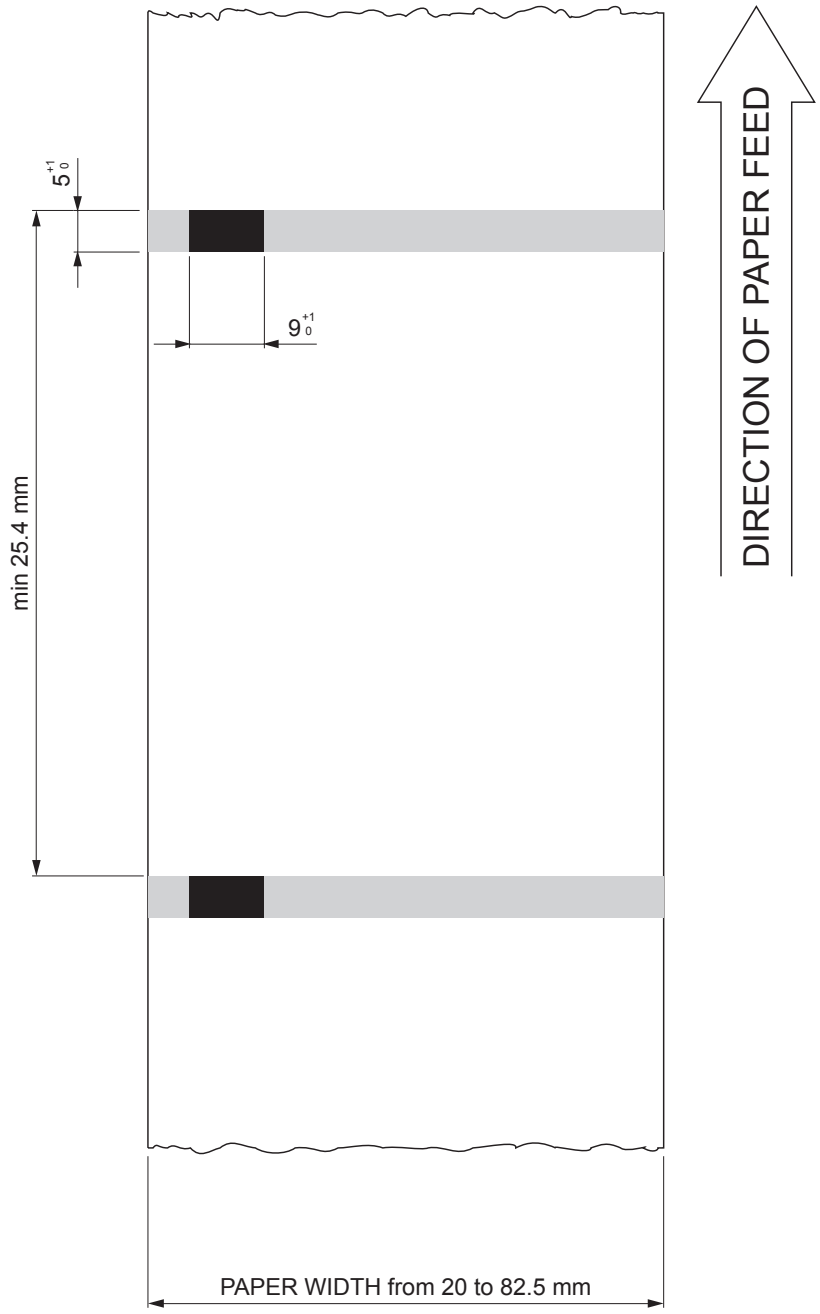
NOMENCLATURE	DESCRIPTION
KPM302III	KPM302 base configuration (OEM model with 200 dpi print head)
KPM302III EJ	KPM302 with ejector group
KPM302III vSEL	KPM302 with selector group for vertical fixing
KPM302III hSEL	KPM302 with selector group for horizontal fixing
KPM302III TF	KPM302 with triple feeder
KPM302III TF-EJ	KPM302 with triple feeder and ejector group
KPM302III TF-hSEL	KPM302 with triple feeder and selector group for horizontal fixing
TK202III	TK202 base configuration (TKT model with 200 dpi print head)
TK302III	TK302 base configuration (TKT model with 200 dpi print head)
TK302III TF	TK302 with triple feeder

3 PAPER SPECIFICATION

All the dimensions shown in following figures are in millimetres.

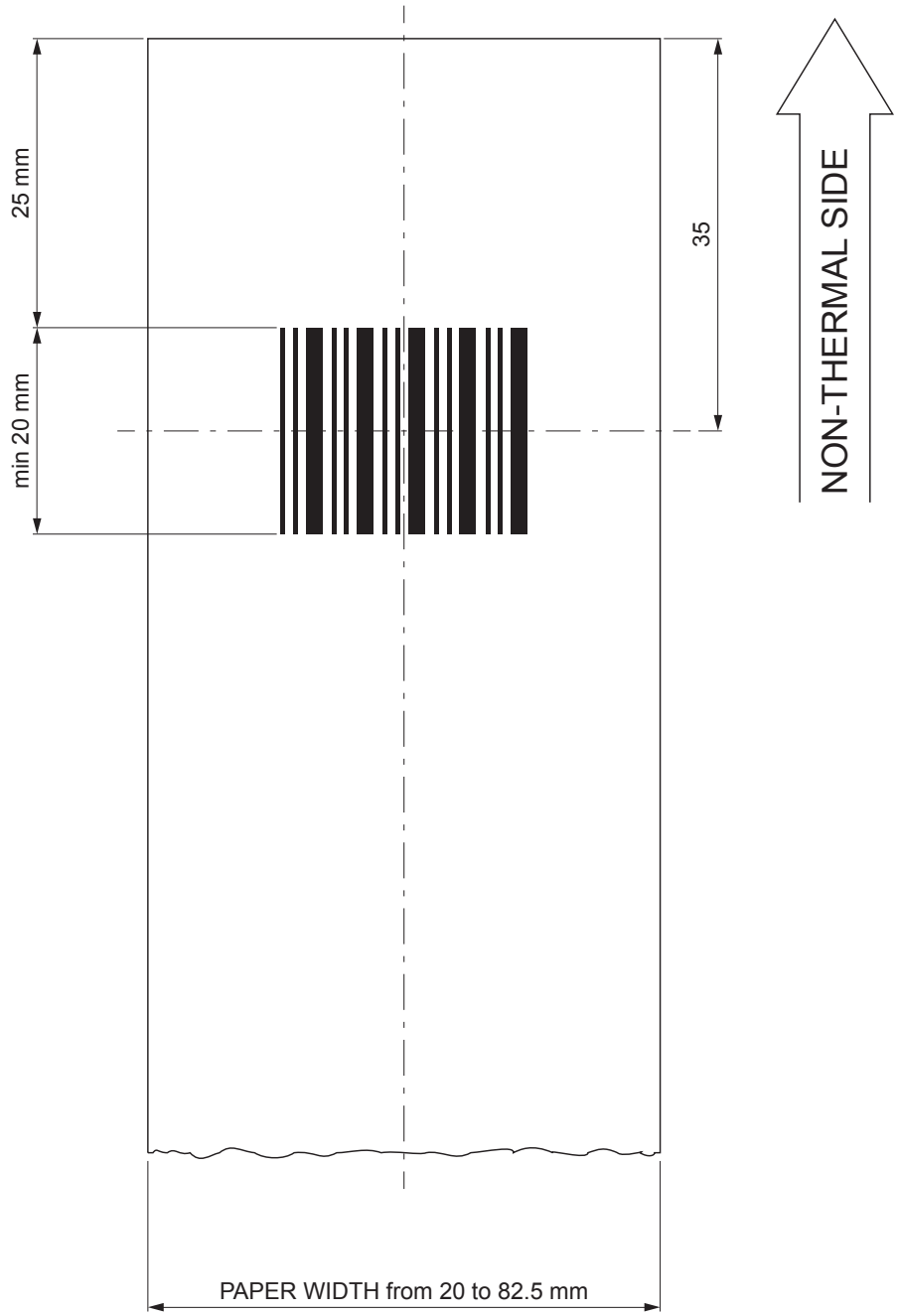
Paper with black mark

The following image shows the placement of the black mark on paper. The black mark can be printed both on the thermal side and on the non-thermal side of paper and it 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.



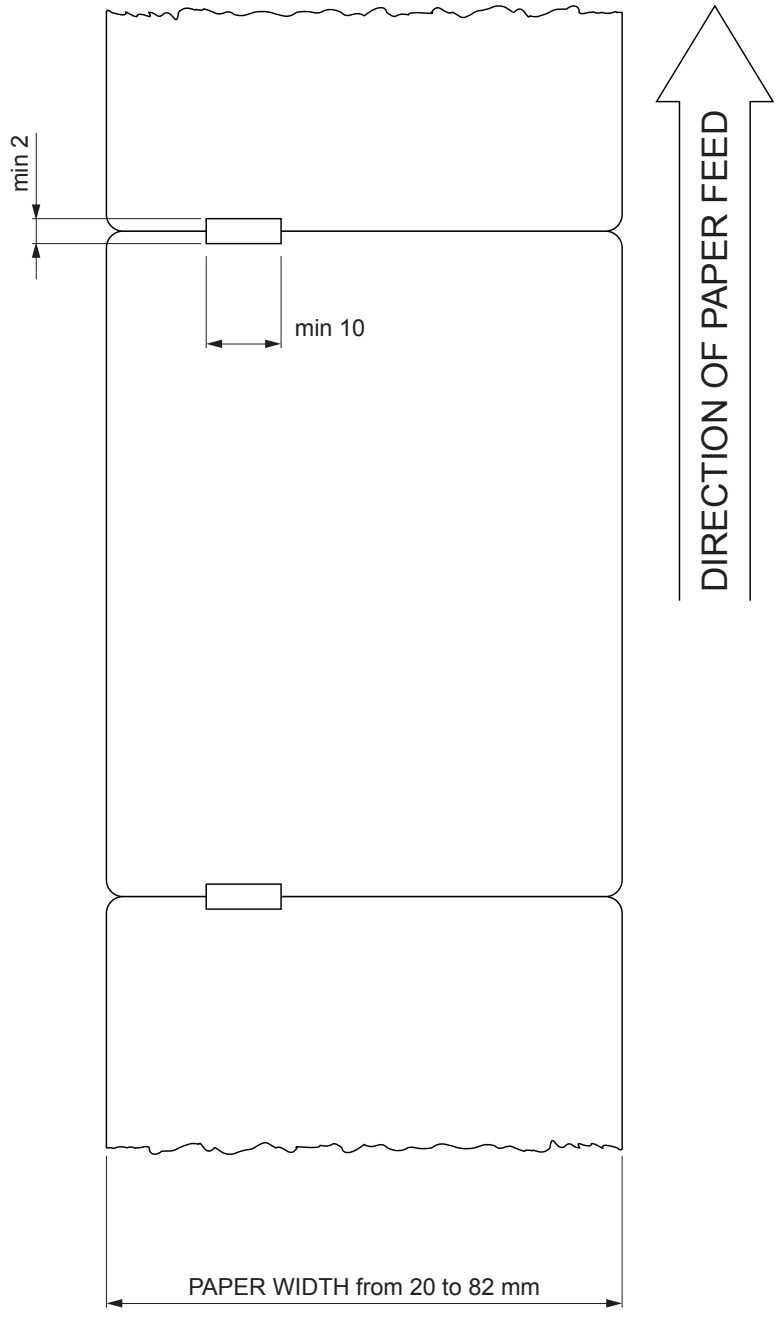
Paper with barcode (for models with barcode reader)

The following image shows the placement of the barcode on the ticket. The barcode must be printed on the non-thermal side of the paper and at 25 mm from the edge of the ticket to ensure the correct barcode reading when ticket alignment is performed.
For more information about the use of paper with barcode see user manual.



Fan-fold paper with hole
(for KPM302III, KPM302III EJ, KPM302III vSEL, KPM302III hSEL, TK302III)

The following image shows the placement of the hole on the paper. The hole can be positioned across the width of the ticket.
To manage tickets with hole, set the parameter “Black mark position” to “Transparent”.
For more information about the use of paper with hole see user manual.

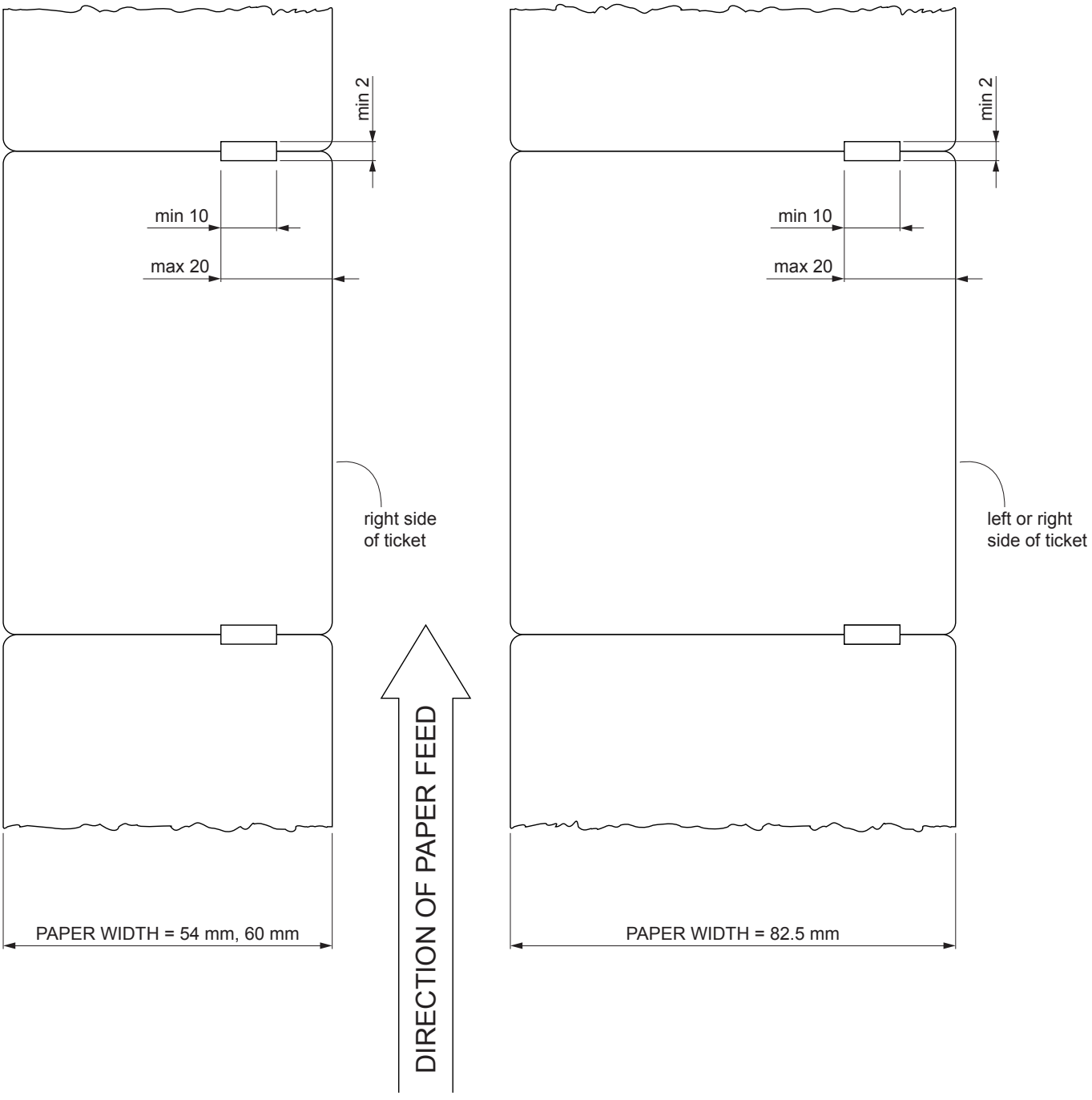


Fan-fold paper with hole
(for KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF)

The following image shows the placement of the hole on the paper. The hole can be positioned across the width of the ticket.
To manage tickets with hole, set the parameter “Black mark position” to “Transparent”.
For more information about the use of paper with hole see user manual.

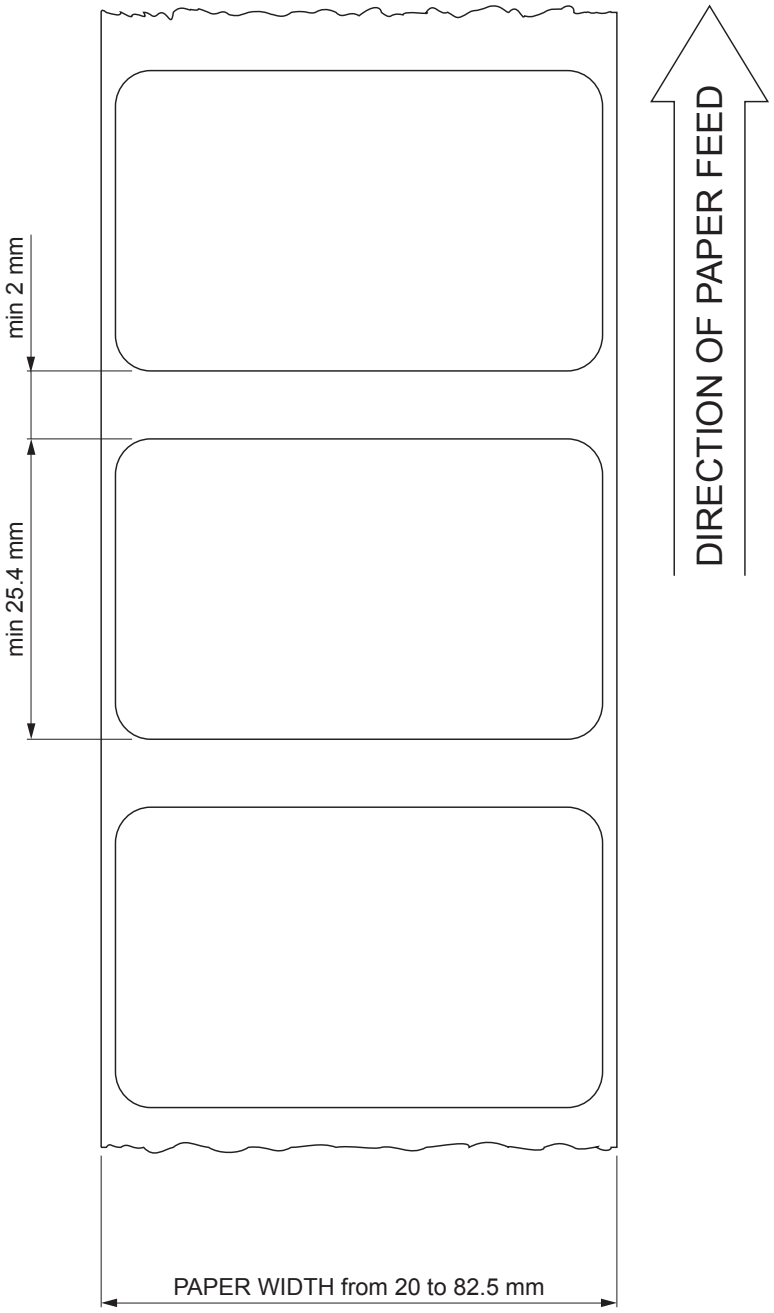
The hole must be positioned in a lateral position on ticket (see the following figures):

- for paper width = 82.5 mm, the hole may be positioned on the left and on the right side of the ticket
- for paper width = 54 mm or 60 mm, the hole may be positioned only on the right side of the ticket (next to the fixed paper guide).



Paper with labels
(for KPM302III, KPM302III EJ, KPM302III vSEL, KPM302III hSEL, TK302III)

The following image shows a portion of paper with labels. To manage paper with label, you need to set a negative value for the parameter “Black mark distance”.
For more information about the use of paper with hole see user manual.



Ticket with RFID tag (models with RFID reader/writer)

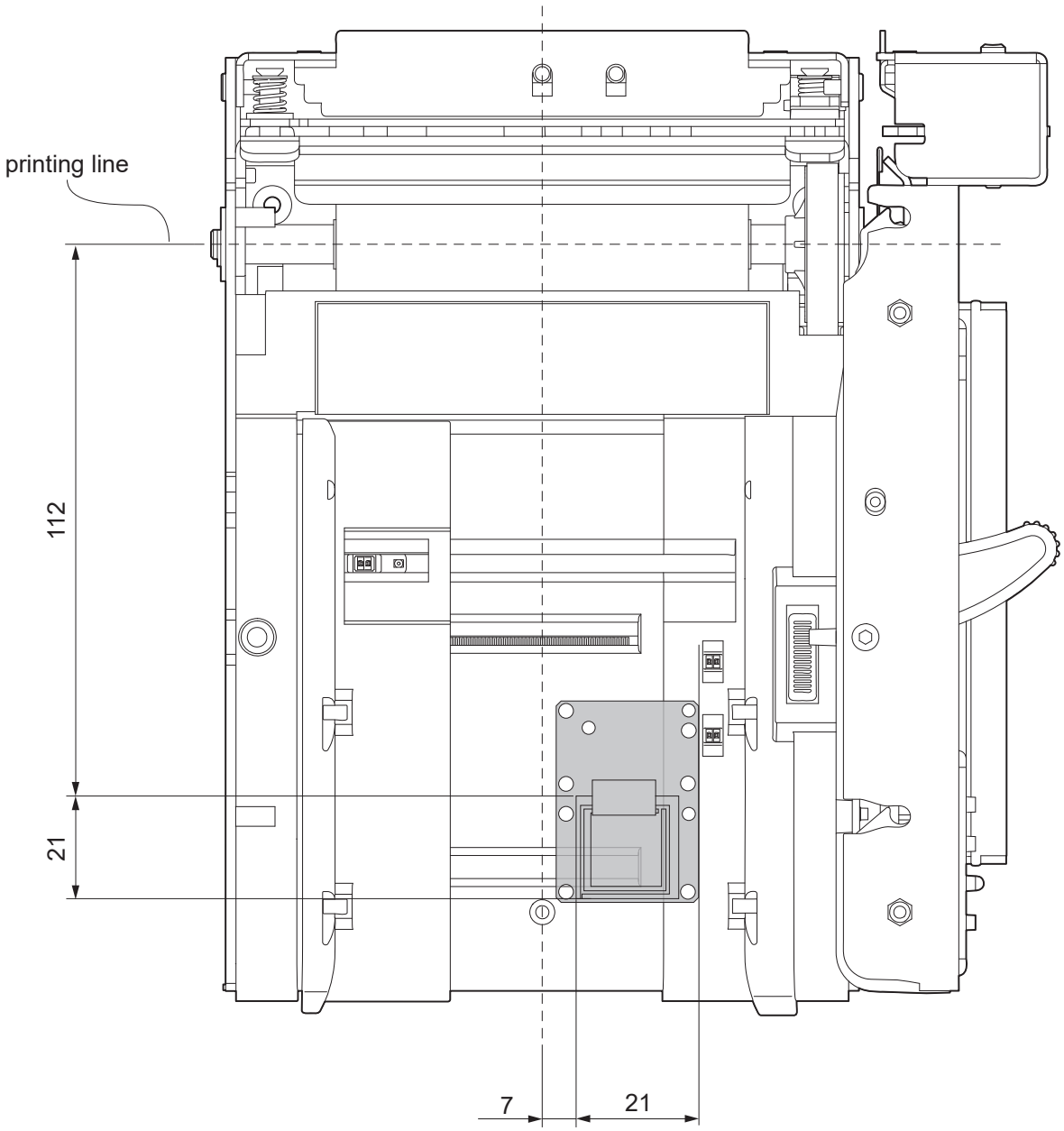
RFID (acronym for Radio Frequency IDentification) is a technology to identify automatically items using radio waves; this system is based on wireless data capture from RFID tag using appropriate readers. The RFID tag, or transponder, is made up of :

- the microchip that stores the data (including also a unique serial number written);
- an RFID antenna.

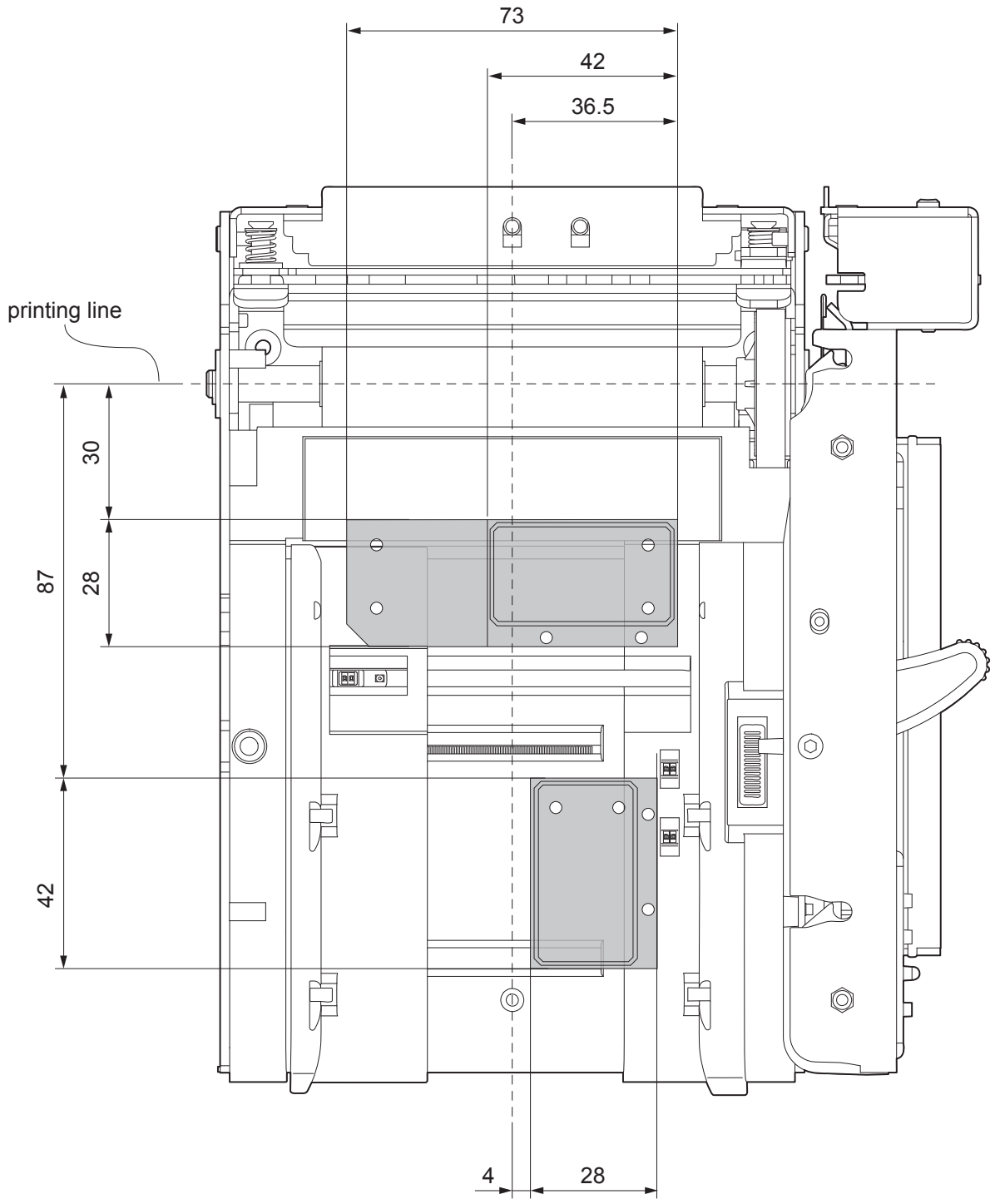
The device models equipped with RFID reader are equipped with an RFID transceiver, provided with antenna, that allows to send and receive RF data to and from the tag. For this application the ticket dimensions are not binding but for good reading is important that the tag inside the ticket, after alignment, intersects the antenna area.

The following figures show the available positions of antenna RFID inside the device.

models with UHF RFID module



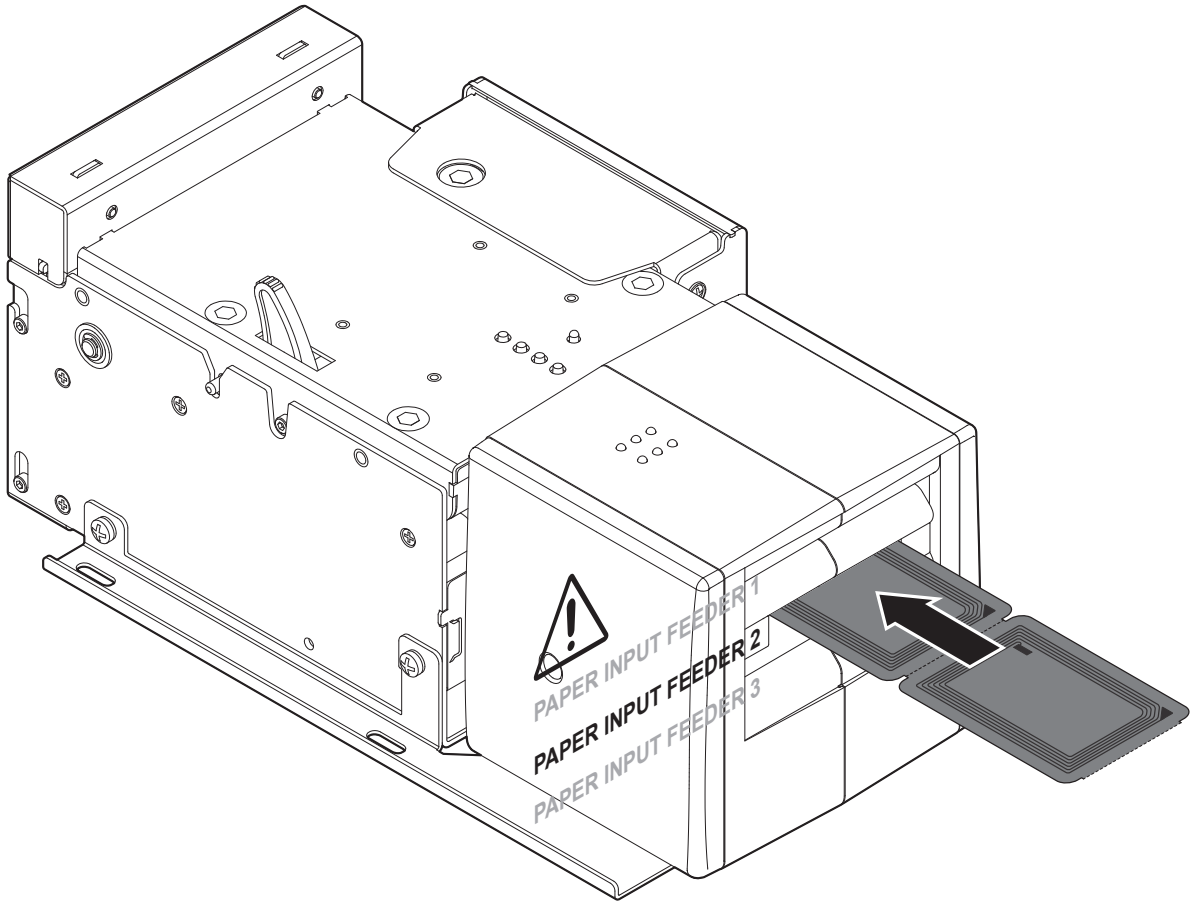
models with HF RFID module



NOTE: For ease of reference, for some models is represented only the device group without external plastic chassis or triple feeder.

To use ticket with RFID tag with models with triple feeder, it is recommended to load ticket into the input feeder 2 (the central one), as shown in following figure.

The use of paper inputs 1 and 3 causes a slight bending of paper and therefore the integrity of TAG RFID is not guaranteed. Before proceeding, check with a sample ticket.



CUSTOM/POS EMULATION

1 COMMANDS LISTED IN ALPHANUMERIC ORDER 18
2 COMMANDS LISTED BY FUNCTION 23

1 COMMANDS LISTED IN ALPHANUMERIC ORDER

0x08 . . . . . <BS> 155

0x09 . . . . . <HT> 156

0x0A . . . . . <LF> 104

0x0D . . . . . <CR> 105

0x10 0x04 . . . . . <DLE EOT> 111

0x10 0x04 . . . . . <DLE EOT> 117

0x10 0x04 . . . . . <DLE EOT> 123

0x10 0x04 . . . . . <DLE EOT> 133

0x18 . . . . . <CAN> 74

0x1B 0x20 . . . . . <ESC SP> 75

0x1B 0x21 . . . . . <ESC !> 76

0x1B 0x24 . . . . . <ESC $> 157

0x1B 0x25 . . . . . <ESC %> 78

0x1B 0x26 . . . . . <ESC &> 79

0x1B 0x28 0x76 . . . . . <ESC (v> 158

0x1B 0x2A . . . . . <ESC *> 148

0x1B 0x2D . . . . . <ESC -> 81

0x1B 0x30 . . . . . <ESC 0> 101

0x1B 0x32 . . . . . <ESC 2> 102

0x1B 0x33 . . . . . <ESC 3> 103

0x1B 0x3D . . . . . <ESC => 199

0x1B 0x3F . . . . . <ESC ?> 82

0x1B 0x40 . . . . . <ESC @> 200

0x1B 0x44 . . . . . <ESC D> 159

0x1B 0x45 . . . . . <ESC E> 83

0x1B 0x47 . . . . . <ESC G> 84

0x1B 0x4A . . . . . <ESC J> 106
0x1B 0x4D . . . . . <ESC M> 85
0x1B 0x52 . . . . . <ESC R> 86
0x1B 0x56 . . . . . <ESC V> 87
0x1B 0x5C . . . . . <ESC \> 161
0x1B 0x61 . . . . . <ESC a> 162
0x1B 0x63 0x35 . . . . . <ESC c 5> 201
0x1B 0x64 . . . . . <ESC d> 107
0x1B 0x69 . . . . . <ESC i> 167
0x1B 0x69 . . . . . <ESC i> 168
0x1B 0x74 . . . . . <ESC t> 88
0x1B 0x76 . . . . . <ESC v> 139
0x1B 0x7B . . . . . <ESC {> 90
0x1B 0xC1 91
0x1C 0x0C 169
0x1C 0x0E 170
0x1C 0x3C 0x53 0x56 0x45 0x4C 0x3E . . . . . <FS < S V E L > > 202
0x1C 0x65 . . . . . <FS e> 94
0x1C 0x66 . . . . . <FS f> 95
0x1C 0x6C . . . . . <FS l> 203
0x1C 0x73 . . . . . <FS s> 204
0x1C 0x80 205
0x1C 0x81 206
0x1C 0x82 108
0x1C 0x83 109
0x1C 0x84 207

0x1C 0x90 189
0x1C 0x91 190
0x1C 0x92 191
0x1C 0x93 192
0x1C 0x94 194
0x1C 0xB0 32
0x1C 0xB1 34
0x1C 0xB2 36
0x1C 0xC0 209
0x1C 0xC1 171
0x1C 0xEA 140
0x1D 0x21 . . . . . <GS !> 92
0x1D 0x28 0x6B . . . . . <GS (k> 37
0x1D 0x28 0x6B [fn 065] . . . . . <GS (k> 39
0x1D 0x28 0x6B [fn 065] . . . . . <GS (k> 47
0x1D 0x28 0x6B [fn 065] . . . . . <GS (k> 59
0x1D 0x28 0x6B [fn 066] . . . . . <GS (k> 40
0x1D 0x28 0x6B [fn 066] . . . . . <GS (k> 48
0x1D 0x28 0x6B [fn 067] . . . . . <GS (k> 41
0x1D 0x28 0x6B [fn 067] . . . . . <GS (k> 49
0x1D 0x28 0x6B [fn 067] . . . . . <GS (k> 60
0x1D 0x28 0x6B [fn 068] . . . . . <GS (k> 42
0x1D 0x28 0x6B [fn 068] . . . . . <GS (k> 61
0x1D 0x28 0x6B [fn 069] . . . . . <GS (k> 43
0x1D 0x28 0x6B [fn 069] . . . . . <GS (k> 50
0x1D 0x28 0x6B [fn 069] . . . . . <GS (k> 62
0x1D 0x28 0x6B [fn 080] . . . . . <GS (k> 45
0x1D 0x28 0x6B [fn 080] . . . . . <GS (k> 51

0x1D 0x28 0x6B [fn 080] . . . . . <GS (k> 63
0x1D 0x28 0x6B [fn 081] . . . . . <GS (k> 46
0x1D 0x28 0x6B [fn 081] . . . . . <GS (k> 52
0x1D 0x28 0x6B [fn 081] . . . . . <GS (k> 64
0x1D 0x28 0x6B [fn 365] . . . . . <GS (k> 53
0x1D 0x28 0x6B [fn 366] . . . . . <GS (k> 54
0x1D 0x28 0x6B [fn 367] . . . . . <GS (k> 55
0x1D 0x28 0x6B [fn 368] . . . . . <GS (k> 56
0x1D 0x28 0x6B [fn 380] . . . . . <GS (k> 57
0x1D 0x28 0x6B [fn 381] . . . . . <GS (k> 58
0x1D 0x2A . . . . . <GS *> 150
0x1D 0x2F . . . . . <GS /> 152
0x1D 0x3A . . . . . <GS :> 165
0x1D 0x42 . . . . . <GS B> 93
0x1D 0x48 . . . . . <GS H> 65
0x1D 0x49 . . . . . <GS I> 210
0x1D 0x4C . . . . . <GS L> 163
0x1D 0x50 . . . . . <GS P> 212
0x1D 0x56 . . . . . <GS V> 172
0x1D 0x57 . . . . . <GS W> 164
0x1D 0x5E . . . . . <GS ^> 166
0x1D 0x65 0x05 . . . . . <GS e ENQ> 180
0x1D 0x65 0x30 . . . . . <GS e 0> 181
0x1D 0x65 0x31 . . . . . <GS e 1> 182
0x1D 0x66 . . . . . <GS f> 67
0x1D 0x68 . . . . . <GS h> 68
0x1D 0x6B . . . . . <GS k> 69
0x1D 0x70 0x49 . . . . . <GS p I> 183

0x1D 0x70 0x4F <GS p O> 184
0x1D 0x70 0x53 <GS p S> 185
0x1D 0x70 0x69 <GS p i> 186
0x1D 0x70 0x6F <GS p o> 187
0x1D 0x70 0x73 <GS p s> 188
0x1D 0x72 <GS r> 141
0x1D 0x76 0x30 <GS v 0> 153
0x1D 0x77 <GS w> 73
0x1D 0x7C 110
0x1D 0xDA 196
0x1D 0xDA 197
0x1D 0xDA 198
0x1D 0xE0 142
0x1D 0xE1 144
0x1D 0xE2 145
0x1D 0xE3 146
0x1D 0xE5 147
0x1D 0xE6 213
0x1D 0xE7 174
0x1D 0xE9 97
0x1D 0xEA 0x43 98
0x1D 0xEB 0x43 100
0x1D 0xEB 99
0x1D 0xF0 173
0x1D 0xF6 178
0x1D 0xF8 179

2 COMMANDS LISTED BY FUNCTION

COMMANDS FOR BARCODE READING

0x1C 0xB0 32
Sets the barcode reader status

0x1C 0xB1 34
Get barcode reader status

0x1C 0xB2 36
Barcode reader trigger

COMMANDS FOR BARCODE PRINTING

0x1D 0x28 0x6B . . . . . <GS (k> 37
Print two-dimensional barcode

0x1D 0x28 0x6B [fn 065] . . . . . <GS (k> 39
Specify the number of columns of PDF417 barcode

0x1D 0x28 0x6B [fn 066] . . . . . <GS (k> 40
Specify the number of rows of PDF417 barcode

0x1D 0x28 0x6B [fn 067] . . . . . <GS (k> 41
Specify the width of a module of PDF417 barcode

0x1D 0x28 0x6B [fn 068] . . . . . <GS (k> 42
Specify the height of the module of PDF417 barcode

0x1D 0x28 0x6B [fn 069] . . . . . <GS (k> 43
Specify the error correction level of PDF417 barcode

0x1D 0x28 0x6B [fn 080] . . . . . <GS (k> 45
Store the PDF417 barcode data in the barcode save area

0x1D 0x28 0x6B [fn 081] . . . . . <GS (k> 46
Encodes and prints the PDF417 barcode data in the barcode save area

0x1D 0x28 0x6B [fn 065] . . . . . <GS (k> 47
Specify encoding scheme of QRcode barcode

0x1D 0x28 0x6B [fn 066] . . . . . <GS (k> 48
Specify dot size of the module of the QRcode barcode

0x1D 0x28 0x6B [fn 067] . . . . . <GS (k> 49
Specify QRcode barcode size

0x1D 0x28 0x6B [fn 069] . . . . . <GS (k> 50
Specify the error correction level of the QRcode barcode

0x1D 0x28 0x6B [fn 080] . . . . . <GS (k> 51
Store the QRcode barcode data in the barcode save area

0x1D 0x28 0x6B [fn 081] . . . . . <GS (k> 52
Prints the QRcode barcode data

0x1D 0x28 0x6B [fn 365] . . . . . <GS (k> 53
Specify the encoding scheme of DATAMATRIX barcode

0x1D 0x28 0x6B [fn 366] . . . . . <GS (k> 54
Set rotation of DATAMATRIX barcode

0x1D 0x28 0x6B [fn 367] . . . . . <GS (k> 55
Set dot size of the module of DATAMATRIX barcode

0x1D 0x28 0x6B [fn 368] . . . . . <GS (k> 56
Set size of DATAMATRIX barcode

0x1D 0x28 0x6B [fn 380] . . . . . <GS (k> 57
Store the DATAMATRIX barcode data in the barcode save area

0x1D 0x28 0x6B [fn 381] . . . . . <GS (k> 58
Encodes and prints the DATAMATRIX barcode data in the barcode save area

0x1D 0x28 0x6B [fn 065] . . . . . <GS (k> 59
Specify encoding scheme of AZTEC barcode

0x1D 0x28 0x6B [fn 067] . . . . . <GS (k> 60
Specify dot size of the module of the AZTEC barcode

0x1D 0x28 0x6B [fn 068] . . . . . <GS (k> 61
Specify AZTEC barcode size

0x1D 0x28 0x6B [fn 069] . . . . . <GS (k> 62
Specify the error correction level of the AZTEC barcode

0x1D 0x28 0x6B [fn 080] . . . . . <GS (k> 63
Store the AZTEC barcode data in the barcode save area

0x1D 0x28 0x6B [fn 081] . . . . . <GS (k> 64
Prints the AZTEC barcode data

0x1D 0x48 . . . . . <GS H> 65
Select printing position of Human Readable Interpretation (HRI) characters

0x1D 0x66 . . . . . <GS f> 67
Select font for HRI characters

0x1D 0x68 . . . . . <GS h> 68
Set barcode height

0x1D 0x6B . . . . . <GS k> 69
Print barcode

0x1D 0x77 . . . . . <GS w> 73
Set barcode width

CHARACTER COMMANDS

0x18 . . . . . <CAN> 74
Cancel current line transmitted

0x1B 0x20 . . . . . <ESC SP> 75
Set right-side character spacing

0x1B 0x21 . . . . . <ESC !> 76
Select print modes

0x1B 0x25 . . . . . <ESC %> 78
Select/cancel user-defined characters

0x1B 0x26 . . . . . <ESC &> 79
Defines user-defined characters

0x1B 0x2D . . . . . <ESC -> 81
Turn underline mode on/off

0x1B 0x3F . . . . . <ESC ?> 82
Cancel user-defined characters

0x1B 0x45 . . . . . <ESC E> 83
Turn emphasized mode on/off

0x1B 0x47 . . . . . <ESC G> 84
Turn double-strike mode on/off

0x1B 0x4D . . . . . <ESC M> 85
Select character font

0x1B 0x52 . . . . . <ESC R> 86
Select an international character set

0x1B 0x56 . . . . . <ESC V> 87
Set 90° rotated print mode

0x1B 0x74 . . . . . <ESC t> 88
Select character code table

0x1B 0x7B . . . . . <ESC {> 90
Turn upside-down printing mode on/off

0x1B 0xC1 91
Select character pitch

0x1D 0x21 . . . . . <GS !> 92
Select character size

0x1D 0x42 . . . . . <GS B> 93
Turn black and white reverse printing mode on or off

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0x1C 0x66 <FS f> 95
True Type fonts management

0x1D 0xE9 97
Load a TrueType font

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0x1D 0xEB 99
Delete a TrueType font

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0x1B 0x32 <ESC 2> 102
Select 1/6-inch line spacing

0x1B 0x33 <ESC 3> 103
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Print and carriage return

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Print and paper feed

0x1B 0x64 <ESC d> 107
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0x1C 0x82 108
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0x1C 0x83 109
Print time

0x1D 0x7C 110
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Real-time status transmission

0x10 0x04 . . . . . <DLE EOT> 117
Real-time status transmission (models with selector)

0x10 0x04 . . . . . <DLE EOT> 123
Real-time status transmission (models with triple feeder)

0x10 0x04 . . . . . <DLE EOT> 133
Real-time status transmission (models without cutter)

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0x1C 0xEA 140
Transmit the device serial number

0x1D 0x72 . . . . . <GS r> 141
Transmit status

0x1D 0xE0 142
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0x1D 0xE1 144
Reading of length paper available before virtual paper-end

0x1D 0xE2 145
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0x1D 0xE3 146
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0x1D 0x2A . . . . . <GS *> 150
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0x1D 0x2F . . . . . <GS /> 152
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0x1D 0x76 0x30 . . . . . <GS v 0> 153
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0x09 . . . . . <HT> 156
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0x1B 0x44 . . . . . <ESC D> 159
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Set relative print position

0x1B 0x61 . . . . . <ESC a> 162
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0x1D 0xF0 173
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0x1D 0x65 0x30 . . . . . <GS e 0> 181
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Enable the automatic ejection of the ticket

0x1D 0x70 0x49 . . . . . <GS p I> 183
Initialize selector

0x1D 0x70 0x4F . . . . . <GS p O> 184
Set selector in “Open” position

0x1D 0x70 0x53 . . . . . <GS p S> 185
Set selector in “Storage” position

0x1D 0x70 0x69 . . . . . <GS p i> 186
Initialize selector

0x1D 0x70 0x6F . . . . . <GS p o> 187
Set selector in “Open” position

0x1D 0x70 0x73 . . . . . <GS p s> 188
Set selector in “Storage” position

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0x1C 0x94 194
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Initialize device

0x1B 0x63 0x35 . . . . . <ESC c 5> 201
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0x1C 0x3C 0x53 0x56 0x45 0x4C 0x3E . . . <FS < S V E L > > 202
Change device emulation to SVELTA

0x1C 0x6C . . . . . <FS l> 203
Reload paper

0x1C 0x73 . . . . . <FS s> 204
Disable or enable black mark detection

0x1C 0x80 205
Read date/time of the real time clock

0x1C 0x81 206
Read date/time of the real time clock

0x1C 0x84 207
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0x1C 0xC0 209
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0x1D 0x49 . . . . . <GS I> 210
Transmit device ID

0x1D 0x50 . . . . . <GS P> 212
Set horizontal and vertical motion units

0x1D 0xE6 213
Virtual paper-end limit

0x1C 0xB0

Sets the barcode reader status

Valid for	KPM302III, TK302III, KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	B0	n
ASCII	FS	0xB0	n

[Range] 0x30 ≤ n ≤ 0x36

[Description] This command sets the operating status of the barcode reader; n identifies the status of the barcode setting as follows :

0x30 TRIGGER ON/OFF
Every trigger the barcode reader toggle the previous status.

0x31 GOOD READ OFF
Every trigger the barcode reader is turn on and switch off after a timeout (standard) or after a correct reading.

0x32 CONTINUOUS TRIGGER OFF
Every trigger the barcode reader toggle the previous status.

0x33 CONTINUOUS / AUTO POWER ON
The barcode reader remains power on.

0x34 FLASH
Every trigger the barcode keeps scanning. The scanner flashes the light source when no code is decoded after the timeout duration elapsed. This mode can save the power resource and extend the operation life of the light source. The scanner can be waked up when there is a successful reading or with a trigger.

0x35 TESTING
If the barcode reader recognize a correct barcode the reading operation is not single, like the TRIGGER ON/OFF state, but is made permanent until the barcode is removed.

0x36 FLASH/AUTO POWER ON:
The barcode reader remains in a continuous flashing condition, when occurs a reading the barcode reader is turned on. This condition still stays for a standard timeout, then the barcode reader returns in a flashing condition.

[Notes]

• The execution of this command clears the output buffer of barcode reader; if a scansion is executed without data acquisition by the host, all data read are deleted.
• The device returns a byte:

ACK (0x06)	The command is executed successfully.
NACK (0x15)	The command is not executed successfully.
0xFF	The n parameter send is not valid
0xFE	The barcode reader is not working or it not installed on the device.

[Default]

[Reference]

[Example]

0x1C 0xB1

Get barcode reader status

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	B1	n
ASCII	FS	0xB1	n

[Range] 0x30 ≤ n ≤ 0x34

[Description] Reads the barcode reader parameters in base of n value:

n = 0x30 STATUS

Reads the barcode reader status and returns:
- NACK (0x15) character if the command is not successful
- 0xFE character if the barcode reader is not working or it not installed on the device.
- ACK (0x06) character, followed by a status byte; the status to be transmitted is shown in the table below:

BIT	VALUE	FUNCTION
0, 1, 2	0x00	TRIGGER ON/OFF
	0x01	GOOD READ OFF
	0x02	CONTINUOUS TRIGGER OFF
	0x03	CONTINUOUS / AUTO POWER ON
	0x04	FLASH
	0x05	TESTING
	0x06	FLASH / AUTO POWER ON
	0x07	RESERVED
3	0	PE off
	1	PE on
4	0	TG off
	1	TG on
5	0	Decode ok
	1	Decode error
6, 7	-	RESERVED

• The execution of this command clears the output buffer of barcode reader; if a scansion is executed without data acquisition by the host, all data read are deleted.

n = 0x31 BYTES ON RECEPTION BUFFER

Indicates the number of bytes sent from barcode reader. It returns:
- NACK (0x15) character if the command is not successful or the buffer is empty
- 0xFE character if the barcode reader is not working or it not installed on the device.
- ACK (0x06) character, followed by one byte that indicates the number of bytes send from reader.

n = 0x32 BYTES READING ON OUTPUT FROM BARCODE READER

Indicates the number of bytes sent from barcode reader. It returns:
- NACK (0x15) character if the command is not successful or the buffer is empty
- 0xFE character if the barcode reader is not working or it not installed on the device.
- ACK (0x06) character, followed by a bytes sequence B1, B2, ...Bn where n are the bytes on output from barcode reader.

n = 0x33 DELETE BYTES ON OUTPUT

This command deletes all bytes on the output buffer from the barcode reader. It returns
- NACK (0x15) character if the command is not successful.
- 0xFE character if the barcode reader is not working or it not installed on the device.
- ACK (0x06) character if the command is successful.

n = 0x34 READING OF ONE BYTE ON OUTPUT FROM BARCODE READER

This command reads one byte on output from barcode reader. It returns :
- NACK (0x15) character if there are no bytes on output from barcode reader.
- 0xFE character if the barcode reader is not working or it not installed on the device.
- ACK (0x06) character, followed by one byte that is the first byte present on the output FIFO from barcode reader.

[Notes] With n = 0x30 after the barcode reader executes this command, emits a beep as acoustic signalling.

[Default]

[Reference]

[Example]

0x1C 0xB2

Barcode reader trigger

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1C	B2
	ASCII	FS	0xB2

[Range]

[Description]

This command execution forces a trigger of barcode reader.
It returns:
- NACK (0x15) character if the command is successful.
- 0xFE character if the barcode reader is not working or it not installed on the device.
- ACK (0x06) character, if the command is successful.

[Notes]

• A trigger event may be effect on barcode reader setting, depending on the barcode reader status.
• The execution of this command clears the output buffer of barcode reader; if a scansion is executed without data acquisition by the host, all data read are deleted.

[Default]

[Reference]

[Example]

COMMANDS FOR BARCODE PRINTING

0x1D 0x28 0x6B

<GS (k>

Print two-dimensional barcode

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1D	28	6B	pL	pH	cn	fn
	ASCII	GS	(	k	pL	pH	cn	fn

[Range]
cn = 0x30, 0x34
0x41 ≤ fn ≤ 0x45
0x50 ≤ fn ≤ 0x51

[Description]
Processes the data concerning two-dimensional barcode, with:
cn = barcode type
fn = function

cn	fn	FUNCTION	
0x30	0x41	Function 0x1D 0x28 0x6B [fn 065]	PDF 417: Specify the number of columns
0x30	0x42	Function 0x1D 0x28 0x6B [fn 066]	PDF 417: Specify the number of rows
0x30	0x43	Function 0x1D 0x28 0x6B [fn 067]	PDF 417: Specify the width of module
0x30	0x44	Function 0x1D 0x28 0x6B [fn 068]	PDF 417: Specify the module height
0x30	0x45	Function 0x1D 0x28 0x6B [fn 069]	PDF 417: Specify the error correction level
0x30	0x50	Function 0x1D 0x28 0x6B [fn 080]	PDF 417: Store the received data in the barcode save area
0x30	0x51	Function 0x1D 0x28 0x6B [fn 081]	PDF 417: Print the barcode data in the barcode save area
0x31	0x41	Function 0x1D 0x28 0x6B [fn 065]	QRcode: Specify encoding scheme
0x31	0x42	Function 0x1D 0x28 0x6B [fn 066]	QRcode: Specify dot size of the module
0x31	0x43	Function 0x1D 0x28 0x6B [fn 067]	QRcode: Specify size of barcode
0x31	0x45	Function 0x1D 0x28 0x6B [fn 069]	QRcode: Specify the error correction level

0x31	0x50	Function 0x1D 0x28 0x6B [fn 080]	QRcode: Store the received data in the barcode save area
0x31	0x51	Function 0x1D 0x28 0x6B [fn 081]	QRcode: Print the barcode data
0x33	0x41	Function 0x1D 0x28 0x6B [fn 365]	DATAMATRIX: Set encoding scheme
0x33	0x42	Function 0x1D 0x28 0x6B [fn 366]	DATAMATRIX: Set rotate
0x33	0x43	Function 0x1D 0x28 0x6B [fn 367]	DATAMATRIX: Set dot size of the module
0x33	0x44	Function 0x1D 0x28 0x6B [fn 368]	DATAMATRIX: Set size of barcode
0x33	0x50	Function 0x1D 0x28 0x6B [fn 380]	DATAMATRIX: Store the received data in the barcode save area
0x33	0x51	Function 0x1D 0x28 0x6B [fn 381]	DATAMATRIX: Print the barcode data in the barcode save area
0x34	0x41	Function0x1D 0x28 0x6B [fn 065]	AZTEC: Specify encoding scheme
0x34	0x43	Function0x1D 0x28 0x6B [fn 067]	AZTEC: Specify dot size of the module
0x34	0x44	Function 0x1D 0x28 0x6B [fn 068]	AZTEC: Specify size of barcode
0x34	0x45	Function 0x1D 0x28 0x6B [fn 069]	AZTEC: Specify the error correction level
0x34	0x50	Function 0x1D 0x28 0x6B [fn 080]	AZTEC: Store the received data in the barcode save area
0x34	0x51	Function0x1D 0x28 0x6B [fn 081]	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	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	30	41	n
ASCII	GS	(	k	pL	pH	0	A	n

[Range]

(pL + pH × 256) = 3 (pL = 3, pH = 0)
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 n = 0x00, the maximum number of columns in the data area is 30 columns.

[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 the power is turned off.

[Default]

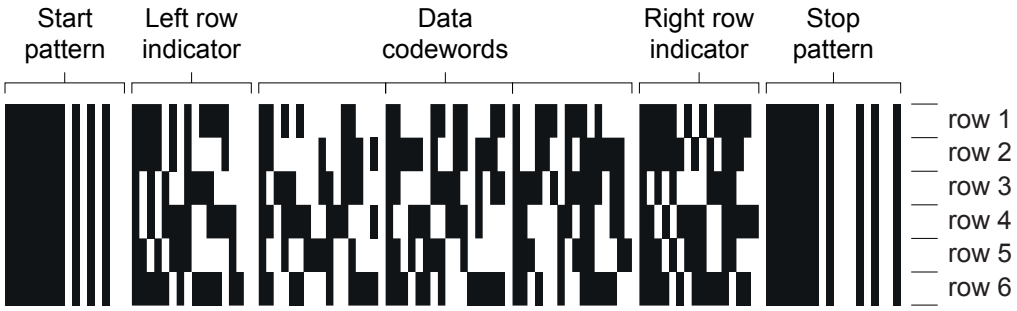
n = 0x00

[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	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range] (pL + pH × 256) = 3 (pL = 3, pH = 0)
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 n = 0x00 the maximum number of rows is 20.

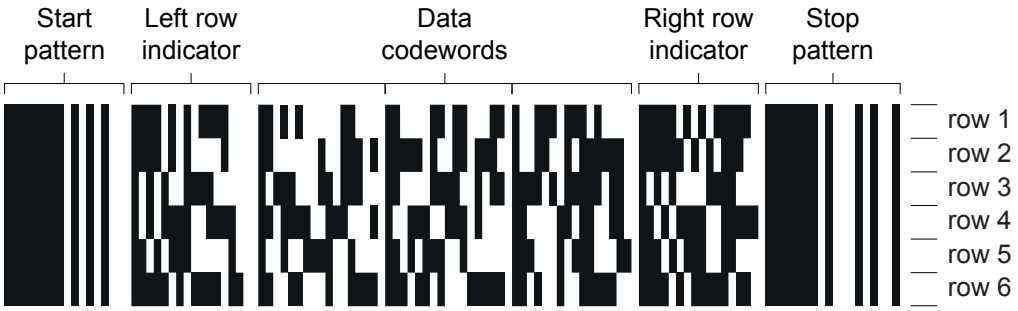
When n ≠ 0x00, n specifies the number of rows of the data area.

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

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example] To define 3 rows, the command sequence is
0x1D 0x28 0x6B 0x03 0x00 0x30 0x42 0x03



0x1D 0x28 0x6B [fn 067]

Specify the width of a module of PDF417 barcode

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

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

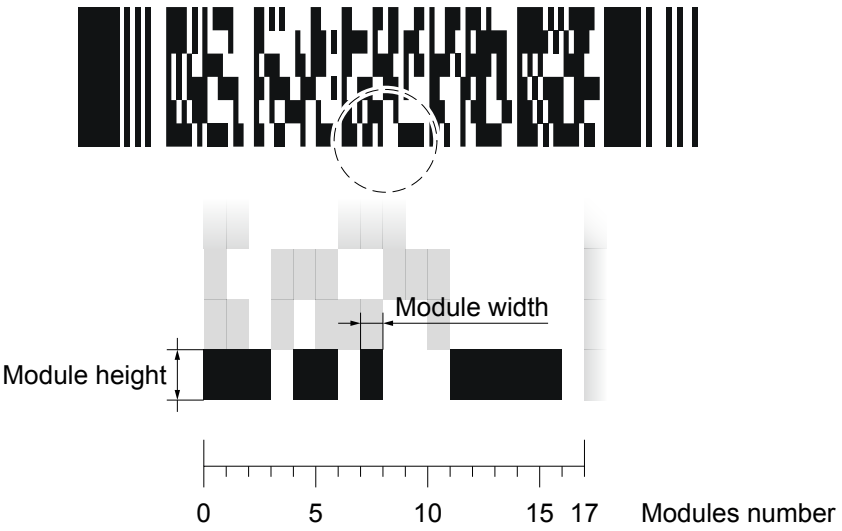
[Description] Specifies the width of a module of PDF417 barcode.
• pL and pH specify the number of successive bytes to be sent.

[Notes] Settings are effective until 0x1B 0x40 is executed, the device is reset or the power is 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	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

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

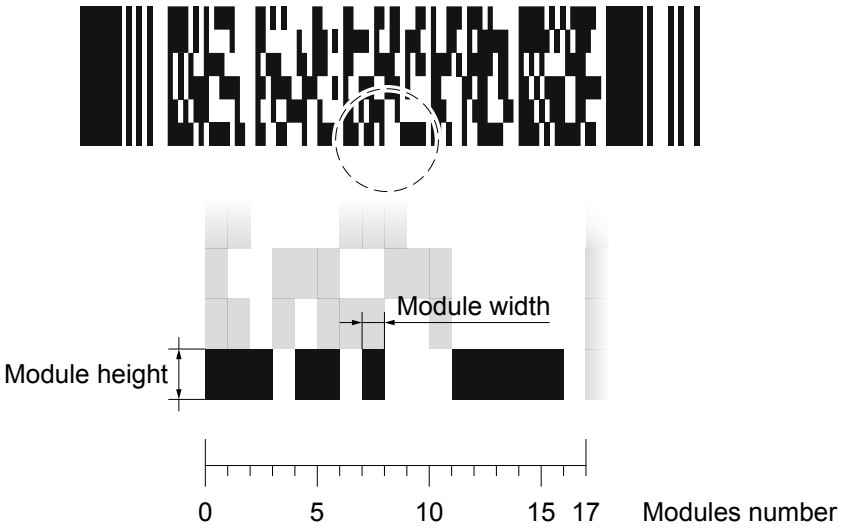
[Description] Specifies the height of the module of the PDF417 barcode.
• pL and pH specify the number of successive bytes to be sent.

[Notes] Settings are effective until 0x1B 0x40 is executed, the device is reset or the power is 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	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 = 4, pH = 0)
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.
• m = 0x30 the error correction level is specified by “level”
• m = 0x31 the error correction level is specified by “ratio” [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.

CALCULATED 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, the device is reset or the power is 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 PDF417 barcode data in the barcode save area

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 (0 ≤ pL ≤ 255, 0≤ pH ≤ 4)
- PDF417 barcode only with alphanumeric characters:
  4 ≤ (pL + pH × 256) ≤ 1854 (0 ≤ pL ≤ 255, 0≤ pH ≤ 7)
- PDF417 barcode only with numeric characters:
  4 ≤ (pL + pH × 256) ≤ 2729 (0 ≤ pL ≤ 255, 0≤ pH ≤ 10)

[Description]

Store the PDF417 barcode data (d1...dk) in the barcode save area.

- 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 0x1D 0x28 0x6B [fn 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, the device is reset or the power is turned off.

[Default]

[Reference]

0x1D 0x28 0x6B

[Example]

0x1D 0x28 0x6B [fn 081] <GS (k>

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

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	30	51	30
ASCII	GS	(	k	pL	pH	0	Q	0

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

[Description]
Encodes and prints the PDF417 barcode data in the barcode save area.
• 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 0x1D 0x28 0x6B [fn 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 0x1D 0x28 0x6B [fn 065]) is specified, the number of columns is calculated by the current printing area, module width (Function 0x1D 0x28 0x6B [fn 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 065]

<GS (k>

Specify encoding scheme of QRcode barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	31	41	n
ASCII	GS	(	k	pL	pH	1	A	n

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

[Description] Specifies encoding type of QRcode barcode.

n	ENCODING
0x00	QRcode
0x01	MicroQR

[Notes]
- QRcode encodes 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 is a miniature version of the QRcode barcode for short message. MicroQR encodes all numbers from 0 to 9 up to a maximum length of 35 characters.

[Default] n = 0x00

[Reference]

[Example]



QRcode Model 2



MicroQR

0x1D 0x28 0x6B [fn 066]

<GS (k>

Specify dot size of the module of the QRcode barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	31	43	n
ASCII	GS	(	k	pL	pH	1	B	n

[Range] (pL + pH × 256) = 3 (pL = 3, pH = 0)
0x00 ≤ n ≤ 0x64

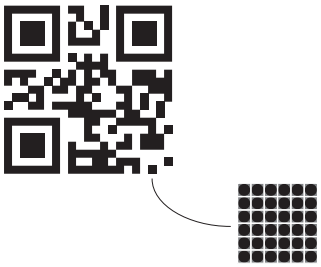
[Description] Specifies numbers of dot for each pixel of QRcode barcode.

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

[Default] n = 0x00

[Reference] 0x1D 0x28 0x6B

[Example]



Module 6 dots

0x1D 0x28 0x6B [fn 067]

<GS (k>

Specify QRcode barcode size

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	31	43	n
ASCII	GS	(	k	pL	pH	1	C	n

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

[Description] Specifies QRcode barcode eversion, as follows:

n	VERSION	n	VERSION	n	VERSION
0x00	AUTO	0x0E	V14	0x1C	V28
0x01	V1	0x0F	V15	0x1D	V29
0x02	V2	0x10	V16	0x1E	V30
0x03	V3	0x11	V17	0x1F	V31
0x04	V4	0x12	V18	0x20	V32
0x05	V5	0x13	V19	0x21	V33
0x06	V6	0x14	V20	0x22	V34
0x07	V7	0x15	V21	0x23	V35
0x08	V8	0x16	V22	0x24	V36
0x09	V9	0x17	V23	0x25	V37
0x0A	V10	0x18	V24	0x26	V38
0x0B	V11	0x19	V25	0x27	V39
0x0C	V12	0x1A	V26	0x28	V40
0x0D	V13	0x1B	V27		

[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 069]

<GS (k>

Specify the error correction level of the QRcode barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range] (pL + pH × 256) = 3 (pL = 4, pH = 0)
0x30 ≤ n ≤ 0x34

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

n	ECC level	
0x30	AUTO	
0x31	ECC = approx 20% of symbol	Recovery Capacity = approx 7%
0x32	ECC = approx 37% of symbol	Recovery Capacity = approx 15%
0x33	ECC = approx 55% of symbol	Recovery Capacity = approx 25%
0x34	ECC = approx 65% of symbol	Recovery Capacity = 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 080]

<GS (k>

Store the QRcode barcode data in the barcode save area

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 QRcode barcode data (d1...dk) in the barcode save area.

[Notes]

- Data stored in the barcode save area by this function are processed by Function 0x1D 0x28 0x6B [fn 081] 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 081]

<GS (k>

Prints the QRcode barcode data

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	31	51	31
ASCII	GS	(	k	pL	pH	1	Q	1

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

[Description] Prints the QRcode barcode in the current position.

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

[Default]

[Reference] 0x1D 0x28 0x6B

[Example]

0x1D 0x28 0x6B [fn 365]

<GS (k>

Specify the encoding scheme of DATAMATRIX barcode

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	33	41	n
ASCII	GS	(	k	pL	pH	3	A	n

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

[Description] Set the encoding scheme for the DATAMATRIX barcode, specified by 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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	33	42	n
ASCII	GS	(	k	pL	pH	3	B	n

[Range] (pL + pH × 256) = 3 (pL = 3, pH = 0)
n = 0, 1

[Description] Set rotate by 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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range] (pL+pH × 256) = 3 (pL = 3, pH = 0)
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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range] (pL + pH × 256) = 3 (pL = 3, pH = 0)
0x01 ≤ n ≤ 0x1D

[Description] Set the size of DATAMATRIX barcode specified by n as follows:

n	DIMENSIONE BARCODE	n	DIMENSIONE BARCODE
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
0x0F	52 x 52		

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

[Default] DmtxSymbolSquareAuto

[Reference] 0x1D 0x28 0x6B

[Example]

0x1D 0x28 0x6B [fn 380]

<GS (k>

Store the DATAMATRIX barcode data in the barcode save area

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 0x1D 0x28 0x6B [fn 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	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	33	51	33
ASCII	GS	(	k	pL	pH	3	Q	3

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

[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 0x1D 0x28 0x6B [fn 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 0x1D 0x28 0x6B [fn 365]) is specified, the number of columns is calculated by the current printing area, module width (Function 0x1D 0x28 0x6B [fn 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 065]

<GS (k>

Specify encoding scheme of AZTEC barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	34	41	n
ASCII	GS	(	k	pL	pH	4	A	n

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

[Description] Specifies encoding type of AZTEC barcode.

n	ENCODING
0x00	FULL AZTEC
0x01	AZTEC RUNE

[Notes]
- Full Aztec: Encode all extended ASCII characters data up to a maximum length of approximately 3823 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 067]

<GS (k>

Specify dot size of the module of the AZTEC barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range] (pL+pH × 256) = 3 (pL = 3, pH = 0)
0x02 ≤ n ≤ 0x24

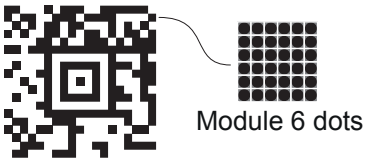
[Description] Specifies numbers of dot for each pixel of AZTEC barcode.

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

[Default] n = 0x06

[Reference] 0x1D 0x28 0x6B

[Example]



0x1D 0x28 0x6B [fn 068]

Specify AZTEC barcode size

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	34	44	n
ASCII	GS	(	k	pL	pH	4	D	n

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

[Description] Specifies AZTEC barcode format (rows and columns), 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 069]

<GS (k>

Specify the error correction level of the AZTEC barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	28	6B	pL	pH	34	45	n
ASCII	GS	(	k	pL	pH	4	E	n

[Range] (pL+pH × 256) = 4 (pL = 4, pH = 0)
0x00 ≤ n ≤ 0x04

[Description] Specifies the ECC level (Error Correction Capacity) of AZTEC barcode.

n	ECC 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 capacity for the same barcode. If both options are selected then the error correction capacity 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 080]

<GS (k>

Store the AZTEC barcode data in the barcode save area

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 AZTEC barcode data (d1...dk) in the barcode save area.

[Notes]

- Data stored in the barcode save area by this function are processed by Function 0x1D 0x28 0x6B [fn 081] 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 081]

<GS (k>

Prints the AZTEC barcode data

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

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

[Description] Prints the AZTEC barcode in the current position.

[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 Human Readable Interpretation (HRI) characters

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	48	n
ASCII	GS	H	n

[Range]

0x00 ≤ n ≤ 0x03
0x30 ≤ n ≤ 0x33

[Description]

Selects the printing position of HRI characters when printing barcodes.
n selects the printing positions 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]

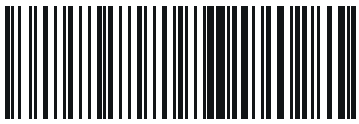
n = 0x00

[Reference]

0x1D 0x66, 0x1D 0x6B

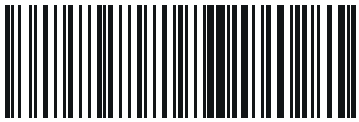
[Example]

Not printed

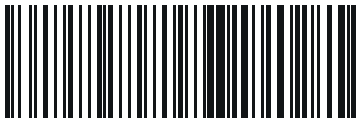


Above the barcode

ABCDEFG123456



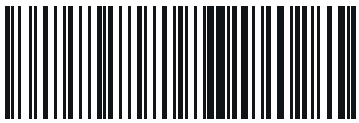
Below the barcode



ABCDEFG123456

Both above and below the barcode

ABCDEFG123456



ABCDEFG123456

0x1D 0x66

<GS f>

Select font for HRI characters

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	66	n
ASCII	GS	f	n

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

[Description] Selects a font for the HRI characters used when printing a barcode. n selects a font from the following table:

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>

Set barcode height

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range] 0x01 ≤ n ≤ 0xFF

[Description] Sets the height of the 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 barcode

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range]

Format 1: 0x00 ≤ m ≤ 0x08, m = 0x14

Format 2: 0x41 ≤ m ≤ 0x49, m = 0x5A

[Description]

Selects a barcode system and prints the barcode.
m selects a barcode system 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, 0x24, 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 ≤ 7F
0x08	CODE128	0x02 ≤ k ≤ 0xFF	0x01 ≤ d ≤ 7F
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 ≤ 0x9	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 (emphasized, 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	HEX
SHIFT	{S	0x7B, 0x53
CODE A	{A	0x7B, 0x41
CODE B	{B	0x7B, 0x42
CODE C	{C	0x7B, 0x43
FNC1	{1	0x7B, 0x31
FNC2	{2	0x7B, 0x32
FNC3	{3	0x7B, 0x33
FNC4	{4	0x7B, 0x34
‘{‘	{{	0x7B, 0x7B

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 barcode width

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	77	n
ASCII	GS	w	n

[Range] 0x01 ≤ n ≤ 0x06

[Description] Sets the horizontal size of the 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

[Notes]

[Default] n = 0x03

[Reference] 0x1D 0x6B

[Example]

0x18 <CAN>

Cancel current line transmitted

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 x horizontal or vertical motion units].

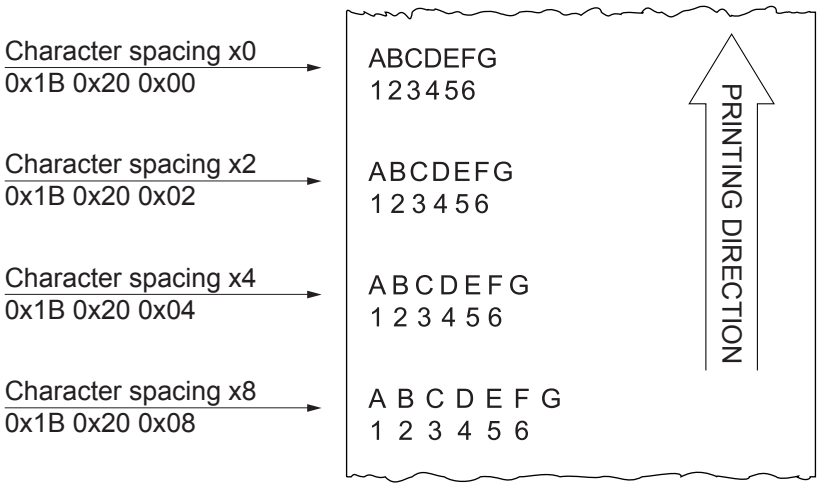
[Notes]

- 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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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	HEX	FUNCTION	11/15 cpi	15/20 cpi
0	Off	0x00	Character font A selected	18 x 24	14 x 24
	On	0x01	Character font B selected	14 x 24	10 x 24
1	-	-	Undefined		
2	-	-	Undefined		
3	Off	0x00	Expanded mode not selected		
	On	0x08	Expanded 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		

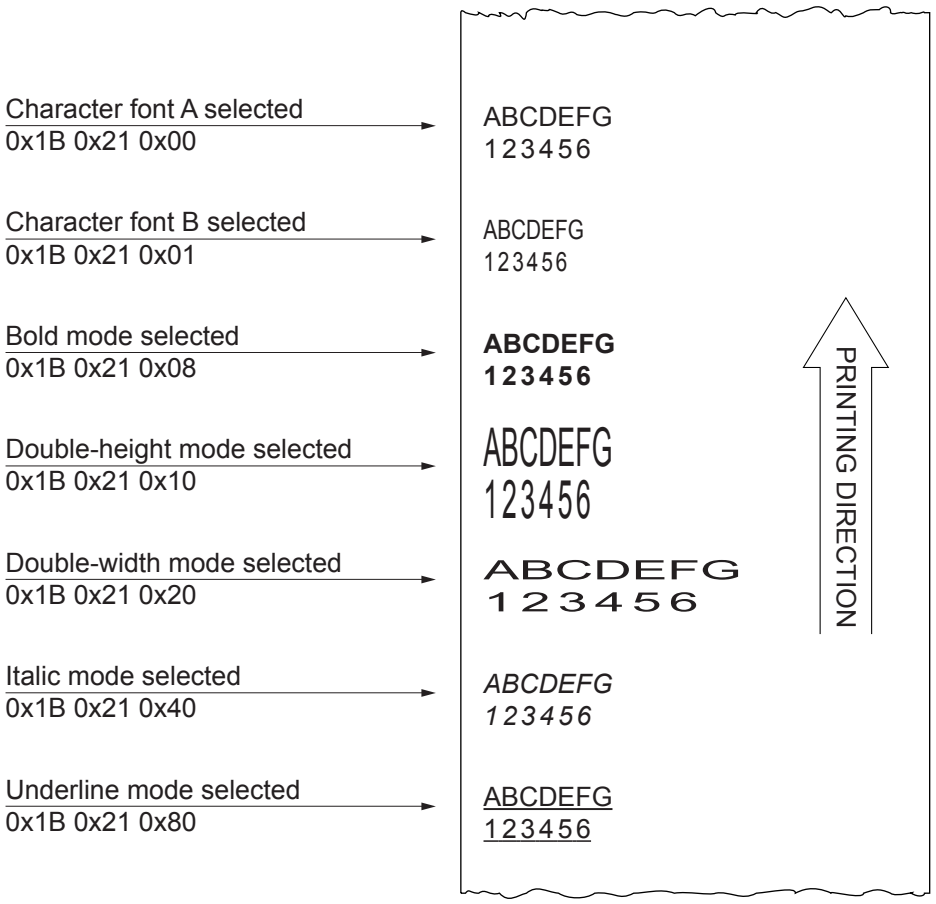
[Notes]

- 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 underlining 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.
- 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 0x2120 selects double-width mode and command 0x1B 0x21 0x10 selects double-height mode.

[Default] n = 0x00

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

[Example]



0x1B 0x25 <ESC %>

Select/cancel user-defined characters

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	25	n
ASCII	ESC	%	n

[Range] 0x00 ≤ n ≤ 0xFF

[Description] Selects or cancels the user-defined character set.
When the Least Significant Bit (LSB) of n is 0, the user-defined character set is cancelled.
When the LSB of n is 1, the user-defined character set is selected.

[Notes]
- Only the LSB of n is applicable.
- When the user-defined character set is cancelled, the internal character set is automatically selected.

[Default] n=0x00

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

[Example]

0x1B 0x26

Defines user-defined characters

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 programmable 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/off

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 following values of n:

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

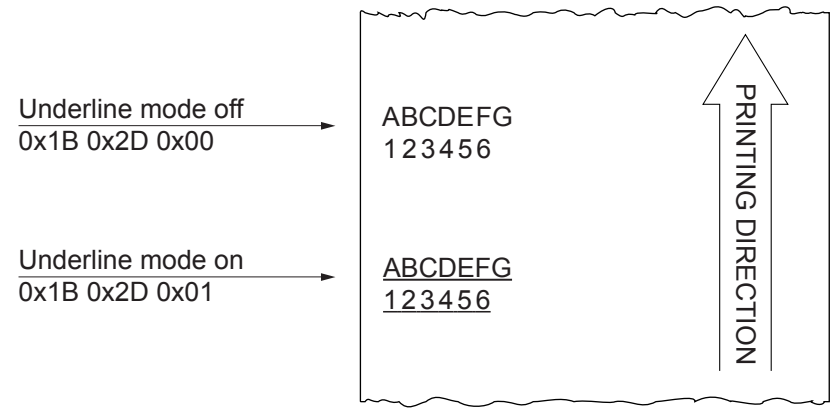
[Notes]

- 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 0 or 48, the data which follows is not underlined.
- Underline mode can also be turned on or off by using 0x1B 0x21. Note, however, that the last received command is the effective one.

[Default] n=0x00

[Reference] 0x1B 0x21

[Example]



0x1B 0x3F <ESC ?>

Cancel user-defined characters

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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/off

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	45	n
ASCII	ESC	E	n

[Range] 0x00 ≤ n ≤ 0xFF

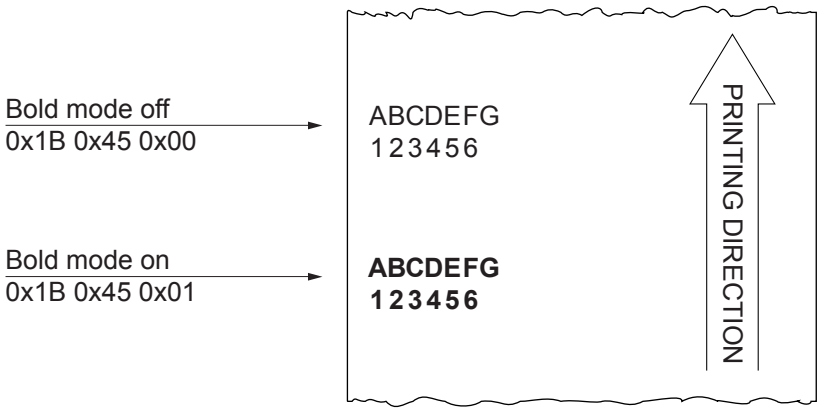
[Description] Turns emphasized mode on/off, based on the n value:
- when the LSB of n is 0, the emphasized mode is off.
- when the LSB of n is 1, the emphasized mode is on.

[Notes]
• Only the 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/off

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	47	n
ASCII	ESC	G	n

[Range] 0x00 ≤ n ≤ 0xFF

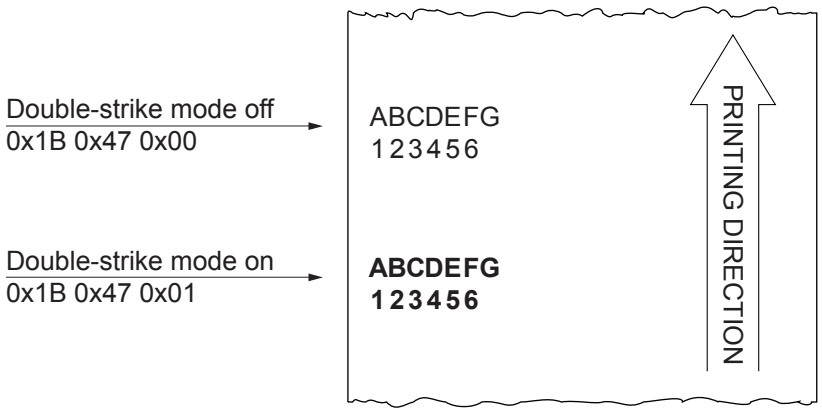
[Description] Turns double-strike mode on or off, based on the n value:
- when the LSB of n is 0, the double-strike mode is off.
- when the LSB of n is 1, the double-strike mode is on.

[Notes]
• Only the LSB of n is effective.
• Device output is the same in double-strike and emphasized mode.

[Default] n = 0x00

[Reference] 0x1B 0x45

[Example]



0x1B 0x4D

Select character font

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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)

[Notes]

[Default]

[Reference] 0x1B 0xC1

[Example]

0x1B 0x52 <ESC R>

Select an international character set

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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	b
0x03	United Kingdom	£	$	@	[	\	]	^	`	{	|	}	~
0x04	Denmark I	#	$	@	Æ	Æ	Å	^	`	æ	f	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	$	@	¡	Ñ	¿	^	`	“	ñ	}	~
0x08	Japan	#	$	@	[	¥	]	^	`	{	|	}	~
0x09	Norway	#	¤	É	Æ	Æ	Å	Ü	é	æ	f	å	ü
0x0A	Denmark II	#	$	É	Æ	Æ	Å	Ü	é	æ	f	å	ü

[Notes]

[Default] n = 0x00

[Reference]

[Example]

0x1B 0x56 <ESC V>

Set 90° rotated print mode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	56	n
ASCII	ESC	V	n

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

[Description] Turns 90° rotation mode on/off. n is used as follows:

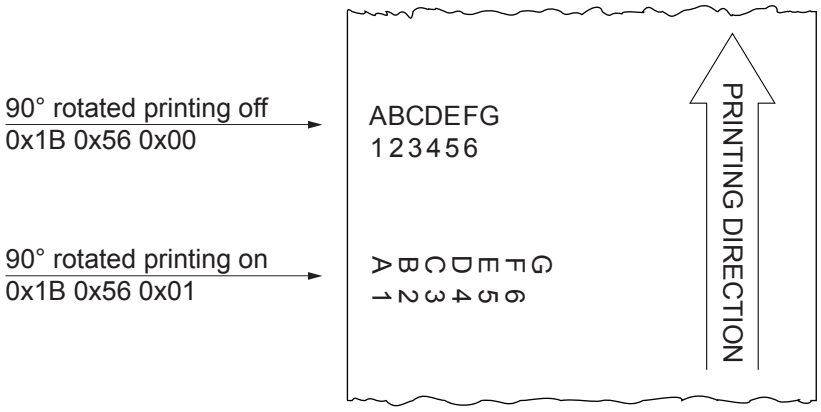
n	FUNCTION
0x00, 0x30	Turns off 90° rotation mode
0x01, 0x31	Turns on 90° rotation mode

[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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range]
n = 0x00
0x01 ≤ n ≤ 0x05
0x11 ≤ n ≤ 0x21
n = 0x26
0x30 ≤ n ≤ 0x53
n = 0xFF

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

n	PAGINA	
0x00	PC437 - U.S.A., Standard Europe	
0x01	Katakana	
0x02	PC850 - Multilingual	
0x03	PC860 - Portuguese	
0x04	PC863 - Canadian/French	
0x05	PC865 - Nordic	
0x11	PC851 - Greek	on request
0x12	PC853 - Turkish	on request
0x13	PC857 - Turkish	
0x14	PC737 - Greek	
0x15	ISO8859-7 - Greek	on request
0x16	WPC1252	
0x17	PC866 - Cyrillic 2	
0x18	PC852 - Latin 2	
0x19	PC858 per simbolo Euro in posizione 213	
0x20	KU42 - Thai	on request
0x21	TIS11 - Thai	on request
0x26	TIS18 - Thai	on request
0x30	TCVN_3 - Vietnamese	on request
0x31	TCVN_3 - Vietnamese	on request
0x32	PC720 - Arabic	on request

n	PAGINA	
0x33	WPC775 - Baltic Rim	on request
0x34	PC855 - Cyrillic	
0x35	PC861 - Icelandic	on request
0x36	PC862 - Hebrew	
0x37	PC864 - Arabic	
0x38	PC869 - Greek	on request
0x39	ISO8859-2 - Latin 2	on request
0x40	ISO8859-15 - Latin 9	on request
0x41	PC1098 - Farci	
0x42	PC1118 - Lithuanian	on request
0x43	PC1119 - Lithuanian	on request
0x44	PC1125 - Ukrainian	
0x45	WPC1250 - Latin 2	
0x46	WPC1251 - Cyrillic	
0x47	WPC1253 - Greek	
0x48	WPC1254 - Turkish	
0x49	WPC1255 - Hebrew	
0x50	WPC1256 - Arabic	
0x51	WPC1257 - Baltic Rim	
0x52	WPC1258 - Vietnamese	
0x53	KZ1048 - Kazakhstan	
0xFF	Space page	

[Notes] WPC1252, PC866 and PC852 tables are valid only for TrueType fonts.

[Default] n = 0x00

[Reference] See character code tables

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

0x1B 0x7B

<ESC {>

Turn upside-down printing mode on/off

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 LSB of n is 0, the upside-down printing mode is off.
- when the LSB of n is 1, the upside-down printing mode is on.

[Notes]
• Only the 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.

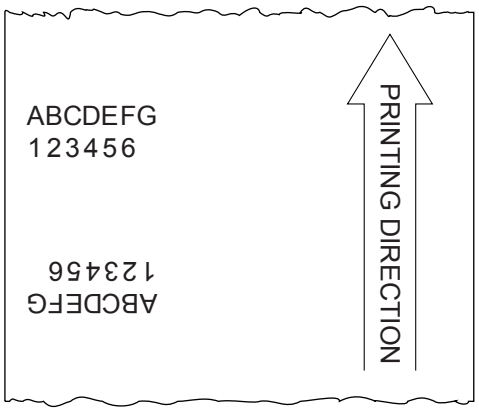
[Default] n = 0x00

[Reference]

[Example]

Upside-down printing off
0x1B 0x7B 0x00

Upside-down printing on
0x1B 0x7B 0x01



0x1B 0xC1

Select character pitch

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	C1	n
ASCII	ESC	0xC1	n

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

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

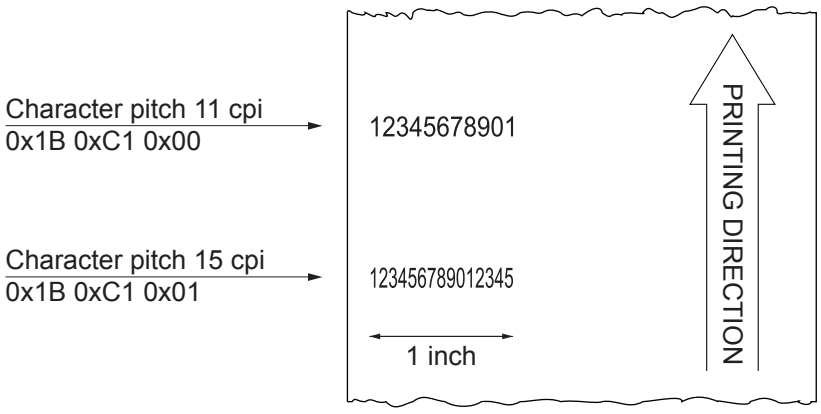
n	PITCH	
0x00, 0x30	Font A = 11 cpi	Font B = 15 cpi
0x01, 0x31	Font A = 15 cpi	Font B = 20 cpi

[Notes]

[Default] n = 0x00

[Reference] 0x1B 0x21

[Example]



0x1D 0x21

<GS !>

Select character size

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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.

[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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	42	n
ASCII	GS	B	n

[Range] 0x00 ≤ n ≤ 0xFF

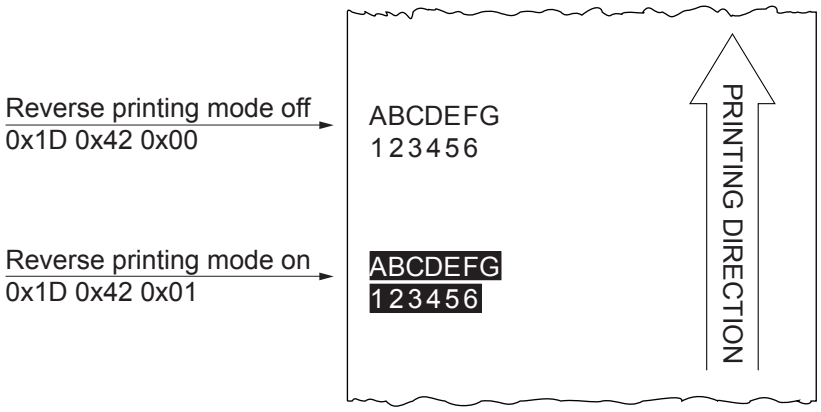
[Description] Turns white/black reverse printing mode on or off, based on the value of n:
- when the LSB of n is 0, white/black reverse printing is turned off.
- when the LSB of n is 1, white/black reverse printing is turned on.

[Notes]
• Only the 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 white/black reverse mode is selected.

[Default] n = 0x00

[Reference]

[Example]



0x1C 0x65

<FS e>

Enable or disable encoding for TrueType fonts

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 following values of n:

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 f>

True Type fonts management

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	66	m	n	d[0]...d[n]
ASCII	FS	f	m	n	d[0]...d[n]

[Range]

0 ≤ m ≤ 256
0 ≤ n ≤ 64

[Description]

Manage the TrueType fonts depending on the following values of m:

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 TrueType font

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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

[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 called as specified.
• If command is successful the device transmits the ACK (0x06), otherwise return 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).

0x1D 0xEA 0x43

Get TrueType fonts header list

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1D	EA	43
	ASCII	GS	0xEA	C

[Range]

[Description] This command requests to the device the list of stored TrueType fonts into the device flash. The device returns a bytes sequence as follows:

“filename1.ttf”, “filename2.ttf”, “filename3.ttf”, “filename4.ttf 0x06”

where the ACK (0x06) character indicates that the command is successful, otherwise return NACK (0x15).

[Notes]

Default]

[Reference] 0x1D 0xE9

[Example] To request the list of stored TrueType fonts the command sequence is
0x1D 0xEA 0x43

If two fonts are stored in flash memory, the response of the device will be
“Vera.ttf”,”Veramono.ttf” 0x06

0x1D 0xEB

Delete a TrueType font

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1D	EB	43	2C	fd0..fdn	2A
	ASCII	GS	0xEB	C	,	fd0..fdn	*

[Range] 0x00 ≤ d0, dn ≤ 0xFF

[Description] Deletes the TrueType font specified from the device flash.
- fd0..fdn indicates the font-name

[Notes]
- The length fd0 .. fdn of the font-name can be up to 50 characters long.
- If command is successful the device transmits the ACK (0x06), otherwise return NACK (0x015).
- The ‘ * ’ star character is the terminator character of this command (in ASCII).

Default]

[Reference]

[Example] To delete a TrueType font “veramono.ttf”, the command sequence is
0x1D 0xEB 0x43 0x2C “veramono.ttf” 0x2A

0x1D 0xEB 0x43

Clear all TrueType fonts

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1D	EB	43	2C	41	4C	4C	2A
	ASCII	GS	0xEB	C	,	A	L	L	*

[Range]

[Description] Clear all TrueType fonts stored into the device flash.

[Notes]
- If command is successful the device transmits the ACK (0x06), otherwise return NACK (0x15).
- All TrueType fonts stored in the device are lost.
- The ‘ * ’ star character is the terminator character of this command (in ASCII).

[Default]

[Reference]

[Example]

LINE SPACING COMMANDS

0x1B 0x30 *<ESC 0>*

Select 1/8-inch line spacing

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	30
ASCII	ESC	0

[Range]

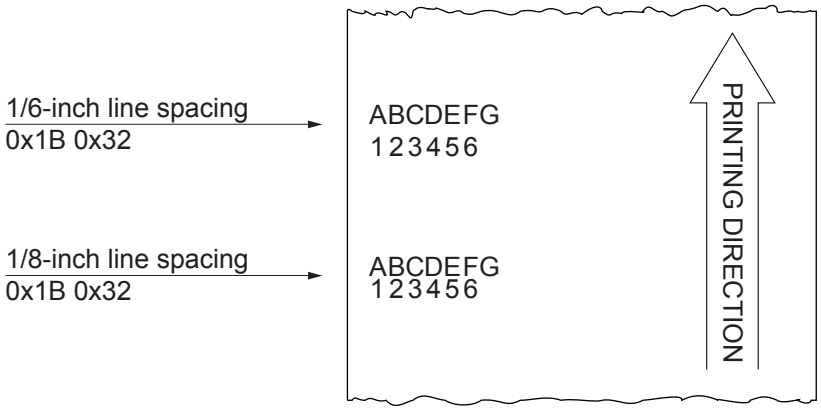
[Description] Selects 1/8-inch line spacing.

[Notes]

[Default]

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

[Example]



0x1B 0x32

Select 1/6-inch line spacing

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	32
ASCII	ESC	2

[Range]

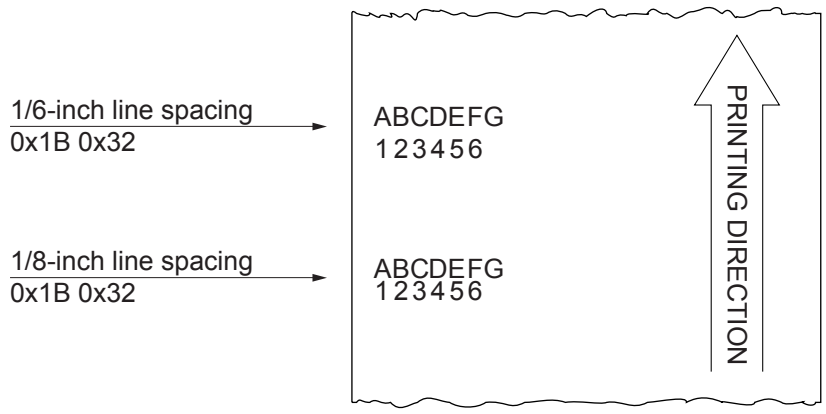
[Description] Selects 1/6-inch line spacing.

[Notes]

[Default]

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

[Example]



0x1B 0x33

Set line spacing

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	33	n
ASCII	ESC	3	n

[Range] 0x00 ≤ n ≤ 0xFF

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

[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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	0A
ASCII	LF

[Range]

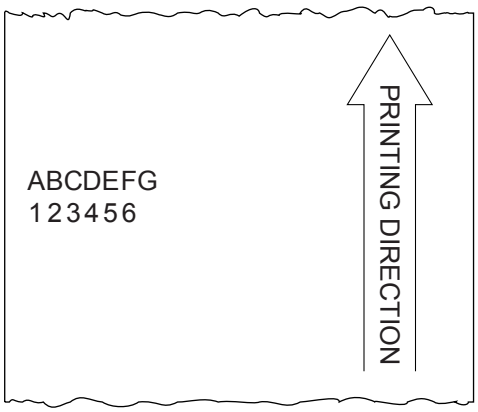
[Description] This command sets the print position to the beginning of the line printing the data in the buffer and feeding one line based on the line spacing set with the command 0x1B 0x30 or 0x1B 0x32.

[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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	0D
ASCII	CR

[Range]

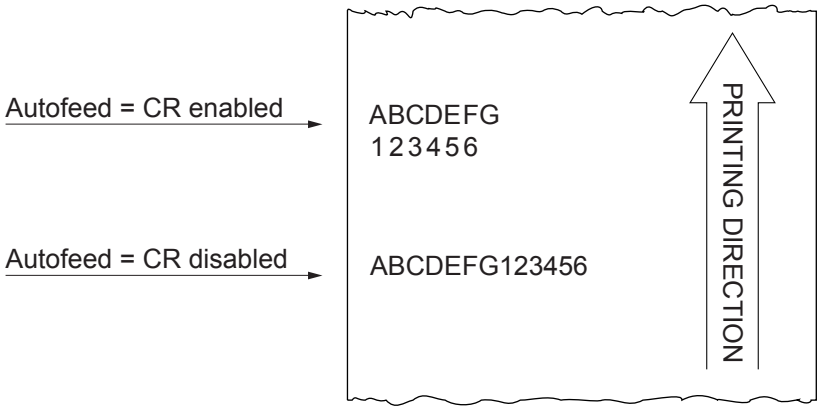
[Description] This command handles the end of a line text.

[Notes] If “Autofeed” setup parameter is set to “CR enabled”, this command works in the same way as 0x0A command, 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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 rows

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	64	n
ASCII	ESC	d	n

[Range] 0x00 ≤ n ≤ 0xFF

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

[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 rows. Even if a paper feed amount of more than 254 rows is set, the device feeds the paper only 254 rows.

[Default]

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

[Example]

0x1C 0x82

Print date

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1C	82
	ASCII	FS	0x82

[Range]

[Description] Prints date in the format specified by the command 0x1C 0x84 with the parameter n = 0x44.

[Notes]

[Default] “dd/mm/yy”

[Reference] 0x1C 0x83, 0x1C 0x84

[Example]

0x1C 0x83

Print time

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1C	83
	ASCII	FS	0x83

[Range]

[Description] Prints date in the format specified by the command 0x1C 0x84 with the parameter n = 0x54.

[Notes]

[Default] “hh:mm:ss”

[Reference] 0x1C 0x82, 0x1C 0x84

[Example]

0x1D 0x7C

Set printing density

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	7C	n
ASCII	GS	0x7C	n

[Range]

0x02 ≤ n ≤ 0x08
0x30 ≤ n ≤ 0x38

[Description] Sets printing density. n specifies printing density as follows:

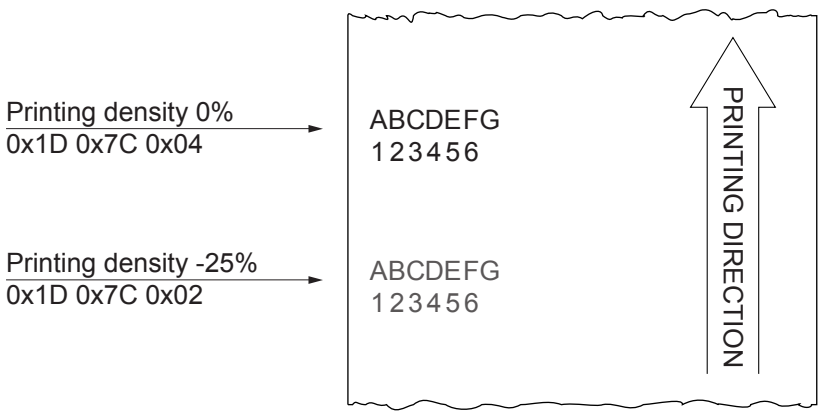
n	PRINTING DENSITY
0x00, 0x30	-50%
0x01, 0x31	-37.5%
0x02, 0x32	- 25%
0x03, 0x33	- 12.5%
0x04, 0x34	0%
0x05, 0x35	+ 12.5%
0x06, 0x36	+ 25%
0x07, 0x37	+37.5%
0x08, 0x38	+50%

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

[Default] n = 0x04

[Reference]

[Example]



STATUS COMMANDS

0x10 0x04 *<DLE EOT>*

Real-time status transmission

Valid for	KPM302III, TK302III KPM302III EJ

[Format]

Hex	10	04	n
ASCII	DLE	EOT	n

[Range]

0x01 ≤ n ≤ 0x04
n = 0x11
0x14 ≤ n ≤ 0x16

[Description] Transmits the selected device status specified by n in real time according to the following parameters:

n = 0x01	transmit device status
n = 0x02	transmit off-line status
n = 0x03	transmit error status
n = 0x04	transmit paper roll sensor status
n = 0x11	transmit print status
n = 0x14	transmit FULL STATUS
n = 0x15	transmit device ID
n = 0x16	transmit info1

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	-	-	RESERVED
6	-	-	RESERVED
7	Off	00	LF key released
	On	80	LF key pressed

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 FEED key
	On	08	Paper is fed by 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	Cutter ok
	On	08	Cutter 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)

1° Byte = 0x10 (DLE)

2° Byte = 0x0F

3° 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	Notch is placed over the sensor
	On	80	Notch is not placed over the sensor

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

4° 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	-	-	RESERVED

5° 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	Notch search ok
	On	80	Error in notch search

6° Byte = Unrecoverable error status

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Cutter ok
	On	01	Cutter error
1	Off	00	Cutter cover ok
	On	02	Cutter cover open
2	Off	00	RAM ok
	On	01	RAM error
3	Off	00	EEPROM ok
	On	01	EEPROM error
4	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

Transmit device ID (n = 0x15)

1° Byte = 0x75 (refer to command 0x1D 0x49)

Transmit info1 (n = 0x16)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	One or more tickets printed after turn on
	On	01	No tickets printed after turn on
1	Off	00	One or more tickets printed after AUTOLOAD
	On	02	No tickets printed after turn AUTOLOAD
2	-	-	RESERVED
3	-	-	RESERVED
4	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

[Notes]
- Immediately executed even when the data buffer is full.
- This status is transmitted whenever data sequence 0x10 0x04 n is received.

[Default]

[Reference]

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

0x10 0x04 <DLE EOT>

Real-time status transmission (models with selector)

Valid for	KPM302III vSEL, KPM302III hSEL

[Format]

Hex	10	04	n
ASCII	DLE	EOT	n

[Range]

0x01 ≤ n ≤ 0x04
n = 0x11
0x14 ≤ n ≤ 0x16

[Description] Transmits the selected device status specified by n in real time according to the following parameters:

n = 0x01	transmit device status
n = 0x02	transmit off-line status
n = 0x03	transmit error status
n = 0x04	transmit paper roll sensor status
n = 0x11	transmit print status
n = 0x14	transmit FULL STATUS
n = 0x15	transmit device ID
n = 0x16	transmit info1

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	-	-	RESERVED
6	-	-	RESERVED
7	Off	00	LF key released
	On	80	LF key pressed

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 FEED key
	On	08	Paper is fed by 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	Cutter ok
	On	08	Cutter 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	Selector ok
	On	80	Selector error

device 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 stop due to paper end
6	-	-	RESERVED
7	Off	00	Not used. Fixed to off

Full status (n = 0x14, 6 bytes)

1° Byte = 0x10 (DLE)

2° Byte = 0x0F

3° 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	The notch is placed over the sensor
	On	80	The notch is not placed over the sensor

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

4° Byte = User status

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	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	Selector in "open" position
	On	80	Selector in "storage" position

5° Byte = Recoverable error status

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	Notch search ok
	On	80	Error in notch search

6° Byte = Unrecoverable error status

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Cutter ok
	On	01	Cutter error
1	Off	00	Cutter cover ok
	On	02	Cutter cover open
2	Off	00	RAM ok
	On	01	RAM error
3	Off	00	EEPROM ok
	On	01	EEPROM error
4	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

Transmit device ID (n = 0x15)

1° Byte = 0x75 (refer to command 0x1D 0x49)

Transmit info1 (n = 0x16)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	One or more tickets printed after turn on
	On	01	No tickets printed after turn on
1	Off	00	One or more tickets printed after AUTOLOAD
	On	02	No tickets printed after turn AUTOLOAD
2	-	-	RESERVED
3	-	-	RESERVED
4	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

[Notes]
- Immediately executed even when the data buffer is full.
- This status is transmitted whenever data sequence 0x10 0x04 n is received.

[Default]

[Reference]

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

0x10 0x04 <DLE EOT>

Real-time status transmission (models with triple feeder)

Valid for	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL TK302III TF

[Format]

Hex	10	04	n
ASCII	DLE	EOT	n

[Range]

0x01 ≤ n ≤ 0x04
n = 0x11
0x14 ≤ n ≤ 0x16
n = 0x1A

[Description] Transmits the selected device status specified by n in real time according to the following parameters:

n = 0x01	transmit device status
n = 0x02	transmit off-line status
n = 0x03	transmit error status
n = 0x04	transmit paper roll sensor status
n = 0x11	transmit print status
n = 0x14	transmit FULL STATUS
n = 0x15	transmit device ID
n = 0x16	transmit info1
n = 0x1A	transmit device + triple feeder 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	-	-	RESERVED
6	-	-	RESERVED
7	Off	00	LF key released
	On	80	LF key pressed

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 FEED key
	On	08	Paper is fed by 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	Cutter ok
	On	08	Cutter 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)

1° Byte = 0x10 (DLE)

2° Byte = 0x0F

3° 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	Notch is placed over the sensor
	On	80	Notch is not placed over the sensor

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

4° 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	-	-	RESERVED

5° 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	Notch search ok
	On	80	Error in notch search

6° Byte = Unrecoverable error status

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Cutter ok
	On	01	Cutter error
1	Off	00	Cutter cover ok
	On	02	Cutter cover open
2	Off	00	RAM ok
	On	01	RAM error
3	Off	00	EEPROM ok
	On	01	EEPROM error
4	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

Transmit device ID (n = 0x15)

1° Byte = 0x75 (refer to command 0x1D 0x49)

Transmit info1 (n = 0x16)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	One or more tickets printed after turn on
	On	01	No tickets printed after turn on
1	Off	00	One or more tickets printed after AUTOLOAD
	On	02	No tickets printed after turn AUTOLOAD
2	-	-	RESERVED
3	-	-	RESERVED
4	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

FULL STATUS (n = 0x1A, 14 bytes)

1° Byte = 0x10 (DLE)

2° Byte = 0xFF

3° 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	The notch is placed over the sensor
	On	80	The notch is not placed over the sensor

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

4° 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	-	-	RESERVED

5° Byte = Recoverable error status

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	Notch search ok
	On	80	Error in notch search

6° Byte = Unrecoverable error status

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Cutter ok
	On	01	Cutter error
1	Off	00	Frontal cover ok
	On	02	Frontal cover open
2	Off	00	RAM ok
	On	01	RAM error
3	Off	00	EEPROM ok
	On	01	EEPROM error
4	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

7° Byte = 0x49

8° Byte = Triple feeder status

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Paper sensor feeder 1 UP: paper not present
	On	01	Paper sensor feeder 1 UP: paper present
1	Off	00	Paper sensor feeder 2 CENTER: paper not present
	On	02	Paper sensor feeder 2 CENTER: paper present
2	Off	00	Paper sensor feeder 3 DOWN: paper not present
	On	01	Paper sensor feeder 3 DOWN: paper present
3	-	-	RESERVED
4	Off	00	Low paper sensor feeder 1 UP: paper not present
	On	10	Low paper sensor feeder 1 UP: paper present
5	Off	00	Low paper sensor feeder 2 CENTER): paper not present
	On	20	Low paper sensor feeder 2 CENTER: paper present
4	Off	00	Low paper sensor feeder 3 DOWN: paper not present
	On	40	Low paper sensor feeder 3 DOWN: paper present
7	-	-	RESERVED

9° Byte = 0x41

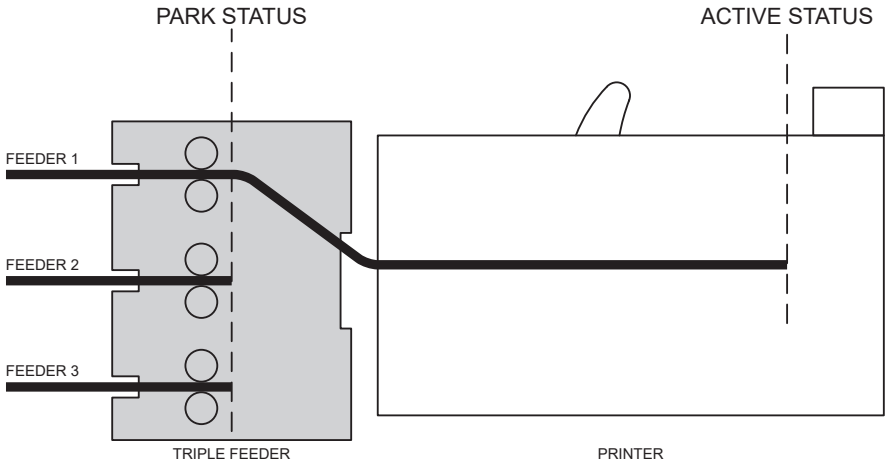
10° Byte = feeder 1 (UP)
= 0 No paper in feeder 1
= 1 Paper in ACTIVE STATUS
= 7 Paper end
= 9 Error
= 10 Paper in PARK STATUS

11° Byte = 0x42

12° Byte = feeder 2 (CENTER)
= 0 No paper in feeder 2
= 1 Paper in ACTIVE STATUS
= 7 Paper end
= 9 Error
= 10 Paper in PARK STATUS

13° Byte = 0x43

14° Byte = feeder 3 (DOWN)	= 0	No paper in feeder 3
	= 1	Paper in ACTIVE STATUS
	= 7	Paper end
	= 9	Error
	= 10	Paper in PARK STATUS



[Notes]
- Immediately executed even when the data buffer is full.
- This status is transmitted whenever data sequence 0x10 0x044 n is received.

[Default]

[Reference]

[Example]

Request for device status transmission:
0x10 0x04 0x01
Device response:
0x80 LF key pressed

0x10 0x04 <DLE EOT>

Real-time status transmission (models without cutter)

Valid for	TK202III

[Format]

Hex	10	04	n
ASCII	DLE	EOT	n

[Range]

0x01 ≤ n ≤ 0x04
n = 0x11
0x14 ≤ n ≤ 0x16

[Description] Transmits the selected device status specified by n in real time according to the following parameters:

n = 1	transmit device status
n = 2	transmit off-line status
n = 3	transmit error status
n = 4	transmit paper roll sensor status
n = 17	transmit print status
n = 20	transmit FULL STATUS
n = 21	transmit device ID
n = 22	transmit info1

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	-	-	RESERVED
6	-	-	RESERVED
7	Off	00	LF key released
	On	80	LF key pressed

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 FEED key
	On	08	Paper is fed by 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	-	-	RESERVED
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

Device 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 stop due to paper end
6	-	-	RESERVED
7	Off	00	Not used. Fixed to off

Full status (n = 0x14, 6 bytes)

1° Byte = 0x10 (DLE)

2° Byte = 0x0F

3° 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	Notch found
	On	80	Notch not found

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

4° 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	-	-	RESERVED

5° Byte = Recoverable error status

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	Notch search ok
	On	80	Error in notch search

6° Byte = Unrecoverable error status

BIT	OFF/ON	HEX	FUNCTION
0	-	-	RESERVED
1	Off	00	Frontal cover ok
	On	02	Frontal cover open
2	Off	00	RAM ok
	On	01	RAM error
3	Off	00	EEPROM ok
	On	01	EEPROM error
4	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

Transmit device ID (n = 0x15)

1° Byte = 0x75 (refer to command 0x1D 0x49)

Transmit info1 (n = 0x16)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	One or more tickets printed after turn on
	On	01	No tickets printed after turn on
1	Off	00	One or more tickets printed after AUTOLOAD
	On	02	No tickets printed after turn AUTOLOAD
2	-	-	RESERVED
3	-	-	RESERVED
4	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

[Notes]
- Immediately executed even when the data buffer is full.
- This status is transmitted whenever data sequence 0x10 0x04 n is received.

[Default]

[Reference]

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

0x1B 0x76

Transmit paper sensor status

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 0xEA

Transmit the device serial number

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1C	EA	n
	ASCII	FS	0xEA	n

[Range] n = 0x52, 0x72

[Description] Transmits the device serial number.

[Notes]
- The serial number is a string of 16 alphanumeric characters.
- If the device serial number is not deined, 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 0xEA 0x52

The device returns a string of 16 alphanumeric characters as follows:
‘ABC0000000000000’

0x1D 0x72

<GS r>

Transmit status

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	72	n
ASCII	GS	r	n

[Range] n = 0x01, 0x31

[Description] Transmits the status specified by n as follows:

n	FUNCTION
0x01, 0x31	Transmits paper sensor status (as for 0x1B 0x76)

Paper sensor status (n = 0x01, 0x31)

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 when the data is processed in the data buffer. Therefore, there may be a time lag between receiving the command and transmitting the status, depending on data buffer status.

[Default]

[Reference] 0x10 0x04, 0x1B 0x76

[Example]

0x1D 0xE0

Enable / disable automatic FULL STATUS BACK

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	E0	n
ASCII	GS	0xE0	n

[Range] 0x00 ≤ n ≤ 0xFF

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

TK202III
KPM302III, TK302III
KPM302III EJ, KPM302III vSEL, KPM302III hSEL

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	-	-	RESERVED
5	-	-	RESERVED
6	-	-	RESERVED
7	-	-	RESERVED

KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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, 5 6, 7	Off	00	Disable triple feeder status
	On	F0	Enable triple feeder status

[Notes]

TK202III
KPM302III, TK302III
KPM302III EJ, KPM302III vSEL, KPM302III hSEL

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:
1° Byte = 0x10 (DLE)
2° Byte = n
Next bytes (depends how many bits are active in n)

KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

• 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:
1° Byte = 0x10 (DLE)
2° Byte = n
• The next 4 bytes depending on how many bits are active in the low nibble of n.
• The next 8 bytes depending on the value written in the high nibble of n (as showed in the table)
Note: The value of the bits within each byte is indicated for the 0x10 0x04 0x26 command.

[Default]

[Reference] 0x10 0x04

[Example]

0x1D 0xE1

Reading of length paper available before virtual paper-end

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 from the device

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1D	E2
	ASCII	GS	0xE2

[Range]

[Description] Reading the number of cuts performed from the device.

[Notes] The command return a string that points out how many cuts are performed by cutter.

[Default]

[Reference]

[Example] If there are performed 2376 cuts, the answer will be
‘2376 cuts’

0x1D 0xE3

Reading of length of printed paper

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL,KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1D	E3
	ASCII	GS	0xE3

[Range]

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

[Notes] The command return a string pointing out how much paper is printed.

[Default]

[Reference]

[Example] If the device has print about 2515.5 m, the answer will be ‘251550cm’

0x1D 0xE5

Reading number of power up

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1D	E5
	ASCII	GS	0xE5

[Range]

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

[Notes] The command return a string pointing out the number of turning on of the device.

[Default]

[Reference]

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

BIT-IMAGE COMMANDS

0x1B 0x2A

<ESC *>

Select bit image mode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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:

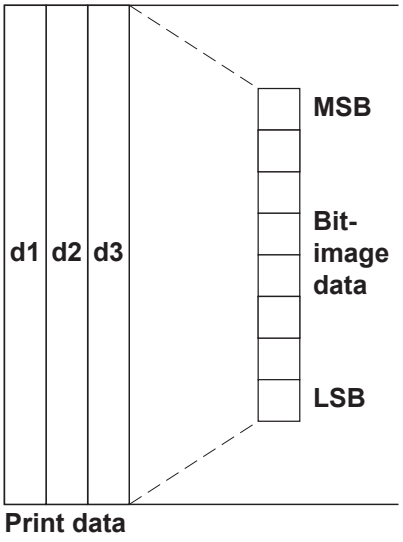
m	MODE	VERTICAL DIRECTION		HORIZONTAL DIRECTION (*1)	
		N° dots	DPI	DPI	N° of data (k)
0x00	8 dot single density	8	67	100	nL + nH x 256
0x01	8 dot double density	8	67	200	nL + nH x 256
0x20	24 dot single density	24	200	100	(nL + nH x 256) x 3
0x21	24 dot double density	24	200	200	(nL + nH x 256) x 3

[Notes]

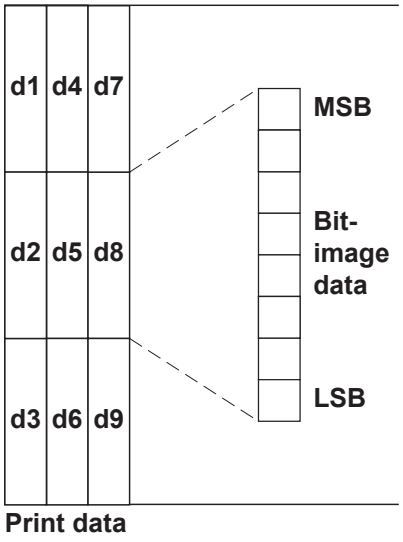
• The nL and nH commands indicate the number of dots of the bit image in the horizontal direction. The number of dots is calculated using: nL + nH x 256.
• If the bit image data input exceeds the number of dots to be printed on a line, the excess data is ignored.
• d indicates the bit image data. Set 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 emphasized, 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



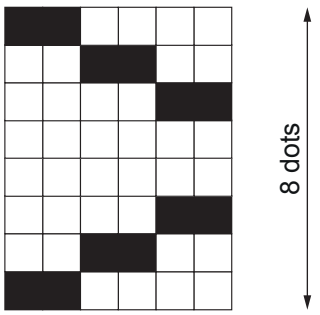
24-dot bit image



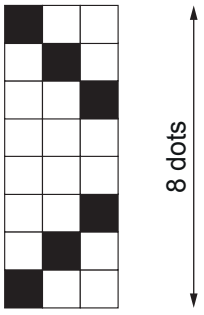
[Default]

[Reference]

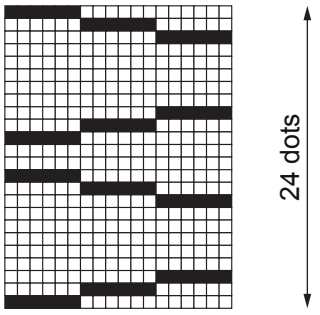
[Example]



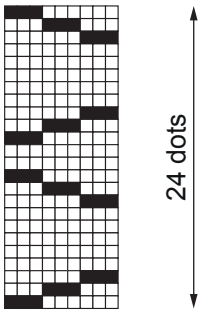
8 dots single density



8 dots double density



24 dots single density



24 dots double density

0x1D 0x2A

<GS *>

Define dowloaded bit image

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 downloaded bit image using the number of dots specified by x and y:
- x specifies the number of dots in the horizontal direction.
- y specifies the number of dots in the vertical direction.

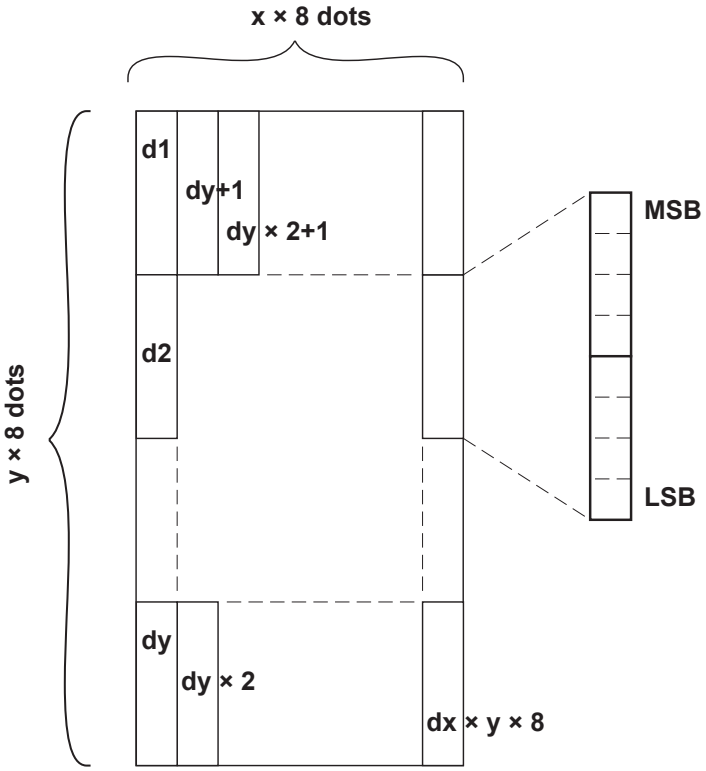
[Notes]

• 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 downloaded 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 downloaded bit image and the printed data.



0x1D 0x2F

<GS />

Print dowloaded bit image

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	2F	m
ASCII	GS	/	m

[Range]

0x00 ≤ m ≤ 0x03
0x30 ≤ m ≤ 0x33

[Description]

Prints a downloaded bit image using the mode specified by m. m selects a mode from the table below:

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

[Notes]

• This command is ignored if a downloaded 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 downloaded 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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 bits (xL+xH x 256) in the horizontal direction for the bit image.
• yL, yH selects the number of data bits (yL+yH x 256) in the vertical direction for the bit image.
• k indicates number of the image data. k is an explanation parameter; it is not necessary to be transmitted.
• d indicates the image data.

[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 device 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 the print modes (emphasized, underline, character size, or white/black reverse printing), except for upside-down printing mode (180° rotation).
• This command feed the paper as much as necessary to print the bit image without using spacing set by 0x1B 0x32 or 0x1B 0x33.

• Do not use this command during a macro executing because this command should not be included in a macro.
• After the printing the printing starting 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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	08
ASCII	BS

[Range]

[Description] Moves print position to previous character.

[Notes] Can be used to put two characters at the same position.

[Default]

[Reference]

[Example]

0x09 <HT>

Horizontal tab

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	09
ASCII	HT

[Range]

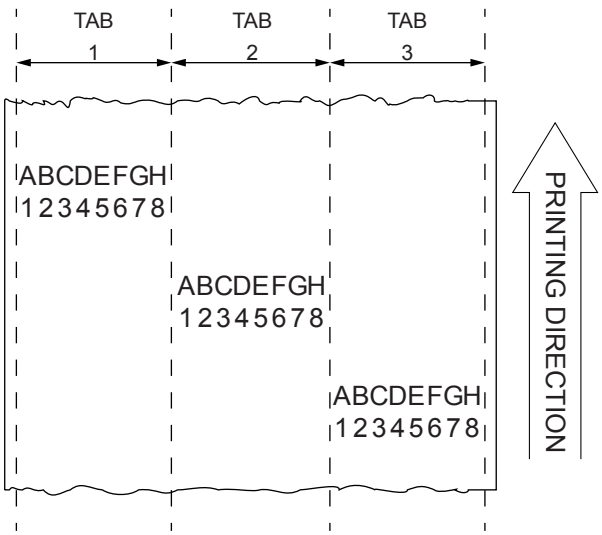
[Description] Moves the print position to the next horizontal tab position.

[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	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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)] inches.

[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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 x 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.
• When setting n = 8, the print position is moved to column 9 by sending 0x09.
• 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 cancels all horizontal tab positions.
• The previously specified horizontal tab position does not change, even if the character width is modified.

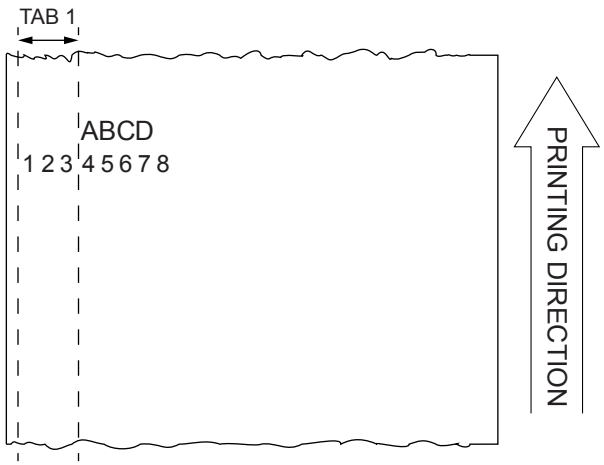
[Default]

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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 orvertical 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.
- Any setting that exceeds the printable area is ignored.
- Setting the right value, it's possible to print characters over the right edge.

[Default]

[Reference] 0x1B 0x24, 0x1D 0x50

[Example]

0x1B 0x61 <ESC a>

Select justification

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	61	n
ASCII	ESC	a	n

[Range]

0x00 ≤ n ≤ 0x02
0x30 ≤ n ≤ 0x32

[Description] Aligns all data in one line to the specified position. n selects the type of justification as follows:

n	JUSTIFICATION
0x00, 0x30	Flush left
0x01, 0x31	Centred
0x02, 0x32	Flush right

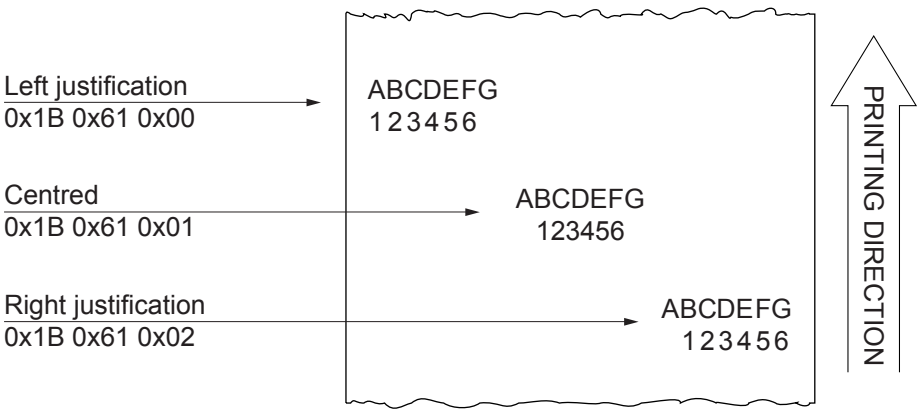
[Notes]

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



0x1D 0x4C

<GS L>

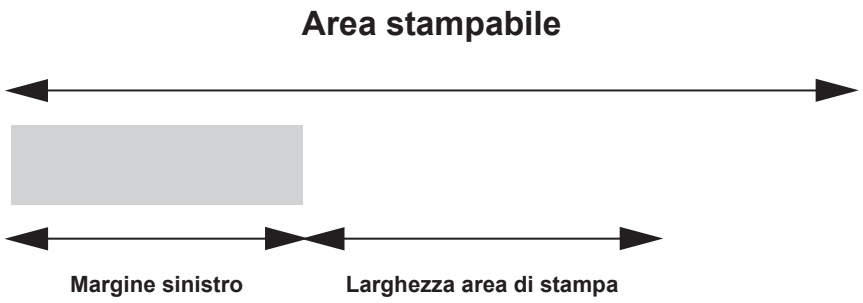
Set left margin

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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)] inches.



[Notes]
- This command is enabled only if set at the beginning of the line.
- 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>

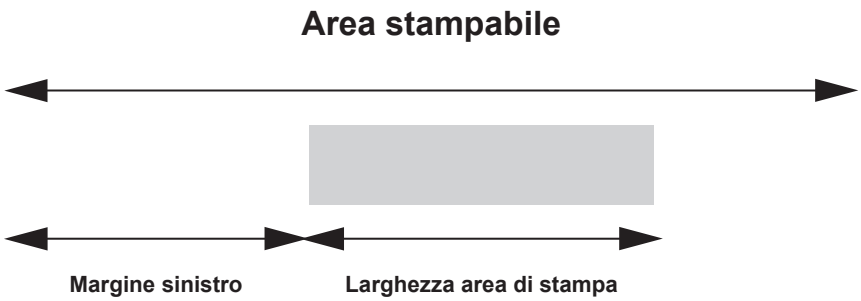
Set printing area width

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range] 0x00 ≤ nL, nH ≤ 0xFF
0x00 ≤ (nL + nH × 256) ≤ 832

[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 / end macro definition

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 LSB of m = 0, the macro is executed r times continuously at the interval specified by t.
When the 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 0, 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	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	69
ASCII	ESC	i

[Range]

[Description] This command prints the data in the buffer and enables cutter operation. If there is no cutter, a disabling flag is set and any subsequent cut commands will be ignored.

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

[Default]

[Reference]

[Example]

0x1B 0x69 <ESC i>

Presentation mode

Valid for	TK202III

[Format]

	Hex	1B	69
	ASCII	ESC	i

[Range]

[Description] This command activates the presentation mode of the ticket for the manual tear off.

[Notes]

[Default]

[Reference]

[Example]

0x1C 0x0C

Load paper from triple feeder (feeder 1, feeder 2, feeder 3)

Valid for	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

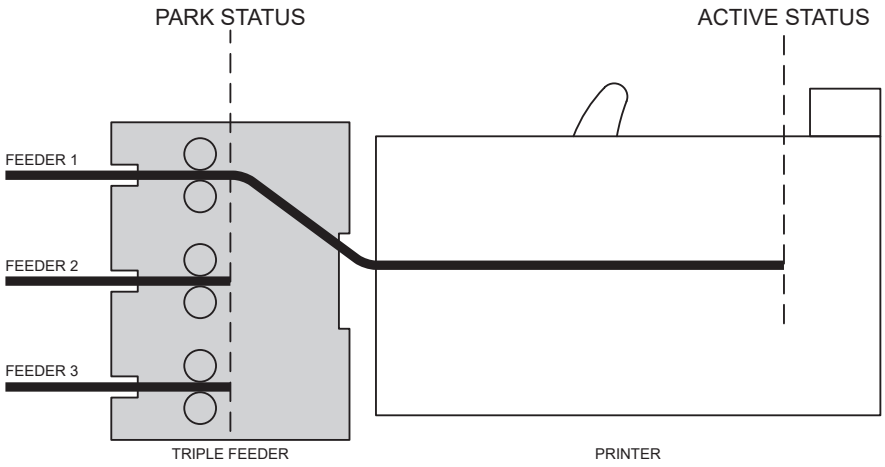
Hex	1C	0C	n
ASCII	FS	0x0C	n

[Range] 0x41 ≤ n ≤ 0x43

[Description] Load paper inside the device based on the following values of n:

n	FEEDER
0x41	Paper in feeder 1
0x42	Paper in feeder 2
0x43	Paper in feeder 3

[Notes] If another paper is in ACTIVE STATUS is retracted to PARK STATUS.



[Default]

[Reference] 0x1C 0x0E

[Example]

0x1C 0x0E

Unload paper from triple feeder (feeder 1, feeder 2, feeder 3)

Valid for	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	0E	n
ASCII	FS	0x0E	n

[Range] 0x31 ≤ n ≤ 0x33

[Description] This command allows to unload paper inside the three paper in feeder based on the following values of n:

n	FEEDER
0x31	Paper in feeder 1
0x32	Paper in feeder 2
0x33	Paper in feeder 3

[Notes]

[Default]

[Reference] 0x1C 0x0C

[Example]

0x1C 0xC1

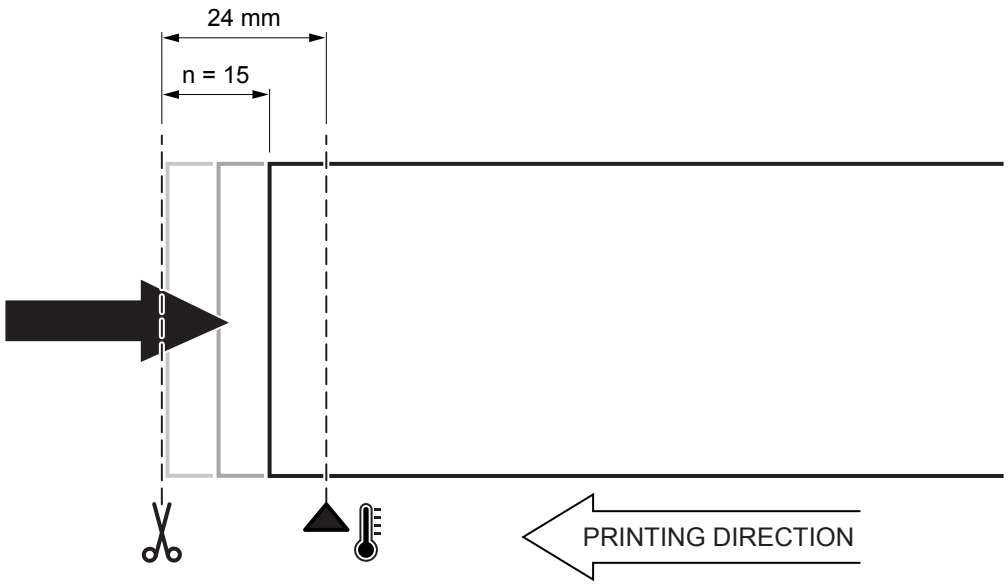
Paper recovery after cut

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range] 0x00 ≤ n ≤ 0x16

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



[Notes]
- Set n = 0x16 to complete recover the paper.
- WARNING: setting n = 0x16 is not recommended for paper roll with low weight.

[Default] n = 0x0F (15 mm)

[Reference]

[Example]

0x1D 0x56 <GS V>

Select cut mode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format 1]

Hex	1D	56	m	
ASCII	GS	V	m	

[Format 2]

Hex	1D	56	m	n
ASCII	GS	V	m	n

[Range]

Format 1: m = 0x00, 0x30

Format 2: m = 0x41, 0x42
0x00 ≤ n ≤ 0xFF

[Description]

Selects cut mode and executes the cut command.
m selects cut mode as follows:

KPM302III, TK302III
KPM302III EJ, KPM302III vSEL, KPM302III hSEL
KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

TK202III

m	FUNCTION
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

[Example]

0x1D 0xF0

Set printing speed

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	F0	n
ASCII	GS	0xF0	n

[Range] 0x00 ≤ n ≤ 0x02

[Description] Sets printing speed. n specifies the printing speed as follows:

n	PRINTING SPEED
0x00	High quality
0x01	Normal
0x02	High speed

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

[Default] n = 0x01

[Reference]

[Example]

0x1D 0xE7

Set notch distance

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	E7	nL	nH
ASCII	GS	0xE7	nL	nH

[Range]

0x00 ≤ nH ≤ 0xFF
0x00 ≤ nL ≤ 0xFF

[Description]

Sets notch distance in tenth of millimeter of the alignment point from the edge of the black mark. This value is expressed as [(nH x 256) + nL] where:
- 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 -99.9 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]

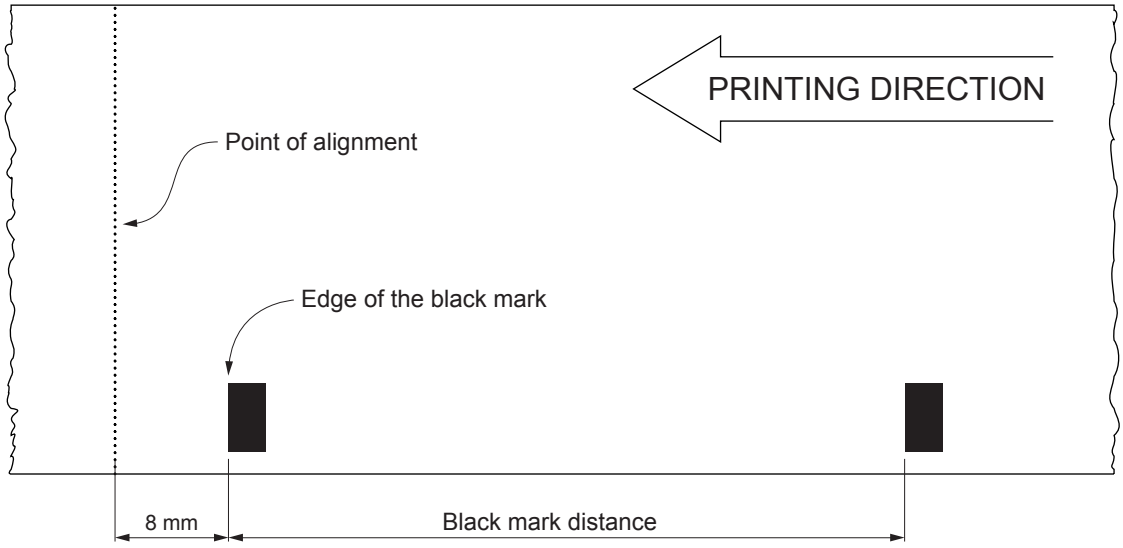
[Example] To set a distance of the alignment point from the notch equal to 8 mm = 80 tenths of a millimeter, send the command:
0x1D 0xE7 0x00 0x50

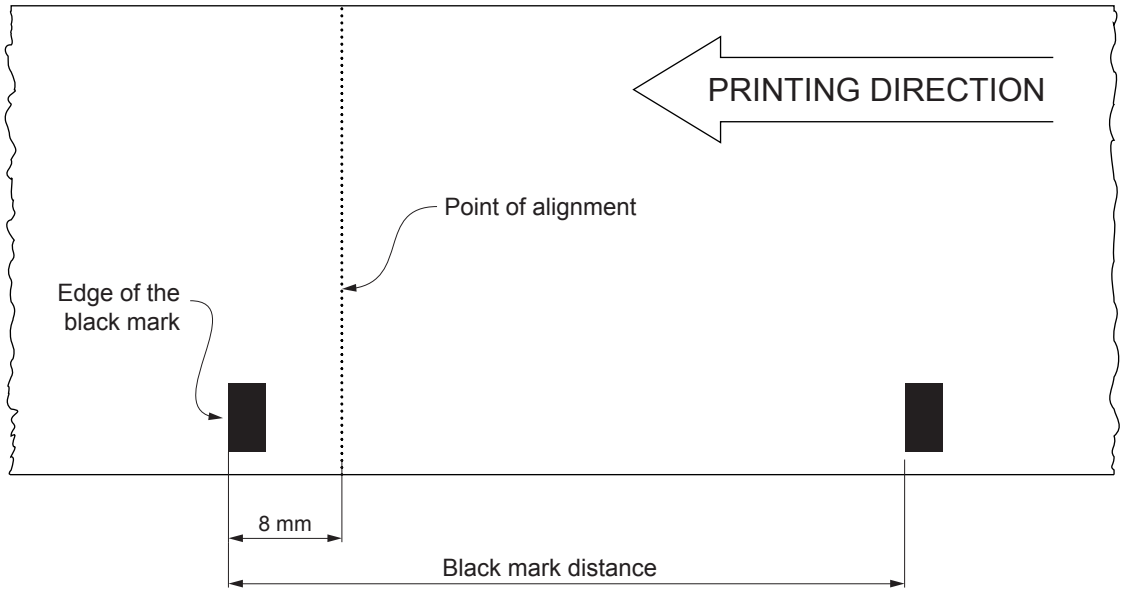
where:
0x00 the most significant bit (MSB = 0) defines the sign +
0x00 0x50 the absolute value defines the distance = 80 tenths of a millimeter

To set a distance of the alignment point from the notch equal to - 8 mm, send the command:
0x1D 0xE7 0x80 0x50

where:
0x80 the most significant bit (MSB = 1) defines the sign -
0x80 0x50 the absolute value defines the distance = 80 tenths of a millimeter

The following images show tickets with alignment point positioned at 8 mm and -8 mm from the notch.





To set a distance of the alignment point from the notch equal to 30 mm = 300 tenths of a millimeter, send the command:
0x1D 0xE7 0x01 0x2C

where:

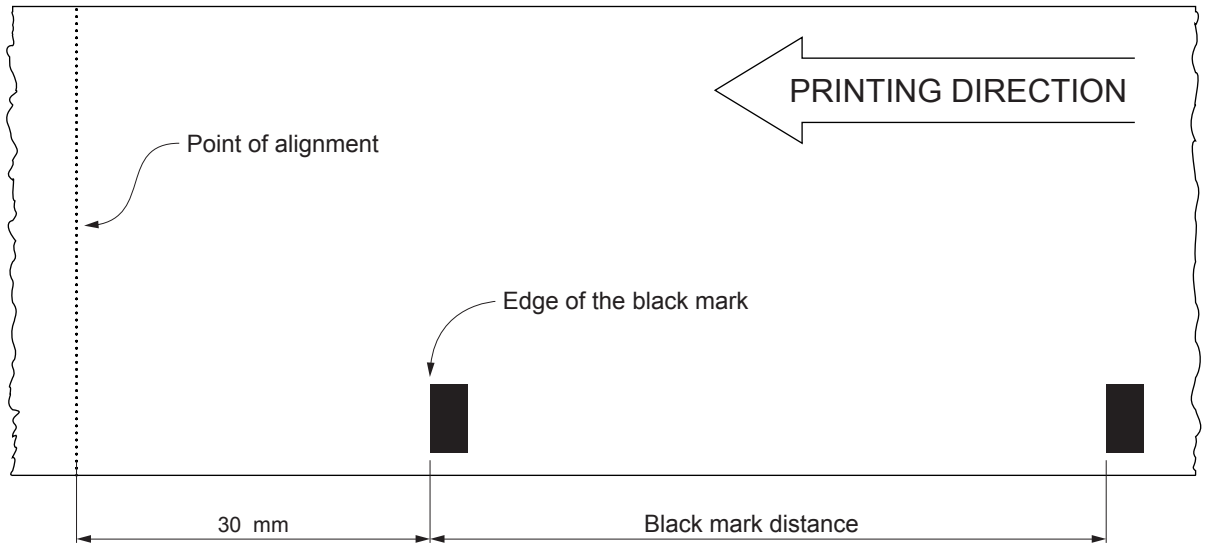
0x01	the most significant bit (MSB = 0) defines the sign +
0x01 0x2C	the absolute value defines the distance = 300 tenths of a millimeter

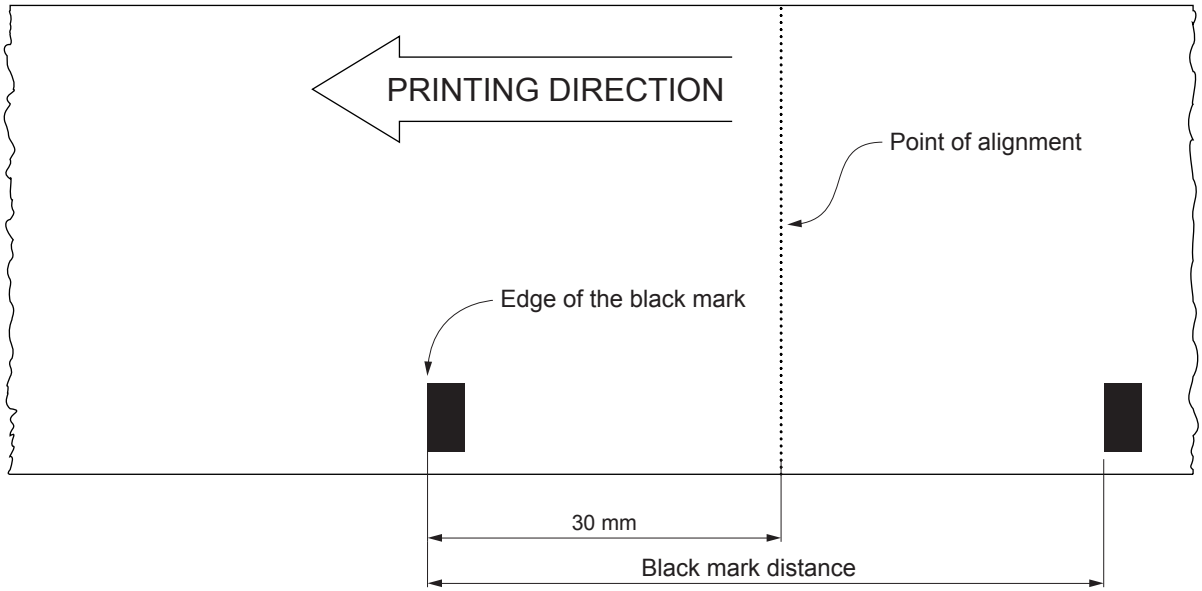
To set a distance of the alignment point from the notch equal to -30 mm, send the command:
0x1D 0xE7 0x81 0x2C

where:

0x81	the most significant bit (MSB = 1) defines the sign -
0x81 0x2C	the absolute value defines the distance = 300 tenths of a millimeter

The following images show tickets with alignment point positioned at 30 mm and -30 mm from the notch.




PRINTING DIRECTION
Point of alignment
Edge of the black mark
30 mm
Black mark distance

0x1D 0xF6

Align the ticket with the print head

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	F6
ASCII	GS	0xF6

[Range]

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

[Notes] Use 0x1D 0xE7 command to set the distance between the edge of notch and the alignment point.

[Default]

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

[Example]

0x1D 0xF8

Align the ticket with the autocutter

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1D	F8
	ASCII	GS	0xF8

[Range]

[Description] This command align the edge of the notch 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.

[Default]

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

[Example]

EJECTOR/SELECTOR MANAGEMENT COMMANDS

0x1D 0x65 0x05 *<GS e ENQ>*

Perform the ticket ejection

Valid for	KPM302III EJ, KPM302III TF-EJ KPM302III vSEL, KPM302III hSEL, KPM302III TF-hSEL

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

[Range]

[Description] This command performs the ejection of the printed ticket.

[Notes]

[Default]

[Reference] 0x1D 0x65 0x30, 0x1D 0x65 0x31

[Example]

0x1D 0x65 0x30

<GS e 0>

Disable the automatic ejection of the ticket

Valid for	KPM302III EJ, KPM302III TF-EJ KPM302III vSEL, KPM302III hSEL, KPM302III TF-hSEL

[Format]

Hex	1D	65	30
ASCII	GS	e	0

[Range]

[Description] This command disable the automatic ejection of the printed ticket. The ticket is issued in presentation mode.

[Notes] With automatic ejection disabled, it is anyway possible to eject the ticket by sending the eject command 0x1D 0x70 0x49.

[Default]

[Reference] 0x1D 0x65 0x31, 0x1D 0x70 0x49

[Example]

0x1D 0x65 0x31

<GS e 1>

Enable the automatic ejection of the ticket

Valid for	KPM302III EJ, KPM302III TF-EJ KPM302III vSEL, KPM302III hSEL, KPM302III TF-hSEL

[Format]	Hex	1D	65	31
	ASCII	GS	e	1

[Range]

[Description] This command enable the automatic ejection of the printed ticket.

[Notes]

[Default]

[Reference] 0x1D 0x65 0x30, 0x1D 0x70 0x49

[Example]

0x1D 0x70 0x49

<GS p I>

Initialize selector

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format]	Hex	1D	70	49
	ASCII	GS	p	I

[Range]

[Description] This command performs a movement of the selector mechanisms in the two available positions “Open” and “Storage”.
If the selector is mechanically unable to move, the flag status indicates an error.

[Notes] At the end of the movement, selector is set in the “Open” position.

[Default] “Open” position

[Reference] 0x1D 0x70 0x4F, 0x1D 0x70 0x53, 0x1D 0x70 0x69, 0x1D 0x70 0x6F, 0x1D 0x70 0x73

[Example]

0x1D 0x70 0x4F

<GS p O>

Set selector in “Open” position

Valid for	KPM302III vSEL,KPM302III hSEL KPM302III TF-hSEL

[Format]	Hex	1D	70	4F
	ASCII	GS	p	O

[Range]

[Description] This command set the selector in the “Open” position: the paper exits the device regularly.
If the selector position is already the desired one, this command does not generate any movement.

[Notes]

[Default]

[Reference] 0x1D 0x70 0x49, 0x1D 0x70 0x53, 0x1D 0x70 0x69, 0x1D 0x70 0x6F, 0x1D 0x70 0x73

[Example]

0x1D 0x70 0x53

<GS p S>

Set selector in “Storage” position

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format]	Hex	1D	70	53
	ASCII	GS	p	S

[Range]

[Description] This command set the selector in the “Storage” position: paper exits the device downwards.
If the selector position is already the desired one, this command does not generate any movement.

[Notes]

[Default]

[Reference] 0x1D 0x70 0x49, 0x1D 0x70 0x4F, 0x1D 0x70 0x69, 0x1D 0x70 0x6F, 0x1D 0x70 0x73

[Example]

0x1D 0x70 0x69

<GS p i>

Initialize selector

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format]	Hex	1D	70	69
	ASCII	GS	p	i

[Range]

[Description] This command performs a movement of the selector mechanisms in the two available positions. If the selector is mechanically unable to move, the flag status indicates an error.

[Notes] At the end of the movement, selector is set in the “Open” position.

[Default] “Open” position

[Reference] 0x1D 0x70 0x49, 0x1D 0x70 0x4F, 0x1D 0x70 0x53, 0x1D 0x70 0x6F, 0x1D 0x70 0x73

[Example]

0x1D 0x70 0x6F

<GS p o>

Set selector in “Open” position

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format]	Hex	1D	70	6F
	ASCII	GS	p	o

[Range]

[Description] This command set the selector in the “Open” position: the paper exits the device regularly.
If the selector position is already the desired one, this command does not generate any movement.

[Notes]

[Default]

[Reference] 0x1D 0x70 0x49, 0x1D 0x70 0x4F, 0x1D 0x70 0x53, 0x1D 0x70 0x69, 0x1D 0x70 0x73

[Example]

0x1D 0x70 0x73

<GS p s>

Set selector in “Storage” position

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format]	Hex	1D	70	73
	ASCII	GS	p	s

[Range]

[Description] This command set the selector in the “Storage” position: paper exits the device downwards.
If the selector position is already the desired one, this command does not generate any movement.

[Notes]

[Default]

[Reference] 0x1D 0x70 0x49, 0x1D 0x70 0x4F, 0x1D 0x70 0x53, 0x1D 0x70 0x69, 0x1D 0x70 0x6F

[Example]

0x1C 0x90

Get number of stored logo

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	90
ASCII	FS	0x90

[Range]

[Description] This command sends to the device the request of number of stored logo; the device returns a bytes sequence as follows:

<PNn>

where
n (in ASCII format) indicates the number of stored images.

[Notes]

[Default]

[Reference]

[Example] If in the flash memory are stored 10 logos, send this command :
0x1C 0x90

The device will answer:

HEX	0x3C	0x50	0x4E	0x31	0x30	0x3E
ASCII	<	P	N	1	0	>

0x1C 0x91

Get pictures header list

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	91
ASCII	FS	0x91

[Range]

[Description] This command requests to the device the list of stored logo. The device returns a bytes sequence as follows : <PL CrLf [N-ID CrLf]>

where:

CrLf	indicates the two characters 0x0D (carriage return) and 0x0A (line feed)
N	is the number of stored logo
[ID]	indicates the file-name that identify the logo, a sequence of 16 bytes that was defined when the logo is stored. This field is optional because it's returned only if the logo has been found.

[Notes]

[Default]

[Reference] 0x1C 0x92, 0x1C 0x94

[Example]

0x1C 0x92

Get pictures header info

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	92	nH	nL
ASCII	FS	0x92	nH	nL

[Range] 0x00 ≤ nH, nL ≤ 0xFF

[Description] Gets the logo header info stored specified by n (expressed in ASCII).

- n is the number of stored logo;
- The device returns a byte sequence as follows:

<PIe[ID]>

where:

e	indicates the search result e = 0 picture not found e = 1 picture found
[ID]	indicates the file-name that identify the logo, a sequence of 16 bytes that was defined when the logo is stored. This field is optional because it's returned only if the logo has been found.

[Notes]

[Default]

[Reference]

[Example]

0x1C 0x93

Print logo

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 (on the basis of 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	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 Kbyte)

<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 :

HEX	0x3C	0x50	0x43	0x31	0xAA	0x3E
ASCII	<	P	C	1	0xAA	>

0x1D 0xDA

Turn on/off backlight

Valid for	TK202III TK302III, TK302III TF

[Format]

Hex	1D	DA	n
ASCII	GS	0xDA	n

[Range] n = 0x30, 0x31

[Description] Manage the display backlight according to n values as follows:

n	FUNCTION
0x30	turn off backlight and clear display
0x31	turn on backlight

[Notes]

[Default]

[Reference]

[Example]

0x1D 0xDA

Display message

Valid for	TK202III TK302III, TK302III TF

[Format]

Hex	1D	DA	n	d1..d20
ASCII	GS	0xDA	n	d1..d20

[Range]

n = 0x41, 0x42
0x00 ≤ d1..d20 ≤ 0xFF

[Description]

Display a message according to n values as follows:

n	FUNCTION
0x41	display 20 characters on the first row
0x42	display 20 characters on the second row

d1..d20 are the ASCII characters relative to the text to display.

[Notes]

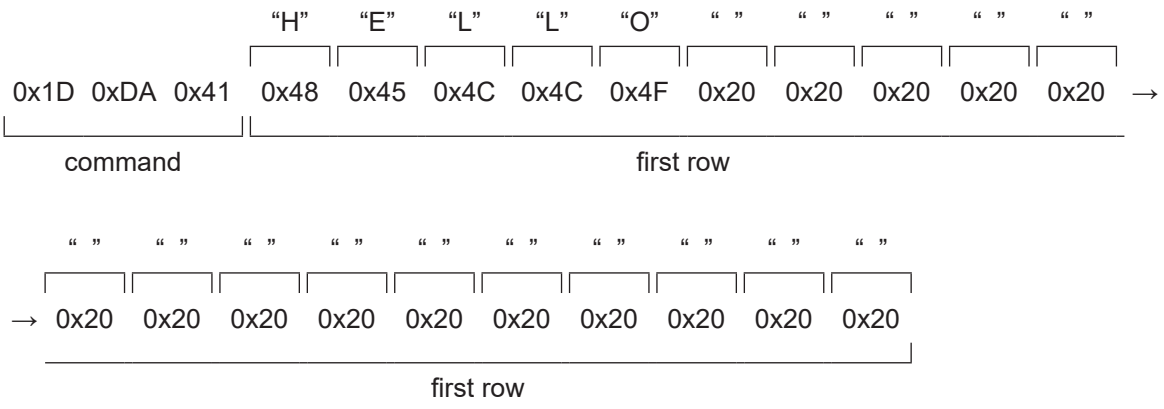
String must be 20 characters long.

[Default]

[Reference]

[Example]

To display the message “HELLO” in the first line, transmit:



0x1D 0xDA

Manual management

Valid for	TK202III
	TK302III, TK302III TF

[Format]

Hex	1D	DA	n
ASCII	GS	0xDA	n

[Range] n = 0x4E, 0x59

[Description] Enable or disable manual management of the display according to n values as follows:

n	FUNCTION
0x4E	disable manual management of the display
0x59	enable manual management of the display

[Notes]

[Default]

[Reference]

[Example]

0x1B 0x3D

<ESC =>

Select peripheral device

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1B	3D	n
ASCII	ESC	=	n

[Range]

0x01 ≤ n ≤ 0x03
n = 0x05

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

n	FUNCTION
0x01, 0x03	Device enabled
0x02	Device disabled
0x05	Select Pass-Through toward RFID module

[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 2nd serial.
• When the Pass-trough function is enabled toward RFID module, to reactivate communication toward device must send the 0x1B 0x3D 0x31 0xF1 0x5A 0xE0 command.

[Default] n = 0x01

[Reference]

[Example]

0x1B 0x40 <ESC @>

Initialize device

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[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 / disable keys panel

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

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

[Range] 0x00 ≤ n ≤ 0xFF

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

[Notes]
• Only the 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]

0x1C 0x3C 0x53 0x56 0x45 0x4C 0x3E

<FS < S V E L > >

Change device emulation to SVELTA

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1C	3C	53	56	45	4C	3E
	ASCII	FS	<	S	V	E	L	>

[Range]

[Description] Change the device emulation to SVELTA emulation.

[Notes]

[Default]

[Reference]

[Example]

0x1C 0x6C

<FS I>

Reload paper

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1C	6C
	ASCII	FS	I

[Range]

[Description] When this command is received, the device performs a paper reloading.

[Notes]
- During the execution of the command, the device indicates the paper end.
- This command is valid only if the alignment is enabled.

[Default]

[Reference]

[Example]

0x1C 0x73

<FS s>

Disable or enable black mark detection

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	73	n
ASCII	FS	s	n

[Range] n = 0x00, 0x01

[Description] Sent before and after a feed command, this command disables and then enables the detection and counting of the alignment black mark, according to n values as shown in following table:

n	FUNCTION
0x00	Disable black mark detection
0x01	Enable black mark detection

[Notes]
- When you need to move paper outside the print job, you need to send command sequence 0x1C 0x73 0x00 to disable the detection and counting of the black marks by the alignment sensor to allow the device to properly position the paper at the end of the movement. Then, you need to enable the black mark detection with the command sequence 0x1C 0x73 0x01.
- Send this command always before and after a feed command.

[Default]

[Reference] 0x1B 0x4A, 0x1B 0x64

[Example]

0x1C 0x80

Read date/time of the real time clock

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	80	m
ASCII	FS	0x80	m

[Range] 0 ≤ m ≤ 3

[Description] Read date/time of the real time clock in the format specified by m values as follows:

m	FORMAT
0x00	DD/MM/YY hh:mm:ss
0x01	DDMMYYhhmmss
0x02	YYMMDDhhmmss
0x03	YYMMDDkkmmssd

where:

DD	represents the day of the date
MM	represents the month of the date
YY	represents the year of the date
hh	represents the hour of the time
mm	represents the minutes of the time
ss	represents the seconds of the time
d	represents the day of the week

[Notes] Before send the date/time, if the m parameter is valid the device transmits the ACK (0x06) followed by the number of bytes to sent, otherwise return NACK (0x15).

[Default]

[Reference]

[Example] To read date/time in the “DDYYMMhhmmss” format, send the command sequence:
0x1C 0x80 0x01

If the current date/time are “15 September 2006 at 10:56:20 (AM)”, the device answers as follows:

in Hex:	0x06 0x0C 0x31 0x35 0x30 0x39 0x30 0x36 0x31 0x30 0x35 0x36 0x32 0x30
in ASCII:	ACKFF150906105620

0x1C 0x81

Read date/time of the real time clock

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1C	81	m	n	d0...dn
ASCII	FS	0x81	m	n	d0...dn

[Range]

0x00 ≤ m ≤ 0x03
0x00 ≤ d0, dn ≤ 0xFF

[Description]

Read date/time of the real time clock in the format specified by m values as follows:

m	FORMAT
0x00	DD/MM/YY hh:mm:ss
0x01	DDMMYYhhmmss
0x02	YYMMDDhhmmss
0x03	YYMMDDkkmmssd

where:

DD =	represents the day of the date
MM =	represents the month of the date
YY =	represents the year of the date
hh =	represents the hour of the time
mm =	represents the minutes of the time
ss =	represents the seconds of the time
d =	represents the day of the week

- n specifies the number of characters to send.
- d0...dn are the ASCII characters relative to the date and time to set.

[Notes]

- If the transmission has been received correctly and the command is valid, the device returns the ACK (0x06), otherwise return NACK (0x15).
- The day of the week is calculated automatically from the device and then it's possible that the returned value is different from the one transmitted.

[Default]

[Reference]

[Example]

To set the date and time to "29 September 2006 at 13:51:00 (PM)" in the "YYMMDDhhmmss" format, send the command sequence:
0x1C 0x81 0x02 0x0C 0x30 0x36 0x30 0x39 0x32 0x39 0x31 0x33 0x35 0x31 0x30 0x30

0x1C 0x84

Set user-defined date/time formats

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]	Hex	1C	84	n	d1...dk	0x00
	ASCII	FS	0x84	n	d1...dk	NUL

[Range]
n = 0x44, 0x54
0x00 ≤ d0, dK ≤ 0xFF

[Description]
Sets the format string for date and time used to printing.
• n specifies which user-defined string format is set:
- 0x44 for date
- 0x54 for time

• d0..dk are the ASCII characters relative to user-defined date/time formats.
• The maximum length of the user-defined date/time format string is 64 chars.
• The following table shows characters used to create user-defined date/time formats:

CHARACTER	DESCRIPTION
I	Select Italian language
E	Select English language (default language)
c	Select default data/time
d	Displays the day as a number without a leading zero (1-31)
dd	Displays the day as a number with a leading zero (01-31)
ddd	Displays the day as an abbreviation (for example, Sun)
dddd	Displays the day as a full name (for example, Sunday)
ddddd	Displays the date as a complete date in the short format where date values are formatted with day, month and year (the short date format is dd/mm/yy)
dddddd	Displays the date as a complete date in the extended format where date values are formatted with day, month and year (the extended date format is dd mmmm, yyyy)
m	Displays the month as a number without a leading zero (1-12). If the character m is immediately after the character h or hh ,displays the minutes instead of month (see also the n character formatting)
mm	Displays the month as a number with leading zeros (01-12). If the character m is immediately after the character h or hh , displays the minutes instead of month (see also the nn character formatting)
mmm	Displays the month as an abbreviation (for example, Jan)
mmmm	Displays the month as a full month name (for example, January)
yy	Displays the year in two-digit numeric format with a leading zero

yyyy	Displays the year in four digit numeric format

CHARACTER	DESCRIPTION
h	Displays the hour as a number without leading zeros (0-23)
hh	Displays the hour as a number with leading zeros (00-23)
n	Displays the minutes as a number without leading zeros (0-59)
nn	Displays the minutes as a number with leading zeros (00-59)
s	Displays the seconds as a number without leading zeros (0-59)
ss	Displays the seconds as a number with leading zeros (00-59)
ttttt	Displays the time in the extended format where time values are formatted with hour, minutes and seconds (the extended time format is h:mm:ss).
AM/PM	Using the 12-hour clock and displays the AM prefix in uppercase next to the hours that preceding midday and the PM prefix in uppercase next to the hours between midday and midnight.
am/pm	Using the 12-hour clock and displays the am prefix in lowercase next to the hours that preceding midday and the pm prefix in lowercase next to the hours between midday and midnight.
A/P	Using the 12-hour clock and displays the A prefix in uppercase next to the hours that preceding midday and the a prefix in uppercase next to the hours between midday and midnight.
a/p	Using the 12-hour clock and displays the a prefix in lowercase next to the hours that preceding midday and the a prefix in lowercase next to the hours between midday and midnight.

[Notes] The device's answer ACK (0x06) if the transmission is OK otherwise NACK (0x15).

[Default]

[Reference]

[Example] To print the current time with the string format 'yy/mm/dd hh:mm:ss' follow these steps:

1. Send the following command to define the user-defined time string format:
0x1C 0x84 0x54 0x79 0x79 0x2F 0x6D 0x6D 0x2F 0x64 0x64 0x20 0x68 0x68 0x3A 0x6E 0x6E 0x3A 0x73 0x73 0x00

2. Send the following command to print the time:
0x1C 0x83 0x0A

The character 0x0A feeds one line based on the current line spacing.
If the date and time is 22 October 2006 at 17:35:27 (PM) the output string printed will be:
06/10/22 17:35:27

0x1C 0xC0

Hardware reset

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format 1]	Hex	1C	C0	18	10	14	1A
	ASCII	FS	0xC0	CAN	DLE	DC4	SUB
[Format 2]	Hex	1C	C0	18	10	14	1B
	ASCII	FS	0xC0	CAN	DLE	DC4	ESC

[Range]

[Description] When this command is received, the device perform an hardware reset (like a device power-up).

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

Format 1:
The command execution stop the communication with host.

Format 2:
The command execution keep the communication with host active.

[Default]

[Reference]

[Example]

0x1D 0x49 <GS I>

Transmit device ID

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	49	n
ASCII	GS	I	n

[Range]

0x01 ≤ n ≤ 0x03
0x31 ≤ n ≤ 0x33

[Description] Transmits the device ID specified by n follows:

n	Device ID	SPECIFICATION
0x01, 0x31	Device model ID	0x75 (KPM302III) 0x75 (TK302III) 0x75 (TK202III)
0x02, 0x32	Type ID	See table below
0x03, 0x33	ROM version ID	Depends on ROM version (4 characters)

n = 0x02, 0x32 Type ID

BIT	OFF/ON	HEX	Dec	FUNCTION
0	Off	00	0	2-byte characters codes not supported
1	Off	00	0	Autocutter not supplied
	On	02	2	Autocutter supplied
2	Off	00	0	Thermal paper w/o label
	On	04	4	Thermal paper label
3	-	-	-	Undefined
4	Off	00	0	Not used. Fixed to off
5	-	-	-	Undefined
6	-	-	-	Undefined
7	Off	00	0	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.
• The device only transmits 1 byte (device ID) without confirmation that the host is ready to receive data.

[Default]

[Reference]

[Example]

0x1D 0x50

<GS P>

Set horizontal and vertical motion units

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	50	x	y
ASCII	GS	P	x	y

[Range] 0 ≤ x, y ≤ 255

[Description] Sets the horizontal and vertical motion units to 1/x inch and 1/y 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 0x57

[Example]

0x1D 0xE6

Virtual paper-end limit

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format]

Hex	1D	E6	nH	nL
ASCII	GS	0xE6	nH	nL

[Range]

0x00 ≤ nH≤ 0xFF
0x00 ≤ nL ≤ 0xFF

[Description]

This command sets the limit after which is pointed out the virtual paper-end.

[Notes]

- The calculation limit of the near paper-end is in centimetres.
- This value is expressed as [(nH x 256) + nL]

[Default]

nH = 0×00
nL = 0×F0

[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 x 256) = 1500 - (5 x 256) = 220

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

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<bXnn>

Sets the scan timeout of the barcode reader

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <bXnn>

[Range]

[Description] Sets the scan timeout of the barcode reader, using nn parameter value, expressed in tenth of second (10-1 seconds).

If the X parameter value is equal to ASCII character ‘e’ (0X65) the nn value (the scan timeout) is stored in EEPROM. Otherwise its value is loaded into RAM so that it’s possible to make different tests before save the correct value in EEPROM.

[Notes]

[Default] X = 3

[Reference]

[Example]

<B>

Return the scan timeout value of the barcode reader

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B>

[Range]

[Description] Returns the scan timeout value of the barcode reader.

[Notes]

[Default]

[Reference]

[Example]

<BC n>

Read a barcode

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <BC n>

[Range] n = 0, 1, A, C, T, S

[Description]

• With n = 0 the scan command is sent and the returned string is:

<BC0 CR x barcode CR >

where
- x indicate the reading result; the x value can be:
'!' : the barcode is read
'#': the barcode is not correctly read
- barcode is the barcode's characters read

• With n = 1 the returned string is:

<BC1 CR x barcode CR >

where
- barcode is the last barcode read through the printing commands <p>, <P>, <q>, <Q>.

• With n = A returns the last barcodes read up to ten as maximum;the returned string is:

<BCA CR
x barcode1 CR
x barcode2 CR
...
x barcode n CR
>

where
- x indicate the reading result ; the x value can be:
'!' : the barcode is read
'#': the barcode is not correctly read
- barcode is the barcode's characters read

• With n = C the returned string is:

<BCC CR x barcode CR >

where
- x indicate the reading result; the x value can be:
‘!’ : the barcode is read
‘#’: the barcode is not correctly read
- barcode is the barcode’s characters read

• With n = S returns the barcode reader status; the returned string is:

<BCS x>

where
- x indicate the barcode reader status; the x value can be:
‘!’ : the barcode reader is on
‘#’: the barcode reader is off

• With n = T enable/disable barcode reader to reading.

[Notes] The barcode read through the printing commands <p>, <P>, <q>, <Q>.

[Default]

[Reference] <p>, <P>, <q>, <Q>

[Example]

<B2D k, A, x>

Set the number of columns of two-dimensional barcode PDF417

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D k, A, x>

[Range] 0 ≤ x ≤ 30

[Description] Set the number of columns of PDF417 barcode.
- x = 0 specifies auto processing
- When x is not 0, specifies the number of columns of the data area as x code word.
- When auto processing (x = 0) is specified, the maximum number of columns in the data area is 30 columns.

[Notes]

[Default] x = 0

[Reference]

[Example]

<B2D k, B, x>

Set the number of rows of two-dimensional PDF417 barcode

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D k, B, x>

[Range] 3 ≤ x ≤ 90

[Description] Set the number of rows of PDF417 barcode.
x specifies the number of rows of the data area as x rows.

[Notes]

[Default]

[Reference]

[Example]

<B2D k, C, x>

Set the width of a module of two-dimensional barcode PDF417

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D k, C, x>

[Range] 2 ≤ x ≤ 8

[Description] Set the width of a module of PDF417 barcode.

[Notes]

[Default] x = 3

[Reference]

[Example]

<B2D k, D, x>

Set the height of two-dimensional barcode PDF417

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D k, D, x>

[Range] 2 ≤ x ≤ 8

[Description] Set the height of PDF417 barcode.

[Notes]

[Default] x = 3

[Reference]

[Example]

<B2D k, E, m, x>

Set the error correction level of the PDF417 barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D k, E, m, x>

[Range] m = 0, 1
m = 0 0 ≤ x ≤ 8
m = 1 1 ≤ x ≤ 40

[Description] Set the error correction level of PDF417 barcode.

- m = 0 the error correction level is specified by “level”
- m = 1 the error correction level is specified by “ratio” [x × 10%]

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

x	FUNCTION	N. OF ERROR CORRECTION CODE WORD
0	Error correction level 0	2
1	Error correction level 1	4
2	Error correction level 2	8
3	Error correction level 3	16
4	Error correction level 4	32
5	Error correction level 5	64
6	Error correction level 6	128
7	Error correction level 7	256
8	Error correction level 8	512

- Error correction level specified by “ratio” (m = 1) is as follows. The error correction level is defined by the calculated value [number of data code word × x × 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.

CALCULATED 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 or more	Error correction level 8	512

- The error correction code word calculated by modulus 929.

[Default] m = 1, x = 1 [ratio: 10%]

[Reference]

[Example]

<B2D k, P, x, d1...dn>

Store the two-dimensional PDF417 barcode data in the barcode save area

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D k, P, x, d1...dn>

[Range]

[Description] Store the PDF417 barcode data (d1...dn) in the barcode save area.
- x = number of characters (= dn)
- d1...dn = barcode data

[Notes]
- n bytes of d1...dn 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...dn because they are added automatically by the device.

[Default]

[Reference]

[Example]

<B2D l, A, x>

Specify the encoding scheme of DATAMATRIX barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D l, A, x>

[Range] 0 ≤ x ≤ 6

[Description] Set the encoding scheme for DATAMATRIX barcode specified by x as follows:

x	ENCODING
0	ASCII
1	C40
2	Text
3	X12
4	Edifact
5	Base256
6	AutoBest

[Notes]

[Default]

[Reference]

[Example]

<B2D l, B, x>

Set dot size of the module of the DATAMATRIX barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D l, B, x>

[Range] 2 ≤ x ≤ 24

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

[Notes]

[Default] x = 6

[Reference]

[Example]

<B2D I, C, x>

Set size of the DATAMATRIX barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D I, C, x>

[Range] 1 ≤ x ≤ 29

[Description] Set the size specified by x as follows:

x	BARCODE SIZE	x	BARCODE SIZE
1	10 x 10	1	64 x 64
2	12 x 12	2	72 x 72
3	14 x 14	3	80 x 80
4	16 x 16	4	88 x 88
5	18 x 18	5	96 x 96
6	20 x 20	6	104 x 104
7	22 x 22	7	120 x 120
8	24 x 24	8	132 x 132
9	26 x 26	9	144 x 144
10	32 x 32	10	8 x 18
11	36 x 36	11	8 x 32
12	40 x 40	12	12 x 26
13	44 x 44	13	12 x 36
14	48 x 48	14	16 x 36
15	52 x 52	15	

[Notes]

[Default] DmtxSymbolSquareAuto

[Reference]

[Example]

<B2D l, D, x>

Set rotation of the DATAMATRIX barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D l, D, x>

[Range] x = 0, 1

[Description] Set rotation by x as follows:

x	ROTATION
0	No rotation
1	Rotation

[Notes]

[Default]

[Reference]

[Example]

<B2D l, P, x, d1...dn>

Store the two-dimensional DATAMATRIX barcode data in the barcode save area

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D l, P, x, d1...dn>

[Range]

[Description] Store the DATAMATRIX barcode data (d1...dn) in the barcode save area.
- x = number of characters (= dn)
- d1...dn = barcode data

[Notes]
- n bytes of d1...dn 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...dn because they are added automatically by the device.

[Default]

[Reference]

[Example]

<B2D m, A, n>

Specify encoding scheme of AZTEC barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D m, A, n>

[Range] 0 ≤ n ≤ 1

[Description] Specifies encoding type of AZTEC barcode.

n	ENCODING
0	FULL AZTEC
1	AZTEC RUNE

[Notes]
- FULL AZTEC encodes all extended ASCII characters data up to a maximum length of approximately 3823 numeric or 3067 alphabetic characters or 1914 bytes of data.
- AZTEC RUNE is a compact AZTEC code, sometimes called SMALL AZTEC CODE. Encode all numbers from 0 to 9 up to a maximum length of 3 numbers.

[Default] n = 0

[Reference]

[Example]

<B2D m, B, n>

Specify dot size of the module of the AZTEC barcode

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D, m, B, n>

[Range] 2 ≤ n ≤ 24

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

[Notes]

[Default] n = 0

[Reference]

[Example]

<B2D m, C, n>

Specify AZTEC barcode size

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D m, C, n>

[Range] 0 ≤ n ≤ 36

[Description] Specifies AZTEC barcode format (rows and columns), as follows:

n	FORMAT	n	FORMAT	n	FORMAT
0	AUTO	13	C53X53	26	C109X109
1	C15X15 Compact	14	C57X57	27	C113X113
2	C19X19 Compact	15	C61X61	28	C117X117
3	C23X23 Compact	16	C67X67	29	C121X121
4	C27X27 Compact	17	C71X71	30	C125X125
5	C19X19	18	C75X75	31	C131X131
6	C23X23	19	C79X79	32	C135X135
7	C27X27	20	C83X83	33	C139X139
8	C31X31	21	C87X87	34	C143X143
9	C37X37	22	C91X91	35	C147X147
10	C41X41	23	C95X95	36	C151X151
11	C45X45	24	C101X101		
12	C49X49	25	C105X105		

[Notes]

[Default] n = 0

[Reference]

[Example]

<B2D m, D, n>

Specify the error correction level of the AZTEC barcode

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D m, D, n>

[Range] 0 ≤ n ≤ 4

[Description] Specifies the ECC level (Error Correction Capacity) of AZTEC barcode.

n	ECC level
0	AUTO
1	> 10 % + 3 codewords
2	> 23 % + 3 codewords
3	> 36 % + 3 codewords
4	> 50 % + 3 codewords

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

[Notes]

[Default] n = 0

[Reference]

[Example]

<B2D m, P, n, d0...dk>

Store and prints the AZTEC barcode data in the barcode save area

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D m, P, n, d0...dk> <P>

[Range] n = number of bytes of data

[Description] Store the AZTEC barcode data (d0...dk) in the barcode save area.
- k bytes of d0...dk are processed as barcode data.
- Specify only the data code word of the barcode with this function.

[Notes]

[Default]

[Reference]

[Example]

<B2D n, A, n>

Specify encoding scheme of QRcode barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D n, A, n>

[Range] 0 ≤ n ≤ 1

[Description] Specifies encoding type of QRcode barcode.

n	ENCODING
0	QRcode
1	MicroQR

[Notes]
- QRcode encodes all extended ASCII characters data up to a maximum length of 7089 numeric digits, 4296 alphabetic characters or 2953 bytes of data.
- MicroQR is a miniature version of the QRcode for short message. Encode all numbers from 0 to 9 up to a maximum length of 35 characters.

[Default] n = 0

[Reference]

[Example]

<B2D n, B, n>

Specify dot size of the module of the QRcode barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D, n, B, n>

[Range] 2 ≤ n ≤ 24

[Description] Specifies numbers of dot for each pixel of the module of the QRcode barcode.

[Notes]

[Default] n = 0

[Reference]

[Example]

<B2D n, C, n>

Specify QRcode barcode size

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D n, C, n>

[Range] 0 ≤ n ≤ 40

[Description] Specifies QRcode barcode format (rows and columns), as follows:

n	VERSION	n	VERSION	n	VERSION
0	AUTO	14	V14	28	V28
1	V1	15	V15	29	V29
2	V2	16	V16	30	V30
3	V3	17	V17	31	V31
4	V4	18	V18	32	V32
5	V5	19	V19	33	V33
6	V6	20	V20	34	V34
7	V7	21	V21	35	V35
8	V8	22	V22	36	V36
9	V9	23	V23	37	V37
10	V10	24	V24	38	V38
11	V11	25	V25	39	V39
12	V12	26	V26	40	V40
13	V13	27	V27		

[Notes]

[Default] n = 0

[Reference]

[Example]

<B2D n, D, n>

Specify the error correction level of the QRcode barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D n, D, n>

[Range] 0 ≤ n ≤ 4

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

n	ECC level	
0	AUTO	
1	ECC = approx 20% of barcode	Recovery Capacity = approx 7%
2	ECC = approx 37% of barcode	Recovery Capacity = approx 15%
3	ECC = approx 50% of barcode	Recovery Capacity = approx 25%
4	ECC = approx 65% of barcode	Recovery Capacity = approx 30%

[Notes]

[Default] n = 0

[Reference]

[Example]

<B2D n, P, n, d0...dk>

Store and prints the QRcode barcode data in the barcode save area

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <B2D n, P, n, d0...dk> <P>

[Range] n = n bytes of data

[Description] Store the QRcode barcode data (d0...dk) in the barcode save area.
- k bytes of d0...dk are processed as barcode data.
- Specify only the data code word of the barcode with this function.

[Notes]

[Default]

[Reference]

[Example]

<NCL x, y>Data

Print horizontal CODE128 barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <NCL x, y>Data

[Range]

[Description] Print a CODE128 barcode type in horizontal, where:
x = barcode height in millimetres;
y = byte number of the string to encode.

[Notes] • 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	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

[Default]

[Reference]

[Example] code A : <RC10,300><NCL15,9>{A3456789
code B: <RC10,300><NCL15,9>{B3456789
code C : <RC10,300><NCL15,9>{C3456789

<NCP x, y>Data

Print vertical CODE128 barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <NCP x, y>Data

[Range]

[Description] Print a CODE128 barcode type in vertical, where:
x = barcode height in millimetres;
y = byte number of the string to encode.

[Notes]
• 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	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

[Default]

[Reference]

[Example]
code A : <RC10,300><NCP15,9>{A3456789
code B : <RC10,300><NCP15,9>{B3456789
code C : <RC10,300><NCP15,9>{C3456789

<NEL n>*Data*

Print horizontal EAN13 barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <NEL n> *Data*

[Range]

[Description] Print an EAN13 barcode type in horizontal.
The n parameter indicates the barcode height in millimetres.
The Data parameter contains the data to convert, with start and stop characters of barcode.

[Notes] The “*” star character is the start and the stop character of the barcode.

[Default]

[Reference]

[Example] <X2,L>
<RC220,20><NEL10>*123456789012*

<NEP n>*Data*

Print vertical EAN13 barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <NEP n>*Data*

[Range]

[Description] Print an EAN13 barcode type in vertical.
The n parameter indicates the barcode height in millimetres.
The Data parameter contains the data to convert, with start and stop characters of barcode.

[Notes] The “*” star character is the start and the stop character of the barcode.

[Default]

[Reference]

[Example] <X2,L>
<RC20,10><NEP10>*123456789012*

<NFL s>*Data*

Print horizontal ITF barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <NFL s> *Data*

[Range]

[Description] Print an ITF barcode type in horizontal.
The s parameter indicates the barcode height in millimetres. The Data parameter contains the data to convert, with start and stop characters of barcode.

[Notes] The “*” star character is the start and the stop character of the barcode.

[Default]

[Reference]

[Example] <X2,L>
<RC220,20><NFL10>*123456*

<NFP s>*Data*

Print vertical ITF barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <NFP s>*Data*

[Range]

[Description] Print an ITF barcode type in vertical.
The s parameter indicates the barcode height in millimetres.
The Data parameter contains the data to convert, with start and stop characters of barcode.

[Notes] The “*” star character is the start and the stop character of the barcode.

[Default]

[Reference]

[Example] <X2,L>
<RC20,10><NFP10>*123456*

<NL s>*Data*

Print an horizontal CODE39 barcode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <NL s>*Data*

[Range]

[Description] Print a CODE39 barcode type in horizontal.
The s parameter indicates the barcode height in millimetres.
The Data parameter contains the data to convert, with start and stop characters of barcode.

[Notes] The “*” star character is the start and the stop character of the barcode.

[Default]

[Reference]

[Example] <X2,L>
<RC220,120><NL10>*123456*

<NP s> *Data*

Print a vertical CODE39 barcode

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <NP s> *Data*

[Range]

[Description] Print a CODE39 barcode type in vertical.
The s parameter indicates the barcode height in millimetres.
The Data parameter contains the data to convert, with start and stop characters of barcode.

[Notes] The “*” star character is the start and the stop character of the barcode.

[Default]

[Reference]

[Example] <X2,L>
<RC120,10><NP10>*123456*

<X n, m>

Define the barcode lines dimension

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <X n, M>

[Range]

[Description] n defines the thins lines dimension (in dot) of barcode.
The M parameter defines the barcode printing speed if it must be printed rotated.

[Notes] If the M parameter = ‘H’ as ASCII value, the barcodes will be printed in high speed. Otherwise if if the M parameter = ‘L’ as ASCII value the barcodes will be printed at reduced speed (only if n is less than 4).

[Default]

[Reference]

[Example]

<BS height, width>

Define area for the box mode

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <BS height, width>

[Range]

[Description] Defines the area where position a character. If the box dimensions are bigger than the font, then the empty spaces are filled with white spaces, whereas if the box dimensions are smaller than the font, then the font is cut.

[Notes]
- To disable the Box Size set height and width parameters to 0 (<BS0,0>).
- This command is not active with TrueType fonts.

[Default]

[Reference]

[Example]

<F n>

Select the font

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F n>

[Range] 0 ≤ n ≤ 18
n = 50

[Description] Selects the current font according to the value of n as described in the following table:

n	FONT	DESCRIPTION
0	Font 8x12	Fixed font
1	Font 12x12	Fixed font
2	Font 14x11	Fixed font
3	Font HEL10PT8	Proportional font with fixed height (H = 34 dot)
4	Font 8x12-2	Fixed font
5	Font 10x24	Font 10x24 in CUSTOM/POS emulation
6	Font HEL16PT8	Proportional font with fixed height (H = 55 dot)
7	Font HEL14PT8	Proportional font with fixed height (H = 50 dot)
8	Font HEL8PT8	Proportional font with fixed height (H = 28 dot)
9	Font 16x24	Fixed font
10	Font 16x24_1	Fixed font
11	Font 16x24_2	Fixed font
12	Font 14x24	Font 14x24 in CUSTOM/POS emulation
13	Font 14x24_1	Fixed font
14	Font 18x24	Font 18x24 in CUSTOM/POS emulation
15	Font 28x20	Fixed font
16	Font 20x15	Fixed font
17	Font 16x24CN	Fixed font
18	Font OCRB 20X32	Fixed font
50	Font GB18030	Fixed font (if supported by firmware)

[Notes]

• A proportional font is a font in which different characters have different pitches (widths).
• A ixed font is the opposite of a proportional font and is a ixed-pitch font.
• The fonts with the same name and dimension contain different characters in different positions from theirs.
• During power-up, if the FORM FEED (FF) key is held down, the device executes the FONT TEST.

• In SVELTA emulation, it is possible to use TrueType fonts. True Type fonts are printable with every angle of rotation and in bold, reverse, italic and underlined mode.
• It is possible to address the TrueType font respects the UNICODE™ standard (see www.unicode.org), by using UTF-8 or UTF-16 encoding.
• For the correct printing of the code tables, it is necessary that the selected TrueType font contains all the characters in the tables. Otherwise, the '□' symbol will be printed instead the missing character.

[Default]

[Reference]

[Example]

<HW height, width>

Set height and width of the current font

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <HW height, width>

[Range]

[Description] Modifies the height and width of the current font where height and width are the multiplier coefficients of height and width of how enlarge the font. Both values can be:

height/ width	FONT DIMENSION
1	Font dimension ×1
2	Font dimension ×2
3	Font dimension ×3
4	Font dimension ×4
5	Font dimension ×5
6	Font dimension ×6
7	Font dimension ×7
8	Font dimension ×8

[Notes] The command is ignored if height or width has different value from that reported above.

[Default]

[Reference]

[Example]

<NR>

Restore the text in horizontal

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <NR>

[Range]

[Description] Restore the text in horizontal, without rotation.

[Notes]

[Default]

[Reference] <F:rotate:aa>

[Example]

<RL>

Rotate text 90° counter-clockwise

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <RL>

[Range]

[Description] Rotate text 90° counter-clockwise (to the left).

[Notes]

[Default]

[Reference] <F:rotate:aa>

[Example]

<RR>

Rotate text 90° clockwise

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <RR>

[Range]

[Description] Rotate text 90° clockwise (to the right).

[Notes]

[Default]

[Reference] <F:rotate:aa>

[Example]

<RU>

Rotate text 180°

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <RU>

[Range]

[Description] Rotate text 180°.

[Notes]

[Default]

[Reference] <F:rotate:aa>

[Example]

<CLTTFC, filename.ttf>

Delete a TrueType font

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF
[Format]	ASCII <CLTTFC, filename.ttf>
[Range]	
[Description]	Deletes the specified font.
[Notes]	• This command is active only with TrueType fonts. • If command is successful the device transmits the ACK (0x06), otherwise returns NACK (0x15).
[Default]	
[Reference]	
[Example]	To delete the TrueType font “arialN.ttf”, the command sequence is <CLTTFC, arialN.ttf>

<CLTTFC, ALL>

Delete all TrueType fonts

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <CLTTFC, filename.ttf>

[Range]

[Description] Deletes all fonts stored into the device.

[Notes]
- This command is active only with TrueType fonts.
- If command is successful the device transmits the ACK (0x06), otherwise returns NACK (0x15).

[Default]

[Reference]

[Example]

<DIRTTFC>

Get fonts header list

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <DIRTTFC>

[Range]

[Description] This command requests to the device the list of stored fonts into the flash.
The device returns a bytes sequence as follows:

filename1.ttf, filename2.ttf, filename3.ttf, filename4.ttf 0x06

where the ACK (0x06) character indicates that the command is executed successfully, otherwise returns NACK (x15).

[Notes]

[Default]

[Reference] <LTTF dim-file, C, filename.ttf, data>

[Example]

<F:bold>

Set bold mode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:bold>

[Range]

[Description] Set the bold printing mode.

[Notes] This command is active only with TrueType fonts.

[Default]

[Reference]

[Example]

<F:clear>

Uninstall all TrueType fonts

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:clear>

[Range]

[Description] Clear the installation memory by uninstalling TrueType fonts

[Notes]
- This command is active only with TrueType fonts.
- Use <F:err:n> command to verify the outcome of this command.

[Default]

[Reference] <F:err:n>

[Example]

<F:draw:n>

Set drawing mode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:draw:n>

[Range] n = ’0’, ‘1’, ‘2’

[Description] Set drawing mode functioning with following n values:

n = ‘0’	OR mode
n = ‘1’	XOR mode
n = ‘2’	AND mode

[Notes] This command is active only with TrueType fonts.

[Default] n = ‘0’

[Reference]

[Example]

<F:enc:ascii>

Set ASCII encoding

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:enc:ascii>

[Range]

[Description] Set default encoding (ASCII) for TrueType fonts.

[Notes] This command is active only with TrueType fonts.

[Default]

[Reference]

[Example]

<F:enc:utf-8>

Set UTF-8 encoding

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:enc:utf-8>

[Range]

[Description] Set UTF-8 encoding for TrueType fonts

[Notes]
- This command is active only with TrueType fonts.
- The character's addressing respects the UNICODE™ standard (see www.unicode.org).

[Default]

[Reference]

[Example]

<F:enc:utf-16>

Set UTF-16 encoding

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:enc:utf-16>

[Range]

[Description] Set UTF-16 encoding for TrueType fonts

[Notes]
- This command is active only with TrueType fonts.
- The character's addressing respects the UNICODE™ standard (see www.unicode.org).

[Default]

[Reference]

[Example]

<F:err:n>

Get error

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:err:n>

[Range] n = ‘0’, ‘1’

[Description] Get the last error functioning with n, where
n = ‘0’ Get last error
n = ‘1’ Get last error + internal error code

If n = 0, the reply will be <F:err:k>
where k specifies the error code as described in the following table:

k	ERROR TYPE	ERROR DESCRIPTION
0	NO ERR	No error
1	INVALID PATH	The file path is invalid
2	FILE NOT FOUND	File not found
3	FILE ERROR	File opening error, file generic error or incorrect file type
4	OUT OF MEMORY	Out of memory error
5	INTERNAL ERROR	Internal error

If n = 1, the reply will be <F:err:k-m>
where
k specifies the error code as specified in the previous table.
m specifies the internal error code, expressed in hexadecimal value (from 0x00 to 0xFF).

[Notes]
- Use this command to know if an error occurs during the execution of commands for TrueType fonts management (as <F:filename.ttf> or <F:clear>).
- To know the internal error codes list, contact customer service.
- This command is active only with TrueType fonts.

[Default]

[Reference]

[Example]

<F:filename.ttf>

Install new font

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:filename.ttf>

[Range]

[Description] Install a new TrueType font.

[Notes]
- This command is active only with TrueType fonts.
- Use <F:err:n> command to verify the outcome of this command.

[Default]

[Reference] <F:err:n>

[Example]

<F:italic>

Set italic mode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:italic>

[Range]

[Description] Set the italic printing mode.

[Notes] This command is active only with TrueType fonts.

[Default]

[Reference]

[Example]

<F:regular>

Set regular mode

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:regular>

[Range]

[Description] Set the regular printing mode.

[Notes] This command is active only with TrueType fonts.

[Default]

[Reference]

[Example]

<F:rotate:aa>

Set rotation angle for TrueType font

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:rotate:aa>

[Range] 0 ≤ aa ≤ 360

[Description] Set rotation angle for TrueType font, functioning with aa.

[Notes]
- This command is active only with TrueType fonts.
- For TrueType fonts, it is also possible to use the commands for standard angles of rotation (<NR>, <RR>, <RL>, <RU>).

[Default] aa = 0

[Reference] <NR>, <RR>, <RL>, <RU>

[Example]

<F:size:nn>

Set font dimension

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <F:size:nn>

[Range]

[Description] Set font dimension functioning with n.

[Notes]
- The size is not expressed in pixels but in points
- This command is active only with TrueType fonts.

[Default] 10 points

[Reference]

[Example]

<LTTF dim-file, C, filename.ttf, data>

Load a TrueType font

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <LTTF dim-file, C, filename.ttf, data>

[Range]

[Description] Saves the font into device flash where :

- dim-file indicates the file size expressed in bytes
- C indicates the file position then flash disk
- filename.ttf indicates the file-name that identify univocally the font
- data are the font data transmitted in bytes

[Notes] This command is active only with TrueType fonts.

[Default]

[Reference]

[Example] To load the TrueType font ARIALN.ttf, transmit:
<LTTF175956,C,ARIALN.ttf,font>

<BA n>

Change the ticket print intensity

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <BA n>

[Range]

[Description] Changes the ticket print intensity where n indicates the print mode. The possible values of n are as follows:

n	PRINT MODE
0	Black/white printing at 100% of maximum intensity
8	Black/white printing at 50% of maximum intensity
16	Black/white printing at 25% of maximum intensity
24	Black/white printing at 12% of maximum intensity
32	Black/white printing at 7% of maximum intensity
40	Black/white printing at 5% of maximum intensity

[Notes]

[Default]

[Reference]

[Example]

<DATE>

Print date

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <DATE>

[Range]

[Description] Prints date in the format specified by the command <TDF m data>.

[Notes]

[Default] “dd/mm/yy”

[Reference] <TIME>

[Example]

<p>

Printing command (cut and buffer cleaning) in reverse

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <p>

[Range]

[Description] This command executes the following operations:
- align the ticket to notch (based on the alignment set with the <LHT length, height, notch, dimnotch> command)
- barcode reader turn on (only for models with BARCODE reader)
- prints ticket
- clear the data in the print buffer
- align the ticket to cut
- executes a ticket cut
- recovers the portion of paper equal to the distance between cutter and printing head

TK202III

This command executes the following operations:
- align the ticket to notch
- prints ticket
- clear the data in the print buffer
- activate the ticket presentation mode

[Notes]
• Print ticket in reverse.
• After printing, the data of the barcode read and the reading result, are stored in a circular buffer.
• To read the barcode acquired during printing, use the <BC1> or <BCA> commands.

[Default]

[Reference] <CB>, <LHT length, height, notch, dimnotch>

[Example]

<P>

Printing command (cut and buffer cleaning) in normal

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <P>

[Range]

[Description] This command executes the following operations:
- align the ticket to notch (based on the alignment set with the <LHT length, height, notch, dimnotch> command)
- barcode reader turn on (only for models with BARCODE reader)
- prints ticket
- clear the data in the print buffer
- align the ticket to cut
- executes a ticket cut
- recovers the portion of paper equal to the distance between cutter and printing head

TK202III

This command executes the following operations:
- align the ticket to notch
- prints ticket
- clear the data in the print buffer
- activate ticket presentation mode

[Notes]
• Print ticket in normal
• After printing, the data of the barcode read and the reading result are stored in a circular buffer.
• To read the barcode acquired during printing, use the <BC1> or <BCA> commands.

[Default]

[Reference] <CB>, <LHT length, height, notch, dimnotch>

[Example]

<PP n, x, y, sp>

Print image in graphic page

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <PP n, x, y, sp>

[Range]

[Description] Prints image in graphic page where
- n is the number of image to print;
- x indicates the horizontal position inside the graphic page
- y indicates the vertical position inside the graphic page
- sp indicates the thickness value of the image border (express in dot).

[Notes] If n is a negative number the image is printed as a background image, without deleting the area below.

[Default]

[Reference] <OXY x, y>

[Example] Several printing commands in graphic page; in the first printing command the image no. 2 is printed with border, instead the other images are printed without border:

```
<CB><n><BA8><HW1,1><BS0,0>
<PP2,10,10,8>                (image printed with border)
<PP1,10,200,0>               (image printed without border)
<PP3,210,200,0>              (image printed without border)
<PP4,620,200,0>              (image printed without border)
<q>
```

<PR n, x, y, sp>

Print rotated image

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <PR n, x, y, sp>

[Range]

[Description] Prints rotated image in graphic page where
- n is the number of image to print
- x indicates the horizontal position inside the graphic page
- y indicates the vertical position inside the graphic page
- sp indicates the thickness value of the image border (express in dot).

[Notes] If n is a negative number the image is printed as a background image, without deleting the area below.

[Default]

[Reference] <OXY x, y>

[Example] Several printing commands in graphic page; in the first printing command the image no. 2 is printed with border, instead the other images are printed without border:

```
<CB><n><BA8><HW1,1><BS0,0>
<PR2,10,10,8>                (image printed with border)
<PR1,10,200,0>               (image printed without border)
<PR3,210,200,0>              (image printed without border)
<PR4,620,200,0>              (image printed without border)
<q>
```

<q>

Printing command (only buffer cleaning) in reverse

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <q>

[Range]

[Description] This command executes the following operations:
- align the ticket to notch (based on the alignment set with the <LHT length, height, notch, dimnotch> command)
- barcode reader turn on (only for models with BARCODE reader)
- prints ticket
- clear the data in the print buffer.

TK202III

This command executes the following operations:
- align the ticket to notch
- prints ticket
- clear the data in the print buffer

[Notes]
- Print ticket in reverse
- After printing, the data of the barcode read and the reading result, are stored in a circular buffer.
- To read the barcode acquired during printing, use the <BC1> or <BCA> commands.

[Default]

[Reference] <CB>, <LHT length, height, notch, dimnotch>

[Example]

<Q>

Printing command (only buffer cleaning) in normal

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <Q>

[Range]

[Description] This command executes the following operations :
- align the ticket to notch (based on the alignment set with the <LHT length, height, notch, dimnotch> command)
- barcode reader turn ON (only for models with BARCODE reader)
- prints ticket
- clear the data in the print buffer

TK202III

This command executes the following operations:
- align the ticket to notch
- prints ticket
- clear the data in the print buffer

[Notes]
- Print ticket in normal
- After printing, the data of the barcode read and the reading result, are stored in a circular buffer.
- To read the barcode acquired during printing, use the <BC1> or <BCA> commands.

[Default]

[Reference] <CB>, <LHT length, height, notch, dimnotch>

[Example]

<qn>

Printing command without alignment in reverse

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format] ASCII <qn>

[Range]

[Description] This command executes the following operations:
- barcode reader turn on (only for models with barcode reader);
- prints ticket;
- clear the data in the print buffer.

[Notes]
• Print ticket in reverse.
• After printing, the data of the barcode read and the reading result, are stored in a circular buffer.
• To read the barcode acquired during printing, use the <BC1> or <BCA> commands.

[Default]

[Reference] <CB>, <LHT length, height, notch, dimnotch>

[Example]

<QN>

Printing command without alignment in normal

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format] ASCII <QN>

[Range]

[Description] This command executes the following operations:
- barcode reader turn on (only for models with barcode reader);
- prints ticket;
- clear the data in the print buffer.

[Notes]
• Print ticket in normal.
• After printing, the data of the barcode read and the reading result, are stored in a circular buffer.
• To read the barcode acquired during printing, use the <BC1> or <BCA> commands.

[Default]

[Reference] <CB>, <LHT length, height, notch, dimnotch>

[Example]

<TDF m data>

Set user-defined date/time formats

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <TDF m data>

[Range]

[Description] Sets the format string for date and time used to printing.

• m specifies which user-defined string format is set
D for date
T for time

• data are the ASCII characters relative to user-defined date/time formats.
• the maximum length of the user-defined date/time format string is 64 chars.

The following table shows characters used to create user-defined date/time formats:

CHARACTER	DESCRIPTION
I	Selects Italian language
E	Selects English language (is the default language)
c	Selects default date/time
d	Displays the day as a number without a leading zero (1-31)
dd	Displays the day as a number with a leading zero (01-31)
ddd	Displays the day as an abbreviation (for example, Sun)
dddd	Displays the day as a full name (for example, Sunday)
ddddd	Displays the date as a complete date in the short format where date values are formatted with day, month and year (the short date format is dd/mm/yy)
dddddd	Displays the date as a complete date in the extended format where date values are formatted with day, month and year (the extended date format is dd mmmm, yyyy)
m	Displays the month as a number without a leading zero (1-12). If the character m is immediately after the character h or hh , displays the minutes instead of month (see also the n character formatting)
mm	Displays the month as a number with leading zeros (01-12). If the character m is immediately after the character h or hh , displays the minutes instead of month (see also the nn character formatting)
mmm	Displays the month as an abbreviation (for example, Jan)
mmmm	Displays the month as a full month name (for example, January)
yy	Displays the year in two-digit numeric format with a leading zero

yyyy	Displays the year in four digit numeric format

CHARACTER	DESCRIPTION
h	Displays the hour as a number without leading zeros (0-23)
hh	Displays the hour as a number with leading zeros (00-23)
n	Displays the minutes as a number without leading zeros (0-59)
nn	Displays the minutes as a number with leading zeros (00-59)
s	Displays the seconds as a number without leading zeros (0-59)
ss	Displays the seconds as a number with leading zeros (00-59)
ttttt	Displays the time in the extended format where time values are formatted with hour, minutes and seconds (the extended time format is h:mm:ss)
AM/PM	Using the 12-hour clock and displays the AM prefix in uppercase next to the hours that preceding midday and the PM prefix in uppercase next to the hours between midday and midnight
am/pm	Using the 12-hour clock and displays the am prefix in lowercase next to the hours that preceding midday and the pm prefix in lowercase next to the hours between midday and midnight
A/P	Using the 12-hour clock and displays the A prefix in uppercase next to the hours that preceding midday and the a prefix in uppercase next to the hours between midday and midnight
a/p	Using the 12-hour clock and displays the a prefix in lowercase next to the hours that preceding midday and the a prefix in lowercase next to the hours between midday and midnight

[Notes]

[Default]

[Reference]

[Example] To print the current time with the string format ‘yy/mm/dd hh:mm:ss’ follow these steps:

1. Send the following command to define the user-defined time string format:
<TDF T yy/mm/dd hh:mm:ss>

2. Send the following command to print the time:
<TIME>

If the date and time is 22 October 2006 at 17:35:27 (PM) the output string printed will be:
06/10/22 17:35:27

<TIME>

Print time

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <TIME>

[Range]

[Description] Prints time with the format specified by the command <TDF m data>.

[Notes]

[Default] “hh:nn:ss”

[Reference] <DATE>

[Example]

<AFSB x>

Enable / Disable auto FULL STATUS back

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <AFSB x y>

[Range]

TK202III
KPM302III, TK302III
KPM302III EJ, KPM302III vSEL, KPM302III hSEL

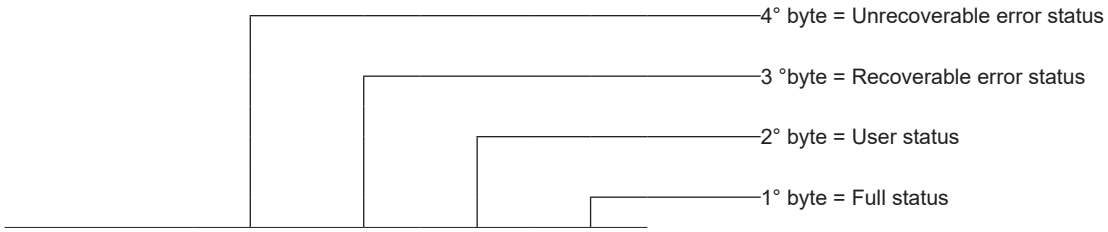
‘0’ ≤ x ≤ ‘9’
‘A’ ≤ x ≤ ‘F’

KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

‘0’ ≤ x ≤ ‘9’
‘A’ ≤ x ≤ ‘F’
y= ‘0’
y = ‘F’

[Description]

- Enable/disable auto FULL STATUS back.
- x specify the request for FULL STATUS, where x identify the bitmask with the following table:



x		BIT3	BIT2	BIT1	BIT0
0	»	0	0	0	0
1	»	0	0	0	1
2	»	0	0	1	0
3	»	0	0	1	1
4	»	0	1	0	0
5	»	0	1	0	1
6	»	0	1	1	0
7	»	0	1	1	1
8	»	1	0	0	0
9	»	1	0	0	1
A	»	1	0	1	0
B	»	1	0	1	1
C	»	1	1	0	0
D	»	1	1	0	1
E	»	1	1	1	0
F	»	1	1	1	1

KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

• y is an optional parameter; if y = 'F' then enables the transmission of the triple feeder status.

[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:

<SB x, CHR1 ..... CHRn>

where:

SB	=	fixed characters
x	=	is the bitmask to identify the request.
CHR1..CHRn	=	response bytes referred to the following tables:

TK202III
KPM302III, TK302III
KPM302III EJ, KPM302III vSEL, KPM302III hSEL
KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

Full status (1° byte)

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	The notch is placed over the sensor
	On	80	The notch is not placed over the sensor

TK202III
KPM302III, TK302III
KPM302III EJ
KPM302III TF, KPM302III TF-EJ, TK302III TF

User status (2° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	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	-	-	RESERVED

KPM302III vSEL, KPM302III hSEL
KPM302III TF-hSEL

User status (2° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	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	Selector in "open" position
	On	80	Selector in "storage" position

TK202III, KPM302III, TK302III
KPM302III EJ, KPM302III vSEL, KPM302III hSEL
KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

Recoverable errore status (3° byte)

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	Notch search ok
	On	80	Error in notch search

KPM302III, TK302III, KPM302III EJ
KPM302III TF, KPM302III TF-EJ, TK302III TF

Unrecoverable error status (4° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Cutter ok
	On	01	Cutter error
1	Off	00	Cutter cover ok
	On	02	Cutter 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	-	-	RESERVED

KPM302III vSEL, KPM302III hSEL
KPM302III TF-hSEL

Unrecoverable error status (4° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Cutter ok
	On	01	Cutter error
1	Off	00	Cutter cover ok
	On	02	Cutter 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	Selector OK
	On	80	Selector error

TK202III

Unrecoverable error status (4° byte)

BIT	OFF/ON	HEX	FUNCTION
0	-	-	RESERVED
1	Off	00	Frontal cover ok
	On	02	Frontal 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	-	-	RESERVED

'I' (5° byte)

Feeder sensors status (6° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Paper sensor (Feeder 1 UP): paper not present
	On	01	Paper sensor (Feeder 1 UP): paper present
1	Off	00	Paper sensor (Feeder 2 CENTER): paper not present
	On	02	Paper sensor (Feeder 2 CENTER): paper present
2	Off	00	Paper sensor (Feeder 3 DOWN): paper not present
	On	04	Paper sensor (Feeder 3 DOWN): paper present
3	-	-	RESERVED
4	Off	00	Low paper sensor (Feeder 1 UP): paper not present
	On	10	Low paper sensor (Feeder 1 UP): paper present
5	Off	00	Low paper sensor (Feeder 2 CENTER): paper not present
	On	20	Low paper sensor (Feeder 2 CENTER): paper present
6	Off	00	Low paper sensor (Feeder 3 DOWN): paper not present
	On	40	Low paper sensor (Feeder 3 DOWN): paper present
7	-	-	RESERVED

'A' (7° byte)

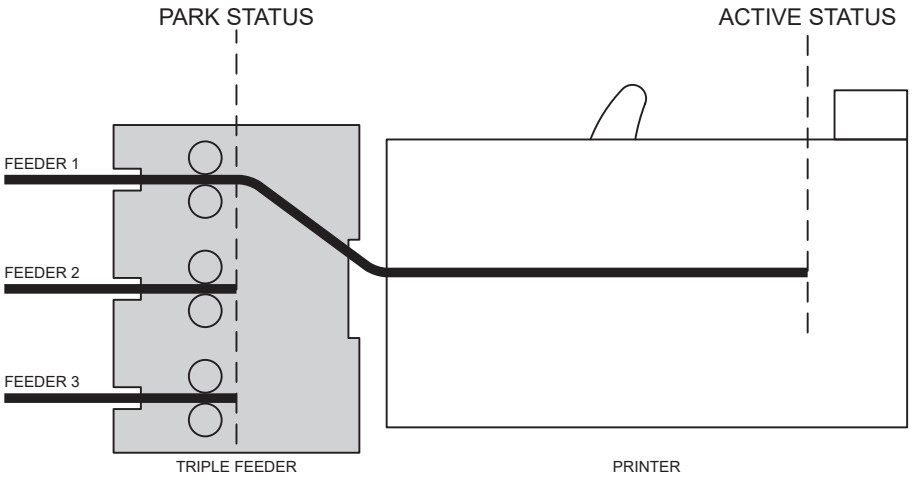
Feeder 1 UP (8° Byte)
= '0' No paper in feeder 1
= '1' Paper in ACTIVE STATUS
= '7' Paper end
= '9' Error
= '10' Paper in PARK STATUS

'B' (9° byte)

Feeder 2 CENTER (10° Byte)
= '0' No paper in feeder 1
= '1' Paper in ACTIVE STATUS
= '7' Paper end
= '9' Error
= '10' Paper in PARK STATUS

‘C’ (11° byte)

Feeder 3 DOWN (12° Byte) = ‘0’ No paper in feeder 1
= ‘1’ Paper in ACTIVE STATUS
= ‘7’ Paper end
= ‘9’ Error
= ‘10’ Paper in PARK STATUS



The device transmits bytes 1,2,3,4 and 6 as a pair of hexadecimal characters (between ‘0’ and ‘9’ or between ‘A’ and ‘F’). For example the first byte is equal to 0xA9, then will be sent from the device the characters ‘A’ (0x41) and ‘9’ (0x39).

[Default]

[Reference]

[Example] To request the full status (1° byte) and the user status (2°byte) proceed as follow:

see bit mask:
BIT3 = 0 BIT2 = 0 BIT1 = 1 BIT0 =1 then 0011 = 3

Send the command: <AFSB3>
Possible answer: <SB3,0504>

where:

1°byte

0 = 0000	bit 7 = 0 (notch found)	bit 6 = 0 (Paper virtually present)	bit 5 = 0 (ticket not present)	bit 4 =0 (RESERVED)
5 = 0101	bit 3 = 0 (RESERVED)	bit 2 = 1 (low paper)	bit 1 = 0 (RESERVED)	bit 0 =1 (Paper not present)

2°byte

0 = 0000	bit 7 = 0 (RESERVED)	bit 6 = 0 (FF key released)	bit 5 = 0 (LF key released)	bit 4 =0 (RESERVED)
4 = 0100	bit 3 = 0 (drag motor off)	bit 2 = 1 (spooling)	bit 1 = 0 (cover closed)	bit 0 =0 (print head down)

<SB x>

FULL STATUS back request

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <SB x y>

[Range]

TK202III
KPM302III, TK302III,
KPM302III EJ, KPM302III vSEL, KPM302III hSEL

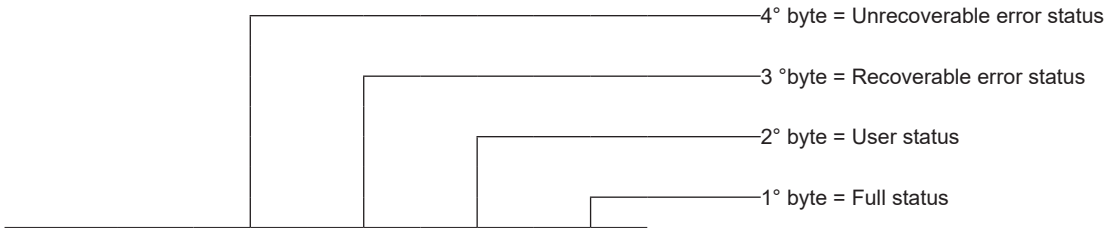
‘0’ ≤ x ≤ ‘9’
‘A’ ≤ x ≤ ‘F’

KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

‘0’ ≤ x ≤ ‘9’
‘A’ ≤ x ≤ ‘F’
y= ‘0’
y = ‘F’

[Description]

- FULL STATUS back request.
- x specify the request for FULL STATUS where x identify the bitmask with the following table:



x		BIT3	BIT2	BIT1	BIT0
0	»	0	0	0	0
1	»	0	0	0	1
2	»	0	0	1	0
3	»	0	0	1	1
4	»	0	1	0	0
5	»	0	1	0	1
6	»	0	1	1	0
7	»	0	1	1	1
8	»	1	0	0	0
9	»	1	0	0	1
A	»	1	0	1	0
B	»	1	0	1	1
C	»	1	1	0	0
D	»	1	1	0	1
E	»	1	1	1	0
F	»	1	1	1	1

KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

- y is an optional parameter; if y = ‘F’ then enables the transmission of the triple feeder status.

[Notes] The device answer will be composed as follows:

<SB x, CHR1 ..... CHRn>

where:

SB	=	fixed characters
x	=	is the bitmask to identify the request
CHR1..CHRn	=	response bytes referred to the following tables:

TK202III
KPM302III, TK302III
KPM302III EJ, KPM302III vSEL, KPM302III hSEL
KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

Full status (1° byte)

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	Notch found
	On	80	Notch not found

TK202III
KPM302III, TK302III
KPM302III EJ
KPM302III TF, KPM302III TF-EJ, TK302III TF

User status (2° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	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	-	-	RESERVED

KPM302III vSEL, KPM302III hSEL
KPM302III TF-hSEL

User status (2° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	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	Selector in “open” position
	On	80	Selector in “storage” position

TK202III, KPM302III, TK302III
KPM302III EJ, KPM302III vSEL, KPM302III hSEL
KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

Recoverable status error (3° byte)

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	Notch search ok
	On	80	Error in notch search

KPM302III, TK302III
KPM302III EJ, KPM302III TF, KPM302III TF-EJ, TK302III TF

Unrecoverable status error (4° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Cutter ok
	On	01	Cutter error
1	Off	00	Cutter cover ok
	On	02	Cutter 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	-	-	RESERVED

KPM302III vSEL, KPM302III hSEL
KPM302III TF-hSEL

Unrecoverable status error (4° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Cutter ok
	On	01	Cutter error
1	Off	00	Cutter cover ok
	On	02	Cutter 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	Selector OK
	On	80	Selector error

TK202III

Unrecoverable status error (4° byte)

BIT	OFF/ON	HEX	FUNCTION
0	-	-	RESERVED
1	Off	00	Frontal cover ok
	On	02	Frontal 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	-	-	RESERVED

'I' (5° byte)

Feeder sensors status (6° byte)

BIT	OFF/ON	HEX	FUNCTION
0	Off	00	Paper sensor (Feeder 1 UP): paper not present
	On	01	Paper sensor (Feeder 1 UP): paper present
1	Off	00	Paper sensor (Feeder 2 CENTER): paper not present
	On	02	Paper sensor (Feeder 2 CENTER): paper present
2	Off	00	Paper sensor (Feeder 3 DOWN): paper not present
	On	04	Paper sensor (Feeder 3 DOWN): paper present
3	-	-	RESERVED
4	Off	00	Low paper sensor (Feeder 1 UP): paper not present
	On	10	Low paper sensor (Feeder 1 UP): paper present
5	Off	00	Low paper sensor (Feeder 2 CENTER): paper not present
	On	20	Low paper sensor (Feeder 2 CENTER): paper present
6	Off	00	Low paper sensor (Feeder 3 DOWN): paper not present
	On	40	Low paper sensor (Feeder 3 DOWN): paper present
7	-	-	RESERVED

'A' (7° byte)

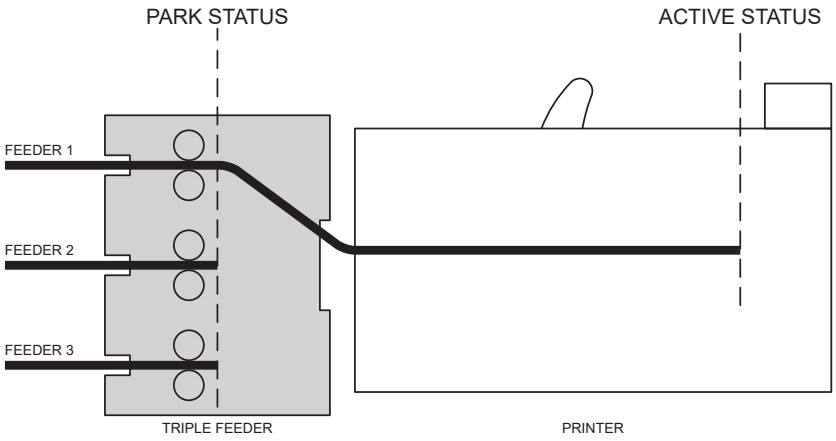
Feeder 1 UP (8° Byte)
= '0' No paper in feeder 1
= '1' Paper in ACTIVE STATUS
= '7' Paper end
= '9' Error
= '10' Paper in PARK STATUS

'B' (9° byte)

Feeder 2 CENTER (10° Byte)
= '0' No paper in feeder 1
= '1' Paper in ACTIVE STATUS
= '7' Paper end
= '9' Error
= '10' Paper in PARK STATUS

'C' (11° byte)

Feeder 3 DOWN (12° Byte)
= '0' No paper in feeder 1
= '1' Paper in ACTIVE STATUS
= '7' Paper end
= '9' Error
= '10' Paper in PARK STATUS



The device transmits bytes 1,2,3,4 and 6 as a pair of hexadecimal characters (between '0' and '9' or between 'A' and 'F'). For example the first byte is equal to 0xA9, then will be sent from the device the characters 'A' (0x41) and '9' (0x39).

[Default]

[Reference]

[Example]

<SBF, 00000000> no errors
<SBF, 04000000> low paper
<SBF, 01030000> paper not present, printing head up, cover open

To request the Full status (1° byte) and the User status (2°byte) proceed as follow:

see bit mask:
BIT3 = 0 BIT2 = 0 BIT1 = 1 BIT0 =1 then 0011 = 3

Send the command: <AFSB3>
Possible answer: <SB3,0504>
where:

1°byte

0 = 0000	bit 7 = 0 (notch found)	bit 6 = 0 (Paper virtually present)	bit 5 = 0 (ticket not present)	bit 4 =0 (RESERVED)
5 = 0101	bit 3 = 0 (RESERVED)	bit 2 = 1 (low paper)	bit 1 = 0 (RESERVED)	bit 0 =1 (Paper not present)

2°byte

0 = 0000	bit 7 = 0 (RESERVED)	bit 6 = 0 (FF key released)	bit 5 = 0 (LF key released)	bit 4 =0 (RESERVED)
4 = 0100	bit 3 = 0 (drag motor off)	bit 2 = 1 (spooling)	bit 1 = 0 (cover closed)	bit 0 =0 (print head down)

<S n>

Status request

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <Sn>

[Range]

[Description] The host can ask to the device many different status info; the n parameter indicates which type of request:

KPM302III, TK302III
KPM302III EJ, KPM302III vSEL, KPM302III hSEL
KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

If n = 1 the device return a byte that represent the status:

0x10	Paper end
0x11	No error
0x19	Wrong command
0x20	Notch error
0x21	Print head over temperature error
0x22	Power supply voltage error
0x23	Cutter error

TK202III

If n = 1 the device return a byte that represent the status:

0x10	Paper end
0x11	No error
0x19	Wrong command
0x20	Notch error
0x21	Print head over temperature error
0x22	Power supply voltage error

If n=3 the device return ACK (0x06) if printing is properly finished, otherwise return NACK (0x15). If the request will be transmitted during printing phase, it waits the end of the process and then is sent the answer.

[Notes]

[Default]

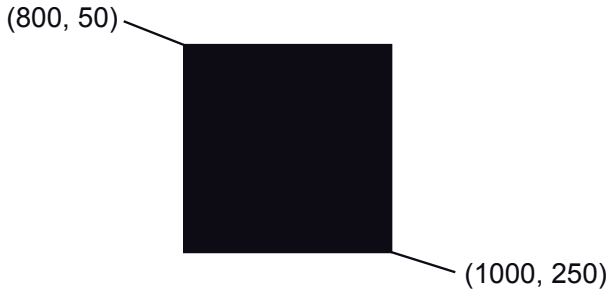
[Reference]

[Example]

<BF x1 y1, x2, y2>

Command to create filled Box

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF
[Format]	ASCII <BF x1,y1,x2,y2>
[Range]	
[Description]	Create a filled box on the basis of x1, y1, x2, y2 coordinates where : x1 = minimum horizontal coordinate y1 = minimum vertical coordinate x2 = maximum horizontal coordinate y2 = maximum vertical coordinate
[Notes]	• If the coordinates are reversed, the device automatically turns the points to create in any case the box. • If the x2 is greater than the maximum horizontal width of graphic page, the box is drawn using the maximum width as last point. • If the y2 is greater than the maximum length of graphic page defined by <LHT length, height, notch, dimnotch> command, the box is drawn using the maximum length (defined by this command) as last point.
[Default]	
[Reference]	<OXY x, y>
[Example]	Ticket example that use a filled box <CB><BA8> <BF800,50,1000,250> <q>



<BV x1, y1, x2, y2>

Command to create empty Box

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <BF x1,y1,x2,y2>

[Range]

[Description] Create an empty box on the basis of x1, y1, x2, y2 coordinates where :
x1 = minimum horizontal coordinate
y1 = minimum vertical coordinate
x2 = maximum horizontal coordinate
y2 = maximum vertical coordinate

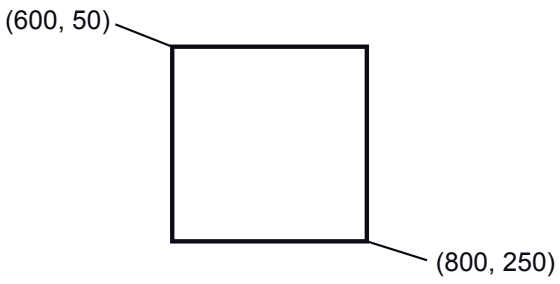
[Notes]
- If the coordinates are reversed, the device automatically turns the points to create in any case the box.
- If the x2 is greater than the maximum horizontal width of graphic page, the box is drawn using the maximum width as last point.
- If the y2 is greater than the maximum length of graphic page defined by <LHT length, height, notch, dimnotch> command, the box is drawn using the maximum length (defined by this command) as last point.
- The box border is fixed to 1 mm (8 dots).

[Default]

[Reference] <OXY x, y>

[Example] Ticket example that use an empty box:

```
<CB><BA8>
<BV600,50,800,250>
```



<BX x1, y1, x2, y2, s, t>

Command to create parametric Box

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <BX x1,y1,x2,y2, s, t >

[Range]

[Description] Create a box defined by the following parameters where:
x1 = minimum horizontal coordinate
y1 = minimum vertical coordinate
x2 = maximum horizontal coordinate
y2 = maximum vertical coordinate
t = fill mode 0 ≤ t ≤ 9

s -> border thickness in dot (8 dot = 1 mm) with s ≤ 255

t	FILL MODE
0	Deletes area
1	Fills area
2..8	Fills area with specific pattern
9	The area leaves unchanged (only for rectangle border)

[Notes]
• If t > 9 the fill mode is set to 9.
• If the coordinates are reversed, the device automatically turns the points to create in any case the box.
• If the x2 is greater than the maximum horizontal width of graphic page, the box is drawn using the maximum width as last point.
• If the y2 is greater than the maximum length of graphic page defined by <LHT length, height, notch, dimnotch> command, the box is drawn using the maximum length (defined by this command) as last point.
• If the defined thickness is greater than the half of box width, then the thickness is set to the half of box width to print (filled box).
• This command is not active with TrueType fonts.

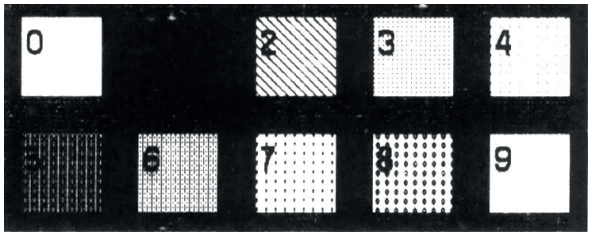
[Default]

[Reference] <OXY x, y>

[Example] Command sequence to generate a demo ticket with different kinds of box:

```
<CB><BA8><BS0,0>
<NR>
<BX200,100,300,200,16,0><RC120,220><F3><HW1,1>0
<BX300,100,400,200,16,1><RC120,320><F3><HW1,1>1
<BX400,100,500,200,16,2><RC120,420><F3><HW1,1>2
<BX500,100,600,200,16,3><RC120,520><F3><HW1,1>3
<BX600,100,700,200,16,4><RC120,620><F3><HW1,1>4
<BX200,200,300,300,16,5><RC220,220><F3><HW1,1>5
<BX300,200,400,300,16,6><RC220,320><F3><HW1,1>6
<BX400,200,500,300,16,7><RC220,420><F3><HW1,1>7
<BX500,200,600,300,16,8><RC220,520><F3><HW1,1>8
<BX600,200,700,300,16,9><RC220,620><F3><HW1,1>9
<q>
```

Example of what will be printed on ticket:



<CB>

Clear data in the print buffer

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <CB>

[Range]

[Description] Clear data in the print buffer, move the cursor to column 0, row 0, resets the text rotation, set the deault font as current and disables the Box Size function during the character writing.

[Notes]

[Default]

[Reference]

[Example]

<MM n>

Move the paper of n step

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <MM n>

[Range]

[Description] When this command is received, the paper feed or retract of n steps according to positive or negative values of n.

[Notes] 1 step = 0.125 mm (1/8 mm)

[Default]

[Reference]

[Example]

<OXY x, y>

Set printing offset

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <OXY x, y>

[Range]

[Description] Sets an offset that will be added to all the transmitted positions, where:
x is the distance (in dot) between the ticket upper edge and the starting point of printing
y is the distance (in dot) between the ticket lateral edge and the starting point of printing.

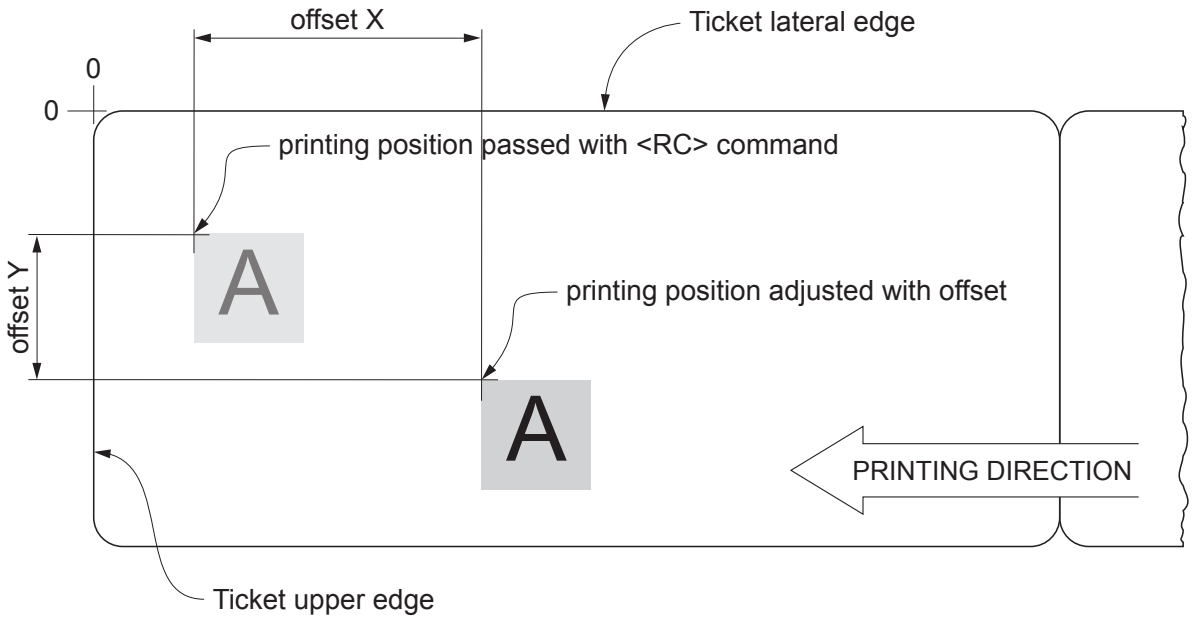
This command is useful to adjusting the printout positions, without having to modify all the transmitted positions.

[Notes]
- If using the point character '.' as decimal separator instead of commas then the passed value are stored in EEPROM.
- It's possible to set negative values of offset.
- If you get negative values after adding the offset, (the printing position is outside the ticket), the printing position is set to 0.
- 1mm = 8 dot.

[Default]

[Reference] <RC row, column>

[Example]



<RC row, column>

Position the cursor

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <RC row, column>

[Range]

[Description] Moves the cursor at the position specified by row and column parameters.

[Notes] The row and column values must be a number with four digit at most, otherwise the command will be ignored.

[Default]

[Reference] <OXY x, y>

[Example] To move the cursor at row (dot) 10, column (dot) 30 the command sequence is:
<RC 10,30>

<T>

Get the ticket dimension to print

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <T>

[Range]

[Description] Get the ticket dimensions to print, in the Ticket Size format.

[Notes]

[Default]

[Reference]

[Example]

<CUT>

Total cut

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <CUT>

[Range]

[Description] This command enables cutter operation. If there is no cutter, a disabling flag is set and any subsequent cut commands will be ignored.

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

[Default]

[Reference]

[Example]

<CUTREC0>

Disable paper recovery after cut

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <CUTREC0>

[Range]

[Description] Disable the automatic paper moving toward the print head after the paper cut.

[Notes]

[Default]

[Reference] <CUTREC1>

[Example]

<CUTREC1>

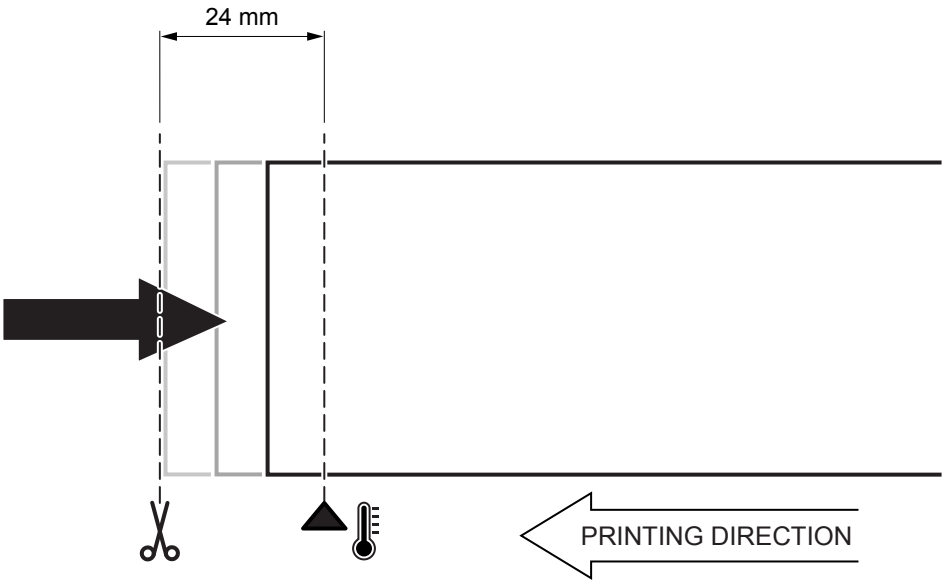
Enable paper recovery after cut

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <CUTREC1>

[Range]

[Description] Enable the automatic paper moving toward the print head after the paper cut.



[Notes] The device automatically perform a complete recover of 24 mm of paper (mechanical distance between print head and autocutter.

[Default]

[Reference] <CUTREC0>

[Example]

<SP n>

Change speed

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <SP n>

[Range]

[Description] Sets printing speed using n as follows:

n	PRINTING SPEED
0	High quality
1	Normal
2	High speed

[Notes]

[Default]

[Reference]

[Example]

<LHT length, height, notch, dimnotch>

Set ticket dimension to print

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <LHT length, height, notch, dimnotch>

[Range]

[Description] Sets the ticket dimension to print in the following mode:

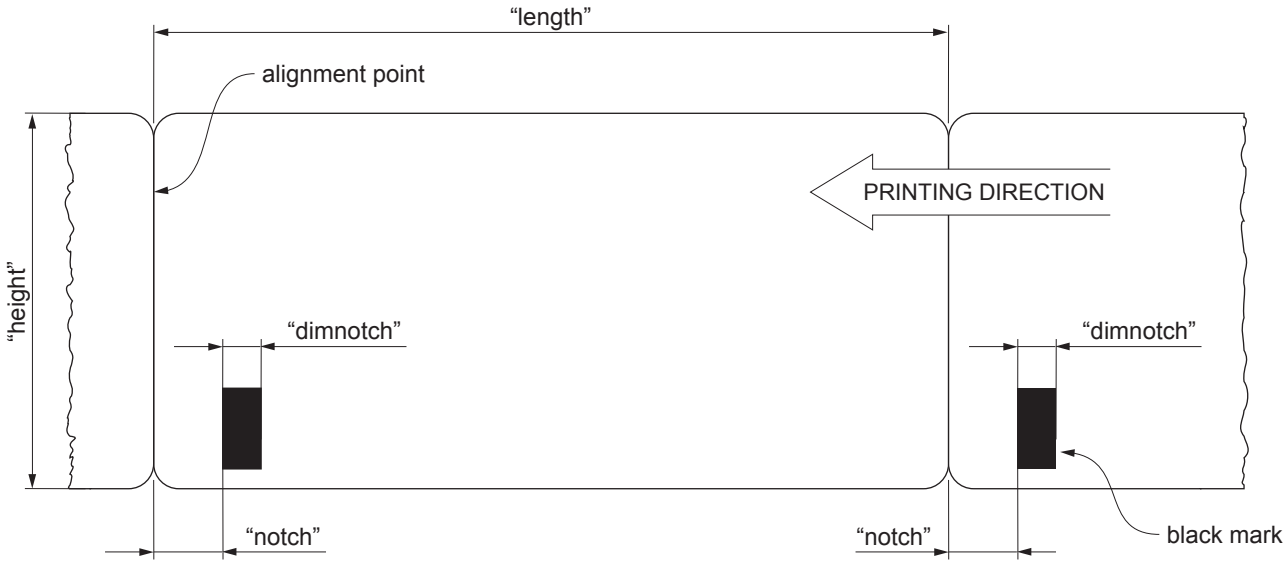
length is the ticket length (in dot)
height is the ticket height (in dot)
notch is the distance (in dot) between the ticket upper edge and strobe backside preprinted black mark
dimnotch is the notch dimension (in dot)

[Notes]
- If using the point (.) character as decimal separator instead of commas then the passed value are stored in nonvolatile memory.
- The parameters are 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 parameters defined by this command are the same that can be set by modifying the same parameters of the “Setup.ini” file (see user manual for further explanation).
- 1mm = 8 dot.

[Default]

[Reference]

[Example] The following image shows a ticket with the parameters set by this command:



EJECTOR/SELECTOR MANAGEMENT COMMANDS

<EJOUT>

Perform ticket ejection

Valid for	KPM302III EJ, KPM302III TF-EJ KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format] ASCII <EJOUT>

[Range]

[Description] This command performs the ejection of the printed ticket.

[Notes]

[Default]

[Reference] <EJECT0>, <EJECT1>

[Example]

<EJECT0>

Disable the automatic ejection of the ticket

Valid for	KPM302III EJ, KPM302III TF-EJ KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format] ASCII <EJECT>

[Range]

[Description] This command disable the automatic ejection of the printed ticket. The ticket is issued in presentation mode.

[Notes] With automatic ejection disabled, it is anyway possible to eject the ticket by sending the eject command <EJOUT>.

[Default]

[Reference] <EJOUT>, <EJECT1>

[Example]

<EJECT1>

Enable the automatic ejection of the ticket

Valid for	KPM302III EJ, KPM302III TF-EJ KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format] ASCII <EJECT1>

[Range]

[Description] This command enable the automatic ejection of the printed ticket.

[Notes]

[Default]

[Reference] <EJECT0>, <EJECT1>

[Example]

<SELECTORI>

Initialize selector

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format] ASCII <SELECTORI>

[Range]

[Description] This command performs a movement of the selector mechanisms in the two available positions.
If the selector is mechanically unable to move, the flag status indicates an error.

[Notes] At the end of the movement, selector is set in the “Open” position (default).

[Default]

[Reference]

[Example]

<SELECTORO>

Set selector in “Open” position

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format] ASCII <SELECTORO>

[Range]

[Description] This command set the selector in the “Open” position: the paper exits the device regularly.
If the selector position is already the desired one, this command does not generate any movement.

[Notes]

[Default]

[Reference]

[Example]

<SELECTORS>

Set selector in “Storage” position

Valid for	KPM302III vSEL, KPM302III hSEL KPM302III TF-hSEL

[Format] ASCII <SELECTORS>

[Range]

[Description] This command set the selector in the “Storage” position: paper exits the device downwards.
If the selector position is already the desired one, this command does not generate any movement.

[Notes]

[Default]

[Reference]

[Example]

<PCHexNumLogo HexXDim HexYDim HexTBD Id Hexdata>

Save image into flash

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <PCHexNumLogo HexXDim HexYDim HexTBD Id Hexdata>

[Range]

[Description] Save the image received from serial port into 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 image is overwritten and moved in the last position of flash.

• The source image must be a monochrome bitmap.

HexNumLogo indicates the number of logo, 2 bytes expressed in hexadecimal notation

HexXDim indicates the logo horizontal dimension in pixel, 2 bytes expressed in hexadecimal notation; the value must be multiple of 32

HexYDim indicates the logo vertical dimension in pixel, 2 bytes expressed in hexadecimal notation

HexTBD 2 bytes fixed to 0x00 (for future use)

Id indicates the file-name of the logo, a sequence of 16 bytes that identify uniquely the logo

Hexdata are the image data (logo's bytes less than the first 62 bytes of the header)

• The device returns a sequence of bytes as follows :

<PC0> if the saving include an incorrect syntax or the available memory in flash for logos is finished (128Kbyte)

<PC1n> if the syntax command is correct and there's enough memory 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] • The logo is stored into the device flipped vertically relative to the bitmap

• The colors of monochrome bitmaps may appear reversed if the "palette" in the header of the bitmap in position 0x3B is 0xFF 0xFF 0xFF 0x00.

- If file-name length is shorter than 16 byte, add a terminator byte NULL (0x00) up 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:   3C 50 43 00 08 00 60 00 58 00 00 65 78 61 6D 70 <PC...`.X..examp
00000010:   6C 65 6C 6F 67 6F 38 00 00 00 00 00 00 00 00 2F lelogo8.bmp
....
....                                          Image data less than the first 62 bytes
....
>
```

If the programming is successful, the device's answer will be:

HEX	0x3C	0x50	0x43	0x31	0xAA	0x3E
ASCII	<	P	C	1	0xAA	>

<PE n>

Delete image

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <PE n>

[Range]

[Description] Deletes image defined by n.
The device returns a sequence of bytes as follows :

<PE0> Image n not found
<PE1n> Image found; n returns to the flash programming status
0x88 Sector not erased
0x77 Error during erasing operation
0xAA Erasing done.

[Notes]

[Default]

[Reference]

[Example]

<PIn>

Get pictures header info

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <PI n>

[Range]

[Description] Gets the logo header info stored specified by n (express in ASCII). The device returns a bytes sequence as follows :

<PIe[ID]>

where

- e indicates the search result:
  e = 0 picture not found
  e = 1 picture found
- [ID] indicates the file-name that identify the logo, a sequence of 16 bytes that was defined when the logo is stored. This field is optional because it's returned only if the logo has been found.

[Notes]

[Default]

[Reference]

[Example]

<PL>

Get pictures header list

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <PL>

[Range]

[Description] This command requests to the device the list of stored logo. The device returns a bytes sequence as follows :

<PL CrLf [N-ID CrLf]>

where

- CrLf indicates the two characters 0x0D (Carriage return) and 0x0A (line feed)
- N is the number of stored logo
- [ID] indicates the file-name that identify the logo, a sequence of 16 bytes that was defined when the logo is stored. This field is optional because it's returned only if the logo has been found.

[Notes] The fields enclosed in square bracket are repeated for all number of stored images.

[Default]

[Reference]

[Example]

<PN>

Get number of stored logo

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <PN>

[Range]

[Description] This command sends to the device the request of number of stored logo; the device returns a bytes sequence as follows:

<PNn>

where
n (in ASCII format) indicates the number of stored images.

[Notes]

[Default]

[Reference]

[Example] If in the flash memory are stored 10 logos send this command

HEX	0x1C	0x90
ASCII	FS	0x90

The device's answer will be :

HEX	0x3C	0x50	0x4E	0x31	0x30	0x3E
ASCII	<	P	N	1	0	>

<LCDEXT0>

Turn off backlight

Valid for	TK202III
	TK302III, TK302III TF

[Format] ASCII <LCDEXT0>

[Range]

[Description] Turn off the backlight and clear the display.

[Notes]

[Default]

[Reference]

[Example]

<LCDEXT1>

Turn on backlight

Valid for	TK202III
	TK302III, TK302III TF

[Format] ASCII <LCDEXT1>

[Range]

[Description] Turn on the backlight of the display.

[Notes]

[Default]

[Reference]

[Example]

<LCDEXTA d1..d20>

Display a message on the first row

Valid for	TK202III TK302III, TK302III TF

[Format] ASCII <LCDEXTA d1..d20>

[Range]

[Description] Display a message composed of 20 characters (d1..d20) on the first row.

[Notes] String must be 20 characters long.

[Default]

[Reference]

[Example]

<LCDEXTB d1..d20>

Display a message on the second row

Valid for	TK202III
	TK302III, TK302III TF

[Format] ASCII <LCDEXTB d1..d20>

[Range]

[Description] Display a message composed of 20 characters (d1..d20) on the second row.

[Notes] String must be 20 characters long.

[Default]

[Reference]

[Example]

<LCDEXTN>

Disable manual management

Valid for	TK202III TK302III, TK302III TF

[Format] ASCII <LCDEXTN>

[Range]

[Description] Disable the manual management of the display.

[Notes]

[Default]

[Reference]

[Example]

<LCDEXTY>

Enable manual management

Valid for	TK202III
	TK302III, TK302III TF

[Format] ASCII <LCDEXTY>

[Range]

[Description] Enable the manual management of the display.

[Notes]

[Default]

[Reference]

[Example]

<BEEP 1, tt>

Emits a beep

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <BEEP 1, tt>

[Range]

[Description] When this command is received, the device emits a beeb as acoustic signalling.
tt = beep time in milliseconds.

[Notes]

[Default]

[Reference]

[Example]

<BMP>

Save a bitmap into flash disk

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <BMP>

[Range]

[Description] When this command is received, a bitmap with an image of the printing ticket is saved into “PrtTicket” folder on flash disk.

[Notes] The bitmap file name consists of data and time of ticket print.

[Default]

[Reference]

[Example]

<BMPD>

Save a bitmap into SD/MMC card

Valid for	KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <BMPD>

[Range]

[Description] When this command is received, a bitmap with an image of the printing ticket is saved into “PrtTicket” folder on multimedia card.

[Notes] The bitmap file name consists of data and time of ticket print.

[Default]

[Reference]

[Example]

<COM1>

Terminate the communication toward RFID module

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <COM1>

[Range]

[Description] Terminates the communication toward RFID module.

[Notes]

[Default]

[Reference]

[Example]

<COM2>

Select the communication toward RFID module

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <COM2>

[Range]

[Description] Set the communication toward RFID module.

[Notes]

[Default]

[Reference]

[Example]

<DT m>

Read date and time

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <DT m>

[Range]

[Description] Read date and time of the real time clock and send it in the format specified by m values as follows:

m	FORMAT
0	DD/MM/YY hh:mm:ss
1	DDMMYYhhmmss
2	YYMMDDhhmmss
3	YYMMDDhhmmssd

where:

DD	represents the day of the date
MM	represents the month of the date
YY	represents year of the date
hh	represents the hour of the time
mm	represents the minutes of the time
ss	represents the seconds of the time
d	indicates the day of the week

The device's answer will be:

<DT CR x data CR >

where
- x indicate the reading result; the x value can be :
'!' : the command is executed successfully
'#': the command is not executed successfully
- data are the ASCII characters that represent the date and time.

[Notes]

[Default]

[Reference]

[Example] To read date and time in the “DDMMYYhhmmss” format, send command:

<DT 1>

If the current date and time are “15 September 2006 at 10:56:20 (AM)” the device’s answer is as follows:

<DT CR ! 151006105620 CR> if the transmission is successfully, otherwise
<DT CR # CR > if the transmission is not successful

<EPOS>

Change emulation to CUSTOM\POS

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <EPOS>

[Range]

[Description] Set the CUSTOM\POS emulation.

[Notes]

[Default]

[Reference]

[Example]

<INPUT n>

Load paper from triple feeder (feeder 1, feeder 2, feeder 3)

Valid for	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL TK302III TF

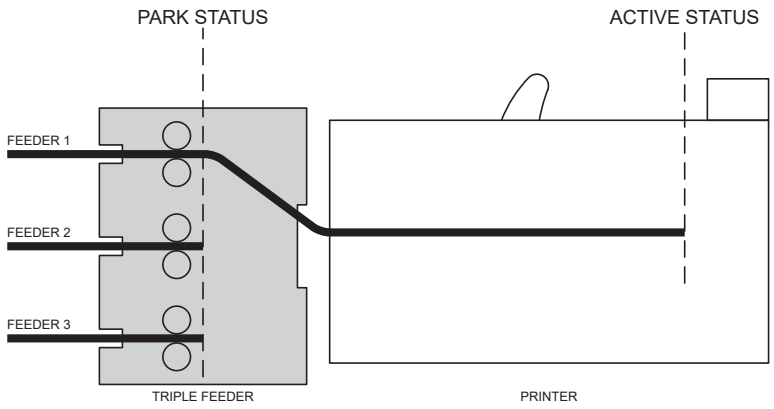
[Format] ASCII <INPUT n>

[Range] n = A, B, C

[Description] Load paper inside the device based on the following values of n :

n	PAPER FEEDER
A	feeder 1
B	feeder 2
C	feeder 3

[Notes] If another feeder is in ACTIVE STATUS is retracted to PARK STATUS.



[Default]

[Reference]

[Example]

<IT>

Disable detection of alignment black mark

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <IT>

[Range]

[Description] Sent before the <MM n> feed command, this command disables the detection and counting of the alignment black mark.

[Notes]
- When you need to move paper outside the print job, you need to disable the detection and counting of the black marks by the alignment sensor to allow the device to properly position the paper at the end of the movement.
- Send this command always before <MM n> command and then enable the black mark detection with the <VT> command.

[Default]

[Reference] <MM n>, <VT>

[Example]

<KEYS x>

Enable / Disable keys panel

Valid for	TK202III KPM302III, TK302III KPM302III EJ, KPM302III vSEL, KPM302III hSEL KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <KEYS x>

[Range] x = 0, 1

[Description] Enables or disables the keys panel.
- When x = 0, the keys panel is disabled.
- When x = 1, the keys panel is enabled.

[Notes] When the keys panel is disabled, the keys may only be used after the device has been reset.

[Default] x = 1

[Reference]

[Example]

<LOAD>

Reload paper

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <LOAD>

[Range]

[Description] When this command is received, the device performs a paper reloading.

[Notes]
- During the execution of the command, the device indicates the paper end.
- This command is valid only if the alignment is enabled.

[Default]

[Reference]

[Example]

<SDT m data>

Set date and time of the real time clock

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <SDT m data>

[Range]

[Description] Set date/time of the real time clock, in the format specified by m values as follows:

m	FORMAT
0	DD/MM/YY hh:mm:ss
1	DDMMYYhhmmss
2	YYMMDDhhmmss
3	YYMMDDhhmmssd

where:

DD	represents the day of the date
MM	represents the month of the date
YY	represents year of the date
hh	represents the hour of the time
mm	represents the minutes of the time
ss	represents the seconds of the time
d	indicates the day of the week
data	are the ASCII characters relative to the date and time to set

If the transmission has been received correctly and the command is valid, the device returns the following string:

<SDT CR x CR >

where
- x indicate the reading result; the x value can be:
'!' : the command is executed successfully
'#': the command is not executed successfully

[Notes] The day of the week is calculated automatically from the device and then it's possible that the returned value is different from the one transmitted.

[Default]

[Reference]

[Example] To set the date and time to “29 September 2006 at 13:51:00 (PM)” in the “YYMMDDhhmmss” format send the command:

<SDT 2 061029135100>

The device’s answer will be:

<SDT CR ! CR > if the transmission is successfully
<SDT CR # CR > if the transmission is not successfully

<SVEL>

Change emulation to SVELTA

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <SVEL>

[Range]

[Description] Set the SVELTA emulation.

[Notes]

[Default]

[Reference]

[Example]

<VT>

Enable detection of alignment black mark

Valid for	TK202III
	KPM302III, TK302III
	KPM302III EJ, KPM302III vSEL, KPM302III hSEL
	KPM302III TF, KPM302III TF-EJ, KPM302III TF-hSEL, TK302III TF

[Format] ASCII <VT>

[Range]

[Description] Sent after the <MM n> feed command, this command enables the detection and counting of the alignment black mark.

[Notes]
- When you need to move paper outside the print job, you need to disable the detection and counting of the black marks by the alignment sensor by using the <IT> command to allow the device to properly position the paper at the end of the movement. The detection of black marks must be enabled whit this command.
- Send this command always after <IT> and <MM n> commands.

[Default]

[Reference] <IT>, <MM n>

[Example]

ALIGNMENT

1 ALIGNMENT COMMANDS 372

1 ALIGNMENT COMMANDS

Devices listed in this manual are equipped with sensors that allow the use of alignment notch in order to handle:

- rolls of with pre-printed and fixed length fields
- FanFold modules of tickets 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 notch (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:

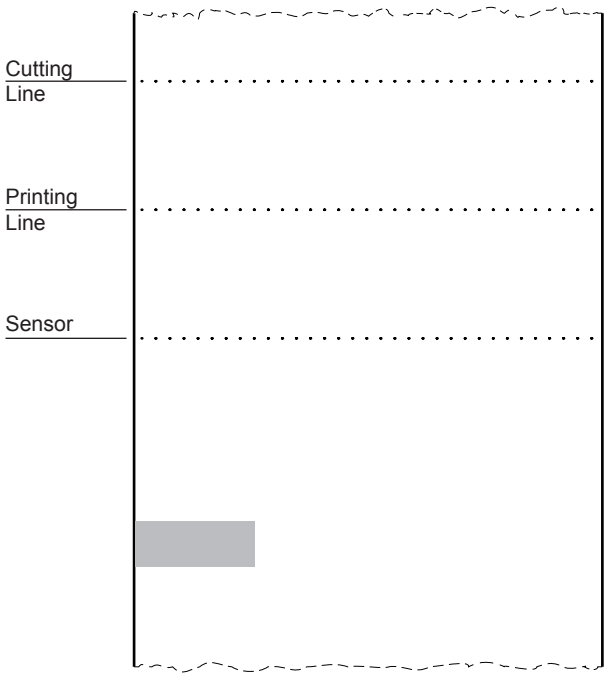
1. General settings of the ticket (character formatting, print density, margins etc.)
2. Alignment command: 0x1D 0xF6
3. Ticket printout (printing text, logos or any graphic)
4. Alignment command: 0x1D 0xF8
5. Cut command
6. Command for paper recovery (optional).

The settings take effect from next ticket to the one already in the device.

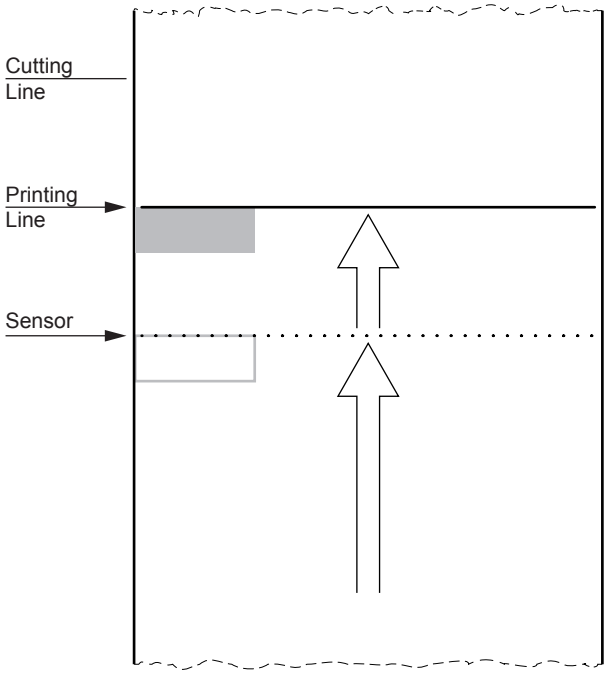
In the following examples, are described some sequences of commands to manage the alignment.

[Example 1] Commands sequence to print tickets with “alignment point” set to the edge of the notch (“Black mark distance” = 0 mm set in the setup procedure) and with full paper recovery (0x1C 0xC1 0x16).

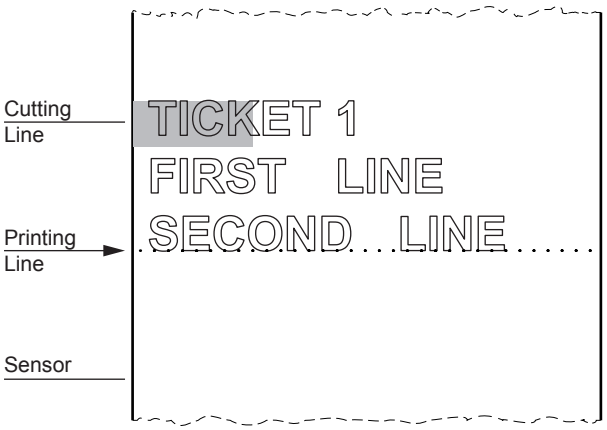
Start
Paper with black mark not aligned.



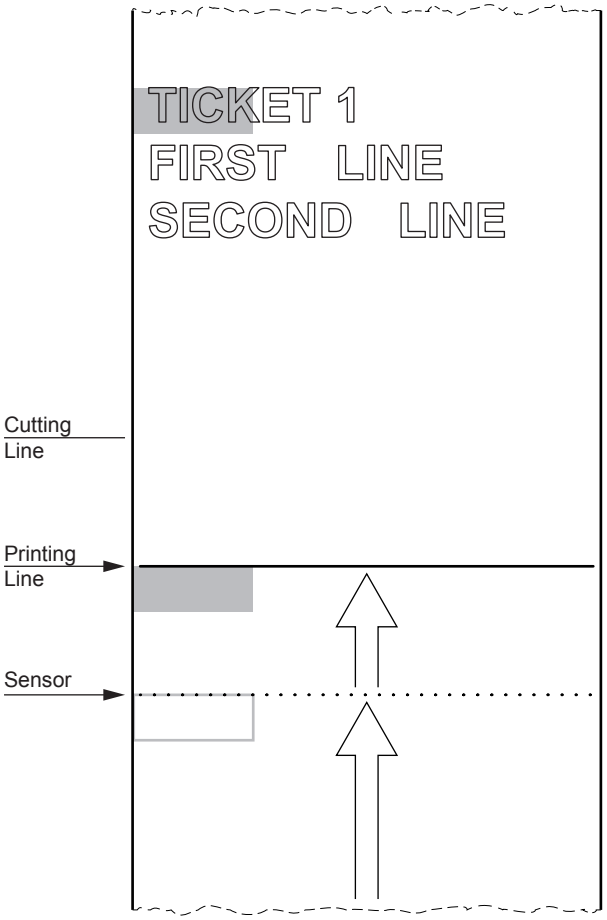
Alignment command 0x1D 0xF6
Paper is fed. The black mark is recognized by the sensor and aligned under the printing line.



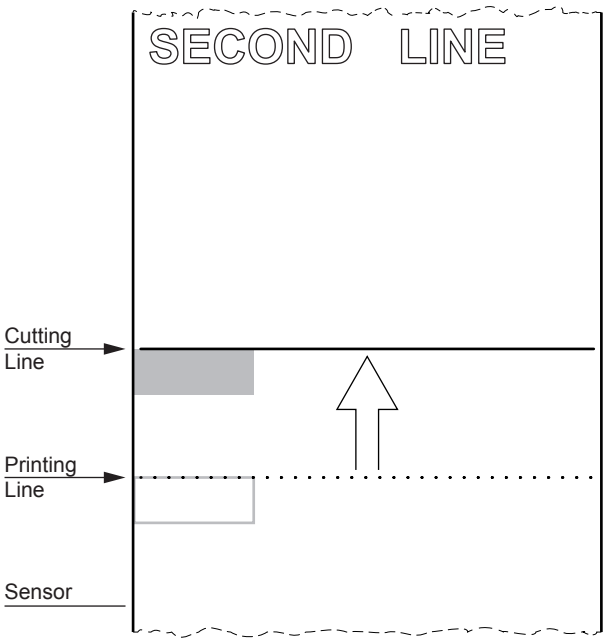
Command for text printing:
‘TICKET 1’, 0x0A, ‘FIRST LINE’, 0x0A, ‘SECOND LINE’, 0x0A



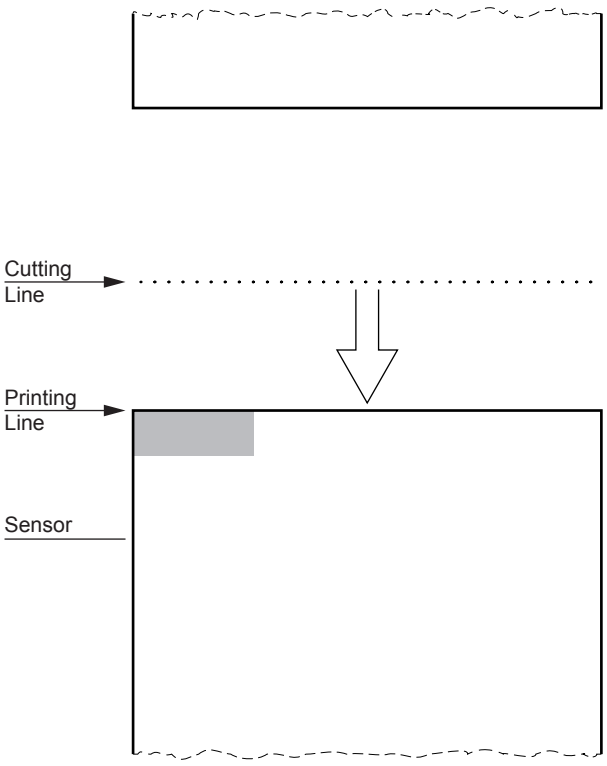
Alignment command 0x1D 0xF8.
Paper is fed. The next black mark is recognized by the sensor and aligned under the printing line.



Cut command 0x1B 0x69.
Paper is fed until the black mark is not aligned under the cutting line.

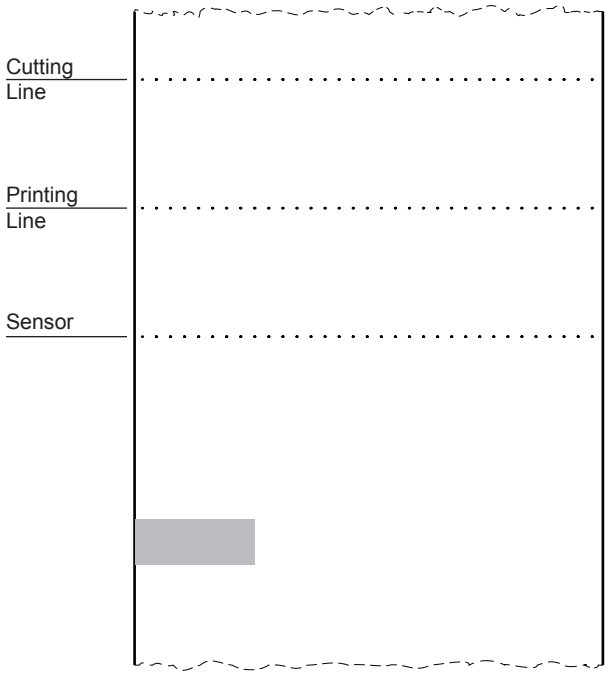


The paper is cut.
The paper is automatically retracted under the printing line.

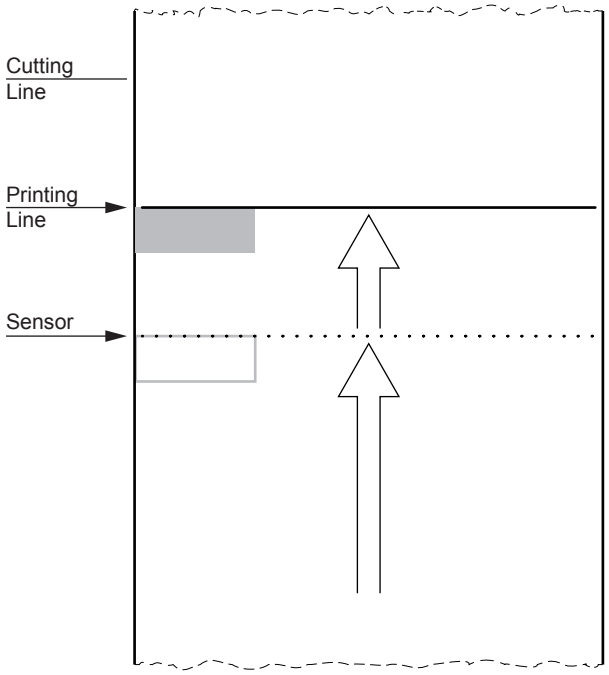


[Example 2] Commands sequence to print tickets with “alignment point” set to the edge of the notch (“Black mark distance” = 0 mm set in the setup procedure) and and no paper recovery (0x1C 0xC1 0x00).

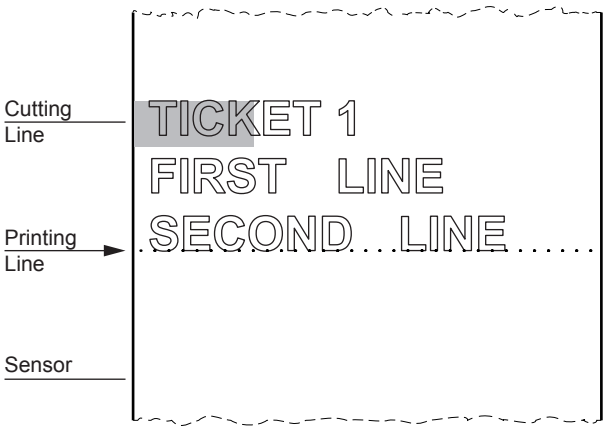
Start
Paper with black mark not aligned.



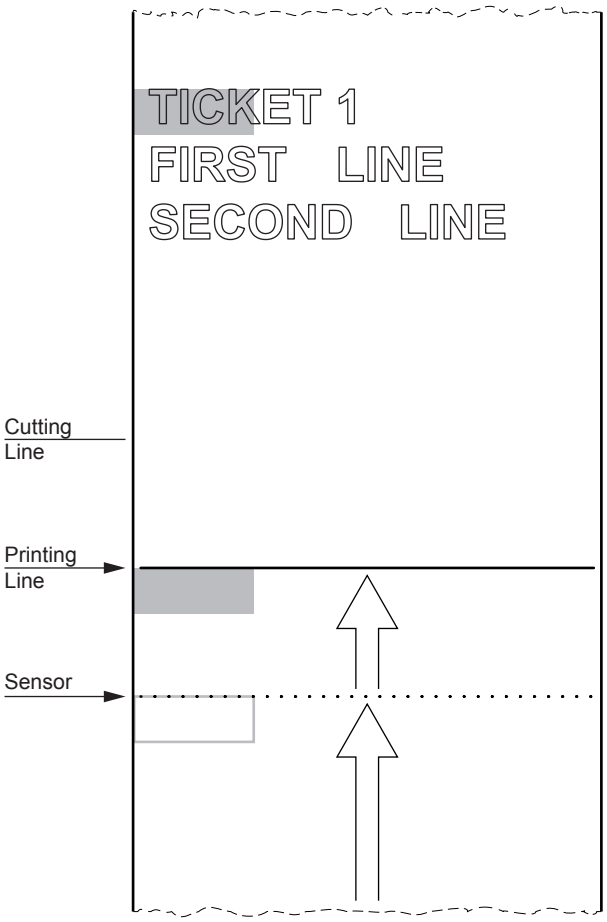
Alignment command 0x1D 0xF6
Paper is fed. The black mark is recognized by the sensor and aligned under the printing line.



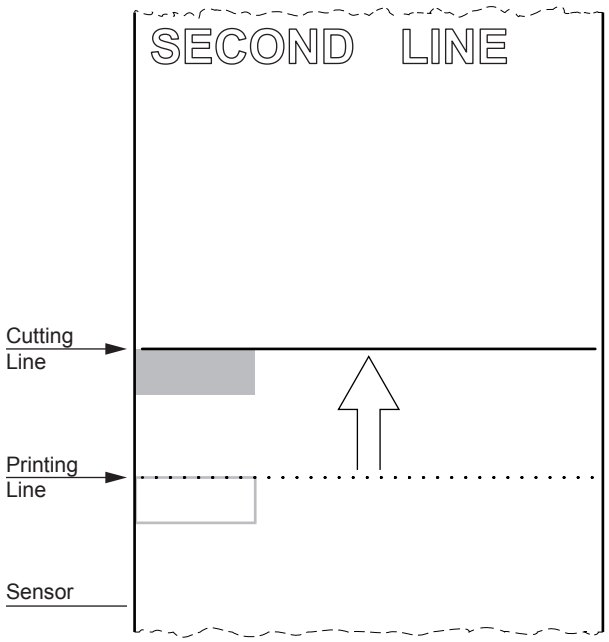
Command for text printing:
‘TICKET 1’, 0x0A, ‘FIRST LINE’, 0x0A, ‘SECOND LINE’, 0x0A



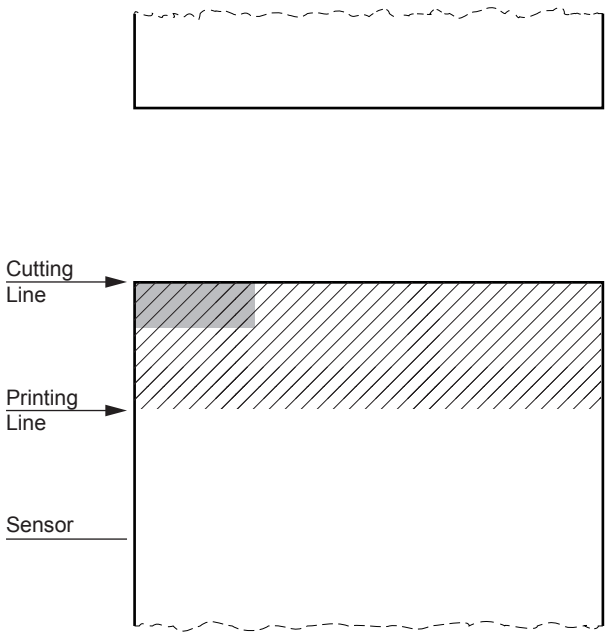
Alignment command 0x1D 0xF8.
Paper is fed. The next black mark is recognized by the sensor and aligned under the printing line.



Cut command 0x1B 0x69.
Paper is fed until the black mark is not aligned under the cutting line.

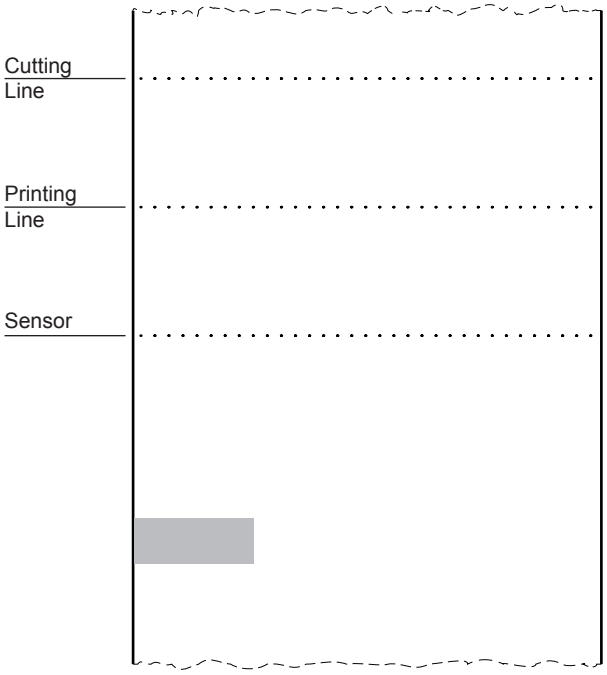


The paper is cut.
The portion of the paper between the cutting line and the printing line is not recovered.

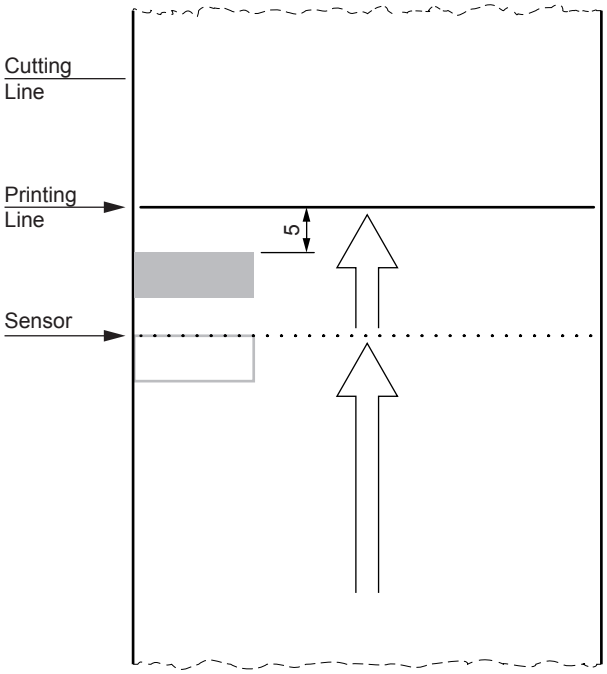


[Example 3] Commands sequence to print tickets with “alignment point” moved 5 mm compared to the edge of the black mark (“Black mark distance” = 5 mm set from setup) and with full paper recovery (0x1C 0xC1 0x16).

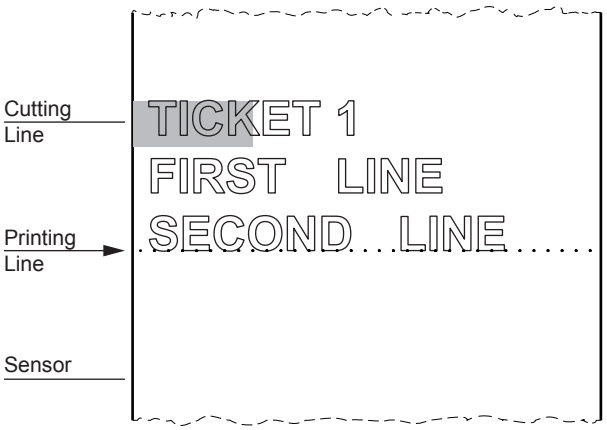
Start
Paper with black mark not aligned.



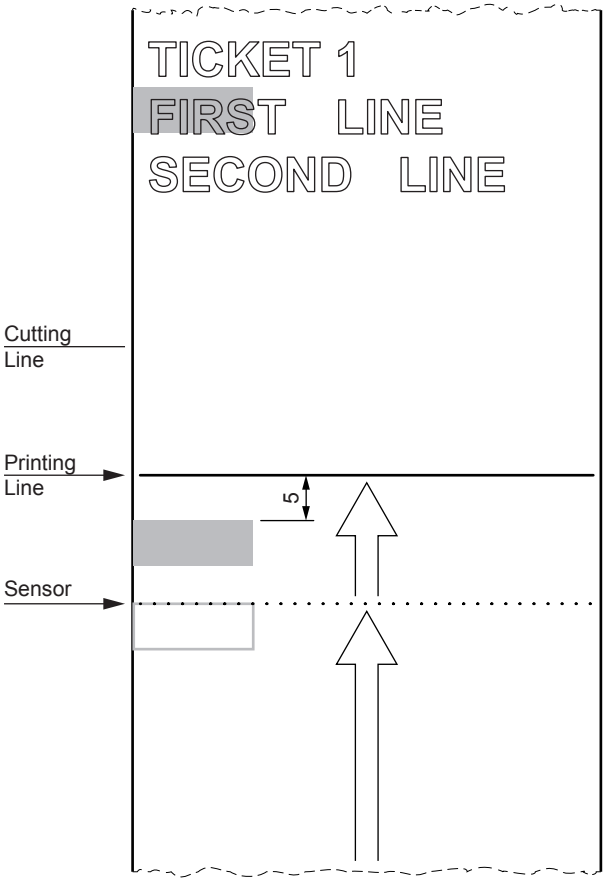
Alignment command 0x1D 0xF6.
Paper is fed. The black mark is recognized by the sensor and aligned at a distance of 5 mm (“Cut Distance”) from the printing line.



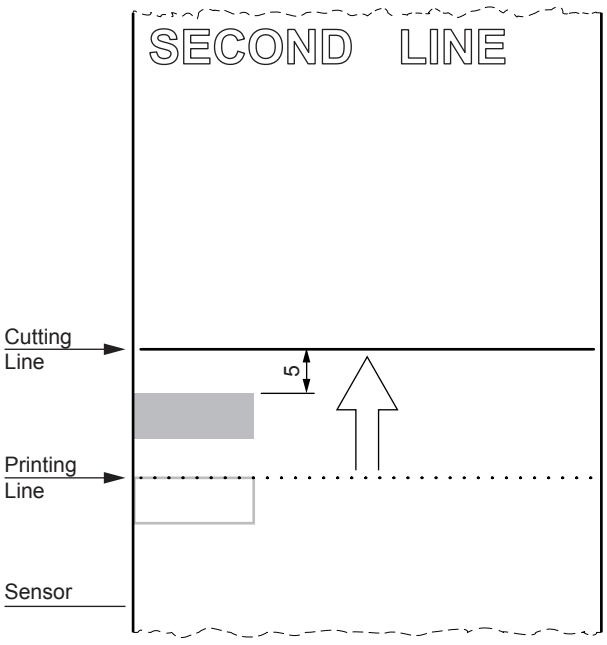
Command for text printing:
‘TICKET 1’, 0x0A, ‘FIRST LINE’, 0x0A, ‘SECOND LINE’, 0x0A



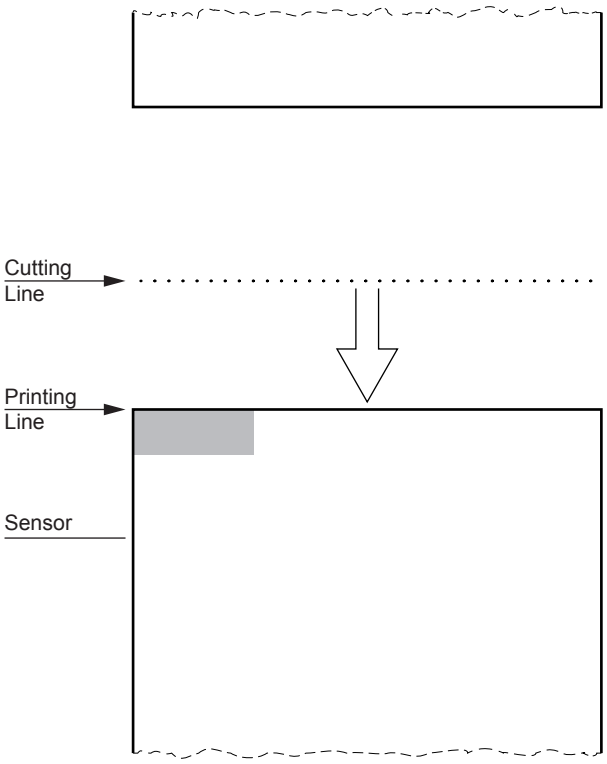
Alignment command 0x1D 0xF8.
Paper is fed. The next black mark is recognized by the sensor and aligned at a distance of 5 mm (“Black Mark Distance”) from the printing line.



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.



Part Number : 7720000005100 Rev. 1.10

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